

# **2017 11th European Conference on Antennas and Propagation (EUCAP 2017)**

**Paris, France  
19-24 March 2017**

**Pages 1-758**



**IEEE Catalog Number: CFP1777B-POD  
ISBN: 978-1-5090-3742-1**

**Copyright © 2017, The European Association on Antennas and Propagation  
(EurAAP)  
All Rights Reserved**

***\*\*\* This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP1777B-POD
ISBN (Print-On-Demand):	978-1-5090-3742-1
ISBN (Online):	978-88-907018-7-0

**Additional Copies of This Publication Are Available From:**

Curran Associates, Inc  
57 Morehouse Lane  
Red Hook, NY 12571 USA  
Phone: (845) 758-0400  
Fax: (845) 758-2633  
E-mail: [curran@proceedings.com](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

CURRAN ASSOCIATES INC.  
**proceedings**  
.com

# TABLE OF CONTENTS

<b>ALPHASAT PROPAGATION EXPERIMENT IN MADRID: RESULTS ON EXCESS AND TOTAL ATTENUATION</b> .....	1
<i>José M. Riera ; Domingo Pimienta-Del-Valle ; Pedro Garcia-Del-Pino ; Gustavo A. Siles ; Ana Benarroch</i>	
<b>ALPHASAT Q/V-BAND PROPAGATION: A HEURISTIC APPROACH FOR RAINY EVENTS DETECTION</b> .....	5
<i>Ada Vittoria Bosisio ; Roberto Nebuloni ; Carlo Riva ; Angelo Sileo</i>	
<b>SPECTRAL COEXISTENCE OF GEO AND MEO SATELLITE COMMUNICATION NETWORKS: DIFFERENTIAL TOTAL ATMOSPHERIC ATTENUATION STATISTICS</b> .....	10
<i>Charilaos Kourogorgas ; Athanasios D. Panagopoulos</i>	
<b>CLEAR-AIR SCINTILLATION ANALYSIS OF Q-BAND ALPHASAT LINK AT SPINO D'ADDA USING RADIOSOUNDING DATA</b> .....	15
<i>Augusto M. Marziani ; Carlo Riva ; Fernando Consalvi ; Elio R. Restuccia ; Frank S. Marzano</i>	
<b>EVALUATION OF RECENT PREDICTION MODELS USING A LONG-TERM DATABASE OF RAINFALL RATE DATA</b> .....	20
<i>Pedro Garcia-Del-Pino ; Domingo Pimienta-Del-Valle ; Ana Benarroch ; José M. Riera</i>	
<b>TROPOSPHERIC SCINTILLATION SPECTRA AND TRANSVERSAL WIND SPEED FOR SATELLITE LINKS AT VERY LOW ELEVATION ANGLES</b> .....	25
<i>Martin Rytir ; Carlo Riva ; Danielle Vanhoenacker-Janvier ; Terje Tjelta</i>	
<b>CONSIDERATIONS OF RAIN CELL SIZE AND STATISTICS FOR ATTENUATION PREDICTION MODELS</b> .....	30
<i>G. Brost ; K. Magde</i>	
<b>DEPOLARIZATION EFFECTS ON SATELLITE LINKS EVALUATED USING FIVE-YEAR EXPERIMENTAL DROP SIZE DISTRIBUTIONS</b> .....	35
<i>Jose Garcia-Rubia ; José Manuel Riera ; Ana Benarroch ; Pedro Garcia-Del-Pino</i>	
<b>PRELIMINARY ANALYSIS OF ATMOSPHERIC ATTENUATION AND SKY BRIGHTNESS TEMPERATURE AT DEEP-SPACE ANTENNA SITE OF CEBREROS FOR COMMUNICATIONS IN KA BAND</b> .....	40
<i>Andrea Giannini ; Mattia Mercolino ; Alberto Graziani ; Antonio Martellucci</i>	
<b>PERFORMANCE OF EQUATORIAL MULTIPLE-SITE DIVERSITY SYSTEMS EVALUATED FROM RAIN RATE TIME SERIES</b> .....	45
<i>Michele D'Amico ; Andrea Manzoni ; Boris Ramos ; José L. Santos</i>	
<b>OPTICAL SATELLITE LINKS CHANNEL MODELING: TIME SERIES GENERATOR AND MITIGATION TECHNIQUES EVALUATION</b> .....	50
<i>Nikolaos K. Lyras ; Charilaos I. Kourogorgas ; Athanasios D. Panagopoulos</i>	
<b>AN ADVANCED PROPAGATION TOOL FOR SATELLITE ATM AND AERONAUTICAL COMMUNICATIONS</b> .....	54
<i>J. Lemorton ; J. Israel ; T. Jost ; M. Walter ; A. Graziani ; D. Vanhoenacker-Janvier ; N. Flourey</i>	
<b>DUAL-BAND DUAL-POLARIZED TRANSMITARRAYS AT KA-BAND</b> .....	59
<i>Kien Pham ; Ronan Sauleau ; Erwan Fourn ; Fatimata Diaby ; Antonio Clemente ; Laurent Dussopt</i>	
<b>A DUAL-CP REFLECTARRAY UNIT CELL FOR REALIZING INDEPENDENTLY CONTROLLED BEAMS FOR SPACE APPLICATIONS</b> .....	66
<i>Mehdi Hosseini ; Sean V. Hum</i>	
<b>HIGH-PERFORMANCE CURVED CONTOURED BEAM REFLECTARRAYS WITH REUSABLE SURFACE FOR MULTIPLE COVERAGES</b> .....	71
<i>Min Zhou ; Stig B. Sorensen ; Rolf Jorgensen ; Oscar Borries ; Erik Jorgensen ; Giovanni Toso</i>	
<b>DUAL REFLECTARRAY ANTENNAS FOR CONTOURED BEAM AND BEAM SCANNING APPLICATIONS</b> .....	76
<i>C. Tienda ; J. A. Encinar ; M. Barba ; M. Arrebola</i>	
<b>DUAL-POLARIZATION REFLECTARRAY IN KU-BAND BASED ON TWO LAYERS OF DIPOLE-ARRAYS FOR A TRANSMIT-RECEIVE SATELLITE ANTENNA WITH SOUTH AMERICAN COVERAGE</b> .....	80
<i>J. A. Encinar ; R. Florencio ; M. Arrebola ; M. A. Salas ; M. Barba ; R. R. Boix ; G. Toso</i>	
<b>ADVANCED LEARNING-BASED APPROACHES FOR REFLECTARRAYS DESIGN</b> .....	84
<i>Lorenza Tenuti ; Giacomo Oliveri ; Daniele Bresciani ; Andrea Massa</i>	
<b>EXPLOITING NON-RADIATING CURRENTS IN REFLECTARRAY ANTENNA DESIGN</b> .....	88
<i>G. Oliveri ; A. Gelmini ; M. Salucci ; D. Bresciani ; A. Massa</i>	

<b>SINGLE-LAYER REFLECTARRAYS — PAST, PRESENT AND FUTURE</b> .....	92
<i>Y. Jay Guo ; Pei-Yuan Qin</i>	
<b>ESTIMATION OF FREQUENCY CHARACTERISTICS OF REFLECTARRAY BY INTRODUCING ABERRATION THEORY</b> .....	95
<i>Shigeru Makino ; Kento Takeshima ; Tetsuo Hirota ; Keisuke Noguchi ; Kenji Itoh ; Takeshi Shiode ; Michio Takikawa</i>	
<b>IMPROVING CONVERGENCE IN CROSSPOLAR OPTIMIZATION OF REFLECTARRAY ANTENNAS</b> .....	100
<i>Daniel R. Prado ; Manuel Arrebola ; Marcos R. Pino ; Fernando Las-Heras</i>	
<b>WIRELESS CHANNEL MEASUREMENTS AND MODELING FOR TCMS COMMUNICATIONS IN METRO ENVIRONMENTS</b> .....	108
<i>Iñaki Val ; Aitor Arriola ; Pedro M Rodríguez ; Ana Gonzalez-Plaza ; David Alonso ; Lei Zhang ; César Briso ; Juan Moreno ; Carlos Rodríguez Sánchez ; Eneko Echeverria ; Javier Goikoetxea</i>	
<b>SCENARIO MODULES AND RAY-TRACING SIMULATIONS OF MILLIMETER WAVE AND TERAHERTZ CHANNELS FOR SMART RAIL MOBILITY</b> .....	113
<i>Ke Guan ; Xue Lin ; Daping He ; Bo Ai ; Zhangdui Zhong ; Zhuyan Zhao ; Deshan Miao ; Hao Guan ; Thomas Kürner</i>	
<b>WIRELESS BROADBAND TRAIN TO GROUND NETWORK PERFORMANCE IN METRO DEPLOYMENTS</b> .....	118
<i>Shijun Ai ; Julian Andrade ; Bo Han ; Luis Hurtado ; Alvaro Lopez ; Carlos Moreno ; Jinjin Qian ; Joan Vila</i>	
<b>WLAN PROPAGATION MEASUREMENTS IN RAILWAY TUNNELS. CASE STUDY: MADRID METRO</b> .....	121
<i>Ignacio Bravo-Llano ; Carmen Arteaga-González ; Daniel Sánchez De Marcos</i>	
<b>PROPAGATION MEASUREMENTS WITH REGIONAL TRAIN AT 60 GHZ FOR VIRTUAL COUPLING APPLICATION</b> .....	126
<i>Kun Yang ; Marion Berbineau ; Jean-Pierre Ghys ; Yann Cocheril ; Divitha Seetharamdo</i>	
<b>VALIDATION OF EMULATED OMNIDIRECTIONAL ANTENNA OUTPUT USING DIRECTIVE ANTENNA DATA</b> .....	131
<i>Johannes Hejselbæk ; Anders Karstensen ; Jesper Ødum Nielsen ; Wei Fan ; Gert Frolund Pedersen</i>	
<b>MIXING DETERMINISTIC AND STOCHASTIC PROPAGATION FOR ASSESSING MMWAVE SMALL-CELL NETWORKS</b> .....	136
<i>Romain Charbonnier ; Mohammed Zahid Aslam ; Yoann Corre ; Yves Lostanlen</i>	
<b>FREQUENCY AND BANDWIDTH DEPENDENCE OF MILLIMETER WAVE ULTRA-WIDE-BAND CHANNELS</b> .....	141
<i>Naveed Iqbal ; Jian Luo ; Christian Schneider ; Diego Dupleich ; Stephan Haefner ; Robert Müller ; Reiner S. Thoma</i>	
<b>ANALYTIC AND EXPERIMENTAL INVESTIGATION OF BEAMFORMING ALGORITHMS FOR MM-WAVE CHANNEL CHARACTERIZATION</b> .....	146
<i>Fengchun Zhang ; Wei Fan ; Gert F. Pedersen</i>	
<b>REFLECTOR DESIGN TO MITIGATE FINGER EFFECT ON 60 GHZ USER DEVICES</b> .....	151
<i>Mikko Heino ; Clemens Icheln ; Katsuyuki Haneda</i>	
<b>MINERS SHADOWING EFFECTS ON 60 GHZ TRANSMISSION RATE IN UNDERGROUND MINE RICEAN CHANNELS</b> .....	156
<i>M. Ghaddar ; M. Nedil ; L. Talbi ; T. A. Denidni</i>	
<b>INVESTIGATION OF INDUCTIVE AND RADIATING ENERGY HARVESTING FOR AN IMPLANTED BIOTELEMETRY ANTENNA</b> .....	160
<i>Quang-Trung Luu ; Stavros Koulouridis ; Antoine Diet ; Yann Le Bihan ; Lionel Pichon</i>	
<b>CONFORMAL WEARABLE MONOPOLE ANTENNA BACKED BY A COMPACT EBG STRUCTURE FOR BODY AREA NETWORKS</b> .....	164
<i>Marco A. Antoniadis ; M. Ali Babar Abbasi ; Marija Nikolic ; Photos Vryonides ; Symeon Nikolaou</i>	
<b>UWB ON-BODY SLOTTED PATCH ANTENNAS FOR IN-BODY COMMUNICATIONS</b> .....	167
<i>Enrique Miralles ; Carlos Andreu ; Marta Cabedo-Fabrés ; Miguel Ferrando-Bataller ; Jose F. Monserrat</i>	
<b>FLEXIBLE ANTENNA ARRAY FOR WEARABLE HEAD IMAGING SYSTEM</b> .....	172
<i>Mohd. Saiful Riza Bashri ; Tughrul Arslan ; Wei Zhou</i>	
<b>PERFORMANCE OF EMBROIDERED HIGHER-ORDER MODE ANTENNAS WITH DIFFERENT STITCHING PATTERNS</b> .....	177
<i>Roy B. V. B. Simorangkir ; Yang Yang ; Karu P. Esselle</i>	
<b>A DIGITALLY ASSISTED REPEATER ANTENNA FOR IMPLANT COMMUNICATIONS</b> .....	181
<i>Sema Dumanli</i>	
<b>PARALLEL FED 2×1 ANTENNA ARRAY UTILIZING SURFACE WAVE CANCELLATION ON LTCC SUBSTRATE</b> .....	185
<i>Josef Hagn ; Valerio Frascolla ; Ronan Sauleau ; Jouko Aurinsalo ; Markku Lahti ; Kari Kautio</i>	

<b>STACKED PATCH ANTENNA SUB-ARRAY WITH LOW MUTUAL COUPLING FOR 79 GHZ MIMO RADAR APPLICATIONS.....</b>	<b>190</b>
<i>M. Mosalanejad ; S. Brebels ; I. Ocket ; C. Soens ; G. A. E. Vandenbosch</i>	
<b>W-BAND SERIES-CONNECTED PATCHES ANTENNA FOR MULTIBEAM APPLICATION BASED ON SIW BUTLER MATRIX .....</b>	<b>198</b>
<i>Fengchao Ren ; Wei Hong ; Ke Wu</i>	
<b>NOVEL MICROMACHINED ON-CHIP 10-ELEMENTS WIRE-GRID ARRAY OPERATING AT 60 GHZ .....</b>	<b>202</b>
<i>Mai O. Sallam ; Mohamed Serry ; Atif Shamim ; Sherif Sedky ; Ezzeldin A. Soliman</i>	
<b>WIDEBAND CAVITY-BACKED SLOT SUBARRAY WITH GAP WAVEGUIDE FEED-NETWORK FOR D-BAND APPLICATIONS .....</b>	<b>207</b>
<i>Abbas Vosoogh ; Ashraf Uz Zaman ; Vessen Vassilev</i>	
<b>REMEMBERING PER-SIMON KILDAL: SOFT IN HEART AND HARD IN TECHNICAL WORK .....</b>	<b>210</b>
<i>Yahya Rahmat-Samii</i>	
<b>PER-SIMON KILDAL: FRIEND, SCIENTIST, EDUCATOR, ENTREPRENEUR .....</b>	<b>215</b>
<i>Stefano Maci</i>	
<b>TRONDHEIM — THE LAUNCHING PAD FOR PER-SIMON KILDAL'S EXTRAORDINARY CAREER .....</b>	<b>220</b>
<i>Erik Lier</i>	
<b>REVERBERATION CHAMBER FOR OTA MEASUREMENTS: THE HISTORY OF A DREAM! .....</b>	<b>237</b>
<i>Jan Carlsson ; Christian Patané Lötbäck ; Andrés Alayon Glazunov</i>	
<b>HOW GAP WAVEGUIDES WERE CONCEIVED .....</b>	<b>242</b>
<i>Alejandro Valero-Nogueira ; Esperanza Alfonso</i>	
<b>ON THE INTEREST OF A BISTATIC RADAR CROSS SECTION SETUP TO MEASURE VARIOUS SCATTERING QUANTITIES.....</b>	<b>256</b>
<i>J. -M. Geffrin ; H. Saleh ; C. Eyraud ; A. Litman</i>	
<b>BISTATIC SCATTERING MEASUREMENT ON LOW PERMITTIVITY SPHEROIDAL OBJECTS.....</b>	<b>259</b>
<i>H. Saleh ; J. -M. Geffrin ; H. Tortel</i>	
<b>RANGE SEGMENTATION FOR MICRO-DOPPLER OF BACKSCATTERED FIELD BY WIND TURBINES.....</b>	<b>263</b>
<i>Stefano Medagli ; Oleg A. Krasnov ; Alexander G. Yarovoy</i>	
<b>RF FRONT END FOR UAS-AIDED FLIGHT INSPECTION OF AIRPORT SURVEILLANCE RADARS .....</b>	<b>268</b>
<i>Jürgen Fitschen ; Sebastian Koj ; Jochen Bredemeyer ; Heyno Garbe</i>	
<b>INTERLABORATORY COMPARISONS OF RADAR CROSS SECTION MEASUREMENTS BY THE “GTP”, CRITERIA SUGGESTIONS .....</b>	<b>273</b>
<i>J C Castelli ; F. Comblet ; F. Daout ; C. Eyraud ; S. Fargeot ; R. Guillerey ; J-M Geffrin ; S. Leman ; P. Massaloux ; G. Mazé-Merceur ; G-P Piau</i>	
<b>UWB IN-BODY CHANNEL PERFORMANCE BY USING A DIRECT ANTENNA DESIGNING PROCEDURE.....</b>	<b>278</b>
<i>Carlos Andreu ; Concepcion Garcia-Pardo ; Alejandro Fomes-Leal ; Marta Cabedo-Fabrés ; Narcis Cardona</i>	
<b>CONSIDERATION OF ANTENNA DIRECTIONS FOR HIGH FREQUENCY WIRELESS BODY AREA NETWORKS DURING HUMAN WALKING MOVEMENT .....</b>	<b>283</b>
<i>Takahiro Aoyagi</i>	
<b>COMPOSITE FADING IN NON-LINE-OF-SIGHT OFF-BODY COMMUNICATIONS CHANNELS .....</b>	<b>286</b>
<i>Seong Ki Yoo ; Simon L. Cotton</i>	
<b>AN EMPIRICAL MODEL FOR THE POLARISATION CHARACTERISTICS OF INDOOR OFF-BODY CHANNELS .....</b>	<b>291</b>
<i>Kenan Turbic ; Slawomir J. Ambroziak ; Luis M. Correia</i>	
<b>KEY GENERATION BASED ON FAST RECIPROCAL CHANNEL ESTIMATION FOR BODY-WORN SENSOR NODES .....</b>	<b>293</b>
<i>Patrick Van Torre ; Quinten Van Den Brande ; Jo Verhaevert ; Jan Vanfleteren ; Hendrik Rogier</i>	
<b>INTERNET OF ANIMALS: ON-AND OFF-BODY PROPAGATION ANALYSIS FOR ENERGY EFFICIENT WBAN DESIGN FOR DAIRY COWS.....</b>	<b>298</b>
<i>Said Benaissa ; David Plets ; Emmeric Tanghe ; Günter Vermeeren ; Luc Martens ; Bart Sonck ; Frank Tuytens ; Leen Vandaele ; Wout Joseph</i>	
<b>REDUCTION OF SINGULAR SURFACE INTEGRALS TO NON-SINGULAR LINE INTEGRALS IN INTEGRAL EQUATIONS INVOLVING NON-PARALLEL SURFACE ELEMENTS .....</b>	<b>303</b>
<i>Elizabeth Bleszynski ; Marek Bleszynski ; Thomas Jaroszewicz</i>	

<b>NONCONFORMING DISCRETIZATION OF THE PMCHWT INTEGRAL EQUATION APPLIED TO ARBITRARILY SHAPED DIELECTRIC OBJECTS .....</b>	<b>311</b>
<i>Ivan Sekulic ; Eduard Ubeda ; Juan M. Rius</i>	
<b>LOCALLY CORRECTED NYSTRÖM TECHNIQUE AND ITS RELATIONSHIP WITH RWG METHOD OF MOMENT FOR CURRENT RECONSTRUCTION USING VERY-NEAR-FIELD MEASUREMENTS .....</b>	<b>319</b>
<i>Rezvan Rafiee Alavi ; Ali Kiaee ; Rashid Mirzavand ; Pedram Mousavi</i>	
<b>REDUCTION OF VOLUME-VOLUME INTEGRALS ARISING IN GALERKIN JM-VIE FORMULATIONS TO SURFACE-SURFACE INTEGRALS.....</b>	<b>324</b>
<i>Ioannis P. Georgakis ; Athanasios G. Polimeridis</i>	
<b>A BRIEF HISTORY OF RADIATIVE WIRELESS POWER TRANSFER.....</b>	<b>327</b>
<i>Hubregt J. Visser</i>	
<b>FAR FIELD WPT — MAIN CHALLENGES .....</b>	<b>331</b>
<i>Daniel Belo ; Nuno Borges Carvalho</i>	
<b>LIGHT-WEIGHT WIRELESS POWER TRANSFER FOR MID-AIR CHARGING OF DRONES .....</b>	<b>336</b>
<i>Samer Aldhaher ; Paul D. Mitcheson ; Juan M. Arteaga ; George Kkelis ; David C. Yates</i>	
<b>RECENT ADVANCES IN BROADBAND RECTENNAS FOR WIRELESS POWER TRANSFER AND AMBIENT RF ENERGY HARVESTING.....</b>	<b>341</b>
<i>Chaoyun Song ; Yi Huang ; Jiafeng Zhou ; Paul Carter</i>	
<b>RF-POWERED, BACKSCATTER-BASED CAMERAS .....</b>	<b>346</b>
<i>Saman Naderiparizi ; Zerina Kapetanovic ; Joshua R. Smith</i>	
<b>STUDY ON 5.8 GHZ SINGLE-STAGE CHARGE PUMP RECTIFIER FOR INTERNAL WIRELESS SYSTEM OF SATELLITE .....</b>	<b>350</b>
<i>Ce Wang ; Naoki Shinohara ; Tomohiko Mitani</i>	
<b>BROADBAND METASURFACE LUNEBURG LENS ANTENNA BASED ON GLIDE-SYMMETRIC BED OF NAILS .....</b>	<b>358</b>
<i>Kexin Liu ; Fatemeh Ghasemifard ; Oscar Quevedo-Teruel</i>	
<b>SCATTERING FREE GRADED INDEX PROFILES AND THE CONTROL OF ELECTROMAGNETIC FIELDS .....</b>	<b>361</b>
<i>Benjamin Vial ; Yangjie Liu ; Simon A. R. Horsley ; Thomas G. Philbin ; Yang Hao</i>	
<b>TRANSFORMATION ELECTROMAGNETICS ENABLED LENS DESIGN WITH SURROGATE-ASSISTED GLOBAL OPTIMIZATION .....</b>	<b>369</b>
<i>John A. Easum ; Jogender Nagar ; Sawyer D. Campbell ; Douglas H. Werner ; Pingjuan L. Werner</i>	
<b>THERMAL NOISE EFFECTS OF A SIMPLE CORRELATOR FOR HIGH DYNAMIC RANGE MEASUREMENTS.....</b>	<b>378</b>
<i>Brett T. Walkenhorst</i>	
<b>ANALYSIS OF ELECTROMAGNETIC MEASUREMENTS IN INTERCOMPARISONS WITH LOW NUMBER OF PARTICIPANTS.....</b>	<b>383</b>
<i>Isabel Expósito ; Manuel García Sánchez ; Iñigo Cuiñas</i>	
<b>A NEW ONE-PORT S-PARAMETER CALIBRATION WORKFLOW BY MEANS OF A MEMS-BASED VARIABLE CAPACITOR ARRAY.....</b>	<b>388</b>
<i>Manuel Kasper ; Mykolas Ragulskis ; Ivan Alic ; Jorgen Bojer ; Michael Dieudonne ; Ferry Kienberger</i>	
<b>SVO IN ARRAY DIAGNOSTIC FOR THE PLANAR NEAR-FIELD SCANNING .....</b>	<b>393</b>
<i>Amedeo Capozzoli ; Claudio Curcio ; Angelo Liseno</i>	
<b>NFC/RFID BENCHMARK DESIGN AND VERIFICATION STRATEGY AGAINST EMVCO STANDARD.....</b>	<b>398</b>
<i>Yehya Nasser ; Mohammad Bazzoun ; Hussein Hijazi ; Ali Chamas Al Ghouwayel ; Achraf Dhayni</i>	
<b>DOSIMETRY AND HYPERTHERMIA COMPUTATION IN HUMAN TISSUES IN PRESENCE OF EM-WAVES USING TLM METHOD.....</b>	<b>403</b>
<i>A. Ijeh ; O. Makhlof ; M. Cueille ; J. -L. Dubard ; M. M. Ney</i>	
<b>CONTINUOUS MONITORING OF HEMORRHAGIC BRAIN STROKES VIA CONTRAST SOURCE INVERSION .....</b>	<b>408</b>
<i>Uggur Yildirim ; Ismail Dilman ; Egemen Bilgin ; Semih Dogu ; Mehmet Çayören ; Ibrahim Akduman</i>	
<b>ELECTROMAGNETIC EXPOSURE SYSTEMS FOR REAL TIME CARS IMAGING .....</b>	<b>412</b>
<i>C. Merla ; M. Liberti ; P. Marracino ; A. Azan ; F. Apollonio ; L. M. Mir</i>	
<b>ALTERNATING FDFD AND BORN APPROXIMATION TO COMPUTE DIELECTRIC PROPERTIES OF BREAST TISSUE AND LOCALIZE ANOMALOUS LESIONS USING DBT PRIORS.....</b>	<b>416</b>
<i>Matthew Tivnan ; Carey Rappaport</i>	
<b>TIME DOMAIN COMPLEX RADAR CROSS SECTION OF HUMAN BODY FOR BREATH-ACTIVITY MONITORING .....</b>	<b>421</b>
<i>Tien Tu Vo ; Laurent Ouvry ; Alain Sibille</i>	

<b>BIO-ELECTROMAGNETIC THZ PROPAGATION MODELING FOR IN-VIVO WIRELESS NANOSENSOR NETWORKS .....</b>	<b>426</b>
<i>Hadeel Elayan ; Raed M. Shubair ; Josep M. Jornet</i>	
<b>ANTENNA ARRAY CONFIGURATIONS FOR TERRESTRIAL BACKHAUL LINKS AT KA-BAND FREQUENCIES .....</b>	<b>431</b>
<i>Rudolf Zetik ; Christian Steinmetz ; Marcus Grossmann ; Markus Landmann ; Giovanni Del Galdo</i>	
<b>DEVELOPMENTS ON PHASED ARRAY FOR LOW-COST, HIGH FREQUENCY APPLICATIONS .....</b>	<b>436</b>
<i>Przemyslaw Gorski ; Maria Carolina Vigano ; Daniel Llorens Del Rio</i>	
<b>NULL-STEERING REFLECTARRAYS FOR 5G BACKHAUL NETWORKS LIMITED BY INTERFERENCE .....</b>	<b>439</b>
<i>Xavier Artiga</i>	
<b>LOW-COST HYBRID ANALOG-DIGITAL BEAMFORMER EVALUATION IN SPECTRUM SHARING SYSTEMS .....</b>	<b>443</b>
<i>Miguel Ángel Vázquez ; Xavier Artiga ; Ana I. Pérez-Neira</i>	
<b>REAL-FIELD PERFORMANCE OF HYBRID MISO TIME REVERSAL MULTI-BEAM BEAMFORMER AT MM-WAVES .....</b>	<b>448</b>
<i>Diego Dupleich ; Stephan Haefner ; Robert Müller ; Christian Schneider ; Jian Luo ; Reiner Thomä</i>	
<b>PARTIAL UPDATE OF ANTENNA WEIGHT IN MULTIUSER MIMO FOR TIME-VARIANT PROPAGATION CHANNEL .....</b>	<b>453</b>
<i>T. Taniguchi ; Y. Karasawa N. Nakajima</i>	
<b>PERFORMANCE COMPARISON OF DIFFERENT SPARSE ARRAY CONFIGURATIONS FOR ULTRA-WIDEBAND, NEAR-FIELD IMAGING APPLICATIONS .....</b>	<b>458</b>
<i>Bezzat Talat Cetin ; Lale Alatan</i>	
<b>NEAR AND FAR FIELD FOCUSING PATTERNS FOR A 2D SPARSE MIMO ARRAY .....</b>	<b>461</b>
<i>Harun Cetinkaya ; Simon Kueppers ; Reinhold Herschel ; Nils Pohl</i>	
<b>BROADBAND COAXIAL LINE TO RECTANGULAR WAVEGUIDE TRANSITION FOR A MICROWAVE TOMOGRAPHY SENSOR .....</b>	<b>465</b>
<i>Malte Mallach ; Thomas Musch</i>	
<b>HIGH-RESOLUTION IMAGING AND SEPARATION OF MULTIPLE PEDESTRIANS USING UWB DOPPLER RADAR INTERFEROMETRY WITH ADAPTIVE BEAMFORMING TECHNIQUE .....</b>	<b>469</b>
<i>Motoshi Anabuki ; Shigeaki Okumura ; Takuya Sakamoto ; Kenshi Saho ; Toru Sato ; Mototaka Yoshioka ; Kenichi Inoue ; Takeshi Fukuda ; Hiroyuki Sakai</i>	
<b>A SEMICIRCLE BOW-TIE ANTENNA FOR SUBSURFACE RADAR APPLICATIONS IN CIVIL ENGINEERING .....</b>	<b>474</b>
<i>V. Mikhnev ; V. Badeev</i>	
<b>SLOT ANTENNA DESIGN FOR A WIRELESSLY POWERED IMPLANTABLE MICROCOOLER FOR NEURONAL APPLICATIONS .....</b>	<b>480</b>
<i>H. Dinis ; J. Fernandes ; P. M. Mendes</i>	
<b>FEASIBILITY OF ELECTROMAGNETIC ENERGY HARVESTING USING WEARABLE TEXTILE ANTENNAS .....</b>	<b>485</b>
<i>Branimir Ivšić ; Mateja Babic ; Andrej Galoic ; Davor Bonefacic</i>	
<b>FULLY INKJET PRINTED WIDE BAND CANTOR FRACTAL ANTENNA FOR RF ENERGY HARVESTING APPLICATION .....</b>	<b>489</b>
<i>Azamat Bakytbekov ; Armando Rodriguez Maza ; Mahmoud Nafe ; Atif Shamim</i>	
<b>ANALYSIS OF REACTANCE COMPENSATION FOR ELIMINATING CROSS-COUPPLING IN MULTIPLE-RECEIVER INDUCTIVE POWER TRANSFER .....</b>	<b>492</b>
<i>Quang-Thang Duong ; Minoru Okada</i>	
<b>OVAL DOUBLE SPIRAL COIL FOR HIGH EFFICIENCY WIRELESS POWER TRANSMISSION .....</b>	<b>496</b>
<i>Shun Hasegawa ; Hisao Iwasaki</i>	
<b>SIMULATION FRAMEWORK FOR PERFORMANCE EVALUATION OF PASSIVE RFID TAG-TAG COMMUNICATIONS .....</b>	<b>500</b>
<i>Lin Zhou ; Florin Hutu ; Guillaume Villemaud ; Yvan Duroc</i>	
<b>ANALYSIS OF SCATTERING FROM ELECTRICALLY LARGE OBJECTS USING FAST FAR FIELD ITERATIVE PHYSICAL OPTICS .....</b>	<b>509</b>
<i>Paolo De Vita ; Alessandro Mori ; Luca Pandolfo ; Mirko Bercigli ; Mauro Bandinelli ; Giorgio Carluccio ; Matteo Albani</i>	
<b>A STABLE MARCHING-ON-IN-TIME ALGORITHM CAPABLE OF HANDLING MULTIPLE EXCITATIONS — APPLICATION TO WIRE JUNCTION PROBLEMS .....</b>	<b>513</b>
<i>Sadasiva M. Rao</i>	

