## Contents

| A Novel Knowledge-aided Approach for Training Data Selection   |
|--|
| Novel Design and Implementation of Ultra-wideband Pulse Generator Based on Avalanche Transistor . $34$   |
| An Efficient Algorithm for the Calculation of Quantum Radar Cross Section of Flat Objects 39   |
| A Real Time 3D Multi Target Data Fusion for Multistatic Radar Network Tracking 4   |
| A New FPGA Prototype for Synchro to Digital Converter Using CORDIC Algorithm 50  |
| Improved Design of Ku Band High Power Rectangular Waveguide Directional Coupler 56   |
| Magnetic Field Controlled Diffraction Grating  |
| Analysis of Immunity by RF Wireless Communication Signals  |
| Resonant Properties of HE <sub>111</sub> Mode of a Complicated Microwave Cavity for a New Type of Rubidium Clock   |
| Dielectric Properties of Rice Husk/Carbon Nanotubes Composites in Ku-band  |
| Contribution of Evanescent Waves to Vortex Vector Field with Inhomogeneous Polarization in Near Field  |
|  |
| VEMC Computing System for Electromagnetic Compatibility of Integrated Circuits   |
| $thm:wide-angle Polarization-independent Planar\ Magnetic\ Metamaterials\ Based\ on\ Dielectric\ Resonators\ \ .\ \ 8999999999999999999999999999999$             |
| High-efficiency Anomalous Reflection Characteristics of an Ultra-thin Gradient Meta-surface Based on SRRs  |
| Study on Permittivity and Optimal Design of Metamaterial   |
| A Side Information Free PTS-PAPR Reduction in Coherent Optical OFDM Systems Using Superimposed Training  |
| Dual-polarized FSS with Wide Frequency Tunability and Simple Bias Network  |
| Study and Design of the Novel Shunt Liner Active Power Filter for a Superconducting Magnet Power Supply  |
| Design of Ku-band Dielectric Resonator Filter for Satellite Applications   |
| Deriving the Geometry of Frequency Selective Surfaces (FSS) and Metamaterials (MTM) Elements from Transmission Lines by Using Surrogate Meta-modeling Techniques |
| Analysis and Design of Ku Band Coaxial-waveguide Transition  |
| A Novel Monopulse Microstrip Antenna Array with Compound Feed Network  |
| Design of Signal Source without External Reference for Fiber Optical Comb System   |
| RF Shielded Hat for Protecting Cameraman from EMF Exposure   |
| Reflection Loss Performance and Performance Assessment of Pyramidal Microwave Absorber Using Agriculture Waste   |
| An Effective Optimization of Reliability of Co-phase Power Supply Device   |
| Criss-Cross Metamaterial Based Radiating Structures for C-band Applications  |
| Microstrip Patch Antenna Design with Criss-Cross Metamaterial Based Radome Cover   |
| A Multi-channel Digital Temperature Acquisition System Based on SOPC   |
| A High Precision and Externally Synchronous CMOS Relevation Oscillator 169   |

| A Novel Algorithm of Landmine Detection  | 167        |
|--|------------|
| TDLAS Based Early-stage Forest Fire Detection System   | . 171      |
| Forced Solitary Wave in Water Wave Basin under the Earth's Gravity Field   | . 176      |
| Parameterized Dynamic Range Reduction for UWB SAR Image  |            |
| The Mikaelian's Magnetic Lens for Static Magnetic Field Enhancement  | . 184      |
| Skin Color Measurements: Usefulness of the Metric Hue Angle of Uniform Color Spaces for Dermatolog ical Treatment                            |            |
| New Method for Automated Disk Diffusion Test   | . 192      |
| The Study of the Growth of Tissue Cultures under a Layer of Nanotextiles   | . 195      |
| Characterization of Ultrashort Pulse Laser by Using KNbO <sub>3</sub> Nanoneedles Based Frequency-resolved Optical Gating (FROG)             |            |
| FDTD-based CAD Simulator for Coaxial Applicator — Biomedical Application   | . 203      |
| Shielding and Mutual Coupling Effect of Ground Penetrating Radar Antenna   | . 209      |
| Detection of Low-level Electromagnetic Signal of Partial Discharge by Means of Disturbed Acquisition Discrimination                          |            |
| A Novel Design of Ku Band Coaxial-waveguide Directional Coupler Used for the Measurement of th Short-circuited Line Method                   |            |
| Nanoscale Plasmonic Switch at Far Infrared Frequencies Using Graphene  | . 221      |
| Digital Multi-channel High Resolution Phase Locked Loop under Influence of Potential System Uncertainties                                    |            |
| TM Wave Mode Analysis of Circular Dielectric Resonator with Anisotropic Permittivity   | . 230      |
| Adaptive Optimal Polarization Detection of Target in Clutter Background Based on Generalized Rayleigh Quotient                               |            |
| Calculation of Shielding Effectiveness of an Apertured Rectangular Cavity Against Planar Electromagnetic Pulses                              |            |
| Parametric Inversion of 2-D Dielectric Rough Surface Based on SVM  | . 246      |
| Electormagnetic Field-focusing EBG Lens  | . 249      |
| Performance Analysis of Parallel FDTD Algorithm on IBM BlueGene Supercomputer Series   | . 253      |
| Analytical Formulation for Electromagnetic Leakage from an Apertured Rectangular Cavity  | . 257      |
| Transient Electromagnetic Topology Method for Complex Wiring Consisting of Random and Nonuniforn Transmission Lines                          |            |
| Influence of the Socket on Chip-level ESD Testing  | . 266      |
| Solitary Wave Induced in a Sinusoidal Water Surface Wave Field of Hydrodynamics  | . 271      |
| The Casimir Force and Heat Conduction Viewed as Exclusion of Natural Spatial Energy and Lateral EM Coupling between the Walls of a Waveguide |            |
| The Beam-wave Interaction for Different Modes in Three-gap Coupled Cavity Output Circuit   | . 279      |
| Efficient Electromagnetic Scattering Simulation Approach of the Rotating Moving Complex Targets  | . 282      |
| The Research of Methods Based on Traveling Wave Suppression  | . 287      |
| Fan-shaped Patch Element Wideband Terahertz Metamaterial Perfect Absorber  | . 292      |
| A Novel Tunable Dual-band Microwave Metamaterial Absorber Based on Split Ring Resonant   | . 296      |
| A Broadband Terahertz Metamaterial Absorber Based on Square Ring Resonators  | . 300      |
| Ultrafast Photonic Differentiator and Integrator Employing Integrated Silicon Microring or MZI $\ldots$                                      | . 305      |
| Wireless Millimeter-wave to Lightwave Signal Converters Using Simple Planar Antennas on LiNbO Optical Crystal                                |            |
| Self-assembled Low Density Quantum Dot and Quantum Dot-in-nanowire Structures for Quantum Pho  | <b>)</b> — |
| tonics   | . 315      |

