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NISTIR 3945

**A BIBLIOGRAPHY OF THE NIST
ELECTROMAGNETIC FIELDS
DIVISION PUBLICATIONS**

Edited by
Ruth Marie Lyons
Kathryn A. Gibson

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Electromagnetic Fields Division
Center for Electronics and Electrical Engineering
National Engineering Laboratory
National Institute of Standards and Technology
Boulder, Colorado 80303-3328

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U.S. DEPARTMENT OF COMMERCE, Robert A. Mosbacher, Secretary
NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY, John W. Lyons, Director

CONTENTS

	<u>Page</u>
INTRODUCTION	1
ANTENNAS	3
DIELECTRIC MEASUREMENTS.19
ELECTROMAGNETIC INTERFERENCE	22
MICROWAVE METROLOGY.51
NOISE.	67
REMOTE SENSING72
TIME DOMAIN.75
WAVEFORM METROLOGY77
MISCELLANEOUS.84
AUTHOR INDEX95

A BIBLIOGRAPHY OF THE NIST ELECTROMAGNETIC FIELDS DIVISION PUBLICATIONS

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This bibliography lists the publications by the staff of the Electromagnetic Fields Division of the National Institute of Standards and Technology for the period January 1970 through July 1990. It supersedes NISTIR 89-3920 which listed the publications of the Electromagnetic Fields Division from January 1970 through August 1989. Selected earlier publications from the Division's predecessor organizations are included.

Key words: antennas; dielectric measurements; electromagnetic interference; microwave metrology; microwave power, impedance, attenuation; near-field antenna measurements; noise; nonionizing radiation; radiation hazards; standards; time domain; waveform metrology.

INTRODUCTION

The Electromagnetic Fields Division was formed during the reorganization of NBS (now NIST) in April 1978. Originally, the Division developed measurement methods and standards, and provided metrological support for antenna systems, noise measurement equipment, fast pulse waveforms, electromagnetic interference, electromagnetic environmental characterization equipment, electromagnetic emission and immunity (or susceptibility) testing equipment, and especially for fields near sources or in other complicated field conditions. In April 1985, microwave and millimeter wave metrology was added to the Division.

The editors have attempted to include all work published by the Division staff in the period from January 1970 through July 1990. Work performed by authors before joining this Division or work by authors who have left this Division has been included only when it had special significance. A miscellaneous category includes general publications. A few references are listed in more than one category where appropriate.

Several other information sources may be useful to the reader who is interested in NIST activities connected with electromagnetic metrology. A companion bibliography, NISTIR 3946, lists publications of the Electromagnetic Technology Division for the period January 1970 through August 1990. Topics include metrology for laser systems, optical fibers, optical communication equipment, cryoelectronics, superconductors and other unusual electrical engineering materials. Three additional bibliographies list publications of the former Electromagnetics Division: NBSIR 73-320 (July 1972-June

1973); NBSIR 74-395 (July 1973-June 1974); NBSIR 75-818 (July 1974-June 1975). These were preceded by a series of unpublished reports (edited by H. M. Altschuler) that cover the period back to 1956. An excellent summary of the whole field of electromagnetic metrology as it stood in 1967 was published as a special issue of the IEEE Proceedings (volume 55, June 1967). Advances in the following decades were described in two other special issues of the same journal (volume 66, April 1978 and volume 74, January 1986).

A Note on Abbreviations

NOTE: On August 23, 1988, the National Bureau of Standards (NBS) became the National Institute of Standards and Technology (NIST); therefore, documents with either prefix are considered NIST publications.

Most readers are familiar with the commonly used abbreviations for the names of the professional journals that appear in this bibliography. Some publication series are peculiar to NIST and may call for explanation. They are:

NISTIR - NIST Interagency/Internal Report	NBSIR - NBS Interagency/Internal Report
NIST TN - NIST Technical Note	NBS TN - NBS Technical Note
NIST SP - NIST Special Publication	NBS SP - NBS Special Publication
NIST HB - NIST Handbook	NBS HB - NBS Handbook
NIST JRES - NIST Journal of Research	NBS JRES - NBS Journal of Research
NIST MN - NIST Monograph	NBS MN - NBS Monograph

Purchase Procedures and Document Availability

NIST (NBS) Technical Notes, Special Publications, Handbooks, Journals of Research, and Monographs may be purchased from the Superintendent of Documents, U. S. Government Printing Office, Washington, DC 20402. Orders must be accompanied by postal money order, express money order, or check made out to the Superintendent of Documents.

NIST (NBS) Interagency/Internal Reports (NISTIRs, NBSIRs) may be purchased from the National Technical Information Service, Springfield, VA 22161. Orders must be accompanied by postal money order, express money order, or check made out to NTIS.

Reprints of papers published in non-NIST media may be available in limited quantities from the authors.

ANTENNAS

- BAIRD, R. C.**
Microwave Antenna Measurement Services at the National Bureau of Standards
Dig., Antenna Meas. Tech. Assn. Mtg.
October 1981
- BAIRD, R. C.; ESTIN, A. J.**
The Orbiting Standards Package: A Recalibratable Satellite Instrument Assembly for Measuring Large Earth Station Antennas
Proc., 1982 Antenna Meas. Techniques Assoc., 5-7 October, 1982, New Mexico State University, Las Cruces, NM, pp. 5-1 - 5-9
1982
- BAIRD, R. C.; KERNS, D. M.**
The Accurate Determination of Millimeter-Wave Antenna Characteristics by Deconvolution and Extrapolation Techniques
Proc., 1974 Millimeter-Wave Conf., 26-28 March, 1974, Vol. 2, E 2-1 through E 2-12
1974
- BAIRD, R. C.; NEWELL, A. C.; STUBENRAUCH, C. F.**
A Brief History of Near-Field Measurements of Antennas at the National Bureau of Standards
IEEE Trans. on Antennas and Propagat., Spec. Issue on Near-Field Scanning Techn., Vol. 36, No. 6, pp. 727-733
June 1988
- BAIRD, R. C.; DAYWITT, W. C.; NEWELL, A. C.; PERERA, S.; REPJAR, A. G.; WAIT, D. F.; ESTIN, A. J.**
Calibration Requirements for EHF Satellite Communication Systems
NBSIR 86-3058
October 1986
- BENSEMA, W. D.**
Broadband Orthogonal Array Antenna System: Microprocessor Control and Computation
Record, "EMC '81," 1981 IEEE Int. Symp. on Electromagn. Compat., 18-20 August, 1981, Boulder, CO
1981
- Handbook for Broadband Isotropic Antenna System Volume 1 - Operations Manual
NBSIR 83-1693
July 1983
- BUSSEY, H. E.; LARSEN, E. B.**
Buried Antenna Performance: Development of Small Resonant Buried Antennas
RADC-TR-74-169M, AD 783274
June 1974
- CRAWFORD, M. L.**
Calibration of Broadbeam Antennas Using Planar Near-Field Measurements
Proc., 1976 Conf. on Precision Electromagn. Meas., 28 June-1 July, 1976, Boulder, CO, pp. 53-56
1976
- CRUZ, J. E.; LARSEN, E. B.**
Screenroom Measurements of Antenna Factors
Proc., 1985 Instrum. and Meas. Technol. Conf., 20-22 March, 1985, Tampa, FL, p. 208
1985

Antennas (cont.)

- DAY, G. W.; STUBENRAUCH, C. F.
Laser Far-Field Beam-Profile Measurements by the Focal Plane Technique
NBS Tech. Note 1001
March 1978
- DAYWITT, W. C.
Error Equations Used in the NBS Precision G/T Measurement System
NBSIR 76-842
September 1976
- A Precision Earth-Terminal System for Accurate C/KT, G/T, and EIRP
Measurements with a Calibrated Radio Star
Proc., 1977 URSI Int. Symp. on Meas. in Telecommunications, 3-7
October, 1977, Lannion, France, pp. 1-4
1977
- Error Equations Used in the NBS Earth-Terminal Measurement System
NBSIR 78-869
December 1977
- Atmospheric Propagation Equations Used in the NBS Earth Terminal
Measurement System
NBSIR 78-883
April 1978
- An Error Analysis for the Measurement of Satellite EIRP using a
Calibrated Radio Star
IEEE Trans. Instrum. Meas., Vol. IM-27, No. 3, pp. 253-258
September 1978
- An Error Analysis for the Use of Presently Available Lunar Radio Flux
Data in Broadbeam Antenna-System Measurements
NBS Tech. Note 1973
February 1984
- A Preliminary Investigation into using the Sun as a Source for G/T
Measurements
NBSIR 84-3015
August 1984
- A Simple Technique for Determining Joint Losses on a Coaxial Line from
Swept-Frequency Reflection Data
IEEE Trans. on Instrum. and Meas., Vol. IM-36, pp. 468-473
June 1987
- DAYWITT, W. C.; KANDA, M.
G/T Measurement Errors with Radio Stars
Proc., 1975 IEEE Int. Antennas and Propagat. Symp.,
2-4 June, 1975, Urbana-Champaign, IL, Session 20, pp. 460-463
1975
- DOUGHERTY, H. T.; ESTIN, A. J.; MORGAN, W. L.; WOODRUFF, J. J.
The Orbiting Standards Platform
Proc., 1978 Antenna Applications Symp., 20-22 September, 1978,
Urbana-Champaign, IL, pp. 1-9
1978
- ESTIN, A. J.; BAIRD, R. C.
Feasibility Study of Orbiting Standards Platform
NBSIR 78-886
June 1978

Antennas (cont.)

- ESTIN, A. J.; STUBENRAUCH, C. F.; REPJAR, A. G.; NEWELL, A. C.**
Optimized Wavelength-Sized Scalar Horns as Antenna Radiation Standards
1981 EEMTIC Dig., June 1981
1981
IEEE Trans. Instrum. Meas., Vol. IM-31, No. 1, pp. 53-56
March 1982
- FITZGERRELL, R. G.**
A Partial Loop Source of E & H Fields for Antenna Factor Calibration (A Loop Cell)
Proc., 1982 Antenna Meas. Techniques Assoc., 5-7 October, 1982,
New Mexico State University, Las Cruces, NM, pp. 15-1 through
15-22
1982
A Source of E&H Fields for Antenna-Factor Calibration
IEEE Trans. Electromagn. Compat., Vol. EMC-26, No. 2,
pp. 58-65
May 1984
Linear Gain - Standard Antennas Below 1000 MHz
NBS Tech. Note 1098
May 1986
Standard Linear Antennas, 30 GHz to 1000 MHz
Proc., Conf. on Electromagn. Compat., 29 September-2 October,
1986, University of York, England, pp. 147-153
1986
Three PC-Computer Programs for Antenna Calculations Primarily for Use
Below 1000 MHz
IEEE Antennas and Propagat. Soc. (AP-S) Newslett., Vol. 29, No. 3,
pp. 30-32
June 1987
- FRANCIS, M. H.**
Antenna Far-Field Pattern Accuracies at Millimeter Wave Frequencies
Using the Planar Near-Field Technique.
Proc., Antenna Measurement Techniques Association (AMTA) Symp.;
9-13 October 1989; Monterey, CA; pp. 11-16 - 11-21.
October 1989
- FRANCIS, M. H.; HILL, D. A.**
Out-of-Band Response of Array Antennas
Proc., Antenna Meas. Techniques Assoc., 28 September-2 October,
1987, Seattle, WA, pp. 14-19
1987
- FRANCIS, M. H.; STUBENRAUCH, C. F.**
Comparison of Measured and Calculated Antenna Side Lobe Coupling Loss in
the Near Field Using Approximate Far-Field Data
IEEE Trans. on Antennas and Propagat., Vol. 36, No. 3, pp. 438-441
March 1988
- FRANCIS, M. H.; YAGHJIAN, A. D.**
Computations of Antenna Side-Lobe Coupling in the Near Field Using
Approximate Far-Field Data
NBSIR 82-1674
August 1982

Antennas (cont.)

FRANCIS, M. H.; REPJAR, A. G.; KREMER, D. P.

Antenna Measurements for Millimeter Waves at the National Bureau of Standards

Proc., Antenna Meas. Techniques Assoc., 12-16 September, 1988,
Atlanta, GA, pp. 13-13 - 13-17
September 1988

FRANCIS, M. H.; KREMER, D. P.; REPJAR, A. G.

Advanced System Characterizes Antennas to 65 GHz.

Microwaves and RF; pp. 77-88.
March 1990

GREENLEE, D. H.; KANDA, M.; CHANG, D. C.

The Characteristics of Iris-Fed Millimeter Wave Rectangular Microstrip Patch Antennas

NBS Tech. Note 1063
October 1983

GUERRIERI, J. R.; KREMER, D. P.

Automated Multi-Axis Motor Controller and Data Acquisition System for Near-Field Scanners.

Proc., Antenna Measurement Techniques Association (AMTA) Symp.;
9-13 October 1989; Monterey, CA; pp.12-24 - 12-28.
October 1989

HILL, D. A.

Theory of Near-field Phased Arrays for Electromagnetic Susceptibility Testing

NBS Tech. Note 1072
February 1984

Out-of-Band Response of Reflector Antennas

NBSIR 85-3021
April 1985

Far-Field Transient Response of an Antenna from Near-Field Data

NBSIR 86-3063
December 1986

Antennas for Geophysical Applications

Antenna Handbook: Theory, Applications and Design (Chapter 3),
edited by U. T. Lo and S. W. Lee, Van Nostrand Reinhold Co.,
pp. 23-1 through 23-6
1988

HILL, D. A.; CAVCEY, K. H.

Coupling Between Two Antennas Separated by a Planar Interface

IEEE Trans. on Geoscience and Remote Sensing,
Vol. GE-25, No. 4, pp. 422-431
July 1987

HILL, D. A.; EHRET, R. L.

Near-Field Gain of Pyramidal Horns from 18 to 40 GHz;

NISTIR 89-3924
November 1989

Antennas (cont.)

HILL, D. A.; FRANCIS, M. H.

Out-of-Band Response of Antenna Arrays
NBSIR 86-3047
June 1986

Proc., 1987 IEEE Int. Symp. on Electromagn. Compat.,
25-27 August, 1987, Atlanta, GA, pp. 435-438
1987

IEEE Trans. on Electromagn. Compat., Vol. EMC-29, No. 4,
pp. 282-288
November 1987

HILL, D. A.; KOEPKE, G. H.

A Near-Field Array of Yagi-Uda Antennas for Electromagnetic
Susceptibility Testing
NBS Tech. Note 1082
July 1985

IEEE Trans. on Electromagn. Compat., Vol. EMC-28, No. 4,
pp. 273-276
November 1986

An Array of Dipoles for Plane Wave Synthesis
Proc., 1985 Int. Symp. on Antennas and EM Theory,
26-28 August, 1985, Beijing, China, pp. 422-427
1985

HILL, D. A.; WAIT, J. R.

Electromagnetic Characteristics of a Coaxial Cable with Periodic Slots
IEEE Trans. Electromagn. Compat., Vol. EMC-22, No. 4,
pp. 303-307
November 1980

JESCH, R. L.

Measured Vehicular Antenna Performance
IEEE Trans. Veh. Technol., Vol. VT-34, No. 2, pp. 97-107
May 1985

National Institute of Justice Technology Program,
NIJ Report-201-85
May 1986

KANDA, M.

Accuracy Considerations in the Measurement of the Power Gain of a Large
Microwave Antenna
Proc., 1974 Int. IEEE/AP-S Symp., 10-12 June, 1974,
Atlanta, GA, pp. 43-45
1974

IEEE Trans. Antennas Propagat., Vol. AP-23, No. 3,
pp. 407-411
May 1975

Study of Error Analysis for Absolute Flux Density Measurements of
Cassiopeia

IEEE Trans. Instrum. Meas., Vol. IM-25, No. 3, pp. 173-182
September 1976

Antennas (cont.)

KANDA, M. (cont.)

A Relatively Short Cylindrical Broadband Antenna with Tapered Resistive Loading for Picosecond Pulse Measurements

NBSIR 77-861

August 1977

IEEE Antennas and Propagat. Soc. Dig., pp. 230-233

May 1978

IEEE Trans. Antennas and Propagat., Vol. AP-26, No. 3,
pp. 439-447

May 1978

Transients in Resistively Loaded Antennas and Their Comparison with Conical Antennas and TEM Horns

NBSIR 78-876

March 1978

IEEE Trans. Antennas Propagat., Vol. AP-28, No. 1,
pp. 132-136

January 1980

Analytical and Numerical Techniques for Analyzing an Electrically Short Dipole with a Nonlinear Load

NBSIR 78-898

November 1978

IEEE Trans. Antennas Propagat., Vol. AP-28, No. 1, pp. 71-78

January 1980

The Time Domain Characteristics of a Traveling Wave Linear Antenna with Linear and Non-Linear Loads

NBSIR 78-892(R)

February 1979

The Effects of Resistive Loading on TEM Horns

NBSIR 79-1601

August 1979

The Characteristics of a Linear Antenna with Tapered Resistive and Capacitive Loading

Proc., 1980 IEEE AP Symp., 2-6 June, 1980, Quebec, Canada, Vol. 2,
AP. 18-2, pp. 696-699

1980

The Effects of Resistive Loading on TEM Horns

IEEE Trans. Electromagn. Compat., Vol. EMC-24, No. 2,
pp. 245-255

May 1982

An Electromagnetic Near-Field Sensor for Simultaneous Electric and Magnetic-Field Measurements

IEEE Trans. Electromagn. Compat., Vol. EMC-26, No. 3,

pp. 102-110

August 1984

Antennas (cont.)

KANDA, M. (cont.)

Transients in a Resistively Loaded Loop Antenna
Proc., 1984 Int. Symp. on Electromagn. Compat., 16-18 October,
1984, Tokyo, Japan, Vol. 1, pp. 286-290
1984

KANDA, M.; ORR, R. D.

Near-Field Gain of a Horn and an Open-Ended Waveguide; Comparison
Between Theory and Experiment

IEEE AP/S Symp. on Antennas and Propagation
8-13 June, 1986, Philadelphia, PA, pp. 91-94
1986

Proc., 5th Int. Conf. on Electromagn. Compat., 29 September-
2 October, 1986, University of York, England, pp. 137-145
1986

IEEE Trans. on Antennas and Propagat., Vol. AP-35, No. 1,
pp. 33-40
January 1987

KANDA, M.; CHANG, D. C.; GREENLEE, D. H.

The Characteristics of Iris-Fed Millimeter Wave Rectangular Microstrip
Patch Antennas

Proc., 1982 IEEE AP/S Symp., 24-28 May, 1982, University of New
Mexico, Albuquerque, NM, pp. 292-295
1982

KERNS, D. M.

Comment on Correction of Errors in Aerial Far-Field Radiation-Pattern
Determinations

Electronics Letters, Vol. 7, No. 24, pp. 706
December 1971

Plane-Wave Scattering Matrix Theory of Antennas and Antenna-Antenna
Interactions: Formulation and Applications

NBSIR 75-824
January 1975

Plane-Wave Scattering Matrix Theory of Antennas and Antenna-Antenna
Interactions

NBS MN 162
June 1981

KREMER, D. P.; REPJAR, A. G.

Antenna Calibrating Standards Using CW and Pulsed-CW Measurements and
the Planar Near-Field Method

Proc., Antenna Meas. Techn. Assoc., 12-16 September, 1988,
Atlanta, GA, pp. 13-21 - 13-29
September 1988

KREMER, D. P.; NEWELL, A. C.; AGEE, D. A.

Absorber Characterization.

Proc., Antenna Measurement Techniques Association (AMTA) Symp.;
9-13 October 1989; Monterey, CA; pp.13-7 - 13-11.
October 1989

Antennas (cont.)

LARSEN, E. B.

Calibration and Meaning of Antenna Factor and Gain for EMI Antennas
Interference Technology Engineers' Master (ITEM 1986),
pp. 113-335
1986

LARSEN, E. B.; ANDREWS, J. R.

Using Fiber Optics in a Broadband, Sensitive, Isotropic Antenna -
15 kHz to 150 MHz
Proc., IEEE Int. Symp. on Electromagn. Compat.,
13-15 July, 1976, Washington, DC, pp. 385-389
1976

LARSEN, E. B.; CRUZ, J. E.

E&H Fields in Transmission Lines and Coils for Susceptibility Testing,
Probe Calibration, and RF Exposure Chambers
Proc., 1985 Instrum. and Meas. Technol. Conf.,
20-22 March, 1985, Tampa, FL, p. 199
1985

LAWTON, R. A.; ONDREJKA, A. R.

Antennas and the Associated Time Domain Range for the Measurement of
Impulsive Fields
NBS Tech. Note 1008
November 1978

LEWIS, R. L.

The Use of Three Term Recursion Relations for Numerical Computations as
Applied to Near-Field Spherical Scanning
Proc., Int. Union of Radio Science (URSI) Int. Symp.,
20-24 June, 1977, pp. 224-226
1977

Efficient Computation of the Far-Field Radiated by an Arbitrary
Rectangular-Aperture Distribution
NBSIR 81-1643
April 1981

Spherical Scanning Data Processing: An Algorithm for Halving the Data
Processing Effort when the Radiation into the Back Hemisphere is
Negligible
Dig., 1981 IEEE APS Int. Symp., June 1981
1981

Spherical-Wave Source-Scattering-Matrix Analysis of the Mutual Coupling
Between Two Antennas
Dig., 1981 IEEE AP-S Int. Symp.
June 1981

Spherical-Wave Source-Scattering Matrix Analysis of Coupled Antennas; A
General System Two-Port Solution
IEEE Trans. on Antennas and Propagat., Vol. AP-35, No. 12,
pp. 1375-1380
December 1987

Antennas (cont.)

LEWIS, R. L.; NEWELL, A. C.

Efficient and Accurate Method for Calculating and Representing Power Density in the Near Zone of Microwave Antennas
IEEE Trans. on Antennas & Propag., Spec. Issue, Near-Field Scanning Techn., Vol. 36, No. 6, pp. 890-891
June 1988

LEWIS, R. L.; WITTMANN, R. C.

Improved Spherical and Hemispherical Scanning Algorithms
IEEE Trans. on Antennas and Propagat., Vol. AP-35, No. 12, pp. 1381-1388
December 1987

MA, M. T.

A Theoretical Study of Unbalanced Ground Effects on Receiving Dipoles
NBSIR 79-1605
May 1979

Synthesis of Broadband Antenna Arrays as Possible Over-the-Horizon Radars
Research Topics in EM Wave Theory (Chapter 9)
John Wiley Interscience, pp. 188-209
1981

Arrays of Discrete Elements

Antenna Engineering Handbook, Chapter 3, R. C. Johnson and H. Jasik, McGraw-Hill Book Co.
January 1984

MUTH, L. A.

Mutual Impedances and Multiple Reflections in an N-Element Array Environment
NBS Tech. Note 1078
February 1985

A Theory of Mutual Impedances and Multiple Reflections in an N-Element Array Environment

Proc., 1985 Int. Symp. on Antennas and Propagat.,
20-22 August, 1985, Kyoto, Japan, pp. 719-722
1985

Proc., 1985 Int. Symp. on Antennas and EM Theory,
26-28 August, 1985, Beijing, China, pp. 440-443
1985

Interelement Interactions in Phased Arrays: Theory, Methods of Data Analysis, and Theoretical Simulations
NBS Tech. Note 1091
December 1985

Gradient Displacement Errors in Antenna Near-Field Measurements and Their Effects on the Far Field
NBS Tech. Note 1306
October 1986

Experimental Study of Interpanel Interactions at 3.3 GHz
Proc., Antenna Meas. Techniques Assoc.,
28 September-2 October, 1987, Seattle, WA, pp. 25-29
1987

Antennas (cont.)

MUTH, L. A. (cont.)

Displacement Errors in Antenna Near-Field Measurements and Their Effect on the Far Field

IEEE Trans. on Antennas and Propagat., Vol. 36, No. 5,
pp. 581-591
May 1988

MUTH, L. A.; LEWIS, R. L.

An Iterative Technique to Correct Probe Position Errors in Planar Near-Field to Far-Field Transformations

NIST TN-1323
October 1988

Planar Near-Field Codes for Personal Computers;

NISTIR 89-3929
October 1989

An Iterative Technique to Correct Probe Position Errors in Planar Near-Field to Far-Field Transformations.

Proc., 1989 Int. Symp. on Antennas and Propagat.; 22-25 August 1989; Nagoya, Japan; pp. 901-904.
August 1989

NEWELL, A. C.

