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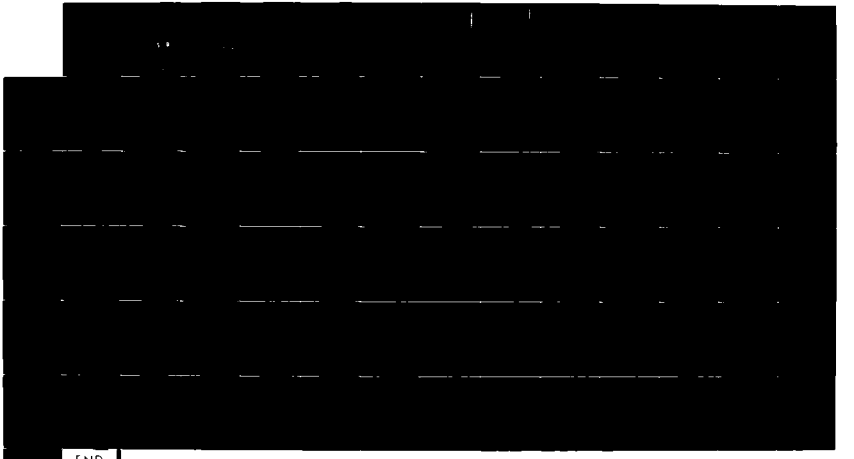

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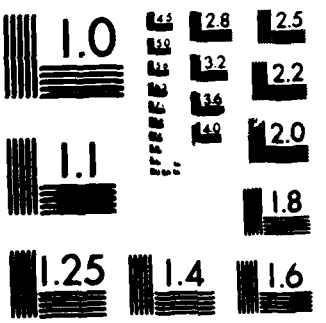

TECHNICAL REPORT
SOFTWARE COST ESTIMATION STUDY
APRIL, 1987
CER MODEL PLANNING REPORT
by
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MARTIN MARIETTA

(11)

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TECHNICAL REPORT

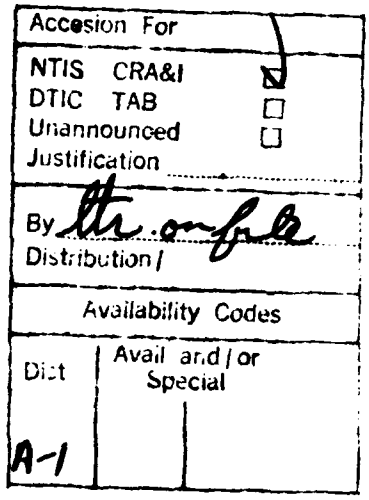
# SOFTWARE COST ESTIMATION STUDY

APRIL, 1987

Prepared for

OFFICE OF NAVAL RESEARCH (ONR)
NAVAL CENTER FOR COST ANALYSIS
DEPARTMENT OF THE NAVY
WASHINGTON, D.C. 20350-1100


Under Contract N00014-85-C-0892
Delivery Order No. MCR-87-511
CDRL Item No. A006
CER MODEL PLANNING REPORT




by

Dr. Aaron N. Silver
Mr. William G. Cheadle

MARTIN MARIETTA DENVER AEROSPACE CORP.
P.O. BOX 179
Denver, Colorado 80201

Publication R-0420-87-1

TABLE OF CONTENTS

CER MODEL PLANNING REPORT



LIST OF FIGURES AND TABLES

# I. INTRODUCTION

This "CER MODEL PLANNING REPORT," CDRL Item No. A006, contains the results of the "Cost Estimation Study," contract N00014-85-C-0892, conducted for the Naval Center for Cost Analysis (under the auspices of the Office of Naval Research) during the period of performance 12 January 1987 through 04 April 1987. The effort described in this report focuses upon the following three areas addressed in Task III: (The statement and objectives of TASK III are given in Figure 1.-1, while the schedule is shown in Figure 1.-2).)

(1) The collection of current AVIONICS data and subsequent derivation of preliminary CER (Cost Estimating Relationship) prototypes for ultimately calibrating the SASET model parameters. This includes the generation of SASET productivity factors and complexity multipliers; and

(2) The categorization and organization of functional sizing data for formulating a suitable AVIONICS data base. This AVIONICS data base will be utilized in the SASET model in generating cost and schedule outputs; and

(3) The calibration of the SASET model AVIONICS data base to ensure verification and validation of all SASET model parameters. In this respect, a total review of all SASET model requirements has begun. The intent is to update the "SASET REQUIREMENTS" document within the next quarterly reporting period.

In addition, substantive effort is currently being devoted to the computerization of the SASET model on an IBM PC. In this respect, most of the input screens have already been constructed, the data base for Ground Support software has been implemented, and some of the output Tables and Graphics are also operational. Preliminary tests are also being conducted to integrate all these computer modules. Most of the computer computations are in the check out phase, and considerable effort is being made to produce a "user friendly", and easily understood computer package.

## STUDY TASKS AND OBJECTIVES

**TASK III:** DEVELOP COST ESTIMATING RELATIONSHIPS (CERs) BETWEEN FUNCTIONS/PRODUCTS, SOFTWARE COSTS, AND ACQUISITION PHASES.

OBJECTIVES:

TO FORMULATE A FULLY INTEGRATED METHODOLOGY AND DEVELOP APPROPRIATE ANALYSIS TECHNIQUES FOR THE GENERATION OF COST ESTIMATING RELATIONSHIPS (CERS).

TO PROVIDE CRITERIA, PERFORMANCE MEASURES, AND PROCEDURES FOR ALL SOFTWARE COST ESTIMATING MODELS.

TO FURNISH PRELIMINARY CER PROTOTYPES FOR CONDUCTING FUNCTIONAL SIZING, COSTING, AND SCHEDULING.



**TASK IV:** DEVELOP METHODS AND PROCEDURES THAT WILL RELATE FUNCTION/PRODUCT ACQUISITION SOFTWARE COST ESTIMATES TO TOTAL LIFE CYCLE COST.

OBJECTIVES:

TO PROVIDE VISIBILITY WITH RESPECT TO SOFTWARE COST ELEMENTS ON A FUNCTION/PRODUCT BASIS.

TO EXPEDITIOUSLY INTEGRATE SOFTWARE COST ESTIMATES INTO THE TOTAL LIFE CYCLE DEVELOPMENT PROCESS.

FIGURE 1.-1 TASK III & IV OBJECTIVES

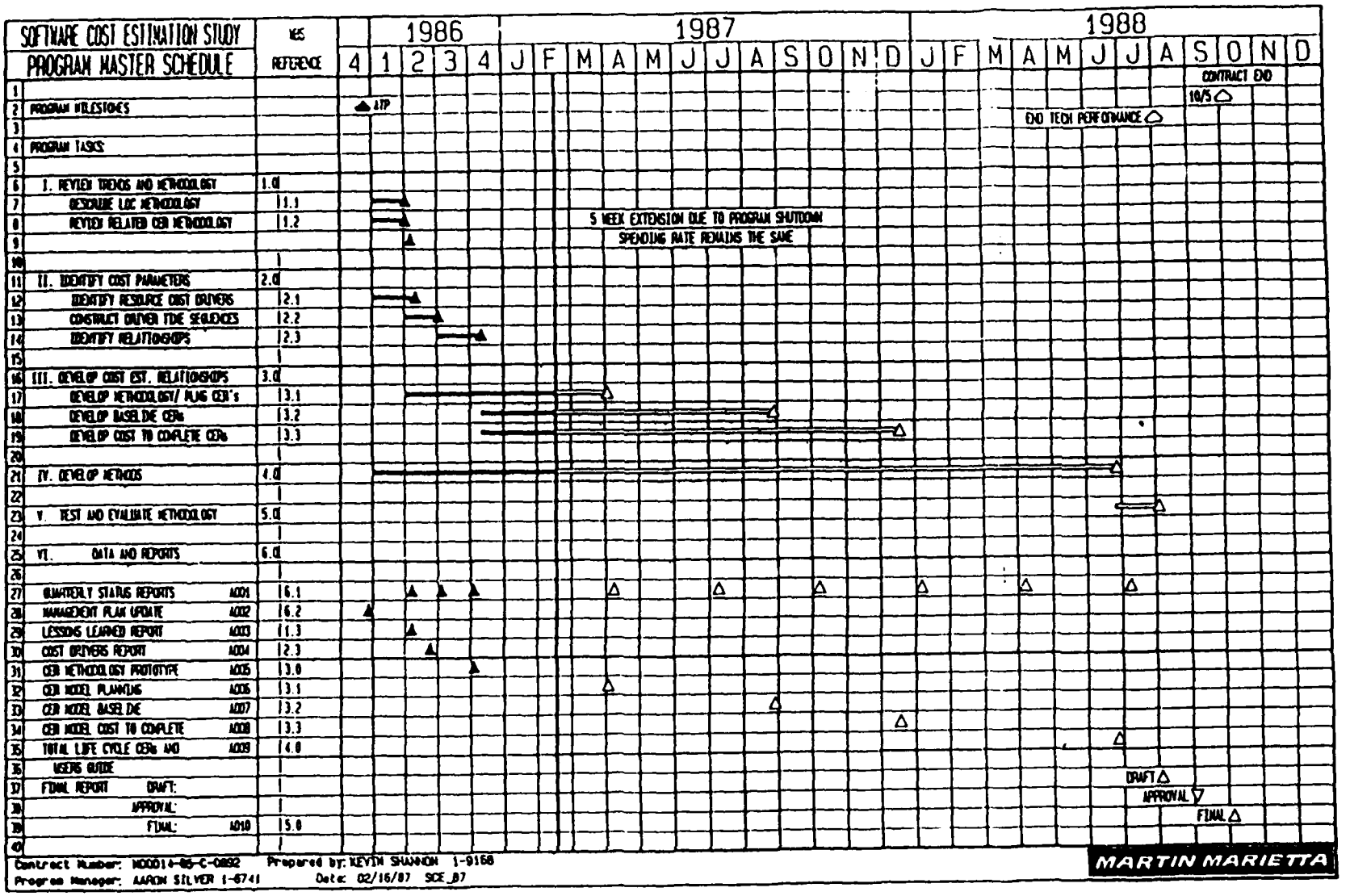



FIGURE 1.-2 SOFTWARE COST ESTIMATION STUDY SCHEDULE

## II. Preliminary CER Prototype for AVIONICS Data

### 2.0 Introduction

Figure 2.-1 illustrates, in summary block diagram form the basic elements of the CER development process. The emphasis is to obtain data which can be easily grouped into homogeneous sub-sets at the lowest possible level in the software Work Breakdown Structure (WBS) hierarchy. This process inherently yields accurate CER's. Thus, the respective classes of software, i.e., manned, unmanned, avionics, and ground, across all software types such as Systems, Applications, and Support, produce a logical initial breakdown of the given data base. These data are further decomposed onto the development life cycle phases, i.e., requirements, design, code, checkout, etc. The result is a data base which accurately reflects cost accrual by class of cost, time phases, organization, and type of cost.

The flow for determining the actual CER is illustrated in Figure 2.-2. Steps 1 and 2 form the basis of the analysis. The utilization of logical sub-sets and grouping of the data into separate classes results in removing outliers and enhances the statistical reliability of the observations.

Steps 3, 4, and 5 are pre-regression type analyses to condition and further screen the data for significant groupings, so that homogeneity is yet enhanced. Step 3 includes statistical correlation, while steps 4 and 5 identify the minimal set of variables which are both necessary and sufficient to yield suitable cost factors, in terms of "complexity" measures that are correlated with cost. Included in these steps are data normalization and data conditioning procedures and protocols.

Step 6 determines the functional form of the regression analysis, in terms of the best statistical fit to the observed data. Here, the residuals are examined, and an "F" statistic computed. Also, additional analyses may be performed to examine the respective components of the analysis of variance, so that linear, quadratic, and other statistically significant higher order effects may be taken into account.

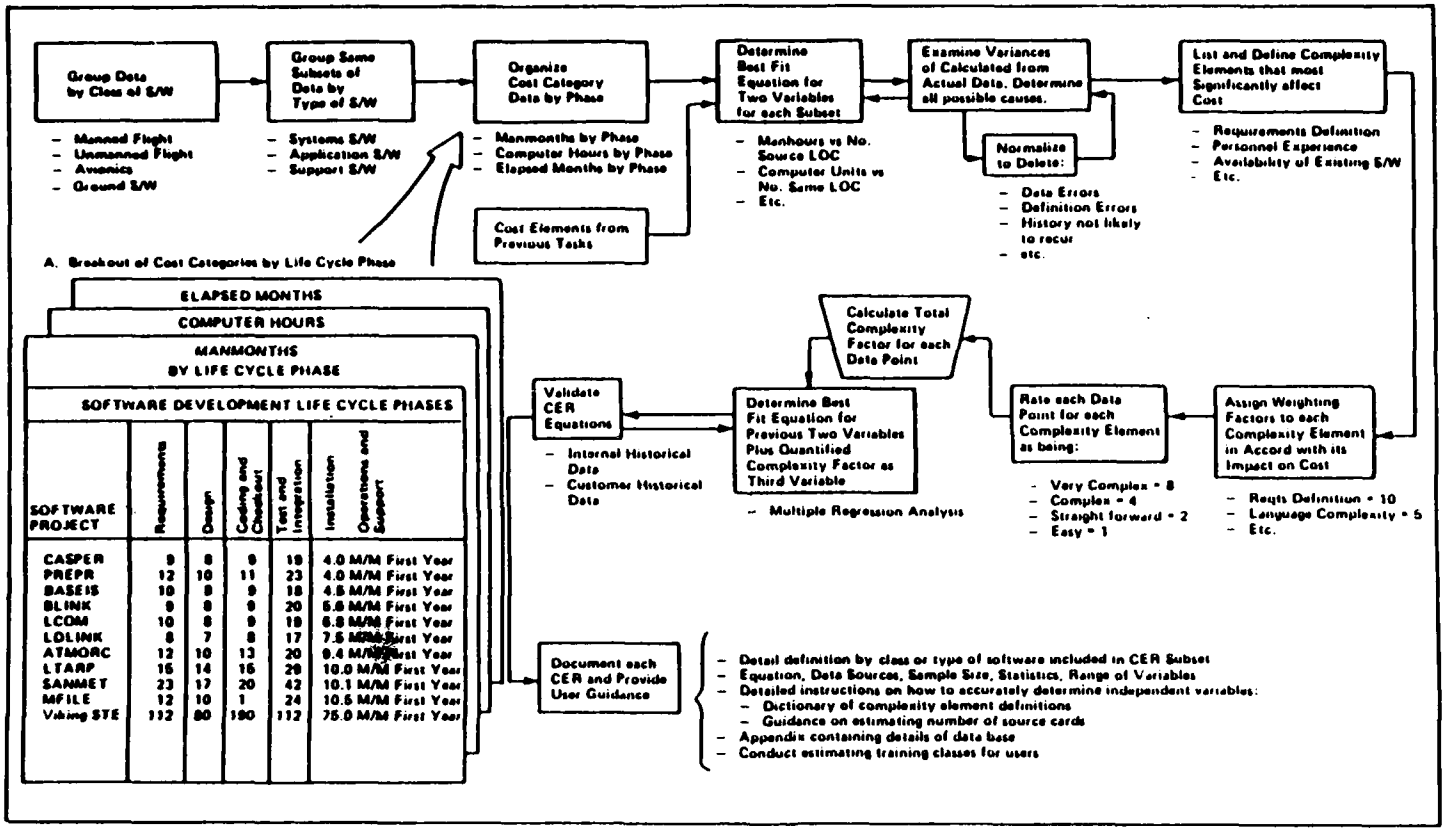



Figure 2.-1 CER DEVELOPMENT METHODOLOGY

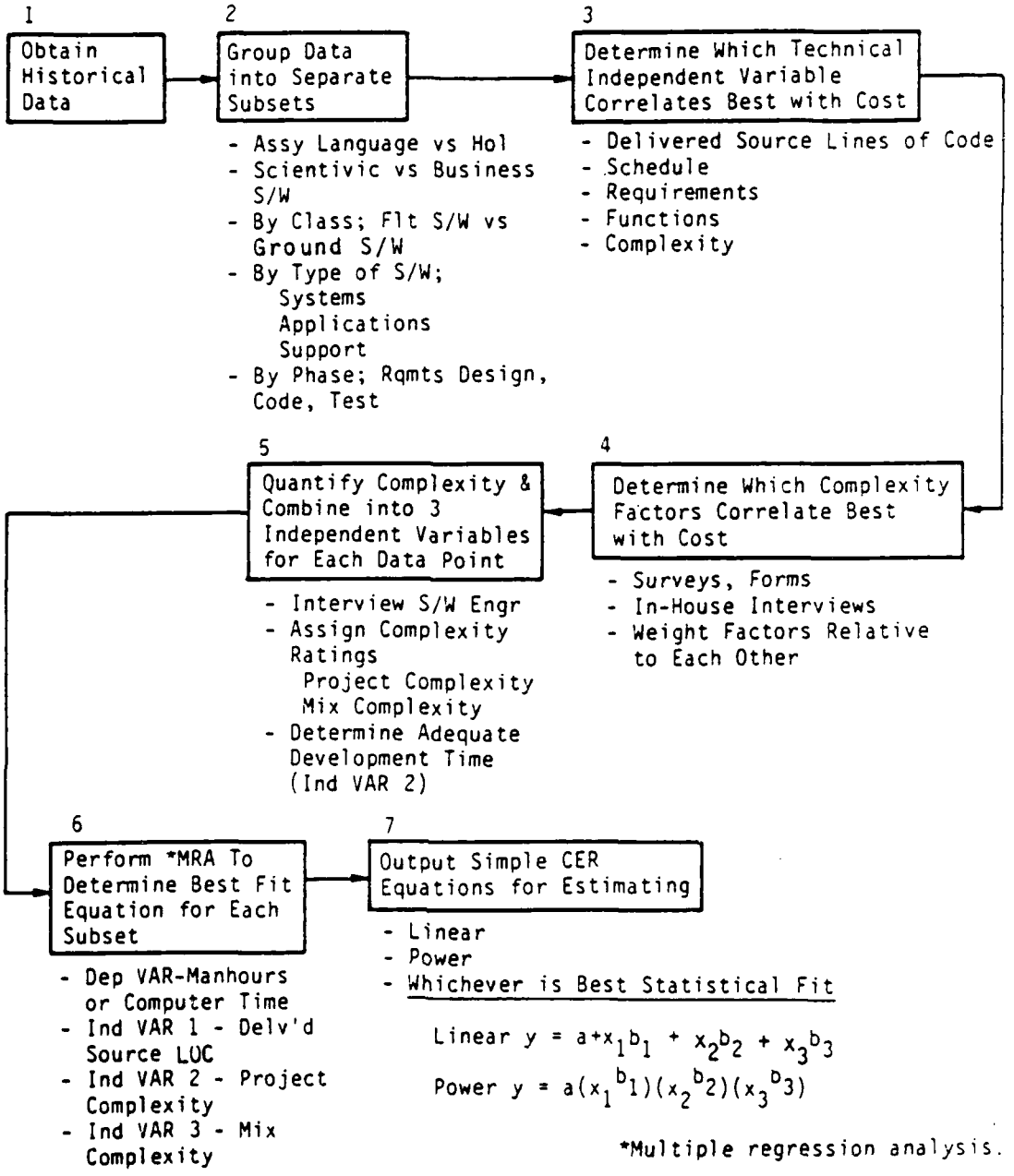



Figure 2.-2 FLOW FOR DEVELOPING CER'S

Table 2.-1 summarizes some of the basic raw data collected in deriving preliminary CER's for AVIONICS. Basically, the data are organized by type of software, i.e., Systems, Applications, and Support, and further delineated into either assembly or HOL (Higher Order Language). In addition, these data pertain to the Software Engineering functions only, and do not include the Systems Engineering or Test organizations and their related activities. Also, the respective life cycle phases addressed were requirements, design, code, and test. (These data do not include the planning or maintenance phases.)

Figure 2.-3 illustrates the plot of these seven (7) AVIONICS data points for a log-log scale. In addition, the circled points labeled F-111, and AWACS represent previous programs which were similar in nature to the current data obtained. The generic form of the fitted equation is a straight line given by:

$$\log(\text{HOURS}) = \log(\text{CONSTANT}) + (\text{EXPONENT})\log(\text{HOL EQ}).$$

Obviously, the (EXPONENT) coefficient represents the slope of the line, which is also the productivity factor. For this sample plot, the value obtained is approximately 3.9 Hours/LOC. This now represents a sample value for use in the SASET model. Also, the AVIONICS functions associated with this data base will be included in the SASET model. These data will conform to the indexing system developed in the following section. (Section 3.2, Functional Sizing of AVIONICS Data).

It is anticipated that additional effort will be devoted to refine the AVIONICS data base. For example, the LANTIRN program contains pertinent cost, sizing, and schedule data concerning the individual CPCI's developed, down to the module level.

Table 2.-1 Summary of AVIONICS S/W Programs

(1) PAE (Precision Attack Enhancement)
AVIONICS Support S/W
17,000 HOL Source Lines of Code
Language - Jovial. New HOL equivalents: 17,000
33,864 hours for S/W Development

(2) Laser Spot Tracker (on board F-18)
AVIONICS Applications S/W
9,082 Assembly Language Source Lines of Code
Language - Assembly. New HOL equivalents, 2,331
16,268 hours for S/W Development

(3) TAD's (Laser System on Apache Helicopter)
AVIONICS Applications S/W
21,000 Assembly Language Source Lines of Code
Language - Assembly. New HOL equivalents: 6,167
25,232 hours for S/W Development.

(4) ASSAULT BREAKER
AVIONICS Applications S/W
12,200 Assembly Language Source Lines of Code
Language - Assembly. New HOL equivalents: 4,067
15,438 hours for S/W Development.

(5) Single Seat Aircraft (night attack fighter)
AVIONICS Applications S/W
8,000 Assembly Language Source Lines of Code
Language - Assembly. New HOL equivalents: 2,667
10,641 hours for S/W Development.

(6) Operational Flight Program (close air support)
AVIONICS Applications S/W
14,100 Assembly Language Source Lines of Code
Language - Assembly. New HOL equivalents: 4,700
19,721 hours for S/W Development.

(7) LANTIRN
AVIONICS Applications S/W
310,000 Source Lines of Code (Assembly/Fortran)
265,428 new HOL equivalents.
614,200 hours for S/W Development.

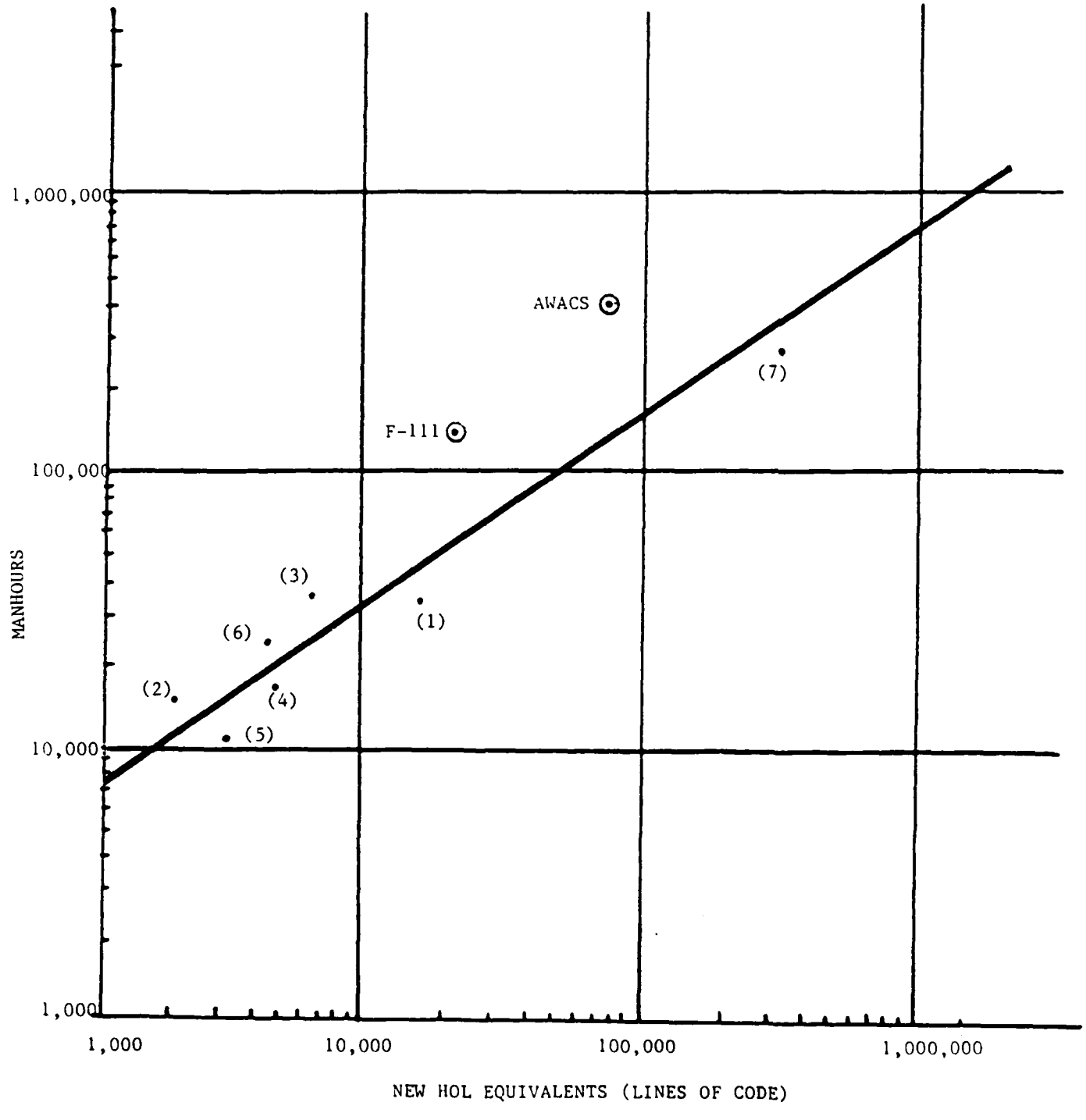



Figure 2.-3 PLOT OF NEW HOL EQUIVALENTS VS. MANHOURS

## III. Functional Sizing of AVIONICS Data

Table 3.-2 illustrates the overall scheme for catagorizing software functional data. This specific classification hierarchy was obtained from the most recent (January, 1987) ASPS Cost Reporting Document (Section VIII, Software Reporting Requirements). Although AVIONICS is delineated as a special category, it should be noted that other given platforms, such as space-borne or shipboard, do indeed have similar functions described by index elements 2.1 to 2.6. Also, the "Off-Line Training" (comprising index elements 15.1 to 15.4) has been reconfigured into two (2) Data Reduction items (Category A and B) to reflect activities involving moderate and extensive processing requirements, in either real-time or off-line modes. This functional list is utilized as a template for subsequently structuring the SASET model data base. In some instances an addititional level of indexing was used to describe lower level functions. For example, when representing the functional activities for "Processing Software" under "Modeling", the SASET data base hierarchy will index to two lower levels, i.e., type of "modeling" and the respective parameters associated with the "modeling" functions. Thus, Rapid Prototyping (type of modeling) has sub-categories of requirements, design, graphics, etc, as indenture levels.

Some Normalized Functional Sizing Statistics for AVIONICS are shown in Table 3.-3. These data were originally obtained from ARINC Research Corporation, technical report "Software Sizing and Cost Estimation", (July, 1985) prepared for the Office of the Controller (NCDS), Department of the Navy, Washington, D.C. under Contract N00600-87-D-4045, Delivery Order No. 0003, CDRL Item No. A0002. However, these respective values have been modified using both updated data and the algorithms formulated in the SASET model to reflect nominal baseline numbers. The resultant processed values are used as input to the SASET models. The SASET modifications reflect an increase of approximately 73%. This factor takes into account both the skewness of the distribution used in the SASET sizing algorithms, and the range of three (3) sigma values covered by these functions.

TABLE 3.-2

Software Functions

| Category | Index | Function |
|---|---|---|
| Displays | 1.1 | Avionics |
| | 1.2 | Command, Control, & Communications |
| | 1.3 | Other |
| Avionics | 2.1 | Mission Planning |
| | 2.2 | Navigation |
| | 2.3 | Aircraft Steering Flight Control |
| | 2.4 | Sighting, Designation & Location Determination |
| | 2.5 | Weapon Delivery |
| | 2.6 | Electronic Countermeasures |
| | 2.7 | Other |
| Command, Control & Communication | 3.1 | Network Monitoring |
| | 3.2 | Network Control & Switching |
| | 3.3 | Sensor Control |
| | 3.4 | Signal Processing |
| | 3.5 | Message Processing |
| | 3.6 | Message Distribution |
| | 3.7 | Message Logging & Retrieval |
| | 3.8 | Data Reduction |
| | 3.9 | Other |
| Executive | 4.1 | Computer Resource Management |
| | 4.2 | Computer Operator Interface |
| | 4.3 | Other Terminal Operator Interface |
| | 4.4 | Special Device Interface |
| | 4.5 | Other Input or Output |
| | 4.6 | Error Handling/Reconfiguration/Recovery |
| | 4.7 | Multicomputer Configuration Control |
| | 4.8 | Performance Monitoring & Data Collection |
| | 4.9 | Other |
| Data Base | 5.1 | On-line Data Base Retrieval & Output |
| | 5.2 | On-line Data Base Initialization & Updating |
| | 5.3 | Other |
| Training | 6.1 | Control of Exercise Sequencing |
| | 6.2 | Operator Performance Data Collection |
| | 6.3 | Other |
| On-Line Equipment Diagnostic | 7.1 | System Readiness Test |
| | 7.2 | Computer Diagnostic |
| | 7.3 | Memory Diagnostic |
| | 7.4 | Display Diagnostic |
| | 7.5 | Switch/Indication Panel Diagnostic |
| | 7.6 | I/O Diagnostic |
| | 7.7 | Mod Diagnostic |
| | 7.8 | Other |

TABLE 3.-2

Software Functions (continued)

| Category | Index | Function |
|---|---|---|
| Operating System | 8.1 | Computer Resource Management |
| | 8.2 | Computer Operator Interface |
| | 8.3 | Terminal Operator Interface |
| | 8.4 | Input or Output |
| | 8.5 | Error Handling/Reconfiguration/Recovery |
| | 8.6 | Performance Monitoring & Data Collection |
| | 8.7 | Other |
| Equipment Maintenance | 9.1 | Off-Line Computer Diagnostics |
| | 9.2 | Other |
| Software | 10.1 | Higher-Order Language Compiler |
| | 10.2 | Assembler |
| | 10.3 | Debugger |
| | 10.4 | Loader or Editor |
| | 10.5 | Other |
| Off-Line Data Base Management | 11.1 | Data Base Definition |
| | 11.2 | Data Base Initialization & Updating |
| | 11.3 | Data Base Retrieval & Output Formatting |
| | 11.4 | Data Base Restructuring |
| | 11.5 | Off-Line Data Base |
| | 11.6 | Other |
| Design | 12.1 | Data Base Design |
| | 12.2 | Data Base Processor Design |
| | 12.3 | Performance Simulation |
| | 12.4 | Data Reduction |
| | 12.5 | Data Analysis |
| | 12.6 | Other |
| Test Software | 13.1 | Test Case Generation |
| | 13.2 | Test Case Data Recording |
| | 13.3 | Test Data Reduction |
| | 13.4 | Test Analysis |
| | 13.5 | Other |
| Utilities | 14.1 | Media Conversions |
| | 14.2 | Format Translation |
| | 14.3 | Sort/Merge |
| | 14.4 | Program Library Maintenance |
| | 14.5 | Other |

TABLE 3.-2

Software Functions (continued)

| Category | Index | Function |
|---|---|---|
| Off-Line Training | 15.1 | Data Reduction, Category A |
| | 15.2 | Data Reduction, Category B |
| | 15.3 | Scenario Preparation |
| | 15.4 | Other |
| Project Management | 16.1 | Project Event Status Account |
| | 16.2 | Schedule Maintenance/Projection |
| | 16.3 | Financial Accounting |
| | 16.4 | Software Cost Reporting |
| | 16.5 | Hardware Cost Reporting |
| | 16.6 | Software Cost Prediction |
| | 16.7 | Hardware Cost Prediction |
| | 16.8 | Other |
| Hardware Subsystem Simulations | 17.1 | Interfacing Hardware Simulations |
| | 17.2 | Environmental Simulators |
| | 17.3 | Operator Action Simulations |
| | 17.4 | Other |

TABLE 3.-3

NORMALIZED FUNCTIONAL SIZING STATISTICS FOR AVIONICS

| Function Index | ARINC Average Size (LOC)* | SASET Average Size (LOC)* |
|---|---|---|
| 1.1 | 633 | 1096 |
| 1.2 | 2888 | 5000 |
| 1.3 | 4199 | 7273 |
| 2.2 | 1376 | 2383 |
| 2.4 | 2106 | 3648 |
| 2.5 | 9000 | 15590 |
| 2.6 | 7057 | 12223 |
| 2.7 | 3567 | 6178 |
| 3.1 | 7164 | 12400 |
| 3.2 | 4296 | 7440 |
| 3.3 | 5661 | 9800 |
| 3.4 | 2741 | 4747 |
| 3.5 | 8220 | 14237 |
| 3.6 | 1211 | 2100 |
| 3.9 | 1232 | 2100 |
| 4.1 | 4129 | 7150 |
| 4.2 | 6212 | 10760 |
| 4.3 | 12501 | 21650 |
| 4.4 | 2512 | 4350 |
| 4.5 | 560 | 970 |
| 4.8 | 3434 | 5950 |
| 5.1 | 6172 | 10600 |
| 5.2 | 1314 | 2275 |
| 5.3 | 9021 | 15625 |
| 7.1 | 898 | 1555 |
| 10.3 | 795 | 1375 |
| 13.1 | 3935 | 6815 |
| 13.4 | 10963 | 18988 |
| 17.1 | 229 | 400 |
| 17.2 | 9000 | 15588 |

* LINES OF CODE (HOL equivalent)
Less Comments

## IV. Calibration of AVIONICS Data

Figures 4.-1 through 4.-12 illustrate typical calibration curves obtained using the mix complexity and project complexity parameters defined in reference (2) "Cost Drivers Report." The respective curves are based upon AVIONICS data from over 150 real world software development projects. The equation plotted has the following generic form:

$$(\text{Productivity}) = (\text{Factor})\ (\text{Conversion})\ (\text{Mix})^{C1}\ (\text{Prog})^{C2}$$

The four (4) plots shown for each type of software (Systems, Application, Support) illustrate the sensitivity of the corresponding independent variable used. As can be observed from the curves, these data are well within the range of the productivity factor derived from the CER given in Figure 2.-1. Furthermore, the overall variation of complexity factors defined can be utilized to obtain fine gradations of productivity factors within each type of software. Thus, SASET can be validated using the table look-ups from which the plots were originally derived.

Appendix I illustrates the tabular data associated with the curves illustrated above (Application Software). Only a sample segment of the data are illustrated. This includes variations and sensitivity analysis when each of the four (4) variables (Factor, Conversion, Mix, and Program variables) given by the above equation are treated as "independent" variables. Similar tables are formulated for Systems and Support software.

