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ARCHIVES
Series X

1976



AIR UNIVERSITY
UNITED STATES AIR FORCE

AFIT
SCHOOL OF ENGINEERING

Contributions to Air Force
Research and Development

Calendar Year 1976

SCHOOL OF ENGINEERING

WRIGHT-PATTERSON AIR FORCE BASE, OHIO

SCHOOL OF ENGINEERING

Contributions to Air Force Research and Development

Calendar Year 1976

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AFIT
SCHOOL OF ENGINEERING

Contributions to Air Force Research and Development

Calendar Year 1976

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CALENDAR YEAR 1976

PRINCIPAL SPONSOR SUMMARY

<u>Laboratory or Organization</u>	<u>Research Projects</u>	<u>Consulting Projects</u>	<u>Masters Thesis</u>	<u>Doctoral Dissertations</u>
AFFDL	34	17	30	2
SAMSO	8	1	7	
AFAL	28	18	19	2
AFIT	35	1	7	
AFATL	3	8	3	
HQ AFSC	0	0	2	
AFAPL	9	11	6*	
AFML	10	11	6	1
DOD	2	2	3*	
2750 ABWg	0	0	2*	
FJSRL	0	1	2	
AMRL	2	8	8	
AFWL	20	15	7	2
ADTC	0	0	2	
ASD	11	28	17	
HQ USAF	12	9	10	
AFTAC	0	1	2	
AFLC	5	6	2	
ESD	1	2	2	
AFALD	0	0	2	
DCEC	0	0	0	1
AFOSR	0	5	0	
USN	0	4	0	
AFWAL	1	3	0	
USA	0	3	0	
AU	3	3	0	
4950 Test Wg	0	3	0	
MED CEN	2	3	0	
Harry Diamond Lab	1	3	0	
	<u>187</u>	<u>166</u>	<u>139</u>	<u>8</u>

*Plus one design study.

Research Projects - Calendar Year 1976 - Summary

<u>SPONSORS</u>		<u>DEPARTMENT</u>	
AFIT	34	ENE	48
AFDD	39	ENP	35
AFAL	24	ENE	33
AFWI	20	ENS	30
HQ USAF	13	ENC	21
ASD	11	ENM	18
AFNL	10	ENI	14
AFAPL	9	END	7
SAND	8		
AFLA	7		
AFATL	3		126
AJ	2		
NEC GEN	2		
EADC	2		
BOB	2		
SMIL	2		
CIA	1		
Harry Diamond Lab	1		
DNA	1		
AFVAL	1		
NSD	1		
ARPA	1		
OSMR	1		
Wright State Univ	1		

AFIT

SCHOOL OF ENGINEERING

RESEARCH PROJECTS

CALENDAR YEAR 1976

Research Projects - Calendar Year 1976 - Summary

SPONSORS

AFIT	35
AFFDL	34
AFAL	28
AFWL	20
HQ USAF	12
ASD	11
AFML	10
AFAPL	9
SAMSO	8
AFLC	5
AFATL	3
AU	3
MED CEN	2
RADC	2
DOD	2
AMRL	2
CIA	1
Harry Diamond Lab	1
DNA	1
AFWAL	1
ESD	1
ARPA	1
DSMR	1
Wright State Univ	1

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DEPARTMENT

ENB	44
ENP	35
ENE	33
ENS	30
ENC	21
ENM	16
ENH	14
END	2

195

Research Projects CY-1976

- ENM 76-1 Specialized Aerodynamic Design Evaluation. Maj Roger A. Crawford (AFFDL)
- ENE 76-2 Advanced Seeker Guidance Techniques. Capt Moriarty (AFATL)
- ENP 76-3 Atomic and Molecular Charge Oscillations. Dr. Shankland (AFWL)
- ENE 76-4 Electro-Optic Separation Commonality Study. Lt Robinson and Captain Gobien (AFAL)
- ENP 76-5 Nuclear Cardiology. Dr. G. Hagee (USAF MED CEN)

CY-1976 Research Projects

- ENB 76- 6 Guidance Concept for Air-to-Air Missiles Based on Nonlinear Differential Game Theory. Maj G.M. Anderson (AFFDL)
- ENB 76- 7 Combined Gradient-Neighboring Extremal Algorithm for Calculating Optimal Transfer Trajectories. Maj G.M. Anderson (SAMSO)
- ENB 76- 8 Instability of Plastically Anisotropic Rectangular Plates. Dr. A.N. Palazotto (AFFDL)
- ENB 76- 9 Finite Element Study of Deep Beams on Statically Indeterminate Supports Considering Cutout Locations. Dr. A.N. Palazotto (AFIT)
- ENB 76- 10 Influence of Radioactive Lasers on Ablation Recession Rate. Dr. P.J. Torvik (CIA)
- ENC 76- 11 Zeros of Vector Valued Functions. Dr. J. Jones, Jr. (AFFDL)
- ENC 76- 12 Bifurcation in a Nonlinearly Perturbed Eigenvalue Problem. Lt J. A. MacBain (AFFDL)
- ENC 76- 13 Evaluation of Exponential and Weibull Test Plans. Dr. A.H. Moore (AFFDL/FYS)
- ENC 76- 14 Analysis of Simulated Antiaircraft Artillery Engagements. Capt G. Orr (AFATL)
- ENE 76- 15 Covariance Analysis of RAC G Kalman Filters. Capt P.S. Maybeck (AFATL/DLMT/RAC)
- ENE 76- 16 Design Study on Matching Surface Acoustic Wave Filters. Lt W.A. Davis (AFAL/WRP)
- ENE 76- 17 Performance Analysis of an FH/PN Spread Spectrum Modern. Maj J.O. Gobien (AFAL)
- ENE 76- 18 Optical Communication Through Scattering Channels. Lt S.R. Robinson (AFAL)
- ENE 76- 19 Truncation Error in Reconstruction of Bandlimited Stochastic Processes from Samples. Maj R.A. Reinman (RADC)
- ENE 76- 20 Performance Prediction for Short Range Troposcatter Links. Capt L.D. Daniel and Maj R.A. Reinman (AFAL)
- ENE 76- 21 Modification of the Bello Model for Performance Prediction of Short Range Troposcatter Links. Capt L.D. Daniel and Maj R.A. Reinman (AFAL)

ENH	76- 22	Diplomacy in the Nuclear Age: The Impact of Nuclear Weapons on International Relations. Capt S.M. Millett (AFIT)
ENM	76- 23	Diffuser Tests for Fifteen Nozzle Flow Assemblies. Dr. A.J. Shine (AFWL/ALC)
ENM	76- 24	Calculation of Unimolecular Rate Constants by Optional Use of Kassel, Slater, or RRKM Integrals. Dr. E.A. Dorko (AFAPL)
ENP	76- 25	Beam Propagation: - near field, far field or left field. Maj H. Weichel and Dr. L.S. Pedrotti (AFWL)
ENE	76- 26	Analysis of Edge-Slot Radiators. Lt W.A.Davis (Harry Diamond Lab)
ENP	76- 27	X-ray Dose Rate During Xeromemography. Capt D. Guice and Maj G. Spitale (WPAFB Medical Center)
ENS	76- 28	A Cut Search Approach to Project Cost Duration Analysis. Maj Dunne (AFIT)
ENS	76- 29	Air Force Supervisors Guide to Job Enrichment. Lt Col R. Manley and Maj C. McNichols (AF/DPX)
ENE	76- 30	Analysis & Design of 7-10 GHz FET Amplifier. Lt W.A. Davis (AFAL/WRP)
ENS	76- 31	Organizational Variables Associated with Innovation and Productivity in R&D. Capt M. Stahl (HQ USAF)
ENS	76- 32	Incorporating Storage Facility Modernization Alternatives. Capt R.S. Tripp (DOLMDS)
ENS	76- 33	Forecasting Inflation Rates. Dr. N.K. Womer (ASD Comptroller)
ENB	76- 34	Dynamic Life Estimation for Track Surfaces Under Periodic Loadings and Non Uniform Back Up Supports. Dr. A.N. Palazotto (AFML)
ENB	76- 35	A Singular Approach to Circular Plates. Dr. A.N. Palazotto (AFFDL)
ENB	76- 36	The Barrier in Pursuit - evasion problems between two low thrust orbital spacecraft and its applications. Maj G.M. Anderson (AFFDL)
ENB	76- 37	Optimal Trajectories of High Thrust Aircraft. Maj G.M. Anderson (AFFDL)
ENB	76- 38	Stability of a Gyrostat Satellite With Flexible Appendages. Dr. R.A. Calico (SAMSO)
ENC	76- 39	Monte Carlo Techniques for Obtaining System Reliability Confidence Limits from Component Test Data. Dr. A.H. Moore (AFFDL)
END	76- 40	Wind Tunnel Test of a Venturri System Used to Drive a Sensor on a Low Speed Aircraft. Prof H.C. Larsen (AFFDL)

- ENE 76-41 A New Approach to the Thin Scatter Problem Using the Hybrid Equations. Lt W.A. Davis (AFAL)
- ENE 76-42 Design and Implementation of Computer Controlled Laser Pointing and Tracking System. Maj R.M. Potter (AFWL/ALO)
- ENE 76-43 Significance of Two Dimensional Fourier Transform as a Model of Visual System. Dr. M. Kabrisky (AMRL)
- ENM 76-44 All Altitude Chemical Laser for F-111. Maj R. Bestgen (AFWL-ARTO)
- ENM 76-45 Development of Computer Codes for Predicting Viscous Nozzle Flows and Laser Cavity Performance. Maj R. Bestgen (AFWL-ARTO)
- ENM 76-46 Shallow Cavity Flow-induced Pressure Oscillations. Dr. M.E. Franke (AFFDL)
- ENM 76-47 Development of Special Aerodynamic Configurations for Minimum Detectability. Maj R. Crawford (AFFDL)
- ENP 76-48 Plasma Excitation Energies in ZnO, CdO, and MgO. Dr. R.L. Hengehold and Dr. F. Pedrotti (AFAL)
- ENP 76-49 Depth Resolved Cathodoluminescence of Ion Implanted Layers in ZnO. Capt B. Pierce and Dr. R.L. Hengehold (AFML)
- ENE 76-50 Performance Analysis and Design of Infrared Warning Receivers. Lt S.R. Robinson and Capt J.O. Gobien (ASD)
- ENS 76-51 Empirical Testing of Maslow's Theory of Human Motivation. Maj G.C. Young (HQ USAF)
- ENB 76-52 Plate Deformation and Failure by the Ballistic Plugging Process. Maj R. Binkowski (AFML)
- ENB 76-53 Design of Undergraduate Pilot Training Simulation Facility. GCE-75D Class (ASD/DE)
- ENB 76-54 Near Optimal Control Law for Pursuit Evasion Problems Between Two Spacecraft. Maj G.M. Anderson (AFIT)
- ENB 76-55 Solar Energy for Sub-Polar and Polar Regions. Prof P. Bielekiewicz (AFIT)
- ENB 76-56 Application of Differential Game Theory to Analysis to Air-to-Air Missile Guidance. Maj G.M. Anderson and Plt Lt R.A. Poulter (AFAL)
- ENB 76-57 Equilibrium Spin Determination Using Parameter Differentiation. Dr. R.A. Calico (SAMSO)
- ENB 76-58 Galvanic Corrosion of Alloys Coupled to Graphite Epoxy Composites. S. Lee (AFML)

ENB 76- 59 Chemical Reactions in a Turbulent Jet. Lt J.R. Shea (AFAPL)

ENB 76- 60 Dynamic Life Estimation for Track Surfaces Under Periodic Loadings and Non Uniform Backup Supports. Dr. A.N. Palazotto (AFIT)

