

## Epitome

Technical Expertise:	<i>Aerodynamics</i> <i>Aerothermodynamics</i> <i>Hypersonics</i> <i>Gas Dynamics</i> <i>Planetary Entry</i> <i>Flight Simulation</i> <i>Aerospace History</i>	<i>Flight Testing</i> <i>Wind Tunnel Testing</i> <i>Computational Fluid Dynamics</i> <i>6-DOF Aerodynamics Modeling</i> <i>Missile Stability and Control</i> <i>Aircraft Stability and Control</i> <i>Aircraft Performance</i>
Professional Career:	45 Years; Rockwell International, General Dynamics, National Aeronautics and Space Administration, Hughes Missile Systems, Raytheon Missile Systems, Manpower Technical Services, Analytical Services and Materials, TYBRIN Corporation, GoHypersonic, Mustang Technology Group, General Atomics, Vector Space Systems, and White Eagle Aerospace	
Teaching Career:	39 Years; University and Professional Aerospace Training Programs; More than 20 different types of aerospace technical courses taught	
Significant Programs:	<i>NASA Space Shuttle Program</i> <i>United States Navy STANDARD Missile Program</i> <i>NASA HYPER-X Flight Research Program</i> <i>MDA Kinetic Energy Interceptors Program</i>	

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## Academic Degrees Earned

M.S.E., California State Polytechnic University, Pomona (CSPUP); June 1976

Academic Load: 48 Units Between January 1975 and March 1976

Accentuation: Fluid Dynamics, Gas Dynamics

Applicable Courses: *Boundary Layer Concepts, Advanced Gas Dynamics, Tensor Analysis, Advanced Fluid Dynamics, Radiation Heat Transfer, Hydronautics*

B.S.A.E, State Polytechnic University, Pomona (CSPUP); June 1973

Academic Load: 230 Units Between September 1968 and June 1973

Accentuation: Aerodynamics, Fluid Dynamics, Vehicle Performance

Applicable Courses: *Supersonic Aerodynamics, Subsonic Aerodynamics, Gas Dynamics, Mass, Momentum and Energy Transfer, Dynamics of Aerospace Vehicles, Advanced Aerospace Analysis, Aircraft Design, Experimentation Systems*

### Post-Graduate Studies

Standard Courses: *Hypersonic Aerodynamics*  
*Complex Variables*

Short Courses: *Hypersonic Aerodynamics*  
*Hypersonic Technologies and the National Aerospace Plane*

## Professional Experience

- 2006 to Present: White Eagle Aerospace, LLC  
Aerospace Consulting, Professional Training, and History of Flight Lectures  
President/CEO
- 2017 to Present: Vector Space Systems  
Tucson, Arizona  
Technical Consultant
- 2013 to 2015: General Atomics (GA)  
Aeronautical Systems Incorporated (ASI)  
Senior Aerodynamics Consultant
- 2008 to 2013: TYBRIN Corporation, Inc.  
NASA Dryden Flight Research Center (DFRC)  
Senior Technical Consultant
- 1999 to 2008: Analytical Services and Materials, Inc.  
NASA Dryden Flight Research Center (DFRC)  
Senior Technical Consultant
- 1999 to 2010: Raytheon Missile Systems (RMS)  
Aerodynamics Department  
Senior Engineering Fellow
- 1996 to 1999: NASA Dryden Flight Research Center (DFRC)  
Aerodynamics Branch (RA)  
Aerospace Engineer (GS-14)
- 1996 to 1999: Manpower Technical Services (MTS)  
Raytheon Missile Systems  
Engineering Consultant
- 1992 to 1996: Hughes Missile Systems Company (HMSC)  
Aerodynamics Group  
Senior Engineering Specialist
- 1978 to 1992: General Dynamics Pomona Division  
Aerothermodynamics Section  
Engineering Specialist
- 1973 to 1975: Rockwell International  
Shuttle Airloads Group  
Member Technical Staff

