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EuMC01 : Bridging RFID and Nanotechnology

Chair: Luca Pierantoni, Università Politecnica delle Marche

Co-Chair: Apostolos Georgiadis, Centre Tecnològic de Telecomunicacions de Catalunya

Venue Hongkong, Time 08:30 - 10:10, Tuesday 8th October 2013

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Arnaud Vena¹, Lauri Sydänheimo¹, Manos M. Tentzeris², Leena Ukkonen¹
¹Tampere University of Technology, Finland; ²Georgia Institute of Technology, USA
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¹LAAS, France; ²Georgia Institute of Technology, USA
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Taoran Le, Vasileios Lakafosis, Manos M. Tentzeris, Ziyin Lin, Yunnan Fang, Kenneth H. Sandhage, Ching-ping Wong, Georgia Institute of Technology, USA
-

EuMC02 : Novel Filter Geometries






Chair: Richard V. Snyder, RS Microwave Co, Inc. — Co-Chair: Hadia El Hennawy, Ain Shams University

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¹XLIM, France; ²Thales Alenia Space, France; ³CNES, France
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¹University of Leeds, UK; ²NUDT, China
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¹University of Leeds, UK; ²NUDT, China
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¹Nigde University, Turkey; ²Pamukkale University, Turkey






EuMC03: Integrated and Millimeter Wave Antennas 1

Chair: Christian Waldschmidt, University Ulm — Co-Chair: Bart Smolders, Technische Universiteit Eindhoven
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¹IMEC, Belgium; ²Katholieke Universiteit Leuven, Belgium
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*¹Johannes Kepler Universität Linz, Austria; ²Universität der Bundeswehr, Germany;
³Infineon Technologies, Germany*
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Chair: Peter Zwamborn, TNO and TU/e — Co-Chair: Johannes Benedikt, Cardiff University
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¹LaMIPS, France; ²Université de Mons, Belgium

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Chair: Jozef Modelski, Warsaw University of Technology — Co-Chair: Hendrik Rogier, Universiteit Gent

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¹Jet Propulsion Laboratory, USA; ²University of Arkansas, USA; ³Auburn University, USA
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¹ETH Zürich, Switzerland; ²Universität Stuttgart, Germany
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¹DuPont Microcircuit Materials, USA; ²WEMTEC Inc., USA
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¹Sony Deutschland GmbH, Germany; ²Avago Technologies GmbH, Germany; ³Fraunhofer EMFT, Germany

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Chair: Alessandra Costanzo, DEI - University of Bologna — Co-Chair: Joy Laskar, InSite Partners



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¹Myongji College, Korea; ²Kookmin University, Korea
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Jinsong Song¹, Nadine Pesonen¹, Heikki Seppä¹, Ville Viikari²
¹VTT Technical Research Centre of Finland, Finland; ²Aalto University, Finland
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¹University of Toyama, Japan; ²Kyushu University, Japan
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¹Universidad Politécnica de Madrid, Spain; ²Universidad Autónoma de Madrid, Spain

EuMC10: Recent Advances in Filter Technology

Chair: Giuseppe Macchiarella, Politecnico di Milano — Co-Chair: Roberto Gomez-Garcia, University of Alcala






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¹Universität Ulm, Germany; ²Cassidian, Germany
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¹Aselsan Inc., Turkey; ²METU, Turkey
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¹PTB, Germany; ²Technische Universität Braunschweig, Germany
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¹FAU Erlangen-Nürnberg, Germany; ²Rohde & Schwarz, Germany
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¹Belarusian State University, Belarus; ²Electrophysical Laboratory, Belarus

EuMC12: Antennas — Applications and Concepts

Chair: Ilona Rolfes, Ruhr-University Bochum — Co-Chair: Anders Rydberg, Uppsala University

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¹Politecnico di Bari, Italy; ²SOMACIS, Italy
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Lisa S. Locke¹, Jens Bornemann¹, Stéphane Claude²
¹University of Victoria, Canada; ²National Research Council Canada, Canada
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Chair: John Papapolymou, Georgia Tech — Co-Chair: Jan Hesselbarth, University of Stuttgart





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¹EADS Innovation Works, Germany; ²Università di Perugia, Italy; ³Universität Ulm, Germany
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¹Japan Aerospace Exploration Agency, Japan; ²Tokyo University of Science, Japan; ³Tokyo Metropolitan University, Japan
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Chair: Ludger Klinkenbusch, University of Kiel — Co-Chair: Thomas Weiland, Darmstadt University of Technology






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¹University of Bristol, UK; ²INRIA, France
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¹Anteverta-mw B.V., The Netherlands; ²Technische Universiteit Delft, The Netherlands
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¹Technische Universiteit Delft, The Netherlands; ²Anteverta-mw B.V., The Netherlands; ³NXP Semiconductors, The Netherlands; ⁴RFMD, USA
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¹Chalmers University of Technology, Sweden; ²Katholieke Universiteit Leuven, Belgium; ³Università di Ferrara, Italy

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Chair: Steve Nightingale, Cobham Technical Services — Co-Chair: Wolfgang Eckl, Alcatel Lucent






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¹Freescale Semiconductor, USA; ²Freescale Semiconductor, France
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¹Chalmers University of Technology, Sweden; ²Mitsubishi Electric Corporation, Japan
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Chair: Luca Perregrini, University of Pavia — Co-Chair: Hervé Aubert, LAAS

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¹University of Hyogo, Japan; ²NTT DOCOMO Inc., Japan
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¹University of Cyprus, Cyprus; ²University of Toronto, Canada
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¹École Polytechnique de Montréal, Canada; ²IMS (UMR 5218), France

EuMC18: Material Characterisation

Chair: Andy Gibson, University Manchester — Co-Chair: Peter Hoogeboom, Delft University/TNO





Venue Oslo, Time 08:30 - 10:10, Wednesday 9th October 2013

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¹National Academy of Sciences of Ukraine, Ukraine; ²Forschungszentrum Jülich, Germany
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¹Lab-STICC, France; ²GTID, France
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EuMC19: Localisation Algorithms

Chair: Martin Vossiek, University Erlangen-Nürnberg — Co-Chair: Andreas Zirotf, Siemens CT

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¹L2E, France; ²Université Libre de Bruxelles, Belgium
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¹École Militaire Polytechnique d'Alger, Algeria; ²ESYCOM, France
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S. Irteza¹, E. Schäfer², M. Sgammini³, R. Stephan¹, Matthias A. Hein¹
¹Technische Universität Ilmenau, Germany; ²IMMS, Germany; ³DLR, Germany

EuMC20: Focused Session — Focusing Antenna Systems at mm and Sub-Millimeterwave

Chair: Artem V. Boriskin, Institut d'électronique et de télécommunications de Rennes

Co-Chair: Peter Gardner, University of Birmingham

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*Sébastien Clauzier¹, Erwan Rochefort¹, Stéphane Avrillon², Laurent Le Coq²,
Mohamed Himdi², Franck Colombel²*
¹CMN, France; ²IETR, France
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*Andrea Neto¹, Nuria Llombart¹, Ioan E. Lager¹, Jochem J.A. Baselmans²,
Andrey Baryshev², Stephen Yates²*
¹Technische Universiteit Delft, The Netherlands; ²SRON, The Netherlands
- 357  **C** **Design of a Submillimetre Wave Fabry-Perot Cavity Antenna**
*Konstantinos Konstantinidis, Alexandros P. Feresidis, Michael J. Lancaster, Peter S. Hall,
Peter Gardner, University of Birmingham, UK*
- 361  **C** **High Gain Lens Antennas for 71–86GHz Point-to-Point Applications**
*Alexey Artemenko, Andrey Mozharovskiy, Alexey Sevastyanov, Vladimir Ssorin,
Roman Maslennikov, Radio Gigabit LLC, Russia*
- 365  **C** **Focusing Choke Ring Antenna for a Short-Range Millimeter-Wave Exposure System**
A.V. Boriskin¹, M. Zhadobov¹, C. Person², R. Sauleau¹
¹IETR, France; ²Lab-STICC, France
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EuMC21: Focused Session — Advances on Carbon-based Nano-Antennas

Chair: Luca Pierantoni, Università Politecnica delle Marche

Co-Chair: Julien Perruisseau-Carrier, Swiss Federal Institute of Technology in Lausanne EPFL

Venue Helsinki, Time 08:30 - 10:10, Wednesday 9th October 2013

- 369  **C** **Graphene Antennas: Can Integration and Reconfigurability Compensate for the Loss?**
J. Perruisseau-Carrier, M. Tamagnone, J.S. Gomez-Diaz, E. Carrasco, EPFL, Switzerland
- 373  **C** **Surface Conductivity Evaluation of CVD Graphene up to 2.5THz**
Anestis Katsounaros, Yang Hao, Queen Mary University of London, UK
- 377  **C** **Horizontal and Vertical Carbon-Nanotube-Array-Based Antenna Design**
C. Brun¹, P. Franck¹, W.L. Chow¹, P. Coquet¹, D. Baillargeat¹, B.K. Tay²
¹CINTRA, Singapore; ²Nanyang Technological University, Singapore
- 381  **C** **Analysis of a Microwave Graphene-Based Patch Antenna**
Luca Pierantoni¹, Mircea Dragoman², Davide Mencarelli¹
¹Università Politecnica delle Marche, Italy; ²IMT Bucharest, Romania

EuMC22 : Special Session Eastern Europe 1 — Microwave Spectroscopy and Broadband Systems

Chair: Vadim Ilyushin, Institute of Radio Astronomy NASU — Co-Chair: Irina Naidionova, Geozondas Ltd.






Venue Shanghai, Time 08:30 - 10:10, Wednesday 9th October 2013

- 384  **C** **Evaluation of Combined Ground Penetrating and Through-the-Wall Surveillance UWB Technology**
V.E. Ivashchuk¹, V.P. Prokhorenko¹, A.A. Pitertsev², F.J. Yanovsky²
¹Transient Technologies LLC, Ukraine; ²National Aviation University, Ukraine
- 388  **C** **UWB System for Time-Domain Near-Field Antenna Measurement**
B. Levitas¹, M. Drozdov¹, I. Naidionova¹, S. Jefremov¹, S. Malyshev², A. Chizh²
¹Geozondas Ltd., Lithuania; ²Stepanov Institute of Physics, Belarus
- 392  **C** **High-Precision Fast Scan Millimeter- and Submillimeter-Wave Spectroscopy**
E.A. Alekseev¹, R.A. Motiyenko², L. Margulès²
¹National Academy of Sciences of Ukraine, Ukraine; ²LPL (UMR 7538), France
- 396  **C** **THz Resonator Spectroscopy**
V. Parshin, M. Tretyakov, M. Koshelev, E. Serov, Russian Academy of Sciences, Russia
- 400  **C** **Intramolecular Large Amplitude Motions as a Probe of a Possible Proton-to-Electron Mass Ratio Variation**
Vadim Ilyushin, National Academy of Sciences of Ukraine, Ukraine
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EuMC23 : DPD Techniques for Power Amplifiers

Chair: Georg Fischer, University Erlangen-Nürnberg — Co-Chair: Telmo Cunha, Universidade de Aveiro

Venue Kiew, Time 10:40 - 12:20, Wednesday 9th October 2013

- 404  **C** **A Novel Method to Perform Adaptive Memoryless Polynomial Digital Predistortion**
A. Farabegoli¹, B. Sogl¹, Jan-Erik Mueller¹, Robert Weigel²
¹Intel Mobile Communications, Germany; ²FAU Erlangen-Nürnberg, Germany
- 408  **C** **Digital Predistortion Based on a Compressed-Sensing Approach**
Javier Reina-Tosina, Michel Allegue-Martínez, María J. Madero-Ayora, Carlos Crespo-Cadenas, Sergio Cruces, Universidad de Sevilla, Spain
- 412  **C** **Digital Pre-Distortion for Multiple Antenna Transmitters**
Padmanabhan Suryasarman, Markus Hoflehner, Andreas Springer, Johannes Kepler Universität Linz, Austria
- 416  **C** **A Parameter Identification Algorithm for Multi-Stage Digital Predistorter**
Vivek Ashok Bohara¹, Mazen Abi Hussein², Olivier Venard¹
¹LaMIPS, France; ²ESYCOM, France
- 420  **C** **Digital Predistortion Optimization Using Normalization Gain Adjustment in Wideband Systems**
Leticia Aladrén, Paloma García-Dúcar, Pedro Luis Carro, Jesús de Mingo, Universidad de Zaragoza, Spain

EuMC24: Novel Technologies for Passive Components

Chair: Philippe Ferrari, IMEP-LAHC — Co-Chair: Michal Mrozowski, Gdansk University of Technology






Venue Istanbul, Time 10:40 - 12:20, Wednesday 9th October 2013

- 424  **C** **Design and Fabrication of Pneumatically Controlled Capacitive Switches**
Billy Wu, Michal Okoniewski, Chris Hayden, University of Calgary, Canada
- 428  **C** **A Light-Weight Tunable Liquid Crystal Phase Shifter for an Efficient Phased Array Antenna**
Christian Weickhmann¹, Norbert Nathrath², Ralf Gehring³, Alexander Gaebler¹, Matthias Jost¹, Rolf Jakoby¹
¹Technische Universität Darmstadt, Germany; ²NTP GmbH, Germany; ³EADS Astrium GmbH, Germany
- 432  **C** **Compact Tunable Phase Shifter Based on Inkjet Printed BST Thick-Films for Phased-Array Application**
M. Nikfalazar¹, Mohsen Sazegar¹, Y. Zheng¹, Alex Wiens¹, Rolf Jakoby¹, A. Friederich², C. Kohler², J.R. Binder²
¹Technische Universität Darmstadt, Germany; ²KIT, Germany
- 436  **C** **LTCC Material Properties After High Temperature Treatment**
Sascha Brosius, Arne F. Jacob, Technische Universität Hamburg-Harburg, Germany
- 440  **C** **Electromagnetic Field Analysis with Advanced Structural Modeling of Microstrips on Porosified LTCC**
Armin Talai¹, Robert Weigel¹, Alexander Koelpin¹, Bjoern Gmeiner¹, Ulrich Ruede¹, Frank Steinhäuser², Achim Bittner², Ulrich Schmid²
¹FAU Erlangen-Nürnberg, Germany; ²Technische Universität Wien, Austria
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EuMC25: Network Analysis and Frequency Measurement

Chair: Dietmar Kissinger, University of Erlangen Nürnberg — Co-Chair: Jiasheng Hong, Heriot Watt University






Venue Oslo, Time 10:40 - 12:20, Wednesday 9th October 2013

- 444  **C** **A New Switch Correction Method for a Single-Receiver VNA**
Marcus Schramm, Michael Hrobak, Jan Schür, Lorenz-Peter Schmidt, FAU Erlangen-Nürnberg, Germany
- 448  **C** **Speeding up N-Port VNA Calibration Eliminating One-Port Calibrations**
Frans Verbeyst, Marc Vanden Bossche, National Instruments, Belgium
- 452  **C** **Calibrated RF Time-Domain Measurement of Non-Linear Devices in Digital Polar Transmitter Architecture**
Kassem El-Akhdar, Sajjad Ahmed, Guillaume Neveux, Denis Barataud, Jean-Michel Nebus, XLIM, France
- 456  **C** **Varactor-Tuned Dual-Mode Frequency Discriminator for Instantaneous Frequency Measurements**
A. Moscoso-Mártir¹, I. Molina-Fernández¹, Jiasheng Hong²
¹Universidad de Málaga, Spain; ²Heriot-Watt University, UK
- 460  **C** **Instantaneous Frequency Measurement Based on Low-Cost Six-Port Technology**
S. Lindner, G. Vinci, Francesco Barbon, Sarah Linz, S. Mann, Robert Weigel, Alexander Koelpin, FAU Erlangen-Nürnberg, Germany

EuMC26: Microwave Bio-Sensing

Chair: Rolf Jakoby, University of Darmstadt — Co-Chair: Tuami Lasri, University Lille1/IEMN






