

ICEAA 17

International Conference on
**ELECTROMAGNETICS IN
ADVANCED APPLICATIONS**

IEEE APWC 17

IEEE-APS Topical Conference on
**ANTENNAS AND PROPAGATION
IN WIRELESS COMMUNICATIONS**



SEPTEMBER 11-15 2017 VERONA ITALY

ICEAA **17** IEEE APWC

Organized by

Politecnico di Torino
Università degli Studi di Verona
IEIT-CNR

In cooperation with

IEEE Antennas and Propagation Society
URSI, the International Union of Radio Science
Torino Wireless Foundation
Istituto Superiore Mario Boella sulle Tecnologie
dell'Informazione e delle Telecomunicazioni
IEEE Italy Section

Sponsored by

IEEE Antennas and Propagation Society
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dell'Informazione e delle Telecomunicazioni

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FINAL PROGRAM

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W. Wiesbeck, Germany

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WELCOME TO THE CONFERENCE

On behalf of the Steering Committee, of the Organizing Committee and of the Scientific Committee, we are glad to welcome all participants to the nineteenth edition of ICEAA, and to the seventh edition of IEEE APWC, the IEEE-APS Topical Conference on Antennas and Propagation in Wireless Communications. These two conferences share a common organization, registration fee, submission site, workshops and short courses, and social events.

These Conferences together have a wide scope, which includes all kinds of advanced applications in Electromagnetics and new technology developments. Broad areas are covered, ranging from Additive Manufacturing to Metamaterials and Metasurfaces, from Wireless Communications to Wireless Power Transfer and Energy Harvesting, from Cognitive Radio to Electromagnetic Compatibility and Intentional Electromagnetic Interference, from Antennas, Propagation, and Components Technologies to Radar Cross Section and Asymptotic Techniques, from Electromagnetic Applications to Biomedicine to Computational Electromagnetics and Statistical Modelling for Signal Integrity. The two conferences altogether feature 61 sessions including 40 Special Sessions organized by renowned experts. The ICEAA 2017 Conference program consists of 50 sessions including 36 Special Sessions; the IEEE APWC 2017 Conference program consists of 11 sessions including 4 Special Sessions. About 540 papers are scheduled, out of the 810 submitted. As in previous editions invited papers will be presented at the Conferences, giving recent information on the state of the art and new technologies. Two Plenary Lectures are scheduled on Monday morning: one by Prof. J.R. Mosig on “Graphene-based terahertz antennas and related devices,” and one by Prof. S. J. Anderson on “Electromagnetics for the next generation of over-the-horizon radars.”

The Conferences also feature three half-day Short Courses on Monday, Thursday, and Friday afternoon. Intended participants should register at the Conference registration desk since the short courses can accommodate no more than 20 participants on a first-come, first served basis.

The Conferences are organized by the Politecnico di Torino, the University of Verona, and by the National Research Council of Italy.

The Conferences are held at the Congress Center of the “Hotel Leon d’Oro,” Viale del Piave 5, Verona, Italy, near important historical monuments, museums and parks. Don’t miss the opportunity to visit so many interesting places in Verona and its surroundings: we are sure you will enjoy them.

We look forward to seeing you in Verona in September.

Roberto D. Graglia

Chairman of the ICEAA - IEEE APWC Organizing Committee

Franco Fummi

Chairman of Local Organizing Committee

GENERAL INFORMATION

DATES AND LOCATION

The conferences will be held from 11th to 15th of September 2017, at the “Hotel Leon d’Oro” Congress Center, Viale del Piave 5, Verona, (see map).

OFFICIAL LANGUAGE

The official language will be English. No simultaneous translation will be provided.

PROCEEDINGS

At the registration, each participant will receive a copy of the Conference Proceedings.

ON SITE REGISTRATION FEE

The ICEAA and the IEEE APWC conference share a common organization, registration fee, submission site, workshops and short courses, and social events.

On-site registration fees are:

IEEE members: 695,00 Euro (VAT included)

Non-IEEE members: 715,00 Euro (VAT included)

Full registration is required of all participants, including members of the Conference Committees, Session Chairs and Authors.

The registration fee includes attendance to all sessions, luncheons and coffee breaks, Conference Banquet, and participants’ briefcase containing the Conference Proceedings and other material.

REGISTRATION DESK

A registration desk will be located in the Hall of the Congress Center. Accompanying persons and late registrants may register, or pre-registrants may pick up conference materials, at the following times:

Monday: 7:30÷17:30, **Tuesday through Thursday:** 7:30÷17:00.

The accompanying person fee is 120,00 Euro and only includes the Conference Banquet.

MEALS AND REFRESHMENTS

Luncheons (from Monday to Thursday) and coffee breaks are included in the registration fee. For luncheons, you can choose between the buffet and the fixed-menu lunch. The lunch buffet with traditional Italian dishes that vary daily is offered in the hotel lobby. Fixed-menu luncheons are served in the two (2) hotel restaurants located on different floors. For a better service you need to report your preference every day at the registration desk before 11.00 am. The registration desk will give you a voucher to guarantee access to the buffet or the restaurant you chose.

BANQUET

A banquet will be offered to the participants on Wednesday night, at 19:15, at the Dogana Veneta di Lazise sul Garda, Piazzetta A. Partenio 13, Lazise (Verona) Please visit: www.doganaveneta.it

Buses depart at 18:20 (sharp). The list of bus pick-up points will be available at the Conference registration desk.

Participants are requested to confirm for their bus transportation.

The winner(s) of the ICEAA - IEEE APWC 17 Young Scientist Award will be announced at the Banquet.

PARKING

Unguarded parking facilities are available at a cost at the Hotel Leon d'Oro (for this service, please ask at the Hotel reception). Cars are not allowed in the Verona historic districts, and in Verona it is very difficult to find parking.

AUDIOVISUAL EQUIPMENT

Each meeting room will be equipped with a notebook. Other equipment will be available only upon written request to the Organizing Committee, to be received before September 3. The presenting authors will not be allowed to use their personal computer for presentation; only the computer of the meeting rooms can be used for presentation. Authors' presentation files should be in either PowerPoint or PDF format. You must make sure that your presentation contains all of the fonts and any auxiliary or multimedia files needed, and that these files are copied on to the session room computer.

INTERNET CONNECTION

The Conference Centre features free WI-FI Internet access.

MESSAGES

During the Conference, messages may be directed to participants via Email (iceaa17@iceaa.polito.it) or by calling the Registration Desk at +39 045 8445140. Messages will be posted in front of the Registration desk.

TRANSPORTATION

The conference Hotel Leon D'Oro is located in a strategic position, near the centre of the city of Verona, a few steps (500 meters) from the main railway station of Verona Porta Nuova. Verona Villafranca's Catullo Airport (VRN) is approximately 10 Km southwest of the city centre. It is a small but very busy airport especially in summertime. From the Catullo airport you can easily reach Verona in 20-25 minutes by taxi, bus or rented car. From the airport there is a shuttle bus service every 20 minutes that runs between the airport and the Verona Porta Nuova railway station. If your arrival/departure airport is the "Milano Malpensa International Airport" do consider that there is a new train connection to/from Verona almost every hour (travel time about 2h:20m from Malpensa to Verona; 2h:50m from Verona to Malpensa). Information is available at <http://www.trenitalia.com/tcom-en> where you can also buy your train tickets in advance. The centre of the city is served by several buses from other parts of town. Tickets can be purchased in advance at newsstands, bars, tobacco shops, etc., or on the bus at an extra cost.

WEATHER

In mid-September, the weather in north-eastern Italy is usually fair, with temperatures ranging between 15°C to 25°C. Occasional showers are possible; therefore raincoats or umbrellas may be useful.

HOTEL ACCOMMODATIONS

A number of hotel rooms in different price categories have been booked for the period September 10 to 16: to make reservations, please use the form available on www.seleneweb.com/iceaa2017

It is advisable to make an early reservation because hotels are generally full.

TOURS & ACTIVITIES

For the latest information on the Accompanying Person Programme and other Social Events please check www.iceaa.net, or refer to the Conference registration desk.

OTHER ACTIVITIES

In September there are a number of interesting events in Verona, art exhibitions, etc. Detailed information will be available at the Conference registration desk.

USEFUL ADDRESSES

For technical and scientific aspects:

ICEAA Secretariat

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Corso Duca degli Abruzzi 24, 10129 Torino

Tel. +39-011-090-4000 (-4056, Prof. R.D. Graglia; -4012, Prof. G. Lombardi)

Fax +39-011-090-4015/-4099

E-mail: iceaa17@iceaa.polito.it

For logistics aspects and hotel reservation:

SELENE s.r.l.(Mrs. Manuela Trincherò)

Via Medici, 23 - 10143 Torino

Tel. +39 011 7499601

Fax +39 011 7499576

E-mail: iceaa2017@seleneweb.com

TECHNICAL EXHIBITION

A technical exhibition will be held in the area near the Conference Rooms.

Exhibitors and others requiring further information on this matter should contact:

SELENE s.r.l.(Mrs. Manuela Trincherò)

Tel. +39 011 7499601

Fax +39 011 7499576

E-mail: iceaa2017@seleneweb.com

ICEAA - IEEE APWC 2017 YOUNG SCIENTIST AWARD

A certificate and a prize of 800 Euro will be awarded to the young scientist (aged not more than thirty-six as of June 9, 2017) who has authored the best ICEAA or IEEE APWC paper in terms of content and impact on Electromagnetics. The finalists for this Award must present their paper in a special poster session scheduled for Monday afternoon, September 11, 2017, in the coffee-break area near the registration desk. In case of eligible coauthors who are registered participants at ICEAA - IEEE APWC, each awardee will receive a certificate and the cash award will be shared equally among them. The winner(s) of the ICEAA - IEEE APWC 2017 Young Scientist Award will be announced at the Conference Banquet on Wednesday evening, September 13, 2017. Since the award announcement and presentation are made at the Conference Banquet, all candidates are expected to attend it.

PLENARY LECTURES

MONDAY SEPTEMBER 11, 2017 - ROOM MASCAGNI 9:20-10:00



GRAPHENE-BASED TERAHERTZ ANTENNAS AND RELATED DEVICES

Prof. Juan R. Mosig

EE Institute, Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland

Joint work with Dr. M. Tamagnone, Harvard University, USA, and Dr. S. Capdevila, EPFL Switzerland

Abstract - In recent years there has been a noticeable increase in the interest of the research community in THz technologies and science. This growing interest in the THz gap is somehow driven by the potential applications in a wide range of fields such as security, counterfeit detection, imaging, spectroscopy, etc. However, there is still the need of devices, technologies, or materials that provide the same flexibility that we have nowadays at lower (microwave) frequencies. Such flexibility would enable, for instance, to realize essential components like switches and isolators, to electronically beam-steer or modulate the THz radiation, or even to reconfigure the behavior of our THz devices so that they can change their behavior according to specific needs. One of the materials that have shown an enormous potential to this end is graphene, the well-known bi-dimensional material, discovered in 2004. This fact has been acknowledged at the European level with the launching of the European Graphene Flagship project (<http://graphene-flagship.eu/>), one of whose aims is to explore all the electromagnetic and photonic possibilities opened by the control of this new material. This presentation will overview the recent activities in our laboratory related to the potential uses of graphene for reconfigurable telecommunication and remote sensing devices in the THz frequency range. This includes not only graphene controlled radiating elements and reflectarrays, but also the use of graphene in related components, such as switches, isolators and modulators. This research is framed by the development of theoretical concepts and upper bounds allowing design & optimization of graphene devices and by the set-up of measurement systems able to characterize the electromagnetic wave properties of graphene and related materials. In addition, some innovative alternatives for developing reconfigurable and beam-steering antennas in the THz range, like the use of elastomer materials will be described in detail and experimental results for THz reflectarrays will be presented.

Biography - **Juan R. Mosig** was born in Cadiz, Spain. He received the Electrical Engineer degree from the Universidad Politecnica de Madrid, Madrid, Spain, in 1973 and

the Ph.D. degree from the Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland, in 1983.

Since 1991, he has been a Professor in the Laboratory of Electromagnetics and Acoustics (LEMA) at EPFL and its Director since 1999. He has been a member of the Swiss Federal Commission for Space Applications, the Chairman of the EPFL Space Center, the Director of the Electrical Engineering Section at EPFL, and a Vice-Dean of the Humanities and Social Sciences College at EPFL.

His research interests include electromagnetic theory, numerical methods, planar antennas, terahertz applications, and novel technologies. In these areas, he has authored four chapters in books and more than 700 technical publications, including more than 200 papers in peer-reviewed top international journals.

Dr. Mosig has held scientific appointments with several universities in France, Denmark and USA. He is a IEEE Fellow and the recipient of the 2015 IEEE APS Schelkunoff Award for the best Transactions AP paper of the year and of the James R. James Lifetime Award Achievement (2015). He has been the Swiss Delegate for European COST Antenna Actions since the 1980s and the Chair of two completed Actions 284 and IC0603 ASSIST (2003-2011). He is a founding member and former Chair of the European Association on Antennas and Propagation (EurAAP) and was Conference Chair in two editions of the EurAAP Conference EuCAP (Nice, France, 2006 and Davos, Switzerland, 2016).

MONDAY SEPTEMBER 11, 2017 - ROOM MASCAGNI 10:20-11:00



ELECTROMAGNETICS FOR THE NEXT GENERATION OF OVER-THE-HORIZON RADARS

Prof. Stuart J. Anderson

Space and Atmospheric Physics Group,
University of Adelaide, Australia

Abstract - We are presently witnessing a resurgence in the development and deployment of radars operating in the HF band and exploiting propagation modes that support over-the-horizon (OTH) surveillance and remote sensing. Radars of this type emerged in the 1950's and 60's to address strategic and intelligence missions, evolved in the 1970's and 80's to provide air and surface surveillance, as well as remote sensing of ocean surface conditions, then, with a few exceptions, entered a period of what might be termed 'benign neglect' as the superpowers greatly scaled down their OTH radar programs at the end of the Cold War. But now a new era of proliferation is underway, and the challenge for radar designers is to take advantage of recent advances in electromagnetics to improve and extend radar performance. Areas of particular interest include novel radiating structures, high fidelity representations of the geophysical environment

and its dynamics, associated propagation models, electromagnetic scattering from targets made of complex materials, exploitation of MIMO architectures, and all these in the framework of wide-band, nonlinear, non-stationary, phenomenology. And not to forget, the adversarial context. This talk will offer a personal assessment of the tasks, the prospects and the challenges ahead.

Biography - Stuart J. Anderson received the B.Sc. and Ph.D. degrees in physics from the University of Western Australia, Perth, Australia, in 1968 and 1972, respectively. In 1974, he was invited to join the team being assembled in the Australian Defence Science and Technology Organization to develop the Jindalee over-the-horizon radar system, where he assumed responsibility for ocean surveillance and remote sensing, leading to the world's first fully operational OTHR wide area ocean surveillance system. He has worked as a Visiting Scientist in a number of countries, particularly the U.S., U.K., and France, as a consultant to their national HF radar programs.

Dr Anderson holds or has held Adjunct and Visiting Professor appointments at numerous universities in Australia and overseas, including University College London, Université Paris VI, and Université Rennes I, which, in 2005, awarded him an honorary doctorate for his contributions to radar science. In 2014 he retired from DSTO and took up a position of Adjunct Professor of Physics at the University of Adelaide. His research interests span ionospheric physics, radiowave propagation, radio oceanography, electromagnetic scattering, inverse problems, signal processing, passive coherent location, and microwave polarimetry. He has published over 320 journal papers, conference papers, book chapters, and reports in these fields. Dr Anderson was the recipient of the 1992 Australian Minister of Defence Science Award for Research Achievement for his pioneering contributions to over-the-horizon radar in both skywave and surface wave forms. He is the principal author of the chapter on OTH radar in the authoritative Radar Handbook.

SHORT COURSES

The Conferences feature three half-day Short Courses on Monday, Thursday, and Friday afternoon. Each course is offered to the first 20 registrants, on a first-come, first served basis. Intended course participants should register at the conference registration desk. Please notice that the Monday and Thursday courses are free for the Conference registrants, while the third one, scheduled on Friday afternoon, has a registration fee of 100 Euros.

A free half-day Short Course on “The physics and mathematics of the signal propagation mechanism in cellular wireless communication systems” will be held on Monday afternoon, September 11, by Prof. T.K. Sarkar of the Syracuse University, Syracuse, New York, USA.

A free half-day Short Course on “Effective medium theories backward in time: from the 21st to the 19th century - non-asymptotic and nonlocal approximations, finite samples, interface boundaries” will be held on Thursday afternoon, September 14, by Prof. I. Tsukerman of the University of Akron, Ohio, USA.

A half-day Short Course on “Introduction to antennas and arrays” will be held on Friday afternoon, September 15, by Prof. T.S. Bird of the Macquarie University, Sydney, Australia.

MONDAY, SEPTEMBER 11, 2017 - ROOM LEON D'ORO 13:40-18:00

Free Short Course on

THE PHYSICS AND MATHEMATICS OF THE SIGNAL PROPAGATION MECHANISM IN CELLULAR WIRELESS COMMUNICATION SYSTEMS

Instructor **Tapan K. Sarkar**

Syracuse University, Syracuse, NY, USA.

The objective of this short course is to introduce a new physics based visualization of the Electromagnetic wave propagation mechanism in cellular wireless communication systems. We also illustrate from a mathematical point of view that an electromagnetic macro model can accurately predict the dominant component of the propagation path loss in a cellular wireless communication. The reason a macro model can provide accurate results that agree with experiments is because the trees, buildings, and other man made obstacles contribute second order effects to the propagation path loss as the dominant component is the free space propagation of the signal and the effect of the Earth over which the signal is propagating. It is demonstrated using both measurements and an analytical theoretical model that the propagation path loss inside a cellular communication cell is first about 30 dB per decade of distance and later on, usually outside the cell, it is about 40 dB per decade of distance between the transmitter and the receiver irrespective of their heights from the ground. This implies that the electric field decays first at a rate of $\rho^{-1.5}$ inside the cell and later on, usually outside the cell, as ρ^{-2} , where ρ stands for the distance between the transmitter and the receiver. It will also be illustrated that the so called slow fading is due to the interference between the direct wave and the ground wave as introduced by Sommerfeld over a hundred years ago. All these statements can be derived from the approximate integration of the Sommerfeld integrals using a modified path for the steepest descent method and also using an accurate purely numerical methodology. An optical analog model will be presented based on the image theory developed by Van der Pol to illustrate the mechanism of radio wave propagation in a cellular wireless communication system where the path loss is 30 dB per decade or the field decays as $\rho^{-1.5}$. This macro model is used to refine the experimental data collection system for the propagation path loss

and it is also illustrated how the antenna tilt both mechanical and electrical can be incorporated in the macro model to predict the propagation path loss. Finally, an observation is made on how to further improve the propagation mechanism by observing the second channel from the mobile to the base station. Numerical data will reveal that the proposed methodology is a much better way to deploy base station antennas. Copies of presentation slides will be provided.

THURSDAY, SEPTEMBER 14, 2017 - ROOM LEON D'ORO 13:40-18:00

Free Short Course on

EFFECTIVE MEDIUM THEORIES BACKWARD IN TIME: FROM THE 21ST TO THE 19TH CENTURY

Non-Asymptotic and Nonlocal Approximations, Finite Samples, Interface Boundaries

Instructor **Igor Tsukerman**

The University of Akron, OH, USA.

Electromagnetic metamaterials are artificial periodic structures engineered to control the propagation of waves and to achieve physical effects not attainable in natural materials – high-frequency magnetism, negative refraction, strong absorption, lensing, cloaking, and more. Research in metamaterials started three decades ago, if not earlier, and exploded in the 2000s as a quest for “perfect lenses,” “perfect absorbers,” etc. But, as the field of metamaterials matured, it became clear that ideal devices were not realizable because of losses, finite lattice cell sizes, and other factors. Undoubtedly, however, “imperfect” materials and devices will continue to be developed, and we can therefore expect a growing need for more sophisticated methods of their analysis and, more specifically, for accurate homogenization theories valid for any composition and size of the lattice cell.

The objective of homogenization (effective medium theory) is to describe a composite structure in terms of effective parameters accurately representing reflection, transmission and propagation of waves on the scale coarser than the lattice cell size.

The course introduces a homogenization methodology valid in both electrostatics and electrodynamics and applicable to an arbitrary size and composition of the lattice cell. Nonlocal effects can be included in the model, making order-of-magnitude accuracy improvements possible.

We then travel backward in time and explore the connection between the new framework and the classical 19th – early 20th century theories of Clausius-Mossotti, Lorenz-Lorentz, Maxwell Garnett.

A particularly challenging problem for future research is to determine what effective

material tensors are attainable for given constituents of a metamaterial with their given properties, and how the lattice cell could be designed to produce such tensors. For example, what is the maximum effective permeability achievable? Bounds for effective parameters are currently known only for relatively simple settings, such as static dielectric permittivity of mixtures with two ingredients. The methodology developed in this course may help to make progress toward solving a much broader set of problems of this kind.

CONTENT:

- 21st century: metamaterials and homogenization.
- From asymptotic to non-asymptotic homogenization.
- The uncertainty principle in the homogenization of metamaterials.
- From non-asymptotic to nonlocal homogenization.
- Back to the 19th century: connection of classical effective medium theories with the new ones.
- Open problems.
- Conclusion.

Copies of presentation slides will be provided.

FRIDAY, SEPTEMBER 15, 2017 - ROOM LEON D'ORO 13:00-18:00

Short Course on

INTRODUCTION TO APERTURE ANTENNAS AND ARRAYS

Instructor **Trevor S. Bird**

Macquarie University, Sidney, Antengenuity, Eastwood NSW, Australia

The topic of aperture antennas includes many antennas in common daily use. Typical examples include waveguides, horns, reflectors, lenses, slits, slots and microstrip antennas. In this Workshop the underlying theory of these antennas is described as well of their applications. The intention is to provide an introduction to some basic aperture antennas and their design. It will be assumed that attendees are familiar with the basics of Maxwell's equations, fields and waves. Aperture antennas are normally associated with directional beams and, indeed, this is their role in many applications. Aperture antennas can also occur on non planar or curved surfaces such as on aircraft or groundbased vehicles. These antennas may consist of a single radiator or in arrays. In this form they are often used to provide directional or shaped beams. A limitation of a directional planar antenna is that when it is scanned from broadside the beam broadens and the pattern deteriorates. When the antenna is conformal to a convex surface, such as a cylinder or a cone, the beam can be scanned in discrete steps through an arc while maintaining a constant pattern. Of importance in the design of low sidelobe antenna arrays, both planar and conformal, is predicting the effect of mutual coupling

between the array elements. Maximum performance is achieved from arrays when the coupling between elements is fully taken into account.

The cost of the Workshop is Euro 60, which is for a presenter's copy of his book entitled 'Fundamentals of Aperture Antennas and Arrays', that will be used as notes for the Workshop.

Topics to be covered include:

1. Introduction (1 hr)
 - a. definition of aperture antenna
 - b. equivalent sources
 - c. fields radiated by an aperture
 - d. basic antenna parameters
2. Waveguide and horn antennas (1 hr)
3. Reflector antennas (1 hr)
4. Arrays of aperture antennas (1 hr)
5. Other aperture antennas (1 hr):
 - a. reflectarrays
 - b. lenses
 - c. Fabry-Perot resonators

A copy of Prof. T.S. Bird will be provided, and luncheon is included in the course registration fee.

IEEE APS CHAPTER CHAIRS MEETING

On **Thursday September 14, 2017** a meeting of all the IEEE APS Chapter Chairs with Past-Presidents of the IEEE Antennas and Propagation Society (Prof. R.D. Graglia, T.K. Sarkar, and T.S. Bird), and Dr. Ajay K. Poddar, Chair of the IEEE APS Chapter Activities Committee, is scheduled in Room Leonardo from 19:00 to 20:30.

