AUTOMATIC RF TECHNIQUES GROUP

CONFERENCE NEWSLETTER

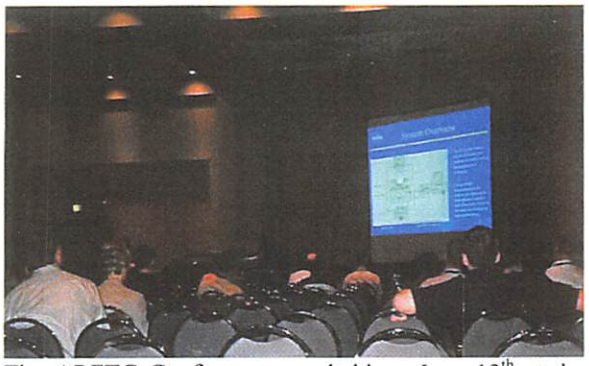
SPRING 2003 **NUMBER 29**

The 61st Conference
Measurement Accuracy

OVERVIEW

Philadelphia, Pennsylvania provided a very enjoyable setting for the 61st ARFTG conference, which met on June 9th, and 13th. The conference was held in conjunction with IMS 2003 and offered an extensive technical program, a vendor exhibits area and perhaps most importantly, time to interact with other microwave and RF professionals about measurement needs, problems and solutions. Additional conference information is available on our website at http://www.arftg.org. Conference Chair Charles Wilker and Technical Program Chair John Cable put forth considerable effort to ensure an outstanding conference.

TECHNICAL SESSIONS



The ARFTG Conference was held on June 13th at the Philadelphia Convention Center. ARFTG Technical Program Chair John Cable, Technical Program Co-Chairs Ken Wong and Dave Blackham, and ARFTG Technical Coordinator Chair Dylan Williams together assembled an interesting and topical technical program.

Selected by the conference attendees as the Best Technical Paper was "Phase Detrending for Measured Multisine Signals" by Kate Remley and Dylan Williams of NIST, Boulder, Colorado, Dominique Schreurs of K. U. Leuven, Leuven, Belgium and Giovanni Loglio and Alessandro Cidronali both of University of Florence, Italy. Selection as the Best Interactive Forum Paper was "StatistiCAL(TM) VNA-Calibration Software" by Dylan Williams, C. M. Wang and Uwe Arz. Selection as Best Exhibitor was Maury Microwave.

MTT and ARFTG Cosponsored Workshop

A joint IMS-ARFTG workshop was held on June 9th at the Philadelphia Convention Center. The workshop "Measurement Uncertainty for Network Analysis: State of the Art and New Directions" was organized by Nick Ridler of NPL and Kate Remley of NIST and was cosponsored by MTT-11 and ARFTG. The workshop was well attended and offered participants the opportunity to hear new methods and review old ones for finding the accuracy of VNA measurements.

Nonlinear Vector Network Analyzer Users Meeting

Over 20 interested parties attended and participated in the second ARFTG Nonlinear Vector Network Analyzer (NVNA) Users Forum, held Thursday evening June 12. During the first part of the meeting, the attendees had the opportunity to briefly introduce their latest activities related to vector large-signal measurements at their institutes or companies. The introductions were followed by a moderated round-table discussion on topics of interest to users of this new type of measurement system. Dominique Schreurs and Kate Remley organized the meeting. Minutes of the meeting can be found on ARFTG's web page at http://www.arftg.org.

EXHIBITS

The exhibits area at ARFTG Conferences provides attendees with the opportunity to view latest products and to have in depth discussions with their suppliers about their test and measurement needs, problems and possible solutions. To exhibit at an ARFTG conference or for additional information please contact Exhibits Chair Leonard Hayden at leonard@cmicro.com.

AWARDS

President Charles Wilker presided over the awards luncheon held on Friday, June 13th. The award for the Best Technical Paper from the 60th conference (held in Washington, DC) titled "Submillimeter-Wave Scattering Parameter Measurements with a Sampled-Line Six-Port Reflectometer" was presented to Robert Weikle of University of Virginia. The award for the Best Exhibitor from the 60th conference was presented to Tektronix. Certificates of appreciation were also presented to those who organized the 61st conference: Conference Chair Charles Wilker and Technical Program Chair John Cable.

MICROWAVE MEASUREMENT STUDENT FELLOWSHIP

The purpose of the ARFTG Microwave Measurement Student Fellowship is to recognize and provide financial assistance to graduate students who show promise and interest in pursuing research related to improvement of radio frequency and microwave measurement techniques. Once each year an award of up to $5000 may be granted to deserving candidate(s).

