PUBLISHING NEWS

Monographs

A summary of the elastic, viscoelastic, and acoustic isolation properties of materials is contained in a 51-page monograph entitled *Acoustic Propagation and Isolation*, by F. E. Bellas, which has recently been published as Engineering Research Bulletin B-81 by the Pennsylvania State University College of Engineering and Architecture, University Park, Pa. It is priced at $2. The monograph starts with a brief review of basic concepts in the theory of elasticity, deals with propagation in various kinds of media, and concludes with a discussion of acoustic isolation by means of elastic, viscoelastic, and porous viscoelastic media.

Climatic Charts and Data *of the Radio Refractive Index for the United States and the World* (National Bureau of Standards Monograph 22) has been prepared by B. R. Bean, J. D. Horn, and A. M. Ozanich, Jr., as a compilation and analysis of data on the radio refractive index of air obtained from observations made over an eight-year period at 45 US weather stations, supplemented by information from the United Nations' *Climatic Data for the World* and other records. Since the index is a function of atmospheric pressure, temperature, and humidity, it varies systematically with climate and also with elevation. A simplification has been introduced into the tables by reducing all data to sea-level values. The monograph is 178 pages long, costs $2, and can be ordered from the Superintendent of Documents, US Government Printing Office, Washington 25, D. C.

A limited number of copies of the *Proceedings of the May 20, 1960 Conference on X-Ray Astronomy*, held at the Smithsonian Astrophysical Observatory, are now available, according to the editor, Arthur I. Berman. They may be obtained free of charge by technical libraries, students, and research workers who address their requests to the Smithsonian Astrophysical Observatory, 60 Garden St., Cambridge 38, Mass., Att.: Mrs. H. Beattie.

Periodicals

Volume 1, Number 1 of a new Pergamon Press journal entitled *Infrared Physics* was issued in March of this year. The editors are W. K. Weihe of the US Army Engineer Research and Development Laboratories at Fort Belvoir, Va., S. Passman of the RAND Corporation in Santa Monica, Calif., N. Migeotte of the Institute of Astrophysics at the University of Liège in Belgium, and T. S. Moss of Britain's Royal Aircraft Establishment. The magazine also has a 31-member editorial advisory board which includes 16 representatives from the United States. Concerned with infrared theory, applications, and instrumentation, the journal will publish research papers and notes, invited critical surveys, and book reviews. Requests for further information should be sent to Pergamon Press, Inc., 122 East 55th Street, New York 22, N. Y.

The Metallurgical Society of the American Institute of Mining, Metallurgical, and Petroleum Engineers is offering the first six volumes of *Nuclear Metallurgy* at a reduced price of $12 to members and $18 to nonmembers. The six volumes contain 600 pages in all and are composed of papers presented over a period of several years before Institute of Metals Division sessions, including the following symposia: Behavior of Materials in Reactor Environment (February 1956), Effects of Radiation on Metals (October 1956), Uranium and Uranium Dioxide (November 1957), Fabrication of Fuel Elements (October 1958), and Effects of Irradiation on Fuels and Fuel Elements (November 1959). Sets can be purchased from the AIME Book Order Department, 29 West 39th St., New York 18, New York.

The Library of Congress has announced that it will donate its overstock of back numbers of its publications, *East European Accessions Index* and *Monthly Index of Russian Accessions*, to libraries of educational institutions and public bodies in the United States. Each index gives in English a monthly account of new material on a variety of subjects received by the Library of Congress and other American research libraries from the USSR and East European countries. The number of available copies of individual issues varies, but the Library will try to fill requests for nearly complete sets of back numbers as long as the supply lasts. All requests, whether for complete files or individual issues, will be filled in order of receipt. Requests should be addressed to the Chief, Exchange and Gift Division, Library of Congress, Washington 25, D. C. Subscriptions for future issues may be placed with the Superintendent of Documents, US Government Printing Office, Washington 25, D. C.

Data Collection and Evaluation Centers

The Sigma Center at Brookhaven National Laboratory, which was originally organized by the late Donald J. Hughes to compile and evaluate information on neutron cross sections, has been expanded into two groups, carrying out two distinct functions.