<b>NON-UNIFORM SURFACE IMPEDANCE ABSORBING BOUNDARY CONDITION FOR FDTD METHOD</b> .....	516
<i>Yunlong Mao ; Atef Z Elsherbeni ; Si Li ; Tao Jiang</i>	
<b>CLOSED-FORM EVALUATION OF THE SINGULAR TERMS IN ELECTRIC FIELD INTEGRAL EQUATIONS</b> .....	520
<i>Denis Tihon ; Christophe Craeye</i>	
<b>A NOVEL FDTD FORMULATION TO MODEL DISPERSIVE CHIRAL MEDIA</b> .....	525
<i>Reza Mohammadi-Baghaee ; Mojtaba Dehmollaian ; Jalil Rashed-Mohassel</i>	
<b>RUAG SPACE ACTIVITIES IN THE TT&amp;C, GNSS AND DATA-DOWNLINK ANTENNA FIELD</b> .....	529
<i>Jan Zackrisson</i>	
<b>MULTIMODE RECONFIGURABLE NANO-SATELLITE ANTENNA FOR PDTM APPLICATION</b> .....	542
<i>Ali Sibli ; Bernard Jecko ; Eric Arnaud</i>	
<b>KA-BAND DEPLOYABLE MESH REFLECTOR ANTENNA COMPATIBLE WITH THE DEEP SPACE NETWORK</b> .....	546
<i>Nacer Chahat ; Jonathan Sauder ; Mark Thomson ; Yahya Rahmat-Samii ; Richard Hodges</i>	
<b>TELEMETRY X-BAND ANTENNA PAYLOAD FOR NANO-SATELLITES</b> .....	549
<i>Rodrigo Manrique ; Gwenn Le Fur ; Nicolas Adnet ; Luc Duchesne ; Jean Marc Baracco ; Kevin Elis</i>	
<b>ESA'S RECENT DEVELOPMENTS IN THE FIELD OF 3D-PRINTED RF/MICROWAVE HARDWARE</b> .....	553
<i>Petronilo Martin-Iglesias ; Maarten Van Der Vorst ; Johannes Gumpinger ; Tommaso Ghidini</i>	
<b>USING ADDITIVE MANUFACTURING FOR FEED CHAIN AND OTHER PASSIVE MICROWAVE COMPONENTS</b> .....	558
<i>Paul Booth ; Richard Roberts ; Michael Szymkiewicz ; Christian Hartwanger</i>	
<b>MANUFACTURING OF WAVEGUIDE COMPONENTS FOR SATCOM THROUGH SELECTIVE LASER MELTING</b> .....	563
<i>Oscar A. Peverini ; Mauro Lumia ; Flaviana Calignano ; Diego Manfredi ; Giuseppe Addamo ; Massimo Lorusso ; Elisa P. Ambrosio ; Giuseppe Virone ; P. Fino ; R. Tascone</i>	
<b>A STUDY OF THE ADDITIVE MANUFACTURING TECHNOLOGY FOR RF/MICROWAVE COMPONENTS</b> .....	567
<i>A. Gomez-Torrent ; F. Teberio ; A. Martinez ; J. M. Percas ; I. Arnedo ; I. Maestrojuan ; I. Arregui ; G. Crespo ; T. Lopetegi ; M. A. G. Laso ; J. Teniente</i>	
<b>ELECTRICAL TESTS OF KA BAND INPUT FILTERS FOR SPACE APPLICATIONS</b> .....	572
<i>Mónica Martínez Mendoza ; Santiago Sobrino ; Ana I Daganzo ; Tomislav Debogovic ; Mirko Favre ; Emile De Rijk</i>	
<b>3D-PRINTED KA-BAND WAVEGUIDE ARRAY ANTENNA FOR MOBILE SATCOM APPLICATIONS</b> .....	579
<i>Frédéric Bongard ; Martin Gimersky ; Stephen Doherty ; Xavier Aubry ; Mikael Krummen</i>	
<b>POLYMER-BASED METAL COATED ADDITIVE MANUFACTURED V- AND W-BAND ANTENNA FEED CHAIN COMPONENTS</b> .....	584
<i>Esteban Menargues ; Mirko Favre ; Alexandros I. Dimitriadis ; Santiago Capdevila ; Tomislav Debogovic ; Juan R. Mosig ; Maarten Van Der Vorst ; Emile De Rijk</i>	
<b>3D-PRINTED KA-BAND ANTENNA BASED ON STEREOLITHOGRAPHY</b> .....	589
<i>Joana S. Silva ; María García-Viguera ; Tomislav Debogovic ; Juan R. Mosig</i>	
<b>INNOVATIVE MATERIALS AND FABRICATION PROCESS TO DEVELOP NEW RF COMPONENTS AND CONCEPTS</b> .....	594
<i>C. Menudier ; M. Thevenot ; L. Huitema ; E. Arnaud ; T. Monediere ; O. Tantot ; S. Bila ; N. Delhote</i>	
<b>SWITCHED BEAM PATCH ARRAY ANTENNA USING SPDT GAN HEMT SWITCHES</b> .....	598
<i>A. Hamdoun ; M. Hindi ; O. Lafond ; L. Roy</i>	
<b>A WIDEBAND AUTOMOTIVE ANTENNA FOR ACTUAL AND FUTURE MOBILE COMMUNICATION 5G/LTE/WLAN WITH LOW PROFILE</b> .....	602
<i>Sertan Hastürkoglu ; Stefan Lindenmeier</i>	
<b>TECHNIQUE TO INCREASE DIRECTIVITY OF A RECONFIGURABLE ARRAY ANTENNA FOR WIRELESS SENSOR NETWORK</b> .....	606
<i>Akimu Dihissou ; Aliou Diallo ; Philippe Le Thuc ; Robert Staraj</i>	
<b>WIDEBAND U-SLOT PATCH ANTENNA WITH RECONFIGURABLE RADIATION PATTERN</b> .....	611
<i>Jie Wang ; Jiexi Yin ; Haiming Wang ; Chen Yu ; Wei Hong</i>	
<b>FURTHER INVESTIGATIONS ON THE BEHAVIOR OF A FREQUENCY RECONFIGURABLE ANTENNA CLUSTER</b> .....	616
<i>Jari-Matti Hannula ; Jari Holopainen ; Ville Viikari</i>	
<b>CAVITY MODES INSIDE A MODE-STIRRED REVERBERATION CHAMBER EXTRACTED USING THE MATRIX PENCIL METHOD</b> .....	620
<i>Francois Sarrazin ; Elodie Richalot</i>	



<b>GVER-THE-AIR TESTING OF LTE-ADVANCED FEATURES USING REVERBERATION CHAMBER</b> .....	623
<i>Christian S Patané Lötbäck ; Anton Skårbratt ; Klas Arvidsson</i>	
<b>BASE STATION OVER-THE-AIR TESTING IN REVERBERATION CHAMBER</b> .....	628
<i>Christian Patané Lötbäck ; Klas Arvidsson ; Mats Högberg ; Mattias Gustafsson</i>	
<b>GRADIENT ASCENT BASED OPTIMIZATION FOR A RECONFIGURABLE OTA CHAMBER</b> .....	633
<i>Matthew D. Arnold ; Rashid Mehmood ; Michael A. Jensen ; Jon W. Wallace</i>	
<b>SEMI-OMNIDIRECTIONAL DUAL-POLARIZED WIDEBAND MULTI-PORT ANTENNAS FOR MIMO APPLICATIONS IN RANDOM-LOS AND RIMP</b> .....	636
<i>Sadegh Mansouri Moghaddam ; Andrés Alayón Glazunov ; Jian Yang ; Mattias Gustafsson</i>	
<b>A 3-D WIDE-BAND SET-UP FOR OVER-THE-AIR TEST IN ANECHOIC CHAMBER</b> .....	640
<i>Mounia Belhabib ; Raffaele D'Errico ; Bernard Uguen</i>	
<b>MIMO ANTENNA PERFORMANCE ASSESSMENT BASED ON OPEN SOURCE SOFTWARE DEFINED RADIO</b> .....	644
<i>Cyril Buey ; Theoni Magounaki ; Fabien Ferrero ; Philippe Ratajczak ; Leonardo Lizzi ; Florian Kaltenberger</i>	
<b>THE VARIATION OF CLUSTERS WITH INCREASING NUMBER OF ANTENNAS BY VIRTUAL MEASUREMENT</b> .....	648
<i>Chao Wang ; Jianhua Zhang ; Lei Tian ; Mengmeng Liu ; Ye Wu</i>	
<b>ANTENNA MUTUAL COUPLING EFFECT ON MIMO-OFDM SYSTEM IN THE PRESENCE OF PHASE NOISE</b> .....	653
<i>Xiaoming Chen ; Shuai Zhang</i>	
<b>5G COMMUNICATIONS IN HIGH SPEED AND METROPOLITAN RAILWAYS</b> .....	658
<i>Ana Gonzalez-Plaza ; Juan Moreno ; Iñaki Val ; Aitor Arriola ; Pedro M Rodriguez ; Florentino Jimenez ; César Briso</i>	
<b>LOSS TANGENT EFFECT ON THE ACCURATE DESIGN OF MICROWAVE SENSORS FOR BLOOD GLUCOSE MONITORING</b> .....	661
<i>Sandra Costanzo</i>	
<b>DOSIMETRIC CHARACTERIZATIONS OF ELECTROMAGNETIC FIELDS EXPOSURES FOR BIOMEDICAL APPLICATIONS</b> .....	664
<i>Delia Arnaud-Cormos ; Sylvia M Bardet ; Rodney O'Connor ; Philippe Leveque</i>	
<b>EXPOSURE LIMITS AND DIELECTRIC CONTRAST FOR BREAST CANCER TISSUES: EXPERIMENTAL RESULTS UP TO 50 GHZ</b> .....	667
<i>A. Martellosio ; P. F. Espin-Lopez ; M. Pasian ; M. Bozzi ; L. Perregrini ; A. Mazzanti ; F. Svelto ; M. Bellomi ; L. Preda ; G. Renne ; P. E. Summers</i>	
<b>TOWARDS 3D FIELD INTENSITY SHAPING FOR BIOMEDICAL APPLICATIONS</b> .....	672
<i>Domenica A. M. Iero ; Genaro G. Bellizzi ; Tommaso Isernia ; Lorenzo Crocco</i>	
<b>FEASIBILITY ASSESSMENT OF A BANACH-SPACE INVERSION PROCEDURE FOR BIOMEDICAL APPLICATIONS</b> .....	677
<i>C. Estatico ; A. Fedeli ; M. Pastorino ; A. Randazzo</i>	
<b>MICROWAVE TOMOGRAPHIC IMAGE IMPROVEMENT BY FITTING TO A COLE-COLE RELAXATION MODEL</b> .....	682
<i>Tomas Rydholm ; Andreas Fhager ; Mikael Persson ; Paul M. Meaney</i>	
<b>RADIO TELEMETRY PERFORMANCE OF LIVER IMPLANTED ULTRA WIDEBAND ANTENNA</b> .....	685
<i>Pongphan Leelatien ; Koichi Ito ; Kazuyuki Saito ; Akram Alomainy ; Manmohan Sharma ; Yang Hao</i>	
<b>COMPOSITE AIRCRAFT LIGHTNING STRIKE PROTECTION DAMAGE EVALUATION USING MICROWAVE MICROSCOPY TECHNIQUES</b> .....	689
<i>Leandro Rufail ; Jean-Jacques Laurin ; Fidele Moupfouma</i>	
<b>ON-BODY SKIN CONFINED PROPAGATION FOR BODY AREA NETWORKS (BAN)</b> .....	693
<i>Qiang Zhang ; Julien Sarrazin ; Massimiliano Casaletti ; Luca Petrillo ; Philippe De Doncker ; Aziz Benlarbi-Delai</i>	
<b>DETERMINATION OF COMPLEX PERMITTIVITY OF ARBITRARILY SHAPED HOMOGENEOUS MATERIALS VIA WAVEGUIDE MEASUREMENTS</b> .....	696
<i>Ahmet Aydogan ; Funda Akleman ; Serkan Simsek</i>	
<b>POLARIMETRIC ANALYSIS OF REVERBERATION TIMES FOR 94 GHZ INDOOR COMMUNICATION</b> .....	700
<i>Brecht Hanssens ; Maria-Teresa Martínez-Inglés ; Emmeric Tanghe ; David Plets ; José-María Molina-García-Pardo ; Claude Oestges ; Lue Martens ; Wout Joseph</i>	
<b>11 GHZ BAND MIMO CHANNEL CHARACTERISTICS IN A STREET MICRO-CELL ENVIRONMENT</b> .....	703
<i>Kentaro Saito ; Jun-Ichi Takada ; Minseok Kim</i>	

<b>INDOOR CHANNEL CHARACTERISTICS IN ATRIUM ENTRANCE HALL ENVIRONMENT AT MILLIMETER-WAVE BAND</b> .....	707
<i>Minseok Kim ; Tatsuki Iwata ; Kento Umeki ; Jun-Ichi Takada ; Shigenobu Sasaki</i>	
<b>A MODEL FOR THE REFLECTION OF TERAHERTZ SIGNALS FROM PRINTED CIRCUIT BOARD SURFACES</b> .....	711
<i>A. Fricke ; T. Kürner ; M. Achir ; P. Le Bars</i>	
<b>COMPARISON OF PATH LOSS MODELS FOR INDOOR 30 GHZ, 140 GHZ, AND 300 GHZ CHANNELS</b> .....	716
<i>Chia-Lin Cheng ; Seunghwan Kim ; Alenka Zajic</i>	
<b>PATH LOSS MODEL IN TYPICAL OUTDOOR ENVIRONMENTS IN THE 50–73 GHZ BAND</b> .....	721
<i>Sana Salous ; X. Raimundo ; A. Cheema</i>	
<b>A TUNABLE POLARIZATION ROTATOR BASED ON METASURFACES</b> .....	728
<i>Zhanni Wu ; Younes Ra'Di ; Anthony Grbic</i>	
<b>FREQUENCY SELECTIVE SURFACE LOADED ANTENNA FOR DIRECT ANTENNA MODULATION</b> .....	731
<i>Stephen Henthorn ; Kenneth Lee Ford ; Timothy O'Farrell</i>	
<b>OVERCOMING TRADITIONAL ELECTRICALLY SMALL ANTENNA TRADEOFFS WITH META-STRUCTURES</b> .....	735
<i>Richard W. Ziolkowski ; Ming-Chun Tang</i>	
<b>METALINE-BASED ANTENNAS</b> .....	739
<i>Hisamatsu Nakano</i>	
<b>TAILORING OF ELECTROMAGNETIC WAVES BY METASURFACES</b> .....	743
<i>Luigi La Spada ; Yang Hao</i>	
<b>DESIGN OF MICROWAVE COMPONENTS IN GROOVE GAP WAVEGUIDE TECHNOLOGY IMPLEMENTED BY HOLEY EBG</b> .....	746
<i>M. Ebrahimpouri ; O. Quevedo-Teruel ; Eva Rajo-Iglesias</i>	
<b>MODE MATCHING ANALYSIS OF TWO DIMENSIONAL GLIDE-SYMMETRIC CORRUGATED METASURFACES</b> .....	749
<i>Fatemeh Ghasemifard ; Mahsa Ebrahimpouri ; Martin Norgren ; Oscar Quevedo-Teruel</i>	
<b>SLOTTED SIW LEAKY-WAVE ANTENNA WITH IMPROVED BACKWARD SCANNING BANDWIDTH AND CONSISTENT GAIN</b> .....	752
<i>Nasimuddin ; Zhi Ning Chen ; Xianming Qing</i>	
<b>GAIN ENHANCEMENT OF A SLOT ANTENNA USING MULTIPLE METASURFACES</b> .....	756
<i>Bilal El Jaafari ; Jean-Marie Floch</i>	
<b>MODELING THE RESPONSE OF DIELECTRIC SLABS ON GROUND PLANES USING CW FOCUSED MILLIMETER WAVES</b> .....	759
<i>Mahdiar Sadeghi ; Elizabeth Wig ; Ann Morgenthaler ; Carey Rappaport</i>	
<b>DESIGN OF CIRCULAR DUAL AND QUAD RIDGE HORN ANTENNAS FOR MILLIMETER WAVE APPLICATIONS</b> .....	764
<i>Nathan Jastram ; Conrad Andrews ; Dejan S. Filipovic</i>	
<b>3D PRINTED LENS ANTENNA FOR WIRELESS POWER TRANSFER AT KU-BAND</b> .....	773
<i>Ricardo Gonçalves ; Pedro Pinho ; Nuno B. Carvalho</i>	
<b>DESIGN METHODOLOGY FOR THE MULTI-BEAM PHASED ARRAY OF ANTENNAS WITH RELATIVELY ARBITRARY COVERAGE SECTOR</b> .....	776
<i>Hsi-Tseng Chou</i>	
<b>STUDY OF FLAT BEAM IN NEAR-FIELD FOR BEAM-TYPE WIRELESS POWER TRANSFER VIA MICROWAVES</b> .....	780
<i>Naoki Shinohara ; Naoki Kamiyoshikawa</i>	
<b>TIME-BASED RF SHOWERS FOR ENERGY-AWARE POWER TRANSMISSION</b> .....	783
<i>Diego Masotti ; Alessandra Costanzo</i>	
<b>TRANSIENT DIRECTED WPT</b> .....	788
<i>Hubregt J. Visser</i>	
<b>SURROGATE MODELS FOR UNCERTAINTY QUANTIFICATION: AN OVERVIEW</b> .....	793
<i>Bruno Sudret ; Stefano Marelli ; Joe Wiart</i>	
<b>STATISTICAL ANALYSIS OF ELECTROMAGNETIC STRUCTURES AND ANTENNAS USING THE POLYNOMIAL CHAOS EXPANSION METHOD</b> .....	798
<i>Hulusi Acikgoz ; Raj Mittra</i>	
<b>SENSITIVITY ANALYSIS OF THE TIME TRANSIENT CURRENTS INDUCED ALONG THIN WIRES BURIED IN LOSSY AND UNCERTAIN ENVIRONMENTS</b> .....	801
<i>Sébastien Lalièche ; Silvestar Sesnic ; Pierre Bonnet ; Khalil El Khamlichi Drissi ; Françoise Paladian ; Dragan Poljak</i>	

<b>STATISTICAL ANALYSIS AND SURROGATE MODELING OF INDOOR EXPOSURE INDUCED FROM A WLAN SOURCE.....</b>	<b>806</b>
<i>Yenny Pinto ; Joe Wiart</i>	
<b>STATISTICAL EVALUATION OF THE TISSUE SPECIFIED SPECIFIC ABSORPTION RATE USING PRINCIPAL COMPONENT REGRESSION .....</b>	<b>811</b>
<i>Tongning Wu ; Congsheng Li</i>	
<b>PROPAGATION OF UNCERTAINTY IN THE MUSIC ALGORITHM USING POLYNOMIAL CHAOS EXPANSIONS .....</b>	<b>820</b>
<i>Thomas Van Der Vorst ; Mathieu Van Eeckhaute ; Aziz Benlarbi-Delaï ; Julien Sarrazin ; François Horlin ; Philippe De Doncker</i>	
<b>GENERALIZED POLYNOMIAL CHAOS PARADIGMS TO MODEL UNCERTAINTY IN WIRELESS LINKS.....</b>	<b>823</b>
<i>Marco Rossi ; Dries Vande Ginste ; Hendrik Rogier</i>	
<b>ADDING DIFFUSE SCATTERING CORRELATION TO EFFECTIVE ROUGHNESS MODELS IN RAY TRACING.....</b>	<b>828</b>
<i>Yang Miao ; Quentin Gueuning ; Mingming Gan ; Claude Oestges</i>	
<b>PRELIMINARY STATISTICAL ANALYSIS OF FOUR SITE DIVERSITY EXPERIMENT AT KA-BAND.....</b>	<b>831</b>
<i>Arsim Kelmendi ; Andrej Vilhar</i>	
<b>ANALYTICAL STUDY OF FREE-SPACE COUPLING OF THZ RADIATION FOR A NEW RADIOASTRONOMY RECEIVER CONCEPT .....</b>	<b>836</b>
<i>Gabriel Santamaria Botello ; Kerlos Atia Abdalmalak ; Maria-Theresa Schlecht ; David González-Ovejero ; Florian Sedlmeir ; Harald G. L. Schweffel ; Stefan Malzer ; Heiko Weber ; Daniel Segovia-Vargas ; Darragh McCarthy ; John Anthony Murphy ; Gottfried H. Döhler ; Luis-Enrique García Muñoz</i>	
<b>A 45 -INCLINED LINEARLY POLARIZED PROBE FOR TERAHERTZ MUELLER IMAGING .....</b>	<b>846</b>
<i>Xuexuan Ruan ; Kung Bo Ng ; Chun Kit Wong ; Huan Yi ; Shi-Wei Qu ; Chi Hou Chan</i>	
<b>A RECONFIGURABLE MULTILAYERED THZ LEAKY-WAVE ANTENNA EMPLOYING LIQUID CRYSTALS .....</b>	<b>849</b>
<i>Walter Fuscaldo ; Silvia Tofani ; Dimitrios C. Zografopoulos ; Paolo Baccarelli ; Paolo Burghignoli ; Romeo Beccherelli ; Alessandro Galli</i>	
<b>ANALYSIS OF HYBRID-PASSIVE-ACTIVE PHASED ARRAY CONFIGURATIONS BASED ON AN SNR APPROXIMATION.....</b>	<b>852</b>
<i>Matthias Nickel ; Onur Hamza Karabey ; Matthias Maasch ; Roland Reese ; Matthias Jost ; Christian Damm ; Rolf Jakoby ; Holger Maune</i>	
<b>FEASIBILITY OF DUAL-POLARIZED ANTENNA ARRAYS FOR GNSS RECEIVERS AT LOW ELEVATIONS.....</b>	<b>857</b>
<i>Maysam Ibraheem ; Bjoern Bieske ; Kurt Blau ; Eric Schäfer ; Andre Jäger ; Safwat Irteza Butt ; Ralf Stephan ; Matthias A. Hein</i>	
<b>SYNTHESIS OF CLUSTERED LINEAR ARRAYS THROUGH A TOTAL VARIATION COMPRESSIVE SENSING APPROACH.....</b>	<b>862</b>
<i>Nicola Anselmi ; Giacomo Oliveri ; Andrea Massa</i>	
<b>MASSIVE ANTENNA ARRAY FOR SPACE-TIME CHANNEL SOUNDING .....</b>	<b>865</b>
<i>P. Pajusco ; F. Gallée ; N. Malhouroux ; R. Burghilea</i>	
<b>PATTERN RECOVERING OF CONFORMAL ANTENNA ARRAY FOR STRONGLY DEFORMED SURFACES.....</b>	<b>869</b>
<i>Francesco Rigobello ; Giulia Mansutti ; M. Saeed Khan ; Antonio-D. Capobianco</i>	
<b>MONOSTATIC RCS OF ELECTRICALLY LARGE STRUCTURES USING HIGHER-ORDER MLFMM.....</b>	<b>872</b>
<i>Oscar Borries ; Erik Jorgensen ; Peter Meincke</i>	
<b>MODELING OF BISTATIC SCATTERING FROM THE ANISOTROPIC EARTH SURFACES.....</b>	<b>877</b>
<i>Davide Comite ; Franco Fois ; Nazzareno Pierdicca</i>	
<b>MODULAR TERRAIN MODELING WITH FLEXIBLE CONDUCTIVE MATERIALS IN A SCALED MEASUREMENT ENVIRONMENT.....</b>	<b>880</b>
<i>Björn Neubauer ; Robert Geise ; Georg Zimmer ; Oliver Kerfin ; Angela Andree ; Norbert Ueffing</i>	
<b>ANALYTICAL FORMULATION FOR THE MICRO-DOPPLER SPECTRUM FOR ROTATING TARGETS IN THE NEAR-FIELD.....</b>	<b>885</b>
<i>Jean Léger ; Thomas Pairon ; Christophe Craeye</i>	
<b>LONG SLOT ARRAY FOR WIRELESS POWER TRANSMISSION.....</b>	<b>889</b>
<i>Mauro Ettore ; Waleed A. Alomar ; Anthony Grbic</i>	
<b>RETRODIRECTIVE ANTENNA ARRAY FOR CIRCULARLY POLARIZED WIRELESS POWER TRANSMISSION .....</b>	<b>891</b>
<i>Pascual D. Hilario Re ; Symon K. Podilchak ; Samuel Rotenberg ; George Goussetis ; Jaesup Lee</i>	

<b>AN EFFICIENT RF ENERGY HARVESTING SYSTEM.....</b>	<b>896</b>
<i>A. Eid ; J. Costantine ; Y. Tawk ; A. H. Ramadan ; M. Abdallah ; R. Elhajj ; R. Awad ; I. B. Kasbah</i>	
<b>ON THE DESIGN OF FREQUENCY DIVERSE ARRAYS FOR WIRELESS POWER TRANSMISSION .....</b>	<b>900</b>
<i>A-Min Yao ; Paola Rocca ; Wen Wu ; Andrea Massa</i>	
<b>COLOSSAL PERMITTIVITY RESONATORS FOR WIRELESS POWER TRANSFER SYSTEMS.....</b>	<b>904</b>
<i>Mingzhao Song ; Pavel A. Belov ; Polina V. Kapitanova</i>	
<b>A MULTIFUNCTION ANTENNA WITH DIRECT MODULATION AND BEAM AGILITY .....</b>	<b>908</b>
<i>Samir Ouedraogo ; Israel Hinostroza ; Régis Guinvarc'H ; Raphaël Gillard</i>	
<b>BEAMSPACE MULTIPLEXING FOR WIRELESS MILLIMETER-WAVE BACKHAUL LINK.....</b>	<b>912</b>
<i>Yuan Ding ; Vincent Fusco ; Alexey Shitvov</i>	
<b>REALIZATION OF A COMPACT ANTENNA WITH RECONFIGURABLE PATTERN FOR MULTIPLE ANTENNA SYSTEMS.....</b>	<b>917</b>
<i>Jerzy Kowalewski ; Leopold Keller-Bauer ; Tobias Mahler ; Jonathan Mayer ; Thomas Zwick</i>	
<b>THE PATTERN SELECTION CAPABILITY OF A PRINTED ESPAR ANTENNA .....</b>	<b>922</b>
<i>Leonidas Marantis ; Konstantinos Maliatsos ; Christos Oikonomopoulos-Zachos ; Dimitrios K. Rongas ; Anastasios Paraskevopoulos ; Antonios Aspreas ; Athanasios G. Kanatas</i>	
<b>CONCEPT OF A BEAM-STEERABLE CAVITY-FED ANTENNA WITH MAGNETIC-DIPOLE COUPLING ELEMENTS.....</b>	<b>927</b>
<i>Nghia Nguyen-Trong ; Andrew Piotrowski ; Leonard Thomas Hall ; Christophe Fumeaux</i>	
<b>DISPERSION ANALYSIS OF A RECONFIGURABLE GROUNDED SLAB OF LIQUID CRYSTAL LOADED BY AN INDUCTIVE METASURFACE.....</b>	<b>930</b>
<i>Santi C. Pavone ; Enrica Martini ; Francesco Caminita ; Matteo Albani ; Stefano Maci</i>	
<b>NUMERICAL DISPERSION AND STABILITY FOR THREE-DIMENSIONAL CYLINDRICAL FDTD NEAR THE AXIS OF ROTATION .....</b>	<b>936</b>
<i>Mohammed F. Hadi ; Atef Z. Elsherbeni</i>	
<b>PROPERTIES OF ANTENNAS MADE WITH SPRAYED SELECTIVE SILVER METALLIZATION.....</b>	<b>939</b>
<i>Arnaud Jammes ; Michael Petisme ; Koen Staelens</i>	
<b>DESIGN OF REFLECTIVE PHASE-SHIFTING SURFACE FOR GENERATING ELECTROMAGNETIC VORTEX WAVE .....</b>	<b>943</b>
<i>Shixing Yu ; Long Li</i>	
<b>A SIMPLE AND EFFECTIVE MICROWAVE INVISIBILITY CLOAK BASED ON FREQUENCY SELECTIVE SURFACES .....</b>	<b>945</b>
<i>Pedro Yuste ; Juan M. Rius ; Jordi Romeu ; Sebastián Blanch Boris ; Alexander Heldring ; Eduard Ubeda</i>	
<b>A RIDGE GAP WAVEGUIDE FED APERTURE-COUPLED MICROSTRIP ANTENNA ARRAY FOR 60 GHZ APPLICATIONS.....</b>	<b>953</b>
<i>D. Zarifi ; A. Farahbakhsh ; A. U. Zaman</i>	
<b>ANTIREFLECTIVE TEXTURED SILICON OPTICS AT MILLIMETER AND SUBMILLIMETER WAVELENGTHS .....</b>	<b>959</b>
<i>Cecile Jung-Kubiak ; Jack Sayers ; Matt I. Hollister ; Arjun Bose ; Hiroshige Yoshida ; Luke Liao ; Jonathan Wong ; Simon Radford ; Goutam Chattopadhyay ; Sunil Golwala</i>	
<b>DESIGN OF MULTIBAND SEGMENTED LOOP ANTENNA FOR UNMANNED AERIAL VEHICLE APPLICATIONS.....</b>	<b>962</b>
<i>Do-Gu Kang ; Jaehoon Choi</i>	
<b>REDUCED GROUND PLANE APERTURE-COUPLED DRA FED BY SLOTTED MICROSTRIP FOR ULTRA-WIDEBAND APPLICATION.....</b>	<b>965</b>
<i>C. Zebiri ; D. Sayad ; N T Ali ; M. Lashab ; F. Benabelaziz ; R. A. Abd-Alhameed ; I. T. E. Eljergani ; J. Rodriguez</i>	
<b>A LOW-PROFILE PARALLEL PLATE WAVEGUIDE SLOT ANTENNA ARRAY FOR DUAL-POLARIZATION APPLICATION .....</b>	<b>970</b>
<i>Xianlong Lu ; Xiaochuan Wang ; Wenzhong Lu</i>	
<b>SINUSOIDAL TIME-MODULATED UNIFORM CIRCULAR ARRAY FOR GENERATING ORBITAL ANGULAR MOMENTUM MODES.....</b>	<b>973</b>
<i>Timothy D. Drysdale ; Ben Allen ; Ernest Okon</i>	
<b>DESIGN OF CASSEGRAIN REFLECTARRAY ANTENNA WITH COMPACT RING FOCUS FEED .....</b>	<b>978</b>
<i>Geng-Bo Wu ; Shi-Wei Qu ; Shiwen Yang ; Chao Ma</i>	
<b>A COMPACT UWB CPW-FED ANTENNA WITH INVERTED L-SHAPED SLOT FOR WLAN BAND NOTCHED CHARACTERISTICS .....</b>	<b>981</b>
<i>A. S. Fazal ; Usman Nasir ; Bilal Ijaz ; K. S. Alimgeer ; M. Farhan Shafique ; Raed M. Shubair ; M. Saeed Khan</i>	

