Short-Form Bioparagraph:

Dr. Cohen is a Principal Research Scientist at GTRI, is CEO of IRTA, Inc. and MCA, and is a Fellow of both The IEEE and GTRI. He is the author of over 100 research publications in the areas of radar, target identification, and sensor fusion, including 5 chapters in four graduate-level texts, and he teaches in 5 GIT Short Courses. He is also co-author, with Nathanson and Riley, of the text *Radar Design Principles, 2nd Edition*, published by McGraw-Hill in 1991 and which was re-released by SciTech in 1998.

During his career, Dr. Cohen has prepared and presented ten invited technical papers and articles. He has served on the Technical Committees and as Session Chairman at seven National/International IEEE Symposia (the National and International Radar Conference series), and presented short courses at the 1990, 1995, 1997, and 2000 International Radar Conferences as well as the 2001 and 2002 National Radar Conferences. He was Co-Chair of the 1998 Unclassified Proceedings of the National Symposium on Sensor Fusion. He has served on the 1992, 2000, and 2002 Combat Identification Systems Conference (CISC) Paper Selection Committee, Chaired the 1992 Session on Imaging Technology and the 2002 Session on Sensor and Data Fusion. He was a Member of the Technical Committee and Signal Processing Session Chair for the 2000 Radar / EW AOC Symposium. He also organized and hosted the 1996 Joint ATRWG / Image Exploitation Symposium, served as Co-Chair of the SPIE Aersosense Radar Technology Conference for several years, and is on the Technical Committee of 3 SPIE Conferences. His current interests are focused around radar-based automatic target recognition, the development and application of specialized signal processing techniques for radar and sensor fusion applications, and technical management.

Dr. Cohen is currently serving as Chief Scientist for the CCID portion of the seven-year ONR Missile Defense FNC, Special Technical Consultant for the DARPA BDA program, and Consultant to CAU/CTSPS on the ARL ASC Consortium.

Vita

MARVIN N. COHEN   (770)-673-0608 (Office, Voice)
IRTA, MCA, GTRI   (770)-673-0505 (Fax)

Education

Ph.D., Mathematics, University of Miami	1978
M.S., Mathematics, University of Miami	1972
B.A., Mathematics Education, Brooklyn College	1970
Regents Diploma, Stuyvesant H. S., NYC	1966

Employment History

MCA, Sole Proprietor	1998-Present
IRTA, Inc., CEO	1994-Present
Radar Consultant	1986-Present
Georgia Institute of Technology	
Institute Fellow	1999 - Present
Principal Research Scientist	1992-Present
Adjunct Professor E. E.	1990-Present
Senior Research Scientist	1984-1992
Research Scientist II	1980-1984
Norden Systems, , Research Engineer	1978-1980
University of Miami	
Instructor, Visiting Lecturer	1976-1978
Graduate Teaching Assistant	1970-1976
New York City High School System, Apprentice Teacher	1969-1970
Construction Carpenter, New York City (Summers)	1968-1976

Experience Summary: As private consultant to government and industry, Dr. Cohen has provided radar system, radar signal processing, and target identification research and development support for over 11 years. Customers have included RCA ATL Labs (now The Lockheed-Martin Advanced Technology Center); BDM Corporation; Standard Elektrik Lorenz of West Germany; KTAADN, Inc.; Hayes Associates; Lockheed Georgia; Calspan Research Center of Cornell University; AFRL; DARPA; ONR; Lockheed – Martin, Ft. Worth; and Clark - Atlanta University.

As Principal Research Scientist and Senior Staff of the GTRI Radar Systems Division (RSD) of SEAL, directs research in the areas of automatic target recognition and radar signal processing. As developer and Chief of the Laboratory's NCTR (Noncooperative Target Recognition) Facility at Ft. Monmouth, established an on-site office and acted as technical and managerial leader of The Facility's target recognition research program for three years. While his R&D efforts emphasize NCTR, he also conducts continuing research on optimal filtering of pulse compression codes and the derivation of new coding techniques on a continuing basis. Has acted as internal consultant for various analysis and signal processing efforts such as acoustic signature analysis, phased array antenna design, processor architectures, and general waveform design and analysis. Dr. Cohen also: teaches in five Georgia Tech-sponsored short courses each year, directs E.E. graduate students in

independent research projects for graduate degree credit, and acts as a private consultant to industry and the government on a regular basis.

