

V. RESISTANCE THERMOMETRY

- 711 Automatic resistance thermometer bridges for new and special applications
- 715 An automatic resistance thermometer bridge
- 719 An automatic resistance thermometer bridge

R. D. Cutkosky

C. G. M. Kirby

N. L. Brown, A. J. Fougere,
J. W. McLeod, R. J. Robbins

(Continued)

- 729 A new range of high precision resistance bridges for resistance thermometry
P. C. F. Wolfendale, J. D. Yewen, C. I. Daykin
- 733 Designing accurate platinum RTD measuring systems for industry
J. R. Saffell
- 739 An automatic system for measuring Bowen ratio gradients using platinum resistance elements
L. J. Fritschen, J. R. Simpson
- 743 Evaluation and control of platinum oxidation errors in standard platinum resistance thermometers
Robert J. Berry
- 753 Oxidation, stability, and insulation characteristics of Rosemount standard platinum resistance thermometers
Robert J. Berry
- 763 The stability of commercially available high temperature platinum resistance thermometers of a 5 Ω silica cross type up to 961.93 °C
H. J. Jung, H. Nubbemeyer
- 771 Experiences with high-temperature platinum resistance thermometers
J. P. Evans
- 783 Stability of precision high temperature platinum resistance thermometers
Long Guang, Tao Hongtu
- 789 Practical high temperature resistance thermometry
J. V. McAllan
- 795 Investigation of the stability of small platinum resistance thermometers
B. W. Mangum, G. A. Evans, Jr.
- 803 Thermal hysteresis and stress effects in platinum resistance thermometers
D. J. Curtis
- 813 Construction of a laboratory working thermometer using industrial platinum resistance sensors
N. M. Bass
- 815 The calibration characteristics of industrial platinum resistance thermometers
J. J. Connolly
- 819 Interpolating equations for industrial platinum resistance thermometers in the temperature range from –200 to +420 °C
A. Actis, L. Crovini
- 829 The rhodium-iron resistance thermometer: Ten years on
R. L. Rusby
- 835 The state of development of planar germanium cryogenic thermometers
P. R. Swinehart
- 839 Platinum-cobalt alloy resistance thermometer for wide range cryogenic thermometry
T. Shiratori, K. Mitsui, K. Yanagisawa, S. Kobayashi
- 845 Carbon-glass sensors: Reproducibility and polynomial fitting of temperature vs resistance
B. W. Ricketson, R. Grinter
- 853 Carbon-glass thermometry in China
Yao Quanfa, Deng Daren, Ma Hongqi, Jiang Dehua, Ji Yunsong, Huang Xihuai
- 859 A thin platinum film for transient heat transfer studies
P. J. Giarratano, F. L. Lloyd, L. O. Mullen, G. B. Chen
- 865 Enhanced stability in precision interchangeable thermistors
T. H. LaMers, J. M. Zurbuchen, H. Trolander
- 875 The exactness of fit of resistance-temperature data of thermistors with third-degree polynomials
M. Sapoff, W. R. Siwek, H. C. Johnson, J. Slepian, S. Weber
- 889 Aging phenomena in nickel-manganese oxide thermistors
J. M. Zurbuchen, D. A. Case
- 897 Fast thermistor sensors for rapid reaction studies
R. L. Berger, B. Balko, T. R. Clem, W. S. Friauf
- 911 Tailoring PTC thermistor characteristics
R. E. Wendt, Jr.

VI. THERMOCOUPLE THERMOMETRY

- 915 Thermoelectric thermometry: A functional model
R. P. Reed
- 923 Testing of thermocouples for inhomogeneities: A review of theory, with examples
C. A. Mossman, J. L. Horton, R. L. Anderson
- 931 Validation diagnostics for defective thermocouple circuits
R. P. Reed
- 939 Failure of sheathed thermocouples due to thermal cycling
R. L. Anderson, R. L. Ludwig

(Continued)

