58th ARFTG Conference Digest

RF Measurements for a Wireless World
San Diego, California

Technical Program: Thursday November 29, 2001

Technical Session 1: System Level Behavioral Modeling and Characterization

Session Chair: J. Stevenson Kenney, Georgia Institute of Technology, Atlanta, GA, USA

"Introductions to Polyspectral Modeling and Compensation Techniques for Wideband Communication Systems"
Christopher P. Silva, Andrew A. Moulthroup, Michael S. Muhu (Aerospace Corp. El Segundo, CA, USA)

"Narrowband and Volterra-Based Behavioral Models of High Frequency Amplifiers "
Anding Zhu, Tianhai Wang, Tom Brazil (National University of Ireland, Dublin, Ireland)

"Nonlinear Modeling of RF/Microwave Circuits for Multi-Tone Signal Analysis"
Jose Carlos Pedro, Nuno Borges Carvalho (Universidade de Aveiro, Aveiro, Portugal)

"A Method of Developing Frequency-Domain Models for Nonlinear Circuits Based on Large-Signal Measurements"
Jeffrey Jargon[1], K.C. Gupta[2] , Dominique Schreurs[3] , Kate Remley[1],Donald DeGroot[1] (1: National Institute of Standards, Boulder; 2: Univerisity of Colorado, Boulder; 3: Katholieke Universiteit Leuven, Heverlee, Belgium)

"Modeling and Simulation of 3G Power Amplification Subsystems "
Armando Cova (Spectrian, Inc. Sunnyvale, CA)

Technical Session 2: Measurement Accuracy

Session Chair: Joe Tauritz, University of Twente, The Netherlands

"Network Analyzer Accuracy Overview"
Doug Rytting (Agilent Technologies, Santa Rosa, CA, USA)

"Improving the Uncertainty Analysis of NIST's Pulse Parameter Measurement Service"
Nick Ridler and Martin J. Salter (Centre for Electromagnetic and Time Metrology National Physical Laboratory, UK)

"Sensitivity analysis of calibration standards for SOLT and LRRM "
Amr M.E. Safwat and Leonard Hayden (Cascade Microtech, Inc., Beaverton, OR, USA)

Technical Session 3: Interactive Session

"Mixed-signal Simulation of a Power Amplifier Predistortion Linearization System "
Wangmyong Woo, J. Stevenson Kenney (Georgia Institute of Technology, Atlanta, GA, USA)

"A New Empirical Gate Capacitance Model for PHEMPT and MESFET Transistors "
J.R. Loo-Yau[1], R. Infante-Galindo[2], and J.A. Reynoso-Hernandez[2]
(1: Universidad Autonoma de Guadalajara, Guadalajara, Mexico; 2: Centro de Investigación Científica y de Educación Superior de Ensenada [CICESE], Ensenada, México)

" Wideband Frequency-domain Characterization of High Impedance Probes "
Uwe Arz[1], Howard C. Reader, Pavel Akabos[1], Dylan F. Williams[1]
(1: National Institute of Standards, Boulder; 2: University of Stellenbosch, South Africa)

"A Novel Method for Characterizing RF Automated Tuners "
Marco Spirito[1] , P. Valk[3], R. Mahmoudi[4], M. deKok1, and J. L. Tauritz[2]
(1: Laboratory of ECTM/DIMES, Delft University of Technology, The Netherlands; 2: MESA Research Institute, University of Twente, The Netherlands; 3:Philips Semiconductors Nijmegen, The Netherlands; 4: Applied Wave Research, El Segundo, CA, USA)

"Isothermal Non-Linear Device Characterization "
Vittorio Cuoco, M. de Kok, M.P.v.d. Heijden and L.C.N. de Vreede (Laboratory of ECTM/DIMES, Delft University of Technology, The Netherlands)

"Large-Signal Network Analysis: Overview of the measurement capabilities of the Large-Signal Component Analyzer "
Franz Verbeyst and Ewout Vandamme (Agilent Technologies, Brussels, Belgium)

Technical Program: Friday November 30, 2001

Technical Session 4: Measurement-Based Circuit and Device Modeling

Session Chair: David Root, Agilent Technologies, Santa Rosa, CA, USA

"Measurement Based Electro-thermal Modeling of LDMOSFETs "
Patrick Roblin (Ohio State University, Columbus, OH, USA)

"Measurement of Memory Effect of High Power Si LDMOSFET Amplifier based on Two-tone Phase Evaluation "
Bumman Kim, Youngoo Yang, Jeonghyun Cha, Young Yun Woo, and Jaehyok Yi (POSTECH University, Pohang, Korea)

"Capabilities of Vectorial Large-Signal Measurements to Validate RF Large-Signal Device Models "
Dominique Schreurs[1], E.P. Vandamme[2], and S. Vandenberghe[1] *(1: K.U. Leuven, Leuven-Heverlee, Belgium; 2: Agilent Technologies, Brussels, Belgium)*

"Relating Dynamics of FET Behavior to Operating Regions "
Tony Parker[1] *and James G. Rathmell*[2] *(1: Macquarie University, Syndey, Australia; 2: The University of Sydney, Australia)*

"Conventional Transistor Non-Linear Model Extraction/Verification using Time Domain Microwave Waveform Measurements "
Paul Tasker (University of Cardiff, Wales, UK)

Technical Session 5: Non-Linear Measurement

Session Chair: Wendy Van Moer, Vrije Universiteit Brussel, Belgium

"High-frequency nonlinear amplifier model for the efficient evaluation of inband distortion under nonlinear load-pull conditions"
Gerd Vandersteen[1] *, Frans Verbeyst*[2]*, PietWambacq*[1]*, Stephane Donnay*[1] *(1: IMEC, Kapeldreef 75, B-3001 Heverlee, Belgium, 2: Agilent Technologies, Bornem, Belgium)*

"Wiener-Hammerstein System Estimator Initialization Using a Random Multisine Excitation"
Philippe Crama and Johan Schoukens (Vrije Universiteit Brussel, Belgium)

"Discussion on In-band Distortions of Mixers "
Alain Geens, Yves Rolain, Wendy Van Moer, (Vrije Universiteil, Brussels, Belgium)

" A Complete Measurement Test Set for non-linear Device Characterization "
Andrea Ferrero and Valeria Teppati (Politecnico di Torino, Torino, Italy)