

IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION

A PUBLICATION OF THE IEEE ANTENNAS AND PROPAGATION SOCIETY



OCTOBER 2016

VOLUME 64

NUMBER 10

IETPAK

(ISSN 0018-926X)

REGULAR PAPERS

Antennas

Distorted Reflector Antennas: Analysis of Radiation Pattern and Polarization Performance	<i>A. Haddadi and A. Ghorbani</i>	4159
Radiation of Logarithmic Spiral Antennas in the Presence of Dense Dielectric Lenses	<i>A. Garufo, N. Llombart, and A. Neto</i>	4168
Analysis and Design of a Novel Circularly Polarized Antipodal Linearly Tapered Slot Antenna	<i>Y. Yao, X. Cheng, J. Yu, and X. Chen</i>	4178
Dual-Polarized Filtering Antenna With High Selectivity and Low Cross Polarization	<i>W. Duan, X. Y. Zhang, Y.-M. Pan, J.-X. Xu, and Q. Xue</i>	4188
Fast Antenna Diagnosis Algorithm Using Oblate Spheroidal Nonuniform Grids	<i>A. Gergel, Y. Brick, and A. Boag</i>	4197
Microstrip Magnetic Monopole Endfire Array Antenna With Vertical Polarization	<i>Z. Liang, Y. Li, J. Liu, S. Y. Zheng, and Y. Long</i>	4208

Arrays and Periodic Structures

An Effective Design Procedure of Multibeam Phased Array Antennas for the Applications of Multisatellite/Coverage Communications	<i>H.-T. Chou</i>	4218
Array Pattern Synthesis With Excitation Control via Norm Minimization	<i>B. Fuchs and S. Rondineau</i>	4228
Broadband, Single-Layer Dual Circularly Polarized Reflectarrays With Linearly Polarized Feed	<i>G.-B. Wu, S.-W. Qu, S. Yang, and C. H. Chan</i>	4235
Design of a UWB Reflectarray as an Impedance Surface Using Bessel Filters	<i>L. Liang and S. V. Hum</i>	4242
Ultrawideband Array With 70° Scanning Using FSS Superstrate	<i>E. Yetisir, N. Ghalichechian, and J. L. Volakis</i>	4256
Multifunctional Cascaded Metamaterials: Integrated Transmitarrays	<i>A. A. Elsakka, V. S. Asadchy, I. A. Faniayeu, S. N. Tsvetkova, and S. A. Tretyakov</i>	4266
Synthesis of Modular Contiguously Clustered Linear Arrays Through a Sparseness-Regularized Solver	<i>G. Oliveri, M. Salucci, and A. Massa</i>	4277
Leaky-Wave Thinned Phased Array in PCB Technology for Telecommunication Applications	<i>D. Blanco, E. Rajo-Iglesias, A. Montesano Benito, and N. Llombart</i>	4288
Biomimetic Antenna Array Using Non-Foster Network to Enhance Directional Sensitivity Over Broad Frequency Band	<i>A. M. Elfrgani and R. G. Rojas</i>	4297

(Contents Continued on Page 4157)

