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**EuMIC09**  
**Thermal and Microwave Characterisation of GaN and InP Devices**

Chair: Ali Rezazadeh, University of Manchester  
Co-Chair: Didier Floriot, UMS

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**EuMIC10**  
**Broadband Components in III-V Technologies**

Chair: Frank van Vliet, TNO  
Co-Chair: Alaa Abunjaileh, Airbus DS

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**EuMC/EuMIC05**  
**Power Device Advanced Performance Assessment**

Chair: Eric Bergeault, Telecom-Paristech  
Co-Chair: Rocco Giofrè, Univ. Roma Tor Vergata

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**EuMC/EuMIC06**  
**Tunable and Reconfigurable Filters and Impedance Matching Techniques**

Chair: Pierre Blondy, XLIM University of Limoges  
Co-Chair: Jorge Perez Martinez, Polytechnic University of Valencia

08:30h - 08:50h

**EuMIC09-01**  
**Trap Investigation under Class AB Operation in AlGaIn/GaN HEMTs Based on Output-Admittance Frequency Dispersion, Pulsed and Transient Measurements**

A. Benvegna<sup>1,2</sup>, D. Bis<sup>2</sup>, S. Laurent<sup>1</sup>, M. Meneghini<sup>2</sup>, G. Meneghesso<sup>2</sup>, D. Barataud<sup>1</sup>, E. Zanoni<sup>2</sup>, R. Quere<sup>1</sup>, <sup>1</sup>Xlim Laboratory, Limoges, France, <sup>2</sup>University of Padova, Padua, Italy

**EuMIC10-01**  
**Broadband Low-Noise GaN HEMT TWAs Using an Active Distributed Drain Bias Circuit**

F. van Raay, R. Quay, Fraunhofer Institute of Applied Solid-State Physics, Freiburg, Germany

**EuMC/EuMIC05-01**  
**RF PA Modeling With One Chirp Measurement**

F. M. Barradas, P. M. Lavrador, T. R. Cunha, J. C. Pedro, Universidade de Aveiro, Aveiro, Portugal

**EuMC/EuMIC06-01**  
**Center Frequency and Bandwidth Tunable Waveguide Bandpass Filter with Transmission Zeros**

C. Arnold<sup>1</sup>, J. Parlebas<sup>1</sup>, T. Zwick<sup>2</sup>, <sup>1</sup>Tesat Spacecom, Backnang, Germany, <sup>2</sup>Karlsruhe Institute of Technology, Karlsruhe, Germany

08:50h - 09:10h

**EuMIC09-02**  
**0.25 μm AlGaIn/GaN HEMT Nonlinearity Modelling and Characterization Over a Wide Temperature Range**

M. A. Alim<sup>1</sup>, A. A. Rezazadeh<sup>1</sup>, M. M. Ali<sup>1</sup>, P. B. Kyabaggu<sup>1</sup>, N. Haris<sup>1</sup>, C. Gaquiere<sup>2</sup>, <sup>1</sup>The University of Manchester, Manchester, United Kingdom, <sup>2</sup>The University of Lille, Lille, France

**EuMIC10-02**  
**An Ultra Wideband LNA Module for Space Applications**

L. Pantoli<sup>1</sup>, G. Leuzzi<sup>1</sup>, A. Barigelli<sup>2</sup>, F. Vitulli<sup>2</sup>, A. Suriani<sup>2</sup>, <sup>1</sup>University of L'Aquila, L'Aquila, Italy, <sup>2</sup>Thales Alenia Space – Italia S.p.a., Rome, Italy

**EuMC/EuMIC05-02**  
**Active Baseband Drain-Supply Terminal Load-Pull of an X-band GaN MMIC PA**

G. Gibiino<sup>1,2</sup>, G. Avolio<sup>2</sup>, S. Schafer<sup>3</sup>, D. Schreurs<sup>2</sup>, Z. Popovic<sup>3</sup>, A. Santarelli<sup>1</sup>, F. Filicori<sup>1</sup>, <sup>1</sup>University of Bologna, Bologna, Italy, <sup>2</sup>KU Leuven, Leuven, Belgium, <sup>3</sup>University of Colorado, Boulder, United States

**EuMC/EuMIC06-02**  
**A Tunable Filter Based on Miniature SIR Coaxial Resonators**

H. Aouidad<sup>2,1</sup>, J. Favennec<sup>1</sup>, E. Rius<sup>1</sup>, A. Manchet<sup>2</sup>, Y. Clavet<sup>2</sup>, <sup>1</sup>Lab-STICC UMR CNRS 6285, Brest, France, <sup>2</sup>Elliptika, Gouesnou, France

09:10h - 09:30h

**EuMIC09-03**  
**Effect of Heterostructure Parameters and Fabrication Technology on the Noise Properties of AlGaIn/GaN HEMT**

Y. V. Fedorov<sup>1</sup>, S. V. Mikhaylovich<sup>1</sup>, <sup>1</sup>Institute of Ultra-High Frequency Semiconductor Electronics of RAS, Moscow, Russian Federation, <sup>2</sup>Institute of Ultra-High Frequency Semiconductor Electronics of RAS, Moscow, Russian Federation

**EuMIC10-03**  
**A Broadband Receiver Protection Limiter for FET Based Integrated Circuits**

A. Noll, W. Struble, MACOM Technology Solutions, Lowell, United States

**EuMC/EuMIC05-03**  
**Investigating the Linearity Versus Efficiency Trade-off of Different Power Amplifier Modes in an Envelope Tracking Architecture**

Z. Mokhti<sup>1</sup>, J. Lees<sup>1</sup>, P. J. Tasker<sup>1</sup>, C. Cassan<sup>2</sup>, <sup>1</sup>Cardiff University, Cardiff, United Kingdom, <sup>2</sup>Freescale Semiconductor, Toulouse, France

**EuMC/EuMIC06-03**  
**Reconfigurable UWB Filtennas with Sharp WLAN Dual Bandnotch**

W. Ahmad, D. Budimir, University of Westminster, London, United Kingdom

09:30h - 09:50h

**EuMIC09-04**  
**Electrical and Thermal Characterization of Single and Multi-Finger InP DHBTs**

V. Midilli<sup>1</sup>, V. Nodjiadjim<sup>2</sup>, T. K. Johansen<sup>1</sup>, M. Riet<sup>2</sup>, J. Dupuy<sup>2</sup>, A. Konczykowska<sup>2</sup>, M. Squartecchia<sup>1</sup>, <sup>1</sup>Technical University of Denmark, Lyngby, Denmark, <sup>2</sup>III-V Lab, Marcoussis, France

**EuMIC10-04**  
**High Power Broadband GaN Switch MMICs**

B. Bunz, R. Reber, P. Schuh, M. Oppermann, Airbus Defence and Space, Ulm, Germany

**EuMC/EuMIC05-04**  
**Experimental Time-Domain Evaluation and Simulation of High Power GaN HEMTs for RF Doherty Amplifier Design**

L. Ayari<sup>1</sup>, G. Neveux<sup>1</sup>, D. Barataud<sup>1</sup>, M. Ayad<sup>2</sup>, E. Byk<sup>2</sup>, C. Chang<sup>2</sup>, M. Camiade<sup>2</sup>, <sup>1</sup>XLIM, Limoges, France, <sup>2</sup>United Monolithic Semiconductors SAS, Villebon sur Yvette, France

**EuMC/EuMIC06-04**  
**Tunable Band-Reject Filter and Suppression of In-Band Interfering Signals in Mobile Communication**

D. Ferling, X. Yu, R. Rheinschmitt, A. Pascht, Alcatel-Lucent, Stuttgart, Germany

09:50h - 10:10h

**EuMIC09-05**  
**Temperature Measurements in RF Operating Conditions of AlGaIn/GaN HEMTs Using IR Microscopy and Raman Spectroscopy**

L. Baczkowski<sup>1,2</sup>, J. Jacquet<sup>3</sup>, O. Jardel<sup>3</sup>, D. Carisetti<sup>4</sup>, F. Vouzelaud<sup>1</sup>, C. Gaquiere<sup>2</sup>, <sup>1</sup>Thales Systèmes Aéroportés, Elancourt, France, <sup>2</sup>Université de Lille, Villeneuve d'Ascq, France, <sup>3</sup>Thales III-V Lab, Marcoussis, France, <sup>4</sup>Thales Research & Technology, Palaiseau, France

