Video Library & Interactive Program

Formal Opening
R. Graglia, P. Uslenghi – Chairs of the Conferences

Plenary Lectures

Toward Brain-Machine Interfaces for the Treatment of Neurological Injuries and Diseases: Predictive Multiscale Computational Electromagnetic Modeling for Bioelectric Activity and Neuroimplant Design – G. Lazzi, University of Southern California, United States

Novel Out-of-the-Box Antenna Designs for the Next Generation CubeSats: from Concepts to Missions - Y. Rahmat-Samii, UCLA, United States

01) Honoring the legacy of Tapan Sarkar: from fundamentals of electromagnetic theory to lasting high-impact applications - ICEAA, Organized by M. Moghaddam

Macroarea Zoom meeting Z4) Computational Electromagnetics (ICEAA) - Thursday 12, 9-11 am (EDT)

Session Chat - Chat Moderators: R.D. Graglia, M. Moghaddam

Tapan Sarkar: Losing a Dear Friend and a Wonderful Colleague is Very Painful

921 Y. Rahmat-Samii, UCLA, United States;

Fourier transform, Dirac commutator, energy conservation, and correspondence principle

927 C.J. Ryu, E. Kudeki, University of Illinois Urbana-Champaign, United States; D.Y. Na, T.E. Roth, Purdue University, United States; W.C. Chew, University of Illinois Urbana-Champaign, United States

Computational Electromagnetics in Biomedical Applications: a Tribute to Prof. Tapan Sarkar

928 G. Lazzi, University of Southern California, United States;

The Enduring Legacy of Tapan Sarkar: Colleague, Advocate, and Friend

925 M. Moghaddam, USC, United States;

02) Natural and stimulated emissions in the ionosphere and magnetosphere - ICEAA, Organized by G. Ganguli

Macroarea Zoom meeting Z2a) Electromagnetic applications I (ICEAA) - Tuesday 10, 8-10 am (EDT)

Session Chat – Chat Moderators: G. Ganguli, P. Yoon

Earth's Magnetosphere: A Cosmic Wave-Particle Laboratory

126 D. N. Baker, University of Colorado Boulder, United States;

Multiple roles of plasma waves in Geospace

696 Y Miyoshi, Nagoya University, Japan; Y Kasahara, Kanazawa University, Japan; H. Kojima, Kyoto University, Japan; S. Matsuda, JAXA, Japan; S. Kurita, Kyoto University, Japan; S. Saito, NICT, Japan; Y. Katoh, Tohoku University, Japan; A. Matsuoka, Kyoto University, Japan; I. Shinohara, JAXA, Japan;

Electromagnetic Radiations in Space Plasma

627 P. H. Yoon, University of Maryland, United States;

Particle-In-Cell Simulations of Magnetotail Dipolarizations Guided by Local Plasma Observations and Magnetometer Data Mining

674 M. I. Sitnov, T. Motoba, The Johns Hopkins University, United States; M. Swisdak, University of Maryland, College Park, United States;

Kinetic Alfven Waves in the Global Coupling Associated with Fast Flows

774 Y. Lin, L. Cheng, X. Y. Wang, Auburn University, United States; J. R. Johnson, Andrews University, United States; J. D. Perez, Auburn University, United States; S. Wing, JHU/APL, United States;

Predicted Effects of Nonlinear Induced Scattering in the SMART Experiment

513 C. Crabtree, G. Ganguli, A. Fletcher, A. S. Richardson, US Naval Research Lab, United States; R. Soto, J. Huba, Syntek Technologies, United States;

Lower-hybrid waves coupled to multiple heavy ion ring distributions in the SMART experiment

713 A. Rualdo Soto, Syntek Technologies, Inc, United States; C. Crabtree, G. Ganguli, A. C. Fletcher, Naval Research Laboratory, United States;

Linear mode conversion of VLF waves in a simplified model of the upper ionosphere-lower magnetosphere

140 A. S. Richardson, C. Crabtree, US Naval Research Laboratory, United States; E. R. Tracy, William & Mary, United States; G. Ganguli, US Naval Research Laboratory, United States;

Nonlinear Coupling of Whistler Waves to Oblique Electrostatic Turbulence Enabled by Cold Plasma

512 V. Roytershteyn, Space Science Institute, Boulder, United States; G.L. Delzanno, Los Alamos National Laboratory, United States

Electron-beam/plasma coupling physics in support of active experiments in space

537 G.L. Delzanno, L. Duffy, N. Yampolsky, Q. Marksteiner, Los Alamos National Laboratory, United States; V. Roytershteyn, S. Dorfman, Space Science Institute, United States; K. Yakymenko, Los Alamos National Laboratory, United States;

Magnetotail Convection: from Mesocales to Microscales

761 A. Ukhorskiy, K. Sorathia, V. Merkin, JHU/APL, United States; C. Crabtree, A. Fletcher, NRL, United States; D. Malaspina, S. Schwartz, University of Colorado, United States;

Plasmaspheric plume turbulence: Signature of an electrostatic corotation-convection shear-layer instability

817 M. L. Adrian, NASA Goddard Space Flight Center, United States; Y. Lin, X. Wang, Auburn University, Auburn, United States; G. Ganguli, Naval Research Laboratory, United States;

Novel Wave Models and Diffusion Coefficients for Plasmaspheric Hiss and Low Frequency Hiss

607 D. Malaspina, University of Colorado, Boulder, United States; A. Drozdov, University of California, Los Angeles, United States; H. Zhu, University of Texas at Dallas, United States;

Chorus Element Properties: Statistics From Automated Chorus Detection

616 C. A. Kletzing, A. Sen Gupta, I. W. Christopher, R. McCarthy, The University of Iowa, United States;

Electron Microburst Precipitation in Earth's Magnetosphere

762 R. M. Millan, Dartmouth College, United States; J. G. Sample, Montana State University, United States; T. Sotirelis, Johns Hopkins Applied Physics Lab, United States; L. A. Woodger, Dartmouth College, United States; A. Johnson, Montana State University, United States; D. E. Westphal, K. A. Cantwell, Dartmouth College, United States;

The Turbulent Plasmasphere Boundary Layer: An Integral Part of the Disturbed Subauroral Geospace

157 E. Mishin, Air Force Research Laboratory, United States;

Recent Observational and Modeling Advances in Stimulated Electromagnetic Emission Investigations During Ionospheric Heating Experiments

177 W.A. Scales, Virginia Tech, United States;

Parametric interaction of VLF and ELF waves in the ionosphere

161 V.I. Sotnikov, E. Mishin, N. Gershenzon, Wright State University, United States; A. Sharma, Wright State University, United States;

Precursor Magnetosonic Solitons from Moving Charged Objects in the Ionosphere

214 A. Sen, A. Kumar, S.K. Yadav, Institute for Plasma Research, India; G. Ganguli, C. Crabtree, Naval Research Laboratory, United States;

Plasma Generation by Hypervelocity Impact

422 A. C. Fletcher, C. Crabtree, NRL, United States; S. Close, Stanford University, United States; G. Ganguli, NRL, United States;

03) Electromagnetic measurements - ICEAA

Macroarea Zoom meeting Z2a) Electromagnetic applications I (ICEAA) - Tuesday 10, 8-10 am (EDT)

Combined multisession chat for Sessions 03,04,05,06 - Chat Moderators: A.M. Holmes, E. Gupta, P. Savi

Focus Beam System Biaxial Cross-Polarization 2nd Sample Method

306 N.A. O'Gorman, Air Force Institute of Technology, United States;

Testing the Resilience of Cryptographic Modules Against Fine-Grained Time- and Frequency-Domain EM Side-Channel Analysis Attacks

552 V.V. Iyer, A. Thimmaiah, A.E. Yilmaz, The University of Texas at Austin, United States;

Experimental Realization of Topologically Protected Surface Magnon Polaritons on Ceramic YIG Ferrites

682 A.M. Holmes, M. Sabbaghi, S. Poddar, S. Pakniyat, G.W. Hanson, UW Milwaukee, United States;

On-Body Antenna Radiation Pattern Measurement

209 L. Berkelmann, D. Manteuffel, Leibniz University Hannover, Germany;

Scale Transform Signal Processing for Reducing the Effect of Rain on SSTDR Signals

766 Z.K. Wilkeson; A.S. Edun, University of Florida, United States; M.A. Scarpulla, C.M. Furse, University of Utah, United States; J.B. Harley, University of Florida, United States;

Dielectric Spectral Profiles for Andean Tubers Classification: A Machine Learning Techniques Application

172 T. Chuquizuta, Universidad Nacional Autónoma de Chota, Peru; J. Oblitas, Universidad Privada del Norte, Peru; H. Arteaga, Universidad Nacional Autónoma de Chota, Peru; M. Yarleque, Pontifia Universidad Catolica del Peru, Peru; W. Castro, Universidad Nacional de Frontera – Sullana, Peru;

Design Improvements and Performance of the Bifocal Microwave Microscope

642 C. Rappaport, A. Morgenthaler, Northeastern University, United States;

On the Thinning of Small Tightly Coupled Arrays

736 G.R. Friedrichs, M.A. Elmansouri, D.S. Filipovic, University of Colorado Boulder, United States;

Additively manufactured conformal feeds for passive beamforming

747 K McParland, Z Larimore, P Parsons, A Good, M Mirotznik, University of Delaware, United States;

Fabrication of conformal metasurface RF devices using 6-axis hybrid additive manufacturing

752 E. Gupta, Z. Larimore, M. Mirotznik, The University of Delaware, United States; K. Nicholson, Defence Science and Technology Group, Australia;

Materials for use in the additive manufacture of RF components and devices

749 Z Larimore, P Parsons, A Good, DeLUX Advanced Manufacturing, United States; K McParland, M Mirotznik, University of Delaware, United States;

Circular microstrip antenna array at 5.8 GHz frequency for unmanned aerial vehicles

387 A.O. Cinar, D. Uzer, S.S. Gultekin, KTÜN, Turkey;

Improving Cross-Band Isolation in Multi-Band Antennas

337 D.N. Thalakotuna, D.K. Karmokar, Macquarie University, Australia; Z. Hu, Rosenberger, Australia; K.P. Esselle, University of Technology Sydney, Australia; L. Matekovits, Politecnico di Torino, Italy

Performance analysis of a Compact, Flexible and Biodegradable UHF RFID Tag Antenna

842 J. Morales-Guerra, F. Umaña-Idarraga, W. Giraldo-Escobar, E. Gonzalez-Valencia, E. Reyes-Vera, Instituto Tecnologico Metropolitano, Colombia;

A High-Efficiency Lens-Coupled 60GHz On-Chip Antenna Module for Millimeter-Scale Wireless Transmitters

489 M. Moosavifar, D. D. Wentzloff, University of Michigan, United States;

A Novel Design for Polarized Reconfigurable Microstrip Antenna

309 Yu Lu Yang, G. Chun Wan, M. Song Tong, W. Zhao Li, Tongji University, China;

On the design of pattern reconfigurable alford loop antennas

675 M.A.S Tajin, K.R. Dandekar, Drexel University, United States;

High-Performance Flexible Microwave Antennas with Ultra-high Visible Transparency

380 C. Zhang, Huazhong University of Science and Technology, China; L. Zhu, university of Illinois at Chicago, United States; C. Ji, L. Jay Guo, University of Michigan, United States; Pai-Yen Chen, University of Illinois at Chicago, United States;

Tightly Coupled Dipole Array with Guanella Transformer and Balun

755 C. Andrews, D. Filipovic, University of Colorado at Boulder, United States; R. Pack, A. Brannon, CACI, United States;

Coupled Mode Theory as a Unifying Concept in Multi-Mode Patch Antenna Design

833 J. Borchardt, T. LaPointe, Sandia National Labs, United States;

05) Radio astronomy (including SKA) - ICEAA

Macroarea Zoom meeting Z3) Antennas and arrays (ICEAA-IEEE APWC) - Wednesday 11, 9-11 am (EDT)