CONFERENCE SCHEDULE*

*PLEASE CHECK THE DETAILED PROGRAM IN THE FOLLOWING PAGES

MONDAY, SEPTEMBER 11, 2017

ROOM MASCAGNI					
8.20-9.20 FORMAL OPENING					
9.20-10.00					
PLENARY ADDRESS by Juan R. Mosig EE Institute, Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland GRAPHENE-BASED TERAHERTZ ANTENNAS AND RELATED DEVICES					
10.20-11.00					
PLENARY ADDRESS by Stuart J. Anderson Space and Atmospheric Physics Group, University of Adelaide, Australia ELECTROMAGNETICS FOR THE NEXT GENERATION OF OVER-THE-HORIZON RADARS					
ROOM MASCAGNI	ROOM PONCHIELLI	ROOM LEONARDO	ROOM GALILEI	ROOM MARCONI	ROOM LEON D'ORO
11.20-15.40 Session 1 IEEE APWC LOW-PROFILE AND WIDEBAND ANTENNAS Chairs: C. Fumeaux H. Matsumoto	11.20-17.20 Session 3 ICEAA Organized by J.M. Arnold P.D. Smith MATHEMATICAL ADVANCES IN ELECTROMAGNETICS Chairs: J.M. Arnold P.D. Smith	11.20-12.20 Session 4 ICEAA FREQUENCY SELECTIVE SURFACES Chairs: N. Liu Z. Shen	11.20-17.20 Session 6 ICEAA Organized by M.N. Georgieva-Grosse G.N. Georgiev MODERN PROBLEMS OF MATHEMATICAL AND COMPUTATIONAL ELECTROMAGNETICS AND THEIR ADVANCED APPLICATIONS Chairs: M.N. Georgieva-Grosse G.N. Georgiev	11.20-15.40 Session 7 ICEAA RADAR CROSS SECTION AND RADAR IMAGING Chairs: S. Alvarez Navarro M. Dogan	13.40-18.00 FREE HALF DAY SHORT COURSE THE PHYSICS AND MATHEMATICS OF THE SIGNAL PROPAGATION MECHANISM IN CELLULAR WIRELESS COMMUNICATION SYSTEMS Instructor: T.K. Sarkar
16.00-18.20 Session 2 ICEAA Organized by Z.N. Chen L. Wei ADVANCED EM AND ANTENNAS: METAMATERIALS AND NOVEL STRUCTURES Chairs: Z.N. Chen L. Wei		13.40-18.20 Session 5 ICEAA Organized by P.M. Iglesias D. Manfredi O.A. Peverini ADDITIVE MANUFACTURING: TECHNOLOGIES AND MICROWAVE APPLICATIONS Chairs: D. Manfredi O.A. Peverini		16.00-17.00 Session 8 ICEAA Organized by J.F. Vega Stavro HIGH-POWER ELECTROMAGNETICS, SOURCES AND EFFECTS Chairs: T. Tientcheu J.F. Vega Stavro	
				17.00-18.20 Session 9 ICEAA HIGH POWER ELECTROMAGNETICS Chairs: T. Tientcheu J.F. Vega Stavro	

Coffee break 10.00-10.20 - Lunch break 12.20-13.40 - Coffee break 15.40-16.00

TUESDAY, SEPTEMBER 12, 2017

ROOM MASCAGNI	ROOM PONCHIELLI	ROOM LEONARDO	ROOM GALILEI	ROOM MARCONI	ROOM LEON D'ORO
<p>8.00-11.00</p> <p>Session 10 ICEAA</p> <p>Organized by S. Grivet-Talocia and F. Canavero</p> <p>NUMERICAL, BEHAVIORAL, AND STATISTICAL MODELING FOR EMC AND SIGNAL INTEGRITY</p> <p>Chairs: S. Grivet-Talocia A. Maffucci</p>	<p>8.20-12.00</p> <p>Session 13 ICEAA</p> <p>Organized by J.M.L. Bernard</p> <p>RECENT TRENDS IN ELECTROMAGNETIC MODELING</p> <p>Chairs: J.M.L. Bernard P.L.E. Uslenghi</p>	<p>8.00-11.40</p> <p>Session 16 ICEAA</p> <p>Organized by F. Vipiana, L. Crocco</p> <p>ELECTROMAGNETIC FIELDS IN BIOMEDICAL IMAGING AND THERAPEUTICS: METHODOLOGIES AND APPLICATIONS (MIMED AND EMF-MED)</p> <p>Chairs: L. Crocco F. Vipiana</p>	<p>8.00-12.00</p> <p>Session 19 ICEAA</p> <p>Organized by S. Campione and L.I. Basilio</p> <p>EM THEORY TOWARDS GENERAL APPLICATIONS FROM A NATIONAL LAB AND UNIVERSITY PERSPECTIVE</p> <p>Chairs: L.I. Basilio S. Campione</p>	<p>8.00-14.20</p> <p>Session 22 ICEAA</p> <p>Organized by A. Boag</p> <p>FAST COMPUTATIONAL METHODS</p> <p>Chairs: A. Boag M. Botha</p>	<p>8.00-9.00</p> <p>Session 25 ICEAA</p> <p>Organized by P. Russer</p> <p>WIRELESS POWER TRANSFER</p> <p>Chairs: A. Costanzo P. Russer</p> <hr/> <p>9.00-10.00</p> <p>Session 26 IEEE APWC</p> <p>WIRELESS POWER TRANSMISSION AND HARVESTING</p> <p>Chairs: A. Costanzo P. Russer</p>
<p>11.00-15.40</p> <p>Session 11 ICEAA</p> <p>ANTENNAS AND ARRAYS</p> <p>Chairs: P. Pirinoli P. Savi</p>	<p>13.40-17.20</p> <p>Session 14 ICEAA</p> <p>Organized by L. Klinkenbusch and T. Weiland</p> <p>TIME-DOMAIN METHODS</p> <p>Chairs: L. Klinkenbusch T. Weiland</p>	<p>11.40-15.40</p> <p>Session 17 ICEAA</p> <p>Organized by I. Andronov</p> <p>RECENT DEVELOPMENTS IN THE PARABOLIC EQUATION AND HIGH-FREQUENCY METHODS</p> <p>Chairs: I. Andronov</p>	<p>13.40-15.00</p> <p>Session 20 ICEAA</p> <p>Organized by G. Manara and S. Barmada</p> <p>WIRELESS POWER TRANSFER AND ENERGY HARVESTING FOR THE INTERNET OF THINGS</p> <p>Chairs: S. Barmada G. Manara</p>	<p>14.20-15.40</p> <p>Session 23 ICEAA</p> <p>ELECTROMAGNETIC MODELING OF DEVICES AND CIRCUITS</p> <p>Chairs: M. Botha L. Vietzorreck</p>	<p>10.20-15.40</p> <p>Session 27 ICEAA</p> <p>Organized by J. Russer</p> <p>STOCHASTIC ELECTROMAGNETIC FIELDS</p> <p>Chairs: J. Russer C. Sarris</p>
<p>16.00-18.20</p> <p>Session 12 ICEAA</p> <p>Organized by H. Shirai</p> <p>RECENT ADVANCEMENT OF ELECTROMAGNETIC THEORY</p> <p>Chairs: K. Goto H. Shirai</p>	<p>17.20-18.20</p> <p>Session 15 ICEAA</p> <p>Organized by A. Osipov and L. Klinkenbusch</p> <p>CANONICAL PROBLEMS IN SCATTERING AND DIFFRACTION</p> <p>Chairs: L. Klinkenbusch A. Osipov</p>	<p>16.00-18.20</p> <p>Session 18 ICEAA</p> <p>METAMATERIALS AND METASURFACES</p> <p>Chairs: H. Fernández Álvarez N.L. Tsitsas</p>	<p>16.00-18.00</p> <p>Session 21 ICEAA</p> <p>INVERSE SCATTERING AND REMOTE SENSING</p> <p>Chairs: J.L. Garrison R. Solimene</p>	<p>16.00-18.20</p> <p>Session 24 ICEAA</p> <p>PRINTED AND CONFORMAL ANTENNAS</p> <p>Chairs: M. Cupal F. Wang</p>	<p>16.00-18.20</p> <p>Session 28 IEEE APWC</p> <p>RFID TECHNOLOGIES</p> <p>Chairs: C.-W. Chiu M. Donelli</p>

Coffee break 10.00-10.20 - Lunch break 12.20-13.40 - Coffee break 15.40-16.00

WEDNESDAY, SEPTEMBER 13, 2017

ROOM MASCAGNI	ROOM PONCHIELLI	ROOM LEONARDO	ROOM GALILEI	ROOM MARCONI	ROOM LEON D'ORO
<p>8.00-17.20</p> <p>Session 29 IEEE APWC</p> <p>Organized by H. Nakano</p> <p>WIDEBAND/MULTI- BAND ANTENNAS AND EMERGING ANTENNA TECHNOLOGIES</p> <p>Chairs: H. Nakano K. Monai T. Kawano</p>	<p>8.00-9.40</p> <p>Session 30 ICEAA</p> <p>TECHNOLOGIES FOR MM AND SUB-MM WAVES</p> <p>Chairs: A. Clemente S. Runke</p>	<p>8.00-9.40</p> <p>Session 32 ICEAA</p> <p>Organized by M. Moghaddam</p> <p>ELECTROMAGNETIC SCATTERING MODELS FOR SIGNALS OF OPPORTUNITY</p> <p>Chairs: M. Moghaddam</p>	<p>8.00-9.40</p> <p>Session 34 ICEAA</p> <p>ELECTROMAGNETIC MEASUREMENTS</p> <p>Chairs: F. D'Agostino T. Martin</p>	<p>8.00-10.00</p> <p>Session 36 ICEAA</p> <p>Organized by I. Tsukerman</p> <p>ANALYSIS AND SIMULATION OF COMPLEX ELECTROMAGNETIC MEDIA</p> <p>Chairs: K. Hollaus I. Tsukerman</p>	<p>8.00-11.00</p> <p>Session 39 ICEAA</p> <p>Organized by C. Pichot</p> <p>COMPUTATIONAL METHODS AND EXPERIMENTAL RESULTS: COMPARISON AND UNCERTAINTY ANALYSIS FOR ANTENNA RADIATION, SCATTERING AND RCS APPLICATIONS</p> <p>Chairs: C. Migliaccio C. Pichot</p>
	<p>10.20-17.00</p> <p>Session 31 ICEAA</p> <p>Organized by K. Kobayashi and Y. Shestopalov</p> <p>NOVEL MATHEMATICAL METHODS IN ELECTROMAGNETICS</p> <p>Chairs: K. Kobayashi Y. Shestopalov</p>	<p>9.40-17.20</p> <p>Session 33 ICEAA</p> <p>Organized by D.B. Davidson, E. de Lera Acedo, G. Virone, R. Wayth</p> <p>ANTENNA SYSTEMS FOR RADIO ASTRONOMY</p> <p>Chairs: M D.B. Davidson E. de Lera Acedo G. Virone R. Wayth</p>	<p>10.20-17.20</p> <p>Session 35 ICEAA</p> <p>Organized by D. Erricolo, G. Carluccio, R. Lattanzi</p> <p>RECENT ADVANCES IN ELECTROMAGNETICS FOR MRI</p> <p>Chairs: G. Carluccio D. Erricolo R. Lattanzi</p>	<p>10.20-14.20</p> <p>Session 37 ICEAA</p> <p>ELECTROMAGNETIC APPLICATIONS TO BIOMEDICINE</p> <p>Chairs: G. Lazzi E. Topsakal</p>	<p>11.00-14.40</p> <p>Session 40 IEEE APWC</p> <p>PROPAGATION MODELLING</p> <p>Chairs: E. Plouhinec G. Teuta</p>
				<p>14.20-17.20</p> <p>Session 38 IEEE APWC</p> <p>WIRELESS COMMUNICATIONS</p> <p>Chairs: D. Kuester A. Poddar</p>	<p>14.40-17.20</p> <p>Session 41 ICEAA</p> <p>Organized by F. Andriulli</p> <p>COMPUTATIONALLY EFFICIENT SOLVERS AND STABLE DISCRETIZATIONS</p> <p>Chairs: F. Andriulli</p>

Coffee break 10.00-10.20 - Lunch break 12.20-13.40 - Coffee break 15.40-16.00

THURSDAY, SEPTEMBER 14, 2017

ROOM MASCAGNI	ROOM PONCHIELLI	ROOM LEONARDO	ROOM GALILEI	ROOM MARCONI	ROOM LEON D'ORO
<p>8.00-12.20</p> <p>Session 42 ICEAA</p> <p>Organized by G. Slepyan and A. Boag</p> <p>ELECTROMAGNETIC PROPERTIES OF NANOSTRUCTURES AND NANOANTENNAS</p> <p>Chairs: A. Boag G. Slepyan</p>	<p>9.00-18.00</p> <p>Session 45 ICEAA</p> <p>Organized by R.D. Graglia and D.R. Wilton</p> <p>NUMERICAL METHODS IN ELECTROMAGNETICS</p> <p>Chairs: R.D. Graglia D.R. Wilton</p>	<p>8.20-12.20</p> <p>Session 46 ICEAA</p> <p>Organized by Z. Shen</p> <p>NOVEL FREQUENCY SELECTIVE STRUCTURES AND APPLICATIONS</p> <p>Chairs: W. Geyi Z. Shen</p>	<p>8.00-11.00</p> <p>Session 49 ICEAA</p> <p>EMC/EMI/EMP</p> <p>Chairs: J.-P. Adam V. Šeděnka</p>	<p>8.00-12.00</p> <p>Session 51 ICEAA</p> <p>Organized by K.P. Esselle and L. Matekovits</p> <p>ANTENNAS AND ELECTROMAGNETIC DEVICES INSPIRED BY ELECTROMAGNETIC BAND GAP</p> <p>Chairs: K.P. Esselle L. Matekovits</p>	<p>8.00-12.00</p> <p>Session 54 ICEAA</p> <p>Organized by Y. Wen, X. Hei</p> <p>SYSTEM SAFETY AND SECURITY</p> <p>Chairs: X. Hei Y. Wen</p>
<p>13.40-15.40</p> <p>Session 43 IEEE APWC</p> <p>Organized by G. Perona</p> <p>IOT, BIG DATA AND ADVANCED EM SENSORS AND SYSTEMS</p> <p>Chairs: S. Bertoldo G. Perona</p>		<p>13.40-15.40</p> <p>Session 47 ICEAA</p> <p>Organized by P. Russer</p> <p>NETWORK METHODS IN EM MODELING</p> <p>Chairs: P. Russer S. Wane</p>	<p>11.00-18.00</p> <p>Session 50 IEEE APWC</p> <p>ANTENNAS AND ARRAYS</p> <p>Chairs: M. Pralon T.K. Sarkar</p>	<p>13.40-15.20</p> <p>Session 52 ICEAA</p> <p>Organized by R. Vescovo and G. Buttazzoni</p> <p>INNOVATIVE METHODS OF SYNTHESIS FOR APERIODIC ANTENNA ARRAYS</p> <p>Chairs: G. Buttazzoni R. Vescovo</p>	<p>13.40-18.00</p> <p>FREE HALF DAY SHORT COURSE</p> <p>EFFECTIVE MEDIUM THEORIES BACKWARD IN TIME: FROM THE 21ST TO THE 19TH CENTURY</p> <p>Instructor: I. Tsukerman</p>
<p>16.00-18.20</p> <p>Session 44 ICEAA</p> <p>Organized by D. de Villiers</p> <p>SURROGATE MODELING AND OPTIMIZATION OF DEVICES IN ELECTROMAGNETICS</p> <p>Chairs: A. Cuyt D. de Villiers</p>		<p>16.00-18.20</p> <p>Session 48 ICEAA</p> <p>Organized by D. Erricolo and M.C. Wicks</p> <p>CONCEALED OBJECT DETECTION: BELOW-GROUND IMAGING THROUGH-WALL SURVEILLANCE AND CONTRABAND DETECTION</p> <p>Chairs: D. Erricolo M.C. Wicks</p>	<p>16.00-18.20</p> <p>Session 53 IEEE APWC</p> <p>Organized by Y.J. Guo</p> <p>ADVANCES IN WIRELESS SENSING SYSTEMS AND TECHNOLOGIES</p> <p>Chairs: Y.J. Guo</p>		
	<p>19:00-20:30</p> <p>IEEE AP-S CHAPTER CHAIRS MEETING</p>				

Coffee break 10.00-10.20 - Lunch break 12.20-13.40 - Coffee break 15.40-16.00

FRIDAY, SEPTEMBER 15, 2017

ROOM MASCAGNI	ROOM PONCHIELLI	ROOM LEONARDO	ROOM GALILEI	ROOM MARCONI	ROOM LEON D'ORO
<p>8.00-12.20</p> <p>Session 55 ICEAA</p> <p>Organized by M. Pastorino</p> <p>MICROWAVE IMAGING AND APPLICATIONS</p> <p>Chairs: M. Pastorino C. Pichot</p>	<p>8.00-12.20</p> <p>Session 56 ICEAA</p> <p>INTEGRAL EQUATIONS AND FINITE METHODS</p> <p>Chairs: A. Seagar S.-R. Chai</p>	<p>8.20-11.40</p> <p>Session 57 IEEE APWC</p> <p>Organized by P. Nepa and A. Michel</p> <p>ADVANCES IN ANTENNAS, SENSORS AND COMMUNICATION SYSTEMS FOR SMART AND CONNECTED VEHICLES</p> <p>Chairs: P. Nepa D. Zamberlan</p>	<p>8.00-11.40</p> <p>Session 59 ICEAA</p> <p>Organized by M. Gustafsson, L. Jonsson, D. Sjöberg</p> <p>OPTIMIZATION TECHNIQUES IN ELECTROMAGNETIC APPLICATIONS</p> <p>Chairs: M. Gustafsson L. Jonsson, D. Sjöberg</p>	<p>8.00-11.40</p> <p>Session 60 ICEAA</p> <p>Organized by Y. Shestopalov</p> <p>INVERSE PROBLEMS AND NONLINEAR MEDIA</p> <p>Chairs: Y. Shestopalov</p>	<p>8.00-11.00</p> <p>Session 61 ICEAA</p> <p>ELECTROMAGNETIC THEORY</p> <p>Chairs: R. Nesti G. Sorbello</p>
		<p>11.40-12.20</p> <p>Session 58 IEEE APWC</p> <p>WIRELESS SENSOR NETWORKS</p> <p>Chairs: P. Nepa Y. Zhang</p>			<p>13.00-18.00</p> <p>HALF DAY SHORT COURSE</p> <p>INTRODUCTION TO APERTURE ANTENNAS & ARRAYS</p> <p>Instructor: T.S. Bird</p>

Coffee break 10.00-10.20

FINAL PROGRAM

MONDAY, SEPTEMBER 11 2017 - 11:20 ROOM MASCAGNI

SESSION 01 - IEEE APWC

LOW PROFILE AND WIDEBAND ANTENNAS

chair C. Fumeaux H. Matsumoto

11:20-11:40

CIRCULARLY POLARIZED MICROSTRIP ANTENNA WITH AN AIRGAP FOR MULTI-GNSS APPLICATIONS

H. Matsumoto, Hitachi Ltd., Japan; M. Tanikawara, Hitachi Industrial Equipment Systems Co. Ltd., Japan

11:40-12:00

INTEGRATION OF A WIDEBAND LOW-PROFILE MONOPOLAR ANTENNA ONTO CURVED METALLIC SURFACES

S. P. Pinapati, N. Nguyen-Trong, University of Adelaide, Australia; A. Piotrowski, Defence Science and Technology Group, Australia; C. Fumeaux, University of Adelaide, Australia

12:00-12:20

ON-SILICON MILLIMETER-WAVE ANTENNAS AND PASSIVE COMPONENTS USING NARROW FILM STRUCTURES

A. Rashidian, C. Shafai, L. Shafai, The University of Manitoba, Canada

13:40-14:00

EXTREMELY LOW-PROFILE CIRCULAR PATCH-RING ANTENNA WITH A SHORTING VIA FOR IMPEDANCE MATCHING IMPROVEMENT

S. Zhang, I. Strytsin, Aalborg University, Denmark; M. Sørensen, Bang & Olufsen, Denmark; G.F. Pedersen, Aalborg University, Denmark

14:00-14:20

A SMALL APERTURE MULTI OCTAVE BAND TAPERED SLOT RADIATOR

K. Sneha, N.N. Sastry, V.R. Siddhartha Engineering College, India

14:20-14:40

UWB SHIELDED TEARDROP MONOPOLE ANTENNA FOR GPR AND COMMUNICATIONS

S. R. Pennock, C. H. J. Jenks, University 602 of Bath, United Kingdom

14:40-15:00

A MULTI-BAND ANTENNA LOADED WITH DNA-LIKE DUAL-HELIX META-ELEMENTS FOR WLAN/WIMAX APPLICATIONS

J. Zhou, M. Dong, B. You, Xiamen University, China; Y. Shang, Xinghai Communication Science and Technology Co. Ltd., China; J. Li, Xiamen University, China

15:00-15:20

A BROADBAND POSITIONING ARRAY ANTENNA WITH CRESCENT-LIKE SLITS FOR GLOBAL NAVIGATION SATELLITE SYSTEM APPLICATIONS

B. You, H. Xu, J. Zhou, Xiamen University, China; Y. Shang, Xinghai Communication Science and Technology Co. Ltd., China; T. Xue, Xiamen University, China

15:20-15:40

BODY-COUPLED MONOPOLE UWB ANTENNA FOR WEARABLE MEDICAL MICROWAVE IMAGING APPLICATIONS

F. Wang, T. Arslan, University of Edinburgh, United Kingdom

MONDAY, SEPTEMBER 11 2017 - 16:00 ROOM MASCAGNI

SESSION 02 - ICEAA

ADVANCED EM AND ANTENNAS: METAMATERIALS AND NOVEL STRUCTURES

organized by Z.N. Chen and L. Wei

chair Z.N. Chen L. Wei

16:00-16:20

BROADBAND CHIRAL METAMIRRORS

L. Jing, Zhejiang University, China; Z. Wang, Shandong University, China; B. Zheng, H. Wang, Y. Yang, Zhejiang University, China; Y. Liu, Northeastern University, MA, United States; H. Chen, Zhejiang University, China

16:20-16:40

DESIGN OF A THIN ULTRA WIDEBAND METAMATERIAL ABSORBER

X. Begaud, S. Varault, A.C. Lepage, Telecom ParisTech, France; M. Soiron, SART, France; A. Barka, ONERA, France;

16:40-17:00

BREAKING THE FIELD SYMMETRY OF TRANSMISSION LINES

L. Chang, Y. Li, Z. Zhang, Z. Feng, Tsinghua University, China

17:00-17:20

MINIATURIZED METASURFACE UNIT CELL FOR MICROWAVE METALENS ANTENNAS

T. Li, Z.N. Chen, National University of Singapore, Singapore

17:20-17:40

ANALYTICAL DESIGN OF EXTREMELY HIGH-GAIN FABRY-PEROT/LEAKY ANTENNAS BY USING MULTIPLE FEEDS

F. Costa, D. Bianchi, A. Monorchio, G. Manara, University of Pisa, Italy

17:40-18:00

A HIGH ISOLATED DUAL-POLARIZED MIMO ANTENNA COMPOSED OF A LOOP AND A COPLANAR DIPOLE WITH EBG

D. Piao, H. Zhou, Communication University of China, China

18:00-18:20

LOW-PROFILE ANTENNAS FOR NEAR-FIELD UHF RFID SYSTEMS: DESIGN, MEASUREMENTS AND SYSTEM-LEVEL CHARACTERIZATION

A. Michel, University of Pisa, Italy; M. Rodriguez Pino, Universidad de Oviedo, Spain; P. Nepa, University of Pisa, Italy

MONDAY, SEPTEMBER 11 2017 - 11:20 ROOM PONCHIELLI

SESSION 03 - ICEAA

MATHEMATICAL ADVANCES IN ELECTROMAGNETICS

organized by J.M. Arnold and P.D. Smith

chair J.M. Arnold P.D. Smith

11:20-11:40

SCATTERING BY THREE PARALLEL HALF PLANES PERPENDICULARLY TRUNCATED BY A METAL PLANE

M. D. Poort, University of Illinois at Chicago, United States; V. G. Daniele, Politecnico di Torino, Italy; P. L. E. Uslenghi, University of Illinois at Chicago, IL, United States

11:40-12:00

ON UNIQUE SOLVABILITY OF MULTI-PARAMETER WAVEGUIDE INVERSE PROBLEMS

Y. Shestopalov, University of Gävle, Sweden

12:00-12:20

A GENERAL METHOD TO GET A CIRCUITAL MODELLING OF AN ANGULAR REGION BY USING THE FOURIER MALYUZHINETS TRANSFORMS

V. Daniele, G. Lombardi, R.S. Zich, Politecnico di Torino, Italy

13:40-14:00

H-POLARIZED PLANE WAVE DIFFRACTION BY A THIN MATERIAL STRIP

T. Nagasaka, K. Kobayashi, Chuo University, Japan

14:00-14:20

ELECTROMAGNETIC SCATTERING FROM A THIN RESISTIVE DISK: A NEW ANALYTICALLY REGULARIZING APPROACH

M. Lucido, University of Cassino and Southern Lazio, Italy

14:20-14:40

RESONANCE SCATTERING: SPECTRUM OF QUASI-EIGEN OSCILLATIONS OF TWO-DIMENSIONAL ARBITRARY OPEN CAVITIES

E.D. Vinogradova, Macquarie University, Australia

14:40-15:00

MODELING OF WAVE DIFFRACTION BY COMPLEX METALLIC ONE-Dimensionally PERIODIC SEMITRANSSPARENT GRATINGS

Y. Tuchkin, A. Sanli, F. Dikmen, GTU, Turkey

15:00-15:20

A SPECTRAL-DOMAIN INTEGRAL EQUATION FOR SCATTERING BY PERIODIC BIREFRINGENT DIELECTRIC OBJECTS EMBEDDED IN A BIREFRINGENT LAYERED MEDIUM

M.C. van Beurden, Eindhoven University of Technology, Netherlands; T. Zacharopoulou, M.G.M.M. van Kraaij, ASML, Netherlands

15:20-15:40

LOW-FREQUENCY SCATTERING OF A SPHERICAL WAVE DUE TO AN ARBITRARY DIPOLE BY A SPHERE

P. Prokopiou, N.L. Tsitsas, Aristotle University of Thessaloniki, Greece

16:00-16:20

PROJECTION-BASED MODEL-ORDER REDUCTION OF LARGE-SCALE MAXWELL SYSTEMS

V.L. Druskin, Schlumberger Doll Research, United States; R.F. Remis, Delft University of Technology, Netherlands; M. Zaslavsky, Schlumberger Doll Research, United States; J.T. Zimmerling, Delft University of Technology, Netherlands

16:20-16:40

A LINEAR SAMPLING METHOD FOR THROUGH-THE-WALL RADAR DETECTION

M. Charnley, Rutgers University, NJ, United States; A. Wood, AFIT, OH, United States

16:40-17:00

DISCRETE GREEN'S FUNCTIONS AND FUNCTIONAL DETERMINANTS

J. M. Arnold, University of Glasgow, United Kingdom

17:00-17:20

CHANGES IN THE FAR-FIELD PATTERN INDUCED BY ROUNDING THE CORNERS OF A SCATTERER: DEPENDENCE UPON CURVATURE

A. J. Markowskei, P.D. Smith, Macquarie University, Australia

MONDAY, SEPTEMBER 11 2017 - 11:20 ROOM LEONARDO

SESSION 04 - ICEAA

FREQUENCY SELECTIVE SURFACES

chair N. Liu Z. Shen

11:20-11:40

RECONFIGURABLE FREQUENCY SELECTIVE SURFACE WITH MULTIBAND CHARACTERISTIC

N. Liu, X. Sheng, Dalian University of Technology, China; J. Fan, China; Y. Wang, D. Guo, Dalian University of Technology, China

11:40-12:00

DUAL-BAND FREQUENCY SELECTIVE SURFACE WITH ANGULAR STABILITY FOR WLAN APPLICATIONS

P. da Silva Júnior, R. C. S. Freire, A. J. R. Serres, G. K. de Freitas Serres, B.J.S. de Sousa, P.H.F. Silva, UFCG, Brazil

12:00-12:20

AN EFFICIENT UWB FSS FOR ELECTROMAGNETIC SHIELDING

S. Habib, COMSATS Institute of Information Technology, Pakistan; G.I. Kiani, King Abdulaziz University, Saudi Arabia; M.F.U. Butt, COMSATS Institute of Information Technology, Pakistan;

MONDAY, SEPTEMBER 11 2017 - 13:40 ROOM LEONARDO

SESSION 05 - ICEAA

ADDITIVE MANUFACTURING: TECHNOLOGIES AND MICROWAVE APPLICATIONS

organized by P.M. Iglesias, D. Manfredi and O.A. Peverini

chair D. Manfredi O.A. Peverini

13:40-14:00

MM-WAVE ANTENNAS AND COMPONENTS: PROFITING FROM 3D-PRINTING

M. Garcia-Viguera, IETR-INSa, France; E. Menargues, T. Debogovic, SWISSto12, Switzerland; J. Silva, LEMA, Switzerland; A. Dimitriadis, SWISSto12, Switzerland; S. Capdevila, LEMA, Switzerland; J. R. Mosig, LEMA, Switzerland; E. De Rijk, SWISSto12, Switzerland

14:00-14:20

ADDITIVE MANUFACTURING OF MICROWAVE ANTENNAS UP TO 60 GHZ

C. Menudier, M. Thevenot, E. Arnaud, T. Monediere, O. Tantot, A. Perigaud, S. Bila, N. Delhote, Xlim, France; K. Staelens, Jet Metal, France