As a Research Engineer at Norden Systems (N-G), had principal responsibility for the development, simulation, and evaluation of the TAWDS (J-STARS precursor) pulse compression waveform and processing.   At the University of Miami, conducted research in commutative and non-commutative ring theory and topology, taught most of the standard freshman and sophomore level mathematics courses, and lectured in various graduate courses.

Principal Fields of Current Interest

Technical leadership and management; automatic target recognition; identification fusion; radar system design and analysis; pulse compression codes and processing; general radar signal processing; polarimetric radars; phased array antenna configurations.

Significant Achievements

Fellow of the IEEE.   Fellow of GTRI   GTRI Fellows Council Vice-Chair

Ten invited papers/articles.   Session Chair at seven Ntl./ Intl. IEEE Conferences.

Five textbook chapters.   Co-author of one text.

Three GTRI Lab awards for Program Development. One GTRI award for Program Development.

Two GTRI Lab awards for Technical Management. One patent disclosure.

IEEE 'Chapter of the Year' Award, Atlanta Chapter, Chair / Program Chair.

> 2002 IEEE Radar Conference Pulse Compression Tutorial
>
> 2002 CISC Technical Comm., Session Chair, and ID Fusion Tutorial presentor.
>
> 2001 Invited Lecture, DASP 2001, Adelaide Australia (all expenses paid).
> 2001 IEEE Radar Conference Pulse Compression Tutorial, Tech. Committee, Session Chair.
> 2001 IEEE Radar Conference Technical Committee and Session Chair.
> Precision Guided Munitions Conference, Invited Speaker, ATR Technology, 11/2000, MITRE.
> 2000 CISC Conference,Technical Committee.
> 2000 Radar / EW AOC Symposium, Technical Committee, Session Chair, Signal Processing.
> 2000 Int'l Radar Conference, Radar 2000, Techn. Comm., Session Chair, Tutorial Presenter.
> 1998 CAU/BMDO Workshop On Image Process. Appl. For The Digital Battlefield, Techn. Comm.
> 1998 National Sensor Fusion Symposium Conference, Open Session, Co-Chair.
> 1997-1998 General Chair, Atlanta Section IEEE AESS/GRSS Chapter.
> 1997 Int'l Radar Conference Invited Short Course, Pulse Compression, Edinburgh, UK.
> 1997 ATRWG Symposium, Technical Committee.
> 1997 SPIE Session Chair, Advances in Non-Cooperative Target Recognition, Invited, Conf. 3068.
> 1997 SPIE Session Chair, Automatic Target Recognition, Conf. 3066, Invited Session.
> 1997 National Radar Conference Paper Selection Committee.
> 1996-1997 Program Chair, Atlanta Section IEEE AESS/GRSS Chapter.
> 1996 National Radar Conf. Papers Committee & Session Chair -- Commercial Aviation Radars.
> 1996 Host and General Chair DARPA Image Exploitation and ATRWG Joint Conference.
> 1995 Int'l Radar Conf. Paper Selection Committee, Co-Chair Weather Radar Session, Tutorial.
> 1994 National Radar Conference, Pulse Compression Tutorial.
> 1992 CISC Conference Paper Selection Committee & Session Chair -- Radar Imaging Systems.
> 1991 IEEE National Telesystems Conference, Paper Selection Committee and Session Chair.
> 1990 Int'l Radar Conference Invited Short Course -- Pulse Compression.
> 1990 Int'l Radar Conference Paper Selection Committee, Signal Processing Session Chair.
> 1983-88 Established GTRI Ft. Monmouth NCTR Office as viable, income-producing operation.