Combined multisession chat for Sessions 03,04,05,06 - Chat Moderators: A.M. Holmes, E. Gupta, P. Savi

Foreground and RFI mitigation with the baryon mapping experiment (BMX)

807 B.R.B. Saliwanchik, P. O'Connor, A. Slosar, P. Stankus, Brookhaven National Laboratory, United States; M. Harris, Yale University, United States; J. Haupt, J. Kuczewski, Brookhaven National Laboratory, United States; E.R. Kuhn, L.B. Newburgh, A. Polish, Yale University, United States; C.D. Sheehy, Brookhaven National Laboratory, United States; G. Troiani, University of Missouri at Kansas City, United States; W. Tyndall, Yale University, United States;

Applying Radio Astronomy Protection Levels to RFI Measurement Data

527 A. J. Otto, J. Jonas, A. Tiplady, South African Radio Astronomy Observatory, South Africa

Towards an Automated Radio Frequency Interference excision method using Machine Learning

904 A. Sineesh, NIT Tiruchirappalli, India; A. Santhosh, New York University, United States; D.A. Roshi, Arecibo Observatory, United States;

Prospects for energy management on modern radiotelescopes

705 B. Censier, CNRS/Nançay Observatory, France; S. Bosse, CNRS/NAnçay Observatory, France;

06) Antennas and arrays - IEEE APWC

Macroarea Zoom meeting Z5) APWC topics – Friday 13, 9-11 am (EDT)

Combined multisession chat for Sessions 03,04,05,06 - Chat Moderators: A.M. Holmes, E. Gupta, P. Savi

On the Design and Calibration of a 5G Millimeter-Wave Dual-Polarized Active Phased Array

480 A.J. van den Biggelaar, C.J.C. Vertegaal, Eindhoven University of Technology, Netherlands; M. Geurts, NXP Semiconductors, Netherlands; U. Johannsen, Eindhoven University of Technology, Netherlands; A.B. Smolders, Eindhoven University of Technology, Netherlands;

Design of Helical Antennas for Full-duplex Communication Systems

505 S. Yen, D.S. Filipovic, University of Colorado Boulder, United States;

A Framework for Design of Multibeam Antenna Systems used for Amplitude-Only Direction Finding Based on Correlation Method

681 T. J. Prince, M. A. Elmansouri, D. S. Filipovic, University of Colorado Boulder, United States;

Subregion-Based Machine Learning for Wideband Amplitude-Only Direction-Finding Systems

823 G.R. Friedrichs, M.A. Elmansouri, D.S. Filipovic, University of Colorado Boulder, United States;

Super Resolution Time Delay Estimation in Multipath Environment using Matrix Pencil Method.

716 V. K. Chandrasegar, G. Park, J. Koh, Gyeongsang National University, Korea, South;

Electronically Reconfigurable Beam Steering Antenna for IoT Applications

464 L. Santamaria, L. Lizzi, F. Ferrero, R. Staraj, Université Côte d'Azur, CNRS, LEAT, France;

Analysis and Simulation of the Effects of Superstrate Layer on the Performance of Microstrip Antennas

896 A.K. Miranda, L.M. Mendonca, Federal University of Rio Grande do Norte, Brazil

Large-Signal Performance Optimization of Inverted-F Antenna Tuned by Switchable RF Capacitor

277 V. Solomko, Infineon Technologies AG, Germany; O. Oezdamar, R. Weigel, University of Erlangen-Nuremberg, Germany; A. Hagelauer, University of Bayreuth, Germany;

Filtering Antenna for Satellite Communication Applications

726 K. Dhwaj, D. Singhal, Indian Institute of Technology Delhi, India;

A Compressive Deconvolution Approach for Microwave Single-Pixel Imaging

318 H.F. Alqadah, J.P. Bobak, S.M. Rudolph, M.W. Nurnberger, Naval Research Laboratory, United States;

Comparative Analysis Between Copper and Transparent 60 GHz mmWave Antenna with Identical Geometry

748 S. Alam, R. Pinkey, M. Haider, BRAC University, Bangladesh; Md. Hasanuzzaman Sagor, Queen Mary University, United Kingdom;

A MINIATURIZED TWO-ELEMENT MONOPOLE MIMO FILTANTENNA ARRAY FOR V2V APPLICATIONS

262 S. Z. Tariq, H. M. Al-Rizzo, A. S. Abu Hantash, S. L. Redman, A. J. Lee, University of Arkansas at Little Rock, United States;

Miniaturized Circular Polarized Antenna with Optimized Multipath Suppression for Indoor Positioning Systems

551 C.R. Roth, M.S. Schloesser, M.R. Robens, C.G. Grewing, Forschungszentrum Jülich GmbH, Germany; I.F. Flammia, SHF Communication Technologies AG, Germany; S.v.W. van Waasen, Forschungszentrum Jülich GmbH, Germany;

07) MIMO, UWB systems, Channel modelling - IEEE APWC

Macroarea Zoom meeting Z5) APWC topics – Friday 13, 9-11 am (EDT)

Combined multisession chat for Sessions 07,08,09 - Chat Moderators: R. Caldeirinha, H. Chew, S. Pakniyat

On the utility of 3D printing for the design of meanderline polarizers

714 S. Yen, G.R. Friedrichs, University of Colorado Boulder, United States; E. Lier, T. Hand, W.N. Kefauver, Lockheed Martin Corporation, United States; D.S. Filipovic, University of Colorado Boulder, United States;

An empirical characterization of galvanized steel ohmic losses – Application to the modelisation of large resonant structures

707 Y Berthoud, Schneider Electric, France; J.M Duchamp, Univ. Grenoble-Alpes, CNRS, Grenoble INP, G2Elab, France; A Niembro, E Dreina, Schneider Electric, France; F Ndagijimana, Univ. Grenoble-Alpes, France;

Characteristics of the electromagnetic field in the near- and far-field and their application to interference mitigation

630 H. Chew, E. Petsalis, L. Xu, The Aerospace Corporation, United States;

Meteorological and Terrain Effects on RF Propagation

632 L. Xu, B.R. Yee, H. Chew, E. Petsalis, The Aerospace Corporation, United States;

Aerospace Radio Frequency Propagation Tool

631 B.R. Yee, H. Chew, L. Xu, E. Petsalis, The Aerospace Corporation, United States;

Using Transmit Antenna Pattern for Accurate Propagation Loss Predictions

633 E. Petsalis, L. Xu, B.R. Yee, H. Chew, The Aerospace Corporation, United States;

A Nested Quad-Band and Dual Polarization Antenna Element

819 G. Mitchell, Army Research Laboratory, United States;

A New Circuit-Based EBG Design Technique for the Isolation Improvement between Monopole Antennas

109 A. S. Arman, University of South Carolina, United States; T. R. Vogler, Boeing Research and Technology, United States; M. Ali, University of South Carolina, United States;

Multiband Antennas with Harmonic Suppression and Improved Bandwidth

646 B. Chowdhury, A Eroglu, North Carolina A&T State University, United States;

A Physical Tuneable Wooden Pole Fence for Radio Transparency Control

432 B.A. Tribovane, R. F. S. Caldeirinha, Instituto de Telecomunicações and Polytechnic of Leiria, Portugal;

Far-Distance VNA-based Measurements of Indoor Materials at 300 GHz

528 F. Sheikh, Y. Zantah, A. Batra, University Duisburg-Essen, Germany; I. Mabrouk, Durham University, United Kingdom; M. Al-Hasan, Al Ain University, United Arab Emirates; T. Kaiser, University Duisburg-Essen, Germany;

Novel Aspects of Horn-Antenna Beam Misalignment at THz Frequencies

549 F. Sheikh, Y. Zantah, University Duisburg-Essen, Germany; M. Al-Hasan, Al Ain University, United Arab Emirates; T. Kaiser, University Duisburg-Essen, Germany;

Measurement of Localizer Signal Interferences from Hangars in Airport

794 J. Honda, K. Matsunaga, A. Kezuka, H. Tajima, Electronic Navigation Research Institute, Japan;

Penetration and Reflection Characteristics in Millimeter-Wave Indoor Channels

446 M. Khatun, C. Guo, H. Mehrpouyan, Boise State university, United States;

Analysis of dispersion of wave propagation in urban street canyons via the modal expansion approach

421 A. Di Simone, G. Franceschetti, A. Iodice, University of Napoli 'Federico II', Italy;

An Efficient Detection Method for Vector Reflection Coefficient Based on USRP Platform

310 G.Chun Wan, W. Zhao Li, M. Meng Li, Yi Zhou, M. Song Tong, Tongji University, China;

Reconfigurable Inverted-F Antenna for MIMO Cellular User Equipment

276 O. Oezdamar, R. Weigel, University of Erlangen-Nuremberg, Germany; A. Hagelauer, University of Bayreuth, Germany; K. Wang, Infineon Technologies AG, Germany;V. Solomko, Infineon Technologies AG, Germany;

Investigation of MIMO Channel Capacity Using Stochastic and Ray-Tracing Techniques for Wi-Fi 6 Applications

643 S.Z. Tariq, H.M. Al-Rizzo, Universiy of Arkansas at Little Rock, United States

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08) Technologies and modeling in EM - ICEAA

Macroarea Zoom meeting Z3) Antennas and arrays (ICEAA-IEEE APWC) - Wednesday 11, 9-11 am (EDT)

Combined multisession chat for Sessions 07,08,09 - Chat Moderators: R. Caldeirinha, H. Chew, S. Pakniyat

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Cross-sectional Equivalence in Dielectric Rod Aerials

553 G.L. Saffold, Georgia Tech Research Institute, United States;T.M. Weller, Oregon State University, United States;

Surface Plasmon Polariton Properties in Topological Continua under Radial Bias Using a Coordinate Free Dyadic Green's Function

781 S. Pakniyat, A.M. Holmes, G.W. Hanson, University of Wisconsin Milwaukee, United States;

Tunable Unidirectional Surface Plasmon-Polaritons at the Interface Between Gyrotropic and Isotropic Conductors

841 Y. Liang, West Virginia University, Morgantown, USA; S. Pakniyat, University of Wisconsin Milwaukee, United States; Y. Xiang, West Virginia University, United States; J. Chen, University of Pittsburgh, United States; F. Shi, West Virginia University, US;G.W. Hanson, University of Wisconsin Milwaukee, United States; C. Chen, West Virginia University, United States;

Experimental Validation of a Modal Equivalent Circuit for Complex Interconnection Networks in Metallic Enclosures of Arbitrary Shape

244 C. Lange, C. Hamann, M. Leone, Otto-von-Guericke University Magdeburg, Germany;

Application of Genetic Algorithm for Planar Transmission Lines

907 C. B. Shelton III, A. Eroglu, M. N. Mahmoud, North Carolina A&T State University, United States;

Significance of the ground plane width and frequency on the patterns radiated by rectangular slot antennas

613 K.A. Amusa, S.A. Adekola, Federal University, Otuoke, Nigeria;

Dual frequency feed horn design for a compact cloud and precipitation radar operating at Ka- and W-band

745 S.P. Mysore Nagaraja, R.R. Monje, R. Cofield, California Institute of Technology, United States;

Ultra-Thin Film Metallic Absorbers for Amorphous Silicon Microbolometers: A Comparative Study

731 M. Abdel-Rahman, A. Odebowale, N. Alkhalli, KSU, Saudi Arabia; M.R. AlShareef, KACST, Saudi Arabia;

09) Wireless communications, sensors and energy applications - IEEE APWC

Macroarea Zoom meeting Z5) APWC topics – Friday 13, 9-11 am (EDT)