Venue Copenhagen, Time 10:40 - 12:20, Wednesday 9th October 2013

- 464  **C** **Optimized Electromagnetic Interaction Microwave Resonator/Microfluidic Channel for Enhanced Liquid Bio-Sensor**
Thomas Chretiennot, David Dubuc, Katia Grenier, LAAS, France
- 468  **C** **Microwave Dielectric Bio-Sensing for Precise and Repetitive Living Cells Suspension Analysis**
François Artis¹, David Dubuc¹, Jean-Jacques Fournié², Mary Poupot², Katia Grenier¹
¹LAAS, France; ²CRCT (UMR 1037), France
- 471  **C** **CMOS Lab on a Chip Device for Dielectric Characterization of Cell Suspensions Based on a 6GHz Oscillator**
Subhajit Guha, Farabi Ibne Jamal, Klaus Schmalz, Christian Wenger, Chafik Meliani, IHP, Germany
- 475  **C** **Coplanar Stripline Microchamber for Electrical Detection of Live and Dead Biological Cells**
Yaqing Ning¹, Caroline Multari¹, Xi Luo¹, Cristiano Palego¹, David Molinero¹, Xuanhong Cheng¹, James C.M. Hwang¹, Caterina Merla²
¹Lehigh University, USA; ²ENEA, Italy
- 479  **C** **Planar Microwave Sensor for Thermal Ablation of Organic Tissue**
Margarita Puentes, Fahed Bashir, Matthias Maasch, Martin Schüßler, Rolf Jakoby, Technische Universität Darmstadt, Germany
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EuMC27: Focused Session — Leaky Wave Antennas

Chair: Wolfgang Menzel, University of Ulm — Co-Chair: C-K Clive Tzuang, Tianjin University NTU






Venue Stockholm, Time 10:40 - 12:20, Wednesday 9th October 2013

- 483  **C** **Planar Leaky-Wave Antennas — Early Concepts and Actual Results**
Wolfgang Menzel, Universität Ulm, Germany
- 487  **C** **A Planar Leaky Wave Antenna Operating in Two Frequency Bands**
Jan Macháč, Milan Polívka, Czech Technical University in Prague, Czech Republic
- 491  **C** **Substrate Integrated Waveguide Leaky-Wave Antenna with Reduced Beam Squint**
José Luis Gómez-Tornero¹, Alejandro Javier Martínez-Ros¹, Alejandro Álvarez-Melcón¹, Francisco Mesa², Francisco Medina²
¹Universidad Politécnica de Cartagena, Spain; ²Universidad de Sevilla, Spain
- 495  **C** **A Tour on Recent Developments and Discoveries of Crucial Practical Importance in Leaky-Wave Antennas**
Christophe Caloz¹, Simon Otto²
¹École Polytechnique de Montréal, Canada; ²Universität Duisburg-Essen, Germany
- 499  **C** **Monolithic Synthetic Transmission-Line Leaky-Mode Antenna at THz**
C.-K.C. Tzuang, Hsien-Shun Wu, Xinru Li, Jianguo Ma, Tianjin University, China

EuMC28: Far-Field and Near-Field Techniques for Wireless Power Transfer and Energy Harvesting

Chair: Joy Laskar, InSite Partners — Co-Chair: Alessandra Costanzo, DEI - University of Bologna






Venue Helsinki, Time 10:40 - 12:20, Wednesday 9th October 2013

- 503  **C** **Mutual Coupling Effect on Rectenna Array for RF Energy Harvesting**
Hirokazu Kamoda, Masahiro Hanazawa, Shoichi Kitazawa, Hiroshi Ban, Kiyoshi Kobayashi, ATR WEL, Japan
- 507  **C** **High-Efficiency Rectifier Circuit at 2.45GHz for Low-Input-Power RF Energy Harvesting**
Bruno R. Franciscatto¹, Vitor Freitas¹, Jean-Marc Duchamp¹, Christian Defay², Tan Phu Vuong¹
¹IMEP-LAHC, France; ²Multitoll Solutions, France
- 511  **C** **A New Family of Passive Wireless RF Harvesters Based on R-C-Quartz Oscillators**
Antwi Nimo, Dario Grgić, Tolgay Ungan, Leonhard M. Reindl, Albert-Ludwigs-Universität Freiburg, Germany
- 515  **C** **Optimization of Wireless Power Transfer for Mobile Receivers Using Automatic Digital Capacitance Tuning**
David S. Ricketts¹, Matthew J. Chabalko², Andrew Hillenius²
¹North Carolina State University, USA; ²Carnegie Mellon University, USA
- 519  **C** **A Moving Field Inductive Power Transfer System for Electric Vehicles**
Johannes A. Russer¹, Marco Dionigi², Mauro Mongiardo², Peter Russer¹
¹Technische Universität München, Germany; ²Università di Perugia, Italy
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EuMC29: Special Session Eastern Europe 2 — Emerging Materials for Microwave Applications

Chair: Oksana Shramkova, Queen's University Belfast — Co-Chair: Jozef Modelski, Warsaw University of Technology


Venue Shanghai, Time 10:40 - 12:20, Wednesday 9th October 2013

- 523  **C** **Highly Resistive GaN Substrates for High Frequency Electronics**
R. Dwiliński¹, R. Doradziński¹, L. Sierzputowski¹, R. Kucharski¹, M. Zajac¹, J. Krupka²
¹Ammono, Poland; ²Warsaw University of Technology, Poland
- 526  **C** **Comparison of SiC and GaN Substrates Used for Epitaxy of HEMT Structures**
M. Leszczynski¹, P. Prystawko¹, P. Kruszewski¹, J. Plesiewicz², I. Kasalynas³, R. Dwiliński⁴, M. Zajac⁴, R. Kucharski⁴
¹Polish Academy of Sciences, Poland; ²TopGaN, Poland; ³Vilnius University, Poland; ⁴Ammono, Poland
- 530  **C** **The Electromagnetic Properties of Graphene in the Microwave and Millimeterwave Spectrum**
Mircea Dragoman¹, Alina Cismaru¹, Alexandra Stefanescu¹, Adrian Dinescu¹, Daniela Dragoman²
¹IMT Bucharest, Romania; ²Universitatea din București, Romania
- 533  **C** **Microwave Metamaterials with Competing Light-Controllable Nonlinear Response**
P.V. Kapitanova¹, A.P. Slobozhanyuk¹, P.A. Belov¹, I.V. Shadrivov², Y.S. Kivshar²
¹NRU ITMO, Russia; ²Australian National University, Australia
- 537  **C** **Nonlinear Planar Metamaterials Sustained a Trapped-Mode Resonant Regime**
Vyacheslav Khardikov, Pavel Mladyonov, Sergey Prosvirnin, Vladimir Tuz, National Academy of Sciences of Ukraine, Ukraine

EuMC30: Supply Modulation Techniques and Switched Mode PAs

Chair: Wolfgang Bösch, Graz University of Technology — Co-Chair: Wolfgang Heinrich, Ferdinand-Braun-Institut (FBH)






Venue Kiew, Time 13:50 - 15:30, Wednesday 9th October 2013

- 541  **C** **Efficient Linear Supply-Modulated PA with Harmonic Injection**
Asmita Dani, Mike Coffey, Zoya Popović, University of Colorado at Boulder, USA
- 545  **C** **Current Consumption Benefit of Adjustable Bias in Low-Power Mode of WCDMA Power Amplifiers**
Bernd Schleicher, Andriy Kryshchyn, Mathias Holz, Volker Wannemacher, Steven Weigand, TriQuint Semiconductor, Germany
- 549  **C** **A GaN Voltage-Mode Class-D MMIC with Improved Overall Efficiency for Future RRH Applications**
Andreas Wentzel, Wolfgang Heinrich, FBH, Germany
- 553  **C** **GaN-HEMTs as Switches for High-Power Wideband Supply Modulators**
Martin Krellmann, Olof Bengtsson, Wolfgang Heinrich, FBH, Germany
- 557  **C** **Comparative Evaluation of Different Current Saving Strategies for Power Amplifiers in Back-Off Operation**
Pinarello Sandro¹, Jan-Erik Mueller¹, Robert Weigel²
¹Intel Mobile Communications, Germany; ²FAU Erlangen-Nürnberg, Germany
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EuMC31: Digital Communications in Wireless Systems






Chair: Geneviève Baudoin, ESIEE Paris — Co-Chair: Jean Francois Diouris, Université de Nantes

Venue Riga, Time 13:50 - 15:30, Wednesday 9th October 2013

- 561  **C** **Demodulation of Aggregated RF Signal in Three Frequencies Bands with a Unique Rx Chain**
A. Kassoine¹, Bernard Huyart¹, Kais Mabrouk²
¹Télécom ParisTech, France; ²AllianSTIC, France
- 565  **C** **Improved BER Performance in GSM by Mitigating Non-Linear Distortions in the Receiver**
Michael Grimm¹, Rajesh Kumar Sharma¹, Matthias A. Hein¹, Reiner S. Thomä¹, Reda Zemmari²
¹Technische Universität Ilmenau, Germany; ²Fraunhofer FKIE, Germany
- 569  **C** **pPSK for Bandwidth and Energy Efficiency**
Earl W. McCune Jr., RF Communications Consulting, USA
- 573  **C** **Interference Rejection by Time Selective Sampling**
R.W. Jackson, M. Shusta, University of Massachusetts at Amherst, USA
- 577  **C** **Quasi-LoS MIMO Wireless Communication with Twisted Radio Wave**
Zhengyi Li, Yoji Ohashi, Kazumi Kasai, Fujitsu Laboratories Ltd., Japan






EuMC32 : Recent Developments in Passive Components

Chair: Vesna Crnojevic-Bengin, University of Novi Sad — Co-Chair: Jan Machac, Czech Technical University in Prague
Venue Istanbul, Time 13:50 – 15:30, Wednesday 9th October 2013

- 581  **C** **Novel Tri-Operational Mode Synthesized Transmission Line**
Chi-Hui Lai, Chen-Yuan Shiau, Tzyh-Ghuang Ma, NTUST, Taiwan
- 585  **C** **High-Q CRLH Transmission Line Stub Resonator Utilizing Negative Order Resonance Modes**
Shinichi Tanaka, Kyosuke Mukaida, Ryohei Sugita, Shibaura Institute of Technology, Japan
- 589  **C** **Three-Dimensional Quasi-Solenoidal Microcoils with an Air Core on the LTCC Substrate**
Pero Krivic, Technische Universität Wien, Austria
- 593  **C** **Dual-Band Bi-Phase Waveguide Polarizer for a Novel Feeder Network Without Orthomode Transducer**
Carlos A. Leal-Sevillano¹, Jorge A. Ruiz-Cruz², José R. Montejo-Garai¹, Jesús M. Rebollar¹
¹Universidad Politécnica de Madrid, Spain; ²Universidad Autónoma de Madrid, Spain
- 597  **C** **Planar Orthogonal Mode Transducer Based on Orthogonal LSM_{10} and TE_{10} Modal Fields of Co-Layered Image SINRD (iSINRD) and SIW Guides**
Jawad Attari¹, Tarek Djerafi², Ke Wu¹
¹École Polytechnique de Montréal, Canada; ²INRS-EMT, Canada
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EuMC33 : Microwave Systems for Characterisation and Heating


Chair: Dimytro Vavriv, Institute of Radio Astronomy — Co-Chair: Dominique Schreurs, KU Leuven
Venue Copenhagen, Time 13:50 – 15:30, Wednesday 9th October 2013

- 601  **C** **RF Transmit Performance Comparison for Several MRI Head Array Geometries**
Mikhail Kozlov, Robert Turner, MPI for Human Cognitive and Brain Sciences, Germany
- 605  **C** **Advanced Non-Contact Near-Field Proximity Vital Sign Sensor Using Phase Locked Loop**
Yunseog Hong¹, Sang-Gyu Kim¹, Byung-Hyun Kim¹, Hee-Jo Lee¹, Gi-Ho Yun², Jong-Gwan Yook¹
¹Yonsei University, Korea; ²Sungkyul University, Korea
- 609  **C** **Dielectric Characterization of Water-Methanol Mixtures up to 110GHz Using a CPW Sensor in LTCC Technology**
S. Liu¹, Ilja Ocket¹, Dominique Schreurs¹, B. Nauwelaers¹, Walter De Raedt²
¹Katholieke Universiteit Leuven, Belgium; ²IMEC, Belgium
- 613  **C** **A 60GHz Liquid Sensing Substrate Integrated Cavity in LTCC**
S. Liu¹, Ilja Ocket¹, Dominique Schreurs¹, B. Nauwelaers¹, Walter De Raedt²
¹Katholieke Universiteit Leuven, Belgium; ²IMEC, Belgium
- 616  **C** **Development of a Microwave Enhanced Bagasse Hydrolysis Process for Ethanol Production**
L.A. Jermolovicius¹, J.T. Senise¹, E.V.S. Pouzada¹, R.B. do Nascimento¹, E.R. de Castro¹, S.E. Barbin²
¹IMT, Brazil; ²USP, Brazil

EuMC34: Numerical Modeling and Optimization

Chair: Maurizio Bozzi, University of Pavia — Co-Chair: Vicente E. Boria, Universidad Politecnica de Valencia






Venue Stockholm, Time 13:50 - 15:30, Wednesday 9th October 2013

- 620  **C** **Fast SAR Assessment Using Spherical Modes**
Aycine Bellaouel¹, Azeddine Gati¹, Abdelhamid Hadjem¹, Joe Wiart¹, David Lautru², Victor Fouad Hanna²
¹Orange Labs, France; ²L2E, France
- 624  **C** **Modelling Material Interfaces in Structured Nonorthogonal Finite-Difference Methods**
Roberto Armenta¹, Costas D. Sarris²
¹Simon Fraser University, Canada; ²University of Toronto, Canada
- 628  **C** **Singlet Formed by Two Transversal Ridges in a Rectangular Waveguide from the Spectral Theory Point of View**
Lyudmila Mospan, Sergey Prikolotin, Anatoliy Kirilenko, National Academy of Sciences of Ukraine, Ukraine
- 632  **C** **Topology Optimization Method for Microstrips Using Boundary Condition Representation and Adjoint Analysis**
Tsuyoshi Nomura¹, Makoto Ohkado², Paul Schmalenberg¹, Jae Seung Lee¹, Osman Ahmed³, Mohamed Bakr³
¹TEMA, USA; ²Toyota CRDL, Japan; ³McMaster University, Canada
- 636  **C** **Application of Aggressive Space Mapping (ASM) to the Efficient Synthesis of Stepped Impedance Resonators (SIRs)**
Jordi Selga¹, Jordi Naqui¹, Miguel Durán-Sindreu¹, Ferran Martín¹, Ana Rodríguez², Vicente E. Boria²
¹Universitat Autònoma de Barcelona, Spain; ²Universidad Politécnica de Valencia, Spain
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EuMC35: Multiband and UWB Antennas

Chair: Bart Nauwelaers, KU Leuven — Co-Chair: Marco Pasian, Università degli Studi di Pavia

Venue Helsinki, Time 13:50 - 15:30, Wednesday 9th October 2013

- 640  **C** **On the Design of a 3D LTE Antenna for Automotive Applications Based on MID Technology**
A. Friedrich¹, Bernd Geck¹, O. Klemp², H. Kellermann²
¹Leibniz Universität Hannover, Germany; ²BMW Forschung und Technik, Germany
- 644  **C** **A Novel Circularly-Polarised Quad-Band Patch Antenna for Satellite Applications**
S.E. Valavan, D. Tran, Alexander G. Yarovoy, Technische Universiteit Delft, The Netherlands
- 648  **C** **A Curved-Edge Dipole Antenna for UWB Applications**
Christian Rave, Thomas Jaschke, Benjamin Rohrdantz, Arne F. Jacob, Technische Universität Hamburg-Harburg, Germany
- 652  **C** **Multiband Circularly-Polarized Planar Array Based on the Complementary Strip-Slot Element**
E. Abdo-Sánchez¹, C. Camacho-Peñalosa¹, T.M. Martín-Guerrero¹, J. Esteban², J.E. Page²
¹Universidad de Málaga, Spain; ²Universidad Politécnica de Madrid, Spain
- 656  **C** **Design of Novel Multi-Band Printed Dipole Antennas Fed by a Modified Microstrip Ring Hybrid**
Li-Yuan Cheng, Fu-Chiarng Chen, National Chiao Tung University, Taiwan