ENC 76- 61 Solutions of Algebraic Matrix Equations Related to Optimal Control Theory. Dr. J. Jones, Jr. (AFAL)

ENC 76- 62 Estimation of an Aeronautical Equipment Mission Reliability. Dr. A.H. Moore (AFAL)

ENE 76- 63 The Advanced Logistics System CYBER 73: A Simulation Model. Capt R. Heidenreich and Dr. G. Lamont (AFLC)

ENH 76- 64 Experiments in Written Communication. Dr. R. Davis (AFIT)

ENP 76- 65 Theft and Diversion on Nuclear Materials and Weapons. GNE-75M Class (DNA)

ENP 76- 66 The Uncertainty Principle and the Spectral Width of a Laser Beam. Maj H. Weichel (AFWL)

ENS 76- 67 Cost Implications of Accounting Practices of the European Consortium Countries. Maj Letzkus (F-16/ESPO)

ENS 76- 68 Some Thoughts Concerning Military Unionization. Lt Col R. Manley, Maj C. McNichols, and Maj G.C. Young (HQ USAF)

ENS 76- 69 Large Scale Organizational Analysis: a preliminary report on a computer aided methodology. Lt Col R. Manley and Maj C. McNichols (AFLC/XR)

ENS 76- 70 A Comparison of the Personal Value Systems of the US Air Force Officers and American Businessmen. Lt Col R. Manley and Maj C. McNichols (AFIT)-Interuniversity Seminar on Armed Forces & Society

ENE 76- 71 Initial Development of RCS Reduction Study. Lt W.A. Davis (AFAL/WRP)

ENB 76- 72 Techniques for Analysis of Stiffened Shells with Cutouts. Dr. A.N. Palazotto (AFML)

ENE 76- 73 Investigations of Error Norm for Electromagnetic Numerical Analysis Programs. Lt W.A. Davis (AFWL/ELP)

ENB 76- 74 Time-Optimal Rendezvous for an Upper State Vehicle of the Space Transportation System. Maj G.M. Anderson (SAMSO)

ENC 76- 75 Regularizers for Observing Diffusion Processes. Dr. D.A. Lee (AFAPL)

ENC 76- 76 Structured Programming. Capt G. Orr (AFLC)

ENE 76- 77 Design Consideration for a Laser Three Dimensional Target Sensor. Lt S.R. Robinson (AFAL/RWI)

- ENH 76-78 The American Language. Dr. R. Davis (AFIT)
- ENH 76-79 Does Expression Make a Difference? Dr. R. Davis (AFIT)
- ENM 76-80 Acquisition Review Council Paper in Support of Funds to Produce a SRAM Weapon for the B-1 Aircraft. Maj R. Bestgen (ASD - SRAM SPO)
- ENP 76-81 Creation of Plasmas in a High Power Laser Target Interaction and Their Subsequent Influence on Target Response. Capt P.E. Nielsen (AFWL)
- ENB 76-82 Determination of Stress Intensity Factors for Two-Dimensional Problems Through the Use of Non-orthogonal Functions. Dr. P.J. Torv (AFFDL)
- ENP 76-83 Performance of Laser/Infrared Sensors in Weather. Maj C.T. Case (HQ USAF/SA)
- ENP 76-84 Depth Resolved Cathodoluminescence of Implanted Layers in Gallium Arsenide. Dr. R. Hengehold and Capt B. Pierce (AFAL)
- ENP 76-85 Optical Studies of Ion Implanted Semiconductors. Dr. R. Hengehold (AFAL)
- ENS 76-86 Organizational Variables Associated with Innovation and Productivity in R&D. Capt M. Stahl (AFWL)
- ENS 76-87 Emerging Organizational Forms. Maj G.C. Young (AU/IPD)
- ENS 76-88 Cost Estimation and Statistical Inference. Dr. N.K. Womer (ASD)
- ENS 76-89 Quality of Life of Military Spouses in the USAF. Lt Col R. Manley and Maj C. McNichols (HQ USAF - AF/DP & AF/DPX)
- ENS 76-90 Applications of Decision Theory to Diagnosis, Maintenance and Repair. Dr. N.K. Womer (PRAM SPO)
- ENS 76-91 Organizational Development at a Major Government Research Laboratory. Lt Col McNichols and Maj G. McNichols (APML)
- ENB 76-92 A Numerical Method for Generating Three Impulse Minimum Time Orbital Transfers. Maj G.M. Anderson (SAMSO)
- ENC 76-93 Use of Interface Waves for Nondestructive Inspection. Dr. D.A. Lee (AFML)
- END 76-94 Design of Gyromill. Prof H.C. Larsen (AFIT)
- ENE 76-95 Failure Detection Without Excessive Hardware Redundancy. Capt P.S. Maybeck (AFFDL)
- ENE 76-96 Scale Invariant Form Recognition Models of Human Visual Perception. Dr. M. Kabrisky (AMRL)

ENE 76- 97 Versatile CMOS Circuits. Prof J. Lubelfeld (AFAL)

ENE 76- 98 Design Studies of New 10 GHZ, Solid State, FET Amplifier for AFAL/WRP, (AFAL)

ENE 76- 99 Roll Axis Tracking Improvement Resulting from Peripheral Vision Motion Cues. Capt T.E. Moriarty (AFFDL)

ENH 76- 100 Science and Scientists in America. Prof I.W. Surratt (AFIT)

ENM 76- 101 A Wind Tunnel Study of a Circulation-Controlled Elliptical Airfoil. Dr. M.E. Franke (ASD/XRHD)

ENP 76- 102 On the Nuclear Pumping of Gas Lasers. Capt P.E. Nielsen (AFWL)

ENP 76- 103 Incoherent Scattering of Gamma Rays by K-shell Electrons. Maj G.C. Spitale (AFIT)

ENP 76- 104 Random Walk Solution to the Continuum Electrostatic Probe Problem. Maj G.C. Spitale (AFAL)

ENP 76- 105 Laser Potential of Tb^{+3} in Gadolinium Molybdate. Dr. T.E. Luke (AFAL)

ENP 76- 106 Laser-Target Interaction Signals. Capt P.E. Nielsen & Maj R.P. Couch (AFWL)

ENP 76- 107 Temporal Coherence Properties of Photons in Stimulated Emissions. Maj C.T. Case (AFAL)

ENP 76- 108 Simple Derivation of the Ultimate Linewidth of a Laser Beam. Maj H. Weichel (AFWL)

ENP 76- 109 Characterization of Thin Film Zn Se Coatings Using IR Ellipsometry. Dr. R.L. Hengehold (AFAL)

ENP 76- 110 A Photoluminescent Study of Bulk Solution Grown GeP. Dr. R.L. Hengehold & Capt B.J. Pierce (AFML)

ENP 76- 111 Cathodoluminescence of Cd Implanted GaAs. Dr. R.L. Hengehold & Capt B.J. Pierce (AFAL)

ENP 76- 112 Intensity Measurements in Cylindrical Discharges - A Stable Abel. Dr. D.G. Shankland (AFIT)

ENP 76- 113 A Summary of Useful Laser Equations. Maj H. Weichel & Dr. L.S. Pedrotti (ESD)

ENS 76- 114 Job Parameter of the Air Force Military Research Analyst. Maj G.C. Young (AFIT)

ENB 76- 115 Prediction of Melt Through Times for Laser Heating. Dr. P.J. Torvik (AFWL)

- ENB 76-116 Minimum Fuel Exhaust Velocity Programming for an Energy Limited Interstellar Rocket. Maj G.M. Anderson & Flt Lt R.A. Poulter (AFIT)
- ENB 76-117 Development of Variational Methods Applicable to Mixed Boundary Value Problems. Dr. P.J. Torvik (AFML)
- ENB 76-118 Influence of Incremental Elastic-Plastic Coefficient Upon Plane Stress Solutions. Dr. A.N. Palazotto (AFAPL)
- ENC 76-119 Estimation of Mission Reliability from Multiple Independent Grouped Censored Data. Dr. A.H. Moore (AFFDL)
- ENC 76-120 Diagnosis of Reliability Repair State and Remedies. Dr. A.H. Moore (ASD)
- ENE 76-121 The Cluttered Field Pattern Recognition Problem. Dr. M. Kabrisky (AFFDL)
- ENE 76-122 On Detection of Signal While Estimating the Spectrum of Gauss-Markov Noise. Capt J.O. Gobien (AFAL)
- ENH 76-123 Diplomacy in the Nuclear Age: Four Case Studies. Capt S.M. Millett (AFIT)
- ENM 76-124 Dynamic Response Approximation for Noncircular Fluid Lines. Dr. M.E. Franke (AFFDL)
- ENP 76-125 The Use of Pseudo-Inverses in Determining System Transfer Functions. Dr. D.G. Shankland (AFFDL)
- ENS 76-126 Airframe Cost Estimation. Dr. N.K. Womer (ASD)
- ENS 76-127 Applications of Decision Theory to Problems of Diagnosis and Repair. Dr. N.K. Womer (AFLC)
- ENS 76-128 Attitudes of Federal Scientists & Engineers Towards Professional Unions. LtCol R. Manley and Maj C. McNichols (HQ USAF and AFWAL)
- ENS 76-129 Job Parameters of the Air Force Military Operations Research Analyst. Col R. Lühks (AFIT)
- ENB 76-130 Life Cycle Cost Analysis for DOD Materials Distribution Study Group. GCE-76S (DOEMDS/EATG)
- ENB 76-131 Comparison of Simple Computer Algorithms for Global Positioning System Users. Maj G.M. Anderson (AFAL)
- ENB 76-132 An Experimental Study of Mix Variations and Low Cycle Fatigue Characteristics of Steel Fiber Reinforced Concrete. Dr. A.N. Palazotto (AFML)

- ENB 76- 133 Finite Element Study of Wide Flange Deep Beams on Statically Indeterminate Supports Considering Cutout Locations. Dr. A.N. Palazotto (AFFDL)
- ENB 76- 134 Stability of a Flexible Satellite with Internal Rotors. Dr. R.A. Calico (SAMSO)
- ENB 76- 135 Analysis of Stringer and Ring Stiffened Shells with Cutouts. Dr. A.N. Palazotto (AFAPL)
- ENE 76- 136 Analysis of Electro-optical Systems Under Development for AFAL. Lt S.R. Robinson & Capt J. Gobien (AFAL)
- ENC 76- 137 Zeros of Functions. Dr. J. Jones, Jr. (AFFDL)
- ENH 76- 138 The Air Force, The Courts, and the Controversial Bombing of Cambodia. Capt S.M. Millett (AU)
- ENM 76- 139 Procedures to Expedite Column Chromatographic Separation. Dr. E.A. Dorko & Mr. William Baker (AFAPL)
- ENC 76- 140 Local and Global Bifurcation from Normal Eigenvalues. Lt J. A. MacBain (AFIT)
- ENM 76- 141 Rear Stagnation Point Location in Subsonic Near-Wake. Lt Merz (AFFDL)
- ENS 76- 142 Influence Methods of Project and Functional Managers in Matrix Organizations. Maj E.J. Dunne & Capt M. Stahl (HQ USAF)
- ENM 76- 143 A Transient Response Approximation for Noncircular Fluid Transmission Lines. Capt J.T. Karam & Dr. M.E. Franke (AFFDL)
- ENP 76- 144 How the Uncertainty Principle Affects the Monochromaticity of Laser Beams. Major H. Weichel (AFWL)
- ENS 76- 145 Empirical Tests of Herzberg's Two Factor Theory of Job Satisfaction. Capt M. Stahl and Maj G.C. Young (AFIT)
- ENC 76- 146 Solutions of the Algebraic Riccati Matrix Equation. Dr. J. Jones, Jr. (AFFDL)
- ENC 76- 147 Explicit Solutions of the Matrix Equation $AX - XB = C$. Dr. J. Jones, Jr. (AFFDL)
- ENC 76- 148 Estimation of the Standard Deviation of the Logistic Distribution by the Use of Selected Order Statistics. Dr. A.H. Moore (AFFDL)
- ENE 76- 149 Development of a Jam-Resistant UHF Voice Communication System. Capt J. Gobien and Lt S. Robinson (RADC).