Improved Polarization Measurements Using a Modified Three Antenna Technique

Proc., 1975 IEEE Int. Antennas and Propagat. Symp.,
2-4 June, 1975, Urbana-Champaign, IL, Session 15, pp. 337-340
1975

IEEE Trans. on Antennas and Propagat., Spec. Issue on Near-Field Scanning Techn., Vol. 36, No. 6, pp. 852-854
June 1988

Error Analysis Techniques for Planar Near-Field Measurements

IEEE Trans. on Antennas and Propagat., Spec. Issue on Near-Field Scanning Techn., Vol. 36, No. 6, pp. 754-768
June 1988

Development of Near-Field Test Procedures for Communication Satellite Antennas, Phase I, Part 2

NBSIR 87-3081
August 1988

NEWELL, A. C.; CRAWFORD, M. L.

Planar Near-Field Measurements on Phased Array Antennas

Proc., 1974 Int. IEEE/AP-S Symp., 10-12 June, 1974,
Atlanta, GA, (Paper 6-7 in 1974 International IEEE/AP-S Symposium Digest, p. 423)
1974

Planar Near-Field Measurements on High Performance Array Antennas

NBSIR 74-380
July 1974

Antennas (cont.)

NEWELL, A. C.; KERNS, D. M.

Determination of Both Polarization and Power Gain of Antennas by a Generalized 3-Antenna Measurement Method
Electronics Letters, Vol. 7, No. 3, pp. 68-70
January 1971

NEWELL, A. C.; REPJAR, A. G.

Results of Spherical Near-Field Measurements on Narrow-Beam Antennas
Proc., 1976 Conf. on Precision Electromagn. Meas.,
28 June-1 July, 1976, Boulder, CO, pp. 382-385
1976

Development of Near-Field Test Procedures for Communication Satellite Antennas, Phase I, Part 1
NBSIR 85-3031
September 1985

NEWELL, A. C.; STUBENRAUCH, C. F.

The Effect of Random Errors in Planar Near-Field Measurements
Proc., 1986 Int. IEEE AP-S Symp., 8-13 June, 1986,
Philadelphia, PA, pp. 195-198
1986

Effect of Random Errors in Planar Near-Field Measurement
IEEE Trans. on Antennas and Propagat., Spec. Issue on Near-Field Scanning Techn., Vol. 36, No. 6, pp. 769-773
June 1988

NEWELL, A. C.; YAGHJIAN, A. D.

Study of Errors in Planar Near-Field Measurements
Proc., 1975 IEEE Int. Antennas and Propagat. Symp.,
2-4 June, 1975, Urbana-Champaign, IL, Session 20, pp. 470-473
1975

NEWELL, A. C.; BAIRD, R. C.; WACKER, P. F.

Accurate Measurement of Antenna Gain and Polarization at Reduced Distances by an Extrapolation Technique
IEEE Trans. Antennas Propagat., Vol. AP-21, No. 4,
pp. 418-431
July 1973

NEWELL, A. C.; FRANCIS, M. H.; KREMER, D. P.

The Determination of Near-field Correction Parameters for Circularly Polarized Probes
Proc., 1984 Antenna Meas. Techniques Assoc. Conf.,
2-4 October, 1984, Atlanta, GA, pp. 3A3-1 through 3A3-29
1984

NEWELL, A. C.; KREMER, D. P.; GUERRIERI, J. R.

Improvements in Polarization Measurements of Circularly Polarized Antennas.
Proc., Antenna Measurement Techniques Association (AMTA) Symp.;
9-13 October 1989; Monterey, CA; pp. 1-30 - 1-36.
October 1989

Antennas (cont.)

NEWELL, A. C.; STUBENRAUCH, C. F.; BAIRD, R. C.

Calibration of Microwave Antenna Gain Standards
Proc. IEEE, Spec. Issue on Radio Meas. Methods and Standards,
Vol. 74, Vol. 1, pp. 129-132
January 1986

NEWELL, A. C.; FRANCIS, M. H.; KREMER, D. P.; GRIMM, K. R.

Results of Planar Near-field Testing with Ultralow Sidelobe Antennas
Dig., Int. IEEE/AP-S Symp. on Antennas and Propagat., 17-21 June,
1985, University of British Columbia, Vancouver, Canada,
pp. 693-698
1985

**NEWELL, A. C.; GUERRIERI, J. R.; PERSINGER, R. R.; STILES, J. A.; MCFARLANE,
E. J.**

Comparison of Antenna Boresight Measurements Between Near-Field and
Far-Field Ranges.
Proc., Antenna Measurement Techniques Association (AMTA) Symp.;
9-13 October 1989; Monterey, CA; pp. 1-24 - 1-29.
October 1989

REEVE, G. R.

Synthesized Isotropic Pattern Antennas for EM Field Measurements
Record, "EMC '81," 1981 IEEE Int. Symp. on Electromagn. Compat.,
18-20 August, 1981, Boulder, CO
1981

REEVE, G. R.; WAINWRIGHT, A. E.

A Frequency Tracking, Tuned, Receiving Monopole
Record, IEEE/APS Symp., June, 1981
1981

REPJAR, A. G.; KREMER, D. P.

Results of Planar Near-Field Measurements on a Compact Range at 18 and
54 GHz
Dig., IEEE/AP-S Symp.
1980

Accurate Evaluation of a Millimeter Wave Compact Range Using Planar
Near-Field Scanning
IEEE Trans. Antennas Propagat., Vol. AP-30, No. 3,
pp. 419-425
May 1982

REPJAR, A. G.; NEWELL, A. C.; BAIRD, R. C.

Antenna Gain Measurements by an Extended Version of the NBS
Extrapolation Method
Dig., 1982 Conf. on Precision Electromagn. Meas.,
28 June-1 July, 1982, Boulder, CO, pp. F-7 through F-9
1982

IEEE Trans. Instrum. Meas., Vol. IM-32, No. 1, pp. 88-91
March 1983

Antennas (cont.)

REPJAR, A. G.; NEWELL, A. C.; FRANCIS, M. H.

Accurate Determination of Planar Near-Field Correction Parameters for Linearly Polarized Probes

IEEE Trans. on Antennas and Propagat., Special Issue on Near-Field Meas., Vol. 36, No. 6, pp. 855-868

June 1988

STUBENRAUCH, C. F.

Some Recent Near-Field Antenna Measurements

Proc., 1979 Antenna Application Symp., September, 1979
1979

STUBENRAUCH, C. F.; FRANCIS, M. H.

Comparison of Measured and Calculated Mutual Coupling in the Near Field Between Microwave Antennas

NBSIR 84-3010

June 1984

Proc., 1984 Antenna Applications Symp., 19-21 September, 1984,
University of Illinois, Urbana-Champaign, IL, pp. 1-21
1984

STUBENRAUCH, C. F.; YAGHJIAN, A. D.

Determination of Mutual Coupling Between Co-Sited Microwave Antennas and Calculation of Near-Zone Electric Field

NBSIR 81-1630

June 1981

STUBENRAUCH, C. F.; SPIESS, W.; GALLIANO, P. G.; BABJI, T.

International Intercomparison of Electric Field Strength at 100 MHz Dig., 1982 Conf. on Precision Electromagn. Meas.,

28 June-1 July, 1982, Boulder, CO, pp. P-3 through P-4
1982

TAGGART, H. E.; SHAFER, J. F.

Testing of Electronic Industries Association Land-Mobile Communication Antenna Gain Standards at the National Bureau of Standards

IEEE Trans. Veh. Technol. VT-27, pp. 259-264

November 1978

TREADO, M. J.; TAGGART, H. E.; NELSON, R. E.; WORKMAN, J. L.

Fixed and Base Station Antennas

National Institute of Justice (NIJ) Standard-0204.01 (Supercedes National Institute for Law Enforcement and Criminal Justice (NILECJ) STD-0204.00, dated November 1977)

December 1981

WACKER, P. F.

Near-Field Antenna Measurements Using a Spherical Scan: Efficient Data Reduction with Probe Correction

CPEM Dig., No. 113, pp. 286-288 (Institution of Electrical Engineers, London, England)

1974

Antenna Measurements at the National Bureau of Standards Near-Field and Extrapolation Techniques

Proc., 1974 Colloquium on Microwave Communication (5th),
24-30 June, 1974, Budapest, PME-113-114.

1974

Antennas (cont.)

WACKER, P. F. (cont.)

Non-Planar Near-Field Measurements: Spherical Scanning
NBSIR 75-809
1975

Symmetry Analysis Applied to Scattering, Inverse Scattering, and Antenna
Patterns: Measurements, Moment Method, and Characteristic Modes
Proc., 1977 IEEE/Antennas and Propagat. Soc. Int. Symp.,
pp. 177-180
1977

Symmetry Analysis Applied to Wave Theory
Int. IEEE/AP-S Symp. Dig.
1977

Recent Results with Spherical Near-Field Antenna Scanning at the
National Bureau of Standards
Proc., 1977 European Space Agency Symp., 6-8 June, 1977, Noordwijk
(Netherlands), pp. 159-164
1977

A Qualitative Survey of Near-Field Analysis and Measurement
NBSIR 79-1602
January 1979

Plane-Radial Scanning Techniques With Probe Correction; Natural
Orthogonalities With Respect to Summation on Planar Measurement Lattices
Dig. of the IEEE/APS Symp.
February 1979

WACKER, P. F.; NEWELL, A. C.

Advantages and Disadvantages of Planar, Circular Cylindrical and
Spherical Scanning and Description of the NBS Antenna Scanning
Facilities
Proc., 1977 European Space Agency Symp., 6-8 June, 1977, Noordwijk
(Netherlands), pp. 115-121
1977

WAIT, D. F.

Satellite Earth Terminal G/T Measurements
Microwave Journal, Vol. 20, No. 4, pp. 49, 51, 58
April 1977

Earth Terminal Measurement System Operations Manual
NBSIR 78-879
April 1978

Precision Measurement of Antenna System Noise Using Radio Stars
Dig., 1982 Conf. on Precision Electromagn. Meas.,
28 June-1 July, 1982, Boulder, CO, p. F-17
1982

IEEE Trans. Instrum. Meas., Vol. IM-32, No. 1, pp. 110-116
March 1983

Earth Terminal Measurement System Operations Manual (Revised)
NBSIR 83-1679(R)
January 1983

Antennas (cont.)

WAIT, J. R.; HILL, D. A.

Fields of a Horizontal Loop of Arbitrary Shape Buried in a Two-Layer Earth

Radio Science, Vol 15, No. 5, pp. 903-912
September-October 1980

WILSON, P. F.; CHANG, D. C.; MA, M. T.

Input Impedance of a Probe Antenna Exciting a TEM Cell

NBS Tech. Note 1054
April 1982

WITTMANN, R. C.

Probe Correction in Spherical Near-field Scanning Viewed as an Ideal Probe Measuring an Effective Field

Dig., 1984 Int. Symp. on Antennas and Propagat.,
25-29 June, 1984, Boston, MA, pp. 674-677
1984

Comments on Spherical Near-Field Antenna Measurements:
Review for AP-S Newsletter, Vol. 31, No. 3, pp. 35-36
June 1989

Spherical Near-Field Scanning: Determining the Incident Field Near a Rotatable Probe.

Proc. Int'l Symp. on Antennas & Propagation, IEEE;
May 7-11, 1990; Dallas, TX; pp 224-227
May 1990

WYSS, J. C.; SHEERAN, S.

A Passive, Optical Modulator and Link for Antennas

IEEE J. of Lightwave Technol., Vol. LT-3, No. 2, pp. 316-321
April 1985

WYSS, J. C.; ANSON, W. J.; ORR, R. D.

Building Penetration Project

NBSIR 84-3009
September 1984

WYSS, J. C.; KANDA, M.; MELQUIST, D. G.; ONDREJKA, A. R.

Optical Modulator and Link for Broadband Antennas

Dig., 1982 Conf. on Precision Electromagn. Meas.,
28 June-1 July, 1982, Boulder, CO, pp. P-16 through P-17
1982

YAGHJIAN, A. D.

Upper-Bound Errors in Far-Field Antenna Parameters Determined from Planar Near-Field Measurements. Part 1: Analysis

NBS Tech. Note 667
October 1975

A Direct Approach to the Derivation of Electric Dyadic Green's Functions
AP-Symposium Dig., October, 1976, pp. 76-156

October 1976

NBS Tech. Note 1000
December 1977

Antennas (cont.)

YAGHJIAN, A. D. (cont.)

Near-Field Antenna Measurements on a Cylindrical Surface: A Source
Scattering-Matrix Formulation

NBS Tech. Note 696
September 1977

An Approximate Expression for the Principal Beamwidth of Directive
Antennas in Terms of Aperture Fields

NBSIR 81-1644
March 1981

A Delta-Distribution Derivation of the Electric Field in the Source
Region

Dig., 1981 IEEE/AP-S Symp., June, 1981
June 1981

J. of the Electromagn. Soc., Vol. 2, No. 2, pp. 161-167
April-June 1982

Efficient Computation of Antenna Coupling and Fields Within the
Near-Field Region

IEEE Trans. Antennas Propagat., Vol. AP-30, No. 1,
pp. 113-128
January 1982

Approximate Formulas for the Far Field and Gain of Open-Ended
Rectangular Waveguide

NBSIR 83-1689
May 1983

YAGHJIAN, A. D.; WITTMANN, R. C.

The Receiving Antenna as a Linear Differential Operator: Application to
Spherical Near-Field Scanning

IEEE Trans. on Antenna and Propagat., Vol. AP-33, No. 11,
pp. 1175-1185
November 1985

DIELECTRIC MEASUREMENTS

BAKER-JARVIS, J.; GEYER, R. G.

Improved Algorithms for the Transmission/Reflection and Short Circuit Permittivity and Permeability Measurement Methods.

Digest, CPEM; June 11-14, 1990; Ottawa, Canada; pp. 232-233.
June 1990

BENNETT, W. S.; TAGGART, H. E.

Characteristics of A CISPR/VDE Far-Field EMI Test Site with Ground Screen

Proc., Third Rotterdam Electromagn. Compat. Symp.,
December 1978
1978

BUSSEY, H. E.

Measurement of RF Properties of Materials, A Survey

Proc. IEEE, Special Issue on Radio Meas. Methods and Standards,
Vol. 55, No. 6, pp. 1046-1053
June 1967

Rapport Sur la Comparaison Int.E des Mesures de Permittivite Complexe a 9 GHz (Int. Comparison of Complex Permittivity Measurement at 9 GHz)

Proc., of Comite Consultatif, D'Electricite Comite, Int. des Poids et Mesures, 12-13 October, 1972, Sevres, France, pp. 124-137
1972

Wavelength of a Slotted Rectangular Line Containing Two Dielectrics
NBSIR 73-326

July 1973

Dielectric Measurements of Lunar Soil

Proc., 1979 Lunar and Planetary Science Conf. (10th) Nat.
Aeronautics and Space Administration, 19-23 March, 1979,
Lyndon B. Johnson Space Center, Houston, TX
1979

Open Circuited Coaxial Resonator for High Sensitivity Dielectric Measurements, Application to Lunar Soil 70051-20

Proc., 1979 Lunar and Planetary Science Conf. (10th) Nat.
Aeronautics and Space Administration, 19-23 March, 1979,
Lyndon B. Johnson Space Center, Houston, TX
1979

Dielectric Measurements in a Shielded Open Circuit Coaxial Line

IEEE Trans. Instrum. Meas., Vol. IM-29, No. 2
June 1980

BUSSEY, H. E.; RICHMOND, J. H.

Scattering by a Lossy Dielectric Circular Cylindrical Multilayer, Numerical Values

IEEE Trans. Antennas Propagat., Vol. 23, No. 5, pp. 723-725
September 1975

Dielectric Measurements (cont.)

BUSSEY, H. E.; MORRIS, D.; ZALTSMAN, E. B.

International Comparison of Complex Permittivity Measurement at 9 GHz
IEEE Trans. Instrum. Meas., Vol. IM-23, No. 3, pp. 235-239
September 1974

DAYWITT, W. C.

Complex Permittivity of Beryllium Oxide Between 100 and 300 Kelvins at
9.3 Gigahertz
IEEE Trans. Instrum. Meas., Vol. IM-34, No. 1, pp. 98-99
March 1985

ELLERBRUCH, D. A.; LITTLE, W. E.; BOYNE, H. S.; BACHMAN, D. D.

Microwave Characteristics of Snow
Proc., 1977 Western Snow Conf., 18-21 April, 1977,
Albuquerque, NM, p 7.
1977

GEYER, R. G.

Dielectric Mixing Rules for Background Test Soils
NBSIR 88-3095
June 1988

Electrodynamics of Materials for Dielectric Measurement Standardization.
Record, Instrumentation & Measurement Technology (IMTC) Conf.;
February 13-15, 1990; San Jose, CA; pp. 2-7.
February 1990

Dielectric Characterization and Reference Materials;
NIST Tech Note 1338.
April 1990

GEYER, R. G.; WEIL, C. M.; KISSICK, W. A.

Precision Dielectric Measurements Using a Mode-Filtered Cylindrical
Cavity Resonator.
Digest, CPEM; June 11-14, 1990; Ottawa, Canada; pp. 174-175.
June 1990

HILL, D. A.

Near-Field Detection of Buried Dielectric Objects
IEEE Trans. on Geoscience and Remote Sensing, Vol. 27,
No. 4, pp. 364-368
July 1989

Electric and Magnetic Dipole Radiation in a Random Medium.
Electromagnetics; Vol. 10: pp. 279-292.
1990

HILL, D. A.; KANDA, M.; LARSEN, E. B.; KOEPKE, G. H.; ORR, R. D.

Generating Standard Reference Electromagnetic Fields in the NIST
Anechoic Chamber, 0.2 to 40 GHz
NIST Tech Note 1335
March 1990

JESCH, R. L.

Dielectric Measurements of Five Different Soil Textural Types as
Functions of Frequency and Moisture Content
NBSIR 78-896
1978

Dielectric Measurements (cont.)

JESCH, R. L. (cont.)

Dielectric Measurements of Oil Shale as Functions of Temperature and Frequency

IEEE. Trans. Geosci. and Remote Sensing, Vol. GE-22, No. 2,
pp. 99-105
March 1984

Measurement of Shielding Effectiveness of Different Cable and Shielding Configurations by Mode-Stirred Techniques.

IEEE Trans. on EMC; Vol. 30: pp. 222-228.
August 1988

JONES, R. N.; BUSSEY, H. E.; LITTLE, W. E.; METZKER, R. F.

Electrical Characteristics of Corn, Wheat, and Soya in the 1-200 MHz Range

NBSIR 78-897
October 1978

LAWTON, R. A.

Autocorrelation and Power Measurement with Pyroelectric and Dielectric Bolometers

IEEE Trans. Instrum. Meas., IM-22, pp. 299-306
December 1973

LAWTON, R. A.; ANDERSON, W. T.

Two Layer Dielectric Microstrip Line Structure: SiO₂ on Si and GaAs on Si: Modeling and Measurement

IEEE Trans. on Microwave Theory and Techniques, Vol. 36,
No. 4, pp. 785-789
April 1988

VANZURA, E. J.; KISSICK, W. A.

Advances in NIST Dielectric Measurement Capability Using a Mode-Filtered Cylindrical Cavity

Proc., 1989 IEEE MTT-S Int. Microwave Symp., 13-15 June 1989, Long Beach, CA, pp. 901-904
1989

ELECTROMAGNETIC INTERFERENCE

- ADAMS, J. W.**
Measurement of Electromagnetic Radiation from Electric Rail Cars
NBSIR 82-1669
August 1982
- ADAMS, J. W.; FRIDAY, D. S.**
Measurement Procedures for Electromagnetic Compatibility Assessment of
Electroexplosive Devices
IEEE Trans. on Electromagn. Compat., Vol. 30, No. 4,
pp. 484-494
November 1988
- ADAMS, J. W.; TAGGART, H. E.**
Electromagnetic Compatibility Evaluation of Seven Electronic Brake
Systems
NBSIR 78-872
February 1978
- ADAMS, J. W.; VANZURA, E. J.**
Shielding Effectiveness Measurements of Plastics
NBSIR 85-3035
January 1986

EMC Technology and Interference Control News, pp. 39-44
September-October 1986
- ADAMS, J. W.; BENSEMA, W. D.; KANDA, M.**
Electromagnetic Noise in Grace Mine
NBSIR 74-388
June 1974
- ADAMS, J. W.; BENSEMA, W. D.; TOMOEDA, N. C.**
Surface Magnetic Field Noise Measurements at Geneva Mine
NBSIR 74-369
June 1974
- ADAMS, J. W.; CRAWFORD, M. L.; SHAFER, J. F.**
Electromagnetic Interference (EMI) Measurements for Automotive
Applications
Proc., 1976 SAE Automotive Congress Conf., 23-27 February, 1976,
Detroit, MI, pp. 1-6
1976
- ADAMS, J. W.; TAGGART, H. E.; SPAULDING, A. D.**
Survey Report of the U.S. Bureau of Mines Electromagnetic Noise
Measurement Program
NBS Rept. 10723
November 1971
- ADAMS, J. W.; KANDA, M.; SHAFER, J. F.; WU, Y.**
Near-Field Electric Field Strength Levels of EM Environments Applicable
to Automotive Systems
Proc., 1977 IEEE Int. Symp. on Electromagn. Compat.,
2-4 August, 1977, Seattle, WA, pp. 336-343
1977
- ALSPACH, W. J.; MILLER, C. K. S.; REEVE, G. R.**
An Assessment of Electromagnetic Interference (EMI) and Electromagnetic
Compatibility (EMC) Measurement Practices to Meet U.S. Army Aviation
Research and Development Command EMI/EMC Requirements
NBSIR 84-1698(R)
January 1984

Electromagnetic Interference (cont.)

ANDREWS, J. R.

Picosecond Pulse Generators Using Microminiature Mercury Switches
NBSIR 74-377
1974

Impulse Generator Spectrum Amplitude Measurement Techniques
IEEE Trans. Instrum. Meas., Vol. IM-25, No. 4, pp. 380-384
December 1976

ANDREWS, J. R.; ARTHUR, M. G.

Spectrum Amplitude--Definition, Generation and Measurement
NBS Tech. Note 699
October 1977

ANDREWS, J. R.; BALDWIN, E. E.

UHF Impulse Generator
NBSIR 78-880
April 1978

SHF Impulse Generator
NBSIR 78-888
June 1978

ARTHUR, M. G.

Impulse Spectral Intensity -- What is it?
NBSIR 74-365
May 1974

Proc., 1978 Electromagn. Interference Workshop
NBS SP 551
July 1979

ARTHUR, M. G.; ORR, R. D.; REEVE, G. R.

Planning Guidance for Future EMI Measurement Instrumentation
NBSIR 82-1662
April 1982

BAIRD, R. C.

Methods of Calibrating Microwave Hazard Meters
Proc., Int. Symp on Biological Effects and Health Hazards of
Microwave Radiation, October, 1973, Warsaw, Poland,
pp. 228-236
1973

BELSHER, D. R.

Development of Near-Field Electric Energy Density Meter Model EDM-2
Department of Health, Education, and Welfare, Publ. No. (NIOSH)
75-140
March 1975

BENSEMA, W. D.

Coal Mine Magnetic-Field Noise Measurements
Proc., 1972 W. Virginia Conf. on Coal Mine Electrotechnology
(1st), 2-4 August, 1972, West Virginia Univ., Morgantown,
pp. XII-1 through XII-12
1972

Electromagnetic Interference (cont.)

BENSEMA, W. D. (cont.)

A Noise Spectrum Measurement System Using the Fast Fourier Transform
IEEE Trans. Electromagn. Compat., Vol. EMC-19, No. 2,
pp. 37-43
May 1977

Amplitude, Time, and Frequency Statistics of Quasi-Impulsive Noise
Proc., 1977 Electromagn. Compat. Symp., 18-30 June, 1977, Montreux
(Switzerland), pp. 347-352
1977

Broadband Orthogonal Array Antenna System: Microprocessor Control and
Computation
Record, "EMC '81," 1981 IEEE Int. Symp. on Electromagn. Compat.,
18-20 August, 1981, Boulder, CO
1981

Handbook for Broadband Isotropic Antenna System
Volume 1 - Operations Manual
NBSIR 83-1693
July 1983

BENSEMA, W. D.; KANDA, M.; ADAMS, J. W.
Electromagnetic Noise in Robena No. 4 Coal Mine
NBS Tech. Note 654
April 1974

Electromagnetic Noise in Itmann Mine
NBSIR 74-390
June 1974

BENSEMA, W. D.; KOEPKE, G. H.; MEDLEY, H. W.
Handbook for NBS Multisensor Automated EM Field Measurement System
NBSIR 86-3056
October 1986

BENSEMA, W. D.; REEVE, G. R.; KOEPKE, G. H.
A Multisensor Automated EM Field Measurement System
Proc., 1985 Instrum. and Meas. Technol. Conf.,
20-22 March, 1985, Tampa, FL, pp. 200-202
1985

BOWMAN, R. R.
Field Strength Above 1 GHz: Measurement Procedures for Standard Antennas
Proc., IEEE, Special Issue on Radio Meas. Methods and Standards,
Vol. 55, No. 6, pp. 981-990
June 1967

Quantifying Hazardous Electromagnetic Microwave Fields: Practical
Considerations
Proc., 1969 Biological Effects and Health Implications of
Microwave Radiation, 17-19 September, 1969, Richmond, VA., BRH/DBE
70-2, U.S. Dept. of Health, Education, and Welfare, Rockville,
MD., pp. 204-209
June 1970

Electromagnetic Interference (cont.)