| Ultracompact On-chip Long-wave Photodetector Based on Hybrid Plasmonic Waveguides  | 320 |
|--|-----|
| Four-wave Mixing Response of a Graphene Layer Covered on a Tapered Fiber   | 324 |
| Semiconductor Plasmonic Nano-cavity Laser on Silicon: Simulation, Design and Fabrication                                       | 329 |
| Tunable V-cavity Semiconductor Laser and Modules   | 333 |
| The Proposal of Pulse Synchronous Laser Signal Source Based on Coupled-microdisk Photonic Molecules                            |     |
| Simulation of Thermal Tuning in V-coupled Cavity Laser with an On-chip Thin-film Heater  | 341 |
| Dynamical Characteristics for Semiconductor Microdisk Laser Subject to Optical Injection                                       | 346 |
| Special Functions of Modified Optical Microfiber   | 349 |
| Miniaturized Fiber Interferometers and Their Applications as Fiber Sensors   | 353 |
| A Universal Method for Constructing $N$ -port Non-blocking Optical Router Based on $2 \times 2$ Optical Switch                 |     |
| Software Defined Networking (SDN) Enabled Optical as a Service (OaaS) with Dynamic Network Provisioning                        |     |
| ${\it Recent Progress in On-chip Multiplexing/Demultiplexing Silicon Photonic Devices and Technologies } \dots \\$             | 368 |
| Higher-order Ring Resonators and Delayed Interferometers Based on 300-mm SOI Technology for WDM Applications                   |     |
| Widely Tunable Inductors Utilizing Transmission-line with Variable Distributed Load Capacitor for Millimeter-wave Applications |     |
| Investigation of a Miniature and High Gain On-chip V Band Microstrip Antenna   | 383 |
| An Ultra-wideband and Low Phase Noise LC-VCO Using NMOS Varactor with MOM Digital Capacitor Switching Arrays                   |     |
| Dual-band Bandpass Filter Based on GaN MMIC  | 390 |
| Study of Response of PIN Diode to Electromagnetic Pulse  | 394 |
| THz False-color Imaging with Flexible Tube-lattice Fiber Probe   | 400 |
| Simulation of Temperature Profile of Soot Preform during Sintering Process   | 403 |
| Yield Improvement of Optical Fiber Manufacturing through Redesign of ACVD Burner   | 406 |
| $ \hbox{Core Profile Based Dispersion Optimization in Trench Assisted Bend-insensitive Optical Fibers} \ \ldots \ \ldots \ .$  | 409 |
| Experimental Investigation of Modal Noise in Ultra Bend-insensitive Fibers   | 413 |
| Measurement of Nonlinear Coefficient of Ultra Bend-insensitive Optical Fiber   | 416 |
| Bandwidth Limitations and Trade-off Relations for Wide- and Multi-band Array Antennas over a Ground Plane                      | 419 |
| A Simple Experimental Method to Analyze the Properties of Terahertz-wave Propagation in Complex Atmosphere                     |     |
| A General and Effective Clutter Filtering Strategy for Quiet Zone Evaluation in Tri-reflector Compact Range                    |     |
| Implementation of Three-dimensional Diffractive Gaussian Beam Analysis Method  | 432 |
| A Fast Gaussian Beam Tracing Method for Quasi-optical System Analysis Based on Gabor Frame Expansion                           |     |
| Imaging Dielectric Objects by Limited Diversity of Scattering Data   | 441 |
| Time Reversal Imaging Using Minimum Norm Iterative Type Partial Noise Subspace Method  | 445 |
| A Microwave Radiation Interferometry Method Based on Adaptive Super-sparse Sampling  |     |
| Introduction to the Researches on Radar Conducted in MIRSL/CAS   |     |
| Comparison of the Time-reversal MUSIC and BP Algorithms in Multi-target Detection  | 461 |
| A Novel Parallel Double Helix Loop Resonator for Magnetic Coupled Resonance Wireless Power Transfer                            | 166 |
|  |     |

| Parabolic Strip Telescope   | . 471 |
|---|-------|
| Frequency Tunable Antenna with Zeroth Order Resonator for UHF Near-field RFID Systems   | . 477 |
| Electrical Lumped Model for Implemented RF-MEMS Capacitive Switch on Semi-suspended Coplanar waveguide                            |       |
| Edge Effects in a Strongly Coupled Dipole Element Array in Triangular Lattice   | . 487 |
| The Multiple Periodic Structure Antenna Design  | . 491 |
| A Dual-band Circularly Polarized Antenna with Novel Feeding Method for BDS, GPS and GLONAS Application                            |       |
| Broadband Circularly Polarized Loop Antenna Based on High-pass and Low-pass Filters for Handhele RFID Reader Applications         |       |
| Electromagnetic Heat-induced of Nanowire in Liquid: Computation of the Bubble Shape   | . 504 |
| Computation of the Field Enhancement by Small Facet Angles of Metallic Nanoparticles: Adaptiv Remeshing for Finite Element Method |       |
| A Unified Field Analysis Method for IR/MMW Beam Splitter  | . 514 |
| Conductor Modeling Based on Volume Integral Equations   | . 520 |
| Localisation of Motionless Persons in 3D Space by UWB Radar   | . 525 |
| Research of Composite Electromagnetic Scattering from Targets and Rough Surface Basing on the Efficient Numerical Algorithm       |       |
| FPGA-based Real-time Generator of Combination Chaotic Frequency-modulated Signal for Noise Rada                                   |       |
|   |       |
| Uncertainty Estimation in Vector Wind Retrievals from Satellite-based Polarimetric Microwave Radiometer Measurements              |       |
| Multi-band Microwave Metamaterial Perfect Absorber Based on Mie Resonance Theory  | . 541 |
| A Compact Plasmonic 4-way Wavelength Splitter for Planar Circuits   | . 548 |
| The Influence of Air-hole Filling Fraction of Photonics Crystal Fibers on Stimulated Brillouin Scattering Slow Light              |       |
| Investigation on Slow Light of Nonuniform Photonic Crystal Fiber Bragg Gratings   | . 556 |
| Research on the Controllable Frequency Octupling Technology for Generating Optical Millimeter-wav by External Modulator           |       |
| Temperature Dependence of Liquid Filled Photonic Crystal Fibers   | . 565 |
| Dependence of Grating Length of Fiber Gragg Gratings on Slow Light  | . 569 |
| A Low-cost CCD-based Imager for Mapping Venous Oxygenation  | . 572 |
| A Novel Compact Tri-band Bandpass Filter with Good Selectivity  | . 577 |
| Dual-band Bandpass Filter with Good Selectivity and Stopband Rejection  | . 582 |
| New Design of Low Cost and Easy Tuning Compact GPS Microstrip Antenna   | . 587 |
| Solitary Wave Induced in a Water Surface Wave Field   | . 591 |
| Chaotic FM Signals for Circular SAR Imaging   | . 594 |
| Compact Microstrip Diplexer for 4G Wireless Communication   | . 599 |
| A High Gain Slot Antenna Based on Surface Plasmon Polaritons  | . 603 |
| A Compact Circular Polarized Tag Antenna in UHF Band for Metallic Object Application  | . 609 |
| A Miniaturized Unidirectional Moxon Antenna for UHF RFID Tags   | . 612 |
| Optimization of Machine Learning Parameters for Spectrum Survey Analysis  | . 616 |
| Novel Miniaturized Satellite Navigation Antennas Based on Substrate Integrated Waveguide  | . 620 |
| A Novel Phase Measurement System Based on Six Port Reflectometer and LabVIEW  | . 625 |
| TD-LTE Antenna Array Smart Cover Study  | 629   |

