

2017 IEEE Radio and Antenna Days of the Indian Ocean (RADIO 2017)

**Cape Town, South Africa
25-28 September 2017**



**IEEE Catalog Number: CFP1748Y-POD
ISBN: 978-1-5090-6317-8**

**Copyright © 2017, Radio Society
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:	CFP1748Y-POD
ISBN (Print-On-Demand):	978-1-5090-6317-8
ISBN (Online):	978-99949-0-401-3

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
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

TABLE OF CONTENTS

A FLEXIBLE MULTI-FREQUENCY CHANNEL CORRELATOR UPGRADE FOR MUSER-I ARRAY	1
<i>Fei Liu ; Yihua Yan ; Wei Wang ; Linjie Chen</i>	
A NEW IPS TELESCOPE CONCEPT	3
<i>Yihua Yan ; Wei Wang ; Linjie Chen ; Fei Liu ; Lihong Geng ; Zhijun Chen</i>	
ALMA BAND 2+ (67–95 GHZ) RECEIVER OPTICS	5
<i>A. Gonzalez ; K. Kaneko ; S. Asayama ; S. Srikanth ; J. Effland ; K. Saini</i>	
BUILDING AN EFFICIENT LINEAR-ARRAY IMAGER PROTOTYPE	7
<i>Ramesh Balasubramanyam ; Swaroop Jois ; Ashwini Prakash</i>	
DETECTION OF SOLAR DISK AND SKY BRIGHTNESS FOR INTERFEROMETRIC IMAGING	9
<i>Ying Mei ; Feng Wang ; Wei Wang ; Yihua Yan</i>	
MACHINE LEARNING FOR RADIO FREQUENCY INTERFERENCE MITIGATION USING POLARIZATION	11
<i>Olorato Mosiane ; Nadeem Oozeer ; Bruce A. Bassett</i>	
ELECTROMAGNETIC MODELLING OF THE 32-M GHANA RADIO TELESCOPE	13
<i>Mariet Venter ; Pietro Bolli</i>	
GLOBAL VLBI IN THE SKA ERA	15
<i>Arpad Szomoru</i>	
DEVELOPMENT OF MID-FREQUENCY APERTURE ARRAYS FOR RADIO ASTRONOMY	17
<i>W. A. Van Cappellen ; A. Van Ardenne</i>	
ON MINGANTU SPECTRAL RADIOHELIOGRAPH-MUSER: INTRODUCTION AND OBSERVATIONS	19
<i>Yihua Yan ; Zhijun Chen ; Wei Wang ; Fei Liu ; Lihong Geng ; Linjie Chen</i>	
SIMULATIONS OF A RADIO INTERFEROMETER	21
<i>Dragos Matei ; Alina Badescu</i>	
DESIGN OF A FOLDED SPLIT RING RESONATOR ANTENNA FOR USE IN AN ANIMAL-BORNE SENSOR	23
<i>S. C. K Dodson ; P. G. Wiid ; T. R. Niesler</i>	
A DUAL-BAND ANTENNA FOR UNMANNED AERIAL VEHICLE APPLICATIONS	25
<i>Weihua Tan ; Zhongxiang Shen</i>	
ANALYSIS OF L-PROBE PROXIMITY FED PATCH ANTENNA WITH PARASITIC PATCH	27
<i>Libor Sláma ; Josef Dobeš ; Tomáš Boštík ; František Vejražka</i>	
MEASUREMENTS OF ULTRA-WIDEBAND PROPAGATION WITHIN A SMALL AIRCRAFT FOR REPLACING WIRE HARNESSES	29
<i>Miyuki Hirose ; Takehiko Kobayashi</i>	
ON THE STATISTICAL DISTRIBUTION OF CLEAR AIR EFFECTS AND THE IMPLICATION ON MICROWAVE RADIO COMMUNICATION LINKS IN NIGERIA	31
<i>Olalekan Lawrence ; Joseph Sunday</i>	
INTEGRATING OVER SEA RADIO CHANNEL FOR SEA TURTLES LOCALIZATION IN THE INDIAN OCEAN	33
<i>Loic Guegan ; Nour Mohammad Murad ; Jean Mickael Lebreton ; Sylvain Bonhommeau</i>	
COMMUNICATION IN ROAD TUNNELS: PREDICTED PERFORMANCES OF LTE PRECODING TECHNIQUES	35
<i>Pierre Laly ; Martine Lienard ; Pierre Degauque ; Concepcion Sanchis-Borras ; Jose Maria Molina-Garcia-Pardo</i>	
ESTIMATION OF SPECIFIC ATTENUATION OF RADIO SIGNAL IN SOUTHWEST NIGERIA	37
<i>T. A. Adagunodo ; S. A. Akinwumi ; T. V. Omotosho ; M. L. Akinyemi</i>	
DOMINANT PATH MODEL FITTED TO SIGNAL MEASUREMENTS OF DIGITAL TV IN NON-LINE OF SIGHT PROPAGATION	39
<i>Geoffly L. Adonias ; Joabson N. Carvalho</i>	
FORWARD VELOCITY EXTRACTION FROM UAV SPOTLIGHT SAR DATA	41
<i>Lei Yang ; Song Zhou ; Lifan Zhao ; Guoan Bi</i>	
FREEZING HEIGHT LEVEL DISTRIBUTION OVER DURBAN, SOUTH AFRICA FOR SATELLITE COMMUNICATION	43
<i>E. O. Olurotimi ; O. Sokoya ; J. S. Ojo ; P. A. Owolawi</i>	