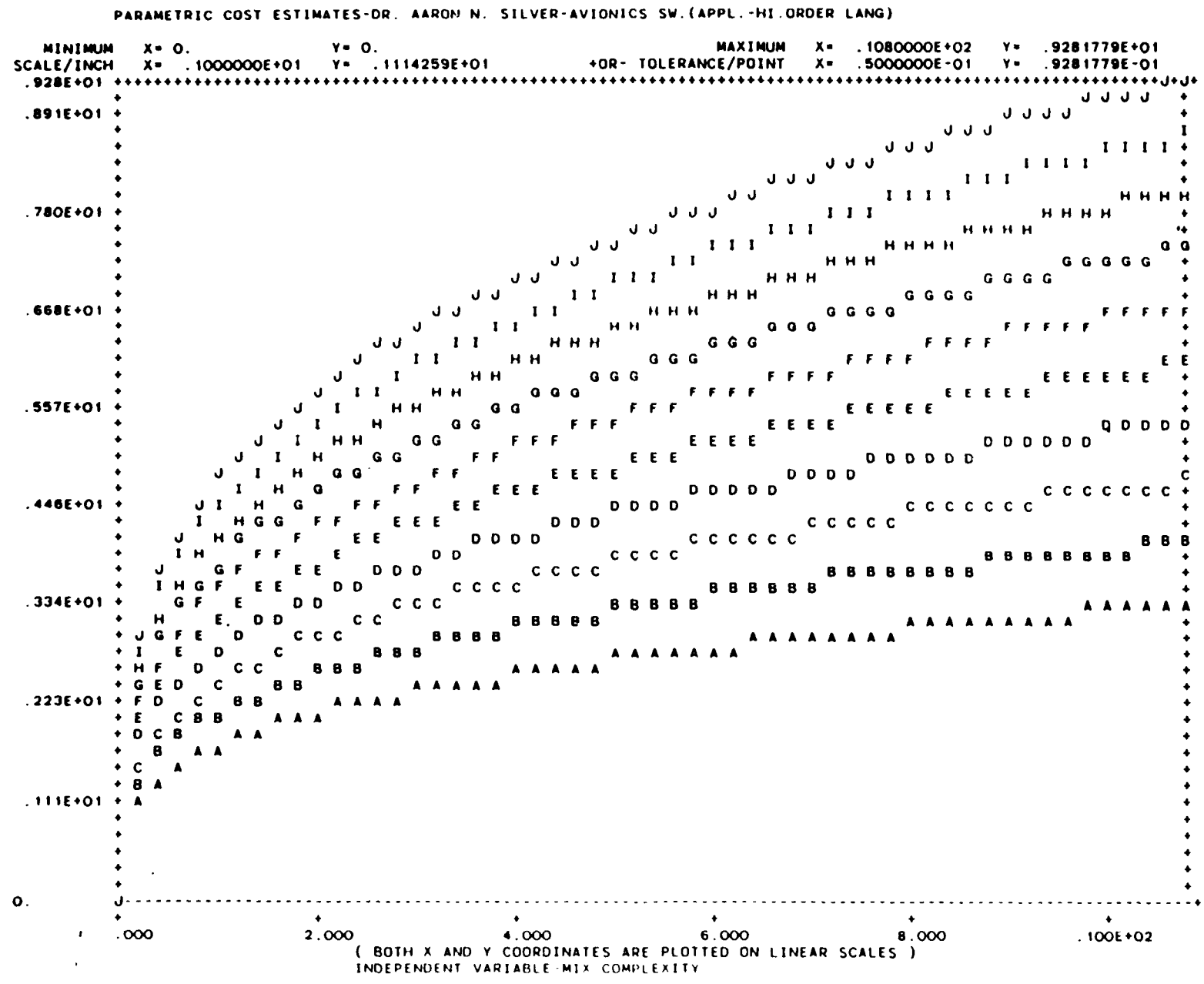



Figure 4.-1 PLOT OF PRODUCTIVITY (MAN-HRS/LOC) VS. MIX COMPLEXITY (PC=200-650)

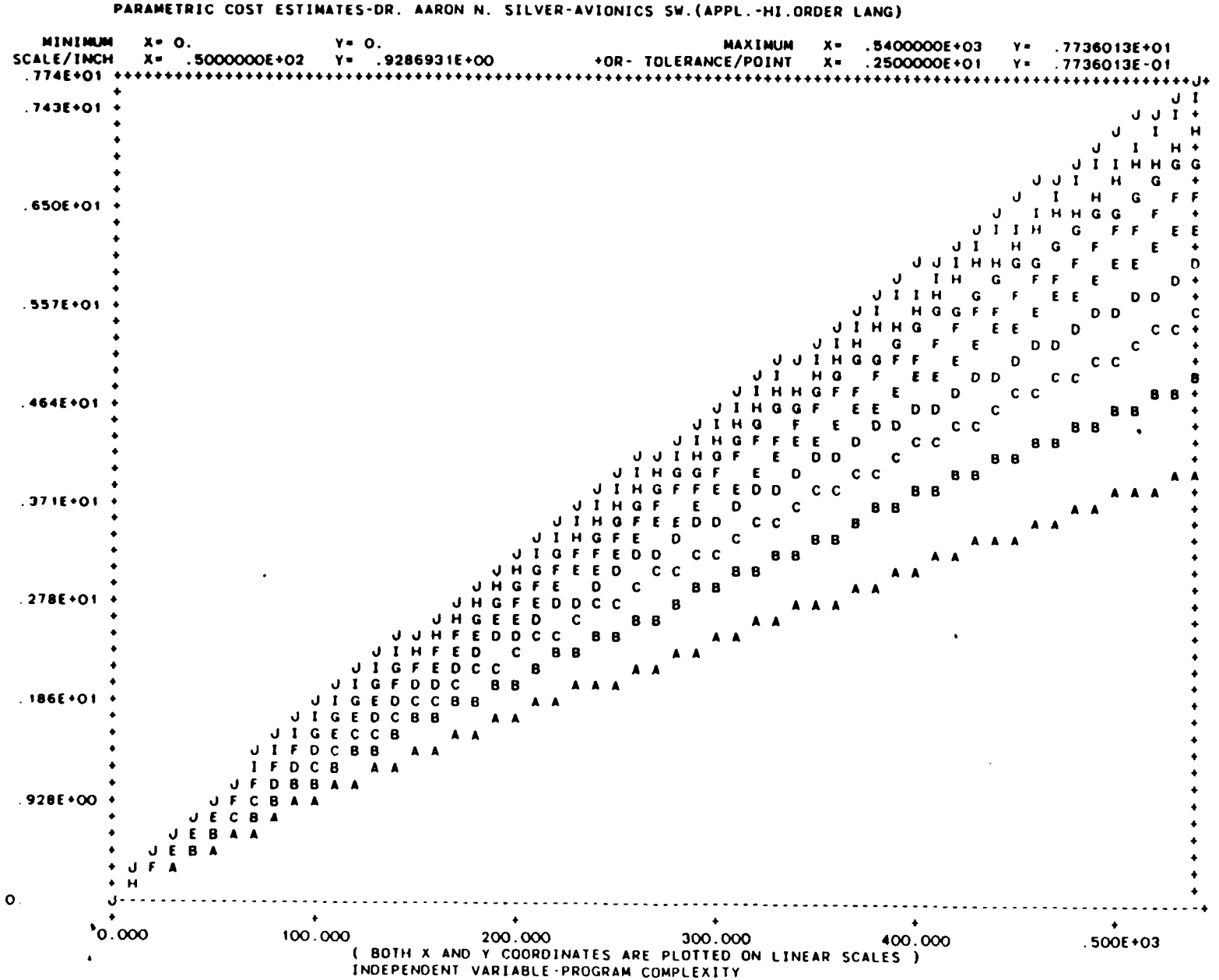



Figure 4.-2 PLOT OF PRODUCTIVITY (HRS/LOC) VS. PROGRAM COMPLEXITY (MC=1 TO 10)

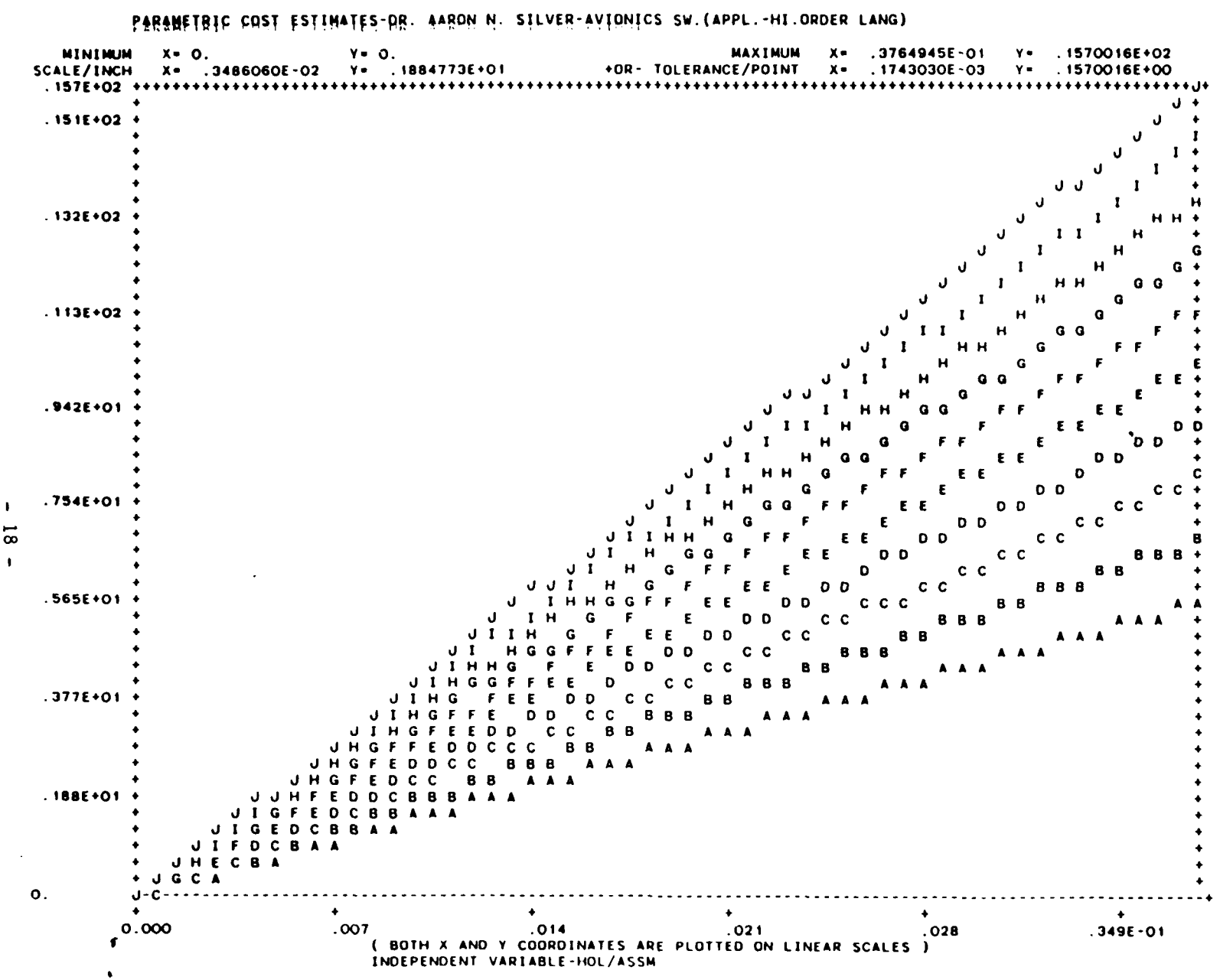



Figure 4.-3 PLOT OF PRODUCTIVITY (HRS/LOC) VS. HOL/ASSM (MC=4.5, PC=200-650)

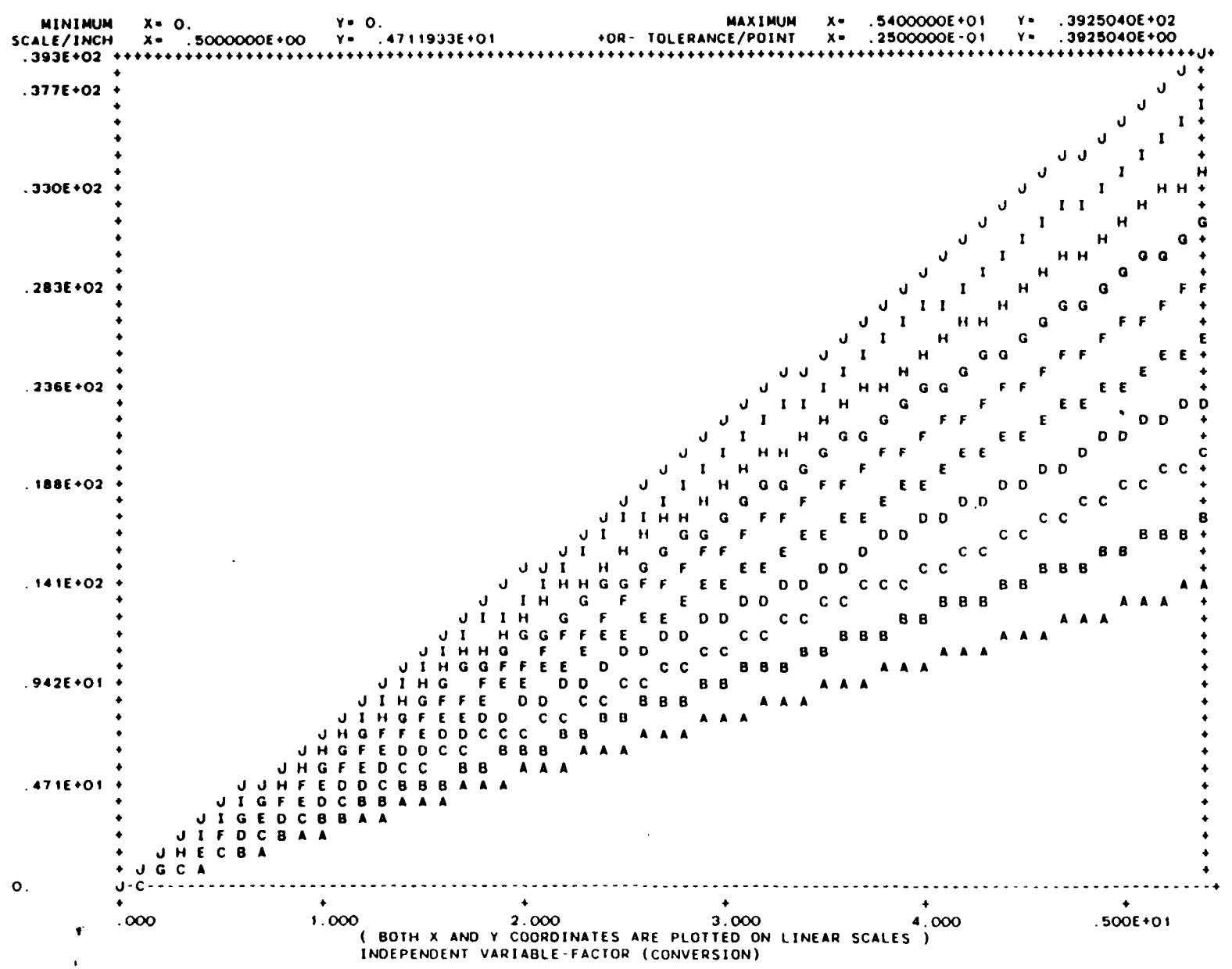



Figure 4.-4 PLOT OF PRODUCTIVITY (HRS/LOC) VS FACTOR (MC=4.5, PC=200-650)

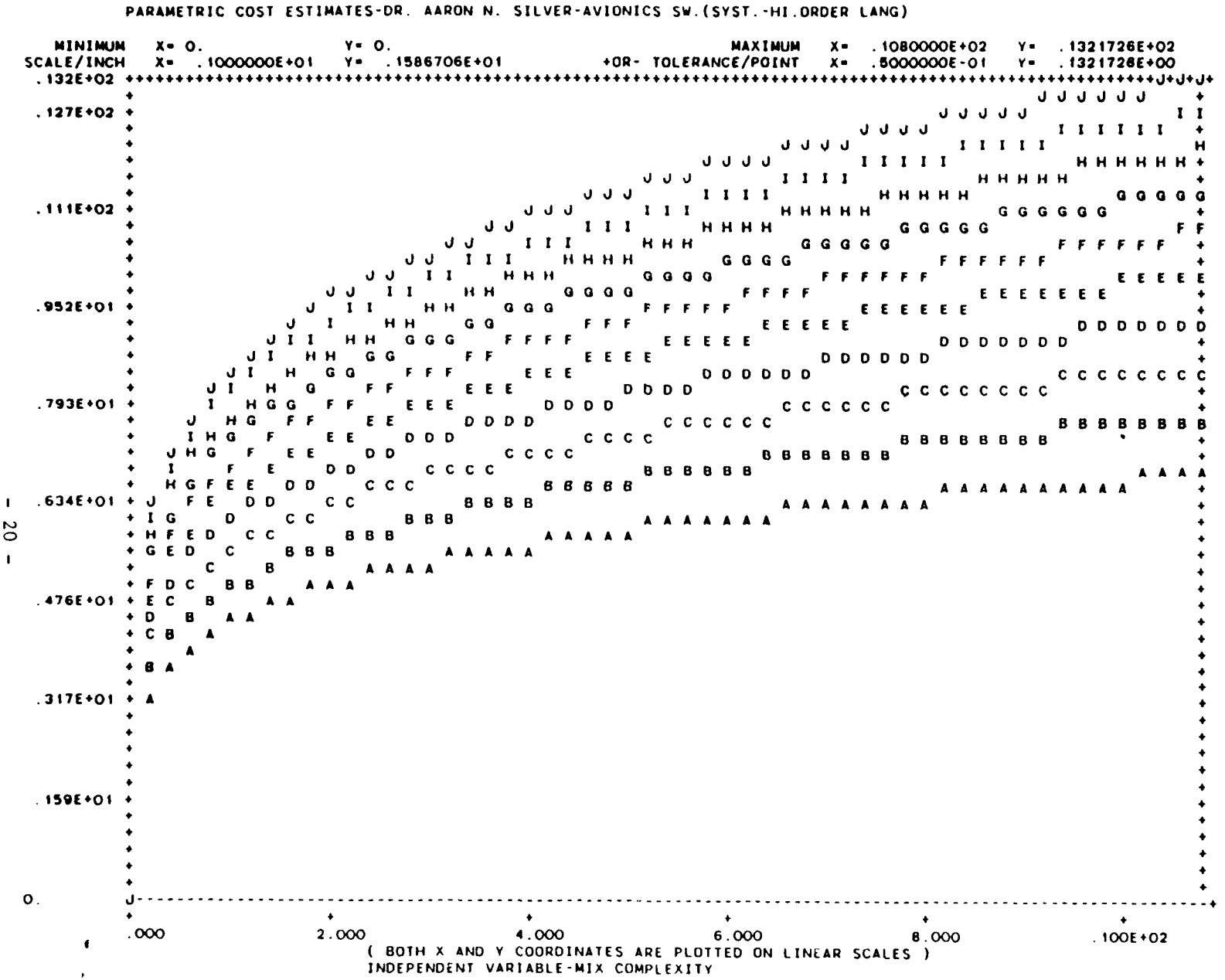



Figure 4.-5 PLOT OF PRODUCTIVITY (HRS/LOC) VS. MIX COMPLEXITY (PC=200-650)

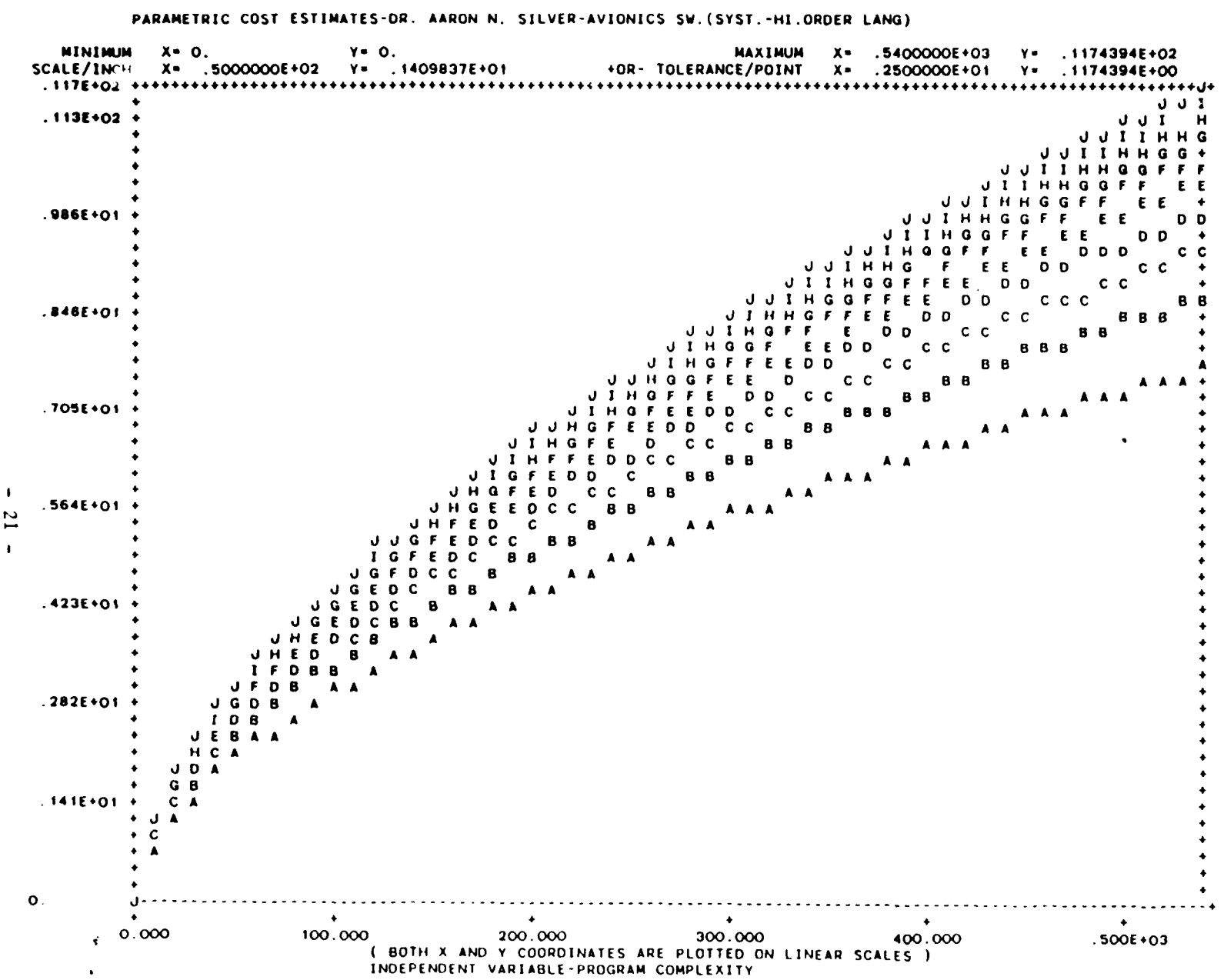



Figure 4.-6 PLOT OF PRODUCTIVITY (HRS/LOC) VS. PROGRAM COMPLEXITY (MC=1 TO 10)

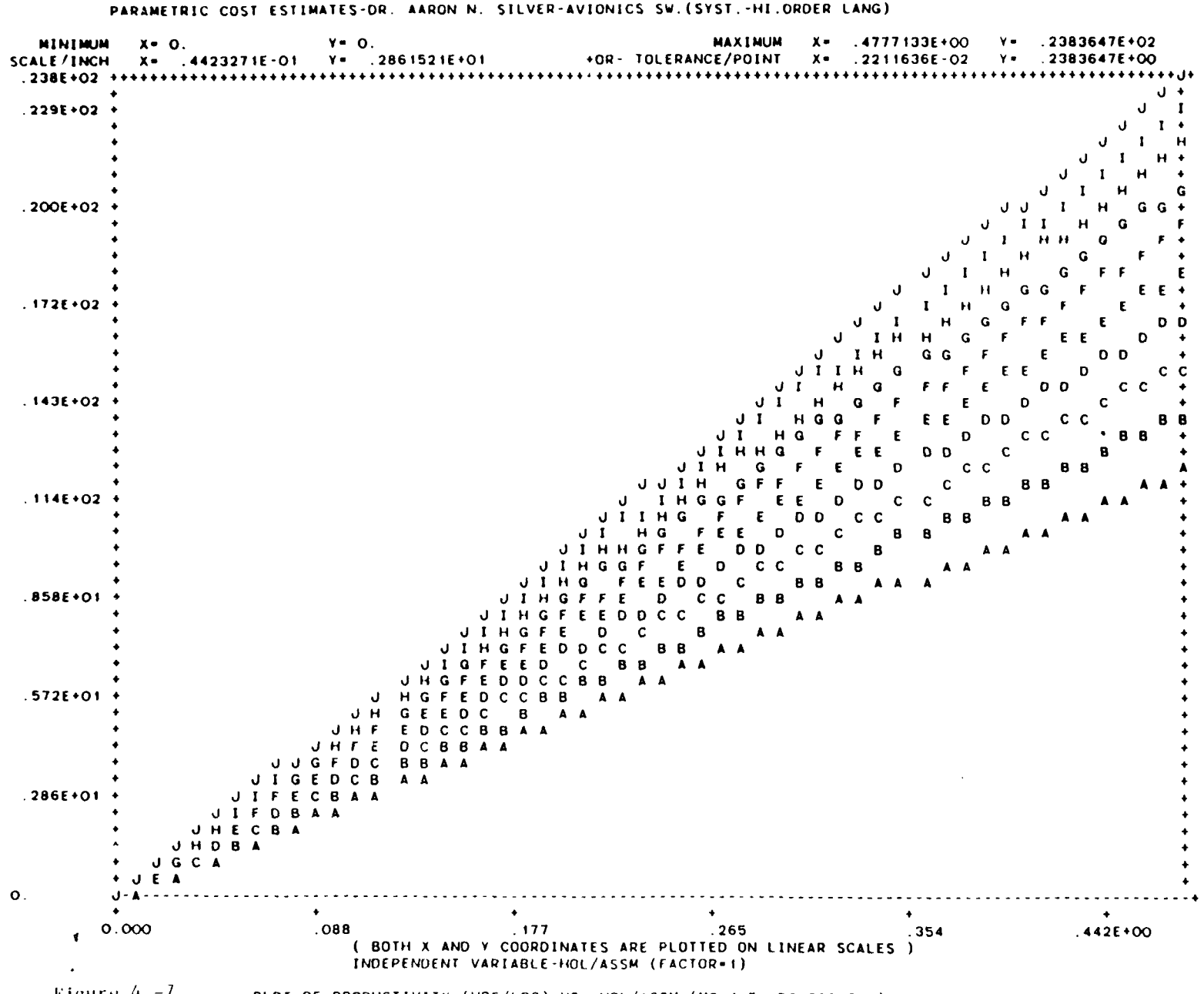



Figure 4.-7 PLOT OF PRODUCTIVITY (HRS/LOC) VS. HOL/ASSM (MC=4.5, PC=200-650)

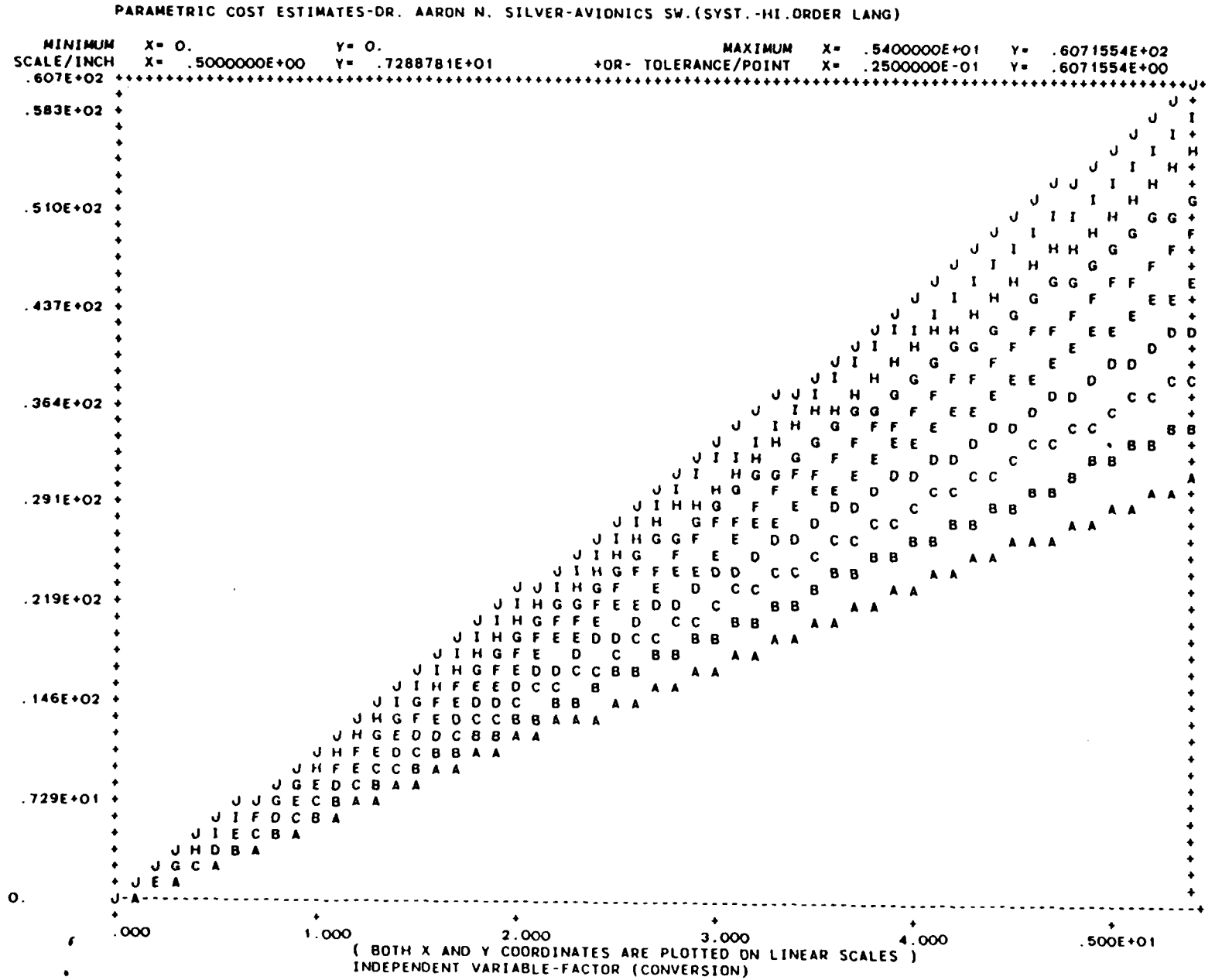



Figure 4.-8 PLOT OF PRODUCTIVITY (HRS/LOC) VS. FACTOR (MC=4.5, PC=200-650)

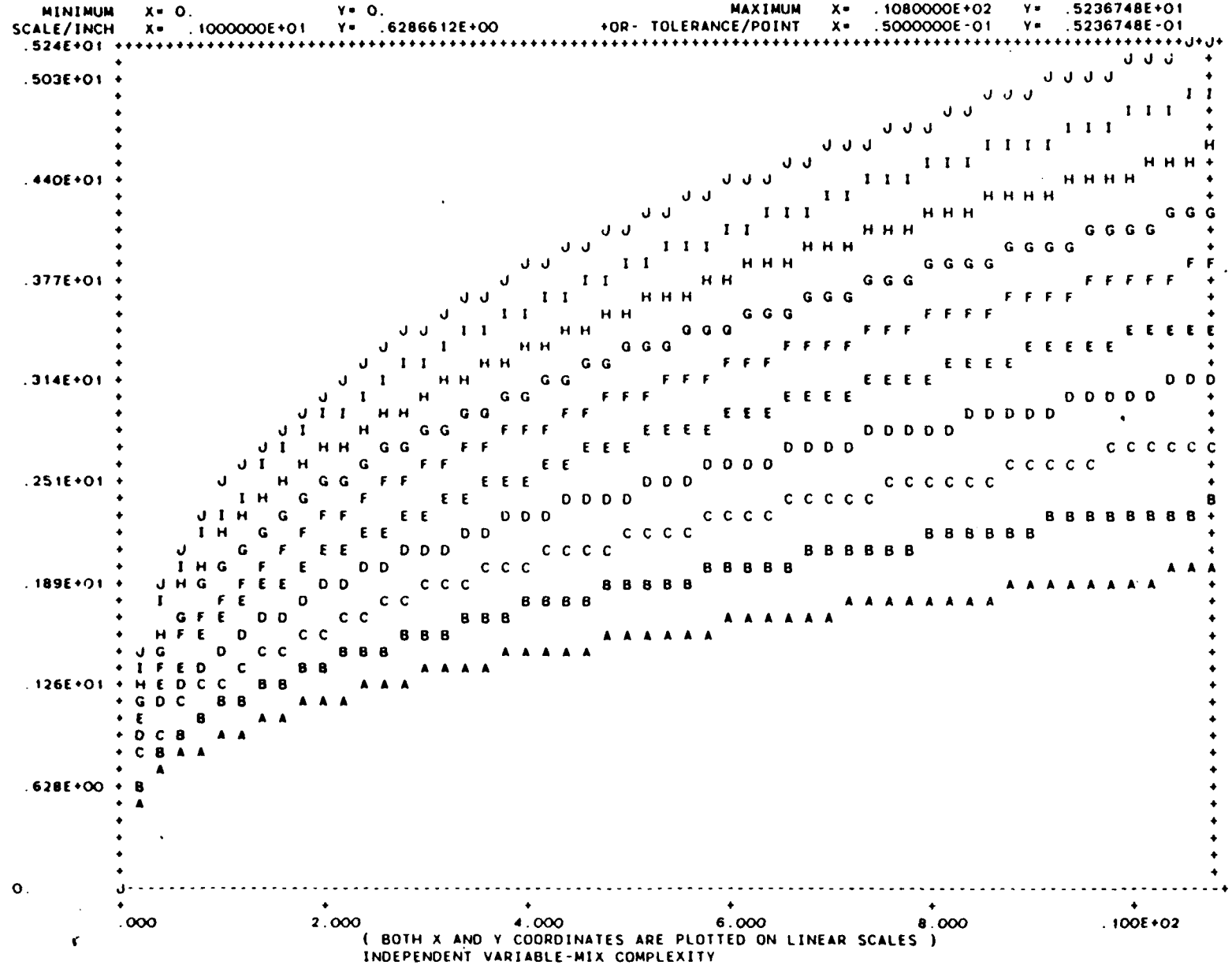



Figure 4.-9 PLOT OF PRODUCTIVITY (HRS/LOC) VS. MIX COMPLEXITY (PC=200-650)

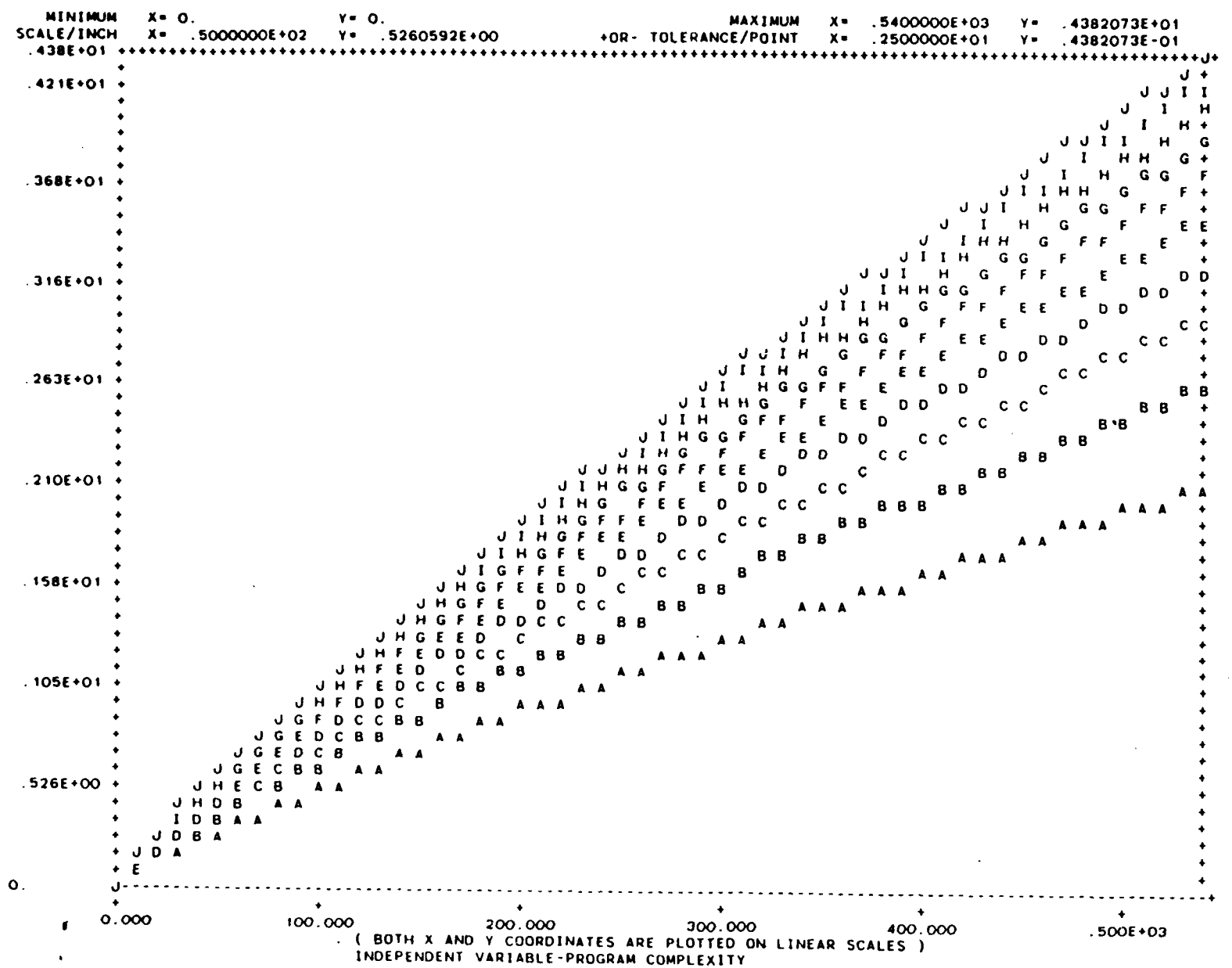



Figure 4.-10 PLOT OF PRODUCTIVITY (HRS/LOC) VS. PROGRAM COMPLEXITY (MC=1 TO 10)