Combined multisession chat for Sessions 07,08,09 - Chat Moderators: R. Caldeirinha, H. Chew, S. Pakniyat

Localization in Distributed Wireless Systems Based on High-Accuracy Microwave Ranging

718 S.M. Mghabghab, J.A. Nanzer, Michigan State University, United States;

Massive-Beam MIMO for LEO/VLEO VHTS

651 S. Foo, W. Tong, Huawei Technologies Canada, Canada;

A Novel Antenna Matching Technique for Joint Wireless Communication and Energy Harvesting

329 S Saab, University of Texas at Austin, United States; A Mezghani, University of Manitoba, Canada; R.W Heath Jr., North Carolina State University, United States;

Focused Radiative Wireless Power Transfer in The Presence of Random Scatterers

757 Z.I. Katbay, D. Sounas, M. Ismail, Wayne State University, United States;

On the Flexibility Characteristics of an Array of Resonators for Simultaneous Power and Data Transfer purposes in Inductive Power Transfer Systems

413 N. Fontana, D. Brizi, S. Barmada, A. Monorchio, M. Raugi, University of Pisa, Italy

Automatic Calibration of Anchor Nodes in Device-Free Radio Localization and Motion Tracking Scenarios

739 V. Rampa, S. Savazzi, Consiglio Nazionale delle Ricerche, Italy;M. D'Amico, Politecnico di Milano, Italy;

Aircraft-Receiver Distance Estimation Using ADS-B Signal Strength for Position Verification Application

839 J. Naganawa, Hiromi Miyazaki, Electronic Navigation Research Institute, Japan;

Space time coded vortex waves for angular target localization

725 A Hizal, Aselsan A.S., Ankara, Turkey; H Yildiz, Baskent University Ankara, Turkey

Signal Conditioning and Prototyping for Selective OFDM Systems with Simultaneous Wireless Information and Power Transfer

501 R. F. Buckley, The University of Texas at Austin, United States; R. W. Heath Jr., North Carolina State University, United States;

Distributed Antenna Systems for Improving THz Coverage Inside Rooms

691 A. Prokscha, F. Sheik, N. Zarifeh, University of Duisburg-Essen, Germany; I. Mabrouk, Durham University, United Kingdom; T. Kaiser, University of Duisburg-Essen, Germany;

Efficiency angle for wireless power transfer systems with multiple receivers

256 B. Minnaert, Odisee University College of Applied Sciences, Belgium;

High Performance Antennas for Early Fire Detection Wireless Sensor Networks at 2.4 GHz

800 T. Oliveira, M. Vala, R. Caldeirinha, J. R. Reis, Instituto de Telecomunicações, Leira, Portugal;

QCTO Luneburg Lens-Based Retroreflective Tag Landmarks for mm-Wave Self-Localization Systems

669 P. Kadera, Brno University of Technology, Czech Republic; J. Sanchez-Pastor, A. Jimenez-Saez, M. Schuessler, Technische Universitat Darmstadt, Germany; J. Lacik, Brno University of Technology, Czech Republic; R. Jakoby, Technische Universitat Darmstadt, Germany;

Synthesis and Realization of Multiband Bandpass Filters Based on Frequency Transformation for the Encoding of Chipless RFID Tags

847 M. Khaliel, Duisburg-Essen University, Germany; J. Wen, IHP - Leibniz-Institut für innovative Mikroelektronik, Germany; A. Prokscha, A El-Awamry, A. Fawky, T. Kaiser, Duisburg-Essen University, Germany;

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10) URSI Commission H - Waves in Plasmas

Macroarea Zoom meeting Z1) USNC-URSI RSM topics - Monday 9, 9-11 am (EDT)

Session Chat – Chat Moderators: L. Chen, M. Usanova, C. Crabtree

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Quantifying Radial Transport from High Energy Resolution Electron Flux Measurements in the Earth's Inner Belt and Slot Region

710 S. Lejosne, UCB, SSL, United States;

Minima in phase space density and how they relate to the multi-MeV electron radiation belt depletions

720 A.Y. Drozdov, University of California Los Angeles, United States;H. Allison, GFZ German Centre for Geosciences, Germany; Y. Shprits, University of California Los Angeles, United States; M. Usanova, University of Colorado Boulder, United States; A. Saikin, University of California Los Angeles, United States;

Wave generation and wave-particle interactions using space-based RF linear electron accelerators

767 G.D. Reeves, Los Alamos National Lab., United States;

Modeling electron microburst induced by chorus wave

777 L. Chen, The University of Texas at Dallas, United States;

Analysis of Conjugate Satellite and Ground EMIC Wave Observations

894 M. Usanova, L. Blum, University of Colorado at Boulder, United States;

New perspectives on radiation belt precipitation from the ELFIN CubeSats

991 D.L. Turner, The Johns Hopkins University Applied Physics Laboratory, MD, USA; V. Angelopoulos, University of California at Los Angeles, CA, USA; W. Li, Boston University, MA, USA; C. Wilkins, University of California at Los Angeles, CA, USA

Whistler Waves above Lower Hybrid Frequency in the Ionosphere and their Counterpart in the Magnetosphere

815 Z. Xia, L. Chen, The University of Texas at Dallas, United States;

Neural Network Model for Specification of Radiation Belts Environment

861 D Kondrashov, A Drozdov, University of California, Los Angeles, United States; Y Shprits, GFZ Potsdam, Germany;

Boundaries and enhancements: ULF wave-driven dynamics of energetic particles in the Van Allen belts

862 A. N. Jaynes, J. Joseph, J. Doucette, The University of Iowa, Iowa, USA; D. N. Baker, X. Li, University of Colorado Boulder, CO, USA; S.G. Kanekal, Goddard Space Center, MA, USA

Using ray tracing to model the plasmaspheric wave field for active experiments in space

735 J.C. Holmes, G.L. Delzanno, C.A.M. Jeffery, Los Alamos National Laboratory, United States; P.L. Colestock, The Space Science Institute, United States;

Radiation belt electron precipitation: Recent BARREL observations and future missions

775 L.A. Woodger, R.M. Millan, Dartmouth College, United States; J.G. Sample, A.T. Johnson, Montana State University, United States; M.P. McCarthy, University of Washington, United States; T. Sotirelis, Johns Hopkins Applied Physics Lab, United States;

The FIREBIRD-II CubeSat Mission

821 A.T. Johnson, J. Sample, D. Klumpar, Montana State University, United States; H. Spence, University of New Hampshire, United States; I. Linscott, D. Lauben, U. Inan, Stanford University, United States;

Two Whistler-mode Waves Modulation by Background-level Density Irregularity During The Recovery Phase of A Geomagnetic Storm

808 X. Liu, W. Gu, Z. Xia, L Chen, the University of Texas at Dallas, United States; R. Horne, British Antarctic Survey, United Kingdom;

What the detailed properties of MeV electron microbursts reveal about their scattering mechanisms and contribution to radiation belt loss

680 L. W. Blum, C. Meyer-Reed, University of Colorado Boulder, United States; M. Shumko, NASA/GSFC, United States; A. B. Crew, JHU/APL, United States;

First observations and results from the very-low-frequency propagation mapper (VPM) cubesat mission

708 R A Marshall; R Reid, University of Colorado Boulder, United States; M Usanova, Laboratory for Atmospheric and Space Physics, United States; M Starks, G Wilson, Air Force Research Laboratory, United States;

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11) URSI Commissions E, F, K

Macroarea Zoom meeting Z1) USNC-URSI RSM topics - Monday 9, 9-11 am (EDT)

Combined multisession chat for Sessions 11,12 - Chat Moderators: C. Suer, C. Furse, C. Oliver

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Sensitivity of FDTD modeling of VLF Signals to D-Region Chemistry: Quiescent & Disturbed Conditions

853 C.A. Jeffery, Y.A. Mehta, E.M. Nelson, Los Alamos National Laboratory, United States;

Bistatic scattering coefficients of a tree covered mountainside at L band

903 C. Suer, the George Washington University, United States; D.J. Breton, Cold Regions Research & Engineering Labs, United States; C.E. Haedrich, North Carolina State University, United States; R.H. Lang, the George Washington University, United States;

A Demonstration Experiment of Charge Accumulation in Human Body

677 C. Oliver, O. Martinez, S. Ronda, P. Marquez, J.M. Miranda, Complutense University of Madrid, Spain;

Applying the European Electromagnetic Compatibility Directive to Large Scientific Plants: A Case Study

679 O. Martinez, S. Ronda, C. Oliver, P. Marquez, J.M. Miranda, Complutense University of Madrid, Spain;

Progress and Error Dependencies of Matched Filter Maximum Cyclone Wind Retrievals Using CYGNSS

612 M Al-Khaldi, University Coop. for Atmospheric Research, United States; J T Johnson, The Ohio State University, United States; S J Katzberg, NASA Langley Research Center, United States; Y Kang, E. J. Kubatko, The Ohio State University, United States; S Gleason, University Coop. for Atmospheric Research, United States;

Analysis of a Sub-GHz-Band Diffraction Propagation Model for Maritime Application

672 H. Ichiba, Y. Ito, T. Hamasaki, Hiroshima Institute of Technology, Japan;

Lunar propagation modeling using 2D Parabolic Wave and 3D Ray Tracing Solvers at 1.8 GHz

785 K.L. Morgan, J. Andrusenko, J.Z. Gehman, O.F. Somerlock, S.K. Yao, A. Sharma, The Johns Hopkins University Applied Physics Laboratory, United States;

The effect of dew on L-Band emissions from a vegetation canopy

813 A Sharma, The Johns Hopkins University Applied Physics Laboratory, United States; M Kurum, Mississippi State University, United States; R.H. Lang, The George Washington University, United States;

Measurements on a Thermally-Crosslinked Biopolymer for Future Implantable Antennas

831 J. Kiflom, S. McKellar, T. Spafford, H. Zhang, T. Tasnim, C. Oswald, K. Hall, C. Furse, University of Utah, United States;

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12) URSI Commissions A, B, C

Macroarea Zoom meeting Z1) USNC-URSI RSM topics - Monday 9, 9-11 am (EDT)

Combined multisession chat for Sessions 11,12 - Chat Moderators: S. Can, C. Furse, C. Oliver

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Diagnosis of atheromatous Carotid Plaque: Dielectric Constant Measurement Using Microwave Resonant Technique versus Ultrasound B-mode Images

832 R. Shahbaz, F. Deshours, G. Alquie, H. Kokabi, Sorbonne Université, France; F. Koskas, I. Brocheriou, G. Lenaour, Hôpital de la Pitié Salpêtrière, France; C.Hannachi, Sorbonne Université, France; J. Davaine, Hôpital de la Pitié Salpêtrière, France;

Invisibility of triangular anti-isorefractive DNG prisms illuminated by multiple incident plane waves

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

A Field Test for Phaseless Measurements for Nearfield Inspections of Navigation Systems with UAVs

647 R. Geise; A. Weiß, B. Neubauer, A. Akar, TU Braunschweig, Germany;

Target counting and location detection in electromagnetics using convolutional neural networks

902 M. Sabbaghi, J. Zhang, G. Hanson, University of Wisconsin-Milwaukee, United States;

On a modified form of Pocklington equation for thin, bent wires

746 A. G. Voronovich, P. E. Johnston, R.J. Lataitis, NOAA, United States;

Single-fed dual-band metal grid artificial dielectric antenna for millimeter wave applications

790 M.H. Akhtar, D.M. Klymyshyn, A.A. Qureshi, University of Saskatchewan, Canada;

Rain Attenuation at THz Frequencies from Historical Data Collected in Brasilia, Brazil

850 L.V Morais, L.R.A.X Menezes, University of Brasilia, Brazil; P.H.F Moraes, Federal Institute of Goiás, Brazil;

Millimeter Wave Antenna Design for On-Chip Electro-Optical Sensing Devices Using Optical Up-Conversion

