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A Bibliography of Publications of the NIST Electromagnetic Technology Division

Sara Metz, Editor



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Sara Metz, Editor
Electronics and Electrical Engineering Laboratory
Electromagnetic Technology Division

December 2000



U.S. Department of Commerce
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Technology Administration
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CONTENTS

	<i>Page</i>
INTRODUCTION	1
CITATIONS	3
AUTHOR INDEX	45

A Bibliography of Publications of the NIST Electromagnetic Technology Division

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This bibliography lists the publications of the staff of the Electromagnetic Technology Division of NIST during the period from January 1970 through July 1999. The bibliography's main section, Cryoelectronic Metrology, lists citations in the following project areas: Josephson Array Development; Nanoscale Cryoelectronics; High-Performance Sensors, Infrared Detectors, and Mixers; and High-Tc Electronics. The most recent publications are listed first and arranged alphabetically by authors' names.

Key words: cryoelectronics; X-ray detectors; voltage standards; Josephson junctions; superconductivity

INTRODUCTION

The Electromagnetic Technology Division was formed during the reorganization of the National Bureau of Standards (now the National Institute of Standards and Technology) in April 1978 by combining parts of the former Electromagnetics and Cryogenics Divisions. It developed measurement methods and standards and provided metrological support for laser systems, optical communication equipment, cryoelectronics, magnetics, superconductors, and other unusual electrical engineering materials. Therefore, this bibliography covers the period beginning before the reorganization and includes at least the more recent origins of the present work of the division. In 1994, the Electromagnetic Technology Division was divided into two divisions: the Electromagnetic Technology Division, which now includes projects in areas of cryoelectronics metrology and superconductor and magnetic measurement, and the Optoelectronics Division, which encompasses projects in the former optoelectronics group.

In 2000, the Electromagnetic Technology Division was divided again: the Division's projects now focus on metrological applications of cold electronics, while the new Magnetics Group was formed from those projects that deal with bulk superconductors and magnetic measurements. This Bibliography contains the publications of the Division as it is organized now.

Other information sources may be useful to the reader who is interested in NIST activities connected with electromagnetic metrology. Two companion bibliographies, NISTIR 5098 and NISTIR 5099, list publications of the Radio-Frequency Technology Division and the Optoelectronics Division for the same period. Similarly, the newly-formed Magnetics Group has published its own bibliography, NISTIR 6600. An excellent summary of the whole field of electromagnetic metrology as it stood in 1967 was published as a special issue of the Proceedings of the IEEE (volume 55, June 1967). Advances in the following decades were described in two other special issues of the same journal (volume 66, April 1978, and volume 74, January 1986).

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	NBS IR - NBS Interagency/Internal Report
NIST TN - NIST Technical Note	NBS TN - NBS Technical Note
NIST SP - NIST Special Publication	NBS SP - NBS Special Publication
NIST HB - NIST Handbook	NBS HB - NBS Handbook
NIST JRES - NIST Journal of Research	NBS JRES - NBS Journal of Research
NIST MN - NIST Monograph	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 (GPO) at the following address: New Orders, Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954. . The GPO website is at <http://www.access.gpo.gov/> and the order desk phone number is 202-512-1800. Orders may be paid by major credit card, or check or money order payable in U.S. dollars to the Superintendent of Documents. The Government Printing Office usually stocks these publications for a maximum of two years, after which they may be purchased from the National Technical Information Service (NTIS), Springfield, VA 22161. The NTIS website for information and ordering is at <http://www.ntis.gov>. The phone number for ordering is 703-487-4650.

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

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A large part of the labor of preparing a bibliography is spent collecting and arranging the material; Lisa Eldrige and Edie DeWeese assisted with these tasks. The main sources of material were the NIST Boulder Editorial Review Board's database, the National Technical Information Service, and information supplied by individual authors. I also thank each author for helping me keep our material up-to-date.