| Investigation on Electromagnetic Scattering form Dielectric Soil Rough Surface with a PEC Objec Embedded in It  |       |
|---|-------|
| Study on the Characteristics of Long-wave Radiation over China Area   |       |
| The Study of the Generalized Stereopair Matching Method   | . 641 |
| Study on Surface Albedo of Different Land Cover Types in Liaoning Province  | . 645 |
| Study on the Variation of Vegetation in Shenyang City Based on MODIS Data   |       |
| The Damping Model for Sea Waves Covered by Oil Films of Finite Thickness  | . 655 |
| Microwave Radiation Image Reconstruction Method Based on Adaptive Multi-structural Dictionary   | •     |
| The EMC Impact due Household Appliances in Smart Grid Networks  | . 666 |
| Determination of Microwave Conductivity of Electrolyte Solutions from Debye-Drude Model   |       |
| A Metamaterial-based Probe for EMC Measurements   |       |
| Design of Base Station Antenna for RF Energy Harvesting   |       |
| Design of Compact Passive Tag Antenna for Practical RFID Applications   |       |
| Statistical Characterization of Multiple Antennas Dynamic Body-to-body Radio Propagation Channel  |       |
| A Novel Idea of Evaluating Non-ionizing 2.45 GHz Wireless Body Area Network (WBAN) RF Radiation on Human Cognitive Performance Using Wearable Textile Monopole Antennas |       |
| Fractal Etched Bow-tie Antenna Loading Zero-index Metamaterials   | . 695 |
| An Ultra-dense Optical Comb Based DWDM-OFDM-PON System  |       |
| Two Dimensional Polarization Independent All-dielectric Left-handed Metamaterial in Free Space  | . 703 |
| Compact SU8-silica Hybrid Thermo-optic Switch with Low Power Consumption  | . 707 |
| Study on Accuracy and Efficiency of the Numerical Algorithm for Electromagnetic Scattering from Targets and Rough Surface   |       |
| Application of S-UTD-CH Model into Multiple Diffraction Scenarios at 900 MHz  | . 714 |
| Broadband Analysis and Characterization of Noise for In-door Power-line Communication Channels  | . 719 |
| Design of All-fiber Coupled Electro-optic Sensors for High Power Microwave  | . 724 |
| Investigation of Novel Waveguide Phase Shifters for High Power Applications   | . 729 |
| Compact Microstrip Patch Antenna with Parasitic Loading for X & Ku Band Applications  | . 733 |
| Accurate Numerical Solutions for Electromagnetic Scattering by Strongly Anisotropic Structures  | . 736 |
| Aharonov-Bohm Effect, Poincaré Lemma and Gauge Invariance   | . 740 |
| Analysis of Arrangement Structure for Metal Fiber in Blended Electromagnetic Shielding Fabric   | . 744 |
| Shielding Effectiveness Fitting of Local Electromagnetic Shielding Clothing Based on Human Figure $$ .  | . 749 |
| On the Treatment of Hypersingularity for Solving Volume Integral Equations  | . 754 |
| Simulation for Flat-plate Bounded Wave EMP Simulator with Distributed Terminator and Plane Source   |       |
|   |       |
| H-polarized Plane Wave Diffraction by an Acute-angled Dielectric Wedge: A Time Domain Solution .  |       |
| Calculation of the Reflection and Transmission of Finite Sized Beams through Layered Uniaxial Anisotrop Media Accelerated by Plane Wave Spectrum Algorithm              |       |
| Impact on the Performance of Compact Antenna Test Range due to Surface Deviation of the Reflector   |       |
| Electromagnetic Waves Described with the Complex Quaternion   |       |
| Methods for the Sensing and Evaluation of Ionosphere Changes and Their Impact on the Human Organ ism  |       |
| Applications of Noise Spectroscopy in the Analysis of Periodic Material Structures  |       |
| A Tunable Microwave Absorber Based on Active Frequency Selective Surface  | . 791 |
| Nonreciprocal Perfect Absorber Consisting of Nonlinear Plasma and Matching Metamaterials  | . 794 |

| Minimum Variance Variable Constrain DOA Algorithm  | . 798 |
|--|-------|
| Electrical Engineering Education Systems in Finnish and Chinese Universities   | . 804 |
| Practices and Explorations on Introducing New Scientific Research Achievements into Electromagnetic Teaching for Undergraduates  |       |
| Random Distributed Feedback Fiber Laser Employing Erbium-doped Fibers  | . 812 |
| Random Laser with Er/Yb-codoped Fiber Grating  | . 815 |
| High-performance Microcavity Optical Sensor Connected with a Waveguide   | . 818 |
| Thermally-tuned Silicon Double Ring Resonator for External Cavity Tunable Laser  |       |
| Homogenizations of Micropolar Elastic Metamaterial Using Field Averaging   | . 826 |
| Highly Hygroscopic Polymer Microcavity Fiber Fizeau Interferometer for Humidity Sensing  | . 831 |
| Optical Fiber Flowmeter Using Silver-coated FBG Cascaded by Waist-enlarged Bitaper   | . 835 |
| An Efficient Regenerator and Wavelength Assignment Approach for $1 + 1 : 1$ and $1 : 1 : 1$ Protected Lightpath Services   |       |
| Towards a Framework for Small-cell Network Planning  | . 844 |
| Availability Analysis for Elastic Optical Networks with Multi-path Virtual Concatenation Technique .   | . 849 |
| Optimal Time-dependent Spectrum Sharing between Neighboring Channels in Elastic Optical Networks   | 856   |
| Development of Low Noise MI Sensor and Its Applications  | . 860 |
| Test-production of High Sensitivity Multi-core MI Element and Its Characteristics  | . 863 |
| Arousal Effect of ELF Magnetic Stimulus on Car Driver's Spine Evaluated with Occipital Electro encephalogram and Back Magneto-cardiogram   |       |
| Detection of Back Magneto-cardiogram for Heart Disease Using Pico-Tesla Resolution Amorphous Wir Magneto-Impedance Sensor  |       |
| Promotion Rate Index in ELF Magneto-protonics  | . 875 |
| Rectangular DRA Reflectarray with an Inclined Top-loading Micostrip Patch  | . 878 |
| A Compact Triple-band MIMO Antenna for Wimax/WLAN Application  | . 882 |
| On Frequency Optimization of Assymetric Resonant Inductive Coupling Wireless Power Transfer Links  | 885   |
| Application of Backscattering Models in Active-passive Microwave Remote Sensing of Ocean Salinity  | . 890 |
| Development of a Radiative Transfer Model for the Soil Media with Including Vertical Profile Effects and Its Application in AMSR2  |       |
| Guided-mode Resonance Enhanced Near-infrared-to-visible Upconversion Fluorescence in a Resonan Waveguide Grating   |       |
| Novel Tunable Multi-passband Microwave Photonic Filters Based on Fiber Mach-Zehnder Interferomete and Fiber Delay Lines  |       |
| New Scaling of Electron Thermionic Emission from Single-layer Graphene   | . 906 |
| $1\mathrm{Gbps}\ \mathrm{Directed}\ \mathrm{Optical}\ \mathrm{Decoder}\ \mathrm{Based}\ \mathrm{on}\ \mathrm{Two}\ \mathrm{Cascaded}\ \mathrm{Microring}\ \mathrm{Resonators}\ \ldots\ldots\ldots\ldots$ | . 909 |
| All-optical Wavelength Conversion Using Optical Injection Induced Wavelength Switching in V-cavity Laser   |       |
| Ultracompact Adiabatic Tapered Coupler for the Si/III-V Heterogeneous Integration  | . 920 |
| Tunable Rejections of Metamaterial Filter Based on Spoof Surface Plasmon Polaritons  | . 925 |
| A Planar Broadband Metamaterial Absorber with the Polarization Insensitive and Omnidirectional Absorption in the Min-infrared Regime   |       |
| Efficient Generation of Second Harmonic from a Kind of Nonlinear Magnetic Metamaterial Composite   | 933   |
| Design and Fabrication of Acoustic Rotator Based on Extremely-anisotropic Metamaterials  | . 938 |
| A Wideband Wide-angle Polarization-insensitive Metamaterial Absorber   | . 941 |
| Design and Analysis of a Widehard Metamaterial Absorber Applied to Radome  | 944   |

