

of Newton to that of Laplace by I. Todhunter; *Theory of the Motion of the Heavenly Bodies Moving About the Sun in Conic Sections* by Karl Friedrich Gauss, translated by Charles H. Davis; and *Opticks* by Isaac Newton.

Reprint Classics

The Johnson Reprint Corporation of New York has announced a new series of paperback reprints in the sciences to be published during the first half of this year. Under the general editorship of Harry Woolf, professor of the history of science at Johns Hopkins University, *The Sources of Science* intends to make available historical scientific works in scholarly, annotated editions.

Among the first group of titles that are planned are Robert Boyle, *Experiments and Considerations Touching Colour*, annotated by Marie Boas Hall; Richard Waller, *Essayes of Natural Experiments*, annotated by A. Rupert Hall; and *The Mathematical Works of Isaac Newton*, annotated by Derek T. Whiteside.

Inquiries can be directed to the Johnson Reprint Corporation, 111 Fifth Avenue, New York, N. Y. 10003.

US Standards History

An account of the development of American standards for weights and measures from the time of the American Revolution through 1962 has been prepared by Lewis V. Judson of the National Bureau of Standards. The thirty-page publication is illustrated and has six appendixes which describe such historically important events as the 1960 adoption of the wavelength definition of the meter.

Weights and Measures Standards of the United States, A Brief History can be obtained from the Superintendent of Documents, US Government Printing Office, Washington, D. C. 20402, for 35¢ a copy.

Isotopes

A literature survey and a bibliography of radioisotope technology are now available from the Office of Technical Services, US Department

of Commerce, Washington, D.C.

Literature Survey On World Isotope And Radiation Technology (IITRI-1194-13) (\$2.75) prepared by the Illinois Institute of Technology, describes the uses and technology of radioisotopes throughout the world, with particular emphasis on the US and the Soviet Union. Media examined were classified by country, year of publication, and subject matter. A bibliography with fifty references is attached.

Radioisotopes In World Industry, Abstracts of Selected Foreign Literature (TID-6613 Suppl. 4) (\$2.75) is another in the series of Atomic Energy Commission publications of abstracts of foreign literature on radioisotope technology. The 626 abstracts were prepared by the Science and Technology Division, Library of Congress, for the AEC. Previous publications in the series, TID-6613, TID-6613 (Suppl. 1), TID-6613 (Suppl. 2), and TID-6613 (Suppl. 3), each priced at \$2.50, are all available from OTS.

The Scientific Equipment Company has issued its *1963-64 Isotope Index*, listing the source of every known commercially available isotope as of July 1963. The more than 10 800 entries include both stable and radioactive isotopes as well as some 2100 labeled compounds of ^{14}C , ^{125}I , ^{131}I , ^{32}P , ^{35}S , ^3H , ^2H , ^{13}C , ^{15}N , and ^{18}O . Information includes chemical name or formula, specific activity, supplier, catalog number, and latest prices. Copies can be obtained from the Scientific Equipment Company, Publications Department, PO Box 19086, Indianapolis, Ind., for \$7 each (hardbound copies are priced at \$8).

Pu and U Measurement

The Atomic Energy Commission has completed a five-year study of measuring techniques with publication of a comprehensive book on accurate and reliable methods of determining the chemical concentration and isotopic composition of plutonium and uranium in various forms.

The book, entitled *Selected Measurement Methods for Plutonium and Uranium in the Nuclear Fuel Cycle*,

was prepared under the sponsorship of the AEC's Division of Nuclear Materials Management and published by the agency's Division of Technical Information. It was compiled and edited by Ralph J. Jones, chief of the Survey and Appraisal Branch of the Division of Nuclear Materials Management. The book is for sale by the Superintendent of Documents, US Government Printing Office, Washington, D.C., for \$3.50 a copy.

Tables

The second revised edition of Ryshik and Gradstein's *Tables of Series, Products, and Integrals* has been translated from the original Russian into a bilingual English-German edition by VEB Deutscher Verlag Der Wissenschaften of Berlin. Special features of the volume include an index of special functions and notations, a table of disparities in notation and symbols, a list of abbreviations, and a bibliography of references which formed the basis for reconstructing most of the tables. Copies of the publication can be obtained from the Plenum Press, 227 W. 17 St., New York, N.Y. for \$15.