ENE 76-150 Redesign of F-111D Kalman Filter. Capt P. Maybeck (Sacramento ALC)

ENC 76-151 Development of a 78 page MA 5.33 Handout: Advanced Calculus for Operations Research. Capt C. Huelsman (AFIT)

ENC 76-152 Development of a 27 page MA 2.31 Handout: Linear Algebra for Operations Research. Capt C. Huelsman (AFIT)

ENP 76-153 Application of Space-Angle Synthesis of Two-Dimensional Neutral-Particle Transport Problems of Weapons Physics. Dr. C.J. Bridgman (AFWL)

ENP 76-154 An Evaluation of Mass Integral Scaling of Atmospheric Radiation Environments. Dr. C.J. Bridgman (AFWL)

ENP 76-155 One Term Versus One Year Design Projects - A Critical Comparison. Dr. C.J. Bridgman (AFIT)

ENP 76-156 Numerical Procedures in Two-Dimensional Radiative Transfer. Dr. R.M. Roberds (AFWL)

ENP 76-157 Calculation of Threshold for Laser Supported Detonation Wave Maintenance as a Function of Attitude. Capt P.E. Nielsen (ARPA)

ENP 76-158 Experimental Monitoring of Aircraft Engine Failure Data to Predict Engine Failure with Electrostatic Probes. Maj R. Couch (ASD/Y2S41)

ENS 76-159 A Quick-Look Analysis of a Survey Examining the Perceptions of AF Personnel Towards Military Unionization. Lt Col R. Manley, Maj C. McNichols and Maj C.G. Young (AF/DP & AF/DPX)

ENS 76-160 Survey Processing and Analysis. Maj C. McNichols (AU-LMDC)

ENS 76-161 Design of Survey to be Sent to 3500 Air Force Commanders. Lt Col R. Manley, Maj C. McNichols and Capt M. Stahl (HQ USAF AF/DPX)

ENB 76-162 An Approximate Plane Stress Solution Using Modified Prandtl-Reuse Equations. Dr. A.N. Palazotto (AFFDL)

ENB 76-163 Experimental Study of Partially Loaded Folded Plates Considering Large Deflections. Dr. A.N. Palazotto (AFIT)

ENB 76-164 Feedback Control for Pursuit-Evasion Problems Between Two Spacecraft Based on Differential Dynamic Programming. Maj G.M. Anderson (SAMSO)

ENB 76-165 Threat Evaluation of Selected Foreign Nonnuclear Warheads. Capt R. Binkowski (AFFDL)

ENM 76-166 Shock Tube Decomposition of Dilute Mixtures of Nitrosyl Cyanide in Argon. Dr. E.A. Dorko (AFAPL)

ENS 76-167 Design of Second Quality of Air Force Life Survey for Administration to an Air Force-wide Sample of Air Force Personnel. Lt Col R. Manley, Maj C. McNichols & Capt M. Stahl (AF/DPX)

ENS 76-168 What Happened to PERT? Maj E.J. Dunne (DSMR)

ENB 76-169 Numerical Method for Generating Three Impulse Minimum Time Orbital Transfers. Maj G.M. Anderson (SAMSO)

ENB 76-170 Minimum Fuel Exhaust Velocity Programming for an Energy Limited Interstellar Rocket. Maj G.M. Anderson and Flt Lt R.A. Poulter (AFIT)

ENS 76-171 Peer Rating of Innovation and Productivity in R&D. Capt M. Stahl (AFIT)

ENE 76-172 Pointing and Tracking of an Airborne Laser. Capt J.E. Negro (AFWL)

ENP 76-173 Prediction of Free-Field Radiation Environments from Atmospheric Nuclear Detonation. Dr. C.J. Bridgman (AFWL)

ENB 76-174 Numerical Boundary Layer Investigations. Lt J.R. Shea (AFFDL)

ENB 76-175 Numerical Study of Transonic Shock-Boundary Layer Interaction. Lt J.R. Shea (AFFDL/FXM)

ENB 76-176 Estimation of the Fundamental Frequency of Beams and Plates with Varying Thickness. Maj F.E. Eastep (AFFDL)

ENC 76-177 Large Scale Computer Simulation for an Improved Missile Aerodynamic Model for AFFDL/FXC. Capt G. Orr (AFFDL)

ENC 76-178 Estimation of Mission Reliability from Multiple Independent Grouped Censored Data. Dr. A.H. Moore (AFAL)

ENE 76-179 An Educational Program for Computer Performance Evaluation and Management. Capt R.C. Heidenreich (AFIT)

ENE 76-180 Precision Airborne Jitter Control. Capt J.E. Negro (AFWL)

ENH 76-181 Does STC Need Certification. Dr. R. Davis (AFIT)

ENH 76-182 Of Messages Sent and Received. Dr. R. Davis (AFIT)

ENH 76-183 Development of the English Language in America. Dr. R. Davis (AFIT)

ENM 76-184 Arrhenius Plot, Least Square, and Error Analysis of Rate Constant Data. Dr. E. A. Dorko (AFAPL)

ENP 76-185 Collaborative Work in Radiation Damage Using AFIT Neutron Generator. Dr. G.R. Hagee and Dr. G. John (Wright State University)

- ENB 76- 186 Comparison of Simple Computer Algorithms for Global Positioning System Users. Maj G.M. Anderson (AFAL)
- ENB 76- 187 A Singularity Approach to Circular Plates. Dr. A.N. Palazotto (AFFDL)
- ENH 76- 188 The Demand for Technical Writing in Industry and Government. Dr. R. Davis (AFIT)
- ENP 76- 189 Detecting Jet Engine Gaspath Distresses Using Electrostatic Phenomenology (ESP). Maj R. Couch (AFIT)
- ENS 76- 190 From Institution to Occupation to Institution: Paper Addressing Organizational Renewal Within the USAF. Lt Col R. Manley, Maj C. McNichols and Capt M. Stahl (HQ USAF, AF/DPX and AF/IMPACT 77).
- ENM 76- 191 An Experimental Study of Hydraulic System Frequency Response Characteristics. Dr. M.E. Franke and Capt John A. Wright (AFAPL)
- ENH 76- 192 References and Bibliography: A Guide to Usage in Technical Writing. Capt S.M. Millett (AFIT)
- ENH 76- 193 The Ghost of Cromwell - Republican Revolution Without Military Dictatorship: The American Constitutional Experience, 1775-1800. Capt S.M. Millett (AFIT)
- ENH 76- 194 The American National Interest: An Historical Perspective. Capt S.M. Millett (AFIT)
- ENE 76- 195 Negative Resistance CMOS Circuits in a/d Converter Applications. Prof J. Lubelfeld (AFAL)

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ATC	1
AFTAC	1
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SAC	1
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CY-1976 Consulting Activities

Jan	76- 1	AMRL/EMT	<u>Capt G. Orr.</u> Antiaircraft Simulation Models (ENC).
Jan	76- 2	AIAA	<u>Prof H.C. Larsen.</u> Design of Model B Wright Flyer Propeller (END)
Jan	76- 3	AFWAL	<u>Lt W.A. Davis.</u> Consultation on Hybrid Equations (ENE)
Jan	76- 4	ASD/ENY	<u>Prof J. Lubelfeld.</u> Radiation Damage to Certain Semiconductor Materials and Devices (ENE)
Jan	76- 5	AFAL	<u>Lts G.L. Vaughn, W.A. Davis, and S.R. Robinson.</u> Calculation of Far Field Pattern of an Antenna Based on Near Field Measurements (ENE)
Jan	76- 6	US Army R&D Ctr	<u>Capt F.C. Brockhurst.</u> Generator Design Review at Ft. Belvoir VA (ENE)
Jan	76- 7	AFAPL	<u>Capt F.C. Brockhurst.</u> Consult on Magnetohydrodynamic Generator Design Review (ENE)
Jan	76- 8	Univ of Sidney	<u>Dr. E.A. Dorko.</u> Consult on Work in Area of Unimolecular Rate Constants (ENM)
Jan	76- 9	AFWL/LLP	<u>Dr. G. John.</u> Use of Radioisotopes to Detect Penetration of Penetrants in Cracks in Aircraft Turbine Blades (ENP)
Jan	76- 10	ASD/RP	<u>Maj J. Dunne.</u> Research on RPV Operators of the Future (ENS)
Jan	76- 11	AU/IPD	<u>Lt Col R. Manley.</u> Consultation on Motivation and Supervision in USAF (ENS)
Jan	76- 12	ASD/XOR	<u>Prof C.W. Richard.</u> On-Line Data Base Management Techniques (ENC)
Jan	76- 13	HQ USAF/ S&A	<u>Maj G.C. Young.</u> Consultation on Sabre Wings II Study (ENS)
Feb	76- 14	HQ USAF	<u>Dr. C.J. Bridgman & Dr. L.E. Wolaver.</u> Consult on Nuclear Aircraft Propulsion Technology Assessment Panel (ENP)
Feb	76- 15	AFFDL	<u>Flt Lt P. Jenkins.</u> Consultation on Anti-gravity Vehicle (ENB)
Feb	76- 16	AFFDL	<u>Capt R.D. Binkowski.</u> Consultant on Test Planning and Threat Evaluation for Survivability and Vulnerability Branch of AFFDL (ENB)
Feb	76- 17	AFIT/CC	<u>Lt Col R. Manley and Maj C. McNichols.</u> Consult on Leadership Speech Given by AFIT/CC at IE Conference at University of West Virginia (ENS)

Feb	76-18	AFFDL	Dr. A.L. Moore. Technical Review of Proposed AFFDL Report (ENC)
Feb	76-19	4950th Test Wg	Prof H.C. Larsen. Modifications to Airspeed/Altitude Measurement System for Test C-141 Used in Radar Research (END)
Feb	76-20	AIAA	Prof H.C. Larsen. Completion of Stress Analysis of Wright Flyer Propeller (END)
Feb	76-21	ASD/XOG	Capt J.O. Gobien and Lt G.L. Vaughn. Design of a Dedicated Mini-computer Communication Message Switch to Handle High Priority Contractor/SPO Traffic (HNB)
Feb	76-22	FTD	Lts G.A. Vaughn and W.A. Davis. Analysis of Technical Proposal for a Broadband Tunable Discriminator Using Phase Lock Techniques (ENE)
Feb	76-23	AFAPL	Capt F.C. Brockhurst. Preparation of Specifications for New Electro Mechanical Generators for Aircraft Applications (ENE)
Feb	76-24	AFML	Maj R.M. Potter. Evaluation of Proposal to Establish and Test a Cost Effective Cold Worked Fastener Hole System Suitable for Use in Fatigue Critical Areas of C-5A Wing Scheduled for Modification (ENE)
Feb	76-25	AFFDL/FXM	Dr. M.E. Franke. Consultation on Dynamic Response of Pneumatic Transmission Lines and Shallow Open Cavities (ENM)
Feb	76-26	AFFDL/FER	Dr. M.E. Franke. Stall Characteristics in Two Dimensional Diffusers (ENM)
Feb	76-27	ASD/ENFEM	Dr. M.E. Franke. Consultation on Air Entrainment Problems in Aircraft Hydraulic Systems (ENM)
Feb	76-28	AFAPL/TBA	Dr. M.E. Franke. Problems Concerning Water Injection in Gas Turbine Engines (ENM)
Feb	76-29	AFOSR	Dr. E.A. Dorko. Consult on Combustion Studies in Shock Tubes (ENM)
Feb	76-30	AFAPL	Dr. E.A. Dorko. Vibrational Excitation of Fuel/Air Mixtures with Application to Laser Ignition of Vapor in Fuel Tank (ENM)
Feb	76-31	AFAPL	Dr. E.A. Dorko. Formation of Air Pollutants During Combustion in an Aircraft Engine (ENM)
Feb	76-32	WSU	Dr. G. John. Use of Silicon Radiation Detectors to Calibrate a 2 MeV Electron Accelerator (ENP)