**EuMC/EuMIC05-05**  
**Linearity Analysis of a 40 W Class-G-Modulated Microwave Power Amplifier**

N. Wolff<sup>1</sup>, O. Bengtsson<sup>1</sup>, M. Schmidt<sup>2</sup>, M. Berroth<sup>2</sup>, W. Heinrich<sup>1</sup>, <sup>1</sup>Ferdinand-Braun-Institut, Leibniz-Institut für Höchstfrequenztechnik, Berlin, Germany, <sup>2</sup>Universität Stuttgart, Stuttgart, Germany

**EuMC/EuMIC06-05**  
**Tunable In-Package Impedance Matching for High Power Transistors Based on Printed Ceramics**

A. Wiens<sup>1</sup>, S. Preis<sup>2</sup>, C. Kohler<sup>2</sup>, D. Kienemund<sup>1</sup>, H. Maune<sup>1</sup>, O. Bengtsson<sup>2</sup>, M. Nikfalazar<sup>1</sup>, J. R. Binder<sup>3</sup>, W. Heinrich<sup>2</sup>, R. Jakoby<sup>1</sup>, <sup>1</sup>TU Darmstadt, Darmstadt, Germany, <sup>2</sup>Ferdinand-Braun-Institut, Berlin, Germany, <sup>3</sup>Karlsruher Institute of Technology, Eggenstein-Leopoldshafen, Germany

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**EuMC01**

**Focus Session on Modal Analysis of Electromagnetic Structures**

Chair: George Kyriacou, Democritus University of Thrace  
Co-Chair: Theodoros Kaifas, Aristotle University of Thessaloniki

**EuMC01-01 Analytical and Numerical Eigenanalysis of Electromagnetic Structures: a Review**

C. Zekios<sup>1</sup>, P. Ailionis<sup>1</sup>, C. S. Lavranos<sup>1</sup>, T. Kaifas<sup>1</sup>, P. Theofanopoulos<sup>1</sup>, X. Mitsalas<sup>1</sup>, R. Maximidis<sup>1</sup>, A. Koutinos<sup>1</sup>, G. Ioannopoulos<sup>1</sup>, P. Gkonis<sup>1</sup>, A. Kapsalis<sup>1</sup>, D. Anagnostou<sup>1</sup>, M. Chrysomallis<sup>1</sup>, E. Vafiades<sup>1</sup>, A. Siakavara<sup>1</sup>, I. Venieris<sup>1</sup>, C. Dervos<sup>1</sup>, A. Kudrin<sup>1</sup>, G. Granel<sup>1</sup>, G. Kyriacou<sup>1</sup>, <sup>1</sup>Democritus University of Thrace, Xanthi, Greece, <sup>2</sup>Aristotle University of Thessaloniki, Thessaloniki, Greece, <sup>3</sup>National Technical University of Athens, Athens, Greece, <sup>4</sup>University of Nizhny Novgorod, Nizhny Novgorod, Russian Federation, <sup>5</sup>Clermont Université, Clermont-Ferrand, France

**EuMC01-02 Review and Application of the Theory of Characteristic Modes for Open Radiating Structures**

M. Cabedo-Fabrés, E. Antonino-Daviu, T. Bernabeu-Jiménez, M. Ferrando-Bataller, Universitat Politècnica de València, Valencia, Spain

**EuMC01-03 Characteristics Modes of Combined Antenna by Disk Loaded Monopole and Notch Array**

H. Arai, S. Wang, Yokohama National University, Yokohama, Japan

**EuMC01-04 Computer-Aided Antenna Feed Design Using Characteristic Modes**

B. D. Raines, E. A. Elghannai, R. G. Rojas, The Ohio State University, Columbus, United States

**EuMC01-05 Systematic Design of MIMO Terminal Antennas Using Theory of Characteristic Modes**

B. Lau, Lund University, Lund, Sweden

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**EuMC02**

**Focus Session on Microwave in Agriculture, Environment and Earth Observation (MAGEO)**

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

**EuMC02-01 Textile SIW Antennas as Hybrid Energy Harvesting and Power Management Platforms**

S. Lemeay, S. Agneessens, H. Rogier, Ghent University, Ghent, Belgium

**EuMC02-02 Compact Substrate Integrated Waveguide (SIW) Components on Paper Substrate**

S. Moscato, N. Delmonte, L. Silvestri, M. Pasian, M. Bozzi, L. Perregini, University of Pavia, Pavia, Italy

**EuMC02-03 Exploiting 3D Printed Substrate for Microfluidic SIW Sensor**

S. Moscato<sup>1</sup>, M. Pasian<sup>1</sup>, M. Bozzi<sup>1</sup>, L. Perregini<sup>1</sup>, R. Bahr<sup>2</sup>, T. Le<sup>2</sup>, M. Tentzeris<sup>2</sup>, <sup>1</sup>University of Pavia, Pavia, Italy, <sup>2</sup>Georgia Institute of Technology, Atlanta, United States

**EuMC02-04 Electromagnetic Characterization of Fluid Vortices by Means of Three-Dimensional Field Simulations**

B. Hattenhorst<sup>1</sup>, C. Baer<sup>1</sup>, T. Musch<sup>1</sup>, C. Schulz<sup>2</sup>, I. Rolfes<sup>2</sup>, <sup>1</sup>Institute of Electronic Circuits, Ruhr-University Bochum, Bochum, Germany, <sup>2</sup>Institute of Microwave Systems, Ruhr-University Bochum, Bochum, Germany

**EuMC02-05 Sensitivity Enhancement of Split Ring Resonator Liquid Sensors**

M. Abdolrazzaghi, M. Zarifi, M. Daneshmand, University of Alberta, Edmonton, Canada

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**EuMC03**

**Passive Millimeter-wave Circuits**

Chair: Magdalena Salazar Palma, Universidad Carlos III de Madrid  
Co-Chair: Philippe Ferrari, University of Grenoble Alpes

**EuMC03-01 A 200-325-GHz Wideband, Low-Loss Modified Marchand Balun in SiGe BiCMOS Technology**

F. Ahmed, M. Furqan, A. Stelzer, Johannes Kepler University, Linz, Austria

**EuMC03-02 Integration of Lange Couplers in SiGe BiCMOS Technology for RF and mm-Wave Applications - Perspectives for Distributed Chip-Package Co-Integration**

S. Wane<sup>1</sup>, L. Leysenne<sup>1</sup>, O. Tesson<sup>1</sup>, O. Doussin<sup>1</sup>, D. Bajoni<sup>1</sup>, D. Lessenedial<sup>1</sup>, T.V. Dinh<sup>1</sup>, M. Van Heijden<sup>1</sup>, R. Pijper<sup>1</sup>, P. Maigne<sup>1</sup>, P. Descamps<sup>1</sup>, A. Erdem<sup>1</sup>, <sup>1</sup>NXP Semiconductor France, Caen, France, <sup>2</sup>NXP Semiconductors Eindhoven, Eindhoven, Netherlands, <sup>3</sup>NXP Semiconductor Nijmegen, Nijmegen, United States, <sup>4</sup>NXP-LaMIPS, Caen, France, <sup>5</sup>SAE Supaero, Toulouse, France

**EuMC03-03 Dispersive Model for the Phase Velocity of Slow-Wave CMOS Coplanar Waveguides**

A. Franc<sup>1,2</sup>, E. Pistono<sup>3</sup>, P. Ferrari<sup>3</sup>, <sup>1</sup>Université de Toulouse; INPT, UPS, Toulouse, France, <sup>2</sup>CNRS Laplace, Toulouse, France, <sup>3</sup>University Grenoble Alpes, Grenoble, France

**EuMC03-04 A 2-30 GHz Multi-Octave Planar Microwave Six-Port for Reflectometry Applications**

A. Oborovski<sup>1</sup>, M. Hofmann<sup>1</sup>, R. Weigel<sup>1</sup>, D. Kissinger<sup>2,3</sup>, <sup>1</sup>University of Erlangen-Nuremberg, Erlangen, Germany, <sup>2</sup>IHP, Frankfurt (Oder), Germany, <sup>3</sup>Technische Universität Berlin, Berlin, Germany

