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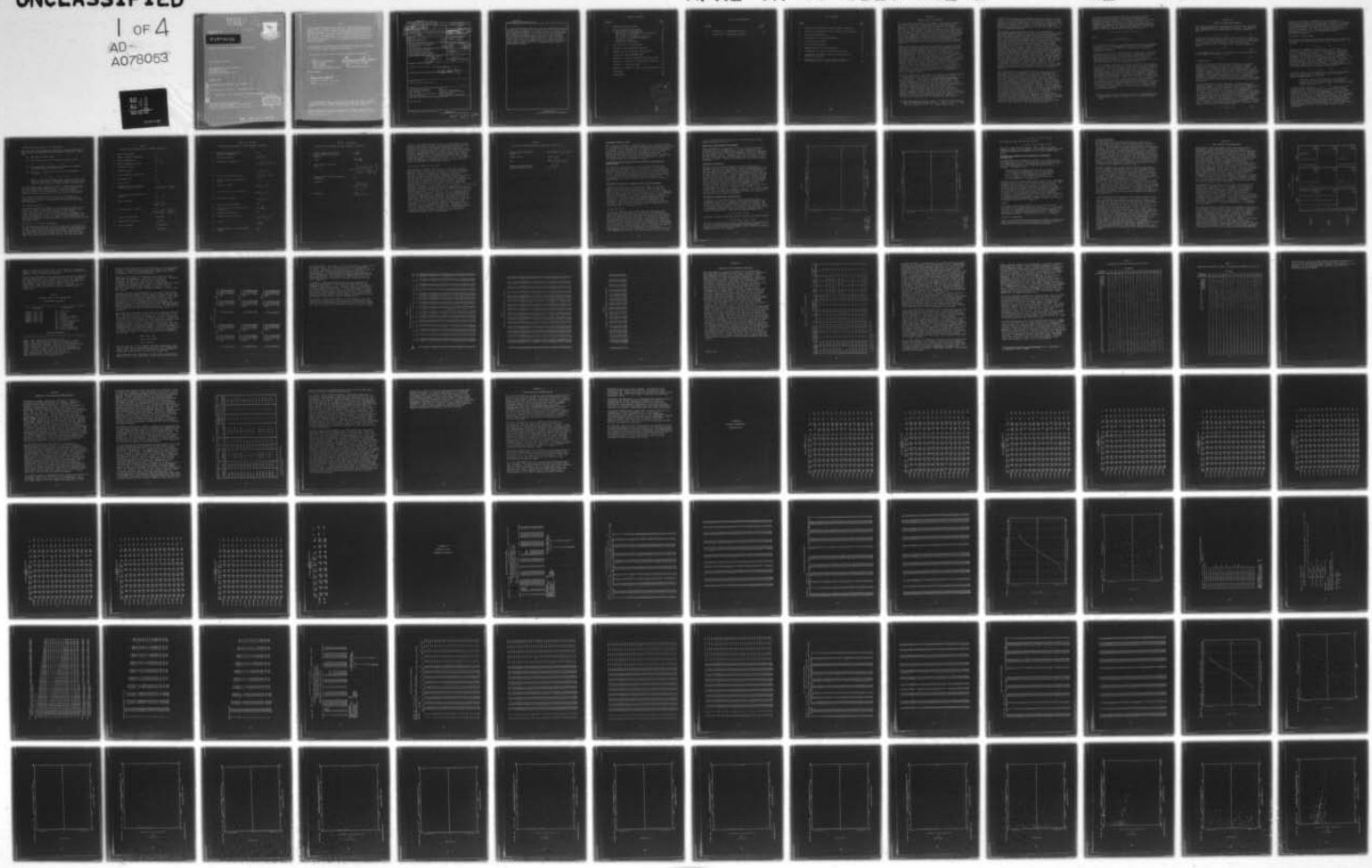

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# PREDICTIVE OPERATIONS AND MAINTENANCE COST MODEL

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August, 1979

TECHNICAL REPORT AFAL-TR-1120, VOLUME II

Final Report for Period July 1978 - June 1979

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This report describes a model which can be used to estimate the operations and support costs of avionics line replaceable units (LRU's). The model relates available LRU design parameters to operations and support costs using various cost estimating relationships. This document is Volume II of the final report which describes the development of the revised version of the Westinghouse Avionics Laboratory Predictive Operations and Support (ALPOS) cost model developed in 1977-1978 and described in AFAL-TR-78-49. This revised version, known as ALPOS II, has a more expansive data base than ALPOS and includes digital avionics systems not included in ALPOS. The Air Force Program Monitor was Mr. Daniel V. Ferens, System Evaluation Group (AFAL/AAA-3), Avionics System Engineering Branch.

TABLE OF CONTENTS


| SECTION | | PAGE |
|---|---|---|
| I. | INTRODUCTION AND OVERVIEW | 1 |
| II. | MULTIPLE REGRESSION ANALYSIS | 4 |
| | The Method of Least-Squares | 5 |
| | Assumption of the Method of Least-Squares | 6 |
| | The "Global" Statistics | 6 |
| | The "Local" or "Interior" Statistics | 6 |
| | Statistical Printouts and Tables | 10 |
| | Statistical Plots | 12 |
| | Statistical Techniques | 16 |
| III. | THE "DESIGN OF THE EXPERIMENT" | 18 |
| IV. | RESULTS OF THE REGRESSION ANALYSES | 27 |
| V. | RESULTS OF THE VALIDATION INVESTIGATION | 34 |
| VI. | CONCLUSIONS AND RECOMMENDATIONS | 39 |
| | APPENDIX A MULTIPLE REGRESSION ANALYSIS DATA | 41 |
| | APPENDIX B RESULTS OF THE REGRESSION ANALYSIS | 52 |
| | APPENDIX C VALIDATION DATA | 237 |
| | APPENDIX D RESULTS OF THE VALIDATION ANALYSIS | 239 |
| | REFERENCES | 368 |
| | BIBLIOGRAPHY | 369 |



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## LIST OF ILLUSTRATIONS


| FIGURE | | PAGE |
|---|---|---|
| 1. | Residuals vs. Independent Variable | 14 |
| 2. | Residuals vs. Independent Varibles | 15 |

LIST OF TABLES


| TABLE | | PAGE |
|---|---|---|
| 1. | Notation and Formulas for the "Global" Statistics | 7 |
| 2. | Notation and Formulas for the "Interior" Statistics | 11 |
| 3. | Qualitative Categories | 19 |
| 4. | Variables Used in the Regressions | 20 |
| 5. | D-Statistics and Means | 22 |
| 6. | Data Ranked by Weight | 24 |
| 7. | Summary Results of the Regressions | 28 |
| 8. | Independent Variables Selected for each Fit | 31 |
| 9. | Independent Variables (without transformation) Needed for each Fit | 32 |
| 10. | Validation Results of the Cross Verification of Coefficients with a Second Sample of Data | 36 |

# SECTION I

## INTRODUCTION and OVERVIEW

For many years researchers in government, business and industry have been interested in developing means of predicting the future. Usually these predictions or estimates are highly dependent on past experiences, as the past is a reliable guide to the future. Thus studies are made to predict such things as the time it takes to complete construction of a building based upon the size of the labor force, the current gain of a transistorized electrical component based on its sheet resistance and diffusion time, the demand for a product (such as energy) based upon its price, the amount spent on advertising and expenditures on product distribution, the cost of a piece of avionics equipment based upon its physical and electrical characteristics, and so forth.

There have been many approaches to prediction ranging from hard objective evidence to pure speculation. The approach taken in this study has been used for over a century and is an area of statistics called regression analysis. Inherent in the interpretation of the words "prediction" or "estimate" is the term uncertainty. It would be nice to make "exact" predictions, but this is rarely the case when dealing with a mass of statistical data. Thus, statisticians do not profess to estimate exactly, rather they profess that their predictions are "on the average" reasonably close. The basic concept of regression analysis then is to estimate the average value of a given variable (called the dependent variable) in terms of the known values of one or more other variables (called independent variables). Regression analysis expresses the relationship of these variables by determining the form of a mathematical equation connecting them.

The major reference on the subject of regression analysis that is noted throughout this report is a book written in 1971 by C. Daniel and F. Wood entitled Fitting Equations to Data (1) which describes a most powerful computer program called the "Linear Least-Squares Curve-Fitting Program" (LLSCFP). The proposals presented in (1) have been successfully discussed in seminars at many distinguished worldwide universities as well as the Bell Telephone Laboratories and the National Cancer Institute. The LLSCFP has also been the most sought after program in both the SHARE (IBM) and VIM (CDC) libraries of computer programs, and has also been converted to run in East Germany and Russia. These techniques have been applied in a wide range of areas including studies by government agencies of variables for pollution control, searches for influential

---

(1) Fitting Equations to Data, Computer Analysis of Multifactor Data for Scientist and Engineers, C. Daniel and F. S. Wood with the assistance of J. W. Gorman, Wiley, (1971).

variables which cause cancer, studies to estimate hospital costs, studies in the conservation of energy and the evaluation of moon rocks at the Johnson Space Center. In addition a Bureau of Labor Statistics study has shown that the coefficients estimated by the LLSCFP are accurate to 15 digits. It is felt then that the proposals and techniques presented in (1) are the "state of the art" in Regression Analysis.

The purpose of this particular study is to estimate the Operations and Maintenance (O&M) cost of avionics equipment based upon the equipment's physical and electrical characteristics, avionics area and type of aircraft in which the equipment is used. The tool used to estimate avionics O&M cost is a computer model developed by Westinghouse Logistics Engineering for the Air Force Avionics Laboratory (AFAL) and is called the Avionics Laboratory Predictive Operations and Support (ALPOS) Model. ALPOS basically consists of fifteen estimating relationships developed for the logistics, support and cost parameters: Mean Time Between Failure (MTBF); Mean Time Between Maintenance Action (MTBMA); Total Maintenance Manhours per Operations Hour (MHTOT); Unscheduled Maintenance Manhours per Operating Hour (MHUNS); Shop Maintenance Manhours per Operaing Hour (MHSHO); Total Logistics Support cost per Operating Hour (LSCTO); Field Logistics Support Cost per Operating Hour (LSCFD); the fraction Not Repairable This Station (NRTS); Depot Specialized Repair Activity (SRA) costs; and the Training Cost per Operating Hour (TRAIN). The approach to developing ALPOS was to collect data consisting of 20 independent variables covering a wide spectrum of aircraft types, avionics areas and levels of complexity and to develop cost and parametric estimating relationships via multiple regression analysis.

Many researchers are interested in determining some casual (i.e., cause-and-effect) relationships between the independent and dependent variables with specific emphasis on the magnitude of the regression coefficients. Their main objective then is to determine the correct functional form of the relationships. There are examples in regression analysis that have an assumed form of the estimating relationships based on a previous study or on technical knowledge of the process studied. However, there has been no previous study devoted to developing relationhsips for variables of avionics equipment in as many as 20 independent variables, nor is enough known about avionics equipment that will lend to technical knowledge of the correct functional form. In this study, however, the main objective is to develop (estimating) relationships which can be successfully used to predict future events, where all independent variables which are "assumed" to have an influential affect on the dependent variable to be estimated are simultaneously considered where the statistics and techniques lead the direction in obtaining the equations that yield the "best" possible predictions.

The ideal situation would by that both objectives (correct functional form and useful estimating relationships) are accomplished simultaneously. To assist in obtaining the "best" possible equations, three forms or transformations of the independent variables (namely the variable, its square and its natural logarithm) and two forms of the dependent variable (the dependent variable and its natural logarithm) are used in this report. Thus, such complicated functional forms as:

$$y = b_o + b_1 x_1 + b_2 x_2^2 + b_3 \ln x_3 + \ldots$$

and

$$y = b_o e^{b_1 x_1} e^{b_2 x_2^2} x_3^{b_3} \ldots$$

are considered as means of estimating advanced avionics equipment costs, where y is the dependent variable, $x_i$'s the independent variables, $b_i$'s are the regression coefficients, and e the exponential function.

A prerequisite for using these prediction equations is that the physical and electrical characteristics (independent variables) for the proposed piece of avionics equipment for which a dependent variable estimate is desired, must be within the multidimensional region covered by the regression data, i.e., the equation should be used for interpolation purposes.

It is to be emphasized that the "total picture" of the results that are displayed and analyzed, with the intent of quantifying the reliability of the relationships developed, includes over thirty statistics, five types of plots, and several techniques and different tabular arrangements of the data that are available in the computer printouts of the LLSCFP. This document includes a discussion of the concepts of regression analysis including the plots and techniques used. Volume II of the Phase I final report (2) includes a discussion of the statistics used, in addition to a sketch of an example demonstrating the approaches and procedures utilized to develop the parametric estimating relationship for the support parameter MTBMA, using the Phase I - data. This document also includes a discussion of the techniques used to attempt the demonstration of the predictive validity of the relationships developed.

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(2) Avionics Laboratory Predictive Operations and Support Model, Final Report, (Phase I) Volume II, E. E. Feltus, March 1978.

## SECTION II

## MULTIPLE REGRESSION ANALYSIS

Very often in practice a relationship connecting two variables (one independent and one dependent) is desired. The equation most widely used is the linear equation (in two unknowns $\beta_o$ and $\beta_1$),

$$y = \beta_o + \beta_1 x_1 \tag{1}$$

If all pairs of values of $x_1$ and y, when plotted in a scatter diagram on ordinary graph paper, fall on or near a straight line, equation (1) is the correct form of the relationship to be used. If in a scatter diagram plotted on semi-log paper, the observations fall near a straight line, then the exponential curve,

$$y = \beta_o e^{\beta_1 x_1} \tag{2}$$

is the appropriate choice. If a straight line is obtained on log-log paper, the geometric curve,

$$y = \beta_o x_1^{\beta_1} \tag{3}$$

is appropriate.

In many cases, as in estimating advanced avionics equipment costs, one independent variable does not provide enough information to accurately predict the dependent variable. For instance, if an estimate (using a regression equation) of the Logistics Support Cost Per Operator Hour (LSC/OH) of a piece of avionics equipment is desired, the use of only the weight of the equipment (one independent variable) can lead to less precise estimates and unstable regression equations. Considering additional independent variables can, in most cases, lead to more accurate estimates, since more information should lead to better predictions.

In this study there are 20 independent variables initially considered which are assumed to have a significant impact on the logistics, support and cost parameters of avionics equipment. The problems of fitting an equation to data becomes more difficult to disentangle as the number of independent variables increases. When two or more independent variables are considered in a regression exercise, scatter diagrams and other graphical methods are often useless when trying to determine the form of the assumed equation. For instance, if the two independent variables $x_1$ and $x_2$ are considered, an $x_1$ - y scatter diagram might indicate a high linear relationship whereas the $x_2$ - y and $x_1$ - $x_2$ scatter diagram may show no apparent correlation, even though the true form of the equation is

$$y = \beta_o + \beta_1 x_1 + \beta_2 x_2 \tag{4}$$

Therefore, graphical techniques are not considered as an alternative to finding the correct form of equation to be used when multiple variables are considered. Instead the extensive use and simultaneous critical examination of many types of statistics ("Global" and "Local"), statistical printouts and tables, statistical plots and statistical techniques are performed in order to find the equation which best approximates the data.

## THE METHOD OF LEAST-SQUARES

The form of the equations considered throughout this report can be written (or transformed) into the linear equation in $(\kappa + 1)$-unknowns

$$y = \beta_o + \beta_1 x_1 + \ldots + \beta_\kappa x_\kappa \qquad (5)$$

where y is the dependent variable, $x_1,\ldots,x_\kappa$ and the $\kappa$ - independent variables, $\beta_o$ (the constant) and $\kappa$ - coefficient $\beta_1,\ldots,\beta_\kappa$ make up the unknown $(\kappa + 1)$ population parameters. Also it is assumed that there are N observations (pieces of equipment) in the sample indexed by j. Thus $y_j$ represents the (observed) jth observation of the dependent variable and $x_{ij}$ the jth observation of the ith independent variable. Regression analysis requires that the analyst find statistics $b_o,b_1,\ldots b_\kappa$ which "best" approximate the unknown $(\kappa + 1)$ population parameters (where we have taken a sample from the population of *all avionics equipment*), *and whose fitted equation*

$$Y = b_o + b_1 x_1 + \ldots + b_\kappa x_\kappa \qquad (6)$$

gives the "best" possible prediction. The method most widely used by statisticians to accomplish this is called the <u>method of least-squares</u>, which says:

> "Find the values of the constants in the assumed equation that minimize the sum of the squared deviations of the observed values from those estimated by the equation."

In other words, minimize $Q = \sum_{j=1}^{N} (y_j - Y_j)^2$, where $Y_j$ is the estimate of the jth observation of the dependent variable obtained by (6). Once the estimates $b_o,b_1,\ldots,b_\kappa$ are found, substituting the values of the independent variables in (6) *yields the estimate of the dependent variable Y.* We thus find ourselves in an area of statistics called "Inductive Statistics" which uses the concepts of "Statistical Inference" to make generalizations (or estimates) of population parameters based upon a given sample of the population, and to quatify the reliability of the estimates obtained. In order to make these generalizations, however, the data must satisfy certain assumptions.

## ASSUMPTIONS OF THE METHOD OF LEAST-SQUARES

There are four major assumptions which the data must satisfy in order to use the techniques of least-squares estimation. They are:

A1. The data is "good" data.

A2. The correct form of the equation has been chosen.

e.g., $y = \beta_o + \beta_1 x_1 + \ldots + \beta_K x_K$

A3. The independent variables are constant, non-random variables, measured without error.

A4. All error is in the observations of the dependent variable y , i.e.

$$y_j = \beta_o + \beta_1 x_1 + \ldots + \beta_K x_K + e_j$$

where $e_j$ represents random error. Moreover, the $e_j$ are normally distributed independent random variables with mean zero and constant, though unknown, variance $\sigma^2(y)$.

If all the above four assumptions hold or "approximately" hold, then the least-squares approach will give the best estimates of the coefficients in the relationships. Past experiences, however, indicate that slight departure from the assumptions of normality and equal variances has little effect on the results.

Since these assumptions are the basis for the method of least-squares estimation and hence regression analysis, much emphasis must be placed in determining how close the data fits the assumptions.

## THE "GLOBAL" STATISTICS

As stated previously, in addition to estimating the coefficients, a means is needed to determine how "good" these estimates are. Table 1 gives the notation and formulas for 36 "global" statistics which must be used and simultaneously considered to verify the "goodness of fit" of the relationships obtained. The reader is referred to Volume II - Phase I for an explanation of what these statistics are and how they are used in this study to fit equations to data.

## THE "LOCAL" OR "INTERIOR" STATISTICS

All the previous statistics in Table 1 fall under the heading of "global" statistics in that they are statistics of the entire set of data. The "global" statistics are helpful in determining how the independent variables influence the fitted equations, but they do not describe how the observations (the interior of the data) in multifactor space affect the fit. The four innovative

TABLE 1

Notation And Formulas For The "GLOBAL" Statistics

| | | |
|---|---|---|
| 1. | Number of observations. | $N$ |
| 2. | Number of independent variables. | $K$ |
| 3. | Index for observations. | $j=1,\ldots,N$ |
| 4. | Index for independent variables. | $i=1,\ldots,K$ |
| 5. | Independent variables. | $x_i$ |
| 6. | Dependent variables. | $Y_i$ |
| 7. | Unknown parameters (coefficients). | $\beta j$ |
| 8. | Measurement error. | $e_j$ |
| 9. | Error variance. | $\sigma^2(y)$ |
| 10. | Statistical Model: error normal, independent, constant variance. | $y_j=\beta_o+\beta_1 x_{1j}+\ldots+\beta_k x_{kj}+e_j$ |
| 11. | Sums of variables (independent and dependent). | $\sum_{j=1}^{N} x_{ij}$ ; $\sum_{j-1}^{N} y_j$ |
| 12. | Means of variables. | $\bar{x}_i=\frac{\sum_{j=1}^{N} x_{ij}}{N}$ ; $\bar{y}=\frac{\sum_{j=1}^{N} y_j}{N}$ |
| 13. | Root mean squares of variables. | $s^2_{x_i}=\frac{\sum_{j=1}^{N}(x_{ij}-\bar{x}_i)^2}{N-1}$ ; $s^2_y=\frac{\sum_{j=1}^{N}(y_j-\bar{y})^2}{N-1}$ |
| 14. | Maximum value of variables. | $\max_{xi}$ ; $\max_y$ |
| 15. | Minimum value of variables. | $\min_{xi}$ ; $\min_y$ |
| 16. | Range of variables. | $w_i=\max_{xi}-\min_{xi}$ <br> $w_y=\max_y-\min_y$ |

TABLE 1 (Continued)

Notation And Formulas For The "GLOBAL" Statistics

| | | |
|---|---|---|
| 17. | Elements of the Inverse Matrix (method of determinants). | $C_{ij}$ |
| 18. | B(o) value (estimate). | $b_o=\bar{y}-\sum_{i=1}^{K} b_i\bar{x}_i$ |
| 19. | Coefficients: estimate of $\beta_j$ | $b_j=\sum_{j=i}^{N} y_j\left[C_{il}(x_{ij}-\bar{x}_1)+\ldots+C_{ik}(x_{kj}-\bar{x}_K)\right]$ |
| 20. | Fitted Y value (predicted value). | $Y_j=b_o+b_1x_{ij}+\ldots+b_kx_{kj}$ |
| 21. | Residuals (deviation from predicted value). | $Y_j-Y_j$ |
| 22. | Total sum of squares. | $TSS=\sum_{j-1}^{N}(Y_i-\bar{y})^2$ |
| 23. | Sum of squares due to fitted equation. | $SSFE=\sum_{j=1}^{N}(Y_i-\bar{y})^2$ |
| 24. | Residual sum of squares. | $RSS=\sum_{j=1}^{N}(Y_i-Y_j)^2$ |
| 25. | Residual degrees of freedom. | N-K-1 |
| 26. | Residual Mean Square (standard error of estimate). | $S^2(y)=\frac{RSS}{N-K-1}$ |
| 27. | Residual Root Mean Square. | S(y) |
| 28. | Standard error of coefficient. | $S(b_i)=S(y)(C_{ii})^{\frac{1}{2}}$ |
| 29. | T-Value. | $t_i=\frac{b_i}{S(b_i)}$ |
| 30. | Relative influence of each independent variable. | $\frac{b_iw_i}{W_y}$ |

TABLE 1 (Continued)

Notation And Formulas For The "GLOBAL" Statistics,

31. Multiple correlation coefficient squared (coefficient of determination).

$$R_y^2 = \frac{SSFE}{TSS}$$

32. F-Value

$$\frac{N-K-1}{K} \frac{SSFE}{RSS}$$

33. Simple "linear" correlation coefficient.

$$r_{12} = \left( \frac{\sum_{j=1}^{N} (x_{1i} - \bar{x}_1)(x_{2i} - \bar{x}_2)}{\sum_{j=1}^{N} (x_{1i} - \bar{x}_1)^2 \sum_{j=1}^{N} (x_{1i} - \bar{x}_2)^2} \right)^{\frac{1}{2}}$$

34. Squared multiple "linear" correlation coefficient.

$$R_i^2$$

35. D-Statistic.

$$d_i = \frac{\sum_{j-1}^{N} x_{ij}^2 (x_{ij} - \bar{x}_i)}{2 \sum_{j=1}^{N} (x_{ij} - \bar{x}_i)^2}$$

36. Cp-statistic.

$$C_p = \frac{RSS}{s^2(y)} - N + 2(k+1)$$

"interior" statistics in Table 2 (see [1]) can assist in such things as detecting outliers; indicating observations which may influence the form of the equation (possibly introducing curvature); detecting those observations which have the largest effect on the assumed equation, finding those observations which are taken approximately under the same $x_i$-conditions (called nearby neighbors) and in testing the validity of the "global" statistics. These nearby neighbors are used to obtain a less biased estimate of our error of prediction, $\sigma^2(y)$. The interior statistics defined are weighted by the $b_i$ - values so as to reduce the effects of uninfluential factors.

## STATISTICAL PRINTOUTS AND TABLES

The statistics ("global" and "interior") constitute a major portion of the results used to evaluate a multiple regression equation, but by no means do the statistics give the "total picture". There are statistical printouts and tables, statistical plots and statistical techniques, which must also be considered with the statistics to get a view of the "total picture" and to adequately evaluate the results. A printout of the statistics generated by the LLSCFP for the estimating relationship developed for the support parameter Mean Time Between Maintenance Actions (MTBMA), where ln (MTBMA) is the dependent variable, is shown on pages 65 through 73, Appendix B. Appendix B contains the results of the estimating relationships developed for each variable considered in this study and will be further elaborated on in section IV. Page 65 displays many of the preliminary statistics including the sums, residual sum of squares and cross products, means and root mean squares of the variables (independent and dependent), the simple correlation coefficients and the elements of the inverse matrix. Page 65 shows many other "global" statistics including the coefficients ($b_i$), the standard error of the coefficients ($s(b_i)$), the t-values ($t_i$), $R_i^2$, the minimum, maximum, range and relative influence of each independent variable $x_i$. In addition the number of observations (N), the number of independent variables ($\kappa$), the residual degrees of freedom ($N-\kappa-1$), the F-value, residual mean square (RMS) and the multiple correlation coefficient squared ($R_y^2$) are displayed.

TABLE 2

Notation And Formulas For The "Interior" Statistics

| | | |
|---|---|---|
| 1. | Weighted squared standardized distance. | $\text{WSS DISTANCE} = \sum_{i=1}^{K} b_i (x_{ij} \bar{x}_i)^2$ |
| 2. | Component effects | $C_{ij} = b_i (x_{ij} - \bar{x}_i)$ |
| 3. | WSSD | $\text{WSSD}_{jj'} = \frac{1}{2} \sum_{S(y)}^{K} \sum_{i=1} (C_{ij} - C_{ij'})^2$ |
| 4. | Cumulative standard deviation estimated from near neighbors. | $S_n = \frac{.886 \sum \Delta_n d}{n}$ |

"Component Effects" Table

The "interior" statistic, component effect, $C_{ij}$, of each variable on each observation is printed in tabular form on pages 66 to 79 where the variables are ordered by their decreasing relative influences in columns, and the observations are ordered by their decreasing effects on the most influential variables in rows. Here the analyst can see which particular observations are most influential in their effects on the fitted equation. In addition this table can be used to determine the importance of high correlation among the independent variables.

Standard Deviation Estimated From Residuals of Neighboring Observations

The cumulative estimates, $S_n$, of the standard deviation are printed in the second column of pages 70 and 71. The WSSDjj, observations in columns 4 and 5 are printed in the third column. Also the observations are ordered by their increasing fitted y values. At the top of page 70 is the residual root mean square = .48. The cumulative standard deviation column indicates that the standard deviation estimated from near neighbors is approximately .49, which indicates that there is no evidence of lack of fit.

Observations Ordered by Computer Input and by Residuals

As shown on page 72 under the heading "ORDERED BY COMPUTER INPUT," the residuals are listed in the order in which the observations were given to the computer. *The Work Unit Code* (WUC) of each piece of equipment is given in the first column for identification purposes. The third column shows the WSS DISTANCE for each observation. Here those observations far from the centroid of all observations can be easily spotted (observation 18 and 77). Under the heading "ORDERED BY RESIDUALS," the residuals are listed in the order of the magnitude of the residuals. This gives an indication of which observations are fitted the best (or worst). As can be seen, observation 46 is fitted best and 50 is fitted worst.

STATISTICAL PLOTS

As with any endeavor dealing with Deductive Reasoning, the conclusions are dependent on the validity of the assumptions. Thus the analyst must have some means of verifying the degree to which the assumptions are satisfied. In addition to the number of statistics and statistical tables, there are five types of computerized plots that can be used to determine how close the data and fitted equations satisfy the assumptions of the method of least-squares. These plots give the analyst much insight into the fit that the statistics alone cannot. The plots are used to determine (1) whether the assumptions of the method of least-squares are "nearly" satisfied, (2) just how well (or bad) the equation fits the data, and (3) to obtain further insights

into the distributional properties of the data and how these properties affect the fit.

Cumulative Distribution of Residuals

When k independent variables are fitted to data with normally distributed error (Assumption A4 ), it can be shown that the residuals also have a normal distribution. Therefore, the graph of the residual versus cumulative frequency should be "nearly" a straight line. Page 74 (Appendix B) is the cumulative frequency plot for the fitted equation developed, with ln (MTBMA) as the dependent variable. There is no indication here of deficiencies in the fit.

Residuals vs Fitted Y

The plot of the residuals versus the fitted values of the dependent variable is also helpful in checking Assumption A1, A2 and A4. This plot may show whether there is some dependence of the magnitude of the residuals on the magnitude of the fitted values. Daniel and Wood [1], gives four common defects that may be revealed by such plots. Recall Assumption A3 states that the variance of the error is constant. The plot of residual versus fitted Y should then show an equal scatter about the 0-residual line. The two plots, cumulative frequency plot and the plot of the residulas vs. fitted Y, can be used together to determine whether an observation is an outlier (impossible value). However, if the observation is at the extreme ends of the ranges of the dependent variable, curvature may be needed in the relationship. On page 75 there is a plot of the residual versus fitted Y for the equation developed for MTBMA. The equal scatter of the residuals about the 0-residual line does not indicate deficienies in the equation developed.

Residuals vs Independent Variable X(I)

The pattern of the residuals in the plot residuals versus independent variable $x_i$ is useful in determining whether other functional forms of the independent variables are needed. The residuals should be equally scattered about the 0-residual line. As an actual example, Figure 1 is a plot of the residuals versus an independent variable $x_1$ where obviously a squared term is needed in the equation. This plot was obtained when a fit

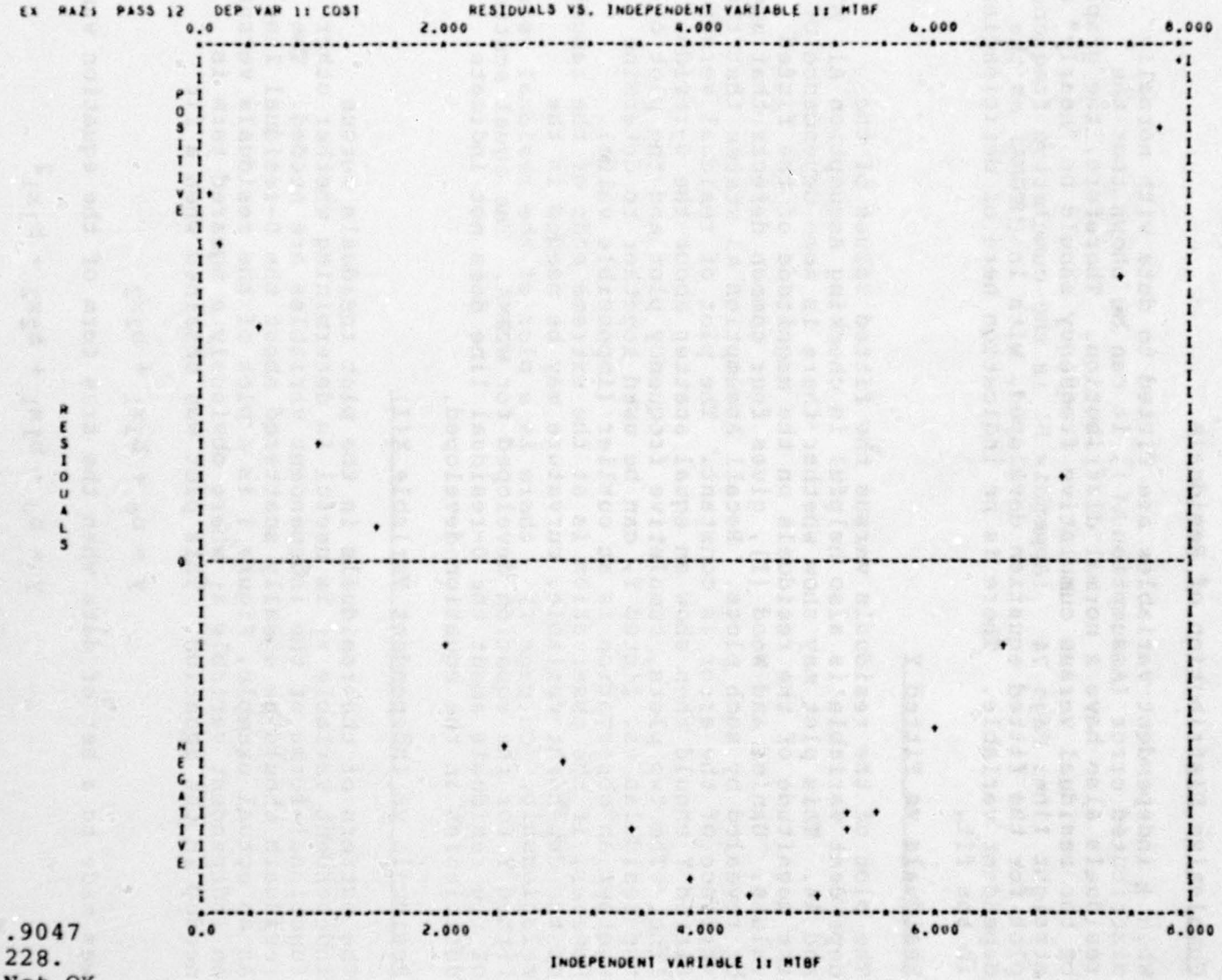
$$y = b_o + b_1x_1 + b_2x_2$$

was made to a set of data when the true form of the equation was

$$y = b_o + b_1x_1 + b_2x_2 + b_1x_1^2$$

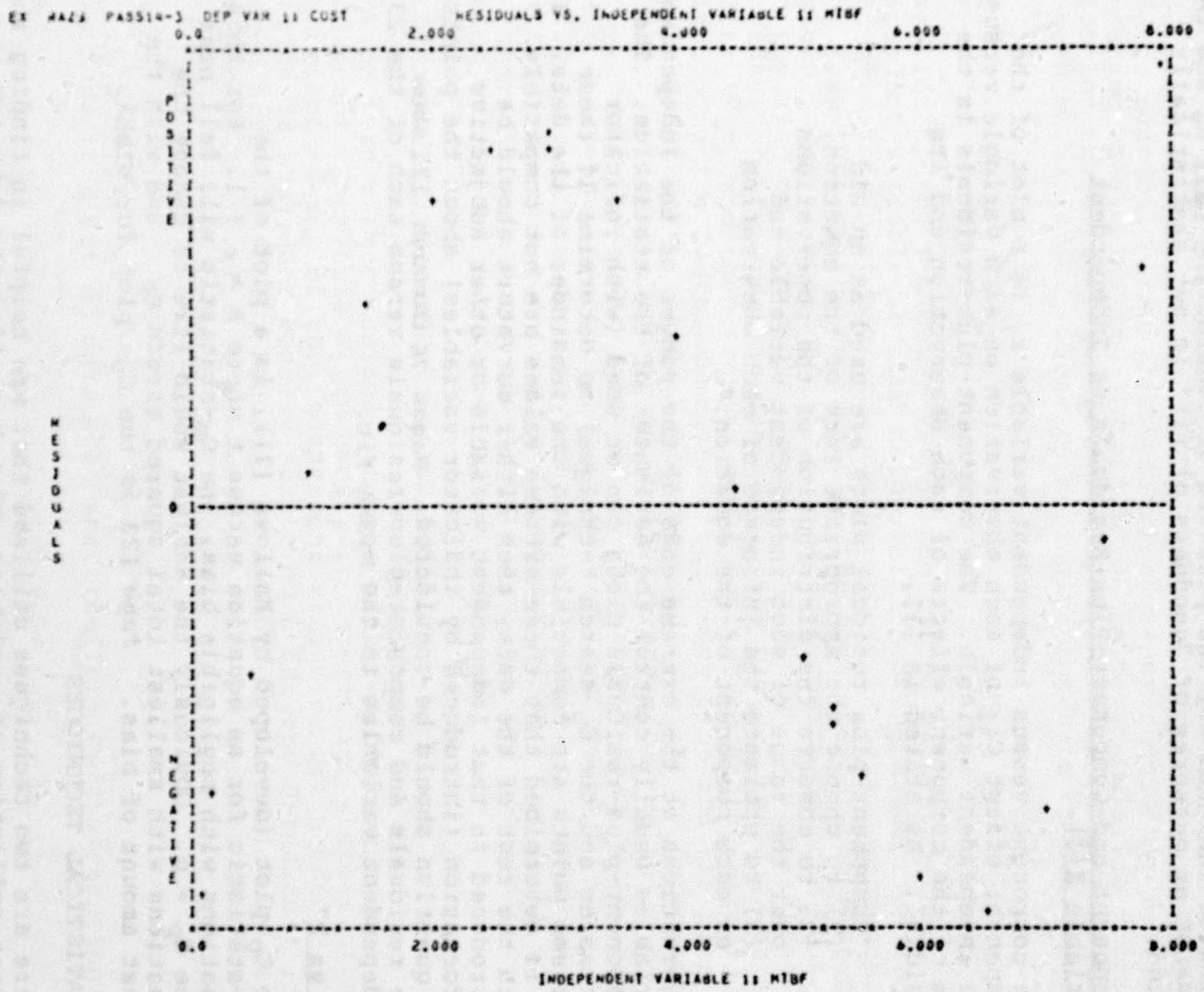
For this fit however the "global" statistics were significant and did not indicate anything wrong with the fitted equation. In particular $R_y^2 = .9047$ and the F-VALUE = 228. Figure 2 is another example plot where the equation

FIGURE 1




$Ry^2$ = .9047
F-value = 228.
Plot = Not OK

FIGURE 2




$Ry^2$ = .9963
F-value = 3267
Plot = Not OK

$$y = b_o + b_1x_1 + b_2x_2^2 + b_3x_1^3$$

was fitted to data and the true form was

$$y = b_o + b_1x_1 + b_2x_2^2 + b_3x_1^4$$

Here, $R_y^2 = .9963$ and the F-VALUE = 3267. These two simple examples indicate why the practice of considering only $R_y^2$ and the F-VALUE as measures of "goodness of fit" is not statistically sound.

Component and Component-Plus-Residuals vs Independent Variable X(I)

The component versus independent variable $x_i$ is a plot of the component effect $C_{ij}$ of each observation on each variable versus the independent variable. The component-plus-residuals is the sum of the component effects of each observation and its residual. As stated in [1],

> "Component-plus residual plots are used as an aid (1) to choose the appropriate form of the equation, (2) to observe the distribution of the observations over the range of each independent variable and (3) to estimate the influence of each observation on each component of the equation."

Observations at the extreme ends of the ranges of the independent variables usually control the estimates of the statistics. The component-plus-residuals plots can be used (with indicator variables and the $C_p$-search technique) to determine if these extreme points are compatible with the remainder of the data. If it is determined that these extreme values are not compatible with the rest of the data, then either curvature should be introduced in that independent variable or other subjective information (introduced by indicator variables) about the points in question should be considered. Pages 76 through 121 show the residuals and component-plus-residuals versus each of the 23 independent variables in the MTBMA fit.

CP vs P

The $C_p$-plot (developed by Mallows [3]), is a plot of the $C_p$-statistic for an equation versus P where $P = \kappa + 1$. For those equations with negligible bias, the $C_p$-statistic will fall near line $C_p = p$. Obviously the analyst would like to choose the equations with smallest total squared errors $C_p$ and with the least amount of bias. Page 123 is the $C_p$- plot for MTBMA.

STATISTICAL TECHNIQUES

There are two techniques utilized that are helpful in finding the subset collection of variables which best fits the data and in determining the stability of the equations obtained.

## CP-Search Technique

Two approaches that have been widely used to search the $2^K$ possible equations for the "best" combination of variables are called "Stepwise Regression (forward and backward)" and the "F-test." Forward stepwise regression introduces the independent variables, one at a time, into the equation and uses a criterion involving the $t_i$ values to determine whether or not $x_i$ should be left in the equation. Backward stepwise regression begins with the complete initial set of variables and drops the variables by using a similar criterion as that of forward stepwise regression. The F-test is widely used to determine the significance of adding an independent variable. Obviously, these two techniques do not search all the $2^K$ possible equations, but only a portion of them. Moreover, a search with these techniques can lead to different results when the independent variables are correlated or if the variables are introduced in different orders.

With the equation form assumed, there is usually some smaller subset of these variables which have "very" influential effects on the dependent. This subset can be called the Basic Set of Variables. A search proposed by Daniel and Wood [1] called the $t_{K,i}$ - directed search is used to determine a Basic Set. With the Basic Set always included, a technique called the $C_p$-search technique is used to search up to $2^{18} = 262,144$ equations for the best combination of variables which gives the smallest $C_p$-statistics, and hence smallest total squared error. In some cases (e.g., when the wrong form of the equation is used) there is no Basic Set of Variables, and here the analyst has the option of choosing a basic set (usually those variables with the largest $t_i$ - values) until there are at most 18 variables remaining to be searched by the $C_p$-search technique. This method is called Fractional Replication (see [1]). The $C_p$-search technique using both types of searches have consistently helped to narrow down the initial set.

## Cross Verification of Coefficients with a Second Sample of Data

Once a presumably final equation is obtained, the analyst must determine the stability of the obtained equations coefficients. There may be a few observations in the data base (such as those with large WSS DISTANCE and large residuals) that are not compatible with the rest of the data and may be controlling the estimates of the fitted coefficients. A way to determine stability is to drop those observations, run another regression and determine the effects on the least-squares estimates of the coefficients. This technique is called cross verification of coefficients with a second sample of data and provides a rigorous test of the data, the model and the fitted coefficients. As shown in Section V, cross verification of coefficients with a second sample of data can also be used, under limited circumstances, to attempt demonstration of the predictive validity of the relationships developed. Component-plus-residual plots of the second sample of data (where residuals are calculated using the initial coefficients) may point out those observations which may indicate that other forms of curvature are needed.

## SECTION III

## THE "DESIGN OF THE EXPERIMENT"

The approach to the development of the relationships used in ALPOS was to identify candidate observations called Line Replaceable Units (LRUs), to collect data on physical, logistics and cost parameters (variables) of these LRUs, to fit equations to the data via the techniques of multiple regression analyses, and to use the results of the regressions to contruct the model. The data (a year's worth of data) is displayed in Appendix A and was extracted from a number of sources including existing Air Force Data Systems (AFM 66-1, Increased Reliability of Operational Systems (IROS) and Visibility and Management of Operations and Support Costs (VAMOSC)), site visits and contacts with various Air Force agencies, and Westinghouse activities, published reports and engineering analyses. There are 128 pieces of avionics equipment (observation) on which the study is based where each observation can be identified by its observation number and Work Unit Code (WUC). Also associated with each observation is a total of 29 variables, of which 19 are independent variables and 10 are dependent variables. It should be noted that the variable NRTS is used as a dependent variable in one fit and is also used as an independent variable in those fits in which NRTS is expected to have a significant impact (eg. the logistics support cost in the field).

The independent variables are of two types, quantitative and qualitative. The usual types of variables in a regression exercise are quantitative (i.e., variables that may take on values over a given range) such as weight or other physical characteristics of the equipment. Many times additional (qualitative) information is available, such as certain characteristics of the equipment or a certain class in which the equipment belongs, which should not be discarded, but should be introduced into the regression. "Indicator" variables (variables which take on the value of 0 or 1) are used to introduce qualitative information into the regressions. A "1" indicates that the observation is in a certain class and a "0" indicates that it is not.

The type of aircraft in which a piece of equipment is used and the equipment avionics areas are the two qualitative classes used in this study. There are three types of aircraft: Fighters, Bombers and Cargo, and three areas of avionics: Navigation, Sensory, and Communications. Table 3 shows the observation numbers of each piece of equipment and the class to which it belongs. For instance, observation 69 is a piece of communications equipment that is used in a fighter. Since there is no sensory equipment used in cargo type aircraft, no observations are present there. The numbers in parenthesis indicates the quantity of observations in each category. Thus 29 LRUs are used in bombers and 35 LRUs are sensory type equipment. The numbers in the corners of the inner rectangles indicate the

TABLE 3

Qualitative Categories

| | FIGHTERS (70) | BOMBERS (29) | CARGO (29) |
|---|---|---|---|
| NAVIGATION (66) | 1 8 15 22 29<br>2 9 16 23 30<br>3 10 17 24 31<br>4 11 18 25 32<br>5 12 19 26 33<br>6 13 20 27 34<br>7 14 21 28 **34** | 71 78<br>72 79<br>73 80<br>74 81<br>75 82<br>76 83<br>77 84 **14** | 100 107 114<br>101 108 115<br>102 109 116<br>103 110 117<br>104 111<br>105 112<br>106 113 **18** |
| SENSORY (35) | 35 42 49 56 63<br>36 43 50 57<br>37 44 51 58<br>38 45 52 59<br>39 46 53 60<br>40 47 54 61<br>41 48 55 62 **29** | 85<br>86<br>87<br>88<br>89<br>90 **6** | **0** |
| COMMUNICATIONS (27) | 64<br>65<br>66<br>67<br>68<br>69<br>70 **7** | 91 98<br>92 99<br>93<br>94<br>95<br>96<br>97 **9** | 118 125<br>119 126<br>120 127<br>121 128<br>122<br>123<br>124 **11** |

number of observations which fall in the respective interactive classes. There are 34 observations which are used in fighters in addition to being navigations equipment.

Table 4 lists the names of all the variables and their associated variable names used in the computer printouts of the regressions. Also listed are the units in which the variables are expressed. FIG, BOM and CAR are indicator variables used to represent the three types of aircraft, fighters, bombers and cargo, respectively. NAV, SEN and COM are used to represent the three areas of avionics ; navigation, sensory and communications, respectively.

TABLE 4

VARIABLES USED IN THE REGRESSIONS

INDEPENDENT VARIABLES

| INDICATOR | QUANTITATIVE |
|---|---|
| FIGSEN = FIG * SEN | UP = Unit price |
| FIGCOM = FIG * COM | VO = Volume |
| BOMNAV = BOM * NAV | WT = Weight |
| BOMSEN = BOM * SEN | CC = Components count |
| BOMCOM = BOM * COM | CD = Components density |
| CARNAV = CAR * NAV | DI = % Digital |
| CARCOM = CAR * COM | EM = % Electro-mechanical |
| | PS = % Power supply |
| | XT = % Transmitter |
| | SS = % Solid state |
| | PD = Power dissipation |
| | UF = Utilization factor |

DEPENDENT VARIABLES

MTBF = Mean (operating) Time Between Failure
MTBMA = Mean (operating) Time Between Maintenance Actions
MHTOT = Maintenance Manhours (total) per Operating Hour
MHUNS = Maintenance Manhours (unscheduled) per Operating Hour
MHSHO = Maintenance Manhours (shop) per Operating Hour
LSCTO = Logistics Support Costs (total) per Operating Hour
LSCFD = Logistics Support Costs (field) per Operating Hour
NRTS = Fraction Not Repairable This Station
SRA = Depot Special Repair Activity Cost per unit
TRAIN = Training Cost per Operating Hour

Since interactions proved to be significant in all relationships in Phase I, the interactive classes were used as the indicator variables for Phase II regressions where FIGNAV (not in the regression) is the interactive baseline.

There are three lines of information associated with each observation in Appendix A. The first line lists the 7 indicator variables, the second the (quantitative) independent variables, and the third lines list the 10 dependent variables. For instance, observation 5 with WUC 71PBO is a piece of navigation equipment that is used in a fighter with an adjusted unit price of $2241, weight = 36.5 lbs., volume = 1276 $in^3$, power dissipation = 289 watts, MTBMA = 476 hours, and SRA = $470.

Initially 128 LRUs were considered for the study. Many of the observations were dropped from the analysis because of the lack of data or the difficulty in obtaining the necessary data. Other observations, such as equipment which had not been in the Air Force inventory long enough to experience "good" data, were discarded so as not to introduce bias in the results. In addition a few of the observations had missing dependent variable data and were omitted for that particular fit. The observation numbers and WUCs of each piece of equipment used in each fit can be obtained from the tables "ORDERED BY COMPUTER INPUT" in Appendix B.

Many times the statistics, plots, tables and techniques indicate that some observations do not behave like the remainder of the data. Besides other possible subjective variables, curvature may be causing this instability. In addition to the variables shown in Table 4, two transformations of the independent variable (the square and natural logarithm) and a transformation of the dependent variable (natural logarithm) are introduced into the regressions when curvature is indicated. The natural logarithm transformation is considered for those variables whose range is contained in the positive real numbers. Using UP = unit price as an example, the variable names of the transformed independent variables as listed in the computer printouts of the LLSCFP are of the form:

$$MUP = (UP - UP)$$

$$DUP = (UP - dUP)^2$$

$$LUP = \ln (UP)$$

where UP, dUP and ln (UP) indicate the mean, d-statistic, and natural logarithm of the variable unit price (UP), respectively. Table 5 shows the d-statistics and means of each quantitative independent variable used in each of the regressions.

Before beginning any regressions, the data must be critically analyzed for outliers (impossible values) and for what is known

TABLE 5

D-Statistics and Means

MTBF, MTBMA

| I | MEAN(I) | DSTAT(I) |
|---|---|---|
| 8 | 39612.328 | 188936.700 |
| 9 | 1281.133 | 3226.500 |
| 10 | 31.277 | 65.399 |
| 11 | 1177.548 | 2974.289 |
| 12 | 1.382 | 2.375 |
| 13 | 25.202 | 43.764 |
| 14 | 8.805 | 45.571 |
| 15 | 5.318 | 46.583 |
| 16 | 8.425 | 42.288 |
| 17 | 79.985 | 53.642 |
| 18 | 324.117 | 975.063 |
| 19 | 1.729 | 1.741 |

MHTOT, MHUMS, MHSHO

| I | MEAN(I) | DSTAT(I) |
|---|---|---|
| 8 | 41978.670 | 187496.400 |
| 9 | 1326.513 | 3244.542 |
| 10 | 32.461 | 65.584 |
| 11 | 1177.428 | 2955.745 |
| 12 | 1.224 | 2.361 |
| 13 | 24.981 | 44.492 |
| 14 | 10.191 | 44.829 |
| 15 | 5.989 | 46.322 |
| 16 | 8.496 | 42.223 |
| 17 | 78.751 | 53.939 |
| 18 | 335.467 | 973.135 |
| 19 | 1.745 | 1.745 |

LSCTO, LSCFD

| I | MEAN(I) | DSTAT(I) |
|---|---|---|
| 8 | 40153.698 | 190894.700 |
| 9 | 1332.701 | 3221.613 |
| 10 | 32.351 | 65.395 |
| 11 | 1195.994 | 2985.822 |
| 12 | 1.285 | 2.398 |
| 13 | 23.974 | 44.198 |
| 14 | 8.359 | 45.842 |
| 15 | 5.362 | 45.588 |
| 16 | 8.641 | 42.272 |
| 17 | 79.326 | 53.723 |
| 18 | 326.162 | 979.888 |
| 19 | 1.734 | 1.745 |

NRTS

| I | MEAN(I) | DSTAT(I) |
|---|---|---|
| 8 | 39834.870 | 195383.700 |
| 9 | 1375.716 | 3276.146 |
| 10 | 33.197 | 66.857 |
| 11 | 1191.810 | 3018.296 |
| 12 | 1.211 | 2.366 |
| 13 | 24.754 | 44.752 |
| 14 | 9.694 | 44.987 |
| 15 | 5.453 | 45.527 |
| 16 | 8.598 | 42.493 |
| 17 | 78.469 | 54.386 |
| 18 | 341.526 | 986.718 |
| 19 | 1.755 | 1.738 |

SRA

| I | MEAN(I) | DSTAT(I) |
|---|---|---|
| 8 | 37798.538 | 199034.600 |
| 9 | 1357.731 | 3278.377 |
| 10 | 33.134 | 66.721 |
| 11 | 1184.231 | 2738.397 |
| 12 | 1.288 | 2.434 |
| 13 | 24.231 | 43.278 |
| 14 | 7.486 | 42.698 |
| 15 | 4.319 | 46.848 |
| 16 | 9.361 | 42.517 |
| 17 | 79.188 | 54.491 |
| 18 | 331.284 | 998.979 |
| 19 | 1.738 | 1.787 |

TRAIN

| I | MEAN(I) | DSTAT(I) |
|---|---|---|
| 8 | 38778.178 | 192987.900 |
| 9 | 1345.192 | 3219.841 |
| 10 | 32.763 | 65.529 |
| 11 | 1190.898 | 2998.965 |
| 12 | 1.252 | 2.371 |
| 13 | 24.442 | 44.382 |
| 14 | 8.570 | 43.264 |
| 15 | 5.197 | 45.726 |
| 16 | 8.789 | 42.957 |
| 17 | 79.438 | 54.231 |
| 18 | 333.712 | 974.917 |
| 19 | 1.734 | 1.752 |

as "Nested Data". The data is said to be "Nested" if some of the observations have all or nearly all the same or approximate x -values. Obviously outliers would have a significant impact on the fitted coefficients, thereby yielding the incorrect relationships. If the equations are fitted without checking to determine whether or not the data are nested, the wrong factors may be significant. The analysis of "Nested Data" was first introduced into the statistical literature by Daniel and Wood ([1], Chapter 8).

As a means of determining whether the data are "nested", a computer program was written to sort the data table by each independent variable, $x_i$. For instance, Table 6 is a printout of the data ranked by the weight. As can be seen there are only a few observations with the same $x_i$ values, and hence no evidence of serious nesting exists. Also the components - plus-residual plots can be used to detect nested data. If it is determined that the data are nested, two fittings must be made: one on the nested data "within plots" and one "among plots".

The reader is referred to Volume I of this report to see other factors which define the observations, the definitions of each variable used (independent and dependent) and which data systems were used to obtain the information (raw data) for each variable.

# TABLE 6

RANKED BY INDEPENDENT VARIABLE X(10)

| OBSER. NO. | X(8) | X(9) | X(10) | X(11) | X(12) | X(13) | X(14) | X(15) | X(16) | X(17) | X(18) | X(19) | X(20) | X(21) | DEP. VAR. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | UPRICE | VOLUME | WEIGHT | CCOUNT | CDENS | DIGTAL | ANALOG | EM | PS | XTMP | SS | PD-DIS | UFACT | BITFIT | MTBMA |
| 98 | 554. | 38. | 1.00 | 38. | 1.00 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 100.00 | 9. | 1.30 | 0.00 | 3444. |
| 75 | 158. | 34. | 1.20 | 38. | 1.27 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 34. | 1.30 | 4.27 | 3704. |
| 7 | 2855. | 133. | 1.25 | 84. | 0.63 | 0.00 | 97.30 | 3.00 | 0.00 | 0.00 | 97.00 | 87. | 2.30 | 0.00 | 3549. |
| 70 | 2957. | 78. | 2.00 | 159. | 2.04 | 88.70 | 0.30 | 0.00 | 11.30 | 0.00 | 100.00 | 3. | 2.30 | 0.00 | 2686. |
| 16 | 2514. | 78. | 2.00 | 79. | 1.01 | 0.00 | 100.30 | 0.00 | 0.00 | 0.00 | 100.00 | 7. | 2.30 | 0.00 | 1479. |
| 23 | 516. | 94. | 2.00 | 94. | 1.00 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 100.00 | 10. | 2.30 | 0.00 | 1237. |
| 117 | 516. | 94. | 2.00 | 94. | 1.00 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 100.00 | 10. | 1.20 | 0.00 | 4637. |
| 112 | 7225. | 91. | 2.10 | 26. | 0.29 | 0.00 | 50.00 | 50.00 | 0.00 | 0.00 | 50.00 | 7. | 1.20 | 0.00 | 1133. |
| 74 | 153. | 98. | 2.50 | 78. | 0.91 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 17. | 1.30 | 0.00 | 580. |
| 50 | 4727. | 119. | 3.30 | 24. | 0.20 | 90.00 | 0.00 | 10.00 | 0.00 | 0.00 | 90.00 | 24. | 2.30 | 0.00 | 1419. |
| 79 | 1347. | 132. | 3.40 | 128. | 0.91 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 86.00 | 34. | 1.30 | 0.00 | 649. |
| 99 | 12302. | 68. | 4.00 | 82. | 0.91 | 0.00 | 75.00 | 0.00 | 0.00 | 25.00 | 96.20 | 14. | 1.30 | 0.00 | 858. |
| 6 | 848. | 91. | 4.00 | 12. | 0.13 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 100.00 | 20. | 2.30 | 1.00 | 2521. |
| 35 | 3015. | 94. | 4.00 | 108. | 1.15 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 100.00 | 7. | 2.30 | 0.00 | 1399. |
| 128 | 833. | 146. | 4.00 | 37. | 0.25 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 100.00 | 7. | 1.20 | 0.00 | 971. |
| 97 | 12360. | 135. | 4.17 | 471. | 3.49 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 100.00 | 70. | 1.30 | 11.00 | 284. |
| 126 | 6958. | 135. | 4.30 | 471. | 3.49 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 100.00 | 70. | 1.20 | 0.00 | 326. |
| 22 | 1534. | 154. | 5.00 | 669. | 4.34 | 50.00 | 50.00 | 0.00 | 0.00 | 0.00 | 100.00 | 95. | 2.30 | 0.00 | 1994. |
| 56 | 17925. | 477. | 5.00 | 917. | 1.92 | 99.10 | 0.30 | 0.60 | 0.00 | 0.00 | 99.40 | 141. | 2.30 | 0.00 | 695. |
| 110 | 1534. | 154. | 5.00 | 669. | 4.34 | 50.00 | 50.00 | 0.00 | 0.00 | 0.00 | 100.00 | 95. | 1.20 | 0.00 | 1746. |
| 11 | 5176. | 200. | 6.50 | 150. | 0.75 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 100.00 | 20. | 2.30 | 13.00 | 2141. |
| 20 | 9431. | 295. | 7.00 | 275. | 0.93 | 47.00 | 47.00 | 6.00 | 0.00 | 0.00 | 100.00 | 25. | 3.10 | 5.60 | 189. |
| 81 | 2879. | 275. | 7.30 | 298. | 1.05 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 100.00 | 6. | 1.30 | 0.00 | 1216. |
| 108 | 1268. | 294. | 7.50 | 214. | 0.73 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 100.00 | 20. | 1.20 | 4.00 | 1387. |
| 71 | 1100. | 264. | 7.50 | 214. | 0.76 | 0.00 | 93.00 | 7.00 | 0.00 | 0.00 | 93.00 | 7. | 1.30 | 4.00 | 1000. |
| 45 | 24642. | 397. | 8.00 | 529. | 1.72 | 0.00 | 98.00 | 2.00 | 0.00 | 0.00 | 98.60 | 382. | 0.83 | 0.00 | 995. |
| 88 | 835. | 222. | 8.50 | 9. | 0.04 | 0.00 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 100. | 1.30 | 0.00 | 6878. |
| 86 | 835. | 222. | 8.50 | 9. | 0.04 | 0.00 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 100. | 1.30 | 0.00 | 7530. |
| 111 | 2165. | 358. | 9.00 | 88. | 0.24 | 0.00 | 33.00 | 67.00 | 0.00 | 0.00 | 0.00 | 860. | 1.20 | 0.00 | 1496. |
| 122 | 6345. | 242. | 9.00 | 1615. | 6.67 | 44.00 | 37.00 | 0.00 | 0.00 | 19.00 | 100.00 | 35. | 1.20 | 0.00 | 293. |
| 76 | 2782. | 255. | 10.50 | 29. | 0.07 | 0.00 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 100. | 1.30 | 0.00 | 1791. |
| 38 | 8267. | 577. | 11.00 | 35. | 0.06 | 0.00 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 430. | 2.30 | 5.00 | 1765. |
| 80 | 2598. | 464. | 11.50 | 177. | 0.38 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 37.00 | 132. | 1.30 | 0.00 | 113. |
| 14 | 15699. | 694. | 11.80 | 1443. | 2.37 | 94.40 | 0.00 | 1.00 | 4.60 | 0.00 | 100.00 | 206. | 2.30 | 0.00 | 835. |
| 15 | 38015. | 698. | 11.80 | 1142. | 1.88 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 100.00 | 191. | 2.30 | 44.00 | 869. |
| 89 | 1995. | 267. | 12.00 | 742. | 2.78 | 53.10 | 7.60 | 0.00 | 39.30 | 0.00 | 100.00 | 34. | 2.30 | 0.00 | 179. |
| 46 | 43912. | 999. | 12.00 | 53. | 0.06 | 0.00 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 60. | 0.83 | 0.00 | 914. |
| 104 | 6247. | 470. | 12.00 | 1213. | 2.11 | 0.00 | 99.00 | 1.00 | 0.00 | 0.00 | 99.00 | 175. | 1.20 | 0.00 | 289. |
| 95 | 32591. | 378. | 13.12 | 195. | 0.52 | 0.00 | 75.00 | 0.00 | 0.00 | 25.00 | 100.00 | 152. | 1.30 | 0.00 | 216. |
| 125 | 24205. | 389. | 13.20 | 195. | 0.50 | 0.00 | 75.00 | 0.00 | 0.00 | 25.00 | 100.00 | 150. | 1.20 | 0.50 | 247. |
| 9 | 17232. | 142. | 13.90 | 412. | 2.90 | 49.00 | 49.00 | 2.00 | 0.00 | 0.00 | 98.00 | 344. | 2.30 | 19.00 | 915. |
| 18 | 11988. | 424. | 13.90 | 61. | 0.14 | 0.00 | 33.00 | 67.00 | 0.00 | 0.00 | 33.00 | 175. | 2.30 | 17.00 | 577. |
| 110 | 1602. | 399. | 14.00 | 328. | 0.82 | 0.00 | 0.00 | 0.00 | 100.00 | 0.00 | 30.00 | 860. | 1.20 | 0.00 | 272. |
| 67 | 14271. | 377. | 14.00 | 982. | 2.60 | 0.00 | 75.00 | 0.00 | 0.00 | 25.00 | 100.00 | 84. | 2.30 | 0.00 | 317. |
| 8 | 23327. | 584. | 14.00 | 421. | 0.72 | 0.00 | 89.00 | 11.00 | 0.00 | 0.00 | 34.00 | 172. | 2.30 | 13.00 | 94. |
| 39 | 2852. | 560. | 15.00 | 911. | 1.63 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 100.00 | 335. | 2.30 | 0.00 | 382. |
| 127 | 3175. | 554. | 15.90 | 1116. | 1.96 | 0.00 | 75.00 | 0.00 | 0.00 | 25.00 | 100.00 | 263. | 1.20 | 0.00 | 798. |
| 53 | 38999. | 592. | 16.00 | 1756. | 2.54 | 82.20 | 17.50 | 0.00 | 0.30 | 0.00 | 100.00 | 138. | 2.30 | 0.00 | 444. |
| 90 | 19291. | 622. | 16.00 | 3241. | 5.21 | 0.00 | 98.00 | 1.00 | 0.00 | 0.00 | 98.00 | 200. | 1.30 | 19.50 | 113. |
| 13 | 15848. | 642. | 16.30 | 1931. | 1.61 | 87.00 | 7.50 | 0.00 | 5.50 | 0.00 | 100.00 | 191. | 2.30 | 29.00 | 439. |
| 88 | 7579. | 498. | 16.30 | 585. | 1.37 | 59.10 | 38.00 | 2.70 | 0.00 | 0.00 | 97.30 | 32. | 2.30 | 0.00 | 552. |
| 34 | 2507. | 632. | 16.40 | 3164. | 5.09 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 100.00 | 100. | 2.30 | 3.00 | 117. |

## TABLE 6

RANKED BY INDEPENDENT VARIABLE X(10), Continued

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 13721. | 443. | 17.79 | 419. | 0.93 | 0.00 | 88.00 | 14.00 | 0.00 | 0.00 | 86.00 | 200. | 2.34 | 0.20 | 143. |
| 47 | 2078. | 760. | 18.00 | 1388. | 1.72 | 95.90 | 0.00 | 1.30 | 2.40 | 0.00 | 98.70 | 122. | 2.30 | 0.00 | 598. |
| 32 | 38633. | 713. | 18.50 | 648. | 0.91 | 0.00 | 0.00 | 8.20 | 91.80 | 0.00 | 91.80 | 9. | 2.30 | 0.20 | 451. |
| 38 | 88764. | 1048. | 18.50 | 994. | 0.95 | 90.20 | 10.00 | 0.00 | 0.00 | 0.00 | 100.00 | 60. | 2.30 | 0.00 | 179. |
| 58 | 37137. | 950. | 19.00 | 1779. | 1.87 | 81.50 | 11.00 | 7.70 | 6.00 | 0.00 | 99.30 | 135. | 2.34 | 0.00 | 343. |
| 29 | 195551. | 859. | 20.00 | 602. | 0.91 | 0.00 | 80.70 | 0.00 | 20.00 | 0.00 | 100.00 | 120. | 2.32 | 1.20 | 119. |
| 19 | 25839. | 1906. | 21.00 | 1824. | 0.96 | 68.50 | 0.00 | 0.00 | 4.70 | 0.00 | 100.00 | 1900. | 2.32 | 0.00 | 713. |
| 18 | 29570. | 8933. | 21.50 | 269. | 0.03 | 0.00 | 63.40 | 0.00 | 36.50 | 0.00 | 98.70 | 75. | 2.30 | 54.20 | 262. |
| 90 | 14626. | 598. | 23.13 | 432. | 0.72 | 0.00 | 43.40 | 32.00 | 24.20 | 0.00 | 100.00 | 150. | 1.30 | 0.00 | 294. |
| 44 | 19274. | 551. | 25.00 | 1319. | 2.39 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 100.00 | 1300. | 2.34 | 0.00 | 161. |
| 46 | 125493. | 1173. | 25.70 | 985. | 0.84 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 100.00 | 300. | 2.30 | 53.20 | 237. |
| 27 | 121411. | 1927. | 26.00 | 3027. | 2.05 | 41.70 | 39.00 | 0.00 | 19.30 | 0.00 | 100.00 | 120. | 2.30 | 2.20 | 76. |
| 114 | 27391. | 1907. | 26.00 | 1289. | 1.18 | 79.20 | 30.00 | 0.00 | 0.00 | 0.00 | 100.00 | 80. | 1.20 | 0.00 | 272. |
| 83 | 121411. | 1927. | 26.00 | 3027. | 2.05 | 41.70 | 39.00 | 19.30 | 0.00 | 0.00 | 100.00 | 120. | 1.30 | 2.20 | 32. |
| 87 | 31698. | 1223. | 26.40 | 1457. | 1.19 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 100.00 | 145. | 1.30 | 0.00 | 837. |
| 115 | 8027. | 748. | 26.50 | 2060. | 2.75 | 75.00 | 0.00 | 0.00 | 0.00 | 25.00 | 99.00 | 180. | 1.20 | 0.00 | 1085. |
| 21 | 8027. | 748. | 26.50 | 2060. | 2.75 | 75.00 | 0.00 | 0.00 | 0.00 | 25.00 | 99.00 | 180. | 2.30 | 16.00 | 492. |
| 33 | 5384. | 826. | 27.00 | 272. | 0.33 | 0.00 | 97.20 | 2.80 | 0.00 | 0.00 | 95.80 | 920. | 2.30 | 2.80 | 299. |
| 31 | 12764. | 2785. | 27.90 | 846. | 0.30 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 98.50 | 200. | 2.30 | 0.00 | 74. |
| 49 | 32077. | 1793. | 28.20 | 1875. | 0.82 | 0.00 | 91.30 | 8.70 | 0.00 | 0.00 | 91.30 | 123. | 2.30 | 78.00 | 485. |
| 118 | 3914. | 1844. | 29.00 | 1236. | 0.67 | 0.00 | 75.00 | 1.00 | 8.00 | 15.00 | 97.50 | 90. | 1.20 | 5.00 | 190. |
| 88 | 12956. | 1120. | 29.00 | 790. | 0.71 | 0.00 | 75.00 | 0.00 | 0.00 | 25.00 | 95.00 | 150. | 2.30 | 0.00 | 154. |
| 93 | 3914. | 1844. | 29.00 | 1236. | 0.67 | 0.00 | 75.00 | 1.00 | 8.00 | 15.00 | 97.50 | 90. | 1.30 | 5.70 | 252. |
| 12 | 30145. | 866. | 29.60 | 32. | 0.04 | 0.00 | 75.00 | 0.00 | 0.00 | 25.00 | 95.00 | 70. | 2.30 | 18.20 | 427. |
| 3 | 36913. | 1676. | 30.60 | 78. | 0.05 | 0.00 | 24.00 | 76.00 | 0.00 | 0.00 | 24.00 | 820. | 2.30 | 0.20 | 120. |
| 107 | 16795. | 432. | 31.00 | 592. | 1.37 | 0.00 | 90.00 | 1.00 | 9.00 | 0.00 | 99.00 | 851. | 1.20 | 4.00 | 284. |
| 105 | 34862. | 1250. | 32.00 | 2743. | 2.18 | 55.00 | 33.00 | 0.00 | 0.00 | 12.00 | 90.60 | 265. | 1.20 | 0.00 | 161. |
| 59 | 31518. | 952. | 32.00 | 1961. | 1.11 | 0.20 | 0.00 | 0.00 | 100.00 | 0.00 | 100.00 | 455. | 1.20 | 0.00 | 175. |
| 63 | 49633. | 1445. | 33.30 | 787. | 0.49 | 20.00 | 66.60 | 13.40 | 0.00 | 0.00 | 86.10 | 145. | 1.20 | 0.00 | 95. |
| 43 | 42923. | 1856. | 35.00 | 932. | 0.50 | 0.00 | 0.00 | 0.00 | 100.00 | 0.00 | 100.00 | 1600. | 2.30 | 65.00 | 177. |
| 65 | 7191. | 1307. | 36.00 | 1674. | 1.22 | 0.00 | 75.00 | 0.00 | 0.00 | 25.00 | 97.60 | 256. | 2.30 | 0.00 | 120. |
| 64 | 7191. | 1307. | 36.00 | 1674. | 1.22 | 0.00 | 75.00 | 0.00 | 0.00 | 25.00 | 97.60 | 256. | 2.30 | 0.00 | 78. |
| 84 | 31654. | 1922. | 36.00 | 2982. | 2.34 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 99.10 | 299. | 1.30 | 0.00 | 44. |
| 5 | 2241. | 1278. | 36.50 | 758. | 0.59 | 0.00 | 85.00 | 14.00 | 0.00 | 0.00 | 86.00 | 280. | 2.30 | 0.00 | 476. |
| 52 | 35937. | 2925. | 38.00 | 522. | 0.20 | 0.00 | 93.00 | 0.00 | 6.10 | 0.00 | 99.70 | 177. | 2.34 | 36.00 | 193. |
| 124 | 183000. | 1549. | 38.00 | 725. | 0.47 | 75.40 | 0.00 | 0.00 | 24.60 | 0.00 | 100.00 | 300. | 1.20 | 15.00 | 86. |
| 54 | 19967. | 1458. | 38.00 | 2242. | 1.53 | 85.60 | 13.00 | 1.20 | 0.00 | 0.00 | 98.60 | 517. | 2.30 | 0.00 | 614. |
| 106 | 180400. | 1511. | 39.55 | 1044. | 0.69 | 87.00 | 12.00 | 1.00 | 0.00 | 0.00 | 98.70 | 850. | 1.20 | 0.00 | 127. |
| 4 | 8410. | 1473. | 40.00 | 889. | 0.47 | 0.00 | 74.00 | 1.00 | 0.00 | 25.00 | 95.80 | 77. | 2.30 | 0.00 | 133. |
| 17 | 192215. | 1799. | 40.00 | 3193. | 1.87 | 45.70 | 7.10 | 1.50 | 5.70 | 0.00 | 98.50 | 240. | 2.30 | 41.00 | 166. |
| 25 | 215332. | 1495. | 40.00 | 5016. | 4.02 | 80.00 | 20.00 | 0.00 | 0.00 | 0.00 | 100.00 | 460. | 2.30 | 1.00 | 51. |
| 2 | 6881. | 1444. | 40.00 | 491. | 0.34 | 0.00 | 75.00 | 0.00 | 0.00 | 25.00 | 97.00 | 210. | 2.30 | 0.00 | 161. |
| 123 | 38849. | 1582. | 40.00 | 381. | 0.23 | 68.70 | 11.00 | 0.00 | 19.40 | 0.00 | 100.00 | 200. | 1.20 | 44.00 | 159. |
| 120 | 18712. | 1129. | 41.00 | 790. | 0.71 | 0.00 | 75.00 | 0.00 | 0.00 | 25.00 | 97.00 | 150. | 1.20 | 0.00 | 139. |
| 41 | 220943. | 2278. | 41.00 | 7638. | 3.35 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 100.00 | 1800. | 2.34 | 51.00 | 198. |
| 34 | 18120. | 1609. | 43.70 | 1126. | 0.70 | 0.00 | 61.00 | 39.00 | 0.00 | 0.00 | 61.00 | 900. | 2.30 | 0.00 | 127. |
| 53 | 22770. | 1470. | 44.00 | 819. | 0.55 | 98.90 | 0.00 | 1.10 | 0.00 | 0.00 | 98.90 | 181. | 2.30 | 0.00 | 674. |
| 85 | 9731. | 1760. | 45.00 | 946. | 0.54 | 11.00 | 84.00 | 5.00 | 0.00 | 0.00 | 94.70 | 350. | 1.30 | 0.00 | 346. |
| 28 | 82593. | 1188. | 46.00 | 433. | 0.37 | 0.00 | 20.00 | 80.00 | 0.00 | 0.00 | 20.00 | 287. | 2.30 | 1.00 | 74. |
| 24 | 85928. | 1573. | 47.40 | 3372. | 2.11 | 93.00 | 7.00 | 0.00 | 0.00 | 0.00 | 100.00 | 225. | 2.34 | 1.00 | 41. |
| 82 | 87249. | 1573. | 47.40 | 3322. | 2.11 | 93.00 | 7.00 | 0.00 | 0.00 | 0.00 | 100.00 | 225. | 1.30 | 0.00 | 84. |
| 121 | 3846. | 1582. | 49.00 | 1153. | 0.69 | 0.00 | 75.00 | 0.00 | 0.00 | 25.00 | 93.00 | 590. | 1.20 | 0.00 | 119. |
| 91 | 3846. | 1582. | 49.00 | 1153. | 0.69 | 0.00 | 75.00 | 0.00 | 0.00 | 25.00 | 93.00 | 590. | 1.30 | 0.00 | 81. |
| 94 | 5954. | 1969. | 49.00 | 1378. | 0.74 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 70.00 | 380. | 1.34 | 0.00 | 173. |
| 92 | 3846. | 1582. | 49.00 | 1153. | 0.69 | 0.00 | 75.00 | 0.00 | 0.00 | 25.00 | 93.00 | 590. | 1.30 | 0.00 | 78. |
| 62 | 264550. | 7352. | 51.00 | 2452. | 1.24 | 88.20 | 11.80 | 0.00 | 0.00 | 0.00 | 100.00 | 275. | 1.20 | 0.00 | 169. |
| 60 | 586510. | 1800. | 51.00 | 3248. | 1.71 | 90.00 | 10.00 | 0.00 | 0.00 | 0.00 | 100.00 | 500. | 1.20 | 0.00 | 36. |
| 119 | 4833. | 1482. | 51.00 | 1186. | 0.71 | 0.00 | 75.00 | 0.00 | 0.00 | 25.00 | 93.00 | 592. | 1.20 | 0.00 | 55. |
| 97 | 22595. | 2781. | 54.00 | 4199. | 1.55 | 99.80 | 0.00 | 0.20 | 0.00 | 0.00 | 99.80 | 124. | 3.10 | 26.00 | 112. |
| 113 | 82945. | 2267. | 58.00 | 4275. | 1.89 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 100.00 | 333. | 1.20 | 0.00 | 58. |

TABLE 6

RANKED BY INDEPENDENT VARIABLE X(10), Continued

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 78 | 5728. | 3444. | 58.00 | 156. | 0.05 | 0.00 | 43.00 | 57.00 | 0.00 | 0.00 | 0.00 | 225. | 1.30 | 0.00 | 233. |
| 72 | 2744. | 1732. | 60.00 | 924. | 0.53 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 17. | 1.30 | 0.00 | 98. |
| 109 | 2745. | 1734. | 60.00 | 924. | 0.53 | 0.00 | 75.00 | 0.00 | 0.00 | 25.00 | 0.00 | 599. | 1.20 | 0.00 | 104. |
| 106 | 3265. | 1734. | 60.00 | 924. | 0.53 | 0.00 | 75.00 | 0.00 | 0.00 | 25.00 | 0.00 | 584. | 1.20 | 0.00 | 78. |
| 102 | 2951. | 4243. | 63.38 | 4363. | 1.03 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 199. | 1.20 | 0.00 | 339. |
| 26 | 344533. | 3178. | 70.00 | 2654. | 0.84 | 26.10 | 59.00 | 14.10 | 0.00 | 0.00 | 85.50 | 1582. | 2.32 | 0.00 | 74. |
| 103 | 253388. | 2473. | 75.00 | 4595. | 1.82 | 32.00 | 69.00 | 1.00 | 0.00 | 0.00 | 99.60 | 787. | 1.20 | 4.00 | 72. |
| 37 | 15259. | 1377. | 78.50 | 399. | 0.29 | 0.00 | 0.00 | 0.00 | 0.00 | 100.00 | 98.00 | 948. | 2.32 | 1.00 | 117. |
| 101 | 3780. | 6478. | 87.50 | 321. | 0.05 | 0.00 | 75.00 | 0.00 | 0.00 | 25.00 | 25.00 | 1648. | 1.20 | 0.00 | 133. |
| 73 | 5928. | 6478. | 90.00 | 321. | 0.05 | 0.00 | 75.00 | 0.00 | 0.00 | 25.00 | 25.00 | 1648. | 1.30 | 0.00 | 121. |
| 89 | 42000. | 2655. | 92.00 | 2375. | 0.89 | 0.00 | 0.00 | 0.00 | 0.00 | 100.00 | 98.00 | 1300. | 0.30 | 11.70 | 89. |
| 44 | 142664. | 3656. | 110.00 | 18. | 0.00 | 0.00 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 402. | 2.32 | 42.00 | 251. |
| 77 | 18720. | 8200. | 110.00 | 361. | 0.06 | 0.00 | 75.00 | 0.00 | 0.00 | 25.00 | 66.50 | 152. | 1.32 | 0.00 | 45. |
| 81 | 139554. | 4972. | 145.00 | 726. | 0.15 | 0.00 | 0.00 | 0.00 | 0.00 | 100.00 | 100.00 | 3900. | 1.20 | 0.00 | 47. |
| 51 | 120885. | 1747. | 160.00 | 8299. | 4.75 | 96.00 | 3.10 | 0.00 | 0.00 | 0.00 | 100.00 | 637. | 2.30 | 66.00 | 115. |
| 42 | 156000. | 5330. | 173.70 | 1558. | 0.29 | 0.00 | 0.00 | 0.00 | 0.00 | 100.00 | 99.00 | 270. | 2.30 | 61.00 | 136. |

## SECTION IV

## RESULTS OF THE REGRESSION ANALYSES

After the data was critically examined and alternate LRUs considered where necessary, the multiple regression analyses for each dependent variable (with variations) in Table 4 were performed with the results displayed in Appendix B. Table 7 gives a summary of these results including the run numbers (for identification purposes), the number of independent variables, the number of variables in the Basic Set, the multiple correlation coefficient squared, the F-value, the residual root mean square (standard deviation), the standard deviation estimated from residuals of neighboring observations, the observations with large WSSD, the normal, fitted Y and component-plus-residuals plots. The four parameters MTBF (Run 1), MTBMA (Run 2), MHTOT (Run 3) and LSCTO (Run 6) are major drivers of Operations and Maintenance (O & M) costs and were therefore given more attention. We note that the natural logarithm transformation after much analysis was used for each dependent variable except NRTS. Each equation was approached as the statistics, tables, computerized plots and techniques directed with much emphasis on the "total picture" of the results. This included: (1) the use of the Normal and Fitted values plots to detect outliers, (2) the use of the component-plus-residuals plots to detect those observations which extend the ranges of the independent variables by a "significant" amount and then using indicator variables in conjunction with the $C_p$-search technique to determine the effects of such extended observations to determine whether the observations behave like the rest of the data (thereby simply extending the ranges of the variables) or whether they are not consistent with the remainder of the data (possibly indicating curvature in the form of squares and natural logarithms), (3) the use of the technique of cross verification of coefficients with a second sample of data to determine if those observations with large (absolute) residuals or large WSS distance are in fact controlling the estimates of the coefficients (possibly indicating curvature) and to determine the stability of the relationships developed and (4) the use of the $C_p$-search technique to find those subset collections of independent variables which approximate the data with smallest total squared error. Volume II of the Phase I final report (2) gives a sketch of an example indicating how the approaches and techniques were utilized to fit the parameter MTBMA to the Phase I data.

(2) Op. Cit.

TABLE 7

Summary Results of the Regressions

| Dependent Variables | Run No. | No. of Independent Variables | # in Basic Set | $R_y^2$ | F-Value | RRMS | Cumulative Standard Deviation | WSSD | Normal Plot | Fitted y Plot | Component Plus Residual Plot |
|---|---|---|---|---|---|---|---|---|---|---|---|
| LMTBF | RUN1 | 23 | 21 | .89 | 32.1 | .48 | .48 | 77,18 | ok | ok | ok |
| LMTBMA | RUN2 | 23 | 5 | .88 | 29.3 | .48 | .49 | 77,18 | ok | ok | ok |
| LMHTOT | RUN3 | 20 | 15 | .93 | 61.9 | .42 | .43 | ok | 11,low | 11,low | ok |
| LMHUNS | RUN4 | 18 | 7 | .90 | 48.6 | .44 | .47 | ok | 35,high | 35,high | ok |
| LMHSHO | RUN5 | 14 | 12 | .90 | 66.6 | .55 | .55 | ok | 13,high | 13,high | ok |
| LLSCTO | RUN6 | 18 | 10 | .88 | 41.0 | .59 | .59 | ok | ok | ok | ok |
| LLSCFD | RUN7 | 17 | 9 | .88 | 42.6 | .55 | .55 | ok | 102,low | 102,low | ok |
| NRTS | RUN8 | 13 | 1 | .66 | 15.4 | 10.07 | 7.52 | 42,61 | 44,low | 44,low | ok |
| LSRA | RUN9 | 14 | 12 | .87 | 46.3 | .48 | .47 | ok | ok | ok | ok |
| LTRAIN | RUN10 | 24 | 7 | .85 | 22.5 | .71 | .71 | ok | ok | ok | ok |
| LMHTOT* | RUN11 | 20 | 14 | .93 | 62.4 | .42 | .43 | ok | 4,32,low | 11,32,low | ok |
| LMHSHO* | RUN12 | 14 | 12 | .90 | 69.6 | .54 | .52 | ok | ok | ok | ok |
| LLSCFD* | RUN13 | 16 | 14 | .89 | 50.5 | .52 | .51 | ok | ok | ok | ok |
| LMHTOT** | RUN14 | 18 | 16 | .92 | 66.9 | .43 | .44 | ok | 11,low | 11,low | ok |
| LMHUN** | RUN15 | 17 | 7 | .90 | 50.7 | .44 | .49 | ok | 35,high | 35,high | ok |

* Uses NRTS as an independent variable.

** Results of $C_p$ search.

As shown in Table 7 all equations (except NRTS) show significant results with no indication of serious lack of fit. The multiple correlation coefficients squared range from .85 (Run 10) to .93 (Run 3 and Run 11) with F-values significant at a .01 level of significance. The residual root mean square (RRMS) and the cumulative estimates of the standard deviation (for instance, .48 versus .49 for Run 9) indicate that there is no evidence of lack of fit. A cross verification of coefficients was performed on those relationships which had observations with large WSSD (Run 1, Run 2, Run 8) where there was no "significant" change in the values of the coefficients. The observations with high and low values in the Normal and Fitted values plots are not extreme as in the case of outliers but have RRMS slightly larger than the remainder of the observations in the data base (see Appendix B). For instance, the MHTOT equation (Run 3) although significant, had one observation, 11, with the largest (negative) residual in each of the intermediate fits, regardless of the functional form considered. Observation 11 with WUC 71CAO is a receiver-transmitter (navigation equipment) used in the F15A. Investigation into the data elements for this LRU did not indicate errors in the collected data. Consequently, observation 11 remained in the data base, since there is not enough known about avionics equipment and the form that the MHTOT equation should be to deem it an outlier. A cross verification of coefficients was performed for those observations with large residuals with slight changes in the values of the coefficients. Thus, the stability of the relationships was attained.

It was anticipated that NRTS could not be estimated well with the independent variables considered in this study since NRTS is highly dependent on many other factors (many subjective) which are not considered. Leaving out influential variables can make other collections of less influential variables appear significant when in fact they are not. Although there is serious lack of fit in the NRTS relationship, 10.07 versus 7.52, the results are still useful, since only large differences in NRTS cause significant changes in the total number of spares estimated by the EBO routine (Volume I). The ALPOS model provides the option for the user to input his own value for NRTS or to use the relationship developed for NRTS when no estimates of NRTS are available. There are also three relationships (Run 11, Run 12, Run 13) which use NRTS as an independent variable. The user can input different values of NRTS over a specific range and sensitize NRTS to determine the impact that changes in NRTS have on the model outputs.

All of these options for NRTS aid in determining the impact that different maintenance philosophies have on avionics equipment costs. The stability of the NRTS relationship was attained and validation results (Section V) indicate to the author that with the data, indicator variables, independent variable, and transformations, considered in the study, the "best" relationship for NRTS was obtained.

Table 8 gives a summary of the independent variables (including transformations) selected via statistical analyses for each relationship developed. Table 9 summarizes Table 8 indicating those independent variables considered of which the dependent variable is a function. Many of the relationships are related and can be compared. For instance, the reciprocal of the MTBF (Run 1) is the inherent reliability failure rate of the equipment. The reciprocal of the MTBMA (Run 2) is the total equipment reliability failure rate of which the MTBF is a significant portion, but it also includes other factors such as manufacturing defects, wearout rate, dependent failure rate, operator-induced failure rate, maintenance induced failure rate and equipment damage rate (3). Both MTBF and MTBMA are dependent on 23 independent variables (Table 8) where in particular they are a function of the same 23 independent variables (Table 9). Table 9 shows that both MTBF and MTBMA are functions of all 20 independent variables considered in this study except FIGSEN, BOMSEN and the components count (CC).

The total maintenance manhours per operating hour (Run 3) is the sum of the scheduled manhours per operating hour (not fitted), the unscheduled manhours per operating hour (Run 4) and the maintenance manhours per operating hour in the shop (Run 5). Tables 8 and 9 show that the MHTOT, MHUNS, and MHSHO are dependent on many of the same independent variables. The total logistics support cost per operating hour (Run 6) is the sum of logistics support cost per operating hour in the field (Run 7), the special repair facility, packing and shipping and condemnation costs (not fitted). Table 9 shows that the LSCTO and LSCFD and functions of the same independent variables where the only difference as shown in Table 8 is that the LSCFD relationship has WT as an independent variable whereas the LSCTO relationship uses MWT and DWT in its place.

As stated previously, three relationships MHTOT (Run 11), MHSHO (Run 12) and LSCFD (Run 13) which "should" be functions of NRTS were fitted to the data with NRTS included as an independent variable and can be compared with their counterparts Run 3, Run 4 and Run 7 respectively which do not consider NRTS. As shown in Appendix B, the two least influential variables of Run 3, XT and MPS were not admitted by the Cp-search technique when NRTS proved to be influential in Run 11. Also several fits (e.g., MHUNS) were made on dependent variables (with NRTS as an independent variable), which should not be a function of NRTS. In those cases, the Cp-search in fact did not accept NRTS as being significant enough to remain in the relationships.

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(3) Logistics Engineering and Management, B. S. Blanchard, Prentice-Hall, Inc., (1974).

TABLE 8

Independent Variables Selected For Each FIT

| Independent Variables | RUN NUMBER 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FIGSEN | | | * | * | | | | | * | | * | | | * | * |
| FIGCOM | * | * | * | * | * | * | * | | * | * | * | * | * | * | * |
| BOMVAV | * | * | * | * | * | * | * | | * | * | * | * | * | * | * |
| BOMSEN | | | | | | | | | * | * | | | | | |
| BOMCOM | * | * | * | * | * | * | * | | | | * | * | * | * | * |
| CARNAV | * | * | | | | | | | * | * | | | | | |
| CARCOM | * | * | | | | | | | | * | | | | | |
| UP | * | * | | | | | | | | | | | | | |
| VO | | | | | | | | * | | * | | | | | |
| WT | | | | | | | * | | | * | | | | | |
| CC | | | | | | | | | | | | | | | |
| CD | * | * | * | | | * | * | | | | * | | * | * | |
| DI | * | * | | * | * | * | * | * | * | * | | * | * | | * |
| EM | * | * | | | | * | * | | | | | | * | | |
| PS | | | | | * | | | | | | | * | | | |
| XT | | | * | | | | * | * | | | | | * | | |
| SS | | | * | * | * | * | * | | | | * | * | * | * | * |
| PD | | | | | | | | | | | | | | | |
| UF | | | | | | | | * | | * | | | | | |
| MUP | | | | | | | | * | | | | | | | |
| MVO | * | * | | | | * | * | | | * | | | | | |
| MWT | * | * | | | | * | | * | | | | | | | |
| MCC | | | | * | | | | | | * | * | | | | * |
| MCD | | | | | * | | | | | * | | * | | | |
| MDI | | | * | | | | | | | | * | | | * | |
| MEM | | | * | * | * | | | * | | * | * | * | | * | * |
| MPS | | | * | | | | | | | * | | | | * | |
| MXT | | | | | | | | * | | | | | | | |
| MSS | * | * | | | | | | | | * | | | | | |
| MPD | | | | * | | | | | | | | | | | * |
| MUF | * | * | | | | | | | | | | | | | |
| DUP | | | * | | * | | | | * | | * | * | | * | |
| DVO | * | * | | * | | * | * | | * | * | | | | | |
| DWT | * | * | | | | * | | * | * | | | | | | |
| DCC | | | * | * | | * | * | * | * | * | * | | * | * | * |
| DCD | | | | * | * | | | | | * | | * | | | * |
| DDI | | | * | | | | | | | | * | | | * | |
| DEM | | | * | * | * | | | * | * | * | * | * | | * | * |
| DPS | * | * | * | | | * | * | | * | * | * | | * | * | |
| DXT | * | * | | | | | | * | | | | | | | |
| DSS | * | * | | | | | | | | * | | | | | |
| DPD | * | * | * | * | | | | | | | * | | * | | * |
| DUP | * | * | * | * | * | * | * | | | | * | | * | * | * |
| LUP | * | * | * | * | * | * | * | | * | * | * | * | * | * | * |
| LVO | * | * | * | | * | * | * | * | | * | * | * | | * | |
| LWT | | | * | * | | | | * | | | * | | * | * | * |
| LCC | | | | | | | | | * | * | | | | | |
| LPD | * | * | | * | | * | * | | | * | | | * | | * |
| NRTS | | | | | | | | | | | * | * | * | | |

TABLE 9

Independent Variables (without transformations) Needed For Each FIT

| Independent Variables | RUN NUMBER 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FIGSEN | | | * | * | | | | | * | | * | | | * | * |
| FIGCOM | * | * | * | * | * | * | * | | * | * | * | * | * | * | * |
| BOMNAU | * | * | * | * | * | * | * | | * | | * | * | * | * | * |
| BOMSEN | | | | | | | | | * | * | | | | | |
| BOMCOM | * | * | * | * | * | * | * | | | | * | * | * | * | * |
| CARNAU | * | * | | | | | | | * | * | | | | | |
| CARCOM | * | * | | | | | | | | * | | | | | |
| UP | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * |
| VO | * | * | * | * | * | * | * | * | * | * | * | * | | * | |
| WT | * | * | * | * | | * | * | * | * | * | * | | * | * | * |
| CC | | | * | * | | * | * | * | * | * | * | | * | * | * |
| CD | * | * | * | * | * | * | * | | | * | * | * | * | * | * |
| DI | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * |
| EM | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * |
| PS | * | * | * | | * | * | * | | * | * | * | * | * | * | |
| XT | * | * | * | | | * | * | * | | | | | * | | |
| SS | * | * | * | * | * | * | * | | | * | * | * | * | * | * |
| PD | * | * | * | * | | * | * | | | * | * | | * | | * |
| UP | * | * | * | * | * | * | * | * | | | * | * | * | | |
| NRTS | | | | | | | | | | | * | * | * | | |

Unfortunately, since the number of relationships considered was large, it was not feasible to include all results ("total picture") for each fit developed. However, all results are in an addendum to this Volume which is retained at the Air Force Avionics Laboratory (AFAL).

## SECTION V

## RESULTS OF THE VALIDATION INVESTIGATION

The aspects of model validity are discussed in Volume I, including replicative and predictive validity. Replicative validity has been demonstrated by the "goodness of fit" statistics and results in Section IV. The strongest measure of validity, the demonstration of which is wanting in most estimating models (accounting, subjective, regression "crystal ball", etc.), is the condition in which the model is predictively valid, that is, when it can match real system data before the model has "seen" the data. For the ALPOS model, this is, of course, its raison d'etre. In other words, the functional relationships in the model should be able to generate as outputs MTBFs, MTBMAs, manhours, etc., based on inputs of the avionics LRU physical and electrical characteristics, which are "similar" to the MTBFs, MTBMAs, manhours, etc. found in the MDC, IROS and OSCER data system. The key word for this type of validity is similar. Thus, in order to investigate predictive validity, it is necessary to perform some type of data collection and analysis required in establishing the data base for the regressions. That is, for each LRU included in the validation analysis, all of the independent and dependent variables required as input to exercise the estimating relationships must be collected or derived. There are 11 LRUs (Appendix C) with the associated independent and dependent variable data, across aircraft types, avionics areas and levels of complexity, that have been selected for this limited investigation of validity (See Volume I).

Several approaches have been taken with the intent of demonstrating predictive validity for multiple regression analysis models, including running a totally new (validation) data base through the regression relationships obtained via the original data base, prediction intervals, and cross verification of coefficients with a second sample of data. The correct way to attempt demonstrations of predictive validity for regression models is that of developing a new (validation) data base (of "approximate" size and complexity as that of the original data base) and run this validation data base through the regression equations (using the same functional form) developed. The analyst must then evaluate the "total picture" including coefficients, statistics, statistical plots and techniques to determine if there is a significant difference in the results using the validation data base. Obviously this approach is out of the scope of this particular study since the data collection and analysis effort comprises a large portion of the project tasks costs and man-hours for model development.

A prediction interval (sometimes called a confidence interval) is an interval about which the analyst is confident (e.g. 95% confident) that the estimated value of the dependent variable (e.g. MTBF, MHTOT, etc.) for a particular observation in the

validation data base is within the bounds of the interval, where the lower the confidence level the smaller the interval. There are two major drawbacks in demonstrating predictive validity for multiple regression analysis models via the prediction interval approach. First, the prediction interval approach depends heavily upon the assumption that the equation obtained through statistical analyses is the correct form of the equation. Although many types of analyses, based on the data available, have shown statistically significant results (as demonstrated through replicative validity), it is not definitely known that the regression equation obtained is the correct form. This has been demonstrated many times in the physical and social sciences, where equations that were used for many years were updated as new data and information became available. Secondly, a predictive interval is calculated for each observation in the validation data base one at a time, and hence, the "total picture" of the effects that the validation data has on the coefficient, statistics, plots and tables cannot be evaluated. Prediction interval, however, has its merits when considering much less involved statistical methods of estimation than that of multiple regression analysis.

The approach used in this study for attempting the demonstration of predictive validity is cross verification of coefficients with a second sample of data where the validation data added to the original regression data make up the second sample of data. The coefficients using the original data are saved and can be compared with the coefficients obtained using the second sample. In addition, the "total picture" including statistics, plots, tables, etc. can be evaluated. The change in coefficients could be negligible, a 100% or more change could occur and a change in sign of the coefficients is also conceivable.

A cross verification of coefficients was performed on each of the 15 relationships developed using the 11 observations in the validation data base with the "total picture" of the results displayed in Appendix D. As in Appendix B space did not permit all plots to be included. The MTBMA (RUN20) equation, however has all statistics, plots, tables and techniques included. A summary of some of these results is shown in Table 10, including the dependent variable, the run numbers (for identification purposes), the percent change in coefficients, the multiple correlation squared, the F-value, the observations in the validation data base which had "large" residuals, the component-plus-residuals plots, the number of variables in the basic set and the results of the $C_p$-search using the second sample of data. For instance, the results for LSCTO (RUN60) showed no "significant" change in the values of the coefficients, $Ry^2 = .88$, F-value = 44.3. There were no observations in the validation data base which had larger residuals than the observations used to develop the regression equation; there were no discrepancies in the component-plus-residuals plot; there were 16 variables in the basic set of variables and the results of the $C_p$-search agreed with the original results in that there is no

TABLE 10

Validation Results Of The Cross Verification Of Coefficients With A Second Sample of Data

| Dependent Variables | Run Number | % Change In Coefficients | $R_y^2$ | F-Value | "Large" Residuals | Components Plus Residuals Plot | Basic Set of Variables | Cp-Search Technique |
|---|---|---|---|---|---|---|---|---|
| LMTBF | RUN01 | ok | .87 | 31.7 | 209,low | ok | 21 | same |
| LMTBMA | RUN20 | ok | .86 | 29.7 | none | ok | 12 | same |
| LMHTOT | RUN30 | DUP/54% | .92 | 65.5 | 210,high | ok | 18 | third |
| LMHUNS | RUN40 | ok | .90 | 52.9 | none | ok | 8 | second |
| LMHSHOP | RUN50 | DUP/53% | .89 | 67.4 | 209,high | ok | 11 | sixth |
| LLSCTO | RUN60 | ok | .88 | 44.3 | none | ok | 16 | same |
| LLSCFD | RUN70 | ok | .88 | 46.3 | none | ok | 8 | same |
| NRTS | RUN80 | ok | .66 | 16.5 | none | ok | 1 | same |
| SRA | RUN90 | ok | .87 | 46.8 | none | ok | 12 | same |
| LTRAIN | RUN100 | ok | .85 | 21.0 | | ok | 9 | same |
| LMHTOT* | RUN110 | DUP/47% | .93 | 65.7 | 210,high | ok | 15 | fifth |
| LMHSHO* | RUN120 | DUP/40% | .90 | 71.8 | none | ok | 12 | second |
| LLSCFD* | RUN130 | ok | .89 | 54.8 | none | ok | 14 | second |
| LMHTOT** | RUN140 | DUP/60% | .92 | 70.3 | 210,high | ok | 16 | third |
| LMHUNS** | RUN150 | ok | .90 | 54.9 | none | ok | 7 | second |

* Uses NRTS as an independent variable.

** Results of Cp-search.

subset collection of variables which fits the data with less total squared erros than that which was developed.

The results of this limited validation investigation were quite encouraging. The multiple correlation coefficient squared fell only slightly in each case whereas the F-values increased in all but one case (MTBF). There were no major discrepancies in the component-plus-residuals plots for all 15 equations. The basic set of variables was about the same with an increase in some cases for the second sample of data. The results of the $C_p$-search technique were the same in 6 of the relationships. In 4 of the relationships the $C_p$-search technique indicated that the equations developed were the second "best" relationships, but in all cases the residual mean square (a measure of the error of prediction) was smallest for the equations developed. There were two observations in the validation data base that had "larger" residuals than the observations used to develop the regression relationships. Observation 209 was low for MTBF (RUN01) and high for MHSHO (RUN50) and observation 210 was high for all relationships fitted for MHTOT (RUN30, RUN110, RUN140). Observations 209 (WUC 71CAO, LORAN Receiver) and 210 (WUC 71GAO, Glide Slope Receiver) are both navigations equipment used in the C-5A aircraft. These two observations remained in the validation data base since investigation into each of the data elements (independent and dependent variables) did not indicate errors in the collected data.

Of the 15 equations developed for the ALPOS model there were only 5 equations (three involving MHTOT and two involving MHSHO) where the coefficient of only one variable (DUP in each case, where DUP is the unit price minus its d-statistic squared) changed by an average of only about 50%. The three equations involving MHTOT were those developed without NRTS as an independent variable, with NRTS as an independent variable and the results of the $C_p$-search technique to find the second "best" equation for MHTOT. The two equations involving MHSHO were those with and without NRTS as an independent variable. This change in the magnitude of the regression coefficient for the variable DUP could have been caused by the increase in the range of DUP which was a result of adding the validation data to the original data. The limited size of the validation data base could have also caused this instability. It should be noted, however, that in each of these 5 cases where the coefficient of DUP changed by about 50%, the variable DUP was among the three least influential variables in the 5 equations developed (see Appendix D). In the cases where the percent change in the coefficient was OK, there were only two equations with only one coefficient in each case which changed by about 30%, but in most of the remaining equations the percent change was far below 20% in each coefficient of each equation developed. It should be noted here that each of the coefficients could have changed by well over 100%. Moreover, the sign of each coefficient could also have changed (i.e., from a positive coefficient to a negative coefficient and vice versa). In these extreme cases, where the stability of the equation is questionable, there would have been cause to re-examine the validation data, the regression analysis data, and the estimating relationships developed.

Although the results of this limited validation investigation appear significant, it would be appropriate to increase the validation sample size in order to perform a more thorough investigation of the stability of the relationships. As more data becomes available, a cross verification of coefficients should be performed and results of the change in coefficients, statistics, and plots should be reviewed. It might be that other independent variables not considered in this study should be included or other forms of curvature (component-plus-residuals plots) of those variables already included could further demonstrate predictive validity of the relationships.

# SECTION VI

## CONCLUSIONS AND RECOMMENDATIONS

The cost and parametric estimating relationships obtained in this study were put through critical statistical examinations which covered a wide range of possible functional forms with a diverse spread across areas of avionics and aircraft types. It should be emphasized that the author is not implying that the correct functional forms of the relationships have definitely been obtained, but that there are statistically significant correlations between the independent and dependent variables considered in this study which can be used for predicting Operations and Maintenance costs of avionics equipment early in the preliminary/conceptual design phase. Although the results, statistical (section IV) and validation (section V), appear significant there are still areas for improvement that warrant futher study to increase the prediction capability of the equations developed.

The first recommendation is to expand the data base, i.e., increase the number of observations used to develop the relationships, consider additional independent variables, extend the ranges of the variables and expand to newer technology areas. Other independent variables not considered in this study such as the number of SRUs in an LRU, the number of integrated circuits (ICs) in an LRU and any other complexity factors that may have an influential effect on the dependent variables to be estimated, should be introduced into the regressions to reduce bias and improve the prediction capability of the equations. Although many of the variables considered had ranges over several orders of magnitude, some may not have been experienced over a range adequate enough to display their influence. Extending the ranges of the variables and using more "state of the art" equipment in the regression data base will enhance the capability of predicting advanced equipment costs.

The second recommendation is to perform a cross verification of coefficients where those aircraft and avionics equipment that have been in the Air Force inventory long enough to experience "good" data (e.g. F-16) make up the second sample of data. An evaluation of the results could lead to an update of the relationships already developed.

The third recommendation is to consider more transformations of the variables. The transformations considered covered a wide range of possible forms, but there are many other transformations that may better approximate the more complicated cases. For instance, some of the independent variables were percentages which covered a wide range of values. The Inverse Sine transformation can be used to weigh more heavily the small

percentages which have small variance. In addition, cross products of the variables can also be considered as viable transformations. Again there must be more data available to give the analyst the flexibility needed to consider many different functional forms.

The fourth recommendation is to investigate the possibilities of considering Non-linear Regression Analysis as a means of determining the correct functional form of the equations. Although the relationships considered in this study covered a wide range of possible functional forms, Non-linear Regression Analyses can be used to approximate even more complicated cases.

An area not touched upon in this study is that of error in the independent variables (Assumption A3). Some notable contributions on the subject of error in the independent variables have been made for the case of one independent variable (See Bibliography; Acton, Hocking and Leslie, Mandansky). It appears, however, that there are no results now in the statistical literature that lend to practical applications when multiple variables are considered.

We feel that this study has significantly contributed to the art of estimating support costs of avionics in the conceptual phase. The use of existing Air Force Data Systems has been demonstrated by the statistically significant correlations which exist between the variables considered, yielding relationships which can be successfully used to predict future costs. The Air Force Avionics Laboratory has been provided with the best tool developed to date to predict such costs.

# APPENDIX A

# MULTIPLE REGRESSION

# ANALYSIS DATA

ALPOS
MULTIPLE REGRESSION ANALYSIS DATA

| | FIGSEN UP MTBF | FIGCOM YO MTBMA | BOMNAV MT MHTOT | BOMSEN CC MHUNS | BOMCOM CD MHSMO | CARNAV DI LSCTO | CARCOM EM LSCFO | PS NRTS | XT SRA | SS TRAIN | PD | UF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 71B2B | 0. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 13721. | 443. | 17.78 | 418. | 0.926 | 0.0 | 14.0 | 0.0 | 0.0 | 86.0 | 288. | 2.38 |
| | 244. | 183. | 0.179 | 0.883 | 0.894 | 3.139 | 2.597 | 13.0 | 0. | 0.842 | | |
| 2 71L8B | 0. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 9681. | 1444. | 48.88 | 491. | 0.348 | 0.0 | 0.0 | 0.0 | 25.0 | 27.0 | 212. | 2.38 |
| | 271. | 181. | 0.271 | 0.886 | 0.184 | 4.446 | 4.027 | 27.0 | 696. | 1.188 | | |
| 3 71M8B | 0. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 36913. | 1676. | 32.58 | 76. | 0.047 | 0.0 | 76.0 | 0.0 | 0.0 | 24.0 | 828. | 2.38 |
| | 0. | 0. | 0.385 | 0.119 | 0.184 | 0.000 | 0.000 | 16.0 | 3488. | 7.987 | | |
| 4 71P8B | 0. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 8418. | 1473. | 48.88 | 689. | 0.468 | 0.0 | 1.0 | 0.0 | 25.0 | 95.0 | 77. | 2.38 |
| | 0. | 0. | 0.261 | 0.187 | 0.153 | 5.982 | 3.388 | 11.0 | 756. | 1.581 | | |
| 5 71P8B | 0. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 2241. | 1278. | 36.58 | 756. | 0.594 | 0.0 | 14.0 | 0.0 | 0.0 | 68.0 | 289. | 2.38 |
| | 672. | 476. | 0.139 | 0.848 | 0.898 | 2.151 | 1.984 | 6.0 | 478. | 0.686 | | |
| 6 71T1B | 0. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 848. | 91. | 4.88 | 12. | 0.132 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 28. | 2.38 |
| | 4239. | 2521. | 0.816 | 0.888 | 0.819 | 0.288 | 0.272 | 9.0 | 191. | 0.888 | | |
| 7 724GB | 0. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 2855. | 133. | 1.25 | 84. | 0.832 | 0.0 | 3.0 | 0.0 | 0.0 | 97.0 | 87. | 2.38 |
| | 4653. | 3548. | 0.813 | 0.886 | 0.887 | 0.288 | 0.154 | 4.0 | 245. | 0.887 | | |
| 8 71G5B | 0. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 23327. | 584. | 14.88 | 421. | 0.721 | 0.0 | 11.0 | 0.0 | 0.0 | 34.0 | 172. | 2.38 |
| | 228. | 94. | 0.888 | 0.888 | 0.888 | 2.738 | 2.628 | 4.0 | 0. | 0.888 | | |
| 9 71FA8 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 17232. | 142. | 13.98 | 412. | 2.981 | 49.0 | 2.0 | 0.0 | 0.0 | 98.0 | 384. | 2.38 |
| | 1559. | 915. | 0.119 | 0.822 | 0.887 | 2.489 | 1.432 | 25.0 | 1888. | 0.265 | | |
| 10 71FB8 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 11988. | 424. | 13.98 | 61. | 0.144 | 0.0 | 67.0 | 0.0 | 0.0 | 33.0 | 175. | 2.38 |
| | 789. | 577. | 0.897 | 0.841 | 0.856 | 0.888 | 0.888 | 18.0 | 2167. | 2.736 | | |
| 11 71CA8 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 5176. | 288. | 6.58 | 158. | 0.758 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 28. | 2.38 |
| | 4868. | 2141. | 0.826 | 0.818 | 0.816 | 0.415 | 0.415 | 18.0 | 1588. | 0.853 | | |
| 12 71DA8 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 38145. | 866. | 29.88 | 32. | 0.837 | 0.0 | 0.0 | 0.0 | 25.0 | 93.0 | 78. | 2.38 |
| | 662. | 487. | 0.187 | 0.853 | 0.133 | 5.789 | 1.769 | 17.0 | 3556. | 2.129 | | |
| 13 51EA8 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 15848. | 642. | 16.38 | 1831. | 1.688 | 87.0 | 0.0 | 5.5 | 0.0 | 100.0 | 191. | 2.38 |
| | 1138. | 438. | 0.215 | 0.865 | 0.149 | 3.389 | 2.479 | 14.0 | 1584. | 0.586 | | |
| 14 52AA8 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 15699. | 688. | 11.88 | 1443. | 2.373 | 94.4 | 1.0 | 4.6 | 0.0 | 100.0 | 288. | 2.38 |
| | 1283. | 835. | 0.192 | 0.851 | 0.141 | 4.938 | 2.916 | 28.0 | 0. | 0.784 | | |

ALPOS
MULTIPLE REGRESSION ANALYSIS DATA
(CONTINUED)

| | PIGSEN UP MTBF | PIGCOM VO MTBMA | BOMNAV MT MHTOT | BOMSEN CC MHUNS | BOMCOM CD MHSMD | CARNAV DI LSCTO | CARCOM EM LSCFD | PS NRTS | XT SRA | SS TRAIN | PD | UF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15 52A80 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 36015. | 688. | 11.80 | 1142. | 1.878 | 100.0 | 0.0 | 0.0 | 0.0 | 100.0 | 191. | 2.38 |
| | 1941. | 868. | 0.191 | 0.042 | 0.149 | 5.397 | 2.635 | 25.0 | 3600. | 0.467 | | |
| 16 63B00 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 2814. | 78. | 2.00 | 79. | 1.013 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 7. | 2.38 |
| | 3150. | 1470. | 0.022 | 0.000 | 0.013 | 0.000 | 0.000 | 0.0 | 497. | 0.109 | | |
| 17 71AE0 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 192215. | 1789. | 48.00 | 3193. | 1.866 | 85.7 | 1.5 | 5.7 | 0.0 | 98.5 | 249. | 2.38 |
| | 255. | 166. | 1.273 | 0.177 | 1.096 | 0.000 | 0.000 | 0.0 | 0. | 0.000 | | |
| 18 74JA0 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 29574. | 8833. | 21.50 | 260. | 0.032 | 0.0 | 0.0 | 36.6 | 0.0 | 98.7 | 75. | 2.38 |
| | 494. | 262. | 0.465 | 0.117 | 0.347 | 17.034 | 5.189 | 29.0 | 3896. | 3.168 | | |
| 19 74JC0 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 25838. | 1986. | 21.00 | 1824. | 0.957 | 88.5 | 0.0 | 4.7 | 0.0 | 100.0 | 1000. | 2.38 |
| | 1100. | 713. | 0.138 | 0.038 | 0.098 | 2.189 | 1.775 | 26.0 | 2588. | 0.419 | | |
| 20 92GA1 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 9431. | 295. | 7.00 | 275. | 0.932 | 47.0 | 0.0 | 0.0 | 0.0 | 100.0 | 25. | 3.10 |
| | 220. | 109. | 0.235 | 0.151 | 0.070 | 0.543 | 0.543 | 2.0 | 450. | 0.100 | | |
| 21 71Z40 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 8027. | 748. | 20.50 | 2868. | 2.754 | 75.0 | 0.0 | 0.0 | 25.0 | 99.9 | 100. | 2.38 |
| | 996. | 492. | 0.057 | 0.049 | 0.010 | 2.024 | 0.034 | 0.0 | 650. | 0.561 | | |
| 22 71Z80 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 1530. | 154. | 5.00 | 869. | 4.344 | 50.0 | 0.0 | 0.0 | 0.0 | 100.0 | 25. | 2.38 |
| | 4485. | 1994. | 0.000 | 0.000 | 0.000 | 0.159 | 0.159 | 0.0 | 650. | 0.000 | | |
| 23 71ZC0 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 510. | 94. | 2.00 | 94. | 1.000 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 10. | 2.38 |
| | 0. | 0. | 0.000 | 0.000 | 0.000 | 0.349 | 0.233 | 0.0 | 80. | 0.000 | | |
| 24 73EG0 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 65920. | 1573. | 47.40 | 3322. | 2.112 | 93.0 | 0.0 | 0.0 | 0.0 | 100.0 | 225. | 2.38 |
| | 0. | 0. | 2.388 | 1.366 | 0.917 | 56.641 | 28.682 | 7.0 | 4667. | 17.050 | | |
| 25 73EP0 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 215330. | 1495. | 48.00 | 6916. | 4.624 | 80.0 | 0.0 | 0.0 | 0.0 | 100.0 | 460. | 2.38 |
| | 80. | 51. | 1.014 | 0.511 | 1.388 | 28.111 | 28.111 | 2.0 | 83964. | 4.341 | | |
| 26 73HA0 | 0. | 0. | 0. | 0. | . | 0. | 0. | | | | | |
| | 348533. | 3178. | 78.00 | 2654. | 0.835 | 26.1 | 14.1 | 0.0 | 0.0 | 85.5 | 1560. | 2.38 |
| | 101. | 74. | 2.394 | 0.494 | 1.898 | 63.235 | 45.276 | 10.0 | 8838. | 7.637 | | |
| 27 73HC0 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 121411. | 1827. | 26.00 | 3427. | 2.947 | 41.7 | 0.0 | 19.3 | 0.0 | 100.0 | 120. | 2.38 |
| | 104. | 76. | 0.000 | 0.416 | 0.366 | 14.991 | 14.991 | 4.0 | 3365. | 0.000 | | |
| 28 73HA0 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 62663. | 1186. | 46.00 | 433. | 0.365 | 0.0 | 88.0 | 0.0 | 0.0 | 20.0 | 260. | 2.30 |
| | 0. | 0. | 0.029 | 0.214 | 0.315 | 15.081 | 4.942 | 0.0 | 14285. | 3.146 | | |

ALPOS
MULTIPLE REGRESSION ANALYSIS DATA
(CONTINUED)

| | FIGSEN UP MTBF | FIGCOM VO MTBMA | BOMNAV MT MHTOT | BOMSEN CC MHUNS | BOMCOM CO MHSMO | CARNAV OI LSCTO | CARCOM EM LSCFO | PS NRTS | XT SRA | SS TRAIN | PD | UF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 29 73QB8 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 105551. | 659. | 20.88 | 682. | 0.914 | 0.0 | 0.0 | 78.0 | 0.0 | 100.0 | 120. | 2.38 |
| | 170. | 110. | 0.624 | 0.104 | 0.448 | 23.728 | 23.728 | 6.0 | 3992. | 1.553 | | |
| 30 73SC8 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 88884. | 1048. | 18.68 | 994. | 0.946 | 98.0 | 0.0 | 0.0 | 0.0 | 100.0 | 60. | 2.38 |
| | 263. | 179. | 0.212 | 0.125 | 0.084 | 0.000 | 0.000 | 18.0 | 9882. | 0.000 | | |
| 31 73X86 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 12764. | 2785. | 27.98 | 846. | 0.384 | 0.0 | 0.0 | 0.0 | 0.0 | 98.5 | 288. | 2.38 |
| | 0. | 0. | 1.922 | 0.745 | 1.177 | 28.731 | 28.731 | 0.3 | 1485. | 4.295 | | |
| 32 73XE8 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 38630. | 713. | 18.58 | 648. | 0.989 | 0.0 | 0.2 | 91.0 | 0.0 | 91.0 | 0. | 2.38 |
| | 626. | 451. | 0.643 | 0.164 | 0.472 | 0.393 | 0.393 | 0.0 | 0. | 1.085 | | |
| 33 73XF8 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 5380. | 626. | 27.68 | 272. | 0.329 | 0.0 | 2.0 | 0.0 | 0.0 | 95.0 | 920. | 2.38 |
| | 299. | 289. | 0.428 | 0.198 | 0.228 | 6.357 | 6.357 | 0.0 | 1256. | 1.587 | | |
| 34 73XK8 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 2587. | 622. | 16.48 | 3164. | 5.087 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 100. | 2.38 |
| | 140. | 117. | 1.394 | 0.382 | 1.008 | 24.228 | 22.108 | 7.0 | 926. | 6.261 | | |
| 35 75930 | 1. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 3815. | 94. | 4.88 | 188. | 1.149 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 7. | 2.38 |
| | 5853. | 1369. | 0.844 | 0.822 | 0.022 | 0.581 | 0.227 | 0.0 | 287. | 0.885 | | |
| 36 74B08 | 1. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 10128. | 1689. | 43.78 | 1126. | 0.788 | 0.0 | 39.0 | 0.0 | 0.0 | 81.0 | 212. | 2.38 |
| | 193. | 127. | 0.342 | 0.101 | 0.234 | 6.478 | 4.464 | 5.0 | 0. | 1.588 | | |
| 37 74BF8 | 1. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 15258. | 1377. | 78.58 | 399. | 0.298 | 0.0 | 0.0 | 0.0 | 100.0 | 98.0 | 988. | 2.38 |
| | 168. | 117. | 0.263 | 0.112 | 0.148 | 4.844 | 3.445 | 25.0 | 815. | 1.877 | | |
| 38 74B10 | 1. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 6267. | 577. | 11.88 | 35. | 0.061 | 0.0 | 100.0 | 0.0 | 0.0 | 0.0 | 430. | 2.38 |
| | 2130. | 1265. | 0.822 | 0.815 | 0.006 | 1.116 | 0.403 | 93.0 | 739. | 0.248 | | |
| 39 76A10 | 1. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 2652. | 568. | 15.88 | 911. | 1.627 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 335. | 2.38 |
| | 1513. | 382. | 0.863 | 0.832 | 0.030 | 1.948 | 1.852 | 0.0 | 326. | 0.557 | | |
| 40 76GA8 | 1. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 19274. | 551. | 25.88 | 1319. | 2.394 | 100.0 | 0.0 | 0.0 | 0.0 | 100.0 | 1300. | 0.38 |
| | 398. | 181. | 0.882 | 0.881 | 0.000 | 0.283 | 0.079 | 42.0 | 0. | 0.048 | | |
| 41 74FF8 | 1. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 220943. | 2279. | 41.88 | 7638. | 3.353 | 100.0 | 0.0 | 0.0 | 0.0 | 100.0 | 1300. | 2.38 |
| | 310. | 198. | 0.335 | 0.117 | 0.217 | 4.892 | 4.892 | 19.0 | 0. | 0.434 | | |
| 42 74P48 | 1. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 150000. | 5330. | 173.78 | 1558. | 0.292 | 0.0 | 0.0 | 0.0 | 100.0 | 99.0 | 270. | 2.38 |
| | 230. | 130. | 0.896 | 0.245 | 0.645 | 13.875 | 13.164 | 15.0 | 211. | 2.002 | | |

ALPOS
MULTIPLE REGRESSION ANALYSIS DATA
(CONTINUED)

| | FIGSEN UP MTBF | FIGCOM VO MTBMA | BOMNAV MT MHTOT | BOMSEN CC MHUMS | BOMCOM CD MHSMD | CARNAV DI LSCTO | CARCOM EM LSCFD | PS MRTS | XT SRA | SS TRAIN | PD | UF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 43 74FN8 | 1. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 42823. | 1866. | 35.00 | 932. | 0.499 | 0.0 | 0.0 | 100.0 | 0.0 | 100.0 | 1620. | 2.30 |
| | 359. | 177. | 0.412 | 0.133 | 0.275 | 7.185 | 6.589 | 14.0 | 1529. | 0.987 | | |
| 44 74FU8 | 1. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 142664. | 3659. | 110.00 | 10. | 0.005 | 0.0 | 100.0 | 0.0 | 0.0 | 0.0 | 400. | 2.30 |
| | 324. | 251. | 0.755 | 0.215 | 0.538 | 20.277 | 10.668 | 10.0 | 5398. | 2.218 | | |
| 45 73CR8 | 1. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 24642. | 387. | 0.00 | 529. | 1.723 | 0.0 | 2.0 | 0.0 | 0.0 | 98.6 | 300. | 0.83 |
| | 985. | 985. | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 10.0 | 0. | 0.000 | | |
| 46 73CG8 | 1. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 43912. | 993. | 12.00 | 53. | 0.059 | 0.0 | 100.0 | 0.0 | 0.0 | 0.0 | 60. | 0.83 |
| | 914. | 914. | 0.011 | 0.004 | 0.007 | 0.100 | 0.135 | 67.0 | 0. | 0.000 | | |
| 47 858H8 | 1. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 2876. | 768. | 16.00 | 1388. | 1.721 | 95.9 | 1.3 | 2.0 | 0.0 | 98.7 | 122. | 2.30 |
| | 1853. | 598. | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 25.0 | 234. | 0.337 | | |
| 48 74FC8 | 1. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 125493. | 1173. | 25.70 | 985. | 0.840 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 300. | 2.30 |
| | 322. | 237. | 0.772 | 0.163 | 0.688 | 16.100 | 13.477 | 20.0 | 2000. | 1.670 | | |
| 49 74FJ8 | 1. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 32877. | 1723. | 28.20 | 1075. | 0.624 | 0.0 | 0.7 | 0.0 | 0.0 | 91.3 | 123. | 2.30 |
| | 644. | 485. | 0.283 | 0.052 | 0.230 | 19.512 | 6.748 | 15.0 | 0. | 1.598 | | |
| 50 74FK8 | 1. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 4727. | 119. | 3.30 | 24. | 0.202 | 90.0 | 10.0 | 0.0 | 0.0 | 90.0 | 20. | 2.30 |
| | 3719. | 1419. | 0.822 | 0.011 | 0.810 | 0.347 | 0.315 | 17.0 | 195. | 0.847 | | |
| 51 74FQ8 | .. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 120885. | 1747. | 100.00 | 8299. | 4.750 | 95.9 | 0.0 | 0.0 | 0.0 | 100.0 | 637. | 2.30 |
| | 248. | 115. | 0.772 | 0.227 | 0.472 | 42.212 | 19.761 | 23.0 | 10000. | 2.949 | | |
| 52 74KA8 | 1. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 88037. | 2628. | 38.00 | 522. | 0.199 | 0.0 | 0.0 | 6.1 | 0.0 | 99.7 | 177. | 2.50 |
| | 414. | 193. | 0.568 | 0.138 | 0.521 | 9.023 | 8.886 | 24.0 | 0. | 1.331 | | |
| 53 74KC8 | 1. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 36999. | 892. | 16.00 | 1756. | 2.538 | 82.2 | 0.0 | 0.3 | 0.0 | 100.0 | 130. | 2.30 |
| | 781. | 444. | 0.219 | 0.053 | 0.166 | 5.778 | 2.267 | 24.0 | 3000. | 1.312 | | |
| 54 74CA8 | 1. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 19882. | 1468. | 38.00 | 2242. | 1.527 | 85.0 | 1.2 | 0.0 | 0.0 | 98.0 | 517. | 2.30 |
| | 1164. | 814. | 0.000 | 0.043 | 0.025 | 0.000 | 0.000 | 3.0 | 2837. | 0.000 | | |
| 55 74CB8 | 1. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 22778. | 1476. | 44.30 | 819. | 0.555 | 98.0 | 1.1 | 0.0 | 0.0 | 98.0 | 101. | 2.30 |
| | 1212. | 874. | 0.969 | 0.038 | 0.932 | 1.970 | 1.031 | 0.0 | 0. | 0.219 | | |
| 56 74CC8 | 1. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 17025. | 477. | 0.00 | 917. | 1.922 | 99.1 | 0.0 | 0.0 | 0.0 | 99.4 | 101. | 2.30 |
| | 1589. | 895. | 0.050 | 0.038 | 0.023 | 0.071 | 0.765 | 3.0 | 1755. | 0.102 | | |

ALPOS
MULTIPLE REGRESSION ANALYSIS DATA
(CONTINUED)

| | | FIGSEN UP MTBF | FIGCOM VO MTBMA | BOMNAV RT MMTOT | BOMSEN CC MMUNS | BOMCOM CO MMSMO | CARNAV DI L8CTO | CARCOM EM L8CFD | PS NRTS | XT SRA | SS TRAIN | PD | UF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 57 | 74FA1 | 1. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | | 22595. | 2701. | 54.00 | 4199. | 1.555 | 99.8 | 0.2 | 0.0 | 0.0 | 99.8 | 124. | 3.10 |
| | | 107. | 112. | 0.551 | 0.262 | 0.201 | 10.490 | 14.448 | 4.3 | 2471. | 0.007 | | |
| 58 | 74E80 | 1. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | | 37137. | 958. | 19.00 | 1779. | 1.073 | 81.5 | 0.7 | 6.0 | 0.0 | 99.3 | 135. | 2.30 |
| | | 674. | 363. | 0.228 | 0.050 | 0.107 | 4.798 | 3.552 | 14.0 | 1110. | 0.487 | | |
| 59 | 73PH0 | 1. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | | 31510. | 952. | 32.00 | 1051. | 1.114 | 0.0 | 0.0 | 100.0 | 0.0 | 100.0 | 465. | 1.20 |
| | | 312. | 175. | 0.222 | 0.071 | 0.150 | 4.274 | 4.274 | 0.0 | 1200. | 0.511 | | |
| 60 | 73P80 | 1. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | | 566500. | 1090. | 51.00 | 3245. | 1.710 | 90.0 | 0.0 | 0.0 | 0.0 | 100.0 | 500. | 1.20 |
| | | 52. | 30. | 0.747 | 0.170 | 0.500 | 11.951 | 9.747 | 4.0 | 1004. | 0.244 | | |
| 61 | 73PD0 | 1. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | | 139554. | 4072. | 145.00 | 726. | 0.170 | 0.0 | 0.0 | 0.0 | 100.0 | 100.0 | 3000. | 1.20 |
| | | 61. | 47. | 0.500 | 0.134 | 0.446 | 15.402 | 9.315 | 14.0 | 1200. | 1.050 | | |
| 62 | 73PF0 | 1. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | | 264550. | 2352. | 51.00 | 2452. | 1.043 | 00.2 | 0.0 | 0.0 | 0.0 | 100.0 | 275. | 1.20 |
| | | 200. | 109. | 0.107 | 0.030 | 0.070 | 1.590 | 1.590 | 3.0 | 0. | 0.303 | | |
| 63 | 73PH0 | 1. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | | 49033. | 1445. | 33.00 | 707. | 0.009 | 20.0 | 13.4 | 0.0 | 0.0 | 00.1 | 145. | 1.20 |
| | | 0. | 0. | 0.170 | 0.001 | 0.117 | 3.035 | 1.210 | 1.0 | 1271. | 1.401 | | |
| 64 | 71NA0 | 0. | 1. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | | 7191. | 1307. | 30.00 | 1074. | 1.225 | 0.0 | 0.0 | 0.0 | 25.0 | 97.0 | 250. | 2.30 |
| | | 122. | 70. | 0.750 | 0.231 | 0.522 | 12.515 | 10.000 | 4.0 | 092. | 3.345 | | |
| 65 | 710U0 | 0. | 1. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | | 7191. | 1307. | 30.00 | 1074. | 1.225 | 0.0 | 0.0 | 0.0 | 25.0 | 97.0 | 250. | 2.30 |
| | | 205. | 120. | 0.495 | 0.143 | 0.350 | 0.200 | 0.057 | 5.2 | 092. | 2.310 | | |
| 66 | 63AA0 | 0. | 1. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | | 12050. | 1120. | 29.00 | 790. | 0.705 | 0.0 | 0.0 | 0.0 | 25.0 | 97.0 | 150. | 2.30 |
| | | 255. | 154. | 0.472 | 0.110 | 0.353 | 7.007 | 0.975 | 10.0 | 001. | 1.400 | | |
| 67 | 65AA0 | 0. | 1. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | | 14271. | 377. | 14.00 | 002. | 2.005 | 0.0 | 0.0 | 0.0 | R5.0 | 100.0 | 04. | 2.30 |
| | | 400. | 317. | 0.337 | 0.002 | 0.275 | 0.243 | 4.220 | 10.0 | 0. | 0.772 | | |
| 68 | 63AG0 | 0. | 1. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | | 7570. | 420. | 10.30 | 505. | 1.307 | 50.1 | 2.7 | 0.0 | 0.0 | 07.3 | 32. | 2.30 |
| | | 020. | 552. | 0.110 | 0.031 | 0.007 | 2.500 | 1.107 | 21.0 | 401. | 0.407 | | |
| 69 | 630C0 | 0. | 1. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | | 1005. | 207. | 12.00 | 742. | 2.770 | 53.1 | 0.0 | 30.3 | 0.0 | 100.0 | 34. | 2.33 |
| | | 304. | 170. | 0.000 | 0.000 | 0.000 | 5.222 | 5.107 | 31.0 | 0. | 0.001 | | |
| 70 | 630F0 | 0. | 1. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | | 2057. | 70. | 2.00 | 100. | 2.030 | 00.7 | 0.0 | 11.3 | 0.0 | 100.0 | 3. | 2.30 |
| | | 0310. | 2050. | 0.010 | 0.004 | 0.015 | 0.222 | 0.222 | 0.0 | 201. | 0.031 | | |

ALPOS
MULTIPLE REGRESSION ANALYSIS DATA
(CONTINUED)

| | FIGSEN UP MTBF | FIGCOM VO MTBMA | BOMNAV MT MMTOT | BOMSEN CC MMUNS | BOMCOM CD MMSMO | CARNAV DI LSCTU | CARCOM EM LSCFO | PS NRTS | XT SRA | SS TRAIN | PD | UF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 71 71ABE | 0. | 0. | 1. | 0. | 0. | 0. | 0. | | | | | |
| | 1188. | 288. | 7.50 | 214. | 0.764 | 0.0 | 7.0 | 0.0 | 0.0 | 93.0 | 7. | 1.30 |
| | 1288. | 1000. | 0.810 | 0.806 | 0.812 | 0.285 | 0.285 | 0.0 | 159. | 0.851 | | |
| 72 71ADA | 0. | 0. | 1. | 0. | 0. | 0. | 0. | | | | | |
| | 2744. | 1732. | 60.00 | 924. | 0.533 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 17. | 1.30 |
| | 116. | 98. | 0.357 | 0.857 | 0.300 | 5.917 | 5.035 | 4.0 | 671. | 0.825 | | |
| 73 73CBA | 0. | 0. | 1. | 0. | 0. | 0. | 0. | | | | | |
| | 5928. | 6478. | 90.00 | 321. | 0.050 | 0.0 | 0.0 | 0.0 | 25.0 | 25.0 | 1640. | 1.30 |
| | 147. | 121. | 0.297 | 0.091 | 0.286 | 5.004 | 3.390 | 0.0 | 1819. | 0.781 | | |
| 74 71ACC | 0. | 0. | 1. | 0. | 0. | 0. | 0. | | | | | |
| | 155. | 66. | 2.60 | 78. | 0.907 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 17. | 1.30 |
| | 711. | 560. | 0.026 | 0.009 | 0.016 | 0.305 | 0.307 | 3.0 | 79. | 0.037 | | |
| 75 73CBQ | 0. | 0. | 1. | 0. | 0. | 0. | 0. | | | | | |
| | 156. | 30. | 1.20 | 36. | 1.267 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 34. | 1.30 |
| | 3704. | 3704. | 0.000 | 0.005 | 0.002 | 0.074 | 0.059 | 0.0 | 71. | 0.007 | | |
| 76 73CEN | 0. | 0. | 1. | 0. | 0. | 0. | 0. | | | | | |
| | 2702. | 256. | 10.50 | 28. | 0.070 | 0.0 | 100.0 | 0.0 | 0.0 | 0.0 | 100. | 1.30 |
| | 3013. | 1701. | 0.000 | 0.007 | 0.001 | 0.015 | 0.110 | 100.0 | 695. | 0.007 | | |
| 77 73CFK | 0. | 0. | 1. | 0. | 0. | 0. | 0. | | | | | |
| | 10720. | 0200. | 110.00 | 501. | 0.050 | 0.0 | 0.0 | 0.0 | 25.0 | 00.5 | 152. | 1.30 |
| | 00. | 45. | 0.771 | 0.331 | 0.440 | 15.025 | 11.011 | 3.0 | 5045. | 1.010 | | |
| 78 73DAM | 0. | 0. | 1. | 0. | 0. | 0. | 0. | | | | | |
| | 5720. | 3000. | 50.00 | 150. | 0.051 | 0.0 | 57.0 | 0.0 | 0.0 | 0.0 | 225. | 1.30 |
| | 301. | 233. | 0.130 | 0.046 | 0.053 | 2.209 | 1.045 | 10.0 | 241. | 0.307 | | |
| 79 73EBA | 0. | 0. | 1. | 0. | 0. | 0. | 0. | | | | | |
| | 1347. | 132. | 3.40 | 120. | 0.009 | 0.0 | 0.0 | 0.0 | 0.0 | 00.0 | 34. | 1.30 |
| | 1102. | 049. | 0.010 | 0.000 | 0.000 | 0.254 | 0.150 | 0.0 | 513. | 0.033 | | |
| 80 73EBF | 0. | 0. | 1. | 0. | 0. | 0. | 0. | | | | | |
| | 2500. | 404. | 11.50 | 177. | 0.301 | 0.0 | 0.0 | 0.0 | 0.0 | 37.0 | 130. | 1.30 |
| | 150. | 113. | 0.119 | 0.053 | 0.002 | 2.252 | 1.400 | 24.0 | 209. | 0.353 | | |
| 81 71CAB | 0. | 0. | 1. | 0. | 0. | 0. | 0. | | | | | |
| | 2079. | 275. | 7.30 | 200. | 1.055 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 0. | 1.30 |
| | 1723. | 1210. | 0.015 | 0.005 | 0.009 | 0.214 | 0.214 | 0.0 | 277. | 0.006 | | |
| 82 73EGB | 0. | 0. | 1. | 0. | 0. | 0. | 0. | | | | | |
| | 07249. | 1573. | 47.40 | 3322. | 2.112 | 03.0 | 0.0 | 0.0 | 0.0 | 100.0 | 225. | 1.30 |
| | 173. | 04. | 0.003 | 0.036 | 0.325 | 27.037 | 7.217 | 9.0 | 4043. | 3.035 | | |
| 83 73MCB | 0. | 0. | 1. | 0. | 0. | 0. | 0. | | | | | |
| | 121411. | 1027. | 20.00 | 3027. | 2.047 | 41.7 | 10.3 | 0.0 | 0.0 | 100.0 | 120. | 1.30 |
| | 59. | 32. | 0.545 | 0.295 | 0.247 | 24.277 | 7.020 | 0.0 | 3503. | 1.371 | | |
| 84 73LAB | 0. | 0. | 1. | 0. | 0. | 0. | 0. | | | | | |
| | 31054. | 1272. | 30.00 | 2002. | 2.344 | 0.0 | 0.0 | 0.0 | 0.0 | 00.1 | 200. | 1.30 |
| | 73. | 44. | 0.000 | 0.240 | 0.730 | 23.000 | 17.572 | 0.0 | 2110. | 1.415 | | |

ALPOS
MULTIPLE REGRESSION ANALYSIS DATA
(CONTINUED)

| | FIGSEN UP MTBF | FIGCOM VO MTBMA | BOMNAV MT MHTOT | BOMSEN CC MHUNS | BOMCOM CO MHSHO | CARNAV DI LSCTO | CARCOM EM LSCFO | PS MRTB | XT SRA | SS TRAIN | PD | UF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 85 77EC0 | 0. | 0. | 0. | 1. | 0. | 0. | 0. | | | | | |
| | 9701. | 1760. | 49.00 | 946. | 0.536 | 11.0 | 5.9 | 0.0 | 0.0 | 94.7 | 350. | 1.30 |
| | 445. | 340. | 0.070 | 0.032 | 0.046 | 2.200 | 1.173 | 9.0 | 3003. | 0.205 | | |
| 86 77EE0 | 0. | 0. | 0. | 1. | 0. | 0. | 0. | | | | | |
| | 835. | 222. | 0.50 | 9. | 0.04. | 0.0 | 100.0 | 0.0 | 0.0 | 0.0 | 100. | 1.30 |
| | 7004. | 7530. | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.0 | 0. | 0.000 | | |
| 87 770CA | 0. | 0. | 0. | 1. | 0. | 0. | 0. | | | | | |
| | 31000. | 1223. | 26.40 | 1457. | 1.191 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 145. | 1.30 |
| | 959. | 837. | 0.000 | 0.000 | 0.000 | 0.010 | 0.201 | 17.0 | 2622. | 0.159 | | |
| 88 770B0 | 0. | 0. | 0. | 1. | 0. | 0. | 0. | | | | | |
| | 835. | 222. | 0.50 | 9. | 0.041 | 0.0 | 100.0 | 0.0 | 0.0 | 0.0 | 100. | 1.30 |
| | 8869. | 8978. | 0.002 | 0.002 | 0.000 | 0.024 | 0.024 | 75.0 | 0. | 0.004 | | |
| 89 76AEA | 0. | 0. | 0. | 1. | 0. | 0. | 0. | | | | | |
| | 42000. | 2666. | 92.00 | 2375. | 0.891 | 0.0 | 0.0 | 0.0 | 100.0 | 90.9 | 1300. | 0.30 |
| | 130. | 69. | 0.026 | 0.000 | 0.010 | 1.239 | 0.246 | 33.0 | 3921. | 0.277 | | |
| 90 73KA0 | 0. | 0. | 0. | 1. | 0. | 0. | 0. | | | | | |
| | 16201. | 922. | 19.00 | 3241. | 3.211 | 0.0 | 1.2 | 0.0 | 0.0 | 90.6 | 200. | 1.30 |
| | 165. | 113. | 0.071 | 0.335 | 0.036 | 15.779 | 13.742 | 0.0 | 982. | 1.303 | | |
| 91 630AA | 0. | 0. | 0. | 0. | 1. | 0. | 0. | | | | | |
| | 3840. | 1660. | 49.00 | 1153. | 0.606 | 0.0 | 0.0 | 0.0 | 25.0 | 23.0 | 500. | 1.30 |
| | 79. | 61. | 0.353 | 0.071 | 0.202 | 5.779 | 4.036 | 2.0 | 846. | 0.721 | | |
| 92 63CAA | 0. | 0. | 0. | 0. | 1. | 0. | 0. | | | | | |
| | 3840. | 1660. | 49.00 | 1153. | 0.606 | 0.0 | 0.0 | 0.0 | 25.0 | 23.0 | 500. | 1.30 |
| | 99. | 78. | 0.284 | 0.053 | 0.232 | 6.675 | 3.034 | 2.0 | 846. | 0.610 | | |
| 93 650AA | 0. | 0. | 0. | 0. | 1. | 0. | 0. | | | | | |
| | 3914. | 1844. | 29.00 | 1236. | 0.670 | 0.0 | 1.0 | 0.0 | 15.0 | 97.5 | 90. | 1.30 |
| | 305. | 250. | 0.000 | 0.021 | 0.007 | 0.020 | 0.020 | 5.7 | 024. | 0.105 | | |
| 94 615BA | 0. | 0. | 0. | 0. | 1. | 0. | 0. | | | | | |
| | 9004. | 1009. | 49.00 | 1370. | 0.737 | 0.0 | 0.0 | 0.0 | 0.0 | 70.0 | 300. | 1.30 |
| | 203. | 173. | 0.120 | 0.039 | 0.004 | 0.000 | 0.000 | 5.4 | 610. | 0.205 | | |
| 95 61AA0 | 0. | 0. | 0. | 0. | 1. | 0. | 0. | | | | | |
| | 30591. | 370. | 13.12 | 195. | 0.516 | 0.0 | 0.0 | 0.0 | 25.0 | 100.0 | 150. | 1.30 |
| | 439. | 210. | 0.150 | 0.040 | 0.110 | 4.934 | 1.293 | 17.0 | 4405. | 0.700 | | |
| 96 61A90 | 0. | 0. | 0. | 0. | 1. | 0. | 0. | | | | | |
| | 14020. | 599. | 23.13 | 432. | 0.722 | 0.0 | 32.0 | 24.2 | 0.0 | 100.0 | 150. | 1.30 |
| | 430. | 204. | 0.101 | 0.051 | 0.141 | 4.031 | 1.042 | 17.0 | 0. | 0.010 | | |
| 97 61AC0 | 0. | 0. | 0. | 0. | 1. | 0. | 0. | | | | | |
| | 12303. | 135. | 4.17 | 471. | 3.400 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 70. | 1.30 |
| | 299. | 204. | 0.112 | 0.037 | 0.074 | 2.310 | 1.001 | 4.0 | 000. | 0.159 | | |
| 98 72AA0 | 0. | 0. | 0. | 0. | 1. | 0. | 0. | | | | | |
| | 550. | 30. | 1.00 | 30. | 1.050 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 0. | 1.30 |
| | 0009. | 3444. | 0.005 | 0.001 | 0.004 | 0.074 | 0.074 | 0.0 | 0. | 0.015 | | |

ALPOS
MULTIPLE REGRESSION ANALYSIS DATA
(CONTINUED)

| | FIGSEN UP MTBF | FIGCOM VQ MTBMA | BOMNAV MT MMTOT | BOMSEN CC MMUNS | BOMCOM CO MMSMO | CARNAV DI LSCTO | CARCOM EM LSCFO | PS NRTS | XT SRA | SS TRAIN | PD | UF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 99 72ACB | 0. | 0. | 0. | 0. | 1. | 0. | 0. | | | | | |
| | 12302. | 88. | 4.00 | 62. | 0.912 | 0.0 | 0.0 | 0.0 | 25.0 | 96.2 | 10. | 1.30 |
| | 1292. | 696. | 0.460 | 0.017 | 0.043 | 0.051 | 0.051 | 0.6 | 661. | 0.037 | | |
| 100 71CAB | 0. | 0. | 0. | 0. | 0. | 1. | 0. | | | | | |
| | 3263. | 1734. | 60.00 | 924. | 0.533 | 0.0 | 0.0 | 0.0 | 25.0 | 0.0 | 500. | 1.20 |
| | 84. | 78. | 0.322 | 0.069 | 0.252 | 0.135 | 4.533 | 4.0 | 858. | 0.004 | | |
| 101 72EAA | 0. | 0. | 0. | 0. | 0. | 1. | 0. | | | | | |
| | 3700. | 6478. | 87.50 | 321. | 0.050 | 0.0 | 0.0 | 0.0 | 25.0 | 25.0 | 1040. | 1.20 |
| | 166. | 133. | 0.241 | 0.003 | 0.176 | 4.402 | 3.964 | 16.0 | 993. | 0.750 | | |
| 102 72ECA | 0. | 0. | 0. | 0. | 0. | 1. | 0. | | | | | |
| | 2851. | 4243. | 63.36 | 4363. | 1.020 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 180. | 1.20 |
| | 363. | 338. | 0.000 | 0.000 | 0.000 | 0.783 | 0.641 | 0.0 | 478. | 0.122 | | |
| 103 72BPD | 0. | 0. | 0. | 0. | 0. | 1. | 0. | | | | | |
| | 253300. | 2479. | 75.00 | 4585. | 1.020 | 30.0 | 1.0 | 0.0 | 0.0 | 90.0 | 787. | 1.20 |
| | 144. | 72. | 0.207 | 0.102 | 0.194 | 30.349 | 3.167 | 0.0 | 10767. | 5.761 | | |
| 104 71JAB | 0. | 0. | 0. | 0. | 0. | 1. | 0. | | | | | |
| | 6247. | 479. | 12.00 | 1013. | 2.115 | 0.0 | 1.0 | 0.0 | 0.0 | 99.0 | 178. | 1.20 |
| | 314. | 269. | 0.260 | 0.051 | 0.200 | 1.592 | 2.478 | 2.0 | 267. | 0.602 | | |
| 105 71LAB | 0. | 0. | 0. | 0. | 0. | 1. | 0. | | | | | |
| | 34862. | 1260. | 32.00 | 2743. | 2.177 | 55.0 | 0.0 | 0.0 | 12.0 | 99.5 | 265. | 1.20 |
| | 186. | 181. | 0.302 | 0.105 | 0.195 | 0.995 | 5.002 | 17.0 | 1038. | 1.403 | | |
| 106 72DNB | 0. | 0. | 0. | 0. | 0. | 1. | 0. | | | | | |
| | 100450. | 1511. | 39.00 | 1844. | 3.691 | 87.0 | 1.0 | 0.0 | 0.0 | 98.7 | 650. | 1.20 |
| | 373. | 127. | 0.194 | 0.110 | 0.292 | 11.311 | 11.311 | 0.0 | 13502. | 0.329 | | |
| 107 72ACB | 0. | 0. | 0. | 0. | 0. | 1. | 0. | | | | | |
| | 10793. | 432. | 31.00 | 592. | 1.370 | 0.0 | 1.0 | 0.0 | 0.0 | 99.0 | 851. | 1.20 |
| | 557. | 284. | 0.053 | 0.020 | 0.032 | 1.170 | 0.710 | 39.0 | 2865. | 0.110 | | |
| 108 71716 | 0. | 0. | 0. | 0. | 0. | 1. | 0. | | | | | |
| | 1265. | 294. | 7.50 | 214. | 0.720 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 20. | 1.20 |
| | 1723. | 1367. | 0.010 | 0.020 | 0.000 | 0.215 | 0.194 | 4.0 | 252. | 0.002 | | |
| 109 71310 | 0. | 0. | 0. | 0. | 0. | 1. | 0. | | | | | |
| | 2745. | 1734. | 60.00 | 924. | 0.533 | 0.0 | 0.0 | 0.0 | 25.0 | 0.0 | 500. | 1.20 |
| | 122. | 104. | 0.247 | 0.065 | 0.179 | 3.630 | 3.260 | 5.0 | 604. | 0.000 | | |
| 110 72RPB | 0. | 0. | 0. | 0. | 0. | 1. | 0. | | | | | |
| | 1602. | 399. | 14.00 | 320. | 0.022 | 0.0 | 0.0 | 100.0 | 0.0 | 30.0 | 600. | 1.20 |
| | 395. | 272. | 0.735 | 0.015 | 0.019 | 0.543 | 0.501 | 4.0 | 402. | 0.046 | | |
| 111 72R00 | 0. | 0. | 0. | 0. | 0. | 1. | 0. | | | | | |
| | 2165. | 300. | 0.00 | 55. | 0.239 | 0.0 | 67.0 | 0.0 | 0.0 | 0.0 | 660. | 1.20 |
| | 2573. | 1406. | 0.007 | 0.003 | 0.004 | 0.110 | 0.095 | 0.0 | 161. | 0.013 | | |
| 112 71JCE | 0. | 0. | 0. | 0. | 0. | 1. | 0. | | | | | |
| | 7025. | 91. | 2.10 | 26. | 0.286 | 0.0 | 50.0 | 0.0 | 0.0 | 50.0 | 7. | 1.20 |
| | 7824. | 1153. | 0.030 | 0.014 | 0.016 | 0.423 | 0.423 | 0.0 | 366. | 0.006 | | |