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AUTHOR INDEX

- | | | | |
|--------------------------|------------------------------------|--------------------------|---------------------------------------|
| Abusadi, R. | 4 | Chen, M.L. | 12 |
| Adair, R.T. | 36-41 | Chervenak, J. | 3, 7 |
| Akerib, D.S. | 4 | Chervenak, J.A. | 3, 4 |
| Aldrich, D.J. | 10 | Chiarello, F. | 12 |
| Alexanian, A. | 5 | Chieh, K. | 23-26 |
| Allen, C.A. | 3 | Chow, H.M. | 24 |
| Anderson, A.C. | 23 | Christian, L.A. | 4, 9-11 |
| Andrews, J.R. | 35 | Chugg, B. | 15 |
| Antonell, M. | 3 | Ciciora, S.J. | 25 |
| Arvin, W. | 23, 24 | Cima, M.J. | 24 |
| Asher, S.E. | 24 | Cirillo, M. | 12, 28 |
| Ashley, J.R. | 41 | Claassen, J.H. | 7 |
| Bang, C.A. | 19 | Claassen, J.H. | 5-7 |
| Barbanera, S. | 29 | Clark, A.F. | 29, 32 |
| Barmak, K. | 22 | Clark, A.M. | 17 |
| Barnes Jr., P.D. | 4 | Clarke, R.M. | 4 |
| Barnes, F.S. | 18 | Coffey, K.R. | 21, 22 |
| Barnes, G. | 15 | Coffey, M.W. | 17 |
| Bauer, D.A. | 4 | Cohen, D. | 43 |
| Beall, J.A. | 3, 6-8, 11, 12, 15-21, 23-30 | Cohen, L.F. | 6, 7 |
| Beatty, G.J. | 6 | Colling, P. | 4 |
| Bender, B.K. | 37 | Colwell, J.H. | 28 |
| Benz, S.P. | 4-18, 20, 21, 23 | Condron II, M.R. | 21 |
| Bergman, D.I. | 3 | Cosgrove, J. | 11 |
| Bergquist, J.C. | 3, 8 | Cosmelli, C. | 12 |
| Bergren, N.F. | 3, 4, 6, 9, 10 | Costabile, G. | 32 |
| Berkowitz, S.J. | 13-15, 17, 18, 21 | Costantini, A. | 12 |
| Blamire, M.G. | 10 | Covington, M. | 4 |
| Bolozdynya, A. | 4 | Crete, D.G. | 27-29 |
| Booi, P.A.A. | 13-18, 20, 21 | Crisler, M.B. | 4 |
| Booij, W.E. | 10 | Cromar, M.W. | 11, 16, 20, 21, 23, 24, 26, 28-31, 33 |
| Booth, J.C. | 5-7, 11, 12 | Cruz, F.C. | 8 |
| Borcherdt, L.J. | 11, 15, 16 | Cummings, A. | 4 |
| Boychev, V.A. | 5 | Cunningham, C.E. | 19, 20, 22, 24 |
| Bozovic, I. | 16 | Cupp, J.D. | 39-43 |
| Bradford, A.G. | 9, 13, 14 | Cutro, J.A. | 21 |
| Brasunas, J.C. | 25 | Da Silva, A. | 4 |
| Brink, P.L. | 4 | Daalmans, G. | 12 |
| Buchal, C. | 5 | Danchi, W.C. | 24, 26 |
| Bunker, R. | 4 | Daney, D.E. | 31 |
| Burnell, D.M. | 23 | Danielson, B.L. | 39, 40 |
| Burroughs, C.J. | 4, 5, 7-13, 16, 20, 21, 23, 25, 27 | Davies, A.K. | 4 |
| Cabrera, B. | 4, 6, 12, 13, 15, 19, 20, 22, 24 | de Lozanne, A.L. | 14 |
| Caldwell, D.O. | 4 | de Obaldia, E.I. | 17, 21 |
| Campbell, W.H. | 34, 39 | DeGroot, D.C. | 11, 12, 16 |
| Capobianco, T.E. | 25 | Deiker, S. | 3 |
| Carelli, P. | 12, 33 | Devoret, M.H. | 14, 19, 21 |
| Castellano, M.G. | 12 | Dhere, N.G. | 27 |
| Castles, S. | 19 | Dhere, R.G. | 24, 27 |
| Char, K. | 13 | Diebold, A.C. | 9, 10 |
| Chen, D.-X. | 26 | DiIorio, M.S. | 27 |