Feb	76- 33	Base Health Physicist	Dr. G. John. Recommended Certain Modifications to <u>WPAFB Regulation</u> Concerning Safe Use of Radioactive Materials (ENP)
Feb	76- 34	ASD/XRO/MAF	Maj C. Case. Computer Modeling of FLIR Identification, <u>Detection and Recognition Ranges</u> as a Function of Weather Conditions (ENP)
Feb	76- 35	HQ USAF	Maj C. McNichols. Consult on Job Enrichment Efforts <u>for USAF Security Police</u> (ENS)
Feb	76- 36	DODMDS	Capt R. Tripp. Various Consultations on Formulating a Study Approach to Investigate Economics of Modernizing DOD Storage Facilities (ENS)
Feb	76- 37	AU/AWC	Maj E.J. Dunne. Consultation on Decision Making and Resource Management Phases of the AWC Resident Program (ENS)
Mar	76- 38	USA/BRL	Capt R. Binkowski. Calculation of Prediction of <u>Armour Penetration</u> by Blunt Projectiles (ENB)
Mar	76- 39	AFATL/WSAD	Capt G. Orr. Development of Surface to Air Missile <u>Simulation Models</u> (ENC)
Mar	76- 40	AFWL-ALOL	Lt J.A. MacBain. Effect of Speckle on Control of <u>Adaptive Optical Systems</u> (ENC)
Mar	76- 41	AFFDL	Prof H. Larsen. Consultation Regarding Attachment of a Ceramic Radome to a High Supersonic Missile (END)
Mar	76- 42	AFAL/RWI	Lt S.R. Robinson. Review Progress on Design of a <u>Laser Three Dimensional Target Sensor</u> (ENE)
Mar	76- 43	AFOSR	Capt T. Moriarty and P. Maybeck. Reviewed Unsolicited <u>Proposals Germane to Manned Threst Quantification Project</u> (ENE)
Mar	76- 44	ASD	Dr. R. Davis. Advise on Documentation by F-16 Cost Effectiveness Working Group (ENH)
Mar	76- 45	ASD/ENFPA	Dr. M.E. Franke. Use of Barriers for Noise <u>Attenuation</u> (ENM)
Mar	76- 46	AFAL	Dr. E.A. Dorko. Feasibility of Calculating Rate of <u>Reaction Between Fluorine and Metal</u> (ENM)
Mar	76- 47	AFAPL	Dr. E.A. Dorko. Ignition Characteristics of Hydrocarbon Oxygen Mixtures (ENM)
Mar	76- 48	ATC	Maj H. Weichel. Laser Hazards of a He-Ne Laser <u>Used to Measure Surface Conditions of Metals</u> (ENP)

Mar	76-49	AFTAC	Maj G. Spitale. Consulting in Support of Project Bluenose (ENP)
Mar	76-50	HQ USAF	Dr. R. Hengehold and Capt B. Pierce. Plan a Test to Evaluate CO ₂ Laser Augmentation of FLIR System Onboard Rescue Helicopters (ENP)
Mar	76-51	AFHRL/OR	Lt Col J.R. Hobbs. Discussion of Manpower Planning Model (ENS)
Mar	76-52	ESD	Major Letzkus. Cost Accounting Standard Requirements for Overhead Costs (ENS)
Mar	76-53	F-16/ESPO	Maj C. Letzkus. Consult on Accounting and Auditing Standards of European F-16 Consortium Members (ENS)
Mar	76-54	AFBRMC	Maj C. Letzkus. Consult on Contractor 'Make or Buy' Decisions (ENS)
Mar	76-55	DOD	Lt Col R. Manley, Maj C. McNichols, and Maj G.C. Young. Military Uncoveration - DOD Policy Group (ENS)
Apr	76-56	AMRL	Maj F.E. Eastep. Computation of Natural Frequencies of Vibration and Assisted in Redesign of Deceleration Sled (ENB)
Apr	76-57	AFFDL/FES	Capt C. Huelsman. Review of a Report on Specific Effects of Lightning Strikes on Aircraft (ENC)
Apr	76-58	AFML	Dr. D.A. Lee. Reviewed Contractors Proposal Submitted to Non-Destructive Evaluation Branch (ENC)
Apr	76-59	Harry Diamond Lab	Lt W.A. Davis. Consult on Research on Antenna and Scattering Problems (ENE)
Apr	76-60	AFWL	Lt W.A. Davis. Discussed State of Art of Electromagnetic Solution Techniques, Error Analysis, Modelling, Computer Codes, etc., (ENE)
Apr	76-61	AFATL	Capt F.C. Brockhurst. Mode Voltage Transient Measurements on Power Distributions System of FPS-85 Radar.
Apr	76-62	EJSRL	Lt S.R. Robinson. How to Apply Adaptive Optics Research to Laser Pointing and Tracking Problem (ENE)
Apr	76-63	AFWL	Capt F.C. Brockhurst. Review of Electromagnetic Subsystem Design at Garrett Corporation (ENE)
Apr	76-64	AFFDL	Dr. G.B. Lamont. Reviewed Proposal on Prefiltering of Flight Control Measurement Data Based Upon Nonlinear Filtering Techniques (ENE)
Apr	76-65	HDL	Lt W.A. Davis. Analysis of Three Types of Antennae Used for Fusing (ENE)

Apr	76- 66	AFAL/WRP	<u>Lt W.A. Davis.</u> Consultation of Lt Davis' Computer Program for Microwave Network Design (ENE)
Apr	76- 67	AFFDL/FBT	<u>Capt J.B. Peterson and Maj R.M. Potter.</u> Implementation of Digitally Controlled Load Simulator in FDL Experimental Fatigue Test Facility (ENE)
Apr	76- 68	HQ USAF	<u>Dr. R. Davis.</u> Review of Draft Report on Reading and Readability Research in the Armed Services (ENH)
Apr	76- 69	AFWL/LRL	<u>Dr. A.J. Shine and J. Flahive.</u> Tests of Supersonic Multi-Nozzle-Diffuser (ENM)
Apr	76- 70	AFAL	<u>Dr. E.A. Dorko.</u> Analysis of Laser Dye Solutions (ENM)
Apr	76- 71	AFFDL/FXM	<u>Dr. M.E. Franke.</u> Flow Induced Pressure Oscillations in Cavities (ENM)
Apr	76- 72	AFLC	<u>Dr. C. Bridgman and Maj C. Case.</u> Nuclear Electromagnetic Pulse Threat and Hardening of Communication Long Lines (ENP)
Apr	76- 73	AFML/AFAL	<u>Capt B. Pierce and Dr. R. Hengehold.</u> Review of Work on Ultraviolet Star Sensor Program (ENP)
Apr	76- 74	AFWL/DYT	<u>Capt P.E. Nielsen.</u> Consult on Nuclear Pumped Lasers and Charged Particle Beams (ENP)
Apr	76- 75	AMRL	<u>Maj C. Case.</u> Modeling and Validation of Models for Aircraft Survivability Against Anti-Aircraft and Surface to Air Missile Threats (ENP)
Apr	76- 76	AFML/LPJ	<u>Capt P.E. Nielsen.</u> Prepared List of Contractors With Expertise in Laser Hardened Materials Research (ENP)
Apr	76- 77	AFML/LLP	<u>Dr. G. John and Dr. G.R. Hagee.</u> Study of Measurements of Cracks in Metals by Use of Radioactive Tracers (ENP)
Apr	76- 78	AFAL	<u>Dr. R. Hengehold and Capt B. Pierce.</u> Evaluation of Implanted Layers in Gallium Arsenide (ENP)
Apr	76- 79	ASD/ENAIB	<u>Dr. C. Bridgman.</u> Nuclear Threat and Transient Radiation Effects on Electronics of Aircraft (ENP)
Apr	76- 80	AFAL	<u>Maj H. Weichel.</u> Gaussian Laser Beam Propagation (ENP)
Apr	76- 81	AFLC/XR	<u>Lt Col Manley & Maj C. McNichols.</u> Consult with AFLC/XR on Organizational Analysis, & DOD Committee on Packaging on Organizational Analysis (ENS)

Apr	76- 82	HQ USAF	<u>Maj E.J. Dunne.</u> Management and Organizational Issues of Modernization Distribution Facilities (ENS)
Apr	76- 83	Halloman AFB	<u>Lt Col J. Hobbs.</u> Reliability Test Program for Guidance System for a Navy Cruise Missile (ENS)
Apr	76- 84	ASD	<u>Maj Letzkus.</u> Reimbursement to Government of Proceeds from Contractor Sales of Surplus Inventory (ENS)
May	76- 85	AFML	<u>Dr. D.A. Lee.</u> Data Reduction Techniques for Crack Growth Experiments (ENC)
May	76- 86	Harry Diamond Lab	<u>Lt W.A. Davis.</u> Edge Slot Antenna for Fusing (ENE)
May	76- 87	AFWL	<u>Capt F.C. Brockhurst.</u> Design Review for Light Weight Alternator Program at Torrence CA (ENE)
May	76- 88	AFAL/WRP	<u>Lt W.A. Davis.</u> Use of the S-Parameter Design Program Written by Lt Davis (ENE)
May	76- 89	HQ AFCS	<u>Capt T.R. Hadley & Lt S.R. Robinson.</u> Statistical Tests for Data Collected in Support of DCA's World-wide Tropospheric Scatter and Microwave Radio System (ENE)
May	76- 90	SAC	<u>Dr. C.J. Bridgman.</u> Consult on Nuclear Effects Research of Current Interest to SAC (ENP)
May	76- 91	AFAL	<u>Capt P.E. Nielsen.</u> Effect of Gas Breakdown is Limiting Power Transmitted Through Optical Systems (ENP)
May	76- 92	HQ USAF	<u>Maj G.C. Young.</u> Consulting on Saber Wing II Project (ENS)
Jun	76- 93	SAMSO	<u>Dr. R. Calico and Flt Lt R.A. Poulter.</u> Detailed Analysis of Stability of S3-3 Satellite (ENB)
Jun	76- 94	ERDA	<u>Prof H.C. Larsen.</u> Application of Theory of Slender Bodies at High Angle of Attack (END)
Jun	76- 95	AFAL	<u>Capt F.D. Kirschner.</u> Computer Processing and Display of Data Collected from Biological Control Systems (ENE)
Jun	76- 96	ASD/AERT	<u>Prof D. Shankland.</u> Continuous, daily consultation on Optical Countermeasures Technology (ENP)

