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EuMW01 : EuMW/EuMC Opening Session

Chair: Bertram Arbesser-Rastburg, EuMW2012 General Chair — Co-Chair: Bart Nauwelaers, EuMC2012 Chair
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- (NA) **Antenna Technology: From Hertz's Spark-Gap Dipole to the Smart Phone**
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EuMW02 : EuMW/EuMC Closing Session

Chair: Bertram Arbesser-Rastburg, EuMW 2012 General Chair — Co-Chair: Bart Nauwelaers, EuMC 2012 Chair
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- (NA) **Business as Usual?**
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¹Universidad de Cantabria, Spain; ²Instituto de Astrofísica de Canarias, Spain
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Chair: Wolfgang Bosch, Graz University of Technology — Co-Chair: Ioan E. Lager, Delft University of Technology

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¹Radio Module NN, Russia; ²Lobachevsky State University of Nizhny Novgorod, Russia

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Chair: *Alessandra Costanzo, University of Bologna* — Co-Chair: *Hubregt Visser, IMEC / Holst Centre*

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Chair: *Philippe Ferrari, University of Grenoble* — Co-Chair: *Ian Robertson, University of Leeds*

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Chair: Hubregt J. Visser, IMEC / Holst Centre — Co-Chair: Alessandra Costanzo, University of Bologna

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¹Technische Universiteit Delft, The Netherlands; ²Katholieke Universiteit Leuven, Belgium
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Chair: Roberto Sorrentino, University of Perugia — Co-Chair: Smain Amari, Royal Marine College
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¹Lab-STICC, France; ²Thales Alenia Space, France
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¹Huawei Technologies Co. Ltd., China; ²Univerisity of Hong Kong, China; ³A*STAR, Singapore

EuMC20: Innovative Design for Passive Components

Chair: Stepan Lucyszyn, Imperial College London — Co-Chair: Christian Person, Lab-Sticc/Telecom Bretagne

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¹Temasek Laboratories at NUS, Singapore; ²Nanyang Technological University, Singapore; ³National University of Singapore, Singapore
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S. Cogollos, Vicente E. Boria, J.D. Martínez, Universitat Politècnica de València, Spain
- 384 **Design of Microstrip Power Dividers with Filtering Functions**
Mohamed Amine Beldi¹, François Boone¹, Dominic Deslandes²
¹Université de Sherbrooke, Canada; ²Université du Québec à Montréal, Canada
- 388 **Design on Fish-Bone Shaped Tri-Plate Transmission Line Filter at Millimeter Wave Lengths**
Yasuyoshi Okita¹, Futoshi Kuroki¹, Yuki Kawahara²
¹Kure National College of Technology, Japan; ²Kawashima Manufacturing Co. Ltd., Japan
- 392 **Novel Wideband Balanced Bandpass Filter Based on Multi-Mode Resonator**
Wenjie Feng¹, Wenquan Che¹, Quan Xue²
¹Nanjing University of Science & Technology, China; ²City University of Hong Kong, China
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EuMC21: Small Antennas

Chair: Dirk Heberling, RWTH Aachen University — Co-Chair: Tuami Lasri, University of Lille1 / IEMN

Venue G102, Time 13:50 - 15:30, Wednesday 31 October 2012

- 396 **A Novel Automatic Control System for Frequency Reconfigurable PIFA Antenna**
Trong Duc Nguyen¹, Yvan Duroc², Van Yem Vu³, Tan Phu Vuong¹
¹IMEP-LAHC, France; ²Grenoble INP, France; ³Hanoi University of Science and Technology, Vietnam
- 401 **Low-Profile CRLH Omnidirectional Loop Antenna for Mobile Wireless Communications**
Andrea Locatelli¹, Antonio-Daniele Capobianco², Stefano Boscolo³, Daniele Modotto¹, Michele Midrio³, Costantino De Angelis¹
¹Università di Brescia, Italy; ²Università di Padova, Italy; ³Università di Udine, Italy
- 404 **Electrically Small, Circular Inverted-F Antenna Based on a Robust, Minimal Design Space**
Constantine G. Kakoyiannis, Philip Constantinou, National Technical University of Athens, Greece
- 408 **Compact Planar Inverted-F Antenna System for MIMO USB Dongle Operating in 2.5-2.7GHz Band**
V. Ssorin, A. Artemenko, A. Sevastyanov, R. Maslennikov, Lobachevsky State University of Nizhny Novgorod, Russia

EuMC22 : Wireless Network Devices

Chair: *Lutfi Albasha, American University of Sharjah* — Co-Chair: *Genevieve Baudoin, ESIEE Paris*

Venue G103, Time 13:50 - 15:30, Wednesday 31 October 2012

- 412 **A Novel Graphene-Based Inkjet-Printed WISP-Enabled Wireless Gas Sensor**
Taoran Le, Vasileios Lakafoxis, Sangkil Kim, Benjamin Cook, Manos M. Tentzeris, Ziyin Lin, Ching-ping Wong, Georgia Institute of Technology, USA
- 416 **High Efficient Power Receiver IC with Load Modulator for Wireless Resonant Power Transfer**
Dong-Zo Kim¹, Ki Young Kim¹, Jinsung Choi¹, Young-Ho Ryu¹, Yun-Kwon Park¹, Sangwook Kwon¹, Young-Jin Moon², Changsik Yoo²
¹SAIT, Korea; ²Hanyang University, Korea
- 420 **Compact Patch Antenna with Space for Integrating Sensors for an RFID-Sensor-Node**
Michael Heiss, Wolf-Joachim Fischer, Fraunhofer IPMS, Germany
- 424 **Wireless Temperature Sensor for Condition Monitoring of Mechanical Seals**
Lokesh A. Gupta, Dimitrios Peroulis, Purdue University, USA
- 428 **Rectifier Analysis for Radio Frequency Energy Harvesting and Power Transport**
S. Keyrouz¹, Hubregt J. Visser², Anton G. Tjhuis¹
¹Technische Universiteit Eindhoven, The Netherlands; ²IMEC, The Netherlands
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EuMC23 : Numerical Modelling for EMC and Biological Interactions

Chair: *Andy Gibson, Manchester University* — Co-Chair: *Peter Zwamborn, TNO and TU/e*

Venue G104, Time 13:50 - 15:30, Wednesday 31 October 2012

- 432 **Characterization of Biological Substances Using a Substrate Integrated Microwave Near-Field Sensor**
Nora Haase, Arne F. Jacob, Technische Universität Hamburg-Harburg, Germany
- 436 **Variations in Properties of On- and Off-Body Antennas Manufactured with Various Fabrics**
Tomasz Maleszka, Pawel Kabacik, Wroclaw University of Technology, Poland
- 440 **Design of Millimeter-Wave Probe for Diagnosis of Human Skin**
N. Janssen, P.F.M. Smulders, Technische Universiteit Eindhoven, The Netherlands
- 444 **Enhancing the Detector Sensitivity of a Radio-Frequency Surface Resonator for Potassium-39 MRI at 18.7MHz: Probing Different Geometries at Various Temperatures**
Ibrahim A. Elabyad, Raffi Kalayciyan, Friedrich Wetterling, L.R. Schad, Universität Heidelberg, Germany
- 448 **Resonant-Based Microwave Biosensor for Physiological Liquid Identification**
Tong Chen, David Dubuc, Katia Grenier, LAAS, France

EuMC24 : Synthesis Techniques

Chair: Richard Snyder, RS Microwave — Co-Chair: Jose Alonso, Technical University of Madrid

Venue Emerald, Time 16:00 - 17:40, Wednesday 31 October 2012

- 451 **Synthesis of Extracted-Pole Filters Without Fixed-Phase Lengths**
Alejandro García Lampérez, Sergio Llorente Romano, Magdalena Salazar Palma,
Universidad Carlos III de Madrid, Spain
- 455 **Design of a Compact Dual-Band Diplexer with Dual-Mode Cavities**
H. Ezzeddine¹, P. Mazet¹, S. Bila¹, S. Verdeyme¹, Fabien Seyfert², D. Pacaud³, J. Puech⁴,
L. Estagerie⁴
¹XLIM, France; ²INRIA, France; ³Thales Alenia Space, France; ⁴CNES, France
- 459 **Design of a Packaged Microstrip Triplexer with Star-Junction Topology**
Ching-Wen Tang, Chien-Tai Tseng, National Chung Cheng University, Taiwan
- 463 **Design of a Microstrip Multi-Band Bandpass Filters Using the Filter Synthesis Method**
Jahyeon Lee, Yeongseog Lim, Chonnam National University, Korea
- 467 **Synthesis of Microwave Filters with “Reactive” Nodes**
Giuseppe Macchiarella¹, Matteo Oldoni¹, Fabien Seyfert², Smain Amari³
¹Politecnico di Milano, Italy; ²INRIA, France; ³Royal Military College of Canada, Canada
-

EuMC25 : Design and Technology for Passive Couplers

Chair: Alessandro Galli, Sapienza, University of Rome — Co-Chair: Serge Verdeyme, XLIM, University of Limoges

