

56th Measurement Conference
Metrology and Test for RF Telecommunications
Boulder, Colorado November 30-December 1, 2000

Technical Program at a Glance

Thursday, November 30

Opening Remarks 8:15-8:30

General Chair Comments: Dylan Williams

Technical Program Chair Comments: Michael Steer

NIST Centennial Special Papers 8:30-9:30

Dennis Friday, Bob Kamper

Conference Theme Session

9:30-9:50 Hyunchul Ku, Wangmyong Woo, J. Stevenson Kenney, (Georgia Institute of Technology): Carrier-to-Interference Ratio Estimation of Arbitrary Signals Distorted by Nonlinear Devices.

9:50-10:10 Nicholas B. Tuffiaro (Agilent), David M. Walker (Univ. of Western Australia): Behavioral Models of Microwave Circuits with Fading Memory.

10:10-10:30 Jan Verspecht, Frans Verbeyst, Marc Vanden Bossche (NMDG, Agilent): Network Analysis Beyond S-parameters: Characterizing and Modeling Component Behaviour under Modulated Large-Signal Operating Conditions.

Break 10:30-11:00

Time Domain Special Session

11:00-11:20 Michael Nelson (Tektronix): A New Technique for Low-Jitter Measurements in Equivalent-Time Sampling Oscilloscopes.

11:20-11:40 Nick G. Paulter and Donald R. Larson (NIST): Improving the Uncertainty Analysis of NIST's Pulse Parameter Measurement Service.

11:40-12:00 Kensuke Kobayashi, Masaru Kimura, Haruo Kobayashi (Teratec/Gunma Univ.): A Quasi-Coherent Sampling Method for Wideband Data Acquisition.

Lunch/ARFTG Business Meeting 12:00-1:20

General ARFTG Session

1:20-1:40 Uwe Arz, Dylan F. Williams, David K. Walker, Hartmut Grabinski (NIST/Univ. of Hannover): High-Frequency Behavior of Coupled CMOS Interconnects Built in Different Metallization Layers. (ARFTG graduate student award recipient)

1:40-2:00 Balaji Lakshminarayanan and Tom Weller (Univ. of S. Florida): Experimental Results for Parasitic Coupling and Attenuation of Coplanar Waveguides on High Resistivity Silicon.

2:00-2:20 Krishna Naishadham (Philips): Accurate Probing of RF Amplifiers Using Vertical Interconnect Boards.

Break 2:20-2:50

Measurement Accuracy Special Session

2:50-3:10 Charles Oleson, Anthony Denning (Oleson Microwave Labs): Millimeter Wave Vector Analysis Calibration and Measurement Problems Caused by Common Waveguide Irregularities.

3:10-3:30 Nick M. Ridler and Martin J. Salter (NPL): Evaluating and Expressing Uncertainty in Complex S-Parameter Measurements.

Special Mini-session on OSLT calibration

3:30-3:50 Jeff Jargon, Pete Kirby, K.C. Gupta, Lawrence Dunleavy, Tom Weller (NIST/Univ. of Colorado/Univ. of S. Florida): Modeling Load Variations with Artificial Neural Networks to Improve On-Wafer OSLT Calibrations.

3:50-4:05 David K. Walker, Raian F. Kaiser, Dylan F. Williams, and Kevin J. Coakley (NIST): Lumped-Element Models for On-Wafer Calibration.

4:05-4:20 Pete Kirby, Lawrence Dunleavy, Thomas Weller (Univ. of S. Florida): Load Models for CPW and Microstrip SOLT Standards on GaAs.

4:30-6:00 Poster Session/Reception

1. Dave Wisell (Ericsson/Univ. of Gävle): Identification and Measurement of Transmitter Nonlinearities.
2. Yeou-Song (Brian) Lee, Norm Royce (Golden Gate Standards Lab/Agilent): Improved Uncertainty for the Noise Source Based on the Adapter Removal Methods.
3. Haruo Kobayashi, Kensuke Kobayashi, Yuuich Takahashi, Kouhei Enomoto, Hideyuki Kogure, Yoshitaka Onaya, Masanao Morimura, (Gunma Univ./Teratec): Finite Aperture Time and Sampling Jitter Effects in Wideband Data Acquisition Systems.
4. Andrew J.A. Smith, Alan G. Roddie, Peter D. Woolliams, Matthew R. Harper (NPL): Aberration Measurement of Fast Pulse Generators Using Sampling Oscilloscopes.
5. Thomas-Michael Winkel (IBM), Lohit Sagar Dutta, Harmut Grabinski (Univ. of Hannover): Accurate Characterization of Fringing Effects at On-Chip Line Steps.
6. Galen Koepke and John Ladbury (NIST): Radiated Power Measurements in Reverberation Chambers.
7. Dylan F. Williams, Paul D. Hale, Tracy S. Clement, and Juanita M. Morgan (NIST): Mismatch Corrections for Electro-Optic Sampling Systems.
8. J. Gregory Burns (Burns Engineering): A Method to Evaluate Power Sensor Calibration Systems.
9. NIST Centennial Exhibit

Friday, December 1

Conference Theme Session

8:30-8:50 Olav Andersen, David Wisell, Peder Malmlöf (Univ. of Gävle and Ericsson): Nonlinear Characterization of Multiple Carrier Power Amplifiers.

8:50-9:10 Lowell (Roy) Hoover and Alexander MacMullen (Technology Service Corporation): Microwave Component Analyzer: A Novel Instrument for Measuring Pulsed or CW Signal-to-Noise Ratio.

9:10-9:30 Peter H. Aaen, Jaime Plá, Daren Bridges, Eric Shumate (Motorola): A Wideband Method for the Rigorous Low-Impedance Loadpull Measurement of High-Power Transistors Suitable for Large-Signal Model Validation.

9:30-9:50 Steve Pepper (Picosecond Pulse Labs): Synchronous Sampling and Applications to Analytic Signal Estimation.

Break: 9:50-10:20

Time Domain Special Session

10:20-10:50 Kyoung Yang, John F. Whitaker, Linda P.B. Katehi (Univ. of Michigan): Microwave Electric-Field Mapping Using Optical-Fiber-Mounted Electro-Optic Probes.

10:50-11:10 Yukio Kasahara, Koichiro Takeuchi, Akira Mizuhara, Koji Mizuno (Teratec/RIKEN): Picosecond Pulse Propagation Images and Oppositely Polarized Pulse Shapes on CPS Lines Measured by a Scanning Force Optoelectronic Microscope.

11:10-11:30 Andrew J.A. Smith, Alan G. Roddie, Peter D. Woolliams (NPL): Electro-Optic Sampling of Coplanar to Coaxial Transitions to Enhance the Calibration of Fast Oscilloscopes.

11:30-11:50 Manoja Weiss (Univ. of Colorado), John Whitaker (Univ. of Michigan), Zoya Popovic (Univ. of Colorado): Overview of applications of optical measurements in microwave circuit and antenna array design.

Lunch: 12:00-1:00

Tour of NIST/Ask a Metrologist: 2:00-4:00

NIST Reception: 4:00-4:30



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