

2012 IEEE Asia-Pacific Conference on Antennas and Propagation

(APCAP 2012)

**Singapore
27 – 29 August 2012**



**IEEE Catalog Number: CFP1207S-PRT
ISBN: 978-1-4673-0666-9**

Table of Contents

Simulation of EM Structures Using Parallel DG-FETD Method.....	1
Mur Absorbing Boundary Condition for 2-D Leapfrog ADI-FDTD Method.....	3
Multi-polarized MIMO Indoor Channel Analysis Based on 3-D CE-ADI-FDTD Method.....	5
An Extended ADI-FDTD Method with Fourth-order Accuracy in Time	7
Fundamental ADI-FDTD Method for Multiple-Pole Debye Dispersive Media.....	9
CE-ADI-FDTD Method for Active Photonic Device Simulation with Semiconductor/Solid-state Media.....	11
Mutual Scattering Mode for LTE MIMO Antennas and Its Application to Correlation Reduction (Invited).....	13
Small Terminal Antenna Concepts for Reconfigurable MIMO Handsets (Invited).....	15
MIMO Radar: Analysis of SNR, Beamwidth and Sidelobe Level.....	17
Efficient Radiating Omnidirectional Loops for Collocated Polarization Diversity MIMO Dipoles.....	19
Two UWB-MIMO Antennas with High Isolation Using Sleeve Coupled Stepped Impedance Resonators.....	21
Analytical Investigation on DL MU-MIMO Performance with Increased Feedback Bits.....	23
A Cavity Backed UHF Near-Field Segmented Loop Antenna.....	25
Compact Flat Monopole Antenna for Small Aircraft of VHF Communication System.....	27
140 GHz Wide-Band Micromachined Double Folded Slot Antenna.....	29
A Dual-Polarized Fabry-Perot Resonator Antenna.....	31
Efficiency Enhancement of Integrated Fabry-Pérot Cavity Antenna.....	33
A Brief Review of Wideband Circularly-Polarized Planar Antenna Design.....	35
Broadband Microstrip-Line-Fed Monopole Antenna.....	37
Efficient High Gain Wideband Antenna with Circular Array of Square Parasitic Patches.....	39
Application of Bionics in Antenna Designs.....	41
A Broadband Circularly Polarized Antenna.....	43
Size-Reduced Dielectric Resonator Antenna for UWB Applications.....	45
The Circularly Polarized Resonator Antenna Using Double Polarizing Metallic EBG.....	47
Out-of-service RCS Reduction of a Rectangular Microstrip Antenna.....	49
Compact Asymmetric-Cross Slotted Microstrip Antenna on Reactive Impedance Surface.....	51
A Novel Stacked-Patch Endfire Antenna.....	53
Design of a Millimeter-wave MEMS Antenna Array.....	55
Effect of Wireless Charging Antennas on Transmission of an Antenna Pair through Human Body.....	57
W-Band Monopole Antenna-in-System Design Approached on Molding Compound Material	59
Compact Broadband Monopole Slot Antenna for Digital TV Applications.....	61

Simplified Low-profile Metamaterial-based Spiral Antenna Without a Balun Circuit	63
Surface Plasmon Enhanced Optical Transmission Through Subwavelength Apertures with Carbon Nanotubes.....	65
Terahertz Metamaterials Fabrication from Narrowband to Broadband.....	68
Gain Enhancement of Antipodal Tapered Slot Antenna Using Zero-Index Metamaterial.....	70
Plasmonic Coupling in Separated Graphene Sheets.....	74
Antenna and RF Technologies for Future Wireless Communications Systems (Invited).....	74
A Compact Inverted-F Antenna for Dual-band WLAN Operations in a Mini Tablet Computer (Invited).....	76
Electrically Small Magneto-Dielectric Coated Monopole Antenna at HF Band	78
Circularly Polarized UHF-RFID Antenna Using Defected Rectangular Plate on the Ground Plane.....	80
Double-layer Folded Loop Antenna for UHF Near-Field RFID Applications.....	84
Array Design Techniques of Microstrip Comb-line Antennas in Millimeter-wave Band (Invited).....	84
Antennas for Millimeter-Wave Integrated Photonic Transmitter (Invited).....	86
A Microstrip Grid Array Antenna for 60-GHz Applications.....	88
38 GHz Metamaterial Antenna on Silicon Substrate.....	90
A D-band On-Chip Dielectric Resonator Antenna Fed by Half-Mode Cavity in CMOS Technology.....	92
Manipulating Electromagnetic Wave Propagation, Absorption and Polarization with Metamaterials (Invited).....	94
Solving Multi-scale Electromagnetic Problems by Domain Decomposition Based Integral Equation Method (Invited).....	96
Emissivity Calculation of Finite-Size Object (Invited).....	98
Directive Radiation of Electromagnetic Waves Based on Anisotropic Metamaterials.....	102
Shooting and Bouncing Ray and Physical Optics for Predicting the EM Scattering of Coated PEC Objects.....	104
Localisation of Body-Worn Sensors Applying Ultra Wideband Technology.....	106
Body Gain Study for Animated Human Model in a Body Worn Antenna System.....	108
Preliminary Estimate for Observability of 60GHz Wireless Body Area Networks.....	110
Study of Dynamic On-Body Link Reliability for WBAN Systems.....	112
Switchable Textile Microstrip Antenna for On/Off-body Communications and Shape Distortion Study.....	114
Optimum Design of Antennas (Invited).....	116
Filtered Antenna for UWB Systems: Band-Selective and Compact Feed by Filters/Channel-Combiners with/without Metamaterials (Invited).....	118
Analysis and Synthesis of Microstrip Patch Antenna using Artificial Neural Networks	120
Neuro-Cavity Model for Rectangular Patch Antenna	122