ALPOS
MULTIPLE REGRESSION ANALYSIS DATA
(CONTINUED)

| | FIGSEN UP MTBF | FIGCOM VO MTBMA | BOMNAV MT MHTOT | BOMSEN CC MHUAS | BOMCOM CD MHBMO | CARNAV DI LSCTO | CARCOM EM LSCFD | PS NRTS | XT SRA | SS TRAIN | FD | UF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 113 72AE0 | 0. | 0. | 0. | 0. | 0. | 1. | 0. | | | | | |
| | 88945. | 2267. | 58.00 | 4275. | 1,000 | 100.0 | 0.0 | 0.0 | 0.0 | 100.0 | 333. | 1.20 |
| | 0. | 0. | 0.145 | 0.093 | 0.050 | 3.371 | 1.720 | 15.0 | 3446. | 0.712 | | |
| 114 72CC0 | 0. | 0. | 0. | 0. | 0. | 1. | 0. | | | | | |
| | 27391. | 1097. | 26.00 | 1269. | 1.175 | 70.0 | 0.0 | 0.0 | 0.0 | 100.0 | 85. | 1.20 |
| | 397. | 272. | 0.032 | 0.018 | 0.014 | 1.301 | 0.629 | 27.0 | 3481. | 0.186 | | |
| 115 71IA0 | 0. | 0. | 0. | 0. | 0. | 1. | 0. | | | | | |
| | 8027. | 748. | 20.50 | 2060. | 2,754 | 75.0 | 0.0 | 0.0 | 25.0 | 99.0 | 100. | 1.20 |
| | 1092. | 1065. | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.0 | 650. | 0.022 | | |
| 116 71I80 | 0. | 0. | 0. | 0. | 0. | 1. | 0. | | | | | |
| | 1530. | 154. | 5.00 | 669. | 4,344 | 50.0 | 0.0 | 0.0 | 0.0 | 100.0 | 25. | 1.20 |
| | 2575. | 1766. | 0.004 | 0.002 | 0.002 | 0.053 | 0.040 | 0.0 | 650. | 0.003 | | |
| 117 71I00 | 0. | 0. | 0. | 0. | 0. | 1. | 0. | | | | | |
| | 516. | 94. | 2.00 | 94. | 1.000 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 10. | 1.20 |
| | 7729. | 4637. | 0.002 | 0.000 | 0.001 | 0.016 | 0.016 | 0.0 | 50. | 0.001 | | |
| 118 656AA | 0. | 0. | 0. | 0. | 0. | 0. | 1. | | | | | |
| | 3914. | 1044. | 29.00 | 1236. | 0.670 | 0.0 | 1.0 | 0.0 | 15.0 | 97.5 | 90. | 1.20 |
| | 254. | 199. | 0.070 | 0.021 | 0.050 | 1.100 | 1.037 | 3.0 | 624. | 0.207 | | |
| 119 63AF0 | 0. | 0. | 0. | 0. | 0. | 0. | 1. | | | | | |
| | 4833. | 1080. | 31.00 | 1186. | 0.700 | 0.0 | 0.0 | 0.0 | 25.0 | 23.0 | 502. | 1.20 |
| | 74. | 55. | 1.102 | 0.257 | 0.004 | 4.057 | 3.196 | 2.0 | 697. | 2.770 | | |
| 120 63AA0 | 0. | 0. | 0. | 0. | 0. | 0. | 1. | | | | | |
| | 10712. | 1120. | 41.00 | 790. | 0.705 | 0.0 | 0.0 | 0.0 | 25.0 | 97.0 | 150. | 1.20 |
| | 100. | 139. | 0.255 | 0.007 | 0.103 | 3.770 | 3.653 | 1.0 | 580. | 0.493 | | |
| 121 63121 | 0. | 0. | 0. | 0. | 0. | 0. | 1. | | | | | |
| | 3040. | 1000. | 49.00 | 1153. | 0.000 | 0.0 | 0.0 | 0.0 | 25.0 | 23.0 | 500. | 1.20 |
| | 120. | 110. | 0.174 | 0.041 | 0.131 | 2.320 | 1.051 | 0.1 | 1002. | 0.333 | | |
| 122 63AAA | 0. | 0. | 0. | 0. | 0. | 0. | 1. | | | | | |
| | 6345. | 242. | 9.00 | 1015. | 0.074 | 44.0 | 0.0 | 0.0 | 19.0 | 100.0 | 35. | 1.20 |
| | 490. | 293. | 0.034 | 0.023 | 0.010 | 0.579 | 0.532 | 30.0 | 585. | 0.005 | | |
| 123 554L0 | 0. | 0. | 0. | 0. | 0. | 0. | 1. | | | | | |
| | 30040. | 1002. | 40.00 | 301. | 0.227 | 00.7 | 0.0 | 10.4 | 0.0 | 100.0 | 200. | 1.20 |
| | 253. | 100. | 0.050 | 0.020 | 0.020 | 2.530 | 0.033 | 20.0 | 1700. | 0.243 | | |
| 124 55AV0 | 0. | 0. | 0. | 0. | 1. | 0. | 1. | | | | | |
| | 103720. | 1540. | 30.00 | 725. | 0.460 | 75.4 | 0.0 | 24.5 | 0.0 | 100.0 | 300. | 1.20 |
| | 113. | 00. | 0.200 | 0.045 | 0.021 | 1.520 | 0.701 | 13.0 | 1700. | 0.271 | | |
| 125 61AA0 | 0. | 0. | 0. | 0. | 0. | 0. | 1. | | | | | |
| | 24205. | 309. | 13.20 | 195. | 0.501 | 0.0 | 0.0 | 0.0 | 25.0 | 100.0 | 100. | 1.20 |
| | 300. | 247. | 0.203 | 0.091 | 0.170 | 4.302 | 4.302 | 2.0 | 3030. | 0.002 | | |
| 126 61AE0 | 0. | 0. | 0. | 0. | 0. | 0. | 1. | | | | | |
| | 0050. | 135. | 4.30 | 471. | 3,400 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 70. | 1.20 |
| | 400. | 320. | 0.151 | 0.001 | 0.000 | 2.403 | 2.002 | 5.0 | 551. | 0.301 | | |

ALPOS
MULTIPLE REGRESSION ANALYSIS DATA
(CONTINUED)

| | FIGSEN UP MTBF | FIGCOM VO MTBMA | BOMNAV MT MMTOT | BOMSEN CC MMUNS | BOMCOM CO MMSMO | CARNAV DI LSCTO | CARCOM EM LSCFO | PS NRTS | XT BRA | SS TRAIN | PD | UF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 127 62AA0 | 0. | 0. | 0. | 0. | 0. | 0. | 1. | | | | | |
| | 3175. | 504. | 15.98 | 1116. | 1.979 | 0.0 | 0.0 | 0.0 | 25.0 | 100.0 | 263. | 1.28 |
| | 763. | 788. | 0.181 | 0.029 | 0.072 | 1.534 | 1.486 | 6.0 | 297. | 0.289 | | |
| 128 64211 | 0. | 0. | 0. | 0. | 0. | 0. | 1. | | | | | |
| | 833. | 146. | 4.88 | 37. | 0.253 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 7. | 1.28 |
| | 1646. | 971. | 0.886 | 0.003 | 0.002 | 0.000 | 0.877 | 0.0 | 120. | 0.000 | | |

# APPENDIX B

# RESULTS OF THE

# REGRESSION ANALYSIS

LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

O&M MODEL RUN1 DEP VAR IS LNTBF MIN Y = 3.9440 00 MAX Y = 8.9850 00 RANGE Y = 5.0520 00

MULTIPLE REGRESSION ANALYSIS FOR THE "ALPOS" MODEL
LNTBF = B(0) + B(1)FIGCOM + B(2)BOMNAV + B(3)BOMCOM + B(4)CARNAV
+ B(5)CARCOM + B(6)UP + B(7)CD + B(8)DI + B(9)EM
+ B(10)MVD + B(11)MMT + B(12)M55 + B(13)MUF + B(14)DVD
+ B(15)DMT + B(16)DP5 + B(17)DXT + B(18)D55 + B(19)DPD
+ B(20)DUF + B(21)LUP + B(22)LVD + B(23)LPD
LNTBF = LN(MTBF)
MTBF = MEAN OPERATING TIME BETWEEN FAILURE

| IND.VAR(I) | NAME | COEF. B(I) | S.E. COEF. | T-VALUE | M(I)SQRD | MIN X(I) | MAX X(I) | RANGE X(I) | REL.IMP.X(I) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | 1.579730 01 | | | | | | | |
| 1 | FIGCOM | -7.766480-01 | 2.220-01 | 3.5 | 0.3816 | 0.0 | 1.0000 00 | 1.0000 00 | 0.15 |
| 2 | BOMNAV | -1.173180 00 | 1.990-01 | 5.9 | 0.5346 | 0.0 | 1.0000 00 | 1.0000 00 | 0.23 |
| 3 | BOMCOM | -1.287620 00 | 2.430-01 | 5.3 | 0.5397 | 0.0 | 1.0000 00 | 1.0000 00 | 0.24 |
| 4 | CARNAV | -5.961980-01 | 1.850-01 | 3.1 | 0.5474 | 0.0 | 1.0000 00 | 1.0000 00 | 0.11 |
| 5 | CARCOM | -1.195520 00 | 2.310-01 | 5.2 | 0.5778 | 0.0 | 1.0000 00 | 1.0000 00 | 0.24 |
| 6 | UP | -3.974440-05 | 9.430-07 | 3.9 | 0.6484 | 1.5380 02 | 5.6650 05 | 5.6630 05 | 0.41 |
| 7 | CD | -2.226490-01 | 4.350-02 | 5.1 | 0.3575 | 4.9230-03 | 6.6740 00 | 6.6690 00 | 0.29 |
| 8 | DI | 1.218480-02 | 1.520-03 | 8.7 | 0.4211 | 0.0 | 1.0000 02 | 1.0000 02 | 0.29 |
| 9 | EM | 1.834550-02 | 2.830-03 | 6.5 | 0.5945 | 0.0 | 1.0000 02 | 1.0000 02 | 0.36 |
| 10 | MVD | 5.995930-04 | 9.970-05 | 6.0 | 0.9131 | -1.2510 03 | 8.9190 03 | 9.1700 03 | 0.97 |
| 11 | MMT | -1.855270-02 | 3.540-03 | 5.2 | 0.8468 | -3.0280 01 | 1.4250 02 | 1.7270 02 | 0.36 |
| 12 | M55 | 1.327830-02 | 2.360-03 | 5.6 | 0.7341 | -7.9980 01 | 2.1980 01 | 1.0960 02 | 0.26 |
| 13 | MUF | -3.654190-01 | 1.230-01 | 2.9 | 0.0363 | -1.4300 00 | 1.3720 00 | 2.8020 00 | 0.17 |
| 14 | DVD | -1.959470-07 | 2.710-08 | 3.9 | 0.8324 | 2.3940 03 | 2.4740 07 | 2.4740 07 | 0.52 |
| 15 | DMT | 1.279350-04 | 4.770-05 | 2.7 | 0.7221 | 3.6860 00 | 1.1750 04 | 1.1750 04 | 0.38 |
| 16 | DP5 | 2.219590-04 | 1.260-04 | 1.8 | 0.3839 | 3.8690 01 | 2.9680 03 | 2.9290 03 | 0.13 |
| 17 | DXT | -1.484820-04 | 9.780-05 | 1.5 | 0.5504 | 2.9890 02 | 3.3370 03 | 3.0410 03 | 0.09 |
| 18 | D55 | 2.253580-04 | 7.640-05 | 3.0 | 0.2548 | 1.3400 01 | 2.0790 03 | 2.0660 03 | 0.13 |
| 19 | DPD | -4.125220-07 | 1.280-07 | 3.2 | 0.3539 | 6.2580 02 | 4.1810 06 | 4.1800 06 | 0.33 |
| 20 | DUF | -6.866550-01 | 1.520-01 | 5.5 | 0.2717 | 1.7640-01 | 2.0160 00 | 1.8440 00 | 0.32 |
| 21 | LUP | -2.417730-01 | 5.680-02 | 4.3 | 0.7865 | 5.8300 00 | 1.3250 01 | 8.2170 00 | 0.39 |
| 22 | LVD | -9.249340-01 | 1.430-01 | 6.5 | 0.9338 | 3.4810 00 | 9.8120 00 | 5.8310 00 | 1.93 |
| 23 | LPD | -1.817410-01 | 5.180-02 | 3.0 | 0.6574 | 1.0990 00 | 8.0660 00 | 6.9680 00 | 0.14 |

| | |
|---|---|
| NO. OF OBSERVATIONS | 128 |
| NO. OF IND. VARIABLES | 23 |
| RESIDUAL DEGREES OF FREEDOM | 96 |
| F-VALUE | 32.1 |
| RESIDUAL ROOT MEAN SQUARE | 0.47536875 |
| RESIDUAL MEAN SQUARE | 0.22616373 |
| RESIDUAL SUM OF SQUARES | 21.71171889 |
| TOTAL SUM OF SQUARES | 188.93988938 |
| MULT. CORREL. COEF. SQUARED | .8851 |

REQUIRED X(I) PRECISION
(DIGIT RIGHT OF DECIMAL POSITIVE,
LEFT OF DECIMAL NEGATIVE)

| IND.VAR(I) | DIGIT |
|---|---|
| 1 | -1 |
| 2 | -1 |
| 3 | -1 |
| 4 | -1 |
| 5 | -1 |
| 6 | -6 |
| 7 | 1 |
| 8 | -2 |
| 9 | -2 |
| 10 | -3 |
| 11 | -2 |
| 12 | -2 |
| 13 | 1 |
| 14 | -7 |
| 15 | -4 |
| 16 | -3 |
| 17 | -4 |
| 18 | -4 |
| 19 | -8 |
| 20 | 1 |
| 21 | 1 |
| 22 | 1 |
| 23 | 1 |

LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

D&M MODEL RUN1 DEP VAR IS LMTBF RESIDUAL ROOT MEAN SQUARE OF FITTED EQUATION: 0.48

STANDARD DEVIATION ESTIMATED FROM RESIDUALS OF NEIGHBORING OBSERVATIONS (OBSERVATIONS 1 TO 4 APART IN FITTED Y ORDER).

| NO. | CUMULATIVE STD DEV | ORDERED BY WSSD | | | DEL RESIDUALS | ORDERED BY FITTED Y | | | | | SEQ. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | WSSD | OBSV. | OBSV. | | WSSD | DEL RESIDUALS | FITTED Y | OBSV. | | |
| 1 | 0.00 | 0.0 | 88 | 86 | 0.00 | 44.15 | 0.35 | 4.85 | 81 | | 1 |
| 2 | 0.29 | 0.0 | 85 | 84 | 0.52 | 10.43 | 0.67 | 4.22 | 68 | | 2 |
| 3 | 0.25 | 0.0 | 92 | 91 | 0.21 | 92.27 | 0.56 | 4.23 | 26 | | 3 |
| 4 | 0.31 | 0.00 | 119 | 121 | 0.48 | 103.95 | 0.78 | 4.26 | 77 | | 4 |
| 5 | 0.31 | 0.01 | 108 | 109 | 0.33 | 16.95 | 0.13 | 4.38 | 103 | | 5 |
| 6 | 0.48 | 0.14 | 35 | 16 | 0.87 | 27.88 | 0.61 | 4.39 | 89 | | 6 |
| 7 | 0.35 | 0.20 | 13 | 14 | 0.04 | 0.00 | 0.48 | 4.44 | 119 | | 7 |
| 8 | 0.34 | 0.31 | 15 | 14 | 0.24 | 14.91 | 0.12 | 4.48 | 121 | | 8 |
| 9 | 0.34 | 0.32 | 81 | 71 | 0.38 | 15.00 | 0.19 | 4.52 | 72 | | 9 |
| 10 | 0.34 | 0.38 | 13 | 15 | 0.28 | 0.0 | 0.21 | 4.52 | 92 | | 10 |
| 11 | 0.37 | 0.52 | 86 | 84 | 0.76 | 20.17 | 0.29 | 4.52 | 91 | | 11 |
| 12 | 0.36 | 0.52 | 86 | 85 | 0.24 | 15.71 | 0.97 | 4.65 | 84 | | 12 |
| 13 | 0.34 | 0.78 | 16 | 6 | 0.07 | 20.27 | 0.97 | 4.70 | 94 | | 13 |
| 14 | 0.37 | 0.78 | 35 | 6 | 0.00 | 75.72 | 0.60 | 4.75 | 25 | | 14 |
| 15 | 0.35 | 0.72 | 58 | 53 | 0.02 | 75.50 | 0.00 | 4.75 | 73 | | 15 |
| 16 | 0.38 | 0.73 | 56 | 30 | 0.04 | 7.56 | 0.51 | 4.79 | 83 | | 16 |
| 17 | 0.43 | 0.86 | 87 | 59 | 1.18 | 10.23 | 0.00 | 4.80 | 27 | | 17 |
| 18 | 0.41 | 0.91 | 7 | 35 | 0.00 | 14.59 | 0.25 | 4.94 | 124 | | 18 |
| 19 | 0.39 | 1.01 | 21 | 13 | 0.23 | 15.83 | 0.15 | 5.10 | 29 | | 19 |
| 20 | 0.37 | 1.04 | 12 | 32 | 0.09 | 22.06 | 0.13 | 5.12 | 88 | | 20 |
| 21 | 0.40 | 1.49 | 7 | 10 | 0.07 | 22.17 | 0.32 | 5.13 | 82 | | 21 |
| 22 | 0.39 | 1.79 | 21 | 15 | 0.31 | 33.16 | 1.11 | 5.17 | 51 | | 22 |
| 23 | 0.39 | 1.88 | 17 | 41 | 0.10 | 15.89 | 0.00 | 5.20 | 100 | | 23 |
| 24 | 0.38 | 1.93 | 110 | 22 | 0.38 | 6.53 | 0.17 | 5.21 | 8 | | 24 |
| 25 | 0.37 | 1.94 | 50 | 33 | 0.10 | 8.47 | 0.15 | 5.22 | 2 | | 25 |
| 26 | 0.39 | 1.97 | 53 | 30 | 0.03 | 15.84 | 0.07 | 5.24 | 48 | | 26 |
| 27 | 0.41 | 2.19 | 117 | 6 | 0.76 | 17.78 | 0.34 | 5.24 | 109 | | 27 |
| 28 | 0.41 | 2.22 | 92 | 94 | 0.57 | 10.38 | 0.33 | 5.29 | 120 | | 28 |
| 29 | 0.43 | 2.22 | 91 | 94 | 0.78 | 14.60 | 0.43 | 5.30 | 17 | | 29 |
| 30 | 0.42 | 2.22 | 92 | 43 | 0.14 | 14.25 | 0.61 | 5.31 | 57 | | 30 |
| 31 | 0.43 | 2.23 | 125 | 127 | 0.89 | 14.54 | 0.67 | 5.32 | 41 | | 31 |
| 32 | 0.43 | 2.39 | 114 | 58 | 0.52 | 61.81 | 0.88 | 5.38 | 37 | | 32 |
| 33 | 0.43 | 2.54 | 71 | 79 | 0.22 | 64.83 | 0.39 | 5.44 | 101 | | 33 |
| 34 | 0.43 | 2.54 | 56 | 47 | 0.52 | 14.20 | 0.00 | 5.47 | 123 | | 34 |
| 35 | 0.45 | 2.63 | 30 | 54 | 1.23 | 0.52 | 0.24 | 5.48 | 66 | | 35 |
| 36 | 0.44 | 2.75 | 35 | 117 | 0.04 | 0.0 | 0.52 | 5.49 | 65 | | 36 |
| 37 | 0.44 | 2.78 | 114 | 30 | 0.43 | 10.10 | 1.17 | 5.49 | 64 | | 37 |
| 38 | 0.45 | 2.81 | 16 | 117 | 0.83 | 64.43 | 0.20 | 5.65 | 67 | | 38 |
| 39 | 0.46 | 2.83 | 69 | 66 | 1.03 | 57.32 | 0.31 | 5.68 | 102 | | 39 |
| 40 | 0.46 | 2.87 | 84 | 83 | 0.35 | 84.36 | 0.68 | 5.69 | 96 | | 40 |
| 41 | 0.46 | 2.87 | 27 | 29 | 0.25 | 118.70 | 0.73 | 5.74 | 42 | | 41 |
| 42 | 0.47 | 2.99 | 53 | 115 | 0.82 | 53.64 | 0.62 | 5.76 | 122 | | 42 |
| 43 | 0.48 | 3.04 | 108 | 11 | 0.06 | 10.80 | 0.37 | 5.78 | 62 | | 43 |
| 44 | 0.47 | 3.08 | 1 | 104 | 0.23 | 11.66 | 0.24 | 5.82 | 36 | | 44 |
| 45 | 0.46 | 3.10 | 7 | 117 | 0.04 | 19.56 | 0.61 | 5.85 | 118 | | 45 |
| 46 | 0.45 | 3.41 | 25 | 27 | 0.15 | 14.56 | 1.13 | 5.87 | 34 | | 46 |
| 47 | 0.45 | 3.50 | 5 | 49 | 0.06 | 9.28 | 0.23 | 5.88 | 95 | | 47 |
| 48 | 0.45 | 3.80 | 114 | 53 | 0.50 | 22.31 | 0.60 | 5.89 | 107 | | 48 |
| 49 | 0.46 | 3.84 | 54 | 55 | 0.07 | 29.24 | 0.16 | 5.89 | 93 | | 49 |
| 50 | 0.45 | 3.94 | 49 | 12 | 0.00 | 47.01 | 0.79 | 5.90 | 78 | | 50 |
| 51 | 0.45 | 4.12 | 39 | 21 | 0.53 | 19.11 | 0.48 | 5.90 | 90 | | 51 |
| 52 | 0.45 | 4.29 | 54 | 21 | 0.38 | 24.00 | 0.20 | 5.90 | 40 | | 52 |
| 53 | 0.44 | 4.35 | 59 | 114 | 0.16 | 18.55 | 0.70 | 5.91 | 125 | | 53 |
| 54 | 0.45 | 4.37 | 100 | 2 | 1.15 | 3.60 | 0.36 | 5.93 | 5 | | 54 |
| 55 | 0.45 | 4.41 | 92 | 7 | 0.20 | 17.41 | 0.16 | 5.95 | 49 | | 55 |
| 56 | 0.46 | 4.44 | 2 | 100 | 0.02 | 13.72 | 0.46 | 5.98 | 127 | | 56 |
| 57 | 0.45 | 4.44 | 26 | 103 | 0.22 | 11.99 | 0.50 | 5.98 | 110 | | 57 |

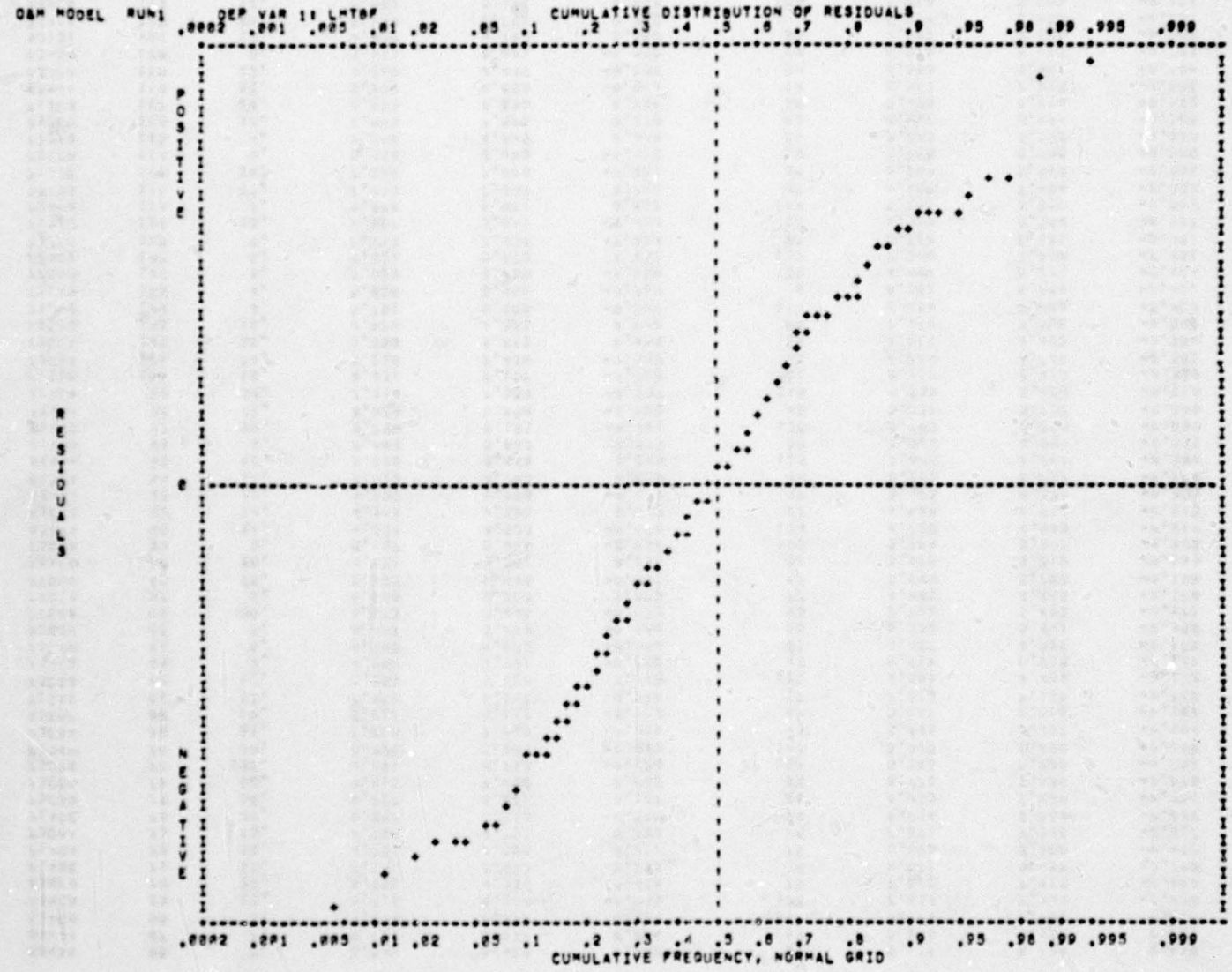
| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 58 | 0.45 | 4.47 | 5 | 12 | 0.06 | 5.56 | 1.24 | 5.9A | 12 | 58 |
| 59 | 0.45 | 4.49 | 39 | 13 | 0.50 | 10.85 | 0.79 | 5.98 | 185 | 59 |
| 60 | 0.45 | 4.51 | 59 | 58 | 0.68 | 2.22 | 0.14 | 5.99 | 52 | 60 |
| 61 | 0.45 | 4.51 | 22 | 35 | 0.29 | 6.74 | 0.54 | 5.99 | 43 | 61 |
| 62 | 0.45 | 4.56 | 85 | 55 | 0.87 | 14.25 | 1.02 | 6.01 | 32 | 62 |
| 63 | 0.45 | 4.72 | 53 | 54 | 0.38 | 31.17 | 0.49 | 6.01 | 22 | 63 |
| 64 | 0.45 | 5.04 | 16 | 59 | 0.28 | 186.44 | 0.25 | 6.02 | 196 | 64 |
| 65 | 0.44 | 5.10 | 37 | 65 | 0.09 | 87.94 | 0.43 | 6.05 | 18 | 65 |
| 66 | 0.46 | 5.11 | 49 | 103 | 1.27 | 186.25 | 0.21 | 6.06 | 44 | 66 |
| 67 | 0.45 | 5.14 | 66 | 53 | 0.36 | 15.10 | 0.26 | 6.10 | 97 | 67 |
| 68 | 0.45 | 5.15 | 6 | 59 | 0.27 | 3.98 | 0.23 | 6.23 | 1 | 68 |
| 69 | 0.45 | 5.16 | 71 | 55 | 0.19 | 7.39 | 1.11 | 6.26 | 104 | 69 |
| 70 | 0.45 | 5.32 | 48 | 17 | 0.29 | 19.79 | 1.17 | 6.26 | 87 | 70 |
| 71 | 0.45 | 5.42 | 58 | 33 | 0.45 | 14.17 | 0.28 | 6.28 | 69 | 71 |
| 72 | 0.45 | 5.43 | 55 | 13 | 0.16 | 26.87 | 0.29 | 6.32 | 126 | 72 |
| 73 | 0.44 | 5.48 | 194 | 59 | 0.87 | 9.63 | 1.04 | 6.32 | 59 | 73 |
| 74 | 0.45 | 5.56 | 12 | 195 | 1.28 | 9.89 | 0.88 | 6.38 | 68 | 74 |
| 75 | 0.47 | 5.58 | 30 | 115 | 1.74 | 2.39 | 0.52 | 6.40 | 114 | 75 |
| 76 | 0.47 | 5.68 | 190 | 116 | 0.27 | 5.42 | 0.85 | 6.42 | 58 | 76 |
| 77 | 0.47 | 5.70 | 12 | 43 | 0.62 | 6.11 | 0.94 | 6.46 | 33 | 77 |
| 78 | 0.47 | 5.72 | 37 | 66 | 0.32 | 1.97 | 0.93 | 6.47 | 53 | 78 |
| 79 | 0.47 | 5.73 | 195 | 43 | 0.65 | 13.78 | 1.14 | 6.49 | 38 | 79 |
| 80 | 0.48 | 5.94 | 187 | 98 | 1.23 | 9.91 | 0.61 | 6.51 | 45 | 80 |
| 81 | 0.48 | 6.05 | 115 | 39 | 0.28 | 6.22 | 0.51 | 6.55 | 115 | 81 |
| 82 | 0.48 | 6.11 | 33 | 53 | 0.64 | 23.69 | 0.48 | 6.57 | 54 | 82 |
| 83 | 0.48 | 6.22 | 115 | 54 | 0.51 | 22.87 | 0.58 | 6.58 | 18 | 83 |
| 84 | 0.48 | 6.27 | 55 | 15 | 0.12 | 18.59 | 1.21 | 6.58 | 85 | 84 |
| 85 | 0.48 | 6.33 | 114 | 33 | 0.34 | 4.12 | 0.53 | 6.79 | 39 | 85 |
| 86 | 0.47 | 6.53 | 8 | 2 | 0.17 | 5.16 | 0.19 | 6.82 | 21 | 86 |
| 87 | 0.47 | 6.56 | 11 | 116 | 0.68 | 29.87 | 0.31 | 6.82 | 55 | 87 |
| 88 | 0.47 | 6.58 | 43 | 196 | 0.01 | 15.12 | 0.47 | 6.86 | 81 | 88 |
| 89 | 0.47 | 6.72 | 78 | 16 | 0.92 | 0.38 | 0.28 | 6.92 | 13 | 89 |
| 90 | 0.47 | 6.88 | 35 | 78 | 0.25 | 18.97 | 0.19 | 6.94 | 15 | 90 |
| 91 | 0.48 | 6.83 | 33 | 115 | 1.86 | 37.78 | 0.34 | 6.95 | 71 | 91 |
| 92 | 0.49 | 6.83 | 185 | 32 | 1.19 | 38.67 | 0.38 | 6.95 | 46 | 92 |
| 93 | 0.49 | 7.05 | 68 | 58 | 0.36 | 23.05 | 0.17 | 6.98 | 14 | 93 |
| 94 | 0.50 | 7.09 | 1 | 87 | 1.34 | 11.23 | 0.18 | 7.01 | 79 | 94 |
| 95 | 0.50 | 7.14 | 66 | 67 | 0.42 | 35.29 | 0.29 | 7.18 | 9 | 95 |
| 96 | 0.51 | 7.37 | 34 | 197 | 1.35 | 71.66 | 0.55 | 7.19 | 19 | 96 |
| 97 | 0.51 | 7.39 | 194 | 87 | 1.11 | 25.79 | 1.19 | 7.24 | 74 | 97 |
| 98 | 0.51 | 7.47 | 198 | 7 | 0.54 | 23.33 | 0.54 | 7.33 | 111 | 98 |
| 99 | 0.51 | 7.49 | 9 | 56 | 0.19 | 37.48 | 0.82 | 7.38 | 56 | 99 |
| 100 | 0.51 | 7.56 | 83 | 27 | 0.51 | 38.81 | 0.59 | 7.43 | 76 | 100 |
| 101 | 0.50 | 7.57 | 33 | 38 | 0.99 | 18.84 | 0.53 | 7.46 | 188 | 101 |
| 102 | 0.51 | 7.67 | 117 | 59 | 1.83 | 12.72 | 1.49 | 7.49 | 47 | 102 |
| 103 | 0.52 | 7.84 | 33 | 45 | 1.85 | 11.99 | 1.35 | 7.53 | 11 | 103 |
| 104 | 0.52 | 7.88 | 68 | 33 | 1.21 | 15.69 | 0.66 | 7.56 | 99 | 104 |
| 105 | 0.52 | 7.92 | 79 | 8 | 0.85 | 36.26 | 0.22 | 7.58 | 116 | 105 |
| 106 | 0.52 | 8.04 | 53 | 45 | 0.21 | 39.59 | 0.33 | 7.61 | 38 | 106 |
| 107 | 0.53 | 8.29 | 11 | 128 | 1.23 | 11.83 | 0.93 | 7.69 | 128 | 107 |
| 108 | 0.53 | 8.34 | 88 | 8 | 0.32 | 15.14 | 1.18 | 7.75 | 22 | 108 |
| 109 | 0.52 | 8.47 | 2 | 48 | 0.15 | 23.79 | 0.84 | 7.96 | 112 | 109 |
| 110 | 0.52 | 8.48 | 79 | 74 | 0.66 | 24.43 | 0.18 | 8.03 | 75 | 110 |
| 111 | 0.52 | 8.58 | 7 | 79 | 0.96 | 8.91 | 0.78 | 8.08 | 7 | 111 |
| 112 | 0.52 | 8.69 | 8 | 48 | 0.32 | 6.68 | 0.95 | 8.31 | 35 | 112 |
| 113 | 0.52 | 8.81 | 56 | 11 | 0.97 | 6.72 | 0.92 | 8.33 | 79 | 113 |
| 114 | 0.52 | 8.86 | 1 | 69 | 0.17 | 2.81 | 0.83 | 8.56 | 16 | 114 |
| 115 | 0.52 | 8.74 | 43 | 32 | 0.54 | 2.19 | 0.76 | 8.63 | 117 | 115 |
| 116 | 0.52 | 8.86 | 194 | 89 | 0.06 | 18.49 | 0.41 | 8.78 | 6 | 116 |
| 117 | 0.52 | 8.99 | 112 | 35 | 0.81 | 17.86 | 0.58 | 8.86 | 98 | 117 |
| 118 | 0.52 | 9.01 | 112 | 7 | 0.81 | 25.68 | 0.55 | 8.92 | 38 | 118 |
| 119 | 0.52 | 9.17 | 17 | 37 | 0.49 | 0.0 | 0.82 | 9.05 | 88 | 119 |
| 120 | 0.52 | 9.26 | 95 | 187 | 0.23 | 22.37 | 0.32 | 9.05 | 66 | 120 |

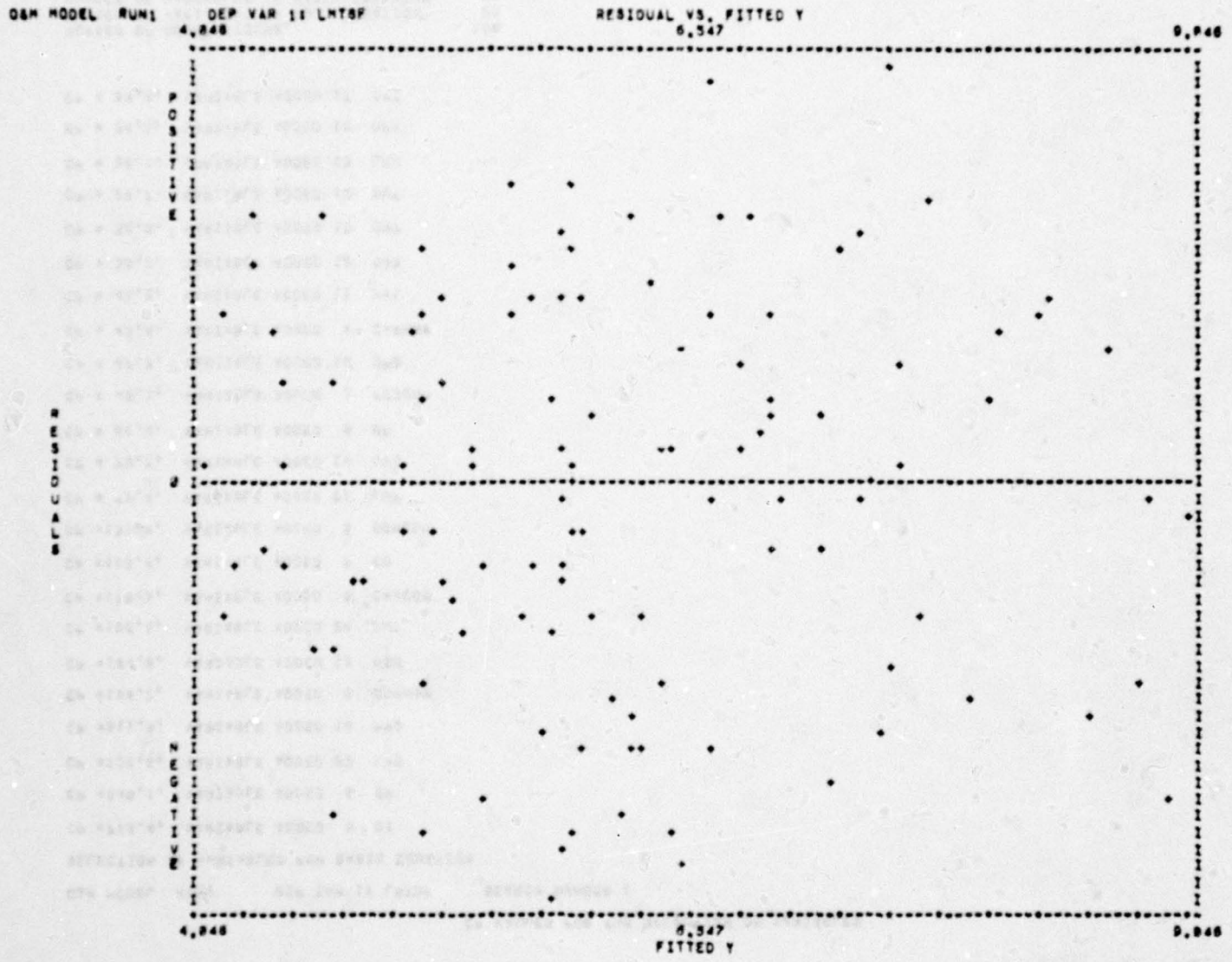
LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

O&M MODEL RUN1 DEP VAR IS LMTBF

| IDENT. | OBSV. | HSS DISTANCE | ORDERED BY COMPUTER INPUT OBS. Y | FITTED Y | RESIDUAL | OBSV. | ORDERED BY RESIDUALS OBS. Y | FITTED Y | ORDERED RESID. | SEQ |
|---|---|---|---|---|---|---|---|---|---|---|
| 71920 | 1 | 3. | 5.496 | 6.233 | -0.737 | 11 | 8.489 | 7.535 | 0.954 | 1 |
| 71L0A | 2 | 6. | 5.884 | 5.218 | 0.666 | 115 | 7.546 | 6.645 | 0.900 | 2 |
| 71P0A | 5 | 4. | 6.518 | 5.931 | 0.579 | 102 | 6.569 | 5.682 | 0.686 | 3 |
| 71710 | 6 | 23. | 8.352 | 8.784 | -0.432 | 127 | 6.638 | 5.961 | 0.677 | 4 |
| 724GA | 7 | 16. | 8.445 | 8.083 | 0.362 | 22 | 8.408 | 7.755 | 0.654 | 5 |
| 71G5A | 8 | 4. | 5.428 | 5.213 | 0.215 | 39 | 7.322 | 6.703 | 0.619 | 6 |
| 71FAA | 9 | 14. | 7.352 | 7.182 | 0.170 | 94 | 5.312 | 4.703 | 0.609 | 7 |
| 71F0A | 10 | 11. | 6.671 | 6.688 | -0.009 | 103 | 4.970 | 4.361 | 0.609 | 8 |
| 71CAA | 11 | 11. | 8.489 | 7.535 | 0.954 | 87 | 6.866 | 6.263 | 0.603 | 9 |
| 71DAA | 12 | 2. | 6.496 | 5.975 | 0.521 | 81 | 7.452 | 6.862 | 0.590 | 10 |
| 51EAA | 13 | 4. | 7.937 | 6.919 | 0.118 | 76 | 8.911 | 7.420 | 0.582 | 11 |
| 52AAA | 14 | 4. | 7.141 | 6.981 | 0.160 | 5 | 6.518 | 5.931 | 0.579 | 12 |
| 52ABA | 15 | 5. | 7.348 | 6.941 | 0.407 | 48 | 5.775 | 5.241 | 0.534 | 13 |
| 638DA | 16 | 24. | 8.058 | 8.564 | -0.507 | 111 | 7.853 | 7.338 | 0.523 | 14 |
| 71AEA | 17 | 10. | 5.542 | 5.301 | 0.242 | 12 | 6.496 | 5.975 | 0.521 | 15 |
| 74JAA | 18 | 112. | 6.284 | 6.052 | 0.151 | 49 | 6.468 | 5.952 | 0.517 | 16 |
| 74JCA | 19 | 9. | 7.973 | 7.192 | 0.118 | 67 | 8.131 | 7.648 | 0.483 | 17 |
| 52GA1 | 20 | 15. | 5.422 | 6.814 | -0.592 | 89 | 4.871 | 4.391 | 0.481 | 18 |
| 71ZAA | 21 | 3. | 6.944 | 6.817 | 0.087 | 68 | 6.834 | 6.377 | 0.456 | 19 |
| 71Z00 | 22 | 16. | 8.408 | 7.755 | 0.654 | 122 | 6.194 | 5.761 | 0.432 | 20 |
| 73EPA | 25 | 11. | 4.388 | 4.749 | -0.361 | 107 | 6.322 | 5.890 | 0.432 | 21 |
| 73MAA | 26 | 26. | 4.617 | 4.226 | 0.391 | 32 | 6.439 | 6.007 | 0.432 | 22 |
| 73MCA | 27 | 4. | 4.648 | 4.855 | -0.215 | 78 | 8.751 | 8.333 | 0.418 | 23 |
| 73083 | 29 | 4. | 5.137 | 5.898 | 0.239 | 41 | 5.738 | 5.321 | 0.417 | 24 |
| 733CA | 30 | 5. | 5.645 | 6.489 | -0.844 | 15 | 7.348 | 6.941 | 0.406 | 25 |
| 73KEA | 32 | 2. | 6.439 | 6.007 | 0.432 | 26 | 4.617 | 4.226 | 0.391 | 26 |
| 73KFA | 33 | 2. | 5.700 | 6.455 | -0.755 | 2 | 5.684 | 5.218 | 0.386 | 27 |
| 73KKA | 34 | 6. | 4.944 | 5.865 | -0.921 | 54 | 7.259 | 6.874 | 0.386 | 28 |
| 7593P | 35 | 21. | 8.675 | 8.311 | 0.364 | 96 | 6.964 | 5.687 | 0.378 | 29 |
| 74B0A | 36 | 7. | 5.254 | 5.819 | -0.566 | 35 | 8.675 | 8.311 | 0.364 | 30 |
| 749FA | 37 | 5. | 5.123 | 5.376 | -0.253 | 7 | 8.445 | 8.083 | 0.362 | 31 |
| 74A10 | 38 | 28. | 7.664 | 7.612 | 0.052 | 121 | 4.836 | 4.484 | 0.352 | 32 |
| 78A1A | 39 | 3. | 7.322 | 6.703 | 0.619 | 81 | 5.515 | 5.172 | 0.343 | 33 |
| 78GA0 | 40 | 16. | 5.987 | 5.903 | 0.083 | 117 | 8.953 | 8.628 | 0.325 | 34 |
| 74FF0 | 41 | 17. | 5.738 | 5.321 | 0.417 | 45 | 6.808 | 6.514 | 0.294 | 35 |
| 74FA0 | 42 | 62. | 5.438 | 5.738 | -0.300 | 55 | 7.108 | 6.819 | 0.281 | 36 |
| 74FH0 | 43 | 7. | 5.883 | 5.987 | -0.104 | 116 | 7.854 | 7.583 | 0.272 | 37 |
| 74FU0 | 44 | 45. | 5.782 | 6.057 | -0.275 | 17 | 5.542 | 5.301 | 0.242 | 38 |
| 73CR0 | 45 | 7. | 6.808 | 6.514 | 0.294 | 73 | 4.990 | 4.751 | 0.239 | 39 |
| 73CG0 | 46 | 21. | 6.818 | 6.955 | -0.137 | 72 | 4.751 | 4.524 | 0.227 | 40 |
| 658H0 | 47 | 4. | 6.960 | 7.494 | -0.534 | 6 | 5.428 | 5.213 | 0.215 | 41 |
| 74FC0 | 48 | 4. | 5.775 | 5.241 | 0.534 | 71 | 7.161 | 6.953 | 0.208 | 42 |
| 74FJ0 | 49 | 5. | 6.468 | 5.950 | 0.517 | 95 | 6.985 | 5.880 | 0.206 | 43 |
| 74FK0 | 50 | 19. | 6.220 | 6.923 | -0.703 | 75 | 8.217 | 8.031 | 0.187 | 44 |
| 74FQ0 | 51 | 24. | 5.515 | 5.172 | 0.343 | 9 | 7.352 | 7.182 | 0.170 | 45 |
| 74KA0 | 52 | 13. | 6.826 | 5.986 | 0.840 | 14 | 7.141 | 6.981 | 0.160 | 46 |
| 74KC0 | 53 | 4. | 6.553 | 6.472 | 0.082 | 16 | 6.284 | 6.052 | 0.151 | 47 |
| 74CA0 | 54 | 5. | 7.259 | 6.874 | 0.386 | 13 | 7.937 | 6.919 | 0.118 | 48 |
| 74C90 | 55 | 6. | 7.108 | 6.819 | 0.291 | 58 | 6.516 | 6.417 | 0.099 | 49 |
| 74CC0 | 56 | 6. | 7.371 | 7.388 | -0.017 | 21 | 6.994 | 6.617 | 0.087 | 50 |
| 74FA1 | 57 | 25. | 5.128 | 5.312 | -0.192 | 42 | 5.987 | 5.903 | 0.083 | 51 |
| 74E40 | 58 | 3. | 6.516 | 6.417 | 0.099 | 53 | 6.553 | 6.472 | 0.082 | 52 |
| 73FH2 | 59 | 2. | 5.743 | 6.323 | -0.580 | 66 | 5.542 | 5.475 | 0.067 | 53 |
| 73FB0 | 60 | 29. | 3.944 | 4.224 | -0.281 | 81 | 4.114 | 4.048 | 0.066 | 54 |
| 73F00 | 61 | 46. | 4.114 | 4.048 | 0.066 | 123 | 5.534 | 5.471 | 0.063 | 55 |
| 73FF0 | 62 | 17. | 5.589 | 5.789 | -0.198 | 38 | 7.664 | 7.612 | 0.052 | 56 |
| 71NA0 | 64 | 6. | 4.893 | 5.491 | -0.688 | 92 | 4.566 | 4.525 | 0.042 | 57 |
| 710U0 | 65 | 6. | 5.322 | 5.491 | -0.169 | 52 | 6.996 | 5.988 | 0.040 | 58 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 63AA3 | 55 | 5. | 5.542 | 5.475 | 0.057 | 29 | 5.137 | 5.098 | 0.039 | 59 |
| 65AAA | 67 | 7. | 6.131 | 5.648 | 0.483 | 82 | 5.153 | 5.129 | 0.023 | 60 |
| 63AG9 | 68 | 6. | 6.834 | 6.377 | 0.458 | 119 | 5.976 | 5.961 | 0.017 | 61 |
| 63HCA | 69 | 12. | 5.716 | 6.285 | -0.569 | 106 | 7.452 | 7.456 | -0.004 | 62 |
| 638F8 | 70 | 29. | 8.751 | 8.333 | 0.418 | 79 | 7.085 | 7.015 | -0.029 | 63 |
| 71ABE | 71 | 13. | 7.161 | 6.953 | 0.208 | 10 | 6.671 | 6.680 | -0.009 | 64 |
| 71ADA | 72 | 16. | 4.751 | 4.524 | 0.227 | 78 | 5.090 | 5.099 | -0.010 | 65 |
| 73D8A | 73 | 73. | 4.990 | 4.751 | 0.239 | 56 | 7.371 | 7.388 | -0.017 | 66 |
| 71ACC | 74 | 36. | 6.567 | 7.235 | -0.668 | 98 | 6.838 | 6.860 | -0.022 | 67 |
| 73C8Q | 75 | 58. | 8.217 | 8.031 | 0.187 | 88 | 8.995 | 9.046 | -0.051 | 68 |
| 73CEN | 76 | 32. | 8.811 | 7.429 | 0.582 | 86 | 8.973 | 9.046 | -0.073 | 69 |
| 73CP4 | 77 | 127. | 4.891 | 4.285 | -0.174 | 128 | 5.193 | 5.285 | -0.092 | 70 |
| 73DAM | 78 | 32. | 5.890 | 5.990 | -0.010 | 106 | 5.922 | 6.020 | -0.098 | 71 |
| 73EBA | 79 | 21. | 7.885 | 7.815 | -0.009 | 43 | 5.883 | 5.987 | -0.104 | 72 |
| 73ERF | 80 | 10. | 5.987 | 5.116 | -0.109 | 80 | 5.987 | 5.116 | -0.109 | 73 |
| 71C48 | 81 | 13. | 7.452 | 6.862 | 0.590 | 19 | 7.873 | 7.192 | -0.119 | 74 |
| 73EG2 | 82 | 12. | 5.153 | 5.129 | 0.023 | 119 | 4.389 | 4.439 | -0.132 | 75 |
| 73MC8 | 83 | 9. | 4.869 | 4.791 | -0.722 | 46 | 6.818 | 6.955 | -0.137 | 76 |
| 73LAP | 84 | 8. | 4.288 | 4.652 | -0.364 | 91 | 4.357 | 4.525 | -0.168 | 77 |
| 77EC8 | 85 | 5. | 6.897 | 6.684 | -0.586 | 65 | 5.322 | 5.491 | -0.169 | 78 |
| 77EEP | 86 | 28. | 8.973 | 9.046 | -0.073 | 93 | 5.722 | 5.893 | -0.171 | 79 |
| 77DCA | 87 | 3. | 6.866 | 6.263 | 0.603 | 77 | 4.991 | 4.265 | -0.174 | 80 |
| 77D8P | 88 | 28. | 8.995 | 9.046 | -0.051 | 62 | 5.589 | 5.782 | -0.192 | 81 |
| 76AEA | 89 | 26. | 4.871 | 4.391 | 0.481 | 57 | 5.120 | 5.312 | -0.192 | 82 |
| 73KA8 | 90 | 5. | 5.187 | 5.983 | -0.796 | 125 | 5.794 | 5.997 | -0.203 | 83 |
| 638AA | 91 | 14. | 4.357 | 4.525 | -0.168 | 124 | 4.726 | 4.940 | -0.214 | 84 |
| 63CAA | 92 | 14. | 4.566 | 4.525 | 0.042 | 27 | 4.648 | 4.855 | -0.215 | 85 |
| 65HAA | 93 | 12. | 5.722 | 5.893 | -0.171 | 37 | 5.123 | 5.376 | -0.253 | 86 |
| 61986 | 94 | 13. | 5.312 | 4.703 | 0.609 | 44 | 5.782 | 6.057 | -0.275 | 87 |
| 61AA9 | 95 | 10. | 8.845 | 5.848 | 0.226 | 128 | 7.496 | 7.687 | -0.280 | 88 |
| 61A9E | 96 | 9. | 5.964 | 5.587 | 0.378 | 68 | 3.944 | 4.224 | -0.281 | 89 |
| 61AC8 | 97 | 22. | 5.788 | 6.181 | -0.481 | 126 | 6.885 | 6.296 | -0.291 | 90 |
| 72AA9 | 98 | 47. | 8.838 | 8.860 | -0.022 | 42 | 5.438 | 5.738 | -0.300 | 91 |
| 72AC8 | 99 | 32. | 7.164 | 7.556 | -0.392 | 118 | 5.539 | 5.853 | -0.314 | 92 |
| 71CA8 | 100 | 13. | 4.431 | 5.197 | -0.766 | 101 | 5.119 | 5.439 | -0.320 | 93 |
| 72EAA | 101 | 70. | 5.118 | 5.439 | -0.320 | 25 | 4.388 | 4.749 | -0.361 | 94 |
| 72EC4 | 102 | 36. | 6.369 | 5.882 | 0.486 | 84 | 4.288 | 4.652 | -0.364 | 95 |
| 726P0 | 103 | 18. | 4.978 | 4.361 | 0.609 | 99 | 7.164 | 7.556 | -0.392 | 96 |
| 71JA9 | 104 | 4. | 5.751 | 6.260 | -0.509 | 114 | 5.984 | 6.402 | -0.418 | 97 |
| 71LA9 | 105 | 4. | 5.226 | 5.980 | -0.755 | 9 | 8.352 | 8.784 | -0.432 | 98 |
| 72DN9 | 106 | 8. | 5.922 | 6.820 | -0.898 | 109 | 4.807 | 5.241 | -0.434 | 99 |
| 72AC8 | 107 | 5. | 6.322 | 5.890 | 0.432 | 112 | 7.589 | 7.968 | -0.451 | 100 |
| 71718 | 108 | 9. | 7.452 | 7.456 | -0.004 | 97 | 5.799 | 6.181 | -0.481 | 101 |
| 71310 | 109 | 13. | 4.807 | 5.241 | -0.434 | 16 | 8.958 | 8.564 | -0.387 | 102 |
| 72PP2 | 110 | 9. | 5.978 | 5.941 | 0.017 | 104 | 5.751 | 6.260 | -0.509 | 103 |
| 72HB8 | 111 | 17. | 7.853 | 7.330 | 0.523 | 47 | 6.968 | 7.494 | -0.534 | 104 |
| 71JCE | 112 | 28. | 7.549 | 7.988 | -0.451 | 35 | 5.264 | 5.819 | -0.556 | 105 |
| 72CC8 | 114 | 4. | 5.994 | 6.402 | -0.418 | 69 | 5.716 | 6.285 | -0.569 | 106 |
| 71Z48 | 115 | 4. | 7.545 | 6.845 | 0.998 | 59 | 5.743 | 6.323 | -0.583 | 107 |
| 71ZHP | 116 | 17. | 7.854 | 7.583 | 0.270 | 85 | 6.097 | 6.684 | -0.586 | 108 |
| 71Z08 | 117 | 24. | 8.953 | 8.628 | 0.325 | 28 | 5.422 | 6.014 | -0.592 | 109 |
| 65BAA | 118 | 12. | 5.539 | 5.853 | -0.314 | 74 | 6.567 | 7.235 | -0.668 | 110 |
| 63AF9 | 119 | 13. | 4.329 | 4.439 | -0.139 | 64 | 4.893 | 5.491 | -0.598 | 111 |
| 63AA9 | 120 | 8. | 5.193 | 5.285 | -0.092 | 58 | 8.220 | 8.923 | -0.703 | 112 |
| 63121 | 121 | 13. | 4.836 | 4.484 | 0.352 | 83 | 4.069 | 4.791 | -0.722 | 113 |
| 63AAA | 122 | 28. | 6.194 | 5.761 | 0.432 | 1 | 5.496 | 6.233 | -0.737 | 114 |
| 55AL8 | 123 | 12. | 5.534 | 5.471 | 0.063 | 105 | 5.226 | 5.980 | -0.755 | 115 |
| 55AV8 | 124 | 12. | 4.726 | 4.940 | -0.214 | 33 | 5.798 | 6.455 | -0.755 | 116 |
| 61AA9 | 125 | 18. | 5.794 | 5.987 | -0.203 | 100 | 4.431 | 5.197 | -0.766 | 117 |
| 61AE8 | 126 | 21. | 8.885 | 6.296 | -0.291 | 98 | 5.187 | 5.983 | -0.796 | 118 |
| 62AA8 | 127 | 8. | 6.638 | 5.961 | 0.677 | 39 | 5.645 | 6.489 | -0.844 | 119 |
| 64211 | 128 | 22. | 7.486 | 7.687 | -0.200 | 34 | 4.944 | 5.865 | -0.921 | 120 |


O&M MODEL RUN1
DEP VAR IS LNTOP
CUMULATIVE DISTRIBUTION OF RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
POSITIVE
0
NEGATIVE
RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
CUMULATIVE FREQUENCY, NORMAL GRID


O&M MODEL RUN1 DEP VAR IS LNTSF
RESIDUAL VS. FITTED Y
4.848
6.547
8.246
POSITIVE
0
NEGATIVE
RESIDUALS
4.848
6.547
8.246
FITTED Y

CP VALUES FOR THE SELECTION OF VARIABLES

O&M MODEL RUN1 DEP VAR 11 LMTBF SEARCH NUMBER 1

SELECTION OF VARIABLES FOR BASIC EQUATION

CP =718.4, VARIABLE ADDED 8 DI

CP =649.1, VARIABLE ADDED 9 EM

CP =239.3, VARIABLE ADDED 22 LVO

CP =211.9, VARIABLE ADDED 10 MVO

CP =194.7, VARIABLE ADDED 2 BOMNAV

CP =194.0, VARIABLE ADDED 12 MSS

CP =188.3, VARIABLE ADDED 20 DUF

CP =179.9, VARIABLE ADDED 5 CARCOM

CP =153.4, VARIABLE ADDED 7 CD

CP =135.4, VARIABLE ADDED 3 BOMCOM

CP = 72.4, VARIABLE ADDED 21 LUP

CP = 70.7, VARIABLE ADDED 14 OVO

CP = 61.4, VARIABLE ADDED 6 UP

CP = 49.1, VARIABLE ADDED 1 FIGCOM

CP = 47.5, VARIABLE ADDED 19 OPO

CP = 46.4, VARIABLE ADDED 4 CARNAV

CP = 44.2, VARIABLE ADDED 11 MWT

CP = 33.2, VARIABLE ADDED 18 OSS

CP = 32.8, VARIABLE ADDED 15 OWT

CP = 29.7, VARIABLE ADDED 13 MUF

CP = 28.1, VARIABLE ADDED 23 LPO

CP = 24.3, VARIABLE ADDED 16 OPS

CP = 24.8, VARIABLE ADDED 17 OXT

NUMBER OF OBSERVATIONS 129
NUMBER OF VARIABLES IN FULL EQUATION 23
NUMBER OF VARIABLES IN BASIC EQUATION 21
REMAINDER OF VARIABLES TO BE SEARCHED 2

```
EQUATION  P   CP    VARIABLES IN EQUATION

          24  24,0  FULL EQUATION
          22  24,3  BASIC SET OF VARIABLES   FIGCOM 1  BOMNAV 2  BOMCOM 3  CARNAV 4  CARCOM 5  UP 6  CO 7  DI 8  EM 9  MVO 10
                                              MWT 11  MSS 12  MUF 13  DVO 14  DWT 15  DSS 16  DPD 19  DUF 20  LUP 21  LVD 22  LPD 23
                    RMS =    0,23148

      1   23  24,3  BASIC SET PLUS DPS 18
                    RMS =    0,22921

      2   24  24,0  BASIC SET PLUS DPS 18  DXT 17
                    RMS =    0,22616

      3   23  25,1  BASIC SET PLUS DXT 17
                    RMS =    0,23186

SWEEP NUMBER          3,  DELTA Z(K,K) =  1,0-17

ESTIMATE OF VARIANCE

NO SMALLER RMS VALUE FOUND IN SUBSET EQUATIONS

RMS OF FULL EQUATION SELECTED BY USER TO CALCULATE CP VALUES


 SEQ  EQUATION  P  ORDERED CP
   1        2  24     24,0
   2        1  23     24,3
   3        3  23     25,1
```

SUMS OF VARIABLES

7,000000 00 1,400000 01 9,000000 00 1,700000 01 1,100000 01 4,753460 00 1,562500 02 3,024200 03 1,056000 03 1,600000 01
9,210000 00-1,800000 00-1,400000-01 7,156470 00 2,559730 05 2,346400 05 1,833210 05 2,381330 05 7,458820 07 4,116340 01
1,117750 03 7,894580 02 5,944930 02 6,899960 02

RESIDUAL SUMS OF SQUARES + CROSS PRODUCTS

1 6,991670 00
2 -8,166670-01 1,933470 01
3 -5,250000-01-1,050000 00 8,325000 00
4 -9,916670-01-1,983330 00-1,275000 00 1,459170 01
5 -8,416670-01-1,283330 00-8,250000-01-1,558330 00 9,991670 00
6 -2,232350 05-2,709570 05-2,666760 05-2,883640 05-2,386560 05 7,191970 11
7 2,829240 02-4,761960 02-2,244980 02-4,785780-01 2,835490 00 1,917780 06 1,863240 02
8 2,449830 01-2,181230 02-2,268150 02-6,142830 01-8,911830 01 1,167590 08 2,196240 03 1,695900 05
9 -5,993580 01 6,283800 01-4,624590 01-2,868580 01-9,585590 01-1,934250 07-1,985760 03-2,314810 04 6,945390 04
10 -3,963930 03 6,929130 03-3,242280 03 1,811730 03-3,861470 03 3,429490 05-5,886440 04-4,186180 05-3,836140 05 2,817470 08
11 -7,383720 01 4,152580 01-6,887860 01 2,193520 01-4,964430 01 1,878890 06-6,341290 02 3,222230 02-5,835110 03 4,838490 06
1,178630 05
12 1,365950 02-3,991980 02-1,165980 03-2,419450 02 7,165590 01 6,429810 07 2,158880 03 6,119590 04-6,865690 04-9,678970 05
-1,588970 04 1,531790 05
13 3,998170 05-6,233670 05-3,859580 05-8,998170 05-5,817170 05 2,441870 05 5,887490 05 6,924330 02-9,818530 01-3,498210 03
-1,198540 02 5,355890 02 4,117480 01
14 4,212490 06 2,805340 07-4,211210 05 1,986830 06-6,199610 06-1,356310 13 1,389180 07-3,322290 09 3,252820 08 3,113530 08
-9,629950 09 4,926350 08-4,473350 08 1,831170 15
15 -1,582960 01 8,226810 02-9,532860 02-6,997830 03-3,897290 03-2,986630 09 3,618450 04-5,875690 05 4,189640 05-5,769380 07
2,319580 04 9,629510 05 1,226660 04 3,578770 11 3,575940 08
16 -2,117310 03 1,634250 03-1,231250 03 2,886460 03-2,484590 03-1,758830 08-1,334170 02-3,349180 05 6,981710 04-1,958570 07
1,182830 05-3,591940 05-3,632820 03-2,521970 10 3,734570 06 2,319380 07
17 -4,155180 03 5,856870 02-4,886580 03-2,458610 03-6,985430 03 1,382310 09 8,196960 02 4,477660 05 2,689890 05-7,319560 06
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18 6,629340 02-8,752490 01-9,791790 03 1,398780 03-3,833530 02 4,852610 08 1,724580 04 4,921860 05 3,594570 05-2,898460 07
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19 9,134690 05 1,799990 05 3,963940 04-2,493960 06-1,712480 05-4,345840 11-1,478260 06-2,214850 08-2,159550 07-3,195940 09
-8,392640 07 2,319330 08 5,341040 05 4,122780 13 3,585690 10-2,117880 09 5,572820 09 2,566290 09 2,131220 13
20 -4,755580-02-2,335130 00-1,581150 00-1,237510 03-8,887450-01-2,877910 04 1,597490 08 3,859230 02-2,662860 01 7,562260 02
7,259910 01 1,932770 02 1,717970 00-1,482680 07-2,849560 03 5,854530 02 5,481620 03 1,764770 03-1,399960 06 1,182890 01
21 -3,928510 00-1,414830 01-5,943590 00-9,746990 00-3,777670 00 1,191890 07 2,788380 01 2,995190 03-4,915460 02 9,744420 04
2,737970 03 2,888870 03 2,437780 01-3,268780 06-6,815340 04-1,873390 04 2,448460 04 2,664410 02-1,158490 07 9,883250 08
3,389780 02
22 -2,595780 00-1,598170 00-4,192330 00 1,489810-01-4,327890-01 3,821270 06-3,276780 01 5,177930 02-2,393620 02 1,650970 05
3,359740 03-3,978750 02 1,654650 00-2,685840 06-1,182660 05-5,598910 03-8,248550 03-1,323260 04-1,415450 07 3,834650 08
1,345910 02 1,669450 02
23 -6,329180 00-9,712190 00-2,948210 00 4,588970 00-8,453490-01 4,358880 06-1,343470 01 6,178140 02 4,868570 01 1,112560 05
3,818660 03-7,665790 02-8,919510 00-3,238920 06-1,181280 05 9,877180 03-8,286750 02-1,184740 04-3,114980 07 5,758360 08
1,378810 02 1,413330 02 2,539740 02
24 -9,582890-01-3,143150 00-1,644950 00 3,859960 02-4,394550 06-4,525320 06-1,552680 01-2,266330 02 1,123220 03-9,968410 04
-2,586650 03-3,864540 02 5,229880 00 2,453380 06 1,876570 05 5,772940 03 1,374960 04 2,414940 04 1,171820 07-4,499850 08
-1,851180 02-1,296360 02-1,192490 02 1,748360 02

MEANS OF VARIABLES

5,833330-02 1,166670-01 7,500000-02 1,416670-01 9,166670-02 3,961230 04 1,302990 00 2,526170 01 8,805000 00 1,333330-01
7,875000-02-1,583330-02-1,166670-03 5,963730 06 2,133110 03 1,955340 03 1,527670 03 1,917770 03 6,915820 05 3,431950-01
9,314610 00 4,579560 00 4,954110 00 5,749140 00

ROOT MEAN SQUARES OF VARIABLES

2,383550-01 3,223690-01 2,644960-01 3,581790-01 2,897650-01 7,773620 04 1,251390 00 3,774090 01 2,415880 01 1,483990 03
3,136440 01 3,587680 01 5,882180-01 3,922750 06 1,733490 03 4,486240 02 6,792280 02 6,618960 02 4,231950 05 3,152780-01
1,867730 00 1,184440 00 1,468990 00 1,299330 00

SIMPLE CORRELATION COEFFICIENTS, R(I,I PRIME)

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1.000 | | | | | | | | | |
| 2 | -0.990 | 1.000 | | | | | | | | |
| 3 | -0.971 | -0.143 | 1.000 | | | | | | | |
| 4 | -0.141 | -0.148 | -0.116 | 1.000 | | | | | | |
| 5 | -0.979 | -0.115 | -0.998 | -0.129 | 1.000 | | | | | |
| 6 | -0.193 | -0.991 | -0.118 | -0.862 | -0.786 | 1.000 | | | | |
| 7 | 0.961 | -0.999 | -0.957 | -0.999 | 0.947 | 0.185 | 1.000 | | | |
| 8 | 0.923 | -0.151 | -0.191 | -0.839 | -0.968 | 0.334 | 0.391 | 1.000 | | |
| 9 | -0.967 | 0.965 | -0.961 | -0.828 | -0.115 | -0.946 | -0.382 | -0.213 | 1.000 | |
| 10 | -0.995 | 0.122 | -0.969 | 0.829 | -0.988 | 0.258 | -0.267 | -0.992 | -0.871 | 1.000 |
| 11 | -0.984 | 0.935 | -0.961 | 0.917 | -0.946 | 0.369 | -0.136 | 0.892 | -0.665 | 0.730 |
| | 1.000 | | | | | | | | | |
| 12 | 0.136 | -0.290 | -0.981 | -0.162 | 0.958 | 0.194 | 0.484 | 0.368 | -0.588 | -0.193 |
| | -0.119 | 1.000 | | | | | | | | |
| 13 | 0.243 | -0.266 | -0.298 | -0.387 | -0.287 | 0.845 | 0.866 | 0.282 | -0.958 | -0.834 |
| | -0.953 | 0.253 | 1.000 | | | | | | | |
| 14 | 0.938 | 0.192 | -0.883 | 0.812 | -0.846 | -0.374 | 0.922 | -0.189 | 0.829 | 0.888 |
| | -0.385 | 0.929 | -0.918 | 1.000 | | | | | | |
| 15 | -0.994 | 0.912 | -0.917 | -0.884 | -0.965 | -0.125 | 0.148 | -0.985 | 0.882 | -0.188 |
| | 0.994 | 0.139 | 0.191 | 0.442 | 1.000 | | | | | |
| 16 | -0.172 | 0.997 | -0.969 | 0.157 | -0.158 | -0.943 | -0.992 | -0.169 | 0.954 | -0.136 |
| | 0.967 | -0.185 | -0.118 | -0.123 | 0.941 | 1.000 | | | | |
| 17 | -0.218 | 0.923 | -0.219 | -0.987 | -0.795 | 0.229 | 0.998 | 0.147 | 0.137 | -0.861 |
| | 0.989 | 0.188 | 0.122 | -0.985 | 0.328 | -0.962 | 1.000 | | | |
| 18 | 0.936 | -0.893 | -0.134 | 0.951 | -0.817 | 0.974 | 0.175 | 0.166 | 0.189 | -0.178 |
| | -0.998 | -0.992 | -0.969 | -0.187 | 0.116 | -0.115 | 0.183 | 1.000 | | |
| 19 | 0.977 | 0.185 | 0.993 | -0.141 | -0.912 | -0.112 | -0.923 | -0.117 | -0.918 | -0.843 |
| | -0.953 | 0.198 | 0.918 | 0.289 | 0.411 | -0.995 | 0.183 | 0.977 | 1.000 | |
| 20 | -0.945 | -0.193 | -0.151 | -0.994 | -0.974 | -0.999 | 0.934 | 0.216 | -0.929 | 0.914 |
| | 0.992 | 0.144 | 0.978 | -0.181 | -0.944 | 0.835 | 0.212 | 0.972 | -0.988 | 1.000 |
| 21 | -0.994 | -0.221 | -0.181 | -0.148 | -0.986 | 0.714 | 0.189 | 0.488 | -0.984 | 0.331 |
| | 0.448 | 0.378 | 0.175 | -0.419 | -0.192 | -0.123 | 0.181 | 0.992 | -0.138 | 0.144 |
| | 1.000 | | | | | | | | | |
| 22 | -0.978 | -0.935 | -0.112 | 0.983 | -0.911 | 0.358 | -0.186 | 0.997 | -0.978 | 0.789 |
| | 0.737 | -0.979 | 0.928 | -0.486 | -0.483 | -0.998 | -0.986 | -0.142 | -0.237 | 0.968 |
| | 0.573 | 1.000 | | | | | | | | |
| 23 | -0.155 | -0.173 | -0.984 | 0.974 | -0.917 | 0.323 | -0.962 | 0.994 | 0.918 | 0.432 |
| | 0.554 | -0.123 | -0.987 | -0.475 | -0.392 | 0.125 | -0.827 | -0.193 | -0.423 | 0.185 |
| | 0.475 | 0.988 | 1.000 | | | | | | | |
| 24 | -0.928 | -0.968 | -0.943 | 0.861 | -0.185 | -0.425 | -0.886 | -0.842 | 0.323 | -0.467 |
| | -0.574 | -0.959 | 0.862 | 0.435 | 0.432 | 0.891 | 0.141 | 0.254 | 0.192 | -0.998 |
| | -0.587 | -0.788 | -0.587 | 1.000 | | | | | | |

INVERSE, C(I,I PRIME)

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1.432 | | | | | | | | | |
| 2 | 0.197 | 2.158 | | | | | | | | |
| 3 | 0.485 | 0.847 | 2.172 | | | | | | | |
| 4 | 0.282 | 1.193 | 1.869 | 2.218 | | | | | | |
| 5 | 0.551 | 0.911 | 1.296 | 1.188 | 2.364 | | | | | |
| 6 | 0.258 | 0.245 | 0.484 | 0.345 | 0.372 | 2.828 | | | | |
| 7 | -0.028 | -0.026 | 0.029 | 0.018 | -0.004 | -0.127 | 1.556 | | | |
| 8 | 0.117 | -0.168 | 0.158 | -0.182 | 0.072 | -0.248 | -0.439 | 1.728 | | |
| 9 | -0.118 | 0.411 | 0.061 | 0.336 | 0.095 | 0.083 | 0.288 | 0.134 | 2.466 | |
| 10 | 0.083 | -0.119 | -1.894 | -0.479 | -0.541 | -1.788 | 0.698 | 0.896 | 0.948 | 11.511 |
| 11 | -0.462 | -0.426 | -0.168 | -0.172 | -0.133 | -0.163 | -0.288 | 0.188 | 0.423 | -4.845 |
| | 0.495 | | | | | | | | | |
| 12 | -0.418 | 0.579 | -0.386 | 0.177 | -0.369 | 0.298 | -0.292 | -0.148 | 2.849 | 1.135 |
| | 0.581 | 3.769 | | | | | | | | |
| 13 | 0.228 | 1.281 | 1.273 | 1.924 | 1.478 | 0.528 | 0.972 | -0.345 | 0.188 | -0.719 |
| | 0.291 | -0.884 | 2.739 | | | | | | | |
| 14 | 0.281 | -0.222 | 1.885 | 0.315 | 0.897 | 1.157 | -0.348 | 0.189 | -0.887 | -0.487 |
| | 2.983 | -1.958 | 0.738 | 5.987 | | | | | | |
| 15 | 0.899 | 0.335 | -0.894 | 0.858 | -0.221 | 0.243 | -0.165 | -0.959 | -0.324 | 1.188 |
| | -3.183 | -0.175 | -0.413 | -1.815 | 3.599 | | | | | |
| 16 | 0.432 | -0.244 | 0.591 | 0.888 | 0.658 | 0.848 | -0.878 | 0.297 | -0.869 | -0.848 |
| | -0.384 | -0.157 | 0.264 | 0.884 | -0.184 | 1.623 | | | | |
| 17 | 0.795 | -0.822 | 0.897 | 0.367 | 1.843 | -0.868 | 0.157 | 0.866 | -0.512 | -0.888 |
| | 0.819 | -0.948 | 0.499 | 1.288 | -0.728 | 0.641 | 2.322 | | | |
| 18 | -0.813 | 0.887 | 0.293 | 0.812 | 0.185 | 0.918 | -0.244 | -0.128 | -0.378 | -0.536 |
| | 0.278 | -0.127 | 0.328 | 0.745 | -0.266 | 0.299 | 0.882 | 1.345 | | |
| 19 | -0.825 | 0.117 | 0.251 | 0.317 | 0.228 | 0.244 | 0.864 | 0.188 | 0.818 | -0.748 |
| | 0.154 | -0.219 | 0.366 | 0.559 | -0.536 | 0.788 | 0.887 | 0.883 | 1.548 | |
| 20 | 0.829 | 0.545 | 0.415 | 0.584 | 0.348 | 0.523 | 0.861 | -0.285 | 0.849 | -0.389 |
| | -0.248 | -0.866 | 0.468 | 0.148 | 0.282 | -0.895 | -0.194 | -0.844 | 0.178 | 1.373 |
| 21 | 0.268 | 0.835 | -0.131 | 0.189 | 0.124 | -2.198 | 0.854 | -0.315 | -0.949 | 1.374 |
| | -0.328 | -1.898 | -0.178 | -0.467 | -0.199 | 0.128 | 0.191 | 0.869 | -0.123 | -0.247 |
| | 4.584 | | | | | | | | | |
| 22 | 0.413 | 0.893 | 1.655 | 0.568 | 0.893 | 2.471 | -0.222 | -0.812 | -0.864 | -0.583 |
| | -0.912 | -1.883 | 0.384 | 5.429 | 1.763 | 1.886 | 1.453 | 0.568 | 0.418 | 0.557 |
| | -2.898 | 15.181 | | | | | | | | |
| 23 | 0.891 | 0.728 | 0.158 | 0.342 | 0.213 | 0.137 | -0.147 | -0.837 | 0.188 | 0.846 |
| | -0.788 | 0.536 | 0.574 | -0.378 | 0.331 | -0.333 | -0.315 | 0.946 | 0.623 | 0.138 |
| | -0.437 | -1.758 | 2.818 | | | | | | | |

LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

Q&M MODEL RUN2 DEP VAR IS LMTBMA MIN Y = 3.4810 00 MAX Y = 8.9270 00 RANGE Y = 5.4460 00

MULTIPLE REGRESSION ANALYSIS FOR THE "ALPOS" MODEL
LMTBMA = B(0) + B(1)FIGCOM + B(2)BOMNAV + B(3)BOMCOM + B(4)CARNAV
+ B(5)CARCOM + B(6)UP + B(7)CD + B(8)DI + B(9)EM
+ B(10)MVO + B(11)MWT + B(12)MSS + B(13)MUF + B(14)DVO
+ B(15)DWT + B(16)DPS + B(17)DXT + B(18)DSS + B(19)DPO
+ B(20)DUP + B(21)LUP + B(22)LVO + B(23)LPO
LMTBMA = LN(MTBMA)
MTBMA = MEAN OPERATING TIME BETWEEN MAINTENANCE ACTIONS

| IND.VAR(I) | NAME | COEF.B(I) | S.E. COEF. | T-VALUE | R(I)BOMD | MIN X(I) | MAX X(I) | RANGE X(I) | REL.IMP.X(I) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | 1.479770 P1 | | | | | | | |
| 1 | FIGCOM | -7.957250-01 | 2.220-01 | 3.5 | P.3416 | P.P | 1.PPPD PP | 1.PPPD PP | P.14 |
| 2 | BOMNAV | -1.171P90 PP | 1.990-01 | 5.9 | P.5366 | P.P | 1.PPPD PP | 1.PPPD PP | P.22 |
| 3 | BOMCOM | -1.183910 PP | 2.430-P1 | 4.9 | P.5397 | P.P | 1.PPPD PP | 1.PPPD PP | P.22 |
| 4 | CARNAV | -5.714540-P1 | 1.850-P1 | 3.1 | P.5474 | P.P | 1.PPPD PP | 1.PPPD PP | P.18 |
| 5 | CARCOM | -1.877550 PP | 2.310-P1 | 4.6 | P.5779 | P.P | 1.PPPD PP | 1.PPPD PP | P.29 |
| 6 | UP | +2.918240-P6 | P.430-P7 | 3.P | P.6414 | 1.53PD P2 | P.6690 P5 | P.6630 P5 | P.29 |
| 7 | CD | -2.P98740-P1 | 4.340-P2 | 4.6 | P.3575 | 4.9230-P3 | P.6740 P0 | P.6690 P0 | P.25 |
| 8 | DI | P.P27710-P3 | 1.520-P3 | 5.5 | P.4211 | P.P | 1.PPPD P2 | 1.PPPD P2 | P.15 |
| 9 | EM | 1.P293P0-P2 | 2.P30-P3 | 6.5 | P.5945 | P.P | 1.PPPD P2 | 1.PPPD P2 | P.34 |
| 10 | MVO | 5.551PP0-P4 | P.970-P5 | 5.6 | P.2131 | -1.2510 P3 | P.1790 P3 | P.17PD P3 | P.03 |
| 11 | MWT | -1.155540-P2 | 3.540-P3 | 3.3 | P.8468 | -3.P2P0 P1 | 1.4250 P2 | 1.7270 P2 | P.37 |
| 12 | MSS | 1.128750-P2 | 2.360-P3 | 4.8 | P.7341 | -7.9PP0 P1 | 2.1PPP P1 | 1.PPPD P2 | P.21 |
| 13 | MUF | -3.73P560-P1 | 1.730-P1 | 3.P | P.63P3 | -1.43PD PP | 1.3700 P0 | 2.8PP0 P0 | P.19 |
| 14 | DVO | -1.82P320-P7 | 2.710-P8 | 3.P | P.8324 | P.3P4D P3 | P.4740 P7 | P.4740 P7 | P.46 |
| 15 | DWT | 1.358630-P4 | 4.770-P5 | P.P | P.7221 | 3.6P4D P0 | 1.1750 P4 | 1.1750 P4 | P.29 |
| 16 | DPS | P.214120-P4 | 1.2P0-P4 | 1.P | P.3P39 | 3.8690 P1 | P.9690 P3 | P.9290 P3 | P.12 |
| 17 | DXT | -1.714950-P4 | P.780-P5 | 1.P | P.5494 | P.9690 P2 | 3.3370 P3 | 3.P410 P3 | P.19 |
| 18 | DSS | P.1174P0-P4 | 7.640-P5 | P.P | P.2568 | 1.34P0 P1 | P.8790 P3 | P.8660 P3 | P.11 |
| 19 | DPO | -3.133P90-P7 | 1.2P0-P7 | P.4 | P.3539 | P.25P0 P2 | 4.1P10 P5 | 4.1P00 P5 | P.24 |
| 20 | DUP | -7.721780-P1 | 1.520-P1 | 4.P | P.2717 | 1.7640-P1 | P.2160 P2 | 1.8420 P0 | P.26 |
| 21 | LUP | -2.692290-P1 | 5.650-P2 | 4.P | P.7P65 | 5.P3P0 P0 | 1.3950 P1 | P.2170 P0 | P.41 |
| 22 | LVO | -P.P87240-P1 | 1.430-P1 | P.P | P.9338 | 3.4P10 P0 | P.P12D P0 | P.9110 P0 | P.03 |
| 23 | LPO | -1.P61250-P1 | P.180-P2 | P.1 | P.6574 | 1.0990 P0 | P.9P0D P0 | P.9P0D P0 | P.13 |

| | |
|---|---|
| NO. OF OBSERVATIONS | 129 |
| NO. OF IND. VARIABLES | 23 |
| RESIDUAL DEGREES OF FREEDOM | 96 |
| F-VALUE | 29.3 |
| RESIDUAL ROOT MEAN SQUARE | P.47534826 |
| RESIDUAL MEAN SQUARE | P.22595597 |
| RESIDUAL SUM OF SQUARES | 21.69177282 |
| TOTAL SUM OF SQUARES | 174.83554912 |
| MULT. CORREL. COEF. SQUARED | .8784 |

REQUIRED X(I) PRECISION
(DIGIT RIGHT OF DECIMAL POSITIVE,
LEFT OF DECIMAL NEGATIVE)

| IND.VAR(I) | DIGIT |
|---|---|
| 1 | -1 |
| 2 | -1 |
| 3 | -1 |
| 4 | -1 |
| 5 | -1 |
| 6 | -8 |
| 7 | 1 |
| 8 | -2 |
| 9 | -2 |
| 10 | -3 |
| 11 | -2 |
| 12 | -2 |
| 13 | 1 |
| 14 | -7 |
| 15 | -4 |
| 16 | -3 |
| 17 | -4 |
| 18 | -4 |
| 19 | -6 |
| 20 | 1 |
| 21 | 1 |
| 22 | 1 |
| 23 | 1 |

LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

O&M MODEL RUN2 DEP VAR 1: LMTBMA

COMPONENT EFFECT OF EACH VARIABLE ON EACH OBSERVATION (IN UNITS OF Y)
(VARIABLES ORDERED BY THEIR RELATIVE INFLUENCE --- OBSERVATIONS ORDERED BY INFLUENCE OF MOST INFLUENTIAL VARIABLE)

| SEQ. | OBSV. | VARIABLES | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 18 | 22 | 14 | 21 | 11 | 9 | 6 | 15 | 20 | 7 | 19 | 3 | 2 | 12 |
| | | 5 | 13 | 8 | 1 | 23 | 16 | 10 | 4 | 17 | | | | | |
| | | RVO | LVO | DVO | LUP | MMT | EM | UP | CWT | DUF | CO | DPO | BOMCOM | BOMNAV | MSS |
| | | CARCOM | MUF | DI | FIGCOM | LPO | OPS | OBS | CARNAV | DXT | | | | | |
| 1 | 77 | 3.94 | -1.95 | -1.92 | -0.14 | -1.90 | -0.16 | 0.06 | 0.09 | 0.13 | 0.25 | -0.02 | 0.09 | -1.03 | -0.14 |
| | | 0.10 | 0.16 | -0.20 | 0.05 | -0.01 | 0.03 | -0.37 | 0.08 | 0.21 | | | | | |
| 2 | 10 | 3.75 | -1.94 | -1.75 | -0.26 | 0.11 | -0.16 | 0.03 | -0.03 | 0.01 | 0.26 | -0.06 | 0.09 | 0.14 | 0.22 |
| | | 0.10 | -0.21 | -0.20 | 0.05 | 0.07 | -0.42 | 0.02 | 0.08 | -0.04 | | | | | |
| 3 | 73 | 2.00 | -1.77 | -0.47 | 0.17 | -0.68 | -0.16 | 0.09 | -0.21 | 0.13 | 0.25 | 0.06 | 0.09 | -1.03 | -0.61 |
| | | 0.10 | 0.16 | -0.20 | 0.05 | -0.26 | 0.03 | -0.23 | 0.08 | 0.21 | | | | | |
| 4 | 101 | 2.00 | -1.77 | -0.47 | 0.30 | -0.05 | -0.16 | 0.10 | -0.22 | 0.06 | 0.25 | 0.06 | 0.09 | 0.14 | -0.61 |
| | | 0.10 | 0.20 | -0.20 | 0.05 | -0.26 | 0.03 | -0.23 | -0.49 | 0.21 | | | | | |
| 5 | 42 | 2.25 | -1.61 | 0.16 | -0.71 | -1.65 | -0.16 | -0.33 | 1.30 | 0.01 | 0.20 | 0.04 | 0.09 | 0.14 | 0.23 |
| | | 0.10 | -0.21 | -0.20 | 0.05 | -0.07 | 0.03 | 0.03 | 0.08 | -0.31 | | | | | |
| 6 | 102 | 1.04 | -1.43 | 0.50 | 0.45 | -0.37 | -0.16 | 0.11 | -0.29 | 0.06 | 0.06 | -0.01 | 0.09 | 0.14 | -0.09 |
| | | 0.10 | 0.20 | -0.20 | 0.05 | -0.01 | 0.03 | 0.20 | -0.49 | -0.04 | | | | | |
| 7 | 61 | 1.55 | -1.30 | 0.54 | -0.68 | -1.31 | -0.16 | -0.28 | 0.07 | 0.06 | 0.23 | -1.09 | 0.09 | 0.14 | 0.24 |
| | | 0.10 | 0.20 | -0.20 | 0.05 | -0.32 | 0.03 | 0.05 | 0.08 | -0.31 | | | | | |
| 8 | 44 | 1.32 | -1.31 | 0.59 | -0.69 | -0.01 | 1.07 | -0.29 | -0.02 | 0.01 | 0.20 | 0.09 | 0.09 | 0.14 | -0.09 |
| | | 0.10 | -0.21 | -0.20 | 0.05 | -0.11 | 0.03 | 0.20 | 0.08 | -0.04 | | | | | |
| 9 | 26 | 1.05 | -1.20 | 0.61 | -0.92 | -0.45 | 0.10 | -0.05 | -0.29 | 0.01 | 0.09 | 0.06 | 0.09 | 0.14 | 0.07 |
| | | 0.10 | -0.21 | 0.01 | 0.05 | -0.25 | 0.03 | -0.19 | 0.08 | -0.04 | | | | | |
| 10 | 78 | 0.99 | -1.17 | 0.61 | 0.10 | -0.31 | 0.06 | 0.10 | -0.26 | 0.13 | 0.25 | 0.02 | 0.09 | -1.03 | -0.09 |
| | | 0.10 | 0.10 | -0.20 | 0.05 | -0.05 | 0.03 | 0.20 | 0.08 | -0.04 | | | | | |
| 11 | 57 | 0.70 | -1.07 | 0.58 | -0.19 | -0.26 | -0.16 | 0.05 | -0.27 | -1.21 | -0.05 | -0.03 | 0.09 | 0.14 | 0.23 |
| | | 0.10 | -0.51 | 0.60 | 0.05 | 0.01 | 0.03 | 0.04 | 0.08 | -0.04 | | | | | |
| 12 | 89 | 0.77 | -1.06 | 0.58 | -0.36 | -0.70 | -0.16 | -0.01 | -0.19 | -1.29 | 0.06 | 0.10 | 0.09 | 0.14 | 0.22 |
| | | 0.10 | 0.53 | -0.20 | 0.05 | -0.24 | 0.03 | 0.03 | 0.08 | -0.31 | | | | | |
| 13 | 52 | 0.75 | -1.04 | 0.57 | -0.44 | -0.06 | -0.16 | -0.05 | -0.19 | 0.01 | 0.22 | -0.00 | 0.09 | 0.14 | 0.23 |
| | | 0.10 | -0.21 | -0.20 | 0.05 | -0.02 | -0.09 | 0.04 | 0.08 | -0.04 | | | | | |
| 14 | 103 | 0.65 | -1.00 | 0.55 | -0.04 | -0.51 | -0.14 | -0.00 | -0.26 | 0.05 | -0.10 | 0.17 | 0.09 | 0.14 | 0.23 |
| | | 0.10 | 0.20 | 0.04 | 0.05 | -0.17 | 0.03 | 0.04 | -0.49 | -0.04 | | | | | |
| 15 | 92 | 0.59 | -0.95 | 0.53 | -0.05 | -0.23 | -0.16 | -0.03 | -0.26 | 0.06 | 0.05 | 0.04 | 0.09 | 0.14 | 0.24 |
| | | 0.10 | 0.20 | 0.51 | 0.05 | -0.07 | 0.03 | 0.05 | 0.08 | -0.04 | | | | | |
| 16 | 41 | 0.55 | -0.93 | 0.52 | -0.01 | -0.11 | -0.16 | -0.01 | -0.21 | 0.01 | -0.01 | 0.10 | 0.09 | 0.14 | 0.24 |
| | | 0.10 | -0.21 | 0.50 | 0.05 | -0.24 | 0.03 | 0.05 | 0.08 | -0.04 | | | | | |
| 17 | 19 | 0.35 | -0.79 | 0.43 | -0.23 | 0.12 | -0.16 | 0.04 | -0.02 | 0.01 | 0.07 | 0.19 | 0.09 | 0.14 | 0.24 |
| | | 0.10 | -0.21 | 0.51 | 0.05 | -0.21 | -0.06 | 0.05 | 0.08 | -0.04 | | | | | |
| 18 | 60 | 0.34 | -0.79 | 0.43 | -1.06 | -0.23 | -0.16 | -1.48 | -0.26 | 0.06 | -0.06 | 0.12 | 0.09 | 0.14 | 0.24 |
| | | 0.10 | 0.20 | 0.52 | 0.05 | -0.13 | 0.03 | 0.05 | 0.08 | -0.04 | | | | | |
| 19 | 94 | 0.33 | -0.77 | 0.42 | 0.17 | -0.20 | -0.16 | 0.10 | -0.25 | 0.13 | 0.11 | 0.06 | -1.10 | 0.14 | -0.10 |
| | | 0.10 | 0.16 | -0.20 | 0.05 | -0.10 | 0.03 | -0.35 | 0.08 | -0.04 | | | | | |
| 20 | 43 | 0.32 | -0.77 | 0.42 | -0.36 | -0.04 | -0.16 | -0.01 | -0.16 | 0.01 | 0.10 | 0.08 | 0.09 | 0.14 | 0.24 |
| | | 0.10 | -0.21 | -0.20 | 0.05 | -0.26 | 0.22 | 0.05 | 0.08 | -0.04 | | | | | |
| 21 | 93 | 0.31 | -0.76 | 0.41 | 0.28 | 0.03 | -0.14 | 0.10 | -0.11 | 0.13 | 0.13 | -0.05 | -1.10 | 0.14 | 0.21 |
| | | 0.10 | 0.16 | -0.20 | 0.05 | 0.05 | -0.12 | 0.04 | 0.08 | 0.13 | | | | | |
| 22 | 110 | 0.31 | -0.75 | 0.41 | 0.28 | 0.03 | -0.14 | 0.10 | -0.11 | 0.06 | 0.13 | -0.05 | 0.09 | 0.14 | 0.21 |
| | | -0.07 | 0.24 | -0.20 | 0.05 | 0.05 | -0.12 | 0.00 | 0.08 | 0.13 | | | | | |
| 23 | 85 | 0.27 | -0.72 | 0.39 | 0.04 | -0.16 | -0.07 | 0.08 | -0.23 | 0.13 | 0.15 | 0.07 | 0.09 | 0.14 | 0.18 |
| | | 0.10 | 0.16 | -0.11 | 0.05 | -0.10 | 0.03 | -0.05 | 0.08 | -0.04 | | | | | |
| 24 | 51 | 0.26 | -0.72 | 0.39 | -0.04 | -1.49 | -0.16 | -0.23 | 0.02 | 0.01 | -0.60 | 0.16 | 0.09 | 0.14 | 0.24 |
| | | 0.10 | -0.21 | 0.58 | 0.05 | -0.16 | 0.03 | 0.05 | 0.08 | -0.04 | | | | | |
| 25 | 108 | 0.25 | -0.71 | 0.38 | 0.33 | -0.33 | -0.16 | 0.10 | -0.28 | 0.06 | 0.15 | 0.12 | 0.09 | 0.14 | -0.09 |
| | | 0.10 | 0.20 | -0.20 | 0.05 | -0.13 | 0.03 | 0.20 | -0.49 | 0.21 | | | | | |
| 26 | 109 | 0.25 | -0.71 | 0.38 | 0.38 | -0.33 | -0.16 | 0.10 | -0.28 | 0.06 | 0.15 | 0.12 | 0.09 | 0.14 | -0.09 |
| | | 0.10 | 0.20 | -0.20 | 0.05 | -0.13 | 0.03 | 0.20 | -0.49 | 0.21 | | | | | |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 27 | 72 | 0.25 | -0.71 | 0.38 | 0.38 | -0.33 | -0.16 | 0.18 | -0.28 | 0.13 | 0.15 | -0.88 | 0.89 | -1.03 | -0.89 |
| | | 0.18 | 0.16 | -0.28 | 0.85 | 0.23 | 0.83 | 0.28 | 0.88 | -0.84 | | | | | |
| 28 | 49 | 0.25 | -0.71 | 0.38 | -0.28 | 0.84 | -0.88 | 0.82 | -0.18 | 0.81 | 0.14 | -0.83 | 0.89 | 0.14 | 0.14 |
| | | 0.18 | -0.21 | -0.28 | 0.85 | 0.82 | 0.83 | -0.11 | 0.88 | -0.84 | | | | | |
| 29 | 17 | 0.24 | -0.78 | 0.37 | -0.77 | -0.14 | -0.13 | -0.43 | -0.28 | 0.81 | -0.11 | 0.83 | 0.89 | 0.14 | 0.22 |
| | | 0.18 | -0.21 | 0.49 | 0.85 | -0.86 | -0.88 | 0.82 | 0.88 | -0.84 | | | | | |
| 30 | 123 | 0.22 | -0.89 | 0.37 | -0.33 | -0.18 | -0.16 | 0.88 | -0.28 | 0.86 | 0.22 | 0.85 | 0.89 | 0.14 | 0.24 |
| | | -0.97 | 0.28 | 0.39 | 0.85 | -0.88 | -0.28 | 0.85 | 0.88 | -0.84 | | | | | |
| 31 | 91 | 0.22 | -0.89 | 0.36 | 0.28 | -0.28 | -0.16 | 0.18 | -0.25 | 0.13 | 0.12 | 0.12 | -1.18 | 0.14 | -0.63 |
| | | 0.18 | 0.16 | -0.28 | 0.85 | -0.13 | 0.83 | -0.21 | 0.88 | 0.21 | | | | | |
| 32 | 92 | 0.22 | -0.89 | 0.36 | 0.28 | -0.28 | -0.16 | 0.18 | -0.25 | 0.13 | 0.12 | 0.12 | -1.18 | 0.14 | -0.63 |
| | | 0.18 | 0.16 | -0.28 | 0.85 | -0.13 | 0.83 | -0.21 | 0.88 | 0.21 | | | | | |
| 33 | 119 | 0.22 | -0.89 | 0.36 | 0.27 | -0.23 | -0.16 | 0.19 | -0.26 | 0.86 | 0.12 | 0.12 | 0.89 | 0.14 | -0.63 |
| | | -0.97 | 0.28 | -0.28 | 0.85 | -0.13 | 0.83 | -0.21 | 0.88 | 0.21 | | | | | |
| 34 | 121 | 0.22 | -0.89 | 0.36 | 0.29 | -0.28 | -0.16 | 0.18 | -0.25 | 0.86 | 0.12 | 0.12 | 0.89 | 0.14 | -0.63 |
| | | -0.97 | 0.28 | -0.28 | 0.85 | -0.13 | 0.83 | -0.21 | 0.88 | 0.21 | | | | | |
| 35 | 36 | 0.18 | -0.85 | 0.34 | 0.82 | -0.14 | 0.85 | 0.88 | -0.23 | 0.81 | 0.12 | 0.81 | 0.89 | 0.14 | -0.28 |
| | | 0.18 | -0.21 | -0.28 | 0.85 | -0.84 | 0.83 | -0.39 | 0.88 | -0.84 | | | | | |
| 36 | 82 | 0.16 | -0.83 | 0.33 | -0.36 | -0.16 | -0.16 | -0.13 | -0.24 | 0.13 | -0.16 | 0.82 | 0.89 | -1.03 | 0.24 |
| | | 0.18 | 0.16 | 0.34 | 0.85 | -0.85 | 0.83 | 0.85 | 0.88 | -0.84 | | | | | |
| 37 | 124 | 0.15 | -0.82 | 0.32 | -0.48 | -0.88 | -0.16 | -0.18 | -0.19 | 0.86 | 0.17 | 0.85 | 0.89 | 0.14 | 0.24 |
| | | -0.97 | 0.28 | 0.48 | 0.85 | -0.88 | -0.34 | 0.85 | 0.88 | -0.84 | | | | | |
| 38 | 106 | 0.13 | -0.88 | 0.31 | -0.59 | -0.18 | -0.14 | -0.17 | -0.28 | 0.86 | 0.12 | 0.19 | 0.89 | 0.14 | 0.22 |
| | | 0.18 | 0.28 | 0.58 | 0.85 | -0.19 | 0.83 | 0.82 | -0.49 | -0.84 | | | | | |
| 39 | 25 | 0.12 | -0.59 | 0.30 | -0.88 | -0.18 | -0.16 | -0.58 | -0.22 | 0.81 | -0.55 | 0.11 | 0.89 | 0.14 | 0.24 |
| | | 0.18 | -0.21 | 0.44 | 0.85 | -0.12 | 0.83 | 0.85 | 0.88 | -0.84 | | | | | |
| 40 | 55 | 0.11 | -0.58 | 0.30 | -0.18 | -0.15 | -0.14 | 0.85 | -0.23 | 0.81 | 0.15 | -0.88 | 0.89 | 0.14 | 0.22 |
| | | 0.18 | -0.21 | 0.59 | 0.85 | -0.83 | 0.83 | 0.83 | 0.88 | -0.84 | | | | | |
| 41 | 54 | 0.10 | -0.58 | 0.29 | -0.16 | -0.88 | -0.14 | 0.86 | -0.19 | 0.81 | -0.85 | 0.13 | 0.89 | 0.14 | 0.22 |
| | | 0.18 | -0.21 | 0.48 | 0.85 | -0.14 | 0.83 | 0.83 | 0.88 | -0.84 | | | | | |
| 42 | 2 | 0.89 | -0.58 | 0.28 | 0.14 | -0.18 | -0.16 | 0.89 | -0.29 | 0.81 | 0.19 | 0.81 | 0.89 | 0.14 | -0.59 |
| | | 0.18 | -0.21 | -0.28 | 0.85 | -0.84 | 0.83 | -0.26 | 0.88 | 0.21 | | | | | |
| 43 | 37 | 0.85 | -0.53 | 0.26 | -0.89 | -0.55 | -0.16 | 0.87 | -0.25 | 0.81 | 0.28 | 0.18 | 0.89 | 0.14 | 0.21 |
| | | 0.18 | -0.21 | -0.28 | 0.85 | -0.28 | 0.83 | 0.81 | 0.88 | -0.31 | | | | | |
| 44 | 64 | 0.85 | -0.52 | 0.25 | 0.12 | -0.85 | -0.16 | 0.89 | -0.17 | 0.81 | 0.82 | 0.83 | 0.89 | 0.14 | 0.21 |
| | | 0.18 | -0.21 | -0.28 | -0.74 | -0.86 | 0.83 | 0.88 | 0.88 | 0.21 | | | | | |
| 45 | 65 | 0.85 | -0.52 | 0.26 | 0.12 | -0.85 | -0.16 | 0.89 | -0.17 | 0.81 | 0.82 | 0.83 | 0.89 | 0.14 | 0.21 |
| | | 0.18 | -0.21 | -0.28 | -0.74 | -0.86 | 0.83 | 0.88 | 0.88 | 0.21 | | | | | |
| 46 | 5 | -0.88 | -0.47 | 0.22 | 0.43 | -0.86 | 0.18 | 0.11 | -0.18 | 0.81 | 0.14 | 0.85 | 0.89 | 0.14 | -0.12 |
| | | 0.18 | -0.21 | -0.28 | 0.85 | -0.88 | 0.83 | -0.36 | 0.88 | -0.84 | | | | | |
| 47 | 84 | -0.81 | -0.48 | 0.22 | -0.28 | -0.85 | -0.16 | 0.82 | -0.17 | 0.13 | -0.21 | 0.85 | 0.89 | -1.03 | 0.23 |
| | | 0.18 | 0.16 | -0.28 | 0.85 | -0.86 | 0.83 | 0.83 | 0.88 | -0.84 | | | | | |
| 48 | 105 | -0.81 | -0.48 | 0.21 | -0.31 | -0.81 | -0.16 | 0.81 | -0.14 | 0.86 | -0.18 | 0.84 | 0.89 | 0.14 | 0.23 |
| | | 0.18 | 0.28 | 0.24 | 0.85 | -0.87 | 0.83 | 0.84 | -0.49 | 0.11 | | | | | |
| 49 | 87 | -0.83 | -0.43 | 0.20 | -0.28 | 0.86 | -0.16 | 0.82 | -0.88 | 0.13 | 0.82 | -0.82 | 0.89 | 0.14 | 0.24 |
| | | 0.18 | 0.16 | -0.28 | 0.85 | -0.82 | 0.83 | 0.89 | 0.88 | -0.84 | | | | | |
| 50 | 48 | -0.86 | -0.47 | 0.19 | -0.65 | 0.86 | -0.16 | -0.24 | -0.86 | 0.81 | 0.89 | 0.85 | 0.89 | 0.14 | 0.24 |
| | | 0.18 | -0.21 | -0.28 | 0.85 | -0.88 | 0.83 | 0.85 | 0.88 | -0.84 | | | | | |
| 51 | 66 | -0.89 | -0.38 | 0.18 | -0.84 | 0.83 | -0.16 | 0.88 | -0.11 | 0.81 | 0.12 | -0.82 | 0.89 | 0.14 | 0.28 |
| | | 0.18 | -0.21 | -0.28 | -0.74 | -0.81 | 0.83 | -0.81 | 0.88 | 0.21 | | | | | |
| 52 | 120 | -0.89 | -0.36 | 0.16 | 0.81 | -0.11 | -0.16 | 0.86 | -0.21 | 0.86 | 0.12 | -0.82 | 0.89 | 0.14 | 0.28 |
| | | -0.97 | 0.28 | -0.28 | 0.85 | -0.81 | 0.83 | -0.81 | 0.88 | 0.21 | | | | | |
| 53 | 114 | -0.18 | -0.34 | 0.15 | -0.24 | 0.86 | -0.16 | 0.83 | -0.88 | 0.86 | 0.83 | -0.85 | 0.89 | 0.14 | 0.24 |
| | | 0.18 | 0.28 | 0.36 | 0.85 | 0.85 | 0.83 | 0.85 | -0.49 | -0.84 | | | | | |
| 54 | 38 | -0.13 | -0.31 | 0.12 | -0.56 | 0.15 | -0.16 | -0.14 | 0.81 | 0.81 | 0.87 | -0.87 | 0.89 | 0.14 | 0.24 |
| | | 0.16 | -0.21 | 0.52 | 0.85 | 0.89 | 0.83 | 0.85 | 0.88 | -0.84 | | | | | |
| 55 | 27 | -0.14 | -0.29 | 0.12 | -0.64 | 0.86 | -0.16 | -0.23 | -0.86 | 0.81 | -0.33 | -0.83 | 0.89 | 0.14 | 0.24 |
| | | 0.18 | -0.21 | 0.13 | 0.85 | 0.82 | -0.28 | 0.85 | 0.88 | -0.84 | | | | | |
| 56 | 83 | -0.14 | -0.29 | 0.12 | -0.64 | 0.86 | 0.19 | -0.33 | -0.86 | 0.13 | -0.33 | -0.83 | 0.89 | -1.03 | 0.24 |
| | | 0.18 | 0.16 | 0.13 | 0.85 | 0.82 | 0.83 | 0.85 | 0.85 | -0.84 | | | | | |
| 57 | 59 | -0.18 | -0.23 | 0.88 | -0.28 | -0.81 | -0.16 | 0.82 | -0.14 | 0.86 | 0.84 | 0.11 | 0.89 | 0.14 | 0.24 |
| | | 0.18 | 0.28 | -0.28 | 0.85 | -0.13 | 0.22 | 0.85 | 0.88 | -0.84 | | | | | |
| 58 | 58 | -0.18 | -0.23 | 0.88 | -0.33 | 0.14 | -0.15 | 0.81 | 0.88 | 0.81 | -0.11 | -0.83 | 0.89 | 0.14 | 0.23 |
| | | 0.18 | -0.21 | 0.45 | 0.85 | 0.81 | -0.89 | 0.83 | 0.88 | -0.84 | | | | | |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 59 | 46 | -0.21 | -0.19 | 0.06 | -0.37 | 0.22 | 1.67 | -0.01 | 0.14 | -0.35 | 0.25 | -0.07 | 0.09 | 0.14 | -0.09 |
| | | 0.10 | 0.14 | -0.20 | 0.05 | 0.09 | 0.03 | 0.20 | 0.08 | -0.04 | | | | | |
| 60 | 12 | -0.23 | -0.15 | 0.04 | -0.27 | 0.02 | -0.16 | 0.03 | -0.12 | 0.01 | 0.25 | -0.06 | 0.09 | 0.14 | 0.16 |
| | | 0.10 | -0.21 | -0.20 | 0.05 | 0.07 | 0.03 | -0.06 | 0.04 | 0.21 | | | | | |
| 61 | 33 | -0.25 | -0.17 | 0.02 | 0.19 | 0.04 | -0.11 | 0.10 | -0.17 | 0.01 | 0.29 | 0.19 | 0.09 | 0.14 | 0.19 |
| | | 0.10 | -0.21 | -0.20 | 0.05 | -0.20 | 0.03 | -0.03 | 0.08 | -0.04 | | | | | |
| 62 | 47 | -0.29 | -0.05 | -0.01 | 0.45 | 0.15 | -0.14 | 0.11 | 0.01 | 0.01 | -0.06 | -0.03 | 0.09 | 0.14 | 0.22 |
| | | 0.10 | -0.21 | 0.57 | 0.05 | 0.02 | -0.03 | 0.02 | 0.08 | -0.04 | | | | | |
| 63 | 21 | -0.32 | -0.04 | -0.02 | 0.09 | 0.05 | -0.16 | 0.09 | -0.06 | 0.01 | -0.29 | -0.05 | 0.09 | 0.14 | 0.24 |
| | | 0.10 | -0.21 | 0.42 | 0.05 | 0.04 | 0.03 | 0.05 | 0.08 | 0.21 | | | | | |
| 64 | 115 | -0.33 | -0.04 | -0.02 | 0.09 | 0.06 | -0.16 | 0.09 | -0.06 | 0.06 | -0.29 | -0.05 | 0.09 | 0.14 | 0.24 |
| | | 0.10 | 0.20 | 0.42 | 0.05 | 0.04 | 0.03 | 0.05 | -0.49 | 0.21 | | | | | |
| 65 | 32 | -0.32 | 0.08 | -0.04 | -0.34 | 0.15 | -0.01 | 0.08 | 0.01 | 0.01 | 0.08 | -0.10 | 0.09 | 0.14 | 0.14 |
| | | 0.10 | -0.21 | -0.20 | 0.05 | 0.20 | 0.04 | -0.10 | 0.08 | -0.04 | | | | | |
| 66 | 53 | -0.33 | 0.02 | -0.05 | -0.32 | 0.10 | -0.16 | 0.01 | 0.04 | 0.01 | -0.25 | -0.03 | 0.09 | 0.14 | 0.24 |
| | | 0.10 | -0.21 | 0.46 | 0.05 | 0.01 | 0.02 | 0.05 | 0.08 | -0.04 | | | | | |
| 67 | 29 | -0.35 | 0.06 | -0.06 | -0.01 | 0.13 | -0.15 | -0.19 | -0.01 | 0.01 | 0.06 | -0.03 | 0.09 | 0.14 | 0.24 |
| | | 0.10 | -0.21 | -0.20 | 0.05 | 0.01 | -0.29 | 0.05 | 0.08 | -0.04 | | | | | |
| 68 | 13 | -0.35 | 0.08 | -0.07 | -0.10 | 0.17 | -0.16 | 0.07 | 0.04 | 0.01 | -0.06 | 0.08 | 0.09 | 0.14 | 0.24 |
| | | 0.10 | -0.21 | 0.58 | 0.05 | -0.03 | -0.08 | 0.05 | 0.08 | -0.04 | | | | | |
| 69 | 34 | -0.37 | 0.11 | -0.08 | 0.48 | 0.17 | -0.16 | 0.10 | 0.03 | 0.01 | -0.76 | -0.05 | 0.09 | 0.14 | 0.24 |
| | | 0.10 | -0.21 | -0.20 | 0.05 | 0.04 | 0.03 | 0.05 | 0.08 | -0.04 | | | | | |
| 70 | 90 | -0.37 | 0.11 | -0.08 | 0.02 | 0.10 | -0.14 | 0.06 | 0.04 | 0.13 | -0.79 | 0.01 | 0.09 | 0.14 | 0.22 |
| | | 0.10 | 0.10 | -0.20 | 0.05 | -0.04 | 0.03 | 0.03 | 0.08 | -0.04 | | | | | |
| 71 | 24 | -0.37 | 0.13 | -0.09 | -0.09 | 0.23 | -0.14 | 0.07 | 0.10 | 0.01 | -0.22 | 0.01 | 0.09 | 0.14 | 0.24 |
| | | 0.10 | -0.21 | 0.56 | 0.05 | -0.04 | -0.06 | 0.05 | 0.08 | -0.04 | | | | | |
| 72 | 15 | -0.37 | 0.13 | -0.09 | -0.32 | 0.23 | -0.16 | 0.01 | 0.10 | 0.01 | -0.12 | 0.09 | 0.09 | 0.14 | 0.24 |
| | | 0.10 | -0.21 | 0.60 | 0.05 | -0.03 | 0.03 | 0.05 | 0.08 | -0.04 | | | | | |
| 73 | 96 | -0.38 | 0.14 | -0.10 | -0.07 | 0.09 | 0.42 | 0.07 | -0.05 | 0.13 | 0.12 | -0.02 | -1.10 | 0.14 | 0.24 |
| | | 0.10 | 0.15 | -0.20 | 0.05 | -0.01 | -0.33 | 0.05 | 0.08 | -0.04 | | | | | |
| 74 | 8 | -0.39 | 0.15 | -0.10 | -0.20 | 0.20 | 0.04 | 0.05 | 0.07 | 0.01 | 0.12 | -0.01 | 0.09 | 0.14 | -0.51 |
| | | 0.10 | -0.21 | -0.20 | 0.05 | -0.02 | 0.03 | -0.32 | 0.08 | -0.04 | | | | | |
| 75 | 38 | -0.39 | 0.17 | -0.11 | 0.19 | 0.23 | 1.67 | 0.09 | 0.11 | 0.01 | 0.25 | 0.10 | 0.09 | 0.14 | -0.69 |
| | | 0.10 | -0.21 | -0.20 | 0.05 | -0.12 | 0.03 | 0.20 | 0.08 | -0.04 | | | | | |
| 76 | 127 | -0.40 | 0.19 | -0.11 | 0.34 | 0.10 | -0.15 | 0.10 | 0.04 | 0.06 | -0.14 | 0.04 | 0.09 | 0.14 | 0.24 |
| | | -0.07 | 0.20 | -0.20 | 0.05 | -0.07 | 0.03 | 0.05 | 0.08 | 0.21 | | | | | |
| 77 | 39 | -0.40 | 0.19 | -0.12 | 0.39 | 0.19 | -0.16 | 0.10 | 0.05 | 0.01 | -0.07 | 0.07 | 0.09 | 0.14 | 0.24 |
| | | 0.10 | -0.21 | -0.20 | 0.05 | -0.09 | 0.03 | 0.05 | 0.08 | -0.04 | | | | | |
| 78 | 40 | -0.41 | 0.21 | -0.12 | -0.15 | 0.07 | -0.16 | 0.06 | -0.07 | -1.29 | -0.22 | 0.16 | 0.09 | 0.14 | 0.24 |
| | | 0.10 | 0.53 | 0.60 | 0.05 | -0.24 | 0.03 | 0.05 | 0.08 | -0.04 | | | | | |
| 79 | 104 | -0.45 | 0.32 | -0.16 | 0.15 | 0.21 | -0.14 | 0.09 | 0.08 | 0.06 | -0.16 | -0.01 | 0.09 | 0.14 | 0.23 |
| | | 0.10 | 0.20 | -0.20 | 0.05 | -0.02 | 0.03 | 0.03 | -0.49 | -0.04 | | | | | |
| 80 | 56 | -0.45 | 0.32 | -0.15 | -0.13 | 0.30 | -0.15 | 0.06 | 0.20 | 0.01 | -0.12 | -0.00 | 0.09 | 0.14 | 0.23 |
| | | 0.10 | -0.21 | 0.59 | 0.05 | -0.03 | 0.03 | 0.04 | 0.08 | -0.04 | | | | | |
| 81 | 88 | -0.45 | 0.34 | -0.17 | 0.39 | 0.23 | -0.16 | 0.10 | 0.10 | 0.13 | 0.16 | -0.03 | 0.09 | -1.03 | -0.47 |
| | | 0.10 | 0.16 | -0.20 | 0.05 | 0.01 | 0.03 | -0.35 | 0.05 | -0.04 | | | | | |
| 82 | 1 | -0.47 | 0.38 | -0.18 | -0.05 | 0.15 | 0.10 | 0.07 | 0.02 | 0.01 | 0.08 | 0.01 | 0.09 | 0.14 | 0.08 |
| | | 0.10 | -0.21 | -0.20 | 0.05 | -0.04 | 0.03 | -0.18 | 0.08 | -0.04 | | | | | |
| 83 | 107 | -0.47 | 0.40 | -0.19 | -0.11 | 0.08 | -0.14 | 0.06 | -0.13 | 0.06 | -0.01 | 0.10 | 0.09 | 0.14 | 0.23 |
| | | 0.10 | 0.20 | -0.20 | 0.05 | -0.19 | 0.03 | 0.03 | -0.49 | -0.04 | | | | | |
| 84 | 58 | -0.47 | 0.41 | -0.19 | 0.10 | 0.17 | -0.11 | 0.04 | 0.04 | 0.01 | -0.01 | -0.08 | 0.09 | 0.14 | 0.21 |
| | | 0.10 | -0.21 | 0.27 | -0.74 | 0.16 | 0.03 | -0.09 | 0.08 | -0.04 | | | | | |
| 85 | 10 | -0.48 | 0.42 | -0.19 | -0.02 | 0.20 | 1.06 | 0.04 | 0.07 | 0.01 | 0.23 | -0.01 | 0.09 | 0.14 | -0.52 |
| | | 0.10 | -0.21 | -0.20 | 0.05 | -0.02 | 0.03 | -0.32 | 0.08 | -0.04 | | | | | |
| 86 | 110 | -0.49 | 0.47 | -0.21 | 0.52 | 0.20 | -0.16 | 0.11 | 0.07 | 0.06 | 0.10 | 0.10 | 0.09 | 0.14 | -0.55 |
| | | 0.10 | 0.20 | -0.20 | 0.05 | -0.10 | 0.02 | -0.20 | -0.49 | -0.04 | | | | | |
| 87 | 125 | -0.50 | 0.49 | -0.21 | -0.21 | 0.21 | -0.16 | 0.04 | 0.08 | 0.06 | 0.16 | -0.02 | 0.09 | 0.14 | 0.24 |
| | | -0.07 | 0.20 | -0.20 | 0.05 | -0.01 | 0.03 | 0.05 | 0.08 | 0.21 | | | | | |
| 88 | 95 | -0.50 | 0.51 | -0.22 | -0.27 | 0.21 | -0.16 | 0.03 | 0.08 | 0.13 | 0.16 | -0.02 | -1.10 | 0.14 | 0.24 |
| | | 0.10 | 0.10 | -0.20 | 0.05 | -0.01 | 0.03 | 0.05 | 0.08 | 0.21 | | | | | |
| 89 | 67 | -0.50 | 0.51 | -0.22 | -0.07 | 0.20 | -0.16 | 0.07 | 0.07 | 0.01 | -0.20 | -0.07 | 0.09 | 0.14 | 0.24 |
| | | 0.10 | -0.21 | -0.20 | -0.74 | 0.08 | 0.03 | 0.05 | 0.08 | 0.21 | | | | | |
| 90 | 111 | -0.51 | 0.53 | -0.22 | 0.44 | 0.26 | 1.06 | 0.11 | 0.14 | 0.06 | 0.21 | 0.19 | 0.09 | 0.14 | -0.89 |
| | | 0.10 | 0.20 | -0.20 | 0.05 | -0.19 | 0.03 | 0.20 | -0.49 | -0.04 | | | | | |
| 91 | 45 | -0.54 | 0.58 | -0.26 | -0.21 | 0.27 | -0.12 | 0.04 | 0.18 | -0.35 | -0.08 | 0.05 | 0.09 | 0.14 | 0.22 |
| | | 0.10 | 0.34 | -0.20 | 0.05 | -0.08 | 0.03 | 0.02 | 0.08 | -0.04 | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 92 | 28 | -0.55 | 0.71 | -0.27 | 0.04 | 0.28 | -0.85 | 0.09 | 0.17 | -1.21 | 0.07 | -0.09 | 0.09 | 0.14 | 0.24 |
| | | 0.10 | -0.51 | 0.17 | 0.05 | 0.10 | 0.03 | 0.05 | 0.08 | -0.04 | | | | | |
| 93 | 108 | -0.55 | 0.71 | -0.27 | 0.58 | 0.27 | -0.16 | 0.11 | 0.16 | 0.05 | 0.12 | -0.09 | 0.09 | 0.14 | 0.24 |
| | | 0.10 | 0.28 | -0.28 | 0.05 | 0.21 | 0.03 | 0.05 | -0.49 | -0.04 | | | | | |
| 94 | 71 | -0.56 | 0.75 | -0.28 | 0.62 | 0.27 | -0.03 | 0.11 | 0.16 | 0.13 | 0.11 | -0.10 | 0.09 | -1.03 | 0.16 |
| | | 0.10 | 0.16 | -0.20 | 0.05 | 0.32 | 0.03 | -0.08 | 0.08 | -0.04 | | | | | |
| 95 | 81 | -0.55 | 0.76 | -0.28 | 0.45 | 0.28 | -0.16 | 0.11 | 0.17 | 0.13 | 0.05 | -0.12 | 0.09 | -1.03 | 0.24 |
| | | 0.10 | 0.16 | -0.28 | 0.05 | 0.34 | 0.03 | 0.05 | 0.08 | -0.04 | | | | | |
| 96 | 69 | -0.56 | 0.79 | -0.28 | 0.47 | 0.22 | -0.16 | 0.11 | 0.10 | 0.01 | -0.30 | -0.08 | 0.09 | 0.14 | 0.24 |
| | | 0.10 | -0.21 | 0.22 | -0.74 | 0.15 | -0.42 | 0.05 | 0.08 | -0.04 | | | | | |
| 97 | 75 | -0.57 | 0.82 | -0.29 | 0.37 | 0.24 | 1.67 | 0.10 | 0.12 | 0.13 | 0.25 | -0.05 | 0.09 | -1.03 | -0.09 |
| | | 0.10 | 0.16 | -0.28 | 0.05 | 0.04 | 0.03 | 0.28 | 0.08 | -0.04 | | | | | |
| 98 | 122 | -0.58 | 0.87 | -0.30 | 0.15 | 0.26 | -0.16 | 0.09 | 0.14 | 0.06 | -1.08 | -0.08 | 0.09 | 0.14 | 0.24 |
| | | -0.07 | 0.28 | 0.15 | 0.05 | 0.15 | 0.03 | 0.05 | 0.08 | 0.17 | | | | | |
| 97 | 76 | -0.57 | 0.82 | -0.29 | 0.37 | 0.24 | 1.67 | 0.10 | 0.12 | 0.13 | 0.25 | -0.05 | 0.09 | -1.03 | -0.09 |
| | | 0.10 | 0.16 | -0.28 | 0.05 | 0.04 | 0.03 | 0.28 | 0.08 | -0.04 | | | | | |
| 98 | 122 | -0.58 | 0.87 | -0.30 | 0.15 | 0.26 | -0.16 | 0.09 | 0.14 | 0.06 | -1.08 | -0.08 | 0.09 | 0.14 | 0.24 |
| | | -0.07 | 0.28 | 0.15 | 0.05 | 0.15 | 0.03 | 0.05 | 0.08 | 0.17 | | | | | |
| 99 | 86 | -0.59 | 0.94 | -0.31 | 0.78 | 0.26 | 1.67 | 0.11 | 0.15 | 0.13 | 0.25 | -0.05 | 0.09 | 0.14 | -0.09 |
| | | 0.10 | 0.16 | -0.28 | 0.05 | 0.04 | 0.03 | 0.28 | 0.08 | -0.04 | | | | | |
| 100 | 86 | -0.59 | 0.94 | -0.31 | 0.78 | 0.26 | 1.67 | 0.11 | 0.15 | 0.13 | 0.25 | -0.05 | 0.09 | 0.14 | -0.09 |
| | | 0.10 | 0.16 | -0.28 | 0.05 | 0.04 | 0.03 | 0.28 | 0.08 | -0.04 | | | | | |
| 101 | 11 | -0.60 | 1.02 | -0.33 | 0.21 | 0.29 | -0.16 | 0.10 | 0.16 | 0.01 | 0.11 | -0.09 | 0.09 | 0.14 | 0.24 |
| | | 0.10 | -0.21 | -0.28 | 0.05 | 0.21 | 0.03 | 0.05 | 0.08 | -0.04 | | | | | |
| 102 | 22 | -0.63 | 1.23 | -0.35 | 0.53 | 0.30 | -0.16 | 0.11 | 0.28 | 0.01 | -0.61 | -0.09 | 0.09 | 0.14 | 0.24 |
| | | 0.10 | -0.21 | 0.28 | 0.05 | 0.10 | 0.03 | 0.05 | 0.08 | -0.04 | | | | | |
| 103 | 110 | -0.63 | 1.23 | -0.35 | 0.53 | 0.30 | -0.16 | 0.11 | 0.28 | 0.06 | -0.61 | -0.09 | 0.09 | 0.14 | 0.24 |
| | | 0.10 | 0.28 | 0.28 | 0.05 | 0.10 | 0.03 | 0.05 | -0.49 | -0.04 | | | | | |
| 104 | 128 | -0.63 | 1.27 | -0.36 | 0.78 | 0.32 | -0.16 | 0.11 | 0.27 | 0.05 | 0.21 | -0.10 | 0.09 | 0.14 | 0.24 |
| | | -0.07 | 0.28 | -0.28 | 0.05 | 0.32 | 0.03 | 0.05 | 0.08 | -0.04 | | | | | |
| 105 | 9 | -0.63 | 1.29 | -0.36 | -0.12 | 0.28 | -0.12 | 0.06 | 0.07 | 0.01 | -0.32 | 0.09 | 0.09 | 0.14 | 0.21 |
| | | 0.10 | -0.21 | 0.10 | 0.05 | -0.11 | 0.03 | 0.01 | 0.08 | -0.04 | | | | | |
| 106 | 97 | -0.64 | 1.33 | -0.37 | -0.03 | 0.31 | -0.16 | 0.08 | 0.22 | 0.13 | -0.44 | -0.08 | -1.10 | 0.14 | 0.24 |
| | | 0.10 | 0.15 | -0.28 | 0.05 | 0.07 | 0.03 | 0.05 | 0.08 | -0.04 | | | | | |
| 107 | 126 | -0.64 | 1.33 | -0.37 | 0.13 | 0.31 | -0.16 | 0.09 | 0.21 | 0.06 | -0.44 | -0.08 | 0.09 | 0.14 | 0.24 |
| | | -0.07 | 0.28 | -0.28 | 0.05 | 0.07 | 0.03 | 0.05 | 0.08 | -0.04 | | | | | |
| 108 | 7 | -0.64 | 1.35 | -0.37 | 0.45 | 0.35 | -0.11 | 0.11 | 0.27 | 0.01 | 0.13 | -0.05 | 0.09 | 0.14 | 0.20 |
| | | 0.10 | -0.21 | -0.28 | 0.05 | 0.05 | 0.03 | -0.01 | 0.08 | -0.04 | | | | | |
| 109 | 79 | -0.64 | 1.35 | -0.37 | 0.57 | 0.32 | -0.16 | 0.11 | 0.23 | 0.13 | 0.08 | -0.08 | 0.09 | -1.03 | 0.08 |
| | | 0.10 | 0.15 | -0.28 | 0.05 | 0.15 | 0.03 | -0.16 | 0.08 | -0.04 | | | | | |
| 110 | 50 | -0.65 | 1.43 | -0.38 | 0.23 | 0.32 | 0.02 | 0.10 | 0.23 | 0.01 | 0.22 | -0.09 | 0.09 | 0.14 | 0.12 |
| | | 0.10 | -0.21 | 0.52 | 0.05 | 0.21 | 0.03 | -0.13 | 0.08 | -0.04 | | | | | |
| 111 | 35 | -0.66 | 1.62 | -0.39 | 0.35 | 0.32 | -0.16 | 0.10 | 0.22 | 0.01 | 0.03 | -0.10 | 0.09 | 0.14 | 0.24 |
| | | 0.10 | -0.21 | -0.28 | 0.05 | 0.32 | 0.03 | 0.05 | 0.08 | -0.04 | | | | | |
| 112 | 117 | -0.65 | 1.62 | -0.39 | 0.83 | 0.34 | -0.16 | 0.11 | 0.25 | 0.05 | 0.06 | -0.10 | 0.09 | 0.14 | 0.24 |
| | | 0.10 | 0.28 | -0.28 | 0.05 | 0.28 | 0.03 | 0.05 | -0.49 | -0.04 | | | | | |
| 113 | 6 | -0.66 | 1.65 | -0.39 | 0.69 | 0.32 | -0.16 | 0.11 | 0.22 | 0.01 | 0.24 | -0.09 | 0.09 | 0.14 | 0.24 |
| | | 0.10 | -0.21 | -0.28 | 0.05 | 0.21 | 0.03 | 0.05 | 0.08 | -0.04 | | | | | |
| 114 | 112 | -0.66 | 1.65 | -0.39 | 0.12 | 0.34 | 0.75 | 0.09 | 0.25 | 0.06 | 0.28 | -0.10 | 0.09 | 0.14 | -0.33 |
| | | 0.10 | 0.28 | -0.28 | 0.05 | 0.32 | 0.03 | -0.48 | -0.49 | -0.04 | | | | | |
| 115 | 74 | -0.66 | 1.69 | -0.40 | 1.15 | 0.33 | -0.16 | 0.11 | 0.24 | 0.13 | 0.08 | -0.09 | 0.09 | -1.03 | -0.09 |
| | | 0.10 | 0.16 | -0.28 | 0.05 | 0.23 | 0.03 | 0.28 | 0.08 | -0.04 | | | | | |
| 116 | 16 | -0.67 | 1.77 | -0.40 | 0.37 | 0.34 | -0.16 | 0.10 | 0.25 | 0.01 | 0.06 | -0.10 | 0.09 | 0.14 | 0.24 |
| | | 0.10 | -0.21 | -0.28 | 0.05 | 0.32 | 0.03 | 0.05 | 0.08 | -0.04 | | | | | |
| 117 | 78 | -0.67 | 1.77 | -0.40 | 0.36 | 0.34 | -0.16 | 0.10 | 0.25 | 0.01 | -0.15 | -0.10 | 0.09 | 0.14 | 0.24 |
| | | 0.10 | -0.21 | 0.51 | -0.74 | 0.41 | -0.17 | 0.05 | 0.08 | -0.04 | | | | | |
| 118 | 99 | -0.67 | 1.88 | -0.41 | -0.03 | 0.32 | -0.16 | 0.08 | 0.22 | 0.13 | 0.08 | -0.10 | -1.10 | 0.14 | 0.19 |
| | | 0.10 | 0.16 | -0.28 | 0.05 | 0.28 | 0.03 | -0.02 | 0.08 | 0.21 | | | | | |
| 119 | 88 | -0.69 | 2.39 | -0.43 | 0.81 | 0.35 | -0.16 | 0.11 | 0.27 | 0.13 | 0.05 | -0.10 | -1.10 | 0.14 | 0.24 |
| | | 0.10 | 0.16 | -0.28 | 0.05 | 0.29 | 0.03 | 0.05 | 0.08 | -0.04 | | | | | |
| 120 | 78 | -0.69 | 2.54 | -0.43 | 1.14 | 0.35 | -0.16 | 0.11 | 0.27 | 0.13 | 0.01 | -0.08 | 0.09 | -1.03 | -0.09 |
| | | 0.10 | 0.16 | -0.28 | 0.05 | 0.15 | 0.03 | 0.28 | 0.08 | -0.04 | | | | | |

LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

G&M MODEL RUN2 DEP VAR IS LNTSMA RESIDUAL ROOT MEAN SQUARE OF FITTED EQUATION: 0.48

STANDARD DEVIATION ESTIMATED FROM RESIDUALS OF NEIGHBORING OBSERVATIONS (OBSERVATIONS 1 TO 4 APART IN FITTED Y ORDER).