IMPACT OF MAGNETIC ACTIVITY ON OCCURRENCE OF IONOSPHERIC AMPLITUDE SCINTILLATION OVER LAGOS, NIGERIA.....	45
<i>O. O. Afolabi ; T. A. Adagunodo ; S. A. Akinwumi ; M R. Usikalu ; T. T. Ayorinde ; A. B. Rabi</i>	
PERIODIC LEAKY-WAVE ANTENNA BASED ON MULTILAYER RECTANGULAR WAVEGUIDE.....	47
<i>Renat R. Abdullin ; Rostislav I. Sokolov</i>	
A TUNABLE KA-BAND PLANAR GROOVE GAP WAVEGUIDE RESONANT CAVITY.....	49
<i>Titus Oyedokun ; Riana Geschke ; Tinus Stander</i>	
EFFECT OF HOLLOW CENTRE POST IN COUPLED COMBLINE RESONATORS.....	51
<i>Thato M. Pholele ; Joseph M. Chuma ; Ibo Ngebani</i>	
IMPACT OF DIFFERENT SURFACE FINISHES ON INSERTION LOSS FOR MICROSTRIP RESONATORS UP TO 110 GHZ.....	53
<i>Oliver Huber ; Gottfried Magerl ; Holger Arthaber</i>	
RESONATORS FOR WIRELESS POWER TRANSFER SYSTEMS.....	55
<i>Mingzhao Song ; Polina V. Kapitanova ; Pavel A. Belov</i>	
MINIATURE BAND-PASS FILTER ON MICROSTRIP RESONATORS.....	57
<i>Denis A. Letavin ; Hau Vu Xuan ; Hung Luu Quang</i>	
A NOVEL FREQUENCY PATTERN ENHANCEMENT TECHNIQUE BASED ON CAPACITIVELY COUPLED MICROSTRIP LINE FEED.....	59
<i>Seyi Stephen Olokede ; Babu Sena Paul</i>	
MINIATURIZATION OF MICROSTRIP DIRECTIONAL COUPLER BY MEANS OF ARTIFICIAL TRANSMISSION LINES.....	61
<i>Denis A. Letavin ; Hung Luu Quang</i>	
A TRIPLE-BAND MICROSTRIP PASSIVE DEVICE BASED ON QUASI HYBRID-RING COUPLER FEEDING.....	63
<i>Seyi Stephen Olokede ; Babu Sena Paul</i>	
PERFORMANCE ANALYSIS OF CONCATENATED LDPC CODES FOR VIDEO BROADCAST SATELLITE SYSTEM.....	65
<i>Akanksha Gupta ; M. E. Scholar ; Anjana Jain ; P. D. Vyavahare</i>	
NOVEL RSSI-BASED TECHNIQUES FOR INDOOR LOCALIZATION.....	67
<i>Jinze Du ; Jean-Francois Diouris ; Yide Wang</i>	
PHASE-LOCKED RADAR PULSE OPTIMAL RECEIVER BY AVERAGE RISK MINIMUM CRITERION.....	69
<i>Denis A. Dolmatov ; Renat R. Abdullin ; Rostislav I. Sokolov</i>	
COMPACTING LOOK-UP-TABLE MODELS FOR ALL-DIGITAL RF-TRANSMITTERS.....	71
<i>Norbert Leder ; Bernhard Pichler ; Thomas Faseth ; Gottfried Magerl ; Holger Arthaber</i>	
FAULT DETECTION OF ELECTRICAL EQUIPMENT BY RAPID CALCULATION OF THE MAGNETIC FIELD FROM SINGLE-CIRCUIT TWISTED THREE-PHASE CABLES.....	73
<i>Giovanni Mazzanti ; Leonardo Sandrolini ; Marco Landini ; Effrosyni Kandia ; Alessandro Tacchini ; Flavio Corradini</i>	
VOLTERRA KERNELS EXTRACTION FROM FREQUENCY-DOMAIN DATA FOR WEAKLY NON-LINEAR CIRCUIT TIME-DOMAIN SIMULATION.....	75
<i>Thong Nguyen ; Jose E. Schutt-Aine ; Ying Chen</i>	
EXPERIMENTAL STUDY ON LOAD DEPENDENT X-PARAMETER MODELS FOR PA DESIGN.....	77
<i>Bernhard Pichler ; Norbert Leder ; Gottfried Magerl ; Holger Arthaber</i>	
RECTENNA DESIGN FOR RF ENERGY HARVESTING USING CMOS 350NM AND FDSOI 28NM.....	79
<i>E. Rochefeuille ; F. Alicalapa ; A. Douyère ; T. P. Vuong</i>	
EXACT SCATTERING BY AN ELLIPTICAL RIBBON INSIDE A DIHEDRAL REFLECTOR.....	81
<i>Piergiorgio L. E. Uslenghi</i>	
AN ARBITRARY ORIENTED THIN WIRE TLM MODEL WITH OPTIMIZED INTERACTION DOMAIN.....	83
<i>David Saintier ; Gregory Kabalane ; Marylène Cueille ; Jean-Lou Dubard</i>	
MICROWAVE COMPLEX PERMITTIVITY OF HOT COMPRESSED WATER IN EQUILIBRIUM WITH ITS VAPOUR.....	85
<i>Shailendra Oree ; Roddy Lollchund</i>	
EFFECT OF GENERATED RADIOFREQUENCY ELECTROMAGNETIC FIELD TO HEART RATE VARIABILITY IN STUDENTS.....	87
<i>Jakub Misek ; Jan Jakus ; Viera Jakusova ; Marcel Veternik ; Miroslav Kohan ; Jan Barabas</i>	
FULL BODY IMAGING WITH MULTIVIEW ELECTROMAGNETIC SCANNERS.....	89
<i>Jaime Laviada ; Yuri Alvarez ; Fernando Las-Heras ; Borja González Valdés ; Ana Arboleya</i>	