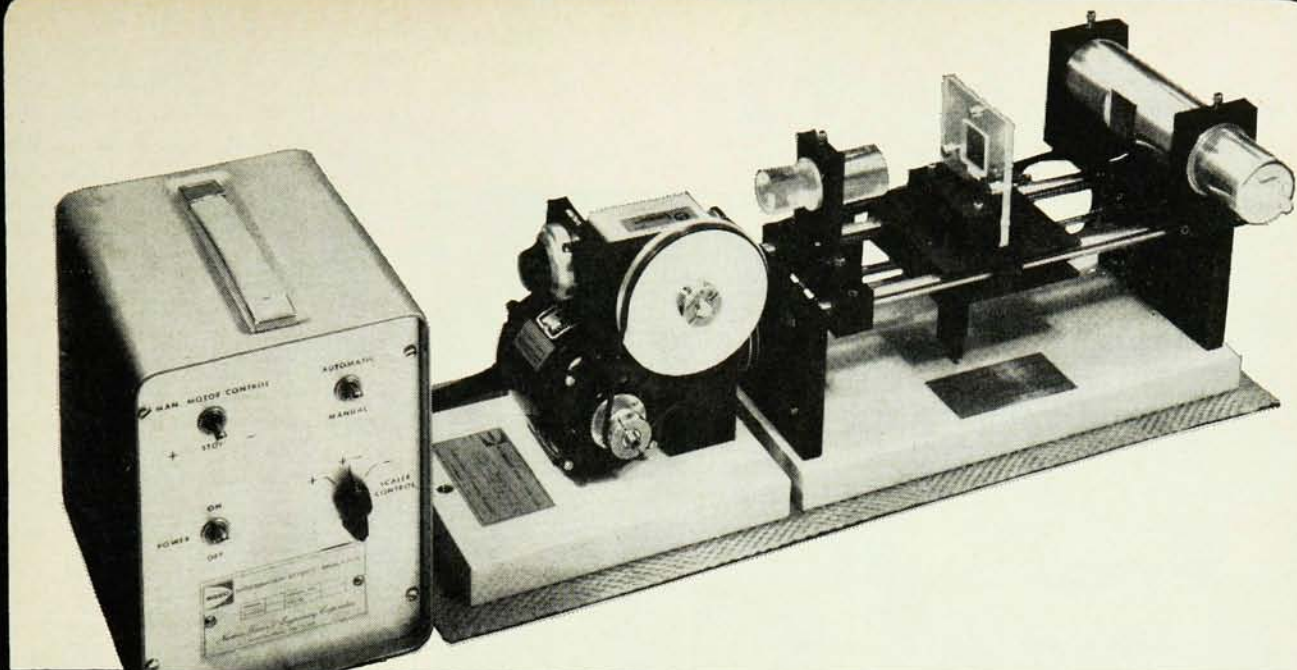
Soviet Astronomy

Papers on Soviet contributions to astronomy, including several on the performance of the new 102-inch reflector telescope at the Crimean Astrophysical Observatory, are contained in a recent volume of translated articles from Russian publications. The telescope, which is the largest in Europe, has a 4-ton mirror optical system and is capable of changes in mirror focal length from 10 to 100 meters.

The volume, *New Methods In Astronomy* (TT-64-21262), can be obtained for \$3 from the Office of Technical Services, US Department of Commerce, Washington, D.C.

Lab Notes

Laboratory And Workshop Notes 1959-1961 is the sixth selection of notes reprinted from the *Journal of Scientific Instruments* by the British Institute of Physics and Physical So-



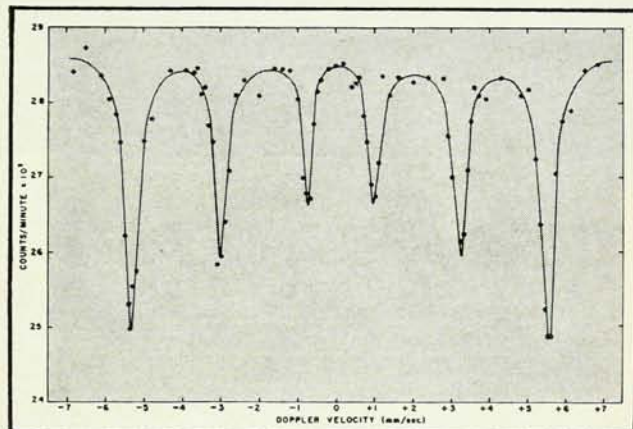
Mössbauer Effect Analyzer

A linear translation device for Mössbauer Effect data

The first commercially available Mössbauer Effect Analyzer was developed by the Nuclear Science & Engineering Corporation to supply an instrument capable of dramatic, graphic demonstration of the Mössbauer effect to the uninitiated. The Model B Analyzer does this and a great deal more. It is a research-quality device requiring as adjuncts only an appropriate detector (proportional tube or scintillation crystal) and single-channel pulse-height analyzer for precision Mössbauer effect measurements.

The NSEC Analyzer (Model B) is a rugged, precision-built, lathe-type instrument. The absorber carriage moves at a pre-set constant velocity relative to the source and detector and is supported by heavy-duty sleeve bearings on precision cylindrical rods. It is capable of carrying cryostatic equipment without affecting velocity.

Specifications include: variable velocity of absorber carriage from 0 to 15 mm/sec . . . minimum velocity increment of 0.05 mm/sec . . . velocity calibration accuracy to $\pm 5\%$ from 0 to 1.0 mm/sec and accuracy to $\pm 1\%$ from 1.0 mm/sec to 15 mm/sec . . . velocity reproducibility is plus or minus one percent at any velocity . . . the absorber carriage sweep is adjustable from one to fifteen centimeters . . . line broadening due to vibration



or variation in velocity is no more than 0.1 mm/sec at any velocity.

The Mössbauer Effect Analyzer (exclusive of control unit) is 21½ inches long, 8 inches high, 6 inches wide. Weight: approximately 50 pounds.

