

PUBLICATIONS

Compilation of recently published books and technical articles written by APL staff members.

- M. H. Friedman, "A Generalized Thermal Explosion Criterion—Exposition and Illustrative Applications," *Combustion and Flame*, **11**, No. 3, June 1967, 239–246.
- J. J. Hicks and I. Katz (APL) and C. R. Landry and K. R. Hardy (Cambridge Air Force Research Laboratories), "Clear-Air Turbulence: Simultaneous Observations by Radar and Aircraft," *Science*, **157**, No. 3790, Aug. 18, 1967, 808–809.
- E. J. Hoffman (APL), G. W. Zobrist (Univ. of Missouri), F. F. Kuo (Univ. of Hawaii), and L. P. McNamee (UCLA), "NASAP—Network Analysis for System Application Program," *Electro-Technology*, Aug. 1967, 101–106.
- R. C. Orth and J. A. Funk, "An Experimental and Comparative Study of Jet Penetration in Supersonic Flow," *J. Spacecraft and Rockets*, **4**, No. 9, Sept. 1967, 1236–1242.
- V. G. Sigillito, "A Priori Inequalities and Pointwise Bounds for Solutions of Fourth Order Elliptic Partial Differential Equations," *SIAM, J. Appl. Math.*, **15**, No. 5, Sept. 1967, 1136–1155.
- Barbara F. Fuess, "Impact Dispersion Due to Mass and Aerodynamic Asymmetries," *J. Spacecraft and Rockets*, **4**, No. 10, Oct. 1967, 1402–1403.
- V. G. Sigillito, "On a Continuous Method of Approximating Solutions of the Heat Equation," *J. Assoc. Computing Machinery*, **14**, No. 4, Oct. 1967, 732–741.
- F. E. Nathanson and J. P. Reilly, "Clutter Statistics which Affect Radar Performance Analysis," *Suppl. to IEEE Trans. on Aerospace and Electronic Systems*, **AES**, No. 6, Nov. 1967, 386–398.
- T. Thompson and R. C. Beal, "A Slow Scan Television System for Attitude Measurement at Synchronous Altitudes," *Suppl. to IEEE Trans. on Aerospace and Electronic Systems*, **AES**, No. 6, Nov. 1967, 72–79.
- K. S. Bonwit (APL) and R. E. Rasche (Sperry Gyroscope), "CESSAM: Conversion Equipment System, Surface-to-Air Missiles," *1967 IEEE International Convention Record*, Part 3, 81–85.
- R. R. Newton, "The Navy Navigation Satellite System," *Space Research VII*, North Holland Publishing Company, Amsterdam, 1967, 735–763.
- R. R. Newton, "The U.S. Navy Doppler Geodetic System and its Observational Accuracy," *Phil. Trans. Roy. Soc. (London)*, **A**, **262**, 1967, 50–66.
- BOOK:
L. G. Kelly, *Handbook of Numerical Methods and Applications*, Addison-Wesley Publishing Co., Reading, Mass., 1967.

ADDRESSES

Principal recent addresses made by APL staff members to groups and organizations outside the Laboratory.

- R. A. Farrell, "Medical Radioisotope Scanning: Optimal Data Processing in Two Dimensions," *14th Annual Meeting of the Society of Nuclear Medicine*, Seattle, Wash., June 20–23, 1967.
- C. Feldman, "Switching Phenomena in Amorphous Boron Films," *Solid State Seminar, U. S. Naval Research Laboratory*, Washington, D. C., Sept. 15, 1967.
- R. T. Cusick, "A Survey of the Behaviour of Bonded Strain Gage Pressure Transducers," *Fifth Transducer Workshop, National Bureau of Standards and IRIG*, Gaithersburg, Md., Oct. 3–4, 1967.
- R. E. Gibson, "The Scientific Process" (Oct. 4) and "Technology and Management" (Oct. 11), *Seminar on Research Methods in the Social Sciences, U.S. Dept. of Agriculture*, Washington, D. C., 1967.
- R. E. Gibson, "The Impact of Accelerating Scientific and Technological Change," *Course on The United States in a Changing World Environment, School for Advanced International Studies*, Washington, D. C., Oct. 24, 1967.
- The following three addresses were given at the *Plasma Physics Meeting, American Physical Society*, Austin, Texas, Nov. 8, 1967:
- E. P. Gray, "A Random Walk Model of Particle Escape from a Cusp;"
- T. O. Poehler, A. K. Hochberg, and R. Turner, "A 337 - Micron HCN Laser Interferometer;"
- R. Turner, "Some Properties of the Output of a Theta-Pinch Gun."
- C. J. O'Brien, "Brevity in Writing," *Middle Atlantic Association of Industrial Editors*, Baltimore, Md., Nov. 8, 1967.
- C. Feldman, "Amorphous Boron Films," *Second Conference on the Characterization of Materials*, Rochester, N. Y., Nov. 8–10, 1967.
- I. Katz, "Clear Air Turbulence," *Bell Telephone Laboratories*, Holmdel, N. J., Nov. 9, 1967.
- L. G. Knowles and W. A. Yates, "A Medical Display for Computer Processed Data: An Approach to a Low-Cost Clinical Unit," *20th Annual Conference on Engineering in Medicine and Biology*, Boston, Mass., Nov. 13–16, 1967.
- B. I. Blum, "Macro-Defined, Problem-Oriented Languages," *Fall Joint Computer Conference*, Anaheim, Calif., Nov. 15–16, 1967.
- A. Kossiakoff, Session Chairman, Introduction to "Space System Design: Unmanned Space Programs," *American Astronautical Society*, New York, N. Y., Nov. 27–29, 1967.
- R. H. Peery, "Polaris," *Silver Spring Kiwanis Club*, Silver Spring, Md., Nov. 27, 1967.
- C. J. O'Brien, "Writing and Editing Newsletters," *University of Maryland Dept. of Journalism*, College Park, Md., Dec. 4, 1967.