The Neutron Cross Section Compilation Group collects the available data on neutron cross sections and associated nuclear properties of all materials, maintains a file of this information arranged for ready reference

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HYDROGEN THYRATRONS — HYDROGEN DIODES — TRIGGERED SPARK GAPS

These miniaturized hydrogen thyratrons were developed for compact modulator design for missile, airborne, and ground-based applications where size and weight are major considerations. Ruggedly built, they will withstand severe shock, vibration and high temperatures. Write for Data Sheet #040.

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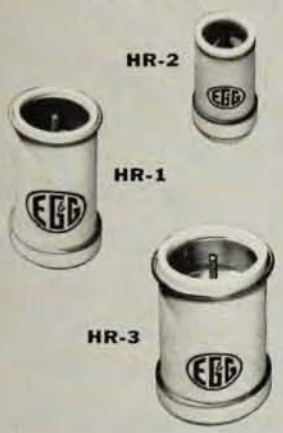
THYRATRON RATING CHART

MODEL	epy v.	ib a	Ib mAdc	Ip Aac	Ef Vac ±7.5%	If Aac—max. Ef=6.3v	Eres Vac ±7.5%	Ires Aac—max. Eres=6.3v	Pb	Cathode & Reservoir Warm-Up Time	Dimensions Max. Height-inches	Dimensions Max. Dia.-inches	Wt. lbs.
7621/HY-2	8,000	100	0.1	2.0	6.3	3.5	*	*	2.7 x 10^9	0.5 min.	2½"	1⅛"	0.13
7620/HY-1	20,000	500	0.5	8.0	6.3	7.5	6.3	4	10 x 10^9	5 min.	4⅜"	2 5/16"	0.82
7322/1802	25,000	1,500	1.5	47.5	6.3	16	6.3	6	20 x 10^9	10 min.	5¼"	3⅜"	2.07

*Hydrogen reservoir connected internally across heater-cathode.
Ambient Temperature Limits —65°C to +125°C, 400°C envelope maximum.

DIODES



High power, high voltage, hydrogen filled diodes designed for use as grid controlled rectifiers, hold-off diodes, inverse clippers and backswing clippers. In spite of their small size and light weight, they are of rugged construction and will withstand severe shock, vibration and high temperatures. Write for Data Sheet #050.

DIODE RATING CHART

Type	Clipper Diode Ratings epx kv	ib a	Ib Adc	Ip Aac	Rectifier Ratings epx kv	ib a	Ib Adc	Heater Ef Vac	If Iac max.	Eres Vac	Ires Iac max.	Cathode & Reservoir Warm-up Time minutes	Dimensions Max. Height-inches	Dimensions Max. Dia.-inches	Wt. lbs.
HR-2	8.0	9.0	.100	2.0	8.0	1.5	0.25	6.3	3.2	*	*	0.5	2½	1⅛	0.13
HR-1	25.0	250	.125	4.0	20.0	9.0	1.5	5.0	9.5	5.0	3.5	5	4⅜	2 5/16	0.95
HR-3	25.0	500	.500	16.0	25.0	30.0	5.0	6.3	13.0	6.3	4.0	10	5¼	3⅜	2.07

*Hydrogen reservoir connected internally across cathode-heater.
Ambient Temperature Limits —65°C to +125°C ambient, 400°C envelope maximum.

CERAMIC-METAL MODEL GP-12
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Delay time — 0.5 microseconds.
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Electrode to electrode cut-off voltage — 1.8 kv. min.
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and comparison of cross-section measurements on any given element or isotope, and at appropriate intervals publishes compilations such as the well-known "Barn Book" (BNL-325) and its supplements. The group is now under the direction of John R. Stehn, formerly a theoretical physicist on the staff of the Knolls Atomic Power Laboratory. For a number of years Dr. Stehn edited GE's *Chart of the Nuclides*. The Compilation Group functions under the general cognizance of the Atomic Energy Commission's Advisory Group on Neutron Cross Sections.

The second part of the Sigma Center is the Reactor Cross Section Compilation Group, which was established at Brookhaven last year to supply information on cross sections having particular significance in the design of nuclear reactors. It is the group's function to consider the usefulness and reliability of extant data and, guided by current nuclear theories, to interpolate and extrapolate where necessary to supply estimates of cross sections for reactor applications.