BOWMAN, R. R. (cont.)

Some Recent Developments in the Characterization and Measurement of Hazardous Electromagnetic Fields

Proc., 1973 Int. Symp. Biologic Effects and Health Hazards of Microwave Radiation, 15-18 October, 1973, Warsaw (Poland), pp. 217-227
1973

A Probe for Measuring Temperature in Radio-Frequency-Heated Material

IEEE Trans. Microwave Theory Technol., Vol. MTT-24, No. 1, pp. 43-45
January 1976

Calibration Techniques for Electromagnetic Hazard Meters: 500 MHz To 20 GHz

NBSIR 75-805
April 1976

A Temperature Probe for Radio-Frequency Heated Material

NBSIR 81-1634
January 1981

CAMELL, D. G.; LARSEN, E. B.; ANSON, W. J.

NBS Calibration Procedures for Horizontal Dipole Antennas (25 to 100 MHz)

Proc. IEEE Int. Symp. on Electromagn. Compat., 2-4 August, 1988, Seattle, WA, pp. 390-394
1988

CAVCEY, K. H.

Transmission Loss Through 6061 T-6 Aluminum Using a Pulsed Eddy Current Source

"Materials Evaluation", American Society for Nondestructive Testing, Vol. 47, No. 2, pp. 216-218
February 1989

CAVCEY, K. H.; FRIDAY, D. S.

Aircraft Field Degradation and Electromagnetic Compatibility

NBSIR 88-3083
January 1988

CLARK, H. E.

Requirements for an Effective National Nonionizing Radiation Measurement System

NBS SP 613
June 1981

CRAWFORD, M. L.

Evaluation of Reflectivity Level of Anechoic Chambers Using Isotropic, 3-Dimensional Probing

Proc., 1974 Int. IEEE/AP-S Symp. Dig., 10-12 June, 1974, Atlanta, GA, pp. 28-34
1974

Generation of Standard EM Fields Using TEM Transmission Cells

IEEE Trans. Electromagn. Compat., Vol. EMC-16, No. 4, pp. 189-195
November 1974

Electromagnetic Interference (cont.)

CRAWFORD, M. L. (cont.)

Generation of Standard EM Fields for Calibration of Power Density Meters
20 kHz to 1000 MHz

NBSIR 75-804

January 1975

Techniques for Measurement of Electromagnetic Radiation and
Susceptibility of Electronic Equipment

Proc., 1975 Symp. and Technical Exhib. on Electromagn. Compat.
(1st), 20-22 May, 1975, Montreux, Switzerland,

pp. 38-44

1975

Experimental Evaluation of the Radiation Characteristics of Dipole
Sources Enclosed in a TEM Transmission Cell

Proc., 1976 Conf. on Precision Electromagn. Meas.,
28 June-1 July, 1976, Boulder, CO, pp. 57-59

1976

Improved Techniques and Instrumentation for EMC Measurements

IEEE 1976 Int. Symp. on Electromagn. Compat.,

13-15 July, 1976, Washington, DC

1976

Comparison and Selection of Techniques for Measuring EM Radiated
Emissions and Susceptibility of Large Equipment

Proc., 1979 Symp. and Technical Exhib. on Electromagn. Compat.
(3rd), 1-3 May, 1979, Rotterdam (Netherlands),

pp. 115-122

1979

Evaluation of a Reverberation Chamber Facility for Performing EM
Radiated Fields Susceptibility Measurements

NBSIR 81-1638

February 1981

Options to Open-Field and Shielded Enclosure Electromagnetic
Compatibility Measurements

Proc., 1981 Int. Electromagn. Compat. Symp.,

10-12 March, 1981, Zurich, Switzerland

1981

Improving the Repeatability of EM Susceptibility Measurements of
Electronic Components When Using TEM Cells

SAE Technical Paper Series, 830607, International Congress and
Exposition, 28 February-4 March, 1983, Detroit, MI,

pp. 1-8

1983

Evaluation of Shielded Enclosure for EMI/EMC Measurements Without and
With RF Anechoic Material

Proc., 1983 Electromagn. Compat. Symp. and Exhib.,

8-10 March, 1983, Zurich, Switzerland, pp. 397-402

1983

Electromagnetic Interference (cont.)

CRAWFORD, M. L. (cont.)

Comparison of Open-Field, Anechoic Chamber and TEM Cell Facilities/Techniques for Performing Electromagnetic Radiated Emissions Measurements

Record, IEEE 1983 Int. Symp. on Electromagn. Compat.,
23-25 August, 1983, Arlington, VA, pp. 413-418
1983

A TEM Driven Reverberating Chamber A Single Facility for Radiated EMS/V Testing 10 kHz - 18 GHz?

Proc., EMC Expo 1987, Int. Conf. on Electromagn. Compat.,
19-21 May, 1987, San Diego, CA, pp. T11.18- T11.28
1987

TEM/Reverberating Chamber Design/Concept Study: A Single Facility for Large System Radiated EMC Testing, 10 kHz-40 GHz

Proc., EMC EXPO, 1-3 August 1989, Washington, DC,
pp. B6.22-B6.29
1989

CRAWFORD, M. L.; BEAN, J. L.

NSWC Reverberating Chamber A High Power Microwave Exposure Chamber

Proc., 3rd Nat. High Power Microwave Technical Conf.,
1-5 December, 1986, Kirtland AFB, NM, p. 5
1986

CRAWFORD, M. L.; KOEPKE, G. H.

Performing EM Susceptibility/Vulnerability Measurements Using a Reverberation Chamber

Proc., EMC EXPO 1986, Int. Conf. on Electromagn. Compat.,
16-19 June, 1986, Washington, DC, pp. T28.7-T28.14
1986

Proc., 7th Int. Zurich Symp. and Technical Exhib. on Electromagn. Compat., 3-5 March, 1987, Zurich, Switzerland, pp. 121-126
1987

Operational Considerations of a Reverberation Chamber for EMC Immunity Measurements, Some Experimental Results

Proc., 1984 IEEE Nat. Symp. on Electromagn. Compat.,
24-26 April, 1984, San Antonio, TX, pp. 47-54
1984

Comparing EM Susceptibility Measurement Results Between Reverberation and Anechoic Chambers

Record, IEEE 1985 Int. Symp. on Electromagn. Compat.,
20-22 August, 1985, Wakefield, MA, pp. 200-202
1985

Design, Evaluation and Use of a Reverberation Chamber for Performing Electromagnetic Susceptibility/Vulnerability Measurements

NBS Tech. Note 1092
April 1986

Electromagnetic Interference (cont.)

- CRAWFORD, M. L.; KOEPKE, G. H. (cont.)**
EMR Test Facilities - Evaluation of Reverberation Chambers Located at
NSWC, Dahlgren, VA
NBSIR 86-3051
June 1986
- Preliminary Evaluation of Reverberation Chamber Method for Pulsed RF
Immunity Testing
Record, IEEE Int. Symp. on Electromagn. Compat.,
16-18 September, 1986, San Diego, CA, pp. 270-278
1986
- CRAWFORD, M. L.; LADBURY, J. M.**
Mode-Stirred Chamber for Measuring Shielding Effectiveness of Cables &
Connectors An Assessment of MIL-STD 1344A Method 3008
Proc., 1988 IEEE Int. Symp. on Electromagn. Compat.,
1-5 August, 1988, Seattle, WA, pp. 30-36
1988
- CRAWFORD, M. L.; THOMAS, C. L.**
Converting a Rectangular Shielded Enclosure into a TEM Transmission Cell
for EMI Measurements
IEEE 1977 Int. Symp. on Electromagn. Compat.,
2-5 August, 1977, Seattle, WA
1977
- CRAWFORD, M. L.; WORKMAN, J. L.**
Asymmetric Versus Symmetric TEM Cells for EMI Measurements
Proc., 1978 IEEE Int. Symp. on Electromagn. Compat.,
20-22 June, 1978, Atlanta, GA, pp. 204-210
1978
- Using a TEM Cell for EMC Measurements of Electronic Equipment
NBS Tech. Note 1013
April 1979
- Predicting Free-Space Radiated Emissions from Electronic Equipment Using
TEM Cell and Open-Field Site Measurements
Record, 1980 Int. Electromagn. Compat. Symp.
1980
- Spherical Dipole for Radiating Standard Fields
Dig., 1980 Conf. Precision Electromagn. Meas.
June 1980
- CRAWFORD, M. L.; KOEPKE, G. H.; LADBURY, J. M.**
EMR Test Facilities Evaluation of Reverberating Chamber Located at RADC,
Griffiss, AFB, Rome, New York
NBSIR 87-3080
December 1987
- CRAWFORD, M. L.; WORKMAN, J. L.; THOMAS, C. L.**
Generation of EM Susceptibility Test Fields Using a Large
Absorber-Loaded TEM Cell
IEEE Trans. Instrum. Meas., Vol. IM-26, No. 3, pp. 336-343
September 1977

Electromagnetic Interference (cont.)

CRAWFORD, M. L.; WORKMAN, J. L.; THOMAS, C. L. (cont.)

Expanding the Bandwidth of TEM Cells for EMC Measurements
IEEE Trans. Electromagn. Compat., Vol. EMC-20,
No. 3, pp. 368-375
August 1978

CRUZ, J. E.

Design, Construction, and Calibration of the Broadband Electric Field
Monitor (EFM-5)
Record, "EMC '81," 1981 IEEE Int. Symp. on Electromagn. Compat.,
18-20 August, 1981, Boulder, CO
1981

CRUZ, J. E.; LARSEN, E. B.

Screenroom Measurements of Antenna Factors
Proc., 1985 Instrum. and Meas. Technol. Conf.,
20-22 March, 1985, Tampa, FL, p. 208
1985

Assessment of Errors for MIL-STD-461/462
NBS Tech. Note 1300
October 1986

Alternative Techniques for Some Typical MIL-STD-461/462 Types of
Measurements
NBS Tech. Note 1320
March 1989

CRUZ, J. E.; DRIVER, L. D.; KANDA, M.

Design of the National Bureau of Standards Isotropic Magnetic Field
Meter (MFM-10) 300 kHz to 100 MHz
NBS Tech. Note 1085
October 1985

DECKER, W. F.; CRAWFORD, M. L.; WILSON, W. A.

Construction of a Large Transverse Electromagnetic Cell
NBS Tech. Note 1011
February 1979

DRIVER, L. D.; CRUZ, J. E.

Development of the NBS Isotropic Magnetic-Field Meter (MFM-10), 300 kHz
to 100 MHz
Proc., 1982 Int. Symp. on Electromagn. Compat.,
8-10 September, 1982, Santa Clara, CA, pp. 460-467
1982

DRIVER, L. D.; KANDA, M.

An Optically Linked Electric and Magnetic Field Sensor for Poynting
Vector Measurements in the Near Fields of Radiating Sources
IEEE Trans. on Electromagn. Compat., Vol. 30,
No. 4, pp. 495-503
November 1988

Electromagnetic Interference (cont.)

DRIVER, L. D.; REEVE, G. R.

Application of a Systematic Approach to an Investigation of HF Interference to a Shipboard Radar Set
Proc., 1984 IEEE Nat. Symp. on Electromagn. Compat.,
24-26 April, 1984, San Antonio, TX, pp. 211-218
1984

FITZGERRELL, R. G.

Experimental RF Field Polarization Meter
FAA-RD-74-188
1975

Free-Space Transmission Loss for Anechoic Chamber Performance Evaluation Record, "EMC '81," 1981 IEEE Int. Symp. on Electromagn. Compat.,
18-20 August, 1981, Boulder, CO
1981

IEEE Trans. Electromagn. Compat., Vol. EMC-24,
No. 3, pp. 356-358
August 1982

A Partial Loop Source of E & H Fields for Antenna Factor Calibration (A Loop Cell)

Proc., 1982 Antenna Meas. Techniques Assoc., 5-7 October, 1982,
New Mexico State University, Las Cruces, NM, pp. 15-1 through
15-22

1982

E-Fields Over Ground

Record, IEEE 1983 Int. Symp. on Electromagn. Compat.,
23-25 August, 1983, Arlington, VA, pp. 6-9
1983

A Source of E&H Fields for Antenna-Factor Calibration

IEEE Trans. Electromagn. Compat., Vol. EMC-26,
No. 2, pp. 58-65
May 1984

Site Attenuation

Record, IEEE 1985 Int. Symp. on Electromagn. Compat.,
20-22 August, 1985, Wakefield, MA, pp. 612-617
1985

NBS Tech. Note 1089
November 1985

IEEE Trans. on Electromagn. Compat., Vol. EMC-28,
No. 1, pp. 38-40
February 1986

Monopole Impedance and Gain Measurements on Finite Ground Planes

IEEE Trans. on Antennas and Propat., Vol. 36,
No. 3, pp. 431-438
March 1988

Monopole Impedance and Gain Measurements of Finite Ground Planes

National Institute of Justice Report, 200-87
May 1989

Electromagnetic Interference (cont.)

- FLANIGAN, W. F. Jr.; BOWMAN, R. R.; LOWELL, W. R.**
Nonmetallic Electrode System for Recording EEG and ECG in
Electromagnetic Fields
Physiology and Behavior, Vol. 18, No. 3, pp. 531-533
1977
- FRIDAY, D. S.**
Methodology for Statistical Control of the Anechoic Chamber Field
Generation System
NBSIR 85-3033
January 1986
- FRIDAY, D. S.; ADAMS, J. W.**
A Statistical Characterization of Electroexplosive Devices (EED)
Relevant to Electromagnetic Compatibility (EMC)
NBS Tech. Note 1094
May 1986
- GREENE, F. M.**
NBS Field-Strength Standards and Measurements (30 MHz to 1000 MHz)
Proc., IEEE Spec. Issue on Radio Measurement Methods and
Standards, Vol. 55, No. 6, pp. 970-981
June 1967
- Development and Construction of an Electromagnetic Near-Field
Synthesizer
NBS Tech. Note 652
May 1974
- Development of Electric and Magnetic Near-Field Probes
NBS Tech. Note 658
January 1975
- Measurement of RF Power-Absorption in Biological Specimens (10 to
100 MHz)
NBS Tech. Note 687
November 1976
- HILL, D. A.**
Theory of Near-field Phased Arrays for Electromagnetic Susceptibility
Testing
NBS Tech. Note 1072
February 1984
- Electromagnetic Wave Propagation in an Asymmetrical Coal Seam
IEEE Trans. on Antennas and Propagat., Vol. AP-34, No. 2,
pp. 244-247
February 1986
- A Numerical Method for Near-Field Array Synthesis
IEEE Trans. on Electromagn. Compat., Vol. EMC-27, No. 4,
pp. 201-211
November 1985
- Radio-Wave Propagation from a Forest to a Clearing
Electromagnetics, pp. 217-228
1986

Electromagnetic Interference (cont.)

HILL, D. A. (cont.)

Out-of-Band Response of a Coax-to-Waveguide Adapter
IEEE Trans. on Electromagn. Compat., Vol. EMC-28, No. 3,
pp. 156-158
August 1986

An Error Bound for Near-Field Array Synthesis
IEEE Trans. on Electromagn. Compat., Vol. EMC-28, No. 4,
pp. 273-276
November 1986

Effect of a Thin Conducting Sheet on the Fields of a Buried Magnetic Dipole
Electromagnetics, pp. 71-79
1987

A Circular Array for Plane-Wave Synthesis
IEEE Trans. on Electromagn. Compat., Vol. 30, No. 1, pp. 3-8
February 1988

Electromagnetic Scattering by Buried Objects of Low Contrast
IEEE Trans. on Geoscience and Remote Sensing, Vol. 26,
No. 2, pp. 195-203
March 1988

Electromagnetic Detection of Long Conductors in Tunnels
Proc., Third Tunnel Detection Symp., 12-15 January 1988,
Golden, CO, pp.518-537
1988

Reflection Coefficient of a Waveguide with Slightly Uneven Walls
IEEE Trans., Microwave Theory and Techniques, Vol 37,
No. 1, pp. 244-252
January 1989

Clutter Models for Subsurface Electromagnetic Applications
NISTIR 89-3909
February 1989

HILL, D. A.; KOEPKE, G. H.

A Near-field Array of Yagi-Uda Antennas for Electromagnetic Susceptibility Testing
NBS Tech. Note 1082
July 1985

IEEE Trans. on Electromagn. Compat., Vol. EMC-28, No. 4,
pp. 273-276
November 1986

An Array of Dipoles for Plane Wave Synthesis
Proc., 1985 Int. Symp. on Antennas and Propagat.,
20-22 August, 1985, Kyoto, Japan, pp. 177-180
1985

Electromagnetic Interference (cont.)

HILL, D. A.; WAIT, J. R.

Propagation Along a Coaxial Cable with a Helical Shield
IEEE Trans. Microwave Theory Technol., Vol. MTT-28, No. 2,
pp. 84-89
February 1980

Electromagnetic Characteristics of a Coaxial Cable with Periodic Slots
IEEE Trans. Electromagn. Compat., Vol. EMC-22,
No. 4, pp. 303-307
November 1980

Anomalous Vertical Magnetic Field for Electromagnetic Induction in a
Laterally Varying Thin Conductive Sheet
Radio Science, Vol. 21, No. 4, pp. 617-621
July-August 1986

HUDSON, P. A.; MELQUIST, D. G.; ONDREJKA, A. R.; WERNER, P. E.

A Program to Evaluate/Improve Instrumentation and Test Methods for
Electroexplosive Device Safety Qualification
NBSIR 73-323
June 1973

Completion of the Program to Evaluate/Improve Instrumentation and Test
Methods for Electroexplosive Device Safety Qualification
NBSIR 74-379
June 1974

JESCH, R. L.

Susceptibility of Emergency Vehicle Sirens to External Radiated
Electromagnetic Fields
National Institute of Justice Technology Program, NIJ
Report-200-85
May 1986

A Survey of Triaxial and Mode-Stirred Techniques for Measuring the
Shielding Effectiveness of Connectors and Cables
NBSIR 86-3060
October 1986

Measurement of Shielding Effectiveness of Different Cable and Shielding
Configurations by Mode-Stirred Techniques
NBSIR 87-3076
October 1987

Measurement of Shielding Effectiveness of Different Cable and Shielding
Configurations by Mode-Stirred Techniques
IEEE Trans. on EMC, Vol. 30, pp. 222-228
August 1988

KANDA, M.

Time and Amplitude Statistics for Electromagnetic Noise in Mines
NBSIR 74-378
July 1974

Electromagnetic Interference (cont.)

KANDA, M. (cont.)

The Characteristics of a Relatively Short Broadband Linear Antenna with Tapered Resistive Loading

Proc., Int. Symp. on Antennas and Propagat. Soc.,
20-22 June, 1977
1977

IEEE Antennas and Propagat. Soc. Dig., 20-22 June, 1977,
pp. 230-233
1977

A Relatively Short Cylindrical Broadband Antenna with Tapered Resistive Loading for Picosecond Pulse Measurements

NBSIR 77-861
August 1977

IEEE Trans. Antennas Propagat., Vol. AP-26,
No. 3, pp. 439-447
1977

A Broadband Antenna with Tapered Resistive Loading for EMI Measurements

Proc., 1977 IEEE Int. Symp. on Electromagn. Compat.,
2-4 August, 1977, Seattle, WA, pp. 13-18
1977

The Characteristics of Broadband, Isotropic Electrical Field and Magnetic Field Probes

NBSIR 77-868
November 1977

Transients in Resistively Loaded Antennas and Their Comparison with Conical Antennas and TEM Horns

NBSIR 78-876
March 1978

Analytical and Numerical Techniques for Analyzing an Electrically Short Dipole with a Nonlinear Load

NBSIR 78-898
November 1978

IEEE Antennas and Propagat., Vol. AP-28, No. 1, pp. 71-78
January 1980

The Characteristics of a Traveling-Wave, Linear Antenna with a Nonlinear Load

Dig. Abstract, 1979 IEEE AP Symp.
January 1979

The Time Domain Characteristics of a Traveling Wave Linear Antenna with Linear and Non-Linear Loads

NBSIR 78-892(R)
February 1979

Electromagnetic Interference (cont.)

KANDA, M. (cont.)

The Effects of Resistive Loading on TEM Horns

NBSIR 79-1601

August 1979

IEEE Antennas and Propagat., Vol. AP-28, No. 1, pp. 71-78

January 1980

IEEE Trans. Electromagn. Compat., Vol. EMC-24,

No. 2, pp. 245-255

May 1982

Transients in Resistively Loaded Antennas and Their Comparison with Conical Antennas and a TEM Horn

IEEE Trans. Antennas Propagat., Vol. AP-28,

No. 1, pp. 132-136

January 1980

The Time-Domain Characteristics of a Traveling-Wave Linear Antenna with Linear and Nonlinear Parallel Loads

IEEE Trans. Antennas Propagat., Vol. AP-28, No. 2

March 1980

The Characteristics of a Linear Antenna with Tapered Resistive and Capacitive Loading

Proc., IEEE AP Symp., 2-6 June, 1980, Quebec, Canada, Vol. 2,

AP.18-2, pp. 696-699

1980

Theoretical and Experimental Investigations of Loading Effects Due to a Perfectly Conducting Rectangular Cylinder in a Transverse Electromagnetic Cell

4th Symp. and Tech. Exhib. on Electromagn. Compat., March, 1981,

Zurich, Switzerland

1981

Theoretical and Experimental Investigations of Electromagnetic Field Distortion Due to a Perfectly Conducting Rectangular Cylinder in a Transverse Electromagnetic Cell

NBS Tech. Note 1028

April 1981

An Electric and Magnetic Field Sensor for Simultaneous Electromagnetic Near-Field Measurements - Theory

NBS Tech. Note 1062

April 1983

An Electromagnetic Near-field Sensor for Simultaneous Electric and Magnetic-Field Measurements

IEEE Trans. Electromagn. Compat., Vol. EMC-26,

No. 3, pp. 102-110

August 1984

Transients in a Resistively Loaded Loop Antenna

Proc., 1984 Int. Symp. on Electromagn. Compat.,

16-18 October, 1984, Tokyo, Japan, Vol. 1, pp. 286-290

1984

Electromagnetic Interference (cont.)

KANDA, M. (cont.)

A Methodology for Evaluating Microwave Anechoic Chamber Measurements
Proc., 1985 Symp. and Technical Exhib. on Electromagn. Compat.,
5-7 March, 1985, Zurich, Switzerland, pp. 69-74
1985

A Microstrip Patch Antenna as a Standard Transmitting and Receiving
Antenna.

IEEE Trans. on Electromagnetic Compatibility, Vol. 32,
No. 1; pp. 5-8.
February 1990

KANDA, M.; ADAMS, J. W.

Amplitude Statistics of Electromagnetic Noise in Coal Mines
Proc., 1973 Thru-the-Earth Electromagn. Workshop,
15-17 August, 1973, Colorado School of Mines,
Golden, CO, pp. 156-160
1973

URSI Dig., IEEE Trans. Antennas Propagat.
May 1975

KANDA, M.; DRIVER, L. D.

An Isotropic, Electric-Field Probe with Tapered Resistive Dipoles for
Broadband Use, 100 kHz - 18 GHz
Record, 1986 IEEE Int. Symp. on Electromagn. Compat.,
16-18 September, 1986, San Diego, CA, pp. 256-261
1986

IEEE Trans. on Microwave Theory and Techn., Vol. MTT-35,
No. 2, pp. 124-130
February 1987

A Broadband, Electric-Field Probe Using Resistively Tapered Dipoles, 100
kHz - 18 GHz

Proc., 1986 IEEE/MTT/S Int. Microwave Symp. Dig.,
2-4 June, 1986, Baltimore, MD, pp. 621-624
1986

An Optically Linked Electric and Magnetic Field Sensor for Poynting
Vector Measurements in the Near Field of Radiating Sources

CPEM Dig., 7-10 June, 1988, Tsukuba Science City, Japan,
pp. 32-33
1988

KANDA, M.; MAY, W. G.

A Millimeter Wave Isolator Containing a Semiconductor Rod in a Circular
Waveguide

IEEE Trans. Instrum. Meas., No. IM-24, No. 3, pp. 264-266
September 1975

KANDA, M.; NAHMAN, N. S.