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Mary Lasky, "PL/I in a Scientific Environment," *Electronics Systems Division, Air Force Systems Command and Mitre Corp.*, Hanscom AFB, Bedford, Mass., Dec. 5, 1967.

F. Muccino, "Plastics in Electronics," *Society of Plastics Engineers, Baltimore-Washington Section*, Laurel, Md., Dec. 19, 1967.

The following three addresses were given at the *American Association for the Advancement of Science*, New York, N. Y., Dec. 26-31, 1967:

W. H. Avery, "An Integrated Urban-Interurban Transportation Concept;"
L. D. Eckard, Jr., "Technical Writing—A Scientist's Viewpoint;"

Mary M. Schaefer, "The Engineer-Writer Team Effort in Preparing Scientific and Technical Reports."

APL COLLOQUIA

Nov. 3—"The 24-Hour Clock in Animals and Man," by Curt P. Richter, The Johns Hopkins University.

Nov. 10—Informal Talk about Science Budgeting, by William D. Carey, Bureau of the Budget.

Nov. 17—"Interference of Independent Photon Beams," by Leonard Mandel, University of Rochester.

Dec. 1—"Does a Moving Body Appear Cool?" by Nicholaas van Kampen, University of Utrecht and Howard University.

Dec. 8—"The Laser Gyro," by Joseph Kilpatrick, Honeywell Corporation.

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PATENTS

E. H. Fischer—*Automaton Command Circuit*, Patent No. 3,348,226.

G. B. Bush and L. L. Warnke—*Correlation Doppler System*, Patent No. 3,351,943.

F. R. Muccino—*Pressure Stabilized Welding Apparatus*, Patent No. 3,355,569.

L. C. Miller—*Memory Control and Access System*, Patent No. 3,355,716.

P. S. White, Jr.—*Slide Rule Calculator for Missile Capsule*, Patent No. 3,356,297.

E. A. Bunt, L. O. Kauffman, S. D. Raezer, and H. L. Olsen—*Arc Plasma Generator Starting Method Utilizing a Displaceable Valve Communicating with Atmosphere*, Patent No. 3,356,892.

C. J. Swet—*Plug Nozzle Rocket*, Patent No. 3,358,453.

WITH THE AUTHORS



B. F. Hochheimer, author of "Fourier Transform Spectroscopy," is an earlier contributor to the *Digest*, having co-authored "Laser Modes" in the January-February 1964 issue. He is a native of Rochester, N.Y. He received a B.S. degree in physics from Saint Bon-

venture University and, in 1953, an M.S. degree in optics from the University of Rochester. Mr. Hochheimer was originally employed by APL in 1954 but left to go to Hayes Aircraft Corporation in 1956. He then rejoined APL as Physicist in the Research Center in 1960. He is a specialist in design and experimental work in optics, spectroscopy, and infrared physics and is a member of the Optical Society of America.



D. D. Zimmerman, author of "Evolution of Microelectronic Packaging," received the degree of B.S. in physics from Muhlenberg College and has been employed continuously at APL since 1943. He has done research in the fields of missile guidance and hydraulic servo and control systems design and has conducted studies on missile sensing instruments, gyroscopes, accelerometers,



and special devices for space vehicles. For the past nine years he has been engaged in research in the field of thin-film microelectronics with special emphasis on packaging techniques. He is a member of the Thin-Film Division of the American Vacuum Society.

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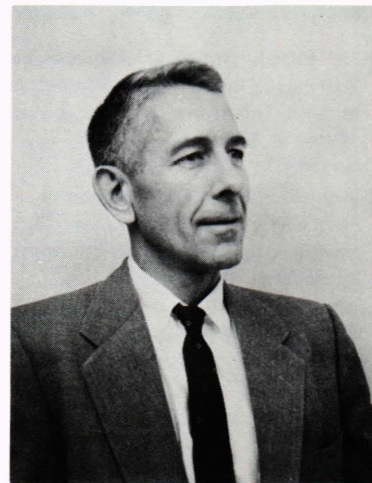


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