Venue Europe Foyer 2, Time 16:00 - 17:40, Wednesday 31 October 2012

- 471 **A Miniature LCP-Based Quadrature Hybrid Coupler for GPS System on Package (SoP)**
Eyad Arabi, Atif Shamim, KAUST, Saudi Arabia
- 475 **A Universal Method for the Design and Synthesis of Wideband Directional Couplers Using Non-Uniform Coupled Transmission Lines**
J. Nehring¹, M. Hofmann¹, C. Münker², Robert Weigel¹, G. Fischer¹, D. Kissinger¹
¹Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany; ²Hochschule München, Germany
- 479 **Measurement and Fabrication Uncertainties in High-Directivity Microstrip Couplers**
M. Nhat Pham¹, Johannes Müller², Arne F. Jacob¹
¹Technische Universität Hamburg-Harburg, Germany; ²SILVER ATENA Electronic Systems Engineering GmbH, Germany
- 483 **Design of EBG Microstrip Directional Coupler with High Directivity and Coupling**
M. Chudzik, I. Arnedo, A. Lujambio, I. Arregui, F. Teberio, D. Benito, T. Lopetegui,
M.A.G. Laso, Universidad Pública de Navarra, Spain
- 487 **Compact and Low-Loss Printed Circuit Based on Hybrid Rings for Radar Applications**
Marco Zucca¹, Matteo Ciattaglia¹, Roberto Pintauro¹, Guido Valerio², A. Galli³
¹SELEX Sistemi Integrati S.p.A., Italy; ²IETR, France; ³Università di Roma “La Sapienza”, Italy

EuMC26: Focused Session: RF Engineering and Education

Chair: Dirk Heberling, RWTH Aachen — Co-Chair: Ioan E. Lager, Delft University of Technology

Venue G102, Time 16:00 - 17:40, Wednesday 31 October 2012

- 491 **Educating Students on Metamaterials — The Story of the EUProMeta**
Carsten Rockstuhl¹, Alexander Schuchinsky², Filiberto Bilotti³, Vladimir Podlozny⁴, Sergei Tretyakov⁴, Filippo Capolino⁵
¹Friedrich-Schiller-Universität Jena, Germany; ²Queen's University Belfast, UK; ³Università di Roma Tre, Italy; ⁴Aalto University, Finland; ⁵University of California at Irvine, USA
- 494 **An Inspiring BSc-EE Curriculum for Science and Engineering**
N.P. van der Meijs, M. Bartek, P. Bauer, A.J. van Genderen, Gerard J.M. Janssen,
Technische Universiteit Delft, The Netherlands
- 498 **Facilitating the Understanding of RF Circuits Through Time-Domain Simulations and Animation**
Francesco Fornetti, Explore RF Ltd., UK
- 502 **Radiation Properties of Non-Uniform Array Antennas**
Ioan E. Lager, Massimiliano Simeoni, Technische Universiteit Delft, The Netherlands
- 506 **Educating the (Microwave) Engineer of the Future**
A.B. Smolders, J. Vleeshouwers, Technische Universiteit Eindhoven, The Netherlands
-

EuMC27: RFID and RF Energy Harvesting

Chair: Genevieve Baudoin, ESIEE Paris — Co-Chair: Lutfi Albasha, American University of Sharjah

Venue G103, Time 16:00 - 17:40, Wednesday 31 October 2012

- 510 **An Antenna Concept for an Optically Powered SHF RFID Transponder Applicable into Metal**
Johannes Meyer, Bernd Geck, Ludger Overmeyer, Stefan Franke, Leibniz Universität Hannover, Germany
- 514 **Implementation of a Low-Cost and Low-Power Batteryless Transceiver SoC for UHF RFID and Wireless Power Transfer System**
Young-Han Kim¹, Tae-Hun Ki², Chelho Chung², Yeon-Kug Moon¹, Yongseok Lim¹, Seung-ok Lim¹
¹KETI, Korea; ²LS Industrial Systems Co. Ltd., Korea
- 518 **Novel Broadband Yagi-Uda Antenna for Ambient Energy Harvesting**
S. Keyrouz¹, G. Perotto¹, Hubregt J. Visser², Anton G. Tijhuis¹
¹Technische Universiteit Eindhoven, The Netherlands; ²IMEC, The Netherlands
- 522 **The Application of Multiport Theory for MIMO RFID Backscatter Channel Measurements**
Eckhard Denicke, Malte Henning, Hanno Rabe, Bernd Geck, Leibniz Universität Hannover, Germany
- 526 **Influence of Materials in Time-Coded Chipless RFID Tags Characterized Using a Low-Cost UWB Reader**
A. Ramos, D. Girbau, A. Lazaro, Universitat Rovira i Virgili, Spain
- 530 **FEM Modeling of Gigahertz TEM Cells for Susceptibility Analysis of RFID Products**
Wilmar Heuvelman¹, Rick Janssen¹, Ralph Prestros²
¹NXP Semiconductors, The Netherlands; ²NXP Semiconductors, Austria

EuMC28: Sensor and Measurement Techniques for Biological Substances

Chair: Peter Zwamborn, TNO and TU/e — Co-Chair: Andy Gibson, Manchester University

Venue G104, Time 16:00–17:40, Wednesday 31 October 2012

- 534 **Microwave Biosensor for Characterization of Compartments in Teflon Capillaries**
Jan Wessel¹, Klaus Schmalz¹, Brian Cahill², Gunter Gastrock², J. Christoph Scheytt³
¹IHP GmbH, Germany; ²IBA, Germany; ³Universität Paderborn, Germany
- 538 **Numerical Modelling of Cell Electrotaxis Through Single-Dipole Approximation**
Juan Vanegas-Acosta, V. Lancellotti, Peter Zwamborn, Technische Universiteit Eindhoven, The Netherlands
- 542 **B1-Field Inhomogeneity Problem of MRI: Basic Investigations on a Head-Tissue-Simulating Cylinder Phantom Excited by a Birdcage-Mode**
A. Rennings, L. Chen, S. Otto, D. Erni, Universität Duisburg-Essen, Germany
- 546 **Non-Invasive Glucose Monitoring Using Open Electromagnetic Waveguides**
M. Hofmann, M. Bloss, Robert Weigel, G. Fischer, D. Kissinger, Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany
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EuMC29: Microwave Measurement Techniques

Chair: Lorenz-Peter Schmidt, Universität Erlangen — Co-Chair: Tuami Lasri, University of Lille1/IEMN

Venue G102, Time 08:30–10:10, Thursday 1 November 2012

- 550 **A Novel Technique for Sideband Stabilization in the Presence of Carrier Phase Noise in RoF Systems**
Friederike Brendel¹, Thomas Zwick¹, Julien Poëtte², Béatrice Cabon²
¹KIT, Germany; ²IMEP-LAHC, France
- 554 **Corrected Mixed-Domain Measurements for Software Defined Radios**
Diogo C. Ribeiro, Pedro Miguel Cruz, Nuno Borges Carvalho, Universidade de Aveiro, Portugal
- 558 **Towards Metrological Characterization of Vector Signal Analyzers**
Martin Hudlička¹, Mohammed Salhi², D.A. Humphreys³
¹Czech Metrology Institute, Czech Republic; ²PTB, Germany; ³National Physical Laboratory, UK
- 562 **Improved Power Leveling in mm-Wave/Sub-THz Systems**
J. Martens, Anritsu Company, USA
- 566 **The Multipole Resonance Probe: Investigation of an Active Plasma Resonance Probe Using 3D-Electromagnetic Field Simulations**
Christian Schulz, Ilona Rolfes, Tim Styrnoll, Peter Awakowicz, Martin Lapke, Jens Oberrath, Thomas Mussenbrock, Ralf Peter Brinkmann, Robert Storch, Thomas Musch, Ruhr-Universität Bochum, Germany

EuMC30: Metamaterial Based Circuits and Transmission Lines

Chair: Georg Fischer, Friedrich-Alexander University, Erlangen — Co-Chair: Giampiero Gerini, TNO / TU/e

Venue G104, Time 08:30 - 10:10, Thursday 1 November 2012

- 570 **Nonreciprocal Phase-Shift CRLH Transmission Lines Using Geometrical Asymmetry with Periodically Inserted Double Shunt Stubs**
Tetsuya Ueda¹, Junko Fukuda¹, Yuichi Kado¹, Tatsuo Itoh²
¹Kyoto Institute of Technology, Japan; ²University of California at Los Angeles, USA
- 574 **A Feed-Line-Section-Free Super-Compact Multi-Layered CRLH Transmission Line**
Yasushi Horii, Takuya Kaneko, Kansai University, Japan
- 578 **Novel Fully-Planar Extended-Composite Right/Left Handed Transmission Line Based on Substrate Integrated Waveguide for Multi-Band Applications**
Miguel Durán-Sindreu¹, Jordi Bonache¹, Ferran Martín¹, Tatsuo Itoh²
¹Universitat Autònoma de Barcelona, Spain; ²University of California at Los Angeles, USA
- 582 **Light-Controllable Split-Ring Resonators**
Polina V. Kapitanova¹, Stanislav I. Maslovski², Ilya V. Shadrivov³, Pavel A. Belov¹, Yuri S. Kivshar¹
¹NRU ITMO, Russia; ²Universidade de Coimbra, Portugal; ³Australian National University, Australia
- 585 **Tri-Band Isolation Circuits Based on Double-Lorentz Transmission Lines for Quadruplexers**
Hanseung Lee, Tatsuo Itoh, University of California at Los Angeles, USA
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EuMC31: Network Analysis and Calibration

Chair: Danielle Vanhoenacker-Janvier, UCL — Co-Chair: Ilona Rolfes, Universität Bochum

Venue G102, Time 10:40 - 12:20, Thursday 1 November 2012

- 589 **A SOLR Calibration Procedure for the 16-Term Error Model**
Marcus Schramm, Michael Hrobak, Jan Schür, Lorenz-Peter Schmidt, Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany
- 593 **Impact of *in-situ* TRL Reference Impedance Determination on Parameter Extraction**
Andrej Rumiantsev¹, Ralf Doerner², Friedrich Lenk³
¹Cascade Microtech GmbH, Germany; ²FBH, Germany; ³Hochschule Lausitz, Germany
- 597 **A Multimodal Calibration Technique for Waveguide Devices**
Antonio Morini¹, Marco Farina¹, Marco Guglielmi²
¹Università Politecnica delle Marche, Italy; ²ESA, The Netherlands
- 601 **MEMS-Based Reconfigurable Test-Set for Differential and Common Mode Measurement Using a Two-Port Network Analyzer**
Sergio Cobos-Bandera, Juan José Sánchez-Martínez, Enrique Márquez-Segura, Universidad de Málaga, Spain
- 605 **High Impedance Reflectometer Dedicated to Non-Resonant Near-Field Microwave Microscopy**
D. Glay, A. El Fellahi, Tuami Lasri, IEMN, France

