Contributors

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George Oltman (A'50–M'55–SM'57) was born in Brookhaven, Miss., on October 6, 1927. He received the B.S. and M.S. degrees in physics from the University of New Mexico, Albuquerque, in 1950 and 1954, respectively.

From 1947 to 1957, he was with Sandia Corp., in Albuquerque, N. Mex., except for a year's leave of absence in 1952, during which he was an instructor at the University of New Mexico. At Sandia he was employed in the Ballistic Weapons Analysis Section and later joined the Staff of the Antenna Department. There he engaged in the design and development of UHF antenna and transmission line components. In 1957 he became Head of the Antenna Group of Electronic Specialty Co., Los Angeles, Calif. He joined Rantec Corp., Calabasas, Calif., in 1958, as a Senior Project Engineer engaging in microwave diagnostics of plasmas and development of microwave antennas, filters, and components. Since 1961, he has been with the Research Division of TRW Systems, Redondo Beach, Calif., working on microwave electroacoustic interactions in solids, millimeter wave components, electron beam tubes, and antennas.

Mr. Oltman is Past-Chairman of both the Los Angeles and Albuquerque-Los Alamos chapters of the Antennas and Propagation Group. He was elected to Kappa Mu Epsilon, is a member of the American Physical Society, and a fellow of the British Interplanetary Society. He is a Registered Professional Engineer in the State of New Mexico.

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He was an instructor in Electrical Engineering at N.Y.U., teaching undergraduate fields and circuits classes, as well as engaging in government-sponsored research. He is at present an Assistant Professor of Electrical Engineering at the University of Tennessee, Knoxville. He has made research studies of transmission lines and of electronic oscillators. Most recently, his work has been on field and circuit analyses of periodic waveguides.

Dr. Rosenberg is a member of Sigma Xi.

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S. R. Seshadri (SM'61) was born in Madras, India, on October 25, 1928. He received the M.A. degree in physics from the University of Madras, India, and the diploma in electrical communication engineering from the Indian Institute of Science, Bangalore, India, in 1951 and 1953, respectively. He received the Ph.D. degree in applied physics from Harvard University, Cambridge, Mass., in 1959.

From 1954 to 1955, he served as a Lecturer in Electronics at the Madras Institute of Technology, Chromepet, Madras, India. He was a Research Fellow in Electronics at Harvard University during 1959. In 1960, he joined the Electronics Research and Development Establishment, Bangalore, India, as a Senior Scientific Officer, and in 1961 he was made a Principal Scientific Officer and transferred to the Defense Electronics Research Laboratory, Hyberabad, India. He rejoined the Gordon McKay Laboratory, Harvard University, where he served as a Research Fellow from July, 1961, to July, 1963. Presently, he is at the Applied Research Laboratory, Sylvania Electronic Systems, Waltham, Mass.

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From 1950 to 1954 he was head of the Radar Department of the Manufacture

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R. E. Van Doeren was born in Tulsa, Okla., on March 31, 1937. He received the B.Sc. degree in geophysics from the Colorado School of Mines, Golden, in 1960, and the M.Sc. degree in electrical engineering from the Ohio State University, Columbus, in 1964.

From 1960 to 1964 he worked as a physicist in the Radome Group at the U. S. Naval Air Development Center, Johnsville, Pa., where he was engaged in research and development pertaining to radomes, microwave antennas, and microwave measurements. In 1964 he joined the Ohio State University Antenna Laboratory where he has been primarily concerned with research on polarization phenomena.

Mr. Van Doeren is an associate member of Sigma Xi.

Microwave Abstracts

Based on technical merit and timeliness, microwave papers in journals published outside the United States have been selected and compiled below, many with annotations. Reprints of the papers may be obtainable by writing directly to the author or to the source quoted. The papers are in English unless noted otherwise.