Standards for Measurement of Electromagnetic Fields
Proc., 1985 Instrum. and Meas. Technol. Conf.,
20-22 March, 1985, Tampa, FL, pp. 20-23
1985

Electromagnetic Interference (cont.)

KANDA, M.; ORR, R. D.

A Radio-frequency Power Delivery System: Procedures for Error Analysis and Self-Calibration

NBS Tech. Note 1083
August 1985

Near-Field Gain of a Horn and an Open-Ended Waveguide: Comparison Between Theory and Experiment

Proc., 5th Int. Conf. on Electromagn. Compat.,
29 September-2 October, 1986, University of York, England,
pp. 137-145
1986

Generation of Standard Electromagnetic Fields in a TEM Cell

NBS Tech. Note 1319
August 1988

KANDA, M.; RIES, F. X.

Time Domain Sensors for Radiated Impulsive Measurements

Proc., IEEE 1982 Int. Symp. on Electromagn. Compat.,
8-10 September, 1982, Santa Clara, CA, pp. 296-301
1982

IEEE Trans. Antennas Propagat., Vol. AP-31, No. 3,
pp. 438-444
May 1983

KANDA, M.; WYSS, J. C.

Evaluation of Off-Axis Measurements Performed in an Anechoic Chamber

NBS Tech. Note 1305
October 1986

KANDA, M.; ADAMS, J. W.; BENSEMA, W. D.

Electromagnetic Noise in McElroy Mine

NBSIR 74-389
June 1974

KANDA, M.; RANDA, J. P.; NAHMAN, N. S.

Possible Estimation Methodologies for Electromagnetic Field Distributions in Complex Environments

NBS Tech. Note 1081
March 1985

KANDA, M.; RIES, F. X.; BELSHER, D. R.

A Broadband Isotropic, Real-Time, Electric Field Sensor (BIRES) Using Resistively Loaded Dipoles

NBSIR 79-1622
December 1979

KANDA, M.; RIES, F. X.; DRIVER, L. D.; ORR, R. D.

Design Considerations for Broadband Magnetic-Field Sensors

Dig., 1982 Conf. on Precision Electromagn. Meas.,
28 June-1 July, 1982, Boulder, CO, pp. P-11 - P-13
1982

Electromagnetic Interference (cont.)

- KANDA, M.; RIES, F. X.; DRIVER, L. D.; ORR, R. D. (cont.)**
An Electric and Magnetic Field Sensor Concept for Simultaneous
Near-Field Electromagnetic Components When Using TEM Cells
Proc., 1983 Electromagn. Compat. Symp. and Exhib.,
8-10 March, 1983, Zurich, Switzerland, pp. 263-266
1983
- KANDA, M.; LARSEN, E. B.; BORSERO, M.; GALLIANO, P. G.; YODOSHIMA, I.;
NAHMAN, N. S.**
Standards for Electromagnetic Fields Measurements
Special Issue of Proc., IEEE on Radio Meas. and Standards,
Vol. 94, No. 1, pp. 120-128
January 1986
- KOEPKE, G. H.; MA, M. T.**
A New Method for Determining the Emission Characteristics of an Unknown
Interference Source
Proc., IEEE 1982 Int. Symp. on Electromagn. Compat.,
8-10 September, 1982, Santa Clara, CA, pp. 151-156
1982
- Proc., 1983 Electromagn. Compat. Symp. and Exhib.,
8-10 March, 1983, Zurich, Switzerland, pp. 263-266
1983
- KOEPKE, G. H.; MA, M. T.; BENSEMA, W. D.**
Theory and Measurements of Radiated Emissions Using a TEM Cell
NIST Tech Note 1326
January 1989
- Implementation of an Automated System for Measuring Radiated Emissions
Using a TEM cell
IEEE Trans. on Instrum. and Meas., Vol. 38,
No. 2, pp. 473-479
April 1989
- KUFFEL, J.; MALEWSKI, R.; VAN HEESWIJK, R.; LAWTON, R. A.**
Dynamic Performance of Digital Recorders Used for Monitoring
High-Voltage Impulse Tests
Proc., IEEE Instrum. and Meas. Technol. Conf.,
25-27 March, 1986, Boulder, CO, Vol. IM-35,
No. 4, pp. 591-595
1986
- LARSEN, E. B.**
Calibration of Radio Receivers to Measure Broadband Interference
NBSIR 73-335
September 1973
- Background and Present Status of RF Probe Development at NBS
Record, "EMC '81," 1981 IEEE Int. Symp. on Electromagn. Compat.,
18-20 August, 1981, Boulder, CO
1981
- Calibration and Meaning of Antenna Factor and Gain for EMI Antennas
Interference Technology Engineers' Master (ITEM 1986),
pp. 113-335
1986

Electromagnetic Interference (cont.)

LARSEN, E. B.; ANDREWS, J. R.

Using Fiber Optics in A Broadband, Sensitive, Isotropic Antenna -
15 KHz to 150 MHz
Proc., 1976 IEEE Int. Symp. on Electromagn. Compat.,
13-15 July, 1976, Washington, DC
1976

LARSEN, E. B.; CRUZ, J. E.

E&H Fields in Transmission Lines and Coils for Susceptibility Testing,
Probe Calibration, and RF Exposure Chambers
Proc., 1985 Instrum. and Meas. Technol. Conf.,
20-22 March, 1985, Tampa, FL, p. 199
1985

LARSEN, E. B.; RIES, F. X.

Design and Calibration of the NBS Isotropic Electric-Field Monitor
(EFM-5), 0.2 to 1000 MHz
NBS Tech. Note 1033
March 1981

LARSEN, E. B.; SHAFER, J. F.

Surveys of Electromagnetic Field Intensities Near Representative
Higher-Power FAA Transmitting Antennas
FAA-RD-77
December 1977

LARSEN, E. B.; ANDREWS, J. R.; BALDWIN, E. E.

Sensitive Isotropic Antenna with Fiber-Optic Link to a Conventional
Receiver
NBSIR 75-819
September 1976

LARSEN, E. B.; EHRET, R. L.; CAMELL, D. G.; KOEPKE, G. H.

Calibration of Antenna Factor at a Ground Screen Field Site Using an
Automatic Network Analyzer
Proc., IEEE 1989 Nat. Symp. on Electromagn. Compat.,
23-25 May 1989, Denver, CO, pp. 19-24
1989

LAWTON, R. A.

A New Standard for Electric Field Strength
IEEE Trans. Instrum. Meas., Vol. IM-19, pp. 45-51
February 1970

LAWTON, R. A.; ONDREJKA, A. R.

Antennas and the Associated Time Domain Range for the Measurement of
Impulsive Fields
NBS Tech. Note 1008
November 1978

LIU, B. H.; CHANG, D. C.; MA, M. T.

Eigenmodes and the Composite Quality Factor of a Reverberating Chamber
NBS Tech. Note 1066
August 1983

Electromagnetic Interference (cont.)

LIU, B. H.; CHANG, D. C.; MA, M. T. (cont.)

Design Consideration of Reverberating Chambers for Electromagnetic Interference Measurements

Record, IEEE 1983 Int. Symp. on Electromagn. Compat.,
23-25 August, 1983, Arlington, VA, pp. 508-512
1983

MA, M. T.

A Theoretical Study of Unbalanced Ground Effects on Receiving Dipoles
NBSIR 79-1605
May 1979

Arrays of Discrete Elements

Antenna Engineering Handbook, Chapter 3, R. C. Johnson and H. Jasik, McGraw-Hill Book Co.
January 1984

Error Analysis of Radiation Characteristics of an Unknown Interference Source Based on Power Measurements

Proc., 1984 Int. Symp. on Electromagn. Compat.,
16-18 October, 1984, Tokyo, Japan, pp. 39-44
1984

Measurements of Unintentional Electromagnetic Emissions

Proc., IEEE Spec. Issue on Radio Meas. Methods and Standards,
Vol. 74, No. 1, pp. 110-111
January 1986

Measuring Electromagnetic Interference, Part II; Reverberating Chambers Test and Measurement World, pp. 74-90

May 1986

Shielding Effectiveness Measuring Using an Apertured TEM Cell in a Reverberation Chamber

IEEE Int. Symp. on Electromagn. Compat., August 1986,
San Diego, CA
1986

Characterization of Unknown RF Leakage Sources: Problems, Solutions and Practical Implications

URSI XXIInd General Assembly, 24 August - 2 September, 1987,
Tel Aviv, Israel
1987

Understanding Reverberating Chambers as an Alternative Facility for EMC Testing

J. of Electromagn. Waves and Appl., Vol. 2, pp. 339-351
March\April 1988

Theory and Measurements of Unintentional Radiators

CPEM Dig., 7-10 June, 1988, Tsukuba Science City, Japan,
pp. 30-31
1988

Electromagnetic Interference (cont.)

- MA, M. T. (cont.)
How High is the Level of Electromagnetic Fields Radiated by an ESD?
Proc., 8th Int'l. Symp. & Tech. Exhibition on EMC,
7-9 March 1989, Zurich, Switzerland, pp. 361-365
1989
- MA, M. T.; ARTHUR, M. G.
A Study of Distribution of Electromagnetic Fields Inside Buildings with
Apertures Excited by an External Source
NBSIR 82-1659
February 1982
- MA, M. T.; BENSEMA, W. D.
Automated TEM Cell for Measuring Unintentional EM Emissions
Proc., EMC Expo 1987, Int. Conf. on Electromagn. Compat.,
19-21 May, 1987, San Diego, CA, pp. T11.1 - T11.12
1987
- MA, M. T.; CRAWFORD, M. L.
Facilities for Improving Evaluations of Electromagnetic Susceptibilities
of Weapon Systems and Electronic Equipment
NISTIR 89-3928
November 1989
- MA, M. T.; FITZGERRELL, R. G.
Design of a Van-Top Low-Profile HF Antenna
OTR-77-131
October 1977
- MA, M. T.; KANDA, M.
Electromagnetic Compatibility and Interference Metrology
NBS Tech. Note 1099
July 1986
- MA, M. T.; KOEPKE, G. H.
A Method to Quantify Radiation Characteristics of an Unknown
Interference Source
NBS Tech. Note 1059
October 1982
- Uncertainties in Extracting Radiation Parameters for an Unknown
Interference Source Based on Power and Phase Measurements
NBS Tech. Note 1064
June 1983
- MA, M. T.; WILSON, P. F.; CHANG, D. C.
Excitation of a TEM Cell by a Vertical Electric Hertzian Dipole
NBS Tech. Note 1037
March 1981
- MA, M. T.; CHANG, D. C.; SREENIVASIAH, I.
A Method of Determining the Emission and Susceptibility Levels of
Electrically Small Objects Using a TEM Cell
NBS Tech. Note 1040
April 1981

Electromagnetic Interference (cont.)

- MA, M. T.; KANDA, M.; CRAWFORD, M. L.; LARSEN, E. B.**
A Review of Electromagnetic Compatibility/Interference Measurement Methodologies
Proc., IEEE, Vol. 73, No. 3, pp. 388-411
March 1985
- MARTZLOFF, F. D.; WILSON, P. F.**
Fast Transient Tests - Trivial or Terminal Pursuit?
Proc., 7th Int. Zurich Symp. and Technical Exhib. on Electromagn. Compat., 3-5 March, 1987, Zurich, Switzerland, pp. 283-288
1987
- MASTERSON, K. D.**
A Photonic Electric Field Probe for Frequencies up to 2 GHz
Proc., Soc. for Photo-Optical Instrumentation Engineers (SPIE), Vol. 720, p. 100
1986.
- MASTERSON, K. D.; DRIVER, L. D.**
A Broadband, Isotropic, Photonic Electric Field Probe for Measurements from 10 kHz to Above 1 GHz
Proc., High Bandwidth Analog Applications of Photonics II, SPIE - Int. Soc. of Optical Engineers, Vol. 987, 8 -9 September, 1988, Boston, MA, pp. 107-118
1989
- MASTERSON, K. D.; DRIVER, L. D.; KANDA, M.**
Photonic Probes for the Measurement of Electromagnetic Fields Over Broad Bandwidths
Proc., IEEE 1989 Nat. Symp. on Electromagn. Compat., 23-25 May 1989, Denver, CO, pp. 1-6
1989
- MILLER, C. K. S.**
EMI - A Problem of Growing Concern
Report of the 63rd Nat. Conf. on Weights and Measures
NBS SP 532
1978
- Challenges of EMI Measurements
Proc., Nat. Conf. of Standards Laboratories, 22-25 September, 1980, pp. 8-1 - 8-17
1980
- The EMI Measurement Challenge
Proc., 1983 Meas. Sci. Conf., 20-21 January, 1983, Palo Alto, CA, pp. 189-197
1983
- NAHMAN, N. S.**
Miniature Superconductive Coaxial Transmission Lines
Proc., IEEE, Vol. 61, pp. 76-79
January 1973
- NAHMAN, N. S.; KANDA, M.; LARSEN, E. B.; CRAWFORD, M. L.**
Methodology for Standard Electromagnetic Field Measurements
IEEE Trans. Instrum. Meas., Vol. IM-34, No. 4, pp. 490-503
December 1985

Electromagnetic Interference (cont.)

NEWELL, A. C.; CRAWFORD, M. L.

Planar Near-Field Measurements on High Performance Array Antennas
NBSIR 74-380
July 1974

ONDREJKA, A. R.; ADAMS, J. W.

Shielding Effectiveness (SE) Measurement Techniques
Proc., 1984 IEEE Nat. Symp. on Electromagn. Compat.,
24-26 April, 1984, San Antonio, TX, pp. 249-256
1984

Proc., 1984 EMI/RFI Technical Conf., The Soc. of Plastics
Engineers, Inc., 18-20 June, 1984, Chicago, IL, pp. 19-26
1984

RANDA, J. P.; KANDA, M.

Multiple-Source, Multiple-Frequency Error of an Electric Field Meter
IEEE Trans. Antennas Propagat., Vol. AP-33, No. 1, pp. 2-9
January 1985

A Directional Scanning Technique for Characterization of Complex
Electromagnetic Environments

Dig., 1985 IEEE/APS Symp. on Antennas and Propagat.,
17-21 June, 1985, University of British Columbia,
Vancouver, B. C., Canada, pp. 521-524
1985

Directional Scanning of Complex Electromagnetic Environments

Proc., 1985 Int. Symp. on Antennas and Propagat.,
20-22 August, 1985, Kyoto, Japan, pp. 899-902
1985

A Finite-element Action Approach to the Characterization of Complex
Electromagnetic Environments

Proc., 1985 Int. Symp. on Antennas and EM Theory,
26-28 August, 1985, Beijing, China, pp. 48-53
1985

High Frequency Errors of an Electric-field-meter in Complicated
Environments

Record, IEEE 1985 Int. Symp. on Electromagn. Compat.,
20-22 August, 1985, Wakefield, MA, pp. 618-621
1985

A Lattice Approach to Complex Electromagnetic Environments

Proc., 1986 IEEE Int. Symp. on Electromagn. Compat., September,
1986, San Diego, CA, pp. 329-331
1986

A Lattice Approach to Volumes Irradiated by Unknown Sources

NBS Tech. Note 1303
October 1986

A Lattice Approach to Environments Irradiated by Unknown Sources

Proc., 7th Int. Electromagn. Compat. Symp., March 1987, Zurich,
Switzerland, pp. 191-195
1987

Electromagnetic Interference (cont.)

- RANDA, J. P.; KANDA, M. (cont.)
A New Approach to Volumes Irradiated by Unknown Sources
IEEE Trans. on Electromagn. Compat., pp. 273-281
November 1987
- RANDA, J. P.; KANDA, M.; MELQUIST, D. G.
Possible Designs for Electric-Field Strength-Probes for Millimeter Waves
NBSIR 88-3084
February 1988
- RANDA, J. P.; KANDA, M.; MELQUIST, D. G.; ORR, R. D.
Thermo-optic Designs for Microwave and Millimeter-wave Electric-Field Probes
Proc., IEEE Symp. on Electromagn. Compt., 23-25 May 1989,
Denver, CO, pp. 7-11
1989
- RANDA, J. P.; KANDA, M.; MELQUIST, D. G.; SEGA, R. M.; NORGDARD, J. D.
High Frequency Electric Field Probe Development
Proc., EMC EXPO '88, Int. Conf. on Electromagn. Compat.,
10-12 May, 1988, Washington, DC, pp. T15.31-T15.37
1988
- REEVE, G. R.
Calibration of Impulse Noise Generators
NBSIR 73-343
October 1973
- A Standard Percent Modulation Measurement System
Dig. 1976 CPEM Conf., pp. 165-166
June 1976
- Synthesized Isotropic Pattern Antennas for EM Field Measurements
Record, "EMC '81," 1981 IEEE Int. Symp. on Electromagn. Compat.,
18-20 August, 1981, Boulder, CO
1981
- Alternate EMI Measurement Techniques for Microelectronic Circuits
Proc., EMC EXPO 1986, Int. Conf. on Electromagn. Compat., 16-19
June, 1986, Washington, DC, pp. T26.1-T26.4
1986
- Proficiency Testing for MIL-STD 462 NVLAP Laboratories
Dig., EMC EXPO '88, 10-12 May, 1988, Washington, DC,
T33.13 - T33.15
September 1988
- Proficiency Testing for MIL-STD 462 NVLAP Laboratories. Dig., EMC EXPO
'88; 10-12 May, 1988; Washington, DC; T33.13 - T33.15.
September 1988
- REEVE, G. R.; WAINWRIGHT, A. E.
A Frequency Tracking, Tuned, Receiving Monopole
Record, IEEE/APS Symp., June, 1981
1981

Electromagnetic Interference (cont.)

- REPJAR, A. G.; NEWELL, A. C.; TAMURA, D. T.
Extrapolation Range Measurements for Determining Antenna Gain and Polarization
NBS Tech. Note 1311
August 1987
- RIES, F. X.; MILLER, C. K. S.
Influence of Electromagnetic Interference on Electronic Devices Bulletin
OIML Seminar
December 1981
- SCOTT, W. W., Jr.; ADAMS, J. W.; BENSEMA, W. D.; DOBROSKI, H.
Electromagnetic Noise in Lucky Friday Mine
NBSIR 74-391
October 1974
- SHAFER, J. F.
Field Strength Levels in Vehicles Resulting from Communications Transmitters
National Institute of Justice Report, 200-83
June 1984
- SIMPSON, P. A.
Broadband Pulsed/CW Calibration Signal Standard for Field Intensity Meter (FIM) Receivers
NBSIR 74-371
June 1974
- SREENIVASIAH, I.; CHANG, D. C.
Variational Expression for the Scattering Matrix of a Coaxial Line Step Discontinuity and its Application to an Over Moded Coaxial TEM Cell
NBSIR 79-1606
May 1979
- SREENIVASIAH, I.; CHANG, D. C.; MA, M. T.
Characterization of Electrically Small Radiating Sources by Tests Inside a Transmission Line Cell
NBS Tech. Note 1017
March 1980
- A Critical Study of Emission and Susceptibility Levels of Electrically Small Objects from Tests Inside a TEM Cell
Record, "EMC '81," 1981 IEEE Int. Symp. on Electromagn. Compat., 18-20 August, 1981, Boulder, CO
1981
- Emission Characteristics of Electrically Small Radiating Sources from Tests Inside a TEM Cell
IEEE Trans. Electromagn. Compat., Vol. EMC-23, No. 3, pp. 113-121
August 1981
- STUBENRAUCH, C. F.; SPIESS, W.; GALLIANO, P. G.; BABJI, T.
International Intercomparison of Electric Field Strength at 100 MHz
IEEE Trans. Instrum. Meas., Vol. IM-32, No. 1, pp. 235-237
March 1983

Electromagnetic Interference (cont.)

TAGGART, H. E.

Methods of Suppressing Automotive Interference
NBS SP 480-44
November 1981

Radiated EMI Instrumentation Errors
EMC Technology Magazine, Vol. 1, No. 4, pp. 26-35
October 1982

TIPPET, J. C.; CHANG, D. C.

Radiation Characteristics of Dipole Sources Located Inside a
Rectangular, Coaxial Transmission Line
NBSIR 75-829
January 1976

A New Approximation for the Capacitance of a Rectangular, Coaxial, Strip
Transmission Line
IEEE Trans. Microwave Theory Technol., pp. 602-604
September 1976

Higher Order Modes in Rectangular Coaxial Line with Infinitely Thin
Inner Conductor
NBSIR 78-873
March 1978

Characteristic Impedance of a Rectangular Coaxial Line With Offset Inner
Conductor
IEEE Trans. Microwave Theory Technol., Vol. MTT-26, No. 11,
pp. 876-883
November 1978

Dispersion and Attenuation Characteristics of Modes in a TEM Cell with a
Lossy Dielectric Slab
NBSIR 79-1615
July 1979

TIPPET, J. C.; CHANG, D. C.; CRAWFORD, M. L.

An Analytical and Experimental Determination of the Cutoff Frequencies
of Higher-Order TE Modes in a TEM Cell
NBSIR 76-841
June 1976

VANZURA, E. J.

Automated System for Electromagnetic Field Generation and Immunity
Testing
Proc., 1988 IEEE Instrum./Meas. Technol. Conf., 19-22 April, 1988,
San Diego, CA, pp. 3-10
1988

VANZURA, E. J.; ADAMS, J. W.

Generating Constant Electromagnetic Fields Inside a Partially-Loaded
Shielded Room
Test and Meas. World, pp. 72-83
November 1987

Electromagnetic Interference (cont.)

WACKER, P. F.

Quantifying Hazardous Microwave Fields: Analysis
Proc., 1969 Symp. on Biological Effects and Health Implications of
Microwave Radiation, 17-19 September, 1969, U.S. Department of
Health Education, and Welfare, Rockville, MD. Richmond, VA,
BRH/DBE 70-2, pp. 197-203
June 1970

WACKER, P. F.; BOWMAN, R. R.

Quantifying Hazardous Electromagnetic Fields: Scientific Basis and
Practical Considerations
IEEE Trans. Microwave Theory Technol., Vol. MTT-19, No. 22
February 1971

WILSON, P. F.

A Comparison Between Near-Field Shielding Effectiveness Measurements
Based on Coaxial Dipoles and on Electrically Small Apertures
IEEE Trans. on Electromagn. Compat., Vol. 30, No. 1,
pp. 23-28
February 1988

WILSON, P. F.; CHANG, D. C.

Mode Coupling by a Longitudinal Slot for a Class of Planar Waveguiding
Structures: Part I - Theory
IEEE Trans. on Microwave Theory and Techniques, Vol. MTT-33,
No. 10, pp. 981-987
October 1985

Mode Coupling by a Longitudinal Slot for a Class of Planar Waveguiding
Structures: Part II - Applications
IEEE Trans. on Microwave Theory and Techniques, Vol. MTT-33,
No. 10, pp. 988-993
October 1985

WILSON, P. F.; MA, M. T.

Small Aperture Analysis of the Dual TEM Cell
Proc., 1984 IEEE Nat. Symp. on Electromagn. Compat.,
24-26 April, 1984, San Antonio, TX, pp. 365-369
1984

Some Problems Associated with Interpreting Shielding Effectiveness
Measurement Results
Proc., 1984 EMI/RFI Technical Conf., The Soc. of Plastics Eng.,
Inc., 18-20 June, 1984, Chicago, IL, pp. 9-18
1984

Small Aperture Analysis of the Dual TEM Cell and an Investigation of
Test Object Scattering in a Single TEM Cell
NBS Tech. Note 1076
October 1984

Small Obstacle Loading in a TEM Cell
Proc., 1984 Int. Symp. on Electromagn. Compat.,
16-18 October, 1984, Tokyo, Japan, pp. 30-35
1984

Electromagnetic Interference (cont.)

WILSON, P. F.; MA, M. T. (cont.)