Jun	76- 97	ASD/ENAS	<u>Capt J.O. Gobien and Lt G.L. Vaughn.</u> Evaluation of Proposals on Digital Signal Processing for Nonlinear Avionic Systems (ENE)
Jun	76- 98	TAC	<u>Capt P.E. Maybeck.</u> Modification to Navigation Kalman Filter to Combined INS - Doppler Data for F-111 (ENE)
Jun	76- 99	AFOSR	<u>Lt W.A. Davis.</u> Served as Panel Member on Future Trend in Numerical Analysis in Electromagnetics (ENE)
Jun	76- 100	AFATL	<u>Dr. M.E. Franke.</u> Turbulent Mixing in Cavity Flow, High Temperature Test Facilities (ENM)
Jun	76- 101	ERDA	<u>Dr. E.A. Dorko.</u> Corrosive Action of Combustion Gases in a Fluidized Bed Combustor (ENM)
Jun	76- 102	ARPA	<u>Capt P.E. Nielsen.</u> Committee charged with Providing Technical Guidance to Contractors in Area of Laser Powered Rockets (ENP)
Jun	76- 103	4950 TW/ FPE	<u>Maj H. Weichel.</u> Analysis of Spectroscopic Data of Reentry Vehicles (ENP)
Jun	76- 104	WS Univ	<u>Maj G.C. Young.</u> Consultation with Biological Sciences at Wright State Medical School (ENS)
Jul	76- 105	AFOSR	<u>Dr. J. Jones, Jr.</u> Review of Research Proposals in Numerical Analysis (ENC)
Jul	76- 106	AFFDL/FES	<u>Lt J.A. MacBain.</u> Determination of Surface Area of a Piece of Armor Plate (ENC)
Jul	76- 107	AMRL	<u>Dr. M. Kabrisky.</u> Research on Human Visual Mechanisms Related to Optical Countermeasures (ENE)
Jul	76- 108	AFFDL	<u>Dr. M. Kabrisky.</u> Development of Optical Symbols for LED Displays for B-1 Cockpit (ENE)
Jul	76- 109	AMRL	<u>Dr. M. Kabrisky.</u> Confer on Development of Automatic Missile Tracking Systems Using Pattern Recognition Techniques (ENE)
Jul	76- 110	AF Academy	<u>Capt J.O. Gobien.</u> Seminar on Synthetic Aperture Radar Systems (ENE)
Jul	76- 111	ASD/ENADD	<u>Capt J.O. Gobien.</u> Consult on Specifications for Airborne Electronically Steerable ECM Antenna and Signal Processor System (ENE)
Jul	76-112	AFLC/ SJA	<u>Dr. M. Kabrisky.</u> Consultation on Cost Overrun Suit by Computer Systems Corp. Against USAF (Approx. 5.5 million dollars) Consequent to Retrofit of the Turkey Radar Station in 1967-1972 (ENE)

Jul	76-113	AU/CC	<u>Lt Col R. Manley, Maj C. McNichols & Capt M. Stahl.</u> <u>Consult on Operation of LMDC (ENS)</u>
Jul	76-114	AFAL/TSR	<u>Dr. R.M. Davis and Capt S.M. Millett.</u> Consult with Technical Editors on Mutual Problems of Technical Communications (ENH)
Jul	76-115	US Army	<u>Dr. R.M. Davis.</u> Development of Courses on Technical Writing for U.S. Army (ENH)
Jul	76-116	AFAL/TED	<u>Dr. E.A. Dorko.</u> Consult on AFAL's Dye Laser Program - AFAL/TED Project 2001-01-54 (ENM)
Jul	76-117	AFAL/DHO	<u>Dr. T. Luke.</u> Consult on Proposed Project "Optical System Commonality" (ENP)
Jul	76-118	AFWL	<u>Capt A. Hunter.</u> Discussed Theory of Lineshapes for Bound-to-Continuous Radiative Transitions (ENP)
Jul	76-119	USN	<u>Capt P.E. Nielsen.</u> Consult on Response of Reflective Coating to Laser Radiation. (ENP)
Jul	76-120	AFLC/XRX	<u>Maj C. McNichols.</u> Implementation of an Organizational Analysis Technique (ENS)
Jul	76-121	AFWL	<u>Capt M. Stahl.</u> Consult on Impact of OER System on AF Officers (ENS)
Jul	76-122	ASD/ACC	<u>Dr. N.K. Womer.</u> Consult on Economic Escalation Research (ENS)
Aug	76-123	AFATL	<u>Capt R. Binkowski.</u> Review of Range and Instru- mentation Criteria for Upcoming Warhead Test (ENB)
Aug	76-124	AFFDL/FES	<u>Capt D. Binkowski.</u> Consult on Prediction and Measurement of Fragment Temperature (ENB)
Aug	76-125	AFML/MBT	<u>Capt T.E. Reeves.</u> Consult on Solution of 512 by 512 Matrix Array (ENC)
Aug	76-126	AFFDL/FES	<u>Capt C. Huelman.</u> Review of Early Results of Lightening Effects Data Taken on Edge of Dying Thunderstorms (ENC)
Aug	76-127	AFAPL	<u>Prof H.C. Larsen.</u> Consult on Problems of Wind Energy Conversion (END)
Aug	76-128	Wooster Univ.	<u>Prof H.C. Larsen.</u> Application of Airfoil Shaped Wing Sails to Racing Boats (END)
Aug	76-129	SAM Brooks	<u>Dr. M. Kabrisky.</u> Consult on Problems of Windscreen Distortion of Pilots Perspective in the F-111 (ENE)

Aug	76- 130	ASD/XOR	<u>Dr. M.E. Franke.</u> Consultation on Project Management (ENM)
Aug	76- 131	ASD/AERT	<u>Dr. D. Shankland and Dr. C.J. Bridgman.</u> Consult on Laser Atmospheric Transport Problem (ENP)
Aug	76- 132	AFML	<u>Capt P.E. Nielsen.</u> Thermal Coupling of Pulsed Laser Radiation to Target Surfaces (ENP)
Aug	76- 133	AF Medi- cal Center	<u>Dr. G.R. Hagee.</u> Interface Design of Scintillation Detector for Cardiac Function Measurements (ENP)
Aug	76- 134	AFOSR	<u>Capt Hunter.</u> Calculation of Relaxation and Rotational State Distributions for HF Chemical Lasers (ENP)
Aug	76- 135	AFWL	<u>Capt Hunter.</u> Consult on Visible Spectrum of Noble Gas - Monohalide Laser (ENP)
Aug	76- 136	AFWL	<u>Capt Hunter.</u> Calculation of Gas Kinetic Collision Rates for Species in Gas Dynamic Laser Mixtures (ENP)
Aug	76- 137	AFAL	<u>Dr. G. John.</u> Consult on Scintillation Detection System to Detect 6 MeV Gamma Rays in Calibrating a Proton Accelerator (ENP)
Aug	76- 138	AF Medi- cal Center	<u>Prof J. Wilson.</u> Use of Detection Equipment to Obtain Heart Function Data From a Nuclide Bolus (ENP)
Aug	76- 139	HQ USAF	<u>Maj E.J. Dunne.</u> Consult in Support of SABRE-CHALLENGE-ALPHA Study - Critical Review of DSARC II of Maverick Program (ENS)
Aug	76- 140	HQ AFLC	<u>Lt Col A. Harrell, Lt Col R. Manley, Maj G.C. Young, Capt M. Stahl, and Dr. J. Cain.</u> Consult on Measurements of Organizational Effectiveness (ENS)
Sep	76- 141	4950th Test Wg	<u>Prof H.C. Larsen.</u> Consult on Details of Force and Pressure Model of Aria Vehicle to Determine Effect of Large Bulbous Nose on Ground Roll (END)
Sep	76- 142	AFATL	<u>Capt T. Moriarty.</u> Consultation on Guidance Problems with Laser Guided Bomb and AIM-9J (ENE)
Sep	76- 143	AFCS	<u>Capt W.A. Davis.</u> Consult on Future Studies of AN/TNP-19 Advanced Landing System (ENE)
Sep	76- 144	ASD/ENAIA	<u>Dr. G.B. Lamont and Capt J.B. Peterson.</u> Reviewed Fourteen Software Acquisition Engineering Guidebooks and Proposed Outlines (ENE)
Sep	76- 145	AFAPL	<u>Dr. H. Wright.</u> Review of Work on Aerothermodynamics of Aircraft Gas Turbine Engines (ENM)
Sep	76- 146	AFOG	<u>Lt Col R. Manley and Maj C. McNichols.</u> Design and Processing of Survey for the DOD Bicentennial Caravan (ENS)

Sep	76- 147	AFAL	<u>Maj B. Pierce and Dr. R. Hengehold.</u> Consult on Effect of Atmospheric Properties on Electro-Optic Systems (ENP)
Sep	76- 148	ASD/ENAIID	<u>Maj R. Couch.</u> Arrange for Installation of Electrostatic Systems on Two F-15 Aircraft (ENP)
Sep	76- 149	US Navy	<u>Maj R. Couch.</u> Discussion of Tape Recording and Analysis of Electrostatic Signals on TF-41 (ENP)
Sep	76- 150	AFML	<u>Capt P.E. Nielsen.</u> Discuss Proposals for Protecting Optical Components Against Damage by Laser Radiation (ENP)
Sep	76- 151	GAO	<u>Lt Col Letzkus and Lt Col Harrell.</u> Assess Reaction to and Impact of Cost Accounting Standards (ENS)
Sep	76- 152	AFBRC	<u>Dr. N.K. Womer.</u> Consult on Aircraft Production Research (ENS)
Oct	76- 153	AFATL	<u>Capt R. Binkowski.</u> Participated in Field Test of GRILL HEAT Test Program (ENB)
Oct	76- 154	ASD/ADD	<u>Prof C.W. Richard.</u> Methods of Installing New Graphics Software for TEKTRONIX Terminals (ENC)
Oct	76- 155	Univ of Dayton	<u>Prof H.C. Larsen.</u> Consultation on Wind Energy Conversion (END)
Oct	76- 156	AMRL	<u>Prof H.C. Larsen.</u> Use of AFIT Wind Tunnel to Conduct Tests on Human Visual Acuity in High Velocity Air-stream (END)
Oct	76- 157	AFATL	<u>Capt P.E. Maybeck.</u> Discussion of Performance Analysis of Radiometric Area Correlator - Updated Inertial Guidance System Developed by AFATL (ENE)
Oct	76- 158	AFWL/LRO	<u>Dr. C.H. Houppis.</u> Application of Dead-Beat Control to Beam Control Problems (ENE)
Oct	76- 159	AFFDL/FESL	<u>Capt W.A. Davis.</u> Consult on Experimental and Analytical Verification of Lightning Strike Testing Methods Used by F-15 Contractors (ENE)
Oct	76- 160	AFATL	<u>Capt T.E. Moriarty.</u> Participate in Contractor Design Reviews on Advanced Medium Range Air-to-Air Missile Program (ENE)
Oct	76- 161	ASD	<u>Capt J.O. Gobien and Lt S.R. Robinson.</u> Advisors for New Generation of Infrared Warning Receivers (ENE)
Oct	76- 162	AFML	<u>Dr. R. Hengehold.</u> Polarization Characteristics of Lasers as Applied to Laser Countermeasures (ENP)
Oct	76- 163	AFLC/XR	<u>Lt Col R. Manley, Prof J. Cain, Lt Col A. Harrell, Capt M. Stahl, and Maj G.C. Young.</u> Consulted on Proposed Education of AFLC Job Enrichment Program (ENS)

