

contributors



J. Appel-Hansen was born in Farendløse, Denmark, on March 13, 1937. He received the M.S. degree in electrical engineering in 1962 from the Technical University of Denmark, Lyngby.

From 1962 to 1964, he was in the Danish Army. In 1964 he joined the Laboratory of Electromagnetic Theory, Technical University of Denmark, where he currently is working toward the Licentiate's degree. Since 1965 he has worked as assistant at the Radio Anechoic Chamber, Technical University of Denmark.

Mr. Appel-Hansen is a member of the Society of Danish Engineers.



Joel E. Becker (S'53-M'56-SM'66) was born in New York, N. Y., on April 7, 1934. He received the B.E.E. and M.E.E. degrees from the Polytechnic Institute of Brooklyn, N. Y., in 1955 and 1960, respectively.

Since 1955 he has been employed by the Wheeler Laboratories, Smithtown, N. Y., where he is presently a Senior Development Engineer. His initial assignments included development of various communication antennas, work on a waveguide multiplex system, design of horn and flush missile antennas, and development of an optimum monopulse feed utilizing multimode techniques. He has supervised the de-

sign of a novel double-layer pillbox antenna and, more recently, has been in charge of a program for development of test antennas and techniques to be used in the evaluation of a large array radar. For the past four years he has also supervised several projects involving design of radar fences to control site environment.

Mr. Becker is a member of Eta Kappa Nu and Tau Beta Pi.



Sidney L. Borison (AM'65) was born in Omaha, Nebr., on August 30, 1935. He received the B.S. degree in physics and the Ph.D. degree in theoretical physics from the Massachusetts Institute of Technology, Cambridge, in 1957 and 1961, respectively.

From 1961 to 1962 he was a Research Assistant Professor in the Physics Department of the University of Washington, Seattle, where he was engaged in research in high-energy field theory. In 1962, he joined the staff of the M.I.T. Lincoln Laboratory, Lexington, where he has been concerned with scattering and propagation studies related to radar systems.

Dr. Borison is a member of the American Physical Society.



C. L. Chen (S'64-M'66), for a photograph and biography please see page 411 of the May, 1966, issue of these TRANSACTIONS.



John J. Bowman was born in Chicago, Ill., on May 10, 1936. He received the B.S. degree in physics from The University of Chicago, Chicago Ill., in 1958 and the M.A. degree in physics from Dartmouth College, Hanover, N. H.,

in 1960. During the following two years, 1960 to 1962, he completed the course requirements for the Ph.D. degree in physics at The University of Michigan, Ann Arbor.

From 1962 to 1965 he was employed by the Conductron Corporation, Ann Arbor, Mich., where he participated in research in electromagnetic theory. In July 1965 he joined the research staff of the University of Michigan Radiation Laboratory and is presently investigating radar cross section reduction techniques and direct and inverse scattering problems.

Mr. Bowman is a member of the American Association of Physics Teachers and Sigma Xi.



Janis Galejs (A'52-M'57), for a photograph and biography please see page 256 of the March, 1966, issue of these TRANSACTIONS.

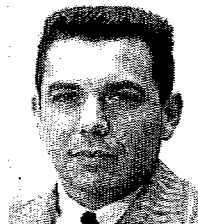


Tove Larsen was born in Copenhagen, Denmark, on April 23, 1930. She received the M.S. degree in electrical engineering (telecommunications) in 1955 and the Licentiate's degree in 1963, both from the Technical

University of Denmark, Lyngby.

From 1955 to 1958 she was with the Microwave Laboratory of the Danish Academy of Technical Sciences, Copenhagen. Since 1958 she has been with the Laboratory of Electromagnetic Theory at the Technical University of Denmark, except for a three-month period in 1964, when she worked at the Department of Electrical Engineering, University of Colorado, Boulder.

Mrs. Larsen is a member of the Society of Danish Engineers.



Dale W. Milligan (S'60-M'61) was born in Covington, Okla., on February 26, 1936. He received the B.S.E.E. degree in 1961 and the M.S.E.E. degree in 1962, both from Oklahoma State University, Stillwater.