EuMC36: Special Session Eastern Europe 3 — New Concepts for Filters and Antennas

Chair: Michal Mrozowski, Gdansk University of Technology

Co-Chair: Dmitry Kholodnyak, St. Petersburg Electrotechnical University LETI






Venue Shanghai, Time 13:50 – 15:30, Wednesday 9th October 2013

- 660  **C** **Small-Size Dual-Band Filters on Capacitively Loaded Cavities**
Viacheslav Turgaliev, Dmitry Kholodnyak, I. Vendik, St. Petersburg Electrotechnical University, Russia
- 664  **C** **Coupling Matrix Synthesis by Optimization with Hybrid Cost Function Based on Hausdorff Distance and Wavelet D4 Transform**
Tomasz Kacmajor¹, Jerzy Julian Michalski¹, Jacek Gulowski²
¹TeleMobile Electronics Ltd., Poland; ²University of Gdańsk, Poland
- 668  **C** **MM-Wave Left-Handed Transmission Line Antenna on Anisotropic Substrate**
Gheorghe Sajin, Iulia Andreea Mocanu, Florea Craciunoiu, Mihaela Carp, IMT Bucharest, Romania
- 672  **C** **Tunable High-Temperature Superconductor Filter Using Ferroelectric Capacitors**
I. Vendik¹, V. Pleskachev¹, E. Zameshaeva¹, P. Turalchuk¹, Dmitry Kholodnyak¹, I. Kolmakova¹, S. Zubko¹, I. Munina¹, Viacheslav Turgaliev¹, M. Sitnikova¹, M. Odit¹, Xu Wang², Na Li², Liang Sun², Yusheng He²
¹St. Petersburg Electrotechnical University, Russia; ²Chinese Academy of Sciences, China
- 676  **C** **Tunable Ferroelectric Ceramic-Polymer Composites for Sub-THz Applications**
Yevhen Yashchyshyn, Konrad Godziszewski, Paweł Bajurko, Józef Modelski, Mikołaj Szafran, Ewa Bobryk, Emilia Pawlikowska, Grzegorz Tarapata, Jerzy Weremczuk, Ryszard Jachowicz, Warsaw University of Technology, Poland
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EuMC37: High Efficiency Power Amplifiers

Chair: Paolo Colantino, University of Rome Tor Vergata — Co-Chair: John Walker, Integratech






Venue Kiew, Time 16:00 – 17:40, Wednesday 9th October 2013

- 680  **C** **A Zero Capacitive LINC Architecture for Efficient Broadband Transmitters**
Omid Talebi Amiri, Adil Koukab, EPFL, Switzerland
- 684  **C** **A LSNA Configured to Perform Baseband Engineering for Device Linearity Investigations Under Modulated Excitations**
F.L. Ogboi¹, P.J. Tasker¹, M. Akmal¹, J. Lees¹, J. Benedikt¹, S. Bensmida², Kevin Morris², M. Beach², J. McGeehan²
¹Cardiff University, UK; ²University of Bristol, UK
- 688  **C** **A 20W Ka-Band Radial Solid-State Power Amplifier with 20% Associated Power-Added Efficiency**
J.-P. Frayssse¹, J. Richard¹, M. Maignan¹, G. Soubercaze-Pun², L. Lapiere², J.-M. Denoual³, A. Peden³
¹Thales Alenia Space, France; ²CNES, France; ³Lab-STICC, France
- 692  **C** **Highly Efficient Carrier Bursting RF Transmitter Employing Direct Band Pass Filter Connection**
David Seebacher¹, Wolfgang Bösch¹, Peter Singerl², Christian Schubert²
¹Technische Universität Graz, Austria; ²Infineon Technologies, Austria
- 696  **C** **Bandwidth versus Efficiency Performance Using Power Combining in GaN HEMT Power Amplifiers**
Sebastian Preis, Mhd. Tareq Arnous, Zihui Zhang, Paul Saad, Georg Boeck, Technische Universität Berlin, Germany

EuMC38: Wireless Technologies and Measurements in Biological Problems

Chair: Geneviève Baudoin, ESIEE Paris — Co-Chair: Luciano Tarricone, University of Salento, Lecce






Venue Riga, Time 16:00 - 17:40, Wednesday 9th October 2013

- 700  **C** **Interaction of the Human Body on the Performance of Class E PAs in Body Area Networks**
Gavin T. Watkins, Sema Dumanli, Toshiba Research Europe Ltd., UK
- 704  **C** **Verification of Bio-Radiolocation Method with Respiratory Plethysmography for Non-Contact Remote Breathing Monitoring**
M.D. Alekhin¹, L.N. Anishchenko¹, A.V. Zhuravlev¹, A.B. Tataraidze¹, V.V. Razevig¹, I.A. Vasilyev¹, V.B. Parashin¹, S.I. Ivashov¹, A.S. Bugaev²
¹Bauman MSTU, Russia; ²MIPT, Russia
- 708  **C** **Effects of Tuning Condition, Head Size and Position on the SAR of MRI Dual-Row Transmit Arrays**
Mikhail Kozlov, Robert Turner, MPI for Human Cognitive and Brain Sciences, Germany
- 712  **C** **Estimation of 433MHz Path Loss in Algae Culture for Biosensor Capsule Application**
Nicole Todtenberg, Thomas Basmer, Jörg Klatt, Klaus Schmalz, IHP, Germany
- 716  **C** **Wideband Measurements and Linearization of a Simplified Architecture for Analog RF-PWM**
Daniel Markert¹, Christoph Haslach¹, Gerhard Luz¹, Georg Fischer², Andreas Pascht¹
¹Alcatel-Lucent Deutschland GmbH, Germany; ²FAU Erlangen-Nürnberg, Germany
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EuMC39: Measuring and Communication Techniques

Chair: Tuami Lasri, University Lille1/IEMN — Co-Chair: Rolf Jakoby, TU Darmstadt

Venue Copenhagen, Time 16:00 - 17:40, Wednesday 9th October 2013

- 720  **C** **Influence of Single and Multiple Antenna Placements on the Capacity of C2C Communication Systems**
Lars Reichardt, Tobias Mahler, Tom Schipper, Thomas Zwick, KIT, Germany
- 724  **C** **Ultra-Wideband Based Dynamic Target Tracking Using Cost-Reference Particle Filtering**
Devika Kakkar¹, Piotr Karbownik¹, Thorsten Nowak¹, Grzegorz Krukar¹, Norbert Franke¹, Roman Galas²
¹Fraunhofer IIS, Germany; ²Technische Universität Berlin, Germany
- 728  **C** **Linearity Study of Path Imbalances in Multi-Level LINC Transmitter for Wideband LTE Application**
Junqing Guan, Ahmed F. Aref, Thomas Hone, Renato Negra, RWTH Aachen University, Germany
- 732  **C** **Analytical Methods for the Evaluation of the Impact of the VCO Phase Noise and the Modulator/Demodulator IQ Imbalance for a QAM Modulation**
Reda Djenadi, Corinne Berland, Genevieve Baudoin, ESYCOM, France
- 736  **C** **Emulation Platform for Coexistence Analysis in Wireless Automation**
Markus Ullmann¹, Sascha Hoener¹, Andreas Frotzschner², Ulf Wetzker², Ingmar Splitt², Michael Galetzka²
¹Signalion, Germany; ²Fraunhofer IIS, Germany

EuMC40: Sub-Millimeter and Millimeter-Wave Communications and Sensing

Chair: Ingmar Kallfass, University of Stuttgart — Co-Chair: Jan Stake, Chalmers University of Technology





Venue Stockholm, Time 16:00 – 17:40, Wednesday 9th October 2013

- 740  **C** **A Highly Flexible Digital Radio Testbed and 60GHz Application Examples**
Wilhelm Keusgen¹, Andreas Kortke², Michael Peter¹, Richard Weiler¹
¹Fraunhofer HHI, Germany; ²Technische Universität Berlin, Germany
- 744  **C** **10-Gbit/s Dual Channel Transmission of 120-GHz-Band Wireless Link Using Planar Slot Array Antennas**
Akihiko Hirata¹, Jun Takeuchi¹, Dongjin Kim², Jiro Hirokawa²
¹NTT Corporation, Japan; ²Tokyo Institute of Technology, Japan
- 748  **C** **GaN Field Effect Transistors with Integrated Antennas for THz Heterodyne Detectors**
Massimiliano Dispenza¹, Flavia Crispoldi¹, Alessio Pantellini¹, Antonio Nanni¹, Claudio Lanzieri¹, Alessandra Di Gaspare², Valeria Giliberti², Roberto Casini², Michele Ortolani², Ennio Giovine², Florestano Evangelisti²
¹Selex ES, Italy; ²CNR-IFN, Italy
- 752  **C** **Low-Jitter Electrooptic Sampling of Active mm-Wave Devices up to 300GHz**
M. Jamshidifar, G. Spickermann, H. Schäfer Eberwein, P. Haring Bolívar, Universität Siegen, Germany
- 755  **C** **THz Josephson Spectral Analysis**
Y. Divin¹, U. Poppe¹, K. Urban¹, M. Lyatti¹, A. Snezhko¹, I. Gundareva¹, O. Volkov², V. Pavlovskiy², V. Gubankov²
¹Forschungszentrum Jülich, Germany; ²Russian Academy of Sciences, Russia
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EuMC41: Novel Materials and Reconfigurable Antennas

Chair: Ioan Lager, Delft University of Technology — Co-Chair: Christian Friesicke, TU Hamburg-Harburg





Venue Helsinki, Time 16:00 – 17:40, Wednesday 9th October 2013

- 759  **C** **Liquid Crystal Based Tunable Composite Right/Left-Handed Leaky-Wave Antenna for Ka-Band Applications**
María Roig, Matthias Maasch, Christian Damm, Onur Hamza Karabey, Rolf Jakoby, Technische Universität Darmstadt, Germany
- 763  **C** **Compact Dual-Band Hybrid Dielectric Resonator Antenna Based on New Glass-Ceramic Material**
Arshad Mehmood¹, Yue Sun¹, Yuliang Zheng¹, Onur Hamza Karabey¹, H. Braun², Martun Hovhannisyanyan¹, Martin Letz³, Rolf Jakoby¹
¹Technische Universität Darmstadt, Germany; ²Johannes Gutenberg-Universität Mainz, Germany; ³SCHOTT AG, Germany
- 767  **C** **Reconfigurable Independent Multiband Printed Inverted F-Antenna for Wireless USB Applications**
A. Soliman¹, Dalia M. Elsheakh¹, Esmat A. Abdallah¹, Hadia El-Henawy²
¹ERI, Egypt; ²Ain Shams University, Egypt
- 770  **C** **Microwave Performance of a Carbon Composite Antenna**
L. Manac'h, X. Castel, Mohamed Himdi, IETR, France
- 774  **C** **Compact MIMO Antenna with Simple Decoupling Method**
Jian-Feng Li, Qing-Xin Chu, SCUT, China

EuMC42 : Emerging Microwave Technologies

Chair: Ioan Lager, Delft University of Technology — Co-Chair: Kamal K. Samanta, Milmega






Venue Kiew, Time 08:30 - 10:10, Thursday 10th October 2013

- 778  **C** **Novel Family of Broadband Nanocomposite Microwave Absorbers with Carbon Nanotubes in Solid Polymer Films**
Aline Emplit¹, Fang Fang Tao², Christian Bailly², Isabelle Huynen¹
¹Université Catholique de Louvain, Belgium; ²IMCN, Belgium
- 782  **C** **Effects of Controlled Formation of Magnetic Domains in Patterned Permalloy Thin Films on RFIC Spiral Inductors**
Vasu Pulijala, Azeemuddin Syed, IIT Hyderabad, India
- 786  **C** **Effects of Particle Size on Magnetic and Dielectric Properties of Ferrites at Microwave and Millimeterwave Frequencies**
Anjali Sharma, Mohammed N. Afsar, Tufts University, USA
- 790  **C** **Multimaterial Inkjet Technology for the Fabrication of Microwave Components**
R. Rammal¹, Nicolas Delhote¹, Olivier Tantot¹, Serge Verdeyme¹, C. Dossou-Yovo², R. Noguera², G. Di-Vita³, T. Chartier³, L. Estagerie⁴
¹XLIM, France; ²Ceradrop, France; ³SPCTS, France; ⁴CNES, France
- 794  **C** **Modeling and Characterization of Copper Tape Microstrips on Paper Substrate and Application to 24GHz Branch-Line Couplers**
C. Mariotti, F. Alimenti, P. Mezzanotte, Marco Dionigi, Marco Virili, S. Giacomucci, L. Roselli, Università di Perugia, Italy
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EuMC43 : Tunable and Reconfigurable Filters 1

Chair: Serge Verdeyme, XLIM University of Limoges — Co-Chair: Ian Robertson, University of Leeds






Venue Istanbul, Time 08:30 - 10:10, Thursday 10th October 2013

- 798  **C** **Optically Reconfigurable E-Plane Waveguide Resonators and Filters**
N. Mohottige¹, D. Budimir¹, C.J. Panagamuwa²
¹University of Westminster, UK; ²Loughborough University, UK
- 802  **C** **RF MEMS Hairpin Filter with Three Reconfigurable Bandwidth States**
Fabrizio Gentili¹, Fabrizio Cacciamani¹, Valeria Nocella¹, Roberto Sorrentino¹, Luca Pelliccia²
¹Università di Perugia, Italy; ²RF Microtech, Italy
- 806  **C** **Tunable Dual-Mode Bandpass Filter Based on Liquid Crystal Technology**
J. Torrecilla, C. Marcos, V. Urruchi, J.M. Sánchez-Pena, Universidad Carlos III de Madrid, Spain
- 810  **C** **Compact Triple-Mode Bandpass Filter Using Spherical Dielectric Resonator**
Nam-Shin Park¹, Don-Yong Lee¹, Byung-Chul Kim¹, Jung-Hee Won¹, In-Ho Na¹, Geon-Ho Jang¹, Young-Ho Cho², Xu-Guang Wang², Sang-Won Yun²
¹KMW Inc., Korea; ²Sogang University, Korea
- 814  **C** **Design of Compact Ultra-Selective Filters for Multiradio Front-Ends**
A. Périgaud¹, S. Bila¹, Serge Verdeyme¹, A. El-Hadbi², J.-Ph. Coupez², C. Person², J.Y. Le Naour³, J.L. Robert³, D. Lo-Hine-Tong³, A. Louzir³
¹XLIM, France; ²Lab-STICC, France; ³Technicolor, France

EuMC44: Signal Generators

Chair: Antti Räsänen, Aalto University — Co-Chair: Wolfgang Heinrich, Ferdinand-Braun-Institut (FBH)

Venue Shanghai, Time 08:30 - 10:10, Thursday 10th October 2013




- 818  **C** **Compact High-Power GaN Oscillator with 2.45GHz Differential Output**
Christian Bansleben, Wolfgang Heinrich, FBH, Germany
- 822  **C** **An Ultra-Low Power Self-Oscillating Mixer for WSN Applications**
H. Kraïmia, T. Taris, J.-B. Begueret, Y. Deval, IMS (UMR 5218), France
- 826  **C** **Phase Noise Improvement Using Digitally Controlled Artificial Dielectric**
Jianjun Yu, Fa Foster Dai, Auburn University, USA
- 830  **C** **Reversible Operation of a CMOS Colpitts VCO as a W-Band Passive Detector and Energy Harvesting**
Nir Weissman, Samuel Jameson, Eran Socher, Tel Aviv University, Israel
- 834  **C** **Investigation on Oscillation Mode-Jump Phenomenon in Reflection Type of Self-Injection Locked NRD Guide Gunn Oscillator at 60GHz**
Tomohiro Tanaka, Futoshi Kuroki, Kure National College of Technology, Japan
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EuMC45: Special Session on APMC