Input Impedance of a Probe Antenna in a TEM Cell

IEEE Trans. Electromagn. Compat., Vol. EMC-26, No. 4,
pp. 154-161

November 1984

Factors Influencing Material Shielding Effectiveness Measurements

Record, IEEE 1985 Int. Symp. on Electromagn. Compat.,
20-22 August, 1985, Wakefield, MA, pp. 29-33

1985

Shielding Effectiveness Measurements in a Dual TEM Cell

IEEE Trans. Electromagn. Compat., Vol. EMC-27, No. 3,
pp. 137-142

August 1985

Measurements of Electromagnetic Shielding Capability of Materials

Proc., IEEE Regional Conf. and Exhib. on Electromagn. Compat.,
January 1986, Vol. 74, No. 1, pp. 112-115

1986

Electromagnetic Shielding Effectiveness: Measurement Techniques and Interpretations

1986 IEEE Regional Conf. and Exhib. on Electromagn. Compat.,
6 February, 1986, Anaheim, CA, pp. 1-14

1986

A Study of Techniques for Measuring the Electromagnetic Shielding Effectiveness of Materials

NBS Tech. Note 1095

May 1986

Methods for Measuring the Near-Field and Far-Field Shielding Effectiveness of Materials

Proc., EMC Expo 1986 Int. Conf. on Electromagn. Compat.,
16-19 June, 1986, Washington, DC, pp. #T28.1-T28.6

1986

Simple Approximate Expressions for Higher-Order Mode Cut Off and Resonant Frequencies in TEM Cells

IEEE Trans. on Electromagn. Compat., Vol. EMC-28, No. 3,
pp. 125-130

August 1986

Shielding Effectiveness Measurements Using an Apertured TEM Cell in a Reverberation Chamber

Record, 1986 IEEE Int. Symp. on Electromagn. Compat.,
16-18 September, 1986, San Diego, CA, pp. 265-269

1986

Techniques for Measuring the Shielding Effectiveness of Materials

Proc., 7th Int. Symp. and Exhib. on Electromagn. Compat.,
3-5 March, 1987, Zurich, Switzerland, pp. 547-552

1987

Electromagnetic Interference (cont.)

WILSON, P. F.; MA, M. T. (cont.)

Techniques for Measuring the Electromagnetic Shielding Effectiveness of Materials: Part II -- Near-Field Source Simulation

IEEE Trans. on Electromagn. Compat., Vol. 30, No. 3,
pp. 251-259

August 1988

WILSON, P. F.; CHANG, D. C.; MA, M. T.

Input Impedance of a Probe Antenna Exciting a TEM Cell

NBS Tech. Note 1054

April 1982

WILSON, P. F.; MA, M. T.; ADAMS, J. W.

Techniques for Measuring the Electromagnetic Shielding Effectiveness of Materials: Part I -- Far-Field Source Simulation

IEEE Trans. on Electromagn. Compat., Vol. 30, No. 3,
pp. 239-250

August 1988

WILSON, P. F.; MA, M. T.; ONDREJKA, A. R.

Fields Radiated by Electrostatic Discharges

Proc., IEEE Int. Symp. on Electromagn. Compat.,
2-4 August, 1988, Seattle, WA, pp. 179-183

1988

WILSON, P. F.; CHANG, D. C.; MA, M. T.; CRAWFORD, M. L.

Theoretical and Experimental Analysis of Coupling Characteristics of Dual TEM Cells

Record, IEEE 1983 Int. Symp. on Electromagn. Compat.,
23-25 August, 1983, Arlington, VA, pp. 513-517

1983

WILSON, P. F.; ONDREJKA, A. R.; MA, M. T.; LADBURY, J. M.

On the Electromagnetic Fields Radiated From Electrostatic Discharges - Theory and Experiment

NBS Tech. Note 1314

February 1988

WU, D. I.; CHANG, D. C.

An Investigation of a Ray-Mode Representation of the Green's Function in a Rectangular Cavity

NBS Tech. Note 1312

September 1987

The Effect of a Large Rotating Scatterer in a Rectangular Cavity

NBS Tech. Note 1317

March 1988

A Hybrid Representation of the Green's Function in an Over-Moded Rectangular Cavity

IEEE Trans. on Microwave Theory and Techniques, Vol. 36,
No. 9, pp. 1334-1342

September 1988

Electromagnetic Interference (cont.)

WU, D. I.; CHANG, D. C. (cont.)

The Effect of an Electrically Large Stirrer in a Mode-Stirred Chamber
IEEE Trans. on Electromagn. Compat., Vol. 31, No. 2,
pp. 164-169
May 1989

WU, D. I.; KANDA, M.

Comparison of Theoretical and Experimental Data for the Near-Field of an
Open Ended Rectangular Waveguide.
IEEE Trans. on Electromagnetic Compatibility.; Vol. 31,
No. 4, pp. 353-358.
November 1989

WYSS, J. C.; SHEERAN, S.

A Passive, Optical Modulator and Link for Antennas
IEEE J. of Lightwave Technol., Vol. LT-3, No. 2, pp. 316-321
April 1985

WYSS, J. C.; KANDA, M.; MELQUIST, D. G.; ONDREJKA, A. R.

Optical Modulator and Link for Broadband Antennas
Dig., 1982 Conf. on Precision Electromagn. Meas.,
28 June-1 July, 1982, Boulder, CO, pp. P-16 - P-17
1982

MICROWAVE METROLOGY

- ADAIR, R. T.
A Precision 30 MHz Waveguide-Below-Cutoff Attenuator with an Absolute Electronic Readout, NBS Model XII
NBSIR 76-833
January 1976
- ADAIR, R. T.; LIVINGSTON, E. M.
Coaxial "Intrinsic" Impedance Standards;
NIST Tech Note 1333.
October 1989
- ADAIR, R. T.; RUSSELL, D. H.
A Calibration Service for 30 MHz Attenuation and Phase Shift
SP-250-32
April 1988
- ADAIR, R. T.; REEVE, G. R.; GATTERER, L. E.
Millimeter Wave Standards: An Emerging Need
Proc., IEEE Instrum. and Meas. Techn. Conf.,
25-27 March, 1986, Boulder, CO, Vol. IM-35, No. 4,
pp. 376-382
1986
- The Expanding Need for Microwave and Millimeter Wave Calibration Services
NCSL Newsletter, Vol. 27, No. 1, pp. 21-31
January 1987
- AGY, D. L.; NELSON, R. E.
An Immittance Transcomparator
1970 Annual Precision Measurement Association Metrology Conf.
(3rd), 17-18 June, 1970, Gaithersburg, MD, Vol. 1,
pp. 147-154
1970
- ALLRED, C. M.; MANNEY, C. H.
Self-Calibration of Complex Ratio Measuring System
Proc., 1973 Int. Conf. Meas. and Instrum., 17-23 June, 1973,
Dresden, Germany, ACTA IMEKO 1, pp. 157-166
1973
- The Calibration and Use of Directional Couplers Without Standards
IEEE Trans. Instrum. Meas., Vol. IM-25, pp. 84-89
March 1976
- BEATTY, R. W.
Impedance Measurements and Standards for Uniconductor Waveguide
Proc., IEEE, Special Issue on Radio Meas. Methods and Standards,
Vol. 55, No. 6, pp. 933-941
June 1967
- CLAGUE; F. R.
The NIST Automated Coaxial Microwave Power Standard
Proc., 1989 Measurement Science Conf., 26-27 January, 1989,
Anaheim, CA, pp. 1C-1 - 1C-14
1989
- CLAGUE, F. R.; LARSEN, N. T.
A Transient Response Error in Microwave Power Meters Using Thermistor Detectors
28th ARFTG Conf. Dig., 4-5 December, 1986, St. Petersburg Beach, FL, pp. 79-89
1986

Microwave Metrology (cont.)

- COOK, C. C.; ALLRED, C. M.**
An Excitation System for Piston Attenuators
IEEE Trans. Instrum. Meas., Vol. IM-20, pp. 10-16
February 1971
- COUNAS, G. J.; YATES, B. C.**
Measurement of Adapter Loss, Mismatch, and Efficiency Using the Dual Six-port
NBSIR 88-3095
July 1988
- CRAWFORD, M. L.; SMART, G. R.**
New Coaxial Thermistor Mounts for use as Precision Transfer Standards
Proc., 1970 Instrument Soc. of America Conf., 26-29 October, 1970,
Philadelphia, PA, N708-70, pp. 1-6
1970
- DRIVER, L. D.; RIES, F. X.; REBULDELA, G.**
NBS RF Voltage Comparator
NBSIR 78-871
December 1978
- EBBESEN, H.; ENGEN, G. F.**
Singularities in Calibration of Six-port Network Analyzers
1981 IEEE MTT-S Int. Microwave Symp. Dig., p. 149
1981
- ELLERBRUCH, D. A.**
UHF and Microwave Phase-Shift Measurements
Proc., IEEE, Special Issue on Radio Meas. Methods and Standards,
Vol. 55, No. 6, pp. 960-969
June 1967
- ENGEN, G. F.**
An Introduction To The Description and Evaluation of Microwave Systems
Using Terminal Invariant Parameters
NBS MN 112
October 1969
- A New Method of Characterizing Amplifier Noise Performance
IEEE Trans. Instrum. Meas., Vol. IM-19, pp. 344-349
November 1970
- An Extension to the Sliding Short Method of Connector and Adaptor
Evaluation
NBS J. Res. Vol. 75C, pp. 177-183
1971
- Power Equations: A New Concept in the Description and Evaluation of
Microwave Systems
IEEE Trans. Instrum. Meas., Vol. IM-20, pp. 49-57
February 1971
- Theorem Giving Limits for S_{22} When S_{11} and the Two-Port Efficiency are
Known
IEEE Trans. Instrum. Meas., Vol. IM-20, p. 78
February 1971

Microwave Metrology (cont.)

ENGEN, G. F. (cont.)

Theory of UHF and Microwave Measurements Using the Power Equation Concept

NBS Tech. Note 637
April 1973

Mismatch Considerations in Evaluating Amplifier Noise Performance
IEEE Trans. Instrum. Meas., Vol. IM-22, pp. 274-278
September 1973

Calibration of an Arbitrary Six-Port Junction for Measurement of Active and Passive Circuit Parameters
IEEE Trans. Instrum. Meas., Vol. IM-22, pp. 295-299
December 1973

Comments on Practical Analysis of Reflectometers and Power Equation Concepts
IEEE Trans. Instrum. Meas., Vol. IM-23, pp. 104-105
March 1974

An Alternative Calibration Technique for Automated Network Analyzers with Application to Adapter Evaluation
Proc., 1974 IEEE S-MTT Int. Microwave Symp., 12-14 June, 1974, Atlanta, GA, Microwave Symposium Digest, pp. 261-262
1974

Calibration Technique for Automated Network Analyzers with Application to Adapter Evaluation
IEEE Trans. Microwave Theory Tech. Part II, 1974 Symp. Issue, Vol. MTT-22, pp. 1255-1260.
December 1974

Automated Calibration of Directional-Coupler-Bolometer-Mount Assemblies
Proc., 1975 IEEE Microwave Theory and Technique Symp. Int., 12-14 May, 1975, Palo Alto, CA, pp. 98-99
1975

IEEE Trans. Microwave Theory Techn., Vol. MTT-23, pp. 984-990
December 1975

Measurement of Complex Microwave Circuit Parameters Using Only Power Detectors
Proc., 1976 Conf. on Precision Electromagn. Meas., 28 June-1 July, 1976, Boulder, CO, p. 171
1976

Determination of Microwave Phase and Amplitude from Power Measurements
IEEE Trans. Instrum. Meas., Vol. IM-25, pp. 414-418
December 1976

An Improved Circuit for Implementing the Six-Port Technique of Microwave Measurements
1977 IEEE-MTT-S Int. Microwave Symp., 21-23 June, 1977, San Diego, CA, pp. 53-55
1977

IEEE Trans. Microwave Theory Techn., Vol. MTT-25, pp. 1080-1083
December 1977

Microwave Metrology (cont.)

ENGEN, G. F. (cont.)

The Six-Port Reflectometer: An Alternative Network Analyzer
Proc., 1977 IEEE-MTT-S Int. Microwave Symp.,
21-23 June, 1977, San Diego, CA, pp. 44-46
1977

Design Considerations for Automatic Network Analyzers Based on the
Six-Port Concept
Proc., IEE Euromas 1977 Conf., 1-9 September, 1977, Sussex,
England; London, England, pp. 110-111
1977

Instrumentation: Six Ports Simplify Network
Microwave Syst. News, pp. 54-55
January 1978

Advances in Microwave Measurement Science
Proc., IEEE, Vol. 66, pp. 374-384
April 1978

The Six-Port Measurement Technique: A Status Report
Microwave J., Vol. 21, pp. 18,21-22,24,84,87,89
May 1978

Calibrating the Six-port Reflectometer by Means of Sliding Terminations
IEEE Trans. Microwave Theory Techn., Vol. MTT-26, pp. 951-957
December 1978

A Least Squares Solution for Use in 6-port Measurement Technique
IEEE Trans. Microwave Theory Techn., Vol. MTT-28, No. 12
December 1980

Redundancy: A Monitor of Six-Port Performance
Dig., IEEE 1983 Colloquium on Advances in S-Parameter Measurement
at Microwave Lengths, 23 May, 1983, Savoy Place, London, England,
No. 1983/53, pp. 4-1 - 4-2
1983

In Search of a More Realistic Accuracy Statement for Microwave Metrology
Dig., 27th Automatic RF Techniques Group, 5-6 June, 1986,
Baltimore, MD, pp. 181-183
1986

On-Line Accuracy Assessment for the Dual Six-Port ANA: Background and
Theory
Dig., 1986 CPEM, 23-27 June, 1986, NBS/Gaithersburg, MD,
p. 236
1986

IEEE Trans. on Instrum. and Meas., Vol. IM-36, No. 2,
pp. 501-506
June 1987

Microwave Metrology (cont.)

ENGEN, G. F.; HOER, C. A.

Application of an 'Arbitrary' 6-Port Junction to Power Measurement Problems

Proc., 1972 Conf. on Precision Electromagn. Meas.,
26-29 June, 1972, Boulder, CO, pp. 100-101
1972

IEEE Trans. Instrum. Meas., Vol. IM-21, pp. 470-474
November 1972

Through-Load-Delay: An Improved Technique for Calibrating the Dual Six-port Automatic Network Analyzer

Int. Microwave Symp. Dig., Orlando, FL, p. 53
1979

ENGEN, G. F.; HUDSON, P. A.

International Intercomparison of Power Standards at 3 GHz

IEEE Trans. Microwave Theory Techn., Vol. MTT-19, pp. 411-413
April 1971

ENGEN, G. F.; HOER, C. A.; SPECIALE, R. A.

The Application of "Through-Short-Delay" to the Calibration of the Dual Six-port

IEEE Int. Microwave Symp. Dig., pp. 184-185
1978

ESTIN, A. J.

A Calculable Microwave Attenuation Standard: The High Q Cavity

Proc., 1972 Conf. on Precision Electromagn. Meas.,
26-29 June, Boulder, CO, pp. 100-101
1972

Scattering Parameters of SMA Coaxial Connectors

IEEE Trans. Instrum. Meas., Vol. IM-25, No. 4, pp. 329-334
1976

FOOTE, W. J.; HUNTER, R. D.

Improved Gearing for Rotary-Vane Attenuators

Rev. Scientific Instrum., Vol. 43, No. 7, pp. 1042-1043
July 1972

GINLEY, R. A.; ALLRED, C. M.

1.25 MHz Attenuation Measurement System

Proc., IEEE Instrum. and Meas. Techn. Conf., 25-27 March, 1986,
Boulder, CO, Vol. IM-35, No. 4, pp. 463-466
1986

HILL, D. A.; WAIT, J. R.

Propagation Along a Coaxial Cable with a Helical Shield

IEEE Trans. Microwave Theory Techn., Vol. MTT-28, No. 2,
pp. 84-89
February 1980

Electromagnetic Theory of the Loosely Braided Coaxial Cable: Part II - Numerical Results

IEEE Trans. Microwave Theory Techn., Vol. MTT-28, No. 4,
pp. 326-331
April 1980

Microwave Metrology (cont.)

HOER, C. A.

The Six-Port Coupler; A New Approach to Measuring V, I, P, Z, and Theta
Dig., 1972 Conf. Precision Electromagn. Meas.,
26-29 June, 1972, Boulder, CO, pp. 6-29
1972

The Six-Port Coupler: A New Approach to Measuring Voltage, Current,
Power, Impedance, and Phase
IEEE Trans. Instrum. Meas., Vol. IM-21, pp. 466-470
November 1972

Using Six-Port and Eight-Port Junctions to Measure Active and Passive
Circuit Parameters
NBS Tech. Note 673
September 1975

A Microwave Network Analyzer Using Two 6-Port Reflectometers;
Proc., 1977 IEEE-MTT-S Int. Microwave Symp.,
21-23 June, 1977, San Diego, CA, pp. 47-49
1977

A Network Analyzer Incorporating Two 6-Port Reflectometers
IEEE Trans. Microwave Theory Techn., Vol. MIT-25,
pp. 1070-1074
December 1977

Calibrating Two Six-Port Reflectometers with Only One Impedance Standard
NBS Tech. Note 1004
June 1978

Calibrating Two Six-Port Reflectometers With an Unknown Length of
Precision Transmission Line
Proc., 1978 IEEE MTT-S Int. Microwave Symp. Dig.,
27-29 June, 1978, Ottawa, Canada, pp. 176-178
1978

Calibrating a Six-Port Reflectometer with Four Impedance Standards
NBS Tech. Note 1012
March 1979

Performance of a Dual Six-Port Automatic Network Analyzer
Proc., IEEE MTT-S 1979, Int. Microwave Symp. Dig.: The World of
Microwaves, 3 April-2 May, 1979, Orlando, FL, IEEE Cat. No.
79CHI439-9 MTT-S
1979

A High Power Dual Six-port Automatic Network Analyzer Used in
Determining Biological Effects of RF and Microwave Radiation
IEEE Trans. Microwave Theory Techn., Vol. MTT-29
December 1981

Choosing Line Lengths for Calibrating Network Analyzers
IEEE, Vol. MTT-31, No. 2, pp. 76-78
January 1983

Multiport Network Analyzers
McGraw-Hill Yearbook of Science and Technol., pp. 289-292
1986

Microwave Metrology (cont.)

HOER, C. A. (cont.)

On-Line Accuracy Assessment for the Dual Six-Port ANA; Treatment of Systematic Errors

Dig., 1986 CPEM, 23-27 June, 1986, NBS/Gaithersburg, MD,
pp. 238-239
1986

IEEE Trans. on Instrum. and Meas., Vol. IM-36, No. 2,
pp. 514-519
June 1987

Some Questions and Answers Concerning Air Lines as Impedance Standards.

Dig., 29th Automatic RF Techniques Group; 12-13 June, 1987; Las Vegas, NV; pp. 161-173.
1987

An Equivalent Circuit for Imperfect Transmission Line Connectors

CPEM Dig., 7-10 June, 1988, Tsukuba Science City, Japan,
pp. 264-265
1988

Systematic Errors in Power Measurements Made with a Dual Six Port ANA;

NIST Tech Note 1332
July 1989

HOER, C. A.; AGY, D. L.

Broad-Band Resistive-Divider-Type Directional Coupler

IEEE Trans. Instrum. Meas., Vol. IM-19, pp. 336-343
November 1970

HOER, C. A.; ENGEN, G. F.

Analysis of a Six-Port Junction for Measuring, V, I, A, B, Z, Gamma, and Phase

Proc., 1973 Conf. of the Int. Meas. Confederation (6th),
17-23 June, 1973, Dresden, Germany, Acta Imeko, Vol. 1,
pp. 213-222
1973

Calibrating a Dual Six-Port or Four-Port for Measuring Two-Ports with Any Connectors

Dig., 1986 IEEE-MTT Symp., 2-4 June, 1986, Baltimore, MD,
pp. 665-668
1986

On-Line Accuracy Assessment for the Dual Six-Port ANA: Extension to Non-Mating Connectors

Dig., 1986 CPEM, 23-27 June, 1986, NBS/Gaithersburg, MD,
pp. 241-242
1986

IEEE Trans. on Instrum. and Meas., Vol. IM-36, No. 2,
pp. 524-529
June 1987

HOER, C. A.; ROE, K. C.

Using an Arbitrary Six-Port Junction to Measure Complex Voltage Ratios

IEEE Trans. Microwave Theory Techn., Vol. MTT-23, No. 12,
pp. 978-984
December 1975

Microwave Metrology (cont.)

- HOER, C. A.; ROE, K. C.; ALLRED, C. M.**
Measuring and Minimizing Diode Detector NonLinearity
Proc., 1976 Conf. on Precision Electromagn. Meas.,
28 June-1 July, 1976, Boulder, CO, pp. 108-109
1976
- HOLT, D. R.**
Determination of Scattering Parameters from Precision Coaxial Air-Line
Standards
CPEM Dig., 7-10 June, 1988, Tsukuba Science City, Japan,
p. 263
1988
- Scattering Parameters Representing Imperfections in Precision Coaxial
Air Lines
J. of Research of the NIST, Vol. 94, No. 2, pp. 117-133
March-April 1989
- Determination of Scattering Parameters with Respect to the Characteristic
Impedance of Precision Coaxial Air-Line Standards.
CPEM Digest; June 11-14, 1990; Ottawa, Canada; pp. 282-283.
June 1990
- HOLT, D. R.; HOER, C. A.**
Estimation of True Power Ratios in Six-port Network Analyzers Using
Diode Detectors
Proc., 1985 Instrum. and Meas. Technol. Conf., 20-22 March, 1985,
Tampa, FL, pp. 140-141
1985
- IEEE Trans. on Instrum. and Meas., Vol. IM-34, No. 4,
pp. 558-563
December 1985
- HUDSON, P. A.**
Measurement of RF Peak Pulse Power
Proc., IEEE, Special Issue on Radio Meas. Methods and Standards,
Vol. 55, No. 6, pp. 851-855
June 1967
- The National Measurement System for Medical Ultrasonics
NBSIR 75-937
February 1976
- HUDSON, P. A.; SAULSBERY, L. F.**
An Adjustable-Slot-Length UHF Coaxial Coupler with Decade Bandwidth
IEEE Trans. Microwave Theory Techn., Vol. MTT-19, pp. 781-783
September 1971
- HUDSON, P. A.; MELQUIST, D. G.; ONDREJKA, A. R.; WERNER, P. E.**
Completion of the Program to Evaluate/Improve Instrumentation and Test
Methods for Electroexplosive Device Safety Qualification
NBSIR 74-379
June 1974

Microwave Metrology (cont.)

HUNTLEY, L. E.; JONES, R. N.

Lumped Parameter Impedance Measurements
Proc., IEEE, Special Issue on Radio Meas. Methods and Standards,
Vol. 55, No. 6, pp. 900-911
June 1967

JESCH, R. L.

Impedance Measurements in Coaxial Waveguide Systems
Proc., IEEE, Special Issue on Radio Meas. Methods and Standards,
Vol. 55, No. 6, pp. 912-923
June 1967

Repeatability of SMA Coaxial Connectors

IEEE Trans. Instrum. Meas., Vol. IM-25, No. 4, pp. 314-320
December 1976

Evaluation of Low-Loss/Low-Reflection Two-Port Devices or Adapters by
Automated Measurement Techniques

NBSIR 78-870
December 1977

JESCH, R. L.; HOER, C. A.

Characterization of a High Frequency Probe Assembly for Integrated
Circuit Measurements
NBS Tech. Note 663
January 1975

JONES, R. N.

The Measurement of Lumped Parameter Impedance
NBS MN 141
June 1974

Evaluation of Three-Terminal and Four-Terminal Pair Capacitors at High
Frequencies

NBS Tech. Note 1024
September 1980

A Comparison of Centrifuge and Freezing Calorimeter Methods for
Measuring Free Water in Snow

NBSIR 79-1604
April 1979

JONES, R. N.; HUNTLEY, L. E.

A Precision, High Frequency Calibration Facility for Coaxial Capacitance
Standards
NBS Tech. Note 386
March 1970

JUDISH, R. M.

Quality Control of Measurements--Measurement Assurance
Proc., IEEE Spec. Issue on Radio Meas. Methods and Standards,
Vol. 74, No. 1, pp. 23-25
January 1986

Microwave Metrology (cont.)

JUDISH, R. M. (cont.)

On-Line Accuracy Assessment for the Dual Six-Port ANA: Statistical Methods for Random Errors

Dig., 1986 CPEM, 23-27 June, 1986, NBS/Gaithersburg, MD,
p. 237

1986

JUDISH, R. M.; ENGEN, G. F.

On-Line Accuracy Assessment for the Dual Six-Port ANA: Statistical Methods for Random Errors

IEEE Trans. on Instrum. and Meas., Vol. IM-36, No. 2,
pp. 507-513

June 1987

JUDISH, R. M.; JONES, R. N.

A Generalized Method for the Calibration of Four-Terminal-Pair Type Digital Impedance Meters

NBSIR 84-3016

August 1984

JUROSHEK, J. R.

On-Line Accuracy Assessment for the Dual Six-Port ANA: Experimental Results

Dig., 1986 CPEM, 23-27 June, 1986, NBS/Gaithersburg, MD,
p. 240

1986

IEEE Trans. on Instrum. and Meas., Vol. IM-36, No. 2,
pp. 520-523

June 1987

A Study of Measurement of Connector Repeatability Using Highly Reflecting Loads

IEEE Trans. on Microwave Theory and Techniques, Vol. MTT-35, No.4,
pp. 457-460

April 1987

JUROSHEK, J. R.; HOER, C. A.