NUMERICAL AND EXPERIMENTAL INVESTIGATIONS OF THE SPECIFIC ABSORPTION RATE USING REFERENCE DIPOLES.....	91
<i>Mayank Agarwal ; Vikass Monebhurrin</i>	
MAXWELL'S EQUATIONS AND ELECTROMAGNETICS AFTER 150+ YEARS.....	93
<i>W. C. Chew</i>	
CALCULATION OF FAR-FIELD RADIATION PATTERN USING NONUNIFORMLY SPACED ANTENNAS BY A LEAST SQUARE METHOD	94
<i>T. K. Sarkar</i>	
LOW-FREQUENCY RADIO ASTRONOMY ENGINEERING IN WESTERN AUSTRALIA.....	95
<i>Adrian Sutinjo</i>	
THE STATE-OF-THE-ART RESEARCH ON UWB ELEVEN FEED AND QRFH FEED IN A PERSPECTIVE OF SKA.....	96
<i>Jian Yang</i>	
SPANISH CONTRIBUTION TO THE SKA PROJECT: MID-FREQUENCY BAND ARRAY.....	98
<i>L. E. García-Muñoz ; D. Segovia-Vargas ; O. García-Pérez ; E. Ugarte-Muñoz ; E. De Lera-Acedo ; V. González-Posadas ; J. M. Serna-Puente ; J. A. López-Fernández ; Magdalena Salazar-Palma</i>	
DESIGN AND DEVELOPMENT OF SOME NOVEL PHASED ARRAYS AND ANTI-JAMMING ANTENNAS	99
<i>Satish Kumar Sharma</i>	
ANTENNA DESIGN: EARLY HISTORY, BASIC CONSIDERATIONS AND RECENT DEVELOPMENTS.....	100
<i>Zhongxiang Shen</i>	
METAMATERIALS: OPTICAL PROPERTIES ON DEMAND.....	101
<i>Nikolay I. Zheludev ; Nikolay I. Zheludev</i>	
LEAKY-WAVE ANTENNAS: FROM NICHE APPLICATIONS TO MASS MARKET	102
<i>Karu P. Esselle</i>	
Author Index	