

Workshop

Non-linear Microwave Measurements

Day/Time Wednesday, November 28th; 1:30 PM to 5:00 PM

Organizers Dr. Dominique Schreurs, K. U. Leuven, Leuven, Belgium
Prof. Paul J. Tasker, Cardiff University, Cardiff, UK

Abstract. The need for non-linear microwave measurements has led, over the past 10 to 15 years, to the steady development of time-domain based measurements. At the present time these non-linear measurement systems, generally referred to as non-linear vector network analysers (NLVNA's), have reached a high degree of refinement and are also commercially available. Research focus is now moving away from the measurement system development to the measurement system application. The aim of this workshop is to cover recent developments in this area.

Non-linear measurements capabilities of such NLVNA systems will be reviewed. Their application, directly, via measurement observations, and indirectly, via the development of non-linear models, in advancing the CAD understanding and optimisation of non-linear circuits and systems will be covered in some detail. A number of these features are dependent on the integration of these systems with some form of source- and load-pull; hence this aspect will be addressed. Finally as these measurements become an integral part of the characterisation/design process they must be verifiable and traceable. Progress on this task, which is being undertaken by NIST, will be presented.

Speakers “Measurement issues related to S-parameter measurements based non-linear device modelling”
Dominique Schreurs, K. U. Leuven, Leuven, Belgium

“Non-linear vector network analyser - Simply what is it and what can it do?”
Paul J. Tasker, Cardiff University, Cardiff, UK

“Measurement-based behavioral modeling. Investigating the effects of harmonics and mismatches”
Ewout Vandamme, Agilent Technologies, Belgium

“A non-linear VNA framework for system identification”
Yves Rolain, VUB, Brussels, Belgium

“Overview of modern load-pull and other non-linear measurement systems”
Andrea Ferrero, Politecnico di Torino, Torino, Italy

“A method to compare nonlinear-network analyzers”
Don Degroot, NIST, Boulder, CO, USA