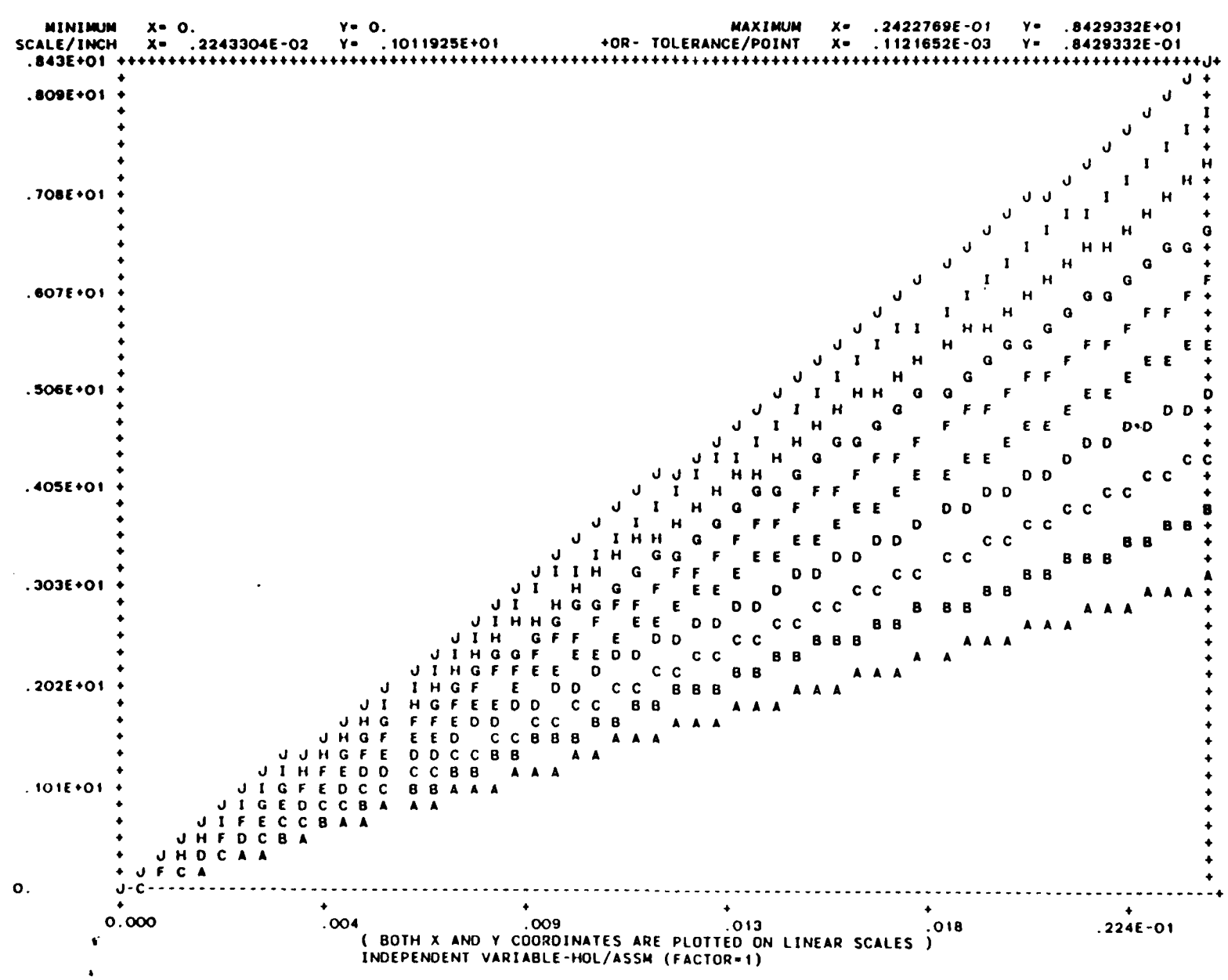



Figure 4.-11 PLOT OF PRODUCTIVITY (HRS/LOC) VS. HOL/ASSM (MC=4.5, PC=200-650)

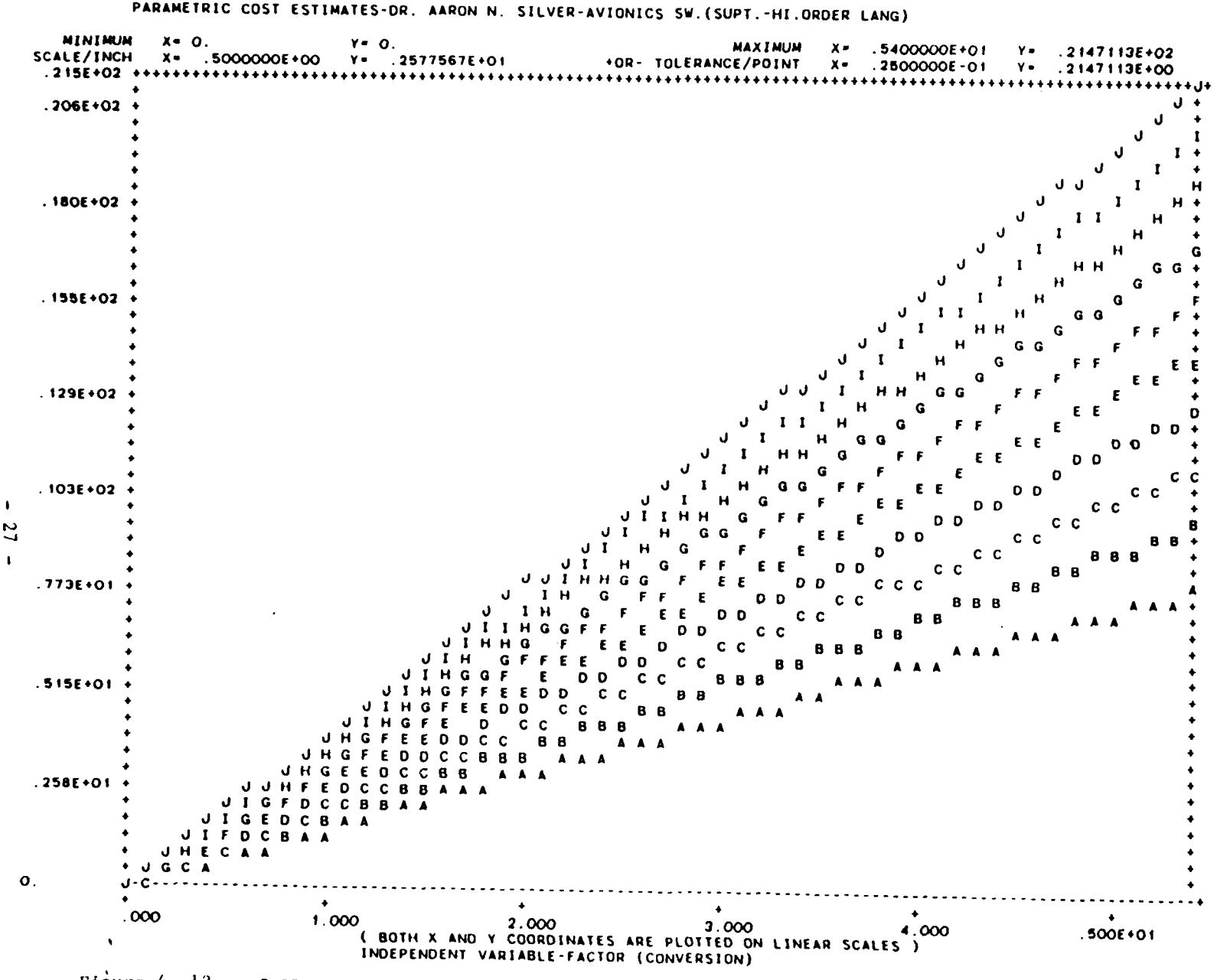



Figure 4.-12 PLOT OF PRODUCTIVITY (HRS/LOC) VS. FACTOR (MC=4.5, PC=200-650)

==========OUTPUT COMPUTATIONS==========

---------- PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)----------

HIGH PERTURBATION VALUE= .1000
LOW PERTURBATION VALUE = .0500

OUTER LOOP PARAMETER= 1.000
INNER LOOP PARAMETER= 200.000

| NO.TERMS | IND.VAR. | DEP.VAR. | HI. VAL. | LO. VAL. |
|---|---|---|---|---|
| 1 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | .200 | 1.097 | 1.207 | 1.042 |
| 3 | .400 | 1.331 | 1.464 | 1.265 |
| 4 | .600 | 1.491 | 1.640 | 1.416 |
| 5 | .800 | 1.616 | 1.777 | 1.535 |
| 6 | 1.000 | 1.720 | 1.892 | 1.634 |
| 7 | 1.200 | 1.809 | 1.990 | 1.719 |
| 8 | 1.400 | 1.889 | 2.078 | 1.795 |
| 9 | 1.600 | 1.961 | 2.157 | 1.863 |
| 10 | 1.800 | 2.026 | 2.229 | 1.925 |
| 11 | 2.000 | 2.087 | 2.296 | 1.982 |
| 12 | 2.200 | 2.143 | 2.357 | 2.036 |
| 13 | 2.400 | 2.196 | 2.415 | 2.086 |
| 14 | 2.600 | 2.245 | 2.470 | 2.133 |
| 15 | 2.800 | 2.292 | 2.522 | 2.178 |
| 16 | 3.000 | 2.337 | 2.571 | 2.220 |
| 17 | 3.200 | 2.380 | 2.617 | 2.261 |
| 18 | 3.400 | 2.420 | 2.662 | 2.299 |
| 19 | 3.600 | 2.459 | 2.705 | 2.336 |
| 20 | 3.800 | 2.497 | 2.746 | 2.372 |
| 21 | 4.000 | 2.533 | 2.786 | 2.406 |
| 22 | 4.200 | 2.567 | 2.824 | 2.439 |
| 23 | 4.400 | 2.601 | 2.861 | 2.471 |
| 24 | 4.600 | 2.633 | 2.897 | 2.502 |
| 25 | 4.800 | 2.665 | 2.931 | 2.532 |
| 26 | 5.000 | 2.695 | 2.965 | 2.561 |
| 27 | 5.200 | 2.725 | 2.998 | 2.589 |
| 28 | 5.400 | 2.754 | 3.029 | 2.616 |
| 29 | 5.600 | 2.782 | 3.060 | 2.643 |
| 30 | 5.800 | 2.809 | 3.090 | 2.669 |
| 31 | 6.000 | 2.836 | 3.120 | 2.694 |
| 32 | 6.200 | 2.862 | 3.148 | 2.719 |
| 33 | 6.400 | 2.888 | 3.177 | 2.743 |
| 34 | 6.600 | 2.913 | 3.204 | 2.767 |
| 35 | 6.800 | 2.937 | 3.231 | 2.790 |
| 36 | 7.000 | 2.961 | 3.257 | 2.813 |
| 37 | 7.200 | 2.984 | 3.283 | 2.835 |
| 38 | 7.400 | 3.007 | 3.308 | 2.857 |
| 39 | 7.600 | 3.030 | 3.333 | 2.878 |
| 40 | 7.800 | 3.052 | 3.357 | 2.899 |
| 41 | 8.000 | 3.073 | 3.381 | 2.920 |
| 42 | 8.200 | 3.095 | 3.404 | 2.940 |
| 43 | 8.400 | 3.116 | 3.427 | 2.960 |
| 44 | 8.600 | 3.136 | 3.450 | 2.979 |
| 45 | 8.800 | 3.156 | 3.472 | 2.999 |
| 46 | 9.000 | 3.176 | 3.494 | 3.017 |
| 47 | 9.200 | 3.196 | 3.515 | 3.036 |
| 48 | 9.400 | 3.215 | 3.537 | 3.054 |
| 49 | 9.600 | 3.234 | 3.557 | 3.072 |
| 50 | 9.800 | 3.253 | 3.578 | 3.090 |

PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW (APPL.-HI.ORDER LANG)

HIGH PERTURBATION VALUE= .1000
LOW PERTURBATION VALUE = .0500

OUTER LOOP PARAMETER= 1.000
INNER LOOP PARAMETER= 250.000

| NO.TERMS | IND.VAR. | DEP.VAR. | HI. VAL. | LO. VAL. |
|---|---|---|---|---|
| 1 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | .200 | 1.331 | 1.464 | 1.265 |
| 3 | .400 | 1.615 | 1.777 | 1.535 |
| 4 | .600 | 1.809 | 1.990 | 1.719 |
| 5 | .800 | 1.960 | 2.156 | 1.862 |
| 6 | 1.000 | 2.086 | 2.295 | 1.982 |
| 7 | 1.200 | 2.195 | 2.415 | 2.086 |
| 8 | 1.400 | 2.292 | 2.521 | 2.177 |
| 9 | 1.600 | 2.379 | 2.617 | 2.260 |
| 10 | 1.800 | 2.459 | 2.705 | 2.336 |
| 11 | 2.000 | 2.532 | 2.785 | 2.405 |
| 12 | 2.200 | 2.600 | 2.860 | 2.470 |
| 13 | 2.400 | 2.664 | 2.931 | 2.531 |
| 14 | 2.600 | 2.725 | 2.997 | 2.588 |
| 15 | 2.800 | 2.782 | 3.060 | 2.642 |
| 16 | 3.000 | 2.836 | 3.119 | 2.694 |
| 17 | 3.200 | 2.887 | 3.176 | 2.743 |
| 18 | 3.400 | 2.937 | 3.230 | 2.790 |
| 19 | 3.600 | 2.984 | 3.282 | 2.835 |
| 20 | 3.800 | 3.029 | 3.332 | 2.878 |
| 21 | 4.000 | 3.073 | 3.380 | 2.919 |
| 22 | 4.200 | 3.115 | 3.427 | 2.959 |
| 23 | 4.400 | 3.156 | 3.471 | 2.998 |
| 24 | 4.600 | 3.195 | 3.515 | 3.035 |
| 25 | 4.800 | 3.233 | 3.557 | 3.072 |
| 26 | 5.000 | 3.270 | 3.597 | 3.107 |
| 27 | 5.200 | 3.306 | 3.637 | 3.141 |
| 28 | 5.400 | 3.341 | 3.676 | 3.174 |
| 29 | 5.600 | 3.376 | 3.713 | 3.207 |
| 30 | 5.800 | 3.409 | 3.750 | 3.238 |
| 31 | 6.000 | 3.441 | 3.785 | 3.269 |
| 32 | 6.200 | 3.473 | 3.820 | 3.299 |
| 33 | 6.400 | 3.504 | 3.854 | 3.329 |
| 34 | 6.600 | 3.534 | 3.887 | 3.357 |
| 35 | 6.800 | 3.564 | 3.920 | 3.385 |
| 36 | 7.000 | 3.593 | 3.952 | 3.413 |
| 37 | 7.200 | 3.621 | 3.983 | 3.440 |
| 38 | 7.400 | 3.649 | 4.014 | 3.466 |
| 39 | 7.600 | 3.676 | 4.044 | 3.492 |
| 40 | 7.800 | 3.703 | 4.073 | 3.518 |
| 41 | 8.000 | 3.729 | 4.102 | 3.543 |
| 42 | 8.200 | 3.755 | 4.130 | 3.567 |
| 43 | 8.400 | 3.780 | 4.158 | 3.591 |
| 44 | 8.600 | 3.805 | 4.186 | 3.615 |
| 45 | 8.800 | 3.830 | 4.213 | 3.638 |
| 46 | 9.000 | 3.854 | 4.239 | 3.661 |
| 47 | 9.200 | 3.878 | 4.265 | 3.684 |
| 48 | 9.400 | 3.901 | 4.291 | 3.706 |
| 49 | 9.600 | 3.924 | 4.316 | 3.728 |
| 50 | 9.800 | 3.947 | 4.341 | 3.749 |
| 51 | 10.000 | 3.969 | 4.366 | 3.770 |
| 52 | 10.200 | 3.991 | 4.390 | 3.791 |
| 53 | 10.400 | 4.013 | 4.414 | 3.812 |

---------- PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)----------

HIGH PERTURBATION VALUE= .1000
LOW PERTURBATION VALUE = .0500

OUTER LOOP PARAMETER= 1.000
INNER LOOP PARAMETER= 300.000

| NO.TERMS | IND.VAR. | DEP.VAR. | HI. VAL. | LO. VAL. |
|---|---|---|---|---|
| 1 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | .200 | 1.559 | 1.715 | 1.481 |
| 3 | .400 | 1.892 | 2.081 | 1.797 |
| 4 | .600 | 2.119 | 2.331 | 2.013 |
| 5 | .800 | 2.296 | 2.526 | 2.181 |
| 6 | 1.000 | 2.444 | 2.688 | 2.321 |
| 7 | 1.200 | 2.571 | 2.828 | 2.443 |
| 8 | 1.400 | 2.684 | 2.953 | 2.550 |
| 9 | 1.600 | 2.786 | 3.065 | 2.647 |
| 10 | 1.800 | 2.879 | 3.167 | 2.736 |
| 11 | 2.000 | 2.965 | 3.262 | 2.817 |
| 12 | 2.200 | 3.045 | 3.350 | 2.893 |
| 13 | 2.400 | 3.120 | 3.432 | 2.964 |
| 14 | 2.600 | 3.191 | 3.510 | 3.031 |
| 15 | 2.800 | 3.258 | 3.583 | 3.095 |
| 16 | 3.000 | 3.321 | 3.653 | 3.155 |
| 17 | 3.200 | 3.381 | 3.720 | 3.212 |
| 18 | 3.400 | 3.439 | 3.783 | 3.267 |
| 19 | 3.600 | 3.494 | 3.844 | 3.320 |
| 20 | 3.800 | 3.548 | 3.902 | 3.370 |
| 21 | 4.000 | 3.599 | 3.959 | 3.419 |
| 22 | 4.200 | 3.648 | 4.013 | 3.466 |
| 23 | 4.400 | 3.696 | 4.065 | 3.511 |
| 24 | 4.600 | 3.742 | 4.116 | 3.555 |
| 25 | 4.800 | 3.787 | 4.165 | 3.597 |
| 26 | 5.000 | 3.830 | 4.213 | 3.639 |
| 27 | 5.200 | 3.872 | 4.260 | 3.679 |
| 28 | 5.400 | 3.913 | 4.305 | 3.718 |
| 29 | 5.600 | 3.953 | 4.349 | 3.756 |
| 30 | 5.800 | 3.992 | 4.392 | 3.793 |
| 31 | 6.000 | 4.030 | 4.433 | 3.829 |
| 32 | 6.200 | 4.067 | 4.474 | 3.864 |
| 33 | 6.400 | 4.104 | 4.514 | 3.898 |
| 34 | 6.600 | 4.139 | 4.553 | 3.932 |
| 35 | 6.800 | 4.174 | 4.591 | 3.965 |
| 36 | 7.000 | 4.208 | 4.628 | 3.997 |
| 37 | 7.200 | 4.241 | 4.665 | 4.029 |
| 38 | 7.400 | 4.273 | 4.701 | 4.060 |
| 39 | 7.600 | 4.305 | 4.736 | 4.090 |
| 40 | 7.800 | 4.337 | 4.770 | 4.120 |
| 41 | 8.000 | 4.367 | 4.804 | 4.149 |
| 42 | 8.200 | 4.398 | 4.837 | 4.178 |
| 43 | 8.400 | 4.427 | 4.870 | 4.206 |
| 44 | 8.600 | 4.457 | 4.902 | 4.234 |
| 45 | 8.800 | 4.485 | 4.934 | 4.261 |
| 46 | 9.000 | 4.514 | 4.965 | 4.288 |
| 47 | 9.200 | 4.541 | 4.995 | 4.314 |
| 48 | 9.400 | 4.569 | 5.026 | 4.340 |
| 49 | 9.600 | 4.596 | 5.055 | 4.366 |
| 50 | 9.800 | 4.622 | 5.084 | 4.391 |
| 51 | 10.000 | 4.648 | 5.113 | 4.416 |
| 52 | 10.200 | 4.674 | 5.141 | 4.440 |
| 53 | 10.400 | 4.699 | 5.169 | 4.465 |

---------- PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW (APPL HI ORDER LANG)----------

HIGH PERTURBATION VALUE= .1000
LOW PERTURBATION VALUE = .0500

OUTER LOOP PARAMETER= 1.000
INNER LOOP PARAMETER= 350.000

| NO. TERMS | IND. VAR. | DEP. VAR. | HI. VAL. | LO. VAL. |
|---|---|---|---|---|
| 1 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | .200 | 1.782 | 1.960 | 1.693 |
| 3 | .400 | 2.162 | 2.379 | 2.054 |
| 4 | .600 | 2.422 | 2.664 | 2.300 |
| 5 | .800 | 2.624 | 2.886 | 2.493 |
| 6 | 1.000 | 2.793 | 3.072 | 2.653 |
| 7 | 1.200 | 2.939 | 3.233 | 2.792 |
| 8 | 1.400 | 3.068 | 3.375 | 2.915 |
| 9 | 1.600 | 3.185 | 3.503 | 3.025 |
| 10 | 1.800 | 3.291 | 3.620 | 3.126 |
| 11 | 2.000 | 3.389 | 3.728 | 3.220 |
| 12 | 2.200 | 3.481 | 3.829 | 3.307 |
| 13 | 2.400 | 3.566 | 3.923 | 3.388 |
| 14 | 2.600 | 3.647 | 4.012 | 3.465 |
| 15 | 2.800 | 3.723 | 4.096 | 3.537 |
| 16 | 3.000 | 3.796 | 4.175 | 3.606 |
| 17 | 3.200 | 3.865 | 4.251 | 3.671 |
| 18 | 3.400 | 3.931 | 4.324 | 3.734 |
| 19 | 3.600 | 3.994 | 4.393 | 3.794 |
| 20 | 3.800 | 4.055 | 4.460 | 3.852 |
| 21 | 4.000 | 4.113 | 4.525 | 3.908 |
| 22 | 4.200 | 4.170 | 4.587 | 3.961 |
| 23 | 4.400 | 4.224 | 4.647 | 4.013 |
| 24 | 4.600 | 4.277 | 4.705 | 4.063 |
| 25 | 4.800 | 4.328 | 4.761 | 4.112 |
| 26 | 5.000 | 4.378 | 4.815 | 4.159 |
| 27 | 5.200 | 4.426 | 4.868 | 4.205 |
| 28 | 5.400 | 4.473 | 4.920 | 4.249 |
| 29 | 5.600 | 4.518 | 4.970 | 4.293 |
| 30 | 5.800 | 4.563 | 5.019 | 4.335 |
| 31 | 6.000 | 4.606 | 5.067 | 4.376 |
| 32 | 6.200 | 4.649 | 5.114 | 4.416 |
| 33 | 6.400 | 4.690 | 5.159 | 4.456 |
| 34 | 6.600 | 4.731 | 5.204 | 4.494 |
| 35 | 6.800 | 4.770 | 5.247 | 4.532 |
| 36 | 7.000 | 4.809 | 5.290 | 4.569 |
| 37 | 7.200 | 4.847 | 5.332 | 4.605 |
| 38 | 7.400 | 4.884 | 5.373 | 4.640 |
| 39 | 7.600 | 4.921 | 5.413 | 4.675 |
| 40 | 7.800 | 4.957 | 5.452 | 4.709 |
| 41 | 8.000 | 4.992 | 5.491 | 4.742 |
| 42 | 8.200 | 5.026 | 5.529 | 4.775 |
| 43 | 8.400 | 5.060 | 5.566 | 4.807 |
| 44 | 8.600 | 5.094 | 5.603 | 4.839 |
| 45 | 8.800 | 5.126 | 5.639 | 4.870 |
| 46 | 9.000 | 5.159 | 5.674 | 4.901 |
| 47 | 9.200 | 5.190 | 5.709 | 4.931 |
| 48 | 9.400 | 5.222 | 5.744 | 4.961 |
| 49 | 9.600 | 5.252 | 5.778 | 4.990 |
| 50 | 9.800 | 5.283 | 5.811 | 5.019 |
| 51 | 10.000 | 5.313 | 5.844 | 5.047 |
| 52 | 10.200 | 5.342 | 5.876 | 5.075 |
| 53 | 10.400 | 5.371 | 5.908 | 5.103 |

---------- PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)----------

HIGH PERTURBATION VALUE= .1000
LOW PERTURBATION VALUE = .0500

OUTER LOOP PARAMETER= 1.000
INNER LOOP PARAMETER= 400.000

| NO.TERMS | IND.VAR. | DEP.VAR. | HI. VAL. | LO. VAL. |
|---|---|---|---|---|
| 1 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | .200 | 2.000 | 2.200 | 1.900 |
| 3 | .400 | 2.428 | 2.670 | 2.306 |
| 4 | .600 | 2.719 | 2.990 | 2.583 |
| 5 | .800 | 2.946 | 3.241 | 2.799 |
| 6 | 1.000 | 3.135 | 3.449 | 2.979 |
| 7 | 1.200 | 3.299 | 3.629 | 3.134 |
| 8 | 1.400 | 3.444 | 3.789 | 3.272 |
| 9 | 1.600 | 3.575 | 3.933 | 3.396 |
| 10 | 1.800 | 3.695 | 4.064 | 3.510 |
| 11 | 2.000 | 3.805 | 4.186 | 3.615 |
| 12 | 2.200 | 3.908 | 4.299 | 3.712 |
| 13 | 2.400 | 4.004 | 4.404 | 3.804 |
| 14 | 2.600 | 4.094 | 4.504 | 3.890 |
| 15 | 2.800 | 4.180 | 4.598 | 3.971 |
| 16 | 3.000 | 4.261 | 4.687 | 4.048 |
| 17 | 3.200 | 4.339 | 4.773 | 4.122 |
| 18 | 3.400 | 4.413 | 4.854 | 4.192 |
| 19 | 3.600 | 4.484 | 4.932 | 4.260 |
| 20 | 3.800 | 4.552 | 5.007 | 4.325 |
| 21 | 4.000 | 4.618 | 5.080 | 4.387 |
| 22 | 4.200 | 4.681 | 5.149 | 4.447 |
| 23 | 4.400 | 4.742 | 5.217 | 4.505 |
| 24 | 4.600 | 4.802 | 5.282 | 4.562 |
| 25 | 4.800 | 4.859 | 5.345 | 4.616 |
| 26 | 5.000 | 4.915 | 5.406 | 4.669 |
| 27 | 5.200 | 4.969 | 5.466 | 4.720 |
| 28 | 5.400 | 5.022 | 5.524 | 4.770 |
| 29 | 5.600 | 5.073 | 5.580 | 4.819 |
| 30 | 5.800 | 5.123 | 5.635 | 4.867 |
| 31 | 6.000 | 5.171 | 5.689 | 4.913 |
| 32 | 6.200 | 5.219 | 5.741 | 4.958 |
| 33 | 6.400 | 5.266 | 5.792 | 5.002 |
| 34 | 6.600 | 5.311 | 5.842 | 5.045 |
| 35 | 6.800 | 5.355 | 5.891 | 5.088 |
| 36 | 7.000 | 5.399 | 5.939 | 5.129 |
| 37 | 7.200 | 5.442 | 5.986 | 5.170 |
| 38 | 7.400 | 5.483 | 6.032 | 5.209 |
| 39 | 7.600 | 5.524 | 6.077 | 5.248 |
| 40 | 7.800 | 5.565 | 6.121 | 5.286 |
| 41 | 8.000 | 5.604 | 6.164 | 5.324 |
| 42 | 8.200 | 5.643 | 6.207 | 5.361 |
| 43 | 8.400 | 5.681 | 6.249 | 5.397 |
| 44 | 8.600 | 5.718 | 6.290 | 5.432 |
| 45 | 8.800 | 5.755 | 6.331 | 5.467 |
| 46 | 9.000 | 5.791 | 6.371 | 5.502 |
| 47 | 9.200 | 5.827 | 6.410 | 5.536 |
| 48 | 9.400 | 5.862 | 6.448 | 5.569 |
| 49 | 9.600 | 5.897 | 6.486 | 5.602 |
| 50 | 9.800 | 5.931 | 6.524 | 5.634 |
| 51 | 10.000 | 5.964 | 6.561 | 5.666 |
| 52 | 10.200 | 5.997 | 6.597 | 5.698 |
| 53 | 10.400 | 6.030 | 6.633 | 5.729 |

---------- PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)----------

HIGH PERTURBATION VALUE= .1000
LOW PERTURBATION VALUE = .0500

OUTER LOOP PARAMETER= 1.000
INNER LOOP PARAMETER= 450.000

| NO.TERMS | IND.VAR. | DEP.VAR. | HI. VAL. | LO. VAL. |
|---|---|---|---|---|
| 1 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | .200 | 2.215 | 2.437 | 2.105 |
| 3 | .400 | 2.688 | 2.957 | 2.554 |
| 4 | .600 | 3.011 | 3.312 | 2.860 |
| 5 | .800 | 3.263 | 3.589 | 3.099 |
| 6 | 1.000 | 3.472 | 3.820 | 3.299 |
| 7 | 1.200 | 3.654 | 4.019 | 3.471 |
| 8 | 1.400 | 3.815 | 4.196 | 3.624 |
| 9 | 1.600 | 3.959 | 4.355 | 3.761 |
| 10 | 1.800 | 4.092 | 4.501 | 3.887 |
| 11 | 2.000 | 4.214 | 4.635 | 4.003 |
| 12 | 2.200 | 4.328 | 4.760 | 4.111 |
| 13 | 2.400 | 4.434 | 4.878 | 4.212 |
| 14 | 2.600 | 4.534 | 4.988 | 4.308 |
| 15 | 2.800 | 4.629 | 5.092 | 4.398 |
| 16 | 3.000 | 4.719 | 5.191 | 4.483 |
| 17 | 3.200 | 4.805 | 5.286 | 4.565 |
| 18 | 3.400 | 4.887 | 5.376 | 4.643 |
| 19 | 3.600 | 4.966 | 5.462 | 4.717 |
| 20 | 3.800 | 5.041 | 5.545 | 4.789 |
| 21 | 4.000 | 5.114 | 5.625 | 4.858 |
| 22 | 4.200 | 5.184 | 5.703 | 4.925 |
| 23 | 4.400 | 5.252 | 5.777 | 4.989 |
| 24 | 4.600 | 5.318 | 5.849 | 5.052 |
| 25 | 4.800 | 5.381 | 5.919 | 5.112 |
| 26 | 5.000 | 5.443 | 5.987 | 5.171 |
| 27 | 5.200 | 5.503 | 6.053 | 5.228 |
| 28 | 5.400 | 5.561 | 6.117 | 5.283 |
| 29 | 5.600 | 5.618 | 6.180 | 5.337 |
| 30 | 5.800 | 5.673 | 6.241 | 5.390 |
| 31 | 6.000 | 5.727 | 6.300 | 5.441 |
| 32 | 6.200 | 5.780 | 6.358 | 5.491 |
| 33 | 6.400 | 5.831 | 6.414 | 5.540 |
| 34 | 6.600 | 5.882 | 6.470 | 5.588 |
| 35 | 6.800 | 5.931 | 6.524 | 5.634 |
| 36 | 7.000 | 5.979 | 6.577 | 5.680 |
| 37 | 7.200 | 6.026 | 6.629 | 5.725 |
| 38 | 7.400 | 6.073 | 6.680 | 5.769 |
| 39 | 7.600 | 6.118 | 6.730 | 5.812 |
| 40 | 7.800 | 6.163 | 6.779 | 5.854 |
| 41 | 8.000 | 6.206 | 6.827 | 5.896 |
| 42 | 8.200 | 6.249 | 6.874 | 5.937 |
| 43 | 8.400 | 6.291 | 6.921 | 5.977 |
| 44 | 8.600 | 6.333 | 6.966 | 6.016 |
| 45 | 8.800 | 6.374 | 7.011 | 6.055 |
| 46 | 9.000 | 6.414 | 7.055 | 6.093 |
| 47 | 9.200 | 6.453 | 7.099 | 6.131 |
| 48 | 9.400 | 6.492 | 7.141 | 6.168 |
| 49 | 9.600 | 6.530 | 7.184 | 6.204 |
| 50 | 9.800 | 6.568 | 7.225 | 6.240 |
| 51 | 10.000 | 6.605 | 7.266 | 6.275 |
| 52 | 10.200 | 6.642 | 7.306 | 6.310 |
| 53 | 10.400 | 6.678 | 7.346 | 6.344 |

---------- PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)----------

HIGH PERTURBATION VALUE= .1000
LOW PERTURBATION VALUE = .0500

OUTER LOOP PARAMETER= 1.000
INNER LOOP PARAMETER= 500.000

| NO.TERMS | IND.VAR. | DEP.VAR. | HI. VAL. | LO. VAL. |
|---|---|---|---|---|
| 1 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | .200 | 2.427 | 2.670 | 2.306 |
| 3 | .400 | 2.945 | 3.240 | 2.798 |
| 4 | .600 | 3.299 | 3.628 | 3.134 |
| 5 | .800 | 3.575 | 3.932 | 3.396 |
| 6 | 1.000 | 3.804 | 4.185 | 3.614 |
| 7 | 1.200 | 4.003 | 4.403 | 3.803 |
| 8 | 1.400 | 4.179 | 4.597 | 3.970 |
| 9 | 1.600 | 4.338 | 4.772 | 4.121 |
| 10 | 1.800 | 4.483 | 4.931 | 4.259 |
| 11 | 2.000 | 4.617 | 5.079 | 4.386 |
| 12 | 2.200 | 4.741 | 5.216 | 4.504 |
| 13 | 2.400 | 4.858 | 5.344 | 4.615 |
| 14 | 2.600 | 4.968 | 5.465 | 4.719 |
| 15 | 2.800 | 5.072 | 5.579 | 4.818 |
| 16 | 3.000 | 5.170 | 5.687 | 4.912 |
| 17 | 3.200 | 5.264 | 5.791 | 5.001 |
| 18 | 3.400 | 5.354 | 5.890 | 5.087 |
| 19 | 3.600 | 5.441 | 5.985 | 5.169 |
| 20 | 3.800 | 5.523 | 6.076 | 5.247 |
| 21 | 4.000 | 5.603 | 6.163 | 5.323 |
| 22 | 4.200 | 5.680 | 6.248 | 5.396 |
| 23 | 4.400 | 5.754 | 6.330 | 5.466 |
| 24 | 4.600 | 5.826 | 6.409 | 5.535 |
| 25 | 4.800 | 5.896 | 6.485 | 5.601 |
| 26 | 5.000 | 5.963 | 6.560 | 5.665 |
| 27 | 5.200 | 6.029 | 6.632 | 5.727 |
| 28 | 5.400 | 6.093 | 6.702 | 5.788 |
| 29 | 5.600 | 6.155 | 6.771 | 5.847 |
| 30 | 5.800 | 6.216 | 6.837 | 5.905 |
| 31 | 6.000 | 6.275 | 6.902 | 5.961 |
| 32 | 6.200 | 6.332 | 6.966 | 6.016 |
| 33 | 6.400 | 6.389 | 7.028 | 6.069 |
| 34 | 6.600 | 6.444 | 7.088 | 6.122 |
| 35 | 6.800 | 6.498 | 7.148 | 6.173 |
| 36 | 7.000 | 6.551 | 7.206 | 6.223 |
| 37 | 7.200 | 6.603 | 7.263 | 6.272 |
| 38 | 7.400 | 6.653 | 7.319 | 6.321 |
| 39 | 7.600 | 6.703 | 7.373 | 6.368 |
| 40 | 7.800 | 6.752 | 7.427 | 6.414 |
| 41 | 8.000 | 6.800 | 7.480 | 6.460 |
| 42 | 8.200 | 6.847 | 7.531 | 6.504 |
| 43 | 8.400 | 6.893 | 7.582 | 6.548 |
| 44 | 8.600 | 6.938 | 7.632 | 6.591 |
| 45 | 8.800 | 6.983 | 7.681 | 6.634 |
| 46 | 9.000 | 7.027 | 7.730 | 6.676 |
| 47 | 9.200 | 7.070 | 7.777 | 6.717 |
| 48 | 9.400 | 7.113 | 7.824 | 6.757 |
| 49 | 9.600 | 7.155 | 7.870 | 6.797 |
| 50 | 9.800 | 7.196 | 7.916 | 6.836 |
| 51 | 10.000 | 7.237 | 7.961 | 6.875 |
| 52 | 10.200 | 7.277 | 8.005 | 6.913 |
| 53 | 10.400 | 7.317 | 8.048 | 6.951 |