<b>MUTUAL COUPLING REDUCTION IN DIELECTRIC RESONATOR MIMO ANTENNA ARRAYS USING METASURFACE ORTHOGONALIZE WALL .....</b>	<b>985</b>
<i>Mohammadmahdi Farahani ; M. Akbari ; Mourad Nedil ; Tayeb A. Denidni</i>	
<b>HUMAN EXPOSURE TO WIRELESS POWER TRANSFER SYSTEMS: A NUMERICAL DOSIMETRIC STUDY.....</b>	<b>988</b>
<i>Rosanna Pinto ; Vanni Lopresto ; Antonino Genovese</i>	
<b>A COPULAS-BASED TIME SERIES SYNTHESIZER FOR MOBILE SATELLITE COMMUNICATIONS OPERATING ABOVE 10 GHZ.....</b>	<b>999</b>
<i>Charilaos Kourgiorgas ; Athanasios D. Panagopoulos ; Rodoula Makri</i>	
<b>MULTIMODE EXTRACTION FROM DIELECTRIC LOADED WAVEGUIDES VIA METHOD OF MOMENTS.....</b>	<b>1008</b>
<i>Ahmet Aydogan ; Funda Akleman</i>	
<b>ON THE USE OF CONVEX OPTIMIZATION FOR ELECTROMAGNETIC NEAR-FIELD SHAPING.....</b>	<b>1013</b>
<i>I. Iliopoulos ; B. Fuchs ; R. Sauleau ; P. Pouliguen ; P. Potier ; M. Ettore</i>	
<b>ENHANCING BREAST CANCER IMAGING AT MILLIMETER WAVES USING FOCUSING TECHNIQUES.....</b>	<b>1017</b>
<i>I. Iliopoulos ; M. Ettore ; R. Sauleau ; P. Pouliguen ; P. Potier ; L. Perregrini ; M. Pasian</i>	
<b>ASYMMETRIC SPLIT RING NANOSANDWICH FOR REFRACTIVE INDEX SENSING .....</b>	<b>1020</b>
<i>Sara M. Kandil ; Islam A. Eshrah ; Inas S. El Babli ; Ashraf H. Badawi</i>	
<b>DESIGN AND CHARACTERIZATION OF A MINIATURIZED IMPLANTABLE UHF RFID TAG BASED ON LTCC TECHNOLOGY .....</b>	<b>1024</b>
<i>A. Garcia-Miquel ; B. Medina-Rodríguez ; N. Vidal ; F. M. Ramos ; E. Roca ; J. M. Lopez-Villegas</i>	
<b>MINIATURIZED DUAL-WIDEBAND CIRCULAR PATCH ANTENNA FOR BIOMEDICAL TELEMETRY.....</b>	<b>1027</b>
<i>Abdelrahman E. Mohamed ; Mohammad S. Sharawi</i>	
<b>APERTURE-COUPLED WEARABLE ANTENNA WITH MINIATURE FEEDING NETWORK .....</b>	<b>1031</b>
<i>Jiahao Zhang ; Sen Yan ; Xiaomu Hu ; Guy A. E. Vandenbosch</i>	
<b>434 MHZ ISM BAND ANTENNA FOR IN-BODY BIOTELEMETRY CAPSULES.....</b>	<b>1035</b>
<i>Denys Nikolayev ; Maxim Zhadobov ; Pavel Karban ; Ronan Sauleau</i>	
<b>WIRELESS POWER TRANSFER: ARE CHILDREN MORE EXPOSED THAN ADULTS?.....</b>	<b>1039</b>
<i>Mohsen Koohestani ; Mauro Ettore ; Maxim Zhadobov</i>	
<b>STUDY ON THE COMPROMISE BETWEEN RESOLUTION AND ATTENUATION FOR BREAST IMAGING SYSTEMS.....</b>	<b>1041</b>
<i>S. Di Meo ; A. Martellosio ; M. Pasian ; M. Bozzi ; L. Perregrini ; A. Mazzanti ; F. Svelto ; P. E. Summers ; G. Renne ; L. Preda ; M. Bellomi</i>	
<b>DESIGN OF 2x2 ARRAY ANTENNA WITH HARMONIC SUPPRESSION USING T-SHAPE DGS AND SPURLINE .....</b>	<b>1044</b>
<i>Nurzaimah Zainol ; Zahriladha Zakaria ; Maisarah Abu ; Mawarni Mohamed Yunus ; Eliyana Ruslan</i>	
<b>DESIGN OF PLANAR IMPLANTABLE COMPACT ANTENNAS FOR VAGINAL SENSOR FOR EARLY DETECTION OF CALVING .....</b>	<b>1049</b>
<i>Imen Ben Trad ; Jean Marie Floch</i>	
<b>TOWARDS OPTIMAL NOISE PROPERTIES OF NMR ANTENNA-RECEIVER CHAIN .....</b>	<b>1054</b>
<i>Petar Kolar ; Silvio Hrabar ; Mihael S. Grbic</i>	
<b>APPLICATION OF S PARAMETER TO THE INVERSE SCATTERING PROBLEM.....</b>	<b>1061</b>
<i>Yoshihiko Kuwahara</i>	
<b>BREAST PHANTOM WITH A CONDUCTIVE SKIN LAYER AND CONDUCTIVE 3D-PRINTED ANATOMICAL STRUCTURES FOR MICROWAVE IMAGING .....</b>	<b>1065</b>
<i>Bernd Faenger ; Sebastian Ley ; Marko Helbig ; Jürgen Sachs ; Ingrid Hilger</i>	
<b>DESIGN OF FSS UNIT-CELL FOR ENERGY CONCENTRATION ON DEEP-SEATED HUMAN TISSUE.....</b>	<b>1069</b>
<i>Woo Cheol Choi ; Seonho Lim ; Young Joong Yoon</i>	
<b>METASURFACES WITH POSITIVE REFLECTION PHASE GRADIENTS FOR BROADBAND DIRECTIVE EMISSION.....</b>	<b>1073</b>
<i>Riad Yahiaoui ; Thtreswar Beeharry ; Shah Nawaz Burokur ; Patricia Grassin ; Habiba Hafdallah Ouslimani</i>	
<b>WIDEBAND MECHANICAL SCANNING LENS ANTENNA AT KU-BAND .....</b>	<b>1076</b>
<i>Peng-Yu Feng ; Shi-Wei Qu ; Shiwen Yang</i>	
<b>A WIDEBAND WIDE-ANGLE SCANNING 1-D MICROSTRIP PATCH ARRAY.....</b>	<b>1079</b>
<i>Run-Liang Xia ; Shi-Wei Qu</i>	
<b>INCREASING ACCURACY OF ANGULAR MEASUREMENTS USING UWB SIGNALS .....</b>	<b>1083</b>
<i>B. A. Lagovsky ; A. B. Samokhin ; Y. V. Shestopalov</i>	

<b>THE EFFECTS OF GEOMETRIC SCATTERED SIGNAL WAVEFORM MODELING ON TARGET IDENTIFICATION PERFORMANCE .....</b>	<b>1087</b>
<i>M. Alper Selver ; Mustafa Seçmen ; E. Yesim Zoral</i>	
<b>COMPARISON OF SCATTERED SIGNAL WAVEFORM RECOVERY TECHNIQUES UNDER LOW SNR FOR TARGET IDENTIFICATION.....</b>	<b>1091</b>
<i>M. Alper Selver ; Mustafa Seçmen ; E. Yeçim Zoral</i>	
<b>SOME FEATURES OF ELECTROMAGNETIC SCATTERING BY RADially INHOMOGENEOUS DNG SPHERES .....</b>	<b>1096</b>
<i>Alina R. Gabdullina ; Olga N. Smolnikova ; Sergei P. Skobelev</i>	
<b>SOME FEATURES OF SHAPING NARROW FLAT-TOPPED RADIATION PATTERNS BY OVERLAPPED SUBARRAYS IN LIMITED-SCAN WAVEGUIDE PHASED ARRAY ANTENNAS .....</b>	<b>1101</b>
<i>Sergei P. Skobelev ; Ivan A. Makeev</i>	
<b>ACCURACY IMPROVEMENT OF NEAR-TO-FAR-FIELD TRANSFORMATION IN FDTD CALCULATION .....</b>	<b>1106</b>
<i>Yiwei He ; Qinglian Guo</i>	
<b>NESTED ITERATIVE SOLUTIONS OF ELECTROMAGNETIC PROBLEMS USING APPROXIMATE FORMS OF THE MULTILEVEL FAST MULTIPOLE ALGORITHM.....</b>	<b>1109</b>
<i>Can Önal ; Arif Üçüncü ; Bariscan Karaosmanoglu ; Özgür Ergül</i>	
<b>OPTIMIZATION OF A MIMO RADAR ANTENNA SYSTEM FOR AUTOMOTIVE APPLICATIONS .....</b>	<b>1113</b>
<i>Claudia Vasanelli ; Rahul Batra ; Christian Waldschmidt</i>	
<b>A MEASURED FSS RADOME WITH TWO ABSORPTIVE BANDS SEPARATED BY ONE PASSBAND .....</b>	<b>1118</b>
<i>Wu Weiwei ; Chen Xi ; Feng Qi ; Zhang Xiaofa ; Zhu Chang</i>	
<b>AN EFFICIENT METAMATERIAL-INSPIRED, ELECTRICALLY SMALL ANTENNA FOR ISM BAND APPLICATIONS.....</b>	<b>1122</b>
<i>Sultan Can ; Kamil Yavuz Kapusuz ; Asim Egemen Yilmaz</i>	
<b>IMPROVING THE RADIANT PERFORMANCE OF THE ANTENNA WITH HIGH IMPEDANCE PERIODIC STRUCTURE.....</b>	<b>1126</b>
<i>Guangwei Yang ; Jian-Ying Li ; Wei Zhang</i>	
<b>A BROAD-BAND LINEAR-TO-CIRCULAR TRANSMISSION POLARIZER BASED ON FREQUENCY SELECTIVE SURFACES .....</b>	<b>1130</b>
<i>Wei Zhang ; Jian-Ying Li</i>	
<b>SINGLE LAYER METASURFACE LENS ANTENNA.....</b>	<b>1134</b>
<i>Daniel Santillán-Haro ; Eva Antonino-Daviu ; Daniel Sánchez-Escuderos ; Miguel Ferrando-Bataller</i>	
<b>INVESTIGATION OF LARGE DIRECTIVITY BANDWIDTH IN MULTILAYER RESONANT CAVITY ANTENNAS.....</b>	<b>1139</b>
<i>Affan A. Baba ; Raheel M. Hashmi ; Karu P. Esselle</i>	
<b>A PLANAR EQUIANGULAR SPIRAL ANTENNA ARRAY FOR THE V-/W-BAND .....</b>	<b>1148</b>
<i>Paul Tcheg ; Kolawole D. Bello ; David Pouhè</i>	
<b>PLANAR TRI-BAND ANTENNA ELEMENT IN L/S/C-BANDS.....</b>	<b>1153</b>
<i>J. Puskely ; A. G. Yarovoy ; A. G. Roederer</i>	
<b>GRATING LOBE SUPPRESSION IN ROTATIONALLY TILEC ARRAYS .....</b>	<b>1158</b>
<i>Abdullah Alshammary ; Stephan Weiss ; Sultan Almorqi</i>	
<b>COMPACT MICROSTRIP BRANCH-LINE COUPLER WITH UNEQUAL POWER DIVISION .....</b>	<b>1162</b>
<i>Denis A. Letavin ; Yuriy E. Mitelman ; Victor A. Chechetkin</i>	
<b>WIDEBAND ILLUMINATOR FOR RADIO TELESCOPE CALIBRATION.....</b>	<b>1166</b>
<i>John Kot ; Christophe Granet</i>	
<b>BEAMWIDTH ENHANCEMENT OF ON-CHIP ANTENNA INTEGRATED IN SINGLE-CHIP FMCW RADAR USING PERIODIC DIELECTRIC LENSES .....</b>	<b>1170</b>
<i>R. Z. Syeda ; B. B. Adela ; M. C. Van Beurden ; P. T. M Van Zeijl ; A. B. Smolders</i>	
<b>ANALYSIS OF LINEAR FABRY-PEROT ANTENNAS EXCITED BY MULTIPLE SOURCES.....</b>	<b>1174</b>
<i>Filippo Costa ; Davide Bianchi ; Agostino Monorchio ; Giuliano Manara</i>	
<b>SIW H-PLANE HORN ANTENNA LOADED WITH DOUBLE SQUARE LOOP STRUCTURE .....</b>	<b>1177</b>
<i>Yang Liu ; Hongjian Wang ; Fei Xue ; Xingchao Dong</i>	
<b>ARRAY PATTERN SYNTHESIS BY POSITION SHIFT METHOD.....</b>	<b>1185</b>
<i>Chuang Han ; Ling Wang</i>	
<b>DESIGN OF MULTILAYER SIW CAVITY-BACKED SLOT ANTENNA ARRAY .....</b>	<b>1189</b>
<i>Yang Cai ; Yingsong Zhang ; Can Ding ; Zuping Qian ; Jie Liu</i>	
<b>DUAL-LOOP LINE ANTENNAS WITH WIDEBAND CIRCULAR POLARIZATION .....</b>	<b>1194</b>
<i>Kazuhide Hirose ; Yuki Nagata ; Hisamatsu Nakano</i>	

<b>DESIGN OF 90-DEGREE TRANSPOLARIZING REFLECTED SURFACES.....</b>	1200
<i>Misagh Khosronejad ; Gian Guido Gentili</i>	
<b>BULK MATERIAL DIELECTRIC PROPERTY MEASUREMENT BY AN ADAPTED FREE-SPACE UWB INVERSE SCATTERING METHOD.....</b>	1203
<i>D. R. Gibbins ; T. N. T. Henriksson ; Ian J. Craddock</i>	
<b>COMPUTATIONAL IMAGING USING FREQUENCY-DIVERSE METASURFACES .....</b>	1208
<i>J. N. Gollub ; O. Yurduseven ; M. F. Imani ; H. Odabasi ; T. Sleasman ; K. P. Trofatter ; M. Boyarsky ; D. L. Marks ; David R. Smith</i>	
<b>ACTIVE PHASED ANTENNA ARRAYS CALIBRATION METHOD INCLUDING EDGE EFFECTS AND MUTUAL COUPLING.....</b>	1215
<i>Taguhi Chalumyan ; Olivier Maas ; Xavier Begaud ; Bernard Huyart</i>	
<b>FEATURE EXTRACTION BASED ON 2D COMPRESSIVE SENSING FOR SAR AUTOMATIC TARGET RECOGNITION .....</b>	1219
<i>Baiyuan Ding ; Gongjian Wen ; Fen Ye ; Xiaohong Huang ; Xiaoliang Yang</i>	
<b>DESIGN OF AN EQUAL DIVISION SINGLE-BAND FILTERING POWER DIVIDER BASED ON RING RESONATOR BAND-PASS FILTER.....</b>	1224
<i>Zafar Bedar Khan ; Zhao Huiling</i>	
<b>MODE-MATCHING MODELING OF LOW-FREQUENCY WIRELESS TELEMETRY IN DEEP OIL FIELDS .....</b>	1228
<i>Guilherme S. Rosa ; José R. Bergmann ; Fernando L. Teixeira</i>	
<b>MODELING THE IMPACT OF SOLAR PARKS ON VHF AERONAUTICAL COMMUNICATIONS .....</b>	1233
<i>Helene Galiègue ; Alexandre Chabory</i>	
<b>COMPARISONS OF DISCRETE AND CONTINUOUS PROPAGATORS FOR THE MODELLING OF LOW TROPOSPHERIC PROPAGATION.....</b>	1236
<i>Hang Zhou ; Alexandre Chabory ; Rémi Douvenot</i>	
<b>CONSIDERATION ON INCIDENCE AND REFLECTION CHARACTERISTICS OF HYDRATED SOIL FOR LANDSLIDES PROGNOSTICATION SYSTEMS USING ELECTROMAGNETIC WAVES .....</b>	1239
<i>Kohsei Kumahara ; Kengo Nakajima ; Futoshi Kuroki ; Masanori Eguchi ; Takeshi Yamakawa</i>	
<b>PASSIVELY CODED SYNTHETIC APERTURE INTERFEROMETRIC RADIOMETER (CSAIR): THEORY AND MEASUREMENT RESULTS.....</b>	1243
<i>Ettien Lazare Kpré ; Cyril Decroze</i>	
<b>RADAR CROSS SECTION MEASUREMENT OF CONFORMAL ANTENNA BASED ON MICROWAVE IMAGING .....</b>	1247
<i>Hu Chufeng ; Li Nanjing ; Chen Weijun ; Guo Shuxia</i>	
<b>BEHAVIORAL MODEL OF IONOSPHERIC EFFECTS IN HF RADARS .....</b>	1254
<i>Marie José Abi Akl ; Florent Jangal ; Muriel Darces ; Marc Hélier</i>	
<b>APPLICATION OF DOPPLER RADAR FOR THE RECOGNITION OF HAND GESTURES USING OPTIMIZED DEEP CONVOLUTIONAL NEURAL NETWORKS .....</b>	1258
<i>Youngwook Kim ; Brian Toomajian</i>	
<b>DESIGN OF APERIODIC FREQUENCY SELECTIVE SURFACES FOR COMPACT QUASI-OPTICAL NETWORKS.....</b>	1274
<i>Min Zhou ; Stig B. Sorensen ; Niels Vesterdal ; Raymond Dickie ; Paul Baine ; John Montgomery ; Robert Cahill ; Manju Henry ; Peter G. Huggard ; Giovanni Toso</i>	
<b>SYSTEMATIC DESIGN OF A CLASS OF WIDEBAND CIRCULAR POLARIZERS USING DISPERSION ENGINEERING .....</b>	1279
<i>F. Foglia Manzillo ; M. Ettorre ; R. Sauleau ; A. Grbic</i>	
<b>STUDY OF FACTORS INFLUENCING PERFORMANCE OF SUBSTRATE BACKED FSS FOR MILLIMETER WAVE ATMOSPHERIC REMOTE SENSING .....</b>	1282
<i>Jayaprakash Poojali ; Shaunik Ray ; Bala Pesala ; Krishnamoorthy V. Chitti ; Kavitha Arunachalam</i>	
<b>DEPLOYABLE VHF BAND LOG-PERIODIC DIPOLE ARRAY: CHALLENGES IN VERIFICATION .....</b>	1291
<i>Tao Huang ; Vincent Fraux</i>	
<b>EXPERIMENTAL CHARACTERIZATION OF A DUAL-POLARIZED DIRECTION FINDING ARRAY FOR VHF-UHF FREQUENCY BANDS.....</b>	1295
<i>Luca Scorrano ; Libero Dinoi</i>	
<b>MEASUREMENTS OF LOW GAIN ANTENNAS AT VHF FREQUENCIES FOR SPACE-BASED AIS APPLICATIONS .....</b>	1299
<i>A. Giacomini ; V. Schirosi ; F. Saccardi ; F. Rossi ; N. J. G. Fonseca ; P. De Maagt ; L. J. Foged</i>	
<b>UAV-BASED ANTENNA MEASUREMENTS: SCAN STRATEGIES .....</b>	1303
<i>Fabio Paonessa ; Giuseppe Virone ; Pietro Bolli ; Andrea M. Lingua</i>	

<b>EXPERIENCE IN DEVELOPING LTCC TECHNOLOGIES FOR MM-WAVE ANTENNAS.....</b>	1306
<i>Yevhen Yashchyslyn ; Pawel R. Bajurko ; Przemyslaw Piasecki ; Piotr Wlodarczyk ; Konrad Godziszewski ; Jakub Sobolewski ; Beata Synkiewicz ; Jan Kulawik</i>	
<b>A HIGH GAIN STEERABLE MILLIMETER-WAVE ANTENNA ARRAY FOR 5G SMARTPHONE APPLICATIONS.....</b>	1311
<i>Manoj Stanley ; Yi Huang ; Tian Loh ; Qian Xu ; Hanyang Wang ; Hai Zhou</i>	
<b>LOW-COST CIRCULARLY POLARIZED SPIRAL ANTENNA ARRAY FOR 60 GHZ APPLICATIONS.....</b>	1315
<i>Q. Zhu ; K. B. Ng ; C. H. Chan</i>	
<b>SURFACE-BULK MICROMACHINED ON-CHIP MONOPOLE ANTENNA FOR 77 GHZ AUTOMOTIVE RADAR APPLICATIONS.....</b>	1318
<i>Hossam A. Helaly ; Mohamed Serry ; Ezzeldin A. Soliman</i>	
<b>DUAL-BAND SLOTTED WAVEGUIDE ANTENNA ARRAY FOR ADAPTIVE MM-WAVE 5G NETWORKS.....</b>	1322
<i>I. F. Da Costa ; S. Arismar Cerqueira ; D. H. Spadoti</i>	
<b>THE EXCESS ATTENUATION OF PROPAGATING WAVE IN THE PRESENCE OF HUMAN CROWDS.....</b>	1326
<i>Jovana Perovic ; Dragan Olcan ; Branko Kolundzija</i>	
<b>CHANNEL MODELING FOR KIOSK DOWNLOADING COMMUNICATION SYSTEM AT 300 GHZ.....</b>	1331
<i>Danping He ; Ke Guan ; Bo Ai ; Alexander Fricke ; Ruisi He ; Zhangdui Zhong ; Akifumi Kasamatsu ; Iwao Hosako ; Thomas Kürner</i>	
<b>TIME-VARIANT CHANNEL CHARACTERISTICS AT 20-GHZ BAND IN URBAN STREET CANYON ENVIRONMENT.....</b>	1336
<i>Ngochao Tran ; Tetsuro Imai ; Koshiro Kitao ; Yukihiko Okumura</i>	
<b>IDENTIFYING RADIO WAVES DIRECTION OF ARRIVAL BY DOPPLER DEVIATION ALONG LINEAR PATHS AT 5.8 GHZ.....</b>	1340
<i>Iñigo Cuiñas ; Manuel García Sánchez</i>	
<b>EXPERIMENTAL MEASUREMENTS AND CHANNEL MODELING FOR WIRELESS COMMUNICATION NETWORKS IN UNDERGROUND MINE ENVIRONMENTS.....</b>	1345
<i>Alok Ranjan ; Prasant Misra ; H. B. Sahu</i>	
<b>MICROCHAMBERS AND DEVICES FOR CELLS EXPOSURE: FROM THE DESIGN TO APPLICATIONS.....</b>	1350
<i>Francesca Apollonio ; Maura Casciola ; Agnese Denzi ; Micaela Liberti ; Paolo Marracino ; Caterina Merla ; Alessandra Paffi</i>	
<b>DETECTION OF EFFECTS OF EXTERNAL ELECTRIC PULSES ON PROPERTIES OF BIOLOGICAL MEMBRANE WITH ELECTRICAL AND OPTICAL DIAGNOSTICS.....</b>	1354
<i>Aude Silve ; Lars Wegner ; Wolfgang Frey</i>	
<b>RESPONSE OF MAMMALIAN CELLS TO NON-THERMAL INTENSE NARROWBAND PULSED ELECTRIC FIELDS.....</b>	1358
<i>Sunao Katsuki ; Yulan Li ; Daiki Miyakawa ; Ryo Yamada ; Nobuaki Onishi ; Soowon Lim</i>	
<b>PERFUSED ORGAN MODEL DEVELOPMENT AND EVALUATION FOR IRREVERSIBLE ELECTROPORATION INVESTIGATIONS.....</b>	1362
<i>Suyashree P. Bhonsle ; Mohammad Bonakdar ; S. Nahum Goldberg ; Rafael V. Davalos ; Robert E. Neal</i>	
<b>DIVERSITY OF MONOPOLAR AND BIPOLAR NANOSECOND PULSED ELECTRIC SIGNALS ON THE METALLO-ENZYME SUPEROXIDE DISMUTASE (SOD), A MODELLING APPROACH.....</b>	1366
<i>Elena Della Valle ; Paolo Marracino ; Olga Pakhomova ; Micaela Liberti ; Francesca Apollonio</i>	
<b>HIGH DATA-RATE COMMUNICATION LINK AT 240 GHZ WITH ON-CHIP ANTENNA-INTEGRATED TRANSMITTER AND RECEIVER MODULES IN SIGE HBT TECHNOLOGY.....</b>	1369
<i>Janusz Grzyb ; Pedro Rodriguez Vazquez ; Neelanjan Sarmah ; Wolfgang Förster ; Bernd Heinemann ; Ullrich Pfeiffer</i>	
<b>DESIGN OF ELECTRONIC SUBSYSTEMS FOR A 300 GHZ WIRELESS COMMUNICATION SYSTEM.....</b>	1374
<i>Jose M. Pérez ; Lñigo Ederra ; Ramón Gonzalo</i>	
<b>HIGH-POWER TERAHERTZ EMITTER FOR A COMMUNICATION LINK: THE CHESSBOARD ARRAY.....</b>	1377
<i>Alejandro Rivera-Lavado ; Kerlos Atia-Abdalmalak ; Gabriel Santamaría-Botello ; David González-Ovejero ; Guillermo Carpintero ; Daniel Segovia-Vargas ; Iván Cámara-Mayorga ; Luis Enrique García-Muñoz</i>	
<b>DESIGN OF GRAPHENE-BASED PLASMONIC NANO-ANTENNA ARRAYS IN THE PRESENCE OF MUTUAL COUPLING.....</b>	1381
<i>Luke Zakrajsek ; Erik Einarsson ; Ngwe Thawdar ; Michael Medley ; Josep Miquel Jornet</i>	