877 A.A. Akhiyat, P. Gaire,J. L. Volakis, Florida International University, United States;

Teaching Dispersion Effects in Waves Reflected by Lossy Materials: The Optics vs. Electromagnetics Approach

678 S. Ronda, C. Oliver, O. Martinez, , J.M. Miranda, Complutense University of Madrid, Spain;

Low Power and Low Cost Millimeter-Wave Digital Beamformer Using An Orthogonal Coding Scheme

906 K. Ullah, S.B. Venkatakrishnan, J. L. Volakis, Florida International University, United States;

Comparison of PCB, Square Loop and Rod Type Magnetorquers for Cubesatellites

856 J.R. Elwell, J. Higgins, A. Maxworth, J. Qualls, University of Southern Maine, United States;

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13) Numerical methods in electromagnetics - ICEAA, Organized by R.D. Graglia, D.R. Wilton

Macroarea Zoom meeting Z4) Computational Electromagnetics (ICEAA) - Thursday 12, 9-11 am (EDT)

Session Chat – Chat Moderators: R.D. Graglia, D.R. Wilton

New Simplified Analytic Expressions for Matrix Elements of the Asymptotic Part of the Layered Medium Green Function in Mixed Potential Formulation

409 E Bleszynski, M Bleszynski, T Jaroszewicz, Monopole Research, United States; W.A. Johnson, consultant, United States; J Riviero, F Vipiana, Politecnico di Torino, Italy; D Wilton, University of Houston, United States;

Surface-Volume-Surface Electric Field Integral Equations for Solution of Scattering Problems on Composite Metal-Dielectric Objects Situated in Multilayered Media

298 S. Zheng, R. Gholami, V. Okhmatovski, University of Manitoba, Canada

An Efficient ME-PML-based SC-ADI-FDTD Method for Electromagnetic Analysis of Microstrip Structures

258 J. Shen, Y. Zhang, Shenzhen University, China; M. Song Tong, Tongji University, China; N. Feng, Shenzhen University, China;

Modeling Coupling through an Electromagnetically Deep Slot Aperture

783 V.Q. Dang, R.A. Pfeiffer, L.K. Warne, W.A. Johnson, J.D. Kotulski, J.W. Wallace, A.R. Pack, A.M. Krueger, B. Zinser, W.L. Langston, Sandia National Laboratories, United States;

Relative impact of singular edge and corner basis functions on the capacitance of parallel-plate capacitors

765 A. F. Peterson, Georgia Institute of Technology, United States; R. D. Graglia, Torino Polytechnic, Italy;

Analytic Extension of Eigenvalues for Fast Frequency Sweep Analysis of RF Circuits

784 H. L. Li, J.-M. Jin, University of Illinois at Urbana-Champaign, United States; D. R. Jachowski, R. B. Hammond, Resonant Inc., United States;

A Resonance-Free Magnetic Field Integral Equation with Improved Accuracy

786 M.-Da Zhu, Yi Ren, Z.-C. Lin, Xidian University, China;

6-D MoM Reaction Integrals Evaluated via the Divergence Theorem

288 J. Rivero, F. Vipiana, Politecnico di Torino, Italy; D. R. Wilton, University of Houston, United States; W. A. Johnson, Consultant, United States;

Towards accurate discretization of arbitrary right-hand side excitations on multiply-connected geometries

795 B. Hofmann, T.F. Eibert, Technical University of Munich, Germany; F.P. Andriulli, Politecnico di Torino, Italy; S.B. Adrian, University of Rostock, Germany;

Distributed Hybrid MPI/OpenMP IE-DDM for Electromagnetic Modeling of Large Platforms

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

A Hybrid BSM-CCBF Algorithm for Electromagnetic Scattering from 1D Rough Surface

892 J. Wan, H. Ye, Fudan University, China; M. Song Tong, Tongji University, China;

Electromagnetic-Thermal Co-Simulation Based on Large Scale Parallel DGTD and FETD Method

615 P.P. Wang, H.H. Zhang, Y. Liu, Xidian University, China; Mei Song Tong, Tongji University, China;

Consolidation of the 6X6 TD Vector Wave Equation into a 3X3 Complex Set on a Single FD Grid

162 R. Kastner, Tel Aviv University, Israel;

A Continuous-Discontinuous Galerkin Method for the Modeling and Simulation of Electromagnetic Multiscale Problems

741 S. Yan, Howard University, United States;

Development of a sparse direct solver for antenna array analysis 769

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

Code-Verification Techniques for the Electric-Field Integral Equation

625 B.A. Freno, N.R. Matula, W.A. Johnson, Sandia National Laboratories, United States;

A New Multi-Level Power Series Solution Algorithm to Solve Electrically Large Electromagnetic Scattering Problems Applicable to Conducting Bodies

622 S. M. Rao, Naval Research Laboratory, United States;

A Fast Quasi-Conformal Mapping Preconditioner for Electromagnetic Integral Equations

990 D. Consoli, Politecnico di Torino, Italy; A. Merlini, IMT Atlantique, France; F.P. Andriulli, Politecnico di Torino, Italy

On the Information Entropy of Ray-Chaotic Indoor Environments

772 S.Lin, Z. Peng, University of Illinois at Urbana-Champaign, United States;

14) Recent advances in electromagnetics for MRI - ICEAA, Organized by D. Erricolo; G. Carluccio; R. Lattanzi

Macroarea Zoom meeting Z2a) Electromagnetic applications I (ICEAA) - Tuesday 10, 8-10 am (EDT)

Session chat – Chat Moderators: D. Erricolo; G. Carluccio; R. Lattanzi

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Wearable coil for knee flexion MRI

886 S.S. Siddiq, K. Lakshmanan, J. Walczyk, M. Bruno, R. Brown, New York University Grossman School of Medicine, United States;

Elastically stretchable and flexible RF receive coil arrays for magnetic resonance imaging

799 J.M. Vincent, J.V. Rispoli, M. Gim, Purdue University, United States;

Vacuum formed coils for magnetic resonance imaging

811 K. Gopalan, J. Maravilla, J. Mendelsohn, A.C. Arias, M. Lustig, University of California, Berkeley, United States;

Advances in Flexible AIR™ Coil Technology for Neuro, Body, MSK, Breast and MNS Applications

917 F.J. Robb, C.K. Follante, V Taracila, J Vincent, R.S. Stormont, Y-J Stickle, GE Healthcare, Inc, United States;

The (un)expected benefits of coaxial antennas for MRI

829 B.R. Steensma, C.C. van Leeuwen, C.A.T. van den Berg, University Medical Center Utrecht, Netherlands; A.J.E. Raaijmakers, Eindhoven University of Technology, Netherlands;

A Novel Ultra-Flexible High-Resolution AIR 16-Channel Cervical Coil Combined with a 48-Channel Head Coil for 3T Magnetic Resonance Imaging

926 Y-J Stickle, C. Follante, M. Giancola, D. Anderson, T. Stickle, H. Blahnik, R. Stormont, GE Healthcare, Inc, United States; Ho J. Lee, GE Healthcare, Inc, Korea, South; Y.H. Lee, GE Healthcare, Inc, Korea, South; D. Sneag, F. Robb, GE Healthcare, Inc, United States;

Shielded-coaxial-cable (SCC) coils as highly decoupled array elements for 7T MRI

673 I. Zivkovic, Technical University of Eindhoven, Netherlands; T. Ruytenberg, A. Webb, Leiden University Medical Center, Netherlands;

An Electrically Long Ultra-High Field MRI Volume Body Coil Design

712 S. Gokyar, H.U. Voss, Cornell University, United States; F. Robb, GE Healthcare, United States; D.J. Ballon, S.A. Winkler, Weill Cornell Medicine, United States;

A 128-channel head coil array for cortical imaging at 7 Tesla

868 A, United States; B. Keil, A. Ghotra, TH Mittelhessen Univ. of Applied Sciences, Giessen, Germany; D.A. Feinberg, University of California, Berkeley, CA, United States; L.L. Wald, Harvard Medical School, Charlestown, MA, United States;

Electromagnetic modeling of high-channel count head receiver arrays for ultra-high field MRI

895 J. Radder, R. L. Lagore, N. Tavaf, S. Jungst, A. Grant, G. Adriany, M. Waks, L. Dela Barre, M. B. Zhang, UT Southwestern Medical Center, United States; R. Lattanzi, New York University School of Medicine, United States; N. Gandji, Q. Yang, Pennsylvania State University, United States; K. Ugurbil, University of Minnesota, Twin Cities, United States;

Facilitation of MRI Detection at 3 Tesla by Engineering the Electromagnetic Properties of a Metamaterial Slab Employed as a Receive Array

740 A. Maunder, A.K. Iyer, N. De Zanche, University of Alberta, Canada;

Resonances, Displacement Currents, and Fields of High-Permittivity Material (HPM) Plate for Occipital Lobe Enhancement in 3T MRI

855 C. M. Collins, New York University, United States;S.M.T. Lanagan, HyQRS, LLC, United States;

Determination of the Larmor Frequency for Highest Transmit Efficiency in the Head

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

PNS Analysis on Folded and Non-folded Gradient Coil Designs with a Coupled EM-Neurodynamic Simulation Method

323 Y Hua, D TB Yeo, T KF Foo, GE Global Research, United States;

Modeling of cardiac stimulation by externally applied electromagnetic fields

686 V. Klein, M. Davids, L.R. Schad, L.L. Wald, B. Guérin, Massachusetts General Hospital, Charlestown, United States;

Application of Computational Electromagnetics to Assess RF Heating of Deep Brain Stimulation Implants during MRI in Open Bore Scanners

744 L. Golestanirad, Northwestern University, United States; J. Kirsch, Martinos Center for Biomedical Imaging, United States;

An open-source library for magnetic resonance-based electric properties tomography

697 A. Arduino, O. Bottauscio, L. Zilberti, Istituto Nazionale di Ricerca Metrologica (INRiM), Italy;

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15) Simulation and diagnostics of space plasma-wave interactions in the laboratory - ICEAA, Organized by W.E. Amatucci; E. Scime

Macroarea Zoom meeting Z2a) Electromagnetic applications I (ICEAA) - Tuesday 10, 8-10 am (EDT)

Session chat – Chat Moderators: W.E. Amatucci; E. Scime

Development of a High-Time Resolution Impedance Probe for Measurements in Space and Laboratory Plasmas

405 A.M. DuBois, E.M. Tejero, G.R. Gatling, W.E. Amattucci, U.S. Naval Research Laboratory, United States;

NRL SPADE plasma impedance probe experiments on the International Space Station*

388 B. Amatucci, E. Tejero, G. Gatling, D. Blackwell, Naval Research Laboratory, United States;

Laboratory Investigation of Nonlinear Sub-cyclotron Damping

919 E. M. Tejero, C. L. Enloe, US Naval Research Laboratory, United States; J. W. R. Schroeder, Wheaton College, United States; C. Crabtree, US Naval Research Laboratory, United States; F. Skiff, University of Iowa, United States; V. Harid, University of Colorado, Denver, United States;

Plasma sheaths and double layers with instabilities

809 C. Ionita, University of Innsbruck, Austria; R.L. Stenzel, University of California, Los Angeles, United States; J. Gruenwald, Gruenwald Laboratories GmbH, Taxberg, Taxenbach, Austria; J.M. Urrutia, University of California, Los Angeles, United States; R.W. Schrittwieser, University of Innsbruck, Austria;

Nonlinear dynamics of a concentric double-grid cathode discharge

912 C.T. Konrad-Soare, C. Ionita, University of Innsbruck, Austria; D.G. Dimitriu, Alexandru Ioan Cuza University, Iasi, Romania; F. Enescu, R.W. Schrittwieser, University of Innsbruck, Austria;