Major Reports, Publications, and Presentations:

1. "Development and Assessment of Identification Fusion Algorithms," CISC 2002, Colorado Springs, CO, June 2002, with Gazo and Hicks (to appear).
2. "Issues in Identification Fusion," Tutorial, CISC 2002, Colorado Springs, CO, June 2002 (to appear).
3. "Radar Pulse Compression Techniques," IEEE 2002 Radar Conference, Long Beach, CA, April 2002 (to appear).
4. "Issue in Identification Fusion," Proceedings of the 2001 NSSDF, July 2001, San Diego, CA.
5. "Radar Pulse Compression Techniques," IEEE 2001 Radar Conference, Atlanta, GA, May 2001.
6. New Results on Minimum – PSL Binary Codes, IEEE 2001 Radar Conference, Atlanta, GA, May 2001, with Coxson and Hirschel.
7. "A Technique for Improving Target Identification Performance – Second-Level Identification (SLID) Algorithms," Proceedings of The AIAA 2000 Missile Sciences Symposium, November 2000, Naval Post-Graduate School, November, 2000. Cohen, Ulrich, and Hirschel.
8. "Second-Level Identification (SLID): A New Approach To Improving Target Identification Algorithm Performance," Proceedings of the 2000 CISC Conference, Virginia Beach, September 2000, Proceedings to appear. Cohen, Ulrich, and Hirschel..
9. "Issues In Identification Fusion," Proceedings of the ONR Tracking Workshop, Atlanta, GA, May 2000.
10. "Radar Pulse Compression Techniques," RADAR 2000 "Radar University," Washington, DC, May 2000.
11. Chapter 12, "Phase Coding Techniques," Radar Design Principles, 2nd Edition, Revised, SciTech Publishing, January 1999. Cohen and Nathanson.
12. Chapter 13, "Frequency Coding Techniques," Radar Design Principles, 2nd Edition, Revised, SciTech Publishing, January 1999. Nathanson and Cohen.
13. Radar Design Principles, 2nd Edition, Revised, SciTech Publishing, January 1999. Nathanson, Riley, and Cohen.
14. "Improved SAR FOA via Linear Fusion of Extended Fractal and CFAR Features," Proceedings of the 1999 ATRWG Symposium, Naval Postgraduate School, Monterey, March 1999. Kaplan, Murenzi, Namuduri, and Cohen.
15. "Enhanced SAR Target Detection Using Extended Fractal Features," 1999 ARL Federated Labs, Advanced Sensors Consortium, Symposium. February, 1999. Kaplan, Murenzi, Namuduri, and Cohen.
16. "Air Target Algorithm Development (U)," Proceedings of the 1998 Combat Identification Systems Conference (CISC-98), presented October 1998, John's Hopkins Applied Physics Lab. Proceedings to appear. Overfield, Thomas, Cohen, Sylvester, et. al.
17. "Elementary Performance Metrics and Algorithm Evaluation Issues for ATR Development and Assessment," Proceedings of the 1998 Workshop on Metrics for Image Science and ATR, ARL, Redstone Arsenal, presented 10/9/98. Cohen.

18. Post-Processing Options and Their Effects on Target Identification Performance, Proceedings of the IEEE 1998 National Aerospace & Electronics Conference (NAECON), July 1998, Dayton, OH. Cohen and Sylvester.

19. "Algorithm Evaluation Standards," ARL Technical Report under ARL Cooperative Agreement DAAL01-96-2-0001, August 1998. Cohen.

20. Technical Support to U. S. Validation of NIS IDCP, CUBRC Final Technical Report, Rome, N.Y., AFRL Contract No. F30602-97-C-0321, July 1998. Llinas, Bowman, Cohen, et. al.

21. "Generation and assessment of turntable SAR data for the support of ATR development," Proceedings of Conf. 3462, 1998 SPIE Int'l. Symposium On Optical Science, Engineering, and Instrumentation, July 1998. Cohen, Sangston, Sylvester, Showman, et. al.

22. "Improved template-based SAR ATR performance using vector quantization," [3462-42] Proceedings of Conf. 3462, 1998 SPIE Int'l. Symposium On Optical Science, Engineering, and Instrumentation, July 1998. Kaplan, Murenzi, Namuduri, and Cohen.

23. "Performance of a Target Identification Algorithm as a Function of the Discriminant Post-Processing Techniques Utilized," Proceedings of the NATO Research and Technology Organization (RTO), RTO Meeting Proceedings 6, Non-Cooperative Air Target Identification Using Radar, Mannheim, Germany, April 1998. Cohen and Sylvester.

24. Air Target Algorithm Development, Final Technical Report, GTRI Project A-9117, USAF Contract No. F33615-91-C-1749, December 1997. Thomas, Rogers, Sylvester, Cohen, Morgan, et. al.

