

**Unclassified Publications
of Lincoln Laboratory
1 January — 31 December 1999**

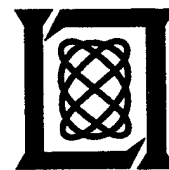
Volume 25

31 December 1999

Lincoln Laboratory

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

LEXINGTON, MASSACHUSETTS



Prepared under Air Force Contract F19628-95-C-0002.

20000530 075

Approved for public release; distribution is unlimited.

UNCLASSIFIED PUBLICATIONS
OF
LINCOLN LABORATORY
1 JANUARY — 31 DECEMBER 1999

VOLUME 25

Compiled by
PATRICIA A. MEANS
ROBERT C. SEIDEL

31 DECEMBER 1999

ISSUED 22 MAY 2000

Requests for information should be directed to:
Lincoln Laboratory
Massachusetts Institute of Technology
244 Wood Street
Lexington, Massachusetts 02420-9108
ATTENTION: Report Distribution Office, L-345

Approved for public release; distribution is unlimited.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

LEXINGTON

MASSACHUSETTS

This report is based on studies performed at Lincoln Laboratory, a center for research operated by Massachusetts Institute of Technology. The work was sponsored by the Department of the Air Force under Contract F19628-95-C-0002; in some cases, the work was supported under other contracts.

This report may be reproduced to satisfy needs of U.S. Government agencies.

The ESC Public Affairs Office has reviewed this report, and it is releasable to the National Technical Information Service, where it will be available to the general public, including foreign nationals.

This technical report has been reviewed and is approved for publication.

FOR THE COMMANDER

A handwritten signature in black ink, appearing to read "Gary Tatumian", with a long horizontal flourish extending to the right.

Gary Tatumian
Administrative Contracting Officer
Plans and Programs Directorate
Contracted Support Management

FOREWORD

Volume 25 of *Unclassified Publications of Lincoln Laboratory* lists reports published from 1 January to 31 December 1999, as well as updated information on earlier publications.

Documents listed herein are generally no longer available from Lincoln Laboratory. Qualified Defense Technical Information Center (DTIC) users may purchase copies through normal DTIC channels. Others may purchase photocopies or microfiche from the U.S. Department of Commerce, National Technical Information Service, Springfield, Virginia 22161. When ordering, the six-digit AD number should be cited.

Subscriptions of the *MIT Lincoln Laboratory Journal* are free of charge, but provided only to qualified recipients (government employees and contractors, libraries, university faculty, and R&D laboratories).

ACKNOWLEDGMENTS

The Library and Information Services Group and the Publications Group made this publication possible. The contributions from others who worked on this publication are appreciated.

TABLE OF CONTENTS

Foreword.....	iii
Acknowledgments	v
Lincoln Laboratory Journal.....	1
Quarterly Technical Reports	1
Miscellaneous Progress Reports	3
Technical Reports	5
Journal Articles	7
Meeting Speeches	23
Author Index	39
Subject Index	45

LINCOLN LABORATORY JOURNAL

1998

Vol. 11, No. 2

QUARTERLY TECHNICAL REPORTS

SOLID STATE RESEARCH

	DTIC No.
1998:4	ADA361196
1999:1	ADA364700
1999:2	ADA367775
1999:3	ADA371803

MISCELLANEOUS PROGRESS REPORTS

UNCLASSIFIED PUBLICATIONS OF LINCOLN LABORATORY (Previous Volumes)

	DTIC No.
15 September 1966	AD803845
15 September 1969	AD863031
15 September 1971	AD734038
15 December 1973	AD778085
15 December 1975	ADA028523
15 December 1977	ADA062413
15 December 1979	ADA101092
15 December 1981	ADA129036
15 December 1983	ADA144354
31 December 1984	ADA161752
31 December 1985	ADA167987
31 December 1986	ADA187252
31 December 1987	ADA204729
31 December 1988	ADA212589
31 December 1989	ADA228219
31 December 1990	ADA236798
31 December 1991	ADA252852
31 December 1992	ADA265156
31 December 1993	ADA280530
31 December 1994	ADA306272
31 December 1995	ADA315140
31 December 1996	ADA326552
31 December 1997	ADA346370
31 December 1998	ADA363077

TECHNICAL REPORTS

TR No.				DTIC No.
1051	ATR Performance Modeling and Estimation	Dudgeon, D.E.	7 Dec. 1998	ADA357723
1052	Background Fluorescence in an Aerosol Biodetector Based on 266-nm Excitation	Aggarwal, R.L.	17 May 1999	ADA363355
1053	Fourier Transform Interferometry	Hearn, D.R.	29 Oct. 1999	ADA370423
1054	A State-Space Technique for Ultrawide-Bandwidth Coherent Processing	Piou, J.E. Cuomo, K.M. Mayhan, J.T.	20 July 1999	ADA366105

JOURNAL ARTICLES

JA No.

- | | | | |
|--------|--|---|--|
| 7351 | Generalized Radar Clutter Model | Shnidman, D.A. | IEEE Trans. Aerosp. Electron. Syst., Vol. 35, No. 3, July 1999, pp. 857-865. |
| 7365 | Wide-Band Radiometry for Remote Sensing of Oil Films on Water | Brown, E.R.
McMahon, O.B.
Murphy, T.J.
Hogan, G.G.
Daniels, G.M.
Hover, G. | IEEE Trans. Microw. Theory Tech., Vol. 46, No. 12, December 1998, pp. 1989-1996. |
| 7375 | SAR Image Compression with the Gabor Transform | Baxter, R.A. | IEEE Trans. Geosci. Remote Sens., Vol. 37, No. 1, January 1999, pp. 574-588. |
| 7401AA | Optimum Phase-Only Adaptive Nulling | Smith, S.T. | IEEE Trans. Signal Process., Vol. 47, No. 7, July 1999, pp. 1835-1843. |
| 7428 | Forward-Backward Averaging in the Presence of Array Manifold Errors | Zatman, M.A.
Marshall, D. | IEEE Trans. Antennas Propag., Vol. 46, No. 11, November 1998, pp. 1700-1704. |
| 7429 | Comment on "Constrained Hung-Turner Adaptive Beamforming Algorithm with Additional Robustness to Wide-Band and Moving Jammers" | Zatman, M.A. | IEEE Trans. Antennas Propag., Vol. 46, No. 12, December 1998, pp. 1897-1898. |
| 7447A | Improved Adaptive Clutter Cancellation Through Data-Adaptive Training | Rabideau, D.J.
Steinhardt, A.O. | IEEE Trans. Aerosp. Electron. Syst., Vol. 35, No. 3, July 1999, pp. 879-891. |
| 7452A | Automatic Target Recognition Using Enhanced Resolution SAR Data | Novak, L.M.
Owirka, G.J.
Weaver, A.L. | IEEE Trans. Aerosp. Electron. Syst., Vol. 35, No. 1, January 1999, pp. 157-175. |

Journal Articles

JA No.

- | | | | |
|-------|---|---|---|
| 7453A | Radar Detection in Multipath | Wilson, S.L.
Carlson, B.D. | IEE Proc. Radar Sonar Navig., Vol. 146, No. 1, February 1999, pp. 45-54. |
| 7471 | Input Impedance Conditions for Minimizing the Noise Figure of an Analog Optical Link | Ackerman, E.I.
Cox, C.H. III
Betts, G.E.
Roussell, H.V.
Ray, K.G.
O'Donnell, F.J. | IEEE Trans. Microw. Theory Tech., Vol. 46, No. 12, December 1998, pp. 2025-2031. |
| 7474A | Ultrawide-Band Coherent Processing | Cuomo, K.M.
Piou, J.E.
Mayhan, J.T. | IEEE Trans. Antennas Propag., Vol. 47, No. 6, June 1999, pp. 1094-1107. ADA360760 |
| 7492 | Microchip Lasers | Zayhowski, J.J. | Opt. Mater., Vol. 11, No. 2-3, January 1999, pp. 255-267
(Papers from the Summer School on Miniature Coherent Light Sources in Dielectric Media, 2-6 June 1997). |
| 7502 | Coherent Spatial Filtering for SAR Detection of Stationary Targets | Jao, J.K.
Lee, C.F.
Ayasli, S. | IEEE Trans. Aerosp. Electron. Syst., Vol. 35, No. 2, April 1999, pp. 614-626. |
| 7510 | Effect of Growth Temperature on Point Defect Density of Unintentionally Doped GaN Grown by Metalorganic Chemical Vapor Deposition and Hydride Vapor Phase Epitaxy | Joshkin, V.A.
Parker, C.A.
Bedair, S.M.
Muth, J.F.
Shmagin, I.K.
Kolbas, R.M.
Piner, E.L.
Molnar, R.J. | J. Appl. Phys., Vol. 86, No. 1, 1 July 1999, pp. 281-288. |

Journal Articles

JA No.

- | | | | |
|-------|--|--|--|
| 7511A | Statistical Analyses of Measured Radar Ground Clutter Data | Billingsley, J.B.
Farina, A.
Gini, F.
Greco, M.V.
Verrazzani, L. | IEEE Trans. Aerosp. Electron. Syst., Vol. 35, No. 2, April 1999, pp. 579-593. |
| 7513 | Atmospheric Compensation and Tracking Using Active Illumination | Higgs, C.
Barclay, H.T.
Murphy, D.V.
Primmerman, C.A. | Linc. Lab. J., Vol. 11, No. 1, 1998, pp. 5-26. ADA361046 |
| 7516 | An Adaptive Microwave Phased Array for Targeted Heating of Deep Tumours in Intact Breast: Animal Study Results | Fenn, A.J.
Wolf, G.L.
Fogle, R.M. | Int. J. Hyperth., Vol. 15, No. 1, January/February 1999, pp. 45-61. |
| 7517 | Modal Scintillation Index: A Physics-Based Statistic for Acoustic Source Depth Discrimination | Premus, V.E. | J. Acoust. Soc. Am., Vol. 105, No. 4, April 1999, pp. 2170-2180. ADA366516 |
| 7519 | Relative-Intensity-Noise Cancellation in Bandpass External-Modulation Links | Helkey, R. | IEEE Trans. Microw. Theory Tech., Vol. 46, No. 12, December 1998, pp. 2083-2091. |
| 7526 | TCAS II Use of ADS-B Surveillance Data Through Hybrid Surveillance | Orlando, V.A.
Sandholm, R.G.
Burgess, D.W. | Air Traffic Control Q., Vol. 7, No. 2, 1999, pp. 109-121. |
| 7528 | Characteristics of an Anomalous Orbital Debris Population Inferred from Theoretical Modeling | Lambour, R.L.
Sridharan, R. | J. Spacecr. Rockets, Vol. 36, No. 5, September/October 1999, pp. 726-735. |
| 7532 | Review of Black Surfaces for Space-Borne Infrared Systems | Persky, M.J. | Rev. Sci. Instrum., Vol. 70, No. 5, May 1999, pp. 2193-2217. |

Journal Articles

JA No.

- | | | | |
|------|--|---|---|
| 7534 | Photonic-Crystal Antenna Substrates | Brown, E.R.
McMahon, O.B.
Parker, C.D. | Linc. Lab. J., Vol. 11,
No. 2, 1998, pp. 159-174.
ADA369232 |
| 7535 | Synthetic Aperture Radar Image Coding | Baxter, R.A.
Seibert, M. | Linc. Lab. J., Vol. 11,
No. 2, 1998, pp. 121-158.
ADA369234 |
| 7539 | Random Algorithms for Scheduling Multicast Traffic in WDM Broadcast-and-Select Networks | Modiano, E. | IEEE/ACM Trans Netw.,
Vol. 7, No. 3,
June 1999,
pp. 425-434.
ADA369213 |
| 7540 | Low-Cost, High Performance Optoelectronic Components for Antenna Remoting | Prince, J.L.
Roussell, H.V.
Ackerman, E.I.
Knowlton, R.C.
Cox, C.H. III | Opt. Quantum Electron.,
Vol. 30, No. 11/12,
December 1998,
pp. 1051-1063. |
| 7542 | Redundant Trees for Preplanned Recovery in Arbitrary Vertex-Redundant or Edge-Redundant Graphs | Medard, M.
Finn, S.G.
Barry, R.A.
Gallager, R.G. | IEEE/ACM Trans. Netw.,
Vol. 7, No. 5,
October 1999,
pp. 641-652. |
| 7545 | GPS Performance in Navigation | Misra, P.N.
Burke, B.P.
Pratt, M.M. | Proc. IEEE, Vol. 87,
No. 1, January 1999,
pp. 65-85. ADA366434 |
| 7549 | Multistage Partially Adaptive STAP CFAR Detection Algorithm | Goldstein, J.S.
Reed, I.S.
Zulch, P.A. | IEEE Trans. Aerosp.
Electron. Syst.,
Vol. 35, No. 2,
April 1999,
pp. 645-661. |

Journal Articles

JA No.

- | | | | |
|-------|--|--|--|
| 7550 | Solid-State Color Night Vision: Fusion of Low-Light Visible and Thermal Infrared Imagery | Waxman, A.M.
Aguilar, M.J.
Fay, D.A.
Ireland, D.B.
Racamato, J.P., Jr.
Ross, W.D.
Carrick, J.E.
Gove, A.N.
Seibert, M.
Savoye, E.D.
Reich, R.K.
Burke, B.E.
McGonagle, W.H.
Craig, D.M. | Linc. Lab. J., Vol. 11,
No. 1, 1998, pp. 41-60.
ADA360790 |
| 7552 | Optical Frequency Conversion Using a Linearized LiNbO3 Modulator | Roussell, H.V.
Helkey, R. | IEEE Microw. Guid. Wave Lett., Vol. 8,
No. 11, November 1998,
pp. 408-410. |
| 7554 | Linearity and Third-Order Intermodulation Distortion in DFB Semiconductor Lasers | Chen, J.Y.
Ram, R.J.
Helkey, R. | IEEE J. Quantum Electron., Vol. 35,
No. 8, August 1999,
pp. 1231-1237. |
| 7563A | Excimer-Laser-Induced Densification of Fused Silica: Laser-Fluence and Material-Grade Effects on the Scaling Law | Lieberman, V.
Rothschild, M.
Sedlacek, J.H.C.
Uttaro, R.S.
Grenville, A. | J. Non-Cryst. Solids, Vol. 244,
Nos. 2/3, 11 March 1999,
pp. 159-171. |
| 7565A | Plasma Enhanced Chemically Vapor Deposited Thin Films or Microelectromechanical Systems Applications with Tailored Optical, Thermal, and Mechanical Properties | Horn, M.W.
Goodman, R.B.
Rothschild, M. | J. Vac. Sci. Technol. B, Vol. 17,
No. 3, May/June 1999,
pp. 1045-1049
(Papers from the
17th North American
Conf. on Molecular
Beam Epitaxy,
4-7 October 1998).
ADA369391 |

Journal Articles

JA No.