Waves and boundaries in plasmas at comets and planets – experimental aspects

282 H. Gunell, Umeå University, Sweden;

Impact of charged dust on the propagation of driven low frequency, electrostatic fluctuations in a magnetized plasma

626 E. Thomas, W. L. Burdett, S. Williams, B. Doyle, U. Konopka, Auburn University, United States; R.L. Merlino, University of Iowa, United States; M. Rosenberg, UCSD, United States;

Overview of plasma wave studies using the Basic Plasma Science Facility

929 T.A. Carter, G. Bal, J. Larson, UCLA, United States; B. Van Compernolle, General Atomics, United States; S. Vincena, P. Pribyl, UCLA, United States;

Plasma Heating and Density Cavity Formation by Inertial Alfven Waves: Laboratory Modeling of an Ionospheric Process

709 S.T. Vincena, University of California, Los Angeles, United States;

Resonant interactions of Alfvén waves and electrons in the LAPD and the acceleration of auroral electrons

776 J.W.R. Schroeder, Wheaton College, United States; G.G. Howes, F. Skiff, C.A. Kletzing, University of Iowa, United States;T.A. Carter, S. Vincena, UCLA, United States;S. Dorfman, Space Science Institute, United States;

Numerical modeling of LAPD experiments of auroral electron acceleration

450 G G Howes, University of Iowa, United States;J W R Schroeder, Wheaton College, United States; F Skiff, C A Kletzing, University of Iowa, United States; T A Carter, S Vincena, UCLA, United States; S Dorfman, Space Science Institute, United States;

Large pitch-angle scattering by a circularly polarized electromagnetic wave

822 P. M. Bellan, Caltech, United States;

Analysis of the Anomalous Response of Double Probe Electric Field Sensors on the Van Allen Probes EFW Instrument

763 JW Bonnell, K Goodrich, University of California, Berkeley, United States;

First Results from the Phase Space Mapping Experimen

153 E.E. Scime, C. Beatty, D. Caron, T. Gilbert, A. Jemiolo, R.John, M. Lazo, J. McKee, M.Moran, R. S. Nirwan, M.Paul, E. E. Scime, P. Shi, P. Srivastava, T. Steinberger, K. Stevenson, West Virginia University,USA

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16) Recent Advances in Slot Array Antennas - ICEAA, Organized by S.R. Rengarajan, M. Albani

Macroarea Zoom meeting Z3) Antennas and arrays (ICEAA-IEEE APWC) - Wednesday 11, 9-11 am (EDT)

Session chat – Chat Moderators: S.R. Rengarajan, M. Albani

Slotted Waveguide Array Antenna for Railway Surveillance

753 E. O. Addo, F. Giusti, M. Albani, University of Siena, Italy;

Polymer based D-Band Multi-layer Gap Waveguide Slot Antenna Array for Line of Sight (LOS) MIMO System

372 S. Farjana, M.A. Ghaderi, Chalmers University of Technology, Sweden; A.U. Zaman, Chalmers University of Technology, Sweden; P. Enoksson, Chalmers University of Technology, Sweden;

Bandwidth enhancement by optimizing the cross-sectional shape of the coupling region in a waveguide 2-plane hybrid

617 J. Hirokawa, S. Chen, T. Tomura, Tokyo Institute of Technology, Japan;

Demonstration of a 60GHz RLSA launching simultaneously three OAM modes

693 X. Xu, Southeast University, China; A. Mazzinghi, A. Freni, University of Florence, Italy; J. Hirokawa, Tokyo Institute of Technology, Japan;

Waveguide-Fed Slot Arrays in Space Application: A Review

846 S. R. Rengarajan, California State University, Northridge, United States;R. E. Hodges, Jet Propulsion Laboratory, United States;

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17) Mathematical Advances in Electromagnetics - ICEAA, Organized by J. Arnold, P. Smith, E. Vinogradova

Macroarea Zoom meeting Z4) Computational Electromagnetics (ICEAA) - Thursday 12, 9-11 am (EDT)

Combined multisession chat for Session 17,19 – Chat Moderators: J. Arnold, P. Smith, E. Vinogradova

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Radiation pattern synthesis for a prolate spheroidal antenna

635 Marco D. Poort, Google Inc., United States; Piergiorgio L. E. Uslenghi, University of Illinois at Chicago, United States;

Inherently Matched Waveguide-Fed Wideband Arrays with Self-Dual Elements

650 R. Geva, Tel Aviv University, Israel; N.M. Estakhri, Chapman University, United States; N. Engheta, University of Pennsylvania, United States; R. Kastner, Tel Aviv University, Israel;

Computation of Gabor coefficients for objects with polygonal cross section

358 L. Sun, S. Eijsvogel, F. Sepehripour, R. J. Dilz, M. C. van Beurden, Eindhoven University of Technology, Netherlands;

A semi-analytical solution of the impedance-wedge problem

668 A.V. Osipov, DLR, Germany;

Resonances of Metal--Dielectric Scatterers

648 Y. Shestopalov, University of Gävle, Sweden;

Modified Bresler-Marcuvitz Transverse Equation Theory for Wedge Shaped Regions to derive Generalized Wiener-Hopf Equationst o derive Generalized Wiener-Hopf Equations

992 V. Daniele, G. Lombardi, Politecnico di Torino, Italy

GBC and Helmholtz-Galerkin Technique for the Analysis of Plane Wave Scattering from Graphene Covered Thin Dielectric Disk

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

Diffraction by a Semi-Infinite Parallel-Plate Waveguide with Five-Layer Material Loading: A Rigorous Solution Based on the Wiener-Hopf Technique

666 K.W. He, K. Kobayashi, Chuo University, Japan;

Optimal tuning of open 2D resonators by thin metallic rods located near the aperture

724 E.D. Vinogradova, P.D. Smith, Macquarie University, Australia;

Far-field changes induced by various roundings of cornered scatterers

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

A Virtual Environment for Evaluation of Wearable Antenna Performance

916 A. Vukovic, E. Altinozen, P. Sewell, I. Harrison, The University of Nottingham, United Kingdom;

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18) Recent Advancement of Electromagnetic Theory - ICEAA, Organized by H. Shirai

Macroarea Zoom meeting Z4) Computational Electromagnetics (ICEAA) - Thursday 12, 9-11 am (EDT)

Session chat – Chat Moderator: H. Shirai

Development of High-Precision Numerical Calculation Method for Matrix Elements of an Aperture Coupling Problem

654 Y. Iwagaki, H. Serizawa, NIT, Numazu College, Japan;

Evaluation of the solution convergence for rectangular hole diffraction problems

665 H. Serizawa, NIT, Numazu College, Japan;

GO-Based Equivalent Current Formulation for Scattering from Circular Conducting Cylinders and Strips

233 N. Quang Ta, H. Shirai, Chuo University, Japan;

Interpretation method of backward transient scattered electric field by a metal cylinder covered with a lossless medium layer

663 K. Goto, T. Kawano,Y. Arai, Y. Danno, National Defense Academy, Japan;

Diffraction by a Finite Parallel-Plate Waveguide with Sinusoidal Wall Corrugation

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

Conceptual Design of Dataflow Machine for Magnetostatic Field Simulation

694 C.X. Wang, S. Ota, H. Kawaguchi, Muroran Institute of Technology, Japan;

Dual-bandpass filters constructed by slot-coupled arbitrarily-shaped microstrip resonators on two layers

771 Y. Nishioka, K. Ito, M. Tsuji, H. Deguchi, Doshisha University, Japan;

Error Reduction of Absolute Gain Patterns in a Single-Cut Near-Field to Far-Field Transformation

867 M. Hirose, 7G aa Co., Ltd., Japan; S. Kurokawa, AIST, Japan;

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19) Modern problems of mathematical and computational electromagnetics and their advanced applications - ICEAA

Macroarea Zoom meeting Z4) Computational Electromagnetics (ICEAA) - Thursday 12, 9-11 am (EDT)

Combined multisession chat for Sessions 17,19 – Chat Moderators: J. Arnold, P. Smith, E. Vinogradova

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Trade-off between spatial resolution and sensitivity of magnetoelectric magnetic field sensors

548 M.Ö. Özden, M. Gerken, Kiel University, Germany;

Free oscillations in cavities with metallic surfaces

641 F. Erden, Turkish Naval Academy, Turkey;

Extracting subsurface temperature gradients from radar probes using machine learning with applications to enhanced oil recovery

429 K. van den Doel, M. Robinson, C. Stove, G. Stove, Adrok, Inc., Canada;

20) Novel material platforms for advanced radiation; propagation and scattering phenomena - ICEAA, Organized by S. Arslanagic

Macroarea Zoom meeting Z2a) Electromagnetic applications I (ICEAA) - Tuesday 10, 8-10 am (EDT)

Session chat – Chat Moderator: S. Arslanagic

Investigation of Overcoming the Chu Lower Bound on Quality Factor for Antennas Tuned with Highly Dispersive Lossy Material

524 Y. Radi, A. Alu, ASRC CUNY, United States;

Simulation of metasurface-lined circular waveguides demonstrating below-cutoff propagation

490 C.J.M. Barker, A.K. Iyer, University of Alberta, Canada;

Exploiting the spatial dispersion of all-dielectric metasurfaces for realizing ultra-thin angular filters and anti-reflection coatings at extreme angles

178 A. Monti, Niccolò Cusano University, Italy; A. Alù, CUNY Advanced Science Research Center, United States; A. Toscano, F. Bilotti, ROMA TRE University, Italy;

Self-induced nonreciprocal transmission with optical nonlinear metamaterials

327 C Argyropoulos, B Jin, University of Nebraska-Lincoln, United States;

Graphene-Metasurface Structures for Low-Terahertz Applications

623 H. M. Bernety, University of Utah, United States; A. B. Yakovlev, University of Mississippi, United States;

A Simple Water-Based Huygens Antenna

671 S. Arslanagic, R. Jacobsen, A. Lavrinenko, Technical University of Denmark, Denmark;

21) Innovative antenna technologies and wide/multi band antennas - IEEE APWC, Organized by H. Nakano

Macroarea Zoom meeting Z3) Antennas and arrays (ICEAA-IEEE APWC) - Wednesday 11, 9-11 am (EDT)

Session chat – Chat Moderators: H. Nakano, C. Fumeaux

BOR-BORs Antenna

604 H. Nakano, T. Abe, J. Yamauchi, Hosei University, Japan;

A Millimeter-wave Fabry–Pérot Cavity Antenna with Reconfigurable Beams

658 Q.-Yi Guo, H. Wong, City University of Hong Kong, Kowloon, Hong Kong, China;

Radiation Pattern Reconfigurable Antenna Using Liquid Metal Vias

371 S. Alkaraki, J. Kelly, Queen Mary University of London, United Kingdom; M. Allayioti, Inmarsat, United Kingdom;

A circular HIS reflector with a symmetric fan-shape patch array applied to a spiral antenna

331 M. Tanabe, Toshiba Infrastructure systems & Solutions Corporation, Japan;

A Circularly polarized Antenna with Oblique Radiation Angles for 5G Mobile Communication Devices

507 M. Matsunaga, Shizuoka University, Japan;

Circularly Polarized Antenna with Twisted Flat Plates

870 T. Fukusako, R. Kuse, T. Kumagawa, Kumamoto University, Japan;

Design and experiments of radial line helical phased array with antenna elements rotated by motors

662 N Nakamoto, Y Suzuki, S Yamaguchi, T Fukasawa, N Yoneda, H Miyashita, Mitsubishi Electric Corporation, Japan;

Wideband circularly polarized 3D-printed dielectric rod antenna with double-ridged waveguide feed

606 J. Huang, Chalmers University of Technology, Sweden; S. Chen, University of Adelaide, Australia; Z.i Xue, Beijing Institute of Technology, China; W. Withayachumnankul, C. Fumeaux, the University of Adelaide, Australia;