## Teaching Experience

- 2006 to Present: White Eagle Aerospace, LLC  
Technical Training and Consulting  
President/CEO
- 2005 to 2009: Society of Flight Test Engineers (SFTE)  
Technical Training Program  
Technical Course Instructor
- 2000 to 2010: Raytheon Missile Systems (RMS)  
Raytheon Professional Services (RPS)  
RPS Faculty Member
- 1996: Hughes Missile Systems Company (HMSC)  
Advanced Technical Development Program (ATEP)  
ATEP Faculty Member
- 1979 to 1994: California State Polytechnic University, Pomona (CSPUP)  
Aerospace Engineering Department  
Adjunct Faculty Member
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## Technical Courses Taught and/or Developed

- University: *Introduction to Aeronautics*  
*Gas Dynamics*  
*Supersonic Aerodynamics*  
*Aerospace Fundamentals*  
*Subsonic Wind Tunnel Testing*  
*Aircraft Performance*  
*Computer Programming*  
*Aerospace Experimentation Systems*  
*Experimental Techniques in Aerodynamics*  
*Senior Project*
- Professional Development: *Aerodynamics For Engineers*  
*Basic Missile Aerodynamics*  
*Advanced Missile Aerodynamics*  
*Fundamentals of Gas Dynamics*  
*Aerospace Vehicle Performance*  
*Fundamentals of Hypersonics*  
*Fundamentals of Earth Reentry*  
*Aerospace Lessons-Learned*

Invited Lectures:      USAF Test Pilot School Heritage Lectures  
                                 Society of Experimental Test Pilots Aviation History Lecture  
                                 NASA Dryden Flight Research Center Aerospace History Lectures  
                                 Raytheon Missile Systems Engineering Seminars  
                                 Raytheon MMTN Invited Lecturer  
                                 Raytheon Management Club Invited Speaker  
                                 University of Arizona Aerospace History Invited Speaker  
                                 Tucson AIAA Section Invited Speaker  
                                 California State Polytechnic University Guest Speaker  
                                 Novaspacespacefest III Invited Speaker  
                                 Ohio Aerospace Institute invited Lecturer

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## **Awards and Patents**

2006                      SFTE James S. McDonnell Team Award; Member, X-43A Flight Test Team  
2005                      NASA Group Achievement Award; Member, X-43A Flight Test No. 3 Team  
2005                      Raytheon Senior Fellow Honors Recipient  
2003                      Interceptor Dual Nose Cone Assembly Patent  
2002                      Raytheon Senior Principal Engineer Honors Recipient  
1997                      NASA Dryden Flight Research Center Technical Performance Award  
1996                      Hughes Missile Systems/US Navy Technical Merit Award  
1994                      California State Polytechnic University Instructional Service Award  
1991                      General Dynamics Air Defense Systems Eagle Award Nominee  
1991                      California State Polytechnic University Aerospace Faculty Service Award  
1982                      California State Polytechnic University Educational Service Recognition

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## **Professional Organizations**

American Institute of Aeronautics and Astronautics (AIAA)  
National Space Society (NSS)  
Society of Flight Test Engineers (SFTE)  
International Test and Evaluation Association (ITEA)  
National Aeronautics Association (NAA)  
Flight Test Historical Foundation (FTHF)  
Air Force Association (AFA)  
Navy League of the United States (NLUS)  
American Aviation Historical Society (AAHS)  
National Air and Space Society (NASS)