14:20-14:40

3-D PRINTED PASSIVE DEVICES ACROSS A WIDE FREQUENCY RANGE

M. Lancaster, X. Shang, G. Cheng, The University of Birmingham, United Kingdom; P. Martin-Iglesias, ESA Nordwijk, Netherlands

14:40-15:00

ADDITIVE MANUFACTURING OF MICROWAVE COMPONENTS: DIFFERENT APPROACHES AND METHODOLOGIES

C. Tomassoni, University of Perugia, Italy; M. Bozzi, University of Pavia, Italy; M. Dionigi, G. Venanzoni, University of Perugia, Italy; L. Perregrini, University of Pavia, Italy; R. Sorrentino, University of Perugia, Italy

15:00-15:20

PRACTICAL CONSIDERATIONS IN THE DESIGN OF MONOBLOCK TM DIELECTRIC RESONATOR FILTERS WITH ADDITIVE MANUFACTURING

C. Carceller, F. Gentili, Technische Universität Graz, Austria; D. Reichartzeder, Lithoz GmbH, Austria; W. Bösch, Technische Universität Graz, Austria; M. Schwentenwein, Lithoz GmbH, Austria

15:20-15:40

LOW-COST PLASTIC LENS FABRICATED IN FDM 3D-PRINTING TECHNOLOGY TARGETING HIGH DATA RATE WIRELESS LINKS ABOVE 200 GHZ

E. Lacombe, University of Nice Sophia-Antipolis, France; F. Gianesello, STMicroelectronics, France; A. Bisognin, C. Luxey, D. Titz, University of Nice Sophia-Antipolis, France; H. Gulan, T. Zwick, Karlsruhe Institute of Technology, Germany; J. Costa, C.A. Fernandes, University Institute of Lisbon, Portugal

16:00-16:20

LASER ENHANCED DIRECT PRINT ADDITIVE MANUFACTURING FOR MM-WAVE COMPONENTS AND PACKAGING

E. A. Rojas-Nastrucci, R. Ramirez, D. Hawatmeh, D. Lan, J. Wang, T. M. Weller, University of South Florida, FL, United States

16:20-16:40

ADDITIVE MANUFACTURING OF META-ATOMS FOR MICROWAVE STRUCTURES

Y.J.C. Vardaxoglou, Loughborough University, United Kingdom

16:40-17:00

ADDITIVE MANUFACTURING USING 3D SCREEN PRINTING

M. Dressler, T. Studnitzky, B. Kieback, Fraunhofer IFAM, Germany

17:00-17:20

LASER POWDER BED FUSION OF ALUMINUM, TITANIUM AND NICKEL BASED ALLOYS: MATERIALS AND DESIGN INVESTIGATIONS

D. Manfredi, F. Calignano, Istituto Italiano di Tecnologia, Italy

17:20-17:40

RF FEED CHAIN COMPONENTS MANUFACTURED BY ADDITIVE MANUFACTURING TECHNIQUES

M. Kilian, C. Hartwanger, M. Schneider, Airbus Defence and Space GmbH, Germany

17:40-18:00

ADDITIVE MANUFACTURING FOR RF MICROWAVE DEVICES: DESIGN, PERFORMANCES AND TREATMENTS IMPROVEMENT EVALUATIONS

F. Tchoffo Talom, S. Turpault, Thales Communications & Security, France

18:00-18:20

APPLICATION OF SELECTIVE LASER MELTING TO THE MANUFACTURING OF ANTENNA-FEED CHAIN COMPONENTS

G. Addamo, O.A. Peverini, CNR-IEIIT, Italy; D. Manfredi, F. Calignano, IIT Torino, Italy; M. Lumia, G. Virone, CNR-IEIIT, Italy

SESSION 06 - ICEAA

**MODERN PROBLEMS OF MATHEMATICAL AND COMPUTATIONAL ELECTROMAGNETICS
AND THEIR ADVANCED APPLICATIONS**

organized by M.N. Georgieva-Grosse and G.N. Georgiev

chair M.N. Georgieva-Grosse G.N. Georgiev

11:20-11:40

DIRECT ELECTROMAGNETIC SOURCE TOMOGRAPHIC IMAGING NEUROTECHNOLOGY (DESTIN)

G. Bonmassar, Harvard Medical School, MA, United States

11:40-12:00

EFFECT OF THE MATERIAL AND GEOMETRY PARAMETERS ON THE CUT-OFF CHARACTERISTICS OF THE CIRCULAR WAVEGUIDE WITH AN AZIMUTHALLY MAGNETIZED FERRITE CYLINDER AND A DIELECTRIC TOROID FOR THE NORMAL TE_{0n} MODES

M. N. Georgieva-Grosse, Consulting and Researcher in Physics and Computer Science, Germany;

G. N. Georgiev, University of Veliko Tirnov, Bulgaria

12:00-12:20

3D DIAGONALIZATION AND SUPPLEMENTATION IN THERMO-ELASTO-ELECTRO-MAGNETICS: DYADIC GREEN'S FUNCTIONS AND ALGEBRAIC AND EXPONENTIAL REGULARIZATION

A.R. Baghai-Wadji, University of Cape Town, South Africa

13:40-14:00

TRANSMISSION EIGENVALUE PROBLEMS IN ELECTROMAGNETICS AND THE PRINCIPLE OF CAUSALITY

G.F. Crosta, University of Milan Bicocca, Italy

14:00-14:20

THE STRONG INTERACTION OF TRANSITION RADIATION OF CHARGED PARTICLE WITH MODULATED ANISOTROPIC MAGNETODIELECTRIC FILLING OF THE WAVEGUIDE

E.A. Gevorkyan, Plekhanov Russian University of Economics, Russia

14:20-14:40

ELECTRODYNAMIC CHARACTERISTICS OF A NARROW STRIP ANTENNA LOCATED AT THE INTERFACE BETWEEN A UNIAXIAL MAGNETIC METAMATERIAL AND AN ISOTROPIC MEDIUM

A.V. Kudrin, T.M. Zaboronkova, A.S. Zaitseva, N.V. Yurasova, University of Nizhny Novgorod, Russia

14:40-15:00

ADVANCING COIL DESIGN IN MICROMAGNETIC BRAIN STIMULATION

G. Bonmassar, Harvard Medical School, MA, United States

15:00-15:20

SIMULATION OF NANOSTRUCTURED EMISSION LAYERS FOR TAILORING THE ANGULAR RADIATION PATTERN OF OLEDs

H. Lüder, M. Bremer, M. Gerken, Kiel University, Germany

15:20-15:40

IMPACT OF THE ISOTROPIC FILLING ON THE CONDITION FOR PHASE SHIFTER OPERATION OF AN AZIMUTHALLY MAGNETIZED FERRITE-DIELECTRIC CIRCULAR WAVEGUIDE

G.N. Georgiev, University of Veliko Tirnov, Bulgaria;

M. N. Georgieva-Grosse, Consulting and Researcher in Physics and Computer Science, Germany

16:00-16:20

THE LOGARITHMIC GENERALIZED SMITH CHART: THEORETICAL ANALYSIS

P. Vidal-García, E. Gago-Ribas, University of Oviedo, Spain

16:20-16:40

THE LOGARITHMIC GENERALIZED SMITH CHART: EXAMPLES OF USE

P. Vidal-Garcia, E. Gago-Ribas, University of Oviedo, Spain

16:40-17:00

3D DIAGONALIZATION AND SUPPLEMENTATION IN THERMO-ELASTO-ELECTRO-MAGNETICS: PROOF OF EXISTENCE BY CONSTRUCTION & VALIDATION OF RELATIVE CONSISTENCY

A.R. Baghai-Wadji, University of Cape Town, South Africa

17:00-17:20

PARITY-TIME SYMMETRIC METAMATERIALS IN PHOTONICS

S. Phang, A. Vukovic, S.C. Creagh, G. Gradoni, T.M. Benson, University of Nottingham, United Kingdom

MONDAY, SEPTEMBER 11 2017 - 11:20 ROOM MARCONI

SESSION 07 - ICEAA

RADAR CROSS SECTION AND RADAR IMAGING

chair S. Alvarez Navarro M. Dogan

11:20-11:40

BISTATIC RCS MEASUREMENTS IN A COMPACT RANGE

M. Pienaar, J.W. Odendaal, J. Joubert, C. Pienaar, University of Pretoria, South Africa; J.C. Smit, CSIR, Pretoria, South Africa

11:40-12:00

COMPARISON OF VARIOUS CEM METHODS TO PREDICT RCS OF LOSSY DIELECTRICS

C. Pienaar, J. W. Odendaal, J. Joubert, M. Pienaar, University of Pretoria, South Africa; J. C. Smit, Council for Scientific and Industrial Research, South Africa

12:00-12:20

PERFORMANCE ANALYSIS OF EDGE-FEED RECTANGULAR PARALLEL PLATE SLOT-ARRAY ANTENNA PANEL FOR COMPACT SPACE-BORNE X-BAND SAR SYSTEM

B. Pyne, University of Tokyo, Japan; V. Ravindra, P.R. Akbar, H. Saito, Japan Aerospace Exploration Agency, Japan; J. Hirokawa, Tokyo Institute of Technology, Japan

13:40-14:00

HIGH RANGE RESOLUTION RESULTS OF THE EFFECTS OF MICROGEOMETRY ON THE RCS OF ELECTRICALLY LARGE CANONICAL OBJECTS

J.C. Smit, CSIR DPSS, Pretoria, South Africa; J.W. Odendaal, University of Pretoria, South Africa

14:00-14:20

MULTIPLE TARGET TRACKING USING TRACK BEFORE DETECT ALGORITHM

N. Amrouche, A. Khenchaf, ENSTA BRETAGNE, France; D. Berkani, ENP ALGIERS, Algeria

14:20-14:40

FWCW GPR RADAR MOUNTED IN A MINI-UAV FOR ARCHAEOLOGICAL APPLICATIONS: FIRST ANALYTICAL AND MEASUREMENT RESULTS

M. A. Yarlequé, S. Alvarez, H. J. Martínez, Pontificia Universidad Católica del Perú, Peru

14:40-15:00

DIGITAL 2-BIT METASURFACES WITH CODING ORIENTATION OF ANISOTROPY FOR RCS REDUCTION

A.I. Semenikhin, D.V. Semenikhina, Y.V. Yukhanov, P.V. Blagovisnyy, Southern Federal University, Russia

15:00-15:20

DETECTION OF CONDUCTING AND DIELECTRIC OBJECTS BURIED UNDER A LAYER OF ASPHALT OR CONCRETE USING SIMULATED GROUND PENETRATING RADAR SIGNALS

M. Dogan, Middle East Technical University, Turkey; S. Gumus, Hacettepe University, Turkey; G. Turhan-Sayan, Middle East Technical University, Turkey

15:20-15:40

IMAGING IRREGULAR GROUND WITH GPR DATA

S.R. Pennock, C. H. J. Jenks, University of Bath, United Kingdom

MONDAY, SEPTEMBER 11 2017 - 16:00 ROOM MARCONI

SESSION 08 - ICEAA

HIGH-POWER ELECTROMAGNETICS, SOURCES AND EFFECTS

organized by J.F. Vega Stavro

chair T. Tientcheu J.F. Vega Stavro

16:00-16:20

RECENT ADVANCES IN HIGH POWER MICROWAVE SOURCES AND THE SCIENCE OF ELECTRONICS IN EXTREME ELECTROMAGNETIC ENVIRONMENTS AT THE UNIVERSITY OF NEW MEXICO

E. Schamiloglu, S. Prasad, M. Fuks, S. Yurt, A. Elfrgani, K. Shipman, S. Hemmady, P. Zarkesh-Ha, Z. Peng, G. Balakrishnan, G. Heileman, Y. Shao, D. Dietz, University of New Mexico, NM, United States

16:20-16:40

ON THE VIRGATOR PEAK POWER OPTIMIZATION

E. Neira, Universidad Nacional de Colombia, Colombia; Y.-z. Xie, Xi'an Jiaotong University, China; F. Vega, Universidad Nacional de Colombia, Colombia

16:40-17:00

MODIFIED GROUND PLANE GEOMETRY FOR A HALF IMPULSE RADIATING ANTENNA

C. Romero, N. Mora, B. Daout, M. Sallin, Montena Technology sa, Switzerland

MONDAY, SEPTEMBER 11 2017 - 17:00 ROOM MARCONI

SESSION 09 - ICEAA

HIGH POWER ELECTROMAGNETICS

chair T. Tientcheu J.F. Vega Stavro

17:00-17:20

APPLICATION OF FMEA IN PHYSICAL DISTURBANCE OF THE DATA TRANSMISSION ON GENERIC IT-NETWORKS

R. Tcheumeleu Tientcheu, SII, Germany; D. Poughè, Reutlingen University, Germany

17:20-17:40

NOVEL SYSTEM FOR UNDERGROUND TUNNELS DETECTION

S. Tapuchi, D. Baimel, Shamoan College of Engineering, Israel

17:40-18:00

DEVELOPMENT OF MULTILEVEL CONVERTER SYSTEM FOR HIGH POWER APPLICATIONS

B.J. Hyon, J.S. Park, J.-H. Kim, J.-H. Choi, Korea Electronics Technology Institute, South Korea

18:00-18:20

A STUDY OF TRACTION INVERTER SYSTEM FOR HIGH POWER ELECTRIC VEHICLES

J.-H. Choi, B. J. Hyon, J. S. Park, J.-H. Kim, KETI, South Korea

TUESDAY, SEPTEMBER 12 2017 - 08:00 ROOM MASCAGNI

SESSION 10 - ICEAA

NUMERICAL, BEHAVIORAL, AND STATISTICAL MODELING FOR EMC AND SIGNAL INTEGRITY
organized by **S. Grivet-Talocia** and **F. Canavero**
chair S. Grivet-Talocia A. Maffucci

08:00-08:20

EFFICIENT NUMERICAL EVALUATION OF THE ELECTROMAGNETIC SCATTERING FROM ARBITRARILY-SHAPED OBJECTS BY USING THE DIRICHLET-TO-NEUMANN MAP

A. Maffucci, A. Perrotta, University of Cassino and Southern Lazio, Italy; G. Rubinacci, University of Naples Federico II, Italy; A. Tamburrino, S. Ventre, University of Cassino and Southern Lazio, Italy

08:20-08:40

EFFICIENT COMPUTATION OF FIELD COUPLING THROUGH APERTURE ARRAYS INTO CASINGS

H.-D. Brüns, Hamburg University of Technology, Germany; F. Gronwald, F. Happ, University of Siegen, Germany

08:40-09:00

ISOTROPIC TRANSMISSION CROSS SECTION OF LOADED AND UNLOADED APERTURES

R. Gunnarsson, B. Vallhagen, M. Bäckström, Saab Aeronautics, Sweden

09:00-09:20

EQUIVALENT CIRCUIT MODEL FOR RADIATING LOSSY WIRE-INTERCONNECTION STRUCTURES INCLUDING EXTERNAL FIELD COUPLING

C. Bednarz, M. Leone, Otto-von-Guericke-Universität, Germany

09:20-09:40

A FRAMEWORK FOR FAST SI/PI SIMULATION WITH ACCELERATION TECHNIQUES

H. Asai, T. Sekine, Shizuoka University, Japan; Y. Inoue, SESAME Technology, Japan

09:40-10:00

CIRCUIT-MODELING APPROACH FOR BROADBAND ANALYSIS OF NON-UNIFORM TRANSMISSION LINES INCLUDING RADIATION

S. Südekum, M. Leone, Otto-von-Guericke University, Germany

10:20-10:40

PASSIVITY ENFORCEMENT USING HALF HAMILTONIAN MATRIX AND FREQUENCY HOPPING

Y. Q. Xiao, R. Khazaka, McGill University, Canada

10:40-11:00

PARAMETERIZED MACROMODELS FOR EMC/EMI SIMULATION OF ELECTRICAL INTERCONNECTS

S. Grivet-Talocia, Politecnico di Torino, Italy

TUESDAY, SEPTEMBER 12 2017 - 11:00 ROOM MASCAGNI

SESSION 11 - ICEAA

ANTENNAS AND ARRAYS

chair P. Pirinoli P. Savi

11:00-11:20

A MULTILAYER RECONFIGURABLE TRANSMITARRAY IN K-BAND FOR BEAM STEERING APPLICATIONS

M. Frank, R. Weigel, A. Koelpin, Friedrich-Alexander University Erlangen-Nuremberg, Germany

11:20-11:40

DESIGN OF A VARYING DIELECTRIC PROFILE ANTENNA GENERATING A RECONFIGURABLE Σ - Δ PATTERN VIA INVERSE SCATTERING THEORY

R. Palmeri, A. F. Morabito, T. Isernia, University Mediterranea of Reggio Calabria, Italy

11:40-12:00

SWITCHABLE SLOT ANTENNA USING CLOSE-COUPLED BIASING TECHNIQUE

A. Shastri, B. Sanz-Izquierdo, D. Atkins, University of Kent, United Kingdom; A. McClelland, Leonardo UK, United Kingdom; S. Gao, University of Kent, United Kingdom

12:00-12:20

A FREQUENCY RECONFIGURABLE MEANDER MONOPOLE ANTENNA FOR COGNITIVE RADIO

Y. Tawk, S. Saab, A. El-Amine, Notre Dame University, Lebanon; J. Costantine, American University of Beirut, Lebanon; F. Ayoub, C. Christodoulou, University of New Mexico, NM, United States

13:40-14:00

ANTENNA INTEGRATION WITH NANOTECHNOLOGY-BASED THICK-FILM CIRCUITS FOR SENSOR APPLICATIONS

K. Naishadham, Georgia Institute of Technology, GA, United States; A. Bayat, P. Savi, Politecnico di Torino, Italy

14:00-14:20

MULTI-OBJECTIVE IMPLEMENTATION OF SOCIAL NETWORK OPTIMIZATION FOR SPARSE ARRAY OPTIMIZATION

F. Grimaccia, M. Mussetta, A. Niccolai, Politecnico di Milano, Italy; P. Pirinoli, Politecnico di Torino, Italy; R.E. Zich, Politecnico di Milano, Italy

14:20-14:40

FAST PROTOTYPING OF AN 8X8 BUTLER MATRIX BEAMFORMING NETWORK FOR 5G APPLICATIONS

G. Rosati, COMSOL, Italy; J. Munn, COMSOL, MA, United States

14:40-15:00

60 GHZ PHASED ARRAY ANTENNA SOLUTIONS FOR BACKHAULS AND CONSUMER ELECTRONICS

A. Rashidian, Peraso Technologies Inc., Canada

15:00-15:20

CIRCULARLY POLARIZED PLANAR HELIX PHASED ANTENNA ARRAY FOR 5G MOBILE TERMINALS

I. Syyrtsin, S.Zhang, G. Frølund Pedersen, Aalborg University, Denmark

15:20-15:40

OPTIMIZATION OF IMPULSE RADIATING ANTENNA FOR TIME DOMAIN METROLOGY

S.O. Kuja, P. G. Wiid, T. J. Phiri, Stellenbosch University, South Africa

TUESDAY, SEPTEMBER 12 2017 - 16:00 ROOM MASCAGNI

SESSION 12 - ICEAA

RECENT ADVANCEMENT OF ELECTROMAGNETIC THEORY

organized by H. Shirai

chair K. Goto H. Shirai

16:00-16:20

POWER FLOW IN THE PLANE WAVE SCATTERING FROM A DIELECTRIC GRATING

A. Komiyama, Osaka Electro Communication University, Japan

16:20-16:40

PLANE WAVE DIFFRACTION BY A LARGE RECTANGULAR APERTURE IN A THICK CONDUCTING SCREEN

H. Serizawa, National Institute of Technology, Japan

16:40-17:00

ELECTROMAGNETIC PLANE WAVE SCATTERING BY A RECTANGULAR HOLE IN A THICK CONDUCTING SCREEN

K.N. Nguyen, H. Shirai, Chuo University, Japan

17:00-17:20

TIME-DOMAIN ASYMPTOTIC-NUMERICAL SOLUTIONS FOR TRANSIENT SCATTERED ELECTRIC FIELD FROM A CONDUCTING CYLINDER COATED WITH A THICK DIELECTRIC LAYER

K. Goto, Y. Egashira, N.R. Takahashi, R. Manabe, National Defense Academy, Japan

17:20-17:40

TIME-DOMAIN UNIFORM ASYMPTOTIC SOLUTION FOR TRANSIENT SCATTERED ELECTRIC FIELD FROM A CONDUCTING CYLINDER COATED WITH A THIN DIELECTRIC LAYER

K. Goto, R. Takahashi, R. Manabe, Y. Egashira, National Defense Academy, Japan

17:40-18:00

3-D TIME DOMAIN BOUNDARY ELEMENT SIMULATION OF MICROWAVE FIELD PRODUCED BY CHARGED PARTICLE BEAM INSIDE BENDING BEAM TUBE

D. Tomita, H. Kawaguchi, Muroran Institute of Technology, Japan

18:00-18:20

A STUDY ON CHARACTERISTIC BASIS FUNCTION METHOD USING COMBINED IP-CBF

T. Tanaka, Y. Inasawa, N. Yoneda, H. Miyashita, Mitsubishi Electric Corporation, Japan

TUESDAY, SEPTEMBER 12 2017 - 08:20 ROOM PONCHIELLI

SESSION 13 - ICEAA

RECENT TRENDS IN ELECTROMAGNETIC MODELING

organized J.M.L. Bernard

chair J.M.L. Bernard P.L.E. Uslenghi

08:20-08:40

SCATTERING BY A COATED ELLIPTIC CYLINDER TRUNCATED BY A METAL PLANE

M.D. Poort, P.L.E. Uslenghi, University of Illinois at Chicago, IL, United States

08:40-09:00

THE WIENER HOPF SOLUTION OF A THREE-PART PEC PLANE

V. Daniele, G. Lombardi, R.S. Zich, Politecnico di Torino, Italy

09:00-09:20

WIENER-HOPF ANALYSIS OF THE DIFFRACTION BY A FINITE SINUSOIDAL GRATING

T. Eizawa, K. Kobayashi, Chuo University, Japan

09:20-09:40

DIFFRACTION BY CURVATURE AND HIGHER-ORDER DISCONTINUITIES

D.P. Bouche, ENS Paris-Saclay, France; P. Aguilera, S. Loillier, CEA, France

09:40-10:00

SEVERAL ORDERS ASYMPTOTICS FOR DIFFRACTION BY A CURVED IMPEDANCE WEDGE

J.M.L. Bernard, CEA-DIF, France

10:20-10:40

GEOMETRICAL OPTICS - FOURIER OPTICS TOOL FOR THE ANALYSIS OF QUASI-OPTICAL IMAGERS WITH LARGE FOCAL PLANE ARRAYS

S.O. Dabironezare, Carluccio, A. Neto, N. Llombart, Delft University of Technology, Netherlands

10:40-11:00

ON SOME IMPORTANT PROPERTIES OF SPECTRAL REPRESENTATIONS OF FIELDS IN FREQUENCY AND TIME DOMAINS FOR DIFFRACTION BY A WEDGE-SHAPED REGION

J.M.L. Bernard, CEA-DIF, France

11:00-11:20

AN OVERVIEW OF RECENT ADVANCES ON ITERATIVE PHYSICAL OPTICS

G. Kubické, A. Thomet, DGA, France; C. Bourlier, IETR Laboratory, France; P. Pouliguen, DGA, France

11:20-11:40

PROPAGATION AND SCATTERING IN A DUCTING MARITIME ENVIRONMENT FROM A FAST METHOD OF MOMENTS

C. Bourlier, Laboratory IETR, France;

11:40-12:00

RETRIEVING RELEVANT INFORMATION OF INHOMOGENEOUS MAGNETO-DIELECTRICS SURFACES BY MEANS OF FREE-SPACE CHARACTERIZATION PROTOCOLS

X. Faget, N. Mallejac, CEA, France; A. Litman, Institut Fresnel, France

TUESDAY, SEPTEMBER 12 2017 - 13:40 ROOM PONCHIELLI

SESSION 14 - ICEAA

TIME-DOMAIN METHODS

organized **L. Klinkenbusch** and **T. Weiland**

chair **L. Klinkenbusch** **T. Weiland**

13:40-14:00

TIME DOMAIN TRANSFER COUPLING IN ANTENNAS

A. Shlivinski, Ben-Gurion University of the Negev, Israel

14:00-14:20

SPARSE TIME DOMAIN SIGNAL REPRESENTATION FOR ECHO SUPPRESSION IN ANTENNA MEASUREMENTS

R. A. M. Mauermayer, T. F. Eibert, TUM, Germany

14:20-14:40

PHYSICAL UNREALIZABILITY OF A SERIES REACTANCE AND RESISTANCE OF A PASSIVE CAUSAL INPUT IMPEDANCE

A.D. Yaghjian, Electromagnetics Research, MA, United States

14:40-15:00

CHARACTERIZATION OF THE PERFORMANCE OF A DUAL BAND CIRCULAR POLARIZATION SELECTIVE STRUCTURE ILLUMINATED BY SHORT PULSES

D. Sjöberg, J. Lundgren, Lund University, Sweden

15:00-15:20

APPROXIMATE SCATTERING DISTORTION ANALYSIS OF MULTI-SCATTERERS FOR PULSE RADAR APPLICATIONS - EXAMPLE OF WIND-TURBINES

G. Greving, W.-D. Biermann, R. Mundt, NAVCOM Consult, Germany

15:20-15:40

DOMAIN DECOMPOSITION OPERATION OF FDTD/FIT DEDICATED COMPUTER FOR LARGER SCALE MICROWAVE SIMULATION

H. Kawaguchi, Muroran Institute of Technology, Japan

16:00-16:20

SPECTRAL STABILITY OF PML IMPLEMENTATIONS IN TIME DOMAIN FOR RESONATORS WITH RADIATION LOSSES

L. Kuen, P. Jorkowski, R. Schuhmann, TU Berlin, Germany

16:20-16:40

EXPLICIT TIME INTEGRATION TECHNIQUES FOR ELECTRO- AND MAGNETO-QUASISTATIC FIELD SIMULATIONS

J.S. Duti , C. Richter, C. J rgens, University of Wuppertal, Germany; S. Sch ps, Technische Universit t Darmstadt, Germany; M. Clemens, University of Wuppertal, Germany