Accessories also immediately available include the model 360C source holder, absorber holder, and xenon-methane filled proportional counter. Associated electronics components should provide a 2500 volt power supply, differential pulse-height analyzer and scaler.

Write for Brochure No. 1165, describing the NSEC Analyzer, and Mössbauer Effect sources and absorbers.

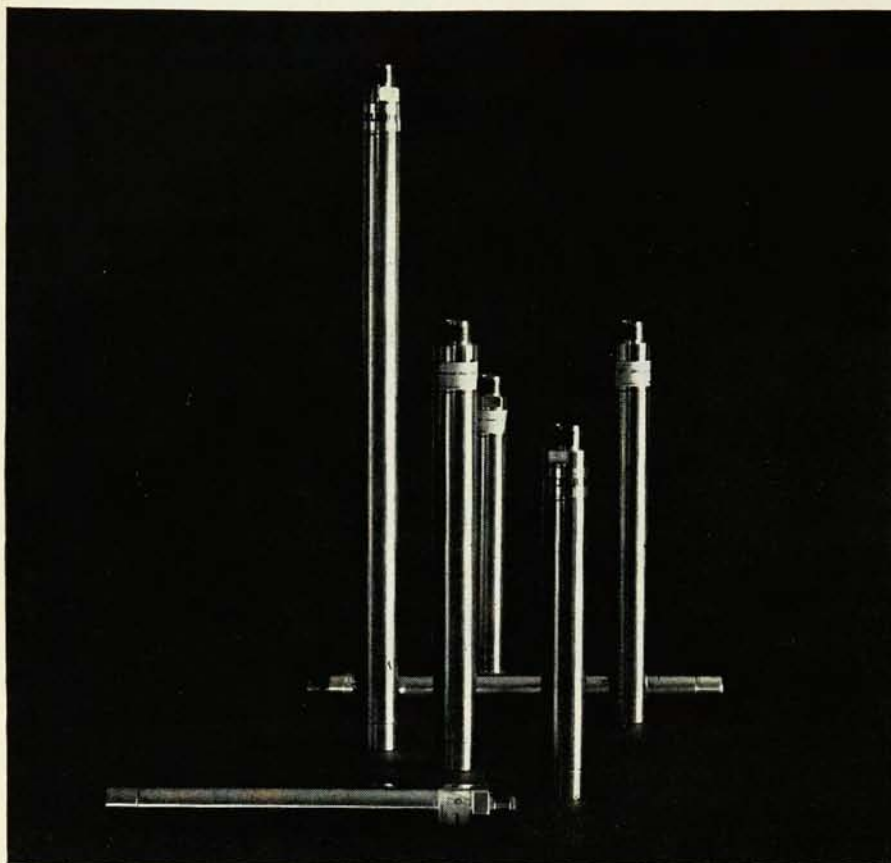
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TEXLIUM DETECTORS: BETTER THAN EVER

The detector program at Texas Nuclear is aimed at development of new TEXLIUM (helium-3) models and at continuing improvement in current models. Here are a few recent improvements. Operating temperatures have been extended to 200°C. Voltage plateaus have more than doubled (to 250 volts). Energy resolution has been halved.

Note also these new model developments. Texas Nuclear now provides TEXLIUM detectors for neutron spectroscopy utilizing a krypton additive

for reduced wall effects. We also offer detectors with fast rise and low jitter times for slow neutron time-of-flight studies. Consider as well our ability to build special detectors in sizes ranging from 1" x 1/4" midgets to as large as you care to think about. Please request complete details.

NUC:N-4-222



TEXAS NUCLEAR

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ciety. This collection, like the five previous ones, was compiled and edited by Dr. Ruth Lang. It has six sections: mechanical design, laboratory and workshop devices; laboratory and workshop techniques; optical and thermal techniques and devices; techniques and devices for use with liquids and gases, and at low temperatures; vacuum and pressure techniques and devices; and electrical and electronic devices and techniques involving semiconductors, zone refining, and single crystals.

The volume can be obtained, at \$10 a copy, from its American distributors, St Martin's Press, 175 Fifth Avenue, New York, N.Y.

Space Science

The Smithsonian Astrophysical Observatory has issued Volume 6 of its "Contributions to Astrophysics" under the title, *Research in Space Science*. The 29 papers have been selected from the Observatory's Special Reports 11 through 80, dating from 1958 to 1961, with minor revisions to update the material.

Some of the topics covered include descent and orbital results for satellite 1957 $\beta 1$, structure of the high atmosphere, density of the heterosphere related to temperature, and an analysis of gravity. The volume is for sale by the Superintendent of Documents, US Government Printing Office, Washington, D. C. 20402, for \$2 a copy.

Handbook of Functions

Also available from the Government Printing Office is the *Handbook of Mathematical Functions—with Formulas, Graphs, and Tables*. The volume was compiled by the National Bureau of Standards with technical advice from a committee of the Mathematics Division of the National Research Council. Included are chapters on Bessel functions of integral and fractional order, and exponential integral, Legendre, Mathieu and other functions. Rational approximation formulas, tailored to the computer, are included for all functions. The handbook is priced at \$6.50 a copy.