---------- PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)----------

HIGH PERTURBATION VALUE= .1000
LOW PERTURBATION VALUE = .0500

OUTER LOOP PARAMETER= 1.000
INNER LOOP PARAMETER= 550.000

| NO.TERMS | IND.VAR. | DEP.VAR. | HI. VAL. | LO. VAL. |
|---|---|---|---|---|
| 1 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | .200 | 2.636 | 2.900 | 2.504 |
| 3 | .400 | 3.199 | 3.519 | 3.039 |
| 4 | .600 | 3.583 | 3.941 | 3.403 |
| 5 | .800 | 3.882 | 4.271 | 3.688 |
| 6 | 1.000 | 4.132 | 4.545 | 3.925 |
| 7 | 1.200 | 4.348 | 4.783 | 4.130 |
| 8 | 1.400 | 4.539 | 4.993 | 4.312 |
| 9 | 1.600 | 4.712 | 5.183 | 4.476 |
| 10 | 1.800 | 4.869 | 5.356 | 4.626 |
| 11 | 2.000 | 5.014 | 5.516 | 4.764 |
| 12 | 2.200 | 5.150 | 5.665 | 4.892 |
| 13 | 2.400 | 5.276 | 5.804 | 5.013 |
| 14 | 2.600 | 5.396 | 5.935 | 5.126 |
| 15 | 2.800 | 5.508 | 6.059 | 5.233 |
| 16 | 3.000 | 5.616 | 6.177 | 5.335 |
| 17 | 3.200 | 5.718 | 6.290 | 5.432 |
| 18 | 3.400 | 5.815 | 6.397 | 5.525 |
| 19 | 3.600 | 5.909 | 6.500 | 5.614 |
| 20 | 3.800 | 5.999 | 6.599 | 5.699 |
| 21 | 4.000 | 6.085 | 6.694 | 5.781 |
| 22 | 4.200 | 6.169 | 6.786 | 5.860 |
| 23 | 4.400 | 6.250 | 6.875 | 5.937 |
| 24 | 4.600 | 6.328 | 6.960 | 6.011 |
| 25 | 4.800 | 6.403 | 7.044 | 6.083 |
| 26 | 5.000 | 6.477 | 7.124 | 6.153 |
| 27 | 5.200 | 6.548 | 7.203 | 6.221 |
| 28 | 5.400 | 6.617 | 7.279 | 6.287 |
| 29 | 5.600 | 6.685 | 7.353 | 6.351 |
| 30 | 5.800 | 6.751 | 7.426 | 6.413 |
| 31 | 6.000 | 6.815 | 7.497 | 6.474 |
| 32 | 6.200 | 6.878 | 7.565 | 6.534 |
| 33 | 6.400 | 6.939 | 7.633 | 6.592 |
| 34 | 6.600 | 6.999 | 7.699 | 6.649 |
| 35 | 6.800 | 7.057 | 7.763 | 6.705 |
| 36 | 7.000 | 7.115 | 7.826 | 6.759 |
| 37 | 7.200 | 7.171 | 7.888 | 6.812 |
| 38 | 7.400 | 7.226 | 7.949 | 6.865 |
| 39 | 7.600 | 7.280 | 8.008 | 6.916 |
| 40 | 7.800 | 7.333 | 8.066 | 6.966 |
| 41 | 8.000 | 7.385 | 8.124 | 7.016 |
| 42 | 8.200 | 7.436 | 8.180 | 7.064 |
| 43 | 8.400 | 7.486 | 8.235 | 7.112 |
| 44 | 8.600 | 7.536 | 8.289 | 7.159 |
| 45 | 8.800 | 7.584 | 8.343 | 7.205 |
| 46 | 9.000 | 7.632 | 8.395 | 7.251 |
| 47 | 9.200 | 7.679 | 8.447 | 7.295 |
| 48 | 9.400 | 7.725 | 8.498 | 7.339 |
| 49 | 9.600 | 7.771 | 8.548 | 7.382 |
| 50 | 9.800 | 7.816 | 8.597 | 7.425 |
| 51 | 10.000 | 7.860 | 8.646 | 7.467 |
| 52 | 10.200 | 7.904 | 8.694 | 7.508 |
| 53 | 10.400 | 7.947 | 8.741 | 7.549 |

---------- PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)----------

HIGH PERTURBATION VALUE= .1000
LOW PERTURBATION VALUE = .0500

OUTER LOOP PARAMETER= 1.000
INNER LOOP PARAMETER= 600.000

| NO. TERMS | IND. VAR. | DEP. VAR. | HI. VAL. | LO. VAL. |
|---|---|---|---|---|
| 1 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | .200 | 2.843 | 3.127 | 2.700 |
| 3 | .400 | 3.450 | 3.795 | 3.277 |
| 4 | .600 | 3.863 | 4.250 | 3.670 |
| 5 | .800 | 4.186 | 4.605 | 3.977 |
| 6 | 1.000 | 4.456 | 4.901 | 4.233 |
| 7 | 1.200 | 4.688 | 5.157 | 4 454 |
| 8 | 1.400 | 4.895 | 5.384 | 4.650 |
| 9 | 1.600 | 5.081 | 5.589 | 4.826 |
| 10 | 1.800 | 5.250 | 5.775 | 4.988 |
| 11 | 2.000 | 5.407 | 5.948 | 5.137 |
| 12 | 2.200 | 5.553 | 6.108 | 5.275 |
| 13 | 2.400 | 5.690 | 6.259 | 5.405 |
| 14 | 2.600 | 5.818 | 6.400 | 5.527 |
| 15 | 2.800 | 5.940 | 6.534 | 5.643 |
| 16 | 3.000 | 6.055 | 6.661 | 5.753 |
| 17 | 3.200 | 6.166 | 6.782 | 5.857 |
| 18 | 3.400 | 6.271 | 6.898 | 5.957 |
| 19 | 3.600 | 6.372 | 7.009 | 6.053 |
| 20 | 3.800 | 6.469 | 7.116 | 6.145 |
| 21 | 4.000 | 6.562 | 7.218 | 6.234 |
| 22 | 4.200 | 6.652 | 7.317 | 6.319 |
| 23 | 4.400 | 6.739 | 7.413 | 6.402 |
| 24 | 4.600 | 6.823 | 7.506 | 6.482 |
| 25 | 4.800 | 6.905 | 7.595 | 6.560 |
| 26 | 5.000 | 6.984 | 7.682 | 6.635 |
| 27 | 5.200 | 7.061 | 7.767 | 6.708 |
| 28 | 5.400 | 7.136 | 7.849 | 6.779 |
| 29 | 5.600 | 7.209 | 7.929 | 6.848 |
| 30 | 5.800 | 7.280 | 8.008 | 6.916 |
| 31 | 6.000 | 7 349 | 8.084 | 6.981 |
| 32 | 6.200 | 7.416 | 8.158 | 7.046 |
| 33 | 6.400 | 7.482 | 8.231 | 7.108 |
| 34 | 6.600 | 7.547 | 8.302 | 7.170 |
| 35 | 6.800 | 7.610 | 8.371 | 7.230 |
| 36 | 7.000 | 7.672 | 8.439 | 7.288 |
| 37 | 7.200 | 7.733 | 8.506 | 7.346 |
| 38 | 7.400 | 7.792 | 8.571 | 7.402 |
| 39 | 7.600 | 7.850 | 8.635 | 7.458 |
| 40 | 7.800 | 7.907 | 8.698 | 7.512 |
| 41 | 8.000 | 7.964 | 8.760 | 7.565 |
| 42 | 8.200 | 8.019 | 8.821 | 7.618 |
| 43 | 8.400 | 8.073 | 8.880 | 7.669 |
| 44 | 8.600 | 8.126 | 8.939 | 7.720 |
| 45 | 8.800 | 8.178 | 8.996 | 7.769 |
| 46 | 9.000 | 8.230 | 9.053 | 7.818 |
| 47 | 9.200 | 8.281 | 9.109 | 7.867 |
| 48 | 9.400 | 8.330 | 9.163 | 7.914 |
| 49 | 9.600 | 8.380 | 9.217 | 7.961 |
| 50 | 9.800 | 8.428 | 9.271 | 8.007 |
| 51 | 10.000 | 8.476 | 9.323 | 8.052 |
| 52 | 10.200 | 8.523 | 9.375 | 8 096 |
| 53 | 10.400 | 8.569 | 9.426 | 8.141 |

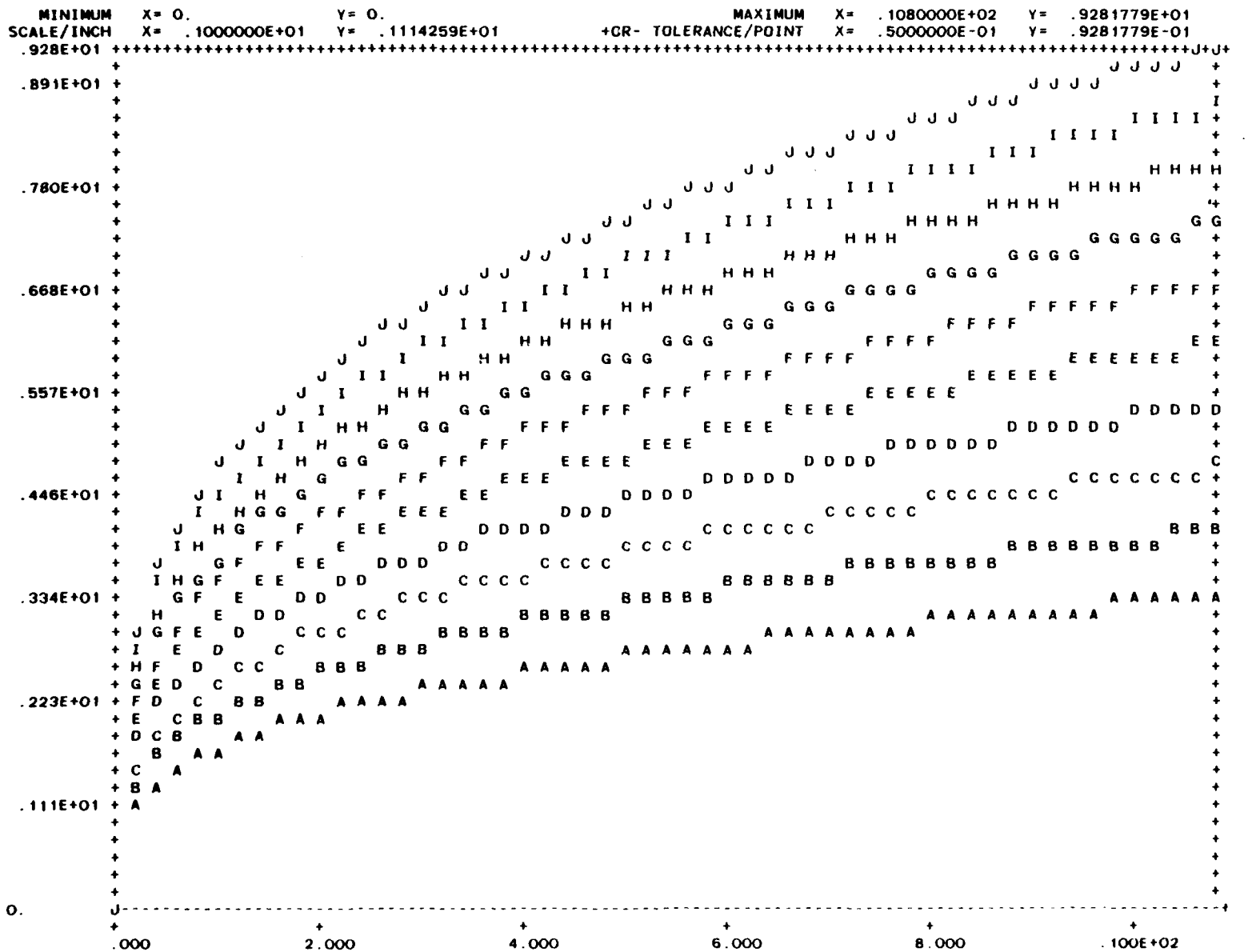
---------- PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)----------

HIGH PERTURBATION VALUE= .1000
LOW PERTURBATION VALUE = .0500

OUTER LOOP PARAMETER= 1.000
INNER LOOP PARAMETER= 650.000

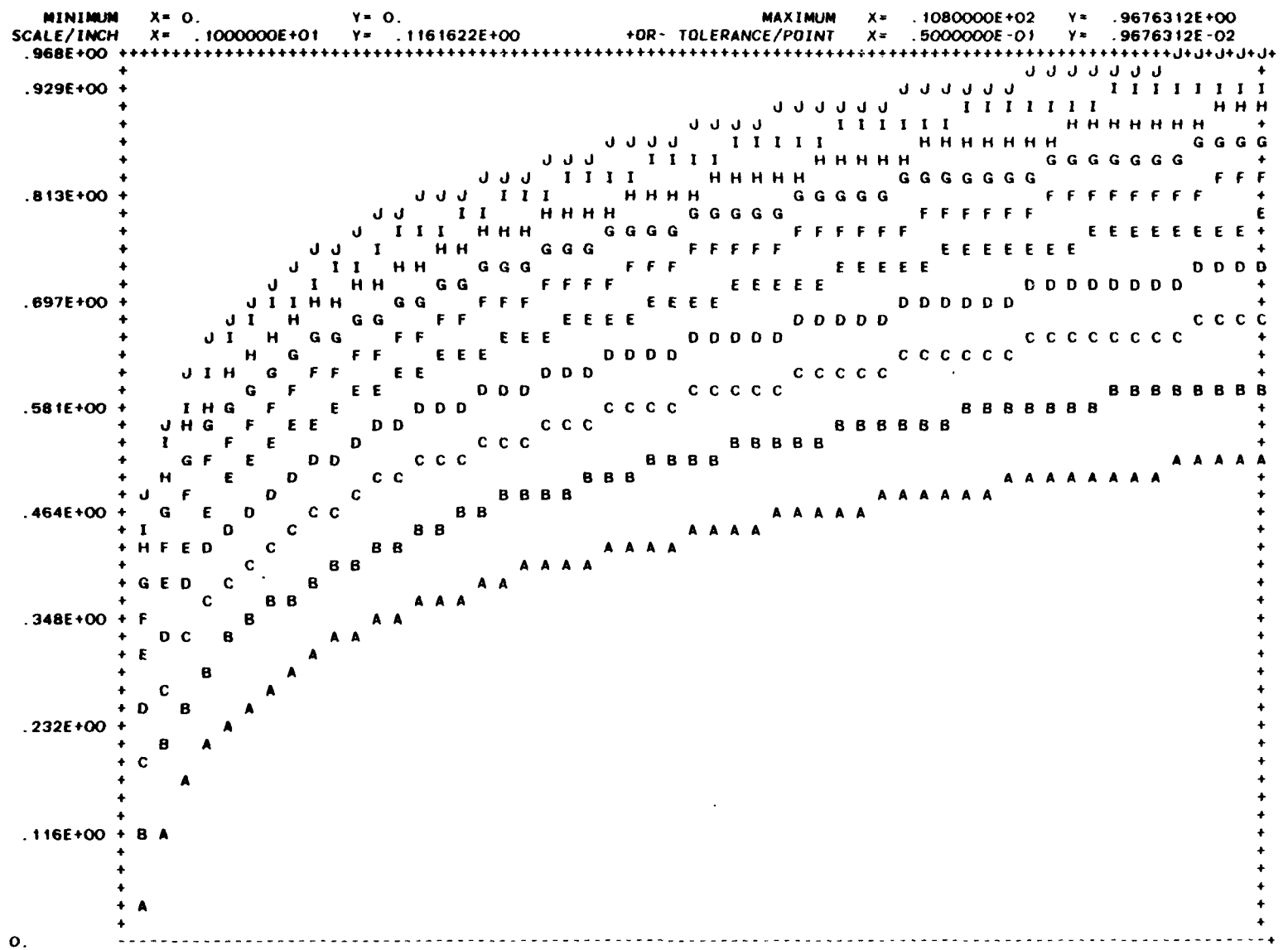
| NO.TERMS | IND.VAR. | DEP.VAR. | HI. VAL. | LO. VAL. |
|---|---|---|---|---|
| 1 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | .200 | 3.047 | 3.351 | 2.894 |
| 3 | .400 | 3.697 | 4.067 | 3.513 |
| 4 | .600 | 4.141 | 4.555 | 3.934 |
| 5 | .800 | 4.487 | 4.936 | 4.263 |
| 6 | 1.000 | 4.776 | 5.253 | 4.537 |
| 7 | 1.200 | 5.025 | 5.528 | 4.774 |
| 8 | 1.400 | 5.246 | 5.771 | 4.984 |
| 9 | 1.600 | 5.445 | 5.990 | 5.173 |
| 10 | 1.800 | 5.628 | 6.190 | 5.346 |
| 11 | 2.000 | 5.796 | 6.375 | 5.506 |
| 12 | 2.200 | 5.952 | 6.547 | 5.654 |
| 13 | 2.400 | 6.098 | 6.708 | 5.793 |
| 14 | 2.600 | 6.236 | 6.860 | 5.924 |
| 15 | 2.800 | 6.367 | 7.003 | 6.048 |
| 16 | 3.000 | 6.490 | 7.139 | 6.166 |
| 17 | 3.200 | 6.608 | 7.269 | 6.278 |
| 18 | 3.400 | 6.721 | 7.393 | 6.385 |
| 19 | 3.600 | 6.829 | 7.512 | 6.488 |
| 20 | 3.800 | 6.933 | 7.627 | 6.587 |
| 21 | 4.000 | 7.033 | 7.737 | 6.682 |
| 22 | 4.200 | 7.130 | 7.843 | 6.773 |
| 23 | 4.400 | 7.223 | 7.945 | 6.862 |
| 24 | 4.600 | 7.313 | 8.045 | 6.948 |
| 25 | 4.800 | 7.401 | 8.141 | 7.031 |
| 26 | 5.000 | 7.486 | 8.234 | 7.111 |
| 27 | 5.200 | 7.568 | 8.325 | 7.190 |
| 28 | 5.400 | 7.648 | 8.413 | 7.266 |
| 29 | 5.600 | 7.726 | 8.499 | 7.340 |
| 30 | 5.800 | 7.802 | 8.583 | 7.412 |
| 31 | 6.000 | 7.877 | 8.664 | 7.483 |
| 32 | 6.200 | 7.949 | 8.744 | 7.552 |
| 33 | 6.400 | 8.020 | 8.822 | 7.619 |
| 34 | 6.600 | 8.089 | 8.898 | 7.685 |
| 35 | 6.800 | 8.157 | 8.973 | 7.749 |
| 36 | 7.000 | 8.223 | 9.045 | 7.812 |
| 37 | 7.200 | 8.288 | 9.117 | 7.874 |
| 38 | 7.400 | 8.352 | 9.187 | 7.934 |
| 39 | 7.600 | 8.414 | 9.256 | 7.993 |
| 40 | 7.800 | 8.475 | 9.323 | 8.052 |
| 41 | 8.000 | 8.536 | 9.389 | 8.109 |
| 42 | 8.200 | 8.595 | 9.454 | 8.165 |
| 43 | 8.400 | 8.653 | 9.518 | 8.220 |
| 44 | 8.600 | 8.710 | 9.581 | 8.274 |
| 45 | 8.800 | 8.766 | 9.642 | 8.328 |
| 46 | 9.000 | 8.821 | 9.703 | 8.380 |
| 47 | 9.200 | 8.875 | 9.763 | 8.432 |
| 48 | 9.400 | 8.929 | 9.822 | 8.482 |
| 49 | 9.600 | 8.981 | 9.880 | 8.532 |
| 50 | 9.800 | 9.033 | 9.937 | 8.582 |
| 51 | 10.000 | 9.084 | 9.993 | 8.630 |
| 52 | 10.200 | 9.135 | 10.048 | 8.678 |

PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)




PLOT OF PRODUCTIVITY (MAN-HRS/LOC) VS. MIX COMPLEXITY (PC=200-650)

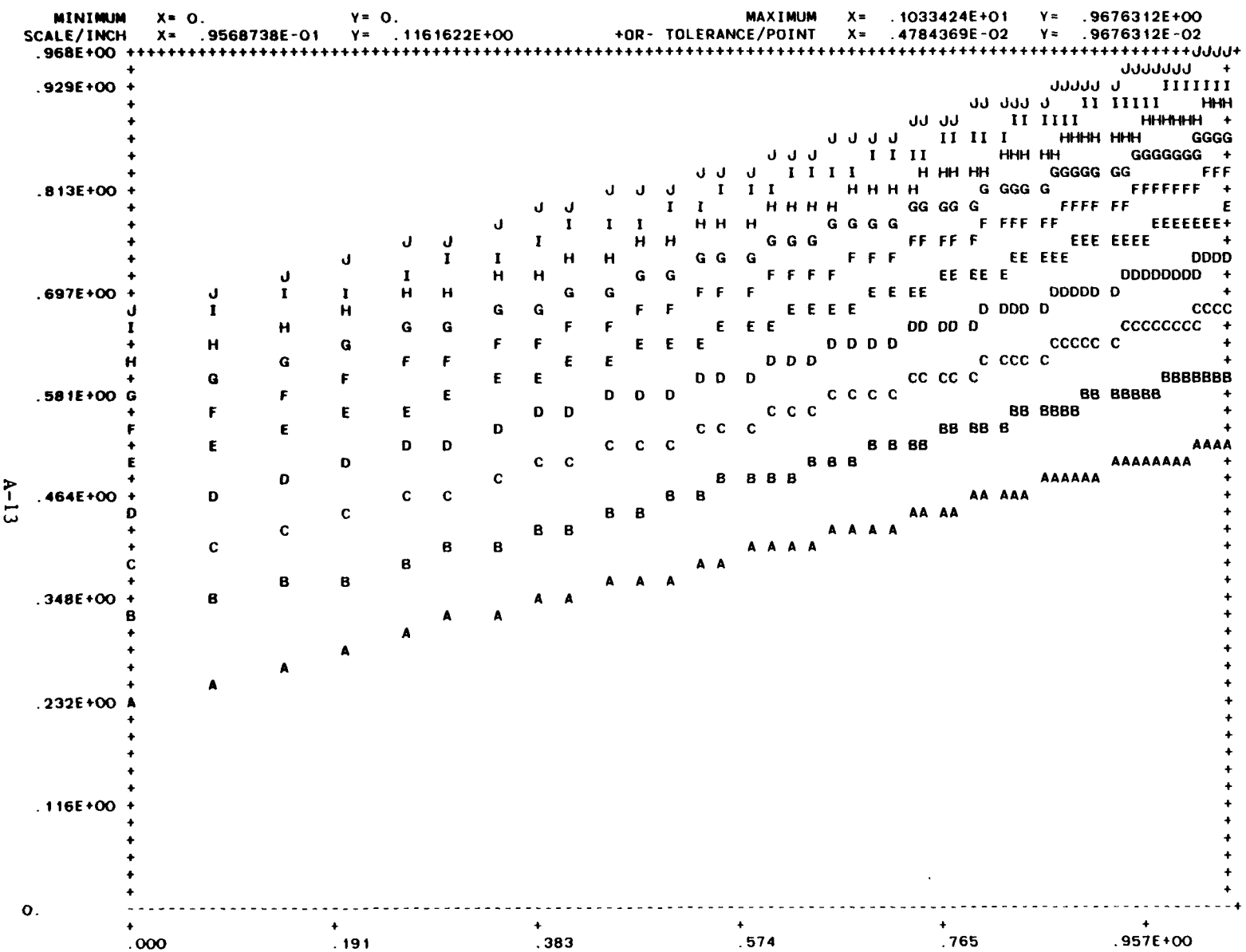
PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)




( X COORDINATE PLOTTED ON LINEAR SCALE, Y COORDINATE PLOTTED ON LOGARITHMIC SCALE )
INDEPENDENT VARIABLE-MIX COMPLEXITY

PLOT OF PRODUCTIVITY (MAN-HRS/LOC) VS. MIX COMPLEXITY (PC=200-650)

PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)




PLOT OF PRODUCTIVITY (MAN-HRS/LOC) VS. MIX COMPLEXITY (PC=200-650)



JNN

==========OUTPUT COMPUTATIONS==========

---------- PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)----------

HIGH PERTURBATION VALUE= .1000
LOW PERTURBATION VALUE = .0500

OUTER LOOP PARAMETER= 1.000
INNER LOOP PARAMETER= 1.000

| NO. TERMS | IND. VAR. | DEP. VAR. | HI. VAL. | LO. VAL. |
|---|---|---|---|---|
| 1 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | 10.000 | .128 | .141 | .122 |
| 3 | 20.000 | .234 | .257 | .222 |
| 4 | 30.000 | .332 | .365 | .316 |
| 5 | 40.000 | .426 | .469 | .405 |
| 6 | 50.000 | .517 | .569 | .491 |
| 7 | 60.000 | .606 | .666 | .575 |
| 8 | 70.000 | .692 | .762 | .658 |
| 9 | 80.000 | .777 | .855 | .738 |
| 10 | 90.000 | .861 | .947 | .818 |
| 11 | 100.000 | .943 | 1.037 | .896 |
| 12 | 110.000 | 1.024 | 1.127 | .973 |
| 13 | 120.000 | 1.104 | 1.215 | 1.049 |
| 14 | 130.000 | 1.184 | 1.302 | 1.125 |
| 15 | 140.000 | 1.262 | 1.389 | 1.199 |
| 16 | 150.000 | 1.340 | 1.474 | 1.273 |
| 17 | 160.000 | 1.417 | 1.559 | 1.346 |
| 18 | 170.000 | 1.494 | 1.643 | 1.419 |
| 19 | 180.000 | 1.570 | 1.726 | 1.491 |
| 20 | 190.000 | 1.645 | 1.809 | 1.563 |
| 21 | 200.000 | 1.720 | 1.892 | 1.634 |
| 22 | 210.000 | 1.794 | 1.973 | 1.704 |
| 23 | 220.000 | 1.868 | 2.054 | 1.774 |
| 24 | 230.000 | 1.941 | 2.135 | 1.844 |
| 25 | 240.000 | 2.014 | 2.215 | 1.913 |
| 26 | 250.000 | 2.086 | 2.295 | 1.982 |
| 27 | 260.000 | 2.159 | 2.374 | 2.051 |
| 28 | 270.000 | 2.230 | 2.453 | 2.119 |
| 29 | 280.000 | 2.302 | 2.532 | 2.187 |
| 30 | 290.000 | 2.373 | 2.610 | 2.254 |
| 31 | 300.000 | 2.444 | 2.688 | 2.321 |
| 32 | 310.000 | 2.514 | 2.765 | 2.388 |
| 33 | 320.000 | 2.584 | 2.843 | 2.455 |
| 34 | 330.000 | 2.654 | 2.919 | 2.521 |
| 35 | 340.000 | 2.724 | 2.996 | 2.587 |
| 36 | 350.000 | 2.793 | 3.072 | 2.653 |
| 37 | 360.000 | 2.862 | 3.148 | 2.719 |
| 38 | 370.000 | 2.931 | 3.224 | 2.784 |
| 39 | 380.000 | 2.999 | 3.299 | 2.849 |
| 40 | 390.000 | 3.067 | 3.374 | 2.914 |
| 41 | 400.000 | 3.135 | 3.449 | 2.979 |
| 42 | 410.000 | 3.203 | 3.524 | 3.043 |
| 43 | 420.000 | 3.271 | 3.598 | 3.107 |
| 44 | 430.000 | 3.338 | 3.672 | 3.171 |
| 45 | 440.000 | 3.405 | 3.746 | 3.235 |
| 46 | 450.000 | 3.472 | 3.820 | 3.299 |
| 47 | 460.000 | 3.539 | 3.893 | 3.362 |
| 48 | 470.000 | 3.606 | 3.966 | 3.425 |
| 49 | 480.000 | 3.672 | 4.039 | 3.489 |
| 50 | 490.000 | 3.738 | 4.112 | 3.551 |

---------- PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)----------

HIGH PERTURBATION VALUE= .1000
LOW PERTURBATION VALUE = .0500

OUTER LOOP PARAMETER= 1.000
INNER LOOP PARAMETER= 2.000

| NO.TERMS | IND.VAR. | DEP.VAR. | HI. VAL. | LO. VAL. |
|---|---|---|---|---|
| 1 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | 10.000 | .156 | .171 | .148 |
| 3 | 20.000 | .284 | .312 | .270 |
| 4 | 30.000 | .403 | .443 | .383 |
| 5 | 40.000 | .517 | .569 | .491 |
| 6 | 50.000 | .628 | .690 | .596 |
| 7 | 60.000 | .735 | .809 | .698 |
| 8 | 70.000 | .840 | .924 | .798 |
| 9 | 80.000 | .943 | 1.038 | .896 |
| 10 | 90.000 | 1.045 | 1.149 | .992 |
| 11 | 100.000 | 1.144 | 1.259 | 1.087 |
| 12 | 110.000 | 1.243 | 1.367 | 1.181 |
| 13 | 120.000 | 1.340 | 1.474 | 1.273 |
| 14 | 130.000 | 1.437 | 1.580 | 1.365 |
| 15 | 140.000 | 1.532 | 1.685 | 1.455 |
| 16 | 150.000 | 1.626 | 1.789 | 1.545 |
| 17 | 160.000 | 1.720 | 1.892 | 1.634 |
| 18 | 170.000 | 1.813 | 1.994 | 1.722 |
| 19 | 180.000 | 1.905 | 2.095 | 1.809 |
| 20 | 190.000 | 1.996 | 2.196 | 1.896 |
| 21 | 200.000 | 2.087 | 2.296 | 1.982 |
| 22 | 210.000 | 2.177 | 2.395 | 2.068 |
| 23 | 220.000 | 2.267 | 2.493 | 2.153 |
| 24 | 230.000 | 2.356 | 2.591 | 2.238 |
| 25 | 240.000 | 2.444 | 2.688 | 2.322 |
| 26 | 250.000 | 2.532 | 2.785 | 2.405 |
| 27 | 260.000 | 2.620 | 2.882 | 2.489 |
| 28 | 270.000 | 2.707 | 2.977 | 2.571 |
| 29 | 280.000 | 2.793 | 3.073 | 2.654 |
| 30 | 290.000 | 2.880 | 3.168 | 2.736 |
| 31 | 300.000 | 2.965 | 3.262 | 2.817 |
| 32 | 310.000 | 3.051 | 3.356 | 2.898 |
| 33 | 320.000 | 3.136 | 3.450 | 2.979 |
| 34 | 330.000 | 3.221 | 3.543 | 3.060 |
| 35 | 340.000 | 3.305 | 3.636 | 3.140 |
| 36 | 350.000 | 3.389 | 3.728 | 3.220 |
| 37 | 360.000 | 3.473 | 3.820 | 3.299 |
| 38 | 370.000 | 3.557 | 3.912 | 3.379 |
| 39 | 380.000 | 3.640 | 4.004 | 3.458 |
| 40 | 390.000 | 3.723 | 4.095 | 3.536 |
| 41 | 400.000 | 3.805 | 4.186 | 3.615 |
| 42 | 410.000 | 3.887 | 4.276 | 3.693 |
| 43 | 420.000 | 3.969 | 4.366 | 3.771 |
| 44 | 430.000 | 4.051 | 4.456 | 3.849 |
| 45 | 440.000 | 4.133 | 4.546 | 3.926 |
| 46 | 450.000 | 4.214 | 4.635 | 4.003 |
| 47 | 460.000 | 4.295 | 4.725 | 4.080 |
| 48 | 470.000 | 4.376 | 4.813 | 4.157 |
| 49 | 480.000 | 4.456 | 4.902 | 4.234 |
| 50 | 490.000 | 4.537 | 4.990 | 4.310 |
| 51 | 500.000 | 4.617 | 5.079 | 4.386 |
| 52 | 510.000 | 4.697 | 5.167 | 4.462 |
| 53 | 520.000 | 4.777 | 5.254 | 4.538 |

---------- PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)----------

HIGH PERTURBATION VALUE= .1000
LOW PERTURBATION VALUE = .0500

OUTER LOOP PARAMETER= 1.000
INNER LOOP PARAMETER= 3.000

| NO.TERMS | IND.VAR. | DEP.VAR. | HI. VAL. | LO. VAL. |
|---|---|---|---|---|
| 1 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | 10.000 | .174 | .192 | .166 |
| 3 | 20.000 | .318 | .349 | .302 |
| 4 | 30.000 | .451 | .497 | .429 |
| 5 | 40.000 | .579 | .637 | .550 |
| 6 | 50.000 | .703 | .773 | .668 |
| 7 | 60.000 | .823 | .906 | .782 |
| 8 | 70.000 | .941 | 1.035 | .894 |
| 9 | 80.000 | 1.056 | 1.162 | 1.004 |
| 10 | 90.000 | 1.170 | 1.287 | 1.111 |
| 11 | 100.000 | 1.282 | 1.410 | 1.218 |
| 12 | 110.000 | 1.392 | 1.531 | 1.322 |
| 13 | 120.000 | 1.501 | 1.651 | 1.426 |
| 14 | 130.000 | 1.609 | 1.770 | 1.528 |
| 15 | 140.000 | 1.716 | 1.887 | 1.630 |
| 16 | 150.000 | 1.821 | 2.003 | 1.730 |
| 17 | 160.000 | 1.926 | 2.119 | 1.830 |
| 18 | 170.000 | 2.030 | 2.233 | 1.929 |
| 19 | 180.000 | 2.133 | 2.346 | 2.026 |
| 20 | 190.000 | 2.235 | 2.459 | 2.124 |
| 21 | 200.000 | 2.337 | 2.571 | 2.220 |
| 22 | 210.000 | 2.438 | 2.682 | 2.316 |
| 23 | 220.000 | 2.538 | 2.792 | 2.411 |
| 24 | 230.000 | 2.638 | 2.902 | 2.506 |
| 25 | 240.000 | 2.737 | 3.011 | 2.600 |
| 26 | 250.000 | 2.836 | 3.119 | 2.694 |
| 27 | 260.000 | 2.934 | 3.227 | 2.787 |
| 28 | 270.000 | 3.031 | 3.334 | 2.880 |
| 29 | 280.000 | 3.128 | 3.441 | 2.972 |
| 30 | 290.000 | 3.225 | 3.547 | 3.064 |
| 31 | 300.000 | 3.321 | 3.653 | 3.155 |
| 32 | 310.000 | 3.417 | 3.758 | 3.246 |
| 33 | 320.000 | 3.512 | 3.863 | 3.336 |
| 34 | 330.000 | 3.607 | 3.968 | 3.427 |
| 35 | 340.000 | 3.701 | 4.072 | 3.516 |
| 36 | 350.000 | 3.796 | 4.175 | 3.606 |
| 37 | 360.000 | 3.889 | 4.278 | 3.695 |
| 38 | 370.000 | 3.983 | 4.381 | 3.784 |
| 39 | 380.000 | 4.076 | 4.484 | 3.872 |
| 40 | 390.000 | 4.169 | 4.586 | 3.960 |
| 41 | 400.000 | 4.261 | 4.687 | 4.048 |
| 42 | 410.000 | 4.353 | 4.789 | 4.136 |
| 43 | 420.000 | 4.445 | 4.890 | 4.223 |
| 44 | 430.000 | 4.537 | 4.991 | 4.310 |
| 45 | 440.000 | 4.628 | 5.091 | 4.397 |
| 46 | 450.000 | 4.719 | 5.191 | 4.483 |
| 47 | 460.000 | 4.810 | 5.291 | 4.570 |
| 48 | 470.000 | 4.900 | 5.391 | 4.655 |
| 49 | 480.000 | 4.991 | 5.490 | 4.741 |
| 50 | 490.000 | 5.081 | 5.589 | 4.827 |
| 51 | 500.000 | 5.170 | 5.687 | 4.912 |
| 52 | 510.000 | 5.260 | 5.786 | 4.997 |
| 53 | 520.000 | 5.349 | 5.884 | 5.082 |

