

## Contributors to This Issue

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P. M. EBERT, B.S., 1958, University of Wisconsin; S.M., 1962, Sc.D., 1965, Massachusetts Institute of Technology; Bell Telephone Laboratories, 1965—. Mr. Ebert has worked on problems in communications and information theory. Member, IEEE.

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D. C. HOGG, B. Sc., 1949, University of Western Ontario; M. Sc., 1950, Ph.D., 1953, McGill University; Bell Telephone Laboratories, 1953—. His work has included studies of artificial dielectrics for microwaves, diffraction of microwaves, and over-the-horizon, millimeter wave and optical propagation, sky noise and low-noise antennas. Fellow, IEEE, Chairman U. S. Commission 2 of Union de Radio Scientifique Internationale, Sigma Xi, American Association for the Advancement of Science.

HERWIG KOGELNIK, Dipl. -Ing. (electronic engineering), 1955, Dr. Techn., 1958, Technische Hochschule Wien, Austria; Ph.D., 1960, Oxford University, England. From 1955 to 1958 he was Assistant Professor at the Institut fur Hochfrequenztechnik in Vienna, engaged

in microwave research and teaching. He won a British Council Scholarship to Oxford, 1958 to 1960, where he did research on electromagnetic radiation in magnetoplasmas and anisotropic media.

He joined Bell Telephone Laboratories in 1961, where he has been concerned with laser and holography research. He is head of the Coherent Optics Research Department. Member, American Physical Society, Elektrotechnischer Verein Osterreichs (Austria), IEEE.

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BROCKWAY McMILLAN, B. S. (mathematics), 1936, and Ph.D. (mathematics), 1939, Massachusetts Institute of Technology; instructor at M. I. T. and Princeton University, 1939-1943; Bell Telephone Laboratories, 1946—. Mr. McMillan was Assistant Secretary of the United States Air Force for Research and Development, 1961-63, and Under Secretary of the Air Force, 1963-65.

Mr. McMillan has served with a number of government agencies in advisory and consulting capacities. From September 1958 to March 1959 he was consultant to the White House office reporting to the President's Special Assistant for Science and Technology. Before that he had been associated with the Office of the Assistant Secretary of Defense

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He is now Vice President of Military Development at Bell Telephone Laboratories, and is in charge of the North Carolina Laboratories, Defense Systems, the Field Operations and Support Division, and the Safeguard Design Division.

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HARRISON E. ROWE, B.S., 1948, M.S., 1950, and Sc.D., 1952, Massachusetts Institute of Technology; Bell Telephone Laboratories, 1952—. His fields of interest have included parametric amplifier theory, noise and communication theory, propagation in random media, and related problems in waveguide, radio, and optical systems. Senior member, IEEE; member, Sigma Xi, Tau Beta Pi, Eta Kappa Nu.

J. SALZ, B.S.E.E., 1955, M.S.E., 1956, Ph.D., 1961, University of Florida; Bell Telephone Laboratories, 1961—. He first worked on the remote line concentrators for the electronic switching system. He has since engaged in theoretical studies of data transmission systems. During the academic year 1967-68 he was on leave as Professor of Electrical Engineering at the University of Florida. Member, IEEE, Sigma Xi.

IRWIN W. SANDBERG, B.E.E., 1955, M.E.E., 1956, and D.E.E., 1958, Polytechnic Institute of Brooklyn; Bell Telephone Laboratories, 1958—. Mr. Sandberg has been concerned with analysis of military systems, synthesis and analysis of active and time-varying networks, studies of properties of nonlinear systems, and some problems in communication theory and numerical analysis. He is head of the Systems Theory Re-

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