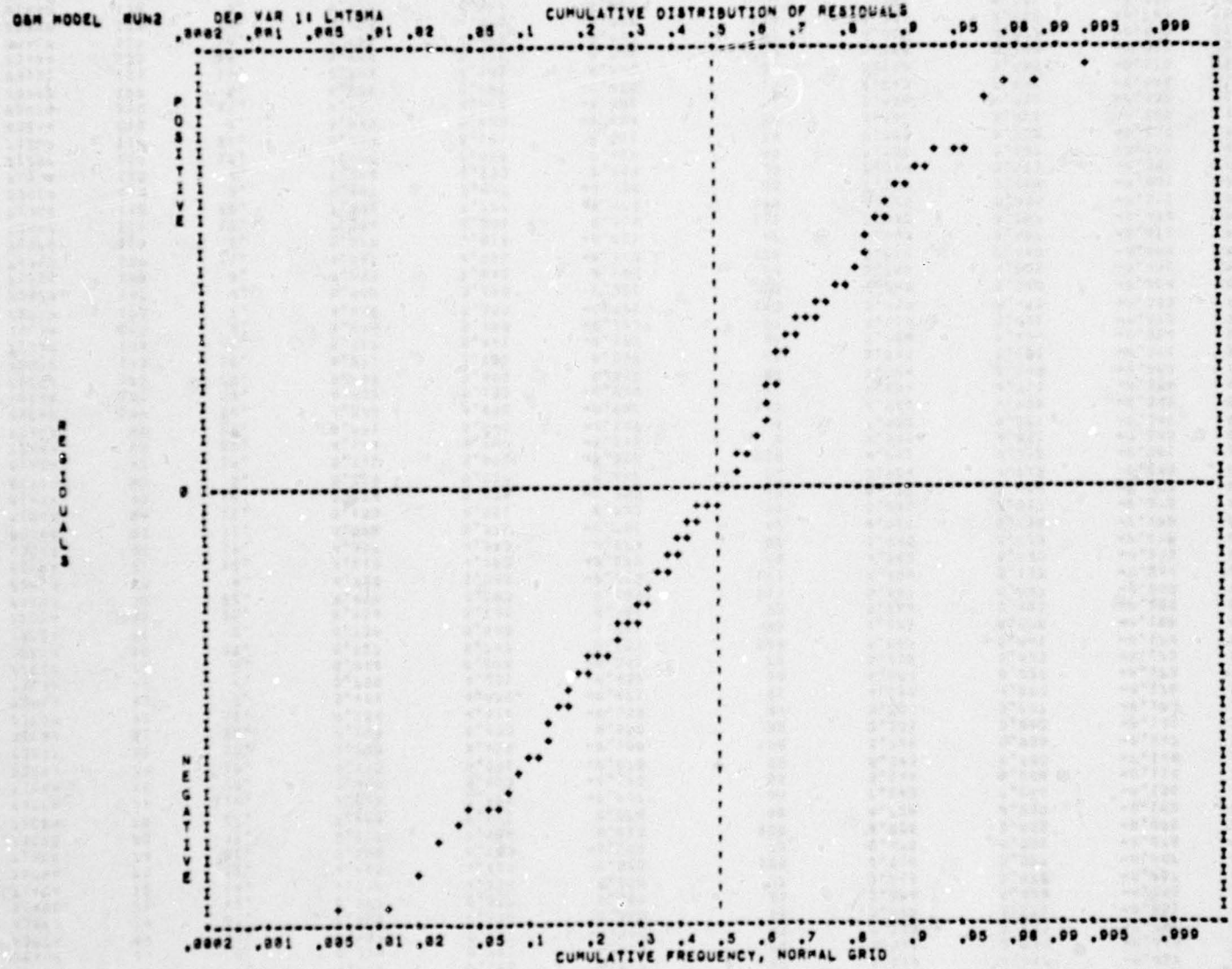
| NO. | CUMULATIVE STD DEV | ORDERED BY WSSD: WSSD | OBSV. | OBSV. | DEL RESIDUALS | ORDERED BY FITTED Y: WSSD | DEL RESIDUALS | FITTED Y | OBSV. | SEQ. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.00 | 0.0 | 88 | 88 | 0.00 | 81.75 | 0.51 | 3.85 | 26 | 1 |
| 2 | 0.26 | 0.0 | 65 | 64 | 0.42 | 88.74 | 0.92 | 3.87 | 77 | 2 |
| 3 | 0.25 | 0.0 | 92 | 91 | 0.24 | 29.46 | 0.39 | 3.89 | 81 | 3 |
| 4 | 0.35 | 0.00 | 119 | 121 | 0.64 | 7.21 | 0.71 | 3.92 | 193 | 4 |
| 5 | 0.35 | 0.01 | 198 | 189 | 0.36 | 25.43 | 0.76 | 3.94 | 69 | 5 |
| 6 | 0.31 | 0.11 | 35 | 16 | 0.12 | 20.53 | 0.69 | 4.00 | 80 | 6 |
| 7 | 0.31 | 0.16 | 13 | 14 | 0.33 | 11.66 | 0.14 | 4.21 | 25 | 7 |
| 8 | 0.31 | 0.32 | 81 | 71 | 0.32 | 18.73 | 0.51 | 4.22 | 84 | 8 |
| 9 | 0.32 | 0.32 | 15 | 14 | 0.37 | 0.0 | 0.24 | 4.28 | 92 | 9 |
| 10 | 0.36 | 0.38 | 15 | 13 | 0.78 | 11.31 | 0.13 | 4.28 | 91 | 10 |
| 11 | 0.33 | 0.39 | 54 | 55 | 0.84 | 13.39 | 0.56 | 4.31 | 119 | 11 |
| 12 | 0.36 | 0.47 | 66 | 64 | 0.78 | 17.33 | 0.54 | 4.32 | 72 | 12 |
| 13 | 0.35 | 0.47 | 66 | 65 | 0.27 | 21.79 | 1.67 | 4.35 | 94 | 13 |
| 14 | 0.34 | 0.59 | 58 | 53 | 0.15 | 23.56 | 1.21 | 4.35 | 83 | 14 |
| 15 | 0.42 | 0.72 | 87 | 59 | 1.57 | 18.28 | 0.38 | 4.36 | 121 | 15 |
| 16 | 0.41 | 0.74 | 16 | 6 | 0.38 | 79.99 | 0.41 | 4.37 | 27 | 16 |
| 17 | 0.49 | 0.77 | 35 | 6 | 0.18 | 67.81 | 0.18 | 4.42 | 73 | 17 |
| 18 | 0.44 | 0.81 | 7 | 35 | 1.29 | 24.28 | 0.29 | 4.48 | 51 | 18 |
| 19 | 0.42 | 1.01 | 13 | 21 | 0.13 | 12.42 | 0.34 | 4.48 | 124 | 19 |
| 20 | 0.41 | 1.07 | 12 | 32 | 0.86 | 14.62 | 0.44 | 4.51 | 82 | 20 |
| 21 | 0.49 | 1.09 | 21 | 14 | 0.20 | 15.29 | 0.49 | 4.62 | 29 | 21 |
| 22 | 0.44 | 1.24 | 7 | 16 | 1.31 | 1.53 | 0.19 | 4.72 | 41 | 22 |
| 23 | 0.42 | 1.37 | 34 | 98 | 0.88 | 7.58 | 0.35 | 4.73 | 17 | 23 |
| 24 | 0.41 | 1.53 | 41 | 17 | 0.19 | 15.29 | 0.88 | 4.73 | 37 | 24 |
| 25 | 0.42 | 1.79 | 92 | 94 | 0.73 | 17.71 | 0.72 | 4.74 | 57 | 25 |
| 26 | 0.44 | 1.79 | 91 | 94 | 0.97 | 19.87 | 0.79 | 4.78 | 48 | 26 |
| 27 | 0.45 | 1.83 | 15 | 21 | 0.57 | 8.73 | 0.28 | 4.83 | 88 | 27 |
| 28 | 0.43 | 1.95 | 43 | 52 | 0.86 | 5.78 | 0.46 | 4.85 | 8 | 28 |
| 29 | 0.43 | 1.99 | 79 | 71 | 0.43 | 4.33 | 0.86 | 4.92 | 2 | 29 |
| 30 | 0.44 | 2.16 | 81 | 79 | 0.75 | 16.62 | 0.79 | 4.95 | 198 | 30 |
| 31 | 0.43 | 2.29 | 116 | 22 | 0.81 | 18.91 | 0.43 | 4.99 | 123 | 31 |
| 32 | 0.42 | 2.28 | 59 | 33 | 0.12 | 14.31 | 0.28 | 5.00 | 189 | 32 |
| 33 | 0.44 | 2.34 | 52 | 49 | 0.91 | 8.78 | 0.18 | 5.02 | 128 | 33 |
| 34 | 0.45 | 2.42 | 30 | 54 | 1.12 | 0.47 | 0.27 | 5.03 | 66 | 34 |
| 35 | 0.46 | 2.45 | 117 | 6 | 0.66 | 0.0 | 0.42 | 5.04 | 85 | 35 |
| 36 | 0.46 | 2.62 | 56 | 47 | 0.33 | 55.12 | 0.44 | 5.04 | 64 | 36 |
| 37 | 0.47 | 2.64 | 69 | 68 | 1.11 | 30.55 | 0.93 | 5.14 | 181 | 37 |
| 38 | 0.49 | 2.97 | 87 | 114 | 1.13 | 83.36 | 0.85 | 5.18 | 42 | 38 |
| 39 | 0.49 | 2.98 | 114 | 38 | 0.43 | 13.52 | 0.58 | 5.18 | 67 | 39 |
| 40 | 0.50 | 2.98 | 54 | 85 | 0.81 | 27.39 | 0.23 | 5.24 | 96 | 40 |
| 41 | 0.49 | 3.09 | 35 | 58 | 0.38 | 24.22 | 0.47 | 5.28 | 62 | 41 |
| 42 | 0.49 | 3.13 | 39 | 21 | 0.22 | 10.71 | 0.83 | 5.33 | 197 | 42 |
| 43 | 0.49 | 3.14 | 58 | 87 | 0.78 | 29.39 | 0.46 | 5.36 | 186 | 43 |
| 44 | 0.51 | 3.22 | 115 | 13 | 1.83 | 21.95 | 0.54 | 5.43 | 95 | 44 |
| 45 | 0.51 | 3.22 | 35 | 117 | 0.84 | 23.78 | 0.22 | 5.43 | 36 | 45 |
| 46 | 0.52 | 3.23 | 18 | 117 | 0.96 | 54.11 | 0.78 | 5.45 | 48 | 46 |
| 47 | 0.52 | 3.29 | 11 | 198 | 0.49 | 21.64 | 0.82 | 5.46 | 192 | 47 |
| 48 | 0.53 | 3.30 | 114 | 54 | 0.69 | 5.15 | 0.18 | 5.46 | 43 | 48 |
| 49 | 0.52 | 3.34 | 49 | 12 | 0.19 | 22.37 | 0.59 | 5.46 | 185 | 49 |
| 50 | 0.51 | 3.35 | 30 | 13 | 0.19 | 44.19 | 0.44 | 5.47 | 122 | 50 |
| 51 | 0.51 | 3.41 | 22 | 7 | 0.24 | 21.29 | 0.51 | 5.49 | 52 | 51 |
| 52 | 0.50 | 3.42 | 16 | 58 | 0.24 | 11.84 | 1.41 | 5.50 | 34 | 52 |
| 53 | 0.49 | 3.42 | 96 | 95 | 0.14 | 22.39 | 0.95 | 5.51 | 49 | 53 |
| 54 | 0.49 | 3.43 | 59 | 114 | 0.44 | 13.43 | 0.78 | 5.52 | 28 | 54 |
| 55 | 0.50 | 3.47 | 55 | 85 | 0.77 | 6.96 | 1.38 | 5.52 | 12 | 55 |
| 56 | 0.50 | 3.54 | 58 | 59 | 0.79 | 9.61 | 1.43 | 5.54 | 98 | 56 |

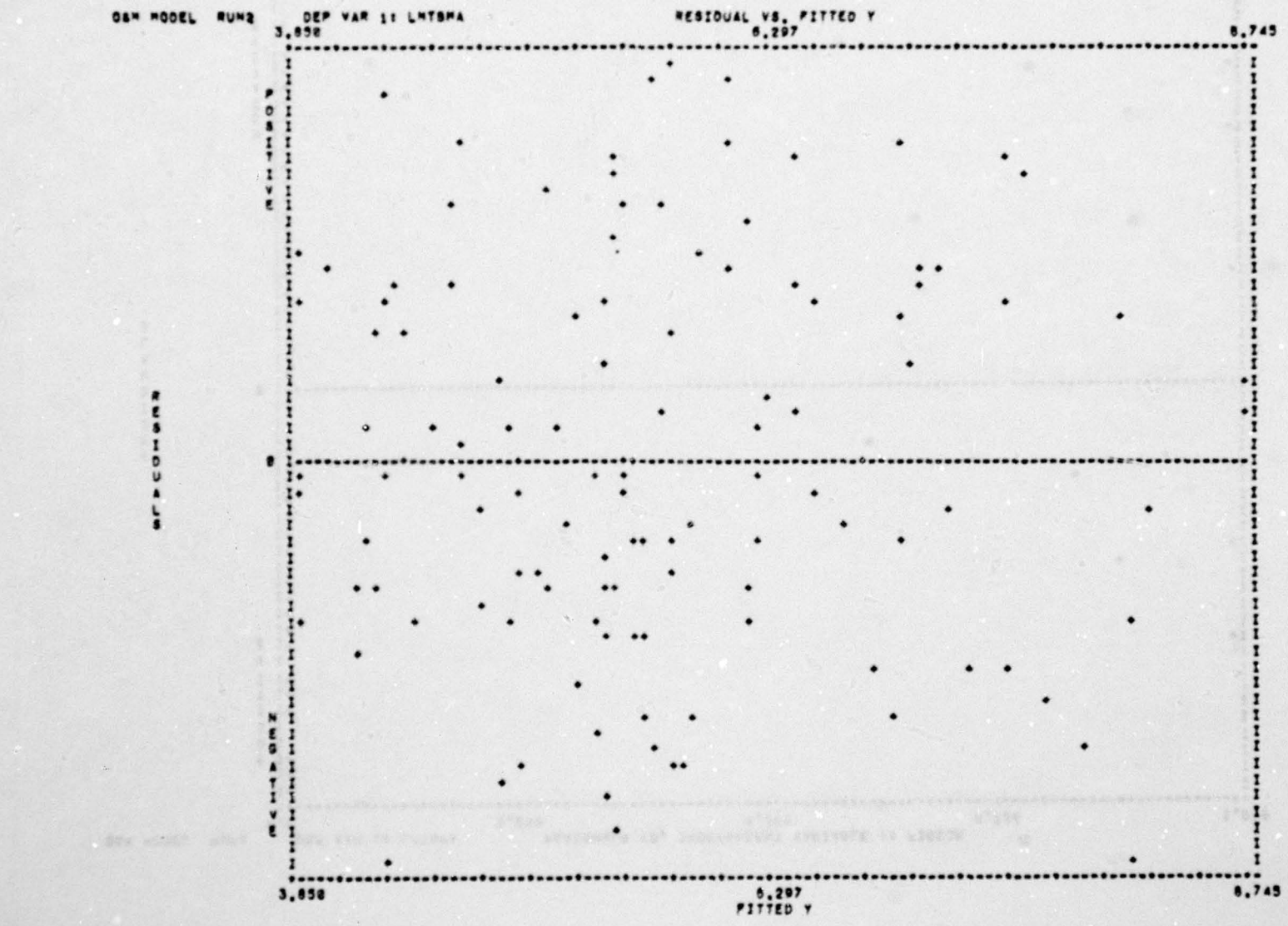
LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

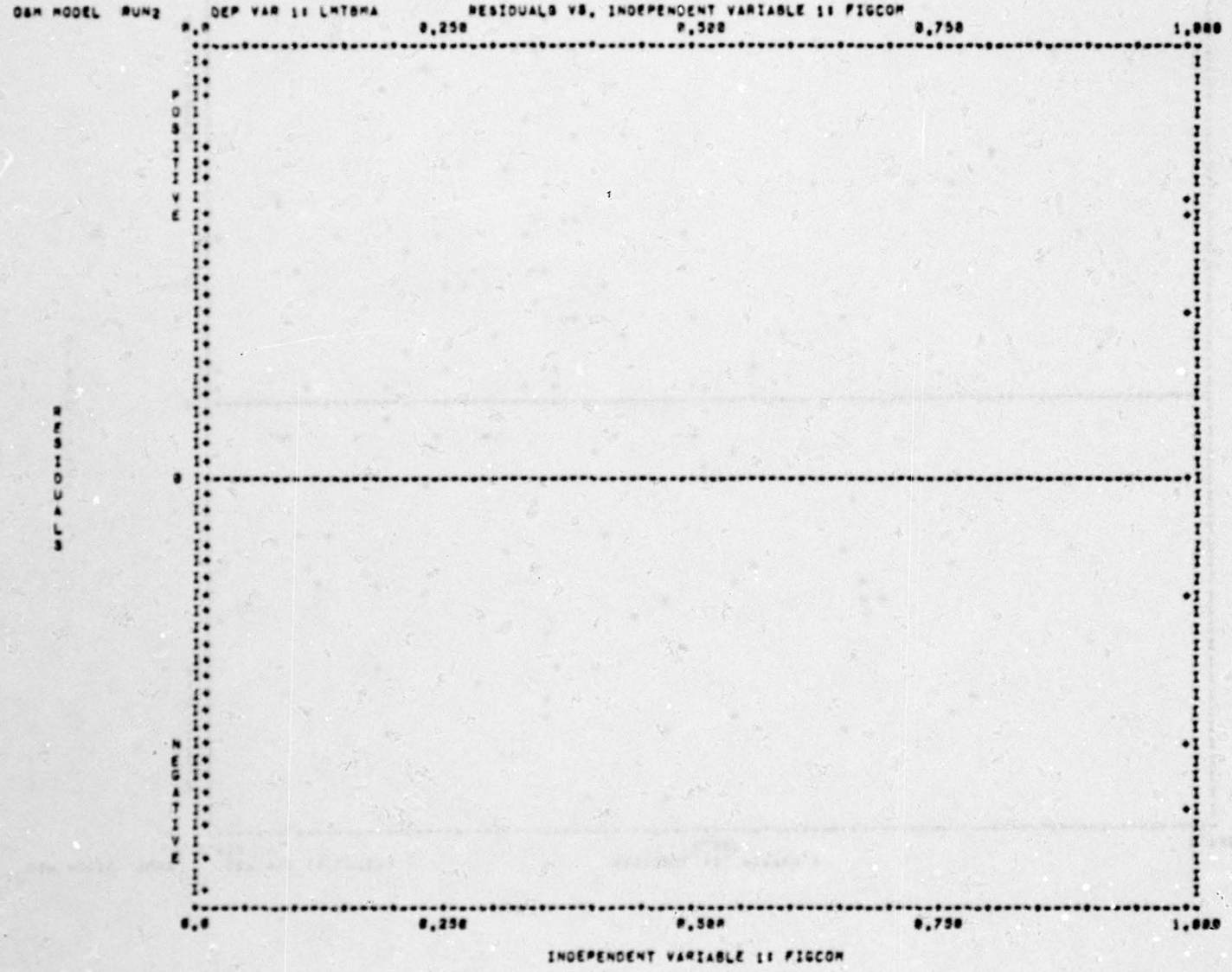
D&M MODEL RUN2 DEP VAR IS LMTSMA

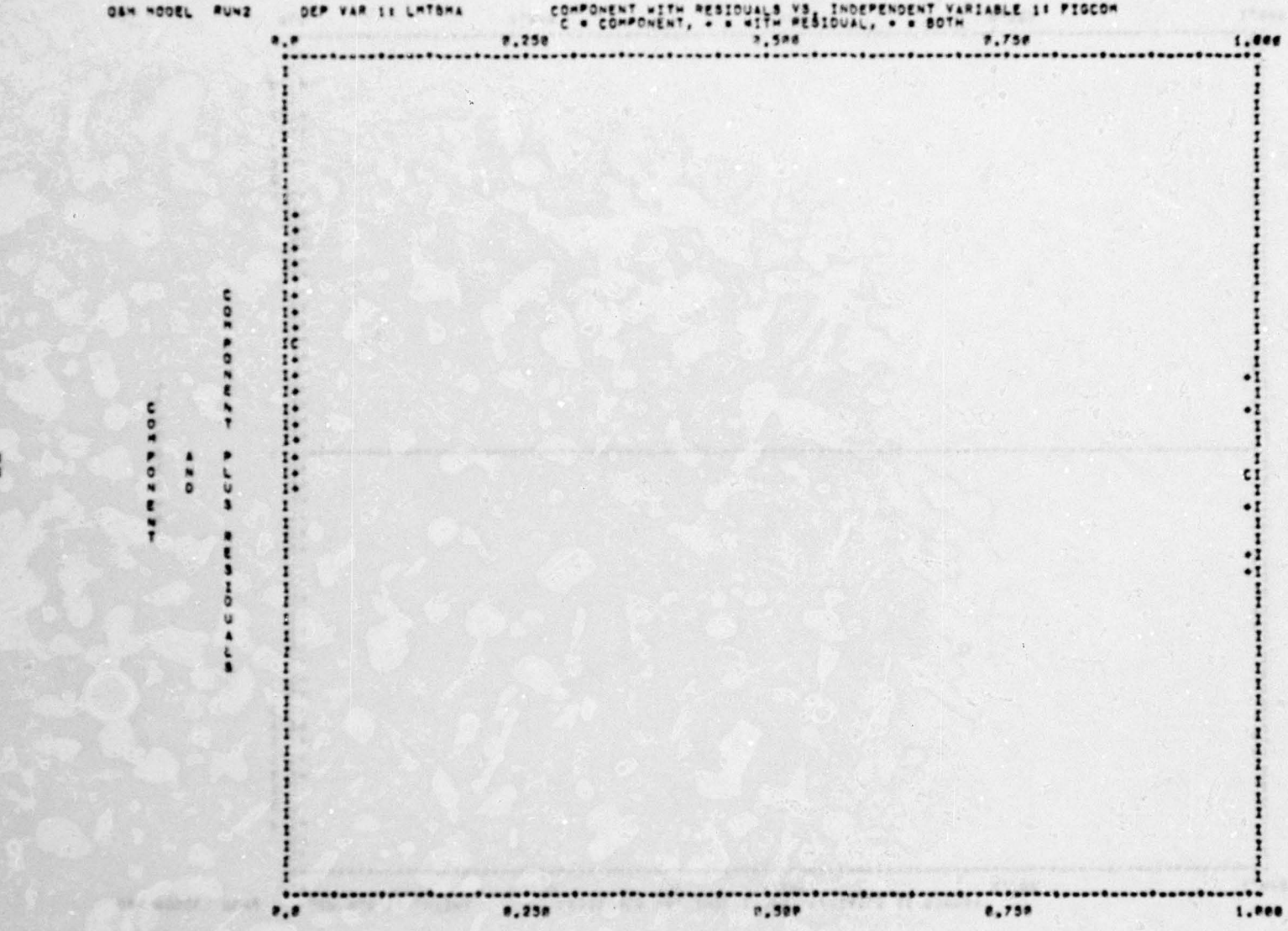
| ORDERED BY COMPUTER INPUT | | | | | | ORDERED BY RESIDUALS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| IDENT. | OBSV. | HSS DISTANCE | OBS. Y | FITTED Y | RESIDUAL | OBSV. | OBS. Y | FITTED Y | ORDERED RESID. | SEQ |
| 71828 | 1 | 3. | 5.298 | 5.732 | -0.437 | 87 | 6.738 | 5.848 | 0.891 | 1 |
| 71L8P | 2 | 5. | 5.281 | 4.923 | 0.158 | 115 | 6.989 | 6.135 | 0.854 | 2 |
| 71P8P | 3 | 4. | 6.166 | 5.546 | 0.620 | 127 | 6.562 | 5.711 | 0.851 | 3 |
| 71718 | 6 | 19. | 7.832 | 8.181 | -0.349 | 94 | 5.153 | 4.351 | 0.802 | 4 |
| 724G8 | 7 | 13. | 8.172 | 7.508 | 0.664 | 45 | 6.888 | 6.188 | 0.708 | 5 |
| 71G5P | 8 | 3. | 4.546 | 4.851 | -0.305 | 48 | 5.488 | 4.775 | 0.692 | 6 |
| 71FA8 | 9 | 11. | 6.819 | 6.436 | 0.383 | 11 | 7.669 | 6.984 | 0.685 | 7 |
| 71F8P | 10 | 10. | 6.358 | 6.283 | 0.075 | 49 | 6.185 | 5.587 | 0.677 | 8 |
| 71CA8 | 11 | 9. | 7.569 | 6.984 | 0.585 | 61 | 7.183 | 6.433 | 0.670 | 9 |
| 710A8 | 12 | 2. | 6.089 | 5.524 | 0.485 | 7 | 8.172 | 7.508 | 0.664 | 10 |
| 51EA8 | 13 | 3. | 6.864 | 6.237 | -0.173 | 5 | 6.166 | 5.548 | 0.620 | 11 |
| 52A48 | 14 | 3. | 6.453 | 6.300 | 0.153 | 75 | 8.217 | 7.604 | 0.613 | 12 |
| 52A8P | 15 | 4. | 6.757 | 6.234 | 0.523 | 67 | 5.760 | 5.183 | 0.577 | 13 |
| 6380P | 16 | 28. | 7.293 | 7.941 | -0.648 | 41 | 5.287 | 4.717 | 0.570 | 14 |
| 71A8P | 17 | 9. | 5.110 | 4.726 | 0.384 | 68 | 6.314 | 5.761 | 0.552 | 15 |
| 74JA8 | 18 | 95. | 5.569 | 5.588 | -0.018 | 32 | 6.111 | 5.568 | 0.543 | 16 |
| 74JC8 | 19 | 7. | 6.569 | 6.471 | 0.098 | 15 | 6.757 | 6.234 | 0.523 | 17 |
| 52G41 | 20 | 13. | 5.242 | 5.517 | -0.275 | 12 | 6.089 | 5.524 | 0.485 | 18 |
| 71Z48 | 21 | 3. | 6.199 | 6.945 | -0.847 | 54 | 6.428 | 5.968 | 0.452 | 19 |
| 71Z8P | 22 | 14. | 7.598 | 7.176 | 0.421 | 26 | 4.299 | 3.850 | 0.449 | 20 |
| 73EP8 | 25 | 9. | 3.924 | 4.212 | -0.288 | 22 | 7.598 | 7.176 | 0.421 | 21 |
| 73M48 | 26 | 22. | 4.299 | 3.850 | 0.449 | 55 | 6.513 | 6.100 | 0.413 | 22 |
| 73MC8 | 27 | 4. | 4.329 | 4.367 | -0.037 | 116 | 7.477 | 7.066 | 0.410 | 23 |
| 73G9P | 29 | 4. | 4.784 | 4.622 | 0.162 | 89 | 4.489 | 4.085 | 0.404 | 24 |
| 735C8 | 30 | 4. | 5.198 | 5.859 | -0.670 | 17 | 5.118 | 4.736 | 0.384 | 25 |
| 73KE8 | 32 | 2. | 5.111 | 5.568 | 0.543 | 8 | 6.819 | 6.436 | 0.383 | 26 |
| 73KFA | 33 | 2. | 5.344 | 5.901 | -0.557 | 76 | 7.485 | 7.111 | 0.374 | 27 |
| 73KK8 | 34 | 5. | 4.765 | 5.501 | -0.736 | 73 | 4.795 | 4.425 | 0.370 | 28 |
| 75932 | 35 | 17. | 7.177 | 7.708 | -0.531 | 79 | 7.896 | 7.536 | 0.360 | 29 |
| 748D8 | 36 | 6. | 4.848 | 5.429 | -0.589 | 103 | 4.277 | 3.923 | 0.354 | 30 |
| 748F8 | 37 | 5. | 4.765 | 4.728 | 0.037 | 71 | 6.987 | 6.557 | 0.350 | 31 |
| 7481P | 38 | 16. | 7.143 | 7.249 | -0.106 | 121 | 4.784 | 4.361 | 0.343 | 32 |
| 76A18 | 39 | 3. | 5.945 | 6.215 | -0.270 | 102 | 5.799 | 5.463 | 0.335 | 33 |
| 76GA8 | 40 | 13. | 5.984 | 5.448 | -0.384 | 107 | 5.650 | 5.329 | 0.321 | 34 |
| 74FF8 | 41 | 14. | 5.287 | 4.717 | 0.570 | 111 | 7.384 | 6.999 | 0.314 | 35 |
| 74FA8 | 42 | 58. | 4.918 | 5.188 | -0.270 | 117 | 8.442 | 8.131 | 0.311 | 36 |
| 74FH8 | 43 | 6. | 5.177 | 5.464 | -0.287 | 51 | 4.745 | 4.476 | 0.269 | 37 |
| 74FU8 | 44 | 48. | 5.524 | 5.687 | -0.163 | 53 | 6.096 | 5.833 | 0.263 | 38 |
| 73CR8 | 45 | 6. | 6.888 | 6.188 | 0.708 | 72 | 4.588 | 4.328 | 0.260 | 39 |
| 73CG8 | 46 | 19. | 6.818 | 6.817 | 0.001 | 122 | 5.679 | 5.472 | 0.206 | 40 |
| 859H8 | 47 | 4. | 6.394 | 6.857 | -0.473 | 108 | 7.235 | 7.042 | 0.193 | 41 |
| 74FC8 | 48 | 4. | 5.468 | 4.775 | 0.692 | 65 | 8.927 | 8.745 | 0.181 | 42 |
| 74FJ8 | 49 | 4. | 6.185 | 5.587 | 0.577 | 2 | 5.981 | 4.923 | 0.158 | 43 |
| 74FK8 | 50 | 15. | 7.258 | 8.147 | -0.889 | 14 | 6.453 | 6.300 | 0.153 | 44 |
| 74FU8 | 51 | 23. | 4.745 | 4.476 | 0.269 | 58 | 5.896 | 5.785 | 0.110 | 45 |
| 74KA8 | 52 | 11. | 5.264 | 5.493 | -0.229 | 19 | 6.569 | 6.471 | 0.098 | 46 |
| 74KC8 | 53 | 3. | 6.096 | 5.833 | 0.263 | 88 | 8.836 | 8.745 | 0.091 | 47 |
| 74CA8 | 54 | 4. | 6.429 | 5.968 | 0.452 | 123 | 5.073 | 4.998 | 0.083 | 48 |
| 74C98 | 55 | 5. | 6.513 | 6.100 | 0.413 | 96 | 5.319 | 5.237 | 0.082 | 49 |
| 74CC8 | 56 | 5. | 6.543 | 6.683 | -0.140 | 29 | 4.784 | 4.622 | 0.082 | 50 |
| 74FA1 | 57 | 28. | 4.715 | 4.743 | -0.028 | 18 | 5.358 | 5.283 | 0.075 | 51 |
| 74E98 | 58 | 3. | 5.896 | 5.785 | 0.110 | 92 | 4.357 | 4.283 | 0.074 | 52 |
| 73PH2 | 59 | 2. | 5.166 | 5.843 | -0.677 | 37 | 4.745 | 4.728 | 0.037 | 53 |
| 73PA2 | 60 | 21. | 3.584 | 3.944 | -0.360 | 65 | 5.838 | 5.825 | 0.012 | 54 |
| 73PD8 | 61 | 39. | 3.846 | 3.885 | -0.040 | 46 | 6.818 | 6.817 | 0.001 | 55 |
| 73PF8 | 62 | 14. | 5.131 | 5.283 | -0.151 | 110 | 5.607 | 5.618 | -0.011 | 56 |
| 71NA8 | 64 | 5. | 4.359 | 5.043 | -0.683 | 124 | 4.459 | 4.476 | -0.017 | 57 |
| 710U8 | 65 | 5. | 4.784 | 5.043 | -0.258 | 18 | 5.569 | 5.588 | -0.018 | 58 |

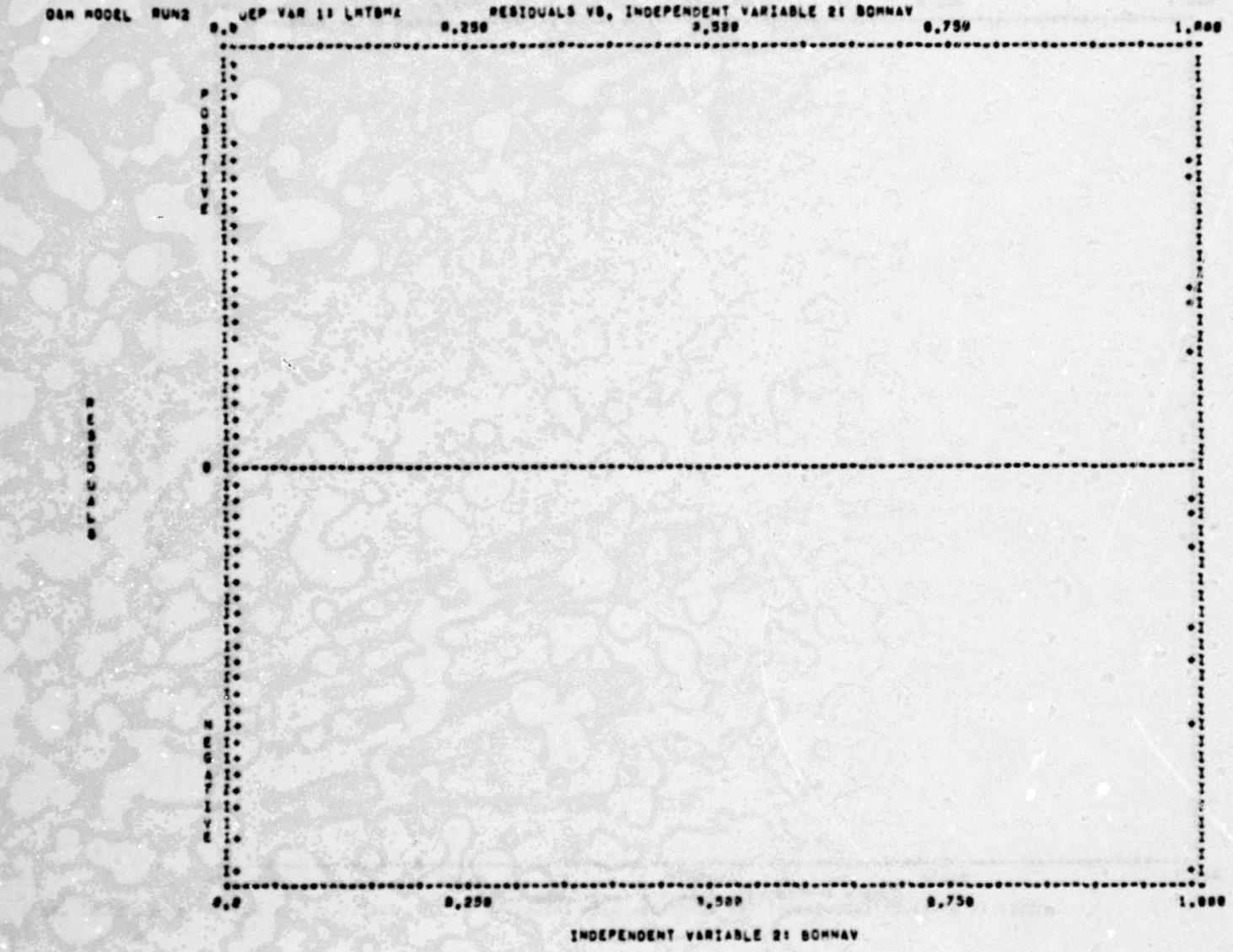
| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 63AAP | 66 | *. | 5,938 | 5,925 | P,P12 | 57 | 4,715 | 4,743 | -P,P28 | 59 |
| 65AAP | 67 | 7. | 5,760 | 5,183 | P,577 | 27 | 4,329 | 4,367 | -P,P37 | 6P |
| 634BP | 68 | 8. | 6,314 | 5,761 | P,552 | 61 | 3,846 | 3,885 | -P,P40 | 61 |
| 638CP | 69 | 11. | 5,137 | 5,697 | -P,560 | 21 | 6,199 | 6,245 | -P,P47 | 62 |
| 638FP | 7P | 23. | 7,896 | 7,536 | P,360 | 93 | 5,52P | 5,571 | -P,P51 | 63 |
| 71A8E | 71 | 12. | 6,907 | 6,557 | P,350 | 95 | 5,374 | 5,428 | -P,P53 | 64 |
| 71A6A | 72 | 14. | 4,550 | 4,32P | P,26P | 77 | 3,818 | 3,875 | -P,P57 | 65 |
| 73D9A | 73 | 62. | 4,795 | 4,425 | P,370 | 125 | 5,518 | 5,577 | -P,P67 | 66 |
| 71ACC | 74 | 31. | 6,363 | 6,932 | -P,569 | 79 | 6,475 | 6,551 | -P,P76 | 67 |
| 73C8Q | 75 | 47. | 8,217 | 7,6P4 | P,613 | 12P | 4,936 | 5,P22 | -P,P86 | 68 |
| 73CEN | 76 | 27. | 7,485 | 7,111 | P,374 | 88 | 4,728 | 4,829 | -P,1P8 | 69 |
| 73CFK | 77 | 116. | 3,81P | 3,875 | -P,P57 | 38 | 7,143 | 7,249 | -P,1P6 | 7P |
| 73DAM | 78 | 26. | 5,45P | 5,623 | -P,173 | 96 | 8,144 | 8,26P | -P,116 | 71 |
| 73EBA | 79 | 18. | 6,475 | 6,551 | -P,P76 | 56 | 6,543 | 6,683 | -P,14P | 72 |
| 73EBF | 8P | 1P. | 4,728 | 4,829 | -P,1P8 | 126 | 5,78P | 5,935 | -P,147 | 73 |
| 71CAP | 81 | 12. | 7,183 | 6,433 | P,67P | 62 | 5,131 | 5,283 | -P,151 | 74 |
| 73EGP | 82 | 11. | 4,154 | 4,513 | -P,359 | 44 | 5,524 | 5,687 | -P,163 | 75 |
| 73MCP | 83 | 9. | 3,481 | 4,352 | -P,871 | 91 | 4,113 | 4,283 | -P,17P | 76 |
| 73LAP | 84 | 7. | 3,789 | 4,221 | -P,432 | 13 | 6,P64 | 6,237 | -P,173 | 77 |
| 77EC8 | 85 | 4. | 5,846 | 6,2P6 | -P,361 | 78 | 5,45P | 5,623 | -P,173 | 78 |
| 77EE8 | 86 | 25. | 8,927 | 8,745 | P,181 | 184 | 5,667 | 5,841 | -P,174 | 79 |
| 77DC4 | 87 | 2. | 6,73P | 5,848 | P,891 | 99 | 6,8P1 | 6,996 | -P,196 | 8P |
| 77D8A | 88 | 25. | 8,835 | 8,745 | P,P91 | 52 | 5,264 | 5,493 | -P,229 | 81 |
| 76AEA | 89 | 22. | 4,49P | 4,P85 | P,484 | 114 | 5,6P7 | 5,847 | -P,239 | 82 |
| 73K1P | 9P | 4. | 4,728 | 5,543 | -P,815 | 181 | 4,692 | 5,135 | -P,244 | 83 |
| 639AA | 91 | 12. | 4,113 | 4,283 | -P,17P | 85 | 4,784 | 5,P43 | -P,258 | 84 |
| 63CA8 | 92 | 12. | 4,357 | 4,283 | P,P74 | 39 | 5,945 | 6,215 | -P,27P | 85 |
| 65B4A | 93 | 11. | 5,328 | 5,571 | -P,P51 | 42 | 4,91P | 5,183 | -P,27P | 86 |
| 81B9A | 94 | 11. | 5,153 | 4,351 | P,802 | 2P | 5,242 | 5,517 | -P,275 | 87 |
| 61AAP | 95 | 1P. | 5,374 | 5,428 | -P,P53 | 43 | 5,177 | 5,464 | -P,287 | 88 |
| 61A8P | 96 | 8. | 5,319 | 5,237 | P,082 | 25 | 3,924 | 4,212 | -P,288 | 89 |
| 61ACP | 97 | 1P. | 5,319 | 5,691 | -P,372 | 119 | 4,P11 | 4,312 | -P,3P1 | 9P |
| 72AAP | 98 | 39. | 4,144 | 8,26P | -P,11P | 8 | 4,546 | 4,851 | -P,3P5 | 91 |
| 72ACP | 99 | 26. | 6,8P1 | 6,99P | -P,1P6 | 6 | 7,832 | 8,181 | -P,349 | 92 |
| 71CAP | 1PP | 1P. | 4,243 | 4,99P | -P,787 | 1P9 | 4,P48 | 4,99P | -P,349 | 93 |
| 725A4 | 1P1 | 59. | 4,892 | 5,135 | -P,244 | 82 | 4,154 | 4,513 | -P,359 | 94 |
| 72ECA | 1P2 | 29. | 5,799 | 5,463 | P,336 | 6P | 3,584 | 3,944 | -P,36P | 95 |
| 728PD | 1P3 | 1P. | 4,277 | 3,923 | P,354 | 85 | 5,846 | 6,2P6 | -P,361 | 96 |
| 71JAP | 1P4 | 4. | 5,667 | 5,841 | -P,174 | 4P | 5,PP4 | 5,448 | -P,364 | 97 |
| 71LAP | 1P5 | 4. | 5,2PP | 5,465 | -P,365 | 97 | 5,319 | 5,691 | -P,372 | 98 |
| 72DNP | 1P6 | 7. | 4,845 | 5,356 | -P,511 | 185 | 5,PPP | 5,465 | -P,365 | 99 |
| 72AC8 | 1P7 | 4. | 5,55P | 5,329 | P,321 | 118 | 5,245 | 5,649 | -P,4P4 | 1PP |
| 71715 | 1P8 | 8. | 7,235 | 7,842 | P,193 | 84 | 3,789 | 4,221 | -P,432 | 1P1 |
| 71315 | 1P9 | 11. | 4,648 | 4,998 | -P,349 | 128 | 6,478 | 7,34P | -P,462 | 1P2 |
| 72BFP | 11P | 8. | 5,697 | 5,618 | -P,P11 | 47 | 6,394 | 6,867 | -P,473 | 1P3 |
| 72PPP | 111 | 15. | 7,3P4 | 6,99P | P,314 | 112 | 7,P32 | 7,597 | -P,474 | 1P4 |
| 71JCE | 112 | 22. | 7,P32 | 7,597 | -P,474 | 1P6 | 4,846 | 5,356 | -P,511 | 1P5 |
| 72CCP | 114 | 3. | 5,697 | 5,847 | -P,239 | 35 | 7,177 | 7,7P8 | -P,531 | 1P6 |
| 71Z48 | 115 | 4. | 6,9P9 | 6,135 | P,854 | 33 | 5,344 | 5,9P1 | -P,557 | 1P7 |
| 71Z8P | 116 | 15. | 7,477 | 7,P66 | P,41P | 89 | 5,137 | 5,697 | -P,56P | 1P8 |
| 71ZDP | 117 | 21. | 8,442 | 8,131 | P,311 | 74 | 6,3P3 | 6,932 | -P,589 | 1P9 |
| 65B4A | 118 | 9. | 5,245 | 5,649 | -P,4P4 | 36 | 4,84P | 5,429 | -P,589 | 11P |
| 63AFP | 119 | 11. | 4,911 | 4,312 | -P,3P1 | 1 | 5,P9P | 5,732 | -P,637 | 111 |
| 63AA2 | 12P | 6. | 4,938 | 5,922 | -P,P86 | 16 | 7,293 | 7,941 | -P,648 | 112 |
| 63121 | 121 | 11. | 4,7P4 | 4,361 | P,343 | 3P | 5,19P | 5,859 | -P,67P | 113 |
| 63AAA | 122 | 1P. | 5,679 | 5,472 | P,2P8 | 59 | 5,166 | 5,843 | -P,677 | 114 |
| 55ALP | 123 | 1P. | 5,973 | 4,99P | P,983 | 84 | 4,359 | 5,043 | -P,683 | 115 |
| 55AVP | 124 | 1P. | 4,459 | 4,476 | -P,P17 | 18P | 4,243 | 4,95P | -P,727 | 116 |
| 61AAP | 125 | 8. | 5,51P | 5,577 | -P,P67 | 34 | 4,765 | 5,5P1 | -P,736 | 117 |
| 61AEP | 126 | 17. | 5,78P | 5,935 | -P,147 | 9P | 4,728 | 5,543 | -P,815 | 118 |
| 62AA8 | 127 | 7. | 6,562 | 5,711 | P,851 | 83 | 3,4P1 | 4,352 | -P,871 | 119 |
| 64211 | 128 | 18. | 6,87P | 7,34P | -P,462 | 88 | 7,285 | 8,147 | -P,86P | 12P |

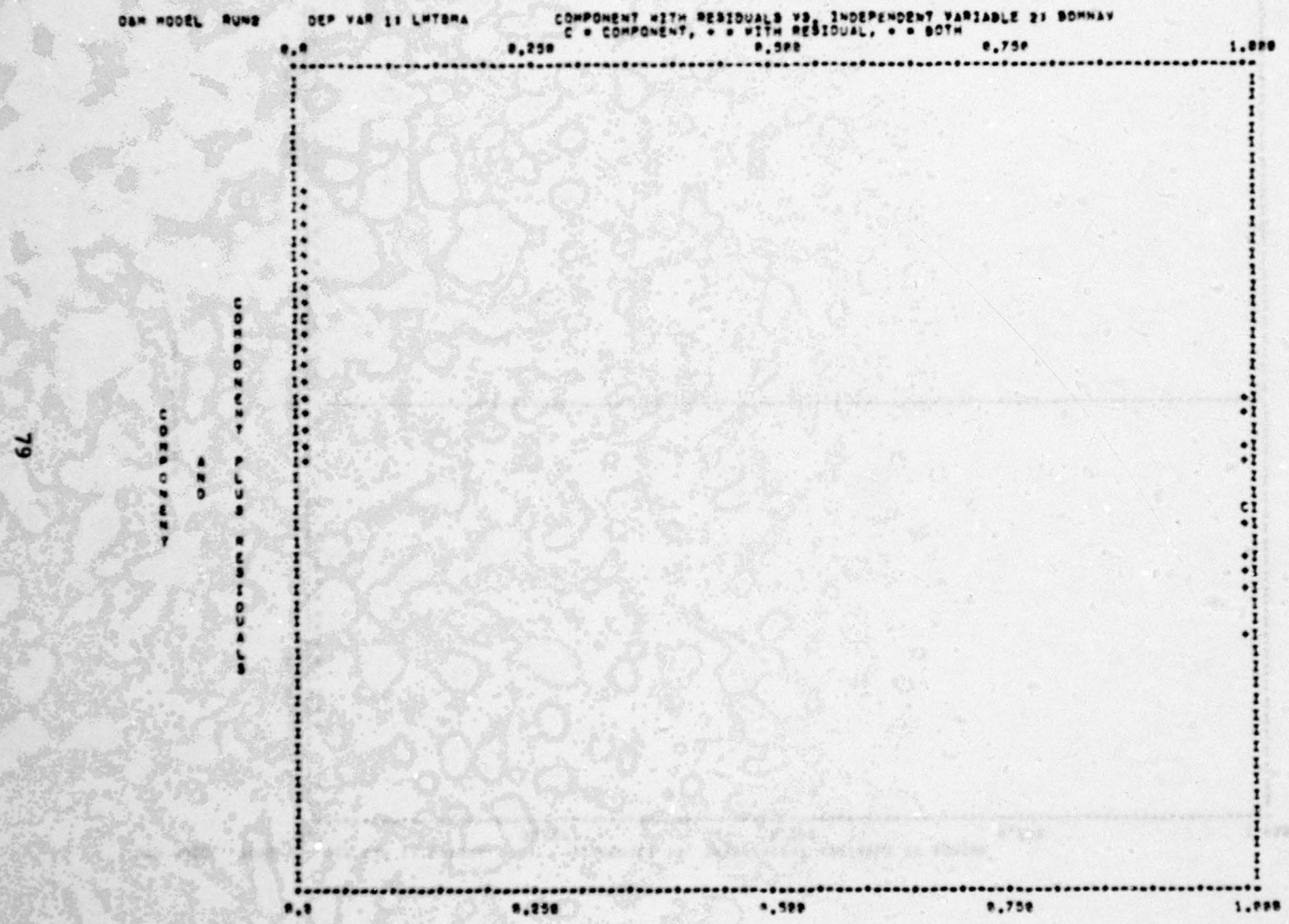

G&M MODEL RUN2
DEP VAR IS LNTSMA
CUMULATIVE DISTRIBUTION OF RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
POSITIVE
0
NEGATIVE
RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
CUMULATIVE FREQUENCY, NORMAL GRID

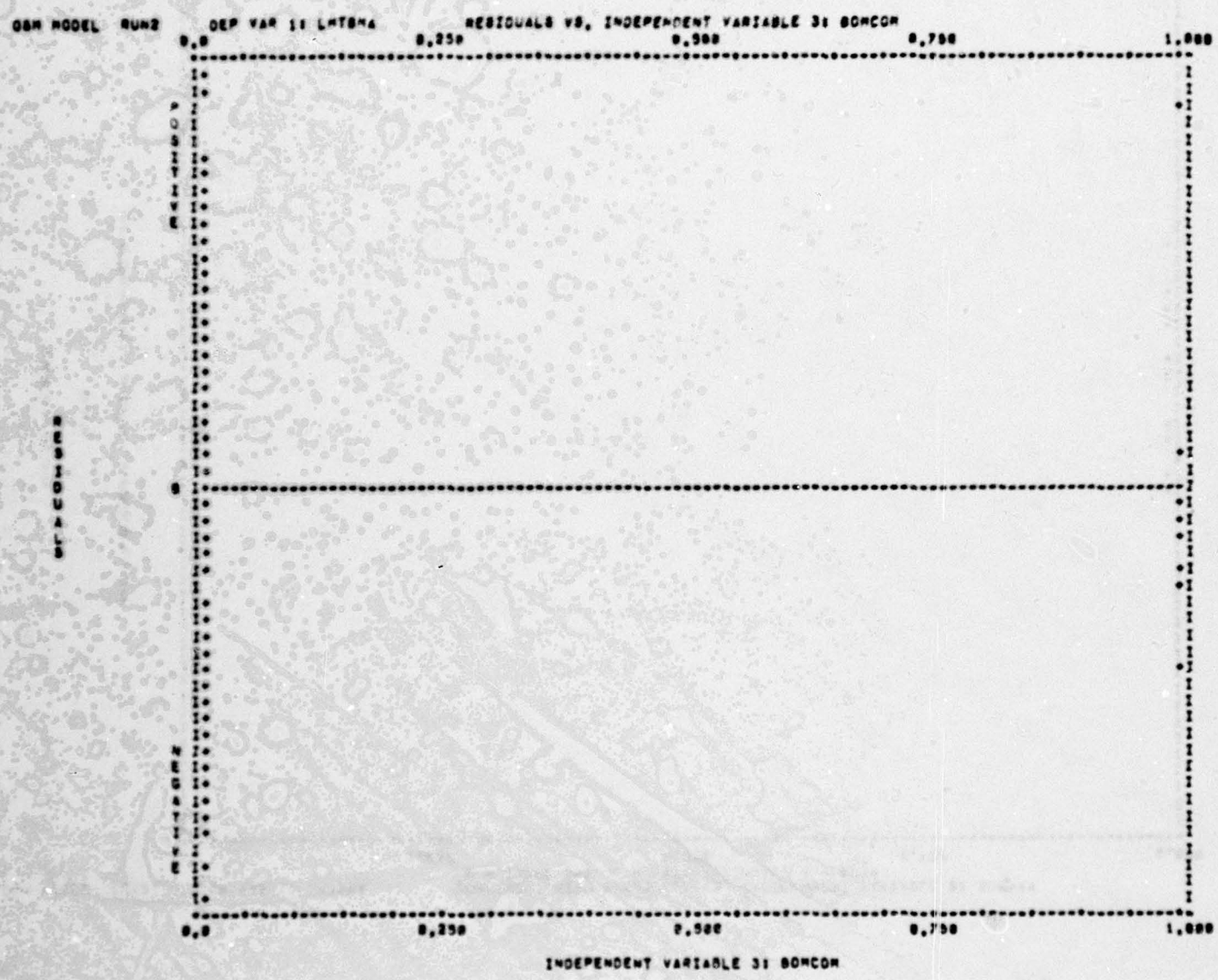

O&M MODEL RUN2
DEP VAR 1: LMTBMA
RESIDUAL VS. FITTED Y
3.858
6.297
8.745
POSITIVE
0
NEGATIVE
SPACINGER
3.858
6.297
8.745
FITTED Y

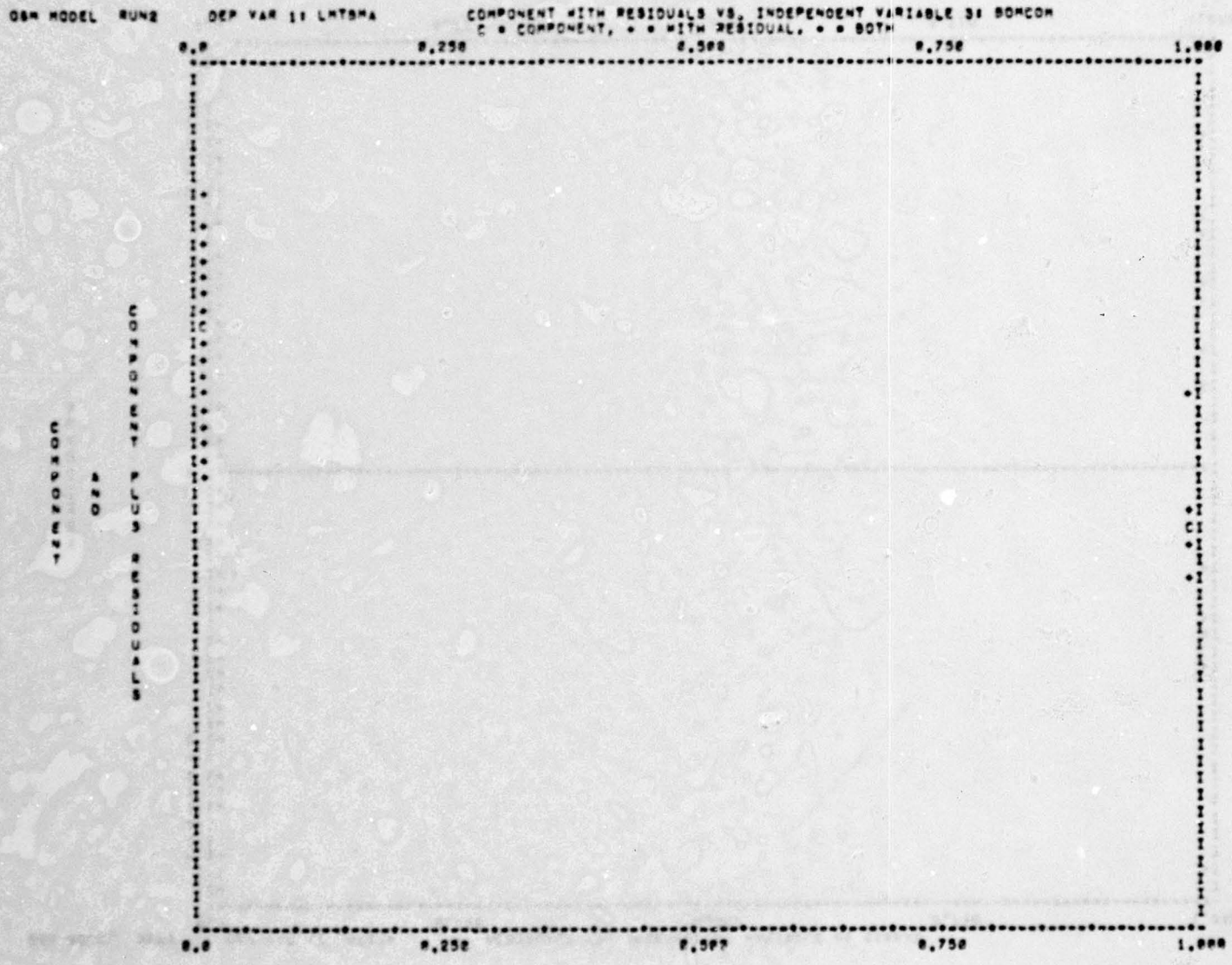

O&M MODEL RUN2 DEP VAR IS LNTOMA RESIDUALS VS. INDEPENDENT VARIABLE IS FIGCOM
0.0
0.250
0.500
0.750
1.000
POSITIVE
0
NEGATIVE
RESIDUALS
INDEPENDENT VARIABLE IS FIGCOM

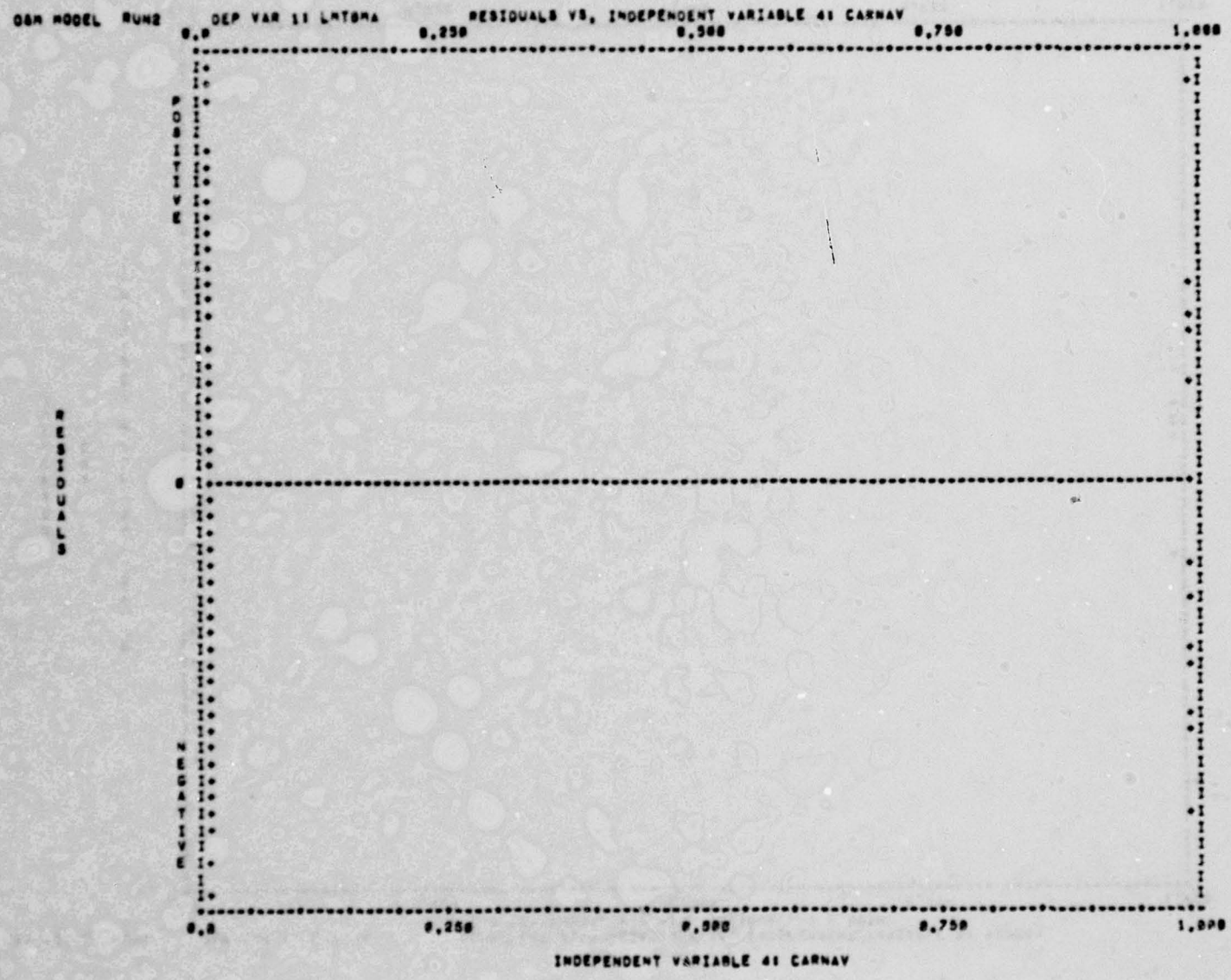

Q&H MODEL RUN2 DEP VAR 1: LMTBMA COMPONENT WITH RESIDUALS VS. INDEPENDENT VARIABLE 1: FIGCOM
C = COMPONENT, * = WITH RESIDUAL, @ = BOTH
0.0
0.250
0.500
0.750
1.000
COMPONENT PLUS RESIDUAL AND COMPONENT
INDEPENDENT VARIABLE 1: FIGCOM
0 RESIDUALS OUTSIDE OF PLOT

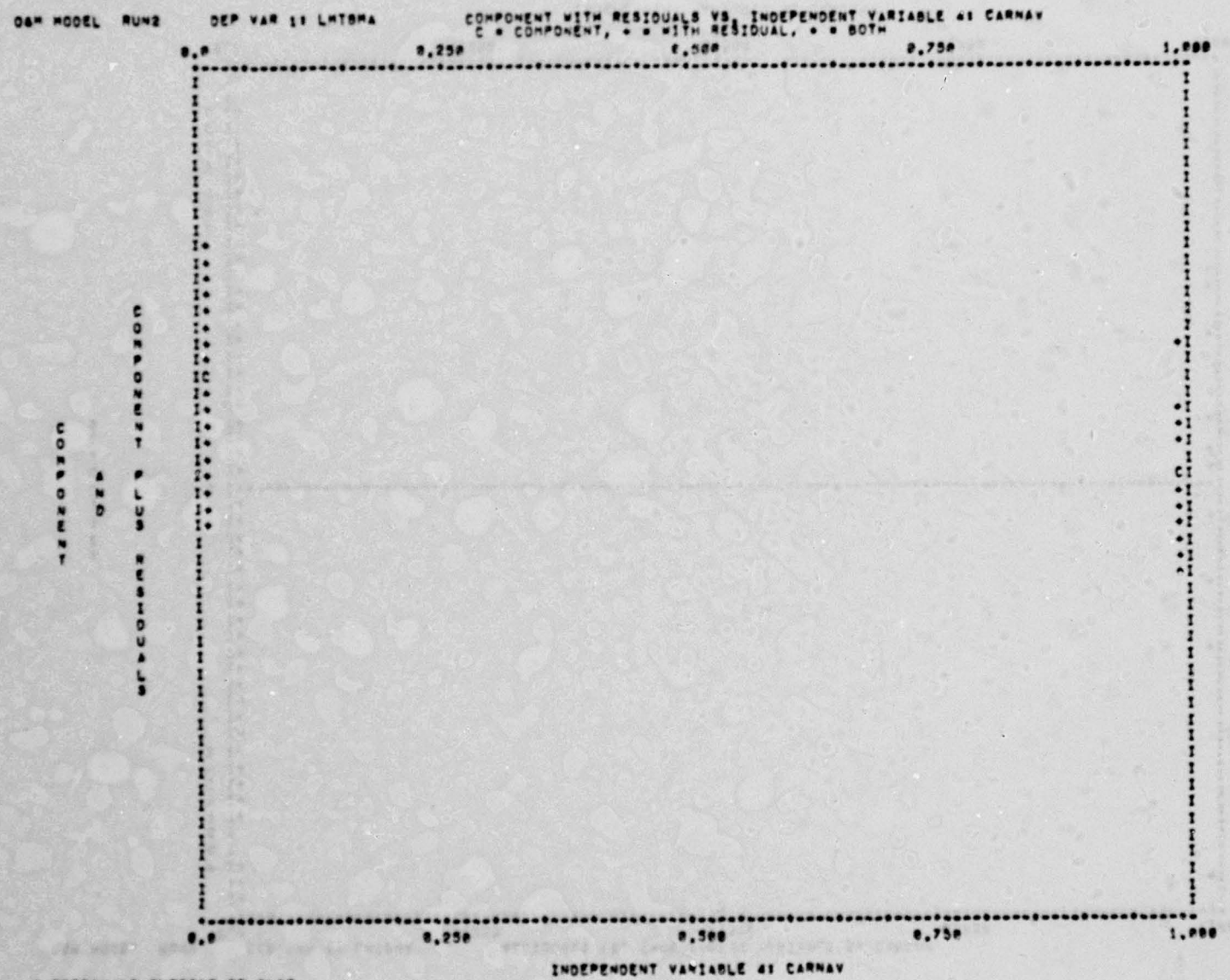

GAM MODEL RUN2 DEP VAR 1: LNTBMA RESIDUALS VS. INDEPENDENT VARIABLE 2: BOMNAV
0.0
0.250
0.500
0.750
1.000
POSITIVE
0
NEGATIVE
RESIDUALS
INDEPENDENT VARIABLE 2: BOMNAV


C&H MODEL RUN8 DEP VAR 11 LMTBMA
COMPONENT WITH RESIDUALS VS. INDEPENDENT VARIABLE 21 BOMNAV
C = COMPONENT, + = WITH RESIDUAL, * = BOTH
0.0
0.250
0.500
0.750
1.000
COMPONENT PLUS RESIDUALS
AND
COMPONENT
INDEPENDENT VARIABLE 21 BOMNAV
0 RESIDUALS OUTSIDE OF PLOT

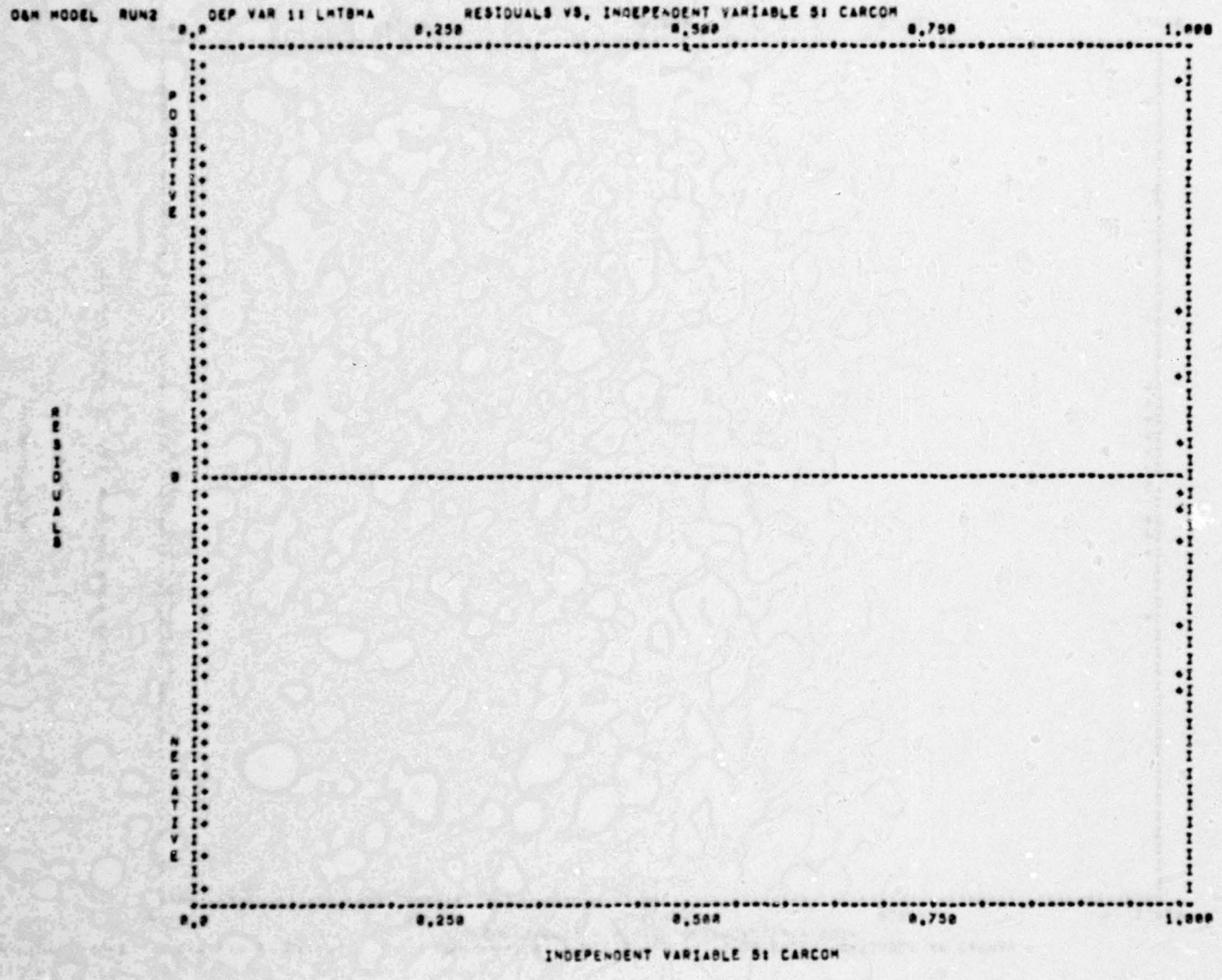

OSM MODEL RUN2 DEP VAR 1: LMTBM4 RESIDUALS VS. INDEPENDENT VARIABLE 3: BOMCOM
0.0
0.250
0.500
0.750
1.000
POSITIVE
RESIDUALS
0
NEGATIVE
INDEPENDENT VARIABLE 3: BOMCOM

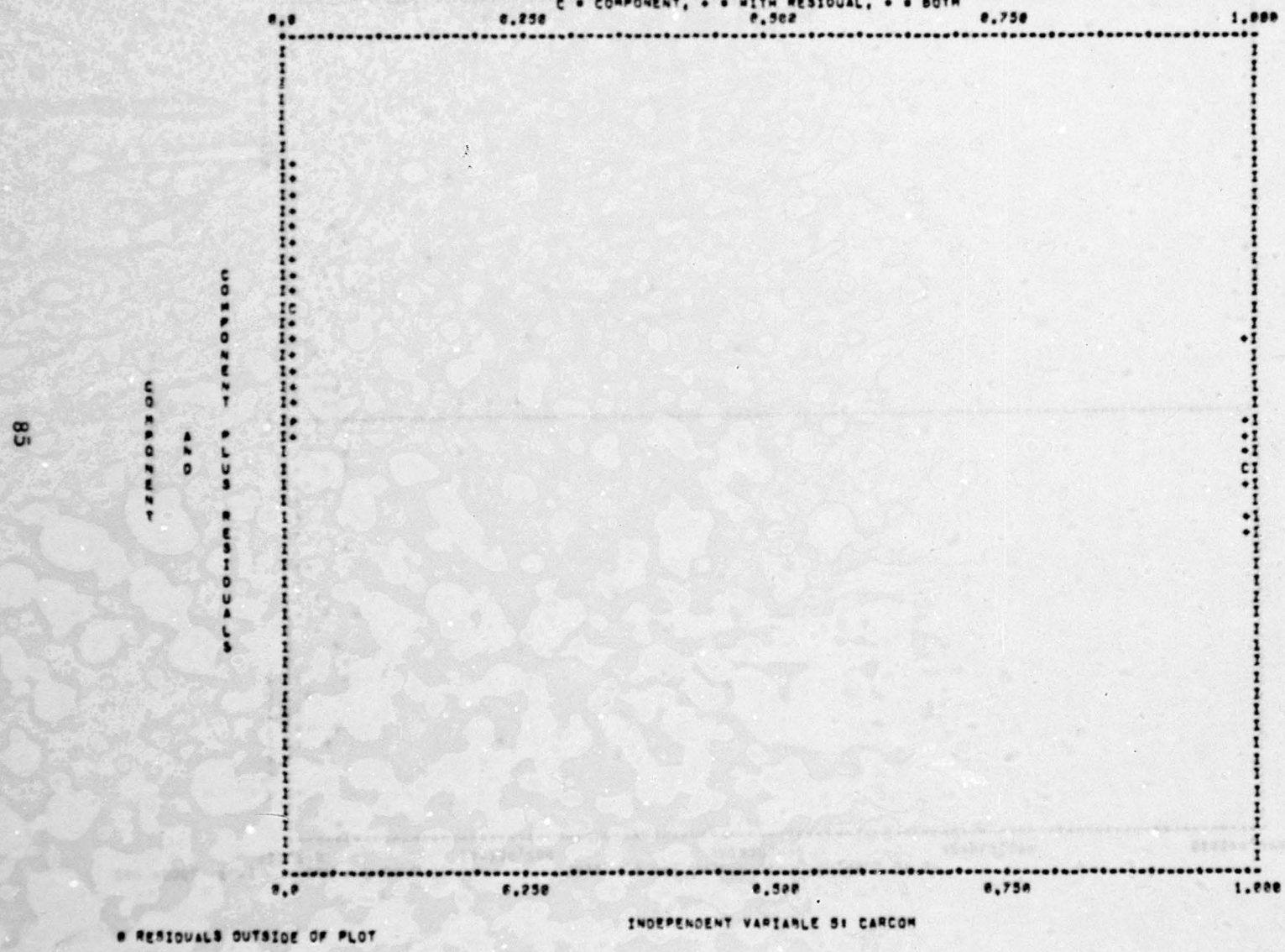

GBM MODEL RUN2 DEP VAR 1: LNTSMA COMPONENT WITH RESIDUALS VS. INDEPENDENT VARIABLE 3: BOMCOM
C = COMPONENT, + = WITH RESIDUAL, * = BOTH
0.0
0.250
0.500
0.750
1.000
COMPONENT PLUS RESIDUALS
COMPONENT AND
INDEPENDENT VARIABLE 3: BOMCOM
0 RESIDUALS OUTSIDE OF PLOT

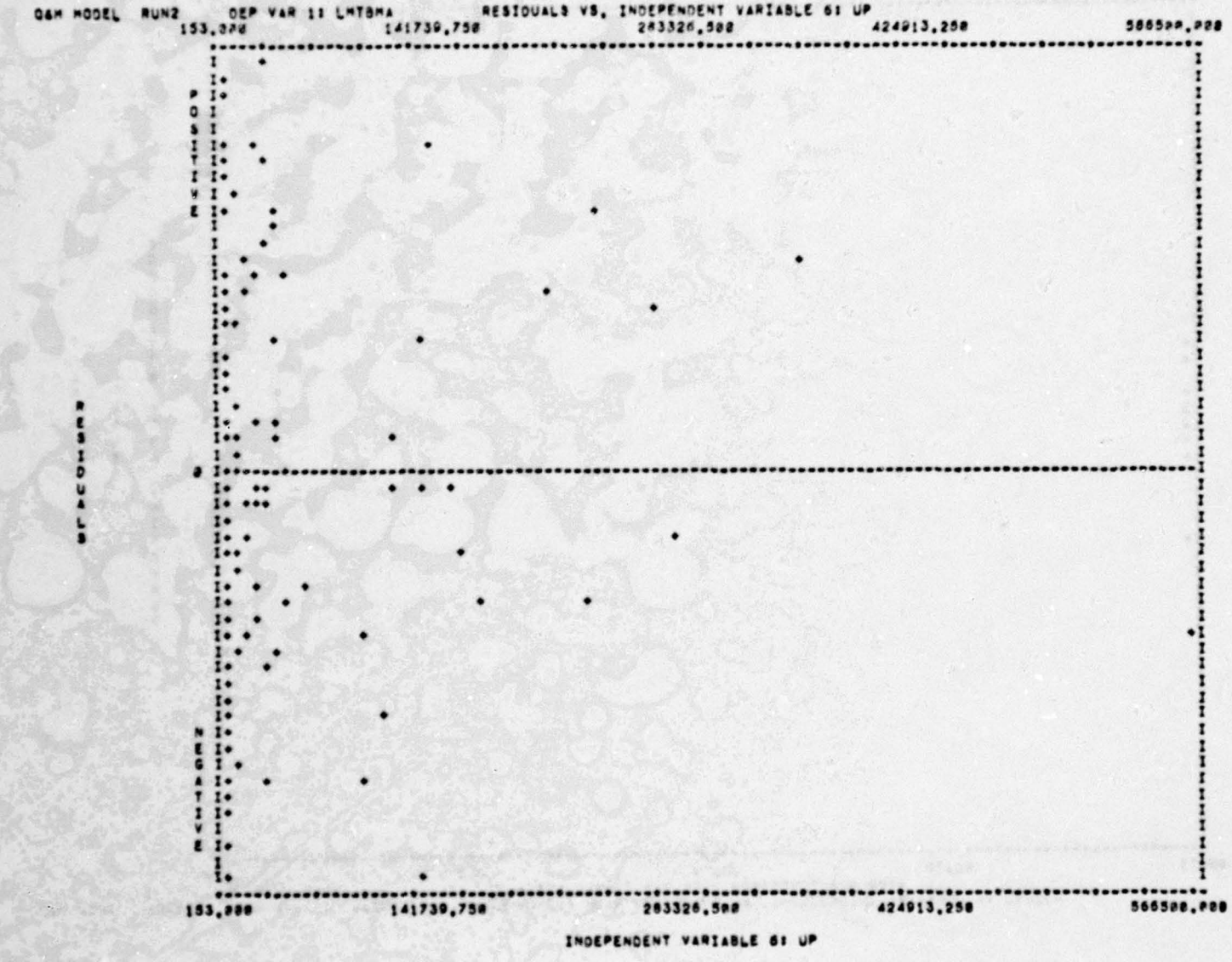

OSR MODEL RUN2 DEP VAR 11 LNTBMA RESIDUALS VS, INDEPENDENT VARIABLE 41 CARNAV
0.0
0.250
0.500
0.750
1.000
POSITIVE
RESIDUALS
0
NEGATIVE
0.0
0.250
0.500
0.750
1.000
INDEPENDENT VARIABLE 41 CARNAV

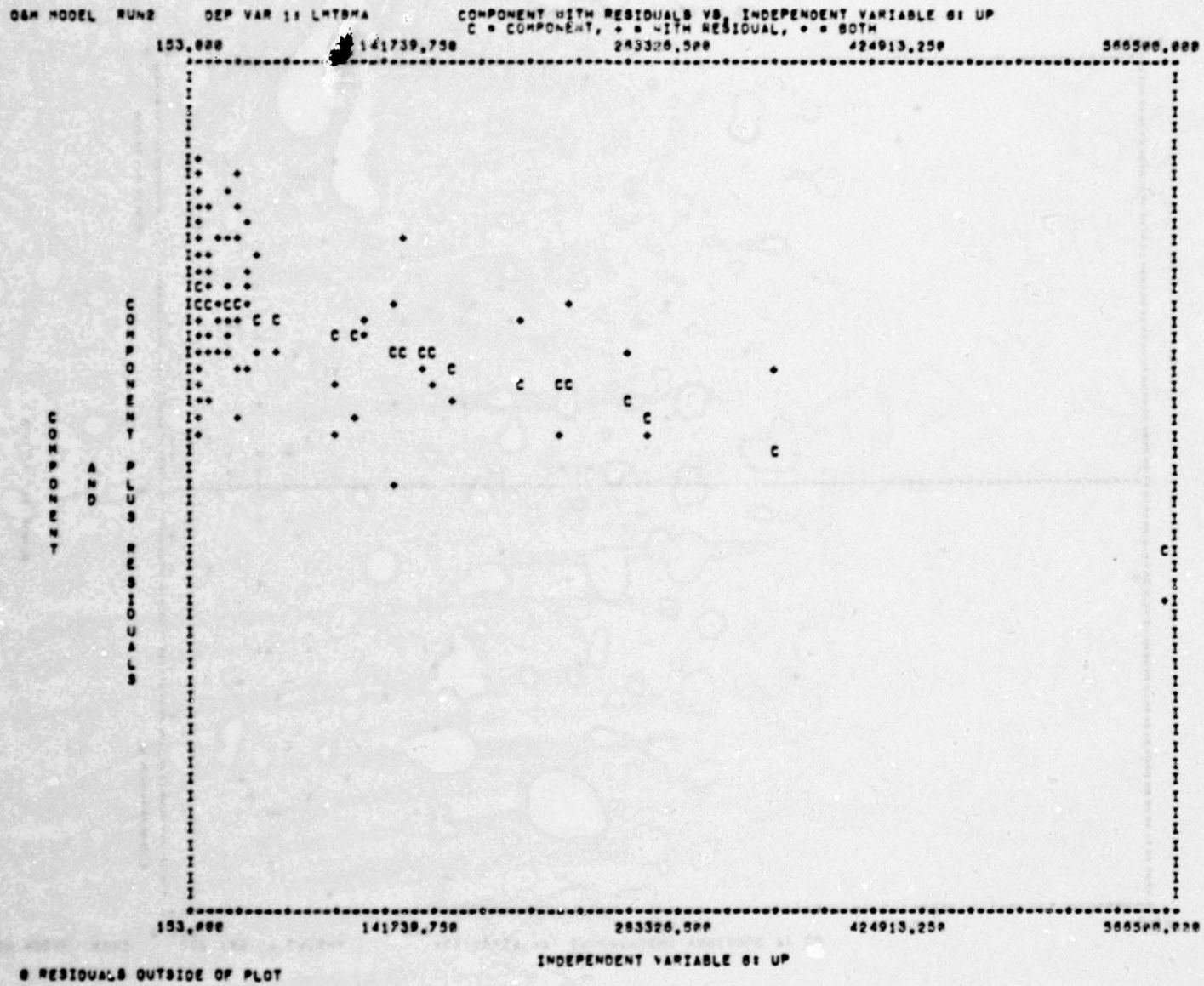



0 RESIDUALS OUTSIDE OF PLOT

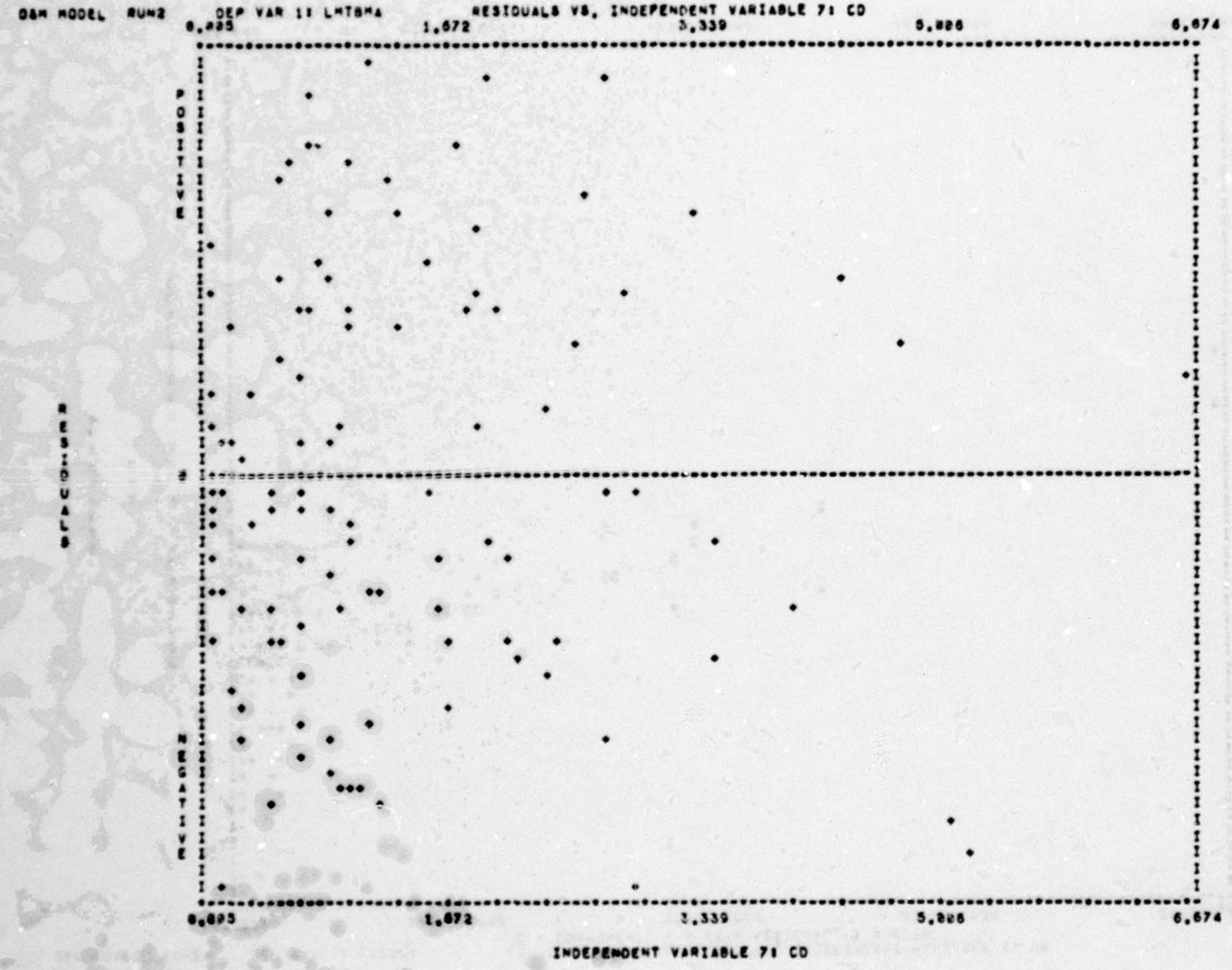

O&M MODEL RUN2 DEP VAR IS LNTBMA RESIDUALS VS. INDEPENDENT VARIABLE IS CARCOM
0.0
0.250
0.500
0.750
1.000
POSITIVE
RESIDUALS
0
NEGATIVE
INDEPENDENT VARIABLE IS CARCOM

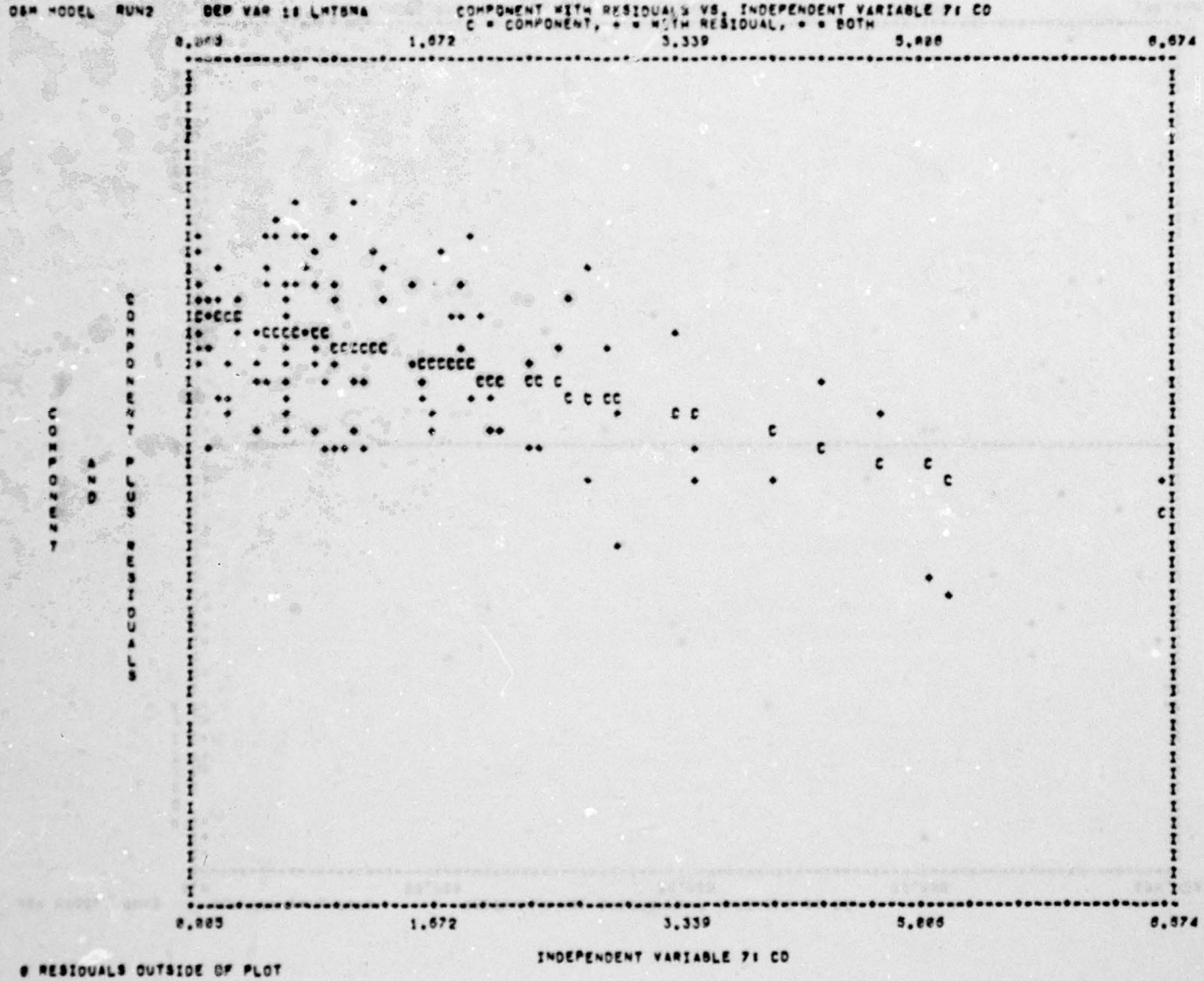

O&M MODEL RUN2 DEP VAR IS LMTBMA COMPONENT WITH RESIDUALS VS. INDEPENDENT VARIABLE IS CARCOM
C = COMPONENT, + = WITH RESIDUAL, * = BOTH
0.0
0.250
0.500
0.750
1.000
COMPONENT AND COMPONENT PLUS RESIDUALS
INDEPENDENT VARIABLE IS CARCOM
* RESIDUALS OUTSIDE OF PLOT


Q&M MODEL RUN2 DEP VAR 11 LMTBMA RESIDUALS VS. INDEPENDENT VARIABLE 61 UP
153,000
141739,750
283326,500
424913,250
566500,000
RESIDUALS
INDEPENDENT VARIABLE 61 UP



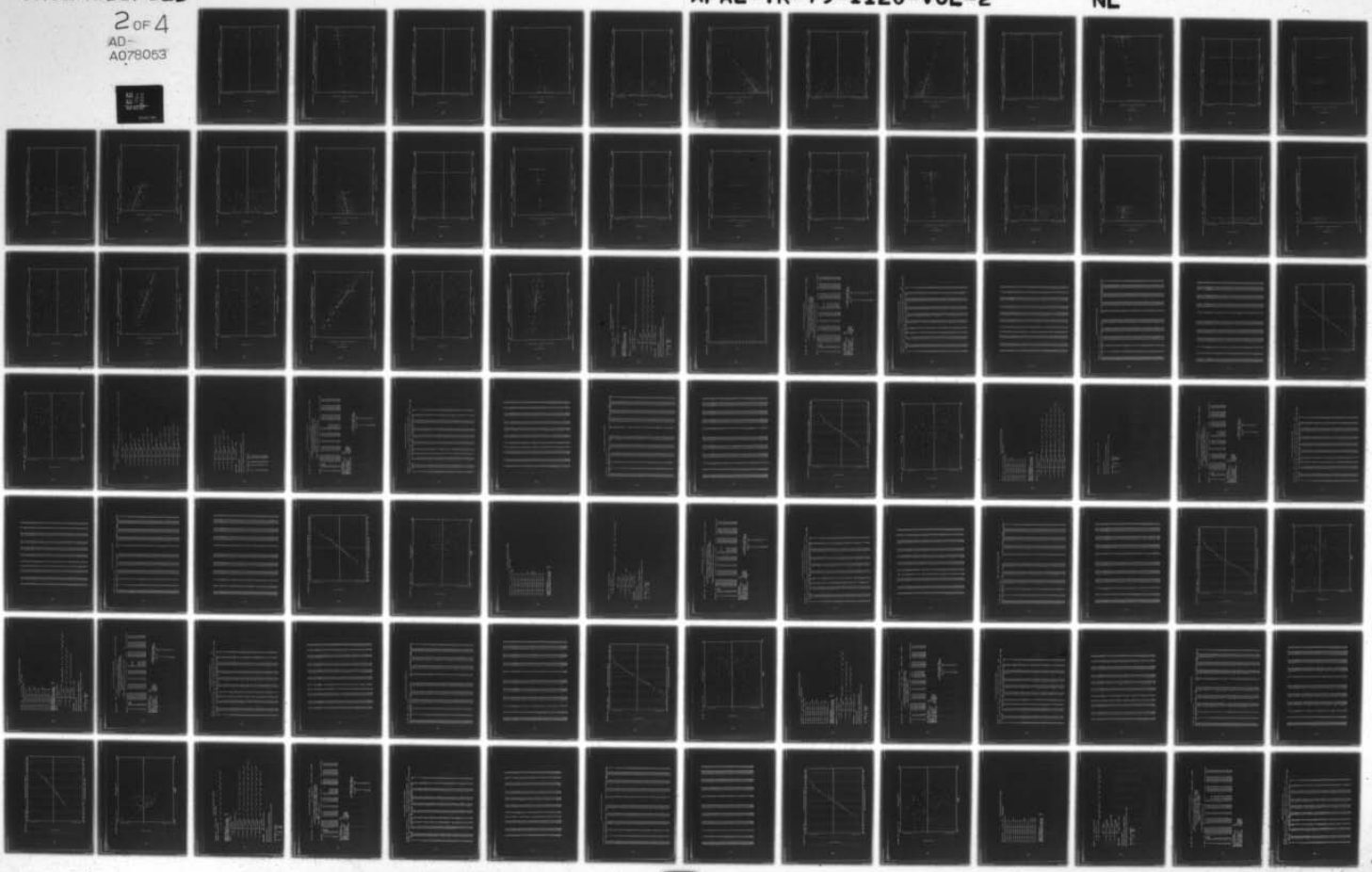

0 RESIDUALS OUTSIDE OF PLOT

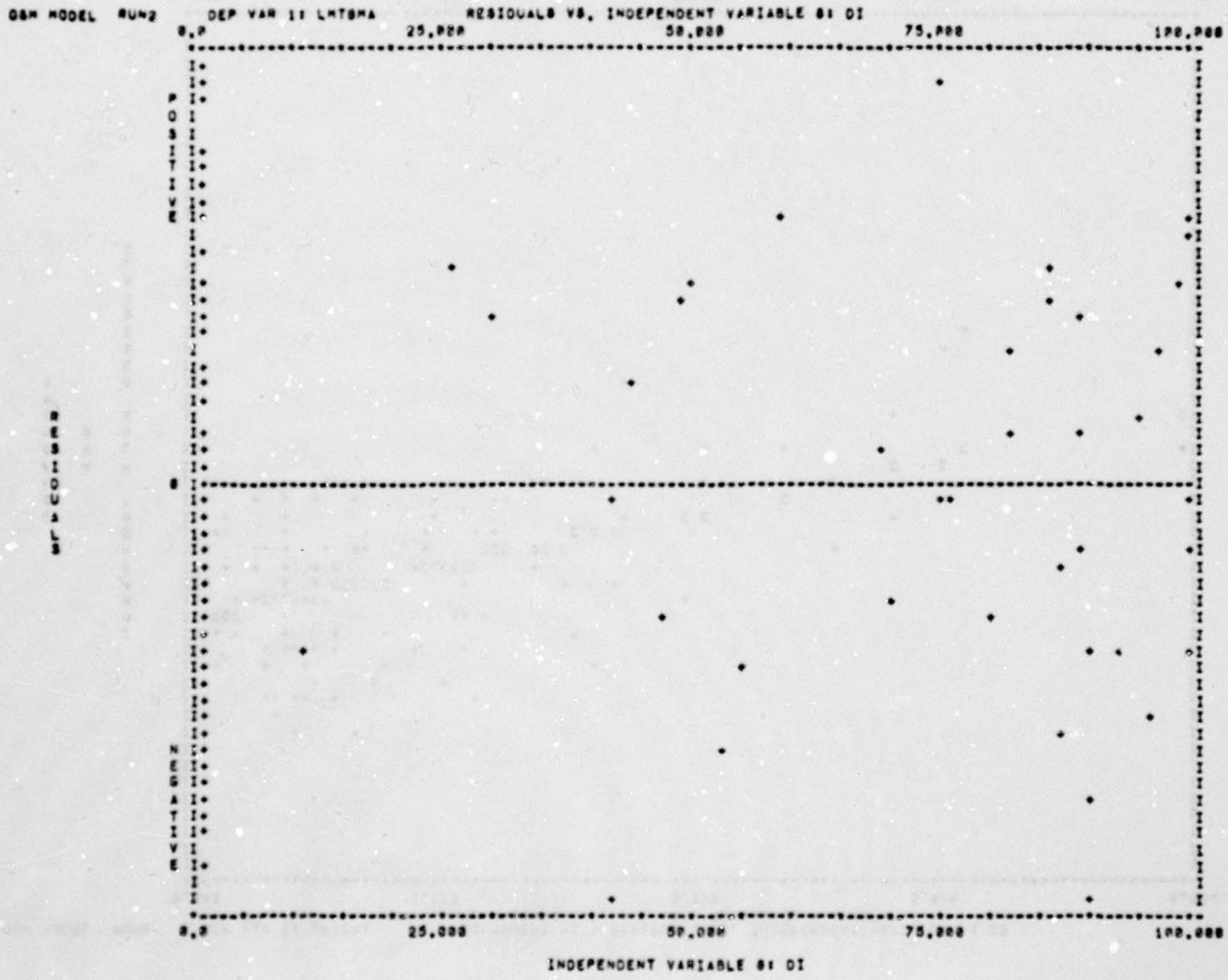

D&M MODEL RUN2 DEP VAR IS LMTSMA RESIDUALS VS. INDEPENDENT VARIABLE IS CD
0.005
1.672
3.339
5.006
6.674
POSITIVE
RESIDUALS
0
NEGATIVE
INDEPENDENT VARIABLE IS CD

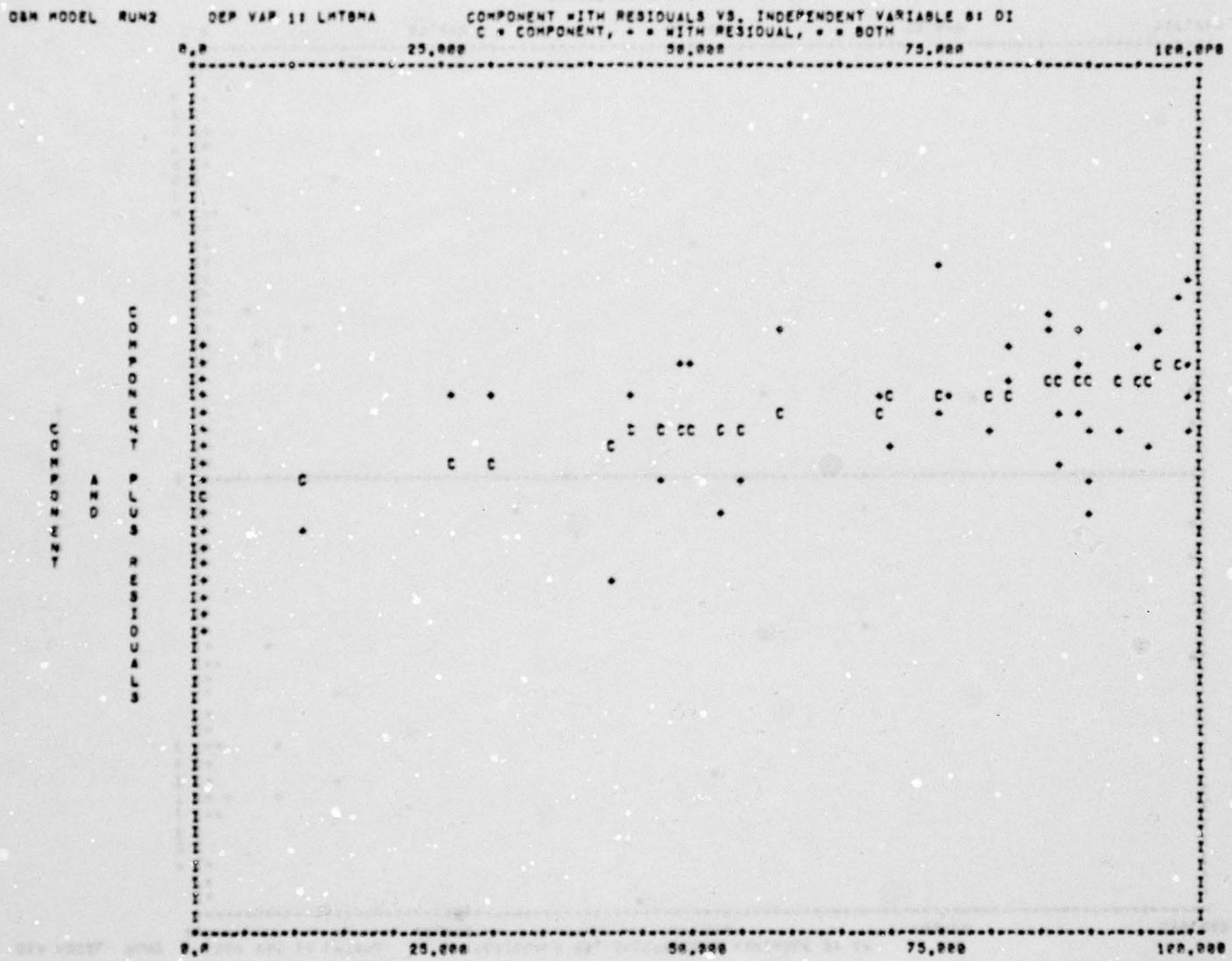

O&M MODEL RUN2 DEP VAR IS LNTSNA COMPONENT WITH RESIDUALS VS. INDEPENDENT VARIABLE IS CO
C = COMPONENT, + = WITH RESIDUAL, * = BOTH
0.003
1.672
3.339
5.006
6.674
COMPONENT AND COMPONENT PLUS RESIDUALS
INDEPENDENT VARIABLE IS CO
0 RESIDUALS OUTSIDE OF PLOT

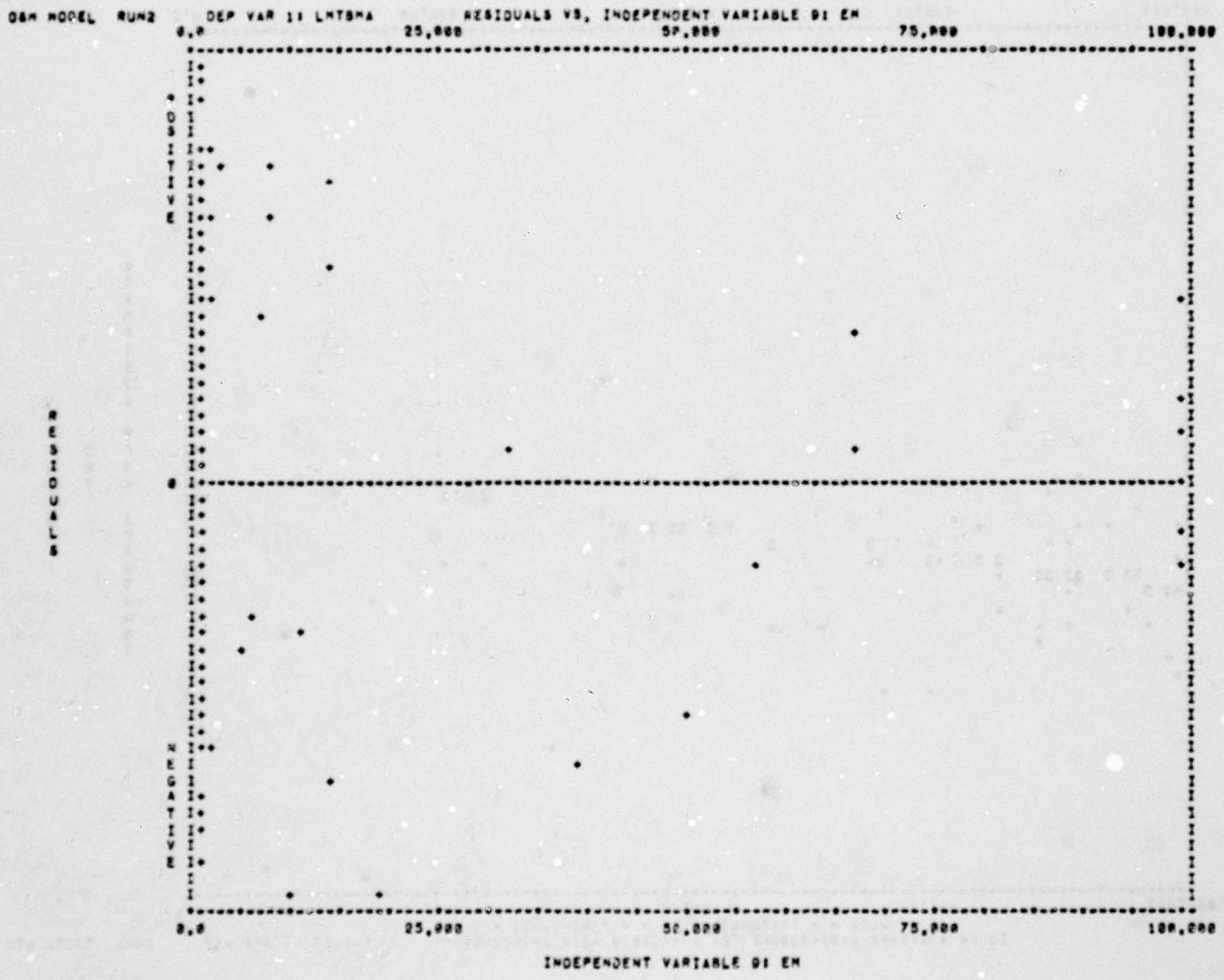
AD-A078 053 WESTINGHOUSE ELECTRIC CORP HUNT VALLEY MD F/G 14/1
PREDICTIVE OPERATIONS AND MAINTENANCE COST MODEL. VOLUME II.(U)
AUG 79 E E FELTUS F33615-77-C-1105
UNCLASSIFIED AFAL-TR-79-1120-VOL-2 NL

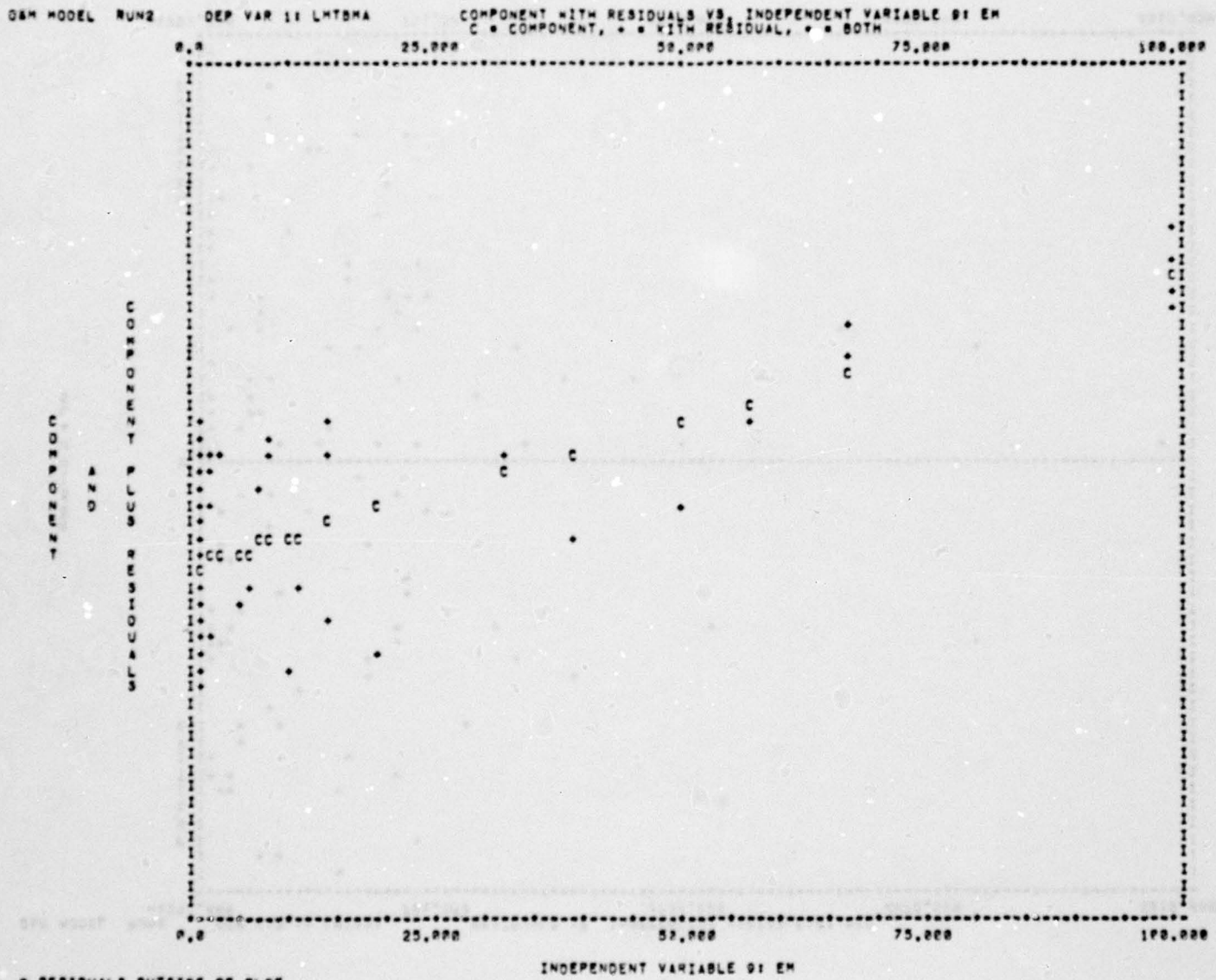
2 OF 4
AD-
A078053

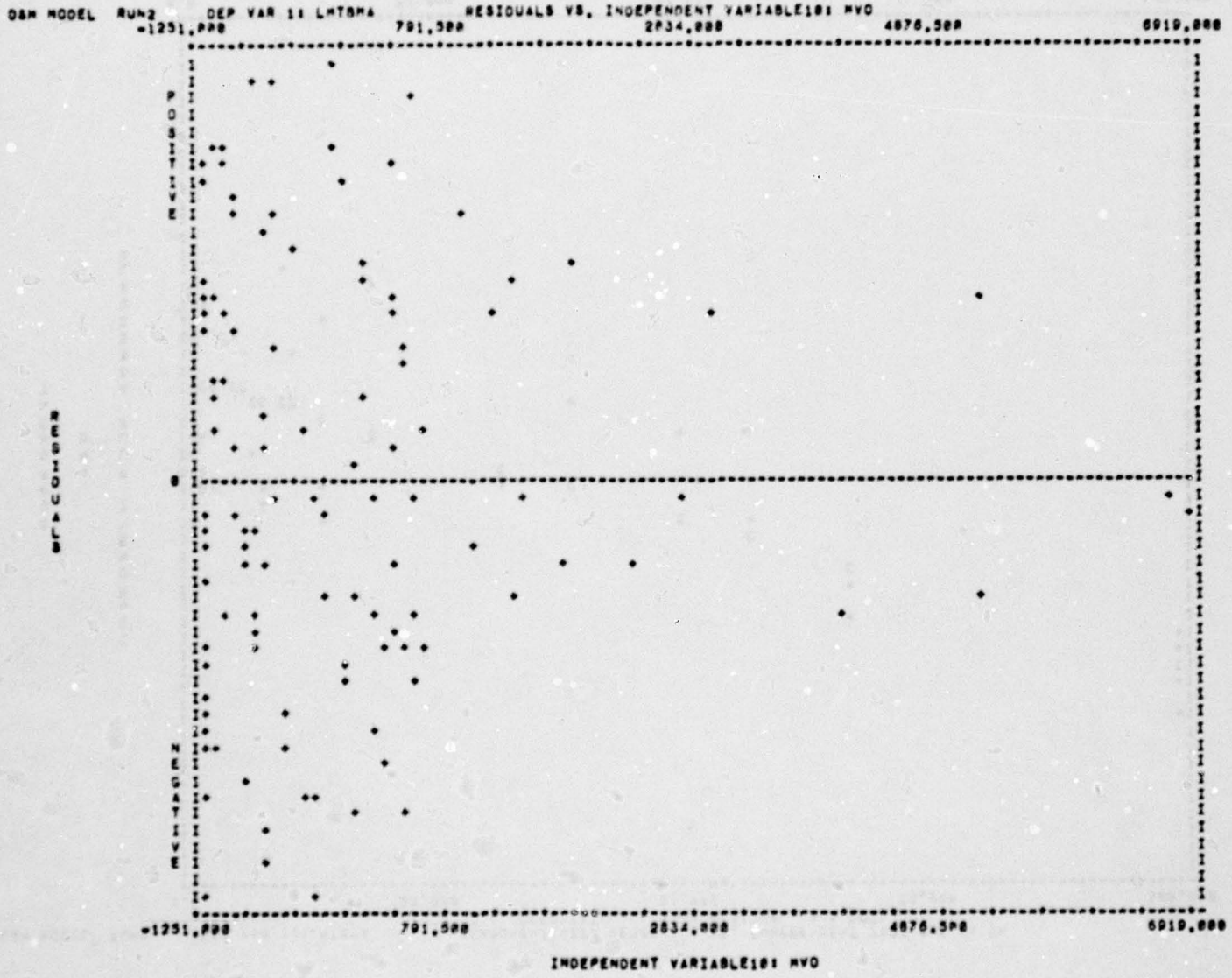


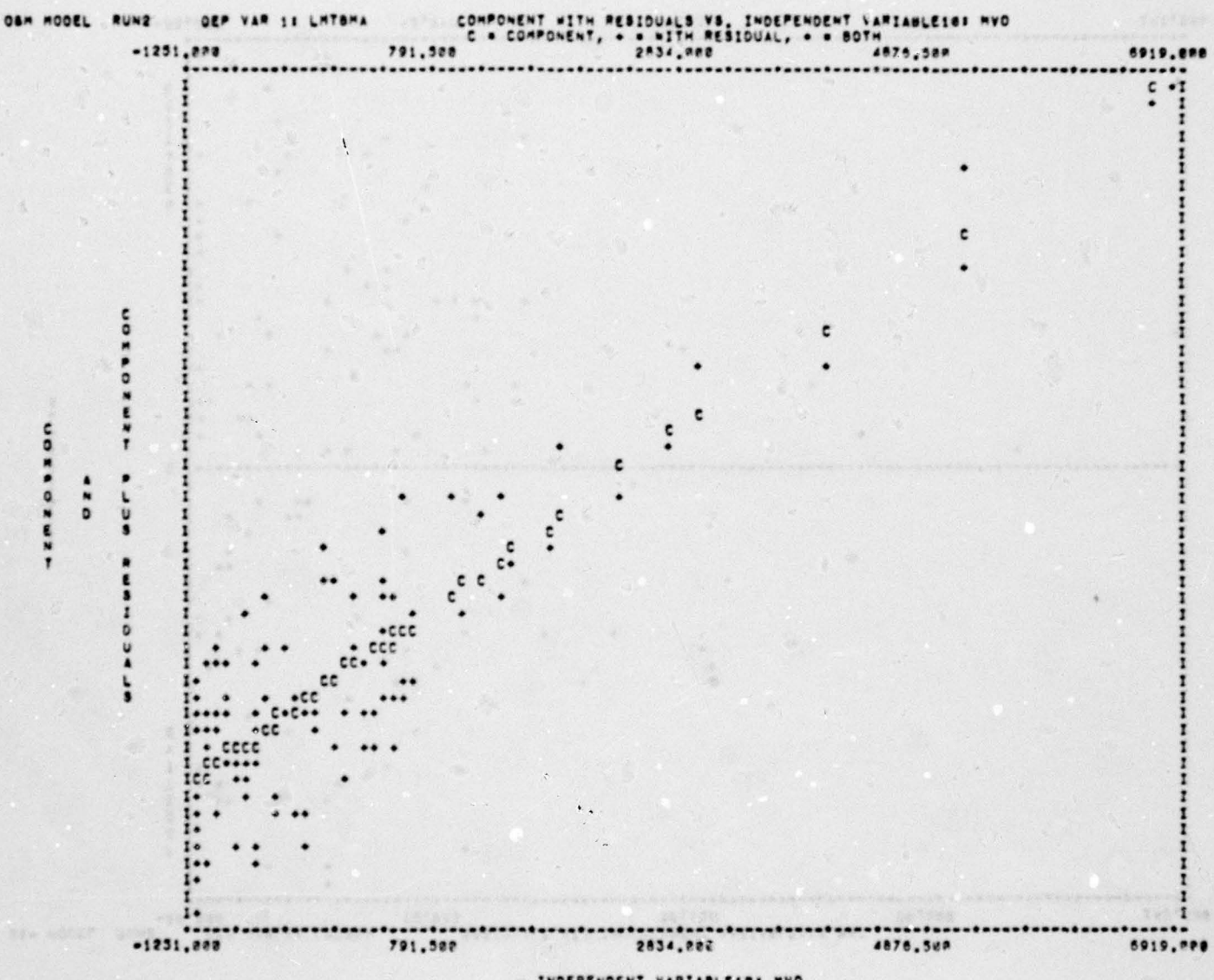

G&M MODEL RUN2 DEP VAR IS LNTSMA RESIDUALS VS. INDEPENDENT VARIABLE #1 DI
0.0
25,000
50,000
75,000
100,000
POSITIVE
RESIDUALS
0
NEGATIVE
INDEPENDENT VARIABLE #1 DI

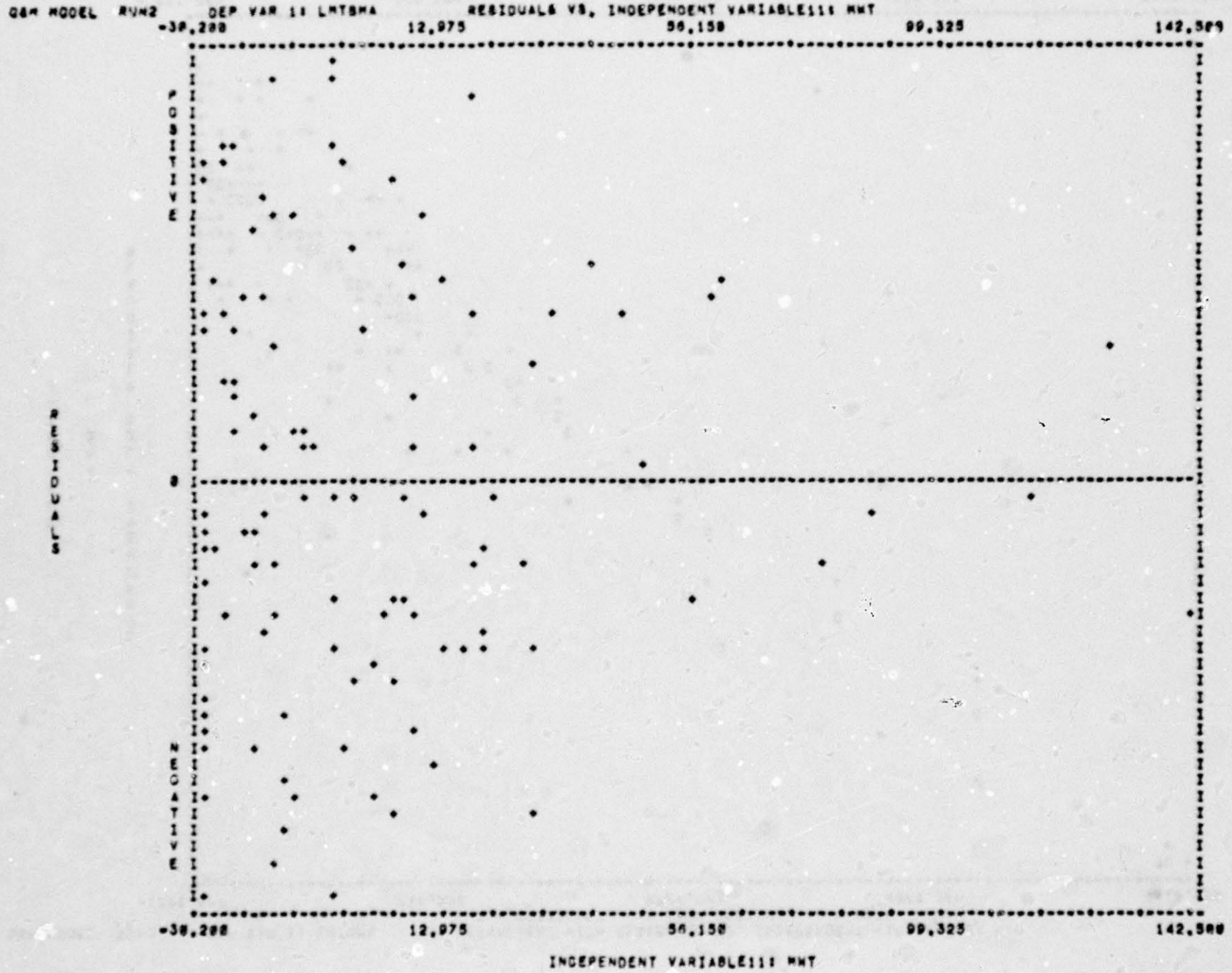

O&M MODEL RUN2 DEP VAR IS LMTBMA
COMPONENT WITH RESIDUALS VS. INDEPENDENT VARIABLE IS DI
C = COMPONENT, + = WITH RESIDUAL, * = BOTH
0.0
25,000
50,000
75,000
100,000
COMPONENT AND COMPONENT PLUS RESIDUALS
INDEPENDENT VARIABLE IS DI
0 RESIDUALS OUTSIDE OF PLOT

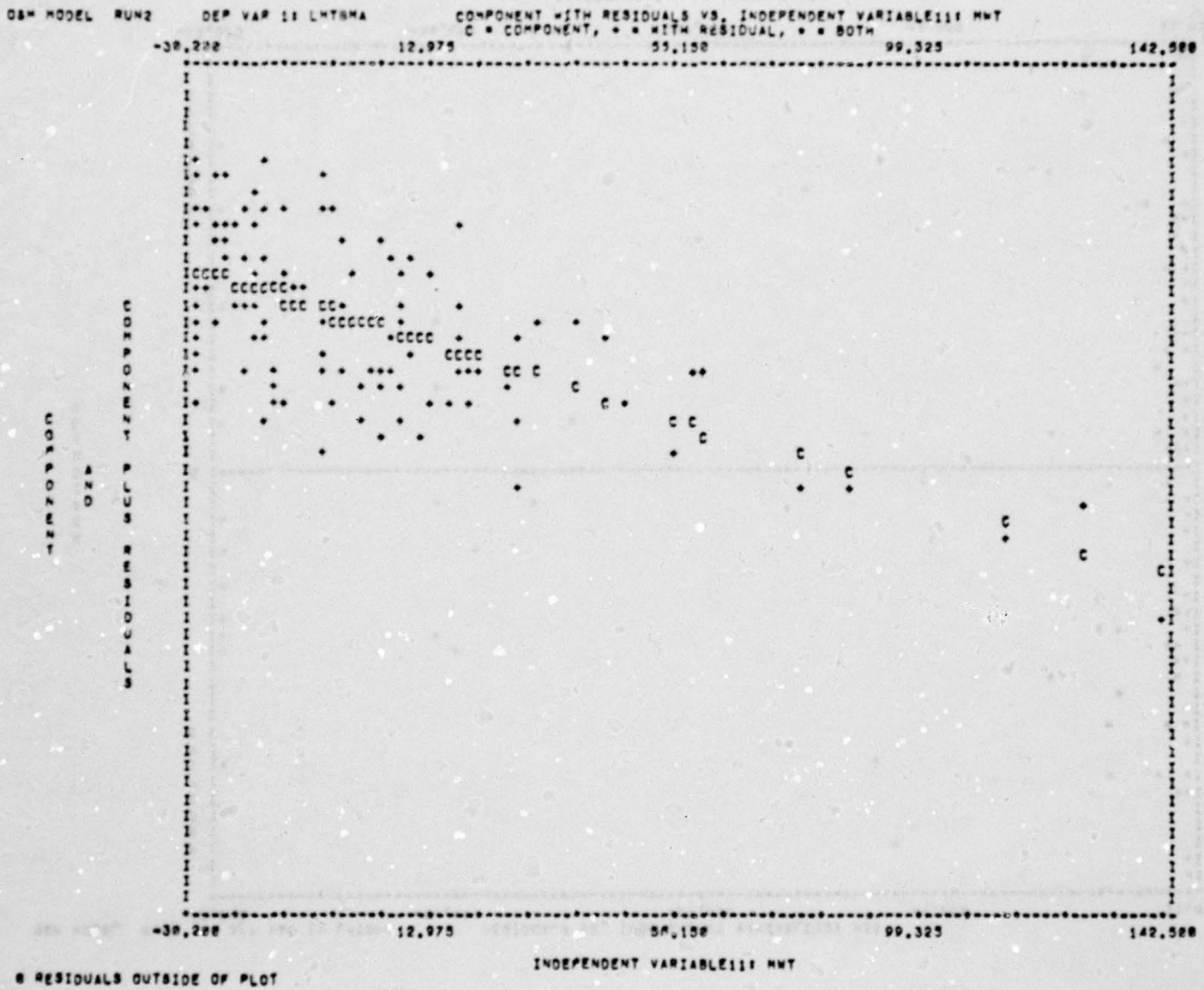

D&M MODEL RUN2 DEP VAR 1: LMTSMA RESIDUALS VS. INDEPENDENT VARIABLE 91: EM
0.0
25,000
50,000
75,000
100,000
RESIDUALS
POSITIVE
0
NEGATIVE
INDEPENDENT VARIABLE 91: EM


O&M MODEL RUN2 DEP VAR 1: LMTBMA
COMPONENT WITH RESIDUALS VS. INDEPENDENT VARIABLE 9: EM
C = COMPONENT, + = WITH RESIDUAL, * = BOTH
0.0
25,000
50,000
75,000
100,000
COMPONENT AND COMPONENT PLUS RESIDUALS
INDEPENDENT VARIABLE 9: EM
0 RESIDUALS OUTSIDE OF PLOT

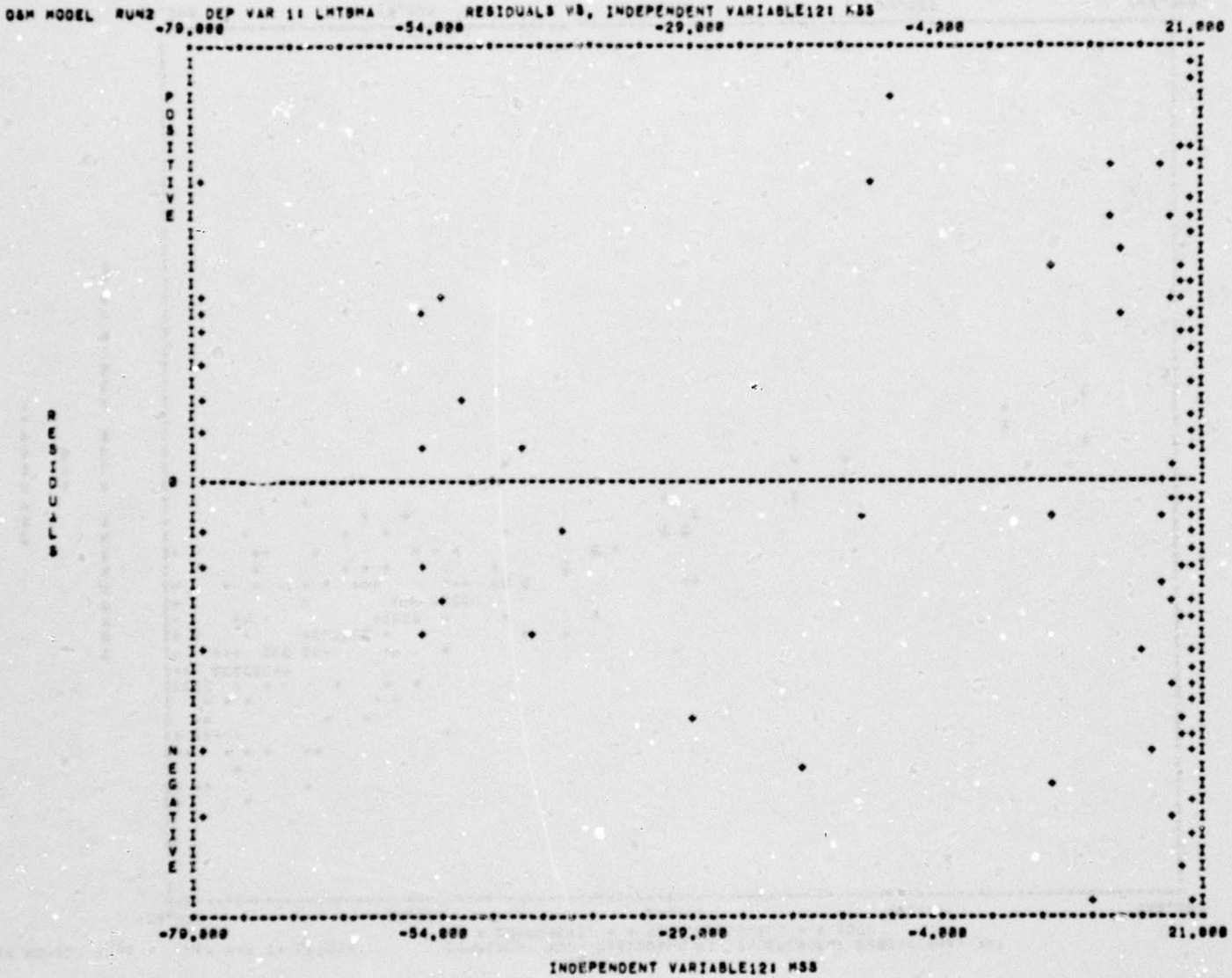

D&M MODEL RUN2 DEP VAR 1: LMTBMA RESIDUALS VS. INDEPENDENT VARIABLE10: MVO
-1251,000
791,500
2834,000
4876,500
6919,000
POSITIVE
0
NEGATIVE
RESIDUALS
INDEPENDENT VARIABLE10: MVO

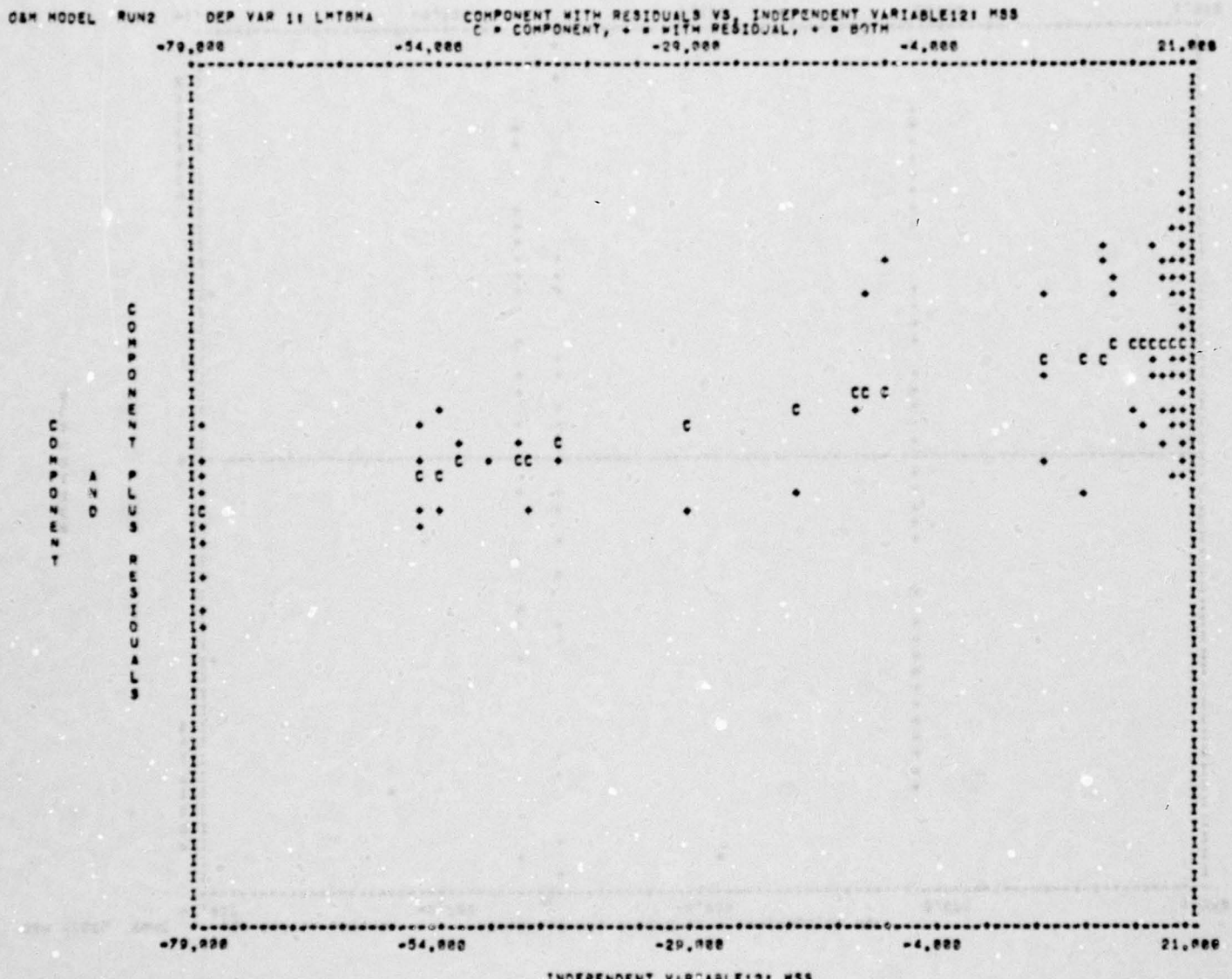

O&M MODEL RUN2 DEP VAR 1: LMTBMA COMPONENT WITH RESIDUALS VS. INDEPENDENT VARIABLE(S): MVO
C = COMPONENT, + = WITH RESIDUAL, * = BOTH
-1231.000 791.500 2834.000 4876.500 6919.000
COMPONENT AND PLUS RESIDUALS
INDEPENDENT VARIABLE(S): MVO
0 RESIDUALS OUTSIDE OF PLOT

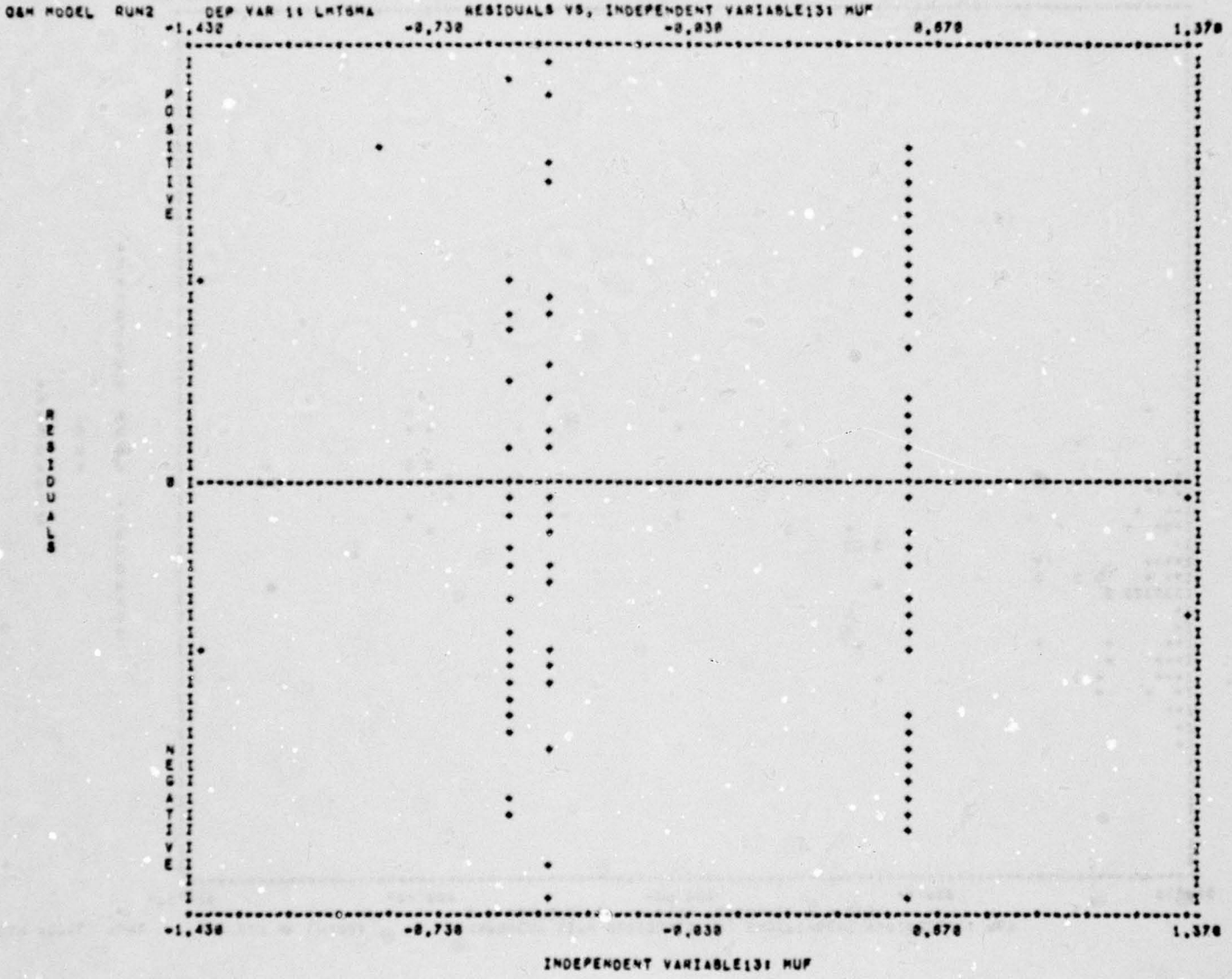

Q&M MODEL RUN2 DEP VAR 1: LNTSMA RESIDUALS VS. INDEPENDENT VARIABLE11: MNT
-38,288
12,975
56,150
99,325
142,500
POSITIVE
0
NEGATIVE
RESIDUALS
INDEPENDENT VARIABLE11: MNT




6 RESIDUALS OUTSIDE OF PLOT

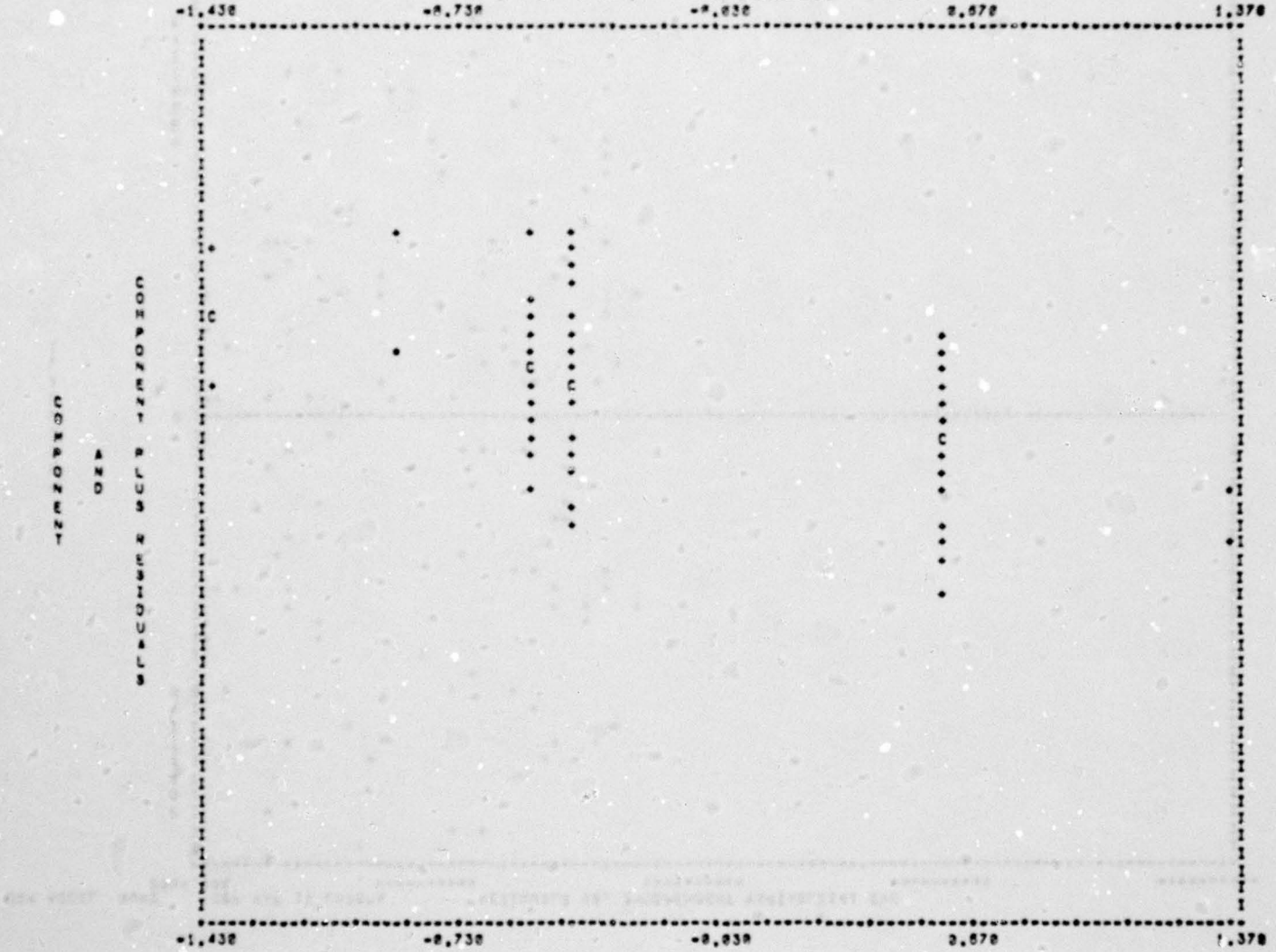

G&M MODEL RUN2 DEP VAR 1: LMTBMA RESIDUALS VS. INDEPENDENT VARIABLE12: MSS
-79,000
-54,000
-29,000
-4,000
21,000
POSITIVE
RESIDUALS
0
NEGATIVE
INDEPENDENT VARIABLE12: MSS


O&M MODEL RUN2 DEP VAR 1: LMTBMA COMPONENT WITH RESIDUALS VS. INDEPENDENT VARIABLE12: MSS
C = COMPONENT, + = WITH RESIDUAL, * = BOTH
-79,000
-54,000
-29,000
-4,000
21,000
COMPONENT PLUS RESIDUALS
AND
COMPONENT
INDEPENDENT VARIABLE12: MSS
0 RESIDUALS OUTSIDE OF PLOT


Q&M MODEL RUN2 DEP VAR IS LMTGMA RESIDUALS VS. INDEPENDENT VARIABLE(3) MUF
-1.432
-0.738
-0.038
0.678
1.378
POSITIVE
0
NEGATIVE
STANDARDIZED RESIDUALS
INDEPENDENT VARIABLE(3) MUF

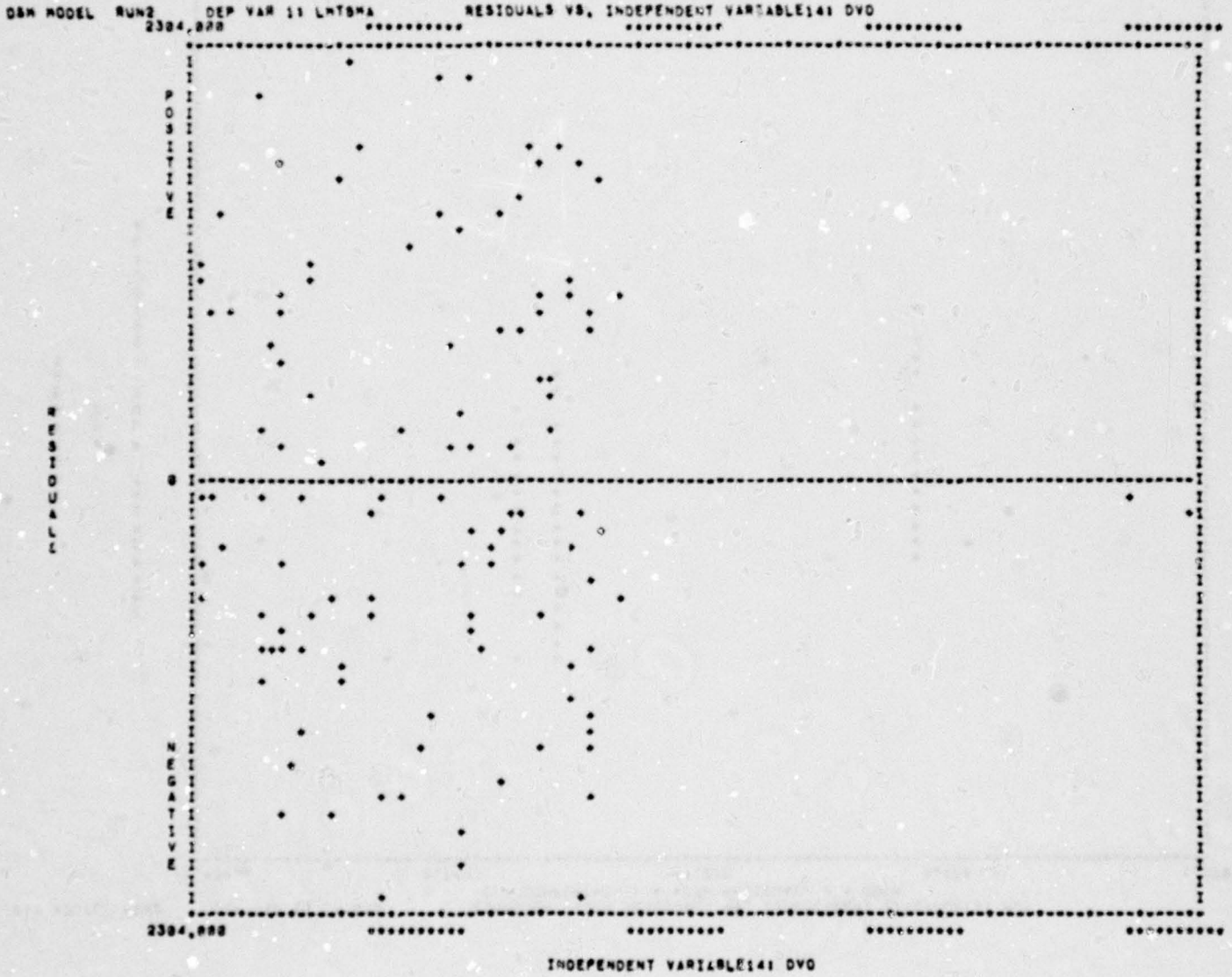
G&M MODEL RUN2 DEP VAR IS LMTBMA COMPONENT WITH RESIDUALS VS. INDEPENDENT VARIABLE13: MUF

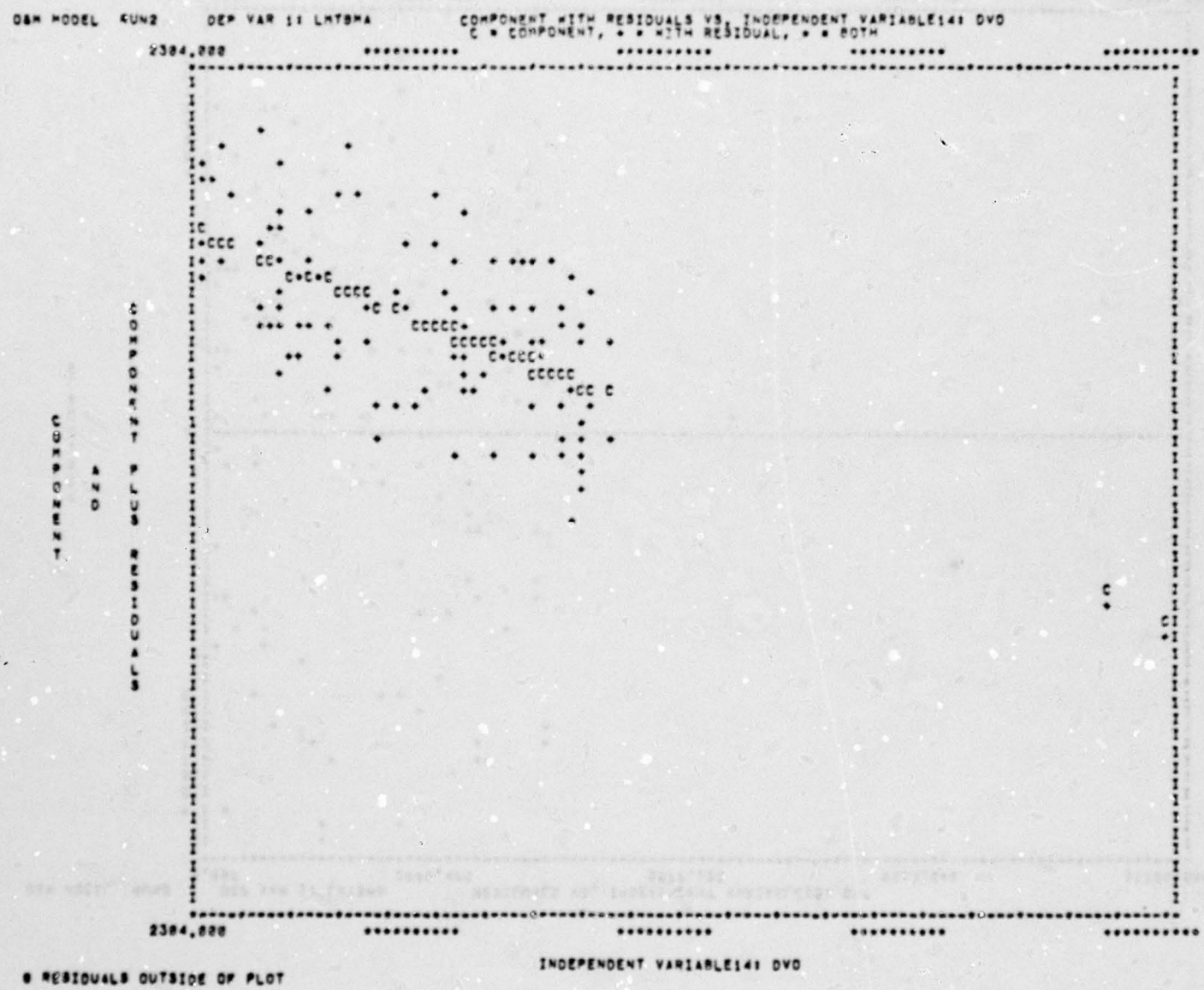
C = COMPONENT, + = WITH RESIDUAL, * = BOTH



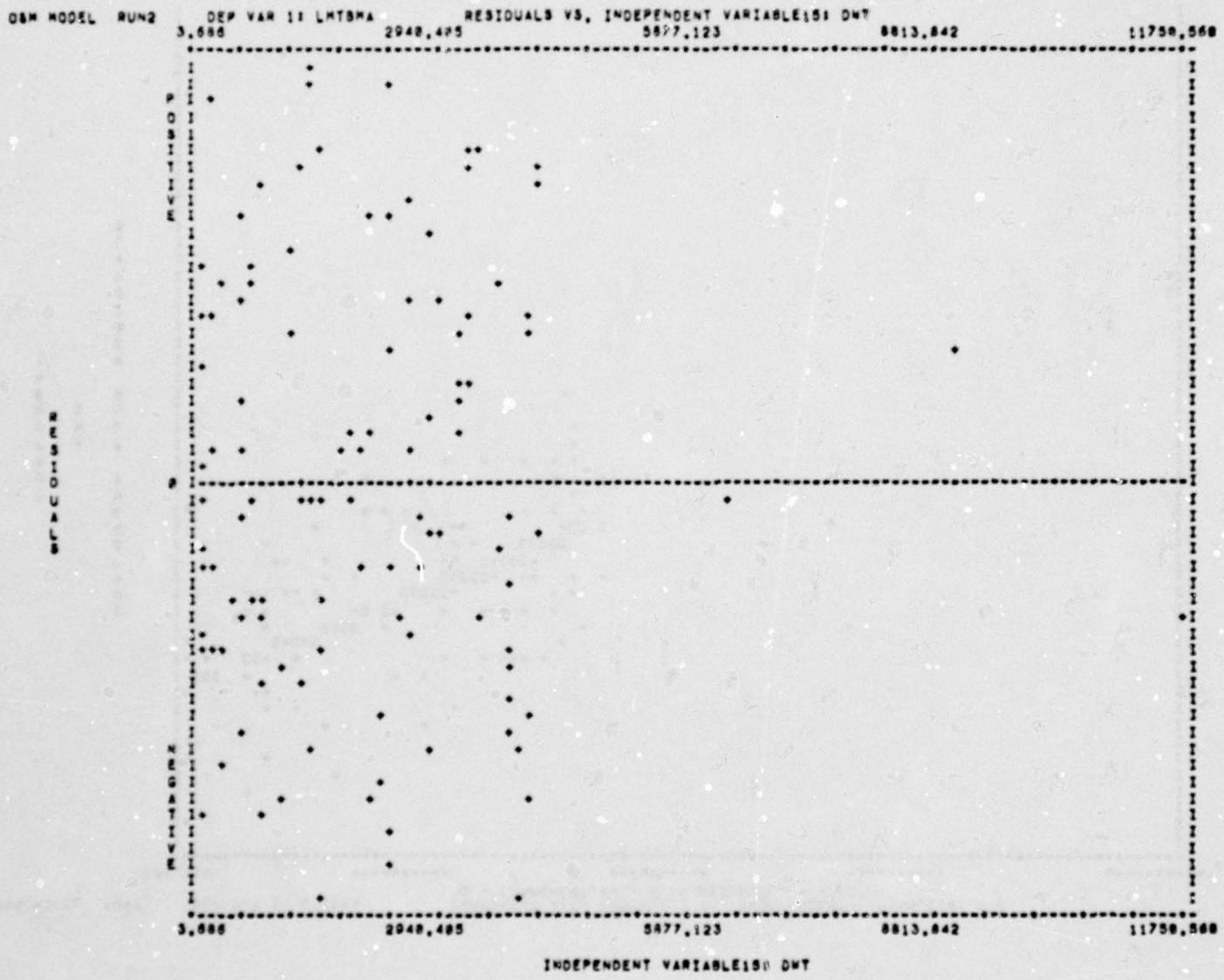

INDEPENDENT VARIABLE13: MUF

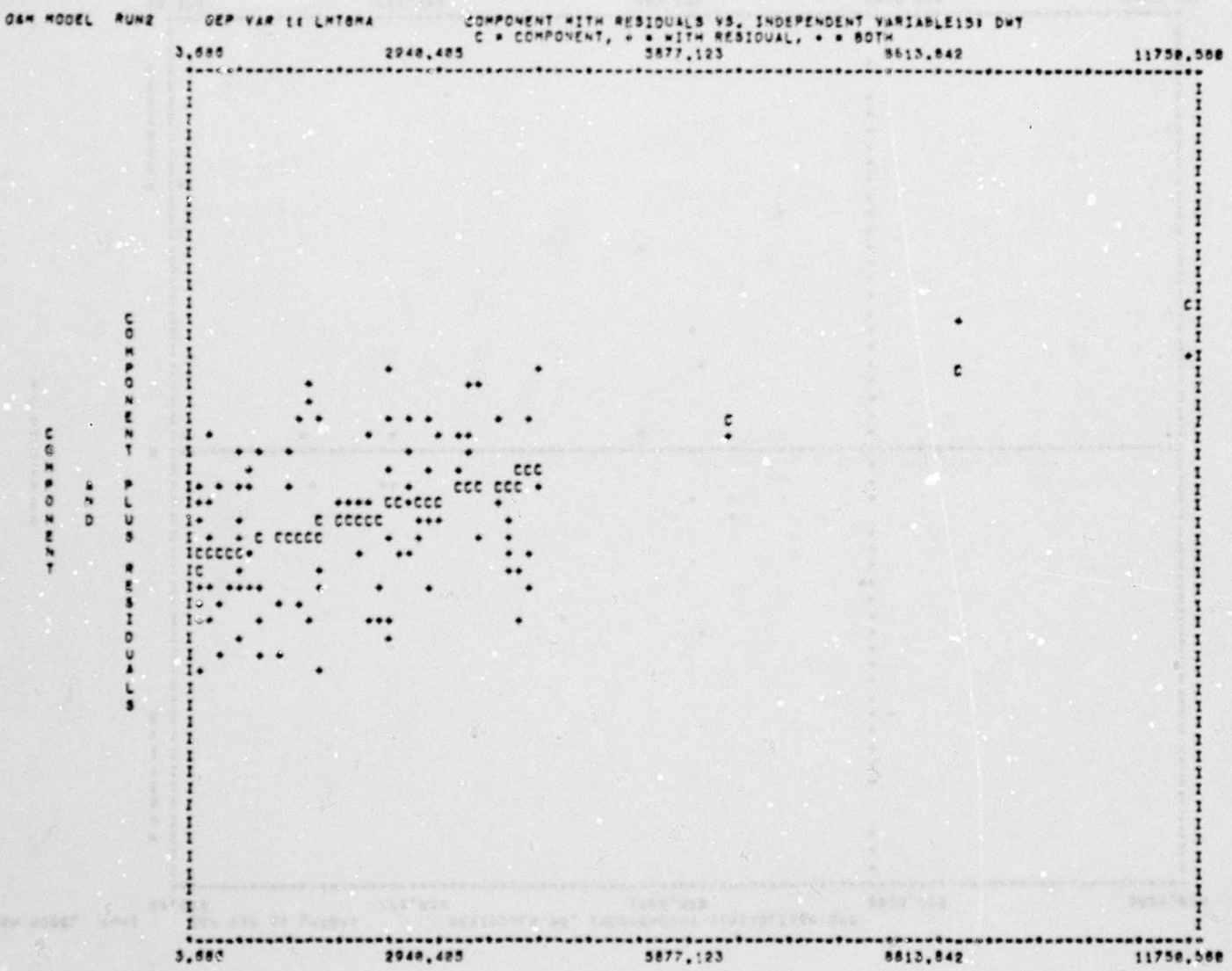
0 RESIDUALS OUTSIDE OF PLOT

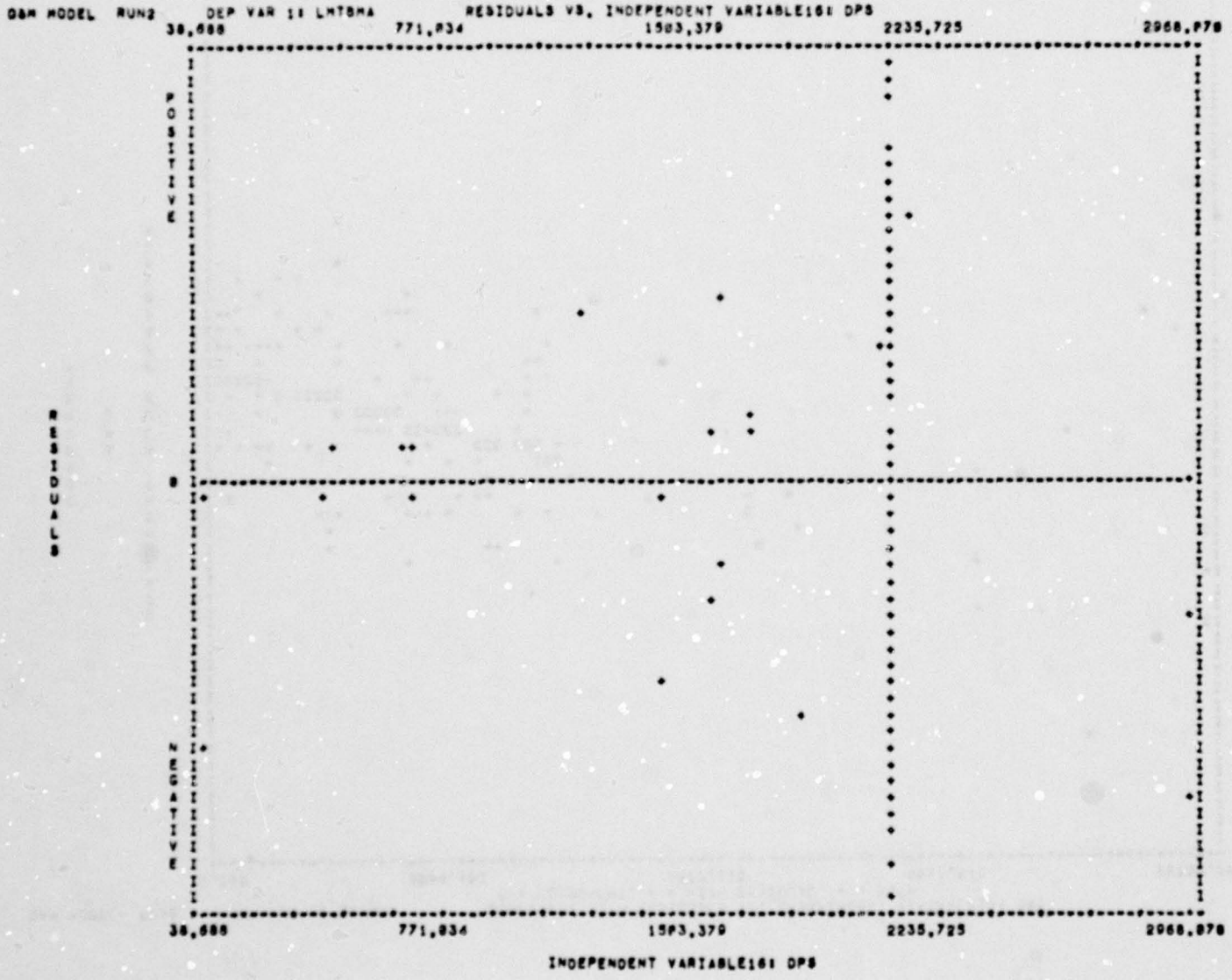

D&M MODEL RUN2 DEP VAR 11 LNTSMA RESIDUALS VS. INDEPENDENT VARIABLE141 DVO
2384.888
POSITIVE
RESIDUALS
0
NEGATIVE
2384.888
INDEPENDENT VARIABLE141 DVO