He joined Lockheed Aircraft Co., Burbank, Calif., in 1962. While a Research Engineer for Lockheed, he worked in the Antenna Department doing independent research studies on slot array antennas. From 1963 to 1965 he was responsible for system analysis, application, and design of antenna systems for Northrop Ventura, Newbury Park, Calif. In 1965 he joined Northrop Nortronics Applied Research Department. In current work, he is engaged in electromagnetic studies with special emphasis on the design of antennas for electronic countermeasures and communications systems. He is continuing graduate engineering studies at the University of California, Los Angeles.

Mr. Milligan is a Registered Professional Engineer in training in the State of Oklahoma.

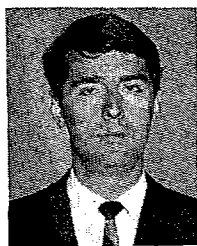


Donald R. Rhodes (S'44-A'47-SM'57) was born in Detroit, Mich., on December 31, 1923. He received the B.E.E., M.Sc., and Ph.D. degrees from The Ohio State University, Columbus, in 1945, 1947, and 1953, respectively.

He was a Member of the Technical staff of the Antenna Laboratory at The Ohio State University from 1944 to 1954, of the Cornell Aeronautical Laboratories, Buffalo, N. Y., from 1954 to 1957, and of Radiation Inc., in Orlando and Melbourne, Fla. from 1957 to 1966. He is now Professor of Electrical Engineering at North Carolina State University, Raleigh, N. C. His principal contributions have been in the fields of antennas and monopulse.

Jack H. Richmond (S'49-M'56-SM'59) for a photograph and biography, please see page 522 of the July, 1966, issue of these TRANSACTIONS.

S. R. Seshadri (SM'61), for a photograph and biography please see page 412 of the May, 1966, issue of these TRANSACTIONS.



Jean-Claude Sureau (S'60-M'62) was born in Loudun, France, on September 19, 1941. He received the B.E.E. and M.S. (in electro-physics) degrees from the Polytechnic Institute of Brooklyn, N. Y., in 1961 and 1964, respectively.

From 1961 to 1965 he was employed by the Wheeler Laboratories, Smithtown, N. Y. He is presently with the RF Engineering Advanced Development Group at Grumman Aircraft Engineering Corp., Bethpage, N. Y., where he is working on flush-mounted antennas suitable for aircraft applications. He is also engaged in part-time doctoral studies at the Polytechnic Institute of Brooklyn.

Mr. Sureau is a member of Tau Beta Pi and Eta Kappa Nu and an associate member of Sigma Xi.

James R. Wait (SM'56-F'62), for a photograph and biography please see page 413 of the May, 1966, issue of these TRANSACTIONS.



Robert D. Wanselow (S'52-M'55-SM'61) was born in Mineola, N. Y., on June 21, 1930. He received the B.A. and B.S.E.E. degrees in 1953 and the M.S.E.E. degree in 1955, all from Columbia University, New York N. Y.

He was a Graduate Assistant in the Engineering School at Columbia while working for his advanced degree. In 1955 he joined the Hughes Aircraft Co., Culver City, Calif. As a Research Engineer he instructed engineers on Hughes' most advanced fire control systems. In 1957 he joined Melpar, Inc., Falls Church, Va., as a Senior Engineer, where he was engaged in research and development work on microwave components and antennas for electronic countermeasures systems. From 1958 to 1960 he was with Bendix Corp., North Hollywood, Calif., as a Principal Engineer engaged in the super-

vision of design and development work of microwave systems and antennas for several missile and aircraft electronic systems. He rejoined Hughes in 1960 as a Project Engineer in circuit research on traveling-wave tubes and various noise studies. In 1964 he joined Northrop Ventura and later was transferred to the Northrop Nortronics Applied Research Department, Newbury Park, Calif., as a Principal Engineer in the Electromagnetics Group. He is presently engaged in the RF design of high-frequency antennas and systems and electromagnetic pulse work.

Mr. Wanselow is a member of the American Physical Society, The American Institute of Aeronautics and Astronautics, and the American Geophysical Union. He is also an associate member of the Optical Society of America and the Acoustical Society of America.



Stephen D. Weiner was born in Philadelphia, Pa., on January 1, 1941. He received the B.S. and Ph.D. degrees in physics from the Massachusetts Institute of Technology, Cambridge, in 1961 and 1965, respectively.