—K. Tomiyasu, *Associate Editor for Abstracts*

Papers from Journals Published in Japan

Compiled by Professor H. Iwakata, Waseda University, Tokyo, and his committee[1]

25

Measurement of Total Cross Section of Water Drops at 5 mm Wavelength Utilizing the "Shadow Theorem" by K. Funakawa (Radio Research Laboratories, Ministry of Posts & Telecommunications, Tokyo, Japan); *J. Inst. Elect. Commun. Engrs. Japan*, vol. 48, pp. 1440–1446, August 1965.

Method of measurement of total cross section of water drops and the results are given and compared with theoretical calculations. (In Japanese.) (See earlier Microwave Abstract 1966–14.)

26

Traveling-Wave Phase Modulation of Coherent Light by T. Matsumoto, M. Suzuki, and Y. Kinoshita (Faculty of Engineering, Hokkaido Univ., Sapporo, Japan); *J. Inst. Elect. Commun. Engrs. Japan*, vol. 48, pp. 1511–1516, September 1965.

Theoretical analysis of plane wave propagation in an anisotropic medium having variable parameters of time and position. (In Japanese.)

[1] T. Iijima, Y. Kasai, T. Nakahara, B. Oguchi, S. Okamura, T. Sekiguchi, K. Suetake, and A. Uchiyama.

27

Delay Equalizer Using Tapered Cutoff Waveguide by F. Ishihara and N. Ishida (Electrical Communication Laboratory, Musashino, Tokyo, Japan; Waseda Univ., Tokyo, Japan); *J. Inst. Elect. Commun. Engrs. Japan*, vol. 48, pp. 1543–1550, September 1965.

Theoretical analysis and experimental results are given on a phase equalizer using tapered waveguide. Design data are also given and confirmed by experiments. (In Japanese.)

28

On Resonance in Slightly Tilted Waveguide by T. Itakura and K. Yasuura (Faculty of Engineering, Kyushu Univ., Fukuoka, Japan); *J. Inst. Elect. Commun. Engrs. Japan*, vol. 48, pp. 1629–1639, October 1965.

A new approximate method using a concept of perfect wave functions is given on the analysis of boundary value problems. Two-dimensional waveguide with tilt is analyzed as an example. (In Japanese.)

29

Analysis of the Idealized Light Waveguide Using Gas Lens by Y. Suematsu and H. Fukinuki (Department of Electronics, Tokyo Institute of Technology, Tokyo, Japan); *J. Inst. Elect. Commun. Engrs. Japan*, vol. 48, pp. 1684–1690, October 1965.

Theoretical analysis of the response for Hermite or Laguerre-Gaussian waves in a beam waveguide by a new concept of *F*-matrix similar to the *F*-matrix of a transmission line. (In Japanese.)

30

Electromagnetic Fields in Anisotropic Plasmaguides Considering Electron Collision Losses by M. Ohkubo (Faculty of Engineering, Gumma Univ., Kiryu, Gumma, Japan); *J. Inst. Elect. Engrs. Japan*, vol. 85, pp. 1776–1780, October 1965.

Effects of electron collisions on the transmission characteristics of waveguide filled with an anisotropic medium are theoretically analyzed. (In Japanese.)

31

Broad Band and High Efficiency Thermistor Mounts for Millimeter Wave Frequencies by Toshio Aoki, Seizo Azuma, and Sousuke Ishii (Hitachi Electronics Co., Ltd., Kodaira, Tokyo, Japan); *The Hitachi Hyoron*, vol. 47, no. 10, pp. 38–43, October 1964.

Broadband and high efficiency power meter with improved thermistor beads and new type mounts for 35, 50, and 100 Gc/s bands. (In Japanese.)

32

On Observations of the Upper Atmosphere by Ruby Laser by K. Nishikori, T. Ishida, K. Uchikura, K. Muranaga, M. Ichinose, Y. Masuda, T. Nagatake, T. Igarashi, and M. Hirono (Radio Research Laboratories, Kokubunji, Tokyo, Japan); *Rev. Radio Research Labs.*, vol. 11, no. 54, pp. 119–131, May 1965.

Method of observation and results of preliminary experiments on the upper atmosphere using a laser are described. (In Japanese, English summary.)