- | | | | |
|------|---|---|--|
| 7572 | A Cell Switching WDM Broadcast LAN with Bandwidth Guarantee and Fair Access | Kam, A.C.
Siu, K-Y.
Barry, R.A.
Swanson, E.A. | J. Lightwave Technol., Vol. 16, No. 12, December 1998, pp. 2265-2280. |
| 7576 | Analysis of an Adaptive CFAR Detector in Non-Gaussian Interference | Pulsone, N.B.
Raghavan, R.S. | IEEE Trans. Aerosp. Electron. Syst., Vol. 35, No. 3, July 1999, pp. 903-916. |
| 7580 | Contoured Elastic-Membrane Microvalves for Microfluidic Network Integration | Young, A.M.
Bloomstein, T.M.
Palmacci, S.T. | J. Biomech. Eng., Vol. 121, No. 1, February 1999, pp. 2-6. |
| 7589 | Estimation of Modulation Based on FM-to-AM Transduction: Two-Sinusoid Case | Torres, W.P.
Quatieri, T.F. | IEEE Trans. Signal Process., Vol. 47, No. 11, November 1999, pp. 3084-3097. |
| 7591 | Wet Thermal Oxidation of GaN | Readinger, E.D.
Wolter, S.D.
Waltemyer, D.L.
DeLucca, J.M.
Mohney, S.E.
Prenitzer, B.I.
Giannuzzi, L.A.
Molnar, R.J. | J. Electron. Mater., Vol. 28, No. 3, March 1999, pp. 257-260. |
| 7593 | Experimental Observation and Statistics of Multipath from Terrain with Application to Overland Height Finding | Zurk, L.M. | IEEE Trans. Antennas Propag., Vol. 47, No. 1, January 1999, pp. 121-131. |
| 7594 | Bromine Ion-Beam-Assisted Etching of III-V Semiconductors | Goodhue, W.D.
Royter, Y.
Mull, D.E.
Choi, S.S.
Fonstad, C.G. | J. Electron. Mater., Vol. 28, No. 4, April 1999, pp. 364-368. |

Journal Articles

JA No.			
7597	An Adaptive Algorithm for Optimizing the Packet Size Used in Wireless ARQ Protocols	Modiano, E.	Wirel. Netw., Vol. 5, No. 4, July 1999, pp. 279-286.
7598	Architectural Considerations in the Design of WDM-Based Optical Access Networks	Modiano, E. Barry, R.A.	Comput. Networks, Vol. 31, No. 4, 25 February 1999, pp. 327-341.
7600	The Lincoln Near-Earth Asteroid Research (LINEAR) Program	Stokes, G.H. Shelly, F.C. Viggh, H.E.M. Blythe, M.S. Stuart, J.S.	Linc. Lab. J., Vol. 11, No. 1, 1998, pp. 27-40. ADA360759
7601	Radar and Optical Characterization of an Anomalous Orbital Debris Population	Sridharan, R. Beavers, W.I., Jr. Gaposchkin, E.M. Lambour, R.L. Kansky, J.E. Stansbery, E.	J. Spacecr. Rockets, Vol. 36, No. 5, September/October 1999, pp. 719-725
7602	Dynamic Range Limitation of Analog External Modulation Links with Complementary Distortion	Helkey, R.	J. Opt. Commun., Vol. 20, No. 4, August 1999, pp. 126-130.
7603	Pre-Clinical Evaluation of a Two-Channel Microwave Hyperthermia System with Adaptive Phase Control in a Large Animal	Gavrilov, L.R. Hand, J.W. Hopewell, J.W. Fenn, A.J.	Int. J. Hyperth., Vol. 15, No. 6, November/December 1999, pp. 495-507.
7605	InAs-Doped Silica Films for Saturable Absorber Applications	Bilinsky, I.P. Fujimoto, J.G. Walpole, J.N. Missaggia, L.J.	Appl. Phys. Lett., Vol. 74, No. 17, 26 April 1999, pp. 2411-2413.

Journal Articles

JA No.

- | | | | |
|------|---|---|--|
| 7606 | A New RTD-FET Logic Family | Mathews, R.H.
Sage, J.P.
Sollner, T.C.L.G.
Calawa, S.D.
Chen, C-L.
Mahoney, L.J.
Maki, P.A.
Molvar, K.M. | Proc. IEEE, Vol. 87,
No. 4, April 1999,
pp. 596-605. |
| 7607 | Mode-Discriminating
Photoconductor and
Coplanar Waveguide Circuit
for Picosecond Sampling | Zamdmer, N.
Hu, Q.
Verghese, S.
Forster, A. | Appl. Phys. Lett.,
Vol. 74, No. 7,
15 February 1999,
pp. 1039-1041. |
| 7608 | Excimer-Laser-Induced
Degradation of Fused
Silica and Calcium
Fluoride for 193-nm
Lithographic Applications | Liberman, V.
Rothschild, M.
Sedlacek, J.H.C.
Uttaro, R.S.
Grenville, A.
Bates, A.K.
Van Peski, C. | Opt. Lett., Vol. 24,
No. 1, 1 January
1999, pp. 58-60. |
| 7611 | Rotating a Weather Map | Grappel, R.D. | Dr. Dobb's J., Vol.
24, No. 6, June
1999, pp. 80-88. |
| 7612 | PbTe/Te Superlattice
Structures with Enhanced
Thermoelectric Figures of
Merit | Harman, T.C.
Spears, D.L.
Walsh, M.P. | J. Electron. Mater.,
Vol. 28, No. 1,
January 1999, pp.
L1-L4. ADA369585 |
| 7616 | Modeling the Microwave
Impedance of High- T_c Long
Josephson Junctions | Lehner, C.J.
Oates, D.E.
Habib, Y.M.
Dresselhaus, G.
Dresselhaus, M.S. | J. Supercond., Vol.
12, No. 2, April
1999, pp. 363-375. |

Journal Articles

JA No.

- | | | | |
|------|---|---|---|
| 7617 | Resistive Arc Protection for Field-Emitter-Array Cold Cathodes Used in X-Band Inductive Output Amplifiers | Parameswaran, L.
Harris, C.T.
Graves, C.A.
Murphy, R.A.
Hollis, M.A. | J. Vac. Sci. Technol. B, Vol. 17, No. 2, March/April 1999, pp. 773-777
(Papers from the 11th Int. Vacuum Microelectronics Conf., 19-24 July 1999; Papers from the Fourth Int. Plasma-Based Ion Implantation Workshop). |
| 7619 | Impulse Response Measurements with 50-GHz Bandwidth | Schulz, P.A.
Hall, K.L. | IEEE Microw. Guid. Wave Lett., Vol. 9, No. 3, March 1999, pp. 120-122.
ADA369277 |
| 7620 | Architectures and Technologies for High-Speed Optical Data Networks | Chan, V.W.
Hall, K.L.
Modiano, E.
Rauschenbach, K.A. | J. Lightwave Technol., Vol. 16, No. 12, December 1998, pp. 2146-2168. |
| 7623 | Passively Q-Switched Microchip Lasers and Applications | Zayhowski, J.J. | Rev. Laser Eng. (Japan), Vol. 26, No. 12, December 1998, pp. 841-846. |
| 7624 | Annealing Studies on GaN Hydride Vapor Phase Epitaxial Layers | Reynolds, D.C.
Look, D.C.
Wille, T.
Bajaj, K.K.
Collins, T.C.
Molnar, R.J. | Solid State Commun., Vol. 109, No. 11, 3 March 1999, pp. 683-686. |
| 7625 | Thermal Coefficients of the Expansion and Refractive Index in YAG | Wynne, R.M.
Daneu, J.L.
Fan, T.Y. | Appl. Opt., Vol. 38, No. 15, 20 May 1999, pp. 3282-3284. |

Journal Articles

JA No.

- | | | | |
|-------|---|---|--|
| 7626A | A Photomixer Local Oscillator for a 630-GHz Heterodyne Receiver | Verghese, S.
Duerr, E.K.
McIntosh, K.A.
Duffy, S.M.
Calawa, S.D.
Tong, C-Y.E.
Kimberk, R.
Blundell, R. | IEEE Microw. Guid. Wave Lett., Vol. 9, No. 6, June 1999, pp. 245-247. |
| 7627 | WDM-Based Packet Networks | Modiano, E. | IEEE Commun. Mag., Vol. 37, No. 3, March 1999, pp. 130-135. |
| 7628 | Ultrafast Optical TDM Networking: Extension to the Wide Area | Moores, J.D.
Korn, J.
Hall, K.L.
Finn, S.G.
Rauschenbach, K.A. | IEICE Trans. Commun., Vol. E82-B, No. 2, February 1999, pp. 209-221.
ADA366462 |
| 7629 | Sub-100 nm KrF Lithography for Complementary Metal-Oxide-Semiconductor Circuits | Fritze, M.
Astolfi, D.K.
Liu, H.
Chen, C.K.
Suntharalingam, V.
Preble, D.M.
Wyatt, P.W. | J. Vac. Sci. Technol. B, Vol. 17, No. 2, March/April 1999, pp. 345-349
(Papers from the 11th Int. Vacuum Microelectronics Conf., 19-24 July 1998; Papers from the Fourth Int. Plasma-Based Ion Implantation Workshop).
ADA366469 |
| 7632 | An Architecture for Semi-Automated Radar Image Exploitation | Sisterson, L.K.
Delaney, J.R.
Gravina, S.J.
Harmon, P.R.
Hiatt, M.
Wyschogrod, D. | Linc. Lab. J., Vol. 11, No. 2, 1998, pp. 175-204.
ADA369214 |

Journal Articles

JA No.

- | | | | |
|-------|---|---|--|
| 7633 | Measurement of the Energy Sensitivity of a Superconductive Comparator | Feld, D.A.
Sage, J.P.
Berggren, K.K.
Siddiqui, A. | IEEE Trans. Appl. Supercond., Vol. 9, No. 2, Pt. III, June 1999, pp. 4361-4366 (1998 Applied Superconductivity Conf., 13-18 September 1998). |
| 7634 | System Performance of Low-Bias Parallel Modulators | Chen, J.C. | Microw. Opt. Technol. Lett., Vol. 21, No. 5, 5 June 1999, pp. 316-318. |
| 7635A | Broad-Band Linearization of a Mach-Zehnder Electrooptic Modulator | Ackerman, E.I. | IEEE Trans. Microw. Theory Tech., Vol. 47, No. 12, December 1999, pp. 2271-2279. |
| 7636 | Approaches to Designing Thermally Stable Schottky Contacts to n-GaN | Venugopalan, H.S.
Mohney, S.E.
DeLucca, J.M.
Molnar, R.J. | Semicond. Sci. Technol., Vol. 14, No. 9, September 1999, pp. 757-761. |
| 7637 | Rapid Evaluation of Dislocation Densities in n-Type GaN Films Using Photoenhanced Wet Etching | Youtsey, C.
Romano, L.T.
Molnar, R.J.
Adesida, I. | Appl. Phys. Lett., Vol. 74, No. 23, 7 June 1999, pp. 3537-3539. |
| 7638 | Growth and Morphology of Er-Doped GaN on Sapphire and Hydride Vapor Phase Epitaxy Substrates | Birkhahn, R.
Hudgins, R.
Lee, D.
Steckl, A.J.
Molnar, R.J.
Saleh, A.
Zavada, J.M. | J. Vac. Sci. Technol. B, Vol. 17, No. 3, May/June 1999, pp. 1195-1199 (Papers from the 17th North American Conf. on Molecular Beam Epitaxy, 4-7 October 1998). |
| 7639 | Recombination Processes in Doubly Capped Antimonide-Based Quaternary Thin Films | Saroop, S.
Borrego, J.M.
Gutmann, R.J.
Charache, G.W.
Wang, C.A. | J. Appl. Phys., Vol. 86, No. 3, 1 August 1999, pp. 1527-1534. |

Journal Articles

JA No.

- | | | | |
|------|---|--|--|
| 7640 | Surface Functionalization and Imaging Using Monolayers and Surface-Grafted Polymer Layers | Ingall, M.D.K.
Honeyman, C.H.
Mercure, J.V.
Bianconi, P.A.
Kunz, R.R. | J. Am. Chem. Soc.,
Vol. 121, No. 15,
21 April 1999,
pp. 3607-3613. |
| 7641 | Narrow-Band Optical A/D Converter with Suppressed Second-Order Distortion | Helkey, R. | IEEE Photonics
Technol. Lett., Vol. 11,
No. 5, May 1999,
pp. 599-601. |
| 7644 | The Space-Based Visible Program | Stokes, G.H.
von Braun, C.
Sridharan, R.
Harrison, D.C.
Sharma, J. | Linc. Lab. J., Vol. 11,
No. 2, 1998, pp. 205-238.
ADA369261 |
| 7653 | Effects of Implant Spacer on InP-Based Self-Aligned Pseudomorphic SIGFETs | Chen, C-L.
Mahoney, L.J.
Calawa, S.D.
Molvar, K.M. | Electron. Lett.,
Vol. 35, No. 9,
29 April 1999,
pp. 746-748. |
| 7654 | Optical Detection of Electron Paramagnetic Resonance in Electron-Irradiated GaN | Bozdog, C.
Przybylinska, H.
Watkins, G.D.
Harle, V.
Scholz, F.
Mayer, M.
Kamp, M.
Molnar, R.J.
Wickenden, A.E.
Koleske, D.D.
Henry, R.L. | Phys. Rev. B,
Condens. Matter,
Vol. 59, No. 19,
15 May 1999,
pp. 12,479-12,486. |
| 7665 | Comparison of Metrology Methods for Quantifying the Line Edge Roughness of Patterned Features | Nelson, C.M.
Palmateer, S.C.
Forte, A.R.
Lyszczarz, T.M. | J. Vac. Sci. Technol. B,
Vol. 17, No. 6,
November/December 1999,
pp. 2488-2498
(Papers from the 43rd Int.
Conf. on Electron, Ion and
Photon Beam Technology
and Nanofabrication,
1-4 June 1999). |

JA No.

