

## Chapter 12—Bibliography

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### 12.1 Introduction

The material contained herein was collected from two general sources: (1) scientific, technical, and trade journals and (2) reports of investigations sponsored or conducted by various governmental agencies. The material is an addition to the references and bibliographies appended to the other sections of the manual, the National Bureau of Standards' papers edited by Swindells, and the National Bureau of Standards' bibliography edited by Freeze and Parker, both of which are listed herein. The entries are generally for the period 1963 to 1967, with a few earlier and later items that were brought to our attention. Because of the rapid expansion of the technology, the list does not claim to be exhaustive. Not all of the items are necessarily of current interest, since a few years have made obsolete many that can now be considered only source material of historic interest.

While reasonable coverage was intended, it is inevitable that oversights and other unintentional omissions have occurred; however, references to the volumes of the series "Temperature, Its Measurement and Control in Science and Industry" except the latest Vol. IV have been deliberately omitted because the many references to the series throughout the manual are sufficient to assure reference to the series.

The method used to identify the periodicals follows that used in ASTM Data Series DS 23B, 1970 and DS 2313-S1, 1972, *Coden for Periodical Titles*. For the convenience of the reader who may not have access to these publications, the Coden used in this bibliography are identified in Section 12.3. Numbers prefixed by the letters AD refer to report numbers in the U. S. Government Technical Abstract Bulletin; those by N63, etc., are identifying numbers in the Scientific and Technical Aerospace Reports.

### 12.2 Bibliography

- Anon., "Automatic Recording and Control Used in Thermocouple Comparator," DSER, July-Aug. 1963.
- Anon., "Automatic Thermocouple Comparator," INCS, Vol. 37, No. 5, May 1964.
- Anon., "Cable Application Information Data Sheet," Thermo-Electric Co. Inc., EDS-72, Oct. 1963.
- Anon., "Calibrating Platinum Thermocouples," PTMR, Vol. 8, No. 4, Oct. 1964.
- Anon., "Calibrating and Checking Thermocouples in Plants and Laboratories," Leeds and Northrup Co., Folder A1-1121-1965, 1965.
- Anon., "Continuous Immersion Thermocouple Aids Blast Furnace Control," IRSE, Vol. 41, No. 7, July 1964.

- Anon., "High Temperature Thermometry at Pratt and Whitney Aircraft CANEL," Pratt and Whitney Aircraft, CANEL, PWAC-462, June 1965.
- Anon., "Improved Thermocouple Techniques for Safe Operation of Modern Boilers," POWE, Jan. 1963.
- Anon., "Metallic Thermocouples for Measurement of Temperature above 1600 C," METL, Vol. 61, No. 365, March 1960.
- Anon., "Methods for Testing Used Thermocouples and for Calibrating Thermocouple Materials," Honeywell, Technical Bulletin B15-15A, 1951.
- Anon., "New Thermocouple Tables," NBST, May 1966.
- Anon., "Pallador II—A New High-Output Noble Metal Thermocouple," PTMR, Vol. 9, No. 5, July 1965.
- Anon., "The Physical Properties of the Noble Metals," EITB, Vol. 6, No. 3, Dec. 1965.
- Anon., "A Rhodium-Platinum Thermocouple for High Temperatures," PTMR, Vol. 9, No. 1, Jan. 1965.
- Anon., "Rugged Reliable Space Sensors," MEEN, Vol. 85, No. 9, Sept. 1963.
- Anon., "Soviet Infrared Sensors. I—Thermal Sensors," L. C. ATD Report P-65-44, July 1965, AD-619813.
- Anon., "Standards and Calibration—NBS Thermocouple Research," NBST, Vol. 48, No. 12, Dec. 1964.
- Anon., "Steam, Its Generation and Use," The Babcock and Wilcox Co., 1965.
- Anon., "Surface Temperature Measurements with Thermoelectric Materials," Wright-Patterson Air Force Base, Ohio, Technical Document Report No. ASD-TR-61-373, Aug. 1962.
- Anon., "Telemetry Transducer Handbook," Vol. 1, Revision 1, Radiation, Inc., WPAF, WADD-TR-61-67, Sept. 1963.
- Anon., "Thin Film Thermocouple," IRES, Sept. 1968.
- Anon., "Transducer Measures Low-Heat Flux Values," PREN, Vol. 35, No. 26, 21 Dec. 1964.
- Anon., "Unusual Thermocouples and Accessories," INCS, Vol. 36, Nos. 5, 6, 7, 8, May, June, July, Aug. 1963.
- Aarset, B. and Kjaerhein, G., "In-Core Applications and Experience with Thermocouples in the Halden Boiling Water Reactor," STSI, Vol. 4, Part 3, Sec. 8D, June 1971.
- Abrahamsen, R. F., "Thermocouple Installations for Tube Surface Temperature Measurement," ISAP, Paper No. 44-TC-61, June 1961.
- Accinno, D. J. and Schneider, J. F., "Platinel—A Noble Metal Thermocouple to Replace Chromel-Alumel," EITB, Vol. 1, No. 2, Sept. 1960.
- Accinno, D. J., "A Vacuum Furnace for High Temperature Thermocouple Calibration," EITB, Vol. 2, No. 1, June 1961.
- Adams, R. K. and Simpson, R. L., "Review of Techniques for Determining EMF-Temperature Characteristics," STSI, Vol. 4, Part 3, Sec. 8A, June 1971.
- Adams, R. K. and Simpson, R. L., "Smoothed Thermocouple Tables of Extended Significance," Oak Ridge National Laboratory, Report No. ORNL-3649, Vol. 1, April 1970.
- Aliotta, J., "Effects of Impurities on the Thermoelectric Properties of Platinum," INCS, Vol. 45, No. 3, March 1972.
- Allen, J. G. and Pears, C. D., "Evaluation of the Performance of Tungsten-Tungsten 26 Rhenium Thermocouples to About 5000 F," SRI, STAR N64-16269.
- Almond, R. J., "Errors in Thermocouple Circuits," INCS, Vol. 33, No. 1, Jan. 1960.
- Anderson, A. R. and MacKenzie, D. J., "Materials for High (2500–4000 F) Gas Turbine Temperature Measurements," SAEJ, Paper No. 158B, April 1960.
- Anderson, T. M. and Bliss, P., "Tungsten-Rhenium Thermocouples Summary Report," STSI, Vol. 4, Part 3, Sec. 8B, June 1971.
- Angerhofer, A. W., "Cryogenic Instrumentation—I," CEGN, Vol. 12, No. 10, Oct. 1965.
- Ash, R. L. et al., "Catalytic Considerations in Temperature Measurement," STSI, Vol. 4, Part 3, Sec. 8B, June 1971.
- Ashlan, E. E., "Design of a Low-Zero Drift Thermocouple Element," IEIM, Vol. IM-20, No. 1, Feb. 1971.
- Ayers, D. L. and Cobb, M. W., "A Comparison of Thermocouples and Thermistors for Surface Temperature Measurement of Low Conductivity Materials," ISAC, Paper No. 68-511, Vol. 5, Oct. 1968.

- Baas, P. B. R. and Mai, K., "Trends of Design in Gas Turbine Temperature Sensing Equipment," STSI, Vol. 4, Part 3, Sec. 8C, June 1971.
- Babbe, E. L., "Increased Thermocouple Reliability for In-Pile Experiments," *Atomics International*, Report NAA-SR-10511, 1965.
- Bailléal-Langlais, J., "Les Thermocouples," *VIDE*, Vol. 14, No. 84, Nov.-Dec. 1959.
- Bauerle, J. E., "Analysis of "Immersed" Thermocouple Error," *RSIN*, Vol. 3, Mar. 1961.
- Baxter, W. G. et al, "Life Testing Small Diameter Thermocouples as a Function of Thermal Cycling," General Electric Co., Cincinnati, Ohio, GEMP-737, 1969.
- Beakley, W. R., "Method of Modifying the Thermal EMF Temperature Characteristics of Constantan Thermocouple Wire," *JSIN*, Vol. 31, No. 7, July 1954.
- Beck, J. V., "Study of Thermal Discontinuities and Associated Temperature Disturbances in a Solid Subject to a Surface Heat Flux," "Effects of Sensors in Low Conductivity Materials upon Temperature Distribution and its Measurements," *AVCO Corp.*, RAD-TR-9(7)-59-26, Feb. 1960, AD-461644.
- Beck, J. V., "Thermoelectric Temperature Disturbances in Low Conductivity Materials," *JHTR*, May 1962.
- Beck, J. V. and Hurwicz, H., "Effect of Thermocouple Cavity on Heat Sink Temperature," *JHTR*, Vol. 82, No. 1, Feb. 1960.
- Bedford, R. E., "Reference Tables for Platinum 20% Rhodium-Platinum 5% Rhodium Thermocouples," *RSIN*, Vol. 35, No. 9, Sept. 1964.
- Bedford, R. E., "Reference Tables for Platinum 40% Rhodium-Platinum 20% Rhodium Thermocouples," *RSIN*, Vol. 36, No. 11, Nov. 1965.
- Bedford, R. E. et al, "New Reference Tables for Platinum 10% Rhodium/Platinum and Platinum 13% Rhodium/Platinum Thermocouples," *STSI*, Vol. 4, Part 3, Sec. 8A, June 1971.
- Belling, P. R., "High Pressure Thermocouple Feed Through," *INCS*, Vol. 35, No. 11, Nov. 1962.
- Benedict, R. P. and Ashby, H. F., "Empirical Determination of Thermocouple Characteristics," *JEPO*, Vol. 85, No. 1, Jan. 1963.
- Benedict, R. P., "Engineering Analysis of Experimental Data," *JEPO*, Vol. 91, No. 1, Jan. 1969.
- Benedict, R. P., "The Calibration of Thermocouples by the Freezing-Point Baths and Empirical Equations," *JEPO*, April 1959.
- Benedict, R. P., "International Practical Temperature Scale of 1968," *LNTJ*, No. 6, Spring 1969.
- Benedict, R. P., "Review of Practical Thermometry," *ASMS*, Paper No. 57-A-203, Dec. 1957.
- Benedict, R. P. and Russo, R. J., "Grounded Thermocouple Circuits," *INCS*, Vol. 45, No. 8, Aug. 1972.
- Benedict, R. P. and Russo, R. J., "A Note on Grounded Thermocouple Circuits," *JBAE*, Vol. 94, No. 2, June 1972.
- Benedict, R. P., "Temperature and Its Measurement," *ELTE*, Vol. 72, No. 7, July 1963.
- Benedict, R. P., "Temperature Measurement in Moving Fluids," *ASMS*, Paper No. 59-A-257, Dec. 1959.
- Benedict, R. P., "Thermoelectric Effects," *ELMA*, Feb. 1960.
- Bennett, H. E., "Noble Metal Thermocouples," *Johnson, Matthey and Co., Ltd.*, Feb. 1956.
- Bennett, H. E., "Pallador Thermocouple," *PTMR*, Vol. 4, No. 2, April 1960.
- Bennett, H. E., "The Care and Maintenance of Thermocouples," *PTMR*, Vol. 9, No. 2, April 1965.
- Bergund, C. N. and Beirsto, R. C., "An Automatic Technique for Accurate Measurement of Seebeck Coefficient," *RSIN*, Vol. 38, No. 1, Jan. 1967.
- Berman, R., "Gold-Iron Alloys for Low Temperature Thermocouples," *STSI*, Vol. 4, Part 3, Sec. 8A, June 1971.
- Berry, J. M. and Martine, D. L., "Thermocouple Immersion Errors," *ASTT*, No. 178, 1955.
- Bertodo, R. J., "Thermocouple for the Measurement of Gas Temperatures up to 2000 C.," *PIML*, Vol. 177, No. 22, 1963.
- Blackburn, G. F. and Caldwell, F. R., "Reference Tables for Thermocouples of Iridium-Rhodium Alloys Versus Iridium," *JNBC*, Vol. 68, No. 1, Jan. 1964.