High-Gain Pattern Reconfigurable MIMO Antenna Array for Wireless Handheld Terminals	4306
..... N. H. Chamok, M. H. Yilmaz, H. Arslan, and M. Ali	
A Frequency Agile Microstrip Patch Phased Array Antenna With Polarization Reconfiguration	4316
..... B. Babakhani, S. K. Sharma, and N. R. Labadie	
<i>Electromagnetics</i>	
Mutual Coupling Reduction by Novel Fractal Defected Ground Structure Bandgap Filter	4328
..... K. Wei, J.-Y. Li, L. Wang, Z.-J. Xing, and R. Xu	
Image Solution for the 3-D Static Green's Function of a Vertically Stratified Two-Layer Half-Space	4336
..... E. Zareian-Jahromi, S. H. H. Sadeghi, R. Sarraf-Shirazi, R. Moini, and H. Karami	
Tuning to Resonances With Iterative Time Reversal	4343
..... J. Kim, M. Cheney, and E. Mokole	
<i>Numerical Techniques</i>	
Finite Element Implementation of the Generalized-Lorenz Gauged $\mathbf{A}\text{-}\Phi$ Formulation for Low-Frequency Circuit Modeling	4355
..... Y.-L. Li, S. Sun, Q. I. Dai, and W. C. Chew	
ADI Scheme of a Nonstandard FDTD Method and Its Numerical Properties	4365
..... L. Zhou, F. Yang, J. Ouyang, P. Yang, and R. Long	
An Optimized Higher Order PML in Domain Decomposition WLP-FDTD Method for Time Reversal Analysis	4374
..... X.-K. Wei, W. Shao, S.-B. Shi, Y.-F. Cheng, and B.-Z. Wang	
Second-Order Nédélec Curl-Conforming Prismatic Element for Computational Electromagnetics	4384
..... A. Amor-Martin, L. E. Garcia-Castillo, and D. Garcia-Doñoro	
<i>Wave Propagation and Scattering</i>	
Numerically Efficient Line-Integral Representation of Physical-Optics Scattered Field: The Case of Perfectly Conducting Surface Illuminated by Electric Hertzian Dipoles	4396
..... T. T. Fan, W. M. Yu, and T. J. Cui	
<i>Wireless</i>	
UHF RFID Tag Antenna-Based Sensing for Corrosion Detection & Characterization Using Principal Component Analysis	4405
..... J. Zhang and G. Y. Tian	
APRD-MUSIC Algorithm DOA Estimation for Reactance Based Uniform Circular Array	4415
..... T. Basikolo and H. Arai	
Analysis of Ultrawideband Pulse Distortion Due to Lossy Dielectric Walls and Indoor Channel Models	4423
..... G. Narimani, P. A. Martin, and D. P. Taylor	
Frequency Diverse Array Antenna Using Time-Modulated Optimized Frequency Offset to Obtain Time-Invariant Spatial Fine Focusing Beampattern	4434
..... A.-M. Yao, W. Wu, and D.-G. Fang	
Modulated Frequency Selective Surfaces for Wearable RFID and Sensor Applications	4447
..... J. Lorenzo, A. Lázaro, R. Villarino, and D. Girbau	
Indoor Propagation Channel Simulations at 60 GHz Using Point Cloud Data	4457
..... J. Järveläinen, K. Haneda, and A. Karttunen	
<hr/>	
COMMUNICATIONS	
An Efficient Spectral WLP-FDTD Algorithm for Periodic Structures	4468
..... K. Luo, Y. Yi, Z. Cai, F. Lu, X. Zhou, and B. Chen	
Low-Loss Circularly Polarized Transmitarray for Beam Steering Application	4471
..... C. Huang, W. Pan, and X. Luo	
Broadband Dual-Polarization and Stable-Beamwidth Slot Antenna Fed by U-Shape Microstrip Line	4477
..... S.-W. Wong, G.-H. Sun, L. Zhu, and Q.-X. Chu	
Accelerated Direct Solution of Electromagnetic Scattering via Characteristic Basis Function Method With Sherman-Morrison-Woodbury Formula-Based Algorithm	4482
..... X. Chen, C. Gu, Z. Li, and Z. Niu	
Numerical Solution of Time-Domain Volume Integral Equations for Transient Electromagnetic Scattering by Dielectric Objects	4487
..... M. S. Tong and J. Zhang	
Nearly Hypersingular Integrals by Double-Arctan Transformation in Higher Order Geometry Modeling	4493
..... Y. Ren, W.-F. Huang, J. Niu, and Q. H. Liu	
Path-Loss and Correlation Analysis for Space and Polarization Diversity in Surface Ducts	4498
..... E. Dinc, F. Alagoz, and O. B. Akan	
A Conformal FDTD Method With Accurate Waveport Excitation and S-Parameter Extraction	4504
..... G. Chen, J. Stang, and M. Moghaddam	
A Broadband Circularly Polarized Crossed-Dipole Antenna	4509
..... R. Xu, J.-Y. Li, and W. Kun	

An Efficient Gain Enhancement Approach for 60-GHz Antenna Using Fully Integrated Vertical Metallic Walls in LTCC	<i>H. Chu, J.-X. Chen, and Y.-X. Guo</i>	4513
Broadside Beam-Steerable Planar Parasitic Pixel Patch Antenna	<i>P. Lotfi, S. Soltani, and R. D. Murch</i>	4519
A Dual-Fed Aperture-Coupled Microstrip Antenna With Polarization Diversity	<i>L. Zhong, J.-S. Hong, and H.-C. Zhou</i>	4524
Reconfigurable Axial Ratio in Compact GNSS Antennas	<i>A. Narbudowicz, M. J. Ammann, and D. Heberling</i>	4530
A Wideband Polarization Reconfigurable Antenna With Partially Reflective Surface	<i>L.-Y. Ji, P.-Y. Qin, Y. J. Guo, C. Ding, G. Fu, and S.-X. Gong</i>	4534
Efficiency Enhancement of the Characteristic Basis Function Method for Modeling Forest Scattering Using the Adaptive Cross Approximation Algorithm	<i>I. Fenni, H. Roussel, M. Darces, and R. Mittra</i>	4538
Stacked Patch Antenna With Dual-Polarization and Low Mutual Coupling for Massive MIMO	<i>Y. Gao, R. Ma, Y. Wang, Q. Zhang, and C. Parini</i>	4544
A Compact Quad Element Slotted Ground Wideband Antenna for MIMO Applications	<i>R. Anitha, P. V. Vinesh, K. C. Prakash, P. Mohanan, and K. Vasudevan</i>	4550
A Novel Planar Endfire Circularly Polarized Antenna With Wide Axial-Ratio Beamwidth and Wide Impedance Bandwidth	<i>M. You, W.-J. Lu, B. Xue, L. Zhu, and H.-B. Zhu</i>	4554
Acceleration of Perturbation-Based Electric Field Integral Equations Using Fast Fourier Transform	<i>M. M. Jia, S. Sun, Y. Li, Z.-G. Qian, and W. C. Chew</i>	4559
Design of Wideband and Dual Polarized Cavity Antenna Planar Array	<i>S.-G. Zhou, Z.-H. Peng, G.-L. Huang, J.-Y. Li, and C.-Y.-D. Sim</i>	4565
Enhancement of Dual-Band Reflection-Mode Circular Polarizers Using Dual-Layer Rectangular Frequency Selective Surfaces	<i>M. Fartookzadeh and S. H. Mohseni Armaki</i>	4570
<hr/>		
COMMENTS AND REPLIES		
Comments on “Stored Energies and Radiation Q”	<i>M. Capek and L. Jelinek</i>	4575
Reply to “Comments on “Stored Energies and Radiation Q””	<i>W. Geyi</i>	4577
<hr/>		
CORRECTIONS		
Corrections to “Transmission Characteristics of a Twisted Radio Wave based on Circular Traveling-wave”	<i>S. Zheng and X. Zhang</i>	4581