EuMC32 : Metamaterial Based Antennas

Chair: Peter Hall, University of Birmingham — Co-Chair: Ramon Gonzalo, Public University of Navarra
Venue G104, Time 10:40 - 12:20, Thursday 1 November 2012

- 609 **Wideband Circularly Polarized Slot Antenna Over Meta-Surface**
Kush Agarwal¹, Nasimuddin², Arokiaswami Alphones¹
*¹Nanyang Technological University, Singapore; ²A*STAR, Singapore*
- 613 **Negative Impedance Converters for Broadband Antenna Matching**
O.O. Tade, P. Gardner, P.S. Hall, University of Birmingham, UK
- 617 **Reflection Phase Characterization of the MEMS-Based High Impedance Surface**
Zhou Du¹, J. Ala-Laurinaho¹, Dmitry Chicherin¹, Antti V. Räsänen¹, Mikael Sterner², Joachim Oberhammer²
¹Aalto University, Finland; ²KTH, Sweden
- 621 **All-Dielectric EBG Horn Antennas for Submillimeter Wavelength Range**
Irina Khromova¹, Iñigo Ederra¹, Ramón Gonzalo¹, Jorge Teniente¹, Karu Esselle²
¹Universidad Pública de Navarra, Spain; ²Macquarie University, Australia
- 625 **Elimination of Beam Squint in Serially Fed Arrays with Negative Group Delay Circuits Incorporating Antenna Elements**
Waleed Alomar, Amir Mortazawi, University of Michigan at Ann Arbor, USA
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EuMC33 : Focused Session: State-of-the-art in Hyperthermia

Chair: Gerard van Rhoon, Erasmus MC Rotterdam — Co-Chair: Peter Zwamborn, TNO
Venue Emerald, Time 13:50 - 15:30, Thursday 1 November 2012

- 628 **Treatment Planning Guided RF Hyperthermia**
M.M. Paulides, Z. Rijnen, J.F. Bakker, P. Togni, P.C. Levendag, Gerard C. van Rhoon, Erasmus MC-Daniel den Hoed, The Netherlands
- 632 **MR and Hyperthermia: Exploiting Similarities for Mutual Benefit**
C.A.T. van den Berg¹, J.J. Bluemink¹, A.L.H.M.W. van Lier¹, M.M. Paulides², J.F. Bakker², R.F. Verhaart², J.J.W. Lagendijk¹, F.F.J. Simonis¹, E. Petersen¹, A.J. Raaijmakers¹
¹University Medical Centre Utrecht, The Netherlands; ²Erasmus MC-Daniel den Hoed, The Netherlands
- 636 **Electric, Magnetic and Electromagnetic Fields in Oncology**
Gerard C. van Rhoon, Erasmus MC-Daniel den Hoed, The Netherlands
- 640 **EMF Methods for Hyperthermia**
Hans Crezee, Academisch Medisch Centrum, The Netherlands
- 644 **EMF Hyperthermia in Children**
Rudiger Wessalowski¹, Richard Canters², Gerard C. van Rhoon²
¹Heinrich-Heine-Universität, Germany; ²Erasmus MC-Daniel den Hoed, The Netherlands

EuMC34: Microwave Materials and Components Characterization

Chair: Daniel Pasquet, ENSEA — Co-Chair: Plamen Dankov, RaySat

Venue G102, Time 13:50 - 15:30, Thursday 1 November 2012

- 647 **A Novel Multimodal Waveguide Technique for the Broadband Characterization of Dielectric Material Parameters**
Berthold Panzner, Andreas Jöstingmeier, Abbas Omar, OvG Universität Magdeburg, Germany
- 651 **Volume Fraction Determination in Pneumatic Conveying Systems by Means of the Pseudo Transmission Measurement Concept Using a Transpolarizing Reflector**
Christoph Baer, Thomas Musch, Michael Vogt, Ruhr-Universität Bochum, Germany
- 655 **Liquids Characterization Using a Dielectric Resonator-Based Microwave Probe**
María F. Córdoba-Erazo, Thomas M. Weller, University of South Florida, USA
- 659 **Nonlinear Behavior of Coupled Resonator Filter at High RF Power Levels in Time and Frequency Domains**
W. Sahyoun, J.-M. Duchamp, Philippe Benech, IMEP-LAHC, France
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EuMC35: Metamaterials Design

Chair: Tatsuo Itoh, University of California at Los Angeles — Co-Chair: Valerie Vigneras, Université de Bordeaux, IMS Lab

Venue G104, Time 13:50 - 15:30, Thursday 1 November 2012

- 663 **The Multi-Band EBG Characteristic of the Mushroom Structure with the Suspending Microstrip Line**
Shi-Yung Wang, Fu-Chiang Chen, National Chiao Tung University, Taiwan
- 667 **Metal-Dielectric Metamaterial for Millimeter Applications**
Riad Yahiaoui¹, Patrick Mounaix¹, Valérie Vigneras²
¹LOMA, France; ²IMS, France
- 671 **A Robust Space Mapping Method for the Practical Synthesis of CSRR-Based Artificial Transmission Lines from Equivalent Circuit Models**
Ana Rodriguez¹, Vicente E. Boria¹, Jordi Selga², Ferran Martín²
¹Universitat Politècnica de València, Spain; ²Universitat Autònoma de Barcelona, Spain
- 675 **Synthesis of CRLH-TLs Based on a Shunt Coupled-Line Section**
Juan José Sánchez-Martínez, Enrique Márquez-Segura, Carlos Camacho-Peñalosa, Universidad de Málaga, Spain
- 679 **Unit Cell of Metamaterial with Isotropic Response Made of Planar Resonators**
Michal Blaha, Jan Machac, Czech Technical University in Prague, Czech Republic

EuRAD/EuMC01 : Space Based Systems

Chair: Antoine Roederer, TU Delft — Co-Chair: Luca Perregrini, University of Pavia

Venue Emerald, Time 08:30 - 10:10, Thursday 1 November 2012

- 683 **Beam Squint Compensation Technique for the Sardinia Radio Telescope**
A. Giannini¹, S. Moscato¹, M. Pasian¹, L. Perregrini¹, Maurizio Bozzi¹, P. Besso²
¹Università di Pavia, Italy; ²ESOC, Germany
- 687 **A 100GHz Millimeter Wave Radar System with 32 Transmitters and 32 Receivers for Space Applications**
Jochen Moll, Mikko Kotiranta, Bernd Hils, Viktor Krozer, Goethe-Universität Frankfurt, Germany
- 691 **Suitability of GaN and LDMOS for 70–82% Efficiency 120–200W HPA Addressing Spaceborne P-Band Radar Applications**
N. Le Gallou¹, Jens Vidkjaer², C. Poivey¹
¹ESA, The Netherlands; ²Technical University of Denmark, Denmark
- 695 **Compact, Flexible, Wideband and Efficient Power Combining Technique for Spatial Applications**
J.-P. Frayssé¹, L. Raynaud¹, D. Lopez¹, M. Maignan¹, G. Soubercaze-Pun², L. Lapierre², N. Picard³, A. Peden³
¹Thales Alenia Space, France; ²CNES, France; ³Lab-STICC, France
- 699 **Critical Technology Breadboarding for the PARIS In-Orbit Demonstration Mission**
M. Martín-Neira, ESA, The Netherlands
-

EuRAD/EuMC02 : Tunable Circuits and Beamforming Antenna Systems

Chair: Stepan Lucyszyn, Imperial College London — Co-Chair: Alexander Koelpin, University of Erlangen-Nuremberg

Venue Europe Foyer 2, Time 08:30 - 10:10, Thursday 1 November 2012

- 703 **Discrete Tunable RF-Power GaN-BST Transistors**
Olof Bengtsson¹, Holger Maune², Felix Golden³, Serguei Chevtchenko¹, Mohsen Sazegar², Paul Kurpas¹, Alex Wiens², Rolf Jakoby², Wolfgang Heinrich¹
¹FBH, Germany; ²Technische Universität Darmstadt, Germany; ³SHF Communication Technologies AG, Germany
- 707 **A Novel Tunable Matching Network for Dynamic Load Modulation of High Power Amplifiers**
Li Yue, Takashi Maehata, Kazuyuki Totani, Hideki Tango, Tatsuya Hashinaga, Takumi Asaina, Sumitomo Electric Industries Ltd., Japan
- 711 **3-Mode Reconfigurable Beam-Forming Array Antenna for Mobile WLAN Application**
Hyun-Sung Tae, Hyeong-Seok Jang, Soo-Ji Lee, Wang-Sang Lee, Jong-Won Yu, KAIST, Korea
- 715 **Fourier Transform Using a Rotman Lens**
Yunhua Zhang, Vincent Fusco, Queen's University Belfast, UK
- 719 **Liquid-Based Tunable Loaded-Line Phase Shifter**
Pierre Meineri, David Dubuc, Katia Grenier, LAAS, France

