PUBLICATIONS

The following list is a compilation of recently published technical articles written by APL staff members.

F. T. McClure, "Laws—Scientific, Moral, and Political," *J. Washington Acad. Sci.*, **56,** Mar. 1966, 46-50.

J. F. Bird, "Evolution of a Rotating Protostar," *Progr. Theoret. Phys.*, **35,** No. 4, Apr. 1966, 615-621.

D. K. Anand, "On the Performance of a Heat Pipe," *J. Spacecraft and Rockets,* **3,** No. 5, May 1966, 763-765.

V. W. Pidgeon, "Bistatic Cross Section of the Sea," *IEEE Trans. Antennas and Propagation,* **AP-14,** No. 3, May 1966, 405-406.

M. H. Friedman, "Approximate Closed Solutions for Detonation Parameters in Condensed Explosives," *AIAA J.,* **4,** No. 7, July 1966, 1182-1187.

V. M. Root, "Technical Publications in England Today," *J. Soc. Technical Writers and Publishers,* **13,** No. 3, July 1966, 9-13.

V. G. Sigillito, "A Method for Finding the *m* Smallest Values of a Monotonic Function Defined on Ordered Sets of Positive Integers," *Communs. Assoc. Computing Machinery,* **9,** No. 7, July 1966, 519-521.

W. G. Berl, "Combustion," *Encyclopedia of Chemistry,* 2nd Edition, Reinhold Publishing Co., New York, 1966, 270-271.

R. M. Fristrom, "Flames and Flame Chemistry," *Encyclopedia of Chemistry,* 2nd Edition, Reinhold Publishing Co., New York, 1966, 428-431.

R. W. Hart, "Light Scattering," *Encyclopedia of Physics,* Reinhold Publishing Co., New York, 1966, 372-373.

A. A. Westenberg, "A Critical Survey of the Major Methods for Measuring and Calculating Dilute Gas Transport Properties," *Advances in Heat Transfer,* **3,** Academic Press, Inc., New York, 1966, 253-302.

ADDRESSES

The listing below comprises the principal recent addresses made by APL staff members to groups and organizations outside the Laboratory.

M. C. Waddell, "A Role in Tactical Analysis and Simulation Regarding Navy Problems," *U.S. Naval Academy,* Annapolis, Md., May 9, 1966.

R. R. Newton, "The Doppler Navigation Satellite System," *7th International Space Science Symposium of COSPAR,* Vienna, Austria, May 11-17, 1966.

C. B. Weaver, "Oscillography, A Tool for the Engineer," *Society of Photographic Scientists and Engineers,* Washington, D.C., May 26-27, 1966.

L. B. Weckesser, "Environmental Limitations of Alumina, Fused Silica, and Pyroceram 9606 Radomes," *Eighth Electromagnetic Window Symposium, Georgia Institute of Technology,* Atlanta, Ga., June 1-3, 1966.

E. T. Marley and H. Ginsberg, "Supersonic Pressure Distribution and Axial-Force Characteristics of Axisymmetric Noses at Angle of Attack," *7th Navy Aeroballistics Symposium,* Pt. Mugu, Calif., June 7-9, 1966.

H. H. Hart, "Hypersonic Delta-Wing-Body Interference," *7th Navy Aeroballistics Symposium, U.S. Naval Missile Center,* Pt. Mugu, Calif., June 7-9, 1966.

R. W. Henderson, "An Analysis of the Rupture and Petalling of a Scored-Flat-Plate Metal Diaphragm," *7th Navy Aeroballistics Symposium, U.S. Naval Missile Center,* Pt. Mugu, Calif., June 7-9, 1966.

P. M. Bainum, D. K. Anand, and D. L. Mackison, "Perturbations and Lyapunov Stability of a Multiple Connected Gravity-Gradient Satellite at Synchronous Altitude," *5th U.S. National Congress of Applied Mechanics, University of Minnesota,* Minneapolis, Minn., June 14-17, 1966.

F. F. Hiltz, "Artifical Neuron," *Bio-Medical Engineering Seminar, The Johns Hopkins University,* Baltimore, Md., June 15, 1966.

B. I. Blum, "Information Macro Package," *Chesapeake Area Chapter, Association of Computing Machinery, The Johns Hopkins University,* Baltimore, Md., June 15, 1966.

W. E. Wilson, "Inhibition Chemistry and Flame Structure," *Inhibition of Combustion by Chemical Means Meeting, The Johns Hopkins University, Applied Physics Laboratory,* Howard County, Md., June 23-24, 1966.

G. H. Mowbray, "Visual Temporal Resolution," *Working Sessions in Social Psychology and Mathematical Psychology, University of Warsaw,* Poland, July 26, 1966.

G. H. Mowbray, "Elicitation of a Visual Transient at Frequencies above Fusion," *Working Sessions in Social Psychology and Mathematical Psychology, University of Warsaw,* Poland, July 27, 1966.

F. S. Billig, "Design of Supersonic Combustors Based on Pressure-Area Fields," *11th International Symposium on Combustion, University of California,* Berkeley, Calif. Aug. 14-20, 1966.

F. F. Mobley, J. W. Teener, R. D. Brown, and B. E. Tossman, "Performance of the Spin Control Systems of the DME-A Satellite," *AIAA Guidance and Control Conference, University of Washington,* Seattle, Wash., Aug. 15-17, 1966.

R. E. Fischell, "The Dodge Satellite," *AIAA Guidance and Control Conference, University of Washington,* Seattle, Wash., Aug. 16, 1966.