25. "An Extended Fractal Based FOA Algorithm for SAR Imagery (U)," Proceedings of the 1997 ATRWG Symposium, Huntsville, Alabama, November 1997. Kaplan, Murenzi, and Cohen.

26. "Pulse Compression in Radar Systems," Short Course Notes IEE 1997 International Radar Conference, Edinburgh, Scotland, October 1997. Cohen.

27. "An Exploration of ATR Discriminant Post-Processing Techniques and How They May Be Combined To Improve Target ID Performance (U)," Sylvester, Cohen, and Fox, Proceedings of the 1997 Tri-Service Radar Symposium, Secret, San Diego, CA, April 1997.

28. "Temporal MBR Fusion for Improved Air Target ID (U)," Overfield, Thomas, Morgan, Cohen, Rogers, and Beckner, Proceedings of CISC '97, Secret, San Diego, CA, April 1997.

29. "Performance of a Synthetic-Based Air-To-Air Target Identification Algorithm (U)," Cohen, Baden, Sylvester, and Fox, Proceedings of CISC '97, Secret, San Diego, CA, April 1997.

30. "Post-processing options and their effects on target identification performance," Sylvester, Cohen, and Bittar, Proceedings of the SPIE 11th Annual AeroSense Symposium, Signal Processing, Sensor Fusion, and Target Recognition VI Conference, Advances in Non-Cooperative Target Recognition Session, April 1997.

31. "Pulse compression waveforms for use in high-resolution signature formation," Keel, Baden, and Cohen, Proceedings of the SPIE 11th Annual AeroSense Symposium,

Signal Processing, Sensor Fusion, and Target Recognition VI Conference, Advances in Non-Cooperative Target Recognition Session, April 1997.

32. "Detection, identification, and correction of errors in measured and synthetic high-resolution databases," Baden and Cohen, Proceedings of the SPIE 11th Annual AeroSense Symposium, Signal Processing, Sensor Fusion, and Target Recognition VI Conference, Advances in Non-Cooperative Target Recognition Session, April 1997.

33. NCTR Analysis and Applications (U), GTRI Final Technical Task Report Prepared under Contract # F-33615-92-1009, July 1998. Cohen and Sangston.

34. Air-To-Air Imaging Investigations, GTRI Project Number A-8659-830 Final Technical Report, U. S. Air Force Wright Laboratory Contract #F33615-92-C-1045, February 1997. Cohen, Fox, Barnes, and Stevens.

35. "A discussion of the vulnerability of high range resolution radar modes," Cohen, Section in NATO RSG-12 1996 Annual Report, submitted November 1996, to appear.

36. "MBR Fusion Algorithms for Improved Air Target ID (U)," Overfield, Thomas, Morgan, Cohen, Rogers, Proceedings of the 9th National Symposium on Sensor Fusion. Monterey, CA. March, 1996. SECRET.

37. "MBR Fusion Algorithms for Improved Air Target ID (U)," Overfield, Thomas, Morgan, Cohen, and Rogers, CISC-95, Joint Service Combat Identification Systems Conference Proceedings. Monterey, CA. November, 1995. SECRET.

38. Target Identification Demonstration With The Multi-Role Survivable Radar (MRSR), GTRI Project A-9742 Final Technical Report for U. S. Army MICOM Contract Number DAHH01-93-D-R003-007, August 1995. Cohen and Fox.

39. "Innovative Waveforms For SAR ECCM," Proceedings of the 1994 ECCM Workshop, Atlanta, GA, December 1994. Cohen and Sheppard.

40. An Innovative Waveform for SAR Mode That Can Provide Improved ECCM Characteristics (U), GTRI Project A-9303 Final Tech Report for Norden Systems, Contract No. 3402A, October 1994. Cohen, Smith, and Sheppard.

41. Radar Target Identification With The Multi-Role Survivable Radar (MRSR), GTRI Project A-9495 Final Technical Report for U. S. Army MICOM Contract No. DAAH01-93-D-R003-0002, July 1994. Cohen, Keel, and Fox.

42. Detection and Identification of the HAVE CENTAUR Ultra High Range Resolution Mode (U), GTRI Technical Report for U. S. Air Force Contract No. F33615-91-C-1725, Georgia Tech Research Institute, September 1993, (Secret). Keel, Cohen, Heckman, et. al.