Oct	76- 164	AFWL	<u>Lt J. A. MacBain.</u> Problem Location Trip to AFWL (ENC)
Oct	76- 165	US Navy	<u>Maj R. Couch.</u> Consult on Short Flight Test of Navy's Accelerated Service Test Aircraft (ENP)
Oct	76- 166	AFAL/RWI-S	<u>Dr. R. Hengehold and Maj B. Pierce.</u> Effects of Weather on Electro-optic System Performance (ENP)
Oct	76- 167	AFAPL	<u>Capt A. Hunter.</u> Consult on Nonlinear Interaction of Electromagnetic Field with a Polarizable Dielectric Medium. Part of the CARS Project (ENP)
Oct	76- 168	AFML/LPO	<u>Maj B. Pierce and Dr. R. Hengehold.</u> Consult on Crystal Growth of GaP for Use as Star Sensor Detector (ENP)
Oct	76- 169	US Navy	<u>Maj R. Couch.</u> Talk on Electrostatic Probes to Detect Engine Health Monitoring System (ENP)
Oct	76- 170	AGA	<u>Lt Col A. Harrell and Lt Col Letzkus.</u> Consult on Impact of Cost Accounting Standards Boards Upon DOD Procurement Process (ENS)
Nov	76- 171	AF Museum	<u>Dr. D.W. Breuer.</u> Analysis of WW I Observation Balloon Support System (ENB)
Nov	76- 172	AMRL/EMT	<u>Capt G. Orr.</u> Techniques for Simulation of Attrition Due to Antiaircraft Artillery (ENC)
Nov	76- 173	AFAL/DHO	<u>Lt S.R. Robinson, Capt J.O. Gobien.</u> Consult on Recent Modulation Experiments on the Gallium Arsenide Solid State Laser (ENE)
Nov	76- 174	USAF Test Pilot Sch	<u>Dr. C.H. Houpis.</u> Discussion of Control Theory Courses Taught to USAF Test Pilots (ENE)
Nov	76- 175	ASD/XOR	<u>Dr. M.E. Franke.</u> Consultation on Project Management (ENM)
Nov	76- 176	AFFDL	<u>Maj S. Koob.</u> Reviews for Proposed AFFDL Technical Report (ENM)
Nov	76- 177	ASD	<u>Lt Col Letzkus.</u> Consult on contractor's pricing proposal (ENS)
Nov	76- 178	AFWL	<u>Capt A. Hunter.</u> Recent KrF Kinetic Calculations (ENP)
Nov	76- 179	PRAM SPO	<u>Maj R. Couch.</u> Applications and Development Planning of Electrostatic Probes (ENP)
Nov	76- 180	AFAPL	<u>Capt A. Hunter.</u> Presentation of State-of-the-Art of KrF Laser Research (ENP)
Nov	76- 181	AFAPL	<u>Capt A. Hunter.</u> Propagation of Stokes Radiation in a Polarizable Medium (ENP)

Nov	76-182	ASD	Dr. R.M. Davis. Consult at length with personnel of the 6585th Test Group, Holloman AFB on the Procedures used by the Group in Generating, Processing, and Publishing Test Reports (ENH)
Nov	76-183	Pave Low SPO	Dr. R. Hengehold, Maj B. Pierce and Mr. J. Miskimen. Tests of CO ₂ Laser to Enhance Display Provided by an IR System (ENP)
Nov	76-184	AFWAL	Lt Col R. Manley, Maj C. McNichols, and Capt M. Stahl. Consulting Effect on Professional Development for Civil Service Engineers and Scientists (ENS)
Nov	76-185	PRAM SPO	Dr. N.K. Womer. Reliability Improvements for F-111D (ENS)
Nov	76-186	ESD	Maj G.C. Young. Review of a Series of Management Information System Development Handbooks (ENS)
Dec	76-187	AMRL/EMT	Capt G. Orr. Derived a Recursion Equation Approximation for Linear Differential Processes. (ENC)
Dec	76-188	AFAL	Prof R.S. Potter. Consult on Monopulse Radar Electronic Countermeasures (ENE)
Dec	76-189	AFWAL	Dr. G.B. Lamont and Dr. L.A. Crum. Consult on PDP-11 Operating System Problems in a Signal Processing Environment (ENE)
Dec	76-190	AF Global Weather Control	Dr. M. Kabrisky. Application of AFIT Pattern Recognition Techniques to Automatic On-Board Analysis of Satellite Observed Cloud Data (ENE)
Dec	76-191	AFWL/LRO	Capt J.E. Negro. Consult in Aided Track, Configuration Management and Pointing and Tracking Advanced Control Technologies (ENE)
Dec	76-192	AFFDL/FBG	Dr. T.E. Luke. Use of Low Power Laser for Detection Measurements (ENP)
Dec	76-193	ATCA SPO	Maj C. McNichols. Data Analysis Problems with Cost Analysis and Their Statistical Interpretation (ENS)
Dec	76-194	AF/DPX	Lt Col R. Manley, Maj C. McNichols & Capt M. Stahl. Assistance in Formulating Issues/Objectives for New AF/CC Study Group (IMPACT 77) (ENS)

Publications Summary by Department - FY-1976

ENR	21	17
ENC	8	8
END	0	0
ENE	24	13
ENI		7
ENJ		7
ENK		18
AFIT		
SCHOOL OF ENGINEERING		
FACULTY PUBLICATIONS AND PRESENTATIONS		
CALENDAR YEAR 1976		
TOTAL		100

Presentations Summary by Department - FY-1976

ENR	24	13
ENC	8	8
END	0	0
ENE	24	13
ENI	17	10
ENJ	7	8
ENK	34	17
ENL	18	18
ENM	2	1
TOTAL	127	100

Publications Summary by Department - CY-1976

		%
ENB	21	22
ENC	8	8
END	0	0
ENE	24	25
ENH	7	7
ENM	7	7
ENP	17	18
ENS	12	12
EN	1	1
TOTAL	97	100

Presentations Summary by Department - CY-1976

		%
ENB	24	19
ENC	8	6
END	0	0
ENE	22	17
ENH	12	10
ENM	7	6
ENP	34	27
ENS	18	14
EN	2	1
TOTAL	127	100

Publications Summary by Department - CY-1970

ENB	21	1
ENC	8	8
END	0	0
ENE	14	22
ENH	7	7
ENI	7	7
ENP	17	18
ENS	12	11
EW	1	1
TOTAL	95	100

Presentations Summary by Department - CY-1970

ENB	14	15
ENC	8	6
END	0	0
ENE	12	17
ENH	12	10
ENI	7	6
ENP	24	27
ENS	18	14
EW	2	1
TOTAL	115	100

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GE/EE/76-11	A MEASURE OF FOVEAL SENSITIVITY IN AN EXPANDED FIELD OF VISUAL ATTENTION	CAPT J.T. SAKAI SPONSOR: AMRL
GE/EE/76-12	A REDUCED ORDER OPTIMAL CONTROL PILOT MODEL	CAPT P.E. WHEELER SPONSOR: AMRL
GE/EE/76-13	ELECTROMAGNETIC SCATTERING BY CONCENTRIC FINITE CYLINDERS	CAPT D.G. ARDIS SPONSOR: AFWL
GE/EE/76-14	RESOLUTION ENHANCEMENT USING ALIAS FILTERING	CAPT F.B. BARNEY SPONSOR: AFAL
GE/EE/76-15	COMPUTER AIDED POWER SYSTEM DESIGN	CAPT W.L. BOYKIN, JR. SPONSOR: AFAPL
GE/EE/76-16	PERFORMANCE OF THE HUMAN PERIPHERAL VISUAL SYSTEM UNDER VARIOUS LOADS	CAPT D.R. BURCHFIELD SPONSOR: AMRL
GE/EE/76-17	THE SCALING PROBLEM IN VISUAL PATTERN RECOGNITION	CAPT D.D. CARPENTER SPONSOR: AMRL
GE/EE/76-18	AN ANALYSIS OF MODULATION TECHNIQUES FOR THE SIMULTANEOUS MEASUREMENT OF RANGE AND REFLECTANCE INFORMATION BY AN AIRBORNE LASER INSTALLATION	CAPT R.C. CHAPURAN SPONSOR: AFAL
GE/EE/76-19	PDP-11/05 TO ELECTRON BEAM INTENSITY MODULATION UNIT INTERFACE	MAJ J.R. CROWDER SPONSOR: AFAL
GE/EE/76-20	INVESTIGATION OF ALPHANUMERICAL SYMBOL LEGIBILITY DETERMINATION BY USE OF FOURIER SPATIAL FREQUENCY COMPONENTS	CAPT H.D. DAHLJELM SPONSOR: AFFDL
GE/EE/76-21	AN INVESTIGATION OF A RELATIONSHIP BETWEEN MODAL CONTROL THEORY AND LINEAR OPTIMAL CONTROL THEORY	MAJ R.P. DECHANCE SPONSOR: ADTC
GE/EE/76-22	COMPUTER IDENTIFICATION OF PREMATURE VENTRICULAR CONTRACTIONS IN ELECTROCARDIOGRAMS	CAPT J.P. DITUCCI SPONSOR: COX HEART

GE/EE/76-23	COVARIANCE ANALYSIS OF KALMAN FILTERS PROPOSED FOR A RADIO-METRIC AREA CORRELATOR/INERTIAL NAVIGATION GUIDANCE SYSTEM	CAPT C.K. FITSCHEN SPONSOR: AFATL
GE/EE/76-24	COMPUTER IDENTIFICATION TO PHONEMES WITH CONTINUOUS SPEECH	CAPT W.R. HENSLEY SPONSOR: AMRL
GE/EE/76-25	LOW COST OPTICAL DATA LINK DESIGN STUDY	CAPT R.G. INNES SPONSOR: ASD
GE/EE/76-26	AN ALGORITHM TO GENERATE AN OPTIMALLY HUMAN-SEPARABLE SYMBOL SET	CAPT J.A. JOHNSON SPONSOR: AFFDL
GE/EE/76-27	SHORT CIRCUIT STUDY AND COORDINATION OF PROTECTIVE DEVICES ON POWER DISTRIBUTION SYSTEMS FOR WPAFB AREA A	CAPT R.J. KEE SPONSOR: 2750/DE
GE/EE/76-29	LASER POINTING AND TRACKING USING AN ADAPTIVE EXTENDED KALMAN FILTER	CAPT Z.H. LEWANTOWICZ SPONSOR: AFWL
GE/EE/76-30	SOFTWARE DESIGN FOR MULTI-MODE MATRIX DISPLAY PERCEPTION TESTS	CAPT R.A. LIEBACH SPONSOR: AFFDL
GE/EE/76-31	APPLICATION OF AN EXTENDED KALMAN FILTER TO AN ADVANCED FIRE CONTROL SYSTEM	CAPT R.N. LUTTER SPONSOR: AFAL
GE/EE/76-33	HIGH ACCURACY AIRCRAFT TO SATELLITE TRACKING: AN EVALUATION OF TWO PROPOSED FILTER MODELS	CAPT R.E. MANN, JR. SPONSOR: AFAL
GE/EE/76-34	EMULATING THE PROCESSOR OF DISTRIBUTED PROCESSOR/MEMORY SYSTEM ON INTEL 3000 MICRO-PROCESSOR CHIP SET	FLT LT A. MAUD SPONSOR: AFAL
GE/EE/76-35	AN ALGORITHM FOR RECOGNITION OF RUSSIAN CHARACTERS USING CROSSCORRELATION	CAPT W.R. MCHARGUE SPONSOR: AMRL
GE/EE/76-36	A STUDY TO SIMPLIFY AN ALGORITHM FOR THE COMPUTER AIDED DESIGN OF AIRCRAFT POWER SYSTEMS	MAJ R.H. MERRILL SPONSOR: AFAPL