He is presently with the M.I.T. Lincoln Laboratory, Lexington, where he is working primarily in the area of electromagnetic scattering. His previous experience has been in the areas of acoustics and plasma physics.

Dr. Weiner is a member of Sigma Xi.



Vaughn H. Weston was born in Parry Sound, Ontario, Canada, on May 1, 1931. He received the M.A. and Ph.D. degrees in applied mathematics from the University of Toronto, Ontario, in 1954 and 1956, respectively.

He served as Research Assistant for the Defence Research Board of Canada, at the University of Toronto, and as Lecturer in Applied Mathematics. In 1958 he joined the Radiation Laboratory of the University of Michigan, Ann Arbor, where he worked on many diverse problems in diffraction theory. In 1961 he joined Conduction Corp., Ann Arbor, Mich., as Head of the Applied Mathematics Dept., directing research in the area of radar absorbers and antennas. He is presently at the Radiation Laboratory, having returned to the University of Michigan in 1964.

Dr. Weston is a member of Commission VI of URSI (International Scientific Radio Union), and is listed in *American Men of Science*.



Harold A. Wheeler (A'27 - M'28 - F'35) was born in St. Paul, Minn., on May 10, 1903. He received the B.S. degree in physics in 1925 from George Washington University, Washington, D. C., and continued post-graduate studies until 1928 at The Johns Hopkins University, Baltimore, Md.

He was employed by the Hazeltine Corp. from 1924 to 1946, advancing to Vice-President and Chief Consulting Engineer. In 1959, he resumed activity with this company as a Director, and is now Chairman of the Board and Chief Executive Officer. Since 1947, he has been President of Wheeler Laboratories, Inc., Great Neck, N. Y., now a subsidiary of Hazeltine Corp. In this capacity, he is directing their Great Neck and Smithtown laboratories, specializing in microwaves and antennas. His activity in the field of antennas dates back to 1935, with wide-band designs for "all-wave" receivers. For his work on unusual antennas in IFF radar during World War II, he received the Navy Certificate of Commendation. This specialization has continued on problems such as "small" antennas, VLF antennas for high-power transmission and submarine reception, underground antennas, linear arrays of various kinds, and large planar arrays with phasing for beam steering. He has served the IRE in such

positions as Director (1934, 1940-1945) and chairman of the Standards Committee; he has contributed many papers to IRE periodicals and received the Morris N. Liebmann Memorial Prize from the IRE in 1940. In 1964, he was awarded the Medal of Honor by the IEEE and the Armstrong Medal by the Radio Club of America. He has been granted 180 U. S. patents and many foreign patents.

Mr. Wheeler is a fellow of the Radio Club of America, an associate member of IEE (British), and a member of Sigma Xi and Tau Beta Pi.



John W. Wright was born in Paterson, N. J., on October 20, 1929. He received the B.S. degree in general science in 1951, and the Ph.D. degree from the Massachusetts Institute of Technology, Cambridge, Mass., in 1961.

Since 1956, he has been engaged in research at the U. S. Naval Laboratory, Washington, D. C., on radar absorbent materials and electromagnetic scattering from bodies of diverse dielectric and magnetic properties. The current emphasis of his research is on the backscatter from water waves.



Henry Zucker (M'58) was born in Poland on November 25, 1922. He received a Diplom-Ingenieur degree in communication engineering from the Technische Hochschule, Munich, Germany, in 1950, and the M.S. and

Ph.D. degrees in electrical engineering in 1954 and 1959, respectively, both from Illinois Institute of Technology, Chicago.

From 1951 to 1952 he was employed by Radio Craftsmen, from 1952 to 1953 by the Admiral Corp., and from 1953 to 1956 by the Raytheon Manufacturing Co., all in Chicago, Ill. During this time he was concerned with the design and development of black and white and color TV receiver components and circuits. From 1956 to 1964 he has been associated with Armour Research Foundation, Chicago, where he has been engaged in the development of UHF and microwave components, antenna analysis, and also in electromagnetic wave propagation in nonuniform and time varying dielectric media. From 1959 to 1961 he was also Assistant Professor at Illinois Institute of Technology. Since 1964, he has been associated with Bell Telephone Laboratories, Whippany, N. J.