- Bliss, P., "Fabrication of High-Reliability Sheathed Thermocouples," STSI, Vol. 4, Part 3, Sec. 8C, June 1971.
- Bliss, P. and Morgan, R. K., "High Accuracy Temperature Measurements," ISAC, Paper No. 70-645, Vol. 25, Part 4, Oct. 1970.
- Boerdijk, A. H., "Diagrams Representing States of Operation of General Thermocouple," JAPI, Vol. 31, No. 7, July 1960.
- Boerdijk, A. H., "Contributions to General Theory of Thermocouples," JAPI, Vol. 30, No. 7, July 1959.
- Bondareva, A. P., "Calibration of Copper Constantan Thermocouples at Low Temperature," MSTC, No. 3, March 1970.
- Bondareva, A. P., "Calibration of Platinorhodium-Platinum Thermocouples at Two Points or One Point in the Range of 300-1300 C," MSTC, No. 7, July 1970.
- Bondareva, A. P., "Method of Calibrating Copper-Constantan Thermocouples at Negative Temperatures by Means of the Boiling Point of Water," MSTC, No. 10, Oct. 1969.
- Boon, G. and Van-Der Woude, F., "Very Stable and Simple Compensator for Thermocouples," RSIN, Vol. 36, No. 6, June 1965.
- Bose, B. N., "Thermocouple Well Design," ISAJ, Vol. 9, No. 9, Sept. 1962.
- Boudreaux, P. J., "Providing Thermocouple Compensation at Low Cost," ELEC, Vol. 35, No. 11, Nov. 1962.
- Brodbeck, F. W., "Thermocouple Installation Development for Cooled Surfaces Exposed to High Heat Flux," McDonnell Co., St. Louis, Mo., unpublished, 1967.
- Brooks, E. J. and Krammer, W. C. "Tungsten-Rhenium Alloy Thermocouples and Their Use in a  $\text{UO}_2$ -Fueled Reactor," Argonne National Laboratory, Report ANL-6981, 1965.
- Brooks, E. J. and O'Neal, E. W., "Keep Your Thermocouple Leads Dry," ISAJ, Vol. 12, No. 3, March 1965.
- Brown, D. A. H. et al, "Construction of Radiation Thermocouples Using Semi-Conducting Thermoelectric Materials," JSIN, Vol. 30, No. 6, June 1953.
- Brownell, H. R., "Thermoelement Transfer," INCS, Vol. 36, No. 1, Jan. 1963.
- Bullis, L. H., "Vacuum-Deposited Thin-Film Thermocouples for Accurate Measurement of Substrate Surface Temperature," JSIN, Vol. 40, No. 12, Dec. 1963.
- Burley, N. A., "Nicrosil and Nisil: Highly Stable Nickel-Base Alloys for Thermocouples," STSI, Vol. 4, Part 3, Sec. 8B, June 1971.
- Burley, N. A., "Solute Depletion and Thermo-EMF Drift in Nickel-Base Thermocouple Alloys," JIME, Vol. 97, Aug. 1969.
- Burnett, S. J., "Molybdenum-Tantalum Thermocouple Characteristics," UKAA, Harnwell, UK, unpublished, 1966.
- Burns, G. W. and Gallagher, J. S., "Reference Tables for the Pt-30 Percent Rh Versus Pt-6 Percent Rh Thermocouple," JRNB, Vol. 70, No. 2, April-June 1966.
- Burns, G. W. and Hurst, W. S., "An Investigation of W-3% Re and W-25% Re Thermoelements in Vacuum, Argon and Hydrogen," NASA, CR-72639, March 1970.
- Burns, G. W. and Hurst, W. S., "A Program in Refractory Metal Thermocouple Research," JRNB, Vol. 75C, April-June 1971.
- Burns, G. W. and Hurst, W. S., "Some Studies on the Behavior of W-Re Thermocouple Materials at High Temperature," NASA, CR-72884, Feb. 1972.
- Burns, G. W., and Hurst, W. S., "Studies of the Performance of W-Re Type Thermocouples," STSI, Vol. 4, Part 3, Sec. 8B, June 1971.
- Burns, G. W., "Studies at NBS of Platinum-6% Rhodium Versus Platinum-30% Rhodium Thermocouple—Preliminary Report," SEPP, Paper 750B, 23-27 Sept. 1963.
- Caldwell, F. R. et al, "Intercomparison of Thermocouple Response Data," SEPP, Paper 158F, National Aeronautic Meeting, April 1960.
- Caldwell, R., "Temperature of Thermocouple Reference Junctions in an Ice Bath," JRNB, Vol. 69C, No. 2, April-June 1965.
- Callcut, V. A., "Ageing of Chromel-Alumel Thermocouples," The British Non-Ferrous Metals Research Association, UKAEA TRG Report 1021 (R/X), 1965.
- Campari, M. and Garribba, S., "Behavior of Type K Thermocouples in Temperature Measurement, The Chromel-P-Alumel Thermocouples," RSIN, Vol. 42, No. 5, May 1971.
- Cameron, G. and Blanchard, R. L., "Performance and Use of Metal Freezing Point Cells Which Generate Precise Temperature," ISAJ, Vol. 2, No. 3, 1963.

- Carlson, A. V., An "Evaluation of Radiation Compensating Thermocouple Temperature Sensors," U.S. Army Electronics Research and Development Activity, Arizona, USAERDAA-MET-10-64, Sept. 1964, AD449874.
- Carpenter, F. D. et al, "EMF Stability of Chromel/Alumel and Tungsten-3% Rhenium/Tungsten-25% Rhenium Sheathed Thermocouples in a Neutron Environment," STSI, Vol. 4, Part 3, Sec. 8D, June 1971.
- Carr, K. R., "Testing of Ceramic Insulator Compaction and Thermoelectric Inhomogeneity in Sheathed Thermocouples," STSI, Vol. 4, Part 3, Sec. 8C, June 1971.
- Carter, D. F. and Wells, P. H., "Rhodium-Platinum Thermocouples as Precision Temperature Sensors," PTMR, Vol. 17, No. 2, April, 1973.
- Chambers, J. T. et al, "Experimental Evaluation of a Dual Element Transducer for High Temperature Gas Measurements," American Radiation and Standard Sanitary Corp., Mountain View, Calif., ARL 63-58, March 1963, AD-409-816.
- Charet, I., "High Detectivity Microcalorimeters," JSIN, Vol. 40, No. 8, Aug. 1963.
- Chenoweth, J. M., "Gun-Barrel Measurements Involve Rapidly Fluctuating Temperatures," INST, Vol. 26, No. 11, Nov. 1953.
- Claggett, T. J., "Average Thermocouple Measurement Through Interconnected Thermocouples," INSR, Vol. 22, No. 2, Sept. 1969.
- Claggett, T. J., "Differential Temperature Measurement Using Electrical Sensors," INSR, Vol. 23, No. 1-2, 1970.
- Claggett, T. J., "External Thermocouple Compensation," INSR, Vol. 18, No. 2, 1965.
- Clark, R. B., "Calibration and Stability of W/WRe Thermocouples to 2760°C (5000°F)," ISAP, Paper No. 16.10-4-64, Oct. 1964.
- Cochrane, J., "Relationship of Chemical Composition to the Electrical Properties of Platinum," STSI, Vol. 4, Part 3, Sec. 8B, June 1971.
- Conrad, G., "Linearization of Thermocouple Voltages," RSIN, Vol. 39, No. 11, Nov. 1968.
- Cook, G. E. and McCampbell, W. M., "Thermocouple Probe Controls Welding Torch," CENG, Vol. 14, No. 11, Nov. 1967.
- Covert, E. E. and Gollnick, A. F., Jr., "Design and Calibration of a Small Heat Transfer Gage and Its Application to Aerodynamic Heating Studies at Supersonic Speeds," ISAC, Paper No. 68-535, Vol. 5, Oct. 1968.
- Cox, J. E., "High Vacuum Thermocouple," RSIN, Vol. 34, No. 8, Aug. 1963.
- Culpin, M. F. and Martin, K. A., "Instruments for Measuring the Temperature of a Running Thread-Line and a Jet of Viscous Liquid," JSIN, July 1960.
- Cutt, "Proportional Control Steadies Cryosurgical Probe Temperature," CENG, Vol. 12, No. 3, March 1965.
- Dallman, A. C., "Mechanical Reliability and Thermoelectrical Stability of Noble Metal Thermocouples at 2000 F Temperature and Dose Rates up to 10 to 2 Power Nvt," WPAF, SEG TDR-64 7, April 1964, AD-601-267.
- Danberg, J. E., "The Equilibrium Temperature Probe. A Device for Measuring Temperature in Hypersonic Boundary Layers," Naval Ordnance Laboratory, White Oak, Md., NOL-TR-61-2, Dec. 1961, AD-439-624.
- Daneshesku, S. K., "Selection and Calibration of Tungsten and Molybdenum Wire for Thermocouples," MSTC (IZTE), No. 5, May 1959.
- Darling, A. S. et al, "Platinum and the Refractory Oxides," PTMR, Vol. 15, No. 1, Jan. 1971.
- Darling, A. S., "Thermoelectric Properties of Rhodium-Platinum Alloys," INCS, Vol. 34, No. 5, May 1961.
- Darling, A. S. and Selman, G. L., "Some Effects of Environment on the Performance of Noble Metal Thermocouples," STSI, Vol. 4, Part 3, Sec. 8B, June 1971.
- Dau, G. J. et al, "Nuclear Radiation Dose Rate Influence on Thermocouple Calibration," NUCA, Vol. 5, Nov. 1968.
- Dauphinee, T. M., "An Apparatus for Comparison of Thermocouples," CJPH, Vol. 33, 1955.
- Dauphinee, T. M., "Use Thermocouples for Measuring Temperatures Below 70 K," JSIN, Vol. 30, No. 11, Nov. 1953.
- Davis, D. A., "Two Thermocouples Suitable for Measurements of Temperature up to 2800 C," JSIN, Vol. 1, Jan. 1960.
- Decker, W. H., "Bellows Seals Furnace Couples," PEPR, Vol. 8, Aug. 1953.