| Preliminary Experimental Results along a Horizontal Path for Adaptive Rate-controlled FSO                              | 948      |
|--|----------|
| A Transmission-typed Broadband Absorber  | .952     |
| Realization of XOR and OR Logic Gate with One Configuration in the Two-dimensional Photonic Crystals                   |          |
| Low Reflectance GaAs Nano-cones Fabricated by Colloidal Lithography for Solar Cells                                    | . 959    |
| Experimental Analysis of Thin Graphite Periodic Structures in the THz Band   | 963      |
| Analysis, Design and Simulation of a Compact Wide Band VHF High Power Tubular Band Pass Filter                         | 966      |
| Analysis, Design and Implementation of a Broadband Coaxial-to-microstrip Transition for UWB Radars                     |          |
| A Broadband UHF RFID Tag Antenna with a Novel T-matching Network   | 978      |
| Capacitively Coupled-fed Electrically Small Loop Antenna with High Efficiency for WiFi Application .                   | 982      |
| 25 G/s Passive Current Board Design of PRBS Generator  | . 986    |
| A Quasi-hexagon Shaped Band-stop FSS in Wideband RCS Reduction   | 990      |
| A Spiral Antenna with Integrated Planar Feeding Structure  |          |
| A Novel Compact UWB Antenna with Triple Band-notched Characteristics   |          |
| Quasi-coherent Noise Jamming Based on Interrupted-sampling and Pseudo-random Serials Phase-modula                      | tion     |
| Validation Analysis and Test of Semiconductor Device Simulator GSRES   | 1006     |
| A Triple-band Planar Inverted-F Antenna for WLAN Application   | 1012     |
| Design and Implementation of a New One Layer Microstrip Antenna Array with CSC2 Pattern for SSR1                       | 1016     |
| A Simple Minimized Polarization Reconfigurable Slot Antenna  | 1021     |
| Microwave Radiation Interferometry High Resolution Reconstruction Based on Mixed Orthogonal Basisl                     |          |
| Stereo-SAR Technique without Using Control Points to Estimate Terrain Height   | 1032     |
| Detection of Selected Chemical Substances by Means of Nuclear Quadrupole Resonance                                     | 1036     |
| Subsurface Imaging 3-D Objects in Multilayered Media by Using Electromagnetic Inverse Scattering Series Method (EISSM) |          |
| Data Acquisition System for Body-to-body Radio Communication Channel   | 1046     |
| Beam Switching Antenna   | 1050     |
| A Wideband Metamaterial Absorber Based on Multilayer Rings and Lumped Resistors  | 1053     |
| Self-reconstruction and Rectification of Non-diffracting Beams after Focusing  | 1057     |
| An Improved Method of Diagnosis of Failed Elements in Arrays Using Genetic Algorithm                                   | 1061     |
| Design of a C-band Coaxial Cavity Band Pass Filter   | 1065     |
| Three-component Decomposition for Polarimetric SAR Images Based on Coherency Matrix                                    | 1069     |
| An Improved Model-based Polarimetric Decomposition Preserving Dominant Scattering Characteristics                      | 1073     |
| A Method for Pose Estimation of Ship Target from SAR ROI Based on Ellipse Fitting                                      | 1077     |
| Design of a Doherty Power Amplifier for Performance Enhancement  | 1082     |
| Application of the Method of Fresnel Zone Analysis in Base Station Location Survey                                     | 1086     |
| A Novel Mutual Coupling Matrix Monitoring Method in Two Dimensional Rectangle Antenna Array J                          | 1090     |
| Multiband THz Metamaterial Absorber Based on Snowflake-type Resonators   |          |
| Analysis and Design of Multi-band Absorber with Periodic Three-dimensional Square Ring Units1                          |          |
| Electromagnetic Scattering Controlling for a Rectangular Groove with High Impedance Surfaces Loading                   | <u>g</u> |
| A Novel Tri-band Patch Antenna Based on Complementary Triangle Split Ring Resonator Pair                               |          |
|  | 1111     |

| Modeling  |
|---|
| Target Angular Scintillation Measurement of Wide-band Range Comparison Monopulse Radar in Ane-<br>choic Chamber   |
| Effective Implementation of the CFS-PML Using DSP Techniques for Truncating Dispersive Medium FDTD Domains  |
| Continuously Moving Target Simulator Design   |
| Accurate Statistical Modeling Method for Dynamic RCS  |
| A Method for Predicting Far Field Radar Cross-section from Near Field Measurements on Cylindrical Scanning Mode   |
| Relationships between Surface Wave Attenuation and the Reflection Properties of Thin Surface Wave Absorbing Layer   |
| The RF Immunity Characteristics Analysis of SSD Performance due to Wireless Communications Emission in Proximity  |
| A Simple High-resolution Imaging System Made of Metamaterials   |
| A Metasurface for RCS Reduction in X Band   |
| Polarization Conversion and Splitting by Using Thin Reflective Anisotropic Metasurface  |
| Variable Gravitational Mass in the Electromagnetic Field Described with the Complex Quaternion $\dots 1169$   |
| Study on Barium Strontium Titanium (BST)-based Metamaterial   |
| The Roles of Different NiO Compact Blocking Layers in P-type Sensitized Solar Cells   |
| Efficient Wide-band Analysis of GPR Antenna Around a Platform Using the Best Uniform Rational Approximation Technique   |
| Electromagnetic Characterization of Tunable Bandpass Filters with a PET-controlled Perturber $\dots 1188$   |
| A Combined Method for Computing Installed Radiation Patterns of Antennas on Large Conducting Platforms  |
| Multi-scale Electromagnetic Modeling by Integral Equation Domain Decomposition Method with Hybrid Basis Functions   |
| Performance Enhancement of RMPA Using ESRR Metamaterial at THz  |
| ${\bf Supercontinuum\ Generation\ in\ Elliptical\ Silicon\ Nanowire\ Embedded\ Spiral\ Photonic\ Crystal\ Fiber\ \dots 1207}$                                     |
| Observation and Phenomenological Interpretation of Shifts in Electrical Resonance of Square Shaped Planar THz Split Ring Resonators                               |
| Photonic Crystal Slabs for Biosensing   |
| Polymer-based Two Dimensional Photonic Crystal for Biosensing Application   |
| PEDOT:PSS/planar-Si Hybrid Solar Cells with 12.70% Efficiency   |
| Tailoring Specific Heat and Density in the Design of Thermal Transformation Media   |
| Near-field Optical Storage System with a Real Artificial Negative Index Film  |
| Polarization-independent Metamaterial with Unnaturally High Refractive Index in the Terahertz Region1236  |
| Photon Hopping and Nanowire Based Hybrid Plasmonic Ring-resonator   |
| Cortical Functional Connectivity Revealed by Optical Brain Imaging  |
| Studies of Oxygen and Oxygen Exchange in Fruits Using Gas in Scattering Media Absorption Spectroscopy   |
| Influence of an Intense Electromagnetic Wave on Magnetoconductivity and Hall Coefficient in Compositional Semiconductor Superlattices: Optical Phonon Interaction |
| Calculating the Current Density of the Radio Electrical Effect in Parabolic Quantum Wells1261   |