A Dual Six-port Network Analyzer Using Diode Detectors

IEEE Trans. Microwave Theory Technol., Vol. MTT-32, No. 1,
pp. 78-82

January 1984

A High-Power Automatic Network Analyzer for Measuring the RF Power Absorbed by Biological Samples in a TEM Cell

IEEE Trans. Microwave Theory Technol., Vol. MTT-32, No. 8,
pp. 818-824

August 1984

A Technique for Extending the Dynamic Range of the Dual Six-port Network Analyzer

IEEE Trans. on Microwave Theory and Technol., Vol. MTT-33, No. 6,
pp. 453-459

June 1985

Microwave Metrology (cont.)

JUROSHEK, J. R.; HOER, C. A.; KAISER, R. K. F.

Calibrating Network Analyzers with Imperfect Test Ports
IEEE Trans. on Instrum. and Meas., Vol. 38, No. 4,
pp. 898-901
August 1989

KAMPER, R. A.

The National Electromagnetic Measurement System
NBSIR 75-936
June 1977

Status of RF and Microwave Calibration Services at NBS
Nat. Conf. of Standards Laboratories Newsletter, Vol. 18,
No. 3, p. 40
December 1978

Current Trends in NBS Calibration Services
Nat. Conf. of Standards Laboratories Newsletter, Vol. 22,
No. 1, pp. 38-39
March 1982

KAMPER, R. A.; HOER, C. A.

Millimeter Wave Standards at the National Bureau of Standards (NBS)
Proc., The Int. Soc. for Optical Engineering (SPIE),
23-24 August, 1983, San Diego, CA, Vol. 423, pp. 144-146
1983

KANDA, M.; MAY, W. G.

A Millimeter Wave Reflection Beam Isolator
IEEE Trans. Microwave Theory Technol., Vol. MTT-23, No. 6,
pp. 506-508
June 1975

KERNS, D. M.

Definitions of v , i , Z , Y , a , b , Γ , and S
Proc., IEEE, Special Issue on Radio Meas. Methods and Standards,
Vol. 55, No. 6, pp. 892-900
June 1967

KOMAREK, E. L.

An Application of the Power Equation Concept and Automation Techniques
to Precision Bolometer Unit Calibration
Proc., 1974 IEEE S-MTT Int. Microwave Symp., 12-14 June, 1974,
Atlanta, GA, Microwave Symposium Digest, pp. 263-265
1974

An Automated Broadband System for Measurement of One-Port Microwave
Parameters

Proc., 1976 Conf. on Precision Electromagn. Meas.,
28 June-1 July, 1976, Boulder, CO, pp. 167-170
1976

An Application of the Six-Port Junction to Precision Measurement of
Microwave One-Port Parameters

Proc., 1977 IEEE-MTT-S Int. Microwave Symp.,
21-23 June, 1977, San Diego, CA, pp. 56-57
1977

Microwave Metrology (cont.)

KOMAREK, E. L. (cont.)

Performance Characteristics of an Automated Broad-Band Bolometer Unit Calibration System
IEEE Trans. Microwave Theory, Vol. MTT-25, pp. 1122-1127
December 1977

Advantages of the Six-port Reflectometer for RF/Microwave Power Measurement in Operational Systems
Government Micro-Circuit Applications Conf. Dig.
1978

KOMAREK, E. L.; TRYON, P. V.

An Application of the Power Equation Concept and Automation Techniques to Precision Bolometer Unit Calibration
IEEE Trans. Microwave Theory Techn. Part II, 1974 Symp. Issue, Vol. MTT-22, pp. 1260-1267
December 1974

LARSEN, N. T.

A New Self-Balancing DC-Substitution RF Power Meter
Proc., 1976 Conf. on Precision Electromagn. Meas.,
28 June-1 July, 1976, Boulder, CO, pp. 203-205
1976

IEEE Trans. Instrum. Meas., Vol. IM-25, pp. 343-347
December 1976

NBS Type IV RF Power Meter Operation and Maintenance
NBSIR 77-866
October 1977

Microwave Power Standards at the National Bureau of Standards
1987 NCSL Workshop and Symp., 12-16 July, 1987, Denver, CO,
pp. 34-1 - 34-7
1987

LARSON, W.; CAMPBELL, E.

Microwave Attenuation Measurement System (Series Substitution)
NBS Tech. Note 647
February 1974

LAWTON, R. A.; ALLRED, C. M.; HUDSON, P. A.

A Wide Range CW Power Measurement Technique
IEEE Trans. Instrum. Meas., Vol. IM-19, pp. 28-34
February 1970

LITTLE, W. E.; YATES, B. C.

Reflection Coefficient Standards for Automated Network Analyzers
Proc., 1976 Conf. on Precision Electromagn. Meas.,
28 June-1 July, 1976, Boulder, CO, pp. 128-129
1976

LITTLE, W. E.; WAKEFIELD, J. P.; HEIM, L.; ALLRED, C. M.; ZAPF, T. L.

An NBS Developed Automatic Network Analyzer
Proc., 1976 Conf. on Precision Electromagn. Meas.,
28 June-1 July, 1976, Boulder, CO, pp. 382-385
1976

Microwave Metrology (cont.)

LIVINGSTON, E. M.; ADAIR, R. T.

Performance Evaluation of Radiofrequency, Microwave and Millimeter Wave Power Meters

NBS Tech Note 1310
December 1988

MAJOR, J. R.; LIVINGSTON, E. M.; ADAIR, R. T.

Automatic Frequency Response of Frequency Modulated Generators Using the Bessel Null Method

Dig., 24th Automatic RF Techniques Group Conf., 5-6 December, 1984, Columbia, MD, pp. 131-153
1984

Proc., 1985 Test and Measurement World Expo, 14-16 May, 1985, San Jose, CA, pp. 78-100
1985

NBS Tech. Note 1093
March 1986

NAHMAN, N. S.

A Note on the Transition (Rise) Time Versus Line Length in Coaxial Cables

IEEE Trans. Circuit Theory, Vol. CT-20, pp. 165-167
March 1973

ONDREJKA, A. R.

Peak Pulse Voltage Measurement (Baseband Pulse)

Proc., IEEE, Special Issue on Radio Meas. Methods and Standards, Vol. 55, No. 6, pp. 882-885
June 1967

REEVE, G. R.; ARTHUR, M. G.

A Standard for RF Modulation Factors

NBS Tech. Note 1016
September 1979

REEVE, G. R.; MILLER, C. K. S.

Current NBS Metrology Capabilities and Limitations at Millimeter Wave Frequencies

Proc., 1985 Meas. Science Conf., 17-18 January, 1985, Santa Clara, CA, pp. 296-314
1985

REEVE, G. R.; MARKS, R. B.; BLACKBURN, D.

MMIC Related Metrology at the National Institute of Standards and Technology.

Record, Instrumentation & Measurement Technology (IMTC) Conf.; February 13-15, 1990; San Jose, CA; pp. 196-199.
1990

RIES, F. X.

An International Intercomparison of Voltage Standards at 1 GHz in Coaxial Transmission Line

IEEE Trans. on Instrum. and Meas., Vol. IM-25, p 4.
September 1976

Microwave Metrology (cont.)

- ROE, K. C.; HOER, C. A.
A Microwave Vector Voltmeter System
NBSIR 76-844
August 1976
- RUMFELT, A. Y.; ELWELL, L. B.
Radio Frequency Power Measurements
Proc., IEEE, Special Issue on Radio Meas. Methods and Standards,
Vol. 55, No. 6, pp. 837-850
June 1967
- RUSSELL, D. H.
An Unmodulated Twin-Channel Microwave Attenuation Measurement System;
ISA Trans., Vol. 4, pp. 162-169
April 1965
- RUSSELL, D. H.; LARSON, W.
RF Attenuation
Proc., IEEE, Special Issue on Radio Meas. Methods and Standards,
Vol. 55, No. 6, pp. 942-959
June 1967
- SAULSBERY, L. F.; ADAIR, R. T.
ANA Measurement Results on the ARFTG Traveling Experiment
Conf. Dig., 28th Automatic RF Techniques Group, 4-5 December,
1986, St. Petersburg Beach, FL, pp. 65-78
1987
- SCOTT, W. W., Jr.
A New Coaxial RF-DC Ammeter
Proc., 1970 Dig. on Precision Electromagn. Meas. Conf.,
2-5 June, 1970, Boulder, CO, Special Issue CPEM Digest p. 13
1970
- SCOTT, W. W., Jr.; FREDERICK, N. V.
The Measurement of Current at Radio Frequencies
Proc., IEEE, Special Issue on Radio Meas. Methods and Standards,
Vol. 55, No. 6, pp. 886-891
June 1967
- SELBY, M. C.
Voltage Measurement at High and Microwave Frequencies in Coaxial Systems
Proc., IEEE, Special Issue on Radio Meas. Methods and Standards,
Vol. 55, No. 6, pp. 877-882
June 1967
- SEQUEIRA, H. B.; YATES, B. C.
Approach for Evaluating Effects of Wall Losses on Quarter-Wave Losses on
Quarter-Wave Short-Circuit Impedance Standards
IEEE Trans. on Microwave Theory and Techniques, Vol. MTT-33,
No. 11, pp. 1106-1109
November 1985
- SIMPSON, P. A.
Broadband Pulsed/CW Calibration Signal Standard for Field Intensity
Meter (FIM) Receivers
NBSIR 74-371
June 1974

Microwave Metrology (cont.)

SIMPSON, P. A.; HUDSON, P. A.

Implementation of the Notch Technique as an RF Peak Pulse Power Standard
NBS Tech. Note 682
July 1976

SIMPSON, P. A.; ONDREJKA, A. R.

Improvements to the NBS RF Peak-Pulse Power Standard
1970 Instrument Soc. of America Silver Jubilee Int. Conf. and
Exhibit, October, 1970, Philadelphia, PA, Paper 709-70,
pp. 1-7
1970

SLADEK, M. J.; JESCH, R. L.

Standardization of Coaxial Connections in the IEC
Proc., IEEE Spec. Issue on Radio Meas. Methods and Standards,
pp. 14-18
January 1986

WEIDMAN, M. P.

A Semi-Automated Six-Port for Measuring Millimeter Wave Power and
Complex Reflection Coefficient
Proc., 1977 IEEE-MTT-S Int. Microwave Symp.,
21-23 June, 1977, San Diego, CA, pp. 58-60
1977

IEEE Trans. Microwave Theory Technol., Vol. MTT-25,
pp. 1083-1085
December 1977

WR-10 Single Six-port Measurement System
NBSIR 81-1650
September 1981

Finline Diode Six-Port: Fundamentals and Design Information
NBS Tech. Note 1090
December 1985

WEIDMAN, M. P.; CAMPBELL, E.

A Method for Designing Multi-Screw Waveguide Tuners
NBS Tech. Note 393
October 1970

WEIDMAN, M. P.; ENGEN, G. F.

Application of a Non-Ideal Sliding Short to Two-Port Loss Measurement
NBS Tech. Note 644
October 1973

WEIDMAN, M. P.; HUDSON, P. A.

WR-10 Millimeter Wave Microcalorimeter
NBS Tech. Note 1044
June 1981

Microwave Metrology (cont.)

**WEIL, C. M.; MARLER, F. E.; MAJOR, J. R.; WEIDMAN, M. P.;
RUSSELL, D. H.**

Dual Six-Port Reflectometer Systems Using Waveguide in the Frequency
Range 18-50 GHz.

Digest, 33rd ARFTG Conf.; 15-16 June 1989; Long Beach, CA;
pp. 76-87.

June 1989

YATES, B. C.; COUNAS, G. J.

Summary of WR15 Flange Evaluation at 60 GHz

NBS Tech. Note 642

October 1973

YATES, B. C.; LARSON, W.

Millimeter Attenuation and Reflection Coefficient Measurement System

NBS Tech. Note 619

July 1972

NOISE

ARTHUR, M. G.

A Precision HF-Noise Power Measurement System
Instr. Soc. Amer. ISA-70 Conf., October, 1971
1971

The Measurement of Noise Performance Factors: A Metrology Guide
NBS MN 142
June 1974

BOYLE, D. R.; CLAGUE, F. R.; REEVE, G. R.; WAIT, D. F.; KANDA, M.

An Automated Precision Noise Figure Measurement System at 60 GHz
IEEE Trans. Instrum. Meas., Vol. IM-21, No. 4, pp. 543-549
November 1972

COUNAS, G. J.

NBS 2.0 GHz to 4.0 GHz Automated Radiometer Operation and Service Manual
NBSIR 84-1697
January 1984

COUNAS, G. J.; BREMER, T. H.

NBS 30/60 Megahertz Noise Measurement System Operation and Service
Manual
NBSIR 81-1656
December 1981

DAYWITT, W. C.

A Reference Noise Standard for Millimeter Waves
IEEE Trans. Microwave Theory Technol., Vol. MTT-21, No. 12,
pp. 845-847
December 1973

Error Equations Used in the NBS Precision G/T Measurement System
NBSIR 76-842
September 1976

A Precision Earth-Terminal System for Accurate C/KT, G/T, and EIRP
Measurements with a Calibrated Radio Star
Proc., 1977 URSI Int. Symp. on Meas. in Telecommunications,
3-7 October, 1977, Lannion, France, pp. 1-4
1977

Error Equations Used in the NBS Earth-Terminal Measurement System
NBSIR 78-869
December 1977

Atmospheric Propagation Equations Used in the NBS Earth Terminal
Measurement System
NBSIR 78-883
April 1978

An Error Analysis for the Measurement of Satellite EIRP using a
Calibrated Radio Star
IEEE Trans. Instrum. Meas., Vol. IM-27, No. 3, pp. 253-258
September 1978

Design and Error Analysis for the WR10 Thermal Noise Standard
NBS Tech. Note 1071
December 1983

Noise (cont.)

DAYWITT, W. C. (cont.)

An Error Analysis for the Use of Presently Available Lunar Radio Flux Data in Broadbeam Antenna-System Measurements

NBS Tech. Note 1073

February 1984

Proc., 1984 Antenna Applications Symp., 19-21 September, 1984, University of Illinois, Urbana-Champaign, IL, pp. 1-26
1984

A Coaxial Noise Standard for the 1 GHz to 12.4 GHz Frequency Range

NBS Tech. Note 1074

March 1984

A Preliminary Investigation into using the Sun as a Source for G/T Measurements

NBSIR 84-3015

August 1984

A Derivation for the Noise Temperature of a Horn-type Noise Standard
International Journal of Scientific Metrology, Metrologia,

21 pp. 127-133

1985

Broadband Noise Source Applications

Proc., 1985 Instrum. and Meas. Technol. Conf.,

20-22 March, 1985, Tampa, FL, pp. 165-166

1985

10-60 GHz G/T Measurements Using the Sun as a Source--A Preliminary Study

NBSIR 86-3046

April 1986

A Simple Technique for Determining Joint Losses on a Coaxial Line from Swept-Frequency Reflection Data

Dig., 1986 CPEM, 23-27 June, 1986, NBS/Gaithersburg, MD, p. 40

1986

IEEE Trans. on Instrum. and Meas., Vol. IM-36, pp. 468-473

June 1987

Complex Admittance of a Lossy Coaxial Open Circuit with a Hollow Center Conductor

Int. J. of Scientific Metrology, Metrologia, 24, pp. 13-22

1987

A Simple Technique for Investigating Defects in Coaxial Connectors

IEEE Trans. on Microwave Theory and Techniques, Vol. MTT-35,

No. 4, pp. 460-464

April 1987

Radiometer Equation and Analysis of systematic Errors for the NIST Automated Radiometers

NIST Tech Note 1327

March 1989

First Order Principal Mode Fields and Distributed Line Parameters for a Slightly Lossy Coaxial Transmission Line.

Digest, CPEM; June 11-14, 1990; Ottawa, Canada; pp. 404-405.

June 1990

Noise (cont.)

DAYWITT, W. C.; COUNAS, G. J.

Measuring Adapter Efficiency Using a Sliding Short Circuit.
IEEE Trans. on Microwave Theory and Techniques,
Vol. 38 (No. 3), pp. 231-237
March 1990

DAYWITT, W. C.; KANDA, M.

G/T Measurement Errors with Radio Stars
Proc., 1975 IEEE Int. Antennas and Propagat. Symp.,
2-4 June, 1975, Urbana-Champaign, IL, Session 20, pp. 460-463
1975

DAYWITT, W. C.; FOOTE, W. J.; CAMPBELL, E.

WR15 Thermal Noise Standard
NBS Tech. Note 615
March 1972

ENGEN, G. F.

A New Method of Characterizing Amplifier Noise Performance
IEEE Trans. Instrum. Meas., Vol. IM-19, pp. 344-349
November 1970

Mismatch Considerations in Evaluating Amplifier Noise Performance
IEEE Trans. Instrum. Meas., Vol. IM-22, pp. 274-278
September 1973

ESTIN, A. J.; DAYWITT, W. C.

Evaluation of Signal Plus Noise Detection Error in an Envelope Detector
with Logarithmic Compression
Proc., 1978 Conf. on Precision Electromagn. Meas.,
26-29 June, 1978, Ottawa, Canada
1978

NBSIR 79-1614(R)
August 1979

IEEE Trans. Inf. Theory, Vol. IT-17, No. 5, pp. 663-664
September 1981

GEYER, R. G.

Magnetostatic Measurements for Mine Detection
NISTIR 88-3098
October 1988

HALFORD, D.

Infrared-Microwave Frequency Synthesis Design: Some Relevant Conceptual
Noise Aspects
Proc., 1971 Frequency Standards and Metrology Seminar,
30 August - 1 September, Quebec, Canada, pp. 431-466
1972

Comparing Frequencies

Physics Today, Vol. 26, No. 2, p. 15
February 1973

Transparent Metrology of Signal to Noise Ratios of Noisy Band-limited
Digital Signals

NBS Tech. Note 1077
June 1985

Noise (cont.)

KANDA, M.

A Measure for the Stability of Solid State Noise Sources
Proc., 1975 IEEE Int. Microwave Theory and Technique Symp.,
12-14 May, 1975, Palo Alto, CA, pp. 315-317
1975

Study of Errors in Absolute Flux Density Measurements of Cassiopeia A
NBSIR 75-822
October 1975

IEEE Trans. Instrum. Meas., Vol. IM-25, No. 3, pp. 173-182
September 1976

An Improved Solid State Noise Source
Proc., 1976 IEEE MTT-S Microwave Symp., 14-16 June, 1976,
Cherry Hill, NJ, pp. 224-226
1976

IEEE Trans. Instrum. Meas., Vol. IM-25, No. 3, pp. 173-182
September 1976

KANDA, M.; LARSON, T. R.

Stability of Silicon Avalanche Noise Diodes at K and Ka Bands
Proc., 1976 Conf. on Precision Electromagn. Meas.,
28 June-1 July, 1976, Boulder, CO
1976

MILLER, C. K. S.; DAYWITT, W. C.

The NBS Switching Radiometers
NBSIR 84-3004
May 1984

The Reference Noise Standards NBS WR62 and WR90
NBSIR 84-3005
May 1984

MILLER, C. K. S.; DAYWITT, W. C.; ARTHUR, M. G.

Noise Standards, Measurements, and Receiver Noise Definitions
Proc., IEEE, Special Issue on Radio Meas. Methods and Standards,
Vol. 55, No. 6, pp. 865-877
June 1967

PERERA, S.

Noise Temperature Measurements at the National Bureau of Standards
Proc., 1985 Instrum. and Meas. Technol. Conf.,
20-22 March, 1985, Tampa, FL, pp. 159-160
1985

A Simple Noise Calibration Radiometer.
Digest, CPEM; June 11-14, 1990; Ottawa, Canada; pp. 32-33.
June 1990

WAIT, D. F.

Considerations for the Precise Measurement of Amplifier Noise
NBS Tech. Note 640
1973

Earth Terminal Measurement System Operations Manual
NBSIR 78-879
April 1978

Noise (cont.)

WAIT, D. F. (cont.)

Precision Measurement of Antenna System Noise Using Radio Stars
Dig., 1982 Conf. on Precision Electromagn. Meas.,
28 June-1 July, 1982, Boulder, CO, p. F-17
1982

IEEE Trans. Instrum. Meas., Vol. IM-32, No. 1, pp. 110-116
March 1983

Earth Terminal Measurement System Operations Manual (Revised)
NBSIR 83-1679(R)
January 1983

The Impact of Automation on NBS Noise Temperature Measurements
Proc., IEEE Spec. Issue on Radio Meas. Methods and Standards.,
pp. 117-120
1986

WAIT, D. F.; DAYWITT, W. C.

Preliminary Examination of 20 GHz G/T Measurements of Earth Terminals
NBSIR 83-1686
March 1983

Intercomparison of NBS Noise Calibration Services
CPEM Dig., 7-10 June, 1988, Tsukuba Science City, Japan,
pp. 209-210
1988

WAIT, D. F.; COUNAS, G. J.; KESSEL, W.; BUCHHOLZ, F. IM.

PTB - NIST Bilateral Comparison of Microwave Noise Power in Coaxial
Transmission Line.
Digest, CPEM; June 11-14, 1990; Ottawa, Canada; pp. 34-35.
June 1990

WAIT, D. F.; KANDA, M.; DAYWITT, W. C.; MILLER, C. K. S.

A Study of the Measurement of G/T Using Cassiopeia A
NBSIR 74-382
October 1974

WAKEFIELD, J. P.

Addendum to Earth Terminal Measurement System Maintenance Manual
NBSIR 81-1641
October 1981

REMOTE SENSING

BELSHER, D. R.

Feasibility Study on the use of a Microwave System for the
Nondestructive Evaluation of Historic Adobe Structures
NBSIR 79-1610
July 1979

BELSHER, D. R.; MCLAUGHLIN, R. G.; REPJAR, A. G.; BUSSEY, H. E.

Detection of Lost Wells and Unknown Water-filled Voids in Coal Mines
through Development of an Experimental Microwave System
NBSIR 84-3017
September 1984

BEREUTER, W. A.; CHANG, D. C.

Electromagnetic Remote Sensing of Inhomogeneous Media
NBSIR 76-851
January 1977

BOYNE, H. S.; ELLERBRUCH, D. A.

Microwave Measurements of Snow Stratigraphy and Water Equivalence
Proc., The Western Snow Conference
April 1979

**CHANG, A. T. C.; SHIUE, J. C.; BOYNE, H. S.; ELLERBRUCH, D. A.;
COUNAS, G. J.**

Preliminary Results of Passive Microwave Snow Experiment During February
and March 1978
NASA-TP-1408, Rept-7802-F22, p.114
1979

CHEW, H.

Modeling of Oil Shale Retorts for Electromagnetic Sensing Techniques
NBSIR 81-1653
November 1981

Electromagnetic Modeling of Oil Shale Retorts for Remote Sensing
Purposes

IEEE Trans. Geosci. & Remote Sensing, Vol. GE-20, No. 4,
pp. 510-517
October 1982

COLLIER, R. S.; ELLERBRUCH, D. A.

RF (Radiofrequency) Total Mass Gauging in Large Storage Containers:
Empty Tank Modes
NBSIR 73-346
October 1973

**COLLIER, R. S.; ELLERBRUCH, D. A.; CRUZ, J. E.; STOKES, R. W.;
LUFT, P. E.**

Mass Quantity Gauging by RF Mode Analysis
NBSIR 73-318
June 1973

CRUZ, J. E.; ROGERS, E. H.; HIESTER, A. E.

Continuous Liquid Level Measurements with Time-Domain Reflectometry
Advances in Cryogenic Engineering, Vol. 18,
pp. 323-327 (Paper H-4)
1973

ELLERBRUCH, D. A.

Electromagnetic Attenuation Properties of Clay and Gravel Soils
NBSIR 74-381
August 1974

Remote Sensing (cont.)

ELLERBRUCH, D. A.; ADAMS, J. W.

Microwave Measurement of Coal Layer Thickness
NBSIR 74-387
September 1974

ELLERBRUCH, D. A.; BELSHER, D. R.

FM-CW Electromagnetic Technique of Measuring Coal Layer Thickness
NBSIR 76-840
May 1976

Electromagnetic Technique of Measuring Coal Layer Thickness
IEEE Trans. Geosci. Electron., GE16, No. 2, pp. 126-133
April 1978

**ELLERBRUCH, D. A.; JESCH, R. L.; JONES, R. N.; BUSSEY, H. E.;
BOYNE, H. S.**

Electromagnetic Scattering Properties of Soils and Snow
Proc., 1978 Int. Symp. on Remote Sensing of Environment (12th),
20-26 April, 1978, Ann Arbor, MI, Vol. 2, pp. 957-974
1978

**ELLERBRUCH, D. A.; JOHNSON, R. B.; BELSHER, D. R.; YAGHJIAN, A. D.;
STEPPE, M. C.; FLEMING R. W.**

High Resolution Sensing Techniques for Slope Stability Studies
Federal Highway Administration Report, FHWA-7-3-0001
March 1979

HILL, D. A.