16:40-17:00

THE CORRELATION TRANSMISSION LINE MATRIX (CTLM) METHOD

M. Haider, J.A. Russer, Technische Universit t M nchen, Germany

17:00-17:20

A SPACE-TIME APPROACH FOR THE TIME-DOMAIN SIMULATION IN A ROTATING REFERENCE FRAME

M. Klimek, S. Kurz, S. Schoeps, T. Weiland, TU-Darmstadt, Germany

TUESDAY, SEPTEMBER 12 2017 - 17:20 ROOM PONCHIELLI

SESSION 15 - ICEAA

CANONICAL PROBLEMS IN SCATTERING AND DIFFRACTION

organized A. Osipov and L. Klinkenbusch

chair L. Klinkenbusch A. Osipov

17:20-17:40

THE WIENER HOPF SOLUTION FOR THE RADIATION FROM A SEMI-INFINITE PLANAR WAVEGUIDE FLANGED BY PMC WALL

V. Daniele, G. Lombardi, R.S. Zich, Politecnico di Torino, Italy

17:40-18:00

COMPLEX SOURCE DIFFRACTION BY WIDE CONES: EXACT AND COMPLEX RAY SOLUTIONS

M. Katsav, E. Heyman, Tel Aviv University, Israel; L. Klinkenbusch, Kiel University, Germany

18:00-18:20

IMPEDANCE MODELING OF ELECTROMAGNETIC SCATTERING FROM CANONICAL BODIES WITH METAMATERIAL ABSORBERS AND CHESSBOARD-PATTERNED DEFLECTORS

A.V. Osipov, DLR, Germany; A.E. Culhaoglu, European Patent Office, Netherlands; E. Kemptner, DLR, Germany

TUESDAY, SEPTEMBER 12 2017 - 08:00 ROOM LEONARDO

SESSION 16 - ICEAA

ELECTROMAGNETIC FIELDS IN BIOMEDICAL IMAGING AND THERAPEUTICS: METHODOLOGIES AND APPLICATIONS (MIMED AND EMF-MED)

organized F. Vipiana and L. Crocco

chair L. Crocco F. Vipiana

08:00-08:20

IMPACT OF RADIAL HETEROGENEITIES OF BIOLOGICAL TISSUES ON DIELECTRIC MEASUREMENTS

A. La Gioia, E. Porter, S. Salahuddin, M. O'Halloran, National University of Ireland, Ireland

08:20-08:40

BIOMEDICAL IMAGING VIA WAVELET-BASED REGULARIZATION AND DISTORTED ITERATED VIRTUAL EXPERIMENTS

R. Palmeri, M. Bevacqua, Universit  Mediterranea di Reggio Calabria, Italy; R. Scapatucci, CNR-IREA, Italy; A. Morabito, Universit  Mediterranea di Reggio Calabria, Italy; L. Crocco, CNR-IREA, Italy; T. Isernia, Universit  Mediterranea di Reggio Calabria, Italy

08:40-09:00

CHARACTERISATION OF ZNO NPS AS CONTRAST AGENTS FOR MWI

M. W. Rahman, R. Lahri, M.I. Wright, M. Koutsoupidou, King's College London, United Kingdom; T. Kallos, Medical Wireless Sensing Ltd, United Kingdom; M. Thannou, P. Kosmas, King's College London, United Kingdom

09:00-09:20

MICROWAVE THERMAL ABLATION: PERFORMED STUDIES AND RESEARCH NEEDS

L. Farina, Sapienza University of Rome, Italy; V. Lopresto, R. Pinto, ENEA, Italy; M. Cavagnaro, Sapienza University of Rome, Italy

09:20-09:40

ESTIMATION OF RAT'S SLEEP-WAKE CYCLE USING A BIO-RADAR

L. Anishchenko, BMSTU, Russia; E. Rutskova, IHNA&NPh of RAS, Russia

09:40-10:00

DEVELOPMENT AND TEST OF A MASSIVE MIMO SYSTEM FOR FAST MEDICAL UWB IMAGING

M. Helbig, J.H. Koch, S. Ley, TU Ilmenau, Germany; R. Herrmann, M. Kmec, K. Schilling, ILMSSENS GmbH, Germany; J. Sachs, TU Ilmenau, Germany

10:20-10:40

MULTI-FREQUENCY SAR CONSTRAINED FOCUSING FOR HYPERTHERMIA TREATMENT PLANNING

T. Isernia, G. G. Bellizzi, UNIRC, Italy, L. Crocco, CNR-IREA, Italy

10:40-11:00

MICROWAVE IMAGING OF BREST PHANTOM BY COMBINED USE OF VIDEO-TRACKER AND RADAR

L.N. Anishchenko, I.L. Alborova, V.V. Razevig, BMSTU, Russia

11:00-11:20

EXPERIMENTAL VERIFICATION OF OPTIMAL FREQUENCY RANGE FOR MICROWAVE HEAD IMAGING

M. Bjelogrić, EPFL, Switzerland; B. Fuchs, Université de Rennes 1, France; J.P. Thiran, J.R. Mosig, EPFL, Switzerland; M. Mattes, DTU, Denmark

11:20-11:40

A FEASIBILITY STUDY FOR CEREBROVASCULAR DISEASES MONITORING VIA MICROWAVE IMAGING

J.A. Tobon Vasquez, Politecnico di Torino, Italy; R. Scapatucci, CNR-IREA, Italy; G. Turvani, M. Vacca, I. Sarwar, M.R. Casu, Politecnico di Torino, Italy; N. Joachimowicz, B. Duchêne, Univ Paris-Sud, France; L. Crocco, CNR-IREA, Italy; F. Vipiana, Politecnico di Torino, Italy

TUESDAY, SEPTEMBER 12 2017 - 11:40 ROOM LEONARDO

SESSION 17 - ICEAA

RECENT DEVELOPMENTS IN THE PARABOLIC EQUATION AND HIGH-FREQUENCY METHODS

organized I. Andronov

chair I. Andronov

11:40 -12:00

PARABOLIC EQUATION METHOD APPROXIMATION FOR HIGH-FREQUENCY DIFFRACTION BY AN ELONGATED BODY

D.P. Bouche, CEA, France; I. V. Andronov, Saint Petersburg State University, Russia; M. Duruflé, University of Bordeaux, France;

12:00-12:20

PARABOLIC EQUATION METHOD FOR HIGH-FREQUENCY DIFFRACTION BY AN ELONGATED BODY

I.V. Andronov, St.Petersburg State University, Russia; B.P. Belinskiy, University of Tennessee at Chattanooga, United States

13:40-14:00

ASYMPTOTIC CURRENTS ON AN OGIVAL CYLINDER WITH A STRONGLY ELONGATED CROSS-SECTION: THE CASE OF OVERLAPPING TRANSITION REGIONS

F.A. Molinet, MOTHESIM, France

14:00-14:20

BOUNDARY INTEGRAL EQUATION METHOD FOR THE PARABOLIC EQUATION ON THE CURVED SURFACE

A. V. Shanin, A. I. Korolkov, Moscow State University, Russia

14:20-14:40

DIFFRACTION BY A THIN CONE IN THE PARABOLIC APPROXIMATION. METHOD OF THE BOUNDARY INTEGRAL EQUATION

A. V. Shanin, A. I. Korolkov, Moscow State University, Russia

14:40-15:00

PROPAGATION MODELING IN COMPLEX TUNNEL ENVIRONMENTS: A COMPARISON OF VECTOR PARABOLIC EQUATION AND RAY-TRACING SOLUTIONS

X. Zhang, N. Sood, C.D. Sarris, University of Toronto, Canada

15:00-15:20

TD-UAPO DIFFRACTION BY A WEDGE COMPOSED OF PEC AND LOSSLESS DIELECTRIC

M. Frongillo, SIRA -Kathrein, Italy; G. Gennarelli, IREA-CNR, Italy; G. Riccio, University of Salerno, Italy

15:20-15:40

INFLUENCE OF IONOSPHERE INHOMOGENITIES ON THE EARTH SPACE LINKS TRANSMITTED SIGNALS

Y. Beniguel, IEEA, France

TUESDAY, SEPTEMBER 12 2017 - 16:00 ROOM LEONARDO

SESSION 18 - ICEAA

METAMATERIALS AND METASURFACES

chair H. Fernández Álvarez N.L. Tsitsas

16:00-16:20

FACING THE ANGULAR STABILIZATION OF LOOP-BASED ARTIFICIAL MAGNETIC CONDUCTORS THROUGH LUMPED INDUCTORS

H.F. Álvarez, M.E. de Cos, S. García, F. Las-Heras, Universidad de Oviedo, Spain

16:20-16:40

CAPACITOR-LOADED SPOOF SURFACE PLASMON (SSP) FOR HIGH SELECTIVITY FILTERING APPLICATIONS IN MILLIMETER-WAVE FREQUENCY BAND

X.-L. Tang, Q. Zhang, South University of Science and Technology of China, Shenzhen, China; S. Hu, Southeast University, China; Y. Chen, The University of Waikato, New Zealand

16:40-17:00

A BEAM DEFLECTOR BASED ON GRADIENT REFRACTIVE INDEX METAMATERIAL

A. Beltayib, M. Asaadi, Z. Briqech, A. Sebak, Concordia University, Canada

17:00-17:20

MITIGATING SNELL'S-LAW REFLECTION AND TRANSMISSION WITH METASURFACES OF ORDINARY DIELECTRICS

N.L. Tsitsas, Aristotle University of Thessaloniki, Greece; C.A. Valagiannopoulos, Nazarbayev University, Kazakhstan;

17:20-17:40

AN ACTIVE METAMATERIAL FOR POLARIZATION MANIPULATING WITHOUT CHIRALITY

Y. Zhao, A. Qing, University of Electronic Science and Technology of China, China; X. Ma, X. Luo, The Chinese Academy of Sciences, China

17:40-18:00

A COMPACT FILTERING UNEQUAL WILKINSON POWER DIVIDER WITH 1:15 POWER DIVIDING RATIO USING COMPOSITE RIGHT/LEFT HANDED-COUPLED LINES

Y. Torabi, G. Dadashzadeh, Shahed University, Iran

18:00-18:20

ANALYTICAL SOLUTION FOR THE MAGNETIC FIELD OF A CYLINDRICAL MENZ STRUCTURE USING IMAGE THEORY

M. Gholizadeh, M. Ghaffari-Miab, Tarbiat Modares University, Iran

TUESDAY, SEPTEMBER 12 2017 - 08:00 ROOM GALILEI

SESSION 19 - ICEAA

EM THEORY TOWARDS GENERAL APPLICATIONS, FROM A NATIONAL LAB AND UNIVERSITY PERSPECTIVE

organized by S. Campione and L.I. Basilio

chair L.I. Basilio S. Campione

08:00-08:20

CAMPANILE NEAR-FIELD PROBES FABRICATED BY NANOIMPRINT LITHOGRAPHY

S. Cabrini, The Molecular Foundry, LBNL, CA, United States

08:20-08:40

NANOANTENNA-ENHANCED ABSORPTION IN THIN INFRARED DETECTOR LAYERS

M.B. Sinclair, L.K. Warne, S. Campione, M.D. Goldflam, D.W. Peters, Sandia National Laboratories, NM, United States

08:40-09:00

OBSERVATION OF NONLOCAL OPTICAL RESPONSE IN DOPED CADMIUM OXIDE EPSILON-NEAR-ZERO THIN FILMS

D. de Ceglia, NRC Aegis, AL, United States; M.A. Vincenti, University of Brescia, Italy; M. Scalora, US Army, United States; S. Campione, Sandia National Laboratories, NM, United States; K. Kelley, J.-P. Maria, University of North Carolina, NC, United States; G.A. Keeler, T.S. Luk, Sandia National Laboratories, NM, United States

09:00-09:20

SCATTERING ENGINEERING AT THE EXTREME: PHYSICAL BOUNDS, ANOMALIES AND SINGULARITIES IN PASSIVE AND ACTIVE METAMATERIAL STRUCTURES

F. Monticone, Cornell University, NY, United States

09:20-09:40

PLASMONIC NANOANTENNAS FOR ADVANCED TERAHERTZ OPTOELECTRONICS

M.Jarrahi, University of California Los Angeles, CA, United States

09:40-10:00

ELECTROMAGNETIC THEORY AT SANDIA NATIONAL LABORATORIES

L.I. Basilio, S. Campione, L.K. Warne, W.L. Langston, Sandia National Laboratories, NM, United States

10:20-10:40

A FIRST PRINCIPLES CABLE BRAID ELECTROMAGNETIC PENETRATION MODEL

S. Campione, L.K. Warne, W.L. Langston Sandia National Laboratories, NM, United States; W.A. Johnson, New Mexico Tech., Socorro, NM, United States; R.S. Coats, L.I. Basilio, Sandia National Laboratories, NM, United States

10:40-11:00

AN ACTIVE THEVENIN EQUIVALENT CIRCUIT APPROACH TO PROBLEMS WITH NON-LINEAR CIRCUIT LOADS

J.T. Williams, F.J. Zutavern, L.D. Bacon, Sandia National Labs, NM, United States

11:00-11:20

DEVELOPMENT OF METHODS FOR ACCURATE AND EFFICIENT ANALYSIS OF PERIODIC STRUCTURES

D.R. Wilton, D. R. Jackson, University of Houston, TX, United States; W.A. Johnson, Consultant, NM, United States

11:20-11:40

APPLICATION OF THE MMCN-BBO ALGORITHMS TO THE OPTIMIZATION OF ANTENNA PROBLEMS

P. Pirinoli, Andrea Massaccesi, M. Beccaria, Politecnico di Torino, Italy

11:40-12:00

ADVANCES IN WIRELESS POWER TRANSFER

E. Gamez Rodriguez, M. Machnoor, G. Lazzi, The University of Utah, United States

TUESDAY, SEPTEMBER 12 2017 - 13:40 ROOM GALILEI

SESSION 20 - ICEAA

WIRELESS POWER TRANSFER AND ENERGY HARVESTING FOR THE INTERNET OF THINGS

organized by **G. Manara and S. Barmada**

chair S. Barmada G. Manara

13:40-14:00

ELECTROMAGNETIC ANALYSIS OF COILS FOR WIRELESS POWER TRANSFER

S. Barmada, University of Pisa, Italy; M. Dionigi, P. Mezzanotte, University of Perugia, Italy; A. Musolino, M. Tucci, University of Pisa, Italy

14:00-14:20

SOLUTIONS FOR SIMULTANEOUS WIRELESS INFORMATION AND POWER TRANSFER

A. Costanzo, D. Masotti, M. Fantuzzi, F. Berra, M. Del Prete, University of Bologna, Italy

14:20-14:40

WIRELESS POWER TRANSFER IN UHF RFID PRINTER ENCODER

A. Michel, A. Buffi, P. Nepa, G. Manara, University of Pisa, Italy

14:40-15:00

CHIPLESS RFID, FROM PRINCIPLES TO APPLICATIONS

S. Tedjini, Université Grenoble-Alpes, France; F. Costa, S. Genovesi, G. Manara, University of Pisa, Italy

TUESDAY, SEPTEMBER 12 2017 - 16:00 ROOM GALILEI

SESSION 21 - ICEAA

INVERSE SCATTERING AND REMOTE SENSING

chair J.L. Garrison R. Solimene

16:00-16:20

ESTIMATION OF A CABLE RESISTANCE PROFILE WITH READAPTATION OF MISMATCHED MEASUREMENT INSTRUMENT

N. Berrabah, EDF R&D, France; Q. Zhang, Inria, France; M. Franchet, D. Vautrin, EDF R&D, France

16:20-16:40

A MASSIVELY PARALLEL SIMD FRAMEWORK FOR FAST 3D MICROWAVE TOMOGRAPHY

A. Shahzad, A. Elahi, M. O'Halloran, E. Jones, M. Glavin, National University of Ireland Galway, Ireland

16:40-17:00

EXTRACTION OF SCATTERING CENTERS FOR TARGET RECOGNITION USING ESPRIT

I. Jouny, Lafayette College, PA, United States

17:00-17:20

TROPOSCATTER OTH PASSIVE SENSING WITH COHEN'S CLASS DISTRIBUTION BASED ON AN EQUAL-SLOPE HOUGH TRANSFORM

M. Wang, Z. Wang, Z. Cheng, National University of Defense Technology, China

17:20-17:40

A NEW DATA-BASED METHOD FOR LINEAR INVERSE SCATTERING

E.A. Marengo, Northeastern University, MA, United States; R. Solimene, Università degli Studi della Campania, Italy

17:40-18:00

SIMULATIVE ANOMALY DETECTION USING 2D TOMOGRAPHY

M. Ben-Harush, N. Teneh, G. Lukovsky, Elta Systems Ltd., Israel

TUESDAY, SEPTEMBER 12 2017 - 08:00 ROOM MARCONI

SESSION 22 - ICEAA

FAST COMPUTATIONAL METHODS

organized by A. Boag

chair A. Boag M. Botha

08:00-08:20

SPECTRAL AND ALGORITHMIC STRATEGIES FOR PENETRABLE SCATTERERS ON SIMPLY AND NON-SIMPLY CONNECTED GEOMETRIES

Y. Beghein, Ghent University, Belgium; R. Mitharwal, Dhirubhai Ambani Institute of Information and Communication Technology, India; K. Cools, University of Nottingham, United Kingdom; F. P. Andriulli, IMT Atlantique, France

08:20-08:40

CALDERON PRECONDITIONING OF THE LOCAL SYSTEM IN A SINGLE LEVEL BETI METHOD

K. Cools, University of Nottingham, United Kingdom; F. P. Andriulli, TELECOM Bretagne, France

08:40 -09:00

SURFACE INTEGRAL EQUATION-DOMAIN DECOMPOSITION SCHEME FOR SOLVING MULTI-SCALE RADIATION AND SCATTERING PROBLEMS

J. M. Taboada, University of Extremadura, Spain; D. M. Solís, University of Vigo, Spain; V.F. Martín, D. Larios, University of Extremadura, Spain; F. Obelleiro, J.L. Rodríguez, University of Vigo, Spain; L. Landesa, University of Extremadura, Spain

09:00-09:20

IE-DDM MIXED WITH PHASE-EXTRACTED BASIS FUNCTIONS AND REVERSE OPERATION SELF-CONSISTENT EVALUATION TECHNIQUE

M. Jiang, L. Lin, J. Hu, Z. Nie, University of Electronic Science and Technology of China, China; J.-F. Lee, The Ohio State University, OH, United States

09:20-09:40

MULTILEVEL NONUNIFORM-GRID ALGORITHM FOR PROBLEMS OF ACOUSTIC SCATTERING BY ELASTIC SHELLS

E.V. Chernokozhin, A. Boag, Tel Aviv University, Israel

09:40-10:00

ACCELERATING THE CBFM-ENHANCED JACOBI METHOD

D.J. Ludick, M. M. Botha, Stellenbosch University, South Africa; R. Maaskant, Chalmers University, Sweden; D. B. Davidson, Stellenbosch University, South Africa

10:20-10:40

GENERALIZED CHARACTERISTIC BASIS FUNCTION DEFINITIONS FOR EFFICIENT ANTENNA ARRAY ANALYSIS IN 2D

K. Sewraj, M.M. Botha, Stellenbosch University, South Africa

10:40-11:00

MODELING AND ANALYSIS OF QUASI-PERIODIC ARRAYS

M. Li, Xunwang Dang, T. Liu, F. Yang, Shenheng Xu, Tsinghua University, China; A. Boag, Tel Aviv University, Israel

11:00-11:20

FAST MODE-POLES SEARCH IN LAYERED MEDIA USING THE FOURIER-PADE APPROXIMATION

Y. Hadad, Tel-Aviv University, Israel

11:20-11:40

SPARSE SOLUTION OF DISCRETE MULTIPLE SCATTERING PROBLEMS IN A DIRECTIONAL PLANE WAVE BASIS

R.J. Adams, R.J. Thomas, J.C. Young, University of Kentucky, KY, United States

11:40-12:00

GENERALIZED SOURCE INTEGRAL EQUATION

A. Sharshevsky, Tel Aviv University, Israel; Y. Brick, The University of Texas at Austin, TX, United States; A. Boag, Tel Aviv University, Israel

12:00-12:20

ABOUT FREQUENCY EXTRAPOLATION IN IE-MEI

J.M. Rius, A. Heldring, E. Ubada, Universitat Politècnica de Catalunya, Spain

13:40-14:00

PERFORMANCE EVALUATION OF FAST MULTIPLE-REFLECTION PHYSICAL OPTICS FOR SCATTERING ANALYSIS

D.P. Xiang, M.M. Botha, Stellenbosch University, South Africa

14:00-14:20

FAST BEAM-BASED ANALYSIS OF MONOSTATIC SCATTERING

C. Letrou, Télécom Sud France; I. Gershenzon, Tel Aviv University, Israel; M. Hariz, Télécom SudFrance; A. Boag, Tel Aviv University, Israel

TUESDAY, SEPTEMBER 12 2017 - 14:20 ROOM MARCONI

SESSION 23 - ICEAA

ELECTROMAGNETIC MODELING OF DEVICES AND CIRCUITS

chair M. Botha L. Vietzorreck

14:20-14:40

SPATIOTEMPORAL CHAOTIC DYNAMICS IN A MULTICONDUCTOR TRANSMISSION LINE MODEL

I. Triandaf, Naval Research Laboratory, Washington DC, United States

14:40-15:00

ADAPTIVE CROSS APPROXIMATION (ACA) ACCELERATION OF SUPERCONDUCTING CIRCUIT ANALYSIS

B.A.P. Nel, M.M. Botha, Stellenbosch University, South Africa

15:00-15:20

CYLINDRICAL COORDINATE SYSTEM-BASED FDTD METHOD FOR RESONANT FREQUENCY ANALYSIS OF ANISOTROPIC CIRCULAR DIELECTRIC RESONATOR

A. Munir, Institut Teknologi Bandung, Indonesia; H. Ludiyati, Bandung State Polytechnic, Indonesia; A.B. Suksmo, Institut Teknologi Bandung, Indonesia

15:20-15:40

DEVELOPMENT OF A SIMPLE BROADBAND MICROSTRIP TO WAVEGUIDE TRANSITION

M. Elsässer, TU München, Germany; E. Miralles Navarro, V. Ziegler, Airbus Group Innovations, Germany; L. Vietzorreck, TU München, Germany

TUESDAY, SEPTEMBER 12 2017 - 16:00 ROOM MARCONI

SESSION 24 - ICEAA

PRINTED AND CONFORMAL ANTENNAS

chair M. Cupal F. Wang

16:00-16:20

3D METAL PRINTED SIERPINSKI GASKET ANTENNA

D. Shamvedi, O.J. McCarthy, E. O'Donoghue, P. O'Leary, R. Raghavendra, Waterford Institute of Technology, Ireland

16:20-16:40

DESIGN OF A 20-ELEMENT INKJET-PRINTED ANTENNA ARRAY FOR WEARABLE MICROWAVE BREAST IMAGING AND DIAGNOSIS

F. Wang, University of Edinburgh, United Kingdom; G. Wang, Beihang University, China

16:40-17:00

IMPROVED PERFORMANCE OF 3D METAL PRINTED ANTENNA THROUGH GRADUAL REDUCTION IN SURFACE ROUGHNESS

D. Shamvedi, O.J. McCarthy, E. O'Donoghue, P. O'Leary, R. Raghavendra, Waterford Institute of Technology, Ireland

17:00-17:20

HIGH GAIN HIGH DENSE DIELECTRIC PATCH ANTENNA WITH A HOLEY SUPERSTRATE FOR 5G APPLICATIONS

M.M. Asaadi, A. Sebak, Concordia University, Canada

17:20-17:40

CIRCULARLY POLARIZED SUBSTRATE INTEGRATED TEXTILE ANTENNA FOR ISM BAND 24 GHZ

M.C. Cupal, Z.R. Raida, Brno University of Technology, Czech Republic

17:40-18:00

DEVELOPMENT OF 2.45 GHZ COMPACT ANTENNA FOR WIRELESS SENSORS

O.M. Sanusi, F.A. Ghaffar, University of Ontario Institute of Technology, Canada; A. Shamim, King Abdullah University of Science and Technology, Saudi Arabia; Y. Wang, L. Roy, University of Ontario Institute of Technology, Canada;

18:00-18:20

DUAL-BAND DUAL-SENSE CIRCULARLY POLARIZED SLOT ANTENNA

R.K. Saini, S. Dwari, Indian Institute of Technology, India

TUESDAY, SEPTEMBER 12 2017 - 08:00 ROOM LEON D'ORO

SESSION 25 - ICEAA

WIRELESS POWER TRANSFER

organized by P. Russer

chair A. Costanzo P. Russer

08:00-08:20

CHARACTERIZATION OF WIRELESS POWER TRANSFER LINKS BY NETWORK INVARIANTS

M. Mongiardo, University of Perugia, Italy; F. Mastri, University of Bologna, Italy; G. Monti, L. Tarricone, University of Salento, Italy

08:20-08:40

POWER-FLOW CONSIDERATIONS FOR OPTIMAL WIRELESS POWER TRANSFER NETWORKS

H.-D. Lang, C.D. Sarris, University of Toronto, Canada

08:40-09:00

FIELD MODELING OF DYNAMIC INDUCTIVE POWER SUPPLY OF ELECTRIC VEHICLES ON THE ROAD

M. Haider, J. A. Russer, Technische Universität München, Germany

TUESDAY, SEPTEMBER 12 2017 - 09:00 ROOM LEON D'ORO

SESSION 26 - IEEE APWC

WIRELESS POWER TRANSMISSION AND HARVESTING

chair A. Costanzo P. Russer

09:00-09:20

A 2.45 GHZ HARMONIC REJECTION ANTENNA FOR WIRELESS POWER TRANSFER APPLICATIONS

A. Kumar, U. Pattapu, A. Chakraborty Das, S. Das, Indian Institute of Technology Dhanbad, India

09:20-09:40

WIRELESS POWER TRANSFER SYSTEM BASED ON MAGNETIC RESONANT COUPLING WITH DIRECTIONAL COUPLER

S. Go, A. Abramowicz, Warsaw University of Technology, Poland

09:40-10:00

DISSIPATED ENERGY OF A LOW-POWER ADIABATIC CPAL JK-FF DESIGN USING FOUR-PHASE AC-CLOCKED POWER SUPPLY BASED ON 180 NM CMOS TECHNOLOGY WITH VARIOUS LOAD CAPACITANCES

V.M. Salles, University of Campinas, Brazil; S.E. Barbin, University of Sao Paulo, Brazil; L.C. Kretly, University of Campinas, Brazil

TUESDAY, SEPTEMBER 12 2017 - 10:20 ROOM LEON D'ORO

SESSION 27 - ICEAA

STOCHASTIC ELECTROMAGNETIC FIELDS

organized by J. Russer

chair J. Russer C. Sarris

10:20-10:40

3D ELECTROMAGNETIC DIFFUSION MODELS FOR REVERBERANT ENVIRONMENTS

I.D. Flintoft, J.F. Dawson, University of York, United Kingdom

10:40-11:00

REVERBERATION CHAMBERS FOR TESTING LTE WIRELESS COMMUNICATION SYSTEMS

L. Bastianelli, Università Politecnica delle Marche, Italy; G. Gradoni, University of Nottingham, United Kingdom; D. Micheli, TIM SpA., Italy; M. Barazzetta, Nokia Networks Italia, Italy; R. Diamanti, TIM SpA, Italy; F. Moglie, V. Mariani Primiani, Università Politecnica delle Marche, Italy