| Incorporation of Cascaded Metallic Gratings into Thin Film Solar Cells for Broadband Plasmonic Light Trapping                       |      |
|---|------|
| A MZI Based Integrated Optical Accelerometer  |      |
| Graphene Photodetector Based on Metamaterial Perfect Absorber   |      |
| Improved Calibration Method for Raman Distributed Temperature Sensor  |      |
| Structural Health Monitoring Based on Strain Distributions Measured by Fiber-optic Sensors1   |      |
| Distributed Measurement of Intense Magnetic Fields by Means of Optical Fibers   | 1290 |
| Supercontinuum Generation at $1.55\mu\mathrm{m}$ in a Silicon Nanowire Embedded Photonic Crystal Fiber $1$                          | 1295 |
| Fractal Labyrinths: Path Matrices and Borders Topology  | 300  |
| Kd-tree Based Shooting and Bouncing Ray Method for Fast Computation of Near Field Scattering1                                       | 1304 |
| Analysis of the Fluorescence Imaging of Surface Plasmon-coupled Emission Microscopy   | 1309 |
| Analysis of Plasmon Resonance in a Multilayer-coated Bigrating  | 314  |
| RCS Computation of 3D-wake Vortex Using Method of Moments   | 1319 |
| A Compact Diplexer Composed of Quarter-wavelength Resonators for Ultra-wideband (UWB) System 1                                      | 1323 |
| Design of High Isolation Diplexer with Source-load Coupling   | 1327 |
| A Bandpass Filter Using HMSIW-DGS Cell  | 1330 |
| Compact and Sharp-rejection Dual-band Bandstop Filter Based on Transversal Signal-interaction Concept                               |      |
| Wide-stopband Millimeter-wave Bandpass Filter Based on Discriminating Coupling on GaN MMIC $\dots$                                  | 1339 |
| Reconfigurable WIFI Filter with Isolation Enhancement   | 343  |
| Reconfigurable Substrate Integrated Waveguide   | 1347 |
| A Compact Substrate Integrated Waveguide Diplexer Using Dual-mode Filters   | l351 |
| Ka-band Wideband Filter with a Reconfigurable Mode of Bandpass-bandstop Switching $\dots 1$   | L356 |
| Microstrip Filters with Adjustable Transmission Zeros Using Inductive-coupled Open Stub-loaded Resonators                           |      |
| Design of Wideband Non-equiripple Filtering Response Using Genetic Algorithm Based Neural Network                                   |      |
| Dual-polarized Unit-cell of Continuous Reflective Phase-shift for Reconfigurable Reflectarrays1                                     | 1369 |
| A Reconfigurable Folded Antenna for Mobile Phone Applications   | 1374 |
| Pattern Reconfigurable Printed Antennas with High Gain and Broadband  | 1378 |
| A Thin Planar Antenna Based on Gradient Metasurface   | 1383 |
| Wideband RCS Reduction of Microstrip Antenna by Frequency Reconfigurable Electromagnetic Band Gap                                   |      |
| Frequency Reconfigurable Narrow-frame Antenna for WWAN/LTE Smartphone Applications $\ldots\ldots1$                                  | L390 |
| Theoretical Analysis and Experimental Verification of Microwave Radiation Features of Fractured Rockl                               | L393 |
| Surface Scattering Characteristics and Snow Accumulating-melting Behaviors from GNSS Reflectometry                                  |      |
| A Novel Keystone Transform Based Algorithm for Moving Target Imaging with Radon Transform and Fractional Fourier Transform Involved |      |
| Why Optical Images are Easier to Understand Than Radar Images? — From the Electromagnetic Scattering and Signal Point of View       |      |
| Landslide Displacement Monitoring Using Multi-aperture InSAR and D-InSAR1   | 1416 |
| A PolSAR Classification Method Based on Scattering Model and Polarization Correlation Coefficient 1                                 | 1420 |
| Analysis of Optimal Panel Geometry for Self-illustration Corner Reflector   | 425  |

| Coherent Detected Temporal Optical Code Division Multiplexing System with High Spectral Efficiency Using Nyquist Pulse Shaping1430  |
|---|
| Sub-symbol Based Carrier Phase Recovery in CO-OFDM System with Linear Interpolation1434   |
| $30 \times 100 \mathrm{GHz}$ Digitally Wavelength Switchable V-coupled-cavity Laser with Cleaved Facets1439   |
| Radiation of Inverted Pendulum with Hysteretic Nonlinearity   |
| Aharonov-Bohm Control of Optical Properties in System of Parallel Coupled Quantum Wells1446   |
| S-band Circular Polarization Patch Antenna Design for the Large Curvature Conformal Structure1451   |
| Application of Artificial Magnetic Conductor in Aperture-coupled Microstrip Antenna   |
| Design of Broadband Vector Modulator Based on HMC500LP3 Chip  |
| A Novel Substrate Integrated Waveguide Back-cavity Antenna with Bow-tie Shaped Slot1463   |
| A Novel UWB Antenna with Dual-band Notched Characteristics  |
| Spurious Modes Reduction in a Patch Antenna Using a Novel DP-EBG Structure1471  |
| A Novel DP-EBG Structure for Low-pass Filter of Wide Stopband   |
| A Novel Method for Sparse Array Antenna Through-the-wall Imaging Radar Wall Clutter Elimination Using Independent Component Analysis  |
| A Dual Band U-shaped Slot Antenna for WLAN and WiMAX Applications   |
| Two Miniaturized Microstrip Patch Antenna for Chinese Compass Navigation Satellite System Based on High-permittivity Substrate  |
| Investigating the Dual-passbands Frequency Selective Surface with Complementary Structure1494   |
| An Ultra Wideband Printed Helical Antenna with Low Profile  |
| Discussions on the FSS Transmitted Beam Shift in Quasi-optic Instruments  |
| Retrieval of Bare-surface Soil Moisture from Simulated Brightness Temperature Using Least Squares Support Vector Machines Technique   |
| A Method of Two-dimensional MIMO Planar Array Design Based on Sub-array Segmentation for Throughwall Imaging  |
| Analysis of the Low Intensity Terahertz Radiation Influence on Lymphocyte Early Activation Markers 1518   |
| $\label{eq:continuous} \begin{tabular}{l} Influence of Terahertz Radiation with a Frequency $0.05 \div 1.7$ THz on Mitochondrial Membrane Potential of Tumor Cells $$\dots$$$ |
| The Baroque Music's Influence on Learning Efficiency Based on the Research of Brain Cognition1527   |
| Analysis of Spectral Characteristics of the Human Cornea Obtained in the Terahertz Frequency Rangel532  |
| Study of Penetration Depth Dispersion of THz Radiation in Human Pathological Tissues  |
| A Comparative Study of Analytical and Numerical Analysis for Coaxial Probe Aperture in a Dissipative Media  |
| Time-frequency Spectrum and Path Loss by Wind Turbine Forward Scattering  |
| Experimental the Microwave Absorption of Rice Husk/Ash Mixture  |
| The Performances of Sugarcane Bagasse (SCB) — Rubber Tire Dust Composite as Microwave Absorber in X-Band Frequency  |
| Study on the Relationship between the Size of Resin Sprue on GIS and Intensity of UHF Electromagnetic Waves Radiated from Partial Discharge                                   |
| Printed Inverted-F MIMO Antenna for TD-LTE Mobile Terminal  |
| Compact Circularly Polarized RFID Tag Antenna with an Embedded U-shaped Feedline for Metallic Surfaces  |
| The Research and Application of Array Antenna Element Detecting System  |
| Theoretical Analysis and Test of EMF in TDFI Bus  |
| Optimal Waveform Design in Through-the-wall Application Based on the Information Theory1582   |

| Analysis of EMF and Interference in the Wireless Charging Robot System  |
|---|
| Design of TFOSC Compatible Polarimeter for Polarimetric Observations  |
| Numerical Investigation of a Novel Two-stage Spectral Compression Structure Employing a Logarithmic DIF Cascading with a HNLF-NOLM                                    |
| Design and Performance Evaluation of Single Antenna SSD (Simultaneous Single Band Duplex) System Using Turbo Equalizer  |
| Preparation Technique of AlN Piezoelectric Thin Film  |
| Research on the Magnetic Field Space-time Distribution in the Air-core Pulse Transformer  |
| A Compact Relativistic Magnetron with a TE <sub>10</sub> Output Mode  |
| Kind of Dual-band Horn Antenna with Coaxial Feed Structure for High Power Microwave Applications161   |
| Comparison of $B_1^+$ Field and Specific Absorption Rate (SAR) between Birdcage, Transverse Electromagnetic and Microstrip Coil for Ultra High Field MRI at 9.4 Tesla |
| A Scaled Simulated Method of Sea Clutter Based on Non-metal Materials   |
| RCS Measurement of Large Target in Non-cooperative Near Field Environments  |
| Scattering Analysis of Reflectarray Antennas Illuminated by a Point Source for Near Field Focus Applications  |
| Non Destructive Method for Detection Wood-destroying Insects  |
| A Novel Miniaturized Frequency Selective Surface with Stable Performances   |
| Metamaterials-based High-gain Antenna with Wide Viewing Angle   |
| Design of $90^{\circ}$ -switched-line Phase Shifter with Constant Phase Shift Using CRLH TL   |
| Design of Oscillator Using Zeroth-order Resonator Based on Composite Right/left-handed Transmission Line  |
| Transponder Impact on Power and Spectral Efficiencies in WDM Links Based on 10–40–100 Gbps Mixed-line Rates   |
| Demonstration of Polarization Muiltiplexed Signals Division Using a Fiber Optical Parametric Amplifier  |
| The Analysis of Receiving Sensitivity Degradation of WLAN Performance due to EMI Noise from SSD Module  |
| Research in Modeling and Dynamic Simulation of Linear Eddy Current Braking Force of High-speed Train  |
| Enhance the Magnetic Properties of Fe-Si-Al-Cr Flaky Particles by Annealing   |
| Design of Controlling Edge Scattering Based on Tapered Periodic Surfaces Loading  |
| Shock Wave Dynamics in the Cleaning of Container Surfaces   |
| Elimination of a Fire through Shock Wave Interference: The Numerical Model and Application Scenarios  |
| High Gain Electromagnetically Coupled Stacked Circular Disk Patch Antenna for Wideband Application  |
| Analysis of Spectral Characteristics of Normal Fibroblasts and Fibroblasts Cultured with Cancer Cells in Terahertz Frequency Range                                    |
| Fully Monolithic Photonic Integrated Circuits for Microwave and Millimeter Wave Signal Generation 1713  |
| Strong Confinement of Flexible Graphene Plasmons and Its Application  |
| Transmission Analysis of a Ternary Diversity Reception Based on OFDM FSO System over Correlated Log-normal Fading Channel   |
| The Principle of the Technology and Design of the Parabolic Strip Telescope   |
| Detection Loophole-free Entanglement Verification   |