EuRAD/EuMC03: Innovative Antenna Concepts

Chair: Peter Knott, Fraunhofer FHR — Co-Chair: Marco Pasian, University of Pavia

Venue Emerald, Time 10:40 - 12:20, Thursday 1 November 2012

- 723 **New Broadband Button-Shaped Antenna on Innovative Magneto-Dielectric Material for Wearable Applications**
Martino Aldrigo¹, Davide Bianchini¹, Alessandra Costanzo¹, Diego Masotti¹, Carmen Galassi², Liliana Mitoseriu³
¹Università di Bologna, Italy; ²CNR-ISTEC, Italy; ³Universitatea Alexandru Ioan Cuza, Romania
- 727 **A Novel Log Periodic Implementation of a 700MHz–6GHz Slant Polarised Fixed-Beam Antenna Array for Direction Finding Applications**
Roscoe W.S. Harrison, Michael Jessup, Roke Manor Research Ltd., UK
- 731 **A Dielectric Lens-Based Antenna Concept for High-Precision Industrial Radar Measurements at 24GHz**
Nils Pohl¹, Michael Gerding²
¹Ruhr-Universität Bochum, Germany; ²KROHNE Messtechnik GmbH, Germany
- 735 **Reconfigurable and Dual-Polarization Folded Reflectarray Antenna**
Simone Montori¹, Roberto Vincenti Gatti¹, Roberto Sorrentino¹, Sabine Dieter², Wolfgang Menzel²
¹Università di Perugia, Italy; ²Universität Ulm, Germany
- 739 **Design and Application of a Liquid Crystal Varactor Based Tunable Coupled Line for Polarization Agile Antennas**
Onur Hamza Karabey, Sara Bausch, Saygin Bildik, Sebastian Strunck, Alexander Gaebler, Rolf Jakoby, Technische Universität Darmstadt, Germany
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EuRAD/EuMC04: Phased Array Related Antennas

Chair: Winfried Mayer, Endress+Hauser — Co-Chair: Giampiero Gerini, TNO

Venue Europe Foyer 2, Time 10:40 - 12:20, Thursday 1 November 2012

- 743 **Integrated Filtering in a Planar Array of Connected Dipoles Including a Common-Mode Rejection Module**
Lorenzo Cifola¹, Daniele Cavallo¹, Giampiero Gerini¹, Antonio Morini²
¹TNO, The Netherlands; ²Università Politecnica delle Marche, Italy
- 747 **A Compact Two-Dimensional Phased Array Using Grounded Coplanar-Waveguides Butler Matrices**
Wei-Yang Chen, Ya-Ru Hsieh, Chi-Cheng Tsai, Yi-Ming Chen, Chia-Chan Chang, Sheng-Fuh Chang, National Chung Cheng University, Taiwan
- 751 **Low Cost X-Band Dual Polarization Phased Array Antenna: Scanning Performance**
Jorge L. Salazar, Rafael H. Medina, Eric J. Knapp, David J. McLaughlin, University of Massachusetts at Amherst, USA
- 755 **Composite Right/Left-Handed (CRLH) Phased-Array Feed Network for Frequency Scanning Antenna**
Jun Choi, Yuandan Dong, Tatsuo Itoh, University of California at Los Angeles, USA
- 759 **A Patch-Slot Combination Approach for Large Band Reflectarrays**
T. Makdissy¹, R. Gillard¹, E. Fourn¹, E. Girard², H. Legay²
¹IETR, France; ²Thales Alenia Space, France

EuRAD/EuMC Poster01 : Joint EuMC/EuRAD Poster Session

Chair: Massimiliano Simeoni, Delft University of Technology — Co-Chair: Oleg Krasnov, Delft University of Technology
Venue Exhibition Hall, Time 10:40-17:40, Wednesday 31 October 2012

- 763 **Laser Ablated 48GHz ZOR CRLH Antenna on Alumina Substrate**
Gheorghe Sajin, Florea Craciunoiu, Adrian Dinescu, Iulia Andreea Mocanu, Alexandra Stefanescu, IMT Bucharest, Romania
- 767 **Electrodynamic Model and Calculation of the Effective Permeability Tensor for 3D Magnetic Opal-Based Nanocomposites at Microwaves**
G.S. Makeeva¹, O.A. Golovanov¹, A.B. Rinkevich²
¹Penza State University, Russia; ²Russian Academy of Sciences, Russia
- 771 **Analytical Calculation of Cutoff Wavenumbers of Dielectric Waveguides with Elliptical Cross Section**
Grigorios P. Zouros, John A. Roumeliotis, National Technical University of Athens, Greece
- 775 **Parallel Plate Mode Suppression in LTCC-Integrated Stripline Circuits Using Periodic Bandgap Structures**
Andreas Zirotf, Florian Poprawa, Jörg Hüttner, Siemens AG, Germany
- 779 **Modeling of Shielding Effectiveness of Reinforced Concrete Walls for Electromagnetic Pulse**
Se-Young Hyun, Kyung-Won Lee, Jong-Gwan Yook, Yonsei University, Korea
- 783 **Dispersion of Spin-Electromagnetic Waves in Ferrite-Ferroelectric Multilayered Structure**
A.A. Nikitin¹, V.V. Vitko¹, A.B. Ustinov¹, A.A. Semenov¹, E. Lahderanta²
¹St. Petersburg Electrotechnical University, Russia; ²Lappeenranta University of Technology, Finland
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Joint EuMC/EuRAD Poster Session continued ...

- 787 **Accurate Models for Spiral Resonators**
David Ellstein, Bingnan Wang, Koon Hoo Teo, Mitsubishi Electric Research Laboratories, USA
- 791 **Ab initio Adaptive Meshing for Planar Passive Component Modeling**
Javier Sieiro, José M. López-Villegas, María N. Vidal, Joan A. Osorio, Tomás Carrasco, Saiyd Ahyoune, Universitat de Barcelona, Spain
- 795 **An Alternative Domain Decomposition Technique for CUDA-Based 3D FDTD Methods**
Matthew Livesey¹, James F. Stack Jr.², Fumie Costen³, Takeshi Nanri⁴, Seiji Fujino⁴, Norimasa Nakashima⁴
¹Accenture, UK; ²Remcom Inc., USA; ³University of Manchester, UK; ⁴Kyushu University, Japan
- 799 **Broadband Microstrip to Coplanar Strip Line/Slot Line Transitions on Perpendicular Substrates**
Faïcel Ouasli, Jean-Philippe Coupez, Patrice Pajusco, Christian Person, Lab-STICC, France
- 803 **Development of Microwave System for Tumor Ablation and Imaging**
Ashraf Mohra, Abdel-Fattah Sheta, Zeeshan Siddiqui, Ibrahim Elshafiey, King Saud University, Saudi Arabia
- 807 **Near-Field Measurements of a Millimeter-Wave Reflectarray at 120GHz**
S. Mäkelä¹, A. Tamminen¹, J. Ala-Laurinaho¹, Antti V. Räsänen¹, P. Koivisto², J. Säily², J. Häkli², P. Rantakari², R. Tuovinen², A. Luukanen²
¹Aalto University, Finland; ²VTT Technical Research Centre of Finland, Finland
- 811 **Electrically Small Antenna with Defected Ground Structure**
Hocine Kimouche, Sofiane Oukil, Ecole Militaire Polytechnique, Algeria

Joint EuMC/EuRAD Poster Session continued ...

- 815 **Two-Layer Embedded Half-Split Cylindrical Dielectric Resonator Antenna for Wideband Applications**
Raghvendra Kumar Chaudhary, Kumar Vaibhav Srivastava, Animesh Biswas, IIT Kanpur, India
- 818 **A Novel Method of Optical True Time Delay in Phased Array Antenna**
Zhenhai Ji, Weiqiang Zhu, Zhijian Li, Yongzhi Sun, Qi Wang, Nanjing Electronic Equipment Institute, China
- 822 **Analysis of the FAST ICRH Antenna with Salted Water Load Using HFSS Code**
Gian Luca Ravera¹, Silvio Ceccuzzi¹, Francesco Mirizzi¹, Angelo A. Tuccillo¹, Riccardo Maggiora²
¹ENEA, Italy; ²Politecnico di Torino, Italy
- 826 **Multiple Feed Transmit-Array Antennas with Reduced Focal Distance**
Antonio Clemente¹, Laurent Dussopt¹, Ronan Sauleau², Patrick Potier³, Philippe Pouliguen⁴
¹CEA-LETI, France; ²IETR, France; ³DGA/Maîtrise de l'Information, France; ⁴DGA/Direction de la Stratégie, France
- 830 **Wideband Circularly Polarized Slot Antenna**
*Nasimuddin, Zhi Ning Chen, Xianming Qing, A*STAR, Singapore*
- 834 **Dual-Band Circularly Polarized Hexagonal-Slot Antenna**
Nijee Jeevanandham¹, Nasimuddin², Kush Agarwal¹, Arokiaswami Alphones¹
*¹Nanyang Technological University, Singapore; ²A*STAR, Singapore*
- 838 **Two Dimensional Microstrip Array with High Aperture Efficiency on FR4 Substrate**
Zhongkun Ma, Guy A.E. Vandenbosch, Katholieke Universiteit Leuven, Belgium
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Joint EuMC/EuRAD Poster Session continued ...