Chair: Lorenz-Peter Schmidt, University of Erlangen-Nürnberg

Co-Chair: Songcheol Hong, Wave Embedded Integrated Systems Lab






Venue Neu-Delhi, Time 08:30 - 10:10, Thursday 10th October 2013

- 838  **C** **Hybrid Metamaterial Antennas**
Jeong-Hae Lee, Seung-Tae Ko, Byung-Chul Park, Hongik University, Korea
- 842  **C** **Multi-Mode SDR VSAT Against Big Disasters**
Noriharu Suematsu¹, Suguru Kameda¹, Hiroshi Oguma², Mitsuru Sasanuma³, Shigeru Eguchi⁴, Komei Kuroda⁵
¹Tohoku University, Japan; ²Toyama National College, Japan; ³SKY Perfect JSAT Corporation, Japan; ⁴ISB Corporation, Japan; ⁵Cyber Creative Institute, Japan
- 846  **C** **Radar Design for Wireless Indoor Positioning Applications**
Ruey-Hsuan Lee, Jen-Chieh Wu, Shao-Hsuan Chang, Sheng-Fuh Chang, Chia-Chan Chang, Yi-Ming Chen, National Chung Cheng University, Taiwan

EuMC46: Focused Session — Microwaves in Agriculture, Environment and Earth Observation (MAGEO)

Chair: Vesna Crnojevic-Bengin, University of Novi Sad — Co-Chair: Maurizio Bozzi, University of Pavia





Venue Singapur, Time 08:30 – 10:10, Thursday 10th October 2013

- 850  **C** **Active Textile Antennas in Professional Garments for Sensing, Localisation and Communication**
Hendrik Rogier, Sam Agneessens, Arnaut Dierck, Bart Spinnewyn, Gert-Jan Stockman, Frederick Declercq, Patrick Van Torre, Luigi Vallozzi, Dries Vande Ginste, Ghent University, Belgium
- 854  **C** **Challenges in Energy Harvesting Techniques for Autonomous Self-Powered Wireless Sensors**
Francesco Giuppi, Kyriaki Niotaki, Ana Collado, Apostolos Georgiadis, CTTC, Spain
- 858  **C** **Low-Cost Fabrication, Eco-Friendly Materials, and Easy Integration: The New Technological Paradigm for the Future Wireless Sensor Networks**
Maurizio Bozzi, Riccardo Moro, Università di Pavia, Italy
- 862  **C** **Microwave Soil Moisture Sensors**
Bianca Will¹, Vesna Crnojević-Bengin², Goran Kitić²
¹Ruhr-Universität Bochum, Germany; ²University of Novi Sad, Serbia
- 866  **C** **Inkjet-Printed Sensors on Paper Substrate for Agricultural Applications**
Sangkil Kim¹, Anya Traille², Hoseon Lee¹, Hervé Aubert², Kawahara Yoshihiro³, Apostolos Georgiadis⁴, Ana Collado⁴, Manos M. Tentzeris¹
¹Georgia Institute of Technology, USA; ²LAAS, France; ³University of Tokyo, Japan; ⁴CTTC, Spain
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EuMC47: Emerging Microwave Applications

Chair: Kamal K Samanta, Milmega UK — Co-Chair: Asher Madjar, M2 Microwaves




Venue Kiew, Time 10:40 – 12:20, Thursday 10th October 2013

- 870  **C** **Millimeter-Wave Signal Generation Using Optical Difference Frequency Generation in Rectangular Waveguide Embedded with LiTaO₃**
Hiroshi Murata¹, Yuto Maejima¹, Yasuyuki Okamura¹, Atsushi Kanno², Tetsuya Kawanishi²
¹Osaka University, Japan; ²NICT, Japan
- 874  **C** **Investigation of an Optically Reconfigurable Plasma for Silicon Based Microwave Applications**
C.D. Gamlath¹, D.M. Benton², M.J. Cryan¹
¹University of Bristol, UK; ²L3-TRL Technology, UK
- 878  **C** **Rapid Detection of Blood Entero-Viruses Using Microstrip Antenna Bio-Sensor**
Dalia M. Elsheakh¹, Hala A. Elsadek¹, Esmat A. Abdallah¹, Saad Atteya², Waleed N. Elmazny³
¹ERI, Egypt; ²Al-Azhar University, Egypt; ³VACSERA, Egypt
- 881  **C** **Electrodeless Low Pressure Lamp with Bi-Static Matching at 2.45GHz**
Christoph Schopp, Holger Heuermann, FH Aachen, Germany

EuMC48: Wideband and UWB Filters

Chair: Stéphane Bila, XLIM University of Limoges — Co-Chair: Michael Höft, Panasonic

Venue Istanbul, Time 10:40 - 12:20, Thursday 10th October 2013

- 885  **C** **Ultra-Wideband Bandpass Filter Using Symmetric Stub-Loaded Resonator and Stepped Impedance Resonators**
Jiagen Zhou, Wenquan Che, Wenjie Feng, NUST, China
- 889  **C** **An Iterative Synthesis Scheme for Wideband Filter Based on Parallel-Coupled Three-Line**
C.-P. Chen¹, J. Oda¹, Katsuhiko Kamata¹, W. Imashiro¹, Tetsuo Anada¹, Shigeki Takeda²
¹Kanagawa University, Japan; ²Antenna Giken Co. Ltd., Japan
- 893  **C** **Wide-Band Bandpass Filter Using Coupled Three-Line Microstrip Structure and Plane Capacitor**
Hong-Wei Kao, Te-Feng Chiao, Jen-Ke Chen, Ming-Cheng Tu, Janne-Wha Wu, Ching-Wen Tang, National Chung Cheng University, Taiwan
- 896  **C** **A Novel Compact Ultra-Wideband Bandpass Filter**
Shilong Qian¹, Jiasheng Hong¹, Alexander Rusakov², I. Vendik²
¹Heriot-Watt University, UK; ²St. Petersburg Electrotechnical University, Russia
- 900  **C** **An Investigation on the Coupling Characteristics of a Novel Multiplexer Configuration**
Yi Wang¹, Michael J. Lancaster²
¹University of Greenwich, UK; ²University of Birmingham, UK
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EuMC49: Multi-Domain Multi-Source Wireless Energy Systems

Chair: Ana Collado, CTTC — Co-Chair: Mauro Mongiardo, DIEI - University of Perugia






Venue Stockholm, Time 10:40 - 12:20, Thursday 10th October 2013

- 904  **C** **A Compact 35-Watt High-Efficiency Wireless Power Transmission System Under Seawater Environment**
S. Yoshida, M. Tanomura, K. Shizuno, N. Kobayashi, H. Fukuda, Y. Hama, NEC Corporation, Japan
- 908  **C** **Design of a Capacitor-Less 5.8-GHz Microwave Rectifier for Microwave Power Transmission**
Biao Zhang, Chengyang Yu, Changjun Liu, Sichuan University, China
- 912  **C** **Efficient Solar Powered Wireless Sensor Solution**
Roland Weiß¹, Helmut Eckert¹, Meinrad Schienle¹, Ingo Kühne², Alexander Frey³, Bastian Krümmer⁴
¹Siemens AG, Germany; ²Hochschule Heilbronn, Germany; ³Universität Augsburg, Germany; ⁴FAU Erlangen-Nürnberg, Germany
- 916  **C** **Microwave Power Transfer Evaluation at 2.45GHz Using a High-Efficiency GaAs HEMT Amplifier and Rectifier**
Ryo Ishikawa, Kazuhiko Honjo, University of Electro-Communications, Japan
- 920  **C** **A 2.3GHz Single-Ended Energy Recovery Rectifier with Stepped-Impedance Resonator for Improved Efficiency of Outphasing Amplifier**
Defu Wang, Renato Negra, RWTH Aachen University, Germany

EuMC50: Microwave Applications of Metamaterials

Chair: Yang Hao, Queen Mary University of London — Co-Chair: Oksana Shramkova, Queen's University of Belfast






Venue Helsinki, Time 10:40 - 12:20, Thursday 10th October 2013

- 924  **C** **Contiguous Triplexer Based on Combining Method of Two Filtering Circuits Using CRLH and RH Isolation Circuits**
Hanseung Lee, Jim S. Sun, Tatsuo Itoh, University of California at Los Angeles, USA
- 928  **C** **3D Frequency Selective Surface with Incident Angle Independence**
Saidatul Norlyana Azemi, Kamran Ghorbani, Wayne S.T. Rowe, RMIT University, Australia
- 932  **C** **Mechanically Tunable and Reconfigurable FSS Using Spring Loaded Ring Resonators**
Saidatul Norlyana Azemi, Kamran Ghorbani, Wayne S.T. Rowe, RMIT University, Australia
- 936  **C** **Simple Example of Polarization Plane Rotation by the Fringing Fields Interaction**
Nataliya Kolmakova, Sergey Prikolotin, Anatoliy Kirilenko, Andrey Perov, National Academy of Sciences of Ukraine, Ukraine
- 939  **C** **Mitigation of Unwanted Forward Narrow-Band Radiation from PCBs with a Metamaterial Unit Cell**
Andrea Ruaro¹, Jesper Thaysen¹, Kaj B. Jakobsen²
¹GN ReSound A/S, Denmark; ²Technical University of Denmark, Denmark
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EuMC51: Transceiver Components

Chair: Noriharu Suematsu, Tohoku University — Co-Chair: Andreas Stelzer, Johannes Kepler University

Venue Shanghai, Time 10:40 - 12:20, Thursday 10th October 2013

- 943  **C** **Adaptive Carrier Suppression for UHF RFID Using Digitally Tunable Capacitors**
Marcel Koller, Roland Küng, ZHAW, Switzerland
- 947  **C** **An 8-Channel Ku Band Transmit Beamformer with Low Gain/Phase Imbalance Between Channels**
Siqi Zhu¹, Yu You¹, Suman P. Sah¹, Deukhyoun Heo¹, Karl F. Warnick²
¹Washington State University, USA; ²Brigham Young University, USA
- 951  **C** **A L-Band Transmit/Receive Module for Satellite Telecommunications**
G. Mannocchi, M. Amici, M. Del Marro, D. Di Giuliomaria, P. Farilla, M. Macchiusi, A. Suriani, Thales Alenia Space, Italy
- 955  **C** **High-Sensitivity HTS Receiver Module with Hermetic Thermal Insulation Waveguides**
Tamio Kawaguchi, Noritsugu Shiokawa, Kohei Nakayama, Mutsuki Yamazaki, Hiroyuki Kayano, Hiroaki Takahashi, Koichiro Gomi, Bunichiro Abe, Toshiba Corporation, Japan
- 959  **C** **A 25-to-45-GHz 45° Power Divider**
Jui-Chih Kao¹, Yuan-Hung Hsiao¹, Kuang-Sheng Yeh¹, Chau-Ching Chiong², Yu-Hsuan Lin¹, Kun-You Lin¹, Huei Wang¹
¹National Taiwan University, Taiwan; ²Academia Sinica, Taiwan

EuMC52 : Physics-Based Modeling of Microwave Structures

Chair: Hervé Aubert, LAAS — Co-Chair: Jose Carlos Pedro, Universidade de Aveiro

Venue Neu-Delhi, Time 10:40 - 12:20, Thursday 10th October 2013

- 963  **C** **Influence of Energy Distribution of Emitted Electrons on Multipactor Discharge**
Na Zhang, Rui Wang, Yun Li, Wanzhao Cui, CAST, China
- 967  **C** **Substrate Integrated Waveguide Couplers: A Semi-Analytical Design Approach Based on Side Leakage**
M. Pasian, Maurizio Bozzi, L. Perregrini, Università di Pavia, Italy
- 971  **C** **New Approach to the Theory of Irregular Lossy Waveguides and its Application to Design of Terahertz Gyrotrons**
Gennadiy I. Zaginaylov¹, Vitalii I. Shcherbinin¹, Mikhail Yu. Glyavin²
¹KIPT, Ukraine; ²Russian Academy of Sciences, Russia
- 975  **C** **High-Frequency Modeling of Metal Fill Eddy-Current Loss in Integrated Circuits**
Steven G. Gaskill, Vikas S. Shilimkar, Andreas Weisshaar, Oregon State University, USA
- 979  **C** **Large Signal Characterization of High Speed Digital Buffers for Signal Integrity Analysis of Software-Defined-Radio Applications**
Hugo M. Teixeira, Telmo R. Cunha, José C. Pedro, Universidade de Aveiro, Portugal
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EuMC53 : Focused Session — Energy Harvesting and Wireless Power Transfer

Chair: Manos M. Tentzeris, Georgia Institute of Technology — Co-Chair: Nuno Borges Carvalho, University of Aveiro

Venue Singapur, Time 10:40 - 12:20, Thursday 10th October 2013

- 983  **C** **Inkjet-Printed RF Energy Harvesting and Wireless Power Transmission Devices on Paper Substrate**
Sangkil Kim¹, Rushi Vyas¹, Apostolos Georgiadis², Ana Collado², Manos M. Tentzeris¹
¹Georgia Institute of Technology, USA; ²CTTC, Spain
- 987  **C** **A Fully-Autonomous Integrated RF Energy Harvesting System for Wearable Applications**
Michele Dini, Matteo Filippi, Alessandra Costanzo, Aldo Romani, Marco Tartagni, Massimo Del Prete, Diego Masotti, Università di Bologna, Italy
- 991  **C** **K-Band Energy Harvesting Circuits for Satellite Application**
A. Takacs¹, Hervé Aubert¹, S. Fredon², L. Despoisse³
¹LAAS, France; ²CNES, France; ³Thales Alenia Space, France
- 995  **C** **A Battery-Less Remote Control Based on a Novel Multi-RFID Scheme**
Alírio Jesus Soares Boaventura, Nuno Borges Carvalho, Universidade de Aveiro, Portugal

EuMC54: Wireless Technologies for Industrial Application

Chair: Luciano Tarricone, University of Salento, Lecce — Co-Chair: Alessandra Costanzo, DEI, University of Bologna






Venue Riga, Time 13:50 - 15:30, Thursday 10th October 2013

- 999  **C** **RFID Augmented Devices for Autonomous Sensing and Computation**
Luca Catarinucci, Riccardo Colella, Danilo De Donno, Luciano Tarricone, Università del Salento, Italy
- 1003  **C** **A Novel Booster Antenna Design Coupled to a One Square Millimeter Coil-on-Chip RFID Tag Enabling New Medical Applications**
Walther Pachler¹, Wolfgang Bösch¹, Gerald Holweg², Guenther Hofer²
¹Technische Universität Graz, Austria; ²Infineon Technologies, Austria
- 1007  **C** **Compact Cavity-Backed Antenna on Textile in Substrate Integrated Waveguide (SIW) Technology**
Riccardo Moro¹, Maurizio Bozzi¹, Sam Agneessens², Hendrik Rogier²
¹Università di Pavia, Italy; ²Ghent University, Belgium
- 1011  **C** **Low-Cost E-Band Receiver Front-End Development for Gigabyte Point-to-Point Wireless Communications**
Nasser Ghassemi, Jules Gauthier, Ke Wu, École Polytechnique de Montréal, Canada
- 1015  **C** **Dynamic Interference Suppression for Chipless Wireless Sensors: An Out-of-Band Channel Estimation Approach**
Bernd Kubina, Christian Mandel, Martin Schüßler, Rolf Jakoby, Technische Universität Darmstadt, Germany
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EuMC55: Tunable and Reconfigurable Filters 2






Chair: Morini Antonio, Università Politecnica delle Marche — Co-Chair: Lluís Pradell, Universitat Politècnica de Catalunya

Venue Istanbul, Time 13:50 - 15:30, Thursday 10th October 2013

- 1019  **C** **Center Frequency and Bandwidth Tunable Compact SIR Bandpass Filter**
Ali Mekadmini, Noham Martin, Paul Laurent, Gérard Tanné, Lab-STICC, France
- 1023  **C** **Miniaturised Sharp Rejection Bandpass Filter with Reconfigurable Bandwidth for UWB Applications**
K. Rabbi, D. Budimir, University of Westminster, UK
- 1027  **C** **Compact Bandpass Filter with Tunable Center Frequency and Reconfigurable Bandwidth**
Ya Deng, Ke Wu, École Polytechnique de Montréal, Canada
- 1031  **C** **Compact Tunable Bandstop Filters Using Defected Microstrip Structure for Multi-Standard Wireless Systems**
K. Chakrabarty, D. Budimir, University of Westminster, UK
- 1035  **C** **Reconfigurable-Bandwidth Bandpass Filters Based on Signal Interference Techniques**
Miguel Á. Sánchez-Soriano¹, Roberto Gómez-García², Manuel Sánchez-Renedo², Germán Torregrosa-Penalva³, Enrique Bronchalo³
¹Lab-STICC, France; ²Universidad de Alcalá, Spain; ³Universidad Miguel Hernández de Elche, Spain