<b>A THZ IMPULSE COMMUNICATIONS SYSTEM</b> .....	1386
<i>E. R. Brown ; Z. D. Taylor</i>	
<b>HIGH INDEX METASURFACES FOR GRADED LENSES USING GLIDE SYMMETRY</b> .....	1396
<i>R. C. Mitchell-Thomas ; J. R. Sambles ; A. P. Hibbins</i>	
<b>ALL-METAL KU-BAND LUNEBURG LENS ANTENNA BASED ON VARIABLE PARALLEL PLATE SPACING FAKIR BED OF NAILS</b> .....	1401
<i>C. D. Diallo ; E. Girard ; H. Legay ; R. Sauleau</i>	
<b>A NULL STEERING METHOD FOR DETECTING BURIED OBJECTS WITH FORWARD-LOOKING GPR</b> .....	1405
<i>Yukinori Fuse ; Masoud Rostami ; Borja Gonzalez-Valdes ; Carey M. Rappaport</i>	
<b>OPTIMIZATION OF FREQUENCY-DIVERSE ANTENNAS FOR COMPUTATIONAL IMAGING AT MICROWAVE FREQUENCIES</b> .....	1410
<i>Okan Yurduseven ; Jonah N. Gollub ; Thomas Fromenteze ; Daniel L. Marks ; David R. Smith</i>	
<b>SINGLE-FREQUENCY NEAR-FIELD MIMO IMAGING</b> .....	1415
<i>Thomas Fromenteze ; Michael Boyarsky ; Jonah Gollub ; Timothy Sleasman ; Mohammadreza Imani ; David R. Smith</i>	
<b>A NEW REGULARIZATION METHOD FOR RADAR CROSS SECTION IMAGING</b> .....	1419
<i>Thomas Benoudiba-Campanini ; Pierre Minvielle ; Pierre Massaloux ; Jean-François Giovannelli</i>	
<b>ELECTROMAGNETIC IMAGING OF WAVE IMPENETRABLE OBJECTS</b> .....	1424
<i>Xiuzhu Ye</i>	
<b>L- AND C-BAND AIRFRAME SHADOWING MEASUREMENTS AND STATISTICS FOR A MEDIUM-SIZED AIRCRAFT</b> .....	1429
<i>David W. Matolak ; Ruoyu Sun ; Hosseinali Jamal ; William Rayess</i>	
<b>MODELING THE AIR-GROUND MULTIPATH CHANNEL</b> .....	1434
<i>Nicolas Schneckenburger ; Thomas Jost ; Uwe-Carsten Fiebig ; Giovanni Del Galdo ; Hosseinali Jamal ; David Matolak ; Ruoyu Sun</i>	
<b>LOW ALTITUDE UAV PROPAGATION CHANNEL MODELLING</b> .....	1443
<i>Xuesong Cai ; Ana Gonzalez-Plaza ; David Alonso ; Lei Zhang ; Cesar Briso Rodríguez ; Antonio Pérez Yuste ; Xuefeng Yin</i>	
<b>USING AIRBORNE MEASUREMENTS TO MODEL THE SATELLITE-TO-AIRCRAFT CHANNEL MODEL AT L-BAND</b> .....	1448
<i>Thomas Jost ; Tanja Pelzmann ; Martin Schwinzerl ; Michael Walter ; Michael Schonhuber ; Nicolas Floury</i>	
<b>GPU-BASED COMPUTATIONAL ACCELERATION OF PHASELESS ALGORITHMS FOR ANTENNA CHARACTERIZATION</b> .....	1452
<i>Juan Carlos Fernández González ; Miguel López Portugués ; Yuri Álvarez López ; Jesús A. López-Fernández ; Fernando Las-Heras Andrés</i>	
<b>A NOVEL APPROACH FOR CIRCULAR ARRAY TESTING</b> .....	1457
<i>Daniele Pinchera ; Marco Donald Migliore</i>	
<b>SPHERICAL NEAR-FIELD FAR-FIELD TRANSFORMATION WITH INFINITE GROUND PLANE AT ARBITRARY HEIGHT Z</b> .....	1463
<i>R. Cornelius ; D. Heberling ; D. Pototzki</i>	
<b>THE ASI AND ESA ACTIVITIES FOR THE ALPHASAT ALDO PARABONI COMEX AND SCIEX ACTIVITIES AT KA AND Q/V BANDS</b> .....	1466
<i>Antonio Martellucci ; Juan Rivera Castro ; G. Codispoti ; Philippe Sivac ; Edoardo Benzi</i>	
<b>LARGE SCALE ASSESSMENT OF KA/Q BAND ATMOSPHERIC CHANNEL ACROSS EUROPE WITH ALPHASAT TDP5: THE AUGMENTED NETWORK</b> .....	1471
<i>S. Ventouras ; R. Reeves ; E. Rumi ; F. Perez-Fontan ; F. Machado ; V. Pastoriza ; A. Rocha ; S. Mota ; F. Jorge ; A. D. Panagopoulos ; A. Z. Papafragkakis ; C. I. Kourogorgas ; O. Fiser ; V. Pek ; P. Pesice ; M. Grabner ; A. Vilhar ; A. Kelmendi ; A. Hrovat ; D. Vanhoenacker-Janvier ; A. Graziani ; L. Quibus ; G. Goussetis</i>	
<b>THE JOANNEUM RESEARCH SATCOM KA AND Q BAND CAMPAIGNS IN EUROPE AND MALAYSIA</b> .....	1476
<i>Félix Cuervo ; Hong Yin Lam ; Jafri Bin Din ; Juan Rivera Castro ; Michael Schmidt ; Michael Schönhuber</i>	
<b>RESULTS OF A KA BAND CAMPAIGN FOR THE CHARACTERISATION OF PROPAGATION CONDITIONS FOR SATCOM SYSTEMS AT HIGH LATITUDES</b> .....	1481
<i>Terje Tjelta ; Martin Rytir ; Lars Erling Bråten ; Per Arne Grothing ; Michael Cheffena ; Jan Erik Håkegård</i>	
<b>MEASUREMENT AND MODELLING OF TROPOSPHERIC SCINTILLATION IN KA/Q BAND</b> .....	1486
<i>Danielle Vanhoenacker-Janvier ; Laurent Quibus ; Martin Rytir ; Terje Tjelta</i>	
<b>ANTENNAS AT MDA: INNOVATION THROUGH CROSS-POLLINATION</b> .....	1491
<i>Eric Amyotte ; Marc-André Godin</i>	
<b>ADVANCED OPTIMIZATION TECHNIQUES FOR DESIGN, PROTOTYPING AND INDUSTRIALIZATION OF SATELLITE ANTENNAS: A SPACE ENGINEERING PERSPECTIVE</b> .....	1501
<i>P. Gabellini ; G. Ruggerini ; L. D'Agostina ; D. Di Lanzo</i>	

<b>SATELLITE ANTENNA CAPABILITIES PIONEERED AT LOCKHEED MARTIN SPACE SYSTEMS COMPANY</b> .....	1506
<i>Erik Lier ; Julie Huffman ; William N. Kefauver ; Bill Dawley ; Frank Butscher</i>	
<b>FROM MODEST MULTI BEAM TOWARDS VHVS: FEED SYSTEM EVOLUTION AT AIRBUS DS GMBH</b> .....	1511
<i>Christian Hartwanger ; Michael Schneider</i>	
<b>ANTENNAS FOR OBSERVATION, EXPLORATION AND NAVIGATION IN THALESALENIASPACE-ITALIA: PAST AND PRESENT CHALLENGES</b> .....	1516
<i>Roberto Mizzoni ; Pasquale Capece ; S. Contu ; A. Meschini ; M. Ivagnes ; G. Rosati</i>	
<b>HERITAGE OF MITSUBISHI'S PHASED ARRAY ANTENNAS DEVELOPMENT FOR MOBILE SATELLITE COMMUNICATIONS</b> .....	1521
<i>Hiroyuki Sato ; Hiroaki Miyashita</i>	
<b>PRODUCT CONCEPTS FOR LAND MOBILE SATELLITE COMMUNICATION TERMINALS IN KU-/KA-BAND</b> .....	1525
<i>Nevena Saponjic ; Frank Klefenz ; Frederic Bongard ; Daniel Llorens ; Alexandre Boule ; Xavier Aubry ; Alexander Butler ; Ferdinando Tiezzi ; Stefano Vaccaro</i>	
<b>ASYMPTOTIC FORMULAS FOR THE RADIATION OF A DIPOLE ON A STRONGLY ELONGATED CONVEX BODY: A REVIEW</b> .....	1530
<i>Frédéric Molinet</i>	
<b>A COLLECTIVE UTD RAY ANALYSIS FOR THE RADIATION FROM CONFORMAL LINEAR PHASED ARRAY ANTENNAS ON LARGE CYLINDRICAL SURFACES</b> .....	1534
<i>Prabhakar H. Pathak</i>	
<b>RECOVERABLE ENERGY AND SMALL ANTENNAS</b> .....	1539
<i>Guy A. E. Vandenbosch ; Jiachen Wang</i>	
<b>OVERCOMING THE CHU LOWER BOUND ON ANTENNA Q WITH HIGHLY DISPERSIVE LOSSY MATERIAL</b> .....	1545
<i>Arthur D. Yaghjian</i>	
<b>SMALL 4 ELEMENTS BI-DIRECTIONAL ANTENNA FOR INDOOR MIMO BASE STATION</b> .....	1554
<i>Rohani Bakar ; Kanata Takahashi ; Hiroyuki Arai ; Yasuko Kimura ; Taisuke Ihara</i>	
<b>BODY-WORN 67:1 BANDWIDTH ANTENNA USING 3 OVERLAPPING DIPOLE ELEMENTS</b> .....	1557
<i>Cedric W. Lee ; Dimitris Papantonis ; Asimina Kiourti ; John L. Volakis</i>	
<b>ELECTRICALLY SMALL METAMATERIAL-INSPIRED ANTENNAS WITH ACTIVE NEAR FIELD RESONANT PARASITIC ELEMENTS: FROM THEORY TO PRACTICE</b> .....	1559
<i>Ming-Chun Tang ; Richard W. Ziolkowski</i>	
<b>SMALL PRINTED LOG-PERIODIC ARRAY, MATCHED WITH AN ACTIVE NON-FOSTER NETWORK</b> .....	1569
<i>Fernando Albarracin-Vargas ; Francisco Herraiz-Martinez ; Daniel Segovia-Vargas</i>	
<b>FANO MATCHING BANDWIDTH BOUNDS FOR SMALL LOOP ANTENNAS BASED ON SPHERICAL WAVE SCATTERING</b> .....	1572
<i>Do-Hoon Kwon</i>	
<b>INVESTIGATION OF DISTRIBUTED AND COLLOCATED BASE STATIONS IN A LARGE URBAN MASSIVE MIMO SCENARIO</b> .....	1577
<i>Mehmet Mert Taygur ; Thomas F. Eibert</i>	
<b>MODELING THE DISTRIBUTION OF THE ARRIVAL ANGLE BASED ON TRANSMITTER ANTENNA PATTERN</b> .....	1582
<i>Cezary Ziolkowski ; Jan M. Kelner ; Leszek Nowosielski ; Marian Wnuk</i>	
<b>INVESTIGATING THE OVERESTIMATION OF BASE STATION EXPOSURE IN URBAN ENVIRONMENTS DUE TO ASSUMPTION OF FREE SPACE PROPAGATION</b> .....	1587
<i>Thomas Kopacz ; Sascha Schiebl ; Dirk Heberling</i>	
<b>ASSESSMENT OF RF HUMAN EXPOSURE TO LTE SMALL-AND MACRO-CELLS: UL CASE</b> .....	1592
<i>Taghrid Mazloum ; Bader Fetouri ; Nabil Elia ; Emmanuelle Conil ; Christophe Grangeat ; Joe Wiart</i>	
<b>ANALYSIS OF THE LEVEL-CROSSING RATE AND AVERAGE DURATION OF FADES OF WSSUS CHANNELS</b> .....	1594
<i>Matthias Pätzold ; Nazih Hajri ; Néji Youssef</i>	
<b>MULTI-RESOLUTION COMPRESSIVE SENSING INVERSION OF SCATTERING DATA</b> .....	1599
<i>Lorenzo Poli ; Giacomo Oliveri ; Andrea Massa</i>	
<b>INVERSE SOURCE AND COMPRESSIVE SENSING FOR QUALITATIVE RECONSTRUCTION</b> .....	1603
<i>Martina Teresa Bevacqua ; Tommaso Isernia</i>	
<b>EXPLOITING WAVELET DECOMPOSITION TO ENHANCE SPARSE RECOVERY IN MICROWAVE IMAGING</b> .....	1607
<i>Michele Ambrosanio ; Panagiotis Kosmas ; Vito Pascazio</i>	

<b>APPLICATION OF THE DBIM-TWIST ALGORITHM TO EXPERIMENTAL MICROWAVE IMAGING DATA .....</b>	<b>1611</b>
<i>Z. Miao ; S. Ahsan ; P. Kosmas ; J. A. Tobon Vasquez ; F. Vipiana ; M. R. Casu ; M. Vacca</i>	
<b>TERAHERTZ COMMUNICATIONS USING RESONANT-TUNNELING-DIODE OSCILLATORS .....</b>	<b>1615</b>
<i>Safumi Suzuki ; Masahiro Asada</i>	
<b>SIGNAL QUALITY IMPAIRMENTS BY ANALOG FRONTEND NON-IDEALITIES IN A 300 GHZ WIRELESS LINK .....</b>	<b>1618</b>
<i>I. Kallfass ; S. M. Dilek ; I. Dan</i>	
<b>SCATTERING CENTER DETERMINATION FOR INTEGRATED ANTENNA MEASUREMENTS AT MM-WAVE FREQUENCIES .....</b>	<b>1622</b>
<i>Linus Boehm ; Christian Waldschmidt</i>	
<b>ARTIFICIAL DIELECTRIC ENABLED ANTENNAS FOR HIGH FREQUENCY RADIATION FROM INTEGRATED CIRCUITS .....</b>	<b>1626</b>
<i>Daniele Cavallo ; Waqas H. Syed ; Andrea Neto</i>	
<b>PERFORMANCE EVALUATION OF A FIRST PHASED ARRAY OPERATING AT 300 GHZ WITH HORN ELEMENTS .....</b>	<b>1629</b>
<i>Sebastian Rey ; David Ulm ; Thomas Kleine-Ostmann ; Thomas Ktirner</i>	
<b>PHOTONIC GENERATION AND DISTRIBUTION OF COHERENT MULTIBAND THZ WIRELESS SIGNALS .....</b>	<b>1634</b>
<i>Martyn Fice ; Haymen Shams ; Zhen Yang ; Luis Gonzalez-Guerrero ; Michele Natrella ; Cyril Renaud ; Abwyn Seeds</i>	
<b>HIGH EFFICIENCY UTC PHOTODIODES AS PHOTONIC EMITTERS FOR 300 GHZ HIGH SPECTRAL EFFICIENCY WIRELESS COMMUNICATIONS .....</b>	<b>1639</b>
<i>P. Latzel ; F. Pavanello ; S. Bretin ; M. Billet ; E. Peytavit ; J F Lampin ; M. Zaknourne ; G. Ducournau</i>	
<b>INTERCONNECT AND PACKAGING TECHNOLOGIES FOR TERAHERTZ COMMUNICATION SYSTEMS .....</b>	<b>1646</b>
<i>Goutam Chattopadhyay ; Theodore Reck ; Cecile Jung-Kubiak ; Maria Alonso-Delpino ; Choonsup Lee</i>	
<b>NEW FEEDING NETWORK TOPOLOGIES FOR HIGH-GAIN SINGLE-LAYER SLOT ARRAY ANTENNAS USING GAP WAVEGUIDE CONCEPT .....</b>	<b>1654</b>
<i>Miguel Ferrando-Rocher ; Alejandro Valero-Nogueira ; Jose I. Herranz-Herruzo</i>	
<b>WIDEBAND GLIDE-SYMMETRIC HOLEY STRUCTURES FOR GAP-WAVEGUIDE TECHNOLOGY .....</b>	<b>1658</b>
<i>M. Ebrahimpour ; E. Rajo-Iglesias ; O. Quevedo-Teruel</i>	
<b>DESIGN OF ANTENNA FEED WITH AMPLIFIED POWER DISTRIBUTION USING GROOVE-GAP WAVEGUIDE TECHNOLOGY .....</b>	<b>1661</b>
<i>Carlos Sánchez-Cabello ; Luis Inclán-Sánchez ; José-Luis Vázquez-Roy ; Eva Rajo-Iglesias</i>	
<b>HIGH GAIN CIRCULARLY POLARIZED SLOT ANTENNA BASED ON MICROSTRIP-RIDGE GAP WAVEGUIDE TECHNOLOGY .....</b>	<b>1669</b>
<i>Fangfang Fan ; Zehong Yan</i>	
<b>MILLIMETER WAVE CONTACTLESS MICROSTRIP-GAP WAVEGUIDE TRANSITION SUITABLE FOR INTEGRATION OF RF MMIC WITH GAP WAVEGUIDE ARRAY ANTENNA .....</b>	<b>1682</b>
<i>Uttam Nandi ; Ashraf Uz Zaman ; Abbas Vosoogh ; Jian Yang</i>	
<b>A K-BAND PLANAR SLOT ARRAY ANTENNA ON A SINGLE LAYER RIDGE GAP WAVEGUIDE .....</b>	<b>1685</b>
<i>Z. Talepour ; A. Khaleghi</i>	
<b>CONTACTLESS FLANGE ADAPTERS FOR MM-WAVE MEASUREMENTS .....</b>	<b>1690</b>
<i>Esperanza Alfonso ; Simon Carlred ; Stefan Carlsson ; Lars-Inge Sjöqvist</i>	
<b>AIR-LAUNCHED AND GROUND-COUPLED GPR DATA .....</b>	<b>1694</b>
<i>Nectaría Diamanti ; A. Peter Annan</i>	
<b>ANTENNA DESIGN FOR MICROWAVE TOMOGRAPHY IMAGING OF HIGH CONTRAST MEDIUMS .....</b>	<b>1699</b>
<i>Samuel Poretti ; Matteo Lanini ; Andrea Salvadè ; Manuela Maffongelli ; Ricardo Monleone</i>	
<b>BURIED OBJECT DETECTION AND IMAGING THROUGH INNOVATIVE PROCESSING OF GPR DATA .....</b>	<b>1703</b>
<i>Marco Salucci ; Lorenza Tenuti ; Lorenzo Poli ; Andrea Massa</i>	
<b>DIRECT SCATTERING METHODS IN PRESENCE OF INTERFACES WITH DIFFERENT MEDIA .....</b>	<b>1707</b>
<i>Cristina Ponti ; Giuseppe Schettini</i>	
<b>MICROWAVE IMAGING OF NON-WEAK TARGETS IN STRATIFIED MEDIA VIA VIRTUAL EXPERIMENTS AND COMPRESSIVE SENSING .....</b>	<b>1711</b>
<i>Roberta Palmeri ; Martina T. Bevacqua ; Loreto Di Donato ; Lorenzo Crocco ; Tommaso Isernia</i>	

<b>NEAR-FIELD FOCUSING TECHNIQUE FOR ENHANCED THROUGH-THE-WALL RADAR</b> .....	1716
<i>Sandra Costanzo ; Giuseppe Di Massa</i>	
<b>NUMERICAL ANALYSIS OF THE PERFORMANCE OF A MULTI-FREQUENCY INVERSION SCHEME FOR SUBSURFACE PROSPECTION</b> .....	1718
<i>A. Fedeli ; M. Pastorino ; A. Randazzo</i>	
<b>BURIED TARGETS DETECTION FROM SYNTHETIC ANC MEASURED B-SCAN GROUND PENETRATING RADAR DATA</b> .....	1726
<i>X. Liu ; M. Serhir ; A. Kameni ; M. Lambert ; L. Pichon</i>	
<b>HIGH CAPACITY IMAGING USING AN ARRAY OF COMPRESSIVE REFLECTOR ANTENNAS</b> .....	1731
<i>Ali Molaei ; Galia Ghazi ; Juan Heredia-Juesas ; Hipolito Gomez-Sousa ; Jose Martinez-Lorenzo</i>	
<b>LARGE DIELECTRIC RESONATOR ANTENNA ESPAR FOR MASSIVE MIMO SYSTEMS</b> .....	1735
<i>R. Movahedinia ; M. R Chaharmir ; A. R. Sebak ; A. A. Kishk</i>	
<b>THROUGHPUT ESTIMATION FOR 2 × 2 MIMO SYSTEM WITH SINGLE LEAKY FEEDER CABLE</b> .....	1738
<i>Nima Jamaly ; Damiano Scanferla ; Hugo Lehmann</i>	
<b>ON RSSI-BASED DIRECTION-OF-ARRIVAL ESTIMATION USING MULTIBEAM ANTENNAS</b> .....	1743
<i>Mario Schühler ; Lars Weisgerber ; Burak Sahinbas</i>	
<b>AOA AND SOURCE POLARIZATION ESTIMATION WITH CIRCULARLY POLARIZED MULTIBEAM ANTENNA USING MUSIC ALGORITHM</b> .....	1748
<i>Burak Sahinbas ; Lars Weisgerber ; Mario Schühler</i>	
<b>ACHIEVING PHYSICAL LAYER SECURITY WITH MASSIVE MIMO BEAMFORMING</b> .....	1753
<i>Elias Yaacoub ; Mohammed Al-Husseini</i>	
<b>AIRCRAFT ANTENNA PLACEMENT USING CHARACTERISTIC MODES</b> .....	1758
<i>M. H. Vogel ; W. J. Strydom ; U. Jakobus ; P. Futter</i>	
<b>CHARACTERISTIC MODE CONTROL VIA PARTIAL COATING OF REACTIVE COMPONENTS ON CONDUCTING SURFACES</b> .....	1762
<i>Sai Ho Yeung ; Chao-Fu Wang</i>	
<b>DESIGN OF VEHICLE-MOUNTED, COMPACT VHF ANTENNAS USING CHARACTERISTIC MODE THEORY</b> .....	1765
<i>Ting-Yen Shih ; Nader Behdad</i>	
<b>EXCITATION OF MULTIPLE CHARACTERISTIC MODES ON A THREE DIMENSIONAL PLATFORM</b> .....	1769
<i>Simone Genovesi ; Francesco Alessio Dicandia ; Agostino Monorchio</i>	
<b>HF BAND AIRCRAFT INTEGRATED MULTI-ANTENNA SYSTEM DESIGNS USING CHARACTERISTIC MODES</b> .....	1772
<i>Chenghui Wang ; Yikai Chen ; Shiwen Yang</i>	
<b>IMPROVING WEATHER-FORECAST BASED MODEL CHAIN TO OPTIMIZE DATA-VOLUME TRANSFER FOR KA-BAND DEEP-SPACE DOWNLINKS</b> .....	1777
<i>M. Biscarini ; F. S. Marzano ; L. Milani ; M. Montopoli ; K. De Sanctis ; S. Di Fabio ; D. Cimini ; M. Montagna ; M. Mercolino ; M. Lanucara</i>	
<b>ABOUT SEASONAL VARIATIONS OF SPECIFIC ATTENUATIONS DERIVED FROM DSD MEASUREMENTS</b> .....	1782
<i>Michael Schönhuber ; Jesus Peña Mateos ; Karin Plimon</i>	
<b>IMPROVED SCALING FACTOR FOR LONG-TERM RAIN ATTENUATION STATISTICS AS A FUNCTION OF LINK ELEVATION</b> .....	1784
<i>L. M. Tomaz ; C. Capsoni ; L. Luini</i>	
<b>STATISTICS OF ATTENUATION DUE TO RAIN AFFECTING HYBRID FSO/RF LINK: APPLICATION FOR 5G NETWORKS</b> .....	1789
<i>U. A. Korai ; L. Luini ; R. Nebuloni ; I. Glesk</i>	
<b>IMPACT OF RAIN ATTENUATION ON 5G MILLIMETER WAVE COMMUNICATION SYSTEMS IN EQUATORIAL MALAYSIA INVESTIGATED THROUGH DISDROMETER DATA</b> .....	1793
<i>H. Y. Lam ; L. Luini ; J. Din ; M. J. Alhilali ; S. L. Jong ; F. Cuervo</i>	
<b>MILLIMETER-WAVE OUTDOOR-TO-INDOOR CHANNEL MEASUREMENTS AT 3, 10, 17 AND 60 GHZ</b> .....	1798
<i>Cheikh A. L. Diakhate ; Jean-Marc Conrat ; Jean-Christophe Cousin ; Alain Sibille</i>	
<b>A 32 GHZ URBAN MICRO CELL MEASUREMENT CAMPAIGN FOR 5G CANDIDATE SPECTRUM REGION</b> .....	1803
<i>Mamadou D. Balde ; Joni Vehmas ; Sinh L. H. Nguyen ; Katsuyuki Haneda ; Heykel Houas ; Bernard Uguen</i>	

<b>28 GHZ MILLIMETER-WAVE MEASUREMENTS AND MODELS FOR SIGNAL ATTENUATION IN VEGETATED AREAS</b> .....	1808
<i>Junghoon Ko ; Yun-Seok Noh ; Yong-Chan Kim ; Sooyoung Hur ; Sung-Rok Yoon ; Donghyuck Park ; Kuyeon Whang ; Dong-Jo Park ; Dong-Ho Cho</i>	
<b>ON THE STOCHASTIC AND DETERMINISTIC BEHAVIOR OF MMWAVE CHANNELS</b> .....	1813
<i>Naveed Iqbal ; Christian Schneider ; Jian Luo ; Diego Dupleich ; Robert Müller ; Stephan Haefner ; Reiner. S. Thomä</i>	
<b>HEIGHT-DEPENDENT PATH LOSS MODEL AND LARGE-SCALE CHARACTERISTICS ANALYSIS OF 28 GHZ AND 38.6 GHZ IN URBAN MICRO SCENARIOS</b> .....	1818
<i>Zhimeng Zhong ; Chao Li ; Jianyao Zhao ; Xiaomei Zhang</i>	
<b>A SIMPLE APPROACH TOWARDS A MULTI-FREQUENCY MRI HEAD PHANTOM</b> .....	1823
<i>Ana L. Neves ; Lisa Leroi ; Nicolas Cochinaire ; Redha Abdeddaim ; Pierre Sabouroux ; Alexandre Vignaud</i>	
<b>SIGNAL ANALYSIS AND PHANTOM EXPERIMENTS FOR A MINIATURIZED TIME-DOMAIN MICROWAVE BREAST HEALTH MONITORING DEVICE</b> .....	1828
<i>Karim El Hallaoui ; Adam Santorelli ; Milica Popovic ; Mark Coates</i>	
<b>LINK BUDGET STUDY AND REALIZATION OF TIME-DOMAIN MEASUREMENT SETUP FOR IMPLANTABLE ANTENNAS</b> .....	1833
<i>João M. Felício ; Carlos A. Fernandes ; Jorge R. Costa</i>	
<b>MICROWAVE SENSORS FOR NEW APPROACH IN MONITORING HIP FRACTURE HEALING</b> .....	1838
<i>Mauricio D Perez ; Syaiful Redzwan Mohd Shah ; Jacob Velander ; Marco Raaben ; Noor Badariah Asan ; Taco Blokhuis ; Robin Augustine</i>	
<b>MICROFLUIDIC PLANAR RESONATOR SENSOR WITH HIGHLY PRECISE MEASUREMENT FOR MICROWAVE APPLICATIONS</b> .....	1843
<i>Amyrul Azuan Mohd Bahar ; Zahriladha Zakaria ; Siti Rosmaniza Ab Rashid ; Azmi Awang Md Isa ; Rammah A. Alahnomi ; Yosza Dasril</i>	
<b>A PROPAGATION MODELING APPROACH TO URBAN NAVIGATION</b> .....	1847
<i>Zhuangzhuang Dai ; Robert J Watson ; Peter R Shepherd</i>	
<b>EFFICIENT TIME DOMAIN HF GEOLOCATION USING MULTIPLE DISTRIBUTED RECEIVERS</b> .....	1852
<i>Ankit Jain ; Pascal Pagani ; Rolland Fleury ; Michel M. Ney ; Patrice Pajusco</i>	
<b>RADIO FREQUENCY UAV ATTITUDE ESTIMATION USING DIRECTION OF ARRIVAL AND POLARIZATION</b> .....	1857
<i>Attiya Mahmood ; Jon W. Wallace ; Michael A. Jensen</i>	
<b>IMPROVED ENERGY DETECTION RECEIVER FOR RANGING IN IEEE 802.15.4A STANDARD</b> .....	1860
<i>Abdelmadjid Maali ; Geneviève Baudoin ; Ammar Mesloub</i>	
<b>POWER COUPLING FOR CONCEPTUAL ANTENNAS IN MEDICAL IMPLANT APPLICATIONS</b> .....	1864
<i>A. Khaleghi ; I. Balasingham</i>	
<b>HUMAN BODY COMMUNICATION CHANNEL MODELING USING VECTOR NETWORK ANALYZER MEASUREMENT</b> .....	1868
<i>Luca Petrillo ; Julien Sarrazin ; Hugues Libotte ; Aziz Benlarbi-Delaï ; François Horlin ; Philippe De Doncker</i>	
<b>IMPLEMENTATION METHODOLOGY OF HANDSHAKING COMMUNICATION USING WEARABLE NEAR-FIELD COUPLING TRANSCEIVERS</b> .....	1871
<i>Ryo Takeuchi ; Shin Hasegawa ; Yuichi Kado ; Daiki Ayuzawa ; Mitsuru Shinagawa ; Kyoji Ohashi ; Daisuke Saito</i>	
<b>WAVELET-BASED ANALYSIS OF 60 GHZ DOPPLER RADAR FOR NON-STATIONARY VITAL SIGN MONITORING</b> .....	1876
<i>Ting Zhang ; Guido Valerio ; Julien Sarrazin ; Dan Istrate</i>	
<b>AN APPLICATION OF UNIVERSAL POLYNOMIAL CHAOS EXPANSION TO NUMERICAL STOCHASTIC SIMULATIONS OF AN UWB EM WAVE PROPAGATION</b> .....	1878
<i>Piotr Górniak</i>	
<b>A 6–40 GHZ CUBESAT ANTENNA SYSTEM</b> .....	1883
<i>Jiu-Kun Che ; Chi-Chih Chen ; Joel T. Johnson</i>	
<b>FULL-WAVE AND MULTI-GTD ANALYSIS OF THE ICE CLOUD IMAGER FOR METOP-SG</b> .....	1893
<i>Jakob Rosenkrantz De Lasson ; Per Heighwood Nielsen ; Cecilia Cappellin ; David Marote Alvarez ; Marc Bergada ; Raquel Gonzalez ; Peter De Maagt</i>	
<b>A DUAL-BAND WIDE-ANGLE SCANNING PHASED ARRAY ANTENNA IN K/KA BANDS FOR SATELLITE-ON-THE-MOVE APPLICATIONS</b> .....	1898
<i>Kamil Yavuz Kapusuz ; Özlem Aydin Civi ; Alexander G. Yarovoy</i>	