Applicants must be enrolled as a full-time student in a graduate degree program at a suitably qualified institution of higher learning. Applicants must be carrying out research as part of the degree program, rather than just taking course work. The proposed research project must clearly involve RF/microwave measurements and be supervised by a full-time faculty member. The faculty advisor or supervisor must be an ARFTG member or an ARFTG member must sponsor the proposal.

For more information visit our website at http://www.arftg.org or contact Jeff Jargon at jargon@boulder.nist.gov.

MEASUREMENT COMPARISON PROGRAM

The ARFTG Measurement Comparison Program allows participating laboratories to compare their measurements on an ARFTG MCP kit to those obtained from other laboratories. This allows for the inter-comparison of a large number of vector network analyzer measurements. Given the increasing emphasis on measurement assurance, this program provides a valuable, cost-effective method for validating the participant's measurement capability. This program is not intended to provide an uncertainty analysis but should give the participants more confidence in their measurement capability and assist in identifying measurement deficiencies. Data obtained from the

participating labs are sent to NIST where the results are added to a database and a report is sent to the customer.

Calibration kits available in the MCP

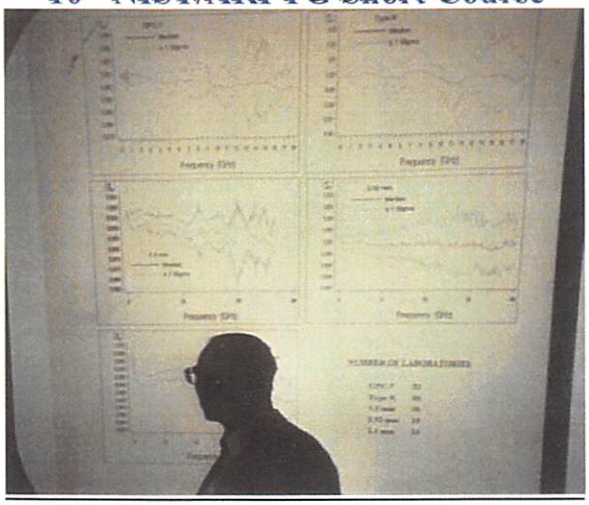
Connector	Contact
7/16	Greg Burns, Northrup Grumman
Type N	John Cable, Honeywell
7 mm	Brian Lee, Anritsu Wiltron
3.5 mm	Phil Yates, JPL
Type K, 2.92 mm	Ron Guzman, Anritsu Wiltron
2.4 mm	Ken Wong, Agilent Technologies

For more information or to obtain a signup sheet visit our website at http://www.arftg.org or contact John Cable at jcable@kcp.com.

CD-ROM PROCEEDINGS DIGESTS AND COURSE NOTES AVAILABLE TO PURCHASE

Available for purchase are printed digests and course notes from this and previous conferences. Also the collected ARFTG Digests for 1982-2001 conferences are for sale on CD-ROM. For additional information, visit our website at www.arftg.org or contact Jim Taylor, the ARFTG Executive Secretary, jtaylor@blitz-it.net.

10th NIST/ARFTG Short Course



ARFTG in cooperation with NIST will offer its 10th annual Microwave Measurements Short Course on December 2nd and 3rd, 2003 in conjunction with the Fall 2003 ARFTG Conference to be held in Boulder, Colorado. This popular one and a half day course provides both grounding in the fundamentals as well as the latest in measurement techniques taught by the experts. Basic measurement techniques are covered on Day 1, including: a microwave measurement overview, circuit theory, vector network analyzers, test fixtures, on-wafer measurements, and power. Additional in-depth topics are covered on Day 2, including: phase noise, load-pull, digital modulation, and time domain techniques. Several tutorials specifically related to the conference theme are also covered on Day 2. For more information, please visit our web site, http://www.arftg.org or contact the short course director, Dave Walker of NIST, (dwalker@boulder.nist.gov or (303)-497-5490).

FUTURE CONFERENCES

62nd ARFTG Conference

The 62nd ARFTG Conference will be held on December 4th and 5th, 2003 in Boulder, Colorado at the Boulderado Hotel. The conference theme is "Differential Measurements". Join with leaders in their fields to discuss cutting edge measurements for RF telecommunications and microwave technologies. For more information, please visit our web site, http://www.arftg.org or contact the conference chair Dylan Williams of NIST (Dylan@boulder.nist.gov (303) 497-3138).