- 842 **Comparison of Weighted Sum Approaches for PSO Fitness Functions in Antenna Design**
Zhongkun Ma, Guy A.E. Vandenbosch, Katholieke Universiteit Leuven, Belgium
- 846 **Cabin Ceiling-Integrated Broadband Antenna for Wireless Services in Passenger Aircraft**
B. Schoenlinner¹, M. Steinmayer², B. Schulte³
¹EADS Innovation Works, Germany; ²Diehl Air Cabin GmbH, Germany; ³Astyx GmbH, Germany
- 850 **Compact VHF Quadrifilar Helix Antenna**
Alexandru Takacs¹, Tonio Idda¹, Herve Aubert¹, Hubert Diez²
¹LAAS, France; ²CNES, France
- 854 **Analysis of Coupling Between Parallel Thick Dipoles Within Antenna Arrays**
Irina Paraschiv¹, Hubregt J. Visser²
¹Technische Universiteit Eindhoven, The Netherlands; ²IMEC, The Netherlands
- 858 **A Ka-Band CMOS Low-Phase-Variation Variable Gain Amplifier with Good Matching Capacity**
Pei-Hua Lo, Chien-Chih Lin, Hsin-Chih Kuo, Huey-Ru Chuang, National Cheng Kung University, Taiwan
- 862 **A Solution for the Transient Field Diffracted by an Obtuse-Angled Dielectric Wedge**
Gianluca Gennarelli¹, Giovanni Riccio²
¹CNR-IREA, Italy; ²Università di Salerno, Italy
- 866 **Correlation Analysis of MIMO Channel Measurement Parameters Under 781MHz Environment**
Won Ho Jeong¹, Joo Seock Kim¹, Kyung-Seok Kim¹, Myoung-won Jung², Jong Ho Kim², Young Keun Yoon²
¹Chungbuk National University, Korea; ²ETRI, Korea

Joint EuMC/EuRAD Poster Session continued...

- 871 **The Path Loss Characteristics for New Wireless Mobile Communication Systems in Outdoor Environments**
Myoung-won Jung¹, Jong Ho Kim¹, Joo Seock Kim², Won Ho Jeong², Kyung-Seok Kim², Jeong Ki Park³
¹ETRI, Korea; ²Chungbuk National University, Korea; ³Chungnam National University, Korea
- 877 **Modeling Small Scale Fading for Cognitive Programme Making and Special Event Applications**
Sven Dortmund, Sebastian Sczyslo, Ilona Rolfes, Ruhr-Universität Bochum, Germany
- 880 **Spectral Characteristics of Coupled Plasmonic Modes in Aggregates of Plasma Columns**
Nadiia Stognii, Nataliya Sakhnenko, Kharkiv National University of Radio Electronics, Ukraine
- 884 **3D Patch Antenna Using a Cardboard Substrate for RFID Reader Applications**
Giuseppina Monti, Luca Catarinucci, Claudia Vasanelli, Luciano Tarricone, Università del Salento, Italy
- 888 **A 13.56MHz Rectifier with Efficiency-Improving Harmonic-Termination Circuit for Wireless Power Transmission Systems**
S. Yoshida¹, M. Tanomura¹, R.A. Chinga², Jenshan Lin², Wei-ting Chen³
¹NEC Corporation, Japan; ²University of Florida, USA; ³ITRI, Taiwan
- 892 **X-Band Semi-Passive RFID Tag on Flexible Laminate**
Stevan Preradovic¹, Aleksandar Menicanin²
¹Nitero, Australia; ²University of Belgrade, Serbia
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Joint EuMC/EuRAD Poster Session continued...

- 896 **Initial Calibration Procedure of a Six-Port Receiver System for Complex Data Reception**
S. Lindner, F. Barbon, G. Vinci, Robert Weigel, A. Koelpin, Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany
- 900 **Design and Performance of Fiber-Optic Relay Node for Mobile Communication Systems**
Hiroyuki Otsuka, Hiroki Masuda, Akiyuki Nakajima, Kogakuin University, Japan
- 904 **CMOS RF T/R Router Switch ICs for LTE Carrier Aggregation Transceivers**
Chang-Ming Lai, Je-Kuan Jau, Ping-Hsun Wu, Chun-Hsiang Chi, Chia-Hao Tu, Jian-Yu Li, ITRI, Taiwan
- 908 **Evaluation of Nonlinear Distortion in MIMO Transmitters**
M. Bozic¹, M. Cabarkapa¹, D. Budimir¹, N. Neskovic², A. Neskovic²
¹University of Westminster, UK; ²University of Belgrade, Serbia
- 912 **Compact Printable Chipless RFID Tags Using Polarization Diversity**
Md. Aminul Islam, Nemaï Karmakar, Monash University, Australia
- 916 **Design of High Efficiency Wireless Charging Pad Based on Magnetic Resonance Coupling**
Jinsung Choi¹, Young-Ho Ryu², Dong-Zo Kim², Nam Yoon Kim², Changwook Yoon², Yun-Kwon Park², Sangwook Kwon², Youngoo Yang³
¹RF Micro Devices, USA; ²SAIT, Korea; ³Sungkyunkwan University, Korea
- 920 **Prediction of Multipactor Thresholds in Passive Microwave Components Using an Improved Simulation Method**
Yun Li, Wanzhao Cui, China Academy of Space Technology at Xi'an, China

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Joint EuMC/EuRAD Poster Session continued ...

- 924 **Coupler Based Deterministic Indoor Radio Channel**
Hans W. Pflug, Jac Romme, Georgios Selimis, Johan van den Heuvel, Kathleen Philips, Harmke de Groot, IMEC, Belgium
- 928 **Wireless Sensor Network for Electrical Secondary Substations**
Ricardo André Pinto Faria, Universidade Técnica de Lisboa, Portugal
- 932 **UWB Antenna for Body Implanted Applications**
Kamya Yekeh Yazdandoost, NICT, Japan
- 936 **New Steerable Antenna with Controllable Metamaterial**
Yongzhi Sun, Zhijian Li, Weiqiang Zhu, Zhenhai Ji, Qi Wang, Nanjing Electronic Equipment Institute, China
- 940 **Calibration and Validation of the CASA Phased Array Antenna**
Rafael H. Medina, Jorge L. Salazar, Eric J. Knapp, David J. McLaughlin, University of Massachusetts at Amherst, USA
- 944 **Planar Square Quadrifilar Spiral Antenna for Mobile RFID Reader**
Soo-Ji Lee, Dong-Jin Lee, Hyeong-Seok Jang, Hyun-Sung Tae, Jong-Won Yu, KAIST, Korea
- 948 **Impact of Truncation on Finite-Sized Dual-Band Linear Phased Arrays**
A.S.E. Valavan, Massimiliano Simeoni, Alexander G. Yarovoy, Technische Universiteit Delft, The Netherlands
- 952 **Beamforming with Efficient Node Selection Techniques for Green Cognitive Radio Networks**
N.M Tessema, X. Lian, H. Nikoogar, Technische Universiteit Delft, The Netherlands

EuMIC/EuMC01 : Active Components and Systems for Phased Arrays

Chair: Maurizio Bozzi, University of Pavia — Co-Chair: Peter Hoogeboom, Delft University of Technology

Venue G102, Time 13:50 - 15:30, Monday 29 October 2012

- 956 **A Si-CMOS 5-Bit Baseband Phase Shifter Using Fixed Gain Amplifier Matrix**
Tuan Thanh Ta, Shoichi Tanifuji, Suguru Kameda, Noriharu Suematsu, Tadashi Takagi, Kazuo Tsubouchi, Tohoku University, Japan
- 960 **PLL with Secondary Loop Control for Self Tracking Antennas**
N.B. Buchanan, Vincent Fusco, Queen's University Belfast, UK
- 963 **Network Analysis of the Influence of Hardware Imperfections on DoA Estimation**
Markus Stefer, Sven Kablitz, Martin Schneider, Universität Bremen, Germany
- 967 **Spatially Modulated Communication Method Using Dual Scatterers for Wireless Power Transmission**
Kohei Hasegawa, Ryo Ishikawa, Akira Saitou, Kazuhiko Honjo, University of Electro-Communications, Japan
- 971 **Sensing of Stochastic Waves with Circular Antenna Arrays**
Johannes A. Russer, Giuseppe Scarpa, Paolo Lugli, Peter Russer, Technische Universität München, Germany

EuMIC/EuMC02 : Microwave Photonics

Chair: Asher Madjar, M2Microwaves — Co-Chair: Andreas Stohr, Universitat Duisburg-Essen

Venue G102, Time 16:00 - 17:40, Monday 29 October 2012

- 975 **Investigations on Noise Processes in Optical Resonator Based Microwave Oscillators**
Khalidoun Saleh¹, Pierre-Henri Merrer¹, Olivier Llopis¹, Gilles Cibiel²
¹LAAS, France; ²CNES, France
- 979 **A Novel Configuration for Optical SSB Modulation**
M. Dispenza, A. Secchi, S. Casagrande, M. Ricci, A.M. Fiorello, SELEX Sistemi Integrati S.p.A., Italy
- 983 **Integrated E-Band Photoreceiver Module for Wideband (71–76GHz) Wireless Transmission**
Vitaly Rymanov¹, Sebastian Babiell¹, Andreas Stöhr¹, Sascha Lutzmann², Merih Palandöken², Bouchaib Bouhlal², Tolga Tekin²
¹Universität Duisburg-Essen, Germany; ²Technische Universität Berlin, Germany
- 987 **Live Electrooptic Imaging of K-Band Switching Actions and Parasitic Phenomena in MMIC Module**
M. Tsuchiya¹, T. Shiozawa²
¹NICT, Japan; ²Kagawa National College of Technology, Japan
- 991 **Band-Pass Non-TEM Mode Traveling-Wave Electro-Optic Polymer Modulator**
Faezeh Fesharaki, Ke Wu, École Polytechnique de Montréal, Canada
-

