

pletely closed, so that any turnbuckle adjustments will lengthen L and decrease M/W and S/W .

Table I shows that the adjustment necessary to reduce M/W from 1.00 to 0.90 (with far larger decreases in S/W) is well within the capability of normal turnbuckle adjustment. One other possible adjustment can be made which has a similar effect: if the two hold-down fittings by which the bobstay ends are anchored to the hulls have two or more holes separated by a percent or two of the dimension D , the effects of increasing D are qualitatively similar to lengthening L but are of the

order of half as great as those produced by changing L .

Either or both of these adjustments produce changes in V and α , as well as in M and S .

Figure 4 gives the final information needed to show whether M/W needs to be reduced by lengthening L in order to bring S/W down to lower values. It shows why, as was previously stated, the smaller D/R values are better. If D/R is large it may be desirable to reduce M/W by a few percent to secure much larger reductions in S/W .

The fraction of jibstay length by which the bowsprit head rises above

plane $B-B'$ is much smaller than S/W , since a typical jibstay is likely to be some three and a half times W .

This paper will not undertake to set a maximum permissible S/W value, since most yachtsmen who may want to use the foregoing graphs and formulas will have a good idea of what is acceptable. It may be said, however, that if Fig. 4 is used to select combinations of D/R and M/W that avoid the high S/W values on the upper right, no combination of dimensions on this graph will permit any seriously objectionable change in jibstay tension.

HONORS

G. B. Swartz and *A. Michelsen* have been named by the President of The Johns Hopkins University as 1965-66 recipients of William S. Parsons Fellowships. Both men will begin an academic year of work at the University in the fall of 1965.

Dr. Swartz, who is Supervisor of the Logical Programming Project in the Computing Center, will develop and teach a course in computer science, being concerned with the subject from the point of view of the working scientist.

Mr. Michelsen will be associated with the School of Hygiene and Public Health and will investigate biological effects of x-radiation relative to protection, therapy, and general health physics. He is a member of the staff of the Equipment Research and Development Project in the Fleet Systems Division.

APL COLLOQUIA

Apr. 2—"Stability of Automobiles," by D. L. Nordeen, General Motors Research Laboratory.

Apr. 9—"An Interpretation of Martian Phenomena," by C. C. Kiess, Georgetown University.

May 7—"Optical Holography and X-Ray Microscopy," by G. W. Stroke, University of Michigan.

May 14—"Progress in Quantum Electronics," by B. Lax, Lincoln Laboratory.

May 21—"Computer Systems 1967," by C. H. Weisert, Applied Physics Laboratory.

May 28—"Recent Progress in Field Emission and Its Applications," by W. P. Dyke, Field Emission Corporation.

PUBLICATIONS

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

L. W. Ehrlich, "The Block Symmetric Successive Overrelaxation Method," *J. Soc. Indust. Appl. Math.*, **12**, Dec. 1964, 807-826.

R. G. Munn, F. J. Smith, and E. A. Mason (University of Maryland) and L. Monchick (APL), "Transport Collision Integrals for Quantum Gases Obeying a 12-6 Potential," *J. Chem. Phys.*, **42**, Jan. 15, 1965, 537-539.

W. G. Berl, "Instability in Solid Rockets," *Astronautics and Aeronautics*, **3**, Feb. 1965, 54-62.

S. D. Bruck and R. R. Rector, "New Drip- and Leak-Proof Precision Syringe," *Rev. Sci. Instruments*, **36**, Feb. 1965, 239-240.

W. E. Buchanan, "Navy's Transit Satellites Showing the Way in Outer Space," *Navy—The Magazine of Sea Power*, **8**, Feb. 1965, 7-10.

R. M. Fristrom, "Definition of

Burning Velocity and a Geometric Interpretation of the Effects of Flame Curvature," *Phys. Fluids*, **8**, Feb. 1965, 273-280.