## Technical Publications

1. "X-43A Flush Air Data System Flight Test Results"; Journal of Spacecraft and Rockets, pp. 48-61, Volume 47, Number 1, January-February 2010.
2. "Zoom Flight: Flying the USAF NF-104A"; Presented at the 53<sup>rd</sup> Annual Symposium of the Society of Experimental Test Pilots (SETP), 26 September 2009.
3. AIAA-2008-6570, "The X-43A Flush Air Data Sensing System Flight Test Results"; AIAA Atmospheric Flight Mechanics Conference and Exhibit, 18-21 August 2008.
4. "X-43A Flight-Determined Aerodynamic Force and Moment Characteristics at Mach 7.0"; Journal of Spacecraft and Rockets, pp. 472-484, Volume 45, No. 3, May-June 2008.
5. AIAA-2006-8028, "Flight-Test-Determined Aerodynamic Force and Moment Characteristics of the X-43A at Mach 7.0"; 14th AIAA/AHI Space Planes and Hypersonic Systems and Technologies Conference, Canberra, Australia, November 6-9, 2006.
6. NASA/TP-2006-213683, "Flight-Test-Determined Aerodynamic Force and Moment Characteristics of the X-43A at Mach 7.0"; NASA Dryden Flight Research Center, Edwards, California, July 2006.
7. IDC 10837-06/045, "Dorsal Cover Estimated Loads"; Raytheon Missile Systems, Tucson, Arizona, 13 July 2006.
8. AIAA-2005-4521, "To the Limits and Beyond: X-Aircraft From the XS-1 to the X-20A"; 41st AIAA/ASME/SAE/ASEE Joint Propulsion Conference and Exhibit, Tucson, Arizona, July 10-13, 2005.
9. AIAA-2005-3537, "Boom and Zoom: The History of the NF-104A Aerospace Trainer"; 41st AIAA/ASME/SAE/ASEE Joint Propulsion Conference and Exhibit, Tucson, Arizona, July 10-13, 2005.
10. ATN-04-003, "Pressure Integration Relations For Bodies of Arbitrary Cross-Sectional Shape"; Raytheon Missile Systems, 09 June 2004.
11. ATN-04-004, "High Speed Anti-Radiation Missile (HARM) 6-DOF Aerodynamic Modeling Scheme"; Raytheon Missile Systems, Tucson, Arizona, 08 June 2004.
12. ATN-04-001, "Raindrop Motion Through a Missile Shock Layer"; Raytheon Missile Systems, Tucson, Arizona, 06 April 2004.
13. ATN-04-006, "HYPER-X Flight Project Review Update"; Raytheon Missile Systems, Tucson, Arizona, 12 February 2004.
14. HX-DFRC-0266, "Pegasus Hybrid Launch Vehicle Flight-Extracted Aerodynamic Forces and Moments For Flights No. 8, No. 24, and No. 30"; NASA Dryden Flight Research Center, Edwards, California, 12 December 2003.

15. HX-DFRC-0308, "Results of the HYPER-X Research Vehicle (HXRV) Flush Air Data Sensing (FADS) System Wind Tunnel Test (AEDC VA435)"; NASA Dryden Flight Research Center, Edwards, California, 14 April 2003.
16. HX-DFRC-0384, "HXRV Flight-Measured 6-DOF Aerodynamics For HYPER-X Flight II"; NASA Dryden Flight Research Center, Edwards, California, 06 December 2003.
17. ATN-03-015, "Moldline and Surface Slope Relations For Rotationally-Symmetric Nose Shapes"; Raytheon Missile Systems, Tucson, Arizona, 06 December 2003.
18. ATN-03-012, "The 6-DOF Equations of Motion For Flight of a Rigid Body Over a Flat Earth"; Raytheon Missile Systems, Tucson, Arizona, 14 October 2003.
19. ATN-03-014, "Missile Airframe and Environmental Models"; Raytheon Missile Systems, Tucson, Arizona, 31 July 2003.
20. ATN-03-010, "STANDARD Missile Coordinate Systems"; Raytheon Missile Systems, Tucson, Arizona, 19 May 2003.
21. ATN-03-011, "Wave Drag Characteristics for Common Forebody Shapes"; Tucson, Arizona, 16 May 2003.
22. ATN-03-009, "Fundamentals of 6-DOF Aerodynamic Force and Moment Modeling"; Raytheon Missile Systems, Tucson, Arizona, 05 May 2003.
23. ATN-03-008, "Flight Aerodynamic Force and Moment Extraction"; Raytheon Missile Systems, Tucson, Arizona, 30 April 2003.
24. ATN-03-005, "Common Axis System Transformations"; Raytheon Missile Systems, Tucson, Arizona, 21 April 2003.
25. ATN-03-006, "Launch Vehicle Ascent Axial and Lateral Accelerations"; Raytheon Missile Systems, Tucson, Arizona, 21 April 2003.
26. ATN-03-007, "Missile Component Airloads"; Raytheon Missile Systems, Tucson, Arizona, 21 April 2003.
27. ATN-03-001, "Transformation Equations Relating Maneuver Plane and Body-Fixed Steering Control Deflections"; Raytheon Missile Systems, Tucson, Arizona, 31 March 2003.
28. ATN-03-002, "3-Axis Aerodynamic Moment Transfer Equations"; Raytheon Missile Systems, Tucson, Arizona, 31 March 2003.
29. Paper No. 5, "Jet-Interaction Controls For Hit-to-Kill Tactical Missiles"; Raytheon Aeronautical Engineering Council 2002 Technical Symposium, 23 October 2002.