- | | | | |
|------|---|---|---|
| 7666 | Molecular-Beam Epitaxial Regrowth on Oxygen-Implanted GaAs Substrates for Device Integration | Chen, C-L.
Mahoney, L.J.
Calawa, S.D.
Molvar, K.M.
Maki, P.A.
Mathews, R.H.
Sage, J.P.
Sollner, T.C.L.G. | Appl. Phys. Lett.,
Vol. 74, No. 26,
28 June 1999,
pp. 4058-4060. |
| 7669 | High-Quantum-Efficiency 0.5 eV GaInAsSb/GaSb Thermophotovoltaic Devices | Wang, C.A.
Choi, H-K.
Ransom, S.L.
Charache, G.W.
Danielson, L.R.
DePoy, D.M. | Appl. Phys. Lett.,
Vol. 75, No. 9,
30 August 1999,
pp. 1305-1307. |
| 7670 | A New Wide-Band Pulse-Restoration Technique for Digital Fiber-Optic Communication Systems Using Temporal Gratings | Hakimi, H.
Hakimi, F.
Hall, K.L.
Rauschenbach, K.A. | IEEE Photonics Technol. Lett., Vol. 11,
No. 8, August 1999,
pp. 1048-1050.
ADA369268 |
| 7671 | Preparation of Silicon-on-Gallium Arsenide Wafers for Monolithic Optoelectronic Integration | London, J.M.
Loomis, A.H.
Ahadian, J.F.
Fonstad, C.G. | IEEE Photonics Technol. Lett., Vol. 11,
No. 8, August 1999,
pp. 958-960. |
| 7677 | Time-Resolved Photoluminescence Studies of Free and Donor-Bound Exciton in GaN Grown by Hydride Vapor Phase Epitaxy | Bunea, G.E.
Herzog, W.D.
Unlu, M.S.
Goldberg, B.B.
Molnar, R.J. | Appl. Phys. Lett.,
Vol. 75, No. 6,
9 August 1999,
pp. 838-840. |
| 7678 | Spatial Pattern of Microchannel Formation in Fused Silica Irradiated by Nanosecond Ultraviolet Pulses | Wright, E.M.
Mansuripur, M.
Liberman, V.
Bates, K. | Appl. Opt., Vol. 38,
No. 27, 20 September
1999, pp. 5785-5788. |

Journal Articles

JA No.

- | | | | |
|------|--|--|--|
| 7681 | High-Power High-Brightness GaInAsSb-AlGaAsSb Tapered Laser Arrays with Anamorphic Collimating Lenses Emitting at 2.05 μm | Walpole, J.N.
Choi, H-K.
Missaggia, L.J.
Liau, Z-L.
Connors, M.K.
Turner, G.W.
Manfra, M.J.
Cook, C.C. | IEEE Photonics Technol. Lett., Vol. 11, No. 10, October 1999, pp. 1223-1225. |
| 7684 | Low-Frequency Noise in n-GaN with High Electron Mobility | Levinshtein, M.E.
Rumyantsev, S.L.
Look, D.C.
Molnar, R.J.
Kahn, M.A.
Simin, G.
Adivarahan, V.
Shur, M.S. | J. Appl. Phys., Vol. 86, No. 9, 1 November 1999, pp. 5075-5078. |
| 7686 | Q-Switched Microchip Lasers Find Real-World Application | Zayhowski, J.J. | Laser Focus World, Vol. 35, No. 8, August 1999, pp. 129-136. |
| 7688 | Temporal Observation and Diagnostic Use of Double Rayleigh Scattering in Distributed Raman Amplifiers | Chinn, S.R. | IEEE Photonics Technol. Lett., Vol. 11, No. 12, December 1999, pp. 1632-1634. |
| 7695 | Power Penalty for Optical Signals Due to Dispersion Slope in WDM Filter Cascades | Kuznetsov, M.
Froberg, N.M.
Henion, S.R.
Rauschenbach, K.A. | IEEE Photonics Technol. Lett., Vol. 11, No. 11, November 1999, pp. 1411-1413. |
| 7701 | Mechanism of the Enhanced Thermoelectric Power in (111)-Oriented <i>n</i> -Type PbTe/Pb _{1-x} Eu _x Te Multiple Quantum Wells | Koga, T.
Harman, T.C.
Cronin, S.B.
Dresselhaus, M.S. | Phys. Rev. B, Condens. Matter, Vol. 60, No. 20, 15 November 1999, pp. 14,286-14,293. |

Journal Articles

JA No.

7713 GaN Avalanche Photodiodes
Grown by Hydride
Vapor-Phase Epitaxy

McIntosh, K.A.
Molnar, R.J.
Mahoney, L.J.
Lightfoot, A.
Geis, M.W.
Molvar, K.M.
Melngailis, I.
Aggarwal, R.L.
Goodhue, W.D.
Choi, S.S.
Spears, D.L.
Verghese, S.

Appl. Phys. Lett.,
Vol. 75, No. 22,
29 November 1999,
pp. 3485-3487.

7732 Increase in Response Time
of Low-Temperature-Grown
GaAs Photoconductive
Switches at High Voltage
Bias

Zamdmer, N.
Hu, Q.
McIntosh, K.A.
Verghese, S.

Appl. Phys. Lett.,
Vol. 75, No. 15,
11 October 1999,
pp. 2313-2315.

MEETING SPEECHES

MS No.			
11709	Constraint Optimization for Partially Adaptive Subspace STAP Algorithms	Baranoski, E.J.	Thirty-Second Asilomar Conf. on Signals, Systems and Computers, Vol. 2, 1-4 November 1998, pp. 1527-1531.
12610	NPOESS Airborne Sounder Testbed (NAST) Infrared Spectrometer Design	Prutzer, S. Ryan-Howard, D.P. Garcia, J.G. Bold, D.R.	1998 IEEE Aerospace Conf. Proc., Vol. 5, 21-28 March 1998, pp. 171-182.
12654	Applying Electro-Optical Space Surveillance Technology to Asteroid Search and Detection: The Linear Program Results	Viggh, H.E.M. Stokes, G.H. Shelly, F.C. Blythe, M.S. Stuart, J.S.	Proc. Int. Conf. on Lasers '97, 15-19 December 1997, pp. 914-927.
12684	Simulation of Dye-Enhanced Near-IR Transillumination Imaging of Tumors	Braunstein, M. Chan, R.W. Levine, R.Y.	Proc. 19th Annual Int. Conf. of the IEEE Engineering in Medicine and Biology Society, Magnificent Milestones and Emerging Opportunities in Medical Engineering, Vol. 2, 30 October - 2 November 1997, pp. 735-739.
12722	Throughput Analysis of Unscheduled Multicast Transmissions in WDM Broadcast-and-Select Networks	Modiano, E.	1998 IEEE Int. Symp. on Information Theory, 16-21 August 1998, p. 167.
12746	Information Fusion with Constrained Equivocation	Hurley, M.B.	Proc. 1998 IRIS Natl. Symp. on Sensor and Data Fusion, Vol. 1, 31 March - 2 April 1998, pp. 159-170.

Meeting Speeches

MS No.

- | | | | |
|--------|---|--|--|
| 12780A | Application of Parallel Processors to Real-Time Sensor Array Processing | Martinez, D.R. | Proc. 13th Int. Parallel Processing Symp. and 10th Symp. on Parallel and Distributed Processing, 12-16 April 1999, pp. 463-469. |
| 12800 | Critical Issues in 157 nm Lithography | Bloomstein, T.M.
Rothschild, M.
Kunz, R.R.
Hardy, D.E.
Goodman, R.B. | J. Vac. Sci. Technol. B, Vol. 16, No. 6, November/December 1998, pp. 3154-3157 (42nd Int. Conf. on Electron, Ion, and Photon Beam Technology and Nanofabrication, 26-29 May 1998). |
| 12821 | Adaptive Sidelobe Blanker: A Novel Method of Performance Evaluation and Threshold Setting in the Presence of Inhomogenous Clutter | Kreithen, D.E.
Pearson, C.F.K.
Richmond, C.D. | Thirty-Second Asilomar Conf. on Signals, Systems and Computers, Vol. 1, 1-4 November 1998, pp. 528-532. |
| 12842 | Adaptive Array Processing for Wideband Nulling in GPS Systems | Hatke, G.F. | Thirty-Second Asilomar Conf. on Signals, Systems and Computers, Vol. 2, 1-4 November 1998, pp. 1332-1336. |
| 12855 | Multidimensional Sidelobe Target Editing with Applications to Terrain Scattered Jamming Cancellation | Rabideau, D.J. | Ninth IEEE Signal Processing Workshop on Statistical Signal and Array Processing, 14-16 September 1998, pp. 252-255. |
| 12880 | Cooled Yb:YAG for High-Power Solid State Lasers | Fan, T.Y.
Crow, T.
Hoden, B. | SPIE, Vol. 3381, Airborne Laser Advanced Technology, 13-14 April 1998, pp. 200-205. |

Meeting Speeches

MS No.

- | | | | |
|-------|---|--|--|
| 12882 | Magnetically Tunable Superconducting Resonators and Filters | Oates, D.E.
Dionne, G.F. | IEEE Trans. Appl. Supercond., Vol. 9, No. 2, Pt. III, June 1999, pp. 4170-4175 (1998 Applied Superconductivity Conf., 13-18 September 1998). |
| 12885 | Reducing Electronic Multiplexing Costs in Unidirectional SONET/WDM Ring Networks via Efficient Traffic Grooming | Chiu, A.L.
Modiano, E. | IEEE Globecom 1998 – The Bridge to the Global Integration, 8-12 November 1998, pp. 322-327. |
| 12891 | Testing of Optical Materials for 193-nm Applications | Lieberman, V.
Rothschild, M.
Sedlacek, J.H.C.
Uttaro, R.S.
Grenville, A.
Bates, A.K.
Van Peski, C. | SPIE, Vol. 3427, Optical Systems Contamination and Degradation, 20-23 July 1998, pp. 411-418. ADA366551 |
| 12899 | Assessment of Optical Coatings for 193-nm Lithography | Lieberman, V.
Rothschild, M.
Sedlacek, J.H.C.
Uttaro, R.S.
Grenville, A.
Bates, A.K.
Van Peski, C. | SPIE, Vol. 3334, Optical Microlithography XI, 25-27 February 1998, pp. 470-479. ADA360731 |
| 12902 | Evaluation of Critical Current Density of Nb/Al/AIO _x /Nb Josephson Junctions Using Test Structures at 300 K | Berggren, K.K.
O'Hara, M.J.
Sage, J.P.
Worsham, A.H. | IEEE Trans. Appl Supercond., Vol. 9, No. 2, Pt. III, June 1999, pp. 3236-3239 (1998 Applied Superconductivity Conf., 13-18 September 1998). |
| 12921 | The Lincoln High Density Radar Receiver Enclosure: Thermal and Power Systems Design | Johnson, D.C.
Palmer, J.S.
Retherford, L.L. | SPIE, Vol. 3582, 1998 Int. Symp. on Microelectronics, 1-4 November 1998, pp. 162-167. |

Meeting Speeches

MS No.

- | | | | |
|-------|---|---|---|
| 12934 | Accuracy and Resolution Bounds for Adaptive Sensor Array Processing | Smith, S.T. | Ninth IEEE Signal Processing Workshop on Statistical Signal and Array Processing, 14-16 September 1998, pp. 37-40. |
| 12942 | Transmit Filters for Wireless Basestations | Anderson, A.C.
Wu, H.
Ma, Z.
Polakos, P.A.
Mankiewich, P.M.
Barfknecht, A.
Kaplan, T. | IEEE Trans. Appl. Supercond., Vol. 9, No. 2, Pt. III, June 1999, pp. 4006-4009 (1998 Applied Superconductivity Conf., 13-18 September 1998). |
| 12944 | Measurements and Modeling of Microwave Impedance of High- T_c Grain Boundaries | Oates, D.E.
Habib, Y.M.
Lehner, C.J.
Vale, L.R.
Ono, R.H.
Dresselhaus, G.
Dresselhaus, M.S. | IEEE Trans. Appl. Supercond., Vol. 9, No. 2, Pt. II, June 1999, pp. 2446-2451 (1998 Applied Superconductivity Conf., 13-18 September 1998). |
| 12948 | Ultrafast Time Division Multi-Access Networks | Hall, K.L.
Rauschenbach, K.A.
Finn, S.G. | SPIE, Vol. 3491, Applications of Photonic Technology 3, Closing the Gap Between Theory, Development, and Application, 29-31 July 1998, pp. 482-490. |
| 12956 | Hydride Vapor Phase Epitaxial Growth of III-V Nitrides | Molnar, R.J. | Chapter 1 in <i>Semiconductors and Semimetals, Vol. 57, Gallium Nitride (GaN) II</i> , Academic Press, 1999, pp. 1-31. |
| 12971 | Recent Progress in GaInAsSb Thermophotovoltaics Grown by Organometallic Vapor-Phase Epitaxy | Wang, C.A.
Choi, H-K.
Oakley, D.C.
Charache, G.W. | J. Cryst. Growth, Vol. 195, No. 1-4, December 1998, pp. 346-355 (Proc. of the Ninth Int. Conf. on Metalorganic Vapour Phase Epitaxy, 31 May - 4 June 1998). |

Meeting Speeches

MS No.

- | | | | |
|-------|---|--|---|
| 12973 | In Situ Monitoring of GaSb, GaInAsSb, and AlGaAsSb | Vineis, C.J.
Wang, C.A.
Jensen, K.F.
Breiland, W.G. | J. Cryst. Growth,
Vol. 195, No. 1-4,
December 1998, pp. 181-186
(Proc. of the Ninth Int. Conf.
on Metalorganic Vapour Phase
Epitaxy, 31 May - 4 June
1998). |
| 12982 | Magnetic Design for Low-Field Tunability of Microwave Ferrite Resonators | Dionne, G.F.
Oates, D.E. | J. Appl. Phys., Vol. 85, No. 8,
15 April 1999, pp. 4856-4858
(43rd Annual Conf. on Magne-
tism and Magnetic Materials,
9-12 November 1998).
ADA366550 |
| 12985 | Origin of Exchange Field Reductions in Diluted Magnetic Garnets | Dionne, G.F. | J. Appl. Phys., Vol. 85, No. 8,
15 April 1999, pp. 4627-4629
(43rd Annual Conf. on Magne-
tism and Magnetic Materials,
9-12 November 1998). |
| 12996 | Optical Fiber Ring 150 Gbps Data Storage Loop and Spontaneous Variable-Length-Pattern Generator | Moore, J.D. | IEEE/LEOS 1998
Summer Topical Mtg.,
Broadband Optical Networks
and Technologies: An
Emerging Reality,
20-22 July 1998,
pp. 23-24. |
| 13013 | Extending the Cutoff Wavelength of Lattice-Matched GaInAsSb/GaSb Thermophotovoltaic Devices | Wang, C.A.
Choi, H-K.
Oakley, D.C.
Charache, G.W. | AIP Conf. Proc., No. 460,
Thermophotovoltaic
Generation of
Electricity: Fourth NREL
Conf., October 1998,
pp. 256-265. |
| 13016 | Performance Enhancement for TCP/IP on a Satellite Channel | Stadler, J.S.
Gelman, J.R. | IEEE MILCOM '98, Vol. 1,
19 October 1998,
pp. 270-276. |

Meeting Speeches

MS No.

