

NAT'L INST. OF STAND & TECH R.I.C.


A11105 086695

NIST
PUBLICATIONS



United States Department of Commerce
Technology Administration
National Institute of Standards and Technology

NISTIR 5064

Metrology for Electromagnetic Technology: A Bibliography of NIST Publications

Ann G. Bradford, Editor

QC
100
.U56
NO.5064
1997

1997

Metrology for Electromagnetic Technology: A Bibliography of NIST Publications

Ann G. Bradford, Editor

Electromagnetic Technology Division
Electronics and Electrical Engineering Laboratory
National Institute of Standards and Technology
Boulder, Colorado 80303-3328

August 1997



U.S. DEPARTMENT OF COMMERCE, William M. Daley, Secretary
TECHNOLOGY ADMINISTRATION, Gary R. Bachula, Acting Under Secretary for Technology
NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY, Robert E. Hebner, Acting Director

CONTENTS

	<i>Page</i>
ABSTRACT	1
A Note on Abbreviations	2
Purchase Procedures and Documents Availability	2
CRYOELECTRONIC METROLOGY	3
SUPERCONDUCTOR AND MAGNETIC MEASUREMENT	36
AUTHOR INDEX	76

**Metrology for Electromagnetic Technology
A Bibliography of NIST Publications**

Ann G. Bradford, Editor

ABSTRACT

This bibliography lists the publications of the NIST Electromagnetic Technology Division staff during the period from 1970 through publication of this report. A few earlier references that are directly related to the present work of the Division are also given. The bibliography includes publications in the cryoelectronic metrology and superconductor and magnetic measurement areas.

Key words: cryoelectronics; electromagnetic metrology; X-ray detectors; voltage standards; Josephson junctions; superconductivity; magnetics; magnetic recording; magnetic imaging

A Note on Abbreviations

NOTE: On August 23, 1988, the National Bureau of Standards (NBS) became the National Institute of Standards and Technology (NIST); therefore, documents with either prefix are considered NIST publications.

Most readers are familiar with the commonly used abbreviations for the names of the professional journals that appear in this bibliography. Some publication series are peculiar to NIST and may call for explanation. They are:

NIST IR - NIST Interagency/Internal Report
NIST TN - NIST Technical Note
NIST SP - NIST Special Publication
NIST HB - NIST Handbook
NIST JRES - NIST Journal of Research
NIST MN - NIST Monograph

NBS IR - NBS Interagency/Internal Report
NBS TN - NBS Technical Note
NBS SP - NBS Special Publication
NBS HB - NBS Handbook
NBS JRES - NBS Journal of Research
NBS MN - NBS Monograph

Purchase Procedures and Document Availability

NIST (NBS) Technical Notes, Special Publications, Handbooks, Journals of Research, and Monographs may be purchased from the U.S. Government Printing Office at the following address: New Orders, Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954. Orders may be paid by major credit card, NTIS Deposit Account, or check or money order payable in U.S. dollars to the Superintendent of Documents. The Government Printing Office usually stocks these publications for only a year or two, after which they may be purchased from the National Technical Information Service at the address listed below.

NIST (NBS) Interagency/Internal Reports (NISTIRs, NBSIRs) may be purchased from the National Technical Information Service, Springfield, VA 22161, (703) 487-4650. Orders may be paid by major credit card, NTIS Deposit Account, or check or money order payable in U.S. dollars to NTIS.

Reprints of papers published in non-NIST media may be available in limited quantities from the authors.

Acknowledgments

A large part of the labor of preparing a bibliography is spent collecting and arranging the material; Lisa Eldridge and Edie DeWeese assisted with these chores. The main sources of material were the NIST Boulder Editorial Review Board database, the National Technical Information Service, and information supplied by individual authors.

CRYOELECTRONIC METROLOGY

Constant-Voltage Steps in Arrays of Nb-PdAu-Nb Josephson Junctions;
Benz, S.P.; Burroughs, C.J.
IEEE Trans. Appl. Supercond. 7(2): 2434-2437; Jun 1997.

Operating Margins for a Pulse-Driven Programmable Voltage Standard;
Benz, S.P.; Burroughs, C.J.; Hamilton, C.A.
IEEE Trans. Appl. Supercond. 7(2): 2653-2656; Jun 1997.

Microwave Characterization of Coplanar Waveguide Transmission Lines Fabricated by Ion Implantation Patterning of $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$;
Booth, J.C.; Beall, J.A.; DeGroot, D.C.; Rudman, D.A.; Ono, R.H.; Miller, J.R.; Chen, M.L.; Hong, S.H.; Ma, Q.Y.
IEEE Trans Appl. Supercond. 7(2): 2780-2783; Jun 1997.

SNS Programmable Voltage Standard;
Hamilton, C.A.; Benz, S.P.; Burroughs, C.J.; Harvey, T.E.
IEEE Trans. Appl. Supercond. 7(2): 2472-2475; Jun 1997.

Josephson Voltage Standard - A Review;
Hamilton, C.A.; Burroughs, C.J.; Benz, S.P.
IEEE Trans. Appl. Supercond. 7(2): 3756-3761; Jun 1997.

Excess Low-Frequency Flux Noise in dc SQUIDS;
Huber, M.E.; Cromar, M.W.; Ono, R.H.
IEEE Trans. Appl. Supercond. 7(2): 2882-2885; Jun 1997.

Millimeter-Wave Radiation in High-Tc Josephson Junctions;
Kunkel, G.; Hechtfischer, G.; Frommberger, M.; Veit, K.; Kleiner, R.; Muller, P.; Prusseit, W.; Kinder, H.; Ferchland, L.; Daalmans, G.; Ono, R.H.
IEEE Trans. Appl. Supercond. 7(2): 3339-3342; Jun 1997.

An Improved Multi-Layer Fabrication Process for $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ -based Circuits;
Li, H.Q.; Ono, R.H.; Vale, L.R.; Rudman, D.A.; Liou, S.H.; Mallison, W.H.
IEEE Trans. Appl. Supercond. 7(2): 2169-2172; Jun 1997.

Noise from YBCO Films: Size and Substrate Dependence;
McDonald, D.G.; Phelan, R.J.; Vale, L.R.; Ono, R.H.; Rice, J.P.; Borcherdt, L.J.; Rudman, D.A.; Cosgrove, J.; Rosenthal, P.A.
IEEE Trans. Appl. Supercond. 7(2): 3091-3095; Jun 1997.

Tightly Coupled dc SQUIDS with Resonance Damping;
Ono, R.H.; Koch, J.A.; Steinbach, A.H.; Huber, M.E.; Cromar, M.W.
IEEE Trans. Appl. Supercond. 7(2): 2538-2541; Jun 1997.

Surface Resistance and Morphology of YBCO Films as a Function of Thickness;
Stork, F.J.B.; Beall, J.A.; Roshko, A.; DeGroot, D.C.; Rudman, D.A.; Ono, R.H.; Krupka, J.
IEEE Trans. Appl. Supercond. 7(2): 1921-1924; Jun 1997.

$\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ Josephson Junctions on Bicrystal Al_2O_3 and Sr TiO_3 Substrates;
Vale, L.R.; Ono, R.H.; Rudman, D.A.
IEEE Trans. Appl. Supercond. 7(2): 3193-3196; Jun 1997.

Cryoelectronic Metrology

A Compact Transportable Josephson Voltage Standard;
Hamilton, C.A.; Burroughs, C.J.; Kupferman, S.L.; Naujoks, G.A.; Vickery, A.
IEEE Trans. Instrum. Meas. 46 (2): 237-241; Apr 1997.

A Seven-Junction Electron Pump: Design, Fabrication, and Operation;
Keller, M.W.; Martinis, J.M.; Steinbach, A.H.; Zimmerman, N.M.
IEEE Trans. Instrum. Meas. 46 (2): 307-310; Apr 1997.

Hot-Electron Microcalorimeter for X-ray Detection Using a Superconducting Transition Edge Sensor with
Electrothermal Feedback;
Irwin, K.D.; Hilton, G.C.; Martinis, J.M.; Cabrera, B.
Nuclear Instruments and Methods in Physics Research A 370: 177-179; 1996.

Hot-Electron-Microcalorimeters with 0.25 mm² Area;
Martinis, J.M.
Nuclear Instruments and Methods in Physics Research A 370: 171-172; 1996.

Thermally Activated Escape from the Zero-Voltage State in Long Josephson Junctions;
Castellano, M.G.; Torrioli, G.; Cosmelli, C.; Costantini, A.; Chiarello, F.; Carelli, P.; Rotoli, G.; Cirillo,
M.; Kautz, R.L.
Phys. Rev. B 54(21): 417-428; Dec 1996.

EDS X-ray Microcalorimeters with 13 eV Energy Resolution;
Wollman, D.A.; Hilton, G.C.; Irwin, K.D.; Martinis, J.M.
J. Microscopy Soc. Amer.: 488-489; Dec 1996.

A Novel Multilayer Circuit Process Using YBa₂Cu₃O_x/SrTiO₃ Thin Films Patterned by Wet Etching and Ion
Milling;
Li, H.Q.; Ono, R.H.; Vale, L.R.; Rudman, D.A.; Liou, S.H.
Appl. Phys. Lett. 69(18): 2752-2754; Oct 1996.

Low Noise High-Temperature Superconducting Bolometers for Infrared Imaging;
Berkowitz, S.J.; Hirahara, A.S.; Char, K.; Grossman, E.N.
Appl. Phys. Lett. 69(14): 2125-2127; Sep 1996.

Metrology for Electromagnetic Technology: A Bibliography of NIST Publications;
Bradford, A.G.
NISTIR 5051, 74 pp; Sep 1996.

X-Ray Detection Using a Superconducting Transition-Edge Sensor Microcalorimeter with Electrothermal
Feedback;
Irwin, K.D.; Hilton, G.C.; Wollman, D.A.; Martinis, J.M.
Appl. Phys. Lett. 69(13): 1945-1947; Sep 1996.

Accuracy of Electron Counting Using a 7-Junction Electron Pump;
Keller, M.W.; Martinis, J.M.; Zimmerman, N.M.; Steinbach, A.H.
Appl. Phys. Lett. 69 (12): 1804-1806; Sep 1996.

Mutual Phase-Locking of Ten YBCO Step-edge Josephson Junctions up to 45 K;
Kunkel, G.; Ono, R.H.
Appl. Phys. Lett. 69(13): 1960-1962; Sep 1996.

A Superconducting Bolometer with Strong Electrothermal Feedback;
Lee, A.T.; Richards, P.L.; Nam, S.W.; Cabrera, B.; Irwin, K.D.
Appl. Phys. Lett. 69 (12): 1801-1803; Sep 1996.

Noise, Chaos, and the Josephson Voltage Standard;
Kautz, R.L.
Reports on Progress in Phys. 59: 935-992; Aug 1996.

High Power Generation with Distributed Josephson-Junction Arrays;
Booi, P.A.A.; Benz, S.P.
Appl. Phys. Lett. 68(24): 3799-3801; Jun 1996.

A Pulse-Driven Programmable Josephson Voltage Standard;
Benz, S.P.; Hamilton, C.A.
Appl. Phys. Lett. 68(22): 3171-3173; May 1996.

Observation of Hot-Electron Shot Noise in a Metallic Resistor;
Steinbach, A.H.; Martinis, J.M.; Devoret, M.H.
Phys. Rev. Lett. 76(20): 3806-3809; May 1996.

Vortex Images in Thin Films of YBCO and BSCCO Obtained by Low-Temperature Magnetic Force Microscopy;
Yuan, C.W.; Zheng, Z.; de Lozanne, A.L.; Tortoneese, M.; Rudman, D.A.; Eckstein, J.N.
J. Vac. Sci. Tech. 14(2): 1210-1213; Mar 1996.

High-Power, High-Frequency Oscillators Using Distributed Josephson-Junction Arrays;
Booi, P.A.A.; Benz, S.P.
Proc., 5th Intl. Superconductive Electronics Conf., Sep 18-21, 1995, Nagoya, Japan: 513-515;
1995.

Lithographic Antennas for Submillimeter and Infrared Frequencies;
Grossman, E.N.
Symp. Rec., IEEE Intl. Symp. on Electromagnetic Compatibility, Aug. 14-18, 1995, Atlanta,
GA, 102-107; 1995.

Magnetic Flux Pinning in Epitaxial $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ Thin Films;
Roshko, A.; Goodrich, L.F.; Rudman, D.A.; Moerman, R.; Vale, L.R.
J. Electron. Mater. 24(12): 1919-1922; 1995.

Shapiro Steps in Large-Area Metallic-Barrier Josephson Junctions;
Kautz, R.L.
J. Appl. Phys. 78(9): 5811-5819; Nov 1995.

Superconductor-Normal-Superconductor Junctions for Programmable Voltage Standards;
Benz, S.P.
Appl. Phys. Lett. 67(18): 2714-2716; Oct 1995.

Superconductor-Normal-Superconductor Junctions for Digital/Analog Converters;
Benz, S.P.
Proc., 5th Intl. Superconductive Electronics Conf.; Sep 18-21, 95; Nagoya, Japan, 216-218; Sep
1995.

Cryoelectronic Metrology

- Metrology for Electromagnetic Technology: A Bibliography of NIST Publications;
Bradford, A.G.
NISTIR 5040, 76 pp; Sep 1995.
- Controlling the Critical Current Density of High-Temperature SNS Josephson Junctions;
Ono, R.H.; Vale, L.R.; Reintsema, C.D.; Kunkel, G.; Berkowitz, S.J.
Proc., 5th Intl. Superconductive Electronics Conf.; Sep 18-21, 95; Nagoya, Japan, 114-116; Sep 1995.
- Design of High-Frequency, High-Power Oscillators Using Josephson-Junction Arrays;
Booi, P.A.A.; Benz, S.P.
Proc., Appl. Superconductivity Conf.; Jul 3-6, 1995; Edinburgh, Scotland, 1479-1482; Jul 1995.
- Metallic-Barrier Junctions for Programmable Josephson Voltage Standards;
Kautz, R.L.; Benz, S.P.
Proc., Appl. Superconductivity Conf.; Jul 3-6, 1995; Edinburgh, Scotland, 1407-1410; Jul 1995.
- Step-Edge and Stacked-Heterostructure High-T_c Josephson Junctions for Voltage-Standard Arrays;
Benz, S.P.; Reintsema, C.D.; Ono, R.H.; Eckstein, J.N.; Bozovic, I.; Virshup, G.F.
IEEE Trans. Appl. Supercond. 5(2): 2915-2918; Jun 1995.
- Resonances in Two-Dimensional Array Oscillator Circuits;
Booi, P.A.A.; Benz, S.P.
IEEE Trans. Appl. Supercond. 5(2): 2899-2902; Jun 1995.
- Microwave Properties of Voltage-Tunable YBa₂Cu₃O_{7-δ}/SrTiO₃ Coplanar Waveguide Transmission Lines;
DeGroot, D.C.; Beall, J.A.; Marks, R.B.; Rudman, D.A.
IEEE Trans. Appl. Supercond. 5(2): 2272-2275; Jun 1995.
- Direct Observation of Vortex Dynamics in Two-Dimensional Josephson-Junction Arrays;
Doderer, T.; Lachenmann, S.G.; Huebener, R.P.; Booi, P.A.A.; Benz, S.P.
IEEE Trans. Appl. Supercond. 5(2): 2723-2726; Jun 1995.
- Stacked Series Arrays of High-T_c Trilayer Josephson Junctions;
Eckstein, J.N.; Bozovic, I.; Virshup, G.F.; Ono, R.H.; Benz, S.P.
IEEE Trans. Appl. Supercond. 5(2): 3284-3287; Jun 1995.
- Ferroelectric Thin Film Characterization Using Superconducting Microstrip Resonators;
Galt, D.; Price, J.C.; Beall, J.A.; Harvey, T.E.
IEEE Trans. Appl. Supercond. 5(2): 2575-2578; Jun 1995.
- 30 Thz Mixing Experiments on High Temperature Superconducting Josephson Junctions;
Grossman, E.N.; Vale, L.R.; Rudman, D.A.; Evenson, K.M.; Zink, L.R.
IEEE Trans. Appl. Supercond. 5 (2): 3061-3064; Jun 1995.
- A Self-Biasing Cryogenic Particle Detector Utilizing Electrothermal Feedback and a SQUID Readout;
Irwin, K.D.; Nam, S.W.; Cabrera, B.; Chugg, B.; Park, G.S.; Welty, R.P.; Martinis, J.M.
IEEE Trans. Appl. Supercond. 5(2): 2690-2693; Jun 1995.
- Phase Locking in Two-Dimensional Arrays of Josephson Junctions: Effect of Critical-Current Nonuniformity;
Kautz, R.L.
IEEE Trans. Appl. Supercond. 5(2): 2702-2706; Jun 1995.

Stable Phase Locking in a Two-Cell Ladder Array of Josephson Junctions;

Larsen, B.H.; Benz, S.P.

Appl. Phys. Lett. 66(23): 3209-3211; Jun 1995.

Temperature Dependence and Magnetic Field Modulation of Critical Currents in Step-Edge SNS YBCO/Au Junctions;

Missert, N.; Vale, L.R.; Ono, R.H.; Reintsema, C.D.; Rudman, D.A.; Thomson, R.E.; Berkowitz, S.J.

IEEE Trans. Appl. Supercond. 5(2): 2969-2972; Jun 1995.

Hot-Electron Microcalorimeters as High-Resolution X-Ray Detectors;

Nahum, M.; Martinis, J.M.

Appl. Phys. Lett. 66(23): 3203-3205; Jun 1995.

The Critical Current and Normal Resistance of High-T_c Step-Edge SNS Junctions;

Reintsema, C.D.; Ono, R.H.; Barnes, G.; Borcherdt, L.J.; Harvey, T.E.; Kunkel, G.; Rudman, D.A.;

Vale, L.R.; Missert, N.; Rosenthal, P.A.

IEEE Trans. On Appl. Supercond. 5(2): 3405-3409; Jun 1995.

Superconducting Integrated Circuit Fabrication Process Utilizing Low Temperature ECR-Based PECVD SiO₂ Dielectric Films;

Sauvageau, J.E.; Booi, P.A.A.; Cromar, M.W.; Benz, S.P.; Burroughs, C.J.; Koch, J.A.

IEEE Trans. Appl. Supercond. 5 (2): 2303-2309; Jun 1995.

Partially Coherent Transmittance of Dielectric Lamellae;

Grossman, E.N.; McDonald, D.G.

Optical Engineering 34(5): 1289-1295; May 1995.

Josephson D/A Converter with Fundamental Accuracy;

Hamilton, C.A.; Burroughs, C.J.; Kautz, R.L.

IEEE Trans. Instrum. Meas. 44(2): 223-225; Apr 1995.

Performance and Reliability of NIST 10-V Josephson Arrays;

Hamilton, C.A.; Burroughs, C.J.

IEEE Trans. Instrum. Meas. 44(2): 238-240; Apr 1995.

Niobium Microbolometers for Far-Infrared Detection;

MacDonald, M.E.; Grossman, E.N.

IEEE Trans. Microwave Theory Tech. 43(4): 893-896; Apr 1995.

Microwave Noise in High-T_c Josephson Junctions;

Grossman, E.N.; Vale, L.R.; and Rudman, D.A.

Appl. Phys. Lett. 66(13): 1680-1682; Mar 1995.

High-Frequency Oscillators Using Phase-Locked Arrays of Josephson Junctions;

Benz, S.P.; Booi, P.A.A.

Proc., IEEE International Frequency Control Symposium, June 1-3, 1994, Boston, MA, pp. 666-669; 1994.

Heterodyne Mixing and Direct Detection in High Temperature Josephson Junctions;

Grossman, E.N.; Vale, L.R.

Proc., Fifth Intl. Symp. on Space Terahertz Technology, May 10-12, 1994, Ann Arbor, MI, pp. 244-263; 1994.

Cryoelectronic Metrology

Performance of the Electron Pump with Stray Capacitances;
Jensen, H.D.; Martinis, J.M.
Physica B 194-196: 1255-1256; 1994.

Testing for Metrological Accuracy of the Electron Pump;
Martinis, J.M.; Nahum, M.; Jensen, H.D.
Physica B 194-196: 1045-1046; 1994.

Novel Hot-Electron Microbolometer;
Nahum, M.; Martinis, J.M.
Physica B 194-196: 109-110; 1994.

Mutual Phase Locking in Systems of High-T_c Superconductor-Normal Metal-Superconductor Junctions;
Reintsema, C.D.; Ono, R.H.; Harvey, T.E.; Missert, N.; Vale, L.R.
Proc., Superconductive Devices and Circuits Conference of SPIE, January 25-27, 1994, Los Angeles, CA, pp 208-218; 1994.

High-T_c Superconducting Antenna-Coupled Microbolometer on Silicon;
Rice, J.P.; Grossman, E.N.; Borcherdt, L.J.; Rudman, D.A.
Proc, Soc. Photo-Opt. Instrum. Engrs. OE/LASE'94, Vol. 2159, Los Angeles, CA, Jan 1994, pp 98-109; 1994.

Optimization of ECR-Based PECVD Oxide Films for Superconducting Integrated Circuit Fabrication;
Sauvageau, J.E.; Burroughs, C.J.; Cromar, M.W.; Koch, J.A.
Proc., 37th Annual Tech. Conf. Society of Vacuum Coaters, May 8-13, 1994, Boston, MA; 1994.

Coexistence of Grains with Differing Orthorhombicity in High Quality YBCO Thin Films;
de Obaldia, E.I.; Ludwig, Jr., K.F.; Berkowitz, S.J.; Clark, A.M.; Skocpol, W.J.; Mankiewich, P.M.; Rudman, D.A.; Roshko, A.; Moerman, R.; Vale, L.R.; Ono, R.H.
Appl. Phys. Lett. 65(26): 3395-3397; Dec 1994.

Electronic Microrefrigerator Based on a Normal-Insulator-Superconductor Tunnel Junction;
Nahum, M.; Eiles, T.M.; Martinis, J.M.
Appl. Phys. Lett. 65(24): 2123-2125; Dec 1994.

Quasipotential and the Stability of Phase Lock in Nonhysteretic Josephson Junctions;
Kautz, R.L.
J. Appl. Phys. 76(9): 5538-5544; Nov 1994.

Novel Vortex Dynamics in Two-Dimensional Josephson Arrays;
Lachenmann, S.G.; Doderer, T.; Huebener, R.P.; Booi, P.A.A.; Benz, S.P.
Proc., Nonlinear Superconducting Devices and High-T_c Materials Conf.; Oct 8-13, 1994; Capri, Italy, 365-372; Oct 1994.

Increased Transition Temperature in *In Situ* Coevaporated YBa₂Cu₃O_{7-δ} Thin Films by Low Temperature Post-annealing;
Berkowitz, S.J.; de Obaldia, E.I.; Ludwig, Jr., K.F.; Skocpol, W.J.; Mankiewich, P.M.; Ono, R.H.; Beall, J.A.; Vale, L.R.; Rudman, D.A.; O'Malley, M.L.; Drabeck, L.M.; Polakos, P.A.
Appl. Phys. Lett. 65(12): 1587-1589; Sep 1994.

Self-Reciprocal Fourier Functions;

Coffey, M.W.

J. Optical Soc. Amer. A 11(9): 2453-2455; Sep 1994.

Large-Amplitude Shapiro Steps and Self-field Effects in High-T_c Josephson Weak Links;

Kautz, R.L.; Benz, S.P.; Reintsema, C.D.

Appl. Phys. Lett. 65(11): 1445-1447; Sep 1994.

Metrology for Electromagnetic Technology: A Bibliography of NIST Publications;

Smith, A.J.

NISTIR 5029, 88 pp; Sep 1994.

Phase-Locked Oscillator Optimization for Arrays of Josephson Junctions;

Wiesenfeld, K.; Benz, S.P.; Booi, P.A.A.

J. Appl. Phys. 76(6): 3835-3846; Sep 1994.

Observation of Vortex Dynamics in Two-Dimensional Josephson-Junction Arrays;

Lachenmann, S.G.; Doderer, T.; Hoffmann, D.; Huebener, R.P.; Booi, P.A.A.; Benz, S.P.

Phys. Rev. B 50(5): 3158-3164; Aug 1994.

Antenna-Coupled High-T_c Air-Bridge Microbolometer on Silicon;

Rice, J.P.; Grossman, E.N.; Rudman, D.A.

Appl. Phys. Lett. 65(6): 773-775; Aug 1994.

Thermal Noise in High-Temperature Superconducting-Normal-Superconducting Step-Edge Josephson Junctions;

Berkowitz, S.J.; Skocpol, W.J.; Mankiewich, P.M.; Ono, R.H.; Missert, N.; Rosenthal, P.A.; Vale, L.R.

J. Appl. Phys. 76(2): 1337-1339; Jul 1994.

Combined Josephson and Charging Behavior of the Supercurrent in the Superconducting Single-Electron Transistor;

Eiles, T.M.; Martinis, J.M.

Phys. Rev. B 50(1): 627-630; Jul 1994.

Characterization of the Emission from 2D Array Josephson Oscillators;

Booi, P.A.A.; Benz, S.P.

Fifth Intl. Symp. on Space Terahertz Tech., May 10-12, 1994, Ann Arbor, MI, pp 234-243; May 1994.

Emission Linewidth Measurements of Two-Dimensional Array Josephson Oscillators;

Booi, P.A.A.; Benz, S.P.

Appl. Phys. Lett. 64(16): 2163-2165; Apr 18, 1994.

Terahertz Shapiron Steps in High Temperature SNS Josephson Junctions;

Rosenthal, P.A.; Grossman, E.N.

IEEE Trans. Microwave Theory Tech. 42(4): 707-714; Apr 1994.

Dielectric Properties of Thin Film STO Grown on LAO with YBCO Electrodes;

Wu, H.D.; Barnes, F.S.; Galt, D.; Price, J.C.; Beall, J.A.

Proc., SPIE-High-T_c Superconductors and Applications Conference, 2156: 131-140; Apr 1994.

Cryo electronic Metrology

- Dielectric Properties of Thin Film SrTiO_3 Grown on LaAlO_3 with $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ Electrodes;
Wu, H.D.; Barnes, F.S.; Galt, D.; Price, J.C.; Beall, J.A.
Proc., Soc. Photo-Opt. Instrum. Engrs. High T_c Microwave Superconductors and Applications
Symp., Vol. 2156, Jan 25-27, 1994, Los Angeles, CA, pp 131-140; Apr 7, 1994.
- Metrological Accuracy of the Electron Pump;
Martinis, J.M.; Nahum, M.; Jensen, H.D.
Phys. Rev. Lett. 72(6): 904-907; Feb 7, 1994.
- Phase Locking in Two-Junction Systems of High-Temperature Superconductor-Normal Metal-Superconductor
Junctions;
Reintsema, C.D.; Ono, R.H.; Harvey, T.E.; Missert, N.
Appl. Phys. Lett. 64(5): 637-639; Jan 31, 1994.
- Even-Odd Symmetry Breaking in the NSN Coulomb Blockade Electrometer;
Eiles, T.M.; Martinis, J.M.; Devoret, M.H.
Physica B 6123H: 1-8; 1993.
- Optical Performance of Photoinductive Mixers at Terahertz Frequencies;
Grossman, E.N.; Sauvageau, J.E.; McDonald, D.G.
Proc., Fourth Intl. Symp. on Space Terahertz Technology, Feb 1993, Los Angeles, CA; 1993.
- NISTVOLT - A Program for Automating Measurements with Josephson Array Voltage Standards;
Hamilton, C.A.
NISTVOLT - A Computer Program for the Automation of Josephson Voltage Stds; 1993.
- Hot-Electron Microcalorimeters for X-Ray and Phonon Detection;
Nahum, M.; Martinis, J.M.; Castles, S.
J. Low Temp. Phys. 93(3/4): 733-738; 1993.
- Thermal Isolation of High-Temperature Superconducting Thin Films Using Silicon Wafer Bonding and
Micromachining;
Bang, C.A.; Rice, J.P.; Flik, M.I.; Schmidt, M.A.; Rudman, D.A.
J. Microelectromechanical Systems 2(4): 160-164; Dec 1993.
- Suitability of Metalorganic Chemical Vapor Deposition-Derived PrGaO_3 Films as Buffer Layers for $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$
Pulsed Laser Deposition;
Han, B.; Neumayer, D.A.; Marks, T.J.; Rudman, D.A.; Zhang, H.; Dravid, V.P.
Appl. Phys. Lett. 63(26): 3639-3641; Dec 27, 1993.
- Effect of Environmental Noise on the Accuracy of Coulomb-Blockade Devices;
Martinis, J.M.; Nahum, M.
Phys. Rev. B 48(24): 18 316-18 319; Dec 15, 1993.
- Characterization of a Tunable Thin Film Microwave $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}/\text{SrTiO}_3$ Coplanar Capacitor;
Galt, D.; Price, J.C.; Beall, J.A.; Ono, R.H.
Appl. Phys. Lett. 63(22): 3078-3080; Nov 1993.
- Ultrasensitive-Hot-Electron Microbolometer;
Nahum, M.; Martinis, J.M.
Appl. Phys. Lett. 63(22): 3075-3077; Nov 1993.

High Temperature Superconductor-Normal Metal-Superconductor Josephson Junctions with High Characteristic Voltages;

Rosenthal, P.A.; Grossman, E.N.; Ono, R.H.; Vale, L.R.
Appl. Phys. Lett. 63(4): 1984-1986; Oct 4, 1993.

High-T_c Multilayer Step-edge Josephson Junctions and SQUIDS;

Missert, N.; Harvey, T.E.; Ono, R.H.; Reintsema, C.D.
Appl. Phys. Lett. 63(12): 1690-1692; Sep 1993.

