

ber 5 and 6, 1963, considered the theory and technique of ellipsometry, its application to the measurement of thin films on metallic and silicon surfaces, and its uses in the study of biological macromolecules and blood coagulation.

The proceedings were edited by E. Passaglia, R. R. Stromberg, and J. Kruger. The 359-page book is NBS Miscellaneous Publication 256 and is for sale by the Superintendent of Documents, US Government Printing Office, for \$2.25.

Technical typing

A new book intended as an aid to scientific secretaries is *A Handbook for Technical Typists* by Nelson James Dunford. Beginning with a discussion of the use of special type and other equipment for technical typists, the author continues with a general exposition of stylistic requirements for technical manuscripts. Further on, the special requirements of mathematical, chemical, physical, biological, geological, and astronomical papers are considered.

The mathematical and chemical sections include extensive discussions of symbols and nomenclature and techniques of typing equations. Lists of common physical constants and units of measurement with definitions and numerical values are given, along with spelling lists for technical terms (e.g., names of stars and constellations) and a list of frequently used technical abbreviations.

The 136-page book is published by Gordon & Breach of New York and costs \$5.75.

Astronomical telegrams

On January 1, the Central Bureau for Astronomical Telegrams of the International Astronomical Union was moved from Copenhagen Observatory, where it had been located since 1922, to the Smithsonian Astrophysical Observatory, in Cambridge, Mass. The Bureau's function is to facilitate the rapid dissemination of news of new astronomical discoveries. When an observer has sighted a new celestial object, he reports the fact to the Bureau, which then notifies other

observers. The Bureau also provides for the rapid worldwide distribution of orbit calculations and ephemerides and supplies the latest comet positions to computers. While the Central Bureau was in Copenhagen, Harvard Observatory served as a clearing-house for information to and from the Western Hemisphere.

At the Smithsonian Observatory, Owen Gingerich is in charge of the Central Telegram Bureau. He has become the editor of the *IAU Circulars*, formerly issued from Copenhagen, which are used to distribute news by mail. The Harvard Observatory *Announcement Cards*, which served as the agency for communication by mail in the Western Hemisphere, have ceased publication. Subscribers to the *Cards* will receive the *Circulars* to fill the unexpired portion of their subscriptions.

For reporting news to the Central Telegram Bureau, the new cable address is SATELLITES NEWYORK. Telegrams from the US, Canada, and Mexico should be addressed to RAPID SATELLITE CAMBASS.

IQSY Notes

The Special Committee for the International Years of the Quiet Sun is now offering the *IQSY Notes* for public subscription. The *Notes* are published about five times a year (nine issues have appeared between March 1963 and October 1964) and contain information on IQSY programs, observing stations, data exchange, schedules of synoptic observations, a calendar of the day-to-day state of the sun and the earth as measured by various geophysical indices, and occasional reports or review articles. The length of an issue varies between 30 and 100 pages. Subscriptions are available for \$5 a year from the IQSY Secretariat, 6 Cornwall Terrace, London, NW 1, England.

Goddard papers

The scientific and personal papers of the late Robert H. Goddard have been given by his widow to Clark University in Worcester, Mass. The papers, along with other memorabilia, will be housed in the Robert Hutch-



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The Möbius loop has fascinated mathematicians and parlor magicians for years. At Sandia, researchers recently discovered that it also forms the basis for excellent nonreactive resistors. An elementary Möbius resistor can be made by adhering two 1-foot strips of aluminum tape to opposite sides of a dielectric ribbon (1), twisting these a half turn (2) and joining their ends. Current leads soldered to opposite surfaces of the loop (3) complete the unit. The design formulas governing this basic configuration permit endless variations in performance, size, and shape. Besides being nonreactive, Möbius resistors will not couple to metallic objects, external fields, or themselves, nor will handling, folding or winding disturb the balance.

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ings Goddard Library, scheduled to be built by 1968. Dr. Goddard, who was an alumnus of Clark University, served on its faculty from 1914 to 1942. During this time he was engaged in theoretical and technical research on rocket propulsion; this work is now regarded as the basis for recent developments in the field.

In addition to published papers, the collection includes his 214 patents, notebooks dating from 1905 to 1939, eighteen volumes reporting his test work at Roswell, N.M., between 1930 and 1942, personal diaries (1898-1945), correspondence, and original films of test flights, much of which was taken by Mrs. Goddard.

Lexicon

Basic Books, Inc., of New York has recently published the *Concise Dictionary of Atomics* by Alfred Del Vecchio. The book defines terms, symbols, and abbreviations used in atomic and nuclear physics, nuclear chemistry, and radiology. Short biographical notes on individuals who have contributed to the development of atomic science are also included. The dictionary is 262 pages long and sells for \$6.

Sound in sea water

Volume 21 of the Mathematical Tables Series of Pergamon Press has been issued under the title, *Tables of the Velocity of Sound in Sea Water*, by L. S. Bark, P. P. Ganson, and N. A. Meister (translated from the Russian by D. E. Brown). The tables are presented in two parts: Part 1 covers a temperature range from -2°C to $+33^{\circ}\text{C}$ and a salinity range from 0 to 20 parts per thousand; Part 2 has the same temperature range but a salinity range from 20 to 40 parts per thousand. Values are listed in Part 1 for temperature increments of 0.1°C and salinity increments of 0.4 parts per thousand. In Part 2, the tabulated increments are 0.05°C and 0.2 parts per thousand, respectively. The velocities given were computed according to Del Grosso's formula. The book is 180 pages long and is distributed in the United States by the Macmillan Company of New York at a price of \$10.