---------- PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)----------

HIGH PERTURBATION VALUE= .1000
LOW PERTURBATION VALUE = .0500

OUTER LOOP PARAMETER= 1.000
INNER LOOP PARAMETER= 4.000

| NO.TERMS | IND.VAR. | DEP.VAR. | HI. VAL. | LO. VAL. |
|---|---|---|---|---|
| 1 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | 10.000 | .189 | .208 | .179 |
| 3 | 20.000 | .344 | .379 | .327 |
| 4 | 30.000 | .489 | .538 | .465 |
| 5 | 40.000 | .628 | .691 | .596 |
| 6 | 50.000 | .762 | .838 | .724 |
| 7 | 60.000 | .892 | .981 | .848 |
| 8 | 70.000 | 1.020 | 1.122 | .969 |
| 9 | 80.000 | 1.145 | 1.259 | 1.087 |
| 10 | 90.000 | 1.268 | 1.394 | 1.204 |
| 11 | 100.000 | 1.389 | 1.528 | 1.319 |
| 12 | 110.000 | 1.509 | 1.659 | 1.433 |
| 13 | 120.000 | 1.627 | 1.789 | 1.545 |
| 14 | 130.000 | 1.744 | 1.918 | 1.656 |
| 15 | 140.000 | 1.859 | 2.045 | 1.766 |
| 16 | 150.000 | 1.974 | 2.171 | 1.875 |
| 17 | 160.000 | 2.087 | 2.296 | 1.983 |
| 18 | 170.000 | 2.200 | 2.420 | 2.090 |
| 19 | 180.000 | 2.312 | 2.543 | 2.196 |
| 20 | 190.000 | 2.422 | 2.665 | 2.301 |
| 21 | 200.000 | 2.533 | 2.786 | 2.406 |
| 22 | 210.000 | 2.642 | 2.906 | 2.510 |
| 23 | 220.000 | 2.751 | 3.026 | 2.613 |
| 24 | 230.000 | 2.859 | 3.145 | 2.716 |
| 25 | 240.000 | 2.966 | 3.263 | 2.818 |
| 26 | 250.000 | 3.073 | 3.380 | 2.919 |
| 27 | 260.000 | 3.179 | 3.497 | 3.020 |
| 28 | 270.000 | 3.285 | 3.613 | 3.121 |
| 29 | 280.000 | 3.390 | 3.729 | 3.220 |
| 30 | 290.000 | 3.495 | 3.844 | 3.320 |
| 31 | 300.000 | 3.599 | 3.959 | 3.419 |
| 32 | 310.000 | 3.703 | 4.073 | 3.517 |
| 33 | 320.000 | 3.806 | 4.186 | 3.616 |
| 34 | 330.000 | 3.909 | 4.300 | 3.713 |
| 35 | 340.000 | 4.011 | 4.412 | 3.811 |
| 36 | 350.000 | 4.113 | 4.525 | 3.908 |
| 37 | 360.000 | 4.215 | 4.636 | 4.004 |
| 38 | 370.000 | 4.316 | 4.748 | 4.100 |
| 39 | 380.000 | 4.417 | 4.859 | 4.196 |
| 40 | 390.000 | 4.518 | 4.969 | 4.292 |
| 41 | 400.000 | 4.618 | 5.080 | 4.387 |
| 42 | 410.000 | 4.718 | 5.189 | 4.482 |
| 43 | 420.000 | 4.817 | 5.299 | 4.576 |
| 44 | 430.000 | 4.916 | 5.408 | 4.671 |
| 45 | 440.000 | 5.015 | 5.517 | 4.765 |
| 46 | 450.000 | 5.114 | 5.625 | 4.858 |
| 47 | 460.000 | 5.212 | 5.734 | 4.952 |
| 48 | 470.000 | 5.310 | 5.842 | 5.045 |
| 49 | 480.000 | 5.408 | 5.949 | 5.138 |
| 50 | 490.000 | 5.506 | 6.056 | 5.230 |
| 51 | 500.000 | 5.603 | 6.163 | 5.323 |
| 52 | 510.000 | 5.700 | 6.270 | 5.415 |
| 53 | 520.000 | 5.797 | 6.376 | 5.507 |

---------- PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)----------

HIGH PERTURBATION VALUE= .1000
LOW PERTURBATION VALUE = .0500

OUTER LOOP PARAMETER= 1.000
INNER LOOP PARAMETER= 5.000

| NO.TERMS | IND.VAR. | DEP.VAR. | HI. VAL. | LO. VAL. |
|---|---|---|---|---|
| 1 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | 10.000 | .201 | .221 | .191 |
| 3 | 20.000 | .366 | .403 | .348 |
| 4 | 30.000 | .521 | .573 | .495 |
| 5 | 40.000 | .668 | .735 | .635 |
| 6 | 50.000 | .811 | .892 | .770 |
| 7 | 60.000 | .949 | 1.044 | .902 |
| 8 | 70.000 | 1.085 | 1.194 | 1.031 |
| 9 | 80.000 | 1.218 | 1.340 | 1.157 |
| 10 | 90.000 | 1.349 | 1.484 | 1.282 |
| 11 | 100.000 | 1.478 | 1.626 | 1.404 |
| 12 | 110.000 | 1.606 | 1.766 | 1.525 |
| 13 | 120.000 | 1.731 | 1.904 | 1.645 |
| 14 | 130.000 | 1.856 | 2.041 | 1.763 |
| 15 | 140.000 | 1.979 | 2.177 | 1.880 |
| 16 | 150.000 | 2.101 | 2.311 | 1.996 |
| 17 | 160.000 | 2.221 | 2.444 | 2.110 |
| 18 | 170.000 | 2.341 | 2.575 | 2.224 |
| 19 | 180.000 | 2.460 | 2.706 | 2.337 |
| 20 | 190.000 | 2.578 | 2.836 | 2.449 |
| 21 | 200.000 | 2.695 | 2.965 | 2.561 |
| 22 | 210.000 | 2.812 | 3.093 | 2.671 |
| 23 | 220.000 | 2.927 | 3.220 | 2.781 |
| 24 | 230.000 | 3.042 | 3.347 | 2.890 |
| 25 | 240.000 | 3.157 | 3.472 | 2.999 |
| 26 | 250.000 | 3.270 | 3.597 | 3.107 |
| 27 | 260.000 | 3.384 | 3.722 | 3.214 |
| 28 | 270.000 | 3.496 | 3.846 | 3.321 |
| 29 | 280.000 | 3.608 | 3.969 | 3.428 |
| 30 | 290.000 | 3.719 | 4.091 | 3.533 |
| 31 | 300.000 | 3.830 | 4.213 | 3.639 |
| 32 | 310.000 | 3.941 | 4.335 | 3.744 |
| 33 | 320.000 | 4.051 | 4.456 | 3.848 |
| 34 | 330.000 | 4.160 | 4.576 | 3.952 |
| 35 | 340.000 | 4.269 | 4.696 | 4.056 |
| 36 | 350.000 | 4.378 | 4.815 | 4.159 |
| 37 | 360.000 | 4.486 | 4.934 | 4.262 |
| 38 | 370.000 | 4.594 | 5.053 | 4.364 |
| 39 | 380.000 | 4.701 | 5.171 | 4.466 |
| 40 | 390.000 | 4.808 | 5.289 | 4.568 |
| 41 | 400.000 | 4.915 | 5.406 | 4.669 |
| 42 | 410.000 | 5.021 | 5.523 | 4.770 |
| 43 | 420.000 | 5.127 | 5.640 | 4.871 |
| 44 | 430.000 | 5.233 | 5.756 | 4.971 |
| 45 | 440.000 | 5.338 | 5.872 | 5.071 |
| 46 | 450.000 | 5.443 | 5.987 | 5.171 |
| 47 | 460.000 | 5.548 | 6.102 | 5.270 |
| 48 | 470.000 | 5.652 | 6.217 | 5.369 |
| 49 | 480.000 | 5.756 | 6.332 | 5.468 |
| 50 | 490.000 | 5.860 | 6.446 | 5.567 |
| 51 | 500.000 | 5.963 | 6.560 | 5.665 |
| 52 | 510.000 | 6.066 | 6.673 | 5.763 |
| 53 | 520.000 | 6.169 | 6.786 | 5.861 |

PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)

HIGH PERTURBATION VALUE= .1000
LOW PERTURBATION VALUE = .0500

OUTER LOOP PARAMETER= 1.000
INNER LOOP PARAMETER= 6.000

| NO.TERMS | IND.VAR. | DEP.VAR. | HI. VAL. | LO. VAL. |
|---|---|---|---|---|
| 1 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | 10.000 | .211 | .233 | .201 |
| 3 | 20.000 | .386 | .424 | .366 |
| 4 | 30.000 | .548 | .603 | .521 |
| 5 | 40.000 | .703 | .773 | .668 |
| 6 | 50.000 | .853 | .938 | .810 |
| 7 | 60.000 | .999 | 1.099 | .949 |
| 8 | 70.000 | 1.142 | 1.256 | 1.085 |
| 9 | 80.000 | 1.282 | 1.410 | 1.218 |
| 10 | 90.000 | 1.420 | 1.562 | 1.349 |
| 11 | 100.000 | 1.555 | 1.711 | 1.478 |
| 12 | 110.000 | 1.689 | 1.858 | 1.605 |
| 13 | 120.000 | 1.822 | 2.004 | 1.731 |
| 14 | 130.000 | 1.953 | 2.148 | 1.855 |
| 15 | 140.000 | 2.082 | 2.290 | 1.978 |
| 16 | 150.000 | 2.210 | 2.431 | 2.100 |
| 17 | 160.000 | 2.337 | 2.571 | 2.221 |
| 18 | 170.000 | 2.464 | 2.710 | 2.340 |
| 19 | 180.000 | 2.589 | 2.848 | 2.459 |
| 20 | 190.000 | 2.713 | 2.984 | 2.577 |
| 21 | 200.000 | 2.836 | 3.120 | 2.694 |
| 22 | 210.000 | 2.959 | 3.255 | 2.811 |
| 23 | 220.000 | 3.080 | 3.388 | 2.926 |
| 24 | 230.000 | 3.201 | 3.522 | 3.041 |
| 25 | 240.000 | 3.322 | 3.654 | 3.156 |
| 26 | 250.000 | 3.441 | 3.785 | 3.269 |
| 27 | 260.000 | 3.560 | 3.916 | 3.382 |
| 28 | 270.000 | 3.679 | 4.046 | 3.495 |
| 29 | 280.000 | 3.796 | 4.176 | 3.607 |
| 30 | 290.000 | 3.914 | 4.305 | 3.718 |
| 31 | 300.000 | 4.030 | 4.433 | 3.829 |
| 32 | 310.000 | 4.146 | 4.561 | 3.939 |
| 33 | 320.000 | 4.262 | 4.688 | 4.049 |
| 34 | 330.000 | 4.377 | 4.815 | 4.158 |
| 35 | 340.000 | 4.492 | 4.941 | 4.267 |
| 36 | 350.000 | 4.606 | 5.067 | 4.376 |
| 37 | 360.000 | 4.720 | 5.192 | 4.484 |
| 38 | 370.000 | 4.834 | 5.317 | 4.592 |
| 39 | 380.000 | 4.947 | 5.441 | 4.699 |
| 40 | 390.000 | 5.059 | 5.565 | 4.806 |
| 41 | 400.000 | 5.171 | 5.689 | 4.913 |
| 42 | 410.000 | 5.283 | 5.812 | 5.019 |
| 43 | 420.000 | 5.395 | 5.934 | 5.125 |
| 44 | 430.000 | 5.506 | 6.057 | 5.231 |
| 45 | 440.000 | 5.617 | 6.178 | 5.336 |
| 46 | 450.000 | 5.727 | 6.300 | 5.441 |
| 47 | 460.000 | 5.837 | 6.421 | 5.545 |
| 48 | 470.000 | 5.947 | 6.542 | 5.650 |
| 49 | 480.000 | 6.057 | 6.662 | 5.754 |
| 50 | 490.000 | 6.166 | 6.782 | 5.858 |
| 51 | 500.000 | 6.275 | 6.902 | 5.961 |
| 52 | 510.000 | 6.383 | 7.022 | 6.064 |
| 53 | 520.000 | 6.492 | 7.141 | 6.167 |

---------- PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)----------

HIGH PERTURBATION VALUE= .1000
LOW PERTURBATION VALUE = .0500

OUTER LOOP PARAMETER= 1.000
INNER LOOP PARAMETER= 7.000

| NO.TERMS | IND.VAR. | DEP.VAR. | HI. VAL. | LO. VAL. |
|---|---|---|---|---|
| 1 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | 10.000 | .221 | .243 | .210 |
| 3 | 20.000 | .403 | .443 | .382 |
| 4 | 30.000 | .572 | .629 | .543 |
| 5 | 40.000 | .734 | .807 | .697 |
| 6 | 50.000 | .891 | .980 | .846 |
| 7 | 60.000 | 1.043 | 1.147 | .991 |
| 8 | 70.000 | 1.192 | 1.311 | 1.132 |
| 9 | 80.000 | 1.338 | 1.472 | 1.271 |
| 10 | 90.000 | 1.482 | 1.630 | 1.408 |
| 11 | 100.000 | 1.624 | 1.786 | 1.543 |
| 12 | 110.000 | 1.764 | 1.940 | 1.676 |
| 13 | 120.000 | 1.902 | 2.092 | 1.807 |
| 14 | 130.000 | 2.038 | 2.242 | 1.937 |
| 15 | 140.000 | 2.174 | 2.391 | 2.065 |
| 16 | 150.000 | 2.308 | 2.538 | 2.192 |
| 17 | 160.000 | 2.440 | 2.684 | 2.318 |
| 18 | 170.000 | 2.572 | 2.829 | 2.443 |
| 19 | 180.000 | 2.703 | 2.973 | 2.567 |
| 20 | 190.000 | 2.832 | 3.115 | 2.691 |
| 21 | 200.000 | 2.961 | 3.257 | 2.813 |
| 22 | 210.000 | 3.089 | 3.398 | 2.934 |
| 23 | 220.000 | 3.216 | 3.537 | 3.055 |
| 24 | 230.000 | 3.342 | 3.676 | 3.175 |
| 25 | 240.000 | 3.468 | 3.815 | 3.294 |
| 26 | 250.000 | 3.593 | 3.952 | 3.413 |
| 27 | 260.000 | 3.717 | 4.089 | 3.531 |
| 28 | 270.000 | 3.840 | 4.224 | 3.648 |
| 29 | 280.000 | 3.963 | 4.360 | 3.765 |
| 30 | 290.000 | 4.086 | 4.494 | 3.881 |
| 31 | 300.000 | 4.208 | 4.628 | 3.997 |
| 32 | 310.000 | 4.329 | 4.762 | 4.112 |
| 33 | 320.000 | 4.450 | 4.895 | 4.227 |
| 34 | 330.000 | 4.570 | 5.027 | 4.341 |
| 35 | 340.000 | 4.690 | 5.159 | 4.455 |
| 36 | 350.000 | 4.809 | 5.290 | 4.569 |
| 37 | 360.000 | 4.928 | 5.421 | 4.681 |
| 38 | 370.000 | 5.046 | 5.551 | 4.794 |
| 39 | 380.000 | 5.164 | 5.681 | 4.906 |
| 40 | 390.000 | 5.282 | 5.810 | 5.018 |
| 41 | 400.000 | 5.399 | 5.939 | 5.129 |
| 42 | 410.000 | 5.516 | 6.067 | 5.240 |
| 43 | 420.000 | 5.632 | 6.195 | 5.351 |
| 44 | 430.000 | 5.748 | 6.323 | 5.461 |
| 45 | 440.000 | 5.864 | 6.450 | 5.571 |
| 46 | 450.000 | 5.979 | 6.577 | 5.680 |
| 47 | 460.000 | 6.094 | 6.704 | 5.789 |
| 48 | 470.000 | 6.209 | 6.830 | 5.898 |
| 49 | 480.000 | 6.323 | 6.955 | 6.007 |
| 50 | 490.000 | 6.437 | 7.081 | 6.115 |
| 51 | 500.000 | 6.551 | 7.206 | 6.223 |
| 52 | 510.000 | 6.664 | 7.331 | 6.331 |
| 53 | 520.000 | 6.777 | 7.455 | 6.438 |

---------- PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)----------

HIGH PERTURBATION VALUE= .1000
LOW PERTURBATION VALUE = .0500

OUTER LOOP PARAMETER= 1.000
INNER LOOP PARAMETER= 8.000

| NO.TERMS | IND.VAR. | DEP.VAR. | HI. VAL. | LO. VAL. |
|---|---|---|---|---|
| 1 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | 10.000 | .229 | .252 | .218 |
| 3 | 20.000 | .418 | .460 | .397 |
| 4 | 30.000 | .594 | .653 | .564 |
| 5 | 40.000 | .762 | .838 | .724 |
| 6 | 50.000 | .924 | 1.017 | .878 |
| 7 | 60.000 | 1.083 | 1.191 | 1.029 |
| 8 | 70.000 | 1.237 | 1.361 | 1.176 |
| 9 | 80.000 | 1.389 | 1.528 | 1.320 |
| 10 | 90.000 | 1.538 | 1.692 | 1.462 |
| 11 | 100.000 | 1.686 | 1.854 | 1.601 |
| 12 | 110.000 | 1.831 | 2.014 | 1.739 |
| 13 | 120.000 | 1.974 | 2.171 | 1.875 |
| 14 | 130.000 | 2.116 | 2.327 | 2.010 |
| 15 | 140.000 | 2.256 | 2.482 | 2.143 |
| 16 | 150.000 | 2.395 | 2.635 | 2.275 |
| 17 | 160.000 | 2.533 | 2.786 | 2.406 |
| 18 | 170.000 | 2.670 | 2.937 | 2.536 |
| 19 | 180.000 | 2.805 | 3.086 | 2.665 |
| 20 | 190.000 | 2.940 | 3.234 | 2.793 |
| 21 | 200.000 | 3.073 | 3.381 | 2.920 |
| 22 | 210.000 | 3.206 | 3.527 | 3.046 |
| 23 | 220.000 | 3.338 | 3.672 | 3.171 |
| 24 | 230.000 | 3.469 | 3.816 | 3.296 |
| 25 | 240.000 | 3.600 | 3.959 | 3.420 |
| 26 | 250.000 | 3.729 | 4.102 | 3.543 |
| 27 | 260.000 | 3.858 | 4.244 | 3.665 |
| 28 | 270.000 | 3.986 | 4.385 | 3.787 |
| 29 | 280.000 | 4.114 | 4.525 | 3.908 |
| 30 | 290.000 | 4.241 | 4.665 | 4.029 |
| 31 | 300.000 | 4.367 | 4.804 | 4.149 |
| 32 | 310.000 | 4.493 | 4.943 | 4.269 |
| 33 | 320.000 | 4.619 | 5.081 | 4.388 |
| 34 | 330.000 | 4.744 | 5.218 | 4.506 |
| 35 | 340.000 | 4.868 | 5.355 | 4.624 |
| 36 | 350.000 | 4.992 | 5.491 | 4.742 |
| 37 | 360.000 | 5.115 | 5.627 | 4.859 |
| 38 | 370.000 | 5.238 | 5.762 | 4.976 |
| 39 | 380.000 | 5.360 | 5.896 | 5.092 |
| 40 | 390.000 | 5.482 | 6.031 | 5.208 |
| 41 | 400.000 | 5.604 | 6.164 | 5.324 |
| 42 | 410.000 | 5.725 | 6.298 | 5.439 |
| 43 | 420.000 | 5.846 | 6.431 | 5.554 |
| 44 | 430.000 | 5.967 | 6.563 | 5.668 |
| 45 | 440.000 | 6.087 | 6.695 | 5.782 |
| 46 | 450.000 | 6.206 | 6.827 | 5.896 |
| 47 | 460.000 | 6.326 | 6.958 | 6.009 |
| 48 | 470.000 | 6.445 | 7.089 | 6.122 |
| 49 | 480.000 | 6.563 | 7.220 | 6.235 |
| 50 | 490.000 | 6.682 | 7.350 | 6.348 |
| 51 | 500.000 | 6.800 | 7.480 | 6.460 |
| 52 | 510.000 | 6.917 | 7.609 | 6.571 |
| 53 | 520.000 | 7.035 | 7.738 | 6.683 |

---------- PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)----------

HIGH PERTURBATION VALUE= .1000
LOW PERTURBATION VALUE = .0500

OUTER LOOP PARAMETER= 1.000
INNER LOOP PARAMETER= 9.000

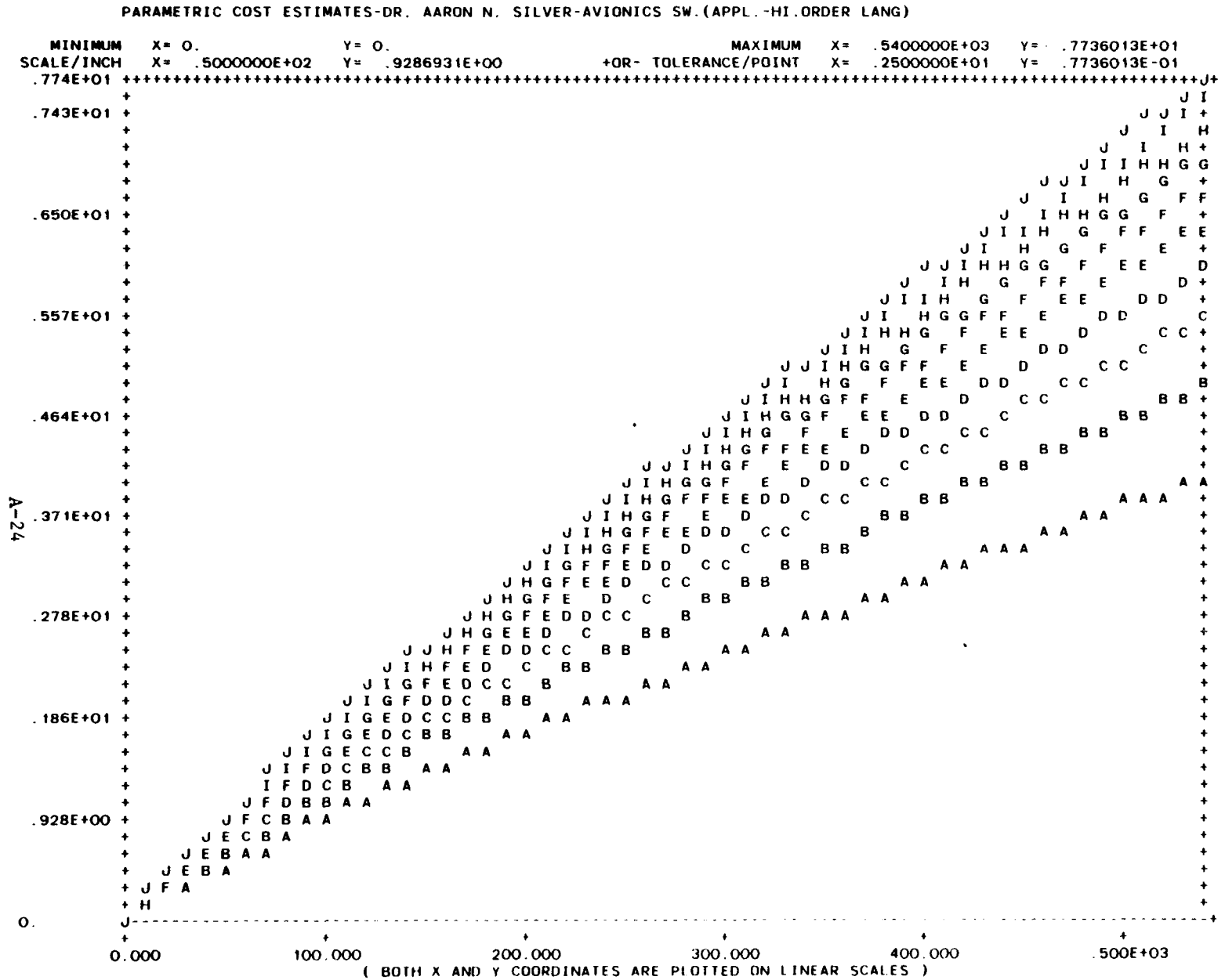
| NO.TERMS | IND.VAR. | DEP.VAR. | HI. VAL. | LO. VAL. |
|---|---|---|---|---|
| 1 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | 10.000 | .237 | .260 | .225 |
| 3 | 20.000 | .432 | .475 | .410 |
| 4 | 30.000 | .614 | .675 | .583 |
| 5 | 40.000 | .787 | .866 | .748 |
| 6 | 50.000 | .955 | 1.051 | .908 |
| 7 | 60.000 | 1.119 | 1.231 | 1.063 |
| 8 | 70.000 | 1.279 | 1.407 | 1.215 |
| 9 | 80.000 | 1.436 | 1.579 | 1.364 |
| 10 | 90.000 | 1.590 | 1.749 | 1.510 |
| 11 | 100.000 | 1.742 | 1.916 | 1.655 |
| 12 | 110.000 | 1.892 | 2.081 | 1.797 |
| 13 | 120.000 | 2.040 | 2.244 | 1.938 |
| 14 | 130.000 | 2.187 | 2.405 | 2.077 |
| 15 | 140.000 | 2.332 | 2.565 | 2.215 |
| 16 | 150.000 | 2.475 | 2.723 | 2.352 |
| 17 | 160.000 | 2.618 | 2.880 | 2.487 |
| 18 | 170.000 | 2.759 | 3.035 | 2.621 |
| 19 | 180.000 | 2.899 | 3.189 | 2.754 |
| 20 | 190.000 | 3.038 | 3.342 | 2.886 |
| 21 | 200.000 | 3.176 | 3.494 | 3.017 |
| 22 | 210.000 | 3.313 | 3.645 | 3.148 |
| 23 | 220.000 | 3.450 | 3.795 | 3.277 |
| 24 | 230.000 | 3.585 | 3.944 | 3.406 |
| 25 | 240.000 | 3.720 | 4.092 | 3.534 |
| 26 | 250.000 | 3.854 | 4.239 | 3.661 |
| 27 | 260.000 | 3.987 | 4.386 | 3.788 |
| 28 | 270.000 | 4.120 | 4.532 | 3.914 |
| 29 | 280.000 | 4.252 | 4.677 | 4.039 |
| 30 | 290.000 | 4.383 | 4.821 | 4.164 |
| 31 | 300.000 | 4.514 | 4.965 | 4.288 |
| 32 | 310.000 | 4.644 | 5.108 | 4.411 |
| 33 | 320.000 | 4.773 | 5.250 | 4.534 |
| 34 | 330.000 | 4.902 | 5.392 | 4.657 |
| 35 | 340.000 | 5.031 | 5.534 | 4.779 |
| 36 | 350.000 | 5.159 | 5.674 | 4.901 |
| 37 | 360.000 | 5.286 | 5.815 | 5.022 |
| 38 | 370.000 | 5.413 | 5.954 | 5.142 |
| 39 | 380.000 | 5.540 | 6.094 | 5.263 |
| 40 | 390.000 | 5.666 | 6.232 | 5.382 |
| 41 | 400.000 | 5.791 | 6.371 | 5.502 |
| 42 | 410.000 | 5.917 | 6.508 | 5.621 |
| 43 | 420.000 | 6.042 | 6.646 | 5.740 |
| 44 | 430.000 | 6.166 | 6.783 | 5.858 |
| 45 | 440.000 | 6.290 | 6.919 | 5.976 |
| 46 | 450.000 | 6.414 | 7.055 | 6.093 |
| 47 | 460.000 | 6.537 | 7.191 | 6.210 |
| 48 | 470.000 | 6.660 | 7.326 | 6.327 |
| 49 | 480.000 | 6.783 | 7.461 | 6.444 |
| 50 | 490.000 | 6.905 | 7.596 | 6.560 |
| 51 | 500.000 | 7.027 | 7.730 | 6.676 |
| 52 | 510.000 | 7.149 | 7.864 | 6.791 |
| 53 | 520.000 | 7.270 | 7.997 | 6.906 |

---------- PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG) ----------

HIGH PERTURBATION VALUE= .1000
LOW PERTURBATION VALUE = .0500

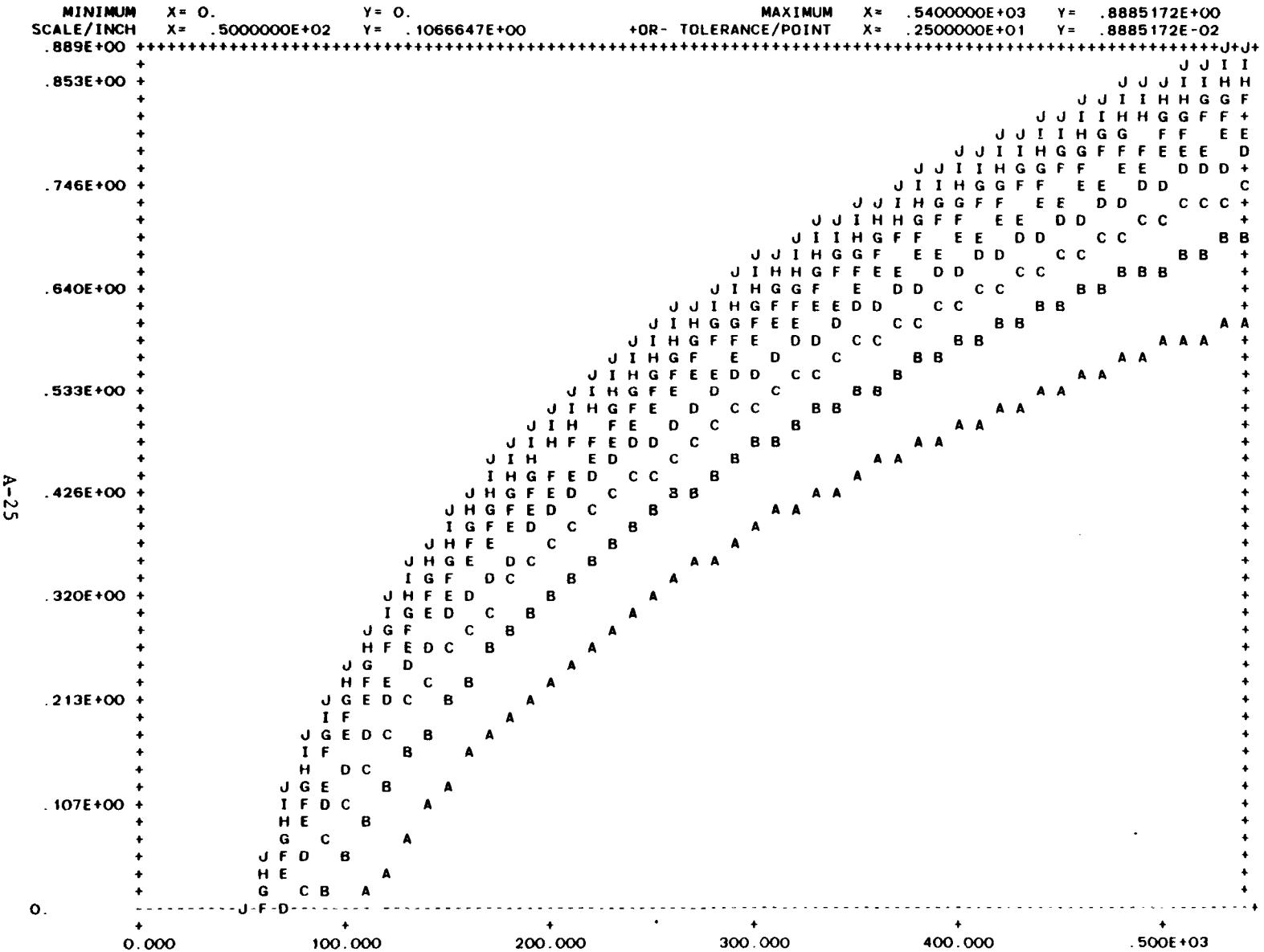
OUTER LOOP PARAMETER= 1.000
INNER LOOP PARAMETER= 10.000

| NO.TERMS | IND.VAR. | DEP.VAR. | HI. VAL. | LO. VAL. |
|---|---|---|---|---|
| 1 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | 10.000 | .244 | .268 | .232 |
| 3 | 20.000 | .445 | .489 | .422 |
| 4 | 30.000 | .632 | .695 | .600 |
| 5 | 40.000 | .811 | .892 | .770 |
| 6 | 50.000 | .984 | 1.082 | .935 |
| 7 | 60.000 | 1.152 | 1.267 | 1.095 |
| 8 | 70.000 | 1.317 | 1.449 | 1.251 |
| 9 | 80.000 | 1.479 | 1.626 | 1.405 |
| 10 | 90.000 | 1.637 | 1.801 | 1.556 |
| 11 | 100.000 | 1.794 | 1.973 | 1.704 |
| 12 | 110.000 | 1.948 | 2.143 | 1.851 |
| 13 | 120.000 | 2.101 | 2.311 | 1.996 |
| 14 | 130.000 | 2.252 | 2.477 | 2.139 |
| 15 | 140.000 | 2.401 | 2.641 | 2.281 |
| 16 | 150.000 | 2.549 | 2.804 | 2.422 |
| 17 | 160.000 | 2.696 | 2.965 | 2.561 |
| 18 | 170.000 | 2.841 | 3.125 | 2.699 |
| 19 | 180.000 | 2.986 | 3.284 | 2.836 |
| 20 | 190.000 | 3.129 | 3.442 | 2.972 |
| 21 | 200.000 | 3.271 | 3.598 | 3.108 |
| 22 | 210.000 | 3.412 | 3.754 | 3.242 |
| 23 | 220.000 | 3.553 | 3.908 | 3.375 |
| 24 | 230.000 | 3.692 | 4.061 | 3.508 |
| 25 | 240.000 | 3.831 | 4.214 | 3.639 |
| 26 | 250.000 | 3.969 | 4.366 | 3.770 |
| 27 | 260.000 | 4.106 | 4.517 | 3.901 |
| 28 | 270.000 | 4.243 | 4.667 | 4.031 |
| 29 | 280.000 | 4.379 | 4.816 | 4.160 |
| 30 | 290.000 | 4.514 | 4.965 | 4.288 |
| 31 | 300.000 | 4.648 | 5.113 | 4.416 |
| 32 | 310.000 | 4.782 | 5.260 | 4.543 |
| 33 | 320.000 | 4.916 | 5.407 | 4.670 |
| 34 | 330.000 | 5.049 | 5.553 | 4.796 |
| 35 | 340.000 | 5.181 | 5.699 | 4.922 |
| 36 | 350.000 | 5.313 | 5.844 | 5.047 |
| 37 | 360.000 | 5.444 | 5.988 | 5.172 |
| 38 | 370.000 | 5.575 | 6.132 | 5.296 |
| 39 | 380.000 | 5.705 | 6.276 | 5.420 |
| 40 | 390.000 | 5.835 | 6.418 | 5.543 |
| 41 | 400.000 | 5.964 | 6.561 | 5.666 |
| 42 | 410.000 | 6.093 | 6.703 | 5.789 |
| 43 | 420.000 | 6.222 | 6.844 | 5.911 |
| 44 | 430.000 | 6.350 | 6.985 | 6.033 |
| 45 | 440.000 | 6.478 | 7.126 | 6.154 |
| 46 | 450.000 | 6.605 | 7.266 | 6.275 |
| 47 | 460.000 | 6.732 | 7.406 | 6.396 |
| 48 | 470.000 | 6.859 | 7.545 | 6.516 |
| 49 | 480.000 | 6.985 | 7.684 | 6.636 |
| 50 | 490.000 | 7.111 | 7.822 | 6.756 |
| 51 | 500.000 | 7.237 | 7.961 | 6.875 |
| 52 | 510.000 | 7.362 | 8.098 | 6.994 |
| 53 | 520.000 | 7.487 | 8.236 | 7.113 |