Noise Reduction in Low-Frequency SQUID Measurements with Laser-Driven Switching;

Cunningham, C.E.; Park, G.S.; Cabrera, B.; Huber, M.E.
Appl. Phys. Lett. 63(8): 1152-1154; Aug 1993.

Kinetic-Inductance Infrared Detector Based on an Antenna-Coupled High-T_c SQUID;

Rice, J.P.; Grossman, E.N.; Missert, N.; Rosenthal, P.A.; Cromar, M.W.; Rudman, D.A.
Proc., Fourth Intl. Superconductive Elect. Conf., Aug 11-14, 1993, Boulder, CO, pp 382-383;
Aug 1993.

Intrinsic Stress in dc Sputtered Niobium;

Booi, P.A.A.; Livingston, C.A.; Benz, S.P.
IEEE Trans. Appl. Supercond. 3(2): 3029-3031; Jun 1993.

Extended CO(7-6) Emission from Warm Gas in Orion;

Howe, J.E.; Jaffe, D.T.; Grossman, E.N.; Wall, W.F.; Mangum, J.G.; Stacey, G.J.
Astrophys. J. 410: 179-187; Jun 10, 1993.

Chaos in a Computer-Animated Pendulum;

Kautz, R.L.
Am. J. Phys. 61(5): 407-415; May 1993.

Absolute Magnetic Penetration Depth of Thin-film Niobium Measured by Fluxoid Quantization;

Cunningham, C.E.; Park, G.S.; Cabrera, B.; Huber, M.E.
Appl. Phys. Lett. 62(17): 2122-2124; Apr 1993.

Experimental Results on Single Flux Quantum Logic;

Benz, S.P.; Burroughs, C.J.; Hamilton, C.A.
IEEE Trans. Appl. Supercond. 3(1): 2582-2585; Mar 1993.

Etching and Annealing of Substrates for Superconducting Multilayers and Devices;

Berkowitz, S.J.; de Obaldia, E.I.; Galloway, M.L.; Morales, G.; Ludwig, K.F.; Mankiewich, P.M.;
Skocpol, W.J.; Ono, R.H.; Beall, J.A.; Vale, L.R.; Rudman, D.A.
IEEE Trans. Appl. Supercond. 3(1): 2950-2952; Mar 1993.

Frequency Dependence of the Emission from 2D Array Josephson Oscillators;

Booi, P.A.A.; Benz, S.P.; Doderer, T.; Hoffmann, D.; Schmidt, J.; Lachenmann, S.G.; Huebener, R.P.
IEEE Trans. Appl. Supercond. 3(1): 2493-2495; Mar 1993.

Automated Josephson Integrated Circuit Test System;

Burroughs, C.J.; Hamilton, C.A.
IEEE Trans. Appl. Supercond. 3(1): 2687-2689; Mar 1993.

Cryo electronic Metrology

- SUSAN (Superconducting Systems Analysis) by Low Temperature Scanning Electron Microscopy (LTSEM);
Doderer, T.; Hoffmann, D.; Huebener, R.P.; Kirchmann, N.; Krulle, C.A.; Lachenmann, S.G.;
Quenter, D.; Schmidt, J.; Stehle, S.; Niemeyer, J.; Popel, R.; Benz, S.P.; Booij, P.A.A.
IEEE Trans. Appl. Supercond. 3(1): 2724-2727; Mar 1993.
- Even-Odd Asymmetry of a Superconductor Revealed by the Coulomb Blockade of Andreev Reflection;
Eiles, T.M.; Martinis, J.M.; Devoret, M.H.
Phys. Rev. Lett. 70: 1862-1865; Mar 22, 1993.
- Self-Heating in the Coulomb-Blockade Electrometer;
Kautz, R.L.; Zimmerli, G.; Martinis, J.M.
J. Appl. Phys. 73(5): 2386-2396; Mar 1, 1993.
- Proposed High-Accuracy Superconducting Power Meter for Millimeter Waves;
Kautz, R.L.; McDonald, D.G.; Walker, D.K.; Williams, D.F.
IEEE Trans. Appl. Supercond. 3(1): 2152-2155; Mar 1993.
- Growth and Characterization of YBCO/Insulator/YBCO Trilayers;
Misset, N.; Reintsema, C.D.; Beall, J.A.; Harvey, T.E.; Ono, R.H.; Rudman, D.A.
IEEE Trans. Appl. Supercond.: 1741-1744; Mar 1993.
- High-Tc SNS Junctions for Multilevel Integrated Circuits;
Ono, R.H.; Vale, L.R.; Kimminau, K.R.; Beall, J.A.; Cromar, M.W.; Reintsema, C.D.; Harvey, T.E.;
Rosenthal, P.A.; Rudman, D.A.
IEEE Trans Magn. 3(1): 2389-2392; Mar 1993.
- Single Trapped Vortices Induced in a Superconducting Film by Laser Switching;
Park, G.S.; Cunningham, C.E.; Cabrera, B.; Huber, M.E.
J. Appl. Phys. 73(5): 2419-2423; Mar 1993.
- Sub-Picosecond Measurement of Time Intervals Using Single Flux Quantum Electronics;
Rosenthal, P.A.
IEEE Trans. Appl. Supercond. 3(1): 2645-2648; Mar 1993.
- Two-Stage Integrated SQUID Amplifier with Series Array Output;
Welty, R.P.; Martinis, J.M.
IEEE Trans. Appl. Supercond. 3(1): 2605-2608; Mar 1993.
- Increased Pinning Energies and Critical Current Densities in Heavy-Ion-Irradiated $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$ Single Crystals;
Cutro, J.A.; Rudman, D.A.; vanDover, R.B.; Schneemeyer, L.F.; White, A.E.; Gyorgy, E.M.;
Waszczaek, J.V.; Felder, R.J.
Appl. Phys. Lett. 62(7): 759-761; Feb 15, 1993.
- Tunable High Temperature Superconductor Microstrip Resonators;
Beall, J.A.; Ono, R.H.; Galt, D.; Price, J.C.
IEEE MTT-S Digest, 1993 IEEE MTT-S Intl. Micr. Symp. Jun 14-18, 1993, Atlanta, GA, pp
1421-1423; Jan 1993.
- Effect of Microstructure on Phase Formation in the Reaction of Nb/Al Multilayer Thin Films;
Barmak, K.; Rudman, D.A.; Foner, S.
Proc., Mater. Res. Soc., Apr 29-May 3, 1991, Anaheim, CA, Vol. 230, pp 61-66; 1992.

First Phase Formation Kinetics in the Reaction of Nb/Al;

Coffey, K.R.; Rudman, D.A.; Foner, S.

Proc., Mater. Res. Soc., Apr 29-May 3, 1991, Anaheim, CA, Vol. 230, pp 55-60; 1992.

Noise Measurements on DC-SQUIDS with Varied Design;

Condron II, M.R.; Gutt, G.M.; Muhlfelder, B.; Lockhart, J.M.; Turneaure, J.P.; Huber, M.E.; Cromar, M.W.; Houseman, E.K.

Superconducting Devices and Their Applications 64: 312-315; 1992; 1992.

Electrical and Infrared Properties of Thin Niobium Microbolometers Near T_c ;

Grossman, E.N.; Sauvageau, J.E.; McDonald, D.G.

Proc., Third Intl. Symp. on Space Terahertz Technology, Mar 1992, Ann Arbor, MI, pp 643-653; 1992.

Voltage-Standard Devices;

Hamilton, C.A.

Concise Encyclopedia of Magnetic and Superconducting Materials, Evetts, J., ed, Pergamon Press, Tarrytown, NY, pp 621-624; 1992.

Design and Operation of Series-Array Josephson Voltage Standards;

Kautz, R.L.

Proc., Intl. School of Physics Enrico Fermi, Course CX, Jun 27-Jul 7, 1989, Villa Marigola: pp 259-296; 1992.

$\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ to Si Interconnection for Hybrid Superconductor/Semiconductor Integration;

Harvey, T.E.; Moreland, J.; Jeanneret, B.; Ono, R.H.; Rudman, D.A.

Appl. Phys. Lett. 61(18): 2225-2227; Nov 2, 1992.

Accuracy of the Electron Pump;

Jensen, H.D.; Martinis, J.M.

Phys. Rev. B 46(20): 407-427; Nov 1992.

Voltage Gain in the Single-Electron Transistor;

Zimmerli, G.; Kautz, R.L.; Martinis, J.M.

Appl. Phys. Lett. 61(21): 2616-2618; Nov 23, 1992.

Josephson Voltage Standard Based on Single-Flux-Quantum Voltage Multipliers;

Hamilton, C.A.

IEEE Trans. Appl. Supercond. 2(3): 139-142; Sep 1992.

Thin Film Reaction Kinetics of Niobium/Aluminum Multilayers;

Coffey, K.R.; Rudman, D.A.; Foner, S.

J. Appl. Phys. 72(4): 1341-1349; Aug 15, 1992.

Thermal Enhancement of Cotunneling in Ultra-Small Tunnel Junctions;

Eiles, T.M.; Zimmerli, G.; Jensen, H.D.; Martinis, J.M.

Phys. Rev. Lett. 69(1): 148-151; Jul 1992.

Effect of Thermal Noise on Shapiro Steps in High- T_c Josephson Weak Links;

Kautz, R.L.; Ono, R.H.; Reintsema, C.D.

Appl. Phys. Lett. 61(3): 342-344; Jul 20, 1992.

Cryo electronic Metrology

Noise in the Coulomb Blockade Electrometer;

Zimmerli, G.; Eiles, T.M.; Kautz, R.L.; Martinis, J.M.
Appl. Phys. Lett. 61(2): 237-239; Jul 13, 1992.

Vortex Pinning Force in a Superconducting Niobium Strip;

Park, G.S.; Cunningham, C.E.; Cabrera, B.; Huber, M.E.
Phys. Rev. Lett 68(12): 1920-1922; Mar 1992.

Measuring the Electron's Charge and the Fine-Structure Constant by Counting Electrons on a Capacitor;

Williams, E.R.; Ghosh, R.N.; Martinis, J.M.
NIST JRES, 92(2); Mar-Apr 1992.

Measurement of the Weak-Localization Complex Conductivity at 1 GHz in Disordered Ag Wires;

Pieper, J.B.; Price, J.C.; Martinis, J.M.
Phys. Rev. B 45(7): 3857-3891; Feb 1992.

Two-Dimensional Arrays of Josephson Junctions as Voltage-Tunable Oscillators;

Benz, S.P.; Burroughs, C.J.
Supercon. Sci. Tech. 4: 561-567; 1991.

Use of Ion Scattering Spectroscopy to Monitor the Nb Target Mitridation During Reactive Sputtering;

Lichtenwalner, D.J.; Anderson, A.C.; Rudman, D.A.
Proc., Mater. Soc. Symp. 121, Issue 613; 1991.

Tunneling Spectroscopy of High Critical Temperature Superconductors Using SET Junctions;

Walsh, T.; Moreland, J.; Ono, R.H.; Beall, J.A.; Cromar, M.W.; Harvey, T.E.; Reintsema, C.D.;
Kalkur, T.S.
IEEE Trans. Magn. MAG-27: 840; 1991.

Lithographic Spiral Antennas at Short Wavelengths;

Grossman, E.N.; Sauvageau, J.E.; McDonald, D.G.
Appl. Phys. Lett. 59(25): 3225-3227; Dec 1991.

Margins and Yield in Single Flux Quantum Logic;

Hamilton, C.A.; Gilbert, K.C.
IEEE Trans. Appl. Supercond. 1(4): 157-163; Dec 1991.

High-Tc Superconductor-Normal Metal-Superconductor Josephson Microbridges with High-resistance Normal Metal Links;

Ono, R.H.; Beall, J.A.; Cromar, M.W.; Harvey, T.E.; Johansson, M.E.; Reintsema, C.D.; Rudman,
D.A.
Appl. Phys. Lett. 59(9): 1126-1128; Aug 1991.

Two-Dimensional Arrays of Josephson Junctions as Voltage-Tunable Oscillators;

Benz, S.P.; Burroughs, C.J.
Proc., Intl. Superconductive Electronics Conf.; Jun 1991.

Coherent Emission from Two-Dimensional Josephson Junction Arrays;

Benz, S.P.; Burroughs, C.J.
Appl. Phys. Lett. 58(19): 2162-2164; May 1991.

Coherent Emission from 2-D Josephson Junctions Arrays;

Benz, S.P.; Burroughs, C.J.

Supercond. Sci. Technol. 4: 561-567; May 13, 1991.

A 24-GHz Josephson Array Voltage Standard;

Hamilton, C.A.; Kautz, R.L.; Stieg, M.; Chieh, K.; Arvin, W.; Simmonds, M.B.

IEEE Trans. Instrum. Meas. 40(2): 301-304; Apr 1991.

$\text{YBa}_2\text{Cu}_3\text{O}_7$ /Insulator Multi-layers for Crossover Fabrication;

Beall, J.A.; Cromar, M.W.; Harvey, T.E.; Johansson, M.E.; Ono, R.H.; Rudman, D.A.; Nelson, A.J.; Asher, S.E.; Swartzlander, A.B.

Proc., 1990 ASC, in IEEE Trans. Magn. MAG-27(2): 1596-1599; Mar 1991.

Far-Infrared Kinetic-Inductance Detectors;

Grossman, E.N.; McDonald, D.G.; Sauvageau, J.E.

IEEE Trans. Magn. 27(2): 2677-2680; Mar 1991.

Grain Alignment and Transport Properties of $\text{Bi}_2\text{Sr}_2\text{Cu}_3\text{O}_8$ Grown by Laser-Heated Float Zone Method;

Luo, J.; Jiang, X.P.; Chow, H.M.; Cima, M.J.; Graybeal, J.M.; Orlando, T.P.; Rudman, D.A.

IEEE Trans. Magn. 27(2): 1499-1502; Mar 1991.

The Effects of Anneal Time and Cooling Rate on the Formation and Texture of $\text{Bi}_2\text{Sr}_2\text{CaCu}_3\text{O}_8$ Films;

Matthiesen, M.M.; Graybeal, J.M.; Orlando, T.P.; VanderSande, J.B.; Rudman, D.A.

IEEE Trans. Magn. 27(2): 1223-1226; Mar 1991.

Josephson Counting Analog to Digital Converter;

Miller, D.L.; Przybysz, J.X.; Kang, J.; Hamilton, C.A.; Burnell, D.M.

IEEE Trans. Magn. 27(2): 2761-2764; Mar 1991.

Superconducting Kinetic Inductance Radiometer;

Sauvageau, J.E.; McDonald, D.G.; Grossman, E.N.

IEEE Trans. Magn. 27(2): 2757-2760; Mar 1991.

Terahertz Detectors Based on Superconducting Kinetic Inductance;

Grossman, E.N.; McDonald, D.G.; Sauvageau, J.E.

Proc., Second Intl. Symp. on Space Terahertz Technology; Feb 1991.

Analysis of the $\text{YBa}_2\text{Cu}_3\text{O}_7/\text{SiTiO}_3$ Interface as a Function of Post-Deposition Annealing Temperature;

Asher, S.E.; Nelson, A.J.; Mason, A.R.; Swartzlander, A.B.; Dhre, R.; Kasmerski, L.L.; Halbritter, J.; Harvey, T.E.; Beall, J.A.; Ono, R.H.

AIP Conf. Proc., American Vacuum Society Fall Mtg., Oct 10-15, 1990, Boston, MA, pp 205-211; 1990.

Correlation of Flux States Generated by Optical Switching of a Superconducting Circuit;

Cunningham, C.E.; Park, G.S.; Cabrera, B.; Huber, M.E.

Physica B 165 & 166: 113-114; 1990.

Two-Dimensional Analysis of Microbolometer Arrays;

Grossman, E.N.; McDonald, D.G.; Sauvageau, J.E.

J. Appl. Phys. 68: 5409-5414; 1990.

Cryoelectronic Metrology

- A 24 GHz Josephson Array Voltage Standard;
Hamilton, C.A.; Kautz, R.L.; Chieh, K.; Stieg, M.; Simmonds, M.; Arvin, W.
Conf. Prec. Electromagn. Meas. Summary, Jun 11-14, 1990, Ottawa, Canada, pp 40-41; 1990.
- Non-dissipative Quasiparticle Tunnel Currents in Superconducting Tunnel Junctions;
Hu, Q.; Mears, C.A.; Richards, P.L.; Lloyd, F.L.
Phys. Rev. Lett. 64: 2945; 1990.
- Excess Low-Frequency Flux Noise in dc SQUIDs Incorporating Nb/Al-OXIDE/Nb Josephson Junctions;
Huber, M.E.; Cromar, M.W.
Physica B 165&166: 77-78; 1990.
- Magnetization of Anisotropic Superconducting Grains;
Peterson, R.L.
J. Appl. Phys. 67: 6930-6933; 1990.
- A Superconducting Tunnel Junction Receiver for 345 GHz;
Sutton, E.C.; Danchi, W.C.; Jaminet, P.A.; Ono, R.H.
J. Infrared Millimeter Waves 11(2): 133-150; 1990.
- Noise-Affected I-V Curves in Small Hysteretic Josephson Junctions;
Kautz, R.L.; Martinis, J.M.
Phys. Rev. B. 42(16): 9903-9937; Dec 1, 1990.
- Critical-Current Diffraction Patterns of Grain-Boundary Josephson Weak-Links;
Peterson, R.L.; Ekin, J.W.
Phys. Rev. B 42(13): 8014-8018; Nov 1, 1990.
- Fabrication of Ultra-Small Nb-AlO_x-Nb Josephson Tunnel Junctions;
Martinis, J.M.; Ono, R.H.
Appl. Phys. Lett. 57(6): 629-631; Aug 1990.
- Operation of NIST Josephson Array Voltage Standards;
Hamilton, C.A.; Burroughs, C.J.; Chieh, K.
NIST JRES 95(3): 219-235; May-Jun, 1990.
- Superconductivity and the Quantization of Energy;
McDonald, D.G.
Science 247: 177-182; Jan 12, 1990.
- Fabrication and Operation of a High-T_c Composite Bolometer;
Brasunas, J.C.; Moseley, S.H.; Lakew, B.; Ono, R.H.; McDonald, D.G.; Beall, J.A.; Sauvageau, J.
Appl. Phys. 66: 4551-4553; 1989.
- Standard Flaws for Eddy Current Probe Characterizations;
Capobianco, T.E.; Ciciora, S.J.; Moulder, J.C.
Review of Progress in Quantitative Nondestructive Evaluation 8A: 985-989; 1989.
- Granular-Aluminum Superconducting Detector for 6 keV X-rays and 2.2 MeV Beta Sources;
Gabutti, A.; Gray, K.E.; Wagner, R.G.; Ono, R.H.
Nuclear Instruments and Methods; 1989.

- Global Stability of the Chaotic State near an Interior Crisis;
Kautz, R.L.
in Structure, Coherence and Chaos in Dynamical Systems, Christiansen, P.L. and Parmentier, R.D., eds., (Manchester: Manchester Univ. Press) pp 207-226; 1989.
- Superconducting Detector for Minimum Ionizing Particles;
Ono, R.H.; Gabutti, A.; Wagner, R.G.; Gray, K.E.; Kampwirth, R.T.
Nuclear Instruments and Methods; 1989.
- Microlithography and Patterning of High-T_c Thin Films;
Ono, R.H.; Beall, J.A.
Proc., Third Intl. Sample Electronic Materials and Processes Conf., Los Angeles, CA, p 352; 1989.
- Modeling of Critical Currents in Granular High-T_c Superconductors;
Peterson, R.L.; Ekin, J.W.
Proc., Magnetic Interactions of High T_c Superconductors 17: 190-195; 1989.
- Airy Pattern, Weak-Link Modeling of Critical Currents in High-T_c Superconductors;
Peterson, R.L.; Ekin, J.W.
Physica C 1577: 325-333; 1989.
- Classical Phase Diffusion in Small Hysteretic Josephson Junctions;
Martinis, J.M.; Kautz, R.L.
Phys. Rev. Lett. 63(14):1507-1510; Oct 2, 1989.
- Kim Model for Magnetization of Type-II Superconductors;
Chen, D.-X.; Goldfarb, R.B.
J. Appl. Phys. 66(6): 2489-2500; Sep 15, 1989.
- Standards and High Speed Instrumentation;
Hamilton, C.A.; McDonald, D.G.; Sauvageau, J.E.; Whiteley, S.
Proc., IEEE Special Issue on Superconductivity, 77(8):1224-1232; Aug 1989.
- Magnetization of Imperfect Superconducting Grains;
Peterson, R.L.
Phys. Rev. B 40(4); Aug 1, 1989.
- A 10 V Josephson Voltage Standard;
Hamilton, C.A.; Lloyd, F.L.; Chieh, K.; Goeke, K.
IEEE Trans. Instrum. Meas. IM-38(2): 314-316; Apr 1989.
- Noise in DC SQUIDS with Nb/Al-Oxide/Nb Josephson Junctions;
Cromar, M.W.; Beall, J.A.; Go, D.; Masarie, K.A.; Ono, R.H.
IEEE Trans. Magn. MAG-25(2): 1005-1007; Mar 1989.
- NB Edge Junction Process for Submillimeter Wave SIS Mixers;
Danchi, W.C.; Sutton, E.C.; Jaminet, P.A.; Ono, R.H.
IEEE Trans. Magn. MAG-25(2): 1064-1067; Mar 1989.
- MM Wave Quasioptical SIS Mixers;
Hu, Q.; Mears, C.A.; Richards, P.L.; Lloyd, F.L.
IEEE Trans. Magn. MAG-25(2): 1380-1383; Mar 1989.

Cryoelectronic Metrology

Chaos and Catastrophe near the Plasma Frequency in the RF-Biased Josephson Junction;
Kautz, R.L.; Monaco, R.
IEEE Trans. Magn. MAG-25(2): 1399-1403; Mar 1989.

Switching Noise in $\text{YBa}_2\text{Cu}_3\text{O}_x$ Macrobridges;
Ono, R.H.; Beall, J.A.; Cromar, M.W.; Mankiewich, P.M.; Howard, R.E.; Skocpol, W.
IEEE Trans. Magn. MAG-25(2): 976-979; Mar 1989.

Superconducting Kinetic Inductance Bolometer;
Sauvageau, J.E.; McDonald, D.G.
IEEE Trans. Magn. MAG-25(2): 1331-1334; Mar 1989.

Measurement of Integrated Tuning Elements for SIS Mixers with a Fourier Transform Spectrometer;
Hu, Q.; Mears, C.A.; Richards, P.L.; Lloyd, F.L.
Intl. J. Infrared & Millimeter Waves 9(4): 303-320; 1988.

Surface Analysis of Interfacial Properties for Thin Film and Bulk $\text{YBa}_2\text{Cu}_3\text{O}_7$;
Ono, R.H.; Beall, J.A.; Ekin, J.W.; Nelson, A.J.; Kazmerski, L.L.; Mason, A.R.; Swartzlander, A.B.;
McConnell, R.D.
Proc., Second Conf. on Superconductivity and Applications, Apr 18-20, 1988, Buffalo, NY,
161-167; 1988.

Superconducting Inductance Bolometer with Potential Phonton-Counting Sensitivity: A Progress Report;
Sauvageau, J.E.; McDonald, D.G.
Inst. of Phys. Conf. Series 92: 39-46; 1988.

SIS Quasiparticle Mixers with Bow-Tie Antennas;
Xizhi, L.; Richards, P.L.; Lloyd, F.L.
Intl. J. Infrared & Millimeter Waves 9(2): 101-133; 1988.

Single-Target Magnetron Sputter-Deposition of High- T_c Superconducting Bi-Sr-Ca-Cu-O Thin Films;
Dhere, N.G.; Goral, J.P.; Mason, A.R.; Dhere, R.G.; Ono, R.H.
J. Appl. Phys.; Nov 15, 1988.

Thermally Induced Escape: The Principle of Minimum Available Noise Energy;
Kautz, R.L.
Phys. Rev. A 38(4): 2066-2080; Aug 15, 1988.

Josephson Junction Model of Critical Current in Granular $\text{Y}_1\text{Ba}_2\text{Cu}_3\text{O}_{7-\delta}$;
Peterson, R.L.; Ekin, J.W.
Phys. Rev. 37(16): 9848-9851; Jun 1, 1988.

Josephson ac Voltmeter;
Peterson, R.L.; Oldham, N.M.
J. Appl. Phys. 63(10): 4804-4810; May 5, 1988.

Superconducting Analog Track-and-Hold Circuit;
Go, D.; Hamilton, C.A.; Lloyd, F.L.; DiIorio, M.S.; Withers, R.S.
IEEE Trans. Electron Devices ED-35(4): 498-501; Apr 1988.

Accurate Experimental and Theoretical Comparisons Between SIS Mixers Showing Weak and Strong Quantum Effects;

McGrath, W.R.; Richards, P.L.; Face, D.W.; Prober, D.E.; Lloyd, F.L.
J. Appl. Phys. 63(8): 2479-2491; Apr 15, 1988.

Josephson-Voltage Array Development at the NBS in Boulder;

Hamilton, C.A.; Lloyd, F.L.; Burroughs, C.J.

Proc., NCSL Workshop & Symposium, Jul 12-16, 1987, Denver, CO, pp 50-1 to 50-5; 1987.

A 100 GHz SIS Quasiparticle Mixer with 10 dB Coupled Gain;

Raisanen, A.V.; Crete, D.G.; Richards, P.L.; Lloyd, Frances L.

Proc., 1987 IEEE Intl. Microwave Symp., IEEE Trans. Microwave Theory Tech. MTT-S: 929; 1987.

Precision of Series-Array Josephson Voltage Standards;

Kautz, R.L.; Lloyd, F.L.

Appl. Phys. Lett. 51(24): 2043-2045; Dec 14, 1987.

Activation Energy for Thermally Induced Escape from a Basin of Attraction;

Kautz, R.L.

Phys. Lett. A 125(6,7): 315-319; Nov 23, 1987.

A Josephson Array Voltage Standard at 10 Volts;

Lloyd, F.L.; Hamilton, C.A.; Beall, J.A.; Go, D.; Ono, R.H.; Harris, R.E.
Electron Device Letters EDL-8(10): 449-450; Oct 10, 1987.

Operation of a $\text{YBa}_2\text{Cu}_3\text{O}_x$ rf-SQUID at 81 K;

Zimmerman, J.E.; Beall, J.A.; Cromar, M.W.; Ono, R.H.
Appl. Phys. Lett. 57(8): 617-618; Aug 24, 1987.

Equivalent Flux Noise in a YBa_2CuO_x rf SQUID;

Zimmerman, J.E.; Beall, J.A.; Cromar, M.W.; Ono, R.H.
Proc., XVIII Intl. Conf. Low Temp. Phys., pp 2125-2126; Aug 1987.

Global Stability of Phase Lock Near Chaotic Crisis in the rf-Biased Josephson Junction;

Kautz, R.L.

J. Appl. Phys. 62(1): 198-211; Jul 1, 1987.

Sinusoidal Response of dc SQUIDs for rf Power Measurements;

Peterson, R.L.

NBS JRES 92(4): 253-259; Jul-Aug 1987.

Numerical Study of Currents and Fields in a Semiconducting Optical Detector;

Peterson, R.L.

IEEE J. Quant. Electron. QE-23(7): 1185-1192; Jul 1987.

The NBS Josephson Array Voltage Standard;

Hamilton, C.A.; Kautz, R.L.; Lloyd, F.L.; Steiner, R.L.; Field, B.F.
IEEE Trans. on Instru. & Meas. IM-36(2): 258-261; Jun 1987.

Phase Lock of a Long Josephson Junction to an External Microwave Source;

Cirillo, M.; Lloyd, F.L.

J. Appl. Phys. 61(7): 2581-2585; Apr 1, 1987.

Cryoelectronic Metrology

Performance of Arrays of SIS Junctions in Heterodyne Mixers;

Crete, D.G.; McGrath, W.R.; Richards, P.L.; Lloyd, F.L.

IEEE Trans. Microwave Theory Tech. MTT-35(4): 435-440; Apr 1987.

Series-Array Josephson Voltage Standards;

Kautz, R.L.; Hamilton, C.A.; Lloyd, F.L.

IEEE Trans. Magn. MAG-23(2): 883-890; Mar 1987.

Novel Superconducting Thermometer for Bolometric Applications;

McDonald, D.G.

Appl. Phys. Lett. 50(12): 775-777; Mar 23, 1987.

Current-Voltage Characteristics of Nanoampere Josephson Junctions;

Ono, R.H.; Cromar, M.W.; Kautz, R.L.; Soulen, R.J.; Colwell, J.H.; Fogle, W.E.

IEEE Trans. Magn. MAG-23(2): 1670-1673; Mar 1987.

A Versatile Experimental Low Power 4 K Cryocooler;

Lambert, N.; Barbanera, S.; Zimmerman, J.E.

Cryogenics 28: 341-344; 1986.

Wide-Band Low Noise mm-Wave SIS Mixers with a Single Tuning Element;

Raisanen, A.V.; Crete, D.G.; Richards, P.L.; Lloyd, Frances L.

Intl. J. Infrared Millimeter Waves 7(12): 1835-1852; 1986.

Low Noise SIS Mixer with Gain for 80-115 GHz;

Raisanen, A.V.; Crete, D.G.; Richards, P.L.; Lloyd, Frances L.

Proc., European Space Agency, SP-260, p255; 1986.

Cryogenic Instrumentation for Biomagnetic Measurements;

Zimmerman, J.E.

Proc., 4th Intl. Conf. on Biomagnetism; 1986.

Modeling a Voltage-Locked Josephson Junction Array Amplifier: Gain, Input, Impedance, and Bandwidth;

McDonald, D.G.