30. IDC 5G-54-02/044, "High-G Airframe IR&D 2001 Annual Report"; Raytheon Missile Systems, Tucson, Arizona, 30 April 2002.
31. HX-DFRC-0234, "HYPER-X Flight Force and Moment Extraction Methodology"; NASA Dryden Flight Research Center, Edwards, California, 20 July 2002.
32. HX-DFRC-0099, "HYPER-X6-DOF Aerodynamics Model (Version 7.80)"; NASA Dryden Flight Research Center, Edwards, California, 31 March 2002.
33. HX-DFRC-0207, "HYPER-X Launch Vehicle Flight-Extracted 6-DOF Aerodynamics (First-Flight: Flown 02 June 2001)"; NASA Dryden Flight Research Center, Edwards, California, 07 November 2001.
34. IDC 5G54-01/077, "Missile Magnus Effects Technical Briefing"; Raytheon Missile Systems, Tucson, Arizona, 24 August 2001.
35. HX-DFRC-0159, "HYPER-X Research Vehicle (HXRV) Longitudinal Trim Aerodynamics"; NASA Dryden Flight Research Center, Edwards, California, 31 March 2001.
36. HX-DFRC-0098, "HYPER-X Research Vehicle First-Flight Excrescence Drag Model"; NASA Dryden Flight Research Center, Edwards, California, 31 January 2001.
37. HX-DFRC-0176, "HYPER-X First-Flight Dispersion Model (Revision B) Applicable To Emergency Jettison of the HXLV From The B-52B Carrier Aircraft"; NASA Dryden Flight Research Center, Edwards, California, 05 May 2001.
38. IDC 5G54-01/027, "Recommendation For Development of a SM-2 Block IVA IR Seeker Dome Cover 12-DOF Jettison Simulation"; Raytheon Missile Systems, Tucson, Arizona, 12 April 2001.
39. HX-DFRC-0159, "HYPER-X Research Vehicle (HXRV) Longitudinal Trim Aerodynamics"; NASA Dryden Flight Research Center, Edwards, California, 31 March 2001.
40. HX-DFRC-0098, "HYPER-X Research Vehicle First-Flight Excrescence Drag Model"; NASA Dryden Flight Research Center, Edwards, California, 31 January 2001.
41. HX-DFRC-0129, "HYPER-X Launch Vehicle 6-DOF Aerodynamics Database Evaluation"; NASA Dryden Flight Research Center, Edwards, California, 06 December 2000.
42. NASA/TM-2000-209017, "Development of a Flush Air Data Sensing System on a Sharp-Nosed Vehicle For Flight at Mach 3 to 8"; NASA Dryden Flight Research Center, Edwards, California, May 2000.
43. AIAA Paper 2000-0504, "Development of a Flush Air Data Sensing System on a Sharp-Nosed Vehicle For Flight at Mach 3 to 8"; 38<sup>th</sup> Aerospace Sciences Conference, 10-13 January 2000.
44. HX-DFRC-0082, "HXRV 6-DOF Aerodynamic Uncertainty Model Applicable to HYPER-X First-Flight"; NASA Dryden Flight Research Center, Edwards, California, 07 November 1999.

