G. J. Armstrong

NBS MONOGRAPH 27

Bibliography of Temperature Measurement

January 1953 to June 1960

U.S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS

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UNITED STATES DEPARTMENT OF COMMERCE • Luther H. Hodges, *Secretary*
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Bibliography of Temperature Measurement

January 1953 to June 1960

Compiled in Cooperation with
AE–2 Committee, Physical Measurement Sensing,
Society of Automotive Engineers

Carl Halpern and Robert J. Moffat

National Bureau of Standards Monograph 27

Issued April 6, 1961

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington 25, D.C. - Price 15 cents

Contents

Bibliography of Temperature Measurement

January 1953 to June 1960

Carl Halpern and Robert J. Moffat*

There are presented more than 500 references to the field of temperature measurement. These references were collected from two general sources: Scientific and technical literature and government reports. The period covered is from 1953 to June 1960, with some from earlier dates. For convenience of the user, the references are divided into a number of categories based on the type of instrument used. Some references to calibration of instruments and to scientific theories, on which temperature measurement is based, are also presented.

Introduction

The original version of this bibliography was compiled in 1957 by Robert J. Moffat of the Research Laboratories, General Motors Corporation, for the AE–2 Committee, Physical Measurement Sensing, of the Society of Automotive Engineers. Later, a Bibliography Subcommittee was formed to keep abreast of the current literature, and supplements have been compiled by Carl Halpern of the National Bureau of Standards. George E. Glawe of the Lewis Research Center, National Aeronautics and Space Administration; and John W. Fulton, Wright Air Development Division, U.S. Air Force, have also assisted in furnishing references. Because of the favorable response to and the continued demand for copies of the bibliography and its supplements, it was decided to issue it in a more permanent form for wider circulation.

The material contained herein was collected from two general sources: Scientific and technical journals, and reports of investigations sponsored or conducted by various governmental agencies. These latter are mostly distinguished as ASTIA or PB reports. ASTIA reports may be obtained from the Armed Services Technical Information Agency, Arlington Hall Station, Arlington 12, Va. PB reports designated as OTS may be obtained from Office of Technical Services, U.S. Department of Commerce, Washington 25, D.C.; those designated as LC may be obtained from the Library of Congress, Washington 25, D.C. Some agencies such as the National Advisory Committee for Aeronautics and its successor the National Aeronautical and Space Administration, Washington 25, D.C., issue their own reports.

The topical subdivisions are shown in the table of contents. Each subdivision is arranged chronologically and within the chronological sections, alphabetically by author. "Anonymous" articles appear at the end of each section. The period covered is from January 1953 to June 1960 with some earlier entries.

The journal abbreviations used are those employed in Chemical Abstracts. Volume numbers are in bold-faced type and the date of issue is given where page numbers do not run consecutively throughout a given volume. Since the year of issue appears at the head of each chronological section, this is not repeated in the individual references unless publication was in more than one year. References made to unpublished papers presented before various societies are designated by the abbreviation M.P.

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U.S. GOVERNMENT PRINTING OFFICE: 1961

THE NATIONAL BUREAU OF STANDARDS

The scope of activities of the National Bureau of Standards at its major laboratories in Washington, D.C., and Boulder Colorado, is suggested in the following listing of the divisions and sections engaged in technical work. In general, each section carries out specialized research, development, and engineering in the field indicated by its title. A brief description of the activities, and of the resultant publications, appears on the inside of the front cover.

WASHINGTON, D.C.

Electricity. Resistance and Reactance. Electrochemistry. Electrical Instruments. Magnetic Measurements. Dielectrics.

Metrology. Photometry and Colorimetry. Refractometry. Photographic Research. Length. Engineering Metrology. Mass and Scale. Volumetry and Densimetry.

Heat. Temperature Physics. Heat Measurements. Cryogenic Physics. Equation of State. Statistical Physics.

Radiation Physics. X-Ray. Radioactivity. Radiation Theory. High Energy Radiation. Radiological Equipment. Nucleonic Instrumentation. Neutron Physics.

Analytical and Inorganic Chemistry. Pure Substances. Spectrochemistry. Solution Chemistry. Analytical Chemistry. Inorganic Chemistry.

Mechanics. Sound. Pressure and Vacuum. Fluid Mechanics. Engineering Mechanics. Rheology. Combustion Controls.

Organic and Fibrous Materials. Rubber. Textiles. Paper. Leather. Testing and Specifications. Polymer Structure. Plastics. Dental Research.

Metallurgy. Thermal Metallurgy. Chemical Metallurgy. Mechanical Metallurgy. Corrosion. Metal Physics. Electrodeposition.

Mineral Products. Engineering Ceramics. Glass. Refractories. Enameled Metals. Crystal Growth. Constitution and Microstructure.

Building Research. Structural Engineering. Fire Research. Mechanical Systems. Organic Building Materials. Codes and Safety Standards. Heat Transfer. Inorganic Building Materials.

Applied Mathematics. Numerical Analysis. Computation. Statistical Engineering. Mathematical Physics.

Data Processing Systems. Components and Techniques. Digital Circuitry. Digital Systems. Analog Systems. Applications Engineering.

Atomic Physics. Spectroscopy. Radiometry. Solid State Physics. Electron Physics. Atomic Physics.

Instrumentation. Engineering Electronics. Electron Devices. Electronic Instrumentation. Mechanical Instruments. Basic Instrumentation.

Physical Chemistry. Thermochemistry. Surface Chemistry. Organic Chemistry. Molecular Spectroscopy. Molecular Kinetics. Mass Spectrometry. Molecular Structure and Radiation Chemistry.

• Office of Weights and Measures.

BOULDER, COLO.

Cryogenic Engineering. Cryogenic Equipment. Cryogenic Processes. Properties of Materials. Gas Liquefaction.

Ionosphere Research and Propagation. Low Frequency and Very Low Frequency Research. Ionosphere Research. Prediction Services. Sun-Earth Relationships. Field Engineering. Radio Warning Service.

Radio Propagation Engineering. Data Reduction Instrumentation. Radio Noise. Tropospheric Measurements. Tropospheric Analysis. Propagation-Terrain Effects. Radio-Meteorology. Lower Atmosphere Physics.

Radio Standards. High Frequency Electrical Standards. Radio Broadcast Service. Radio and Microwave Materials. Atomic Frequency and Time Interval Standards. Electronic Calibration Center. Millimeter-Wave Research. Microwave Circuit Standards.

Radio Systems. High Frequency and Very High Frequency Research. Modulation Research. Antenna Research. Navigation Systems. Space Telecommunications.

Upper Atmosphere and Space Physics. Upper Atmosphere and Plasma Physics. Ionosphere and Exosphere Scatter. Airglow and Aurora. Ionospheric Radio Astronomy.