**EuMC03-05 High Isolation MMIC Switch Design Technique Based on Novel High-/Low-Pass Switch Concept**

H. Mizutani<sup>1</sup>, R. Ishikawa<sup>2</sup>, K. Honjo<sup>2</sup>, <sup>1</sup>Salesian Polytechnic, Tokyo, Japan, <sup>2</sup>The University of Electro-Communications, Tokyo, Japan

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**EuMC04**

**Systems and Techniques for Wireless Power Transfer and Energy Harvesting**

Chair: Kamran Ghorbani, RMIT University  
Co-Chair: Shigeo Kawasaki, Japan aerospace exploration agency

**EuMC04-01 Modulated Scheme and Input Power Impact on Rectifier RF-DC Efficiency for WiCoPT system**

H. Sakaki<sup>1</sup>, S. Yoshida<sup>2</sup>, K. Nishikawa<sup>1,2</sup>, S. Kawasaki<sup>2</sup>, <sup>1</sup>Kagoshima University, Kagoshima, Japan, <sup>2</sup>Japan Aerospace Exploration Agency, Sagamihara, Japan

**EuMC04-02 Wireless Energy Link for Deep Brain Stimulation**

G. Monti, V. De Paolis, L. Tarricone, University of Salento, Lecce, Italy

**EuMC04-03 Highly Sensitive FM Frequency Scavenger Integrated in Building Materials**

N. Shariati, W. S. Rowe, K. Ghorbani, RMIT University, Melbourne, Australia

**EuMC04-04 Beam Collecting Efficiency Analysis in Microwave Power Transmission Demonstration System for SSPS**

Y. Dong, S. Dong, Y. Wang, W. Fu, H. Bai, X. Li, Z. Li, China Academy of Space Technology (Xi'an), Xi'an, China

**EuMC04-05 RF CMOS Wireless Implantable Microsystem for Sacral Roots Stimulation with On-Chip Antenna and Far-Field Wireless Powering**

F. Rodrigues, S. Gomes, P. Anacleto, J. Fernandes, P. Mendes, University of Minho, Guimarães, Portugal

08:30h - 08:50h

08:50h - 09:10h

09:10h - 09:30h

09:30h - 09:50h

09:50h - 10:10h

TUESDAY



Amphi Bleu

**EuMW01**

**EuMW/EuMC Opening Session**

Chair: Hervé Aubert, EuMW 2015 General Chair

Co-Chair: Serge Verdeyme, EuMC 2015 Chair

**10:50h - 11:55h**

**Welcome Addresses**

**Opening of the European Microwave Week 2015**

Hervé Aubert, EuMW 2015 General Chair

**EuMA Welcome Address**

Wolfgang Heinrich, EuMA President

**Opening of the European Microwave Conference 2015**

Serge Verdeyme, EuMC 2015 Chair

**Greetings from IEEE MTT-S**

Ke Wu, IEEE MTT-S President

**11:15h - 11:40h**

**Space Antennas on Satellites, for Telecommunications and Earth Observations Missions: Past Evolutions and Future Trends**

Bruno Le Stradic, Airbus DS Space Systems, France

Antennas are at the heart of satellites missions, very much key to the overall performance for all types of applications: telecommunications, radar, and passive microwave radiometry. In the last twenty years or so, whilst the general principles have remained remarkably stable, major improvements have occurred, both at architecture and technology levels, at the same time modeling tools & methods now allow real time accurate simulations.

In the area of Telecommunications from the geostationary orbit, the general trend towards larger more powerful satellites has given birth to very complex "multi – large reflectors" antenna farms mixing all frequencies from L to Ka bands. Besides, the ever increasing need for flexibility, not any more restricted to mobile and military missions, is pushing towards Direct Radiating Arrays or Semi-Active antennas, with on-board digital beam-forming having become standard.

For Remote Sensing, imaging Synthetic Aperture Radars now routinely use active transmit-receive modules, and advances in technology have allowed passive radiometry to explore new frontiers: from the maximum 200 GHz frequency on AMSU-B up to the 600 GHz+ of the new generation microwave sounders under development by the European Space Agency, and with a much improved frequency resolution.

And, from here, let us dream about what the future has in store for us: digitally controlled antennas with large reflectors "re-shapeable" in orbit, smart skins, multi-satellite interferometers assembled in Space for radio-astronomy.

**11:40h- 12:05h**

**Awards Ceremony**

Chair: Alexander Yarovoy, EuMA Awards Chair

EuMA Distinguished Service Award

EuMA Outstanding Career Award

**12:05h – 12:30h**

**30 Years of Innovation in TAS Radar Altimetry Product Line for Earth Climate Monitoring**

Laurent Phalippou, Thales Alenia Space, France

Radar altimetry provides vital data for the observation of Earth Climate Change and operational oceanography. Since the beginning of the experimental radar altimetry missions, radar altimetry has evolved to operational applications. Altimeter data are used routinely in operational ocean forecasting models providing crucial information for driving the ocean circulation and currents. Those data are also used to extract the sea level rise and large scale phenomena such as El Nino events. Thales Alenia Space has been involved in radar altimeters since the 1980's with the experimental Poseidon-1 Ku Band radar which paved the way to the current TAS altimeter product line all based on SSPA technology. In the 90's two major evolutions were made to the product line with the design of SAR interferometric radar altimeters in Ku band and a compact Ka band radar altimeter with a built-in radiometer. These altimeters were the first of their kind in space and they are still delivering unprecedented quality data. Lately the product line evolved again with a new design for an ocean radar altimeter combining the conventional and the SAR mode operation at these same time. TAS is also involved in swath altimetry for the design and manufacturing of the Radio-Frequency Unit of the swath altimeter KarIn for the SWOT mission. The presentation will give an overview of the radar designs and the key technological challenges with the link with the science applications and performances.

10:50h - 12:30h

## EuMC/EuMIC Poster Session

Chair: Denis Barataud, University of Limoges

Co-Chair: Eric Tourmier, LAAS-CNRS, University of Toulouse

**12:30h - 14:10h**

*The posters are on display from 12:30h - 14:10h*

*The authors are present for discussion from 12:30h - 14:10h*



### Hall Ternes - Level 1

#### ***EuMIC/EuMC Poster01-01 A Novel Broadband High-Power Source-Pull/Load-Pull Concept for the HF- to UHF-Range***

F.A. Maier<sup>1</sup>, A. Grede<sup>1</sup>, D. Gruner<sup>1</sup>, R. Quay<sup>2</sup>, P. Waltereit<sup>2</sup>, O. Ambacher<sup>2</sup>, <sup>1</sup>TRUMPF Huettinger GmbH & Co. KG, Freiburg, Germany, <sup>2</sup>Fraunhofer Institute of Applied Solid State Physics, Freiburg, Germany

#### ***EuMIC/EuMC Poster01-02 Temperature Insensitive PA Bias Circuit With Digital Control Interface Using InGaP/GaAs HBT Technology***

W. Chang<sup>1</sup>, C. Meng<sup>1</sup>, S. Wong<sup>2</sup>, H. Chien<sup>2</sup>, G. Huang<sup>3</sup>, <sup>1</sup>National Chiao Tung University, Hsinchu, Taiwan, <sup>2</sup>Richwave Technology Corporation, Taipei, Taiwan, <sup>3</sup>National Nano Device Laboratories, Hsinchu, Taiwan

#### ***EuMIC/EuMC Poster01-03 A WLAN RF CMOS Power Amplifier with Power Detector, High Harmonic Suppression, and Temperature Compensation***

W. Li, S. Wang, G. Lin, Industry Technology Research Institute, Hsinchu, Taiwan

#### ***EuMIC/EuMC Poster01-04 Frequency-Agile Packaged GaN-HEMT using MIM Thickfilm BST Varactors***

S. Preis<sup>1</sup>, A. Wiens<sup>2</sup>, N. Wolff<sup>1</sup>, R. Jakoby<sup>2</sup>, W. Heinrich<sup>1</sup>, O. Bengtsson<sup>1</sup>, <sup>1</sup>Ferdinand-Braun-Institut Leibniz-Institut fuer Hoehstfrequenztechnik, Berlin, Germany, <sup>2</sup>Technische Universität Darmstadt, Darmstadt, Germany

### Hall Ternes - Level 1

#### ***EuMIC/EuMC Poster01-05 A New Variant of the Indirect Learning Architecture for the Linearization of Power Amplifiers***

