

Editorial Board Changes



G. C. Weiffenbach

Dr. A. Kossiakoff, Director of the Laboratory, recently announced a change in the composition of the Editorial Board of the *APL Technical Digest*, as reflected on the title page of this issue. Dr. G. C. Weiffenbach, a member of the Board since the fall of 1967, left the Laboratory recently to accept a position with the Smithsonian Astrophysical Observatory in Cambridge, Mass. Mr. J. B. Oakes, Supervisor of the Space Electronics Design Branch of the Space Development Department, was appointed to fill the vacancy.

Dr. G. C. Weiffenbach, formerly Supervisor of the Space Research and Analysis Branch of the Space Development Department, is a native of New Jersey. He received the A. B. degree from Harvard University in 1949 and the Ph. D. degree in physics from The Catholic University of America in 1958. Dr. Weiffenbach was employed by APL in 1951 and was a Physicist in the Research Center until 1958, when he transferred to the Space Development Department. Dr. Weiffenbach was one of the pioneers in the precise tracking of artificial satellites by doppler techniques and was instrumental in the development of the Navy Navigation Satellite System. Dr. Weiffenbach is a member of Sigma Xi, the American Institute of Physics, the American Geophysical Union, and the Philosophical Society of Washington.

PUBLICATIONS

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

- H. H. Hart, "Hypersonic Flowfield Effects on Small Delta-Tail Surfaces," *J. Spacecraft and Rockets* **6**, No. 8, Aug. 1969, 866-872.
- J. J. Hicks, "Radar Observations of a Gravitational Wave in Clear Air Near the Tropopause Associated with CAT," *J. Appl. Meteorol.* **8**, No. 4, Aug. 1969, 627-633.
- A. N. Jette, "Hyperfine Interactions of V_K Centers," *Phys. Rev.* **184**, No. 2, Aug. 10, 1969, 604-605.
- A. N. Jette, T. L. Gilbert (Argonne National Lab.), and T. P. Das (Univ. of Calif.), "Theory of the Self-Trapped Hole in the Alkali Halides," *Phys. Rev.* **184**, No. 3, Aug. 15, 1969, 884-894.
- R. E. Jenkins, "A Satellite Observation of the Relativistic Doppler Shift," *Astronomical J.* **74**, No. 7, Sept. 1969, 960-963.
- N. Bazley (Battelle Inst.) and D. W. Fox, "Bounds for Eigenfunctions of One-Electron Molecular Systems," *Intern. J. Quantum Chem.* **III**, No. 5, Sept. 1969, 581-586.
- N. Bazley (Battelle Inst.) and D. W. Fox, "Lower Bounds to Eigenvalues of Quantum Mechanical Systems," *Intern. J. Quantum Chem.* **III**, No. 5, Sept. 1969, 587-592.
- E. L. Cochran, F. J. Adrian, and V. A. Bowers, "Reinterpretation of the ESR Spectrum of NH_2 , NHD, and ND_2 in Argon at 4°K," *J. Chem. Phys.* **51**, No. 6, Sept. 15, 1969, 2759-2761.
- R. W. Flower, "Construction of a Versatile Small-Animal Hyperbaric Facility," *J. Appl. Physiol.* **27**, No. 4, Oct. 1969, 571-576.
- J. R. Kuttler and V. G. Sigillito, "Lower Bounds for Sloshing Frequencies," *Quarterly of Appl. Math.* **XXVII**, No. 3, Oct. 1969, 405-408.
- W. G. Spohn, Jr., "Can Mathematics be Saved?" *Notices Am. Math. Soc.* **16**, No. 6, Oct. 1969, 890-894.
- R. R. Kepple, "Missions for an International Library," *Special Libraries* Oct. 1969, 521-526.

ADDRESSES

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

- D. W. Fox, "Displacement of Essential Spectra and Lower Bounds to Eigenvalues," *Senior Navy Mathematicians Meeting, Colorado State University, Fort Collins, August 17, 1969.*
- V. G. Sigillito, "Inequalities for Membrane and Steklov Eigenvalues," *INSMAR Meeting of Navy Mathematical Scientists, Colorado State University, Fort Collins, August 21, 1969.*
- R. Cashion, "The TIROS Solar Proton Monitor," *Eighth International Space Technology Symposium, Tokyo, Japan, August 25-30, 1969.*
- W. Seamone and C. Hoshall, "A Single Site Myoelectric Control System for Prosthesis," *Third International Symposium on External Control of Human Extremities, Dubrovnik, Yugoslavia, August 25-30, 1969.*
- The two following addresses were given at the *XIth International Conference on Cosmic Rays*, Budapest, Hungary, August 25-September 4, 1969:
- S. M. Krimigis, "The Radial Gradient of 0.32 Mev Protons in 1967;"
- S. M. Krimigis and D. Venkatesan, "The Radial Gradient of Interplanetary Radiation Measured by Mariners 4 and 5."
- D. W. Fox, "Displacement of Essential Spectra and Lower Bounds to