W. Liben, "Monkeys and Microelectronics," *Electronics*, **38**, Feb. 1965, 90-93.

J. T. Massey and S. M. Cannon, "Constricted Discharges in the Rare Gases. I. Spectroscopic and Electrical Measurements," *J. Appl. Phys.*, **36**, Feb. 1965, 361-372.

J. T. Massey, "Constricted Discharges in the Rare Gases. II. Analysis of the Macroscopic Properties of the Discharge," *J. Appl. Phys.*, **36**, Feb. 1965, 373-380.

J. T. Massey, A. G. Schulz, B. F. Hochheimer, and S. M. Cannon, "Resonant Energy Transfer Studies in a Helium-Neon Gas Discharge," *J. Appl. Phys.*, **36**, Feb. 1965, 658-659.

— BOOKS —

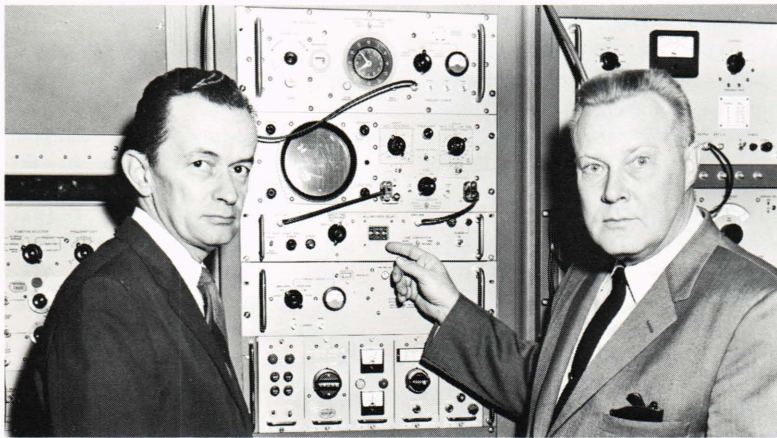
V. Uzunoglu, *Semiconductor Network Analysis and Design*, McGraw-Hill Book Co., Inc., New York, 1964.

S. D. Bruck, "Thermogravimetric Studies on an Aromatic Polyimide in Air and in the Vacuum Region of 10^{-2} to 10^{-3} Torr Using the Cahn RG Electrobalance," *Vacuum Microbalance Techniques 4*, Plenum Press, New York, 1965, 247-278.

ADDRESSES

- R. M. Fristrom, "Flame Structure," *New York University*, Department of Chemistry Colloquium, Feb. 12, 1965.
- R. E. Gibson, "Science and the Humanities," *Key Club of Springbrook High School*, Teacher Recognition Banquet, Silver Spring, Md., Feb. 23, 1965.
- D. W. Fox, "Systematic Methods for Lower Bounds to Eigenvalues," *Eidgenössische Technische Hochschule*, Mathematics Colloquium, Zurich, Switzerland, Feb. 26, 1965.
- D. J. Williams, "Experimental Observations of Outer Zone Electrons," *University of Maryland*, Physics Seminar, Mar. 12, 1965.
- D. J. Williams, "Morphology of the Magnetosphere as Determined by Observations of Trapped Particles," *Rice Institute*, Houston, Mar. 16, 1965.
- R. M. Fristrom, "Flame Structure and Flame Chemistry," *University of Wisconsin*, Chemistry Department, Mar. 18, 1965.
- Jane Olmer, "Use of a Computer in a Business Environment—A Case History (Information Systems Analysis and Design)," *The Johns Hopkins University*, Seminar in Computer Sciences (series), April 17, 1965.
- R. M. Fristrom, at the invitation of the American Chemical Society, presented under its sponsorship a series of lectures on the subject of *Flame Structure and Flame Chemistry* to audiences in thirteen cities in Arizona, California, Oregon, Washington, Montana, and North Dakota from April 8–30, 1965. Dr. Fristrom also addressed audiences of chemists and chemical physicists at the California Institute of Technology, the Aerospace Corporation, and Reed College.