J. Chani-Cahuana<sup>1</sup>, C. Fager<sup>2</sup>, T. Eriksson<sup>1</sup>, <sup>1</sup>Department of Signals and Systems, Chalmers University of Technology, Gothenburg, Sweden, <sup>2</sup>Department of Microtechnology and NanoScience, Chalmers University of Technology, Gothenburg, Sweden

#### ***EuMIC/EuMC Poster01-06 High Efficiency Ultra Broadband GaN Amplifier Using Series-Shunt Inductor Matching Network***

E. Kuwata, A. Sugimoto, C. M. Andersson, S. Sakata, H. Koyama, Y. Kamo, K. Yamanaka, H. Fukumoto, Mitsubishi Electric Corporation, 5-1-1, Ofuna, Kamakura, Japan

#### ***EuMIC/EuMC Poster01-07 Coupled-Oscillator System With Two Stable Phase-Shift Intervals***

F. Ramirez, A. Suarez, S. Sancho, Universidad de Cantabria, Santander, Spain

### Hall Ternes - Level 1

#### ***EuMIC/EuMC Poster01-08 Project-Based RF/Microwave Education***

R. L. Campbell, B. Pejcinovic, Portland State University, Portland, United States

#### ***EuMIC/EuMC Poster01-09 The Microwave Virtual Laboratory for RF Engineers Education***

D. S. Gubsky, V. V. Zemlyakov, I. V. Mamay, Southern Federal University, Rostov-on-Don, Russian Federation

#### ***EuMIC/EuMC Poster01-10 Real-Time Microwave Remote Laboratory Architecture***

S. Farah<sup>1</sup>, A. Benachenhou<sup>1</sup>, G. Neveux<sup>2</sup>, D. Barataud<sup>2</sup>, G. Andrieu<sup>2</sup>, <sup>1</sup>University of Mostaganem, Mostaganem, Algeria, <sup>2</sup>XLIM CNRS UMR 7252, University of Limoges, Limoges, France



	241	242A	242B
	<p><b>EuMIC11</b>  <b>SiGe BiCMOS-based Millimeterwave Circuits</b>                      Chair: Nils Pohl, Fraunhofer FHR                      Co-Chair: Emanuel Cohen, Israel Institute of Technology</p>	<p><b>EuMIC12</b>  <b>Innovative GaN and Si Technologies and Applications</b>                      Chair: Didier Floriot, UMS                      Co-Chair: Jean-Christophe Nallatamby, XLIM University of Limoges</p>	<p><b>EuMC/EuMIC07</b>  <b>Focus Session on Advances in THz and Opto-Nanoelectronics</b>                      Chair: Luca Pierantoni, Università Politecnica Delle Marche                      Co-Chair: Davide Mencarelli, Università Politecnica Delle Marche</p>
13:50h - 14:10h	<p><b>EuMIC11-01</b>  <b>A Novel W-band Bottom-LO-Configured Sub-Harmonic Mixer IC in 130-nm SiGe BiCMOS</b>                      X. Yang<sup>1</sup>, X. Xu<sup>1</sup>, Z. Sun<sup>1</sup>, T. Shibata<sup>2</sup>, T. Yoshimasu<sup>1</sup>, <sup>1</sup>Waseda University, Kitakyushu-shi, Japan, <sup>2</sup>Denso Corporation, Nisshin-shi, Japan</p>	<p><b>EuMIC12-01</b>  <b>Analysis of a GaN/SiC UHF Radar Amplifier for Operation at 125 V Bias</b>                      G. F. Formicone, J. Custer, Integra Technologies, Inc., El Segundo, United States</p>	<p><b>EuMC/EuMIC07-01</b>  <b>Nanoresonator Based Dielectric Surfaces for Light Manipulation (FS paper)</b>                      F. Silvestri<sup>1,2</sup>, E. Pisano<sup>3</sup>, G. Gerini<sup>1,2</sup>, V. Lancellotti<sup>2</sup>, V. Galdi<sup>3</sup>, <sup>1</sup>Netherlands Organization for Applied Scientific Research, TNO, Delft, Netherlands, <sup>2</sup>Eindhoven University of Technology, TU/e, Eindhoven, Netherlands, <sup>3</sup>University of Sannio, Benevento, Italy</p>
14:10h - 14:30h	<p><b>EuMIC11-02</b>  <b>Key Components of a D-Band Dicke-Radiometer in 90 nm SiGe BiCMOS Technology</b>                      R. Ben Yishay, E. Shumaker, D. Elad, IBM Haifa Research Lab, Haifa, Israel</p>	<p><b>EuMIC12-02</b>  <b>Robustness Limit Investigation by Load pull Measurement of Industrial 0.25-<math>\mu</math>m AlGaIn-GaN HEMTs</b>                      C. Chang<sup>1</sup>, A. Nobre-Santos<sup>1</sup>, B. Lambert<sup>1</sup>, D. Floriot<sup>1</sup>, J. Grünenpütt<sup>2</sup>, H. Blanck<sup>2</sup>, <sup>1</sup>UMS SAS, Villebon sur Yvette, France, <sup>2</sup>UMS GmbH, Ulm, Germany</p>	<p><b>EuMC/EuMIC07-02</b>  <b>Performance Evaluation of Novel Technologies for Terahertz Reflectarrays</b>                      M. Tamagnone, S. C. Capdevila, H. Hasani, P. Romano, W. A. Vitale, C. F. Moldovan, A. M. Ionescu, A. Skrivervik, J. Perruisseau-Carrier, J. R. Mosig, École polytechnique fédérale de Lausanne (EPFL), Lausanne, Switzerland</p>
14:30h - 14:50h	<p><b>EuMIC11-03</b>  <b>An Antenna-Coupled 0.49 THz SiGe HBT Oscillator for Active Illumination in Terahertz Imaging Applications</b>                      P. Hillger<sup>1</sup>, J. Grzyb<sup>1</sup>, R. Lachner<sup>2</sup>, U. Pfeiffer<sup>1</sup>, <sup>1</sup>University of Wuppertal, Wuppertal, Germany, <sup>2</sup>Infineon Technologies AG, Neubiberg, Germany</p>	<p><b>EuMIC12-03</b>  <b>AlGaIn/GaN HEMT with <math>f_T</math>:100 GHz and <math>f_{max}</math>:128 GHz</b>                      Y. Durmus<sup>1</sup>, D. Yilmaz<sup>1</sup>, A. Toprak<sup>1</sup>, A. B. Turhan<sup>1</sup>, O. A. Sen<sup>1</sup>, E. Ozbay<sup>1,2,3</sup>, <sup>1</sup>Nanotechnology Research Center, Bilkent University, Ankara, Turkey, <sup>2</sup>Department of Electrical and Electronics Engineering, Bilkent University, Ankara, Turkey, <sup>3</sup>Department of Physics, Bilkent University, Ankara, Turkey</p>	<p><b>EuMC/EuMIC07-03</b>  <b>Optical Antennas in Hybrid Photonic Systems</b>                      R. Hendrikx, H. Doleman, F. Ruesink, A. F. Koenderink, E. Verhagen, FOM Institute AMOLF, Amsterdam, Netherlands</p>
14:50h - 15:10h	<p><b>EuMIC11-04</b>  <b>A 246 GHz Fundamental Source with a Peak Output Power of 2.8 dBm</b>                      N. Sarmah<sup>1</sup>, B. Heinemann<sup>2</sup>, U. R. Pfeiffer<sup>1</sup>, <sup>1</sup>University of Wuppertal, Wuppertal, Germany, <sup>2</sup>IHP GmbH, Frankfurt Oder, Germany</p>	<p><b>EuMIC12-04</b>  <b>New Ultra Low ESR Mosaic PICS Capacitors For Power Conversion</b>                      M. M. Jatlaoui, L. Fourmeaud, F. Voiron, IPDiA, Caen, France</p>	<p><b>EuMC/EuMIC07-04</b>  <b>Ballistic Simulation of Ratchet Effect in Antidot Lattices Patterned on Graphene</b>                      L. Pierantoni<sup>1,3</sup>, D. Mencarelli<sup>1,3</sup>, F. Coccetti<sup>2</sup>, T. Rozzi<sup>1</sup>, <sup>1</sup>Università Politecnica delle Marche, Ancona, Italy, <sup>2</sup>Laas-Cnrs, Toulouse, France, <sup>3</sup>Istituto Nazionale di Fisica Nucleare (INFN), Frascati, Italy</p>
15:10h - 15:30h	<p><b>EuMIC11-05</b>  <b>Porous Silicon as a Substrate for the Integration of High Performance On-chip Antennas</b>                      P. Sarafis<sup>1</sup>, A. Nassiopoulou<sup>1</sup>, C. Hsu<sup>2</sup>, P. Benech<sup>2</sup>, <sup>1</sup>National Center for Scientific Research (NCSR), Athens, Greece, <sup>2</sup>Institut polytechnique de Grenoble (Grenoble INP), Grenoble, France</p>	<p><b>EuMIC12-05</b>  <b>Modeling and Applications of Millimeter-Wave Slow-wave Coplanar Coupled Lines in CMOS</b>                      D. Parveg, A. Vahdati, M. Varonen, D. Karaca, M. Käikkäinen, K. Halonen, Aalto University, Espoo, Finland</p>	<p><b>EuMC/EuMIC07-05</b>  <b>Width-Modulated Magnonic Crystal and Its Application for Spin-Wave Logic</b>                      A. A. Nikitin<sup>1,2,3</sup>, A. B. Ustinov<sup>1,3</sup>, A. A. Semenov<sup>1</sup>, A. V. Chumak<sup>2</sup>, A. A. Serga<sup>2</sup>, V. I. Vasyuchka<sup>2</sup>, E. Lahderanta<sup>3</sup>, B. A. Kalinikos<sup>3</sup>, B. Hillebrands<sup>2</sup>, <sup>1</sup>St. Petersburg Electrotechnical University, St. Petersburg, Russian Federation, <sup>2</sup>Technische Universität Kaiserslautern, Kaiserslautern, Germany, <sup>3</sup>Lappeenranta University of Technology, Lappeenranta, Finland</p>



