

Annual Index

IEEE spectrum

Volume 3, 1966

This section contains complete multientry indexes covering the contents for IEEE Spectrum for the calendar year 1966. The Subject and Author Indexes include feature articles, book reviews, and correspondence. Items in the News of the IEEE and Focal points sections appear in the News Index, except for People (IEEE members in the news) and Obituary items, which are indexed separately.

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Audio Systems, Julian L. Bernstein—*John Wiley & Sons, Inc.*, \$4.50 pprbk.

Brief Numerical Methods (An introduction to elementary numerical methods, emphasizing iterative solutions), Wendell E. Grove—*Prentice-Hall, Inc.*, Englewood Cliffs, N.J., \$9.00

Combinatorial Group Theory: Pure and Applied Mathematics, Vol. XLII, Wilhelm Magnus, Abraham Karrass, and Donald Solitar—*John Wiley & Sons, Inc.*, \$15.00

Discrete-Time Systems: An Introduction to the Theory, Herbert Freeman—*John Wiley & Sons, Inc.*, \$10.00

Electronics, Aldert van der Ziel—*Allyn and Bacon, Inc.*, Boston, Mass., \$11.95

Field and Wave Electrodynamics, Curtis C. Johnson—*McGraw-Hill Book Co., Inc.*, 330 W. 42 St., New York, N.Y., \$12.50

Ionospheric Radio Propagation, Kenneth Davies—*Dover Publications*, 180 Varick St., New York, N.Y., \$2.25 pprbk.

Longitudinal Space-Charge Waves (Modern Electrical Studies), R. E. Trotman—*Chapman and Hall, Ltd.*, 11 Fetter Lane, London EC4, England, 35s. (approximately \$4.90)

Measurement and Analysis of Random Data, Julius S. Bendat and Allan G. Piersol—*John Wiley & Sons, Inc.*, \$17.75

Microwave Values, C. H. Dix and W. H. Aldous—*Hilffe Books Ltd.*, Dorset House, Stamford St., London SE1, England, 55s. net (\$7.70)

Modulation, Resolution and Signal Processing in Radar, Sonar and Related Systems (International Series of Monographs in Electronics and Instrumentation, Volume 35), R. Benjamin—*Pergamon Press, Inc.*, 44-01 21 St., Long Island City, N.Y., \$8.50

Plastics in Building, Irving Skeist, ed.—*Reinhold Book Div.*, 430 Park Ave., New York, N.Y., \$18.00

Principles of Communication Engineering, John M. Wozencraft and Irwin Mark Jacobs—*John Wiley & Sons, Inc.*, \$17.50

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ON THE WATERFRONT AT ANNAPOLIS—



growth opportunities for research engineers and scientists

The expansion of the research and development program of the U.S. Navy Marine Engineering Laboratory, Annapolis, Maryland, has created openings for engineers and scientists at salaries ranging from \$6,387 to \$12,873 in the types of positions described below:

Chemical Engineer — Research and development work in chemical and electrochemical processes; gas and fluid flow systems and equipment; air and water treatment systems; semi-conductor materials; lubrication; fuel cell power plant systems and processes; filtration, hydraulic fuel systems.

Electrical Engineer — Research and development in electrical power and its control; magnetic fields; ship control systems; instrumentation; electrochemical processes; electro or electro-mechanical equipment silencing; or other naval or shipboard electrical applications.

Electronic Engineer — Research and development in electronics, servomechanisms, electro and mechanical devices; instrument and panel illumination, pressure measurement, and fluid flow measurement.

Chemist—Engaged in application of chemical principles to the areas of water treatment and purification, corrosion and deposition in naval equipment, atmosphere purification, thermoelectric materials, fuel cell power generation, lubrication, fuels, hydraulic fluids, and instrumental analysis.

Mechanical Engineer — Research and development work in shipboard propulsion machinery; pneumatic and hydraulic systems; friction and wear equipment and devices; machinery silencing; cryogenic systems; or other naval and shipboard mechanical applications.

Metallurgist — Research and development work in the area of new or improved alloys for ship hull and machinery applications involving considerations of physical and mechanical properties of metals and alloys, fatigue and corrosion characteristics, and weldability.

Physicist — Application of physical principles to the areas of sound, electronics, optics, mechanics, instrumentation, or electricity and magnetism.

Mathematician—Applies the techniques of mathematics to the solution of scientific and engineering problems in the support of research and development programs of the Laboratory. Analyzes physical problems and develops mathematical equations and formulas suitable for numerical analysis and computation. Programs for solution by digital computer when appropriate.

Each appointee receives the complete benefits of career Civil Service and regular salary increases in grade. Applicants must be college graduates. All qualified applicants will receive consideration for employment without regard to race, color, or national origin. Relocation expenses will be paid.

Write to: **W. M. SIESKO**
Head, Employment Branch
U.S. Navy Marine Engineering Laboratory
Annapolis, Maryland 21402

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Electromagnetic Distance Measurement, Organized by International Association of Geodesy—*Hilger & Watts, Limited, 98 Pancras Way, London N.W. 1, England, 1967; 452 pages, £4/4/0*. These are the papers and discussions presented at a symposium sponsored by Special Study Group no. 19 of the International Association of Geodesy, held in Oxford, England, in September 1965. The papers in the first section review EDM research in Austria, Finland, Poland, and the U.S.G.S. The remaining sections cover propagation problems, microwave systems, electrooptical systems, air- and satellite-borne systems, laser applications, and measurement of short distances. Because of the wide range of application, this should be of interest to a broad spectrum of researchers and engineers.