<b>A <math>TM_{01}</math> TO <math>TE_{11}</math> MODE CONVERTER DESIGNED WITH SEMICIRCULAR WAVEGUIDE SECTIONS</b> .....	1903
<i>Ashish Chittora ; Sandeep Singh ; Archana Sharma ; Jayanta Mukherjee</i>	
<b>ANALYSIS OF ANTENNAS FOR UNDERWATER APPLICATIONS</b> .....	1907
<i>Andrea Massaccesi ; Paola Pirinoli</i>	
<b>DESIGN OF A DUAL-MODE MEANDER-LINE LOADED MONOPOLE ANTENNA WITH CHARACTERISTIC MODE THEORY</b> .....	1911
<i>Mohammad Bagheriasl ; Karim Mohammadpour-Aghdam ; Reza Faraji-Dana</i>	
<b>EQUIVALENT INPUT AND OUTPUT IMPEDANCES IN HF RFID SYSTEM INCLUDING RESONATOR</b> .....	1914
<i>Megdouda Benamara ; Marjorie Grzeskowiak ; Antoine Diet ; Gaëlle Lissorgues ; Yann Le Bihan</i>	
<b>COAXIALLY DISTRIBUTED DIAMETER SUB-COIL TWISTED LOOP ANTENNA IN HF RFID</b> .....	1919
<i>Marjorie Grzeskowiak ; Antoine Diet ; Megdouda Benamara ; Stéphane Protat ; Christophe Conessa ; Marc Biancheri-Astier ; Franciso De Oliveira Alves ; Yann Le Bihan ; Gaelle Lissorgues</i>	
<b>LOW-COST SURROGATE MODELING FOR RAPID DESIGN OPTIMIZATION OF ANTENNA STRUCTURES</b> .....	1924
<i>Slawomir Koziel ; Adrian Bekasiewicz</i>	
<b>STATISTICAL MODELING OF THE REFLECTION COEFFICIENT OF DEFORMABLE ANTENNAS</b> .....	1928
<i>Jinxin Du ; Christophe Roblin</i>	
<b>A HIGH-POWER WIDE BEAMWIDTH CIRCULARLY POLARIZED ANTENNA WITH LIGHTNING PROTECTION</b> .....	1933
<i>Bo Wang ; S. W. Cheung ; Weiyun Wang ; Min Li ; T. I. Yuk</i>	
<b>A BROADBAND AND WIDE BEAMWIDTH DUAL CIRCULARLY POLARIZED ANTENNA USING CROSSED BENT DIPOLES</b> .....	1936
<i>Bo Wang ; S. W. Cheung ; Weiyun Wang ; Min Li ; T. I. Yuk</i>	
<b>INTEGRATED RECTIFYING CIRCUIT AND ANTENNA DESIGN WITH HARMONIC REJECTION FOR RF ENERGY HARVESTING</b> .....	1940
<i>S. Ahmed ; Z. Zakaria ; M. N. Husain ; A. Alhegazi</i>	
<b>A TECHNIQUE TO NARROW DOWN RADIATION PATTERNS OF BROAD BEAM ANTENNA OPERATIONALLY AND ITS APPLICATION TO SECURITY GATE TO PREVENT SHOPLIFTING BASED ON MONOPULSE SYSTEM</b> .....	1945
<i>Tomoki Sakogawa ; Katsuyoshi Aoki ; Futoshi Kuroki</i>	
<b>ULTRA-WIDEBAND LINEAR POLARIZATION CONVERTERS BASED ON PIXELATED REFLECTING METASURFACES</b> .....	1949
<i>Michele Borgese ; Filippo Costa ; Simone Genovesi ; Agostino Monorchio</i>	
<b>A NEW CIRCULARLY POLARIZED ANTENNA FOR GNSS APPLICATIONS</b> .....	1954
<i>Umniyyah Ulfa Hussine ; Yi Huang ; Chaoyun Song</i>	
<b>A COMPACT WIDEBAND 4-PORT CIRCULARLY POLARIZED DIELECTRIC RESONATOR ANTENNA</b> .....	1957
<i>Slobodan Jovic ; Michel Clénet ; Yahia M. M. Antar</i>	
<b>STATUS UPDATE ON THE SYSTEM VALIDATION OF APERTIF, THE PHASED ARRAY FEED SYSTEM FOR THE WESTERBORK SYNTHESIS RADIO TELESCOPE</b> .....	1960
<i>B. Hut ; R. H. Van Den Brink ; W. A. Van Cappellen</i>	
<b>MECHANICALLY RECONFIGURABLE WAVEGUIDE-SLOT SINGLE ELEMENT USING TUNING SCREWS</b> .....	1962
<i>P. Sanchez-Olivares ; J. L. Masa-Campos ; J. Hernandez-Ortega</i>	
<b>IMPLEMENTATION OF <math>4 \times 4</math> STACKED PATCH ARRAY WITH CORPORATE FEEDING NETWORK FOR KU-BAND APPLICATIONS</b> .....	1967
<i>E. Garcia-Marin ; J. L. Masa-Campos ; P. Sanchez-Olivares</i>	
<b>BROADBAND CIRCULARLY POLARIZED NFRP ANTENNA USING CROSSED DIPOLE DRIVER</b> .....	1972
<i>Son Xuat Ta ; Ikmo Park ; Richard W. Ziolkowski</i>	
<b>A HIGHLY MINIATURIZED LOOP EXCITED QUASI-YAGI ANTENNA WITH HIGH FRONT-TO-BACK RATIO</b> .....	1976
<i>Syed S. Jehangir ; Mohammad S. Sharawi</i>	
<b>DESIGN OF DUAL-BAND COMPACT CERAMIC CHIP ANTENNA FOR TERMINAL APPLICATIONS</b> .....	1980
<i>Yuan Yao ; Haiyang Yu ; Junsheng Yu ; Xiaodong Chen</i>	
<b>CAVITY-BACKED SLOT ANTENNA FOR THIN WIRELESS PORTABLE DEVICES</b> .....	1984
<i>Rohit Chandra</i>	

<b>A MULTIBAND ON-CHIP ANTENNA FOR 94 AND 140 GHZ APPLICATIONS</b> .....	1992
<i>M. Saad Khan ; Farooq A. Tahir ; Hammad M. Cheema</i>	
<b>ELECTROMAGNETIC FEASIBILITY OF A PASSIVE WIRELESS SENSOR NETWORK FOR TEMPERATURE MAPPING INSIDE A SHIELDED ENCLOSURE</b> .....	1995
<i>S. Lopez-Soriano ; I. P. Spassovsky ; J. Parron ; G. Marrocco</i>	
<b>LOW PROFILE RFID TRANSPONDER ON CONDUCTIVE AND HIGH PERMITTIVITY LOSSY DIELECTRIC PLATFORMS</b> .....	1999
<i>Branimir Ivšić ; Anja Kuštra ; Juraj Bartolic</i>	
<b>COUPLED DIPOLE ANTENNAS FOR ON/OFF-BODY COMMUNICATIONS AT 2.45 GHZ</b> .....	2003
<i>Haoran Su ; R. M. Edwards ; Elijah I. Adegoke</i>	
<b>COMPACT PLANAR YAGI-UDA ANTENNA WITH IMPROVED CHARACTERISTICS</b> .....	2008
<i>Hemant Kumar ; Girish Kumar</i>	
<b>INKJET-PRINTED PIXEL ANTENNAS WITH HEXAGONAL CELLS</b> .....	2013
<i>Bariscan Karaosmanoglu ; Sadri Güler ; Hande Ibili ; Özgür Ergül</i>	
<b>DESIGN OF A DIELECTRIC WAVEGUIDE ANTENNA AT MICROWAVE FREQUENCIES</b> .....	2017
<i>Linghui Kong ; Xuezhi Zheng ; Sen Yan ; Guy A. E. Vandebosch</i>	
<b>ADAPTED RAISED COSINE WINDOW FUNCTION FOR ARRAY FACTOR CONTROL WITH DYNAMIC RANGE RATIO LIMITATION</b> .....	2020
<i>Filipe E. S. Santos ; Joaquim A. R. Azevedo</i>	
<b>CIRCULAR ARRAY ANTENNA TOR UAV-UAV COMMUNICATIONS</b> .....	2025
<i>Xlaollang Sun ; Rodrigo Blázquez-García ; Alejandro García-Tejero ; José Manuel Fernández-González ; Mateo Burgos-García ; Manuel Sierra-Castañer</i>	
<b>DIRECTIVE ARRAY BASED PATTERN RECONFIGURABLE ANTENNA</b> .....	2029
<i>Kranti Kumar Katare ; Animesh Biswas ; Karu P. Esselle</i>	
<b>GAIN ENHANCEMENT OF PATTERN DIVERSITY ANTENNA BY IMPROVING PHASE UNIFORMITY</b> .....	2033
<i>Kranti Kumar Katare ; Animesh Biswas ; Karu P. Esselle</i>	
<b>FLEXIBLE AND COST EFFECTIVE RECONFIGURABLE UHF RFID ANTENNA SYSTEM</b> .....	2037
<i>Enrico Tolin ; Achim Bahr ; Matthias Geissler ; Francesca Vipiana</i>	
<b>2D ANGLE OF ARRIVAL ESTIMATIONS AND BANDWIDTH RECOGNITION FOR BROADBAND SIGNALS</b> .....	2041
<i>Noori Bnilam ; Jan Steckel ; Maarten Weyn</i>	
<b>EXPERIMENTAL DOA ESTIMATION PERFORMANCE OF THE CO-ARRAY CONCEPT</b> .....	2046
<i>Jiachen Wang ; Rubén Chuliá Mena ; Guy A. E. Vandebosch</i>	
<b>3D COMPACT ANTENNA USING LIQUID METAL AND ADDITIVE TECHNOLOGIES</b> .....	2050
<i>Mathieu Cosker ; Leonardo Lizzi ; Fabien Ferrero ; Robert Staraj ; Jean-Marc Ribero</i>	
<b>CHARACTERIZATION OF THE LOSSINESS OF MATCHING NETWORKS FOR RF ENERGY-HARVESTING RECTENNAS</b> .....	2053
<i>Yen-Sheng Chen ; Cheng-Wei Chiu</i>	
<b>PROBABILISTIC VOR ERROR DUE TO SEVERAL SCATTERERS — APPLICATION TO WIND FARMS</b> .....	2057
<i>Remi Douvenot ; Ludovic Claudepierre ; Alexandre Chabory ; Christophe Morlaas</i>	
<b>VIEWPOINT CORRECTION FOR POLARIMETRIE TURNABLE INVERSE SYNTHETIC APERTURE RADAR</b> .....	2061
<i>Thomas Dallmann ; Dirk Heberling</i>	
<b>A METHOD OF RANGE MEASUREMENT BASED ON HIGH RESOLUTION RANGE PROFILE</b> .....	2066
<i>Xiaoliang Yang ; Fen Ye ; Gongjian Wen ; Baiyuan Ding ; Yi Ge</i>	
<b>A NOVEL MULTI-TAG IDENTIFICATION TECHNIQUE FOR FREQUENCY CODED CHIPLESS RFID SYSTEMS BASED ON LOOK-UP-TABLE APPROACH</b> .....	2070
<i>Ahmed El-Awamry ; Maher Khalil ; Abdelfattah Fawky ; Thomas Kaiser</i>	
<b>FREQUENCY CODED CHIPLESS RFID TAG LOCALIZATION USING MULTIPLE ANTENNAS</b> .....	2075
<i>Abdelfattah Fawky ; Maher Khalil ; Ahmed El-Awamry ; Thomas Kaiser</i>	
<b>INDOOR MEASUREMENTS OF IOT WIRELESS SYSTEMS INTERFERED BY IMPULSIVE NOISE FROM FLUORESCENT LAMPS</b> .....	2080
<i>Iratxe Landa ; Aitor Blázquez ; Manuel Vélez ; Amaia Arrinda</i>	
<b>PRELIMINARY RESULTS OF MEDIUM WAVE MOBILE RECEPTION MEASUREMENTS IN A DENSE URBAN REGION</b> .....	2084
<i>E. Verdugo Muñoz ; L. Da Silva Mello ; M. Almeida</i>	
<b>CLASSIFICATION OF GNSS SNR DATA FOR DIFFERENT ENVIRONMENTS AND SATELLITE ORBITAL INFORMATION</b> .....	2088
<i>Rameez Ur Rahman Lighari ; Markus Berg ; Erkki T. Salonen ; Aarno Parssinen</i>	

<b>WATER VAPOR DENSITY PROFILE STATISTICS IN THE ATMOSPHERIC BOUNDARY LAYER</b> .....	2093
<i>Pavel Valtr ; Pavel Pechac ; Martin Grabner</i>	
<b>AN ASSESSMENT OF DIFFERENT OPTIMIZATION STRATEGIES FOR LOCATION TRACKING WITH AN ANDROID APPLICATION ON A SMARTPHONE</b> .....	2096
<i>David Plešs ; Alexander Sels ; Jens Trogh ; Kris Vanhecke ; Luc Martens ; Wout Joseph</i>	
<b>OMNIDIRECTIONAL DUAL-REFLECTOR ANTENNAS FOR HIGH DIRECTIVITY OVER WIDEBAND IN MILLIMETER WAVES</b> .....	2104
<i>Rafael A. Penchel ; Sandro R. Zang ; José R. Bergmann ; Fernando J. S. Moreira</i>	
<b>ON ERROR RATE PERFORMANCE OF A MIMO WLAN SYSTEM IN THE INDOOR HOTSPOT SCENARIO</b> .....	2109
<i>Xiaoming Chen ; Qi Wu ; Shuang Guo</i>	
<b>A COMPACT FOUR-ELEMENT MIMO ANTENNA BASED ON HMSIW SLOT ANTENNA</b> .....	2118
<i>Ming Wei ; Hu Liu ; Tao Wan ; Ying Liu</i>	
<b>LOW CROSS POLARIZED AFTSA-SC H-PLANE ARRAY ARCHITECTURE FOR MMW APPLICATIONS</b> .....	2125
<i>Zouhair Briqech ; Shraman Gupta ; Abdel-Razik Sebak ; Tayeb. A. Denidni</i>	
<b>DESIGN, FABRICATION AND CHARACTERIZATION OF A NEW WIDEBAND ANTENNA BASED ON A POLYANILINE/CARBON COATED COBALT COMPOSITE</b> .....	2130
<i>Z. Hamouda ; J-L. Wojkiewicz ; A. A. Pud ; L. Kone ; S. Bergheul ; T. Lasri</i>	
<b>ELECTRICALLY SMALL STRUCTURAL ANTENNA DESIGN FOR SMALL UAV BASED ON CHARACTERISTICS MODES</b> .....	2134
<i>Sek-Meng Sow ; Lu Guo ; Shi-Gang Zhou ; Tan-Huat Chio</i>	
<b>INVESTIGATION OF MULTI-BEAM MULTI-PORT MIMO ANTENNAS FOR WLAN/WIMAX APPLICATIONS</b> .....	2139
<i>Yan Pan ; Yuehui Cui ; Ronglin Li</i>	
<b>ANALYSIS AND DESIGN OF A BROADBAND DUAL-POLARIZED PLANAR ANTENNA FOR 2G/3G/4G BASE STATIONS</b> .....	2143
<i>Yuehui Cui ; Ronglin Li</i>	
<b>COMPACT PENTA BAND PRINTED SLOT ANTENNA FOR GSM, BLUETOOTH, WIMAX, 4G LTE, AND WLAN APPLICATIONS</b> .....	2152
<i>Mohammad Mehdi Samadi Taheri ; Abdolali Abdipour ; Gert Frolund Pedersen</i>	
<b>A WIDEBAND ENDFIRE CP ANTENNA USING MAGNETIC DIPOLE</b> .....	2155
<i>Min Li ; S. W. Cheung ; Bo Wang ; T. I. Yuk</i>	
<b>SPLIT RING RESONATOR WITH ROTATED INNER RING FOR MICROSTRIP CIRCULAR UWB ANTENNA</b> .....	2163
<i>M. I. Hussein ; Elham Serria ; Ali Hakam ; Indu Jiji Rajmohan</i>	
<b>LOW-COST WIDEBAND ANTENNA ON PAPER SUBSTRATE</b> .....	2168
<i>Hong Phuong Phan ; Tan-Phu Vuong ; Philippe Benech ; Pascal Xavier Pascal Borel ; Anastasia Delattre</i>	
<b>WIDE-BAND CIRCULARLY POLARIZED SLOT ANTENNA BY USING NOVEL FEEDING STRUCTURE</b> .....	2172
<i>Mohammad Saeid Ghaffarian ; Gholamreza Moradi ; Pedram Mousavi</i>	
<b>COMPACT WIDEBAND CIRCULARLY POLARIZED SLOTTED GROUND PLANE ANTENNA FOR MOBILE TERMINALS</b> .....	2176
<i>Oluyemi P Falade ; Xiaodong Chen ; Clive G Parini</i>	
<b>AN X-TYPE CRLH LEAKY WAVE ANTENNA WITH LOW CROSS-POLARIZATION</b> .....	2180
<i>Yu-Wei Wang ; Yao-Wen Hsu ; Yi-Cheng Lin</i>	
<b>CHARACTERISTIC MODES OPTIMISATION APPROACH TO DESIGN A WIDEBAND ELECTRICALLY SMALL ANTENNA</b> .....	2184
<i>Hussein Jaafar ; Sylvain Collardey ; Dominique Lemur ; Abdullah Haskou ; Ala Sharaiha</i>	
<b>SAR IMPACT EVALUATION ON JEANS WEARABLE ANTENNAS</b> .....	2187
<i>Ignacio Gil ; Raúl Fernández-García</i>	
<b>DUAL-BAND WLAN BUTTON ANTENNA FOR BOTH ON AND OFF-BODY APPLICATIONS</b> .....	2191
<i>Xiaomu Hu ; Sen Yan ; Jiahao Zhang ; Guy A. E. Vandenbosch</i>	
<b>DESIGN OF A PATTERN RECONFIGURABLE ANTENNA WITH SINGLE PATCH BASE ON BUTLER MATRIX FEEDING NETWORK</b> .....	2194
<i>Yi Wang ; Tao Wan ; Bochao Yang</i>	
<b>HIGHLY BROADBAND CIRCULAR POLARIZED PATCH ANTENNA WITH 3 PHASE FEED STRUCTURE</b> .....	2197
<i>Robin Theunis ; Maarten Baert ; Paul Leroux ; Wim Dehaene</i>	



<b>REDUCING THE WIDTH OF PLANAR YAGI-UDA ANTENNAS USING SQUARE-SHAPED SPLIT RING RESONATORS (SRRS)</b> .....	2201
<i>Pau Aguilà ; Gerard Zamora ; Simone Zuffanelli ; Ferran Paredes ; Ferran Martín ; Jordi Bonache</i>	
<b>A 2×2 INTEGRATED FILTER ANTENNA ARRAY</b> .....	2205
<i>Anuj Kumar Sahoo ; Ravi Dutt Gupta ; Manoj Singh Parihar</i>	
<b>SUPPRESSION OF MUTUAL COUPLING IN WIDEBAND TREE SHAPED FRACTAL DRA ARRAY FOR MIMO APPLICATIONS</b> .....	2209
<i>Kedar Trivedi ; Dhaval Pujara</i>	
<b>GREEN 4G RADIO NETWORK PLANNING</b> .....	2212
<i>G. V. Tsoulos ; G. E. Athanasiadou ; I. K. Valavanis ; D. A. Zarbouti</i>	
<b>FREQUENCY RECONFIGURABLE PATCH ANTENNA WITH DEFECTED GROUND STRUCTURE USING VARACTOR DIODES</b> .....	2217
<i>Zakaria Mahlaoui ; Eva Antonino-Daviu ; Miguel Ferrando-Bataller ; Hamza Benchakroun ; Adnane Latif</i>	
<b>UNIDIRECTIONAL FREQUENCY RECONFIGURABLE BOW-TIE ANTENNA ARRAY WITH AMC REFLECTOR</b> .....	2221
<i>Qi Li ; Tong Li ; Zhipeng Li ; Jinyong Fang</i>	
<b>SYSTEMATIC DESIGN OF 3-PORT BUG-LIKE MIMO ANTENNA BASED ON THEORY OF CHARACTERISTIC MODE</b> .....	2224
<i>Dong-Woo Kim ; Sangwook Nam</i>	
<b>BROADBAND COLLOCATED ANTENNAS WITH THREE ORTHOGONAL POLARIZATIONS</b> .....	2228
<i>Halim Boutayeb ; Paul Watson</i>	
<b>DESIGN OF A DUAL-NOTCHED ULTRA-WIDEBAND (UWB) PLANAR ANTENNA USING L-SHAPED BANDSTOP RESONATOR</b> .....	2237
<i>Weng Yik Sam ; Z. Zakaria</i>	
<b>PRELIMINARY INVESTIGATION OF POWER DELAY PROFILE COMPUTATION FROM FULL WAVE FREQUENCY DOMAIN INDOOR PROPAGATION MODEL</b> .....	2242
<i>Ian Kavanagh ; Conor Brennan</i>	
<b>EFFICIENT FEEDBACK QUANTIZATION FOR WLAN</b> .....	2246
<i>Moussa Diallo ; Idy Diop ; Ibra Dioum</i>	
<b>ANTENNA DESIGN FOR UNDERWATER WIRELESS TELEMETRY SYSTEMS</b> .....	2251
<i>Thierry Deschamps De Paillette ; Alain Gaugue ; Emmanuel Parlier ; Sylvain Dardenne</i>	
<b>A NOVEL IMPLANTABLE PRINTED DIPOLE WITH IMPROVED GAIN</b> .....	2256
<i>M. Haridim ; O. Keren ; A. Amitt ; M. Azadmehr</i>	
<b>THE SKA LOW-FREQUENCY TELESCOPE: PERFORMANCE PARAMETERS AND CONSTRAINTS ON THE ARRAY CONFIGURATION</b> .....	2259
<i>Maria Grazia Labate ; Peter Dewdney ; Robert Braun ; Mark Waterson ; Jeff Wagg</i>	
<b>MICRO-WAVE IMAGER RADIOMETER ANTENNAS CONFIGURATIONS</b> .....	2264
<i>A. Catalani ; L. Costes ; A. Esposito ; D. Maiarelli ; S. D'Addio</i>	
<b>WIDEBAND CIRCULARLY-POLARIZED 3-BIT TRANSMITARRAY ANTENNA IN KA-BAND</b> .....	2269
<i>Fatima Diaby ; Antonio Clemente ; Luca Di Palma ; Laurent Dussopt ; Kien Pham ; Erwan Fourn ; Ronan Sauleau</i>	
<b>WIDEBAND CIRCULARLY POLARIZED TRIANGULAR-RING SLOT ANTENNA FOR GAIA-I MICROSATELLITE</b> .....	2277
<i>Asif Awaludin ; Josaphat Tetuko Sri Sumantyo ; Steven Gao ; Cahya E. Santosa ; Mohd Zafri Baharuddin</i>	
<b>GENETIC ALGORITHM APPLICATION ON A TIGHTLY COUPLED ARRAY ANTENNA</b> .....	2281
<i>Iman O. Farhat ; Kristian Zarb Adami ; John Abela ; Charles V. Sammut</i>	
<b>WAVEGUIDE SEPTUM POLARIZER SHAPED WITH LEGENDRE POLYNOMIALS</b> .....	2286
<i>Jean-Christophe Angevain ; Nelson J. G. Fonseca</i>	
<b>WIDEBAND PYRAMIDAL SINUSOIDAL ANTENNA FOR REFLECTOR ANTENNA APPLICATIONS</b> .....	2291
<i>Nicol Steenkamp ; Dirk I. L. De Villiers ; Ngoy Mutonkole</i>	
<b>ELECTROMAGNETIC ANALYSIS OF HIGH FREQUENCY RADOMES FOR GROUND STATIONS IN POLAR REGIONS</b> .....	2296
<i>A. Martellosio ; M. Pasian ; L. Perregrini ; L. Piffer ; R. Riccardi ; F. Concaro ; P. Besso</i>	
<b>EASY-TO-DEPLOY LC-LOADED DIPOLE AND MONOPOLE ANTENNAS FOR CUBESAT</b> .....	2303
<i>Korbinian Schraml ; Adam Narbudowicz ; Suramate Chalermwisutkul ; Dirk Heberling ; Max J. Ammann</i>	
<b>COMPARISON OF A FOUR STAGE SEQUENTIALLY ROTATED WIDEBAND CIRCULARLY POLARIZED HIGH GAIN MICROSTRIP PATCH ARRAY ANTENNAS AT KU-BAND</b> .....	2307
<i>Roshin Rose George ; Alejandro T. Castro ; Satish K. Sharma</i>	
<b>SAR ARRAY SYNTHESIS FOR NEXT GENERATION EARTH OBSERVATION SYSTEMS</b> .....	2312
<i>Giacomo Oliveri ; Marco Salucci ; Angelo Gelmini ; Lorenzo Poli ; Paolo Rocca ; Andrea Massa</i>	

<b>DESIGN OF OVERLAPPED SUB-ARRAYS FOR PLANAR SPARSE DIRECT RADIATING ARRAYS</b> .....	2315
<i>Theodoros N. Kafas ; Dimitrios G. Babas ; John N. Sahalos</i>	
<b>WIDEBAND HIGH-EFFICIENCY UNIT-CELL FOR 1-BIT AND 2-BIT TRANSMIT-ARRAYS OPERATING IN X-BAND</b> .....	2320
<i>Hamza Kaouach</i>	
<b>A STUDY OF WIDEBAND REFLECTARRAY ANTENNA USING RING-STYLE RESONATOR ELEMENTS</b> .....	2325
<i>Takeshi Shiode ; Kento Takeshima ; Shigeru Makino ; Michio Takikawa ; Yoshio Inasawa ; Hiroaki Miyashita</i>	
<b>REFLECTARRAY ELEMENT ANALYSIS BASED ON GENERALIZED SHEET TRANSITION CONDITIONS</b> .....	2330
<i>Xiao Liu ; Fan Yang ; Maokun Li ; Shenheng Xu</i>	
<b>A CIRCUIT-DRIVEN DESIGN METHODOLOGY FOR A LINEAR-TO-CIRCULAR POLARIZER</b> .....	2334
<i>Mehdi Hosseini ; Sean V. Hum</i>	
<b>DESIGN OF PLANAR METALLIC MICROWAVE LENSES FOR MULTIPLE SPOT-BEAM SYSTEMS</b> .....	2341
<i>Hon Ching Moy-Li ; Daniel Sánchez-Escuderos ; Eva Antonino-Daviu ; Miguel Ferrando-Bataller</i>	
<b>COMPLEMENTARY METARESONATORS BASED X-BAND HOLLOW WAVEGUIDE FILTER AND CRACK DETECTION SENSOR</b> .....	2346
<i>Safiullah Khan ; Thomas F. Eibert</i>	
<b>INTEGRATION OF RESISTIVE HEATERS FOR PHASE-CHANGE RECONFIGURABLE ANTENNAS</b> .....	2349
<i>Dimitris E. Anagnostou ; David Torres ; George Goussetis ; Symon K. Podilchak ; Tarron Teeslink ; Nathan Kovarik ; Nelson Sepulveda</i>	
<b>LAND-MOBILE X-BAND SATELLITE MEASUREMENTS IN NORWAY, EXPERIMENT DESCRIPTION AND FIRST RESULTS</b> .....	2351
<i>Vegard Arneson ; Lars Erling Bråten ; Jostein Sander ; Terje Mikal Olsen Mjelde ; Øystein Olsen</i>	
<b>COMBINED BEACON AND NOISE SATELLITE PROPAGATION MEASUREMENTS USING SOFTWARE DEFINED RADIO</b> .....	2356
<i>A. Z. Papafragkakis ; A. D. Panagopoulos ; S. Ventouras</i>	
<b>ANALYSIS OF ONE-YEAR DATA OF SLANT PATH RAIN ATTENUATION AT 19 AND 39 GHZ IN PRAGUE</b> .....	2361
<i>Martin Grabner ; Ondrej Fiser ; Viktor Pek ; Pavel Pechac ; Pavel Valtr</i>	
<b>HIGH-ORDER EVALUATION AND MODELLING OF CROSS-POLARIZATION DISCRIMINATION ON EARTH-SATELLITE PROPAGATION PATHS AT KA AND V-BANDS</b> .....	2365
<i>Flávio Jorge ; Carlo Riva ; Armando Rocha</i>	
<b>ALPHASAT EXPERIMENT AT AVEIRO: DATA PROCESSING APPROACH AND EXPERIMENTAL RESULTS</b> .....	2370
<i>J. Flávio ; A. Rocha ; S. Mota ; F. Jorge</i>	
<b>JOINT RESULTS OF THE AVEIRO AND VIGO ALPHASAT PROPAGATION CAMPAIGNS</b> .....	2375
<i>J. Flávio ; F. Perez-Fontan ; F. Jorge ; S. Mota ; A. Rocha</i>	
<b>ANNUAL STATISTICS OF THE ALPHASAT KA AND Q-BAND PROPAGATION CHANNEL IN BUDAPEST, HUNGARY</b> .....	2379
<i>László Csurgai-Horváth ; Bernard Adjei-Frimpong</i>	
<b>EXPERIMENTAL ANALYSIS OF PASSIVE INTERMODULATION AT TNC COAXIAL CONNECTORS</b> .....	2383
<i>Rui Wang ; Wanzhao Cui ; Xiang Chen ; Chunjiang Bai ; Na Zhang ; Yun Li</i>	
<b>EXPERIMENTAL CHARACTERIZATION OF DUAL LINEARLY POLARIZED TRANSMITARRAY ANTENNAS AT X-BAND</b> .....	2387
<i>Kien Pham ; Ngoc-Tinh Nguyen ; Laurent Le Coq ; Ronan Sauleau ; Antonio Clemente ; Laurent Dussopt</i>	
<b>TOLERANCE ANALYSIS OF THE REFLECTARRAY ANTENNA THROUGH MINKOWSKI-BASED INTERVAL ANALYSIS</b> .....	2392
<i>Nasim Ebrahimi ; Nicola Anselmi ; Paolo Rocca ; Andrea Massa</i>	
<b>LOSS ANALYSIS OF A REFLECTARRAY CELL USING ANNS WITH ACCURATE MAGNITUDE PREDICTION</b> .....	2396
<i>V. Richard ; R. Loison ; R. Gillard ; H. Legay ; M. Romier</i>	
<b>DESIGN OF A 24 GHZ RECONFIGURABLE TRANSMITARRAY ELEMENT WITH CONTINUOUS PHASE RANGE</b> .....	2400
<i>Martin Frank ; Robert Weigel ; Alexander Koelpin</i>	
<b>A SINGLE LAYER STUB-PATCH PHOENIX CELL FOR LARGE BAND REFLECTARRAYS</b> .....	2405
<i>Hassan Salti ; Raphael Gillard</i>	