J. Appl. Phys. 60(9): 3247-3257; Nov 1986.

Very Low Noise, Tightly Coupled, dc SQUID Amplifiers;

Muhlfelder, B.; Beall, J.A.; Cromar, M.W.; Ono, R.

Appl. Phys. Lett. 49(17): 1118-1120; Oct 1986.

Low Noise SIS Mixer with Gain for 80-115 GHz;

Lloyd, F.L.; Raisanen, A.V.; Crete, D.G.; Richards, P.L.

ESA Workshop on a Space Base Submillimeter Astronomy Mission; Jun 4-7, 1986; Segovia, Spain; European Space Agency, Paris, France; Intl. J. Infrared and mm Waves; pp 255-258; Aug 1986.

High Accuracy in Physics;

McDonald, D.G.

Science, p 829; Aug 1986.

Flux Limit of Cosmic-Ray Magnetic Monopole from a Multiply Discriminating Superconductive Detector;

Cromar, M.; Clark, A.F.; Fickett, F.

Phys. Rev. Lett. 56(24): 2561-2563; Jun 1986.

- The NBS Josephson Array Voltage Standard;
Hamilton, C.A.; Kautz, R.L.; Lloyd, F.L.
1986 Digest, Conf. on Precision Electromagnetic Measurements, Jun 23-27, 1986; Gaithersburg, MD; pp 108-109; Jun 1986.
- Onset of Chaos in the rf-Biased Josephson Junction;
Kautz, R.L.; McFarlane, J.C.
Phys. Rev. A 33(1): 498-509; Jan 1986.
- A Josephson Series Array Voltage Standard at One Volt;
Hamilton, C.A.; Lloyd, F.L.; Kautz, R.L.
NCSL 1985 Workshop and Symp.; Jul 15-18, 1985; Boulder, CO; pp 71-77; 1985.
- A Practical Josephson Voltage Standard at 1 V;
Hamilton, C.A.; Kautz, R.L.; Steiner, R.L.; Lloyd, F.L.
IEEE Electron Device Lett. EDL-6(12): 623-625; Dec 1985.
- Broad-Band RF Match to a Millimeter-Wave SIS Quasi-Particle Mixer;
Raisanen, A.V.; McGrath, W.R.; Richards, P.L.; Lloyd, F.L.
IEEE Trans. Microwave Theory Tech. MTT-33(12): 1495-1500; Dec 1985.
- Amplification by a Voltage Locked Array of Josephson Junctions;
McDonald, D.G.; Frederick, N.V.
Appl. Phys. Lett. 47(5): 530-532; 1 Sep 1985.
- Chaos and Thermal Noise in the rf-Biased Josephson Junction;
Kautz, R.L.
J. Appl. Phys. 58(1): 424-440; 1 Jul 1985.
- Near-Zero Bias Arrays of Josephson Tunnel Junctions Providing Standard Voltages Up to 1V;
Niemeyer, J.; Hinken, J.H.; Kautz, R.L.
IEEE Trans. Instrum. Meas. IM-34(2): 185-187; Jun 1985.
- Design of Cryocoolers for Microwatt Superconducting Devices;
Zimmerman, J.E.
Proc., Third Cryocooler Conf. on Refrigeration for Cryogenic Sensors & Electronic Systems; Sep 17-18, 1984; Boulder, CO; NBS SP 698, pp 2-9; May 1985.
- Superconducting A/D Converter Using Latching Comparators;
Hamilton, C.A.; Lloyd, F.L.; Kautz, R.L.
Proc., Applied Superconductivity Conf.; Sep 10-13, 1984; San Diego, CA; IEEE Trans. Magn. MAG-21(2): 197-199; Mar 1985.
- Accurate Noise Measurements of Superconducting Quasiparticle Array Mixers;
McGrath, W.R.; Raisanen, A.V.; Richards, P.L.; Harris, R.E.; Lloyd, F.L.
Proc., Applied Superconductivity Conf.; Sep 10-13, 1984; San Diego, CA; IEEE Trans. Magn. MAG-21(2): 212-215; Mar 1985.
- Well Coupled, Low Noise, dc SQUIDs;
Muhlfelder, B.; Beall, J.A.; Cromar, M.; Ono, R.; Johnson, W.
Proc., Applied Superconductivity Conf.; Sep 10-13, 1984; San Diego, CA; IEEE Trans. Magn. MAG-21(2): 427-429; Mar 1985.

Cryoelectronic Metrology

Fabrication of a Miniaturized DCL Gate;

Ono, R.; Beall, J.; Harris, R.E.

Proc., Applied Superconductivity Conf., Sep 10-13, 1984; San Diego, CA; IEEE Trans. Magn. MAG-21(2): 846-849; Mar 1985.

Survey of Chaos in the rf-Biased Josephson Junction;

Kautz, R.L.; Monaco, R.

J. Appl. Phys. 57(3): 875-889; Feb 1985.

High Speed Superconducting A/D Converter;

Hamilton, C.A.; Lloyd, F.L.; Kautz, R.L.

Proc., 1984 Government Microcircuit Applications Conf.; Nov 6-8, 1984; Las Vegas, NV; pp 140-143; 1984.

Millimeter Wave Induced Josephson Voltage Steps above 1.0 Volt with a 1474 Junctions Array;

Niemeyer, J.; Hinken, J.H.; Kautz, R.L.

Proc. of the 17th Intl. Conf. on Low Temp. Phys., Aug 15-22, 1984, Karlsruhe, Germany, pp 413-414; 1984.

Recent Developments in Low-Power Self-Contained Cryocoolers for SQUIDS;

Zimmerman, J.E.

Proc., Intl. Cryogenic Engineering Conf.; Aug 1-4, 1984; Helsinki, Finland; Butterworth, pp 13-19; 1984.

Amplification by the Phase-Locking Mechanism in a 4-Junction SQUID;

McDonald, D.G.

Appl. Phys. Lett. 45(11): 1243-1245; Dec 1, 1984.

Microwave-Induced Constant-Voltage Steps at One Volt From a Series Array of Josephson Junctions;

Niemeyer, J.; Hinken, J.H.; Kautz, R.L.

Appl. Phys. Lett. 45(4): 478-480; Aug 1984.

Power Gain of a SQUID Amplifier;

McDonald, D.G.

Appl. Phys. Lett. 44(5): 556-558; Mar 1984.

Cryogenics;

Zimmerman, J.E.

Chapt. 3 in Biomagnetism: An Interdisciplinary Approach, Samuel J. Williamson, et al., eds., NATO Advanced Study Institute Publication, Vol. 66, New York: Plenum Press, pp 43-67; 1983.

Magnetic Quantities, Units, Materials, and Measurements;

Zimmerman, J.E.

Chapt. 2 in Biomagnetism: An Interdisciplinary Approach, Samuel J. Williamson, et al., eds., NATO Advanced Study Institute Publication, Vol. 66, New York: Plenum Press, pp 17-42; 1983.

An Approach to Optimization of Low-Power Stirling Cryocoolers;

Sullivan, D.B.

Proc., 2nd Biennial Conf. Refrigeration for Cryogenic Sensors; Dec 7-8, 1982; Greenbelt, MD; NASA Conf. Publ. 2287, pp 95-106; Dec 1983.

A Cryocooler for Applications Requiring Low Magnetic and Mechanical Interference;
Zimmerman, J.E.; Daney, D.E.; Sullivan, D.B.
NASA Pub. 2287, pp 95-106; Dec 1983.

Double Transformer Coupling to a Very Low Noise SQUID;
Cromar, M.; Muhlfelder, B.
Proc., Applied Superconductivity Conf., IEEE Trans. Magn. MAG-19(3): 303-307; May 1983.

8-Bit Superconducting A/D Converter;
Hamilton, C.A.; Lloyd, F.L.
Proc., Applied Superconductivity Conf., IEEE Trans. Magn. MAG-19(3): 1259-1261; May 1983.

100 GHz Binary Counter Using SQUID Flip Flops;
Hamilton, C.A.
Proc., Applied Superconductivity Conf., IEEE Trans. Magn. MAG-19(3): 1291-1291; May 1983.

Microwave Mixing and Direct Detection Using SIS and SIS' Quasiparticle Tunnel Junctions;
Harris, R.E.; et al.
Proc., Applied Superconductivity Conf., IEEE Trans. Magn. MAG-19(3): 490-493; May 1983.

Chaos in Josephson Circuits;
Kautz, R.L.
Proc., Applied Superconductivity Conf., IEEE Trans. Magn. MAG-19(3): 465-473; May 1983.

Operation of a Superconducting Analog-to-Digital Converter at Short Conversion Times;
Kautz, R.L.
Proc., Applied Superconductivity Conf., IEEE Trans. Magn. MAG-19(3): 1186-1189; May 1983.

Summary of the Proceedings of the 2nd Biennial Conf. Refrigeration for Cryogenic Sensors;
Zimmerman, J.E.
Cryogenics 23(5): 281-282; May 1983.

Superconducting Current Injection Transistor;
VanZeghbroeck, B.J.
Appl. Phys. Lett. 42(8): 736-738; Apr 1983.

Voltage and Current Expressions for a Two-Junction Superconducting Interferometer;
Peterson, R.L.; McDonald, D.G.
J. Appl. Phys. 54(2): 992-996; Feb 1983.

100 GHz Binary Counter Based on DC SQUIDS;
Hamilton, C.A.
IEEE Electron Device Lett. EDL-3(11): 335-338; Nov 1982.

Electronically Adjustable Delay for Josephson Technology; ;
Harris, R.E.; Wolf, P.; Moore, D.F.
IEEE Electron Device Lett. EDL-3(9); Sep 1982.

Cryoelectronic Metrology

High-Speed, Low-Crosstalk Chip Holder for Josephson Integrated Circuits;
Hamilton, C.A.
IEEE Trans. Instrum. Meas. IM-31(2): 29; Jun 1982.

Book review: Principles of Superconductive Devices and Circuits, by T. Van Duzer and C.W. Turner;
McDonald, D.G.; Clark, A.F.
Phys. Today, p 1980; Feb 1982.

A Study of Design Principles for Refrigerators for Low-Power Cryoelectronic Devices;
Zimmerman, J.E.; Sullivan, D.B.
NBS TN 1049; Jan 1982.

A Josephson Voltage Standard Using a Series Array of 100 Junctions;
Kautz, R.L.; Costabile, G.
IEEE Trans. Magn. MAG-17: 780; 1981.

Superconducting Electronics;
McDonald, D.G.
Phys. Today 34: 36-47; 1981.

Magnetic Auditory Evoked Fields: Interhemispheric Asymmetry;
Reite, M.; Zimmerman, J.T.; Zimmerman, J.E.
Electroencephalogr. Clin. Neurophys. 51: 388-392; 1981.

Mathematical Modelling of the Impedance of a Josephson Junction Noise Thermometer;
Peterson, R.L.
J. Appl. Phys. 52(12): 7321-7326; Dec 1981.

Design Limitations for Superconducting A/D Converters;
Hamilton, C.A.; Lloyd, F.L.
IEEE Trans. Magn. MAG-17(6): 3414-3419; Nov 1981.

Chaotic States of rf-Biased Josephson Junctions;
Kautz, R.L.
J. Appl. Phys. 52(10): 6241-6246; Oct 1981.

Modelling the Impedance of a Josephson Junction Noise Thermometer;
Peterson, R.L.; Van Vechten, D.
Phys. Review B 24(6): 3588-3591; Sep 1981.

Low Noise Tunnel Junction dc SQUIDs;
Cromar, M.W.; Carelli, P.
Appl. Phys. Lett. 38(9): 723-725; May 1981.

The ac Josephson Effect in Hysteretic Junctions: Range and Stability of Phase Lock;
Kautz, R.L.
J. Appl. Phys. 52(5): 3528-3541; May 1981.

Operation of a Practical SQUID Gradiometer in a Low-Power Stirling Cryocooler;
Sullivan, D.B.; Zimmerman, J.E.; Ives, J.T.
Proc., Conf. Refrigeration for Cryogenic Sensors and Electronic Systems; NBS SP 607,
pp 186-194; May 1981.

Refrigeration for Cryogenic Sensors and Electronic Systems;
Zimmerman, J.E.; Sullivan, D.B.; McCarthy, S.M., eds.
NBS SP 607; May 1981.

Measurement of Thermal Properties of Cryocooler Materials;
Zimmerman, J.E.; Sullivan, D.B.; Kautz, R.L.; Hobbs, R.D.
Proc., Conf. Refrigeration for Cryogenic Sensors and Electronic Systems; NBS SP 607,
pp 173-177; May 1981.

Analog Measurement Applications for High Speed Josephson Switches;
Hamilton, C.A.; Lloyd, F.L.; Kautz, R.L.
IEEE Trans. Magn. MAG 17(1): 577-582; Jan 1981.

Transient Pool Boiling of Liquid Helium Using a Temperature Controlled Heater Surface;
Giarratano, P.J.; Frederick, N.V.
Adv. Cryo. Eng., K.D. Timmerhaus; H.A. Synder, eds., New York: Plenum Press, 25:
455-466; 1980.

Space Applications of Superconductivity: Digital Electronics;
Harris, R.E.
Cryogenics 20: 115; 1980.

Turn-On Delays in Single Josephson Junction Devices;
Peterson, R.L.
Proc., 2nd Intl. Conf. on Superconducting Quantum Interference Devices (SQUIDS), H.D.
Wahlbohm; H. Lubbig, eds., New York; Berlin: Walter de Gruyter & Co., 685-702; 1980.

Recent Progress in Cryoelectronics;
Sullivan, D.B.; Hamilton, C.A.; Kautz, R.L.
IEEE Trans. Instrum. Meas. IM-29: 319; 1980.

Behavior of the dc Impedance of an rf-Biased Resistive SQUID;
Van Vechten, D.; Soulen, R.J.; Peterson, R.L.
Proc., 2nd Intl. Conf. on Superconducting Quantum Interference Devices (SQUIDS), H.D.
Wahlbohm; H. Lubbig, eds., New York, Berlin: Walter de Gruyter & Co., pp 569-584; 1980.

Cryogenics for SQUIDs;
Zimmerman, J.E.
Proc., 2nd Intl. Conf. on Superconducting Quantum Interference Devices (SQUIDS), H.D.
Wahlbohm; H. Lubbig, eds. New York, Berlin: Walter de Gruyter & Co., pp 423-443; 1980.

Picosecond Applications of Josephson Junctions;
McDonald, D.G.; Peterson, R.L.; Hamilton, C.A.; Harris, R.E.; Kautz, R.L.
IEEE Trans. Electron Devices ED-27(10): 1945-1965; Oct 1980.

Induced Electronic Currents in the Alaska Oil Pipeline Measured by Gradient Fluxgate and SQUID
Magnetometers;
Campbell, W.H.; Zimmerman, J.E.
IEEE Trans. Geosci. Remote Sensing GE-18(3): 244-250; Jul 1980.

Space Applications of Superconductivity: Instrumentation for Gravitational and Related Studies;
Peterson, R.L.
Cryogenics, pp 299-306; Jun 1980.

Cryo electronic Metrology

Cryocoolers for Geophysical SQUID Magnetometers;

Zimmerman, J.E.

Proc., SQUID Geophysics Workshop, Los Alamos, NM; Jun 1980.

A Superconducting 6-bit Analog-to-Digital Converter with Operation to 2×10^9 Samples/Second;

Hamilton, C.A.; Lloyd, F.L.

IEEE Electron Device Lett. EDL-1(5): 92-94; May 1980.

Space Applications of Superconductivity: Microwave and Infrared Detectors;

Hamilton, C.A.

Cryogenics, pp 235-243; May 1980.

Conversion Gain in mm-Wave Quasiparticle Heterodyne Mixers;

Shen, T.M.; Richards, P.L.; Harris, R.E.; Lloyd, F.L.

Appl. Phys. Lett. 36: 777-779; May 1980.

Simple-Heating-Induced Josephson Effects in Quasiparticle-Injected Superconducting Weak Links;

Kaplan, S.B.

J. Appl. Phys. 51(3): 1682-1685; Mar 1980.

On a Proposed Josephson-Effect Voltage Standard at Zero Current Bias;

Kautz, R.L.

Appl. Phys. Lett. 36(5): 386-388; Mar 1980.

Superconductor Insulator-Superconductor Quasiparticle Junctions as Microwave Photon Detectors;

Richards, P.L.; Shen, T.M.; Harris, R.E.; Lloyd, F.L.

Appl. Phys. Lett. 36: 480-482; Mar 1980.

Space Applications of Superconductivity: Low Frequency Superconducting Sensors;

Zimmerman, J.E.

Cryogenics, pp 3-10; Jan 1980.

Acoustic Matching of Superconducting Films to Substrates;

Kaplan, S.B.

J. Low Temp. Phys. 37: 343-365; 1979.

Miniaturization of Normal-State and Superconducting Strip-Lines;

Kautz, R.L.

NBS JRES 84: 247; 1979.

Quasiparticle Heterodyne Mixing in SIS Tunnel Junctions;

Richards, P.L.; Shen, T.M.; Harris, R.E.; Lloyd, F.L.

Appl. Phys. Lett. 34: 345; 1979.

Superconducting Devices;

Zimmerman, J.E.; Sullivan, D.B.

Yearbook of Science and Technology, McGraw-Hill; 1979.

A Milliwatt Stirling Cryocooler for Temperatures below 4 K;

Zimmerman, J.E.; Sullivan, D.B.

Cryogenics 19: 170; 1979.

Analysis of Threshold Curves for Superconducting Interferometers;
Peterson, R.L.; Hamilton, C.A.
J. Appl. Phys. 50(12): 8135-8142; Dec 1979.

A Superconducting Sampler for Josephson Logic Circuits;
Hamilton, C.A.; Lloyd, F.L.; Peterson, R.L.; Andrews, J.R.
Appl. Phys. Lett. 35: 718; Nov 1979.

Multiple-Quantum Interference Superconducting Analog-to-Digital Converter;
Harris, R.E.; Hamilton, C.A.; Lloyd, F.L.
Appl. Phys. Lett. 35: 720; Nov 1979.

Very Low-Power Stirling Cryocoolers Using Plastic and Composite Materials;
Sullivan, D.B.; Zimmerman, J.E.
Intl. J. Refrig. 2: 211-213; Nov 1979.

Space Applications of Superconductivity;
Sullivan, D.B.; Vorreiter, J.W.
Cryogenics 19: 627-631; Nov 1979.

Differential Capacitance Sensor as Position Detectors for Magnetic Suspension Densimeter;
Frederick, N.V.
Rev. Sci. Instrum. 50(9): 1154; Sep 1979.

Analog to Digital Conversion with a SQUID: Conditions for a Countable Pulse Train;
Peterson, R.L.
J. Appl. Phys. 50: 4231; Jun 1979.

Sampling Circuit and Method Therefor;
Hamilton, C.A.
PAT-APPL-6-020 359; Filed 14 Mar 1979.

Quasiparticle Heterodyne Mixing in SIS Tunnel Junctions;
Harris, R.E.; Lloyd, F.L.; Richards, P.L.; Shen, T.M.
Appl. Phys. Lett. 34(5): 345-347; Mar 1979.

Cryogenic Refrigeration System;
Zimmerman, J.E.
PATENT 4 143 520; patented 13 Mar 1979.

Attenuation in Superconducting striplines;
Kautz, R.L.
IEEE Trans. Magn. MAG-15: 566-569; Jan 1979.

High-Speed Superconducting Electronics;
Hamilton, C.A.; Harris, R.E.; Sullivan, D.B.
GOMAC Digest, Vol. 7; 1978.

Human Magnetic Auditory Evoked Responses;
Reite, M.; Edrich, J.; Zimmerman, J.T.; Zimmerman, J.E.
Electroencephalogr. Clin. Neurophys. 45: 114-117; 1978.

Cryoelectronic Metrology

Magnetic Phenomena of the Central Nervous System;
Reite, M.; Zimmerman, J.E.
Ann. Rev. Biophys. Bioeng. 7: 167-188; 1978.

Multiple Magnetic Flux Entry into SQUIDS: A General Way of Examining the Cos(phi) Conductance;
Peterson, R.L.; Gayley, R.I.
Phys. Rev. B 18: 1198-1206; Aug 1978.

Automatic 300-4 K Temperature Cycling Apparatus;
Hamilton, C.A.
Rev. Sci. Instrum. Notes 49: 674-677; May 1978.

The Role of Superconductivity in the Space Program: An Assessment of Present Capabilities and Future Potential;
Sullivan, D.B.
NBSIR 78-885; May 1978.

RF Instrumentation Based on Superconducting Quantum Interference;
Sullivan, D.B.; Adair, R.T.; Frederick, N.V.
Proc., IEEE 66: 454-463; Apr 1978.

Applications of Closed-Cycle Cryocoolers to Small Superconducting Devices; ;
Zimmerman, J.E.; Flynn, T.M.
Proc., Conf. held by the Office of Naval Research and the National Bureau of Standards, Oct 3-4, 1977; Boulder, CO; NBS SP 508; Apr 1978.

Photolithographic Fabrication of Lead Alloy Josephson Junctions;
Havemann, R.H.; Hamilton, C.A.; Harris, Richard E.
J. Vac. Sci. Technol. 15: 392-395; Mar/Apr 1978.

Picosecond Pulses on Superconducting Striplines;
Kautz, R.L.
J. Appl. Phys. 49: 308-314; Jan 1978.

Results, Potentials and Limitations of Josephson Mixer-receivers at Millimeter and Long Submillimeter Wavelengths;
Edrich, J.; Sullivan, D.B.; McDonald, D.G.
IEEE Trans. Microwave Theory Tech. MTT-25: 476; 1977.

Superconducting Devices for Metrology and Standards;
Kamper, R.A.
Chap. 5 in Superconductor Applications: Squids and Machines, New York: Plenum Press, pp 189-247; 1977.

RF Power Measurements Using Quantum Interference in Superconductors;
Sullivan, D.B.; Frederick, N.V.; Adair, R.T.
Proc., IC SQUID (1st), Oct 5-8, 1976; Berlin, Germany; Paper R-1045 in Superconducting Quantum Interference Devices and Their Applications, pp 355-363; 1977.

Possible Cryocoolers for SQUID Magnetometers;
Zimmerman, J.E.; Radebaugh, R.; Siegwarth, J.D.
Proc., 1st IC SQUID Conf., Oct 5-8, 1976; Berlin, Germany, Paper R-1044 in Superconducting Quantum Interference Devices and Their Applications, pp 287-296; 1977.

Numerical Evaluation of the Response of a Josephson Tunnel Junction in an Arbitrary Circuit;
Harris, R.E.
J. Appl. Phys. 48: 5188-5190; Dec 1977.

Picosecond Pulse Generator Utilizing a Josephson Junction;
McDonald, D.G.; Peterson, R.L.
PAT-APPL-862 311; Filed 20 Dec 1977.

Design of a Josephson-Junction Picosecond Pulser;
McDonald, D.G.; Peterson, R.L.; Bender, B.K.
J. Appl. Phys. 48: 5366-5369; Dec 1977.

A Sampling Circuit and Method Therefor;
Hamilton, C.A.
PAT-APPL-853 354; Filed 21 Nov 1977.

RF Attenuation Measurement System Using a SQUID;
Adair, R.T.; Frederick, N.V.; Sullivan, D.B.
NBSIR 77-863; Sep 1977.

High-Frequency Limitations of the Double-Junction SQUID Amplifier;
Zimmerman, J.E.; Sullivan, D.B.
Appl. Phys. Lett. 31: 360-362; Sep 1977.

A Low-Noise Josephson Mixer for the 1 mm Wavelength Range;
Edrich, J.; Sullivan, D.B.; McDonald, D.G.
IEEE Trans. Microwave Theory Tech. MTT-25: 476-479; Jun 1977.

SQUID Instruments and Shielding for Low-Level Magnetic Measurements;
Zimmerman, J.E.
J. Appl. Phys. 48: 702-710; Feb 1977.

Advances in the Use of SQUIDS for RF Attenuation Measurement;
Frederick, N.V.; Sullivan, D.B.; Adair, R.T.
IEEE Trans. Magn. MAG-13: 361-364; Jan 1977.

Picosecond Pulses from Josephson Junctions: Phenomenological and Microscopic Analyses;
Peterson, R.L.; McDonald, D.G.
IEEE Trans. Magn. MAG-13: 887-890; Jan 1977.

Analog Computer Studies of Frequency Multiplication and Mixing with the Josephson Junction;
Risley, A.S.; Johnson, E.G., Jr.; Hamilton, C.A.
Proc., 1976 Applied Superconductivity Conf.; Stanford, CA; IEEE Trans. Magn. MAG-13:
381-384; Jan 1977.

Can Superconductivity Contribute to the Determination of the Absolute Ampere?;
Sullivan, D.B.; Frederick, N.V.
IEEE Trans. Magn. MAG-13: 396-399; Jan 1977.

The Human Magnetoencephalogram: Some EEG and Related Correlations;
Reite, M.; Zimmerman, J.E.; Edrich, J.; Zimmerman, J.T.
Electroencephalogr. Clin. Neurophys. 40: 59-66; 1976.

Cryo electronic Metrology

Refrigeration for Small Superconducting Devices;

Zimmerman, J.E.; Radebaugh, R.; Siegwarth, J.D.

DKV Annual Meeting and Joint Meeting with the Intl. Institute of Refrigeration; Oct 13, 1976;
Munich, Germany; Rpt. No. CONF-7610104-1; 1976.

Strong-Coupling Correction to the Low-Frequency Electrical Conductivity of Superconductors and Josephson Junctions;

Harris, R.E.; Ginsberg, D.M.; Dynes, R.C.

Phys. Rev. B 14: 990-992; Aug 1976.

Strong-Coupling Correction to the Jump in the Quasiparticle Current of a Superconducting Tunnel Junction;

Harris, R.E.; Dynes, R.C.; Ginsberg, D.M.

Phys. Rev. B 14: 993-995; Aug 1976.

Intrinsic Response Time of a Josephson Tunnel Junction;

Harris, R.E.

Phys. Rev. B 13: 3818-3821; May 1976.

RF Applications of the Josephson Effect;

Kamper, R.A.

Microwave J. 19: 39-41; Apr 1976.

Modeling Josephson Junctions;

McDonald, D.G.; Johnson, E.G., Jr.; Harris, R.E.

Phys. Rev. B 13: 1028-1031; Feb 1976.

Accurate Rotational Constants, Frequencies, and Wavelengths from $^{12}\text{C}^{16}\text{O}_2$ Lasers Stabilized by Saturated Absorption;

Petersen, F.R., McDonald, D.G.; Cupp, J.D.; Danielson, B.L.

Proc., Laser Spectroscopy Conf.; Jun 25-29, 1973; Vail, CO, pp 555-569; 1975.

Josephson Weak-Link Devices;

Silver, A.H.; Zimmerman, J.E.

Applied Superconductivity, V.L. Newhouse, ed., Academic Press, pp 1-80; 1975.

Tests of Cryogenic SQUID for Geomagnetic Field Measurements;

Zimmerman, J.E.; Campbell, W.H.

Geophysics 40: 269; 1975.

Cryogenic Direct Current Comparators and their Applications;

Dziuba, R.F.; Sullivan, D.B.

IEEE Trans. Magn. MAG-11: 716-719; Mar 1975.

Review of Superconducting Electronics;

Kamper, R.A.

IEEE Trans. Magn. MAG-11: 141-146; Mar 1975.

Phase Slip, Dissipation, Bernoulli Effect, Parametric Capacitance, and Other Curious Features of the Josephson Effect;

Zimmerman, J.E.

IEEE Trans. Magn. MAG-11: 852-855; Mar 1975.

- RF Attenuation Measurements Using Quantum Interference in Superconductors;
Adair, R.T.; Hoer, C.A.; Kamper, R.A.; Simmonds, M.B.
Digest, Conf. on Precision Electromagnetic Measurements, IEE, London, England, pp 4-5;
1974.
- Magnetic Properties of Internally Oxidized Copper;
Fickett, F.R.; Sullivan, D.B.
19th Annual Conf. Magnetism and Magnetic Materials; 1973; Boston, MA; AIP Conf. Proc.,
p 18; 1974.
- Review of Electromagnetic Measurements Using the Josephson Effect;
Kamper, R.A.
Proc., ISA Intl. Instrumentation-Automation Conf.; Oct 28-31, 1974; New York, NY, pp 1-8;
1974.
- The Relationship of Josephson Junctions to a Unified Standard of Length and Time;
McDonald, D.G.; Risley, A.S.; Cupp, J.D.
Proc., 13th Intl. Conf. Low Temperature Physics; Aug 21-25, 1972; Boulder, CO; in Low
Temperature Physics LT-13: 542-549; 1974.
- RF Attenuation Measurements Using Quantum Interference in Superconductors;
Adair, R.T.; Simmonds, M.B.; Kamper, R.A.; Hoer, C.A.
IEEE Trans. Instrum. Meas. IM-23: 375-381; Dec 1974.
- A Low-Temperature Direct-Current Comparator Bridge;
Sullivan, D.B.; Dziuba, R.F.
IEEE Trans. Instrum. Meas. IM-23: 256-260; Dec 1974.
- Advances in the Measurement of rf Power and Attenuation Using SQUIDS;
Kamper, R.A.; Simmonds, M.B.; Adair, R.T.; Hoer, C.A.
NBS TN 661; Sep 1974.
- Josephson Junctions as Radiation Detectors from Millihertz to Terahertz;
McDonald, D.G.
IEEE J. Quantum Electron. QE-10: 776-777; Sep 1974.
- An Application of Superconducting Quantum Interference Magnetometers to Geophysical Prospecting;
Frederick, N.V.; Stanley, W.D.; Zimmerman, J.E.; Dinger, R.J.
IEEE Trans. Geosci. Electron. GE-12: 102-103; Jul 1974.
- Magnetic Studies of Oxidized Impurities in Pure Copper Using a SQUID System;
Fickett, F.R.; Sullivan, D.B.
J. Phys. F 4: 900-904; Jun 1974.
- Josephson Junctions at 45 Times the Energy-Gap Frequency;
McDonald, D.G.; Petersen, F.R.; Cupp, J.D.; Danielson, B.L.; Johnson, E.G., Jr.
Appl. Phys. Lett. 24: 335-337; Apr 1974.
- Low Temperature Direct Current Comparators;
Sullivan, D.B.; Dziuba, R.F.
Rev. Sci. Instrum. 45: 517-519; Apr 1974.