| Graphene-based Transparent Nano-heater for Thermally-tuning Silicon Nanophotonic Integrated Devices   |
|---|
| On an Application of the Hypothesis for the Identity of the $L_2(c, \rho, n)$ and $\hat{L}_2(\hat{c}, \hat{\rho}, \hat{n})$ Numbers1739   |
|   |
| Solving Nonlinear Helmholtz Equation via Fourier Series   |
| Synthesis of the Sparse Conformal Arrays with Convex Optimal Method   |
| EM Scattering Computation of Electric-large Lossy Dielectric Target Based on Ray Tracing  |
| Effect of a Linear Frequency Modulation on the Nonlinear Dynamics of an Electromagnetic Pulse in a Graded-index Waveguide   |
| Three-dimensional Loaded Dipoles for Applications in Frequency Selective Structures   |
| Semi Analytical Model for Non-Resonant Layered Frequency Selective Surfaces (FSS)   |
| Patch Antenna with Electrically Tunable Ferrite-ferroelectric Bilayer   |
| Compact Triple-band Planar Monopole Antenna with Single Metamaterial Unit   |
| Discovery and Theory of Small Antenna Near-field Dissipation and Frequency Conversion with Implications for Antenna Efficiency, Beverage Antenna Noise Reduction, Maxwell's Equations and the Chu Criterion |
| Analysis of Probability Distribution of Inverse Problem of Nonlinear Model  |
| Calculation of RFID Antenna Characteristic Parameters under the Condition of Near-field Coupling .1788  |
| A More Practical Patch Used in Microstrip Antenna at Ku-band  |
| High-Q Weakly Modulated Nanobeam Cavity Based on a Suspended Silicon Dioxide Waveguide1795  |
| Design and Analysis of Miniature Fractal Antenna  |
| An X-band Substrate Integrated Waveguide Vivaldi Array Antenna  |
| An Omni-directional Circularly Polarized Helical Antenna with an Inductive Feed   |
| A Shared Aperture Millimeter Wave Antenna Using 3D SIW Technology   |
| Target Detection Algorithm for SAR Image Based on Visual Saliency   |
|   |
| A New Local Feature Descriptor for SAR Image Matching   |
| A Dual-band Dual-polarized Antenna and a Switchable Multi-beam Antenna Array  |
| Design and Analysis of Planar Phased MIMO Antenna for Radar Applications  |
| Non Simultaneous-conjugate-match Technique for S-band Low Noise Amplifier Design  |
| Characterization of Narrowband Hairpin Bandpass Filter Composed of Fractal Koch Geometry 1843   |
| The Influence of a Magnetic Field on the Behaviour of the Quantum Mechanical Model of Matter1847  |
| Optimized Theoretical Analysis of Antimony Selenide (Sb <sub>2</sub> Se <sub>3</sub> ) Chalcogenide Thin Film   |
| Matlab Extension for 3DSlicer: A Robust MR Image Processing Tool  |
| Multiparametric Biological Tissue Analysis: A Survey of Image Processing Tools  |
| ${\bf Automatic\ Segmentation\ of\ Multi-contrast\ MRI\ Using\ Statistical\ Region\ Merging\ }1865$   |
| The Optical Angular Momentum in a Vector Vortex Optical Field   |
| Improvement on Optical Microfiber Fabrication Control Technique by Monitoring Mode Cutoff Position 1873   |
| The Design of Band-pass Frequency Selective Surface with All Dielectric Metamaterial  |
| The Design of Band-pass Frequency Selective Surface with the Grid Dielectric Metamaterial1881   |
| Automatic Extraction of Pathological Area in 2D MR Brain Scan   |
| Numerical Modeling of Electromagnetic Field in the Biological Cell  |
| The Connection of a Micro-hydropower Plant to an Experimental Electrical Network  |
| The Statistical Evaluation of Data Obtained via the Manual Segmentation of MRI Images of a Patho-   |
| logical Tissue  |
| Uncertainty Determination in Measurements Using a Gerdien Tube  |

| Detector for Nuclear Quadrupole Resonance Spectroscopy  |
|---|
| $ \hbox{Design of Dual Cross Dipole Antennas with Dual Frequencies and Dual Circularly-polarized} \ \dots \dots 1911 $                |
| Design and Study of Multiband Microstrip Antenna  |
| A Compact Dual Band Band-pass Filter Using a New Topology of Transmission Line Metamaterial1918                                       |
| A Novel Wideband Wide-angle Frequency Selective Surface Composite Structure   |
| Highly Birefringent Photonic Crystal Fibers with a High-index Doped Rod   |
| Nonlinear Optical Loop Mirror-based Linear Cavity Tunable Multi-wavelength Fiber Laser $\dots 1929$                                   |
| A New Uniplanar Compact Photonic-bandgap (UC-PBG) Structure in Transmission Line  |
| Planar Monopole Antenna for WBAN  |
| Dynamics of Many-soliton Molecules in Dispersion-managed Optical Fiber  |
| Photostimulated Quantum Effects in Quantum Wire with a Parabolic Potential  |
| The Influence of the Electromagnetic Wave on the Quantum Acoustomagnetoelectric Field in a Quantum Well with a Parabolic Potential    |
| Small Design for Wireless Antenna Used by Ultra-wideband Systems  |
| Improve the Performance of Multi-users MC-CDMA Based on Critically Sampling Multi-wavelet Transform over Wireless Propagation Channel |
| Novel Design of $H$ -plane Bandpass Waveguide Filters Using Complementary Split Ring Resonators $\dots 1963$                          |
| Indoor Transparent Antenna for Television Reception   |
| Electrical Characterization of GaN  |
| Study of p-type Porous Silicon  |
| Wideband Antenna for Microwave Imaging  |
| Projection Method for Solving Scalar Problem of Diffraction of a Plane Wave on a System of Two- and Three-dimensional Obstacles       |
| Propagation of Electromagnetic Waves along a Nonlinear Inhomogeneous Cylindrical Waveguide $\dots$ 1991                               |
| Preliminary Study of Embedded Structural Anomalies in Architectural Structures by Microwave Subsurface Tomography                     |
| Optimization of Nonlinear Coefficient Map in Back-propagation   |
| $ \hbox{Generic InP-based Integration Technology: RF Crosstalk in High-capacity Optical Transmitter PICs} \ . 2005 \\$                |
| Design of an Efficient and a Compact Optical Pulse Compressor Using a Tapered Photonic Crystal Fiber                                  |
| Regulating Carriers and Excitons in Simplified Hybrid WOLEDs by Using a Bipolar Interlayer Switch 2014                                |
| Formation of Internal Micro-lens-like Structure for Organic Light-emitting Diodes   |
| Optical Properties of Graphene on Quartz and Polyethylene Substrates in Terahertz Frequency Range 2022                                |
| Recent Developments in Graphene-based Optical Modulators  |
| Anisotropy and Non-reciprocity in Boundary Conditions: Generalized PEMC Surface   |
| The Growth and Magneto-optical Properties of Large Size Single-crystal Thick TmBiIG Films from Lead-free Flux by LPE Technology       |
| Finite Airy Beam Based on Polymer-stabilized Blue Phase Liquid Crystal  |
| Resonant Properties of Subwavelength Voids in Anisotropic Metamaterials   |
| THz Waveguides, Devices and Hybrid Polymer-chalcogenide Photonic Crystal Fibers   |
| The Study on Equivalent Models of Finite-size Carbon Fiber Composite Materials  |
| Wavelength-tunable Dual-concentric-core Photonic Crystal Fibers   |
| Multi-channel RZ to NRZ Format Conversion Based on a Single Fiber Bragg Grating   |
| Classification of Chaotic Codes Using Discriminant Analysis Classifiers and Higher Order Statistical                                  |