Dr. Zucker is a member of Eta Kappa Nu and Sigma Xi.

Selected Papers on Antennas and Propagation

This section of the TRANSACTIONS presents a selection of papers on Antennas and Propagation published outside of the United States. Specifically, contributions in French, German, and Italian are included and also contributions in Russian and Japanese that are available in translation. When necessary, a short abstract is added to complement the title.

Georges A. Deschamps, *Selected Abstract Editor*
University of Illinois, Urbana, Ill.

Antennes plaquées à rayonnement axial, excitées par couplage progressif, E. Spitz, J. Ernvein-Pecquenard. *Ann. Radioélectricité*, vol. 20, pp. 25-48, January 1965.

Excitation of a surface wave by progressive coupling along thin dielectric strips laid on a metal surface permits the construction of flat end-fire aerials suitable for mounting on airborne vehicles. (In French)

Les antennes aplanétiques à deux réflecteurs, S. Landesman. *Ann. Radioélectricité*, vol. 20, pp. 95-100, April 1965.

The shape of two reflectors with symmetry of revolution is determined from the condition of aplanatism. (In French)

A special issue of *L'Onde Electrique* (vol. 45, May 1965) contains the following papers relative to antennas.

Concepts nouveaux en radar, H. Carpentier, pp. 537-539.

Rôle de la fonction d'ambiguïté dans les radars, C. Skenderoff, pp. 540-544.

Signaux radar et ambiguïté, A. Adamsbaum, pp. 545-549.

Applications aux antennes de la théorie du signal, S. Drabowitch, pp. 550-560.

Nouvelles conceptions du radar. Antennes synthétiques et application aux radars à vision latérale, G. Revillon, pp. 561-567.

Progrès des antennes radar, S. Landesman, pp. 568-573.

These papers contain a review of recent developments in radar: synthetic apertures, data processing, ambiguity functions, and new types of antennas. (In French, English abstracts)

Le radiateur électromagnétique sphéroïdal allongé, L. Robin. *L'Onde Electrique*, vol. 45, pp. 1338-1344, November 1965.

Some numerical computations of the radiation resistance of a very long conducting ellipsoid driven across its equator. (In French, English abstract)

A special issue of *L'Onde Electrique* (vol. 45, December 1965) is devoted to papers presented at the Colloquium on Antennas in Ionized Media held in Paris, January, 1965, under the sponsorship of the French Centre National d'Etudes Spatiales (CNES). The issue contains the following papers.

I. Rayonnement et diffraction

Rayonnement d'une antenne dans un milieu anisotrope, G. A. Deschamps, pp. 1379-1385.

Rayonnement et diffraction dans des régions anisotropes, L. B. Felsen, pp. 1386-1392.

Diffraction d'une onde électromagnétique plane par un cylindre de plasma inhomogène, P. E. Faugeras, pp. 1393-1396.

II. Impédances

Étude des calculs et mesures d'impédance d'antennes en milieu ionisé, H. Weil, pp. 1397-1403.

Impédance d'une antenne cylindrique dans un magneto-plasma avec pertes, J. P. Lafon, pp. 1404-1408.

Théorie du bruit thermique dans l'ionosphère, K. G. Budden, G. J. Daniell, pp. 1409-1420.

Antennes métalliques dipôles cylindriques et tronconiques pour la réception d'ondes très basses fréquences: Théorie de leur comportement dans l'ionosphère, G. Driancourt, pp. 1421-1426.

Antenne électrique dipôle pour réception TBF dans l'ionosphère, L. R. O. Storey, pp. 1427-1435.

Puissance non réversible et résistance de rayonnement des antennes dans les gaz ionisés anisotropes, K. S. H. Lee, C. A. Papas, p. 1436.

III. Phénomènes liés au rayonnement

Excitation de résonance de plasma par une petite antenne dipôle fonctionnant en impulsion, J. A. Fejer, pp. 1437-1445.

Propagations d'ondes électromagnétiques dans le milieu ionisé entourant un engin hypersonique, J. Dorey, pp. 1446-1450.

Effets de l'ionisation frontale sur la transmission pendant le vol, Eldo S. L. V., D. Cunsolo, A. Gilardini, pp. 1451-1458.