- 953 Properties of some noble and base metal thermocouples at fixed points in the range 0–1100 °C E. H. McLaren, E. G. Murdock
- 977 Decalibration of sheathed thermocouples R. L. Anderson, J. D. Lyons, T. G. Kollie, W. H. Christie, R. Eby
- 1009 Thermocouple measurement uncertainty in compressor efficiency measurement: The effects of two uncertainty models Ronald H. Dieck, Barbara G. Ringhiser
- 1019 Studies of sheathed thermocouple construction and installation in thermowells to obtain faster response R. M. Carroll, K. R. Carr, R. L. Shepard
- 1025 Very low temperature thermocouple devices: Development and application techniques for temperature measurements H. Armbrüster, W. P. Kirk, D. P. Chesire
- 1037 Differential type thermometer for measuring hot gas temperature Jiro Ohno, Masakazu Nakamura, Yutaka Miyabe, Atsushi Kawasaki, Yukio Kanoshima
- 1043 Lining erosion measurements by sheathed multiple thermocouples through temperature transients Y. Kawate, N. Nagai, M. Konishi, K. Yokoe, T. Horiuchi
- 1051 Miniature zircaloy-sheathed thermocouples for nuclear fuel-rod cladding temperature measurements S. C. Wilkins
- 1061 2200 °C thermocouples for nuclear reactor fuel centerline temperature measurements C. P. Cannon
- 1069 Temperature measurements with chromel/alumel thermocouples in a pressurized water reactor P. Siltanen, T. Laaksonen, W. Joslin
- 1081 Temperature measurement in the WAGR A. Thurlbeck
- 1097 Lifetime improvement of small-diameter sheathed thermocouples for use in high-temperature and thermal transient operations R. W. McCulloch, J. H. Clift
- 1109 Thermocouples for measurements under conditions of high temperature and nuclear radiation R. Schley, G. Metauer
- 1115 Proposed mechanism for the thermoelectric properties of nickel and some of its alloys near the Curie temperature D. D. Pollock
- 1121 The nicrosil versus nisil thermocouple: Recent developments and present status G. W. Burns
- 1129 The nicrosil versus nisil thermocouple: The influence of magnesium on the thermoelectric stability and oxidation resistance of the alloys N. A. Burley, J. L. Cocking, G. W. Burns, M. G. Scroger
- 1147 Oxidation resistance and stability of nicrosil-nisil in air and in reducing atmospheres T. P. Wang, C. D. Starr
- 1159 The nicrosil versus nisil thermocouple: A critical comparison with the ANSI standard letter-designated base-metal thermocouples N. A. Burley, R. M. Hess, C. F. Howie, J. A. Coleman
- VII. ELECTRONIC THERMOMETRY**
- 1167 Signal processing techniques for temperature measurement K. P. Shambrook
- 1173 A new nuclear quadrupole resonance standard thermometer A. Ohte, H. Iwaoka
- 1181 Temperature profiling using multizone ultrasonic waveguides L. C. Lynnworth
- 1191 Ultrasonic thin-wire thermometry for nuclear applications H. A. Tasman, M. Campana, D. Pel, J. Richter
- 1197 Precision silicon transistor thermometer A. Ohte, M. Yamagata, K. Akiyama
- 1205 Semiconductor junctions as cryogenic temperature sensors M. Ganapati Rao
- 1213 Temperature measuring method by using the eddy current technique K. Sano, T. Yamada, S. Ando, K. Watanabe
- 1219 A decade of progress in high temperature Johnson noise thermometry T. V. Blalock, R. L. Shepard
- 1225 Application of noise thermometry in industry under plant conditions H. Brixy, R. Hecker, K. F. Rittinghaus, H. Höwener
- 1239 High temperature noise thermometry for industrial applications M. C. Décréton

(Continued)

- | | | |
|------|--|---|
| 1245 | Dual high temperature measurements using Johnson noise thermometry | T. R. Billeter, C. P. Cannon |
| 1249 | Johnson noise power thermometer and its application in process temperature measurement | T. V. Blalock, J. L. Horton,
R. L. Shepard |

VIII. TEMPERATURE CONTROL

- | | | |
|------|--|----------------------------|
| 1261 | Modeling a closed loop control system | R. L. Fillmore |
| 1265 | A new generation of precision furnaces | C. A. Busse, C. Bassani |
| 1275 | A precision 4.2–300 K temperature controller using a genuine full-range sensor and inductive divider set-point coupled with a simple ac sensing bridge | Wang Zhensen, Deng Daren |
| 1279 | Temperature control at a high interference level: A case description | I. Karaila, J. Horelli |
| 1283 | A proposed pressure amplifier for a temperature control system | T. M. Kegel, D. E. Limbert |

IX. CALIBRATION METHODS

- | | | |
|------|--|---|
| 1287 | Automated temperature measurements from –183 to 2300 °C | M. H. Cooper, Jr., R. L. Anderson,
C. A. Mossman |
| 1293 | Automation of a thermometer calibration facility | C. G. M. Kirby |
| 1299 | Automation of measurements in a low temperature laboratory | Craig T. Van Degrift,
Robert S. Kaeser |
| 1307 | A highly stable calibration furnace for platinum thermometers up to 700 °C | Zhang Jipei, Shao Kaidi |
| 1311 | Calibration with confidence: The assurance of temperature accuracy | R. D. Collier |

X. THERMOMETRY FOR SPECIAL APPLICATIONS

- | | | |
|-------|---|--|
| 1317 | Deep-ocean temperature measurement | T. M. Dauphinee |
| 1327 | Down-to-earth air temperature measurements during space shuttle earth atmosphere re-entry | T. M. Stickney, M. T. Stiles |
| 1333 | Cryogenic thermometry: A review of recent progress. II | L. G. Rubin, B. L. Brandt,
H. H. Sample |
| 1345 | Design of a fluidic capillary pyrometer for contact duty at temperatures to 2750 °C | R. Michael Phillippi,
Tadeusz M. Drzewiecki,
Taki Negas, Harry S. Parker |
| 1353 | Diffusion thermometry, an engineering concept | M. Lamvik |
| 1357 | Response of installed temperature sensors | T. W. Kerlin, R. L. Shepard,
H. M. Hashemian, K. M. Petersen |
| 1367 | Thermal response times of some cryogenic thermometers | D. Linenberger, E. Spellicy,
R. Radebaugh |
| 1373 | Spectroscopic techniques for measuring the temperature of liquids in analytical instrumentation | Lemuel J. Bowie |
| 1379 | Imaging microwave thermography | J. Edrich, W. E. Jobe |
| 1381 | Thermal environments and thermal comfort: New instruments and methods | E. Mayer |
| 1389 | Temperature and thermodynamics of living matter | T. H. Benzinger |
| xlvii | AUTHOR INDEX | |
| lvii | SUBJECT INDEX | |