43. EMI/RFI Response of the HAVE CENTAUR Waveform (U), GTRI Technical Report for U. S. Air Force Contract No. F33615-91-C-1725, Georgia Tech Research Institute, July 1993, (Secret). Sjoberg, Williamson, Cohen, et. al.

44. The Potential For Have Centaur Identification Deception (U), GTRI Technical Report for U. S. Air Force Contract No. F33615-91-C-1725, Georgia Tech Research Institute, April 1993, (Secret). Cohen, Keel, Smith, et. al.

45. The Potential Vulnerability of the HAVE CENTAUR UHRR Waveform, Revision A (U), GTRI Technical Report for U. S. Air Force Contract No. F33615-91-C-1725, Georgia Tech Research Institute, January 1993, (Secret). Cohen, Baden, Minardi, et. al.

46. "The Phenomenology Of Ultra-High Range Resolution (UHRR) Radar Profiles and Implications For Target Identification Algorithms" <u>Proceedings of The 1993 Annual SPIE Conference on Aerospace Sensing</u>, Orlando, Florida April 1993. Cohen

47. "Multimode Airborne Radar Systems," Radar Electronic Warfare Conference, Adelphi, Md., December 1992 (invited). Cohen and Baden.*

48. <u>Vulnerability Analysis of the HAVE LION Waveform</u>, GTRI Interim Technical Report for U. S. Air Force Wright Laboratories Contract No. F33615-91-C-1725, December 1992. Cohen, Baden, Minardi, et. al.

49. Automatic Target Recognition For Airborne Early Warning (AEW) Platforms, Parks Associates, Final Technical Report for the Naval Air Warfare Center, Warminster, Pa., October 1992. Cohen, Wohlers, and Davis.

50. <u>System-Level Analysis Of A Radar Target Identification System</u>, GTRI Final Technical Report for U. S. Army Contract # DAAH01-89-D-0133-0068, November 1992. Cohen, Echard, and Keel.

51. Ultra-Wideband Radar For Short Range Air Defense: A Comparative Design Study, GTRI Final Tech Report for DARPA, GTRI-TR-93-A9099, September 1992. Engler, Belcher, Perry, Cohen, et. al.

52. <u>Missile Borne Waveform Concepts And Simulation</u>, GTRI Final Technical Report for U. S. Army MICOM Contract No. DAAH01-89-D-0133-0071, September 1992. Lane, Cohen, Baden, et. al.

53. "Analysis of NCTR Techniques for Airborne Early Warning (AEW) Systems," <u>Proceedings of The 1992 Combat Identification Systems Conference</u>, Adelphi, Md., July 1992. Cohen, Davis, and Wohlers.

54. "The Vulnerability of Ultra-High Range Resolution Radar Waveforms," The 1992 Wright Laboratory ECCM Workshop, May 1992. Cohen, Baden, Minardi, et. al.*

55. "Multi-Spectral Signature Modeling," <u>Proceedings of The 1992 Annual SPIE Conference on Aerospace Sensing</u>, Orlando, Florida April 1992. Cathcart, Sylvester, Baden, and Cohen.

56. "Issues In High Range Resolution-Based NCTR," <u>Proceedings of The 1992 Annual SPIE Conference on Aerospace Sensing</u>, Conference 1699, Signal processing, sensor Fusion, and Target Recognition, Orlando, Florida April 1992 (invited). Cohen.

57. <u>High Range-Resolution Signatures of Complex Targets and Target Identification</u>, GTRI Final Technical Report for U. S. Army Contract # DAAH01-89-D-0133-0042, November 1991. Cohen, Echard, Baden, and Sylvester.

58. <u>ECM Assessment Analysis of Specialized Waveforms</u>, (U) GTRI Final Technical Report, Wright Laboratories Contract Number F-33615-89-C-1035, November,1991 (SECRET). Cohen, Baden, Minardi, and Keel.

59. "The Vulnerability Of UHRR Waveforms," The Electronic Warfare Techniques and Analysis (EWTA) Annual Symposium, May 1992. Cohen.*

60. <u>Multi-Attribute Identification Analysis (MAIDA)</u>, GTRI Final Technical Report (Draft) for Wright Laboratories, under Contract # F33615-88-C-1828, June 1991. Cohen, Cathcart, Baden, Sylvester, Williams, Perry, Schmeider, and Ryan.

