

1958 PGMTT National Symposium

The 1958 PGMTT National Symposium, sponsored by the IRE Professional Group on Microwave Theory and Techniques and hosted by the IRE San Francisco Section, will be held at Cubberley Auditorium, Stanford University, Stanford, Calif. May 5-7.

Arthur L. Aden is Symposium Chairman. Kiyo Tomiyasu is in charge of the technical program; Henry Schroeder, local arrangements; Glenn Keitel, publicity; and Theodore Moreno, finance. Members of the Steering Committee are A. L. Aden, T. N. Anderson, S. B. Cohn, W. A. Edson, H. Heffner, P. D. Lacy, J. L. Melchor, T. Moreno, W. H. Thon, K. Tomiyasu, and J. R. Whinnery.

The Technical Program Committee is K. Tomiyasu, Chairman, S. B. Cohn, E. M. T. Jones, P. D. Lacy, H. J. Shaw, P. H. Vartanian, Jr., and G. J. Wheeler.

Advance registration for this Symposium is urged. Registration fees are \$3.00 for IRE members, \$1.00 for IRE student members, and \$5.00 for nonmembers. The banquet is \$5.00 per person extra. Checks should be made payable to T. Moreno, Finance Chairman, and should be mailed to T. Moreno, Finance Chairman, 1958 PGMTT National Symposium, Varian Associates, 611 Hansen Way, Palo Alto, Calif.

PROGRAM

REGISTRATION

Mon. 8:00-8:45 A.M.

SESSION 1

Mon. 8:45 A.M.-NOON

FERRITES I

Chairman: S. SENSIPER, *Hughes Aircraft Co., Culver City, Calif.*

Opening Addresses

A. L. ADEN, *Symposium Chairman, Sylvania Microwave Physics Lab., Mountain View, Calif.*

H. H. SKILLING, *Chairman, Dept. of Elec. Eng., Stanford University, Stanford, Calif.*

W. L. PRITCHARD, *Chairman, PGMTT Administrative Committee, Raytheon Mfg. Co., Wayland, Mass.*

Applications of the Nonlinear Properties of Ferromagnetic Resonance

C. L. HOGAN, *Dept. of Applied Physics, Harvard University, Cambridge, Mass.*

Microwave Radiation from Ferrimagnetically Coupled Electrons in Transient Magnetic Fields

F. R. MORGENTHAUER, *Antenna Lab., AF Cambridge Res. Center, Bedford, Mass.*

Ferrite High-Power Effects in Waveguide

E. STERN AND R. MANGIARACINA, *Sperry Gyroscope Co., Great Neck, N. Y.*

Shape Effects in Microwave Ferrite Devices

J. L. MELCHOR AND P. H. VARTANIAN, *Microwave Engineering Labs., Inc., Palo Alto, Calif.*

Characteristics of Ferrite Microwave Limiters

G. S. UEBELE, *Hughes Aircraft Co., Culver City, Calif.*

SESSION 2

Mon. 2:00-5:00 P.M.

FERRITES II

Chairman: T. N. ANDERSON, *Airtron, Inc., Linden, N. J.*

Theory of Nonreciprocal Ferrite Phase Shifters in Dielectric-Loaded Coaxial Line

K. J. BUTTON, *Lincoln Lab., M.I.T., Lexington, Mass.*

Nonreciprocity in Dielectric Loaded TEM Mode Transmission Lines

D. FLERI AND G. HANLEY, *Sperry Gyroscope Co., Great Neck, N. Y.*

Ferrite Phase Shifter for the UHF Region

C. M. JOHNSON, *Electronic Communications, Inc., Timonium, Md.*

A Ferrite Serrrodyne for Microwave Frequency Translation

F. J. O'HARA, *Missile Systems Div., Raytheon Mfg. Co., Bedford, Mass.*, AND H. SCHARFMAN, *Research Div., Raytheon Mfg. Co., Waltham, Mass.*

Broad-Band Ferrite Rotators Using Quadruply Ridged Circular Waveguide

H. N. CHAIT AND N. G. SAKIOTIS, *U. S. Naval Res. Lab., Washington 25 D. C.*

A Broad-Band Rotational Ferrite Duplexer for Microwave Relay Applications

T. ANDERSON, K. CARR, AND E. WANTUCH, *Airtron, Inc., Cambridge, Mass.*

Broad-Band High-Power Ferrite Load Isolator for S-Band

E. N. SKOMAL, *Sylvania Microwave Physics Lab., Mountain View, Calif.*

Low-Energy Ferrite Switch

L. M. SILBER AND M. A. TREUHAFT, *Microwave Research Inst., Polytechnic Inst. Brooklyn, Brooklyn, N. Y.*

SESSION 3

Tues. 8:45 A.M.-NOON

MICROWAVE PHYSICS I

Chairman: D. D. KING, *Electronic Communications, Inc., Timonium, Md.*

The Present State of the Millimeter Wave Generation and Technique Art

P. D. COLEMAN, *Dept. of Elec. Eng., University of Illinois, Urbana, Ill.*

Millimeter-Wave Generation Utilizing Ferrites

W. P. AYRES, *Microwave Engineering Lab., Inc., Palo Alto, Calif.*

Some Characteristics of Dielectric Image Lines at Millimeter Wavelengths

J. C. WILTSE, *Radiation Lab., The Johns Hopkins University, Baltimore 2, Md.*

Microwave Properties of Gas Discharges

S. C. BROWN, *Dept. of Physics, M.I.T., Cambridge, Mass.*

Investigations of Microwave Phase Shift in Gas Discharge and Ferrite Loaded Coaxial Lines

J. ROWLEY, H. BANDEL, E. SKOMAL, A. L. ADEN, AND O. T. FUNDINGSLAND, *Sylvania Microwave Physics Lab., Mountain View, Calif.*

Recent Advances in Microwave Gas Discharge Duplexer Devices

L. GOULD, *Microwave Associates, Inc., Burlington, Mass.*

High-Power, Magnetic Field Controlled Microwave Gas Discharge Switches

S. J. TETENBAUM AND R. M. HILL, *Sylvania Microwave Physics Lab., Mountain View, Calif.*

SESSION 4

Tues. 2:00-5:00 P.M.