45. IDC 5G6A.A-99/117, "SM-2 Block IVA ER IR Seeker Dome EMD Cover Jettison Monte Carlo Study"; Raytheon Missile Systems, Tucson, Arizona, 10 Jun 1999.
46. IDC 5G6A.A-99/118, "SM-3 LEAP 3rd Stage 6-DOF Aero Model: Database Generation and Modeling Schemes"; Raytheon Missile Systems, Tucson, Arizona, 31 May 1999.
47. HX-DFRC-0024A, "Pre-Test Report For the HX-FADS Pressure Model validation Wind Tunnel Test"; NASA Dryden Flight Research Center, Edwards, California, 26 October 1998.
48. IDC 5G6A.A-98/343, "SM-2 Block IVA ER IR Seeker Dome EMD Cover Jettison Simulation Study"; Raytheon Missile Systems, Tucson, Arizona, 29 September 1998.
49. HX-DFRC-0002, "HYPER-X Aerodynamics Objectives and Requirements Document"; NASA Dryden Flight Research Center, Edwards, California, 31 August 1998.
50. AIAA-1998-2866, "Wind tunnel Testing, Flight Scaling and Flight Validation With Hyper-X"; Advanced Measurement and Ground Testing Technology Conference, 20th, Albuquerque, New Mexico, June 15-18, 1998.
51. IDC 5G6A.A-97/191, "Program CVRSIM (Version 3.00) User Instructions"; Hughes Missile Systems Company, Tucson, Arizona, 04 July 1997.
52. IDC 5G6A.A-97/190, "Program EJSIM (Version 3.00) User Instructions"; Hughes Missile Systems Company, Tucson, Arizona, 04 July 1997.
53. IDC 5G6A.A-97/024, "Program TRAJ3D (Version 3.00) User Instructions"; Hughes Missile Systems Company, Tucson, Arizona, 14 March 1997.
54. IDC 5G62A.A-97/023, "Program BODYARO (Version 1.05) User Manual"; Hughes Missile Systems Company, Tucson, Arizona, 31 January 1997.
55. IDC 5G6A.A-97/022, "Program TRGT2D SSST/TBMT Trajectory Synthesis Code User Instructions"; Hughes Missile Systems Company, Tucson, Arizona, 01 January 1997.
56. IDC 5G6A.A-96/245, "User Manual for the SM-X LEAP 6-DOF Aerodynamics Model (Version 5.00)"; Hughes Missile Systems Company, Tucson, Arizona, 14 October 1996.
57. IDC 5G6A.A-96/051, "Preliminary Assessment of ESSM Debris Dispersion Analysis"; Hughes Missile Systems Company, Tucson, Arizona, 08 March 1996.
58. IDC 5G62/95/128, "NSFS STANDARD Missile Candidate (SM-2 Blk IIIA MR w/32" Body Stretch) Estimated Incremental Aerodynamics "; Hughes Missile Systems Company, Tucson, Arizona, 23 October 1995.
59. IDC 5G63/95/129, "NSFS Hammerhead Candidate Airframe Configuration Estimated Zero-Lift Drag Coefficient Characteristics"; Hughes Missile Systems Company, Tucson, Arizona, 23 October 1995.



60. IDC 5G62/95/116, "SM-2 Block IVA ER ETR-1 IR Seeker Dome Jettison Trajectory Characterization"; Hughes Missile Systems Company, Tucson, Arizona, 29 September 1995.
61. IDC 5G62/95/117, "SM-2 Block IV/IVA ER 6-DOF Aerodynamics Model Configuration Management System Compliance"; Hughes Missile Systems Company, Tucson, Arizona, 27 September 1995.
62. IDC 5G62/95/100, "Aegis Hybrid LEAP 6-DOF Aerodynamics Model, CMS Version 1.0 User Manual"; Hughes Missile Systems Company, Tucson, Arizona, 31 August 1995.
63. IDC 5G62/95/099, "STANDARD Multi-Mission Missile (SM<sup>3</sup>) Candidate Airframe Aerodynamics Model (Version 2.00/ 11 May 1995)"; Hughes Missile Systems Company, Tucson, Arizona, 18 August 1995.
64. IDC 5G62/95/098, "SM-2 Blk IVB ER Candidate Canard-Configured Airframe 6-DOF Aerodynamics Model (Version 5.00/14 Apr 1995)"; Hughes Missile Systems Company, Tucson, Arizona, 18 August 1995.
65. IDC 5G62/95/093, "SM-2 Blk IVA ER ETR-1 at WSMR: Debris Dispersion Analysis"; Hughes Missile Systems Company, Tucson, Arizona, 11 August 1995.
66. IDC 5G62/95/094, "White Sands Missile Range October Meteorological Model"; Hughes Missile Systems Company, Tucson, Arizona, 11 August 1995.
67. IDC 5G62/95/095, "Aegis LEAP (Tactical Version) Zero-Lift Drag Coefficient Data Package 1.00"; Hughes Missile Systems Company, Tucson, Arizona, 11 August 1995.
68. IDC 5G62/95/096, "THAAD Launch Configuration Estimated Zero-Lift Drag Characteristics"; Hughes Missile Systems Company, Tucson, Arizona, 11 August 1995.
69. IDC 5G62/95/097, "SM-2 Blk IIIA MR Untrimmed Airloads For Missile S/N's 68324, 69376, and 81028"; Hughes Missile Systems Company, Tucson, Arizona, 11 August 1995.
70. AIAA-95-1789-CP, "A Navier-Stokes CFD Analysis of the Flowfield About a Circular-Cylinder Protuberance Mounted Perpendicular to a Flat Plate in Supersonic Flow"; pp. 229-243, 13<sup>th</sup> AIAA Applied Aerodynamics Conference, San Diego, California, 19-22 June 1995.
71. AIAA-95-1893-CP, "An Assessment of Missile DATCOM Prediction Accuracy Relative to Generic Body+Wing+Tail Missile Pitch Aerodynamics"; pp. 1058-1068, 13<sup>th</sup> AIAA Applied Aerodynamics Conference, San Diego, California, 19-22 June 1995.
72. IDC 5G62/95/59, "Wallops Island Meteorological Models Used in LEAP FTV-3/4 Dynamic Flight Simulations (January, February, and March)"; Hughes Missile Systems Company, 31 May 1995.
73. IDC 5G62/95/60, "TERRIER LEAP FTV-16-DOF Aerodynamics Model Summary Report"; Hughes Missile Systems Company, Tucson, Arizona, 31 May 1995.