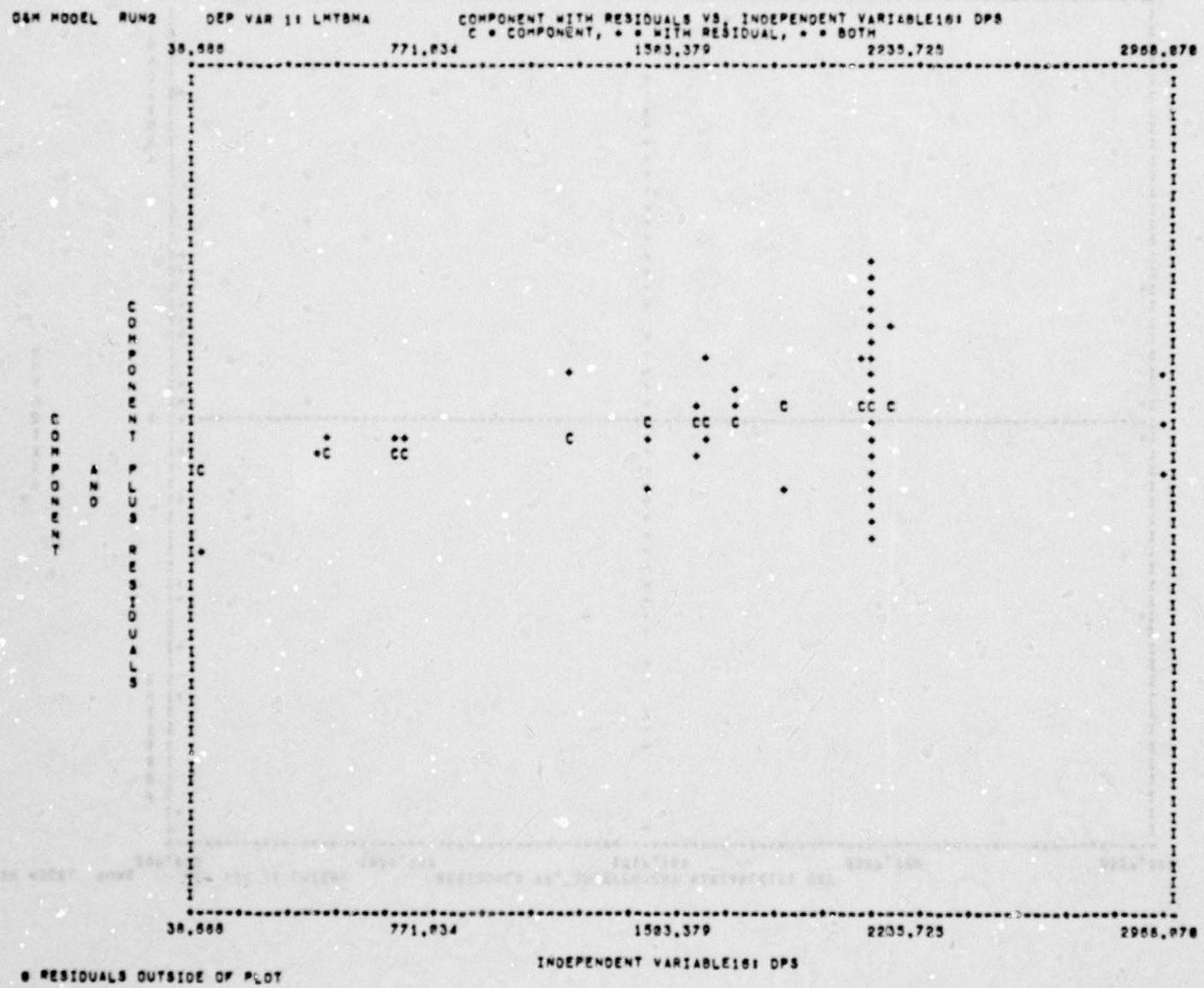


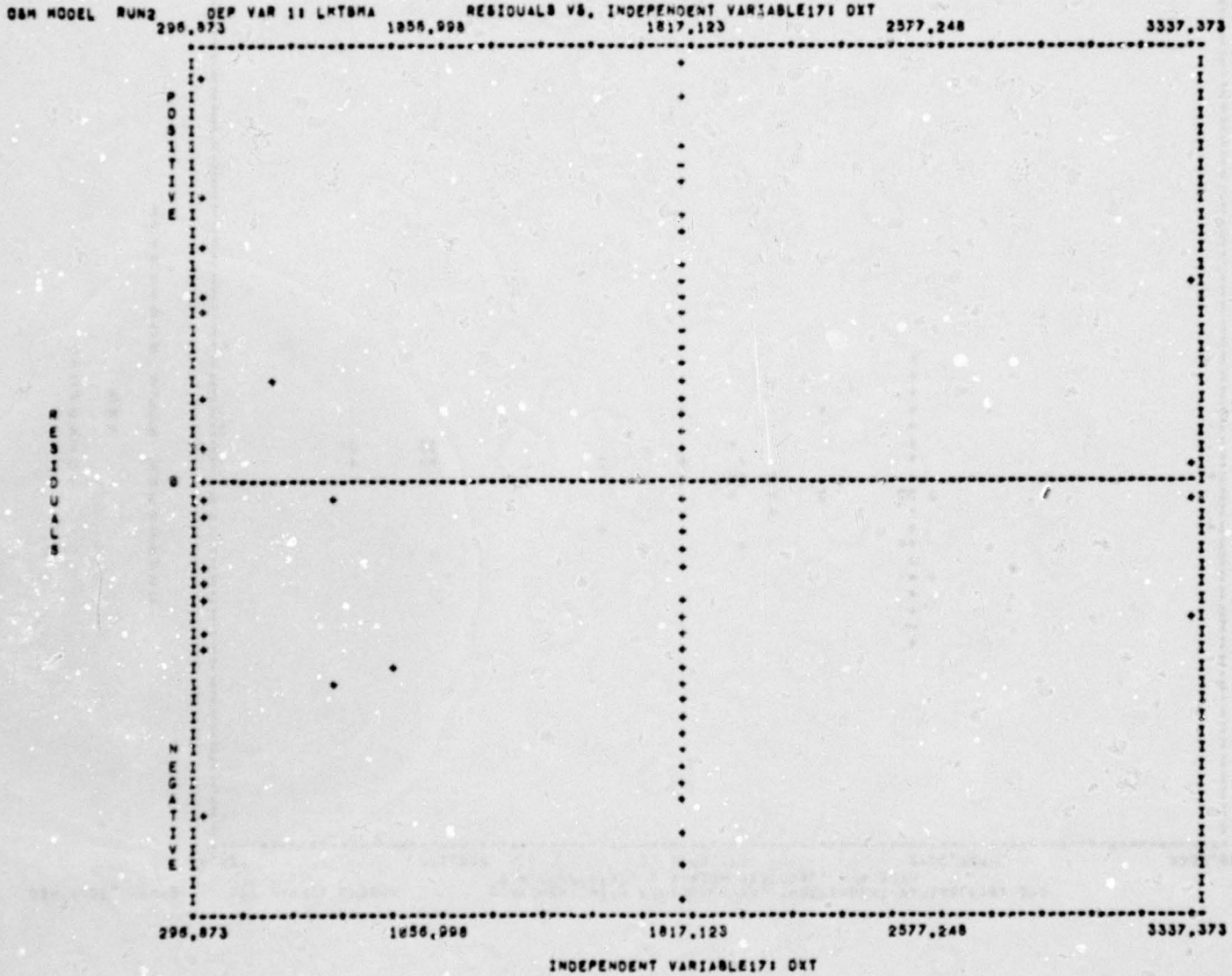

0 RESIDUALS OUTSIDE OF PLOT


O&M MODEL RUN2 DEP VAR IS LMTBMA RESIDUALS VS. INDEPENDENT VARIABLE(S): DWT
3,686
2948,495
5877,123
8813,842
11750,560
POSITIVE
RESIDUALS
0
NEGATIVE
INDEPENDENT VARIABLE(S): DWT

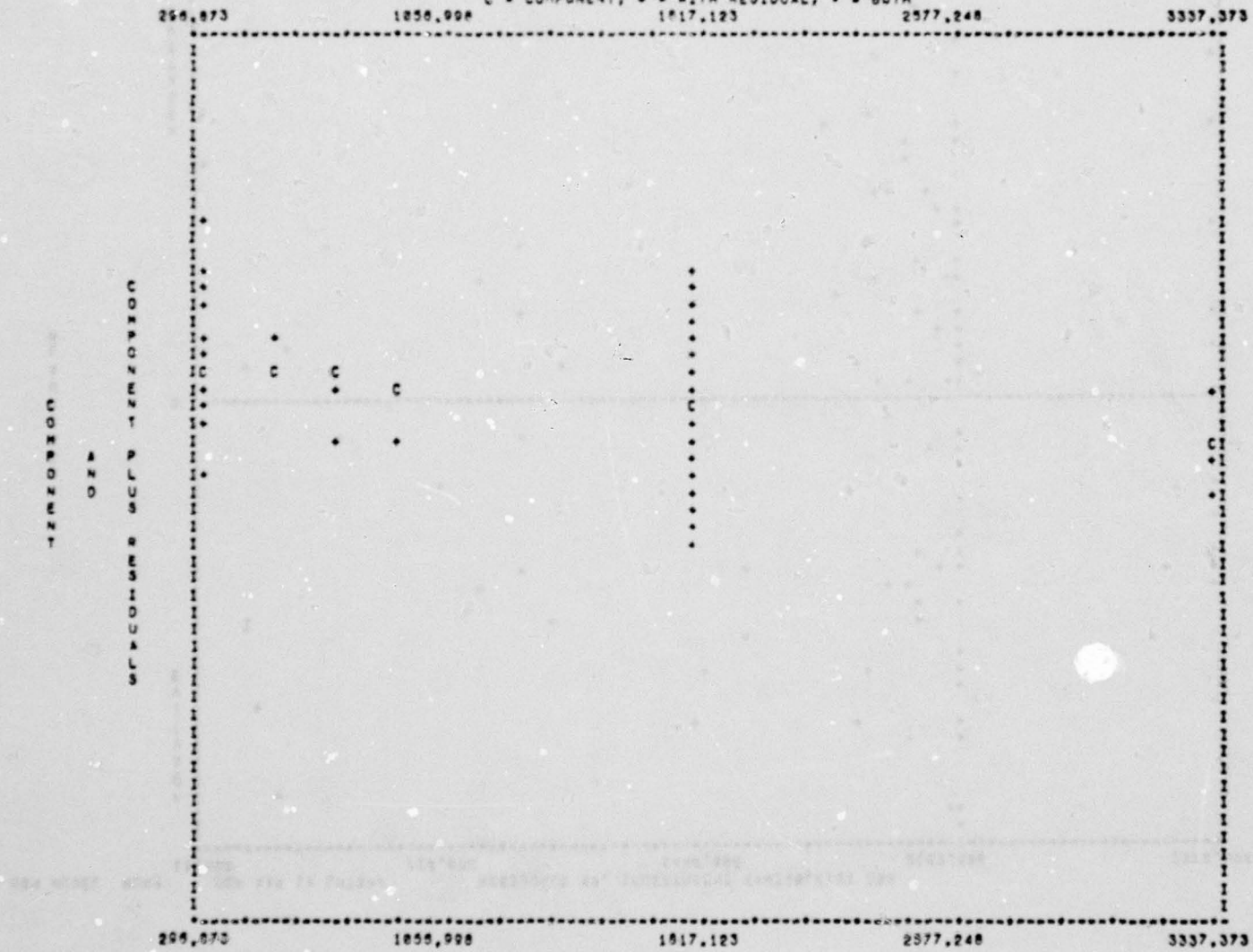

O&M MODEL RUN2 DEP VAR IS LMT8MA COMPONENT WITH RESIDUALS VS. INDEPENDENT VARIABLE(S): DWT
C = COMPONENT, + = WITH RESIDUAL, * = BOTH
3,686
2948,485
5877,123
8813,842
11750,560
COMPONENT PLUS RESIDUALS
COMPONENT
PRD
INDEPENDENT VARIABLE(S): DWT
# RESIDUALS OUTSIDE OF PLOT


D&M MODEL RUN2 DEP VAR 1: LMTBMA RESIDUALS VS. INDEPENDENT VARIABLE16: DPS
38,688
771,834
1503,379
2235,725
2968,970
POSITIVE
RESIDUALS
0
NEGATIVE
INDEPENDENT VARIABLE16: DPS

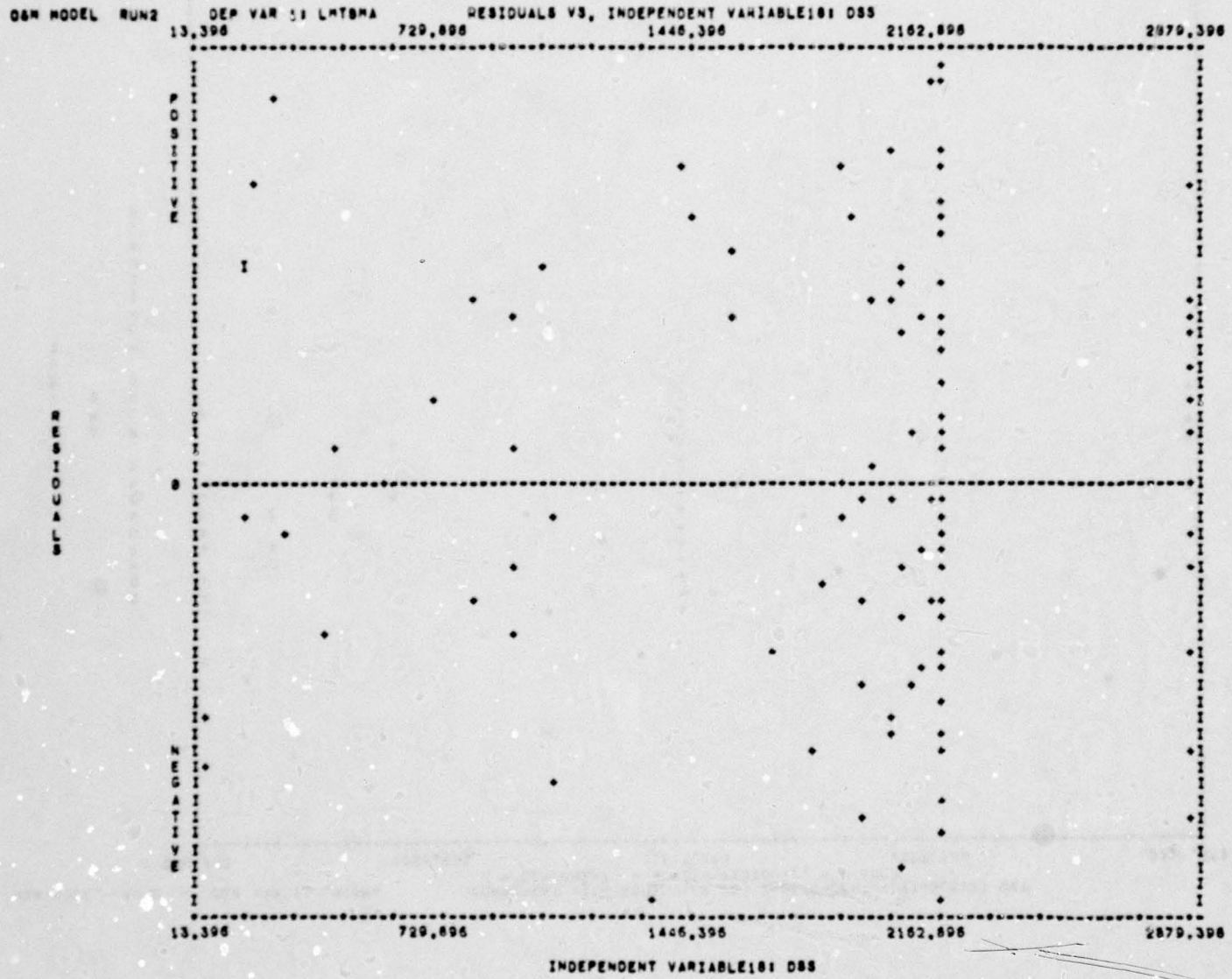

D&M MODEL RUN2 DEP VAR 1: LMTBMA COMPONENT WITH RESIDUALS VS. INDEPENDENT VARIABLE16: DPS
C = COMPONENT, + = WITH RESIDUAL, * = BOTH
38,666
771,834
1583,379
2235,725
2968,878
COMPONENT PLUS RESIDUALS
COMPONENT AND
INDEPENDENT VARIABLE16: DPS
0 RESIDUALS OUTSIDE OF PLOT

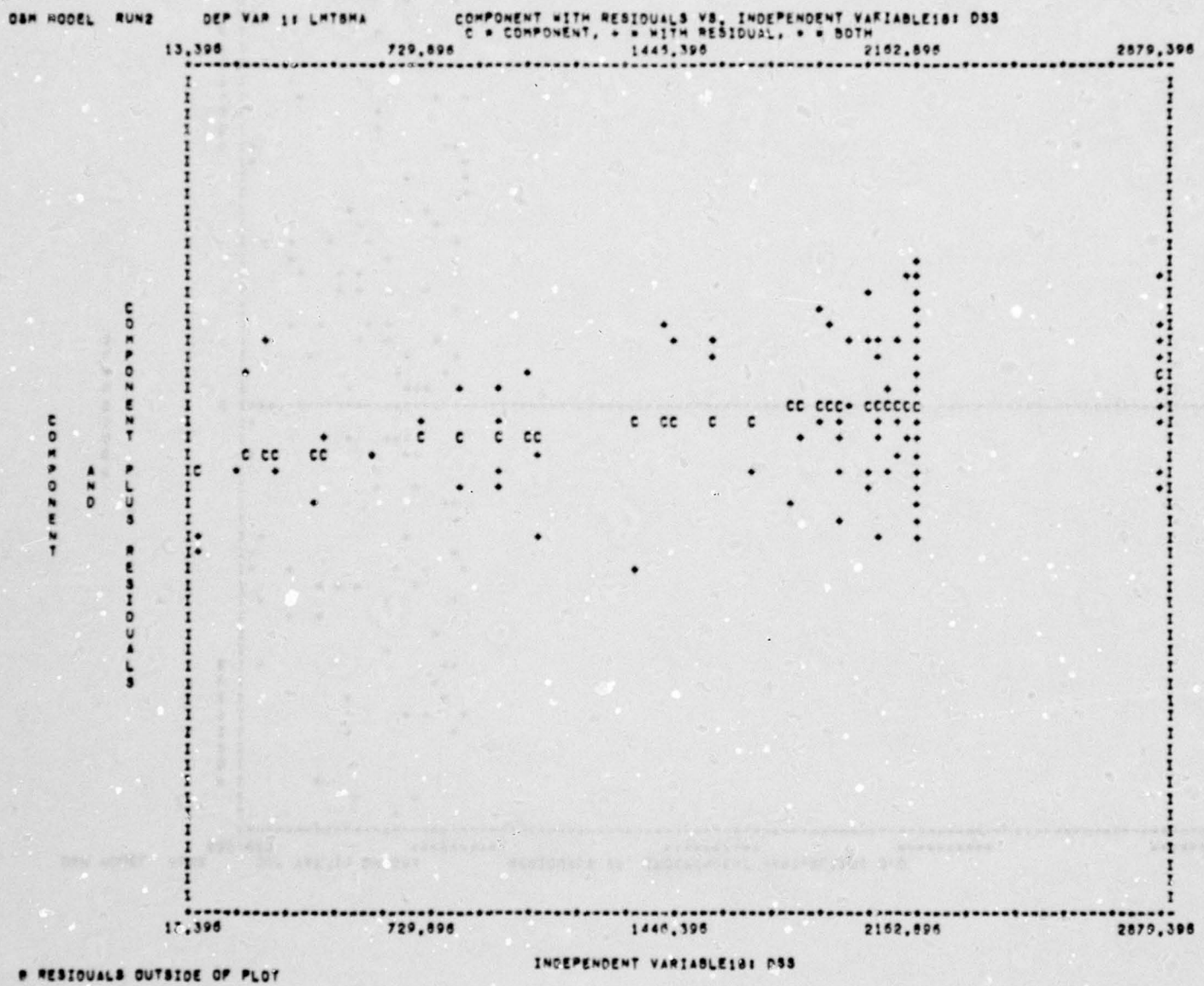

G&M MODEL RUN2 DEP VAR IS LNTSMA RESIDUALS VS. INDEPENDENT VARIABLE171 DXT
296,873
1856,998
1817,123
2577,248
3337,373
POSITIVE
RESIDUALS
0
NEGATIVE
296,873
1856,998
1817,123
2577,248
3337,373
INDEPENDENT VARIABLE171 DXT

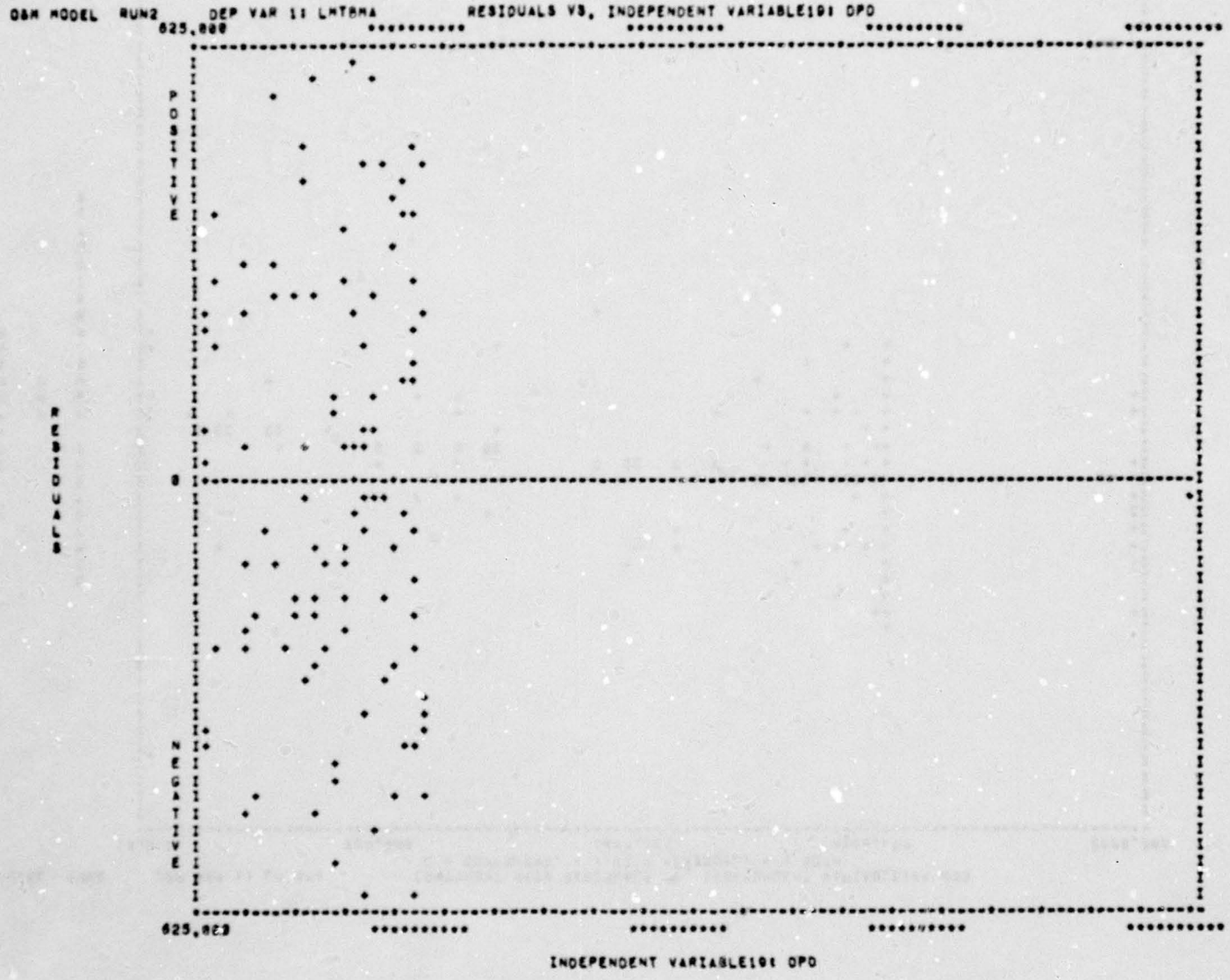
D&H MODEL RUN2 DEP VAR 1: LAfbMA COMPONENT WITH RESIDUALS VS. INDEPENDENT VARIABLE17: DXT
C = COMPONENT, + = WITH RESIDUAL, * = BOTH

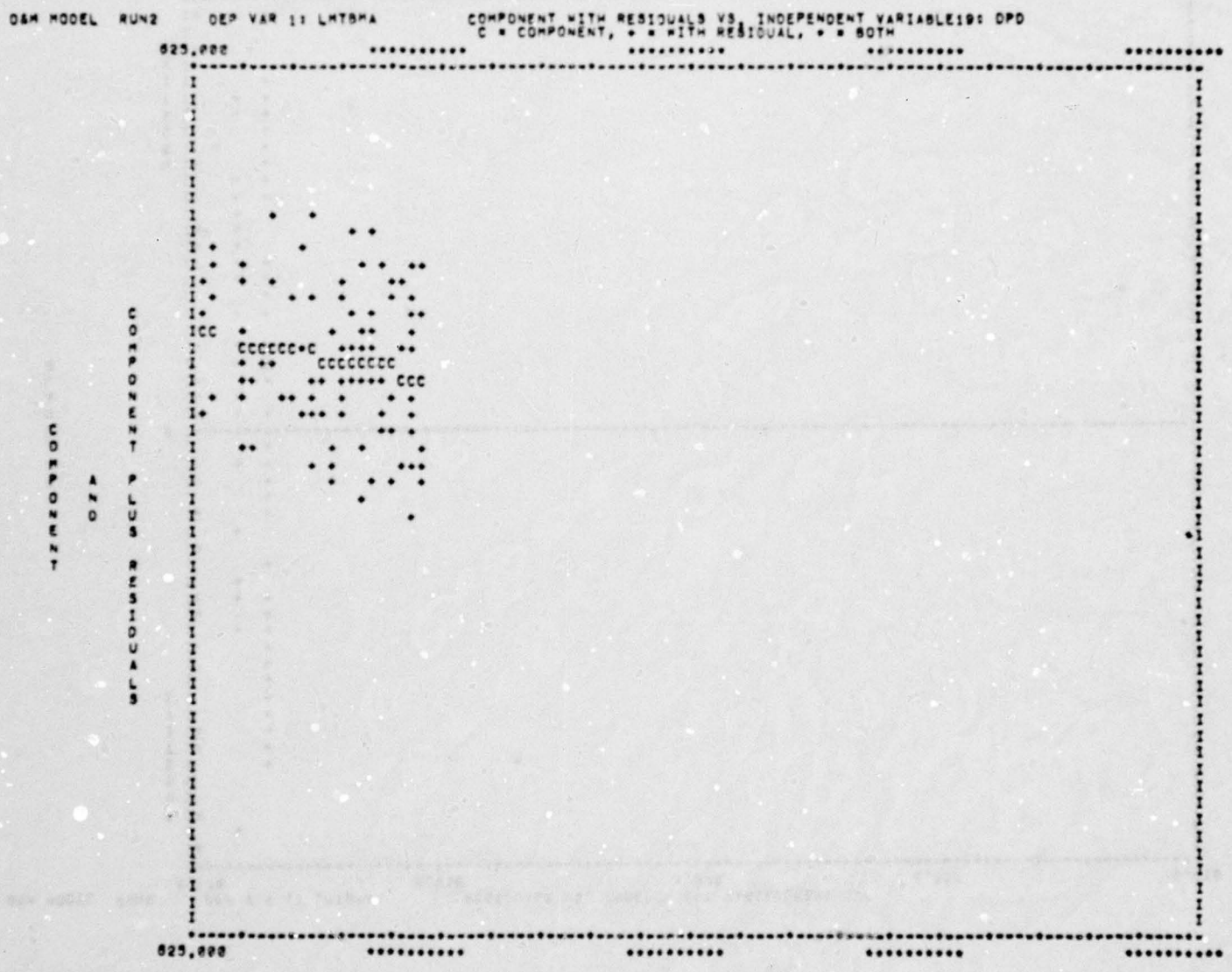


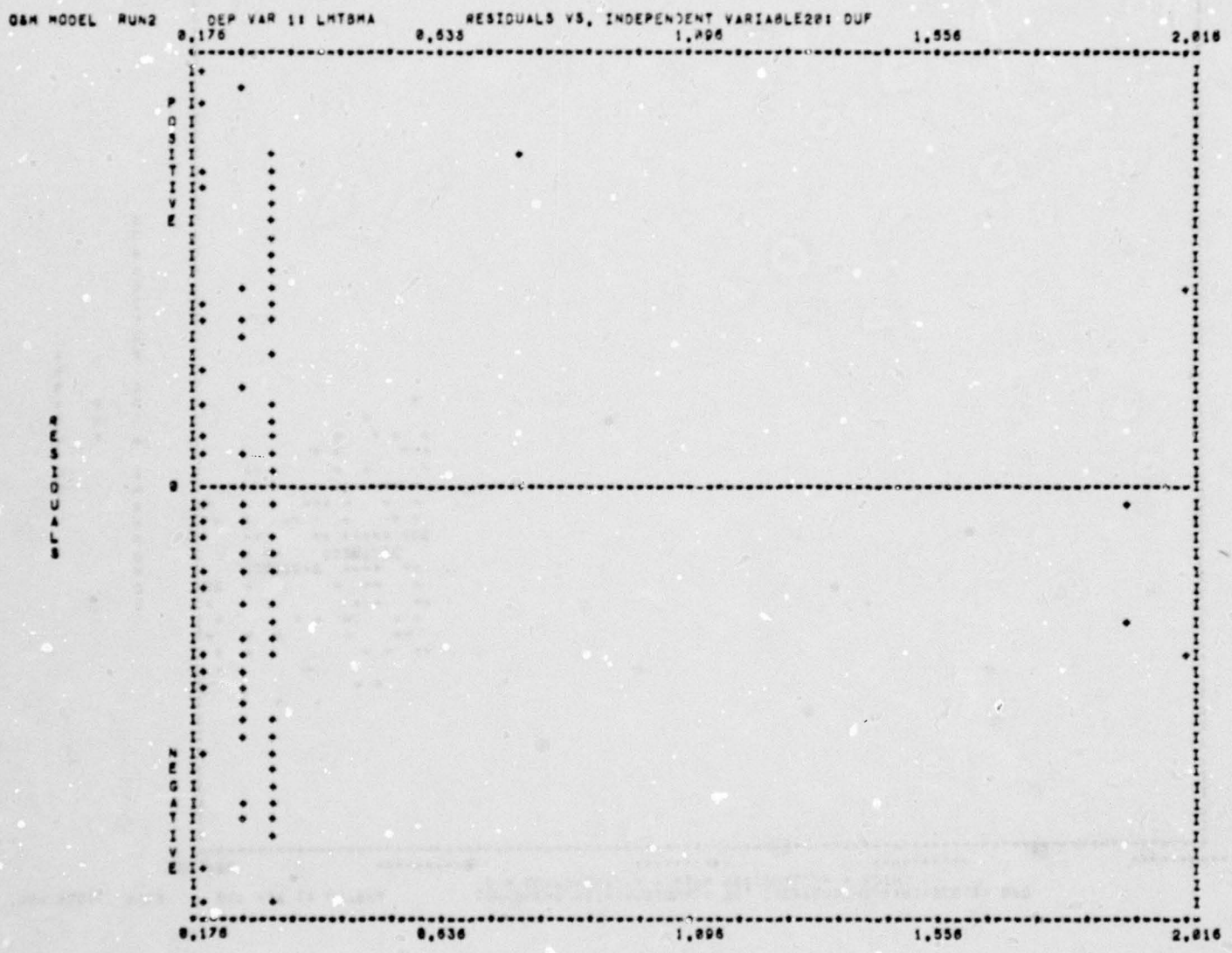

0 RESIDUALS OUTSIDE OF PLOT

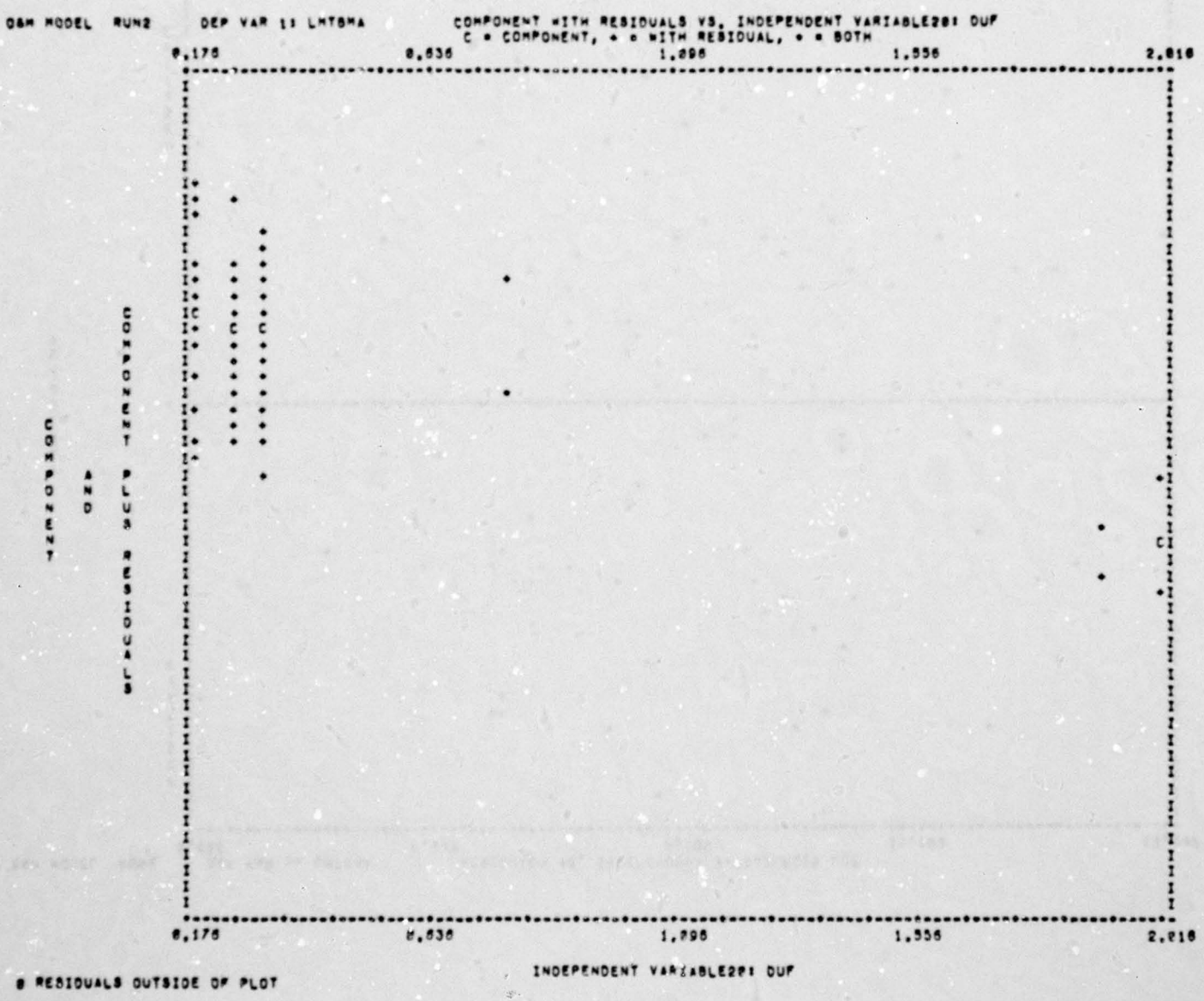

O&M MODEL RUN2
DEP VAR IS LMTBMA
RESIDUALS VS. INDEPENDENT VARIABLE[8]: DBS
13,396
729,896
1446,396
2162,896
2879,396
POSITIVE
0
NEGATIVE
SPACING
INDEPENDENT VARIABLE[8]: DBS

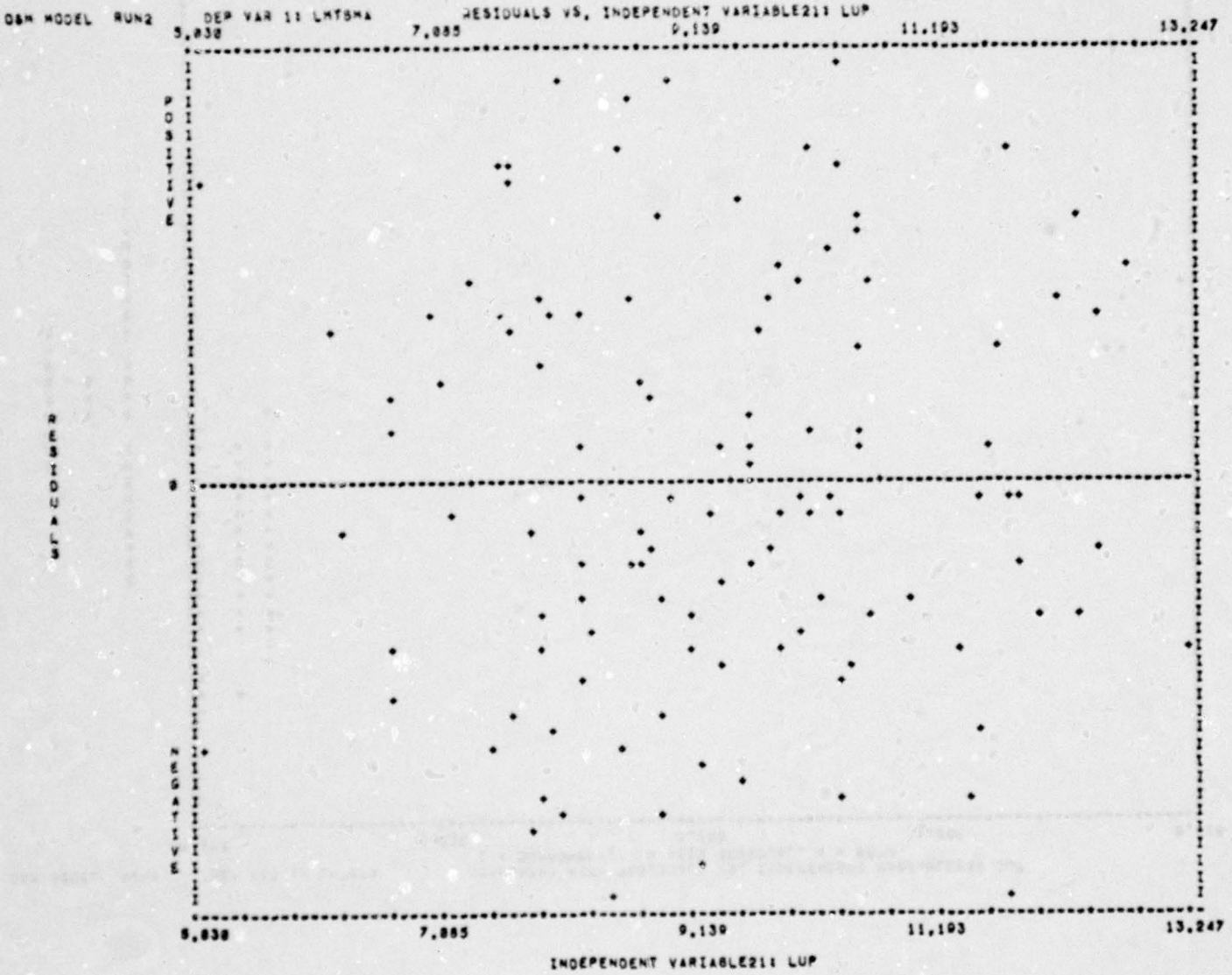

OSM MODEL RUN2 DEP VAR 1: LMTSMA
COMPONENT WITH RESIDUALS VS. INDEPENDENT VARIABLE18: DSS
C = COMPONENT, + = WITH RESIDUAL, * = BOTH
13,396
729,896
1446,396
2162,896
2879,396
COMPONENT AND COMPONENT PLUS RESIDUALS
INDEPENDENT VARIABLE18: DSS
* RESIDUALS OUTSIDE OF PLOT

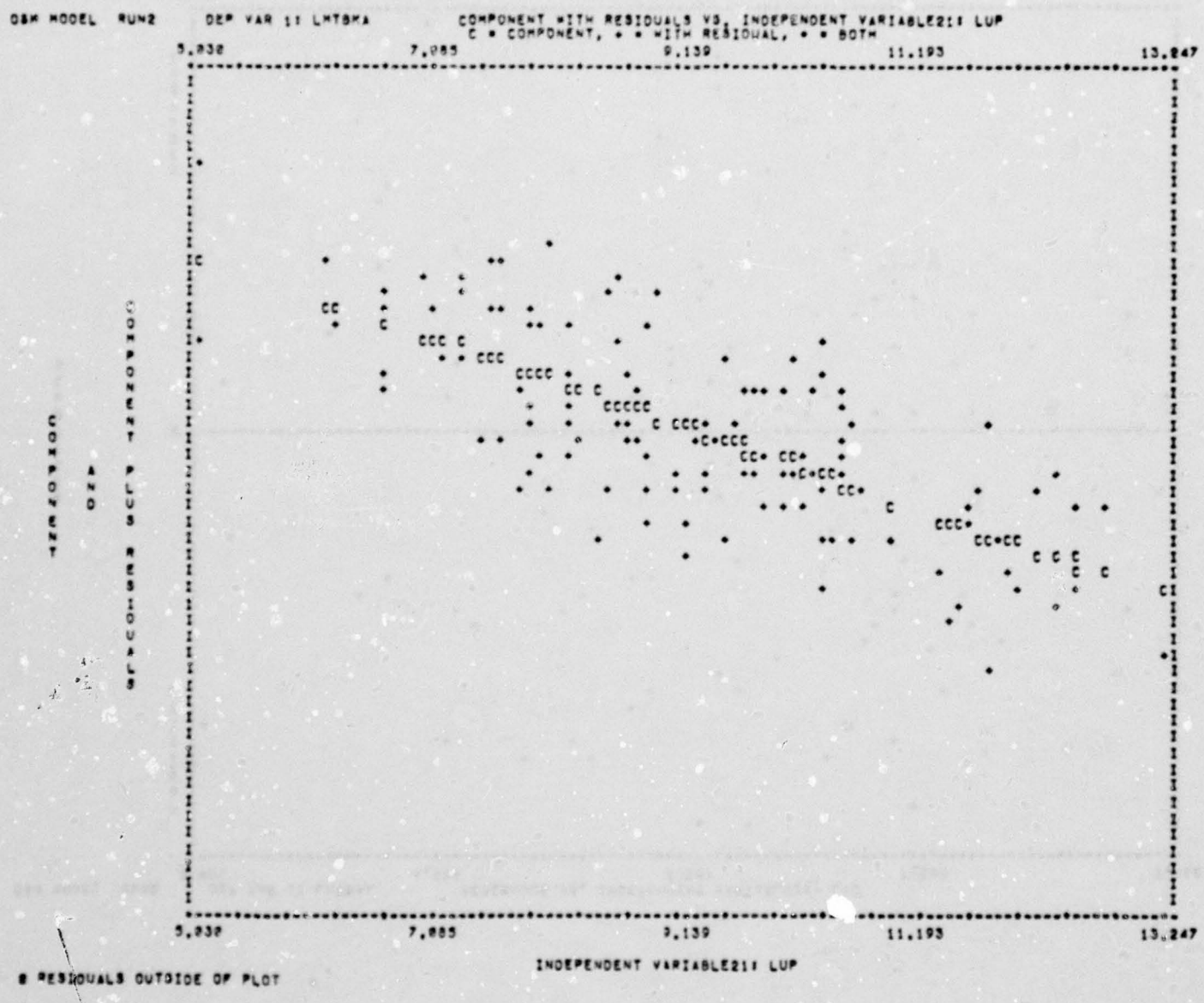

O&M MODEL RUN2 DEP VAR 1: LMTBMA RESIDUALS VS, INDEPENDENT VARIABLE191 OPD
625,888
POSITIVE
RESIDUALS
0
NEGATIVE
625,823
INDEPENDENT VARIABLE191 OPD

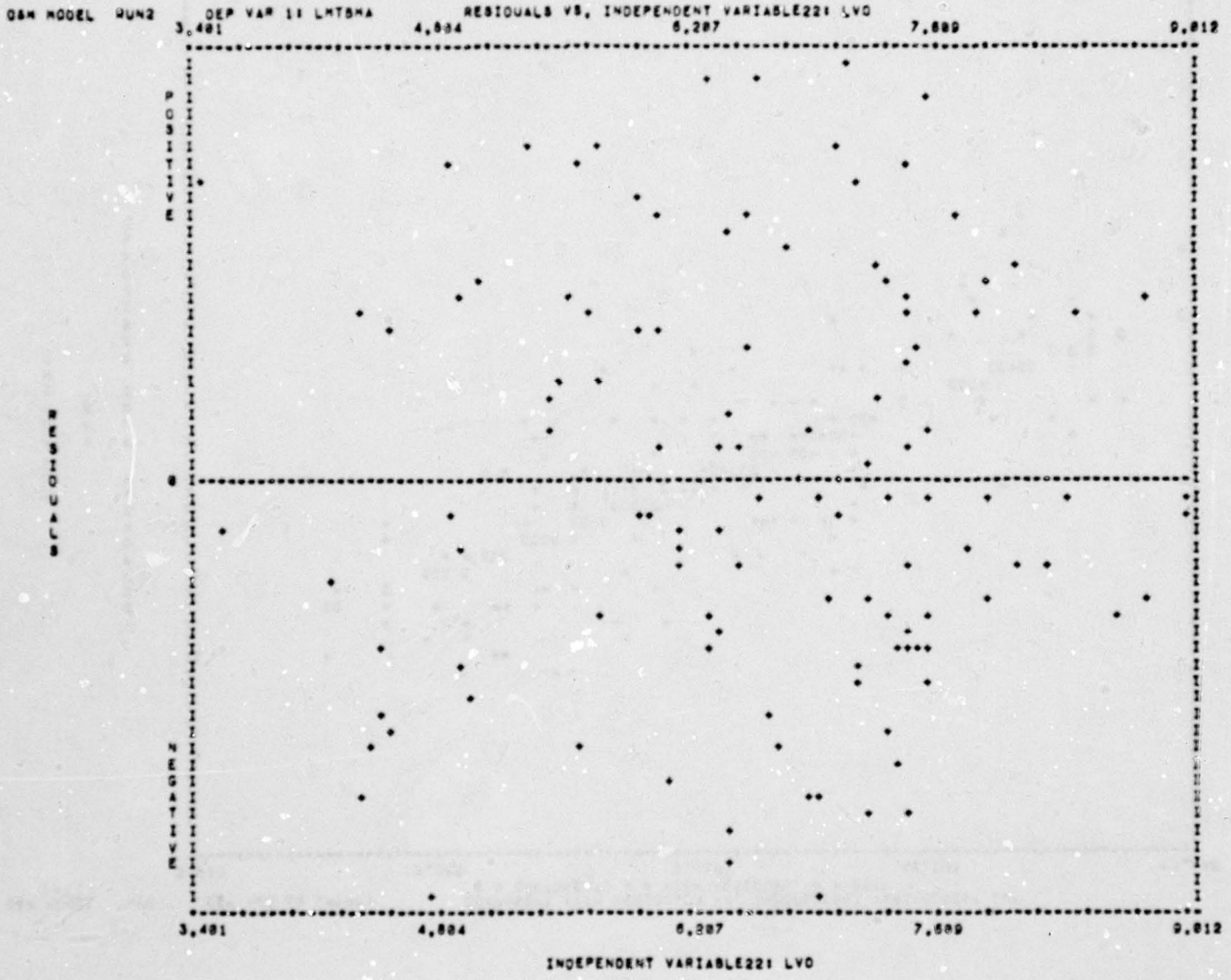

O&M MODEL RUN2 DEP VAR 1: LMTBMA COMPONENT WITH RESIDUALS VS. INDEPENDENT VARIABLE19: DPD
C = COMPONENT, + = WITH RESIDUAL, * = BOTH
625,000
625,000
COMPONENT PLUS RESIDUALS AND COMPONENT
INDEPENDENT VARIABLE19: DPD
0 RESIDUALS OUTSIDE OF PLOT

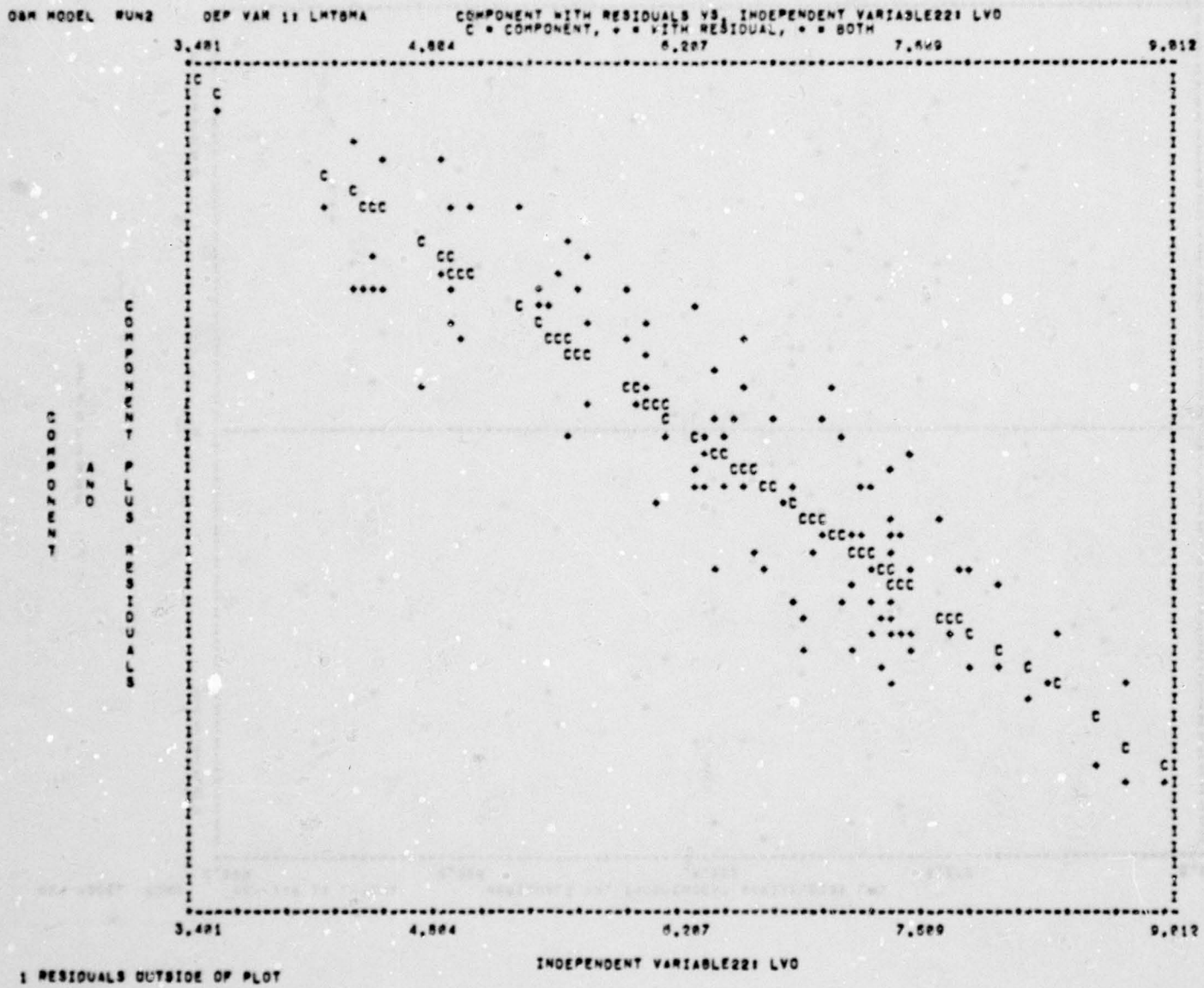

O&M MODEL RUN2 DEP VAR 1: LMTBMA RESIDUALS VS. INDEPENDENT VARIABLE22: DUF
0.176
0.636
1.096
1.556
2.016
POSITIVE
0
NEGATIVE
RESIDUALS
INDEPENDENT VARIABLE20: DUF


O&M MODEL RUN2 DEP VAR 11 LNTSMA COMPONENT WITH RESIDUALS VS. INDEPENDENT VARIABLE281 DUF
C = COMPONENT, + = WITH RESIDUAL, * = BOTH
0.176
0.636
1.096
1.556
2.016
COMPONENT PLUS RESIDUALS
AND
COMPONENT
INDEPENDENT VARIABLE281 DUF
0 RESIDUALS OUTSIDE OF PLOT

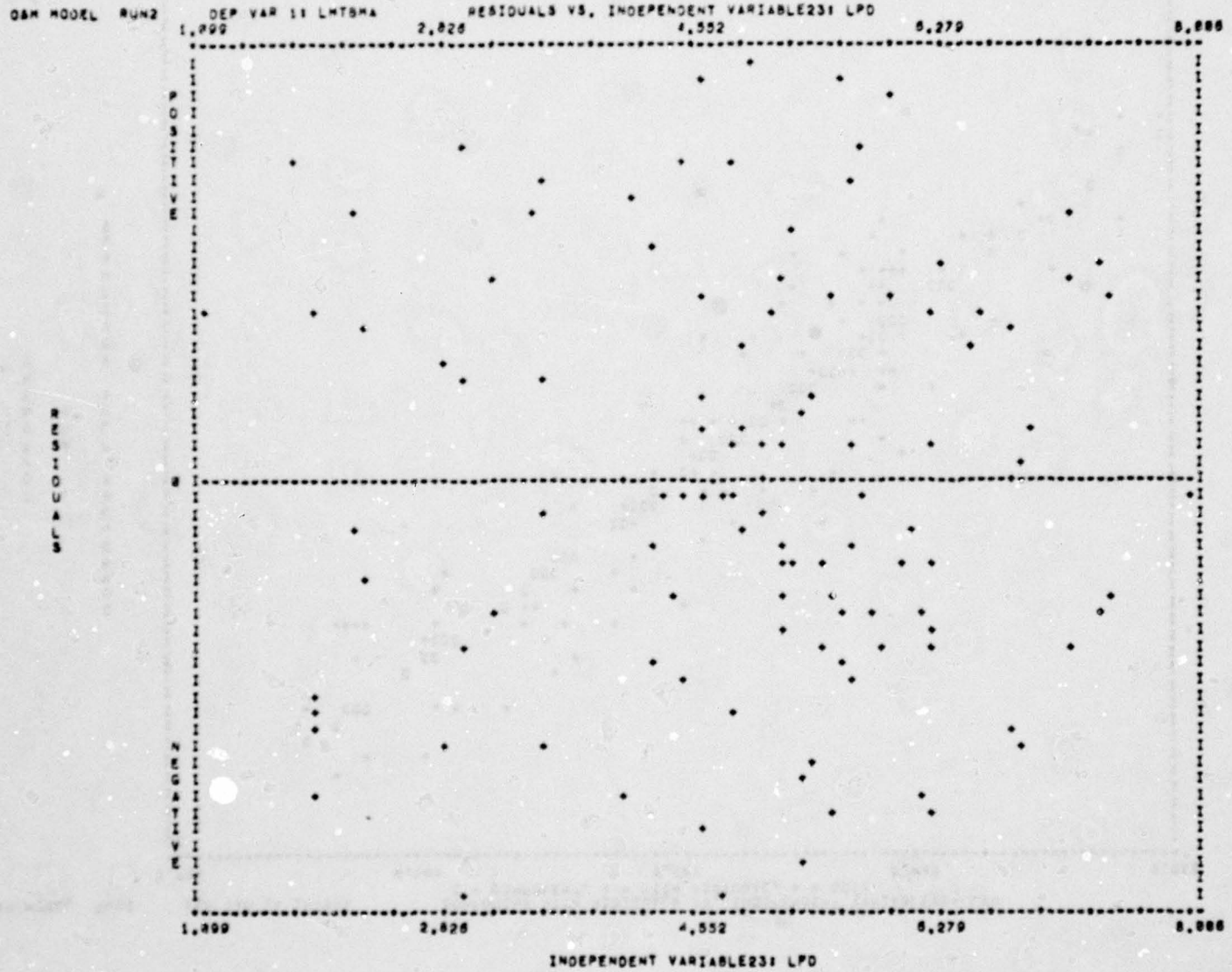

O&M MODEL RUN2 DEP VAR 11 LMTSMA RESIDUALS VS. INDEPENDENT VARIABLE211 LUP
5,838
7,885
9,139
11,193
13,247
POSITIVE
0
NEGATIVE
SPACOMER
INDEPENDENT VARIABLE211 LUP

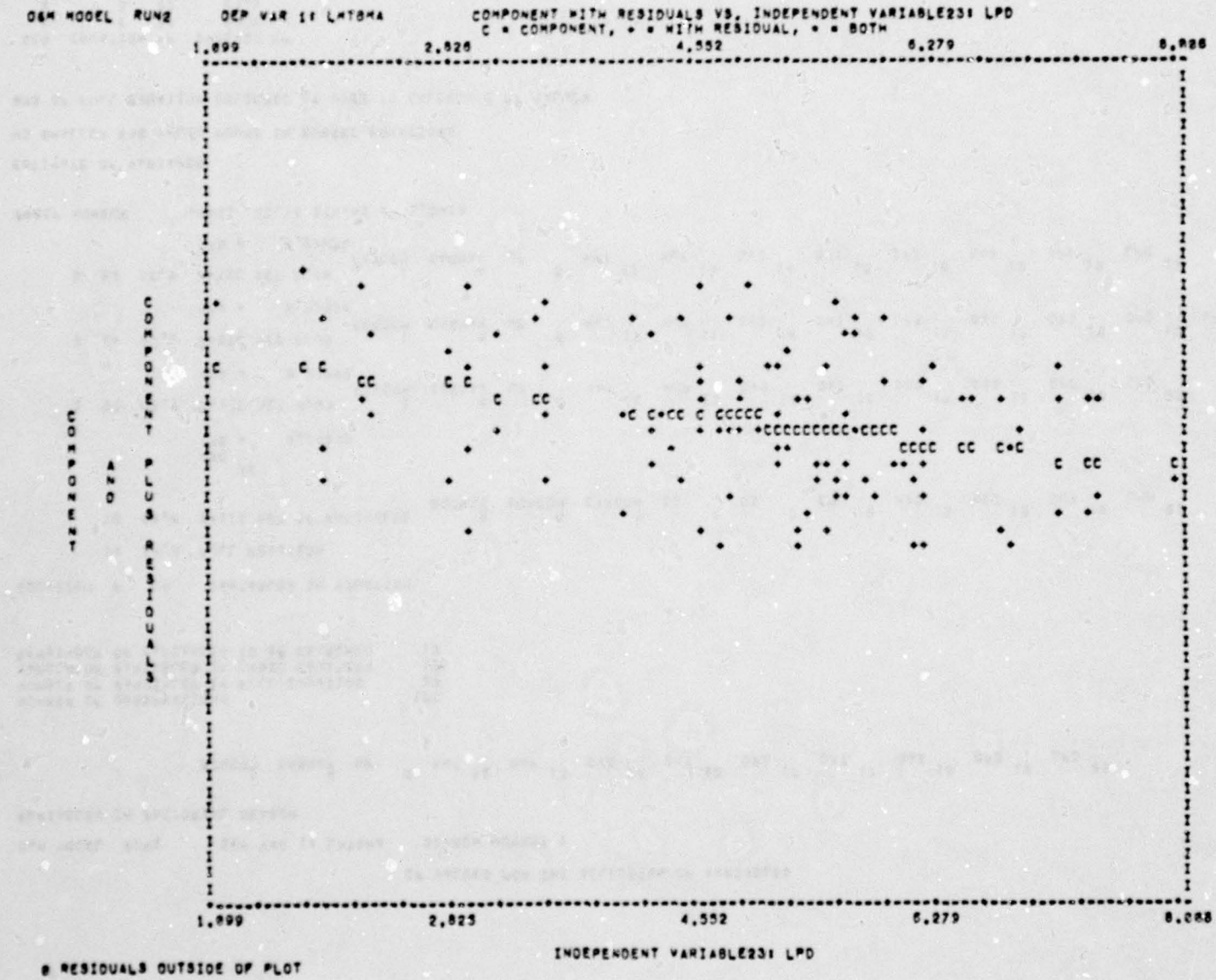

OSM MODEL RUN2 DEP VAR 1: LMTSMA
COMPONENT WITH RESIDUALS VS. INDEPENDENT VARIABLE21: LUP
C = COMPONENT, + = WITH RESIDUAL, * = BOTH
5.838
7.885
9.139
11.193
13.247
CONDOMINIUM
AND
SPACIOUS RESIDENTIAL
8 RESIDUALS OUTSIDE OF PLOT
INDEPENDENT VARIABLE21: LUP


G&M MODEL RUN2
DEP VAR 11 LMTBMA
RESIDUALS VS, INDEPENDENT VARIABLE221 LVO
3,481
4,884
6,287
7,689
9,812
POSITIVE
0
NEGATIVE
RESIDUALS
INDEPENDENT VARIABLE221 LVO




1 RESIDUALS OUTSIDE OF PLOT


O&M MODEL RUN2
DEP VAR 11 LMTSMA
RESIDUALS VS. INDEPENDENT VARIABLE23: LPD
1,999
2,826
4,552
6,279
8,006
POSITIVE
R
NEGATIVE
RESIDUALS
INDEPENDENT VARIABLE23: LPD


O&M MODEL RUN2 DEP VAR IS LMTBMA COMPONENT WITH RESIDUALS VS. INDEPENDENT VARIABLE23: LPD
C = COMPONENT, + = WITH RESIDUAL, * = BOTH
1.899
2.826
4.552
6.279
8.006
COMPONENT PLUS RESIDUALS
AND
COMPONENT
INDEPENDENT VARIABLE23: LPD
0 RESIDUALS OUTSIDE OF PLOT

CP VALUES FOR THE SELECTION OF VARIABLES

O&M MODEL RUN2 DEP VAR 11 LMTSMA SEARCH NUMBER 1

VARIABLES IN FACTORIAL SEARCH

1 FIGCOM 4 CARNAV 6 UP 11 MWT 13 MUP 14 DVO 15 DWT 16 DPS 17 DXT 18 DSS 19 DPD 23 LPD

NUMBER OF OBSERVATIONS 128
NUMBER OF VARIABLES IN FULL EQUATION 23
NUMBER OF VARIABLES IN BASIC EQUATION 11
REMAINDER OF VARIABLES TO BE SEARCHED 12

| EQUATION | P | CP | VARIABLES IN EQUATION |
|---|---|---|---|
| | 24 | 24,0 | FULL EQUATION |
| | 12 | 68,8 | BASIC SET OF VARIABLES 2 BOMNAV 3 BOMCOM 5 CARCOM 7 CD 8 DI 9 EM 10 MVO 12 MSB 20 DUP 21 LUP 22 LVO |
| | | | RMS = 0,34322 |
| 1 | 23 | 25,1 | BASIC SET PLUS 1 FIGCOM 4 CARNAV 6 UP 11 MWT 13 MUP 14 DVO 15 DWT 17 DXT 18 DSS 19 DPD 23 LPD |
| | | | RMS = 0,23982 |
| 2 | 24 | 24,0 | BASIC SET PLUS 1 FIGCOM 4 CARNAV 6 UP 11 MWT 13 MUP 14 DVO 15 DWT 16 DPS 17 DXT 18 DSS 19 DPD 23 LPD |
| | | | RMS = 0,22596 |
| 3 | 23 | 25,1 | BASIC SET PLUS 1 FIGCOM 4 CARNAV 6 UP 11 MWT 13 MUP 14 DVO 15 DWT 16 DPS 18 DSS 19 DPD 23 LPD |
| | | | RMS = 0,23879 |

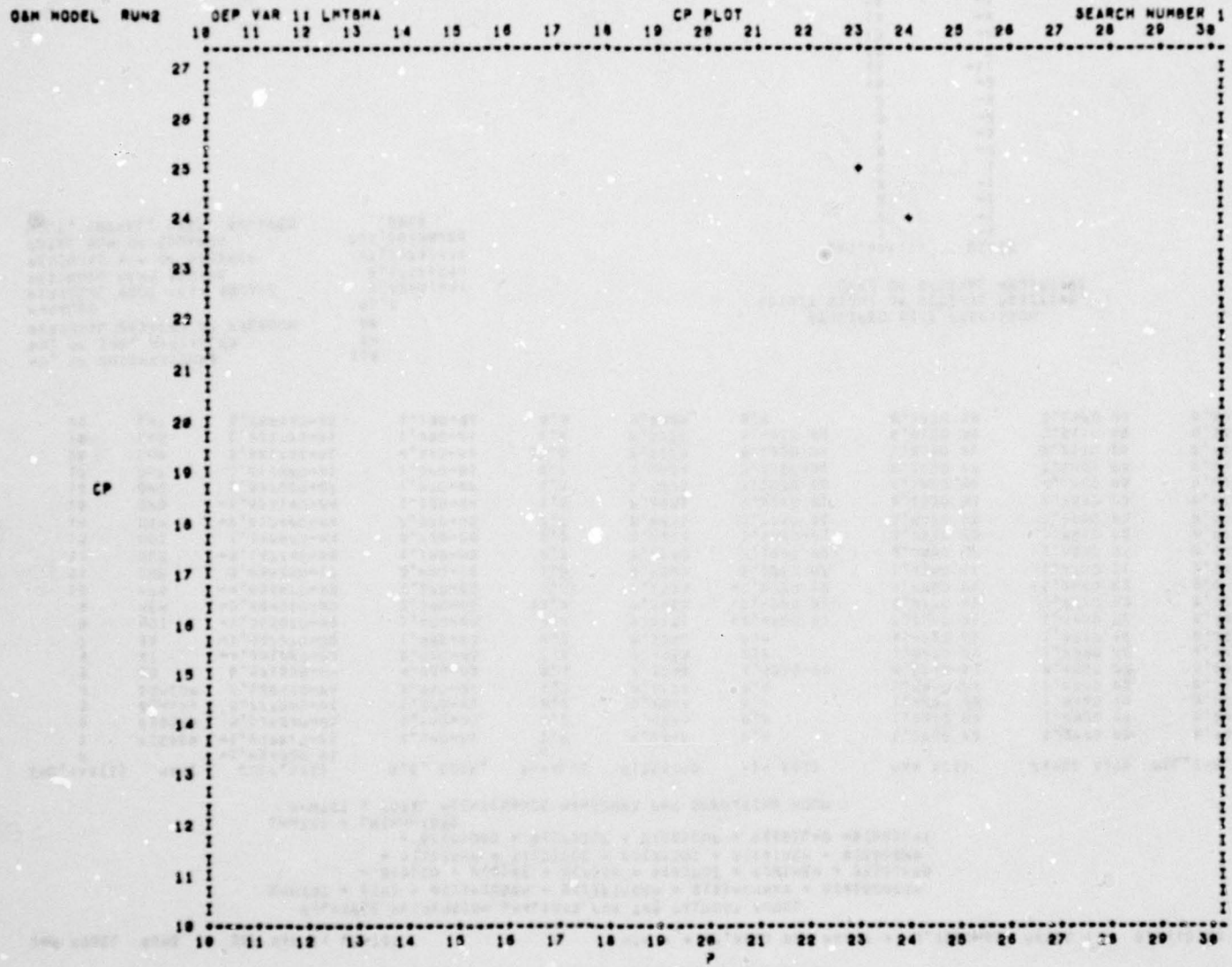
SWEEP NUMBER 4895, DELTA Z(K,K) = 1,0-14

ESTIMATE OF VARIANCE

NO SMALLER RMS VALUE FOUND IN SUBSET EQUATIONS

RMS OF FULL EQUATION SELECTED BY USER TO CALCULATE CP VALUES

| SEQ | EQUATION | P | ORDERED CP |
|---|---|---|---|
| 1 | 2 | 24 | 24,0 |
| 2 | 3 | 23 | 25,1 |
| 3 | 1 | 23 | 25,1 |


O&M MODEL RUN2
DEP VAR 11 LNTSMA
CP PLOT
SEARCH NUMBER 1
CP
P
10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10

LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

O&M MODEL RUN3 DEP VAR 11 LMMTOT MIN Y = -7,998D PP MAX Y = -5,4590-01 RANGE Y = 6,544D 00

MULTIPLE REGRESSION ANALYSIS FOR THE "ALPOS" MODEL

LMMTOT = B(0) + B(1)FIGSEN + B(2)FIGCOM + B(3)BOMNAV + B(4)BOMCOM
+ B(5)CO + B(6)XT + B(7)SS + B(8)MOI + B(9)MEM + B(10)MPS
+ B(11)OUP + B(12)OCC + B(13)OOI + B(14)OEM + B(15)OPS
+ B(16)OPO + B(17)OUF + B(18)LUP + B(19)LVO +B(20)LWT

LMMTOT = LN(MMMTOT)

MMMTOT = TOTAL MAINTENANCE MANHOURS PER OPERATING HOUR

| IND,VAR(I) | NAME | COEF,B(I) | S.E. COEF. | T-VALUE | R(I)SQRD | MIN X(I) | MAX X(I) | RANGE X(I) | REL.INF.X(I) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | -1,414420 P1 | | | | | | | |
| 1 | FIGSEN | -1,992810-01 | 1,140-01 | 1,8 | 0,3448 | 0,0 | 1,0000 00 | 1,0000 00 | 0,03 |
| 2 | FIGCOM | 5,948240-01 | 1,850-01 | 3,2 | 0,0893 | 0,0 | 1,0000 00 | 1,0000 00 | 0,09 |
| 3 | BOMNAV | 5,777540-01 | 1,370-01 | 4,2 | 0,2384 | 0,0 | 1,0000 00 | 1,0000 00 | 0,09 |
| 4 | BOMCOM | 7,132410-01 | 1,590-01 | 4,5 | 0,1428 | 0,0 | 1,0000 00 | 1,0000 00 | 0,11 |
| 5 | CO | 2,571580-01 | 4,880-02 | 6,4 | 0,3749 | 4,0230-03 | 6,6740 00 | 6,6690 00 | 0,26 |
| 6 | XT | -4,491000-03 | 2,760-03 | 1,6 | 0,4956 | 0,0 | 1,0000 02 | 1,0000 02 | 0,07 |
| 7 | SS | -1,837070-02 | 1,980-03 | 8,3 | 0,6992 | 0,0 | 1,0000 02 | 1,0000 02 | 0,25 |
| 8 | MOI | -1,315670-02 | 1,460-03 | 9,0 | 0,5161 | -2,4990 01 | 7,5180 01 | 1,0000 02 | 0,28 |
| 9 | MEM | -2,484210-02 | 2,390-03 | 10,4 | 0,6865 | -1,0200 01 | 8,9800 01 | 1,0000 02 | 0,36 |
| 10 | MPS | -4,038870-03 | 2,270-03 | 1,8 | 0,1333 | -5,0100 00 | 9,4990 01 | 1,0000 02 | 0,06 |
| 11 | OUP | 5,865320-12 | 3,020-12 | 1,9 | 0,2592 | 2,2260 07 | 1,4360 11 | 1,4360 11 | 0,13 |
| 12 | OCC | -3,157740-08 | 1,180-08 | 2,7 | 0,2798 | 7,2970 02 | 2,8560 07 | 2,8560 07 | 0,14 |
| 13 | OOI | 1,499970-04 | 6,720-05 | 2,2 | 0,2414 | 1,5000-01 | 3,0910 03 | 3,0910 03 | 0,07 |
| 14 | OEM | -2,912490-04 | 7,570-05 | 2,7 | 0,2831 | 2,7040 01 | 3,8470 03 | 3,0200 03 | 0,09 |
| 15 | OPS | -1,623140-04 | 1,120-04 | 1,5 | 0,2651 | 9,4280 01 | 2,8830 03 | 2,7880 03 | 0,07 |
| 16 | OPO | 1,897620-07 | 1,970-07 | 1,8 | 0,2893 | 7,2990 02 | 4,1990 05 | 4,1980 05 | 0,12 |
| 17 | OUF | 3,614280-01 | 1,360-01 | 2,7 | 0,1634 | 2,0250-01 | 2,1830 00 | 1,9980 00 | 0,10 |
| 18 | LUP | 5,981730-01 | 4,440-02 | 13,5 | 0,7278 | 5,8340 00 | 1,3250 01 | 8,2170 00 | 0,75 |
| 19 | LVO | 1,883780-01 | 1,050-01 | 1,8 | 0,9028 | 3,4810 00 | 9,8120 00 | 5,6110 00 | 0,16 |
| 20 | LWT | 3,789540-01 | 1,160-01 | 3,3 | 0,9868 | 0,0 | 5,1570 00 | 5,1570 00 | 0,30 |

| | |
|---|---|
| NO. OF OBSERVATIONS | 119 |
| NO. OF IND. VARIABLES | 20 |
| RESIDUAL DEGREES OF FREEDOM | 98 |
| F-VALUE | 81,9 |
| RESIDUAL ROOT MEAN SQUARE | 0,42061484 |
| RESIDUAL MEAN SQUARE | 0,17691684 |
| RESIDUAL SUM OF SQUARES | 17,33785988 |
| TOTAL SUM OF SQUARES | 236,18738458 |
| MULT. CORREL. COEF. SQUARED | ,9268 |

REQUIRED X(I) PRECISION
(DIGIT RIGHT OF DECIMAL POSITIVE,
LEFT OF DECIMAL NEGATIVE)

| IND,VAR(I) | DIGIT |
|---|---|
| 1 | -1 |
| 2 | -1 |
| 3 | -1 |
| 4 | -1 |
| 5 | 1 |
| 6 | -2 |
| 7 | -2 |
| 8 | -2 |
| 9 | -2 |
| 10 | -2 |
| 11 | -11 |
| 12 | -7 |
| 13 | -4 |
| 14 | -4 |
| 15 | -3 |
| 16 | -6 |
| 17 | 1 |
| 18 | 1 |
| 19 | 1 |
| 20 | 1 |

LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

Q&M MODEL RUN3 DEP VAR 11 LMNTOT RESIDUAL ROOT MEAN SQUARE OF FITTED EQUATION: 0.42

STANDARD DEVIATION ESTIMATED FROM RESIDUALS OF NEIGHBORING OBSERVATIONS (OBSERVATIONS 1 TO 4 APART IN FITTED Y ORDER).

| NO. | CUMULATIVE STD DEV | ORDERED BY WSSD | | | DEL | RESIDUALS | ORDERED BY FITTED Y | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | WSSD | OBSV. | OBSV. | | | WSSD | DEL | RESIDUALS | FITTED Y | OBSV. | SEQ. |
| 1 | 0.21 | 0.0 | 92 | 91 | | 0.22 | 0.0 | | 0.56 | -6.66 | 88 | 1 |
| 2 | 0.31 | 0.0 | 65 | 64 | | 0.43 | 52.95 | | 2.23 | -6.66 | 85 | 2 |
| 3 | 0.39 | 0.0 | 88 | 86 | | 0.56 | 19.17 | | 0.94 | -6.29 | 117 | 3 |
| 4 | 0.41 | 0.01 | 121 | 119 | | 0.45 | 22.66 | | 0.52 | -6.25 | 59 | 4 |
| 5 | 0.33 | 0.05 | 6 | 128 | | 0.02 | 5.28 | | 0.09 | -6.01 | 98 | 5 |
| 6 | 0.39 | 0.06 | 109 | 108 | | 0.16 | 0.85 | | 0.02 | -5.99 | 6 | 6 |
| 7 | 0.29 | 0.17 | 4 | 120 | | 0.25 | 2.67 | | 0.69 | -5.86 | 128 | 7 |
| 8 | 0.26 | 0.25 | 53 | 58 | | 0.02 | 11.14 | | 0.19 | -5.68 | 7 | 8 |
| 9 | 0.25 | 0.44 | 13 | 14 | | 0.20 | 66.19 | | 0.13 | -5.48 | 70 | 9 |
| 10 | 0.23 | 0.48 | 85 | 4 | | 0.01 | 55.38 | | 0.16 | -5.45 | 38 | 10 |
| 11 | 0.22 | 0.56 | 7 | 16 | | 0.16 | 55.02 | | 0.21 | -5.31 | 16 | 11 |
| 12 | 0.25 | 0.64 | 16 | 35 | | 0.53 | 63.16 | | 0.63 | -5.27 | 76 | 12 |
| 13 | 0.33 | 0.72 | 2 | 119 | | 1.38 | 36.23 | | 0.37 | -5.26 | 116 | 13 |
| 14 | 0.38 | 0.78 | 75 | 74 | | 1.83 | 36.38 | | 0.79 | -5.18 | 75 | 14 |
| 15 | 0.37 | 0.79 | 48 | 29 | | 0.29 | 2.39 | | 0.23 | -5.13 | 35 | 15 |
| 16 | 0.43 | 0.89 | 121 | 2 | | 0.99 | 21.89 | | 0.98 | -5.09 | 108 | 16 |
| 17 | 0.44 | 0.93 | 62 | 17 | | 1.26 | 45.18 | | 0.91 | -4.95 | 112 | 17 |
| 18 | 0.45 | 0.95 | 19 | 54 | | 0.69 | 29.87 | | 0.57 | -4.79 | 74 | 18 |
| 19 | 0.43 | 0.91 | 85 | 86 | | 0.28 | 31.86 | | 0.65 | -4.71 | 79 | 19 |
| 20 | 0.44 | 0.91 | 64 | 66 | | 0.54 | 51.29 | | 0.67 | -4.70 | 111 | 20 |
| 21 | 0.42 | 0.91 | 55 | 54 | | 0.16 | 28.66 | | 0.85 | -4.59 | 56 | 21 |
| 22 | 0.43 | 0.93 | 114 | 58 | | 0.61 | 7.11 | | 1.01 | -4.57 | 71 | 22 |
| 23 | 0.41 | 1.04 | 79 | 71 | | 0.86 | 5.32 | | 1.58 | -4.39 | 11 | 23 |
| 24 | 0.41 | 1.10 | 54 | 114 | | 0.37 | 8.85 | | 0.77 | -4.28 | 28 | 24 |
| 25 | 0.42 | 1.10 | 117 | 128 | | 0.52 | 2.99 | | 0.38 | -4.23 | 39 | 25 |
| 26 | 0.40 | 1.15 | 15 | 53 | | 0.85 | 11.02 | | 1.02 | -4.18 | 81 | 26 |
| 27 | 0.41 | 1.15 | 117 | 6 | | 0.51 | 26.93 | | 0.35 | -4.16 | 110 | 27 |
| 28 | 0.41 | 1.17 | 71 | 81 | | 0.66 | 31.57 | | 0.82 | -3.99 | 13 | 28 |
| 29 | 0.42 | 1.19 | 55 | 19 | | 0.53 | 19.99 | | 0.13 | -3.96 | 19 | 29 |
| 30 | 0.43 | 1.37 | 107 | 31 | | 0.86 | 63.27 | | 0.75 | -3.94 | 46 | 30 |
| 31 | 0.43 | 1.50 | 19 | 15 | | 0.32 | 3.51 | | 0.58 | -3.90 | 14 | 31 |
| 32 | 0.43 | 1.57 | 114 | 53 | | 0.59 | 3.16 | | 0.58 | -3.90 | 9 | 32 |
| 33 | 0.42 | 1.58 | 101 | 100 | | 0.17 | 7.88 | | 0.31 | -3.89 | 21 | 33 |
| 34 | 0.41 | 1.73 | 101 | 109 | | 0.01 | 7.67 | | 0.24 | -3.88 | 127 | 34 |
| 35 | 0.41 | 1.77 | 107 | 12 | | 0.19 | 8.57 | | 0.63 | -3.87 | 60 | 35 |
| 36 | 0.41 | 1.81 | 103 | 28 | | 0.43 | 14.55 | | 0.42 | -3.78 | 55 | 36 |
| 37 | 0.40 | 1.85 | 32 | 12 | | 0.12 | 7.54 | | 0.28 | -3.76 | 33 | 37 |
| 38 | 0.42 | 2.03 | 31 | 12 | | 1.05 | 17.29 | | 0.88 | -3.71 | 126 | 38 |
| 39 | 0.41 | 2.04 | 18 | 52 | | 0.30 | 0.85 | | 0.69 | -3.63 | 19 | 39 |
| 40 | 0.41 | 2.06 | 66 | 67 | | 0.44 | 2.79 | | 1.01 | -3.63 | 54 | 40 |
| 41 | 0.40 | 2.13 | 127 | 33 | | 0.03 | 17.69 | | 0.02 | -3.62 | 15 | 41 |
| 42 | 0.40 | 2.14 | 85 | 1 | | 0.32 | 16.81 | | 0.40 | -3.62 | 99 | 42 |
| 43 | 0.39 | 2.24 | 104 | 118 | | 0.18 | 29.46 | | 0.22 | -3.52 | 5 | 43 |
| 44 | 0.39 | 2.30 | 58 | 123 | | 0.18 | 1.57 | | 0.59 | -3.46 | 114 | 44 |
| 45 | 0.40 | 2.30 | 14 | 21 | | 1.06 | 13.47 | | 0.07 | -3.43 | 53 | 45 |
| 46 | 0.41 | 2.33 | 11 | 39 | | 0.73 | 2.24 | | 0.18 | -3.42 | 104 | 46 |
| 47 | 0.43 | 2.38 | 39 | 63 | | 1.34 | 17.66 | | 0.24 | -3.42 | 118 | 47 |
| 48 | 0.43 | 2.39 | 35 | 105 | | 0.23 | 17.71 | | 0.55 | -3.41 | 36 | 48 |
| 49 | 0.42 | 2.43 | 1 | 4 | | 0.32 | 28.63 | | 0.52 | -3.38 | 122 | 49 |
| 50 | 0.42 | 2.49 | 37 | 85 | | 0.22 | 4.32 | | 0.28 | -3.32 | 125 | 50 |
| 51 | 0.42 | 2.55 | 15 | 114 | | 0.64 | 8.68 | | 0.23 | -3.32 | 37 | 51 |
| 52 | 0.44 | 2.58 | 12 | 63 | | 1.22 | 7.94 | | 0.52 | -3.31 | 123 | 52 |
| 53 | 0.44 | 2.78 | 85 | 67 | | 0.48 | 14.12 | | 0.53 | -3.19 | 40 | 53 |
| 54 | 0.45 | 2.78 | 84 | 67 | | 0.91 | 2.14 | | 0.32 | -3.17 | 85 | 54 |
| 55 | 0.46 | 2.79 | 54 | 15 | | 1.81 | 15.44 | | 0.12 | -3.17 | 1 | 55 |
| 56 | 0.46 | 2.85 | 108 | 79 | | 0.56 | 19.88 | | 0.18 | -3.13 | 30 | 56 |

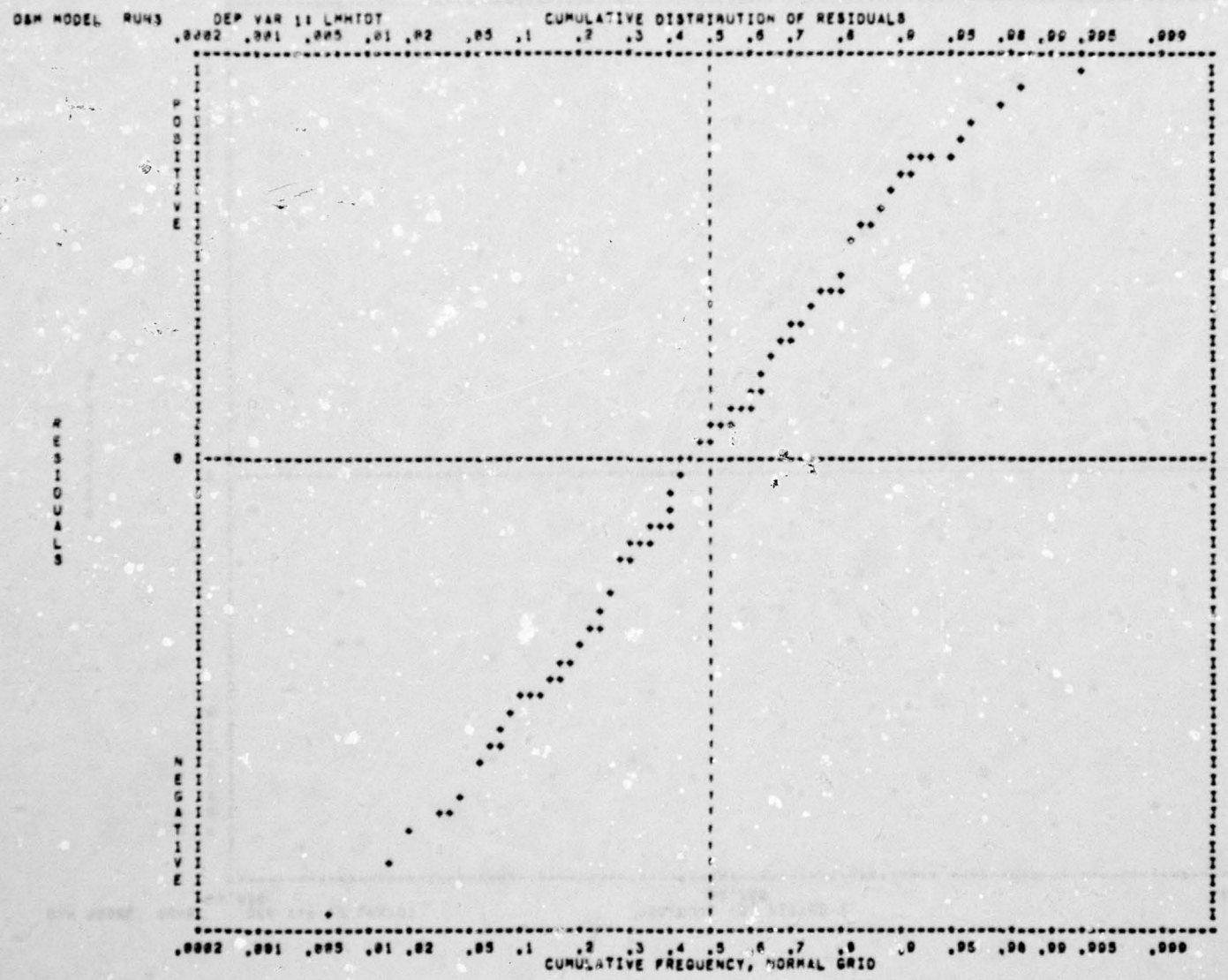
| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 57 | 0.46 | 2.87 | 120 | 7 | 0.69 | 32.46 | 0.14 | -3.10 | 4 | 57 |
| 58 | 0.46 | 2.88 | 72 | 73 | 0.21 | 31.85 | 0.41 | -3.09 | 3 | 58 |
| 59 | 0.46 | 2.90 | 6 | 7 | 0.67 | 23.86 | 0.58 | -3.08 | 59 | 59 |
| 60 | 0.45 | 2.96 | 5 | 118 | 0.62 | 13.86 | 0.46 | -2.98 | 60 | 60 |
| 61 | 0.46 | 2.99 | 39 | 81 | 0.38 | 8.58 | 0.37 | -2.96 | 120 | 61 |
| 62 | 0.45 | 3.04 | 107 | 32 | 0.31 | 28.89 | 0.01 | -2.95 | 36 | 62 |
| 63 | 0.45 | 3.06 | 13 | 9 | 0.77 | 26.83 | 0.16 | -2.92 | 34 | 63 |
| 64 | 0.46 | 3.16 | 9 | 21 | 0.58 | 18.29 | 0.85 | -2.91 | 43 | 64 |
| 65 | 0.46 | 3.30 | 123 | 38 | 0.18 | 14.53 | 0.89 | -2.90 | 106 | 65 |
| 66 | 0.46 | 3.47 | 117 | 98 | 0.41 | 5.26 | 0.32 | -2.90 | 107 | 66 |
| 67 | 0.46 | 3.51 | 14 | 8 | 0.56 | 7.83 | 0.54 | -2.87 | 105 | 67 |
| 68 | 0.46 | 3.55 | 21 | 68 | 0.55 | 4.35 | 1.17 | -2.86 | 31 | 68 |
| 69 | 0.46 | 3.65 | 11 | 81 | 0.35 | 1.85 | 0.12 | -2.79 | 32 | 69 |
| 70 | 0.45 | 3.66 | 38 | 76 | 0.85 | 11.89 | 0.38 | -2.75 | 12 | 70 |
| 71 | 0.45 | 3.68 | 126 | 16 | 0.52 | 38.68 | 0.12 | -2.74 | 93 | 71 |
| 72 | 0.46 | 3.72 | 43 | 107 | 0.76 | 6.81 | 0.97 | -2.74 | 124 | 72 |
| 73 | 0.45 | 3.79 | 25 | 27 | 0.83 | 16.88 | 0.64 | -2.72 | 63 | 73 |
| 74 | 0.46 | 3.80 | 35 | 79 | 0.33 | 17.56 | 0.51 | -2.71 | 97 | 74 |
| 75 | 0.46 | 3.84 | 59 | 129 | 0.82 | 21.58 | 0.68 | -2.66 | 96 | 75 |
| 76 | 0.45 | 3.92 | 125 | 85 | 0.13 | 78.32 | 0.79 | -2.66 | 57 | 76 |
| 77 | 0.45 | 3.95 | 27 | 83 | 0.56 | 63.18 | 0.59 | -2.55 | 44 | 77 |
| 78 | 0.45 | 4.03 | 107 | 126 | 0.23 | 15.67 | 0.15 | -2.52 | 95 | 78 |
| 79 | 0.45 | 4.04 | 29 | 27 | 0.15 | 6.69 | 0.56 | -2.47 | 24 | 79 |
| 80 | 0.44 | 4.22 | 43 | 31 | 0.18 | 22.98 | 0.17 | -2.45 | 41 | 80 |
| 81 | 0.44 | 4.32 | 125 | 37 | 0.98 | 27.81 | 0.62 | -2.45 | 49 | 81 |
| 82 | 0.45 | 4.35 | 31 | 32 | 1.17 | 46.26 | 0.79 | -2.44 | 28 | 82 |
| 83 | 0.44 | 4.36 | 1 | 59 | 0.84 | 0.0 | 0.43 | -2.42 | 85 | 83 |
| 84 | 0.44 | 4.44 | 59 | 66 | 0.45 | 8.91 | 0.58 | -2.42 | 64 | 84 |
| 85 | 0.44 | 4.59 | 37 | 24 | 0.44 | 19.96 | 0.98 | -2.39 | 66 | 85 |
| 86 | 0.44 | 4.68 | 9 | 68 | 0.85 | 28.71 | 0.48 | -2.34 | 113 | 86 |
| 87 | 0.44 | 4.70 | 106 | 105 | 0.41 | 17.63 | 0.56 | -2.32 | 67 | 87 |
| 88 | 0.44 | 4.71 | 95 | 49 | 0.58 | 19.29 | 0.34 | -2.25 | 121 | 88 |
| 89 | 0.43 | 4.72 | 42 | 103 | 0.98 | 14.85 | 0.50 | -2.23 | 18 | 89 |
| 90 | 0.43 | 4.83 | 37 | 1 | 0.53 | 0.72 | 1.36 | -2.21 | 2 | 90 |
| 91 | 0.43 | 4.85 | 104 | 125 | 0.89 | 52.65 | 0.43 | -2.20 | 119 | 91 |
| 92 | 0.43 | 4.89 | 71 | 39 | 0.28 | 22.96 | 0.98 | -2.19 | 31 | 92 |
| 93 | 0.43 | 5.18 | 4 | 59 | 0.27 | 16.74 | 0.19 | -2.17 | 52 | 93 |
| 94 | 0.43 | 5.20 | 107 | 105 | 0.32 | 41.88 | 0.65 | -2.13 | 99 | 94 |
| 95 | 0.43 | 5.21 | 120 | 43 | 0.51 | 67.60 | 0.95 | -2.10 | 78 | 95 |
| 96 | 0.42 | 5.27 | 66 | 18 | 0.18 | 54.51 | 0.89 | -2.08 | 62 | 96 |
| 97 | 0.42 | 5.28 | 98 | 6 | 0.89 | 1.73 | 0.91 | -2.07 | 101 | 97 |
| 98 | 0.43 | 5.32 | 11 | 28 | 1.58 | 59.66 | 0.25 | -2.06 | 109 | 98 |
| 99 | 0.43 | 5.38 | 73 | 77 | 0.74 | 56.74 | 0.98 | -1.98 | 17 | 99 |
| 100 | 0.43 | 5.41 | 28 | 13 | 0.22 | 43.21 | 0.44 | -1.96 | 100 | 100 |
| 101 | 0.43 | 5.41 | 96 | 128 | 0.11 | 24.01 | 0.71 | -1.94 | 48 | 101 |
| 102 | 0.43 | 5.57 | 14 | 68 | 0.51 | 22.59 | 0.42 | -1.98 | 94 | 102 |
| 103 | 0.43 | 5.79 | 105 | 12 | 0.51 | 18.27 | 0.12 | -1.86 | 29 | 103 |
| 104 | 0.43 | 5.74 | 105 | 32 | 0.63 | 5.77 | 0.36 | -1.79 | 82 | 104 |
| 105 | 0.44 | 5.77 | 82 | 25 | 0.86 | 3.79 | 0.83 | -1.77 | 25 | 105 |
| 106 | 0.43 | 5.78 | 21 | 55 | 0.98 | 41.12 | 0.98 | -1.75 | 27 | 106 |
| 107 | 0.43 | 5.89 | 43 | 105 | 0.44 | 0.0 | 0.22 | -1.57 | 92 | 107 |
| 108 | 0.43 | 5.92 | 31 | 93 | 0.87 | 44.30 | 0.43 | -1.57 | 91 | 108 |
| 109 | 0.43 | 5.95 | 118 | 37 | 0.19 | 15.87 | 0.29 | -1.57 | 83 | 109 |
| 110 | 0.44 | 6.01 | 104 | 63 | 0.97 | 3.78 | 0.68 | -1.37 | 89 | 110 |
| 111 | 0.44 | 6.01 | 91 | 72 | 0.29 | 52.59 | 0.17 | -1.32 | 42 | 111 |
| 112 | 0.44 | 6.20 | 84 | 77 | 0.44 | 2.88 | 0.21 | -1.27 | 72 | 112 |
| 113 | 0.44 | 6.24 | 79 | 11 | 0.95 | 17.53 | 1.18 | -1.24 | 73 | 113 |
| 114 | 0.44 | 6.24 | 126 | 99 | 0.21 | 12.69 | 1.88 | -1.23 | 84 | 114 |
| 115 | 0.44 | 6.32 | 96 | 95 | 0.98 | 28.48 | 0.62 | -1.20 | 103 | 115 |
| 116 | 0.43 | 6.32 | 82 | 27 | 0.93 | 15.38 | 0.28 | -1.03 | 77 | 116 |
| 117 | 0.43 | 6.34 | 97 | 95 | 0.11 | 8.96 | 0.81 | -0.95 | 81 | 117 |
| 118 | 0.43 | 6.35 | 5 | 104 | 0.44 | 9.63 | 0.82 | -0.85 | 28 | 118 |
| 119 | 0.43 | 6.44 | 99 | 104 | 0.84 | 52.95 | 0.39 | -0.73 | 60 | 119 |

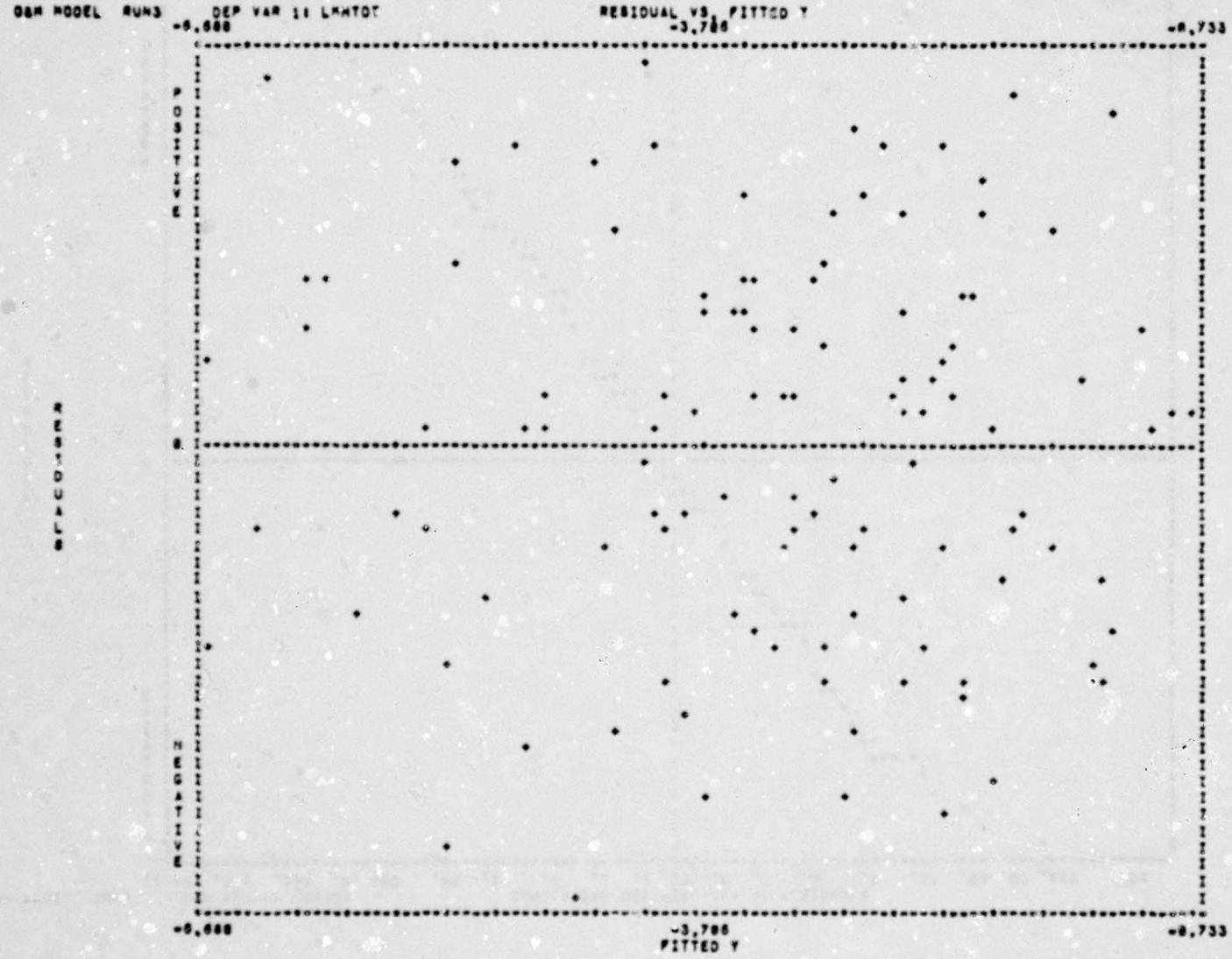
LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

O&M MODEL RUN3 DEP VAR IS LMHTOT

| IDENT. | OBSV. | WSS DISTANCE | ORDERED BY COMPUTER INPUT: OBS. Y | FITTED Y | RESIDUAL | ORDERED BY RESIDUALS: OBSV. | OBS. Y | FITTED Y | ORDERED RESID. | SEQ |
|---|---|---|---|---|---|---|---|---|---|---|
| 71B2A | 1 | 1. | -3.385 | -3.171 | -0.213 | 13 | -3.282 | -3.992 | 0.709 | 1 |
| 71L8A | 2 | 7. | -2.971 | -2.208 | -0.763 | 58 | -5.499 | -6.254 | 0.756 | 2 |
| 71M6A | 3 | 24. | -2.855 | -3.087 | 0.233 | 25 | -1.978 | -1.769 | 0.699 | 3 |
| 71PKA | 4 | 2. | -3.889 | -3.899 | 0.009 | 84 | -0.546 | -1.231 | 0.685 | 4 |
| 71P9A | 5 | 8. | -3.637 | -3.520 | -0.117 | 63 | -2.889 | -2.721 | 0.632 | 5 |
| 71710 | 6 | 20. | -5.661 | -5.985 | 0.325 | 44 | -1.947 | -2.552 | 0.605 | 6 |
| 724GA | 7 | 15. | -6.023 | -5.677 | -0.345 | 119 | -1.681 | -2.199 | 0.598 | 7 |
| 71FAA | 9 | 4. | -3.875 | -3.899 | 0.024 | 74 | -4.187 | -4.785 | 0.598 | 8 |
| 71F8A | 10 | 10. | -3.992 | -3.663 | -0.329 | 14 | -3.314 | -3.903 | 0.588 | 9 |
| 71CAA | 11 | 5. | -5.328 | -4.361 | -0.938 | 198 | -4.595 | -5.091 | 0.587 | 10 |
| 71DAA | 12 | 4. | -3.344 | -2.753 | -0.590 | 28 | -3.718 | -4.283 | 0.573 | 11 |
| 51EAA | 13 | 5. | -3.282 | -3.992 | 0.709 | 17 | -1.425 | -1.964 | 0.548 | 12 |
| 52AAA | 14 | 7. | -3.314 | -3.903 | 0.588 | 118 | -2.911 | -3.415 | 0.504 | 13 |
| 52A9A | 15 | 18. | -3.322 | -3.625 | 0.303 | 96 | -2.179 | -2.681 | 0.502 | 14 |
| 63B0A | 16 | 12. | -5.497 | -5.315 | -0.182 | 64 | -1.943 | -2.421 | 0.478 | 15 |
| 71AF8 | 17 | 21. | -1.425 | -1.964 | 0.548 | 31 | -4.398 | -2.859 | 0.460 | 16 |
| 74JA8 | 18 | 6. | -2.432 | -2.226 | -0.206 | 199 | -1.498 | -1.955 | 0.457 | 17 |
| 74JC8 | 19 | 7. | -3.649 | -3.632 | -0.017 | 110 | -3.722 | -4.162 | 0.440 | 18 |
| 52GA1 | 20 | 5. | -3.718 | -4.283 | 0.573 | 83 | -1.132 | -1.566 | 0.434 | 19 |
| 71ZA8 | 21 | 5. | -4.388 | -3.894 | -0.474 | 43 | -2.553 | -2.911 | 0.358 | 20 |
| 73EGA | 24 | 13. | -2.216 | -2.472 | 0.258 | 35 | -4.783 | -5.135 | 0.352 | 21 |
| 73EP8 | 25 | 24. | -1.978 | -1.769 | 0.699 | 128 | -5.520 | -5.861 | 0.341 | 22 |
| 73M48 | 26 | 25. | -0.793 | -0.547 | 0.955 | 80 | -2.853 | -2.579 | 0.325 | 23 |
| 73MC8 | 27 | 14. | -1.878 | -1.749 | -0.130 | 6 | -5.681 | -5.985 | 0.325 | 24 |
| 73N48 | 28 | 31. | -2.382 | -2.444 | 0.142 | 194 | -3.897 | -3.428 | 0.324 | 25 |
| 730BA | 29 | 11. | -2.137 | -1.858 | -0.279 | 37 | -3.881 | -3.328 | 0.319 | 26 |
| 738C8 | 30 | 13. | -3.217 | -3.125 | -0.091 | 15 | -3.322 | -3.625 | 0.303 | 27 |
| 73K8A | 31 | 2. | -2.399 | -2.859 | 0.460 | 189 | -1.765 | -2.058 | 0.293 | 28 |
| 73KEA | 32 | 4. | -3.494 | -2.706 | -0.789 | 191 | -1.787 | -2.071 | 0.284 | 29 |
| 73XFA | 33 | 3. | -3.948 | -3.763 | -0.186 | 99 | -3.338 | -3.618 | 0.281 | 30 |
| 73KKA | 34 | 13. | -2.728 | -2.919 | 0.199 | 58 | -3.145 | -3.413 | 0.267 | 31 |
| 75933 | 35 | 9. | -4.783 | -5.135 | 0.352 | 24 | -2.216 | -2.472 | 0.256 | 32 |
| 74B0A | 36 | 8. | -2.739 | -2.958 | 0.219 | 53 | -3.184 | -3.434 | 0.250 | 33 |
| 74BF8 | 37 | 5. | -3.881 | -3.328 | 0.319 | 77 | -0.785 | -1.026 | 0.241 | 34 |
| 7481P | 38 | 41. | -5.473 | -5.450 | -0.023 | 125 | -3.548 | -3.325 | 0.236 | 35 |
| 78A1A | 39 | 7. | -4.426 | -4.226 | -0.199 | 3 | -2.855 | -3.087 | 0.233 | 36 |
| 76GAA | 40 | 18. | -3.618 | -3.194 | -0.424 | 98 | -5.777 | -6.008 | 0.231 | 37 |
| 74FF8 | 41 | 28. | -2.768 | -2.453 | -0.307 | 36 | -2.739 | -2.958 | 0.219 | 38 |
| 74FA8 | 42 | 21. | -1.775 | -1.328 | -0.435 | 34 | -2.728 | -2.919 | 0.199 | 39 |
| 74FH8 | 43 | 6. | -2.553 | -2.911 | 0.358 | 98 | -1.948 | -2.125 | 0.185 | 40 |
| 74FUA | 44 | 54. | -1.947 | -2.552 | 0.605 | 51 | -2.819 | -2.191 | 0.171 | 41 |
| 73CGA | 45 | 43. | -4.897 | -3.939 | -0.159 | 88 | -6.529 | -6.688 | 0.153 | 42 |
| 74FC8 | 46 | 13. | -1.925 | -1.938 | 0.013 | 89 | -1.231 | -1.375 | 0.143 | 43 |
| 74FJA | 49 | 3. | -2.929 | -2.453 | -0.477 | 28 | -2.382 | -2.444 | 0.142 | 44 |
| 74FKA | 50 | 18. | -5.499 | -6.254 | 0.756 | 121 | -2.116 | -2.251 | 0.135 | 45 |
| 74FQ2 | 51 | 28. | -2.819 | -2.191 | 0.171 | 95 | -2.428 | -2.524 | 0.103 | 46 |
| 74KAA | 52 | 8. | -2.881 | -2.171 | 0.089 | 85 | -3.871 | -3.174 | 0.103 | 47 |
| 74KC8 | 53 | 8. | -3.184 | -3.434 | 0.250 | 123 | -3.217 | -3.309 | 0.092 | 48 |
| 74CA8 | 54 | 6. | -4.335 | -3.626 | -0.709 | 4 | -3.999 | -3.999 | 0.000 | 49 |
| 74CB3 | 55 | 8. | -4.338 | -3.779 | -0.551 | 52 | -2.881 | -2.171 | 0.089 | 50 |
| 74CC8 | 56 | 9. | -4.558 | -4.589 | 0.030 | 71 | -4.488 | -4.572 | 0.084 | 51 |
| 74FA1 | 57 | 18. | -2.859 | -2.677 | -0.182 | 68 | -3.792 | -3.871 | 0.079 | 52 |
| 74E88 | 58 | 7. | -3.145 | -3.413 | 0.267 | 69 | -0.857 | -0.733 | 0.077 | 53 |
| 73PH8 | 59 | 5. | -3.257 | -3.081 | -0.176 | 126 | -3.649 | -3.788 | 0.067 | 54 |
| 73P8A | 60 | 39. | -0.657 | -0.732 | 0.077 | 26 | -0.793 | -0.847 | 0.055 | 55 |
| 73PD8 | 61 | 21. | -0.919 | -0.953 | 0.044 | 65 | -2.368 | -2.421 | 0.053 | 56 |
| 73PF8 | 62 | 25. | -2.693 | -2.884 | 0.520 | 113 | -2.293 | -2.344 | 0.052 | 57 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 73PHA | 83 | 5. | -2,889 | -2,721 | 0,632 | 61 | -0,910 | -0,953 | 0,044 | 59 |
| 71NAP | 84 | 4. | -1,943 | -2,421 | 0,478 | 86 | -4,550 | -4,589 | 0,039 | 59 |
| 71QUP | 85 | 4. | -2,368 | -2,421 | 0,053 | 76 | -5,245 | -5,272 | 0,026 | 60 |
| 63AAP | 86 | 4. | -2,416 | -2,390 | -0,025 | 9 | -3,675 | -3,699 | 0,024 | 61 |
| 65AAP | 87 | 5. | -2,752 | -2,323 | -0,429 | 79 | -4,687 | -4,710 | 0,023 | 62 |
| 63AGP | 88 | 5. | -3,792 | -3,831 | 0,039 | 48 | -1,925 | -1,938 | 0,013 | 63 |
| 63PPA | 74 | 17. | -5,631 | -5,476 | -0,155 | 91 | -1,565 | -1,574 | 0,008 | 64 |
| 7,ABE | 71 | 18. | -4,488 | -4,572 | 0,084 | 97 | -2,717 | -2,710 | -0,008 | 65 |
| 71ADA | 72 | 16. | -1,556 | -1,273 | -0,282 | 19 | -3,649 | -3,632 | -0,017 | 66 |
| 73DBA | 73 | 11. | -1,737 | -1,241 | -0,496 | 38 | -5,473 | -5,450 | -0,023 | 67 |
| 71ACC | 74 | 55. | -4,187 | -4,785 | 0,598 | 66 | -2,416 | -2,390 | -0,026 | 68 |
| 73CBQ | 75 | 59. | -5,613 | -5,178 | -0,435 | 10 | -3,892 | -3,863 | -0,029 | 69 |
| 73CEN | 76 | 46. | -5,245 | -5,272 | 0,028 | 105 | -2,948 | -2,868 | -0,080 | 70 |
| 73CFK | 77 | 7. | -0,785 | -1,026 | 0,241 | 30 | -3,217 | -3,125 | -0,091 | 71 |
| 73DAM | 78 | 23. | -2,584 | -2,807 | -0,467 | 5 | -3,637 | -3,520 | -0,117 | 72 |
| 73EBC | 79 | 16. | -4,687 | -4,710 | 0,023 | 27 | -1,879 | -1,749 | -0,130 | 73 |
| 73EHP | 80 | 11. | -2,803 | -2,979 | 0,325 | 33 | -3,900 | -3,763 | -0,136 | 74 |
| 71CAA | 81 | 11. | -4,754 | -4,176 | -0,578 | 78 | -5,631 | -5,476 | -0,155 | 75 |
| 73EGA | 82 | 16. | -1,949 | -1,789 | -0,159 | 120 | -3,118 | -2,962 | -0,155 | 76 |
| 73HCA | 83 | 15. | -1,132 | -1,566 | 0,434 | 46 | -4,097 | -3,939 | -0,159 | 77 |
| 73LAP | 84 | 8. | -0,548 | -1,231 | 0,685 | 82 | -1,949 | -1,789 | -0,159 | 78 |
| 77ECA | 85 | 2. | -3,871 | -3,174 | 0,103 | 127 | -4,039 | -3,875 | -0,164 | 79 |
| 77EEA | 86 | 55. | -7,899 | -6,683 | -0,416 | 59 | -3,257 | -3,081 | -0,176 | 80 |
| 77DBA | 88 | 55. | -6,528 | -6,668 | 0,153 | 117 | -6,471 | -6,291 | -0,181 | 81 |
| 78AEA | 89 | 19. | -1,231 | -1,375 | 0,143 | 57 | -2,859 | -2,677 | -0,182 | 82 |
| 73KAP | 90 | 8. | -1,948 | -2,125 | 0,185 | 18 | -5,497 | -5,315 | -0,182 | 83 |
| 63BAA | 91 | 12. | -1,565 | -1,574 | 0,008 | 39 | -4,426 | -4,226 | -0,199 | 84 |
| 63CAA | 92 | 12. | -1,760 | -1,574 | -0,186 | 18 | -2,432 | -2,226 | -0,206 | 85 |
| 65BAA | 93 | 7. | -2,952 | -2,738 | -0,214 | 92 | -1,782 | -1,574 | -0,208 | 86 |
| 61B3A | 94 | 6. | -2,596 | -1,981 | -0,615 | 1 | -3,385 | -3,171 | -0,213 | 87 |
| 61AAP | 95 | 6. | -2,428 | -2,524 | 0,103 | 93 | -2,952 | -2,736 | -0,214 | 88 |
| 61ABP | 96 | 7. | -2,179 | -2,681 | 0,502 | 29 | -2,137 | -1,858 | -0,279 | 89 |
| 61ACP | 97 | 9. | -2,717 | -2,710 | -0,008 | 72 | -1,556 | -1,273 | -0,282 | 90 |
| 72AAP | 98 | 33. | -5,777 | -6,088 | 0,231 | 41 | -2,748 | -2,403 | -0,387 | 91 |
| 72ACP | 99 | 7. | -3,338 | -3,618 | 0,281 | 112 | -5,265 | -4,951 | -0,314 | 92 |
| 71CAP | 100 | 15. | -1,498 | -1,955 | 0,457 | 124 | -3,074 | -2,738 | -0,336 | 93 |
| 72EAA | 101 | 12. | -1,787 | -2,071 | 0,284 | 114 | -3,801 | -3,462 | -0,339 | 94 |
| 72DPQ | 103 | 22. | -1,579 | -1,201 | -0,378 | 7 | -6,823 | -6,677 | -0,346 | 95 |
| 71JAP | 104 | 3. | -3,897 | -3,428 | 0,324 | 103 | -1,579 | -1,201 | -0,378 | 96 |
| 71LAP | 105 | 5. | -2,948 | -2,858 | -0,850 | 122 | -3,744 | -3,360 | -0,384 | 97 |
| 72DNB | 106 | 14. | -3,392 | -2,904 | -0,488 | 107 | -3,388 | -2,982 | -0,398 | 98 |
| 72ACA | 107 | 2. | -3,388 | -2,992 | -0,396 | 86 | -7,898 | -6,658 | -0,418 | 99 |
| 71715 | 108 | 13. | -4,885 | -5,891 | 0,587 | 48 | -3,618 | -3,194 | -0,424 | 100 |
| 71310 | 109 | 16. | -1,785 | -2,858 | 0,293 | 67 | -2,752 | -2,323 | -0,429 | 101 |
| 72RPA | 110 | 14. | -3,722 | -4,162 | 0,449 | 75 | -5,613 | -5,178 | -0,435 | 102 |
| 72HBP | 111 | 29. | -5,325 | -4,697 | -0,628 | 42 | -1,775 | -1,320 | -0,455 | 103 |
| 71JCE | 112 | 14. | -5,285 | -4,951 | -0,314 | 78 | -2,564 | -2,097 | -0,467 | 104 |
| 72AEP | 113 | 15. | -2,293 | -2,344 | 0,052 | 21 | -4,368 | -3,894 | -0,474 | 105 |
| 72CCP | 114 | 5. | -3,801 | -3,462 | -0,339 | 49 | -2,929 | -2,453 | -0,477 | 106 |
| 71ZBP | 116 | 17. | -5,982 | -5,199 | -0,783 | 126 | -3,392 | -2,904 | -0,488 | 107 |
| 71ZDP | 117 | 27. | -6,471 | -6,291 | -0,181 | 73 | -1,737 | -1,241 | -0,496 | 108 |
| 65AAA | 118 | 5. | -2,911 | -3,415 | 0,504 | 62 | -2,693 | -2,984 | -0,529 | 109 |
| 63AFP | 119 | 9. | -1,881 | -2,199 | 0,598 | 55 | -4,338 | -3,779 | -0,551 | 110 |
| 63AAA | 120 | 2. | -3,118 | -2,962 | -0,155 | 81 | -4,754 | -4,176 | -0,578 | 111 |
| 63121 | 121 | 9. | -2,116 | -2,251 | 0,135 | 12 | -3,344 | -2,753 | -0,590 | 112 |
| 63AAA | 122 | 15. | -3,744 | -3,360 | -0,384 | 111 | -5,325 | -4,697 | -0,628 | 113 |
| 55ALP | 123 | 7. | -3,217 | -3,389 | 0,092 | 94 | -2,598 | -1,991 | -0,805 | 114 |
| 55AVB | 124 | 14. | -3,974 | -0,738 | -0,336 | 32 | -3,494 | -2,786 | -0,709 | 115 |
| 61AAP | 125 | 3. | -0,886 | -3,025 | 0,236 | 54 | -4,335 | -3,626 | -0,709 | 116 |
| 61AEA | 126 | 7. | -3,648 | -3,798 | 0,057 | 2 | -2,971 | -2,208 | -0,763 | 117 |
| 62AAP | 128 | 6. | -4,039 | -3,875 | -0,164 | 116 | -6,882 | -5,199 | -0,883 | 118 |
| 64211 | 126 | 28. | -5,528 | -6,861 | 0,341 | 11 | -5,328 | -4,391 | -0,938 | 119 |


D&M MODEL RUN3
DEP VAR 11 LMHTOT
CUMULATIVE DISTRIBUTION OF RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
POSITIVE
0
NEGATIVE
STANDARDIZED RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
CUMULATIVE FREQUENCY, NORMAL GRID


O&M MODEL RUN3 DEP VAR IS LMHTOT
RESIDUAL VS. FITTED Y
-8,688
-3,786
-8,733
POSITIVE
RESIDUALS
0
NEGATIVE
-8,688
-3,786
FITTED Y
-8,733

| EQUATION | P | CP | VARIABLES IN EQUATION | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 81 | 21,0 | FULL EQUATION | | | | | | | | | | | | | | | | | | |
| | 18 | 25,7 | BASIC SET OF VARIABLES | | | | 2 FIGCOM | 3 BOMNAV | 4 BOMCOM | CD | 5 | SS | 7 | MDI | 8 | MEM | 9 | DUP | 11 | DCC | 12 | DDI | 13 |
| | | | | DEM 14 | DUP 17 | LUP 18 | | LVD 19 | LNT 20 | | | | | | | | | | | | | | |
| | | | RMS = 0,19349 | | | | | | | | | | | | | | | | | | | | |
| 1 | 17 | 22,9 | BASIC SET PLUS | | | | 1 FIGSEN | | | | | | | | | | | | | | | | |
| | | | RMS = 0,18766 | | | | | | | | | | | | | | | | | | | | |
| 2 | 19 | 22,8 | BASIC SET PLUS | | | | 1 FIGSEN | XT 6 | | MPS 10 | | | | | | | | | | | | | |
| | | | RMS = 0,18359 | | | | | | | | | | | | | | | | | | | | |
| 3 | 18 | 22,8 | BASIC SET PLUS | | | | 1 FIGSEN | MPS 10 | | | | | | | | | | | | | | | |
| | | | RMS = 0,18398 | | | | | | | | | | | | | | | | | | | | |
| 4 | 18 | 22,8 | BASIC SET PLUS | | | | MPS 10 | DPS 15 | | | | | | | | | | | | | | | |
| | | | RMS = 0,18398 | | | | | | | | | | | | | | | | | | | | |
| 5 | 20 | 21,3 | BASIC SET PLUS | | | | 1 FIGSEN | MPS 10 | | DPS 15 | | | | | | | | | | | | | |
| | | | RMS = 0,18185 | | | | | | | | | | | | | | | | | | | | |
| 6 | 20 | 22,1 | BASIC SET PLUS | | | | 1 FIGSEN | XT 6 | | MPS 10 | | DPS 15 | | | | | | | | | | | |
| | | | RMS = 0,18978 | | | | | | | | | | | | | | | | | | | | |
| 7 | 19 | 22,4 | BASIC SET PLUS | | | | XT 6 | MPS 10 | | DPS 15 | | | | | | | | | | | | | |
| | | | RMS = 0,18298 | | | | | | | | | | | | | | | | | | | | |
| 8 | 18 | 22,8 | BASIC SET PLUS | | | | 1 FIGSEN | DPS 15 | | | | | | | | | | | | | | | |
| | | | RMS = 0,18399 | | | | | | | | | | | | | | | | | | | | |
| 9 | 19 | 21,8 | BASIC SET PLUS | | | | 1 FIGSEN | DPS 15 | | DPD 16 | | | | | | | | | | | | | |
| | | | RMS = 0,18198 | | | | | | | | | | | | | | | | | | | | |
| 10 | 20 | 22,2 | BASIC SET PLUS | | | | 1 FIGSEN | XT 6 | | DPS 15 | | DPD 16 | | | | | | | | | | | |
| | | | RMS = 0,18974 | | | | | | | | | | | | | | | | | | | | |
| 11 | 20 | 22,1 | BASIC SET PLUS | | | | XT 6 | MPS 10 | | DPS 15 | | DPD 16 | | | | | | | | | | | |
| | | | RMS = 0,18962 | | | | | | | | | | | | | | | | | | | | |
| 12 | 21 | 21,8 | BASIC SET PLUS | | | | 1 FIGSEN | XT 6 | | MPS 10 | | DPS 15 | | DPD 16 | | | | | | | | | |
| | | | RMS = 0,17892 | | | | | | | | | | | | | | | | | | | | |
| 13 | 20 | 21,8 | BASIC SET PLUS | | | | 1 FIGSEN | MPS 10 | | DPS 15 | | DPD 16 | | | | | | | | | | | |
| | | | RMS = 0,17986 | | | | | | | | | | | | | | | | | | | | |

```
    14  19  23,8  BASIC SET PLUS                    MPS 18      DPS 15      DPD 18
                   RMS =    0,18393

    15  19  22,8  BASIC SET PLUS          1
                                        FIGSEN  MPS 18      DPD 16
                   RMS =    0,18218

    16  20  21,1  BASIC SET PLUS          1
                                        FIGSEN  XT   6      MPS 18      DPD 16
                   RMS =    0,17898

    17  19  22,4  BASIC SET PLUS          1
                                        FIGSEN  XT   6      DPD 16
                   RMS =    0,18289

    18  18  22,2  BASIC SET PLUS          1
                                        FIGSEN  DPD 16
                   RMS =    0,18425

SWEEP NUMBER        31,  DELTA Z(K,K) =  2,0-16

ESTIMATE OF VARIANCE

NO SMALLER RMS VALUE FOUND IN SUBSET EQUATIONS

RMS OF FULL EQUATION SELECTED BY USER TO CALCULATE CP VALUES


 SEQ  EQUATION   P   ORDERED CP
   1       12   21      21,0
   2       16   20      21,1
   3        5   19      21,3
   4       13   20      21,5
   5        9   19      21,6
   6       15   19      22,0
   7        4   18      22,0
   8        3   18      22,2
   9        8   18      22,0
  10       11   20      22,1
  11        6   20      22,1
  12       10   20      22,2
  13       18   18      22,2
  14       17   19      22,4
  15        7   19      22,4
  16        2   19      22,8
  17        1   17      22,0
  18       14   19      23,0
```

LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

O&M MODEL RUN4 DEP VAR 11 LMHUNS MIN Y = -7.4770 00 MAX Y = -1.6320 00 RANGE Y = 5.8450 00

MULTIPLE REGRESSION ANALYSIS FOR THE "ALPOS" MODEL
LMHUNS = B(0) + B(1)*FIGSEN + B(2)FIGCOM + B(3)BOMNAV + B(4)BOMCOM
+ B(5)OI + B(6)SS + B(7)MCC + B(8)MEM + B(9)MPD
+ B(10)OVO + B(11)OCC + B(12)OCO + B(13)OEM + B(14)OPD
+ B(15)OUP + B(16)LUP + B(17)LWT + B(18)LPD
LMHUNS = LN(MMHUNS)
MMHUNS = UNSCHEDULED MAINTENANCE MANHOURS PER OPERATING HOUR

| IND.VAR(I) | NAME | COEF.B(I) | S.E. COEF. | T-VALUE | R(I)SQRD | MIN X(I) | MAX X(I) | RANGE X(I) | REL.INF.X(I) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | -9.991490 00 | | | | | | | |
| 1 | FIGSEN | -2.499990-01 | 1.120-01 | 2.2 | 0.2631 | 0.0 | 1.0000 00 | 1.0000 00 | 0.04 |
| 2 | FIGCOM | 3.499720-01 | 1.980-01 | 1.7 | 0.1103 | 0.0 | 1.0000 00 | 1.0000 00 | 0.06 |
| 3 | BOMNAV | 8.707140-01 | 1.510-01 | 5.8 | 0.3142 | 0.0 | 1.0000 00 | 1.0000 00 | 0.15 |
| 4 | BOMCOM | 4.945860-01 | 1.630-01 | 3.0 | 0.1266 | 0.0 | 1.0000 00 | 1.0000 00 | 0.08 |
| 5 | OI | -7.508740-03 | 1.470-03 | 5.1 | 0.4766 | 0.0 | 1.0000 02 | 1.0000 02 | 0.13 |
| 6 | SS | -1.112540-02 | 2.090-03 | 5.3 | 0.7061 | 0.0 | 1.0000 02 | 1.0000 02 | 0.19 |
| 7 | MCC | 1.888820-04 | 4.270-05 | 4.4 | 0.5675 | -1.1680 03 | 7.1220 03 | 8.2960 03 | 0.27 |
| 8 | MEM | -1.749620-02 | 2.510-03 | 7.1 | 0.8972 | -1.0220 01 | 8.0880 01 | 1.0900 02 | 0.38 |
| 9 | MPD | -5.333580-04 | 1.760-04 | 3.0 | 0.7351 | -3.3220 02 | 2.6650 03 | 2.9970 03 | 0.27 |
| 10 | OVO | 2.144930-08 | 1.410-08 | 1.5 | 0.4796 | 4.4890 03 | 2.4550 07 | 2.4550 07 | 0.09 |
| 11 | OCC | -4.522370-08 | 1.310-08 | 3.4 | 0.3624 | 7.2998 02 | 2.8560 07 | 2.8560 07 | 0.22 |
| 12 | OCO | 5.736760-02 | 2.970-02 | 2.0 | 0.3088 | 1.7840-04 | 1.8610 01 | 1.8610 01 | 0.18 |
| 13 | OEM | -1.629160-04 | 7.850-05 | 2.1 | 0.0667 | 2.7940 01 | 3.0470 03 | 3.0260 03 | 0.08 |
| 14 | OPD | 3.437380-07 | 1.320-07 | 2.6 | 0.4829 | 7.2990 02 | 4.1880 06 | 4.1880 06 | 0.24 |
| 15 | OUP | 5.190280-01 | 1.430-01 | 3.6 | 0.1185 | 2.8250-01 | 2.1030 00 | 1.0000 00 | 0.17 |
| 16 | LUP | 4.633580-01 | 4.460-02 | 10.4 | 0.7035 | 5.0300 00 | 1.3250 01 | 8.2170 00 | 0.65 |
| 17 | LWT | 3.878180-01 | 7.420-02 | 4.1 | 0.7549 | 0.0 | 5.1570 00 | 5.1570 00 | 0.27 |
| 18 | LPD | 2.527910-0[illegible] | 7.190-02 | 3.5 | 0.0517 | 1.0000 00 | 8.0860 00 | 6.0880 00 | 0.38 |

| | |
|---|---|
| NO. OF OBSERVATIONS | 119 |
| NO. OF IND. VARIABLES | 18 |
| RESIDUAL DEGREES OF FREEDOM | 100 |
| F-VALUE | 46.5 |
| RESIDUAL ROOT MEAN SQUARE | 0.44038485 |
| RESIDUAL MEAN SQUARE | 0.19388636 |
| RESIDUAL SUM OF SQUARES | 19.38863616 |
| TOTAL SUM OF SQUARES | 109.11858723 |
| MULT. CORREL. COEF. SQUARED | .8975 |

REQUIRED X(I) PRECISION
(DIGIT RIGHT OF DECIMAL POSITIVE,
LEFT OF DECIMAL NEGATIVE)

| IND.VAR(I) | DIGIT |
|---|---|
| 1 | -1 |
| 2 | -1 |
| 3 | -1 |
| 4 | -1 |
| 5 | -2 |
| 6 | -2 |
| 7 | -4 |
| 8 | -2 |
| 9 | -3 |
| 10 | -7 |
| 11 | -7 |
| 12 | -1 |
| 13 | -4 |
| 14 | -8 |
| 15 | 1 |
| 16 | 1 |
| 17 | 1 |
| 18 | 1 |

LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

O&M MODEL RUN4 DEP VAR IS LMHUNS RESIDUAL ROOT MEAN SQUARE OF FITTED EQUATION: 0.44

STANDARD DEVIATION ESTIMATED FROM RESIDUALS OF NEIGHBORING OBSERVATIONS (OBSERVATIONS 1 TO 4 APART IN FITTED Y ORDER).

| NO. | CUMULATIVE STD DEV | ORDERED BY WSSD | | | | ORDERED BY FITTED Y | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | WSSD | OBSV. | OBSV. | DEL RESIDUALS | WSSD | DEL RESIDUALS | FITTED Y | OBSV. | SEQ. |
| 1 | 0.00 | 0.0 | 92 | 91 | 0.38 | 6.88 | 0.24 | -7.17 | 117 | 1 |
| 2 | 0.38 | 0.0 | 65 | 64 | 0.48 | 7.94 | 0.42 | -7.05 | 78 | 2 |
| 3 | 0.43 | 0.0 | 88 | 88 | 0.56 | 28.54 | 0.57 | -6.95 | 98 | 3 |
| 4 | 0.42 | 0.00 | 121 | 119 | 0.41 | 0.0 | 0.56 | -6.75 | 88 | 4 |
| 5 | 0.35 | 0.02 | 53 | 58 | 0.07 | 25.35 | 1.06 | -6.75 | 86 | 5 |
| 6 | 0.33 | 0.03 | 109 | 108 | 0.02 | 8.71 | 0.15 | -6.70 | 128 | 6 |
| 7 | 0.28 | 0.13 | 14 | 13 | 0.19 | 3.45 | 0.57 | -6.56 | 58 | 7 |
| 8 | 0.38 | 0.23 | 31 | 128 | 1.11 | 0.56 | 0.94 | -6.49 | 35 | 8 |
| 9 | 0.41 | 0.37 | 128 | 6 | 0.83 | 2.39 | 0.11 | -6.47 | 16 | 9 |
| 10 | 0.37 | 0.43 | 119 | 108 | 0.06 | 1.48 | 0.42 | -6.42 | 6 | 10 |
| 11 | 0.39 | 0.47 | 75 | 74 | 0.58 | 2.49 | 0.25 | -6.18 | 116 | 11 |
| 12 | 0.47 | 0.47 | 49 | 63 | 1.40 | 2.68 | 1.41 | -6.13 | 7 | 12 |
| 13 | 0.49 | 0.50 | 6 | 108 | 0.74 | 29.62 | 0.59 | -6.10 | 108 | 13 |
| 14 | 0.46 | 0.54 | 119 | 109 | 0.94 | 14.68 | 0.20 | -5.94 | 38 | 14 |
| 15 | 0.49 | 0.58 | 35 | 16 | 0.94 | 27.18 | 0.18 | -5.92 | 112 | 15 |
| 16 | 0.47 | 0.62 | 62 | 17 | 0.30 | 0.47 | 0.58 | -5.71 | 75 | 16 |
| 17 | 0.48 | 0.63 | 71 | 81 | 0.51 | 18.78 | 0.38 | -5.58 | 74 | 17 |
| 18 | 0.45 | 0.68 | 58 | 114 | 0.83 | 7.11 | 0.75 | -5.56 | 71 | 18 |
| 19 | 0.43 | 0.75 | 53 | 114 | 0.94 | 6.97 | 1.08 | -5.52 | 11 | 19 |
| 20 | 0.42 | 0.78 | 29 | 48 | 0.17 | 24.38 | 1.14 | -5.50 | 58 | 20 |
| 21 | 0.43 | 0.81 | 56 | 54 | 0.55 | 27.76 | 0.31 | -5.39 | 111 | 21 |
| 22 | 0.41 | 0.81 | 65 | 65 | 0.18 | 10.42 | 0.89 | -5.37 | 81 | 22 |
| 23 | 0.44 | 0.88 | 13 | 9 | 1.15 | 8.28 | 0.14 | -5.30 | 39 | 23 |
| 24 | 0.47 | 0.98 | 119 | 2 | 1.71 | 22.78 | 0.15 | -5.28 | 79 | 24 |
| 25 | 0.49 | 0.99 | 116 | 108 | 1.18 | 28.35 | 0.74 | -5.27 | 76 | 25 |
| 26 | 0.49 | 1.01 | 107 | 37 | 0.39 | 3.98 | 0.23 | -5.18 | 126 | 26 |
| 27 | 0.52 | 1.03 | 82 | 68 | 1.38 | 4.75 | 0.56 | -4.99 | 99 | 27 |
| 28 | 0.50 | 1.06 | 1 | 123 | 0.07 | 4.23 | 0.25 | -4.87 | 68 | 28 |
| 29 | 0.52 | 1.14 | 27 | 17 | 0.98 | 32.88 | 0.11 | -4.89 | 127 | 29 |
| 30 | 0.50 | 1.16 | 19 | 54 | 0.04 | 28.69 | 0.52 | -4.87 | 46 | 30 |
| 31 | 0.49 | 1.19 | 59 | 49 | 0.28 | 13.58 | 0.01 | -4.85 | 14 | 31 |
| 32 | 0.48 | 1.22 | 12 | 49 | 0.05 | 13.04 | 0.18 | -4.81 | 119 | 32 |
| 33 | 0.48 | 1.49 | 6 | 116 | 0.42 | 5.93 | 0.31 | -4.81 | 13 | 33 |
| 34 | 0.47 | 1.52 | 117 | 98 | 0.19 | 11.29 | 0.49 | -4.77 | 33 | 34 |
| 35 | 0.46 | 1.53 | 4 | 1 | 0.27 | 6.78 | 1.33 | -4.74 | 28 | 35 |
| 36 | 0.46 | 1.63 | 81 | 79 | 0.54 | 2.32 | 0.69 | -4.73 | 9 | 36 |
| 37 | 0.45 | 1.63 | 55 | 19 | 0.07 | 6.89 | 0.27 | -4.67 | 104 | 37 |
| 38 | 0.47 | 1.64 | 2 | 109 | 0.04 | 14.78 | 0.12 | -4.67 | 55 | 38 |
| 39 | 0.49 | 1.68 | 12 | 63 | 1.35 | 14.28 | 0.16 | -4.65 | 10 | 39 |
| 40 | 0.48 | 1.69 | 54 | 58 | 0.31 | 3.38 | 0.21 | -4.65 | 21 | 40 |
| 41 | 0.47 | 1.69 | 87 | 129 | 0.91 | 9.18 | 0.58 | -4.60 | 15 | 41 |
| 42 | 0.49 | 1.73 | 59 | 63 | 1.12 | 1.98 | 0.68 | -4.58 | 118 | 42 |
| 43 | 0.50 | 1.79 | 31 | 67 | 1.11 | 11.92 | 0.07 | -4.55 | 5 | 43 |
| 44 | 0.49 | 1.79 | 37 | 85 | 0.17 | 10.18 | 1.08 | -4.52 | 19 | 44 |
| 45 | 0.49 | 1.89 | 53 | 54 | 0.24 | 6.51 | 0.80 | -4.48 | 97 | 45 |
| 46 | 0.49 | 1.95 | 16 | 108 | 0.64 | 1.89 | 0.24 | -4.46 | 53 | 46 |
| 47 | 0.50 | 1.95 | 2 | 139 | 0.98 | 1.69 | 0.31 | -4.43 | 54 | 47 |
| 48 | 0.51 | 1.97 | 17 | 69 | 1.08 | 5.37 | 0.51 | -4.42 | 58 | 48 |
| 49 | 0.51 | 1.98 | 118 | 5 | 0.58 | 3.63 | 0.48 | -4.28 | 32 | 49 |
| 50 | 0.51 | 1.99 | 128 | 15 | 0.52 | 18.41 | 0.58 | -4.29 | 114 | 50 |
| 51 | 0.52 | 2.10 | 49 | 66 | 0.72 | 18.21 | 0.11 | -4.27 | 3 | 51 |
| 52 | 0.51 | 2.25 | 1 | 107 | 0.13 | 1.53 | 0.27 | -4.27 | 4 | 52 |
| 53 | 0.52 | 2.28 | 82 | 97 | 1.28 | 2.26 | 0.13 | -4.25 | 1 | 53 |
| 54 | 0.52 | 2.31 | 128 | 35 | 0.42 | 1.91 | 0.39 | -4.22 | 107 | 54 |
| 55 | 0.52 | 2.32 | 18 | 116 | 0.53 | 9.86 | 0.27 | -4.21 | 37 | 55 |
| 56 | 0.52 | 2.32 | 9 | 104 | 0.69 | 12.36 | 0.96 | -4.20 | 49 | 56 |
| 57 | 0.54 | 2.36 | 35 | 116 | 1.47 | 8.30 | 0.18 | -4.18 | 125 | 57 |
| 58 | 0.53 | 2.37 | 54 | 114 | 0.28 | 3.44 | 0.92 | -4.17 | 36 | 58 |

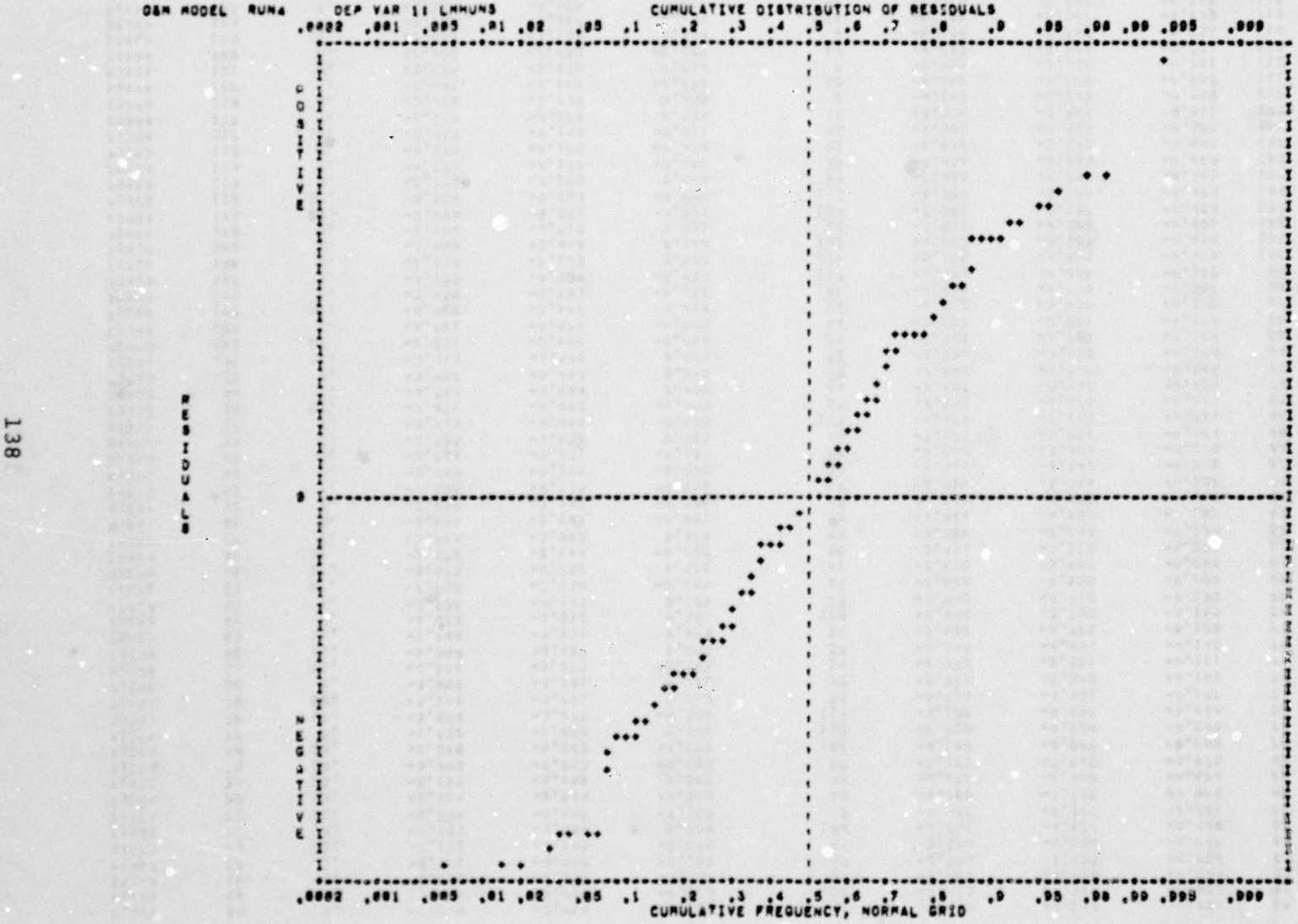
| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 59 | 0.52 | 2.37 | 129 | 59 | 0.12 | 3.18 | 0.44 | -4.14 | 85 | 59 |
| 60 | 0.53 | 2.37 | 6 | 7 | 0.67 | 14.58 | 0.63 | -4.14 | 93 | 60 |
| 61 | 0.53 | 2.39 | 16 | 7 | 0.77 | 18.82 | 0.25 | -4.11 | 38 | 61 |
| 62 | 0.52 | 2.39 | 16 | 6 | 0.11 | 12.58 | 0.96 | -4.10 | 34 | 62 |
| 63 | 0.52 | 2.39 | 104 | 21 | 0.01 | 2.93 | 0.58 | -4.19 | 123 | 63 |
| 64 | 0.51 | 2.40 | 9 | 55 | 0.42 | 6.78 | 0.31 | -4.07 | 31 | 64 |
| 65 | 0.52 | 2.40 | 126 | 127 | 1.04 | 8.87 | 0.57 | -4.06 | 122 | 65 |
| 66 | 0.52 | 2.45 | 30 | 123 | 0.23 | 1.69 | 0.01 | -4.06 | 87 | 66 |
| 67 | 0.51 | 2.46 | 125 | 85 | 0.16 | 3.73 | 0.92 | -4.05 | 120 | 67 |
| 68 | 0.51 | 2.49 | 116 | 7 | 0.25 | 18.28 | 0.23 | -4.03 | 96 | 68 |
| 69 | 0.52 | 2.54 | 98 | 128 | 1.07 | 28.27 | 0.42 | -3.98 | 43 | 69 |
| 70 | 0.51 | 2.56 | 21 | 118 | 0.37 | 26.77 | 1.22 | -3.92 | 44 | 70 |
| 71 | 0.51 | 2.57 | 52 | 124 | 0.15 | 2.66 | 0.22 | -3.89 | 59 | 71 |
| 72 | 0.50 | 2.58 | 85 | 21 | 0.28 | 1.22 | 0.95 | -3.87 | 12 | 72 |
| 73 | 0.52 | 2.60 | 7 | 128 | 1.41 | 8.52 | 0.62 | -3.83 | 49 | 73 |
| 74 | 0.53 | 2.62 | 113 | 62 | 1.28 | 4.75 | 0.78 | -3.79 | 126 | 74 |
| 75 | 0.52 | 2.66 | 15 | 19 | 0.19 | 16.72 | 0.34 | -3.77 | 83 | 75 |
| 76 | 0.52 | 2.66 | 59 | 12 | 0.22 | 18.33 | 0.34 | -3.74 | 88 | 76 |
| 77 | 0.52 | 2.67 | 124 | 125 | 0.57 | 0.81 | 0.18 | -3.73 | 35 | 77 |
| 78 | 0.51 | 2.67 | 127 | 125 | 0.96 | 0.0 | 0.48 | -3.72 | 65 | 78 |
| 79 | 0.52 | 2.68 | 43 | 59 | 0.80 | 9.82 | 0.91 | -3.72 | 64 | 79 |
| 80 | 0.52 | 2.71 | 35 | 6 | 1.05 | 17.47 | 0.56 | -3.69 | 121 | 80 |
| 81 | 0.52 | 2.71 | 26 | 103 | 0.35 | 2.79 | 0.12 | -3.66 | 52 | 81 |
| 82 | 0.52 | 2.74 | 126 | 68 | 0.79 | 5.53 | 0.27 | -3.63 | 95 | 82 |
| 83 | 0.52 | 2.75 | 9 | 21 | 0.78 | 15.34 | 0.37 | -3.62 | 124 | 83 |
| 84 | 0.53 | 2.75 | 17 | 25 | 0.75 | 37.93 | 0.23 | -3.61 | 41 | 84 |
| 85 | 0.52 | 2.78 | 52 | 95 | 0.12 | 11.97 | 0.44 | -3.59 | 121 | 85 |
| 86 | 0.53 | 2.80 | 58 | 116 | 0.98 | 17.98 | 0.77 | -3.59 | 105 | 86 |
| 87 | 0.52 | 2.81 | 33 | 104 | 0.15 | 17.43 | 0.81 | -3.58 | 28 | 87 |
| 88 | 0.52 | 2.85 | 93 | 34 | 0.34 | 11.54 | 0.78 | -3.55 | 18 | 88 |
| 89 | 0.52 | 2.93 | 123 | 31 | 0.58 | 0.98 | 1.91 | -3.55 | 119 | 89 |
| 90 | 0.52 | 3.00 | 2 | 94 | 0.19 | 1.93 | 0.96 | -3.54 | 2 | 90 |
| 91 | 0.51 | 3.00 | 126 | 99 | 0.23 | 0.93 | 0.92 | -3.48 | 109 | 91 |
| 92 | 0.51 | 3.13 | 68 | 14 | 0.38 | 10.66 | 0.98 | -3.48 | 109 | 92 |
| 93 | 0.52 | 3.17 | 93 | 31 | 0.98 | 4.25 | 0.76 | -3.38 | 98 | 93 |
| 94 | 0.51 | 3.18 | 85 | 93 | 0.44 | 11.87 | 1.92 | -3.38 | 94 | 94 |
| 95 | 0.51 | 3.20 | 13 | 104 | 0.46 | 5.83 | 0.67 | -3.38 | 24 | 95 |
| 96 | 0.51 | 3.22 | 114 | 1 | 0.20 | 12.22 | 0.28 | -3.32 | 29 | 96 |
| 97 | 0.51 | 3.23 | 39 | 126 | 0.45 | 12.82 | 0.89 | -3.30 | 57 | 97 |
| 98 | 0.51 | 3.29 | 114 | 4 | 0.47 | 27.77 | 0.18 | -3.27 | 48 | 98 |
| 99 | 0.51 | 3.29 | 19 | 58 | 0.35 | 38.75 | 0.84 | -3.23 | 78 | 99 |
| 100 | 0.50 | 3.32 | 85 | 123 | 0.84 | 12.41 | 0.47 | -3.21 | 113 | 100 |
| 101 | 0.51 | 3.33 | 35 | 7 | 1.71 | 38.27 | 0.32 | -3.15 | 51 | 101 |
| 102 | 0.51 | 3.38 | 21 | 15 | 0.01 | 0.0 | 0.38 | -3.15 | 92 | 102 |
| 103 | 0.51 | 3.42 | 19 | 53 | 0.28 | 28.14 | 0.79 | -3.15 | 91 | 103 |
| 104 | 0.50 | 3.44 | 36 | 85 | 0.02 | 39.42 | 0.45 | -3.04 | 62 | 104 |
| 105 | 0.50 | 3.45 | 58 | 35 | 0.57 | 29.52 | 0.75 | -3.03 | 72 | 105 |
| 106 | 0.51 | 3.47 | 33 | 6 | 0.84 | 1.14 | 0.99 | -2.93 | 27 | 106 |
| 107 | 0.50 | 3.48 | 66 | 52 | 0.98 | 1.97 | 1.98 | -2.89 | 17 | 107 |
| 108 | 0.50 | 3.49 | 123 | 129 | 0.54 | 38.44 | 0.84 | -2.88 | 80 | 108 |
| 109 | 0.51 | 3.57 | 83 | 66 | 0.68 | 39.86 | 0.51 | -2.84 | 73 | 109 |
| 110 | 0.50 | 3.67 | 32 | 114 | 0.48 | 7.55 | 0.18 | -2.58 | 25 | 110 |
| 111 | 0.50 | 3.68 | 31 | 98 | 0.20 | 38.68 | 0.11 | -2.43 | 82 | 111 |
| 112 | 0.51 | 3.73 | 128 | 96 | 0.92 | 29.98 | 0.41 | -2.33 | 61 | 112 |
| 113 | 0.50 | 3.75 | 82 | 84 | 0.38 | 14.64 | 0.47 | -2.32 | 84 | 113 |
| 114 | 0.50 | 3.76 | 84 | 83 | 0.12 | 6.83 | 0.78 | -2.26 | 26 | 114 |
| 115 | 0.50 | 3.79 | 1 | 37 | 0.26 | 5.42 | 1.38 | -2.26 | 42 | 115 |
| 116 | 0.50 | 3.79 | 42 | 103 | 0.35 | 6.18 | 0.95 | -2.23 | 83 | 116 |
| 117 | 0.49 | 3.84 | 68 | 25 | 0.33 | 9.84 | 0.23 | -2.19 | 103 | 117 |
| 118 | 0.49 | 3.90 | 4 | 107 | 0.48 | 18.47 | 0.42 | -2.14 | 89 | 118 |
| 119 | 0.49 | 3.91 | 50 | 16 | 0.37 | 1.52 | 0.19 | -1.82 | 77 | 119 |

