SUNDAY 08:30 – 17:50

Innovations in Load-Pull Techniques for Wideband and High-Frequency Applications

WS09
EuMC/
EuMIC

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Room: Juliana 1

The load-pull principle, introduced over 50 years ago, has become a cornerstone for the characterization of RF power transistors. While early methods relied on mechanical slug tuners and RF power meters, modern load-pull systems address the challenges of next-generation wireless systems, including wideband operation and sub-THz implementations. This workshop brings together experts to discuss the latest advancements in load-pull measurement technologies, focusing on these emerging demands.

Topics will include state-of-the-art active, passive, and hybrid load-pull techniques, advanced calibration methods, and their applications in transistor and power amplifier characterization. Participants will gain valuable insights into behavioral modeling approaches utilizing load-pull measurements and wideband active load-pull technologies in both frequency and time domains. Case studies will explore on-wafer characterization, phased-array emulation, and reverse intermodulation distortion in MIMO systems. The workshop will also spotlight innovations in sub-THz systems, including the use of VNA frequency extenders for wideband signal testing.

PROGRAMME

Advanced loadpull measurements for next generation communication systems
Mauro Marchetti[1]
[1]Maury Microwave, USA

Multi Harmonic Active Load Pull for High Power, High Efficiency Transistor Characterisation
Carsten Monka-Ewe[1]
[1]TNO, Netherlands

Optimised Large Signal Measurements for Behavioural Model Extraction
Paul J. Tasker[1]
[1]Cardiff University, UK

A Practical Comparison of various load pull methods for nonlinear DUT characterization
Sajjad Ahmed[1]
[1]Focus Microwaves, Canada

A VNA based wideband multiport measurement system for active load pull and coherent MIMO circuit characterization
Olof Bengtsson[1]
[1]Ferdinand-Braun-Institut, Germany

Measuring and Modeling Power Amplifier Performance under Varying Antenna Loads using Wideband Active Load-pull (WALP)
Troels Studsgaard Nielsen[1]
[1]Keysight Technologies, USA

Application of Wideband Active Load-Pull Technology for PA Components and Systems
Gian Piero Gibiino[1]
[1]University of Bologna, Italy

Emulation of large array distortion using active load pull techniques
Koen Buisman[1]
[1]University of Surrey, UK

Characterization and modeling of PA reverse intermodulation distortion in MIMO transmitter applications using dual injection active load pull approach
Christian Fager[1]
[1]Chalmers University, Sweden

Enabling Modulated Signal Measurements with VNA Frequency Extenders: A New Approach to Wideband Active Load-Pull at High Frequencies
Ahmed Ben Ayed[1]
[1]University of Waterloo, Canada