EuMIC/EuMC03 : Packaging and Interconnects

Chair: Walter De Raedt, IMEC — Co-Chair: Jean-Louis Cazaux, Thales Alenia Space

Venue G105, Time 16:00 - 17:40, Monday 29 October 2012

- 995 **Novel Packaging, Cooling and Interconnection Method for GaN High Performance Power Amplifiers and GaN Based RF Front-Ends**
A. Margomenos, M. Micovic, A. Kurdoghlian, K. Shinohara, D.F. Brown, C. Butler, I. Milosavljevic, P.B. Hasimoto, R. Grabar, P.J. Willadsen, R. Bowen, P. Patterson, M. Wetzel, D.H. Chow, HRL Laboratories LLC, USA
- 999 **Embedded IC Module Package Using Silicon Substrate**
Jong-Min Yook, Jun Chul Kim, Dongsu Kim, Jong-Chul Park, KETI, Korea
- 1003 **Mode Suppressing Packaging for 50GHz Cryogenic Low-Noise Amplifiers**
Doug Henke, Frank Jiang, Stéphane Claude, National Research Council Canada, Canada
- 1007 **Plastic-Based Substrate Integrated Waveguide (SIW) Components and Antennas**
Riccardo Moro¹, Maurizio Bozzi¹, Ana Collado², Apostolos Georgiadis², Selva Via²
¹Università di Pavia, Italy; ²CTTC, Spain
- 1011 **A Physical Model for Skin Effect in Rough Surfaces**
G. Gold, K. Helmreich, Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany

EuMIC/EuMC04: GaN and GaAs Power Amplifiers

Chair: *Christophe Gaquiere, IEMN* — Co-Chair: *Johannes Benedikt, University of Cardiff*

Venue G102, Time 13:50 – 15:30, Tuesday 30 October 2012

- 1015 **Dual-Band Class-ABJ AlGaIn/GaN High Power Amplifier**
V. Carrubba, Stephan Maroldt, M. Mußer, H. Walcher, Michael Schlechtweg, Ruediger Quay, Oliver Ambacher, Fraunhofer IAF, Germany
- 1019 **A 30W, 46% PAE S-Band GaN HEMT MMIC Power Amplifier for Radar Applications**
O. Jardel¹, M. Olivier², D. Lancereau¹, R. Aubry¹, E. Chartier¹, N. Sarazin¹, M.-A. Di Forte Poisson¹, S. Piotrowicz¹, M. Stanislawiak², D. Rimbart², S.L. Delage¹, P. Eudeline²
¹III-V Lab, France; ²Thales Air Systems, France
- 1023 **Highly Integrated S and C-Band Internally-Matched Quasi-MMIC Power GaN Devices**
Marc Camiade¹, Diane Bouw¹, Guillaume Mougnot¹, Francis Auvray¹, Pierre Franck Alleaume¹, D. Floriot¹, Laurent Favède¹, James Thorpe², Hermann Stieglauer²
¹United Monolithic Semiconductors, France; ²United Monolithic Semiconductors, Germany
- 1027 **A 45dBm Balanced Power Amplifier Module Based on Four Fully Integrated Doherty PA MMICs: A Scalable Solution for Cellular Infrastructure Active Antenna Systems**
Udo Karthaus, Deepti Sukumaran, Lothar Schmidt, Stephan Ahles, Horst Wagner, Ubidyne GmbH, Germany
- 1031 **Multi-Band/Multi-Mode and Efficient Transmitter Based on a Doherty Power Amplifier**
Paul Saad¹, Luca Piazzon², Paolo Colantonio², Junghwan Moon³, Franco Giannini², Kristoffer Andersson¹, Bumman Kim³, Christian Fager¹
¹Chalmers University of Technology, Sweden; ²Università di Roma "Tor Vergata", Italy; ³POSTECH, Korea
-

EuMIC/EuMC05: Transmitter and Receiver Circuits for Communication Applications

Chair: *Klaus Beilenhoff, UMS GmbH* — Co-Chair: *Frank van den Bogaart, TNO*

Venue G103, Time 13:50 – 15:30, Tuesday 30 October 2012

- 1035 **Efficient Amplification of Signals with High PAPR Using a Novel Multilevel LINC Transmitter Architecture**
Ahmed F. Aref, AbdElRahman Askar, Ahmed A. Nafe, Mohsin M. Tarar, Renato Negra, RWTH Aachen University, Germany
- 1039 **Performance Estimation of Fully Digital Polar Modulation Driving a 2GHz Switch-Mode Power Amplifier**
Philip Ostrovskyy¹, J. Christoph Scheytt¹, Arash Sadeghfam², Holger Heuermann²
¹IHP GmbH, Germany; ²FH Aachen, Germany
- 1043 **Small Size Receiver Band Self-Interference Cancellation Amplifier for 4G Transceivers**
Koukkari Eero¹, Kurttio Pasi¹, Heiskanen Antti¹, Holappa Veli-Matti¹, Peltokorpi Jani¹, Tarvainen Timo¹, Lanfranco Sandro², Kolmonen Tapio², Somerma Hans²
¹Esju Oy, Finland; ²Nokia Siemens Networks, Finland
- 1047 **Evaluation of Second-Order Bandpass Sampling Receivers for Software Defined Radio**
Pedro Miguel Cruz¹, Nuno Borges Carvalho¹, Mikko E. Valkama²
¹Universidade de Aveiro, Portugal; ²Tampere University of Technology, Finland
- 1051 **High ACLR 1-Bit Direct Radio Frequency Converter Using Symmetric Waveform**
Takashi Maehata¹, Suguru Kameda², Noriharu Suematsu²
¹Sumitomo Electric Industries Ltd., Japan; ²Tohoku University, Japan

EuMIC/EuMC06: RF MEMS: Tunable and Switchable Circuits

Chair: Volker Ziegler, EADS Innovation Works — Co-Chair: Harrie Tilmans, IMEC

Venue G104, Time 13:50 – 15:30, Tuesday 30 October 2012

- 1055 **MEMS 30 μ m-Thick W-Band Waveguide Switch**
Z. Baghchehsaraei¹, U. Shah¹, S. Dudorov¹, G. Stemme¹, Joachim Oberhammer¹, Jan Åberg²
¹KTH, Sweden; ²MicroComp Nordic AB, Sweden
- 1059 **Design and Characterization of a Simplified Planar 16 \times 8 RF MEMS Switch Matrix for a GEO-Stationary Data Relay**
Sascha A. Figur¹, Erika Meniconi¹, Ulrich Prechtel¹, Volker Ziegler¹, B. Schoenlinner¹, Roberto Sorrentino², Larissa Vietzorreck³
¹EADS Innovation Works, Germany; ²Università di Perugia, Italy; ³Technische Universität München, Germany
- 1063 **Original Tunable RF MEMS Passive Components Integrated into a Single Chip**
Pierre Nicole¹, Julien Pagazani², Lionel Rousseau², Frédéric Marty², Nicolas Pavy², Gaëlle Lissorgues²
¹Thales Airborne Systems, France; ²ESYCOM, France
- 1067 **Constant Absolute Bandwidth UHF Tunable Filter Using RF MEMS**
G. Nicolini¹, Cyril Guines¹, Damien Passerieux¹, P. Blondy¹, G. Neveu², M.P. Dussauby², W. Rebernak², M. Giraud²
¹XLIM, France; ²Thales Communications, France
- 1071 **Millimeter-Wave RF-MEMS SPDT Switch Networks in a SiGe BiCMOS Process Technology**
S. Reyaz¹, C. Samuelsson², Robert Malmqvist¹, Mehmet Kaynak³, A. Rydberg¹
¹Uppsala University, Sweden; ²FOI, Sweden; ³IHP GmbH, Germany
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EuMIC/EuMC07: Advanced Technologies for Efficient High-Frequency Amplification

Chair: Bumman Kim, POSTECH — Co-Chair: Paolo Colanonio, University of Rome Tor Vergata

Venue G106, Time 13:50 – 15:30, Tuesday 30 October 2012

- 1075 **X- and Ku-Band Internally Matched GaN Amplifiers with More Than 100W Output Power**
H. Noto, H. Maehara, H. Uchida, M. Koyanagi, H. Utsumi, J. Nishihara, H. Otsuka, K. Yamanaka, M. Nakayama, Y. Hirano, Mitsubishi Electric Corporation, Japan
- 1079 **A 20dBm E-Band Power Amplifier in SiGe BiCMOS Technology**
Roe Ben Yishay, Roi Carmon, Oded Katz, Benny Sheinman, Danny Elad, IBM Haifa Research Lab, Israel
- 1083 **A U-Band Broadband Power Amplifier MMIC in 100nm AlGaIn/GaN HEMT Technology**
D. Schwantuschke¹, Peter Brückner¹, Ruediger Quay¹, M. Mikulla¹, Oliver Ambacher¹, Ingmar Kallfass²
¹Fraunhofer IAF, Germany; ²KIT, Germany
- 1087 **Multifinger InP HBT's in Transferred-Substrate Technology for 100GHz Power Amplifiers**
T. Jensen, T. Kraemer, T. Al-Sawaf, Viktor Krozer, Wolfgang Heinrich, G. Tränkle, FBH, Germany
- 1091 **Design of an Integrated Cascode Cell for Compact Ku-Band Power Amplifiers**
Adeline Dechansiaud¹, Raphael Sommet¹, Tibault Reveyrand¹, Raymond Quere¹, Diane Bouw², Christophe Chang², Marc Camiade², Francois Deborgies³
¹XLIM, France; ²United Monolithic Semiconductors, France; ³ESA, The Netherlands

EuMIC/EuMC Poster01 : Joint EuMIC/EuMC Poster Session

Chair: Ioan E. Lager, Delft University of Technology — Co-Chair: Arttu Luukanen, VTT

