PUBLICATIONS

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

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J. P. Doering and W. K. Peterson (The Johns Hopkins Univ.) and C. O. Bostrom and T. A. Potemra (APL), "High Resolution Daytime Photoelectron Energy Spectra from EA-E," *Geophys. Res. Lett.* **3,** Mar. 1976, 129.

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D. H. Orth and A. Patz (The Wilmer Ophthalmological Inst.) and R. W. Flower (APL), "Potential Clinical Applications of Indocynanine Green Choroidal Angiography—Preliminary Report," *Eye, Ear, Nose, and Throat Monthly,* Jan. 1976.

T. O. Poehler (APL) and D. O. Cowan and A. N. Block (The Johns Hopkins Univ.), "Chemical Purity and the Electrical Conductivity of Tetrathiafulvalinium," *Organic Chem.* **40**, No. 24, Nov. 1975, 35–47.

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PATENTS

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O. M. Martin, Jr.—*Helicopter Blind Landing/Hover System,* No. 3,934,250

C. C. Phillips, W. H. Zinger, R. F. Platte, M. M. Jesurun, and D. H. Matthias—*Microwave Amplifier Tube Coherency Test Set,* No. 3,938,150.

W. G. James—*Instantaneous Frequency Measurement System,* No. 3,939,411.

D. D. Zimmerman—*Method for Sealing Packages,* No. 3,937,388.

L. F. Fehlner, T. W. Jerardi, R. G. Roll—*Loran Receiver-Navigator,* No. 3,947,849.

A. Kossiakoff, J. R. Austin—*Search Radar Adaptive Video Processor,* No. 3,946,382.

ADDRESSES

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

F. J. Adrian and V. A. Bowers, "g-Tensor and Spin-Doubling Constant in the $^2\Sigma$ Molecules CN and C_2H," *12th International Symposium on Free Radicals,* Laguna Beach, CA, January 2–9, 1976.

D. W. Fox, "On an Eigenvalue Estimation Method of Weinberger," *American Mathematical Society Annual Meeting,* San Antonio, TX, January 22–25, 1976.

D. W. Fox, "An Initial Value Problem for Slow Flow in Stratified Fluids," *American Mathematical Society Meeting,* Champaign-Urbana, IL, March 19–21, 1976.

M. H. Friedman, "The Role of Corneal Structure in the Maintenance of Corneal Thickness," *Stanford University Lecture,* February 23, 1976.

M. H. Friedman, "Self-Consistent Analysis of Arterial Uptake of Cholesterol from Perfusing Serum," *Biophysical Society, Twentieth Annual Meeting,* Seattle, WA, February 25, 1976.

J. W. Howe, "Technical Information in Action: A Report from APL," *Society for Technical Communications,* Washington, DC, January 5, 1976.

A. Kossiakoff and T. Sleight, "Software Requirements Analysis and Validation," *Software Management Conference,* Washington, DC, March 22–23, 1976 and Newport Beach, CA, April 5–6, 1976.

J. R. Kuttler, "Bounding Eigenvalues of Elliptic Operators," *American Mathematical Society Annual Meeting,* San Antonio, TX, January 22–25, 1976.

J. H. Manley, "Embedded Computer Systems in Personnel Development," *Software Management Conference,* Washington, DC, March 22–23, 1976 and Newport Beach, CA, April 5–6, 1976.

J. H. Manley, "Implementing Change in Very Large Organizations: A Case Study," *Implementation II: An International Conference on the Implementation of Management Science in Social Organizations,* Pittsburgh, PA, February 18–20, 1976.

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K. Moorjani (APL) and S. K. Ghatak (C.N.R.S., Grenoble), "Site and Bond Disorder in a Heisenberg Ferromagnet," *American Physical Society Meeting,* Atlanta, GA, March 29–April 1, 1976.

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R. E. Walker, "High-Pressure CW Chemical Laser Concept," *Tri-Service Chemical Laser Conference,* Kirtland AFB, NM, February 18, 1976.

The following papers were presented at the *Fall Annual Meeting of the American Geophysical Union,* San Francisco, CA, December 8–21, 1975:

T. Iijima and T. A. Potemra, "Field-Aligned Currents in the Dayside Cusp Regions Observed by TRIAD."

T. A. Potemra and T. Iijima, "The Correlation of High-Latitude Field-Aligned Currents with the Geomagnetic S_q^p Field and the Interplanetary Magnetic Field."

E. C. Roelof and E. P. Keath, "Magnetic Field Line Merging Signatures in 50 keV Proton Events."

D. G. Mitchell and E. C. Roelof, "Parameterization of Weak Scattering Theory for Interplanetary Radio Scintillations for Finite Angular Diameter Sources."

E. P. Keath, E. C. Roelof, and C. O. Bostrom (APL) and D. J. Williams (National Oceanic and Atmospheric Administration, Boulder), "Correlation of $\geq$ 50 keV Proton and $\geq$ 30 keV Electron Events in Interplanetary Space, the Magnetosheath and the Magnetotail at 35 R_e."

