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EuMIC01: III-V HEMT Based Millimeter-Wave and THz Integrated Circuits

Chair: Ingmar Kallfass, Universität Stuttgart

Co-Chair: Herbert Zirath, Chalmers University

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¹Goethe-Universität Frankfurt, Germany; ²FBH, Germany
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¹M/A-COM Technology Solutions, Australia; ²Macquarie University, Australia

EuMIC02: Fully Integrated Power Amplifiers in GaN, GaAs and SiGe

Chair: Frank van den Bogaart, TNO

Co-Chair: Nathalie Deltime, University of Bordeaux

Venue Maillot, Time 08:30 – 10:10, Monday 7th September 2015

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¹Università di Roma “Tor Vergata”, Italy; ²Politecnico di Torino, Italy
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Chair: Carlos Camacho-Peñalosa, Universidad de Malaga

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Co-Chair: Shmuel Auster, Elta Systems

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Co-Chair: Teresa M. Martin-Guerrero, Universidad de Malaga

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¹IEMN, France; ²Université de Sherbrooke, Canada
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¹Fraunhofer IAF, Germany; ²Technische Universität Ilmenau, Germany

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Chair: Gilles Dambrine, University of Lille

Co-Chair: Ali Rezazadeh, University of Manchester

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Chair: Eric Tournier, University of Toulouse

Co-Chair: Frank van Vliet, TNO

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¹Technische Universität Braunschweig, Germany; ²Technische Universität Dresden, Germany; ³RWTH Aachen University, Germany
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¹Technion, Israel; ²Intel Corporation, Israel
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Chair: Ali Rezazadeh, University of Manchester

Co-Chair: Didier Floriot, UMS

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¹XLIM, France; ²Università di Padova, Italy; ³Thales Alenia Space, France
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¹University of Manchester, UK; ²IEMN, France
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¹Technical University of Denmark, Denmark; ²III-V Lab, France
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¹III-V Lab, France; ²IEMN, France; ³LASIR, France; ⁴Thales Research & Technology, France; ⁵United Monolithic Semiconductors, France; ⁶Thales Systèmes Aéroportés, France

EuMIC10: Broadband Components in III-V Technologies

Chair: Frank van Vliet, TNO

Co-Chair: Alaa Abunjaileh, Airbus Defence and Space

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Chair: Nils Pohl, Fraunhofer FHR

Co-Chair: Emanuel Cohen, Israel Institute of Technology

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¹Waseda University, Japan; ²Denso Corporation, Japan
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P. Sarafis¹, A.G. Nassiopoulou¹, C.L. Hsu², P. Benech²
¹NCSR Demokritos, Greece; ²IMEP-LAHC, France

EuMIC12 : Innovative GaN and Si Technologies and Applications

Chair: Didier Floriot, UMS

Co-Chair: Jean-Christophe Nallatamby, XLIM University of Limoges

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¹United Monolithic Semiconductors, France; ²United Monolithic Semiconductors, Germany
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EuMICPoster01 : EuMIC Poster01 Session

Chair: Éric Tournier, University of Toulouse

Co-Chair: Éric Kerherve, IMS, University of Bordeaux

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¹XLIM, France; ²CISTEME, France; ³PhotLine Technologies, France; ⁴IEF (UMR 8622), France; ⁵CEA-LETI, France; ⁶Bell Labs, France

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¹Sabancı University, Turkey; ²IHP, Germany
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¹Universität Stuttgart, Germany; ²Fraunhofer IAF, Germany
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¹XLIM, France; ²Fraunhofer IAF, Germany
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Chair: Jacob Arne, Technische Universität Hamburg-Harburg

Co-Chair: Martin Audrey, XLIM - University of Limoges

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¹Infineon Technologies, Austria; ²Lund University, Sweden
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Chair: Tibor Berceli, Technical University of Budapest

Co-Chair: Edward Ackerman, Photonics Systems

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¹NICT, Japan; ²Osaka University, Japan
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¹NASB, Belarus; ²TRIM UWB Measurement Systems, Russia
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¹DAS Photonics, Spain; ²AMO, Germany; ³Space Engineering, Italy; ⁴RAL Space, UK; ⁵Universidad Politécnica de Valencia, Spain
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Tien Dat Pham¹, Atsushi Kanno¹, Tetsuya Kawanishi²
¹NICT, Japan; ²Waseda University, Japan