- | | | | |
|--------|--|--|--|
| 13049 | Low T_c Superconductive Circuits Fabricated on 150-mm-Diameter Wafers Using a Doubly Planarized Nb/ AlO_x /Nb Process | Berggren, K.K.
Macedo, E.M.
Feld, D.A.
Sage, J.P. | IEEE Trans. Appl. Supercond., Vol. 9, No. 2, Pt. III, June 1999, pp. 3271-3274 (1998 Applied Superconductivity Conf., 13-18 September 1998). |
| 13071 | First Demonstration of Correlation in a Niobium Superconductive Programmable Binary-Analog Matched Filter | Sage, J.P.
Feld, D.A. | IEEE Trans. Appl. Supercond., Vol. 9, No. 2, Pt. III, June 1999, pp. 4367-4372 (1998 Applied Superconductivity Conf., 13-18 September 1998). |
| 13075 | The Photomixer Transceiver | Verghese, S.
McIntosh, K.A.
Calawa, S.D.
DiNatale, W.F.
Duerr, E.K.
Mahoney, L.J. | SPIE, Vol. 3617, Terahertz Spectroscopy and Applications, 25-26 January 1999, pp. 7-13. |
| 13075A | Generation and Detection of THz Waves with Photomixers | Verghese, S.
McIntosh, K.A.
Duerr, E.K. | SPIE, Vol. 3828, Terahertz Spectroscopy and Applications II, 16-18 June 1999, pp. 118-124. |
| 13077 | Linearization of a Broadband Analog Optical Link Using Multiple Wavelengths | Ackerman, E.I. | IEEE Int. Topical Mtg. on Microwave Photonics, MWP'98, 12-14 October 1998, pp. 45-48. |
| 13081 | Propagation of a 10 Gbps RZ Bit Stream in a Circulating Loop Using TrueWave™ and DCF with 100 km EDFA Spacing | Korn, J. | LEOS'98, IEEE Lasers and Electro-Optics Society 1998 Annual Mtg., Vol. 1, 1-4 December 1998, pp. 14-15. |
| 13094A | SAR and HSI Data Fusion for Counter CC&D | Hsu, S.M.
Kerekes, J.P.
Burke, H-H.K.
Crooks, S.M. | 1999 IEEE Radar Conf., 20-22 April 1999, pp. 218-220. |

Meeting Speeches

MS No.

13097	Ultrafast TDM Transmission	Moores, J.D.	LEOS'98, IEEE Lasers and Electro-Optics Society 1998 Annual Mtg., Vol. 1, 1-4 December 1998, pp. 12-13.
13115	Design and Analysis of an Asynchronous WDM Local Area Network Using a Master/Slave Scheduler	Modiano, E. Barry, R.A.	IEEE INFOCOM '99, Proc. of the 18th Annual Joint Conf. of the IEEE Computer and Communications Societies: The Future is Now, Vol. 2, 21-25 March 1999, pp. 900-907.
13140	Optimal Soft-Decision Decoding for a 1-Bit A/D Channel	Schodorf, J.B.	1999 IEEE Int. Conf. on Communications, Vol. 2, 6-10 June 1999, pp. 1172-1176.
13144	State of the Art in Analog Fiber-Optic Link Technology	Ackerman, E.I. Cox, C.H. III	1998 URSI Int. Symp. on Signals, Systems, and Electronics, 29 September - 2 October 1998, pp. 372-377.
13145	3-D Emitter Localization Using Inhomogenous Bistatic Scattering	Coutts, S.D.	ICASSP'99, Proc. IEEE Int. Conf. on Acoustics, Speech and Signal Processing, Vol. III, 15-19 March 1999, pp. 1509-1512.
13146	Marathon Testing of Optical Materials for 193-nm Lithographic Applications	Lieberman, V. Rothschild, M. Sedlacek, J.H.C. Uttaro, R.S. Bates, A.K. Van Peski, C.	SPIE, Vol. 3578, Laser-Induced Damage in Optical Materials, 28 September - 1 October 1998, pp. 2-15. ADA369212

Meeting Speeches

MS No.

- | | | | |
|-------|---|---|--|
| 13159 | Broadband Optical Network Technology for Next Generation LAN and Access Systems | Rauschenbach, K.A.
Modiano, E.
Hall, K.L.
Finn, S.G.
Moores, J.D. | LEOS'98, IEEE Lasers and Electro-Optics Society 1998 Annual Mtg., Vol. 2, 1-4 December 1998, pp. 230-231. |
| 13179 | Enhanced HAWK High Power Illuminator for Field Data Collections | Dolan, P.D.
Borison, S.L.
Payson, H.C.
Giunta, M. | 1999 IEEE Radar Conf., 20-22 April 1999, pp. 321-325. |
| 13180 | Circular Array STAP | Zatman, M.A. | 1999 IEEE Radar Conf., 20-22 April 1999, pp. 108-113. |
| 13184 | Automatic Speaker Clustering from Multi-Speaker Utterances | McLaughlin, J.J.
Reynolds, D.A.
Singer, E.
O'Leary, G.C. | ICASSP'99, Proc. IEEE Int. Conf. on Acoustics, Speech and Signal Processing, Vol. II, 15-19 March 1999, pp. 817-820. |
| 13189 | A Spectral 2-D Wold Decomposition Algorithm for Homogeneous Random Fields | Liu, F.
Picard, R.W. | ICASSP'99, Proc. IEEE Int. Conf. on Acoustics, Speech and Signal Processing, Vol. VI, 15-19 March 1999, pp. 3501-3504. |
| 13197 | Outlook for 157-nm Resist Design | Kunz, R.R.
Bloomstein, T.M.
Hardy, D.E.
Goodman, R.B.
Downs, D.K.
Curtin, J.E. | SPIE, Vol. 3678, Part One, Microlithography 1999: Advances in Resist Technology and Processing XVI, 15-17 March 1999, pp. 13-23. |
| 13198 | Performance of a Phase-Shift Focus Monitor Reticle Designed for 193-nm Use | Kunz, R.R.
Chan, M.Y.
Doran, S.P. | SPIE, Vol. 3679, Part One, Optical Microlithography XII, 17-19 March 1999, pp. 108-115. |

Meeting Speeches

MS No.

- | | | | |
|-------|---|---|---|
| 13205 | P-3 Ultra-Wideband SAR, Grayling, Michigan, Target and Clutter Phenomenology | Bessette, L.A.
Crooks, S.M.
Ayasli, S. | 1999 IEEE Radar Conf.,
20-22 April 1999,
pp. 125-129. |
| 13206 | Optical Materials and Coatings at 157 nm | Bloomstein, T.M.
Lieberman, V.
Rothschild, M.
Hardy, D.E.
Goodman, R.B. | SPIE, Vol. 3676, Part One,
Emerging Lithographic
Technologies III,
15-17 March 1999,
pp. 342-349. ADA369284 |
| 13207 | A Computationally-Efficient Two-Step Implementation of the GLRT Detector | Pulsone, N.B.
Zatman, M.A. | ICASSP'99, Proc. IEEE Int.
Conf. on Acoustics, Speech
and Signal Processing,
Vol. III, 15-19 March 1999,
pp. 1161-1164. |
| 13209 | Implications of Glottal Source for Speaker and Dialect Identification | Yanguas, L.R.
Quatieri, T.F.
Goodman, F. | ICASSP'99, Proc. IEEE Int.
Conf. on Acoustics, Speech
and Signal Processing,
Vol. II, 15-19 March 1999,
pp. 813-816. |
| 13211 | Perfect Reconstruction Time-Scaling Filterbanks | Quatieri, T.F.
Hanna, T.E. | ICASSP'99, Proc. IEEE Int.
Conf. on Acoustics, Speech
and Signal Processing,
Vol. III, 15-19 March 1999,
pp. 945-948. |
| 13212 | A Two Trillion Operations per Second Miniaturized Mixed Signal Radar Receiver/Processor | Song, W.S. | Thirty-Second Asilomar Conf.
on Signals, Systems and
Computers, Vol. 2,
1-4 November 1998,
pp. 1002-1006. |
| 13213 | Fundamental SAR ATR Performance Predictions for Design Tradeoffs: 1-D HRR Versus 2-D SAR Versus 3-D SAR | Horowitz, L.L.
Brendel, G.F. | SPIE, Vol. 3721, Algorithms
for Synthetic Aperture
Radar Imagery VI,
5-9 April 1999,
pp. 763-775. |

Meeting Speeches

MS No.

- | | | | |
|--------|---|--|--|
| 13220 | Developments in X-Ray and Astronomical CCD Imagers | Gregory, J.A.
Burke, B.E.
Kosicki, B.B.
Reich, R.K. | Nucl. Instrum. Methods Phys. Res. Methods No. 1/2, 21 October 1999, pp. 1-8 (Proc. 7th. Int. Conf. on Solid State Detectors, 4-6 December 1998). |
| 13238 | Long-Term 193-nm Laser-Induced Degradation of Fused Silica and Calcium Fluoride | Liberman, V.
Rothschild, M.
Sedlacek, J.H.C.
Uttaro, R.S.
Bates, A.K.
Van Peski, C. | SPIE, Vol. 3679, Part Two, Optical Microlithography XII, 17-19 March 1999, pp. 1137-1145.
ADA369276 |
| 13248 | Pattern Asymmetries in Phase-Edge Imaging | Fritze, M.
Cann, S.G.
Wyatt, P.W. | SPIE, Vol. 3679, Part Two, Optical Microlithography XII, 17-19 March 1999, pp. 567-581.
ADA369271 |
| 13250 | Photon Statistics of NRZ Signals in a High-Bit-Rate Optically Pre-Amplified Direct Detection Receiver | Wong, W.S.
Moores, J.D.
Korn, J.
Haus, H.A. | Optical Fiber Communication Conf. and the Int. Conf. on Integrated Optics and Optical Fiber Communication (OFC/IOOC'99), 21-26 February 1999, pp. 265-267. |
| 13257 | Screening of DNQ/Novolac Resists with E-Beam Exposure | Fedynyshyn, T.H.
Doran, S.P.
Lind, M.L.
Lyszczarz, T.M.
DiNatale, W.F.
Lennon, D.M.
Sauer, C.
Meute, J. | SPIE, Vol. 3678, Part Two, Microlithography 1999: Advances in Resist Technology and Processing XVI, 15-17 March 1999, pp. 1273-1283.
ADA369281 |
| 13264A | A Nyquist-Rate Pipelined Oversampling A/D Converter | Paul, S.A.
Lee, H-S.
Goodrich, J.
Alailima, T.F.
Santiago, D.D. | 1999 IEEE Int. Solid-State Circuits Conf., Digest of Technical Papers, 15-17 February 1999, pp. 54-55 & 445. |

Meeting Speeches

MS No.

- | | | | |
|-------|--|---|--|
| 13275 | Template-Based SAR ATR Performance Using Different Image Enhancement Techniques | Owirka, G.J.
Verbout, S.M.
Novak, L.M. | SPIE, Vol. 3721, Algorithms for Synthetic Aperture Radar Imagery VI, 5-9 April 1999, pp. 302-319. |
| 13286 | Metrology Methods for Quantifying Edge Roughness II | Nelson, C.M.
Palmateer, S.C.
Forte, A.R.
Cann, S.G.
Deneault, S.J.
Lyszczarz, T.M. | SPIE, Vol. 3677, Part One, Metrology, Inspection, and Process Control for Microlithography XIII, 15-18 March 1999, pp. 53-61. |
| 13287 | A Study of Resist Outgassing as a Function of Differing Photoadditives | Houlihan, F.M.
Rushkin, I.L.
Hutton, R.S.
Timko, A.G.
Nalamasu, O.
Reichmanis, E.
Gabor, A.H.
Medina, A.N.
Malik, S.
Neiser, M.
Kunz, R.R.
Downs, D.K. | SPIE, Vol. 3678, Part One, Microlithography 1999: Advances in Resist Technology and Processing XVI, 15-17 March 1999, pp. 264-274. |
| 13291 | An Efficient Multi-Target SAR ATR Algorithm | Novak, L.M.
Owirka, G.J.
Brower, W.S. | Thirty-Second Asilomar Conf. on Signals, Systems and Computers, Vol. 1, 1-4 November 1998, pp. 3-13. |
| 13306 | A New Model for the Doppler Spectrum of Windblown Radar Ground Clutter | Lombardo, P.
Billingsley, J.B. | 1999 IEEE Radar Conf., 20-22 April 1999, pp. 142-147. |
| 13307 | A FT-IR Method to Determine Dill's C Parameter for DNQ/Novolac Resists with E-Beam and I-Line Exposure | Fedynyshyn, T.H.
Doran, S.P.
Mack, C.A. | SPIE, Vol. 3678, Part Two, Microlithography 1999: Advances in Resist Technology and Processing XVI, 15-17 March 1999, pp. 1263-1272. |

Meeting Speeches

MS No.