Nonlinear Workshop

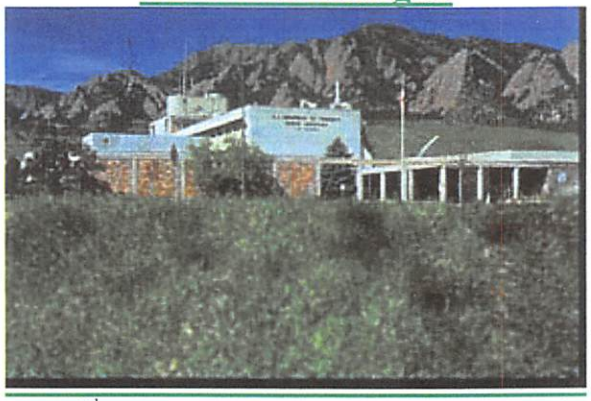
The theme for this year's nonlinear measurements workshop is "Microwave Measurements for Nonlinear Behavioral Modeling." It is being organized by Professor Jose Carlos Pedro of the Universidade de Aviero, Portugal, and will be held Wednesday afternoon December 3rd after the NIST/ARFTG microwave Measurements Short Course. Speakers at the informal, interactive workshop will include: Kate Remley (NIST,

Boulder), Steve Kenney (Georgia Tech.), David Root (Agilent Technologies), Peter Asbeck (U.C. San Diego), and Christopher Silva (Aerospace Corp.). For more information, please visit our web site, http://www.arftg.org or contact Jose Carlos Pedro (jacpedro@ieee.com) about participation.

NVNA Users Forum

The ARFTG Nonlinear Vector Network Analyzer (NVNA) Users Forum will be held Wednesday night, December 3rd 2003 right after the Nonlinear Measurements Workshop. It is being organized by Dominique Schreurs (K.U.Leuven), Kate Remley (NIST, Boulder), and Wendy Van Moer (V.U.Brussels). After brief introductions of participants, topics of mutual interest will be discussed, moderated by the three organizers. After the discussion period, there will be time for informal discussion and demos. For more information, please visit our web site, http://www.arftg.org or contact forum coordinators Kate Remley (remley@boulder.nist.gov), Dominique Schreurs (dominique.schreurs@esat.kuleuven.ac.be), or Wendy Van Moer (wendy.vanmoer@vub.ac.be).

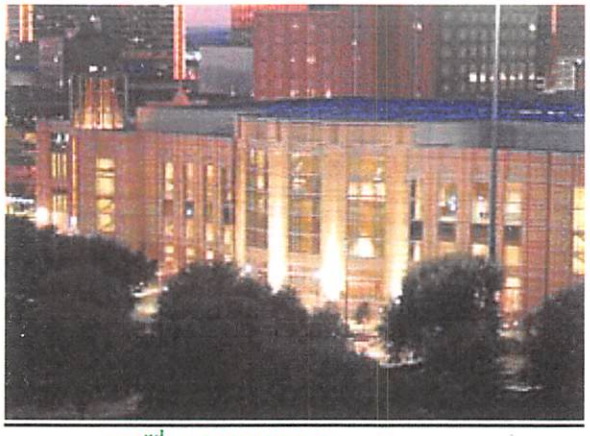
Ask a Metrologist



The 62nd ARFTG Conference will include the popular "Ask A Metrologist" on December 5th in the NIST Laboratories Boulder, Colorado. Discuss measurements and measurement techniques with leaders in their respective fields in the NIST facilities where they work.

Check Your Membership Status

Please check the address label attached to this mailing. It indicates your membership status as either "Member in Good Standing", "Expiring", or "Non-member". To maintain your membership in good standing, you must attend at least one conference per year, or send $25 to renew your membership to:
ARFTG PO Box 228, Rome, NY 13442-0228.



63rd ARFTG Conference

The 63rd ARFTG Conference will be held on June 11th and 12th, 2004 in Fort Worth, Texas in conjunction with IMS 2004. For more information, please visit our web site, http://www.arftg.org or contact the conference chair John Cable of Honeywell F&MT (jcable@kcp.com (819)-997-4361).

Informal discussions among the conference attendees about measurement needs, problems and solutions is an important part of every ARFTG meeting

Additions/Corrections

Every effort has been made to publish correct information. Problems should be reported to the undersigned. Corrections will be made in the final copy of the Newsletters found in the Digest.

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