

APPLIED COMPUTATIONAL ELECTROMAGNETICS SOCIETY JOURNAL

May 2014
Vol. 29 No. 5
ISSN 1054-4887

The ACES Journal is abstracted in INSPEC, in Engineering Index, DTIC, Science Citation Index Expanded, the Research Alert, and to Current Contents/Engineering, Computing & Technology.

The illustrations on the front cover have been obtained from the research groups at the Department of Electrical Engineering, The University of Mississippi.

THE APPLIED COMPUTATIONAL ELECTROMAGNETICS SOCIETY

<http://www.aces-society.org>

EDITOR-IN-CHIEF

Atef Elsherbeni

Colorado School of Mines, EECS Dept.
Golden, CO 80401, USA

ASSOCIATE EDITORS-IN-CHIEF

Sami Barmada

University of Pisa, EE Dept.
Pisa, Italy, 56126

Mohammed Hadi

Kuwait University, EE Dept.
Safat, Kuwait

Paolo Mezzanotte

University of Perugia
I-06125 Perugia, Italy

Yasushi Kanai

Niigata Inst. of Technology
Kashiwazaki, Japan

Alistair Duffy

De Montfort University
Leicester, UK

Antonio Musolino

University of Pisa
56126 Pisa, Italy

Ozlem Kilic

Catholic University of America
Washington DC, 20064, USA

Mohamed Bakr

McMaster University, ECE Dept.
Hamilton, ON, L8S 4K1, Canada

Marco Arjona López

La Laguna Institute of Technology
Coahuila 27266, Mexico

Fan Yang

Tsinghua University, EE Dept.
Beijing 100084, China

Abdul Arkadan

Rafik Hariri University
Chouf 2010, Lebanon

EDITORIAL ASSISTANTS

Matthew J. Inman

University of Mississippi, EE Dept.
University, MS 38677, USA

Shanell Lopez

Colorado School of Mines, EECS Dept.
Golden, CO 80401, USA

EMERITUS EDITORS-IN-CHIEF

Duncan C. Baker

EE Dept. U. of Pretoria
0002 Pretoria, South Africa

Ahmed Kishk

University of Mississippi, EE Dept.
University, MS 38677, USA

Levent Gurel

Bilkent University
Ankara, Turkey

Robert M. Bevensee

Box 812
Alamo, CA 94507-0516, USA

David E. Stein

USAF Scientific Advisory Board
Washington, DC 20330, USA

Allen Glisson

University of Mississippi, EE Dept.
University, MS 38677, USA

Mohamed Abouzahra

MIT Lincoln Laboratory
Lexington, MA, USA

EMERITUS ASSOCIATE EDITORS-IN-CHIEF

Alexander Yakovlev

University of Mississippi, EE Dept.
University, MS 38677, USA

Erdem Topsakal

Mississippi State University, EE Dept.
Mississippi State, MS 39762, USA

EMERITUS EDITORIAL ASSISTANTS

Khaled ElMaghoub

University of Mississippi, EE Dept.
University, MS 38677, USA

Christina Bonnington

University of Mississippi, EE Dept.
University, MS 38677, USA

Anne Graham

University of Mississippi, EE Dept.
University, MS 38677, USA

Mohamed Al Sharkawy

Arab Academy for Science and Technology, ECE Dept.
Alexandria, Egypt

APRIL 2014 REVIEWERS

Muhammad Ali

Bastian Bandlow

Bevan Bates

Chien-Hung Chen

William Coburn

George Dedes

Veysel Demir

Khaled Elmaghoub

Roland Gilbert

Achraf Jaoujal

Zhiwei Liu

Sayed Vahab Al-Din Makki

Ivor Morrow

Jammula Narayana

Mark Panitz

Andrew Peterson

Vince Rodriguez

Binay Sarkar

George Shaker

Yury Shestopalov

Yasuhiro Tsunemitsu

Gang Zhang

THE APPLIED COMPUTATIONAL ELECTROMAGNETICS SOCIETY
JOURNAL

Vol. 29 No. 5

May 2014

TABLE OF CONTENTS

“Price-Performance Aspects of Accelerating the FDTD Method Using the Vector Processing Programming Paradigm on GPU and Multi-Core Clusters” Robert G. Ilgner and David B. Davidson.....	351
“Radiation from Slotted Cylinder Embedded in Cylindrical Capped Corner Reflector” Hassan A. Ragheb and Essam E. Hassan.....	361
“Direct Antenna Modulation (DAM) with Switched Patch Antenna-Performance Analysis” Hengzhen Crystal Jing, Xiaojing Jessie Xu, and Yuanxun Ethan Wang.....	368
“A Reconfigurable Square Slot Antenna with Switchable Single Band, UWB, and UWB with Band Notch Function Performances” B. Badamchi, A. Valizade, P. Rezaei, and Z. Badamchi	383
“Application of SVM and BCG-FFT Method for the Parameter Reconstruction of Composite Conducting-Dielectric Cylinder” Q. H. Zhang and H. T. Chen.....	391
“A Miniaturized Omni-Directional Negative Permittivity Zeroth-Order Resonance Antenna” Ming-Chun Tang, Tianwei Deng, Han Xiong, Shaowei Qing, and Hao Zeng.....	400
“Microstrip Low-Pass Filter with Sharp Roll-Off Using Transformed Radial Stubs” Mohsen Hayati, Hossein Shahbazitabar, and Gelareh Hajian	409
“A Novel Compact Microstrip Low-Pass Filter with a Wide Rejection-Band and Sharp Roll-Off Using Star-Shaped Resonator” Mohsen Hayati, Zahra Faramarzi, and Mozghan Amiri.....	415
“Triple Notch UWB Antenna Controlled by Novel Common Direction Pentagon Complementary Split Ring Resonators” Bo Yan, Di Jiang, and Jian Chen	422
“Susceptibility of a Simple Transmission Line Inside an Enclosure Against Normal Incident Plane Wave” S. Abadpour, P. Dehkhoda, R. Moini, S. H. H. Sadeghi, and H. R. Karami	428