EuMC56: Non-Linear, Controllable, and Terahertz Metamaterials

Chair: Tatsuo Itoh, University of California at Los Angeles — Co-Chair: Valerie Vigneras-Lefebvre, University of Bordeaux
Venue Stockholm, Time 13:50 - 15:30, Thursday 10th October 2013

- 1039  **C** **A Broadband Metamaterial Absorbing Panel with a Resistive Pattern Made of Ink with Graphene Nanoplatelets**
M. Olszewska, B. Salski, W. Gwarek, Paweł Bajurko, Yevhen Yashchyshyn, M. Jakubowska, D. Janczak, Warsaw University of Technology, Poland
- 1043  **C** **Triple-Band Terahertz Metamaterial Absorber**
Xiao Zhang, Zhirun Hu, University of Manchester, UK
- 1047  **C** **Numerical Study on Upper-Millimeter Wave to Terahertz Devices Using PBG Waveguiding Structure**
Katsuhiro Kamata¹, Takemasa Kato¹, C.-P. Chen¹, Tetsuo Anada¹, Shigeki Takeda²
¹Kanagawa University, Japan; ²Antenna Giken Co. Ltd., Japan
- 1051  **C** **Pulsed Second Harmonic Generation by Stacks of Magnetically Biased Semiconductor Layers**
O.V. Shramkova, A.G. Schuchinsky, Queen's University Belfast, UK
- 1055  **C** **Refractive Index of Magnetophotonic Crystal with Metal Nanoparticles in Magnetic Field**
A.B. Rinkevich¹, D.V. Perov¹, M.I. Samoylovich², S.M. Klesheva², E.A. Kuznetsov³
¹Russian Academy of Sciences, Russia; ²Technomash, Russia; ³Nizhny Tagil State Socially-Pedagogical Academy, Russia
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EuMC57: Metamaterial-Based Antennas





Chair: Alessandro Galli, Sapienza University of Rome — Co-Chair: Ramon Gonzalo Garcia, Public University of Navarra
Venue Helsinki, Time 13:50 - 15:30, Thursday 10th October 2013

- 1059  **C** **Printed Annular Metasurface for Omnidirectional Dual-Pol Leaky-Wave Antennas**
Paolo Baccarelli¹, Paolo Burghignoli¹, Davide Comite¹, David Di Ruscio¹, Alessandro Galli¹, Paolo Lampariello¹, David R. Jackson²
¹Università di Roma "La Sapienza", Italy; ²University of Houston, USA
- 1063  **C** **Dual-Band Orthogonal-Beam Multi-Standard CRLH Loop Antenna**
Mohamed I. Ibrahim, Sally I. El-Henawy, Amr M.E. Safwat, Ain Shams University, Egypt
- 1067  **C** **Design of Compact Circularly Polarized Microstrip Antennas Using Meta-Surfaces**
Kush Agarwal¹, Nasimuddin², Arokiaswami Alphones³
*¹National University of Singapore, Singapore; ²A*STAR, Singapore; ³Nanyang Technological University, Singapore*
- 1071  **C** **Polarization-Rotating Zeroth-Order-Resonator Antenna with Voltage-Controlled Reflectors at Both Ends**
Junko Fukuda¹, Tetsuya Ueda¹, Yuichi Kado¹, Tatsuo Itoh²
¹Kyoto Institute of Technology, Japan; ²University of California at Los Angeles, USA

EuMC58: Exploring White Spaces by SDR/CR Technology

Chair: Sven Dortmund, Ruhr-University Bochum — Co-Chair: Andreas Wilzeck, wiseSense GmbH






Venue Shanghai, Time 13:50 - 15:30, Thursday 10th October 2013

- 1075  **Empirical and Site Specific Eigenmode Characterization of an Indoor Radio Propagation Channel in the UHF Band**
Artur Nalobin, Sven Dortmund, Sebastian Sczyslo, Ilona Rolfes, Ruhr-Universität Bochum, Germany
- 1079  **Evaluation of Radio Channel LOS/NLOS Transitions in Indoor and Outdoor Fading Measurements**
Jan Barowski, Sven Dortmund, Bastian Meiners, Artur Nalobin, Sebastian Sczyslo, Ilona Rolfes, Ruhr-Universität Bochum, Germany
- 1083  **DoA Estimation Combining Uniform Circular Array and Sequential Array Processing**
Markus Stefer, Christian Schmedt, Martin Schneider, Universität Bremen, Germany
- 1087  **Flexible RF Front-End for Communication in TV White Spaces**
Mario Schühler, Alexander Jaschke, Mengistu Tessema, Christian Kelm, Fraunhofer IIS, Germany
- 1091  **Components and Implementation of a Spectrum Sensing Network for the UHF TV Band**
Steffen Riess, Johannes Brendel, Andreas Stoeckle, Richard Rose, Georg Fischer, FAU Erlangen-Nürnberg, Germany
-

EuMC59: Hybrid Analytical-Numerical Electromagnetic Modeling



Chair: Anton Tjihuis, Technische Universiteit Eindhoven — Co-Chair: Marco Pasian, University of Pavia

Venue Neu-Delhi, Time 13:50 - 15:30, Thursday 10th October 2013

- 1095  **An Efficient Near Field to Near or Far Field Transformation in Time Domain**
Mohammed Serhir, Dominique Picard, L2S (UMR 8506), France
- 1099  **Foldy Lax Scattering in Magnetic Wall Waveguides**
Andreas R. Diewald, IEE S.A., Luxembourg
- 1103  **PEEC Modeling of Circular Spiral Coils**
Nikola Gvozdenovic¹, Lukas W. Mayer¹, Ralph Prestros², Christoph F. Mecklenbräuer¹, Arpad L. Scholtz¹
¹Technische Universität Wien, Austria; ²NXP Semiconductors, Austria
- 1107  **Modeling of the Coupled Microstrip Lines with Using Numerical Conformal Transformations**
Alexander N. Sychev, Mikhail A. Chekalin, Vasilii A. Shestakov, Sergey M. Struchkov, TUSUR, Russia
- 1111  **Analytical Response Sensitivities of Infinitesimally Thin Metallic Shapes**
M. Sadegh Dadash, Natalia K. Nikolova, John W. Bandler, McMaster University, Canada







EuMC60: Focused Session — Ultra fast Real Time EM Spectrum and EM Interference Measurement Techniques














Chair: Peter Russer, Technische Universität München — Co-Chair: Yury Kuznetsov, Moscow Aviation Institute
Venue Singapur, Time 13:50 - 15:30, Thursday 10th October 2013

- 1115  **C** **Real-Time EM Spectrum and EM Interference Measurement Techniques**
Peter Russer¹, Johannes A. Russer¹, Christian Hoffmann², Hassan Hani Slim²
¹Technische Universität München, Germany; ²GAUSS INSTRUMENTS GmbH, Germany
- 1119  **C** **Ultra-Fast Real-Time Spectrum Analysis for Investigation of Communication Signals**
Stephan Braun, GAUSS INSTRUMENTS GmbH, Germany
- 1123  **C** **Adaptive Filtering for Noise Cancellation and Signal Analysis in Real-Time**
Arnd Frech¹, Markus Klügel¹, Peter Russer²
¹GAUSS INSTRUMENTS GmbH, Germany; ²Technische Universität München, Germany
- 1127  **C** **Near Field Characterisation of Electromagnetic Interference from Multilayered Printed Circuit Boards**
David W.P. Thomas, Chijioke Obiekezie, Angela Nothofer, Steve Greedy, Luk R. Arnaut, Phil Sewell, University of Nottingham, UK
- 1131  **C** **Stochastic EMI Sources Localization Based on Ultra Wide Band Near-Field Measurements**
Andrey Baev¹, Anastasia Gorbunova¹, Maxim Konovalyuk¹, Yury Kuznetsov¹, Johannes A. Russer²
¹Moscow Aviation Institute, Russia; ²Technische Universität München, Germany
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EuMC Poster01: EuMC Poster Session


Chair: Yoke Leen Sit, KIT — Co-Chair: Christian Friesicke, TU Hamburg-Harburg
Venue Exhibition Hall, Time 10:00 - 18:00, Wednesday 9th October 2013

- 1135  **C** **Modeling of Interaction of Microwaves with Nanocomposites and 3D Nanostructures Based on Magnetic Nanoparticle-Filled Carbon Nanotube Arrays**
G.S. Makeeva, O.A. Golovanov, Penza State University, Russia
- 1139  **C** **Complementary Double Spiral Resonators Localized on Embedded Capacitance for Ultra-Wideband Suppression of Simultaneous Switching Noise**
Hao-Ran Zhu, Jun-Fa Mao, Shanghai Jiao Tong University, China
- 1143  **C** **Scattering and Diffraction of TM Modes on a Grating Consisting of a Finite Number of Pre-Fractal Thin Impedance Strips**
Kateryna Nesvit, Karazin Kharkiv National University, Ukraine
- 1147  **C** **An Efficient Closed-Form Expression of Spatial Green's Function for Finite Dielectric Substrate Using Characteristic Green's Function-Perfectly Matched Layer Method**
Abdorrezza Torabi, Amir Ahmad Shishegar, Sharif University of Technology, Iran
- 1151  **C** **Optimizing Folded Dipole Array with Quick Smith Chart Manipulations Giving Broadband Absorption Surface and Optional Two-Way Communication**
Yumei Chang¹, Wenquan Che¹, Yung L. Chow²
¹NUST, China; ²University of Waterloo, Canada
- 1155  **C** **Properties of Ferrite-Ferroelectric Structures for Devices Tunable in the Microwave and High-Frequency Ranges**
A.A. Semenov¹, A.I. Dedyk¹, P.Yu. Belavsky¹, A.A. Nikitin¹, Yu.V. Pavlova¹, I.L. Mylnikov¹, O.V. Pakhomov²
¹St. Petersburg Electrotechnical University, Russia; ²NRU ITMO, Russia

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- 1159  **C** **All Dielectric Metamaterials at Millimeter Wavelengths Using Single-Size TiO₂ Resonators : Simulation and Experiments**
Riad Yahiaoui¹, Patrick Mounaix¹, Valérie Vigneras², U-Chan Chung Seu³, Cathy Elissalde³, Mario Maglione³
¹LOMA, France; ²IMS (UMR 5218), France; ³ICMCB, France
- 1163  **C** **Differential Excitation of a Hybrid Antenna for a 75GHz Antenna Array Implemented on a Multilayer PC Board**
Ralf Juenemann¹, Anna Zielska¹, Andreas Schiessl¹, Sebastian Methfessel², Lorenz-Peter Schmidt²
¹Rohde & Schwarz, Germany; ²FAU Erlangen-Nürnberg, Germany
- 1167  **C** **Glass-Ceramics as Dielectrics for Antennas in Microwave Electronics**
H. Braun¹, Martun Hovhannisyann¹, Y. Zheng², Arshad Mehmood², Rolf Jakoby², O. Leisten³, Martin Letz¹
¹SCHOTT AG, Germany; ²Technische Universität Darmstadt, Germany; ³Sarantel Ltd., UK
-  **C** **A Low-Cost Closed-Loop Antenna Tuner Module for Mobile Phone Single-Feed Multi-Band Antennas**
M.A. de Jongh, A. van Bezooijen, T. Bakker, K.R. Boyle, J. Stulemeijer, EPCOS, The Netherlands
- 1175  **C** **Ku/Ka-Band Compact Orthomode Junction with Low Pass Filters for High Power Applications**
Hidenori Yukawa, Koji Yoshida, Tomohiro Mizuno, Tetsu Owada, Moriyasu Miyazaki, Mitsubishi Electric Corporation, Japan
- 1179  **C** **Closed-Loop Adaptive Control Techniques for Matching Networks in the Uplink Mode**
Amir Danak, Shirook M.H. Ali, James Warden, Mark Pecen, BlackBerry, Canada
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- 1183  **C** **Embedded Resistors for Microwave Applications up to 50GHz on Printed Circuit Boards**
Andreas Bauer¹, Johannes Jakob¹, Ramzi Gmiha¹, Daniel Hageneder², Werner Bogner¹
¹Technische Hochschule Deggendorf, Germany; ²Rohde & Schwarz, Germany
- 1187  **C** **Wideband Tapered Antipodal Fin-Line Waveguide-to-Microstrip Transition for E-Band Applications**
Andrey Mozharovskiy, Alexey Artemenko, Vladimir Ssorin, Roman Maslennikov, Alexey Sevastyanov, Radio Gigabit LLC, Russia
- 1191  **C** **On the Design of Dual-Polarization Directional Couplers**
A. Morini¹, M. Baldelli¹, Giuseppe Venanzoni¹, A. Di Donato¹, M. Farina¹, P. Angeletti², D. Petrolati², G. Toso², N. Sidiropulos³, A. Catalani³, M. Di Rosa³
¹Università Politecnica delle Marche, Italy; ²ESA, The Netherlands; ³Space Engineering S.p.A., Italy
- 1195  **C** **Design of Miniature Tri-Band Filter with Multiple Types of Resonators**
Yi-Chyun Chiang, Jing-Peng Chen, Chang Gung University, Taiwan
- 1199  **C** **Design of a Switchable Selectivity Bandpass Filter Based on Diode-Loaded Resonators**
Pu-Hua Deng¹, Yu-Ta Chen¹, Ren-Chuan Liu¹, Shih-Fong Chao², Li-Chi Dai³
¹National University of Kaohsiung, Taiwan; ²National Kaohsiung Marine University, Taiwan; ³CSIST, Taiwan
- 1203  **C** **Low Voltage High-Order Agile Active Filter for Microwave Applications**
L. Pantoli, V. Stornelli, G. Leuzzi, Università dell'Aquila, Italy
- 1207  **C** **A Compact Multilayer Liquid Crystal Polymer VHF Bandpass Filter**
Shilong Qian, Jiasheng Hong, Heriot-Watt University, UK