61. Chapter 12, "Noncooperative Target Recognition in AEW Systems," <u>AEW System Concepts</u>, M. Long, Editor, Artech House, to appear. Cohen.

62. "An Overview of Radar-Based Automatic Non-Cooperative Target Recognition Techniques," <u>Proceedings of the 1991 IEEE International Conference On Systems Engineering</u>, Dayton, Oh., August 1991 (invited). Cohen.

63. "An Overview of Radar NCTR Techniques," <u>Proceedings of The 1991 Annual SPIE Conference on Aerospace Sensing</u>, Orlando, Florida April 1991 (invited). Cohen.

64. "Optimal Sidelobe Suppression for Biphase Codes," <u>Proceedings of The National Telesystems Conference</u>, Atlanta Ga., March 1991. Baden and Cohen.

65. "An Overview of High Resolution Radar Techniques," <u>Proceedings of The National Telesystems Conference</u>, Atlanta Ga., March 1991. Cohen.

66. <u>Demonstration of a Non-Cooperative Target Recognition Technique Utilizing the IBM Common Signal Processor</u>, GTRI Final Technical Report for IBM Corp. Federal Systems Division, Contract No. YJ-261446, February 1991. Cohen, Baden, and Keel.

67. <u>Vulnerability Assessment of Multiple Frequency High Range Resolution Radars</u>, GTRI Final Technical Report for U. S. Army MICOM Contract # DAAH01-88-D-0004-0044, January 1991. Cohen, Echard, Sylvester.

68. Chapter 12, "Phase Coding Techniques," <u>Radar Design Principles</u>, 2nd Edition, McGraw-Hill, January 1991. Cohen and Nathanson.

69. Chapter 13, "Frequency Coding Techniques," <u>Radar Design Principles</u>, 2nd Edition, McGraw-Hill, January 1991. Nathanson and Cohen.

70. <u>Radar Design Principles</u>, 2nd Edition, McGraw-Hill, January 1991. Nathanson, Riley, and Cohen.

71. "Analysis of Model-Based, Multi-Sensor Aircraft Data for Recognition,"(U) <u>Proceedings Of The 1990 CISC Conference</u> (SECRET), December, 1990, Monterey, California. Cohen, Baden, and Cathcart.

72. "Target Modeling Tools For Multi-Sensor Target Recognition, "U) <u>Proceedings Of The 1990 CISC Conference</u> (SECRET), December, 1990, Monterey, California. Cathcart and Cohen.

73. <u>Combat Identification Support: Common Non-Cooperative Target Recognition (NCTR) Processor Feasibility Study</u>, GTRI Final Technical Report for CECOM Contract No. DAAB07-87-D-P008-0011, November 1990. Richards, Cohen, et. al.

74. "The Role of Automatic Target Recognition in Smart Munitions," <u>Journal of Electronic Defense</u>, Horizon House, July, 1990. (invited) Cohen.

75. "Model-Based, Multi-Sensor Aircraft Recognition," (U) <u>Proceedings of the 36th Annual Tri-Service Radar Symposium,</u> Monterey, California, June 1990 (SECRET). Cohen, Cathcart, Baden, and Sylvester.

76. "Pulse Compression Short Course," 1990 IEEE International Radar Conference, Wash., D.C., May, 1990. (3 1/2 hour lecture, invited) Cohen.

77. "An Enumeration Of The MPS Codes Through Length 48," <u>Proceedings of the 1990 IEEE International Radar Conference</u>, Wash., D.C., May, 1990. Cohen, Baden, and Fox.

78. "Optimal Peak Sidelobe Filtering," <u>Proceedings of the 1990 IEEE International Radar Conference</u>, Wash., D.C., May, 1990. Baden and Cohen.

79. "Multi-Attribute, Model-Based Recognition of Aircraft," (U) <u>1990 National Sensor Fusion Symposium</u> (SECRET), Orlando, Fla., April, 1990. Cohen, Cathcart, and Baden.*

80. "Non-Cooperative Target Recognition," <u>1990 EW Handbook</u>, Horizon House, January, 1990 (invited). Cohen.