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**EuMC/EuMIC08**

**Emerging Techniques for Parametric Tuning and Frequency Stability**

Chair: Amir Mortazawi, University of Michigan  
Co-Chair: Tan Phu Vuong, IMEP-LAHC, Grenoble INP

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**EuMC05**

**Power-Amplifier Architectures**

Chair: Luc Lapierre, CNES  
Co-Chair: Olof Bengtsson, Ferdinand -Braun-Institut, Leibniz-Institut für Höchstfrequenztechnik

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**EuMC06**

**Chipless RFID Technologies**

Chair: Martin Vossiek, University Erlangen-Nuremberg  
Co-Chair: Antonio Lazaro, Universitat Rovira i Virgil

**EuMC/EuMIC08-01**  
**Continuously Tuneable Liquid Crystal Based Stripline Phase Shifter Realised in LTCC Technology**

M. Jost<sup>1</sup>, S. Strunck<sup>2</sup>, A. Heunisch<sup>3</sup>, A. Wiens<sup>4</sup>, A. E. Prasetiadi<sup>1</sup>, C. Weickhmann<sup>1</sup>, B. Schulz<sup>2</sup>, M. Quibeldey<sup>4</sup>, O. H. Karabey<sup>1</sup>, T. Rabe<sup>2</sup>, R. Follmann<sup>1</sup>, D. Koether<sup>1</sup>, R. Jakoby<sup>1</sup>, <sup>1</sup>TU Darmstadt, Darmstadt, Germany, <sup>2</sup>Continental Teves AG & Co, Frankfurt am Main, Germany, <sup>3</sup>Federal Institute for Materials Research and Testing, Berlin, Germany, <sup>4</sup>IMST GmbH, Kamp-Lintfort, Germany

**EuMC05-01**  
**IF Predistortion in the Block Upconversion Path for Modern Satcom Applications in the Ku-Band**

D. Maassen<sup>1</sup>, F. Rautschke<sup>1</sup>, G. Boeck<sup>1,2</sup>, <sup>1</sup>Berlin Institute of Technology, Berlin, Germany, <sup>2</sup>Leibniz-Institut fuer Hoechstfrequenztechnik, Berlin, Germany

**EuMC06-01**  
**A Compact Printable Dual-Polarized Chipless RFID Tag using Slot Length Variation in 'I' Slot Resonators**

M. Islam, N. Karmakar, Monash University, Clayton, Australia

**EuMC/EuMIC08-02**  
**Low Bias Voltage Tunable Phase Shifter Based on Inkjet-Printed BST MIM Varactors for CX-Band Phased Arrays**

M. Nikfalazar<sup>1</sup>, A. Mehmood<sup>1</sup>, M. Sohrabi<sup>1</sup>, A. Wiens<sup>1</sup>, Y. Zheng<sup>1</sup>, H. Maune<sup>1</sup>, R. Jakoby<sup>1</sup>, M. Mikolajek<sup>2</sup>, A. Friederich<sup>2</sup>, C. Kohler<sup>2</sup>, J. Binder<sup>2</sup>, <sup>1</sup>Technical University of Darmstadt, Darmstadt, Germany, <sup>2</sup>Karlsruhe Institute of Technology, Karlsruhe, Germany

**EuMC05-02**  
**Improving the Power Evenness of Power Amplifiers using Out-of-Phase Combining**

A. Alt, A. Grede, D. Gruner, TRUMPF Huettinger GmbH + Co. KG, Freiburg, Germany

**EuMC06-02**  
**Higher Order Pulse Modulators for Time Domain Chipless RFID Tags with Increased Information Density**

C. Mandel<sup>1</sup>, M. Schüßler<sup>1</sup>, M. Nickel<sup>1</sup>, B. Kubina<sup>1</sup>, R. Jakoby<sup>1</sup>, R. Pöpperl<sup>2</sup>, M. Vossiek<sup>2</sup>, <sup>1</sup>Technische Universität Darmstadt, Darmstadt, Germany, <sup>2</sup>Friedrich-Alexander-Universität Erlangen-Nürnberg, Erlangen, Germany

**EuMC/EuMIC08-03**  
**Characterization of GaN-based HEMTs as Varactor Diode Devices**

A. Hamdoun<sup>1</sup>, L. Roy<sup>1</sup>, M. Himdi<sup>2</sup>, O. Lafond<sup>2</sup>, <sup>1</sup>Carleton University, Ottawa, Canada, <sup>2</sup>University of Rennes1, Rennes, France

**EuMC05-03**  
**A Load-Modulated Low-Power Amplifier with Average Power Tracking**

K. Mimis, S. Wang, G. T. Watkins, Toshiba Research Europe Limited, Bristol, United Kingdom

**EuMC06-03**  
**Simplified, High Performance Transceiver for Phase Modulated RFID Applications**

N. B. Buchanan, V. Fusco, Queens University Belfast, Belfast, United Kingdom

**EuMC/EuMIC08-04**  
**A Wideband Class-AB Tunable Active Filter**

L. Pantoli, V. Stornelli, G. Leuzzi, University of L'Aquila, L'Aquila, Italy

**EuMC05-04**  
**Low Complexity Charge Pump Envelope Tracking RF Power Amplifier**

G. T. Watkins, K. Mimis, Toshiba Research Europe Limited, Bristol, United Kingdom

**EuMC06-04**  
**Improvement of RCS Response of U Shaped Strip Based Chipless RFID Tags**

M. Polivka, J. Havlicek, M. Svanda, J. Machac, Czech Technical University in Prague, Prague 6, Czech Republic

**EuMC/EuMIC08-05**  
**Stable Frequency Dissemination via Optical Fiber based on Passive Phase Fluctuation Cancellation**

J. Wei<sup>1</sup>, F. Zhang<sup>1</sup>, S. Pan<sup>1</sup>, L. Yu<sup>2</sup>, <sup>1</sup>Key Laboratory of Radar Imaging and Microwave Photonics, Ministry of Education, Nanjing, China, <sup>2</sup>Wuhan Electronic Information Institute, Wuhan, China

**EuMC06-05**  
**Modulated Corner Reflector Using Frequency Selective Surfaces for FMCW Radar Applications**

A. Lazaro, J. Lorenzo, R. Villarino, D. Girbau, Universitat Rovira i Virgili, Tarragona, Spain

13:50h - 14:10h

14:10h - 14:30h

14:30h - 14:50h

14:50h - 15:10h

15:10h - 15:30h

TUESDAY

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**EuMC07**  
**Passive Power Dividers 1**