11:00-11:20

INTRODUCING ENHANCED TRANSPORT TO THE EFFECTIVE HAMILTONIAN APPROACH VIA RANDOM MATRICES WITH A PAIR OF CONNECTING STATES

M. Richter, F. Mortessagne, O. Legrand, U. Kuhl, Université Côte d'Azur, France

11:20-11:40

BROADBAND UNCERTAINTY QUANTIFICATION WITH THE FDTD METHOD AND THE MULTI-COMPLEX STEP DERIVATIVE APPROXIMATION

C.D. Sarris, K.A. Liu, University of Toronto, Canada

11:40-12:00

CHARACTERIZATION OF NOISY EM FIELDS BY CROSS SPECTRAL DENSITY EIGENVALUE ANALYSIS

D. Schaefer, A. Lauer, R. Baggen, IMST GmbH, Germany

12:00-12:20

EFFICIENT 2D LOCALIZATION OF A NUMBER OF MUTUALLY ARBITRARY POSITIONED STOCHASTIC EM SOURCES IN FAR-FIELD USING NEURAL MODEL

Z. Stankovic, N. Doncov, University of Nis, Serbia; B. Milovanovic, Singidunum University, Serbia; I. Milovanovic, Singidunum University, Serbia

13:40-14:00

CHARACTERIZATION OF EM FIELD ABOVE A SINGLE APERTURE OR AIR-VENTS OF AN ENCLOSURE FOR A VARIABLE DEGREE OF CORRELATION BETWEEN STOCHASTIC SOURCES INSIDE

N. Doncov, B. Stosic, Z. Stankovic, University of Nis, Serbia; J. Russer, M. Haider, Technical University of Munich, Germany; M. H. Baharuddin, United Kingdom; D.W.P. Thomas, University of Nottingham, United Kingdom

14:00-14:20

FLUCTUATION OF CORRELATION WITHIN ENCLOSURES

S.C. Creagh, J. Blackburn, G. Gradoni, T. Hartmann, S. Phang, G. Tanner, University of Nottingham, United Kingdom

14:20-14:40

TIME-DOMAIN FAR-FIELD MEASUREMENTS FOR CROSS-CORRELATION ANALYSIS

Y. Kuznetsov, A. Baev, Moscow Aviation Institute, Russia; M. Haider, J.A. Russer, P. Russer, Technische Universität München, Germany

14:40-15:00

TIME-DOMAIN CHARACTERIZATION OF PROBES FOR TWO-POINT MEASUREMENTS OF STOCHASTIC EM FIELDS

A. Baev, Y. Kuznetsov, Moscow Aviation Institute, Russia; M. Haider, J. A. Russer, P. Russer, Technische Universität München, Germany

15:00-15:20

EQUIVALENT SOURCE LOCALIZATION FOR STOCHASTIC ELECTROMAGNETIC FIELDS

M. Haider, J. A. Russer, Technische Universität München, Germany

15:20-15:40

NETWORK REPRESENTATION OF BIOLOGY-INSPIRED ANALOG SIGNAL-PROCESSING: CORRELATED NEURAL CELLS ARRAY IN DIFFUSE NOISY STOCHASTIC EM FIELDS

S. Wane, NXP-Semiconductors, France; D. Bajon, ISAE-SUPAERO, France

SESSION 28 - IEEE APWC

RFID TECHNOLOGIES
chair C.-W. Chiu M. Donelli

16:00-16:20

A BROADBAND MODULATED SCATTERING TECHNIQUE (MST) PROBE BASED ON A SELF COMPLEMENTARY ANTENNA

M. Donelli, University of Trento, Italy

16:20-16:40

A CHIPLESS RFID SYSTEM BASED ON SUBSTRATE IMPEDANCE WAVEGUIDE RESONATORS (SIW)

M. Donelli, University of Trento, Italy

16:40-17:00

CIRCULARLY POLARIZED TAG ANTENNA ON AN AMC SUBSTRATE FOR WEARABLE UHF RFID APPLICATIONS

C.-W. Chiu, J.H. Hong, National Ilan University, Taiwan

17:00-17:20

TUNABLE TAPPED COMBLINE BANDPASS FILTERS FOR RFID SYSTEMS

*M.S. Siri, B.W. Schafer, A.M. Steffan, A. Eroglu, Purdue University, IN, United States;
D. Ronnow, University of Gavle, Sweden*

17:20-17:40

DESIGN OF A PASSIVE MICROWAVE SENSOR FOR THE CHARACTERIZATION OF MOBILE ENGINE OIL

F. Mejri, T. Aguilii, ENIT, Tunisia

17:40-18:00

AUTOMATIC IR UWB CHIPLESS RFID SYSTEM FOR SHORT RANGE APPLICATIONS

M.R. Barahona, D. Betancourt, F. Ellinger, TU Dresden, Germany, K. Haase, G.C. Schmidt, A.C. Hübler, TU Chemnitz, Germany

18:00-18:20

ANALYSIS OF THE USE OF DIFFERENT SUBSTRATES FOR THE DESIGN OF C-SECTIONED FOLDED MICROSTRIP CHIPLESS TAG FOR PRESSURE DETECTION

T.V. de Sousa, R.A.A. Rodrigues, UFPI, Brazil; G. Fontgalland, UFCG, Brazil; S.E. Barbin, USP, Brazil

SESSION 29 - IEEE APWC

WIDEBAND/MULTIBAND ANTENNAS AND EMERGING ANTENNA TECHNOLOGIES
organized by H. Nakano

chair H. Nakano K. Monai T. Kawano

08:00-08:20

PARASITIC ELEMENTS COUPLED TO TRANSMISSION LINES

*H. Nakano, Hosei University, Japan; T. Kawano, National Defense Academy, Kanagawa, Japan;
J. Yamauchi, Hosei University, Japan*

08:20-08:40

LOW-PROFILE SPIRAL ANTENNA WITH A FAN-SHAPED HIS/EBG REFLECTOR RADIATING A CIRCULARLY POLARIZED WAVE

M. Tanabe, Toshiba, Japan

08:40-09:00

A WIRE-GRID TYPE TRANSPARENT FILM UWB ANTENNA

N. Guan, H. Yamaya, S. Kaushal, Y. Yamaguchi, Fujikura Ltd., Japan

09:00-09:20

WIDEBAND LOW-THZ ANTENNAS FOR HIGH-SPEED WIRELESS COMMUNICATIONS

C. Gu, S. Gao, B. Sanz, University of Kent, United Kingdom

09:20-09:40

DUAL-BAND/WIDEBAND MACKAY TYPE O USING OFFSET FEED TECHNIQUE

S. Makino, K. Hirano, Y. Ohtsubo, K. Itoh, K. Noguchi, T. Hirota, Kanazawa Institute of Technology, Japan

09:40-10:00

BROADBAND MONOPOLE ANTENNA WITH A REFLECTOR AND A PARASITIC ELEMENT

T. Fujimoto, D. Hisatomi, Nagasaki University, Japan

10:20-10:40

DUAL-BAND UNIDIRECTIONAL CROSS DIPOLE ANTENNA

C. Kittiyapuna, M. Krairiksh, King Mongkut's Institute of Technology Ladkrabang, Thailand

10:40-11:00

MINIATURIZED BROADBAND CIRCULARLY POLARIZED ANTENNA ALLOCATED IN A ROTATIONAL SYMMETRY

H. Sakamoto, T. Yanagi, Y. Nishioka, T. Fukasawa, H. Miyashita, Mitsubishi Electric, Japan

11:00-11:20

A MULTIBAND CIRCULARLY POLARIZED CROSS SPIRAL ANTENNA WITH A DIPOLE FEEDER

M. Matsunaga, Tokyo University of Technology, Japan

11:20-11:40

A SMALL-SIZED AUTOMOBILE LTE MULTI-BAND MIMO ANTENNA

D. Han, C. Lee, M. K. Khattak, S. Kahng, Incheon National University, South Korea; J. H. Kim, AceAntenna, South Korea

11:40-12:00

METAL FRAME MULTIBAND MIMO ANTENNA FOR SMARTPHONES

Y. Koga, T. Yamagajo, M. Kai, Fujitsu Laboratories Limited, Japan

12:00-12:20

A MULTI-BAND LOOP ANTENNA WITH A BAND STOP FILTER FOR WIRELESS HANDHELD DEVICES

H. Wang, H. Zhou, Huawei Technologies, United Kingdom

13:40-14:00

COMPACT, WIDEBAND AND CIRCULARLY POLARIZED METASURFACE-BASED PHASED ARRAY AT KA-BAND

W. E. I. Liu, Z. N. Chen, University of Singapore, Singapore; X. Qing, Institute for Infocomm Research (I2R), Singapore

14:00-14:20

PROPOSAL OF OFFSET FED ANTENNA WITH COPLANAR WAVEGUIDE INCORPORATED WITHIN ANTENNA ELEMENT

M. Taguchi, Nagasaki University, Japan

14:20-14:40

NOVEL REFLECTED BEAM SWITCHING METHOD USING META-SURFACE LOADED WITH ACTIVE ELEMENTS

T. Maruyama, T. Shimano, Hakodate College, Japan; Q. Chen, S. Kameda, N. Suematsu, Tohoku University, Japan

14:40-15:00

BANDWIDTH ENHANCED BROADBAND DUAL-POLARIZED ANTENNA FOR BASE STATIONS

L.J. Wu, Y.H. Cui, R.L. Li, South China University of Technology, China

15:00-15:20

A WIDEBAND REFLECTARRAY DESIGN USING NOVEL PHASING RINGS

X.L. Zhang, F. Yang, S.H. Xu, M.K. Li, Tsinghua University, China

15:20-15:40

A DIAMOND-SHAPED GRID ARRAY ANTENNA PRINTED ON A DIELECTRIC SUBSTRATE

T. Kawano, National Defense Academy, Japan; H. Nakano, Hosei University, Japan

16:00-16:20

**A SIDELobe CANCELLATION APPROACH FOR PHASE-ONLY ARRAY ANTENNAS:
ON INITIAL-WEIGHT ESTIMATION**

L.T. Ong, T.T. Chia, National University of Singapore, Singapore

16:20-16:40

ELECTROMAGNETIC WAVES CONTROL FOR ANTENNAS APPLICATIONS

L. La Spada, Y. Hao, Queen Mary University of London, United Kingdom

16:40-17:00

A CIRCULARLY POLARIZED ANTENNA INTEGRATED WITH METASURFACE SOLAR CELLS

S. Xuat Ta, Ajou University, South Korea; I. Park, Ajou University, South Korea

17:00-17:20

**8X8 PHASED SERIES FED PATCH ANTENNA ARRAY AT 28 GHZ FOR 5G MOBILE BASE STATION
ANTENNAS**

M.K. Ishfaq, T.A. Rahman, Y. Yamada, MJIT, Universiti Teknologi Malaysia, Malaysia; K. Sakakibara, Nagoya Institute of Technology, Japan

WEDNESDAY, SEPTEMBER 13 2017 - 08:00 ROOM PONCHIELLI

SESSION 30 - ICEAA

TECHNOLOGIES FOR MM AND SUB-MM WAVES

chair A. Clemente S. Runke

08:00-08:20

**LINEARLY-POLARIZED ELECTRONICALLY RECONFIGURABLE TRANSMITARRAY ANTENNA WITH
2-BIT PHASE RESOLUTION IN KA-BAND**

F. Diaby, A. Clemente, L. Di Palma, L. Dussopt, CEA, France; K. Pham, IETR, France, E. Fourn, INSA, France; R. Sauleau, IETR, France

08:20-08:40

**NUMERICAL NONDESTRUCTIVE TESTING SIMULATIONS FOR THE DETECTION OF DEFECTS IN
THIN MULTILAYER COMPOSITE MATERIAL MODELS**

S. Runke, M. Clemens, University of Wuppertal, Germany

08:40-09:00

SINGLE-LAYER SIW CORRUGATED TECHNIQUE FOR GAIN ENHANCEMENT

M.L. Lin, National University of Defense Technology, China; Z.Q. Guo, Jimei University, China; P.G. Liu, National University of Defense Technology, China; Y. Gao, Queen Mary University of London, United Kingdom

09:00-09:20

APPLICATION OF REFLECTIVE GRATINGS FOR ELECTRON CYCLOTRON HEATING SYSTEM

D.H. Xia, C.H. Liu, Z.J. Wang, Huazhong University of Science and Technology, China

09:20-09:40

MMWAVE PHOTONIC EMITTER FEATURING A UWB FERMI TAPERED SLOT ANTENNA

A. Mushin, L. E. García Muñoz, M. C. Lo, R. Cruzoe Guzmán, G. Carpintero, Universidad Carlos III de Madrid, Spain

WEDNESDAY, SEPTEMBER 13 2017 - 10:20 ROOM PONCHIELLI

SESSION 31 - ICEAA

NOVEL MATHEMATICAL METHODS IN ELECTROMAGNETICS

organized by K. Kobayashi and Y. Shestopalov

chair K. Kobayashi Y. Shestopalov

10:20-10:40

PRACTICAL ALGORITHM FOR DESIGNING CAUSTIC BEAMS

T. Melamed, A. Shlivinski, Ben-Gurion University of the Negev, Israel

10:40-11:00

EFFICIENT AND RIGOROUS ANALYSIS OF LEAKY MODES IN 2-D EBG GUIDING STRUCTURES

V. Jandieri, University of Duisburg-Essen, Germany; P. Baccarelli, Sapienza University of Rome, Italy; G. Valerio, Sorbonne Universités, France; S. Ceccuzzi, C. Ponti, G. Schettini, Roma Tre University, Italy

11:00-11:20

SCATTERING BY A METAL WIRE INSIDE DIHEDRAL AND TRIHEDRAL REFLECTORS

P.L.E. Uslenghi, University of Illinois at Chicago, IL, United States

11:20-11:40

SCATTERING PROPERTIES OF EPSILON-AND-MU-NEAR-ZERO METAMATERIALS

Y. Li, Tsinghua University, China; I. Liberal, Public University of Navarre, Spain; N. Engheta, University of Pennsylvania, PA, United States

11:40-12:00

AXIAL RADAR CROSS-SECTION OF A STRONGLY ELONGATED SPHEROID TRUNCATED BY A PLANE PERPENDICULAR TO ITS AXIS

F.A. Molinet, MOTHEM, France

12:00-12:20

FDTD METHOD FOR THE ANALYSIS OF MOVING BOUNDARY PROBLEMS - OVER SET GRID GENERATION METHOD AND BODY FITTED GRID GENERATION METHOD WITH MOVING BOUNDARIES-

M. Kuroda, Tokyo University of Technology, Japan

13:40-14:00

AN APPLICATION OF THE GENERALIZED WH TECHNIQUE

V. Daniele, G. Lombardi, R.S. Zich, Politecnico di Torino, Italy

14:00-14:20

A NEW INSIGHT INTO THE ROLE OF HIDDEN RAYS IN WEDGE DIFFRACTION

S.-Y. Kim, Korea Institute of Science and Technology, South Korea

14:20-14:40

ON NUMERICAL ARTIFACTS IN THE BOUNDARY ELEMENT METHOD FOR THE INDUCED CURRENTS COMPUTATION ON A LARGE SPHEROID

I.V. Andronov, St.Petersburg State University, Russia; D.A. Shevvin, CADFEM, Russia

14:40-15:00

E-POLARIZED PLANE WAVE DIFFRACTION BY A THIN MATERIAL STRIP

T. Nagasaka, K. Kobayashi, Chuo University, Japan

15:00-15:20

NUMERICAL ANALYSIS AND VISUALIZATION OF SPHERICAL WAVES ABSORBED BY A THIN METAMATERIAL ABSORBER

S. Yagitani, R. Kanaura, M. Ozaki, T. Imachi, Kanazawa University, Japan

15:20-15:40

ELECTROMAGNETIC RESONANCE SCATTERING FROM ARRAYS OF GYROTROPIC CYLINDRICAL OBJECTS

A.V. Kudrin, A.V. Ivoninsky, V.A. Es'kin, University of Nizhny Novgorod, Russia

16:00-16:20

BOUNDARY EXTRACTION BASED IMAGING METHOD BY INCORPORATING FDTD BASED WAVEFRONT ANALYSIS FOR MICROWAVE MAMMOGRAPHY

S. Kidera, K. Noritake, University of Electro-Communications, Japan

16:20-16:40

PLANE WAVE DIFFRACTION BY 2D RECTANGULAR CAVITY WITH FLANGES

E.D. Vinogradova, Macquarie University, Australia

16:40-17:00

ANALYSIS OF PULSE RESPONSE FROM TWO DISPERSION MEDIA WITH STRIPS

R. Ozaki, T. Yamasaki, Nihon University, Japan

WEDNESDAY, SEPTEMBER 13 2017 - 08:00 ROOM LEONARDO

SESSION 32 - ICEAA

ELECTROMAGNETIC SCATTERING MODELS FOR SIGNALS OF OPPORTUNITY

organized by M. Moghaddam

chair M. Moghaddam

08:00-08:20

MODELING BISTATIC SCATTERING SIGNATURES FROM SOURCES OF OPPORTUNITY IN P- KA BANDS

R. Shah, C. Zuffada, C. Chew, M. Lavalle X. Xu, Jet Propulsion Laboratory/California Institute of Technology, CA, United States; A. Azemati, University of Southern California, CA, United States

08:20-08:40

A COMPARISON OF MODELS FOR PREDICTING NEAR-SPECULAR BISTATIC SCATTERING FROM ROUGH SURFACES

J. Park, M. Buchanan, A. O'Brien, J. T. Johnson, The Ohio State University, OH, United States

08:40-09:00

ADVANTAGES AND LIMITATIONS OF L-BAND BISTATIC RADAR REMOTE SENSING OF LANDSCAPE FREEZE/THAW STATE

C. Chew, E. Podest, Jet Propulsion Laboratory, CA, United States; K.C. McDonald, N. Steiner, The City College of New York, United States

09:00-09:20

CIRCULAR-LINEAR POLARIZATION SIGNATURES IN BISTATIC SCATTERING MODELS APPLIED TO SIGNALS OF OPPORTUNITY

A. Azemati, M. Moghaddam, University of Southern California, CA, United States

09:20-09:40

RECENT RESULTS ON SOIL MOISTURE REMOTE SENSING USING P-BAND SIGNALS OF OPPORTUNITY

J.L. Garrison, B. Nold, G. Pignotti, Y.-C. Lin, Purdue University, IN, United States; J. Piepmeier, M. Vega, M. Fritts, C. Du Toit, J. Knuble, NASA Goddard Spaceflight Center, MD, United States

SESSION 33 - ICEAA

ANTENNA SYSTEMS FOR RADIO ASTRONOMY
organized by **D.B. Davidson, E. de Lera Acedo, G. Virone, R. Wayth**
chair D.B. Davidson, E. de Lera Ac G. Virone, R. Wayth

09:40-10:00

NEXT STEP IN THE APERTURE ARRAYS AND ANTENNA DESIGN FOR THE WORLD'S LARGEST RADIO TELESCOPE OF THE FUTURE

M.G. Labate, L. Stringhetti, P.Dewdney, R.Braun, SKA Organization Cheshire, United Kingdom

10:20-10:40

ANTENNA SYSTEMS FOR 21 CM COSMOLOGY

N. Patra, D. de Boer, A. Parsons, C. Day, D. Shen, T. Bhattacharyya, K. Kundert, UC Berkeley, CA, United States

10:40-11:00

CORRELATION BETWEEN SKA1-LOW STATIONS INCLUDING MUTUAL COUPLING

H. Bui-Van, C. Craeye, Universite catholique de Louvain, Belgium; N. Razavi-Gods, E. de Lera Acedo, University of Cambridge, United Kingdom

11:00-11:20

CALIBRATION OF MID-FREQUENCY APERTURE ARRAY STATIONS USING SELF-HOLOGRAPHY

S.J. Wijnholds, ASTRON, Netherlands

11:20-11:40

NOISE MODELING OF A 4X4 PROTOTYPE ARRAY FOR THE MID FREQUENCY APERTURE ARRAY

M. J. Arts, M. Brethouwer, M. Ruiter, ASTRON, Netherlands

11:40-12:00

DUAL POLARISED CROSSED RING ANTENNA ARRAY WITH HIGH POLARIMETRIC PURITY

Y. Zhang, A. El-Makadema, M. Yang, A.K. Brown, The University of Manchester, United Kingdom

12:00-12:20

SURROGATE-BASED ANTENNA ELEMENT OPTIMIZATION FOR REGULARLY SPACED APERTURE ARRAYS

B. Klopper, D.I.L. De Villiers, University of Stellenbosch, South Africa

13:40-14:00

REDUCING THE MAXIMUM QUANTIZATION SCAN ERROR IN DENSE PHASED ARRAYS

C.R. Wilke, J. Gilmore, D.B. Davidson, Stellenbosch University, South Africa

14:00-14:20

DESIGN OF A DUAL POLARISED WIDEBAND SOURCE ANTENNA ONBOARD AN UAV FOR RADIO ASTRONOMY ELEMENT CHARACTERISATION

H. Pienaar, D.B. Davidson, Stellenbosch University, South Africa

14:20-14:40

UAV-BASED METHOD FOR THE SENSITIVITY MEASUREMENT ON LOW-FREQUENCY RECEIVING SYSTEMS

G. Pupillo, S. Pluchino, INAF-Medicina, Italy; P. Bolli, INAF-Arcetri Firenze, Italy; G. Virone, CNR-IIT Torino, Italy; S. Mariotti, J. Monari, INAF -Medicina, Italy; F. Paonessa, CNR, Italy; F. Peonessa, CNR, Italy; F. Perini, INAF - Medicina, Italy

14:40-15:00

RECENT RESULTS ON THE CHARACTERIZATION OF THE LOFAR RADIO TELESCOPE BY MEANS OF A MICRO UAV

F. Paonessa, G. Virone, IEIT-CNR, Italy; P. Bolli, G. Pupillo, INAF, Italy; S. J. Wijnholds, Netherlands Institute for Radio Astronomy, Netherlands; S. Matteoli, IEITCNR, Italy; A. Lingua, M. Piras, I. Alicardi, P. Maschio, Politecnico di Torino, Italy

15:00-15:20

INTERFERENCE MITIGATION WITH A MODIFIED ASKAP PHASED ARRAY FEED ON THE 64 M PARKES RADIO TELESCOPE

A. P. Chippendale, CSIRO, Australia; G. Hellbourg, University of California, CA, United States

15:20-15:40

MULTIPATH CHARACTERISATION OF THE MEERKAT CORE SITE

T.J. Phiri, D.B. Davidson, P.G. Wiid, Stellenbosch University, South Africa

16:00-16:20

FULL-WAVE ANALYSIS OF THE EXPANDED VERY LARGE ARRAY

D. J. Ludick, Stellenbosch University, South Africa; T. Carozzi, Chalmers University, Sweden; D. B. Davidson, Stellenbosch University, South Africa; O. M. Smirnov, Rhodes University, South Africa

16:20-16:40

THE SARDINIA RADIO TELESCOPE (SRT): A LARGE MODERN RADIO TELESCOPE FOR OBSERVATIONS FROM METER TO MM WAVELENGTHS

E. Carretti, INAF, Italy

16:40-17:00

DESIGN OF THE LOW C-BAND PASSIVE FRONT-END FOR THE BEAM WAVEGUIDE FOCUS OF THE SARDINIA RADIO TELESCOPE

R. Nesti, Arcetri Astrophysical Observatory, Italy; E. Orsi, G. Pelosi, L. Possenti, S. Selleri, University of Florence, Italy

17:00-17:20

PROBING THE DYNAMICAL MODES OF ENERGY ABSORBING STRUCTURES USING INTERFEROMETRY

S. Withington, C.N. Thomas, D.J. Goldie, University Cambridge, United Kingdom

WEDNESDAY, SEPTEMBER 13 2017 - 08:00 ROOM GALILEI

SESSION 34 - ICEAA

ELECTROMAGNETIC MEASUREMENTS

chair F. D'Agostino T. Martin

08:00-08:20

NONREDUNDANT SPHERICAL SPIRAL SCANNING FOR OFFSET MOUNTED LONG ANTENNAS

F. D'Agostino, F. Ferrara, C. Gennarelli, R. Guerriero, M. Migliozzi, University of Salerno, Italy

08:20-08:40

CONSTRUCTIVE ADJUSTMENT OF CHARACTERISTIC PARAMETERS OF A MODE-STIRRED REVERBERATION CHAMBER FOR EMC TESTS AND POWER SPECTROSCOPY

C. H. Schlie, M. Rozgic, M. Dudzinski, I. Barbary, L. O. Fichte, J. Storjohann, R. Hollan, M. Stiemer, Helmut-Schmidt-Universität Universität der Bundeswehr Hamburg, Germany; J. Schiffner, Dusseldorf, Germany; S. Potthast, M. Schaarschmidt, F. Sabath, Wehrwissenschaftliches Institut für Schutztechnologien - ABC-Schutz (WIS) Munster, Germany

08:40-09:00

EXPERIMENTAL STUDIES OF REFLECTION COEFFICIENT FOR CORUNDUM-BASED MATERIAL

D. Klygach, M. Vakhitov, South Ural State University, Russia

09:00-09:20

AN ALGORITHM FOR THE ANTENNA PHASE CENTER CALCULATION

S. Perna, Università di Napoli 'Parthenope', Italy; C. Esposito, A. Pauciullo, IREA-CNR, Italy; A. Gifuni, Università I di Napoli 'Parthenope', Italy

09:20-9:40

A NOVEL METHOD TO INCREASE THE ACCURACY OF MATERIAL CHARACTERIZATION USING FREE SPACE TRANSMISSION MEASUREMENTS

T. Martin, B. Vallhagen, M. Wallin, J. Rahm, Saab, Sweden

WEDNESDAY, SEPTEMBER 13 2017 - 10:20 ROOM GALILEI

SESSION 35 - ICEAA

RECENT ADVANCES IN ELECTROMAGNETICS FOR MRI

organized by D. Erricolo, G. Carluccio, R. Lattanzi

chair G. Carluccio D. Erricolo, R. Lattanzi

10:20-10:40

COMPARISON OF LEAD ELECTROMAGNETIC MODEL AND 3D EM RESULTS FOR HELIX AND STRAIGHT LEADS

M. Kozlov, Max Planck Institute, Germany; W. Kainz, U.S. FDA CDRH, MD, United States

10:40-11:00

ON THE SUPERLINEAR INCREASE OF THE ULTIMATE INTRINSIC SIGNAL-TO-NOISE RATIO WITH REGARD TO MAIN MAGNETIC FIELD STRENGTH IN A SPHERICAL SAMPLE