MICROWAVE PHYSICS II

Chairman: J. R. WHINNERY, *Dept. of Elec. Eng., University of California, Berkeley, Calif.*

Solid-State Microwave Amplifiers

H. HEFFNER, *Dept. of Elec. Eng., Stanford University, Stanford, Calif.*

On the Design of Reflection Cavity Solid-State Masers

A. L. MCWHORTER AND J. W. MEYER, *Lincoln Lab., M.I.T., Lexington, Mass.*

AUHF Solid-State Maser

R. H. KINGSTON, *Lincoln Lab., M.I.T., Lexington, Mass.*

At the Frontiers in Radio Astronomy

H. I. EWEN, *Ewen Knight Corp., Needham Heights, Mass.*

A Microwave Frequency Standard Employing Optically Pumped Sodium Vapor

W. E. BELL, A. BLOOM, AND R. WILLIAMS, *Varian Associates, Palo Alto, Calif.*

SYMPOSIUM BANQUET

Place—Rickey's Studio Inn, Rose Room, 4219 El Camino Real, Palo Alto, Calif.

Time—Tuesday, Cocktail Hour: 6:00-7:00 P.M., Dinner: 7:00 P.M.

Toastmaster—M. LEIFER, *Chairman, San Francisco Section, IRE, Sylvania Electric Products, Mountain View, Calif.*

Opening Address—F. E. TERMAN, *Dean of Engineering and Provost, Stanford University, Stanford, Calif.*

Microwave Prize—Announced by W. L. PRITCHARD, *Chairman, PGMTT Administrative Committee, Raytheon Mfg. Co., Wayland, Mass.*

Industry's Role In Basic Research
C. G. SUITS, *Vice-President and Director of Res., General Electric Res. Lab., Schenectady, N.Y.*

SESSION 5

Wed. 8:45 A.M.—NOON

MICROWAVE TECHNIQUES

Chairman: T. S. SAAD, *Sage Labs., Inc., Wellesley, Mass.*

How to Explain the Smith Chart to a Digital Computer

L. YOUNG, *Westinghouse Electric Corp., Baltimore 3, Md.*

Measurement of Two-Mode Discontinuities in a Multimode Waveguide by a Resonance Technique

L. B. FELSEN, W. K. KAHN, AND L. LEVEY, *Microwave Res. Inst. Polytechnic Inst. Brooklyn, Brooklyn, N.Y.*

Mode Couplers and Multimodal Measurement Techniques

D. J. LEWIS, *Moore School of Elec. Eng., University of Pennsylvania, Philadelphia 4, Pa.*

Measurement of Harmonic Power Generated by Microwave Transmitters

V. G. PRICE, *General Electric Microwave Lab., Palo Alto, Calif.*

Design Data for Optimum Multicoupler Networks

J. F. CLINE AND B. M. SCHIFFMAN, *Stanford Res. Inst. Menlo Park, Calif.*

A Wide-Band Strip-Line Balun

E. M. T. JONES AND J. K. SHIMIZU, *Stanford Res. Inst., Menlo Park, Calif.*

Periodic Structures in Trough Waveguide

A. A. OLINER, *Microwave Res. Inst., Polytechnic Inst. Brooklyn, Brooklyn, N.Y.*, AND W. ROTMAN, *AF Cambridge Res. Center, Bedford, Mass.*

A Study of a Serrated-Ridged Waveguide

H. S. KIRSCHBAUM, *Battelle Memorial Inst., Columbus, Ohio*, AND R. TSU, *Ohio State University, Columbus, Ohio*

SESSION 6

Wed.

2:00–5:00 P.M.

MICROWAVE FILTERS

Chairman: W. W. MUMFORD, *Bell Telephone Labs., Whippany, N.J.*

Design Considerations for High-Power Microwave Filters

S. B. COHN, *Stanford Res. Inst., Menlo Park, Calif.*

Waveguide Filter for Suppressing Spurious Transmission from High-Power S-Band Radar

H. A. WHEELER AND H. L. BACHMAN, *Wheeler Labs., Great Neck, N.Y.*

High-Power Filters Using Higher-Order Mode Resonance

J. H. VOGELMAN, *Rome Air Development Center, Griffiss Air Force Base, N.Y.*

Hybrid Junction-Cutoff Waveguide Filters

E. N. TORGOW, *Microwave Res. Inst., Polytechnic Inst. Brooklyn, Brooklyn, N.Y.*

Corrugated-Waveguide Filters with Specified Stop-Band Characteristics

M. CRANE AND D. GRACE, *Electronics Labs., Stanford University, Stanford, Calif.*

Practical Design of Strip-Line Half-Wavelength Resonator Directional Filters

R. D. WANSELOW AND L. P. TUTTLE, *Melpa Inc., Falls Church, Va.*