- DeLee, R. V. and Seari, A. E., "Study to Determine Suitable High Temperature, High Altitude, Total Temperature Sensors," Rosemount Engineering Co., Report No. 11652B, Nov. 1965, NASA No. N66-13968.
- Denison, J. N., "Technique to Construct Fine Wire Thermocouples," RSIN, Vol. 33, No. 8, Aug. 1962.
- Devita, V. A., "Predicting Cryogenic Thermocouple Time Constant," CENG, Vol. 12, No. 7, July 1965.
- Diven, J. L., "Temperature Deficiency of a Heat Transfer Calorimeter," Brown Engineering Co., Huntsville, Ala., Technical No. R-44, April 1963, AD 415146.
- Dobovisek, B. and Rosina, A., "Analysis of the Influence of Various Atmospheres on the Thermoelectric Power of the NiCr-Ni Thermocouples," MMQT-RMZB, No. 3A, 1968.
- Donne, M. D., "Tests and Data Concerning Platinel—A New High Temperature Thermocouple," EITB, Vol. 5, No. 1, June 1964.
- Dow, M. B., "Comparison of Measurement of Internal Temperatures in Ablation Material by Various Thermocouple Configurations," National Aeronautics and Space Administration, NASA-TND-2165, Nov. 1964.
- Droege, J. W. et al., "Chemical Compatibility in the Use of Refractory Metal Thermocouples," STSI, Vol. 4, Part 3, Sec. 8B, June 1971.
- Droege, J. W. et al., "Refractory-Metal Thermocouples in Nuclear and High-Temperature Applications," Battelle Memorial Institute, Columbus, Ohio, Report BMI-X-10246, Nov. 1968.
- Dutt, M. and Stickney, T., "Conduction Errors in Temperature Sensors," ISAT, Vol. 9, No. 2, Feb. 1970.
- Dutton, R. and Lee, E. C., "Surface Temperature Measurement of Current Carrying Objects," ISAJ, Vol. 6, No. 12, Dec. 1959.
- Eisenman, W. L. et al., "Properties of Photodetectors, Photodetector Series, 58th Report," Naval Ordnance Laboratory, Corona, Calif., Report No. NOLC-588, July 1963, AD-413-131.
- Eldridge, D. A. G. and Mansell, D. H. L., "An Automatic Temperature Measuring System for Propellants Undergoing Stability Trials," Ministry of Aviation, Explosives Research and Development Establishment (UK), ERDE, Sept. 1965.
- Elliott, R. D., "Dynamic Behavior of Missile Skin Temperature Transducers," ISAP, Paper No. 160-LA-61, Sept. 1961.
- Evans, D. J. and Strnat, K., "An Apparatus for Direct and Differential Thermal Analysis at Temperature up to 1500 C," WPAFB-ASD-TDR-63504, July 1963, AD-418-225.
- Evans, R. A. and Holt, J., "Calibration Drift Effects in Nickel-Alloy Thermocouples," UKAA, Risley (UK), TRG Report 1510(R), 1967.
- Fairchild, C. I. et al., "Vapor Deposition in the Fabrication of Fission Thermocouples," MSCO, Paper A68-42, Feb. 1968.
- Falweiler, R. C., "Investigation of High Temperature Thermal Expansion Devices and Design of a Unit for Use with Thermal Image Heating," Lexington Labs, Inc., Cambridge, Mass., AFCRL 62-952, Dec. 1962, AD-296433.
- Farrow, R. L. and Levitt, A. P., "Tungsten/Tungsten-Rhenium Thermocouples in a Carbon Atmosphere," U.S. Army Materials Research Agency, Watertown, Mass., AMRA-IR-64-12, July 1964, AD-606-565.
- Faul, J. C., "Thermocouple Performance in Gas Streams," INCS, Vol. 35, No. 12, Dec. 1962.
- Fenton, A. W., "Errors in Thermoelectric Thermometers," *Proceedings*, Institution of Electrical Engineers, Vol. 116, No. 7, July 1969.
- Fenton, A. W., "The Theory of Thermoelectric Thermometers," United Kingdom Atomic Energy Authority, unpublished, 1969.
- Fenton, A. W., "The Travelling Gradient Approach to Thermocouple Research," STSI, Vol. 4, Part 3, Sec. 8E, June 1971.
- Fenton, A. W. et al., "Thermocouples: Instabilities of Seebeck Coefficients," United Kingdom Atomic Energy Authority, Report No. TRG 1447(R), Jan. 1967.
- Finch, D. I., "General Principles of Thermoelectric Thermometry," Leeds and Northrup Co., Technical Publication ENS2 (1), 1961.
- Finmore, D. K. et al., "Secondary Thermometer for the 4 to 20 K Range," RSIN, Vol. 36, No. 9, Sept. 1965.

- Fitts, R. B. et al., "Observations on Tungsten-Rhenium Thermocouples Used In-Reactor in (U,Pu) O<sub>2</sub> Fuel Pins," STSI, Vol. 4, Part 3, Sec. 8D, June 1971.
- Flemons, R. S. and Lane, A. D., "Thermocouple for Surface Temperature Measurement in Multielement Nuclear Fuel Bundles," STSI, Vol. 4, Part 3, Sec. 8D, June 1971.
- Fluke, G. L., "Tungsten-Rhenium Thermocouple Performance in STR-13 Test," Aerojet-General Corp., 7461:0094, July 1964, AD-453293.
- Foot, P. D. et al., "Pyrometric Practice," NBSE, No. 170, 1921.
- Francinillo, S., "Thermocouple Development, Lithium-Cooled Reactor Experiment," Pratt-Whitney Aircraft Co., Report No. 422, N-64-16000.
- Franco-Ferreira, E. A. and Williams, L. C., "Fabrication of Instrumented Fuel Elements and In-Pile Capsules," WEJU, Vol. 49, No. 6, June 1970.
- Freedman, J. W., "Panel Discussion on Pyrometric Practice in Elevated Temperature Testing," ASTT, No. 178, 1955.
- Freeze, P. et al., "Development of Test Facilities—Nobel Metal Thermocouple Research Program, 1000–2000°C," NASA, OR-72861, Jan. 1971.
- Freeze, P. D. and Parker, L. P., "Bibliography of Temperature Measurement, Jan. 1953 to Dec. 1969," NBSP, No. 373, Nov. 1972.
- Freeze, P. D. et al., "Reference Table for the Palladium Versus Platinum-15% Iridium Thermocouple," NBS, Report No. ASD-TDR-62-523, Dec. 1962, AD-295-607.
- Fuschilla, N., "Inhomogeneity Emfs in Thermoelectric Thermometers," JSIN, Vol. 31, No. 4, April 1954.
- Garelick, L., and Hauptmann, E., "Linearizing Thermocouple Amplifiers," ISAC, Vol. 26, Part 4, Oct. 1971.
- Garsuch, R. G., "Thermal Transfer Voltmeter," INCS, Vol. 36, No. 1, Jan. 1963.
- Gelb, G. H. et al., "Manufacture of Fine Wire Thermocouple Probes," RSIN, Vol. 35, No. 1, Jan. 1964.
- George, A. L., "Conversion Formula for Thermocouples," INCS, Vol. 36, No. 7, July 1963.
- Getting, I. C. and Kennedy, G. C., "Effects of Pressure on the EMF of Chromel-Alumel and Platinum-Platinum 10% Rhodium Thermocouples," JAPI, Vol. 41, No. 11, Oct. 1970.
- Giedt, W. H. and Corallo, R. A., "Determination of High Gas-Stream Temperatures from Short-Exposure Probe Responses," ISAC, Paper 68-509, Vol. 5, Oct. 1968.
- Glawe, G. E. and Szaniszlo, A. J., "Long-Term Drift of Some Noble- and Refractory-Metal Thermocouples at 1600 K in Air, Argon, and Vacuum," STSI, Vol. 4, Part 3, Sec. 8B, June 1971.
- Glawe, G. E. et al., "Radiation and Recovery Corrections and Time Constants of Several Chromel-Alumel Thermocouple Probes in High Temperature, High Velocity Gas Streams," NASA, TN-3766, Oct. 1956.
- Goldberg, J. L. and Ling, H. M., "Automatic Switching of Sensitive Thermocouples," ELEG, Vol. 36, No. 9, Sept. 1964.
- Goodier, B. G. et al., "High-Temperature Core Thermocouple Development for the Nuclear Rocket Engine Program (Rover)," STSI, Vol. 4, Part 3, Sec. 8D, June 1971.
- Gorton, R. E., "Temperature Measurement for Aircraft-Turbine-Engine Development," EXMC, May 1939.
- Gottschlich, R. and Bellezza, M., "EMF Deviation of Chromel-Alumel Thermocouples Caused by Neutron Irradiation," European Atomic Energy Community, Report EUR 3257.e, 1966.
- Graham, J. W., "Project Asset Instrumentation Test of Columbium Sheathed Platinum Rhodium Thermocouples," McDonnell Aircraft Corp., St. Louis, Mo., Report No. 051-052, Aug. 1962, AD-298-369.
- Greenberg, H. J., "Temperature Measurement in the Glass Industry," STSI, Vol. 4, Part 3, Sec. 8C, June 1971.
- Greenberg, H. J. and Sysk, E. D., "Applied Research, Fabrication and Testing of 2300 F Thermocouples for Air-Breathing Propulsion Systems," Engelhard Industries, Inc., East Newark, N.J., Report ASD-TDR-C2-891, Jan. 1963, AD-400-470.
- Greenwood, T. L., "Thermocouple Continuity Monitor," Marshall Space Flight Center, NASA, NASA Technical Brief 63-10567.
- Greg, W. T. and Finch, D. I., "How Accurately Can Temperature Be Measured?" PHTO, Sept. 1971.