EuMC/EuMIC03 : GaN Based Power Amplifiers

Chair: Paolo Colantonio, Università di Roma "Tor Vergata"

Co-Chair: Vincenzo Carrubba, Fraunhofer IAF

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¹Università di Roma "Tor Vergata", Italy; ²TTI Norte, Spain; ³United Monolithic Semiconductors, France
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¹MaXentric Technologies, USA; ²Cree, USA; ³AFRL, USA
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¹Università di Roma "Tor Vergata", Italy; ²Università di Ferrara, Italy

EuMC/EuMIC04 : ICs-Based Tuning Techniques and Modulation Circuits for Millimeter-Wave and 5G Systems

Chair: Noriharu Suematsu, Tohoku University

Co-Chair: Robert Weigel, FAU Erlangen-Nürnberg

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¹FOI, Sweden; ²IMST, Germany; ³OMMIC, France; ⁴IEMN, France; ⁵VTT Technical Research Centre of Finland, Finland
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¹Johannes Kepler Universität Linz, Austria; ²DICE, Austria
- 337 **C** **Large Bandwidth Tunable Analog Equalizer Based on a Differential Cascode Amplifier Cell for 100-GBaud Communication Systems**
Ronan Mettetal¹, Jean-Yves Dupuy¹, Filipe Jorge¹, Agnieszka Konczykowska¹, Muriel Riet¹, Virginie Nodjiadjim¹, Achour Ouslimani²
¹III-V Lab, France; ²ECS-Lab (EA 3649), France
- 341 **C** **High Speed Phase Modulator Driver Unit in 55nm SiGe BiCMOS for a Single-Channel 100Gb/s NRZ Silicon Photonic Modulator**
Jérémie Prades¹, Anthony Ghiotto¹, Denis Pache², Eric Kerhervé¹
¹IMS (UMR 5218), France; ²STMicroelectronics, France
- 345 **C** **A High Linearity, Image/LO-Rejection I/Q Up-Conversion Mixer for 5G Cellular Communications**
Chul Woo Byeon, Jeong Ho Lee, Dae Young Lee, Mee-Ran Kim, Ju Ho Son, Samsung, Korea

EuMC/EuMIC05 : Power Device Advanced Performance Assessment

Chair: Eric Bergeault, Telecom-Paristech

Co-Chair: Rocco Giofrè, Università di Roma "Tor Vergata"

Venue Room 243, Time 08:30 – 10:10, Tuesday 8th September 2015

- 349 **RF PA Modeling with One Chirp Measurement**
Filipe M.E. Barradas, Pedro M. Lavrador, Telmo R. Cunha, José C. Pedro, Universidade de Aveiro, Portugal
- 353 **Active Baseband Drain-Supply Terminal Load-Pull of an X-Band GaN MMIC PA**
Gian Piero Gibiino¹, Gustavo Avolio², Scott Schafer³, Dominique Schreurs², Zoya Popović³, Alberto Santarelli¹, Fabio Filicori¹
¹Università di Bologna, Italy; ²Katholieke Universiteit Leuven, Belgium; ³University of Colorado at Boulder, USA
- 357 **Investigating the Linearity versus Efficiency Trade-Off of Different Power Amplifier Modes in an Envelope Tracking Architecture**
Z.A. Mokhti¹, J. Lees¹, P.J. Tasker¹, C. Cassan²
¹Cardiff University, UK; ²Freescale Semiconductor, France
- 361 **Experimental Time-Domain Evaluation and Simulation of High Power GaN HEMTs for RF Doherty Amplifier Design**
Lotfi Ayari¹, Guillaume Neveux¹, Denis Barataud¹, Mohammed Ayad², Estelle Byk², Christophe Chang², Marc Camiade²
¹XLIM, France; ²United Monolithic Semiconductors, France
- 365 **Linearity Analysis of a 40W Class-G-Modulated Microwave Power Amplifier**
Nikolai Wolff¹, Olof Bengtsson¹, Martin Schmidt², Manfred Berroth², Wolfgang Heinrich¹
¹FBH, Germany; ²Universität Stuttgart, Germany