74. IDC 5G62/95/61, "TERRIER LEAP FTV-26-DOF Aerodynamics Model Summary Report"; Hughes Missile Systems Company, Tucson, Arizona, 31 May 1995.
75. IDC 5G62/95/62, "TERRIER LEAP FTV-3/FTV-46-DOF Aerodynamics Model Summary Report"; Hughes Missile Systems Company, 31 May 1995.
76. IDC 5G62/95/63, "TERRIER LEAP Tech Demo Debris Dispersion Analysis: A Lesson Learned"; Hughes Missile Systems Company, Tucson, Arizona, 31 May 1995.
77. IDC 5G-62.12-94/112, "SM-2 Blk IVA ER Upper Stage Forebody Boundary Layer Average Total Pressure Estimates"; Hughes Missile Systems Company, Tucson, Arizona, 12 December 1994.
78. IDC 5G-63.12-94/104, "SM-2 Blk III MR Dorsal Panel Normal Force Estimation Method"; Hughes Missile Systems Company, Tucson, Arizona, 06 December 1994.
79. IDC 5G-62.09-94/61, "STANDARD Missile Zero-Lift Drag Compendium"; Hughes Missile Systems Company, Tucson, Arizona, 06 December 1994.
80. IDC 5G-62.12-94/103, "SM-2 Blk III MR Dorsal Panel Load-Time Histories Generated in Support of the USS Shiloh Flight Anomaly Investigation"; Hughes Missile Systems Company, Tucson, Arizona, 06 December 1994.
81. IDC 5G-62.11-94/87, "LEAP FTV-2 Flight Test Results: Missile Forebody Flight-Measured Surface Pressures"; Hughes Missile Systems Company, Tucson, Arizona, 30 November 1994.
82. IDC 5G-62.11-94/88, "LEAP FTV-2 Flight Test Results: Missile Forebody Compartmental Pressure Venting Performance"; Hughes Missile Systems Company, Tucson, Arizona, 30 November 1994.
83. IDC 5G-62.11-94/86, "LEAP FTV-2 Flight Results: High Altitude Roll Transient Aerodynamics Evaluation"; Hughes Missile Systems Company, Tucson, Arizona, 20 November 1994.
84. IDC 5G-62.09-94/63, "SM-2 Block IIIC MR High Throughput Simulation (HTS) Aerodynamics Modeling Methodology"; Hughes Missile Systems Company, Tucson, Arizona 30 September 1994.
85. IDC 5G-62.09-94/70, "STANDARD Missile Configuration Key"; Hughes Missile Systems Company, Tucson, Arizona, 30 September 1994.
86. IDC 5G-62.09-94/61, "STANDARD Missile Zero-Lift Drag Compendium"; Hughes Missile Systems Company, Tucson, Arizona, 30 September 1994.
87. IDC 5G-62.09-94/62, "SM-2 Block IVA ER High Throughput Simulation (HTS) Aerodynamics Modeling Methodology"; Hughes Missile Systems Company, Tucson, Arizona, 30 September 1994.
88. AIAA-1994-3463, "Flight-Dynamic and Aerothermodynamic Conceptual Design of a Bent-Nose Biconic RV Bus for Atmospheric Entry From Low-Earth Orbit"; AIAA Atmospheric Flight Mechanics Conference, Scottsdale, AZ, August 1-3, 1994.

