PAPERS

Antennas


Dual-Band SIW Metasurface Filtering Antenna With High Inter-Band Selectivity ................................. M. D. Brown and C. E. Saavedra

Novel Folded Reflectarray and Transmitarray Antenna Generating Long Nondiffractive Bessel Beams Carrying QAM With Integrated Feed .......................................................... L. Han, Y. Zhu, Y. Xu, Y. Liu, W. Xie, and B. Xiong

An Antenna Array Based on Radar Operation With High Detection Capability and Implementability for Three-Dimensional Head Imaging ............................................................. H. Chen and K.-M. Luk

Visualized Design of Antenna Decoupling Networks Constructed by Cascaded Coupled Lines .................... Z. Zhou, Z. Cheng, Z. Zhang, Y. Ge, and Z. Chen

A Low-Profile Differentially Fed Unidirectional Tri-Band Filtering Antenna Under Penta-Mode Resonance ....... C. Zhou, X. Lin, H. Li, X. Zhang, Y. Li, and H. Wong


425 GHz Highly Compact On-Chip Sequential-Phased CP Antenna With 19% Overlapped Impedance-AR Bandwidth .................................................................................................................. S. Kong, K. M. Shum, and C. H. Chan

Trade-Off Between Optimal Efficiency and Envelope Correlation Coefficient of MIMO Antenna Clusters ........... V. Neuman, M. Capek, L. Jelinek, A. Lehtovuori, and V. Vikari

Estimation of Mutual Coupling in Integrated Lens Arrays Using a Geometrical Optics-Based Technique With Bi-Directional Forward Ray-Tracing ............................................................. S. O. Dabironezare, A. Nair, A. Neto, and N. Llombart

Analysis and Design of Dual-Modal Filtenna for Dismountable Aperture-Shared Array .............................. R. C. Dai, S. Sun, H. Su, and X. Y. Zhang

An Efficient Antenna Optimization Framework Based on the NP to P Problem ........................................ F. Peng and X. Chen

Beam Steering Toward Multibeam Radiation by Time-Coding Metasurface Antennas .................................... M. Nadi, A. Cheldavi, and S. H. Sedighy

Risley Scanner Using a Metasurface Source and a Single Deflector for SATCOM Applications .................. M. Bertrand, J. Ruiz-Garcia, J.-F. Allaerts, D. G. Ovejero, T. Q. Van Hoang, B. Loiseaux, R. Sauleau, R. Czarny, and M. Ettorre

Low-Profile Fully Metallic Multiple-Ridge Luneburg Lens Antenna ............................................................. J. Djoumidi, P. Castillo-Tapia, N. J. G. Fonseca, and O. Quevedo-Teruel

Uncertainties Introduced by the Probe in Millimeter-Wave Planar Near-Field Measurements ........................ M. Verduasdonk, A. B. Smolders, and A. C. F. Reniers

A 50 dBi E-Band Dual-Reflector Antenna for 5G Backhauling With Auto-Beam-Tracking Function ................. E. Wang, S. Agneessens, O. Talcoth, L. Manholm, C. Benctveini, E. Alfonso, A. Wennergren, H. Saitrud, A. U. Zaman, and J. Yang

A 2-D Fixed-Frequency Beam-Scanning Leaky Wave Antenna Array for Millimeter-Wave Applications ................ B. Wei, Z. Li, Y. Ma, Z. Wang, and J. Wang

36–90 GHz Modular Lens-Corrected Dual-Polarized Horn With Cavity .................................................. D.-C. Son, M. A. Elmansouri, L. B. Boskovic, and D. S. Filipovic


An Ultrawideband Linear-to-Circular Polarizer Based on a Phase Difference Complementary Scheme .......... M.-Q. Yang and Q.-Y. Guo

A Broadband High-Gain and Low-Sidelobe CTS Array Covering Entire W-Band Based on Stacked Parallel Plate Gap Waveguide ............................................................ P. Wang, N. Wang, Y. Cheng, and J. Qi
Assembling Reconfigurable Intelligent Metasurfaces With a Synthetic Neural Network