B. L. Gotwols and E. C. Roelof (APL) and W. M. Cronyn, F. Erskine, and S. D. Shawhan (University of Iowa), "Statistical Analysis of Variations in Interplanetary Radio Scintillation Indices at 34.3 MHz."

APL COLLOQUIA

Jan. 9—"Low Energy Electrons as a Probe of a Solid Surface," by R. L. Park, Univ. of Maryland.

Jan. 16—"Title VII—Ten Years Later," by H. A. Glickstein, Howard Univ.

Jan. 23—"Computer Predictions of Energy Atmospheric Effects," by P. Handler, Univ. of Illinois.

Jan. 30—"Coal—A Past and Future King," by A. M. Squires, City Univ. of New York.

Feb. 6—"A Scientist Joins the Congressional Staff," by A. R. Hoffman, Senate Committee for Commerce.

Feb. 13—"Inversion Layers on Silicon Surfaces," by A. B. Fowler, IBM Watson Research Center.

Feb. 27—"Patient Information Systems—The Johns Hopkins Experience," by D. W. Simborg, The Johns Hopkins Univ.

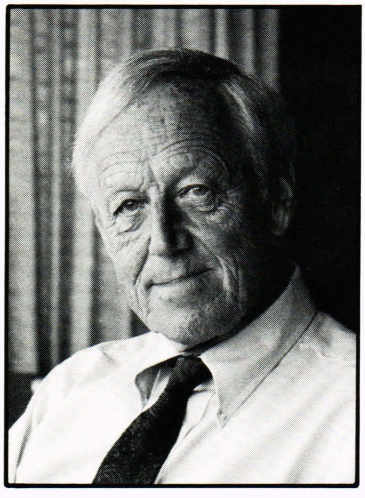
Mar. 5—"Beam and Waveguide Couplers," by T. Tamir, Polytechnic Institute of New York.

Mar. 12—"Ecological Effects of Various Energy Sources," by R. Patrick, Academy of Natural Sciences.

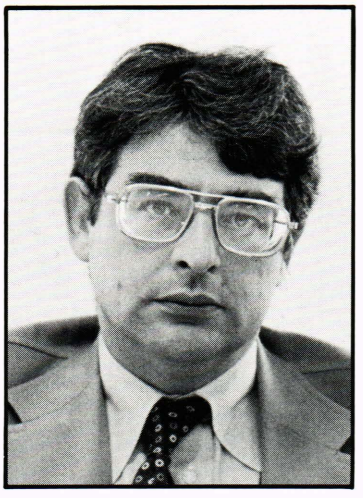
Mar. 19—"SST's, Ozone and Skin Cancer," by S. F. Singer, Univ. of Virginia.

Mar. 26—"Research on Fire-Related Problems," by W. G. Berl, Applied Physics Lab.

WITH THE AUTHORS



Dr. Hannes Alfvén was born in Sweden in 1908 and received the Ph.D. from the University of Uppsala. Between 1940 and 1973 he was successively Professor of the theory of electricity, of electronics, and of plasma physics at the Royal Institute of Technology in Stockholm. Since 1967 he has been with the Department of Applied Physics and Information Sciences at the University of California at San Diego. Among his many scientific papers and books are *Cosmical Electrodynamics, On the Origin of the Solar System, Fundamental Principles* (with C.-G. Fälthammer) and *Worlds-Antiworlds.* Dr. Alfvén was Nobel Laureate in Physics in 1970. He has received the Lomonosov, Franklin, and Royal Astronomical Society (U.K.) gold medals. He is a member of the Royal Swedish Academy of Sciences, the Swedish Science Advisory Council, the Swedish Academy of Engineering Sciences, the U. S. Academy of Sciences, and the Academy of Sciences of the U.S.S.R.



Dr. Riccardo Giacconi received the Ph.D. from the University of Milan. After serving on the faculties of the University of Milan and of Indiana and Princeton Universities, he joined American Science and Engineering, Inc. in 1959, where he became Executive Vice President. Concurrently, during the period 1970–72, he was an Associate of the Harvard College Observatory. Since leaving AS&E in 1973, Dr. Giacconi has been Professor of astronomy at Harvard University and Associate Director, High Energy Astrophysics Division of the Center for Astrophysics. He is a member of many professional organizations, including the U.S. National Academy of Sciences, as well as of five scientific boards and committees. Among the honors Dr. Giacconi has received are a Fulbright Fellowship (1956–58), the Como Prize of the Italian Physical Society (1966), the Röntgen Prize in Astrophysics (1971), the NASA Medal for Exceptional Scientific Achievement (1971), the NASA Distinguished Public Service Award (1972), and the AIAA Space Science Award (1976). Dr. Giacconi has authored more than 100 scientific papers and articles.