Cryo electronic Metrology

Field-Usable Sharpless Wafers for Josephson Effect Devices at Millimeter Waves;
Edrich, J.; Cupp, J.D.; McDonald, D.G.
Revue de Physique Appliquee 9: 195-197; Jan 1974.

Superconducting Devices and Materials;
Olien, N.A.; Goree, W.S.; Kamper, R.A.; Nisenoff, M.; Wolf, S.A.
Quarterly Literature Survey, No. 74-1, NBS Cryogenic Data Center, Boulder, CO; Jan-Mar 1974.

Spectral Analysis of a Phase Locked Laser at 891 GHz: An Application of Josephson Junctions in the Far Infrared;
Wells, J.S.; McDonald, D.G.; Risley, A.S.; Jarvis, S.; Cupp, J.D.
Revue de Physique Appliquee (Supplement to J. de Physique), France, 9: 285-292; Jan 1974.

Measurement of rf Power and Attenuation Using Superconducting Quantum Interference Devices;
Kamper, R.A.; Simmonds, M.B.; Hoer, C.A.; Adair, R.T.
NBS TN 643; Aug 1973.

Rotational Constants for $^{12}\text{C}^{16}\text{O}_2$ From Beats Between Lamb-Dip-Stabilized Lasers;
Petersen, F.R.; McDonald, D.G.; Cupp, J.D.; Danielson, B.L.
Phys. Rev. Lett. 31: 573-576; Aug 1973.

Analog-Computer Studies of Mixing and Parametric Effects in Josephson Junctions;
Hamilton, C.A.
J. Appl. Phys. 44: 2371-2377; May 1973.

Portable Helium Dewars for Use with Superconducting Magnetometers;
Zimmerman, J.E.; Siegwarth, J.D.
Cryogenics 13: 158-159; Mar 1973.

Superconducting Devices and Materials;
Goree, W.S.; Nisenoff, M.; Wolf, S.A.; Kamper, R.A.; Olien, N.A.
Quarterly Literature Survey, No. 73-1, NBS Cryogenic Data Center; Boulder, CO; Jan-Mar 1973.

A New Technique for RF Measurements Using Superconductors;
Kamper, R.A.; Simmonds, M.B.; Adair, R.T.; Hoer, C.A.
Proc., IEEE 61: 121-122; Jan 1973.

Flexible Laminates for Thermally Grounded Terminal Strips and Shielded Electrical Leads at Low Temperatures;
Radebaugh, R.; Frederick, N.V.; Siegwarth, J.D.
Cryogenics 13: 41-43; Jan 1973.

Possible Parametric Capacitance in Josephson Junctions;
Zimmerman, J.E.
Phys. Lett. 42A: 375-376; Jan 1973.

Quantum Mechanical Measurement of rf Attenuation;
Kamper, R.A.; Simmonds, M.B.; Adair, R.T.; Hoer, C.A.
Proc., Applied Superconductivity Conf.; May 1-3, 1972; Annapolis, MD; pp 696-700; 1972.

- Precise Electrical Measurements at Low Temperature;
Sullivan, D.B.
Proc., Applied Superconductivity Conf.; May 1-3, 1972; Annapolis, MD; pp 631-639; 1972.
- A Review of the Properties and Applications of Superconducting Point Contacts;
Zimmerman, J.E.
Proc., Applied Superconductivity Conf.; May 1-3, 1972; Annapolis, MD; pp 544-561; 1972.
- Computation of Spectral Data for a Josephson Junction Circuit;
Johnson, E.G., Jr.; McDonald, D.G.
NBS TN 627; Nov 1972.
- Developments in Cryoelectronics;
Kamper, R.A.; Sullivan, D.B.
NBS TN 630; Nov 1972.
- Superconducting Quantum Interference Devices: An Operational Guide for rf-Biased Systems;
Sullivan, D.B.
NBS TN 629; Nov 1972.
- Analog Computer Studies of Subharmonic Steps in Superconducting Weak Links;
Hamilton, C.A.; Johnson, E.G., Jr.
Phys. Lett. A 41: 393-394; Oct 1972.
- Broadband Superconducting Quantum Magnetometer;
Kamper, R.A.; Simmonds, M.B.
Appl. Phys. Lett. 20: 270-272; Apr 1972.
- Four-Hundredth-Order Harmonic Mixing of Microwave and Infrared Laser Radiation Using a Josephson Junction and a Maser;
McDonald, D.G.; Risley, A.S.; Cupp, J.D.; Evenson, K.M.; Ashley, J.R.
Appl. Phys. Lett. 20: 296-299; Apr 1972.
- Superconducting Devices and Materials;
Goree, W.S.; Kamper, R.A.; Olien, N.A.
Quarterly Literature Survey, NBS Cryogenic Data Center; Boulder, CO; 4 issues; Mar 1972.
- Low Temperature Voltage Divider and Null Detector;
Sullivan, D.B.
Rev. Sci. Instrum. 43: 499-505; Mar 1972.
- Josephson Effect Devices and Low-Frequency Field Sensing;
Zimmerman, J.E.
Cryogenics 12: 19-31; Feb 1972.
- A Mechanical Superconducting Switch for Low Temperature Instrumentation;
Siegwarth, J.D.; Sullivan, D.B.
Rev. Sci. Instrum. 43: 153-154; Jan 1972.
- Survey of Noise Thermometry;
Kamper, R.A.
Proc., 5th Symp. Temperature, Its Measurement and Control in Science and Industry; Jun 21-24, 1971; Washington, DC; 1971.

Cryoelectronic Metrology

Superconducting Materials;
Kamper, R.A.
Electron. Design Materials, 71-79; 1971.

Mechanical Analogs of Time Dependent Josephson Phenomena;
Sullivan, D.B.; Zimmerman, J.E.
Amer. J. Phys. 39: 1504-1517; Dec 1971.

Sensitivity Enhancement of Superconducting Quantum Interference Devices through the Use of Fractional-Turn Loops;
Zimmerman, J.E.
J. Appl. Phys. 24: 4483-4487; Oct 1971.

Observation of Noise Temperature in the Millikelvin Range;
Kamper, R.A.; Siegwarth, J.D.; Radebaugh, R.; Zimmerman, J.E.
Proc., IEEE 59: 1368-1369; Sep 1971.

Miniature Ultrasensitive Superconducting Magnetic Gradiometer and Its Use in Cardiography and Other Applications;
Zimmerman, J.E.; Frederick, N.V.
Appl. Phys. Lett. 19: 16-19; Jul 1971.

Resistance of a Silicon Bronze at Low Temperatures;
Sullivan, D.B.
Rev. Sci. Instrum. 42: 612-613; May 1971.

Harmonic Mixing of Microwave and Far-Infrared Laser Radiation Using a Josephson Junction;
McDonald, D.G.; Risley, A.S.; Cupp, J.D.; Evenson, K.M.
Appl. Phys. Lett. 18: 162-164; Feb 1971.

Noise Thermometry with the Josephson Effect;
Kamper, R.A.; Zimmerman, J.E.
J. Appl. Phys. 42: 132-136; Jan 1971.

High-Frequency Limit of the Josephson Effect;
McDonald, D.G.; Evenson, K.M.; Wells, J.S.; Cupp, J.D.
J. Appl. Phys. 42: 179-181; Jan 1971.

Recent Developments in Superconducting Devices;
Zimmerman, J.E.
J. Appl. Phys. 42: 30-37; Jan 1971.

Cryoelectronics;
Kamper, R.A.
Proc., Helium Society Symp.; Mar 23-24, 1970; Washington, DC; pp 68-82; 1970.

Generation of Harmonics and Subharmonics of the Josephson Oscillation;
Sullivan, D.B.; Peterson, R.L.; Kose, V.E.; Zimmerman, J.E.
J. Appl. Phys. 41: 4865-4873; Nov 1970.

Magnetocardiograms Taken inside a Shielded Room With a Superconducting Point-Contact Magnetometer;
Cohen, D.; Edelsack, E.A.; Zimmerman, J.E.
Appl. Phys. Lett. 16: 278-280; Apr 1970.

Some Applications of the Josephson Effect;
Kamper, R.A.; Mullen, L.O.; Sullivan, D.B.
NASA-CR-1565; NBS TN 381; Mar 1970.

Influence of External Noise on Microwave-Induced Josephson Steps;
Kose, V.E.; Sullivan, D.B.
J. Appl. Phys. 41: 169-174; Jan 1970.

The Josephson Effect;
Kamper, R.A.
IEEE Trans. Electron Devices ED-16: 840-844; Oct 1969.

Harmonic Generation and Submillimeter Wave Mixing With the Josephson Effect;
McDonald, D.G.; Kose, V.E.; Evenson, K.M.; Wells, J.S.; Cupp, J.D.
Appl. Phys. Lett. 15: 121-122; Aug 15, 1969.

Fabrication of Tunnel Junctions on Niobium Films;
Mullen, L.O.; Sullivan, D.B.
J. Appl. Phys. 40: 2115-2117; Apr 1969.

Cryoelectronics;
Kamper, R.A.
Cryogenics, 9: 20-25; Feb 1969.

Contribution of Thermal Noise to the Line-Width of Josephson Radiation from Superconducting Point Contacts;
Silver, A.H.; Zimmerman, J.E.; Kamper, R.A.
Appl. Phys. Lett. 11: 209-211; Sep 15, 1967.

Millidegree Noise Thermometry;
Kamper, R.A.
Proc., Symp. Physics of Superconducting Devices (ONR report); Charlottesville, VA; Apr 1967.

SUPERCONDUCTOR AND MAGNETIC MEASUREMENT

Improvements in the Properties of Internal-Tin Nb₃Sn Strands;

Gregory, E.; Gulko, E.; Pyon, T.; Goodrich, L.F.

Proc., 16th Intl. Cryogenic Engineering Conf., May 20-24, 1996, Kitakyushu, Japan, pp 1715-1718; Jul 1997.

Tensile Measurements of the Modulus of Elasticity of Nb₃Sn at Room Temperature and 4 K;

Bray, S.L.; Ekin, J.W.; Sesselmann, R.

IEEE Trans. Appl. Supercond. 7(2): 1451-1454; Jun 1997.

Repeatability of Critical Current Measurements on Nb₃Sn and Nb-Ti Wires;

Goodrich, L.F.; Medina, L.T.; Stauffer, T.C.

IEEE Trans. Appl. Supercond. 7(2): 1508-1511; Jun 1997.

a-Axis YBa₂Cu₃O_{7-δ}/Au Interface Conductance-Voltage Characteristics;

Xu, Yizi; Ekin, J.W.; Russek, S.E.; Fiske, R.; Clickner, C.C.; Takeuchi, E.; Trajanovic, Z.; Venkatesan, T.; Rogers, C.T.

IEEE Trans. Appl. Supercond. 7(2): 2836-2839; Jun 1997.

Solution and Solid State Properties of [N-(2-Hydroxyethyl)iminodiacetato]vanadium(IV), -(V), and -(IV/V) Complexes;

Mahroof-Tahir, M.; Keramidas, A.D.; Goldfarb, R.B.; Anderson, O.P.; Miller, M.M.; Crans, D.C. Inorg. Chem. 36 (8): 1657-1668; May 1997.

Sonochemical Preparation of Nanosized Amorphous Fe-Ni Alloys;

Shafi, K.V.; Gedanken, A.; Goldfarb, R.B.; Felner, I.

J. Appl. Phys. 81 (10): 6901-6905; May 97.

Magnetization Reversal and Coercive Force in Ultrathin Films with Perpendicular Surface Anisotropy: Micromagnetic Theory;

Hu, X.

Phys. Rev. B Condensed Matter 55(13): 8382-8389; Apr 1997.

High Resolution Imaging of Thin-film Recording Heads by Superparamagnetic Magnetic Force Microscopy Tips;

Liou, S.H.; Malhotra, S.S.; Moreland, J.; Hopkins, P.F.

Appl. Phys. Lett. 70 (1): 135-137; Jan 1997.

Correlating MFM Images and Recording Head Output;

Rice, P.; Hoinville, J.R.

Data Storage Magazine: 35-40; Jan 1997.

Interlaboratory Comparison on High-temperature Superconductor Critical-current Measurements;

Wiejaczka, J.A.; Goodrich, L.F.

NIST JRES 102 (1): 29-52; Jan 1997.

Magnetostatic Effects in Giant Magnetoresistive Spin-Valve Devices;

Cross, R.W.; Kim, Y.K.; Oti, J.O.; Russek, S.E.

Appl. Phys. Lett. 69 (25): 3935-3937; Dec 1996.

Electromechanical Properties of Bi-2212 Superconductors;
Ekin, J.W.

Proc., 9th US-Japan Workshop on High-Field Superconducting Materials, Wires and Conductors and Standard Procedures for High-Field Superconducting Wires Testing, March 13, 1995, Kyoto, Japan; 143-148; Sep 1996.

Surface Anisotropy and Spin-Reorientation Transitions in Ultrathin Magnetic Films;
Hu, X.; Kawazoe, Y.
IEEE Trans. Mag. 32 (5): 4561-4566; Sep 1996.

High Current Density Self-field Effects and Low-frequency Noise in NiFe/Ag GMR Multilayers;
Kirschenbaum, L.S.; Rogers, C.T.; Beale, P.D.; Russek, S.E.; Sanders, S.C.
IEEE Trans. Mag. 32 (5) 4684-4686; Sep 1996.

Simulated Magnetoresistive Behavior of Geometrically Asymmetric Spin Valves;
Oti, J.O.; Cross, R.W.; Russek, S.E.
IEEE Trans. Magn. 32(5): 4606-4608; Sep 1996.

Magnetic Imaging Reference Sample;
Rice, P.; Russek, S.E.; Haines, B.
IEEE Trans. Mag. 32 (5): 4133-4137; Sep 1996.

Spatial Correlation between Magnetic Force Microscope Images and Recording Head Output;
Rice, P.; Hoinville, J.R.
IEEE Trans. Mag. 32 (5): 3563-3565; Sep 1996.

A Prototype Apparatus for Determining Changes in the Electrical Conductivity of Production Run Carbon Fibers;
Dulcie, L.L.
Proc., 22nd Annual Quantitative NDE Conference, August, 1995, Seattle, WA, pp 2233-2239;
Aug 1996.

Properties of Internal-Tin Nb₃Sn Strand for the International Thermonuclear Experimental Reactor;
Gregory, E.; Gulko, E.; Pyon, T.; Goodrich, L.F.
Adv. Cryo. Eng. 42: 1319-1328; Jul 1996.

High Compressive Axial Strain Effect on the Critical Current and Field of Nb₃Sn Superconductor Wire;
Ekin, J.W.; Bray, S.L.
Adv. Cryo. Eng. 42: 1407-1414; Jun 1996.

Pt Buffer Layer for Protecting YBCO from Al at Annealing Temperatures up to 450° C;
Sanders, S.C.; Ekin, J.W.; Jeanneret, B.
Adv. Cryo. Eng. 42: 877-882; Jun 1996.

Magnetostriction Characteristics of Ultrathin Permalloy Films;
Kim, Y.K.; Silva, T.J.;
Appl. Phys. Lett. 68(20): 2885-2886; May 1996.

Bias Current Dependent Resistance Peaks in NiFe/Ag Giant Magnetoresistance Multilayers;
Kirschenbaum, L.S.; Rogers, C.T.; Beale, P.D.; Russek, S.E.; Sanders, S.C.
Appl. Phys. Lett. 68(22): 3099-3101; May 1996.

Superconductor and Magnetic Measurement

Relaxation in NiFe/Ag Giant Magnetoresistive Devices;
Cross, R.W.; Kos, A.B.
J. Appl. Phys. 79 (8): 5820-5822; Apr 1996.

Superparamagnetic Magnetic Force Microscopy Tips;
Hopkins, P.F.; Moreland, J.; Malhotra, S.S.; Liou, S.H.
J. Appl. Phys. 79(8): 6448-6450; Apr 1996.

Simulating Device Size Effects on Magnetization Pinning Mechanisms in Spin Valves;
Oti, J.O.; Cross, R.W.; Russek, S.E.; Kim, Y.K.
J. Appl. Phys. 79(8): 6386-6388; Apr 1996.

Modeling Effects of Temperature Annealing on Giant Magnetoresistive Response in Discontinuous Multilayer NiFe/Ag Films;
Oti, J.O. ; Kim, Y.K.
J. Appl. Phys. 79(8): 5596-5598; Apr 1996.

Size Effects and Giant Magnetoresistance in Unannealed NiFe/Ag Multilayer Stripes;
Sanders, S.C.; Cross, R.W.; Russek, S.E.; Roshko, A.; Oti, J.O.
J. Appl. Phys. 79(8): 6240-6242; Apr 1996.

Flux-Pinning Mechanism of Proximity-Coupled Planar Defects in Conventional Superconductors: Evidence that Magnetic Pinning is the Dominant Pinning Mechanism in Niobium-Titanium Alloy;
Cooley, L.D.; Lee, P.J.; Larbalestier, D.C.
Phys. Rev. B 53(10): 6638-6652; Mar 1996.

Observation of the Transverse Second-Harmonic Magneto-Optic Kerr Effect from $\text{Ni}_{81}\text{Fe}_{19}$ Thin Film Structures;
Crawford, T.M.; Rogers, C.T.; Silva, T.J.; Kim, Y.K.
Appl. Phys. Lett. 68(11): 1573-1575; Mar 11, 1996.

Models of Granular Giant Magnetoresistance Multilayer Thin Films;
Oti, J.O.; Russek, S.E.; Sanders, S.C.; Cross, R.W.
IEEE Trans. Magn. 32(2): 590-598; Mar 1996.

Panel Discussion on Units in Magnetism;
Goldfarb, R.B.
Magnetic and Electrical Separation 6: 105-116; 1995.

Thermal Contraction of Materials Used in Nb_3Sn Critical Current Measurements;
Goodrich, L.F.; Srivastava, A.N.
Cryogenics 35 (VAMAS Supplement): S29-32; 1995.

Critical Current Measurement Methods: Quantitative Evaluation;
Goodrich, L.F.; Srivastava, A.N.
Cryogenics 35 (VAMAS Supplement): S19-23; 1995.

A Simple and Repeatable Technique for Measuring the Critical Current of Nb_3Sn WIRES;
Goodrich, L.F.; Srivastava, A.N.
Proc., 7th Intl. Workshop on Critical Currents in Supercond., Jan 24-27, 1994, Alpbach, Austria, pp. 609-612; 1995.

Effects of Temperature Variation;

Kirchmayr, H.; Goodrich, L.F.

Cryogenics 35 (VAMAS Supplement): S99-100; 1995.

Theory of the Magneto-Optic Kerr Effect in the Near Field;

Kosobukin, V.A.

Proc., SPIE-The Intl. Soc. for Optical Eng. Near-Field Optics Conf., Jul 9-10, 1995, San Diego, CA, Vol. 2535: 9-15; 1995.

The Effects of Substrate Surface Steps on the Microstructure of Epitaxial $\text{Ba}_2\text{YC}_{3}\text{O}_{7-x}$ Thin Films on (001) LaAlO_3 ;

McIntyre, P.C.; Cima, M.J.; Roshko, A.

J. Crystal Growth 149: 64-73; 1995.

Dependence of Contrast on Probe/Sample Spacing with the Magneto-Optic Kerr-Effect Scanning Near-Field Optical Microscope (MOKE-SNOM);

Silva, T.J.; Kos, A.B.

Proc., SPIE-The Intl. Soc. for Optical Eng. Near-Field Optics Conf., Jul 9-10, 1995, San Diego, CA, Vol. 2535: 2-8; 1995.

Preparation, Crystal Structure, Dielectric Properties, and Magnetic Behavior of $\text{Ba}_2\text{Fe}_2\text{Ti}_4\text{O}_{13}$;

Vanderah, T.A.; Huang, Q.; Wong-Ng, W.; Chakoumakos, B.C.; Goldfarb, R.B.; Geyer, R.G.; Baker-Jarvis, J.; Roth, R.S.; Santoro, A.

J. Solid State Chem. 120: 121-127; 1995.

Magnetoresistance of Thin-Film NiFe Devices Exhibiting Single-Domain Behavior;

Cross, R.W.; Oti, J.O.; Silva, T.J.; Kim, Y.K.

IEEE Trans. Magn. 31(6): 3358-3360; Nov 1995.

Low Magnetostriction in Annealed NiFe/Ag Giant Magnetoresistive Multilayers;

Kim, Y.K.; Sanders, S.C.; Russek, S.E.

IEEE Trans. Magn. 31(6): 3964-3966; Nov 1995.

Telegraph Noise in Silver-Permalloy Giant Magnetoresistance Test Structures;

Kirschenbaum, L.S.; Rogers, C.T.; Russek, S.E.; Sanders, S.C.

IEEE Trans. Magn. 31(6): 3943-3945; Nov 1995.

Size Effects in Submicron NiFe/Ag GMR Devices;

Russek, S.E.; Cross, R.W.; Sanders, S.C.; Oti, J.O.

IEEE Trans. Magn. 31(6): 3939-3942; Nov 1995.

Anomalous Switching Phenomenon in Critical-Current Measurements When Using Conductive Mandrels;

Goodrich, L.F.; Wiejaczka, J.A.; Srivastava, A.N.

IEEE Trans. Appl. Supercond. 5(3): 3442-3444; Sep 1995.

Magnetic Force Microscopy Using Fe-(SiO_2) Coated Tips;

Hopkins, P.F.; Thomson, R.E.; Moreland, J.; Malhotra, S.S.; Liou, S.H.

1995 Digests of INTERMAG '96, CS-05; Sep 1995.

Quench Energy and Fatigue Degradation Properties of Cu- and Al/Cu-Stabilized Nb-Ti Epoxy-Impregnated Superconductor Coils;

Bray, S.L.; Ekin, J.W.; Waltman, D.J.; Superczynski, M.J.

IEEE Trans. Appl. Supercond. 5(2): 222-225; Jun 1995.

Superconductor and Magnetic Measurement

Oxygen Annealing of Ex-Situ YBCO/Ag Thin-Film Interfaces;
Ekin, J.W.; Clickner, C.C.; Russek, S.E.; Sanders, S.C.
IEEE Trans. Appl. Supercond. 5(2): 2400-2403; Jun 1995.

USA Interlaboratory Comparison of Superconductor Simulator Critical Current Measurements;
Goodrich, L.F.; Wiejaczka, J.A.; Srivastava, A.N.; Stauffer, T.C.; Medina, L.T.
IEEE Trans. Appl. Supercond. 5(2): 548-551; Jun 1995.

First VAMAS USA Interlaboratory Comparison of High Temperature Superconductor Critical Current Measurements;
Goodrich, L.F.; Wiejaczka, J.A.; Srivastava, A.N.; Stauffer, T.C.; Medina, L.T.
IEEE Trans. Appl. Supercond. 5(2): 552-555; Jun 1995.

Effects of Etching on the Morphology and Surface Resistance of $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ Films;
Roshko, A.; Russek, S.E.; Trott, K.A.; Sanders, S.C.; Johansson, M.E.; Martens, J.S.; Zhang, D.
IEEE Trans. Appl. Supercond. 5 (2): 1733-1736; Jun 1995.

Evidence for Tunneling and Magnetic Scattering at *In Situ* YBCO/Noble-Metal Interfaces;
Sanders, S.C.; Russek, S.E.; Clickner, C.C.; Ekin, J.W.
IEEE Trans. Appl. Supercond. 5 (2): 2404-2407; Jun 1995.

Characterization of Multifilamentary Nb₃Sn Superconducting Wires for Use in the 45-T Hybrid Magnet;
Summers, L.T.; McKinnell, J.C.; Bray, S.L.; Ekin, J.W.
IEEE Trans. Appl. Supercond. 5(2): 1764-1767; Jun 1995.

The Effect of Magnetic Field Orientation on the Critical Current of HTS Conductor and Coils;
Voccio, J.P.; Rodenbush, A.J.; Joshi, C.H.; Ekin, J.W.; Bray, S.L.
IEEE Trans. Appl. Supercond. 5(2): 1822-1825; Jun 1995.

Epitaxial Nucleation and Growth of Chemically Derived $\text{Ba}_2\text{YCu}_3\text{O}_{7-x}$ Thin Films on (001) SrTiO_3 ;
McIntyre, P.C.; Cima, M.J.; Roshko, A.
J. Appl. Phys. 77(10): 5263-5272; May 1995.

Development of High Conductive Cantilevers for Atomic Force Microscopy Point Contact Measurements;
Thomson, R.E.; Moreland, J.
J. Vacuum Science Tech. B 13 (3): 1123-1125; May/Jun 1995..

Pinch Effect in Commensurate Vortex-Pin Lattices;
Cooley, L.D.; Grishin, A.M.
Phys. Rev. Lett. 74(14): 2788-2791; Apr 3, 1995.

Magnetostriction and Giant Magnetoresistance in Annealed NiFe/Ag Multilayers;
Kim, Y.K.; Sanders, S.C.
Appl. Phys. Lett. 66(8): 1009-1011; Feb 20, 1995.

Low Noise $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ - SrTiO_3 - $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ Multilayers for Improved Superconducting Magnetometers;
Ludwig, F.; Koelle, D.; Dantsker, E.; Nemeth, D.T.; Miklich, A.H.; Clarke, J.; Thomson, R.E.
Appl. Phys. Lett. 66(3): 373-375; Jan 16, 1995.

In Situ Observation of Surface Morphology of InP Grown on Singular and Vicinal (001) Substrates;
Bertness, K.A.; Kramer, C.; Olson, J.M.; Moreland, J.
J. Elect. Mat. 23(2): 195-200; 1994.

Aspects of a Deformable Superconductor Model for the Vortex Mass;

Coffey, M.W.

J. Low Temp. Physics 96(1/2): 80-89; 1994.

Crossover in the Pinning Mechanism of Anisotropic Fluxon Cores ;

Cooley, L.D.; Gurevich, A.; Larbalestier, D.C.

Proc., 7th Intl. Workshop on Critical Currents in Supercond., Jan 24-27, 1994, Alpbach, Austria, pp. 573-576; 1994.

Growth of Epitaxial KNbO₃ Thin Films;

Graettinger, T.M.; Kingon, A.I.; Lichtenwalner, D.J.; Chow, A.F.; Morris, P.A.; Roshko, A.; Auciello, O.

Proc., Matls. Res. Soc. Symp.; Apr. 5-7, 94, San Francisco, CA, 265-276; 1994.

Fabrication Issues in Optimizing YBa₂Cu₃O_{7-x} Flux Transformers for low 1/f Noise;

Ludwig, K.F.; Dantsker, E.; Nemeth, D.T.; Koelle, D.; Miklich, A.H.; Clarke, J.; Knappe, S.; Koch, H.; Thomson, R.E.

Supercond. Sci. Technol. 7: 273-276; 1994.

Tunneling Spectroscopy of Thallium-Based High-Temperature Superconductors;

Moreland, J.

Thallium-Based High-Temperature Superconductors, Marcel Dekker, Inc., New York, NY, pp 569-577; 1994.

Progress towards Contact Mode Potentiometry;

Moreland, J.; Prater, C.

NIST 5550, Workshop Summary Report: Industrial Applications of Scanned Probe Microscopy, Dagata, J.; Diebold, A.; Shih, C.; Colton, R., eds.: 101-1021; 1994.

The Superconducting Energy Gap of Ube₁₃;

Moreland, J.; Clark, A.F.; Soulen, R.J.; Smith, J.L.

Physica B 194-196: 1724; 1994.

Epitaxial Growth and Characterization of the Ordered Vacancy Compound CuIn₃Se₅ ON GAAS (100) Fabricated by Molecular Beam Epitaxy;

Nelson, A.J.; Bode, M.; Borner, G.; Sinha, K.; Moreland, J.

Proc., Mater. Res. Soc. Conf. (MRS), Apr. 4-8, 1994, San Francisco, CA; 1994.

DC Magnetic Force Microscopy of Thin Film Recording Heads;

Rice, P.; Moreland, J.

NIST 5550, Workshop Summary Report: Industrial Applications of Scanned Probe Microscopy, Dagata, J.; Diebold, A.; Shih, C.; Colton, R., eds.: 114-115; 1994.

Surface Degradation of Superconducting YBa₂Cu₃O_{7-δ} Thin Films;

Russek, S.E.; Sanders, S.C.; Roshko, A.; Ekin, J.W.

Appl. Phys. Lett. 64: 3649; 1994.

Surface Modification of YBa₂Cu₃O_{7-δ} Thin Films Using the Scanning Tunneling Microscope: Five Methods;

Thomson, R.E.; Moreland, J.; Roshko, A.

Nanotechnology 5: 57-69; 1994.

Superconductor and Magnetic Measurement

VAMAS Intercomparison of Critical Current Measurements on Nb₃Sn Superconductors: A Summary Report;
Wada, H.; Walters, C.R.; Goodrich, L.F.; Tachikawa, K.
Cryogenics, 34(11): 899-908; 1994.

