

PUBLICATIONS

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

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- F. W. Schenkel, "Spectral Shift and Degradation in Photoemissive Thin Films" *IEEE Trans. Electron Devices* **ED-15**, No. 1, Jan. 1968, 40-43.
- L. M. Spetner, "Information Transmission in Evolution," *IEEE Trans. Information Theory* **IT-14**, No. 1, Jan. 1968, 3-6.
- R. Turner, A. K. Hochberg, and T. O. Poehler, "Multiple Pulse Emission from a HCN Laser," *Appl. Phys. Lett.* **12**, No. 3, Feb. 1, 1968, 104-106.
- W. H. Avery, "Beyond the Supersonic Transport," *Sci. & Technol.* No. 74, Feb. 1968, 40-43, 46-50.
- J. Bohandy and J. C. Murphy, "An X-Ray Study of Gel-Grown Strontium Tartrate Tetrahydrate," *Acta Cryst.* **B24**, Part 2, Feb. 1968, 286.
- J. J. Hicks (APL) and J. K. Angell (Environmental Science Services Administration, Washington, D.C.), "Radar Observations of Breaking Gravitational Waves in the Visually Clear Atmosphere," *J. Appl. Meteorology* **7**, No. 1, Feb. 1968, 114-121.
- R. O. Weiss, M. L. Hill, and C. A. Keller, "An Evaluation of Coated B66 Columbium Alloy at Elevated Temperatures," *J. Spacecraft and Rockets* **5**, No. 2, Feb. 1968, 215-216.
- F. J. Adrian, "Guidelines for Interpreting Electron Spin Resonance Spectra of Paramagnetic Species Adsorbed on Surfaces," *J. Colloid and Interface Sci.* **26**, No. 3, Mar. 1968, 317-354.
- R. E. Gibson, "Report of the Director of the Applied Physics Laboratory, 1966-67," The Johns Hopkins University, *Report of the Faculties and Administration*, 1967, Mar. 1968, 98-109, 250-254.
- T. W. Pearce, "Variable Limit Sweep Generator," *Rev. Sci. Instr.* **39**, No. 3, Mar. 1968, 395-396.
- T. W. Pearce, "SCR Preregulator for Magnet Power Supply," *Rev. Sci. Instr.* **39**, No. 3, Mar. 1968, 423-424.
- L. L. Perini (APL) and W. L. Melnik (University of Maryland), "Non-equilibrium Hypersonic Flow Past Smooth Symmetric Bodies," *J. Spacecraft and Rockets* **5**, No. 3, Mar. 1968, 309-313.
- C. A. Shipley, "Effect of 'Ring Resonance' in Circulator Time-Delay Circuit," *IEEE Trans. Microwave Theory and Techniques* **MTT-16**, No. 3, Mar. 1968, 202-203.
- R. E. Gibson, Book Review of *Science is Not Enough* (Vannevar Bush), *Science* **159**, No. 3820, Mar. 15, 1968, 1225-1226.
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- J. F. Bird, "Cosmogonic Fragmentation," *Nature* **217**, No. 5135, Mar. 30, 1968, 1239-1240.
- A. J. Zmuda, W. E. Radford, F. T. Heuring, and P. Verzariu, "The Scalar Magnetic Intensity at 1100 Kilometers in Middle and Low Latitudes," *J. Geophys. Research* **73**, No. 7, April 1, 1968, 2495-2503.
- F. T. Heuring, A. J. Zmuda, W. E. Radford, and P. Verzariu, "An Evaluation of Geomagnetic Harmonic Series for 1100-Kilometer Altitude," *J. Geophys. Research* **73**, No. 7, April 1, 1968, 2505-2511.
- J. C. Murphy, H. A. Kues, and J. Bohandy, "Growth of Crystals in Silica Gel using a Co-solute," *Nature* **218**, No. 5137, Apr. 13, 1968, 165-166.
- F. T. McClure, Book Review of *The Politics of Pure Science* (Daniel S. Greenberg) *Science* **160**, No. 3829, May 17, 1968, 752-753.
- N. W. Bazley (Institut Battelle, Geneva, Switzerland), W. Bořsch-Supan (Johannes Gutenberg-Universität, Mainz, Germany), and D. W. Fox (APL), "Lower Bounds for Eigenvalues of a Quadratic Form Relative to a Positive Quadratic Form," *Archive Rational Mech. Anal.* **27**, No. 5, 1968, 398-406.
- R. R. Newton, "A Satellite Determination of Tidal Parameters and Earth Deceleration," *Geophys. J. Roy. Astr. Soc.* **14**, 1968, 505-539.