- Griffin, J. E. and Hermach, F. L., "Differential Thermocouple Voltmeter," CELE, Nov. 1962.
- Gross, J. and Griffith, C. B., "Thermocouple for Molten Steel," MEPO, Vol. 83, No. 6, June 1963.
- Gross, P. M. et al, "An Advanced High Temperature Thermocouple for Use on Aerospace Vehicles," Weston Instruments Co., A-FFDL-TR-66-24, May 1966, AD-487-788.
- Gross, P. M. et al, "A Re-Entry Thermocouple for Use up to 4500 F," ISAT, Vol. 3, No. 4, Oct. 1964.
- Gucker, F. T., Jr., and Peterson, A. H., "Simple Circuit for Adapting Thermocouple Recorders to Measure Voltage in High Resistance Circuits," ANCH, Vol. 25, No. 10, Oct. 1953.
- Gumprecht, D. L., "Cycle Counter for Zone-Refining Systems," CHEG, Vol. 69, 26 Nov. 1963.
- Gushehin, G. I. et al, "Thermocouple for Accurate High-Temperature Measurements in a Vacuum and in the Presence of Reactor Radiation," MSTC, No. 6, June 1970.
- Gutt, W., "Microfurnace for High Temperature Microscopy and X-Ray Analysis up to 2150 C," JSIN, Vol. 41, No. 6, June 1964.
- Hall, B. F., Jr., and Spooner, N. F., "Application and Performance Data for Tungsten-Rhenium Alloy Thermocouples," SEPP, Paper No. 750C, Sept. 1963.
- Hall, B. F., Jr. and Spooner, N. F., "Temperature Measurement in a Graphite Environment from 1600°C to 2500°C," ISAP, No. 16.13-3-64, Oct. 1964.
- Hall, D. N., "Transmutation of Thermocouple Alloys," Bristol Aerojets, Ltd., Weston-Super-Mare, UK, unpublished, 1966.
- Hartz, R. A., "Temperature Transducers—A Guide for Selection," MADE, Vol. 38, No. 21, 15 Sept. 1966.
- Harvey, G. F., ed., "ISA Transducer Compendium," second edition, Part 3, Instrument Society of America, Pittsburg, Pa., 1972.
- Harvey, N. D., "Instrumenting Models for Aerodynamic Heat Transfer Studies Involving Transient Heating Rates," ISAT, Vol. 6, No. 1, Jan. 1967.
- Heckelman, J. D. and Kozar, R. P., "Measured Drift of Irradiated and Unirradiated W3% Re/W25% Re Thermocouples at 2073°K," STSI, Vol. 4, Part 3, Sec. 8D, June 1971.
- Heitzman, W. P., "Dual Thermocouple Temperature Control," INCS, Vol. 37, No. 5, May 1964.
- Hendricks, J. W. and McElroy, D. L., "High Temperature-High Vacuum Thermocouple Drift Tests," ASTM Paper, unpublished, Annual Meeting, June 1964.
- Henning, C. D. and Parker, R., "Transient Response of an Intrinsic Thermocouple," JHTR, Vol. 89, No. 2, May 1967.
- Herskovitz, M. B., "Thermal Cycling Life Tests of Metal Sheathed Thermocouple Assemblies," ORNL, Report No. ORNL-TM-3907, Sept. 1972.
- Hicks, E. W., Jr., "The Requirements for a Direct Reading 5000 F Thermocouple," ISAP, Paper No. 29.2.63, Chicago, Ill., Sept. 1963.
- Hicksman, M. E. and Ivory, J. E., "Basic Studies of the Metallic State (Thermoelectric Properties of Tungsten and Kovar-A)," RNRL, April 1965.
- Hill, J. S., "The Use of Fibro Platinum in Thermocouple Elements," EITB, Vol. 11, No. 3 Dec. 1961.
- Hoig, L. B., "Design Procedure for Thermocouple Probes," SEPP, Paper No. 158C, National Aeronautic Meeting, April 1960.
- Hoitink, N. C. et al, "Effects of Fast Neutron Irradiation on the Performance Characteristics of Reactor-Grade Thermocouples," NBSP, Report BNWL-1365, June 1970.
- Holland, J. F., "Describing Temperature-EMF Relationship for Thermocouples," INCS, Vol. 40, No. 12, Dec. 1967.
- Hormuth, G. A., "Thermocouple Pyrometry," MADE, Vol. 41, No. 19, 21 Aug. 1969.
- Houke, H. F., "Study of High-Current Resistance Testing of Grounded Sheilded Chromel-Alumel Thermocouples," Aerojet Liquid Rocket Plant, Report No. 347,60.00.00-A6-02, Aug. 1961, AD-45984.
- Houska, C. R. and Keplin, E. J., "A High Temperature Furnace for Quantitative X-Ray Intensity Measurements," Union Carbide Research Department, Tarrytown, N. Y., TRC 14, April 1963, AD-405-495.



- Howard, J. L., "Error Accumulation in Thermocouple Thermometry," STSI, Vol. 4, Part 3, Sec. 8E, June 1971.
- Howley, S. A. et al, "Fabrication of Miniature Thermocouple for UHF Acoustic Detectors," RSIN, Vol. 33, No. 10, Oct. 1962.
- Hughes, P. C. and Berley, N. A., "Metallurgical Factors Affecting Stability of Nickel-Base Thermocouples," JIME, Vol. 91, 1962-1963.
- Huhs, W. F. and Gaylord, E. W., "On the Theoretical Analysis of a Dynamic Thermocouple, 2—The Continuous Area Interface," JAMC, Vol. 27, No. 2, June 1960.
- Hurst, N. J., "Effect of Thermocouple Size and Installation on Thermocouple Readings," U.S. Army Missile Command, Redstone Arsenal, Ala., RS-TM-64-1, April 1964, AD-612493.
- Hust, J. G. et al, "Methods for Cryogenic Thermocouple Thermometry," STSI, Vol. 4, Part 3, Sec. 8A, June 1971.
- Irvine, F. H. et al, "Measurements of the Response of Various Thermocouple Arrangements," Royal Aircraft Establishment, AERO-2959, April 1964, AD-449469.
- Jackson, R. C., "Installed, System Calibration Thermocouples," ISAT, Vol. 9, No. 2, 1970.
- Jacobsen, F. K. et al, "Reliability Analysis of High-Temperature Thermocouples in Irradiation Capsules," Gulf General Atomic, Inc., San Diego, Calif., Report No. GA-A10864, Oct. 1971.
- Janeschitz-Kriegl et al, "A Temperature Probe for Flowing Polymer Melts," JSIN, Vol. 40, No. 8, Aug. 1963.
- Jensen, J. T. et al, "Thermocouple Errors Using Pt-Pt(Rh) Thermocouples on Nickel Surfaces," RSIN, Vol. 32, No. 12, Dec. 1964.
- Jones, E. W., "Facile Thermocouple Calibrations," INCS, Vol. 40, No. 5, May 1967.
- Jones, T. P., "A Comparison of Fixed-Point and Intercomparison Methods of Calibration of Platinum-Platinum Rhodium Thermocouples in the Temperature Range 0° to 1064°C," STSI, Vol. 4, Part 3, Sec. 8A, June 1971.
- Jordan, H. C., "Welded Thermocouple Junctions," INCS, Vol. 33, No. 6, June 1960.
- Jury, S. H., "Mechanically Refrigerated Ice Bath," INCS, Vol. 40, No. 5, May 1967.
- Kamenetskii, A. P. and Gladkaya, N. V., "Developing New Types of Thermocouples with Higher Resistance to Bending Stresses," MSTC, No. 11, Nov. 1969.
- Kanter, J. J., "Panel Discussion on Pyrometric Practices," ASTT, No. 178, 1955.
- Kashmiry, M. A., "Hermach-Engelhard Transfer Standard," INCS, Vol. 36, No. 1, Jan. 1963.
- Kaufman, A. B., "Cryogenic Characteristics of Alloy Wires," INCS, Vol. 37, No. 3, March 1964.
- Kelly, D., "Thermocouple Temperature Measurement without Special Instruments," INCS, Vol. 33, No. 1, Jan. 1960.
- Kendall, D. N. et al, "SemiConductor Surface Thermocouples for Determining Heat Transfer Rates," ITAE, July 1967.
- Kepner, A. A., "Thermocouple Temperature Transducer," North American Aviation Inc., Downey, Calif., Report No. MC 449 0006, Nov. 1962, AD-415-586.
- Kilkin, G. M. et al, "Lithium-Boiling Potassium Test Loop—Interim Report," Jet Propulsion Laboratory, TR 32-1083, Sept. 1966, N67-26629.
- King, J., "The Design of a Temperature Compensated Thermocouple Reference Circuit," Naval Ordnance Test Station, China Lake, Calif., NOTS TR-3462, NAVWEPS 8492, May 1964, AD-600675.
- Kisely, V. M., "Thermal Probes for Measuring the Density of Heat Flows," Foreign Translation Division, WPAF, Ohio, FTD-TT-64-1151(1 + 2), April 1965, AD-614949.
- Klein, C. A. et al, "Analysis and Experimental of an Ultra-High Temperature Pyrolytic Graphite Thermocouple," Raytheon Co. Research Division, AFFDL-TR-6627, June 1966, AD-802214.
- Klein, C. A. et al, "Development of an Ultra-High Temperature Pyrolytic Graphite Thermocouple," Raytheon Co., Waltham, Mass., AD-431-203.
- Knowlson, P. M. and Bartie, P. M., "Sealing a Stainless Steel Sheathed Thermocouple into a Magnox End-Cap," JIME, Vol. 93, 1964-1965.
- Kollataj, J. H., "Digitized Thermocouple Compensation Yields Direct Reading for Data Logger," ELEC, Vol. 93, No. 3, Feb. 1970.