Brookhaven spokesmen have voiced the hope that scientists making observations on neutron cross sections will continue informally to supply the Sigma Center with detailed data and graphs of their results, however tentative, and if possible before publication. Such results will not be included in compilations published by the Compilation Group if the originator so wishes. The Center will also welcome suggestions as to the content and format of future compilations.

Correspondence directed to either group should be addressed to the Sigma Center, Brookhaven National Laboratory, Upton, L. I., New York.

A center for the collection and evaluation of data on atomic transition probabilities and cross sections has been established at the National Bureau of Standards. The center is engaged in the compilation of atomic data in areas where experimental or theoretical investigations are being conducted at NBS. The work was begun as part of a research program sponsored by the Office of Naval Research and the Advanced Research Projects Agency, which seeks to supply the data needed for current and future research in plasma physics and astrophysics. A card file and a collection of reprints of publications pertaining to atomic transition probabilities have been established as the first phase of the program, and the center is prepared to supply, on a limited basis, bibliographies relating to transition probabilities of specific elements.

Numerical values for specific transitions are now being assembled and will appear in appropriate NBS publications. Work on the ten lightest elements is in progress and, while the results are not expected to be ready for publication until late in 1962, limited individual requests for some of the data on the first ten elements can be satisfied now. A complete collection of papers concerning low-energy cross sections for elastic and inelastic collisions and for photoionization is being assembled.

In order that the data center may be as effective and

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RESEARCH LABORATORY (Los Angeles and Canoga Park, California). Fields of interest include: physical studies of gaseous electronics, artificial meteors, reactor kinetics, microwave electronics; studies of quantum chemistry, thin film applications, electron and ion dynamics, and theoretical physics; heavy particle studies; ion propulsion research including neutralization and beam diagnostics, emitters, acceleration and ion optics, and engine design.

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ELECTROMAGNETIC SYSTEMS DIVISION (Canoga Park, California). The Radio Physics and Signal Equipment Laboratories of this division are engaged in developing advanced communication, radio direction finding, electro-optical, and penetration and reconnaissance systems; and in investigating advanced signal processing, electronic and anti-submarine warfare techniques.

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up to date as possible, authors are urged to send preprints and reprints of pertinent publications to the Atomic Physics Data Center, Far West Building, National Bureau of Standards, Washington 25, D. C.

The first issue of a directory covering the activities of more than thirty groups now active in compiling and publishing the numerical data of science and technology on a continuing basis has been announced by the National Academy of Sciences—National Research Council. Prepared by M. Joan Callanan, the 66-page book was compiled in the NAS-NRC Office of Critical Tables, which is under the direction of Guy Waddington, and was originally intended to aid the Office in the coordination of existing data projects and the stimulation of new ones. In view of the general usefulness of the information it contains, however, the Advisory Board and Executive Committee of the Office agreed that the directory should be made generally available.

Entitled *Directory of Continuing Numerical Data Projects* (NAS-NRC Publication 837), the book describes programs in the United States and Europe for the collecting of physicochemical, crystallographic and mineralogical, nuclear physics, thermophysical, spectroscopic, and comprehensive numerical data. For each of the groups, information is given concerning its publication and distribution procedures, its sources of data, its coverage of substances and properties, its methods of evaluating data, and its use of nomenclature, symbols, units, and physical constants. Revisions of the directory are expected to be published periodically. It may be purchased for $1 from the Printing and Publishing Office, National Academy of Sciences—National Research Council, 2101 Constitution Avenue, N. W., Washington 25, D. C.

Listings

For readers of Russian lunar literature the Office of Technical Services has prepared a 72-page glossary of specialized terminology entitled *Soviet-Russian Scientific and Technical Terms*. It contains lists of Russian terms with their English equivalents and of English terms with Russian equivalents, a transliteration table, a catalog of astronomical and astrophysical observatories, and a list of Soviet astronomers active in lunar research. The glossary (Document 61-11163) is priced at $1.75 and can be ordered from OTS, US Department of Commerce, Washington 25, D. C.

A 62-page cumulative list of the publications of the American Society for Testing Materials has recently been issued and can be obtained free of charge by writing to the Society at 1916 Race Street, Philadelphia 3, Pa. The catalog contains descriptions of more than 300 items, of which forty are new and not previously listed. Publications of the ASTM include symposia proceedings, manuals, indices, and a variety of special reports and compilations having to do with the properties of materials and products.