PATENTS

F. H. Esch, K. F. Read, L. S. Schwerdtfeger, and J. F. Smola—*Satellite Mounting Structure,* Patent No. 3,258,225.

D. E. Carruth and G. D. Smith, Jr.—*Magnetostriction Delay Line Divider,* Patent No. 3,258,667.

G. E. Moul, Jr.—*Two-Rod Seeker Head,* Patent No. 3,262,321.

R. F. Sloan—*Phase Modulator,* Patent No. 3,263,188.

WITH THE AUTHORS

E. E. Westerfield, co-author of "Translocation by Navigation Satellite," is an earlier contributor to the *Digest,* having authored "A Dynamic Phase-Difference Measurement System" in the November-December 1963 issue. Mr. Westerfield was born in Springfield, Illinois. He earned B.S. and M.S. degrees in electrical engineering at the University of Maryland which he received in 1952 and 1963, respectively. A specialist in guidance and telemetry, Mr. Westerfield joined APL in 1954. As a Project Supervisor in the Talos Guidance Group he did research to find a method of measuring angles unambiguously by airborne radar. Mr. Westerfield was responsible also for the development of an operational method of determining a ship's bearing. Currently, as Supervisor of the Systems Development Project in the Space Development Department, he is concerned with the development of special-purpose tracking receiving equipment. Mr. Westerfield is a member of the Institute of Electrical and Electronics Engineers.

G. Worsley, co-author of "Translocation by Navigation Satellite," was born in Epping, England. He attended Cambridge University and received two degrees in natural science—a B.A. in 1929 and an M.A. in 1933. Mr. Worsley is a specialist in electronics with particular reference to missile guidance systems and satellite tracking and navigation systems. Prior to coming to APL he was an instructor and lecturer in electronics at Harvard University. As Group Supervisor of the Bumblebee Guidance Group he pursued the development of missile beam-riding and homing electronics and missile guidance radars. Mr. Worsley has been a member of the APL Advisory Board, Chairman of the Director's Ad Hoc Committees on counter-countermeasures, and microwave radiation hazards, and Chairman of the Bumblebee Guidance Panel. In his present position of Branch Supervisor, Space Electronics Design Branch of the Space Development Department, Mr. Worsley is responsible for the development of systems for satellite instrumentation, tracking, and navigation. Mr. Worsley is serving on the Editorial Board of the *APL Technical Digest* and is a member of the American Association of Physics Teachers, and the Institute of Electrical and Electronic Engineers.

D. D. Scott, co-author of "Explosive Lens Flashblindness Protection System," was born in Washington, D.C. He received a B.A.E. degree in aeronautical engineering from Catholic University in 1949. A specialist in mechanical and structural

design and test, Mr. Scott joined APL in 1959. He was first assigned to the Polaris Group where he was concerned with the Polaris launcher subsystem performance and operational characteristics. Later, as an engineer in the Space Development Division, Mr. Scott was active in the establishment and direction of the PERT Management Center within the Division; development of the "Tilted Disc Device" concept of mobility; and the design, development, test, and evaluation of aerospace life support systems and components. Currently, as project engineer in the Space Life Sciences Group, Mr. Scott is engaged in the research and development of eye-protection systems.

L. M. Snider, co-author of "Explosive Lens Flashblindness Protection System," is a native of Holyoke, Massachusetts. He holds a B.A. degree in mechanical engineering from the University of Rhode Island which he received in 1942. Mr. Snider is employed by the U.S. Navy Department and is a member of the Astronautics Division of the Naval Air Systems Command where he is assigned as project engineer to the Oceanographic Survey Satellite program. Prior to this assignment, Mr. Snider was a project engineer working on the development of full-pressure flight suits, later adapted to the

WITH THE AUTHORS

(continued)

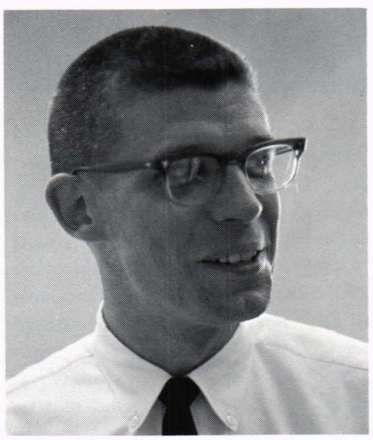
Mercury astronauts' suits; flashblindness protection systems; and rocket-type ejection seats. It was during

this assignment that Mr. Snider worked with Mr. D. D. Scott of APL in the development of the ELF protection system.

J. G. Parker, co-author of "Radiation-Produced Sound," is a native of Providence, Rhode Island. He holds a B.A. degree in electrical engineering from Brown University which he received in 1947, and M.S. and Ph.D. degrees in physics from that same university received in 1950 and 1952, respectively. Before joining APL in 1956, Dr. Parker was associated with The Johns Hopkins University Institute of Cooperative Research and with the Naval Research Laboratory. As a specialist in acoustics and molecular physics, Dr. Parker first worked at the Laboratory as a research physicist in the field of fluid dynamics. His current research activities are in the field of rotational and vibrational relaxation studies in gases in the Chemical Physics Group of the Research Center. Dr. Parker is a member of the American Physical Society.

search Center. Dr. Parker is a member of the American Physical Society.

R. H. Swope, co-author of "Radiation-Produced Sound," was born in Washington, D.C. He received a B.S. degree in mechanical engineering from Princeton in 1960 and is now doing graduate work at the University of Maryland. Mr. Swope joined APL in 1962, having had experience in the design of propellant thermal control and corrosion protection systems for space vehicles. Since his association with APL, Mr. Swope has been assigned to the Molecular Relaxation Studies Project of the Chemical Physics Group in the Research Center. He has designed experimental apparatus, including several types of acoustic resonance tubes and a low-distortion square law detector for the oscillator of the reso-



nance tube driver circuit. Mr. Swope is currently in the process of developing an improved condenser microphone to extend the range of the experimental work discussed in the article he has co-authored.