Chair: Anne-Laure Franc, Laboratory on Plasma and Conversion of Energy  
Co-Chair: Nikolina Jankovic, University of Novi Sad

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**EuMC08**  
**Efficient Rectifying Circuits**

Chair: Alessandra Costanzo, University of Bologna  
Co-Chair: Nuno Carvalho, University of Aveiro

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**EuMC09**  
**Nanoscale Characterization and On-Wafer Calibration**

Chair: Danielle Vanhoenacker-Janvier, UCL  
Co-Chair: Ferry Kienberger, Keysight Technology Austria

13:50h - 14:10h

**EuMC07-01**  
**Wideband Lumped-Element Wilkinson Power Dividers Using LC-Ladder Circuits**

Y. Okada, T. Kawai, A. Enokihara, University of Hyogo, Himeji-shi, Japan

**EuMC08-01**  
**Dynamic Range Enhancement of RF Rectifiers through Adaptive Power Distribution Employing an Extended Resonance Network**

X. Wang, A. Mortazawi, University of Michigan, Ann Arbor, United States

**EuMC09-01**  
**Near-field Scanning Microwave Microscope for Subsurface Non-Destructive Characterization**

S. Gu, K. Haddadi, A. El Fellahi, T. Lasri, IEMN- Universiy Lille I, Villeneuve d'Ascq, France

14:10h - 14:30h

**EuMC07-02**  
**Fast Design Method and Validation of Very Wideband Tapered Wilkinson Divider**

E. Miralles Navarro<sup>1</sup>, V. Ziegler<sup>1</sup>, F. Ellinger<sup>2</sup>,  
<sup>1</sup>Airbus Defence & Space, Ottobrunn, Germany, <sup>2</sup>TU Dresden, Dresden, Germany

**EuMC08-02**  
**Rigorous Design of Wireless Power Transfer Links with One Transmitter and Two Receivers**

M. Dionigi<sup>1</sup>, S. Koziel<sup>2</sup>, M. Mongiardo<sup>1</sup>, R. Perfetti<sup>1</sup>, <sup>1</sup>University of Perugia, Perugia, Italy, <sup>2</sup>Reykjavik University, Reykjavik, Iceland

**EuMC09-02**  
**Scanning Microwave Microscopy for Nanoscale Characterization of Semiconductors: De-embedding Reflection Contact Mode Measurements**

L. Michalas<sup>1</sup>, A. Lucibello<sup>1</sup>, G. Badino<sup>2</sup>, C. H. Joseph<sup>1</sup>, E. Brinciotti<sup>2</sup>, F. Kienberger<sup>2</sup>, E. Proietti<sup>1</sup>, R. Marcelli<sup>1</sup>, <sup>1</sup>National Research Council, Rome, Italy, <sup>2</sup>Keysight Technologies, Linz, Austria

14:30h - 14:50h

**EuMC07-03**  
**A Design of Unequal Termination Impedance Power Divider with Filtering and Out-of-band Suppression Characteristics**

P. Kim, J. Jeong, G. Chaudhary, Y. Jeong, Chonbuk National University, Jeonju, Republic of Korea

**EuMC08-03**  
**A Wearable Wireless Energy Link**

G. Monti, L. Corchia, L. Tarricone, University of Salento, Lecce, Italy

**EuMC09-03**  
**Nanorobotic RF Probe Station for Calibrated On-Wafer Measurements**

A. El fellahi, K. Haddadi, J. Marzouk, S. Arscott, C. Boyaval, T. Lasri, G. Dambriane, IEMN- Universiy Lille I, Villeneuve d'Ascq, France

14:50h - 15:10h

**EuMC07-04**  
**A Design of Unequal Power Divider With Positive and Negative Group Delays**

G. Chaudhary, J. Park, Q. Wang, Y. Jeong, Chonbuk National University, Jeonju-si, Republic of Korea

**EuMC08-04**  
**Wide Bandwidth for High-Speed Communication in Mid-Range, Resonant WPT and RFID Systems**

J. Besnoff, D. Ricketts, North Carolina State University, Raleigh, United States

**EuMC09-04**  
**New 3D-TRL structures for On-Wafer Calibration**

M. Potéreau<sup>1</sup>, S. Fregonese<sup>1</sup>, A. Curutchet<sup>1</sup>, P. Baureis<sup>2</sup>, T. Zimmer<sup>1</sup>, <sup>1</sup>IMS Laboratory, Talence, France, <sup>2</sup>Fachhochschule, Würzburg, Germany

15:10h - 15:30h

**EuMC07-05**  
**A P-band 5-way Unequal Split High Power Divider for SAR Applications**

A. Di Maria, M. Limbach, R. Hom, A. Reigber, German Aerospace Center (DLR), Wessling, Germany

**EuMC08-05**  
**Study on Energy Recovery from Substrate Integrated Waveguide Circuits**

M. Sanchez-Soriano<sup>2,1</sup>, Y. Quere<sup>1</sup>, V. Le Saux<sup>3</sup>, C. Quendo<sup>1</sup>, J. D. Martinez<sup>2</sup>, V. E. Boria<sup>2</sup>, <sup>1</sup>Université de Bretagne Occidentale, Brest, France, <sup>2</sup>Technical University of Valencia, Valencia, Spain, <sup>3</sup>ENSTA Bretagne, Brest, France

**EuMC09-05**  
**On the Ill-Conditioned Problem of On-Wafer Calibration for Broadband Device/Circuit Scattering Parameter Measurements Without Impedance-Standard Substrate**

C. Huang, W. Lin, Yuan Ze University, Taoyuan, Taiwan



Amphi Bleu

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**EuMIC13**

**EuMIC Closing Session**

Chair: Eric Kerhervé, EuMIC 2015 Chair  
Co-Chair: Didier Floriot, EuMIC 2015 Co-Chair

**EuMC10**

**Novel Modal Techniques**

Chair: Maurizio Bozzi, University of Pavia  
Co-Chair: Clive Tzuang, Tianjing University

**16:10h - 16:55h**

**Foundry Session**

Chair: Massimo Comparini, Telespazio, Italy & France

Several key representatives of RF and microwave semiconductor foundries will give short presentations of their foundry capabilities with respect to the Impact of Advanced GaN and Silicon Technologies for Military and Space Applications. This includes details of current fully-released and commercially available processes and processes in development. There will also be opportunity for questions and answers during this interactive forum. The session will also include the speeches given by two eminent plenary keynote speakers.

**16:55h - 17:15h**

**Advanced T/R modules mixing GaN & Si technologies**

**17:15h - 17:35h**

**Innovative passive Si technology for high integration**

**17:35h - 17:55h**

**Invitation to EuMIC2016**

Tom Brazil, EuMIC2016 Chair

**18:05h - 18:15h**

**EuMIC Awards Ceremony**

EuMW 2015 Awards Chair

**EuMIC Prize**

**EuMIC Young Engineer Prize**

**GAAS Association Student Fellowships**

**17:55h - 18:00h**

**Closing of EuMIC 2015**

Eric Kerhervé, EuMIC 2015 Chair

16:10h - 18:00h

**EuMC10-01**

**Characteristic Mode Analysis of Electromagnetic Structures**

D. J. Ludick<sup>1</sup>, P. Futter<sup>1</sup>, U. Jakobus<sup>1</sup>, R. Fiedler<sup>2</sup>, M. Schick<sup>2</sup>, E. Lezar<sup>2</sup>, <sup>1</sup>Altair Development S.A. (Pty) Ltd, Stellenbosch, South Africa, <sup>2</sup>Altair Engineering GmbH, Boeblingen, Germany

16:10h - 16:30h

**EuMC10-02**

**A characteristic Mode Analysis of Parallel Resonances Exploiting the Finite Element Scheme**

C. L. Zekios, D. G. Makris, R. T. Maximidis, P. C. Allilomes, G. A. Kyriacou, Democritus University of Thrace, Xanthi, Greece

16:30h - 16:50h

**EuMC10-03**

**Monolithic Leaky-Mode Antenna on the Perforated Ground Plane: Modal Characteristics**

X. Li, Q. Weng, H. Wu, C. C. Tzuang, Tianjin University, Tianjin, China

16:50h - 17:10h

**EuMC10-04**

**An Inner Outer Iteration Scheme for the Spurious Free Solution of Polynomial Eigenvalue Problems of Electrically Large Structure**