PLOT OF PRODUCTIVITY (HRS/LOC) VS. PROGRAM COMPLEXITY (MC=1 TO 10)

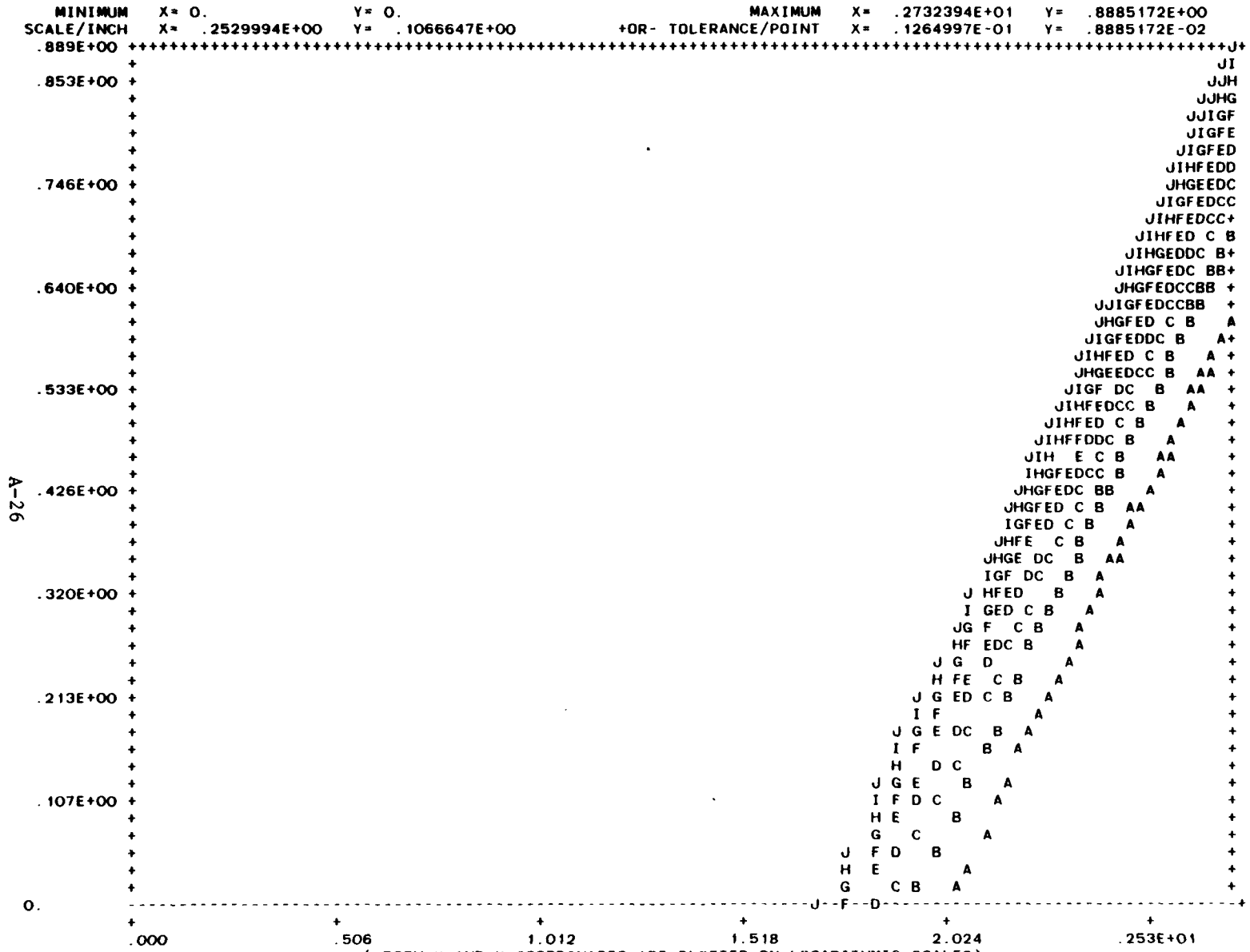
PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)




( X COORDINATE PLOTTED ON LINEAR SCALE, Y COORDINATE PLOTTED ON LOGARITHMIC SCALE )
INDEPENDENT VARIABLE-PROGRAM COMPLEXITY

PLOT OF PRODUCTIVITY (HRS/LOC) VS. PROGRAM COMPLEXITY (MC=1 TO 10)

PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)




PLOT OF PRODUCTIVITY (HRS/LOC) VS. PROGRAM COMPLEXITY (MC=1 TO 10)

==========OUTPUT COMPUTATIONS==========

---------- PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)----------

HIGH PERTURBATION VALUE= .1000
LOW PERTURBATION VALUE = .0500

OUTER LOOP PARAMETER= 4.500
INNER LOOP PARAMETER= 200.000

| NO.TERMS | IND.VAR. | DEP.VAR. | HI. VAL. | LO. VAL. |
|---|---|---|---|---|
| 1 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | .001 | .105 | .115 | .099 |
| 3 | .001 | .209 | .230 | .199 |
| 4 | .002 | .314 | .345 | .298 |
| 5 | .003 | .419 | .461 | .398 |
| 6 | .003 | .523 | .576 | .497 |
| 7 | .004 | .628 | .691 | .597 |
| 8 | .005 | .733 | .806 | .696 |
| 9 | .006 | .838 | .921 | .796 |
| 10 | .006 | .942 | 1.036 | .895 |
| 11 | .007 | 1.047 | 1.152 | .995 |
| 12 | .008 | 1.152 | 1.267 | 1.094 |
| 13 | .008 | 1.256 | 1.382 | 1.193 |
| 14 | .009 | 1.361 | 1.497 | 1.293 |
| 15 | .010 | 1.466 | 1.612 | 1.392 |
| 16 | .010 | 1.570 | 1.727 | 1.492 |
| 17 | .011 | 1.675 | 1.843 | 1.591 |
| 18 | .012 | 1.780 | 1.958 | 1.691 |
| 19 | .013 | 1.884 | 2.073 | 1.790 |
| 20 | .013 | 1.989 | 2.188 | 1.890 |
| 21 | .014 | 2.094 | 2.303 | 1.989 |
| 22 | .015 | 2.198 | 2.418 | 2.089 |
| 23 | .015 | 2.303 | 2.533 | 2.188 |
| 24 | .016 | 2.408 | 2.649 | 2.287 |
| 25 | .017 | 2.513 | 2.764 | 2.387 |
| 26 | .017 | 2.617 | 2.879 | 2.486 |
| 27 | .018 | 2.722 | 2.994 | 2.586 |
| 28 | .019 | 2.827 | 3.109 | 2.685 |
| 29 | .020 | 2.931 | 3.224 | 2.785 |
| 30 | .020 | 3.036 | 3.340 | 2.884 |
| 31 | .021 | 3.141 | 3.455 | 2.984 |
| 32 | .022 | 3.245 | 3.570 | 3.083 |
| 33 | .022 | 3.350 | 3.685 | 3.183 |
| 34 | .023 | 3.455 | 3.800 | 3.282 |
| 35 | .024 | 3.559 | 3.915 | 3.381 |
| 36 | .024 | 3.664 | 4.031 | 3.481 |
| 37 | .025 | 3.769 | 4.146 | 3.580 |
| 38 | .026 | 3.874 | 4.261 | 3.680 |
| 39 | .026 | 3.978 | 4.376 | 3.779 |
| 40 | .027 | 4.083 | 4.491 | 3.879 |
| 41 | .028 | 4.188 | 4.606 | 3.978 |
| 42 | .029 | 4.292 | 4.721 | 4.078 |
| 43 | .029 | 4.397 | 4.837 | 4.177 |
| 44 | .030 | 4.502 | 4.952 | 4.277 |
| 45 | .031 | 4.606 | 5.067 | 4.376 |
| 46 | .031 | 4.711 | 5.182 | 4.475 |
| 47 | .032 | 4.816 | 5.297 | 4.575 |
| 48 | .033 | 4.920 | 5.412 | 4.674 |
| 49 | .033 | 5.025 | 5.528 | 4.774 |

---------- PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)----------

HIGH PERTURBATION VALUE= .1000
LOW PERTURBATION VALUE = .0500

OUTER LOOP PARAMETER= 4.500
INNER LOOP PARAMETER= 250.000

| NO.TERMS | IND.VAR. | DEP.VAR. | HI. VAL. | LO. VAL. |
|---|---|---|---|---|
| 1 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | .001 | .127 | .140 | .121 |
| 3 | .001 | .254 | .279 | .241 |
| 4 | .002 | .381 | .419 | .362 |
| 5 | .003 | .508 | .559 | .483 |
| 6 | .003 | .635 | .699 | .603 |
| 7 | .004 | .762 | .838 | .724 |
| 8 | .005 | .889 | .978 | .845 |
| 9 | .006 | 1.016 | 1.118 | .965 |
| 10 | .006 | 1.143 | 1.258 | 1.086 |
| 11 | .007 | 1.270 | 1.397 | 1.207 |
| 12 | .008 | 1.397 | 1.537 | 1.327 |
| 13 | .008 | 1.524 | 1.677 | 1.448 |
| 14 | .009 | 1.651 | 1.816 | 1.569 |
| 15 | .010 | 1.778 | 1.956 | 1.689 |
| 16 | .010 | 1.905 | 2.096 | 1.810 |
| 17 | .011 | 2.032 | 2.236 | 1.931 |
| 18 | .012 | 2.159 | 2.375 | 2.051 |
| 19 | .013 | 2.286 | 2.515 | 2.172 |
| 20 | .013 | 2.413 | 2.655 | 2.293 |
| 21 | .014 | 2.540 | 2.795 | 2.413 |
| 22 | .015 | 2.668 | 2.934 | 2.534 |
| 23 | .015 | 2.795 | 3.074 | 2.655 |
| 24 | .016 | 2.922 | 3.214 | 2.775 |
| 25 | .017 | 3.049 | 3.353 | 2.896 |
| 26 | .017 | 3.176 | 3.493 | 3.017 |
| 27 | .018 | 3.303 | 3.633 | 3.137 |
| 28 | .019 | 3.430 | 3.773 | 3.258 |
| 29 | .020 | 3.557 | 3.912 | 3.379 |
| 30 | .020 | 3.684 | 4.052 | 3.500 |
| 31 | .021 | 3.811 | 4.192 | 3.620 |
| 32 | .022 | 3.938 | 4.332 | 3.741 |
| 33 | .022 | 4.065 | 4.471 | 3.862 |
| 34 | .023 | 4.192 | 4.611 | 3.982 |
| 35 | .024 | 4.319 | 4.751 | 4.103 |
| 36 | .024 | 4.446 | 4.890 | 4.224 |
| 37 | .025 | 4.573 | 5.030 | 4.344 |
| 38 | .026 | 4.700 | 5.170 | 4.465 |
| 39 | .026 | 4.827 | 5.310 | 4.586 |
| 40 | .027 | 4.954 | 5.449 | 4.706 |
| 41 | .028 | 5.081 | 5.589 | 4.827 |
| 42 | .029 | 5.208 | 5.729 | 4.948 |
| 43 | .029 | 5.335 | 5.869 | 5.068 |
| 44 | .030 | 5.462 | 6.008 | 5.189 |
| 45 | .031 | 5.589 | 6.148 | 5.310 |
| 46 | .031 | 5.716 | 6.288 | 5.430 |
| 47 | .032 | 5.843 | 6.427 | 5.551 |
| 48 | .033 | 5.970 | 6.567 | 5.672 |
| 49 | .033 | 6.097 | 6.707 | 5.792 |
| 50 | .034 | 6.224 | 6.847 | 5.913 |
| 51 | .035 | 6.351 | 6.986 | 6.034 |
| 52 | .036 | 6.478 | 7.126 | 6.154 |
| 53 | .036 | 6.605 | 7.266 | 6.275 |

---------- PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)----------

HIGH PERTURBATION VALUE= .1000
LOW PERTURBATION VALUE = .0500

OUTER LOOP PARAMETER= 4.500
INNER LOOP PARAMETER= 300.000

| NO.TERMS | IND.VAR. | DEP.VAR. | HI. VAL. | LO. VAL. |
|---|---|---|---|---|
| 1 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | .001 | .149 | .164 | .141 |
| 3 | .001 | .298 | .327 | .283 |
| 4 | .002 | .446 | .491 | .424 |
| 5 | .003 | .595 | .655 | .565 |
| 6 | .003 | .744 | .818 | .707 |
| 7 | .004 | .893 | .982 | .848 |
| 8 | .005 | 1.041 | 1.146 | .989 |
| 9 | .006 | 1.190 | 1.309 | 1.131 |
| 10 | .006 | 1.339 | 1.473 | 1.272 |
| 11 | .007 | 1.488 | 1.636 | 1.413 |
| 12 | .008 | 1.636 | 1.800 | 1.555 |
| 13 | .008 | 1.785 | 1.964 | 1.696 |
| 14 | .009 | 1.934 | 2.127 | 1.837 |
| 15 | .010 | 2.083 | 2.291 | 1.979 |
| 16 | .010 | 2.232 | 2.455 | 2.120 |
| 17 | .011 | 2.380 | 2.618 | 2.261 |
| 18 | .012 | 2.529 | 2.782 | 2.403 |
| 19 | .013 | 2.678 | 2.946 | 2.544 |
| 20 | .013 | 2.827 | 3.109 | 2.685 |
| 21 | .014 | 2.975 | 3.273 | 2.827 |
| 22 | .015 | 3.124 | 3.437 | 2.968 |
| 23 | .015 | 3.273 | 3.600 | 3.109 |
| 24 | .016 | 3.422 | 3.764 | 3.251 |
| 25 | .017 | 3.570 | 3.927 | 3.392 |
| 26 | .017 | 3.719 | 4.091 | 3.533 |
| 27 | .018 | 3.868 | 4.255 | 3.675 |
| 28 | .019 | 4.017 | 4.418 | 3.816 |
| 29 | .020 | 4.165 | 4.582 | 3.957 |
| 30 | .020 | 4.314 | 4.746 | 4.099 |
| 31 | .021 | 4.463 | 4.909 | 4.240 |
| 32 | .022 | 4.612 | 5.073 | 4.381 |
| 33 | .022 | 4.761 | 5.237 | 4.523 |
| 34 | .023 | 4.909 | 5.400 | 4.664 |
| 35 | .024 | 5.058 | 5.564 | 4.805 |
| 36 | .024 | 5.207 | 5.728 | 4.947 |
| 37 | .025 | 5.356 | 5.891 | 5.088 |
| 38 | .026 | 5.504 | 6.055 | 5.229 |
| 39 | .026 | 5.653 | 6.218 | 5.370 |
| 40 | .027 | 5.802 | 6.382 | 5.512 |
| 41 | .028 | 5.951 | 6.546 | 5.653 |
| 42 | .029 | 6.099 | 6.709 | 5.794 |
| 43 | .029 | 6.248 | 6.873 | 5.936 |
| 44 | .030 | 6.397 | 7.037 | 6.077 |
| 45 | .031 | 6.546 | 7.200 | 6.218 |
| 46 | .031 | 6.695 | 7.364 | 6.360 |
| 47 | .032 | 6.843 | 7.528 | 6.501 |
| 48 | .033 | 6.992 | 7.691 | 6.642 |
| 49 | .033 | 7.141 | 7.855 | 6.784 |
| 50 | .034 | 7.290 | 8.019 | 6.925 |
| 51 | .035 | 7.438 | 8.182 | 7.066 |
| 52 | .036 | 7.587 | 8.346 | 7.208 |
| 53 | .036 | 7.736 | 8.509 | 7.349 |

---------- PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)----------

HIGH PERTURBATION VALUE= .1000
LOW PERTURBATION VALUE = .0500

OUTER LOOP PARAMETER= 4.500
INNER LOOP PARAMETER= 350.000

| NO.TERMS | IND.VAR. | DEP.VAR. | HI. VAL. | LO. VAL. |
|---|---|---|---|---|
| 1 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | .001 | .170 | .187 | .162 |
| 3 | .001 | .340 | .374 | .323 |
| 4 | .002 | .510 | .561 | .485 |
| 5 | .003 | .680 | .748 | .646 |
| 6 | .003 | .850 | .935 | .808 |
| 7 | .004 | 1.020 | 1.122 | .969 |
| 8 | .005 | 1.190 | 1.309 | 1.131 |
| 9 | .006 | 1.360 | 1.496 | 1.292 |
| 10 | .006 | 1.530 | 1.683 | 1.454 |
| 11 | .007 | 1.700 | 1.870 | 1.615 |
| 12 | .008 | 1.870 | 2.057 | 1.777 |
| 13 | .008 | 2.040 | 2.244 | 1.938 |
| 14 | .009 | 2.210 | 2.431 | 2.100 |
| 15 | .010 | 2.380 | 2.618 | 2.261 |
| 16 | .010 | 2.550 | 2.805 | 2.423 |
| 17 | .011 | 2.720 | 2.993 | 2.584 |
| 18 | .012 | 2.890 | 3.180 | 2.746 |
| 19 | .013 | 3.061 | 3.367 | 2.908 |
| 20 | .013 | 3.231 | 3.554 | 3.069 |
| 21 | .014 | 3.401 | 3.741 | 3.231 |
| 22 | .015 | 3.571 | 3.928 | 3.392 |
| 23 | .015 | 3.741 | 4.115 | 3.554 |
| 24 | .016 | 3.911 | 4.302 | 3.715 |
| 25 | .017 | 4.081 | 4.489 | 3.877 |
| 26 | .017 | 4.251 | 4.676 | 4.038 |
| 27 | .018 | 4.421 | 4.863 | 4.200 |
| 28 | .019 | 4.591 | 5.050 | 4.361 |
| 29 | .020 | 4.761 | 5.237 | 4.523 |
| 30 | .020 | 4.931 | 5.424 | 4.684 |
| 31 | .021 | 5.101 | 5.611 | 4.846 |
| 32 | .022 | 5.271 | 5.798 | 5.007 |
| 33 | .022 | 5.441 | 5.985 | 5.169 |
| 34 | .023 | 5.611 | 6.172 | 5.330 |
| 35 | .024 | 5.781 | 6.359 | 5.492 |
| 36 | .024 | 5.951 | 6.546 | 5.653 |
| 37 | .025 | 6.121 | 6.733 | 5.815 |
| 38 | .026 | 6.291 | 6.920 | 5.977 |
| 39 | .026 | 6.461 | 7.107 | 6.138 |
| 40 | .027 | 6.631 | 7.294 | 6.300 |
| 41 | .028 | 6.801 | 7.481 | 6.461 |
| 42 | .029 | 6.971 | 7.668 | 6.623 |
| 43 | .029 | 7.141 | 7.855 | 6.784 |
| 44 | .030 | 7.311 | 8.042 | 6.946 |
| 45 | .031 | 7.481 | 8.229 | 7.107 |
| 46 | .031 | 7.651 | 8.416 | 7.269 |
| 47 | .032 | 7.821 | 8.603 | 7.430 |
| 48 | .033 | 7.991 | 8.791 | 7.592 |
| 49 | .033 | 8.161 | 8.978 | 7.753 |
| 50 | .034 | 8.331 | 9.165 | 7.915 |
| 51 | .035 | 8.501 | 9.352 | 8.076 |
| 52 | .036 | 8.671 | 9.539 | 8.238 |
| 53 | .036 | 8.842 | 9.726 | 8.399 |

---------- PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)----------

HIGH PERTURBATION VALUE= .1000
LOW PERTURBATION VALUE = .0500

OUTER LOOP PARAMETER= 4.500
INNER LOOP PARAMETER= 400.000

| NO.TERMS | IND.VAR. | DEP.VAR. | HI. VAL. | LO. VAL. |
|---|---|---|---|---|
| 1 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | .001 | .191 | .210 | .181 |
| 3 | .001 | .382 | .420 | .363 |
| 4 | .002 | .573 | .630 | .544 |
| 5 | .003 | .764 | .840 | .725 |
| 6 | .003 | .954 | 1.050 | .907 |
| 7 | .004 | 1.145 | 1.260 | 1.088 |
| 8 | .005 | 1.336 | 1.470 | 1.269 |
| 9 | .006 | 1.527 | 1.680 | 1.451 |
| 10 | .006 | 1.718 | 1.890 | 1.632 |
| 11 | .007 | 1.909 | 2.100 | 1.813 |
| 12 | .008 | 2.100 | 2.310 | 1.995 |
| 13 | .008 | 2.291 | 2.520 | 2.176 |
| 14 | .009 | 2.482 | 2.730 | 2.357 |
| 15 | .010 | 2.672 | 2.940 | 2.539 |
| 16 | .010 | 2.863 | 3.150 | 2.720 |
| 17 | .011 | 3.054 | 3.360 | 2.902 |
| 18 | .012 | 3.245 | 3.570 | 3.083 |
| 19 | .013 | 3.436 | 3.780 | 3.264 |
| 20 | .013 | 3.627 | 3.990 | 3.446 |
| 21 | .014 | 3.818 | 4.200 | 3.627 |
| 22 | .015 | 4.009 | 4.410 | 3.808 |
| 23 | .015 | 4.200 | 4.620 | 3.990 |
| 24 | .016 | 4.390 | 4.829 | 4.171 |
| 25 | .017 | 4.581 | 5.039 | 4.352 |
| 26 | .017 | 4.772 | 5.249 | 4.534 |
| 27 | .018 | 4.963 | 5.459 | 4.715 |
| 28 | .019 | 5.154 | 5.669 | 4.896 |
| 29 | .020 | 5.345 | 5.879 | 5.078 |
| 30 | .020 | 5.536 | 6.089 | 5.259 |
| 31 | .021 | 5.727 | 6.299 | 5.440 |
| 32 | .022 | 5.918 | 6.509 | 5.622 |
| 33 | .022 | 6.108 | 6.719 | 5.803 |
| 34 | .023 | 6.299 | 6.929 | 5.984 |
| 35 | .024 | 6.490 | 7.139 | 6.166 |
| 36 | .024 | 6.681 | 7.349 | 6.347 |
| 37 | .025 | 6.872 | 7.559 | 6.528 |
| 38 | .026 | 7.063 | 7.769 | 6.710 |
| 39 | .026 | 7.254 | 7.979 | 6.891 |
| 40 | .027 | 7.445 | 8.189 | 7.072 |
| 41 | .028 | 7.636 | 8.399 | 7.254 |
| 42 | .029 | 7.826 | 8.609 | 7.435 |
| 43 | .029 | 8.017 | 8.819 | 7.616 |
| 44 | .030 | 8.208 | 9.029 | 7.798 |
| 45 | .031 | 8.399 | 9.239 | 7.979 |
| 46 | .031 | 8.590 | 9.449 | 8.161 |
| 47 | .032 | 8.781 | 9.659 | 8.342 |
| 48 | .033 | 8.972 | 9.869 | 8.523 |
| 49 | .033 | 9.163 | 10.079 | 8.705 |
| 50 | .034 | 9.354 | 10.289 | 8.886 |
| 51 | .035 | 9.544 | 10.499 | 9.067 |
| 52 | .036 | 9.735 | 10.709 | 9.249 |
| 53 | .036 | 9.926 | 10.919 | 9.430 |

---------- PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)----------

HIGH PERTURBATION VALUE= .1000
LOW PERTURBATION VALUE = .0500

OUTER LOOP PARAMETER= 4.500
INNER LOOP PARAMETER= 450.000

| NO.TERMS | IND.VAR. | DEP.VAR. | HI. VAL. | LO. VAL. |
|---|---|---|---|---|
| 1 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | .001 | .211 | .233 | .201 |
| 3 | .001 | .423 | .465 | .402 |
| 4 | .002 | .634 | .698 | .602 |
| 5 | .003 | .846 | .930 | .803 |
| 6 | .003 | 1.057 | 1.163 | 1.004 |
| 7 | .004 | 1.268 | 1.395 | 1.205 |
| 8 | .005 | 1.480 | 1.628 | 1.406 |
| 9 | .006 | 1.691 | 1.860 | 1.607 |
| 10 | .006 | 1.903 | 2.093 | 1.807 |
| 11 | .007 | 2.114 | 2.325 | 2.008 |
| 12 | .008 | 2.325 | 2.558 | 2.209 |
| 13 | .008 | 2.537 | 2.791 | 2.410 |
| 14 | .009 | 2.748 | 3.023 | 2.611 |
| 15 | .010 | 2.960 | 3.256 | 2.812 |
| 16 | .010 | 3.171 | 3.488 | 3.012 |
| 17 | .011 | 3.382 | 3.721 | 3.213 |
| 18 | .012 | 3.594 | 3.953 | 3.414 |
| 19 | .013 | 3.805 | 4.186 | 3.615 |
| 20 | .013 | 4.017 | 4.418 | 3.816 |
| 21 | .014 | 4.228 | 4.651 | 4.017 |
| 22 | .015 | 4.439 | 4.883 | 4.217 |
| 23 | .015 | 4.651 | 5.116 | 4.418 |
| 24 | .016 | 4.862 | 5.348 | 4.619 |
| 25 | .017 | 5.074 | 5.581 | 4.820 |
| 26 | .017 | 5.285 | 5.814 | 5.021 |
| 27 | .018 | 5.496 | 6.046 | 5.222 |
| 28 | .019 | 5.708 | 6.279 | 5.422 |
| 29 | .020 | 5.919 | 6.511 | 5.623 |
| 30 | .020 | 6.131 | 6.744 | 5.824 |
| 31 | .021 | 6.342 | 6.976 | 6.025 |
| 32 | .022 | 6.553 | 7.209 | 6.226 |
| 33 | .022 | 6.765 | 7.441 | 6.427 |
| 34 | .023 | 6.976 | 7.674 | 6.627 |
| 35 | .024 | 7.188 | 7.906 | 6.828 |
| 36 | .024 | 7.399 | 8.139 | 7.029 |
| 37 | .025 | 7.610 | 8.372 | 7.230 |
| 38 | .026 | 7.822 | 8.604 | 7.431 |
| 39 | .026 | 8.033 | 8.837 | 7.632 |
| 40 | .027 | 8.245 | 9.069 | 7.832 |
| 41 | .028 | 8.456 | 9.302 | 8.033 |
| 42 | .029 | 8.668 | 9.534 | 8.234 |
| 43 | .029 | 8.879 | 9.767 | 8.435 |
| 44 | .030 | 9.090 | 9.999 | 8.636 |
| 45 | .031 | 9.302 | 10.232 | 8.837 |
| 46 | .031 | 9.513 | 10.464 | 9.037 |
| 47 | .032 | 9.725 | 10.697 | 9.238 |
| 48 | .033 | 9.936 | 10.930 | 9.439 |
| 49 | .033 | 10.147 | 11.162 | 9.640 |
| 50 | .034 | 10.359 | 11.395 | 9.841 |
| 51 | .035 | 10.570 | 11.627 | 10.042 |
| 52 | .036 | 10.782 | 11.860 | 10.242 |
| 53 | .036 | 10.993 | 12.092 | 10.443 |

---------- PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)----------

HIGH PERTURBATION VALUE= .1000
LOW PERTURBATION VALUE = .0500

OUTER LOOP PARAMETER= 4.500
INNER LOOP PARAMETER= 500.000

| NO.TERMS | IND.VAR. | DEP.VAR. | HI. VAL. | LO. VAL. |
|---|---|---|---|---|
| 1 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | .001 | .232 | .255 | .220 |
| 3 | .001 | .463 | .510 | .440 |
| 4 | .002 | .695 | .764 | .660 |
| 5 | .003 | .926 | 1.019 | .880 |
| 6 | .003 | 1.158 | 1.274 | 1.100 |
| 7 | .004 | 1.390 | 1.529 | 1.320 |
| 8 | .005 | 1.621 | 1.783 | 1.540 |
| 9 | .006 | 1.853 | 2.038 | 1.760 |
| 10 | .006 | 2.085 | 2.293 | 1.980 |
| 11 | .007 | 2.316 | 2.548 | 2.200 |
| 12 | .008 | 2.548 | 2.803 | 2.420 |
| 13 | .008 | 2.779 | 3.057 | 2.640 |
| 14 | .009 | 3.011 | 3.312 | 2.860 |
| 15 | .010 | 3.243 | 3.567 | 3.080 |
| 16 | .010 | 3.474 | 3.822 | 3.301 |
| 17 | .011 | 3.706 | 4.076 | 3.521 |
| 18 | .012 | 3.937 | 4.331 | 3.741 |
| 19 | .013 | 4.169 | 4.586 | 3.961 |
| 20 | .013 | 4.401 | 4.841 | 4.181 |
| 21 | .014 | 4.632 | 5.096 | 4.401 |
| 22 | .015 | 4.864 | 5.350 | 4.621 |
| 23 | .015 | 5.096 | 5.605 | 4.841 |
| 24 | .016 | 5.327 | 5.860 | 5.061 |
| 25 | .017 | 5.559 | 6.115 | 5.281 |
| 26 | .017 | 5.790 | 6.369 | 5.501 |
| 27 | .018 | 6.022 | 6.624 | 5.721 |
| 28 | .019 | 6.254 | 6.879 | 5.941 |
| 29 | .020 | 6.485 | 7.134 | 6.161 |
| 30 | .020 | 6.717 | 7.388 | 6.381 |
| 31 | .021 | 6.948 | 7.643 | 6.601 |
| 32 | .022 | 7.180 | 7.898 | 6.821 |
| 33 | .022 | 7.412 | 8.153 | 7.041 |
| 34 | .023 | 7.643 | 8.408 | 7.261 |
| 35 | .024 | 7.875 | 8.662 | 7.481 |
| 36 | .024 | 8.106 | 8.917 | 7.701 |
| 37 | .025 | 8.338 | 9.172 | 7.921 |
| 38 | .026 | 8.570 | 9.427 | 8.141 |
| 39 | .026 | 8.801 | 9.681 | 8.361 |
| 40 | .027 | 9.033 | 9.936 | 8.581 |
| 41 | .028 | 9.265 | 10.191 | 8.801 |
| 42 | .029 | 9.496 | 10.446 | 9.021 |
| 43 | .029 | 9.728 | 10.701 | 9.241 |
| 44 | .030 | 9.959 | 10.955 | 9.461 |
| 45 | .031 | 10.191 | 11.210 | 9.681 |
| 46 | .031 | 10.423 | 11.465 | 9.902 |
| 47 | .032 | 10.654 | 11.720 | 10.122 |
| 48 | .033 | 10.886 | 11.974 | 10.342 |
| 49 | .033 | 11.117 | 12.229 | 10.562 |
| 50 | .034 | 11.349 | 12.484 | 10.782 |
| 51 | .035 | 11.581 | 12.739 | 11.002 |
| 52 | .036 | 11.812 | 12.994 | 11.222 |
| 53 | .036 | 12.044 | 13.248 | 11.442 |

---------- PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)----------

HIGH PERTURBATION VALUE= .1000
LOW PERTURBATION VALUE = .0500

OUTER LOOP PARAMETER= 4.500
INNER LOOP PARAMETER= 550.000

| NO.TERMS | IND.VAR. | DEP.VAR. | HI. VAL. | LO. VAL. |
|---|---|---|---|---|
| 1 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | .001 | .252 | .277 | .239 |
| 3 | .001 | .503 | .553 | .478 |
| 4 | .002 | .755 | .830 | .717 |
| 5 | .003 | 1.006 | 1.107 | .956 |
| 6 | .003 | 1.258 | 1.384 | 1.195 |
| 7 | .004 | 1.509 | 1.660 | 1.434 |
| 8 | .005 | 1.761 | 1.937 | 1.673 |
| 9 | .006 | 2.012 | 2.214 | 1.912 |
| 10 | .006 | 2.264 | 2.490 | 2.151 |
| 11 | .007 | 2.516 | 2.767 | 2.390 |
| 12 | .008 | 2.767 | 3.044 | 2.629 |
| 13 | .008 | 3.019 | 3.321 | 2.868 |
| 14 | .009 | 3.270 | 3.597 | 3.107 |
| 15 | .010 | 3.522 | 3.874 | 3.346 |
| 16 | .010 | 3.773 | 4.151 | 3.585 |
| 17 | .011 | 4.025 | 4.427 | 3.824 |
| 18 | .012 | 4.276 | 4.704 | 4.063 |
| 19 | .013 | 4.528 | 4.981 | 4.302 |
| 20 | .013 | 4.780 | 5.258 | 4.541 |
| 21 | .014 | 5.031 | 5.534 | 4.780 |
| 22 | .015 | 5.283 | 5.811 | 5.019 |
| 23 | .015 | 5.534 | 6.088 | 5.258 |
| 24 | .016 | 5.786 | 6.364 | 5.497 |
| 25 | .017 | 6.037 | 6.641 | 5.736 |
| 26 | .017 | 6.289 | 6.918 | 5.974 |
| 27 | .018 | 6.540 | 7.195 | 6.213 |
| 28 | .019 | 6.792 | 7.471 | 6.452 |
| 29 | .020 | 7.044 | 7.748 | 6.691 |
| 30 | .020 | 7.295 | 8.025 | 6.930 |
| 31 | .021 | 7.547 | 8.301 | 7.169 |
| 32 | .022 | 7.798 | 8.578 | 7.408 |
| 33 | .022 | 8.050 | 8.855 | 7.647 |
| 34 | .023 | 8.301 | 9.132 | 7.886 |
| 35 | .024 | 8.553 | 9.408 | 8.125 |
| 36 | .024 | 8.804 | 9.685 | 8.364 |
| 37 | .025 | 9.056 | 9.962 | 8.603 |
| 38 | .026 | 9.308 | 10.238 | 8.842 |
| 39 | .026 | 9.559 | 10.515 | 9.081 |
| 40 | .027 | 9.811 | 10.792 | 9.320 |
| 41 | .028 | 10.062 | 11.069 | 9.559 |
| 42 | .029 | 10.314 | 11.345 | 9.798 |
| 43 | .029 | 10.565 | 11.622 | 10.037 |
| 44 | .030 | 10.817 | 11.899 | 10.276 |
| 45 | .031 | 11.069 | 12.175 | 10.515 |
| 46 | .031 | 11.320 | 12.452 | 10.754 |
| 47 | .032 | 11.572 | 12.729 | 10.993 |
| 48 | .033 | 11.823 | 13.006 | 11.232 |
| 49 | .03[illegible] | 12.075 | 13.282 | 11.471 |
| 50 | .034 | 12.326 | 13.559 | 11.710 |
| 51 | .035 | 12.578 | 13.836 | 11.949 |
| 52 | .036 | 12.829 | 14.112 | 12.188 |
| 53 | .036 | 13.081 | 14.389 | 12.427 |

