



PRODUCTION

SUPERCONDUCTORS



Varian's* high-homogeneity superconducting solenoid, delivered in June, achieves a field of 65 kilogauss using Supercon A-33 wire. The field is homogeneous to within 0.1% over 1.2" of axial length. Working bore at liquid helium temperature is 7/8" diameter with 5/8" diameter room temperature access. Maximum current is in excess of 21 amperes. Varian's scientific personnel have been extremely pleased with Supercon's wire quality and service.

*Varian Associates Instrument Division. Attn: Matt McKay, 611 Hansen Way, Palo Alto 1, California.

For specification sheets on developments released for production, or more information about SUPERCON, write or call Dr. James Wong or Mr. Thomas Reed.

Career openings now exist at SUPERCON for experienced personnel in the fields of superconductivity, solid-state physics and refractory metallurgy. For information, please write or call Dr. Wong or Mr. Reed.

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SC

Information Service of the National Science Foundation, covering over 500 documentation-research projects, studies, and experiments carried out by 264 organizations in the US and in 23 foreign countries. The reports are grouped under five headings, covering (1) the scientists' information needs, the uses made of scientific and technical information, and communication problems in science and technology; (2) information storage and retrieval systems and procedures; (3) mechanical translation; (4) equipment for the processing of scientific information; and (5) potentially related research which may affect the future of documentation, including such fields as character and pattern recognition, speech analysis and synthesis, linguistics, and artificial intelligence.

The current report is available for \$4.00 from the Office of Technical Services, US Dept. of Commerce, Washington 25, D. C. Previous reports in the series can be obtained from the Supt. of Documents, Gov't. Printing Office, Washington 25, D. C.