An Integro-Differential Equation Formulation for the Ideal Veselago Lens

A Perturbation Theory for Natural Frequencies of Two Co-Directional Dielectric Cylinders

Relative Influence of Sea State and Mean, Turbulent, and Heterogenous Refractivity on X-Band Propagation

Wave Propagation and Scattering

An AI Predictor: From Point Clouds to Scattered Far Fields for 3-D PEC Targets

Efficient Evaluation for the Second Kind of Pulse Green's Function

On the High-Performance Computing of Layered Green's Function Based on the Graphics Processing Unit

All-Metal Tensor Metamaterials: Characterization and Design

Time-Domain Physical Limitations on the Response of a Class of Time-Invariant Systems

PT Symmetry-Enabled Physically Unclonable Functions for Anti-Counterfeiting RF Tags

An Efficient FDTD Algorithm for Calculating Low-Frequency Transmission Characteristics of Multilayer Metal Meshes

Electromagnetics

Ultracompact Pattern-Reconfigurable Huygens Dipole Antenna With Uniform Polarization and Quasi-Isotropic Coverage

Arrays and Periodic Structures

Space-Time-Coding Digital Metasurface Element Design Based on State Recognition and Mapping Methods With CNN-LSTM-DNN

Design of Dual-Polarized Tilted-Beam Parasitic Array Antenna With Both High Isolation and High Polarization Purity

3-D-Printed All-Metal Conformal Circularly Polarized Reflectarray Antenna at X-Band

On the Equivalent-Circuit-Based Design of Double-Lossy-Layer Wide Transmissive Rasorbers With Ultrawide Reflection Suppression Band

Dual-Band Energy-Selective Surface With Enhanced Independence Based on Two-Layer Diode-Loaded FSS

Heterogeneous Dispersed Antenna Array Design for Noncooperative Interference Cancellation

Heterogeneous Beam Elements Based Phased Array Antenna Technology: Theory, Analysis, and Experiment

Phase-Only-Induced Independent Full-Range Amplitude and Phase Manipulations Using Dual-Channel Transmitarrays

Ultrawideband Microwave Absorber Conformable on Nondevelopable Curved Surfaces Based on the Hauberk Structure

Phased Array Antenna With Top-Truncated Dome Lens for Wide-Angle Scanning

On the Cross-Polarization Levels of Arrays With Wide Angle Impedance Matching Lavers

Polarization-Insensitive, Broadband, and High-Efficiency Metasurface for Holographic Imaging

A Reflection–Transmission Multifunctional Polarization Conversion Metasurface

Electromagnetics

Time-Domain Physical Limitations on the Response of a Class of Time-Invariant Systems

All-Metal Tensor Metamaterials: Characterization and Design

PT Symmetry-Enabled Physically Unclonable Functions for Anti-Counterfeiting RF Tags

An Efficient FDTD Algorithm for Calculating Low-Frequency Transmission Characteristics of Multilayer Metal Meshes

Numerical Methods

A Nonconformal Multidomain Multisolver Method for the Analysis of Electromagnetic Properties of Objects

On the High-Performance Computing of Layered Green’s Function Based on the Graphics Processing Unit

Efficient Evaluation for the Second Kind of Pulse Green's Function

An AI Predictor: From Point Clouds to Scattered Far Fields for 3-D PEC Targets

Efficient Electromagnetic Scattering Simulation of Electrically Extra-Large Problems Using Phase Information and Adaptive Mesh Automation

Wave Propagation and Scattering

A Wide Bandpass Elliptical Filtering Response Frequency-Selective Slab Based on Slotline-Backed Split-Ring Resonators

Cylindrical Scattered Field Transformation Applicable for Differences in the Radar Ranges of Transmitter and Receiver—Far-Field Prediction

Relative Influence of Sea State and Mean, Turbulent, and Heterogenous Refractivity on X-Band Propagation

A Perturbation Theory for Natural Frequencies of Two Co-Directional Dielectric Cylinders