A Compact Circularly Polarized Ultra-Wideband Antenna with Shared Sector-Shaped Patches

187 W. Tan, X. Shan, Z. Shen, Nanyang Technical University, Singapore

Compact Broadband Antennas with Series and Parallel Resonances

722 K. N. Noguchi, Kanazawa Institute of Technology, Japan; F. O. Osaki, Hokuriku Electric Power Co., Japan; T.H. Hamabe, Panasonic Co., Japan;

A Study of Decoupling Method Using Parasitic Elements for Two Planar Inverted-F Antennas

689 Q.Q. Phung, T. Kai, N. Michishita, National Defense Academy, Japan; H. Sato, Y. Koyanagi, Panasonic Corporation, Japan; H. Morishita, National Defense Academy, Japan;

Reconfigurable surface wave fluid antenna for spatial MIMO applications

760 Y. Shen, K. Tong, K. Wong, University College London, United Kingdom;

{Analysis of a Terahertz Photoconductive Antenna Using the Subgrid FDTD Method

723 J. Shibayama, Y. Nakano, J. Yamauchi, H. Nakano, Hosei University, Japan;

A wideband laterial excited metamaterial unit cell with high refractive index

706 X. Ren, Q.-W. Lin, H. Wong, City University of Hong Kong, China;

MACKEY II fed inside AMC substrate

653 S Makino, K Miyashita, T Tamura, K Itoh, Kanazawa Institute of Technology, Japan;

Dual-Polarized Broad-Beam Reflective Metasurface with Combined Diffraction Gratings for 5G Millimeter Wave Application at 28 GHz

664 T. Hongnara, T. Sasaki; K. Sasaki, K. Sato, I. Oshima, DKK Co. Ltd., Japan; N. Michishita, National Defense Academy, Japan; H. Nakabayashi, K. Cho, Chiba Institute of Technology, Japan;

Novel Design of Rectenna Array Using Metasurface for IoT

816 T. Maruyama, M. Nakatsugawa, National Institute of Technology, Hakodate College, Japan; N. Suematsu, M. Motoyoshi, Q. Chen, H. Sato, Tohoku University, Japan; M. Omiya, Hokkaido University, Japan;

The Expanding Effect of Scanning Angle for Small-Aperture Phased Array Antenna by Huygens' Metasurface-Based Radome

176 X. Ding, Y. Wang, K. Zhang, J. Fu, C. Wang, Q. Wu, Harbin Institute of Technology, China;

Unidirectional quadrupole antenna on an ultra-thin flexible substrate for 5G IoT applications

619 R. Rodriguez-Cano, Aalborg University, Denmark; R.W. Ziolkowski, University of Technology Sydney, Australia;

Linear-Polarized and Dual-Polarized Electric-field Sensor using LiNbO3 Phase Modulator for 28 GHz Band

361 S. Kurokawa, M. Ameya, S. Matsukawa, National Institute of Advanced Industrial Science and Technology (AIST), Japan; M. Sato, M. Onizawa, Seiko Giken, Japan; H. Murata, Mie university, Japan; M. Hirose, 7G aa, Japan;

A Dual Polarized Millimeter Wave Phased-Array Antenna

238 S. Kaushal, N. Guan, Fujikura, Japan;

Design of a linearly dual-polarized dual-band and wideband multi-ring microstrip antenna with a via fed by two L-probes

652 Y. Kimura, S. Saito, Y. Kimura, Saitama University, Japan; M. Tatematsu, TDK Co., Japan;

A Wideband and Small Diameter Halo Antenna with Four Parasitic Elements

690 T. Mizutani, Y. Wada, N. Michishita, M. Morishita, National Defense Academy of Japan, Japan;

A simplified expression on the radiation characteristics of small spherical helix antennas

283 K. Fujita, Maebashi Institute of Technology, Japan;

Acceleration of Wideband Antenna's Far-field Calculation of FDTD Method Utilizing 2D-ARMA Technique

780 T. Arima, T. Uno, Tokyo University of Agriculture and Technology, Japan;

Metallic Pattern Prediction for Surface Wave Antennas using Bidirectional Gated Recurrent Unit Neural Network

640 J Yang, K.-F. Tong, University College London, United Kingdom;

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22) Full duplex applications - IEEE APWC, Organized by D. Erricolo; Z. Zhang

Macroarea Zoom meeting Z5) APWC topics – Friday 13, 9-11 am (EDT)

Session Chat – Chat Moderators: D. Erricolo; Z. Zhang

Many-antenna full-duplex with fully digital and hybrid beamforming radios

296 G. Megson, E. Aryafar, Portland State University, United States;

MmWave full-duplex wireless communication: TX-RX self-interference reduction through passive cancellation techniques

427 A. K. Oladeinde, E. Aryafar, B. Pejcinovic, Portland State University, United States;

Antenna Reflections in Shared-Antenna In-Band Full-Duplex Systems

826 K.E. Kolodziej, J. P. Doane, B. T. Perry, MIT Lincoln Laboratory, United States;

Design of Compact Duplex Filtenna with Shared Aperture Based on SIW Technology

235 M.-C. Tang, K.-Z. Hu, Y. Wang, D. Li, M. Li, Chongqing University, China;

RF Co-Designed Non-Reciprocal Bandpass Filters

307 D. Psychogiou, A. Ashley, University of Colorado Boulder, United States

Same-frequency simultaneous transmit and receive for full-duplex applications

611 E. I. Ackerman, C. H. Cox, III, Photonic Systems, Inc., United States;

Filtering antenna approach for in-band full-duplexing systems

257 S.D. Lee, Georgia Institute of Technology, United States; K. Dhwaj, Indian Institute of Technology Delhi, India;

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23) Simultaneous Transmit and Receive RF Front-Ends - IEEE APWC, Organized by J.L. Volakis, S.B. Venkatakrishnan

Macroarea Zoom meeting Z5) APWC topics – Friday 13, 9-11 am (EDT)

Session Chat – Chat Moderators: J.L. Volakis, S.B. Venkatakrishnan

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Increased Isolation in Single and Multi-Antenna Full Duplex Wideband Radios

452 S Bojja Venkatakrishnan, A Hovsepian, J Volakis, Florida International University, United States;

Shared Aperture Simultaneous Transmit and Receive Architecture for Reflectarray Antennas

803 A. Samaiyar, M. A. Elmansouri, D. S. Filipovic, University of Colorado, Boulder, United States;

Analog Self-Interference Cancellation Networks for STAR Phased Arrays

860 J.P. Doane, K.E. Kolodziej, B.T. Perry, MIT Lincoln Laboratory, United States;

A Comparison of AI-Enabled Digital Twins for DSP-based Self-Interference Cancellation in Wideband Full-Duplex Communications

729 U. De Silva, A. Madanayake, S. Pulipati, Florida International University, United States; L. Belostotski, T. Kulatunga, University of Calgary, Canada; H. Zhao, S. Mandal, University of Florida, United States;

Adaptive Self-interference Cancellation with a Lossless N-Tap Transversal Filter

863 K. Bhakta, L.K. Yeung, Y.E. Wang, UCLA, United States;

Ultra-Wide Band Circulators for STAR Communications through Sequentially Switched Delayed Lines towards low losses

835 Y. Li, J.P. Santos, Y.E. Wang, UCLA, United States;

High Isolation Self-Interference Cancelation for Monostatic Simultaneous Transmit and Receive System

900 MD Nurul, A Tarek, M. Roman, E. Alwan, Florida International University, United States;

24) Electromagnetic applications to biomedicine - ICEAA

Macroarea Zoom meeting Z2b) Electromagnetic applications I (ICEAA) - Tuesday 10, 10-12 am (EDT)

Combined multisession chat for Sessions 24,25 Chat Moderators: A. Paffi, G. Bonmassar

Non-invasive BSL Estimation by Spatial Sparsity

820 T. Lam, M. Fowler, Binghamton University, United States;

A compact wideband circularly polarized implantable antenna for cardiac pacemaker devices

888 A Lamkaddem, A. E Yousfi, L. E. G Munoz, D. S Vargas, Carlos III University of Madrid, Spain;

Basic Study of Ultrasound Hyperthermia Using Acrylic Guide

734 H. Kojima, K. Kato, Meiji University, Japan;

Heating Characteristic of Developed Rectangular Resonant Cavity Applicator with Ultrasound Temperature Measurement System

733 N. Hayashi, Meiji University, Japan; Y. Shindo, Toyo University, Japan; K. Kato, Meiji University, Japan;

Heating Properties of RF Capacitive Applicators with Temperature Measurement Functions from Ultrasound Images

732 Y. Irie, K. Kato, Meiji University, Japan; A. Takeuchi, Luke clinic, Japan;

RF capacitive heating system for effective thermal therapy of locomotive syndrome

657 D. Onuma, Y. Shindo, Toyo University, Japan;

Development of rectangular cavity applicator for heating both legs simultaneously

656 Y. Zhao, Y. Shindo, Toyo university, Japan;

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25) Biomedical electromagnetics: future directions of nervous system stimulation - ICEAA, Organized by A. Paffi, G. Bonmassar

Macroarea Zoom meeting Z2b) Electromagnetic applications I (ICEAA) - Tuesday 10, 10-12 am (EDT)

Combined multisession chat for Sessions 24, 25 - Chat Moderators: A. Paffi, G. Bonmassar

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A numerical study of the Figure-8 uMS coil configuration for Vagus Nerve Stimulation

534 H. Jeong, G. Bonmassar, Harvard Medical School, United States;

An Efficient, Large-Gradient, Electrical Stimulation System to Promote Directional Neural Growth

924 M. Machnoor, E. Iseri, A. Shao, J. Paknahad, K.K. Gokoffski, G. Lazzi, University of Southern California, Los Angeles, CA, USA

Computational Estimate of the Induced Electric Field along Neuronal Fibers in TMS Applications

503 A. Paffi, F. Apollonio, M. Colella, F. Carducci, V. Pellegrini, Sapienza University of Rome, Italy; L. Bellizzi, A. Pignani, Sentech s.r.l., Italy; M. Liberti, Sapienza University of Rome, Italy;

Modifying surgical implantation of deep brain stimulation leads significantly reduces RF-induced heating during 3 T MRI: How Insights from Computational Modeling Improved Surgical Practice

824 L. Golestanirad, Northwestern University, United States; J. Pilitsis, Albany Medical College, United States;

26) Microwave and mmWave Sensors in Advanced Applications - ICEAA, Organized by C. Baer

Macroarea Zoom meeting Z2b) Electromagnetic applications I (ICEAA) - Tuesday 10, 10-12 am (EDT)

Session Chat – Chat Moderators: C. Baer, T. Ussmüller, H. Haddadi

Applications for broadband scattering parameter measurements using THz time-domain spectrometry

727 M. Mueh, C. Damm, Ulm University, Germany;

Designing a dielectric RF applicator cell for Terahertz transmission

655 K. Orend, C. Baer, F. Novelli, D. Welzel, T. Musch, M. Havenith, Ruhr University Bochum, Germany;

Mode Pattern Investigation using Field Illustration Microwave Thermography

138 C. Baer, K. Orend, B. Hattenhorst, T. Musch, Ruhr University Bochum, Germany;

Sensing Reverberation Chamber Loading for IO-Link Wireless Testing

384 C. Cammin, D. Krush, R. Heynicke, G. Scholl, Helmut-Schmidt-University, Germany;

Long Range In-Well Radar Measurements utilizing Higher-order Propagation Modes

911 C. Schulz, M. Gerding, T. Neumann, Ruhr University Bochum, Germany; D. Shepherd, K. Gardiner, S. Littleford, Welldata Subsurface Surveillance Systems Ltd., United Kingdom;