Dinger, R.J.	40	Gray, K.E.	25
DiTorio, M.S.	8	Graybeal, J.M.	23, 24
Dixon, R.	4	Green, A.	8
Doderer, T.	15, 17, 18, 20, 21	Grossman, E.N.	3-5, 7-10, 13-21, 23, 24
Dougherty, B.L.	4	Gutt, G.M.	21
Drabeck, L.M.	17	Gyorgy, E.M.	21
Dravid, V.P.	19	Habib, Y.M.	8
Dresselhaus, G.	8	Halbritter, J.	24
Dresselhaus, M.S.	8	Hale, D.	4
Dresselhaus, P.D.	4	Haller, E.E.	4
Driscoll, D.	4	Hamilton, C.A.	4, 5, 7-14, 16, 19-38, 40, 41
Dulcie, L.L.	6, 9, 10	Han, B.	19
Dynes, R.C.	38	Harris, R.E.	27, 30, 32, 34-39
Dziuba, R.F.	39, 40	Harvey, T.E.	4, 6-11, 15, 17-24
Eckstein, J.N.	14, 16	Havemann, R.H.	37
Edelsack, E.A.	43	Hechtfisher, G.	12
Edrich, J.	36-38, 40	Hellmig, J.	4
Eichblatt, S.	4	Herman, D.R.	9
Eichenberger, A.L.	3-5	Herrmann, K.	10
Eiles, T.M.	17-19, 21, 22	Hilton, G.C.	3-6, 9, 10, 12, 13
Ekin, J.W.	25-27	Hinken, J.H.	30, 31
Emes, J.	4	Hirahara, A.S.	13
Evenson, K.M.	15, 41-43	Hobbs, R.D.	33
Face, D.W.	27	Hoer, C.A.	39-41
Felder, R.J.	21	Hoffmann, D.	18, 20, 21
Ferchland, L.	12	Holloway, C.L.	7
Fickett, F.R.	29, 39, 40	Hong, S.H.	12
Field, B.F.	28	Hotsenpiller, P.A.M.	10
Figueroa-Feliciano, E.	6	Houseman, E.K.	21
Flik, M.I.	19	Howard, R.E.	26
Flynn, T.M.	36	Howe, J.E.	20
Fogle, W.E.	28	Hu, Q.	24, 26, 27
Foner, S.	21, 22	Huber, M.E.	4, 7, 11, 19-22, 24
Forrester, M.G.	8	Huebener, R.P.	15, 17, 18, 20, 21
Frederick, N.V.	29, 33, 35-38, 40-42	Hunt, B.D.	8
Frommberger, M.	12	Irwin, K.D.	3-7, 9, 10, 12, 13, 15
Gabutti, A.	25	Irwin, R.B.	3
Gaitskell, R.J.	4	Itano, W.M.	3, 8
Galloway, M.L.	21	Ives, J.T.	33
Galt, D.	15, 18, 19, 21	Jaffe, D.T.	20
Gayley, R.I.	36	Jaminet, P.A.	24, 26
Gerber, D.	10	Jarvis, S.	40
Ghosh, R.N.	22	Jeanneret, B.	5, 22
Giarratano, P.J.	33	Jensen, H.D.	16-18, 22
Gibson, G.	6, 7	Jiang, X.P.	24
Gilbert, K.C.	23	Jochum, J.	4
Gillevet, P.M.	10	Johansson, M.E.	23, 24
Ginsberg, D.M.	38	Johnson, E.G., Jr.	38-41
Go, D.	26, 27	Johnson, W.	30
Goeke, K.	26	Juang, J.Y.	6
Goldfarb, R.B.	26	Kalkur, T.S.	23
Golwala, S.R.	4	Kamper, R.A.	37-43
Goodrich, L.F.	14	Kampwirth, R.T.	25
Goral, J.P.	27	Kang, J.	23
Goree, W.S.	40-42	Kaplan, S.B.	34, 35