- | | | | |
|-------|--|--|---|
| 13315 | A Signal Processing Architecture for Space-Based GMTI Radar | Rabideau, D.J.
Kogon, S.M. | 1999 IEEE Radar Conf.,
20-22 April 1999,
pp. 96-101. |
| 13325 | Space-Time Adaptive Processing with Sparse Antenna Arrays | Ward, J. | Thirty-Second Asilomar Conf. on Signals, Systems and Computers, Vol. 2, 1-4 November 1998, pp. 1537-1541. |
| 13330 | An Optimal Generalized Theory of Signal Representation | Goldstein, J.S.
Guerci, J.R.
Reed, I.S. | ICASSP'99, Proc. IEEE Int. Conf. on Acoustics, Speech and Signal Processing, Vol. III, 15-19 March 1999, pp. 1357-1360. |
| 13389 | Investigation of Alternates to SiO _x for Protective Scan Mirror Coatings in Remote Sensing Instruments | MacDonald, M.E. | SPIE, Vol. 3750, Earth Observing Systems IV, 18-20 July 1999, pp. 309-318. |
| 13391 | Broadband Linearization of a Mach-Zehnder Electro-Optic Modulator | Ackerman, E.I. | 1999 IEEE MTT-S Int. Microwave Symp. Digest, Vol. 3, 13-19 June 1999, pp. 999-1002. |
| 13396 | Performance Assessment Software for the EO-1 Advanced Land Imager | Viggh, H.E.M.
Stuart, J.S.
Sayer, R.W.
Evans, J.B.
Mendenhall, J.A.
Gibbs, M.D. | SPIE, Vol. 3750, Earth Observing Systems IV, 18-20 July 1999, pp. 141-152. |
| 13397 | Radiometric Calibration Pipeline for the EO-1 Advanced Land Imager | Evans, J.B.
Viggh, H.E.M. | SPIE, Vol. 3750, Earth Observing Systems IV, 18-20 July 1999, pp. 153-161. |
| 13398 | An Automated Ground Data Acquisition and Processing System for Calibration and Performance Assessment of the EO-1 Advanced Land Imager | Viggh, H.E.M.
Mendenhall, J.A.
Sayer, R.W.
Stuart, J.S.
Gibbs, M.D. | SPIE, Vol. 3750, Earth Observing Systems IV, 18-20 July 1999, pp. 132-140. |

Meeting Speeches

MS No.

- | | | | |
|-------|--|---|--|
| 13400 | Spatial Calibration of the EO-1 Advanced Land Imager | Hearn, D.R.
Mendenhall, J.A.
Willard, B.C. | SPIE, Vol. 3750, Earth Observing Systems IV, 18-20 July 1999, pp. 97-108. |
| 13401 | Vacuum Window Optical Power Induced by Temperature Gradients | Hearn, D.R. | SPIE, Vol. 3750, Earth Observing Systems IV, 18-20 July 1999, pp. 297-308. |
| 13410 | Photonic Remoting of the Kwajalein Missile Range Post-Impact Telemetry System | Abouzahra, M.D.
Robey, F.C.
Henion, S.R. | ITC/USA'99, Int. Telemetry Conf., "Telemetry: Meeting the 21st Century Challenge," Part 1, 25-28 October 1999, pp. 433-442. |
| 13412 | Noise Performance of the NPOESS Airborne Sounder Testbed Interferometer (NAST-I) Sounder: Flight and Model Results | Kelly, M.W.
Gazarik, M.J.
Marino, R.M. | SPIE, Vol. 3750, Earth Observing Systems IV, 18-20 July 1999, pp. 260-268. |
| 13417 | Wide Field-of-View Schmidt-Sphere Imaging Collimator | Willard, B.C. | SPIE, Vol. 3750, Earth Observing Systems IV, 18-20 July 1999, pp. 286-296. |
| 13447 | Intrapixel Response Test System for Multispectral Characterization | Lind, T.A.
Reich, R.K.
McGonagle, W.H.
Kosicki, B.B. | SPIE, Vol. 3649, Sensors, Cameras, and Systems for Scientific/Industrial Applications, 25-26 January 1999, pp. 232-238. |
| 13449 | Materials Issues for Optical Components and Photomasks in 157 nm Lithography | Liberman, V.
Bloomstein, T.M.
Rothschild, M.
Sedlacek, J.H.C.
Uttaro, R.S.
Bates, A.K.
Van Peski, C.
Orvek, K. | J. Vac. Sci. Technol. B, Vol. 17, No. 6, November/December 1999, pp. 3273-3279 (Papers from the 43rd Int. Conf. on Electron, Ion and Photon Beam Technology and Nanofabrication, 1-4 June 1999). |

Meeting Speeches

MS No.

- | | | | |
|-------|---|---|--|
| 13453 | Spectral Calibration of the EO-1 Advanced Land Imager | Mendenhall, J.A.
Parker, A.C. | SPIE, Vol. 3750, Earth Observing Systems IV, 18-20 July 1999, pp. 109-116. |
| 13454 | Radiometric Calibration of the EO-1 Advanced Land Imager | Mendenhall, J.A.
Lencioni, D.E.
Parker, A.C. | SPIE, Vol. 3750, Earth Observing Systems IV, 18-20 July 1999, pp. 117-131. |
| 13463 | EO-1 Advanced Land Imager Calibration and Performance Overview | Lencioni, D.E.
Hearn, D.R.
Mendenhall, J.A.
Bicknell, W.E. | SPIE, Vol. 3750, Earth Observing Systems IV, 18-20 July 1999, pp. 89-96. |
| 13469 | EO-1 Advanced Land Imager | Bicknell, W.E.
Digenis, C.J.
Forman, S.E.
Lencioni, D.E. | SPIE, Vol. 3750, Earth Observing Systems IV, 18-20 July 1999, pp. 80-88. |
| 13482 | Field Programmable Gate Array Based Radar Front-End Digital Signal Processing | Moeller, T.J.
Martinez, D.R. | Seventh Annual IEEE Symp. on Field-Programmable Custom Computing Machines (FCCM '99), 21-23 April 1999, pp. 178-187. |
| 13493 | Transmultiplexers: A Unifying Time-Frequency Tool for TDMA, FDMA, and CDMA Communications | Hetling, K.J.
Saulnier, G.J.
Akansu, A.N.
Lin, X. | Chapter 1 in <i>Wavelet, Subband and Block Transforms in Communications and Multimedia</i> , Kluwer Academic Publishers, 1999, pp. 1-24. |
| 13498 | A Compact, Active Hyperspectral Imaging System for the Detection of Concealed Targets | Johnson, B.
Joseph, R.M.
Nischan, M.
Newbury, A.B.
Kerekes, J.P.
Barclay, H.T.
Willard, B.C.
Zayhowski, J.J. | SPIE, Vol. 3710, Part One, Detection and Remediation Technologies for Mines and Minelike Targets IV, 5-9 April 1999, pp. 144-153. |

Meeting Speeches

MS No.

- | | | | |
|-------|--|---|--|
| 13515 | Precision Radar
Surveillance and Mapping
with Discoverer II | Koss, J.
Pohlig, S.C.
Trichel, M.
Jeffrey, W. | AIAA Space Technology
Conf. and Exposition,
28-30 September 1999,
pp. 1-10. |
| 13519 | 157 nm: Deepest
Deep-Ultraviolet Yet | Rothschild, M.
Bloomstein, T.M.
Curtin, J.E.
Downs, D.K.
Fedynyshyn, T.H.
Hardy, D.E.
Kunz, R.R.
Lieberman, V.
Sedlacek, J.H.C.
Uttaro, R.S.
Bates, A.K.
Van Peski, C. | J. Vac. Sci. Technol. B,
Vol. 17, No. 6,
November/December 1999,
pp. 3262-3266
(Papers from the 43rd Int.
Conf. on Electron, Ion and
Photon Beam Technology
and Nanofabrication,
1-4 June 1999). |
| 13520 | Distortion-Invariant FOPEN
Detection Filter
Improvements | Casasent, D.
Ippolito, K.
Verly, J.G. | SPIE, Vol. 3721, Algorithms
for Synthetic Aperture
Radar Imagery VI,
5-9 April 1999,
pp. 261-271. |
| 13722 | Subband-Domain Signal
Processing for Radar Array
Systems | Rabinkin, D.V.
Pulsone, N.B. | SPIE, Vol. 3807, Advanced
Signal Processing Algorithms,
Architectures, and
Implementations IX,
19-21 July 1999,
pp. 174-187. |
| 13853 | Demonstration of Terahertz
Water-Vapor Spectroscopy
with a Photomixer
Transceiver | McIntosh, K.A.
Verghese, S. | SPIE, Vol. 3794, Materials
and Electronics for
High-Speed and
Infrared Detectors,
19-20 & 23 July 1999,
pp. 16-24. |

AUTHOR INDEX

- Abouzahra, M.D., MS-13410
Ackerman, E.I., JA-7471, JA-7540, JA-7635A,
MS-13077, MS-13144, MS-13391
Adesida, I., JA-7637
Adivarahan, V., JA-7684
Aggarwal, R.L., TR-1052, JA-7713
Aguilar, M.J., JA-7550
Ahadian, J.F., JA-7671
Akansu, A.N., MS-13493
Alailima, T.F., MS-13264A
Anderson, A.C., MS-12942
Astolfi, D.K., JA-7629
Ayasli, S., JA-7502, MS-13205
Bajaj, K.K., JA-7624
Baranoski, E.J., MS-11709
Barclay, H.T., JA-7513, MS-13498
Barfknecht, A., MS-12942
Barry, R.A., JA-7542, JA-7572, JA-7598, MS-13115
Bates, A.K., JA-7608, MS-12891, MS-12899,
MS-13146, MS-13238 MS-13449, MS-13519
Bates, K., JA-7678
Baxter, R.A., JA-7375, JA-7535
Beavers, W.I., Jr., JA-7601
Bedair, S.M., JA-7510
Berggren, K.K., JA-7633, MS-12902, MS-13049
Bessette, L.A., MS-13205
Betts, G.E., JA-7471
Bianconi, P.A., JA-7640
Bicknell, W.E., MS-13463, MS-13469
Bilinsky, I.P., JA-7605
Billingsley, J.B., JA-7511A, MS-13306
Birkhahn, R., JA-7638
Bloomstein, T.M., JA-7580, MS-12800, MS-13197,
MS-13206, MS-13449, MS-13519
Blundell, R., JA-7626A
Blythe, M.S., JA-7600, MS-12654
Bold, D.R., MS-12610
Borison, S.L., MS-13179
Borrego, J.M., JA-7639
Bozdog, C., JA-7654
Braunstein, M., MS-12684
Breiland, W.G., MS-12973
Brendel, G.F., MS-13213
Brower, W.S., MS-13291
Brown, E.R., JA-7365, JA-7534
Bunea, G.E., JA-7677
Burgess, D.W., JA-7526
Burke, B.E., JA-7550, MS-13220
Burke, B.P., JA-7545
Burke, H-H.K., MS-13094A
Calawa, S.D., JA-7606, JA-7626A, JA-7653, JA-7666,
MS-13075
Cann, S.G., MS-13248, MS-13286
Carlson, B.D., JA-7453A
Carrick, J.E., JA-7550
Casasent, D., MS-13520
Chan, M.Y., MS-13198
Chan, R.W., MS-12684
Chan, V.W., JA-7620
Charache, G.W., JA-7639, JA-7669, MS-12971,
MS-13013
Chen, C-L., JA-7606, JA-7653, JA-7666
Chen, C.K., JA-7629
Chen, J.C., JA-7634
Chen, J.Y., JA-7554
Chinn, S.R., JA-7688
Chiu, A.L., MS-12885
Choi, H-K., JA-7669, JA-7681, MS-12971, MS-13013
Choi, S.S., JA-7594, JA-7713
Collins, T.C., JA-7624
Connors, M.K., JA-7681
Cook, C.C., JA-7681
Coutts, S.D., MS-13145
Cox, C.H. III, JA-7471, JA-7540, MS-13144
Craig, D.M., JA-7550
Cronin, S.B., JA-7701
Crooks, S.M., MS-13094A, MS-13205
Crow, T., MS-12880
Cuomo, K.M., TR-1054, JA-7474A
Curtin, J.E., MS-13197, MS-13519
Daneu, J.L., JA-7625
Daniels, G.M., JA-7365
Danielson, L.R., JA-7669
Delaney, J.R., JA-7632
DeLucca, J.M., JA-7591, JA-7636
Deneault, S.J., MS-13286
DePoy, D.M., JA-7669
Digenis, C.J., MS-13469
DiNatale, W.F., MS-13075, MS-13257
Dionne, G.F., MS-12882, MS-12982, MS-12985
Dolan, P.D., MS-13179
Doran, S.P., MS-13198, MS-13257, MS-13307

Author Index

- Downs, D.K., MS-13197, MS-13287, MS-13519
Dresselhaus, G., JA-7616, MS-12944
Dresselhaus, M.S., JA-7616, JA-7701, MS-12944
Dudgeon, D.E., TR-1051
Duerr, E.K., JA-7626A, MS-13075, MS-13075A
Duffy, S.M., JA-7626A
Evans, J.B., MS-13396, MS-13397
Fan, T.Y., JA-7625, MS-12880
Farina, A., JA-7511A
Fay, D.A., JA-7550
Fedynshyn, T.H., MS-13257, MS-13307, MS-13519
Feld, D.A., JA-7633, MS-13049, MS-13071
Fenn, A.J., JA-7516, JA-7603
Finn, S.G., JA-7542, JA-7628, MS-12948, MS-13159
Fogle, R.M., JA-7516
Fonstad, C.G., JA-7594, JA-7671
Forman, S.E., MS-13469
Forster, A., JA-7607
Forte, A.R., JA-7665, MS-13286
Fritze, M., JA-7629, MS-13248
Froberg, N.M., JA-7695
Fujimoto, J.G., JA-7605
Gabor, A.H., MS-13287
Gallager, R.G., JA-7542
Gaposchkin, E.M., JA-7601
Garcia, J.G., MS-12610
Gavrilov, L.R., JA-7603
Gazarik, M.J., MS-13412
Geis, M.W., JA-7713
Gelman, J.R., MS-13016
Giannuzzi, L.A., JA-7591
Gibbs, M.D., MS-13396, MS-13398
Gini, F., JA-7511A
Giunta, M., MS-13179
Goldberg, B.B., JA-7677
Goldstein, J.S., JA-7549, MS-13330
Goodhue, W.D., JA-7594, JA-7713
Goodman, F., MS-13209
Goodman, R.B., JA-7565A, MS-12800, MS-13197,
MS-13206
Goodrich, J., MS-13264A
Gove, A.N., JA-7550
Grappel, R.D., JA-7611
Graves, C.A., JA-7617
Gravina, S.J., JA-7632
Greco, M.V., JA-7511A
Gregory, J.A., MS-13220
Grenville, A., JA-7563A, JA-7608, MS-12891,
MS-12899
Guerci, J.R., MS-13330
Gutmann, R.J., JA-7639
Habib, Y.M., MS-12944, JA-7616
Hakimi, F., JA-7670
Hakimi, H., JA-7670
Hall, K.L., JA-7619, JA-7620, JA-7628, JA-7670,
MS-12948, MS-13159
Hand, J.W., JA-7603
Hanna, T.E., MS-13211
Hardy, D.E., MS-12800, MS-13197, MS-13206,
MS-13519
Harle, V., JA-7654
Harman, T.C., JA-7612, JA-7701
Harmon, P.R., JA-7632
Harris, C.T., JA-7617
Harrison, D.C., JA-7644
Hatke, G.F., MS-12842
Haus, H.A., MS-13250
Hearn, D.R., TR-1053, MS-13400, MS-13401,
MS-13463
Helkey, R., JA-7519, JA-7552, JA-7554, JA-7602,
JA-7641
Henion, S.R., JA-7695, MS-13410
Henry, R.L., JA-7654
Herzog, W.D., JA-7677
Hetling, K.J., MS-13493
Hiett, M., JA-7632
Higgs, C., JA-7513
Hoden, B., MS-12880
Hogan, G.G., JA-7365
Hollis, M.A., JA-7617
Honeyman, C.H., JA-7640
Hopewell, J.W., JA-7603
Horn, M.W., JA-7565A
Horowitz, L.L., MS-13213
Houlihan, F.M., MS-13287
Hover, G., JA-7365
Hsu, S.M., MS-13094A
Hu, Q., JA-7607, JA-7732
Hudgins, R., JA-7638
Hurley, M.B., MS-12746
Hutton, R.S., MS-13287
Ingall, M.D.K., JA-7640
Ippolito, K., MS-13520
Ireland, D.B., JA-7550