C. L. Zekios, P. C. Allilomes, G. A. Kyriacou, Democritus University of Thrace, Xanthi, Greece

17:10h - 17:30h

**EuMC10-05**

**Frequency and Polarization Selectivity of Graphene Strip Gratings**

T. L. Zinenko<sup>1</sup>, A. Matsushima<sup>2</sup>, A. I. Nosich<sup>3</sup>, <sup>1</sup>Institute of Radio-Physics and Electronics NASU, Kharkiv, Ukraine, <sup>2</sup>Kumamoto University, Kumamoto, Japan, <sup>3</sup>Institute of Radio-Physics and Electronics NASU, Kharkiv, Ukraine

17:30h - 17:50h

TUESDAY



	242A	242B	243	251
	<p><b>EuMC11</b>  <b>Channel Measurement and Propagation</b>                      Chair: Patrice Pajusco, LabSTICC, Telecom Bretagne                      Co-Chair: Michal Mrozowski, Gdansk University of Technology</p>	<p><b>EuMC12</b>  <b>Special Session on Additive Manufacturing Techniques for RF Modules</b>                      Chair: Manos Tenzeris, Georgia Tech                      Co-Chair: Dominique Baillargeat, University of Limoges</p>	<p><b>EuMC13</b>  <b>Circuit Design for Power Amplifiers</b>                      Chair: Georg Fischer, FAU Erlangen                      Co-Chair: Franco Giannini, University of Roma Tor Vergata</p>	<p><b>EuMC14</b>  <b>Low Noise Amplifiers and Oscillators</b>                      Chair: Patrice Gamand, INXP                      Co-Chair: Thierry Taris, IMS, University of Bordeaux</p>
16:10h - 16:30h	<p><b>EuMC11-01</b>  <i>The Influence of Street Furniture and Tree Trunks in Urban Scenarios on Ray Tracing Simulations in the Millimeter Wave Band</i>                      B. Göktepe, M. Peter, R. J. Weiler, W. Keusgen, Fraunhofer Heinrich Hertz Institute, Berlin, Germany</p>	<p><b>EuMC12-01</b>  <i>Additively Manufactured and Origami-Based Wireless Sensing and Communication Nodes</i>                      Manos M. Tentzeris, Georgia Tech, USA</p>	<p><b>EuMC13-01</b>  <i>A Linearized, High Efficiency 2.6 GHz Wideband Doherty Power Amplifier With Class-J Based Performance Enhancement</i>                      N. Tuffy, L. Pattison, MACOM, Belfast, United Kingdom</p>	<p><b>EuMC14-01</b>  <i>Dynamic Behaviour of a Low-Noise Amplifier GaN MMIC under Input Power Overdrive</i>                      C. A. Andrei<sup>1</sup>, O. Bengtsson<sup>2</sup>, R. Doerner<sup>2</sup>, S. A. Chevchenko<sup>2</sup>, W. Heinrich<sup>2</sup>, M. Rudolph<sup>1,2</sup>,  <sup>1</sup>Brandenburgische Technische Universität Cottbus-Senftenberg, Cottbus, Germany,  <sup>2</sup>Ferdinand-Braun-Institut, Leibniz-Institut für Höchstfrequenztechnik, Berlin, Germany</p>
16:30h - 16:50h	<p><b>EuMC11-02</b>  <i>Millimeter Wave Spatial Multiplexing : Feasibility and Performance of a Short Range 2x2 Link</i>                      E. Dailleux<sup>1</sup>, J. Frigon<sup>1</sup>, C. Hannachi<sup>2</sup>, S. Ovidiu Tatu<sup>2</sup>, <sup>1</sup>Ecole Polytechnique de Montréal, Montreal, Canada, <sup>2</sup>Institut National de la Recherche Scientifique - EMT, Montreal, Canada</p>	<p><b>EuMC12-02</b>  <i>Ceramic-Based Additive Technologies for RF Applications</i>                      Dominique Baillargeat, University of Limoges, France</p>	<p><b>EuMC13-02</b>  <i>A 2.5-GHz Band Low Voltage High Efficiency CMOS Power Amplifier IC Using Parallel Switching Transistor for Short Range Wireless Applications</i>                      T. A. Kumiawan, X. Yang, X. Xu, T. Yoshimasu, Waseda University, Kitakyushu, Japan</p>	<p><b>EuMC14-02</b>  <i>Two High Gain Fully On-Chip LNAs with Wideband Input Matching in 0.15-um GaAs pHEMT for Radio Astronomical Telescope</i>                      C. Chou<sup>1</sup>, Y. Chang<sup>1</sup>, C. Chiong<sup>2</sup>, H. Wang<sup>1</sup>,  <sup>1</sup>National Taiwan University, Taipei, Taiwan,  <sup>2</sup>Academia Sinica Institute of Astronomy and Astrophysics, Taipei, Taiwan</p>
16:50h - 17:10h	<p><b>EuMC11-03</b>  <i>Broadband Transmission Performance and Antenna Displacement Tolerance in 4x4 Short-Range MIMO Simple Decoding</i>                      K. Sakamoto, K. Hiraga, M. Arai, T. Seki, T. Tsubaki, H. Toshinaga, T. Nakagawa, NTT Corporation, Yokosuka-shi, Japan</p>	<p><b>EuMC12-03</b>  <i>Inkjet-Printed and 3D printed wireless sensing modules</i>                      Leena Ukkonen, TUT, Finland</p>	<p><b>EuMC13-03</b>  <i>A 0.85 - 2.7 GHz Two-Cell Distributed GaN Power Amplifier Designed for High Efficiency at 1-dB Compression</i>                      C. M. Andersson, E. Kuwata, Y. Kawamura, S. Shinjo, K. Yamanaka, Mitsubishi Electric Corporation, Ofuna, Japan</p>	<p><b>EuMC14-03</b>  <i>A Phase Noise Improvement of 19 GHz VCO with use of Feedback Coupled-Line Resonator</i>                      T. Kawasaki, A. Otsuka, M. Kubota, T. Tokumitsu, S. Ogita, Sumitomo Electric Industries, LTD., Yokohama, Japan</p>
17:10h - 17:30h	<p><b>EuMC11-04</b>  <i>Antenna Placement and Wave Propagation for Car-to-Car Communication</i>                      M. A. Bueno Diez, P. E. Plitt, W. W. Pascher, S. Lindenmeier, University of the Bundeswehr Munich, Munich, Germany</p>	<p><b>EuMC12-04</b>  <i>3D Printed Lens Antenna for Wireless Power Transfer at Ku-Band</i>                      Ricardo Goncalves, Pedro Pinho, Nuno Carvalho, University of Aveiro, Portugal</p>	<p><b>EuMC13-04</b>  <i>A 230 W, 1.8 to 2.2 GHz Broadband LDMOS Power Amplifier Utilizing Multi-Section Integrated Passive Device Input Matching</i>                      L. Zhao<sup>1</sup>, M. Watts<sup>1</sup>, B. Noori<sup>2</sup>, J. Jones<sup>1</sup>,  <sup>1</sup>Freescale Semiconductor, Inc., Tempe, United States, <sup>2</sup>Apple Inc., Cupertino, United States</p>	<p><b>EuMC14-04</b>  <i>A Push-Push Oscillator Array with Very Simple Coupling Circuits Using HEMT</i>                      T. Tanaka, T. Sameshima, I. Toyoda, Saga University, Saga-shi, Japan</p>
17:30h - 17:50h	<p><b>EuMC11-05</b>  <i>On-Body Propagation Characterization with an H-plane Substrate Integrated Waveguide (SIW) Horn Antenna at 60 GHz</i>                      S. Razafimahatratra<sup>1</sup>, J. Sarrazin<sup>1</sup>, A. Benlarbi-Delai<sup>1</sup>, T. Mavridis<sup>2</sup>, L. Petrillo<sup>2</sup>, P. De Doncker<sup>2</sup>, C. Leduc<sup>3</sup>, M. Zhadobov<sup>3</sup>, <sup>1</sup>Sorbonne Universités, Paris, France, <sup>2</sup>ULB, Bruxelles, Belgium, <sup>3</sup>University of Rennes 1, Rennes, France</p>	<p><b>EuMC12-05</b>  <i>3D Printed SIW Structures</i>                      Stefano Moscato, University of Pavia, Italy</p>		<p><b>EuMC14-05</b>  <i>An Electrically Tunable X-Band Voltage-Controlled Oscillator Using Substrate Integrated Waveguide Dual-Mode Bandpass Filter with Circular Cavity</i>                      W. Huang, P. Chen, Z. Yu, L. Tian, J. Zhou, Southeast University, NanJing, China</p>



