
ELECTROMAGNETIC WAVES
PIERM 45

Progress

In

Electromagnetics

Research M

© 2016 EMW Publishing. All rights reserved.

No part of this publication may be reproduced. Request for permission should be addressed to the Publisher.

All inquiries regarding copyrighted material from this publication, manuscript submission instructions, and subscription orders and price information should be directed to: EMW Publishing, P. O. Box 425517, Kendall Square, Cambridge, Massachusetts 02142, USA.

ELECTROMAGNETIC WAVES
PIERM 45

Progress
In
Electromagnetics
Research M

Chief Editors: Weng Cho Chew and Sailing He

EMW Publishing
Cambridge, Massachusetts, USA

CONTENTS

EM Fields inside a Rotating Circular Hollow Dielectric Cylinder: Numerical Simulation in 2Ds	
Mingtsu Ho, Li-An Tsai, and Cheng-Jr Tsai	1
Electromagnetic Waves Attenuation in the Sandstones with Grains of Different Size at Imbibition and Drying	
Anastasiya S. Lapina and Pavel P. Bobrov	9
A Fast Finite Difference Delay Modeling Solution of Transient Scattering from Lossy Inhomogeneous Dielectric Objects	
Ji Ding, Yanfang Wang, and Jianfeng Li	17
Analysis of Step-Loaded Open Rectangular Grating Slow-Wave Structures for MM-Wave Traveling-Wave Tubes	
Chengfang Fu, Yanyu Wei, Bo Zhao, Yudong Yang, and Yongfeng Ju	27
Hybridization of Generalized PO and MoM-GEC Method for Electromagnetic Study of Complex Structures: Application to Reflectarrays	
Mohamed Hajji, Mourad Aidi, Houssemeddine Krraoui, and Taoufik Aguilu	35
Microwave Focusing within Arbitrary Refractive Index Media Using Left-Handed Metamaterial Lenses	
Luca Leggio, Ehsan Dadrasnia, and Omar de Varona	51
Mathematical Analysis and Modeling of Single-Walled Carbon Nanotube Composite Material for Antenna Applications	
Yaseen N. Jurn, Mohd F. Malek, and Hasliza A. Rahim	59
A Nonreciprocal Multi-channel Bandstop Filter Using the Generalized Fibonacci Multiferroic Superlattices with the Silver-mean Sequence	
Zhenghua Tang, Xuhui Liu, Dajun Lei, Jianquan Huang, Feng Qiu, Haiming Deng Chunzhi Jiang and Min Yao	73
Fast Algorithm of Wideband Electromagnetic Scattering of Homogeneous Dielectric Targets	
Bo Zhao, Shu-Xi Gong, Xing Wang, and Yu Zhang	83
Target Detection in Compound-Gaussian Clutter with Adaptive OFDM Radar	
Yang Xia, Zhiyong Song, Zaiqi Lu, and Qiang Fu	91
Scattering of Light by the Metal-Coated Dielectric Nanocylinders with Angular Periodicity	
Vakhtang Jandieri, Kiyotoshi Yasumoto, Yunfei Liu, and Jaromir Pistora	101

A Novel Wavenumber Domain Algorithm for Bistatic SAR Imaging Based on Equivalent Monostatic Model	
Zongliang Wu, Xiaoling Zhang, and Xiliang Wu.....	113
Polarizability Tensor Calculation Using Induced Charge and Current Distributions	
Mohammad Yazdi and Nader Komjani.....	123
Inverse Wave Scattering of Rough Surfaces with Emitters and Receivers in the Transition Zone	
Slimane Arhab and Gabriel Soriano	131
Fast Algorithm of Multi-region MoM-PO for Antennas on Electrically Large Platform	
Bo Zhao, Shu-Xi Gong, Xing Wang, and Yu Zhang	143
Transformation of Finite Olver-Gaussian Beams by an Uniaxial Crystal Orthogonal to the Optical Axis	
Salima Hennani, Lahcen Ez-Zariy, and Abdelmajid Belafhal	153
Diagnosis of the AC Current Densities Effect on the Cathodic Protection Performance of the Steel X70 for a Buried Pipeline due to Electromagnetic Interference Caused by HVPTL	
M'hamed Ouadah, Omar Touhami, and Rachid Ibtouen	163
On the Feasibility of Assessing Burn Wound Healing without Removal of Dressings Using Radiometric Millimetre-Wave Sensing	
Stuart W. Harmer, Sergiy Shylo, Mamta Shah, Nicholas J. Bowring, and Amani Y. Owda	173
Development of Fundamental Theory of Thin Impedance Vibrators	
Yuriy M. Penkin, Victor A. Katrich, and Mikhail V. Nesterenko	185
Torque and Ripple Improving of a SR Motor Using Robust Particle Swarm Optimization of Drive Current and Dimension	
Abbas Ketabi, Ata Yadghar, and Mohammad J. Navardi	195