Méthode de similitude pour déterminer les seuils de décharge dans les systèmes électromagnétiques, C. Ancona, pp. 1459-1464.

Effets de rupture de gaine des antennes, à haute altitude, I. L. Jones, pp. 1465-1470.

IV. Résultats expérimentaux

Mesures de l'admittance d'une antenne dans l'ionosphère, E. N. Bramley, pp. 1471-1474.

Mesures à basse fréquence de l'admittance d'un dipôle dans l'ionosphère, T. R. Kaiser, J. K. E. Tunaley, pp. 1475-1479.

Les effets d'ionisation dus à la traînée des gaz éjectés par les moteurs arrière de la fusée sur les communications radio avec le premier étage du véhicule de lancement du satellite européen, H. Williams.

La sonde à résonance, D. Lepechinsky, pp. 1480-1485.

(In French, English Abstracts)

Ferritstiftantennen als dielektrische Strahler in Mikrowellenbereich, H. Gruber and P. Koppatz. *Hochfrequenztechnik und Elektroakustik*, vol. 74, pp. 83-89, June 1965.

Ferrite rod antennas are used as dielectric radiators in the microwave region. (In German)

Measurement of some characteristic parameters of AM ionospheric waves, M. Mancianti, G. Marchetti, U. Mengali, and G. Salardi. *Alla Frequenza*, vol. 34, pp. 144-147, February 1965.

Experimental method for measuring the distortion due to multipath fading. (In English)

Evaluation of the Q of an antenna, G. Borgiotti. *Alla Frequenza*, vol. 34, pp. 152-154, February 1965.

Uses the spectral representation of the fields radiated by a planar aperture to derive an expression for the Q. (In English)

Radiation pattern of two style antenna based on a spherical perfect conductor, P. Brusaglioni and A. Consortini. *Alla Frequenza*, vol. 34, pp. 198-203, March 1965.

The two "styles" are monopoles placed adially and balance fed against the sphere. A sinusoidal current is assumed. (In Italian)

Phase velocity of electromagnetic waves on a periodic structure with particular reference to Simon's structure, V. Pozzolo and R. Zich. *Alla Frequenza*, vol. 34, pp. 188-197, March 1965.

An iterative method which improves on the first approximation to the phase velocity is presented. (In English)

The recently built big radiotelescopes, G. Sinigaglia. *Alla Frequenza*, vol. 34, pp. 581-590, September 1965.

The ten largest radiotelescopes in the world are described and discussed. (In Italian)

On the accuracy of radio waves Doppler measuring devices, T. Bonetti. *Alla Frequenza*, vol. 34, pp. 612-662, September 1965.

Effects of the ionosphere are discussed. A method for reducing the errors is proposed. (In Italian)

Analysis of the radiation of reflector antennas, G. Borgiotti. *Alla Frequenza*, vol. 34, pp. 644-648, September 1965.

Result based on physical optic approximation. (In Italian)

Measurements of direction of scattering points on VHF anomalous scattered propagation, K. Uchikura, T. Koseki, J. Yasuo, K. Tanohata, C. Watanabe, F. Ochi. *Jour. Radio Res. Lab (Japanese)*, Vol. 12, pp. 1-15, January 1965.

Structure and movement of E_s detected by Loran observations, K. Sinno, C. Ouchi, C. Nemoto, H. Futagawa. *Jour. Radio Res. Lab. (Japanese)*, vol. 12, pp. 59-63, January 1965.

Maintenance of ionization in the nighttime F2 region, T. Yonezawa. *Jour. Radio Res. Lab. (Japanese)*, vol. 12, pp. 65-89, March 1965.

Study of spatial distribution of atmospheric refractivity from aircraft Observations, M. Fukushima, H. Iriye. *Jour. Radio Res. Lab. (Japanese)*, vol. 12, pp. 89-103, March 1965.

Results of simultaneous observation of the ionosphere, aurora, and geomagnetism at Syowa Base, Antarctica, N. Kawajiri, N. Wakai, J. Nakamura, T. Nakamura, S. Hasegawa. *Jour. Radio Res. Lab. (Japanese)*, vol. 12, pp. 141-170, May 1965.