- Koselapor, V. I. and Skvortsov, Y. M., "Thermocouple Needle," INDL (ZVDL), July 1963.
- Kostkowski, H. J. and Burns, G. W., "Thermocouple and Radiation Thermometry above 900 K," NASA, Symposium, Measurement of Thermal Radiation Properties of Solids, Sept. 1963.
- Kovacs, A. and Mesler, R. B., "Making and Testing a Small Surface Thermocouple for Fast Response," RSIN, Vol. 35, No. 4, April 1964.
- Krag, J., "Improved Needle Thermocouple for Subcutaneous and Intramuscular Temperature Measurements in Animals and Men," RSIN, Vol. 25, No. 8, Aug. 1954.
- Krivka, M. A., "Make Your Own Thermocouples," MADE, 9 June 1960.
- Krysiak, K. F. et al., "A Thermocouple Suitable for Use from 2500 to 4500 F on Aerospace Vehicles," Weston Instrument Division, Daystrom Inc., Newark, N. J., X10232, June 1963, AD-414-562.
- Kuhlman, W. C., "Status Report of Investigation of Thermocouple Materials for Use at Temperatures above 4500 F," SEPP, Paper No. 750D, Sept. 1963.
- Kuhlman, W. C., "Research and Evaluation of Materials for Thermoelectric Application Suitable for Temperature Measurement up to 4500 F on the Surface of Glide Re-Entry Vehicles," General Electric Co., Cincinnati, Ohio, TDR-63-233, March 1962 and 1963, AD-404-577.
- Kuhlman, W. C. and Baxter, W. G., "1000 Hour-2300°C Thermocouple Stability Tests," General Electric Co., Cincinnati, Ohio, Report No. GEMP-738, Oct. 1969.
- Kutateladze, K. S. et al., "Use of Nitride Bonded Carborundum for Thermocouple Sheaths," GLCE, Vol. 25, No. 9-10, Sept.-Oct. 1968.
- Lachman, J. C., "Calibration of Rhenium-Molybdenum and Rhenium-Tungsten Thermocouple to 4000 F," XAER, APEX 365, April 1958, AD-159-884.
- Lachman, J. C., "New Development in Tungsten/Tungsten-Rhenium Thermocouples," ISAC, Paper No. 150-LA-61, Sept. 1961.
- Lachman, J. C., "Refractory Metal Thermocouples," ASMS, Paper No. 59-HT-21, Aug. 1959.
- Lanza, G. et al., "Studies on Plasmas and Pulsed Magnetic Field Effects (Plasma Thermocouples)," N 64-15493, 1963.
- Lee, J. D., "The Measurement of Velocity and Temperature in a Hypersonic Laminar Boundary Layer," Ohio State University, Columbus, Ohio, ASD TRD-62-914, Dec. 1962, AD-295-466.
- Lentz, E., "Behavior of Pt/PtRh and Ni/NiMo Thermal Elements in the High Temperature Vacuum Furnace in the Presence of Material Containing Chromium," WSKR, Vol. 20, No. 8, Aug. 1969 (in German).
- Leonard, J. H., "Conditions Contributing to Radiation-Induced Thermocouple Decalibration," NUCA, Vol. 6, March 1969.
- Leonard, J. H. and Hunkau, D. B., "Direct Radiation Effects on Thermocouples," NUCA, Vol. 3, Dec. 1967.
- Levinstein, H., "Infrared Detectors," Syracuse University Research Institutes, N. Y., Physics 105-1, Feb. 1963, AD-296-831.
- Lewis, E. L., ed., "Instrument Standards," Naval Ship Engineering Center, Philadelphia Division, Philadelphia, Pa., 1970.
- Lewis, H. W. and Reitz, T. R., "Efficiency of the Plasma Thermocouple," JAPI, Vol. 31, April 1960.
- Leyda, W. E., "Summary of Pyrometric Procedure Employed by One Company in Creep-Rupture Testing," ASTT, No. 178, 1955.
- Lidorenko, N. S. et al., "Determination of Temperature and Electrical Fields of Noninsulated Thermoelectric Systems," IAET, No. 5, Sept.-Oct. 1969 (in Russian).
- Liermann, J. and Tarassenko, S., "Temperature Measurement on Nuclear Fuel Elements," STSI, Vol. 4, Part 3, Sec. 8D, June 1971.
- Lipson, H. G. and Bouthillette, L. Q., "Epoxy Vacuum Seal for Introduction of Leads into Cryogenic Equipment," Air Force Cambridge Research Laboratory, Bedford, Mass., AFCRL 63-78, March 1963, AD-410018.
- Loeffler, R. E., "Thermocouples, Resistance Temperature Detectors, Thermistors-Which," INCS, Vol. 40, No. 5, May 1967.
- Lyell, J. A., "Designing a Modern Metrology Laboratory," JISN, Vol. 11, No. 6, June 1964.

- MacKenzie, D. J. and Scadron, M. D., "Selection of Thermocouples for High Gas Temperature Measurement," SEPP, Paper No. 524E, April 1962.
- Maevaskaya, L. A. and Morozov, A. D., "Thermoelectric Anemometer for Measuring Air Flow Speeds," MSTC (IZTE), No. 7, July 1962.
- Majdic, M., "Investigations on Extremely Thin Thermocouple Wires Made from Precious Metal Alloys," PMTL, Vol. 7, No. 2, Feb. 1970 (in German and English).
- Mamkin, P. S. and Drozdova, T. A., "Thermocouple Sheaths for Measuring Metal Temperatures Continuously During Melting," Refractories, No. 1-2, Jan.-Feb. 1971.
- Marglis, O. M. et al., "Tips for Immersion Type Thermocouples Made from Zirconium Dioxide of Increased Resistance to Heat," OGNP, No. 12, 1962, AD-411-058.
- Markina, N. V. and Tsykanov, V. A., "Methods for In-Pile Investigations of Radiation Effects on the Accuracy of Thermocouple Reading," Scientific Research Institute of Atomic Reactors, Melekes (USSR), Paper No. SRIAR-P-130, 1971.
- Martincavage, J., "Thermocouple Linearizing Circuit," INCS, Vol. 43, No. 9, Sept. 1970.
- Martin, C. D. and Gabbard, C. H., "Experience with Type K Thermocouples in an Experimental Nuclear Reactor," STSI, Vol. 4, Part 3, Sec. 8D, June 1971.
- Matthew, H. L., "Thermocouple Calibration in a Subsonic Air Flow," University of Wyoming Master Thesis, May 1965, AD-617-305.
- McCoy, H. E., Jr., "Influence of CO-CO<sub>2</sub> Environments on the Calibration of Chromel-P Alumel Thermocouples," Oak Ridge National Laboratory, Report No. ORNL-P-1070, March 1965.
- McDearman, J. R. et al., "A Three-Wire Insulator-Shunting Model for High-Temperature Thermocouple Errors," IEIM, Vol. 1EC1-18, No. 4, Nov. 1971.
- McElroy, D. L., "Progress Report of Thermocouple Research—Report for Period Nov. 1, 1956 to Oct. 31, 1957, Oak Ridge National Laboratory, Report No. ORNL-2467, 1968.
- McLaren, E. H. and Murdock, E. G., "New Considerations on the Preparation, Properties and Limitations of the Standard Thermocouple for Thermometry," STSI, Vol. 4, Part 3, Sec. 8A, June 1971.
- McSherry, P. B., "Metal Ceramic Wall Lengthens Thermocouple Life," IRAG, Vol. 172, 29 Oct. 1953.
- Meador, J. D., "Dynamic Testing of Gas Sample Thermocouples," SEPP, Paper No. 158G, April 1960.
- Mesalovich, G. I., "Local Temperature Measurements in Forging and Stamping," MSTC (IZTE), Nov. 1962.
- Mikhaylenko, L. I. et al., "Temperature Measurement in Moving Drops," HTSR, Vol. 1, No. 3, May 1969.
- Miksch, E. S., "Equilibration of the Ice-Water Temperature Standard," RSIN, Vol. 36, No. 6, June 1965.
- Miller, C. E. and Flynn, T. M., "On the Problems of Measuring Transient Temperature in Cryogenic Fluids," ISAT, Vol. 6, No. 2, April 1967.
- Miller, J. T., "The Revised Course in Industrial Technology," INPA, Vol. 18, No. 1, Jan. 1964.
- Moeller, C. E., "Special Surface Thermocouples," INCS, Vol. 36, No. 5, May 1963.
- Moen, W. K., "Thermocouple Sensor Installation," INCS, Vol. 42, No. 12, Dec. 1969.
- Moen, W. K., "Use Thermocouples Right and Melt Away Weight," SAEJ, Vol. 71, No. 11, Nov. 1963.
- Moffat, R. J., "Gas Temperature Measurement: Direct Design of Radiation Shielding," ISAC, Paper 68-517, Vol. 5, Oct. 1968.
- Moffat, R. J., "Stable High Temperature Thermometry Rig," SEPP, Paper No. 158E, April 1960.
- Moffat, R. J., "Understanding Thermocouple Behavior: The Key to Precision," ISAC, Paper No. 68-628, Vol. 5, Oct. 1968.
- Monroe, J., "Automatic Thermal Transfer Meter," INCS, Vol. 36, No. 1, Jan. 1963.
- Morgan, E. S., "Effect of Stress on Thermo E.M.F. of Platinum-Platinum/13% Rhodium Thermocouples," BJAP, Ser. 2, Vol. 1, No. 11, Nov. 1968.
- Morrison, R. D. and Lachenmayer, R. R., "Thin Film Thermocouples for Substrate Temperature Measurement," RSIN, Vol. 34, No. 1, Jan. 1963.
- Morrison, R. G., "Application of Miniature Intrinsic Thermocouples for Reactor Transient Diagnostics," Los Alamos Scientific Laboratory, LA-DC-7004, March 1965.

- Muth, S., Jr., "Reference Junctions," INCS, Vol. 40, No. 5, May 1967.
- Nanigian, J. et al, "Instantaneous Heat Transfer Pressure and Surface Temperature Characteristics of Solid Propellant Rocket Igniters," U.S. Naval Propellant Plant, Indian Head, Md., Report No. 178, April 1960.
- Nanigian, J., "Matching Thermocouple Well Material to Wall Improves Accuracy," ISAJ, Vol. 10, No. 2, Feb. 1963.
- Nanigian, J., "Ribbon Thermocouples in the 3000 to 5000 F Range," INCS, Vol. 39, No. 5, May 1966.
- Nanigian, J., "Temperature Measurements and Heat Transfer Calculation in Rocket Nozzle Throats and Exit Cones," ISAC, Paper No. 29.3.63, Sept. 1963.
- Nanigian, J., "Thermal Properties of Thermocouples," INCS, Vol. 36, No. 10, Oct. 1963.
- Nielson, I. O., "Selection of Thermocouples for Temperature Profiling of Semiconductor Diffusion Furnaces," SSTE Vol. 13, No. 10, Oct. 1970.
- Nilson, J. R., "Elimination of Electrical Interference In High Temperature Thermocouple Installations," ISAC, Paper No. 36 SF60, May 1960.
- Nishihara, H. et al, "Some Applications of Dynamic Temperature Measurements in Fluid Flow Associated with Nuclear Reactor Systems," STSI, Vol. 4, Part 3, Sec. 8D, June 1971.
- Northover, E. W. and Hitchcock, J. A., "The Effect of Heating on the Local Thermo-Electric Power Characteristics of Commercial Thermocouple Wires," INPA, July 1968.
- Northover, E. W. and Hitchcock, J. A. "New High-Stability Nickel Alloy Thermocouple," INPA, Vol. 25, No. 9, Sept. 1971.
- Novak, P. R. and Asamoto, R. R., "An In-Pile Evaluation of W-Re Thermocouple Systems for Use to 4700°F in SEFOR Fuel," General Electric Co., San Jose, Calif., Report No. GEAP-5468, Oct. 1968.
- Nydic, S. E., "Thermocouple Errors in Ablation Materials," ISAC, Paper No. 16.12.-3-66, Oct. 1966.
- O'Connor, T. J., "A Split-Flow Enthalpy Probe for Measurement of Enthalpy in Highly Heated Subsonic Streams," ISAC, Paper No. 68-539, Oct. 1968.
- Oleinikova, L. D. et al, "Stability of Tungsten-Rhenium Thermocouples VR 5/20 and VR 10/20 in the Range 1450-2000 C," MSTC, No. 10, Oct. 1969.
- Olsen, K. N., "Temperature System Standardizer," Rocketdyne, Canoga Park, Calif., TR-6113, AD-409-338.
- Olsen, L. O. and Freeze, P. D., "Reference Tables for the Platinel II Thermocouples," JRNB, Vol. 68C, No. 4, Oct.-Dec. 1964.
- Olsen, L. O., "Catalytic Effects of Thermocouple Materials," MEPO, Vol. 85, No. 1, Jan. 1964.
- Olsen, L. O., "Guideposts to Keep Thermocouple Users Out of Hot Water," SAEJ, Vol. 72, No. 8, Aug. 1964.
- Olsen, L. O., "Some Recent Developments in Noble Metal Thermocouples," SEPP, Paper No. 750 A, 23-27 Sept. 1963.
- Pak, V., "Calibration of Thermocouples in a Dynamic Condition," MSTC (IZTE), Vol. 6, No. 6, June 1963.
- Pak, V., "A Thermocouple for Measuring Temperature Drops in Electrically Conductive Media," INDL (ZVDL), July 1963.
- Pak, V. et al, "Simplified Equipment for Calibration of Precious Metal Thermocouples in a Dynamic Condition," MSTC (IZTE), June 1963.
- Palmer, E. P. and Turner, G. H., "Response of Thermocouple Junctions to Shock Waves," Utah Research and Development Co., Inc., Report No. ATL-TR-66-36, April 1966, AD-484507.
- Palmer, R. B. P., "Thermoelectric Fields in Liquids," JSIN, Vol. 30, No. 6, June 1953.
- Palmer, T. Y., "Comparison of Aspirated and Radiation-Compensating Thermocouples," FITE, Vol. 6, No. 3, Aug. 1970.
- Palatnik, L. S. et al, "High Temperature Stable Thin-Film Thermocouples," MSTC, Vol. 14, No. 7, July 1971.
- Parker, R., "Method for Determining the Response of Temperature Sensors to a Rapid Temperature Rise," ISAC, Paper No. 16.10-1-66, Oct. 1966.
- Parker, R., "Response of Thermocouples to a Rapid Temperature Rise," ISAT, Vol. 8, No. 2, 1969.