89. AIAA-1994-3466, "A Method For Predicting Combined Dorsal Normal Force and Center-of-Pressure Location at Supersonic Mach Numbers"; AIAA Atmospheric Flight Mechanics Conference, Scottsdale, AZ, August 1-3, 1994.
90. AIAA-1994-3463, "Flight-Dynamic and Aerothermodynamic Conceptual Design of a Bent-Nose Biconic RV Bus for Atmospheric Entry From Low-Earth Orbit"; AIAA Atmospheric Flight Mechanics Conference, Scottsdale, AZ, August 1-3, 1994.
91. AIAA-1993-971, "Supersonic/Hypersonic Flight Vehicle Forebody Wave Drag Determination Using an Euler-Based CFD Approach"; AHS, and ASEE, Aerospace Design Conference, Irvine, California, 16-19 February 1993
92. AIAA-1993-968, "Application of Navier-Stokes Flowfield Analysis to the Aerothermodynamic Design of an Aerospike-Configured Missile"; AHS, and ASEE, Aerospace Design Conference, Irvine, California, 16-19 February 1993.
93. TM 41-3-205.17-1, "User's Guide For the LEAP Flight Test Vehicle 3D Aerodynamics Model – Version 2.00"; Hughes Missile Systems Company, Tucson, Arizona, 23 December 1992.
94. TM 41-1-184.77-6, "A Method for Estimating the Pressure Augmentation on a Flat Plate-Mounted Circular Cylinder in Supersonic Flow"; General Dynamics Air Defense Systems Division, 05 March 1992.
95. TM 41-1-184.77-3, "A Navier-Stokes CFD Analysis of the Flowfield About a Circular Cylinder/Flat Plate Combination in Supersonic Flow"; General Dynamics Air Defense Systems Division, 20 February 1992.
96. TM 41-1-184.77-5, "Analysis of Calibration Dome Surface Pressures Obtained During the MHIP Full-Scale Sled Test at Holloman AFB"; General Dynamics Air Defense Systems Division, 24 January 1992.
97. TM 41-1-184.77-4, "Analysis of Calibration Dome Surface Pressures Obtained During the MHIP Full-Scale Aerothermal Wind Tunnel Test at JHU/APL"; General Dynamics Air Defense Systems Division, 14 January 1992.
98. TM 41-1-147.77-24, "AAAM Inner Dome Flowfield Properties, Surface Pressures, and Heating Rates at Supersonic Mach Numbers"; General Dynamics Air Defense Systems Division, 17 December 1991.
99. Report No. "IR/RF Common Aperture Dome Design"; Presented at the 4<sup>th</sup> DOD Electromagnetic Windows Symposium, Naval Postgraduate School, Monterey, California, November 1991.
100. TM 41-1-184.77-1, "Overview of the GD/ADSD Navier-Stokes Computational Fluid Dynamics Capability developed in Support of MHIP Aerothermodynamics Analysis"; General Dynamics Air Defense Systems Division, 24 September 1991.
101. TDI 41-1-184.77-15, "MHIP IR Seeker Dome Navier-Stokes CFD Study Case"; General Dynamics Pomona Division, 12 September 1991.