81. <u>Methodology for Sensor Parameter Extrapolation</u>, GTRI Final Technical Report for U.S. Army MICOM, GTRI Project No. A-8299, September 1989. Alexander, Cohen, et. al.

82. <u>Multi-Attribute Identification Analysis</u>, Interim Technical Report, WRDC Contract No. F33615-88-C-1828, July 1989. Cohen, Cathcart, and Sylvester.

83. "Biphase Codes With Minimum Peak Sidelobes," <u>Proceedings Of The 1989 National Radar Conference</u>, Dallas Texas, March 1989. Cohen (M.), Baden, and Cohen (P.).

84. "Model-Based Multi-Sensor Aircraft Recognition," (U) <u>Proceedings of the 1989 Combat Identification Systems Conference (CISC '89)</u>, Monterey, Ca., June 1989. (SECRET) Cohen, Cathcart, Baden, and Sylvester.

85. <u>Waveform Design Study</u>, Final Technical Report for Standard Elektrik Lorenz, Mannheim West Germany, January 1989. Cohen.

86. "Pulse Compression In Pulse Doppler Radar Systems," <u>Airborne Pulsed Doppler Radar</u>, Edited by G. V. Morris, Artech, New York, 1989. Cohen.

87. <u>Seeker Algorithm Development Study</u>, GTRI Final Technical Report for Aerojet Electro Systems, Contract No. 21281, October 1988. Cohen and Steinway.

88. "Near-Perfect Biphase Codes And Optimal Filtering Of Their Range Sidelobes," <u>Proceedings Of The 18th European Microwave Conference, Stockholm</u>, Sweden, September, 1988. Cohen (M.) and Cohen (P.).**

89. "Intrapulse Polarization Agile Radar (IPAR) Data Analysis," <u>Proceedings Of The Polarimetric Workshop</u>, Huntsville, Alabama, August 1988. Perry and Cohen.

90. "Analysis Of Coherent Ku-Band Helicopter Data For Recognition," (U) <u>34th Annual Tri-Service Radar Symposium Record</u>, Colorado Springs, Colorado, June 1988 (SECRET). Cohen and Hudson.

91. <u>Look-Down Radar Doppler Signature Measurements</u> (LDRDSM), GTRI Final Technical Report for U.S. Army MICOM Contract No. DAAH01-87-D-0082, March 1988. Hudson, Baden, Cohen, et. al.

92. <u>Polarimetric Emission Data Analysis</u>, GTRI Final Technical Report for Maryland Procurement Office, Contract No. MDA904-87-C-4042, December 1987. Perry, Cohen, et. al.

93. <u>Advanced Conventional Munitions Study</u>, GTRI Final Technical Report for Lawrence Livermore National Laboratory, Subcontract No. 9302405 to Contract No. W-7405-ENG-48, March 1987. Echard, Sjoberg, Scheer, and Cohen.

94. "An Application Of Undergraduate-Level Mathematics Yielding Interesting Results In Radar Research," Presented at The American Mathematical Society (1987) Annual Meeting , San Antonio, Texas, January 1987. (1 hour presentation) Cohen and Baden.*

95. "Pulse Compression in Radar Systems," <u>Principles Of Modern Radar</u>, J. L. Eaves and E. K. Reedy Editors, Van Nostrand Reinhold, New York, 1987. Cohen.

96. <u>Noncooperative Target Recognition (NCTR) Facility Development Program</u>, Volume I, GTRI Final Technical Report for EW/RSTA, CECOM, Contract No. DAAK20-83-C-0168, June 1987. Cohen, Hudson, Baden, et. al.

97. <u>Noncooperative Target Recognition (NCTR) Facility Development Program, Volume II</u>, (U) GTRI Final Technical Report for EW/RSTA, CECOM, Contract No. DAAK20-83-C-0168, June 1987 (SECRET). Cohen, Hudson, Baden, et. al.

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99. "Optimal Mismatched Filtering for Pulse Compression," Presented at IASTED Conference, Paris, France, June 1985. Cohen and Baden.*

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114. "Waveform Edge Effects," <u>Norden Internal Report #1293-R-0049</u>, 1979. Cohen.

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* Presentation Only
** Loose insert to proceedings (late submission).