- Parlov, B. P., "Correction of Indications of Thermocouples," MSTC, Vol. 14, No. 5, May 1971.
- Patter, R. D., "Open Circuit Thermocouple," MEPO, Vol. 64, No. 11, Nov. 1953.
- Paul, M. C. and Obery, P. E., "Modified Pyrometer Temperature Measurement Technique," RSIN, Vol. 35, No. 1, Aug. 1964.
- Pesko, R. N. et al, "Theory and Practice of Plated Thermocouples," STSI, Vol. 4, Part 3, Sec. 8E, June 1971.
- Plyukhin, V. S. and Kologrivov, V. N., "Emf of Thermocouples Compressed by a Shock Wave," ZPMF, 1962, WPAF-FTD, Report No. FTD-TT-63-1057, AD-426901.
- Pokhodnya, I. K. and Fruman, I. I., "The Temperature of a Weld Pool," AUSV, No. 5, 1955, AD-400830.
- Pollock, D. D., "The Theory and Properties of Thermocouple Elements," ASTT, No. 142, May 1971.
- Potts, J. F., Jr., and McElroy, D. L., "Basic Studies on Base Metal Thermocouples," SEPP, Paper No. 158 A, April 1960.
- Potts, J. F. and McElroy, D. L., "Thermocouple Research to 1000 C Final Report, Nov. 1, 1957 to June 30, 1959," ORNL Report No. ORNL 2773, 1959.
- Powell, R. L., "Revision of the Standard Reference Data for Thermocouples," STSI, Vol. 4, Part 3, Sec. 8A, June 1971.
- Powell, R. L. et al, "Low Temperature Thermocouples 1. Gold-Cobalt or Constantan Versus Copper or 'Normal Silver'," CRYO, No. 5, March 1961.
- Powell, W. B. and Price, E. W., "A Method for Determination of Level Heat Flux from Transient Temperature Measurements," ISAC, Paper No. 8.2.63, Sept. 1963.
- Prentice, J. L., "Flashdown in Solid Propellants," Naval Ordnance Test Station, China Lake, Calif., NOTS TP 3009, Dec. 1962, AD-295979.
- Rabinowitz, E., "Equations Give Quick Estimates of Friction Temperature," PREN, Vol. 35, No. 4, March 1964.
- Rainey, W. T., Jr., and Bennett, R. L., "Stability of Base Metal Thermocouples in Helium Atmosphere," ISAT, Vol. 2, No. 1, Jan. 1963.
- Ramachandran, S. and Acre, T. R., "Measuring Molten Steel Temperature," ISAJ, Vol. 11, No. 3, March 1964.
- Rauch, W. G., "Design and Construction of Needle Thermocouples," MESD, Vol. 65, No. 3, March 1954.
- Redford, R. E., "New Reference Tables for Platinum 10% Rhodium/Platinum and Platinum 13% Rhodium/Platinum Thermocouples," ISAT, Vol. 9, No. 3, 1970.
- Redr, M. et al, "Thermocouples for Prolonged and Deep Temperature Measurement of Liquids in Moulds," HUTL, Vol. 18, No. 7, 1963.
- Rezgl, I. A., "Calculation of Multicascade Thermoelements," IAET, No. 5, Sept.-Oct. 1969 (in Russian).
- Rezgl, I. A., "Effective Characteristics of Cascaded Thermopyles," IAET, No. 6, Nov.-Dec. 1969 (in Russian).
- Richards, D. B. et al, "Thermocouples in Magnetic Fields," JAPI, Vol. 40, No. 9, Aug. 1969.
- Robertson, D., "A New Sensitive Temperature Detector for Use in High Pressure Fluid Piping," ASMS, Paper No. 59-A-201, Dec. 1959.
- Robertson, G. D., Jr., and Scholl, R. F., "Rotating Thermocouple System," RSIN, Vol. 42, No. 6, June 1971.
- Roeser, W. F. and Lonberger, S. L., "Methods of Testing Thermocouples and Thermocouple Material," NBSS, No. 590, Feb. 1958.
- Rosenbaum, "Some Low Temperature Thermometry Observations," RSIN, Vol. 40, No. 4, April 1969.
- Rozenblit, G. B., "Measurement of Small Temperature Variations on the Surface of Solid Bodies," MSTC, Vol. 2, No. 2, Feb. 1962.
- Rubin, L. G., "Measuring Temperature," ISCT, No. 25, Jan. 1964.
- Rubin, L. G., "Temperature Concepts, Seals and Measurement Techniques," Raytheon Co. Technical Memorandum T-538.
- Ruff, A. W., Jr., "Open-Probe Thermocouple Control of Radio-Frequency Heating," RSIN, Vol. 35, No. 6, June 1964.
- Russell, A., "Inexpensive Thermocouple-Scanner Using Gold-Plated Relays," CNTL, Vol. 7, No. 63, Sept. 1963.

- Safronnikov, S. A., "Thermocouple for Precision Measurements on Industrial Objects," MSTC, No. 2, Feb. 1970.
- Salt, K. J. and Wintle, C. A., "Improved Accuracy of Temperature Measurement with Thermocouples," UKAA, Report No. AEEW-R522, 1967.
- Sandefur, N. L. et al, "Reliability of High-Temperature Thermocouples in Irradiation Capsules," Gulf General Atomic, Inc., San Diego, Calif., Report No. GA9653, Sept. 1969.
- Sannes, T., "Tiny Thermocouples—Advances in Design Extended Applications," INTH, Vol. 14, No. 3, March 1967.
- Savage, B., "Multipoint Thermocouple Reference Junction," JSIN, Vol. 40, No. 1, Jan. 1963.
- Scadron, L., "Ceramic Insulated Thermocouple," INCS, May 1961.
- Scadron, M. D., "Time Response Characteristics of Temperature Sensors," SEPP, Paper No. 158H, April 1960.
- Scadron, M. D. and Warshowsky, I., "Experimental Determination of Time Constants and Nusselt Numbers for Bare-Wire Thermocouples in High-Velocity Air Streams and Analytic Approximation of Conduction and Radiation Errors," NACA, TN-2599, Jan. 1952.
- Schinizlein, J. G. et al, "Temperature Transducer for Thermogravimetric Studies," RSIN, Vol. 36, No. 5, May 1965.
- Schmoll, R. H., "Temperature Measurements with Thermocouples," INCS, Vol. 44, No. 6, June 1971.
- Schriempf, J. T., "Basic Studies of the Metallic State (Thermoelectric Power of 0.02 AT-% Iron in Gold)," RNRL, April 1965.
- Selman, G. L., "On the Stability of Metal Sheathed Noble Metal Thermocouples," STSI, Vol. 4, Part 3, Sec. 8C, June 1971.
- Sheldon, L. E., "Multiplexing Thermocouple Signal to a Computer-Controlled Data System," ISAC, Paper No. 53.3.63, Sept. 1963.
- Shepard, C. E. and Warshawsky, I., "Electrical Techniques for Time Lag Compensation of Thermocouples Used on Gas Turbine Temperature Measurements," INST, Vol. 26, No. 11, Nov. 1953.
- Shepard, R. L. et al, "Equivalent Circuit Modeling of Insulator Shunting Errors in High Temperature Sheathed Thermocouples," STSI, Vol. 4, Part 3, Sec. 8C, June 1971.
- Sherman, A., "Thermocouple Circuit Restorer," INAU, Vol. 27, No. 1, Jan. 1954.
- Shmonin, A. A., "Measurement and Control of Temperature in Furnaces," MSTC (IZTE), Vol. 2, No. 2, Feb. 1962.
- Shortland, M. and Standly, D. J., "Thermocouple Switch Works inside Slab Furnace," INPA, Vol. 20, No. 1, Jan. 1966.
- Shu, H. H. H., "Relation Between the Rubbing Interface Temperature Distribution and Dynamic Thermocouple Temperature," ASMS, Vol. 86, No. 3, Sept. 1964.
- Sibley, F. S., "A New Oxidation and Corrosion Resistant Nickel Alloy Thermocouple Marching Type J Iron-Constantan in Calibration," ISAC, Paper No. 21.2.62, Oct. 1962.
- Siede, O. A. and Edison, L. R., "Mechanics of Drawing and Swaging Ceramic Filled Tubes," ASTM, Paper, unpublished, Annual Meeting, June 1966.
- Siede, O. A., "Manufacturing Procedures and Techniques for Metal Sheathed Ceramic Insulated Thermocouples," ASTM, Paper, unpublished, Annual Meeting, June 1966.
- Silverman, L., "Reference Junctions," INCS, Vol. 36, No. 6, June 1963.
- Simmons, F. S. and Glawe, G. E., "Theory and Design of a Pneumatic Temperature Probe and Experimental Results Obtained in a High Temperature Gas Stream," NACN, ON-3393, Jan. 1957, AD-118-995.
- Simmons, J. D., "Tungsten-Molybdenum Thermocouple for Immersion Pyrometer," JISI, Vol. 175, No. 12, Dec. 1953.
- Slater, H. W., "Improvements in Fine Wire Thermocouples," JSIN, Vol. 30, No. 8, Aug. 1953.
- Slaughter, J. I. and Margrave, J. L., "Temperature Measurement," U.S. Air Force, Space Systems Division, Report No. TDR-169 (3240-20) TN-1, Oct. 1962, AD-298-142.
- Smith, A., "A Differential Thermocouple and Its Errors in a Reactor Environment," UKAA Report No. AERE-R5921, 1969.
- Smith, C. P., "Thermocouples," EMTD, Vol. 12, No. 12, Dec. 1969.
- Smith, E. C., "Swaged MgO Thermocouples," INCS, Vol. 34, May, 1961.
- Sparks, L. L. and Hall, W. J., "Cryogenic Thermocouple Tables-Part II. Reference Materials Versus Thermocouple Alloys," NBSP Report No. 9719, Dec. 1968.