<b>VHTS SYSTEMS: REQUIREMENTS AND EVOLUTION</b> .....	2409
<i>H. Fenech ; S. Amos ; A. Hirsch ; V. Soumpholphakdy</i>	
<b>MULTIBEAM ANTENNAS FOR VERY HIGH THROUGHPUT SATELLITES IN EUROPE: TECHNOLOGIES AND TRENDS</b> .....	2413
<i>Baptiste Palacin ; Nelson J. G. Fonseca ; Maxime Romier ; Romain Contreres ; Jean-Christophe Angevain ; Giovanni Toso ; Cyril Mangenot</i>	
<b>KA-BAND USER ANTENNAS FOR VHTS GEO APPLICATIONS</b> .....	2418
<i>Yves Demers ; Éric Amyotte ; Karim Glatre ; Marc-André Godin ; Jonathan Hill ; Aiping Liang ; Mathieu Riel</i>	
<b>APPLICATION OF BIFOCAL CONCEPT TO DUAL REFLECTARRAY CONFIGURATIONS FOR MULTI-BEAM SATELLITE ANTENNAS IN KA-BAND</b> .....	2427
<i>Eduardo Martinez-De-Rioja ; José A. Encinar ; Antonio Pino ; Borja Gonzalez-Valdes ; Carolina Tienda ; Sean V. Hum ; Giovanni Toso</i>	
<b>POLARIMETRIE GROUND-TO-GROUND AND GROUND-TO-AIR CHANNEL CHARACTERIZATION IN FOREST ENVIRONMENT</b> .....	2431
<i>P. Laly ; D. Gaillot ; M. Lienard ; J. M. Floch ; R. Mazari ; P. Degauque ; G. Grunfelder</i>	
<b>SIMULATION OF V2V COMMUNICATIONS IN VARIOUS PROPAGATION CHANNELS: ASSESSING ANTENNA PERFORMANCE IN TERMS OF PER</b> .....	2435
<i>Jessen Narrainen ; Philippe Besnier ; Philippe Boutier</i>	
<b>CLUSTER-BASED RADIO CHANNEL EMULATION FOR OVER-THE-AIR TESTING OF AUTOMOTIVE WIRELESS SYSTEMS</b> .....	2440
<i>Philipp Berlt ; Frank Wollenschläger ; Christian Bornkessel ; Matthias A. Hein</i>	
<b>RCS MODELING AND MEASUREMENTS FOR AUTOMOTIVE RADAR APPLICATIONS IN THE W BAND</b> .....	2445
<i>Emna Bel Kamel ; Alain Peden ; Patrice Pajusco</i>	
<b>A NEW METHOD FOR EVALUATION OF LTE MIMO ANTENNAS IN AUTOMOTIVE APPLICATION</b> .....	2450
<i>Mahmoud Almarashli ; Stefan Lindenmeier</i>	
<b>CHARACTERIZATION OF WIRELESS PROPAGATION THROUGH TRADITIONAL IBERIAN BRICK WALLS</b> .....	2454
<i>David Ferreira ; Telmo R. Fernandes ; Rafael F. S. Caldeirinha ; Iñigo Cuinas</i>	
<b>CHANNEL ESTIMATION USING SPHERICAL-WAVE MODEL FOR INDOOR LOS AND OBSTRUCTED LOS SCENARIOS</b> .....	2459
<i>Yilin Ji ; Wei Fan ; Gert F. Pedersen</i>	
<b>POLARIMETRIE PROPERTIES OF INDOOR MIMO CHANNELS FOR DIFFERENT FLOOR LEVELS IN A RESIDENTIAL HOUSE</b> .....	2463
<i>S. R. Kshetri ; E. Tanghe ; D. P. Gaillot ; M. Lienard ; L. Martens ; W. Joseph</i>	
<b>DOPLER CHARACTERISTICS FOR INDOOR MOBILE-TO-MOBILE CHANNELS</b> .....	2468
<i>Gloria Makhoul ; Francesco Mani ; Raffaele D'Errico ; Claude Oestges</i>	
<b>MEASUREMENT AND MODELING OF 3-DIMENSIONAL RADIO CHANNELS WITH CROSS-POLARIZATIONS IN A GYMNASIUM</b> .....	2473
<i>Zhimeng Zhong ; Ruonan Zhang ; Kaijun Ren ; Kun Wang ; Bin Li ; Xiaomei Zhang</i>	
<b>WIRELESS SENSORS FOR MEDICAL APPLICATIONS: CURRENT STATUS AND FUTURE CHALLENGES</b> .....	2478
<i>Hadeel Elayan ; Raed M. Shubair ; Asimina Kiourti</i>	
<b>A POLARIZATION/FREQUENCY INTERCHANGEABLE PATCH FOR A MODULAR WEARABLE TEXTILE ANTENNA</b> .....	2483
<i>Shengjian Jammy Chen ; Damith Chinthana Ranasinghe ; Christophe Fumeaux</i>	
<b>PERFORMANCE EVALUATION AND SENSITIVITY ANALYSIS OF A NOVEL RECTENNA SYSTEM FOR DEEP IMPLANTED DEVICES</b> .....	2487
<i>Sofia Bakogianni ; Mihalis Palaiologos ; Stavros Koulouridis</i>	
<b>ENERGY HARVESTING AND CARDIOVASCULAR MONITORING THROUGH ARTERIAL WALL PULSATION</b> .....	2491
<i>G. Karageorgos ; C. Manopoulos ; S. Tsangaris ; K. S. Nikita</i>	
<b>HIGH APERTURE EFFICIENCY BULL'S-EYE ANTENNA</b> .....	2499
<i>Unai Beaskoetxea ; Miguel Beruete</i>	
<b>ADDITIVE MANUFACTURED MILLIMETER WAVE OFF-AXIS BULL'S-EYE ANTENNA</b> .....	2503
<i>Unai Beaskoetxea ; Stefano Maci ; Miguel Navarro-Cía ; Miguel Beruete</i>	
<b>60 GHZ 3D INTEGRATED WAVEGUIDE FED ANTENNAS USING LASER DIRECT STRUCTURING TECHNOLOGY</b> .....	2507
<i>A. Friedrich ; M. Fengler ; B. Geck ; D. Manteuffel</i>	
<b>60 GHZ CAPACITIVELY PROBE-FED PATCH ARRAYS WITH SUSPENDED ELEMENTS</b> .....	2511
<i>Kaveh Keshkaran ; Nima Ghalichechian</i>	

<b>NON-FOSTER IMPEDANCE DESIGN TECHNIQUES FOR HIGH PERFORMANCE SMALL ANTENNA</b> .....	2517
<i>Deepak Singh Nagarkoti ; Khalid Z. Rajab ; Yang Hao</i>	
<b>DECOUPLING APPROACH OF SUPERDIRECTIONAL ANTENNA ARRAYS</b> .....	2519
<i>Abdullah Haskou ; Ala Sharaiha ; Sylvain Collardey</i>	
<b>IMPLEMENTATION OF A THZ QUASI-SPIRAL ANTENNA FOR THZ-IR DETECTOR</b> .....	2526
<i>Alicia E. Torres-García ; Iñigo Ederra ; Ramón Gonzalo</i>	
<b>CALIBRATION OF A FULLY POLARIMETRIC 8×8 MIMO FMCW RADAR SYSTEM AT 77 GHZ</b> .....	2530
<i>Tristan Visentin ; Jürgen Haseh ; Thomas Zwiak</i>	
<b>ACTIVITY MONITORING OF BATS IN A LABORATORY FLIGHT TUNNEL USING A 24 GHZ FMCW RADAR SYSTEM</b> .....	2535
<i>Jochen Moll ; Moritz Mälzer ; Viktor Krozer ; Dimitry Pozdniakov ; Rahmi Salman ; M. Jerome Beetz ; Manfred Kcössl</i>	
<b>MULTIPATH ESTIMATION TECHNIQUE FOR WIDEBAND MM-WAVE BACKSCATTERING CHANNELS</b> .....	2540
<i>Francesco Guidi ; Antonio Clemente ; Raffaele D'Errico</i>	
<b>EXPERIMENTAL COMPARISON OF LOCALISATION TECHNIQUES IN THE PRESENCE OF ARRAY UNCERTAINTIES</b> .....	2545
<i>Qinxin Liu ; Athanassios Manikas</i>	
<b>A NOVEL PROCESSING ALGORITHM FOR MULTIPLE ELEVATION BEAM SAR SYSTEMS</b> .....	2550
<i>Taoli Yang ; Donglin Li</i>	
<b>RFID HELIX ANTENNA ON POWER CORD FOR THE SENSING OF HOME ELECTRICAL DEVICES ACTIVITY</b> .....	2554
<i>Rupesh Kumar ; Ali Louzir ; Jean-Yves Le Naour</i>	
<b>POTENTIAL OF CHIPLESS AUTHENTICATION BASED ON RANDOMNESS INHERENT IN FABRICATION PROCESS FOR RF AND THZ</b> .....	2559
<i>Zeshan Ali ; Florent Bonnefoy ; Romain Siragusa ; Nicolas Barbot ; David Hely ; Etienne Perret ; Maxime Bernier ; Frédéric Garet</i>	
<b>DESIGN OF A GRAPHENE-LOADED SLOTTED RING RESONATOR FOR SENSOR APPLICATIONS</b> .....	2564
<i>Patrizia Savi ; Krishna Naishadham ; Simone Quaranta ; Mauro Giorcelli ; Ahmad Bayat ; Chiara Ramella</i>	
<b>AN ELECTROMAGNETIC SENSING SYSTEM INCORPORATING MULTIPLE PROBES AND SINGLE ANTENNA FOR WIRELESS STRUCTURAL HEALTH MONITORING</b> .....	2568
<i>Burak Ozbey ; Ayhan Altintas ; Hilmi Volkan Demir ; Vakur B. Erturk ; Ozgur Kurc</i>	
<b>FULL-WAVE ANALYSIS OF A COMPACT ANTENNA TEST RANGE INCLUDING PROBE EFFECT</b> .....	2571
<i>T. M. Gemmer ; R. Cornelius ; J. Pamp ; D. Heberling</i>	
<b>MODULAR SIMULATION OF A COMPACT ANTENNA TEST RANGE</b> .....	2576
<i>Björn Möhring ; Markus Limbach ; Bernd Gabler ; Alberto Di Maria</i>	
<b>MEASUREMENT OF A LARGE RADOME AT AN ANTENNA COMPACT TEST RANGE</b> .....	2581
<i>Bengt Svensson ; Björn Widenberg ; Mattias Viberg</i>	
<b>A NEW COMPACT ANTENNA TEST RANGE FOR EW-ANTENNA SYSTEM PRODUCTION TESTING</b> .....	2585
<i>Bengt Svensson ; Rikard Gustafsson ; Peter Hultman ; Per-åke Hansson ; Christian Augustsson ; Anders Jernberg ; Carsten Seupel</i>	
<b>DESIGN, FABRICATION AND ON-SITE ALIGNMENT OF LOW-COST REFLECTOR USED IN LARGE-SCALE COMPACT ANTENNA TEST RANGE</b> .....	2590
<i>Mingming Wang ; Dongsheng Li ; Xianbin Zhou ; Guoyu He</i>	
<b>RCS OF TARGETS WITH PLASMONIC COATINGS: COMPUTATION, ADDITIVE MANUFACTURING AND MEASUREMENT</b> .....	2595
<i>Carol Saint-Flour ; Fabien Degery ; Bertrand Etchessahar ; Pierre Massaloux ; Geneviève Mazé-Merceur ; Olivier Vacus</i>	
<b>TUNABLE WATER-BASED MICROWAVE METASURFACE</b> .....	2599
<i>Polina Kapitanova ; Mikhail Odit ; Dmitry Dobrykh ; Andrei Andryieuski ; Andrei V. Lavrinenko ; Pavel Belov</i>	
<b>DECOUPLING OF DIPOLE ANTENNA ARRAY ON PATCH TYPE META-SURFACE WITH PARASITIC CELLS</b> .....	2603
<i>Yuki Kawakami ; Ryuji Kuse ; Toshikazu Hori ; Mitoshi Fujimoto</i>	
<b>APERTURE COUPLED CIRCULARLY POLARIZED ARRAY ANTENNA IN RIDGE GAP WAVEGUIDE TECHNOLOGY</b> .....	2607
<i>Xingchao Dong ; Hongjian Wang ; Fei Xue ; Yang Liu</i>	
<b>WIDEBAND MULTIBEAM ARRAYS OF LONG SLOTS FED BY QUASI-OPTICAL SYSTEMS</b> .....	2611
<i>F. Foglia Manzillo ; M. Ettore ; T. Potelon ; M. Smierzchalski ; R. Sauleau ; N. Capet</i>	

<b>CIRCULARLY POLARISED MULTIPLE BEAM ANTENNA FOR SATELLITE APPLICATIONS</b> .....	2628
<i>Wenxing Tang ; Daniele Bresciani ; Hervé Legay ; George Goussetis ; Nelson J. G. Fonseca</i>	
<b>GROUND-BASED ANTENNA ARRAY PHASING ISSUES AND MITIGATION FOR SATELLITE COMMUNICATIONS</b> .....	2631
<i>James A. Nessel</i>	
<b>PREDICTION OF FAR-FIELD PATTERN CHARACTERISTICS OF PHASED ARRAY FED REFLECTOR ANTENNAS BY MODELING ONLY A SMALL PART OF THE ARRAY — CASE STUDY OF SPACEBORNE RADIOMETER ANTENNAS</b> .....	2636
<i>O. A. Iupikov ; A. A. Roev ; M. V. Ivashina</i>	
<b>PRESENT STATE OF ANTENNA DESIGN FOR X-BAND SAR SENSOR ONBOARD 100 KG CLASS SATELLITE</b> .....	2640
<i>Prilando Rizki Akbar ; Budhaditya Pyne ; Hirobumi Saito ; Jiro Hirokawa ; Dong-Hun Kim</i>	
<b>HYBRID ARRAY FED REFLECTOR ANTENNA SOLUTION FOR BROADBAND SATELLITE COMMUNICATIONS</b> .....	2645
<i>Nelson J. G. Fonseca ; Etienne Girard ; Hervé Legay</i>	
<b>DESIGN OF MIMO TERMINAL ANTENNAS WITH USER PROXIMITY USING CHARACTERISTIC MODES</b> .....	2649
<i>Zachary Miers ; Buon Kiong Lau</i>	
<b>LOW PROFILE FREQUENCY AGILE MIMO SLOT ANTENNA WITH TCM CHARACTERIZATION</b> .....	2652
<i>Asim Ghalib ; Rifaqat Hussain ; Mohammad S. Sharawi</i>	
<b>CHARACTERISTIC MODE ANALYSIS OF DIELECTRIC RESONATOR ANTENNAS USING VEP AND INTERPOLATION</b> .....	2656
<i>Qi Wu</i>	
<b>MODAL DECOMPOSITION THEORY FOR ARRAYS OF DIPOLES</b> .....	2660
<i>Pavel Hazdra ; Tomas Lonsky ; Jan Kracek</i>	
<b>UWB DIFFERENTIALLY-FED CIRCULAR MONOPOLE ANTENNA WITH STABLE RADIATION PATTERN</b> .....	2663
<i>Eva Antonino-Daviu ; Marko Sonkki ; Miguel Ferrando-Bataller ; Erkki Salonen</i>	
<b>CHARACTERISTIC MODES OF SLOTTED PLANAR ANTENNAS</b> .....	2668
<i>Nora Mohamed Mohamed-Hicho ; Eva Antonino-Daviu ; Marta Cabedo-Fabrés ; Juan Pablo Ciafardini ; J. Alberto Bava ; Miguel Ferrando-Bataller</i>	
<b>EFIE SINGULARITY TREATMENTS AND THEIR EFFECTS ON CHARACTERISTIC MODE DYNAMIC RANGE</b> .....	2673
<i>Kurt Schab ; Binbin Yang ; Jacob Adams</i>	
<b>ANALYSIS AND DESIGN OF METAMATERIAL STRUCTURES USING THE THEORY OF CHARACTERISTIC MODES</b> .....	2676
<i>M. Hassanein Rabah ; Divitha Seetharamdoo</i>	
<b>APPLICATION OF CHARACTERISTIC MODES FOR THE ANALYSIS OF SCATTERING FROM DIELECTRIC COATED CONDUCTING BODIES</b> .....	2681
<i>Liwen Guo ; Yikai Chen ; Shiwen Yang</i>	
<b>ON THE USE OF WHEELER CAP FOR MIMO ANTENNAS</b> .....	2691
<i>Florian Reher ; Adam Narbudowicz ; Max J. Ammann ; Dirk Heberling</i>	
<b>ANTENNA ARRAY CONSTRUCTION ON A MOBILE TERMINAL CHASSIS AT 3.5 GHZ FOR LTE ADVANCED</b> .....	2695
<i>Igor Syrytsin ; Shuai Zhang ; Gert Frolund Pedersen</i>	
<b>ANALYSIS AND DESIGN OF A FOUR-ELEMENT SUPERDIRECTIVE COMPACT DIPOLE ANTENNA ARRAY</b> .....	2700
<i>Antonio Clemente ; Cyril Jouanlanne ; Christophe Delaveaud</i>	
<b>A 4 × 4 MIMO MULTIBAND ANTENNA SYSTEM WITH NON-RESONANT ELEMENTS FOR SMARTPHONE PLATFORMS</b> .....	2705
<i>Jaume Anguera ; Aurora Andújar ; Rosa M. Mateos ; Sungtek Kahng</i>	
<b>MINIATURIZATION OF DIPOLE ANTENNA BASED ON COMPLEX META-MATERIAL SUBSTRATE AND ITS APPLICATION TO MIMO SYSTEM</b> .....	2709
<i>Yun Sik Kim ; Dong-Ho Cho</i>	
<b>OVERVIEW OF MICROWAVE MEDICAL APPLICATIONS IN EUROPE SINCE THE BEGINNING OF THE COST ACTION TD1301 — MIMED</b> .....	2714
<i>Raquel C. Conceição ; Dario B. Rodrigues ; Bárbara L. Oliveira ; Maria Koutsoupidou ; Giuseppe Ruvio</i>	
<b>REFERENCE PHANTOMS FOR MICROWAVE IMAGING</b> .....	2719
<i>N. Joachimowicz ; B. Duchêne ; C. Conessa ; O. Meyer</i>	

<b>QUALITY CONTROL OF CARBON-RUBBER TISSUE PHANTOMS: COMPARATIVE MRI, CT, X-RAY AND UWB MICROWAVE MEASUREMENTS .....</b>	<b>2723</b>
<i>Jochen Moll ; Dennis Wcörtge ; Viktor Krozer ; Adam Santorelli ; Milica Popovic ; Babak Bazrafshan ; Frank Hübner ; Thomas J. Vogl ; Natalia Nikolova</i>	
<b>EXPERIMENTAL ASSESSMENT OF QUALITATIVE MICROWAVE IMAGING USING A 3-D REALISTIC BREAST PHANTOM.....</b>	<b>2728</b>
<i>J. A. Tobon Vasquez ; F. Vipiana ; M. R. Casu ; M. Vacca ; I. Sarwar ; R. Scapatucci ; N. Joachimowicz ; B. Duchêne</i>	
<b>DEVELOPMENT OF A PORTABLE SETUP SUITABLE FOR IN VIVO MEASUREMENT OF THE DIELECTRIC PROPERTIES OF BIOLOGICAL TISSUES.....</b>	<b>2732</b>
<i>L. Farina ; G. Ruvio ; R. Pinto ; L. Vannucci ; M. Cavagnaro ; V. Lopresto</i>	
<b>INVESTIGATION OF ANTENNA ARRAY CONFIGURATIONS FOR DISPERSIVE BREAST MODELS.....</b>	<b>2737</b>
<i>Lena Kranold ; Pragyan Hazarika ; Milica Popovic</i>	
<b>BRAIN STROKE MONITORING USING COMPRESSIVE SENSING AND HIGHER ORDER BASIS FUNCTIONS .....</b>	<b>2742</b>
<i>Marija Nikolic Stevanovic ; Rosa Scapatucci ; Lorenzo Crocco</i>	
<b>MICROWAVE VISION: FROM RF SAFETY TO MEDICAL IMAGING .....</b>	<b>2746</b>
<i>Angie Fasoula ; Shoaib Anwar ; Yann Toutain ; Luc Duchesne</i>	
<b>BLIND FOCUSING OF THE ELECTRIC FIELD IN MICROWAVE HYPERTHERMIA EXPLOITING MAGNETIC NANOPARTICLES .....</b>	<b>2751</b>
<i>G. Bellizzi ; O. M. Bucci</i>	
<b>MNP ENHANCED MICROWAVE BREAST CANCER IMAGING BASED ON ULTRA-WIDEBAND PSEUDO-NOISE SENSING.....</b>	<b>2754</b>
<i>S. Ley ; J. Sachs ; M. Helbig</i>	
<b>HIGH GAIN V-BAND PLANAR ARRAY ANTENNA USING HALF-HEIGHT PIN GAP WAVEGUIDE.....</b>	<b>2758</b>
<i>Parastoo Taghikhani ; Jian Yang ; Abbas Vosoogh</i>	
<b>BROADBAND CTS ANTENNA ARRAY AT E-BAND .....</b>	<b>2762</b>
<i>Thomas Potelon ; Mauro Ettorre ; Laurent Le Coq ; Terry Bateman ; Jim Francey ; Delphine Lelaidier ; Eric Seguenot ; Frederic Devillers ; Ronan Sauleau</i>	
<b>DIELECTRIC-FILLED WAVEGUIDE ANTENNA ARRAY FOR MILLIMETER-WAVE COMMUNICATIONS .....</b>	<b>2767</b>
<i>Henri Kähkönen ; Vasilii Semkin ; Juha Ala-Laurinaho ; Ville Viikari</i>	
<b>Q-BAND HIGH GAIN RADOME INTEGRATED LENS ANTENNA FOR COMPACT BACKHAUL TERMINAL .....</b>	<b>2771</b>
<i>Romain Czarny ; Mane-Si Laure Lee ; Brigitte Loiseaux ; Michal Makowski ; Andrzej Siemion ; Maciej Sypek ; Alain Le Fevre</i>	
<b>IN-ANTENNA POWER-COMBINING METHODS .....</b>	<b>2776</b>
<i>Benjamin Goettel ; Jochen Schäfer ; Akanksha Bhutani ; Heiko Gulan ; Thomas Zwick</i>	
<b>GAIN ENHANCED MILLIMETRE-WAVE BEAM-SWITCHING ROTMAN LENS ANTENNA DESIGNS ON LCP.....</b>	<b>2781</b>
<i>Antti Lamminen ; Jussi Säily ; Mikko Kaunisto ; Michal Pokorný ; Jouko Aurinsalo ; Zbynek Raida</i>	
<b>V-BAND TRANSCEIVER MODULES WITH INTEGRATED ANTENNAS AND PHASED ARRAYS FOR MMWAVE ACCESS IN 5G MOBILE NETWORKS.....</b>	<b>2786</b>
<i>L. Marnat ; L. Dussopt ; V. Puyal ; A. Siligaris ; F. Hameau ; A. Larie ; C. Dehos</i>	
<b>GENERIC FORMULATION FOR TRANSMIT-ARRAY DUAL-BAND UNIT-CELL DESIGN .....</b>	<b>2791</b>
<i>Sérgio A. Matos ; Eduardo B. Lima ; Jorge R. Costa ; Carlos A. Fernandes ; Nelson J. G. Fonseca</i>	
<b>MULTIPLE-FEED INTEGRATED LENS ANTENNA WITH CONTINUOUS SCANNING RANGE .....</b>	<b>2795</b>
<i>Alexey Artemenko ; Andrey Mozharovskiy ; Sergey Tikhonov ; Alexander Myskov ; Roman Maslennikov</i>	
<b>18-40GHZ LOW-PROFILE PHASED ARRAY WITH INTEGRATED MEMS PHASE SHIFTERS.....</b>	<b>2800</b>
<i>Anas J. Abumunshar ; Niru K. Nahar ; Daniel Hyman ; Kubilay Sertel</i>	
<b>INVISIBLE ANTENNAS USING MESOSCALE CONDUCTIVE POLYMER WIRES EMBEDDED WITHIN OLED DISPLAYS.....</b>	<b>2809</b>
<i>Wonbin Hong ; Seungtae Ko ; Yoon Geon Kim ; Sangho Lim</i>	
<b>NEAR-FIELD MICROWAVE CPW ANTENNA FOR SCANNING MICROSCOPY.....</b>	<b>2812</b>
<i>Sofiane Ben Mbarek ; Fethi Choubani ; Bernard Cretin</i>	
<b>PLASMONIC PHOTOVOLTAICS USING NANO CRESCENT ANTENNAS.....</b>	<b>2816</b>
<i>Marina Medhat ; Yasser M. El-Batawy ; Alaa K. Abdelmageed ; Ezzeldin A. Soliman</i>	
<b>DUAL-POLARIZATION BEAM FORMING NETWORKS BASED ON HIGH ORDER DIRECTIONAL COUPLERS .....</b>	<b>2820</b>
<i>M. Longhi ; J. Galdeano ; A. Morini ; M. Baldelli ; P. Angeletti ; G. Toso ; G. Venanzoni</i>	

<b>MULTI-TECHNOLOGY WIRELESS COVERAGE BASED ON A LEAKY-WAVE RECONFIGURABLE ANTENNA.....</b>	2824
<i>R. Dos Santos ; André Marques Muniz ; Matheus Borsato ; T. H. Brandão ; T. N. Rodvalho ; S. Arismar Cerqueira</i>	
<b>SYNTHESIS OF MAXIMALLY-SPARSE SQUARE OR RECTANGULAR ARRAYS THROUGH COMPRESSIVE SENSING.....</b>	2829
<i>Andrea Francesco Morabito</i>	
<b>THE SYNTHESIS OF ARRAY ANTENNAS USING THE ELEMENT-LEVEL PATTERN DIVERSITY (ELPD) TECHNIQUE.....</b>	2833
<i>Di Hua ; Wen Wu ; Da-Gang Fang</i>	
<b>LOW SIDELobe SYNTHESIS OF DIPOLE ARRAYS BY ELEMENT ORIENTATION SELECTION USING BINARY CODEC GENETIC ALGORITHM.....</b>	2838
<i>Ming Li ; Yanhui Liu ; Shu-Lin Chen ; Pei-Yuan Qin ; Y. Jay Guo</i>	
<b>TIME-DELAY COMPENSATION IN ARRAY LENS ANTENNAS.....</b>	2841
<i>Payam Nayeri ; Randy Haupt</i>	
<b>UNCONVENTIONAL TECHNIQUES FOR THE SYNTHESIS OF MODERN ANTENNA ARRAYS.....</b>	2843
<i>Andrea Massa ; Nicola Anselmi ; Giorgio Gottardi ; Giacomo Oliveri ; Lorenzo Poli ; Paolo Rocca ; Marco Salucci ; Lorenza Tenuti</i>	
<b>NEARFIELD-BASED ARRAY DESIGN FOR A REALISTIC ON-THE-MOVE PERSONNEL INSPECTION SYSTEM.....</b>	2846
<i>Borja Gonzalez-Valdes ; Yolanda Rodriguez-Vaqueiro ; Yuri Alvarez ; Fernando Las Heras ; Antonio Pino Garcia</i>	
<b>A NEAR-FIELD SETUP WITH INDEPENDENT AMPLITUDE AND PHASE CONTROL OF THE STIMULI FOR PHASED ANTENNA TESTING.....</b>	2851
<i>Carmine De Martino ; Marco Spirito ; Ioan E. Lager ; Massimiliano Simeoni</i>	
<b>APPLICATION OF THE TRANSLATED-SWE ALGORITHM TO ECHO REDUCTION OF SPHERICAL NEAR-FIELD MEASUREMENTS WITH UNDERSAMPLING.....</b>	2856
<i>F. Saccardi ; L. J. Foged ; F. Mioc ; P. O. Iversen</i>	
<b>CHANNEL MODELS IN THE NEAR FIELD.....</b>	2861
<i>Akl Charaf ; Georges Rodriguez-Guisantes</i>	
<b>THREE DIMENSIONAL SCANNING SYSTEM FOR NEAR-FIELD MEASUREMENTS.....</b>	2866
<i>Nimisha Sivaraman ; Kassem Jomaa ; Fabien Ndagijimana</i>	
<b>A PERTURBATION BASED METHOD FOR NEAR-FIELD 3-D RADAR IMAGING.....</b>	2871
<i>Yingzhi Kan ; Jianxiong Zhou ; Yongfeng Zhu ; Liang Tang ; Qiang Fu</i>	
<b>TRAIN-TO-TRAIN PROPAGATION AT 450 MHZ.....</b>	2875
<i>Andreas Lehner ; Thomas Strang ; Paul Unterhuber</i>	
<b>ANALYSIS OF THE MILLIMETER WAVE CHANNEL CHARACTERISTICS FOR URBAN MICRO-CELL MOBILE COMMUNICATION SCENARIO.....</b>	2880
<i>Pan Tang ; Lei Tian ; Jianhua Zhang</i>	
<b>MOBILE HOTSPOT NETWORK ENHANCEMENT SYSTEM FOR HIGH-SPEED RAILWAY COMMUNICATION.....</b>	2885
<i>Junhyeong Kim ; Hee-Sang Chung ; Sung-Woo Choi ; Il Gyu Kim ; Youngnam Han</i>	
<b>RAY-TRACING SIMULATION AND ANALYSIS OF PROPAGATION FOR 3GPP HIGH SPEED SCENARIOS.....</b>	2890
<i>Danping He ; Jingya Yang ; Ke Guan ; Bo Ai ; Zhangdui Zhong ; Zhuyan Zhao ; Deshan Miao ; Hao Guan</i>	
<b>PROPAGATION MEASUREMENTS AND MODELLING INSIDE TRAINS AT 900 MHZ, 2.4 AND 5.8GHZ.....</b>	2895
<i>Lei Zhang ; Ana Gonzalez-Plaza ; Jean R. Fernandez ; Juan Moreno ; Miguel A. Gomez-Laso ; Israel Arnedo ; César Briso</i>	
<b>INFLUENCE OF RAILWAY ENVIRONMENT ON ANTENNA PERFORMANCES AT MM-WAVE FREQUENCIES.....</b>	2899
<i>Divitha Seetharamdoo ; Rafik Addaci ; Vy Xuyen Pham ; Christian Chagny ; Kun Yang ; Jean-Pierre Ghys ; Marion Berbineau</i>	
<b>TRAFFIC IMPACT ON RADIO WAVE PROPAGATION AT MILLIMETER-WAVE BAND IN TUNNELS FOR 5G COMMUNICATIONS.....</b>	2903
<i>Andrej Hrovat ; Ke Guan ; Tomaž Javornik</i>	
<b>EVALUATION OF AUTOMOTIVE MIMO ANTENNAS FOR V2V COMMUNICATION IN URBAN INTERSECTION SCENARIOS.....</b>	2907
<i>Thomas Kopacz ; Adam Narbudowicz ; Dirk Heberling ; Max J. Ammann</i>	
<b>MICRO-DOPPLER CHARACTERISTICS OF PEDESTRIANS AND BICYCLES FOR AUTOMOTIVE RADAR SENSORS AT 77 GHZ.....</b>	2912
<i>Domenic Belgiovane ; Chi-Chih Chen</i>	