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

Chair: Pierre Blondy, XLIM University of Limoges

Co-Chair: Jorge Perez Martinez, Universidad Politécnica de Valencia

Venue Room 251, Time 08:30 – 10:10, Tuesday 8th September 2015

- 369 **Center Frequency and Bandwidth Tunable Waveguide Bandpass Filter with Transmission Zeros**
Christian Arnod¹, Jean Parlebas¹, Thomas Zwick²
¹Tesat Spacecom, Germany; ²KIT, Germany
- 373 **A Tunable Filter Based on Miniature SIR Coaxial Resonators**
Hakim Aouidad¹, Jean-François Favennec¹, Eric Rius¹, Alexandre Manchec², Yann Clavet²
¹Lab-STICC, France; ²Elliptika, France
- 377 **Reconfigurable UWB Filtennas with Sharp WLAN Dual Bandnotch**
Waqas Ahmad, Djuradj Budimir, University of Westminster, UK
- 381 **Tunable Band-Reject Filter and Suppression of In-Band Interfering Signals in Mobile Communication**
Dieter Ferling, Xin Yu, Rupert Rheinschmitt, Andreas Pascht, Bell Labs, Germany
- 385 **Tunable In-Package Impedance Matching for High Power Transistors Based on Printed Ceramics**
Alex Wiens¹, Sebastian Preis², Christian Kohler³, Daniel Kienemund¹, Holger Maune¹, Olof Bengtsson², M. Nikfalazar¹, Joachim R. Binder³, Wolfgang Heinrich², Rolf Jakoby¹
¹Technische Universität Darmstadt, Germany; ²FBH, Germany; ³KIT, Germany

EuMC/EuMIC07 : Focus Session on Advances in THz and Opto-Nanoelectronics

Chair: Luca Pierantoni, Università Politecnica Delle Marche

Co-Chair: Davide Mencarelli, Università Politecnica Delle Marche

Venue Room 242B, Time 13:50 – 15:30, Tuesday 8th September 2015

- 389  **Nanoresonator Based Dielectric Surfaces for Light Manipulation**
F. Silvestri¹, E. Pisano², G. Gerini¹, V. Lancellotti³, V. Galdi²
¹TNO, The Netherlands; ²Università del Sannio, Italy; ³Technische Universiteit Eindhoven, The Netherlands
- 393  **Performance Evaluation of Novel Technologies for Terahertz Reflectarrays**
Michele Tamagnone, Santiago Capdevila, Hamed Hasani, Pietro Romano, Anja Skrivervik, Julien Perruisseau-Carrier, Juan R. Mosig, Wolfgang A. Vitale, Clara Moldovan, Adrian M. Ionescu, EPFL, Switzerland
- 397  **Optical Antennas in Hybrid Photonic Systems**
Ruud Hendriks, Hugo Doeleman, Freek Ruesink, A. Femius Koenderink, Ewold Verhagen, FOM Institute AMOLF, The Netherlands
- 401  **Ballistic Simulation of Ratchet Effect in Antidot Lattices Patterned on Graphene**
Luca Pierantoni¹, Davide Mencarelli¹, Fabio Coccetti², Tullio Rozzi¹
¹Università Politecnica delle Marche, Italy; ²LAAS, France
- 405  **Width-Modulated Magnonic Crystal and its Application for Spin-Wave Logic**
A.A. Nikitin¹, A.B. Ustinov¹, A.A. Semenov¹, A.V. Chumak², A.A. Serga², V.I. Vasyuchka², E. Lähderanta³, B.A. Kalinikos¹, B. Hillebrands²
¹St. Petersburg Electrotechnical University, Russia; ²Technische Universität Kaiserslautern, Germany; ³Lappeenranta University of Technology, Finland