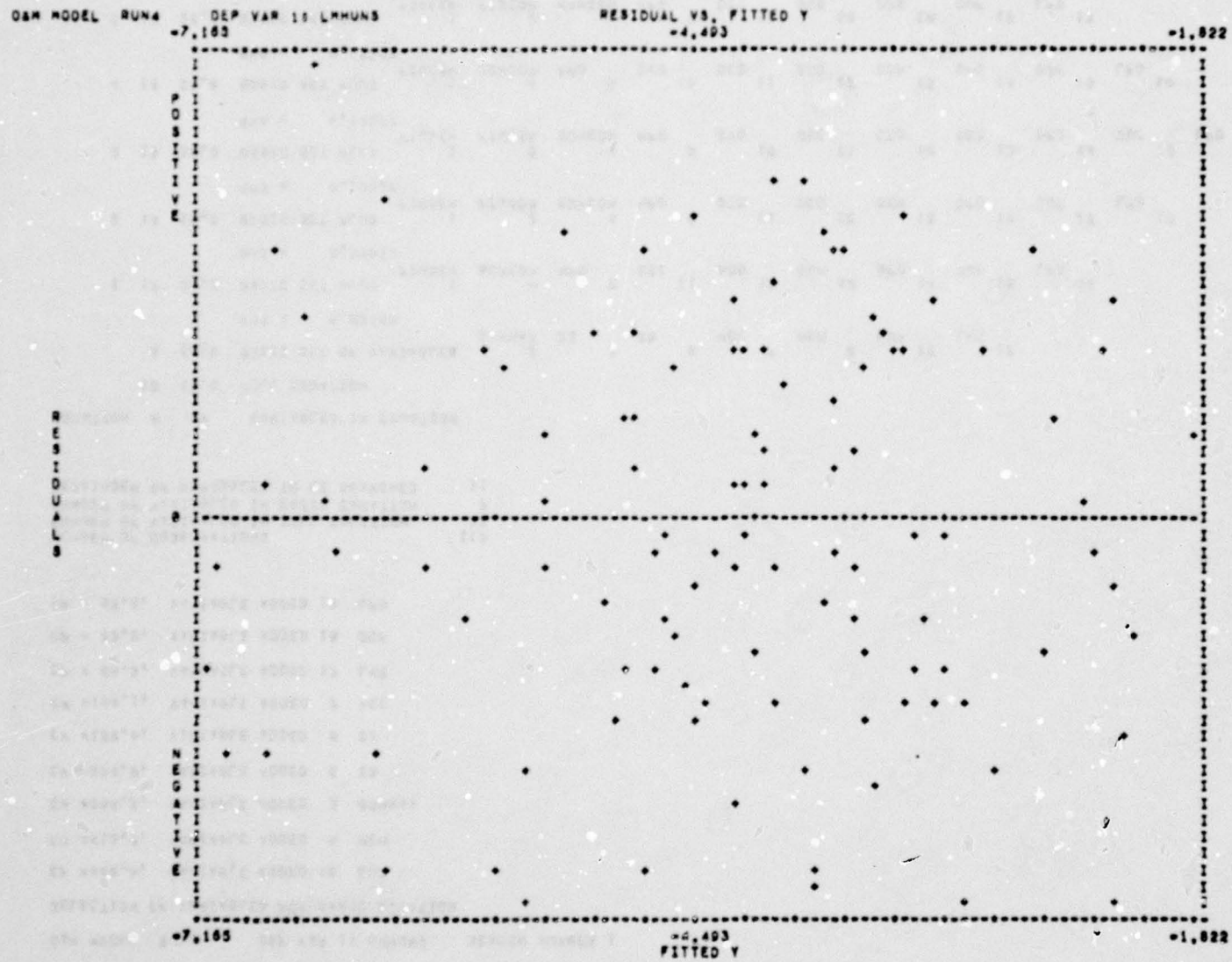
LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

D&M MODEL RUN4 DEP VAR IS (MMUNS

| ORDERED BY COMPUTER INPUT | | | | | | ORDERED BY RESIDUALS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| IDENT. | OBSV. | X35 DISTANCE | OBS. Y | FITTED Y | RESIDUAL | OBSV. | OBS. Y | FITTED Y | ORDERED RESID. | SEQ |
| 71B28 | 1 | 1. | -4.150 | -4.248 | 0.098 | 35 | -5.493 | -4.486 | 0.993 | 1 |
| 71L98 | 2 | 3. | -4.113 | -3.545 | -0.569 | 31 | -3.347 | -4.069 | 0.722 | 2 |
| 71M6B | 3 | 13. | -3.797 | -4.274 | 0.477 | 44 | -3.293 | -3.415 | 0.712 | 3 |
| 71P6B | 4 | 1. | -3.897 | -4.265 | 0.368 | 108 | -5.414 | -6.105 | 0.691 | 4 |
| 71P88 | 5 | 4. | -4.894 | -4.547 | -0.348 | 97 | -3.825 | -4.488 | 0.655 | 5 |
| 71T1B | 6 | 12. | -6.475 | -6.421 | -0.054 | 24 | -2.748 | -3.378 | 0.638 | 6 |
| 72G6B | 7 | 8. | -6.856 | -6.135 | -0.721 | 126 | -4.547 | -5.179 | 0.632 | 7 |
| 71FAB | 8 | 1. | -5.466 | -4.738 | -0.736 | 63 | -3.168 | -3.774 | 0.614 | 8 |
| 71F9B | 10 | 8. | -4.849 | -4.655 | -0.194 | 28 | -4.155 | -4.744 | 0.598 | 9 |
| 71C4B | 11 | 4. | -6.266 | -5.517 | -0.749 | 64 | -3.131 | -3.706 | 0.585 | 10 |
| 71DAB | 12 | 2. | -4.597 | -3.866 | -0.731 | 101 | -3.115 | -3.688 | 0.576 | 11 |
| 71EAB | 13 | 2. | -4.396 | -4.807 | 0.411 | 128 | -6.126 | -6.701 | 0.573 | 12 |
| 72AAB | 14 | 2. | -4.838 | -4.853 | 0.217 | 68 | -2.989 | -2.659 | 0.570 | 13 |
| 72A8A | 15 | 4. | -4.844 | -4.599 | -0.245 | 96 | -3.528 | -4.052 | 0.525 | 14 |
| 6380B | 16 | 9. | -6.419 | -6.472 | 0.054 | 93 | -1.746 | -2.231 | 0.484 | 15 |
| 71AE6 | 17 | 11. | -3.398 | -2.887 | -0.511 | 3 | -3.797 | -4.274 | 0.477 | 16 |
| 74JAB | 18 | 3. | -3.811 | -3.554 | -0.257 | 113 | -2.736 | -3.208 | 0.470 | 17 |
| 74JCB | 19 | 5. | -4.925 | -4.504 | -0.421 | 119 | -3.119 | -3.548 | 0.439 | 18 |
| 72GA1 | 20 | 6. | -4.155 | -4.744 | 0.590 | 58 | -6.134 | -6.558 | 0.424 | 19 |
| 71ZAB | 21 | 2. | -4.889 | -4.654 | -0.235 | 13 | -4.396 | -4.807 | 0.411 | 20 |
| 73EGB | 24 | 7. | -3.748 | -3.378 | 0.638 | 99 | -4.594 | -4.994 | 0.400 | 21 |
| 73EPB | 25 | 16. | -2.337 | -2.578 | 0.241 | 109 | -3.888 | -3.486 | 0.394 | 22 |
| 73HAB | 26 | 18. | -2.372 | -2.261 | -0.111 | 74 | -5.195 | -5.582 | 0.386 | 23 |
| 73HCB | 27 | 8. | -2.543 | -2.928 | 0.385 | 27 | -2.543 | -2.928 | 0.385 | 24 |
| 73N4B | 28 | 15. | -3.287 | -3.559 | 0.352 | 89 | -3.984 | -3.383 | 0.379 | 25 |
| 73QPB | 29 | 6. | -3.359 | -3.323 | -0.036 | 109 | -3.827 | -3.483 | 0.376 | 26 |
| 73TCB | 30 | 8. | -3.743 | -4.114 | 0.371 | 30 | -3.743 | -4.114 | 0.371 | 27 |
| 73K8B | 31 | 1. | -3.347 | -4.069 | 0.722 | 4 | -3.897 | -4.265 | 0.368 | 28 |
| 73KEB | 32 | 5. | -4.862 | -4.279 | -0.583 | 84 | -1.952 | -2.316 | 0.364 | 29 |
| 73KFB | 33 | 3. | -4.669 | -4.773 | 0.104 | 37 | -3.856 | -4.214 | 0.358 | 30 |
| 73KK8 | 34 | 5. | -4.918 | -4.185 | 0.089 | 28 | -3.287 | -3.559 | 0.352 | 31 |
| 75938 | 35 | 6. | -5.493 | -6.486 | 0.993 | 118 | -4.244 | -4.578 | 0.334 | 32 |
| 74BDB | 36 | 3. | -3.958 | -4.169 | 0.208 | 56 | -5.167 | -5.497 | 0.330 | 33 |
| 74BFB | 37 | 4. | -3.856 | -4.214 | 0.358 | 43 | -3.682 | -3.979 | 0.297 | 34 |
| 74B1B | 38 | 19. | -5.836 | -5.939 | 0.103 | 88 | -3.469 | -3.741 | 0.273 | 35 |
| 76A1B | 39 | 4. | -5.115 | -5.299 | 0.185 | 25 | -2.337 | -2.578 | 0.241 | 36 |
| 76GA6 | 40 | 18. | -4.189 | -4.199 | 0.009 | 110 | -4.583 | -4.812 | 0.231 | 37 |
| 74FF8 | 41 | 26. | -3.815 | -3.608 | -0.208 | 14 | -4.636 | -4.853 | 0.217 | 38 |
| 74FAB | 42 | 11. | -3.871 | -2.260 | -0.611 | 36 | -3.968 | -4.169 | 0.208 | 39 |
| 74FH8 | 43 | 7. | -3.682 | -3.979 | 0.297 | 77 | -1.632 | -1.822 | 0.190 | 40 |
| 74FU8 | 44 | 27. | -3.283 | -3.915 | 0.712 | 85 | -3.958 | -4.144 | 0.186 | 41 |
| 73CG8 | 46 | 21. | -5.173 | -4.878 | -0.294 | 39 | -5.115 | -5.299 | 0.185 | 42 |
| 74FC8 | 48 | 7. | -3.482 | -3.273 | -0.209 | 124 | -3.457 | -3.617 | 0.159 | 43 |
| 74FJ8 | 49 | 2. | -4.614 | -3.827 | -0.788 | 123 | -3.958 | -4.104 | 0.146 | 44 |
| 74FK8 | 50 | 5. | -5.134 | -4.558 | 0.424 | 65 | -3.518 | -3.716 | 0.198 | 45 |
| 74FU8 | 51 | 26. | -3.149 | -3.148 | -0.001 | 33 | -4.669 | -4.773 | 0.104 | 46 |
| 74NA8 | 52 | 4. | -3.843 | -3.657 | 0.814 | 38 | -5.836 | -5.939 | 0.103 | 47 |
| 74KC8 | 53 | 3. | -4.606 | -4.451 | -0.145 | 1 | -4.150 | -4.248 | 0.098 | 48 |
| 74CAB | 54 | 3. | -4.812 | -4.438 | -0.382 | 48 | -4.189 | -4.199 | 0.009 | 49 |
| 74CHB | 55 | 3. | -4.983 | -4.670 | -0.313 | 34 | -4.918 | -4.185 | 0.089 | 50 |
| 74CC8 | 56 | 4. | -5.167 | -5.497 | 0.330 | 88 | -6.875 | -6.750 | 0.075 | 51 |
| 74FA1 | 57 | 8. | -3.503 | -3.384 | -0.299 | 82 | -2.364 | -2.429 | 0.065 | 52 |
| 74E8B | 58 | 3. | -4.474 | -4.400 | -0.074 | 16 | -6.419 | -6.472 | 0.054 | 53 |
| 73PH8 | 59 | 3. | -4.393 | -3.885 | -0.507 | 79 | -5.241 | -5.281 | 0.040 | 54 |
| 73P88 | 60 | 20. | -2.989 | -2.659 | 0.329 | 125 | -4.148 | -4.179 | 0.030 | 55 |
| 73P0B | 61 | 30. | -2.374 | -2.328 | -0.046 | 121 | -3.566 | -3.590 | 0.024 | 56 |
| 73PFB | 62 | 13. | -3.856 | -3.243 | -0.613 | 52 | -3.843 | -3.657 | 0.014 | 57 |
| 73PHA | 63 | 3. | -3.188 | -3.774 | 0.614 | 71 | -5.353 | -5.559 | 0.006 | 58 |
| 71NA8 | 64 | 2. | -3.131 | -3.716 | 0.585 | 51 | -3.149 | -3.148 | -0.001 | 59 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 710U0 | 65 | 2. | -3.618 | -3.716 | 0.106 | 91 | -3.169 | -3.147 | -0.021 | 60 |
| 634A0 | 66 | 1. | -3.796 | -3.726 | -0.070 | 107 | -4.253 | -4.220 | -0.033 | 61 |
| 654A0 | 67 | 2. | -4.446 | -4.259 | -0.187 | 21 | -4.689 | -4.654 | -0.035 | 62 |
| 634G0 | 68 | 3. | -5.151 | -4.972 | -0.178 | 29 | -3.359 | -3.323 | -0.036 | 63 |
| 63AF0 | 70 | 13. | -7.122 | -7.046 | -0.075 | 61 | -2.374 | -2.328 | -0.046 | 64 |
| 714BE | 71 | 14. | -5.553 | -5.559 | 0.006 | 104 | -4.721 | -4.673 | -0.048 | 65 |
| 714DA | 72 | 12. | -3.390 | -3.025 | -0.365 | 6 | -6.475 | -6.421 | -0.054 | 66 |
| 730BA | 73 | 12. | -2.914 | -2.644 | -0.270 | 66 | -3.796 | -3.726 | -0.070 | 67 |
| 714CC | 74 | 33. | -5.195 | -5.582 | 0.386 | 58 | -4.474 | -4.499 | -0.074 | 68 |
| 73C80 | 75 | 34. | -5.005 | -5.713 | 0.192 | 70 | -7.122 | -7.046 | -0.075 | 69 |
| 73CEA | 76 | 24. | -5.378 | -5.269 | -0.109 | 122 | -4.185 | -4.065 | -0.090 | 70 |
| 73CFA | 77 | 6. | -1.632 | -1.822 | 0.190 | 112 | -6.228 | -5.924 | -0.296 | 71 |
| 730AA | 78 | 13. | -3.599 | -3.229 | -0.370 | 114 | -4.377 | -4.277 | -0.100 | 72 |
| 73EBA | 79 | 12. | -5.241 | -5.281 | 0.040 | 95 | -3.738 | -3.631 | -0.107 | 73 |
| 73EBF | 80 | 8. | -3.469 | -3.741 | 0.273 | 76 | -5.378 | -5.269 | -0.109 | 74 |
| 71CA0 | 81 | 12. | -5.876 | -5.373 | -0.503 | 26 | -2.372 | -2.261 | -0.111 | 75 |
| 73EG0 | 82 | 11. | -2.364 | -2.429 | 0.065 | 53 | -4.606 | -4.461 | -0.145 | 76 |
| 73HC0 | 83 | 11. | -1.746 | -2.231 | 0.484 | 68 | -5.131 | -4.972 | -0.158 | 77 |
| 73LA0 | 84 | 6. | -1.952 | -2.316 | 0.364 | 106 | -3.958 | -3.793 | -0.165 | 78 |
| 77EC0 | 85 | 1. | -3.958 | -4.144 | 0.186 | 75 | -5.905 | -5.713 | -0.192 | 79 |
| 77EE0 | 86 | 27. | -7.235 | -6.750 | -0.485 | 10 | -4.849 | -4.655 | -0.194 | 80 |
| 7708A | 88 | 27. | -6.675 | -6.750 | 0.075 | 41 | -3.815 | -3.598 | -0.208 | 81 |
| 79AEA | 89 | 11. | -2.379 | -2.144 | -0.235 | 48 | -3.482 | -3.273 | -0.209 | 82 |
| 73AA0 | 90 | 2. | -3.994 | -3.383 | 0.379 | 89 | -2.379 | -2.144 | -0.235 | 83 |
| 638AA | 91 | 6. | -3.169 | -3.147 | -0.021 | 15 | -4.844 | -4.599 | -0.245 | 84 |
| 63CAA | 92 | 6. | -3.487 | -3.147 | -0.339 | 93 | -4.391 | -4.135 | -0.256 | 85 |
| 658AA | 93 | 4. | -4.391 | -4.135 | -0.256 | 18 | -3.811 | -3.554 | -0.257 | 86 |
| 6188A | 94 | 3. | -3.759 | -3.381 | -0.379 | 73 | -2.914 | -2.644 | -0.270 | 87 |
| 61AA0 | 95 | 3. | -3.738 | -3.631 | -0.107 | 57 | -3.683 | -3.394 | -0.289 | 88 |
| 61AH0 | 96 | 3. | -3.586 | -4.932 | 0.525 | 46 | -5.173 | -4.878 | -0.294 | 89 |
| 61AC0 | 97 | 4. | -3.825 | -4.480 | 0.655 | 117 | -7.477 | -7.165 | -0.311 | 90 |
| 72AA0 | 98 | 28. | -7.451 | -6.953 | -0.499 | 55 | -4.993 | -4.678 | -0.313 | 91 |
| 72AC0 | 99 | 6. | -4.594 | -4.994 | 0.400 | 92 | -3.487 | -3.147 | -0.339 | 92 |
| 71CA0 | 100 | 8. | -3.927 | -3.423 | 0.376 | 5 | -4.894 | -4.547 | -0.346 | 93 |
| 72EAA | 101 | 18. | -3.115 | -3.490 | 0.376 | 72 | -3.390 | -3.025 | -0.365 | 94 |
| 728P0 | 103 | 15. | -2.651 | -2.187 | -0.464 | 78 | -3.599 | -3.229 | -0.370 | 95 |
| 71JA0 | 104 | 1. | -4.721 | -4.673 | -0.048 | 94 | -3.759 | -3.381 | -0.379 | 96 |
| 71LA0 | 105 | 3. | -4.002 | -3.587 | -0.416 | 54 | -4.812 | -4.430 | -0.382 | 97 |
| 720N0 | 106 | 8. | -3.958 | -3.793 | -0.165 | 67 | -4.446 | -4.059 | -0.387 | 98 |
| 72AC0 | 107 | 3. | -4.253 | -4.220 | -0.033 | 109 | -4.441 | -4.048 | -0.392 | 99 |
| 71710 | 108 | 9. | -5.614 | -6.105 | 0.491 | 127 | -5.298 | -4.886 | -0.410 | 100 |
| 71310 | 109 | 8. | -3.998 | -3.604 | 0.394 | 105 | -4.002 | -3.587 | -0.416 | 101 |
| 72FF0 | 110 | 8. | -4.588 | -4.812 | 0.231 | 19 | -4.925 | -4.504 | -0.421 | 102 |
| 7298A | 111 | 15. | -6.985 | -5.389 | -0.814 | 103 | -2.651 | -2.187 | -0.464 | 103 |
| 71JCE | 112 | 10. | -6.928 | -5.924 | -0.996 | 116 | -6.658 | -6.185 | -0.474 | 104 |
| 72AE0 | 113 | 9. | -2.736 | -3.288 | 0.472 | 86 | -7.235 | -6.750 | -0.485 | 105 |
| 72CC0 | 114 | 2. | -4.377 | -4.277 | -0.100 | 98 | -7.451 | -6.953 | -0.499 | 106 |
| 71ZB0 | 116 | 8. | -6.658 | -6.185 | -0.474 | 81 | -5.876 | -5.373 | -0.503 | 107 |
| 71ZD0 | 117 | 10. | -7.477 | -7.165 | -0.311 | 56 | -4.393 | -3.885 | -0.507 | 108 |
| 659AA | 118 | 2. | -4.244 | -4.578 | 0.334 | 17 | -3.398 | -2.887 | -0.511 | 109 |
| 63AF0 | 119 | 5. | -3.118 | -3.549 | 0.430 | 2 | -4.113 | -3.545 | -0.569 | 110 |
| 63AAP | 120 | 1. | -4.441 | -4.048 | -0.392 | 32 | -4.862 | -4.279 | -0.583 | 111 |
| 63121 | 121 | 5. | -3.556 | -3.598 | 0.024 | 7 | -6.856 | -6.135 | -0.721 | 112 |
| 63AAA | 122 | 7. | -4.155 | -4.965 | -0.890 | 12 | -4.597 | -3.866 | -0.731 | 113 |
| 554L0 | 123 | 3. | -3.958 | -4.184 | 0.146 | 9 | -5.466 | -4.730 | -0.736 | 114 |
| 55AV0 | 124 | 7. | -3.457 | -3.617 | 0.159 | 11 | -6.266 | -5.517 | -0.749 | 115 |
| 61AA0 | 125 | 2. | -4.148 | -4.179 | 0.030 | 49 | -4.614 | -3.827 | -0.786 | 116 |
| 61AE0 | 126 | 3. | -4.547 | -5.179 | 0.632 | 42 | -3.871 | -2.260 | -0.811 | 117 |
| 62AA0 | 127 | 3. | -5.296 | -4.886 | -0.410 | 82 | -3.856 | -3.043 | -0.813 | 118 |
| 64211 | 128 | 14. | -6.128 | -6.701 | 0.573 | 111 | -6.283 | -5.389 | -0.894 | 119 |


O&M MODEL RUN4
DEP VAR 11 LHHUNS
CUMULATIVE DISTRIBUTION OF RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
POSITIVE
0
NEGATIVE
RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
CUMULATIVE FREQUENCY, NORMAL GRID


O&M MODEL RUN4
DEP VAR IS LMHUNS
RESIDUAL VS. FITTED Y
=7.165
=4.493
=1.822
POSITIVE
RESIDUALS
0
NEGATIVE
=7.165
=4.493
=1.822
FITTED Y

CP VALUES FOR THE SELECTION OF VARIABLES

O&M MODEL RUN4 DEP VAR 11 LMHUNS SEARCH NUMBER 1

SELECTION OF VARIABLES FOR BASIC EQUATION

CP =442.9, VARIABLE ADDED 16 LUP

CP =413.6, VARIABLE ADDED 8 MEM

CP =334.2, VARIABLE ADDED 3 BOMNAV

CP =284.9, VARIABLE ADDED 6 SS

CP =159.8, VARIABLE ADDED 5 DI

CP =129.1, VARIABLE ADDED 7 MCC

CP = 66.8, VARIABLE ADDED 17 LWT

CP = 63.2, VARIABLE ADDED 15 DUF

CP = 63.9, VARIABLE ADDED 18 LPD

NUMBER OF OBSERVATIONS 119
NUMBER OF VARIABLES IN FULL EQUATION 18
NUMBER OF VARIABLES IN BASIC EQUATION 7
REMAINDER OF VARIABLES TO BE SEARCHED 11

| EQUATION | P | CP | VARIABLES IN EQUATION | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 19 | 19.0 | FULL EQUATION | | | | | | | | | | | | | | | |
| | 8 | 66.8 | BASIC SET OF VARIABLES | 3 BOMNAV | 5 DI | 6 SS | 7 MCC | 8 MEM | 16 LUP | 17 LWT | | | | | | | | |
| | | | RMS = 0.29663 | | | | | | | | | | | | | | | |
| 1 | 17 | 28.3 | BASIC SET PLUS | 1 FIGSEN | 4 BOMCOM | 9 MPD | 11 DCC | 12 DCD | 13 DEM | 14 DPD | 15 DUF | 18 LPD | | | | | | |
| | | | RMS = 0.28813 | | | | | | | | | | | | | | | |
| 2 | 18 | 19.3 | BASIC SET PLUS | 1 FIGSEN | 2 FIGCOM | 4 BOMCOM | 9 MPD | 11 DCC | 12 DCD | 13 DEM | 14 DPD | 15 DUF | 18 LPD | | | | | |
| | | | RMS = 0.19838 | | | | | | | | | | | | | | | |
| 3 | 19 | 19.0 | BASIC SET PLUS | 1 FIGSEN | 2 FIGCOM | 4 BOMCOM | 9 MPD | 10 DVO | 11 DCC | 12 DCD | 13 DEM | 14 DPD | 15 DUF | 18 LPD | | | | |
| | | | RMS = 0.19387 | | | | | | | | | | | | | | | |
| 4 | 18 | 28.8 | BASIC SET PLUS | 1 FIGSEN | 4 BOMCOM | 9 MPD | 10 DVO | 11 DCC | 12 DCD | 13 DEM | 14 DPD | 15 DUF | 18 LPD | | | | | |
| | | | RMS = 0.19760 | | | | | | | | | | | | | | | |
| 5 | 17 | 28.9 | BASIC SET PLUS | 1 FIGSEN | 2 FIGCOM | 4 BOMCOM | 9 MPD | 11 DCC | 12 DCD | 14 DPD | 15 DUF | 18 LPD | | | | | | |
| | | | RMS = 0.28128 | | | | | | | | | | | | | | | |

SWEEP NUMBER 2847, DELTA Z(K,K) = 7.D-15

ESTIMATE OF VARIANCE

NO SMALLER RMS VALUE FOUND IN SUBSET EQUATIONS

RMS OF FULL EQUATION SELECTED BY USER TO CALCULATE CP VALUES

| SEQ | EQUATION | P | ORDERED CP |
|---|---|---|---|
| 1 | 3 | 19 | 19.0 |
| 2 | 2 | 18 | 19.3 |
| 3 | 4 | 18 | 20.2 |
| 4 | 1 | 17 | 29.3 |
| 5 | 5 | 17 | 20.9 |

LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

O&M MODEL RUN5 DEP VAR 1: LMHSHO MIN Y = -9,8810 00 MAX Y = -8,2720-01 RANGE Y = 8,2840 00

MULTIPLE REGRESSION ANALYSIS FOR THE "ALPOS" MODEL
LMHSHO = B(0) + B(1)FIGCOM + B(2)BOMNAV + B(3)BOMCOM + B(4)DI
+ B(5)PS + B(6)SS + B(7)MCO + B(8)MEM + B(9)DUP
+ B(10)DCO + B(11)DEM + B(12)DUF + B(13)LUP + B(14)LVO
LMHSHO = LN(MMHSHO)
MMHSHO = SHOP MAINTENANCE MANHOURS PER OPERATING HOUR

| IND.VAR(I) | NAME | COEF.B(I) | S.E. COEF. | T-VALUE | R(I)SQRD | MIN X(I) | MAX X(I) | RANGE X(I) | REL.INF.X(I) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | -1,145290 01 | | | | | | | |
| 1 | FIGCOM | 8,429910-01 | 2,420-01 | 3,5 | 0,2931 | 0,0 | 1,0000 00 | 1,0000 00 | 0,10 |
| 2 | BOMNAV | 4,102110-01 | 1,750-01 | 2,3 | 0,2238 | 0,0 | 1,0000 00 | 1,0000 00 | 0,05 |
| 3 | BOMCOM | 9,395390-01 | 2,030-01 | 4,6 | 0,1202 | 0,0 | 1,0000 00 | 1,0000 00 | 0,11 |
| 4 | DI | -1,743970-02 | 1,780-03 | 9,9 | 0,4452 | 0,0 | 1,0000 02 | 1,0000 02 | 0,21 |
| 5 | PS | -5,478810-03 | 2,860-03 | 1,9 | 0,0687 | 0,0 | 1,0000 02 | 1,0000 02 | 0,07 |
| 6 | SS | -1,908860-02 | 2,430-03 | 7,8 | 0,5615 | 0,0 | 1,0000 02 | 1,0000 02 | 0,23 |
| 7 | MCO | 3,139220-01 | 5,160-02 | 6,1 | 0,3607 | -1,2150 00 | 5,4540 00 | 6,6690 00 | 0,25 |
| 8 | MEM | -3,237930-02 | 3,250-03 | 10,0 | 0,5865 | -1,0220 01 | 8,0820 01 | 1,0900 02 | 0,39 |
| 9 | DUP | 7,343870-12 | 3,790-12 | 1,9 | 0,1985 | 2,2260 07 | 1,4360 11 | 1,4360 11 | 0,13 |
| 10 | DCO | -5,6841R0-02 | 2,590-02 | 2,2 | 0,3135 | 1,7840-04 | 1,8610 01 | 1,8610 01 | 0,13 |
| 11 | DEM | -3,761690-04 | 9,640-05 | 3,9 | 0,0367 | 2,7840 01 | 3,8470 03 | 3,8260 03 | 0,14 |
| 12 | DUF | 2,439150-01 | 1,780-0? | 1,4 | 0,0988 | 2,0250-01 | 2,1030 00 | 1,0800 00 | 0,06 |
| 13 | LUP | 8,788290-01 | 5,680-02 | 12,8 | 0,7074 | 5,0300 00 | 1,3250 01 | 8,2170 00 | 0,67 |
| 14 | LVO | 5,657860-01 | 6,600-02 | 8,5 | 0,5871 | 3,4810 00 | 9,0120 00 | 5,6110 00 | 0,38 |

| | |
|---|---|
| NO. OF OBSERVATIONS | 119 |
| NO. OF IND. VARIABLES | 14 |
| RESIDUAL DEGREES OF FREEDOM | 104 |
| F-VALUE | 66,6 |
| RESIDUAL ROOT MEAN SQUARE | 0,54929995 |
| RESIDUAL MEAN SQUARE | 0,30173843 |
| RESIDUAL SUM OF SQUARES | 31,37996468 |
| TOTAL SUM OF SQUARES | 312,7884?837 |
| MULT. CORREL. COEF. SQUARED | ,8997 |

REQUIRED X(I) PRECISION
(DIGIT RIGHT OF DECIMAL POSITIVE,
LEFT OF DECIMAL NEGATIVE)

| IND.VAR(I) | DIGIT |
|---|---|
| 1 | -1 |
| 2 | -1 |
| 3 | -1 |
| 4 | -2 |
| 5 | -2 |
| 6 | -2 |
| 7 | 1 |
| 8 | -2 |
| 9 | -11 |
| 10 | -1 |
| 11 | -4 |
| 12 | 1 |
| 13 | 1 |
| 14 | 1 |

LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

O&M MODEL RUNS DEP VAR IS LMMSMO RESIDUAL ROOT MEAN SQUARE OF FITTED EQUATION: 0.55

STANDARD DEVIATION ESTIMATED FROM RESIDUALS OF NEIGHBORING OBSERVATIONS (OBSERVATIONS 1 TO 4 APART IN FITTED Y ORDER).

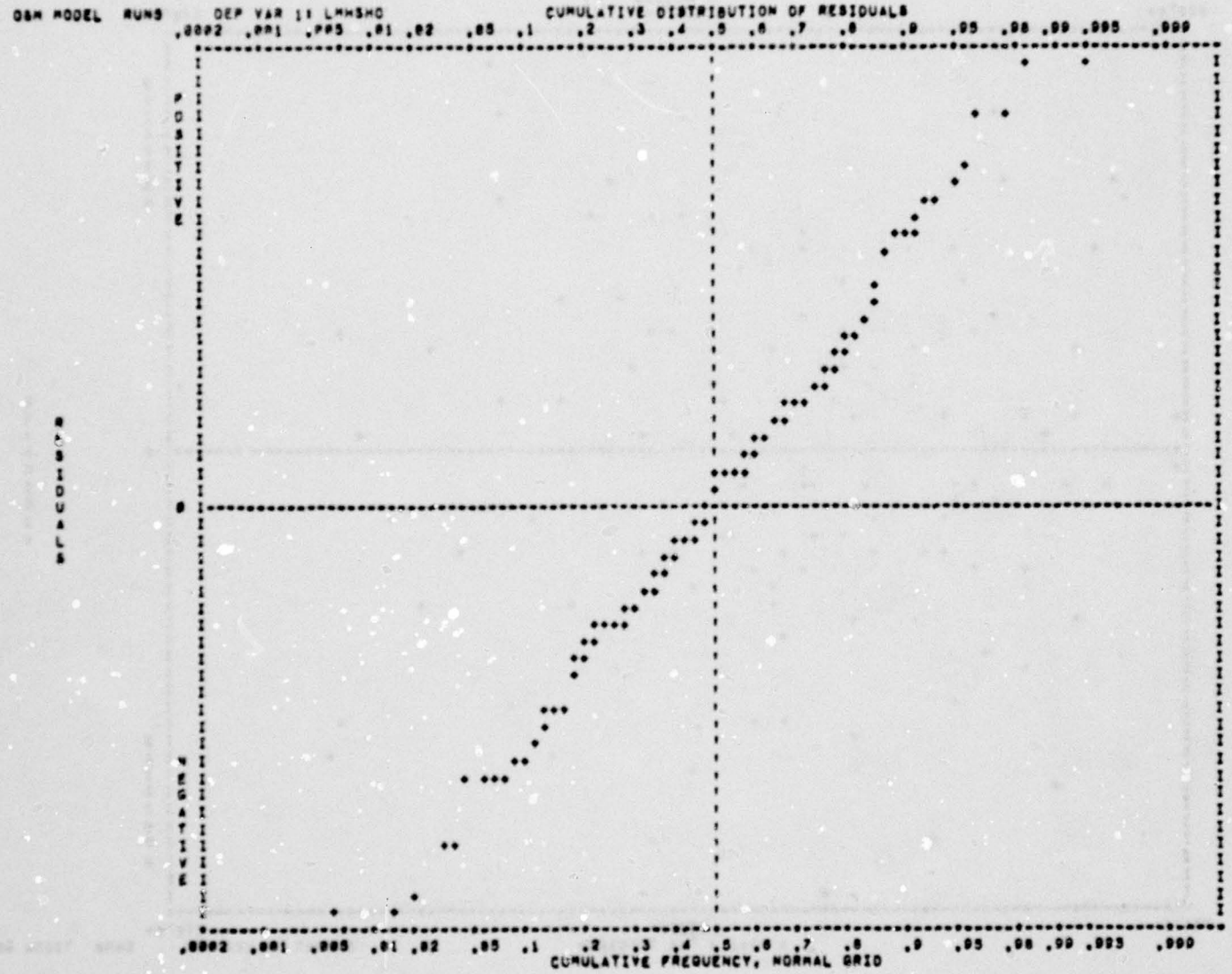
| NO. | CUMULATIVE STD DEV | ORDERED BY MSSO MSSO | OBSV. | OBSV. | DEL RESIDUALS | ORDERED BY FITTED Y MSSO | DEL RESIDUALS | FITTED Y | OBSV. | SEQ. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.19 | 0.0 | 92 | 91 | 0.28 | 0.0 | 0.59 | -6.31 | 88 | 1 |
| 2 | 0.28 | 0.0 | 65 | 64 | 0.42 | 52.77 | 1.62 | -6.31 | 88 | 2 |
| 3 | 0.37 | 0.0 | 88 | 88 | 0.59 | 13.85 | 0.87 | -7.10 | 58 | 3 |
| 4 | 0.33 | 0.04 | 199 | 188 | 0.23 | 51.14 | 1.10 | -7.22 | 6 | 4 |
| 5 | 0.33 | 0.05 | 16 | 35 | 0.33 | 53.55 | 0.28 | -7.08 | 76 | 5 |
| 6 | 0.47 | 0.10 | 61 | 42 | 1.23 | 0.00 | 0.22 | -6.88 | 117 | 6 |
| 7 | 0.41 | 0.23 | 124 | 186 | 0.85 | 5.54 | 0.28 | -6.69 | 128 | 7 |
| 8 | 0.43 | 0.24 | 6 | 128 | 0.50 | 67.63 | 0.73 | -6.43 | 98 | 8 |
| 9 | 0.39 | 0.26 | 58 | 53 | 0.05 | 64.46 | 0.56 | -6.42 | 38 | 9 |
| 10 | 0.36 | 0.26 | 13 | 14 | 0.17 | 37.89 | 1.38 | -5.18 | 79 | 10 |
| 11 | 0.34 | 0.30 | 4 | 85 | 0.80 | 24.32 | 0.37 | -5.98 | 75 | 11 |
| 12 | 0.45 | 0.31 | 56 | 13 | 1.75 | 0.59 | 0.56 | -5.66 | 7 | 12 |
| 13 | 0.43 | 0.31 | 120 | 37 | 0.23 | 7.28 | 0.79 | -5.84 | 16 | 13 |
| 14 | 0.49 | 0.32 | 19 | 54 | 1.41 | 7.37 | 1.58 | -5.82 | 116 | 14 |
| 15 | 0.52 | 0.48 | 114 | 58 | 1.81 | 2.57 | 0.56 | -5.77 | 108 | 15 |
| 16 | 0.56 | 0.48 | 2 | 119 | 1.48 | 25.92 | 0.57 | -5.63 | 35 | 16 |
| 17 | 0.60 | 0.53 | 7 | 35 | 0.88 | 36.13 | 1.38 | -5.49 | 74 | 17 |
| 18 | 0.64 | 0.54 | 17 | 62 | 1.42 | 37.84 | 0.32 | -5.84 | 112 | 18 |
| 19 | 0.61 | 0.55 | 85 | 129 | 0.88 | 1.86 | 0.58 | -5.43 | 79 | 19 |
| 20 | 0.60 | 0.55 | 54 | 114 | 0.56 | 24.84 | 1.12 | -5.36 | 71 | 20 |
| 21 | 0.62 | 0.55 | 121 | 2 | 0.98 | 38.38 | 0.18 | -5.22 | 111 | 21 |
| 22 | 0.62 | 0.59 | 7 | 16 | 0.56 | 13.75 | 0.33 | -5.24 | 11 | 22 |
| 23 | 0.59 | 0.67 | 65 | 66 | 0.93 | 18.21 | 0.73 | -4.98 | 56 | 23 |
| 24 | 0.58 | 0.67 | 64 | 68 | 0.43 | 15.48 | 1.48 | -4.93 | 81 | 24 |
| 25 | 0.57 | 0.70 | 59 | 32 | 0.21 | 3.56 | 1.38 | -4.84 | 13 | 25 |
| 26 | 0.58 | 0.70 | 8 | 117 | 0.82 | 51.59 | 0.32 | -4.80 | 29 | 26 |
| 27 | 0.58 | 0.79 | 123 | 114 | 0.81 | 57.58 | 0.51 | -4.80 | 46 | 27 |
| 28 | 0.57 | 0.80 | 117 | 126 | 0.92 | 2.26 | 1.42 | -4.78 | 55 | 28 |
| 29 | 0.56 | 0.87 | 119 | 109 | 0.35 | 32.83 | 0.94 | -4.72 | 14 | 29 |
| 30 | 0.54 | 0.91 | 19 | 123 | 0.91 | 49.89 | 0.49 | -4.71 | 10 | 30 |
| 31 | 0.53 | 0.99 | 37 | 12 | 0.22 | 25.93 | 0.52 | -4.61 | 122 | 31 |
| 32 | 0.53 | 1.03 | 71 | 81 | 0.67 | 18.26 | 1.44 | -4.60 | 110 | 32 |
| 33 | 0.54 | 1.06 | 79 | 71 | 0.58 | 8.14 | 0.58 | -4.56 | 71 | 33 |
| 34 | 0.56 | 1.09 | 7 | 100 | 1.45 | 18.27 | 1.02 | -4.50 | 39 | 34 |
| 35 | 0.59 | 1.18 | 14 | 21 | 2.25 | 8.12 | 0.51 | -4.47 | 9 | 35 |
| 36 | 0.62 | 1.32 | 15 | 49 | 1.17 | 16.84 | 1.07 | -4.46 | 15 | 36 |
| 37 | 0.61 | 1.45 | 129 | 107 | 0.36 | 15.28 | 0.10 | -4.34 | 33 | 37 |
| 38 | 0.62 | 1.50 | 108 | 79 | 0.87 | 15.88 | 0.15 | -4.28 | 48 | 38 |
| 39 | 0.64 | 1.53 | 13 | 55 | 1.59 | 16.39 | 0.37 | -4.25 | 127 | 39 |
| 40 | 0.64 | 1.54 | 58 | 30 | 0.78 | 7.99 | 0.12 | -4.22 | 19 | 40 |
| 41 | 0.63 | 1.60 | 59 | 12 | 0.88 | 6.11 | 1.29 | -4.22 | 68 | 41 |
| 42 | 0.64 | 1.61 | 82 | 17 | 1.38 | 1.71 | 1.48 | -4.10 | 54 | 42 |
| 43 | 0.64 | 1.67 | 39 | 33 | 0.47 | 19.57 | 0.27 | -4.16 | 123 | 43 |
| 44 | 0.62 | 1.70 | 33 | 127 | 0.85 | 12.48 | 0.13 | -4.13 | 126 | 44 |
| 45 | 0.64 | 1.71 | 54 | 123 | 1.48 | 17.89 | 0.67 | -4.05 | 5 | 45 |
| 46 | 0.63 | 1.78 | 12 | 36 | 0.12 | 17.19 | 0.03 | -4.05 | 114 | 46 |
| 47 | 0.62 | 1.91 | 35 | 79 | 0.31 | 16.48 | 0.44 | -4.02 | 99 | 47 |
| 48 | 0.62 | 1.92 | 103 | 25 | 0.54 | 15.44 | 0.35 | -4.02 | 118 | 48 |
| 49 | 0.61 | 1.94 | 107 | 37 | 0.13 | 1.54 | 0.78 | -3.86 | 58 | 49 |
| 50 | 0.61 | 1.95 | 11 | 81 | 0.58 | 2.26 | 0.65 | -3.71 | 30 | 50 |
| 51 | 0.61 | 2.00 | 15 | 10 | 0.65 | 11.92 | 0.13 | -3.84 | 53 | 51 |
| 52 | 0.61 | 2.02 | 125 | 1 | 0.65 | 3.77 | 0.23 | -3.83 | 104 | 52 |
| 53 | 0.60 | 2.06 | 52 | 18 | 0.42 | 14.94 | 0.48 | -3.80 | 125 | 53 |
| 54 | 0.61 | 2.13 | 40 | 54 | 0.88 | 34.65 | 1.39 | -3.78 | 34 | 54 |

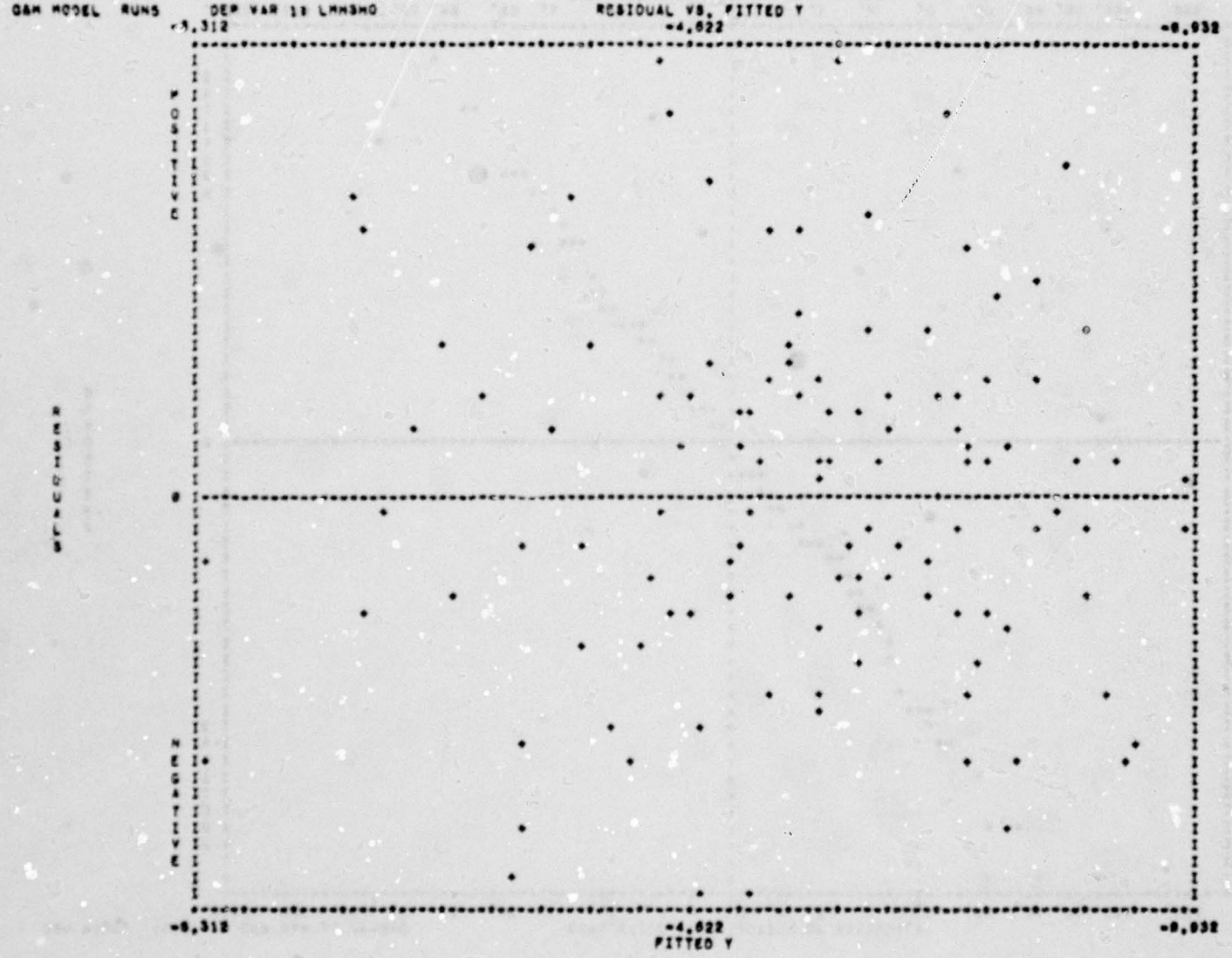
LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

O&M MODEL RUNS DEP VAR IS LOWSHO

| ORDERED BY COMPUTER INPUT | | | | | | ORDERED BY RESIDUALS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| IDENT. | OBSV. | NSB DISTANCE | OBS. Y | FITTED Y | RESIDUAL | OBSV. | OBS. Y | FITTED Y | ORDERED RESID. | SEQ |
| 71A2A | 1 | 2. | -4.929 | -3.656 | -0.372 | 13 | -3.572 | -4.835 | 1.264 | 1 |
| 71L5A | 2 | 6. | -3.357 | -2.968 | -0.789 | 44 | -2.286 | -3.515 | 1.229 | 2 |
| 71M6A | 3 | 23. | -3.357 | -3.339 | 0.232 | 17 | -1.574 | -2.671 | 1.097 | 3 |
| 71PAA | 4 | 2. | -3.542 | -3.651 | 0.110 | 14 | -3.628 | -4.724 | 1.096 | 4 |
| 71P9A | 5 | 6. | -3.979 | -4.863 | 0.884 | 84 | -0.827 | -1.791 | 0.963 | 5 |
| 71T1A | 6 | 16. | -8.246 | -7.916 | 0.778 | 15 | -3.572 | -4.458 | 0.885 | 6 |
| 724GA | 7 | 9. | -8.598 | -9.579 | -0.719 | 74 | -4.646 | -5.498 | 0.844 | 7 |
| 71FAA | 8 | 5. | -4.193 | -4.474 | 0.371 | 58 | -6.262 | -7.098 | 0.836 | 8 |
| 71P8A | 10 | 16. | -4.549 | -4.718 | 0.161 | 99 | -2.487 | -3.317 | 0.830 | 9 |
| 71C4A | 11 | 5. | -5.817 | -5.035 | -0.782 | 118 | -3.217 | -3.997 | 0.780 | 10 |
| 71DAA | 12 | 3. | -3.681 | -3.334 | -0.347 | 6 | -6.246 | -7.018 | 0.772 | 11 |
| 51EAA | 13 | 5. | -3.572 | -4.835 | 1.264 | 34 | -3.044 | -3.782 | 0.738 | 12 |
| 52AAC | 14 | 8. | -3.628 | -4.724 | 1.096 | 108 | -5.834 | -6.561 | 0.727 | 13 |
| 52A8A | 15 | 9. | -3.572 | -4.458 | 0.885 | 119 | -1.852 | -2.547 | 0.696 | 14 |
| 838DA | 16 | 19. | -6.884 | -5.844 | -0.159 | 25 | -1.484 | -2.178 | 0.694 | 15 |
| 71AEA | 17 | 17. | -1.574 | -2.671 | 1.097 | 148 | -1.743 | -2.318 | 0.575 | 16 |
| 74JAA | 18 | 9. | -2.724 | -2.397 | -0.327 | 104 | -3.322 | -3.827 | 0.505 | 17 |
| 74JCA | 19 | 7. | -3.981 | -4.229 | 0.239 | 98 | -2.383 | -2.856 | 0.492 | 18 |
| 52SA1 | 20 | 3. | -4.837 | -4.891 | 0.054 | 28 | -2.821 | -3.298 | 0.485 | 19 |
| 71ZA8 | 21 | 5. | -5.709 | -4.557 | -1.151 | 81 | -1.173 | -1.648 | 0.476 | 20 |
| 73EGA | 24 | 11. | -3.139 | -3.368 | 0.229 | 71 | -4.911 | -5.355 | 0.445 | 21 |
| 73EPA | 25 | 19. | -1.484 | -2.108 | 0.624 | 98 | -5.985 | -6.428 | 0.443 | 22 |
| 73H4A | 26 | 19. | -1.925 | -0.932 | -0.993 | 58 | -3.453 | -3.882 | 0.428 | 23 |
| 73HCA | 27 | 18. | -2.813 | -2.231 | -0.383 | 53 | -3.461 | -3.838 | 0.378 | 24 |
| 73N4A | 28 | 28. | -2.821 | -3.306 | 0.485 | 9 | -4.103 | -4.474 | 0.371 | 25 |
| 73G9A | 29 | 9. | -2.468 | -2.563 | 0.095 | 109 | -2.884 | -2.433 | 0.349 | 26 |
| 735CA | 30 | 11. | -4.135 | -3.860 | -0.275 | 99 | -3.473 | -4.017 | 0.344 | 27 |
| 73K9A | 31 | 4. | -2.889 | -3.163 | 0.273 | 72 | -1.738 | -2.048 | 0.310 | 28 |
| 73KEA | 32 | 6. | -3.804 | -3.333 | -0.471 | 88 | -3.301 | -3.618 | 0.317 | 29 |
| 73KFA | 33 | 3. | -4.531 | -4.344 | -0.186 | 64 | -2.317 | -2.622 | 0.305 | 30 |
| 73KKA | 34 | 11. | -3.044 | -3.782 | 0.738 | 79 | -5.886 | -6.177 | 0.291 | 31 |
| 75933 | 35 | 9. | -5.469 | -5.631 | 0.171 | 110 | -4.311 | -4.598 | 0.287 | 32 |
| 748DA | 36 | 8. | -3.129 | -3.228 | 0.198 | 46 | -4.314 | -4.799 | 0.285 | 33 |
| 74RFA | 37 | 2. | -3.573 | -3.446 | -0.128 | 129 | -3.522 | -3.799 | 0.276 | 34 |
| 74R1A | 38 | 38. | -6.687 | -6.398 | -0.289 | 31 | -2.889 | -3.163 | 0.273 | 35 |
| 70A1A | 39 | 5. | -5.158 | -4.504 | -0.654 | 63 | -2.598 | -2.774 | 0.265 | 36 |
| 76GAA | 40 | 8. | -4.565 | -4.261 | -0.303 | 19 | -3.981 | -4.228 | 0.239 | 37 |
| 74FFA | 41 | 22. | -3.195 | -2.233 | -0.962 | 3 | -3.357 | -3.589 | 0.232 | 38 |
| 74FAA | 42 | 16. | -2.185 | -1.349 | -0.836 | 103 | -3.933 | -4.165 | 0.232 | 39 |
| 74FMA | 43 | 6. | -2.958 | -3.131 | 0.172 | 24 | -3.139 | -3.368 | 0.229 | 40 |
| 74FUA | 44 | 69. | -2.288 | -3.515 | 1.229 | 121 | -2.491 | -2.589 | 0.188 | 41 |
| 73CGA | 45 | 48. | -4.514 | -4.799 | 0.285 | 43 | -2.958 | -3.131 | 0.172 | 42 |
| 74FCA | 48 | 18. | -2.183 | -2.868 | 0.686 | 35 | -5.459 | -5.631 | 0.171 | 43 |
| 74FJA | 49 | 3. | -3.137 | -2.574 | -0.563 | 129 | -6.521 | -6.686 | 0.165 | 44 |
| 74FKA | 50 | 18. | -6.262 | -7.098 | 0.836 | 10 | -4.549 | -4.719 | 0.161 | 45 |
| 74FQA | 51 | 19. | -2.417 | -2.539 | 0.122 | 101 | -2.181 | -2.231 | 0.138 | 46 |
| 74K4A | 52 | 7. | -0.318 | -2.415 | 0.097 | 51 | -2.417 | -2.539 | 0.122 | 47 |
| 74KCA | 53 | 7. | -3.451 | -3.838 | 0.378 | 68 | -4.099 | -4.219 | 0.120 | 48 |
| 74CAA | 54 | 5. | -5.345 | -4.178 | -1.167 | 37 | -3.532 | -3.644 | 0.112 | 49 |
| 74CBA | 55 | 8. | -5.182 | -4.777 | -0.328 | 4 | -3.542 | -3.651 | 0.110 | 50 |
| 74CCA | 56 | 7. | -5.432 | -4.996 | -0.455 | 89 | -1.619 | -1.727 | 0.108 | 51 |
| 74FA1 | 57 | 9. | -3.532 | -3.804 | 0.112 | 128 | -3.451 | -3.552 | 0.101 | 52 |
| 74EBA | 58 | 8. | -3.453 | -3.882 | 0.428 | 36 | -3.129 | -3.228 | 0.100 | 53 |
| 73PHA | 59 | 4. | -3.648 | -3.981 | 0.333 | 77 | -1.345 | -1.444 | 0.099 | 54 |
| 73PRA | 60 | 31. | -8.938 | -8.966 | 0.028 | 52 | -2.318 | -2.415 | 0.097 | 55 |
| 73PDA | 61 | 14. | -1.173 | -1.648 | 0.476 | 5 | -3.979 | -4.283 | 0.094 | 56 |
| 73PFA | 62 | 21. | -2.948 | -2.618 | -0.321 | 29 | -2.488 | -2.583 | 0.075 | 57 |
| 73PHA | 63 | 4. | -2.599 | -2.774 | 0.265 | 69 | -8.938 | -8.966 | 0.028 | 58 |
| 71N4A | 64 | 4. | -2.317 | -2.622 | 0.305 | 85 | -3.682 | -3.623 | 0.021 | 59 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 71GU8 | 65 | 4. | -2.718 | -2.822 | -0.094 | 95 | -2.732 | -2.750 | 0.018 | 60 |
| 63AA8 | 66 | 4. | -2.788 | -2.588 | -0.121 | 28 | -4.837 | -4.891 | -0.036 | 61 |
| 65AA8 | 67 | 5. | -2.955 | -2.453 | -0.502 | 126 | -4.172 | -4.130 | -0.042 | 62 |
| 63AG8 | 68 | 5. | -4.999 | -4.219 | 0.120 | 117 | -6.927 | -6.876 | -0.050 | 63 |
| 63HF8 | 70 | 16. | -5.886 | -6.177 | 0.291 | 63 | -1.925 | -1.853 | -0.071 | 64 |
| 71A8E | 71 | 11. | -4.911 | -5.355 | 0.445 | 26 | -1.825 | -0.932 | -0.893 | 65 |
| 71ADA | 72 | 13. | -1.730 | -2.048 | 0.318 | 65 | -2.718 | -2.822 | -0.094 | 66 |
| 73D8A | 73 | 11. | -2.106 | -1.535 | -0.572 | 48 | -2.163 | -2.068 | -0.096 | 67 |
| 71ACC | 74 | 43. | -4.848 | -5.499 | 0.844 | 113 | -3.368 | -3.252 | -0.115 | 68 |
| 73C8Q | 75 | 48. | -6.987 | -5.988 | -1.087 | 91 | -1.798 | -1.673 | -0.117 | 69 |
| 73CEN | 76 | 42. | -7.333 | -7.002 | -0.331 | 66 | -2.788 | -2.588 | -0.121 | 70 |
| 73CPK | 77 | 8. | -1.345 | -1.444 | 0.099 | 37 | -3.573 | -3.446 | -0.126 | 71 |
| 73DAH | 78 | 21. | -3.812 | -2.851 | -0.361 | 127 | -4.382 | -4.248 | -0.134 | 72 |
| 73E9A | 79 | 12. | -5.571 | -5.433 | -0.138 | 79 | -5.571 | -5.433 | -0.138 | 73 |
| 73E9P | 80 | 8. | -3.381 | -3.618 | 0.317 | 93 | -3.223 | -3.082 | -0.141 | 74 |
| 71CA8 | 81 | 8. | -5.149 | -4.927 | -0.221 | 16 | -6.884 | -5.844 | -0.159 | 75 |
| 73EG8 | 82 | 13. | -3.833 | -2.829 | -0.285 | 33 | -4.531 | -4.144 | -0.186 | 76 |
| 73HC# | 83 | 11. | -1.925 | -1.853 | -0.071 | 88 | -8.503 | -8.312 | -0.192 | 77 |
| 73LA8 | 84 | 4. | -0.827 | -1.791 | 0.963 | 82 | -3.833 | -2.829 | -0.285 | 78 |
| 77EC8 | 85 | 2. | -3.682 | -3.673 | 0.021 | 01 | -5.149 | -4.927 | -0.221 | 79 |
| 77EE8 | 86 | 50. | -9.891 | -8.312 | -0.788 | 105 | -3.384 | -3.159 | -0.225 | 80 |
| 77D98 | 88 | 50. | -8.503 | -8.312 | -0.192 | 107 | -3.793 | -3.535 | -0.259 | 81 |
| 78AEA | 89 | 6. | -1.819 | -1.727 | 0.106 | 59 | -3.546 | -3.381 | -0.265 | 82 |
| 73KA8 | 90 | 7. | -2.363 | -2.856 | 0.492 | 38 | -4.135 | -3.868 | -0.275 | 83 |
| 63AAA | 91 | 10. | -1.798 | -1.673 | -0.117 | 97 | -3.124 | -2.844 | -0.280 | 84 |
| 63CAA | 92 | 10. | -1.987 | -1.673 | -0.314 | 48 | -4.565 | -4.281 | -0.283 | 85 |
| 65BAA | 93 | 7. | -3.223 | -3.082 | -0.141 | 36 | -6.687 | -6.398 | -0.289 | 86 |
| 61B8A | 94 | 5. | -2.999 | -2.287 | -0.783 | 92 | -1.987 | -1.673 | -0.314 | 87 |
| 61AA8 | 95 | 8. | -2.732 | -2.750 | 0.018 | 82 | -2.948 | -2.618 | -0.321 | 88 |
| 61AR8 | 96 | 7. | -2.687 | -3.317 | 0.630 | 55 | -5.182 | -4.777 | -0.325 | 89 |
| 61AC8 | 97 | 9. | -3.124 | -2.844 | -0.280 | 18 | -2.724 | -2.397 | -0.327 | 90 |
| 72AA8 | 98 | 28. | -5.985 | -6.428 | 0.443 | 76 | -7.333 | -7.002 | -0.331 | 91 |
| 72AC8 | 99 | 18. | -3.673 | -4.017 | 0.344 | 122 | -4.941 | -4.608 | -0.333 | 92 |
| 71CA8 | 100 | 12. | -1.743 | -2.318 | 0.575 | 12 | -3.681 | -3.334 | -0.347 | 93 |
| 72EAA | 101 | 12. | -2.181 | -2.231 | 0.130 | 78 | -3.812 | -2.851 | -0.361 | 94 |
| 72BP0 | 103 | 16. | -2.993 | -1.278 | -0.734 | 1 | -4.829 | -3.858 | -0.372 | 95 |
| 71JA8 | 104 | 3. | -3.322 | -3.827 | 0.505 | 27 | -2.613 | -2.231 | -0.383 | 96 |
| 71LA8 | 105 | 4. | -3.384 | -3.159 | -0.225 | 86 | -5.432 | -4.976 | -0.455 | 97 |
| 72D98 | 106 | 12. | -4.244 | -3.628 | -0.615 | 112 | -5.988 | -5.442 | -0.458 | 98 |
| 72AC8 | 107 | 2. | -3.793 | -3.535 | -0.259 | 32 | -3.804 | -3.333 | -0.471 | 99 |
| 71716 | 108 | 10. | -5.834 | -5.761 | 0.727 | 67 | -2.955 | -2.453 | -0.502 | 100 |
| 71310 | 109 | 13. | -2.784 | -2.433 | 0.349 | 49 | -3.137 | -2.574 | -0.563 | 101 |
| 72PP8 | 110 | 12. | -4.311 | -4.598 | 0.287 | 124 | -4.237 | -3.671 | -0.566 | 102 |
| 72P98 | 111 | 28. | -5.899 | -5.219 | -0.680 | 73 | -2.106 | -1.535 | -0.572 | 103 |
| 71JCE | 112 | 14. | -5.930 | -5.442 | -0.458 | 114 | -4.628 | -4.045 | -0.583 | 104 |
| 72AEP | 113 | 14. | -3.358 | -3.243 | -0.115 | 106 | -4.244 | -3.628 | -0.615 | 105 |
| 72CC8 | 114 | 4. | -4.628 | -4.045 | -0.583 | 39 | -5.158 | -4.504 | -0.654 | 106 |
| 71Z98 | 116 | 14. | -6.765 | -5.816 | -0.948 | 111 | -5.899 | -5.219 | -0.680 | 107 |
| 71Z08 | 117 | 21. | -6.927 | -6.876 | -0.050 | 7 | -6.598 | -5.879 | -0.719 | 108 |
| 65AAA | 118 | 4. | -3.217 | -3.997 | 0.780 | 103 | -2.823 | -1.278 | -0.734 | 109 |
| 63AF8 | 119 | 7. | -1.852 | -2.547 | 0.696 | 42 | -2.105 | -1.349 | -0.756 | 110 |
| 63AAP | 120 | 2. | -3.451 | -3.552 | 0.101 | 86 | -9.891 | -8.312 | -0.788 | 111 |
| 83121 | 121 | 6. | -2.481 | -2.589 | 0.108 | 11 | -5.817 | -5.035 | -0.782 | 112 |
| 63AAA | 122 | 10. | -4.941 | -4.608 | -0.333 | 94 | -2.998 | -2.207 | -0.783 | 113 |
| 55ALP | 123 | 8. | -3.933 | -4.165 | 0.232 | 2 | -3.357 | -2.568 | -0.789 | 114 |
| 55AV8 | 124 | 11. | -4.237 | -3.671 | -0.566 | 116 | -6.765 | -5.816 | -0.948 | 115 |
| 61AA8 | 125 | 3. | -3.322 | -3.799 | 0.276 | 41 | -3.195 | -2.233 | -0.962 | 116 |
| 61AE8 | 126 | 7. | -4.172 | -4.130 | -0.042 | 75 | -6.987 | -5.988 | -1.087 | 117 |
| 62AA8 | 127 | 5. | -4.382 | -4.248 | -0.134 | 21 | -8.789 | -4.557 | -1.151 | 118 |
| 64211 | 128 | 16. | -9.821 | -8.663 | 0.165 | 84 | -5.345 | -4.178 | -1.167 | 119 |


O&M MODEL RUNS
DEP VAR IS LMHSHO
CUMULATIVE DISTRIBUTION OF RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
POSITIVE
RESIDUALS
0
NEGATIVE
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
CUMULATIVE FREQUENCY, NORMAL GRID


G&M MODEL RUNS
DEP VAR IS LMMSHO
RESIDUAL VS. FITTED Y
-5.312
-4.622
-3.932
RESIDUAL
0
-5.312
-4.622
-3.932
FITTED Y

CP VALUES FOR THE SELECTION OF VARIABLES

O&M MODEL RUN5 DEP VAR 11 LMM3MO SEARCH NUMBER 1

SELECTION OF VARIABLES FOR BASIC EQUATION

CP =548.9, VARIABLE ADDED 13 LUP

CP =459.8, VARIABLE ADDED 8 MEM

CP =294.9, VARIABLE ADDED 4 DI

CP =158.9, VARIABLE ADDED 14 LVD

CP = 99.9, VARIABLE ADDED 6 SS

CP = 71.7, VARIABLE ADDED 7 MCD

CP = 54.5, VARIABLE ADDED 3 BOMCOM

CP = 48.4, VARIABLE ADDED 11 DEM

CP = 26.9, VARIABLE ADDED 1 FIGCOM

CP = 22.3, VARIABLE ADDED 2 BOMNAV

CP = 19.1, VARIABLE ADDED 10 DCD

CP = 17.8, VARIABLE ADDED 9 DUP

CP = 15.8, VARIABLE ADDED 5 PS

CP = 15.8, VARIABLE ADDED 12 DUP

| | |
|---|---|
| NUMBER OF OBSERVATIONS | 119 |
| NUMBER OF VARIABLES IN FULL EQUATION | 14 |
| NUMBER OF VARIABLES IN BASIC EQUATION | 12 |
| REMAINDER OF VARIABLES TO BE SEARCHED | 2 |

```
EQUATION  P   CP     VARIABLES IN EQUATION

          15  15,0   FULL EQUATION

          13  15,0   BASIC SET OF VARIABLES      1       2       3      4      6      7      8      9      10      11
                                                FIGCOM  BOMNAV  BOMCOM  DI     SS     MCD    MEM    OUP    OCD     OEM

                          13      14
                     LUP      LVO
                     RMS =    0,38755

      1   14  15,0   BASIC SET PLUS        5
                                  PS
                     RMS =    0,38474

      2   15  15,0   BASIC SET PLUS        5      12
                                  PS      OUP
                     RMS =    0,38173

      3   14  16,7   BASIC SET PLUS      12
                                 OUP
                     RMS =    0,38939

SWEEP NUMBER          3,  DELTA Z(K,K) =  0,

ESTIMATE OF VARIANCE

NO SMALLER RMS VALUE FOUND IN SUBSET EQUATIONS

RMS OF FULL EQUATION SELECTED BY USER TO CALCULATE CP VALUES


 SEQ  EQUATION  P  ORDERED CP
   1        2  15      15,0
   2        1  14      15,9
   3        3  14      16,7
```

LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

O&M MODEL RUN6 DEP VAR 1: LLSCTO MIN Y = -4.5290 00 MAX Y = 3.2820 00 RANGE Y = 7.8110 00

MULTIPLE REGRESSION ANALYSIS FOR THE "ALPOS" MODEL

LLSCTO = B(0) + B(1)FIGCOM + B(2)BOMNAV + B(3)BOMCOM + B(4)CO
+ B(5)DI + B(6)EM + B(7)XT + B(8)SS + B(9)MVO + B(10)MWT
+ B(11)DVO + B(12)DWT + B(13)DCC + B(14)DPS + B(15)DUF
+ B(16)LUP + B(17)LVO + B(18)LPO

LLSCTO = LN(LSCTOT)

LSCTOT = TOTAL LOGISTICS SUPPORT COST PER OPERATING HOUR

| IND,VAR(I) | NAME | COEF,B(I) | S.E. COEF. | T-VALUE | R(I)SQRD | MIN X(I) | MAX X(I) | RANGE X(I) | REL.IMP.X(I) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | -7.979580 00 | | | | | | | |
| 1 | FIGCOM | 7.851430-01 | 2.470-01 | 3.2 | 0.1364 | 0.0 | 1.0000 00 | 1.0000 00 | 0.10 |
| 2 | BOMNAV | 1.148760 00 | 1.950-01 | 5.9 | 0.2571 | 0.0 | 1.0000 00 | 1.0000 00 | 0.15 |
| 3 | BOMCOM | 1.077190 00 | 2.350-01 | 4.6 | 0.1881 | 0.0 | 1.0000 00 | 1.0000 00 | 0.14 |
| 4 | CO | 1.915000-01 | 5.450-02 | 3.5 | 0.3664 | 4.9230-03 | 6.6740 00 | 6.6690 00 | 0.16 |
| 5 | DI | -1.220770-02 | 2.810-03 | 6.1 | 0.4625 | 0.0 | 1.0000 02 | 1.0000 02 | 0.16 |
| 6 | EM | -1.723370-02 | 3.490-03 | 4.9 | 0.5456 | 0.0 | 1.0000 02 | 1.0000 02 | 0.22 |
| 7 | XT | -9.493290-03 | 4.270-03 | 2.2 | 0.5872 | 0.0 | 1.0000 02 | 1.0000 02 | 0.12 |
| 8 | SS | -8.361540-03 | 2.730-03 | 3.1 | 0.6848 | 0.0 | 1.0000 02 | 1.0000 02 | 0.11 |
| 9 | MVO | -3.358350-04 | 1.110-04 | 3.0 | 0.8923 | -1.3830 03 | 6.8870 03 | 8.1700 03 | 0.35 |
| 10 | MWT | 1.986410-02 | 4.760-03 | 4.2 | 0.8682 | -3.1300 01 | 1.4140 02 | 1.7270 02 | 0.44 |
| 11 | DVO | 8.705930-08 | 2.740-08 | 2.5 | 0.7521 | 1.9360 03 | 2.4780 07 | 2.4760 07 | 0.21 |
| 12 | DWT | -1.853570-04 | 5.370-05 | 2.8 | 0.6581 | 3.6860 00 | 1.1750 04 | 1.1750 04 | 0.16 |
| 13 | DCC | -4.249910-08 | 1.610-08 | 2.4 | 0.3741 | 1.6800 01 | 2.8230 07 | 2.8230 07 | 0.15 |
| 14 | DPS | -4.385250-04 | 1.410-04 | 3.1 | 0.2346 | 3.4190 01 | 2.9720 03 | 2.9340 03 | 0.16 |
| 15 | DUF | 7.799840-01 | 1.980-01 | 4.1 | 0.1741 | 1.7640-01 | 2.9160 00 | 1.8480 00 | 0.18 |
| 16 | LUP | 5.841310-01 | 5.830-02 | 9.7 | 0.6692 | 5.8380 00 | 1.3250 01 | 8.2170 00 | 0.59 |
| 17 | LVO | 4.819020-01 | 1.610-01 | 2.9 | 0.9197 | 3.4910 00 | 5.8120 00 | 5.8110 00 | 0.33 |
| 18 | LPO | 1.472640-01 | 5.880-02 | 2.5 | 0.6143 | 1.0990 00 | 8.8860 00 | 6.9880 00 | 0.13 |

| | |
|---|---|
| NO. OF OBSERVATIONS | 117 |
| NO. OF IND. VARIABLES | 18 |
| RESIDUAL DEGREES OF FREEDOM | 98 |
| F-VALUE | 41.9 |
| RESIDUAL ROOT MEAN SQUARE | 8.58888622 |
| RESIDUAL MEAN SQUARE | 8.34678698 |
| RESIDUAL SUM OF SQUARES | 33.99512414 |
| TOTAL SUM OF SQUARES | 289.77553424 |
| MULT. CORREL. COEF. SQUARED | .8827 |

REQUIRED X(I) PRECISION
(DIGIT RIGHT OF DECIMAL POSITIVE,
LEFT OF DECIMAL NEGATIVE)

| IND,VAR(I) | DIGIT |
|---|---|
| 1 | -1 |
| 2 | -1 |
| 3 | -1 |
| 4 | 1 |
| 5 | -2 |
| 6 | -2 |
| 7 | -2 |
| 8 | -2 |
| 9 | -4 |
| 10 | -2 |
| 11 | -7 |
| 12 | -4 |
| 13 | -7 |
| 14 | -4 |
| 15 | 1 |
| 16 | 1 |
| 17 | 1 |
| 18 | 1 |

LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

O&M MODEL RUN8 DEP VAR 1: LLSCTO RESIDUAL ROOT MEAN SQUARE OF FITTED EQUATION: 0.59

STANDARD DEVIATION ESTIMATED FROM RESIDUALS OF NEIGHBORING OBSERVATIONS (OBSERVATIONS 1 TO 4 APART IN FITTED Y ORDER).

| NO. | CUMULATIVE STD DEV | ORDERED BY WSSO OWSO | OBSV. | OBSV. | DEL RESIDUALS | WSSO | DEL RESIDUALS | ORDERED BY FITTED Y FITTED Y | OBSV. | SEQ. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.21 | 0.0 | 92 | 91 | 0.21 | 11.77 | 0.38 | -3.78 | 88 | 1 |
| 2 | 0.31 | 0.0 | 65 | 64 | 0.42 | 0.01 | 1.76 | -3.66 | 117 | 2 |
| 3 | 0.44 | 0.01 | 121 | 119 | 0.72 | 0.22 | 0.13 | -3.61 | 23 | 3 |
| 4 | 0.39 | 0.01 | 118 | 22 | 0.28 | 6.45 | 0.28 | -3.48 | 59 | 4 |
| 5 | 0.65 | 0.01 | 117 | 23 | 1.76 | 0.22 | 0.93 | -3.37 | 128 | 5 |
| 6 | 0.62 | 0.13 | 14 | 13 | 0.44 | 4.22 | 0.51 | -3.37 | 6 | 6 |
| 7 | 0.53 | 0.22 | 128 | 6 | 0.93 | 12.51 | 0.29 | -3.07 | 98 | 7 |
| 8 | 0.49 | 0.22 | 127 | 39 | 0.23 | 28.78 | 0.66 | -2.85 | 112 | 8 |
| 9 | 0.48 | 0.29 | 53 | 58 | 0.35 | 14.82 | 0.63 | -2.71 | 75 | 9 |
| 10 | 0.47 | 0.34 | 23 | 8 | 0.43 | 5.76 | 0.82 | -2.57 | 35 | 10 |
| 11 | 0.54 | 0.34 | 117 | 6 | 1.33 | 7.84 | 1.22 | -2.57 | 78 | 11 |
| 12 | 0.59 | 0.35 | 119 | 109 | 1.87 | 0.84 | 1.35 | -2.52 | 108 | 12 |
| 13 | 0.64 | 0.41 | 117 | 128 | 1.35 | 2.81 | 0.89 | -2.51 | 7 | 13 |
| 14 | 0.62 | 0.41 | 23 | 129 | 0.41 | 0.01 | 0.26 | -2.47 | 116 | 14 |
| 15 | 0.63 | 0.44 | 71 | 81 | 0.74 | 13.36 | 2.88 | -2.42 | 22 | 15 |
| 16 | 0.61 | 0.48 | 49 | 83 | 0.32 | 16.59 | 1.48 | -2.39 | 74 | 16 |
| 17 | 0.58 | 0.51 | 113 | 24 | 0.11 | 2.15 | 0.98 | -2.20 | 111 | 17 |
| 18 | 0.56 | 0.64 | 71 | 79 | 0.27 | 12.88 | 1.11 | -1.95 | 38 | 18 |
| 19 | 0.57 | 0.68 | 85 | 129 | 0.72 | 15.87 | 1.48 | -1.83 | 11 | 19 |
| 20 | 0.59 | 0.86 | 35 | 7 | 0.94 | 18.44 | 0.79 | -1.77 | 76 | 20 |
| 21 | 0.59 | 0.88 | 26 | 103 | 0.73 | 0.54 | 0.27 | -1.75 | 71 | 21 |
| 22 | 0.59 | 0.88 | 59 | 87 | 0.45 | 15.72 | 0.82 | -1.58 | 79 | 22 |
| 23 | 0.56 | 0.77 | 14 | 15 | 0.01 | 11.46 | 0.88 | -1.48 | 56 | 23 |
| 24 | 0.56 | 0.78 | 79 | 81 | 0.47 | 7.03 | 1.13 | -1.33 | 119 | 24 |
| 25 | 0.59 | 0.84 | 108 | 7 | 1.35 | 11.58 | 1.26 | -1.28 | 81 | 25 |
| 26 | 0.58 | 0.95 | 13 | 15 | 0.43 | 5.88 | 0.22 | -1.16 | 99 | 26 |
| 27 | 0.61 | 1.03 | 55 | 114 | 1.43 | 2.72 | 0.51 | -1.13 | 128 | 27 |
| 28 | 0.60 | 1.15 | 21 | 13 | 0.38 | 3.68 | 0.27 | -1.07 | 127 | 28 |
| 29 | 0.61 | 1.18 | 114 | 19 | 0.83 | 4.25 | 0.94 | -0.98 | 21 | 29 |
| 30 | 0.61 | 1.23 | 21 | 14 | 0.82 | 6.93 | 0.88 | -0.98 | 39 | 30 |
| 31 | 0.62 | 1.32 | 118 | 5 | 0.74 | 4.82 | 0.89 | -0.91 | 14 | 31 |
| 32 | 0.60 | 1.33 | 128 | 2 | 0.96 | 5.48 | 0.45 | -0.86 | 122 | 32 |
| 33 | 0.58 | 1.36 | 38 | 85 | 0.84 | 0.85 | 0.43 | -0.85 | 13 | 33 |
| 34 | 0.58 | 1.36 | 63 | 105 | 0.56 | 11.38 | 0.21 | -0.82 | 15 | 34 |
| 35 | 0.60 | 1.39 | 4 | 33 | 1.32 | 6.78 | 0.57 | -0.81 | 118 | 35 |
| 36 | 0.60 | 1.39 | 128 | 12 | 0.52 | 7.91 | 0.18 | -0.79 | 68 | 36 |
| 37 | 0.58 | 1.43 | 59 | 107 | 0.95 | 15.97 | 0.96 | -0.77 | 5 | 37 |
| 38 | 0.59 | 1.49 | 31 | 4 | 0.25 | 15.95 | 1.94 | -0.76 | 46 | 38 |
| 39 | 0.59 | 1.59 | 33 | 1 | 0.85 | 5.96 | 0.38 | -0.74 | 9 | 39 |
| 40 | 0.57 | 1.60 | 48 | 29 | 0.15 | 18.78 | 1.38 | -0.72 | 28 | 40 |
| 41 | 0.56 | 1.64 | 35 | 108 | 0.41 | 8.64 | 0.79 | -0.63 | 55 | 41 |
| 42 | 0.55 | 1.68 | 6 | 35 | 0.25 | 2.24 | 0.58 | -0.52 | 104 | 42 |
| 43 | 0.55 | 1.73 | 87 | 107 | 0.58 | 5.96 | 0.49 | -0.50 | 125 | 43 |
| 44 | 0.55 | 1.82 | 1 | 32 | 0.54 | 4.58 | 0.38 | -0.51 | 31 | 44 |
| 45 | 0.55 | 1.96 | 36 | 126 | 0.66 | 13.88 | 0.94 | -0.51 | 114 | 45 |
| 46 | 0.56 | 1.97 | 49 | 105 | 0.88 | 15.14 | 0.88 | -0.51 | 89 | 46 |
| 47 | 0.55 | 2.04 | 105 | 123 | 0.97 | 5.88 | 0.65 | -0.51 | 19 | 47 |
| 48 | 0.56 | 2.15 | 111 | 38 | 0.96 | 1.39 | 1.32 | -0.46 | 4 | 48 |
| 49 | 0.55 | 2.24 | 104 | 125 | 0.58 | 1.59 | 0.85 | -0.45 | 33 | 49 |
| 50 | 0.56 | 2.42 | 110 | 127 | 0.61 | 5.84 | 0.52 | -0.43 | 1 | 50 |
| 51 | 0.57 | 2.48 | 82 | 83 | 1.13 | 18.26 | 0.85 | -0.29 | 34 | 51 |
| 52 | 0.57 | 2.49 | 63 | 123 | 0.49 | 3.88 | 1.41 | -0.29 | 53 | 52 |
| 53 | 0.57 | 2.51 | 107 | 98 | 1.93 | 4.97 | 0.99 | -0.18 | 32 | 53 |
| 54 | 0.58 | 2.52 | 3 | 49 | 1.98 | 1.36 | 0.84 | -0.16 | 36 | 54 |
| 55 | 0.59 | 2.65 | 9 | 125 | 0.37 | 5.71 | 0.37 | -0.13 | 85 | 55 |

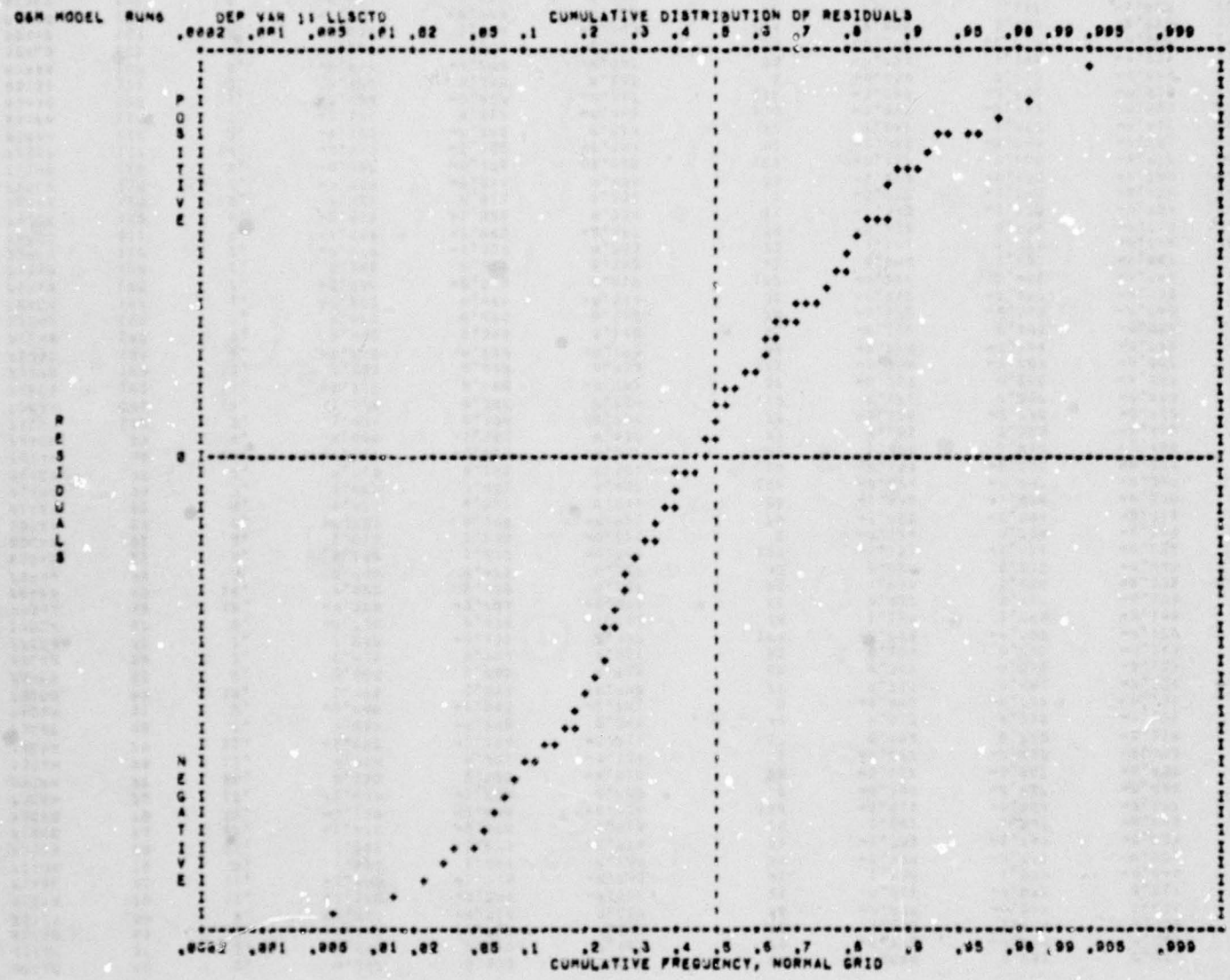
| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 56 | 0.61 | 2.78 | 8 | 63 | 1.56 | 15.14 | 0.35 | -0.13 | 56 | 56 |
| 57 | 0.61 | 2.72 | 126 | 127 | 0.51 | 8.5[illegible] | 0.71 | -0.18 | 58 | 57 |
| 58 | 0.64 | 2.76 | 85 | 12 | 0.22 | 1.39 | 0.58 | -0.19 | 128 | 58 |
| 59 | 0.60 | 2.66 | 7 | 22 | 0.35 | 15.79 | 0.95 | -0.08 | 12 | 59 |
| 60 | 0.64 | 2.69 | 4 | 1 | 0.66 | 5.78 | 0.51 | 0.06 | 102 | 60 |
| 61 | 0.61 | 2.69 | 126 | 116 | 1.44 | 12.40 | 0.39 | 0.09 | 2 | 61 |
| 62 | 0.60 | 2.81 | 7 | 116 | 0.89 | 9.21 | 1.04 | 0.19 | 97 | 62 |
| 63 | 0.62 | 2.81 | 103 | 22 | 1.78 | 9.58 | 0.85 | 0.20 | 93 | 63 |
| 64 | 0.63 | 2.88 | 35 | 116 | 1.80 | 2.52 | 1.90 | 0.22 | 8 | 64 |
| 65 | 0.62 | 2.90 | 126 | 39 | 0.28 | 5.96 | 0.79 | 0.23 | 49 | 65 |
| 66 | 0.62 | 3.00 | 83 | 84 | 0.37 | 5.58 | 0.77 | 0.23 | 121 | 66 |
| 67 | 0.62 | 3.00 | 60 | 103 | 0.58 | 6.84 | 1.24 | 0.27 | 37 | 67 |
| 68 | 0.62 | 3.04 | 42 | 61 | 1.28 | 1.36 | 0.56 | 0.28 | 63 | 68 |
| 69 | 0.62 | 3.08 | 124 | 62 | 0.83 | 7.67 | 0.63 | 0.30 | 105 | 69 |
| 70 | 0.61 | 3.10 | 13 | 68 | 0.35 | 9.32 | 0.78 | 0.32 | 119 | 70 |
| 71 | 0.60 | 3.12 | 9 | 104 | 0.13 | 9.99 | 0.84 | 0.36 | 123 | 71 |
| 72 | 0.60 | 3.40 | 112 | 35 | 0.82 | 29.43 | 0.57 | 0.39 | 67 | 72 |
| 73 | 0.60 | 3.43 | 41 | 106 | 0.78 | 19.53 | 0.16 | 0.40 | 101 | 73 |
| 74 | 0.60 | 3.48 | 1 | 36 | 0.45 | 8.23 | 0.72 | 0.40 | 109 | 74 |
| 75 | 0.59 | 3.52 | 60 | 26 | 0.14 | 15.42 | 0.58 | 0.40 | 78 | 75 |
| 76 | 0.60 | 3.55 | 87 | 90 | 1.53 | 2.60 | 0.65 | 0.42 | 59 | 76 |
| 77 | 0.60 | 3.56 | 12 | 2 | 0.44 | 1.73 | 0.59 | 0.44 | 87 | 77 |
| 78 | 0.60 | 3.56 | 2 | 6 | 0.61 | 15.69 | 0.88 | 0.46 | 107 | 78 |
| 79 | 0.59 | 3.58 | 21 | 122 | 0.86 | 19.17 | 0.96 | 0.47 | 41 | 79 |
| 80 | 0.59 | 3.60 | 127 | 21 | 0.27 | 12.87 | 0.18 | 0.48 | 90 | 80 |
| 81 | 0.60 | 3.61 | 2 | 49 | 1.29 | 16.68 | 0.59 | 0.49 | 108 | 81 |
| 82 | 0.59 | 3.69 | 125 | 114 | 0.13 | 15.33 | 0.23 | 0.50 | 100 | 82 |
| 83 | 0.60 | 3.76 | 33 | 34 | 1.18 | 7.33 | 0.68 | 0.53 | 95 | 83 |
| 84 | 0.60 | 3.80 | 53 | 32 | 1.21 | 4.58 | 0.11 | 0.53 | 66 | 84 |
| 85 | 0.60 | 3.83 | 32 | 58 | 0.66 | 25.21 | 0.86 | 0.54 | 43 | 85 |
| 86 | 0.60 | 3.88 | 22 | 11 | 0.37 | 27.94 | 0.38 | 0.60 | 18 | 86 |
| 87 | 0.59 | 3.90 | 60 | 9 | 0.89 | 8.51 | 0.11 | 0.61 | 113 | 87 |
| 88 | 0.60 | 3.97 | 23 | 98 | 0.94 | 18.45 | 0.55 | 0.63 | 24 | 88 |
| 89 | 0.59 | 4.02 | 114 | 4 | 0.11 | 0.0 | 0.42 | 0.64 | 65 | 89 |
| 90 | 0.59 | 4.03 | 58 | 12 | 0.14 | 14.46 | 0.18 | 0.64 | 64 | 90 |
| 91 | 0.59 | 4.03 | 59 | 90 | 1.89 | 8.39 | 0.55 | 0.66 | 28 | 91 |
| 92 | 0.60 | 4.13 | 52 | 124 | 0.85 | 19.11 | 0.93 | 0.74 | 52 | 92 |
| 93 | 0.59 | 4.22 | 6 | 98 | 0.51 | 5.17 | 0.98 | 0.77 | 57 | 93 |
| 94 | 0.59 | 4.25 | 21 | 39 | 0.84 | 16.63 | 0.18 | 0.84 | 40 | 94 |
| 95 | 0.59 | 4.44 | 79 | 22 | 0.48 | 11.58 | 1.95 | 0.85 | 96 | 95 |
| 96 | 0.58 | 4.45 | 79 | 116 | 0.22 | 3.88 | 0.93 | 1.05 | 124 | 96 |
| 97 | 0.58 | 4.47 | 127 | 122 | 0.21 | 29.23 | 1.86 | 1.12 | 62 | 97 |
| 98 | 0.58 | 4.59 | 31 | 114 | 0.35 | 32.87 | 0.79 | 1.21 | 72 | 98 |
| 99 | 0.57 | 4.59 | 66 | 43 | 0.11 | 38.44 | 0.35 | 1.21 | 44 | 99 |
| 100 | 0.57 | 4.55 | 106 | 43 | 0.43 | 0.0 | 0.21 | 1.24 | 92 | 100 |
| 101 | 0.57 | 4.59 | 48 | 85 | 0.47 | 16.79 | 0.18 | 1.24 | 91 | 101 |
| 102 | 0.57 | 4.60 | 1 | 83 | 0.47 | 4.59 | 0.47 | 1.38 | 48 | 102 |
| 103 | 0.57 | 4.59 | 31 | 19 | 1.28 | 6.84 | 0.33 | 1.38 | 85 | 103 |
| 104 | 0.58 | 4.64 | 67 | 59 | 0.88 | 43.71 | 0.83 | 1.54 | 29 | 104 |
| 105 | 0.58 | 4.71 | 32 | 85 | 1.83 | 17.87 | 1.98 | 1.63 | 42 | 105 |
| 106 | 0.58 | 4.81 | 128 | 98 | 0.53 | 14.52 | 0.28 | 1.67 | 51 | 106 |
| 107 | 0.57 | 4.82 | 14 | 122 | 0.89 | 23.48 | 1.29 | 1.76 | 61 | 107 |
| 108 | 0.58 | 4.99 | 82 | 84 | 0.78 | 24.52 | 0.27 | 1.78 | 73 | 108 |
| 109 | 0.58 | 4.99 | 99 | 65 | 0.58 | 7.86 | 0.48 | 1.81 | 82 | 109 |
| 110 | 0.59 | 4.97 | 32 | 36 | 0.99 | 9.98 | 1.96 | 1.89 | 27 | 110 |
| 111 | 0.59 | 5.02 | 87 | 126 | 1.35 | 8.98 | 0.48 | 1.87 | 60 | 111 |
| 112 | 0.59 | 5.04 | 1 | 34 | 0.52 | 3.98 | 0.37 | 1.94 | 83 | 112 |
| 113 | 0.59 | 5.08 | 38 | 76 | 0.36 | 13.17 | 0.25 | 2.26 | 84 | 113 |
| 114 | 0.59 | 5.06 | 99 | 126 | 0.22 | 8.68 | 0.73 | 2.38 | 26 | 114 |
| 115 | 0.59 | 5.12 | 15 | 68 | 0.78 | 11.79 | 0.67 | 2.45 | 163 | 115 |
| 116 | 0.58 | 5.13 | 33 | 32 | 0.12 | 31.97 | 0.58 | 2.48 | 89 | 116 |
| 117 | 0.58 | 5.15 | 104 | 114 | 0.83 | 11.88 | 1.48 | 2.58 | 77 | 117 |

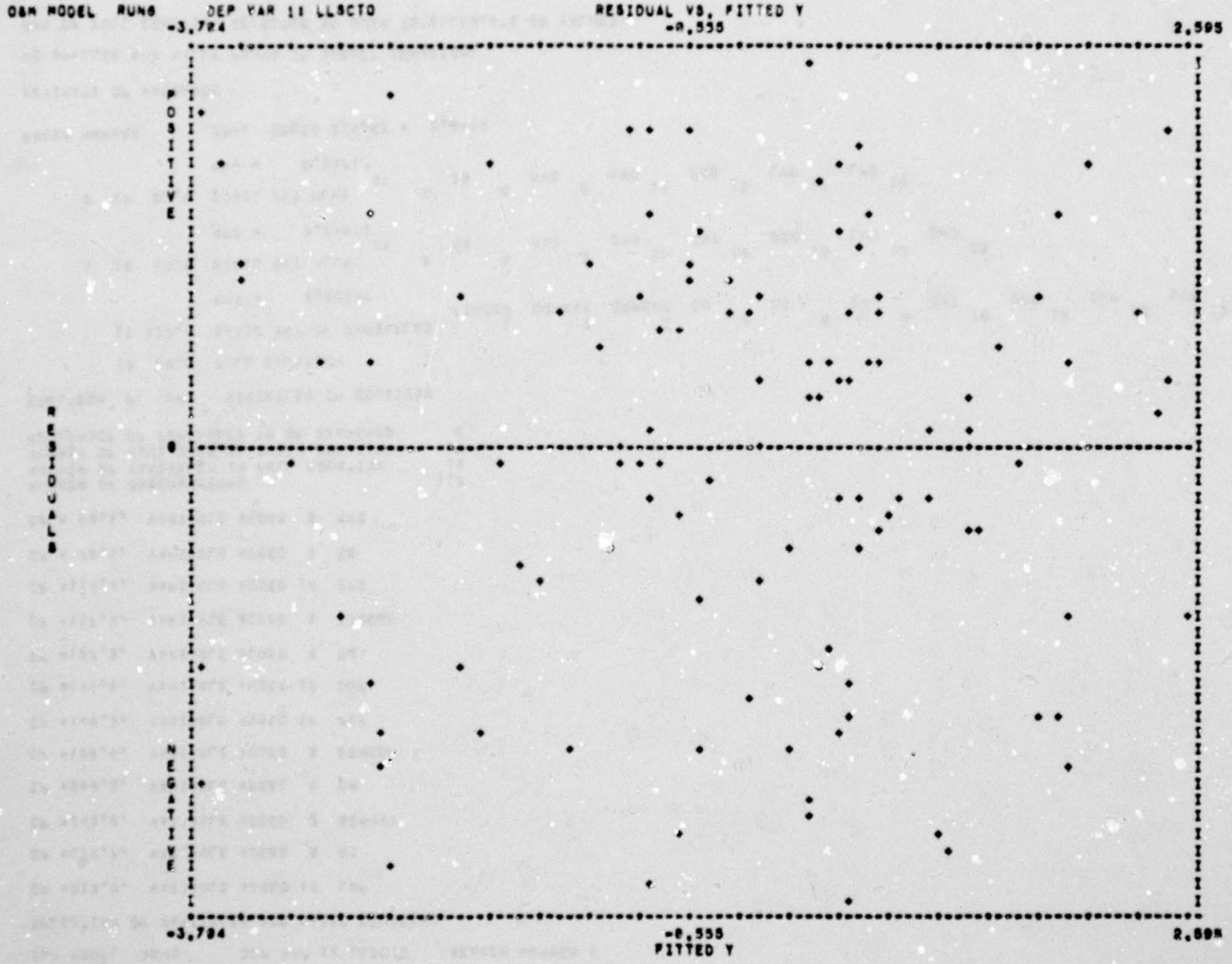
LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

O&M MODEL RUNS DEP VAR IS LLSCTO

| ORDERED BY COMPUTER INPUT | | | | | | ORDERED BY RESIDUALS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| IDENT. | OBSV. | NSS DISTANCE | OBS. Y | FITTED Y | RESIDUAL | OBSV. | OBS. Y | FITTED Y | ORDERED RESID. | SEQ |
| 71B2P | 1 | 1. | -P.522 | -P.428 | -P.093 | 49 | 1.253 | P.226 | 1.026 | 1 |
| 71L88 | 2 | 2. | -P.174 | P.094 | -P.268 | 74 | -1.479 | -2.395 | P.916 | 2 |
| 71PK3 | 4 | 1. | P.118 | -P.461 | P.579 | 23 | -2.719 | -3.610 | P.892 | 3 |
| 71P86 | 5 | 3. | -P.988 | -P.778 | -P.138 | 14 | -P.959 | -P.918 | P.842 | 4 |
| 7171P | 6 | 12. | -2.989 | -3.367 | P.458 | 183 | 3.282 | 2.448 | P.834 | 5 |
| 724GA | 7 | 7. | -3.237 | -2.506 | -P.731 | 15 | P.813 | -P.816 | P.828 | 6 |
| 71G58 | 8 | 2. | -P.559 | P.215 | -P.874 | 31 | P.398 | -P.514 | P.828 | 7 |
| 71FA3 | 9 | 4. | -P.785 | -P.737 | -P.049 | 189 | 1.271 | P.496 | P.775 | 8 |
| 71CAP | 11 | 4. | -2.545 | -1.825 | -P.728 | 38 | -2.724 | -3.483 | P.759 | 9 |
| 71DA8 | 12 | 2. | P.899 | -P.785 | P.175 | 78 | -1.P18 | -1.766 | P.756 | 10 |
| 51EAP | 13 | 3. | -P.445 | -P.845 | P.400 | 191 | 1.136 | P.397 | P.739 | 11 |
| 52AA3 | 14 | 3. | -P.959 | -P.919 | P.842 | 83 | 2.665 | 1.940 | P.725 | 12 |
| 52A8P | 15 | 5. | P.813 | -P.816 | P.828 | 63 | P.988 | P.276 | P.703 | 13 |
| 74JAP | 16 | 26. | 1.215 | P.599 | P.617 | 198 | -1.999 | -2.519 | P.519 | 14 |
| 74JC8 | 19 | 4. | -P.883 | -P.505 | -P.377 | 18 | 1.215 | P.599 | P.617 | 15 |
| 52GA1 | 20 | 7. | -P.384 | -P.718 | P.334 | 118 | -P.192 | -P.506 | P.614 | 16 |
| 71ZA8 | 21 | 2. | -P.951 | -P.978 | P.017 | 61 | 2.378 | 1.758 | P.612 | 17 |
| 71Z8P | 22 | 9. | -3.595 | -2.428 | -1.066 | 109 | P.988 | P.399 | P.562 | 18 |
| 71ZCP | 23 | 14. | -2.719 | -3.610 | P.892 | 4 | P.118 | -P.461 | P.578 | 19 |
| 73EG8 | 24 | 6. | P.985 | P.632 | P.352 | 95 | 1.P71 | P.527 | P.544 | 20 |
| 73EPP | 25 | 11. | 1.678 | 1.385 | P.286 | 69 | -P.P13 | -P.513 | P.500 | 21 |
| 73HA3 | 26 | 16. | 2.461 | 2.377 | P.184 | 128 | -2.888 | -3.371 | P.483 | 22 |
| 73HC8 | 27 | 7. | 1.P42 | 1.852 | -P.811 | 99 | -P.585 | -1.168 | P.477 | 23 |
| 73NAP | 28 | 18. | 1.P81 | P.678 | P.405 | 114 | -P.956 | -P.514 | P.458 | 24 |
| 73G88 | 29 | 8. | 1.581 | 1.549 | -P.P48 | 6 | -2.999 | -3.367 | P.458 | 25 |
| 73K88 | 31 | 3. | P.368 | -P.514 | P.828 | 34 | P.135 | -P.295 | P.438 | 26 |
| 73KEP | 32 | 3. | -P.812 | -P.188 | -P.632 | 51 | 2.277 | 1.866 | P.411 | 27 |
| 73KF8 | 33 | 1. | -1.293 | -P.455 | -P.748 | 28 | 1.P81 | P.678 | P.403 | 28 |
| 73KN8 | 34 | 5. | P.135 | -P.295 | P.438 | 13 | -P.445 | -P.845 | P.400 | 29 |
| 75938 | 35 | 7. | -2.357 | -2.569 | P.212 | 85 | P.266 | -P.131 | P.397 | 30 |
| 74P0A | 36 | 2. | P.281 | -P.156 | P.357 | 36 | -1.556 | -1.951 | P.395 | 31 |
| 748F9 | 37 | 6. | -P.268 | P.268 | -P.537 | 88 | P.267 | -P.P98 | P.365 | 32 |
| 74B1P | 38 | 18. | -1.556 | -1.951 | P.395 | 53 | P.887 | -P.298 | P.377 | 33 |
| 78A1P | 39 | 3. | -P.999 | -P.978 | -P.021 | 92 | P.848 | P.479 | P.369 | 34 |
| 78GAP | 48 | 9. | P.815 | P.936 | -P.121 | 38 | P.281 | -P.156 | P.357 | 35 |
| 74FF8 | 41 | 14. | -P.12P | P.466 | -P.586 | 118 | -P.976 | -1.329 | P.353 | 36 |
| 74FA8 | 42 | 42. | P.964 | 1.532 | -P.567 | 24 | P.985 | P.632 | P.352 | 37 |
| 74FH8 | 43 | 4. | P.295 | P.538 | -P.243 | 84 | 2.615 | 2.264 | P.351 | 38 |
| 74FUP | 44 | 96. | 1.344 | 1.214 | P.138 | 28 | -P.384 | -P.718 | P.334 | 39 |
| 73CGP | 46 | 12. | -1.852 | -P.763 | -1.P89 | 125 | -P.278 | -P.604 | P.325 | 40 |
| 74FC8 | 48 | 8. | 1.113 | 1.299 | -P.186 | 25 | 1.678 | 1.385 | P.286 | 41 |
| 74FJP | 49 | 2. | 1.253 | P.226 | 1.P26 | 126 | -P.874 | -1.132 | P.258 | 42 |
| 74FK8 | 50 | 7. | -2.724 | -3.483 | P.759 | 8P | 2.118 | 1.878 | P.246 | 43 |
| 74FQP | 51 | 32. | 2.077 | 1.666 | P.411 | 113 | P.851 | P.613 | P.230 | 44 |
| 74KA8 | 52 | 5. | P.598 | P.742 | -P.143 | 112 | -2.611 | -2.848 | P.237 | 45 |
| 74KC8 | 53 | 4. | P.987 | -P.294 | P.377 | 121 | P.472 | P.235 | P.237 | 46 |
| 74CBP | 55 | 4. | -1.598 | -P.638 | -P.958 | 64 | P.861 | P.636 | P.226 | 47 |
| 74CCH | 56 | 4. | -1.884 | -1.475 | -P.325 | 35 | -2.357 | -2.569 | P.212 | 48 |
| 74FA1 | 57 | 18. | P.654 | P.772 | -P.118 | 123 | P.567 | P.356 | P.211 | 49 |
| 74EB8 | 58 | 3. | -P.998 | -P.129 | P.031 | 196 | P.675 | P.486 | P.189 | 50 |
| 73PH8 | 59 | 2. | -P.888 | P.419 | -P.718 | 12 | P.899 | -P.885 | P.175 | 51 |
| 73P98 | 60 | 18. | 2.118 | 1.878 | P.246 | 89 | 2.622 | 2.456 | P.167 | 52 |
| 73PD8 | 61 | 29. | 2.378 | 1.758 | P.612 | 67 | P.558 | P.392 | P.166 | 53 |
| 73PF8 | 62 | 13. | P.899 | 1.117 | -1.018 | 185 | P.446 | P.303 | P.143 | 54 |
| 73PH8 | 63 | 3. | P.988 | P.276 | P.783 | 44 | 1.344 | 1.214 | P.138 | 55 |
| 71NAP | 64 | 3. | P.851 | P.636 | P.226 | 97 | P.315 | P.191 | P.124 | 56 |
| 71QUP | 65 | 3. | P.439 | P.636 | -P.196 | 26 | 2.481 | 2.377 | P.104 | 57 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 63AAB | 66 | 2. | 0.397 | 0.532 | -0.135 | 96 | 1.228 | 0.951 | 0.857 | 58 |
| 65AA8 | 67 | 3. | 0.558 | 0.392 | 0.166 | 68 | -0.749 | -0.795 | 0.245 | 59 |
| 63AG8 | 68 | 3. | -0.749 | -0.795 | 0.045 | 72 | 1.253 | 1.214 | 0.039 | 60 |
| 638C8 | 69 | 9. | -0.813 | -0.513 | 0.300 | 58 | -0.998 | -0.129 | 0.851 | 61 |
| 638F8 | 76 | 12. | -3.172 | -2.566 | -0.606 | 21 | -0.961 | -0.978 | 0.017 | 62 |
| 71ABE | 71 | 11. | -1.782 | -1.745 | -0.036 | 91 | 1.238 | 1.239 | -0.999 | 63 |
| 71AD4 | 72 | 9. | 1.253 | 1.214 | 0.039 | 39 | -0.999 | -0.978 | -0.021 | 64 |
| 73DB4 | 73 | 21. | 1.101 | 1.775 | -0.674 | 71 | -1.782 | -1.745 | -0.036 | 65 |
| 71ACC | 74 | 27. | -1.479 | -2.395 | 0.916 | 29 | 1.581 | 1.549 | -0.068 | 66 |
| 73C8Q | 75 | 38. | -3.126 | -2.706 | -0.420 | 122 | -0.911 | -0.864 | -0.047 | 67 |
| 73CEN | 76 | 16. | -1.810 | -1.766 | 0.756 | 9 | -0.788 | -0.737 | -0.049 | 68 |
| 73CP4 | 77 | 36. | 2.185 | 2.595 | -0.410 | 98 | -3.117 | -3.067 | -0.058 | 69 |
| 73DAH | 78 | 11. | 0.268 | 0.401 | -0.134 | 1 | -0.522 | -0.428 | -0.093 | 70 |
| 73ER4 | 79 | 11. | -1.895 | -1.584 | -0.311 | 57 | 0.654 | 0.772 | -0.118 | 71 |
| 73E6F | 80 | 7. | 0.287 | -0.098 | 0.385 | 48 | 0.815 | 0.936 | -0.121 | 72 |
| 71CAP | 81 | 9. | -2.866 | -1.285 | -0.781 | 5 | -0.988 | -0.778 | -0.139 | 73 |
| 73EG8 | 82 | 18. | 1.498 | 1.014 | 0.486 | 78 | 0.268 | 0.401 | -0.134 | 74 |
| 73MC8 | 83 | 9. | 2.665 | 1.940 | 0.725 | 66 | 0.397 | 0.532 | -0.135 | 75 |
| 73LA8 | 84 | 5. | 2.615 | 2.264 | 0.351 | 52 | 0.598 | 0.742 | -0.143 | 76 |
| 77EC8 | 85 | 1. | 0.266 | -0.131 | 0.397 | 104 | -0.798 | -0.622 | -0.176 | 77 |
| 77DC4 | 87 | 2. | -0.726 | 0.438 | -1.164 | 48 | 1.113 | 1.299 | -0.186 | 78 |
| 77D88 | 88 | 18. | -4.274 | -3.784 | -0.578 | 65 | 0.439 | 0.636 | -0.196 | 79 |
| 76AEA | 89 | 16. | 2.622 | 2.456 | 0.167 | 92 | 1.218 | 1.239 | -0.221 | 80 |
| 73KA8 | 90 | 3. | 0.848 | 0.479 | 0.369 | 43 | 0.295 | 0.538 | -0.243 | 81 |
| 638A4 | 91 | 6. | 1.239 | 1.239 | -0.000 | 127 | -1.323 | -1.071 | -0.252 | 82 |
| 63CA4 | 92 | 6. | 1.018 | 1.239 | -0.221 | 2 | -0.174 | 0.094 | -0.268 | 83 |
| 658A4 | 93 | 6. | -0.723 | 0.198 | -0.921 | 79 | -1.895 | -1.584 | -0.311 | 84 |
| 61AA8 | 95 | 6. | 1.971 | 0.527 | 0.544 | 56 | -1.884 | -1.478 | -0.326 | 85 |
| 61AN8 | 96 | 5. | 1.228 | 0.951 | 0.857 | 128 | -0.424 | -0.097 | -0.327 | 86 |
| 61AC8 | 97 | 7. | 0.315 | 0.191 | 0.124 | 19 | -0.883 | -0.505 | -0.377 | 87 |
| 72AAP | 98 | 28. | -3.117 | -3.067 | -0.050 | 82 | 1.498 | 1.814 | -0.486 | 88 |
| 72AC8 | 99 | 9. | -0.656 | -1.163 | 0.477 | 77 | 2.185 | 2.595 | -0.410 | 89 |
| 71CA8 | 100 | 5. | 1.271 | 0.496 | 0.775 | 75 | -3.126 | -2.706 | -0.420 | 90 |
| 72EA4 | 101 | 10. | 1.135 | 0.397 | 0.739 | 119 | -0.171 | 0.317 | -0.488 | 91 |
| 72ECA | 102 | 11. | -0.717 | 0.060 | -0.777 | 37 | -0.268 | 0.268 | -0.537 | 92 |
| 738P0 | 103 | 13. | 3.282 | 2.448 | 0.834 | 111 | -2.569 | -2.002 | -0.567 | 93 |
| 71JA8 | 104 | 2. | -0.798 | -0.622 | -0.176 | 88 | -4.274 | -3.784 | -0.578 | 94 |
| 71LA8 | 105 | 2. | 0.446 | 0.303 | 0.143 | 41 | -0.120 | 0.466 | -0.586 | 95 |
| 72DN8 | 106 | 7. | 0.875 | 0.488 | 0.189 | 79 | -3.172 | -2.586 | -0.586 | 96 |
| 72AC8 | 107 | 1. | -0.292 | 0.46. | -0.664 | 32 | -0.812 | -0.180 | -0.632 | 97 |
| 71716 | 108 | 7. | -1.988 | -2.519 | 0.619 | 107 | -0.282 | 0.481 | -0.864 | 98 |
| 7131D | 109 | 5. | 0.988 | 0.399 | 0.582 | 42 | 0.964 | 1.632 | -0.667 | 99 |
| 72RF8 | 110 | 6. | -0.936 | -1.329 | 0.353 | 73 | 1.101 | 1.775 | -0.674 | 100 |
| 72R82 | 111 | 9. | -2.569 | -2.002 | -0.567 | 59 | -0.298 | 0.419 | -0.718 | 101 |
| 71JCE | 112 | 8. | -2.611 | -2.848 | 0.237 | 11 | -2.545 | -1.825 | -0.720 | 102 |
| 72AER | 113 | 9. | 0.951 | 0.613 | 0.338 | 7 | -3.237 | -2.506 | -0.731 | 103 |
| 72CC8 | 114 | 2. | -0.956 | -0.514 | 0.458 | 33 | -1.293 | -0.455 | -0.748 | 104 |
| 71Z9R | 116 | 8. | -3.297 | -2.472 | -0.825 | 102 | -0.717 | 0.060 | -0.777 | 105 |
| 7120P | 117 | 14. | -4.529 | -3.662 | -0.868 | 81 | -2.866 | -1.285 | -0.781 | 106 |
| 858AE | 118 | 3. | -0.192 | -0.806 | 0.614 | 27 | 1.042 | 1.852 | -0.811 | 107 |
| 63AFR | 119 | 3. | -0.171 | 0.317 | -0.488 | 116 | -3.297 | -2.472 | -0.825 | 108 |
| 63AA8 | 120 | 1. | -0.424 | -0.097 | -0.327 | 117 | -4.529 | -3.662 | -0.868 | 109 |
| 63121 | 121 | 3. | 0.472 | 0.235 | 0.237 | 8 | -0.659 | 0.215 | -0.874 | 110 |
| 63AAA | 122 | 6. | -0.911 | -0.864 | -0.047 | 93 | -0.723 | 0.198 | -0.921 | 111 |
| 55AL8 | 123 | 4. | 0.567 | 0.356 | 0.211 | 55 | -1.598 | -0.638 | -0.958 | 112 |
| 55AV8 | 124 | 8. | 0.858 | 1.850 | -0.992 | 124 | 0.858 | 1.850 | -0.992 | 113 |
| 61AA8 | 125 | 2. | -0.278 | -0.604 | 0.325 | 62 | 0.999 | 1.117 | -1.018 | 114 |
| 61AE8 | 126 | 5. | -0.874 | -1.132 | 0.258 | 22 | -3.588 | -2.428 | -1.086 | 115 |
| 62AA8 | 127 | 3. | -1.323 | -1.071 | -0.252 | 46 | -1.652 | -0.783 | -1.889 | 116 |
| 64211 | 128 | 11. | -0.888 | -3.371 | 0.483 | 87 | -0.726 | 0.438 | -1.164 | 117 |


G&M MODEL RUN6
DEP VAR IS LLSCTD
CUMULATIVE DISTRIBUTION OF RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
POSITIVE
0
NEGATIVE
SPACE0ISER
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
CUMULATIVE FREQUENCY, NORMAL GRID


O&M MODEL RUNS
DEP VAR IS LLSCTO
RESIDUAL VS. FITTED Y
-3.724
-8.555
2.595
POSITIVE
0
NEGATIVE
RESIDUAL
-3.724
-8.555
2.595
FITTED Y

CP VALUES FOR THE SELECTION OF VARIABLES

O&M MODEL RUNS  DEP VAR IS LLBCTO  SEARCH NUMBER 1

SELECTION OF VARIABLES FOR BASIC EQUATION

CP =319.8,  VARIABLE ADDED 16  LUP

CP =279.7,  VARIABLE ADDED  5  DI

CP =242.8,  VARIABLE ADDED  2  BOMNAV

CP =204.3,  VARIABLE ADDED  6  EM

CP =198.6,  VARIABLE ADDED  3  BOMCOM

CP =148.3,  VARIABLE ADDED 18  PWT

CP =131.8,  VARIABLE ADDED 15  DUP

CP =125.3,  VARIABLE ADDED  4  CD

CP =117.8,  VARIABLE ADDED  1  FIGCOM

CP =113.4,  VARIABLE ADDED 14  OPS

CP = 72.1,  VARIABLE ADDED  8  SS

CP = 73.1,  VARIABLE ADDED  9  MVO

NUMBER OF OBSERVATIONS = 117
NUMBER OF VARIABLES IN FULL EQUATION = 18
NUMBER OF VARIABLES IN BASIC EQUATION = 10
REMAINDER OF VARIABLES TO BE SEARCHED = 8

| EQUATION | P | CP | VARIABLES IN EQUATION |
|---|---|---|---|
| | 19 | 19.0 | FULL EQUATION |
| | 11 | 113.4 | BASIC SET OF VARIABLES 1 FIGCOM, 2 BOMNAV, 3 BOMCOM, 4 CD, 5 DI, 6 EM, 10 PWT, 14 OPS, 15 DUP, 16 LUP |
| | | | RMS = 0.66167 |
| 1 | 10 | 19.0 | BASIC SET PLUS 7 XT, 8 SS, 9 MVO, 11 OVO, 12 PWT, 13 DCC, 17 LVO, 18 LPO |
| | | | RMS = 0.34878 |
| 2 | 10 | 21.0 | BASIC SET PLUS 7 XT, 8 SS, 9 MVO, 11 OVO, 13 DCC, 17 LVO, 18 LPO |
| | | | RMS = 0.35713 |

SWEEP NUMBER  255,  DELTA Z(N,N) = 1.0-18

ESTIMATE OF VARIANCE

NO SMALLER RMS VALUE FOUND IN SUBSET EQUATIONS

RMS OF FULL EQUATION SELECTED BY USER TO CALCULATE CP VALUES

| SEQ | EQUATION | P | ORDERED CP |
|---|---|---|---|
| 1 | 1 | 10 | 19.0 |
| 2 | 2 | 10 | 21.0 |

LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

O&M MODEL RUN7 DEP VAR IS LLSCFD MIN Y = -4.5260 PP MAX Y = 2.3420 00 RANGE Y = 6.8710 00

MULTIPLE REGRESSION ANALYSIS FOR THE "ALPOS" MODEL

LLSCFD = B(0) + B(1)FIGCOM + B(2)BOMNAV + B(3)BOMCOM + B(4)*T
+ B(5)CO + B(6)DI + B(7)EM + B(8)XT + B(9)SS + B(10)MVO
+ B(11)OVO + B(12)OCC + B(13)OPS + B(14)OUF + B(15)LUP
+ B(16)LVO + B(17)LPO

LLSCFD = LN(LSCFLD)

LSCFLD = FIELD LOGISTICS SUPPORT COST PER OPERATING HOUR

| IND.VAR(I) | NAME | COEF.B(I) -8.639450 PP | S.E. COEF. | T-VALUE | R(I)SQRD | MIN X(I) | MAX X(I) | RANGE X(I) | REL.INF.X(I) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | |
| 1 | FIGCOM | 8.349840-01 | 2.280-01 | 3.7 | 0.1254 | 0.0 | 1.0000 00 | 1.0000 00 | 0.12 |
| 2 | BOMNAV | 8.531990-01 | 1.840-01 | 4.7 | 0.2584 | 0.0 | 1.0000 00 | 1.0000 00 | 0.12 |
| 3 | BOMCOM | 9.139510-01 | 2.170-01 | 4.2 | 0.1591 | 0.0 | 1.0000 00 | 1.0000 00 | 0.13 |
| 4 | WT | 1.395840-02 | 3.940-03 | 3.4 | 0.0341 | 1.0000 00 | 1.7370 02 | 1.7270 02 | 0.35 |
| 5 | CO | 1.999490-01 | 5.840-02 | 4.8 | 0.3625 | 4.9230-03 | 8.6740 00 | 8.6690 00 | 0.19 |
| 6 | DI | -1.357490-02 | 1.880-03 | 7.2 | 0.4672 | 0.0 | 1.0000 02 | 1.0000 02 | 0.29 |
| 7 | EM | -2.435210-02 | 3.160-03 | 7.7 | 0.5238 | 0.0 | 1.0000 02 | 1.0000 02 | 0.35 |
| 8 | XT | -1.132440-02 | 3.940-03 | 2.9 | 0.5879 | 0.0 | 1.0000 02 | 1.0000 02 | 0.16 |
| 9 | SS | -1.163170-02 | 2.470-03 | 0.7 | 0.6668 | 0.0 | 1.0000 02 | 1.0000 02 | 0.17 |
| 10 | MVO | -2.741740-04 | 1.930-04 | 2.7 | 0.6922 | -1.3930 03 | 6.8470 03 | 6.1740 03 | 0.33 |
| 11 | OVO | 3.563490-08 | 2.470-08 | 1.5 | 0.7351 | 1.9360 03 | 2.4780 07 | 2.4760 07 | 0.13 |
| 12 | OCC | -3.849240-09 | 1.660-08 | 2.3 | 0.3537 | 1.6000 01 | 2.8230 07 | 2.8230 07 | 0.16 |
| 13 | OPS | -3.852410-04 | 1.380-04 | 2.3 | 0.2336 | 3.8190 01 | 2.9720 03 | 2.9340 03 | 0.13 |
| 14 | OUF | 8.567940-01 | 1.760-01 | 3.7 | 0.1659 | 2.7640-01 | 2.9150 00 | 2.8400 00 | 0.18 |
| 15 | LUP | 5.229850-01 | 5.420-02 | 9.6 | 0.4887 | 5.9300 00 | 1.3250 01 | 8.2170 00 | 0.62 |
| 16 | LVO | 5.472870-01 | 1.420-01 | 3.9 | 0.9183 | 3.4810 00 | 9.8120 00 | 5.6110 00 | 0.45 |
| 17 | LPO | 1.181950-01 | 5.510-02 | 2.1 | 0.6844 | 1.0990 00 | 8.0880 00 | 6.9880 00 | 0.12 |

| | |
|---|---|
| NO. OF OBSERVATIONS | 118 |
| NO. OF IND. VARIABLES | 17 |
| RESIDUAL DEGREES OF FREEDOM | 98 |
| F-VALUE | 42.6 |
| RESIDUAL ROOT MEAN SQUARE | 0.54675717 |
| RESIDUAL MEAN SQUARE | 0.29894348 |
| RESIDUAL SUM OF SQUARES | 29.29645299 |
| TOTAL SUM OF SQUARES | 245.97996478 |
| MULT. CORREL. COEF. SQUARED | .88J8 |

DERIVED X(I) PRECISION
(DIGIT RIGHT OF DECIMAL POSITIVE,
LEFT OF DECIMAL NEGATIVE)

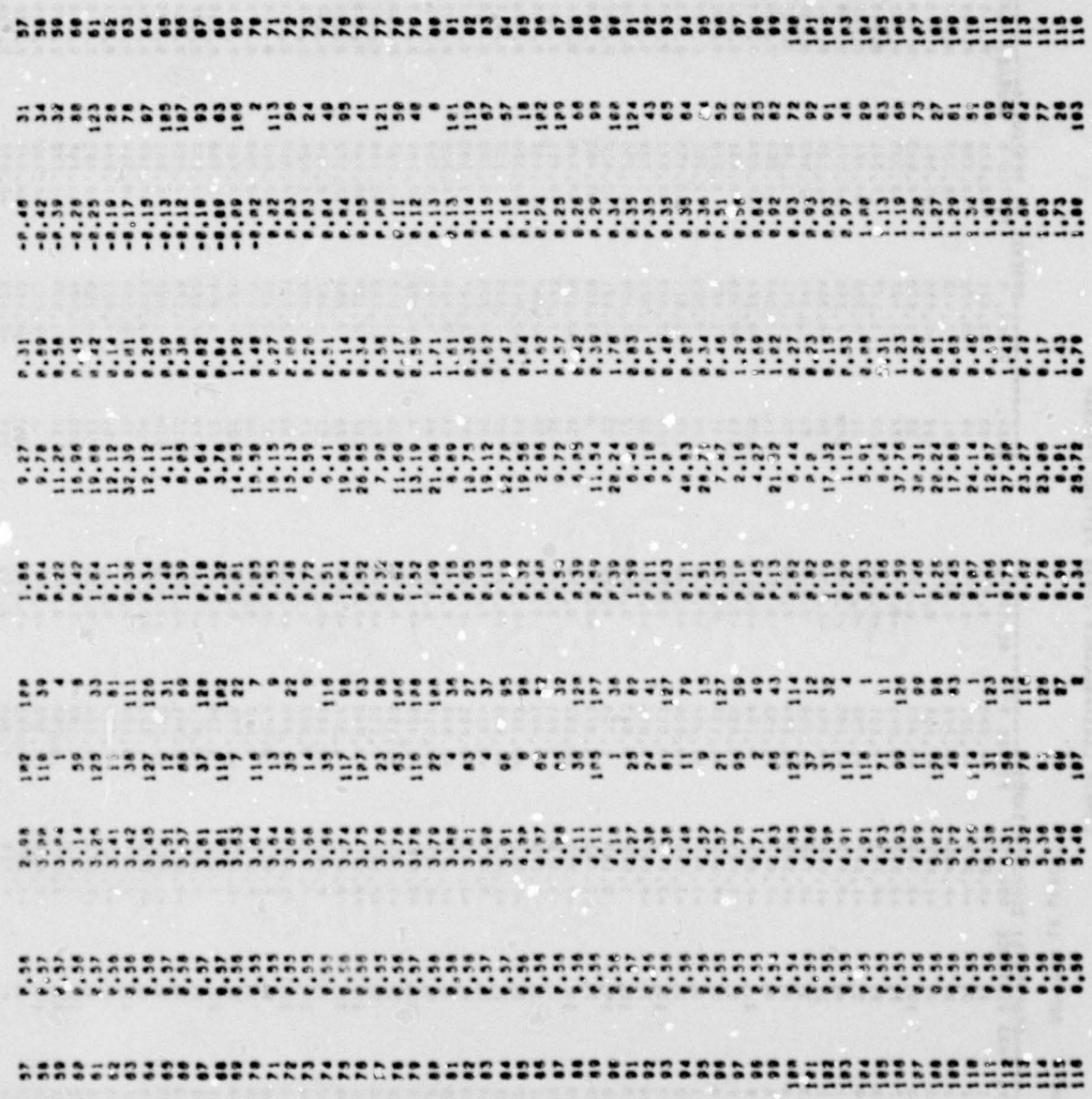
| IND.VAR(I) | DIGIT |
|---|---|
| 1 | -1 |
| 2 | -1 |
| 3 | -1 |
| 4 | -2 |
| 5 | 1 |
| 6 | -2 |
| 7 | -2 |
| 8 | -2 |
| 9 | -2 |
| 10 | -4 |
| 11 | -7 |
| 12 | -7 |
| 13 | -4 |
| 14 | 1 |
| 15 | 1 |
| 16 | 1 |
| 17 | 1 |

LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

O&M MODEL RUN7 DEP VAR IS LLSCFD RESIDUAL ROOT MEAN SQUARE OF FITTED EQUATION: 0.55

STANDARD DEVIATION ESTIMATED FROM RESIDUALS OF NEIGHBORING OBSERVATIONS (OBSERVATIONS 1 TO 4 APART IN FITTED Y ORDER).

| NO. | CUMULATIVE STD DEV | ORDERED BY WSSD | | | | ORDERED BY FITTED Y | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | WSSD | OBSV. | OBSV. | DEL RESIDUALS | WSSD | DEL RESIDUALS | FITTED Y | OBSV. | SEQ. |
| 1 | 0.22 | 0.0 | 92 | 91 | 0.23 | 28.81 | 1.83 | -4.19 | 88 | 1 |
| 2 | 0.35 | 0.0 | 65 | 64 | 0.48 | 9.85 | 1.82 | -3.76 | 59 | 2 |
| 3 | 0.24 | 0.01 | 118 | 22 | 0.83 | 0.01 | 1.37 | -3.69 | 117 | 3 |
| 4 | 0.31 | 0.01 | 117 | 23 | 1.37 | 0.34 | 0.98 | -3.62 | 23 | 4 |
| 5 | 0.45 | 0.03 | 109 | 108 | 0.24 | 2.28 | 0.84 | -3.47 | 6 | 5 |
| 6 | 0.41 | 0.14 | 14 | 13 | 0.17 | 5.02 | 0.28 | -3.37 | 128 | 6 |
| 7 | 0.39 | 0.28 | 93 | 58 | 0.33 | 15.66 | 0.37 | -3.29 | 96 | 7 |
| 8 | 0.35 | 0.28 | 6 | 126 | 0.84 | 14.58 | 0.98 | -3.15 | 112 | 8 |
| 9 | 0.31 | 0.34 | 23 | 6 | 0.08 | 23.46 | 0.28 | -2.82 | 78 | 9 |
| 10 | 0.41 | 0.35 | 117 | 6 | 1.36 | 16.29 | 0.13 | -2.74 | 75 | 10 |
| 11 | 0.39 | 0.44 | 113 | 24 | 0.21 | 28.36 | 0.36 | -2.68 | 35 | 11 |
| 12 | 0.47 | 0.48 | 117 | 125 | 1.32 | 31.52 | 0.87 | -2.62 | 78 | 12 |
| 13 | 0.43 | 0.49 | 23 | 128 | 0.84 | 3.54 | 0.85 | -2.60 | 116 | 13 |
| 14 | 0.45 | 0.58 | 71 | 81 | 0.75 | 3.63 | 0.91 | -2.58 | 7 | 14 |
| 15 | 0.45 | 0.58 | 35 | 7 | 0.47 | 3.79 | 1.49 | -2.56 | 22 | 15 |
| 16 | 0.47 | 0.64 | 105 | 24 | 0.82 | 27.66 | 0.64 | -2.54 | 108 | 16 |
| 17 | 0.45 | 0.79 | 129 | 85 | 0.83 | 39.11 | 0.92 | -2.48 | 38 | 17 |
| 18 | 0.43 | 0.81 | 13 | 15 | 0.84 | 29.68 | 1.21 | -2.34 | 74 | 18 |
| 19 | 0.44 | 0.86 | 71 | 79 | 0.75 | 15.99 | 0.67 | -2.31 | 111 | 19 |
| 20 | 0.48 | 0.91 | 26 | 103 | 1.43 | 4.93 | 0.66 | -2.25 | 71 | 20 |
| 21 | 0.49 | 0.92 | 105 | 113 | 0.81 | 4.48 | 0.11 | -1.95 | 11 | 21 |
| 22 | 0.50 | 0.92 | 85 | 31 | 0.65 | 16.71 | 0.25 | -1.89 | 79 | 22 |
| 23 | 0.49 | 0.93 | 12 | 32 | 0.91 | 13.72 | 0.25 | -1.78 | 56 | 23 |
| 24 | 0.47 | 0.96 | 79 | 81 | 0.68 | 19.37 | 1.36 | -1.58 | 81 | 24 |
| 25 | 0.50 | 1.09 | 7 | 108 | 1.47 | 13.69 | 1.29 | -1.56 | 99 | 25 |
| 26 | 0.51 | 1.11 | 49 | 59 | 0.81 | 4.57 | 0.36 | -1.43 | 21 | 26 |
| 27 | 0.51 | 1.11 | 125 | 1 | 0.55 | 3.45 | 0.34 | -1.38 | 127 | 27 |
| 28 | 0.50 | 1.12 | 33 | 104 | 0.36 | 33.29 | 0.87 | -1.38 | 126 | 28 |
| 29 | 0.50 | 1.15 | 48 | 29 | 0.53 | 31.93 | 1.26 | -1.29 | 46 | 29 |
| 30 | 0.52 | 1.19 | 91 | 14 | 1.08 | 0.14 | 0.17 | -1.26 | 14 | 30 |
| 31 | 0.51 | 1.23 | 1 | 104 | 0.13 | 3.84 | 0.55 | -1.26 | 13 | 31 |
| 32 | 0.50 | 1.24 | 43 | 52 | 0.12 | 10.65 | 0.29 | -1.25 | 9 | 32 |
| 33 | 0.50 | 1.31 | 120 | 12 | 0.72 | 17.50 | 0.91 | -1.20 | 110 | 33 |
| 34 | 0.51 | 1.32 | 33 | 4 | 0.71 | 2.29 | 0.92 | -1.17 | 55 | 34 |
| 35 | 0.53 | 1.34 | 61 | 42 | 1.25 | 12.38 | 0.35 | -1.15 | 15 | 35 |
| 36 | 0.53 | 1.40 | 5 | 110 | 0.61 | 7.33 | 0.65 | -1.15 | 39 | 36 |
| 37 | 0.54 | 1.46 | 110 | 33 | 1.02 | 0.83 | 0.55 | -1.14 | 20 | 37 |
| 38 | 0.53 | 1.70 | 123 | 105 | 0.38 | 6.89 | 0.56 | -1.10 | 122 | 38 |
| 39 | 0.53 | 1.74 | 33 | 1 | 0.49 | 0.46 | 0.47 | -1.06 | 68 | 39 |
| 40 | 0.54 | 1.81 | 13 | 55 | 0.96 | 10.25 | 0.32 | -1.04 | 5 | 40 |
| 41 | 0.53 | 1.88 | 56 | 21 | 0.10 | 10.63 | 0.32 | -0.98 | 60 | 41 |
| 42 | 0.52 | 1.93 | 105 | 53 | 0.87 | 6.58 | 0.42 | -0.95 | 118 | 42 |
| 43 | 0.53 | 2.06 | 129 | 31 | 0.68 | 4.85 | 0.42 | -0.92 | 125 | 43 |
| 44 | 0.53 | 2.07 | 27 | 27 | 0.73 | 6.01 | 0.42 | -0.85 | 114 | 44 |
| 45 | 0.54 | 2.09 | 55 | 15 | 0.92 | 1.74 | 0.49 | -0.80 | 33 | 45 |
| 46 | 0.53 | 2.15 | 39 | 5 | 0.89 | 1.23 | 0.13 | -0.80 | 1 | 46 |
| 47 | 0.54 | 2.16 | 62 | 25 | 1.09 | 2.79 | 0.36 | -0.80 | 104 | 47 |
| 48 | 0.53 | 2.22 | 19 | 53 | 0.14 | 7.84 | 0.66 | -0.78 | 4 | 48 |
| 49 | 0.54 | 2.22 | 105 | 106 | 0.76 | 9.88 | 0.40 | -0.75 | 19 | 49 |
| 50 | 0.55 | 2.31 | 14 | 55 | 1.13 | 11.31 | 0.58 | -0.65 | 36 | 50 |
| 51 | 0.55 | 2.40 | 125 | 104 | 0.89 | 13.27 | 0.19 | -0.64 | 53 | 51 |
| 52 | 0.55 | 2.47 | 126 | 9 | 0.33 | 3.61 | 0.18 | -0.62 | 37 | 52 |
| 53 | 0.54 | 2.64 | 108 | 71 | 0.27 | 6.41 | 0.74 | -0.54 | 129 | 53 |
| 54 | 0.55 | 2.74 | 85 | 12 | 0.75 | 6.16 | 0.48 | -0.52 | 58 | 54 |
| 55 | 0.56 | 2.79 | 104 | 4 | 0.38 | 2.74 | 0.75 | -0.48 | 85 | 55 |
| 56 | 0.56 | 2.86 | 102 | 100 | 1.02 | 3.51 | 1.48 | -0.46 | 12 | 56 |

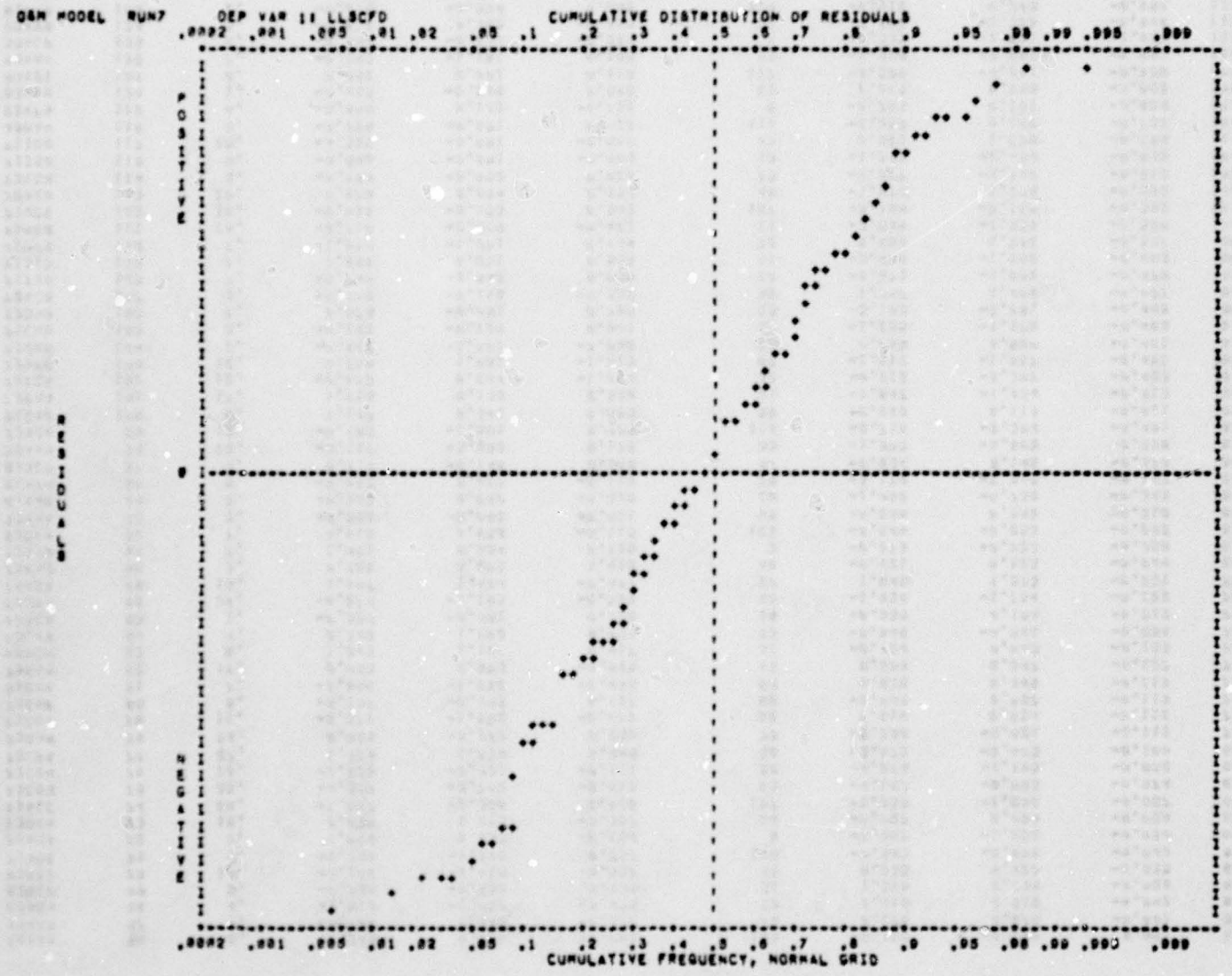


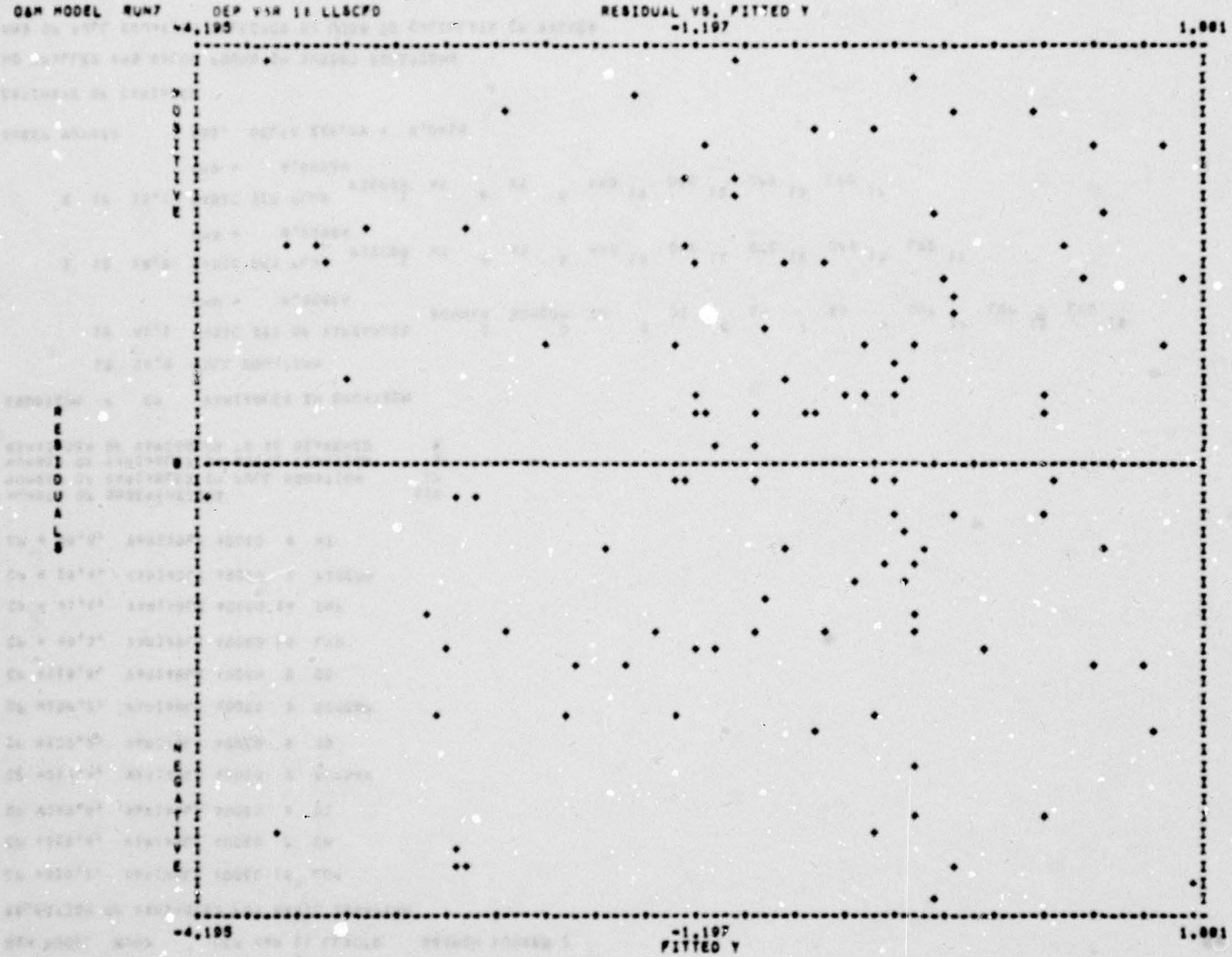
LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