Recent Results in Magnetic Force Microscopy;
Wadas, A.; Rice, P.; Moreland, J.
Appl. Phys. A, Solids and Surfaces 59: 63-67; 1994.

Temperature and Field Dependence of Flux Pinning in NbTi with Artificial Pinning Centers;
Wipf, S.L.; Cooley, L.D.
Proc., 7th Intl. Workshop on Critical Currents in Supercond., Jan.24-27, 1994, Alpbach,
Austria, pp. 613-616; 1994.

Coexistence of Grains with Differing Orthorhombicity in High Quality YBCO Thin Films;
de Obaldia, E.I.; Ludwig, K.F.; Berkowitz, S.J.; Clark, A.M.; Skocpol, W.J.; Mankiewich, P.M.;
Rudman, D.A.; Roshko, A.; Moerman, R.; Vale, L.R.; Ono, R.H.
Appl. Phys. Lett. 65(26): 3395-3397; Dec 1994.

Passively Q-switched Nd-doped Waveguide Laser;
Aust, J.A.; Malone, K.J.; Veasey, D.L.; Sanford, N.A.; Roshko, A.
Opt. Lett. 19(22): 1849-1851; Nov 15, 1994.

Size and Self-Field Effects in Giant Magnetoresistive Thin-film Devices;
Cross, R.W.; Russek, S.E.; Sanders, S.C.; Parker, M.R.; Barnard, J.A.; Hossain, S.A.
IEEE Trans. Magn. 30(6): 3825-3827; Nov 1994.

Superconductor Critical Current Standards for Fusion Applications;
Goodrich, L.F.; Wiejaczka, J.A.; Srivastava, A.N.; Stauffer, T.C.
NISTIR 5027; Nov 1994.

Anisotropic Flux Pinning in a Network of Planar Defects;
Gurevich, A.; Cooley, L.D.
Phys. Rev. B 50(18): 563-576; Nov 1994.

Improved Eddy-Current Decay Method for Resistivity Characterization;
Kos, A.B.; Fickett, F.R.
IEEE Trans. Magn. 30(6): 4560-4562; Nov 1994.

Comparison of Magnetic Fields of Thin-Film Heads and Their Corresponding Bit Patterns Using Magnetic Force
Microscopy;
Rice, P.; Moreland, J.; Hallett, B.
IEEE Trans. Magn. 30 (6): 4248-4250; Nov 1994.

Insulating Boundary Layer and Magnetic Scattering in YBa₂Cu₃O_{7-δ}/Ag Interfaces over a Contact Resistivity Range
of 10⁻⁸-10⁻³ohm cm²;
Sanders, S.C.; Russek, S.E.; Clickner, C.C.; Ekin, J.W.
Appl. Phys. Lett. 65(17): 2232-2234; Oct 24, 1994.

Apparatus for Resistance Measurement of Short, Small Diameter Conductors;
Thompson, C.A.
IEEE Trans. Instrum.& Meas. 43(4): 675-677; Aug 1994.

Comparing the Accuracy of Critical-Current Measurements Using the Voltage-Current Simulator;
Aized, D.; Haddad, J.W.; Joshi, C.H.; Goodrich, L.F.; Srivastava, A.N.
IEEE Trans. Magn. 30(4): 2014-2017; Jul 1994.

Flexible-Diaphragm Force Microscope;
Rice, P.; Moreland, J.
J. Vacuum Science Tech. B 12(4): 2465-2466; Jul/Aug 1994.

Effect of Strain on the Critical Current of High-Tc Bi Superconductors and an Epoxy-Impregnated Bi Superconducting Coil;
Ekin, J.W.; Bray, S.L.; Joshi, C.H.; Rodenbush, A.J.; Motowidlo, L.R.; Haldar, P.
Critical Currents in Superconductors, H.W. Weber, ed., World Scientific: 659--662; Jun 94.

High Current Pressure Contacts to Ag Pads on Thin Film Superconductors;
Goodrich, L.F.; Srivastava, A.N.; Stauffer, T.C.; Roshko, A.; Vale, L.R.
IEEE Trans. Appl. Supercond. 4(2): 61-64; Jun 1994.

Scanning and Tunneling Microscopy of the Charge-Density-Wave Structure in 1T-TaS₂;
Thomson, R.E.; Burk, B.; Zettl, A.; Clarke, J.
Phys. Rev. B 49(24): 16899-16916; Jun 15, 1994.

Proposed Antiferromagnetically Coupled Dual-Layer Magnetic Force Microscope Tips;
Oti, J.O.; Rice, P.; Russek, S.E.
J. Appl. Phys. 75(10): 6881-6883; May 15, 1994.

Magnetic and Magnetoresistive Properties of Inhomogeneous Magnetic Dual-Layer Films;
Oti, J.O.; Russek, S.E.; Sanders, S.C.
J. Appl. Phys. 75(10): 6519-6521; May 15, 1994.

DC Magnetic Force Microscopy Imaging of Thin-Film Recording Head;
Rice, P.; Moreland, J.; Wadas, A.
J. Appl. Phys. 75(10): 6878-6880; May 15, 1994.

Deformable Superconductor Model for the Fluxon Mass;
Coffey, M.W.
Phys. Rev. B 49(14): 9774-9777; Apr 1, 94-II.

Novel YBa₂Cu₃O_{7-x} and YBa₂Cu₃O_{7-x}/Y₄Ba₃O₉ Multilayer Films by Bias-Masked "On-Axis" Magnetron Sputtering;
Xu, J.-H.; Zheng, G.-G.; Grishin, A.M.; Moon, B.M.; Rao, K.V.; Moreland, J.
Appl. Phys. Lett. 64(14): 1874-1876; Apr 4, 1994.

Reduction of Interfilament Contact Loss in Nb₃Sn Superconductor Wires;
Goldfarb, R.B.; Itoh, K.
J. Appl. Phys. 75(4): 2115-2118; Feb 15, 1994.

Microwave Properties of YBa₂Cu₃O_{7-x} Films at 35 GHz from Magnetotransmission and Magnetoreflection Measurements;
Moser, E.K.; Tomasch, W.J.; McClorey, M.J.; Furdyna, J.K.; Coffey, M.W.; Pettiette-Hall, C.L.; Schwarzbek, S.M.
Phys. Rev. B 49(6): 4199-4208; Feb 1, 94-II.

Superconductor and Magnetic Measurement

Micromagnetic Scanning Microprobe System;
Thompson, C.A.; Cross, R.W.; Kos, A.B.
Rev. Sci. Instrum. 65(2): 383-389; Feb 1994.

Magnetic Force Microscopy Images of Magnetic Garnet with Thin-Film Magnetic Tip;
Wadas, A.; Moreland, J.; Rice, P.; Katti, R.R.
Appl. Phys. Lett. 64(9): 1156-1158; Feb 28, 1994.

Electromechanical Characteristics of Superconductors for DOE Fusion Applications;
Ekin, J.W.
NISTIR 5013; Jan 1994.

Cryogenic Properties of Silver;
Smith, D.R.; Fickett, F.R.
NIST TN 1363 (a wall chart); Jan 1994.

Effects of Critical Current Density, Equilibrium Magnetization and Surface Barrier on Magnetization of High Temperature Superconductors;
Chen, D.-X.; Cross, R.W.; Sanchez, A.
Cryogenics 33(7): 695-703; 1993.

Preparation of Low Resistivity Contacts for High-T_c Superconductors;
Ekin, J.W.
Processing and Properties of High-Temperature Superconductors Vol. 1, Chapter 9, pp. 371-407, World Scientific Publishing Co. Pte. Ltd., Singapore; 1993.

Volume Magnetic Hysteresis Loss of Nb₃Sn Superconductors as a Function of Wire Length;
Goldfarb, R.B.
Proc., 8th U.S.-Japan Workshop on High-Field Superconducting Materials, Wires and Conductors and Standard Procedures for High-Field Superconducting Wires Testing, Mar 17-19, 1993, Madison, WI, p 1972; 1993.

Magnetic Measurement of Transport Critical Current Density of Granular Superconductors;
Goldfarb, R.B.; Cross, R.W.; Goodrich, L.F.; Bergren, N.F.
Cryogenics 33(1): 3-7; 1993.

Standard Reference Devices for High Temperature Superconductor Critical Current Measurements;
Goodrich, L.F.; Srivastava, A.N.; Stauffer, T.C.
Cryogenics 33(12): 1142-1148; 1993.

Flux Expulsion at Intermediate Fields in Type II Superconductors;
Hyun, O.B.
Physica C 206: 169-175; 1993.

Harmonic and Static Susceptibilities of YBa₂Cu₃O₇;
Ishida, T.; Goldfarb, R.B.; Okayasu, S.; Kazumata, Y.; Franz, J.; Arndt, T; Schauer, W.
Mat. Sci. Forum 137-139: 103-132; 1993.

Critical-Current Degradation in Nb₃Al Wires Due to Axial and Transverse Stress;
Kuroda, T.; Wada, H.; Bray, S.L.; Ekin, J.W.
Fusion Eng. Design: 20; 271-275; 1993.

Magnetic Force Microscopy of Flux in Superconductors;

Moreland, J.; Rice, P.; Wadas, A.

Proc., 1993 Intl. Workshop on Supercond., Jun 28-Jul 1, 1993, Hakodate, Japan, pp 77-80; 1993.

Tunneling Stabilized Magnetic-Force Microscopy;

Moreland, J.

Proc., 51st Annual Mtg. of the Microscopy Soc. of America, held Aug 2-6, 1993, Cincinnati, OH, pp 1034-1035; 1993.

Growth of Laser Ablated $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ Films as Examined by RHEED and Scanning Tunneling Microscopy;

Russek, S.E.; Roshko, A.; Sanders, S.C.; Rudman, D.A.; Ekin, J.W.; Moreland, J.

Proc., Mater. Res. Soc. Symp. 285: 305-310; 1993.

Observation of Insulating Nanoparticles on YBCO Thin-Films by Atomic Force Microscopy;

Thomson, R.E.; Moreland, J.; Missett, N.; Rudman, D.A.; Sanders, S.C.

Proc., 1993 Intl. Workshop on Supercond., Jun 28-Jul 1, 1993, Hakodate, Japan, pp 242-243; 1993.

Numerical Micromagnetic Techniques and Their Applications to Magnetic Force Microscopy Calculations;

Oti, J.O.

IEEE Trans. Magn. 29(6): 2359-2364; Nov 1993.

An Analysis of the Impact on U.S. Industry of the NIST/Boulder Superconductivity Programs: An Interim Study;

Peterson, R.L.

NISTIR 5012, 29 pp; Nov 1993.

Transverse Thermomagnetic Effects in the Mixed State and Lower Critical Field of High- T_c Superconductors;

Coffey, M.W.

Phys. Rev. B 48(13): 9767-9771; Oct 1, 93-I.

Surface Barrier and Lower Critical Field in $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ Superconductors;

Chen, D.-X.; Goldfarb, R.B.; Cross, R.W.; Sanchez, A.

Phys. Rev. B 48(9): 6426-6430; Sep 93-I.

Surface Topography and Ordering-Variant Segregation in GaInP_2 ;

Friedman, D.J.; Zhu, J.G.; Kibbler, A.E.; Olson, J.M.; Moreland, J.

Appl. Phys. Lett 63(13): 1774-1776; Sep 27, 1993.

Insulating Nanoparticles on $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ Thin Films Revealed by Comparison of Atomic Force and Scanning Tunneling Microscopy;

Thomson, R.E.; Moreland, J.; Missett, N.; Rudman, D.A.; Sanders, S.C.; Cole, B.F.

Appl. Phys. Lett. 63(5): 614-616; Aug 2, 1993.

Experimental Aspects of Flux Expulsion in Type-II Superconductors;

Hyun, O.B.

Phys. Rev. B 48(2): 1244-1248; Jul 1, 1993.

Nonlinear Response of Type-II Superconductors in the Mixed State in Slab Geometry;

Coffey, M.W.

Phys. Rev. B 47(22): 15298-15301; Jun 1, 93-II.

Superconductor and Magnetic Measurement

High-Frequency Linear Response of Anisotropic Type-II Superconductors in the Mixed State;
Coffey, M.W.
Phys. Rev. B 47(18): 12284-12287; May 1, 93-II.

Micromagnetic Simulations of Tunneling Stabilized Magnetic Force Microscopy;
Oti, J.O.; Rice, P.
J. Appl. Phys. 73(10): 5802-5804; May 15, 1993.

Experimental Verification of a Micromagnetic Model of Dual-Layer Magnetic Films;
Oti, J.O.; Russek, S.E.
J. Appl. Phys. 73(10): 5845-5847; May 15, 1993.

Thermally Activated Hopping of a Single Abrikosov Vortex;
Sanders, S.C.; Sok, J.; Finnemore, D.K.; Li, Q.
Phys. Rev. B 47(14): 8996-9000; Apr 1, 93-II.

Critical-Current Degradation in Multifilamentary Nb₃Al Wires from Transverse Compressive and Axial Tensile Stress;
Bray, S.L.; Ekin, J.W.; Kuroda, T.
IEEE Trans. Appl. Supercond. 3(1): 1338-1341; Mar 1993.

n-Value and Second Derivative of the Superconductor Voltage-Current Characteristic;
Goodrich, L.F.; Srivastava, A.N.; Yuyama, M.; Wada, H.
IEEE Trans. Appl. Supercond. 3(1): 1265-1268; Mar 1993.

Scanned Probe Microscopy of YBa₂Cu₃O_x Thin-Film Device Structures on Si Substrates;
Moreland, J.; Harvey, T.E.; Ono, R.H.; Roshko, A.
IEEE Trans. Appl. Supercond. 3(1): 1586-1589; Mar 1993.

Transmission and Reflection of Superconducting YBa₂Cu₃O_{7-x} Films at 35 GHz;
Moser, E.K.; Tomasch, W.J.; Furdyna, J.K.; Coffey, M.W.; Clem, J.R.
IEEE Trans. Appl. Supercond. 3(1): 1119-1122; Mar 1993.

A Micromagnetic Model of Dual-Layer Magnetic-Recording Thin Films;
Oti, J.O.
IEEE Trans. Magn. 29(2): 1265-1275; Mar 1993.

Influence of Deposition Parameters on Properties of Laser Ablated YBa₂Cu₃O_{7-δ};
Roshko, A.; Rudman, D.A.; Vale, L.R.; Goodrich, L.F.; Moreland, J.; Beck, H.L.
IEEE Trans. Appl. Supercond. 3(1): 1590-1593; Mar 1993.

Critical Current Density, Irreversibility Line, and Flux Creep Activation Energy in Silver-Sheathed Bi₂Sr₂Ca₂Cu₃O_x Superconducting Tapes;
Shi, D.; Wang, Z.; Sengupta, S.; Smith, M.; Goodrich, L.F.; Dou, S.X.; Liu, H.K.; Guo, Y.C.
IEEE Trans. Appl. Supercond. 3(1): 1194-1196; Mar 1993.

In-Situ Noble Metal YBa₂Cu₃O₇ Thin-Film Contacts;
Ekin, J.W.; Russek, S.E.; Clickner, C.C.; Jeanneret, B.
Appl. Phys. Lett. 62(4): 369-371; Jan 25, 1993.

Critical-Current Degradation in Nb₃Sn Composite Wires Due to Locally Concentrated Transverse Stress;
Bray, S.L.; Ekin, J.W.
Adv. Cryo. Eng. Mater. Vol. 38, pp 643-646; 1992.

Transport Current Effects on Flux Creep and Magnetization in NbTi Multifilament Cable Strands;

Cross, R.W.

Adv. Cryo. Eng. Mater. 38B: 731-736; 1992.

Critical Magnetic-Field Angle for High-Field Current Transport in $\text{YBa}_2\text{Cu}_3\text{O}_7$ at 76 K;

Ekin, J.W.

Cryogenics 32(11): 1089-1092; 1992.

Superconductor Specification;

Ekin, J.W.

Concise Encyclopedia of Magnetic & Superconducting Materials, ed. by J.E. Evetts, pp 578-583; 1992.

Improved Uniaxial Strain Tolerance on the Critical Current Measured in Ag-Sheathed $\text{Bi}_2\text{Sr}_2\text{Ca}_1\text{Cu}_2\text{O}_{+x}$ Superconductors;

Ekin, J.W.; Bray, S.L.; Miller, T.A.; Finnemore, D.K.; Tenbrink, J.

Adv. Cryo. Eng. Mater. 38B: 1041-1043; 1992.

Low Temperature Magnetic Behavior of 'Nonmagnetic' Materials;

Fickett, F.R.

Adv. Cryo. Eng. Mater. 38B: 1191-1197; 1992.

Magnetic Units and Material Specification;

Goldfarb, R.B.

Concise Encyclopedia of Magnetic & Superconducting Materials, pp 253-258; 1992.

Demagnetizing Factors;

Goldfarb, R.B.

Concise Encyclopedia of Magnetic & Superconducting Materials, pp 103-14; 1992.

Critical-Current Simulation and Data Acquisition;

Goodrich, L.F.; Srivastava, A.N.

Superconductor Industry 5: 28-36; 1992.

Comparison of Transport Critical Current Measurement Methods;

Goodrich, L.F.; Srivastava, A.N.

Adv. Cryo. Eng. Mater. Vol. 38, pp 559-566; 1992.

Fabrication of Nanometer Smooth $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+\delta}$ Films by Reactive Co-Sputtering from Elemental Targets with Pure Ozone;

Kucera, J.T.; Rubin, L.M.; Uwia, K.; Perkins, J.D.; Graybeal, J.M.; Orlando, T.P.; VanderSande, J.B.; Roshko, A.; Moreland, J.

Physica C 192: 23-30; 1992.

Critical-Current Degradation in Nb_3Al Wires Due to Axial and Transverse Stress;

Kuroda, T.; Wada, H.; Bray, S.L.; Ekin, J.W.

Proc., Tokai Conf. on Superconductors; 1992.

Correlation between T_c and Elastic Constants of $(\text{La}-\text{M})_2\text{CuO}_4$;

Ledbetter, H.; Kim, S.H.; Roshko, A.

Z. Phys. B Condensed Matter 89: 275-277; 1992.

Superconductor and Magnetic Measurement

Dynamic Resistance of Superconducting $\text{YBa}_2\text{Cu}_3\text{O}_x$ Sintered Powder at 81 K: Liquid Versus Vapor Nitrogen Environment;

Moreland, J.; Dube, W.P.; Goodrich, L.F.
Adv. Cryo. Eng. Mater. 38B: 965-972; 1992.

Electrical Resistivity of Copper Alloys Between 76 K and 300 K;

Thompson, C.A.; Fickett, F.R.
Adv. Cryo. Eng. Mater. 38B: 1177-1182; 1992.

The Bi-Sr-Ca-Cu-O Thin Film Energy Gap as a Function of Temperature and Force Applied to Squeezable Electron Tunneling Junctions;

Walsh, T.; Moreland, J.; Ono, R.H.; Kalkur, T.S.
Phys. Rev. B Rapid Comm. 43: 11; 1992.

Offset Susceptibility of Superconductors;

Ishida, T.; Goldfarb, R.B.; Kos, A.B.; Cross, R.W.
Phys. Rev. B 46(18): 12080-12083; Nov 1, 1992.

Local Magnetoresistive Response in Thin-Film Ni-Fe Read Elements: A Sub-Micrometer-Resolution Measurement System;

Cross, R.W.; Kos, A.B.; Thompson, C.A.; Petersen, T.W.; Brug, J.A.
IEEE Trans. Magn. MAG-28(5): 3060-3065; Sept 1992.

Domain Imaging in Magnetic Garnets Using Tunneling-Stabilized Magnetic Force Microscopy;

Katti, R.R.; Rice, P.; Wu, J.C.; Stadler, H.L.
IEEE Trans. Magn. MAG-28(5): 2913-2915; Sept 1992.

Effect of Axial Strain on the Critical Current of Ag-Sheathed Bi-Based Superconductors in Magnetic Fields up to 25 T;

Ekin, J.W.; Finnemore, D.K.; Miller, T.A.; Li, Q.; Tenbrink, J.; Carter, W.
Appl. Phys. Lett. 61(7): 858-860; Aug 1992.

Characterizing Differential Air-Core Eddy Current Probes;

Capobianco, T.E.; Ciciora, S.J.
Review of Progress in Quantitative Nondestructive Evaluation, Vol. 10A, New York: Plenum Press, pp 897-903; 1991.

High Transport Current Density in Bulk $\text{YBa}_2\text{Cu}_3\text{O}_7$ at Liquid Nitrogen Temperature in Magnetic Fields up to 30 T;

Ekin, J.W.; Salama, K.; Selvamanickam, V.
Nature 350: 26; 1991.

Alternating-Field Susceptometry and Magnetic Susceptibility of Superconductors;

Goldfarb, R.B.; Lelement, M.; Thompson, C.A.
Magnetic Susceptibility of Superconductors and Other Spin Systems, R. A. Hein, T. L. Francavilla, and D. H. Liebenberg, Editors, New York: Plenum Press, pp 49-80; 1991.

Critical Current Measurements on High T_c Superconductors;

Goodrich, L.F.
Report of the Third Annual U.S.-Japan Workshop on Superconductors, New York State Institute on Superconductivity, Buffalo, NY, pp 64-68; 1991.

Switching Voltages in High T_c Current Transport Measurements;
Goodrich, L.F.; Moreland, J.; Roshko, A.
IEEE Trans. Magn. MAG-27: 1194; 1991.

Static and Nonlinear Complex Susceptibility of YBa₂Cu₃O₇;
Ishida, T.; Goldfarb, R.B.; Okayasu, S.; Kazumata, Y.
Physica C 185-189: 2515-2516; 1991.

Anisotropic Weak-Link Properties and Intergranular Lower Critical Field of Grain-Aligned YBa₂Cu₃O_x;
Loughran, R.J.; Goldfarb, R.B.
Physica C 181: 138-142; 1991.

Imaging Magnetic Bit Patterns Using a Scanning Tunneling Microscope with a Flexible Tip; ;
Moreland, J.; Rice, P.
Proc., Mater. Res. Soc., Apr 29-May 3, 1991, Anaheim, CA, Vol. 232, pp 141-146; 1991.

High T_c Superconductor Films on Silicon Wafers;
Moreland, J.; Kreider, K.G.; Cline, J.P.; Shapiro, A.
Thin Solid Films 195: 117-125; 1991.

Tunneling Measurements of the Zero Bias Conductance Peak and the BSCCO Energy Gap;
Walsh, T.; Moreland, J.; Ono, R.H.; Kalkur, T.S.
Phys. Rev. Lett. 66: 516; 1991.

Trends in Superconductor Critical-Current Measurement Technology in the USA;
Goodrich, L.F.; Srivastava, A.N.
Proc., Intl. Symp. on Pre-Stands. Res. for Advanced Materials, Dec 16-18, 1991, Tokyo,
Japan, pp 297-300; Dec 1991.

Scanning Tunneling Microscopy of the Surface Morphology of YBa₂Cu₃O_x Thin-Films Between 300 K and 76 K;
Moreland, J.; Rice, P.; Russek, S.E.; Jeanneret, B.; Roshko, A.; Rudman, D.A.; Ono, R.H.
Appl. Phys. Lett. 59(23): 3039-3041; Dec 2, 1991.

Critical Currents in Silver-Sheathed (Bi,Pb)₂Sr₂Ca₂Cu₃O_{10-y} Superconducting Tapes;
Shi, D.; Salem-Sugui, S.; Wang, Z.; Goodrich, L.F.; Dou, S.X.; Liu, H.K.; Guo, Y.C.; Sorrell, C.C.
Appl. Phys. Lett. 59(24): 3171-3173; Dec 9, 1991.

Effect of Cable and Strand Twist-Pitch Coincidence on the Critical Current of Flat, Coreless Superconductor
Cables;
Ekin, J.W.
Appl. Phys. Lett. 59(20): 2615-2617; Nov 11, 1991.

Simulators of Superconductor Critical Current: Design, Characteristics, and Applications;
Goodrich, L.F.; Srivastava, A.N.; Stauffer, T.C.
NIST JRES 96(6): 703-724; Nov-Dec 1991.

Tunneling Stabilized Magnetic Force Microscopy of YBa₂Cu₃O_{7-δ} Films on MgO at 76 K;
Rice, P.; Moreland, J.
IEEE Trans. Mag. 27(6); 5181-5183; Nov 1991.

Superconductor and Magnetic Measurement

Transverse Stress and Crossover Effect in Nb₃Sn;

Ekin, J.W.; Bray, S.L.

Proc., 7th US-Japan Workshop on High-Field Superconducting Materials, Wires and Conductors, Fukuaka, JAPAN, Oct 21, 1991: 88-92; Oct 1991.

Mechanical and Magnetic-Field-Angle Properties of High-Tc Superconductors;

Ekin, J.W.

Proc., 7th US-Japan Workshop on High-Field Superconducting Materials, Wires and Conductors, Fukuaka, JAPAN, Oct 21, 1991: 172-177; Oct 1991.

Alternating-Field Susceptometry and Magnetic Susceptibility of Superconductors;

Goldfarb, R.B.; Lelental, M.; Thompson, C.A.

NISTIR 91-3977; Oct 1991.

Magnetization Changes in Low-Carbon, Ni-Cr-Mo and High-Strength-Low-Alloy Steels as a Function of Stress;

Petersen, T.W.

NISTIR 3962; Sep 1991.

Magnetic Measurements for High Energy Physics Applications, Final Report;

Goldfarb, R.B.

NISTIR 3975, 72 pp; Aug 1991.

High T_c Superconductor Voltage-Current Simulator and the Pulse Method of Measuring Critical Current;

Goodrich, L.F.

Cryogenics 31: 720-727; Aug 1991.

High-Transport Critical Density up to 30 T in Bulk YBa₂Cu₃O₇ and the Critical Angle Effect;

Ekin, J.W.; Salama, K.; Selvamanickam, V.

Appl. Phys. Lett. 59(3): 360-362; Jul 15, 1991.

Tunneling Stabilized, Magnetic Force Microscopy with a Gold-Coated, Nickel-Film Tip;

Moreland, J.; Rice, P.

J. Appl. Phys. 70(1): 520-522; Jul 1991.

Tunneling-Stabilized Magnetic Force Microscopy of Bit Tracks on a Hard Disk;

Rice, P.; Moreland, J.

IEEE Trans. Magn. MAG-27(3): 3452-3454; May 1991.

Bi-Sr-Ca-Cu-O Thin-film Energy Gap as a Function of Temperature and Force Applied to Squeezable-electron-tunneling Junctions;

Walsh, T.; Moreland, J.; Ono, R.H.; Kalkur, T.S.

Phys. Rev. B 43(13): 492-495; May 1991.

Effect of Transverse Stress on the Critical Current of Bronze-Process and Internal-Tin NB₃Sn;

Ekin, J.W.; Bray, S.L.; Bahn, W.L.

J. Appl. Phys. 69(8): 4436-4438; Apr 5, 1991.

Hall Probe Magnetometer for SSC Magnet Cables: Effect of Transport Current on Magnetization and Flux Creep;

Cross, R.W.; Goldfarb, R.B.

IEEE Trans. Magn. MAG-27(2): 1796-1798; Mar 1991.

Tunneling Stabilized Magnetic Force Microscopy: Prospects for Low Temperature Applications to Superconductors;

Moreland, J.; Rice, P.

IEEE Trans. Magn. MAG-27(2): 1198; Mar 1991.

Effect of Mechanical Deformation on Nb-Ti Filament Proximity-Effect Coupling at the Edges of SSC Cables;

Petersen, T.W.; Goldfarb, R.B.

IEEE Trans. Magn. MAG-27(2): 1809-1810; Mar 1991.

Morphology of Silver on $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ Thin Films;

Roshko, A.; Ono, R.H.; Beall, J.A.; Moreland, J.; Nelson, A.J.; Asher, S.E.

IEEE Trans. Magn. MAG-27(2): 1616-1618; Mar 1991.

Properties of $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ Thin Films Grown on Off-Axis-Cut MgO Substrates;

Russek, S.E.; Jeanneret, B.; Rudman, D.A., Ekin, J.W.

IEEE Trans. Magn. MAG-27(2); Mar 1991.

Anomalous Low-Frequency Butterfly Curves for Subsidiary and Ferromagnetic Resonance Overlap at 3 GHz;

Cross, R.W.; Patton, C.E.; Srinivasan, G.; Booth, J.G.; Chen, M.L.

J. Appl. Phys. 69(3): 1569-1573; Feb 1, 1991.

Transport Critical Current of Aligned Polycrystalline $\text{Y}_1\text{Ba}_2\text{Cu}_3\text{O}_{7-\delta}$ and Evidence for a Nonweak-Linked Component of Intergranular Current Conduction;

Ekin, J.W.; Hart, H.R., Jr.; Gaddipati, A.R.

J. Appl. Phys. 68(5); Sep 1, 90. ERRATA: J. Appl. Phys. 69(4); Feb 15, 1991.

Enhanced Flux Creep in Nb-Ti Superconductors After an Increase in Temperature;

Cross, R.W.; Goldfarb, R.B.

Appl. Phys. Lett. 58(4): 415-416; Jan 28, 1991.

Eddy Current Probe Sensitivity as a Function of Coil Construction Parameters;

Capobianco, T.E.; Splett, J.; Iyer, H.

Research in Nondestructive Evaluation 2: 169-186; 1990.

AC Loss Measurements of Two Multifilamentary NbTi Composite Strands;

Collings, E.W.; Marken, K.R., Jr.; Sumption, M.D.; Goldfarb, R.B.; Loughran, R.J.

Adv. Cryo. Eng. Mater., Vol. 36, pp 169-176; 1990.

Ohmic Contacts to High-T_c Superconductors;

Ekin, J.W.