VLF emission and precipitation of electrons in high latitudes, T. Ondoh. *Jour. Radio Res. Lab. (Japanese)*, vol. 12, pp. 197-213, July 1965.

Variation in ionospheric electron content measured by radiowaves from Syncom 3, Y. Nakata. *Rep. Ionosphere and Space Research in Japan*, vol. 19, pp. 51-54, March 1965.

Variation in ionospheric electron content measured by radio waves from Syncom 3, Y. Nakata. *Rep. Ionosphere and Space Research in Japan*, vol. 19, pp. 51-54, March 1965.

Storm sudden commencements as solar blast waves, A. Nishida. *Rep. Ionosphere and Space Research in Japan*, vol. 19, pp. 201-214, June 1965.

Nonuniform antenna arrays with randomly spaced elements, M. B. Zakson and V. V. Merkulov. *Radio Engineering and Electronic Physics*, vol. 10, pp. 4-10, January 1965.

Study of some statistical properties of the patterns.

Measurement of the directive gain of horn antennas at a short distance, V. B. Tseytlin and B. Ye. Kinber. *Radio Engineering and Electronic Physics*, vol. 10, pp. 10-16, January 1965.

Corrections to measurements taken in the near field (distances larger than $1.5 D^2/\lambda$).

Solution of the problem of the diffraction of a plane EM wave by a sphere of large diameter using an approximate method, Yu. A. Erukhimovich. *Radio Engineering and Electronic Physics*, vol. 10, pp. 16-24, January 1965.

A method using Fock's functions gives results superior to the Huygens Kirchhoff approximation.

Scattering of nonharmonic EM waves by perfectly conducting bodies of finite size, V. S. Chernousov. *Radio Engineering and Electronic Physics*, vol. 10, pp. 25-31, January 1965.

Uses Kirchhoff approximation.

Design of bi-reflector antenna gratings, A. I. Adonina. *Radio Engineering and Electronic Physics*, vol. 10, pp. 154-156, January 1965.

Polarization filters and converters.

On the effective areas of a spherically shaped ionized region, N. P. Mar'in. *Radio Engineering and Electronic Physics*, vol. 10, pp. 193-202, February 1965.

Geometrical optics applied to a spherically symmetric plasma region.

On the equivalence of frequency radiation-patterns that appear during antenna motion and in the switching of elements in an array, L. M. Prokunin. *Radio Engineering and Electronic Physics*, vol. 10, pp. 301-303, February 1965.

Effect of modulation or switching of the elements of an array.

On application of collimating devices for measurements at microwave frequencies, V. V. Martsafey. *Radio Engineering and Electronic Physics*, vol. 10, pp. 478-481, March 1965.

Measurement of far-field characteristics by means of a lens.

Statistical characteristics of the far-field fluctuation of an array antenna, L. G. Sodin and Ye. Z. Mogul'skiy. *Radio Engineering and Electronic Physics*, vol. 10, pp. 515-521, April 1965.

Effect of a magnetodielectric on a field diffracted by a grating at arbitrary wave incidence, A. I. Adonina. *Radio Engineering and Electronic Physics*, vol. 10, pp. 541-546, April 1965.

The grating is between vacuum and a medium of complex ϵ .

Diffraction of EM waves by a bounded plasma in the presence of spatial dispersion, V. B. Gildenburg and I. G. Kondrat'ev. *Radio Engineering and Electronic Physics*, vol. 10, pp. 560-565, April 1965.

The plasma is compressible and treated in the hydrodynamical approximation.

Fluctuation of the phase front of the wave reflected from a complex target, N. S. Gubonin. *Radio Engineering and Electronic Physics*, vol. 10, pp. 718-725, May 1965.

Statistical characteristics of a signal scattered from randomly moving reradiators on a plane section, F. G. Bass, P. V. Bliokh, and I. M. Fuks. *Radio Engineering and Electronic Physics*, vol. 10, pp. 731-739, May 1965.

The scatterers are in a plane over an absorber.

The coefficient of absorption of centimeter and millimeter radio waves in atmospheric oxygen, C. A. Zhevakin and A. P. Naumov. *Radio Engineering and Electronic Physics*, vol. 10, pp. 844-852, June 1965.

Critical review of calculations for cm and m wavelengths.