B&M MODEL RUN7 DEP VAR IS LLSCFD

| IDENT. | OBSV. | ORDERED BY COMPUTER INPUT: MSS DISTANCE | OBS. Y | FITTED Y | RESIDUAL | ORDERED BY RESIDUALS: OBSV. | OBS. Y | FITTED Y | ORDERED RESID. | SEQ |
|---|---|---|---|---|---|---|---|---|---|---|
| 71B2B | 1 | 1. | -P.711 | -P.883 | P.991 | 58 | -2.821 | -3.778 | P.955 | 1 |
| 71L8B | 2 | 3. | -P.273 | -P.823 | -P.259 | 69 | -P.P2P | -P.958 | P.936 | 2 |
| 71PKB | 4 | 2. | -P.459 | -P.784 | P.315 | 181 | 1.913 | P.133 | P.882 | 3 |
| 71P9B | 5 | 3. | -1.922 | -1.836 | P.P14 | 99 | -P.586 | -1.561 | P.875 | 4 |
| 71K1P | 6 | 13. | -2.949 | -3.465 | P.496 | 25 | 1.678 | P.843 | P.P28 | 5 |
| 72AGB | 7 | 7. | -3.535 | -2.681 | -P.934 | 74 | -1.527 | -2.336 | P.888 | 6 |
| 71G5P | 8 | 2. | -P.783 | P.131 | -P.834 | 189 | 1.147 | P.341 | P.885 | 7 |
| 71FAB | 9 | 5. | -1.347 | -1.253 | -P.854 | 31 | P.376 | -P.461 | P.787 | 8 |
| 71CAB | 11 | 4. | -P.545 | -1.955 | -P.598 | 186 | P.675 | -P.891 | P.766 | 9 |
| 71DAP | 12 | 2. | -1.886 | -P.664 | -P.632 | 2P | -P.384 | -1.135 | P.751 | 10 |
| 51EAB | 13 | 3. | -P.758 | -1.256 | P.498 | 84 | 2.342 | 1.693 | P.739 | 11 |
| 92AAP | 14 | 4. | -P.595 | -1.254 | P.659 | 6P | 1.912 | 1.186 | P.726 | 12 |
| 92ABP | 15 | 6. | -P.697 | -1.153 | P.456 | 14 | -P.596 | -1.264 | P.669 | 13 |
| 74JAB | 16 | 21. | -P.835 | P.183 | -P.219 | 125 | -P.278 | -P.924 | P.646 | 14 |
| 74JCB | 19 | 5. | -1.992 | -P.758 | -P.342 | 115 | -P.328 | -P.951 | P.623 | 15 |
| 92GA1 | 20 | 6. | -P.384 | -1.135 | P.751 | 61 | 1.867 | 1.286 | P.582 | 16 |
| 71ZAP | 21 | 3. | -1.847 | -1.434 | -P.413 | 179 | P.82P | P.251 | P.569 | 17 |
| 71ZBP | 22 | 9. | -3.586 | -2.558 | -P.P28 | 112 | -2.611 | -3.153 | P.543 | 18 |
| 71ZCB | 23 | 15. | -3.121 | -3.617 | P.497 | 166 | -2.P84 | -2.542 | P.538 | 19 |
| 73EGB | 24 | 7. | -P.927 | P.P29 | -P.856 | 29 | 1.5P1 | 1.2P1 | P.5P3 | 2P |
| 73EPP | 25 | 12. | 1.578 | P.843 | P.828 | 13 | -P.758 | -1.256 | P.498 | 21 |
| 73HAB | 26 | 15. | P.147 | 1.733 | P.413 | 23 | -3.121 | -3.617 | P.497 | 22 |
| 73HCB | 27 | 7. | 1.842 | 1.273 | -P.231 | 8 | -2.989 | -3.465 | P.496 | 23 |
| 73NAP | 28 | 16. | -P.858 | -P.192 | P.124 | 36 | -P.179 | -P.648 | P.478 | 24 |
| 73088 | 29 | 6. | 1.591 | 1.191 | P.5PP | 34 | P.443 | -P.418 | P.462 | 25 |
| 73K9P | 31 | 3. | P.3P6 | -P.461 | P.767 | 15 | -P.697 | -1.153 | P.456 | 26 |
| 73KEP | 32 | 2. | -P.812 | -P.387 | -P.425 | 128 | -2.919 | -3.374 | P.454 | 27 |
| 73KFB | 33 | 2. | -1.293 | -P.885 | -P.398 | 83 | 1.545 | 1.127 | P.417 | 28 |
| 73KKB | 34 | 5. | P.243 | -P.418 | P.462 | 98 | P.789 | P.295 | P.415 | 29 |
| 7593P | 35 | 8. | -3.149 | -2.681 | -P.468 | 28 | P.147 | 1.733 | P.413 | 3P |
| 74RDP | 36 | 3. | -P.178 | -P.648 | P.478 | 64 | P.714 | P.349 | P.365 | 31 |
| 74RFB | 37 | 6. | -P.428 | -P.617 | P.188 | 44 | P.791 | P.362 | P.342 | 32 |
| 74R1P | 38 | 21. | -2.575 | -2.475 | -P.1PP | 4 | -P.469 | -P.784 | P.315 | 33 |
| 78A1B | 39 | 3. | -1.949 | -1.152 | P.193 | 126 | -1.018 | -1.297 | P.282 | 34 |
| 78GAB | 4P | 9. | -P.121 | P.123 | -P.244 | 71 | -1.782 | -2.P48 | P.267 | 35 |
| 74FFB | 41 | 16. | -P.12P | P.P45 | -P.165 | 97 | P.118 | -P.148 | P.266 | 36 |
| 74F4P | 42 | 3P. | P.912 | 1.578 | -P.664 | 76 | P.P88 | -P.172 | P.262 | 37 |
| 74FHP | 43 | 4. | P.229 | P.347 | -P.127 | 57 | P.4P7 | P.168 | P.247 | 38 |
| 74FU2 | 44 | 34. | P.791 | P.362 | P.349 | 77 | 1.874 | 1.629 | P.246 | 39 |
| 73CGP | 45 | 22. | -1.878 | -1.278 | -P.592 | 49 | P.243 | P.P48 | P.2P4 | 4P |
| 74FCB | 48 | 8. | P.935 | P.978 | -P.P35 | 3P | -P.429 | -P.617 | P.188 | 41 |
| 74FJB | 49 | 2. | P.243 | P.P48 | P.2P4 | 98 | -3.117 | -3.293 | P.176 | 42 |
| 74FKB | 5P | 8. | -2.821 | -3.776 | P.955 | 121 | P.251 | P.P81 | P.17P | 43 |
| 74FQB | 51 | 23. | 1.318 | 1.338 | -P.P2P | 72 | 1.992 | P.933 | P.159 | 44 |
| 74K4B | 52 | 5. | P.518 | P.512 | P.PP2 | 8P | -P.127 | -P.285 | P.157 | 45 |
| 74KCB | 53 | 4. | -P.848 | -P.641 | -P.286 | 113 | P.178 | P.P24 | P.154 | 46 |
| 74C9P | 55 | 5. | -1.635 | -1.172 | -P.463 | 118 | -1.956 | -1.281 | P.144 | 47 |
| 74CCP | 56 | 5. | -1.934 | -1.774 | -P.229 | 2P | -P.P68 | -P.192 | P.124 | 48 |
| 74FA1 | 57 | 11. | P.497 | P.188 | P.247 | 58 | -P.398 | -P.519 | P.121 | 49 |
| 74EH8 | 58 | 4. | -P.398 | -P.519 | P.121 | 91 | 1.951 | P.934 | P.116 | 5P |
| 73PH8 | 59 | 2. | -P.298 | P.113 | -P.411 | 85 | -P.365 | -P.481 | P.116 | 51 |
| 73P88 | 6P | 18. | 1.912 | 1.186 | P.726 | 122 | -P.996 | -1.1P1 | P.1P6 | 52 |
| 73PD8 | 61 | 23. | 1.867 | 1.288 | P.582 | 39 | -1.749 | -1.152 | P.1P3 | 53 |
| 73PFP | 62 | 14. | P.P99 | P.568 | -P.461 | 1 | -P.711 | -P.883 | P.P91 | 54 |
| 73PHB | 63 | 3. | -P.167 | -P.P03 | -P.P74 | 12P | -P.455 | -P.549 | P.P85 | 55 |
| 71NAB | 64 | 4. | P.714 | P.349 | P.365 | 114 | -P.828 | -P.852 | P.P24 | 56 |
| 71DU8 | 65 | 4. | P.23P | P.349 | -P.119 | 5 | -1.922 | -1.936 | P.014 | 57 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 83AA8 | 66 | 3. | 0.276 | 0.278 | -0.001 | 185 | -0.125 | -0.126 | 0.001 | 58 |
| 85AA8 | 67 | 4. | -0.294 | 0.148 | -0.379 | 66 | 0.276 | 0.278 | -0.001 | 59 |
| 83AG8 | 68 | 4. | -1.512 | -1.057 | -0.455 | 57 | 0.518 | 0.512 | -0.992 | 60 |
| 83BC8 | 69 | 9. | -0.920 | -0.958 | 0.038 | 51 | 1.318 | 1.338 | -0.020 | 61 |
| 83BF8 | 70 | 14. | -3.172 | -2.815 | -0.357 | 46 | 0.935 | 0.970 | -0.035 | 62 |
| 71A9E | 71 | 9. | -1.782 | -2.048 | 0.267 | 104 | -0.843 | -0.801 | -0.042 | 63 |
| 71ADA | 72 | 9. | 1.992 | 0.933 | 0.159 | 9 | -1.387 | -1.253 | -0.054 | 64 |
| 13D9A | 73 | 18. | 0.606 | 1.293 | -0.587 | 24 | -0.927 | 0.029 | -0.956 | 65 |
| 71ACC | 74 | 26. | -1.527 | -2.336 | 0.808 | 127 | -1.355 | -1.298 | -0.057 | 66 |
| 73C9G | 75 | 33. | -3.357 | -2.742 | -0.615 | 63 | -0.187 | -0.093 | -0.074 | 67 |
| 73CEN | 76 | 28. | -2.732 | -2.621 | -0.111 | 88 | -4.274 | -4.195 | -0.088 | 68 |
| 83CF4 | 77 | 27. | 1.874 | 1.629 | 0.246 | 38 | -2.575 | -2.475 | -0.100 | 69 |
| 73DAH | 78 | 14. | 0.988 | -0.172 | 0.260 | 78 | -2.732 | -2.621 | -0.111 | 70 |
| 73E8A | 79 | 11. | -2.371 | -1.892 | -0.479 | 92 | 0.819 | 0.934 | -0.115 | 71 |
| 73EOF | 80 | 8. | -0.127 | -0.285 | 0.157 | 96 | -0.992 | 0.927 | -0.119 | 72 |
| 71CA8 | 81 | 7. | -2.856 | -1.582 | -0.493 | 65 | 0.230 | 0.349 | -0.119 | 73 |
| 73EG8 | 82 | 10. | 0.855 | 0.923 | -0.059 | 43 | 0.228 | 0.347 | -0.127 | 74 |
| 73HC8 | 83 | 8. | 1.545 | 1.127 | 0.417 | 41 | -0.120 | 0.045 | -0.165 | 75 |
| 73LA8 | 84 | 4. | 2.342 | 1.603 | 0.739 | 53 | -0.848 | -0.641 | -0.206 | 76 |
| 77EC8 | 85 | 1. | -0.365 | -0.481 | 0.116 | 10 | -0.035 | 0.184 | -0.219 | 77 |
| 77DA8 | 86 | 29. | -4.274 | -4.195 | -0.080 | 56 | -1.934 | -1.704 | -0.229 | 78 |
| 76AEA | 09 | 15. | 1.007 | 1.484 | -0.477 | 27 | 1.042 | 1.273 | -0.231 | 79 |
| 73KA8 | 98 | 3. | 0.709 | 0.295 | 0.415 | 40 | -0.121 | 0.123 | -0.244 | 80 |
| 83BA8 | 91 | 7. | 1.951 | 0.934 | 0.118 | 2 | -0.273 | -0.023 | -0.250 | 81 |
| 13CA4 | 92 | 7. | 0.819 | 0.934 | -0.115 | 123 | -0.548 | -0.253 | -0.295 | 82 |
| 15BA4 | 93 | 5. | -0.990 | -0.799 | -0.191 | 95 | -0.268 | 0.042 | -0.310 | 83 |
| 61AA8 | 95 | 5. | -0.268 | 0.042 | -0.310 | 19 | -1.892 | -0.750 | -0.342 | 84 |
| 61AB8 | 96 | 5. | -0.892 | 0.927 | -0.119 | 78 | -3.172 | -2.815 | -0.357 | 85 |
| 61ACB | 97 | 8. | 0.118 | -0.148 | 0.266 | 87 | -0.224 | 0.146 | -0.370 | 86 |
| 72AA8 | 98 | 22. | -3.117 | -3.293 | 0.176 | 33 | -1.293 | -0.885 | -0.398 | 87 |
| 72AC8 | 99 | 10. | -0.486 | -1.561 | 0.075 | 111 | -2.710 | -2.309 | -0.401 | 88 |
| 71CA7 | 100 | 6. | 1.147 | 0.341 | 0.805 | 59 | -0.298 | 0.113 | -0.411 | 89 |
| 72EA4 | 101 | 17. | 1.913 | 0.133 | 0.780 | 21 | -1.847 | -1.434 | -0.413 | 90 |
| 73ECA | 102 | 12. | -0.809 | 0.244 | -1.054 | 32 | -0.812 | -0.387 | -0.425 | 91 |
| 72BPO | 103 | 12. | 0.788 | 1.801 | -1.013 | 68 | -1.512 | -1.057 | -0.455 | 92 |
| 71JAP | 104 | 2. | -0.543 | -0.801 | -0.742 | 62 | 0.899 | 0.568 | -0.461 | 93 |
| 71LA8 | 105 | 3. | -0.125 | -0.126 | 0.001 | 55 | -1.635 | -1.172 | -0.463 | 94 |
| 72D48 | 106 | 8. | 0.675 | -0.091 | 0.766 | 35 | -3.149 | -2.681 | -0.468 | 95 |
| 72AC8 | 107 | 2. | -0.726 | -0.116 | -0.592 | 89 | 1.007 | 1.484 | -0.477 | 96 |
| 71714 | 108 | 5. | -2.954 | -2.542 | 0.538 | 79 | -2.371 | -1.892 | -0.479 | 97 |
| 71310 | 109 | 7. | 0.828 | 0.251 | 0.569 | 81 | -2.956 | -1.892 | -0.483 | 98 |
| 72RF8 | 110 | 7. | -1.956 | -1.991 | 0.144 | 73 | 0.698 | 1.293 | -0.587 | 99 |
| 72RR8 | 111 | 14. | -2.710 | -2.309 | -0.401 | 11 | -2.545 | -1.955 | -0.599 | 100 |
| 71JCE | 112 | 10. | -0.611 | -3.153 | 0.543 | 107 | -0.708 | -0.116 | -0.592 | 101 |
| 72AE8 | 113 | 10. | 0.178 | 0.024 | 0.154 | 46 | -1.870 | -1.278 | -0.592 | 102 |
| 72CC8 | 114 | 3. | -0.928 | -0.852 | 0.924 | 75 | -3.357 | -2.742 | -0.615 | 103 |
| 71Z98 | 115 | 9. | -3.583 | -2.601 | -0.982 | 12 | -1.996 | -0.464 | -0.632 | 104 |
| 71ZD8 | 117 | 15. | -4.029 | -3.661 | -0.869 | 42 | 0.912 | 1.576 | -0.664 | 105 |
| 65BAA | 118 | 3. | -0.328 | -0.951 | 0.623 | 119 | -0.589 | 0.142 | -0.731 | 106 |
| 83AF8 | 119 | 4. | -0.599 | 0.142 | -0.731 | 8 | -0.793 | 0.131 | -0.834 | 107 |
| 83AA8 | 120 | 1. | -0.455 | -0.548 | 0.085 | 82 | 0.865 | 0.923 | -0.858 | 108 |
| 83IP1 | 121 | 4. | 0.251 | 0.001 | 0.178 | 117 | -4.529 | -3.661 | -0.869 | 109 |
| 83AA4 | 122 | 7. | -0.996 | -1.101 | 0.105 | 93 | -0.998 | -0.899 | -0.891 | 110 |
| 55ALP | 123 | 4. | -0.548 | -0.253 | -0.295 | 7 | -3.535 | -2.601 | -0.934 | 111 |
| 55AY8 | 124 | 8. | -0.617 | 0.345 | -0.958 | 22 | -3.506 | -2.558 | -0.948 | 112 |
| 81AA8 | 125 | 2. | -0.278 | -0.924 | 0.648 | 124 | -0.612 | 0.345 | -0.958 | 113 |
| 81AE8 | 126 | 5. | -1.918 | -1.297 | 0.280 | 116 | -3.583 | -2.601 | -0.982 | 114 |
| 82AA8 | 127 | 3. | -1.355 | -1.298 | -0.057 | 103 | 0.788 | 1.801 | -1.013 | 115 |
| 84211 | 128 | 11. | -0.910 | -3.374 | 0.464 | 102 | -0.800 | 0.244 | -1.054 | 116 |


G&M MODEL RUN7
DEP VAR IS LLSCFD
CUMULATIVE DISTRIBUTION OF RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
POSITIVE
0
NEGATIVE
SPACINGS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
CUMULATIVE FREQUENCY, NORMAL GRID


O&M MODEL RUN7
DEP VAR IS LLSCFD
RESIDUAL VS. FITTED Y
-4.195
-1.197
1.881
POSITIVE
RESIDUALS
0
NEGATIVE
-4.195
-1.197
FITTED Y
1.881

CP VALUES FOR THE SELECTION OF VARIABLES

O&M MODEL RUN7 DEP VAR 11 LLSCFO SEARCH NUMBER 1

SELECTION OF VARIABLES FOR BASIC EQUATION

CP =356.1, VARIABLE ADDED 15 LUP

CP =319.4, VARIABLE ADDED 7 EM

CP =243.8, VARIABLE ADDED 6 DI

CP =212.4, VARIABLE ADDED 2 BOMNAV

CP =132.8, VARIABLE ADDED 9 SS

CP =130.2, VARIABLE ADDED 3 BOMCOM

CP =118.8, VARIABLE ADDED 5 CD

CP = 49.3, VARIABLE ADDED 16 LVO

CP = 41.1, VARIABLE ADDED 14 DUP

CP = 28.4, VARIABLE ADDED 1 FIGCOA

CP = 30.3, VARIABLE ADDED 4 WT

NUMBER OF OBSERVATIONS 116
NUMBER OF VARIABLES IN FULL EQUATION 17
NUMBER OF VARIABLES IN BASIC EQUATION 9
REMAINDER OF VARIABLES TO BE SEARCHED 0

| EQUATION | P | CP | VARIABLES IN EQUATION |
|---|---|---|---|
| | 18 | 18.0 | FULL EQUATION |
| | 10 | 41.1 | BASIC SET OF VARIABLES 2 BOMNAV 3 BOMCOM 5 CD 6 DI 7 EM 9 SS 14 DUP 15 LUP 16 LVO |
| | | | RMS = 0.39678 |
| 1 | 10 | 18.0 | BASIC SET PLUS 1 FIGCOA 4 WT 8 XT 10 AVO 11 DVO 12 DCC 13 DPS 17 LPO |
| | | | RMS = 0.29854 |
| 2 | 17 | 18.1 | BASIC SET PLUS 1 FIGCOA 4 WT 8 XT 10 AVO 12 DCC 13 DPS 17 LPO |
| | | | RMS = 0.30229 |

SWEEP NUMBER 255. DELTA Z(K,K) = 0.0-16

ESTIMATE OF VARIANCE

NO SMALLER RMS VALUE FOUND IN SUBSET EQUATIONS

RMS OF FULL EQUATION SELECTED BY USER TO CALCULATE CP VALUES

| SEQ | EQUATION | P | ORDERED CP |
|---|---|---|---|
| 1 | 1 | 10 | 18.0 |
| 2 | 2 | 17 | 18.1 |

LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

O&M MODEL RUNS  DEP VAR II NRTS  MIN Y = 0.0  MAX Y = 1.0000 02  RANGE Y = 1.0000 02

MULTIPLE REGRESSION ANALYSIS FOR THE "ALPOS" MODEL
NRTS = B(0) + B(1)VO + B(2)DI + B(3)UF + B(4)MUP + B(5)MNT
+ B(6)MEM + B(7)MXT + B(8)DMT + B(9)DCC + B(10)DEM
+ B(11)DXT + B(12)LVO + B(13)LMT
NRTS = FRACTION NOT REPAIRABLE THIS STATION

| IND.VAR(I) | NAME | COEF.B(I) | S.E. COEF. | T-VALUE | R(I)SQRD | MIN X(I) | MAX X(I) | RANGE X(I) | REL.INF.X(I) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | -4.253530 01 | | | | | | | |
| 1 | VO | 3.992510-03 | 1.570-03 | 2.5 | 0.0376 | 3.6000 01 | 8.2000 03 | 8.1640 03 | 0.33 |
| 2 | DI | 1.276810-01 | 3.060-02 | 4.2 | 0.3566 | 0.0 | 1.0000 02 | 1.0000 02 | 0.13 |
| 3 | UF | -3.072910 00 | 1.710 00 | 1.8 | 0.1420 | 3.0000-01 | 3.1000 00 | 2.8200 00 | 0.09 |
| 4 | MUP | -2.488180-05 | 1.480-05 | 1.7 | 0.2774 | -3.9680 04 | 5.2670 05 | 5.6630 05 | 0.14 |
| 5 | MNT | -5.755190-01 | 1.070-01 | 5.4 | 0.0199 | -3.2100 01 | 1.4000 02 | 1.7270 02 | 0.99 |
| 6 | MEM | 3.939420-01 | 4.300-02 | 9.2 | 0.2176 | -0.6900 00 | 9.0310 01 | 1.0000 02 | 0.39 |
| 7 | MXT | 2.430350-01 | 6.870-02 | 3.5 | 0.5304 | -8.5000 00 | 9.1500 01 | 1.0800 02 | 0.24 |
| 8 | DMT | 2.658910-03 | 9.590-04 | 2.8 | 0.0787 | 9.6100 00 | 1.1410 04 | 1.1400 04 | 0.38 |
| 9 | DCC | 6.613770-07 | 3.270-07 | 2.2 | 0.3628 | 8.1000 01 | 2.7890 07 | 2.7890 07 | 0.18 |
| 10 | DEM | 1.223260-02 | 1.830-03 | 6.7 | 0.0731 | 2.5910 01 | 3.1260 03 | 3.1000 03 | 0.38 |
| 11 | DXT | 4.195890-03 | 1.620-03 | 2.6 | 0.2753 | 3.0830 02 | 3.3060 03 | 3.0000 03 | 0.13 |
| 12 | LVO | -5.782480 00 | 3.640 00 | 1.6 | 0.0454 | 3.5040 00 | 9.0120 00 | 5.4260 00 | 0.31 |
| 13 | LMT | 1.768760 01 | 4.410 00 | 4.0 | 0.0563 | 0.0 | 5.1570 00 | 5.1570 00 | 0.01 |

| | |
|---|---|
| NO. OF OBSERVATIONS | 116 |
| NO. OF IND. VARIABLES | 13 |
| RESIDUAL DEGREES OF FREEDOM | 102 |
| F-VALUE | 15.4 |
| RESIDUAL ROOT MEAN SQUARE | 10.88815978 |
| RESIDUAL MEAN SQUARE | 101.36784137 |
| RESIDUAL SUM OF SQUARES | 10339.51982815 |
| TOTAL SUM OF SQUARES | 38681.27310345 |
| MULT. CORREL. COEF. SQUARED | .6830 |

REQUIRED X(I) PRECISION
(DIGIT RIGHT OF DECIMAL POSITIVE,
LEFT OF DECIMAL NEGATIVE)

| IND.VAR(I) | DIGIT |
|---|---|
| 1 | -4 |
| 2 | -2 |
| 3 | 1 |
| 4 | -8 |
| 5 | -2 |
| 6 | -2 |
| 7 | -2 |
| 8 | -4 |
| 9 | -7 |
| 10 | -4 |
| 11 | -4 |
| 12 | 1 |
| 13 | 1 |

LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

O&M MODEL RUN8 DEP VAR IS NRTS RESIDUAL ROOT MEAN SQUARE OF FITTED EQUATION: 10.07

STANDARD DEVIATION ESTIMATED FROM RESIDUALS OF NEIGHBORING OBSERVATIONS (OBSERVATIONS 1 TO 4 APART IN FITTED Y ORDER),

| NO. | CUMULATIVE STD DEV | ORDERED BY WSSD | | | | ORDERED BY FITTED Y | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | WSSD | OBSV. | OBSV. | DEL RESIDUALS | WSSD | DEL RESIDUALS | FITTED Y | OBSV. | SEQ. |
| 1 | 0.0 | 0.0 | 92 | 91 | 0.0 | 73.38 | 6.28 | -15.75 | 26 | 1 |
| 2 | 0.10 | 0.0 | 65 | 64 | 0.40 | 0.92 | 12.71 | -13.47 | 7 | 2 |
| 3 | 0.44 | 0.00 | 100 | 109 | 0.99 | 63.73 | 3.78 | -4.77 | 98 | 3 |
| 4 | 1.04 | 0.00 | 93 | 118 | 3.01 | 38.27 | 7.23 | -3.55 | 36 | 4 |
| 5 | 3.74 | 0.00 | 95 | 125 | 15.38 | 35.35 | 4.10 | -1.32 | 112 | 5 |
| 6 | 4.44 | 0.00 | 35 | 6 | 0.39 | 0.53 | 2.64 | 0.58 | 5 | 6 |
| 7 | 4.26 | 0.01 | 81 | 108 | 3.41 | 0.93 | 0.29 | 1.21 | 60 | 7 |
| 8 | 4.25 | 0.06 | 106 | 124 | 4.46 | 0.12 | 11.35 | 2.92 | 49 | 8 |
| 9 | 4.97 | 0.09 | 47 | 13 | 11.25 | 0.76 | 0.06 | 3.30 | 72 | 9 |
| 10 | 5.49 | 0.11 | 45 | 81 | 10.78 | 0.00 | 0.99 | 3.38 | 100 | 10 |
| 11 | 6.06 | 0.16 | 80 | 110 | 21.70 | 10.65 | 2.91 | 3.39 | 109 | 11 |
| 12 | 6.59 | 0.16 | 35 | 97 | 3.82 | 2.94 | 5.60 | 3.48 | 83 | 12 |
| 13 | 7.01 | 0.16 | 85 | 76 | 23.82 | 0.99 | 0.95 | 5.09 | 8 | 13 |
| 14 | 7.07 | 0.18 | 58 | 53 | 9.11 | 0.0 | 0.40 | 5.33 | 65 | 14 |
| 15 | 7.03 | 0.18 | 97 | 6 | 4.57 | 1.29 | 2.38 | 5.33 | 64 | 15 |
| 16 | 7.04 | 0.27 | 87 | 59 | 11.64 | 39.99 | 0.31 | 5.51 | 119 | 16 |
| 17 | 7.08 | 0.29 | 43 | 84 | 5.45 | 15.24 | 3.09 | 5.60 | 74 | 17 |
| 18 | 0.78 | 0.32 | 38 | 46 | 28.89 | 15.53 | 0.20 | 5.69 | 32 | 18 |
| 19 | 0.35 | 0.33 | 38 | 70 | 0.75 | 2.00 | 0.01 | 5.69 | 102 | 19 |
| 20 | 0.11 | 0.35 | 53 | 68 | 3.68 | 0.77 | 3.62 | 5.70 | 94 | 20 |
| 21 | 0.09 | 0.36 | 19 | 30 | 0.29 | 0.0 | 0.0 | 5.91 | 92 | 21 |
| 22 | 0.44 | 0.39 | 33 | 87 | 16.66 | 25.83 | 0.00 | 5.91 | 91 | 22 |
| 23 | 0.27 | 0.40 | 93 | 14 | 4.65 | 31.90 | 0.00 | 5.95 | 77 | 23 |
| 24 | 0.39 | 0.43 | 15 | 13 | 11.70 | 1.21 | 2.13 | 5.95 | 4 | 24 |
| 25 | 0.57 | 0.51 | 110 | 87 | 13.77 | 7.64 | 7.92 | 6.00 | 85 | 25 |
| 26 | 0.20 | 0.53 | 29 | 90 | 0.41 | 11.76 | 0.00 | 6.15 | 98 | 26 |
| 27 | 0.26 | 0.54 | 92 | 4 | 0.90 | 4.22 | 11.00 | 6.22 | 121 | 27 |
| 28 | 0.27 | 0.54 | 91 | 4 | 0.90 | 3.07 | 7.03 | 6.23 | 48 | 28 |
| 29 | 0.28 | 0.54 | 60 | 60 | 0.90 | 2.00 | 12.23 | 6.26 | 1 | 29 |
| 30 | 0.10 | 0.56 | 4 | 121 | 3.17 | 2.01 | 12.50 | 6.40 | 63 | 30 |
| 31 | 0.05 | 0.56 | 14 | 69 | 0.95 | 0.29 | 5.45 | 6.01 | 43 | 31 |
| 32 | 7.90 | 0.56 | 57 | 24 | 2.22 | 23.37 | 0.05 | 6.06 | 84 | 32 |
| 33 | 7.75 | 0.50 | 54 | 25 | 1.23 | 26.75 | 10.00 | 7.11 | 79 | 33 |
| 34 | 7.69 | 0.60 | 54 | 02 | 5.90 | 15.01 | 10.10 | 7.30 | 2 | 34 |
| 35 | 7.64 | 0.62 | 60 | 15 | 0.52 | 35.13 | 1.34 | 7.40 | 73 | 35 |
| 36 | 7.60 | 0.64 | 113 | 02 | 6.35 | 91.35 | 15.00 | 7.74 | 34 | 36 |
| 37 | 7.90 | 0.64 | 30 | 00 | 23.00 | 62.96 | 0.07 | 7.07 | 51 | 37 |
| 30 | 7.05 | 0.66 | 110 | 31 | 3.10 | 24.66 | 24.17 | 7.90 | 52 | 30 |
| 39 | 0.37 | 0.60 | 46 | 76 | 20.04 | 0.16 | 3.02 | 0.10 | 35 | 39 |
| 40 | 0.21 | 0.60 | 20 | 71 | 2.45 | 03.91 | 11.93 | 0.34 | 97 | 40 |
| 41 | 0.00 | 0.70 | 60 | 30 | 3.10 | 52.40 | 14.10 | 0.41 | 101 | 41 |
| 42 | 7.92 | 0.73 | 14 | 60 | 2.97 | 2.30 | 0.02 | 0.50 | 20 | 42 |
| 43 | 0.73 | 0.73 | 50 | 105 | 13.70 | 17.56 | 0.02 | 0.77 | 0 | 43 |
| 44 | 0.21 | 0.74 | 07 | 31 | 10.00 | 0.50 | 10.00 | 0.05 | 66 | 44 |
| 45 | 0.17 | 0.75 | 5 | 49 | 0.66 | 0.01 | 3.07 | 0.04 | 71 | 45 |
| 46 | 0.01 | 0.75 | 15 | 47 | 0.53 | 15.02 | 13.06 | 0.07 | 27 | 46 |
| 47 | 7.05 | 0.76 | 72 | 109 | 0.91 | 45.36 | 13.10 | 0.11 | 70 | 47 |
| 40 | 7.00 | 0.70 | 72 | 100 | 0.00 | 32.06 | 2.03 | 0.21 | 126 | 40 |
| 49 | 7.00 | 0.76 | 30 | 114 | 7.30 | 0.72 | 2.01 | 0.24 | 02 | 49 |
| 50 | 7.00 | 0.77 | 04 | 01 | 3.02 | 4.23 | 4.41 | 0.33 | 29 | 50 |
| 01 | 7.01 | 0.77 | 04 | 02 | 3.02 | 0.04 | 4.00 | 0.54 | 120 | 51 |
| 52 | 7.40 | 0.77 | 125 | 110 | 1.40 | 2.72 | 0.41 | 0.74 | 00 | 52 |
| 53 | 7.50 | 0.70 | 05 | 110 | 13.02 | 30.30 | 0.22 | 0.05 | 03 | 53 |
| 54 | 7.41 | 0.70 | 110 | 04 | 2.01 | 20.00 | 0.11 | 0.04 | 70 | 54 |
| 55 | 7.30 | 0.00 | 40 | 43 | 0.50 | 0.05 | 2.00 | 10.04 | 33 | 55 |
| 56 | 7.20 | 0.00 | 10 | 111 | 1.72 | 11.45 | 0.00 | 10.10 | 110 | 56 |

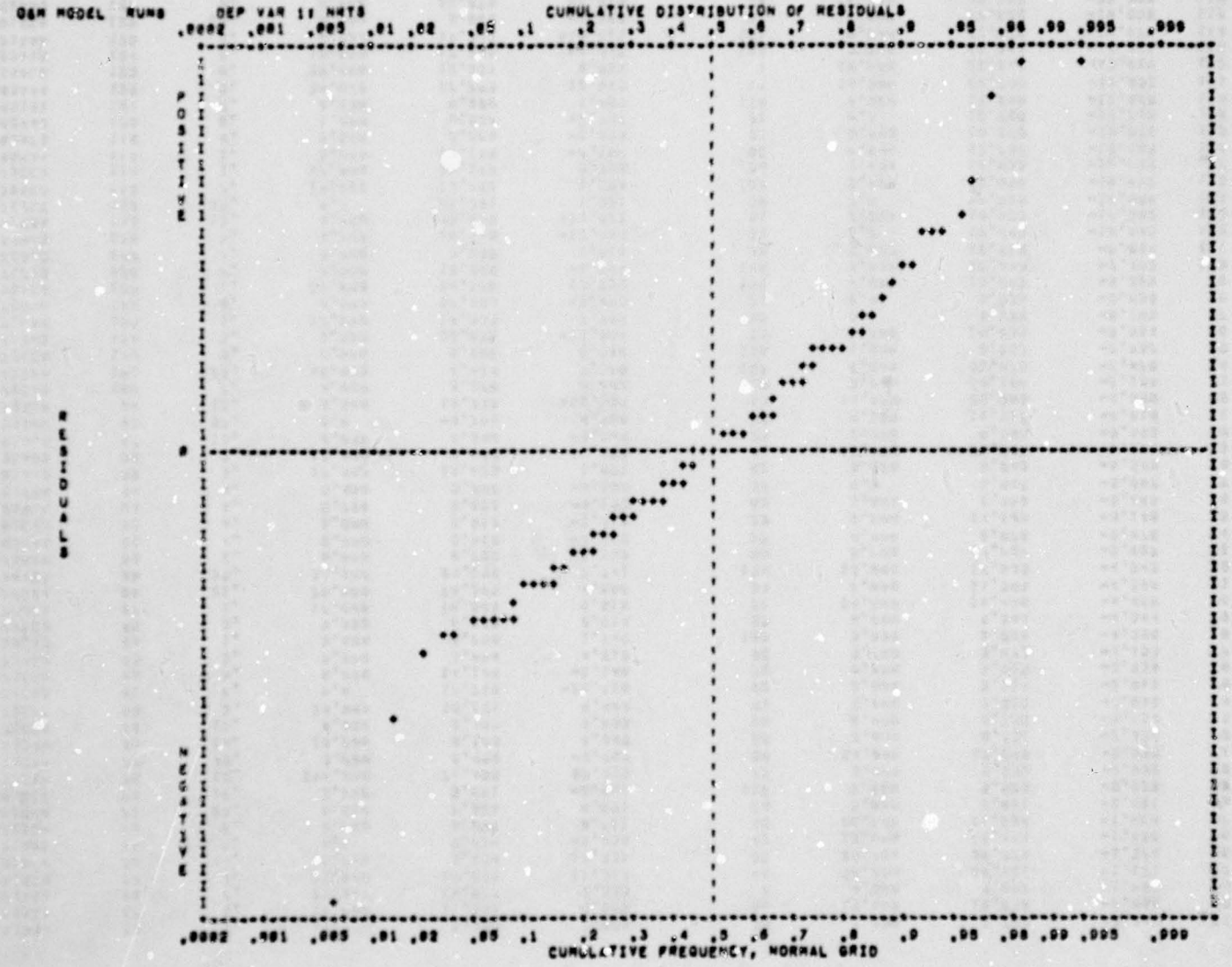
| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 57 | 7.46 | 0.83 | 69 | 13 | 18.38 | 3.98 | 6.99 | 18.38 | 11 | 57 |
| 58 | 7.62 | 0.83 | 39 | 67 | 17.58 | 19.99 | 0.08 | 18.38 | 58 | 58 |
| 59 | 7.53 | 0.84 | 68 | 15 | 2.45 | 0.74 | 16.88 | 18.39 | 67 | 59 |
| 60 | 7.53 | 0.84 | 88 | 95 | 7.78 | 3.45 | 0.37 | 18.56 | 31 | 60 |
| 61 | 7.51 | 0.84 | 82 | 25 | 7.13 | 3.89 | 5.81 | 18.64 | 39 | 61 |
| 62 | 7.75 | 0.84 | 88 | 125 | 23.16 | 5.38 | 1.79 | 11.93 | 59 | 62 |
| 63 | 7.65 | 0.85 | 27 | 29 | 1.74 | 15.86 | 13.68 | 11.12 | 57 | 63 |
| 64 | 7.66 | 0.89 | 45 | 104 | 8.72 | 3.87 | 1.33 | 11.13 | 67 | 64 |
| 65 | 7.56 | 0.90 | 53 | 10 | 1.42 | 4.43 | 10.13 | 11.46 | 12 | 65 |
| 66 | 7.63 | 0.92 | 7 | 98 | 12.71 | 18.36 | 2.66 | 11.69 | 24 | 66 |
| 67 | 7.68 | 0.93 | 93 | 33 | 5.89 | 2.68 | 7.58 | 11.93 | 45 | 67 |
| 68 | 7.53 | 0.95 | 33 | 118 | 2.88 | 4.65 | 1.13 | 12.52 | 56 | 68 |
| 69 | 7.58 | 0.96 | 48 | 84 | 12.93 | 1.26 | 2.87 | 12.65 | 104 | 69 |
| 70 | 7.52 | 0.96 | 104 | 127 | 3.17 | 2.57 | 0.56 | 12.72 | 81 | 70 |
| 71 | 7.44 | 0.97 | 114 | 47 | 2.46 | 2.74 | 2.83 | 12.74 | 99 | 71 |
| 72 | 7.58 | 0.97 | 43 | 2 | 12.59 | 3.88 | 1.83 | 13.31 | 106 | 72 |
| 73 | 7.47 | 0.98 | 38 | 15 | 5.65 | 14.87 | 8.69 | 13.48 | 127 | 73 |
| 74 | 7.48 | 1.01 | 14 | 39 | 2.22 | 2.25 | 12.25 | 13.79 | 113 | 74 |
| 75 | 7.44 | 1.02 | 59 | 12 | 18.55 | 8.89 | 5.98 | 14.04 | 54 | 75 |
| 76 | 7.65 | 1.10 | 125 | 122 | 27.26 | 8.84 | 7.13 | 14.14 | 82 | 76 |
| 77 | 7.48 | 1.13 | 84 | 2 | 17.96 | 1.37 | 14.94 | 14.27 | 25 | 77 |
| 78 | 7.74 | 1.13 | 2 | 52 | 3.69 | 1.36 | 12.56 | 14.33 | 105 | 78 |
| 79 | 7.71 | 1.15 | 31 | 59 | 5.24 | 4.51 | 6.37 | 14.76 | 107 | 79 |
| 80 | 7.69 | 1.15 | 92 | 85 | 6.83 | 8.84 | 7.78 | 15.15 | 80 | 80 |
| 81 | 7.68 | 1.15 | 91 | 85 | 6.83 | 9.88 | 15.38 | 15.93 | 95 | 81 |
| 82 | 7.59 | 1.15 | 85 | 121 | 1.83 | 11.19 | 6.48 | 16.31 | 125 | 82 |
| 83 | 7.52 | 1.15 | 104 | 108 | 1.34 | 9.79 | 5.82 | 16.83 | 55 | 83 |
| 84 | 7.47 | 1.16 | 128 | 93 | 3.56 | 128.52 | 18.99 | 16.85 | 118 | 84 |
| 85 | 7.45 | 1.17 | 48 | 88 | 5.82 | 132.88 | 14.88 | 16.86 | 42 | 85 |
| 86 | 7.46 | 1.21 | 13 | 9 | 9.36 | 3.64 | 18.83 | 17.86 | 122 | 86 |
| 87 | 7.48 | 1.21 | 4 | 85 | 2.13 | 3.56 | 8.31 | 17.89 | 58 | 87 |
| 88 | 7.34 | 1.26 | 104 | 81 | 2.87 | 8.86 | 4.46 | 17.48 | 106 | 88 |
| 89 | 7.32 | 1.29 | 88 | 27 | 8.12 | 4.82 | 18.96 | 17.95 | 124 | 89 |
| 90 | 7.27 | 1.29 | 65 | 119 | 2.78 | 88.46 | 17.58 | 17.99 | 53 | 90 |
| 91 | 7.21 | 1.29 | 64 | 119 | 2.38 | 71.43 | 11.91 | 18.48 | 61 | 91 |
| 92 | 7.28 | 1.32 | 114 | 13 | 13.71 | 2.87 | 8.87 | 18.57 | 19 | 92 |
| 93 | 7.25 | 1.34 | 94 | 4 | 5.34 | 8.73 | 8.97 | 18.64 | 14 | 93 |
| 94 | 7.28 | 1.35 | 15 | 9 | 2.42 | 8.78 | 3.19 | 18.67 | 68 | 94 |
| 95 | 7.25 | 1.36 | 105 | 107 | 12.56 | 3.84 | 18.52 | 18.86 | 38 | 95 |
| 96 | 7.32 | 1.37 | 25 | 105 | 14.94 | 8.97 | 1.65 | 19.34 | 123 | 96 |
| 97 | 7.31 | 1.38 | 89 | 47 | 7.85 | 8.62 | 8.52 | 19.89 | 89 | 97 |
| 98 | 7.29 | 1.45 | 123 | 114 | 2.94 | 3.11 | 1.93 | 20.21 | 15 | 98 |
| 99 | 7.27 | 1.46 | 49 | 83 | 7.57 | 8.97 | 2.46 | 20.28 | 114 | 99 |
| 100 | 7.25 | 1.56 | 28 | 3 | 8.48 | 8.89 | 11.25 | 20.74 | 47 | 100 |
| 101 | 7.27 | 1.65 | 89 | 37 | 9.11 | 1.21 | 9.36 | 20.99 | 13 | 101 |
| 102 | 7.24 | 1.68 | 19 | 69 | 5.10 | 9.57 | 15.32 | 22.63 | 9 | 102 |
| 103 | 7.19 | 1.69 | 47 | 9 | 1.89 | 8.88 | 1.72 | 22.95 | 18 | 103 |
| 104 | 7.36 | 1.78 | 119 | 122 | 25.79 | 58.11 | 22.42 | 23.68 | 114 | 104 |
| 105 | 7.33 | 1.73 | 71 | 125 | 4.82 | 28.81 | 14.81 | 25.26 | 69 | 105 |
| 106 | 7.37 | 1.74 | 38 | 69 | 12.17 | 15.11 | 4.80 | 25.27 | 41 | 106 |
| 107 | 7.37 | 1.79 | 82 | 105 | 7.81 | 38.22 | 2.98 | 26.37 | 37 | 107 |
| 108 | 7.34 | 1.81 | 98 | 1 | 4.89 | 24.94 | 21.28 | 27.41 | 18 | 108 |
| 109 | 7.29 | 1.82 | 29 | 93 | 8.82 | 15.45 | 32.78 | 27.69 | 28 | 109 |
| 110 | 7.28 | 1.82 | 98 | 33 | 6.38 | 13.88 | 26.38 | 28.91 | 48 | 110 |
| 111 | 7.35 | 1.87 | 87 | 39 | 17.25 | 33.95 | 28.51 | 29.22 | 3 | 111 |
| 112 | 7.37 | 1.89 | 79 | 58 | 18.83 | 51.88 | 61.49 | 43.72 | 44 | 112 |
| 113 | 7.35 | 1.91 | 101 | 43 | 5.31 | 8.32 | 28.89 | 65.23 | 38 | 113 |
| 114 | 7.29 | 2.00 | 102 | 94 | 8.81 | 1.17 | 5.82 | 66.12 | 46 | 114 |
| 115 | 7.29 | 2.01 | 63 | 84 | 7.23 | 8.18 | 23.82 | 70.31 | 88 | 115 |
| 116 | 7.33 | 2.01 | 63 | 43 | 12.68 | 83.40 | 28.99 | 71.48 | 78 | 116 |

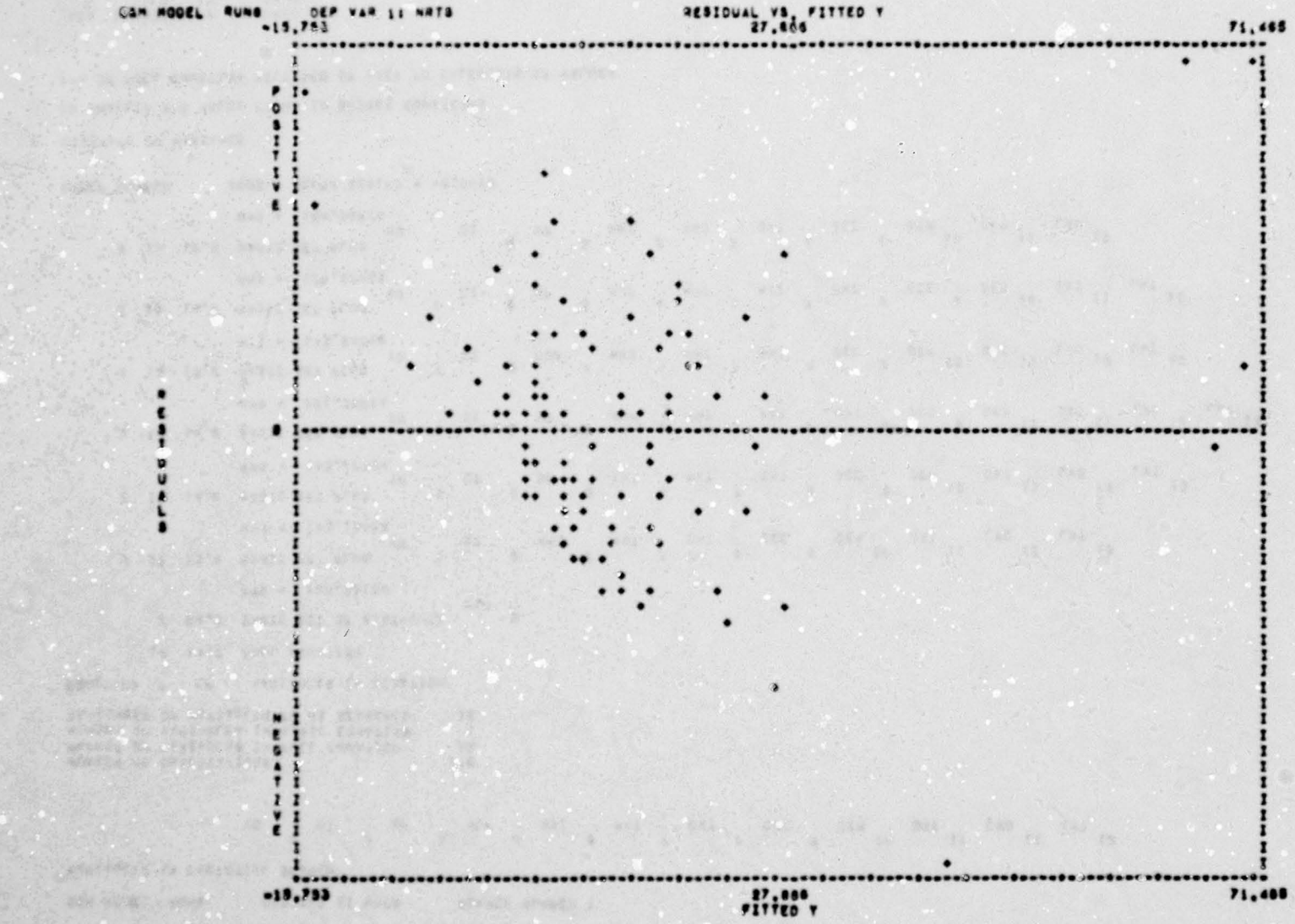
LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

C&M MODEL RUN8 DEP VAR 21 NRTS

| IDENT. | OBSV. | NSS DISTANCE | OBS. Y | FITTED Y | RESIDUAL | OBSV. | OBS. Y | FITTED Y | ORDERED RESID. | SEQ |
|---|---|---|---|---|---|---|---|---|---|---|
| 71823 | 1 | 3. | 13,888 | 6,257 | 6,743 | 76 | 122,888 | 71,485 | 28,515 | 1 |
| 71L98 | 2 | 2. | 27,888 | 7,383 | 19,697 | 38 | 93,888 | 65,238 | 27,778 | 2 |
| 71M9P | 3 | 8. | 16,888 | 28,216 | -13,216 | 26 | 18,888 | -15,753 | 25,753 | 3 |
| 71PK8 | 4 | 2. | 11,888 | 5,952 | 5,948 | 2 | 27,888 | 7,383 | 19,697 | 4 |
| 71P88 | 5 | 2. | 6,888 | 8,577 | 5,423 | 7 | 4,888 | -13,472 | 17,472 | 5 |
| 71718 | 6 | 14. | 9,888 | 8,778 | 8,238 | 52 | 24,888 | 7,994 | 16,886 | 6 |
| 724G8 | 7 | 36. | 4,888 | -13,472 | 17,472 | 107 | 38,888 | 14,778 | 15,922 | 7 |
| 71958 | 8 | 3. | 4,888 | 5,887 | -1,887 | 51 | 23,888 | 7,887 | 15,133 | 8 |
| 71FA8 | 9 | 3. | 25,888 | 22,629 | 2,371 | 48 | 28,888 | 8,228 | 13,774 | 9 |
| 71F98 | 10 | 18. | 10,888 | 22,952 | -12,952 | 48 | 42,888 | 28,913 | 13,887 | 10 |
| 71CA8 | 11 | 0. | 18,888 | 18,298 | -8,298 | 122 | 38,888 | 17,855 | 12,945 | 11 |
| 71D48 | 12 | 1. | 17,888 | 11,464 | 5,536 | 48 | 15,888 | 2,918 | 12,882 | 12 |
| 71EA8 | 13 | 2. | 14,888 | 28,989 | -6,989 | 89 | 31,888 | 19,686 | 11,314 | 13 |
| 724A8 | 14 | 4. | 28,888 | 18,639 | 1,361 | 96 | 17,888 | 6,164 | 10,836 | 14 |
| 72488 | 15 | 4. | 25,888 | 28,289 | 4,791 | 123 | 29,888 | 19,337 | 9,663 | 15 |
| 74JA8 | 16 | 8. | 29,888 | 27,413 | 1,587 | 78 | 18,888 | 9,185 | 8,895 | 16 |
| 74JC8 | 19 | 2. | 26,888 | 18,569 | 7,431 | 88 | 24,888 | 15,151 | 8,849 | 17 |
| 92GA1 | 20 | 7. | 2,888 | 8,592 | -8,592 | 36 | 5,888 | -3,558 | 8,558 | 18 |
| 73EG8 | 24 | 4. | 7,888 | 11,598 | -4,598 | 89 | 33,888 | 25,259 | 7,741 | 19 |
| 73EP8 | 25 | 3. | 2,888 | 14,272 | -12,272 | 101 | 16,888 | 8,414 | 7,586 | 20 |
| 73MA8 | 26 | 12. | 18,888 | -15,753 | 25,753 | 19 | 26,888 | 18,569 | 7,431 | 21 |
| 73MC8 | 27 | 1. | 4,888 | 9,878 | -5,878 | 43 | 14,888 | 8,887 | 7,193 | 22 |
| 73NA8 | 28 | 11. | 8,888 | 27,692 | -19,692 | 67 | 16,888 | 11,031 | 6,869 | 23 |
| 73088 | 29 | 1. | 6,888 | 9,331 | -3,331 | 1 | 13,888 | 6,257 | 6,743 | 24 |
| 738C8 | 30 | 2. | 18,888 | 18,858 | -8,858 | 114 | 27,888 | 20,277 | 6,723 | 25 |
| 73K8J | 31 | 1. | 8,388 | 18,562 | -18,262 | 58 | 17,888 | 10,384 | 6,696 | 26 |
| 73KE8 | 32 | 1. | 8,8 | 5,887 | -5,887 | 87 | 17,888 | 10,385 | 6,615 | 27 |
| 73KF8 | 33 | 1. | 8,8 | 18,843 | -18,843 | 53 | 24,888 | 17,985 | 6,915 | 28 |
| 73KK8 | 34 | 2. | 7,888 | 7,742 | -8,742 | 12 | 17,888 | 11,464 | 5,536 | 29 |
| 7593G | 35 | 14. | 8,8 | 8,185 | -8,185 | 5 | 8,888 | 8,577 | 5,423 | 30 |
| 748D8 | 36 | 8. | 5,888 | -3,958 | 8,958 | 4 | 11,888 | 5,952 | 5,948 | 31 |
| 748F8 | 37 | 18. | 25,888 | 26,374 | -1,374 | 15 | 25,888 | 28,289 | 4,791 | 32 |
| 74A18 | 38 | 19. | 93,888 | 65,238 | 27,778 | 98 | 8,8 | -4,766 | 4,766 | 33 |
| 78A18 | 39 | 2. | 8,8 | 18,636 | -18,636 | 88 | 75,888 | 72,395 | 4,695 | 34 |
| 78GA8 | 48 | 2. | 42,888 | 28,913 | 13,887 | 83 | 8,888 | 3,484 | 4,516 | 35 |
| 74FF8 | 41 | 5. | 19,888 | 25,268 | -6,268 | 47 | 25,888 | 22,738 | 4,264 | 36 |
| 74FA8 | 42 | 93. | 15,888 | 16,888 | -1,888 | 85 | 9,888 | 6,986 | 2,914 | 37 |
| 74FH8 | 43 | 1. | 14,888 | 6,887 | 7,193 | 82 | 4,888 | 1,213 | 2,787 | 38 |
| 74FU8 | 44 | 44. | 18,888 | 43,722 | -33,722 | 105 | 17,888 | 14,333 | 2,667 | 39 |
| 73CR8 | 45 | 6. | 10,888 | 11,934 | -1,934 | 9 | 25,888 | 22,629 | 2,371 | 40 |
| 73CG8 | 46 | 18. | 67,888 | 68,121 | -1,121 | 68 | 21,888 | 18,667 | 2,333 | 41 |
| 658H8 | 47 | 2. | 25,888 | 28,736 | 4,264 | 121 | 8,188 | 6,228 | 1,888 | 42 |
| 74FC8 | 48 | 1. | 28,888 | 8,228 | 13,774 | 84 | 8,688 | 6,858 | 1,742 | 43 |
| 74FJ8 | 49 | 1. | 15,888 | 2,918 | 12,882 | 109 | 5,888 | 3,389 | 1,611 | 44 |
| 74FK8 | 50 | 17. | 17,888 | 18,384 | 8,696 | 18 | 29,888 | 27,413 | 1,587 | 45 |
| 74F08 | 51 | 71. | 23,888 | 7,887 | 15,103 | 14 | 28,888 | 18,639 | 1,361 | 46 |
| 74KA8 | 52 | 2. | 24,888 | 7,994 | 16,886 | 112 | 8,8 | -1,321 | 1,321 | 47 |
| 74KC8 | 53 | 2. | 24,888 | 17,985 | 6,815 | 113 | 15,888 | 13,792 | 1,288 | 48 |
| 74C98 | 54 | 2. | 3,888 | 14,938 | -11,938 | 95 | 17,888 | 15,929 | 1,871 | 49 |
| 74C84 | 55 | 3. | 9,888 | 16,833 | -7,833 | 66 | 18,888 | 8,945 | 1,955 | 50 |
| 74CC8 | 56 | 11. | 3,888 | 12,518 | -9,518 | 79 | 8,888 | 7,107 | 8,893 | 51 |
| 74FA1 | 57 | 6. | 4,378 | 11,116 | -6,816 | 72 | 4,888 | 3,299 | 8,781 | 52 |
| 74E83 | 58 | 2. | 14,888 | 17,998 | -3,398 | 108 | 4,888 | 3,376 | 8,624 | 53 |
| 73PH8 | 59 | 1. | 8,888 | 11,827 | -5,827 | 73 | 8,888 | 7,399 | 8,681 | 54 |
| 73P88 | 60 | 7. | 4,888 | 1,213 | 2,787 | 102 | 8,888 | 8,698 | 8,318 | 55 |
| 73PD8 | 61 | 61. | 14,888 | 18,488 | -4,488 | 8 | 9,888 | 8,778 | 8,238 | 56 |
| 73PF8 | 62 | 5. | 3,888 | 9,248 | -6,248 | 65 | 5,288 | 5,332 | -8,132 | 57 |
| 73PH8 | 63 | 2. | 1,888 | 6,489 | -5,489 | 94 | 5,488 | 5,697 | -8,297 | 58 |
| 71NA8 | 64 | 2. | 4,888 | 5,332 | -8,532 | 11 | 18,888 | 18,298 | -8,298 | 59 |
| 71QU8 | 65 | 2. | 5,288 | 5,332 | -8,132 | 64 | 4,888 | 5,332 | -8,532 | 60 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 63AA0 | 86 | 1. | 12,000 | 8,945 | 1,055 | 34 | 7,000 | 7,742 | -0,742 | 81 |
| 65A40 | 87 | 3. | 10,000 | 11,131 | 0,869 | 30 | 10,000 | 10,858 | -0,858 | 82 |
| 63AG0 | 88 | 2. | 21,000 | 18,667 | 2,333 | 8 | 4,000 | 5,087 | -1,087 | 83 |
| 638C0 | 89 | 4. | 31,000 | 19,686 | 11,314 | 46 | 67,000 | 68,121 | -1,121 | 84 |
| 638F0 | 70 | 24. | 0,000 | 9,938 | -9,938 | 37 | 25,000 | 26,374 | -1,374 | 85 |
| 7148E | 71 | 7. | 0,0 | 9,938 | -9,938 | 42 | 15,000 | 16,868 | -1,868 | 86 |
| 714DA | 72 | 6. | 4,000 | 3,299 | 0,701 | 45 | 10,000 | 11,934 | -1,934 | 87 |
| 7308A | 73 | 23. | 0,000 | 7,399 | 0,601 | 74 | 3,000 | 5,601 | -2,601 | 88 |
| 714CC | 74 | 19. | 3,000 | 5,601 | -2,601 | 119 | 2,000 | 5,500 | -2,988 | 89 |
| 73CEN | 76 | 19. | 100,000 | 71,485 | 28,515 | 77 | 3,000 | 5,952 | -2,952 | 70 |
| 73CF4 | 77 | 42. | 3,000 | 5,952 | -2,952 | 58 | 14,000 | 17,898 | -3,898 | 71 |
| 730AM | 78 | 14. | 18,000 | 9,105 | 8,895 | 29 | 6,000 | 9,331 | -3,331 | 72 |
| 73E8A | 79 | 15. | 8,000 | 7,197 | 0,893 | 90 | 6,000 | 9,739 | -3,739 | 73 |
| 73E6F | 80 | 3. | 24,000 | 15,151 | 8,849 | 91 | 2,000 | 5,912 | -3,912 | 74 |
| 71C40 | 81 | 7. | 0,0 | 12,716 | -12,716 | 92 | 2,000 | 5,912 | -3,912 | 75 |
| 73EG0 | 82 | 4. | 9,000 | 14,148 | -5,148 | 78 | 6,000 | 9,938 | -3,938 | 76 |
| 73MC0 | 83 | 3. | 0,000 | 3,484 | 4,516 | 93 | 5,700 | 9,853 | -4,153 | 77 |
| 73LA0 | 84 | 1. | 8,000 | 6,858 | 1,742 | 100 | 5,000 | 9,288 | -4,288 | 78 |
| 72EC0 | 85 | 3. | 9,000 | 6,086 | 2,914 | 97 | 4,000 | 8,344 | -4,344 | 79 |
| 770CA | 87 | 1. | 17,000 | 10,385 | 6,615 | 81 | 14,000 | 18,488 | -4,488 | 80 |
| 770C0 | 88 | 21. | 75,000 | 70,385 | 4,695 | 24 | 7,000 | 11,598 | -4,598 | 81 |
| 76AEA | 89 | 25. | 33,000 | 25,259 | 7,741 | 124 | 13,000 | 17,945 | -4,945 | 82 |
| 73K40 | 90 | 2. | 0,000 | 9,739 | -9,739 | 59 | 6,000 | 11,927 | -5,927 | 83 |
| 638A4 | 91 | 4. | 2,000 | 5,912 | -3,912 | 27 | 4,000 | 9,078 | -5,078 | 84 |
| 63CAA | 92 | 4. | 2,000 | 5,912 | -3,912 | 82 | 9,000 | 14,148 | -5,148 | 85 |
| 659AA | 93 | 1. | 5,700 | 9,853 | -4,153 | 63 | 1,000 | 6,489 | -5,489 | 86 |
| 6189A | 94 | 4. | 5,400 | 5,697 | -0,297 | 32 | 0,0 | 5,687 | -5,687 | 87 |
| 61AA0 | 95 | 3. | 17,000 | 15,929 | 1,071 | 62 | 3,000 | 9,248 | -6,248 | 88 |
| 61A80 | 96 | 5. | 37,000 | 6,164 | 10,836 | 41 | 19,000 | 25,268 | -6,268 | 89 |
| 61AC0 | 97 | 13. | 4,000 | 8,344 | -4,344 | 28 | 2,000 | 8,592 | -6,592 | 90 |
| 72AA0 | 98 | 37. | 0,0 | -4,766 | 4,766 | 57 | 4,300 | 11,116 | -6,816 | 91 |
| 72AC0 | 99 | 15. | 0,600 | 12,738 | -12,138 | 13 | 14,000 | 20,939 | -6,939 | 92 |
| 71CA0 | 100 | 7. | 6,000 | 3,376 | 0,624 | 118 | 3,000 | 10,168 | -7,168 | 93 |
| 72EAA | 101 | 22. | 16,000 | 8,414 | 7,586 | 127 | 6,000 | 13,478 | -7,478 | 94 |
| 72EC4 | 102 | 9. | 0,000 | 5,690 | 0,310 | 120 | 1,600 | 9,537 | -7,937 | 95 |
| 71JA0 | 104 | 3. | 2,000 | 12,658 | -10,658 | 55 | 9,000 | 16,833 | -7,033 | 96 |
| 71LA0 | 105 | 1. | 17,000 | 14,333 | 2,667 | 35 | 0,0 | 8,185 | -8,185 | 97 |
| 720N0 | 106 | 2. | 0,000 | 17,403 | -9,403 | 71 | 0,0 | 9,938 | -9,938 | 98 |
| 72AC0 | 107 | 1. | 30,000 | 14,778 | 15,222 | 108 | 4,000 | 13,309 | -9,309 | 99 |
| 71710 | 108 | 7. | 4,000 | 13,309 | -9,309 | 106 | 0,000 | 17,403 | -9,403 | 100 |
| 71310 | 109 | 7. | 5,000 | 3,389 | 1,611 | 56 | 3,000 | 12,518 | -9,518 | 101 |
| 72AF0 | 110 | 3. | 4,000 | 16,848 | -12,848 | 33 | 0,0 | 10,843 | -10,843 | 102 |
| 72A90 | 111 | 12. | 9,000 | 23,678 | -14,678 | 31 | 0,300 | 10,562 | -10,262 | 103 |
| 71JCE | 112 | 99. | 0,0 | -1,321 | 1,321 | 39 | 0,0 | 10,636 | -10,636 | 104 |
| 724E0 | 113 | 7. | 15,000 | 13,792 | 1,208 | 104 | 2,000 | 12,650 | -10,650 | 105 |
| 72CC0 | 114 | 1. | 27,000 | 22,277 | 0,723 | 54 | 3,000 | 14,938 | -11,938 | 106 |
| 659AA | 115 | 1. | 3,000 | 10,168 | -7,168 | 99 | 0,000 | 12,736 | -12,136 | 107 |
| 63AF0 | 119 | 4. | 2,600 | 5,588 | -2,988 | 25 | 2,000 | 14,272 | -12,272 | 108 |
| 63AA0 | 120 | 2. | 1,000 | 9,537 | -7,937 | 81 | 0,0 | 12,716 | -12,716 | 109 |
| 63121 | 121 | 4. | 0,100 | 6,220 | 1,880 | 110 | 4,000 | 16,848 | -12,848 | 110 |
| 63AAA | 122 | 0. | 30,000 | 17,955 | 12,945 | 10 | 10,000 | 22,952 | -12,952 | 111 |
| 59AL0 | 123 | 2. | 20,000 | 19,337 | 0,663 | 3 | 16,000 | 29,216 | -13,216 | 112 |
| 59AV0 | 124 | 2. | 13,000 | 17,945 | -4,945 | 125 | 2,000 | 16,311 | -14,311 | 113 |
| 61AA0 | 125 | 3. | 2,000 | 16,311 | -14,311 | 111 | 9,000 | 23,676 | -14,676 | 114 |
| 61AE0 | 126 | 13. | 5,000 | 9,288 | -4,288 | 28 | 0,000 | 27,692 | -19,692 | 115 |
| 62AA0 | 127 | 8. | 0,000 | 13,478 | -7,478 | 44 | 10,000 | 43,728 | -33,728 | 116 |


O&M MODEL RUNS
DEP VAR 11 HHTS
CUMULATIVE DISTRIBUTION OF RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
POSITIVE
0
NEGATIVE
STANDARDIZED RESIDUAL
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
CUMULATIVE FREQUENCY, NORMAL GRID


CSM MODEL RUNS DEP VAR 11 NATS
RESIDUAL VS. FITTED Y
-19,793
27,888
71,468
POSITIVE
RESIDUALS
0
NEGATIVE
-19,793
27,888
71,468
FITTED Y

CP VALUES FOR THE SELECTION OF VARIABLES

G&M MODEL RUN8 DEP VAR IS MPTG SEARCH NUMBER 1

VARIABLES IN FACTORIAL SEARCH

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VO | DI | UP | RUP | RWT | RXT | DWT | DCC | DZM | DXT | LVO | LWT | |

NUMBER OF OBSERVATIONS 116
NUMBER OF VARIABLES IN FULL EQUATION 13
NUMBER OF VARIABLES IN BASIC EQUATION 1
REMAINDER OF VARIABLES TO BE SEARCHED 12

| EQUATION | P | CP | VARIABLES IN EQUATION |
|---|---|---|---|
| 14 | 14 | 14.0 | FULL EQUATION |
| 2 | 2 | 99.8 | BASIC SET OF VARIABLES RBW 6 |
| | | | RMS = 188.52178 |
| 1 | 12 | 13.8 | BASIC SET PLUS VO 1 DI 2 RWT 5 RXT 7 DWT 8 DCC 9 DZM 10 DXT 11 LVO 12 LWT 13 |
| | | | RMS = 185.15284 |
| 2 | 13 | 14.6 | BASIC SET PLUS VO 1 DI 2 UP 3 RWT 5 RXT 7 DWT 8 DCC 9 DZM 10 DXT 11 LVO 12 LWT 13 |
| | | | RMS = 183.17564 |
| 3 | 14 | 14.0 | BASIC SET PLUS VO 1 DI 2 UP 3 RUP 4 RWT 5 RXT 7 DWT 8 DCC 9 DZM 10 DXT 11 LVO 12 LWT 13 |
| | | | RMS = 181.36784 |
| 4 | 13 | 15.2 | BASIC SET PLUS VO 1 DI 2 RUP 4 RWT 5 RXT 7 DWT 8 DCC 9 DZM 10 DXT 11 LVO 12 LWT 13 |
| | | | RMS = 183.54719 |
| 5 | 13 | 14.5 | BASIC SET PLUS VO 1 DI 2 UP 3 RUP 4 RWT 5 RXT 7 DWT 8 DCC 9 DZM 10 DXT 11 LWT 13 |
| | | | RMS = 182.87923 |
| 6 | 12 | 15.8 | BASIC SET PLUS VO 1 DI 2 UP 3 RWT 5 RXT 7 DWT 8 DCC 9 DZM 10 DXT 11 LWT 13 |
| | | | RMS = 184.88749 |

SWEEP NUMBER 4038, DELTA Z(K,K) = +2.0-10

ESTIMATE OF VARIANCE

NO SMALLER RMS VALUE FOUND IN SUBSET EQUATIONS

RMS OF FULL EQUATION SELECTED BY USER TO CALCULATE CP VALUES

| DEG | EQUATION | P | ORDERED CP |
|---|---|---|---|
| 1 | 3 | 14 | 14.0 |
| 2 | 5 | 13 | 14.5 |
| 3 | 2 | 13 | 14.6 |
| 4 | 4 | 13 | 15.2 |
| 5 | 6 | 12 | 15.8 |
| 6 | 1 | 12 | 16.0 |

LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

O&M MODEL RUN0 DEP VAR IS LSPA MIN Y = 4.2830 00 MAX Y = 1.1340 01 RANGE Y = 7.0750 00

MULTIPLE REGRESSION ANALYSIS FOR THE 'ALPOS' MODEL
LSPA = B(0) + B(1)FIGSEN + B(2)FIGCOM + B(3)BOMNAV + B(4)BOMSEN
+ B(5)CARNAV + B(6)DI + B(7)DUP + B(8)DVO + B(9)DNT
+ B(10)DCC + B(11)DEM + B(12)DPS + B(13)LUP + B(14)LCC
LSPA = LN(SPA)
SPA = STANDARD DEPOT REPAIR COST

| IND,VAR(I) | NAME | COEF,B(I) | S.E. COEF. | T-VALUE | B(I)BOMB | MIN X(I) | MAX X(I) | RANGE X(I) | REL.IMP.X(I) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | -2.877780-01 | | | | | | | |
| 1 | FIGSEN | +8.775650-01 | 1.470-01 | 4.8 | 0.3488 | 0.0 | 5.0000 00 | 1.0000 00 | 0.10 |
| 2 | FIGCOM | -5.427110-01 | 2.280-01 | 2.4 | 0.0713 | 0.0 | 1.0000 00 | 1.0000 00 | 0.09 |
| 3 | BOMNAV | +2.643180-01 | 2.530-01 | 1.7 | 0.1078 | 0.0 | 1.0000 00 | 1.0000 00 | 0.04 |
| 4 | BOMSEN | 3.759710-01 | 2.890-01 | 1.4 | 0.1164 | 0.0 | 1.0000 00 | 1.0000 00 | 0.05 |
| 5 | CARNAV | -2.782940-01 | 1.480-01 | 2.0 | 0.2124 | 0.0 | 1.0000 00 | 1.0000 00 | 0.04 |
| 6 | DI | 3.792780-03 | 1.520-03 | 2.5 | 0.3113 | 0.0 | 1.0000 02 | 1.0000 02 | 0.05 |
| 7 | DUP | -1.612790-11 | 3.790-12 | 4.3 | 0.2816 | 2.0550 08 | 1.3500 11 | 1.3480 11 | 0.31 |
| 8 | DVO | 8.559840-06 | 1.950-06 | 4.2 | 0.4542 | 1.0200 04 | 2.4220 07 | 2.4210 07 | 0.23 |
| 9 | DNT | -2.773770-04 | 3.460-05 | 8.0 | 0.4497 | 0.0000 00 | 1.1000 04 | 1.1000 04 | 0.45 |
| 10 | DCC | 9.320450-08 | 1.590-08 | 5.9 | 0.3856 | 1.0000 02 | 3.1010 07 | 3.1010 07 | 0.41 |
| 11 | DEM | 3.683610-04 | 1.070-04 | 3.4 | 0.0429 | 9.3400 01 | 3.2040 03 | 3.2310 03 | 0.17 |
| 12 | DPS | 9.197160-04 | 1.390-04 | 6.6 | 0.2241 | 1.0440 02 | 2.6280 03 | 2.7240 03 | 0.29 |
| 13 | LUP | 5.594460-01 | 4.840-02 | 13.0 | 0.5185 | 5.8300 00 | 1.3250 01 | 8.2170 00 | 0.65 |
| 14 | LCC | 1.047660-01 | 4.490-02 | 2.3 | 0.4048 | 2.4090 00 | 9.0240 00 | 6.5380 00 | 0.10 |

| | |
|---|---|
| NO. OF OBSERVATIONS | 106 |
| NO. OF IND. VARIABLES | 14 |
| RESIDUAL DEGREES OF FREEDOM | 91 |
| F-VALUE | 48.3 |
| RESIDUAL ROOT MEAN SQUARE | 0.47959831 |
| RESIDUAL MEAN SQUARE | 0.23000887 |
| RESIDUAL SUM OF SQUARES | 21.39083870 |
| TOTAL SUM OF SQUARES | 178.03277501 |
| MULT. CORREL. COEF. SQUARED | .8748 |

REQUIRED X(I) PRECISION
(DIGITS RIGHT OF DECIMAL POSITIVE,
LEFT OF DECIMAL NEGATIVE)

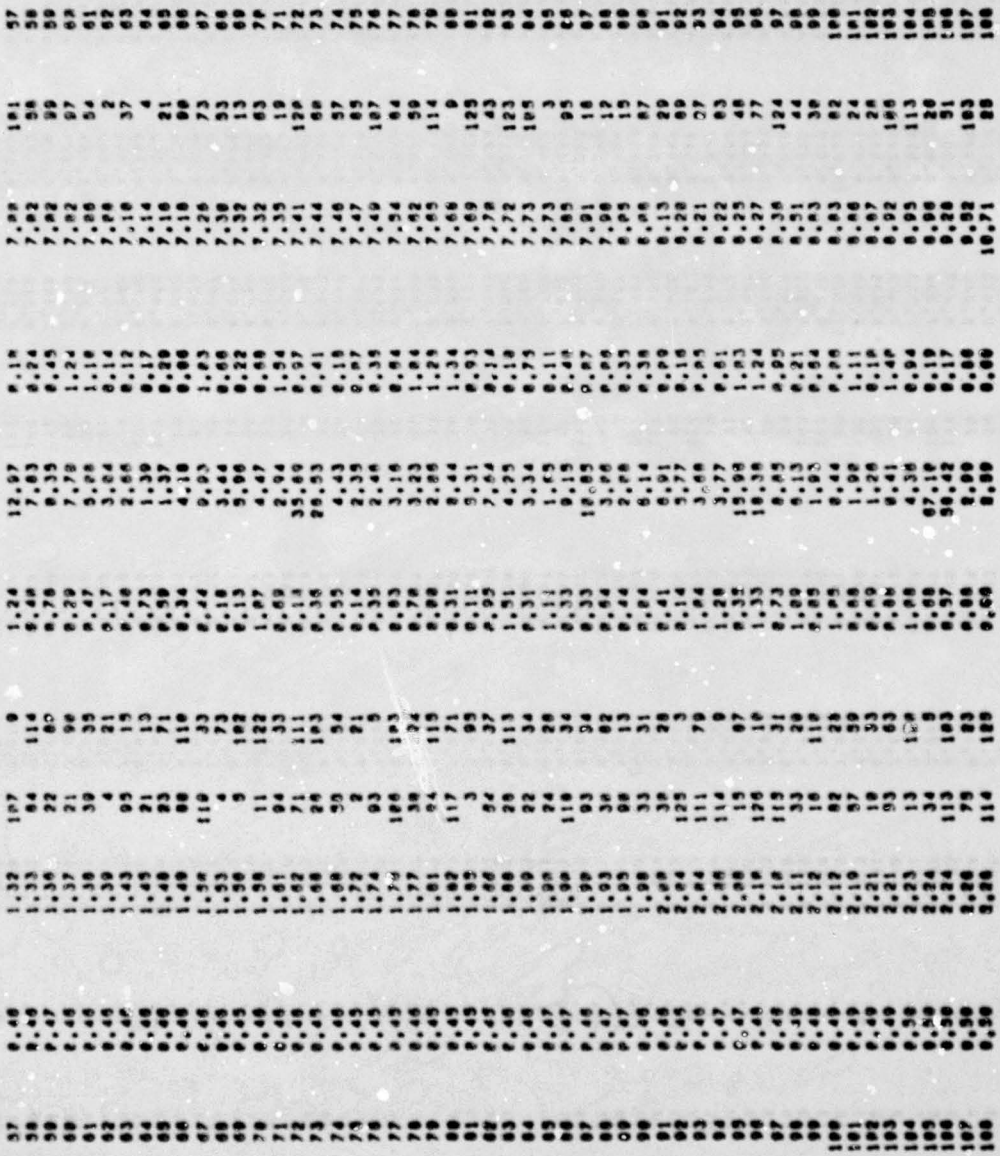
| IND,VAR(I) | DIGIT |
|---|---|
| 1 | -1 |
| 2 | -1 |
| 3 | -1 |
| 4 | -1 |
| 5 | -1 |
| 6 | -2 |
| 7 | -11 |
| 8 | -7 |
| 9 | -4 |
| 10 | -7 |
| 11 | -4 |
| 12 | -4 |
| 13 | -1 |
| 14 | 1 |

LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

BSR MODEL RUN9 DEP VAR IS LSRA RESIDUAL ROOT MEAN SQUARE OF FITTED EQUATION: 0.48

STANDARD DEVIATION ESTIMATED FROM RESIDUALS OF NEIGHBORING OBSERVATIONS (OBSERVATIONS 1 TO 4 APART IN FITTED Y ORDER).

| NO. | CUMULATIVE STD DEV | ORDERED BY WSSD | | | | ORDERED BY FITTED Y | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | WSSD | OBSV. | OBSV. | DEL | RESIDUALS | WSSD | DEL | RESIDUALS | FITTED Y | OBSV. | DEG. |
| 1 | 0.55 | 0.0 | 121 | 91 | | 0.69 | 0.04 | | 0.04 | 4.12 | 79 | 1 |
| 2 | 0.33 | 0.0 | 92 | 91 | | 0.0 | 2.65 | | 0.69 | 4.18 | 74 | 2 |
| 3 | 0.44 | 0.0 | 121 | 92 | | 0.69 | 0.33 | | 0.25 | 4.44 | 117 | 3 |
| 4 | 0.33 | 0.0 | 85 | 94 | | 0.0 | 1.48 | | 0.59 | 5.12 | 23 | 4 |
| 5 | 0.28 | 0.0 | 110 | 93 | | 0.0 | 1.10 | | 0.11 | 5.22 | 71 | 5 |
| 6 | 0.29 | 0.00 | 91 | 119 | | 0.23 | 2.64 | | 0.21 | 5.29 | 6 | 6 |
| 7 | 0.29 | 0.04 | 100 | 100 | | 0.24 | 4.06 | | 0.28 | 5.33 | 111 | 7 |
| 8 | 0.23 | 0.04 | 75 | 74 | | 0.04 | 5.62 | | 0.53 | 5.35 | 78 | 8 |
| 9 | 0.28 | 0.05 | 6 | 120 | | 0.54 | 0.69 | | 1.36 | 5.37 | 100 | 9 |
| 10 | 0.26 | 0.11 | 2 | 4 | | 0.02 | 5.46 | | 0.83 | 5.44 | 79 | 10 |
| 11 | 0.22 | 0.19 | 81 | 80 | | 0.11 | 4.72 | | 0.07 | 5.48 | 47 | 11 |
| 12 | 0.23 | 0.21 | 119 | 94 | | 0.25 | 3.76 | | 0.24 | 5.48 | 120 | 12 |
| 13 | 0.21 | 0.29 | 102 | 100 | | 0.09 | 1.36 | | 0.47 | 5.50 | 39 | 13 |
| 14 | 0.22 | 0.33 | 117 | 23 | | 0.20 | 44.97 | | 0.00 | 5.52 | 35 | 14 |
| 15 | 0.23 | 0.35 | 95 | 97 | | 0.45 | 49.34 | | 0.50 | 5.54 | 42 | 15 |
| 16 | 0.23 | 0.37 | 59 | 43 | | 0.17 | 0.05 | | 0.43 | 5.56 | 112 | 16 |
| 17 | 0.29 | 0.41 | 100 | 113 | | 1.48 | 5.38 | | 1.22 | 5.68 | 110 | 17 |
| 18 | 0.29 | 0.44 | 92 | 24 | | 0.06 | 3.70 | | 0.17 | 5.70 | 90 | 18 |
| 19 | 0.33 | 0.44 | 0 | 125 | | 1.34 | 0.06 | | 0.11 | 5.70 | 7 | 19 |
| 20 | 0.35 | 0.55 | 23 | 0 | | 0.70 | 4.39 | | 0.69 | 5.70 | 81 | 20 |
| 21 | 0.36 | 0.56 | 20 | 99 | | 0.57 | 0.0 | | 0.0 | 5.84 | 110 | 21 |
| 22 | 0.35 | 0.59 | 0 | 12 | | 0.22 | 5.84 | | 0.02 | 5.94 | 93 | 22 |
| 23 | 0.33 | 0.64 | 100 | 72 | | 0.00 | 1.36 | | 0.76 | 5.98 | 22 | 23 |
| 24 | 0.33 | 0.66 | 7 | 91 | | 0.11 | 2.32 | | 1.09 | 5.98 | 60 | 24 |
| 25 | 0.33 | 0.66 | 24 | 113 | | 0.48 | 2.24 | | 0.06 | 6.00 | 34 | 25 |
| 26 | 0.33 | 0.66 | 72 | 100 | | 0.15 | 5.40 | | 0.02 | 6.01 | 5 | 26 |
| 27 | 0.36 | 0.69 | 120 | 79 | | 1.36 | 2.12 | | 2.05 | 6.08 | 10 | 27 |
| 28 | 0.36 | 0.76 | 87 | 89 | | 0.20 | 0.53 | | 0.71 | 6.10 | 110 | 28 |
| 29 | 0.37 | 0.76 | 91 | 22 | | 0.67 | 4.75 | | 0.64 | 6.11 | 70 | 29 |
| 30 | 0.38 | 0.77 | 79 | 100 | | 0.75 | 4.00 | | 0.31 | 6.15 | 102 | 30 |
| 31 | 0.39 | 0.83 | 120 | 100 | | 0.02 | 0.0 | | 0.0 | 6.21 | 65 | 31 |
| 32 | 0.39 | 0.84 | 71 | 120 | | 0.43 | 3.01 | | 2.00 | 6.21 | 64 | 32 |
| 33 | 0.42 | 0.86 | 120 | 65 | | 1.56 | 2.00 | | 0.07 | 6.26 | 127 | 33 |
| 34 | 0.42 | 0.86 | 47 | 39 | | 0.31 | 0.64 | | 0.00 | 6.30 | 100 | 34 |
| 35 | 0.43 | 0.87 | 7 | 22 | | 0.78 | 4.74 | | 0.03 | 6.31 | 72 | 35 |
| 36 | 0.44 | 0.88 | 0 | 79 | | 0.04 | 3.78 | | 1.07 | 6.32 | 104 | 36 |
| 37 | 0.44 | 0.88 | 80 | 10 | | 0.39 | 7.23 | | 0.23 | 6.40 | 100 | 37 |
| 38 | 0.42 | 0.89 | 122 | 120 | | 0.03 | 0.30 | | 0.05 | 6.44 | 78 | 38 |
| 39 | 0.42 | 0.89 | 107 | 0 | | 0.42 | 0.48 | | 0.48 | 6.45 | 38 | 39 |
| 40 | 0.42 | 0.90 | 82 | 113 | | 0.48 | 2.00 | | 1.07 | 6.48 | 60 | 40 |
| 41 | 0.44 | 0.90 | 24 | 100 | | 1.00 | 5.42 | | 0.02 | 6.57 | 11 | 41 |
| 42 | 0.46 | 0.90 | 120 | 107 | | 1.50 | 0.0 | | 0.60 | 6.67 | 121 | 42 |
| 43 | 0.45 | 1.00 | 127 | 104 | | 0.10 | 0.0 | | 0.0 | 6.67 | 92 | 43 |
| 44 | 0.46 | 1.01 | 82 | 100 | | 0.04 | 4.30 | | 0.40 | 6.67 | 91 | 44 |
| 45 | 0.46 | 1.05 | 95 | 12 | | 0.33 | 0.00 | | 0.03 | 6.67 | 122 | 45 |
| 46 | 0.46 | 1.07 | 13 | 10 | | 0.46 | 4.00 | | 0.00 | 6.67 | 120 | 46 |
| 47 | 0.47 | 1.00 | 110 | 81 | | 0.05 | 4.25 | | 0.12 | 6.68 | 60 | 47 |
| 48 | 0.46 | 1.10 | 71 | 0 | | 0.11 | 0.43 | | 1.12 | 6.70 | 110 | 48 |
| 49 | 0.46 | 1.16 | 20 | 27 | | 0.25 | 4.91 | | 0.24 | 6.71 | 10 | 49 |
| 50 | 0.45 | 1.17 | 107 | 114 | | 0.04 | 0.01 | | 1.14 | 6.74 | 50 | 50 |
| 51 | 0.44 | 1.10 | 27 | 124 | | 0.70 | 1.01 | | 0.00 | 6.83 | 94 | 51 |
| 52 | 0.47 | 1.20 | 110 | 7 | | 1.05 | 20.10 | | 0.06 | 6.86 | 33 | 52 |
| 53 | 0.46 | 1.21 | 22 | 10 | | 0.30 | 23.40 | | 0.03 | 6.87 | 01 | 53 |
| 54 | 0.48 | 1.24 | 35 | 50 | | 0.20 | 3.27 | | 0.40 | 6.88 | 115 | 54 |
| 55 | 0.46 | 1.25 | 30 | 100 | | 0.30 | 3.40 | | 1.15 | 6.92 | 20 | 55 |
| 56 | 0.45 | 1.20 | 00 | 100 | | 0.10 | 4.00 | | 0.42 | 6.90 | 31 | 56 |



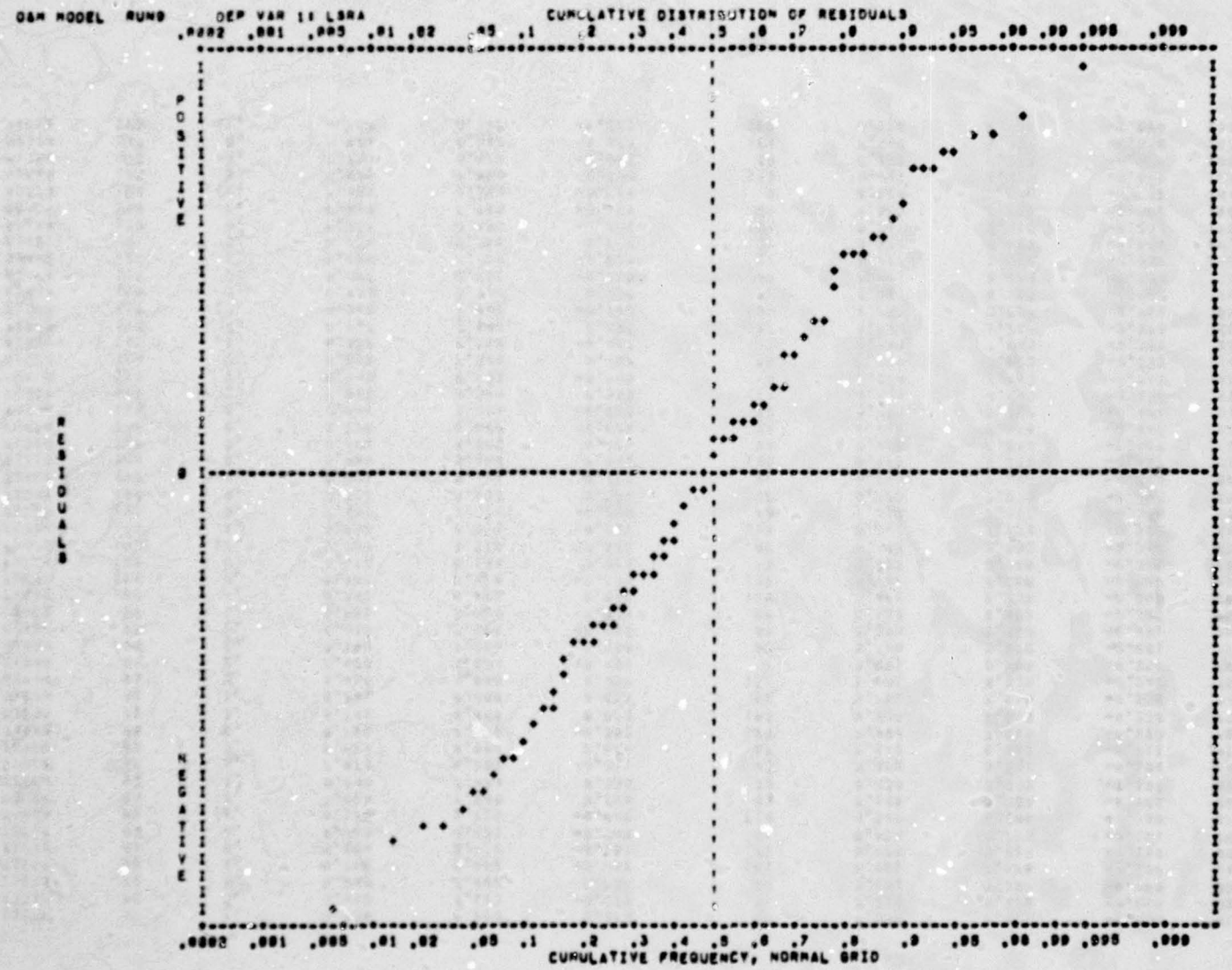
LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

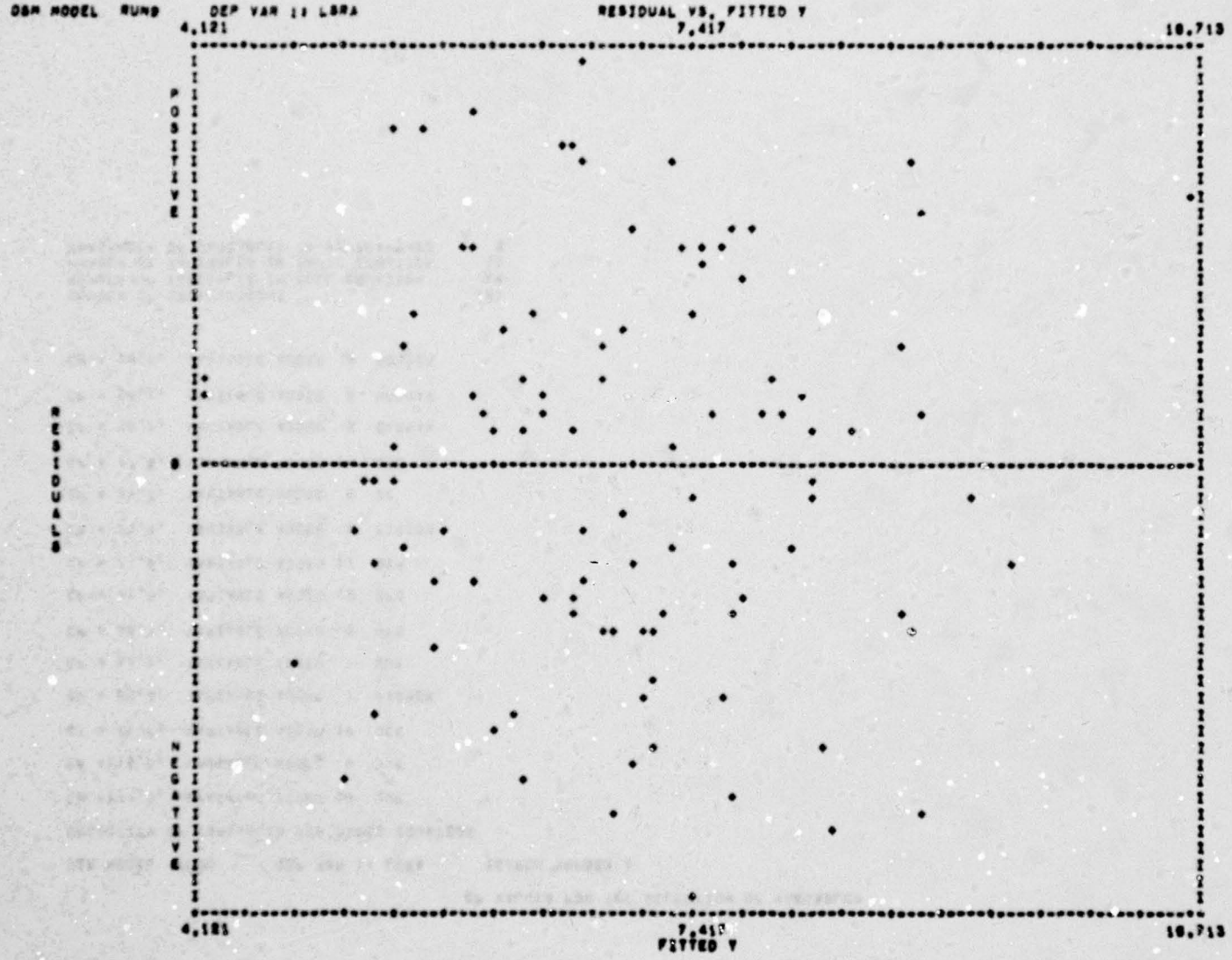
O&M MODEL RUN8 DEP VAR IS LSR4

| IDENT. | OBSV. | MSS DISTANCE | ORDERED BY COMPUTER INPUT OBS. Y | FITTED Y | RESIDUAL |
|---|---|---|---|---|---|
| 71LBA | 2 | 1. | 8.545 | 7.785 | -P.339 |
| 71MBA | 3 | 3. | 8.157 | 7.734 | P.423 |
| 71PKA | 4 | 1. | 8.628 | 7.143 | -P.515 |
| 71PBA | 5 | 5. | 8.153 | 8.997 | P.146 |
| 71710 | 6 | 11. | 5.252 | 5.289 | -P.037 |
| 724GA | 7 | 6. | 5.581 | 5.760 | -P.259 |
| 71FAA | 9 | 1. | 8.998 | 7.879 | -P.772 |
| 71FBA | 10 | 2. | 7.691 | 6.714 | P.967 |
| 71CAA | 11 | 2. | 7.313 | 6.578 | P.743 |
| 71DAA | 12 | 3. | 8.178 | 7.975 | P.201 |
| 51EAA | 13 | 1. | 7.368 | 7.328 | P.P48 |
| 52A5A | 15 | 3. | 8.189 | 8.052 | P.137 |
| 639DA | 16 | 8. | 8.2P9 | 8.078 | P.131 |
| 74JAA | 18 | 12. | 8.938 | 7.998 | P.102 |
| 74JCA | 19 | 2. | 7.856 | 7.347 | P.508 |
| 52GA1 | 20 | 1. | 6.189 | 6.918 | -P.829 |
| 71ZAA | 21 | 1. | 6.477 | 7.168 | -P.693 |
| 71Z9A | 22 | 6. | 6.477 | 5.958 | P.519 |
| 71ZCA | 23 | 15. | 4.382 | 5.118 | -P.736 |
| 73EGA | 24 | 7. | 8.448 | 8.856 | -P.4P8 |
| 71[]PA | 25 | 19. | 11.338 | 10.713 | P.625 |
| 73MAA | 26 | 20. | 9.887 | 8.958 | P.128 |
| 73MCA | 27 | 12. | 8.121 | 8.227 | -P.P85 |
| 73NAA | 28 | 7. | 9.985 | 8.866 | P.498 |
| 73QAA | 29 | 10. | 8.292 | 8.126 | P.166 |
| 73SCA | 30 | 7. | 9.114 | 8.825 | P.289 |
| 73X9A | 31 | 1. | 7.383 | 6.984 | P.328 |
| 73XFA | 33 | 1. | 7.138 | 6.857 | P.278 |
| 73XKA | 34 | 4. | 8.833 | 8.PP4 | P.829 |
| 7593A | 35 | 5. | 5.333 | 5.522 | -P.19C |
| 74BFA | 37 | 3. | 8.783 | 7.999 | -P.396 |
| 74B1A | 38 | 4. | 8.805 | 8.448 | P.157 |
| 79A1A | 39 | 4. | 9.787 | 9.582 | P.285 |
| 74FAA | 42 | 43. | 5.352 | 5.544 | -P.192 |
| 74FMA | 43 | 5. | 7.339 | 7.897 | -P.388 |
| 74FUA | 44 | 14. | 8.592 | 8.914 | P.779 |
| 858MA | 47 | 8. | 5.455 | 5.484 | -P.029 |
| 74FCA | 48 | 11. | 7.681 | 8.254 | -P.553 |
| 74FKA | 50 | 5. | 0.273 | 5.897 | -P.424 |
| 74FUA | 51 | 53. | 9.219 | 9.275 | -P.P56 |
| 74KCA | 53 | 4. | 8.878 | 7.383 | P.793 |
| 74CAA | 54 | 4. | 7.819 | 7.852 | P.557 |
| 74CCA | 56 | 3. | 7.478 | 6.748 | P.731 |
| 74FA1 | 57 | 5. | 7.812 | 7.462 | P.350 |
| 74E9A | 58 | 4. | 7.919 | 7.817 | P.P92 |
| 73PMA | 59 | 4. | 7.998 | 7.825 | -P.535 |
| 73PPA | 60 | 37. | 7.389 | 7.436 | -P.P56 |
| 73P03 | 61 | 17. | 7.998 | 8.871 | P.219 |
| 73P4A | 63 | 6. | 7.148 | 7.324 | -P.176 |
| 71NAA | 64 | 3. | 8.548 | 8.211 | P.329 |
| 71QUA | 65 | 3. | 8.548 | 8.211 | P.329 |
| 83AAA | 66 | 8. | 5.399 | 8.888 | -P.281 |
| 83AGA | 69 | 2. | 8.133 | 8.459 | -P.325 |
| 839FA | 70 | 7. | 5.3P3 | 5.354 | -P.05P |
| 71ABE | 71 | 9. | 5.P89 | 5.219 | -P.150 |
| 71A0A | 72 | 5. | 8.509 | 8.314 | P.195 |
| 73DBA | 73 | 2. | 8.977 | 7.298 | -P.332 |
| 71ACC | 74 | 27. | 4.359 | 4.185 | P.185 |
| 73CBG | 75 | 27. | 4.263 | 4.121 | P.142 |
| 73CEN | 76 | 6. | 8.544 | 8.436 | P.108 |

| OBSV. | OBS. Y | FITTED Y | ORDERED BY RESIDUALS ORDERED RESID. | SEQ |
|---|---|---|---|---|
| 1P | 7.681 | 6.714 | P.967 | 1 |
| 34 | P.833 | 8.PP4 | P.829 | 2 |
| 79 | 6.24P | 5.442 | P.798 | 3 |
| 116 | 6.477 | 5.682 | P.795 | 4 |
| 121 | 7.434 | 6.688 | P.746 | 5 |
| 11 | 7.313 | 6.578 | P.743 | 6 |
| 56 | 7.479 | 6.74P | P.731 | 7 |
| 53 | 8.P86 | 7.3P3 | P.783 | 8 |
| 28 | 9.565 | 8.866 | P.698 | 9 |
| 25 | 11.338 | 1P.713 | P.629 | 10 |
| 106 | 9.517 | 8.923 | P.594 | 11 |
| 125 | 8.251 | 7.688 | P.564 | 12 |
| 54 | 7.819 | 7.262 | P.557 | 13 |
| 95 | 8.398 | 7.855 | P.536 | 14 |
| 85 | 8.PP7 | 7.474 | P.533 | 15 |
| 22 | 6.477 | 5.958 | P.519 | 16 |
| 19 | 7.856 | 7.347 | P.508 | 17 |
| 114 | 8.155 | 7.648 | P.507 | 18 |
| 93 | 8.436 | 5.9P8 | P.496 | 19 |
| 118 | 8.436 | 5.948 | P.496 | 2P |
| 197 | 7.981 | 7.493 | P.488 | 21 |
| 3 | 8.157 | 7.734 | P.423 | 22 |
| 77 | 8.639 | 8.266 | P.373 | 23 |
| 112 | 5.951 | 5.59P | P.365 | 24 |
| 57 | 7.812 | 7.462 | P.35P | 25 |
| 1PP | 8.745 | 8.403 | P.343 | 26 |
| 84 | 8.54P | 8.211 | P.329 | 27 |
| 65 | 8.548 | 8.211 | P.329 | 28 |
| 31 | 7.383 | 6.984 | P.328 | 29 |
| 38 | 9.114 | 8.825 | P.289 | 3P |
| 39 | 9.787 | 9.5P2 | P.285 | 31 |
| 33 | 7.138 | 6.857 | P.278 | 32 |
| 61 | 7.998 | 6.871 | P.219 | 33 |
| 12 | 8.178 | 7.975 | P.2P1 | 34 |
| 72 | 8.5P9 | 8.314 | P.195 | 35 |
| 74 | 4.389 | 4.185 | P.185 | 36 |
| 29 | 8.292 | 8.126 | P.166 | 37 |
| 3P | P.685 | 8.448 | P.157 | 38 |
| 5 | 6.153 | 6.997 | P.146 | 39 |
| 75 | 4.263 | 4.121 | P.142 | 4P |
| 15 | 8.189 | 8.052 | P.137 | 41 |
| 18 | 8.P38 | 7.9P6 | P.132 | 42 |
| 1P | 8.2P9 | 8.P78 | P.131 | 43 |
| 26 | 9.P87 | P.958 | P.128 | 44 |
| 84 | 7.654 | 7.545 | P.11C | 45 |
| 76 | 8.544 | 8.436 | P.1P8 | 46 |
| 1P9 | 8.4P4 | 8.3P2 | P.1P1 | 47 |
| 11P | 8.178 | 8.P99 | P.079 | 48 |
| 44 | 8.592 | 8.514 | P.079 | 49 |
| 91 | 8.741 | 8.666 | P.075 | 5P |
| 92 | 8.741 | 8.6P6 | P.075 | 51 |
| 89 | 8.274 | 8.2PP | P.P74 | 52 |
| 13 | 7.388 | 7.32P | P.P48 | 53 |
| 1P8 | 5.529 | 5.4P4 | P.P45 | 54 |
| 1P2 | 8.178 | 8.154 | P.P1P | 55 |
| 5P | 7.819 | 7.817 | P.PP2 | 56 |
| 47 | 5.455 | 5.4P4 | -P.P29 | 57 |
| 6 | 5.252 | 5.289 | -P.P37 | 58 |
| 83 | 8.178 | 8.218 | -P.P4P | 59 |
| 7P | 5.383 | 5.394 | -P.P5P | 6P |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 73CPK | 77 | 7. | 8,639 | 8,266 | 0,373 | 60 | 7,388 | 7,438 | -0,050 | 81 |
| 73DAM | 78 | 5. | 5,495 | 6,113 | -0,620 | 51 | 9,210 | 9,276 | -0,066 | 82 |
| 73E9A | 79 | 0. | 6,249 | 5,442 | 0,799 | 27 | 8,121 | 8,207 | -0,085 | 83 |
| 73E8P | 80 | 4. | 5,799 | 5,962 | -0,261 | 101 | 6,991 | 7,099 | -0,109 | 84 |
| 71CA0 | 81 | 5. | 5,624 | 5,775 | -0,151 | 71 | 5,059 | 5,219 | -0,159 | 85 |
| 73EG0 | 82 | 9. | 4,485 | 4,833 | -0,348 | 81 | 5,624 | 5,775 | -0,151 | 86 |
| 73HC0 | 83 | 11. | 8,178 | 8,218 | -0,040 | 110 | 6,547 | 6,705 | -0,158 | 87 |
| 73L40 | 84 | 3. | 7,054 | 7,545 | 0,110 | 63 | 7,148 | 7,324 | -0,176 | 88 |
| 77EC0 | 85 | 2. | 8,007 | 7,474 | 0,533 | 35 | 9,533 | 9,522 | -0,189 | 89 |
| 77DC4 | 87 | 3. | 7,072 | 8,283 | -0,211 | 42 | 5,352 | 5,544 | -0,192 | 70 |
| 764EA | 89 | 9. | 8,274 | 8,298 | 0,074 | 87 | 7,872 | 8,083 | -0,211 | 71 |
| 73X40 | 90 | 2. | 6,782 | 7,179 | -0,396 | 123 | 7,498 | 7,719 | -0,220 | 72 |
| 838A4 | 91 | 3. | 6,741 | 6,666 | 0,075 | 103 | 9,266 | 9,519 | -0,233 | 73 |
| 83CA4 | 92 | 3. | 6,741 | 6,666 | 0,075 | 99 | 6,781 | 7,019 | -0,238 | 74 |
| 85P4A | 93 | 3. | 6,436 | 5,940 | 0,496 | 111 | 5,081 | 5,328 | -0,246 | 75 |
| 81B8A | 94 | 2. | 6,426 | 6,834 | -0,409 | 7 | 5,501 | 5,760 | -0,259 | 76 |
| 81A40 | 95 | 2. | 8,399 | 7,855 | 0,536 | 80 | 5,788 | 5,982 | -0,201 | 77 |
| 81AC0 | 97 | 1. | 8,339 | 7,824 | -0,686 | 66 | 6,399 | 6,688 | -0,281 | 78 |
| 72ACP | 99 | 2. | 6,781 | 7,019 | -0,238 | 68 | 6,133 | 6,459 | -0,325 | 79 |
| 71CA0 | 100 | 4. | 6,745 | 6,483 | 0,343 | 105 | 7,491 | 7,758 | -0,329 | 80 |
| 72FAA | 101 | 3. | 6,991 | 7,099 | -0,109 | 122 | 8,337 | 8,666 | -0,329 | 81 |
| 72ECA | 102 | 0. | 6,178 | 6,194 | 0,016 | 73 | 6,927 | 7,258 | -0,332 | 82 |
| 72BP0 | 103 | 17. | 9,288 | 9,519 | -0,233 | 82 | 8,485 | 8,833 | -0,348 | 83 |
| 71JAA | 104 | 1. | 5,587 | 6,318 | -0,731 | 128 | 6,312 | 6,674 | -0,363 | 84 |
| 71L40 | 105 | 0. | 7,491 | 7,738 | -0,329 | 43 | 7,338 | 7,697 | -0,358 | 85 |
| 72DMP | 106 | 8. | 9,517 | 8,923 | 0,594 | 37 | 6,793 | 7,999 | -0,396 | 86 |
| 72AC0 | 107 | 1. | 7,981 | 7,493 | 0,488 | 98 | 6,782 | 7,178 | -0,396 | 87 |
| 71718 | 108 | 0. | 5,529 | 5,484 | 0,045 | 115 | 6,477 | 6,884 | -0,407 | 88 |
| 71310 | 109 | 5. | 6,424 | 6,392 | 0,191 | 94 | 6,428 | 6,834 | -0,428 | 89 |
| 72MP8 | 110 | 6. | 9,178 | 8,899 | 0,279 | 24 | 8,448 | 8,856 | -0,408 | 90 |
| 72MB8 | 111 | 6. | 5,991 | 5,328 | -0,246 | 58 | 5,273 | 5,697 | -0,424 | 91 |
| 71JCE | 112 | 5. | 5,961 | 5,596 | 0,365 | 117 | 4,382 | 4,842 | -0,460 | 92 |
| 72AE0 | 113 | 9. | 8,145 | 8,953 | -0,808 | 4 | 6,628 | 7,143 | -0,515 | 93 |
| 72CC0 | 114 | 2. | 8,155 | 7,648 | 0,507 | 59 | 7,090 | 7,625 | -0,535 | 94 |
| 71Z43 | 115 | 1. | 6,477 | 6,884 | -0,407 | 2 | 6,345 | 7,085 | -0,538 | 95 |
| 71Z80 | 116 | 7. | 6,477 | 5,682 | 0,795 | 127 | 5,694 | 6,263 | -0,570 | 96 |
| 71Z00 | 117 | 15. | 4,382 | 4,842 | -0,460 | 128 | 4,787 | 5,300 | -0,588 | 97 |
| 85P4A | 118 | 3. | 6,436 | 5,940 | 0,496 | 78 | 5,485 | 6,113 | -0,628 | 98 |
| 83AP8 | 119 | 3. | 6,547 | 6,705 | -0,158 | 48 | 7,691 | 8,254 | -0,653 | 99 |
| 83AA8 | 120 | 1. | 6,378 | 7,498 | -1,020 | 21 | 6,477 | 7,160 | -0,683 | 100 |
| 83121 | 121 | 3. | 7,434 | 6,666 | 0,768 | 97 | 6,339 | 7,024 | -0,686 | 101 |
| 83A8A | 122 | 2. | 6,337 | 6,666 | -0,329 | 104 | 5,587 | 6,318 | -0,731 | 102 |
| 55AL0 | 123 | 0. | 7,098 | 7,715 | -0,225 | 93 | 4,382 | 5,118 | -0,736 | 103 |
| 55AY8 | 124 | 12. | 7,499 | 8,388 | -0,879 | 9 | 6,988 | 7,679 | -0,772 | 104 |
| 8,AA8 | 125 | 2. | 6,251 | 7,686 | 0,564 | 113 | 6,149 | 6,953 | -0,806 | 105 |
| 81AE0 | 126 | 2. | 6,312 | 6,674 | -0,363 | 28 | 6,109 | 6,918 | -0,809 | 106 |
| 82AA8 | 127 | 8. | 9,094 | 8,283 | -0,579 | 124 | 7,498 | 8,388 | -0,870 | 107 |
| 84211 | 128 | 11. | 4,787 | 5,387 | -0,588 | 120 | 6,378 | 7,498 | -1,020 | 108 |


O&M MODEL RUN9
DEP VAR IS LSRA
CUMULATIVE DISTRIBUTION OF RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .998 .999
POSITIVE
0
NEGATIVE
RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .998 .999
CUMULATIVE FREQUENCY, NORMAL GRID


OSM MODEL RUN9
DEP VAR :: LSRA
RESIDUAL VS. FITTED Y
4.121
7.417
10.713
POSITIVE
0
NEGATIVE
RESIDUALS
4.121
7.417
10.713
FITTED Y

CP VALUES FOR THE SELECTION OF VARIABLES

O&M MODEL RUNS DEP VAR 15 LSRA SEARCH NUMBER 1

SELECTION OF VARIABLES FOR BASIC EQUATION

CP =144.5, VARIABLE ADDED 13 LUP

CP =118.7, VARIABLE ADDED 9 DMT

CP = 81.6, VARIABLE ADDED 10 DCC

CP = 64.2, VARIABLE ADDED 1 FIGBEN

CP = 54.2, VARIABLE ADDED 7 DUP

CP = 48.7, VARIABLE ADDED 8 DVO

CP = 41.5, VARIABLE ADDED 12 DPS

CP = 31.8, VARIABLE ADDED 11 DEM

CP = 28.8, VARIABLE ADDED 2 FIGCOM

CP = 21.7, VARIABLE ADDED 6 DI

CP = 17.8, VARIABLE ADDED 14 LCC

CP = 16.7, VARIABLE ADDED 5 CARNAV

CP = 15.1, VARIABLE ADDED 3 BOMNAV

CP = 15.8, VARIABLE ADDED 4 BOMBEN

NUMBER OF OBSERVATIONS 183
NUMBER OF VARIABLES IN FULL EQUATION 14
NUMBER OF VARIABLES IN BASIC EQUATION 12
REMAINDER OF VARIABLES TO BE SEARCHED 2

| EQUATION | P | CP | VARIABLES IN EQUATION |
|---|---|---|---|
| | 15 | 15,0 | FULL EQUATION |
| | 13 | 15,1 | BASIC SET OF VARIABLES 1 FIGSEN, 2 FIGCOM, 5 CARNAV, 6 DI, 7 DUP, 8 DVO, 9 DWT, 10 DCC, 11 DEN, 12 DPB |
| | | | 13 LUP, 14 LCC |
| | | | RMS = 0,23585 |
| 1 | 14 | 15,1 | BASIC SET PLUS 3 BOMNAV |
| | | | RMS = 0,23269 |
| 2 | 15 | 15,0 | BASIC SET PLUS 3 BOMNAV, 4 BOMBEN |
| | | | RMS = 0,23081 |
| 3 | 14 | 16,0 | BASIC SET PLUS 4 BOMBEN |
| | | | RMS = 0,23483 |

SWEEP NUMBER 3, DELTA Z(K,K) = 1,0-17

ESTIMATE OF VARIANCE

NO SMALLER RMS VALUE FOUND IN SUBSET EQUATIONS

RMS OF FULL EQUATION SELECTED BY USER TO CALCULATE CP VALUES

| SEQ | EQUATION | P | ORDERED CP |
|---|---|---|---|
| 1 | 2 | 15 | 15,0 |
| 2 | 1 | 14 | 15,1 |
| 3 | 3 | 14 | 16,0 |

LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

O&M MODEL RUN#8 DEP VAR 1: LTRAIN MIN Y = -7.8630 E0 MAX Y = 1.3870 E0 RANGE Y = 8.4490 E0

MULTIPLE REGRESSION ANALYSIS FOR THE "ALPOS" MODEL
LTRAIN = B(0) + B(1)*FIGCOM + B(2)*BOMSEN + B(3)*CARNAV + B(4)*CARCOM
+ B(5)*UP + B(6)*WT + B(7)*DI + B(8)*UF + B(9)*MVO + B(10)*MCC
+ B(11)*MCD + B(12)*MEM + B(13)*MPS + B(14)*MSS + B(15)*DVO
+ B(16)*DCC + B(17)*DCD + B(18)*DEM + B(19)*DPS
+ B(20)*DSS + B(21)*LUP + B(22)*LVO + B(23)*LCC
+ B(24)*LPD

LTRAIN = LN(TRAIN)
TRAIN = TRAINING COST PER OPERATING HOUR

| IND.VAR(I) | NAME | COEF.B(I) | S.E. COEF. | T-VALUE | B(I)*SQRD | MIN X(I) | MAX X(I) | RANGE X(I) | REL.INF.X(I) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | -7.892230 E0 | | | | | | | |
| 1 | FIGCOM | 7.132430-01 | 3.130-01 | 2.3 | 0.2145 | 0.0 | 1.0000 00 | 1.0000 00 | 0.08 |
| 2 | BOMSEN | -9.893150-01 | 3.850-01 | 2.5 | 0.2865 | 0.0 | 1.0000 00 | 1.0000 00 | 0.11 |
| 3 | CARNAV | -1.185680 00 | 2.220-01 | 5.3 | 0.3266 | 0.0 | 1.0000 00 | 1.0000 00 | 0.13 |
| 4 | CARCOM | -6.324790-01 | 2.000-01 | 2.3 | 0.3515 | 0.0 | 1.0000 00 | 1.0000 00 | 0.07 |
| 5 | UP | -5.169360-06 | 1.430-06 | 3.6 | 0.6408 | 1.5300 02 | 5.0650 05 | 5.0630 05 | 0.35 |
| 6 | WT | 9.879810-03 | 4.190-03 | 2.4 | 0.7584 | 1.0000 00 | 1.7370 02 | 1.7270 02 | 0.20 |
| 7 | DI | -1.412930-02 | 2.380-03 | 5.9 | 0.4659 | 0.0 | 1.0000 02 | 1.0000 02 | 0.17 |
| 8 | UF | -3.786680-01 | 1.390-01 | 2.3 | 0.4954 | 3.0000-01 | 3.1000 00 | 2.8000 00 | 0.12 |
| 9 | MVO | -4.823110-02 | 1.530-04 | 3.2 | 0.9166 | -1.3150 03 | 6.8550 03 | 8.1700 03 | 0.47 |
| 10 | MCC | 4.628470-04 | 1.190-04 | 3.9 | 0.8549 | -1.1820 03 | 7.1680 03 | 8.2900 03 | 0.45 |
| 11 | MCD | 3.184760-01 | 1.440-01 | 2.1 | 0.8695 | -1.2450 00 | 5.4240 00 | 6.6690 00 | 0.25 |
| 12 | MEM | -2.173220-02 | 5.490-03 | 4.0 | 0.7311 | -8.5700 00 | 9.1430 01 | 1.0000 02 | 0.26 |
| 13 | MPS | -6.897790-03 | 3.750-03 | 1.8 | 0.1112 | -5.2000 00 | 9.4800 01 | 1.0000 02 | 0.08 |
| 14 | MSS | -1.475570-02 | 3.380-03 | 4.4 | 0.6934 | -7.9400 01 | 2.0600 01 | 1.0000 02 | 0.17 |
| 15 | DVO | 7.643570-08 | 3.560-08 | 2.0 | 0.7875 | 1.7640 03 | 2.4800 07 | 2.4800 07 | 0.21 |
| 16 | DCC | -1.163610-07 | 2.850-08 | 4.1 | 0.3368 | 8.1000 01 | 2.8170 07 | 2.8170 07 | 0.38 |
| 17 | DCD | -1.592320-01 | 4.630-02 | 3.2 | 0.8342 | 1.1240-05 | 1.8520 01 | 1.8520 01 | 0.33 |
| 18 | DEM | -4.249230-04 | 1.660-04 | 2.6 | 0.3894 | 1.6560 01 | 3.2410 03 | 3.2240 03 | 0.16 |
| 19 | DPS | -6.783820-04 | 1.890-04 | 3.6 | 0.3344 | 4.0960 01 | 2.9480 03 | 2.9860 03 | 0.23 |
| 20 | DSS | -2.883510-04 | 1.280-04 | 1.6 | 0.3785 | 1.7640 01 | 2.9380 03 | 2.9200 03 | 0.07 |
| 21 | LUP | 8.226570-01 | 9.110-02 | 8.8 | 0.8859 | 5.8340 00 | 1.3250 01 | 8.2170 00 | 0.61 |
| 22 | LVO | 1.113480 00 | 2.790-01 | 4.0 | 0.9089 | 3.4810 00 | 9.0120 00 | 5.6110 00 | 0.74 |
| 23 | LCC | -7.614680-01 | 2.830-01 | 3.6 | 0.9521 | 2.1970 00 | 8.0240 00 | 6.8270 00 | 0.62 |
| 24 | LPD | 2.579360-01 | 7.260-02 | 3.6 | 0.9162 | 1.0990 00 | 8.0060 00 | 6.9060 00 | 0.21 |

| | |
|---|---|
| NO. OF OBSERVATIONS | 118 |
| NO. OF IND. VARIABLES | 24 |
| RESIDUAL DEGREES OF FREEDOM | 93 |
| F-VALUE | 22.5 |
| RESIDUAL ROOT MEAN SQUARE | 0.71102694 |
| RESIDUAL MEAN SQUARE | 0.50555931 |
| RESIDUAL SUM OF SQUARES | 47.01781680 |
| TOTAL SUM OF SQUARES | 319.00748763 |
| MULT. CORREL. COEF. SQUARED | .8530 |

LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

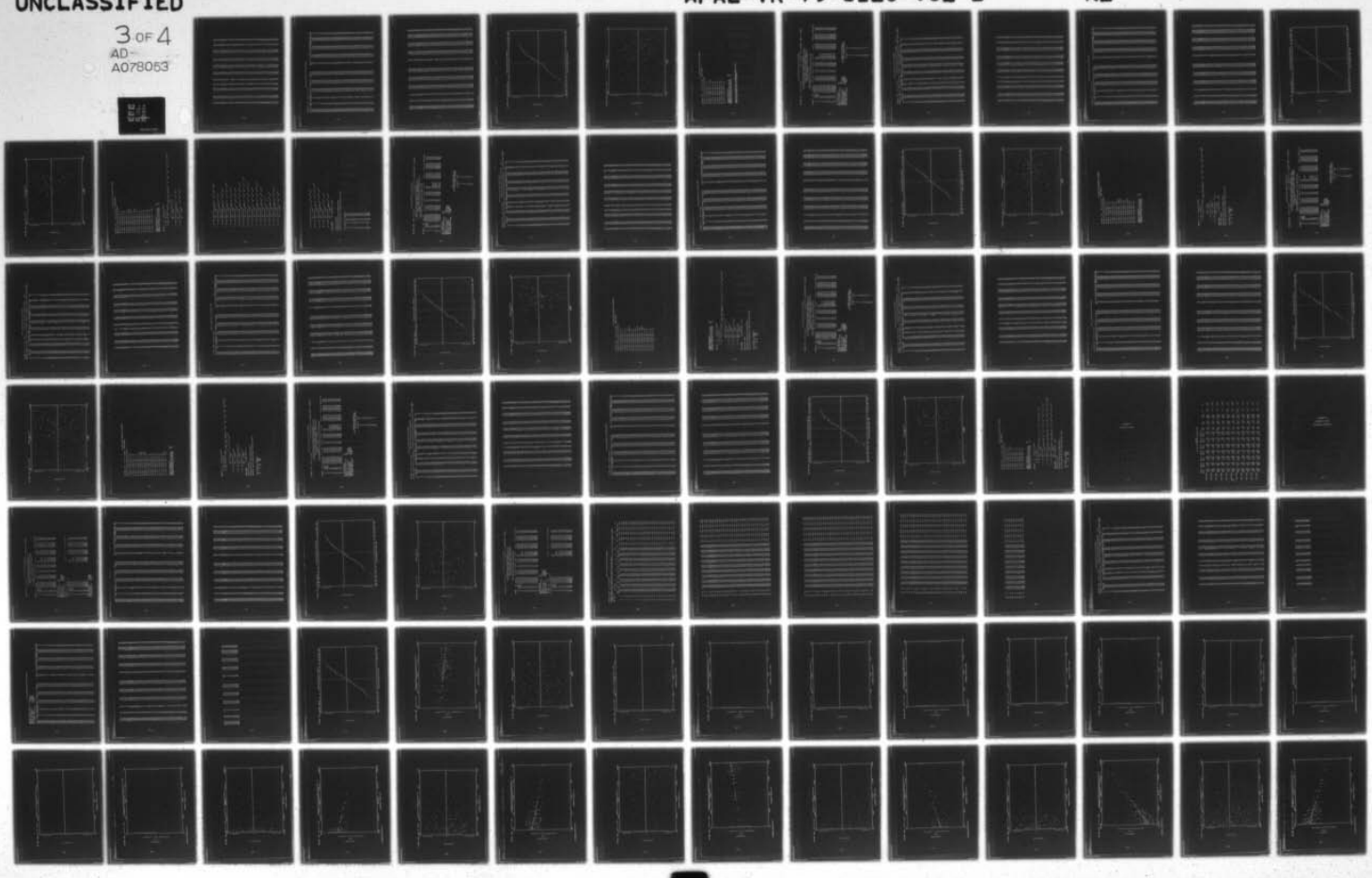
GAM MODEL RUN10 DEP VAR 1: LTRAIN RESIDUAL ROOT MEAN SQUARE OF FITTED EQUATION: 0.71

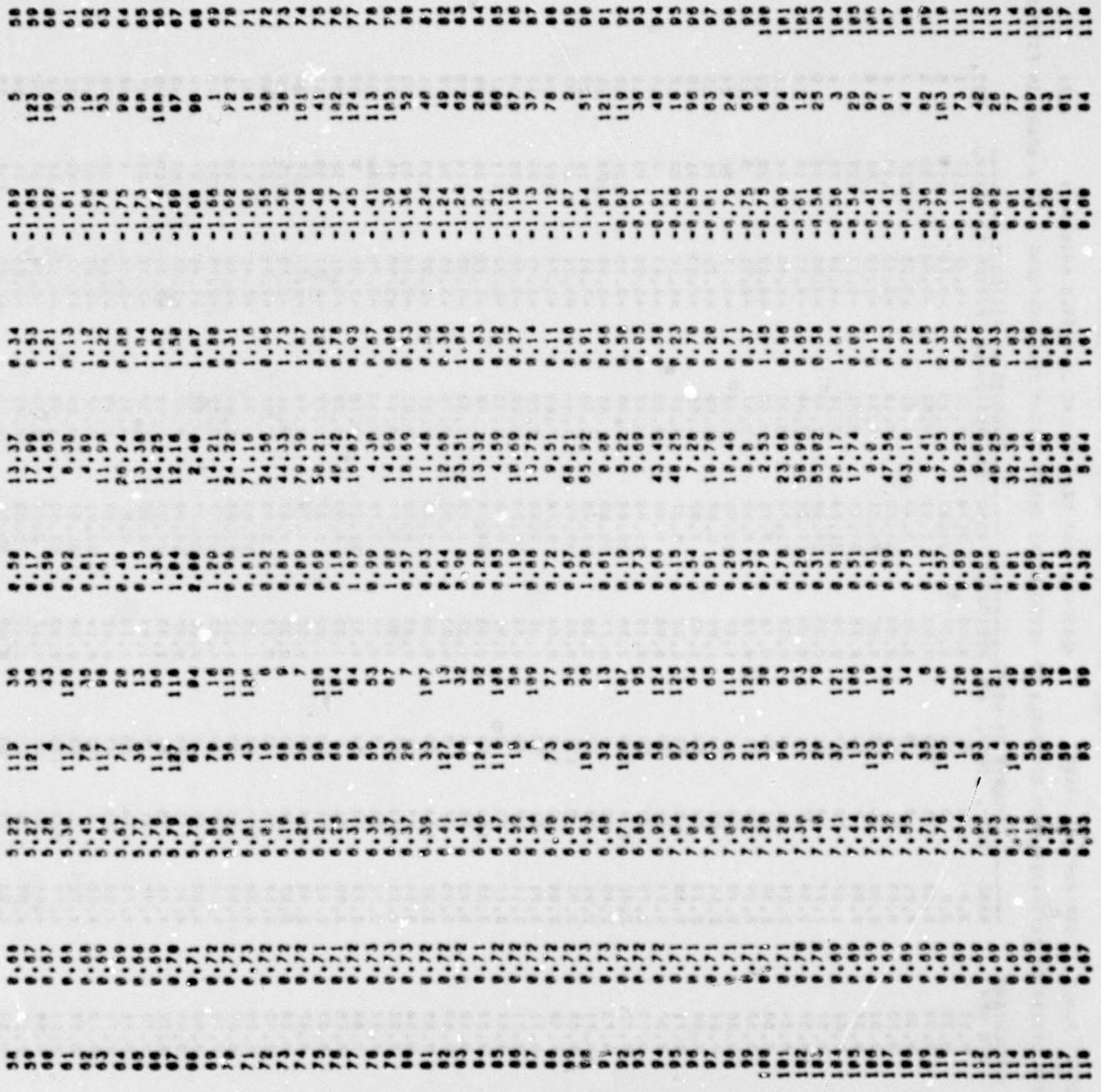
STANDARD DEVIATION ESTIMATED FROM RESIDUALS OF NEIGHBORING OBSERVATIONS (OBSERVATIONS 1 TO 4 APART IN FITTED Y ORDER).

| NO. | CUMULATIVE STD DEV | ORDERED BY XSSD | OBSV. | OBSV. | DEL | RESIDUALS | XSSD | DEL | ORDERED BY FITTED Y RESIDUALS | FITTED Y | OBSV. | SEQ. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.15 | 0.0 | 92 | 92 | | 0.15 | 0.04 | | 0.37 | -6.48 | 117 | 1 |
| 2 | 0.20 | 0.0 | 65 | 64 | | 0.37 | 21.08 | | 1.29 | -5.79 | 116 | 2 |
| 3 | 0.30 | 0.00 | 121 | 119 | | 0.66 | 0.21 | | 0.48 | -5.68 | 98 | 3 |
| 4 | 0.39 | 0.21 | 10 | 35 | | 0.48 | 0.47 | | 1.41 | -5.25 | 128 | 4 |
| 5 | 0.73 | 0.68 | 71 | 81 | | 2.89 | 31.39 | | 0.19 | -5.23 | 108 | 5 |
| 6 | 0.82 | 0.86 | 13 | 15 | | 0.07 | 38.91 | | 0.30 | -5.12 | 88 | 6 |
| 7 | 0.57 | 0.86 | 7 | 70 | | 0.26 | 35.50 | | 0.31 | -5.11 | 122 | 7 |
| 8 | 0.60 | 1.27 | 30 | 107 | | 0.70 | 21.04 | | 0.20 | -4.88 | 78 | 8 |
| 9 | 0.57 | 1.27 | 14 | 21 | | 0.35 | 14.29 | | 1.40 | -4.85 | 75 | 9 |
| 10 | 0.56 | 1.80 | 7 | 11 | | 0.45 | 11.20 | | 0.26 | -4.32 | 16 | 10 |
| 11 | 0.54 | 2.06 | 31 | 4 | | 0.32 | 11.74 | | 0.31 | -4.68 | 74 | 11 |
| 12 | 0.56 | 2.37 | 71 | 20 | | 0.76 | 7.71 | | 0.12 | -4.66 | 35 | 12 |
| 13 | 0.57 | 2.36 | 79 | 11 | | 0.72 | 0.82 | | 0.67 | -4.51 | 6 | 13 |
| 14 | 0.60 | 2.48 | 95 | 1 | | 1.07 | 12.80 | | 0.90 | -4.49 | 58 | 14 |
| 15 | 0.64 | 2.53 | 65 | 84 | | 1.98 | 0.60 | | 0.78 | -4.22 | 71 | 15 |
| 16 | 0.69 | 2.53 | 84 | 94 | | 1.45 | 3.98 | | 1.99 | -4.13 | 81 | 16 |
| 17 | 0.71 | 2.60 | 48 | 63 | | 1.06 | 0.37 | | 0.57 | -4.12 | 28 | 17 |
| 18 | 0.67 | 2.74 | 92 | 49 | | 0.86 | 0.86 | | 0.26 | -4.03 | 7 | 18 |
| 19 | 0.65 | 2.78 | 49 | 86 | | 0.16 | 11.88 | | 0.47 | -3.86 | 76 | 19 |
| 20 | 0.73 | 2.92 | 114 | 118 | | 2.26 | 25.02 | | 0.46 | -3.85 | 118 | 20 |
| 21 | 0.73 | 2.98 | 85 | 4 | | 0.77 | 28.95 | | 1.69 | -3.82 | 76 | 21 |
| 22 | 0.71 | 2.91 | 86 | 37 | | 0.35 | 16.49 | | 1.83 | -3.81 | 11 | 22 |
| 23 | 0.68 | 2.91 | 2 | 121 | | 0.83 | 45.24 | | 1.44 | -3.79 | 4 | 23 |
| 24 | 0.68 | 2.98 | 2 | 110 | | 0.64 | 8.74 | | 0.83 | -3.78 | 112 | 24 |
| 25 | 0.71 | 3.01 | 81 | 78 | | 1.31 | 0.88 | | 1.09 | -3.46 | 99 | 25 |
| 26 | 0.71 | 3.11 | 50 | 68 | | 0.74 | 22.74 | | 2.16 | -3.38 | 126 | 26 |
| 27 | 0.68 | 3.17 | 93 | 8 | | 0.81 | 8.78 | | 1.53 | -3.23 | 111 | 27 |
| 28 | 0.66 | 3.35 | 122 | 93 | | 0.83 | 36.78 | | 1.88 | -3.13 | 38 | 28 |
| 29 | 0.66 | 3.45 | 78 | 74 | | 1.38 | 9.78 | | 1.38 | -2.87 | 114 | 29 |
| 30 | 0.66 | 3.45 | 37 | 2 | | 0.93 | 9.82 | | 0.96 | -2.85 | 56 | 30 |
| 31 | 0.65 | 3.92 | 104 | 30 | | 0.38 | 0.84 | | 1.88 | -2.97 | 115 | 31 |
| 32 | 0.64 | 3.94 | 99 | 31 | | 0.45 | 0.10 | | 0.69 | -2.96 | 55 | 32 |
| 33 | 0.66 | 3.93 | 108 | 127 | | 1.09 | 0.26 | | 0.16 | -2.85 | 66 | 33 |
| 34 | 0.64 | 3.70 | 53 | 5 | | 0.97 | 9.78 | | 0.95 | -2.76 | 104 | 34 |
| 35 | 0.64 | 3.79 | 83 | 84 | | 0.31 | 10.16 | | 0.18 | -2.66 | 9 | 35 |
| 36 | 0.65 | 3.88 | 71 | 7 | | 1.09 | 0.94 | | 0.76 | -2.61 | 32 | 36 |
| 37 | 0.67 | 3.92 | 01 | 28 | | 1.62 | 1.27 | | 0.79 | -2.57 | 39 | 37 |
| 38 | 0.67 | 3.99 | 120 | 78 | | 0.57 | 5.79 | | 1.84 | -2.53 | 127 | 38 |
| 39 | 0.65 | 3.97 | 120 | 33 | | 0.22 | 0.87 | | 0.41 | -2.52 | 118 | 39 |
| 40 | 0.65 | 4.18 | 31 | 43 | | 0.27 | 0.86 | | 0.87 | -2.52 | 13 | 40 |
| 41 | 0.66 | 4.28 | 114 | 55 | | 1.26 | 15.89 | | 0.32 | -2.49 | 15 | 41 |
| 42 | 0.67 | 4.26 | 36 | 83 | | 1.12 | 31.98 | | 0.83 | -2.48 | 69 | 42 |
| 43 | 0.73 | 4.28 | 115 | 104 | | 1.85 | 28.58 | | 0.58 | -2.46 | 106 | 43 |
| 44 | 0.69 | 4.28 | 63 | 2 | | 0.32 | 23.37 | | 0.22 | -2.46 | 97 | 44 |
| 45 | 0.69 | 4.36 | 113 | 105 | | 0.67 | 14.88 | | 0.87 | -2.43 | 85 | 45 |
| 46 | 0.72 | 4.48 | 35 | 81 | | 1.93 | 17.28 | | 0.52 | -2.38 | 125 | 46 |
| 47 | 0.73 | 4.58 | 81 | 7 | | 1.84 | 2.26 | | 0.32 | -2.36 | 31 | 47 |
| 48 | 0.71 | 4.53 | 68 | 39 | | 0.14 | 0.87 | | 0.71 | -2.34 | 4 | 48 |
| 49 | 0.71 | 4.59 | 66 | 67 | | 0.62 | 1.27 | | 0.35 | -2.28 | 14 | 49 |
| 50 | 0.70 | 4.62 | 2 | 36 | | 0.14 | 12.91 | | 0.49 | -2.27 | 21 | 50 |
| 51 | 0.69 | 4.72 | 11 | 99 | | 0.36 | 21.97 | | 0.28 | -2.17 | 43 | 51 |
| 52 | 0.69 | 4.75 | 117 | 108 | | 0.49 | 13.92 | | 1.18 | -2.17 | 34 | 52 |
| 53 | 0.68 | 4.84 | 35 | 71 | | 0.17 | 3.97 | | 0.22 | -2.14 | 128 | 53 |
| 54 | 0.69 | 4.89 | 19 | 53 | | 1.12 | 0.39 | | 0.93 | -2.06 | 33 | 54 |
| 55 | 0.68 | 4.95 | 56 | 55 | | 0.85 | 29.58 | | 0.10 | -2.06 | 107 | 55 |
| 56 | 0.69 | 4.98 | 11 | 126 | | 1.45 | 14.84 | | 0.32 | -2.02 | 57 | 56 |
| 57 | 0.68 | 5.16 | 88 | 1 | | 0.34 | 3.17 | | 0.81 | -1.93 | 93 | 57 |

AD-A078 053 WESTINGHOUSE ELECTRIC CORP HUNT VALLEY MD F/G 14/1
PREDICTIVE OPERATIONS AND MAINTENANCE COST MODEL. VOLUME II.(U)
AUG 79 E E FELTUS F33615-77-C-1105
UNCLASSIFIED AFAL-TR-79-1120-VOL-2 NL

3 OF 4
AD-
A078053



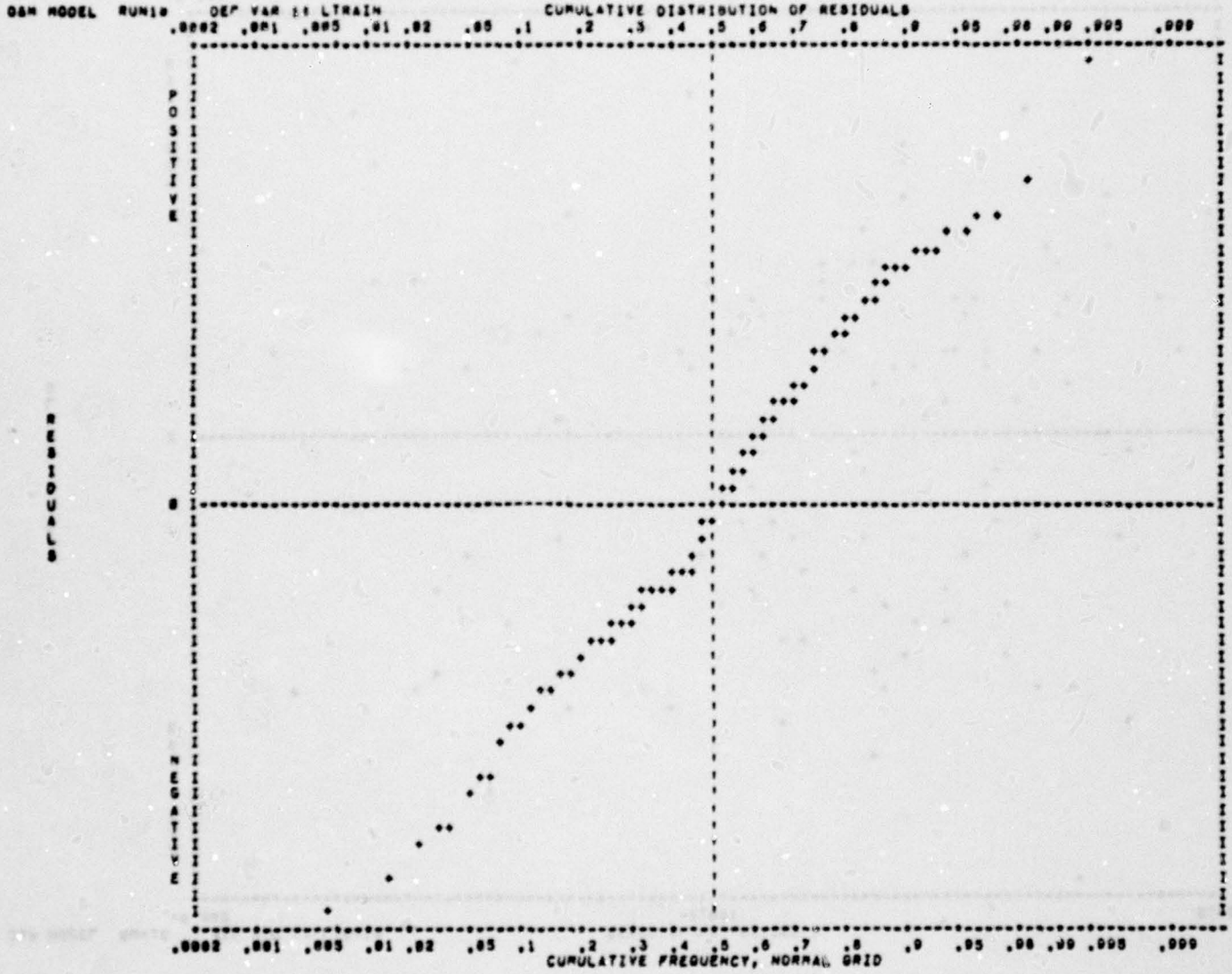


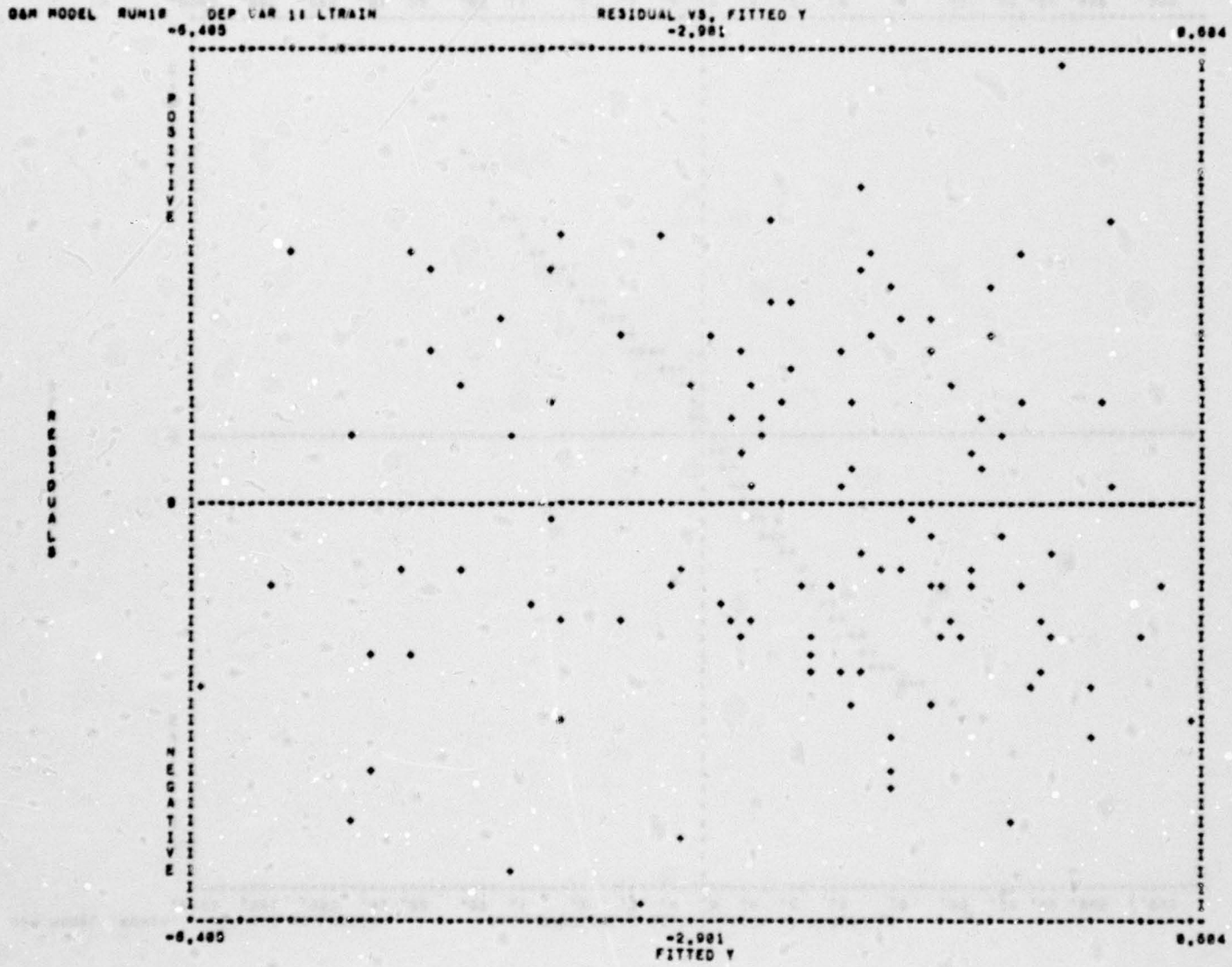
LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

O&M MODEL RUN10 DEP VAR IS LTRAIN

| IDENT, | OBSV, | ORDERED BY COMPUTER INPUT: WSS DISTANCE | OBS. Y | FITTED Y | RESIDUAL | ORDERED BY RESIDUALS: OBSV, | OBS. Y | FITTED Y | ORDERED RESID, | SEQ |
|---|---|---|---|---|---|---|---|---|---|---|
| 7182P | 1 | 2, | -1.837 | -1.663 | -P.174 | 103 | 1.387 | -P.981 | 1.667 | 1 |
| 71L8P | 2 | 4, | -1.588 | -1.288 | -P.432 | 188 | -P.511 | -1.715 | 1.204 | 2 |
| 71M6P | 3 | 15, | P.482 | -P.556 | P.958 | 89 | 1.126 | P.837 | 1.888 | 3 |
| 71PK8 | 4 | 2, | -1.268 | -2.342 | 1.982 | 4 | -1.268 | -2.342 | 1.982 | 4 |
| 71P9P | 5 | 4, | -2.166 | -1.893 | -P.273 | 47 | -2.753 | -3.794 | 1.041 | 5 |
| 71718 | 6 | 37, | -4.987 | -4.513 | P.426 | 114 | -2.834 | -3.867 | 1.033 | 6 |
| 724G8 | 7 | 16, | -4.383 | -4.828 | -P.336 | 3 | P.482 | -P.556 | P.958 | 7 |
| 71FAP | 8 | 18, | -2.992 | -2.662 | -P.338 | 98 | -4.728 | -5.676 | P.956 | 8 |
| 71F88 | 18 | 13, | -P.659 | -1.597 | P.938 | 16 | -3.879 | -4.823 | P.944 | 9 |
| 71C4P | 11 | 18, | -4.688 | -3.813 | -P.787 | 18 | -P.659 | -1.597 | P.938 | 18 |
| 71D4P | 12 | 12, | -P.928 | -P.614 | -P.386 | 95 | -P.788 | -1.679 | P.891 | 11 |
| 51EA8 | 13 | 3, | -2.347 | -2.528 | P.173 | 76 | -2.959 | -3.825 | P.866 | 12 |
| 52AA8 | 14 | 5, | -1.999 | -2.288 | P.371 | 74 | -3.821 | -4.684 | P.863 | 13 |
| 52A88 | 15 | 9, | -2.385 | -2.491 | P.186 | 181 | -P.648 | -1.487 | P.846 | 14 |
| 63b08 | 16 | 22, | -3.879 | -4.823 | P.944 | 63 | P.814 | -P.813 | P.828 | 15 |
| 74JA8 | 18 | 44, | -P.589 | -P.857 | P.348 | 34 | -1.392 | -2.169 | P.777 | 16 |
| 74JC8 | 19 | 8, | -2.537 | -1.795 | -P.741 | 31 | -1.595 | -2.358 | P.763 | 17 |
| 52GA1 | 28 | 5, | -3.883 | -4.119 | P.236 | 28 | -P.528 | -1.248 | P.721 | 18 |
| 71ZA8 | 21 | 5, | -2.243 | -2.267 | P.P24 | 71 | -3.587 | -4.221 | P.714 | 19 |
| 73EC8 | 24 | 13, | -P.165 | -P.791 | P.626 | 113 | -P.785 | -1.414 | P.789 | 28 |
| 73EP8 | 25 | 38, | -P.198 | -P.579 | P.382 | 126 | -2.716 | -3.383 | P.667 | 21 |
| 73HA8 | 26 | 27, | P.367 | -P.816 | P.384 | 72 | -P.994 | -1.624 | P.629 | 22 |
| 73HA8 | 28 | 11, | -P.528 | -1.248 | P.721 | 24 | -P.165 | -P.791 | P.626 | 23 |
| 73G88 | 29 | 7, | -1.225 | -P.542 | -P.683 | 184 | -2.134 | -2.756 | P.622 | 24 |
| 73K8P | 31 | 7, | -1.595 | -2.358 | P.763 | 48 | -P.638 | -1.243 | P.685 | 25 |
| 73CE8 | 32 | 4, | -3.P47 | -2.613 | -P.434 | 189 | -1.217 | -1.828 | P.693 | 26 |
| 73AF8 | 33 | 3, | -2.693 | -2.951 | -P.542 | 118 | -1.941 | -2.521 | P.588 | 27 |
| 73KKP | 34 | 13, | -1.392 | -2.169 | P.777 | 35 | -4.129 | -4.677 | P.548 | 28 |
| 7593P | 35 | 19, | -4.129 | -4.677 | P.548 | 43 | -1.679 | -2.175 | P.496 | 29 |
| 74B09 | 36 | 5, | -1.284 | -P.914 | -P.289 | 68 | -2.385 | -2.858 | P.466 | 38 |
| 749F8 | 37 | 3, | -1.592 | -1.129 | -P.463 | 51 | -P.584 | -1.237 | P.452 | 31 |
| 74818 | 38 | 23, | -3.P92 | -3.125 | P.833 | 69 | -2.858 | -2.479 | P.429 | 32 |
| 76A18 | 39 | 4, | -2.258 | -2.571 | P.321 | 6 | -4.887 | -4.513 | P.426 | 33 |
| 766A8 | 48 | 8, | -P.638 | -1.243 | P.685 | 118 | -3.445 | -3.847 | P.482 | 34 |
| 74FFP | 41 | 49, | -2.588 | -1.488 | -1.P21 | 28 | P.367 | -P.P16 | P.384 | 35 |
| 74FA8 | 42 | 29, | -P.972 | -P.892 | -P.888 | 53 | -1.394 | -1.777 | P.383 | 36 |
| 74FH8 | 43 | 7, | -1.679 | -2.175 | P.496 | 25 | -P.198 | -P.579 | P.382 | 37 |
| 74FU8 | 44 | 42, | -P.769 | -P.482 | -P.488 | 14 | -1.999 | -2.288 | P.371 | 38 |
| 658H8 | 47 | 6, | -2.753 | -3.794 | 1.P41 | 18 | -P.589 | -P.857 | P.348 | 39 |
| 749C8 | 49 | 7, | -1.148 | -P.912 | -P.237 | 39 | -2.258 | -2.579 | P.321 | 48 |
| 74FJP | 49 | 4, | -1.198 | -1.242 | P.P43 | 85 | -2.112 | -2.425 | P.314 | 41 |
| 74FK8 | 58 | 25, | -4.738 | -4.483 | -P.244 | 64 | -P.458 | -P.745 | P.287 | 42 |
| 74F08 | 51 | 59, | -P.584 | -1.837 | P.452 | 128 | -4.985 | -5.249 | P.264 | 43 |
| 74KAP | 52 | 8, | -1.388 | -1.359 | -P.P21 | 125 | -2.134 | -2.377 | P.242 | 44 |
| 74KC8 | 53 | 6, | -1.394 | -1.777 | P.383 | 28 | -3.883 | -4.119 | P.236 | 45 |
| 74C68 | 55 | 5, | -3.185 | -2.968 | -P.224 | 119 | -P.728 | -P.935 | P.286 | 46 |
| 74CCP | 58 | 5, | -3.318 | -3.948 | -P.278 | 13 | -2.347 | -2.528 | P.173 | 47 |
| 74FA1 | 57 | 18, | -2.624 | -2.816 | -P.698 | 98 | -1.588 | -1.746 | P.167 | 48 |
| 74E88 | 58 | 6, | -2.385 | -1.583 | -P.882 | 88 | -1.567 | -1.733 | P.165 | 49 |
| 73PHP | 59 | 4, | -2.423 | -1.813 | -P.618 | 96 | -P.724 | -P.847 | P.123 | 58 |
| 73P88 | 68 | 38, | -1.776 | -1.554 | -P.222 | 15 | -2.385 | -2.491 | P.186 | 51 |
| 73P08 | 61 | 21, | P.141 | P.489 | -P.258 | 97 | -2.385 | -2.459 | P.P94 | 52 |
| 73PF8 | 62 | 28, | -1.558 | -1.241 | -P.317 | 123 | -1.781 | -1.851 | P.P78 | 53 |
| 73PH8 | 63 | 4, | P.P14 | -P.813 | P.828 | 77 | P.969 | P.P14 | P.P55 | 54 |
| 71NAP | 64 | 5, | -P.458 | -P.745 | P.287 | 49 | -1.198 | -1.242 | P.843 | 55 |
| 71GU8 | 65 | 5, | -P.825 | -P.745 | -P.P88 | 185 | -1.357 | -1.393 | P.P36 | 56 |
| 63AAP | 66 | 2, | -1.325 | -1.213 | -P.112 | 38 | -3.P92 | -3.125 | P.P33 | 57 |
| 65AA8 | 67 | 5, | -1.925 | -1.193 | -P.732 | 21 | -P.243 | -P.267 | P.P24 | 58 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 634GA | 68 | 4. | -2.385 | -2.458 | 0.466 | 92 | -1.388 | -1.359 | -0.021 | 59 |
| 639CA | 69 | 12. | -2.958 | -2.479 | 0.429 | 79 | -3.932 | -3.861 | -0.071 | 60 |
| 638FA | 70 | 24. | -5.135 | -4.878 | -0.257 | 65 | -0.825 | -0.745 | -0.088 | 61 |
| 71ABE | 71 | 11. | -3.587 | -4.221 | 0.714 | 66 | -1.325 | -1.213 | -0.112 | 62 |
| 71ADA | 72 | 8. | -0.994 | -1.624 | 0.629 | 1 | -1.837 | -1.663 | -0.174 | 63 |
| 73DBA | 73 | 29. | -0.772 | -0.111 | -0.660 | 82 | -0.541 | -0.356 | -0.186 | 64 |
| 71ACC | 74 | 36. | -3.821 | -4.684 | 0.863 | 124 | -1.672 | -1.452 | -0.220 | 65 |
| 73CBQ | 75 | 54. | -5.381 | -4.865 | -0.517 | 38 | -1.776 | -1.554 | -0.222 | 66 |
| 73CEN | 76 | 31. | -2.959 | -3.825 | 0.866 | 55 | -3.185 | -2.960 | -0.224 | 67 |
| 73CFA | 77 | 42. | 0.969 | 0.814 | 0.855 | 48 | -1.146 | -0.912 | -0.237 | 68 |
| 73DAM | 78 | 16. | -1.446 | -1.123 | -0.325 | 58 | -4.730 | -4.485 | -0.244 | 69 |
| 73EBA | 79 | 16. | -3.932 | -3.861 | -0.071 | 78 | -5.135 | -4.878 | -0.257 | 70 |
| 73EBF | 80 | 7. | -1.587 | -1.733 | 0.165 | 61 | 0.141 | 0.429 | -0.288 | 71 |
| 71CAB | 81 | 8. | -5.585 | -4.125 | -1.358 | 56 | -3.318 | -3.048 | -0.270 | 72 |
| 73EGB | 82 | 14. | -0.541 | -0.356 | -0.186 | 5 | -2.166 | -1.893 | -0.273 | 73 |
| 73HCB | 83 | 12. | -0.289 | 0.283 | -0.472 | 93 | -2.212 | -1.926 | -0.286 | 74 |
| 73LAB | 84 | 8. | -0.178 | 0.604 | -0.781 | 36 | -1.294 | -0.914 | -0.289 | 75 |
| 77ECB | 85 | 5. | -2.112 | -2.425 | 0.314 | 116 | -0.983 | -5.703 | -0.298 | 76 |
| 77DCA | 87 | 5. | -2.388 | -1.686 | -0.814 | 12 | -0.928 | -0.614 | -0.386 | 77 |
| 77DBP | 88 | 44. | -6.874 | -5.119 | -0.955 | 62 | -1.558 | -1.241 | -0.317 | 78 |
| 78AEA | 89 | 14. | 1.126 | 0.837 | 1.888 | 128 | -2.458 | -2.140 | -0.318 | 79 |
| 73KAB | 90 | 13. | -1.568 | -1.746 | 0.167 | 78 | -1.448 | -1.123 | -0.325 | 80 |
| 639AA | 91 | 6. | -0.852 | -0.413 | -0.439 | 9 | -2.992 | -2.582 | -0.338 | 81 |
| 83CAA | 92 | 8. | -1.897 | -2.413 | 0.594 | 7 | -4.363 | -4.028 | -0.336 | 82 |
| 659AA | 93 | 5. | -2.212 | -1.928 | -0.285 | 112 | -4.179 | -3.781 | -0.398 | 83 |
| 61BBA | 94 | 5. | -1.853 | -0.685 | -1.168 | 106 | -2.883 | -2.461 | -0.422 | 84 |
| 61AAB | 95 | 5. | -0.788 | -1.679 | 0.891 | 99 | -3.824 | -3.399 | -0.425 | 85 |
| 61ABP | 96 | 5. | -0.724 | -0.847 | 0.123 | 2 | -1.500 | -1.068 | -0.432 | 86 |
| 614CB | 97 | 18. | -2.385 | -2.459 | 0.894 | 32 | -3.847 | -2.913 | -0.434 | 87 |
| 72AAB | 98 | 42. | -4.728 | -5.578 | 0.956 | 91 | -0.852 | -0.413 | -0.439 | 88 |
| 724CA | 99 | 23. | -3.824 | -3.399 | -0.425 | 121 | -1.465 | -1.008 | -0.457 | 89 |
| 71CAA | 100 | 9. | -0.511 | -1.715 | 1.204 | 37 | -1.592 | -1.129 | -0.463 | 90 |
| 72EAA | 101 | 31. | -0.648 | -1.487 | 0.846 | 127 | -2.993 | -2.529 | -0.464 | 91 |
| 72ECA | 102 | 26. | -2.466 | -1.472 | -0.998 | 44 | -0.869 | -0.422 | -0.466 | 92 |
| 72BPO | 103 | 27. | 1.387 | -0.281 | 1.667 | 83 | -0.209 | 0.263 | -0.472 | 93 |
| 71JAP | 104 | 5. | -2.134 | -2.756 | 0.622 | 107 | -2.569 | -2.059 | -0.510 | 94 |
| 71LAB | 105 | 9. | -1.357 | -1.393 | 0.036 | 75 | -5.381 | -4.865 | -0.517 | 95 |
| 72CNB | 106 | 18. | -2.883 | -2.481 | -0.402 | 33 | -2.683 | -2.981 | -0.542 | 96 |
| 72ACP | 107 | 4. | -2.569 | -2.059 | -0.510 | 122 | -5.678 | -5.189 | -0.589 | 97 |
| 71716 | 108 | 11. | -6.373 | -5.229 | -1.144 | 92 | -1.887 | -0.413 | -0.594 | 98 |
| 71310 | 109 | 9. | -1.217 | -1.820 | 0.603 | 57 | -2.624 | -2.016 | -0.608 | 99 |
| 72RFA | 110 | 11. | -3.445 | -3.847 | 0.402 | 59 | -2.423 | -1.813 | -0.610 | 100 |
| 72R6B | 111 | 18. | -4.730 | -3.233 | -1.497 | 87 | -2.388 | -1.886 | -0.614 | 101 |
| 71JCE | 112 | 31. | -4.179 | -3.781 | -0.398 | 117 | -7.243 | -6.485 | -0.658 | 102 |
| 724E0 | 113 | 21. | -0.795 | -1.414 | 0.739 | 73 | -0.772 | -0.111 | -0.660 | 103 |
| 72CC0 | 114 | 5. | -2.934 | -3.867 | 1.933 | 29 | -1.225 | -0.542 | -0.683 | 104 |
| 71ZAB | 115 | 7. | -4.193 | -2.965 | -1.228 | 67 | -1.925 | -1.193 | -0.732 | 105 |
| 71ZBP | 116 | 15. | -6.083 | -5.793 | -0.290 | 19 | -2.537 | -1.795 | -0.741 | 106 |
| 71ZDB | 117 | 27. | -7.083 | -6.425 | -0.658 | 84 | -2.179 | -0.604 | -0.781 | 107 |
| 659AA | 118 | 6. | -1.941 | -2.521 | 0.580 | 11 | -4.690 | -3.813 | -0.787 | 108 |
| 63AFB | 119 | 6. | -0.729 | -0.935 | 0.206 | 42 | -0.972 | -0.892 | -0.888 | 109 |
| 63AAB | 120 | 2. | -2.458 | -2.140 | -0.318 | 58 | -2.385 | -1.503 | -0.882 | 110 |
| 63121 | 121 | 6. | -1.465 | -1.008 | -0.457 | 88 | -6.874 | -5.119 | -0.955 | 111 |
| 63AAA | 122 | 25. | -5.578 | -5.189 | -0.389 | 102 | -2.468 | -1.472 | -0.996 | 112 |
| 554LB | 123 | 7. | -1.781 | -1.851 | 0.070 | 41 | -2.588 | -1.488 | -1.021 | 113 |
| 55AVB | 124 | 18. | -1.672 | -1.452 | -0.220 | 108 | -6.373 | -5.229 | -1.144 | 114 |
| 61AAB | 125 | 9. | -2.134 | -2.377 | 0.242 | 94 | -1.853 | -0.685 | -1.168 | 115 |
| 61AEB | 126 | 11. | -2.716 | -3.383 | 0.667 | 115 | -4.193 | -2.965 | -1.228 | 116 |
| 62AAB | 127 | 4. | -2.993 | -2.529 | -0.464 | 81 | -5.585 | -4.125 | -1.388 | 117 |
| 64211 | 128 | 25. | -4.985 | -5.249 | 0.264 | 111 | -4.738 | -3.233 | -1.497 | 118 |


G&H MODEL RUN18 DEP VAR IS LTRAIN
CUMULATIVE DISTRIBUTION OF RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
POSITIVE
0
NEGATIVE
SQUARED RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
CUMULATIVE FREQUENCY, NORMAL GRID


B&M MODEL RUN18 DEP VAR IS LTRAIN
RESIDUAL VS. FITTED Y
-6.485
-2.981
8.684
POSITIVE
RESIDUALS
0
NEGATIVE
-6.485
-2.981
8.684
FITTED Y

CP VALUES FOR THE SELECTION OF VARIABLES

O&M MODEL RUN18 DEP VAR 11 LTRAIN SEARCH NUMBER 1

SELECTION OF VARIABLES FOR BASIC EQUATION

CP *274.8, VARIABLE ADDED 21 LUP

CP *229.2, VARIABLE ADDED 7 DI

CP *227.1, VARIABLE ADDED 3 CARNAV

CP *193.6, VARIABLE ADDED 14 MSS

CP *163.9, VARIABLE ADDED 16 OCC

CP * 99.9, VARIABLE ADDED 22 LVO

CP * 91.2, VARIABLE ADDED 12 MEM

CP * 87.5, VARIABLE ADDED 18 MCC

CP * 88.2, VARIABLE ADDED 23 LCC

| | |
|---|---|
| NUMBER OF OBSERVATIONS | 118 |
| NUMBER OF VARIABLES IN FULL EQUATION | 24 |
| NUMBER OF VARIABLES IN BASIC EQUATION | 7 |
| REMAINDER OF VARIABLES TO BE SEARCHED | 17 |

NUMBER OF VARIABLES REMAINING TO BE SEARCHED IS GREATER THAN 12
USE FRACTIONAL FACTORIAL OPTION TO SOLVE PROBLEM.

LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

O&M MODEL RUN11 DEP VAR 11 LMHTOT MIN Y = -7,9980 00 MAX Y = -5,4890-01 RANGE = 6,8440 00

MULTIPLE REGRESSION ANALYSIS FOR THE "ALPOS" MODEL
LMHTOT = B(0) + B(1)FIGSEN + B(2)FIGCOM + B(3)BOMNAV + B(4)BOMCOM
+ B(5)CO + B(6)SS + B(7)MCC + B(8)MOI + B(9)MEM
+ B(10)DUP + B(11)OCC + B(12)DOI + B(13)OEM + B(14)D
+ B(15)DPO + B(16)DUF + B(17)NRTS + B(18)LUP
+ B(19)LVO + B(20)LMT
LMHTOT = LN(MMHTOT)
MMHTOT = TOTAL MAINTENANCE MANHOURS PER OPERATING HOUR

| IND,VAR(I) | NAME | COEF,B(I) | S.E. COEF. | T-VALUE | R(I)SQRD | MIN X(I) | MAX X(I) | RANGE X(I) | REL.INF.X(I) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | -9,410680 00 | | | | | | | |
| 1 | FIGSEN | -2,833230-01 | 1,130-01 | 1,8 | 0,3428 | 0,0 | 1,0000 00 | 1,0000 00 | 0,03 |
| 2 | FIGCOM | 5,452850-01 | 1,840-01 | 3,0 | 0,0872 | 0,0 | 1,0000 00 | 1,0000 00 | 0,05 |
| 3 | BOMNAV | 6,199330-01 | 1,360-01 | 4,6 | 0,2269 | 0,0 | 1,0000 00 | 1,0000 00 | 0,09 |
| 4 | BOMCOM | 8,712320-01 | 1,680-01 | 4,2 | 0,1724 | 0,0 | 1,0000 00 | 1,0000 00 | 0,10 |
| 5 | CO | 2,185190-01 | 5,270-02 | 4,2 | 0,4438 | 4,9230-03 | 6,6740 00 | 6,6690 00 | 0,22 |
| 6 | SS | -1,621920-02 | 1,970-03 | 8,2 | 0,6989 | 0,0 | 1,0000 02 | 1,0000 02 | 0,25 |
| 7 | MCC | 7,834210-05 | 5,330-05 | 1,5 | 0,7485 | -1,1680 03 | 7,1220 03 | 8,2900 03 | 0,19 |
| 8 | MOI | -1,227120-02 | 1,430-03 | 8,6 | 0,4948 | -2,4900 01 | 7,5190 01 | 1,0080 02 | 0,19 |
| 9 | MEM | -2,213910-02 | 2,360-03 | 9,4 | 0,5878 | -1,0200 01 | 8,9980 01 | 1,0180 02 | 0,34 |
| 10 | DUP | 6,534460-12 | 3,810-12 | 2,2 | 0,2577 | 2,2260 07 | 1,4360 11 | 1,4360 11 | 0,14 |
| 11 | OCC | -3,589280-08 | 1,260-08 | 2,8 | 0,3743 | 7,2980 02 | 2,8560 07 | 2,8560 07 | 0,16 |
| 12 | DOI | 1,884960-04 | 6,800-05 | 1,6 | 0,2791 | 1,6800-01 | 3,8910 03 | 3,8910 03 | 0,05 |
| 13 | OEM | -1,665950-04 | 7,980-05 | 2,1 | 0,1650 | 2,7940 01 | 3,8470 03 | 3,8290 03 | 0,05 |
| 14 | DPS | -2,123270-04 | 1,130-04 | 1,9 | 0,2851 | 9,4260 01 | 2,8830 03 | 2,7880 03 | 0,09 |
| 15 | DPO | 1,762740-07 | 1,010-07 | 1,7 | 0,2988 | 7,2980 02 | 4,1890 08 | 4,1880 08 | 0,11 |
| 16 | DUF | 3,316740-01 | 1,320-01 | 2,5 | 0,1288 | 2,8250-01 | 2,1030 08 | 2,9980 08 | 0,10 |
| 17 | NRTS | -3,988480-03 | 2,280-03 | 1,9 | 0,2975 | 0,0 | 1,8880 02 | 1,8860 02 | 0,06 |
| 18 | LUP | 5,695820-01 | 4,490-02 | 12,7 | 0,7351 | 5,6380 08 | 1,3250 01 | 8,2170 08 | 0,72 |
| 19 | LVO | 1,791880-01 | 1,040-01 | 1,7 | 0,9818 | 3,4810 08 | 9,8120 08 | 5,6110 08 | 0,18 |
| 20 | LMT | 3,136870-01 | 1,070-01 | 2,9 | 0,8939 | 0,0 | 5,1570 08 | 5,1570 08 | 0,25 |

| | |
|---|---|
| NO. OF OBSERVATIONS | 119 |
| NO. OF IND. VARIABLES | 20 |
| RESIDUAL DEGREES OF FREEDOM | 98 |
| F-VALUE | 82,4 |
| RESIDUAL ROOT MEAN SQUARE | 0,41892549 |
| RESIDUAL MEAN SQUARE | 0,17549856 |
| RESIDUAL SUM OF SQUARES | 17,19885927 |
| TOTAL SUM OF SQUARES | 236,18738456 |
| MULT. CORREL. COEF. SQUARED | ,9272 |

REQUIRED X(I) PRECISION
(DIGIT RIGHT OF DECIMAL POSITIVE,
LEFT OF DECIMAL NEGATIVE)

| IND,VAR(I) | DIGIT |
|---|---|
| 1 | -1 |
| 2 | -1 |
| 3 | -1 |
| 4 | -1 |
| 5 | 1 |
| 6 | -2 |
| 7 | -4 |
| 8 | -2 |
| 9 | -2 |
| 10 | -11 |
| 11 | -7 |
| 12 | -4 |
| 13 | -4 |
| 14 | -3 |
| 15 | -6 |
| 16 | 1 |
| 17 | -2 |
| 18 | 1 |
| 19 | 1 |
| 20 | 1 |

LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

O&M MODEL RUN11 DEP VAR 11 LHHTOT RESIDUAL ROOT MEAN SQUARE OF FITTED EQUATION: 0.42

STANDARD DEVIATION ESTIMATED FROM RESIDUALS OF NEIGHBORING OBSERVATIONS (OBSERVATIONS 1 TO 4 APART IN FITTED Y ORDER).

| NO. | CUMULATIVE STD DEV | ORDERED BY WSSD: WSSD | OBSV. | OBSV. | DEL RESIDUALS | ORDERED BY FITTED Y: WSSD | DEL RESIDUALS | FITTED Y | OBSV. | SEQ. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.21 | 0.0 | 92 | 91 | 0.22 | 45.88 | 0.14 | -6.64 | 88 | 1 |
| 2 | 0.31 | 0.09 | 65 | 64 | 0.42 | 45.54 | 0.72 | -6.45 | 117 | 2 |
| 3 | 0.26 | 0.06 | 109 | 108 | 0.17 | 48.66 | 1.44 | -6.34 | 86 | 3 |
| 4 | 0.28 | 0.16 | 4 | 128 | 0.28 | 13.93 | 0.85 | -6.28 | 58 | 4 |
| 5 | 0.23 | 0.23 | 53 | 58 | 0.06 | 8.78 | 0.38 | -6.16 | 126 | 5 |
| 6 | 0.22 | 0.33 | 13 | 14 | 0.18 | 4.36 | 0.17 | -5.92 | 6 | 6 |
| 7 | 0.28 | 0.34 | 128 | 31 | 0.69 | 62.49 | 0.28 | -5.87 | 98 | 7 |
| 8 | 0.32 | 0.36 | 59 | 43 | 0.58 | 47.87 | 0.58 | -5.57 | 38 | 8 |
| 9 | 0.36 | 0.51 | 88 | 86 | 0.86 | 7.91 | 0.15 | -5.56 | 7 | 9 |
| 10 | 0.37 | 0.54 | 7 | 16 | 0.34 | 6.85 | 0.49 | -5.38 | 116 | 10 |
| 11 | 0.40 | 0.63 | 49 | 32 | 0.64 | 33.21 | 0.13 | -5.37 | 16 | 11 |
| 12 | 0.40 | 0.64 | 16 | 35 | 0.45 | 47.18 | 0.36 | -5.35 | 75 | 12 |
| 13 | 0.39 | 0.69 | 19 | 114 | 0.24 | 57.68 | 0.48 | -5.34 | 76 | 13 |
| 14 | 0.41 | 0.78 | 2 | 121 | 0.77 | 9.48 | 0.83 | -5.33 | 79 | 14 |
| 15 | 0.41 | 0.78 | 128 | 6 | 0.38 | 2.13 | 0.25 | -5.11 | 35 | 15 |
| 16 | 0.40 | 0.78 | 121 | 101 | 0.29 | 18.88 | 1.82 | -5.09 | 108 | 16 |
| 17 | 0.42 | 0.79 | 19 | 54 | 0.73 | 17.26 | 0.39 | -4.81 | 112 | 17 |
| 18 | 0.41 | 0.79 | 101 | 119 | 0.15 | 19.98 | 0.49 | -4.63 | 79 | 18 |
| 19 | 0.39 | 0.81 | 79 | 71 | 0.87 | 29.69 | 1.16 | -4.62 | 74 | 19 |
| 20 | 0.37 | 0.85 | 86 | 85 | 0.81 | 45.58 | 0.74 | -4.58 | 111 | 20 |
| 21 | 0.37 | 0.85 | 86 | 84 | 0.42 | 26.18 | 0.88 | -4.56 | 56 | 21 |
| 22 | 0.40 | 0.91 | 82 | 17 | 1.11 | 6.93 | 0.89 | -4.49 | 71 | 22 |
| 23 | 0.41 | 0.95 | 117 | 128 | 0.67 | 4.46 | 1.42 | -4.43 | 11 | 23 |
| 24 | 0.42 | 1.83 | 54 | 114 | 0.49 | 7.81 | 0.72 | -4.24 | 28 | 24 |
| 25 | 0.42 | 1.84 | 71 | 81 | 0.64 | 3.13 | 0.44 | -4.23 | 39 | 25 |
| 26 | 0.41 | 1.86 | 10 | 58 | 0.86 | 13.51 | 0.32 | -4.12 | 81 | 26 |
| 27 | 0.41 | 1.19 | 119 | 108 | 0.27 | 56.78 | 0.27 | -4.05 | 21 | 27 |
| 28 | 0.39 | 1.20 | 85 | 37 | 0.83 | 48.89 | 0.19 | -4.05 | 46 | 28 |
| 29 | 0.39 | 1.22 | 15 | 19 | 0.46 | 2.53 | 0.63 | -4.01 | 9 | 29 |
| 30 | 0.40 | 1.27 | 114 | 53 | 0.58 | 27.17 | 0.81 | -3.97 | 13 | 30 |
| 31 | 0.42 | 1.28 | 117 | 6 | 0.29 | 23.79 | 0.19 | -3.95 | 18 | 31 |
| 32 | 0.39 | 1.32 | 37 | 4 | 0.82 | 4.04 | 0.44 | -3.94 | 68 | 32 |
| 33 | 0.38 | 1.32 | 107 | 37 | 0.38 | 2.65 | 1.83 | -3.90 | 14 | 33 |
| 34 | 0.40 | 1.45 | 2 | 101 | 1.86 | 12.92 | 0.38 | -3.89 | 55 | 34 |
| 35 | 0.40 | 1.52 | 85 | 107 | 0.33 | 9.79 | 0.16 | -3.84 | 33 | 35 |
| 36 | 0.40 | 1.55 | 86 | 87 | 0.37 | 8.89 | 0.35 | -3.82 | 110 | 36 |
| 37 | 0.39 | 1.58 | 107 | 4 | 0.27 | 3.16 | 0.39 | -3.79 | 127 | 37 |
| 38 | 0.41 | 1.64 | 54 | 53 | 1.86 | 15.51 | 0.28 | -3.78 | 120 | 38 |
| 39 | 0.41 | 1.67 | 83 | 43 | 0.54 | 1.22 | 0.46 | -3.74 | 15 | 39 |
| 40 | 0.41 | 1.69 | 33 | 127 | 0.18 | 28.54 | 0.01 | -3.61 | 19 | 40 |
| 41 | 0.40 | 1.73 | 1 | 85 | 0.25 | 17.85 | 0.72 | -3.58 | 5 | 41 |
| 42 | 0.40 | 1.74 | 125 | 1 | 0.32 | 14.93 | 0.99 | -3.56 | 52 | 42 |
| 43 | 0.42 | 1.75 | 13 | 55 | 1.21 | 11.86 | 0.49 | -3.55 | 99 | 43 |
| 44 | 0.43 | 1.87 | 31 | 12 | 1.88 | 1.27 | 0.58 | -3.52 | 114 | 44 |
| 45 | 0.43 | 2.03 | 118 | 85 | 0.22 | 3.52 | 0.46 | -3.49 | 53 | 45 |
| 46 | 0.43 | 2.03 | 11 | 39 | 0.69 | 13.78 | 0.52 | -3.48 | 48 | 46 |
| 47 | 0.43 | 2.04 | 58 | 123 | 0.12 | 7.88 | 0.71 | -3.45 | 104 | 47 |
| 48 | 0.43 | 2.04 | 52 | 18 | 0.51 | 14.42 | 0.57 | -3.39 | 122 | 48 |
| 49 | 0.42 | 2.13 | 35 | 108 | 0.25 | 2.84 | 0.12 | -3.38 | 58 | 49 |
| 50 | 0.44 | 2.15 | 59 | 83 | 1.12 | 0.27 | 0.12 | -3.31 | 123 | 50 |
| 51 | 0.45 | 2.16 | 12 | 63 | 1.18 | 1.74 | 0.38 | -3.31 | 125 | 51 |
| 52 | 0.48 | 2.21 | 21 | 13 | 1.89 | 4.51 | 0.47 | -3.30 | 1 | 52 |
| 53 | 0.45 | 2.29 | 87 | 85 | 0.36 | 0.83 | 0.29 | -3.30 | 116 | 53 |
| 54 | 0.47 | 2.29 | 87 | 84 | 0.70 | 15.26 | 0.15 | -3.24 | 85 | 54 |
| 55 | 0.48 | 2.32 | 15 | 94 | 1.19 | 34.84 | 0.28 | -3.23 | 38 | 55 |
| 56 | 0.49 | 2.33 | 31 | 59 | 0.94 | 26.33 | 0.48 | -3.15 | 3 | 56 |
| 57 | 0.48 | 2.36 | 128 | 12 | 0.31 | 1.32 | 0.38 | -3.14 | 107 | 57 |

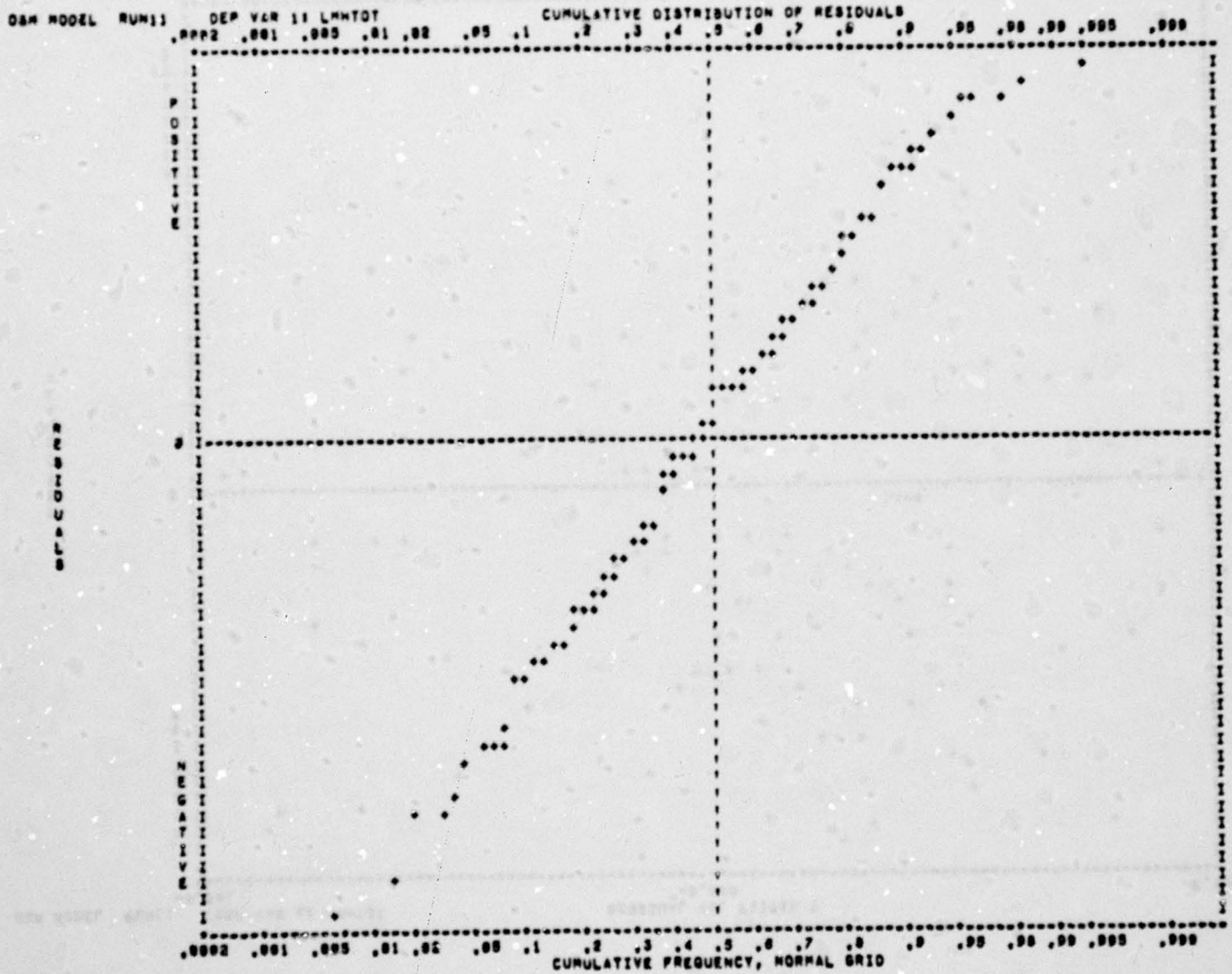
| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 58 | 0.49 | 2.39 | 6 | 7 | 0.73 | 1.32 | 0.82 | -3.14 | 37 | 58 |
| 59 | 0.49 | 2.46 | 42 | 61 | 0.68 | 11.13 | 0.28 | -3.12 | 4 | 59 |
| 60 | 0.49 | 2.53 | 9 | 15 | 0.63 | 13.12 | 0.13 | -3.05 | 69 | 60 |
| 61 | 0.49 | 2.62 | 72 | 73 | 0.22 | 23.41 | 0.66 | -3.04 | 38 | 61 |
| 62 | 0.50 | 2.65 | 14 | 55 | 1.93 | 16.82 | 0.23 | -2.99 | 126 | 62 |
| 63 | 0.49 | 2.68 | 120 | 59 | 0.25 | 0.34 | 0.89 | -2.95 | 128 | 63 |
| 64 | 0.49 | 2.91 | 9 | 14 | 0.45 | 12.86 | 0.35 | -2.92 | 31 | 64 |
| 65 | 0.49 | 2.97 | 108 | 79 | 0.83 | 19.60 | 0.85 | -2.89 | 34 | 65 |
| 66 | 0.49 | 3.03 | 54 | 48 | 0.61 | 1.06 | 0.86 | -2.87 | 12 | 66 |
| 67 | 0.49 | 3.03 | 87 | 103 | 0.92 | 9.26 | 0.54 | -2.84 | 59 | 67 |
| 68 | 0.49 | 3.13 | 39 | 81 | 0.44 | 13.74 | 0.58 | -2.83 | 97 | 68 |
| 69 | 0.48 | 3.17 | 103 | 42 | 0.27 | 3.62 | 0.89 | -2.79 | 83 | 69 |
| 70 | 0.49 | 3.18 | 128 | 7 | 1.11 | 4.31 | 0.35 | -2.78 | 105 | 70 |
| 71 | 0.48 | 3.18 | 127 | 126 | 0.39 | 10.17 | 0.34 | -2.71 | 43 | 71 |
| 72 | 0.49 | 3.23 | 21 | 9 | 0.48 | 7.94 | 0.78 | -2.68 | 98 | 72 |
| 73 | 0.48 | 3.24 | 125 | 85 | 0.95 | 27.85 | 0.13 | -2.67 | 93 | 73 |
| 74 | 0.49 | 3.38 | 95 | 32 | 1.17 | 56.13 | 1.98 | -2.67 | 124 | 74 |
| 75 | 0.49 | 3.45 | 108 | 92 | 0.66 | 53.97 | 0.48 | -2.62 | 44 | 75 |
| 76 | 0.49 | 3.52 | 53 | 48 | 0.48 | 18.22 | 0.45 | -2.61 | 95 | 76 |
| 77 | 0.49 | 3.54 | 127 | 5 | 0.19 | 11.59 | 0.87 | -2.60 | 57 | 77 |
| 78 | 0.49 | 3.62 | 83 | 105 | 0.89 | 0.63 | 0.84 | -2.60 | 49 | 78 |
| 79 | 0.50 | 3.65 | 17 | 82 | 0.83 | 23.86 | 1.17 | -2.52 | 32 | 79 |
| 80 | 0.50 | 3.72 | 48 | 58 | 0.38 | 35.17 | 0.18 | -2.49 | 28 | 80 |
| 81 | 0.50 | 3.74 | 13 | 66 | 0.62 | 15.17 | 0.58 | -2.44 | 66 | 81 |
| 82 | 0.50 | 3.76 | 89 | 105 | 0.23 | 15.11 | 0.56 | -2.44 | 24 | 82 |
| 83 | 0.49 | 3.79 | 11 | 81 | 0.25 | 2.29 | 0.38 | -2.41 | 87 | 83 |
| 84 | 0.49 | 3.85 | 49 | 66 | 0.36 | 0.88 | 0.42 | -2.39 | 85 | 84 |
| 85 | 0.49 | 3.93 | 42 | 26 | 0.71 | 10.44 | 0.15 | -2.39 | 64 | 85 |
| 86 | 0.50 | 3.93 | 25 | 27 | 0.88 | 18.72 | 0.73 | -2.38 | 52 | 86 |
| 87 | 0.49 | 3.98 | 9 | 68 | 0.91 | 8.19 | 0.45 | -2.33 | 41 | 87 |
| 88 | 0.49 | 3.98 | 35 | 79 | 0.38 | 29.69 | 0.68 | -2.31 | 113 | 88 |
| 89 | 0.49 | 4.04 | 27 | 83 | 0.68 | 13.68 | 0.45 | -2.31 | 2 | 89 |
| 90 | 0.49 | 4.12 | 95 | 49 | 0.53 | 18.56 | 0.31 | -2.22 | 18 | 90 |
| 91 | 0.49 | 4.26 | 104 | 125 | 0.14 | 13.32 | 0.48 | -2.22 | 121 | 91 |
| 92 | 0.48 | 4.28 | 114 | 48 | 0.12 | 13.32 | 0.77 | -2.19 | 78 | 92 |
| 93 | 0.48 | 4.31 | 105 | 45 | 0.35 | 51.59 | 0.25 | -2.18 | 101 | 93 |
| 94 | 0.48 | 4.36 | 6 | 98 | 0.17 | 29.55 | 0.99 | -2.17 | 51 | 94 |
| 95 | 0.49 | 4.41 | 32 | 66 | 1.91 | 31.91 | 0.31 | -2.16 | 48 | 95 |
| 96 | 0.49 | 4.46 | 11 | 28 | 1.42 | 16.96 | 0.35 | -2.15 | 119 | 96 |
| 97 | 0.49 | 4.58 | 105 | 124 | 0.22 | 32.42 | 0.69 | -2.13 | 98 | 97 |
| 98 | 0.49 | 4.61 | 1 | 118 | 0.47 | 69.97 | 0.77 | -2.10 | 80 | 98 |
| 99 | 0.49 | 4.64 | 68 | 14 | 0.44 | 55.59 | 0.33 | -2.04 | 109 | 99 |
| 100 | 0.49 | 4.88 | 115 | 107 | 0.55 | 33.61 | 1.23 | -2.03 | 17 | 100 |
| 101 | 0.49 | 4.33 | 71 | 39 | 0.29 | 10.61 | 1.93 | -2.00 | 94 | 101 |
| 102 | 0.49 | 4.86 | 32 | 87 | 0.64 | 38.98 | 0.79 | -1.94 | 100 | 102 |
| 103 | 0.49 | 5.02 | 12 | 105 | 0.29 | 11.67 | 0.84 | -1.88 | 29 | 103 |
| 104 | 0.49 | 5.37 | 96 | 95 | 0.38 | 5.88 | 0.76 | -1.73 | 82 | 104 |
| 105 | 0.49 | 5.38 | 128 | 98 | 0.55 | 51.37 | 0.76 | -1.61 | 25 | 105 |
| 106 | 0.49 | 5.48 | 84 | 77 | 0.39 | 0.8 | 0.20 | -1.58 | 92 | 106 |
| 107 | 0.48 | 5.49 | 99 | 104 | 0.14 | 37.87 | 0.33 | -1.58 | 91 | 107 |
| 108 | 0.48 | 5.54 | 20 | 21 | 0.85 | 4.04 | 0.68 | -1.54 | 27 | 108 |
| 109 | 0.49 | 5.57 | 38 | 126 | 0.28 | 47.15 | 0.57 | -1.47 | 83 | 109 |
| 110 | 0.48 | 5.85 | 88 | 33 | 0.21 | 2.62 | 0.22 | -1.33 | 72 | 110 |
| 111 | 0.48 | 5.86 | 84 | 89 | 0.73 | 39.67 | 0.89 | -1.29 | 73 | 111 |
| 112 | 0.49 | 5.86 | 82 | 25 | 0.76 | 11.94 | 1.22 | -1.22 | 103 | 112 |
| 113 | 0.48 | 5.88 | 92 | 72 | 0.98 | 5.88 | 0.73 | -1.21 | 84 | 113 |
| 114 | 0.48 | 5.88 | 91 | 74 | 0.22 | 6.86 | 0.57 | -1.17 | 89 | 114 |
| 115 | 0.49 | 5.88 | 83 | 103 | 0.78 | 12.79 | 0.93 | -1.14 | 42 | 115 |
| 116 | 0.48 | 5.89 | 91 | 73 | 0.44 | 13.95 | 0.93 | -1.08 | 77 | 116 |
| 117 | 0.48 | 5.98 | 98 | 20 | 0.92 | 8.87 | 0.11 | -0.88 | 81 | 117 |
| 118 | 0.48 | 5.98 | 82 | 27 | 0.12 | 9.33 | 0.89 | -0.87 | 25 | 118 |
| 119 | 0.48 | 6.06 | 89 | 48 | 0.57 | 6.81 | 0.88 | -0.85 | 88 | 119 |

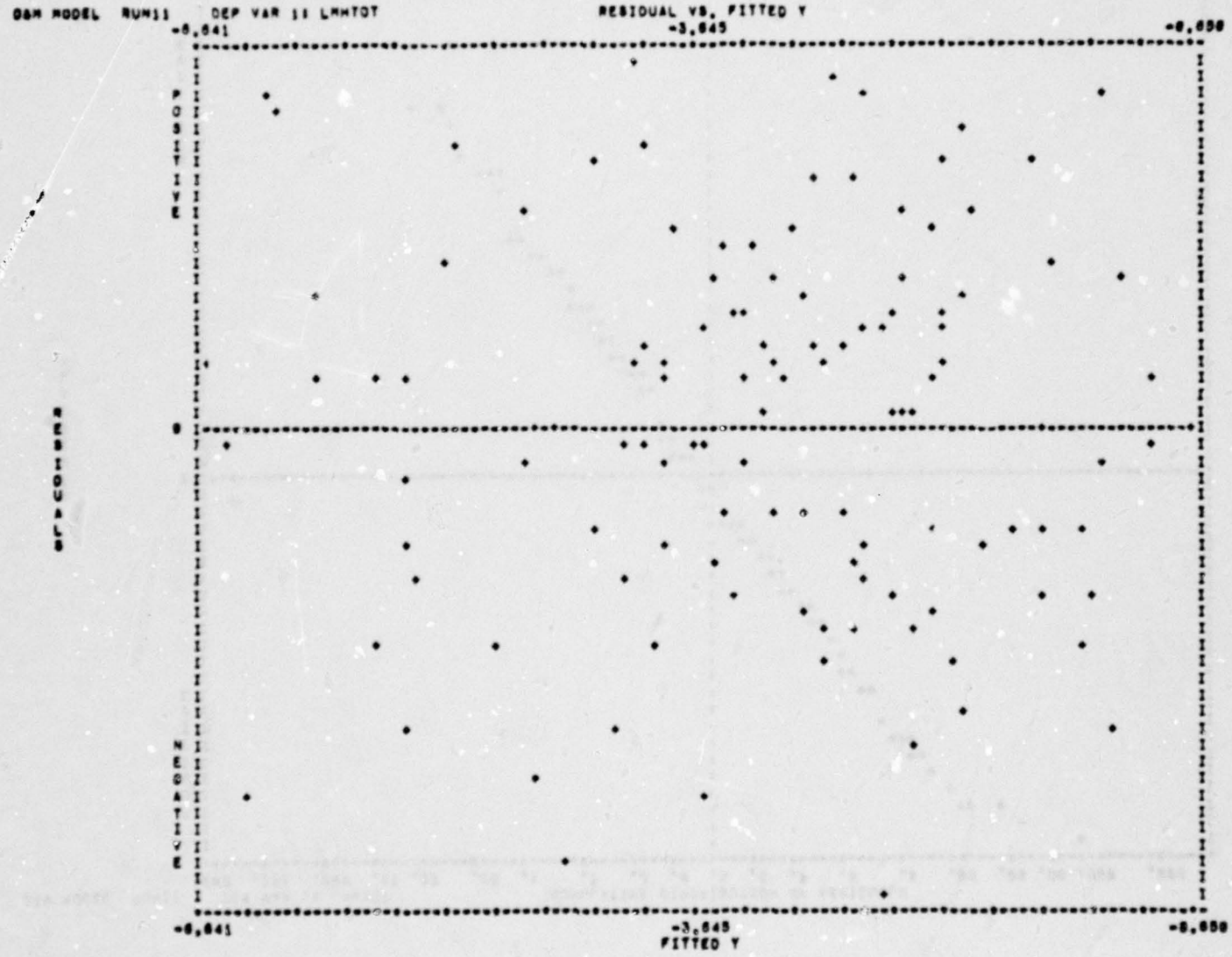
LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

O&M MODEL RUN11 DEP VAR IS LMHTOT

| IDENT, | OBSV, | WSS | ORDERED BY COMPUTER INPUT: DISTANCE | OBS, Y | FITTED Y | RESIDUAL | OBSV, | OBS, Y | FITTED Y | ORDERED RESID, | SEQ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 71A20 | 1 | | 1, | -3,385 | -3,394 | -0,008 | 13 | -3,292 | -3,969 | 0,766 | 1 |
| 71L00 | 2 | | 0, | -2,971 | -2,389 | -0,663 | 63 | -2,980 | -2,788 | 0,699 | 2 |
| 71M00 | 3 | | 2#, | -2,855 | -3,147 | 0,293 | 50 | -5,499 | -6,195 | 0,697 | 3 |
| 71P40 | 4 | | 2, | -3,009 | -3,120 | 0,111 | 44 | -1,947 | -2,615 | 0,668 | 4 |
| 71P80 | 5 | | 7, | -3,837 | -3,782 | -0,055 | 84 | -0,546 | -1,211 | 0,665 | 5 |
| 71710 | 6 | | 16, | -5,661 | -5,923 | 0,262 | 126 | -5,520 | -6,164 | 0,644 | 6 |
| 72400 | 7 | | 12, | -6,023 | -5,559 | -0,465 | 17 | -1,425 | -2,032 | 0,607 | 7 |
| 71FA0 | 8 | | 3, | -3,875 | -4,012 | 0,137 | 14 | -3,314 | -3,992 | 0,598 | 8 |
| 71F80 | 10 | | 14, | -3,992 | -3,949 | -0,042 | 108 | -4,585 | -5,075 | 0,578 | 9 |
| 71CA0 | 11 | | 4, | -5,320 | -4,434 | -0,887 | 119 | -1,681 | -2,147 | 0,546 | 10 |
| 71D40 | 12 | | 5, | -3,344 | -2,866 | -0,478 | 25 | -1,070 | -1,618 | 0,547 | 11 |
| 51EA0 | 13 | | 5, | -3,282 | -3,969 | 0,788 | 20 | -3,710 | -4,239 | 0,529 | 12 |
| 52AA0 | 14 | | 9, | -3,314 | -3,992 | 0,588 | 31 | -2,399 | -2,921 | 0,522 | 13 |
| 52480 | 15 | | 8, | -3,322 | -3,739 | 0,417 | 96 | -2,179 | -2,676 | 0,497 | 14 |
| 63B00 | 16 | | 16, | -5,497 | -5,371 | -0,126 | 64 | -1,943 | -2,388 | 0,445 | 15 |
| 71AE0 | 17 | | 19, | -1,425 | -2,032 | 0,607 | 100 | -1,498 | -1,936 | 0,438 | 16 |
| 74JA0 | 18 | | 9, | -2,432 | -2,222 | -0,210 | 74 | -4,187 | -4,616 | 0,429 | 17 |
| 74JC0 | 19 | | 6, | -3,649 | -3,605 | -0,044 | 15 | -3,322 | -3,739 | 0,417 | 18 |
| 32GA1 | 20 | | 1, | -3,710 | -4,239 | 0,529 | 80 | -2,653 | -3,049 | 0,395 | 19 |
| 71ZA0 | 21 | | 5, | -4,388 | -4,048 | -0,320 | 101 | -1,787 | -2,179 | 0,393 | 20 |
| 73EG0 | 24 | | 11, | -2,216 | -2,437 | 0,221 | 118 | -2,911 | -3,296 | 0,386 | 21 |
| 73EP0 | 25 | | 22, | -1,870 | -1,618 | 0,548 | 104 | -3,897 | -3,454 | 0,357 | 22 |
| 73H40 | 26 | | 22, | -0,793 | -0,873 | 0,081 | 83 | -1,132 | -1,470 | 0,338 | 23 |
| 73HC0 | 27 | | 13, | -1,879 | -1,541 | -0,338 | 35 | -4,783 | -5,107 | 0,324 | 24 |
| 73N40 | 28 | | 27, | -2,382 | -2,490 | 0,108 | 53 | -3,184 | -3,486 | 0,302 | 25 |
| 73080 | 29 | | 11, | -2,137 | -1,878 | -0,259 | 77 | -0,785 | -1,093 | 0,298 | 26 |
| 733C0 | 30 | | 12, | -3,217 | -3,239 | 0,013 | 52 | -2,081 | -2,378 | 0,297 | 27 |
| 73K80 | 31 | | 2, | -2,399 | -2,921 | 0,522 | 3 | -2,855 | -3,147 | 0,293 | 28 |
| 73KE0 | 32 | | 3, | -3,494 | -2,517 | -0,978 | 109 | -1,765 | -2,037 | 0,273 | 29 |
| 73KF0 | 33 | | 3, | -3,998 | -3,838 | -0,884 | 38 | -2,739 | -3,004 | 0,265 | 30 |
| 73KK0 | 34 | | 11, | -2,729 | -2,894 | 0,174 | 8 | -5,661 | -5,923 | 0,262 | 31 |
| 75930 | 35 | | 0, | -4,793 | -5,107 | 0,324 | 48 | -1,925 | -2,157 | 0,232 | 32 |
| 74800 | 36 | | 5, | -2,739 | -3,004 | 0,265 | 24 | -2,216 | -2,437 | 0,221 | 33 |
| 74AF0 | 37 | | 3, | -3,081 | -3,137 | 0,136 | 125 | -3,088 | -3,307 | 0,219 | 34 |
| 74810 | 38 | | 35, | -5,473 | -5,567 | 0,094 | 58 | -3,145 | -3,353 | 0,210 | 35 |
| 76410 | 39 | | 8, | -4,428 | -4,238 | -0,190 | 99 | -3,338 | -3,552 | 0,214 | 36 |
| 75GA0 | 40 | | 9, | -3,618 | -3,457 | -0,161 | 95 | -2,424 | -2,613 | 0,193 | 37 |
| 74FF0 | 41 | | 27, | -2,759 | -2,327 | -0,433 | 99 | -1,949 | -2,131 | 0,191 | 38 |
| 74F40 | 42 | | 17, | -1,775 | -1,143 | -0,632 | 28 | -2,302 | -2,490 | 0,188 | 39 |
| 74FH0 | 43 | | 5, | -2,553 | -2,712 | 0,159 | 34 | -2,729 | -2,894 | 0,174 | 40 |
| 74FU0 | 44 | | 47, | -1,947 | -2,615 | 0,668 | 85 | -3,071 | -3,239 | 0,168 | 41 |
| 73CG0 | 46 | | 27, | -4,897 | -4,947 | -0,050 | 43 | -2,553 | -2,712 | 0,159 | 42 |
| 74FC0 | 48 | | 12, | -1,925 | -2,157 | 0,232 | 68 | -3,792 | -3,943 | 0,151 | 43 |
| 74FJ0 | 49 | | 3, | -2,929 | -2,596 | -0,333 | 51 | -2,819 | -2,165 | 0,146 | 44 |
| 74FK0 | 50 | | 9, | -5,499 | -6,195 | 0,697 | 126 | -3,648 | -3,788 | 0,140 | 45 |
| 74FQ0 | 51 | | 27, | -2,819 | -2,165 | 0,146 | 9 | -3,875 | -4,012 | 0,137 | 46 |
| 74AA0 | 52 | | 7, | -2,881 | -2,378 | 0,297 | 37 | -3,081 | -3,137 | 0,136 | 47 |
| 74ACP | 53 | | 7, | -3,184 | -3,486 | 0,302 | 97 | -2,717 | -2,833 | 0,116 | 48 |
| 74CA0 | 54 | | 5, | -4,333 | -3,568 | -0,775 | 88 | -6,526 | -6,641 | 0,115 | 49 |
| 74C80 | 55 | | 7, | -4,330 | -3,888 | -0,442 | 4 | -3,989 | -3,120 | 0,111 | 50 |
| 74CC0 | 56 | | 7, | -4,558 | -4,557 | 0,000 | 121 | -2,115 | -2,219 | 0,103 | 51 |
| 74F41 | 57 | | 9, | -2,659 | -2,597 | -0,062 | 110 | -3,722 | -3,820 | 0,098 | 52 |
| 74E80 | 58 | | 8, | -3,145 | -3,363 | 0,218 | 123 | -3,217 | -3,315 | 0,098 | 53 |
| 73PH0 | 59 | | 4, | -3,257 | -2,837 | -0,420 | 78 | -5,245 | -5,342 | 0,097 | 54 |
| 73P80 | 60 | | 36, | -5,857 | -5,558 | -0,297 | 38 | -5,473 | -5,567 | 0,094 | 55 |
| 73P00 | 61 | | 18, | -5,818 | -5,877 | 0,059 | 98 | -5,777 | -5,871 | 0,093 | 56 |
| 73PF0 | 62 | | 23, | -2,883 | -2,184 | -0,699 | 26 | -0,793 | -0,873 | 0,081 | 57 |
| 73PH0 | 63 | | 5, | -2,969 | -2,788 | 0,199 | 80 | -2,418 | -2,444 | 0,027 | 58 |
| 7CNA0 | 64 | | 4, | -1,943 | -2,388 | 0,445 | 65 | -2,388 | -2,389 | 0,001 | 59 |
| 710J0 | 65 | | 4, | -2,388 | -2,389 | 0,021 | 113 | -2,293 | -2,311 | 0,019 | 60 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 63AA8 | 85 | 3. | -2,410 | -2,444 | 0,027 | 38 | -3,217 | -3,230 | 0,013 | 61 |
| 65AA9 | 87 | 4. | -2,752 | -2,418 | -0,342 | 56 | -4,550 | -4,557 | 0,008 | 62 |
| 63AG8 | 88 | 4. | -3,792 | -3,943 | 0,151 | 71 | -4,488 | -4,494 | 0,006 | 63 |
| 63AF8 | 70 | 14. | -5,831 | -5,329 | -0,302 | 60 | -8,657 | -8,658 | -0,007 | 64 |
| 71A8E | 71 | 14. | -4,488 | -4,494 | 0,006 | 91 | -1,565 | -1,557 | -0,008 | 65 |
| 71ADA | 72 | 17. | -1,556 | -1,326 | -0,230 | 117 | -8,471 | -8,446 | -0,026 | 66 |
| 73D8A | 73 | 10. | -1,737 | -1,298 | -0,440 | 61 | -8,910 | -8,877 | -0,033 | 67 |
| 71ACC | 74 | 51. | -4,187 | -4,810 | 0,429 | 10 | -3,992 | -3,949 | -0,042 | 68 |
| 73CBQ | 75 | 94. | -5,813 | -5,354 | -0,259 | 19 | -3,049 | -3,005 | -0,044 | 69 |
| 73CEM | 76 | 46. | -8,845 | -8,342 | 0,007 | 48 | -4,887 | -4,847 | -0,050 | 70 |
| 73CFK | 77 | 6. | -0,785 | -1,883 | 0,298 | 5 | -3,637 | -3,582 | -0,055 | 71 |
| 73D4M | 78 | 21. | -2,594 | -2,189 | -0,374 | 79 | -4,687 | -4,626 | -0,061 | 72 |
| 73E8A | 79 | 14. | -4,887 | -4,826 | -0,861 | 80 | -1,231 | -1,168 | -0,064 | 73 |
| 73E8F | 8Z | 10. | -2,853 | -3,949 | 0,395 | 33 | -3,998 | -3,836 | -0,064 | 74 |
| 71C48 | 81 | 10. | -4,754 | -4,117 | -0,638 | 1 | -3,385 | -3,384 | -0,080 | 75 |
| 73E6P | 82 | 15. | -1,949 | -1,738 | -0,219 | 16 | -5,497 | -5,371 | -0,126 | 76 |
| 73MC8 | 83 | 14. | -1,132 | -1,470 | 0,338 | 48 | -3,618 | -3,457 | -0,161 | 77 |
| 73L4R | 84 | 8. | -0,568 | -1,211 | 0,665 | 107 | -3,300 | -3,138 | -0,162 | 78 |
| 77EC8 | 85 | 2. | -3,971 | -3,239 | 0,168 | 129 | -3,116 | -2,951 | -0,167 | 79 |
| 77EEP | 86 | 47. | -7,998 | -8,342 | -0,748 | 105 | -2,948 | -2,756 | -0,191 | 80 |
| 77D8P | 86 | 48. | -8,526 | -8,641 | 0,115 | 39 | -4,426 | -4,238 | -0,188 | 81 |
| 78AEA | 89 | 8. | -1,231 | -1,168 | -0,064 | 18 | -2,432 | -2,222 | -0,210 | 82 |
| 73MA8 | 90 | 6. | -1,948 | -2,131 | 0,191 | 82 | -1,949 | -1,730 | -0,219 | 83 |
| 638AA | 91 | 11. | -1,565 | -1,557 | -0,008 | 92 | -1,782 | -1,557 | -0,225 | 84 |
| 63CAA | 92 | 11. | -1,782 | -1,557 | -0,225 | 72 | -1,558 | -1,326 | -0,230 | 85 |
| 68BAA | 93 | 8. | -2,952 | -2,668 | -0,283 | 127 | -4,839 | -3,791 | -0,249 | 86 |
| 61884 | 94 | 5. | -2,598 | -1,999 | -0,597 | 29 | -2,137 | -1,878 | -0,259 | 87 |
| 61AAP | 95 | 6. | -2,428 | -3,813 | 0,193 | 75 | -5,613 | -5,354 | -0,259 | 88 |
| 61A8A | 96 | 6. | -2,179 | -2,676 | 0,497 | 37 | -2,859 | -2,597 | -0,262 | 80 |
| 614C8 | 97 | 7. | -2,717 | -2,833 | 0,116 | 114 | -3,891 | -3,521 | -0,288 | 90 |
| 72AA8 | 98 | 29. | -5,777 | -5,871 | 0,093 | 93 | -2,952 | -2,869 | -0,283 | 91 |
| 72AC8 | 99 | 6. | -3,338 | -3,552 | 0,214 | 78 | -5,631 | -5,329 | -0,302 | 92 |
| 71CAP | 100 | 14. | -1,498 | -1,936 | 0,438 | 21 | -4,368 | -4,048 | -0,320 | 93 |
| 72EAA | 101 | 10. | -1,787 | -2,179 | 0,393 | 49 | -2,928 | -2,596 | -0,333 | 94 |
| 728P0 | 103 | 28. | -1,579 | -1,221 | -0,358 | 27 | -1,679 | -1,541 | -0,338 | 95 |
| 71JA8 | 104 | 3. | -3,897 | -3,454 | 0,357 | 87 | -2,752 | -2,410 | -0,342 | 96 |
| 71LAP | 105 | 5. | -2,948 | -2,756 | -0,191 | 122 | -3,744 | -3,394 | -0,351 | 97 |
| 720NP | 106 | 13. | -3,392 | -2,993 | -0,399 | 103 | -1,579 | -1,221 | -0,358 | 98 |
| 72AC8 | 107 | 2. | -3,304 | -3,138 | -0,162 | 78 | -2,564 | -2,189 | -0,374 | 99 |
| 71716 | 108 | 12. | -4,585 | -5,075 | 0,570 | 106 | -3,392 | -2,993 | -0,399 | 100 |
| 71310 | 109 | 15. | -1,765 | -2,037 | 0,273 | 124 | -3,074 | -2,665 | -0,438 | 101 |
| 72MF8 | 110 | 13. | -3,722 | -3,822 | 0,098 | 59 | -3,257 | -2,837 | -0,420 | 102 |
| 72480 | 111 | 26. | -5,325 | -4,597 | -0,729 | 41 | -2,760 | -2,327 | -0,433 | 103 |
| 71JCE | 112 | 12. | -5,265 | -4,815 | -0,450 | 55 | -4,330 | -3,888 | -0,442 | 104 |
| 72AE8 | 113 | 14. | -2,293 | -2,311 | 0,019 | 73 | -1,737 | -1,290 | -0,448 | 105 |
| 72CCP | 114 | 4. | -3,881 | -3,521 | -0,360 | 112 | -5,265 | -4,815 | -0,450 | 106 |
| [illegible]28A | 116 | 14. | -8,892 | -5,384 | -0,617 | 7 | -8,923 | -8,559 | -0,463 | 107 |
| 71IDP | 117 | 24. | -8,471 | -8,446 | -0,026 | 12 | -3,344 | -2,866 | -0,478 | 108 |
| 6583A | 118 | 4. | -2,511 | -3,296 | 0,386 | 62 | -2,683 | -2,184 | -0,499 | 109 |
| 634F8 | 119 | 9. | -1,681 | -2,147 | 0,566 | 94 | -2,396 | -1,999 | -0,597 | 110 |
| 63AA8 | 120 | 2. | -3,118 | -2,951 | -0,167 | 116 | -6,002 | -5,384 | -0,617 | 111 |
| 63121 | 121 | 9. | -2,118 | -2,219 | 0,103 | 42 | -1,775 | -1,143 | -0,632 | 112 |
| 63AAA | 122 | 11. | -3,748 | -3,394 | -0,351 | 81 | -4,754 | -4,117 | -0,638 | 113 |
| 55ALP | 123 | 6. | -3,817 | -3,315 | 0,498 | 2 | -2,971 | -2,389 | -0,683 | 114 |
| 55AV8 | 124 | 13. | -3,874 | -2,665 | -0,408 | 111 | -5,325 | -4,597 | -0,729 | 115 |
| 61AA8 | 125 | 3. | -3,888 | -3,387 | 0,219 | 86 | -7,890 | -8,342 | -0,748 | 116 |
| 61AE8 | 126 | 6. | -3,648 | -3,788 | 0,140 | 84 | -4,235 | -3,588 | -0,775 | 117 |
| 62AA8 | 127 | 5. | -4,039 | -3,791 | -0,249 | 11 | -5,328 | -4,434 | -0,687 | 118 |
| 64211 | 128 | 10. | -9,028 | -8,184 | 0,844 | 32 | -3,494 | -8,317 | -0,978 | 119 |


O&M MODEL RUN11 DEP VAR 11 LMHTOT
CUMULATIVE DISTRIBUTION OF RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
POSITIVE
0
NEGATIVE
RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
CUMULATIVE FREQUENCY, NORMAL GRID


O&M MODEL RUN11 DEP VAR is LMHTOT
RESIDUAL VS. FITTED Y
-8.641
-3.645
-8.650
POSITIVE
0
NEGATIVE
RESIDUALS
-8.641
-3.645
-8.650
FITTED Y

CP VALUES FOR THE SELECTION OF VARIABLES

O&M MODEL RUN11 DEP VAR 11 LMHTOT SEARCH NUMBER 1

SELECTION OF VARIABLES FOR BASIC EQUATION

CP =889.2, VARIABLE ADDED 18 LUP

CP =919.1, VARIABLE ADDED 9 MEM

CP =444.8, VARIABLE ADDED 8 MOI

CP =221.5, VARIABLE ADDED 6 SS

CP =286.7, VARIABLE ADDED 3 BOMNAV

CP =193.6, VARIABLE ADDED 4 BOMCOM

CP =172.2, VARIABLE ADDED 5 CD

CP =158.2, VARIABLE ADDED 2 FIGCOM

CP = 55.2, VARIABLE ADDED 20 LWT

CP = 43.3, VARIABLE ADDED 11 DCC

CP = 41.2, VARIABLE ADDED 16 DUP

CP = 39.6, VARIABLE ADDED 10 DUP

CP = 33.4, VARIABLE ADDED 13 DEM

CP = 30.9, VARIABLE ADDED 17 NRTS

CP = 25.3, VARIABLE ADDED 14 DPS

CP = 25.9, VARIABLE ADDED 1 FIGSEN

NUMBER OF OBSERVATIONS 119
NUMBER OF VARIABLES IN FULL EQUATION 20
NUMBER OF VARIABLES IN BASIC EQUATION 14
REMAINDER OF VARIABLES TO BE SEARCHED 0

| EQUATION | P | CP | VARIABLES IN EQUATION |
|---|---|---|---|
| | 21 | 21.0 | FULL EQUATION |
| | 15 | 30.9 | BASIC SET OF VARIABLES 2 FIGCOM, 3 BOMNAV, 4 BOMCOM, 5 CD, 6 SS, 8 MOI, 9 MEM, 10 DUP, 11 DCC, 13 DEM, 16 DUP, 17 NRTS, 18 LUP, 20 LWT<br>RMS = 0.20234 |
| 1 | 16 | 23.8 | BASIC SET PLUS 1 FIGSEN, 7 MCC, 12 DOI, 14 DPS<br>RMS = 0.19248 |
| 2 | 16 | 22.8 | BASIC SET PLUS 7 MCC, 12 DOI, 14 DPS, 15 DPD<br>RMS = 0.19212 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 20 | 22.0 | BASIC SET PLUS | | | 1 FIGSEN | | 7 MCC | | 12 DDI | | 14 DPS | | 15 DPD | | 19 LVD | |
| | | | RMS = | 0.17897 | | | | | | | | | | | | | |
| 4 | 18 | 22.8 | BASIC SET PLUS | | | 1 FIGSEN | | 15 DPD | | 19 LVD | | | | | | | |
| | | | RMS = | 0.18348 | | | | | | | | | | | | | |
| 5 | 19 | 22.4 | BASIC SET PLUS | | | 1 FIGSEN | | 7 MCC | | 15 DPD | | 19 LVD | | | | | |
| | | | RMS = | 0.18153 | | | | | | | | | | | | | |
| 6 | 20 | 22.5 | BASIC SET PLUS | | | 1 FIGSEN | | 7 MCC | | 12 DDI | | 15 DPD | | 19 LVD | | | |
| | | | RMS = | 0.18098 | | | | | | | | | | | | | |
| 7 | 19 | 22.8 | BASIC SET PLUS | | | 1 FIGSEN | | 12 DDI | | 15 DPD | | 19 LVD | | | | | |
| | | | RMS = | 0.18089 | | | | | | | | | | | | | |
| 8 | 19 | 22.8 | BASIC SET PLUS | | | 12 DDI | | 14 DPS | | 15 DPD | | 19 LVD | | | | | |
| | | | RMS = | 0.18217 | | | | | | | | | | | | | |
| 9 | 20 | 21.2 | BASIC SET PLUS | | | 1 FIGSEN | | 12 DDI | | 14 DPS | | 15 DPD | | 19 LVD | | | |
| | | | RMS = | 0.17755 | | | | | | | | | | | | | |
| 10 | 81 | 21.8 | BASIC SET PLUS | | | 1 FIGSEN | | 7 MCC | | 12 DDI | | 14 DPS | | 15 DPD | | 19 LVD | |
| | | | RMS = | 0.17550 | | | | | | | | | | | | | |
| 11 | 20 | 22.2 | BASIC SET PLUS | | | 7 MCC | | 12 DDI | | 14 DPS | | 15 DPD | | 19 LVD | | | |
| | | | RMS = | 0.17940 | | | | | | | | | | | | | |
| 12 | 19 | 21.8 | BASIC SET PLUS | | | 7 MCC | | 14 DPS | | 15 DPD | | 19 LVD | | | | | |
| | | | RMS = | 0.18048 | | | | | | | | | | | | | |
| 13 | 21 | 21.5 | BASIC SET PLUS | | | 1 FIGSEN | | 7 MCC | | 14 DPS | | 15 DPD | | 19 LVD | | | |
| | | | RMS = | 0.17818 | | | | | | | | | | | | | |
| 14 | 19 | 22.5 | BASIC SET PLUS | | | 1 FIGSEN | | 14 DPS | | 15 DPD | | 19 LVD | | | | | |
| | | | RMS = | 0.18179 | | | | | | | | | | | | | |
| 15 | 17 | 22.8 | BASIC SET PLUS | | | 14 DPS | | 19 LVD | | | | | | | | | |
| | | | RMS = | 0.18589 | | | | | | | | | | | | | |
| 16 | 18 | 22.7 | BASIC SET PLUS | | | 1 FIGSEN | | 14 DPS | | 19 LVD | | | | | | | |
| | | | RMS = | 0.18358 | | | | | | | | | | | | | |
| 17 | 19 | 22.4 | BASIC SET PLUS | | | 1 FIGSEN | | 7 MCC | | 14 DPS | | 19 LVD | | | | | |
| | | | RMS = | 0.18158 | | | | | | | | | | | | | |
| 18 | 18 | 22.1 | BASIC SET PLUS | | | 7 MCC | | 14 DPS | | 19 LVD | | | | | | | |
| | | | RMS = | 0.18258 | | | | | | | | | | | | | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 19 | 19 | 22.5 | BASIC SET PLUS | | | MCC 7 | | DDI 12 | | DPS 14 | | LVO 19 |
| | | | RMS = | 0.18181 | | | | | | | | |
| 20 | 20 | 22.8 | BASIC SET PLUS | | FIGSEN 1 | | MCC 7 | | DDI 12 | | DPS 14 | LVO 19 |
| | | | RMS = | 0.17988 | | | | | | | | |
| 21 | 19 | 21.5 | BASIC SET PLUS | | FIGSEN 1 | | DDI 12 | | DPS 14 | | LVO 19 | |
| | | | RMS = | 0.17998 | | | | | | | | |
| 22 | 18 | 22.4 | BASIC SET PLUS | | | DDI 12 | | DPS 14 | | LVO 19 | | |
| | | | RMS = | 0.18318 | | | | | | | | |
| 23 | 18 | 22.8 | BASIC SET PLUS | | FIGSEN 1 | | DDI 12 | | LVO 19 | | | |
| | | | RMS = | 0.18384 | | | | | | | | |

SWEEP NUMBER 63, DELTA Z(K,K) = 2.D-16

ESTIMATE OF VARIANCE

NO SMALLER RMS VALUE FOUND IN SUBSET EQUATIONS

RMS OF FULL EQUATION SELECTED BY USER TO CALCULATE CP VALUES

| SEQ | EQUATION | P | ORDERED CP |
|---|---|---|---|
| 1 | 10 | 21 | 21.0 |
| 2 | 9 | 20 | 21.2 |
| 3 | 13 | 20 | 21.5 |
| 4 | 21 | 19 | 21.5 |
| 5 | 12 | 19 | 21.8 |
| 6 | 7 | 19 | 22.0 |
| 7 | 3 | 20 | 22.0 |
| 8 | 20 | 20 | 22.0 |
| 9 | 18 | 18 | 22.1 |
| 10 | 11 | 20 | 22.2 |
| 11 | 22 | 18 | 22.4 |
| 12 | 17 | 19 | 22.4 |
| 13 | 5 | 19 | 22.4 |
| 14 | 19 | 19 | 22.5 |
| 15 | 14 | 19 | 22.5 |
| 16 | 6 | 20 | 22.5 |
| 17 | 15 | 17 | 22.6 |
| 18 | 4 | 18 | 22.6 |
| 19 | 16 | 18 | 22.7 |
| 20 | 2 | 19 | 22.8 |
| 21 | 23 | 18 | 22.8 |
| 22 | 8 | 19 | 22.8 |
| 23 | 1 | 19 | 23.0 |

LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

D&R MODEL RUN18 DEP VAR 1: LMHSHO MIN Y = -9.2910 00 MAX Y = -8.2720-01 RANGE Y = 8.2640 00

MULTIPLE REGRESSION ANALYSIS FOR THE "ALPOS" MODEL

LMHSHO = B(0) + B(1)FIGCOM + B(2)BOMNAV + B(3)BOMCOM + B(4)DI
+ B(5)PS + B(6)SS + B(7)MCD + B(8)MEM + B(9)DUP
+ B(10)DCD + B(11)DEM + B(12)NRTS + B(13)LUP + B(14)LVD

LMHSHO = LN(MMHSHO)

MMHSHO = SHOP MAINTENANCE MANHOURS PER OPERATING HOUR

| IND.VAR(I) | NAME | COEF.B(I) | S.E. COEF. | T-VALUE | R(I)SQRD | MIN X(I) | MAX X(I) | RANGE X(I) | REL.INF.X(I) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | -1.122330 01 | | | | | | | |
| 1 | FIGCOM | 7.697730-01 | 2.370-01 | 3.2 | 0.7932 | 0.0 | 1.0000 00 | 1.0000 00 | 0.09 |
| 2 | BOMNAV | 3.891690-01 | 1.780-01 | 2.3 | 0.1864 | 0.0 | 1.0000 00 | 1.0000 00 | 0.05 |
| 3 | BOMCOM | 8.432150-01 | 1.990-01 | 4.2 | 0.1218 | 0.0 | 1.0000 00 | 1.0000 00 | 0.10 |
| 4 | DI | -1.678640-02 | 1.750-03 | 9.6 | 0.4485 | 0.0 | 1.0000 02 | 1.0000 02 | 0.28 |
| 5 | PS | -5.997730-03 | 2.880-03 | 2.1 | 0.0874 | 0.0 | 1.0000 02 | 1.0000 02 | 0.07 |
| 6 | SS | -1.866130-02 | 2.380-03 | 7.8 | 0.5523 | 0.0 | 1.0000 02 | 1.0000 02 | 0.23 |
| 7 | MCD | 3.135260-01 | 5.060-02 | 6.2 | 0.3496 | -1.2150 00 | 5.4540 00 | 6.6690 00 | 0.25 |
| 8 | MEM | -3.832620-02 | 3.870-03 | 9.9 | 0.6074 | -1.0200 01 | 8.9800 01 | 1.0000 02 | 0.37 |
| 9 | DUP | 6.921740-12 | 3.720-12 | 1.9 | 0.2006 | 2.2260 07 | 1.4360 11 | 1.4360 11 | 0.12 |
| 10 | DCD | -5.783970-02 | 2.530-02 | 2.3 | 0.3082 | 1.7840-04 | 1.0610 01 | 1.0610 01 | 0.13 |
| 11 | DEM | -2.938680-04 | 9.950-05 | 3.0 | 0.1318 | 2.7840 01 | 3.0470 03 | 3.0200 03 | 0.11 |
| 12 | NRTS | -6.567230-03 | 2.620-03 | 2.5 | 0.2675 | 0.0 | 1.0000 02 | 1.0000 02 | 0.00 |
| 13 | LUP | 6.525180-01 | 5.580-02 | 11.9 | 0.7087 | 8.0300 00 | 1.3250 01 | 0.2170 00 | 0.05 |
| 14 | LVD | 5.552690-01 | 6.550-02 | 8.5 | 0.5895 | 3.4010 00 | 9.0120 00 | 5.6110 00 | 0.30 |

| | |
|---|---|
| NO. OF OBSERVATIONS | 119 |
| NO. OF IND. VARIABLES | 14 |
| RESIDUAL DEGREES OF FREEDOM | 104 |
| F-VALUE | 59.6 |
| RESIDUAL ROOT MEAN SQUARE | 0.53865392 |
| RESIDUAL MEAN SQUARE | 0.29014885 |
| RESIDUAL SUM OF SQUARES | 30.17539672 |
| TOTAL SUM OF SQUARES | 312.78847537 |
| MULT. CORREL. COEF. SQUARED | .9038 |

REQUIRED X(I) PRECISION
(DIGIT RIGHT OF DECIMAL POSITIVE,
LEFT OF DECIMAL NEGATIVE)

| IND.VAR(I) | DIGIT |
|---|---|
| 1 | -1 |
| 2 | -1 |
| 3 | -1 |
| 4 | -2 |
| 5 | -2 |
| 6 | -2 |
| 7 | 1 |
| 8 | -2 |
| 9 | -11 |
| 10 | -1 |
| 11 | -4 |
| 12 | -2 |
| 13 | 1 |
| 14 | 1 |

LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

D&M MODEL RUN12 DEP VAR IS LMMSMO RESIDUAL ROOT MEAN SQUARE OF FITTED EQUATIONS 0.84

STANDARD DEVIATION ESTIMATED FROM RESIDUALS OF NEIGHBORING OBSERVATIONS (OBSERVATIONS 1 TO 4 APART IN FITTED Y ORDER).

| NO. | CUMULATIVE STD DEV | ORDERED BY WSSD WSSD | OBSV. | OBSV. | DEL RESIDUALS | ORDERED BY FITTED Y WSSD | DEL RESIDUALS | FITTED Y | OBSV. | SEQ. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.19 | 0.0 | 92 | 91 | 0.20 | 0.04 | 1.08 | -8.36 | 88 | 1 |
| 2 | 0.26 | 0.00 | 65 | 64 | 0.40 | 4.13 | 1.15 | -7.87 | 66 | 2 |
| 3 | 0.26 | 0.04 | 109 | 108 | 0.22 | 47.88 | 0.71 | -7.26 | 78 | 3 |
| 4 | 0.30 | 0.18 | 48 | 14 | 0.81 | 0.92 | 0.41 | -7.16 | 128 | 4 |
| 5 | 0.33 | 0.23 | 16 | 35 | 0.10 | 10.51 | 0.54 | -7.16 | 117 | 5 |
| 6 | 0.29 | 0.27 | 4 | 85 | 0.11 | 12.96 | 0.12 | -7.03 | 56 | 6 |
| 7 | 0.27 | 0.27 | 13 | 14 | 0.13 | 54.63 | 0.78 | -6.89 | 8 | 7 |
| 8 | 0.23 | 0.28 | 53 | 58 | 0.05 | 62.48 | 0.57 | -6.63 | 38 | 8 |
| 9 | 0.24 | 0.29 | 24 | 113 | 0.29 | 15.84 | 0.93 | -6.37 | 75 | 9 |
| 10 | 0.39 | 0.32 | 56 | 13 | 1.00 | 13.07 | 1.02 | -6.36 | 98 | 10 |
| 11 | 0.43 | 0.33 | 56 | 48 | 0.06 | 7.19 | 0.87 | -6.06 | 110 | 11 |
| 12 | 0.43 | 0.38 | 52 | 89 | 0.50 | 10.22 | 0.26 | -6.05 | 78 | 12 |
| 13 | 0.48 | 0.48 | 37 | 120 | 0.07 | 0.71 | 0.75 | -5.91 | 16 | 13 |
| 14 | 0.38 | 0.51 | 85 | 120 | 0.04 | 1.07 | 1.43 | -5.76 | 7 | 14 |
| 15 | 0.48 | 0.52 | 7 | 35 | 0.05 | 2.56 | 0.58 | -5.62 | 108 | 15 |
| 16 | 0.43 | 0.58 | 48 | 13 | 0.04 | 13.48 | 0.53 | -5.47 | 35 | 16 |
| 17 | 0.42 | 0.58 | 4 | 37 | 0.14 | 34.38 | 1.21 | -5.38 | 112 | 17 |
| 18 | 0.48 | 0.61 | 59 | 32 | 0.21 | 16.82 | 0.94 | -5.33 | 74 | 18 |
| 19 | 0.42 | 0.62 | 114 | 54 | 0.75 | 0.99 | 0.57 | -5.32 | 79 | 19 |
| 20 | 0.49 | 0.62 | 54 | 57 | 1.65 | 23.49 | 1.95 | -5.22 | 71 | 20 |
| 21 | 0.48 | 0.67 | 66 | 65 | 0.01 | 29.68 | 0.95 | -5.16 | 111 | 21 |
| 22 | 0.45 | 0.67 | 66 | 64 | 0.38 | 48.68 | 0.31 | -5.04 | 20 | 22 |
| 23 | 0.46 | 0.68 | 19 | 114 | 0.81 | 56.59 | 1.27 | -5.03 | 46 | 23 |
| 24 | 0.45 | 0.70 | 85 | 37 | 0.03 | 0.97 | 0.11 | -4.98 | 21 | 24 |
| 25 | 0.46 | 0.71 | 16 | 7 | 0.75 | 13.15 | 0.23 | -4.98 | 11 | 25 |
| 26 | 0.44 | 0.72 | 119 | 108 | 0.10 | 0.33 | 0.86 | -4.88 | 56 | 26 |
| 27 | 0.49 | 0.81 | 41 | 25 | 1.49 | 10.93 | 0.61 | -4.88 | 48 | 27 |
| 28 | 0.49 | 0.82 | 123 | 114 | 0.85 | 14.65 | 1.55 | -4.77 | 81 | 28 |
| 29 | 0.51 | 0.84 | 88 | 86 | 1.06 | 28.98 | 1.05 | -4.74 | 13 | 29 |
| 30 | 0.50 | 0.87 | 119 | 109 | 0.33 | 30.68 | 0.92 | -4.67 | 10 | 30 |
| 31 | 0.51 | 0.88 | 63 | 49 | 0.74 | 2.32 | 1.48 | -4.67 | 14 | 31 |
| 32 | 0.49 | 0.90 | 19 | 123 | 0.84 | 24.21 | 0.19 | -4.66 | 55 | 32 |
| 33 | 0.49 | 0.92 | 128 | 117 | 0.41 | 25.57 | 0.52 | -4.65 | 122 | 33 |
| 34 | 0.48 | 0.99 | 37 | 12 | 0.26 | 23.10 | 0.15 | -4.54 | 118 | 34 |
| 35 | 0.49 | 0.99 | 79 | 71 | 0.57 | 5.96 | 0.49 | -4.48 | 9 | 35 |
| 36 | 0.51 | 1.07 | 7 | 108 | 1.43 | 19.84 | 1.66 | -4.43 | 15 | 36 |
| 37 | 0.50 | 1.20 | 1 | 107 | 0.17 | 7.27 | 0.97 | -4.36 | 39 | 37 |
| 38 | 0.50 | 1.30 | 117 | 6 | 0.42 | 6.61 | 0.48 | -4.26 | 88 | 38 |
| 39 | 0.49 | 1.45 | 108 | 6 | 0.01 | 12.32 | 0.54 | -4.23 | 33 | 39 |
| 40 | 0.49 | 1.46 | 108 | 79 | 0.84 | 0.98 | 0.04 | -4.22 | 19 | 40 |
| 41 | 0.50 | 1.54 | 30 | 58 | 0.68 | 10.31 | 0.52 | -4.22 | 123 | 41 |
| 42 | 0.52 | 1.54 | 13 | 55 | 1.61 | 12.36 | 0.33 | -4.14 | 127 | 42 |
| 43 | 0.52 | 1.67 | 39 | 33 | 0.59 | 10.39 | 0.02 | -4.06 | 114 | 43 |
| 44 | 0.51 | 1.73 | 33 | 127 | 0.06 | 10.43 | 1.37 | -4.04 | 5 | 44 |
| 45 | 0.51 | 1.78 | 125 | 1 | 0.52 | 10.11 | 1.16 | -4.03 | 54 | 45 |
| 46 | 0.51 | 1.88 | 103 | 26 | 0.56 | 5.71 | 0.43 | -4.02 | 126 | 46 |
| 47 | 0.53 | 1.82 | 123 | 54 | 1.60 | 15.29 | 0.08 | -3.95 | 99 | 47 |
| 48 | 0.52 | 1.85 | 59 | 12 | 0.05 | 14.68 | 0.35 | -3.90 | 118 | 48 |
| 49 | 0.52 | 1.87 | 35 | 79 | 0.28 | 3.82 | 0.83 | -3.86 | 57 | 49 |
| 50 | 0.53 | 1.89 | 55 | 15 | 1.30 | 2.28 | 0.88 | -3.83 | 53 | 50 |
| 51 | 0.53 | 1.91 | 11 | 81 | 0.46 | 1.54 | 0.68 | -3.82 | 30 | 51 |
| 52 | 0.52 | 1.91 | 57 | 58 | 0.03 | 11.68 | 0.03 | -3.81 | 58 | 52 |
| 53 | 0.51 | 1.91 | 12 | 32 | 0.16 | 3.76 | 0.21 | -3.71 | 104 | 53 |
| 54 | 0.51 | 1.93 | 129 | 12 | 0.33 | 15.18 | 0.47 | -3.70 | 125 | 54 |
| 55 | 0.51 | 2.00 | 15 | 19 | 0.62 | 11.76 | 0.99 | -3.69 | 94 | 55 |
| 56 | 0.51 | 2.07 | 18 | 52 | 0.37 | 0.69 | 0.69 | -3.69 | 1 | 56 |
| 57 | 0.51 | 2.29 | 119 | 101 | 0.46 | 32.48 | 0.96 | -3.65 | 88 | 57 |

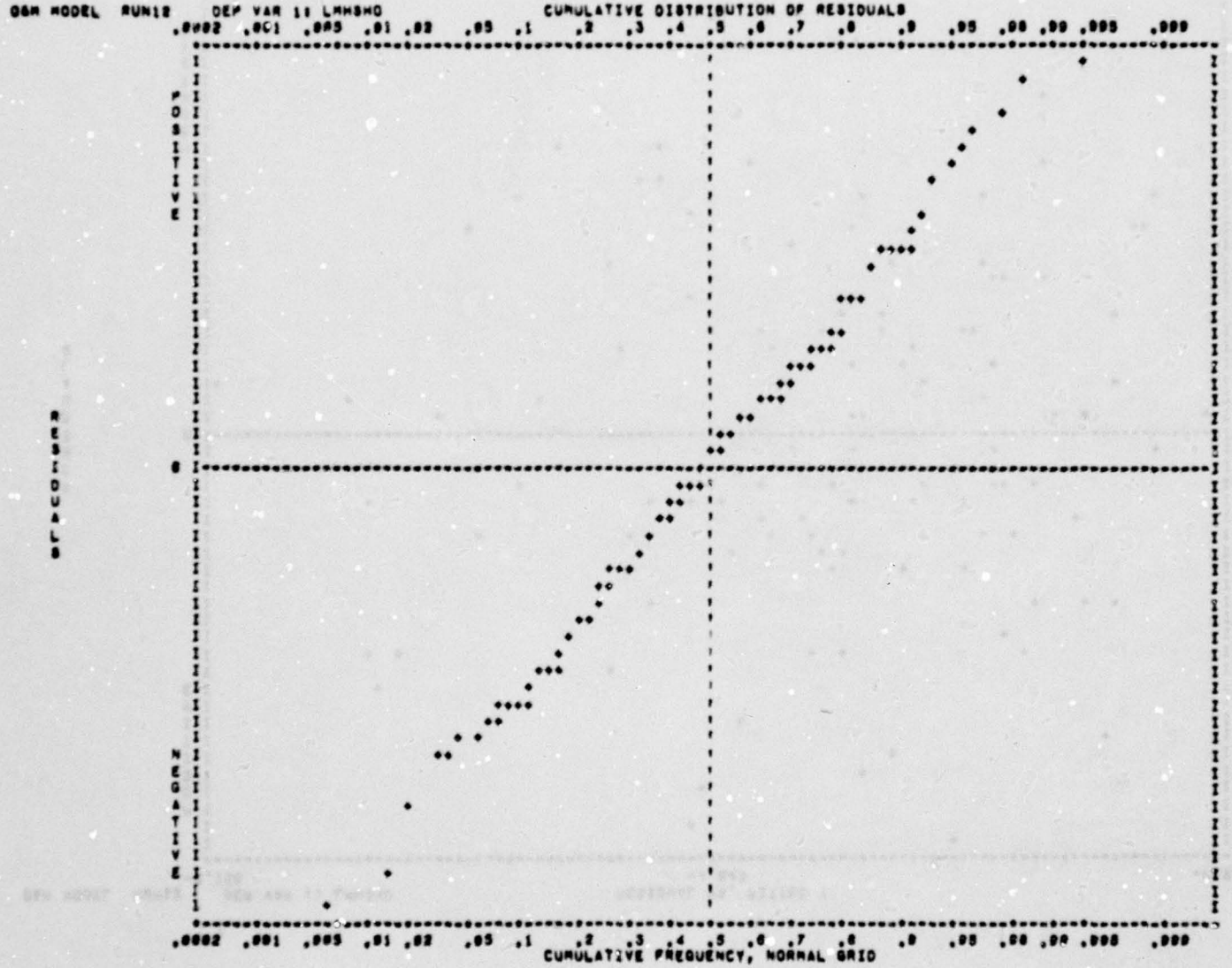
| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 58 | 0,51 | 2,22 | 21 | 49 | 0,98 | 12,64 | 0,44 | -3,63 | 124 | 58 |
| 59 | 0,52 | 2,28 | 53 | 38 | 0,66 | 9,72 | 0,25 | -3,62 | 107 | 59 |
| 60 | 0,51 | 2,30 | 27 | 83 | 0,48 | 29,63 | 0,14 | -3,62 | 4 | 60 |
| 61 | 0,53 | 2,32 | 14 | 55 | 1,48 | 24,98 | 0,25 | -3,57 | 3 | 61 |
| 62 | 0,53 | 2,47 | 5 | 110 | 0,63 | 13,66 | 0,07 | -3,57 | 85 | 62 |
| 63 | 0,53 | 2,48 | 104 | 1 | 0,73 | 12,78 | 0,64 | -3,53 | 106 | 63 |
| 64 | 0,53 | 2,49 | 37 | 59 | 0,22 | 7,63 | 1,88 | -3,51 | 37 | 64 |
| 65 | 0,53 | 2,50 | 108 | 35 | 0,50 | 7,38 | 0,99 | -3,48 | 96 | 65 |
| 66 | 0,53 | 2,50 | 27 | 25 | 0,97 | 3,83 | 0,28 | -3,45 | 120 | 66 |
| 67 | 0,53 | 2,72 | 107 | 4 | 0,85 | 1,85 | 0,05 | -3,36 | 59 | 67 |
| 68 | 0,52 | 2,74 | 88 | 76 | 0,07 | 1,01 | 0,16 | -3,35 | 12 | 68 |
| 69 | 0,52 | 2,76 | 109 | 101 | 0,36 | 44,54 | 1,47 | -3,31 | 32 | 69 |
| 70 | 0,53 | 2,86 | 61 | 103 | 1,19 | 55,92 | 0,07 | -3,27 | 40 | 70 |
| 71 | 0,52 | 2,37 | 109 | 101 | 0,14 | 22,16 | 0,01 | -3,25 | 24 | 71 |
| 72 | 0,51 | 2,88 | 103 | 42 | 0,13 | 14,48 | 0,27 | -3,24 | 38 | 72 |
| 73 | 0,51 | 2,91 | 1 | 4 | 0,42 | 39,25 | 0,57 | -3,21 | 28 | 73 |
| 74 | 0,51 | 2,96 | 29 | 52 | 0,04 | 12,37 | 0,48 | -3,19 | 113 | 74 |
| 75 | 0,51 | 2,98 | 16 | 108 | 0,68 | 5,44 | 0,48 | -3,18 | 43 | 75 |
| 76 | 0,52 | 3,02 | 57 | 53 | 0,03 | 13,48 | 0,11 | -3,13 | 105 | 76 |
| 77 | 0,52 | 3,03 | 129 | 59 | 0,28 | 4,77 | 0,32 | -3,08 | 93 | 77 |
| 78 | 0,51 | 3,05 | 29 | 11 | 1,07 | 7,66 | 0,08 | -3,07 | 31 | 78 |
| 79 | 0,50 | 3,09 | 21 | 56 | 0,12 | 17,98 | 1,14 | -2,83 | 95 | 79 |
| 80 | 0,50 | 3,13 | 107 | 85 | 0,14 | 28,77 | 1,55 | -2,81 | 17 | 80 |
| 81 | 0,50 | 3,26 | 42 | 26 | 0,69 | 8,52 | 0,72 | -2,81 | 97 | 81 |
| 82 | 0,50 | 3,34 | 27 | 68 | 0,42 | 13,52 | 0,17 | -2,77 | 98 | 82 |
| 83 | 0,49 | 3,43 | 113 | 105 | 0,07 | 23,67 | 0,51 | -2,74 | 53 | 83 |
| 84 | 0,49 | 3,52 | 43 | 31 | 0,04 | 44,95 | 0,03 | -2,73 | 78 | 84 |
| 85 | 0,49 | 3,56 | 35 | 71 | 0,30 | 26,30 | 0,39 | -2,72 | 82 | 85 |
| 86 | 0,48 | 3,76 | 104 | 125 | 0,21 | 9,87 | 0,19 | -2,66 | 2 | 86 |
| 87 | 0,48 | 3,82 | 127 | 5 | 0,29 | 3,89 | 0,42 | -2,63 | 49 | 87 |
| 88 | 0,48 | 3,86 | 127 | 128 | 0,89 | 8,67 | 0,01 | -2,62 | 66 | 88 |
| 89 | 0,47 | 3,89 | 49 | 66 | 0,42 | 8,88 | 0,48 | -2,61 | 65 | 89 |
| 90 | 0,48 | 3,99 | 57 | 38 | 0,65 | 9,47 | 0,14 | -2,61 | 64 | 90 |
| 91 | 0,48 | 4,01 | 28 | 56 | 0,84 | 39,49 | 0,03 | -2,55 | 121 | 91 |
| 92 | 0,48 | 4,03 | 6 | 98 | 0,03 | 22,26 | 0,31 | -2,54 | 51 | 92 |
| 93 | 0,48 | 4,05 | 128 | 32 | 0,49 | 9,58 | 0,23 | -2,53 | 16 | 93 |
| 94 | 0,48 | 4,07 | 73 | 77 | 0,64 | 9,43 | 0,47 | -2,52 | 29 | 94 |
| 95 | 0,49 | 4,13 | 88 | 78 | 1,15 | 26,64 | 0,08 | -2,52 | 67 | 95 |
| 96 | 0,49 | 4,22 | 29 | 21 | 0,95 | 11,53 | 0,61 | -2,50 | 62 | 96 |
| 97 | 0,49 | 4,23 | 48 | 84 | 0,98 | 17,68 | 0,44 | -2,50 | 52 | 97 |
| 98 | 0,50 | 4,37 | 14 | 9 | 0,86 | 8,87 | 0,33 | -2,47 | 119 | 98 |
| 99 | 0,50 | 4,59 | 44 | 28 | 0,60 | 23,86 | 0,39 | -2,38 | 109 | 99 |
| 100 | 0,50 | 4,64 | 41 | 27 | 0,52 | 21,73 | 0,16 | -2,38 | 89 | 100 |
| 101 | 0,49 | 4,77 | 93 | 31 | 0,32 | 2,76 | 0,36 | -2,26 | 100 | 101 |
| 102 | 0,49 | 4,77 | 25 | 83 | 0,57 | 7,89 | 0,94 | -2,26 | 101 | 102 |
| 103 | 0,49 | 4,91 | 104 | 34 | 0,20 | 35,16 | 0,21 | -2,21 | 94 | 103 |
| 104 | 0,49 | 5,24 | 9 | 68 | 0,21 | 4,64 | 0,52 | -2,21 | 41 | 104 |
| 105 | 0,49 | 5,48 | 92 | 73 | 0,27 | 3,34 | 0,42 | -2,15 | 27 | 105 |
| 106 | 0,49 | 5,48 | 91 | 73 | 0,47 | 34,37 | 0,38 | -2,12 | 48 | 106 |
| 107 | 0,49 | 5,41 | 95 | 97 | 0,41 | 51,82 | 0,25 | -1,98 | 72 | 107 |
| 108 | 0,49 | 5,44 | 43 | 105 | 0,48 | 4,77 | 0,57 | -1,91 | 25 | 108 |
| 109 | 0,49 | 5,53 | 105 | 17 | 1,58 | 8,31 | 0,99 | -1,86 | 83 | 109 |
| 110 | 0,49 | 5,53 | 48 | 83 | 0,82 | 7,12 | 0,42 | -1,75 | 84 | 110 |
| 111 | 0,48 | 5,71 | 126 | 99 | 0,43 | 29,65 | 0,83 | -1,68 | 61 | 111 |
| 112 | 0,49 | 5,96 | 9 | 15 | 0,49 | 8,8 | 0,20 | -1,67 | 92 | 112 |
| 113 | 0,49 | 5,98 | 51 | 62 | 0,55 | 5,48 | 0,47 | -1,67 | 91 | 113 |
| 114 | 0,49 | 6,00 | 49 | 65 | 0,41 | 31,35 | 0,88 | -1,51 | 73 | 114 |
| 115 | 0,49 | 6,00 | 49 | 64 | 0,80 | 15,76 | 0,64 | -1,41 | 103 | 115 |
| 116 | 0,49 | 6,25 | 95 | 63 | 0,14 | 8,78 | 0,77 | -1,39 | 77 | 116 |
| 117 | 0,48 | 6,31 | 83 | 84 | 0,99 | 3,28 | 0,89 | -1,39 | 42 | 117 |
| 118 | 0,48 | 6,51 | 48 | 85 | 0,13 | 8,54 | 0,82 | -1,08 | 26 | 118 |
| 119 | 0,48 | 6,52 | 97 | 90 | 0,78 | 8,74 | 0,87 | -0,93 | 60 | 119 |

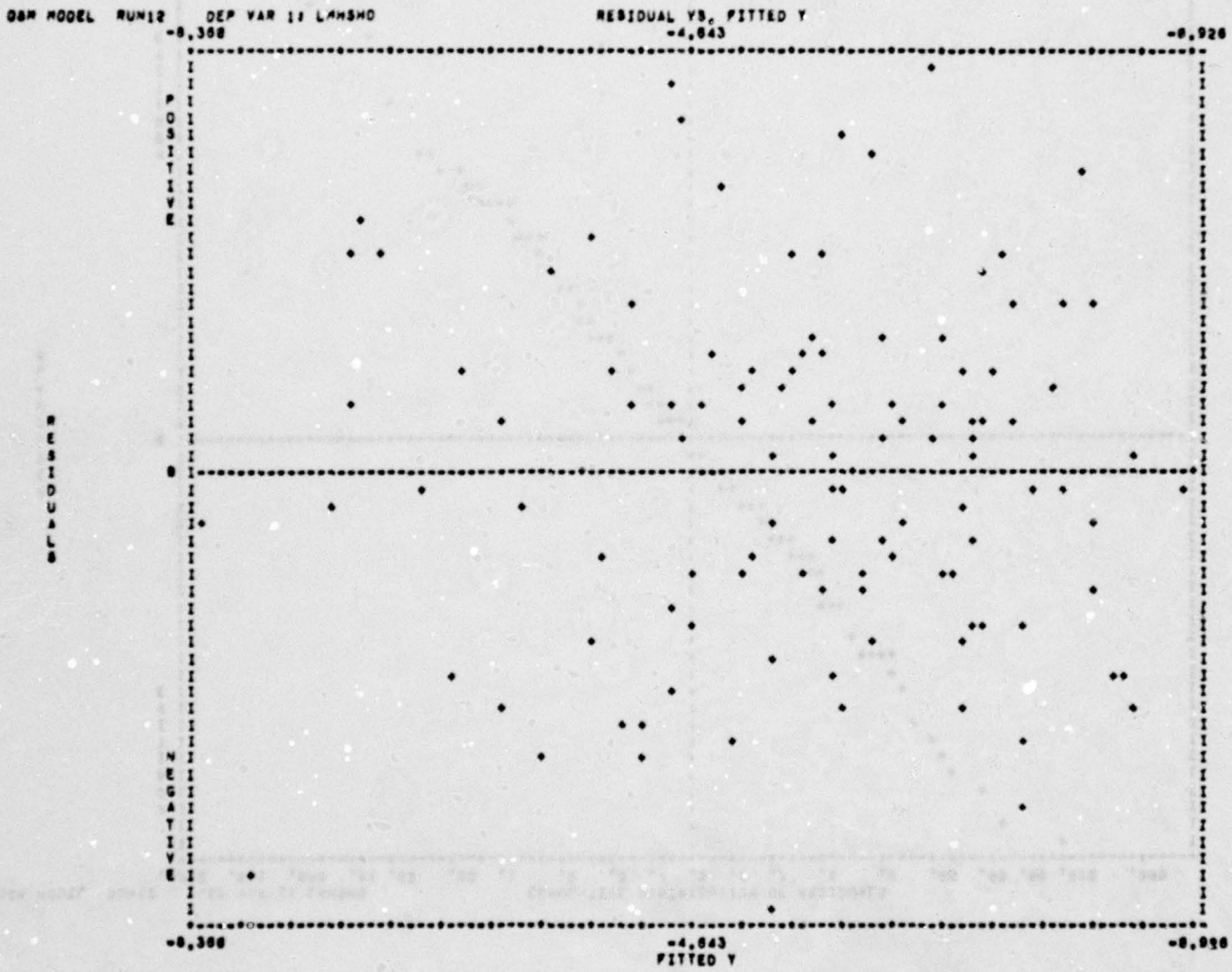
LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

O&M MODEL RUN12 DEP VAR IS LMHSHO

| ORDERED BY COMPUTER INPUT | | | | | | ORDERED BY RESIDUALS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| IDENT, | OBSV, | WSS DISTANCE | OBS, Y | FITTED Y | RESIDUAL | OBSV, | OBS, Y | FITTED Y | ORDERED RESID, | SEQ |
| 71B3B | 1 | 1, | -4,829 | -3,988 | -0,841 | 17 | -1,574 | -2,814 | 1,240 | 1 |
| 71L8B | 2 | 5, | -3,357 | -2,660 | -0,697 | 13 | -3,572 | -4,741 | 1,170 | 2 |
| 71M9B | 3 | 21, | -3,357 | -3,569 | 0,212 | 14 | -3,628 | -4,667 | 1,039 | 3 |
| 71P4B | 4 | 2, | -3,542 | -3,616 | 0,074 | 98 | -2,487 | -3,483 | 0,996 | 4 |
| 71P9B | 5 | 6, | -3,979 | -4,837 | 0,858 | 44 | -2,286 | -3,271 | 0,985 | 5 |
| 71710 | 6 | 17, | -6,240 | -6,893 | 0,647 | 64 | -0,827 | -1,748 | 0,921 | 6 |
| 72JGB | 7 | 9, | -6,598 | -5,758 | -0,839 | 15 | -3,572 | -4,434 | 0,862 | 7 |
| 71FAB | 8 | 5, | -4,183 | -4,488 | 0,376 | 58 | -6,262 | -7,034 | 0,772 | 8 |
| 71F8B | 10 | 15, | -4,549 | -4,673 | 0,123 | 74 | -4,648 | -5,334 | 0,688 | 9 |
| 71CAB | 11 | 5, | -5,817 | -4,958 | -0,859 | 118 | -3,217 | -3,902 | 0,685 | 10 |
| 71DAB | 12 | 3, | -3,681 | -3,352 | -0,329 | 89 | -1,619 | -2,299 | 0,679 | 11 |
| 51EAB | 13 | 5, | -3,572 | -4,741 | 1,170 | 6 | -6,240 | -6,893 | 0,647 | 12 |
| 52AAB | 14 | 6, | -3,628 | -4,667 | 1,039 | 34 | -3,844 | -3,691 | 0,647 | 13 |
| 52AB9 | 15 | 8, | -3,572 | -4,434 | 0,862 | 128 | -6,521 | -7,159 | 0,638 | 14 |
| 63R08 | 16 | 18, | -6,884 | -5,918 | -0,894 | 119 | -1,852 | -2,473 | 0,621 | 15 |
| 71AE8 | 17 | 16, | -1,574 | -2,814 | 1,240 | 108 | -5,934 | -5,624 | 0,569 | 16 |
| 74JA8 | 18 | 9, | -2,724 | -2,530 | -0,193 | 46 | -4,514 | -5,032 | 0,518 | 17 |
| 74JC8 | 19 | 7, | -3,981 | -4,224 | 0,243 | 100 | -1,743 | -2,260 | 0,516 | 18 |
| 52GA1 | 20 | 2, | -4,837 | -5,843 | 0,206 | 61 | -1,173 | -1,678 | 0,505 | 19 |
| 71ZAB | 21 | 5, | -5,709 | -4,961 | -0,748 | 25 | -1,464 | -1,966 | 0,503 | 20 |
| 73EG8 | 24 | 18, | -3,139 | -3,250 | 0,111 | 99 | -2,363 | -2,765 | 0,402 | 21 |
| 73EP8 | 25 | 19, | -1,484 | -1,908 | 0,503 | 104 | -3,322 | -3,714 | 0,391 | 22 |
| 73HA8 | 26 | 19, | -1,925 | -1,998 | -0,026 | 28 | -2,821 | -3,210 | 0,389 | 23 |
| 73HC8 | 27 | 18, | -2,613 | -2,147 | -0,466 | 9 | -4,193 | -4,488 | 0,375 | 24 |
| 73NA8 | 28 | 26, | -2,821 | -3,210 | 0,389 | 53 | -3,481 | -3,825 | 0,365 | 25 |
| 73Q88 | 29 | 8, | -2,488 | -2,524 | 0,036 | 58 | -3,453 | -3,814 | 0,360 | 26 |
| 73BC8 | 30 | 11, | -4,135 | -3,817 | -0,318 | 60 | -3,381 | -3,654 | 0,353 | 27 |
| 73K88 | 31 | 4, | -2,889 | -3,067 | 0,178 | 57 | -3,532 | -3,864 | 0,332 | 28 |
| 73KE8 | 32 | 4, | -3,804 | -3,315 | -0,489 | 98 | -5,985 | -6,299 | 0,314 | 29 |
| 73KF8 | 33 | 3, | -4,531 | -4,234 | -0,296 | 71 | -4,911 | -5,221 | 0,310 | 30 |
| 73KK8 | 34 | 11, | -3,844 | -3,691 | 0,647 | 109 | -2,884 | -2,378 | 0,294 | 31 |
| 75938 | 35 | 9, | -5,468 | -5,469 | 0,000 | 84 | -2,317 | -2,609 | 0,293 | 32 |
| 74B08 | 36 | 5, | -3,120 | -3,242 | 0,122 | 123 | -3,933 | -4,218 | 0,285 | 33 |
| 74BF8 | 37 | 2, | -3,573 | -3,508 | -0,065 | 99 | -3,673 | -3,955 | 0,282 | 34 |
| 76N18 | 38 | 36, | -6,887 | -6,635 | -0,252 | 72 | -1,730 | -1,983 | 0,253 | 35 |
| 78A18 | 39 | 5, | -5,158 | -4,358 | -0,799 | 19 | -3,981 | -4,224 | 0,243 | 36 |
| 78GA8 | 40 | 7, | -4,565 | -4,797 | 0,232 | 48 | -4,565 | -4,797 | 0,232 | 37 |
| 74FF8 | 41 | 22, | -3,195 | -2,289 | -0,905 | 63 | -2,589 | -2,748 | 0,231 | 38 |
| 74FA8 | 42 | 15, | -2,105 | -1,389 | -0,716 | 117 | -6,927 | -7,156 | 0,230 | 39 |
| 74FH8 | 43 | 8, | -2,958 | -3,179 | 0,221 | 110 | -4,311 | -4,539 | 0,228 | 40 |
| 74FU8 | 44 | 46, | -2,296 | -3,271 | 0,985 | 43 | -2,958 | -3,179 | 0,221 | 41 |
| 73CG8 | 46 | 37, | -4,514 | -5,032 | 0,518 | 3 | -3,357 | -3,569 | 0,212 | 42 |
| 74FC8 | 48 | 18, | -2,063 | -2,128 | -0,043 | 28 | -4,837 | -5,043 | 0,206 | 43 |
| 74FJ8 | 49 | 3, | -3,137 | -2,626 | -0,511 | 92 | -2,318 | -2,498 | 0,180 | 44 |
| 74FK8 | 50 | 18, | -6,292 | -7,834 | 0,772 | 125 | -3,522 | -3,702 | 0,180 | 45 |
| 74F08 | 51 | 19, | -2,417 | -2,537 | 0,120 | 31 | -2,889 | -3,067 | 0,178 | 46 |
| 74KA8 | 52 | 7, | -2,318 | -2,498 | 0,180 | 70 | -5,886 | -6,054 | 0,168 | 47 |
| 74KC8 | 53 | 7, | -3,481 | -3,825 | 0,365 | 88 | -4,899 | -4,265 | 0,166 | 48 |
| 74CA8 | 54 | 9, | -5,345 | -4,030 | -1,315 | 101 | -2,101 | -2,258 | 0,157 | 49 |
| 74C98 | 55 | 7, | -5,102 | -4,661 | -0,442 | 121 | -2,481 | -2,549 | 0,148 | 50 |
| 74CC8 | 56 | 7, | -5,432 | -4,800 | -0,632 | 18 | -4,549 | -4,673 | 0,123 | 51 |
| 74FA1 | 57 | 9, | -3,532 | -3,864 | 0,332 | 36 | -3,128 | -3,242 | 0,122 | 52 |
| 74E88 | 58 | 8, | -3,453 | -3,814 | 0,360 | 51 | -2,417 | -2,537 | 0,120 | 53 |
| 73PH8 | 59 | 4, | -3,548 | -3,384 | -0,282 | 24 | -3,139 | -3,250 | 0,111 | 54 |
| 73P88 | 60 | 38, | -8,936 | -8,926 | -0,023 | 95 | -2,732 | -2,827 | 0,095 | 55 |
| 73PD8 | 61 | 14, | -1,173 | -1,678 | 0,505 | 4 | -3,542 | -3,618 | 0,076 | 56 |
| 73PF8 | 62 | 28, | -2,948 | -2,585 | -0,435 | 8 | -3,979 | -4,037 | 0,058 | 57 |
| 73PH8 | 63 | 4, | -2,589 | -2,748 | 0,231 | 77 | -1,345 | -1,395 | 0,050 | 58 |
| 71NA8 | 64 | 4, | -2,317 | -2,609 | 0,293 | 28 | -2,488 | -2,524 | 0,036 | 59 |
| 71QU8 | 65 | 4, | -2,718 | -2,612 | -0,106 | 35 | -5,468 | -5,469 | 0,000 | 60 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 63A38 | 86 | 3. | -2.788 | -2.618 | -0.098 | 128 | -3.451 | -3.453 | 0.002 | 61 |
| 65AA8 | 87 | 5. | -2.955 | -2.523 | -0.432 | 60 | -0.930 | -0.926 | -0.003 | 62 |
| 63AG8 | 88 | 4. | -4.099 | -4.265 | 0.166 | 28 | -1.025 | -0.998 | -0.026 | 63 |
| 638F8 | 70 | 10. | -5.886 | -6.054 | 0.168 | 85 | -3.402 | -3.566 | -0.036 | 64 |
| 7148E | 71 | 11. | -4.911 | -5.221 | 0.310 | 48 | -2.163 | -2.128 | -0.043 | 65 |
| 7140A | 72 | 13. | -1.730 | -1.983 | 0.253 | 36 | -0.687 | -0.635 | -0.052 | 66 |
| 7308A | 73 | 11. | -0.106 | -1.515 | 0.592 | 37 | -3.573 | -3.508 | -0.065 | 67 |
| 71ACC | 74 | 42. | -4.648 | -5.334 | 0.668 | 83 | -1.925 | -1.857 | -0.067 | 68 |
| 73C80 | 75 | 49. | -6.987 | -6.378 | -0.618 | 76 | -7.333 | -7.258 | -0.075 | 69 |
| 73CE4 | 76 | 41. | -7.333 | -7.258 | -0.075 | 88 | -2.708 | -2.618 | -0.090 | 70 |
| 73CF4 | 77 | 8. | -1.345 | -1.395 | 0.050 | 16 | -6.884 | -5.910 | -0.094 | 71 |
| 730AM | 78 | 20. | -3.812 | -2.735 | -0.277 | 65 | -2.716 | -2.612 | -0.104 | 72 |
| 73E8A | 79 | 12. | -5.571 | -5.316 | -0.255 | 91 | -1.790 | -1.666 | -0.124 | 73 |
| 73E8F | 80 | 8. | -3.301 | -3.654 | 0.353 | 88 | -0.523 | -0.360 | -0.163 | 74 |
| 71C40 | 81 | 8. | -5.149 | -4.767 | -0.381 | 93 | -3.223 | -3.077 | -0.146 | 75 |
| 73EG8 | 82 | 12. | -3.833 | -2.724 | -0.310 | 126 | -4.172 | -4.021 | -0.151 | 76 |
| 73HC8 | 83 | 11. | -1.925 | -1.857 | -0.067 | 107 | -3.793 | -3.621 | -0.172 | 77 |
| 73L48 | 84 | 4. | -0.827 | -1.748 | 0.921 | 113 | -3.368 | -3.187 | -0.181 | 78 |
| 77EC8 | 85 | 2. | -3.682 | -3.566 | -0.116 | 18 | -2.724 | -2.530 | -0.193 | 79 |
| 77EE8 | 86 | 47. | -9.091 | -7.867 | -1.224 | 127 | -4.382 | -4.145 | -0.237 | 80 |
| 77D8P | 88 | 47. | -0.503 | -0.360 | -0.143 | 79 | -5.571 | -5.316 | -0.255 | 81 |
| 76A5A | 89 | 5. | -1.619 | -2.299 | 0.679 | 105 | -3.384 | -3.128 | -0.256 | 82 |
| 73KA8 | 90 | 7. | -2.363 | -2.765 | 0.402 | 78 | -3.012 | -2.735 | -0.277 | 83 |
| 638AA | 91 | 10. | -1.790 | -1.666 | -0.124 | 59 | -3.648 | -3.364 | -0.282 | 84 |
| 63CAA | 92 | 10. | -1.987 | -1.666 | -0.321 | 122 | -4.941 | -4.648 | -0.293 | 85 |
| 658AA | 93 | 6. | -3.223 | -3.077 | -0.146 | 33 | -4.531 | -4.234 | -0.296 | 86 |
| 6198A | 94 | 5. | -2.928 | -2.210 | -0.718 | 82 | -3.033 | -2.724 | -0.310 | 87 |
| 61AA8 | 95 | 5. | -2.732 | -2.827 | 0.095 | 97 | -3.124 | -2.809 | -0.315 | 88 |
| 61A98 | 96 | 6. | -2.487 | -3.483 | 0.996 | 38 | -4.135 | -3.817 | -0.318 | 89 |
| 61AC8 | 97 | 9. | -3.124 | -2.809 | -0.315 | 92 | -1.987 | -1.666 | -0.321 | 90 |
| 72AA8 | 98 | 28. | -5.985 | -6.293 | 0.314 | 12 | -3.881 | -3.552 | -0.329 | 91 |
| 72AC8 | 99 | 18. | -3.673 | -3.955 | 0.282 | 1 | -4.029 | -3.688 | -0.341 | 92 |
| 71CA8 | 100 | 12. | -1.743 | -2.260 | 0.516 | 81 | -5.149 | -4.767 | -0.381 | 93 |
| 72E4A | 101 | 12. | -2.101 | -2.258 | 0.157 | 87 | -2.955 | -2.523 | -0.432 | 94 |
| 72PP0 | 103 | 16. | -2.883 | -1.413 | -0.590 | 62 | -2.948 | -2.505 | -0.438 | 95 |
| 71JA8 | 104 | 3. | -3.322 | -3.714 | 0.391 | 55 | -5.102 | -4.661 | -0.442 | 96 |
| 71LA8 | 105 | 4. | -3.384 | -3.128 | -0.256 | 27 | -2.613 | -2.147 | -0.466 | 97 |
| 72D48 | 106 | 12. | -4.244 | -3.834 | -0.709 | 32 | -3.884 | -3.315 | -0.489 | 98 |
| 72AC8 | 107 | 2. | -3.793 | -3.621 | -0.172 | 40 | -3.137 | -2.626 | -0.511 | 99 |
| 71719 | 108 | 10. | -5.034 | -5.624 | 0.589 | 112 | -5.888 | -5.379 | -0.501 | 100 |
| 71310 | 109 | 13. | -2.884 | -2.378 | 0.294 | 114 | -4.628 | -4.064 | -0.565 | 101 |
| 72FF8 | 110 | 18. | -4.311 | -4.539 | 0.226 | 103 | -2.893 | -1.413 | -0.590 | 102 |
| 72H82 | 111 | 24. | -5.899 | -5.158 | -0.741 | 73 | -2.106 | -1.515 | -0.592 | 103 |
| 71JCE | 112 | 13. | -5.888 | -5.379 | -0.521 | 124 | -4.237 | -3.625 | -0.612 | 104 |
| 724E8 | 113 | 13. | -3.368 | -3.187 | -0.181 | 75 | -0.987 | -0.370 | -0.618 | 105 |
| 72CC8 | 114 | 4. | -4.628 | -4.064 | -0.565 | 56 | -5.432 | -4.800 | -0.632 | 106 |
| 71Z88 | 116 | 14. | -6.765 | -6.062 | -0.703 | 2 | -3.357 | -2.660 | -0.697 | 107 |
| 71Z08 | 117 | 21. | -6.927 | -7.156 | 0.230 | 116 | -6.765 | -6.062 | -0.703 | 108 |
| 658AA | 118 | 4. | -3.217 | -3.902 | 0.685 | 108 | -4.244 | -3.534 | -0.709 | 109 |
| 63AF8 | 119 | 7. | -2.852 | -2.473 | 0.621 | 42 | -2.185 | -1.349 | -0.716 | 110 |
| 63AA8 | 120 | 2. | -3.451 | -3.453 | 0.002 | 111 | -5.899 | -5.158 | -0.741 | 111 |
| 63121 | 121 | 7. | -2.421 | -2.569 | 0.148 | 21 | -5.709 | -4.961 | -0.748 | 112 |
| 63AAA | 122 | 10. | -4.941 | -4.648 | -0.293 | 94 | -2.998 | -2.210 | -0.788 | 113 |
| 55AL8 | 123 | 6. | -3.933 | -4.218 | 0.285 | 39 | -5.158 | -4.358 | -0.799 | 114 |
| 55AV8 | 124 | 11. | -4.237 | -3.625 | -0.612 | 7 | -6.598 | -5.758 | -0.839 | 115 |
| 61AA8 | 125 | 3. | -3.522 | -3.702 | 0.180 | 11 | -5.817 | -4.958 | -0.859 | 116 |
| 61AE8 | 126 | 7. | -4.172 | -4.021 | -0.151 | 41 | -3.195 | -2.289 | -3.985 | 117 |
| 62AA8 | 127 | 5. | -4.382 | -4.145 | -0.237 | 66 | -0.891 | -7.867 | -1.224 | 118 |
| 64211 | 128 | 16. | -8.521 | -7.189 | 0.638 | 84 | -8.345 | -4.838 | -1.318 | 119 |


G&M MODEL RUN12 DEP VAR IS LMHSHO CUMULATIVE DISTRIBUTION OF RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
POSITIVE
0
NEGATIVE
RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
CUMULATIVE FREQUENCY, NORMAL GRID


OSR MODEL RUN12 DEP VAR IS LAWSHO
RESIDUAL VS. FITTED Y
-8.368
-4.643
-8.926
POSITIVE
0
NEGATIVE
RESIDUALS
-8.368
-4.643
-8.926
FITTED Y

CP VALUES FOR THE SELECTION OF VARIABLES

G&M MODEL RUN12 DEP VAR IS LMM3.0 SEARCH NUMBER 1

SELECTION OF VARIABLES FOR BASIC EQUATION

CP =575.4, VARIABLE ADDED 13 LUP

CP =482.7, VARIABLE ADDED 6 MEM

CP =311.1, VARIABLE ADDED 4 DI

CP =187.5, VARIABLE ADDED 14 LVO

CP =105.2, VARIABLE ADDED 8 SS

CP = 78.7, VARIABLE ADDED 7 MCO

CP = 68.8, VARIABLE ADDED 3 BOMCOM

CP = 48.3, VARIABLE ADDED 1 FIGCOM

CP = 31.9, VARIABLE ADDED 11 DEM

CP = 27.5, VARIABLE ADDED 12 MRTS

CP = 22.1, VARIABLE ADDED 2 BOMNAV

CP = 19.2, VARIABLE ADDED 10 DCO

CP = 16.5, VARIABLE ADDED 5 PS

CP = 15.9, VARIABLE ADDED 9 DUP

| | |
|---|---|
| NUMBER OF OBSERVATIONS | 119 |
| NUMBER OF VARIABLES IN FULL EQUATION | 14 |
| NUMBER OF VARIABLES IN BASIC EQUATION | 12 |
| REMAINDER OF VARIABLES TO BE SEARCHED | 0 |

```
EQUATION  P    CP     VARIABLES IN EQUATION

          15   15.0   FULL EQUATION

          13   18.8   BASIC SET OF VARIABLES   1 FIGCOM  2 BOMNAV  3 BOMCOM  4 DI  6 SS  7 MCD  9 MEM  10 DCD  11 DEM  12 MATS

                      LUP 13   LVO 14
                      RMS =    0.29968

       1  14   16.5   BASIC SET PLUS  5 PS
                      RMS =    0.29893

       2  13   15.0   BASIC SET PLUS  5 PS  9 DUP
                      RMS =    0.29815

SWEEP NUMBER        3,  DELTA Z(K,K) =  3.D-17

ESTIMATE OF VARIANCE

NO SMALLER RMS VALUE FOUND IN SUBSET EQUATIONS

RMS OF FULL EQUATION SELECTED BY USER TO CALCULATE CP VALUES


 SEQ  EQUATION  P  ORDERED CP
   1        2  15      15.0
   2        1  14      18.8
```

LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

G&R MODEL RUN13 DEP VAR IS LLSCFD MIN Y = -4.5290 00 MAX Y = 2.3420 00 RANGE Y = 6.8710 00

MULTIPLE REGRESSION ANALYSIS FOR THE "ALPOS" MODEL

LLSCFD = B(0) + B(1)FIGCOM + B(2)BOMNAV + B(3)BOMCOM + B(4)CD
+ B(5)DI + B(6)EM + B(7)XT + B(8)SS + B(9)DCC + B(10)DPS
+ B(11)DPD + B(12)DUP + B(13)NRTS + B(14)LUP + B(15)LHT
+ B(16)LPD

LLSCFD = LN(LSCFLO)

LSCFLO = FIELD LOGISTICS SUPPORT COST PER OPERATING HOUR

| IND.VAR(I) | NAME | COEF.B(I) | S.E. COEF. | T-VALUE | R(I)SQRD | MIN X(I) | MAX X(I) | RANGE X(I) | REL.INF.X(I) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | -5.921240 00 | | | | | | | |
| 1 | FIGCOM | 8.984110-01 | 2.180-01 | 3.2 | 0.1355 | 0.0 | 1.0000 00 | 1.0000 00 | 0.10 |
| 2 | BOMNAV | 8.443730-01 | 1.680-01 | 5.0 | 0.2159 | 0.0 | 1.0000 00 | 1.0000 00 | 0.12 |
| 3 | BOMCOM | 7.346230-01 | 2.070-01 | 3.5 | 0.1545 | 0.0 | 1.0000 00 | 1.0000 00 | 0.11 |
| 4 | CD | 2.213460-01 | 4.530-02 | 4.9 | 0.2847 | 4.9230-03 | 6.6740 00 | 6.6690 00 | 0.21 |
| 5 | DI | -1.155770-02 | 1.880-03 | 6.4 | 0.4758 | 0.0 | 1.0000 02 | 1.0000 02 | 0.17 |
| 6 | EM | -1.965820-02 | 3.210-03 | 6.1 | 0.5887 | 0.0 | 1.0000 02 | 1.0000 02 | 0.29 |
| 7 | XT | -7.383850-03 | 3.320-03 | 2.2 | 0.4655 | 0.0 | 1.0000 02 | 1.0000 02 | 0.11 |
| 8 | SS | -1.881250-02 | 2.330-03 | 4.8 | 0.6682 | 0.0 | 1.0000 02 | 1.0000 02 | 0.16 |
| 9 | DCC | -2.278[illegible]0-08 | 1.350-08 | 1.7 | 0.1231 | 1.6000 01 | 2.8230 07 | 2.8230 07 | 0.09 |
| 10 | DPS | -3.189740-04 | 1.180-04 | 2.6 | 0.1508 | 3.8190 01 | 2.9720 03 | 2.9340 03 | 0.13 |
| 11 | DPD | 2.152360-07 | 1.380-07 | 1.6 | 0.3275 | 4.4180 02 | 4.8840 06 | 4.8840 06 | 0.13 |
| 12 | DUP | 8.475590-01 | 1.660-01 | 5.8 | 0.1728 | 1.7640-01 | 2.8160 00 | 1.6440 00 | 0.17 |
| 13 | NRTS | -8.224180-03 | 2.580-03 | 3.2 | 0.3173 | 0.0 | 1.0000 02 | 1.0000 02 | 0.12 |
| 14 | LUP | 6.778590-01 | 5.290-02 | 9.8 | 0.7838 | 5.9380 00 | 1.3250 01 | 8.2170 00 | 0.57 |
| 15 | LHT | 5.226630-01 | 8.330-02 | 6.3 | 0.7296 | 0.0 | 5.1570 00 | 5.1570 00 | 0.39 |
| 16 | LPD | 1.483780-01 | 5.570-02 | 2.5 | 0.0492 | 1.0990 00 | 8.9880 00 | 8.9880 00 | 0.14 |

| | |
|---|---|
| NO. OF OBSERVATIONS | 116 |
| NO. OF IND. VARIABLES | 16 |
| RESIDUAL DEGREES OF FREEDOM | 99 |
| F-VALUE | 58.5 |
| RESIDUAL ROOT MEAN SQUARE | 0.52854878 |
| RESIDUAL MEAN SQUARE | 0.27897184 |
| RESIDUAL SUM OF SQUARES | 26.62813278 |
| TOTAL SUM OF SQUARES | 248.07896478 |
| MULT. CORREL. COEF. SQUARED | .8969 |

REQUIRED X(I) PRECISION
(DIGIT RIGHT OF DECIMAL POSITIVE,
LEFT OF DECIMAL NEGATIVE)

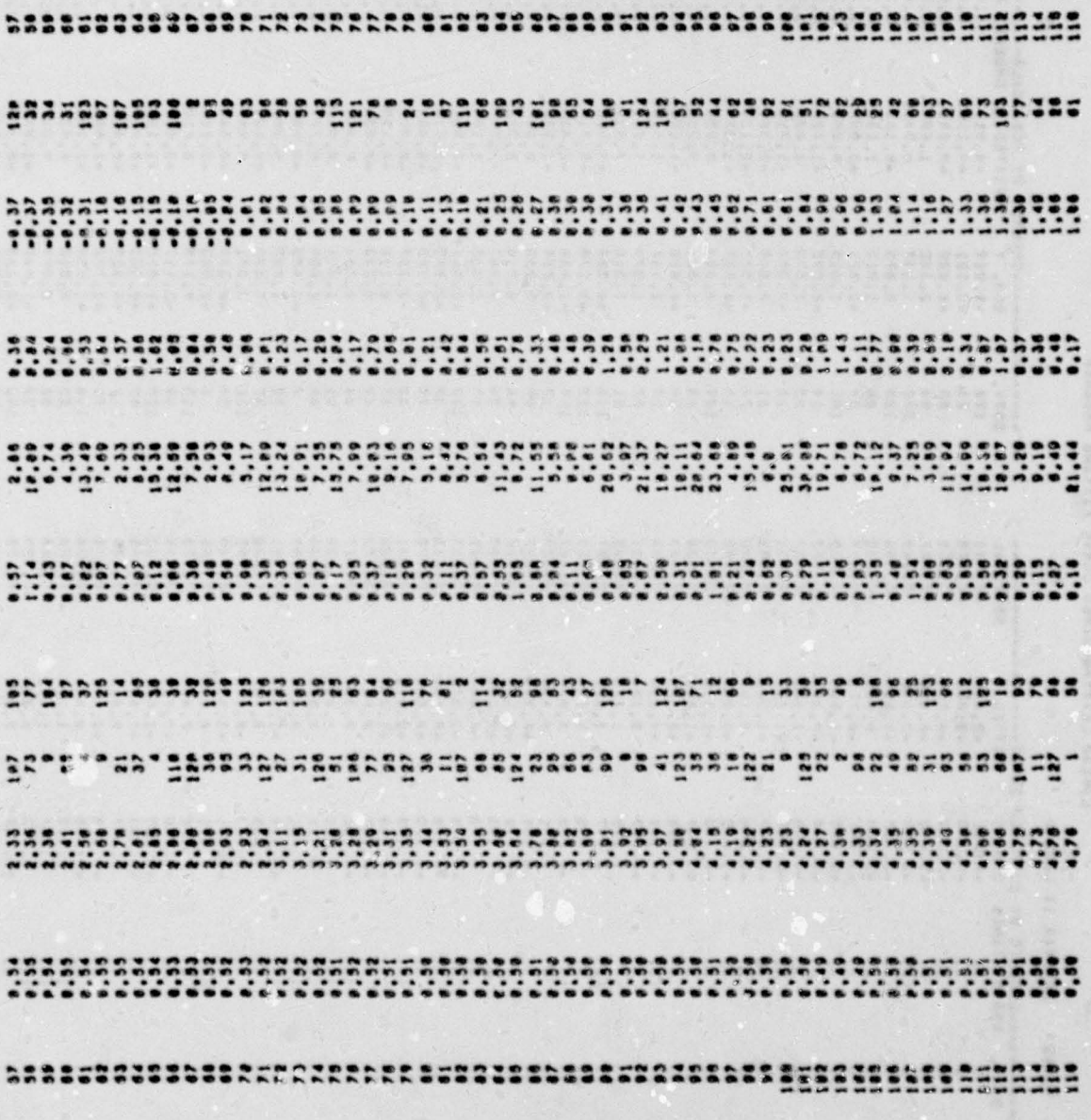
| IND.VAR(I) | DIGIT |
|---|---|
| 1 | -1 |
| 2 | -1 |
| 3 | -1 |
| 4 | 1 |
| 5 | -2 |
| 6 | -2 |
| 7 | -2 |
| 8 | -2 |
| 9 | -7 |
| 10 | -4 |
| 11 | -8 |
| 12 | 1 |
| 13 | -2 |
| 14 | 1 |
| 15 | 1 |
| 16 | 1 |

LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

O&M MODEL RUN13 DEP VAR IS LLSCFD RESIDUAL ROOT MEAN SQUARE OF FITTED EQUATION: 0.92

STANDARD DEVIATION ESTIMATED FROM RESIDUALS OF NEIGHBORING OBSERVATIONS (OBSERVATIONS 1 TO 4 APART IN FITTED Y ORDER).