Author Index

- Jao, J.K., JA-7502
Jeffrey, W., MS-13515
Jensen, K.F., MS-12973
Johnson, B., MS-13498
Johnson, D.C., MS-12921
Joseph, R.M., MS-13498
Joshkin, V.A., JA-7510
Kahn, M.A., JA-7684
Kam, A.C., JA-7572
Kamp, M., JA-7654
Kansky, J.E., JA-7601
Kaplan, T., MS-12942
Kelly, M.W., MS-13412
Kerekes, J.P., MS-13094A, MS-13498
Kimberk, R., JA-7626A
Knowlton, R.C., JA-7540
Koga, T., JA-7701
Kogon, S.M., MS-13315
Kolbas, R.M., JA-7510
Koleske, D.D., JA-7654
Korn, J., JA-7628, MS-13081, MS-13250
Kosicki, B.B., MS-13220, MS-13447
Koss, J., MS-13515
Kreithen, D.E., MS-12821
Kunz, R.R., JA-7640, MS-12800, MS-13197,
MS-13198, MS-13287, MS-13519
Kuznetsov, M., JA-7695
Lambour, R.L., JA-7528, JA-7601
Lee, C.F., JA-7502
Lee, D., JA-7638
Lee, H-S., MS-13264A
Lehner, C.J., JA-7616, MS-12944
Lencioni, D.E., MS-13454, MS-13463, MS-13469
Lennon, D.M., MS-13257
Levine, R.Y., MS-12684
Levinshtein, M.E., JA-7684
Liau, Z-L., JA-7681
Lieberman, V., JA-7563A, JA-7608, JA-7678,
MS-12891, MS-12899, MS-13146, MS-13206,
MS-13238, MS-13449, MS-13519
Lightfoot, A., JA-7713
Lin, X., MS-13493
Lind, M.L., MS-13257
Lind, T.A., MS-13447
Liu, F., MS-13189
Liu, H., JA-7629
Lombardo, P., MS-13306
London, J.M., JA-7671
Look, D.C., JA-7624, JA-7684
Loomis, A.H., JA-7671
Lyszczarz, T.M., JA-7665, MS-13257, MS-13286
Ma, Z., MS-12942
MacDonald, M.E., MS-13389
Macedo, E.M., MS-13049
Mack, C.A., MS-13307
Mahoney, L.J., JA-7606, JA-7653, JA-7666, JA-7713,
MS-13075
Maki, P.A., JA-7606, JA-7666
Malik, S., MS-13287
Manfra, M.J., JA-7681
Mankiewich, P.M., MS-12942
Mansuripur, M., JA-7678
Marino, R.M., MS-13412
Marshall, D., JA-7428
Martinez, D.R., MS-12780A, MS-13482
Mathews, R.H., JA-7606, JA-7666
Mayer, M., JA-7654
Mayhan, J.T., TR-1054, JA-7474A
McGonagle, W.H., JA-7550, MS-13447
McIntosh, K.A., JA-7626A, JA-7713, JA-7732,
MS-13075, MS-13075A, MS-13853
McLaughlin, J.J., MS-13184
McMahon, O.B., JA-7365, JA-7534
Medard, M., JA-7542
Medina, A.N., MS-13287
Melngailis, I., JA-7713
Mendenhall, J.A., MS-13396, MS-13398, MS-13400,
MS-13453, MS-13454, MS-13463
Mercure, J.V., JA-7640
Meute, J., MS-13257
Misra, P.N., JA-7545
Missaggia, L.J., JA-7605, JA-7681
Modiano, E., JA-7539, JA-7597, JA-7598, JA-7620,
JA-7627, MS-12722, MS-12885, MS-13115,
MS-13159
Moeller, T.J., MS-13482
Mohney, S.E., JA-7591, JA-7636
Molnar, R.J., JA-7510, JA-7591, JA-7624, JA-7636,
JA-7637, JA-7638, JA-7654, JA-7677, JA-7684,
JA-7713, MS-12956
Molvar, K.M., JA-7606, JA-7653, JA-7666, JA-7713
Moores, J.D., JA-7628, MS-12996, MS-13097,
MS-13159, MS-13250
Mull, D.E., JA-7594

Author Index

- Murphy, D.V., JA-7513
Murphy, R.A., JA-7617
Murphy, T.J., JA-7365
Muth, J.F., JA-7510
Nalamasu, O., MS-13287
Neiser, M., MS-13287
Nelson, C.M., JA-7665, MS-13286
Newbury, A.B., MS-13498
Nischan, M., MS-13498
Novak, L.M., JA-7452A, MS-13275, MS-13291
O'Donnell, F.J., JA-7471
O'Hara, M.J., MS-12902
O'Leary, G.C., MS-13184
Oakley, D.C., MS-12971, MS-13013
Oates, D.E., JA-7616, MS-12882, MS-12944,
MS-12982
Ono, R.H., MS-12944
Orlando, V.A., JA-7526
Orvek, K., MS-13449
Owirka, G.J., JA-7452A, MS-13275, MS-13291
Palmacci, S.T., JA-7580
Palmateer, S.C., JA-7665, MS-13286
Palmer, J.S., MS-12921
Parameswaran, L., JA-7617
Parker, A.C., MS-13453, MS-13454
Parker, C.A., JA-7510
Parker, C.D., JA-7534
Paul, S.A., MS-13264A
Payson, H.C., MS-13179
Pearson, C.F.K., MS-12821
Persky, M.J., JA-7532
Picard, R.W., MS-13189
Piner, E.L., JA-7510
Piou, J.E., TR-1054, JA-7474A
Pohlig, S.C., MS-13515
Polakos, P.A., MS-12942
Pratt, M.M., JA-7545
Preble, D.M., JA-7629
Premus, V.E., JA-7517
Prenitzer, B.I., JA-7591
Primmerman, C.A., JA-7513
Prince, J.L., JA-7540
Prutzer, S., MS-12610
Przybylinska, H., JA-7654
Pulsone, N.B., JA-7576, MS-13207, MS-13722
Quatieri, T.F., JA-7589, MS-13209, MS-13211
Rabideau, D.J., JA-7447A, MS-12855, MS-13315
Rabinkin, D.V., MS-13722
Racamato, J.P., Jr., JA-7550
Raghavan, R.S., JA-7576
Ram, R.J., JA-7554
Ransom, S.L., JA-7669
Rauschenbach, K.A., JA-7620, JA-7628, JA-7670,
JA-7695, MS-12948, MS-13159
Ray, K.G., JA-7471
Readinger, E.D., JA-7591
Reed, I.S., JA-7549, MS-13330
Reich, R.K., JA-7550, MS-13220, MS-13447
Reichmanis, E., MS-13287
Retherford, L.L., MS-12921
Reynolds, D.A., MS-13184
Reynolds, D.C., JA-7624
Richmond, C.D., MS-12821
Robey, F.C., MS-13410
Romano, L.T., JA-7637
Ross, W.D., JA-7550
Rothschild, M., JA-7563A, JA-7565A, JA-7608,
MS-12800, MS-12891, MS-12899, MS-13146,
MS-13206, MS-13238, MS-13449, MS-13519
Roussell, H.V., JA-7471, JA-7540, JA-7552
Royter, Y., JA-7594
Rumyantsev, S.L., JA-7684
Rushkin, I.L., MS-13287
Ryan-Howard, D.P., MS-12610
Sage, J.P., JA-7606, JA-7633, JA-7666, MS-12902,
MS-13049, MS-13071
Saleh, A., JA-7638
Sandholm, R.G., JA-7526
Santiago, D.D., MS-13264A
Saroop, S., JA-7639
Sauer, C., MS-13257
Saulnier, G.J., MS-13493
Savoie, E.D., JA-7550
Sayer, R.W., MS-13396, MS-13398
Schodorf, J.B., MS-13140
Scholz, F., JA-7654
Schulz, P.A., JA-7619
Sedlacek, J.H.C., JA-7563A, JA-7608, MS-12891,
MS-12899, MS-13146, MS-13238, MS-13449,
MS-13519
Seibert, M., JA-7535, JA-7550
Sharma, J., JA-7644

Author Index

- Shelly, F.C., JA-7600, MS-12654
Shmagin, I.K., JA-7510
Shnidman, D.A., JA-7351
Shur, M.S., JA-7684
Siddiqui, A., JA-7633
Simin, G., JA-7684
Singer, E., MS-13184
Sisterson, L.K., JA-7632
Siu, K-Y., JA-7572
Smith, S.T., JA-7401AA, MS-12934
Sollner, T.C.L.G., JA-7606, JA-7666
Song, W.S., MS-13212
Spears, D.L., JA-7612, JA-7713
Sridharan, R., JA-7528, JA-7601, JA-7644
Stadler, J.S., MS-13016
Stansbery, E., JA-7601
Steckl, A.J., JA-7638
Steinhardt, A.O., JA-7447A
Stokes, G.H., JA-7600, JA-7644, MS-12654
Stuart, J.S., JA-7600, MS-12654, MS-13396,
MS-13398
Suntharalingam, V., JA-7629
Swanson, E.A., JA-7572
Timko, A.G., MS-13287
Tong, C-Y.E., JA-7626A
Torres, W.P., JA-7589
Trichel, M., MS-13515
Turner, G.W., JA-7681
Unlu, M.S., JA-7677
Uttaro, R.S., JA-7563A, JA-7608, MS-12891,
MS-12899, MS-13146, MS-13238, MS-13449,
MS-13519
Vale, L.R., MS-12944
Van Peski, C., JA-7608, MS-12891, MS-12899,
MS-13146, MS-13238, MS-13449, MS-13519
Venugopalan, H.S., JA-7636
Verbout, S.M., MS-13275
Verghese, S., JA-7607, JA-7626A, JA-7713, JA-7732,
MS-13075, MS-13075A, MS-13853
Verly, J.G., MS-13520
Verrazzani, L., JA-7511A
Viggh, H.E.M., JA-7600, MS-12654, MS-13396,
MS-13397, MS-13398
Vineis, C.J., MS-12973
von Braun, C., JA-7644
Walpole, J.N., JA-7605, JA-7681
Walsh, M.P., JA-7612
Waltemyer, D.L., JA-7591
Wang, C.A., JA-7639, JA-7669, MS-12971,
MS-12973, MS-13013
Ward, J., MS-13325
Watkins, G.D., JA-7654
Waxman, A.M., JA-7550
Weaver, A.L., JA-7452A
Wickenden, A.E., JA-7654
Willard, B.C., MS-13400, MS-13417, MS-13498
Wille, T., JA-7624
Wilson, S.L., JA-7453A
Wolf, G.L., JA-7516
Wolter, S.D., JA-7591
Wong, W.S., MS-13250
Worsham, A.H., MS-12902
Wright, E.M., JA-7678
Wu, H., MS-12942
Wyatt, P.W., JA-7629, MS-13248
Wynne, R.M., JA-7625
Wyschogrod, D., JA-7632
Yanguas, L.R., MS-13209
Young, A.M., JA-7580
Youtsey, C., JA-7637
Zamdmer, N., JA-7607, JA-7732
Zatman, M.A., JA-7428, JA-7429, MS-13180,
MS-13207
Zavada, J.M., JA-7638
Zayhowski, J.J., JA-7492, JA-7623, JA-7686,
MS-13498
Zulch, P.A., JA-7549
Zurk, L.M., JA-7593

SUBJECT INDEX

- ABSORPTION
JA-7608, JA-7640, MS-12891, MS-12899,
MS-13206, MS-13238
- ACCESS CONTROL
MS-13115
- ACOUSTIC FILTERS
MS-13211
- ACOUSTIC WAVES
JA-7517, MS-13209
- ADAPTIVE ANTENNA ARRAYS
MS-13325
- ADAPTIVE ARRAYS
JA-7401AA, JA-7428
- ADAPTIVE BEAMFORMING
JA-7428
- ADAPTIVE ESTIMATION
MS-12821
- ADAPTIVE FILTERS
JA-7549, MS-12821, MS-13207
- ADAPTIVE OPTICS COMPENSATION
JA-7513
- ADAPTIVE RADAR
JA-7401AA
- ADAPTIVE SIGNAL PROCESSING
JA-7447A, JA-7549, JA-7576, MS-12842,
MS-13180, MS-13207, MS-13315, MS-13325,
MS-13515, MS-13722
- ADAPTIVE SYSTEMS
JA-7516, JA-7603
- AIR TRAFFIC CONTROL
JA-7526
- AIRBORNE EARLY WARNING
MS-13180
- AIRBORNE LASERS
JA-7513
- AIRBORNE RADAR
JA-7593, MS-11709, MS-12855, MS-13180,
MS-13212
- ALGORITHMS
TR-1051, JA-7429, JA-7539, JA-7597, JA-7611,
MS-11709, MS-13184, MS-13189, MS-13291,
MS-13722
- ALUMINUM ANTIMONIDE
JA-7594
- ALUMINUM COMPOUNDS
MS-12902
- AMPLIFIERS
JA-7471, JA-7617, MS-13081
- AMPLITUDE MODULATION
JA-7589
- ANALOG OPTICAL LINKS
MS-13077
- ANALOG TO DIGITAL CONVERSION
JA-7641, MS-13140
- ANALOG TO DIGITAL CONVERTERS
JA-7633, MS-13264A
- ANNEALING
JA-7624, JA-7636
- ANTENNA ARRAYS
MS-13180
- ANTENNA PHASED ARRAYS
JA-7540
- ANTIREFLECTION COATINGS
MS-12891, MS-12899
- ARRAY SIGNAL PROCESSING
JA-7447A, JA-7576, MS-11709, MS-12780A,
MS-12842, MS-12855, MS-13180, MS-13722