- Sparks, L. L. and Hall, W. J., "Cryogenic Thermocouple Tables-Part III. Miscellaneous and Comparative Material Combinations," NBSP, Report No. 9721, Jan. 1969.
- Sparks, L. L. and Hust, J. G., "Thermoelectric Voltage of Silver-8at % Gold Thermocouple Wire, SRM733, Versus Common Thermocouple Materials (Between Liquid Helium and Ice Fixed Points)," NBSP, No. 260-34, 1972.
- Sparks, L. L. and Powell, R. L., "Available Low Temperature Thermocouple Information and Services," NBSP, Report No. 8750, Feb. 1965.
- Sparks, L. L. and Powell, R. L., "Cryogenic Thermocouple Thermometry," MESD, Vol. 1, No. 2, March-April 1967.
- Sparks, L. L. and Powell, R. L., "Final Report on Thermometry Project," NBSP, Report No. 9249, June 1966.
- Sparks, L. L. and Powell, R. L., "Laboratory Method for Assessing Homogeneity and Interchangeability of Thermocouple Wires," MTRS, Vol. 11, No. 8, Aug. 1971.
- Sparks, L. L. and Powell, R. L., "Low Temperature Thermocouples: KP, "Normal" Silver, and Copper Versus Au-0.02at % Fe and Au-0.07at % Fe," JRNB, Vol. 76A, No. 3, May-June 1972.
- Sparks, L. L. and Powell, R. L., "Reference Data for Thermocouple Materials Below the Ice Point," STSI, Vol. 4, Part 3, Sec. 8A, June 1971.
- Sparks, L. L. et al, "Cryogenic Thermocouple Research," ISAT, Vol. 9, No. 3, 1970.
- Sparks, L. L. et al, "Cryogenic Thermocouple Tables," NBSP, Report No. 9721, July 1968.
- Sparks, L. L. et al, "Reference Tables for Low-Temperature Thermocouples," NBSM, No. 124, June, 1972.
- Spooner, N. F. and Thomas, J. M., "Longer Life for Chromel-Alumel Thermocouples," MEPO, Nov. 1955.
- Spooner, N. F. and Sibley, F. S., "Versatile Thermocouple with High Output," MEPO, Vol. 96, No. 5, Nov. 1969.
- Stamper, J. A., "Differential Sensing Controlled Thermocouple," RSIN, Vol. 34, No. 4, April 1963.
- Starner, K. E. and Varwig, R. L., "Thick Film Thermocouple Gages for Rough Model Heat Flux Measurements," ISAT Vol. 9, No. 2, 1970.
- Starr, C. D. and Wang, T. P., "Effect of Oxidation on Stability of Thermocouples" ASTE, Vol. 63, 1963.
- Starr, C. D. and Wang, T. P., "Thermocouples and Extension Wires," STSI, Vol. 4, Part 3, Sec. 8B, June 1971.
- Stein, P. K., "A New Conceptual Model for Components in Measurement/Control Systems: Practical Application to Thermocouples," STSI, Vol. 4, Part 3, Sec. 8E, June 1971.
- Stepka, F. S. and Hickel, R. O., "Methods for Measuring Temperatures of Thin-Walled Gas Turbine Blades," NACN, E56G17, Nov. 1956, AD-112-316.
- Stern, J. et al, "Preliminary Results of Nobel Metal Thermocouple Research Program, 1000-2000 C," NASA, CR-72646, Jan. 1970.
- Stevenson, J. A., "Metal-Clad Thermocouples," PTMR, Vol. 4, No. 4, Oct. 1960.
- Stewart, W. F. and Edwards, S. F., "Calibration of Small Gauge Thermocouples," RSIN, Vol. 43, No. 1, Jan. 1972.
- Stimson, H. F., "International Temperature Scale of 1948, Test Revision of 1960," NBSM, No. 37, Sept. 1961.
- Stover, C. M., "Method of Butt Welding Small Thermocouples 0.001 to 0.010 Inches in Diameter," RSIN, Vol. 31, No. 6, June 1960.
- Stowe, B. W., "Embedded Thermocouple Measurements of Cooled Turbine Buckets Subject to High Heat Flux Conditions," ISAT, Vol. 8, No. 2, 1969.
- Strittmaster, R. C. et al, "Measurement of Temperature Profiles in Burning Solid Propellant," U.S. Army Material Command, Ballistic Research Laboratory, Report No. BRL-MR-17-37, March 1966, AD-635188.
- Strub, J. W., "The Use of Chord Thermocouples for Monitoring the Thermal Resistance of Boiler Waterside Deposits," PAPW, Vol. 23, 1961.
- Sturm, W. J. and Jones, R. J., "Applications of Thermocouples to Target Temperature Measurement in the Internal Beam of a Cyclotron," RSIN, Vol. 25, No. 4, April 1954.
- Swaney, F. S., "Open Hearth Bath Temperature Measurement," INST, Vol. 26, No. 2, Feb. 1953.

- Swartzlander, E. E., Jr., "Comparison of Temperature Sensors for Apollo Experiment Instrumentation," ISAC, Paper No. 69-665, Vol. 24, Part 4, Oct. 1969.
- Swindells, J. F., ed., "Precision Measurement and Calibration-Temperature," NBSS, No. 300, Vol. 2, Aug. 1968.
- Taligren, V. and Kracht, V., "Reliable D.C. Amplifier for Thermocouple Vacuum Gauges," ELEG, Vol. 36, No. 10, Oct. 1964.
- Tarassenko, S., "Mesure des Temperatures d'un Coeur de Reacteur Nucleaire," CMEA, Saclay, Report No. CEA-R-3916, Nov. 1969.
- Tauras, J. A., "Some Designs Using Sheathed Thermocouple Wire for Jet Engine Applications," STSI, Vol. 4, Part 3, Sec. 8C, June 1971.
- Thielke, M. R., "Thermoelectric Materials," National Carbon Co., Jan. 1959, AD-220537.
- Thomas, D. B. and Freeze, P. D., "The Effects of Catalysis in Measuring the Temperature of Incompletely-Burned Gases with Noble-Metal Thermocouples," STSI, Vol. 4, Part 3, Sec. 8B, June 1971.
- Thomas, D. B., "Furnace for Thermocouple Calibrations to 2200 C," JRNB, Vol. 66C, No. 7, July 1962.
- Thomas, D. B., "Some Studies on the Reproducibility of Tungsten-Rhenium Type Thermocouples," ISAC, Vol. 26, Part 2, Paper No. 71-611, Oct. 1971.
- Thomas, D. B., "Studies on the Tungsten-Rhenium Thermocouple to 2000 C," JRNB, Vol. 67, No. 4, Oct.-Dec. 1963.
- Thornberg, D. D. and Wayman, C. M., "Thermoelectric Power of Vacuum-Evaporated Au-Ni Thin-Film Thermocouples," JAPI, Vol. 40, No. 7, June 1969.
- Thulin, A., "Composite Thermocouple-Resistance Sensors with Linear Output," JSIN, Vol. 2, No. 12, Dec. 1969.
- Tillinger, M. H., "Noise Thermometry at High Pressure," Polytechnic Institute of Brooklyn, TR-1, June 1965, AD-467-990.
- Tkach, J. D. and Mesurvey, R. H., "Corrosion of Thermocouple Sheath Materials in a Pressurized Water Reactor Environment," Aerojet Nuclear Co., Idaho Falls, Idaho, unpublished, 1972.
- Toenshoff, D. A., "Automatic Calibration of Thermocouples," EITB, Vol. 2, No. 3, Dec. 1961.
- Toenshoff, D. A., "Discussion of Common Thermocouple Calibration Problems," SEPP, Paper No. 690429, April 1969.
- Toenshoff, D. A., "A Recording Tester for Wire Homogeneity," Englehard Industries, East Newark, N. J., unpublished.
- Toenshoff, D. A., "Twist Upgrades Brittle W/Rh TC Junctions," INTH, Vol. 17, No. 10, Oct. 1970.
- Toenshoff, D. A. and Zysk, E. D., "Material Preparation and Fabrication Techniques for the Production of High Reliability Thermocouple Devices," STSI, Vol. 4, Part 3, Sec. 8C, June 1971.
- Tschang, P. S., "Temperature Determination in Moderately Dense High Temperature Gases by Transient Thermocouple Probes," WPAF, ARL-65-95, May 1965, AD-617-702.
- Tseng, Y. et al., "Platinum-Molybdenum Thermocouple," EITB, Vol. 9, No. 3, Dec. 1968.
- Tseng, Y. et al., "Tungsten 3 Rhenium vs Tungsten 25 Rhenium Thermocouple—Some Recent Developments," EITB, Vol. 11, No. 1, June 1970.
- Tsyplatnikov, G. P. and Aleskorskiy, V. B., "A Thermochemical Gas Analyzer for Continuous Detection of Oxygen," IVUK, Vol. 3, No. 3, 1960, AD-295-607.
- Turner, C. H., "Response of a Thermocouple Junction to Shock Waves in Copper," JAPI, Vol. 35, No. 10, Oct. 1964.
- Turner, R. C. and Gordon, G. D., "Thermocouple for Vacuum Tests Minimizes Errors," SPAE, Vol. 41, No. 1, Jan. 1964.
- Tye, R. P., "The Arts and Practices of Thermal Conductivity Measurements," ISAC, Paper No. 68-523, Vol. 5, Oct. 1968.
- Vaughan, C. L., "A Temperature Transducer that Measures Peak Temperature," ISAC, Paper No. 69-575, Vol. 24, Part 2, Oct. 1969.
- Vertogradsky, V. A., and Chekhovskoy, V. Ya., "Thermal Properties of Tungsten-Rhenium Alloys Used in High Temperature Thermocouples," STSI, Vol. 4, Part 3, Sec. 8B, June 1971.