Radio Propagation in a Coal Seam and the Inverse Problem
NBS J Res., Vol. 89, No. 5, pp. 385-394
September-October 1984

Proc., 1985 Int. Symp. on Antennas and EM Theory,
26-28 August, 1985, Beijing, China, pp. 422-427
1985

Electromagnetic Wave Propagation in a Symmetrical Coal Seam
IEEE Trans. Antennas Propagat., Vol. AP-34, No. 2, pp. 244-247
February 1986

Fields of Horizontal Currents Located Above the Earth
IEEE Trans. on Geoscience and Remote Sensing, Vol. 26, No. 6,
pp. 726-732
November 1988

Magnetic Dipole Excitation of a Long Conductor in a Lossy Medium
IEEE Trans. on Geoscience and Remote Sensing, Vol. 26, No. 6,
pp. 720-725
November 1988

Magnetic Dipole Excitation of an Insulated Conductor of Finite Length.
IEEE Trans on Geoscience and Remote Sensing; Vol. 28(No. 3):
pp. 289-294.
May 1990

HILL, D. A.; ANDERSON, L. R.

Propagation Along a Two-Wire Line Located at the Air-Earth Interface.
IEEE Trans. on Geoscience and Remote Sensing; Vol. 28(No. 3):
pp. 400-402.
May 1990

Remote Sensing (cont.)

MONTGOMERY, J. P.; CHANG, D. C.

Electromagnetic Boundary-Value Problems Based Upon a Modification of
Residue Calculus and Function Theoretic Techniques

NBS MN 164

June 1979

ROE, K. C.; WITTMANN, R. C.

Improved Coal Interface Detector

NBSIR 82-1663

May 1982

STOLTENBERG, R. E.

Detection of Human Intruders by Low Frequency Sonic Interferometric
Techniques

NBSIR 74-364

May 1974

TIME DOMAIN

- ADAMS, J. W.; ONDREJKA, A. R.; MEDLEY, H. W.
Time-Domain System for Identification of the Natural Resonant
Frequencies of Aircraft Relevant to Electromagnetic Compatibility
Testing
NBSIR 87-3077
November 1987
- ADAMS, J. W.; ONDREJKA, A. R.; CAVCEY, K. H.; CRUZ, J. E.; MEDLEY, H. W.;
GROSVENOR, JR., J. H.
Recent Improvements in Time-Domain EMC Measurement System;
NISTIR 89-3927
November 1989
- ANDREWS, J. R.
Impulse Generator Spectrum Amplitude Measurement Techniques
IEEE Trans. Instrum. Meas., Vol. IM-25, No. 4, pp. 380-384
December 1976
- ANDREWS, J. R.; BALDWIN, E. E.
Baseband Impulse Generator Useful to 5 GHz
Proc., 1975 IEEE Int. Symp. on Electromagn. Compat.,
7-9 October, 1975, San Antonio, TX, pp. 1-4
1975
- ANDREWS, J. R.; GANS, W. L.
Time Domain Automatic Network Analyzer
L'Onde Electrique, Vol. 55(10), pp. 569-574
December 1975
- GANS, W. L.; ANDREWS, J. R.
Time Domain Automatic Network Analyzer for Measurement of RF and
Microwave Components
NBS Tech. Note 672
September 1975
- GANS, W. L.; GEYER, R. G.; KLEMPERER, W. K.
Suggested Methods and Standards for Testing and Verification of
Electromagnetic Buried Object Detectors
NISTIR 88-3915
March 1990
- GEYER, R. G.
Magnetostatic Measurements for Mine Detection;
NISTIR 88-3098.
October 1988
- LAWTON, R. A.; ONDREJKA, A. R.
Standards for the Measurement of Impulsive Fields Radiated by a TEM Horn
Antenna
Proc., 1977 Union Radio Scientifique Int. E Comm.,
3-7 October, 1977, Lannion, France, pp. 1-4
1977
- LAWTON, R. A.; RIAD, S. M.; ANDREWS, J. R.
Pulse and Time Domain Measurements
Proc., IEEE, Special Issue on Radio Meas. Methods and Stds,
Vol. 74, No. 1, pp. 77-81
January 1986

Time Domain (cont.)

NAHMAN, N. S.; JICKLING, R. M.

Frequency Domain Measurement of Baseband Instrumentation

NBSIR 73-330

July 1973

NAHMAN, N. S.; JICKLING, R. M.; HOLT, D. R.

Reference-Waveform Generation Using Debye Dielectric Dispersion

NBSIR 73-304

December 1972

WAVEFORM METROLOGY

ANDREWS, J. R.

Improved Bias Supply for Tunnel-Diode Picosecond Pulse Generators
IEEE Trans. Instrum. Meas., IM-19, pp. 171-175
August 1970

Horizontal Time Base Sweep Generator for a Traveling Wave Oscilloscope
IEEE Trans. Nucl. Sci., NS-18, pp. 3-18
October 1971

An Interfacing Unit for a 28 psec Feedthrough Sampling Oscilloscope
Rev. Sci. Instrum., Vol. 42, pp. 1882-1885
December 1971

A Frequency Calibrator for UHF Using an Avalanche Transistor
Q S T, Vol. 56, pp. 16-18
May 1972

Random Sampling Oscilloscope Time Base
NBSIR 73-309
June 1973

Random Sampling Oscilloscope for the Observation of Mercury Switch
Closure Transition Times
IEEE Trans. Instrum. Meas., IM-22, pp. 375-381
December 1973

Inexpensive Laser Diode Pulse Generator for Optical Waveguide Studies
Rev. Sci. Instrum., Vol. 45, pp. 22-24
January 1974

Precision Picosecond-Pulse Measurements Using a High Quality
Superconducting Delay Line
Proc. Conf. on Precision Electromagn. Meas., 1-5 July, 1974,
London, England, pp. 316-318
1974

IEEE Trans. Instrum. Meas., IM-23, pp. 468-472
December 1974

Directional-Coupler Technique for Triggering a Tunnel Diode
IEEE Trans. Instrum. Meas., IM-24, pp. 275-277
September 1975

Impulse Generator Spectrum Amplitude Measurement Techniques
CPEM Dig., pp. 23-24
1976

Measurement on Pulses and Pulse Transmission Media, Circuits and
Components
URSI Review of Radio Science, p. 9
1975-1977

The Estimation of the Pulse Wavlibration of Impulse Generat
Dig. of Papers, URSI/U. S. Nat. Radio Sci. Meeting, January, 1981,
Boulder, CO, p. 87
1981

Waveform Metrology (cont.)

ANDREWS, J. R. (cont.)

Pulse Reference Waveform Standards Development at NBS
Proc., ATE Seminar/Exhib., January, 1981, Pasadena, CA,
p. IV.13-IV.19
1981

ANDREWS, J. R.; BALDWIN, E. E.

Amplitude Calibrator for Oscilloscopes
NBSIR 81-1646
April 1981

ANDREWS, J. R.; GANS, W. L.

Pulsed Wavemeter Timing Reference for Sampling Oscilloscope Calibration
IEEE Trans. Instrum. Meas., IM-24, p. 82
March 1975

ANDREWS, J. R.; LAWTON, R. A.

Picosecond Pulse Research at NBS
Proc., Joint Meas. Conf., 12-14 November, 1974, Gaithersburg, MD,
pp. 123-140
1974

Electrically Strobed Optical Waveform Sampling Oscilloscope
Rev. Sci. Instrum., Vol. 47, pp. 311-313
March 1976

ANDREWS, J. R.; NAHMAN, N. S.

Electron-Beam Deflection in Traveling-Wave Oscilloscopes
Record of Symp. on Electron, Ion, and Laser Beam Technol. (11th),
12-14 May, 1971, Boulder, CO
1971

The Measurement of Pulse Transition Duration
Proc., Union Radio Scientifique Internationale Comm. Symp.,
3-7 October, 1977, Lannion, France, pp. 159-164
1977

ANDREWS, J. R.; BELL, B. A.; BALDWIN, E. E.

Reference Flat Pulse Generator
NBS Tech. Note 1067
October 1983

ANDREWS, J. R.; NAHMAN, N. S.; BELL, B. A.

Status of Reference Waveform Standards Development at NBS
NBS SP 634, Proc., 1981 Seminar on Waveform Recorder Measurement
Needs and Techn. for Evaluation/Calibration,
15 October, 1981, Boulder, CO, pp. 69-88
1982

ANDREWS, J. R.; WHITTEMORE, T.; MCCAIA, W. D. Jr.

Survey of Present Waveform Sampling System Limitations
NBS Rept. 10731
February 1972

Waveform Metrology (cont.)

ANDREWS, J. R.; BELL, B. A.; NAHMAN, N. S.; BALDWIN, E. E.

Reference Waveform Flat Pulse Generator
1982 CPEM Conf. Dig., June, 1982
1982

IEEE Trans. Instrum. Meas., Vol. IM-32, No. 1, pp. 27-32
March 1983

BOUILLE, R.; ANDREWS, J. R.

Measurement of Broadening of Pulses in Glass Fibers
Electron. Lett., Vol. 8, pp. 309-310
June 1972

EKSTROM, M. P.; MCCAIA, W. D. Jr.; NAHMAN, N. S.

The Measured Time and Frequency Response of a Miniature Superconducting
Coaxial Line
IEEE Trans. Nucl. Sci., NS-18, pp. 18-25
October 1971

GANS, W. L.

Present Capabilities of the NBS Automatic Pulse Measurement System
CPEM Dig., pp. 25-26
1976

IEEE Trans. Instrum. Meas., IM-25, pp. 384-388
December 1976

The Measurement and Deconvolution of Time Jitter in Equivalent-Time
Waveform Samplers

IEEE Trans. Instrum. Meas., Vol. IM-32, No. 1, pp. 126-133
March 1983

Picosecond Pulse Measurements at NBS

Proc., 1985 Instrum. and Meas. Technol. Conf.,
20-22 March, 1985, Tampa, FL, pp. 142-144
1985

Picosecond Pulse Waveform Error Analysis at NBS

Proc., IEEE Spec. Issue on Radio Meas. Methods and Standards, pp.
86-90
January 1986

Dynamic Calibration of Oscilloscopes and Waveform Recorders Using Pulse
Standards.

Record, Instrumentation & Measurement Technology (IMTC) Conf.;
February 13-15, 1990; San Jose, CA; pp. 246-250.
February 1990

GANS, W. L.; NAHMAN, N. S.

Pulse Testing of RF and Microwave Components
NBSIR 1973
July 1973

Shielded Balanced and Coaxial Transmission Lines - Parametric
Measurements and Instrumentation Relevant to Signal Waveform
Transmission in Digital Service

NBSIR 81-1042
June 1981

Waveform Metrology (cont.)

HOLT, D. R.; NAHMAN, N. S.

Coaxial Line Pulse-Response Error Due to a Planar Skin Effect
Approximation

Proc., 1972 Conf. on Precision Electromagn. Meas.,
26-29 June, 1972, Boulder, CO, pp. 1-2
1972

IEEE Trans. Instrum. Meas., IM-21, pp. 515-519
November 1972

HONDA, T.; NAHMAN, N. S.

A Dye Modelocked Nd+3 Glass Laser for Generating Electrical Reference
Waveforms

NBSIR 74-360
September 1972

Application of Ultrashort Optical Pulses to Electrical Pulse
Measurements

Proc. Symp. on New Instrum., 28-29 January, 1974, IEE of Japan,
Hokkaido University, pp. 29-38
1974

HUDSON, P. A.; ANDREWS, J. R.; BLANK, W.; ONDREJKA, A. R.

Investigation and Evaluation of Methods for Pulse Rise-Time Measurement
Tech Report RADC-TR-68-207
October 1968

KANDA, M.

Time Domain Sensors and Radiators

Nat. Radio Science Meeting, January, 1982, University of Colorado,
Boulder, CO
1982

LAWTON, R. A.

NBS SP 634 (Editor), Proc., 1981 Seminar on Waveform Recorder
Measurement Needs and Techniques for Evaluation/Calibration,
15 October, 1981, Boulder, CO
1982

Precision Picosecond-Microsecond Electromagnetic Waveform Measurement
at NBS

NBS SP 628 pp. 392-407
June 1982

Performance Standards for Waveform Recorders

IEEE Trans. Nucl. Sci., Vol. NS-30, No. 1, pp. 263-266
February 1983

Photoconductive Switches Used for Waveform Generation at the National
Bureau of Standards

Proc., 1983 Picosecond Optoelectronics Conf., SPIE - The
International Society for Optical Engineering, 24-26 August, 1983,
San Diego, CA, Vol. 439, pp. 88-94
1983

Waveform Metrology (cont.)

An Efficient Antialiasing Filter

Dig., 1984 Conf. on Precision Electromagn. Meas., 20-24 August,
1984, Delft, The Netherlands, pp. 104-105
1984

IEEE Trans. on Instrum. and Meas., Vol. IM-34, No. 4,
pp. 570-573
December 1985

Pulse Waveform Standards for Electro-Optics

Proc., 1985 Topical Meeting on Picosecond Electronics and
Opto-Electronics, 13-15 March, 1985, Lake Tahoe, NV,
pp. 205-206
1985

Status Report Transient Waveform Recorder Standard

Proc., 1985 Instrum. and Meas. Technol. Conf.,
20-22 March, 1985, Tampa, FL, pp. 154-155
1985

LAWTON, R. A.; ANDREWS, J. R.

Pulsed-Laser Application to Sampling Oscilloscope
Electron. Lett., Vol. 11, pp. 138
April 1975

Electrical Strobings of Photoconductor Cuts Sampling Oscilloscope's
Risetime

Laser Focus, pp. 62-65
November 1976

LAWTON, R. A.; MEYER, K.

Waveform Standards for Electro-Optics: A Pulse Duration Comparison
IEEE Trans. on Microwave Theory and Techn., Vol. MTT-35,
No. 4, pp. 450-453
April 1987

LAWTON, R. A.; NAHMAN, N. S.

Pyroelectric Detector Application to Baseband Pulse Measurements
Electron. Lett., Vol. 8, pp. 318-330
June 1972

LAWTON, R. A.; NAHMAN, N. S.; BIGELOW, J. M.

A Solid State Reference Waveform Standard
Dig., Instrum. and Meas. Technol. Conf., 17-18 January, 1984, Long
Beach, CA, pp. 74-76
1984

IEEE Trans. Instrum. Meas., Vol. IM-33, No. 3, pp. 201-205
September 1984

Reference Waveform Standard

Dig., IEEE Trans. Instrum. Meas., Vol. IM-33, No. 3,
pp. 201-205
September 1984

Waveform Metrology (cont.)

LAWTON, R. A.; SCAVENNEC, A.

Photoconductive Detector of Fast-Transition Optical Waveforms
Electron. Lett., Vol. 11, pp. 74-75
February 1975

LAWTON, R. A.; YOUNG, M.

Laser-Mode Beating Used for Detector Frequency-Response Measurements
Appl. Opt., Vol. 16, pp. 2703-2705
October 1977

MCCAA, W. D. Jr.; NAHMAN, N. S.

Generation of Reference Waveforms by Uniform Lossy Transmission Lines
IEEE Trans. Instrum. Meas., IM-19, pp. 382-390
November 1970

NAHMAN, N. S.

The Measurement of Baseband Pulse Rise Times of Less than 10^{-9} Second
Proc., IEEE, Special Issue on Radio Meas. Methods and Standards,
Vol. 55, No. 6, pp. 855-864
June 1967

Picosecond Domain Waveform Measurements (Japanese translation)
Nikkei Electron., Nikkei-McGraw Hill
April 1979

Error Criteria and the Use of Reference Waveforms
Proc. ATE Seminar/Exhib., January, 1981, Pasadena, CA,
pp. IV.21-IV.28
1981

Error Criteria and the Use of Reference Waveforms
Electron. Test, Vol. 4, No. 2, pp. 72-76
February 1981

Some Generic Waveform Recorder Problems
NBS SP 634, Proc., 1981 Seminar on Waveform Recorder Measurement
Needs and Techn. for Evaluation/Calibration, 15 October, 1981,
Boulder, CO, pp. 1-5
1982

Picosecond Domain Waveform Measurements; Status and Future Directions
IEEE Trans. Instrum. Meas., Vol. IM-32, No. 1, pp. 117-124
March 1983

Software Correction of Measured Pulse Data
NATO ASI Series on Fast Electrical and Optical Meas., Vol 1,
Series E, No. 108, pp. 351-417
1986

Picosecond-Domain Waveform Measurements
Proc., IEEE, Vol. 66, pp. 414-423
April 1978

Waveform Metrology (cont.)

NAHMAN, N. S.; GUILLAUME, M. E.

Deconvolution of Duration Limited Waveforms
Dig. of Papers, URSI/U. S. National Radio Sci. Meeting,
January, 1981, Boulder, CO, p. 86
1981

NAHMAN, N. S.; HOLT, D. R.

Transient Analysis of Coaxial Cables Using the Skin Effect Approximation
A + B (the square root of s)
IEEE Trans. Circuit Theory, CT-19, pp. 443-451
September 1972

NAHMAN, N. S.; EKSTROM, M. P.; MCCAIA, W. D. Jr.

Measured Time and Frequency Response of a Miniature Superconducting
Coaxial Line
Applied Superconductivity Conf., June, 1970, Boulder, CO
1970

RIAD, S. M.

The Deconvolution Problem: An Overview
Proc. of the IEEE, Special Issue on Radio Meas. Methods and
Standards, pp. 82-85
January 1986

RIAD, S. M.; NAHMAN, N. S.

Application of the Homomorphic Deconvolution for the Separation of TDR
Signals Occurring in Overlapping Time Windows
CPEM Dig., pp. 27-29
1976

IEEE Trans. Instrum. Meas., IM-25, pp. 388-391
December 1976

SCAVENNEC, A.; NAHMAN, N. S.

Active and Passive Mode Locking of Continuously Operating Rhodamine 6G
Dye Lasers
NBSIR 73-347
February 1974

YOUNG, M.; LAWTON, R. A.

Measurement of Pulsed-Laser Power
NBS Tech. Note 1010
February 1979

MISCELLANEOUS

ARTHUR, M. G.; REEVE, G. R.

Modulation Factor Standards
NBS Tech. Note 1016
September 1979

BAIRD, R. C.

RF Measurements of the Speed of Light
Proc., IEEE, Special Issue on Radio Meas. Methods and Standards,
Vol. 55, No. 6, pp. 1032-1039
June 1967

BENSEMA, W. D.

Personal FM Transceivers
National Institute of Justice Standard-0209.01
September 1985

Mobile FM Transceivers
National Institute of Justice Technology Program, NIJ
Report-210.00
May 1986

BERRY, L. A.; FITZGERRELL, R. G.; VOGLER, L. E.

Investigation of Effect of Antenna Site and Antenna Type on LF
Non-Directional Beacon Performance
FAA-RD-73-174
1973

BOWMAN, R. R.

Self-Modulating Transducers
EOS-7039-Final
1968

A Temperature Probe for Radio-Frequency Heated Material
NBSIR 81-1634
January 1981

BRANDENBERGER, H.; HADORN, F.; HALFORD, D.; SHOAF, J. H.

High Quality Quartz Crystal Oscillators: Frequency Domain and Time
Domain Stability
Proc., 1971 Frequency Control Annual Symp. (25th),
26-28 April, 1971, Atlantic City, NJ, pp. 226-234
1971

BUSSEY, H. E.; LARSEN, E. B.

Buried Antenna Performance: Development of Small Resonant Buried
Antennas
RADC-TR-74-169M, AD 783274
June 1974

CHEW, H.

Modeling of Oil Shale Retorts for Electromagnetic Sensing Techniques
NBSIR 81-1653
November 1981

Electromagnetic Modeling of Oil Shale Retorts for Remote Sensing
Purposes
IEEE Trans. Geosci. & Remote Sensing, Vol. GE-20, No. 4,
pp. 510-517
October 1982

CLARK, H. E.

Requirements for an Effective National Nonionizing Radiation Measurement
System
NBS SP 613
June 1981

Miscellaneous (cont.)

COLLIER, R. S.; CRUZ, J. E.; ELLERBRUCH, D. A.; LOWE, L. T.; WEITZEL, D. H.
Instrumentation for Hydrogen Slush Storage Containers
NASA-CR-119241
June 1971

NBS Rept. 9793
June 1971

DRIVER, L. D.; RIES, F. X.
A Wideband RF Voltage Comparator
Dig., 1980 Conf. Precision Electromagn. Meas.
June 1980

ELLERBRUCH, D. A.
Microwave Methods for Cryogenic Liquid and Slush Instrumentation
IEEE Trans. Instrum. Meas., Vol. IM-19, No. 4, pp. 412-416
November 1970

Application of Measurements of Electromagnetic Phenomena to Oceanography
Proc., 1972 UJNR/MEC Symp. (1st), Record of the U.S.-Japan UJNR
Joint Symp. on Marine Electronics, (Japanese Electrical Industrial
Committee, Tokyo, Japan), 9 October, 1972, Tokyo, Japan, pp. 23-30
1972

Test Results for the Mooring Line Data Line
NBSIR 73-341
October 1973

ELLERBRUCH, D. A.; BOYNE, H. S.
Active Microwave Water Equivalence Measurements
Proc., Ft. Collins Snow Workshop
1980

FITZGERRELL, R. G.
Mobile Antennas
National Institute of Justice Standard-0205.01
May 1989

FOOTE, W. J.
A New Flange Design for O-Ring Seals
Rev. Science Instrum.
August 1970

GIBSON, K. A.; MILLER, C. K. S.
Bibliography of the Electromagnetic Fields Division Publications
NBSIR 82-1673
August 1982

A Bibliography of the NBS Electromagnetic Fields Division Publications
NBSIR 85-3022
April 1985

GIBSON, K. A.; PAGE, J. M.; MILLER, C. K. S.
A Bibliography of the NBS Electromagnetic Fields Division Publications
NBSIR 85-3040
February 1986

Miscellaneous (cont.)

HALFORD, D.

Infrared-Microwave Frequency Synthesis Design: Some Relevant Conceptual Noise Aspects

Proc., 1971 Frequency Standards and Metrology Seminar,
30 August-1 September, 1971, Quebec, Canada, pp. 431-466
1972

HALFORD, D.; SHOAF, J. H.; RISLEY, A. S.

Spectral Density Analysis: Frequency Domain Specification and Measurement of Signal Stability

1973 Annual Symp. on Frequency Control (27th),
12-14 June, 1973, Cherry Hill, NJ, pp. 421-431
1973

HAMILTON, C.; LLOYD, F.; PETERSON, R.; ANDREWS, J. R.

A Superconducting Sampler for Josephson Logic Circuits

Appl. Phys. Lett., Vol. 35, No. 9, pp. 718-719
November 1979

HAYES, R. E.; KANDA, M.; MASCRET, G.; MAY, W. G.

The Application of Semiconductors to Quasi-Optical Isolators for use at Submillimeter Wavelengths

NASA-CR-105980
July 1969

NASA-CR-86379
April 1970

HILL, D. A.

HF Ground Wave Propagation over Forested and Built-up Terrain

NTIA Report 82-114
December 1982

Book Review - Leaky Feeders and Subsurface Radio Communications

IEEE Antennas and Propagat. Soc. News., Vol. 25, No. 3,
pp. 23-24

June 1983

HILL, D. A.; WAIT, J. R.

Propagation Along a Coaxial Cable with a Helical Shield

IEEE Trans. Microwave Theory Technol., Vol. MTT-28, No. 2,
pp. 84-89

February 1980

Electromagnetic Theory of the Loosely Braided Coaxial Cable: Part II - Numerical Results

IEEE Trans. Microwave Theory Technol., Vol. MTT-28, No. 4,
pp. 326-331

April 1980

Ground Wave Attenuation Function for a Spherical Earth with Arbitrary Surface Impedance Radio Science

Radio Science, Vol. 15, No. 3, pp. 637-643

May-June 1980

On the Excitation of the Zenneck Surface Wave Over the Ground at 10 MHz

Annales des Telecommunications, Vol. 35, Nos. 5-6, pp. 1-4

May-June 1980

Miscellaneous (cont.)

HILL, D. A.; WAIT, J. R. (cont.)