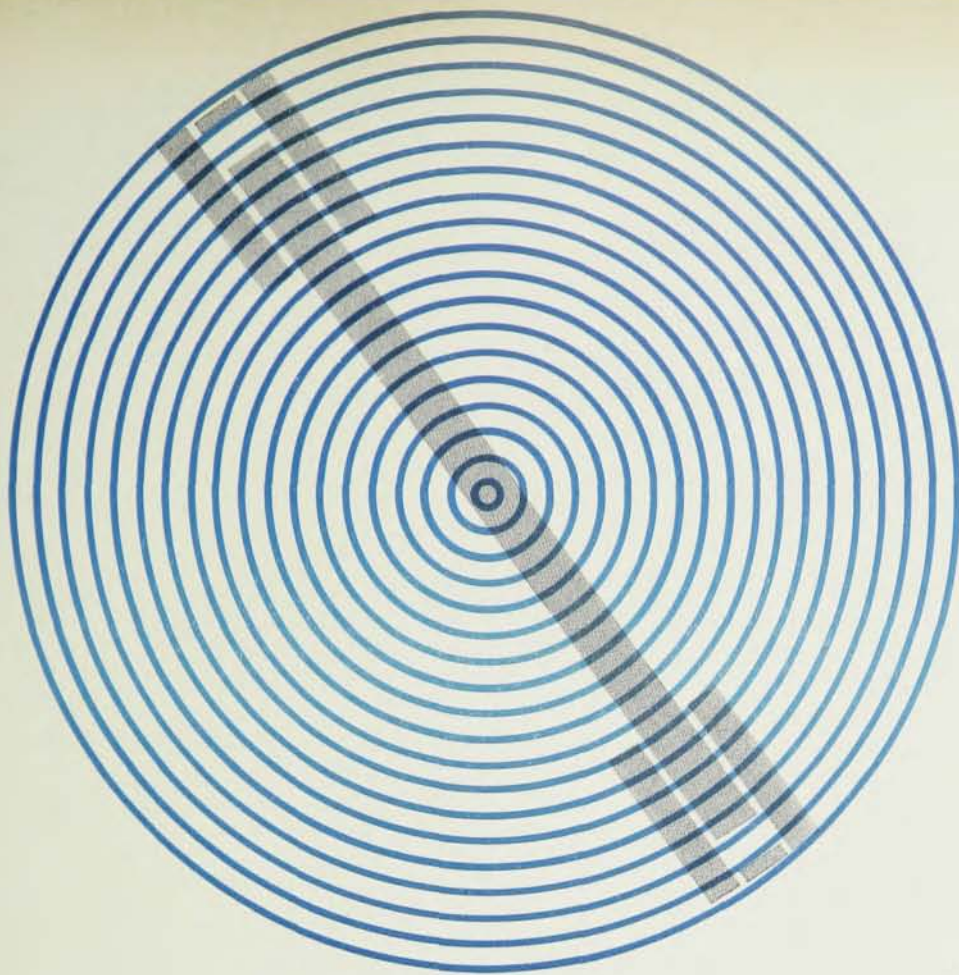
Pyrodynamics

Research and development in thermal power and related technologies comprise the theme of *Pyrodynamics*, a new international journal edited by Gilbert S. Bahn of the Marquardt Corporation. The journal will be published four times a year and will present original research papers dealing with applied kinetic theory, fluid mechanics, thermodynamics, aerothermochemistry, energy and mass transport, chemical kinetics and equilibria, combustion and combustion-like processes, condensation processes, plasma science, and energy conversion that is at least partly thermal in nature. Survey articles, abstracts, book reviews, and bibliographies will also be included. The subscription price of Volume 1 (four issues) is \$25, and orders may be placed with the Circulation Department, Gordon and Breach, 150 Fifth Ave., New York 11, N. Y.

Reactor-Characteristics Data

A new compilation of data used in calculating reactor characteristics has been prepared by the Reactor Physics Constants Center of the Argonne National Laboratory. Entitled *Reactor Physics Constants* (ANL-5800, 2nd edition), the 850-page volume was issued by the Atomic Energy Commission and supersedes a first edition published in 1958. Material in the book is based on data available through March 15, 1961, though more recent information has been included in some sections. Changes in the new edition include the addition of data on digital computer codes and the omission of properties of elements and reactor materials. The contents are divided into ten sections: fission properties, selected cross-section data, constants for thermal homogeneous reactors, lattice constants for thermal heterogeneous systems, control and dynamics of thermal reactors, intermediate reactors, fast reactors, shielding constants, constants related to inter-

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pretation of experimental data, and digital computer codes. The volume can be obtained from the Superintendent of Documents, US Government Printing Office, Washington 25, D. C., for \$6.00 a copy.

Proceedings

The Statistical Properties of Atomic and Nuclear Spectra, the proceedings of a symposium held last May by the physics department of the State University of New York at Stony Brook, are available on request while the supply lasts. The contents include the following articles: "Concepts in the Statistical Analysis of Spectra" by C. E. Porter, "Resonance Statistics and Average Cross Sections" by P. A. Moldauer, "Measurements of Neutron Resonance Parameters" by R. E. Chrien, "Statistical Analysis of Neutron Resonance Analysis" by J. Garrison, "Spacing Distributions and Correlations Between Levels of Complex Nuclear Spectra" by J. B. Garg, and "Remarks on Higher Order Spacing Distributions" by P. B. Kahn.

The volume may be obtained from Peter B. Kahn, Department of Physics, State University of New York, Stony Brook, N. Y.

A three-part supplement to Volume 18 of the *Journal of the Physical Society of Japan* contains the *Proceedings of the International Conference on Crystal Lattice Defects* that took place in Japan last year. The conference, which was also sponsored by UNESCO and IUPAP, was divided into two parts: a symposium on September 3 and 4 in Tokyo, covering the mechanical aspects of lattice defects; and the conference proper, held September 7-12 in Kyoto.

Supplement I, recording the topics of the symposium, includes papers on the motion of dislocations in crystals, work hardening, internal friction (interaction between dislocations and point defects), and problems related to the Bordoni peak.

The subsequent conference in Kyoto was divided into three divisions. Supplement II is devoted to the proceedings of the first division, on fundamental properties of lattice defects, including magnetic resonance and optical studies of lattice defects, electrons and phonons in imperfect lattices, scattering of electrons and phonons by lattice defects, equilibrium among defects in compounds, impurity conduction and energy levels of defects in semiconductors, formation and migration of point defects, color centers, and luminescence, and observations of lattice defects.

Supplement III contains the second and third divisions: interactions between defects in metals and nonmetals; and production and annealing of lattice defects, including radiation production of lattice defects, radiation effects in metals and nonmetals, and radiation damage and recovery steps in metals.

Information regarding the purchase of the three supplements can be obtained from the Physical Society of Japan, No. 342, Physics Building, University of Tokyo, Bunkyo-ku, Tokyo, Japan.