<b>DIGITALLY RECONFIGURABLE APPROACH TO COMPACT ANTENNA TEST RANGE DESIGN</b> .....	2917
<i>C. G. Parini ; R. Dubrovka ; S. F. Gregson</i>	
<b>ANTENNA AND PAYLOAD TEST STRATEGY OF LARGE SPACECRAFT'S IN COMPENSATED COMPACT RANGES</b> .....	2922
<i>J. Migl ; J. Habersack ; H. -J. Steiner</i>	
<b>UHF-/P-BAND ANTENNA MEASUREMENT CAPABILITIES AT ESA-ESTEC</b> .....	2927
<i>L. Salghetti Drioli ; L. Rolo ; D. Trenta ; E. Van Der Houwen</i>	
<b>HIGH-ACCURACY SPHERICAL NEAR-FIELD MEASUREMENTS FOR SATELLITE ANTENNA TESTING</b> .....	2931
<i>Olav Breinbjerg</i>	
<b>LINK BETWEEN MEASUREMENT AND SIMULATION APPLIED TO ANTENNA SCATTERING AND PLACEMENT PROBLEMS</b> .....	2951
<i>L. Scialacqua ; L. J. Foged ; F. Mioc ; F. Saccardi</i>	
<b>DUAL-BAND CRLH-TL BASED PATCH ANTENNA WITH PATTERN DIVERSITY</b> .....	2956
<i>Sen Yan ; Jiahao Zhang ; Xiaomu Hu ; Guy A. E. Vandenbosch</i>	
<b>SINGLE-ELEMENT HANDSET ANTENNA DESIGN FOR MODERN SMARTPHONES: AN INDUSTRIAL APPROACH</b> .....	2960
<i>Anu Lehtovuori ; Janne Ilvonen ; Kimmo Rasilainen ; Ville Viikari</i>	
<b>COMBINING ANTENNA AND GROUND PLANE TUNING TO EFFICIENTLY COVER TV WHITE SPACES ON HANDSETS</b> .....	2964
<i>Samantha Caporal Del Barrio ; Johannes Hejselbæk ; Art Morris ; Gert F. Pedersen</i>	
<b>A TUNABLE LTE MAIN ANTENNA SOLUTION FOR METALLIC COVER MOBILE PHONE</b> .....	2969
<i>Y. C. Mark Tan ; N G Guan Hong ; Y. S. Roger Tay</i>	
<b>A PLANAR GPS/GLONASS/LTE/WWAN ANTENNA FOR ULTRA-SLIM SMARTPHONES</b> .....	2973
<i>Aqsa Ahmad ; Farooq A. Tahir ; Fahimullah Khan</i>	
<b>A NEW EXPRESSION FOR THE EVALUATION OF THE BEAMWIDTH IN 1-D LEAKY-WAVE ANTENNAS: BEYOND OLINER'S FORMULA</b> .....	2976
<i>Walter Fuscaldo ; David R. Jackson ; Alessandro Galli</i>	
<b>CAVITY-BACKED ANNULAR CONICAL ANTENNA</b> .....	2979
<i>V. Sabino ; O. M. C. Pereira-Filho</i>	
<b>ANALYSIS OF SUPERDIRECTIVE HUYGENS SOURCE BASED END-FIRE ARRAYS</b> .....	2983
<i>Alexandre Debard ; Antonio Clemente ; Christophe Delaveaud ; Christopher Djoma ; Patrick Potier ; Philippe Pouliguen</i>	
<b>TRANSMISSION AND RECEPTION PROPERTIES OF NON-RECIPROCAL ANTENNAS</b> .....	2988
<i>Makoto Nagai ; Hiroaki Imada</i>	
<b>CHARACTERISTIC MODE ANALYSIS OF APERTURE ANTENNAS BASED ON DUALITY PRINCIPLE</b> .....	2993
<i>Peiyu Liang ; Qi Wu ; Donglin Su</i>	
<b>CHARACTERIZATION OF A GEOMETRICALLY CONSTRAINED TRIPOLAR ANTENNA UNDER M2M CHANNEL CONDITIONS</b> .....	2998
<i>Marcia Golmohamadi ; Ramiro Ramirez ; Blake Hewgill ; James Jamison ; Jeff Frolik ; Thomas Weller</i>	
<b>CALCULATING THE ENVELOPE CORRELATION COEFFICIENT DIRECTLY FROM SPHERICAL MODES SPECTRUM</b> .....	3003
<i>Rasmus Cornelius ; Adam Narbudowicz ; Max J. Ammann ; Dirk Heberling</i>	
<b>EVALUATION OF A SIMPLIFIED RANDOM-LOS MEASUREMENT SETUP FOR CHARACTERIZING ANTENNAS ON CARS</b> .....	3007
<i>Madeleine Schilliger Kildal ; Andres Alayon Glazunov ; Jan Carlsson ; Amir Majidzadeh</i>	
<b>EXTENDING THE FREQUENCY RANGE OF REVERBERATION CHAMBER TO MILLIMETER WAVES FOR 5G OVER-THE-AIR TESTING</b> .....	3012
<i>Christian S Patané Lötbäck</i>	
<b>ENABLING SPATIAL DIVERSITY AND BEAMSTEERING WITH REDUCED RF-CHAINS USING RECONFIGURABLE TRANSMITARRAYS</b> .....	3022
<i>Joao R. Reis ; Rafael F. S. Caldeirinha ; Telmo R. Fernandes ; Akram Hammoudeh</i>	
<b>LIQUID-CRYSTAL-TUNABLE METASURFACE ANTENNAS</b> .....	3026
<i>Senglee Foo</i>	
<b>A DIELECTRIC RESONATOR ANTENNA OVER CORRUGATED GROUND PLANE WITH METALLIC AND NONMETALLIC METAMATERIAL SUPERSTRATES</b> .....	3031
<i>Mourad S. Ibrahim</i>	
<b>COMPACT RECONFIGURABLE ANTENNA WITH RADIATION PATTERN DIVERSITY FOR SPATIAL MODULATION</b> .....	3038
<i>A. Ourir ; K. Rachedi ; D. -T. Phan-Huy ; C. Leray ; J. De Rosny</i>	



<b>A 30GHZ HIGH-GAIN CIRCULARLY-POLARIZED PATTEM-STEERABLE ANTENNA BASED ON PARASITIC PATCHES.....</b>	<b>3044</b>
<i>M. Akbari ; M. Farahani ; A. R. Sebak ; T. A. Denidni</i>	
<b>RIDGE GAP WAVEGUIDE SLOT ANTENNA ARRAY WITH 30% BANDWIDTH FOR 60-GHZ APPLICATIONS.....</b>	<b>3050</b>
<i>A. Farahbakhsh ; D. Zarifi ; A. U. Zaman</i>	
<b>ANALYSIS AND DESIGN OF METALLIC PARABOLIC ANECHOIC CHAMBER.....</b>	<b>3053</b>
<i>A. Farahbakhsh ; D. Zarifi</i>	
<b>FLEXIBLE AND CONFORMAL PRINTED MONOPOLES FOR RECONFIGURABLE ANTENNAS.....</b>	<b>3057</b>
<i>Asmae Hachi ; Hassan Lebbar ; Mohamed Himdi</i>	
<b>LOW COST INSTANTLY PRINTED SILVER NANO INK FLEXIBLE DUAL-BAND ANTENNA ONTO PAPER SUBSTRATE.....</b>	<b>3061</b>
<i>H. A. Elmobarak ; S. K. A Rahim ; M. Himdi ; X. Castel ; T. A. Rahman</i>	
<b>TRIPLE-WIDEBAND INVERTED-F FRAME ANTENNA FOR THE LTE METAL-CASING SMARTPHONE.....</b>	<b>3064</b>
<i>Li-Yu Chen ; Yu-Ching Wu ; Kin-Lu Wong</i>	
<b>COMPACT LTE FRAME ANTENNA WITH A NARROW METAL CLEARANCE AND A RADIATING FEED NETWORK FOR THE METAL-CASING SMARTPHONE.....</b>	<b>3069</b>
<i>Hsuan-Jui Chang ; Kin-Lu Wong</i>	
<b>LTE HANDSET ANTENNA WITH CLOSELY-LOCATED RADIATORS, LOW-BAND MIMO, AND HIGH EFFICIENCY.....</b>	<b>3074</b>
<i>Kimmo Rasilainen ; Anu Lehtovuori ; Ville Viikari</i>	
<b>A STUDY OF 5G ANTENNAS IN A MOBILE TERMINAL.....</b>	<b>3079</b>
<i>Jari Holopainen ; Jari-Matti Hannula ; Ville Viikari</i>	
<b>TUNING OF LTE MAIN ANTENNA USING FLEXIBLE TUNABLE LC RESONANT CIRCUITRY.....</b>	<b>3082</b>
<i>Y. C. Mark Tan ; N G Guan Hong ; Y. S. Roger Tay</i>	
<b>MULTIBAND NON-RESONANT ANTENNA SYSTEM WITH REDUCED GROUND CLEARANCE.....</b>	<b>3086</b>
<i>Aurora Andújar ; Jaume Anguera ; Rosa Mateos</i>	
<b>DESIGN OF COMPACT PRINTED ANTENNAS FOR 5G BASE STATIONS.....</b>	<b>3090</b>
<i>Giacomo Oliveri ; Fabrizio Robol ; Alessandro Polo ; Renato Lombardi ; Men Chuan ; Maurizio Mattivi ; Claudio Massagrande ; Pietro Vinetti ; Christian Mazzucco ; Andrea Massa</i>	
<b>A HONEYCOMB-SHAPED PLANAR MONOPOLE ANTENNA FOR BROADBAND MILLIMETER-WAVE APPLICATIONS.....</b>	<b>3094</b>
<i>Hidayat Ullah ; Farooq A. Tahir ; Muhammad U. Khan</i>	
<b>PHASE ERROR EFFECTS ON DISTRIBUTED TRANSMIT BEAMFORMING FOR WIRELESS COMMUNICATIONS.....</b>	<b>3100</b>
<i>Yuan Ding ; Vincent Fusco ; Junqing Zhang</i>	
<b>MIMETIZED PRINTED YAGI-UDA ANTENNA ARRAY FOR TDT RECEPTION.....</b>	<b>3104</b>
<i>Jorge Gómez-Yuste ; Marta Cabedo-Fabrés ; Eva Antonino-Daviu ; Miguel Ferrando-Bataller</i>	
<b>TEST BED FOR BEAMFORMING IN LTE-ADVANCED.....</b>	<b>3109</b>
<i>Mohammad H. Haroun ; Marta Cabedo-Fabrés ; Hussam Ayad ; Jalal Jomaah ; Miguel Ferrando-Bataller</i>	
<b>IMPACT OF PHASE COMPENSATION METHOD ON TRANSMITARRAY PERFORMANCE.....</b>	<b>3114</b>
<i>Fatimata Diaby ; Antonio Clemente ; Luca Di Palma ; Laurent Dussopt ; Ronan Sauleau</i>	
<b>SWITCHED-BEAM E-BAND TRANSMITARRAY ANTENNA FOR POINT-TO-POINT COMMUNICATIONS.....</b>	<b>3119</b>
<i>L. Dussopt ; A. Moknache ; T. Potelon ; R. Sauleau</i>	
<b>A MINIATURIZED DUAL-BAND STOP FREQUENCY SELECTIVE SURFACE FOR 900 MHZ AND 1800 MHZ BANDS SHIELDING.....</b>	<b>3127</b>
<i>Mudassar Nauman ; Wasif Tanveer Khan</i>	
<b>A PATTERN RECONFIGURABLE MICROSTRIP DIPOLE ANTENNA WITH PRS GAIN ENHANCEMENT.....</b>	<b>3131</b>
<i>B. Barakali ; K. L. Ford ; S. Khamas</i>	
<b>A RECONFIGURABLE BEAM DUAL POLARIZED MICROSTRIP CROSS PATCH ANTENNA.....</b>	<b>3135</b>
<i>A. N'Gom ; A. Diallo ; K. Talla ; A. Chaibo ; I. Dioum ; J. M. Ribero ; A. C. Beye</i>	
<b>DUAL-BAND 8-ELEMENT MIMO ANTENNA WITH SHORT NEUTRAL LINE FOR 5G MOBILE HANDSET.....</b>	<b>3140</b>
<i>Xueliang Shi ; Ming Zhang ; Su Xu ; Daqing Liu ; Huailin Wen ; Jun Wang</i>	
<b>LOW LOSSES PRINTED DISTRIBUTION NETWORK TECHNOLOGIES FOR PLANAR ANTENNAS IN KA BAND.....</b>	<b>3147</b>
<i>Adrián Tamayo-Domínguez ; José-Manuel Fernández-González ; Manuel Sierra-Pérez</i>	

<b>DOPPLER SPECTRUM AND SECOND ORDER FADING STATISTICS OF EMERGING 3-D RADIO CELLULAR PROPAGATION CHANNELS .....</b>	<b>3157</b>
<i>Abrar Ahmed ; Sardar Muhammad Gulfam ; Syed Junaid Nawaz ; Mohammad N. Patwary</i>	
<b>WIDEBAND CHANNEL FADING CHARACTERISTICS IN CORRIDOR ENVIRONMENT AT MILLIMETER-WAVE BANDS .....</b>	<b>3162</b>
<i>Tianyi Wu ; Haiming Wang ; Chen Yu ; Wei Hong</i>	
<b>BASESTATION 3-DIMENSIONAL SPATIAL PROPAGATION CHARACTERISTICS IN URBAN MICROCELL AT 28 GHZ .....</b>	<b>3167</b>
<i>Tao Jiang ; Lei Tian ; Pan Tang ; Zhixue Hu ; Jianhua Zhang</i>	
<b>SPATIALLY SEPARATED SINGLE-POLARIZED VS. COLLOCATED DUAL-POLARIZED MIMO MEASUREMENTS .....</b>	<b>3177</b>
<i>Viktor Nikolaidis ; Nektarios Moraitis ; Athanasios G. Kanatas</i>	
<b>SPATIAL CONSISTENCY OF DOMINANT COMPONENTS BETWEEN RAY-TRACING AND STOCHASTIC MODELING IN 3GPP HIGH-SPEED TRAIN SCENARIOS .....</b>	<b>3182</b>
<i>Ke Guan ; Guangkai Li ; Danping He ; Longhe Wang ; Bo Ai ; Ruisi He ; Zhangdui Zhong ; Li Tian ; Jianwu Dou</i>	
<b>STUDY OF CORRELATION AND POWER IMBALANCE ON THE MIMO DISTRIBUTED SYSTEM .....</b>	<b>3187</b>
<i>J. C. Gonzalez-Macias ; J. F Valenzuela-Valdés ; P. Padilla ; J. Carmona-Murillo</i>	
<b>CHANNEL CHARACTERIZATION USING LARGE SCALE UNIFORM ARRAYS WITH SIDELOBE SUPPRESSION .....</b>	<b>3190</b>
<i>Fengchun Zhang ; Wei Fan ; Gert F. Pedersen</i>	
<b>ADAPTIVE FREQUENCY SAMPLING FOR RADIATION PATTERNS AND S-PARAMETERS OF ANTENNAS .....</b>	<b>3195</b>
<i>Ngoy Mutonkole ; Dirk I. L. De Villiers</i>	
<b>FIELD QUANTITIES — A GEOMETRICAL PERSPECTIVE .....</b>	<b>3200</b>
<i>Ioan E. Lager</i>	
<b>ON THE FULLY NUMERICAL EVALUATION OF SINGULAR INTEGRALS OVER COINCIDENT QUADRILATERAL PATCHES .....</b>	<b>3205</b>
<i>Alexandra Tambova ; Georgy Guryev ; Athanasios G. Polimeridis</i>	
<b>FIRST EXPERIMENTAL CHARACTERIZATION OF A GASEOUS PLASMA ANTENNA IN THE UHF BAND .....</b>	<b>3213</b>
<i>Davide Melazzi ; Paola De Carlo ; Fabio Trezzolani ; Vito Lancellotti ; Marco Manente ; Daniele Pavarin ; Francesco Rigobello ; Antonio-Daniele Capobianco</i>	
<b>PAGE SPECTRUM AS THE NEW TOOL FOR LINEAR ANTENNAS TRANSIENT ANALYSIS .....</b>	<b>3218</b>
<i>Maciej Walkowiak ; Anna Witenberg ; Katarzyna Jagodzinska</i>	
<b>EFFICIENT COMPUTATION OF THE LATTICE SUMS FOR LEAKY WAVES USING THE EWALD METHOD .....</b>	<b>3222</b>
<i>Paolo Baccarelli ; Vakhtang Jandieri ; Guido Valerio ; Giuseppe Schettini</i>	
<b>FULL-WAVE ANALYSIS OF LEAKY MODES IN 2-D EBG WAVEGUIDES .....</b>	<b>3224</b>
<i>Vakhtang Jandieri ; Paolo Baccarelli ; Cristina Ponti ; Giuseppe Schettini</i>	
<b>EFFICIENT AND ACCURATE SIMULATION OF SHIELDING EFFECTIVENESS IN COAXIAL CABLES .....</b>	<b>3226</b>
<i>Milos Pavlovic ; Branko Kolundzija</i>	
<b>PERFORMANCE OPTIMISATION OF STENCIL-BASED CODES FOR SHARED MEMORY ARCHITECTURES .....</b>	<b>3231</b>
<i>Maksims Abalenkovs</i>	
<b>THE FABRICATION AND TEST OF PARAFFIN-BASED DIELECTRIC LENSES FOR METAMATERIAL CHARACTERIZATION USING THE FREE-SPACE METHOD FOR 10–18 GHZ .....</b>	<b>3235</b>
<i>Reza Amiri ; Behnam Zarghooni ; Javad Pourahmadazar ; Tayeb A. Denidni</i>	
<b>HARDWARE IMPLEMENTATION OF DIRECTIONAL MODULATION SYSTEM WITH A 2 ELEMENT ANTENNA ARRAY .....</b>	<b>3239</b>
<i>Saad Mufti ; Josep Parrón ; Alan Tennant</i>	
<b>HIGH IMPEDANCE SURFACE FOR THE DESIGN OF THE HANKEL INWARD LEAKY WAVE ANTENNA .....</b>	<b>3243</b>
<i>Ping Lu ; Damien Voyer ; Arnaud Bréard ; Julien Huillery ; Bruno Allard ; Xue-Song Yang</i>	
<b>DUAL-BAND LUMPED ELEMENT DECOUPLING NETWORK DESIGN FOR TWO-ANTENNA SYSTEMS .....</b>	<b>3246</b>
<i>Jaakko Juntunen ; Jussi Rahola</i>	
<b>DESIGN AND OPTIMIZATION OF A 183 GHZ CORRUGATED HORN FOR HUMIDITY SOUNDER USING ANFIS .....</b>	<b>3251</b>
<i>Gupta Jay Vishnu ; Dhaval Pujara ; Dipak Adhyaru ; Sanjeev Kulshrestha</i>	

<b>ACCELERATED MULTI-OBJECTIVE DESIGN OPTIMIZATION OF ANTENNAS BY SURROGATE MODELING AND DOMAIN SEGMENTATION .....</b>	<b>3254</b>
<i>Slawomir Koziel ; Adrian Bekasiewicz ; Qingsha S. Cheng ; Song. Li</i>	
<b>SIDELOBE REDUCTION IN LINEAR ANTENNA ARRAYS WITH CORPORATE-FEEDS OF NON-UNIFORM POWER DISTRIBUTION .....</b>	<b>3259</b>
<i>Stanislav Ogurtsov ; Slawomir Koziel</i>	
<b>ON ULTRA-WIDEBAND ANTENNA MINIATURIZATION INVOLVING EFFICIENCY AND MATCHING CONSTRAINTS.....</b>	<b>3264</b>
<i>Slawomir Koziel ; Adrian Bekasiewicz ; Qingsha S. Cheng ; Song Li</i>	
<b>A STUDY ON VARIATION OF SIDE LOBE LEVEL OF OPTIMIZED UNIFORMLY EXCITED TIME-MODULATED LINEAR ANTENNA ARRAYS.....</b>	<b>3274</b>
<i>S. K. Mandal ; Harshavardhan Singh ; Ananya Mukherjee ; Kaushik Mandal</i>	
<b>PHASE ERROR ANALYSIS FOR REFLECTARRAY ANTENNAS BASED ON STUDY OF QUASI-PERIODIC EFFECT.....</b>	<b>3278</b>
<i>Tong Liu ; Maokun Li ; Fan Yang ; Shenheng Xu</i>	
<b>GPU-BASED PARALLEL ALGORITHM FOR VPL-APPROXIMATED EM WAVE PROPAGATION .....</b>	<b>3282</b>
<i>Saki Matsuo ; Masato Gocho ; Takahiro Hashimoto ; Atsuo Ozaki</i>	
<b>AN SDR BASED CHANNEL SOUNDING TECHNIQUE FOR EMBEDDED SYSTEMS .....</b>	<b>3286</b>
<i>Hervé Boeglen ; Albekaye Traore ; Manuel Milla Peinado ; Romain Lefort ; Rodolphe Vauzelle</i>	
<b>HISPASIM: A WEB APPLICATION FOR SATELLITE LINK BUDGET OPTIMIZATION AND MANAGEMENT .....</b>	<b>3295</b>
<i>Luis Escolar Haro ; Gregorio Juliana Quirós ; Álvaro Rodríguez Villalba ; Ramón Martínez Rodríguez-Osorio ; Pablo Honold ; Antonio Arana ; Alejandro Martínez ; Inés Sanz</i>	
<b>SATELLITE PROPAGATION EXPERIMENT IN LJUBLJANA: BEACON MEASUREMENTS AT KA- AND Q-BAND .....</b>	<b>3300</b>
<i>Andrej Vilhar ; Arsim Kelmendi ; Andrej Hrovat</i>	
<b>MODULAR TRANSMITTER AND RECEIVER FOR SPACE-TIME CODING .....</b>	<b>3305</b>
<i>Quinten Van Den Brande ; Patrick Van Torre ; Jo Verhaevert ; Jan Vanfleteren ; Hendrik Rogier</i>	
<b>A PORTABLE COMPACT CHANNEL SOUNDER SYSTEM WITHOUT SYNCHRONIZATION .....</b>	<b>3310</b>
<i>Georg Zimmer ; Alexander Weiß ; Stefan Leis ; Robert Geise ; Björn Neubauer</i>	
<b>BIANISOTROPIC HUYGENS' METASURFACE LEAKY-WAVE ANTENNA WITH FLEXIBLE DESIGN PARAMETERS .....</b>	<b>3315</b>
<i>Elena Abdo-Sánchez ; Ariel Epstein ; George V. Eleftheriades</i>	
<b>EMULATING ARBITRARY ANTENNA ARRAYS WITH LOW-PROFILE PROBE-FED CAVITY-EXCITED OMEGA-BIANISOTROPIC METASURFACE ANTENNAS .....</b>	<b>3319</b>
<i>Ariel Epstein ; George V. Eleftheriades</i>	
<b>RECENT WORK ON (SUB-)MM-WAVE ULTRA WIDEBAND CORRUGATED HORNS FOR RADIO ASTRONOMY.....</b>	<b>3327</b>
<i>A. Gonzalez ; K. Kaneko ; S. Asayama</i>	
<b>SHARED APERTURE METASURFACE ANTENNAS FOR MULTIBEAM PATTERNS .....</b>	<b>3332</b>
<i>David Gonzalez-Ovejero ; Gabriele Minatti ; Enrica Martini ; Goutam Chattopadhyay ; Stefano Maci</i>	
<b>DESIGN AND CALIBRATION OF A DOUBLE-DIRECTIONAL 60 GHZ CHANNEL SOUNDER FOR MULTIPATH COMPONENT TRACKING .....</b>	<b>3336</b>
<i>Ruoyu Sun ; Peter B. Papazian ; Jelena Senic ; Yeh Lo ; Jae-Kark Choi ; Kate A. Remley ; Camillo Gentile</i>	
<b>EXAMINATION OF THE EFFECTIVENESS OF FAR-FIELD MATHEMATICAL ABSORBER REFLECTION SUPPRESSION IN A CATR THROUGH COMPUTATIONAL ELECTROMAGNETIC SIMULATION.....</b>	<b>3341</b>
<i>S. F. Gregson ; C. G. Parini ; A. C. Newell ; G. E. Hindman</i>	
<b>INVERSE-SOURCE ALGORITHM FOR ANTENNA-FIELD TRANSFORMATIONS USING THE WEAK FORM OF THE COMBINED-SOURCE CONDITION .....</b>	<b>3346</b>
<i>Thomas F. Eibert ; Thorkild B. Hansen</i>	
<b>SPECTRAL POLARIMETRIE FEATURES ANALYSIS OF WIND TURBINE CLUTTER IN WEATHER RADAR .....</b>	<b>3351</b>
<i>Jiapeng Yin ; Oleg Krasnov ; Christine Unal ; Stefano Medagli ; Herman Russchenberg</i>	
<b>WIDE BAND PROPAGATION IN TRAIN-TO-TRAIN SCENARIOS — MEASUREMENT CAMPAIGN AND FIRST RESULTS.....</b>	<b>3356</b>
<i>Paul Unterhuber ; Stephan Sand ; Mohammad Soliman ; Benjamin Siebler ; Andreas Lehner ; Thomas Strang ; Maurizio D'Atri ; Fabrizio Tavano ; Damini Gera</i>	
<b>A COMPARISON OF INDOOR CHANNEL PROPERTIES IN V AND E BANDS .....</b>	<b>3361</b>
<i>Aliou Bamba ; Francesco Mani ; Raffaele D'Errico</i>	

<b>A COMPRESSIVE SENSING UNMIXING ALGORITHM FOR BREAST CANCER DETECTION</b> .....	3366
<i>Richard Obermeier ; Jose Angel Martinez-Lorenzo</i>	
<b>EVALUATION OF ARRAY ANTENNA SYSTEMS FOR GNSS APPLICATIONS USING WAVE-FIELD SYNTHESIS IN AN OTA LABORATORY</b> .....	3370
<i>Christopher Schirmer ; Alexander Rügamer ; Wim A. Th. Kotterman ; Markus H. Landmann ; Giovanni Del Galdo</i>	
<b>INVESTIGATIONS ON FADING SCALING WITH BANDWIDTH AND DIRECTIVITY AT 60 GHZ</b> .....	3375
<i>Diego Dupleich ; Naveed Iqbal ; Christian Schneider ; Stephan Haefner ; Robert Müller ; Sergii Skoblikov ; Jian Luo ; Reiner Thomä</i>	
<b>A DIELECTRIC LENS ANTENNA FED BY A FLEXIBLE DIELECTRIC WAVEGUIDE AT 160 GHZ</b> .....	3380
<i>Martin Geiger ; Martin Hitzler ; Johannes Iberle ; Christian Waldschmidt</i>	
<b>LONG READING RANGE CHIPLESS RFID SYSTEM BASED ON REFLECTARRAY ANTENNAS</b> .....	3384
<i>Maher Khaliel ; Ahmed El-Awamry ; Abdelfattah Fawky ; Thomas Kaiser</i>	
<b>MULTI-FREQUENCY POWER ANGULAR SPECTRUM COMPARISON FOR AN INDOOR ENVIRONMENT</b> .....	3389
<i>Usman Tahir Virk ; Sinh. L. H. Nguyen ; Katsuyuki Haneda</i>	
<b>WIRELESS MONITORING OF BREATH BY MEANS OF A GRAPHENE OXIDE-BASED RADIOFREQUENCY IDENTIFICATION WEARABLE SENSOR</b> .....	3394
<i>M. C. Caccami ; M. Y. S. Mulla ; C. Di Natale ; G. Marrocco</i>	
<b>3D PRINTED GRADIENT INDEX DIELECTRIC METASURFACE FOR BEAM STEERING APPLICATIONS</b> .....	3402
<i>Badreddine Ratni ; André De Lustrac ; Gérard-Pascal Piau ; Shah Nawaz Burokur</i>	
<b>MODULATED TENSORIAL METASURFACES FOR APERTURE FIELD GENERATION</b> .....	3405
<i>M. Teniou ; H. Roussel ; N. Capet ; G-P. Piau ; M. Casaletti</i>	
<b>CHARACTERIZATION OF A DUAL BAND METASURFACE ANTENNA WITH BROADSIDE AND ISOFLUX CIRCULARLY POLARIZED RADIATION PATTERNS</b> .....	3408
<i>A. Tellechea ; J. C. Iriarte ; I. Ederra ; R. Gonzalo ; E. Martini ; S. Maci</i>	
<b>DESIGN, FABRICATION AND TESTING OF A MODULATED METASURFACE ANTENNA AT 300 GHZ</b> .....	3416
<i>David González-Ovejero ; Cecile Jung-Kubiak ; Maria Alonso-Delpino ; Theodore Reck ; Goutam Chattopadhyay</i>	
<b>DRAGONFLY — ELECTRONICALLY STEERABLE LOW DRAG AERONAUTICAL ANTENNA</b> .....	3423
<i>F. Silvestri ; A. Benini ; E. Gandini ; G. Gerini ; E. Martini ; S. Maci ; M. C. Viganò ; M. Geurts ; G. Toso ; S. Monni</i>	
<b>LIQUID CRYSTAL BASED BEAM SCANNING REFLECTARRAYS AND THEIR POTENTIAL IN SATCOM ANTENNAS</b> .....	3428
<i>G. Perez-Palomino ; M. Barba ; J. A. Encinar ; R. Cahill ; R. Dickie ; P. Baine</i>	
<b>QUAD BAND X/Ka HORN ANTENNA AND FEED CHAIN DESIGNS</b> .....	3432
<i>J. Teniente ; I. Gómez-López ; R. Caballero-Nagore ; G. Crespo-López ; A. Martínez-Agoñes</i>	
<b>SQUINTE ELEVATION ANTENNA FOR KU BAND DVB SATELLITE RECEPTION WITH ELECTRONICALLY STEERED AZIMUTH</b> .....	3437
<i>N. B Buchanan ; V. F. Fusco ; A. Pal</i>	
<b>3D PRINTED COMPACT DUAL-POLARIZED WIDEBAND ANTENNA</b> .....	3441
<i>Abdul Sattar Kaddour ; Serge Bories ; Anthony Bellion ; Christophe Delaveaud</i>	
<b>RESISTIVELY LOADED 3D PRINTED ANTENNA FOR GPR APPLICATIONS</b> .....	3444
<i>C. H. J. Jenks</i>	
<b>GENERATION OF CIRCULARLY POLARIZED CONICAL BEAM PATTERN USING (3, 8) TORUS KNOT ANTENNA</b> .....	3449
<i>S. Vinoth Kumar ; A. R. Harish</i>	
<b>INKJET PRINTED DUAL BAND ANTENNA FOR PAPER UAVS</b> .....	3452
<i>S. Jun ; J. Heirons ; B. Sanz-Izquierdo</i>	
<b>ANTENNA DESIGN FOR SMARTPHONES USING MODAL/EIGENMODE ANALYSIS</b> .....	3457
<i>George Shaker ; Safieddin Safavi-Naeini</i>	
<b>DESIGN OF A DUAL-BAND PLATFORM-MOUNTED HF/VHF ANTENNA USING THE CHARACTERISTIC MODES THEORY</b> .....	3461
<i>Mingjian Li ; Nader Behdad</i>	
<b>DESIGN OF AN UHF UWB DOUBLED ANNULAR RING ANTENNA USING CHARACTERISTIC MODE ANALYSIS</b> .....	3464
<i>Qianyun Zhang ; Yue Gao</i>	
<b>EFFECTS OF ACTUAL ANTENNA EXCITATION ON NATURAL RADIATION MODES</b> .....	3467
<i>Asim Ghalib ; Mohammad S. Sharawi</i>	