A Low Cost Omnidirectional High Gain Active Integrated Antenna for WLAN Applications....	124
An Improved Effective Material Parameter Extraction Algorithm for Metamaterial Applications.....	126
Metal-Insulator-Si Hybrid Plasmonic Waveguide Components for On-Chip Photonics.....	128
Polarization Splitter with Hybrid Plasmonic Waveguide.....	130
Ultimate Miniturization of Plasmonic Travelling-wave Resonators.....	132
Embedded Metallic Nanoparticles for On-Chip Infrared Detection.....	134
High Gain Planar Antenna Arrays Applied in Mobile Satellite Communication (Invited).....	136
Wideband Quasi-Yagi Antenna with Tapered Driver.....	138
An LTE/WWAN Antenna Contains Monopole and Coupled-fed Loop for Internal Mobile Phone.....	140
A Compact 3D Antenna with Comprehensive LTE Band Coverage for Use on Notebook Hinge.....	142
A Broadband Dual-Polarization Antenna Element for Wireless Communication Base Station....	144
Design of a Demultiplexer using Slit-top Mushroom-Like Electromagnetic Band Gap Structures.....	147
A Novel Ultra-Wideband Electromagnetic Bandgap Structure for SSN Suppression.....	149
Optically Controlled Frequency Switching Band Stop Filter.....	151
Study on Design Parameters of Waveguide Polarizer for Satellite Communication.....	153
Performance Analysis of a Seven-beam CDMA-based LEO Satellite System.....	155
Analysis of an Elliptical Patch Antenna Using Artificial Neural Networks.....	157
Tunable Defected Ground Structure and its Applications to Simultaneous Reconfigurable Communication and Partial Discharge Detection.....	159
UWB Communication for the Human Head.....	161
Opened-tip Applicator and Ex Vivo Experimental Results for Microwave Breast Cancer Ablation.....	163
Analysis of an Infrared Imaging System Based on Diffractive Mirror and Lenses.....	165
Electromagnetic Study of Strong Coupled CRLH Transmission Lines for Use in Antenna Construction.....	167
Broadband Non-reflection Interface Between Isotropic and Anisotropic Unloaded Transmission Line Metamaterials.....	169
Diameter Measurements of Precision Coaxial Air Lines at NMC for Scattering Parameter Measurement Traceability.....	171
High Thermal Conductivity Materials and Their Application on the Electronic Products.....	173
Computational Design of Power Transmission Symmetric Antenna System.....	176
Comparison and Analyzing Propagation Models.....	178
The Study of Signal Strength Threshold for VoIP Handoff Process in 802.11g/n Networks.....	180
Performance Evaluation on Using IEEE802.11p for Indoor DSRC Approach.....	182
Computational Electromagnetics in the SKLMMW (Invited).....	184