Subject Index

ASTEROIDS
JA-7600, MS-12654

ASTRONOMY
MS-13220

ATMOSPHERIC TURBULENCE
JA-7513

ATOMIC FORCE MICROSCOPY
JA-7665

ATTENUATION
MS-13205

AUTOMATIC DEPENDENT SURVEILLANCE
JA-7526

AUTOMATIC TARGET RECOGNITION
TR-1051, JA-7452A, MS-13291

BACKSCATTERING
MS-13205

BALLISTIC MISSILE DEFENSE
MS-13179

BIOLOGICAL AGENT DETECTORS
TR-1052

BISTATIC REFLECTIVITY
MS-13145

BLACK SURFACES
JA-7532

BOLOMETERS
JA-7565A

BREAST CANCER
JA-7516, MS-12684

BROADBAND
JA-7598

BROADBAND OPTICAL NETWORK
MS-13159

BROMINE
JA-7594

BUFFER STORAGE
MS-12996

CALCIUM FLUORIDES
MS-13238

CALIBRATION
MS-13396, MS-13397, MS-13398, MS-13400,
MS-13401, MS-13453, MS-13454, MS-13463

CANCER
JA-7603

CERAMICS
JA-7640

CHANNEL CODING
MS-13140

CHARGE COUPLED DEVICES
JA-7550, JA-7600, MS-12654, MS-13220,
MS-13264A, MS-13447

CHEMICAL VAPOR DEPOSITION
JA-7565A

CHROMATOGRAPHY
MS-13287

CLUTTER
MS-12821, MS-13325

CLUTTER SUPPRESSION
MS-11709

CMOS PROCESSING
MS-13264A

COATINGS
MS-13389

COAXIAL CABLES
JA-7540

Subject Index

COCKPITS
JA-7611

CODE DIVISION MULTIPLE ACCESS
MS-13493

COLD CATHODES
JA-7617

COLLIMATORS
MS-13417

COMMUNICATIONS
JA-7634

COMPARATORS
JA-7606, JA-7633

CONJUGATE GRADIENT METHODS
JA-7401AA

CONSTANT FALSE ALARM RATE
JA-7549

CONTINUOUS WAVE RADAR
MS-13179

COPLANAR WAVEGUIDES
JA-7607

COVARIANCE MATRIX
JA-7549

CRAMER-RAO BOUND
MS-12934

CRYOGENICS
MS-12880

CURRENT DENSITY
MS-12902

DATA COMPRESSION
JA-7375

DATA FUSION
MS-13520

DATA PROCESSING
MS-13398

DECISION THEORY
MS-12746

DECODING
MS-13140

DEGREES OF FREEDOM
MS-13325

DENSIFICATION
JA-7678

DENSITY FUNCTIONAL THEORY
JA-7453A

DEPTH FINDERS
JA-7517

DESIGN
JA-7632

DETECTION
JA-7453A, JA-7549

DIELECTRIC CONSTANT
JA-7365

DIFFERENTIAL PHASE SHIFT KEYING
MS-13140

DIFFUSION
MS-12684

DIGITAL CIRCUITS
JA-7606

DIGITAL SIGNAL PROCESSING
MS-13493

DIGITAL SIGNAL PROCESSING CHIPS
MS-13482

DIODE LASERS
MS-13075A, MS-13853

Subject Index

DIODE PUMPED LASERS

JA-7492, JA-7623

DIODES

JA-7636

DISCRIMINATION

MS-13291, MS-13330, MS-13498

DISLOCATIONS

JA-7637

DISPERSION

JA-7670, MS-13097

DISTRIBUTED FEEDBACK LASERS

JA-7554

DOPPLER RADAR

JA-7549, MS-13306

EARLY WARNING SYSTEMS

MS-13212

EDGE ROUGHNESS

JA-7665, MS-13286

ELASTOMERS

JA-7580

ELECTRIC DISTORTION

JA-7602

ELECTROMAGNETIC PULSE

JA-7593

ELECTROMAGNETIC RADIATION

JA-7516

ELECTROMAGNETIC SCATTERING

JA-7593

ELECTRON BEAM LITHOGRAPHY

MS-13257

ELECTRON BEAMS

MS-13307

ELECTRON MICROSCOPY

JA-7637, JA-7665, MS-13286

ELECTRON MOBILITY

JA-7684

ELECTRONIC MESSAGING

JA-7539

ELECTRONIC SWITCHING

MS-13159

ELECTROOPTICAL DEVICES

JA-7635A, MS-12654, MS-12956, MS-13391

ELECTROOPTICS

JA-7540

EMISSIVITY MEASUREMENT

JA-7365

EMITTERS

MS-13145

EPITAXIAL GROWTH

JA-7624, JA-7654, JA-7666, JA-7677, JA-7713,
JA-7732, MS-12956, MS-13013

ERBIUM

JA-7638

ERROR ANALYSIS

MS-13140

ERROR STATISTICS

MS-13250

ESTIMATION THEORY

JA-7589

ETCHING

JA-7637

EVAPORATION

JA-7528

EXCIMER LASERS

JA-7563A, MS-13197, MS-13519

Subject Index

- EXCITONS
JA-7677
- FALSE ALARMS
JA-7511A
- FERRITES
MS-12882, MS-12982
- FERROMAGNETISM
MS-12985
- FIBER OPTIC LINKS
MS-13144
- FIBER OPTICS
JA-7540
- FIELD EFFECT TRANSISTORS
JA-7653, JA-7666
- FIELD EMITTER ARRAYS
JA-7617
- FIELD PROGRAMMABLE GATE ARRAYS
MS-13482
- FILTERS
MS-12882, MS-13520
- FIR FILTERS
MS-13482
- FLICKER NOISE
JA-7684
- FLUIDICS
JA-7580
- FOCAL PLANE
MS-13417
- FOLIAGE PENETRATION
JA-7502, MS-13094A, MS-13205, MS-13520
- FOURIER ANALYSIS
MS-13189
- FOURIER TRANSFORM SPECTROSCOPY
TR-1053
- FREE SPACE ENVIRONMENT
JA-7453A
- FREQUENCY CONVERSION
JA-7552
- FREQUENCY MODULATION
JA-7589
- FUSED SILICA
MS-13238
- GABOR TRANSFORM
JA-7375
- GAIN MEASUREMENT
JA-7688, JA-7713
- GALLIUM ANTIMONIDE
JA-7594, MS-12973
- GALLIUM ARSENIDE
JA-7594, JA-7626A, JA-7666, JA-7671, JA-7732,
MS-13075
- GALLIUM COMPOUNDS
JA-7636, JA-7684, JA-7713, MS-13075A
- GALLIUM INDIUM ARSENIDE ANTIMONIDE
MS-12971, MS-12973
- GALLIUM NITRIDE
JA-7510, JA-7591, JA-7624, JA-7637, JA-7638,
JA-7654, JA-7677
- GALLIUM PHOSPHIDE
JA-7594
- GARNETS
MS-12985
- GASES
TR-1052

Subject Index

GAUSSIAN DISTRIBUTION
MS-13306

GAUSSIAN PROCESSES
MS-13207

GLOBAL POSITIONING SYSTEM
JA-7545, MS-12842

GOES SATELLITES
MS-13389

GRAIN BOUNDARIES
MS-12944

GRAPH THEORY
JA-7542

GROUND CLUTTER
MS-12855, MS-13094A, MS-13306

GROUND PENETRATION
JA-7502

GROUND TARGET DETECTION
JA-7502

HEIGHT MEASUREMENT
JA-7593

HIGH SPEED OPTICAL TECHNIQUES
JA-7620

HIGH TEMPERATURE SUPERCONDUCTORS
MS-12942

HOMING DEVICES
MS-13179

HYDRIDE VAPOR PHASE EPITAXY
JA-7510

HYPERSPECTRAL IMAGING
MS-13094A, MS-13498

HYPERTHERMIA
JA-7516, JA-7603

IMAGE CODING
JA-7375, JA-7535

IMAGE COMPRESSION
JA-7535

IMAGE ENHANCEMENT
MS-13248, MS-13275

IMAGE PROCESSING
JA-7502, JA-7550, JA-7665, MS-13094A,
MS-13189, MS-13220, MS-13275, MS-13286,
MS-13498, MS-13520

IMAGE RESOLUTION
JA-7452A, MS-13248

IMAGING
MS-13401, MS-13453, MS-13454, MS-13463

IMPEDANCE
JA-7471, MS-12944

INDIUM COMPOUNDS
JA-7653

INDIUM PHOSPHIDE
JA-7594

INFORMATION THEORY
MS-12746

INFRARED IMAGING
JA-7550, MS-12684, MS-13469

INFRARED INSTRUMENTS
JA-7532

INFRARED LASERS
JA-7681

INSULATED GATES
JA-7653

INTEGRATED CIRCUITS
JA-7565A, JA-7671, MS-12921

Subject Index

- INTERFERENCE
JA-7576
- INTERFERENCE SUPPRESSION
JA-7429
- INTERFEROMETERS
MS-13412
- INTERFEROMETRY
TR-1053, MS-12610, MS-12899
- INTERMODULATION DISTORTION
JA-7554
- INTERNET
JA-7572
- INTERNETWORKING
MS-13016
- ION BEAM ASSISTED ETCHING
JA-7594
- IRRADIATION
JA-7563A, JA-7608
- JAMMING
JA-7429, MS-12855
- JITTER
MS-13412
- JOSEPHSON JUNCTIONS
JA-7616, MS-12902, MS-12944
- LASER BEAM APPLICATIONS
JA-7686
- LASER INDUCED DAMAGE
JA-7608, MS-12891, MS-12899
- LASER INDUCED FLUORESCENCE
TR-1052
- LASER MATERIALS
JA-7625
- LASER MODE LOCKING
JA-7605
- LASER NOISE
JA-7519
- LASER PROPAGATION
JA-7513
- LASERS
JA-7625
- LEAST SQUARES METHOD
JA-7545
- LENSES
JA-7678, JA-7681, MS-13146, MS-13198,
MS-13238
- LINGUISTICS
MS-13209
- LIQUIDS
JA-7528
- LITHOGRAPHY
JA-7608, JA-7678, MS-12899, MS-13049,
MS-13146, MS-13206, MS-13238, MS-13248,
MS-13287, MS-13307
- LOCAL AREA NETWORKS
JA-7572, JA-7627, MS-13115, MS-13159
- LOGIC ARRAYS
JA-7606
- LOW REFLECTIVITY
JA-7532
- MACH-ZEHNDER MODULATOR
MS-13077
- MAGNETIC FIELD EFFECTS
MS-12985
- MAGNETIC FIELDS
MS-12882, MS-12982

Subject Index

MAGNETIC FLUX
JA-7633

MAGNETIC FRUSTRATION
MS-12985

MARKOV PROCESSES
JA-7597

MASKS
MS-13198, MS-13257, MS-13449, MS-13519

MATERIALS TESTING
MS-13146, MS-13238

MATRIX INVERSION
JA-7447A

MAXIMUM LIKELIHOOD ESTIMATION
MS-12934

METAL OXIDE SEMICONDUCTOR DEVICES
JA-7629

METALORGANIC VAPOR PHASE DEPOSITION
JA-7510

METEOROLOGICAL CHARTS
JA-7611

METROLOGY
JA-7665, MS-13286

MICHELSON INTERFEROMETERS
TR-1053

MICROLITHOGRAPHY
MS-13198

MICROSTRIP RESONATORS
MS-12982

MICROWAVE DEVICES
JA-7603, JA-7619

MICROWAVE FREQUENCY
JA-7616

MICROWAVE MEASUREMENTS
JA-7619

MICROWAVES
MS-12882, MS-12982

MIDCOURSE SPACE EXPERIMENT
JA-7644

MILLIMETER WAVES
JA-7365

MINE DETECTION
MS-13498

MIRRORS
MS-13389

MIXERS
JA-7626A

MODELING
JA-7351, MS-13306

MODULATION
MS-13264A

MODULATORS
JA-7552

MOLECULAR BEAM EPITAXIAL GROWTH
JA-7612, JA-7638

MONOLAYERS
JA-7640

MOSFETS
JA-7629

MOVING TARGET INDICATORS
JA-7511A, MS-13315, MS-13515

MULTICASTING
JA-7542

MULTICHIP MODULES
MS-12921

Subject Index

MULTIPATH ENVIRONMENTS
JA-7453A

MULTIPLEXING
JA-7539, MS-12885, MS-13493

MULTISPECTRAL IMAGING
MS-12684

NAVIGATION
JA-7545

NEAR INFRARED
MS-12684

NETWORK ARCHITECTURE
JA-7628, MS-12948

NETWORK ROUTING
JA-7542

NETWORKS
MS-12722

NIGHT VISION
JA-7550

NIOBIUM
MS-13071

NITRIDES
MS-12956

NOISE
JA-7471, JA-7634

NOISE MEASUREMENT
JA-7633, JA-7684, MS-13071, MS-13412

NONLINEAR EQUATIONS
JA-7616

NONLINEAR OPTICS
JA-7492, JA-7623, JA-7686

NULLING
MS-12842

OIL SPILLS
JA-7365

OPTICAL AMPLIFIERS
MS-13250

OPTICAL ARRAYS
JA-7681

OPTICAL COATINGS
MS-12800, MS-13146, MS-13449, MS-13519

OPTICAL COMMUNICATIONS
JA-7519, JA-7539, JA-7602, JA-7627, JA-7635A,
JA-7641, JA-7670, JA-7695, MS-12948, MS-13081,
MS-13097, MS-13250, MS-13391

