
ELECTROMAGNETIC WAVES
PIERC 60

Progress

In

Electromagnetics

Research C

© 2015 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
PIERC 60

Progress
In
Electromagnetics
Research C

Chief Editors: Weng Cho Chew and Sailing He

EMW Publishing
Cambridge, Massachusetts, USA

CONTENTS

Inverted Re-Entrant Turnstile Waveguide Circulator Using Prism Resonator with Arbitrary Orientation	
Joe Helszajn, John Sharp, Alicia Casanueva, Angel Mediavilla, and Marco Caplin	1
Low Profile UHF/VHF Metamaterial Backed Circularly Polarized Antenna Structure	
Taulant Rexhepi, Igor Bendoyrn, Ada-Simona Popescu, Andrii Golovin, Johnny Daniel Kate J. Duncan and David Crouse	11
RF MEMS Based Half Mode Bowtie Shaped Substrate Integrated Waveguide Tunable Bandpass Filter	
Muhammad Z. Ur Rehman, Zuhairi Baharudin, Mohd A. Zakariya, Mohd H. M. Khir Muhammad T. Jilani and Muhammed T. Khan	21
Planar Ultra-Wideband Phase Shifter Using a Novel Type of Artificial Transmission Line	
Lin Geng, Guangming Wang, and Binfeng Zong	31
Planar Monopole UWB Antenna for USB Dongle Application	
Rekha Labade, Shankar B. Deosarkar, Narayan Pishartoy, and Avinash Tambe	37
Four-Element Dual-Band MIMO Antenna System for Mobile Phones	
Lingsheng Yang, Hongling Xu, Jianping Fang, and Tao Li	47
Design and Simulation of an Improved Energy Selective Surface	
Bo Yi, Yanfei Dong, Cheng Yang, Peiguo Liu, and Yan Li	57
A Novel Dual-Band Balanced Power Amplifier Using Branch-Line Couplers with Four Arbitrary Terminated Resistances	
Hua Wang, Bihua Tang, Yongle Wu, Cuiping Yu, and Yuanan Liu	67
Conformal Corrugated Edges for Vivaldi Antenna to Obtain Improved Low-Frequency Characteristics	
Ya-Wei Wang, Xiang-Jun Gao, Jian-Gang Liang, and Li Zhu	75
Phase Enhancement for Multi-Resonance Compact Metamaterial Antennas	
Mahmoud A. Abdalla, Ahmed A. Ibrahim, and Mohammed H. Abd El-Azeem	83
Wideband Printed Planar Monopole Antenna for PCS, UWB and X-Band Applications	
Goksenin Bozdog and Alp Kustepeli	95
Outage Probability and Bit-error Rate for Communication Systems with Gaussian-Schell Electromagnetism Beams in Non-Kolmogorov Raining Turbulence	
Ye Li, Yixin Zhang, Zhengda Hu, and Qiu Wang	105
Highly Nonlinear and Near-zero Ultra-Flattened Dispersion Dodecagonal Photonic Crystal Fibers	
Samiye Matloub, Reyhaneh Ejlali, and Ali Rostami	115

Miniaturization of Compact Quadrifilar Helix Antennas for Telemetry, Tracking and Command Applications	
Alexandru Takacs, Hervé Aubert, Daniel Belot, and Hubert Diez	125
Genetical Swarm Optimizer for Synthesis of Multibeam Linear Antenna Arrays	
Hichem Chaker	137
CPW-Fed Reconfigurable Clover-Shaped Antenna with Switchable Circular Polarization	
Lingsheng Yang, Yongan Zhu, and Kuniaki Yoshitomi	147
A Miniaturized Lotus Shaped Microstrip Antenna Loaded with EBG Structures for High Gain-Bandwidth Product Applications	
Taha A. Elwi, Ahmed I. Imran, and Yahiea Alnaiemy	157
Wide Band L-Probe Fed Circular Patch Antenna with Elliptical Parasitic Patch and Two Elements Array	
Muhammad N. Islam, Markus Berg, Timo Tarvainen, and Erkki T. Salonen	169
A Dual-Polarized Fabry-Perot Cavity Antenna at Ka Band with Broadband and High Gain	
Guan-Nan Tan, Xue-Xia Yang, Hai-Gao Xue, and Zhong-Liang Lu	179
A New Compact Microstrip UWB Bandpass Filter with Triple-Notched Bands	
Ruifang Su, Ting Luo, Wenlan Zhang, Junding Zhao, and Zifei Liu	187