A. Pfrommer, A Henning, Max Planck Institute for Biological Cybernetics, Germany

11:00-11:20

ELECTRICAL PROPERTIES TOMOGRAPHY USING CONTRAST SOURCE INVERSION TECHNIQUES

R. Remis, Delft University of Technology, Netherlands; A. Webb, Leiden University Medical Center, Netherlands; S. Mandija, University Medical Center Utrecht, Netherlands; R. Leijssen, Leiden University Medical Center, Netherlands; P.S. Fuchs, P. Stijnman, Delft University of Technology, Netherlands; C. van den Berg, University Medical Center Utrecht, Netherlands

11:20-11:40

CONSISTENT NUMERICAL BASIS OF ELECTROMAGNETIC FIELDS IN REALISTIC HUMAN BODY MODELS FOR MRI SYSTEM DESIGN AND OPTIMIZATION

I.P. Georgakis, Skolkovo Institute of Science and Technology, Russia; J.F. Villena, Greater Boston Area, United States; L. Daniel, J.K. White, MIT, MA, United States; A.G. Polimeridis, Skolkovo Institute of Science and Technology, Russia

11:40-12:00

DIELECTRIC ENHANCED DIPOLES FOR MRI - APPROACHING THE IDEAL CURRENT PATTERN

W.M. Brink, Leiden University Medical Center, Netherlands; J. Paska, NYU School of Medicine, NY, United States; J. Dai, Leiden University Medical Center, Netherlands; J.H.F. van Gemert, Delft University of Technology, Netherlands; G. Chen, G.C. Wiggins, R.F. Remis, Delft University of Technology, Denmark; C. M. Collins, NYU School of Medicine, NY, United States; A. G. Webb, Leiden University Medical Center, Netherlands

12:00-12:20

DISTRIBUTED TRAP FSS FILTER FOR DUAL TUNED RF MRI COIL DECOUPLING AT 7.0T

N. Fontana, Consorzio Nazionale Interuniversitario per le Telecomunicazioni, Italy; F. Costa, Università di Pisa, Italy; G. Tiberi, Fondazione Imago 7, Italy; L. Nigro, A. Monorchio, Università di Pisa, Italy

13:40-14:00

COMPARISON OF 7T 16-CHANNEL DUAL-ROW TRANSMIT ARRAYS

M. Kozlov, J. Bode, P.-L. Bazin, N. Weiskopf, H.E. Möller, Max Planck Institute for Human Cognitive and Brain Sciences, Germany; G. Shajan, University of Glasgow, United Kingdom

14:00-14:20

IMPLANT RELATED SAFETY ISSUES IN MRI

B. Ittermann, R. Brühl, A. Ihlenfeld, G. Weidemann, F. Seifert, Physikalisch-Technische Bundesanstalt (PTB), Germany

14:20-14:40

INVESTIGATION OF THE FEASIBILITY OF INVERSE SCATTERING VIA GLOBAL MAXWELL TOMOGRAPHY

J.E.C. Serrallés, MIT, MA, United States; E. Boeru, A.G. Polimeridis, Skolkovo Institute of Science and Technology, Russia; D.K. Sodickson, New York University School of Medicine, NY, United States; J.K. White, L. Daniel, MIT, MA, United States; R. Lattanzi, New York University School of Medicine, NY, United States

14:40-15:00

RADIATIVE RF ANTENNA ARRAYS FOR CARDIAC, BRAIN AND THERMAL MAGNETIC RESONANCE AT ULTRAHIGH AND EXTREME MAGNETIC FIELD STRENGTHS: CONCEPTS, ELECTROMAGNETIC FIELD SIMULATIONS AND APPLICATIONS

T. Niendorf, Y. Ji, C. Oezerdem, E. Oberacker, Helmholtz Association, Germany; A. Kuehne, H. Waiczys, MRI.TOOLS GmbH, Germany; L. Winter, Helmholtz Association, Germany

15:00-15:20

29-CHANNEL RECEIVE-ONLY DENSE DIPOLE HEAD ARRAY FOR 7T MRI

B. Zhang, G. Chen, M. Cloos, Z. Yu, J. Walczyk, C. Collins, R. Brown, R. Lattanzi, D. Sodickson, G. Wiggins, New York University School of Medicine, United States

15:20-15:40

A 16-CHANNEL TRANSCIEVER LOOP+DIPOLE ANTENNAS HEAD ARRAY FOR HUMAN HEAD IMAGING AT 10.5T

M. Woo, R.L. Lagore, L. DelaBarre, B.-Y. Lee, Y. Eryaman, J. Radder, A. Erturk, G. Metzger, P.-F. van de Moortele, K. Ugurbil, G. Adriany, Center for Magnetic Resonance Research, MN, United States

16:00-16:20

OPTIMIZATION AND SIMULATION OF A 16-CHANNEL LOOP AND DIPOLE ARRAY FOR HEAD MRI APPLICATIONS AT 10.5 TESLA

J.W. Radder, M. Woo, P.-F. Van de Moortele, G. J. Metzger, M. A. Erturk, J. P. Strupp, K. Ugurbil, G. Adriany, University of Minnesota, United States

16:20-16:40

SAFETY EVALUATION OF ALGORITHMS FOR LOCAL EXCITATION WITH A TRANSMIT ARRAY CONSIDERING THERMOREGULATORY RESPONSES

G. Carluccio, C. Collins, New York University, United States

16:40-17:00

INTUITIVE UNDERSTANDING OF RF HEATING PATTERNS IN MRI

C.M. Collins, New York University, United States

17:00-17:20

DESIGN AND PERFORMANCE OF A DUAL TUNED 7 T PROTON/SODIUM BREAST COIL

C. Ianniello, G. Madelin, K. Lakshmanan, B. Zhang, L. Moy, R. Brown, University School of Medicine, NY, United States

WEDNESDAY, SEPTEMBER 13 2017 - 08:00 ROOM MARCONI

SESSION 36 - ICEAA

ANALYSIS AND SIMULATION OF COMPLEX ELECTROMAGNETIC MEDIA

organized by I. Tsukerman

chair K. Hollaus I. Tsukerman

08:00-08:20

MODAL ANALYSIS OF POST-WALL WAVEGUIDES AND WAVEGUIDE-BASED FILTERS FOR MICRO AND MILLIMETER WAVES

V. Jandieri, University of Duisburg-Essen, Germany; K. Yasumoto, Kyushu Univeristy, Fukuoka, Japan, D. Erni, University of Duisburg-Essen, Germany

08:20-08:40

MULTISCALE FINITE ELEMENT METHOD AND GEOMETRIC PERTURBATION OF LAMINATED CORES

K. Hollaus, M. Schöbinger, TU Wien, Austria

08:40-09:00

HOMOGENIZATION OF LAMINATED MAGNETIC CORES AND THE ROLE OF SURFACE CHARGES

K. Hollaus, M. Schoebinger, TU Wien, Austria; I. Tsukerman, University of Akron, OH, United States

09:00-09:20

NONASYMPTOTIC AND NONLOCAL HOMOGENIZATION OF ELECTROMAGNETIC METAMATERIALS

I. Tsukerman, The University of Akron, OH, United States; V. A. Markel, Institut Fresnel, France

09:20-09:40

PHOTONIC DEVICES WITH SLAB GEOMETRIES: NUMERICAL MODELS WITH TREFFTZ APPROXIMATIONS

S. Mansha, Y. D. Chong, Nanyang Technological University, Singapore; I. Tsukerman, The University of Akron, United States

09:40-10:00

ENHANCING EARLY-TIME DIFFUSION THROUGH BEAM COLLIMATION IN PULSE PROPAGATION THROUGH SLABS OF DISCRETE RANDOM MEDIA

E.H. Bleszynski, M.K. Bleszynski, T. Jaroszewicz, Monopole Research, CA, United States

WEDNESDAY, SEPTEMBER 13 2017 - 10:20 ROOM MARCONI

SESSION 37 - ICEAA

ELECTROMAGNETIC APPLICATIONS TO BIOMEDICINE

chair G. Lazzi E. Topsakal

10:20-10:40

LONG-TERM IMPLANTABLE WIRELESS MEDICAL TELEMETRY

E. Topsakal, Virginia Commonwealth University, VA, United States

10:40-11:00

BIOELECTROMAGNETICS FOR NEUROIMPLANTS

K. Loizos, E. Gámez Rodríguez, P. Kosta, J. Paknahad, M. Machnoor, G. Lazzi, The University of Utah, UT, United States

11:00-11:20

INVESTIGATION OF THE FILM ANTENNA FOR CAPSULAR ENDOSCOPE

S. Kai, M. Takahashi, Chiba University, Japan

11:20-11:40

EFFECTS OF PRESERVATIVE SOLUTIONS ON THE DIELECTRIC PROPERTIES OF BIOLOGICAL TISSUE

J. Bonello, L. Farrugia, C. V. Sammut, University of Malta, Malta

11:40-12:00

CAN A MM-WAVE ULTRA-WIDEBAND ANN-BASED RADAR DATA PROCESSING APPROACH BE USED FOR BREAST CANCER DETECTION?

S. Caorsi, C. Lenzi, University of Pavia, Italy

12:00-12:20

INFLUENCE OF COMPLEX PERMITTIVITY ON CONFOCAL IMAGING OF 3D-PRINTED BREAST PHANTOM

H. Sato, H. Song, H. Kono, Research Institute for Nanodevice and Bio Systems, Japan; R. Miyake, University of Tokyo, Japan; X. Xiao, Tianjin University, China; T. Kikkawa, Research Institute for Nanodevice and Bio Systems, Japan

13:40-14:00

BROADBAND DIELECTRIC PROPERTIES OF ADRENAL GLAND FOR ACCURATE ANATOMICAL MODELLING IN MEDICAL APPLICATIONS

A. Shahzad, National University of Ireland Galway, Ireland; D. Clausing, P. Prakash, Kansas State University, Manhattan, KS, United States; M.C. Denny, M. O'Halloran, National University of Ireland Galway, Ireland

14:00-14:20

OPTICAL GAUGE HEAD TO EVALUATE GRADIENT FIELD INDUCED VIBRATIONS OF CONDUCTIVE STRUCTURES DURING MRI

E. Fuhrer, M. Jouda, Karlsruhe Institute of Technology, Germany; O.G. Gruschke, Bruker BioSpin, Germany; J.G. Korvink, Karlsruhe Institute of Technology, Germany

WEDNESDAY, SEPTEMBER 13 2017 - 14:20 ROOM MARCONI

SESSION 38 - IEEE APWC

WIRELESS COMMUNICATIONS

chair D. Kuester A. Poddar

14:20-14:40

BLACK BOX MEASUREMENT OF SYSTEM NOISE IN INTEGRATED WIRELESS RECEIVERS

D.G. Kuester, D.A. McGillivray, S. Genco, D. Gu, NIST, CO, United States

14:40-15:00

COMPACT 60-GHZ LENS ANTENNA WITH SELF-ALIGNMENT FEATURE FOR SMALL CELL BACKHAUL

F. Pivit, E. Doumanis, D. Kozlov, Nokia Bell Labs, Ireland; M Gueye, RFS world, France; M. Gimersky, ViaSat Antenna Systems, Switzerland

15:00-15:20

AN IMPROVED MAXIMUM CORRENTROPY CRITERION ALGORITHM WITH FLEXIBLE ZERO ATTRACTOR FOR SPARSE CHANNEL ESTIMATION IN MIXED GAUSSIAN NOISE ENVIRONMENT

Y. Li, Y. Wang, Harbin Engineering University, China; R. Yang, Huazhong Agricultural University, China

15:20-15:40

COEXISTENCE STUDY BETWEEN DTT AND LTE SERVICES IN THE 614- 698MHZ BAND

G. Castellanos, Escuela Colombiana de Ingenieria, Colombia; G. Teuta, Escuela Colombiana de Ingenieria, Colombia

16:00-16:20

MODELING SHADOW FADING CORRELATION IN 60 GHZ OUTDOOR URBAN STREET CANYONS

L. Ahumada, E. Carreño, A. Angles, D. Schkolnik, Univ. Diego Portales, Chile

16:20-16:40

SIGNAL-TO-INTERFERENCE RATIO BETWEEN ATTO CELLS IN AN ULTRA-HIGH DENSITY WIRELESS ACCESS NETWORK

G. Vermeeren, G. Torfs, A. Thielens, H. Rogier, P. Demeester, L. Martens, W. Joseph, Ghent University, Belgium

16:40-17:00

NEXT GENERATION RADIOS: SDR (SOFTWARE DEFINED RADIO AND SDN (SOFTWARE DEFINED NETWORK)

U. Rohde, A. Poddar, Synergy Microwave, NJ, United States; S. Marius, Oradea University, Romania

17:00-17:20

NSGA-RF: ELITIST NON-DOMINATED SORTING GENETIC ALGORITHM REGION-FOCUSED

N.J.P.L. Ramos, G. Fontgalland, Federal University of Campina Grande, Brazil; A.G. Neto, Federal Institute of Education Science and Technology of Paraiba, Brazil; S.E. Barbin, University of São Paulo, Brazil

WEDNESDAY, SEPTEMBER 13 2017 - 08:00 ROOM LEON D'ORO

SESSION 39 - ICEAA

COMPUTATIONAL METHODS AND EXPERIMENTAL RESULTS: COMPARISON AND UNCERTAINTY ANALYSIS FOR ANTENNA RADIATION, SCATTERING AND RCS APPLICATIONS

organized by C. Pichot
chair C. Migliaccio C. Pichot

08:00-08:20

A NEW METHOD FOR DESIGNING HIGH EFFICIENCY MULTI FEED MULTI BEAM REFLECTOR ANTENNAS

O. Manoochehri, University of Illinois at Chicago, IL, United States, A. Darvazehban, Amirkabir University, Iran; A. Emadeddin, Shahed University, Iran; D. Erricolo, University of Illinois at Chicago, IL, United States

08:20-08:40

DEMOS: A DOMAIN DECOMPOSITION MODEL FOR SCATTERING IN FOREST ENVIRONMENTS COMPARED WITH MONO AND BISTATIC MEASUREMENTS ON SCALED MODELS

L. Hettak, Sorbonne Universités, France; H. Saleh, Aix Marseille Univ., France; C. Dahon, M. Casaletti, O. Meyer, Sorbonne Universités, France; J.M. Geffrin, Centre Commun de Ressources en microondes, France; H. Roussel, Sorbonne Universités, France

08:40-09:00

MODEL-BASED OPTIMIZATION USING I1 MINIMIZATION FOR REDUCING THE UNCERTAINTY IN RADAR CROSS-SECTION (RCS) MEASUREMENTS AND PREDICTIONS

I.J. LaHaie, M.A. Blischke, S.M. Cossmann, B.E. Fischer, M.H. Hawks, Integrity Applications Incorporated, MI, United States

09:00-09:20

ANTENNA MEASUREMENTS FROM 50 MHZ TO MILLIMETER WAVE FREQUENCIES AT THE CEA-LETI FAR-FIELD FACILITY

A. Clemente, S. Bories, J.-F. Pintos, J. Keignart, C. Delaveaud, CEA-Leti, France

09:20-09:40

COMPARISONS BETWEEN SCATTERING MEASUREMENTS AND SIMULATIONS OF 2D CANONICAL OBJECTS IN W-BAND

F. Nsengiuyuva, C. Migliaccio, L. Brochier, J.-Y. Dauvignac, C. Pichot, Universite Cote d'Azur, France

09:40-10:00

OPTIMIZATION OF THE EXPERIMENTAL PARAMETERS AND OF THE NOISE OF SCATTERING MEASUREMENTS FOR INVERSE SCATTERING APPLICATIONS

H. Saleh, C. Eyraud, J.-M. Geffrin, Institut Fresnel, France

10:20-10:40

COMPARISON OF THE MEASURED AND COMPUTED RCS OF A TARGET: CRITERION TAKING INTO ACCOUNT THE MEASUREMENT AND COMPUTATION UNCERTAINTIES

P. Bonnemason, J. De Kat, B. Etchessahar, P. Massaloux, G. Mazé-Merceur, CEA, France

10:40-11:00

FAST BEM SOLVERS FOR ANTENNAS AND RCS PROBLEMS

T. Abboud, D. Barbier, IMACS, France

SESSION 40 - IEEE APWC

PROPAGATION MODELLING

chair E. Plouhinec G. Teuta

11:00-11:20

MIMO CHANNEL CAPACITY GAINS IN MM-WAVE LOS SYSTEMS WITH IRREGULAR SPARSE ARRAY ANTENNAS

N. Amani, C. Bencivenni, A. A. Glazunov, M. Ivashina, R. Maaskant, Chalmers University of technology, Sweden

11:20-11:40

PATH LOSS MODEL IN AMAZONIAN BORDER REGION FOR VHF AND UHF TELEVISION BANDS

G. Castellanos, G. Teuta, Escuela Colombiana de Ingenieria, Colombia

11:40-12:00

CONTINUOUS AND DISCRETE FORMULATIONS FOR MODELING ELECTROMAGNETIC WAVE PROPAGATION OVER AN IMPEDANCE GROUND IN LOW TROPOSPHERE IN 3D

H. Zhou, A. Chabory, R. Douvenot, Ecole Nationale de l'Aviation Civile, France

12:00-12:20

OPTIMIZING EMPIRICAL PROPAGATION MODELS FOR LTE AND LTEA USING GENETIC ALGORITHMS AT 879 MHZ

L. M. Mendonça, A. G. D'Assunção, Federal University of Rio Grande do Norte, Brazil; B. J. Cavalcanti, Federal Institute of Education, Science and Technology Paraíba, Brazil

13:40-14:00

A STUDY ON MM-WAVE MULTI-USER INDOOR BEAMFORMING

F. Fuschini, M. Zoli, Univer, E. M. Vitucci, M. Barbiroli, V. Degli-Esposti, University of Bologna, Italy

14:00-14:20

18 GHZ PROPAGATION MEASUREMENTS AND ANALYSIS IN BELO HORIZONTE/BRAZIL

M. H. B. Rezende, G. L. Ramos, P. T. Pereira, Federal University of São João del-Rei, Brazil; Ú. C. Resende, Centro Federal de Educação Tecnológica de Minas Gerais, Brazil; E. J. Silva, G. M. Ribeiro, C.G. Regoz, Federal University of Minas Gerais, Brazil

14:20-14:40

COMPARISON BETWEEN A 3D UTD MODEL AND NEAR FIELD CHAMBER MEASUREMENTS IN THE PRESENCE OF A DIELECTRIC CIRCULAR CYLINDER

E. Plouhinec, Centre de Recherche des Ecoles de Coetquidan, France; B. Uguen, S. Avrillon, Université de Rennes 1, France

SESSION 41 - ICEAA

COMPUTATIONALLY EFFICIENT SOLVERS AND STABLE DISCRETIZATIONS

organized by F. Andriulli

chair F. Andriulli

14:40-15:00

SCALAR NEAR-FIELD FOCUSING IN LOSSY MEDIA

I. Iliopoulos, B. Fuchs, R. Sauleau, IETR-France; P. Pouliguen, P. Potier, DGA France; M. Ettore, IETR, France

15:00-15:20

A STABLE HIGH FREQUENCY ITERATIVE SOLVER

I. Gershenzon, Tel Aviv University, Israel; Y. Brick, The University of Texas at Austin, TX, United States; A. Boag, Tel Aviv University, Israel

15:20-15:40

STABILITY ISSUES IN TIME-DOMAIN METHODS FOR UNSTRUCTURED BLOCK MESHING USING LOCAL TIME-STEPS

A. Ijeh, Université Cote d'Azur, France; M. Ney, IMT-Atlantique, France

16:00-16:20

AN ENRICHED RWG BASIS FOR ENFORCING GLOBAL CURRENT CONSERVATION IN EM MODELLING OF CAPACITANCE EXTRACTION

S.O. Lasisi, K. Cools, T.M. Benson, G. Gradoni, University of Nottingham, United Kingdom; M.T. Greenaway, Loughborough University, United Kingdom

16:20-16:40

A DECOUPLED POTENTIAL INTEGRAL EQUATION FOR THE IMPEDANCE BOUNDARY VALUE PROBLEM

F.V. Vico, Universidad Politecnica de Valencia, Spain

16:40-17:00

EVALUATION OF REACTION INTEGRALS IN THE GALERKIN'S METHOD OF MOMENTS

J. M. Taboada, University of Extremadura, Spain; D. M. Solís, F. Obelleiro, University of Vigo, Spain

17:00 -17:20

A MIXED DISCRETIZED ADJOINT DOUBLE LAYER FORMULATION FOR THE ELECTROENCEPHALOGRAPHY FORWARD PROBLEM WITH HIGH BRAIN-SKULL CONTRAST RATIOS

L. Rahmouni, IMT-atlantique, France; S.B. Adrian, Technical University of Munich, Germany; K. Cools, University of Nottingham, United Kingdom; F.P. Andriulli, IMT-atlantique, France

THURSDAY, SEPTEMBER 14 2017 - 08:00 ROOM MASCAGNI

SESSION 42 - ICEAA

ELECTROMAGNETIC PROPERTIES OF NANOSTRUCTURES AND NANOANTENNAS

organized by G. Slepyan and A. Boag

chair A. Boag G. Slepyan

08:00-08:20

HOW MUCH TOPOLOGICAL INSULATION DOES ONE NEED? HOW MUCH CAN ONE GET?

A. Lakhtakia, Pennsylvania State University, PA, United States; T.G. Mackay, University of Edinburgh, United Kingdom; F. Chiadini, University of Salerno, Italy; A. Divoisalvi, V. Fiumara, University of Basilicata, Italy; A. Scaglione, University of Salerno, Italy

08:20-08:40

TERAHERTZ TRANSITIONS IN CARBON NANOTUBES AND GRAPHENE NANORIBBONS

V.A. Saroka, University of Exeter, United Kingdom; R.R. Hartmann, De La Salle University, Philippines; M.E. Portnoi, University of Exeter, United Kingdom

08:40-09:00

TOPOLOGICAL SOLITONS IN DIMMERIZED OPTICAL RESONATOR ARRAYS

Y. Hadad, Tel-Aviv University, Israel; V. Vitteli, Leiden University, Netherlands; A. Alu, The University of Texas at Austin, TX, United States

09:00-09:20

PERIODICALLY NANOARCHITECTURED PHOTOVOLTAIC SOLAR CELLS AND PLANAR OPTICAL CONCENTRATORS

A. Lakhtakia, Pennsylvania State University, PA, United States;

09:20-09:40

TIME-DOMAIN DYNAMICS AND SPECTRUMS OF RABI-BLOCH OSCILLATIONS IN NANO-CIRCUITS AND NANO-ANTENNAS

I. Levie, R. Kastner, G. Slepyan, Tel Aviv University, Israel

09:40-10:00

OPTICAL PROPERTIES OF TRAPPED NANOANTENNAS AND LOADED VATERITE PARTICLES

I. Shishkin, H. Barhom, R. Noskov, T. Alon, H. Markovich, P. Ginzburg, Tel Aviv University, Israel

10:20-10:40

AN EQUIVALENT CIRCUIT MODEL FOR THE ELECTROMAGNETIC SCATTERING FROM COUPLED QUANTUM DOTS

C. Forestiere, G. Miano, Università degli Studi di Italy; A. Maffucci, Università di Cassino, Italy;

A. Boag, G. Slepyan, Tel Aviv University, Israel

10:40-11:00

CARBON BASED ULTRALIGHT MICROWAVE SHIELDS

Yu. Svirko, T. Kaplas, University of Eastern Finland, Finland; K. Batrakov, A. Paddubskaya, P. Kuzhir,

Belarus State University, Belarus

11:00-11:20

EFFECTS OF MULTIPLE ATOM DOPING IN GRAPHENE

E. Segev, Ben-Gurion University, Israel; A. Natan, Tel-Aviv University, Israel

11:20-11:40

ENHANCED ELECTROMAGNETIC RESPONSE OF ULTRATHIN CARBON FILMS IN THZ FREQUENCY RANGE

K.G. Batrakov, S.A. Maksimenko, M.V. Shuba, Belarusian State University, Belarus

11:40-12:00

THZ AND MICROWAVE PROPERTIES OF 3D-PRINTED NANOCARBON BASED MULTILAYERS

P. Kuzhir, A. Paddubskaya, N. Volynets, INP BSU, Belarus; R. Kotsilkova, E. Ivanov, IMech BAS Sofia,

Bulgaria; I. Biro, 3D Wishes, Bíró u., Hungary; G. Mark, L. Biro, Institute of Technica Physics and

Materials Science, Hungary; S. Maksimenko, INP BSU, Belarus

12:00-12:20

BRIDGING BETWEEN INTEGRAL EQUATION TECHNIQUE OF CLASSICAL ELECTRODYNAMICS AND LANDAUER-BUTTIKER FORMALISM FOR QUANTUM TRANSPORT

M.V. Shuba, A.V. Milnikov, P.P. Kuzhir, S.A. Maksimenko, Belarus State University, Belarus;

G.Ya Slepyan, A. Boag, Tel Aviv University, Israel; S. Bellucci, National Institute of Nuclear Physics,

Italy; O. Pulchi, University of Rome Tor Vergata, Italy

THURSDAY, SEPTEMBER 14 2017 - 13:40 ROOM MASCAGNI

SESSION 43 - IEEE APWC

IOT, BIG DATA AND ADVANCED EM SENSORS AND SYSTEMS

organized by G. Perona

chair S. Bertoldo G. Perona

13:40-14:00

CAR AS A MOVING METEOROLOGICAL INTEGRATED SENSOR

S. Bertoldo, C. Lucianaz, Politecnico di Torino, Italy; M. Allegretti, CINFAI, Italy

14:00-14:20

DISPOSABLE RADIOSONDES FOR TRACKING LAGRANGIAN FLUCTUATIONS INSIDE WARM CLOUDS

T. C. Basso, M. Iovieno, S. Bertoldo, Politecnico di Torino, Italy; G. Perotto, A. Athanassiou, IIT, Italy;

F. Canavero, Politecnico di Torino, Italy; G. Perona, Envisens Technologies s.r.l, Italy; D. Tordella,

Politecnico di Torino, Italy

14:20-14:40

77 GHZ AUTOMOTIVE ANTI-COLLISION RADAR USED FOR METEOROLOGICAL PURPOSES

S. Bertoldo, C. Lucianaz, M. Allegretti, Politecnico di Torino, Italy

14:40-15:00

A NEW WIRELESS SENSOR NETWORK MODULE FOR HEALTH MONITORING OF CIVIL STRUCTURES

L. Carosso, M. Allegretti, S. Bertoldo, Politecnico di Torino, Italy

15:00-15:20

DATA MINING IN MODERN RADIO ASTRONOMY

F. Massaro, Università di Torino, Italy; M. Allegretti, Politecnico di Torino, Italy; A. Ferrari, Consorzio Interuniversitario Per la Fisica Spaziale, Italy