OPTICAL DETECTION
JA-7654

OPTICAL DEVICES
JA-7681

OPTICAL DISTORTIONS
JA-7552

OPTICAL FIBER AMPLIFIERS
JA-7688

OPTICAL FIBER COMMUNICATIONS
JA-7471, JA-7554, JA-7620, MS-13144

OPTICAL FILTERS
JA-7695

OPTICAL FREQUENCY CONVERSION
JA-7552, JA-7641

OPTICAL HOLE BURNING
JA-7554

OPTICAL IMAGES
MS-13248, MS-13417

OPTICAL LINKS
JA-7540, JA-7628, JA-7635A, MS-12885,
MS-13391, MS-13410

Subject Index

OPTICAL LITHOGRAPHY
JA-7629

OPTICAL MATERIALS
MS-12800, MS-13197, MS-13206, MS-13449

OPTICAL MODULATION
JA-7471, JA-7519, JA-7602, JA-7634, JA-7635A,
JA-7641, MS-12996, MS-13144, MS-13391

OPTICAL NETWORKS
JA-7598, JA-7695

OPTICAL NOISE
JA-7519, JA-7602, MS-13081

OPTICAL PARAMETRIC OSCILLATION
JA-7492

OPTICAL SATURABLE ABSORPTION
JA-7605

OPTICAL SENSORS
TR-1052, JA-7601, MS-13397, MS-13400,
MS-13463

OPTICAL STORAGE
MS-12996

OPTICAL TRANSFER FUNCTION
MS-13400, MS-13401

OPTICAL WINDOWS
MS-13401

OPTIMIZATION METHODS
JA-7401AA

OPTOELECTRONIC DEVICES
JA-7591, JA-7669, JA-7671

ORBITS
JA-7528

ORGANOMETALLIC COMPOUNDS
JA-7669

ORGANOMETALLIC VAPOR PHASE EPITAXY
MS-12971, MS-12973

OSCILLATORS
JA-7626A

OUTGASSING
MS-13287

OXIDATION
JA-7591

PACKET SWITCHING
JA-7597, JA-7627

PARALLEL PROCESSORS
MS-12780A

PARAMAGNETIC RESONANCE
JA-7654

PATTERN CLUSTERING
MS-13184

PERFORMANCE ASSESSMENT
MS-13396, MS-13398

PERFORMANCE ESTIMATION
TR-1051

PHASE CONTROL
JA-7603

PHASED ARRAY RADAR
JA-7401AA

PHASED ARRAYS
JA-7516

PHONONS
JA-7701

PHOTOCONDUCTING DEVICES
JA-7639

Subject Index

PHOTOCONDUCTIVE SWITCHES
JA-7607, JA-7732

PHOTOCONDUCTORS
JA-7732

PHOTODETECTORS
JA-7619

PHOTOLITHOGRAPHY
JA-7563A, JA-7607, MS-12800, MS-13197,
MS-13449

PHOTOLUMINESCENCE
JA-7510, JA-7624, JA-7654, JA-7677, MS-13013

PHOTOMETRY
MS-13447

PHOTOMIXERS
MS-13075, MS-13075A, MS-13853

PHOTONIC CRYSTALS
JA-7534

PHOTONICS
MS-13410

PHOTOREFLECTANCE
JA-7639

PHOTORESISTS
MS-13287, MS-13519

PHOTOVOLTAIC ENERGY
JA-7669, MS-13013

PICOSECOND SAMPLING
JA-7607

PIXELS
MS-13447

PLANAR ANTENNAS
JA-7534

PNEUMATIC SYSTEMS
JA-7580

POLYMER FILMS
JA-7640

POSITION (LOCATION)
MS-13145

PROBABILITY
JA-7453A, MS-13306

PROGRAMMABLE FILTERS
MS-13071

PROTOCOLS
JA-7597, MS-12948, MS-13115

Q-SWITCHED LASERS
JA-7492, JA-7623, JA-7686

QUANTIZATION
JA-7375

QUANTUM WELLS
JA-7701

RADAR CLUTTER
JA-7351, JA-7447A, JA-7511A, MS-13205,
MS-13315

RADAR DETECTION
JA-7593

RADAR IMAGING
TR-1054, JA-7474A, MS-13213, MS-13291

RADAR INTERFERENCE
JA-7429

RADAR RECEIVERS
MS-12921, MS-13212

RADAR SCATTERING
TR-1054

Subject Index

- RADAR SIGNAL PROCESSING
TR-1054, JA-7474A, MS-13213, MS-13482
- RADAR SIGNATURES
JA-7474A
- RADAR TRACKING
JA-7601
- RADIATION EFFECTS
JA-7563A, JA-7678
- RADIOMETERS
MS-13469
- RADIOMETRY
JA-7365, MS-13397, MS-13454
- RAMAN LASERS
MS-13498
- RAMAN SCATTERING
JA-7688
- RAYLEIGH SCATTERING
TR-1052, JA-7688
- REAL TIME PROCESSING
MS-12780A
- RECEIVERS
JA-7626A, MS-13250
- REFLECTIVITY
MS-13389
- REMOTE SENSING
MS-13389, MS-13396, MS-13463, MS-13469
- RESISTORS
JA-7617
- RESISTS
MS-13197, MS-13198, MS-13257, MS-13307
- RESOLUTION
JA-7629, MS-12934
- RESONANT TUNNELING DIODES
JA-7606
- RESONATORS
MS-12942
- RETICLES
MS-13198
- SATELLITE COMMUNICATIONS
MS-13016
- SATELLITE INSTRUMENTS
MS-13397, MS-13398, MS-13400, MS-13412,
MS-13417, MS-13453, MS-13454, MS-13463,
MS-13469
- SATELLITE LINKS
MS-13016
- SATELLITE NAVIGATION SYSTEMS
JA-7545
- SCALING PHENOMENA
MS-13211
- SCATTERING
JA-7701, MS-13145
- SCHEDULING
JA-7539, MS-12722
- SCHOTTKY BARRIERS
JA-7636
- SCINTILLATION
JA-7517
- SEMICONDUCTOR DEVICES
JA-7565A, JA-7636, JA-7666, JA-7684, JA-7713,
JA-7732
- SEMICONDUCTOR DOPING
JA-7638
- SEMICONDUCTOR GROWTH
JA-7510, MS-12973

Subject Index

SEMICONDUCTOR LASERS
JA-7554, MS-13081

SEMICONDUCTOR MATERIALS
MS-12956

SEMICONDUCTOR TECHNOLOGY
MS-13049

SEMICONDUCTORS
JA-7534, JA-7605

SENSOR ARRAYS
MS-13447

SENSOR FUSION
MS-12746, MS-13094A

SENSORS
MS-12610, MS-12934

SHIFT REGISTERS
JA-7606

SIDELOBES
MS-12821, MS-12855

SIGNAL DETECTION
JA-7576, MS-13144, MS-13250

SIGNAL PROCESSING
JA-7600, JA-7620, MS-12934, MS-13212,
MS-13330

SIGNAL RECONSTRUCTION
MS-13211

SIGNAL TO NOISE RATIO
JA-7602

SILICON
JA-7671

SOLID STATE DEVICES
MS-13853

SOLID STATE LASERS
JA-7492, JA-7605, JA-7623, MS-12880

SPACE BASED RADAR
MS-13315, MS-13515

SPACE BASED VISIBLE SENSORS
JA-7644

SPACE DEBRIS
JA-7528, JA-7601, MS-12654

SPACE OBJECT DETECTION
JA-7600

SPACE SURVEILLANCE
JA-7600, JA-7601, JA-7644, MS-12654

SPACE TIME ADAPTIVE PROCESSING
JA-7428

SPEAKER RECOGNITION
MS-13184, MS-13209

SPECKLE
JA-7351

SPECTRAL ANALYSIS
MS-13189, MS-13453

SPECTROMETERS
MS-13206

SPECTROSCOPY
JA-7677, JA-7686, MS-13287, MS-13307,
MS-13853

SPEECH PROCESSING
MS-13184, MS-13209

STATISTICAL ANALYSIS
MS-13330

STATISTICAL MECHANICS
MS-12746

SUBMILLIMETER WAVES
MS-13075, MS-13075A

SUBSCRIBER LOOPS
JA-7598

Subject Index

- SUPERCONDUCTING FILTERS
MS-12942
- SUPERCONDUCTING JUNCTION DEVICES
MS-13049
- SUPERCONDUCTING RESONATORS
MS-12882
- SUPERCONDUCTING THIN FILMS
JA-7616, MS-12944
- SUPERCONDUCTIVE DEVICES
JA-7633, MS-12902, MS-13049, MS-13071
- SUPERLATTICES
JA-7612, JA-7653
- SUPERRESOLUTION
JA-7452A, MS-12934
- SURFACE CHEMISTRY
JA-7640
- SURFACE CONTAMINATION
MS-13206
- SURFACE RECOMBINATION
JA-7639
- SURVEILLANCE RADAR
JA-7511A, MS-13179, MS-13515
- SWITCHING
JA-7539, MS-12885, MS-13097, MS-13493
- SYNCHRONIZATION
MS-12885
- SYNTHETIC APERTURE RADAR
TR-1051, JA-7375, JA-7452A, JA-7502, JA-7535,
MS-13094A, MS-13205, MS-13213, MS-13275,
MS-13325, MS-13520
- SYNTHETIC APERTURE RADAR IMAGERY
JA-7632
- SYSTEM ARCHITECTURE
JA-7632
- SYSTEMS SOFTWARE
MS-13396, MS-13398
- TAPERED LASERS
JA-7681
- TARGET DETECTION
JA-7351, JA-7601, MS-12821, MS-12855,
MS-13207, MS-13291, MS-13315, MS-13330,
MS-13498, MS-13515, MS-13520
- TARGET DISCRIMINATION
MS-13213, MS-13275
- TARGET RECOGNITION
JA-7474A
- TARGET SIGNATURES
TR-1054
- TARGET TRACKING
MS-13179
- TELECOMMUNICATION LINKS
JA-7611
- TELEMETRY
MS-13410
- TELESCOPES
MS-13469
- TEMPERATURE EFFECTS
MS-13401
- THERMAL COEFFICIENTS
JA-7625
- THERMAL OXIDE
JA-7591
- THERMAL RESISTANCE
MS-12921

Subject Index

- THERMAL SIMULATION
JA-7528
- THERMOELECTRICITY
JA-7612, JA-7669, JA-7701, MS-13013
- THERMOOPTICAL EFFECTS
MS-12880
- THERMOPHOTOVOLTAICS
MS-12971
- THIN FILMS
JA-7565A, JA-7605, JA-7639
- TIME DIVISION MULTIPLE ACCESS
MS-12948
- TIME DIVISION MULTIPLEXING
JA-7620, JA-7628, JA-7670, MS-13097
- TOPOLOGY
JA-7628
- TRACKING
JA-7513
- TRAFFIC ALERT COLLISION AVOIDANCE
SYSTEM
JA-7526
- TRANSCEIVERS
MS-13075
- TRANSDUCERS
JA-7589
- TRANSIENT RESPONSE
JA-7619
- TRANSMISSIONS
MS-12722
- TRANSMITTERS
MS-13081
- TRANSPORT PROTOCOLS
MS-13016
- TREE DATA STRUCTURES
JA-7542
- TUNNELING
MS-12902
- ULTRA HIGH FREQUENCY
MS-12921
- ULTRAVIOLET LITHOGRAPHY
MS-13519
- ULTRAWIDEBAND
JA-7474A, MS-13205
- UNMANNED AIR VEHICLES
JA-7632
- VALVE ENGINEERING
JA-7580
- VAPOR PHASE EPITAXIAL GROWTH
JA-7638, JA-7669
- VLSI
MS-13482
- WAFER BONDING
JA-7671
- WAVE EQUATIONS
MS-13211
- WAVE PROPAGATION
JA-7517
- WAVEGUIDES
JA-7517
- WAVELENGTH DIVISION MULTIPLEXING
JA-7572, JA-7598, JA-7620, JA-7627, JA-7695,
MS-12722, MS-13115, MS-13159, MS-13410
- WAVELENGTHS
MS-12722, MS-13077
- WIDE AREA NETWORKS
JA-7628

Subject Index

WIDEBAND

JA-7365, JA-7539, JA-7670, MS-12842

WIDEBAND RADAR

MS-13722

WIRELESS COMMUNICATIONS

JA-7597, MS-12942

X-RAY IMAGING

MS-13220

YTTERBIUM

MS-12880

YTTRIUM ALUMINUM GARNET

JA-7625

157-NM LITHOGRAPHY

MS-12800

193-NM LITHOGRAPHY

MS-12891

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE 31 December 1999	3. REPORT TYPE AND DATES COVERED Bibliography	
4. TITLE AND SUBTITLE Unclassified Publications of Lincoln Laboratory — Volume 25		5. FUNDING NUMBERS C — F19628-95-C-0002	
6. AUTHOR(S) Publications Office and Library & Information Services		8. PERFORMING ORGANIZATION REPORT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Lincoln Laboratory, MIT 244 Wood Street Lexington, MA 02420-9176		10. SPONSORING/MONITORING AGENCY REPORT NUMBER ESC-TR-99-062	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) HQ Air Force Materiel Command AFMC/STSC Wright-Patterson AFB, OH 45433-5001		11. SUPPLEMENTARY NOTES None	
12a. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution is unlimited.		12b. DISTRIBUTION CODE	
13. ABSTRACT (Maximum 200 words) <p style="text-align: center;">Volume 25 of <i>Unclassified Publications of Lincoln Laboratory</i> lists reports published from 1 January to 31 December 1999, as well as updated information on earlier publications.</p> <p style="text-align: center;">Documents listed herein are generally no longer available from Lincoln Laboratory. Qualified Defense Technical Information Center (DTIC) users may purchase copies through normal DTIC channels. Others may purchase photocopies or microfiche from the U.S. Department of Commerce, National Technical Information Service, Springfield, Virginia 22161. When ordering, the six-digit AD number should be cited.</p> <p style="text-align: center;">Subscriptions of the <i>MIT Lincoln Laboratory Journal</i> are free of charge, but provided only to qualified recipients (government employees and contractors, libraries, university faculty, and R&D laboratories).</p>			
14. SUBJECT TERMS Bibliography		15. NUMBER OF PAGES 68	
17. SECURITY CLASSIFICATION OF REPORT Unclassified		16. PRICE CODE	
18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT Unclassified	