---------- PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)----------

HIGH PERTURBATION VALUE= .1000
LOW PERTURBATION VALUE = .0500

OUTER LOOP PARAMETER= 4.500
INNER LOOP PARAMETER= 600.000

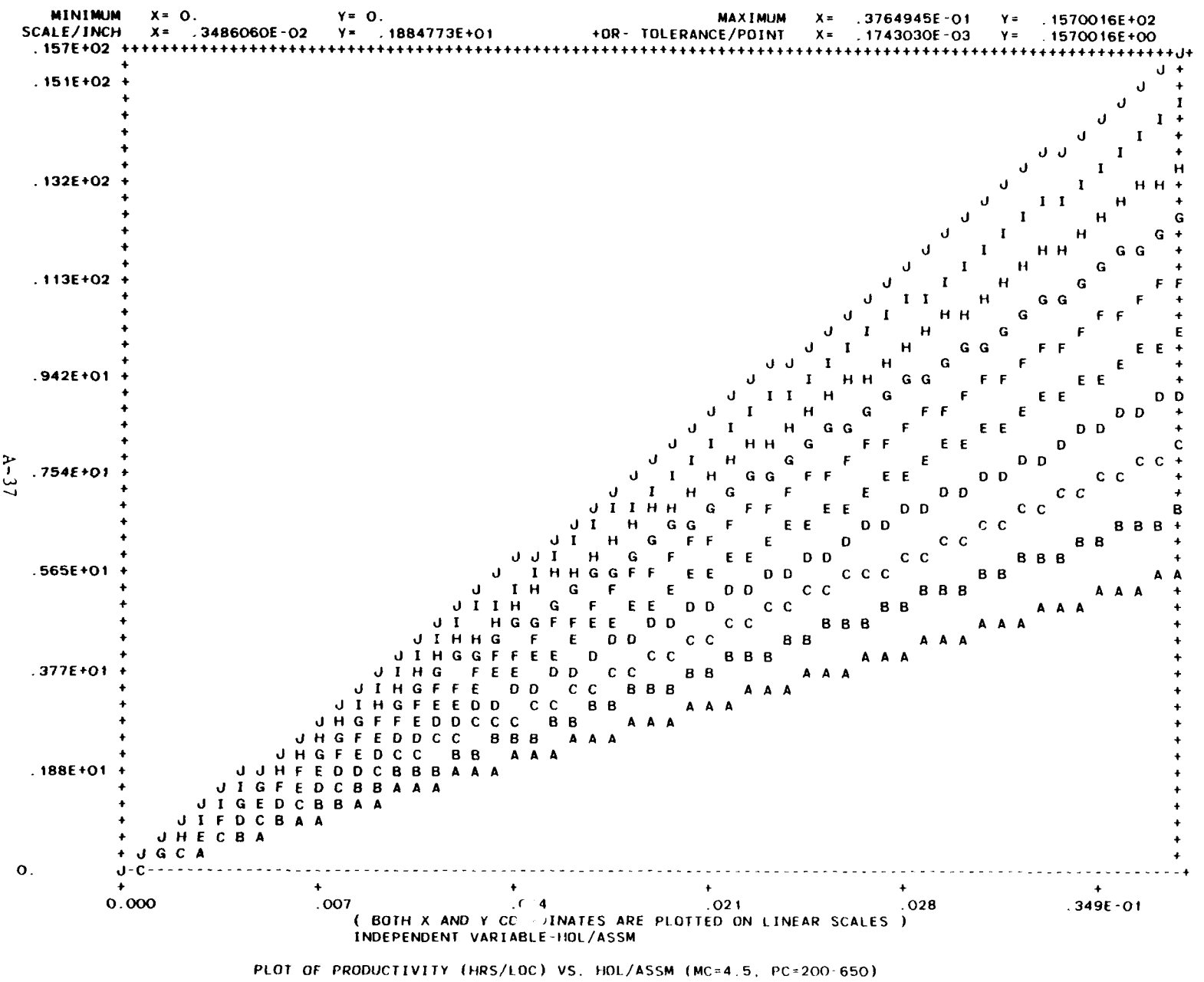
| NO.TERMS | IND.VAR. | DEP.VAR. | HI. VAL. | LO. VAL. |
|---|---|---|---|---|
| 1 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | .001 | .271 | .298 | .258 |
| 3 | .001 | .543 | .597 | .515 |
| 4 | .002 | .814 | .895 | .773 |
| 5 | .003 | 1.085 | 1.194 | 1.031 |
| 6 | .003 | 1.356 | 1.492 | 1.288 |
| 7 | .004 | 1.628 | 1.790 | 1.546 |
| 8 | .005 | 1.899 | 2.089 | 1.804 |
| 9 | .006 | 2.170 | 2.387 | 2.062 |
| 10 | .006 | 2.441 | 2.685 | 2.319 |
| 11 | .007 | 2.713 | 2.984 | 2.577 |
| 12 | .008 | 2.984 | 3.282 | 2.835 |
| 13 | .008 | 3.255 | 3.581 | 3.092 |
| 14 | .009 | 3.526 | 3.879 | 3.350 |
| 15 | .010 | 3.798 | 4.177 | 3.608 |
| 16 | .010 | 4.069 | 4.476 | 3.865 |
| 17 | .011 | 4.340 | 4.774 | 4.123 |
| 18 | .012 | 4.611 | 5.073 | 4.381 |
| 19 | .013 | 4.883 | 5.371 | 4.639 |
| 20 | .013 | 5.154 | 5.669 | 4.896 |
| 21 | .014 | 5.425 | 5.968 | 5.154 |
| 22 | .015 | 5.696 | 6.266 | 5.412 |
| 23 | .015 | 5.968 | 6.564 | 5.669 |
| 24 | .016 | 6.239 | 6.863 | 5.927 |
| 25 | .017 | 6.510 | 7.161 | 6.185 |
| 26 | .017 | 6.781 | 7.460 | 6.442 |
| 27 | .018 | 7.053 | 7.758 | 6.700 |
| 28 | .019 | 7.324 | 8.056 | 6.958 |
| 29 | .020 | 7.595 | 8.355 | 7.216 |
| 30 | .020 | 7.867 | 8.653 | 7.473 |
| 31 | .021 | 8.138 | 8.952 | 7.731 |
| 32 | .022 | 8.409 | 9.250 | 7.989 |
| 33 | .022 | 8.680 | 9.548 | 8.246 |
| 34 | .023 | 8.952 | 9.847 | 8.504 |
| 35 | .024 | 9.223 | 10.145 | 8.762 |
| 36 | .024 | 9.494 | 10.443 | 9.019 |
| 37 | .025 | 9.765 | 10.742 | 9.277 |
| 38 | .026 | 10.037 | 11.040 | 9.535 |
| 39 | .026 | 10.308 | 11.339 | 9.792 |
| 40 | .027 | 10.579 | 11.637 | 10.050 |
| 41 | .028 | 10.850 | 11.935 | 10.308 |
| 42 | .029 | 11.122 | 12.234 | 10.566 |
| 43 | .029 | 11.393 | 12.532 | 10.823 |
| 44 | .030 | 11.664 | 12.831 | 11.081 |
| 45 | .031 | 11.935 | 13.129 | 11.339 |
| 46 | .031 | 12.207 | 13.427 | 11.596 |
| 47 | .032 | 12.478 | 13.726 | 11.854 |
| 48 | .033 | 12.749 | 14.024 | 12 112 |
| 49 | .033 | 13.020 | 14.322 | 12.369 |
| 50 | .034 | 13.292 | 14.621 | 12.627 |
| 51 | .035 | 13.563 | 14.919 | 12.885 |
| 52 | .036 | 13.834 | 15.218 | 13.143 |
| 53 | .036 | 14.105 | 15.516 | 13.400 |

---------- PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)----------

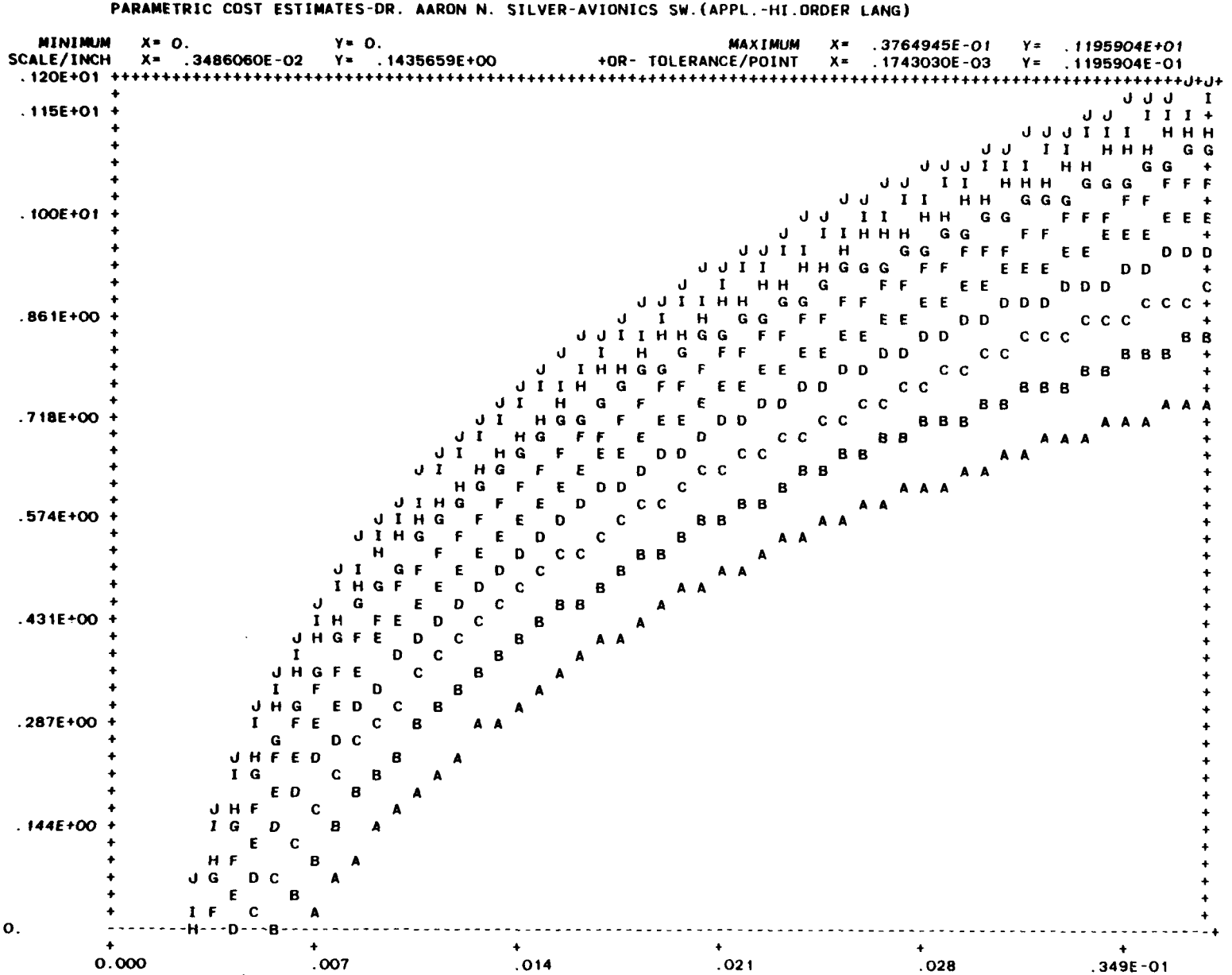
HIGH PERTURBATION VALUE= .1000
LOW PERTURBATION VALUE = .0500

OUTER LOOP PARAMETER= 4.500
INNER LOOP PARAMETER= 650.000

| NO.TERMS | IND.VAR. | DEP.VAR. | HI. VAL. | LO. VAL. |
|---|---|---|---|---|
| 1 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | .001 | .291 | .320 | .276 |
| 3 | .001 | .581 | .640 | .552 |
| 4 | .002 | .872 | .959 | .829 |
| 5 | .003 | 1.163 | 1.279 | 1.105 |
| 6 | .003 | 1.454 | 1.599 | 1.381 |
| 7 | .004 | 1.744 | 1.919 | 1.657 |
| 8 | .005 | 2.035 | 2.239 | 1.933 |
| 9 | .006 | 2.326 | 2.559 | 2.210 |
| 10 | .006 | 2.617 | 2.878 | 2.486 |
| 11 | .007 | 2.907 | 3.198 | 2.762 |
| 12 | .008 | 3.198 | 3.518 | 3.038 |
| 13 | .008 | 3.489 | 3.838 | 3.314 |
| 14 | .009 | 3.780 | 4.158 | 3.591 |
| 15 | .010 | 4.070 | 4.477 | 3.867 |
| 16 | .010 | 4.361 | 4.797 | 4.143 |
| 17 | .011 | 4.652 | 5.117 | 4.419 |
| 18 | .012 | 4.943 | 5.437 | 4.696 |
| 19 | .013 | 5.233 | 5.757 | 4.972 |
| 20 | .013 | 5.524 | 6.077 | 5.248 |
| 21 | .014 | 5.815 | 6.396 | 5.524 |
| 22 | .015 | 6.106 | 6.716 | 5.800 |
| 23 | .015 | 6.396 | 7.036 | 6.077 |
| 24 | .016 | 6.687 | 7.356 | 6.353 |
| 25 | .017 | 6.978 | 7.676 | 6.629 |
| 26 | .017 | 7.269 | 7.995 | 6.905 |
| 27 | .018 | 7.559 | 8.315 | 7.181 |
| 28 | .019 | 7.850 | 8.635 | 7.458 |
| 29 | .020 | 8.141 | 8.955 | 7.734 |
| 30 | .020 | 8.432 | 9.275 | 8.010 |
| 31 | .021 | 8.722 | 9.595 | 8.286 |
| 32 | .022 | 9.013 | 9.914 | 8.562 |
| 33 | .022 | 9.304 | 10.234 | 8.839 |
| 34 | .023 | 9.595 | 10.554 | 9.115 |
| 35 | .024 | 9.885 | 10.874 | 9.391 |
| 36 | .024 | 10.176 | 11.194 | 9.667 |
| 37 | .025 | 10.467 | 11.513 | 9.943 |
| 38 | .026 | 10.758 | 11.833 | 10.220 |
| 39 | .026 | 11.048 | 12.153 | 10.496 |
| 40 | .027 | 11.339 | 12.473 | 10.772 |
| 41 | .028 | 11.630 | 12.793 | 11.048 |
| 42 | .029 | 11.920 | 13.113 | 11.324 |
| 43 | .029 | 12.211 | 13.432 | 11.601 |
| 44 | .030 | 12.502 | 13.752 | 11.877 |
| 45 | .031 | 12.793 | 14.072 | 12.153 |
| 46 | .031 | 13.083 | 14.392 | 12.429 |
| 47 | .032 | 13.374 | 14.712 | 12.706 |
| 48 | .033 | 13.665 | 15.031 | 12.982 |
| 49 | .033 | 13.956 | 15.351 | 13.258 |
| 50 | .034 | 14.246 | 15.671 | 13.534 |
| 51 | .035 | 14.537 | 15.991 | 13.810 |
| 52 | .036 | 14.828 | 16.311 | 14.087 |
| 53 | .036 | 15.119 | 16.631 | 14.363 |


PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)
MINIMUM X= 0. Y= 0. MAXIMUM X= .3764945E-01 Y= .1570016E+02
SCALE/INCH X= .3486060E-02 Y= .1884773E+01 +OR- TOLERANCE/POINT X= .1743030E-03 Y= .1570016E+00
.157E+02
.151E+02
.132E+02
.113E+02
.942E+01
.754E+01
.565E+01
.377E+01
.188E+01
0.
0.000
.007
.014
.021
.028
.349E-01
( BOTH X AND Y COORDINATES ARE PLOTTED ON LINEAR SCALES )
INDEPENDENT VARIABLE-HOL/ASSM
PLOT OF PRODUCTIVITY (HRS/LOC) VS. HOL/ASSM (MC=4.5, PC=200-650)

PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)




( X COORDINATE PLOTTED ON LINEAR SCALE, Y COORDINATE PLOTTED ON LOGARITHMIC SCALE )
INDEPENDENT VARIABLE-HOL/ASSM

PLOT OF PRODUCTIVITY (HRS/LOC) VS. HOL/ASSM (MC=4.5, PC=200-650)

++++++++++++++++++$$$$$$$$$$$$$$$$$$ PARAMETRIC TRADE ANALYSIS--DR. AARON N. SILVER--MOD. 9 $$$$$$$$$$$$$$$$$$++++++++++++++++++

==========PARAMETRIC TRADE ANALYSIS INPUT PARAMETERS==========

THE PARAMETRIC TRADE EQUATION IS OF THE FORM E1(I,J)=F(TC.R,V)
WHERE E1(I,J) IS THE INDEPENDENT VARIABLE
TC IS THE DEPENDENT VARIABLE
R IS THE INNER LOOP PARAMETER
V IS THE OUTER LOOP PARAMETER

---------- PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)----------

*OUTER LOOP PARAMETERS*

| OINITIAL | ODELTA | OMAXIM |
|---|---|---|
| 4.500 | 1.000 | 4.500 |

INNER LOOP PARAMETERS

| IINITIAL | IDELTA | IMAXIM |
|---|---|---|
| 200.000 | 50.000 | 650.000 |

INDEPENDENT VARIABLE

| XINITIAL | XDELTA | XMAXIM |
|---|---|---|
| 0.000 | .100 | 5.400 |



----------PLOT PARAMETER SETTINGS FOR PARAMETRIC TRADE ANALYSIS INPUT CONSTANTS----------

(KP = -1 KP1= 1 KP2= -1 KPO= 1 KPA= 1 KPB= 1 KPP= 1)
KP = -1 INDIVIDUAL CURVES NOT PLOTTED
KP1= 1 AGGREGATE CURVES PLOTTED
KPP= 1 ALL PLOTS OBTAINED(LIN./S-LOG/L-LOG)
KP2= -1 PERTURBATION CURVES NOT PLOTTED

----------PRINT PARAMETER SETTINGS FOR PARAMETRIC TRADE ANALYSIS INPUT CONSTANTS----------

(KPT= 1 KP3= 1 KP4= -1)
KPT= 1 ALL PRINTOUT OBTAINED
KP3= 1 PERTURBATION PRINTOUT OBTAINED
KP4= -1 INDIVIDUAL PRINTOUT NOT OBTAINED

----------CONFIGURATION MODE FOR PARAMETRIC TRADE ANALYSIS INPUT CONSTANTS----------

MULTIPLE VARIABLE ASYMPTOTIC REGRESSION ANALYSIS
CONSTANT TERM = .017
C3= 1.000 C4= .867 C5= .279
EQ. OF FORM Y= C2(TC.EX(C3)(R.EX(C4)(V.EX(C5)

==========OUTPUT COMPUTATIONS==========

---------- PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)----------

HIGH PERTURBATION VALUE= .1000
LOW PERTURBATION VALUE = .0500

OUTER LOOP PARAMETER= 4.500
INNER LOOP PARAMETER= 200.000

| NO.TERMS | IND.VAR. | DEP.VAR. | HI. VAL. | LO. VAL. |
|---|---|---|---|---|
| 1 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | .100 | .262 | .288 | .249 |
| 3 | .200 | .523 | .576 | .497 |
| 4 | .300 | .785 | .864 | .746 |
| 5 | .400 | 1.047 | 1.152 | .995 |
| 6 | .500 | 1.309 | 1.439 | 1.243 |
| 7 | .600 | 1.570 | 1.727 | 1.492 |
| 8 | .700 | 1.832 | 2.015 | 1.740 |
| 9 | .800 | 2.094 | 2.303 | 1.989 |
| 10 | .900 | 2.356 | 2.591 | 2.238 |
| 11 | 1.000 | 2.617 | 2.879 | 2.486 |
| 12 | 1.100 | 2.879 | 3.167 | 2.735 |
| 13 | 1.200 | 3.141 | 3.455 | 2.984 |
| 14 | 1.300 | 3.402 | 3.743 | 3.232 |
| 15 | 1.400 | 3.664 | 4.031 | 3.481 |
| 16 | 1.500 | 3.926 | 4.318 | 3.730 |
| 17 | 1.600 | 4.188 | 4.606 | 3.978 |
| 18 | 1.700 | 4.449 | 4.894 | 4.227 |
| 19 | 1.800 | 4.711 | 5.182 | 4.475 |
| 20 | 1.900 | 4.973 | 5.470 | 4.724 |
| 21 | 2.000 | 5.234 | 5.758 | 4.973 |
| 22 | 2.100 | 5.496 | 6.046 | 5.221 |
| 23 | 2.200 | 5.758 | 6.334 | 5.470 |
| 24 | 2.300 | 6.020 | 6.622 | 5.719 |
| 25 | 2.400 | 6.281 | 6.909 | 5.967 |
| 26 | 2.500 | 6.543 | 7.197 | 6.216 |
| 27 | 2.600 | 6.805 | 7.485 | 6.465 |
| 28 | 2.700 | 7.067 | 7.773 | 6.713 |
| 29 | 2.800 | 7.328 | 8.061 | 6.962 |
| 30 | 2.900 | 7.590 | 8.349 | 7.210 |
| 31 | 3.000 | 7.852 | 8.637 | 7.459 |
| 32 | 3.100 | 8.113 | 8.925 | 7.708 |
| 33 | 3.200 | 8.375 | 9.213 | 7.956 |
| 34 | 3.300 | 8.637 | 9.501 | 8.205 |
| 35 | 3.400 | 8.899 | 9.788 | 8.454 |
| 36 | 3.500 | 9.160 | 10.076 | 8.702 |
| 37 | 3.600 | 9.422 | 10.364 | 8.951 |
| 38 | 3.700 | 9.684 | 10.652 | 9.200 |
| 39 | 3.800 | 9.945 | 10.940 | 9.448 |
| 40 | 3.900 | 10.207 | 11.228 | 9.697 |
| 41 | 4.000 | 10.469 | 11.516 | 9.945 |
| 42 | 4.100 | 10.731 | 11.804 | 10.194 |
| 43 | 4.200 | 10.992 | 12.092 | 10.443 |
| 44 | 4.300 | 11.254 | 12.380 | 10.691 |
| 45 | 4.400 | 11.516 | 12.667 | 10.940 |
| 46 | 4.500 | 11.778 | 12.955 | 11.189 |
| 47 | 4.600 | 12.039 | 13.243 | 11.437 |
| 48 | 4.700 | 12.301 | 13.531 | 11.686 |
| 49 | 4.800 | 12.563 | 13.819 | 11.935 |
| 50 | 4.900 | 12.824 | 14.107 | 12.183 |

---------- PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)----------

HIGH PERTURBATION VALUE= .1000
LOW PERTURBATION VALUE = .0500

OUTER LOOP PARAMETER= 4.500
INNER LOOP PARAMETER= 250.000

| NO.TERMS | IND.VAR. | DEP.VAR. | HI. VAL. | LO. VAL. |
|---|---|---|---|---|
| 1 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | .100 | .318 | .349 | .302 |
| 3 | .200 | .635 | .699 | .603 |
| 4 | .300 | .953 | 1.048 | .905 |
| 5 | .400 | 1.270 | 1.397 | 1.207 |
| 6 | .500 | 1.588 | 1.747 | 1.508 |
| 7 | .600 | 1.905 | 2.096 | 1.810 |
| 8 | .700 | 2.223 | 2.445 | 2.112 |
| 9 | .800 | 2.540 | 2.795 | 2.413 |
| 10 | .900 | 2.858 | 3.144 | 2.715 |
| 11 | 1.000 | 3.176 | 3.493 | 3.017 |
| 12 | 1.100 | 3.493 | 3.842 | 3.319 |
| 13 | 1.200 | 3.811 | 4.192 | 3.620 |
| 14 | 1.300 | 4.128 | 4.541 | 3.922 |
| 15 | 1.400 | 4.446 | 4.890 | 4.224 |
| 16 | 1.500 | 4.763 | 5.240 | 4.525 |
| 17 | 1.600 | 5.081 | 5.589 | 4.827 |
| 18 | 1.700 | 5.399 | 5.938 | 5.129 |
| 19 | 1.800 | 5.716 | 6.288 | 5.430 |
| 20 | 1.900 | 6.034 | 6.637 | 5.732 |
| 21 | 2.000 | 6.351 | 6.986 | 6.034 |
| 22 | 2.100 | 6.669 | 7.336 | 6.335 |
| 23 | 2.200 | 6.986 | 7.685 | 6.637 |
| 24 | 2.300 | 7.304 | 8.034 | 6.939 |
| 25 | 2.400 | 7.621 | 8.384 | 7.240 |
| 26 | 2.500 | 7.939 | 8.733 | 7.542 |
| 27 | 2.600 | 8.257 | 9.082 | 7.844 |
| 28 | 2.700 | 8.574 | 9.432 | 8.145 |
| 29 | 2.800 | 8.892 | 9.781 | 8.447 |
| 30 | 2.900 | 9.209 | 10.130 | 8.749 |
| 31 | 3.000 | 9.527 | 10.479 | 9.050 |
| 32 | 3.100 | 9.844 | 10.829 | 9.352 |
| 33 | 3.200 | 10.162 | 11.178 | 9.654 |
| 34 | 3.300 | 10.479 | 11.527 | 9.956 |
| 35 | 3.400 | 10.797 | 11.877 | 10.257 |
| 36 | 3.500 | 11.115 | 12.226 | 10.559 |
| 37 | 3.600 | 11.432 | 12.575 | 10.861 |
| 38 | 3.700 | 11.750 | 12.925 | 11.162 |
| 39 | 3.800 | 12.067 | 13.274 | 11.464 |
| 40 | 3.900 | 12.385 | 13.623 | 11.766 |
| 41 | 4.000 | 12.702 | 13.973 | 12.067 |
| 42 | 4.100 | 13.020 | 14.322 | 12.369 |
| 43 | 4.200 | 13.338 | 14.671 | 12.671 |
| 44 | 4.300 | 13.655 | 15.021 | 12.972 |
| 45 | 4.400 | 13.973 | 15.370 | 13.274 |
| 46 | 4.500 | 14.290 | 15.719 | 13.576 |
| 47 | 4.600 | 14.608 | 16.069 | 13.877 |
| 48 | 4.700 | 14.925 | 16.418 | 14.179 |
| 49 | 4.800 | 15.243 | 16.767 | 14.481 |
| 50 | 4.900 | 15.560 | 17.117 | 14.782 |
| 51 | 5.000 | 15.878 | 17.466 | 15.084 |
| 52 | 5.100 | 16.196 | 17.815 | 15.386 |
| 53 | 5.200 | 16.513 | 18.164 | 15.687 |

---------- PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)----------

HIGH PERTURBATION VALUE= .1000
LOW PERTURBATION VALUE = .0500

OUTER LOOP PARAMETER= 4.500
INNER LOOP PARAMETER= 300.000

| NO.TERMS | IND.VAR. | DEP.VAR. | HI. VAL. | LO. VAL. |
|---|---|---|---|---|
| 1 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | .100 | .372 | .409 | .353 |
| 3 | .200 | .744 | .818 | .707 |
| 4 | .300 | 1.116 | 1.227 | 1.060 |
| 5 | .400 | 1.488 | 1.636 | 1.413 |
| 6 | .500 | 1.860 | 2.046 | 1.767 |
| 7 | .600 | 2.232 | 2.455 | 2.120 |
| 8 | .700 | 2.603 | 2.864 | 2.473 |
| 9 | .800 | 2.975 | 3.273 | 2.827 |
| 10 | .900 | 3.347 | 3.682 | 3.180 |
| 11 | 1.000 | 3.719 | 4.091 | 3.533 |
| 12 | 1.100 | 4.091 | 4.500 | 3.887 |
| 13 | 1.200 | 4.463 | 4.909 | 4.240 |
| 14 | 1.300 | 4.835 | 5.318 | 4.593 |
| 15 | 1.400 | 5.207 | 5.728 | 4.947 |
| 16 | 1.500 | 5.579 | 6.137 | 5.300 |
| 17 | 1.600 | 5.951 | 6.546 | 5.653 |
| 18 | 1.700 | 6.323 | 6.955 | 6.006 |
| 19 | 1.800 | 6.695 | 7.364 | 6.360 |
| 20 | 1.900 | 7.066 | 7.773 | 6.713 |
| 21 | 2.000 | 7.438 | 8.182 | 7.066 |
| 22 | 2.100 | 7.810 | 8.591 | 7.420 |
| 23 | 2.200 | 8.182 | 9.000 | 7.773 |
| 24 | 2.300 | 8.554 | 9.410 | 8.126 |
| 25 | 2.400 | 8.926 | 9.819 | 8.480 |
| 26 | 2.500 | 9.298 | 10.228 | 8.833 |
| 27 | 2.600 | 9.670 | 10.637 | 9.186 |
| 28 | 2.700 | 10.042 | 11.046 | 9.540 |
| 29 | 2.800 | 10.414 | 11.455 | 9.893 |
| 30 | 2.900 | 10.786 | 11.864 | 10.246 |
| 31 | 3.000 | 11.158 | 12.273 | 10.600 |
| 32 | 3.100 | 11.529 | 12.682 | 10.953 |
| 33 | 3.200 | 11.901 | 13.091 | 11.306 |
| 34 | 3.300 | 12.273 | 13.501 | 11.660 |
| 35 | 3.400 | 12.645 | 13.910 | 12.013 |
| 36 | 3.500 | 13.017 | 14.319 | 12.366 |
| 37 | 3.600 | 13.389 | 14.728 | 12.720 |
| 38 | 3.700 | 13.761 | 15.137 | 13.073 |
| 39 | 3.800 | 14.133 | 15.546 | 13.426 |
| 40 | 3.900 | 14.505 | 15.955 | 13.780 |
| 41 | 4.000 | 14.877 | 16.364 | 14.133 |
| 42 | 4.100 | 15.249 | 16.773 | 14.486 |
| 43 | 4.200 | 15.621 | 17.183 | 14.840 |
| 44 | 4.300 | 15.992 | 17.592 | 15.193 |
| 45 | 4.400 | 16.364 | 18.001 | 15.546 |
| 46 | 4.500 | 16.736 | 18.410 | 15.899 |
| 47 | 4.600 | 17.108 | 18.819 | 16.253 |
| 48 | 4.700 | 17.480 | 19.228 | 16.606 |
| 49 | 4.800 | 17.852 | 19.637 | 16.959 |
| 50 | 4.900 | 18.224 | 20.046 | 17.313 |
| 51 | 5.000 | 18.596 | 20.455 | 17.666 |
| 52 | 5.100 | 18.968 | 20.865 | 18.019 |
| 53 | 5.200 | 19.340 | 21.274 | 18.373 |

---------- PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)----------

HIGH PERTURBATION VALUE= .1000
LOW PERTURBATION VALUE = .0500

OUTER LOOP PARAMETER= 4.500
INNER LOOP PARAMETER= 350.000

| NO.TERMS | IND.VAR. | DEP.VAR. | HI. VAL. | LO. VAL. |
|---|---|---|---|---|
| 1 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | .100 | .425 | .468 | .404 |
| 3 | .200 | .850 | .935 | .808 |
| 4 | .300 | 1.275 | 1.403 | 1.211 |
| 5 | .400 | 1.700 | 1.870 | 1.615 |
| 6 | .500 | 2.125 | 2.338 | 2.019 |
| 7 | .600 | 2.550 | 2.805 | 2.423 |
| 8 | .700 | 2.976 | 3.273 | 2.827 |
| 9 | .800 | 3.401 | 3.741 | 3.231 |
| 10 | .900 | 3.826 | 4.208 | 3.634 |
| 11 | 1.000 | 4.251 | 4.676 | 4.038 |
| 12 | 1.100 | 4.676 | 5.143 | 4.442 |
| 13 | 1.200 | 5.101 | 5.611 | 4.846 |
| 14 | 1.300 | 5.526 | 6.079 | 5.250 |
| 15 | 1.400 | 5.951 | 6.546 | 5.653 |
| 16 | 1.500 | 6.376 | 7.014 | 6.057 |
| 17 | 1.600 | 6.801 | 7.481 | 6.461 |
| 18 | 1.700 | 7.226 | 7.949 | 6.865 |
| 19 | 1.800 | 7.651 | 8.416 | 7.269 |
| 20 | 1.900 | 8.076 | 8.884 | 7.673 |
| 21 | 2.000 | 8.501 | 9.352 | 8.076 |
| 22 | 2.100 | 8.927 | 9.819 | 8.480 |
| 23 | 2.200 | 9.352 | 10.287 | 8.884 |
| 24 | 2.300 | 9.777 | 10.754 | 9.288 |
| 25 | 2.400 | 10.202 | 11.222 | 9.692 |
| 26 | 2.500 | 10.627 | 11.690 | 10.095 |
| 27 | 2.600 | 11.052 | 12.157 | 10.499 |
| 28 | 2.700 | 11.477 | 12.625 | 10.903 |
| 29 | 2.800 | 11.902 | 13.092 | 11.307 |
| 30 | 2.900 | 12.327 | 13.560 | 11.711 |
| 31 | 3.000 | 12.752 | 14.027 | 12.115 |
| 32 | 3.100 | 13.177 | 14.495 | 12.518 |
| 33 | 3.200 | 13.602 | 14.963 | 12.922 |
| 34 | 3.300 | 14.027 | 15.430 | 13.326 |
| 35 | 3.400 | 14.452 | 15.898 | 13.730 |
| 36 | 3.500 | 14.878 | 16.365 | 14.134 |
| 37 | 3.600 | 15.303 | 16.833 | 14.538 |
| 38 | 3.700 | 15.728 | 17.300 | 14.941 |
| 39 | 3.800 | 16.153 | 17.768 | 15.345 |
| 40 | 3.900 | 16.578 | 18.236 | 15.749 |
| 41 | 4.000 | 17.003 | 18.703 | 16.153 |
| 42 | 4.100 | 17.428 | 19.171 | 16.557 |
| 43 | 4.200 | 17.853 | 19.638 | 16.960 |
| 44 | 4.300 | 18.278 | 20.106 | 17.364 |
| 45 | 4.400 | 18.703 | 20.574 | 17.768 |
| 46 | 4.500 | 19.128 | 21.041 | 18.172 |
| 47 | 4.600 | 19.553 | 21.509 | 18.576 |
| 48 | 4.700 | 19.978 | 21.976 | 18.980 |
| 49 | 4.800 | 20.404 | 22.444 | 19.383 |
| 50 | 4.900 | 20.829 | 22.911 | 19.787 |
| 51 | 5.000 | 21.254 | 23.379 | 20.191 |
| 52 | 5.100 | 21.679 | 23.847 | 20.595 |
| 53 | 5.200 | 22.104 | 24.314 | 20.999 |

---------- PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)----------

HIGH PERTURBATION VALUE= .1000
LOW PERTURBATION VALUE = .0500

OUTER LOOP PARAMETER= 4.500
INNER LOOP PARAMETER= 400.000

| NO.TERMS | IND.VAR. | DEP.VAR. | HI. VAL. | LO. VAL. |
|---|---|---|---|---|
| 1 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | .100 | .477 | .525 | .453 |
| 3 | .200 | .954 | 1.050 | .907 |
| 4 | .300 | 1.432 | 1.575 | 1.360 |
| 5 | .400 | 1.909 | 2.100 | 1.813 |
| 6 | .500 | 2.386 | 2.625 | 2.267 |
| 7 | .600 | 2.863 | 3.150 | 2.720 |
| 8 | .700 | 3.341 | 3.675 | 3.174 |
| 9 | .800 | 3.818 | 4.200 | 3.627 |
| 10 | .900 | 4.295 | 4.725 | 4.080 |
| 11 | 1.000 | 4.772 | 5.249 | 4.534 |
| 12 | 1.100 | 5.249 | 5.774 | 4.987 |
| 13 | 1.200 | 5.727 | 6.299 | 5.440 |
| 14 | 1.300 | 6.204 | 6.824 | 5.894 |
| 15 | 1.400 | 6.681 | 7.349 | 6.347 |
| 16 | 1.500 | 7.158 | 7.874 | 6.800 |
| 17 | 1.600 | 7.636 | 8.399 | 7.254 |
| 18 | 1.700 | 8.113 | 8.924 | 7.707 |
| 19 | 1.800 | 8.590 | 9.449 | 8.161 |
| 20 | 1.900 | 9.067 | 9.974 | 8.614 |
| 21 | 2.000 | 9.544 | 10.499 | 9.067 |
| 22 | 2.100 | 10.022 | 11.024 | 9.521 |
| 23 | 2.200 | 10.499 | 11.549 | 9.974 |
| 24 | 2.300 | 10.976 | 12.074 | 10.427 |
| 25 | 2.400 | 11.453 | 12.599 | 10.881 |
| 26 | 2.500 | 11.931 | 13.124 | 11.334 |
| 27 | 2.600 | 12.408 | 13.649 | 11.787 |
| 28 | 2.700 | 12.885 | 14.174 | 12.241 |
| 29 | 2.800 | 13.362 | 14.698 | 12.694 |
| 30 | 2.900 | 13.839 | 15.223 | 13.147 |
| 31 | 3.000 | 14.317 | 15.748 | 13.601 |
| 32 | 3.100 | 14.794 | 16.273 | 14.054 |
| 33 | 3.200 | 15.271 | 16.798 | 14.508 |
| 34 | 3.300 | 15.748 | 17.323 | 14.961 |
| 35 | 3.400 | 16.226 | 17.848 | 15.414 |
| 36 | 3.500 | 16.703 | 18.373 | 15.868 |
| 37 | 3.600 | 17.180 | 18.898 | 16.321 |
| 38 | 3.700 | 17.657 | 19.423 | 16.774 |
| 39 | 3.800 | 18.134 | 19.948 | 17.228 |
| 40 | 3.900 | 18.612 | 20.473 | 17.681 |
| 41 | 4.000 | 19.089 | 20.998 | 18.134 |
| 42 | 4.100 | 19.566 | 21.523 | 18.588 |
| 43 | 4.200 | 20.043 | 22.048 | 19.041 |
| 44 | 4.300 | 20.521 | 22.573 | 19.495 |
| 45 | 4.400 | 20.998 | 23.098 | 19.948 |
| 46 | 4.500 | 21.475 | 23.623 | 20.401 |
| 47 | 4.600 | 21.952 | 24.147 | 20.855 |
| 48 | 4.700 | 22.429 | 24.672 | 21.308 |
| 49 | 4.800 | 22.907 | 25.197 | 21.761 |
| 50 | 4.900 | 23.384 | 25.722 | 22.215 |
| 51 | 5.000 | 23.861 | 26.247 | 22.668 |
| 52 | 5.100 | 24.338 | 26.772 | 23.121 |
| 53 | 5.200 | 24.816 | 27.297 | 23.575 |