Proc., Soc. Photo-Opt. Instrum. Engrs. 1187: 359-364; 1990.

Standard Reference Materials for Eddy Current Nondestructive Evaluation: Research Material 8458;

Fickett, F.R.; Capobianco, T.E.

Proc., Measurement Science Conf., Feb 8-9, 1990, Anaheim, CA; 1990.

Anomalous Magnetoresistance in Al/AL-Alloy Composite Conductors;

Fickett, F.R.; Thompson, C.A.

Adv. Cryo. Eng. Mater., Vol. 36A, pp 671-678; 1990.

Magnetic Susceptibility of Inconels 718, 625, and 600 at Cryogenic Temperatures;

Goldberg, I.B.; Mitchell, M.R.; Murphy, A.R.; Goldfarb, R.B.; Loughran, R.J.

Adv. Cryo. Eng. Mater., Vol. 36, pp 755-762; 1990.

Superconductor and Magnetic Measurement

Fundamental and Harmonic Susceptibilities of $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$;
Goldfarb, R.B.; Ishida, T.
Phys. Rev. B 41: 8937-8948; 1990.

Magnetic Characteristics and Measurements of Filamentary Nb-Ti Wire for the Superconducting Super Collider;
Goldfarb, R.B.; Spomer, R.L.
Adv. Cryo. Eng. Mater., Vol. 36, pp 215-222; 1990.

Critical Current Measurement of High- T_c Superconductors;
Goodrich, L.F.
Proc., Third Ann. U.S.-Japan Workshop on Superconductors, Sep 20-21, 1990, Buffalo, NY,
pp 64-68; 1990.

Development of Standards for Superconductors, Final Report, Jan 1988-Dec 1989;
Goodrich, L.F.; Goldfarb, R.B.; Bray, S.L.
NISTIR 90-3935, 148 pp; 1990.

Novel Procedure for Mapping the J_c - H_{c2} - T_c Surface and its Application to High Temperature Superconductors;
Moreland, J.; Li, Y.K.; Goodrich, L.F.; Roshko, A.; Ono, R.H.
Science and Technology of Thin-Film Superconductors 2, New York: Plenum, pp 429-438;
1990.

Break Junction Tunneling Spectroscopy of Single-Crystal Bismuth-Based High-Temperature Superconductors;
Moreland, J.; Chiang, C.K.; Swartzendruber, L.J.
Adv. Cryo. Eng. Mater., Vol. 36, pp 619-625; 1990.

Possible Proximity Matrix Route to High Current Conductors;
Moreland, J.; Li, Y.K.; Ekin, J.W.; Goodrich, L.F.
Adv. Cryo. Eng. Mater., Vol. 36, 413-421; 1990.

Origin of Grain Boundary Weak Links in $\text{BaPb}_{1-x}\text{Bi}_x\text{O}_3$ Superconductors;
Takagi, T.; Chiang, Y.-M.; Roshko, A.
J. Appl. Phys., 68(11): 5750-5758; 1990.

Magnetoresistance of Multifilament Al/Al-Alloy Conductors;
Thompson, C.A.; Fickett, F.R.
Adv. Cryo. Eng. Mater., Vol. 36, pp 663-669; 1990.

Transport Critical Current of Aligned Sintered $\text{Y}_1\text{Ba}_2\text{Cu}_3\text{O}_{7-\delta}$ and Evidence for a Nonweak-Linked Component of Intergranular Current Conduction;
Ekin, J.W.; Hart, H.R., Jr.; Gaddipati, A.R.
J. Appl. Phys. 68(5): 2285-2295; Sep 1, 1990.

Software Techniques to Improve Data Reliability in Superconductor and Low-Resistance Measurements;
Goodrich, L.F.; Srivastava, A.N.
NIST JRES 95(5): 575-589; Sep-Oct 1990.

High- T_c Superconductors and the Critical-Current Measurement;
Goodrich, L.F.; Bray, S.L.
Cryogenics 30: 667-677; Aug 1990.

Prospects for High Temperature Superconductor-Semiconductor Contacts;

Moreland, J.; Ekin, J.W.; Larson, T.M.

New Technology in Electronic Packaging, B.R. Livesay and M.D. Nagarkar, eds., ASM Intl., Materials Park, OH, pp 195-201; Aug 1990.

High-Resolution, Tunneling-Stabilized Magnetic Imaging and Recording;

Moreland, J.; Rice, P.

Appl. Phys. Lett. 57(3): 310-312; Jul 16, 1990.

Current Supply for High-T_c Superconductor Testing;

Bray, S.L.; Goodrich, L.F.:

Meas. Sci. Technol. 1(6): 491-494; Jun 1990.

Magnetic Properties of NiMnSb Films;

Kabani, R.; Terada, M.; Roshko, A.; Moodera, J.S.

J. Appl. Phys. 67(9): 4898-4900; May 1, 1990.

Eddy Current Probe Characterization Using an Impedance Plane Display Instrument;

Capobianco, T.E.

Proc., 38th Defense Conf. on NDT, Oct 31-Nov 2, 1989, San Antonio, TX, pp 193-201; 1989.

Double-Step Behavior of Critical Current vs. Magnetic Field in Y-;

Ekin, J.W.; Larson, T.M.; Hermann, A.M.; Sheng, Z.Z.; Togano, K.; Kumakura, H.

Physica C 160: 489-496; 1989.

Critical Currents of High-T_c Superconductors: Pinning, Weak Links, Conduction Anisotropy, and Contact Resistivities;

Ekin, J.W.; Peterson, R.L.; Bray, S.L.

Proc., 1988 Materials Research Soc. Intl. Mtg. on Advanced Materials, Tokyo, Japan, 6: 135-144; 1989.

VAMAS Interlaboratory Comparisons of Critical Current vs. Strain in Nb₃Sn Superconductors;

Ekin, J.W.;

Proc., 6th Japan-U.S. Workshop on High Field Superconductors, pp 94-98; 1989.

Dependence of the Critical Current on Angle between Magnetic Field and Current in Y-, Bi-, and Tl-Based High-T_c Superconductors;

Ekin, J.W.; Larson, T.M.

Proc., 6th Japan-U.S. Workshop on High Field Superconductors, pp 61-63; 1989.

Transverse Stress Effect on the Critical Current of Internal Tin and Bronze Process Nb₃Sn Superconductors;

Ekin, J.W.; Bray, S.L.; Danielson, P.; Smathers, D.; Sabatini, R.L.; Suenaga, M.

Proc., 6th Japan-U.S. Workshop on High Field Superconductors, pp 50-52; 1989.

Thermal Contraction of Fiberglass-Epoxy Sample Mandrels and its Effect on Critical-Current Measurements;

Goodrich, L.F.; Bray, S.L.; Stauffer, T.C.

Proc., 6th Japan-U.S. Workshop on High Field Superconductors, pp 91-93; 1989.

Integrity Tests for High-T_c and Conventional Critical-Current Measurements Systems;

Goodrich, L.F.; Bray, S.L.

Adv. Cryo. Eng. Mater., Vol. 36A, pp 43-50; 1989.

Superconductor and Magnetic Measurement

Thermal Contraction of Fiberglass-Epoxy Sample Holders Used for Nb₃Sn Critical-Current Measurements;
Goodrich, L.F.; Bray, S.L.; Stauffer, T.C.;
Adv. Cryo. Eng. Mater., Vol. 36A, pp 117-124; 1989.

S-N-S Behavior of Grain Boundaries in Polycrystalline La_{1.85}Sr_{0.15}CuO_{4,y};
Roshko, A.; Moodera, J.S.; Chiang, Y-H.
Proc., Intl. M2S-HTSC Conf., Jul 1989, Stanford, CA; Physica C 162-164: 1625-1626; 1989.

Electromechanical Properties of Superconductors for High-Energy Physics Applications;
Ekin, J.W.; Goodrich, L.F.; Bray, S.L.; Bergren, N.F.; Goldfarb, R.B.
NISTIR 89-3912, 154 pp; Nov 9, 1989.

Break Junction Measurement of the Tunneling Gap of a Thallium-Based High-Temperature Superconductor Crystal;
Moreland, J.; Ginley, D.S.; Venturini, E.L.; Morosin, B.
Appl. Phys. Lett. 55(14): 1463-1465; Oct 2, 1989.

Offset Criterion for Determining Superconductor Critical Current;
Ekin, J.W.
Appl. Phys. Lett. 55(9): 905-907; Aug 28, 1989.

Critical-Current Measurements of Nb₃Sn Superconductors: NBS Contribution to the VAMAS Round Robin;
Goodrich, L.F.; Bray, S.L.
Cryogenics 29: 699-709; Jul 1989.

Evidence for the Superconducting Proximity Effect in Junctions between the Surfaces of YBa₂Cu₃O_x Thin Films;
Moreland, J.; Ono, R.H.; Beall, J.A.; Madden, M.; Nelson, A.J.
Appl. Phys. Lett. 54(15): 1477-1479; Apr 10, 1989.

Flux Creep and Activation Energies at the Grain Boundaries of Y-Ba-Cu-O Superconductors;
Nikolo, M.; Goldfarb, R.B.
Phys. Rev. B 39(10): 6615-6618; Apr 1, 1989.

Magnetic Evaluation of Cu-Mn Material for Fine-Filament Nb-Ti Superconductors;
Goldfarb, R.B.; Ried, D.L.; Krelick, T.S.; Gregory, E.
IEEE Trans. Magn. MAG-25(2): 1953-1955; Mar 1989.

Nb₃Sn Critical Current Measurements on Tubular Fiberglass-Epoxy Mandrels;
Goodrich, L.F.; Bray, S.L.; Stauffer, T.C.
IEEE Trans. Magn. MAG-25(2): 2375-2378; Mar 1989.

Current Capacity Degradation in Superconducting Cable Strands;
Goodrich, L.F.; Bray, S.L.
IEEE Trans. Magn. MAG-25(2): 1949-1952; Mar 1989.

Resistance Measurements of High T_c Superconductors Using a Novel Bathysphere Cryostat;
Moreland, J.; Li, Y.; Folsom, R.M.; Capobianco, T.E.
IEEE Trans. Magn. MAG-25(2): 2560-2562; Mar 2, 1989.

Ag Screen Contacts to Sintered YBa₂Cu₃O_x Powder for Rapid Superconductor Characterization;
Moreland, J.; Goodrich, L.F.
IEEE Trans. Magn. MAG-25(2): 2056-2059; Mar 1989.

- VAMAS Intercomparison of Critical Current Measurement in Nb₃Sn Wires;
Tachikawa, K.; Itoh, K.; Wada, H.; Gould, D.; Jones, H.; Walters, C.R.; Goodrich, L.F.; Ekin, J.W.;
Bray, S.L.
IEEE Trans. Magn. MAG-25(2): 2368-2374; Mar 1989.
- Battery-Powered Current Supply for Superconductor Measurements;
Bray, S.L.; Goodrich, L.F.; Dubé, W.P.
Rev. Sci. Instrum. 60(2): 261-264; Feb 1989.
- Effect of Room Temperature Stress on the Critical Current of NbTi;
Bray, S.L.; Ekin, J.W.
J. Appl. Phys. 65(2): 684-687; Jan 15, 1989.
- Coil Parameter Influence on Eddy Current Probe Sensitivity;
Capobianco, T.E.; Vecchia, D.F.
Proc., Rev. Prog. in Quantitative Nondestructive Eval. 7A: 487-492; 1988.
- Characterization of Eddy Current Probes: Results of an Interlaboratory Intercomparison;
Capobianco, T.E.; Dulcie, L.L.
Proc., 37th Defense Conf. on NDE, Nov 1-3, 1988, Jacksonville, FL, pp 211-216; 1988.
- Transverse Stress Effect on Multifilamentary Nb₃Sn Superconductor;
Ekin, J.W.
Adv. Cryo. Eng. Mater., Vol. 34, pp 547-552; 1988.
- Effect of Oxygen Annealing on Low-Resistivity Contacts for High-T_c Superconductors;
Ekin, J.W.; Panson, A.J.; Blankenship, B.A.
Proc., Materials Research Society, Vol. 99, High Temperature Superconductors, pp 283-286;
1988.
- Current Ripple Effect on Superconductive dc Critical Current Measurements;
Goodrich, L.F.; Bray, S.L.; Clark, A.F.
Adv. Cryo. Eng. Mater., Vol. 34, pp 1019-1026; 1988.
- Current-Ripple Effect on Superconductive dc Critical Current Measurements;
Goodrich, L.F.; Bray, S.L.
Cryogenics 28: 737-743; 1988.
- Oxygen Isotope Effect in the Superconducting Bi-Sr-Ca-O System;
Katayama-Yoshida, H.; Hirooka, T.; Oyamada, A.; Okabe, Y.; Takahashi, T.; Sasaki, T.; Ochiai, A.;
Suzuki, T.; Mascarenhas, A.J.; Pankove, J.I.; Ciszek, T.; Deb, S.K.; Goldfarb, R.B.; Li, Y.
Physica C 156: 481-484; 1988.
- Single Crystal HoBa₂Cu₃O_x Break Junctions;
Moreland, J.; Clark, A.F.; Damento, M.A.; Gschneider, K.A.
Proc., Intl. Conf. High Temperature Semiconductors - Materials & Mechanisms of
Superconductivity, Physica C, pp 1383-1384; 1988.
- Recent Tunneling Measurements of 90 K Superconductors at NBS;
Moreland, J.; Beall, J.A.; Ono, R.H.; Clark, A.F.
Proc., MRS Spring Meeting, Symp. K, High-T_c Superconductivity, pp 351-353; 1988.

Superconductor and Magnetic Measurement

Anomalous Behavior of Tunneling Contacts in Superconducting Perovskite Structures;
Moreland, J.; Goodrich, L.F.; Ekin, J.W.; Capobianco, T.E.; Clark, A.F.
Adv. Cryo. Eng. Mater., Vol. 34, pp 625-632; 1988.

High Temperature Semiconductors - Materials and Mechanisms of Superconductivity;
Moreland, J.; Clark, A.F.; Damento, M.A.; Gschneider, K.A.
Proc., Intl. Conf. Physics C, pp 1383-1384; 1988.

Cryogenic Bathysphere for Rapid-Variable-Temperature Characterization of High- T_c Superconductors;
Moreland, J.; Li, Y.K.; Folsom, R.; Capobianco, T.E.
Rev. Sci. Instrum. 59(12): 2535-2538; Dec 1988.

18th International Conference on Low Temperature Physics (LT-18);
Moreland, J.; Hirabayashi, H.
Cryogenics 28: 543-544; Aug 1988.

High T_c Superconductor/Noble-Metal Contacts with Surface Resistivities in the $10^{-10} \Omega \text{ cm}^2$ Range;
Ekin, J.W.; Larson, T.; Bergren, N.; Nelson, A.J.; Swartzlander, A.B.; Kazmerski, L.L.; Panson, A.;
Blankenship, B.
Appl. Phys. Lett. 52(21): 1819-1821; May 23, 1988.

Break Junctions I;
Moreland, J.; Goodrich, L.F.; Ekin, J.W.; Capobianco, T.E.; Clark, A.F.
NBSIR 88-3090; May 1988.

Transverse Magnetoresistance of Oxygen-Free Copper;
Fickett, F.R.
IEEE Trans. Magn. MAG-24(2): 1156-1158; Mar 1988.

Magnetic Susceptibility of Sintered and Powdered Y-Ba-Cu-O;
Chen, D.-X.; Goldfarb, R.B.; Nogues, J.; Rao, K.V.
J. Appl. Phys. 63(3): 980-983; Feb 1, 1988.

Development of Standards for Superconductors, Interim Report, Jan 1986-Dec 1987;
Goodrich, L.F.
NBSIR 88-3088, 88 pp; Feb 1988.

Method for Making Low Resistivity Contact to High- T_c Ceramic Superconductors at Ambient Temperatures;
Ekin, J.W.; Panson, A.J.; Blankenship, B.
Appl. Phys. Lett., 52(4):331-333; 25 Jan 1988.

Field Mapping and Performance Characterization of Commercial Eddy Current Probes;
Capobianco, T.E.
Proc., Rev. Prog. Quant. NDE, Vol. 6A, pp 687-694; 1987.

Pickup Coil Spacing Effects on Eddy Current Reflection Probe Sensitivity;
Capobianco, T.E.; Yu, K.
Proc., Rev. Prog. Quant. NDE 13th Ann. Conf., Vol. 6A, pp 721-725; 1987.

Transport Critical-Current Characteristics of $\text{Y}_1\text{Ba}_2\text{Cu}_3\text{O}_x$;

Ekin, J.W.; Panson, A.J.; Braginski, A.I.; Janocko, M.A.; Hong, M.; Kwo, J.; Liou, S.H.; Capone, D.W., II; Flandermeyer, B.; Clark, A.F.

Proc., Mater. Res. Soc. Symp. on High Temp. Superconductors, Anaheim, CA, Apr 23-24, 1987, EA-11: 223-226; 1987.

Transport Critical Currents in Bulk Sintered $\text{Y}_1\text{Ba}_2\text{Cu}_3\text{O}_x$ and Possibilities for its Enhancement;

Ekin, J.W.

Advanced Ceramic Materials, 2(3B): 586-591; 1987.

AC Susceptibility Measurements Near the Critical Temperature of a Y-Ba-Cu-O Superconductor;

Goldfarb, R.B.; Clark, A.F.

Proc., Materials Research Society Mtg., Apr 23-24, 1987; pp 261-263; 1987.

Electron Tunneling Measurements in LaSrCuO and YBaCuO ;

Moreland, J.; Ekin, J.W.; Goodrich, L.F.; Capobianco, T.E.; Clark, A.F.

Proc., Mater. Res. Soc. Symp. on High Temp. Superconductors, Apr 23-24, 1987, Anaheim, CA, EA-11: 273-275; 1987.

Evidence for Weak Link Anisotropy Limitations on the Transport Critical Current in Bulk Polycrystalline $\text{Y}_1\text{Ba}_2\text{Cu}_3\text{O}_x$;

Ekin, J.W.; Capone, D.W., II; Flandermeyer, B.; deLima, O.F.; Braginski, A.I.; Panson, A.J.; Janocko, M.A.; Hong, M.; Kwo, J.; Liou, S.H.

J. Appl. Phys. 62(12): 4821-4828; Dec 15, 1987.

Effect of Transverse Compressive Stress on the Critical Current and Upper Critical Field of Nb_3Sn ;

Ekin, J.W.

J. Appl. Phys., 62(12): 4829-4834; Dec 15, 1987.

Effect of Irregularity in Filament Cross-sectional Area (Sausaging) on Electric-Field vs. Current Characteristics of NbTi Superconductors;

Ekin, J.W.

Cryogenics, 27: 603-607; Nov 1987.

Superconductivity: Challenge for the Future;

Kamper, R.A.; Clark, A.F.

NBS JRES 92(6): 391-392; Nov-Dec 1987.

New Standard Text Method for Eddy Current Probes;

Dulcie, L.L.; Capobianco, T.E.

Proc., 36th Conf. NDT, pp 154-160; Oct 1987.

Conductors for Advanced Energy Systems;

Fickett, F.R.; Capobianco, T.E.

INCRA Annual Report #321B, i-46; Oct 1987.

Evidence for Two Superconducting Components in Oxygen-Annealed Single Phase Y-Ba-Cu-O;

Goldfarb, R.B.; Clark, A.F.; Panson, A.J.; Braginski, A.I.

Cryogenics 27: 475-480; Sep 1987.

A Review of Eddy Current Research at the National Bureau of Standards in Boulder, Colorado;

Capobianco, T.E.

Proc., DOD Conf. on NDE, pp 164-173; Aug 1987.

Superconductor and Magnetic Measurement

Josephson Effect above 77 K in a YBaCuO Break Junction;
Moreland, J.; Goodrich, L.F.; Ekin, J.W.; Capobianco, T.E.; Clark, A.F.
Appl. Phys. Lett. 51(7): 540-541; Aug 17, 1987.

Electron Tunneling Measurements of High T_c Compounds Using Break Junctions;
Moreland, J.; Goodrich, L.F.; Ekin, J.W.; Capobianco, T.E.; Clark, A.F.
Proc., LT 18 Conf., Aug 20-26, 1987, Kyoto, Japan, Jap. J. Appl. Phys. 26(26-3): 999-1000;
Aug 1987.

Tunneling Spectroscopy of a La-Sr-Cu-O Break Junction: Evidence for Strong-Coupling Superconductivity;
Moreland, J.; Clark, A.F.; Goodrich, L.F.; Ku, H.C.; Shelton, R.N.
Phys. Rev. B, Rapid Communications 35(16): 8711-8713; Jun 1, 1987.

Break Junction Tunneling Measurements of the High T_c Superconductor Y₁Ba₂Cu₃O₉-Δ;
Moreland, J.; Ekin, J.W.; Goodrich, L.F.; Capobianco, T.E.; Clark, A.F.; Kwo, J.; Hong, M.
Phys. Rev. B, Rapid Communications 35(16): 8856-8857; Jun 1, 1987.

Electron Tunneling Measurement of the Energy Gap in a La-Sr-Cu-O Superconductor;
Moreland, J.; Clark, A.F.; Ku, H.C.; Shelton, R.N.
Cryogenics, 27: 227-228; May 1987.

Method for Measuring Complex Permeability at Radio Frequencies;
Goldfarb, R.B.; Bussey, H.E.
Rev. Sci. Instrum. 58(4): 624-627; Apr 1987.

Development of Standards for Superconductors, Interim Report, Jan-Dec 1985;
Goodrich, L.F.; Bray, S.L.; Pittman, E.S.; Clark, A.F.; Dubé, W.P.
NBSIR 87-3066; Apr 1987.

Relationships between Critical Current and Stress in NbTi;
Ekin, J.W.
IEEE Trans. Magn. MAG-23(2): 1634-1637; Mar 1987.

Studies of NbTi Strands Extracted from Coreless Rutherford Cables;
Goodrich, L.F.; Pittman, E.S.; Ekin, J.W.
IEEE Trans. Magn. MAG-23(2): 1642-1645; Mar 1987.

Mapping Eddy Current Probe Fields;
Capobianco, T.E.; Fickett, F.R.; Moulder, J.C.
Proc., Review of Progress in Quantitative Nondestructive Evaluation 5A, chap 3, sec A,
pp 705-711; 1986.

Flaw Detection with a Magnetic Field Gradiometer;
Capobianco, T.E.; Moulder, J.; Fickett, F.R.
Proc., NTIAC 15th Symp. on Nondestructive Evaluation; Apr 22-22, 1985; San Antonio, TX;
15-20; 1986.

A Proposed Military Standard for Commercial Eddy Current Probes Based on Performance Characterization;
Capobianco, T.E.; Fickett, F.R.
Proc., 35th DoD Conf. NDT, Oct 28-30, 1986, pp 135-141; 1986.

- Losses in a Nb-Ti Superconductor as Functions of AC Field Amplitude and DC Transport Current;
Dragomirecky, M.; Minervini, J.V.; Goldfarb, R.B.; Clark, A.F.
Proc., 11th Intl. Cryogenic Engineering Conference; Apr 22-25, 1986, Berlin, W. Germany;
pp 746-750; 1986.
- Relationships Between Mechanical and Magnetoelectric Properties of Oxygen-free Copper at 4K;
Fickett, F.R.; Capobianco, T.E.
Adv. Cryo. Eng. Mater., Vol. 32, pp 421-427; 1986.
- Ferromagnetic Resonance at 9.55 and 23.9 GHz in the Weak Ferromagnet Ni₃A1;
Goldfarb, R.B.; Heinrich, B.; Cochran, J.F.; Myrtle, K.; Lonzarich, G.
J. Magnetism and Magnetic Materials 54-57: 1011-1012; 1986.
- New Magnetic Phase Diagram of the Amorphous Pd-Fe-Si Ferroglass Alloy System;
Goldfarb, R.B.; Rao, K.V.; Chen, H.S.
J. Magnetism and Magnetic Materials 54-57: 111-112; 1986.
- AC Losses in Nb-Ti Measured by Magnetization and Complex Susceptibility;
Goldfarb, R.B.; Clark, A.F.
Advances in Cryogenic Engineering - Materials, Vol. 32, pp 779-786; 1986.
- The Effect of Aspect Ratio on Critical Current in Multifilamentary Superconductors;
Goodrich, L.F.; Dubé, W.P.; Pittman, E.S.
Adv. Cryo. Eng. Mater., Vol. 32, pp 833-840; 1986.
- Electron Tunneling into Superconducting Filaments: Depth Profiling the Energy Gap of NbTi Filaments in High-Field Magnet Wires;
Moreland, John; Ekin, J.W.; Goodrich, L.F.
Adv. Cryo. Eng. Mater., Vol. 32, pp 1101-1108; 1986.
- Electro-mechanical Properties of Superconductors for High Energy Physics Applications;
Ekin, J.W.; Goodrich, L.F.; Moreland, J.; Pittman, E.S.; Clark, A.F.
NBSIR 86-3061; Dec 1986.
- Squeezable Junctions for Electron Tunneling and Surface Electric Field Experiments;
Moreland, J.
The Physics Teacher, pp 405-411; Oct 1986.
- Quench Circuit for Electronic Instruments Used with Superconducting Magnets;
Benson, R.; Goldfarb, R.B.; Pittman, E.
Cryogenics 26: 482-483; Aug/Sep 1986.
- Internal Fields in Magnetic Materials and Superconductors;
Goldfarb, R.B.
Cryogenics 26: 621-622; Aug/Sep 1986.
- Hysteresis Losses in Fine-Filament Internal-Tin Superconductors;
Goldfarb, R.B.; Ekin, J.W.
Cryogenics 26: 478-481; Aug/Sep 1986.
- Flux Limit of Cosmic-Ray Magnetic Monopole from a Multiply Discriminating Superconductive Detector;
Cromar, M.; Clark, A.F.; Fickett, F.R.
Phys. Rev. Lett. 56(24): 2561-2563; Jun 1986.

Superconductor and Magnetic Measurement

Electromechanical Properties of Superconductors for DoE Fusion Applications;
Ekin, J.W.; Moreland, John; Baruch, J.C.
NBSIR 86-3044, 106 pp; Jun 1986.

Transient Losses in Superconductors;
Goldfarb, R.B.
NBSIR 86-3053, 57 pp; Jun 1986.

Cryogenic Operation of Piezoelectric Bending Elements;
Duffield, C.; Moreland, John; Fickett, F.R.
Rev. Sci. Instrum. 57(8): 990-992; May 1986.

A Quench Detector Design for Superconductor Testing;
Dubé, W.P.; Goodrich, L.F.
Rev. Sci. Instrum. 57(7): 680-682; Apr 1986.

Onset of Chaos in the rf-Biased Josephson Junction;
Kautz, R.L.; MacFarlane, J.C.
Phys. Rev. A 33(1): 498-509; Jan 1986.

Precision Measurement of Eddy Current Coil Parameters;
Capobianco, T.; Fickett, F.R.
Proc., Review of Progress in Quantitative NDE Conf.; Jul 9-13, 1984; San Diego, CA, New York, NY: Plenum Press, pp 491-498; 1985.

High-Field Flux Pinning and the Strain Scaling Law;
Ekin, J.W.
Proc., Intl. Symp. on Flux Pinning and Electromagnetic Properties in Superconductors; Nov 11-15, 1985; Fukuoka, Japan; pp 267-271; 1985.

Research on Practical Superconductors at NBS;
Fickett, F.R.
ATB Metallurgie, 25(4): 265-271; 1985.

Magnetic Field Mapping with a SQUID Device;
Fickett, F.R.; Capobianco, T.
Proc., Review of Progress in Quantitative NDE Conf.; Jul 8-13, 1984; San Diego, CA; 4A: 401-410, New York, NY: Plenum Press; 1985.

Differences Between Spin Glasses and Ferroglasses: Pd-Fe-Si;
Goldfarb, R.B.; Rao, K.V.; Chen, H.S.
Solid State Commun. 54(9): 799-801; 1985.

Electron Tunneling Experiments Using Nb-Sn Break Junctions;
Moreland, J.; Ekin, J.W.
J. Appl. Phys. 58(10): 3888-3894; Nov 15, 1985.

Electron Tunneling Experiments Using Nb-Sn Break Junctions;
Moreland, J.; Ekin, J.W.
J. Appl. Phys. 58(10): 3888-3895; Nov 1985.

Chaos and Thermal Noise in the rf-Biased Josephson Junction;

Kautz, R.L.

J. Appl. Phys. 58(1): 424-440; Jul 1985.

Electron Tunneling Experiments into Superconducting Filaments Using Mechanically Adjustable Barriers;

Moreland, J.; Ekin, J.W.

Appl. Phys. Lett. 47(2): 175-177; Jul 1985.

Tenth International Cryogenic Engineering Conference - A Report;

Clark, A.F.; Heinz, W.; Rizzoto, C.; Fast, R.W.; Klipping, G.

10th Intl. Cryogenic Eng. Conf., Jul 31-Aug 3, 1985, Otaniemi, Finland; Cryogenics 25: 222-223; Apr 1985.

Hysteretic Losses in NbTi Superconductors;

Goldfarb, R.B.; Clark, A.F.

J. Appl. Phys. 57(1): 3809-3811; 15 Apr 1985.

The NBS Magnetic Monopole Detector;

Cromar, M.; Fickett, F.R.; Clark, A.F.

Proc., Applied Superconductivity Conf.; Sep 10-13, 1984; San Diego, CA; IEEE Trans. Magn. MAG-21(2): 418-420; Mar 1985.

Effect of Uniaxial Strain on the Critical Current and Critical Field of Chevrel Phase PbMo₃S₈ Superconductors;
Ekin, J.W.