Kasmerski, L.L.	24	McDonald, D.G.	5-7, 11, 16, 19-21, 23-26, 28, 29, 31, 32, 34, 37-43
Kautz, R.L.	4-6, 8, 9, 12-17, 20, 22-37	McFarlane, J.C.	29
Kazmerski, L.L.	26	McGrath, W.R.	27-30
Keller, M.W.	3-6, 9, 12, 13	McKinley, J.M.	3
Kimminau, K.R.	20	Mears, C.A.	24, 26, 27
Kinard, J.R.	4, 5, 8, 9, 12	Miklich, A.H.	6
Kinder, H.	12	Miller, A.J.	6
Kirchmann, N.	21	Miller, D.L.	23
Kleiner, R.	12	Miller, J.R.	12
Klushin, A.M.	5, 7	Missert, N.	15, 17-21
Koch, J.A.	8-11, 13, 16	Moerman, R.	14, 17
Kocpol, W.	26	Monaco, R.	26, 30
Kohlstedt, H.	5, 7	Moore, D.F.	10, 32
Kose, V.E.	43	Morales, G.	21
Krulle, C.A.	21	Moreland, J.	22, 23
Krupka, J.	11	Moseley, S.H.	3, 25
Kumar, A.R.	5	Moulder, J.C.	25
Kunkel, G.	12-15	Muhlfelder, B.	21, 29-31
Kupferman, S.L.	8, 12	Mullen, L.O.	43
Lachenmann, S.G.	15, 17, 18, 20, 21	Nahum, M.	15-19
Lakew, B.	25	Nam, S.W.	3, 4, 6, 13, 15
Lambert, N.	29	Naujoks, G.A.	12
Larsen, B.H.	15	Nelson, A.J.	24, 26
Lee, A.T.	13	Nelson, H.	4
Leitner, A.	9	Neuhauser, B.	4
Li, H.Q.	6, 8, 10-12	Neumayer, D.A.	19
Lichtenwalner, D.J.	23	Newbury, D.E.	3-6, 9, 10
Liou, S.H.	6, 8, 10-12	Niemeyer, J.	21, 30, 31
Lipe, T.E.	4, 5, 8, 9	Nisenoff, M.	40, 41
Lipschultz, F.P.	4	Oates, D.E.	8
Liu, B.Y.H.	9, 10	Oldham, N.M.	27
Livingston, C.A.	20	Olien, N.A.	40-42
Lloyd, F.L.	24, 26-31, 33-36	Ono, R.H.	5-8, 10-30
Lockhart, J.M.	21	Orlando, T.P.	23, 24
Lu, A.	4	Osofsky, M.S.	7
Ludwig, Jr., K.F.	17	O'Malley, M.L.	17
Ludwig, K.F.	21	Park, G.S.	15, 19, 20, 22, 24
Luo, J.	24	Pauza, A.J.	10
Ma, Q.Y.	12	Penn, M.J.	4
MacDonald, M.E.	5, 13, 16	Perera, T.A.	4
MacManus-Driscoll, J.L.	6, 7	Perillo Isaac, M.C.	4
Malde, N.	7	Petersen, F.R.	39, 40
Mallison, W.H.	12	Peterson, R.L.	24-28, 32-38, 43
Mandic, V.	4	Phelan, R.J.	5-7, 11
Mangum, J.G.	20	Pieper, J.B.	22
Mankiewich, P.M.	17, 18, 21, 26	Polakos, P.A.	17
Marks, R.B.	16	Popel, R.	21
Marks, T.J.	19	Popovic, Z.	5
Martinis, J.M.	3-7, 9, 10, 12-22, 25, 26	Price, J.C.	9, 15, 18, 19, 21, 22
Masarie, K.A.	26	Pritychenko, B.	4
Mason, A.R.	24, 26, 27	Prober, D.E.	27
Matthiesen, M.M.	23	Prusseit, W.	12
McCammon, D.	6	Przybysz, J.X.	6, 9, 11, 23
McCarthy, S.M.	33	Purcell, B.M.	3
McConnell, R.D.	26		