- 1211  **C** **Low-Loss 3-Bit Tunable SIW Filter with PIN Diodes and Integrated Bias Network**
Stefano Sirci, Jorge D. Martínez, Vicente E. Boria, Universidad Politécnica de Valencia, Spain
- 1215  **C** **Discrete-Tunable High-Q E-Plane Filters**
*Luca Pelliccia¹, Paola Farinelli¹, Valeria Nocella², Fabrizio Cacciamani²,
Fabrizio Gentili², Roberto Sorrentino²*
¹RF Microtech, Italy; ²Università di Perugia, Italy
- 1219  **C** **A Novel Design Method for Highly Selective and Tunable Microwave Bandpass Filter**
Mehmet Yuceer¹, Ian C. Hunter²
¹Turksat, Turkey; ²University of Leeds, UK
- 1223  **C** **Investigation of Decoupling Between MRI Array Elements**
Mikhail Kozlov¹, Robert Turner¹, Nikolai Avdievich²
*¹MPI for Human Cognitive and Brain Sciences, Germany; ²MPI for Biological Cybernetics,
Germany*
- 1227  **C** **Mode Profile Shaping with 2D Periodic Array of Metallic Patches on Electrodes in SAW Resonators**
Jiman Yoon¹, Markus Mayer², Thomas Ebner², Karl C. Wagner², Achim Wixforth¹
¹Universität Augsburg, Germany; ²TDK Corporation, Germany
- 1231  **C** **Wideband Analysis of Scattering Problems Using an Eigenmode Projection Technique**
Mamdouh H. Nasr, Islam A. Eshrah, Tamer M. Abuelfadl, Cairo University, Egypt
- 1235  **C** **Planar Transmission Line Pickups for Beam Position Monitoring in Particle Accelerators**
*Aleksandar Angelovski¹, Andreas Penirschke¹, Cezary Sydlo², Uros Mavric²,
Christopher Gerth², Rolf Jakoby¹*
¹Technische Universität Darmstadt, Germany; ²DESY, Germany
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- 1239  **C** **Improved Field Homogeneity for Microstrip Transceiver Array for 7T MRI Using Particle Swarm Optimization**
James F. Stack Jr., Remcom Inc., USA
- 1243  **C** **Broadband Detector Array Concept for 3D Holographic Imaging at THz Frequencies**
C. Schildbach, Jan Schür, Lorenz-Peter Schmidt, FAU Erlangen-Nürnberg, Germany
- 1247  **C** **A Novel FFT/IFFT Size Efficient Technique to Generate Real Time Optical OFDM Signals Compatible with IM/DD Systems**
*Fatima Barrami¹, Yannis Le Guennec², Emil Novakov², Jean-Marc Duchamp²,
Pierre Busson¹*
¹STMicroelectronics, France; ²IMEP-LAHC, France
- 1251  **C** **Transformation of Gaussian-Like Pulses by a Nonlinear Dielectric Layer**
D. Zolotariov, A. Nerukh, KNURE, Ukraine
- 1255  **C** **Modified Spiral RFID Tag Antenna Optimal Design Using Artificial Bee Colony Optimization**
Sotirios K. Goudos¹, Katherine Siakavara¹, John N. Sahalos²
¹Aristotle University of Thessaloniki, Greece; ²University of Nicosia, Cyprus
- 1259  **C** **Considerations of Small Cell Strategy in Mobile Communication Systems**
*Hiroyuki Otsuka, Yuki Ichimura, Yukihiko Sakamoto, Katsunori Kikuchi, Kogakuin
University, Japan*
- 1263  **C** **Reduction of Human Body Effect on Mobile Handset Antennas**
Andrey Grigoriev, St. Petersburg Electrotechnical University, Russia
- 1267  **C** **Reducing the Interference in Compact MIMO Antennas of CRLH-TL-Based Broadside-Capacitive and Slot Couplings**
Kyeongnam Jang¹, S. Kahng¹, K.-S. Kahng¹, Inkyu Yang¹, Yongjin Kim²
¹University of Incheon, Korea; ²Inha Technical College, Korea


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- 1271  **C** **Effective Utilization of Coaxial Connector for Millimeter Wave Multilayer Device Testing**
Andrey Mozharovskiy, Vladimir Ssorin, Alexey Artemenko, Roman Maslennikov, Alexey Sevastyanov, Radio Gigabit LLC, Russia
- 1275  **C** **Evaluation of Electromagnetic Field Characteristics Inside Carbon Fiber Reinforced Plastic Structure Using Reverberation Chamber Method**
Shunichi Futatsumori, Akiko Kohmura, Naruto Yonemoto, ENRI, Japan
- 1279  **C** **New Verification Routine for Pulsed I-V and Transient Current Measurement Setup Applied to a THz Schottky Diode**
Subash Khanal¹, Tero Kiuru², Juha Mallat¹, Antti V. Räsänen¹, Tapani Närhi³
¹Aalto University, Finland; ²VTT Technical Research Centre of Finland, Finland; ³ESA, The Netherlands
- 1283  **C** **Digitally-Controlled Calibrator for Measurement and Testing of CW Doppler Radars**
Vojtech Jenik, Zdenek Plhak, Premysl Hudec, Petr Cerny, Czech Technical University in Prague, Czech Republic
- 1287  **C** **A Proposal of a New Permittivity Measurement Method for Low-Loss Materials**
Yuto Kato, Michitaka Ameya, Masahiro Horibe, Satoru Kurokawa, AIST, Japan
- 1291  **C** **Improved Gain-Transfer Method for Long Antennas**
Gordon Mayhew-Ridgers¹, Paul A. van Jaarsveld¹, Johann W. Odendaal², Johan Joubert²
¹Vodacom Pty. Ltd., South Africa; ²University of Pretoria, South Africa
- 1295  **C** **OROTRON Intracavity Millimeter-Wave Spectroscopy of Weakly Bound Complexes and Small Clusters**
L.A. Surin, Russian Academy of Sciences, Russia
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- 1299  **C** **1mm Coaxial Matches with an Excellent Absorption Behavior over the Frequency Range 0-110GHz**
Andreas Tag¹, Jens Leinhos², Gerd Hechtfisher², Martin Leibfritz², Thomas Eibert³
¹FAU Erlangen-Nürnberg, Germany; ²Rohde & Schwarz, Germany; ³Technische Universität München, Germany

EuMC/EuMIC01 : Switch-Mode Power Amplifiers

Chair: Marc van Heijningen, TNO — Co-Chair: Denis Barataud, XLIM






Venue Kiew, Time 08:30 – 10:10, Tuesday 8th October 2013

- 1303  **C** **Concurrent Dual-Band High Efficiency Class-E Power Amplifier**
Fatemeh Norouzian, Peter Gardner, University of Birmingham, UK
- 1307  **C** **Wideband Class-E Power Amplifier Covering the Whole UHF Broadcast Band**
Jiafeng Zhou¹, Kevin Morris¹, Gavin T. Watkins², Keiichi Yamaguchi³
¹University of Bristol, UK; ²Toshiba Research Europe Ltd., UK; ³Toshiba Corporation, Japan
- 1311  **C** **Statistical Harmonic Load Termination Analysis of Switch-Mode Power Amplifiers Employing Bandpass-Pulse-Length Modulation**
Sebastian Krause¹, Stephan Maroldt¹, Christian Zech¹, Rüdiger Quay¹, Matthias A. Hein²
¹Fraunhofer IAF, Germany; ²Technische Universität Ilmenau, Germany
- 1315  **C** **Supply Modulator for Envelope-Tracking Operation of Dual-Mode Handset Power Amplifier**
Joeseung Kim¹, Dongsu Kim¹, Yunsung Cho¹, Daehyun Kang², Byungjoon Park¹, Kyunghoon Moon¹, Bumman Kim¹
¹POSTECH, Korea; ²Broadcom Corporation, USA
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EuMC/EuMIC02 : RF MEMS Based Components

Chair: Larissa Vietzorreck, TU Munich — Co-Chair: Lluís Pradell, Polytech. University of Catalonia






Venue Riga, Time 08:30 – 10:10, Tuesday 8th October 2013

- 1319  **C** **High Power GaN Monolithically Integrated RF MEMS Switches**
A.M. Mahmoud Mohamed¹, S. Boumaiza¹, Raafat R. Mansour¹, I. Zine-El-Abidine²
¹University of Waterloo, Canada; ²CMC Microsystems, Canada
- 1323  **C** **Characterization of High-Q Laterally Moving RF MEMS Tuneable Capacitor**
U. Shah, J. Oberhammer, KTH, Sweden
- 1327  **C** **High Capacitance Ratio RF MEMS Dielectric-Less Switched Capacitor**
Mansour Fall¹, Siamak Fouladi², Frédéric Domingue¹, Christel Dieppedale³, Bruno Reig³, Raafat R. Mansour²
¹Université du Québec à Trois-Rivières, Canada; ²University of Waterloo, Canada; ³CEA-LETI, France
- 1331  **C** **A Novel Self Collapsed Corrugated MEMS Phase Shifter**
Maher Bakri-Kassem¹, Raafat R. Mansour²
¹American University of Sharjah, UAE; ²University of Waterloo, Canada
- 1335  **C** **Reliability of Nanocrystalline Diamond MEMS Capacitive Switches**
L. Michalas¹, S. Saada², M. Koutsourelis¹, C. Mer², A. Leuliet³, P. Martins³, S. Bansropun³, G. Papaioannou¹, P. Bergonzo², A. Ziaei³
¹University of Athens, Greece; ²CEA-LIST, France; ³Thales Research and Technology, France

EuMC/EuMIC03 : Ferroelectric Materials and Modeling

Chair: Francisco Medina, University of Seville — Co-Chair: Rolf Jakoby, TU Darmstadt

Venue Istanbul, Time 08:30 – 10:10, Tuesday 8th October 2013

- 1339  **C** **Tunable FBARs Based on Sol-Gel Grown PMN-PT Films**
A. Vorobiev¹, Spartak Gevorgian¹, M. Spreitzer², A. Veber², D. Suvorov²
¹Chalmers University of Technology, Sweden; ²Jožef Stefan Institute, Slovenia
- 1343  **C** **Loss Balance in Tunable Ferroelectric FBARs**
Spartak Gevorgian, A. Vorobiev, Chalmers University of Technology, Sweden
- 1347  **C** **Lateral Mode Intrinsically Switchable Barium Titanate Film Bulk Acoustic Wave Resonators**
Victor Lee¹, Seyit Ahmet Sis¹, Seungku Lee¹, Amir Mortazawi¹, Xinen Zhu²
¹University of Michigan, USA; ²Shanghai Jiao Tong University, China
- 1351  **C** **Thick-Film Barium-Strontium-Titanate Varactors for RF Power Transistors**
Alex Wiens¹, Olof Bengtsson², Holger Maune¹, Mohsen Sazegar¹, Wolfgang Heinrich², Rolf Jakoby¹
¹Technische Universität Darmstadt, Germany; ²FBH, Germany
- 1355  **C** **A Simple Nonlinear mBVD Model Parameter Extraction Method for Intrinsically Switchable Ferroelectric FBARs**
Seungku Lee, Victor Lee, Seyit Ahmet Sis, Amir Mortazawi, University of Michigan, USA
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EuMC/EuMIC04 : Nonlinear Device Characterisation

Chair: Dominique Schreurs, KU Leuven — Co-Chair: Johannes Benedikt, Cardiff University






Venue Copenhagen, Time 08:30 – 10:10, Tuesday 8th October 2013

- 1359  **C** **Benefits and Validation of 4-Dummies De-Embedding Method for Characterization of SiGe HBT in G-Band**
Marina Deng¹, Sylvie Lepilliet¹, François Danneville¹, Gilles Dambrine¹, Daniel Gloria², Nicolas Derrier², Pascal Chevalier²
¹IEMN, France; ²STMicroelectronics, France
- 1363  **C** **On High Resolution, Pulse-Profiled mm-Wave Intermodulation Measurements**
J. Martens, Anritsu Company, USA
- 1367  **C** **Low Cost AM/AM and AM/PM Characterization Setup Based on Scalar Measurements**
Riccardo Danieli, Luca Piazzon, R. Giofrè, Paolo Colantonio, Franco Giannini, Università di Roma "Tor Vergata", Italy
- 1371  **C** **94-GHz Load Pull Measurements of SiGe HBT by Extracting Output Power Density in W-Band**
Issam Hasnaoui¹, Elodie Canderle¹, Pascal Chevalier², Daniel Gloria², Christophe Gaquiere¹
¹IEMN, France; ²STMicroelectronics, France
- 1375  **C** **Nonlinear Charge Trapping Effects on Pulsed I/V Characteristics of GaN FETs**
Alberto Santarelli¹, Rafael Cignani¹, Gian Piero Gibiino¹, Daniel Niessen¹, Pier Andrea Traverso¹, Corrado Florian¹, Claudio Lanzieri², Antonio Nanni², Dominique Schreurs³, Fabio Filicori¹
¹Università di Bologna, Italy; ²Selex ES, Italy; ³Katholieke Universiteit Leuven, Belgium

EuMC/EuMIC05 : Innovative Design Approaches for GaN Power Amplifiers

Chair: Ernesto Limiti, University of Rome — Co-Chair: Renato Negra, RWTH





Venue Kiew, Time 13:50 - 15:30, Tuesday 8th October 2013

- 1379  **C** **L-Band AlGaN/GaN Power Amplifier with Protection Against Load Mismatch**
M. van Heijningen¹, G. van der Bent¹, Eric H. van der Houwen¹, A. Chowdhary², F.E. van Vliet¹
¹TNO, The Netherlands; ²ESA, The Netherlands
- 1383  **C** **A 65-100GHz Impedance Transforming Hybrid Coupler for a V-/W-Band AlGaN/GaN MMIC**
P. Pahl¹, S. Diebold¹, D. Schwantuschke², Sandrine Wagner², R. Lozar², Rüdiger Quay², Ingmar Kallfass³, Thomas Zwick¹
¹KIT, Germany; ²Fraunhofer IAF, Germany; ³Universität Stuttgart, Germany
- 1387  **C** **Load-Modulated GaN Power Amplifier Implementing Tunable Thick Film BST Components**
Mhd. Tareq Arnous¹, Alex Wiens², Sebastian Preis¹, Holger Maune², Khaled Bathich¹, M. Nikfalazar², Rolf Jakoby², Georg Boeck¹
¹Technische Universität Berlin, Germany; ²Technische Universität Darmstadt, Germany
- 1391  **C** **Class-BJ Power Amplifier Modes: The IMD Behavior of Reactive Terminations**
Vincenzo Carrubba, Stephan Maroldt, Rüdiger Quay, Oliver Ambacher, Fraunhofer IAF, Germany
- 1395  **C** **Wideband High Efficiency High Power GaN Amplifiers Using MIC and Quasi-MMIC Technologies**
C. Berrached¹, D. Bouw¹, M. Camiade¹, Denis Barataud²
¹United Monolithic Semiconductors, France; ²XLIM, France

EuMC/EuMIC06 : III-V Transceiver Circuits

Chair: Ingmar Kallfass, University of Stuttgart — Co-Chair: Rüdiger Quay, Fraunhofer IAF















Venue Riga, Time 13:50 - 15:30, Tuesday 8th October 2013











- 1399  **C** **QFN-Packaged Highly-Linear Cascode GaN LNA MMIC from 0.5 to 3GHz**
Stephan Maroldt¹, Beatriz Aja², Friedbert van Raay¹, Sebastian Krause¹, Peter Brückner¹, Rüdiger Quay¹
¹Fraunhofer IAF, Germany; ²Universidad de Cantabria, Spain
- 1403  **C** **A 0-Level Packaged RF-MEMS Switched Wideband GaAs LNA MMIC**
A. Gustafsson¹, C. Samuelsson², R. Malmqvist¹, S. Seok³, M. Fryziel³, N. Rolland³, B. Grandchamp⁴, Tauno Vähä-Heikkilä⁵, R. Baggen⁶
¹FOI, Sweden; ²SAAB Aerosystems, Sweden; ³IEMN, France; ⁴OMMIC, France; ⁵VTT Technical Research Centre of Finland, Finland; ⁶IMST GmbH, Germany
- 1407  **C** **A Compact 94GHz FMCW Radar MMIC Based on 100nm InGaAs mHEMT Technology with Integrated Transmission Signal Conditioning**
Christian Zech, Axel Hülsmann, Rainer Weber, A. Tessmann, Sandrine Wagner, Michael Schlechtweg, Arnulf Leuther, Oliver Ambacher, Fraunhofer IAF, Germany
- 1411  **C** **A 240GHz Quadrature Receiver and Transmitter for Data Transmission up to 40Gbit/s**
D. Lopez-Diaz¹, A. Tessmann¹, Arnulf Leuther¹, Sandrine Wagner¹, Michael Schlechtweg¹, Oliver Ambacher¹, F. Kurz², S. Koenig³, J. Antes³, F. Boes³, R. Henneberger⁴, Ingmar Kallfass⁵
¹Fraunhofer IAF, Germany; ²Siemens AG, Germany; ³KIT, Germany; ⁴Radiometer Physics GmbH, Germany; ⁵Universität Stuttgart, Germany

EuMIC/EuMC Poster01 : EuMIC/EuMC Poster Session

Chair: Alexander Kölpin, University of Erlangen Nürnberg — Co-Chair: Dietmar Kissinger, University of Erlangen Nürnberg
Venue Exhibition Hall, Time 10:00 - 18:00, Tuesday 8th October 2013