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

Venue Room 251, Time 13:50 – 15:30, Tuesday 8th September 2015

- 409  **Continuously Tuneable Liquid Crystal Based Stripline Phase Shifter Realised in LTCC Technology**
M. Jost¹, S. Strunck², A. Heunisch³, Alex Wiens¹, A.E. Prasetski¹, C. Weickmann¹, B. Schulz³, M. Quibeldey⁴, O.H. Karabey¹, T. Rabe³, R. Follmann⁴, D. Koether⁴, Rolf Jakoby¹
¹Technische Universität Darmstadt, Germany; ²Continental Teves, Germany; ³BAM, Germany; ⁴IMST, Germany
- 413  **Low Bias Voltage Tunable Phase Shifter Based on Inkjet-Printed BST MIM Varactors for C/X-Band Phased Arrays**
M. Nikfalazar¹, A. Mehmood¹, M. Sohrabi¹, Alex Wiens¹, Y. Zheng¹, Holger Maune¹, Rolf Jakoby¹, M. Mikolajek², A. Friederich², Christian Kohler², Joachim R. Binder²
¹Technische Universität Darmstadt, Germany; ²KIT, Germany
- 417  **Characterization of GaN-Based HEMTs as Varactor Diode Devices**
Abdelaziz Hamdoun¹, Langis Roy¹, Mohammed Himdi², Olivier Lafond²
¹Carleton University, Canada; ²IETR, France
- 421  **A Wideband Class-AB Tunable Active Filter**
L. Pantoli, V. Stornelli, G. Leuzzi, Università dell'Aquila, Italy
- 425  **Stable Frequency Dissemination via Optical Fiber Based on Passive Phase Fluctuation Cancellation**
Juan Wei¹, Fangzheng Zhang¹, Shilong Pan¹, Lan Yu²
¹NUAA, China; ²WIT, China

EuMIC/EuMCPster: EuMIC/EuMC Poster Session

Chair: Denis Barataud, University of Limoges

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

Venue Hall Ternes - Level 1, Time Lunch, Tuesday 8th September 2015

- 428  **A Novel Broadband High-Power Source-Pull/Load-Pull Concept for the HF- to UHF-Range**
Florian A. Maier¹, André Grede¹, Daniel Gruner¹, Rüdiger Quay², Patrick Waltereit², Oliver Ambacher²
¹TRUMPF Hüttinger, Germany; ²Fraunhofer IAF, Germany
- 432  **Temperature Insensitive PA Bias Circuit with Digital Control Interface Using InGaP/GaAs HBT Technology**
Wei-Ling Chang¹, Chinchun Meng¹, Shyh-Chyi Wong², Hwey Chien², Guo-Wei Huang³
¹National Chiao Tung University, Taiwan; ²Richwave Technology Corporation, Taiwan; ³National Nano Device Laboratories, Taiwan
- 436  **A WLAN RF CMOS Power Amplifier with Power Detector, High Harmonic Suppression, and Temperature Compensation**
Wei-Tsung Li, Shih-Ming Wang, Gao-Ching Lin, ITRI, Taiwan
- 440  **Frequency-Agile Packaged GaN-HEMT Using MIM Thickfilm BST Varactors**
Sebastian Preis¹, Alex Wiens², Nikolai Wolff¹, Rolf Jakoby², Wolfgang Heinrich¹, Olof Bengtsson¹
¹FBH, Germany; ²Technische Universität Darmstadt, Germany
- 444  **A New Variant of the Indirect Learning Architecture for the Linearization of Power Amplifiers**
Jessica Chani-Cahuana, Christian Fager, Thomas Eriksson, Chalmers University of Technology, Sweden

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- 448  **High Efficiency Ultra Broadband GaN Amplifier Using Series-Shunt Inductor Matching Network**
Eigo Kuwata, Atsuo Sugimoto, Christer M. Andersson, Shuichi Sakata, Hidetoshi Koyama, Yoshitaka Kamo, Koji Yamanaka, Hiroshi Fukumoto, Mitsubishi Electric Corporation, Japan
- 452  **Coupled-Oscillator System with Two Stable Phase-Shift Intervals**
Franco Ramírez, Almudena Suárez, Sergio Sancho, Universidad de Cantabria, Spain
- 456  **Project-Based RF/Microwave Education**
Richard L. Campbell, Branimir Pejcinovic, Portland State University, USA
- 460  **The Microwave Virtual Laboratory for RF Engineers Education**
D.S. Gubsky, V.V. Zemlyakov, I.V. Mamay, Southern Federal University, Russia
- 464  **Real-Time Microwave Remote Laboratory Architecture**
S. Farah¹, A. Benachenhou¹, Guillaume Neveux², Denis Barataud², G. Andrieu², T. Fredon²
¹University of Mostaganem, Algeria; ²XLIM, France