PATENTS

- C. M. Blackburn and R. G. Bartlett, Jr.—*Pressure Regulating Valve for Rebreathing Apparatus*, Patent No. 3,366,108.
- W. H. Avery—*Method of Producing Pyrolytic Graphite*, Patent No. 3,372,991.
- S. N. Foner and R. L. Hudson—*Admittance Measurements of Solid Propellants*, Patent No. 3,374,661.
- D. Richards, F. Bader, and G. P. Maggos—*Missile Flight Simulator*, Patent No. 3,374,679.
- J. Jelinek and L. B. Weckesser—*Two-Stage Seal Arrangement*, Patent No. 3,375,016.
- K. J. Bialy—*Optical Solar Energy Converter*, Patent No. 3,379,394.

PATENTS

(continued)

- G.L. Dugger and F.S. Billig—*Fuel Injection Pylons*, Patent No. 3,386,249.
W.J. Billerbeck and J.B. Oakes—*Charge Control System for Satellite Batteries*, Patent No. 3,387,199.
A. Simon, F.E. Shirk, and J.C. Biagioli—*Trace Identifier*, Patent No. 3,388,379.
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APL COLLOQUIA

- Mar. 1—"Applying the Gunn Effect to High-Speed Devices," by K. Kurokawa, Bell Telephone Laboratories.
Mar. 8—"Supernova Interpretation of Quasars," by S. A. Colgate, New Mexico Institute for Mining and Technology.
Mar. 15—"Integrated Circuitry for Microwaves," by H. Sobol, RCA Laboratories.
Mar. 22—"The Use of Satellites for Educational Television," by F. W. Friendly, Columbia University and the Ford Foundation.
Mar. 29—"Phase Transitions and Critical Phenomena," by B. Widom, Cornell University.
Apr. 5—"Modern Holography," by E. N. Leith, University of Michigan.
Apr. 12—"Problems of the Environment," by A. Wolman, The Johns Hopkins University.
Apr. 19—"Surveyor and Other New Results on the Lunar Surface," by J. A. O'Keefe, Goddard Space Flight Center.
Apr. 26—"Far Infrared Lasers and Their Application," by T. O. Poehler and R. Turner, Applied Physics Laboratory.
Apr. 30—"The Proposed New Maryland Constitution," by Prof. H. R. Penniman, Georgetown University.
May 3—"Whither Nuclear Physics?" by M. Danos, National Bureau of Standards.
May 10—"Clear Air Turbulence," by I. Katz, Applied Physics Laboratory.
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HONORS

A.J. Zmuda, a member of the staff of the Research Center, has been elected Vice President of the Section on Geomagnetism and Paleomagnetism in the American Geophysical Union.

WITH THE AUTHORS



J.G. Chubbuck, co-author of "Intraocular Pressure Control System," was previously represented in the *Digest* as author of "Small-Motion Biological Stimulator," in the May-June 1966 issue. He received a B.S. degree in electrical engineering from the University of Oklahoma in 1948 and an M.S. degree in physics from Kansas State College in 1951. Before coming to APL, Mr. Chubbuck was an instructor of electrical engineering at Kansas State College from 1948 to 1951. He joined the staff at APL in 1951 as a specialist in feedback control system design. He was Supervisor of the Triton Control System Project and later of the Surface-to-Surface Guided Missile Control Studies Project. He is presently Assistant Supervisor of the Adaptive Machines Group. Mr. Chubbuck is a member of the Washington Academy of Sciences.

H.R. Bittner, co-author of "Intraocular Pressure Control System," was born in Lantz, Maryland. He received an Associate Degree in Electronic Technology at DeVry Technical Institute, Chicago, in 1960, and is completing work toward a B.S. degree in Electrical Engineering at The Johns Hopkins University. He served in the U.S. Army Medical Corps from 1956 to 1958. Mr. Bittner joined the staff of APL in 1960 to work on development of electromechanical control systems. He has been associated with the development of optical and optical perception systems, as well as with the intraocular pressure control system. He is presently working on the development of a three-degree-of-freedom micro-manipulator.



R.C. Beal, author of "Applications of a Sensitive Television System," is an earlier contributor to the *Digest*, having authored "Design and Performance of the DODGE Cameras," which was published in the May-June 1967 issue. A native of Boston, Massachusetts, he holds a B.S. degree in electrical engineering from the Massachusetts Institute of Technology and an M.S. degree in physics and astronomy from the University of Maryland. Mr. Beal joined the Applied Physics Laboratory in 1961 and his first assignment was concerned with the design of solid-state VHF transmitters. Currently he is a member of the Satellite TV Systems Project where he is involved in the evaluation of low-light-level Secondary Electron Conduction image tubes for possible application in future satellites. Mr. Beal is a member of the Institute of Electrical and Electronics Engineers.