Qadri, S.B.	6, 7	Stieg, M.	23, 24
Qi-Fan, Xiao	10	Stockwell, W.	4
Quenter, D.	21	Stork, F.J.B.	6, 10, 11
Radebaugh, R.	37, 38, 41, 42	Sullivan, D.B.	31-33, 35-43
Rafac, R.J.	3, 8	Sutton, E.C.	24, 26
Raisanen, A.V.	27-30	Swartzlander, A.B.	24, 26
Reintsema, C.D.	3-5, 7-10, 13-23	Talvacchio, J.	8
Reite, M.	32, 36, 38	Tanner, D.B.	5
Rice, J.P.	11, 16, 18-20	Taylor, J.D.	4
Richards, P.L.	13, 24, 26-30, 34-36	Thompson, C.A.	5
Risley, A.S.	38-42	Thomson, R.E.	15
Rogers, C.T.	9	To, B.	3
Romani, R.W.	6	Torrioli, G.	12
Rosenthal, P.A.	11, 15, 18-20	Tortonese, M.	14
Roshko, A.	10, 11, 14, 17	Turneure, J.P.	21
Ross, R.R.	4	Twerebold, D.	10
Rotoli, G.	12	Vale, L.R.	5-8, 10-12, 14-21
Rudman, D.A.	3-12, 14-24	Van Vechten, D.	33, 34
Rufenacht, A.	5	VanderSande, J.B.	23
Saab, T.	4	VanDover, R.B.	21
Sadoulet, B.	4	VanZeghbroeck, B.J.	32
Sasaki, H.	4, 8, 9	Vartuli, C.B.	3
Sauvageau, J.E.	16, 19, 21, 23-26	Veit, K.	12
Schmidt, J.	20, 21	Vickery, A.	12
Schmidt, M.A.	19	Virshup, G.F.	16
Schnee, R.W.	4	Vorreiter, J.W.	35
Schneemeyer, L.F.	21	Wagner, R.G.	25
Seitz, D.N.	4	Walker, D.K.	20
Semerad, R.	5, 7	Wall, W.F.	20
Shafer, R.	3	Walsh, T.	23
Shen, T.M.	34-36	Wang, C.M.	8
Shestople, P.	4	Waszczak, J.V.	21
Shimakage, H.	7	Weber, C.	5, 7
Shofner, T.L.	3	Wells, J.S.	40, 43
Shutt, T.	4	Welty, R.P.	15, 20
Siegwarth, J.D.	37, 38, 41, 42	White, A.E.	21
Silver, A.H.	39, 43	White, S.	4
Simmonds, M.B.	23, 24, 39-42	Whiteley, S.	26
Skelton, E.F.	6, 7	Wiesenfeld, K.	17
Skocpol, W.J.	17, 18, 21	Williams, C.I.	6
Smith, A.	4	Williams, D.F.	20
Smith, A.J.	18	Williams, E.R.	22
Smith, G.W.	4	Wineland, D.J.	3, 8
Smith, T.J.	6	Withers, R.S.	27
Sonnenschein, A.H.	4	Wolf, P.	32
Soulen, R.J.	34	Wolf, S.A.	40, 41
Soulen, R.J., Jr.	28	Wollman, D.A.	3-6, 9, 10, 12, 13
Spadafora, A.L.	4	Woo, K.-S.	10
Stacey, G.J.	20	Wu, H.D.	18
Stahle, C.K.	6	Xizhi, L.	27
Stanley, W.D.	40	Yang, K.-Y.	8
Stehle, S.	21	Yellin, S.	4
Steinbach, A.H.	11-14	York, R.A.	5
Steiner, R.L.	28, 29	Yoshizumi, S.	8
Stevie, F.A.	3	Young, B.A.	4

Young, B.C.	3, 8
Yuan, C.W.	14
Zhang, H.	19
Zhang, Z.M.	5
Zheng, Z.	14
Zimmerli, G.	20, 22
Zimmerman, J.E.	28-43
Zimmerman, J.T.	32, 36, 38
Zimmerman, N.M.	3-5, 12, 13
Zink, L.R.	15