Low-loss 3D-coplanar line structure for millimeter wave applications using laser direct structuring technology

378 S Seewald, D Manteuffel, Leibniz University Hannover, Germany; M Wolf, M Barth, W Eberhardt, Hahn-Schickard, Germany; A Zimmermann, University of Stuttgart, Germany;

RF and Six-Port Microwave Sensing Techniques for Nondestructive Testing and Evaluation

805 K. Haddadi, University of Lille, France;

Quadratic detection-based millimeter-wave MMIC for TDoA and AoA measurement

806 M. Bocquet, UPHF, France; C. Loyez, IEMN UMR8520 CNRS, France; K. Haddadi, University of Lille, France;

ΔΣ-based Direct Digital Synthesizer for Integer-N PLL based FMCW-Synthesizers

246 T. Knon, T. Ussmueller, University of Innsbruck, Austria;

Framework for Evaluation of Different DS-Modulators for Fractional-N PLL based FMCW-Synthesizers

247 T. Ussmueller, University of Innsbruck, Austria;

RCS Measurements for the Implementation in Radar Target Simulators

793 M. Pauli, S. Abadpour, A. Diewald, T. Zwick, Karlsruhe Institute of Technology, Germany;

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27) Materials, metamaterials and metasurfaces - ICEAA

Macroarea Zoom meeting Z2b) Electromagnetic applications I (ICEAA) - Tuesday 10, 10-12 am (EDT)

Combined multisession chat for Sessions 27,28,31,32 - Chat Moderators: J. Kelley, G. Lombardi, P. Savi

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Design, Fabrication, and Characterization of a Dielectric Multilayer Broadband Infrared Meta-Absorber

758 B. Akin, Gazi University, Turkey; A. Ahmadivand, Metamaterial Technologies Inc, United States; S. Altindal, Gazi University, Turkey;

Drywall coated with biochar as electromagnetic interference shielding material

920 P. Savi, G. Dassano, Politecnico di Torino, Italy; D. di Summa, G. Ruscica, I. Natali Sora, R. Pelosato, Università di Bergamo, Italy;

Reflectionless Plasmonic Right-Angled Waveguide Bend and Divider Using Graphene and Transformation Optics

770 S. Pakniyat, University of Wisconsin Milwaukee, United States; S. Jam, A. Yahaghi, Shiraz University, Iran; G.W. Hanson, University of Wisconsin Milwaukee, United States;

Coaxial Probe-based Measurements of Biological Tissues: Inaccuracies in Sensing Volume when Calculated from Sensing Radius and Sensing Depth

502 A. Farshkaran, E. Porter, University of Texas at Austin, United States;

Electromagnetic response from acoustic resonance in indium antimonide

873 H. Salehi Najafabadi, M.A. Meier, University of Houston, United States; G.A. Hallock, University of Texas at Austin, United States;

Textile Electronics for EM Applications

901 J.A. Caripidis Troccola, M.W. Nichols, A.D. Johnson, S.B. Venkatakrishnan, V. Manohar, J.L. Volakis, Florida International University, United States;

Waveform-selective metasurfaces for electromagnetic cloaking

179 S. Vellucci, ROMA TRE University, Italy; A. Monti, M. Barbuto, Niccolò Cusano University, Italy; A. Toscano, F. Bilotti, ROMA TRE University, Italy;

Filtennas with frequency- and time-domain selectivity properties

216 M. Barbuto, D. Lione, A. Monti, Niccolò Cusano University, Italy; S. Vellucci, F. Bilotti, A. Toscano, Roma Tre Unversity, Italy;

Topological fields and their applications to antenna systems

219 M. Barbuto, Niccolò Cusano University, Italy; A. Alù, City University of New York, Italy; F. Bilotti, Roma Tre University, Italy; A. Toscano, Roma Tre University, Italy;

Multi-band tunable reflective linear polarization converter

293 S. Chakravarty, D. Mitra, Indian Institute of Engineering Science and Technology, Shibpur, India;

Enhanced coherent amplification and nonlinear effects using tunable THz hyperbolic metamaterials based on active and passive graphene

325 B. Jin, T. Guo, University of Nebraska-Lincoln, United States; L. Zhu, P.-Y. Chen, University of Illinois at Chicago, United States; C. Argyropoulos, University of Nebraska-Lincoln, United States;

Double Split Ring Resonator Based Sensor for Infrared Imaging and Sensing Applications

730 M.R. AlShareef, KACST, Saudi Arabia; M. Abdel-Rahman, KSU, Saudi Arabia;

Near Field Dipole-Dipole Coupling Near Conductive Plate In The Microwave Range: An RF Analogue To Förster Resonance Energy Transfer In Optics

878 K. Lezhennikova, UNIVERSITE AIX-MARSEILLE, France; S. Glybovski, ITMO University, Russia; R. Abdeddaim, K. Rustomji, J. Wenger, Université Aix-Marseille, France; C. M. Sterke, University of Sydney, Australia; S. Enoch, Université Aix-Marseille, France;

Bicontrollable metasurface absorber with nine-pixel meta-atoms

326 R. E Rubio-Noriega, G-RFMO, Universidad Nacional de Ingeniería, Peru; M. Clemente-Arenas, Universidad Nacional Tecnológica de Lima Sur, Peru; J. Urbina, A. Lakhtakia, The Pennsylvania State University, United States

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28) Electromagnetic theory and EMC/EMI/EMP - ICEAA

Macroarea Zoom meeting Z2b) Electromagnetic applications I (ICEAA) - Tuesday 10, 10-12 am (EDT)

Combined multisession chat for Sessions 27,28,31,32 - Chat Moderators: J. Kelley, G. Lombardi, P. Savi

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Trends of IEMI Induced Upset on Different Microcontroller Devices

684 D.S. Guillette, University of New Mexico, United States; T.J. Clarke, Air Force Research Lab, United States; C.G. Christodoulou, University of New Mexico, United States;

Model based EMI Analysis for large platforms

147 R Shar, G Hull, Thales, Australia;

Shielding effectiveness of a superscreen coaxial cable using magneto-dielectric absorber

897 I. Mori, National Institute of Technology (KOSEN), Suzuka College, Japan; A.E. Sowa, Wroclaw University of Science and Technology, Poland;

A Monte Carlo Analysis of the Impact of Material Parameter Uncertainty on RCS Predictions

554 J.T. Kelley, The University of Texas at Austin, United States; C.C. Courtney, D.A. Chamulak, Lockheed Martin Aeronautics, United States; A.E. Yilmaz, The University of Texas at Austin, United States;

Supertoroidal Skyrmionic Light Pulses

890 Y. Shen, A. Zdagkas, N. Papasimakis, N. Zheludev, UNIVERSITY OF SOUTHAMPTON, United Kingdom;

Pure Magnetic Dipole Radiation per Exact Maxwell Solution using Spherical Azimuthal Electric Current Shell

858 D.A. Garren, Naval Postgraduate School, United States;

Significance of the ground plane dimensions and slot antennas performance

644 K.A. Amusa, S.A. Adekola, Federal University, Otuoke, Nigeria;

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29) Radio telescopes and radio astronomy systems - ICEAA, Organized by D. de Villiers, E. de Lera Acedo, S. Srikanth

Macroarea Zoom meeting Z3) Antennas and arrays (ICEAA-IEEE APWC) - Wednesday 11, 9-11 am (EDT)

Session Chat - Chat Moderators: D. de Villiers, E. de Lera Acedo, S. Srikanth

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Fast Surrogate-Based Optimization of Wideband Quad-Ridge Flared Horn Feeds for SKA and ngVLA

702 F.T.T. Mokhupuki, D.I.L De Villiers, Stellenbosch University, South Africa

An Examination of Radio Telescope Parameters and their Significance

683 S. Srikanth, National Radio Astronomy Observatory, United States;

A tolerance study of the 18 m offset Gregorian dual reflector antenna for the ngVLA

191 R. Lehmensiek, EMSS Antennas, South Africa; D.I.L. de Villiers, University of Stellenbosch, South Africa;

NGAT: The Next Generation Arecibo Telescope

879 D. A. Roshi, Arecibo Observatory, Puerto Rico; United States;

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30) EMERALD - Electromagnetic imaging for a novel generation of medical devices - ICEAA, Organized by F. Vipiana, L. Crocco

Macroarea Zoom meeting Z2b) Electromagnetic applications I (ICEAA) - Tuesday 10, 10-12 am (EDT)

Session Chat – Chat Moderators: F. Vipiana, L. Crocco

Dielectric Properties Model of the Left Atrium and Left Atrial Appendage for Applications in Cardiac Ablation

624 N. Ištuk, National University of Ireland Galway, Ireland; E. Porter, The University of Texas at Austin, United States; D. O'Loughlin, Trinity College Dublin, Ireland; M. O'Halloran, National University of Ireland Galway, Ireland;

Changes in dielectric properties following a microwave thermal ablation procedure

743 M Wang, CNR-IREA; L Farina, National University of Ireland Galway, Ireland; L Crocco, M Cavagnaro, CNR-IREA, Italy;

Preliminary Investigations of Microwave Imaging Algorithms for Tissue Temperature Estimation During Hyperthermia Treatment

375 A. Prokhorova, S. Ley, Technische Universität Ilmenau, Germany; A. Yago Ruiz, R. Scapaticci, L. Crocco, Institute for Electromagnetic Sensing of the Environment, Italy; M. Helbig, Technische Universität Ilmenau, Germany;

Comparison of measurement scenarios suitable for microwave chemotherapy treatment monitoring

284 A. Janjic, M. Cayoren, I. Akduman, Istanbul Technical University, Turkey;

Experimental Imaging Issues of a 3-D Microwave Brain Scanner

408 J. A. Tobon Vasquez, D. O. Rodriguez-Duarte, Politecnico di Torino, Italy; R. Scapaticci, IREA-CNR, Italy; G. Turvani, Politecnico di Torino, Italy; G. Bellizzi, University of Naples Federico II, Italy; N. Joachimowicz, Sorbonne Université, France; B. Duchene, Université Paris-Saclay, France; M. R. Casu, Politecnico di Torino, Italy; L. Crocco, IREA-CNR, Italy; F. Vipiana, Politecnico di Torino, Italy;

Benefits of Employing Metasurfaces on the Design of a Microwave Brain Imaging Scanner

609 E. Razzicchia, N. Ghavami, King's College London, United Kingdom; D. O. Rodriguez-Duarte, J. A. Tobon Vasquez, F. Vipiana, Politecnico di Torino, Italy; P. Kosmas, King's College London, United Kingdom;

Differentiation of brain stroke type by using microwave-based machine learning classification

660 O. Karadima, King's College London, United Kingdom; R. C. Conceição, Universidade de Lisboa, Portugal; P. Kosmas, King's College London, United Kingdom;

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31) Finite and hybrid methods - ICEAA

Macroarea Zoom meeting Z4) Computational Electromagnetics (ICEAA) - Thursday 12, 9-11 am (EDT)

Combined multisession chat for Sessions 27,28,31,32 - Chat Moderators: J. Kelley, G. Lombardi, P. Savi

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Solving Time Domain Electromagnetic Forward and Inverse Problems using a Differentiable Programming Platform

688 Y. Hu, Y. Jin, X. Wu, J. Chen, University of Houston, United States;

Finite Element Studies of Large Scale Earth Resistance Measurements

676 S. Ronda, C. Oliver, O. Martinez, P. Marquez, J.M. Miranda, Complutense University of Madrid, Spain;

Efficient Numerical Computation of Second-harmonic Scattering by Clusters of Nanoparticles

889 I. Sekulic, N.C. Panoiu, University College London, United Kingdom;

A Generalized Point-Matching Method for Solving Electromagnetic Problems

334 Ge Zhao, Yi Zhou, M. Song Tong, W. Zhao Li, Tongji University, China;

Error-Controlled Fast Direct Solution of Scattering Problems via H-Matrix Accelerated Locally Corrected Nystrom Discretization of Combined Field Integral Equation