- Vesser, W. C. and Vaughan, C. L., "A Measurement Bridge for Locating Peak Temperature from a High-Impedance Thermocouple Transducer," ISAC, Paper No. 69-577, Vol. 24, Part 2, Oct. 1969.
- Vrolyk, J. J. and Kinzie, P. A., "Feasibility Investigation of Heat-Flow Rate Measuring Techniques," WPAF, RTD-TDR-63-4077, Jan. 1964, AD-431-189.
- Walker, B. E. et al., "High Temperature Materials Research," RNRL, April 1965.
- Walter, B. E. et al., "Instability of Refractory Metal Thermocouples," RSIN, Vol. 36, No. 6, June 1965, AD-621-484.
- Walker, B. E. et al., "Study of the Instability of Noble Metal Thermocouples in Vacuum," RSIN, Vol. 36, No. 5, May 1965.
- Walker, B. E. et al., "Thermoelectric Instability of Some Noble Metal Thermocouples at High Temperature," RSIN, Vol. 33, No. 10, Oct. 1962.
- Wang, T. P., "Temperature Sensors," INCS, Vol. 40, No. 5, May 1967.
- Wang, T. P. et al., "EMF Stability of Type K Thermocouple Alloys," SEPP, Paper No. 690426, April 1969.
- Wasserman, P., "Zener Diode Voltage References," MESD, Vol. 3, No. 4, July-Aug. 1969.
- Watson, G. G., "Techniques for Measuring Surface Temperatures," INPA, Vol. 20, Nos. 3-8, March-Aug. 1966.
- Wechter, G. H., "The Accuracy of Thermocouples in Measuring Surface Temperatures of Stainless Steel Specimens Subject to Radiant Heat-Phase II," Aeronautical Structures Laboratory, Naval Air Development Center, NAEC, ASL 13 R 360FR101, July 1963, AD-412-317.
- Weiner, S. and Schwartz, F., "Thermopile IR Detectors," SPAE, Vol. 40, No. 8, Aug. 1963.
- White, F. J., "Accuracy of Thermocouples in Radiant Heat Testing," EXMC, Vol. 2, July 1962.
- Whitow, L. and Porter, M. J., "Method of Reducing Time Lag of Transducers Which Have Exponential Response," ELOE, Vol. 31, No. 379, Sept. 1959.
- Wilkinson, R. H., "Measurement of Temperature Distribution Over Metal Objects Using Single-Wire Thermocouples," STSI, Vol. 4, Part 3, Sec. 8E, June 1971.
- Wilks, C. R., "Creep and Rupture Test Pyrometry," ASTT, No. 178, 1955.
- Williams, R. J. and Kaiura, E. H., "Time Constant Study of Some Commercial Temperature Sensors at Cryogenic Temperatures," The Boeing Co., Report No. D2-23831-1, July 1965, AD-485191L.
- Wilson, A. D. and Ulsh, H. B., "Theory of the Parallel Thermocouple," RSIN, Vol. 39, No. 3, Mar. 1968.
- Wool, M. R. et al., "Measurement of Convective and Radiative Heat Fluxes at the Surface of an Ablative Material," ISAC, Paper No. 69-579, Vol. 24, Part 2, Oct. 1969.
- Wormser, A. F., "Experimental Determination of Thermocouple Time Constants with Use of a Variable Turbulence, Variable Density Wind Tunnel and the Analytic Evaluation of Conduction Radiation and Other Secondary Effects," SEPP, Paper No. 158 D, April 1960.
- Wormser, A. F. and Pfuntner, R. A., "Pulse Technique Extends Range of Chromel Alumel to 7000 F," INCS, Vol. 37, No. 5, May 1964.
- Wormser, A. F. and Pfuntner, R. A., "Pulse Thermocouple Measures at 5700 F," SPAE, Vol. 40, No. 7, July 1963.
- Wright, D. F. and Acheson, G. F., "Effect on the Static Strength of Aluminum Alloy Test Specimens of the Attachment of Thermocouples by a Welding Technique," Royal Aircraft Establishment, Technical Note, Structures 345, Jan. 1964, AD-440894.
- Young, R., "Thermoelectric Thermometry," CEEN, Vol. 33, No. 14, Oct. 1960.
- Zabawsky, Z., "Construction and Calibration of a Heat Flow Meter for Thermal Conductivity Measurements," ISAC, Paper No. 68-520, Vol. 5, Oct. 1968.
- Zabawsky, Z. and Gavan, F. M., "Thermocouples and Their Usage in ASTM Standards," MTRS, Vol. 5, No. 2, Feb. 1965.
- Zopf, W. D., "Thermal-Electric Type Instrumentation for the Detection and Relative Measurement of Infrared Radiation in a Selected Wave Length Bound of Essentially Black Body Radiation," Arkansas University Masters Thesis, 1963, AD-298162.
- Zysk, E. D., "Noble Metals in Thermometry—Recent Developments," EITB, Vol. 5, No. 3, Dec. 1964.
- Zysk, E. D., "A Review of Recent Work with the Platinel Thermocouple," EITB, Vol. 4, No. 1, June 1963.

- Zysk, E. D. and Robertson, A., "Newer Thermocouple Materials," STSI, Vol. 4, Part 3, Sec. 8B, June 1971.
- Zysk, E. D. and Robertson, A. R., "Nonmetallic Thermocouples for Above 1000 Degrees C," INTH, Vol. 19, No. 3, May 1972.
- Zysk, E. D. and Robertson, A. R., "Thermocouples for Above 1500 Degrees C," INTH, Vol. 18, No. 11, Nov. 1971.
- Zysk, E. D. and Toenshoff, D. A., "Calibration of Refractory Metal Thermocouples," ISAP, Paper No. 12.11-4-66, Oct. 1966.
- Zysk, E. D. et al, "Tungsten 3 Rhenium Versus Tungsten 25 Rhenium—A New High Temperature Thermocouple," EITB, Vol. 3, No. 4, March 1963.

### 12.3 Coden for Periodical Titles

<i>CODEN</i>	<i>Title</i>
ANCH	Analytical Chemistry
ASMS	American Society of Mechanical Engineers, Paper
ASTE	American Society for Testing and Materials, Proceedings, Committee Reports, Technical Papers
ASTT	American Society for Testing and Materials, Special Technical Publication
ATEL	Avto Matika I Telemekhanika (USSR)
AUSV	Automaticeskaya Svarka (USSR) Translated by Administrative Center for Scientific Information and Liaison (UK)
BJAP	British Journal of Applied Physics
CEEN	Certificated Engineer (UK)
CELE	Communication and Electronics
CENG	Control Engineering
CHEG	Chemical Engineer, The
CJPH	Canadian Journal of Physics
CMEA	Commissariat a l'Energie Atomique Rapport (FR)
CNTL	Control
CRYO	Cryogenics
DSER	Data Systems Engineering
EITB	Engelhard Industries, Inc., Technical Bulletin
ELEC	Electronics
ELEG	Electronic Engineering
ELMA	Electrical Manufacturing
ELOE	Electronic Engineer
ELTE	Electro-Technology
EMTD	Engineering Materials and Design
EXMC	Experimental Mechanics
FITE	Fire Technology
GLCE	Glass and Ceramics (USSR)
HUTL	Hutnicke Listy (Czech)
HTSR	Heat Transfer—Soviet Research (USSR)
IAET	Izvestiya Akademii Nauk SSSR Energetika: Transport (USSR)
IEIM	Institute of Electrical and Electronic Engineers (IEEE) Transactions on Instrumentation and Measurement
INAU	Instruments and Automation
INCS	Instruments and Control Systems
INDL	Industrial Laboratory (USSR)
INET	Instruments and Experimental Techniques (USSR)
INLA	Industrial Laboratories
INPA	Instrument Practice (UK)
INSR	Instrumentation
INST	Instruments
INTH	Instrumentation Technology
IRAG	Iron Age, The

<i>CODEN</i>	<i>Title</i>
IRES	Industrial Research
IRSE	Iron and Steel Engineer
ISAC	Instrument-Automation Conference and Exhibit Proceedings, Annual, Instrument Society of America
ISAJ	Instrument Society of America Journal
ISAP	Instrument Society of America Preprint (Paper)
ISAT	Instrument Society of America, Transactions
ISCT	International Science and Technology
ITAE	Institute of Electrical and Electronic Engineers, Transactions on Aero- space and Electronic Systems
IVUK	IZ Vestiya Vysshikh Uchebnykh Zavedeniy, Khimiya i Khimicheskaya Tekhnologiya (USSR)
IZTE	Izmeritel'naya Tekhnika (USSR)
JAMC	Journal of Applied Mechanics (ASME)
JAPI	Journal of Applied Physics
JBAE	Journal of Basic Engineering (ASME)
JEPO	Journal of Engineering for Power (ASME)
JHTR	Journal of Heat Transfer (ASME)
JIME	Journal of the Institute of Metals (UK)
JISI	Journal of Iron and Steel Institute (UK)
JRNB	Journal of Research, National Bureau of Standards
JSIN	Journal of Scientific Instruments
LNTJ	Leeds and Northrup Co., Technical Journal
MADE	Machine Design
MEEN	Mechanical Engineering
MEPO	Metal Progress
MESD	Measurements and Data
METL	Metallurgia
MMQT	Mining and Metallurgy Quarterly Transactions
MSCO	Metallurgical Society Conference
MSTC	Measurement Techniques (USSR)
MTRS	Material Research and Standards
NAAR	National Advisory Committee for Aeronautics, Research Abstracts
NACN	National Advisory Committee for Aeronautics, Technical Notes
NASA	National Aeronautical and Space Agency
NBSE	National Bureau of Standards Technological Papers
NBSM	National Bureau of Standards Monograph
NBSP	National Bureau of Standards Miscellaneous Publication
NBSS	National Bureau of Standards Special Publication
NBST	National Bureau of Standards, Technical News Bulletin
NSSP	National Aeronautics and Space Administration, Special Publication
NUCA	Nuclear Applications
OGNP	Ogneapory (USSR)
ORNL	Oak Ridge National Laboratories
PAPW	Proceedings of the American Power Conference
PEPR	Petroleum Processing
PHTO	Physics Today
PIML	Proceedings of the Institution of Mechanical Engineers (UK)
PMTL	Praktische Metallographie
POWE	Power
PREN	Product Engineering
PRTE	Pribory i Tekhnika Eksperimenta (USSR)
PTMR	Platinum Metals Review
RMZB	Rudarsko—Metalurski Zbornik (USSR)
RNRL	Report of Naval Research Laboratory Progress
RSIN	Review of Scientific Instruments
SAEJ	SAE Journal, Society of Automotive Engineers

<i>CODEN</i>	<i>Title</i>
SEPP	SAE, Preprint, Society of Automotive Engineers
SPAE	Space Aeronautics
SSTE	Solid State Technology
STAE	Scientific and Technical Aerospace Reports (STAR), National Aeronautic and Space Administration
STSI	Temperature, Its Measurement in Science and Industry
UKAA	United Kingdom Atomic Energy Authority
VIDE	Vide (France)
WEJU	Welding Journal
WPAF	Wright-Patterson Air Force Base, Ohio
WSKR	Werkstoffe und Korrosion
XAER	United States Atomic Energy Commission
ZPMF	Zhurnal Prikladnei Mekhaniki I Tekhnicheskoi Fiziki (USSR)
ZVDL	Zavodskaya Laboratoriya (USSR)