An Integro-Differential Equation Formulation for the Ideal Veselago Lens

Assembling Reconfigurable Intelligent Metasurfaces With a Synthetic Neural Network

Other Topics

A Dual-Metasurface-Based Imaging Radar Deception Jammer With Angular Adaptability and Scattering Enhancement

Communications
Dual-Polarized Folded Reflectarray Antenna With Active Components  ............................................................................................. M. Wang, M. T. Yim, and C. H. Chan
Broadband Dual-Polarization Thin Aperture Based on Dense Arrangement of Subwavelength Unit Cells for Low-Profile Transmitarray Antenna  ............................................................................. Z.-H. Fu, X.-S. Yang, L.-L. Wang, and B.-Z. Wang
Methodology and Design of Absorptiue Filtering Reconfigurable Intelligent Surfaces  ................................................................. Q. Hu, H. Yang, X. Zeng, Y. Rao, and X. Y. Zhang

A Liquid-Crystal-Based Dynamic Metasurface Antenna for Electronical Beam-Steering at 105 GHz  ........................................ P.-Y. Wang, B. Sievert, A. Rennings, and D. Erni
A Fully Metallic 3-D mmWave Reflectarray With Independent Polarization Steering Control  ........................................................................ J. Parellada-Serrano, J. Velasco, C. Molero, M. Garcia-Viqueiras, and P. Padilla
Array Nulling Synthesis Based on Hyper-Parameter Optimized Self-Paced Learning Convolutional Neural Networks  ........................................... Y. Zhang, H. Hu, T. Li, B. Chen, J. Tian, and S. Lei
SLM Printed Wideband Filtering Antenna With Low Sidelobe and Controllable Bandwidth for K-Band Multibeam Applications  ........................................................................................................ H. Qi and H. Liu
Deep Learning Electromagnetic Inversion Solver Based on a Two-Step Framework for High-Contrast and Heterogeneous Scatterers  ............................................................. H. M. Yao, M. Ng, and L. Jiang
A Butler Matrix-Based Multibeam W-Band Slot Antenna Array Fabricated by Metal Additive Manufacturing Technology  ................................................ D. Wang, K.-D. Xu, Y. Cao, C. Guo, and S. Yan
Analytical Model for Calculating Gain Pattern of Antennnas Implanted in Large Host Bodies  ........................................................... M. Gao, Z. Ćipuš, I. V. Soares, S. Raman, D. Nikolayev, and A. K. Skrivervik
Compact Isolation-Enhanced Dual-Band ±45° Polarization Beam-Scanning Millimeter-Wave Antennas With Dual-Band Bandstop Structures  ................................................................... Z.-H. Tu, W.-S. Ou, and F.-C. Chen
Conformal Wideband Circularly Polarized H-Plane Horn Antenna Integrated With Quasi-Yagi  ............................................................ Y. Zhao, A.-Z. Wang, S.-M. Zhang, and J.-Q. Ding
A Reflectionless Circularly Polarized High-Gain Microstrip Filtering Antenna With Wideband Response  .................................................. V. Paul and K. Dhauj
Huygens Pattern-Reconfigurable Antenna Array With Wide Beam-Steering Angle and Stable-Enhanced Gain  ......................................................... M. Chen, H. Hu, K. Sun, S. Lei, J. Tian, and B. Chen
Antenna Array Diagnosis Using a Deep Learning Approach  ......................................................................................................................... H. M. Yao, M. Li, L. Jiang, K. L. Yeung, and M. Ng
An Integrated Antenna Array With Broadband, Low-RCS, and High-Gain Characteristics  ............................................................... L. Zhu, J. Sun, G. Xu, Z. Hao, and Q. Cao
Depolarization Dyadics for Truncated Spheres, Spheroids, and Ellipsoids  .............................................................................................. T. G. Mackay and A. Lakhtakia

Comments and Corrections
Corrections to “Simple Link-Budget Estimation Formulas for Channels Including Anomalous Reflectors”  .............................................................. S. Kosulnikov, F. S. Cuesta, X. Wang, and S. A. Tretyakov