On maximum directivity of symmetrical systems of radiators, B. Das. *Radio Engineering and Electronic Physics*, vol. 10, pp. 853-859, June 1965.

The directivity of the elements is taken into account. The particular system made up of elements disposed on a circle is considered.

On a linear system of spherical radiators, E. A. Ivanov. *Radio Engineering and Electronic Physics*, vol. 10, pp. 859-866, June 1965.

Array of spheres with a common axis excited across their equatorial plane.

Transverse diffusion for diffraction by a wedge, P. Ya. Ufimtsev. *Radio Engineering and Electronic Physics*, vol. 10, pp. 866-875, June 1965.

An asymptotic solution obtained by the method of diffusion is found to be practically identical to the exact solution for $kr \gg 1$.

Some problems in effective excitation of radial cylindrical surface waves, M. S. Bobrovnikov, G. G. Goshin, and V. P. Smirnov. *Radio Engineering and Electronic Physics*, vol. 10, pp. 875-880, June 1965.

Measurement of sidelobe levels and antenna phase patterns in the near zone, V. B. Tseytlin. *Radio Engineering and Electronic Physics*, vol. 10, pp. 963-967, June 1965.

Measurement of antenna parameters in the field of a plane wave generated by a collimator, B. Ye. Kinber and V. B. Tseytlin. *Radio Engineering and Electronic Physics*, vol. 10, pp. 1021-1031, July 1965.

Error analysis of far field patterns measured by means of a horn and a lens.

Application of the method of functional networks to the problem of forced oscillations of an electromagnetic field in a volume of a complex shape, P. Ye. Krasnushkin. *Radio Engineering and Electronic Physics*, vol. 10, pp. 1043-1952, July 1965.

Generalizes the concept of a chain of network to a chain of regions.

Radiation of EM waves by an electron beam moving above a diffraction grating, O. A. Tret'yakov, S. S. Tret'yakova, and V. P. Shestopalov. *Radio Engineering and Electronic Physics*, Vol. 10, pp. 1059-1068, July 1965.

Analyses of the Cherenkov-Purcell effect.

Linear antennas with low side-lobe level, V. G. Yampol'skiy. *Telecomm. and Radio Engineering*, vol. 19, pp. 12-19, April 1965.

The current distribution which minimizes the mean side-lobe level is obtained. The directivity of the elements is taken into account. (English translation)

Antenna gain loss in long-range tropospheric propagation, L. G. Nazarova. *Telecomm. and Radio Engineering*, vol. 19, pp. 61-65, April 1965.

A survey of experimental studies. (English translation)

Radiation pattern of slot antenna on a thick cylinder of finite length, Ye. N. Vasilev and A. R. Seregina. *Telecomm. and Radio Engineering*, vol. 19, pp. 97-100, April 1965.

Computations based on assumed fields that are axially symmetric (English translation).

Short-wave asymptotic diffraction of acoustic and electromagnetic waves from surfaces of revolution, B. Ye. Kinber. *Telecomm. and Radio Engineering*, vol. 19, pp. 101-104, April 1965.

The problem is reduced to a plane problem (for which asymptotic solutions are known) by retaining only a few terms of the Fourier series expansion with respect to azimuth. The vector nature of the field is taken into account. (English translation)

Plane switching antennas, D. B. Zimin, A. P. Filatov, and A. A. Dolzhenkov. *Telecomm. and Radio Engineering*, vol. 19, pp. 85-93, May 1965.

Considers steering of a beam in two dimensions by switching of fixed phase shifters. (English translation)

Radiation field of a unifilar logarithmic elliptic helical antenna, Ye. Yu. Shered'ko. *Telecomm. and Radio Engineering*, vol. 19, pp. 76-81, June 1965.

The assumed current is that of an attenuated traveling wave. (English translation)

Directional properties of antennas with unequal element spacing, V. G. Yampol'skiy. *Telecomm. and Radio Engineering*, vol. 19, pp. 28-35, August 1965.

The problem is to minimize the sidelobe level in a given sector. (English translation)

Nomograms for determining the parameters of plane dielectric layers of various structures with optimum radio characteristics, V. A. Kaplun. *Telecomm. and Radio Engineering*, vol. 19, pp. 81-88, September 1965.

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