102. TDI 41-1-184.77-7, "MHIP Sled test Missile Aerodynamics Data Package"; General Dynamics Air Defense Systems Division, 12 September 1991.
103. TDI 41-1-184.77-11, "MHIP IR Seeker Dome Cover Aerodynamic Forces for the Maximum Dynamic Pressure Flight Condition"; General Dynamics Air Defense Systems Division, 12 September 1991.
104. TDI 41-1-184.77-14, "MHIP IR Seeker Dome Window+Collar Assembly Inviscid Flow Pressures for the Maximum Thermal Shock and Maximum Temperature Trajectories"; General Dynamics Air Defense Systems Division, 12 September 1991.
105. WL/MN-TR-91-46, "IR/RF Dome Technology, Final Report -General Dynamics, Volume I -Concept Definition and Preliminary Design"; General Dynamics Air Defense Systems, August 1991.
106. WL/MN-TR-91-46, "IR/RF Dome Technology, Final Report -General Dynamics, Volume II -Final Design"; General Dynamics Air Defense Systems, August 1991.
107. WL/MN-TR-91-46, "IR/RF Dome Technology, Final Report -General Dynamics, Volume III – Appendices, References, and Bibliography"; General Dynamics Air Defense Systems, August 1991.
108. TDI 41-1-75.77-1, "Kinematics Performance Improvement for an Aerospike-Configured Stinger"; General Dynamics Air Defense Systems Division, 24 May 1991.
109. TDI 41-1-184.77-8, "MHIP IR Seeker Dome Airloads"; General Dynamics Air Defense Systems Division, 20 May 1991.
110. TDI 41-1-184.77-9, "MHIP IR Seeker Dome Window+Collar Assembly Axial and Radial Forces for the Maximum Dynamic Pressure Flight Condition"; General Dynamics Air Defense Systems Division, 20 May 1991.
111. TDI 41-1-184.77-6, "MHIP IR Seeker Dome Cover Design Airloads"; General Dynamics Air Defense Systems Division, 20 May 1991.
112. TDI 41-1-184.77-10, "MHIP IR Seeker Dome Cover Hold-Down and Aero-Aiding Forces And Moments"; General Dynamics Air Defense Systems Division, 20 May 1991.
113. TM 6-332-183.77-5, "Missile DATCOM Prediction Evaluation Study: Generation of Adjustment Factor Equations For STANDARD Missile Body+Dorsal+Tail Configurations"; General Dynamics Air Defense System Division; 30 April 1991.
114. TM 6-331-183.77-2, "Missile DATCOM Prediction Evaluation Study: STANDARD Missile Body+Dorsal+Tail Configurations"; General Dynamics Air Defense Systems Division, 30 April 1991.
115. TM 6-332-183.77-1, "Missile DATCOM Prediction Evaluation Study: Generic Body+Wing+Tail Configurations"; General Dynamics Air Defense Systems Division, 30 April 1991.
116. TM 6-332-183.77-4, "Missile DATCOM Prediction Evaluation Study: Generation of Adjustment Factor Equations For Generic Body+Wing+Tail Configurations"; General Dynamics Air Defense Systems Division, 30 April 1991.

117. TDI 6-332-147.77-11, "Axisymmetric Shock Layer Flowfield Properties For a Representative Missile Forebody at Supersonic Mach Numbers"; General Dynamics Pomona Division, 14 September 1990.
118. TDI 6-332-173.77-2, "Wave Drag Effects Associated With Blunting of the NAAWS 2.0-Caliber Von-Karman Ogive"; General Dynamics Pomona Division, 21 August 1990.
119. TDI 6-332-147.77-12, "Wave Drag Effects Associated With Blunting of the AAAM 2.6-Caliber Von-Karman Ogive"; General Dynamics Pomona Division, 21 August 1990.
120. M 6-332-183.77-1, "Viewgraph Package For AIAA Paper 90-1318 Presented at the AIAA 5<sup>th</sup> Biannual Flight Test Conference"; General Dynamics Pomona Division, 19 July 1990.
121. M 6-332-183.77-2, "Viewgraph Package For AIAA Paper 90-1319 Presented at the AIAA 5<sup>th</sup> Biannual Flight Test Conference"; General Dynamics Pomona Division, 19 July 1990.
122. AIAA-1990-1318, "An Approach to Estimating the Debris Dispersion Footprint For Surface-Launched Tactical Missiles"; AIAA/SFTE/DGLR/SETP, Biannual Flight Test Conference, 5th, Ontario, California, May 22-24, 1990.
123. AIAA-1990-1319, "Launch Test Vehicle Flight Dispersion and Impact Footprint Analysis -A Case Study"; AIAA/SFTE/DGLR/SETP, Biannual Flight Test Conference, 5th, Ontario, CA, May 22-24, 1990.
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