GE/EE/76-37	QUADRATURE CLOCK MODULATION AND BINARY PHASE-SHIFT KEYING IN THE PRESENCE OF INTERSYMBOL INTERFERENCE	CAPT W.L. NIELSEN SPONSOR: DCEC
GE/EE/76-38	A CONSOLIDATED COMPUTER PROGRAM FOR CONTROL SYSTEM DESIGN	CAPT F.L. O'BRIEN SPONSOR: AFFDL
GE/EE/76-39	ANALYSIS OF WIDEBAND SCOPE CREEK REPORT DATA USING COMPUTER TECHNIQUES	CAPT E.F. REYNOLDS SPONSOR: AFCS
GE/EE/76-40	DESIGN OF THE BUS INTERFACE UNIT FOR THE DISTRIBUTED PROCESSOR/MEMORY SYSTEM	MAJ R.C. SIMPSON SPONSOR: AFAL
GE/EE/76-41	MID-COURSE GUIDANCE IN A COOP- ERATIVE RETRANSMISSION GUIDANCE SYSTEM	MAJ J. TOREN SPONSOR: AFAL
GE/EE/76-42	DESIGN OF A PSYCHOLOGICAL EXPERIMENT PROCESSOR SYSTEM	1ST LT M.L. TWOREK SPONSOR: USAF/SAM
GE/EE/76-43	A USER-ORIENTED POWER DIS- TRIBUTION SYSTEM ANALYSIS PROGRAM	MAJ J.A. UNDERWOOD, JR. SPONSOR: 2750/DE
GE/EE/76-44	EVALUATION OF CANDIDATE RECEIVER-PROCESSORS FOR AN ELECTRONICALLY STEERABLE ANTENNA SYSTEM	A.J. WAHL SPONSOR: ASD
GE/EE/76-45	SWITCHING SYSTEM SIMULATOR	CAPT C.R. WILLIAMS SPONSOR: ASD
GE/EE/76-46	FEASIBILITY STUDY FOR A SPECIALIZED DATA SWITCHING SYSTEM	CAPT R.H. WATKINS SPONSOR: ASD
GE0/PH/76-1	DOSE RATE EFFECTS ON RADIA- TION DAMAGE OF GAAS USING ELEC- TROREFLECTANCE	CAPT W.A. HANSON SPONSOR: AFAL
GE0/PH/76-3	TIME-RESOLVED CATHODOLUMIN- ESCENCE OF CADMIUM IMPLANTED GALLIUM ARSENIDE	CAPT G.V. BOYD SPONSOR: AFAL
GE0/PH/76-4	INVESTIGATION OF TERBIUM IN THE FERROELECTRIC CRYSTAL GADO- LINIUM MOLYBDATE AS A POTENTIAL LASER	MAJ J.E. CROUCH SPONSOR: AFAL

GEO/PH/76-5	COMPARATIVE ANALYSIS OF BIREFRINGENT TUNING DEVICES FOR DYE LASERS	MAJ D.E. LUMPKIN SPONSOR: AFAL
GEO/PH/76-6	PHOTOLUMINESCENCE OF GALLIUM PHOSPHIDE	MAJ H.H. PRITCHARD, JR. SPONSOR: AFML
GEO/PH/76-7	TARGET ENHANCEMENT BY FOURIER OPTICAL PROCESSING	CAPT D.T. THARP SPONSOR: AMRL
GEP/CH/76D-1	INITIAL SHOCK TUBE KINETIC STUDIES OF MONOMETHYLAMINE	CAPT N.R. PCHELKIN SPONSOR: AFAPL
GEP/PH/76-1	THE PLASMA LASER: POPULATION INVERSION IN HYDROGEN PLASMAS	CAPT J.J. CAMPBELL SPONSOR: FTD
GEP/PH/76-2	DEPTH-RESOLVED CATHODOLUMINESCENCE ON THE EFFECTS OF CD IMPLANTATION AND ANNEALING IN GALLIUM ARSENIDE	CAPT J.D. DUMOULIN SPONSOR: AFAL
GEP/PH/76-3	THE GEOMETRIC THEORY OF ROOF REFLECTOR RESONATORS	CAPT H.E. EVANS, II SPONSOR: AFAL
GEP/PH/76-4	AN EXPERIMENTAL INVESTIGATION OF THE RESONANT MODES OF A ROOFTOP LASER	MAJ R.L. GROTEBECK SPONSOR: AFAL
GEP/PH/76-5	ION IMPLANTATION IMPURITY ANALYSIS BY GLOW DISCHARGE OPTICAL SPECTROSCOPY	CAPT D.S. HAKE SPONSOR: AFAL
GEP/PH/76-6	MEASUREMENT OF SPECTRAL RADIANCE TRANSMITTED THROUGH AIRCRAFT CANOPY PLASTICS DURING IRRADIATION BY A CARBON DIOXIDE LASER	MAJ J.C. HAUSER SPONSOR: AFML
GEP/PH/76-7	GAS BREAKDOWN CALCULATION: A COMPARATIVE STUDY	CAPT D.A. KLOC SPONSOR: AFWL
GEP/PH/76-8	OUTPUT POWER VARIATIONS IN ND: YAG LASER HOSTS	CAPT W.B. MAUPIN, II SPONSOR: SAMSO
GEP/PH/76-9	DETERMINING IMPURITIES IN GALLIUM PHOSPHIDE BY ANALYZING CATHODOLUMINESCENCE	CAPT J.C. SLAVICEK SPONSOR: AFML
GEP/PH/76-10	MODELS FOR PREDICTING ELECTRO-OPTICAL SENSOR PERFORMANCE IN WEATHER	CAPT E.E. SUNDBERG SPONSOR: HQ USAF

GEP/PH/76-11	ANALYSIS OF THE SUN PUMPED LASER CONE OPTICS	CAPT P.M. TOWLES SPONSOR: SAMS0
GEP/PH/76-12	EFFECTS OF OXYGEN CONTAMINATION ON GAS DYNAMIC LASER PERFORMANCE	CAPT J.B. WATTERSON SPONSOR: AFWL
GNE/PH/76-1	INTERACTION ON RELATIVISTIC PROTONS WITH MATTER	LT G.P. BENDER, USN SPONSOR: AFWL
GNE/PH/76-2	THE ELECTROSTATIC SENSING OF SIMULATED MA-1A GAS PATH DISTRESSES	CAPT R.W. DUNN SPONSOR: AFFDL
GNE/PH/76-3	A METHOD FOR ANALYSIS OF ELECTROSTATIC PROBE SIGNALS RELATING TO JET-ENGINE MICRO-DISTRESSES	CAPT W.E. GIFFORD, III SPONSOR: ASD
GNE/PH/76-4	ANALYSIS OF A SEMICONDUCTOR DETECTION SYSTEM FOR MEASURING RADIOACTIVE NOBLE GASES	CAPT K.K. HUNT SPONSOR: AFTAC
GNE/PH/76-5	RESIDUAL SIGNATURES FROM THERMONUCLEAR AIR BURSTS	CAPT G.E. KELLY, JR. SPONSOR: SAC
GNE/PH/76-6	THERMAL NEUTRON DAMAGE IN BI-POLAR PNP TRANSISTORS	CAPT T.D. STANLEY SPONSOR: AFWL
GNE/PH/76-7	ISOTOPIC ANALYSIS OF LOW-ACTIVITY PLUTONIUM SAMPLES USING HIGH-RESOLUTION ALPHA AND PHOTON SPECTROSCOPY	CAPT J.L. STRICKLAND SPONSOR: AFTAC
GNE/PH/76-8	AIRDIF: A TWO-DIMENSIONAL ATMOSPHERIC RADIATION DIFFUSION	CAPT E.L. WOLF SPONSOR: AFWL
GOR/SM/76D-1	POTENTIAL DISTRIBUTIONS OF THE RATED OFFICER FORCE AND THEIR IMPLICATIONS IN FUTURE CONFLICT	MAJ J.M. BERRY SPONSOR: AFIT
GOR/SM/76D-2	JOB SATISFACTION: A COMPARISON OF THE JOB DESCRIPTIVE INDEX AND HOPPOCK MEASURES	CAPT W.T. BOLDYARD SPONSOR: AFIT
GOR/SM/76D-3	AN EXAMINATION OF MATERIEL MANAGEMENT INFORMATION FLOWS STOCKAGE LOGISTICS SYSTEM	CAPT D.L. BRAZIL SPONSOR: DODMDS
GOR/SM/76D-4	A COMPUTER SIMULATION MODEL OF A DOD DEPOT	CAPT P.A. COUSINS CAPT T.A. TOOPS SPONSOR: DODMDS

GOR/SM/76D-5	AN ESTIMATE OF F-15 PEACETIME MAINTENANCE MANPOWER REQUIREMENTS USING THE LOGISTICS COMPOSITE MODEL	CAPT G. DEGOVANNI MAJ D.M. DOUGLAS SPONSOR: TAC
GOR/SM/76D-6	AN ECONOMIC ANALYSIS OF THE ECONOMIES OF A JOINTLY OWNED STORAGE/REPAIR FACILITY FOR THE F-16'S IN EUROPE	CAPT G.C. DETWILER CAPT J.J. ORGERON SPONSOR: AFLC
GOR/SM/76D-7	JOINT TEST FORCE SIMULATION	CAPT J.P. EGGERS SPONSOR: ADTC
GOR/SM/76D-9	AN INVESTIGATION OF THE FORECASTING OF AERONAUTICAL PRICE INDICES	CAPT T.P. LENNERTZ SPONSOR: ASD
GOR/MA/76D-1	A MONTE CARLO STUDY OF COMPOSITE SEQUENTIAL LIKELIHOOD RATIO TESTS FOR THE WEIBULL SCALE PARAMETER	MAJ R.L. HOFFERT SPONSOR: AFFDL
GOR/SM/76D-10	AIRCRAFT AIRFRAME COST ESTIMATION UTILIZING A COMPONENTS OF VARIANCE MODEL	CAPT R.C.J. MARCOTTE SPONSOR: HQ USAF
GOR/SM/76D-11	A STUDY OF MILITARY/CIVILIAN DIFFERENCES IN QUALITY OF AIR FORCE LIFE	CAPT W.R. MATHIS SPONSOR: HQ USAF/DPX
GOR/MA/76D-2	SEQUENTIAL PROBABILITY RATIO TESTS OF THE SCALE PARAMETER BETWEEN TWO WEIBULL DISTRIBUTIONS WITH KNOWN SHAPE PARAMETER	CAPT J.N. ROBINSON SPONSOR: AFFDL
GOR/SM/76D-12	INTEGRATING OPTIMUM REPAIR-LEVEL ANALYSIS AND INVENTORY DECISIONS INTO THE LOGISTICS SUPPORT COST STRUCTURE	CAPT P.E. TAIBL SPONSOR: AFALD
GOR/SM/76D-13	AN ANALYSIS OF FACTORS ASSOCIATED WITH THE JOB SATISFACTION AND CAREER INTENT OF AIR FORCE PERSONNEL WITH LESS THAN SIX YEARS OF SERVICE	CAPT R.M. VROOMAN SPONSOR: HQ USAF
GSE/SE/76-1	INVESTIGATION OF A MEDIUM RANGE AIR-TO-AIR INTEGRAL ROCKET/RAMJET MISSILE	CAPT M.J. BITTAKIS CAPT G.M. DEVINGER CAPT R.H. EMERSON CAPT K.J. HIDENFELTER CAPT G.E. HODSDON CAPT W.G. KRAUS CAPT T.F. SCHUPPE CAPT A.R. DEWISPELARE SPONSOR: AFAPL