- 1415  **C** **Antenna Design and Characterization for a 61GHz Transceiver in eWLB Package**
M. Pourmousavi¹, M. Wojnowski², Roman Agethen¹, G. Sommer², Robert Weigel¹, A. Hagelauer¹
¹FAU Erlangen-Nürnberg, Germany; ²Infineon Technologies, Germany
- 1419  **C** **Transmission Lines on Flexible Substrates with Minimized Dispersion and Losses**
Heinrich Wolf, Horst Gieser, Linus Maurer, Fraunhofer EMFT, Germany
- 1423  **C** **Liquid Crystal and Infrared Thermography on Coated SAW Devices**
C. Huck¹, H.P. Zidek², Thomas Ebner², Karl C. Wagner², Achim Wixforth¹
¹Universität Augsburg, Germany; ²TDK Corporation, Germany
- 1427  **C** **A Novel Method to Improve the Power Capabilities of Microwave Components**
Rui Wang¹, Yun Li¹, Na Zhang¹, Wanzhao Cui¹, Ye Ming², Yongning He²
¹CAST, China; ²Xi'an Jiaotong University, China
- 1431  **C** **Microwave Characterization of Ferroelectric Thin Films for Novel Compact Tunable BST Filters**
Rosa De Paolis¹, Fabio Coccetti¹, Sandrine Payan², Anthony Rousseau², Mario Maglione², Guillaume Guegan³
¹LAAS, France; ²ICMCB, France; ³STMicroelectronics, France
- 1435  **C** **A New Fail-Safe Switch for Fast Ethernet Networks with a Defined State in Case of DC-Power Loss: Design and Test**
M. Balducci¹, W. Fischer², P. Klose², S. Schneele³, Roberto Sorrentino⁴, Volker Ziegler³
¹Universität Ulm, Germany; ²Airbus Deutschland, Germany; ³EADS Innovation Works, Germany; ⁴Università di Perugia, Italy
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- 1439  **C** **Resonant Substrate-Integrated Near-Field Sensors with Improved Sensitivity**
Nora Haase, Arne F. Jacob, Technische Universität Hamburg-Harburg, Germany
- 1443  **C** **Terahertz Range Diode Based on Electron Field Emission of AlGaN Microcathode**
N.M. Goncharuk, V.V. Malyshko, V.A. Orehovskiy, N.F. Karushkin, RI "Orion", Ukraine
- 1447  **C** **Flexible Polyethylene Terephthalate-Based Inkjet Printed CPW-Fed Monopole Antenna for 60GHz ISM Applications**
K. Hettak¹, Tyler N. Ross², R. James¹, A. Momciu¹, J. Wight²
¹Communications Research Centre Canada, Canada; ²Carleton University, Canada
- 1451  **C** **Pneumatically Switched Microwave and Antenna Structures**
Wayne S.T. Rowe, Xutao Tang, RMIT University, Australia
- 1455  **C** **Towards a Large-Signal Noise Model for GaN HEMT Devices**
Matthias Rudolph¹, Ralf Doerner²
¹Brandenburgische Technische Universität, Germany; ²FBH, Germany
- 1459  **C** **Extension of the Load-Line Theory by Investigating the Impact of the Knee-Voltage on Output-Power and Efficiency**
Pinarello Sandro¹, Jan-Erik Mueller¹, Robert Weigel²
¹Intel Mobile Communications, Germany; ²FAU Erlangen-Nürnberg, Germany
- 1463  **C** **High-Efficiency Power Amplifier MMICs in 100nm GaN Technology at Ka-Band Frequencies**
Jérôme Chéron¹, Michel Campovecchio¹, Raymond Quéré¹, D. Schwantuschke², Rüdiger Quay², Oliver Ambacher²

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- 1467  **C** **A Robust Ku-Band Low Noise Amplifier Using an Industrial 0.25- μ m AlGaIn/GaN on SiC Process**
 Davide Resca¹, Francesco Scappaviva¹, Corrado Florian², Stéphane Rochette³, Jean-Luc Muraro³, Valeria Di Giacomo Brunel⁴, Christophe Chang⁴, Didier Baglieri⁴
¹MEC, Italy; ²Università di Bologna, Italy; ³Thales Alenia Space, France; ⁴United Monolithic Semiconductors, France
- 1471  **C** **Nonlinear Transistor Modeling for Industrial 0.25- μ m AlGaIn-GaN HEMTs**
 Christophe Chang¹, Valeria Di Giacomo Brunel¹, Didier Floriot¹, Jan Grünenpütt², Michael Hosch², Hervé Blanck²
¹United Monolithic Semiconductors, France; ²United Monolithic Semiconductors, Germany
- 1475  **C** **A Novel Topology of Matching Network for Realizing Broadband High Efficiency Continuous Class-F Power Amplifiers**
 Renbin Tong, Songbai He, Bohai Zhang, Zhongpo Jiang, Xianyun Hou, Fei You, UESTC, China
- 1479  **C** **A Simplified Procedure for the Design of Continuous Class-F Power Amplifiers**
 B. Merrick, J. King, T. Brazil, University College Dublin, Ireland
- 1483  **C** **Design Methodology for Distributed Power Amplifier in Software-Defined Radio Applications**
 Diego Palombini, Andrea Bentini, Mirko Palomba, Sergio Dibello, Ernesto Limiti, Università di Roma "Tor Vergata", Italy
- 1487  **C** **Microwave Watt-Level Rectifiers for Power Recycling Applications**
 Junfeng Xu¹, Wei Tai², David S. Ricketts³
¹MIT, USA; ²Carnegie Mellon University, USA; ³North Carolina State University, USA
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- 1491  **C** **Efficiency Enhancement of an Envelope Tracking Power Amplifier Combining Supply Shaping and Dynamic Biasing**
 F.F. Tafuri, D. Sira, O.K. Jensen, T. Larsen, Aalborg University, Denmark
- 1495  **C** **Wideband High Efficiency Multi-Band, Multi-Mode (LTE/WCDMA/GSM) Power Amplifier for Mobile Terminals**
 John C. Clifton¹, Alan Lawrenson¹, Hideshi Motoyama², Kazumasa Kohama²
¹Sony Europe, UK; ²Sony Corporation, Japan
- 1499  **C** **A Low Phase Noise Quadrature Ring Oscillator Using 0.5 μ m GaN-on-Si HEMT**
 Fan-Hsiu Huang, Guan-Ting Lee, Hsien-Chin Chiu, Chang Gung University, Taiwan
- 1503  **C** **Variable Gain Amplifier Architecture with Constant Matching and Insertion Phase**
 Mirko Palomba¹, Andrea Bentini¹, Riccardo Cleriti¹, Ernesto Limiti¹, Mauro Ferrari²
¹Università di Roma "Tor Vergata", Italy; ²Elettronica S.p.A., Italy
- 1507  **C** **A 159–169GHz Frequency Source with 1.26mW Peak Output Power in 65nm CMOS**
 Bassam Khamaisi, Eran Socher, Tel Aviv University, Israel
- 1511  **C** **A Monolithic DC-70-GHz Broadband Distributed Amplifier Using 90-nm CMOS Process**
 Si-Hua Chen¹, Shou-Hsien Weng¹, Yu-Cheng Liu¹, Hong-Yeh Chang¹, Jeng-Han Tsai², Meng-Han Li¹, Shu-Yan Huang¹
¹National Central University, Taiwan; ²National Taiwan Normal University, Taiwan
- 1515  **C** **Criteria for Maximum Spurious Free Dynamic Range of a Receiver System**
 Justin R. Magers, National Instruments, USA
- 1519  **C** **Integrated RF Tunable Filter Based on Recursive Architecture and its Application**
 Tatsuya Omori¹, Shinichiro Nishiuma¹, Ken Seo¹, Chang-Jun Ahn¹, Ken-ya Hashimoto¹, Mikio Kamada²

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- 1523  **© Concurrent Dual-Band 1-Bit Digital Transmitter Using Band-Pass Delta-Sigma Modulator**
Takashi Maehata¹, Kazuyuki Totani¹, Suguru Kameda², Noriharu Suematsu²
¹Sumitomo Electric Industries Ltd., Japan; ²Tohoku University, Japan
- 1527  **© Blind Nonlinear Compensation Technique for RF Receiver Front-End**
Yuelin Ma, Yasushi Yamao, University of Electro-Communications, Japan
- 1531  **© Design of a 24GHz Analog Frontend for an Optically Powered RFID Transponder for the Integration into Metallic Components**
Johannes Meyer, Quang Huy Dao, Bernd Geck, Leibniz Universität Hannover, Germany
- 1535  **© Frequency Enhancement of a 40-nm CMOS Static Frequency Divider by Negative Capacitance**
V. Issakov¹, G. Mangraviti¹, V. Szortyka¹, V. Vidojkovic¹, G. Vandersteen², P. Wambacq¹
¹IMEC, Belgium; ²Vrije Universiteit Brussel, Belgium
- 1539  **© InP DHBT TIA-DMUX Integrated Circuit for 100-Gb/s Optical Communication Systems**
J.-Y. Dupuy¹, A. Konczykowska¹, F. Jorge¹, M. Riet¹, P. Berdaguer¹, V. Nodjiadjim¹, J. Godin¹, A. Ouslimani²
¹III-V Lab, France; ²ECS-Lab (EA 3649), France
- 1543  **© Design and Breakdown Behavior of 77GHz Variable Gain Power Amplifiers in SiGe-Technology**
K. Borutta¹, B. Laemmle¹, Christoph Wagner², Linus Maurer², Robert Weigel¹, Dietmar Kissinger¹
¹FAU Erlangen-Nürnberg, Germany; ²DICE, Austria
- 1547  **© 180GHz Frequency Doubler in Transferred-Substrate InP HBT Technology with 4dBm Output Power**
T. Jensen, Tomas Kraemer, Viktor Krozer, Wolfgang Heinrich, FBH, Germany
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- 1551  **© An Efficient SiGe Double-Balanced Mixer with a Differential Rat-Race Coupler**
Herman Jalli Ng¹, Martin Jahn¹, Reinhard Feger¹, Christoph Wagner², Andreas Stelzer¹
¹Johannes Kepler Universität Linz, Austria; ²DICE, Austria
- 1555  **© A 60-GHz High-Gain, Low-Power, 3.7-dB Noise-Figure Low-Noise Amplifier in 90-nm CMOS**
Hsin-Chih Kuo, Huey-Ru Chuang, National Cheng Kung University, Taiwan
- 1559  **© E-Band Receiver and Transmitter Modules with Simply Reflow-Soldered 3-D WLCSP MMIC's**
K. Tsukashima¹, M. Kubota¹, O. Baba¹, T. Kawasaki¹, A. Yonamine¹, T. Tokumitsu¹, Y. Hasegawa²
¹Sumitomo Electric Industries Ltd., Japan; ²Sumitomo Electric Device Innovations Inc., Japan
- 1563  **© An Improved Switched Injection-Locked Oscillator for Ranging and Communication Systems**
Alexander Esswein, Robert Weigel, Thomas Ussmüller, Christian Carlowitz, Martin Vossiek, FAU Erlangen-Nürnberg, Germany
- 1567  **© Next-Generation CMOS-on-Insulator Multi-Element Network for Broadband Antenna Tuning**
Tero Ranta, Richard Whatley, Chih-Chieh Cheng, Marc Facchini, Peregrine Semiconductor Corporation, USA

EuMC/EuRAD01 : RF Engineering and Education

Chair: Dietmar Kissinger, University of Erlangen Nürnberg — Co-Chair: Bianca Will, Ruhr-University Bochum

Venue Oslo, Time 16:00 - 17:40, Wednesday 9th October 2013






- 1571  **C** **Active Learning, Hardware Projects and Reverse Instruction in Microwave/RF Education**
Branimir Pejcinovic, Richard L. Campbell, Portland State University, USA
- 1575  **C** **Activating Teaching for Quality Learning**
Vitaliy Zhurbenko, Technical University of Denmark, Denmark
- 1579  **C** **Using UltraWideband to Teach Electromagnetics**
Alan Petroff, Time Domain, USA
- 1583  **C** **Photonic Crystal Waveguide Design: A Didactic Microwave Approach**
*T.P. Pasetto¹, A.S.B. Sombra², V.F. Rodríguez-Esquerre³, S.E. Barbin⁴,
H.E. Hernández-Figueroa¹*
¹UNICAMP, Brazil; ²UFC, Brazil; ³UFBA, Brazil; ⁴USP, Brazil
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EuMC/EuRAD02 : Advances in Six-Port Technology

Chair: Alexander Kölpin, University of Erlangen-Nürnberg

Co-Chair: Serioja Tatu, Institut national de la recherche scientifique






Venue St. Petersburg, Time 08:30 - 10:10, Thursday 10th October 2013

- 1587  **C** **Six-Port Technology for Precise Geometrical Measurement Applications — A Overview**
*Alexander Koelpin, G. Vinci, S. Lindner, S. Mann, Francesco Barbon, Sarah Linz,
Florian Oesterle, Robert Weigel, FAU Erlangen-Nürnberg, Germany*
- 1591  **C** **Six-Port Technology for Millimeter Wave MIMO Systems**
T. Jiang¹, D. Hammou², C. Hannachi², M. Nedil², J.-F. Frigon¹, Ke Wu¹, S.O. Tatu
¹École Polytechnique de Montréal, Canada; ²INRS-EMT, Canada
- 1595  **C** **Six-Port and Five-Port Receivers for UWB and Optical Communications**
*I. Molina-Fernández, A. Moscoso-Mártir, J.M. Avila-Ruiz, R. Halir, P. Reyes-Iglesias
L. Moreno-Pozas, J. de-Oliva-Rubio, A. Ortega-Moñux, Universidad de Málaga, Spain*
- 1599  **C** **Six-Port Microwave Interferometer Radar for Mechanical Vibration Analysis**
*G. Vinci¹, S. Lindner², S. Mann², Francesco Barbon², Sarah Linz², Robert Weigel
Alexander Koelpin²*
¹InnoSenT GmbH, Germany; ²FAU Erlangen-Nürnberg, Germany
- 1603  **C** **Three-Paths Microwave Interferometric System Based on a Six-Port Technique**
Kamel Haddadi, Tuami Lasri, IEMN, France

EuMC/EuRAD03 : Millimeter-Wave Phased Arrays for Communications and Radar

Chair: Philippe Eudeline, Thales Air Systems — Co-Chair: Wolfgang Menzel, University of Ulm






Venue Copenhagen, Time 08:30 – 10:10, Thursday 10th October 2013

- 1607  **C** **Full-Space Scanning Phased Array System for Future Integrated High Data Rate Communication over E-Band and Beyond**
Ajay Babu Guntupalli, Ke Wu, École Polytechnique de Montréal, Canada
- 1611  **C** **A SiGe-Based 16-Channel Phased Array Radar System at W-Band for Automotive Applications**
Paul Schmalenberg, Jae Seung Lee, Koji Shiozaki, TEMA, USA
- 1615  **C** **79GHz CMOS Circuits for Phase/Amplitude Calibration in High-Resolution Beamforming Radar Systems**
Masaki Kanemaru¹, Junji Sato¹, Kenji Takahashi², Toshiakira Ando¹, Hiroshi Komori¹, Michiaki Matsuo¹
¹Panasonic Corporation, Japan; ²Panasonic System Networks Co. Ltd., Japan
- 1619  **C** **A 60GHz Band 2×4 Planar Dipole Phased Array Antenna Using Flip Chip Mounted MMIC Mixers**
Yuya Suzuki, Satoshi Yoshida, Tuan Thanh Ta, Shoichi Tanifuji, Suguru Kameda, Noriharu Suematsu, Tadashi Takagi, Kazuo Tsubouchi, Tohoku University, Japan
- 1623  **C** **A Prototype of 60GHz Multiple-Beam Phased Array for Limited Scan**
Qinghua Lai, Pei Li, Mouping Jin, Chu Gao, Tongli Yuan, ECRIFE, China
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EuMC/EuRAD04 : Microwave Imaging Principles and Systems

Chair: Alexander Yarovoy, Delft University of Technology — Co-Chair: Volker Ziegler, EADS Innovation Works