Electromagnetic Characteristics of a Coaxial Cable with Periodic Slots
IEEE Trans. Electromagn. Compat., Vol. EMC-22, No. 4,
pp. 303-307
November 1980

HF Ground Wave Propagation over Sea Ice for a Spherical Earth Model
IEEE Trans. Antennas Propagat., Vol. AP-19, No. 3, pp. 525-527
May 1981

HF Ground Wave Propagation over Mixed Land, Sea, and Sea-Ice Paths
IEEE Trans. Geosci. & Remote Sensing, Vol. GE-19, No. 4,
pp. 210-216
October 1981

HF Radio Wave Transmission over Sea-Ice and Remote Sensing Possibilities
IEEE Trans. Geosci. & Remote Sensing, Vol. GE-19, No. 4,
pp. 204-209
October 1981

Ground Wave Propagation over a Mixed Path with an Elevation Change
IEEE Trans. Antennas Propagat., Vol. AP-30, No. 1,
pp. 139-141
January 1982

JESCH, R. L.

Evaluation of Low-Loss/Low-Reflection Two-Port Devices or Adapters by
Automated Measurement Techniques
NBSIR 78-870
December 1977

Dielectric Measurements of Oil Shale as Functions of Temperature and
Frequency
NBSIR 83-1683
January 1983

Measured Vehicular Antenna Performance
IEEE Trans. Veh. Technol., Vol. VT-34, No. 2, pp. 97-107
May 1985

Personal/Mobile FM Transceivers
National Institute of Justice Technology Program,
NIJ Report-0224.00
May 1986

Fixed and Base Station FM Transmitters
National Institute of Justice Standard - 0201.01
September 1987

Fixed and Base Station FM Receivers
National Institute of Justice Standard-0206.01
July 1988

JESCH, R. L.; BERRY, I. S.

Batteries used with Law Enforcement Communications Equipment
NBS Rept. 10722
October 1971

Miscellaneous (cont.)

JESCH, R. L.; HOER, C. A.

Characterization of a High Frequency Probe Assembly for Integrated
Circuit Measurements

NBS Tech. Note 663

January 1975

JESCH, R. L.; BAILEY, R. A.; TAUSCH, H. J.

Characterization of A H.F. Probe for Integrated Circuits Measurements
Proc., Government Micro-Circuit Applications Conf.,

25-27 June, 1974, Boulder, CO, pp. 120-121

1974

JICKLING, R. M.; SHAFER, J. F.

Repeaters for Law Enforcement Communication Systems-Law Enforcement
Standard Program

Law Enforcement Standards Laboratory RPT-0206.00

October 1974

FM Repeater Systems

National Institute of Law Enforcement and Criminal Justice,
STD-0213.00

November 1977

JONES, R. N.

A Comparison of Centrifuge and Freezing Calorimeter Methods for
Measuring Free Water in Snow

NBSIR 79-1604

April 1979

Evaluation of Three-Terminal and Four-Terminal Pair Capacitors at High
Frequencies

NBS Tech. Note 1024

September 1980

KANDA, M.

Non-Reciprocal Devices Using Solid State Magnetoplasmas at Millimeter
and Submillimeter Wavelengths

NASA-CR-122923

August 1971

KANDA, M.; MAY, W. G.

Hollow-Cylinder Waveguide Isolators for use at Millimeter Wavelengths

NASA-CR-140760

November 1974

Reflection Beam Isolator for Submillimeter Wavelength

NASA-CR-140761

June 1975

KERNS, D. M.

Scattering-Matrix Description and Near-Field Measurements of
Electroacoustic Transducers

J. of the Acoustical Soc. of America, Vol. 57, No. 2,
pp. 497-507

February 1975

Miscellaneous (cont.)

- KING, J.; PEISER, H. S.; SANGSTER, R. C.**
Guidelines for Specification and Procurement of Measurement Instrumentation
NBSIR 78-891
June 1978
- KUFFEL, J.; MALEWSKI, R.; VAN HEESWIJK, R.; LAWTON, R. A.**
Dynamic Performance of Digital Recorders Used for Monitoring High Voltage Impulse Tests
Proc., 1985 Instrum. and Meas. Technol. Conf.,
20-22 March, 1985, Tampa, FL, pp. 211-215
1985
- LARSEN, N. T.; VECCHIA, D. F.; SUGAR, G. R.**
VOR Calibration Services
NBS Tech. Note 1069
April 1985
- LAWTON, R. A.; ANDREWS, J. R.**
Optically Strobed Sampling Oscilloscope
IEEE Trans. Instrum. Meas., 25, pp. 56-60
March 1976
- LEWIS, R. L.**
The Wave-Hop Fields for an Inclined Dipole Over a Spherical Earth with an Anisotropic Ionosphere
OT-ITR-RR5
October 1970
- Spherical Scanning Data Processing: An Algorithm for Halving the Data Processing Effort When the Radiation into the Back Hemisphere is Negligible
Dig., 1981 IEEE APS Int. Symp., June 1981
1981
- LITTLE, W. E.**
Automated Computer Controlled Measurements
Proc., 1974 Conf. on Precision Electromagn. Meas., 1-5 July, 1974, London, England
1974
- LYONS, R. M.; GIBSON, K. A.**
A Bibliography of the NIST Electromagnetic Fields Division Publications
NISTIR 89-3920
September 1989
- MANNEY, C. H.**
Applicability of Speech Bandwidth Compression Techniques in Mine Electromagnetic Communications
NBS Rept. 10728
February 1972
- MILLER, C. K. S.**
Millimeter Wave Metrology Capabilities at NBS
Proc., 1974 Millimeter Waves Techniques Conf.,
26-28 March, 1974, San Diego, CA, p 11.
1974

Miscellaneous (cont.)

MILLER, C. K. S. (cont.)

A Bibliography of Publications in the NBS Electromagnetic Fields
Division

NBSIR 80-1635

November 1980

MONTGOMERY, J. P.; CHANG, D. C.

Electromagnetic Boundary-Value Problems Based Upon a Modification of
Residue Calculus and Function Theoretic Techniques

NBS MN 164

June 1979

NAHMAN, N. S.; ALLRED, C. M.; ANDREWS, J. R.; HOER, C. A.; LAWTON, R. A.

Radar Absorber Measurement Techniques at Frequencies Above 20 GHz

NBSIR 79-1613

August 1979

NELSON, R. E.

A Guide to Voice Scramblers for Law Enforcement Agencies

NBS SP 480-8

December 1976

NELSON, R. E.; JICKLING, R. M.

Control Cable Assemblies Used with Mobile FM Receivers

National Institute of Justice, NIJ Std-0216.00

December 1981

REIDY, A. R.; GIBSON, K. A.

A Bibliography of NIST Electromagnetic Fields Division Publications

NISTIR 88-3900

September 1988

ROE, K. C.; WITTMANN, R. C.

Improved Coal Interface Detector

NBSIR 82-1663

May 1982

ROGERS, G. J.; SAWYER, D. E.; JESCH, R. L.

Semiconductor Measurement Technology: Measurement of Transistor
Scattering Parameters

NBS SP 400-5

January 1975

SANGSTER, R. C.

Relevancy of Measurements by a Systems Approach

Proc., 1972 Joint Meas. Conf., 21-23 June, 1972, Boulder, CO, pp.
31-37

1972

Trans. Matrix Description of the National System of Physical
Measurements

NBSIR 75-943

August 1976

Miscellaneous (cont.)

SANGSTER, R. C. (cont.)

Collected Executive Summaries: Studies of the National Measurement System 1972-75

NBSIR 75-947

September 1976

Study of the National Measurement System. Final Summary Report, 1972-75

NBSIR 75-925

December 1976

Collected Executive Summaries: Studies of the National Measurement System

NBSIR 75-947-Rev. S.

February 1978

SCAVENNEC, A.; NAHMAN, N. S.

A Simple Passively Mode-Locked CW Dye Laser

IEEE J. Quantum Electron., Vol. QE-10, pp. 95-96

January 1974

SCOTT, W. W., Jr.

New Coaxial RF-DC Ammeter

IEEE Trans. Instrum. Meas., Vol. IM-19, No. 4, pp. 318-323

November 1970

Batteries Used with Law Enforcement Communications Equipment: Chargers and Charging Techniques

NBS Rept. 10732

June 1973

STOLTENBERG, R. E.

RF Null Detector NBS/SND

NBSIR 73-302

June 1973

Detection of Human Intruders by Low Frequency Sonic Interferometric Techniques

NBSIR 74-364

May 1974

STOLTENBERG, R. E.; WITTMANN, R. C.

Acoustical Interferometer Wader AIW Final Report of Advanced Development Test and Evaluation

NBSIR 82-167(R)

June 1982

TAGGART, H. E.; WORKMAN, J. L.; NELSON, R. E.

Emergency Locator Transmitters: Effective Radiated Power Levels and Techniques of Determining Effective Radiated Power

NBS Rept. 9769

February 1971

VANZURA, E. J.

Creating CSUBs Written in FORTRAN That Run in BASIC

Proc., INTEREX Technical Computer Users Conf.,

7-12 August, 1988, Orlando, FL, paper 20, pp. 1-18

1988

Miscellaneous (cont.)

VANZURA, E. J. (cont.)

Creating CSUBs in BASIC, Part I
HP Design and Automation Magazine, pp. 18-21
October 1988

Creating CSUBs in Basic, Part II
HP Design and Automation Magazine, p. 25
November 1988

WACKER, P. F.; CORD, M. S.; BURKHARD, D. G.; PETERSEN, J. D.; KUKOL, R. F.
Microwave Spectral Tables, Volume III, Polyatomic Molecules with
Internal Rotation
NBS MN 70, Vol 3.3, p. 276
June 1969

WAIT, D. F.; BEATTY, R. W.
The 1973 Int. Microwave Symp.
IEEE Trans. Microwave Theory Technol., Vol. MTT-21, No. 12,
pp. 747-751
December 1973

WAIT, J. R.; HILL, D. A.
Fields of a Horizontal Loop of Arbitrary Shape Buried in a Two-Layer
Earth
Radio Science, Vol 15, No. 5, pp. 903-912
September-October 1980

WAKEFIELD, J. P.
Addendum to Earth Terminal Measurement System Maintenance Manual
NBSIR 81-1641
October 1981

WEIDMAN, M. P.; CAMPBELL, E.
A Method for Designing Multi-Screw Waveguide Tuners
NBS Tech. Note 393
October 1970

WEITZEL, D. H.; LOWE, L. T.; ELLERBRUCH, D. A.; CRUZ, J. E.; SINDT, C. F.
Hydrogen Slush Density Reference System
NBS Rept. 9796
June 1971

NASA-CR-124764
June 1974

WHARTON, M. J.; FRUSH, C. L.; NAHMAN, N. S.
A Video Recorder for Coherent Doppler Radar
IEEE Trans. Geosci. Electron., Special Issue on Radio Metrology,
GE-17, No. 4, pp. 171-178
October 1979

WILDHACK, W. A.; MASON, H. L.; POWERS, R. S. Jr.
Accuracy Charts for RF Measurements
Proc., IEEE, Special Issue on Radio Meas. Methods and Standards,
Vol. 55, No. 6, pp. 1056-1063
June 1967

Miscellaneous (cont.)

WYSS, J. C.; ANSON, W. J.; ORR, R. D.

Building Penetration Project

NBSIR 84-3009

September 1984

WYSS, J. C.; STWALLEY, W. C.; KOCH, M. E.; VERMA, K. K.

Laser Fluorescence Diagnostics of Lithium Vapor for Inertial Confinement Applications

Topical Meeting on Inertial Confinement Fusion, February 1980, San Diego, CA

1980

YAGHJIAN, A. D.

Theory of Adjoint Reciprocity for Electroacoustic Transducers

NBSIR 73-329

February 1974

Direct Integration of the Field Equations for Electroacoustic Transducers

IEEE Letters, Vol. 62, No. 6, pp. 858-859

June 1974

A Direct Approach to the Derivation of Electric Dyadic Green's Functions

AP-Symposium Dig., October, 1976, pp. 76-156

October 1976

NBS Tech. Note 1000

January 1978

Electric Dyadic Green's Functions in the Source Region

Proc., IEEE, Vol. 68, No. 2

February 1980

Augmented Electric- and Magnetic-Field Integral Equations

Dig., Int. URSI Symp. on EM Waves, Munich Germany

August 1980

Radio Science, Vol. 16, No. 6, pp. 987-1001

November-December 1981

Reply to Criticism on Electric Dyadic Functions in the Source Region

Proc., IEEE, Vol. 69, No. 2

February 1981

A Delta-Distribution Derivation of the Electric Field in the Source Region

Dig., 1981 IEEE/AP-S Symp.

June 1981

YOUNG, M.; LAWTON, R. A.

Saturation of Optical Detectors at High Modulation Frequency

Proc., Annual Meeting Opt. Soc. of America, 12 October, 1977, Toronto, Canada, Vol. 67, p. 1398

1977

Miscellaneous (cont.)

ZAPF, T. L.; HARVEY, M. E.; LARSEN, N. T.; STOLTENBERG, R. E.
Ultrasonic Calorimeter for Beam Power Measurements from 1 to
15 Megahertz

NBS Tech. Note 686
September 1976

Proc., 1976 Ultrasonics Symp., 29 September-1 October, 1977,
Annapolis, MD, IEEE Cat 76, CH1120-5SU, pp. 573-576
1977

AUTHOR INDEX

<u>Name</u>	<u>Page Ref.</u>
ADAIR, R. T.	51, 63, 64
ADAMS, J. W.	22, 24, 31, 36, 37, 43, 45, 46, 49, 73, 75
AGEE, D. A.	9
AGY, D. L.	51, 57
ALLRED, C. M.	51, 52, 55, 58, 62, 90
ALSPACH, W. J.	22
ANDERSON, L. R.	73
ANDERSON, W. T.	21
ANDREWS, J. R.	10, 23, 39, 75, 77-81, 86, 89, 90
ANSON, W. J.	17, 25, 93
ARTHUR, M. G.	23, 41, 63, 67, 70, 84
BABJI, T.	15, 45
BACHMAN, D. D.	20
BAILEY, R. A.	88
BAIRD, R. C.	3, 4, 13, 14, 23, 84
BAKER-JARVIS, J.	19
BALDWIN, E. E.	23, 39, 75, 78, 79
BEAN, J. L.	27
BEATTY, R. W.	51, 92
BELL, B. A.	78, 79
BELSHER, D. R.	23, 37, 72, 73
BENNETT, W. S.	19
BENSEMA, W. D.	3, 22-24, 37, 38, 41, 45, 84
BEREUTER, W. A.	72
BERRY, I. S.	88
BERRY, L. A.	84
BIGELOW, J. M.	81
BLACKBURN, D.	63
BLANK, W.	80
BORSERO, M.	38
BOUILLE, R.	79
BOWMAN, R. R.	24, 25, 31, 47, 84
BOYLE, D. R.	67
BOYNE, H. S.	20, 72, 73, 85
BRANDENBERGER, H.	84
BREMER, T. H.	67
BUCHHOLZ, F. IM.	71
BURKHARD, D. G.	92
BUSSEY, H. E.	3, 19, 21, 72, 73, 84
CAMELL, D. G.	25, 39
CAMPBELL, E.	62, 65, 69, 92
CAVCEY, K. H.	6, 25, 75
CHANG, A. T. C.	72
CHANG, D. C.	6, 9, 17, 39-41, 45-47, 49, 50, 72, 74, 90
CHEW, H.	72, 84
CLAGUE, F. R.	51, 67
CLAGUE, F. R.	51
CLARK, H. E.	25, 85
COLLIER, R. S.	72, 85
COOK, C. C.	52
CORD, M. S.	92
COUNAS, G. J.	71
COUNAS, G. J.	52, 66, 67, 69, 72
CRAWFORD, M. L.	3, 12, 22, 25-29, 41-43, 46, 49, 52
CRUZ, J. E.	3, 10, 29, 39, 72, 75, 85, 92
DAY, G. W.	4
DAYWITT, W. C.	3, 4, 20, 67-71

Author Index (cont.)

<u>Name</u>	<u>Page Ref.</u>
DECKER, W. F.	29
DOBROSKI, H.	45
DOUGHERTY, H. T.	4
DRIVER, L. D.	29, 30, 36-38, 42, 52, 85
EBBESEN, H.	52
EHRET, R. L.	6, 39
EKSTROM, M. P.	79, 83
ELLERBRUCH, D. A.	20, 52, 72, 73, 85, 92
ELWELL, L. B.	64
ENGEN, G. F.	52-55, 57, 60, 65, 69
ESTIN, A. J.	3-5, 55, 69
FITZGERRELL, R. G.	5, 30, 41, 84, 85
FLANIGAN, W. F. Jr.	31
FLEMING R. W.	73
FOOTE, W. J.	55, 69, 85
FRANCIS, M. H.	5-7, 13-15
FREDERICK, N. V.	64
FRIDAY, D. S.	22, 25, 31
FRUSH, C. L.	92
GALLIANO, P. G.	15, 38, 45
GANS, W. L.	75, 78, 79
GATTERER, L. E.	51
GEYER, R. G.	19, 20, 69, 75
GIBSON, K. A.	85, 86, 89, 90
GINLEY, R. A.	55
GREENE, F. M.	31
GREENLEE, D. H.	6, 9
GRIMM, K. R.	14
GROSVENOR, JR., J. H.	75
GUERRIERI, J. R.	6, 13, 14
GUILLAUME, M. E.	82
HADORN, F.	84
HALFORD, D.	69, 84, 86
HAMILTON, C.	86
HARVEY, M. E.	94
HAYES, R. E.	86
HEIM, L.	62
HIESTER, A. E.	72
HILL, D. A.	5-7, 17, 20, 31-33, 55, 73, 86, 87, 92
HOER, C. A.	55-61, 64, 88, 90
HOLT, D. R.	58, 76, 80, 83
HONDA, T.	80
HUDSON, P. A.	33, 55, 58, 62, 65, 80
HUNTER, R. D.	55
HUNTLEY, L. E.	59
JESCH, R. L.	7, 20, 21, 33, 59, 65, 73, 87, 88, 90
JICKLING, R. M.	76, 88, 90
JOHNSON, R. B.	73
JONES, R. N.	21, 59, 60, 73, 88
JUDISH, R. M.	59, 60
JUROSHEK, J. R.	60, 61
KAISER, R. K. F.	61
KAMPER, R. A.	61
KANDA, M.	4, 6-9, 17, 20, 22, 24, 29, 33-38, 41-44, 50, 61, 67, 69-71, 80, 86, 88

Author Index (cont.)

<u>Name</u>	<u>Page Ref.</u>
KERNS, D. M.	3, 9, 13, 61
KESSEL, W.	71
KING, J.	89
KISSICK, W. A.	20, 21
KLEMPERER, W. K.	75
KOCH, M. E.	93
KOEPKE, G. H.	7, 20, 24, 27, 28, 32, 38, 39, 41
KOMAREK, E. L.	61, 62
KREMER, D. P.	6, 9, 13, 14
KUFFEL, J.	38, 89
KUKOL, R. F.	92
LADBURY, J. M.	28, 49
LARSEN, E. B.	3, 10, 20, 25, 29, 38, 39, 42, 84
LARSEN, N. T.	51, 62, 89, 94
LARSON, T. R.	70
LARSON, W.	62, 64, 66
LAWTON, R. A.	10, 21, 38, 39, 62, 75, 78, 80-83, 89, 90, 94
LEWIS, R. L.	10-12, 89
LITTLE, W. E.	20, 21, 62, 89
LIU, B. H.	39, 40
LIVINGSTON, E. M.	51, 63
LLOYD, F.	86
LOWE, L. T.	85, 92
LOWELL, W. R.	31
LUFT, P. E.	72
LYONS, R. M.	89
MA, M. T.	11, 17, 38-42, 45, 47-49
MAJOR, J. R.	63, 66
MALEWSKI, R.	38, 89
MANNEY, C. H.	51, 89
MARKS, R. B.	63
MARLER, F. E.	66
MARTZLOFF, F. D.	42
MASCLET, G.	86
MASON, H. L.	93
MASTERSON, K. D.	42
MAY, W. G.	36, 61, 86, 88
MCCAA, W. D. Jr.	78, 79, 82, 83
MCFARLANE, E. J.	14
MCLAUGHLIN, R. G.	72
MEDLEY, H. W.	24, 75
MELQUIST, D. G.	17, 33, 44, 50, 58
METZKER, R. F.	21
MEYER, K.	81
MILLER, C. K. S.	22, 42, 45, 63, 70, 71, 85, 86, 90
MONTGOMERY, J. P.	74, 90
MORGAN, W. L.	4
MORRIS, D.	19
MUTH, L. A.	11, 12
NAHMAN, N. S.	36-38, 42, 63, 76, 78-83, 90-92
NELSON, R. E.	15, 51, 90, 91
NEWELL, A. C.	3, 5, 9, 11-16, 43, 45
NORGARD, J. D.	44
ONDREJKA, A. R.	10, 17, 33, 39, 43, 49, 50, 58, 63, 65, 75, 80
ORR, R. D.	9, 17, 20, 23, 37, 38, 44, 93
PAGE, J. M.	86

Author Index (cont.)

<u>Name</u>	<u>Page Ref.</u>
PEISER, H. S.	89
PERERA, S.	3, 70
PERSINGER, R. R.	14
PETERSEN, J. D.	92
PETERSON, R.	86
POWERS, R. S. Jr.	93
RANDA, J. P.	37, 43, 44
REBULDELA, G.	52
REEVE, G. R.	14, 22-24, 30, 44, 51, 63, 67, 84
REIDY, A. R.	90
REPJAR, A. G.	3, 5, 6, 9, 13-15, 45, 72
RIAD, S. M.	75, 83
RICHMOND, J. H.	19
RIES, F. X.	37-39, 45, 52, 63, 85
RISLEY, A. S.	86
ROE, K. C.	57, 58, 64, 74, 90
ROGERS, E. H.	72
ROGERS, G. J.	90
RUMFELT, A. Y.	64
RUSSELL, D. H.	51, 64, 66
SANGSTER, R. C.	89-91
SAULSBERY, L. F.	58, 64
SAWYER, D. E.	90
SCAVENNEC, A.	82, 83, 91
SCOTT, W. W., Jr.	45, 64, 91
SEGA, R. M.	44
SELBY, M. C.	64
SEQUEIRA, H. B.	64
SHAFER, J. F.	15, 22, 39, 45, 88
SHEERAN, S.	17, 50
SHIUE, J. C.	72
SHOAF, J. H.	84, 86
SIMPSON, P. A.	45, 64, 65
SINDT, C. F.	92
SLADEK, M. J.	65
SMART, G. R.	52
SPAULDING, A. D.	22
SPECIALE, R. A.	55
SPIESS, W.	15, 45
SREENIVASIAH, I.	41, 45
STEPPE, M. C.	73
STILES, J. A.	14
STOKES, R. W.	72
STOLTENBERG, R. E.	74, 91, 94
STUBENRAUCH, C. F.	3-5, 13-15, 45
STWALLEY, W. C.	93
SUGAR, G. R.	89
TAGGART, H. E.	15, 19, 22, 46, 91
TAMURA, D. T.	45
TAUSCH, H. J.	88
THOMAS, C. L.	28, 29
TIPPET, J. C.	46
TOMOEDA, N. C.	22
TREADO, M. J.	15
TRYON, P. V.	62
VAN HEESWIJK, R.	38, 89

Author Index (cont.)

<u>Name</u>	<u>Page Ref.</u>
VANZURA, E. J.	21, 22, 46, 92
VECCHIA, D. F.	89
VERMA, K. K.	93
VOGLER, L. E.	84
WACKER, P. F.	13, 15, 16, 47, 92
WAINWRIGHT, A. E.	14, 44
WAIT, D. F.	3, 16, 67, 70, 71, 92
WAIT, J. R.	7, 17, 33, 55, 86, 87, 92
WAKEFIELD, J. P.	62, 71, 92
WEIDMAN, M. P.	65, 66, 92
WEIL, C. M.	20, 66
WEITZEL, D. H.	85, 92
WERNER, P. E.	33, 58
WHARTON, M. J.	92
WHITTEMORE, T.	78
WILDHACK, W. A.	93
WILSON, P. F.	17, 41, 42, 47-49
WILSON, W. A.	29
WITTMANN, R. C.	11, 17, 18, 74, 90, 91
WOODRUFF, J. J.	4
WORKMAN, J. L.	15, 28, 29, 91
WU, D. I.	49, 50
WU, Y.	22
WYSS, J. C.	17, 37, 50, 93
YAGHJIAN, A. D.	5, 13, 15, 17, 18, 73, 93
YATES, B. C.	52, 62, 64, 66
YODOSHIMA, I.	38
YOUNG, M.	82, 83, 94
ZALTSMAN, E. B.	19
ZAPF, T. L.	62, 94

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This bibliography lists the publications by the staff of the Electromagnetic Fields Division of the National Institute of Standards and Technology for the period January 1970 through July 1990. It supersedes NISTIR 89-3920 which listed the publications of the Electromagnetic Fields Division from January 1970 through August 1989. Selected earlier publications from the Division's predecessor organizations are included.

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