GSM/SM/76S-1	AN ANALYSIS OF EXISTING ETHICAL GUIDELINES AND THE DEVELOPMENT OF A PROPOSED CODE OF ETHICS FOR MANAGERS	CAPT R.K. ADAMS SPONSOR: AFIT
GSM/SM/76S-2	A PILOT STUDY ON THE RELATIONSHIPS BETWEEN PERSONAL VALUES AND QUALITY OF LIFE	CAPT O.A. BRENDE SPONSOR: HQ USAF
GSM/SM/76S-3	A HISTORICAL ANALYSIS OF TOTAL PACKAGE PROCUREMENT, LIFE CYCLE COSTING, AND DESIGN TO COST	CAPT J.R. BUSEK, JR. SPONSOR: ASD
GSM/SM/76S-4	AN EXPLORATORY STUDY OF SOFTWARE COST ESTIMATION AT THE ELECTRONIC SYSTEMS DIVISION	CAPT T.J. DEVENNY SPONSOR: ESD
GSM/SM/76S-5	FOREIGN MILITARY SALES PRODUCT SUPPORT: AN EXPLORATORY STUDY OF THE SUPPORT PURCHASED AS PART OF THE INITIAL ACQUISITION EFFORT FOR THE F-5 WEAPON SYSTEM	CAPT J.P. DUTCHER, JR. SPONSOR: ASD
GSM/SM/76S-8	A PRELIMINARY COST ANALYSIS OF THE COMMUNICATIONS PROCESSOR FOR THE F-15 JOINT TACTICAL INFORMATION SYSTEM	CAPT W.F. GAUMER SPONSOR: ASD
GSM/SM/76S-9	AN ANALYSIS OF THE U.S. AIR FORCE MANAGEMENT IMPROVEMENT GROUP SURVEY OF CIVILIAN EMPLOYEES	CAPT R.G. HALLENBECK SPONSOR: HQ USAF
GSM/SM/76S-10	AN ANALYSIS OF ALTERNATIVE PRICING POLICIES FOR SPACE LAUNCH SUPPORT COSTS AT THE AIR FORCE EASTERN TEST RANGE	R.J. HAWKINS SPONSOR: HQ USAF
GSM/SM/76S-12	ALCM STAGING BASE SELECTION FOR FULL SCALE DEVELOPMENT TEST AND EVALUATION	MAJ A.E. HUGHES, JR. SPONSOR: ASD
GSM/SM/76S-13	A LOGISTICS SUPPORT COST ANALYSIS OF THE ADVANCED AERIAL REFUELING BOOM	CAPT R.T. JEFFREYS MAJ C.L. SEARS SPONSOR: ATCA SPO
GSM/SM/76S-14	A CRITICAL ANALYSIS IN COMPARISON OF SELECTED MODELS OF INFLATION	MAJ R.E. JOHNS SPONSOR: AFIT

GSM/SM/76S-15	REVIEW OF THE GUIDANCE PROVIDED FOR AIRCRAFT RECOVERY UNDER INSTRUMENT FLYING CONDITIONS	LT COL D.W. LIVINGSTON SPONSOR: AFIG
GSM/SM/76S-16	AN ECONOMIC ANALYSIS OF THE PROPOSED F-16 EUROPEAN STORAGE FACILITY	CAPT P.M. LOFTUS SPONSOR: DODMDS
GSM/SM/76S-18	A STUDY OF INFLUENCE METHODS USED BY PROJECT AND FUNCTIONAL MANAGERS IN A MATRIX ORGANIZATIONAL ENVIRONMENT	CAPT L.J. MELHART, JR. SPONSOR: ASD
GSM/SM/76S-19	DEVELOPMENT OF GAU-8 AMMUNITION PRODUCTION RATE VARIANCE FORMULAS	CAPT R.L. NADEAU SPONSOR: ASD
GSM/SM/76S-20	THE EFFECT OF ECONOMIC PRICE ADJUSTMENT CLAUSES AND SELECTED PROVISIONS OF THESE CLAUSES ON THE PROFIT EARNED AND THE PROFIT RATES REALIZED ON FIXED-PRICE TYPE CONTRACTS	CAPT A.W.F. PANDOLFO SPONSOR: ASD
GSM/SM/76S-21	ASSESSMENTS OF ADVANCED DEVELOPMENT TECHNOLOGY PROGRAMS: A STUDY TO DETERMINE THE PERCEIVED EFFECTIVENESS OF A NEW AIR FORCE SYSTEMS COMMAND POLICY	CAPT R.L. ROBINSON SPONSOR: HQ AFSC
GSM/SM/76S-22	A DEMONSTRATION OF A LOGISTICS SUPPORT COST MODEL FOR STAGE III OF A DIGITAL EUROPEAN BACKBONE PROGRAM	MAJ G.J. ROSE SPONSOR: ESD
GSM/SM/76S-23	A TEST OF HERZBERG'S TWO FACTOR THEORY OF JOB SATISFACTION	CAPT P.A. SCOVILLE SPONSOR: AFLC
GSM/SM/76D-24	A SIMULATION OF THE DISTRIBUTION OF DEFECTS IN GAU-8 AMMUNITION	CAPT G.J. AARON SPONSOR: ASD
GSM/SM/76D-25	THE ATTITUDES OF FEDERALLY EMPLOYED SCIENTISTS AND ENGINEERS: A FOLLOW-ON STUDY	CAPT R.H. AGNEW, JR. CAPT R.O. JENNINGS SPONSOR: ASD
GSM/SM/76D-26	PROBLEM AREAS WITH THE NEW DEPARTMENT OF DEFENSE PROFIT POLICY	CAPT R.J. BLAIR SPONSOR: AFBMRC
GSM/SM/76D-27	AN ANALYSIS OF THE IMPACT OF THE NEW OER SYSTEM ON THE OFFICER CORPS USING A LEWIN-BASED MODEL	CAPT R.A. BLAKELOCK SPONSOR: HQ USAF

GSM/SM/76D-28	A SENSITIVITY ANALYSIS OF THE F-16 OFFSET COMMITMENT	CAPT R.P. DALY, II CAPT R.H. MATTHEWS SPONSOR: ASD
GSM/SM/76D-29	A STUDY OF CHARACTERISTICS IN THE SUPERVISION OF SCIENTIFIC AND ENGINEERING PERSONNEL	CAPT G. DAUGAVIETIS CAPT R.S. HARRIS SPONSOR: AFIT
GSM/SM/76D-31	A COMPUTER SIMULATION METHODOLOGY FOR PREDICTING PERFORMANCE AND COST OF HIGH-RISE STORAGE FACILITIES	CAPT W.C. HOOKER CAPT R.W. TRIBIT SPONSOR: DODMDS
GSM/SM/76D-32	JUNIOR OFFICER PERCEPTIONS OF THE OER SYSTEM	CAPT S. KEYSERLING SPONSOR: HQ USAF
GSM/SM/76D-33	QUANTITATIVE SCIENTIST/ENGINEER PRODUCTIVITY AND SOME ASSOCIATED INDIVIDUAL AND ORGANIZATIONAL VARIABLES	1ST LT M.C. KOSEK SPONSOR: AFML
GSM/SM/76D-34	TECHNIQUES FOR THE INITIAL EVALUATION OF FLIGHT SIMULATOR EFFECTIVENESS	CAPT R.L. MILLER SPONSOR: ASD
GSM/SM/76D-36	REWARDS IN AIR FORCE R&D: AN ANALYSIS OF DESIRABILITY, PERCEPTION AND ASSOCIATION WITH THE PRODUCTIVITY OF SCIENTISTS/ENGINEERS	CAPT A.E. STEVENS SPONSOR: AFFDL
DS/AE/76-1	AN INVESTIGATION OF THE DEGRADATION OF A LASER BEAM BY HIGH INTENSITY TURBULENCE	LT COL G.F. CUDAHY SPONSOR: AFFDL
DS/AE/76-2	NUMERICAL SOLUTION OF THE CONICALLY SYMMETRIC NAVIER-STOKES EQUATIONS FOR HYPERSONIC CONE FLOW AT ANGLE OF ATTACK	MAJ D.S. MCRAE SPONSOR: AFFDL
DS/EE/76-1	EFFICIENT MULTIPLE PROCESSOR COORDINATION	CAPT B.E. BAKER SPONSOR: AFAL
DS/EE/76-2	AN ANALYSIS AND OPTIMIZATION TECHNIQUE FOR PROBABILISTIC GRAPHS	CAPT W.P. DOTSON SPONSOR: DCEC
DS/PH/76-1	ROLE OF NONEQUILIBRIA IN LASER SUPPORTED COMBUSTION WAVES IN NITROGEN	MAJ J.H. HAVEY, JR. SPONSOR: AFWL

DS/PH/76-2

EMISSION CROSS-SECTION
MEASUREMENTS OF LOW ENERGY
HE⁺ IONS WITH Cl₂, Br₂, I₂
REACTIONS

MAJ K.E. SIEGEN
SPONSOR: AFML

DS/PH/76-3

AN EVALUATION OF MASS
INTEGRAL SCALING AS APPLIED
TO THE ATMOSPHERIC RADIATION
TRANSPORT PROBLEM

CAPT R.A. SHULSTAD
SPONSOR: AFWL

DS/PH/76-4

THEORY OF DIFFRACTION FROM A
HOLOGRAPHIC LENS

CAPT D.C. YOUNG
SPONSOR: AFAL

RESEARCH ASSESSMENT QUESTIONNAIRE SUMMARY

School of Engineering

Calendar Year 1976 Graduates

I. Introduction

The form shown on page 70 was sent to the sponsors of student masters thesis. As of publication date over 20% of the survey forms have been returned.

II. Summary of Results

(1) 96% of those surveys returned said this thesis research contributed to a current Air Force project.

(2) 96% said that they would have done this research either in-house or on contract if AFIT had not researched it. 4% weren't sure if they would have done it or not.

(3) 46% said the thesis work was highly significant.
54% said work was significant.

(4) The average thesis was estimated to be worth 0.78 manyears of effort or \$30,218 per thesis. In addition the GCE design study was judged highly significant and estimated to be worth 3.99 manyears of effort and saved \$250,840.

(5) The evaluators themselves were distributed as follows:

	<u>%</u>
GS-16 or General Officer	0
GS-15 or Colonel	7
GS-14 or Lt Col	4
GS-13 or Major	39
GS-12 or Captain	46
GS-11 or Lt	<u>4</u>
	100%

III. Estimation of the Total Net Worth

Because of the small sample size, a total estimate is probably not too reliable. Total theses numbered 148 at \$30,218 per thesis, represents \$4,472,264 worth of research effort and adding the design study gives a total net worth of \$4,723,104. Recall, 96% of this work would have been done if AFIT students had not carried out the research. This represents a contribution of over \$4,544,213 to Air Force Research and Development Activities.

In 1975 the survey return was nearly 50% and indicated the average thesis was worth 0.9 manyears of effort or \$31,286 per thesis.

AFIT RESEARCH ASSESSMENT

The purpose of this questionnaire is to ascertain the value of research accomplished by students or faculty of the AFIT School of Engineering (AU). It would be greatly appreciated if you would complete the following questionnaire and return it to:

AFIT/
WPAFB OH 45433

Thesis Title and Designator: _____

Author(s): _____

Research Assessment Questions:

1. Did this research contribute to a current Air Force project?

- a. Yes b. No

2. Do you believe this research topic is significant enough that it would have been researched (or contracted) by your organization or another agency if AFIT had not researched it?

- a. Yes b. No

3. The benefits of AFIT research can often be expressed by the equivalent value that your agency received by virtue of AFIT performing the research. Can you estimate what this research would have cost if it had been accomplished under contract or if it had been done in-house in terms of manpower and/or dollars?

- a. Man-years _____ b. \$ _____

4. Often it is not possible to attach equivalent dollar values to research, although the results of the research may, in fact, be important. Whether or not you were able to establish an equivalent value for this research (3 above), what is your estimate of its significance?

- a. Highly Significant b. Significant c. Slightly Significant d. Of No Significance

5. AFIT welcomes any further comments you may have on the above questions, or any additional details concerning the current application, future potential, or other value of this research. Please use the back of this questionnaire for your statement(s). Thank you!

Name, Grade, Position

Organization, Location