Venue Exhibition Hall, Time 10:10 - 17:40, Tuesday 30 October 2012

- 1095 **Design of 60-GHz Millimeter-Wave Integrated Chip Antenna and Bandpass Filter Using IPD Technology**
Ta-Yeh Lin¹, Chun-Chi Lin², Tsenchieh Chiu³, Chia-Chan Chang², Hsu-Chen Cheng¹, Da-Chiang Chang¹
¹National Chip Implementation Center, Taiwan; ²National Chung Cheng University, Taiwan; ³National Central University, Taiwan
- 1099 **Quasi-Octave Bandwidth Phase Matched K/Ka Antenna Feed Subsystem for Dual RHCP/LHCP Polarization**
Angel Mediavilla, Juan L. Cano, Karen Cepero, Universidad de Cantabria, Spain
- 1103 **Compact Filters Using Metal-Dielectric Inserts**
O. Glubokov, D. Budimir, University of Westminster, UK
- 1107 **A Solution to Relax Breakdown Threshold in Waveguide Filters**
K. Frigui¹, S. Bila¹, D. Baillargeat¹, A. Catherinot², S. Verdeyme¹, J. Puech³, L. Estagerie³, D. Pacaud⁴, H. Dillenbourg⁴
¹XLIM, France; ²SPCTS, France; ³CNES, France; ⁴Thales Alenia Space, France
- 1111 **LTCC Filter Based on Via Resonators**
Vasily Kondratyev, Kari Kautio, Markku Lahti, VTT Technical Research Centre of Finland, Finland
- 1115 **Parallel-Coupled Stub-Loaded Resonator Filters with Wide Spurious Suppression**
M. Akra¹, H. Issa¹, E. Pistono¹, A. Jrad², N. Corrao¹, P. Ferrari¹
¹IMEP-LAHC, France; ²Lebanese University, Lebanon
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Joint EuMIC/EuMC Poster Session continued ...

- 1119 **Novel Compact Dual-Mode Tri-Band Bandpass Filter for WiMAX & GSM Applications**
A.M. Elelimy, Ayman M. El-Tager, A.G. Sobih, M.H. Abdel-Azeem, MTC, Egypt
- 1123 **Design of Coplanar Bandstop Filter Based on Open-Loop-Ring Resonator and DGS for WLAN and UWB Applications**
A. Batmanov¹, E. Burte¹, R. Mikuta¹, A. Boutejdar¹, Abbas Omar¹, A. Khaidurova²
¹OvG Universität Magdeburg, Germany; ²Technical University of Irkutsk, Russia
- 1127 **An Unequal Wilkinson Power Divider with a High Dividing Ratio**
Myung-Seok Kang¹, Young Kim¹, Young-Chul Yoon²
¹Kumoh National Institute of Technology, Korea; ²Kwandong University, Korea
- 1130 **Horst-Type Wilkinson Power Dividers for Dual-Band Operation**
Iwata Sakagami, Xiaolong Wang, Kensaku Takahashi, Shingo Okamura, Minoru Tahara, University of Toyama, Japan
- 1134 **An X-Band Full-360° Reflection Type Phase Shifter with Low Insertion Loss**
Wei-Tsung Li¹, Yen-Hung Kuo¹, Yi-Ming Wu¹, Jen-Hao Cheng¹, Tian-Wei Huang¹, Jeng-Han Tsai²
¹National Taiwan University, Taiwan; ²National Taiwan Normal University, Taiwan
- 1138 **Performance of Nonsynchronous Noncommensurate Impedance Transformers in Comparison to Tapered Line Transformers**
Kseniya Kim¹, Vitaliy Zhurbenko¹, Tom Keinicke Johansen¹, Kumar Narendra²
¹Technical University of Denmark, Denmark; ²Motorola Technology, Malaysia
- 1142 **Design of a Tunable Oscillator Using a Suspended-Stripline Resonator**
Il-Heung Kang, Young-Gon Kim, Dong-Sik Woo, Sung-Kyun Kim, Kang Wook Kim, Kyungpook National University, Korea

Joint EuMIC/EuMC Poster Session continued ...

- 1146 **Single-Sleeve Waveguide-to-Microstrip Transition Probe for Full Waveguide Bandwidth**
Chi-Chang Lin, Yuh-Jing Hwang, Academic Sinica, Taiwan
- 1150 **Development of Packaged UWB Passive Devices Using LCP Multilayer Circuit Technology**
Francisco Cervera¹, Jiasheng Hong¹, Neil Thomson²
¹Heriot-Watt University, UK; ²BSC Filter Ltd., UK
- 1154 **Combined Twist-Bend for Very Compact Interconnections in Integrated Waveguide Subsystems**
Uwe Rosenberg¹, Ralf Beyer²
¹Mician Global Engineering GbR, Germany; ²Mician GmbH, Germany
- 1158 **RF and IF Channelizers for Wide-Band Sensing in Cognitive/Software-Defined-Radio Receivers**
José Pedro Magalhães¹, José Neto Vieira¹, Roberto Gomez-Garcia², Nuno Borges Carvalho¹
¹Universidade de Aveiro, Portugal; ²Universidad de Alcalá, Spain
- 1162 **Transmission Line with Integrated Symmetrical 1-kV HBM DC-100GHz ESD Protection in Advanced CMOS Technologies**
T. Lim¹, J. Jimenez¹, Philippe Benech², J.-M. Fournier², P. Galy¹
¹STMicroelectronics, France; ²IMEP-LAHC, France
- 1166 **Alternate Lamination of High-Permittivity Dielectric Materials for Super Thin Wave Absorber**
T. Fujita¹, T. Yasuzumi¹, Y. Tsuda¹, R. Suga¹, O. Hashimoto¹, T. Wano², Y. Fukuda²
¹Aoyama Gakuin University, Japan; ²Nitto Denko Corporation, Japan

Joint EuMIC/EuMC Poster Session continued ...

- 1170 **Full-Printed Inductors on Flexible Plastic Foils for Electromagnetic Energy Harvesting: Fabrication, Characterization, Modeling**
Evangéline Bèvent¹, Emmanuel Bergeret¹, Matthieu Egels¹, Philippe Pannier¹, Abdelkader Aliane², Anis Daami², Romain Coppard²
¹IM2NP, France; ²CEA-LITEN, France
- 1174 **X-Parameter-Based Frequency Doubler Design**
Jialin Cai, Thomas J. Brazil, University College Dublin, Ireland
- 1178 **Compact Multi-Notched UWB Bandpass Filter Using E-Shape Microstrip Structure**
Raaed T. Hammed, Dariush Mirshekar-Syahkal, University of Essex, UK
- 1182 **Non-Uniform Q-Factor Distribution in Microwave Filters**
P. Martín Iglesias, I.C. Hunter, University of Leeds, UK
- 1186 **A Novel Bandpass Filter Using Higher-Order Degenerate Modes of Planar Photonic Crystal Microcavity in Terahertz Regime**
Chun-Ping Chen¹, Yosuke Kamiji¹, Junya Oda¹, Naoki Nagaoka², Tetsuo Anada¹, Shigeki Takeda³
¹Kanagawa University, Japan; ²Nitto Denko Corporation, Japan; ³Antenna Giken Co. Ltd., Japan
- 1190 **Interaction of Time-Varying Airy Pulses with a Layer**
A. Nerukh¹, D. Zolotariov¹, D. Nerukh²
¹KNURE, Ukraine; ²Aston University, UK
- B#5 **An X-Band RFIC Active Phase Shifter**
Mustafa Doğan¹, İbrahim Tekin²
¹TÜBİTAK, Turkey; ²Sabancı University, Turkey

Joint EuMIC/EuMC Poster Session continued ...

- 1198 **Millimeter-Wave Power Amplifier Module Using Redistribution Layer Technology**
Masaru Sato, Yoshikatsu Ishizuki, Shinya Sasaki, Hiroshi Matsumura, Toshihide Suzuki, Motoaki Tani, Fujitsu Laboratories Ltd., Japan
- 1202 **High-Q 3D Embedded Inductors Using TSV for RF MEMS Tunable Bandpass Filters (4.65–6.8GHz)**
Wolfgang A. Vitale, Montserrat Fernández-Bolaños, Adrian M. Ionescu, EPFL, Switzerland
- 1206 **Tunable RF GaN-Power Transistor Implementing Impedance Matching Networks Based on BST Thick Films**
Holger Maune¹, Olof Bengtsson², Felix Gölden³, Mohsen Sazegar¹, Rolf Jakoby¹, Wolfgang Heinrich²
¹Technische Universität Darmstadt, Germany; ²FBH, Germany; ³SHF Communication Technologies AG, Germany
- 1210 **Dual Metamaterials Substrate Integrated Leaky-Wave Structures for Antenna Applications**
*Nasimuddin, Zhi Ning Chen, Xianming Qing, A*STAR, Singapore*
- 1214 **Metamaterial Based Packaging Method for Improved Isolation of Circuit Elements in Microwave Modules**
Ashraf Uz Zaman, Mubarak Sani Ellis, Per-Simon Kildal, Chalmers University of Technology, Sweden
- 1218 **Modeling of Hyperbolic Metamaterials with Two-Dimensional Transmission Lines**
Alyona V. Chshelokova, Polina V. Kapitanova, Alexander N. Poddubny, Pavel A. Belov, Yuri S. Kivshar, NRU ITMO, Russia
- B#5 **A Thin Wide and Multi-Bands Resistive Split Ring Resonator Metamaterial Absorber**
M. Abdalla, M. Foad, H. Elregealy, A. Mitkees, MTC University, Egypt
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- 1225 **Circuit Model for Metallic Gratings with Tapered and Stepped Slits**
F. Medina, R. Rodríguez-Berral, F. Mesa, Universidad de Sevilla, Spain
- 1229 **Electromagnetic Wave Reflection and Transmission by a Fine-Stratified Semiconductor-Dielectric Periodic Structure in an External Magnetic Field**
Illia Fedorin¹, Aleksey Bulgakov²
¹NTU "KhPI", Ukraine; ²National Academy of Sciences of Ukraine, Ukraine
- 1233 **Diagonally Shifted Coupled Lines with Adjacent Ground Through-Holes on Uncrossed Signal Line Ends**
Takeshi Yuasa, Yukihiko Tahara, Tetsu Owada, Naofumi Yoneda, Mitsubishi Electric Corporation, Japan
- 1237 **Output Design Considerations in Wireless Portable Through-the-Earth Communications System Using Current Injection**
Antonio Muñoz, Arturo Mediano, Universidad de Zaragoza, Spain
- 1241 **Barium Strontium Titanate Varactors with High 1dB Compression Points**
M.F. Abdul Khalid, A.S. Holland, Kamran Ghorbani, RMIT University, Australia
- 1245 **Computer Aided Design and Structural Optimization for Microwave Components**
N. Mahdi¹, S. Bila¹, S. Verdeyme¹, M. Aubourg¹, C. Dourousseau¹, A. Bessaoudou¹, J. Puech², L. Estagerie², D. Pacaud³, Hervé Leblond³
¹XLIM, France; ²CNES, France; ³Thales Alenia Space, France
- 1249 **2-D Enhanced Hammerstein Behavior Model for Concurrent Dual-Band Power Amplifiers**
Junghwan Moon¹, Paul Saad², Junghwan Son¹, Christian Fager², Bumman Kim¹
¹POSTECH, Korea; ²Chalmers University of Technology, Sweden