<b>SOME CHALLENGING ISSUES IN CHARACTERISTIC MODE ANALYSIS OF REAL WORLD PROBLEMS AND SUGGESTED SOLUTIONS .....</b>	<b>3471</b>
<i>Raj Mittra</i>	
<b>A PORTABLE BREAST CANCER IMAGING SYSTEM WITH CROSS-SHAPED DOME ANTENNA ARRAY .....</b>	<b>3474</b>
<i>Hang Song ; Hikaru Sato ; Xia Xiao ; Takamaro Kikkawa</i>	
<b>BULK PERMITTIVITY VARIATIONS IN THE HUMAN BREAST OVER THE MENSTRUAL CYCLE .....</b>	<b>3476</b>
<i>Jeremie Bourqui ; Sasha M. Zarnke ; Jacob R. Budzis ; David C. Garrett ; Daphne J. Y. Mew ; Elise C. Fear</i>	
<b>MANUFACTURE AND TESTING OF ANTHROPOMORPHIC 3D-PRINTED BREAST PHANTOMS USING A MICROWAVE RADAR ALGORITHM OPTIMIZED FOR PROPAGATION SPEED .....</b>	<b>3480</b>
<i>D. Rodriguez Herrera ; T. Reimer ; M. Solis Nepote ; S. Pistorius</i>	
<b>QUASI-REAL TIME RECONSTRUCTION OF THE COMPLEX PERMITTIVITY OF TISSUE THROUGH MICROWAVE HOLOGRAPHY .....</b>	<b>3485</b>
<i>Daniel Tajik ; Denys S. Shumakov ; Alexander S. Beaverstone ; Natalia K. Nikolova</i>	
<b>TOWARDS THE ASSESSMENT OF DETECTION LIMITS IN MAGNETIC NANOPARTICLE ENHANCED MICROWAVE IMAGING OF BREAST CANCER .....</b>	<b>3489</b>
<i>Ovidio M. Bucci ; Gennaro Bellizzi ; Sandra Costanzo ; Lorenzo Crocco ; Giuseppe Di Massa ; Rosa Scapatucci</i>	
<b>DUAL-POLARIZED PATCH ARRAY ANTENNA PACKAGE FOR 5G COMMUNICATION SYSTEMS .....</b>	<b>3493</b>
<i>Jin-Kyoung Du ; Kwangsup So ; Yun Ra ; Seung-Yoon Jung ; Jongmoon Kim ; Seung Yeon Kim ; Seungmin Woo ; Hong-Teuk Kim ; Yo-Chuol Ho ; Woohyun Paik</i>	
<b>SUBSTRATE-INTEGRATED PLANAR DISCRETE LENS ANTENNA FOR COMPACT MILLIMETER-WAVE TRANSCEIVER MODULE .....</b>	<b>3497</b>
<i>Kossaila Medrar ; Loic Marnat ; Laurent Dussopt</i>	
<b>ANALYSIS AND DESIGN OF A CSRR-BASED FULLY PLANAR SUBSTRATE-INTEGRATED WAVEGUIDE FOR MILLIMETER-WAVE CIRCUITS AND ANTENNAS .....</b>	<b>3501</b>
<i>M. Nitas ; M. -T. Passia ; T. V. Yioultsis</i>	
<b>NOVEL PARAFFIN-BASED 100-GHZ VARIABLE CAPACITORS FOR RECONFIGURABLE ANTENNAS .....</b>	<b>3506</b>
<i>Behnam Ghassemiparvin ; Spandan Shah ; Nima Ghalichechian</i>	
<b>GENERATION OF LIMITED-DIFFRACTIVE TWISTED PULSES AT MILLIMETER WAVES .....</b>	<b>3511</b>
<i>Santi C. Pavone ; Davide Comite ; Walter Fuscaldo ; Guido Valerio ; Alessandro Galli ; Mauro Ettore ; Matteo Albani</i>	
<b>A HIGH-SPEED 2.5D RAY-TRACING PROPAGATION MODEL FOR MICROCELLULAR SYSTEMS, APPLICATION: SMART CITIES .....</b>	<b>3515</b>
<i>Taha Alwajeih ; Pierre Combeau ; Rodolphe Vauzelle ; Ahcene Bounceur</i>	
<b>AN INTRA-VISIBILITY MATRIX BASED ENVIRONMENT PRE-PROCESSING FOR EFFICIENT RAY TRACING .....</b>	<b>3520</b>
<i>Sajjad Hussain ; Conor Brennan</i>	
<b>PROPAGATION ASPECTS FOR RF FINGERPRINTING AT OPEN AREAS OVER IRREGULAR TERRAIN .....</b>	<b>3529</b>
<i>Eran Greenberg ; Pascal Levy</i>	
<b>HYBRID FORMULATION FOR THE ELECTROMAGNETIC ANALYSIS OF METALLIC OBJECTS PLACED IN NATURAL ENVIRONMENTS .....</b>	<b>3534</b>
<i>Lydia Hettak Hélène Roussel ; Massimiliano Casaletti ; Cyril Dahon ; Raj Mittra</i>	
<b>PROPAGATION EFFECTS IN THE APPLICATION OF WEATHER RADAR — POSITIVE AND NEGATIVE IMPACT .....</b>	<b>3538</b>
<i>Martin Hagen ; Jens Reimann</i>	
<b>DECRYPTING XPD-CPA BEACON MEASUREMENTS THROUGH A PHYSICAL SIMULATOR .....</b>	<b>3542</b>
<i>Eric Regonesi ; Carlo Capsoni ; Roberto Nebuloni ; Carlo Riva ; Lorenzo Luini</i>	
<b>PATH LENGTH IN RAIN MEDIA AND EFFECTIVE PATH LENGTH DERIVED FROM WEATHER RADAR MEASUREMENTS .....</b>	<b>3546</b>
<i>Franz Teschl ; Reinhard Teschl ; Helmut Paulitsch</i>	
<b>ACCURATE CHARACTERIZATION OF RAIN DROP SIZE DISTRIBUTION USING METEOROLOGICAL PARTICLE SPECTROMETER AND 2D VIDEO DISDROMETER FOR PROPAGATION AND REMOTE SENSING APPLICATIONS .....</b>	<b>3551</b>
<i>Merhala Thurai ; Viswanathan Bringi ; Patrick Kennedy ; Branislav Notaros ; Patrick Gatlin</i>	
<b>DESIGN METHODOLOGY OF SINGLE-FEED COMPACT NEAR-ISOTROPIC ANTENNA DESIGN .....</b>	<b>3559</b>
<i>Zhen Su ; Farhan Abdul Ghaffar ; Muhammad Fahad Farooqui ; Rana Muhammad Bilal ; Atif Shamim</i>	

<b>ANALYSIS OF STRIP ANTENNAS LOCATED ON THE INTERFACE BETWEEN A UNIAXIAL PLASMA AND AN ISOTROPIC MEDIUM .....</b>	<b>3563</b>
<i>Alexander V. Kudrin ; Tatyana M. Zaboronkova ; Anna S. Zaitseva ; Catherine Krafft</i>	
<b>PERFORMANCES OF MONOPOLE PLASMA ANTENNA .....</b>	<b>3568</b>
<i>Oumar Alassane Barro ; Mohamed Himdi ; Olivier Lafond</i>	
<b>A WIDEBAND DIPOLE ANTENNA BASED ON A NON-UNIFORMLY SEGMENTED STRUCTURE .....</b>	<b>3572</b>
<i>Haihan Sun ; Can Ding ; Y. Jay Guo ; Raj Mittra</i>	
<b>DESIGN OF A LOW PROFILE UNIDIRECTIONAL UWB ANTENNA FOR MULTI-SERVICE BASE STATION.....</b>	<b>3575</b>
<i>Carlos Ramiro Peñafiel-Ojeda ; Marta Cabedo-Fabrés ; Nora Mohamed Mohamed-Hicho ; Miguel Ferrando-Bataller</i>	
<b>EXPERIMENTAL VALIDATION OF A GPR IMAGING SYSTEM .....</b>	<b>3580</b>
<i>Maria García Fernández ; Borja Gonzalez-Valdes ; Ana Arboleya Arboleya ; Yolanda Rodriguez-Vaqueiro ; Yuri Álvarez López ; Antonio Pino García ; Fernando Las-Heras Andrés</i>	
<b>STUDY OF GEOPHYSICAL MODEL FUNCTIONS FOR INVERSE PROBLEM OF SEA SURFACE SCATTERING .....</b>	<b>3585</b>
<i>Tran Vu La ; Ali Khenchaf ; Fabrice Comblet ; Carole Nahum ; Helmi Ghanmi</i>	
<b>COMPUTATIONAL FREQUENCY-DIVERSE MICROWAVE IMAGING USING AN AIR-FILLED CAVITY-BACKED ANTENNA .....</b>	<b>3589</b>
<i>Okan Yurduseven ; Thomas Fromenteze ; Jonah N. Gollub ; Daniel L. Marks ; David R. Smith</i>	
<b>QUANTITATIVE IMAGING USING SCATTERING MATRIX: INFLUENCE OF THE POLARIZATION .....</b>	<b>3593</b>
<i>Christelle Eyraud ; Jean-Michel Geffrin ; Hassan Saleh</i>	
<b>A QUANTITATIVE INVESTIGATION OF THROUGH THE WALL IMAGING.....</b>	<b>3596</b>
<i>Mohammad Zoofaghari ; Mojtaba Dehmollaian ; Ahad Tavakoli</i>	
<b>CARBON FIBER REINFORCED POLYMER AS ANTENNA GROUND PLANE MATERIAL UP TO 10 GHZ .....</b>	<b>3601</b>
<i>Gerald Armer ; Robert Langwieser ; Christoph F. Mecklenbräuker</i>	
<b>EVALUATION OF OAM-RADIO MODE DETECTION USING THE PHASE GRADIENT METHOD.....</b>	<b>3606</b>
<i>Timothy D. Drysdale ; Ben Allen ; Eduardo Cano ; Qiang Bai ; Alan Tennant</i>	
<b>EMULATING MAGNETIC FERRITE TILES PROPERTIES BY WIPL-D SOFTWARE SUITE.....</b>	<b>3611</b>
<i>Branko Kolundzija ; Milos Pavlovic</i>	
<b>EVALUATION OF CURRENTS INDUCED IN HUMAN BODY BY PLANE WAVE EXPOSURE AT 1–90 MHZ .....</b>	<b>3614</b>
<i>Jeanne Frere ; Alain Alcaras ; Maxim Zhadobov ; Christophe Lemoine ; Gwenaël Le Cadre ; Ronan Sauleau</i>	
<b>EXPERIMENTAL EVALUATION OF UWB APPLICATOR PROTOTYPE FOR HEAD AND NECK HYPERTHERMIA .....</b>	<b>3619</b>
<i>Pegah Takook ; Masoud Shafiemehr ; Mikael Persson ; Hana Dobšček Trefná</i>	
<b>DESIGN OF AN X-BAND FEED SYSTEM FOR THE AUCKLAND UNIVERSITY OF TECHNOLOGY 30M DIAMETER WARKWORTH RADIO TELESCOPE.....</b>	<b>3621</b>
<i>Christophe Granet ; John S. Kot ; Tim Natusch ; Stuart Weston ; Sergei Gulyaev</i>	
<b>ANALYSIS AND DESIGN OF A CONTINUOUS PARALLEL PLATE WAVEGUIDE MULTIPLE BEAM LENS ANTENNA AT KU-BAND .....</b>	<b>3631</b>
<i>François Doucet ; Nelson J. G. Fonseca ; Etienne Girard ; Hervé Legay ; Ronan Sauleau</i>	
<b>METASURFACE WAVEGUIDES APPLIED TO MATCHED FEEDS FOR REFLECTOR ANTENNAS .....</b>	<b>3636</b>
<i>Michael Forum Palvig ; Erik Jorgensen ; Peter Meincke ; Olav Breinbjerg</i>	
<b>A COMPACT SATELLITE ANTENNA MODULE FOR GPS, GALILEO, GLONASS, BEIDOU AND SDARS IN AUTOMOTIVE APPLICATION.....</b>	<b>3639</b>
<i>Iuliia Goncharova ; Stefan Lindenmeier</i>	
<b>NEAR FIELD SYNTHESIS OF REFLECTARRAYS USING INTERSECTION APPROACH.....</b>	<b>3644</b>
<i>Álvaro F. Vaquero ; Daniel R. Prado ; Manuel Arrebola ; Marcos R. Pino ; Fernando Las-Heras</i>	
<b>WIDEBAND ANALYSIS OF RLSA BESSEL BEAM LAUNCHERS BASED ON STANDING AND INWARD TRAVELING WAVE APERTURE DISTRIBUTIONS FOR ELECTROMAGNETIC PULSE GENERATION .....</b>	<b>3649</b>
<i>Santi C. Pavone ; A. Mazinghi ; A. Freni ; M. Albani</i>	
<b>THE TIME-DEPENDENT ACGF WITH APPLICATIONS TO M-ARY DIGITAL COMMUNICATION SYSTEMS.....</b>	<b>3653</b>
<i>Said Mikki ; Ahmed Hanoon ; Jocelyn Aulin ; Yahia Antar</i>	

<b>REPRODUCING STANDARD SCME CHANNEL MODELS FOR MASSIVE MIMO BASE STATION RADIATED TESTING.....</b>	3658
<i>Wei Fan ; Fengchun Zhang ; Tommi Jämsä ; Mattias Gustafsson ; Pekka Kyösti ; Gert F. Pedersen</i>	
<b>MEASURING MASSIVE MIMO ARRAY SYSTEMS USING OVER THE AIR TECHNIQUES.....</b>	3663
<i>Doug Reed ; Alfonso Rodriguez-Herrera ; Ron Borsato</i>	
<b>OVER-THE-AIR EVALUATION AND RANKING OF MOBILE PHONE PERFORMANCE.....</b>	3668
<i>Anders Karstensen ; G. F. Pedersen</i>	
<b>SPATIAL FADING EMULATOR — EARLY OTA DEVICE IN JAPAN.....</b>	3673
<i>Jun-Ichi Takada ; Koichi Ogawa ; Kei Sakaguchi</i>	
<b>NEW CHALLENGES IN OVER-THE-AIR TESTING.....</b>	3676
<i>Wim A. Th. Kotterman ; Christopher Schirmer ; Markus H. Landmann ; Giovanni Del Galdo</i>	
<b>ASSESSING MEASUREMENT DISTANCES FOR OTA TESTING OF MASSIVE MIMO BASE STATION AT 28 GHZ.....</b>	3679
<i>Pekka Kyösti ; Wei Fan ; Jukka Kyröläinen</i>	
<b>EVALUATION OF COMBINED TIS FOR HIGH ORDER MIMO SYSTEM IN MOBILE TERMINAL.....</b>	3684
<i>Kun Zhao ; Zhinong Ying ; Sailing He</i>	
<b>THE CRITICAL IMPORTANCE OF ACCURATE CHANNEL MODELLING FOR THE SUCCESS OF MMWAVE 5G.....</b>	3688
<i>Moray Rumney</i>	
<b>ADVANCES IN MAGNETIC RESONANCE GUIDED RADIOFREQUENCY HYPERTHERMIA.....</b>	3692
<i>Margarethus M. Paulides ; Sergio Curto ; Mingming Wu ; Lukas Winter ; Gerard C. Van Rhooen ; Desmond T B Yeo</i>	
<b>DEVELOPMENT AND CLINICAL IMPLEMENTATION OF A HYBRID SYSTEM CONSISTING OF AN MRI AND MEDICAL LINEAR ACCELERATOR.....</b>	3697
<i>Teo Stanescu ; David Jaffray</i>	
<b>A PARASITIC SUPERDIRECTIONAL ELECTRICALLY SMALL COIL ARRAY FOR MAGNETIC RESONANCE IMAGING.....</b>	3702
<i>Xinyi Tang ; Xianming Qing ; Zhi Ning Chen</i>	
<b>A WIRELESS POWER TRANSFER ROUTE TO MAGNETICALLY MEDIATED HYPERTHERMIA.....</b>	3705
<i>Hans-Dieter Lang ; Gengyu Xu ; Costas D. Sarris</i>	
<b>MULTIFREQUENCY APPROACH IN HYPERTHERMIA TREATMENT PLANNING: IMPACT OF FREQUENCY ON SAR DISTRIBUTION IN HEAD AND NECK.....</b>	3710
<i>Hana Dobšicek Trefná ; Björn Martinsson ; Therese Petersson ; Niklas Renström ; Martin Torstensson ; Julia Ravanis ; Petra Kok ; Mikael Persson</i>	
<b>TECHNOLOGICAL REQUIREMENTS FOR MICROWAVE ABLATION OF ADRENAL MASSES.....</b>	3713
<i>Hojjatollah Fallahi ; Atif Shahzad ; Daniel Clausing ; Martin O'Halloran ; M. Conall Denny ; Punit Prakash</i>	
<b>TDOA-BASED MICROWAVE IMAGING ALGORITHM FOR REAL-TIME MONITORING OF MICROWAVE ABLATION.....</b>	3717
<i>Shouhei Kidera ; Luz Maria Neira ; Barry D. Van Veen ; Susan C. Hagness</i>	
<b>A FULL-WAVE NUMERICAL ASSESSMENT OF MICROWAVE TOMOGRAPHY FOR MONITORING CANCER ABLATION.....</b>	3722
<i>Gennaro G. Bellizzi ; Lorenzo Crocco ; Marta Cavagnaro ; Laura Farina ; Vanni Lopresto ; Rosa Scapaticci</i>	
<b>A DUAL-POLARIZED SLOTTED-WAVEGUIDE ANTENNA BASED ON GAP WAVEGUIDE TECHNOLOGY.....</b>	3726
<i>Miguel Ferrando-Rocher ; A. U. Zaman ; Jian Yang ; Alejandro Valero-Nogueira</i>	
<b>DEVELOPMENT AND VALIDATION OF MODELLING TECHNIQUES FOR LARGE PERIODIC ARRAYS IN KA-BAND.....</b>	3728
<i>Benoit Lesur ; Amel Maati ; Marc Thevenot ; Cyrille Menudier ; Thierry Monediere ; Christophe Melle ; David Chaimbault ; Alain Karas</i>	
<b>GRATING LOBES PREDICTION IN 3D ARRAY ANTENNAS.....</b>	3733
<i>Sjoerd Bosma ; Wessel P. Bruinsma ; Robin P. Hes ; Mark J. Bentum ; Ioan E. Lager</i>	
<b>CONTROL OF PHASE IN RADIAL LINE SLOT ANTENNA FOR 5G COMMUNICATIONS AT 60GHZ.....</b>	3738
<i>M. J. López Morales ; Jiro Hirokawa ; M. Sierra-Castañer</i>	
<b>THE EFFECT OF RECEIVING ANTENNA ORIENTATION AND POLARIZATION ON MEASUREMENTS OF ANTENNA EFFICIENCY IN A REVERBERATION CHAMBER.....</b>	3743
<i>Tian Hong Loh ; Jingyuan Li</i>	
<b>EFFICIENT BROADBAND ELECTROMAGNETIC MODELING OF ANECHOIC CHAMBERS.....</b>	3747
<i>Zubiao Xiong ; Zhong Chen ; Ji Chen</i>	

<b>MEASURING THE INTERACTION OF WIND TURBINES WITH TERRESTRIAL NAVIGATION AND RADAR SYSTEMS DEPLOYING UAS</b> .....	3751
<i>Thorsten Schrader ; Jochen Bredemeyer ; Marius Mihalachi ; Jan Rohde ; Thomas Kleine-Ostmann</i>	
<b>EFFICIENT AND NOVEL TEST TECHNIQUES FOR THE EVALUATION OF ANTENNA AND WIRELESS PERFORMANCE FOR LARGE EUTS</b> .....	3753
<i>Dennis Lewis ; Rich Kanemitsu</i>	
<b>A NF/FF TRANSFORMATION WITH SPHERICAL SCAN FOR A NONCENTRED QUASI-PLANAR ANTENNA USING A MINIMUM NUMBER OF DATA</b> .....	3756
<i>Francesco D'Agostino ; Flaminio Ferrara ; Claudio Gennarelli ; Rocco Guerriero ; Massimo Migliozzi</i>	
<b>PROLATE FUNCTION EXPANSION OF CIRCULARLY SUPPORTÉE APERTURE FIELDS IN NEAR-FIELD ANTENNA CHARACTERIZATION</b> .....	3761
<i>Amedeo Capozzoli ; Claudio Curcio ; Angelo Lisenò</i>	
<b>UTILIZING PARTIAL KNOWLEDGE OF PHASE DIFFERENCES IN CONVEX OPTIMIZATION FOR AMPLITUDE-ONLY NEAR-FIELD FAR-FIELD TRANSFORMATION</b> .....	3766
<i>Alexander Paulus ; Josef Knapp ; Thomas F. Eibert</i>	
<b>COMPARATIVE INVESTIGATION OF SPHERICAL NF MEASUREMENTS WITH FULL AND FIRST ORDER PROBE CORRECTION USING CALIBRATED OR SIMULATED PROBE</b> .....	3771
<i>F. Saccardi ; A. Giacomini ; L. J. Foged</i>	
<b>WIDEBAND LOW WEIGHT PROBE FOR NEAR-FIELD ANTENNA MEASUREMENTS IN UHF BAND</b> .....	3783
<i>Sergiy Pivnenko ; Beatriz Bedia Exposito ; Ana Rosa Ruiz ; Enrique Venero</i>	
<b>FAR FIELD PATTERN AND GAIN MEASUREMENT IN PLANAR NEAR FIELD TECHNIQUES</b> .....	3788
<i>Serge Balma ; Dominique Picard ; Pascal Meisse</i>	
<b>CHIPLESS WIRELESS DISPLACEMENT SENSOR SENSITIVITY ANALYSIS FOR IOT APPLICATIONS</b> .....	3795
<i>Ruben Campo ; Fátima Villa ; Josu Catalina ; Lucía Merino ; Miguel Sanz ; Daniel Valderas</i>	
<b>ISOLATION ENHANCEMENT IN MIMO RECONFIGURABLE PIFAS FOR MOBILE DEVICES</b> .....	3803
<i>F. A. Asadallah ; J. Costantine ; Y. Tawk ; C. G. Christodoulou</i>	
<b>DESIGN AND OBLIQUE INCIDENCE PERFORMANCE OF A PLANAR RADOME ABSORBER</b> .....	3806
<i>Sofian Hamid ; Hammam Shakhmourad ; Britta Kambach ; Dirk Heberling</i>	
<b>RE-CONSIDERATION OF KIRCHHOFF'S CURRENT LAW FOR ELECTROMAGNETIC CLOAKING AND INVISIBILITY WITH PLASMONIC MATERIALS OR IMPEDANCE METASURFACES</b> .....	3811
<i>Giuseppe Labate ; Ladislav Matekovits ; Mario Orefice</i>	
<b>A SWITCHING MECHANISM TO MITIGATE SCAN BLINDNESS IN PHASED ARRAYS</b> .....	3815
<i>Aurélien Ayissi Manga ; Raphaël Gillard ; Renaud Loison ; Isabelle Leroy-Naneix ; Christian Renard</i>	
<b>NOVEL HIGH GAIN POLARIZATION SWITCHABLE RECTANGULAR SLOT ANTENNA FOR L-BAND APPLICATIONS</b> .....	3820
<i>Rajesh K. Singh ; Ananjan Basu ; Shiban K. Koul</i>	
<b>UAV-BASED TECHNIQUE FOR THE CHARACTERIZATION OF THE INTRINSIC CROSS-POLARIZATION RATIO (IXR)</b> .....	3825
<i>Giuseppe Virone ; Fabio Paonessa ; Oscar Antonio Peverini ; Giuseppe Addamo ; Pietro Bolli ; Eloy De Lera Acedo</i>	
<b>EXPANDING THE FIELD OF VIEW: DESIGN CONSIDERATIONS FOR A SPARSE-REGULAR FFT SKA RADIO TELESCOPE</b> .....	3829
<i>Jan Geralt Bij De Vaate ; David Davidson ; Pieter Benthem</i>	
<b>PHASED ARRAY FEED DEVELOPMENT FOR ASKAP, WITH THE BENEFIT OF HINDSIGHT</b> .....	3832
<i>Robert D. Shaw</i>	
<b>NUMERICAL MODELLING OF SKA AA-MID TILE CONFIGURATIONS USING HARP</b> .....	3837
<i>J. Abraham ; H. Bui Van ; E. De Lera Acedo ; C. Craeye</i>	
<b>CALCULATING THE MAXIMUM QUANTIZATION SCAN ERROR IN DENSE PHASED ARRAYS</b> .....	3842
<i>J. Gilmore ; C. R. Wilke ; D. B. Davidson</i>	
<b>GRAPHENE BASED CROSS RING ANTENNA ARRAY WITH ELECTROMAGNETIC BAND GAP STRUCTURES</b> .....	3850
<i>Yongwei Zhang ; Anthony K. Brown ; Ming Yang ; Ahmed El-Makadema</i>	
<b>FAILURE IDENTIFICATION AND PATTERN CORRECTION IN LARGE ISOPHORIC SPARSE ARRAYS</b> .....	3854
<i>Daniele Pinchera ; Marco Donald Migliore</i>	
<b>A TM<sub>0</sub> SURFACE WAVE LAUNCHER BY MICROSTRIP AND SUBSTRATE INTEGRATED WAVEGUIDE TECHNOLOGY</b> .....	3859
<i>Victoria Gomez-Guillamon Buendia ; Symon K. Podilchak ; George Goussetis ; Jose-Luis Gomez-Tornero</i>	



<b>BESSEL BEAM GENERATION BY MEANS OF ANNULAR LEAKY-WAVE ANTENNAS</b> .....	3863
<i>D. Comite ; W. Fuscaldo ; P. Burghignoli ; P. Baccarelli ; S. K. Podilchak ; A. Galli</i>	
<b>WIDEBAND OMNIDIRECTIONAL PLANAR ANTENNA WITH VERTICAL POLARIZATION</b> .....	3865
<i>Lei Wang ; B. L. G. Jonsson ; Juan R. Mosig</i>	
<b>LEAKY-WAVE ANTENNA IN PLANAR TECHNOLOGY WITH HIGH DIRECTIVITY IN THE TRANSVERSE PLANE</b> .....	3869
<i>Alejandro Javier Martinez-Ros ; Maurizio Bozzi ; Marco Pasian ; Francisco Mesa</i>	
<b>SHIP-TO-SHIP BROADBAND CHANNEL MEASUREMENT AT 5.2 GHZ ON NORTH SEA</b> .....	3872
<i>Wei Wang ; Thomas Jost ; Ronald Raulefs ; Uwe-Carsten Fiebig</i>	
<b>PATH LOSS PREDICTION FOR ELECTROMAGNETIC SIDE-CHANNEL SIGNALS</b> .....	3877
<i>Alenka Zajic ; Milos Prvulovic ; Derrick Chu</i>	
<b>STUDY OF ELECTROMAGNETIC FIELD PROPAGATION IN MICROWAVE-HEATED MAGNETOPLASMAS OF COMPACT ION SOURCES</b> .....	3882
<i>G. Torrisi ; D. Mascali ; G. Sorbello ; L. Neri ; L. Celona ; G. Castro ; O. Leonardi ; S. Gammino</i>	
<b>IONOSPHERIC PROPAGATION MONITORING AND TEC MEASUREMENTS USING GPSTATION-6 GNSS RECEIVER</b> .....	3887
<i>Andra Pastrav ; Emanuel Puschita ; Tudor Palade</i>	
<b>ULTRAFAST BEAM STEERING BASED ON GRAPHENE METAMATERIAL</b> .....	3896
<i>Bakhtiyar Orazbayev ; Miguel Beruete ; Irina Khromova</i>	
<b>OPPORTUNITIES IN PHOSPHORENE PLASMONIC METASURFACES</b> .....	3900
<i>D. Correas Serrano ; J. S. Gomez-Diaz ; A. Alvarez-Melcon ; A. Aliù</i>	
<b>COMPARISON OF CIRCULAR, SQUARE CELL AND HEXAGONAL CELL ARTIFICIAL MAGNETIC CONDUCTORS FOR BROADBAND STAGGERED DIPOLE ARRAYS WITH LOW PROFILE</b> .....	3903
<i>Halim Boutayeb ; Paul Watson</i>	
<b>DESIGN OF PASSIVE CHIPLESS WIRELESS MOTION SENSOR USING DUAL POLARIZATION EFFECT</b> .....	3908
<i>Hatem El Matbouly ; Konstantinos Zannas ; Yvan Duroc</i>	
<b>DIELECTRIC RING RESONATORS AS CHIPLESS TEMPERATURE SENSORS FOR WIRELESS MACHINE TOOL MONITORING</b> .....	3912
<i>C. Mandel ; A. Jiménez-Sáez ; E. Polat ; M. Schüßler ; B. Kubina ; T. Scherer ; N. Lautenschläger ; R. Jakoby</i>	
<b>PROGRESS IN GREEN CHIPLESS RFID SENSORS</b> .....	3917
<i>Filippo Costa ; Etienne Perret ; Simone Genovesi ; Smail Tedjini ; Antonio Lazaro ; David Girbau ; Ramon Villarino ; Michele Borgese ; Alessio Dicandia ; Giuliano Manara</i>	
<b>TOWARDS MULTI-BIT, LONG RANGE AND ECO-FRIENDLY IMPLEMENTATION OF TAG SENSORS</b> .....	3922
<i>L. Roselli ; V. Palazzi ; F. Alimenti ; P. Mezzanotte</i>	
<b>FULLY POLARIMETRIC WIDEBAND RCS MEASUREMENTS FOR SMALL DRONES</b> .....	3926
<i>Matthias Röding ; Gerd Sommerkorn ; Stephan Häfner ; Robert Müller ; Reiner S. Thomä ; Jan Goerlich ; Konrad Garhammer</i>	
<b>RADAR POLARIMETRY WITH INTERLEAVED DUAL-ORTHOGONAL AND TIME-MULTIPLEXED SIGNALS: THE PARSAX RADAR SETUP AND PRELIMINARY RESULTS</b> .....	3931
<i>S. Neemat ; O. A. Krasnov ; E. Goossens ; A. Yarovoy</i>	
<b>POLARIMETRIC EM SIMULATION OF DIELECTRIC RADAR BENCHMARK TARGETS</b> .....	3936
<i>Frank Weinmann</i>	
<b>A TOMOGRAPHIC APPROACH TO POLARIMETRIC RADAR CROSS-SECTION IMAGING</b> .....	3940
<i>R. Moch ; T. Dallmann ; D. Heberling</i>	
<b>Author Index</b>	