WITH THE AUTHORS

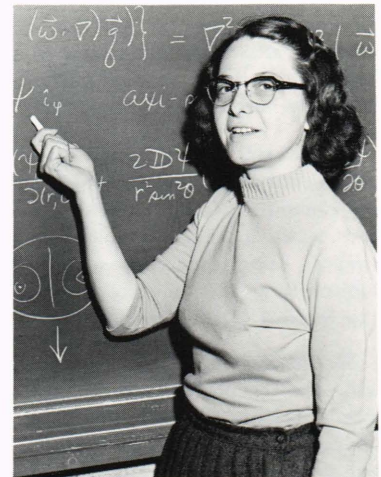


B. W. Shaw (left above), co-author of "Frequency Monitoring and Nuclear Burst Detection: Some Aspects of VLF," was a co-author, with C. R. Haave (right) of "Frequency Monitoring of VLF Transmissions" published in the May-June 1962 *Digest*.

Mr. Shaw, Supervisor of the Time and Frequency Standards Project of the Space Operations Control Group, is a native of Narragansett Pier, Rhode Island. He came to APL in 1946, after serving with the U. S. Engineering Department in Port-of-Spain, Trinidad, B.W.I. In different capacities at the Laboratory Mr. Shaw has been concerned with

weapon simulator design and with the functional design of time and frequency comparison systems and the analysis of time and frequency comparison data.

Mr. Haave, a native of Winona, Minnesota, came to APL in 1954 from Tufts College where he was a Research Associate Professor of Physics. In his present position on the staff of the Station Services Project of the Space Operations Control Group, he has been conducting studies of VLF propagation, as well as ionosphere research and satellite ground system station analysis. He is a member of the American Physical Society.

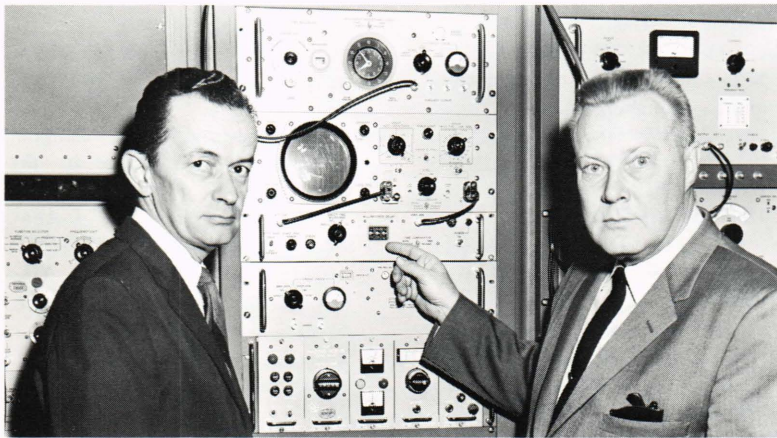


V. O'Brien, author of "Eggs and Other Deformed Spheroids in Stokes Flow," was the author of "Moving Bubbles, Drops, and Other Fluid Blobs" that appeared in the May-June 1962 *Digest*. Dr. O'Brien, who received her Ph.D. degree in fluid mechanics from The Johns Hopkins University in 1960, is a former member of the Research Center staff. She is now Supervisor of the Boundary Layer Control and Magnetohydrodynamics Project of the Fluid Mechanics Group. Dr. O'Brien is a member of the Institute of Aeronautical Sciences and the American Physical Society.

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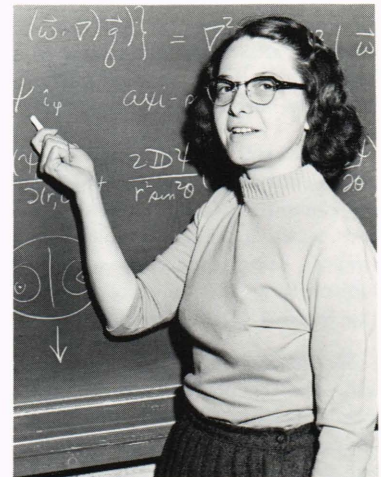


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