ADDRESSES *(continued)*

Eigenvalues," *American Mathematical Society, University of Oregon, Eugene, August 29, 1969.*

The two following addresses were given at the *International Association of Geomagnetism and Aeronomy*, Madrid, Spain, September 1-12, 1969:

C. O. Bostrom, "Time Variations in the Inner Radiation Zone;"

A. J. Zmuda, "The International Geomagnetic Reference Field 1965.0"

F. J. Adrian, "Effect of Spin-Orbit Interactions on the Radiative Triplet-Singlet Transitions in Aromatic Hydrocarbons," *American Physical Society, University of Hawaii, Honolulu, September 3, 1969.*

R. R. Newton, "Tidal Frictions and the Accelerations of the Earth," *International Association of Geodesy, Sixth International Symposium on Earth Tides, Strasbourg, France, September 15-20, 1969.*

C. O. Bostrom, "Entry of Low Energy Solar Protons into the Magnetosphere," *European Space Research Organization Symposium on Intercorrelated Satellite Obser-*

vations Related to Solar Events, Noordwijk, Holland, September 16-19, 1969.

K. Moorjani and C. Feldman, "Electrical Conduction in Amorphous Boron and Silicon," *International Conference on Amorphous and Liquid Semiconductors, Cambridge, England, September 24-27, 1969.*

K. Moorjani, "Amorphous Elemental Semiconductors," *Laboratoires des Hautes Pressions, Paris, October 1, 1969.*

E. J. Blau, "An Automated Circulation System and Master Book File for a Medium-Sized Scientific Library," *American Society for Information Science, San Francisco, October 4, 1969.*

The three following addresses were given at the *Twentieth Congress of the International Astronautical Federation*, Mar del Plata, Argentina, October 5-12, 1969:

J. Whisnant, G. Bush, and C. J. Swet, "Orbital Deployment of Very Long Tethered Structures;"

J. Whisnant and V. Pisacane, "Comparison of Theoretical and Experimental Attitude Data for the DODGE Spacecraft;"

ductor Amplifier, Patent No. 3,447,093.

C. A. Wingate, Jr. and P. T. Brenza, "The Thermal Design and Test of the Small Astronomy Satellite."

L. B. Weckesser and N. Rubinstein, "Transient Temperature Predictions on a Disk," *Ninth Conference on Thermal Conductivity, Iowa State University, Ames, October 6-8, 1969.*

N. Rubinstein, V. G. Sigillito, and J. T. Stadter, "Upper and Lower Bounds to Torsional Frequencies of Non-Uniform Shafts and Applications to Missiles," *Fortieth Symposium on Shock and Vibration, Hampton, Virginia, October 21-23, 1969.*

K. Moorjani, "Elemental Amorphous Semiconductors," *Naval Ordnance Laboratory, White Oak, Md., October 28, 1969.*

F. S. Billig, "Some Fluid Mechanical Problems in Supersonic Combustion Processes," *Illinois Institute of Technology, Chicago, October 29, 1969.*

D. W. Fox, "Displacement of Essential Spectra and Lower Bounds to Eigenvalues," *Mathematics Colloquium, Georgetown University, Washington, D.C., October 31, 1969.*

Guidance and Control of the American Institute of Aeronautics and Astronautics.

PATENTS

R. McCloy—*External Burning Ramjet Engine*, Patent No. 3,430,446.

D. W. Rabenhorst—*Passive Separation System*, Patent No. 3,431,854.

R. A. Matthey—*Ball Release Mechanism*, Patent No. 3,433,436.

D. W. Rabenhorst—*Spacecraft Extendible Boom Sunshade*, Patent No. 3,434,255.

W. E. Allen—*Electronic Solar Cell Array Simulator*, Patent No. 3,435,328.

G. B. Bush—*Solar Attitude Encoder*, Patent No. 3,440,426.

W. Liben—*Method and Apparatus for Interconnecting Microelectronic Circuit Wafers*, Patent No. 3,447,038.

V. Uzunoglu—*Additive Semicon-*

APPOINTMENTS

I. Katz, Project Scientist for clear air turbulence on the staff of the Preliminary Design Group, has been elected a Fellow of the Institute of Electrical and Electronic Engineers. He was cited for "contributions and research leadership in radar reflection from the sea and from the atmosphere." He has also been appointed a member-at-large of the U.S. National Committee of the International Radio Union.

W. A. Good has been reappointed to a third year (1970) of membership on the Technical Committee on

APL COLLOQUIA

Oct. 10—"Urban Tribalization in Washington, D.C.: A Study of Invisible Political Power," by E. C. Smith, American University/APL.

Oct. 17—"Preliminary Results of APOLLO 11 Lunar Samples," by E. C. T. Chao, U.S. Geological Survey.

Oct. 24—"Magnetic Bubbles," by D. Scovil, Bell Telephone Laboratories.

Oct. 31—"A Proposed Solution for Air Traffic Control," by L. Goldmuntz, Department of Transportation.