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**EuMC15**

**RFID Techniques and Applications**

Chair: Reinhard Feger, Johannes Kepler University  
Co-Chair: Nuno Carvalho, University of Aveiro

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**EuMC16**

**Couplers**

Chair: Vesna Crnojevic-Bengin, University of Novi Sad  
Co-Chair: Luca Perregrini, University of Pavia

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**EuMC17**

**Near Field Wireless Power Transfer**

Chair: Luciano Tarricone, University of Salento  
Co-Chair: Diego Masotti, University of Bologna

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**EuMC18**

**Relectometers and Millimeterwave Characterization**

Chair: Christophe Gaquiere, IEMN  
Co-Chair: Philippe Ferrari, IMEP

**EuMC15-01**  
**An Advanced Tag Detection Technique for Chipless RFID Systems**

C. Divarathne, N. C. Karmakar, Monash University, Melbourne, Australia

**EuMC16-01**  
**A Novel Wideband Microstrip Branch-Line Coupler with Compact Footprint**

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

**EuMC17-01**  
**Design of a High Efficiency Rectifier with Wide Bandwidth and Input Power Range Based on the Time Reversal Duality of Power Amplifier**

D. Wang, X. A. Nghiem, M. Wei, R. Negra, RWTH Aachen University, Aachen, Germany

**EuMC18-01**  
**Characterization of Quasi-Optical Focusing Systems at W-Band Frequencies**

M. Klenner<sup>1,2</sup>, C. Zech<sup>1,2</sup>, A. Hülsmann<sup>1</sup>, M. Schlechtweg<sup>1</sup>, O. Ambacher<sup>1,2</sup>, <sup>1</sup>Fraunhofer Institute for Applied Solid State Physics, Freiburg, Germany, <sup>2</sup>University of Freiburg

**EuMC15-02**  
**A Multilayer Compact-Size UWB-UHF Antenna System for Novel RFID Applications**

M. Fantuzzi<sup>1</sup>, D. Masotti<sup>1</sup>, A. Costanzo<sup>2</sup>, <sup>1</sup>University of Bologna, Bologna, Italy, <sup>2</sup>University of Bologna, Cesena, Italy

**EuMC16-02**  
**Compact Wideband 3 dB Branch Line Coupler with Multiple Symmetric PI Section**

R. K. Barik, P. K. Kanaparthi V, K. Sholampettai Subramanian, Indian Institute of Information Technology Design and Manufacturing (IIITD&M), Kancheepuram, Chennai, India

**EuMC17-02**  
**High-Efficiency DC-to-RF/ RF-to-DC Interconversion Switching Module at C-Band**

R. Ishikawa, K. Honjo, University of Electro-Communications, Chofu, Japan

**EuMC18-02**  
**Robotically Controlled Directivity and Gain Measurements of Integrated Antennas at 280 GHz**

L. Boehm, S. Pleidl, F. Boegelsack, M. Hitzler, C. Waldschmidt, University of Ulm, Ulm, Germany

**EuMC15-03**  
**3D Microwave Imaging System for the Remote Detection and Reading of Passive Sensors**

D. Henry<sup>1,2</sup>, P. Pons<sup>1</sup>, H. Aubert<sup>1,2</sup>, <sup>1</sup>CNRS/LAAS, Toulouse, France, <sup>2</sup>University of Toulouse; UPS, INSA, INP, ISAE; LAAS-CNRS, Toulouse, France

**EuMC16-03**  
**Design and Characterisation of Novel W-band Wide-band Couplers and Six-port Circuit**

E. Moldovan, S. O. Tatu, Institut national de la recherche scientifique, Montreal, Canada

**EuMC17-03**  
**High Efficiency and High Power GaN HEMT Inverse Class-F Synchronous Rectifier for Wireless Power Applications**

S. Abbasian, T. Johnosn, University of British Columbia, Kelowna, Canada

**EuMC18-03**  
**WR-5.1 Band, on-Wafer Characterization at Cryogenic Temperatures**

D. R. Daughton<sup>1</sup>, S. Yano<sup>1</sup>, D. McLean<sup>1</sup>, A. Macor<sup>2</sup>, E. de Rijk<sup>2</sup>, A. von Bieren<sup>2</sup>, M. Favre<sup>2</sup>, M. Bauwens<sup>3</sup>, A. W. Lichtenberger<sup>3</sup>, N. S. Barker<sup>3</sup>, R. M. Weikle<sup>3</sup>, J. L. Hesler<sup>4</sup>, E. Bryerton<sup>4</sup>, C. Rowland<sup>4</sup>, <sup>1</sup>Lake Shore Cryotronics, Westerville, United States, <sup>2</sup>Swissto12 SA, Lausanne, Switzerland, <sup>3</sup>Dominion MicroProbe, Inc., Charlottesville, United States, <sup>4</sup>Virginia Diodes, Inc., Charlottesville, United States

**EuMC15-04**  
**A Passive Temperature Sensor Based on a Printed Magnetoinductive-Wave (MIW) Delay Line**

F. Herraiz-Martínez, J. Martínez-Cebrián, D. Segovia-Vargas, Carlos III University in Madrid, Leganés, Spain

**EuMC16-04**  
**A Novel Trans-Directional Coupler Based on Vertically Installed Planar Circuit**

A. N. Sychev, S. M. Struchkov, V. N. Putilov, N. Y. Rudyi, Tomsk State University of Control Systems and Radioelectronics (TUSUR), Tomsk, Russian Federation

**EuMC17-04**  
**Matching Network Improvement for RF Energy Harvesters in Body Sensor Area Network Context**

V. Kuhn, F. Seguin, C. Lahuec, C. Person, Lab-STICC, Télécom Bretagne, Brest, France

**EuMC18-04**  
**A Broadband 3-29 GHz Reflectometer with a Frequency Compensated Multilayer Sixport Structure**

F. Trenz<sup>1</sup>, M. Hofmann<sup>1</sup>, R. Weigel<sup>1</sup>, D. Kissinger<sup>2,3</sup>, <sup>1</sup>Friedrich-Alexander Universitaet Erlangen-Nuernberg, Erlangen, Germany, <sup>2</sup>IHP, Frankfurt (Oder), Germany, <sup>3</sup>Technische Universitaet Berlin, Berlin, Germany

**EuMC15-05**  
**Microwave Characterization of Materials During Corrosion: Application to Wireless Sensors**

M. Yasri<sup>1,2,3</sup>, B. Lescop<sup>1</sup>, S. Rioual<sup>1</sup>, F. Gallée<sup>2</sup>, E. Diler<sup>3</sup>, D. Thierry<sup>3</sup>, <sup>1</sup>Laboratoire de Magnétique de Bretagne, Brest, France, <sup>2</sup>Lab-STICC UMR CNRS 3192, Institut Mine-Telecom, Brest, France, <sup>3</sup>Institut de la Corrosion, Brest, France

**EuMC16-05**  
**A 300 kHz-13.5 GHz Directional Bridge**

N. Drobotun<sup>1</sup>, P. Mikheev<sup>2</sup>, <sup>1</sup>Micran, Tomsk, Russian Federation, <sup>2</sup>Tomsk State University of Control Systems and Radioelectronics, Tomsk, Russian Federation

**EuMC17-05**  
**A Dual Band 915 MHz/2.44 GHz RF Energy Harvester**

L. Fadel, L. Oyhenart, R. Berges, V. Vigneras, T. Taris, IMS Laboratory, Talence, France

**EuMC18-05**  
**Reflectometer Calibration With a Pair of Partially Known Standards**

A. Arsenovic<sup>1</sup>, R. M. Weikle II<sup>2</sup>, J. Hesler<sup>1</sup>, <sup>1</sup>Virginia Diodes Inc., Charlottesville, United States, <sup>2</sup>University Of Virginia, Charlottesville, United States

16:10h - 16:30h

16:30h - 16:50h

16:50h - 17:10h

17:10h - 17:30h

17:30h - 17:50h

TUESDAY