Electronic Conduction in Solids, Arthur C. Smith, Janes F. Janak, and Richard B. Adler—*McGraw-Hill Book Co., Inc., 330 West 42 St., New York, N.Y., 1967; 342 pages, \$13.50*. This a graduate-level textbook that emphasizes the underlying physical theory of electronic conduction in solids. It presents the flow of electric charge and heat in the presence of a magnetic field and thus is concerned not only with electrical conductivity but also with thermoelectric, galvanomagnetic, and thermomagnetic effects in metals and semiconductors. Irreversible thermodynamics, crystal symmetry, energy bands, and Boltzmann transport theory are covered in detail, with full consideration of both the macroscopic and microscopic viewpoints.

Engineering as a Career Today, B. H. Amstead and Wilbourn McNutt—*Dodd, Mead & Co., 432 Park Ave. S., New York, N.Y., 1967; 207 pages, \$3.75*. This book is written for a young person about to decide upon a career and the beginning engineering student who is uncertain of the branch of engineering he should choose. Of special interest is the chapter on choosing a college. The appendixes include a list of accredited institutions, as well as approximate costs for tuition, room, and board.

Euston Main Line Electrification (Pro-

ceedings 1966-67, vol. 181, Part 3F), *The Institution of Mechanical Engineers, 1 Birdcage Walk, London, S.W. 1, 114 pages, £2/0/0*. The success of the 25-kV ac electrification of British Rail's 400 route miles of main lines linking London (Euston), Manchester, Liverpool, and Birmingham has aroused widespread interest in this modern form of traction. At a technical conference held in October 1966, four leading railway engineers presented papers dealing with the many unique problems that had to be overcome in the fields of electric traction, signaling and telecommunications, and civil engineering. New ideas for future application in the rapidly advancing technology of 25-kV ac traction were also discussed by the representatives of the countries attending. The papers, as well as the discussions, are included in this volume.

Recent Books

Abuse of Power, Theodore Draper—*The Viking Press Inc., 625 Madison Ave., New York, N.Y., \$4.95; \$1.95 pprbk.*

Digital Computer Programming, Peter A. Stark—*The Macmillan Co., 866 Third Ave., New York, N.Y., \$9.95*

International Congress on Automation and Instrumentation in the Paper, Rubber, and Plastics Industries—K.V.I.V. Ingenieurshuis, Jan van Rijswijklaan 59, Antwerp, Belgium

Introduction to Dynamic Systems, James B. Reswick and Charles K. Taft—*Prentice-Hall, Inc., Englewood Cliffs, N.J., \$8.95*

Introduction to Network Analysis, Ben Zeines—*Prentice-Hall, Inc., Englewood Cliffs, N.J., \$10.95*

Introductory Engineering Field Theory, Martin D. Bradshaw and William J. Byatt—*Prentice-Hall, Inc., Englewood Cliffs, N.J., \$11.95*

Magnetism and Magnetic Materials—1967 Digest, W. D. Doyle and A. B. Harris, eds.—*Academic Press Inc., 111 Fifth Ave., New York, N.Y., \$11.00*

Manual of Oscillography, Howard J. Hoadley—*Focal Press, Inc., 20 E. 46 St., New York, N.Y., \$28.00*

Military, Electronics and Aerospace Handbook on Reusable Protective Packaging, Steven E. Mautner—*The Kayar Publishing Co., Box 0011, Burbank, Calif., \$8.50*

1967 Steam Tables, compiled by the Research Advisory Committee on the Properties of Steam and the Electrical Research Association—*St. Martin's Press, Inc., 175 Fifth Ave., New York, N.Y., \$18.50*

Nonlinear Autonomous Oscillations, vol. 34, Minoru Urabe—*Academic Press Inc., 111 Fifth Ave., New York, N.Y., \$16.00*

Nuclear Reactor Materials, Charles O. Smith—*Addison-Wesley Publishing Co., Inc., Reading, Mass., \$13.50*

Nuclear Science and Technology for Ceramists (Proc. of the American Ceramic Soc. Symposium), National Bureau of Standards Misc. Pub. 285—*U.S. Dept. of Commerce, National Bureau of Standards, Washington, D.C., \$1.75*

Physical Quantities and Units—A Self-Instructional Programmed Manual, Edward F. O'Day—*Prentice-Hall, Inc., Englewood Cliffs, N.J., \$6.95*

Problems in Electronics with Solutions (4th ed.), F. A. Benson—*Barnes & Noble, Inc., 105 Fifth Ave., New York, N.Y., \$4.25 pprbk.*

Proceedings of the 1966 Standards Laboratory Conference, National Bureau of Standards Publication no. 291—*U.S. Dept. of Commerce, National Bureau of Standards, Washington, D.C., \$1.00*

The Growth of Knowledge—Readings on Organization and Retrieval of Information, M. Kochen, ed.—*John Wiley & Sons, Inc., 605 Third Ave., New York, N.Y., \$14.95*

Theorie et Pratique des Circuits de l'Electronique et des Amplificateurs, Tome 3, J. Quinet and A. Petitclerc—*Dunod, 92, Rue Bonaparte 75, Paris 6, France, approx. \$6.90*

Theorie Structurelle des Automates Finis, Gr. C. Moasil—*Gauthier-Viallars, Paris, France*

Trace Characterization—Chemical and Physical, W. Wayne Meinke and Bourdon F. Scribner, eds.—*Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., \$4.50*

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Volume 4, 1967

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