Venue Helsinki, Time 08:30 – 10:10, Thursday 10th October 2013

- 1627  **C** **Increasing Measurement Speed in mm-Wave Imaging Systems by Means of Frequency Multiplexing**
Tobias Koepfel¹, Sebastian Methfessel¹, Andreas Schiessl², Lorenz-Peter Schmidt¹
¹FAU Erlangen-Nürnberg, Germany; ²Rohde & Schwarz, Germany
- 1631  **C** **Phase Error Sensitivity in Multistatic Microwave Imaging Systems**
Andreas Schiessl¹, Andreas Genghammer¹, Sherif Sayed Ahmed¹, Lorenz-Peter Schmidt²
¹Rohde & Schwarz, Germany; ²FAU Erlangen-Nürnberg, Germany
- 1635  **C** **SUMIRAD — A Fast Imaging MMW Radiometer for Security and Safety Applications**
Stephan Dill, Markus Peichl, Daniel Rudolf, DLR, Germany
- 1639  **C** **79GHz-Band Coded Pulse Compression Radar System Performance in Outdoor for Pedestrian Detection**
Kiyotaka Kobayashi, Tadashi Morita, Hirohito Mukai, Takaaki Kishigami, Yoichi Nakagawa, Panasonic Corporation, Japan
- 1643  **C** **Environmental Imaging with a Mobile UWB Security Robot for Indoor Localisation and Positioning Applications**
Rahmi Salman¹, Ingolf Willms¹, Takuya Sakamoto², Toru Sato², Alexander G. Yarovoy³
¹Universität Duisburg-Essen, Germany; ²Kyoto University, Japan; ³Technische Universiteit Delft, The Netherlands

EuMC/EuRAD05 : Beam Forming Techniques for Phased Array Antennas

Chair: Jean-Yves Dauvignac, University of Nice-Sophia Antipolis — Co-Chair: Heinz-Peter Feldle, Cassidian






Venue Hongkong, Time 10:40 - 12:20, Thursday 10th October 2013

- 1647  **C** **Horn Antenna Array for Imaging Reflector Antenna Engineering Model in 21-GHz Band**
Masafumi Nagasaka, Susumu Nakazawa, Masashi Kamei, Shoji Tanaka, Yasuhiro Ito, NHK, Japan
- 1651  **C** **A Multiport Approach to Modelling of Phased Antenna Array for Radio Astronomy**
Peter L. Tokarsky, Serge N. Yerin, National Academy of Sciences of Ukraine, Ukraine
- 1655  **C** **Synthesis of Radiation Pattern Including Error Effect of Current Excitation with Jamming Suppression Ability for Application in Radar Systems**
O. Vendik, D. Kozlov, S. Kalinin, St. Petersburg Electrotechnical University, Russia
- 1659  **C** **Design Methodology for Phased Subarray Antennas with Optimized Element Phase Control**
Won-Seok Lee, Seung-Tae Khang, Kyoung-Sub Oh, Jong-Won Yu, KAIST, Korea
- 1663  **C** **Group Delay Dispersion Engineered Antenna Array**
Chung-Tse Michael Wu, Sam Gharavi, Babak Daneshrad, Tatsuo Itoh, University of California at Los Angeles, USA
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EuMC/EuRAD06 : Dielectric and Lens Antennas

Chair: Arne Jacob, TU Hamburg-Harburg — Co-Chair: Yoke Leen Sit, Karlsruhe Institute of Technology





Venue Copenhagen, Time 10:40 - 12:20, Thursday 10th October 2013

- 1667  **C** **Static and Electronic Shaping of the Radiated Electromagnetic Fields in Radial Arrays of Substrate Integrated Leaky-Wave Antennas**
Alejandro Javier Martinez-Ros, Raúl Guzmán-Quirós, José Luis Gómez-Tornero, Universidad Politécnica de Cartagena, Spain
- 1671  **C** **High Performance 60-GHz Dielectric Rod Antenna with Dual Circular Polarization**
M.W. Rousstia, M.H.A.J. Herben, Technische Universiteit Eindhoven, The Netherlands
- 1675  **C** **Broadband Metal-Plate Lens with Short Focal Length**
H. Onoue, N. Kamiya, R. Suga, O. Hashimoto, Aoyama Gakuin University, Japan
- 1679  **C** **Electromagnetic Characterization of Supershaped Lens Antennas for High-Frequency Applications**
P. Bia¹, Diego Caratelli², Luciano Mescia¹, J. Gielis³
¹Politecnico di Bari, Italy; ²Technische Universiteit Delft, The Netherlands; ³Universiteit Antwerpen, Belgium
- 1683  **C** **A Feeding Concept of a Dielectric Hemispherical Lens Antenna for Polarimetric Radar Applications**
C. Dahl, Christian Schulz, Bianca Will, Ilona Rolfes, Christoph Baer, Thomas Musch, Ruhr-Universität Bochum, Germany

EuMC/EuRAD07: Antenna Arrays for Radar and Radiometry

Chair: Peter Knott, Fraunhofer FHR — Co-Chair: Bianca Will, Ruhr-Universität Bochum








Venue Copenhagen, Time 13:50 - 15:30, Thursday 10th October 2013

- 1687  **C** **Submillimeter Wave 8×1 Antenna Array with Dielectric Rods to Improve the Radiation Pattern**
R. Camblor, S. Ver Hoeye, C. Vázquez, G. Hotopan, M. Fernández, A. Hadarig, F. Las-Heras, Universidad de Oviedo, Spain
- 1691  **C** **The Design of a Broadband Slotted Waveguide Antenna for Electronical Beam Steering Applications in MW Radiometry**
Eric Schreiber, Matthias Jirousek, Markus Peichl, Helmut Süß, DLR, Germany
- 1695  **C** **2-D Antenna Array Geometries for MIMO Radar Imaging by Digital Beamforming**
Marlene Harter¹, Tobias Mahler¹, Tom Schipper¹, Andreas Zirotz², Thomas Zwick¹
¹KIT, Germany; ²Siemens AG, Germany
- 1699  **C** **Design of a Cosecant Square-Shaped Beam Pattern SAR Antenna Array Fed with Square Coaxial Feeder Network**
Anil Kumar Pandey, Agilent Technologies, India
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EuRAD/EuMC Poster01: EuRAD/EuMC Poster Session



Chair: Christian Friesicke, TU Hamburg-Harburg — Co-Chair: Arne Jacob, TU Hamburg-Harburg

Venue Exhibition Hall, Time 10:00 - 18:00, Thursday 10th October 2013

- 1703  **C** **Advanced Polarization Estimation Method Using Spatial Polarization Characteristic of Antenna**
Yuliang Chang, Longfei Shi, Jian Dong, Xuesong Wang, Shunping Xiao, NUDT, China
- 1707  **C** **The Measurement Method of Polarization Characteristics of Practical Radar Antenna**
Huanyao Dai, Xujian Shen, Jinliang Li, Liandong Wang, State Key Laboratory of Complex Electromagnetic Environmental Effects on Electronics & Information System, China
- 1711  **C** **A Novel Cheeseholes Type Hemispherical Dielectric Resonator Antenna for Wireless Applications**
Biswajeet Mukherjee, Pragati Patel, Jayanta Mukherjee, IIT Bombay, India
- 1715  **C** **Four-Arm 2nd-Mode Conical Spiral Antenna Feeding with Split Tapered Coax Balun**
Xu Zhao, Ming Li, Ning Chen, Qingyu Hou, Nanjing Electronic Equipment Institute, China
- 1719  **C** **Spiral Antenna with Parasitic Radiating Elements**
V. Callec¹, E. Fourn¹, R. Gillard¹, H. Diez²
¹IETR, France; ²CNES, France
- 1723  **C** **Parametric and Dispersion Analysis of a Dual-Pol Cavity-Backed Slot-Fed UWB Patch Antenna**
Philipp Franz Freidl¹, Ivan Russo¹, Erich Leitgeb¹, Wolfgang Bösch¹, Thomas Gigl², Gerhard Schultes²
¹Technische Universität Graz, Austria; ²Maxim Integrated GmbH, Austria
- 1727  **C** **Ultra-Wideband Signals Radiation by Linear Arrays of Aperture Stacked Patch Antennas**
Artem Vilenskiy, Andrey Kletsov, Samsung R&D Institute Russia, Russia

- 1731  **C** **Circularly Polarized Dipole-Loop Antenna**
Hsuan-Lin Chang, Yachi Shen, Wanchu Hong, Min-Hua Ho, National Changhua University of Education, Taiwan
- 1735  **C** **Ultra Wide Band Low-Power Amplifier Integrated on Miniaturized Antenna for Biomedical Applications**
Mohamed Hamouda¹, Francesco Scotto di Clemente², Matthias A. Hein², Georg Fischer¹, Robert Weigel¹, Thomas Ussmüller¹
¹FAU Erlangen-Nürnberg, Germany; ²Technische Universität Ilmenau, Germany
- 1739  **C** **Size-Reduction and Suppression of Cavity-Resonances in Hybrid mm-Wave Antennas for Polarimetric Measurements**
Sebastian Methfessel, Lorenz-Peter Schmidt, FAU Erlangen-Nürnberg, Germany
- 1743  **C** **Analysis and Optimization of a Focusing Metal-Dielectric Probe for Near-Field Terahertz Imaging**
B. Zhu¹, J. Stiens¹, R. Vounckx¹, G. He²
¹Vrije Universiteit Brussel, Belgium; ²UESTC, China
- 1747  **C** **Fabrication Techniques for Wearable Antennas**
Giuseppina Monti, Laura Corchia, Luciano Tarricone, Università del Salento, Italy
- 1751  **C** **Slot Dual Dipole Antenna with Miniature Elliptical Substrate Lenses for Millimeter-Wave Imaging**
Jiali Lai, Calvin Domier, Neville C. Luhmann Jr., University of California at Davis, USA
- 1755  **C** **Phase-Only Pattern Synthesis Using a Modified Least Squares Method for Phased Arrays**
Bruno Pompeo¹, Leandro Pralon¹, Mariana Pralon¹, Rafael Mendes²
¹Brazilian Army Technological Center, Brazil; ²UNICAMP, Brazil
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- 1759  **C** **A Novel Detection Algorithm of LFM Signal Based on Cubic Phase Function**
Qingyu Hou, Ming Li, Xu Zhao, Ning Chen, Nanjing Electronic Equipment Institute, China
- 1763  **C** **Long-Time Integration by Short-Time Cross-Correlation and Two-Step Doppler Processing for Passive Bistatic Radar**
Takehiro Hoshino, Kei Suwa, Shohei Nakamura, Ryuhei Takahashi, Shinichi Morita, Kazuhiko Yamamoto, Toshio Wakayama, Mitsubishi Electric Corporation, Japan
- 1767  **C** **Experimental Result of Passive Bistatic Radar with Unknown Transmitting Radar Pulse**
Toshihiro Ito, Ryuhei Takahashi, Shinichi Morita, Kazufumi Hirata, Mitsubishi Electric Corporation, Japan
- 1771  **C** **Performance Analysis of Multisite Radar Systems**
I. Ivashko, Oleg A. Krasnov, Alexander G. Yarovoy, Technische Universiteit Delft, The Netherlands
- 1775  **C** **Mission-Driven System Design During Runtime for Reconfigurable Radars and Antennas**
T.H. de Groot, Oleg A. Krasnov, Alexander G. Yarovoy, Technische Universiteit Delft, The Netherlands
- 1779  **C** **LFMCW Based MIMO Imaging Processing with Keystone Transform**
Philip van Dorp, TNO, The Netherlands
- 1783  **C** **Indoor Radar SLAM: A Radar Application for Vision and GPS Denied Environments**
Jan Willem Marck, Ali Mohamoud, Eric H. van der Houwen, Rob van Heijster, TNO, The Netherlands
- 1787  **C** **Through-the-Wall Moving Target Surveillance Using GPR**
V.E. Ivashchuk¹, V.P. Prokhorenko¹, A.A. Pitertsev², F.J. Yanovsky²
¹Transient Technologies LLC, Ukraine; ²National Aviation University, Ukraine

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- 1791  **C** **Unified Radar-Communication (RadCom) Multi-Port Interferometer Transceiver**
Jaber Moghaddasi, Ke Wu, École Polytechnique de Montréal, Canada
- 1795  **C** **Joint Polarization for Micro-Doppler Signature Enhancement**
Xu Cheng, Yuliang Chang, Bin Rao, Jin Liu, Yongzhen Li, NUDT, China
-  **C** **A Robust Phase Unwrapping Method for 3D Borehole Radar Interferometric imaging**
Qiang Hou, He Ping Pan, China University of Geosciences, China
- 1803  **C** **Almost Perfect Auto-Correlation Sequences for Binary Phase-Modulated Continuous Wave Radar**
W. Van Thillo, P. Gioffré, V. Giannini, D. Guermendi, S. Brebels, A. Bourdoux, Imec, Belgium
- 1807  **C** **Optimal Peak Sidelobe Level Sequences up to Length 74**
Anatolii N. Leukhin, Egor N. Potekhin, Volga State University of Technology, Russia
- 1811  **C** **Sensor Selection Algorithm for Optimal Management of the Tracking Capability in Multisensor Radar System**
Alexey S. Narykov, Alexander G. Yarovoy, Technische Universiteit Delft, The Netherlands
- 1815  **C** **Enhancement of Stepped-Frequency SAR Imaging Based on Compressive Sensing**
Bo Pang, DaHai Dai, ShiQi Xing, Yongzhen Li, Xuesong Wang, Jian Dong, NUDT, China
- 1819  **C** **Estimation of Trihedral Pose Angle from Virtual Aperture Radar Image**
Bo Chen, Tian Jin, Zhimin Zhou, Biying Lu, NUDT, China
- 1823  **C** **SINR Rank Ordering Metric for Signal Dependent Sub-Optimum STAP**
Nicola Battisti, Rainer Maria Rossi, MBDA Missile Systems, Italy
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- 1827  **C** **Support Vector Machine Based Micro-Doppler Signature Classification of Ground Targets**
Aamir Javed, Sidrah Liaqat, Mojeeb Bin Ihsan, NUST, Pakistan
- 1831  **C** **Radar Cross-Section Model of the Sea in the Centimeter and Millimeter Waves at Small Grazing Angles**
V.I. Lutsenko¹, D.O. Popov¹, I.V. Lutsenko¹, Cong Liu²
¹National Academy of Sciences of Ukraine, Ukraine; ²National Aerospace University "KhAI", Ukraine
- 1835  **C** **Multi-Sensor Surveillance Radar Based on MISO Sensors and Kalman Filtration**
Vojtech Jenik, Filip Kozak, Premysl Hudec, Czech Technical University in Prague, Czech Republic
- 1839  **C** **A Comparison of Beamforming Methods for Microwave Breast Cancer Detection in Homogeneous and Heterogeneous Tissue**
Jochen Moll, Christian Kexel, Viktor Krozer, Goethe-Universität Frankfurt, Germany
- 1843  **C** **Radar Subsurface Imaging by Phase Shift Migration Algorithm**
Hui Zhang¹, Wolf-Stefan Benedix¹, Dirk Plettemeier¹, Valérie Ciarletti²
¹Technische Universität Dresden, Germany; ²LATMOS, France
- 1847  **C** **Advanced Ground Penetrating Radar: Open Issues and New Research Opportunities in Europe**
Lara Pajewski, Andrea Benedetto, Università di Roma Tre, Italy
- 1851  **C** **A Synthetic Aperture Interferometric Radiometer Test at X-Band for Potential Improvements at W-Band**
Yassine Aouial, Stéphane Méric, Olivier Lafond, Mohamed Himdi, IETR, France

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- 1855  **© Investigation of MW Imaging Capabilities for the Estimation of Truckload**
Markus Peichl, Stephan Dill, Timo Kempf, DLR, Germany
- 1859  **© Measurement of Rain Parameters by Active-Passive Remote Sensing**
A. Linkova, G. Khlopov, National Academy of Sciences of Ukraine, Ukraine
- 1863  **© Automatic Radar Horizontal Alignment Scheme Using Stationary Target on Public Road**
Kwang-rok Choi, Gi-hyun Seo, Jae-eun Lee, Seong-hee Jeong, Joon-nam Oh, Mando, Korea
- 1867  **© Scattering Characteristics of Atmospheric Pressure Dielectric Barrier Discharge Plasma**
Soo-Min Lee¹, Il-Young Oh¹, Jong-Gwan Yook¹, Yongjun Hong²
¹Yonsei University, Korea; ²Agency for Defense and Development, Korea