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- 1253 **A Wide Supply Voltage and Low-Rx Noise Envelope Tracking Supply Modulator IC for LTE Handset Power Amplifiers**
Yuri Honda, Yuu Yokota, Norio Goto, Noriaki Matsuno, Yasuo Saito, Renesas Electronics Corporation, Japan
- 1257 **On the Impact of Timing Mismatch and Memory Length on Digital Predistortion Systems**
Markus Hoflehner, Andreas Springer, Johannes Kepler Universität Linz, Austria
- 1261 **A Low Noise Ka-Band Amplifier for Radio Astronomy**
Mark McCulloch, Edward J. Blackhurst, Richard J. Davis, Adrian Galtress, Danielle George, Simon J. Melhuish, Lucio Piccirillo, University of Manchester, UK
- 1265 **Characterization of Electrical Memory Effects for Complex Multi-Tone Excitations Using Broadband Active Baseband Load-Pull**
M. Akmal¹, F.L. Ogboi¹, Z. Yusoff¹, Jonathan Lees¹, V. Carrubba¹, Heungjae Choi¹, Souheil Bensmida², Kevin A. Morris², Mark A. Beach², Joe P. McGeehan², Johannes Benedikt¹, Paul J. Tasker¹
¹Cardiff University, UK; ²University of Bristol, UK
- 1269 **A Single-Transistor Tunable Filter for Bluetooth Applications**
L. Pantoli, V. Stornelli, G. Leuzzi, Università dell'Aquila, Italy
- 1273 **Bandwidth Control of Reconfigurable Bandpass Filter by Automatic Coupling Adjustment Techniques**
Takayuki Arai, Yasushi Yamao, University of Electro-Communications, Japan
- 1277 **Design and Characterization of SiC Varactor-Based Phase Shifters**
R. Quaglia¹, V. Camarchia¹, Christer M. Andersson², M. Pirola¹, Christian Fager², D. Kuylenstierna²
¹Politecnico di Torino, Italy; ²Chalmers University of Technology, Sweden
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- 1281 **Implementation of Compact Triple-Mode Module by Embedding an IC in Printed-Circuit-Board**
Jong-In Ryu, Se-Hoon Park, Dongsu Kim, Jun Chul Kim, Jong-Chul Park, KETI, Korea
- 1285 **A 77GHz Radar Frontend in LTCC for Small Range, High Precision Industrial Applications**
Tobias Klein¹, Matthias Faassen¹, Reinhard Kulke¹, Christian Rusch²
¹IMST GmbH, Germany; ²KIT, Germany
- 1289 **Frequency-Independent Smart Interference Suppression for Multi-Standard Transceivers**
Erwin J.G. Janssen, Dusan Milosevic, Peter G.M. Baltus, Arthur H.M. van Roermund, Hooman Habibi, Technische Universiteit Eindhoven, The Netherlands
- 1293 **T/R Module for CASA Phase-Tilt Radar Antenna Array**
Rafael H. Medina, Eric J. Knapp, Jorge L. Salazar, David J. McLaughlin, University of Massachusetts at Amherst, USA
- 1297 **RX-TX Analog Front-End Module with 2 × 96-Channels for mm-Wave Imaging Systems**
Andreas Schiessl¹, Ralf Juenemann¹, Lorenz-Peter Schmidt²
¹Rohde & Schwarz, Germany; ²Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany
- 1300 **Multiphysics Modeling of Metal Ceramic Compact for Microwave Processing**
Jutika Devi, M. Jaleel Akhtar, IIT Kanpur, India
- 1304 **Instrument Related Structure in Covariance Matrices Used for Uncertainty Propagation**
D.A. Humphreys, P.M. Harris, J.M. Miall, National Physical Laboratory, UK

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- 1308 **Evaluation of Quadrature PWM Modulator Performance for Digital Wideband Transmitters**
Henri A. Ruotsalainen, Holger Arthaber, Technische Universität Wien, Austria
- 1312 **Frequency Scaling of Rain Attenuation Based on 4-Year Statistics Obtained on Two Parallel Terrestrial Paths at 58GHz and 93GHz**
Vaclav Kvicera¹, Martin Grabner¹, Ondrej Fiser²
¹Czech Metrology Institute, Czech Republic; ²Academy of Sciences of the Czech Republic, Czech Republic
- 1316 **SNR Performance Verification of Different UWB Receiver Architectures**
Lukasz Zwirello, Christoph Heine, Xuyang Li, Tom Schipper, Thomas Zwick, KIT, Germany
- 1320 **Miniaturized Microwave Cavity for Rubidium Atomic Frequency Standards**
Maddalena Violetti¹, Christoph Affolderbach², Francesco Merli¹, Jean-François Zürcher¹, Gaetano Mileti², Anja Skrivervik¹
¹EPFL, Switzerland; ²Université de Neuchâtel, Switzerland
- B#5 **The Refraction Factor in a Millimeter Wave Band for Identification of Potable Water from Natural Sources**
G.V. Golubnichaya, A.Ya. Kirichenko, E.V. Krivenko, V.I. Lutsenko, National Academy of Sciences of Ukraine, Ukraine
- 1328 **A Calibration System for the Green Bank Telescope 4mm Receiver: On-Telescope, RFI-Free Calibration for 68–92GHz Observations**
Galen Watts, National Radio Astronomy Observatory, USA
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APMC01 : Special Session on Asia-Pacific Microwave Conference

Chair: Roberto Sorrentino, EuMA — Co-Chair: Bumman Kim, Pohang University of Science and Technology

Venue G105, Time 10:40 - 12:20, Wednesday 31 October 2012

- 1331 **Compact Multi-Function Antennas Designed Using Filter Synthesis Technique**
Shyh-Jong Chung, Hsiao-Ning Wang, National Chiao Tung University, Taiwan
- N#A **RF CMOS PAs for Mobile Communications**
Songcheol Hong, KAIST, Korea
- 1335 **Properties and Radar Cross-Section of Forest Fire Ash Particles at Millimeter Wave**
Kamran Ghorbani, Thomas C. Baum, Lachlan Thompson, RMIT University, Australia

APMC02 : Focused Session: Microwaves Inside Asia - 1

Chair: Guy Vandenbosch, KU Leuven — Co-Chair: Ruey-Beei Wu, National Taiwan University

Venue G105, Time 13:50 - 15:30, Wednesday 31 October 2012

- 1339 **Ultra High Efficiency Microwave Power Amplifier for Wireless Power Transmission**
Kazuhiko Honjo, Ryo Ishikawa, Yoichiro Takayama, University of Electro-Communications, Japan
- 1343 **High-Sensitivity Superconducting Receivers Developed for mm & Submm Astronomy in China**
Sheng-Cai Shi, Chinese Academy of Sciences, China
- 1347 **Recent Wireless Power Transmission via Microwave and Millimeter-Wave in Japan**
Naoki Shinohara, Kyoto University, Japan
- 1351 **Research and Development of Microwave & Millimeter-Wave Technology in Singapore**
Zhi Ning Chen¹, Xianming Qing¹, Michael Y.W. Chia¹, Michael L.C. Ong¹, Kaixue Ma², Kiat Seng Yeo², Rui Li¹
*¹A*STAR, Singapore; ²Nanyang Technological University, Singapore*
- 1355 **Millimeter-Wave CMOS Transceiver Linearization for Ultra High-Speed Wireless Backhaul Links**
Tian-Wei Huang¹, Wei-Tsung Li¹, Hong-Yuan Yang¹, Yen-Hung Kuo¹, Jen-Hao Cheng¹, Jeng-Han Tsai²
¹National Taiwan University, Taiwan; ²National Taiwan Normal University, Taiwan
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APMC03 : Focused Session: Microwaves Inside Asia - 2

Chair: Guy Vandenbosch, KU Leuven — Co-Chair: Ruey-Beei Wu, National Taiwan University

Venue G105, Time 16:00 - 17:40, Wednesday 31 October 2012

- 1359 **Research and Development of Millimetre Wave Circuits and Subsystems in India: An Overview**
Shiban Kishen Koul, IIT Delhi, India
- N#A **Microwave Circuit Activities in Korea Related to Mobile Communication**
Bumman Kim, POSTECH, Korea
- N#A **Recent Progress in Non-Planar Microwave Filters — From Theory and Practices**
Ke-Li Wu, Chinese University of Hong Kong, China