15:20-15:40

A MICROWAVE SYSTEM CONNECTED TO A IOT INFRASTRUCTURE FOR WEED SEED BANK DEPLETION

M. Allegretti, Politecnico di Torino, Italy; L. Gilli, L. Quaglia, Consorzio Interuniversitario Nazionale per la Fisica delle Atmosfere e delle Idrosfere, Italy

THURSDAY, SEPTEMBER 14 2017 - 16:00 ROOM MASCAGNI

SESSION 44 - ICEAA

SURROGATE MODELING AND OPTIMIZATION OF DEVICES IN ELECTROMAGNETICS

organized by D. de Villiers

chair A. Cuyt D. de Villiers

16:00-16:20

SURROGATE MODELING WITH SEQUENTIAL DESIGN FOR DESIGN AND ANALYSIS OF ELECTRONIC SYSTEMS

J. van der Herten, V. Dutordoir, I. Couckuyt, T. Dhaene, Ghent University, Belgium

16:20-16:40

ON THE MODELING OF NON-STATIONARY ANTENNA RESPONSES BY GAUSSIAN PROCESSES

J.P. Jacobs, J. Joubert, University of Pretoria, South Africa

16:40-17:00

TOWARDS BLENDED RATIONAL INTERPOLATION OF MULTI-FIDELITY ANTENNA DATA

A. Cuyt, University of Antwerp, Belgium; R. Louw, Stellenbosch University, South Africa; C. Segers, University of Antwerp, Belgium; D. de Villiers, Stellenbosch University, South Africa

17:00-17:20

A COMPARISON OF FULL PATTERN AND FEATURE BASED MODELING OF ANTENNA RADIATION PATTERNS

D. De Villiers, Stellenbosch University, South Africa

17:20-17:40

A STUDY ON NOISE ROBUSTNESS OF PARAMETERIZED MODELS OF ANTENNA RESPONSES

N. Mutonkole, Altair Engineering GmbH, Germany; D. de Villiers, Stellenbosch University, South Africa

17:40-18:00

ACCELERATED DESIGN OF CMRC-BASED COMPACT RAT-RACE COUPLERS BY INVERSE SURROGATE MODELING

S. Koziel, P. Kurgan, Reykjavik University, Iceland

18:00-18:20

ON ELEMENTARY CELL SELECTION FOR MINIATURIZED MICROSTRIP RAT-RACE COUPLER DESIGN

S. Koziel, P. Kurgan, Reykjavik University, Iceland

SESSION 45 - ICEAA

NUMERICAL METHODS IN ELECTROMAGNETICS

organized by R.D. Graglia and D.R. Wilton

chair R.D. Graglia D.R. Wilton

09:00-09:20

ACCURACY DIRECTLY CONTROLLED FAST DIRECT SOLUTIONS OF GENERAL H^2 MATRICES AND ITS APPLICATION TO ELECTRICALLY LARGE ELECTROMAGNETIC ANALYSIS

M. Ma, D.Jiao, Purdue University, IN, United States

09:20-09:40

PERFORMANCE PORTABLE SPARSE APPROXIMATE INVERSE PRECONDITIONER FOR EFIE EQUATIONS

M. Bettencourt, B. Zinser, R. Jorgenson, J. Kotulski, Sandia National Laboratories, NM, United States

09:40-10:00

DESIGNING HIGH-PERMITTIVITY PADS FOR DIELECTRIC SHIMMING IN MRI USING MODEL ORDER REDUCTION AND GAUSS-NEWTON OPTIMIZATION

J.H.F. van Gemert, Delft University of Technology, Netherlands; W.M. Brink, A.G. Webb, Leiden University Medical Center, Netherlands; R.F. Remis, Delft University of Technology, Netherlands

10:20-10:40

A DYNAMICALLY H-ADAPTIVE DISCONTINUOUS GALERKIN TIME-DOMAIN METHOD FOR ELECTROMAGNETIC FIELD SIMULATION

S. Yan, J.-M. Jin, University of Illinois at Urbana, IL, United States; R. Arslanbekov, V. Kolobov, CFD Research Corporation, AL, United States

10:40-11:00

SPACE-TIME PARALLEL COMPUTATION FOR TIME-DOMAIN MAXWELL'S EQUATIONS

S. Wang, Z. Peng, University of New Mexico, NM, United States

11:00-11:20

HIERARCHICAL DISCRETIZATION OF THE PMCHWT FORMULATION WITH JUMP CURRENT DISCONTINUITIES FOR THE SCATTERING ANALYSIS OF FERROMAGNETIC OBJECTS

E. Ubeda, I. Sekulic, J. M. Rius, Universitat Politècnica de Catalunya (UPC), Spain

11:20-11:40

SOLUTIONS OF NEW POTENTIAL INTEGRAL EQUATIONS USING APPROXIMATE STABLE DIAGONALIZATION OF THE GREEN'S FUNCTION

U.M. Gur, B. Karaosmanoglu, O. Ergul, Middle East Technical University, Turkey

11:40-12:00

AN EFFICIENT SOLUTION OF SCATTERING FROM THIN DIELECTRIC STRUCTURES BY VOLUME-SURFACE INTEGRAL EQUATION AND SIMPLIFIED PRISM VECTOR BASIS FUNCTIONS

X. Li, J. Hu, Z. Nie, University of Electronic Science and Technology of China, China; Xi. Wei, Y. Che, Beijing Inst. of Environmental Features, China

12:00-12:20

ACCURATE AND STABLE SOLUTIONS TO ELECTROMAGNETIC SCATTERING PROBLEMS BY MEANS OF THE ELECTRIC FIELD INTEGRAL EQUATION AUGMENTED BY A WEAK COMBINED SOURCE CONDITION

J. Kornprobst, T. F. Eibert, TUM, Germany

13:40-14:00

THE VOLUME ELECTRIC FIELD INTEGRAL EQUATION FOR DIELECTRIC CLOAKING AT ANY FREQUENCY REGIME

G. Labate, L. Matekovits, Politecnico di Torino, Italy

14:00-14:20

INTEGRAL EQUATION MODELLING OF BRAIN FIBERS FOR HANDLING WHITE MATTER ANISOTROPIES IN THE EEG FORWARD PROBLEM

L. Rahmouni, A. Pillain, A. Merlini, F.P. Andriulli, IMT-atlantique, France

14:20-14:40

QUADRATURE ERROR ESTIMATION FOR MOM MATRIX ENTRIES

M.M. Botha, Stellenbosch University, South Africa; T. Rylander, Chalmers University of Technology, Sweden

14:40-15:00

4-D INTERACTION INTEGRALS BETWEEN NON-COPLANAR TRIANGLE PAIRS

J. Rivero, Universidad de Extremadura, Spain; F. Vipiana, Politecnico di Torino, Italy; D. R. Wilton, University of Houston, TX, United States; W.A. Johnson, New Mexico Institute of Mining and Technology, NM, United States

15:00-15:20

FAST FMIR-MOM IMPLEMENTATION USING ANALYTICAL SINGULARITY EVALUATION

D. Tihon, C. Craeye, Université Catholique de Louvain, Belgium

15:20-15:40

COMPUTATIONAL ASPECTS OF A SPATIAL-SPECTRAL DOMAIN INTEGRAL EQUATION FOR SCATTERING BY OBJECTS OF LARGE LONGITUDINAL EXTENT

R.J. Ditz, M. C. van Beurden, Eindhoven University of Technology, Netherlands

16:00-16:20

VOLUME INTEGRAL EQUATION BASED MODELLING OF IN BUILDING PROPAGATION

I. Kavanagh, C. Brennan, Dublin City University, Ireland

16:20-16:40

IMPROVED INTEGRAL EQUATION APPROACH FOR THE DESIGN OF LOW CROSS-POLARIZATION MULTILAYERED REFLECTARRAY ANTENNAS

R. Florencio, Polytechnic University of Madrid, Spain; R. R. Boix, University of Seville, Spain; J. A. Encinar, Polytechnic University of Madrid, Spain; G. Toso, European Space Agency Noordwijk, Netherlands

16:40-17:00

NETWORK METHODS FOR FULL-WAVE MODELING OF STOCHASTIC ELECTROMAGNETIC FIELDS

J.A. Russer, M. Haider, P. Russer, Technische Universität München, Germany

17:00-17:20

HYBRID LEGO-CBF METHOD FOR THE ANALYSIS OF LOCALLY COMPLEX METALLIC STRUCTURES

R. Bojanic, V. Lancellotti, Technical University of Eindhoven, Netherlands

17:20-17:40

DIRECT SOLUTION OF FEM MODELS: ARE SPARSE DIRECT SOLVERS THE BEST STRATEGY?

J. Moshfegh, M. N. Vouvakis, University of Massachusetts, MA, United States

17:40-18:00

HIERARCHICAL SINGULAR VECTOR BASES FOR QUADRILATERAL CELL MOM APPLICATIONS

R. D. Graglia, Politecnico di Torino, Italy, A. F. Peterson, Georgia Institute of Technology, GA, USA, Paolo Petri, Politecnico di Torino, Italy

SESSION 46 - ICEAA

NOVEL FREQUENCY SELECTIVE STRUCTURES AND APPLICATIONS

organized by Z. Shen

chair W. Geyi Z. Shen

08:20-08:40

A DUAL-BAND FREQUENCY SELECTIVE SURFACE WITH PLANAR-DIPOLE-PAIR ELEMENTS

S. Wang, W. Geyi, Nanjing University of Information Science & Technology, China

08:40-09:00

DESIGN OF A SINGLE LAYER BROADBAND TUNABLE FREQUENCY SELECTIVE SURFACE

L. Zhang, T. Ding, Jimei University, China; T. Zhao, Huaxia University, China

09:00-09:20

3-D WAVEGUIDE FSS BY COAXIAL SQUARE TUBES

W. Tang, J. Ge, Z. Yu, H. Lu, B. Li, Nanjing Normal University, China

09:20-09:40

MANIPULATING THE DIFFERENTLY-POLARIZED RADIATION WAVES BY THIN TRANSMISSIVE METASURFACE LENSES

L.-W. Chen, Y. Ge, Huaqiao University, China

09:40-10:00

PLANAR HELIX FOR CIRCULAR POLARIZATION CONVERSION

J. Wang, Nanjing University of Science and Technology, China; Z. Shen, Nanyang Technological University, Singapore; W. Wu, Nanjing University of Science and Technology, China

10:20-10:40

REFLECTARRAY ANTENNA DESIGN

S.-W. Qu, G.-B. Wu, UESTC, China

10:40-11:00

A BROADBAND 3D FREQUENCY SELECTIVE RASORBER BY USING MAGNETIC MATERIALS

T. Deng, Y. Yu, Z. Ning Chen, National University of Singapore, Singapore

11:00-11:20

WIDEBAND ELECTROMAGNETIC ABSORBER BASED ON ARRAY OF PARALLEL-PLATE WAVEGUIDE

H. Li, F. F. Li, D. G. Fan, F. G. Meng, R. X. Wu, Nanjing University, China

11:20-11:40

AN ULTRA-WIDEBAND ABSORBER BASED ON MULTIPLE RESONATORS IN 3-D FREQUENCY-SELECTIVE STRUCTURE

A. A. Omar, Z. Shen, Nanyang Technological University, Singapore

11:40-12:00

A MULTIFUNCTION ANTENNA COMPOSED BY A DUAL POLARIZATION MICROSTRIP ANTENNA AND A WAVEGUIDE SLOT ANTENNA

S. Shuai, T. Li, W. Dou, Southeast University, China

12:00-12:20

FREQUENCY SELECTIVE RASORBER BASED ON EQUIVALENT CIRCUIT ANALYSIS

Z. Wang, J. Fu, G. Yang, X. Ding, K. Zhang, F. Meng, Q. Wu, Harbin Institute of technology, China

THURSDAY, SEPTEMBER 14 2017 - 13:40 ROOM LEONARDO

SESSION 47 - ICEAA

NETWORK METHODS IN EM MODELING

organized by P. Russer

chair P. Russer S. Wane

13:40-14:00

ELECTROMAGNETIC FIELD MODELING THROUGH THE USE OF DIRAC MATRICES AND GEOMETRIC ALGEBRA

T. Rozzi, University of Marche, Italy; M. Mongiardo, University of Perugia, Italy; F. Mastri, University of Bologna, D. Mencarelli, University of Marche, Italy; G. Monti, University of Salento, Italy; G. Venazoni, University of Perugia, Italy

14:00-14:20

USING MAGNETIZATION DYNAMICS FOR SIMULATING THREE-DIMENSIONAL WAVE PROPAGATION

G. Csaba, A. Papp, Pazmany Peter Catholic University, Hungary; W. Porod, University of Notre Dame, United States

14:20-14:40

ON THE USE OF EQUIVALENT NORTON CIRCUIT MODEL FOR PHOTOCONDUCTIVE ANTENNAS

A. Garufo, G. Carluccio, N. Lombart, A. Neto, Delft University of Technology, Netherlands

14:40-15:00

EMC-ORIENTED MULTI-CONDUCTOR EQUIVALENT CIRCUIT CABLE MODELS FOR SPICE, INCLUDING TRANSFER IMPEDANCE COUPLING AND INCIDENT FIELD EXCITATION

C. Smartt, M.J. Basford, S. Greedy, D.W.P. Thomas, M. Sumner, University of Nottingham, United Kingdom

15:00-15:20

TOWARDS NEAR-FIELD DENSE MIMO COMMUNICATIONS

S. Phang, M.I. Maricar, University of Nottingham, United Kingdom; M.T. Ivrlac, Technische Universität München, Germany; S. Greedy, G. Gradoni, S.C. Creagh, D.W.P. Thomas, University of Nottingham, United Kingdom; J.A. Nossek, Technische Universität München, Germany; G. Tanner, University of Nottingham, United Kingdom

15:20-15:40

TWIN-SOLVER FORMULATION FOR CASTING GREEN'S FUNCTIONS INTO CAUSAL AND NON-CAUSAL PARTITIONS FOR TIME-REVERSAL ANALYSIS

S. Wane, NXP-Semiconductors, France; D. Bajan, ISAE-SUPAERO, France

THURSDAY, SEPTEMBER 14 2017 - 16:00 ROOM LEONARDO

SESSION 48 - ICEAA

CONCEALED OBJECT DETECTION: BELOW-GROUND IMAGING THROUGH-WALL SURVEILLANCE AND CONTRABAND DETECTION

organized by D. Erricolo and M.C.Wicks

chair D. Erricolo M.C. Wicks

16:00-16:20

670 GHZ FMCW RADAR FOR IMAGING AND SCIENCE APPLICATIONS

G. Chattopadhyay, K. Cooper, JPL California Institute of Technology, CA, United States

16:20-16:40

ADVANCES IN REAL TIME AND SPARSE RECONSTRUCTED RADAR IMAGING THROUGH MULTILAYERED WALLS

A. Hoorfar, W. Zhang, Villanova University, PA, United States

16:40-17:00

7M WIDEBAND ANTENNA FOR LAND-MINE DETECTION RADAR

N.T. Nguyen, C. Migliaccio, G. Clementi, N. Fortino, J.-Y. Dauvignac, Universite Cote d'Azur, France; J. Willebois, C. Chekroun, BOWEN-ERTE, France

17:00 -17:20

A SYNTHETIC APERTURE PROCESSING FOR DETECTING UNDERGROUND CAVITIES

T. Hoshino, T. Hara, Mitsubishi Electric Corp., Japan;

17:20-17:40

MULTI-FREQUENCY LSM FOR BURIED OBJECT DETECTION

H.F. Alqadah, U.S. Naval Research Laboratory, Washington DC, United States

17:40-18:00

DISTINGUISHING ELECTRONIC DEVICES USING FOURIER FEATURES DERIVED FROM HARMONIC RADAR

H. Ilbegi, Ankara University, Turkey; H. T. Hayvaci, I. S. Yetik, TOBB University of Economics and Technology, Turkey

18:00-18:20

DECOMPOSITION APPROACHES TO SEPARATE CLUTTER/BACKGROUND FROM BURIED OBJECT SIGNATURES

J.W. Burns, N.S. Subotic, B.J. Thelen, MTRI, MI, United States; M.P. Masarik, IAI, MI, United States; I.J. Xique, MTRI, MI, United States

THURSDAY, SEPTEMBER 14 2017 - 08:00 ROOM GALILEI

SESSION 49 - ICEAA

EMC/EMI/EMP

chair J.-P. Adam V. Šeděnka

08:00-08:20

A NOVEL HIGH ELECTROMAGNETIC PULSE PARTITION METHOD FOR RF FRONT END BASED ON DELAY CIRCUIT

Z. Lu, D. Zhou, College of Electronic Science and Engineering-NUDT, China

08:20-08:40

ANALYSIS OF CROSSTALK IN HIGH FREQUENCY PRINTED CIRCUIT BOARDS IN PRESENCE OF VIA

A. Ghosh, S.K. Das, A. Das, GNIT, India

08:40-09:00

EMPIRICAL ESTIMATION OF MEASUREMENT AND SIMULATION UNCERTAINTY APPLIED TO AN EMP COUPLING TEST CASE

J.-M. Lopez, J.-P. Adam, J.-P. Percaille, CEA, France

09:00-09:20

WORST-CASE ANALYSIS OF ELECTRICAL AND ELECTRONIC EQUIPMENT VIA AFFINE ARITHMETIC

T. Ding, L. Zhang, Jimei University, China; R. Trincherio, I. Stievano, F. Canavero, Politecnico di Torino, Italy

09:20-09:40

ON MODELING OF EXCITATION PORTS IN THE TIME-DOMAIN CONTOUR-INTEGRAL METHOD

M. Štumpf, V. Šeděnka, P. Kadlec, Brno University of Technology, Czech Republic;

09:40-10:00

ELECTROMAGNETIC MODELLING STRATEGIES FOR EMC ANALYSIS OF AUTOMOTIVE TRACTION BATTERIES

A.R. Ruddle, Y.X. Teo, J. Chen, HORIBA MIRA Limited, United Kingdom

10:20-10:40

TOWARD TIME DOMAIN SHIELDING EFFECTIVENESS INVESTIGATIONS USING A REVERBERATION CHAMBER

N.A. Omollo, P.G. Wiid, Stellenbosch University, South Africa

10:40-11:00

CUBESATS ELECTROMAGNETIC CLEANLINESS PROBLEM STUDY

V. Korepanov, F. Dudkin, V. Pronenko, S. Belyayev, LLC Laboratory for Electromagnetic Innovations, Ukraine

THURSDAY, SEPTEMBER 14 2017 - 11:00 ROOM GALILEI

SESSION 50 - IEEE APWC

ANTENNAS AND ARRAYS

chair M. Pralon T.K. Sarkar

11:00-11:20

DISCRETE MODIFIED PLANAR LUNEBURG LENS ANTENNA

H. Barba Molina, J. Hesselbarth, University of Stuttgart, Germany

11:20-11:40

SMART NON-UNIFORM ANTENNA ARRAYS DEPLOYED ABOVE AN IMPERFECT GROUND PLANE AT MULTIPLE FREQUENCIES

D. Salama, M. N. Abdallah, T. K. Sarkar, Syracuse University, N.Y., United States; M. Salazar-Palma, Universidad Carlos III de Madrid, Spain

11:40-12:00

A NOVEL DUAL BAND AND DUAL CIRCULARLY-POLARIZED MULTI-BEAM ANTENNA BASED ON BUTLER MATRIX

M. M. Cao, X. Wang, X.N. Huo, X.F. Wang, S.X. Wang, Beijing Institute of Long March Space Vehicle, China

12:00-12:20

OAM-GENERATING METHOD BASED ON CONCENTRIC-RING ARRAY USING PLANAR ANTENNA

K. Liu, National University of Defense Technology, China; Y. Gao, S. Alkaraki, Queen Mary University of London, United Kingdom; Y.Q. Cheng, X. Li, B. Fan, National University of Defense Technology, China

13:40-14:00

OTH PASSIVE LOCATION BASED ON THE TROPOSCATTER SIGNAL GROUP DELAY AND BEAMSPACE MUSIC

M. Wang, Z. Wang, Z. Cheng, National University of Defense Technology, China

14:00-14:20

ADDITIVE RANDOM SAMPLING FOR RADAR SIGNAL PROCESSING

F. Particke, Friedrich-Alexander Universität Erlangen, Germany; A. Schmidt, C. Rügheimer, T. Mahr, Technische Hochschule Nürnberg, Germany;

14:20-14:40

OPTIMAL SYNTHESIS OF PHASE-ONLY RECONFIGURABLE CONTINUOUS APERTURE SOURCES AND ISOPHORIC SPARSE-RING ARRAYS

A. F. Morabito, University of Reggio Calabria, Italy; P. G. Nicolaci, Space Engineering S.p.A., Italy;

14:40-15:00

APPLICATION OF MUSIC ALGORITHM TO THE ESTIMATION OF OBJECTS ATTITUDE

G. Alvarez-Narciandi, J. Laviada, M. R. Pino, F. Las-Heras, University of Oviedo, Spain

15:00-15:20

AN 45DEG OBLIQUE POLARIZED PRINTED DIPOLE ANTENNA ARRAY

F. Jia, J. Mouping, Y. Feng, CETC38, China

15:20-15:40

A NOVEL METHOD TO IMPROVE THE OMNIDIRECTIONALITY OF THE DIELECTRIC RESONATOR ANTENNA ARRAY

T. Liu, H. Yang, Y. He, National University of Defense Technology, China; F. Zhao, Southwest Electronics and Telecommunication Technology Research Institute, China

16:00-16:20

APPLICATION OF SHAPE MEMORY ALLOY ACTUATORS IN SHAPE CORRECTION OF COMPOSITE RADIO TELESCOPE REFLECTOR SURFACES

M. N. Islam, G.E. Lacy, National Research Council, Canada; A. D. Souto, University of Victoria, Canada;

16:20-16:40

MINIATURIZED MIMO ANTENNA WITH A HIGH ISOLATION FOR SMART GLASSES

S. Choi, Korea Electronics Technology Institute, South Korea; J. Choi, Hanyang University, South Korea

16:40-17:00

CAVITY-BACKED MONOPOLE ANTENNA FOR UAV COMMUNICATION APPLICATIONS

A. Elboushi, S. Alsulaiman, K. Khalid Jamil, PSATRI, Saudi Arabia;

17:00-17:20

DESIGN APPROACH TOWARDS AUTOMOTIVE FM BROADCAST ANTENNAS BASED ON CHARACTERISTIC MODES

A. Asgharzadeh, J. Singh, HMT TU, Germany; P. Hofmann, G. Reichert, Daimler AG, Germany; M.A. Hein, HMT TU, Germany

17:20-17:40

ON THE POLARIZATION EFFECTS OF DECOUPLING AND MATCHING NETWORKS IN COMPACT SINGLE-POLARIZED ANTENNA ARRAYS FOR DIRECTION FINDING

M. Pralon, M. Hein, R. Thomä, Ilmenau Technische Universität, Germany; L. Pralon, B. Pompeo, G. Beltrao, Brazilian Army Technology Center, Brazil; G. DelGaldo, Fraunhofer Institute for Integrated Circuits, Germany

17:40-18:00

IMPLEMENTATION OF A CORNER REFLECTOR ANTENNA USING FREQUENCY SELECTIVE SURFACES

N.J.P.L. Ramos, G. Fontgalland, Federal University of Campina Grande, Brazil; A.G. Neto, Federal Institute of Education Science and Technology of Paraíba, Brazil; C.J.O Peixeiro, University of Lisbon, Portugal; S.E. Barbin, University of São Paulo, Brazil

SESSION 51 - ICEAA

ANTENNAS AND ELECTROMAGNETIC DEVICES INSPIRED BY ELECTROMAGNETIC BAND GAP
organized by K.P. Esselle and L. Matekovits
chair K.P. Esselle L. Matekovits

08:00-08:20

THE USE OF NEAR-FIELD PHASE TRANSFORMATION TO DESIGN A LOW-PROFILE AZIMUTHAL BEAM SCANNING ANTENNA SYSTEM

M. U. Afzal, K. P. Esselle, Macquarie University, Australia

08:20-08:40

MODELING OF IMPEDANCE-LOADED SUB-WAVELENGTH METASURFACES

S. Hubert, Université catholique de Louvain, Belgium; A. Vallecchi, University of Oxford, United Kingdom; A. Schuchinsky, University of Liverpool, United Kingdom; C. Craeye, Université catholique de Louvain, Belgium

08:40-09:00

NEARLY PERFECT CONVERSION OF A PROPAGATING WAVE INTO A SURFACE WAVE

S.N. Tcvetkova, Aalto University, Finland; D.-H. Kwon, University of Massachusetts, MA, United States; A. Diaz-Rubio, S.A. Tretyakov, Aalto University, Finland

09:00-09:20

A REFLECTARRAY ELEMENT DESIGN WITH BOTH AMPLITUDE AND PHASE CONTROL

X.L. Zhang, F. Yang, S.H. Xu, M.K. Li, Tsinghua University, China

09:20-09:40

COMPACT AND SPURIOUS FREE MICROWAVE DEVICES BASED ON ELECTROMAGNETIC BANDGAP STRUCTURES

J. Selga, J. Coromina; P. Vélez, Universitat Autònoma de Barcelona, Spain; A. Fernandez-Prieto, Universidad de Sevilla, Spain; J. Bonache, Universitat Autònoma de Barcelona, Spain; F. Aznar-Ballesta, Universidad Politécnica de Madrid, Spain; F. Martin, Universitat Autònoma de Barcelona, Spain

