

WEDNESDAY WORKSHOPS AND SHORT COURSES

13.50 – 17:40

Room 11a

WSW6 (EuMIC/EuMC)

Advanced Nonlinear and Power Characterization of Microwave Devices and Systems (TARGET)

Organisers

Giovanni Ghione, Politecnico di Torino, DELEN, Italy
Andrea Ferrero, Politecnico di Torino, DELEN, Italy

Abstract

The modeling and characterization of nonlinear microwave devices and systems like power amplifiers, mixers and oscillators has been a hot topic during the last few years. The evolution of characterization techniques has opened the way to more refined modeling approaches, allowing for memory effects and complex device dynamics, while the progress in modeling framework has in turn stimulated the development of new and unconventional characterization techniques. Finally, the increasing demand of multiport characterization has fostered the development of multi-port and differential load-pull measurement techniques. The purpose of the workshop is to present an overview of the state of the art in this field with contributions on recent developments from some of the top research groups belonging to the TARGET European Network of Excellence.

Programme

13:50 – 14:00 *Introduction*

14:00 – 14:25 *Waveform Measurement and Engineering*

P. J. Tasker, J. Benedikt, J. Lees, T. Williams,
Cardiff School of Engineering, UK

14:25 – 14:50 *Visualisation and Quantification of Power Amplifier Dynamics and Memory Effects*

M. Gadringer, D. Silveira, M. Mayer, G. Magerl,
Vienna University of Technology, Austria

14:50 – 15:15 *Two-Tone and Multi-Sine Characterization of Nonlinear Dynamic Microwave Devices and Systems*

N. B. Carvalho, J. C. Pedro, J. P. Martins, P. Cabral, University of Aveiro, Portugal

15:15 – 15:40 *Characterizing Higher Order Device Nonlinearity Derivatives under Dynamic Conditions*

J. A. García, A. Mediavilla, C. Camacho, T. Abdelwahed,
J.M. Zamanillo, University of Cantabria, Spain

15:40 – 16:00 *Coffee*

16:00 – 16:25 *Measurement of the Best Linear Approximation to Nonlinear Systems*

Y. Rolain, Vrije Universiteit Brussel, Belgium

16:25 – 16:50 *Characterization of Nonlinear Broadband RF Transmitters for Behaviour Modelling Purposes*

F.M. Ghannouchi, T. Liu,
iRadio Laboratory, University of Calgary, Canada

16:50 – 17:15 *Advanced Load-Pull Techniques – from Single-Ended to Multiport/Differential Measurement Systems*

V. Teppati, M. Garelli, V. Camarchia, A. Ferrero, U. Pisani,
Politecnico di Torino, Italy

17:15 – 17:40 *Non-Linear Characterization and Modelling of Microwave Power FETs Affected by Low-Frequency Dispersive Effects*

A. Raffo, A.Santarelli, P. A. Traverso, G. Vannini, F. Filicori,
Università di Bologna – Università di Ferrara, Italy

17:40 *Workshop conclusion*