| Novel Optical Fast Random Number Generators Based on Integer Domain Chaotic Iterations 2069  Modification of Simplified Modal Method for Subwavelength Triangular Grating with Very High Efficiency |
|---|
| Broadband Measurement of Complex Permittivity for Liquids Using the Open-ended Cut-off Circular Waveguide Reflection Method   |
| Electromagnetic Surface Wave Scattering with Microwaves   |
| On Capacity Performance of <b>2</b> × <b>2</b> Satellite-earth Link at 30 GHz in Rain Environment2089   |
| Error in Phase Verification Results for Vector Network Analyzer Measurements in Coaxial Line System2093   |
| Dielectric Loss at Millimeter Range and Temperatures 300–950 K, and Electrophysical Properties in Diamonds Grown by the Arc Plasma Jet Technology   |
| Coupled Line 180° Hybrids with Modified Trans-directional Couplers  |
| Brush-painted Silver Nanoparticle UHF RFID Tags on Fabric Substrates  |
| On Coordinated Multi-Point Transmission for Cellular Environments   |
| Path Loss Model with Multiple-antenna   |
| Coordinated Multi-Point MIMO Processing for 4G  |
| Multiple Input Multiple Output System with Multi User Support Based on Directive Information Transmission   |
| Channel Capacity Experiment of a Polarization Controlled MIMO Antenna for Wearable Applications 2139  |
| Non-stationarity Characterization for Vehicle-to-vehicle Channels Using Correlation Matrix Distance and Shadow Fading Correlation   |
| On Effective Gain Variability with Antenna Orientation  |
| Broadband Channel Measurements inside Metro Station   |
| Impact of Shadowing Correlation on Microdiversity and Marcodiversity of Cellular System in High-speed Railway Environments  |
| A Novel 3D Ray-tracing Acceleration Technique Based on Kd-tree Algorithm for Radio Propagation Prediction in Complex Indoor Environment   |
| Similarity Measure of Fading Profiles of Different Antenna States of Reconfigurable Antennas2169  |
| Algorithms for Indoor Localization on WLAN Networks Applications  |
| Three Dimensional (3D) Electromagnetic Field Distributions in the Air and Relative Diversity Gain $$ . 2178   |
| Analysis and Design of Beam-scanning Reflectarray with Circular Polarization  |
| A Novel Hybrid Reconfigurable Antenna for Portable Wireless Terminal Applications   |
| Novel Hepta-band Coupled-fed Antenna for WWAN/LTE Metal-ring-frame Smartphone Applications 2190   |
| A Hepta-band WWAN/LTE Antenna Design for Metal-rimmed Smartphone Applications2194   |
| Printed Multi-band Slot Antenna Surrounded by a Metal Ring for WWAN Smartphone Applications 2198  |
| Tunable Antenna Introductions, Challenges and Opportunities   |
| A RFID Tag Based on MIT Technology  |
| Design of Robust UHF RFID Tag Antenna for Free-space and Metal Surface  |
| Modified Miniature Tri-band CPW-fed Antenna for RFID Applications   |
| Study of $\mathrm{CO_2Z}$ Hexaferrite Magnetodielectric Material as Substrate for RFID Reader Antenna $\dots 2216$  |
| A Novel Fully Printed 28-bits Capacity Chipless RFID Tag Based on Open Conical Resonators $\ldots2219$  |
| FEM Analysis of Conical Type Coaxial Open-ended Probe for Dielectric Measurement  |
| FDTD Analysis of Digitally-modulated Electromagnetic Wave Propagation in Human Head2228   |
| Microwave Technology Based Medical Imaging and Diagnostics  |
| Using Functional Near-infrared Spectroscopy to Investigate Frontal Cortical Response to Joint/non-joint  Attention in Children  |

| Tunable S-band RF Front End Receiver for LEO Mission  | . 2240 |
|---|--------|
| Dual Band Rectangular Dielectric Resonator Antenna Design   | . 2244 |
| Gain Enhanced UWB Dielectric Resonator Antenna  | . 2248 |
| Electromagnetic Modeling and Simulation for Packaging Structures with Lossy Conductors  | . 2252 |
| A Numerical Study on 2D Photonic Crystal Devices for Millimeter and Terahertz Wave Applications   | 2256   |
| Advance of Research on Coaxial Relativistic Backward Wave Oscillator  | . 2261 |
| Reduction of Bend Losses at Sharp Bend in Post Wall Waveguide   | .2268  |
| The Squarax Amplifier: An Electromagnetic and Thermo-mechanical Innovation  | . 2273 |
| Injection Phase-locking of a High-power Transit-time Oscillator   | . 2281 |
| Optimization of Nanostructured Lüneburg Lens Based on the Transformation Optics Method  | . 2286 |
| $670\mathrm{W}$ Single-frequency Retrievable Multi-tone All-fiber MOPA  | . 2289 |
| The Frequency Gap and SNR Improvement for Self-seeded Multi-wavelength Brillouin-Erbium Fib Laser   |        |
| Product Trends of Optical $\emph{\textbf{E}}$ -field Sensor   | . 2298 |
| Ultrabroadband Infrared Spectroscopy by Chirped Pulse Upconversion  | .2302  |
| Analysis and Design of the Dielectric Yagi-Uda Nanoantenna with a Double Driven Element   | . 2306 |
| Using Multiple-precision Arithmetic to Prevent Low-frequency Breakdowns in the Diagonalization of the Green's Function  |        |
| Properties of the Gram Matrices Associated with Loop-flower Basis Functions   | . 2316 |
| Intelligent Channel Assignment for WI-FI System Based on Reinforcement Learning   | . 2322 |
| Analysis of Conditions on the Boundary between Layers   | . 2326 |
| Fast Calculation of $T_2$ Relaxation Time in Magnetic Resonance Imaging   | . 2331 |
| Measuring and Application of NIR Light Absorption Coefficient of Bacteria   | . 2336 |
| Using Diffusion-weighted Images to Identify Brain Tumors  | . 2340 |
| Partial Discharge Detection and Localization System   | . 2344 |
| Numerical Model of a Large Periodic Structure   | . 2350 |
| Optimization of the Particle Swarm Algorithm  | . 2355 |
| Sensitivity Improvement in NQR Based Detection Methods  | . 2360 |
| A Dark Matter Model to Unify Gravity and Electromagnetism   | . 2365 |
| Interactive Segmentation of Hip Joint Cartilage   | . 2369 |
| PIERS: Progress In Electromagnetism — Relativity Superseded   | . 2373 |
| PO-GO/ECM for Bistatic RCS Modeling of Complex Objects over Rough Sea Surface   | . 2376 |
| Study on the Variation Characteristics of Land Desertification in Ebinur Lake Basin   | . 2382 |
| Analysis of EVI and NDVI Characteristics in Different Land Cover Types in Liaoning Province   | . 2386 |
| Minkowski Fractal Antenna Design with DMS-SRR and DGS-SRR Structure for WLAN Application  | .2391  |
| Equivalent Circuit Model of Different Configurations of Loop Elements Using Vector-fitting  | . 2395 |
| Antenna Reconfiguration Using Metasurfaces  | . 2400 |
| Metamaterial Surfaces for Integrated Multiband Horn Applications  | . 2405 |
| Nonlinear Optical Properties of Gold Nanorods (GNRs) under FS Laser Excitation near the Third Optic Tissue Window and Application for Multichannel Cellular Imaging |        |
| Near-infrared Fluorophore-doped Nanoparticles for <i>in vitro</i> and <i>in vivo</i> Bioimaging   | . 2413 |
| A Photostable AIE Luminogen for Multifunctional Three-photon Bioimaging   | . 2417 |
| Tuned Window for Standing Wave Linear Accelerators  | . 2421 |

