

Contributors to This Issue

R. B. BLACKMAN, A.B., 1926, California Institute of Technology; Bell Telephone Laboratories, 1926—. Mr. Blackman was first engaged in physical research in hearing, acoustics, and electromechanical filters. He later worked in applied mathematical research, specializing in linear networks and feedback amplifiers. Since 1940, he has been engaged in the development of data-smoothing and prediction techniques for various military and satellite projects. Member, AAAS and Tau Beta Pi; Fellow, IEEE.

FANG-SHANG CHEN, B.S., 1951, National Taiwan University; M.S. E.E., 1955, Purdue University; Ph.D., 1959, The Ohio State University; Bell Telephone Laboratories, 1959—. He has engaged in the development of ferrite devices, traveling-wave masers, and more recently in optical modulation. Member, Tau Beta Pi, Sigma Xi and IEEE.

FRANZ TH. GEYLING, B.S. (Civil Eng.), 1950, M.S. (Civil Eng.), 1951, and Ph.D. (Eng. Mechanics), 1954, Stanford University; Bell Telephone Laboratories, 1954—. He was initially engaged in photoelastic stress analysis and shell theory. Since 1958, his work has been concerned with the ballistics of satellites and space vehicles, including analytic perturbation studies, tracking, orbit determination and guidance studies, and the writing of large-scale computer programs for the digital simulation of space flight missions. He is coauthoring a book on the dynamics of space vehicles. His other areas of responsibility have been blast studies, the analysis of large antenna structures, and hypervelocity impact studies. Member, AIAA, ASME, International Association for Bridge and Structural Engineering and Tau Beta Pi.

RICHARD F. GRANTGES, B.S., B.E.E., 1953, University of Minnesota; Bell Telephone Laboratories, 1953—. Mr. Grantges was first engaged in systems engineering studies of bandwidth reduction techniques for submarine cable systems and early studies of digital transmission in the exchange area plant which led to the T1 carrier system. Since 1958 he has participated in the systems engineering of No. 1 ESS, particularly the

design and engineering of the switching network. At present he supervises a group working on mechanized engineering, ESS network and peripheral equipment studies. Member, Tau Beta Pi, Eta Kappa Nu and IEEE.

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GORDON W. MILLS, B.E.E., 1950, University of Dayton; M.S. (Physics), 1962, Ohio State University. Mr. Mills worked with the University of Dayton Research Institute on nuclear weapons tests for the U. S. Air Force, 1952–1959. He joined Bell Laboratories in 1960 and has been principally concerned with connection reliability and contact studies.

T. J. NELSON, B.S., 1961, Iowa State University; M.E.E., 1963, New York University; Bell Telephone Laboratories, 1961—. Mr. Nelson has worked on ultrasonic delay lines and digital light deflection. At present he is on leave of absence to study physics at Iowa State University.

MICHAEL RAPPEPORT, B.S., 1957, Rensselaer Polytechnic Institute; M.E.E. 1958, Yale University; Bell Telephone Laboratories, 1959—. Since joining Bell Laboratories, Mr. Rapoport has been working on various analytic approaches to data transmission systems, stressing simulation approaches to studying such systems. Member, IEEE and Institute of Mathematical Statistics.

IRWIN W. SANDBERG, B.E.E., 1955, M.E.E., 1956, and D.E.E., 1958, Polytechnic Institute of Brooklyn; Bell Telephone Laboratories, 1958—. He has been concerned with analysis of military systems, particu-

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NORMAN R. SINOWITZ, B.A., 1957, Yeshiva University; M.S., 1960, New York University; New York University Medical Center, 1958–1960; Bell Telephone Laboratories, 1960—. At the Medical Center he was engaged in research in radiological physics. Since joining Bell Laboratories he has been primarily concerned with electronic switching systems control and network engineering studies. Member, Association for Computing Machinery.

FRIEDOLF M. SMITS, Dipl. Phys., 1950, Dr. rer. nat., 1950, University of Freiburg, Germany; research associate, Physikalisches Institute, University of Freiburg, 1950–54; Bell Telephone Laboratories, 1954–62. Mr. Smits went to the Sandia Corporation in May, 1962. His work at Bell Laboratories included studies of solid-state diffusion in germanium and silicon, device feasibility, and process studies, as well as the development of UHF semiconductor devices. He supervised a group that conducted radiation damage studies on components, particularly solar cells, used in the Telstar satellite. Member, American Physical Society and German Physical Society.

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