Proc., Applied Superconductivity Conf.; Sep 10-13, 1984; San Diego, CA; IEEE Trans. Magn. MAG-21(2): 474-477; Mar 1985.

Standards for Measurement of the Critical Fields of Superconductors;

Fickett, F.R.

NBS JRES 90(2): 95-113; Mar-Apr 1985.

Magnetic Hysteresis and Complex Susceptibility as Measures of AC Losses in a Multifilamentary NbTi Superconductor;

Goldfarb, R.B.; Clark, A.F.

Proc., Applied Superconductivity Conf.; Sep 10-13, 1984; San Diego, CA; IEEE Trans. Magn. MAG-21(2): 332-335; Mar 1985.

Units for Magnetic Properties;

Goldfarb, R.B.; Fickett, F.R.

NBS SP 696, 1 p; Mar 1985.

Further Investigations of the Solid-Liquid Reaction & High-Field Critical Current Density in Liquid-Infiltrated Nb-Sn Conductors;

Hong, M.; Maher, D.M.; Ellington, M.B.; Hellman, F.; Geballe, T.H.; Ekin, J.W.; Holthuis, J.T.

Proc., Applied Superconductivity Conf.; Sep 10-13, 1984; San Diego, CA; IEEE Trans. Magn. MAG-21(2): 771-774; Mar 1985.

Editorial;

Clark, A.F.; Heinz, W.; Nagano, H.; Gardner, J.B.

Cryogenics 25: 59; Feb 1985.

Superconductor and Magnetic Measurement

Development of Standards for Superconductors, Interim Report, Jan 1982-Dec 1983;
Goodrich, L.F.; Minervini, J.V.; Clark, A.F.; Fickett, F.R.; Ekin, J.W.; Pittman, E.S.
NBSIR 85-3027; Jan 1985.

Design of the NBS Magnetic Monopole Detectors;
Clark, A.F.; Cromar, M.W.; Fickett, F.R.
Proc., Intl. Cryogenic Engineering Conf.-10; Jul 31-Aug 3, 1984; Helsinki, Butterworth,
pp 365-368; 1984.

Characterization of a Standard Reference Superconductor for Critical Current and a Summary of Other Standard Research at NBS;
Clark, A.F.; Goodrich, L.F.
Proc., Intl. Cryogenic Engineering Conf.-10; Jul 31-Aug 3, 1984; Helsinki, Butterworth,
pp 433-437; 1984.

Critical Parameters and Strain Effects in Liquid-Infiltrated Nb-Ta/Sn Multifilamentary Superconductor;
Ekin, J.W.; Hong, M.
J. Appl. Phys. Lett. 45: 297; 1984.

Monopole Detection Studies at NBS;
Fickett, F.R.; Cromar, M.; Clark, A.F.
In Monopole '83, J.L. Stone, ed., New York: Plenum Press, pp 477-480; 1984.

Magnetic Measurements, Calibrations, and Standards: Report on a Survey;
Fickett, F.R.
NBSIR 84-3018, 20 pp; Oct 1984.

Investigation of a Practical Superconductor with a Copper Matrix;
Fickett, F.R.
Ann. Rpt. and Final Summary of Project 255, Intl. Copper Research Assoc., Inc., 708 Third Avenue, New York, NY 10017; pp i-B13; Sep 1984.

Critical Current Measurements on a NbTi Superconducting Wire Standard Reference Material;
Goodrich, L.F.; Vecchia, D.F.; Pittman, E.S.; Clark, A.F.
NBS SP 260-291, 53 pp; Sep 1984.

Electromechanical and Metallurgical Properties of Liquid-Infiltration Nb-Ta/Sn Multifilamentary Superconductor;
Ekin, J.W.; Hong, M.
Appl. Phys. Lett. 45(3): 297-299; Aug 1984.

Research Opportunities in Superconductivity;
Clark, A.F.; Tinkham, M.; Beasley, M.R.; Larbalestier, D.C.; Finnemore, D.K.
Cryogenics 24(7): 378-388; Jul 1984.

Strain Effects in Superconducting Compounds--An Overview and Synthesis;
Ekin, J.W.
Adv. Cryo. Eng. Mater., Vol. 30, A. F. Clark and R.P. Reed, eds.; Proc., 5th Intl. Cryogenic Materials Conf.; Aug 15-17, 1983; Colorado Springs, CO; New York, NY: Plenum Press, pp 823-836; Jul 1984.

Training Studies of Epoxy-Impregnated Superconductor Windings, Part III: Epoxies, Conductor Insulations, and Copper Ratio;

Ekin, J.W.; Pittman, E.S.; Goldfarb, R.B.; Superczynski, M.J.; Waltman, D.J.

Adv. Cryo. Eng. Mater., Vol. 30, A.F. Clark and R.P. Reed, eds.; Proc., 5th Intl. Cryogenic Materials Conf.; Aug 15-17, 1983, Colorado Springs, CO, New York, NY: Plenum Press, pp 977-984; Jul 1984.

The Effect of Mill Temper on the Mechanical and Magnetoresistive Properties of Oxygen-free Copper in Liquid Helium;

Fickett, F.R.

Adv. Cryo. Eng. Mater., Vol. 30, A.F. Clark and R.P. Reed, eds.; Proc., 5th Intl. Cryogenic Materials Conf.; Aug 15-17, 1983; Colorado Springs, CO; New York, NY: Plenum Press, pp 453-460; Jul 1984.

Magnetic Susceptibility and Strain-Induced Martensite Formation at 4 K in Type 304 Stainless Steel;

Goldfarb, R.B.; Reed, R.P.; Ekin, J.W.; Arvidson, J.M.

Adv. Cryo. Eng. Mater., Vol. 30, A.F. Clark and R.P. Reed, eds.; Proc., 5th Intl. Cryogenic Materials Conf.; Aug 15-17, 1983; Colorado Springs, CO; New York, NY: Plenum Press, pp 475-482; Jul 1984.

Critical Current Measurements on a NbTi Superconducting Wire Standard Reference Material;

Goodrich, L.F.; Vecchia, D.F.; Pittman, E.S.; Clark, A.F.

Adv. Cryo. Eng. Mater., Vol. 30, A.F. Clark and R.P. Reed, eds.; Proc., 5th Intl. Cryogenic Materials Conf.; Aug 15-17, 1983; Colorado Springs, CO; New York, NY: Plenum Press, pp 952-960; Jul 1984.

Development of Nb₃Sn Cabled Conductor by External Diffusion Process and Effect of Strain on the Critical Current;

Pasztor, G.; Ekin, J.W.

Adv. Cryo. Eng. Mater., Vol. 30, A.F. Clark and R.P. Reed, eds.; Proc., 5th Intl. Cryogenic Materials Conf.; Aug 15-17, 1983; Colorado Springs, CO; New York, NY: Plenum Press, pp 787-795; Jul 1984.

Calibration of ac Susceptometer for Cylindrical Specimens;

Goldfarb, R.B.; Minervini, J.V.

Rev. Sci. Instrum. 55(5): 761-764; May 1984.

Copper-TFE Friction at Cryogenic Temperatures;

Bell, R.; Jones, K.; Fickett, F.R.

Cryogenics 24: 31-35; Jan 1984.

Experience in Standardizing Superconductor Measurements;

Clark, A.F.; Goodrich, L.F.; Fickett, F.R.

J. Physique, Colloque C1, supplement au 1(45): C1-379-382; Jan 1984.

Magnetic Field Effects on Tensile Behavior of Alloys 304 and 310 at 4 K;

Reed, R.P.; Arvidson, J.M.; Ekin, J.W.; Schoon, R.H.

Proc., Intl. Cryogenic Materials Conf.; May 11-14, 1982; Kobe, Japan; pp 33-36; 1983.

Conductors for Advanced Energy Systems Annual Report 1982;

Fickett, F.R.

INCRA Research Report, Paper #321A; Intl. Copper Research Assoc., 708 3rd Ave., NY 10017; pp 1-97; Aug 1983.

Superconductor and Magnetic Measurement

Thermal Expansion;

Clark, A.F.

Chapt. 3 in Materials at Low Temperatures, R. Reed; A.F. Clark, eds., American Society for Metals, Metals Park, OH 44073, pp 75-132; Jun 1983.

Superconductors;

Ekin, J.W.

Chapt. 13 in Materials at Low Temperatures, R. Reed; A.F. Clark, eds., American Society of Metals, Metals Park, OH 44073, pp 465-513; Jun 1983.

Magnetic Properties;

Fickett, F.R.; Goldfarb, R.B.

Chap. 6 in Materials at Low Temperatures, R. Reed; A.F. Clark, eds., American Society of Metals, Metals Park, OH 44073; pp 203-235; Jun 1983.

Electrical Properties;

Fickett, F.R.

Chapt. 5 in Materials at Low Temperatures, R. Reed; A.F. Clark, eds., American Society for Metals, Metals Park, OH 44073; pp 163-201; Jun 1983.

J-B-T- ϵ Interaction in A15, B1, and C15 Crystal Structure Superconductors;

Ekin, J.W.

Proc., Applied Superconductivity Conf., IEEE Trans. Magn. MAG-19: 900-902; May 1983.

Effect of Stainless Steel Reinforcement on the Critical Current Versus Strain Characteristic of Multifilamentary Nb₃Sn Superconductors;

Ekin, J.W.

J. Appl. Phys. 54(5): 2869-2871; May 1983.

Oxygen-Free Copper at 4 K;

Fickett, F.R.

Proc., Applied Superconductivity Conf., IEEE Trans. Magn. MAG-19: 228-231; May 1983.

Properties of NbN Films Crystallized from the Amorphous State;

Gavaler, J.R.; Greggi, J.; Wilmer, R.; Ekin, J.W.

Proc., Applied Superconductivity Conf., IEEE Trans. Magn. MAG-19(3): 418-421; May 1983.

The Effect of Field Orientation on Current Transfer in Multifilamentary Superconductors;

Goodrich, L.F.

Proc., Applied Superconductivity Conf., IEEE Trans. Magn. MAG-19(3): 244-247; May 1983.

Multifilamentary Nb-Nb₃ Composite by Liquid Infiltration Method: Superconducting, Metallurgical, and Mechanical Properties;

Hong, M.; Hull, G.W., Jr.; Holthuis, J.T.; Hazzenzahl, W.V.; Ekin, J.W.

Proc., Applied Superconductivity Conf., IEEE Trans. Magn. MAG-19(3): 912-916; May 1983.

Proceedings, International Cryogenic Materials Conference;

Clark, A.F.; Tachikawa, K., eds.

May 11-14, 1982; Kobe, Japan: Butterworth; Jan 1983.

Four-Dimensional J-B-T- ϵ Critical Surface for Superconductivity;

Ekin, J.W.

J. Appl. Phys. 54(1): 303-306; Jan 1983.

Effect of Strain on the Critical Current of Sputtered NbN Films;

Ekin, J.W.; Gavaler, J.R.; Gregg, J.

Bull. Am. Phys. Soc. pp 8-12; Mar 82 and Appl. Phys. Lett. 41(10): 996-998; Nov 1982.

Effect of Strain on the Critical Current and Critical Field of B1 Structure NbN Superconductors; ;

Ekin, J.W.

Appl. Phys. Lett. 41(10): 996; Nov 1982.

Spin-Freezing below the Ferromagnetic Transition Determined by the Imaginary Component of ac Magnetic Susceptibility;

Goldfarb, R.B.; Fickett, F.R.; Rao, K.V.; Chen, H.S.

J. Appl. Phys. 53(11): 7687; Nov 1982.

Development of Standards for Superconductors;

Clark, A.F.

NBSIR 82-1678; Jul 1982.

Training Studies of Epoxy-Impregnated Superconductor Windings;

Ekin, J.W.; Pittman, E.S.; Superczynski, M.J.; Waltman, D.J.

Adv. Cryo. Eng., Vol. 28, pp 719-728; Jul 1982.

Low Temperature Material Perspective;

Fickett, F.R.

Adv. Cryo. Eng., Vol. 28, pp 1-16; Jul 1982.

Effect of Twist Pitch on Short-Sample V-I Characteristics of Multifilamentary Superconductors;

Goodrich, L.F.; Ekin, J.W.; Fickett, F.R.

Adv. Cryo. Eng., Vol. 28, pp 571-580; Jul 1982.

Effect of Strain on the Critical Parameters of V₂(Hf,Zr) Leaves Phase Composite Superconductors;

Ekin, J.W.

Appl. Phys. Lett. 40(9): 844-846; May 1982.

Critical Current Measurement: A Compendium of Experimental Effects; ;

Goodrich, L.F.; Fickett, F.R.

Cryogenics, pp 225-242; May 1982.

Electrical Properties of Materials and Their Measurement at Low Temperatures;

Fickett, F.R.

NBS TN 1053; Mar 82. Electric and Magnetic Properties of CuSn and CuNi Alloys at 4 K; Mar 1982.

Electrical Properties of Materials and Their Measurement at Low Temperatures;

Fickett, F.R.

Cryogenics 22: 135; Mar 1982.

Further Evidence for a Spin-Glass Phase Transition in Amorphous Fe-Mn-P-B-Al Alloys;

Goldfarb, R.B.; Rao, K.V.; Chen, H.S.; Patton, C.E.

J. Appl. Phys. 53: 2217; Mar 1982.

Electrical and Magnetic Properties of Internally Oxidized Copper and Dilute Copper-Iron Alloys;

Fickett, F.R.

J. Phys. F: Met. Phys. 12: 1953-1969; Jan 1982.

Superconductor and Magnetic Measurement

Strain Scaling Law for Flux Pining in NbTi, Nb₃Sn, Nb-Hf/Cu-Sn-Ga, V₃Ga, and Nb₃Ge;

Ekin, J.W.

IEEE Trans. Magn. MAG-17: 658; 1981.

Mechanical Properties and Strain Effects in Superconductors;

Ekin, J.W.

Chap. 7 in Superconducting Materials Science, S. Foner and B. Schwartz, eds., New York: Plenum Press, pp 455-509; 1981.

Effect of Strain on the Critical Current of Nb-Hf/Cu-Sn-Ga Multifilamentary Superconductors;

Ekin, J.W.; Sekine, H.; Tachikawa, K.

J. Appl. Phys. 52: 6252; 1981.

Structural Materials for Large Superconducting Magnets;

Fickett, F.R.; McHenry, H.I.

IEEE Trans. Magn. MAG-17: 2297; 1981.

Magnetic Susceptibility Studies of Amorphous Ni-Mn-P-B-A1 Alloys;

Goldfarb, R.B.; Rao, K.V.; Fickett, F.R.; Chen, H.S.

J. Appl. Phys. 52: 1744; 1981.

Superparamagnetism and Spin-Glass Freezing in Nickel-Manganese Alloys;

Goldfarb, R.B.; Patton, C.E.

Phys. Rev. B 24: 1360; 1981.

Miniature Multipin Electrical Feedthrough for Vacuum Use;

Goldfarb, R.B.

Cryogenics 21: 746; 1981.

Lap Joint Resistance and Intrinsic Critical Current Measurements on a NbTi Superconducting Wire;

Goodrich, L.F.; Ekin, J.W.

IEEE Trans. Magn. MAG-17: 1969; 1981.

NBS Superconductor Standardization Program;

Fickett, F.R.; Goodrich, L.F.

Proc., 1980 Superconducting MHD Magnet Design Conf., Francis Bitter National Magnet Laboratory, MIT, MA; Oct 1981.

Thermal Expansion of Several Materials for Superconducting Magnets;

Clark, A.F.; Fujii, G.; Ranney, M.A.

Proc., 7th Magnet Technology Conf., Karlsruhe, Germany, IEEE Trans. Magn. MAG-17: 2316; Apr 1981.

Thermal Expansion of Multifilamentary Nb₃Sn and V₃Ga Superconductive Cables and Fiberglass-Epoxy and Cotton-Phenolic Composite Materials;

Fujii, G.; Ranney, M.A.; Clark, A.F.

Jap. J. Appl. Phys. 20, pp L267-L270; Apr 1981.

Advances in Cryogenic Engineering: Materials, Vol. 26;

Clark, A.F.; Reed, R.P., eds.

Proc., 3rd Intl. Cryogenic Mater. Conf., Aug 1979; Madison, WI, New York: Plenum Press; 1980.

Strain Scaling Law for Flux Pinning in Practical Superconductors. Part I: Basic Relationship and Application to Nb₃Sn Conductors;

Ekin, J.W.

Cryogenics 20: 611; 1980.

Strain Scaling Law and the Prediction of Uniaxial and Bending Strain Effects; ;

Ekin, J.W.

Filamentary Al5 Superconductors, M. Suenaga and A. F. Clark, eds., New York: Plenum Press, pp 455-509; 1980.

Training of Epoxy-Impregnated Superconductor Windings;

Ekin, J.W.; Schramm, R.E.; Superczynski, M.J.

Proc., 3rd Intl. Cryogenic Mater. Conf., Aug 1979; Madison, WI; Adv. Cryo. Eng. 26: 677; 1980.

Development of Standards for Superconductors;

Fickett, F.R.; Clark, A.F.

Proc., 8th Intl. Cryogenic Eng. Conf., Jun 1980; Genova, Guildford, England: IPC Science and Technology Press, pp 494-498; 1980.

Definitions of Terms for Practical Superconductors, 4. Josephson Phenomena;

Fickett, F.R.; Kaplan, S.B.; Powell, R.L.; Radebaugh, R.; Clark, A.F.

Cryogenics 20: 319-325; 1980.

Tensile, Fracture Toughness and Magnetization Testing in Cast 316-L Stainless Steel and Its Weldment;

Genens, L.; Kim, S.H.; Wang, S.T.; Reed, R.P.; Fickett, F.R.

Proc., 8th Intl. Cryo. Eng. Conf., IPC Science and Technology Press, paper 3E, 20 pp; 1980.

Processing Limits for Ultrafine Multifilament Nb₃Sn;

Ho, J.C.; Oberly, C.E.; Garrett, H.J.; Walker, M.S.; Zeitlin, B.A.; Ekin, J.W.

Proc., Intl. Cryo. Mater. Cong., 1979; Madison, WI, Adv. Cryogenic. Eng. 26: 358; 1980.

Thermal Expansion of Cryogenic-Grade Glass-Epoxy Laminates; Materials Studies of Magnetic Fusion Energy Applications at Low Temperatures - III;

Ranney, M.A.; Clark, A.F.

NBSIR 80-1627: 405 pp; 1980.

Filamentary Al5 Superconductors;

Suenaga, M.; Clark, A.F., eds.

New York: Plenum Press; 1980.

Development of Standards for Superconductors;

Fickett, F.R.; Goodrich, L.F.; Clark, A.F.

NBSIR 80-1642; Dec 1980.

Effect of Thermal Contraction of Sample Holder Material on Critical Current Measurement;

Fujii, G.; Ekin, J.W.; Radebaugh, R.; Clark, A.F.

Adv. Cryo. Eng. Mater., Vol. 26, New York: Plenum Press, pp 589-598; 80. Also published as Technical Report A-1074, Institute of Solid State Physics, Univ. of Tokyo; Aug 1980.

Superconductor and Magnetic Measurement

Development of Standards for Practical Superconductors;

Clark, A.F.

Proc., Superconductivity Technical Exchange, PIC-E:E-SC 209/1, Naval Research Laboratory, Washington, DC; pp 103-114; Apr 1980.

The Development of Standards for Practical Superconductors;

Clark, A.F.; Ekin, J.W.; Radebaugh, R.; Read, D.T.

IEEE Trans. Magn. MAG-15: 224-227; 1979.

Nonmetallic Materials and Composites at Low Temperatures;

Clark, A.F.; Reed, R.P.; Hartwig, G., eds.

Proc., ICMC Symp., Jul 1978; Munich, Germany, New York: Plenum Press; 1979.

Effect of Strain on Epoxy-Impregnated Superconducting Composites;

Ekin, J.W.; Schramm, R.E.; Clark, A.F.

Nonmetallic Materials and Composites at Low Temperatures; A. F. Clark; R. P. Reed; G. Hartwig, eds. New York: Plenum Press, pp 301-308; 1979.

Strain Dependence of the Critical Current and Critical Field in Multifilamentary Nb₃Sn Composites;

Ekin, J.W.

IEEE Trans. Magn. MAG-15: 197; 1979.

Effect of Strain on Critical Current of Nb₃Ge;

Ekin, J.W.; Braginski, A.I.

IEEE Trans. Magn. MAG-15: 509; 1979.

Standards for Superconductors;

Fickett, F.R.; Clark, A.F.

Proc., DoE Conf. 79-0854, Mechanical and Magnetic Energy Storage, U.S. Dept. of Energy, Washington, DC, pp 3-8; 1979.

Materials for Superconducting Magnet Systems;

Fickett, F.R.; Reed, R.P., eds.

Traverse City, MI: Belfour-Stulen, Inc.; 1979.

Structures, Insulators, and Conductors for Large Superconducting Magnets;

Fickett, F.R.; Reed, R.P.; Dalder, E.N.C.

J. Nucl. Mater. 85 and 86: 353-360; 1979.

Space Applications of Superconductivity: High Field Magnets;

Fickett, F.R.

Cryogenics 19: 691-701; 1979.

A Convenient Standard for Low-Field Susceptibility Calibration;

Rosenbaum, J.; Larson, E.; Hoblitt, R.; Fickett, F.R.

Rev. Sci. Instrum. 50: 1027; 1979.

Development of Standards for Superconductors;

Fickett, F.R.; Clark, A.F.

NBSIR 80-1629; Dec 1979.

Material Studies for Superconducting Machinery Coil Composites;
Ekin, J.W.; Kasen, M.B.; Read, D.T.; Schramm, R.E.; Tobler, R.L.; Clark, A.F.
NBSIR 80-1633; Nov 1979.

A Standards Program for AC Losses in Superconductors;
Radebaugh, R.; Fujii, G.; Read, D.T.; Clark, A.F.
Intl. Congress of Refrigeration, IIR AI/2-10: 1-4; Sep 1979.

Materials Studies for Magnetic Fusion Energy Applications at Low Temperatures - II;
Fickett, F.R., ed.
NBSIR 79-1609, 496 pp; Jun 1979.

Magnetic Properties of the 'Nonmagnetic' Stainless Steels;
Fickett, F.R.
in NBSIR 79-1609, pp 283-293; Jun 1979.

Definitions of Terms for Practical Superconductors. 3. Fabrication, Stabilization, and Transient Losses;
Read, D.T.; Ekin, J.W.; Powell, R.L.; Clark, A.F.
Cryogenics 19(6): 327-332; Jun 1979.

Materials for Superconducting Magnets for MHD Power Systems, a Usage Survey and a Proposed Research Program;
Reed, R.P.; McHenry, H.I.; Kasen, M.B.; Fickett, F.R.; Dalder, E.N.C.
MIT Program Report on MHD; Jun 1979.

Review of the 1978 NBS/DoE Workshop on Materials at Low Temperatures;
Fickett, F.R.; Reed, R.P.
Proc., 1st Topical Meeting on Fusion Reactor Materials; Miami Beach, FL, p 352; Jan 1979.

Properties of a Superconducting Coil Composite and Its Components;
Clark, A.F.; Arp, V.D.; Ekin, J.W.
Proc., Intl. Conf. on Magn. Tech., MT-6, Alpha, Bratislava, Czechoslovakia, pp 673-679;
1978.

Effects of Stress on Practical Superconductors;
Clark, A.F.
Proc., Intl. Conf. on Magn. Tech., MT-6, Alpha, Bratislava, Czechoslovakia, pp 612-618;
1978.

Fatigue and Stress Effects in NbTi and Nb₃Sn Multifilamentary Superconductors;
Ekin, J.W.
Adv. Cryo. Eng., Vol. 24, p 306; 1978.

Current Transfer in Multifilamentary Superconductors. I. Theory;
Ekin, J.W.
J. Appl. Phys. 49(6): 3406-3411; 1978.

Special Purpose Materials: An Assessment of Needs and the Role of these Materials in the National Program;
Gold, R.E.; Fickett, F.R.; et al.
Proc., 3rd Topical Meeting on the Technology of Controlled Nuclear Fusion, DoE Conf-780508;
1978.

Superconductor and Magnetic Measurement

Low Temperature Specific Heat of Two Stainless Steels;
Ho, J.C.; King, G.B.; Fickett, F.R.
Cryogenics 18: 296; 1978.

Advances in Cryogenic Engineering, Vol. 24;
Timmerhaus, K.D.; Reed, R.P.; Clark, A.F.
Proc., 2nd Intl. Cryogenic Mater. Conf., Aug 1977; Boulder, CO, New York: Plenum Press;
1978.

Magnet Materials for Fusion Energy;
Fickett, F.R.
Section of the Fusion Reactor Materials Program Plan, sect. IV, Special Purpose Materials;
U.S. DoE Report DoE/ET-0032/4; Jul 1978.

Current Transfer in Multifilamentary Superconductors, II. Experimental Results;
Ekin, J.W.; Clark, A.F.; Ho, J.C.
J. Appl. Phys. 49(6): 3410-3411; Jun 1978.

High Field Magnets; ;
Fickett, F.R.
Chap. 2 in the Role of Superconductivity in the Space Program: An Assessment of Present
Capabilities and Future Potential, NBSIR 78-885; May 1978.

Materials Studies for Magnetic Fusion Energy Applications at Low Temperatures - I;
Fickett, F.R.; Reed, R.P.
NBSIR 78-884; Apr 1978.

Definitions of Terms for Practical Superconductors, 2. Critical Parameters;
Powell, R.L.; Clark, A.F.
Cryogenics 18(3): 137-141; Mar 1978.

Investigation of a Practical Superconductor with a Copper Matrix;
Fickett, F.R.
INCRA Annual Report, Project No. 255; Jan 1978.

Mechanisms for Critical-Current Degradation in NbTi and Nb₃Sn and NbTi Multifilamentary Wires;
Ekin, J.W.
Proc., 1976 Applied Superconductivity Conf., IEEE Trans. Magn. MAG-13: 127; 1977.

A Review of the NBS-ERDA Workshop on Materials at Low Temperatures;
Fickett, F.R.; Reed, R.P.
Proc., 7th Symp. on Engineering Problems of Fusion Research, IEEE Pub. No.
77CH1267-4-NPS: 1506-1509; 1977.

A Low Temperature Materials Research Program for Magnetic Fusion Energy;
Fickett, F.R.; Kasen, M.B.; McHenry, H.I.; Reed, R.P.
Adv. Cryogenic Eng. 24: 52; 1977.

Studies of Superconducting Wires from Niobium Precipitated in Copper-Tin-Niobium Alloys;
Fickett, F.R.; Sparks, L.L.; Kasen, M.B.
Manufacture of Superconducting Materials, R. W. Meyerhoff, ed., American Society for
Metals, Metals Park, OH, p 164; 1977.

The Low Temperature Tensile Behavior of Copper-Stabilized Niobium-Titanium Superconducting Wire;
Reed, R.P.; Mikesell, R.P.; Clark, A.F.
Adv. Cryo. Eng., Vol. 22, pp 463-471; 1977.

A Simple Method for Producing High Conductivity Copper for Low Temperature Applications;
Rosenblum, S.; Steyert, W.A.; Fickett, F.R.
Cryogenics 17: 645; 1977.

Definition of Terms for Practical Superconductors, I. Fundamental States and Flux Phenomena;
Powell, R.L.; Clark, A.F.
Cryogenics 17(12): 697-701; Dec 1977.

Magnetic Fusion Energy Low Temperature Materials Program - A Survey;
Reed, R.P.; Fickett, F.R.; Kasen, M.B.; McHenry, H.I.
Report to ERDA Division of Magnetic Fusion Energy; Mar 1977.

Defining Critical Current;
Clark, A.F.; Ekin, J.W.
IEEE Trans. Magn. MAG-13(1): 38-40; Jan 1977.

Effect of Strain on the Critical Current of Nb₃Sn and NbTi Multifilamentary Composite Wires;
Ekin, J.W.; Clark, A.F.
AIP Conf. Proc., No. 34, New York: Amer. Inst. Phys., pp 81-83; 1976.

Effect of Stress on the Critical Current of NbTi Multifilamentary Composite Wire;
Ekin, J.W.; Fickett, F.R.; Clark, A.F.
Adv. Cryo. Eng., Vol. 22, pp 449-452; 1976.

Effect of Stress on the Critical Current of Nb₃Sn Multifilamentary Composite Wire;
Ekin, J.W.
Appl. Phys. Lett. 29: 216; 1976.

Properties of Nonsuperconducting Technical Solids at Low Temperatures - An Update;
Fickett, F.R.
Proc., 5th Intl. Conf. on Magn. Tech. (MT-5), Rome, Laboratori Nazionali del CNEN,
Frascati, Italy, p 659; 1976.

Magnetic and Electrical Properties of Internally Oxidized FeCu Alloys;
Fickett, F.R.
Amer. Inst. Phys. Conf. Proc., 34: 25; 1976.

Structural Materials for Cryogenic Applications;
Fickett, F.R.
Proc., 6th Intl. Cryogenic Eng. Conf., May 11-14, 1976; Grenoble, France; IPC Science and
Technology Press, p 20; 1976.

A Research Program on the Properties of Structural Materials at 4 K;
Reed, R.P.; Clark, A.F.; van Reuth, E.C.
Adv. Cryo. Eng., Vol. 22, pp 1-8; 1976.

On Lysozyme as a Possible High-Temperature Superconductor;
Sorenson, C.M.; Fickett, F.R.; Mockler, R.C.; O'Sullivan, W.J.; Scott, J.F.
J. Phys. C: Solid State Phys. 9: L251; 1976.

Superconductor and Magnetic Measurement

Advances in Cryogenic Engineering, Vol. 22;
Timmerhaus, K.D.; Reed, R.P.; Clark, A.F.
Proc., 1st Intl. Cryogenic Mater. Conf., Aug 1975; Kingston, Ontario, New York: Plenum Press; 1976.