| Simulation and Design of Monolithically Integrated Tunable Wavelength Converter Based on V-cavity Laser and Delayed Mach-Zehnder Interferometer   |
|---|
| Bandgap Engineering of InGaAsP/InP Multiple Quantum Well Structure by Dielectric Sputtering $\dots 2435$  |
| High Stable Exciton Emission from $\mathrm{SnO_2}$ Quantum Dots Grown via a Facile "Top-down" Strategy 2438                                       |
| Design and Simulation of 450 nm GaN-based Multiple-quantum-well Tunable V-cavity Laser 2441   |
| Shaping the CPML Absorbing Boundary Condition to Eliminate Impinging Light at a Specific Position inside Electromagnetic Simulations              |
| Optical Investigation of $Nd^{3+}$ -sensitized Upconversion Nanoparticles for Damage-free $in\ vivo$ Deep Imaging and $in\ vitro$ Microscopy      |
| Tradeoff Study of Microwave Imaging Based on Frequency Considerations   |
| Study on the Scattering Properties of an Artificial Electromagnetic Hard Surface  |
| A Realization Compact Pseudo Chebyshev Low Pass Filters for UHF Band Using RF MEMS Technology   |
| Miniaturized Microscript Bandpass Filter Based on the Twist Split Ring Resonators   |
| Improvement of Oblique Incidence Performance for a Microwave Absorber Based on Magnetic Polymer Composites  |
| Metamaterial Based Patch Antenna with Broad Bandwidth and Simple Structures   |
| Coherent Beam Combining of Two Tm-doped Fiber MOPAs with Output Power of $50\mathrm{W}$   |
| Numerical Investigation of a Novel Two-stage Structure to Compress Spectrum and Suppress Pedestal Employing a DIF Interconnected with a HNLF-NOLM |
| ${ m Cr^{2+}}$ : ZnSe Crystal Based High Power Passively Q-switched Tm-doped Fiber Laser  |
| Through-Silicon-Via Pairs Modelling via Compressed Sensing  |
| $ \begin{tabular}{lllllllllllllllllllllllllllllllllll$  |
| Performance Evaluation of an OFDM-based BPSK PLC System in an Impulsive Noise Environment . 2510  |
| Effects of Focusing on Scintillations of Higher Order Laser Modes in Non-Kolmogorov Turbulence2514  |
| Nonparaxial Propagation of Complex Variable Function Cosh-Gaussian Beams  |
| $M^2$ -factor for the Partially Coherent Elegant Laguerre-Gaussian Beam Propagating through the Turbulent Ocean                                   |
| Microstrip Diplexer Design Using Three EBG  |
| Wide-stopband Millimeter-wave BPF on GaN MMIC Using Asymmetric Feeding Structure $\dots 2529$   |
| Substrate Integrated Waveguide Frequency Reconfigurable Filter Controlled by Magnetic Field $\dots 2533$  |
| Additional Cross Coupling Coefficient Used as Matching Ladder Network in Coupled Based Band Pass Filters  |
| $\begin{array}{llllllllllllllllllllllllllllllllllll$  |
| A Double Ended Active Electrode Using SiP with DC and 50 Hz Rejection2546   |
| Simulation of a High-convergence Electron Optics System for an X-band High-impedance Relativistic Klystron  |
| The Metamaterial Technology Applied to Planar Antennas  |
| Analysis and Design of the Switched-beam Antenna Array for Automotive Radar Applications2561  |
| Compact Printed Ultra-wide Band Antenna with Band-notched Characteristics   |
| A Triangular Antenna with Spiral Slot Arrays for Beidou Navigation  |
| A New Spiral Antenna with Improved Axial Ratio and Shorted Arm Length   |
| Tri-band Dual-polarized Multilayer SAR Microstrip Antenna   |
| A Multiple-notch HWB Printed Slot Antenna with CNSS Enhanced 2583   |

| Active Phased Array Radars as an Effective ECCM systems  | 88  |
|--|-----|
| Design and Implementation of a New Missile-borne Conical Conformal Antenna   | 92  |
| Absorption of 30 and 20 GHz Microwave Communication Signal as a Function of Rain Rate25  |     |
| On the Influence of the Electronic Structure of Atoms on the Behavior of Radiation Transition Probabilities in Alternating Electric Fields | 01  |
| Higher-order Surface Modes in the Goubau Line  | 05  |
| Inverse Problem Method for Permittivity Reconstruction of Two-layered Media: Numerical and Experimental Results                            | 10  |
| Propagation of TM Waves in a Double-layer Nonlinear Inhomogeneous Cylindrical Waveguide 26   | 14  |
| Numerical Analyze of Waveguide Transmission Coefficient with Non-uniform Dielectric Slab   | 19  |
| Efficient Method for Field Coupling to Nonuniform Transmission Line Using Cascaded SPICE Model 26  | 522 |
| Reduced Vlasov-Maxwell Modeling  | 28  |
| A Fast Algorithm for Calculating Complex Targets Near-field EM Scattering Characteristics26  | 33  |
| Fast Iterative Computation of Internal Field Intensity for Cabin on HIRF Based on Energy Conservation Modification                         | 37  |
| Dual Band Microstrip Antenna   | 41  |
| Wideband Microstrip Antenna  | 46  |
| Ultra-wideband Antenna with Metamaterial and Periodic Structure  | 51  |
| ${\bf Identification\ of\ Interface\ in\ the\ Complex\ Systems\ Based\ on\ Radiated\ Emission\ of\ Mobile\ Computer\ .} {\bf 26}$          | 556 |
| Measurement and Analysis of Compromising Emanation for Laser Printer   | 61  |
| Compromising Emanations from USB 2 Interface   | 66  |
| Attenuation Measurements of Materials Used in Construction of Buildings  | 71  |
| New Attempt to Building Materials Permittivity Measurements  | 76  |
| Measurements of Wall Attenuation in Closed Spaces inside a Building  | 81  |
| Measurement of Shielding Effectiveness with the Method Using High Power Electromagnetic Pulse Generator                                    | 87  |
| Honeycomb Ventilation Grill Shielding Effectiveness Measuring Methodology  | 592 |
| Technique of High Power Microwave Pulses Dosimetry of Living Systems   | 597 |
| Modelling of Electromagnetic Wave Propagation with the Use of the Ray-tracing Method27   | '01 |
| Electromagnetically Shielded Real-time MANET Testbed   | 06  |
| Lidar Monitoring of Atmospheric Atomic Mercury and Sulfur Dioxide in Guangzhou, China27  | '11 |
| Development of 3D Anisotropic Artificial Dielectric Metamaterial for THz Frequency Range   | '15 |
| SSBI Cancellation Method for IMDD-OFDM System with a Single Photodiode   | '19 |
| Microwave Plasma Reactor Based on Microwave Oven   |     |
| An Experimental Investigation of the Concentration of KCl in Liquid Electrode of Atmospheric Pressure DBD                                  |     |
| Author Index   | '31 |