---------- PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)----------

HIGH PERTURBATION VALUE= .1000
LOW PERTURBATION VALUE = .0500

OUTER LOOP PARAMETER= 4.500
INNER LOOP PARAMETER= 450.000

| NO.TERMS | IND.VAR. | DEP.VAR. | HI. VAL. | LO. VAL. |
|---|---|---|---|---|
| 1 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | .100 | .529 | .581 | .502 |
| 3 | .200 | 1.057 | 1.163 | 1.004 |
| 4 | .300 | 1.586 | 1.744 | 1.506 |
| 5 | .400 | 2.114 | 2.325 | 2.008 |
| 6 | .500 | 2.643 | 2.907 | 2.510 |
| 7 | .600 | 3.171 | 3.488 | 3.012 |
| 8 | .700 | 3.700 | 4.070 | 3.515 |
| 9 | .800 | 4.228 | 4.651 | 4.017 |
| 10 | .900 | 4.757 | 5.232 | 4.519 |
| 11 | 1.000 | 5.285 | 5.814 | 5.021 |
| 12 | 1.100 | 5.814 | 6.395 | 5.523 |
| 13 | 1.200 | 6.342 | 6.976 | 6.025 |
| 14 | 1.300 | 6.871 | 7.558 | 6.527 |
| 15 | 1.400 | 7.399 | 8.139 | 7.029 |
| 16 | 1.500 | 7.928 | 8.720 | 7.531 |
| 17 | 1.600 | 8.456 | 9.302 | 8.033 |
| 18 | 1.700 | 8.985 | 9.883 | 8.535 |
| 19 | 1.800 | 9.513 | 10.464 | 9.037 |
| 20 | 1.900 | 10.042 | 11.046 | 9.540 |
| 21 | 2.000 | 10.570 | 11.627 | 10.042 |
| 22 | 2.100 | 11.099 | 12.209 | 10.544 |
| 23 | 2.200 | 11.627 | 12.790 | 11.046 |
| 24 | 2.300 | 12.156 | 13.371 | 11.548 |
| 25 | 2.400 | 12.684 | 13.953 | 12.050 |
| 26 | 2.500 | 13.213 | 14.534 | 12.552 |
| 27 | 2.600 | 13.741 | 15.115 | 13.054 |
| 28 | 2.700 | 14.270 | 15.697 | 13.556 |
| 29 | 2.800 | 14.798 | 16.278 | 14.058 |
| 30 | 2.900 | 15.327 | 16.859 | 14.560 |
| 31 | 3.000 | 15.855 | 17.441 | 15.062 |
| 32 | 3.100 | 16.384 | 18.022 | 15.565 |
| 33 | 3.200 | 16.912 | 18.603 | 16.067 |
| 34 | 3.300 | 17.441 | 19.185 | 16.569 |
| 35 | 3.400 | 17.969 | 19.766 | 17.071 |
| 36 | 3.500 | 18.498 | 20.348 | 17.573 |
| 37 | 3.600 | 19.026 | 20.929 | 18.075 |
| 38 | 3.700 | 19.555 | 21.510 | 18.577 |
| 39 | 3.800 | 20.083 | 22.092 | 19.079 |
| 40 | 3.900 | 20.612 | 22.673 | 19.581 |
| 41 | 4.000 | 21.140 | 23.254 | 20.083 |
| 42 | 4.100 | 21.669 | 23.836 | 20.585 |
| 43 | 4.200 | 22.197 | 24.417 | 21.087 |
| 44 | 4.300 | 22.726 | 24.998 | 21.590 |
| 45 | 4.400 | 23.254 | 25.580 | 22.092 |
| 46 | 4.500 | 23.783 | 26.161 | 22.594 |
| 47 | 4.600 | 24.311 | 26.742 | 23.096 |
| 48 | 4.700 | 24.840 | 27.324 | 23.598 |
| 49 | 4.800 | 25.368 | 27.905 | 24.100 |
| 50 | 4.900 | 25.897 | 28.487 | 24.602 |
| 51 | 5.000 | 26.425 | 29.068 | 25.104 |
| 52 | 5.100 | 26.954 | 29.649 | 25.606 |
| 53 | 5.200 | 27.482 | 30.231 | 26.108 |

---------- PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)----------

HIGH PERTURBATION VALUE= .1000
LOW PERTURBATION VALUE = .0500

OUTER LOOP PARAMETER= 4.500
INNER LOOP PARAMETER= 500.000

| NO.TERMS | IND.VAR. | DEP.VAR. | HI. VAL. | LO. VAL. |
|---|---|---|---|---|
| 1 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | .100 | .579 | .637 | .550 |
| 3 | .200 | 1.158 | 1.274 | 1.100 |
| 4 | .300 | 1.737 | 1.911 | 1.650 |
| 5 | .400 | 2.316 | 2.548 | 2.200 |
| 6 | .500 | 2.895 | 3.185 | 2.750 |
| 7 | .600 | 3.474 | 3.822 | 3.301 |
| 8 | .700 | 4.053 | 4.459 | 3.851 |
| 9 | .800 | 4.632 | 5.096 | 4.401 |
| 10 | .900 | 5.211 | 5.732 | 4.951 |
| 11 | 1.000 | 5.790 | 6.369 | 5.501 |
| 12 | 1.100 | 6.369 | 7.006 | 6.051 |
| 13 | 1.200 | 6.948 | 7.643 | 6.601 |
| 14 | 1.300 | 7.527 | 8.280 | 7.151 |
| 15 | 1.400 | 8.106 | 8.917 | 7.701 |
| 16 | 1.500 | 8.686 | 9.554 | 8.251 |
| 17 | 1.600 | 9.265 | 10.191 | 8.801 |
| 18 | 1.700 | 9.844 | 10.828 | 9.351 |
| 19 | 1.800 | 10.423 | 11.465 | 9.902 |
| 20 | 1.900 | 11.002 | 12.102 | 10.452 |
| 21 | 2.000 | 11.581 | 12.739 | 11.002 |
| 22 | 2.100 | 12.160 | 13.376 | 11.552 |
| 23 | 2.200 | 12.739 | 14.013 | 12.102 |
| 24 | 2.300 | 13.318 | 14.650 | 12.652 |
| 25 | 2.400 | 13.897 | 15.287 | 13.202 |
| 26 | 2.500 | 14.476 | 15.923 | 13.752 |
| 27 | 2.600 | 15.055 | 16.560 | 14.302 |
| 28 | 2.700 | 15.634 | 17.197 | 14.852 |
| 29 | 2.800 | 16.213 | 17.834 | 15.402 |
| 30 | 2.900 | 16.792 | 18.471 | 15.952 |
| 31 | 3.000 | 17.371 | 19.108 | 16.503 |
| 32 | 3.100 | 17.950 | 19.745 | 17.053 |
| 33 | 3.200 | 18.529 | 20.382 | 17.603 |
| 34 | 3.300 | 19.108 | 21.019 | 18.153 |
| 35 | 3.400 | 19.687 | 21.656 | 18.703 |
| 36 | 3.500 | 20.266 | 22.293 | 19.253 |
| 37 | 3.600 | 20.845 | 22.930 | 19.803 |
| 38 | 3.700 | 21.424 | 23.567 | 20.353 |
| 39 | 3.800 | 22.003 | 24.204 | 20.903 |
| 40 | 3.900 | 22.582 | 24.841 | 21.453 |
| 41 | 4.000 | 23.161 | 25.478 | 22.003 |
| 42 | 4.100 | 23.740 | 26.114 | 22.553 |
| 43 | 4.200 | 24.319 | 26.751 | 23.104 |
| 44 | 4.300 | 24.899 | 27.388 | 23.654 |
| 45 | 4.400 | 25.478 | 28.025 | 24.204 |
| 46 | 4.500 | 26.057 | 28.662 | 24.754 |
| 47 | 4.600 | 26.636 | 29.299 | 25.304 |
| 48 | 4.700 | 27.215 | 29.936 | 25.854 |
| 49 | 4.800 | 27.794 | 30.573 | 26.404 |
| 50 | 4.900 | 28.373 | 31.210 | 26.954 |
| 51 | 5.000 | 28.952 | 31.847 | 27.504 |
| 52 | 5.100 | 29.531 | 32.484 | 28.054 |
| 53 | 5.200 | 30.110 | 33.121 | 28.604 |

---------- PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)----------

HIGH PERTURBATION VALUE= .1000
LOW PERTURBATION VALUE = .0500

OUTER LOOP PARAMETER= 4.500
INNER LOOP PARAMETER= 550.000

| NO.TERMS | IND.VAR. | DEP.VAR. | HI. VAL. | LO. VAL. |
|---|---|---|---|---|
| 1 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | .100 | .629 | .692 | .597 |
| 3 | .200 | 1.258 | 1.384 | 1.195 |
| 4 | .300 | 1.887 | 2.075 | 1.792 |
| 5 | .400 | 2.516 | 2.767 | 2.390 |
| 6 | .500 | 3.144 | 3.459 | 2.987 |
| 7 | .600 | 3.773 | 4.151 | 3.585 |
| 8 | .700 | 4.402 | 4.842 | 4.182 |
| 9 | .800 | 5.031 | 5.534 | 4.780 |
| 10 | .900 | 5.660 | 6.226 | 5.377 |
| 11 | 1.000 | 6.289 | 6.918 | 5.974 |
| 12 | 1.100 | 6.918 | 7.610 | 6.572 |
| 13 | 1.200 | 7.547 | 8.301 | 7.169 |
| 14 | 1.300 | 8.176 | 8.993 | 7.767 |
| 15 | 1.400 | 8.804 | 9.685 | 8.364 |
| 16 | 1.500 | 9.433 | 10.377 | 8.962 |
| 17 | 1.600 | 10.062 | 11.069 | 9.559 |
| 18 | 1.700 | 10.691 | 11.760 | 10.157 |
| 19 | 1.800 | 11.320 | 12.452 | 10.754 |
| 20 | 1.900 | 11.949 | 13.144 | 11.352 |
| 21 | 2.000 | 12.578 | 13.836 | 11.949 |
| 22 | 2.100 | 13.207 | 14.527 | 12.546 |
| 23 | 2.200 | 13.836 | 15.219 | 13.144 |
| 24 | 2.300 | 14.465 | 15.911 | 13.741 |
| 25 | 2.400 | 15.093 | 16.603 | 14.339 |
| 26 | 2.500 | 15.722 | 17.295 | 14.936 |
| 27 | 2.600 | 16.351 | 17.986 | 15.534 |
| 28 | 2.700 | 16.980 | 18.678 | 16.131 |
| 29 | 2.800 | 17.609 | 19.370 | 16.729 |
| 30 | 2.900 | 18.238 | 20.062 | 17.326 |
| 31 | 3.000 | 18.867 | 20.753 | 17.923 |
| 32 | 3.100 | 19.496 | 21.445 | 18.521 |
| 33 | 3.200 | 20.125 | 22.137 | 19.118 |
| 34 | 3.300 | 20.753 | 22.829 | 19.716 |
| 35 | 3.400 | 21.382 | 23.521 | 20.313 |
| 36 | 3.500 | 22.011 | 24.212 | 20.911 |
| 37 | 3.600 | 22.640 | 24.904 | 21.508 |
| 38 | 3.700 | 23.269 | 25.596 | 22.106 |
| 39 | 3.800 | 23.898 | 26.288 | 22.703 |
| 40 | 3.900 | 24.527 | 26.979 | 23.300 |
| 41 | 4.000 | 25.156 | 27.671 | 23.898 |
| 42 | 4.100 | 25.785 | 28.363 | 24.495 |
| 43 | 4.200 | 26.413 | 29.055 | 25.093 |
| 44 | 4.300 | 27.042 | 29.747 | 25.690 |
| 45 | 4.400 | 27.671 | 30.438 | 26.288 |
| 46 | 4.500 | 28.300 | 31.130 | 26.885 |
| 47 | 4.600 | 28.929 | 31.822 | 27.483 |
| 48 | 4.700 | 29.558 | 32.514 | 28.080 |
| 49 | 4.800 | 30.187 | 33.206 | 28.678 |
| 50 | 4.900 | 30.816 | 33.897 | 29.275 |
| 51 | 5.000 | 31.445 | 34.589 | 29.872 |
| 52 | 5.100 | 32.074 | 35.281 | 30.470 |
| 53 | 5.200 | 32.702 | 35.973 | 31.067 |

---------- PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)----------

HIGH PERTURBATION VALUE= .1000
LOW PERTURBATION VALUE = .0500

OUTER LOOP PARAMETER= 4.500
INNER LOOP PARAMETER= 600.000

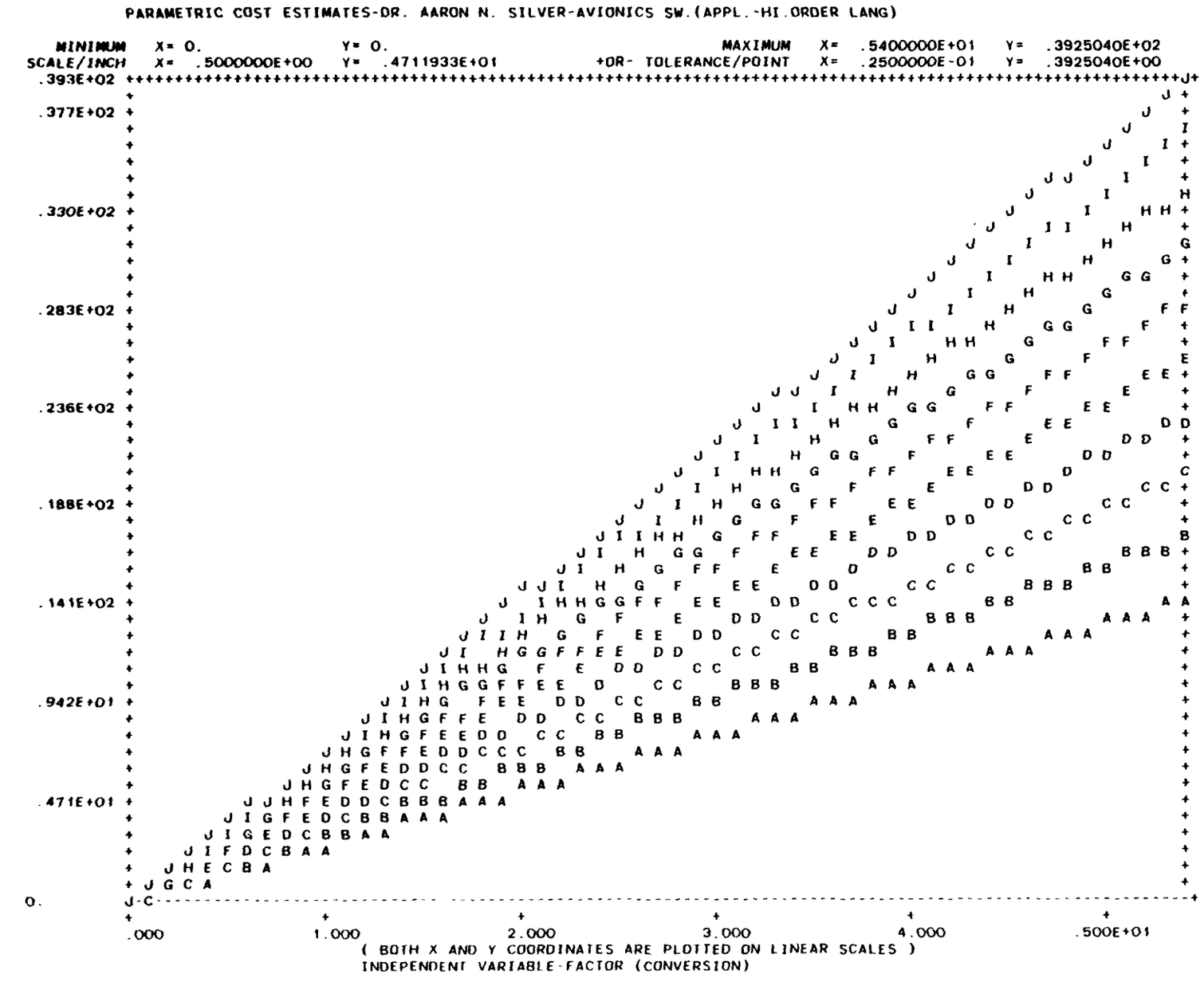
| NO.TERMS | IND.VAR. | DEP.VAR. | HI. VAL. | LO. VAL. |
|---|---|---|---|---|
| 1 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | .100 | .678 | .746 | .644 |
| 3 | .200 | 1.356 | 1.492 | 1.288 |
| 4 | .300 | 2.034 | 2.238 | 1.933 |
| 5 | .400 | 2.713 | 2.984 | 2.577 |
| 6 | .500 | 3.391 | 3.730 | 3.221 |
| 7 | .600 | 4.069 | 4.476 | 3.865 |
| 8 | .700 | 4.747 | 5.222 | 4.510 |
| 9 | .800 | 5.425 | 5.968 | 5.154 |
| 10 | .900 | 6.103 | 6.714 | 5.798 |
| 11 | 1.000 | 6.781 | 7.460 | 6.442 |
| 12 | 1.100 | 7.460 | 8.206 | 7.087 |
| 13 | 1.200 | 8.138 | 8.952 | 7.731 |
| 14 | 1.300 | 8.816 | 9.698 | 8.375 |
| 15 | 1.400 | 9.494 | 10.443 | 9.019 |
| 16 | 1.500 | 10.172 | 11.189 | 9.664 |
| 17 | 1.600 | 10.850 | 11.935 | 10.308 |
| 18 | 1.700 | 11.529 | 12.681 | 10.952 |
| 19 | 1.800 | 12.207 | 13.427 | 11.596 |
| 20 | 1.900 | 12.885 | 14.173 | 12.241 |
| 21 | 2.000 | 13.563 | 14.919 | 12.885 |
| 22 | 2.100 | 14.241 | 15.665 | 13.529 |
| 23 | 2.200 | 14.919 | 16.411 | 14.173 |
| 24 | 2.300 | 15.597 | 17.157 | 14.818 |
| 25 | 2.400 | 16.276 | 17.903 | 15.462 |
| 26 | 2.500 | 16.954 | 18.649 | 16.106 |
| 27 | 2.600 | 17.632 | 19.395 | 16.750 |
| 28 | 2.700 | 18.310 | 20.141 | 17.395 |
| 29 | 2.800 | 18.988 | 20.887 | 18.039 |
| 30 | 2.900 | 19.666 | 21.633 | 18.683 |
| 31 | 3.000 | 20.344 | 22.379 | 19.327 |
| 32 | 3.100 | 21.023 | 23.125 | 19.971 |
| 33 | 3.200 | 21.701 | 23.871 | 20.616 |
| 34 | 3.300 | 22.379 | 24.617 | 21.260 |
| 35 | 3.400 | 23.057 | 25.363 | 21.904 |
| 36 | 3.500 | 23.735 | 26.109 | 22.548 |
| 37 | 3.600 | 24.413 | 26.855 | 23.193 |
| 38 | 3.700 | 25.091 | 27.601 | 23.837 |
| 39 | 3.800 | 25.770 | 28.347 | 24.481 |
| 40 | 3.900 | 26.448 | 29.093 | 25.125 |
| 41 | 4.000 | 27.126 | 29.839 | 25.770 |
| 42 | 4.100 | 27.804 | 30.585 | 26.414 |
| 43 | 4.200 | 28.482 | 31.330 | 27.058 |
| 44 | 4.300 | 29.160 | 32.076 | 27.702 |
| 45 | 4.400 | 29.839 | 32.822 | 28.347 |
| 46 | 4.500 | 30.517 | 33.568 | 28.991 |
| 47 | 4.600 | 31.195 | 34.314 | 29.635 |
| 48 | 4.700 | 31.873 | 35.060 | 30.279 |
| 49 | 4.800 | 32.551 | 35.806 | 30.924 |
| 50 | 4.900 | 33.229 | 36.552 | 31.568 |
| 51 | 5.000 | 33.907 | 37.298 | 32.212 |
| 52 | 5.100 | 34.586 | 38.044 | 32.856 |
| 53 | 5.200 | 35.264 | 38.790 | 33.501 |

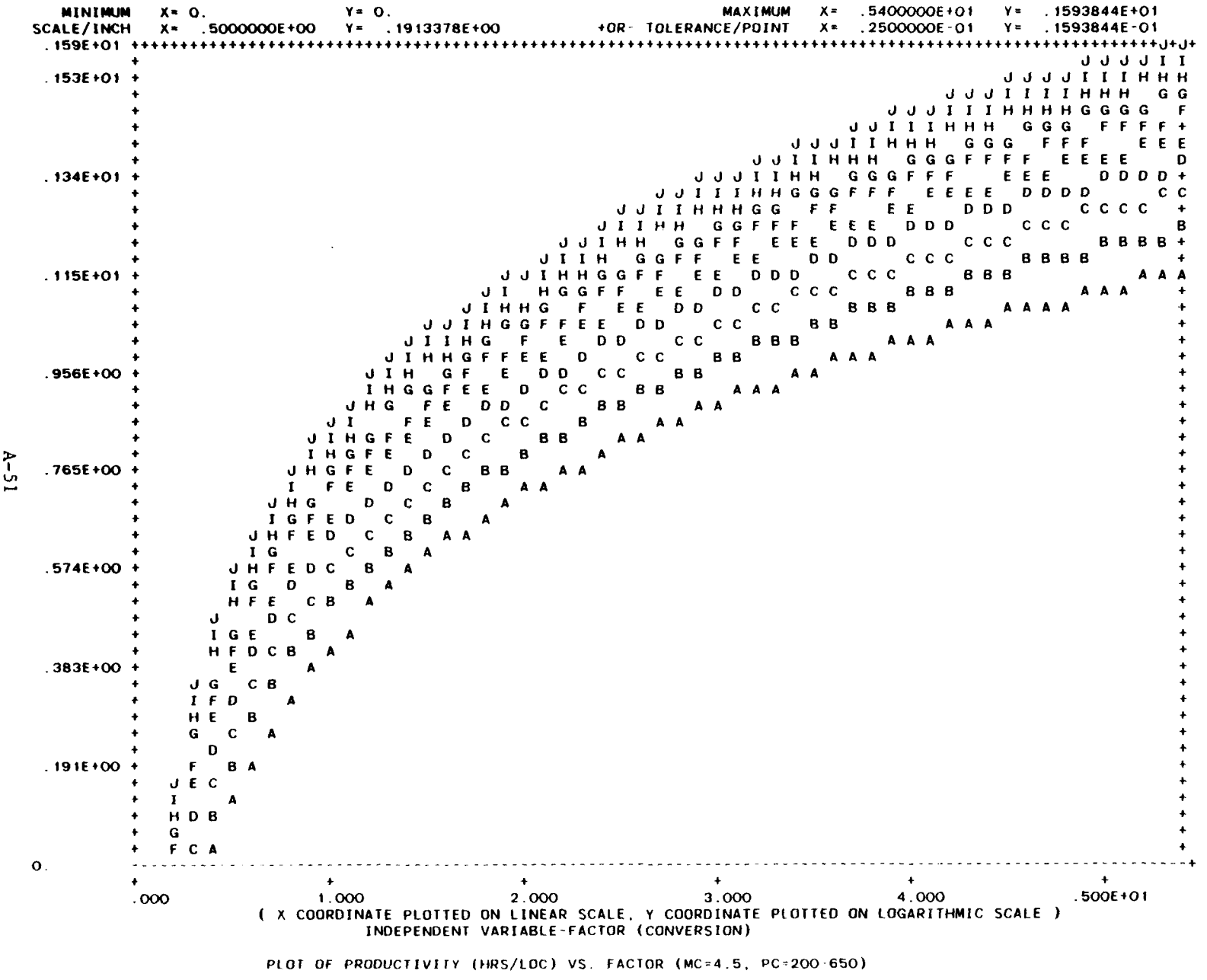
---------- PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)----------

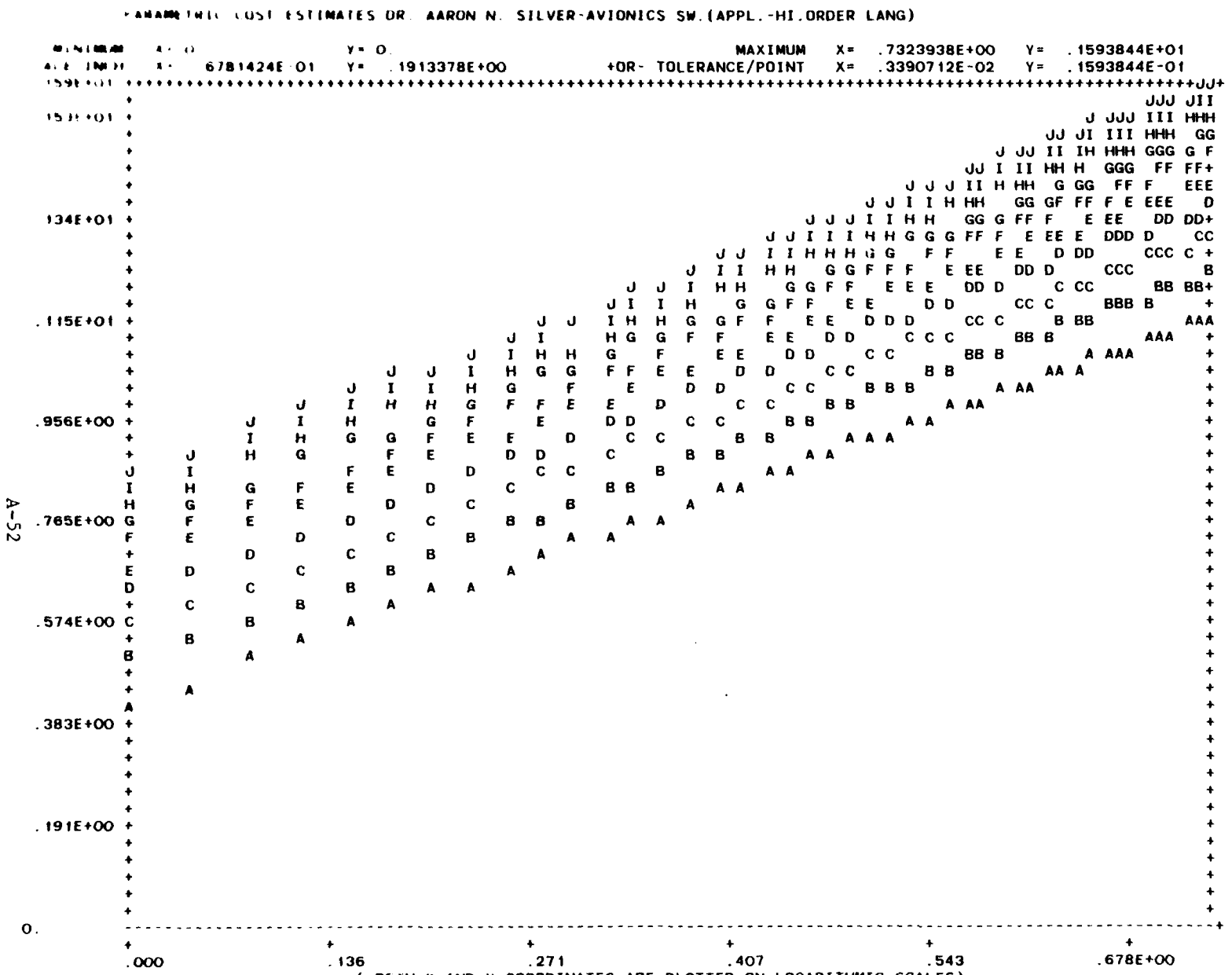
HIGH PERTURBATION VALUE= .1000
LOW PERTURBATION VALUE = .0500

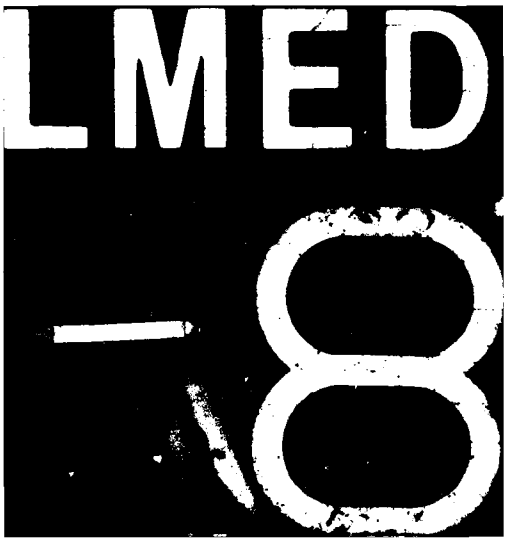
OUTER LOOP PARAMETER= 4.500
INNER LOOP PARAMETER= 650.000

| NO.TERMS | IND.VAR. | DEP.VAR. | HI. VAL. | LO. VAL. |
|---|---|---|---|---|
| 1 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | .100 | .727 | .800 | .691 |
| 3 | .200 | 1.454 | 1.599 | 1.381 |
| 4 | .300 | 2.181 | 2.399 | 2.072 |
| 5 | .400 | 2.907 | 3.198 | 2.762 |
| 6 | .500 | 3.634 | 3.998 | 3.453 |
| 7 | .600 | 4.361 | 4.797 | 4.143 |
| 8 | .700 | 5.088 | 5.597 | 4.834 |
| 9 | .800 | 5.815 | 6.396 | 5.524 |
| 10 | .900 | 6.542 | 7.196 | 6.215 |
| 11 | 1.000 | 7.269 | 7.995 | 6.905 |
| 12 | 1.100 | 7.995 | 8.795 | 7.596 |
| 13 | 1.200 | 8.722 | 9.595 | 8.286 |
| 14 | 1.300 | 9.449 | 10.394 | 8.977 |
| 15 | 1.400 | 10.176 | 11.194 | 9.667 |
| 16 | 1.500 | 10.903 | 11.993 | 10.358 |
| 17 | 1.600 | 11.630 | 12.793 | 11.048 |
| 18 | 1.700 | 12.357 | 13.592 | 11.739 |
| 19 | 1.800 | 13.083 | 14.392 | 12.429 |
| 20 | 1.900 | 13.810 | 15.191 | 13.120 |
| 21 | 2.000 | 14.537 | 15.991 | 13.810 |
| 22 | 2.100 | 15.264 | 16.790 | 14.501 |
| 23 | 2.200 | 15.991 | 17.590 | 15.191 |
| 24 | 2.300 | 16.718 | 18.390 | 15.882 |
| 25 | 2.400 | 17.445 | 19.189 | 16.572 |
| 26 | 2.500 | 18.171 | 19.989 | 17.263 |
| 27 | 2.600 | 18.898 | 20.788 | 17.953 |
| 28 | 2.700 | 19.625 | 21.588 | 18.644 |
| 29 | 2.800 | 20.352 | 22.387 | 19.334 |
| 30 | 2.900 | 21.079 | 23.187 | 20.025 |
| 31 | 3.000 | 21.806 | 23.986 | 20.715 |
| 32 | 3.100 | 22.533 | 24.786 | 21.406 |
| 33 | 3.200 | 23.259 | 25.585 | 22.097 |
| 34 | 3.300 | 23.986 | 26.385 | 22.787 |
| 35 | 3.400 | 24.713 | 27.185 | 23.478 |
| 36 | 3.500 | 25.440 | 27.984 | 24.168 |
| 37 | 3.600 | 26.167 | 28.784 | 24.859 |
| 38 | 3.700 | 26.894 | 29.583 | 25.549 |
| 39 | 3.800 | 27.621 | 30.383 | 26.240 |
| 40 | 3.900 | 28.348 | 31.182 | 26.930 |
| 41 | 4.000 | 29.074 | 31.982 | 27.621 |
| 42 | 4.100 | 29.801 | 32.781 | 28.311 |
| 43 | 4.200 | 30.528 | 33.581 | 29.002 |
| 44 | 4.300 | 31.255 | 34.380 | 29.692 |
| 45 | 4.400 | 31.982 | 35.180 | 30.383 |
| 46 | 4.500 | 32.709 | 35.980 | 31.073 |
| 47 | 4.600 | 33.436 | 36.779 | 31.764 |
| 48 | 4.700 | 34.162 | 37.579 | 32.454 |
| 49 | 4.800 | 34.889 | 38.378 | 33.145 |
| 50 | 4.900 | 35.616 | 39.178 | 33.835 |
| 51 | 5.000 | 36.343 | 39.977 | 34.526 |
| 52 | 5.100 | 37.070 | 40.777 | 35.216 |
| 53 | 5.200 | 37.797 | 41.576 | 35.907 |


PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)
MINIMUM X= 0. Y= 0. MAXIMUM X= .5400000E+01 Y= .3925040E+02
SCALE/INCH X= .5000000E+00 Y= .4711933E+01 +OR- TOLERANCE/POINT X= .2500000E-01 Y= .3925040E+00
.393E+02
.377E+02
.330E+02
.283E+02
.236E+02
.188E+02
.141E+02
.942E+01
.471E+01
0.
.000
1.000
2.000
3.000
4.000
.500E+01
( BOTH X AND Y COORDINATES ARE PLOTTED ON LINEAR SCALES )
INDEPENDENT VARIABLE-FACTOR (CONVERSION)
PLOT OF PRODUCTIVITY (HRS/LOC) VS. FACTOR (MC=4.5, PC=200-650)


PARAMETRIC COST ESTIMATES-DR. AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)
MINIMUM X= 0. Y= 0. MAXIMUM X= .5400000E+01 Y= .1593844E+01
SCALE/INCH X= .5000000E+00 Y= .1913378E+00 +OR- TOLERANCE/POINT X= .2500000E-01 Y= .1593844E-01
.159E+01
.153E+01
.134E+01
.115E+01
.956E+00
.765E+00
.574E+00
.383E+00
.191E+00
0.
.000
1.000
2.000
3.000
4.000
.500E+01
( X COORDINATE PLOTTED ON LINEAR SCALE, Y COORDINATE PLOTTED ON LOGARITHMIC SCALE )
INDEPENDENT VARIABLE-FACTOR (CONVERSION)
PLOT OF PRODUCTIVITY (HRS/LOC) VS. FACTOR (MC=4.5, PC=200-650)


COST ESTIMATES OR AARON N. SILVER-AVIONICS SW.(APPL.-HI.ORDER LANG)
Y= 0.
MAXIMUM X= .7323938E+00 Y= .1593844E+01
X= 6781424E-01 Y= .1913378E+00 +OR- TOLERANCE/POINT X= .3390712E-02 Y= .1593844E-01
.134E+01
.115E+01
.956E+00
.765E+00
.574E+00
.383E+00
.191E+00
0.
.000
.136
.271
.407
.543
.678E+00
( BOTH X AND Y COORDINATES ARE PLOTTED ON LOGARITHMIC SCALES)
INDEPENDENT VARIABLE-FACTOR (CONVERSION)
PRODUCTIVITY (HRS/LOC) VS. FACTOR (MC=4.5, PC=200-650)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