Stress Effects in Superconductors;
Clark, A.F.
Cryogenics 16(10): 632-633; Oct 1976.

Controlled Thermonuclear Reactors: A Prospective Large-Scale Use of Pure Copper;
Fickett, F.R.
INCRA Research Report; Aug 1976.

Characterization of a Superconducting Coil Composite and Its Components;
Clark, A.F.; Weston, W.F.; Arp, V.D.; Hust, J.G.; Trapani, R.J.
NBSIR 76-837; Jul 1976.

Low Temperature Thermal Expansion of Barium Ferrite;
Clark, A.F.; Haynes, W.M.; Deason, V.A.; Trapani, R.J.
Cryogenics 16(3): 267-270; May 1976.

A Preliminary Investigation of the Behavior of High Purity Copper in High Magnetic Fields and a Final Summary of Project 186;
Fickett, F.R.
INCRA Annual Report, Project No. 186C; Mar 1976.

Critical Currents in Granular Superconductors;
Ekin, J.W.
Phys. Rev. B 12: 2676; 1975.

A Technique for Preparing Homogeneous Bulk Samples of Concentrated Alloys;
Ekin, J.W.; Deason, V.A.
Rev. Sci. Instr. 46: 327; 1975.

The Magnetic Coupling Force of the Superconducting dc Transformer;
Ekin, J.W.; Clem, J.R.
Phys. Rev. B 12: 1753; 1975.

Materials Research for Superconducting Machinery - IV;
Reed, R.P.; Clark, A.F.; van Reuth, E.C., eds.
Semi-Annual Tech. Rept., Mar-Sep 1975; Advanced Research Projects Agency, Arlington, VA ADA019230; Oct 1975.

Materials Research for Superconducting Machinery - III;
Reed, R.P.; Clark, A.F.; van Reuth, E.C., eds.
Semi-Annual Tech. Rept., Sep. 74-Mar 75; Advanced Research Projects Agency, Arlington, VA, ADA012365; Apr 1975.

Oxygen Annealing of Copper: A Review;
Fickett, F.R.
Mater. Sci. and Eng. 14: 199; 1974.

Magnetic Studies of Oxidized Impurities in Pure Copper Using a SQUID System;
Fickett, F.R.; Sullivan, D.B.
J. Phys. F 4: 900; 1974.

Magnetothermal Conductivity;
Fickett, F.R.; Sparks, L.L.
NBSIR 74-393; 1974.

Magnetic Properties of Internally Oxidized Copper;
Fickett, F.R.; Sullivan, D.B.
AIP Conf. Proc., 18: 740; 1974.

U. S. Programs on Large Scale Applications of Superconductivity;
Powell, R.L.; Fickett, F.R.; Birmingham, B.W.
Chap. 17 in *Superconducting Machines and Devices--Large Systems Applications*; Proc., NATO Advanced Study Inst., Sep 5-14, 1973; Entreves, Italy; S. Foner and B.B. Schwartz, eds., New York: Plenum Press, pp 651-675; 1974.

Magnetothermal Conductivity;
Sparks, L.L.; Fickett, F.R.
NBSIR 74-359; 1974.

Materials Research for Superconducting Machinery - II;
Clark, A.F.; Reed, R.P.; van Reuth, E.C., eds.
Semi-Annual Tech. Rept., Mar-Sep 74; Advanced Research Projects Agency, Arlington, VA, ADA004586; Oct 1974.

A Preliminary Investigation of the Behavior of High Purity Copper in High Magnetic Fields;
Fickett, F.R.
INCRA Annual Report, Project No. 186B; Aug 1974.

Materials Research for Superconducting Machinery; ;
Clark, A.F.; Reed, R.P.; van Reuth, E.C., eds.
Semi-Annual Tech. Rept., Sep 1973-Mar 1974; Advanced Research Projects Agency, Arlington, VA, AD780596; Mar 1974.

Characterization of a Superconducting Coil Composite;
Fowlkes, C.W.; Angerhofer, P.E.; Newton, R.N.; Clark, A.F.
NBSIR 73-349; Dec 1973.

Superconducting Levitation of High Speed Vehicles;
Arp, V.D.; Clark, A.F.; Flynn, T.M.
Transport. Eng. J., ASCE 99: 873-885; Nov 1973.

A Compilation and Evaluation of Mechanical, Thermal and Electrical Properties of Selected Polymers;
Schramm, R.E.; Clark, A.F.; Reed, R.P.
NBS MN 132; Sep 1973.

A Preliminary Investigation of the Behavior of High Purity Copper in High Magnetic Fields;
Fickett, F.R.
INCRA Annual Report, Project No. 186A; Aug 1973.

Superconductor and Magnetic Measurement

Some Applications of Cryogenics to High Speed Ground Transportation;
Arp, V.D.; Clark, A.F.; Flynn, T.M.
NBS TN 635; Feb 1973.

Mechanical, Thermal, and Electrical Properties of Selected Polymers;
Reed, R.P.; Schramm, R.; Clark, A.F.
Cryogenics 13: 67-82; Feb 1973.

Characterization of High Purity Metals by the Eddy Current Decay Method;
Clark, A.F.; Deason, V.A.; Powell, R.L.
Cryogenics 12: 35; 1972.

Material Variability as Measured by Low Temperature Electrical Resistivity;
Clark, A.F.; Tryon, P.V.
Cryogenics 12: 451-461; Dec 1972.

Properties of Nonsuperconducting Technical Solids at Low Temperatures;
Fickett, F.R.
Proc., 4th Intl. Conf. on Magnet Technology, AEC CONF-720903: 539; Sep 1972.

Magnetoresistivity of Copper and Aluminum at Cryogenic Temperatures;
Fickett, F.R.
Proc., 4th Intl. Conf. on Magnet Technology, AEC CONF-720908: 498; Sep 1972.

Combination of a Power Transmission Line and an Active Track for a Magnetically Suspended, High Speed Train;
Clark, A.F.
J. Appl. Phys. 43(8): 3598; Aug 1972.

A Preliminary Investigation of the Behavior of High Purity Copper in High Magnetic Fields;
Fickett, F.R.
INCRA Annual Report, INCRA Project No. 186; Jun 1972.

Standard Reference Materials: The Eddy Current Decay Method for Resistivity Characterization of High Purity Metals;
Clark, A.F.; Deason, V.A.; Hust, J.G.; Powell, R.L.
NBS SP 260-39; May 1972.

Magnetoresistance of Very Pure Polycrystalline Aluminum;
Fickett, F.R.
Phys. Rev. B 3: 1941; 1971.

Longitudinal Magnetoresistance Anomalies;
Fickett, F.R.; Clark, A.F.
J. Appl. Phys. 42: 217; 1971.

Martensitic Transformation Detection in Cryogenic Steels (Magnetometer Development);
Fickett, F.R.
NBS TN 613; 1971.

Defect Annealing (4 to 295 K) After Martensitic Phase Transformation in an Fe-29 Ni Alloy;
Reed, R.P.; Clark, A.F.; Schramm, R.E.
Scripta Met. 5: 485; 1971.

Characterization of High Purity Metals by the Eddy Current Decay Method;
Clark, A.F.; Deason, V.A.; Powell, R.L.
Mater. Res. Stand. 11(8): 25-28; Aug 1971.

Lorenz Ratio as a Tool for Predicting Thermal Conductivity of Metals and Alloys;
Hust, J.G.; Clark, A.F.
Mater. Res. Stand. 11(8): 22-24; Aug 1971.

Low Temperature Specific Heat and Thermal Expansion of Alloys;
Clark, A.F.; Kropschot, R.H.
Intl. Inst. of Refrigeration, Commission I, Sep 70, Tokyo, Bulletin de l'Institut Internationale
du Froid, Annexe 1970-2: 249; 1970.

Low Temperature Electrical Resistivity of Some Engineering Alloys;
Clark, A.F.; Childs, G.E.; Wallace, G.H.
Adv. Cryo. Eng., New York: Plenum Press, 15: 85-90; 1970.

Resistivity of Polycrystalline Aluminum and Copper in High Magnetic Fields: The Effect of Temperature and
Purity;
Fickett, F.R.
Appl. Phys. Lett. 17(12): 525-527; 1970.

Low Temperature Electrical Resistivity of Some Engineering Alloys; ;
Clark, A.F.; Childs, G.E.; Wallace, G.H.
Cryogenics 10: 295-305; Aug 1970.

AUTHOR INDEX

Adair, R.T.	28, 29, 31, 32
Aized, D.	43
Anderson, A.C.	14
Anderson, O.P.	36
Andrews, J.R.	27
Angerhofer, P.E.	73
Arndt, T	44
Arp, V.D.	69, 72-74
Arvidson, J.M.	63
Arvin, W.	15, 16
Asher, S.E.	15, 51
Ashley, J.R.	33
Auciello, O.	41
Aust, J.A.	42
Bahn, W.L.	50
Baker-Jarvis, J.	39
Bang, C.A.	10
Barbanera, S.	20
Barmak, K.	12
Barnard, J.A.	42
Barnes, F.S.	9, 10
Barnes, G.	7
Baruch, J.C.	60
Beale, P.D.	37
Beall, J.A.	3, 6, 8-12, 14-22, 51, 54, 55
Beasley, M.R.	62
Beck, H.L.	46
Bell, R.	63
Bender, B.K.	29
Benson, R.	59
Benz, S.P.	3, 5-9, 11, 12, 14, 15
Bergren, N.F.	44, 54, 56
Berkowitz, S.J.	4, 6-9, 11, 42
Bertness, K.A.	40
Birmingham, B.W.	73
Blankenship, B.A.	55, 56
Bode, M.	41
Booi, P.A.A.	5-9, 11, 12
Booth, J.G.	51
Borcherdt, L.J.	3, 7, 8
Borner, G.	41
Bozovic, I.	6
Bradford, A.G.	6
Braginski, A.I.	57, 68
Brasunas, J.C.	16
Bray, S.L.	36, 39, 40, 43, 44, 46, 47, 50, 52-55, 58
Brug, J.A.	48
Burk, B.	43
Burnell, D.M.	15
Burroughs, C.J.	3, 4, 7, 8, 11, 14-16, 19
Bussey, H.E.	58

Cabrera, B.	4-6, 11, 12, 14, 15
Campbell, W.H.	25, 30
Capobianco, T.E.	16, 48, 51, 53-60
Capone, D.W.	57
Carelli, P.	4, 24
Carter, W.	48
Castles, S.	10
Chakoumakos, B.C.	39
Chen, D.-X.	17, 44, 45, 56
Chen, H.S.	59, 60, 65, 66
Chen, M.L.	3
Chiang, C.K.	52
Chiang, Y.-M.	52
Chiang, Y-H.	54
Chiarello, F.	4
chieh, K.	15-17
Childs, G.E.	75
Chow, A.F.	41
Chow, H.M.	15
Chugg, B.	6
Ciciora, S.J.	16, 48
Cima, M.J.	15, 39, 40
Cirillo, M.	4, 19
Ciszek, T.	56
Clark, A.F.	20, 24, 41, 55-59, 61-75
Clark, A.M.	8, 42
Clarke, J.	40, 41, 43
Clem, J.R.	46, 72
Clickner, C.C.	36, 40, 42, 46
Cline, J.P.	49
Cochran, J.F.	59
Coffey, K.R.	13
Coffey, M.W.	9, 41, 43, 45, 46
Cohen, D.	34
Cole, B.F.	45
Collings, E.W.	51
Colwell, J.H.	20
Condron II, M.R.	13, 38
Cooley, L.D.	40-42
Cosgrove, J.	3
Cosmelli, C.	4
Costabile, G.	24
Costantini, A.	4
Crawford, T.M.	38
Crete, D.G.	19, 20
Cromar, M.W.	3, 7, 8, 11-15, 17-21, 23, 24, 59, 61, 62
Cross, R.W.	36-39, 42, 44, 45, 47, 48, 50, 51
Cunningham, C.E.	11, 12, 14, 15
Cupp, J.D.	30-35
Cutro, J.A.	12
Daalmans, G.	3
Dalder, E.N.C.	68, 69
Damento, M.A.	55, 56
Danchi, W.C.	16, 17

Daney, D.E.	23
Danielson, B.L.	30-32
Danielson, P.	53
Dantsker, E.	40, 41
de Lozanne, A.L.	5
de Obaldia, E.I.	8, 11, 42
Deason, V.A.	72, 74, 75
Deb, S.K.	55
DeGroot, D.C.	3, 6
DeLima, O.F.	57
Devoret, M.H.	5, 10, 12
Dhere, N.G.	18
Dhere, R.G.	15, 18
Dilorio, M.S.	19
Dinger, R.J.	31
Doderer, T.	6, 8, 9, 11, 12
Dou, S.X.	46, 49
Drabeck, L.M.	8
Dragomirecky, M.	59
Dravid, V.P.	10
Dube, W.P.	48, 55, 58-60
Duffield, C.	60
Dulcie, L.L.	37, 55, 57
Dynes, R.C.	30
Dziuba, R.F.	30, 31
Eckstein, J.N.	5, 6
Edelsack, E.A.	34
Edrich, J.	27-29, 32
Eiles, T.M.	8-10, 12-14
Ekin, J.W.	16-18, 36, 37, 39-72
Ellington, M.B.	61
Evenson, K.M.	6, 33-35
Face, D.W.	19
Fast, R.W.	61
Felder, R.J.	12
Fickett, F.R.	20, 31, 42, 44, 47, 48, 51, 52, 56-75
Field, B.F.	19
Finnemore, D.K.	46-48, 62
Fiske, R.	36
Flandermyer, B.	57
Flik, M.I.	10
Flynn, T.M.	28, 73, 74
Fogle, W.E.	20
Folsom, R.M.	54, 56
Foner, S.	12, 13
Fowlkes, C.W.	73
Franz, J.	44
Frederick, N.V.	21, 25, 27-29, 31, 32, 34
Friedman, D.J.	45
Frommberger, M.	3
Fujii, G.	66, 67, 69
Furdyna, J.K.	43, 46

Gabutti, A.	16, 17
Gaddipati, A.R.	51, 52
Galloway, M.L.	11
Galt, D.	6, 9, 10, 13
Gardner, J.B.	61
Garrett, H.J.	67
Gavaler, J.R.	64, 65
Gayley, R.I.	28
Geballe, T.H.	61
Gedanken, A.	36
Genens, L.	67
Geyer, R.G.	39
Ghosh, R.N.	14
Giarratano, P.J.	25
Gilbert, K.C.	14
Ginley, D.S.	54
Ginsberg, D.M.	30
Go, D.	17-19
Goeke, K.	17
Gold, R.E.	69
Goldberg, I.B.	51
Goldfarb, R.B.	17, 36, 38, 39, 43-45, 47-52, 54-61, 63-66
Goodrich, L.F.	5, 36, 38-40, 42-44, 46-50, 52-60, 62-67
Goral, J.P.	18
Goree, W.S.	32, 33
Gould, D.	55
Graettinger, T.M.	41
Gray, K.E.	16, 17
Graybeal, J.M.	15, 47
Greggi, J.	64, 65
Gregory, E.	36, 37, 54
Grishin, A.M.	40, 43
Grossman, E.N.	4, 6-11, 13-15
Gschneider, K.A.	55, 56
Gulko, E.	36, 37
Guo, Y.C.	46, 49
Gurevich, A.	41, 42
Gutt, G.M.	13
Gyorgy, E.M.	12
Haddad, J.W.	43
Halbritter, J.	15
Hallett, B.	42
Hamilton, C.A.	3-5, 7, 10, 11, 13-29, 32, 33
Han, B.	10
Harris, R.E.	19, 21-23, 25-30
Hart, H.R., Jr.	51, 52
Hartwig, G.	68
Harvey, T.E.	6-8, 10-15, 46
Havemann, R.H.	28
Haynes, W.M.	72
Hazzenzahl, W.V.	64
Hechtfischer, G.	3
Heinrich, B.	59
Heinz, W.	61

Hellman, F.	61
Hermann, A.M.	53
Hilton, G.C.	4
Hinken, J.H.	21, 22
Hirabayashi, H.	56
Hirahara, A.S.	4
Hirooka, T.	55
Ho, J.C.	67, 70
Hobbs, R.D.	25
Hoblitt, R.	68
Hoer, C.A.	31, 32
Hoffmann, D.	9, 11, 12
Hoinville, J.R.	36
Holthuis, J.T.	61, 64
Hong, M.	57, 61, 62, 64
Hong, S.H.	3
Hopkins, P.F.	38, 39
Hossain, S.A.	42
Houseman, E.K.	13
Howard, R.E.	18
Howe, J.E.	11
Hu, Q.	16-18
Hu, X.	36, 37
Huang, Q.	39
Huber, M.E.	3, 11-15
Huebener, R.P.	6, 8, 9, 11, 12
Hull, G.W., Jr.	64
Hust, J.G.	72, 74, 75
Hyun, O.B.	44, 45
Irwin, K.D.	4, 6
Ishida, T.	44, 48, 49, 52
Itoh, K.	43, 55
Ives, J.T.	24
Iyer, H.	51
Jaffe, D.T.	11
Jaminet, P.A.	16, 17
Janocko, M.A.	57
Jarvis, S.	32
Jeanneret, B.	13, 46, 49, 51
Jensen, H.D.	8, 10, 13
Jiang, X.P.	15
Johansson, M.E.	14, 15, 40
Johnson, E.G., Jr.	29-31, 33
Johnson, W.	21
Jones, H.	55
Jones, K.	63
Joshi, C.H.	40, 43
Kabani, R.	53
Kalkur, T.S.	14, 48-50
Kamper, R.A.	28, 30-35, 57
Kampwirth, R.T.	17
Kang, J.	15
Kaplan, S.B.	26, 67

Kasen, M.B.	69-71
Kasmerski, L.L.	15
Katayama-Yoshida, H.	55
Katti, R.R.	44, 48
Kautz, R.L.	5-9, 11-28, 60, 61
Kawazoe, Y.	37
Kazmerski, L.L.	18, 56
Kazumata, Y.	44, 49
Keller, M.W.	4
Keramidas, A.D.	36
Kibbler, A.E.	45
Kim, S.H.	47, 67
Kim, Y.K.	36-40
Kimminau, K.R.	12
Kinder, H.	3
King, G.B.	70
Kingon, A.I.	41
Kirchmann, N.	12
Kirchmayr, H.	39
Kirschenbaum, L.S.	37, 39
Kleiner, R.	3
Klipping, G.	61
Knappe, S.	41
Koch, H.	41
Koch, J.A.	7, 8
Kocpol, W.	18
Koelle, D.	40, 41
Kos, A.B.	39, 42, 44, 48
Kose, V.E.	34, 35
Kosobukin, V.A.	39
Kramer, C.	40
Kreider, K.G.	49
Kreilick, T.S.	54
Kropschot, R.H.	75
Krulle, C.A.	12
Ku, H.C.	58
Kucera, J.T.	47
Kumakura, H.	53
Kunkel, G.	3, 4, 6, 7
Kupferman, S.L.	4
Kuroda, T.	44, 46, 47
Kwo, J.	57, 58
Lachenmann, S.G.	6, 8, 9, 11, 12
Lakew, B.	16
Lambert, N.	20
Larbalestier, D.C.	41, 62
Larsen, B.H.	7
Larson, E.	68
Larson, T.M.	53, 56
Ledbetter, H.	47
Lee, A.T.	5
Lee, P.J.	38
Lelental, M.	48, 50
Li, H.Q.	3, 4

Li, Q.	46, 48
Li, Y.	54, 55
Li, Y.K.	52, 56
Lichtenwalner, D.J.	14, 41
Liou, S.H.	3, 36, 38, 57
Liu, H.K.	46, 49
Livingston, C.A.	11
Lloyd, F.L.	16-27
Lockhart, J.M.	13
Lonzarich, G.	59
Loughran, R.J.	49, 51
Ludwig, Jr., K.F.	8
Ludwig, K.F.	11
Luo, J.	15
MacDonald, M.E.	7
MacFarlane, J.C.	60
Madden, M.	54
Maher, D.M.	61
Mahroof-Tahir, M.	36
Malhotra, S.S.	36, 38, 39
Malone, K.J.	42
Mangum, J.G.	11
Mankiewich, P.M.	8, 9, 11, 18, 42
Marken, K.R., Jr.	51
Marks, R.B.	6
Marks, T.J.	10
Martens, J.S.	40
Martinis, J.M.	4-10, 12-14, 16, 17
Masarie, K.A.	17
Mascarenhas, A.J.	55
Mason, A.R.	15, 18
Matthiesen, M.M.	15
McCarthy, S.M.	25
McCloreys, M.J.	43
McConnell, R.D.	18
McDonald, D.G.	3, 7, 10, 12-18, 20-25, 28-35
McFarlane, J.C.	21
McGrath, W.R.	19-21
McHenry, H.I.	66, 69-71
McIntyre, P.C.	39, 40
McKinnell, J.C.	40
Mears, C.A.	16-18
Medina, L.T.	36, 40
Mikesell, R.P.	71
Miklich, A.H.	40, 41
Miller, D.L.	15
Miller, J.R.	3
Miller, M.M.	36
Miller, T.A.	47, 48
Minervini, J.V.	59, 62, 63
Missert, N.	7-12, 45
Mitchell, M.R.	51
Mockler, R.C.	71
Moerman, R.	8, 42

Monaco, R.	18, 22
Moodera, J.S.	53, 54
Moon, B.M.	43
Moore, D.F.	23
Morales, G.	11
Moreland, J.	13, 14, 36, 38-61
Morosin, B.	54
Morris, P.A.	41
Moseley, S.H.	16
Moser, E.K.	43, 46
Motowidlo, L.R.	43
Moulder, J.C.	16, 58
Muhlfelder, B.	13, 20, 21, 23
Mullen, L.O.	35
Murphy, A.R.	51
Myrtle, K.	59
Nagano, H.	61
Nahum, M.	7, 8, 10
Nam, S.W.	5, 6
Naujoks, G.A.	4
Nelson, A.J.	15, 18, 41, 51, 54, 56
Nemeth, D.T.	40, 41
Neumayer, D.A.	10
Newton, R.N.	73
Niemeyer, J.	12, 21, 22
Nikolo, M.	54
Nisenoff, M.	32
Nogues, J.	56
O'Sullivan, W.J.	71
Oberly, C.E.	67
Ochiai, A.	55
Okabe, Y.	55
Okayasu, S.	44, 49
Oldham, N.M.	18
Olien, N.A.	32, 33
Olson, J.M.	40, 45
Ono, R.H.	3, 4, 6-22, 42, 46, 48-52, 54, 55
Orlando, T.P.	15, 47
Oti, J.O.	37-39, 43, 45, 46
Oyamada, A.	55
O'Malley, M.L.	8
Pankove, J.I.	55
Panson, A.J.	55-57
Park, G.S.	6, 11, 12, 14
Parker, M.R.	42
Pasztor, G.	63
Patton, C.E.	51, 65, 66
Perkins, J.D.	47
Petersen, F.R.	30-32
Petersen, T.W.	48, 50, 51
Peterson, R.L.	16-19, 23-25, 27-29, 34, 45, 53
Pettiette-Hall, C.L.	43

Phelan, R.J.	3
Pieper, J.B.	14
Pittman, E.S.	58, 59, 62, 63, 65
Polakos, P.A.	8
Popel, R.	12
Powell, R.L.	67, 69-71, 73-75
Prater, C.	41
Price, J.C.	6, 9, 10, 12, 14
Prober, D.E.	19
Prusseit, W.	3
Przybysz, J.X.	15
Pyon, T.	36, 37
Quenter, D.	12
Radebaugh, R.	28, 30, 32, 34, 67-69
Raisanen, A.V.	19-21
Ranney, M.A.	66, 67
Rao, K.V.	43, 56, 59, 60, 65, 66
Read, D.T.	68, 69
Reed, R.P.	63, 66-74
Reintsema, C.D.	6-14
Reite, M.	24, 27-29
Rice, J.P.	8-11
Rice, P.	37, 41-46, 48-51, 53
Richards, P.L.	5, 16-21, 26, 27
Ried, D.L.	54
Risley, A.S.	29, 31-34
Rizzoto, C.	61
Rodenbush, A.J.	3, 40, 43
Rogers, C.T.	36-39
Rosenbaum, J.	68
Rosenblum, S.	71
Rosenthal, P.A.	7, 9, 11, 12
Roshko, A.	5, 8, 38-43, 45-47, 49, 51-54
Roth, R.S.	39
Rotoli, G.	4
Rubin, L.M.	47
Rudman, D.A.	3-15, 42, 45, 46, 49, 51
Russek, S.E.	36-43, 45, 46, 49, 51
Sabatini, R.L.	53
Salama, K.	48, 50
Salem-Sugui, S.	49
Sanchez, A.	44, 45
Sanders, S.C.	37-43, 45, 46
Sanford, N.A.	42
Santoro, A.	39
Sasaki, T.	55
Sauvageau, J.E.	7, 8, 10, 13-18
Schauer, W.	44
Schmidt, J.	11, 12
Schmidt, M.A.	10
Schneemeyer, L.F.	12
Schoon, R.H.	63

Schramm, R.E.	67-69, 73, 74
Schwarzbek, S.M.	43
Scott, J.F.	71
Sekine, H.	66
Selvamanickam, V.	48, 50
Sengupta, S.	46
Shafi, K.V.	36
Shapiro, A.	49
Shelton, R.N.	58
Shen, T.M.	26, 27
Sheng, Z.Z.	53
Shi, D.	46, 49
Siegarth, J.D.	28, 30, 32-34
Silva, T.J.	37-39
Silver, A.H.	30, 35
Simmonds, M.B.	15, 16, 31-33
Sinha, K.	41
Skocpol, W.J.	8, 9, 11, 42
Smathers, D.	53
Smith, A.J.	9
Smith, D.R.	44
Smith, J.L.	41
Smith, M.	46
Sok, J.	46
Sorenson, C.M.	71
Sorrell, C.C.	49
Soulen, R.J.	25, 41
Soulen, R.J., Jr.	20
Sparks, L.L.	70, 73
Spllett, J.	51
Spomer, R.L.	52
Srinivasan, G.	51
Srivastava, A.N.	38-40, 42-44, 46, 47, 49, 52
Stacey, G.J.	11
Stadler, H.L.	48
Stanley, W.D.	31
Stauffer, T.C.	40, 42-44, 49, 53, 54
Stehle, S.	12
Steinbach, A.H.	3-5
Steiner, R.L.	19, 21
Steyert, W.A.	71
Stieg, M.	15, 16
Stork, F.J.B.	3
Suenaga, M.	53, 67
Sullivan, D.B.	22-31, 33-35, 73
Summers, L.T.	40
Sumption, M.D.	51
Superczynski, M.J.	39, 63, 65, 67
Sutton, E.C.	16, 17
Suzuki, T.	55
Swartzendruber, L.J.	52
Swartzlander, A.B.	15, 18, 56
Tachikawa, K.	42, 55, 64, 66
Takagi, T.	52

Takahashi, T.	55
Takeuchi, E.	36
Tenbrink, J.	47, 48
Terada, M.	53
Thompson, C.A.	42, 44, 48, 50-52
Thomson, R.E.	7, 39-41, 43, 45
Timmerhaus, K.D.	70, 72
Tinkham, M.	62
Tobler, R.L.	69
Togano, K.	53
Tomasch, W.J.	43, 46
Torrioli, G.	4
Tortonese, M.	5
Trajanovic, Z.	36
Trapani, R.J.	72
Trott, K.A.	40
Tryon, P.V.	74
Turneaure, J.P.	13
Uwia, K.	47
Vale, L.R.	3-9, 11, 12, 42, 43, 46
Van Reuth, E.C.	71-73
Van Vechten, D.	24, 25
Vanderah, T.A.	39
VanderSande, J.B.	15, 47
VanDover, R.B.	12
VanZeghbroeck, B.J.	23
Veasey, D.L.	42
Vecchia, D.F.	55, 62, 63
Veit, K.	3
Venkatesan, T.	36
Venturini, E.L.	54
Virshup, G.F.	6
Voccio, J.P.	40
Vorreiter, J.W.	27
Wada, H.	42, 44, 46, 47, 55
Wadas, A.	42-45
Wagner, R.G.	16, 17
Walker, D.K.	12
Walker, M.S.	67
Wall, W.F.	11
Wallace, G.H.	75
Walsh, T.	14, 48-50
Walters, C.R.	42, 55
Waltman, D.J.	39, 63, 65
Wang, S.T.	67
Wang, Z.	46, 49
Waszczak, J.V.	12
Wells, J.S.	32, 34, 35
Welty, R.P.	6, 12
Weston, W.F.	72
White, A.E.	12
Whiteley, S.	17

Wiejaczka, J.A.	36, 39, 40, 42
Wiesenfeld, K.	9
Williams, D.F.	12
Williams, E.R.	14
Wilmer, R.	64
Wipf, S.L.	42
Withers, R.S.	18
Wolf, P.	23
Wolf, S.A.	32
Wollman, D.A.	4
Wong-Ng, W.	39
Wu, H.D.	9, 10
Wu, J.C.	48
Xizhi, L.	18
Xu, J.-H.	43
Xu, Yizi	36
Yu, K.	56
Yuan, C.W.	5
Yuyama, M.	46
Zeitlin, B.A.	67
Zettl, A.	43
Zhang, D.	40
Zhang, H.	10
Zheng, G.-G.	43
Zheng, Z.	5
Zhu, J.G.	45
Zimmerli, G.	12-14
Zimmerman, J.E.	19-35
Zimmerman, J.T.	24, 27, 29
Zimmerman, N.M.	4
Zink, L.R.	6