Partly Combined Field Integral Equation for Electromagnetic Radiation Problems	187
Investigation on Loaded Antenna	189
Improved Fast Edge and Facet Finding Algorithms for the RWG and SWG Basis Functions.....	191
Gain Improvement of MSA Array for Base Station using Covered EBG.....	193
A Study of Gain Enhancement of Horn Antenna Using EBG.....	195
Compact Polarization Dependent EBG Surface with Fractal Boundary Patches.....	197
Electromagnetic Bandgap (EBG) Structures with TiO ₂ Substrate.....	199
Antenna on a Thick Resin layer of a Silicon Chip and a Slab Antenna fed by Post-wall Waveguide (Invited).....	201
Wideband Differential Antenna in Package with Superstrate Structure at 77GHz.....	203
Potential Packaging Solutions for Integrated Single-Chip Transceivers above 100GHz (Invited).....	207
Reduction of Mutual Coupling for Compact 60GHz Cavity-Backed Antennas in LTCC (Invited).....	209
Design and Modeling of Monolithic Integrated Millimeterwave Chip-Package Antennas and Wireless Communication Links.....	211
Modeling of Reverberation Chamber Using FMM-Accelerated Hybrid Integral Equation.....	213
A Low-Cost 2.45-GHz Wireless Power Link for Biomedical Devices.....	215
Analyses of Rain Fade Countermeasure Technique Time Diversity at 26 GHz.....	217
Development of Advanced Software for Channel Characterization in Aircraft Cabins.....	219
A Comparison Between Transmitted and Diffracted Field in a Microcellular Scenario for UWB Signals.....	221
2.4GHz Square Slot Antenna and Power Management Circuit for Wireless Energy Harvesting Applications.....	223
Miniaturization Reconfigurable Wide Slot Antenna for Multi-mode Wireless Communication Applications.....	225
Integrated Monopole Slot and Monopole Strip for WWAN Handset Antenna.....	227
Several Novel Omnidirectional Printed Dipole Antenna Units for LTE-FDD/WCDMA System.....	229
A Novel Compact Truncated-Ground Monopole Quasi Yagi Antenna.....	231
Multi-port Network Modeling of Stub Loaded Microstrip Ring Antenna for Dual-band Operations.....	233
A Dual-band Antenna with Pattern Diversity Designed for Handset Device Application.....	235
Investigation on L-slot Loaded Dual-band Compact Patch Antenna.....	237
A Flexible Modified Dipole Antenna Printed on PET Film.....	239
Multi-Band Gap-Coupled Microstrip Patch Antenna.....	241
Printed Diamond Slot Antenna with a Bent Microstrip Line for 5.8 GHz RFID Reader.....	243
A Parasitic Printed Monopole Antenna for a VHF Mobile Communication.....	245

Dual-segment Corporate Feed Four Elements Array Antenna for Broadband Application.....	247
Printed Band-notched U shaped Ultra Wide Band Antenna with Modified Split Ring Resonator.....	251
Studies on Ultra Wideband Triangular Patch Antennas for Imaging Applications.....	253
Compact Ultra-Wideband Antenna With Dual Sharp Notch-Bands Using Integrated Bandstop Filter.....	255
A Microstrip Grid Antenna Array for 24 GHz Doppler Sensors.....	257
High Gain Conical Beam Antenna with Two Concentric Coaxial Apertures.....	259
Fabry-Perót Cavity Antenna with Beam Switching.....	261
Square-Ring Microstrip for CP Operation.....	263
Optically Tuned Polarisation Reconfigurable Antenna (Invited).....	265
A UWB Magneto-Electric Dipole Antenna (Invited).....	267
Antennas for Multi-mode GNSS Applications (Invited).....	269
Dual-mode Synthesized Microstrip Lines and Their Applications to Innovative Antenna Arrays (Invited).....	271
A See-Through Wire-Grid Film Antenna for WLAN Applications.....	273
Low Profile Cavity Backed Antennas Based on Substrate Integrated Waveguide Technology (Invited).....	275
A 60 GHz Differential On-Chip Yagi Antenna Using 0.18- μ m CMOS Technology.....	277
140GHz 2×2 SIW Horn Array on LTCC.....	279
Tri-band Antenna in Package for Single-chip WLAN/60GHz Radio.....	281
94 GHz Substrate Integrated Waveguide Fed Antenna in LTCC Technology.....	283
Characterizing Mutual Impedance of Conical Spiral Antenna Array for Radio Telescope Application.....	285
DOA Estimation with a Vector Circular Array.....	287
Resolution Enhanced MUSIC-like DOA Estimation Algorithm without Estimating the Number of Sources.....	289
Design of Wideband Conformal End-fire Antenna Array on a Large Conducting Cylinder.....	291
Conical-Beam Antenna with Four Notch Slots.....	293
Experimental Study on Transient Establishment of Negative Refraction (Invited).....	295
Identification of Maturity of Fruit in the Frequency Domain Using its Natural Frequencies(Invited).....	297
A Backplane-less Microwave Meta-material Absorber (Invited).....	299
Simulation of Active Microdisk Antenna using Solid State and Dispersive Models.....	301
Fast Analysis of Antennas Mounted on Platform Using Hybrid AIM-PO Technique.....	303
Energy Issues of Information Transmission in IOT (Invited).....	305
Realization of Efficient Wireless Power Transmission by a Vertical Coil Array.....	307
Ultra-Wideband Balun Using Microstrip to Slotline Transitions.....	309
Increase the Signal-to-Noise Ratio of Magnetic Resonance Imaging by a Vertical Coil Array ...	311

A Dual-Notched Band Bandpass Filter using Embedded Fold-Slots.....	313
Physics-Based Compact Lumped Circuit Model of PIFA Using a Retarded Partial Element Equivalent Circuit.....	315
Mainlobe Interference Suppression Based on Large Aperture Auxiliary Array	317
A Low-Cost Narrow-Beamwidth DBF Radar Concept.....	319
Study on the Fractional Power Spectrum of the Scattered Echoes from 1-D Time-varying Sea Surface.....	321
Analysis of Sea Clutter Fractal Property and Target Detection Based on Fit Error.....	323
A Study of Synthetic Aperture Radar Imaging with Compressed Sensing.....	325
Author Index	327