09:40-10:00

TWO-LEVEL OPTIMIZATION OF A STEPPED DIELECTRIC SUPERSTRATE TO INCREASE GAIN OF A RESONANT CAVITY ANTENNA

A. A. Baba, R.M. Hashmi, K. P. Esselle, Macquarie University, Australia; A.R. Weily, CSIRO, Australia

10:20-10:40

DESIGN OF AN ARTIFICIAL MAGNETIC CONDUCTOR SURFACE USING AN EVOLUTIONARY ALGORITHM

A. Lalbakhsh, K.P. Esselle, M.U. Afzal, Macquarie University, Australia; S. Smith, CSIRO, Australia

10:40-11:00

LATTICE MODES PAVING THE WAY TO PRINTABLE EFFICIENT ANTENNAS

S. Ceccuzzi, ENEA, Italy; C. Ponti, G. Schettini, Roma Tre University, Italy

11:00-11:20

SUPPRESSING AND ENHANCING BAND GAPS WITH GLIDE-SYMMETRIC SURFACES

G. Valerio, Université Pierre et Marie Curie, France; O. Quevedo-Teruel, Royal Institute of Technology, Sweden

11:20-11:40

DESIGN OF AN IMPROVED RESONANT CAVITY ANTENNA

A. Lalbakhsh, K. P. Esselle, Macquarie University, Australia

11:40-12:00

A SURFACE IMPEDANCE MODEL FOR A MICROSTRIP-LINE BASED METASURFACE

B. Cappello, G. Labate, L. Matekovits, Politecnico di Torino, Italy

THURSDAY, SEPTEMBER 14 2017 - 13:40 ROOM MARCONI

SESSION 52 - ICEAA

INNOVATIVE METHODS OF SYNTHESIS FOR APERIODIC ANTENNA ARRAYS

organized by R. Vescovo and G. Buttazoni

chair G. Buttazoni R. Vescovo

13:40-14:00

PHASE-ONLY RECONFIGURABLE APERIODIC ARRAYS

G. Buttazoni, R. Vescovo, University of Trieste, Italy

14:00-14:20

SOME RECENT ADVANCES IN THE SYNTHESIS OF ISOPHORIC SPARSE ARRAYS FOR SATELLITE COMMUNICATIONS

O. M. Bucci, Università Federico II, Italy; S. Perna, Università Parthenope, Italy; D. Pinchera, Università di Cassino, Italy

14:20-14:40

APPLICATION OF THE NUFFT TO THE ANALYSIS AND SYNTHESIS OF APERIODIC ARRAYS

D.R. Prado, M. Arrebola, M.R. Pino, F. Las-Heras, Universidad de Oviedo, Spain

14:40-15:00

SOME PERSPECTIVES IN APERIODICALLY ORDERED ANTENNA ARRAYS AND METASURFACES

M. Moccia, G. Castaldi, V. Galdi, University of Sannio, Italy

15:00-15:20

DETERMINISTIC OPTIMAL SYNTHESIS OF RADIATING SOURCES: FROM DISCRETE TO CONTINUOUS SOURCES, AND TO ISOPHORIC ARRAYS

A. F. Morabito, University of Reggio Calabria, Italy

THURSDAY, SEPTEMBER 14 2017 - 16:00 ROOM MARCONI

SESSION 53 - IEEE APWC

ADVANCES IN WIRELESS SENSING SYSTEMS AND TECHNOLOGIES

organized by Y.J. Guo

chair Y.J. Guo

16:00-16:20

PASSIVE SYNTHETIC APERTURE RADAR IMAGING WITH PIECEWISE CONSTANT DOPPLER ALGORITHM

Y. Nan, X. Huang, Y.J. Guo, University of Technology Sydney, Australia

16:20-16:40

ANALOG ANTENNA ARRAY BASED SENSING IN PERCEPTIVE MOBILE NETWORKS

M. L. Rahman, J. A. Zhang, X. Huang, Y. J. Guo, University of Technology Sydney, Australia

16:40-17:00

SIGNAL STRIPPING BASED SENSING PARAMETER ESTIMATION IN PERCEPTIVE MOBILE NETWORKS

J.A. Zhang, X. Huang, Y.J. Guo, M.L. Rahman, University of Technology Sydney, Australia

17:00-17:20

PLANAR LEAKY-WAVE ANTENNAS FOR LOW-COST RADAR

D. K. Karmokar, Y. J. Guo, University of Technology Sydney, Australia

17:20-17:40

RADIO ENVIRONMENT MAPS GENERATION AND SPECTRUM SENSING TESTBED FOR SPECTRUM SHARING IN 5G NETWORKS

E. Dutkiewicz, Y. He, A. Jayawickrama, H. V. Abeywickrama, University of Technology Sydney, Australia

17:40-18:00

DESIGN OF AN L/S-BAND ANTENNA WITH PATTERN AND POLARIZATION DIVERSITY FOR AEROCRAFT APPLICATION

X.-F. Wang, N. Zhang, Z.-H. Tan, W.-H. Fang, K. Gao, Beijing Institute of Space Long March Vehicle, China; S.-G. Zhou, Northwestern Polytechnical University Xi'an, China

18:00-18:20

DESIGN OF A MONOLITHIC-INTEGRATED CIRCULARLY-POLARIZED ANTENNA-COUPLED HIGH-TC SUPERCONDUCTING TERAHERTZ HARMONIC MIXER

X. Gao, J. Du, CSIRO, Australia; T. Zhang, Y. J. Guo, University of Technology Sydney, Australia

THURSDAY, SEPTEMBER 14 2017 - 08:00 ROOM LEON D'ORO

SESSION 54 - ICEAA

SYSTEM SAFETY AND SECURITY

organized by **Y. Wen, X. Hei**

chair **X. Hei Y. Wen**

08:00-08:20

METRO AUTOMATIC FARE COLLECTION SYSTEM SAFETY AND SECURITY

Z. Liu, S. Liu, T. Chen, Beijing Jiaotong University, China

08:20-08:40

AN EMC SAFETY ASSESSMENT MODEL TO ANALYZE COMPLEX SYSTEM IN HIGH SPEED RAILWAYS

M. Li, Y. Wen, J. Zhang, D. Zhang, Beijing Jiaotong University, China

08:40-09:00

SAFETY FUNCTION DESIGN AND APPLICATION OF CTCS ON-BOARD EQUIPMENT IN HIGH-SPEED RAILWAY OF CHINA

X. Wang, C. He, Beijing Hollysys Co. Ltd., China

09:00-09:20

FAIRNESS-POWER CONSUMPTION RE-TOPOLOGY STRATEGIES FOR MOBILE BOTNET

Y.F. Zhang, Y.C. Wang, L. Wang, X.H. Hei, G. Xie, Xi'an University of technology, China

09:20-09:40

COMBINATION OF ELECTRICAL AND THERMO-MECHANICAL IMPACTS OF THROUGH-SILICON VIA (TSV) ON TRANSISTOR

N. Yu, F. Wang, Y. Yang, C. Wang, Xi'an University of Technology, China

09:40-10:00

EVALUATION ON LOOSELY AND TIGHTLY COUPLED GNSS/INS VEHICLE NAVIGATION SYSTEM

J. Wang, D. Liu, W. Jiang, D.Lu, Beijing Jiaotong University, China

10:20-10:40

RESEARCH ON BROKEN RAIL REAL-TIME DETECTION SYSTEM FOR ULTRASONIC GUIDED WAVE

X. Wei, Y. Yang, N. Yu, Xi'an University of Technology, China

10:40-11:00

ELECTROMAGNETIC INTERFERENCE ON-SITE DETECTION FOR SATELLITE SYSTEM

H. Zhang, J. Xu, Y.T. Zhang, Beijing Institute of spacecraft system engineering, China; W. Jiang, Beijing Jiaotong University, China

11:00-11:20

A SCAN-BASED PRE-BOND TEST OF THROUGH-SILICON VIAS WITH OPEN AND SHORT DEFECTS

L. Dai, N. Yu, Y. Yang, C. Wang, X. Xi, Xi'an University of Technology, China

11:20-11:40

SAFETY ANALYSES OF DIFFERENT INTELLIGENT VEHICLE DRIVING MODE ON FREEWAY

Y.Liu, Z.-Li Wang, Beijing Jiaotong University, China

11:40-12:00

RESEARCH ON EMC MARGIN OF SPACECRAFT SYSTEM

L.L. Cheng, H. Zhang, Y.J. Zhang, Beijing institute of spacecraft system engineering, China; M. Li, Northern Jiaotong University, China

FRIDAY, SEPTEMBER 15 2017 - 08:00 ROOM MASCAGNI

SESSION 55 - ICEAA

MICROWAVE IMAGING AND APPLICATIONS

organized by M. Pastorino

chair M. Pastorino C. Pichot

08:00-08:20

MICROWAVE IMAGING OF BRAIN STROKES: NUMERICAL AND EXPERIMENTAL ERROR MODELING

P.-H. Tournier, UPMC CNRS LJLL INRIA, France; C. Migliaccio, I. Elkanfoud, I. Aliferis, M. Bonazzoli, V. Dolean, F. Rapetti, Université Côte d'Azur, France; F. Nataf, UPMC CNRS LJLL INRIA, France; S. Semenov, MTensor GmbH, Austria; C. Pichot, Université Côte d'Azur, France

08:20-08:40

TOWARDS A MICROWAVE IMAGING PROTOTYPE BASED ON THE DBIM-TWIST ALGORITHM AND A CUSTOM-MADE TRANSCIEVER SYSTEM

M. Koutsoupidou, P. Kosmas, S. Ashan, Z. Miao, King's College London, United Kingdom; I. Sotiriou, T. Kallos, Medical Wireless Sensing Ltd, United Kingdom

08:40-09:00

DIELECTRIC PROPERTIES OF FRESH HUMAN BLOOD

S. Salahuddin, National University of Ireland Galway, Ireland; L. Farrugia, C.V. Sammut, University of Malta, Malta; M.O. Halloran, E. Porter, National University of Ireland Galway, Ireland

09:00-09:20

BREAST TUMOR DETECTION BY TWO MICROWAVE ANTENNA PRINCIPLES

N. Petrovic, M. Otterskog, P. Risman, Mälardalen University, Sweden

09:20-09:40

COMPARISON OF IN-VIVO AND EX-VIVO DIELECTRIC PROPERTIES OF BIOLOGICAL TISSUES

S. Salahuddin, A. La Gioia, M. Adnan Elahi, E. Porter, M. O'Halloran, A. Shahzad, National University of Ireland Galway, Ireland

09:40-10:00

SOLVING INVERSE OBSTACLE PROBLEMS USING INVERSE SOURCE, EQUIVALENCE PRINCIPLES AND SPARSITY PROMOTION

M.T. Bevacqua, T. Isernia, Università Mediterranea di Reggio Calabria, Italy

10:20-10:40

INVERSE SOURCE RECONSTRUCTION FOR THE SYNTHESIS ON CONFORMAL DOMAINS

G. Leone, M.A. Maisto, R. Pierri, Università della Campania Luigi Vanvitelli, Italy

10:40-11:00

MODELLING OF THROUGH-THE-WALL SCENARIOS WITH THE CWA

C. Ponti, M. Santarsiero, G. Schettini, Roma Tre University, Italy

11:00-11:20

MICROWAVE IMAGING WITH SPATIAL-DOMAIN INDIRECT HOLOGRAPHY

S. Costanzo, G. Di Massa, University of Calabria, Italy

11:20-11:40

BALANCING RESOLUTION IMPROVEMENT AND ARTIFACTS IN BACK-PROPAGATION RECONSTRUCTIONS FOR A HOST MEDIUM HAVING POINT-LIKE INHOMOGENEITIES

A. Cuccaro, R. Solimene, Università degli Studi della Campania Luigi Vanvitelli, Italy

11:40-12:00

PROCESSING THE EXPERIMENTAL FRESNEL DATA BY THE GMMV-BASED SHAPE RECONSTRUCTION METHOD

S. Sun, B. J. Kooij, A. G. Yarovoy, TUDelft, Netherlands

12:00-12:20

A NONLINEAR ITERATIVE INVERSE SCATTERING PROCEDURE IN LP BANACH SPACES FOR MICROWAVE BIOMEDICAL IMAGING

I. Bisio, C. Estatico, A. Fedeli, F. Lavagetto, M. Pastorino, A. Randazzo, A. Sciarrone, University of Genoa, Italy

FRIDAY, SEPTEMBER 15 2017 - 08:00 ROOM PONCHIELLI

SESSION 56 - ICEAA

INTEGRAL EQUATIONS AND FINITE METHODS

chair A. Seagar S.-R. Chai

08:00-08:20

EXPERIMENTAL AND ANALYTICAL STUDIES ON ROD POSITION INDICATION SYSTEM WITH REED SWITCHES FOR A NUCLEAR REACTOR

J. Lee, Y. Park, J. Kim, Korea Atomic Energy Research Institute, South Korea; H. Park, Woojin Inc., South Korea

08:20-08:40

APPLICATION OF NUMERICAL DISPERSION COMPENSATION OF THE YEE-FDTD ALGORITHM ON ELONGATED DOMAINS

O. Franek, S. Zhang, K. Olesen, P.C.F. Eggers, Aalborg University, Denmark; C. Byskov, LM Wind Power, Denmark; G.F. Pedersen, Aalborg University, Denmark

08:40-09:00

3D MOM COMPUTATIONS WITH HIGH ORDER IMPEDANCE BOUNDARY CONDITION

P. Soudais, Dassault Aviation, France

09:00-09:20

ACCURACY OF CCD TECHNIQUE FOR EM SCATTERING FROM LOSSLESS AND LOSSY DIELECTRICS WITH DIFFERENT BASIS FUNCTIONS

A. Seagar, Griffith University, Australia

09:20-09:40

CALIBRATION AND ACCURACY OF A NUMERICAL RAY LAUNCHING METHOD FOR COMPLEX MEDIA

E.A. Rachid, ESIB-USJ, Lebanon

09:40-10:00

INVESTIGATING AN EQUIVALENCE PRINCIPLE BASED STOPPING CRITERION FOR A BLACK BOX FRAMEWORK FOR DOMAIN DECOMPOSITION

F. Muth, T. Euler, CST - Computer Simulation Technology AG, Germany

10:20-10:40

APPLICATION OF SFIE FOR LOSSY DIELECTRIC BODIES

S. Özdemir, A. Köksal, Hacettepe University, Turkey

10:40-11:00

A HYBRID FDTLM-IE METHOD FOR EFFICIENT-SCATTERING PROBLEMS MODELING

M. Attia, M. Ney, IMT Atlantique, France; T. Aguilí, National Engineering School of Tunisia, Tunisia

11:00-11:20

A SELECTION SCHEME OF SYNTHETIC FUNCTIONS FOR SYNTHETIC BASIS FUNCTIONS METHOD

Y. Xu, H. Yang, W. Yu, National University of Defense Technology, China

11:20-11:40

A KERNEL-BASED METHOD FOR DENSE-MESH PROBLEMS

C. Raucy, C.V.G. Craeye, Université catholique de Louvain, Belgium

11:40-12:00

ANALYSIS OF THE ELECTROMAGNETIC SCATTERING CHARACTERISTICS FROM THE SHIP-INDUCED KELVIN WAKE ON THE ROUGH SEA SURFACE

X. Meng, L. Guo, W. Lu, J. Li, Xidian University, China

12:00-12:20

A NEW HYBRID METHOD THAT COMBINING CS AND FMM FOR MULTI-STATIC SCATTERING PROBLEMS

S.R. Chai, L.X.Guo, W.L. Xu, X. Meng, Xidian University, China

FRIDAY, SEPTEMBER 15 2017 - 08:20 ROOM LEONARDO

SESSION 57 - IEEE APWC

ADVANCES IN ANTENNAS, SENSORS AND COMMUNICATION SYSTEMS

FOR SMART AND CONNECTED VEHICLES

organized by P. Nepa and A. Michel

chair P. Nepa D. Zamberlan

08:20-08:40

CONVERGENCE IN AUTOMOTIVE AND WIRELESS TECHNOLOGIES: UPDATES ON PERSPECTIVES FOR VEHICULAR ANTENNAS

D. Zamberlan, Calearo Antennne Spa, Italy

08:40-09:00

PLANAR TRANSMIT-ARRAY ANTENNA AND PLANO-CONVEX LENS ANTENNA FOR 77-GHZ AUTOMOTIVE RADAR

X. Qing, Institute for Infocomm Research, Singapore; Z.Ning Chen, National University of Singapore, Singapore

09:00-09:20

INNOVATIVE ROTMAN LENS SETUP FOR EXTENDED SCAN RANGE ARRAY ANTENNAS

E. Tolin, O. Litschke, S. Bruni, IMST GmbH Kamp-Lintfort, Germany; F. Vipiana, Politecnico di Torino, Italy

09:20-09:40

MULTIBAND AUTOMOTIVE RADAR SENSOR WITH AGILE BANDWIDTH

M. Mandlík, VALEO Autoklimatizace k.s., Czech Republic; C. Sturm, U. Lubbert, VALEO, Germany.; T. Vajdiak, J. Kubak, VALEO Autoklimatizace k.s., Czech Republic

09:40-10:00

EXCHANGEABLE BASES FOR RAPID PROTOTYPING OF CARBON FIBER REINFORCED POLYMER ANTENNA CAVITIES

G. Artner, C.F. Mecklenbräuker, Technische Universität Wien, Austria

10:20-10:40

TEST ZONE CHARACTERIZATION IN AN AUTOMOTIVE RANDOM-LOS OTA TEST SETUP

A.A. Glazunov, Chalmers University of Technology, Sweden

10:40-11:00

MEASUREMENT AND ANALYSIS OF LTE COVERAGE FOR VEHICULAR USE CASES IN LIVE NETWORKS

T. Berisha, G. Artner, TU Wien, Austria; B. Krasniqi, UP University of Prishtina, Kosovo; B. Duriqi, PTK VALA Kosovo, Kosovo; M. Mucaj, UP University of Prishtina, Kosovo; S. Berisha, PTK VALA Kosovo, Kosovo; P. Svoboda, TU Wien, Austria; C.F. Mecklenbraeuker, TU Wien, Austria

11:00-11:20

A COMPACT 3D ANTENNA FOR AUTOMOTIVE LTE MIMO APPLICATIONS

V. Franchina, A. Michel, P. Nepa, University of Pisa, Italy; M. Gallo, R. Parolari, A. Polo Filisan, D. Zamberlan, Calearo Antenne spa, Italy

11:20-11:40

ANTENNAS FOR TERRESTRIAL COMMUNICATION IN VEHICLES AND THEIR INTERACTION WITH ANTENNAS FOR SATELLITE SERVICES

S. M. Lindenmeier, I. Goncharova, S. Hastürkoglu, M. B. Diez, University of the Bundeswehr Munich, Germany

FRIDAY, SEPTEMBER 15 2017 - 11:40 ROOM LEONARDO

SESSION 58 - IEEE APWC

WIRELESS SENSOR NETWORKS

chair P. Nepa Y. Zhang

11:40-12:00

ELECTROMAGNETIC MODELS FOR DEVICE-FREE LOCALIZATION APPLICATIONS

V. Rampa, IEIIT-CNR, Italy; G.G. Gentili, DEIB-POLIMI, Italy; S. Savazzi, IEIIT-CNR, Italy; M. D'Amico, DEIB-POLIMI, Italy

12:00-12:20

A 3D PASSIVE LOCALIZATION SYSTEM BASED ON INDOOR WIRELESS CHANNEL MODEL AND FINGER PRINTING LOCATION

Y. Zhang, Jiangnan Electronic Communication Research Institute, China; R. Liu, Jiaying University, China

SESSION 59 - ICEAA

OPTIMIZATION TECHNIQUES IN ELECTROMAGNETIC APPLICATIONS

organized by M. Gustafsson, L. Jonsson, D. Sjöberg

chair M. Gustafsson L. Jonsson D. Sjöberg

08:00-08:20

ENDFIRE PATTERN SYNTHESIS USING CONVEX OPTIMIZATION FOR LARGE PRINTED ARRAYS

J. Helander, D. Tayli, D. Sjöberg, Lund University, Sweden

08:20-08:40

SOLUTION OF INVERSE SCATTERING PROBLEM USING OPTIMIZATION WITH VARIABLE NUMBER OF DIMENSIONS

P. Kadlec, V. Šeděnka, M. Štumpf, M. Marek, Brno University of Technology, Czech Republic

08:40-09:00

ON THE USE OF CONVEX OPTIMIZATION TO STUDY REALIZABILITY OF DUAL BAND COMPLEMENTARY REFLECTION/TRANSMISSION STRUCTURES

D. Sjöberg, Lund University, Sweden

09:00-09:20

AN EFFECTIVE METHOD FOR ANTENNA PLACEMENT ON PLATFORMS BASED ON THE REACTION THEOREM

J. Malmström, B. L. G. Jonsson, KTH Royal Institute of Technology, Sweden

09:20-09:40

MIMO ANTENNA CURRENT OPTIMIZATION

M. Gustafsson, C. Ehrenborg, Lund University, Sweden

09:40-10:00

ANTENNA BOUNDS FOR REDUCED BASIS PROBLEMS

K.R. Schab, B. Yang, J.J. Adams, North Carolina State University, NC, United States

10:20-10:40

ON DIRECTIVITY CONSTRAINTS AND THEIR INFLUENCE ON THE LOWER Q-FACTOR BOUND FOR EMBEDDED SMALL ANTENNAS

B. L. G. Jonsson, KTH Royal Institute of Technology, Sweden

10:40-11:00

AN OPTIMIZATION STRATEGY FOR DUAL BAND CIRCULAR POLARIZATION SELECTIVE STRUCTURES

J. Lundgren, A. Ericsson, D. Sjöberg, Lund University, Sweden

11:00-11:20

CONVEX OPTIMIZATION FOR THE SYNTHESIS OF MATCHING FILTERS

G. Bose, INRIA, France; F. Ferrero, L. Lizzi, Université Nice, France; D. Martinez, F. Seyfert, INRIA, France

11:20-11:40

LIMITATIONS ON Q-FACTOR FOR ARBITRARY GEOMETRIES USING THE POLARIZABILITY DYADICS

D. Tayli, M. Gustafsson, Lund University, Sweden

SESSION 60 - ICEAA

INVERSE PROBLEMS AND NONLINEAR MEDIA

organized by Y. Shestopalov

chair Y. Shestopalov

08:00-08:20

NONLINEAR NORMAL MODES OF CYLINDRICAL CAVITY RESONATORS FILLED WITH A NONDISPERSIVE MEDIUM

A.V. Kudrin, E.Yu. Petrov, University of Nizhny Novgorod, Russia

08:20-08:40

A NEW APPROACH TO THE MEASUREMENT OF DIELECTRIC CONSTANTS OF WATER SOLUTIONS IN THE FREQUENCY BAND

M. Khruslov, I. Ivanchenko, N. Popenko, V. Plakhtiy, O. Ya, Usikov Institute for Radiophysics and Electronics of the NAS of Ukraine, Ukraine

08:40-09:00

OPTIMIZATION METHOD IN PROBLEMS OF INDEPENDENT MANIPULATION OF ELECTRICAL CURRENT AND HEAT TRANSFER

G.V. Alekseev, D.A. Tereshko, Institute of Applied Mathematics FEB RAS, Russia

09:00-09:20

DIFFRACTION OF TM POLARIZED ELECTROMAGNETIC WAVES BY A NONLINEAR INHOMOGENEOUS METAL-DIELECTRIC WAVEGUIDE

E.Smolkin, Penza State University, Russia; Y. Shestopalov, University of Gävle, Sweden; M. Snegur, Penza State University, Russia

09:20-09:40

A REGULARIZED APPROACH TO THE CALCULATION OF THE PROPAGATION MODES IN A PERTURBED WAVEGUIDE

P.D. Smith, E.D. Vinogradova, Macquarie University, Australia; Yu.V. Shestopalov, University of Gävle, Sweden

09:40-10:00

CONSTRUCTIVE SYNTHESIS OF REACTANCE POLARIZER

Y. Yukhanov, T. Privalova, Southern Federal University, Russia

10:20-10:40

FAST ALGORITHMS FOR THE SOLUTION OF VOLUME SINGULAR INTEGRAL EQUATIONS OF ELECTROMAGNETICS

A. Samokhin, Moscow Technological University, Russia; A. Samokhina, Institute of Control Sciences, Moscow, Russia; Y. Shestopalov, University of Gävle, Sweden

10:40-11:00

SUPERRESOLUTION IN SIGNAL USING PROCESSING A PRIORI INFORMATION

A. Samokhin, B. Lagovsky, Moscow Technological University, Russia

11:00-11:20

COMPLEX WAVES IN A DIELECTRIC ROD AND GOUBAU LINE

E. Kuzmina, Moscow Technological University (MIREA), Russia; Y. Shestopalov, University of Gävle, Sweden

11:20-11:40

OPTIMIZATION METHOD IN 3D STATIC MAGNETIC CLOAKING PROBLEMS

G.V. Alekseev, Institute of Applied Mathematics FEB RAS, Russia; Yu.E. Spivak, Far Eastern Federal University, Russia; A.V. Lobanov, Institute of Applied Mathematics FEB RAS, Russia; Zh.Yu. Saritskaya, Far Eastern Federal University, Russia;

SESSION 61 - ICEAA

ELECTROMAGNETIC THEORY

chair R. Nesti G. Sorbello

08:00-08:20

THE PHYSICAL NATURE OF ELECTRONS WITH "ANOMALOUS" ENERGIES IN FAST ATMOSPHERIC DISCHARGES

V.Y. Kozhevnikov, A.V. Kozyrev, N.S. Semeniuk, E.M. Baranova, E.Kh. Baksht, V.F. Tarasenko, M.I. Lomaev, D.A. Sorokin, A.G. Burachenko, Institute of High Current Electronics, Russia

08:20-08:40

A PERTURBATIVE APPROACH FOR THE DETERMINATION OF MODES IN SLIGHTLY ELLIPTICAL WAVEGUIDES

G.G. Gentili, Politecnico di Milano, Italy; R. Nesti, Arcetri Astrophysical Observatory, Italy; G. Pelosi, S. Selleri, University of Florence, Italy

08:40-09:00

SKEWON MEDIA. QUALITATIVE ANALYSIS.

Y. Itin, Jerusalem College of Technology, Israel

09:00-09:20

STOCHASTIC MODELING OF THE ELECTROMAGNETIC FIELD REFLECTED BY A SEA SURFACE IN A TURBULENT MARINE ATMOSPHERE

A. Coatanhay, ENSTA Bretagne, France

09:20-09:40

RECTANGULAR WAVEGUIDE FILLED WITH MULTILAYERED LOSSY DIELECTRICS

L. Kowalczyk, A. Abramowicz, Warsaw University of Technology, Poland

09:40-10:00

MODELING OF HETEROGENEOUS MATERIALS USING JUNCTION BETWEEN COAXIAL PROBE AND RECTANGULAR WAVE-GUIDE BY GEC ANALYSIS

H. Kraoui, F. Mejri, T. Aguilii, ENIT, Tunisia

10:20-10:40

DYADIC GREEN'S FUNCTION OF A DIELECTRIC SPHERE COVERED BY GRAPHENE LAYER

H. Lotfalizadeh, M. Ghaffari-Miab, Tarbiat Modares University, Iran

10:40-11:00

MICROWAVE POLARIMETRIC SETUP FOR PLASMA DENSITY MEASUREMENT IN COMPACT ION SOURCES

G. Torrisi, INFN-LNS, Italy; G. Sorbello, UNICT, Italy; D. Mascali, INFN-LNS, Italy; E. Naselli, UNICT, Italy; G. Castro, L. Celona, O. Leonardi, S. Gammino, INFN-LNS, Italy

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