297 R. Gholami, T. Qiu, V. Okhmatovski, University of Manitoba, Canada

The Application of Machine Learning for Computational Electromagnetics Solver Selection

880 W.F. de la Bat, D.L. Ludick, T.J. Grobler, Stellenbosch University, South Africa;

Nine-Point Nearest Neighbors Finite Difference Method

321 C. White, University of Hawaii at Manoa, United States;

On Stability of Discontinuous Galerkin Time-Domain Method for Conductive Medium

342 M. B. Ozakin, L. Chen, S. Ahmed, H. Bagci, King Abdullah University of Science and Technology, Saudi Arabia;

Comparison of two novel integral equation approaches for lossy conductor modeling

704 M. Huynen, M. Gossye, D. De Zutter, H. Rogier, D. Vande Ginste, Ghent University/Imec, Belgium;

Application of a Computationally Efficient MoM/CBFM to Model Scattering by Complex-shaped mixed-phase hydrometeors

532 I. Fenni, JPL/UCLA, United States; K.S. Kuo, University Of Maryland, United States; H. Roussel, Sorbonne Université, France;

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32) Radar technologies and Inverse scattering - ICEAA

Macroarea Zoom meeting Z2b) Electromagnetic applications I (ICEAA) - Tuesday 10, 10-12 am (EDT)

Combined multisession chat for Sessions 27,28,31,32 - Chat Moderators: J. Kelley, G. Lombardi, P. Savi

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A Comparison of Various Machine Learning Algorithms on ISAR Image Classification of Complex Targets with Varying Levels of Gaussian Noise

700 C.D. Stewart-Burger, D.J. Ludick, Stellenbosch University, South Africa; M. Potgieter, CSIR, South Africa;

Perturbation Amplitude Effects of Polynomial plus Power Law Errors on Refraction Autofocus

715 D. A. Garren, Naval Postgraduate School, United States;

High Resolution VHF/UHF Radars Realized Through CubeSat Constellations

836 V. Manohar, T. Valera, S.B. Venkatakrishnan, J.L. Volakis, Florida International University, United States;

Unsupervised Learning Implementation for SAR Images Clustering

485 M. Elsaadouny, J. Barowski, I. Rolfes, Ruhr University Bochum, Germany;

Wideband Analysis of Imaging of Dielectric-Covered Curved Surfaces for Millimeter-Wave Security Scanning

685 E. Wig, C. Rappaport, Northeastern University, United States;

Initial Investigation of a GNSS-R Multiscale Rough Surface Forward Model at San Luis Valley Calibration/Validation Sites

347 J.D. Campbell, A. Melebari, E. Hodges, University of Southern California at Los Angeles, CA, USA; R. Akbar, Massachusetts Institute of Technology, MA, USA; M. Moghaddam, University of Southern California at Los Angeles, CA, USA

Multistatic versus multi-monostatic nearfield millimeter-wave imaging of dielectrics on ground planes for body scanning security sensing

486 A. Morgenthaler, C. Rappaport, Northeastern, United States;

Numerical Simulation and Measurement of Bistatic Radar Cross Section in 75 GHz

789 J.Honda, Electronic Navigation Research Institute, Japan; M. Watanabe, Japan Aerospace Exploration Agency, Japan; Y. Makita, Electronic Navigation Research Institute, Japan; T. Otsuyama, Electronic Navigation Research Institute, Japan; R. Geise, University of Braunschweig, Germany;

Improving accuracy of hand gesture recognition using recurrent neural networks

844 G. Park, V.K. Chandrasegar, J. Koh, Gyeongsang National University, Korea, South;

Range Resolution Enhancement in Linear Frequency Modulated SAR Imaging

556 E. Shareef, M. Dawood, New Mexico State University, NM, USA

Baseline sensitivity for 2-D magnetoquasistatic through-the-wall position sensing

608 N. Peng, D. Arumugam, J. Bush, B. Feyissa, Jet Propulsion Laboratory, United States;

Bistatic Aperture Completion via Untrained Fourier Convolutional Networks

884 H.F. Alqadah, M.J. Burfeindt, Naval Research Laboratory, United States;

Retrieval of high-resolution topography of the Titan' surface by using Cassini SAR data

516 G. Di Martino, A. Di Simone, G. Franceschetti, A. Iodice, D. Riccio, G. Ruello, University of Napoli 'Federico II', Italy; S.D. Wall, California Institute of Technology, United States;

Root-Zone Soil Mosture Retrieval from CYGNSS Over-Land Observations via Bistatic Vegetation Scattering model and Hybrid Global and Local Optimization Scheme

203 A. Azemati, University of Southern California, CA, USA; A. Etminan, Stanford University, CA, USA; A. Melebari, J.D. Campbell, E. Hodges, M. Moghaddam, University of Southern California, CA, USA

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33) EBG-Inspired Antennas and Microwave Structures - ICEAA, Organized by K.P. Esselle, L. Matekovits

Macroarea Zoom meeting Z3) Antennas and arrays (ICEAA-IEEE APWC) - Wednesday 11, 9-11 am (EDT)

Session Chat – Chat Moderators: K.P. Esselle, L. Matekovits

Low-Cost All-Metal Bandpass Frequency Selective Surface

228 F. Ahmed, M. U. Afzal, University of Technology Sydney, Australia; T. Hayat, Macquarie University, Australia; K. P. Esselle, University of Technology Sydney, Australia;

Dual-Polarized Tunable Mantle Cloaking with a Metasurface Based on graphene Strips

385 Z. Hamzavi-Zarghani, Politecnico di Torino, Italy; A. Yahaghi, Shiraz University, Iran; L. Matekovits, Politecnico di Torino, Italy;

A low-profile tri-band microstrip GPS circular patch antenna with integrated MTM-EBGs

504 B.P. Smyth, S. Barth, A.K. Iyer, University of Alberta, Canada;

One Dimensional Leaky-Wave Antennas with Continuous Scan of Radiating Beam

459 D. B. Karmokar, University of South Australia, Australia; D.N.P. Thalakotuma, University of Technology Sydney, Australia; L. Matekovits, Politecnico di Torino, Italy; K. P. Esselle, University of Technology Sydney, Australia;

Enhanced Leaky-Lens Antenna at V-band Using Substrate-Integrated-Holey Metasurface

756 Q. Chen, KTH Royal Institute of Technology, Sweden; F. Mesa, Universidad de Sevilla, Spain; O. Quevedo-Teruel, KTH Royal Institute of Technology, Sweden;

Resonant-Cavity Antennas with Tapered and Wideband EBG Superstrates

791 C. Ponti, P. Baccarelli, Roma Tre University, Italy; Silvio Ceccuzzi, ENEA, Italy; L. Tognolatti, G. Schettini, Roma Tre University, Italy;

Topological Metasurface for 1-D Leaky-Wave Antenna

872 A.T. Almutawa, PAAET, Kuwait;

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34) Advanced architectures supporting radiationless anapole modes in electrodynamics and nanophotonics - ICEAA, Organized by L. Matekovits, A. Basharin

Macroarea Zoom meeting Z2b) Electromagnetic applications I (ICEAA) - Tuesday 10, 10-12 am (EDT)

Session Chat – Chat Moderators: L. Matekovits; A. Basharin

Magnetic and Hybrid Anapole States in Dielectric Cylindrical Particles

871 E. Zanganeh, ITMO University, Russia; A. Evlyukhin, Leibniz University Hannover, Germany; A. Miroshnichenko, University of New South Wales, Australia; P. Kapitanova, ITMO University, Russia;

Multipole radiation of modified dipoles

875 M. Cojocari, A. Basharin, National University of Science and Technology (MISiS), Russia;

Pseudo-Anapole Mode Establishment in Planar THZ Metamaterial

891 M. Cojocari, A. Ospanova, V. Chichkov, NUST MISiS, Russia; M. Navarro-Cía, A. Gorodetsky, University of Birmingham, United Kingdom; A. Basharin, NUST MISiS, Russia;

Excitation and Detection of Toroidal and Anapole Modes

899 N. Papasimakis, R. Ravi Kumar, A. Zdagkas, N. I. Zheludev, University of Southampton, United Kingdom;

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35) Design of novel antennas and frequency selective structures - ICEAA, Organized by Z. Shen

Macroarea Zoom meeting Z3) Antennas and arrays (ICEAA-IEEE APWC) - Wednesday 11, 9-11 am (EDT)

Session Chat – Chat Moderator: Z. Shen

An analysis of terahertz imaging characteristics of dual mirrors antenna

818 W. Zhao, H. Guo, W. Dou, Southeast University, China;

Absorptive Coding Metasurface for Broadband RCS Reduction

188 L. Zhou, Z. Shen, Nanyang Technical University, Singapore

High-order bandpass frequency selective surface based on aperture-coupled patch resonators with dual modes

193 Bo Li, J-M. Xie, Ye Han, Najing University, China; L. Zhu University of Macau, China

Band-Absorptive Frequency Selective Rasorber and its Application

778 Y. Yu, Y. Zhang, W. Yu, G. Xie, G.Q. Luo, Hangzhou Dianzi University, China;

36) Inverse problems and nonlinear media - ICEAA, Organized by Y. Shestopalov

Macroarea Zoom meeting Z4) Computational Electromagnetics (ICEAA) - Thursday 12, 9-11 am (EDT)

Session Chat – Chat Moderator: Y. Shestopalov

On Extension of the Qualitative Theory of Interaction

151 Y. Shestopalov, University of Gävle, Sweden;

Accurate Cutoff Wavenumbers of a Waveguide Containing Multiple Inner Conductors Axially Aligned

699 P.D. Smith, E.D. Vinogradova, Macquarie University, Australia; Y.V. Shestopalov, University of Gävle, Sweden;

FE-based microwave inverse scattering in nonconstant-exponent spaces: A numerical assessment

837 A. Fedeli, V. Schenone, M. Pastorino, A. Randazzo, University of Genoa, Italy;

Nonlinear TE-waves in nonhomogeneous Goubau Line

838 Y. Shestopalov, University of Gävle, Sweden; E. Smolkin, M. Snegur, Penza State University, Russia;

On Focusing Media as a Natural Annihilator of Inverse Problem Ill-Posedness

910 V. Okhmatovski, University of Manitoba, Canada;

37) EMC and Related Technologies in Intelligent Transportation Systems - ICEAA, Organized by Y. Wen

Macroarea Zoom meeting Z2b) Electromagnetic applications I (ICEAA) - Tuesday 10, 10-12 am (EDT)

Session Chat – Chat Moderators: Y. Wen, D. Lu

DC arc fault signatures analysis based on improved bilinear time-frequency representation

268 Lu Xing,Y. Wen, Beijing Jiaotong University, China;D. W. P. Thomas, C. Rose, University of Nottingham, United Kingdom;

Crowdsourced GNSS satellite SNR in degraded environments for dependability improvement

788 H. Sun, D. Lu, B. Cai, Beijing Jiaotong University, Beijing, China, China; Yu Xiao, Aalto University, Otakaari, Finland, China;

Comprehensive Probability Map-matching Validation Method for Digital Track Map Generation

792 Y. Liu, D. Lu, B. Cai, J. Wang, Beijing Jiaotong University, China;

Research on electromagnetic emission characteristics of vacuum tube magnetic levitation system

289 Y. Wang, Y. Wen, Beijing Jiaotong University, China; D. Seetharamdoo, M. Berbineau, Univ Gustave Eiffel, France;

3D Digital Track Map-based GNSS NLOS Signal Analytical Identification Method

797 Yu Zhang, D. Lu, B. Cai, J. Liu, Beijing Jiaotong University, China;