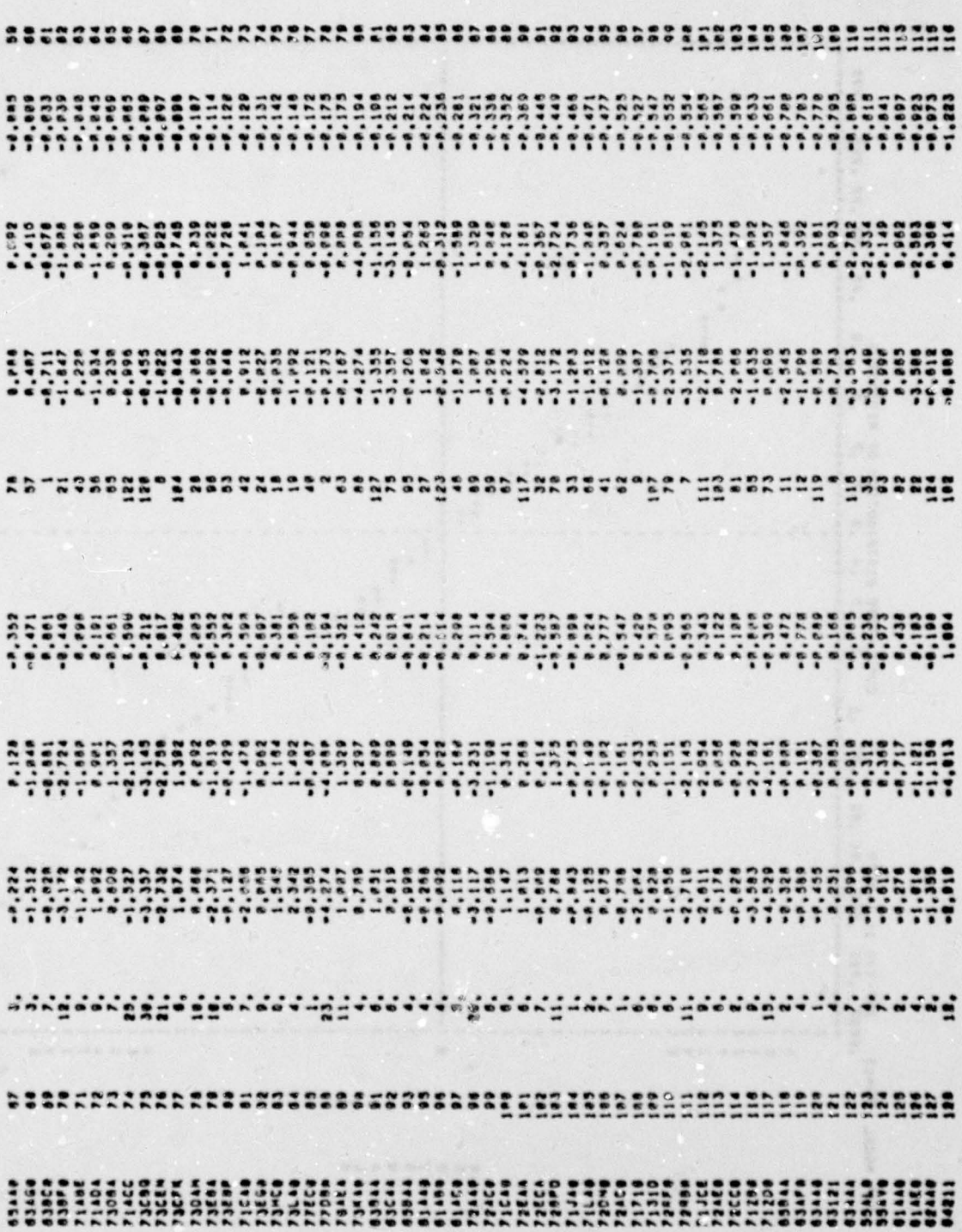
| NO. | CUMULATIVE STD DEV | ORDERED BY WSSD | | | | ORDERED BY FITTED Y | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | WSSD | OBSV. | OBSV. | DEL RESIDUALS | WSSD | DEL RESIDUALS | FITTED Y | OBSV. | SEQ. |
| 1 | 0.22 | 0.0 | 92 | 91 | 0.23 | 0.01 | 1.36 | -4.16 | 117 | 1 |
| 2 | 0.34 | 0.00 | 85 | 84 | 0.48 | 21.47 | 1.18 | -4.11 | 23 | 2 |
| 3 | 0.46 | 0.01 | 117 | 23 | 1.35 | 19.82 | 1.29 | -4.06 | 98 | 3 |
| 4 | 0.53 | 0.10 | 116 | 22 | 0.12 | 0.52 | 0.35 | -4.01 | 128 | 4 |
| 5 | 0.47 | 0.15 | 113 | 24 | 0.25 | 11.75 | 0.63 | -3.59 | 58 | 5 |
| 6 | 0.43 | 0.20 | 127 | 39 | 0.23 | 12.94 | 0.33 | -3.23 | 98 | 6 |
| 7 | 0.41 | 0.25 | 14 | 13 | 0.38 | 13.12 | 0.36 | -3.15 | 75 | 7 |
| 8 | 0.38 | 0.34 | 85 | 128 | 0.19 | 2.27 | 0.79 | -3.11 | 6 | 8 |
| 9 | 0.41 | 0.35 | 126 | 31 | 0.72 | 6.14 | 0.98 | -2.08 | 7 | 9 |
| 10 | 0.58 | 0.39 | 119 | 129 | 1.34 | 18.99 | 0.88 | -2.95 | 112 | 10 |
| 11 | 0.48 | 0.48 | 4 | 85 | 0.09 | 26.23 | 1.14 | -2.92 | 38 | 11 |
| 12 | 0.46 | 0.49 | 49 | 63 | 0.46 | 26.98 | 0.82 | -2.78 | 116 | 12 |
| 13 | 0.38 | 0.49 | 128 | 102 | 2.83 | 33.74 | 0.47 | -2.75 | 78 | 13 |
| 14 | 0.64 | 0.56 | 119 | 101 | 1.51 | 0.78 | 0.47 | -2.72 | 78 | 14 |
| 15 | 0.68 | 0.63 | 101 | 108 | 0.86 | 4.34 | 1.33 | -2.58 | 22 | 15 |
| 16 | 0.68 | 0.69 | 49 | 59 | 0.62 | 1.15 | 1.24 | -2.43 | 108 | 16 |
| 17 | 0.67 | 0.69 | 109 | 101 | 0.17 | 13.47 | 0.25 | -2.33 | 35 | 17 |
| 18 | 0.59 | 0.71 | 14 | 15 | 0.15 | 17.98 | 1.16 | -2.15 | 111 | 18 |
| 19 | 0.58 | 0.72 | 31 | 107 | 1.17 | 31.95 | 0.84 | -2.12 | 74 | 19 |
| 20 | 0.60 | 0.81 | 103 | 28 | 1.07 | 15.36 | 0.14 | -1.89 | 56 | 20 |
| 21 | 0.59 | 0.85 | 19 | 114 | 0.25 | 4.91 | 0.88 | -1.88 | 71 | 21 |
| 22 | 0.60 | 0.86 | 118 | 33 | 0.94 | 4.73 | 0.15 | -1.85 | 11 | 22 |
| 23 | 0.58 | 0.88 | 15 | 13 | 0.16 | 15.27 | 0.51 | -1.82 | 79 | 23 |
| 24 | 0.58 | 0.91 | 52 | 40 | 0.15 | 28.42 | 0.24 | -1.81 | 21 | 24 |
| 25 | 0.56 | 0.93 | 125 | 1 | 0.47 | 31.56 | 0.31 | -1.59 | 46 | 25 |
| 26 | 0.56 | 0.93 | 55 | 114 | 0.73 | 12.19 | 1.32 | -1.48 | 81 | 26 |
| 27 | 0.57 | 0.96 | 71 | 79 | 0.65 | 0.71 | 0.15 | -1.33 | 14 | 27 |
| 28 | 0.59 | 0.97 | 12 | 31 | 1.33 | 10.25 | 0.98 | -1.28 | 15 | 28 |
| 29 | 0.62 | 0.97 | 117 | 128 | 1.48 | 0.84 | 0.98 | -1.19 | 99 | 29 |
| 30 | 0.60 | 0.99 | 23 | 128 | 0.11 | 0.17 | 0.62 | -1.18 | 13 | 30 |
| 31 | 0.60 | 1.04 | 33 | 4 | 0.66 | 3.35 | 0.29 | -1.16 | 127 | 31 |
| 32 | 0.59 | 1.04 | 32 | 32 | 0.26 | 7.48 | 0.81 | -1.15 | 110 | 32 |
| 33 | 0.58 | 1.07 | 79 | 81 | 0.84 | 3.21 | 0.87 | -1.12 | 126 | 33 |
| 34 | 0.57 | 1.08 | 55 | 19 | 0.49 | 5.28 | 0.58 | -1.06 | 39 | 34 |
| 35 | 0.59 | 1.15 | 108 | 35 | 1.24 | 0.55 | 1.10 | -1.04 | 68 | 35 |
| 36 | 0.59 | 1.21 | 63 | 59 | 0.13 | 9.58 | 1.26 | -1.01 | 28 | 36 |
| 37 | 0.58 | 1.23 | 12 | 128 | 0.41 | 1.08 | 0.49 | -1.00 | 55 | 37 |
| 38 | 0.57 | 1.25 | 9 | 53 | 0.41 | 0.85 | 0.25 | -0.94 | 19 | 38 |
| 39 | 0.56 | 1.25 | 104 | 1 | 0.06 | 0.84 | 0.20 | -0.93 | 114 | 39 |
| 40 | 0.56 | 1.27 | 5 | 118 | 0.57 | 11.64 | 0.91 | -0.92 | 5 | 40 |
| 41 | 0.56 | 1.27 | 67 | 66 | 0.42 | 7.41 | 0.95 | -0.91 | 122 | 41 |
| 42 | 0.55 | 1.49 | 1 | 4 | 0.03 | 0.17 | 0.39 | -0.88 | 69 | 42 |
| 43 | 0.55 | 1.48 | 118 | 104 | 0.57 | 5.02 | 1.00 | -0.80 | 118 | 43 |
| 44 | 0.54 | 1.50 | 33 | 1 | 0.43 | 2.38 | 0.43 | -0.78 | 9 | 44 |
| 45 | 0.54 | 1.50 | 104 | 33 | 0.37 | 1.50 | 0.37 | -0.75 | 104 | 45 |
| 46 | 0.53 | 1.68 | 123 | 105 | 0.26 | 0.24 | 0.35 | -0.74 | 33 | 46 |
| 47 | 0.54 | 1.84 | 85 | 12 | 0.81 | 4.68 | 0.56 | -0.73 | 53 | 47 |
| 48 | 0.53 | 2.03 | 25 | 60 | 0.13 | 0.93 | 0.47 | -0.72 | 125 | 48 |
| 49 | 0.54 | 2.11 | 32 | 31 | 1.07 | 1.49 | 0.23 | -0.68 | 1 | 49 |
| 50 | 0.54 | 2.11 | 1 | 36 | 0.34 | 2.58 | 0.82 | -0.66 | 4 | 50 |
| 51 | 0.54 | 2.11 | 128 | 6 | 0.95 | 0.96 | 0.83 | -0.60 | 37 | 51 |
| 52 | 0.55 | 2.11 | 105 | 106 | 0.75 | 0.51 | 0.16 | -0.54 | 58 | 52 |
| 53 | 0.55 | 2.18 | 104 | 125 | 0.54 | 2.27 | 0.21 | -0.48 | 36 | 53 |
| 54 | 0.54 | 2.26 | 125 | 4 | 0.24 | 7.68 | 0.78 | -0.47 | 85 | 54 |
| 55 | 0.54 | 2.27 | 6 | 7 | 0.78 | 10.20 | 1.01 | -0.43 | 60 | 55 |
| 56 | 0.54 | 2.27 | 36 | 85 | 0.21 | 1.23 | 0.61 | -0.39 | 12 | 56 |

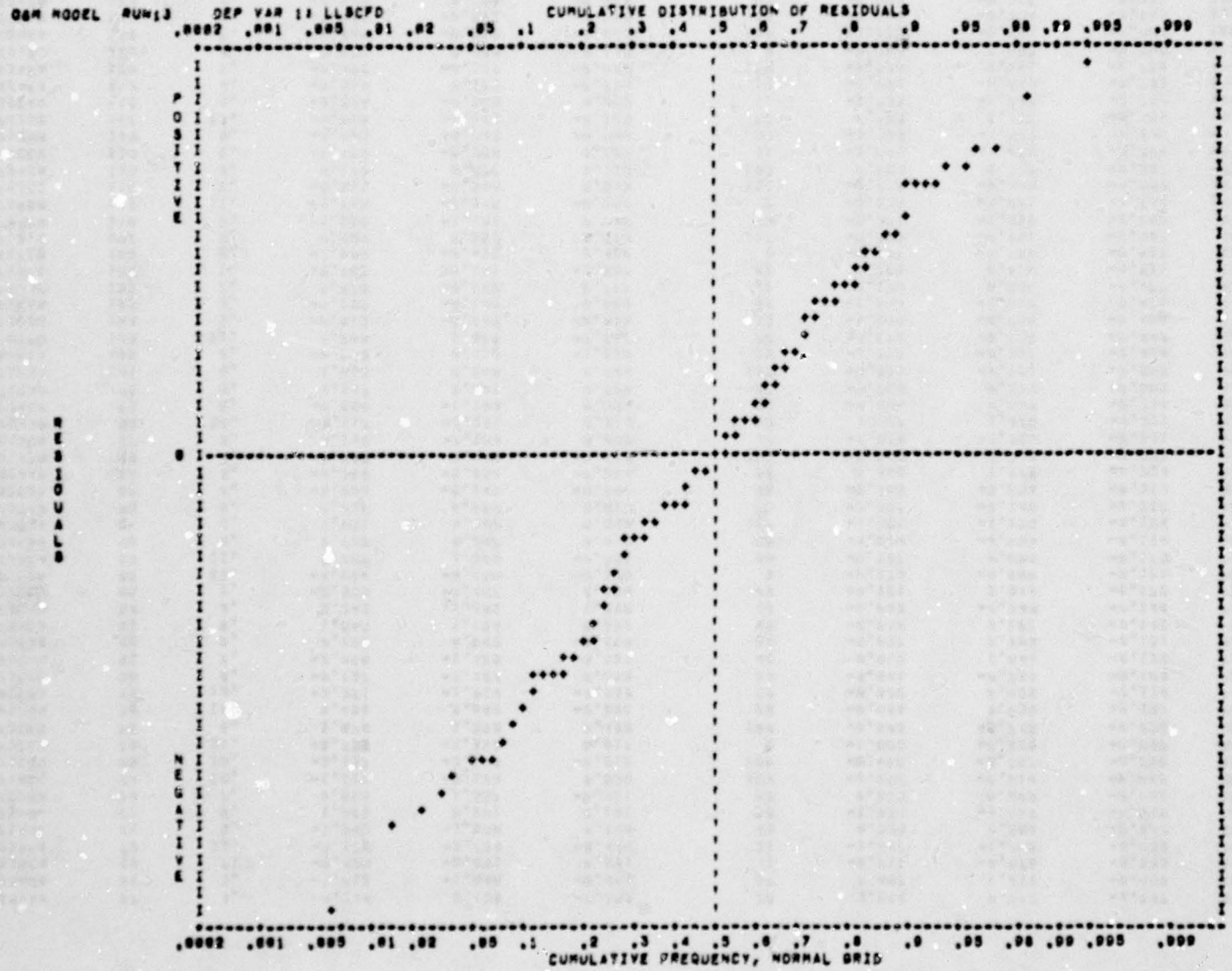


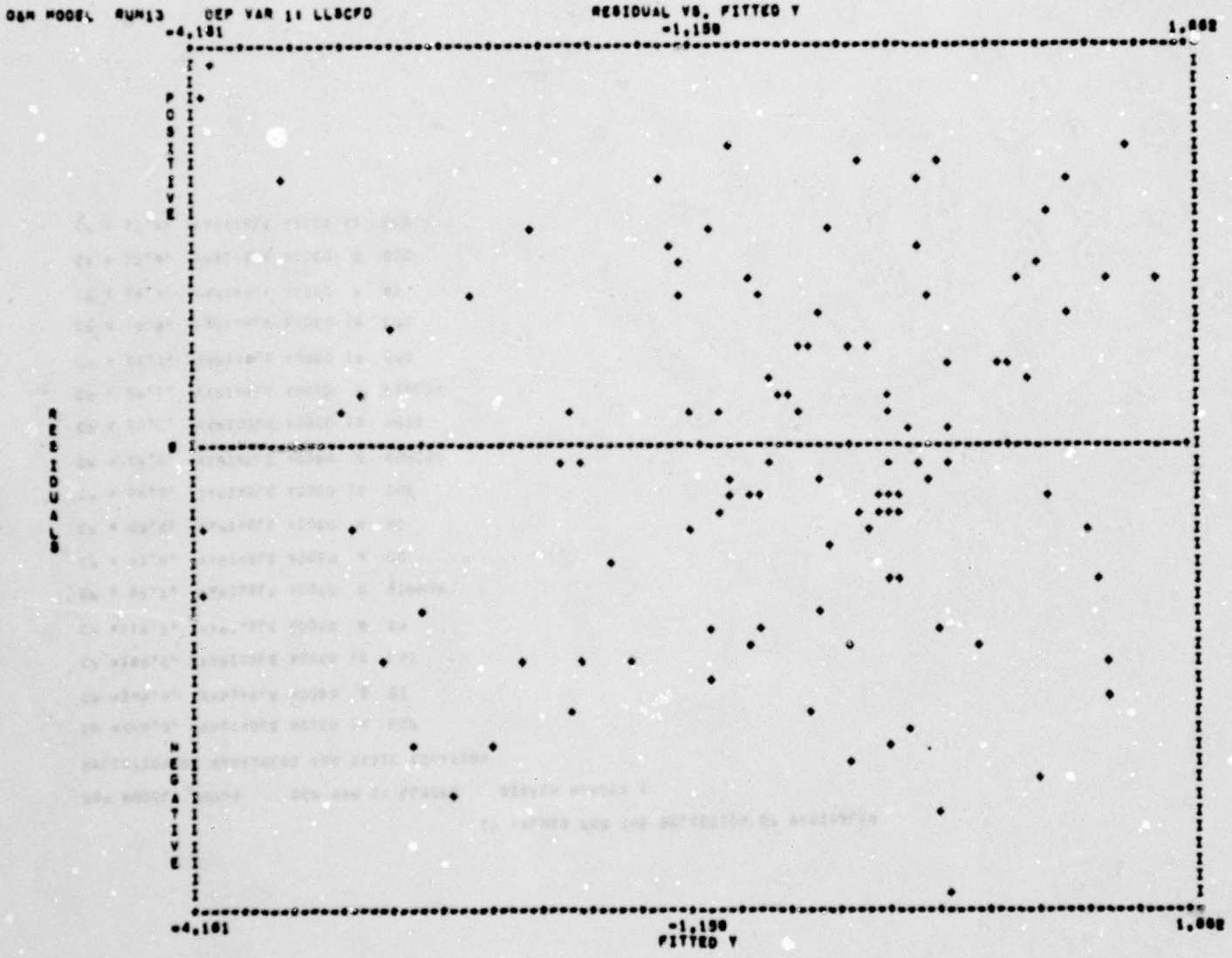
LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

O&N MODEL RUN13 DEP VAR 11 LLSCFD

| ORDERED BY COMPUTER INPUT | | | | | | ORDERED BY RESIDUALS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| IDENT, | OBSV, | NBS DISTANCE | OBS, Y | FITTED Y | RESIDUAL | OBSV, | OBS, Y | FITTED Y | ORDERED RESID, | SEQ |
| 71B2P | 1 | 1, | -P,711 | -P,676 | -P,033 | 128 | -2,919 | -4,913 | 1,994 | 1 |
| 71LBP | 2 | 3, | -P,273 | -P,898 | -P,175 | 23 | -3,121 | -4,110 | P,989 | 2 |
| 71PKA | 4 | 1, | -P,469 | -P,664 | P,195 | 69 | -P,920 | -P,881 | P,861 | 3 |
| 71PBP | 5 | 3, | -1,P22 | -P,925 | -P,P97 | 84 | 2,342 | 1,492 | P,858 | 4 |
| 71710 | 6 | 10, | -2,969 | -3,115 | P,145 | 108 | 1,147 | P,341 | P,806 | 5 |
| 724GP | 7 | 11, | -3,535 | -2,981 | -P,554 | 106 | P,675 | -P,1P2 | P,777 | 6 |
| 71G5P | 8 | 2, | -P,783 | P,P93 | -P,795 | 60 | 1,912 | 1,138 | P,774 | 7 |
| 71F3P | 9 | 1, | -1,3P7 | -P,788 | -P,527 | 50 | -2,921 | -3,567 | P,746 | 8 |
| 71CAP | 11 | 3, | -2,545 | -1,946 | -P,788 | 1P1 | 1,913 | P,268 | P,744 | 9 |
| 71D4P | 12 | 2, | -1,P96 | -P,392 | -P,7P3 | 14 | -P,596 | -1,327 | P,731 | 10 |
| 51EAP | 13 | 3, | -P,758 | -1,185 | P,427 | 25 | 1,67P | 1,P25 | P,645 | 11 |
| 52AAP | 14 | 3, | -P,596 | -1,327 | P,731 | 20 | -P,384 | -1,P14 | P,639 | 12 |
| 52A8P | 15 | 5, | -P,697 | -1,278 | P,582 | 31 | P,306 | -P,321 | P,627 | 13 |
| 74JAP | 18 | 3, | -P,255 | P,187 | -P,142 | 74 | -1,527 | -2,123 | P,596 | 14 |
| 74JCP | 19 | 3, | -1,P92 | -P,944 | -P,148 | 15 | -2,697 | -1,278 | P,582 | 15 |
| 52GA1 | 2P | 6, | -P,384 | -1,214 | P,638 | 109 | P,82P | P,258 | P,578 | 16 |
| 71ZAP | 21 | 4, | -1,847 | -1,8P8 | -P,P39 | 29 | 1,581 | P,985 | P,536 | 17 |
| 71Z8P | 22 | 8, | -3,586 | -2,583 | -P,923 | 99 | -P,686 | -1,198 | P,504 | 18 |
| 71ZCP | 23 | 15, | -3,121 | -4,110 | P,989 | 26 | 2,147 | 1,668 | P,487 | 19 |
| 73EGP | 24 | 6, | -P,P27 | P,1P4 | -P,131 | 77 | 1,874 | 1,392 | P,482 | 20 |
| 73EPP | 25 | 11, | 1,678 | 1,P25 | P,645 | 51 | 1,318 | P,842 | P,476 | 21 |
| 73M4P | 26 | 12, | P,147 | 1,668 | P,487 | 118 | -P,328 | -P,8P8 | P,472 | 22 |
| 73MCP | 27 | 8, | 1,842 | 1,266 | -P,224 | 125 | -P,276 | -P,717 | P,438 | 23 |
| 73NAP | 28 | 13, | -P,P68 | P,P39 | -P,1P7 | 1P8 | -2,8P4 | -2,433 | P,429 | 24 |
| 73096 | 29 | 5, | 1,581 | P,965 | P,536 | 13 | -P,758 | -1,185 | P,427 | 25 |
| 73K6P | 31 | 1, | P,3P6 | -P,321 | P,627 | 98 | P,799 | P,297 | P,412 | 26 |
| 73KEP | 32 | 2, | -P,P12 | -P,357 | -P,446 | 64 | P,714 | P,3P2 | P,412 | 27 |
| 73KFP | 33 | 2, | -1,243 | -P,736 | -P,486 | 34 | P,P43 | -P,347 | P,398 | 28 |
| 73KK6 | 34 | 5, | P,P43 | -P,347 | P,398 | 83 | 1,545 | 1,164 | P,381 | 29 |
| 7593R | 35 | 5, | -3,149 | -2,334 | -P,815 | 112 | -2,611 | -2,954 | P,343 | 30 |
| 748QP | 36 | 3, | -P,178 | -P,488 | P,310 | 38 | -2,575 | -2,916 | P,341 | 31 |
| 748FP | 37 | 5, | -P,429 | -P,601 | P,172 | 36 | -P,178 | -P,488 | P,310 | 32 |
| 74B1P | 38 | 17, | -2,575 | -2,916 | P,341 | 80 | -P,127 | -P,429 | P,3P2 | 33 |
| 75A1P | 39 | 3, | -1,P4P | -1,279 | P,P3P | 97 | P,118 | -P,18P | P,298 | 34 |
| 75GAP | 40 | 9, | -P,121 | P,P58 | -P,172 | 49 | P,243 | -P,83P | P,282 | 35 |
| 74FFP | 41 | 13, | -P,128 | P,357 | -P,477 | 44 | P,781 | P,446 | P,256 | 36 |
| 74FAP | 42 | 13, | P,912 | 1,P41 | -P,129 | 91 | 1,851 | P,829 | P,242 | 37 |
| 74FMP | 43 | 3, | P,22P | P,268 | -P,P42 | 48 | P,935 | P,7P7 | P,228 | 38 |
| 74FUP | 44 | 24, | P,781 | P,446 | P,256 | 4 | -P,469 | -P,664 | P,195 | 39 |
| 73CGP | 46 | 18, | -1,878 | -1,589 | -P,281 | 72 | 1,P92 | P,9P1 | P,191 | 40 |
| 74FCP | 48 | 6, | P,935 | P,707 | P,228 | 37 | -P,426 | -P,601 | P,172 | 41 |
| 74FJP | 49 | 2, | P,243 | -P,P38 | P,282 | 121 | P,251 | P,P85 | P,166 | 42 |
| 74FKP | 50 | 7, | -2,821 | -3,567 | P,746 | 58 | -P,398 | -P,544 | P,146 | 43 |
| 74FQP | 51 | 15, | 1,318 | P,842 | P,476 | 6 | -2,969 | -3,115 | P,145 | 44 |
| 74KAP | 52 | 3, | P,510 | P,434 | P,P76 | 113 | P,178 | P,056 | P,122 | 45 |
| 74KCP | 53 | 4, | -P,P48 | -P,728 | -P,12P | 98 | -3,117 | -3,231 | P,114 | 46 |
| 74C8P | 55 | 0, | -1,835 | -1,P92 | -P,633 | 126 | -1,918 | -1,121 | P,103 | 47 |
| 74CCP | 56 | 5, | -1,934 | -1,889 | -P,P45 | 85 | -P,365 | -P,467 | P,102 | 48 |
| 74FA1 | 57 | 8, | P,487 | P,413 | -P,P29 | 114 | -P,828 | -P,928 | P,1P0 | 49 |
| 74E8R | 58 | 3, | -P,398 | -P,544 | P,146 | 71 | -1,782 | -1,88P | P,098 | 50 |
| 73PHP | 59 | 2, | -P,298 | P,P48 | -P,338 | 118 | -1,856 | -1,151 | P,P95 | 51 |
| 73P8P | 60 | 17, | 1,912 | 1,138 | P,774 | 52 | P,510 | P,434 | P,P76 | 52 |
| 73PDP | 61 | 15, | 1,867 | 1,862 | P,P06 | 66 | P,276 | P,209 | P,068 | 53 |
| 73PFP | 62 | 12, | P,P99 | P,624 | -P,525 | 39 | -1,P49 | -1,P79 | P,P30 | 54 |
| 73PHP | 63 | 2, | -P,167 | P,P88 | -P,175 | 105 | -P,125 | -P,149 | P,P24 | 55 |
| 71NAP | 64 | 3, | P,714 | P,3P2 | P,412 | 78 | -2,732 | -2,758 | P,017 | 56 |
| 71QUP | 65 | 3, | P,238 | P,299 | -P,P69 | 92 | P,819 | P,8P9 | P,P10 | 57 |
| 83AAP | 66 | 2, | P,276 | P,2P9 | P,P68 | 61 | 1,867 | 1,862 | P,P06 | 58 |




G&M MODEL RUN 13 DEP VAR IS LLBCFD
CUMULATIVE DISTRIBUTION OF RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
POSITIVE
0
NEGATIVE
RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
CUMULATIVE FREQUENCY, NORMAL GRID


O&M MODEL RUN13 DEP VAR IS LLSCFD
RESIDUAL VS. FITTED Y
-4.181
-1.158
1.868
POSITIVE
0
NEGATIVE
RESIDUALS
-4.181
-1.158
1.868
FITTED Y

CP VALUES FOR THE SELECTION OF VARIABLES

O&M MODEL RUN13 DEP VAR 11 LLSCPD SEARCH NUMBER 1

SELECTION OF VARIABLES FOR BASIC EQUATION

Cp =484.5, VARIABLE ADDED 14 LUP

Cp =349.4, VARIABLE ADDED 5 DI

Cp =169.6, VARIABLE ADDED 15 LNT

Cp =118.9, VARIABLE ADDED 6 EM

Cp = 97.7, VARIABLE ADDED 2 BOMNAV

Cp = 83.9, VARIABLE ADDED 4 CO

Cp = 65.4, VARIABLE ADDED 8 SS

Cp = 58.6, VARIABLE ADDED 12 DUF

Cp = 48.8, VARIABLE ADDED 3 BOMCOM

Cp = 35.7, VARIABLE ADDED 13 NMTS

Cp = 27.1, VARIABLE ADDED 1 FIGCOM

Cp = 22.1, VARIABLE ADDED 10 DPS

Cp = 19.5, VARIABLE ADDED 16 LPD

Cp = 18.4, VARIABLE ADDED 7 XT

Cp = 17.4, VARIABLE ADDED 9 DCC

Cp = 17.0, VARIABLE ADDED 11 DPO

```
NUMBER OF OBSERVATIONS                          116
NUMBER OF VARIABLES IN FULL EQUATION             16
NUMBER OF VARIABLES IN BASIC EQUATION            14
REMAINDER OF VARIABLES TO BE SEARCHED             2


EQUATION  P    CP     VARIABLES IN EQUATION

          17   17.0   FULL EQUATION

          15   17.4   BASIC SET OF VARIABLES   FISCON(1)  BONNAV(2)  BOMCOM(3)  CD(4)  DI(5)  EM(6)  XT(7)  SS(8)  DPS(10)  DUP(12)

                      NRTS(13)  LUP(14)  LNT(15)  LPD(16)
                      RMS =    0.27748

      1   16   17.4   BASIC SET PLUS       9
                                  OCC
                      RMS =    0.27481

      2   17   17.8   BASIC SET PLUS       9        11
                                  OCC       DPD
                      RMS =    0.27897

      3   16   17.8   BASIC SET PLUS      11
                                  DPD
                      RMS =    0.27595

SWEEP NUMBER          3,  DELTA X(K,K) =  1.0-17

ESTIMATE OF VARIANCE

NO SMALLER RMS VALUE FOUND IN SUBSET EQUATIONS

RMS OF FULL EQUATION SELECTED BY USER TO CALCULATE CP VALUES


 SEQ  EQUATION   P   ORDERED CP
   1        2   17      17.8
   2        1   16      17.4
   3        3   16      17.8
```

LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

O&M MODEL RUN14 DEP VAR 1: LMMTOT MIN Y = -7.8980 00 MAX Y = -5.4590-01 RANGE Y = 6.5440 00

MULTIPLE REGRESSION ANALYSIS FOR THE "ALP03" MODEL

LMMTOT = B(0) + B(1)FIGSEN + B(2)FIGCOM + B(3)BOMNAV + B(4)BOMCOM
+ B(5)CO + B(6)SS + B(7)MOI + B(8)MEM + B(9)MPS
+ B(10)DUP + B(11)OCC + B(12)ODI + B(13)OEM + B(14)OPS
+ B(15)OUF + B(16)LUP + B(17)LVO + B(18)LNT

LMMTOT = LN(MMMTOT)

MMMTOT = TOTAL MAINTENANCE MANHOURS PER OPERATING HOUR

| IND,VAR(I) | NAME | COEF,B(I) | S.E. COEF. | T-VALUE | R(I)SQRD | MIN X(I) | MAX X(I) | RANGE X(I) | REL.IMP.X(I) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | -9.969670 00 | | | | | | | |
| 1 | FIGSEN | -1.827680-01 | 1.130-01 | 1.6 | 0.3250 | 0.0 | 1.0000 00 | 1.0000 00 | 0.03 |
| 2 | FIGCOM | 5.947930-01 | 1.860-01 | 3.1 | 0.5781 | 0.0 | 1.0000 00 | 1.0000 00 | 0.07 |
| 3 | BOMNAV | 8.387720-01 | 1.350-01 | 4.7 | 0.2613 | 0.0 | 1.0000 00 | 1.0000 00 | 0.10 |
| 4 | BOMCOM | 7.885640-01 | 1.610-01 | 4.3 | 0.1616 | 0.0 | 1.0000 00 | 1.0000 00 | 0.11 |
| 5 | CO | 2.687540-01 | 3.990-02 | 6.5 | 0.3581 | 4.9230-03 | 6.6740 00 | 6.6690 00 | 0.27 |
| 6 | SS | -1.581780-02 | 1.970-03 | 8.0 | 0.4913 | 0.0 | 1.0000 02 | 1.0000 02 | 0.24 |
| 7 | MOI | -1.257150-02 | 1.380-03 | 9.2 | 0.4497 | -2.4990 01 | 7.5.00 01 | 1.0000 02 | 0.19 |
| 8 | MEM | -2.388750-02 | 2.340-03 | 10.2 | 0.5881 | -1.2200 01 | 8.9800 01 | 1.0000 02 | 0.36 |
| 9 | MPS | -3.627130-03 | 2.230-03 | 1.6 | 0.0009 | -5.8100 00 | 9.4990 01 | 1.0000 02 | 0.06 |
| 10 | DUP | 5.627710-12 | 3.920-12 | 1.9 | 0.2427 | 2.2260 07 | 1.4360 11 | 1.4360 11 | 0.12 |
| 11 | OCC | -3.139520-08 | 1.190-08 | 2.6 | 0.2736 | 7.2980 02 | 2.8560 07 | 2.8560 07 | 0.14 |
| 12 | ODI | 1.492220-04 | 6.780-05 | 2.1 | 0.2388 | 1.6960-01 | 3.8910 03 | 3.8910 03 | 0.07 |
| 13 | OEM | -2.144390-04 | 7.550-05 | 2.8 | 0.0568 | 2.7840 01 | 3.8470 03 | 3.8280 03 | 0.10 |
| 14 | OPS | -1.826830-04 | 1.120-04 | 1.6 | 0.2581 | 9.4260 01 | 2.8830 03 | 2.7880 03 | 0.08 |
| 15 | OUF | 3.881240-01 | 1.330-01 | 2.3 | 0.1119 | 2.9260-01 | 2.1930 00 | 1.9880 00 | 0.09 |
| 16 | LUP | 5.957730-01 | 4.490-02 | 13.3 | 0.7276 | 5.0380 00 | 1.3250 01 | 8.2170 00 | 0.75 |
| 17 | LVO | 2.282820-02 | 1.040-01 | 2.1 | 0.0984 | 3.4010 00 | 9.8120 00 | 9.6110 00 | 0.19 |
| 18 | LNT | 2.999870-01 | 1.090-01 | 2.8 | 0.0933 | 0.0 | 5.1570 00 | 5.1570 00 | 0.24 |

| | |
|---|---|
| NO. OF OBSERVATIONS | 119 |
| NO. OF IND. VARIABLES | 18 |
| RESIDUAL DEGREES OF FREEDOM | 100 |
| F-VALUE | 66.9 |
| RESIDUAL ROOT MEAN SQUARE | 0.42558838 |
| RESIDUAL MEAN SQUARE | 0.18105857 |
| RESIDUAL SUM OF SQUARES | 18.10585780 |
| TOTAL SUM OF SQUARES | 236.10730456 |
| MULT. CORREL. COEF. SQUARED | .9233 |

REQUIRED X(I) PRECISION
(DIGIT RIGHT OF DECIMAL POSITIVE,
LEFT OF DECIMAL NEGATIVE)

| IND,VAR(I) | DIGIT |
|---|---|
| 1 | -1 |
| 2 | -1 |
| 3 | -1 |
| 4 | -1 |
| 5 | 1 |
| 6 | -2 |
| 7 | -2 |
| 8 | -2 |
| 9 | -2 |
| 10 | -11 |
| 11 | -7 |
| 12 | -4 |
| 13 | -4 |
| 14 | -3 |
| 15 | 1 |
| 16 | 1 |
| 17 | 1 |
| 18 | 1 |

LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

O&M MODEL RUN14 DEP VAR IS LMMYDT RESIDUAL ROOT MEAN SQUARE OF FITTED EQUATION: 0.43

STANDARD DEVIATION ESTIMATED FROM RESIDUALS OF NEIGHBORING OBSERVATIONS (OBSERVATIONS 1 TO 4 APART IN FITTED Y ORDER).

| NO. | CUMULATIVE STD DEV | ORDERED BY WSSD | | | | ORDERED BY FITTED Y | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | WSSD | OBSV. | OBSV. | DEL RESIDUALS | WSSD | DEL RESIDUALS | FITTED Y | OBSV. | SEQ. |
| 1 | 0.21 | 0.0 | 92 | 91 | 0.22 | 0.0 | 0.56 | -6.71 | 66 | 1 |
| 2 | 0.31 | 0.0 | 65 | 64 | 0.43 | 47.68 | 0.26 | -6.71 | 86 | 2 |
| 3 | 0.39 | 0.0 | 66 | 66 | 0.96 | 17.98 | 0.98 | -6.29 | 117 | 3 |
| 4 | 0.48 | 0.01 | 121 | 119 | 0.47 | 13.87 | 0.34 | -6.22 | 50 | 4 |
| 5 | 0.55 | 0.05 | 129 | 128 | 0.16 | 4.55 | 0.17 | -6.04 | 8 | 5 |
| 6 | 0.53 | 0.07 | 6 | 128 | 0.01 | 4.75 | 0.17 | -5.99 | 98 | 6 |
| 7 | 0.26 | 0.26 | 53 | 58 | 0.01 | 2.58 | 0.01 | -5.91 | 128 | 7 |
| 8 | 0.23 | 0.34 | 35 | 4 | 0.02 | 10.24 | 0.23 | -5.68 | 7 | 8 |
| 9 | 0.23 | 0.39 | 13 | 14 | 0.23 | 59.69 | 0.19 | -5.43 | 78 | 9 |
| 10 | 0.27 | 0.42 | 129 | 31 | 0.65 | 49.85 | 0.07 | -5.37 | 38 | 10 |
| 11 | 0.29 | 0.45 | 16 | 35 | 0.57 | 49.88 | 0.18 | -5.33 | 16 | 11 |
| 12 | 0.29 | 0.49 | 7 | 16 | 0.25 | 58.35 | 0.01 | -5.25 | 78 | 12 |
| 13 | 0.35 | 0.64 | 73 | 74 | 1.07 | 7.87 | 1.20 | -5.20 | 116 | 13 |
| 14 | 0.33 | 0.66 | 114 | 19 | 0.13 | 2.27 | 0.26 | -5.18 | 35 | 14 |
| 15 | 0.35 | 0.69 | 54 | 19 | 0.01 | 27.75 | 1.12 | -5.16 | 126 | 15 |
| 16 | 0.33 | 0.73 | 120 | 37 | 0.04 | 43.65 | 0.12 | -5.15 | 75 | 16 |
| 17 | 0.36 | 0.73 | 2 | 121 | 0.04 | 43.49 | 0.05 | -4.92 | 112 | 17 |
| 18 | 0.35 | 0.80 | 46 | 29 | 0.27 | 19.58 | 0.52 | -4.79 | 74 | 18 |
| 19 | 0.34 | 0.86 | 79 | 71 | 0.09 | 28.56 | 0.74 | -4.68 | 79 | 19 |
| 20 | 0.33 | 0.86 | 128 | 127 | 0.25 | 26.83 | 0.83 | -4.58 | 111 | 20 |
| 21 | 0.32 | 0.87 | 65 | 66 | 0.06 | 27.52 | 0.13 | -4.57 | 71 | 21 |
| 22 | 0.33 | 0.87 | 64 | 66 | 0.48 | 12.87 | 0.61 | -4.58 | 58 | 22 |
| 23 | 0.32 | 0.89 | 119 | 101 | 0.27 | 4.47 | 1.53 | -4.46 | 11 | 23 |
| 24 | 0.33 | 0.98 | 94 | 114 | 0.48 | 7.87 | 0.49 | -4.39 | 28 | 24 |
| 25 | 0.34 | 0.93 | 31 | 37 | 0.61 | 3.12 | 0.38 | -4.22 | 39 | 25 |
| 26 | 0.35 | 0.95 | 117 | 128 | 0.57 | 10.24 | 0.95 | -4.18 | 61 | 26 |
| 27 | 0.35 | 0.98 | 10 | 58 | 0.41 | 56.89 | 0.58 | -4.11 | 118 | 27 |
| 28 | 0.36 | 0.99 | 117 | 6 | 0.56 | 55.79 | 0.89 | -3.99 | 46 | 28 |
| 29 | 0.38 | 1.26 | 43 | 32 | 1.89 | 28.81 | 0.88 | -3.99 | 13 | 29 |
| 30 | 0.37 | 1.44 | 107 | 37 | 0.29 | 25.44 | 0.18 | -3.98 | 10 | 30 |
| 31 | 0.38 | 1.46 | 114 | 33 | 0.53 | 4.58 | 0.15 | -3.95 | 68 | 31 |
| 32 | 0.39 | 1.52 | 31 | 107 | 0.91 | 3.33 | 0.55 | -3.89 | 9 | 32 |
| 33 | 0.39 | 1.53 | 32 | 12 | 0.07 | 1.92 | 1.08 | -3.87 | 14 | 33 |
| 34 | 0.37 | 1.78 | 101 | 109 | 0.21 | 5.43 | 0.02 | -3.85 | 21 | 34 |
| 35 | 0.37 | 1.79 | 19 | 53 | 0.48 | 18.12 | 0.25 | -3.83 | 55 | 35 |
| 36 | 0.37 | 1.98 | 127 | 33 | 0.08 | 3.58 | 0.34 | -3.79 | 127 | 36 |
| 37 | 0.36 | 1.92 | 1 | 85 | 0.30 | 6.54 | 0.26 | -3.73 | 128 | 37 |
| 38 | 0.38 | 1.92 | 14 | 21 | 1.84 | 17.54 | 0.48 | -3.73 | 33 | 38 |
| 39 | 0.36 | 1.93 | 125 | 1 | 0.35 | 18.37 | 0.04 | -3.61 | 15 | 39 |
| 40 | 0.38 | 1.97 | 66 | 67 | 0.41 | 15.39 | 1.08 | -3.59 | 99 | 40 |
| 41 | 0.38 | 2.01 | 52 | 16 | 0.37 | 18.53 | 0.69 | -3.58 | 54 | 41 |
| 42 | 0.39 | 2.05 | 11 | 39 | 0.65 | 19.36 | 0.22 | -3.58 | 5 | 42 |
| 43 | 0.38 | 2.09 | 58 | 123 | 0.18 | 0.66 | 0.13 | -3.52 | 114 | 43 |
| 44 | 0.38 | 2.13 | 104 | 118 | 0.15 | 12.11 | 0.50 | -3.50 | 19 | 44 |
| 45 | 0.37 | 2.18 | 1 | 6 | 0.08 | 12.59 | 0.11 | -3.48 | 104 | 45 |
| 46 | 0.38 | 2.18 | 15 | 114 | 0.57 | 17.97 | 0.20 | -3.44 | 53 | 46 |
| 47 | 0.39 | 2.20 | 15 | 54 | 1.05 | 16.63 | 0.26 | -3.43 | 118 | 47 |
| 48 | 0.39 | 2.27 | 35 | 108 | 0.28 | 17.27 | 0.78 | -3.41 | 58 | 48 |
| 49 | 0.40 | 2.34 | 55 | 15 | 0.79 | 25.13 | 0.52 | -3.38 | 122 | 49 |
| 50 | 0.41 | 2.35 | 12 | 63 | 1.24 | 6.41 | 0.11 | -3.38 | 123 | 50 |
| 51 | 0.42 | 2.38 | 128 | 7 | 0.81 | 12.61 | 0.57 | -3.29 | 125 | 51 |
| 52 | 0.43 | 2.43 | 0 | 7 | 0.88 | 13.16 | 0.21 | -3.24 | 40 | 52 |
| 53 | 0.43 | 2.56 | 64 | 67 | 0.89 | 1.92 | 0.38 | -3.22 | 1 | 53 |
| 54 | 0.43 | 2.58 | 107 | 32 | 0.24 | 15.95 | 0.18 | -3.21 | 85 | 54 |
| 55 | 0.43 | 2.61 | 124 | 24 | 0.67 | 18.53 | 0.18 | -3.17 | 30 | 55 |
| 56 | 0.44 | 2.61 | 16 | 108 | 0.83 | 4.72 | 0.38 | -3.12 | 4 | 56 |

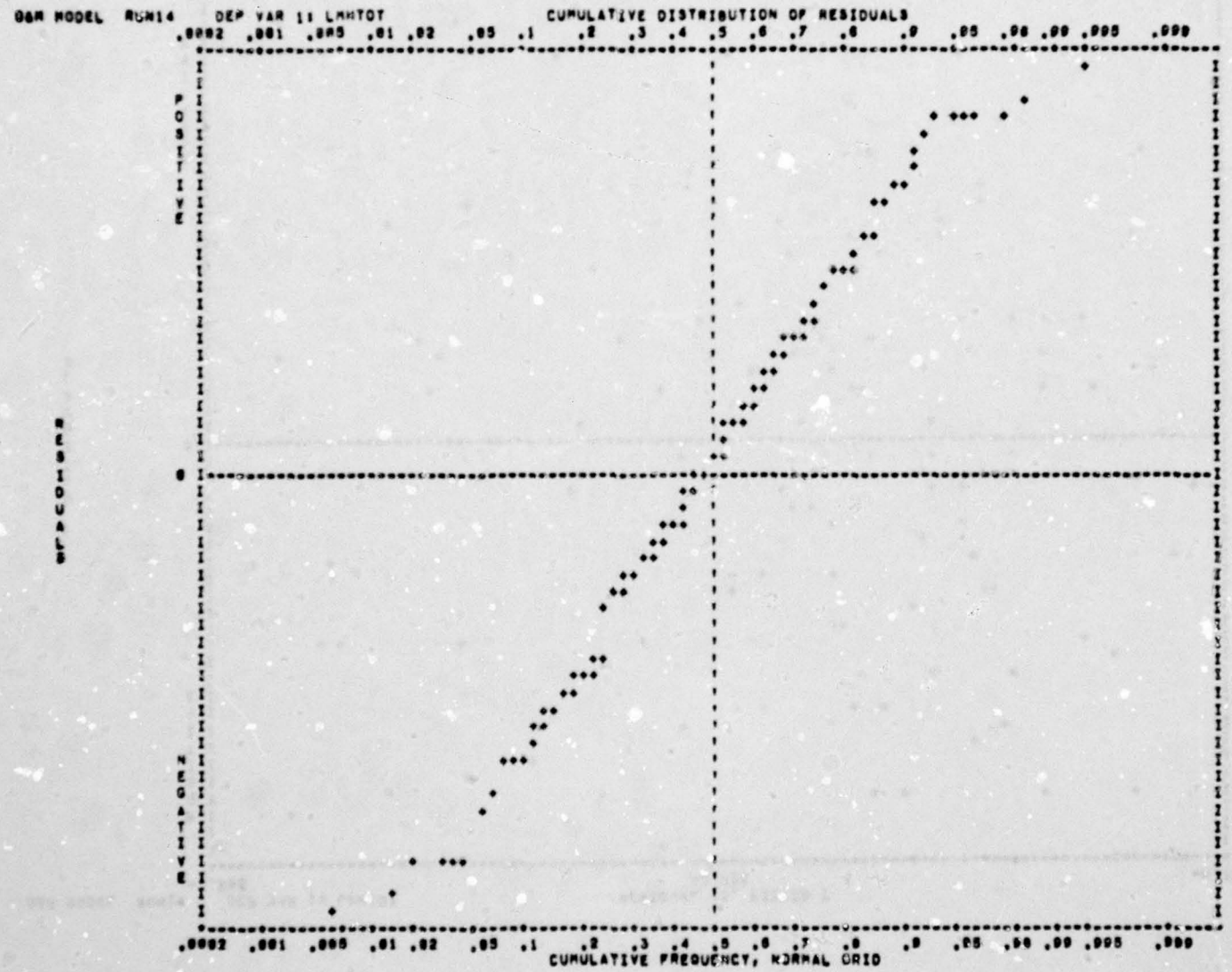
| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 57 | 0.44 | 2.66 | 41 | 91 | 0.59 | 28.12 | 0.34 | -3.07 | 59 | 57 |
| 58 | 0.44 | 2.71 | 72 | 73 | 0.44 | 35.76 | 0.19 | -3.01 | 3 | 58 |
| 59 | 0.45 | 2.87 | 14 | 55 | 1.85 | 14.89 | 0.19 | -3.00 | 88 | 59 |
| 60 | 0.45 | 2.99 | 0 | 21 | 0.53 | 19.88 | 0.02 | -2.99 | 36 | 60 |
| 61 | 0.46 | 3.01 | 13 | 9 | 0.76 | 11.98 | 0.41 | -2.99 | 34 | 61 |
| 62 | 0.45 | 3.03 | 108 | 79 | 0.67 | 4.89 | 0.58 | -2.98 | 128 | 62 |
| 63 | 0.46 | 3.12 | 39 | 81 | 0.36 | 3.98 | 0.15 | -2.92 | 43 | 63 |
| 64 | 0.46 | 3.17 | 103 | 42 | 0.38 | 1.52 | 0.91 | -2.91 | 31 | 64 |
| 65 | 0.46 | 3.21 | 117 | 98 | 0.39 | 1.44 | 0.29 | -2.90 | 107 | 65 |
| 66 | 0.46 | 3.23 | 66 | 21 | 0.68 | 4.16 | 0.54 | -2.88 | 37 | 66 |
| 67 | 0.46 | 3.25 | 43 | 37 | 0.47 | 9.85 | 0.09 | -2.86 | 32 | 67 |
| 68 | 0.45 | 3.28 | 33 | 5 | 0.11 | 6.52 | 0.53 | -2.84 | 106 | 68 |
| 69 | 0.46 | 3.33 | 9 | 14 | 0.55 | 4.88 | 0.09 | -2.84 | 57 | 69 |
| 70 | 0.46 | 3.35 | 61 | 103 | 0.89 | 5.31 | 0.45 | -2.83 | 105 | 70 |
| 71 | 0.45 | 3.37 | 58 | 48 | 0.84 | 2.35 | 1.24 | -2.78 | 12 | 71 |
| 72 | 0.46 | 3.42 | 125 | 85 | 0.85 | 17.18 | 0.87 | -2.76 | 63 | 72 |
| 73 | 0.46 | 3.46 | 128 | 16 | 0.56 | 9.43 | 0.22 | -2.76 | 93 | 73 |
| 74 | 0.46 | 3.50 | 127 | 126 | 0.34 | 24.78 | 0.38 | -2.74 | 97 | 74 |
| 75 | 0.46 | 3.55 | 27 | 25 | 0.59 | 19.91 | 0.87 | -2.71 | 134 | 75 |
| 76 | 0.46 | 3.56 | 43 | 107 | 0.76 | 46.53 | 0.15 | -2.69 | 96 | 76 |
| 77 | 0.46 | 3.59 | 53 | 123 | 0.17 | 57.22 | 0.35 | -2.61 | 44 | 77 |
| 78 | 0.45 | 3.69 | 17 | 82 | 0.73 | 12.48 | 0.73 | -2.53 | 24 | 78 |
| 79 | 0.46 | 3.81 | 29 | 27 | 0.12 | 25.22 | 0.61 | -2.51 | 49 | 79 |
| 80 | 0.46 | 3.84 | 105 | 83 | 0.79 | 34.96 | 0.13 | -2.49 | 28 | 80 |
| 81 | 0.46 | 3.90 | 43 | 31 | 0.19 | 18.82 | 0.83 | -2.49 | 95 | 81 |
| 82 | 0.45 | 3.93 | 1 | 59 | 0.23 | 9.8 | 0.43 | -2.48 | 65 | 82 |
| 83 | 0.45 | 3.94 | 38 | 76 | 0.11 | 0.87 | 0.48 | -2.47 | 84 | 83 |
| 84 | 0.43 | 3.96 | 11 | 81 | 0.29 | 18.45 | 0.11 | -2.39 | 66 | 84 |
| 85 | 0.45 | 4.06 | 13 | 88 | 0.62 | 5.25 | 0.47 | -2.38 | 113 | 85 |
| 86 | 0.45 | 4.13 | 42 | 28 | 0.85 | 29.31 | 0.85 | -2.37 | 41 | 86 |
| 87 | 0.46 | 4.14 | 31 | 32 | 1.15 | 13.32 | 0.31 | -2.32 | 87 | 87 |
| 88 | 0.46 | 4.19 | 37 | 32 | 0.54 | 16.55 | 0.88 | -2.23 | 2 | 88 |
| 89 | 0.46 | 4.22 | 44 | 28 | 0.47 | 21.23 | 0.96 | -2.22 | 52 | 89 |
| 90 | 0.46 | 4.29 | 27 | 83 | 0.58 | 58.38 | 0.18 | -2.22 | 51 | 90 |
| 91 | 0.46 | 4.38 | 48 | 27 | 0.15 | 18.28 | 0.33 | -2.22 | 121 | 91 |
| 92 | 0.46 | 4.37 | 89 | 95 | 0.48 | 17.87 | 0.79 | -2.21 | 18 | 92 |
| 93 | 0.46 | 4.38 | 85 | 59 | 0.33 | 18.27 | 0.35 | -2.17 | 119 | 93 |
| 94 | 0.46 | 4.44 | 108 | 105 | 0.43 | 35.54 | 0.71 | -2.15 | 98 | 94 |
| 95 | 0.47 | 4.47 | 11 | 28 | 1.53 | 83.91 | 0.04 | -2.11 | 82 | 95 |
| 96 | 0.46 | 4.50 | 88 | 9 | 0.15 | 14.83 | 0.78 | -2.10 | 70 | 96 |
| 97 | 0.46 | 4.55 | 8 | 98 | 0.17 | 1.78 | 0.81 | -2.08 | 101 | 97 |
| 98 | 0.46 | 4.72 | 4 | 59 | 0.38 | 12.87 | 0.99 | -2.05 | 109 | 98 |
| 99 | 0.46 | 4.75 | 98 | 128 | 0.17 | 35.82 | 1.17 | -1.98 | 94 | 99 |
| 100 | 0.46 | 4.80 | 120 | 43 | 0.58 | 7.74 | 0.52 | -1.98 | 17 | 100 |
| 101 | 0.45 | 4.88 | 57 | 105 | 0.89 | 48.78 | 0.42 | -1.96 | 38 | 101 |
| 102 | 0.45 | 4.97 | 71 | 39 | 0.29 | 38.98 | 0.68 | -1.95 | 100 | 102 |
| 103 | 0.45 | 5.03 | 73 | 77 | 0.77 | 11.78 | 0.96 | -1.91 | 29 | 103 |
| 104 | 0.45 | 5.09 | 32 | 105 | 0.53 | 6.38 | 0.08 | -1.78 | 82 | 104 |
| 105 | 0.45 | 5.14 | 88 | 14 | 0.39 | 3.55 | 0.79 | -1.77 | 27 | 105 |
| 106 | 0.45 | 5.14 | 81 | 89 | 0.55 | 53.80 | 0.91 | -1.74 | 25 | 106 |
| 107 | 0.45 | 5.25 | 113 | 41 | 0.47 | 8.8 | 0.22 | -1.55 | 92 | 107 |
| 108 | 0.45 | 5.31 | 105 | 12 | 0.45 | 42.51 | 0.48 | -1.53 | 91 | 108 |
| 109 | 0.45 | 5.43 | 21 | 55 | 0.82 | 48.43 | 0.49 | -1.52 | 83 | 109 |
| 110 | 0.45 | 5.58 | 84 | 89 | 0.83 | 47.33 | 0.52 | -1.44 | 72 | 110 |
| 111 | 0.43 | 5.66 | 63 | 124 | 1.84 | 10.86 | 0.27 | -1.32 | 61 | 111 |
| 112 | 0.46 | 5.72 | 89 | 42 | 0.62 | 12.47 | 1.87 | -1.23 | 64 | 112 |
| 113 | 0.46 | 5.76 | 84 | 77 | 0.46 | 48.43 | 0.16 | -1.20 | 103 | 113 |
| 114 | 0.46 | 5.83 | 5 | 104 | 0.43 | 19.85 | 0.41 | -1.19 | 73 | 114 |
| 115 | 0.46 | 5.95 | 92 | 72 | 0.12 | 7.57 | 0.37 | -1.09 | 89 | 115 |
| 116 | 0.45 | 5.95 | 91 | 72 | 0.89 | 13.87 | 0.99 | -1.01 | 77 | 116 |
| 117 | 0.46 | 6.00 | 82 | 25 | 0.84 | 4.13 | 0.88 | -1.01 | 42 | 117 |
| 118 | 0.45 | 6.02 | 126 | 99 | 0.16 | 8.78 | 0.01 | -0.88 | 26 | 118 |
| 119 | 0.46 | 6.18 | 83 | 103 | 0.77 | 47.68 | 0.36 | -0.78 | 88 | 119 |

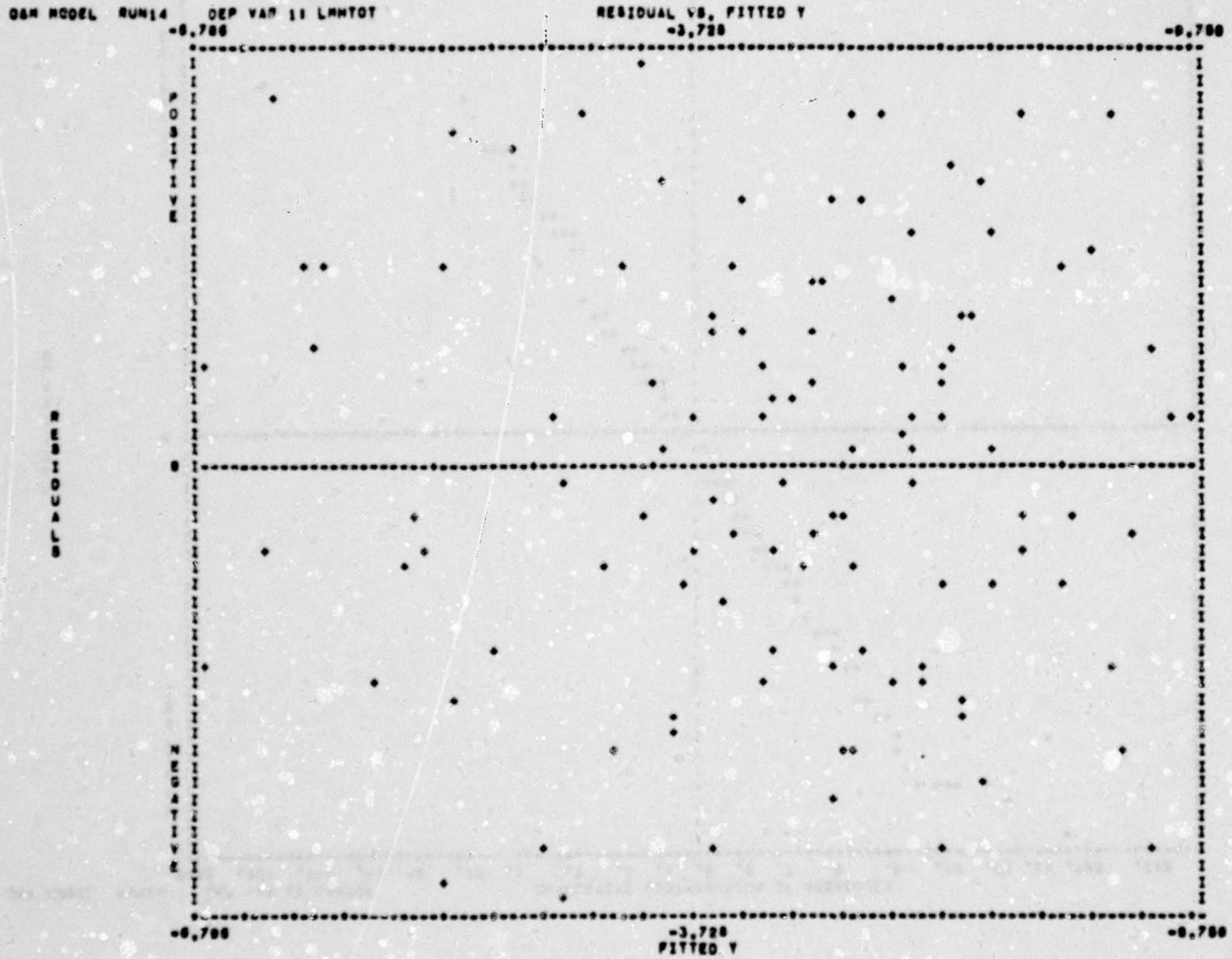
LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

O&M MODEL RUN14 DEP VAR IS LMHTOT

| ORDERED BY COMPUTER INPUT | | | | | | ORDERED BY RESIDUALS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| IDENT. | OBSV. | MSS DISTANCE | OBS. Y | FITTED Y | RESIDUAL | OBSV. | OBS. Y | FITTED Y | ORDERED RESID. | SEQ |
| 71A2A | 1 | 1. | -3.385 | -3.221 | -0.163 | 13 | -3.282 | -3.989 | 0.707 | 1 |
| 71L8A | 2 | 6. | -2.971 | -2.231 | -0.740 | 58 | -5.499 | -6.217 | 0.718 | 2 |
| 71M8A | 3 | 22. | -2.855 | -3.007 | 0.152 | 84 | -0.546 | -1.230 | 0.684 | 3 |
| 71PKA | 4 | 2. | -3.009 | -3.124 | 0.115 | 28 | -3.718 | -4.388 | 0.670 | 4 |
| 71P8A | 5 | 7. | -3.637 | -3.578 | -0.059 | 63 | -2.989 | -2.764 | 0.675 | 5 |
| 71718 | 6 | 19. | -5.661 | -5.242 | 0.382 | 25 | -1.978 | -1.743 | 0.673 | 6 |
| 724GA | 7 | 12. | -6.023 | -5.601 | -0.422 | 44 | -1.947 | -2.605 | 0.658 | 7 |
| 71FAA | 9 | 4. | -3.875 | -3.886 | 0.012 | 128 | -4.585 | -5.168 | 0.656 | 8 |
| 71F8A | 10 | 13. | -3.992 | -3.978 | -0.016 | 74 | -4.187 | -4.792 | 0.605 | 9 |
| 71CAA | 11 | 4. | -5.328 | -4.463 | -0.857 | 119 | -1.681 | -2.178 | 0.569 | 10 |
| 71DAA | 12 | 3. | -3.344 | -2.779 | -0.565 | 14 | -3.314 | -3.872 | 0.557 | 11 |
| 51EAA | 13 | 5. | -3.232 | -3.959 | 0.787 | 17 | -1.425 | -1.981 | 0.556 | 12 |
| 52AAA | 14 | 6. | -3.314 | -3.872 | 0.557 | 118 | -2.911 | -3.428 | 0.518 | 13 |
| 52A8A | 15 | 9. | -3.322 | -3.615 | 0.293 | 31 | -2.399 | -2.910 | 0.512 | 14 |
| 638DA | 16 | 18. | -5.497 | -5.326 | -0.171 | 96 | -2.179 | -2.686 | 0.507 | 15 |
| 71AEA | 17 | 28. | -1.425 | -1.981 | 0.556 | 64 | -1.943 | -2.401 | 0.458 | 16 |
| 74JAA | 18 | 8. | -2.432 | -2.206 | -0.226 | 108 | -1.498 | -1.951 | 0.453 | 17 |
| 74JCA | 19 | 8. | -3.649 | -3.504 | -0.145 | 61 | -0.918 | -1.322 | 0.413 | 18 |
| 52GA1 | 20 | 4. | -3.718 | -4.388 | 0.670 | 35 | -4.783 | -5.178 | 0.395 | 19 |
| 71ZA8 | 21 | 5. | -4.388 | -3.847 | -0.521 | 119 | -3.722 | -4.114 | 0.392 | 20 |
| 73EGA | 24 | 12. | -2.216 | -2.529 | 0.313 | 126 | -5.520 | -5.907 | 0.387 | 21 |
| 73EPA | 25 | 23. | -1.978 | -1.743 | 0.673 | 83 | -1.132 | -1.515 | 0.383 | 22 |
| 73HAA | 26 | 24. | -0.793 | -0.877 | 0.084 | 6 | -5.661 | -6.042 | 0.382 | 23 |
| 73HCA | 27 | 14. | -1.879 | -1.766 | -0.113 | 104 | -3.897 | -3.463 | 0.367 | 24 |
| 73HA5 | 28 | 25. | -2.302 | -2.492 | 0.190 | 43 | -2.553 | -2.915 | 0.362 | 25 |
| 73GBA | 29 | 11. | -2.137 | -1.908 | -0.229 | 88 | -2.653 | -3.001 | 0.347 | 26 |
| 73GCA | 30 | 12. | -3.217 | -3.174 | -0.043 | 24 | -2.216 | -2.529 | 0.313 | 27 |
| 73HBA | 31 | 2. | -2.399 | -2.910 | 0.512 | 101 | -1.787 | -2.084 | 0.297 | 28 |
| 73KEA | 32 | 4. | -3.494 | -2.856 | -0.639 | 15 | -3.322 | -3.615 | 0.293 | 29 |
| 73KFA | 33 | 3. | -3.900 | -3.733 | -0.167 | 109 | -1.765 | -2.053 | 0.289 | 30 |
| 73KKA | 34 | 12. | -2.720 | -2.987 | 0.267 | 34 | -2.720 | -2.987 | 0.267 | 31 |
| 75R3A | 35 | 8. | -4.783 | -5.178 | 0.395 | 58 | -3.145 | -3.407 | 0.261 | 32 |
| 74BDA | 36 | 5. | -2.739 | -2.990 | 0.250 | 53 | -3.184 | -3.437 | 0.253 | 33 |
| 74BFA | 37 | 3. | -3.001 | -2.898 | -0.103 | 36 | -2.739 | -2.990 | 0.250 | 34 |
| 74B1A | 38 | 37. | -5.473 | -5.372 | -0.101 | 99 | -3.338 | -3.587 | 0.250 | 35 |
| 76A1A | 39 | 6. | -4.426 | -4.218 | -0.207 | 77 | -0.785 | -1.011 | 0.226 | 36 |
| 75GAA | 40 | 9. | -3.518 | -3.243 | -0.275 | 98 | -1.940 | -2.155 | 0.215 | 37 |
| 74FFA | 41 | 26. | -2.753 | -2.375 | -0.385 | 98 | -5.777 | -5.990 | 0.213 | 38 |
| 74FAA | 42 | 16. | -1.775 | -1.810 | 0.035 | 51 | -2.019 | -2.221 | 0.201 | 39 |
| 74FHA | 43 | 5. | -2.553 | -2.915 | 0.362 | 125 | -3.088 | -3.288 | 0.191 | 40 |
| 74FUA | 44 | 58. | -1.947 | -2.605 | 0.658 | 28 | -2.302 | -2.492 | 0.190 | 41 |
| 73CGA | 45 | 39. | -4.397 | -3.991 | -0.107 | 86 | -6.526 | -6.726 | 0.188 | 42 |
| 74FCA | 46 | 12. | -1.925 | -1.962 | 0.037 | 68 | -3.792 | -3.954 | 0.163 | 43 |
| 74FJA | 49 | 3. | -2.928 | -2.513 | -0.416 | 3 | -2.853 | -3.007 | 0.152 | 44 |
| 74FKA | 50 | 9. | -6.499 | -6.217 | 0.718 | 52 | -2.881 | -2.225 | 0.143 | 45 |
| 74FGA | 51 | 26. | -2.019 | -2.221 | 0.201 | 85 | -3.071 | -3.210 | 0.139 | 46 |
| 74KAA | 52 | 7. | -2.881 | -2.225 | 0.143 | 4 | -3.009 | -3.124 | 0.115 | 47 |
| 74KCA | 53 | 7. | -3.184 | -3.437 | 0.253 | 121 | -2.116 | -2.219 | 0.103 | 48 |
| 74CAA | 54 | 5. | -4.335 | -3.583 | -0.752 | 126 | -3.640 | -3.733 | 0.093 | 49 |
| 74C8A | 55 | 7. | -4.330 | -3.834 | -0.496 | 68 | -0.657 | -0.750 | 0.093 | 50 |
| 74CCA | 56 | 8. | -4.550 | -4.502 | -0.047 | 113 | -2.293 | -2.381 | 0.088 | 51 |
| 74FA1 | 57 | 9. | -2.559 | -2.848 | 0.289 | 26 | -0.793 | -0.877 | 0.084 | 52 |
| 74E8A | 58 | 7. | -3.145 | -3.407 | 0.261 | 71 | -4.484 | -4.569 | 0.081 | 53 |
| 73FHA | 59 | 4. | -3.257 | -3.068 | -0.190 | 123 | -3.217 | -3.296 | 0.079 | 54 |
| 73F8A | 60 | 37. | -0.657 | -0.750 | 0.093 | 95 | -2.420 | -2.485 | 0.065 | 55 |
| 73F09 | 61 | 16. | -0.918 | -1.322 | 0.413 | 48 | -1.925 | -1.962 | 0.037 | 56 |
| 73FFA | 62 | 24. | -2.693 | -2.196 | -0.497 | 65 | -2.388 | -2.421 | 0.033 | 57 |
| 73FHA | 63 | 5. | -2.889 | -2.764 | 0.809 | 97 | -2.717 | -2.741 | 0.023 | 58 |
| 71A49 | 64 | 4. | -1.943 | -2.401 | 0.458 | 9 | -3.875 | -3.886 | 0.012 | 59 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 71QU0 | 65 | 4. | -2,368 | -2,481 | 0,033 | 76 | -5,245 | -5,253 | 0,007 | 60 |
| 63AA0 | 66 | 3. | -2,416 | -2,391 | -0,025 | 79 | -4,667 | -4,676 | -0,011 | 61 |
| 65AA0 | 67 | 4. | -2,752 | -2,321 | -0,431 | 10 | -3,992 | -3,976 | -0,016 | 62 |
| 63AG0 | 68 | 4. | -3,792 | -3,954 | 0,163 | 91 | -1,565 | -1,548 | -0,017 | 63 |
| 63BCA | 7A | 15. | -5,631 | -5,434 | -0,197 | 57 | -2,859 | -2,840 | -0,019 | 64 |
| 71ABE | 71 | 15. | -4,488 | -4,569 | 0,081 | 66 | -2,416 | -2,391 | -0,025 | 65 |
| 71ADA | 72 | 17. | -1,556 | -1,445 | -0,111 | 30 | -3,217 | -3,174 | -0,043 | 66 |
| 73DBA | 73 | 11. | -1,737 | -1,199 | -0,547 | 56 | -4,559 | -4,502 | -0,047 | 67 |
| 71ACC | 74 | 93. | -4,187 | -4,792 | 0,605 | 5 | -3,637 | -3,578 | -0,059 | 68 |
| 73CBQ | 75 | 95. | -5,613 | -5,150 | -0,463 | 38 | -5,473 | -5,372 | -0,101 | 69 |
| 73CEN | 76 | 42. | -5,245 | -5,253 | 0,007 | 37 | -3,881 | -2,898 | -0,103 | 70 |
| 73CFK | 77 | 7. | -2,785 | -1,911 | 0,226 | 46 | -4,897 | -3,991 | -0,107 | 71 |
| 73DAM | 78 | 24. | -2,564 | -2,102 | -0,462 | 72 | -1,556 | -1,445 | -0,111 | 72 |
| 73E9A | 79 | 15. | -4,587 | -4,676 | 0,011 | 27 | -1,879 | -1,766 | -0,113 | 73 |
| 73E9F | 98 | 16. | -2,853 | -3,201 | 0,347 | 105 | -2,948 | -2,834 | -0,113 | 74 |
| 71CA0 | 81 | 10. | -4,754 | -4,183 | -0,571 | 89 | -1,231 | -1,090 | -0,141 | 75 |
| 73EG0 | 82 | 15. | -1,949 | -1,779 | -0,170 | 128 | -3,116 | -2,975 | -0,142 | 76 |
| 73MC0 | 83 | 15. | -1,132 | -1,515 | 0,383 | 19 | -3,649 | -3,504 | -0,145 | 77 |
| 73L40 | 84 | 5. | -0,546 | -1,230 | 0,684 | 1 | -3,385 | -3,221 | -0,163 | 78 |
| 77EC0 | 85 | 2. | -3,871 | -3,219 | 0,139 | 33 | -3,900 | -3,733 | -0,167 | 79 |
| 77EE0 | 86 | 51. | -7,090 | -6,706 | -0,383 | 82 | -1,949 | -1,779 | -0,170 | 80 |
| 77090 | 88 | 51. | -6,526 | -6,706 | 0,180 | 16 | -5,497 | -5,326 | -0,171 | 81 |
| 76AEA | 89 | 8. | -1,231 | -1,090 | -0,141 | 117 | -6,471 | -6,291 | -0,180 | 82 |
| 73K40 | 9A | 8. | -1,940 | -2,155 | 0,215 | 59 | -3,257 | -3,058 | -0,198 | 83 |
| 63B6A | 91 | 11. | -1,565 | -1,548 | -0,017 | 93 | -2,952 | -2,758 | -0,194 | 84 |
| 63CAA | 92 | 11. | -1,782 | -1,548 | -0,234 | 78 | -5,631 | -5,434 | -0,197 | 85 |
| 659AA | 93 | 7. | -2,952 | -2,758 | -0,194 | 39 | -4,426 | -4,218 | -0,207 | 86 |
| 6189A | 94 | 5. | -2,596 | -1,984 | -0,613 | 18 | -2,432 | -2,206 | -0,226 | 87 |
| 61440 | 95 | 6. | -2,429 | -2,485 | 0,055 | 29 | -2,137 | -1,908 | -0,229 | 88 |
| 6148F | 96 | 6. | -2,199 | -2,086 | 0,587 | 92 | -1,782 | -1,548 | -0,234 | 89 |
| 61AC0 | 97 | 8. | -2,717 | -2,741 | 0,023 | 127 | -4,039 | -3,794 | -0,245 | 90 |
| 72AA0 | 98 | 30. | -5,777 | -5,990 | 0,213 | 114 | -3,801 | -3,525 | -0,276 | 91 |
| 72ACA | 99 | 7. | -3,338 | -3,587 | 0,250 | 112 | -5,265 | -4,918 | -0,347 | 92 |
| 71CA0 | 100 | 14. | -1,498 | -1,951 | 0,453 | 124 | -3,074 | -2,712 | -0,362 | 93 |
| 72EAA | 101 | 11. | -1,787 | -2,084 | 0,297 | 49 | -3,618 | -3,243 | -0,375 | 94 |
| 72BPD | 103 | 21. | -1,579 | -1,197 | -0,382 | 103 | -1,579 | -1,197 | -0,382 | 95 |
| 71JA0 | 104 | 3. | -3,297 | -3,463 | 0,167 | 86 | -7,090 | -6,706 | -0,383 | 96 |
| 71LA0 | 105 | 5. | -2,948 | -2,834 | -0,113 | 41 | -2,760 | -2,375 | -0,385 | 97 |
| 72DN0 | 106 | 13. | -3,392 | -2,844 | -0,548 | 107 | -3,300 | -2,904 | -0,396 | 98 |
| 72AC0 | 107 | 2. | -3,388 | -2,984 | -0,396 | 49 | -2,929 | -2,513 | -0,416 | 99 |
| 71710 | 108 | 13. | -4,585 | -5,160 | 0,556 | 7 | -6,023 | -5,601 | -0,422 | 100 |
| 71310 | 109 | 15. | -1,765 | -2,053 | 0,289 | 87 | -2,752 | -2,321 | -0,431 | 101 |
| 72AFA | 110 | 13. | -3,722 | -4,114 | 0,392 | 122 | -3,744 | -3,304 | -0,440 | 102 |
| 72AB0 | 111 | 27. | -5,325 | -4,575 | -0,749 | 78 | -2,564 | -2,102 | -0,462 | 103 |
| 71JCE | 112 | 12. | -5,265 | -4,918 | -0,347 | 75 | -5,613 | -5,150 | -0,463 | 104 |
| 72AE0 | 113 | 14. | -2,293 | -2,381 | 0,088 | 55 | -4,332 | -3,834 | -0,498 | 105 |
| 72CC0 | 114 | 4. | -3,881 | -3,525 | -0,276 | 62 | -2,603 | -2,106 | -0,497 | 106 |
| 71ZB0 | 116 | 16. | -6,092 | -5,287 | -0,802 | 21 | -4,368 | -3,847 | -0,521 | 107 |
| 71ZD0 | 117 | 25. | -6,471 | -6,291 | -0,180 | 73 | -1,737 | -1,190 | -0,547 | 108 |
| 659AA | 118 | 4. | -2,911 | -3,428 | 0,518 | 105 | -3,392 | -2,844 | -0,548 | 109 |
| 63AF0 | 119 | 8. | -1,883 | -2,170 | 0,569 | 12 | -3,344 | -2,779 | -0,565 | 110 |
| 63AA0 | 120 | 2. | -3,118 | -2,975 | -0,142 | 81 | -4,754 | -4,183 | -0,571 | 111 |
| 63121 | 121 | 9. | -2,118 | -2,219 | 0,103 | 84 | -2,596 | -1,984 | -0,613 | 112 |
| 63AAA | 122 | 14. | -3,744 | -3,304 | -0,440 | 32 | -3,494 | -2,856 | -0,639 | 113 |
| 55AL0 | 123 | 6. | -3,217 | -3,296 | 0,079 | 4 | -2,971 | -2,231 | -0,740 | 114 |
| 55AY0 | 124 | 13. | -3,074 | -2,712 | -0,362 | 111 | -5,325 | -4,576 | -0,749 | 115 |
| 61AA0 | 125 | 3. | -3,988 | -3,288 | 0,191 | 54 | -4,335 | -3,583 | -0,752 | 116 |
| 61AE0 | 126 | 6. | -3,646 | -3,733 | 0,693 | 42 | -1,775 | -1,010 | -0,765 | 117 |
| 62AA0 | 127 | 8. | -4,039 | -3,794 | -0,246 | 118 | -6,882 | -5,288 | -0,882 | 118 |
| 64211 | 128 | 10. | -5,528 | -5,007 | 0,387 | 11 | -5,328 | -4,463 | -0,857 | 119 |


G&R MODEL RUN14 DEP VAR 11 LHHTOT
CUMULATIVE DISTRIBUTION OF RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
POSITIVE
0
NEGATIVE
RESIDUALS
CUMULATIVE FREQUENCY, NORMAL GRID


O&M MODEL RUN14 DEP VAR 11 LMHTOT
RESIDUAL VS. FITTED Y
-8.786
-3.728
-8.786
POSITIVE
0
NEGATIVE
RESIDUALS
-8.786
-3.728
-8.786
FITTED Y

CP VALUES FOR THE SELECTION OF VARIABLES

O&M MODEL RUN14 DEP VAR 11 LMNTOT SEARCH NUMBER 1

SELECTION OF VARIABLES FOR BASIC EQUATION

CP =864.5, VARIABLE ADDED 15 LUP

CP =592.7, VARIABLE ADDED 8 MEM

CP =427.7, VARIABLE ADDED 7 MDI

CP =211.4, VARIABLE ADDED 6 SS

CP =189.1, VARIABLE ADDED 5 CD

CP =178.1, VARIABLE ADDED 3 BOMNAV

CP =163.7, VARIABLE ADDED 4 BOMCOM

CP =150.3, VARIABLE ADDED 2 FIGCOM

CP =145.1, VARIABLE ADDED 13 DEM

CP = 43.5, VARIABLE ADDED 16 LMT

CP = 32.7, VARIABLE ADDED 11 OCC

CP = 30.4, VARIABLE ADDED 15 DUP

CP = 24.8, VARIABLE ADDED 17 LVO

CP = 23.7, VARIABLE ADDED 12 DDI

CP = 21.1, VARIABLE ADDED 10 DUP

CP = 21.8, VARIABLE ADDED 9 MPS

CP = 19.6, VARIABLE ADDED 14 OPS

CP = 19.8, VARIABLE ADDED 1 FIGSEN

| | |
|---|---|
| NUMBER OF OBSERVATIONS | 116 |
| NUMBER OF VARIABLES IN FULL EQUATION | 18 |
| NUMBER OF VARIABLES IN BASIC EQUATION | 16 |
| REMAINDER OF VARIABLES TO BE SEARCHED | 2 |

```
EQUATION  P   CP    VARIABLES IN EQUATION

          19  19,0  FULL EQUATION

          17  19,0  BASIC SET OF VARIABLES      FIGCOM 2   COMNAV 3   BOXCOM 4   CO 5   SS 6   MDI 7   MEM 8   MPS 9   DUP 10   DCC 11
                    DDI 12   DEM 13   DUP 15    LUP 16   LVO 17   LWT 18
                    RMS =    0,18566

      1   18  19,6  BASIC SET PLUS      I
                                        FIGBEN
                    RMS =    0,18398

      2   18  19,6  BASIC SET PLUS      I
                                        FIGBEN   OPS 14
                    RMS =    0,18185

      3   18  19,6  BASIC SET PLUS      OPS 14
                    RMS =    0,18382

SWEEP NUMBER          3,  DELTA I(K,K) =  0,

ESTIMATE OF VARIANCE

NO SMALLER RMS VALUE FOUND IN SUBSET EQUATIONS

RMS OF FULL EQUATION SELECTED BY USER TO CALCULATE CP VALUES


 SEQ  EQUATION  P   ORDERED CP
   1        2  19      19,0
   2        3  18      19,6
   3        1  18      19,6
```

LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

O&M MODEL RUN15 DEP VAR IS LMMUNS MIN Y = -7.4770 00 MAX Y = -1.6320 00 RANGE Y = 5.8450 00

MULTIPLE REGRESSION ANALYSIS FOR THE "ALPCS" MODEL
LMMUNS = B(0) + B(1)FIGSEN + B(2)FIGCOM + B(3)BOMNAV + B(4)BOMCOM
+ B(5)OI + B(6)SS + B(7)MCC + B(8)MEM + B(9)MPD
+ B(10)OCC + B(11)OCD + B(12)OEM + B(13)OPD + B(14)OUP
+ B(15)LUP + B(16)LWT + B(17)LPC
LMMUNS = LN(MMMUNS)
MMMUNS = UNSCHEDULED MAINTENANCE MANHOURS PER OPERATING HOUR

| IND.VAR(I) | NAME | COEF.B(I) | S.E. COEF. | T-VALUE | R(I)SQRD | MIN X(I) | MAX X(I) | RANGE X(I) | REL.INF.X(I) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | -9.985140 00 | | | | | | | |
| 1 | FIGSEN | -2.757310-01 | 1.120-01 | 2.5 | 0.2459 | 0.0 | 1.0000 00 | 1.0000 00 | 0.05 |
| 2 | FIGCOM | 3.417160-01 | 1.990-01 | 1.7 | 0.1393 | 0.0 | 1.0000 00 | 1.0000 00 | 0.06 |
| 3 | BOMNAV | 9.223270-01 | 1.480-01 | 6.2 | 0.2770 | 0.0 | 1.0000 00 | 1.0000 00 | 0.16 |
| 4 | BOMCOM | 4.788190-01 | 1.640-01 | 2.9 | 0.1232 | 0.0 | 1.0000 00 | 1.0000 00 | 0.08 |
| 5 | OI | -7.583970-03 | 1.480-03 | 5.1 | 0.4768 | 0.0 | 1.0000 02 | 1.0000 02 | 0.13 |
| 6 | SS | -1.264850-02 | 2.490-03 | 5.1 | 0.7284 | 0.0 | 1.0000 02 | 1.0000 02 | 0.19 |
| 7 | MCC | 1.783540-04 | 4.120-05 | 4.1 | 0.5292 | -1.1660 03 | 7.1220 03 | 8.2880 03 | 0.24 |
| 8 | MEM | -1.791490-02 | 2.520-03 | 7.1 | 0.6959 | -1.0220 01 | 8.9840 01 | 1.0060 02 | 0.31 |
| 9 | MPD | -5.483250-04 | 1.760-04 | 3.1 | 0.7345 | -3.3280 02 | 9.6650 03 | 9.9970 03 | 0.28 |
| 10 | OCC | -4.865410-08 | 1.280-08 | 3.2 | 0.3278 | 7.2980 02 | 2.8560 07 | 2.8560 07 | 0.28 |
| 11 | OCD | 8.179330-02 | 2.270-02 | 3.8 | 0.2948 | 1.7840-04 | 1.8610 01 | 1.8610 01 | 0.29 |
| 12 | OEM | -1.476940-04 | 7.840-05 | 1.9 | 0.0531 | 2.7840 01 | 3.8470 03 | 3.8200 03 | 0.06 |
| 13 | OPD | 3.428560-07 | 1.330-07 | 2.6 | 0.4828 | 7.2980 02 | 4.1800 06 | 4.1080 06 | 0.24 |
| 14 | OUP | 5.259740-01 | 1.430-01 | 3.7 | 0.1696 | 2.8250-01 | 2.1030 00 | 1.9780 00 | 0.17 |
| 15 | LUP | 4.649940-01 | 4.480-02 | 10.3 | 0.7835 | 5.0380 00 | 1.3250 01 | 8.2170 00 | 0.65 |
| 16 | LWT | 2.781210-01 | 7.210-02 | 3.9 | 0.7387 | 0.0 | 5.1570 00 | 5.1570 00 | 0.25 |
| 17 | LPC | 2.568750-01 | 7.230-02 | 3.6 | 0.8515 | 1.8990 00 | 8.8860 00 | 6.9860 00 | 0.30 |

| | |
|---|---|
| NO. OF OBSERVATIONS | 118 |
| NO. OF IND. VARIABLES | 17 |
| RESIDUAL DEGREES OF FREEDOM | 101 |
| F-VALUE | 58.7 |
| RESIDUAL ROOT MEAN SQUARE | 0.44314937 |
| RESIDUAL MEAN SQUARE | 0.19638136 |
| RESIDUAL SUM OF SQUARES | 19.83451750 |
| TOTAL SUM OF SQUARES | 189.11850783 |
| MULT. CORREL. COEF. SQUARED | .8951 |

REQUIRED X(I) PRECISION
(DIGIT RIGHT OF DECIMAL POSITIVE,
LEFT OF DECIMAL NEGATIVE)

| IND.VAR(I) | DIGIT |
|---|---|
| 1 | -1 |
| 2 | -1 |
| 3 | -1 |
| 4 | -1 |
| 5 | -2 |
| 6 | -2 |
| 7 | -4 |
| 8 | -2 |
| 9 | -3 |
| 10 | -7 |
| 11 | -1 |
| 12 | -4 |
| 13 | -6 |
| 14 | 1 |
| 15 | 1 |
| 16 | 1 |
| 17 | 1 |

LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

O&M MODEL RUN15 DEP VAR 11 LMMUNS RESIDUAL ROOT MEAN SQUARE OF FITTED EQUATION: 0.44

STANDARD DEVIATION ESTIMATED FROM RESIDUALS OF NEIGHBORING OBSERVATIONS (OBSERVATIONS 1 TO 4 APART IN FITTED Y ORDER).

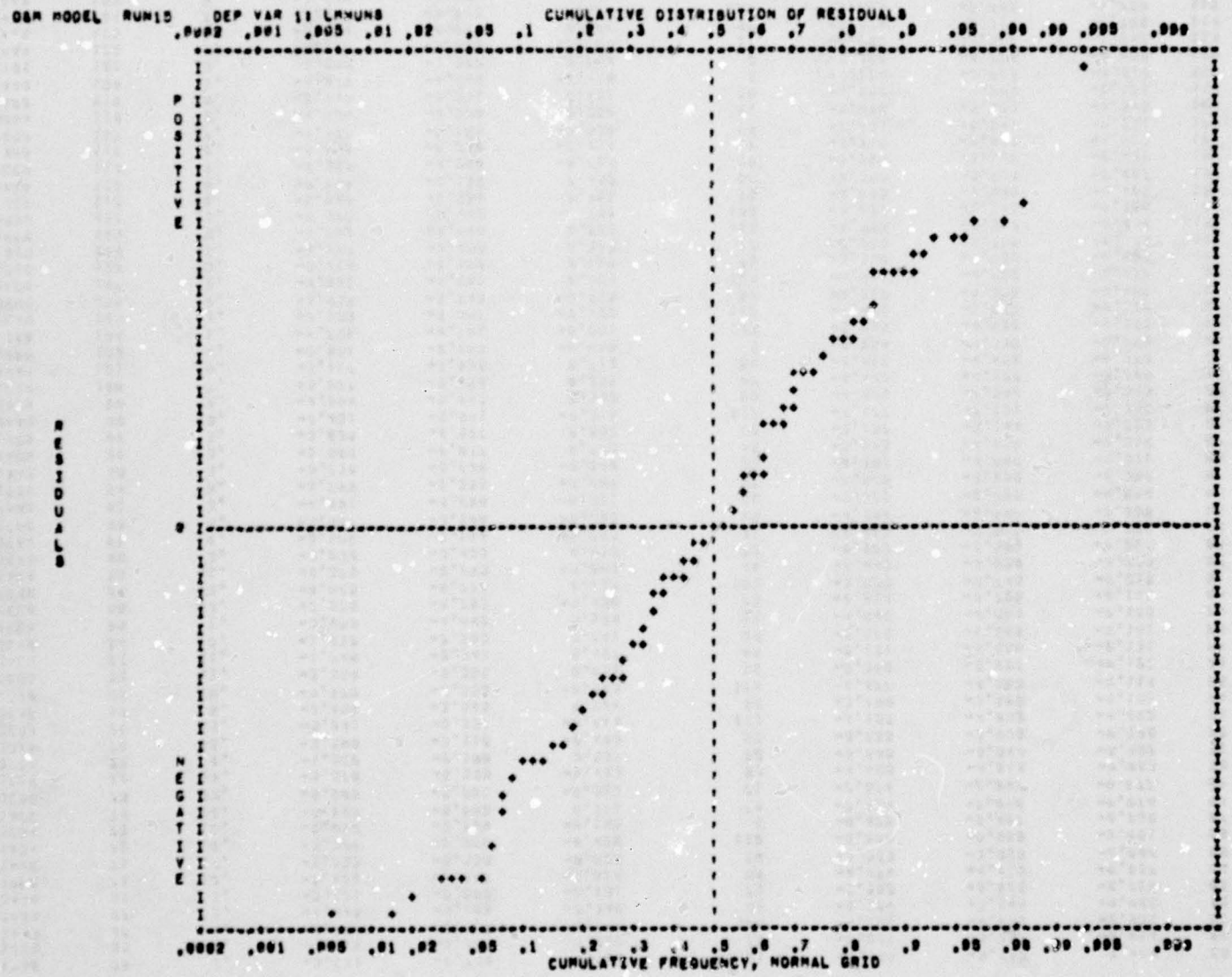
| NO. | CUMULATIVE STD DEV | ORDERED BY WSSD | | | | ORDERED BY FITTED Y | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | WSSD | OBSV. | OBSV. | DEL RESIDUALS | WSSD | DEL RESIDUALS | FITTED Y | OBSV. | SEQ. |
| 1 | 0.29 | 0.0 | 92 | 91 | 0.38 | 0.74 | 0.25 | -7.15 | 117 | 1 |
| 2 | 0.37 | 0.0 | 85 | 84 | 0.48 | 7.75 | 0.44 | -7.05 | 78 | 2 |
| 3 | 0.43 | 0.0 | 88 | 86 | 0.56 | 27.87 | 0.62 | -6.94 | 98 | 3 |
| 4 | 0.42 | 0.00 | 121 | 119 | 0.42 | 0.0 | 0.56 | -6.76 | 88 | 4 |
| 5 | 0.34 | 0.03 | 109 | 108 | 0.72 | 24.94 | 1.01 | -6.70 | 86 | 5 |
| 6 | 0.42 | 0.08 | 10 | 12 | 0.34 | 0.69 | 0.11 | -6.69 | 128 | 6 |
| 7 | 0.38 | 0.11 | 14 | 13 | 0.10 | 3.42 | 0.58 | -6.58 | 58 | 7 |
| 8 | 0.46 | 0.17 | 108 | 31 | 1.00 | 0.58 | 0.99 | -6.52 | 35 | 8 |
| 9 | 0.47 | 0.30 | 128 | 6 | 0.83 | 2.36 | 0.11 | -6.46 | 16 | 9 |
| 10 | 0.48 | 0.42 | 75 | 74 | 0.59 | 1.34 | 0.39 | -6.41 | 6 | 10 |
| 11 | 0.56 | 0.45 | 49 | 83 | 1.42 | 0.95 | 1.15 | -6.28 | 116 | 11 |
| 12 | 0.58 | 0.48 | 6 | 108 | 0.76 | 2.30 | 1.45 | -6.10 | 108 | 12 |
| 13 | 0.54 | 0.51 | 119 | 109 | 0.04 | 25.94 | 0.89 | -6.09 | 7 | 13 |
| 14 | 0.57 | 0.59 | 35 | 10 | 0.99 | 14.27 | 0.19 | -5.90 | 38 | 14 |
| 15 | 0.55 | 0.66 | 82 | 17 | 0.33 | 27.27 | 0.16 | -5.96 | 112 | 15 |
| 16 | 0.52 | 0.66 | 15 | 53 | 0.15 | 0.42 | 0.89 | -5.68 | 75 | 16 |
| 17 | 0.50 | 0.73 | 58 | 114 | 0.08 | 10.13 | 0.48 | -5.57 | 74 | 17 |
| 18 | 0.48 | 0.76 | 65 | 66 | 0.28 | 7.58 | 0.72 | -5.52 | 71 | 18 |
| 19 | 0.49 | 0.76 | 64 | 66 | 0.68 | 0.98 | 1.18 | -5.52 | 11 | 19 |
| 20 | 0.47 | 0.82 | 29 | 48 | 0.18 | 23.73 | 1.11 | -5.52 | 56 | 20 |
| 21 | 0.50 | 0.83 | 13 | 9 | 1.11 | 15.29 | 0.99 | -5.44 | 111 | 21 |
| 22 | 0.52 | 0.95 | 119 | 2 | 1.83 | 10.93 | 0.77 | -5.34 | 39 | 22 |
| 23 | 0.55 | 0.95 | 118 | 120 | 1.15 | 25.38 | 0.42 | -5.33 | 81 | 23 |
| 24 | 0.54 | 0.97 | 107 | 37 | 0.33 | 22.43 | 0.11 | -5.25 | 76 | 24 |
| 25 | 0.53 | 1.04 | 13 | 21 | 0.41 | 7.68 | 0.56 | -5.23 | 79 | 25 |
| 26 | 0.55 | 1.05 | 10 | 40 | 0.88 | 2.91 | 0.29 | -5.19 | 126 | 26 |
| 27 | 0.56 | 1.10 | 27 | 17 | 0.93 | 4.42 | 0.55 | -5.02 | 99 | 27 |
| 28 | 0.55 | 1.14 | 14 | 9 | 0.93 | 4.21 | 0.25 | -5.00 | 60 | 28 |
| 29 | 0.55 | 1.17 | 12 | 40 | 0.94 | 5.45 | 0.83 | -4.91 | 127 | 29 |
| 30 | 0.54 | 1.20 | 54 | 10 | 0.13 | 28.22 | 0.55 | -4.88 | 14 | 30 |
| 31 | 0.53 | 1.20 | 55 | 53 | 0.26 | 33.76 | 0.56 | -4.86 | 46 | 31 |
| 32 | 0.53 | 1.32 | 31 | 10 | 0.53 | 12.67 | 0.10 | -4.85 | 110 | 32 |
| 33 | 0.52 | 1.34 | 0 | 110 | 0.39 | 0.83 | 1.11 | -4.82 | 13 | 33 |
| 34 | 0.51 | 1.38 | 117 | 98 | 0.18 | 3.42 | 0.76 | -4.78 | 9 | 34 |
| 35 | 0.50 | 1.51 | 55 | 15 | 0.11 | 11.10 | 0.51 | -4.74 | 33 | 35 |
| 36 | 0.51 | 1.57 | 2 | 100 | 0.97 | 5.84 | 0.57 | -4.74 | 28 | 36 |
| 37 | 0.51 | 1.58 | 81 | 79 | 0.53 | 2.25 | 0.74 | -4.70 | 21 | 37 |
| 38 | 0.51 | 1.60 | 125 | 67 | 0.37 | 11.11 | 0.13 | -4.70 | 104 | 38 |
| 39 | 0.50 | 1.64 | 94 | 58 | 0.32 | 14.28 | 0.19 | -4.69 | 18 | 39 |
| 40 | 0.52 | 1.69 | 12 | 63 | 1.38 | 1.51 | 0.11 | -4.64 | 95 | 40 |
| 41 | 0.52 | 1.77 | 35 | 100 | 0.34 | 13.16 | 0.13 | -4.61 | 15 | 41 |
| 42 | 0.52 | 1.78 | 10 | 100 | 0.65 | 12.97 | 0.27 | -4.53 | 8 | 42 |
| 43 | 0.52 | 1.80 | 53 | 54 | 0.27 | 0.14 | 0.77 | -4.52 | 53 | 43 |
| 44 | 0.51 | 1.81 | 37 | 85 | 0.21 | 4.56 | 0.42 | -4.51 | 97 | 44 |
| 45 | 0.52 | 1.86 | 31 | 59 | 1.07 | 7.21 | 0.52 | -4.51 | 110 | 45 |
| 46 | 0.53 | 1.88 | 2 | 109 | 0.99 | 1.28 | 0.13 | -4.45 | 54 | 46 |
| 47 | 0.53 | 1.89 | 5 | 110 | 0.82 | 3.39 | 0.45 | -4.44 | 16 | 47 |
| 48 | 0.53 | 1.95 | 120 | 16 | 0.52 | 5.37 | 0.54 | -4.44 | 58 | 48 |
| 49 | 0.53 | 1.98 | 4 | 125 | 0.29 | 4.64 | 0.70 | -4.29 | 32 | 49 |
| 50 | 0.52 | 2.01 | 80 | 83 | 0.47 | 12.84 | 0.33 | -4.28 | 1 | 50 |
| 51 | 0.53 | 2.02 | 17 | 60 | 1.10 | 10.41 | 0.27 | -4.25 | 40 | 51 |
| 52 | 0.53 | 2.10 | 125 | 85 | 0.10 | 4.86 | 0.12 | -4.20 | 114 | 52 |
| 53 | 0.53 | 2.20 | 126 | 127 | 1.03 | 13.72 | 0.41 | -4.20 | 107 | 53 |
| 54 | 0.53 | 2.21 | 10 | 110 | 0.50 | 10.00 | 0.11 | -4.20 | 3 | 54 |
| 55 | 0.53 | 2.23 | 1 | 107 | 0.12 | 4.36 | 0.07 | -4.21 | 4 | 55 |
| 56 | 0.54 | 2.24 | 60 | 27 | 1.26 | 5.80 | 0.10 | -4.19 | 30 | 56 |

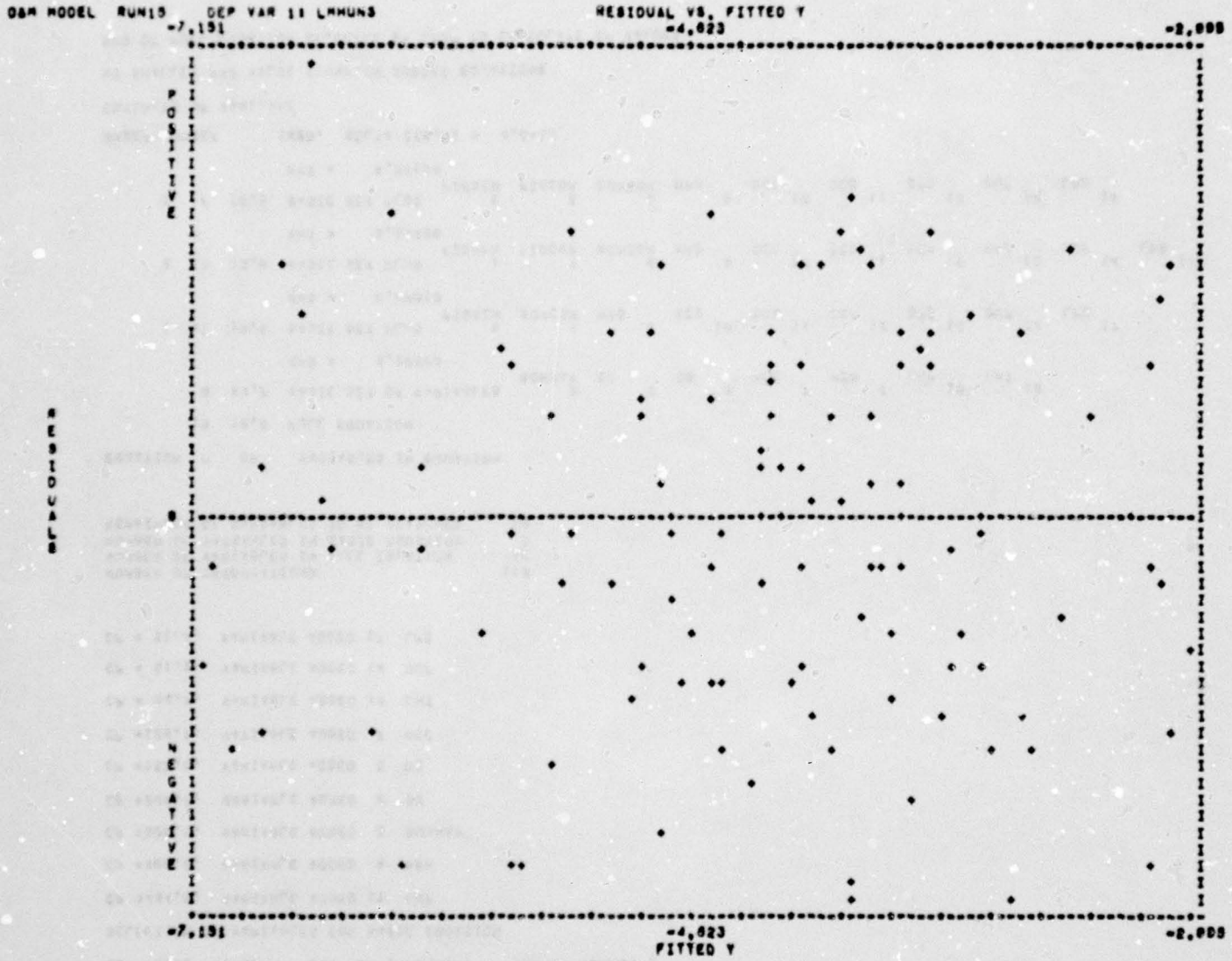
LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

O&H MODEL RUN15 DEP VAR IS LNHUNS

| ORDERED BY COMPUTER INPUT | | | | | | ORDERED BY RESIDUALS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| IDENT. | OBSV. | NBS DISTANCE | OBS. Y | FITTED Y | RESIDUAL | OBSV. | OBS. Y | FITTED Y | ORDERED RESID. | SEQ |
| 71828 | 1 | 1. | -4.158 | -4.278 | 0.129 | 35 | -5.493 | -6.521 | 1.028 | 1 |
| 71L88 | 2 | 2. | -4.113 | -3.503 | -0.610 | 101 | -3.115 | -3.825 | 0.710 | 2 |
| 71M88 | 3 | 12. | -3.797 | -4.218 | 0.421 | 108 | -5.414 | -6.102 | 0.688 | 3 |
| 71P48 | 4 | 1. | -3.897 | -4.285 | 0.388 | 97 | -3.825 | -4.507 | 0.683 | 4 |
| 71P88 | 5 | 4. | -4.894 | -4.532 | -0.362 | 24 | -2.749 | -3.395 | 0.645 | 5 |
| 71710 | 6 | 12. | -6.475 | -6.497 | 0.958 | 44 | -3.203 | -3.853 | 0.650 | 6 |
| 724G8 | 7 | 8. | -6.855 | -6.893 | -0.763 | 126 | -4.547 | -5.192 | 0.645 | 7 |
| 71FA8 | 9 | 1. | -5.458 | -4.778 | -0.688 | 63 | -3.168 | -3.755 | 0.594 | 8 |
| 71F88 | 10 | 7. | -4.849 | -4.694 | -0.155 | 89 | -2.989 | -2.678 | 0.589 | 9 |
| 71CA8 | 11 | 4. | -6.266 | -5.519 | -0.747 | 31 | -3.347 | -3.933 | 0.586 | 10 |
| 71DA8 | 12 | 2. | -4.597 | -3.815 | -0.782 | 29 | -4.155 | -4.740 | 0.585 | 11 |
| 51EA8 | 13 | 2. | -4.398 | -4.818 | 0.422 | 98 | -3.586 | -4.877 | 0.578 | 12 |
| 52AA8 | 14 | 2. | -4.636 | -4.877 | 0.240 | 84 | -3.131 | -3.708 | 0.568 | 13 |
| 52AB8 | 15 | 4. | -4.444 | -4.689 | -0.235 | 77 | -1.632 | -2.198 | 0.567 | 14 |
| 638D8 | 16 | 9. | -5.419 | -6.468 | 0.841 | 128 | -6.128 | -6.687 | 0.559 | 15 |
| 71AE8 | 17 | 11. | -3.398 | -2.889 | -0.509 | 83 | -1.746 | -2.243 | 0.497 | 16 |
| 74JA8 | 18 | 2. | -3.811 | -3.871 | 0.060 | 113 | -2.736 | -3.198 | 0.463 | 17 |
| 74JC8 | 19 | 3. | -4.925 | -4.438 | -0.487 | 58 | -6.134 | -6.579 | 0.445 | 18 |
| 52GA1 | 20 | 6. | -4.155 | -4.740 | 0.585 | 27 | -2.543 | -2.967 | 0.425 | 19 |
| 71Z48 | 21 | 2. | -4.689 | -4.784 | 0.096 | 99 | -4.594 | -5.017 | 0.423 | 20 |
| 73EG8 | 24 | 6. | -2.749 | -3.395 | 0.655 | 13 | -4.396 | -4.818 | 0.422 | 21 |
| 73EP8 | 25 | 15. | -2.337 | -2.590 | 0.254 | 119 | -3.110 | -3.531 | 0.421 | 22 |
| 73H48 | 26 | 18. | -2.372 | -2.240 | -0.131 | 3 | -3.797 | -4.218 | 0.421 | 23 |
| 73HC8 | 27 | 7. | -2.563 | -2.987 | 0.425 | 90 | -3.804 | -3.423 | 0.419 | 24 |
| 73N48 | 28 | 15. | -3.227 | -3.578 | 0.353 | 109 | -3.788 | -3.466 | 0.377 | 25 |
| 73Q83 | 29 | 8. | -3.359 | -3.315 | -0.044 | 74 | -5.195 | -5.566 | 0.371 | 26 |
| 73SC8 | 30 | 6. | -3.743 | -4.082 | 0.339 | 28 | -3.227 | -3.578 | 0.353 | 27 |
| 73K88 | 31 | 1. | -3.347 | -3.933 | 0.586 | 100 | -3.927 | -3.388 | 0.358 | 28 |
| 73KE8 | 32 | 5. | -4.852 | -4.289 | -0.573 | 56 | -5.167 | -5.516 | 0.349 | 29 |
| 73KF8 | 33 | 3. | -4.669 | -4.744 | 0.075 | 64 | -1.952 | -2.293 | 0.341 | 30 |
| 73KK8 | 34 | 9. | -4.916 | -4.148 | 0.132 | 30 | -3.743 | -4.082 | 0.339 | 31 |
| 75938 | 35 | 8. | -5.493 | -6.521 | 1.028 | 37 | -3.856 | -4.190 | 0.333 | 32 |
| 748D8 | 36 | 3. | -3.960 | -4.195 | 0.234 | 4 | -3.897 | -4.285 | 0.388 | 33 |
| 748F8 | 37 | 4. | -3.856 | -4.190 | 0.333 | 118 | -4.588 | -4.848 | 0.265 | 34 |
| 74818 | 38 | 19. | -5.836 | -5.962 | 0.126 | 118 | -4.244 | -4.508 | 0.262 | 35 |
| 78A1P | 39 | 4. | -5.115 | -5.348 | 0.225 | 25 | -2.337 | -2.590 | 0.254 | 36 |
| 78GA8 | 40 | 18. | -4.129 | -4.285 | 0.156 | 43 | -3.882 | -3.927 | 0.245 | 37 |
| 74FF8 | 41 | 23. | -3.815 | -3.588 | -0.228 | 14 | -4.836 | -4.577 | 0.240 | 38 |
| 74FA8 | 42 | 18. | -3.971 | -2.319 | -0.756 | 38 | -3.998 | -4.195 | 0.234 | 39 |
| 74FH8 | 43 | 7. | -3.682 | -3.927 | 0.245 | 39 | -5.115 | -5.340 | 0.225 | 40 |
| 74FU8 | 44 | 26. | -3.293 | -3.853 | 0.559 | 80 | -3.469 | -3.693 | 0.224 | 41 |
| 73CG8 | 46 | 28. | -5.173 | -4.859 | -0.314 | 40 | -4.129 | -4.285 | 0.156 | 42 |
| 74FC8 | 48 | 7. | -3.482 | -3.259 | -0.223 | 34 | -4.016 | -4.148 | 0.132 | 43 |
| 74FJ8 | 49 | 2. | -4.614 | -3.793 | -0.821 | 1 | -4.158 | -4.278 | 0.129 | 44 |
| 74FK8 | 50 | 6. | -6.134 | -6.579 | 0.445 | 38 | -5.836 | -5.962 | 0.126 | 45 |
| 74FQ8 | 51 | 23. | -3.149 | -3.152 | 0.004 | 85 | -3.958 | -4.082 | 0.124 | 46 |
| 74KA8 | 52 | 4. | -3.843 | -3.544 | -0.299 | 88 | -6.675 | -6.785 | 0.110 | 47 |
| 74KC8 | 53 | 3. | -4.596 | -4.518 | -0.078 | 65 | -3.618 | -3.728 | 0.090 | 48 |
| 74CA8 | 54 | 3. | -4.802 | -4.452 | -0.350 | 124 | -3.457 | -3.542 | 0.085 | 49 |
| 74CB8 | 55 | 3. | -4.983 | -4.640 | -0.343 | 33 | -4.669 | -4.744 | 0.075 | 50 |
| 74CC8 | 56 | 3. | -5.167 | -5.516 | 0.349 | 18 | -3.811 | -3.871 | 0.060 | 51 |
| 74FA1 | 57 | 8. | -3.503 | -3.296 | -0.207 | 123 | -3.958 | -4.004 | 0.047 | 52 |
| 74E88 | 58 | 3. | -4.474 | -4.436 | -0.037 | 16 | -6.419 | -6.458 | 0.041 | 53 |
| 73PH8 | 59 | 3. | -4.393 | -3.906 | -0.487 | 82 | -2.364 | -2.395 | 0.031 | 54 |
| 73P88 | 60 | 20. | -2.289 | -2.578 | 0.289 | 125 | -4.148 | -4.167 | 0.019 | 55 |
| 73PD8 | 61 | 38. | -2.374 | -2.297 | -0.077 | 21 | -4.689 | -6.784 | 0.016 | 56 |
| 73PF8 | 62 | 13. | -3.856 | -3.219 | -0.637 | 107 | -4.203 | -4.281 | 0.008 | 57 |
| 73PH8 | 63 | 3. | -3.168 | -3.755 | 0.594 | 121 | -3.566 | -3.570 | 0.004 | 58 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 71AA8 | 64 | 2. | -3.131 | -3.720 | 0.588 | 51 | -3.149 | -3.182 | 0.034 | 59 |
| 71QU8 | 65 | 2. | -3.618 | -3.798 | 0.098 | 79 | -5.241 | -5.227 | -0.014 | 60 |
| 63AAR | 66 | 1. | -3.798 | -3.689 | -0.107 | 184 | -4.721 | -4.791 | -0.021 | 61 |
| 65AAR | 67 | 2. | -4.448 | -4.198 | -0.346 | 91 | -3.169 | -3.144 | -0.025 | 62 |
| 63AG8 | 68 | 3. | -5.131 | -5.098 | -0.131 | 71 | -5.553 | -5.525 | -0.028 | 63 |
| 63RF8 | 70 | 12. | -7.122 | -7.048 | -0.074 | 58 | -4.474 | -4.436 | -0.037 | 64 |
| 71A6E | 71 | 14. | -5.553 | -5.525 | -0.028 | 29 | -3.359 | -3.315 | -0.044 | 65 |
| 71ADA | 72 | 12. | -3.398 | -2.985 | -0.425 | 112 | -6.028 | -5.959 | -0.061 | 66 |
| 73DBA | 73 | 12. | -2.914 | -2.729 | -0.185 | 8 | -6.475 | -6.407 | -0.068 | 67 |
| 71ACC | 74 | 32. | -5.195 | -5.566 | 0.371 | 78 | -7.122 | -7.048 | -0.074 | 68 |
| 73C8Q | 75 | 33. | -5.905 | -5.681 | -0.223 | 61 | -2.374 | -2.297 | -0.077 | 69 |
| 73CEN | 76 | 24. | -5.378 | -5.255 | -0.123 | 53 | -4.686 | -4.518 | -0.088 | 70 |
| 73CPK | 77 | 6. | -1.832 | -2.198 | 0.367 | 52 | -3.843 | -3.844 | -0.099 | 71 |
| 73DAM | 78 | 13. | -3.599 | -3.118 | -0.489 | 95 | -3.738 | -3.638 | -0.108 | 72 |
| 73ERA | 79 | 12. | -5.241 | -5.227 | -0.014 | 122 | -4.155 | -4.052 | -0.102 | 73 |
| 73E9F | 80 | 8. | -3.469 | -3.693 | 0.224 | 66 | -3.796 | -3.689 | -0.107 | 74 |
| 71C40 | 81 | 12. | -5.878 | -5.333 | -0.543 | 114 | -4.377 | -4.263 | -0.114 | 75 |
| 73EGB | 82 | 11. | -2.364 | -2.395 | 0.031 | 78 | -5.378 | -5.255 | -0.123 | 76 |
| 73MC8 | 83 | 11. | -1.746 | -2.243 | 0.497 | 88 | -5.131 | -5.000 | -0.131 | 77 |
| 73LA8 | 84 | 8. | -1.952 | -2.293 | 0.341 | 26 | -2.372 | -2.240 | -0.131 | 78 |
| 77EC8 | 85 | 1. | -3.958 | -4.082 | 0.124 | 18 | -4.849 | -4.694 | -0.155 | 79 |
| 77EE8 | 86 | 26. | -7.235 | -6.785 | -0.450 | 73 | -2.914 | -2.729 | -0.185 | 80 |
| 77D88 | 88 | 26. | -6.875 | -6.785 | 0.110 | 198 | -3.958 | -3.743 | -0.215 | 81 |
| 78AEA | 89 | 11. | -2.379 | -2.995 | -0.284 | 48 | -3.482 | -3.259 | -0.223 | 82 |
| 73<A8 | 90 | 2. | -3.884 | -3.423 | 0.419 | 79 | -5.905 | -5.681 | -0.223 | 83 |
| 639AA | 91 | 6. | -3.149 | -3.144 | -0.025 | 41 | -3.815 | -3.588 | -0.228 | 84 |
| 63CAA | 92 | 6. | -3.447 | -3.124 | -0.323 | 15 | -4.844 | -4.609 | -0.235 | 85 |
| 659AA | 93 | 3. | -4.391 | -4.080 | -0.311 | 89 | -2.379 | -2.995 | -0.284 | 86 |
| 61R8A | 94 | 3. | -3.759 | -3.353 | -0.407 | 57 | -3.883 | -3.298 | -0.387 | 87 |
| 61AA8 | 95 | 3. | -3.738 | -3.638 | -0.108 | 93 | -4.391 | -4.080 | -0.311 | 88 |
| 61488 | 96 | 3. | -3.586 | -4.077 | 0.578 | 46 | -5.173 | -4.859 | -0.314 | 89 |
| 614C8 | 97 | 3. | -3.825 | -4.587 | 0.683 | 92 | -3.467 | -3.144 | -0.323 | 90 |
| 72AA8 | 98 | 19. | -7.451 | -6.941 | -0.511 | 117 | -7.477 | -7.151 | -0.326 | 91 |
| 72AC8 | 99 | 6. | -4.594 | -5.017 | 0.423 | 55 | -4.983 | -4.640 | -0.343 | 92 |
| 71CAA | 100 | 7. | -3.727 | -3.386 | 0.358 | 87 | -4.446 | -4.108 | -0.346 | 93 |
| 72EAA | 101 | 9. | -3.115 | -3.825 | 0.710 | 84 | -4.812 | -4.452 | -0.360 | 94 |
| 72PP8 | 103 | 14. | -2.651 | -2.183 | -0.468 | 5 | -4.894 | -4.532 | -0.362 | 95 |
| 71JA8 | 104 | 1. | -4.721 | -4.791 | -0.021 | 127 | -5.298 | -4.911 | -0.385 | 96 |
| 71LA8 | 105 | 3. | -4.882 | -3.687 | -0.395 | 125 | -4.882 | -3.887 | -0.395 | 97 |
| 72048 | 106 | 8. | -3.958 | -3.743 | -0.215 | 94 | -3.759 | -3.353 | -0.407 | 98 |
| 72AC8 | 107 | 3. | -4.253 | -4.261 | 0.008 | 120 | -4.441 | -4.022 | -0.418 | 99 |
| 71718 | 108 | 9. | -5.414 | -6.192 | 0.688 | 72 | -3.398 | -2.965 | -0.425 | 100 |
| 71310 | 109 | 8. | -3.899 | -3.488 | 0.377 | 86 | -7.235 | -6.765 | -0.458 | 101 |
| 72PP8 | 110 | 8. | -4.588 | -4.848 | 0.265 | 116 | -6.658 | -6.200 | -0.458 | 102 |
| 72R88 | 111 | 15. | -8.283 | -5.443 | -0.769 | 103 | -2.651 | -2.183 | -0.468 | 103 |
| 71JCE | 112 | 10. | -6.928 | -5.959 | -0.951 | 19 | -4.925 | -4.438 | -0.487 | 104 |
| 72AEP | 113 | 8. | -2.736 | -3.198 | 0.463 | 59 | -4.393 | -3.906 | -0.487 | 105 |
| 72CC8 | 114 | 2. | -4.377 | -4.265 | -0.114 | 98 | -3.599 | -3.110 | -0.489 | 106 |
| 71Z8P | 116 | 8. | -6.658 | -6.228 | -0.458 | 17 | -3.398 | -2.889 | -0.509 | 107 |
| 71Z0P | 117 | 17. | -7.477 | -7.151 | -0.326 | 98 | -7.451 | -6.941 | -0.511 | 108 |
| 658AA | 118 | 2. | -4.244 | -4.506 | 0.262 | 81 | -5.878 | -5.333 | -0.543 | 109 |
| 63AFP | 119 | 5. | -3.118 | -3.531 | 0.421 | 32 | -4.862 | -4.289 | -0.573 | 110 |
| 63AA8 | 120 | 3. | -4.441 | -4.022 | -0.418 | 2 | -4.113 | -3.503 | -0.610 | 111 |
| 63121 | 121 | 5. | -3.566 | -3.570 | 0.004 | 9 | -5.466 | -4.778 | -0.688 | 112 |
| 63AAA | 122 | 7. | -4.155 | -4.052 | -0.102 | 11 | -6.266 | -5.519 | -0.747 | 113 |
| 654L8 | 123 | 3. | -3.958 | -4.004 | 0.047 | 42 | -3.071 | -2.315 | -0.756 | 114 |
| 65AY8 | 124 | 7. | -3.457 | -3.542 | 0.085 | 111 | -6.283 | -5.443 | -0.788 | 115 |
| 61AA8 | 125 | 2. | -4.148 | -4.167 | 0.019 | 7 | -6.856 | -6.093 | -0.763 | 116 |
| 61AE8 | 126 | 2. | -4.947 | -5.192 | 0.245 | 12 | -4.597 | -3.815 | -0.782 | 117 |
| 62AA8 | 127 | 3. | -5.298 | -4.911 | -0.385 | 49 | -4.614 | -3.792 | -0.821 | 118 |
| 64211 | 128 | 13. | -6.128 | -6.087 | 0.039 | 82 | -3.856 | -3.819 | -0.037 | 119 |


O&M MODEL RUN15 DEP VAR 11 LMHUNS
CUMULATIVE DISTRIBUTION OF RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
POSITIVE
0
NEGATIVE
RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
CUMULATIVE FREQUENCY, NORMAL GRID


O&M MODEL RUN15 DEP VAR IS LMHUN3
RESIDUAL VS. FITTED Y
-7.191
-4.823
-2.455
POSITIVE
RESIDUALS
0
NEGATIVE
-7.191
-4.823
-2.455
FITTED Y

CP VALUES FOR THE SELECTION OF VARIABLES

O&M MODEL RUN15 DEP VAR 11 LMHUNS SEARCH NUMBER 1

SELECTION OF VARIABLES FOR BASIC EQUATION

CP =434.9, VARIABLE ADDED 15 LUP

CP =405.9, VARIABLE ADDED 8 MEM

CP =328.9, VARIABLE ADDED 3 BOMNAV

CP =208.9, VARIABLE ADDED 6 SS

CP =155.6, VARIABLE ADDED 5 OI

CP =126.1, VARIABLE ADDED 7 MCC

CP = 84.7, VARIABLE ADDED 16 LMT

CP = 81.1, VARIABLE ADDED 14 DUF

CP = 81.9, VARIABLE ADDED 17 LPD

NUMBER OF OBSERVATIONS 118
NUMBER OF VARIABLES IN FULL EQUATION 17
NUMBER OF VARIABLES IN BASIC EQUATION 7
REMAINDER OF VARIABLES TO BE SEARCHED 10

| EQUATION | P | CP | VARIABLES IN EQUATION |
|---|---|---|---|
| | 18 | 18.0 | FULL EQUATION |
| | 8 | 84.7 | BASIC SET OF VARIABLES 3 BOMNAV, 5 OI, 6 SS, 7 MCC, 8 MEM, 15 LUP, 16 LMT |
| | | | RMS = 0.29083 |
| 1 - 17 | | 18.9 | BASIC SET PLUS 1 FIGSEN, 4 BOMCOM, 9 MPD, 10 DCC, 11 DCD, 12 DEM, 13 DPD, 14 DUF, 17 LPD |
| | | | RMS = 0.29013 |
| 2 | 18 | 18.0 | BASIC SET PLUS 1 FIGSEN, 2 FIGCOM, 4 BOMCOM, 9 MPD, 10 DCC, 11 DCD, 12 DEM, 13 DPD, 14 DUF, 17 LPD |
| | | | RMS = 0.19638 |
| 3 | 17 | 19.5 | BASIC SET PLUS 1 FIGSEN, 2 FIGCOM, 4 BOMCOM, 9 MPD, 10 DCC, 11 DCD, 13 DPD, 14 DUF, 17 LPD |
| | | | RMS = 0.28128 |

SWEEP NUMBER 1883, DELTA Z(K,K) = 4.D-15

ESTIMATE OF VARIANCE

NO SMALLER RMS VALUE FOUND IN SUBSET EQUATIONS

RMS OF FULL EQUATION SELECTED BY USER TO CALCULATE CP VALUES

| SEQ | EQUATION | P | ORDERED CP |
|---|---|---|---|
| 1 | 2 | 18 | 18.0 |
| 2 | 1 | 17 | 18.9 |
| 3 | 3 | 17 | 19.5 |

# APPENDIX C

# VALIDATION DATA

ALPOS
MULTIPLE REGRESSION ANALYSIS DATA

| | FIGSEN UP MTBF | FIGCOM VO MTBMA | BOMNAV WT MHTOT | BOMSEN CC MHUNS | BOMCOM CO MHSMO | CARNAV DI LSCTO | CARCOM EM LSCFD | PS NRTS | XT SRA | SS TRAIN | PD | UF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 281 71BA8 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 5514. | 1025. | 43.30 | 1379. | 1.345 | 0.0 | 0.0 | 0.0 | 0.0 | 78.0 | 311. | 2.30 |
| | 129. | 113. | 0.536 | 0.137 | 0.398 | 10.717 | 7.349 | 9.1 | 1071. | 1.503 | | |
| 282 748C8 | 1. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 8046. | 585. | 12.50 | 878. | 1.501 | 0.0 | 13.0 | 0.0 | 0.0 | 87.0 | 58. | 2.30 |
| | 198. | 127. | 0.200 | 0.084 | 0.111 | 3.115 | 2.708 | 2.8 | 345. | 0.891 | | |
| 283 749E8 | 1. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 3398. | 324. | 9.30 | 58. | 0.179 | 0.0 | 0.0 | 100.0 | 0.0 | 100.0 | 75. | 2.30 |
| | 1596. | 669. | 0.828 | 0.815 | 0.813 | 0.589 | 0.456 | 6.5 | 1021. | 0.869 | | |
| 284 748G8 | 1. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 9831. | 563. | 11.80 | 209. | 0.371 | 0.0 | 23.0 | 0.0 | 0.0 | 77.0 | 24. | 2.30 |
| | 356. | 248. | 0.159 | 0.043 | 0.104 | 2.713 | 2.485 | 2.9 | 748. | 0.639 | | |
| 285 748H8 | 1. | 0. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 9918. | 777. | 48.80 | 73. | 0.094 | 0.0 | 28.0 | 0.0 | 0.0 | 69.0 | 1888. | 2.30 |
| | 421. | 374. | 0.119 | 0.043 | 0.070 | 2.134 | 2.004 | 1.1 | 1986. | 0.498 | | |
| 286 638A8 | 0. | 1. | 0. | 0. | 0. | 0. | 0. | | | | | |
| | 6650. | 739. | 19.90 | 988. | 1.218 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 254. | 2.30 |
| | 333. | 242. | 0.272 | 0.063 | 0.209 | 5.788 | 2.661 | 18.3 | 907. | 0.587 | | |
| 287 73JC8 | 0. | 0. | 1. | 0. | 0. | 0. | 0. | | | | | |
| | 23815. | 5733. | 181.00 | 2412. | 0.421 | 0.0 | 7.0 | 0.0 | 25.0 | 93.2 | 2200. | 1.20 |
| | 94. | 56. | 0.440 | 0.171 | 0.268 | 5.870 | 5.457 | 9.0 | 817. | 0.746 | | |
| 288 73JF8 | 0. | 0. | 1. | 0. | 0. | 0. | 0. | | | | | |
| | 6283. | 168. | 3.00 | 82. | 0.369 | 0.0 | 37.0 | 0.0 | 0.0 | 63.0 | 20. | 1.20 |
| | 1272. | 682. | 0.816 | 0.811 | 0.005 | 0.236 | 0.236 | 0.0 | 885. | 0.816 | | |
| 289 71CA8 | 0. | 0. | 0. | 0. | 0. | 1. | 0. | | | | | |
| | 34287. | 1291. | 39.90 | 1711. | 1.325 | 91.2 | 0.0 | 0.0 | 0.0 | 100.0 | 240. | 1.30 |
| | 161. | 127. | 0.123 | 0.042 | 0.080 | 3.254 | 1.197 | 8.0 | 3198. | 0.886 | | |
| 210 71GA8 | 0. | 0. | 0. | 0. | 0. | 1. | 0. | | | | | |
| | 784. | 286. | 7.10 | 476. | 1.671 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 66. | 1.30 |
| | 1836. | 985. | 0.870 | 0.824 | 0.046 | 1.002 | 1.002 | 1.9 | 331. | 0.178 | | |
| 211 65AA8 | 0. | 0. | 0. | 0. | 0. | 0. | 1. | | | | | |
| | 3173. | 1857. | 31.00 | 1230. | 0.742 | 0.0 | 1.0 | 0.0 | 15.0 | 97.0 | 98. | 1.30 |
| | 350. | 397. | 0.865 | 0.819 | 0.046 | 0.934 | 0.934 | 0.0 | 267. | 0.109 | | |

# APPENDIX D

# RESULTS OF THE

# VALIDATION ANALYSIS

LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

DAM MODEL RUN#1 DEP VAR IS LMTBF MIN Y = 3.9440 00 MAX Y = 6.9960 10 RANGE Y = 6.9520 00

MULTIPLE REGRESSION ANALYSIS FOR THE "ALPOS" MODEL
LMTBF = B(0) + B(1)*FIGCOM + B(2)*BOMNAV + B(3)*BOMCOM + B(4)*CARNAV
+ B(5)*CARCOM + B(6)*UP + B(7)*CO + B(8)*DI + B(9)*EM
+ B(10)*MVO + B(11)*MAT + B(12)*MSS + B(13)*MUF + B(14)*DYO
+ B(15)*OAT + B(16)*OPS + B(17)*OAT + B(18)*DSS + B(19)*DPO
+ B(20)*DUF + B(21)*LUP + B(22)*LVO + B(23)*LPO

LMTBF = LN(MTBF)
MTBF = MEAN OPERATING TIME BETWEEN FAILURE

| IND,VAR(I) | NAME | COEF,B(I) | S.E. COEF, | T-VALUE | B(I)SQRD | MIN X(I) | MAX X(I) | RANGE X(I) | REL,IMP,X(I) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | 1.[illegible] P1 | | | | | | | |
| 1 | FIGCOM | -5.674[illegible]-01 | 2.440-01 | 3.3 | 0.2717 | 0.0 | 1.0000 00 | 1.0000 00 | 0.14 |
| 2 | BOMNAV | -1.[illegible] 00 | 1.940-01 | 5.9 | 0.5524 | 0.0 | 1.0000 00 | 1.0000 00 | 0.23 |
| 3 | BOMCOM | -1.[illegible] 00 | 2.470-01 | 4.8 | 0.5264 | 0.0 | 1.0000 00 | 1.0000 00 | 0.23 |
| 4 | CARNAV | -6.326710-01 | 1.940-01 | 3.4 | 0.1552 | 0.0 | 1.0000 00 | 1.0000 00 | 0.13 |
| 5 | CARCOM | -1.[illegible] 00 | 2.320-01 | 4.2 | 0.5467 | 0.0 | 1.0000 00 | 1.0000 00 | 0.24 |
| 6 | UP | -3.544720-06 | 9.440-07 | 3.8 | 0.5148 | 1.5340 02 | 5.6650 05 | 5.6630 05 | 0.49 |
| 7 | CO | -7.259310-01 | 4.390-02 | 5.1 | 0.3372 | 4.9230-03 | 6.6740 00 | 6.6690 00 | 0.39 |
| 8 | DI | 1.019920-02 | 1.530-03 | 6.6 | 0.4342 | 0.0 | 1.0000 00 | 1.0000 00 | 0.29 |
| 9 | EM | 1.[illegible] | 2.760-03 | 6.5 | 0.5499 | 0.0 | 1.0000 00 | 1.0000 00 | 0.36 |
| 10 | MVO | 6.[illegible] | 9.640-05 | 5.3 | 0.9178 | -1.2510 03 | 6.9190 03 | 8.1700 03 | 0.99 |
| 11 | MAT | -1.[illegible] | 3.590-03 | 3.8 | 0.8448 | -3.[illegible] 01 | 1.4250 02 | 1.7270 02 | 0.36 |
| 12 | MSS | 1.25[illegible] | 2.250-03 | 5.6 | 0.7892 | -7.9960 01 | 2.1060 01 | 2.9060 02 | 0.25 |
| 13 | MUF | -1.[illegible] | 1.760-01 | 2.5 | 0.0571 | -1.4330 00 | 1.3760 02 | 2.8110 02 | 0.17 |
| 14 | DYO | -1.[illegible] | 2.630-08 | 4.8 | 0.9185 | 2.3240 03 | 2.4740 07 | 2.4741 07 | 0.51 |
| 15 | OAT | 1.27[illegible] | 4.690-05 | 2.7 | 0.7496 | 3.6660 00 | 1.1750 04 | 1.1750 04 | 0.36 |
| 16 | OPS | 2.41[illegible] | 1.220-04 | 2.0 | 0.3921 | 3.6590 01 | 2.6690 03 | 2.9790 03 | 0.14 |
| 17 | OAT | -1.[illegible] | 9.330-05 | 1.9 | 0.1269 | 2.9990 02 | 3.3370 03 | 3.7410 03 | 0.28 |
| 18 | DSS | 2.35[illegible] | 7.880-05 | 3.3 | 0.9385 | 1.3490 01 | 2.6790 03 | 2.7160 03 | 0.13 |
| 19 | DPO | -4.[illegible] | 1.260-07 | 3.5 | 0.3518 | 6.2590 02 | 4.1810 06 | 4.1860 06 | 0.36 |
| 20 | DUF | -6.[illegible] | 1.650-01 | 5.2 | 0.7787 | 1.7840-01 | 2.9160 02 | 1.8480 02 | 0.31 |
| 21 | LUP | -7.[illegible] | 5.550-02 | 4.2 | 0.7757 | 5.9380 00 | 1.2250 01 | 8.2170 00 | 0.38 |
| 22 | LVO | -9.[illegible] | 1.370-01 | 7.8 | 0.9283 | 3.4210 00 | 9.9120 00 | 6.9110 00 | 1.07 |
| 23 | LPO | -9.[illegible] | 4.660-02 | 1.9 | 0.6342 | 1.0990 03 | 6.9960 00 | 6.9960 00 | 0.12 |

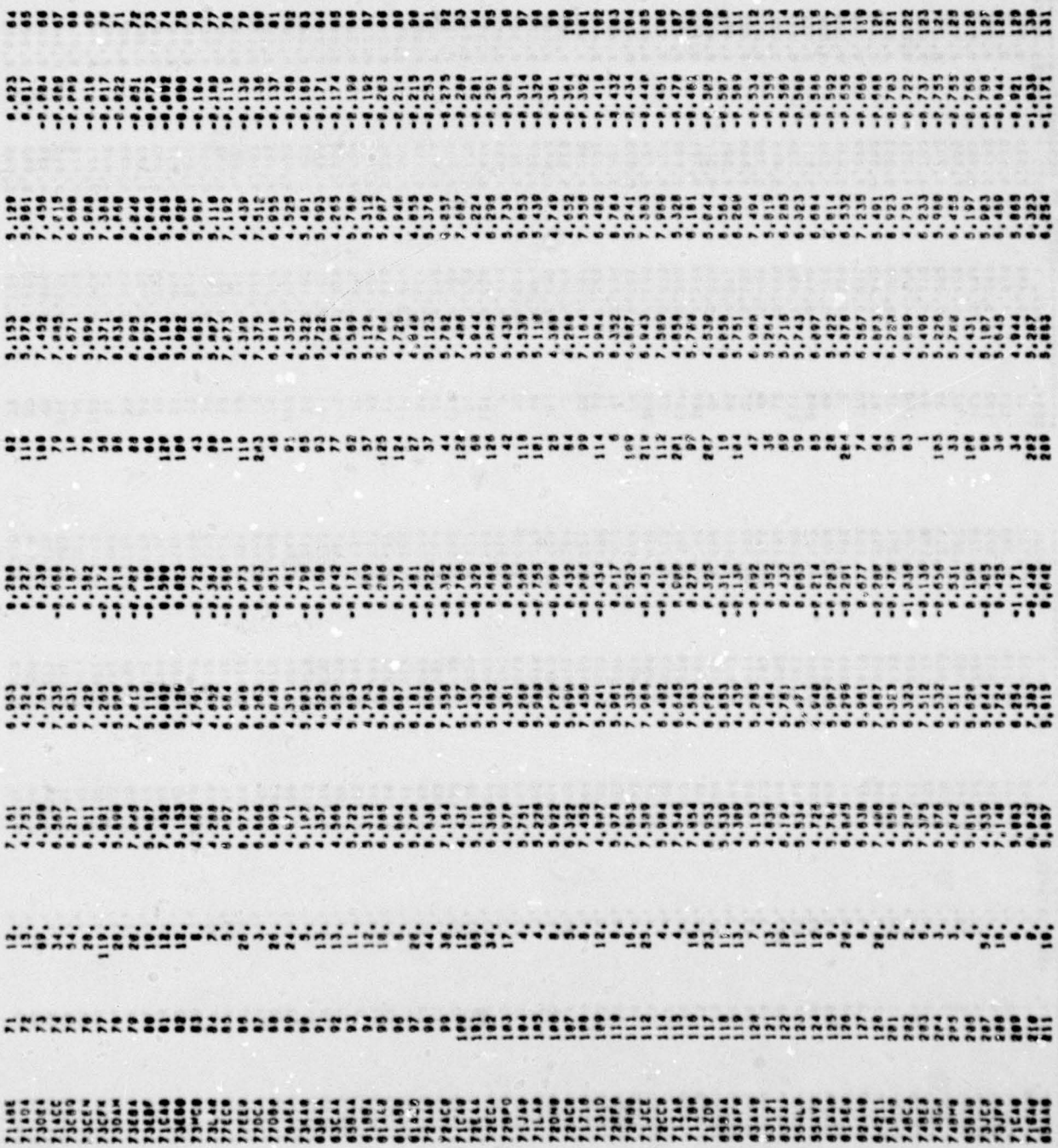
NO. OF OBSERVATIONS 131
NO. OF IND. VARIABLES 23
RESIDUAL DEGREES OF FREEDOM 107
F-VALUE 31.7
RESIDUAL ROOT MEAN SQUARE .68737033
RESIDUAL MEAN SQUARE .23753681
RESIDUAL SUM OF SQUARES 25.41583987
TOTAL SUM OF SQUARES 199.75979614
MULT. CORREL. COEF. SQUARED .8721

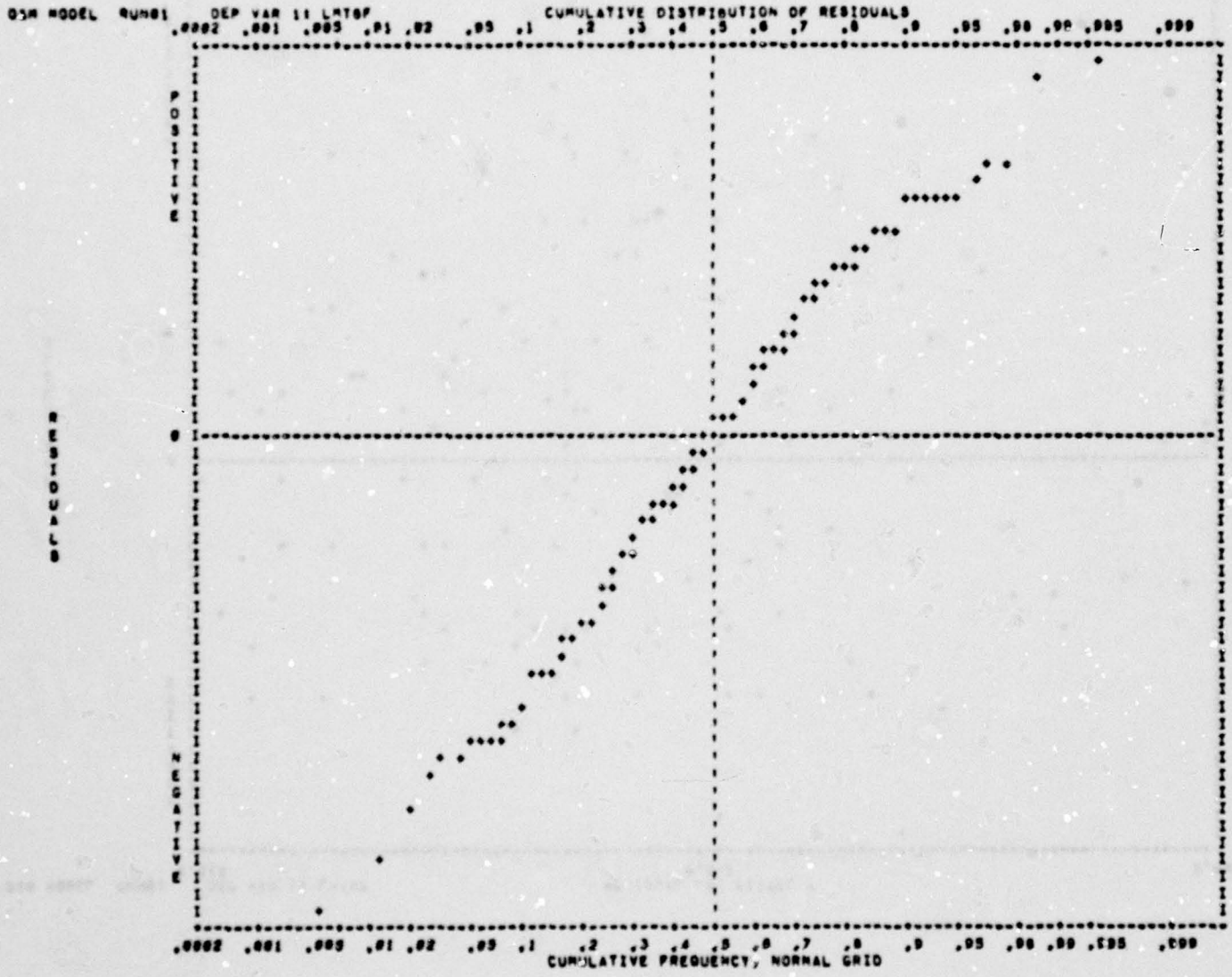
| IND,VAR(I) | NAME | COEF,B(I) | MIN X(I) | MAX X(I) | RANGE X(I) | REL,IMP,X(I) |
|---|---|---|---|---|---|---|
| *** COEFFICIENTS FROM PREVIOUS FIT *** | | | | | | |
| 0 | | 1.579730 01 | | | | |
| 1 | FIGCOM | -7.784[illegible] | 0.0 | 1.0000 00 | 1.0000 00 | 0.15 |
| 2 | BOMNAV | -1.[illegible] | 0.0 | 1.0000 00 | 1.0000 00 | 0.25 |
| 3 | BOMCOM | -1.[illegible] | 0.0 | 1.0000 00 | 1.0000 00 | 0.24 |
| 4 | CARNAV | -6.[illegible] | 0.0 | 1.0000 00 | 1.0000 00 | 0.11 |
| 5 | CARCOM | -1.[illegible] | 0.0 | 1.0000 00 | 1.0000 00 | 0.24 |
| 6 | UP | -3.[illegible] | 1.5340 02 | 5.6650 05 | 5.6630 05 | 0.41 |
| 7 | CO | -7.[illegible] | 4.9230-03 | 6.6740 00 | 6.6690 00 | 0.29 |
| 8 | DI | 1.[illegible] | 0.0 | 1.0000 00 | 1.0000 00 | 0.29 |
| 9 | EM | 1.[illegible] | 0.0 | 1.0000 00 | 1.0000 00 | 0.36 |
| 10 | MVO | 5.[illegible] | -1.2510 03 | 6.9190 03 | 8.1700 03 | 0.87 |
| 11 | MAT | -1.[illegible] | -3.8260 01 | 1.4250 02 | 1.7270 02 | 0.36 |
| 12 | MSS | 1.[illegible] | -7.9960 01 | 2.1060 01 | 2.9060 02 | 0.26 |
| 13 | MUF | -3.[illegible] | -1.4330 00 | 1.3760 02 | 2.8110 02 | 0.17 |
| 14 | DYO | -1.[illegible] | 2.3240 03 | 2.4740 07 | 2.4740 07 | 0.52 |
| 15 | OAT | 1.27[illegible] | 3.6660 00 | 1.1750 04 | 1.1750 04 | 0.36 |
| 16 | OPS | 9.21[illegible] | 3.6590 01 | 2.6690 03 | 2.9290 03 | 0.13 |
| 17 | OAT | -1.[illegible] | 2.9990 02 | 3.3370 03 | 3.7410 03 | 0.28 |
| 18 | DSS | 2.26[illegible] | 1.3490 01 | 2.6790 03 | 2.6990 03 | 0.13 |
| 19 | DPO | -4.[illegible] | 6.2590 02 | 4.1810 06 | 4.1860 06 | 0.33 |
| 20 | DUF | -6.[illegible] | 1.7840-01 | 2.9160 02 | 1.8480 02 | 0.32 |
| 21 | LUP | -8.[illegible] | 5.9380 00 | 1.2250 01 | 6.2170 00 | 0.39 |
| 22 | LVO | -9.[illegible] | 3.4210 00 | 9.9120 00 | 6.9110 00 | 1.03 |
| 23 | LPO | -9.[illegible] | 1.0990 03 | 6.9960 00 | 6.9960 00 | 0.14 |

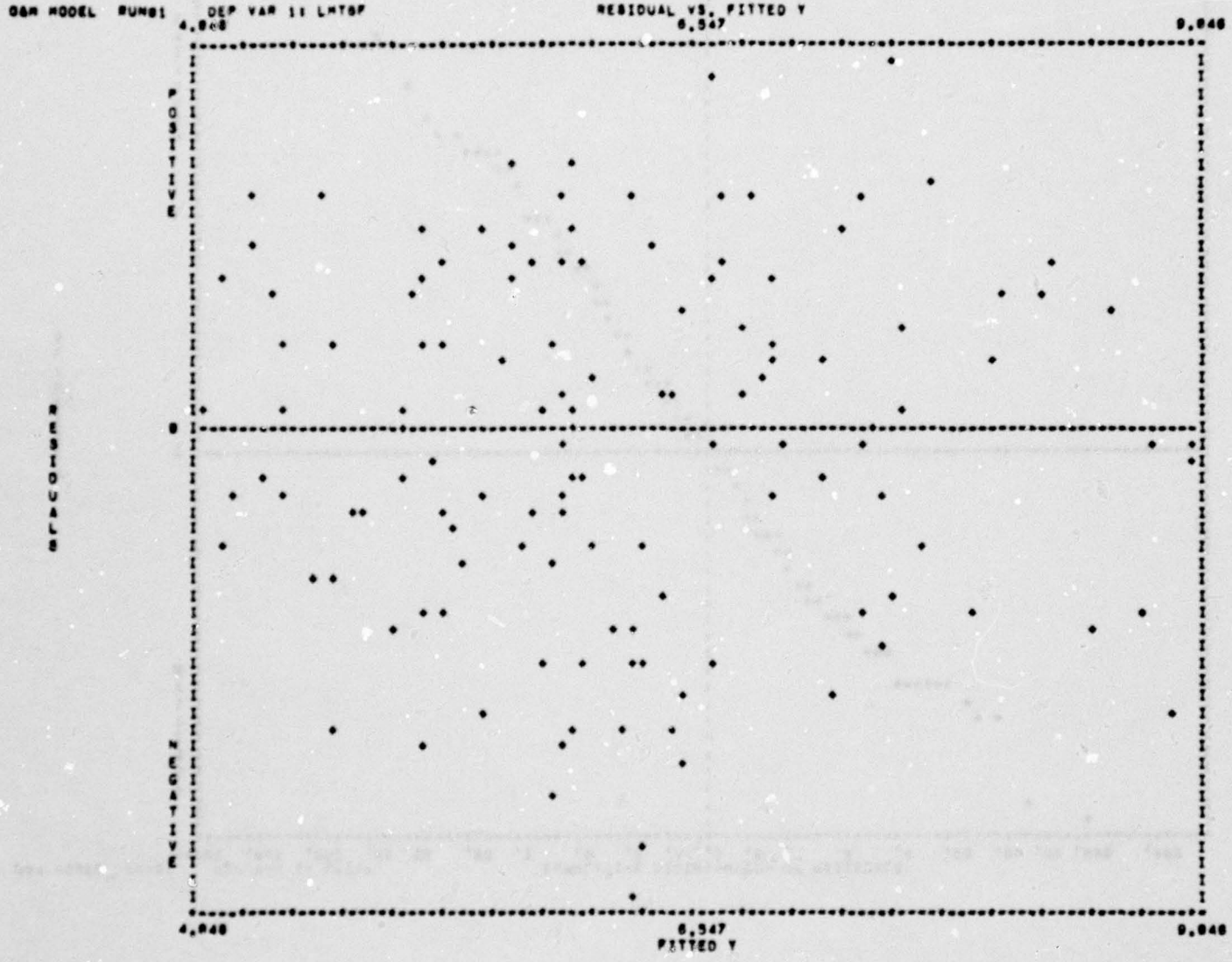
RESIDUAL ROOT MEAN SQUARE .69979627
RESIDUAL MEAN SQUARE .24488898
RESIDUAL SUM OF SQUARES 25.77425459
TOTAL SUM OF SQUARES 199.75979614
MULT. CORREL. COEF. SQUARED .8992

| IDENT. | OBSV. | NBR | DISTANCE | OBS. Y | FITTED Y | RESIDUAL |
|---|---|---|---|---|---|---|
| 71BPB | 5 | | 3. | 5.496 | 6.233 | -0.737 |
| 71L8D | 2 | | 6. | 5.584 | 5.218 | 0.366 |
| 71P8B | 5 | | 4. | 6.510 | 5.931 | 0.579 |
| 71710 | 6 | | 22. | 8.352 | 8.784 | -0.432 |
| 724G8 | 7 | | 15. | 8.445 | 8.083 | 0.362 |
| 71G53 | 8 | | 4. | 5.428 | 5.213 | 0.215 |
| 71FA8 | 9 | | 14. | 7.352 | 7.182 | 0.170 |
| 71F89 | 10 | | 16. | 6.071 | 6.880 | -0.809 |
| 71CAP | 11 | | 10. | 8.489 | 7.535 | 0.954 |
| 71DA8 | 12 | | 2. | 6.496 | 5.975 | 0.521 |
| 91EA2 | 13 | | 3. | 7.037 | 6.919 | 2.118 |
| 92348 | 14 | | 4. | 7.141 | 6.981 | 0.160 |
| 92A8A | 15 | | 5. | 7.348 | 6.941 | 0.408 |
| 83BD8 | 16 | | 23. | 8.858 | 8.584 | -0.707 |
| 71AEP | 17 | | 18. | 5.542 | 5.301 | 0.242 |
| 74JA8 | 18 | | 185. | 6.204 | 6.052 | 0.151 |
| 74JC8 | 19 | | 8. | 7.073 | 7.192 | -0.119 |
| 92GA1 | 20 | | 15. | 5.422 | 6.914 | -0.592 |
| 71Z48 | 21 | | 3. | 6.994 | 6.817 | 0.987 |
| 71Z9A | 22 | | 15. | 8.428 | 7.755 | 0.654 |
| 73EP8 | 23 | | 18. | 4.388 | 4.749 | -0.361 |
| 73MC8 | 24 | | 35. | 4.617 | 4.226 | 0.391 |
| 73MCA | 27 | | 4. | 4.640 | 4.855 | -0.215 |
| 73Q98 | 29 | | 4. | 5.137 | 5.898 | 0.239 |
| 733C8 | 30 | | 5. | 5.645 | 6.489 | -0.844 |
| 73KEA | 32 | | 2. | 6.439 | 6.007 | 0.432 |
| 73KF8 | 33 | | 2. | 5.728 | 6.455 | -0.755 |
| 73KK8 | 34 | | 5. | 4.944 | 5.865 | -0.921 |
| 75934 | 35 | | 28. | 8.675 | 8.311 | 0.364 |
| 748DP | 36 | | 6. | 5.264 | 5.819 | -0.556 |
| 748F8 | 37 | | 5. | 5.123 | 5.376 | -0.253 |
| 7491P | 38 | | 19. | 7.664 | 7.612 | 0.052 |
| 78A1P | 39 | | 3. | 7.322 | 6.703 | 0.619 |
| 78GA8 | 40 | | 15. | 5.987 | 5.983 | 0.003 |
| 74FF8 | 41 | | 16. | 5.738 | 5.321 | 0.417 |
| 74FA8 | 42 | | 59. | 5.438 | 5.738 | -0.300 |
| 74FM8 | 43 | | 7. | 5.883 | 5.987 | -0.104 |
| 74FU8 | 44 | | 42. | 5.792 | 6.067 | -0.275 |
| 73CM8 | 45 | | 7. | 6.808 | 6.514 | 0.294 |
| 73CG8 | 46 | | 19. | 6.818 | 6.955 | -0.137 |
| 858M8 | 47 | | 4. | 6.958 | 7.494 | -0.534 |
| 74FCA | 48 | | 4. | 5.775 | 5.241 | 0.534 |
| 74FJ8 | 49 | | 5. | 6.466 | 5.958 | 0.517 |
| 74FK8 | 50 | | 18. | 8.229 | 8.923 | -0.703 |
| 74F08 | 51 | | 22. | 5.515 | 5.172 | 0.343 |
| 74MA8 | 52 | | 12. | 6.926 | 5.986 | 0.949 |
| 74KCA | 53 | | 4. | 6.553 | 6.472 | 0.082 |
| 74CA8 | 54 | | 5. | 7.959 | 6.674 | 0.286 |
| 74C8P | 55 | | 8. | 7.100 | 6.819 | 0.281 |
| 74CC8 | 56 | | 5. | 7.371 | 7.388 | -0.017 |
| 74FA1 | 57 | | 23. | 5.128 | 5.312 | -0.192 |
| 74E8A | 58 | | 3. | 6.516 | 6.417 | 0.099 |
| 73PM8 | 59 | | 2. | 5.743 | 6.323 | -0.580 |
| 73P8P | 60 | | 28. | 3.944 | 4.224 | -0.281 |
| 73P08 | 61 | | 44. | 4.114 | 4.048 | 0.066 |
| 73PF8 | 62 | | 18. | 5.589 | 5.789 | -0.199 |
| 71Y48 | 64 | | 5. | 4.893 | 5.491 | -0.598 |
| 710U8 | 65 | | 5. | 5.322 | 5.491 | -0.169 |
| 834A8 | 66 | | 4. | 5.542 | 5.475 | 0.067 |
| 85AA8 | 67 | | 7. | 6.131 | 5.648 | 0.483 |
| 834G8 | 68 | | 8. | 6.834 | 6.377 | 0.458 |
| 859C8 | 69 | | 11. | 5.716 | 6.285 | -0.569 |
| 838F8 | 70 | | 37. | 8.751 | 8.333 | 0.418 |

| OBSV. | OBS. Y | FITTED Y | ORDERED RESID. | SEQ |
|---|---|---|---|---|
| 11 | 8.489 | 7.535 | 0.954 | 1 |
| 115 | 7.546 | 6.645 | 0.900 | 2 |
| 102 | 6.369 | 5.682 | 0.686 | 3 |
| 127 | 6.038 | 5.961 | 0.077 | 4 |
| 22 | 6.428 | 7.755 | 0.654 | 5 |
| 39 | 7.382 | 6.783 | 0.619 | 6 |
| 94 | 5.312 | 4.783 | 0.529 | 7 |
| 103 | 4.970 | 4.361 | 0.609 | 8 |
| 87 | 6.866 | 6.263 | 0.603 | 9 |
| 81 | 7.452 | 6.852 | 0.599 | 10 |
| 78 | 8.811 | 7.429 | 0.382 | 11 |
| 5 | 6.510 | 5.931 | 0.579 | 12 |
| 48 | 5.775 | 5.241 | 0.534 | 13 |
| 285 | 6.042 | 5.511 | 0.531 | 14 |
| 111 | 7.853 | 7.330 | 0.523 | 15 |
| 12 | 6.496 | 5.975 | 0.521 | 16 |
| 49 | 6.468 | 5.958 | 0.517 | 17 |
| 87 | 8.131 | 5.648 | 0.483 | 18 |
| 89 | 4.871 | 4.391 | 0.481 | 19 |
| 68 | 6.834 | 6.377 | 0.458 | 20 |
| 122 | 6.194 | 5.761 | 0.432 | 21 |
| 107 | 6.322 | 5.890 | 0.432 | 22 |
| 32 | 6.439 | 6.007 | 0.432 | 23 |
| 288 | 7.148 | 6.724 | 0.425 | 24 |
| 78 | 8.751 | 8.333 | 0.418 | 25 |
| 41 | 5.738 | 5.321 | 0.417 | 26 |
| 15 | 7.348 | 6.941 | 0.408 | 27 |
| 26 | 4.617 | 4.226 | 0.391 | 28 |
| 2 | 5.584 | 5.218 | 0.366 | 29 |
| 54 | 7.959 | 8.674 | 0.286 | 30 |
| 96 | 6.964 | 5.687 | 0.279 | 31 |
| 35 | 8.675 | 8.311 | 0.364 | 32 |
| 7 | 8.445 | 8.083 | 0.362 | 33 |
| 121 | 4.836 | 4.484 | 0.352 | 34 |
| 51 | 5.515 | 5.172 | 0.343 | 35 |
| 117 | 8.953 | 8.628 | 0.325 | 36 |
| 45 | 6.808 | 6.514 | 0.294 | 37 |
| 55 | 7.188 | 6.819 | 0.281 | 38 |
| 118 | 7.654 | 7.383 | 0.270 | 39 |
| 17 | 5.542 | 5.301 | 0.242 | 40 |
| 73 | 4.990 | 4.751 | 0.239 | 41 |
| 72 | 4.751 | 4.524 | 0.227 | 42 |
| 8 | 5.428 | 5.213 | 0.215 | 43 |
| 71 | 7.161 | 6.953 | 0.208 | 44 |
| 95 | 6.085 | 5.888 | 0.206 | 45 |
| 298 | 5.818 | 5.628 | 0.190 | 46 |
| 75 | 8.217 | 8.031 | 0.187 | 47 |
| 9 | 7.352 | 7.182 | 0.170 | 48 |
| 14 | 7.141 | 6.981 | 0.160 | 49 |
| 18 | 6.204 | 6.052 | 0.151 | 50 |
| 13 | 7.037 | 6.919 | 0.118 | 51 |
| 58 | 5.516 | 6.417 | 0.099 | 52 |
| 21 | 6.984 | 6.817 | 0.067 | 53 |
| 69 | 5.987 | 5.903 | 0.083 | 54 |
| 97 | 6.553 | 6.472 | 0.082 | 55 |
| 6 | 5.542 | 5.475 | 0.067 | 56 |
| 61 | 4.114 | 4.048 | 0.066 | 57 |
| 123 | 5.534 | 5.471 | 0.063 | 58 |
| 38 | 7.654 | 7.612 | 0.052 | 59 |
| 211 | 5.857 | 5.815 | 0.042 | 60 |
| 92 | 4.566 | 4.525 | 0.042 | 61 |
| 52 | 6.028 | 5.988 | 0.040 | 62 |
| 29 | 5.137 | 5.098 | 0.039 | 63 |




BSM MODEL RUN81 DEP VAR 11 LMTBF
CUMULATIVE DISTRIBUTION OF RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
POSITIVE
0
NEGATIVE
RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
CUMULATIVE FREQUENCY, NORMAL GRID


G&R MODEL RUN#1 DEP VAR 1: LMTSF
RESIDUAL VS. FITTED Y
4.048
6.547
9.046
POSITIVE
0
NEGATIVE
RESIDUALS
4.048
6.547
9.046
FITTED Y

LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

O&M MODEL RUN20 DEP VAR IS LMTBMA MIN Y = 3,4810 00 MAX Y = 8,9270 00 RANGE Y = 5,4460 00

MULTIPLE REGRESSION ANALYSIS FOR THE "ALFGA" MODEL
LMTBMA = B(0) + B(1)FIGCOM + B(2)HOMNAV + B(3)SQNCOM + B(4)CARNAV
+ B(5)CARCOM + B(6)UP + B(7)CO + B(8)DI + B(9)EM
+ B(10)MVO + B(11)MWT + B(12)MSS + B(13)MUP + B(14)DVO
+ B(15)DWT + B(16)DPS + B(17)DST + B(18)DSS + B(19)DPO
+ B(20)DUP + B(21)LUP + B(22)LVO + B(23)LPO
LMTBMA = LN(MTBMA)
MTBMA = MEAN OPERATING TIME BETWEEN MAINTENANCE ACTIONS

| IND,VAR(I) | NAME | COEF,B(I) | S.E. COEF. | T-VALUE | B(I)SQRD | MIN X(I) | MAX X(I) | RANGE X(I) | REL.IMP.B(I) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | 1,469470 01 | | | | | | | |
| 1 | FIGCOM | -6,917320-01 | 2,050-01 | 3,3 | 0,2717 | 0,0 | 1,0000 00 | 1,0000 00 | 0,13 |
| 2 | HOMNAV | -1,167260 00 | 1,920-01 | 6,1 | 0,5524 | 0,0 | 1,0000 00 | 1,0000 00 | 0,21 |
| 3 | SQNCOM | -1,139300 00 | 2,410-01 | 4,7 | 0,5288 | 0,0 | 1,0000 00 | 1,0000 00 | 0,21 |
| 4 | CARNAV | -5,947500-01 | 1,810-01 | 3,3 | 0,5682 | 0,0 | 1,0000 00 | 1,0000 00 | 0,11 |
| 5 | CARCOM | -1,755190 00 | 2,260-01 | 4,4 | 0,5947 | 0,0 | 1,0000 00 | 1,0000 00 | 0,18 |
| 6 | UP | -2,855310-06 | 9,310-07 | 2,9 | 0,6346 | 1,5380 02 | 5,8630 05 | 5,8630 05 | 0,26 |
| 7 | CO | -2,853030-01 | 4,320-02 | 4,6 | 0,3572 | 4,9230-03 | 8,8740 00 | 8,8690 00 | 0,25 |
| 8 | DI | 7,944710-03 | 1,320-03 | 5,3 | 0,4342 | 0,0 | 1,0000 02 | 1,0000 02 | 0,15 |
| 9 | EM | 1,784780-02 | 2,740-03 | 6,6 | 0,5409 | 0,0 | 1,0000 02 | 1,0000 02 | 0,33 |
| 10 | MVO | 5,479180-04 | 8,580-05 | 5,8 | 0,9196 | -1,2510 03 | 6,9190 03 | 8,1700 03 | 0,82 |
| 11 | MWT | -1,119570-02 | 3,450-03 | 3,2 | 0,8448 | -3,9240 01 | 1,4250 02 | 1,7270 02 | 0,35 |
| 12 | MSS | 1,084150-02 | 2,220-03 | 4,9 | 0,7092 | -7,9990 01 | 2,1990 01 | 1,9990 02 | 0,29 |
| 13 | MUP | -5,724770-01 | 1,220-01 | 3,1 | 0,6581 | -1,4390 00 | 1,3790 00 | 2,8990 00 | 0,19 |
| 14 | DVO | -9,929540-08 | 2,590-08 | 3,8 | 0,8146 | 2,3940 03 | 2,4740 07 | 2,4740 07 | 0,45 |
| 15 | DWT | 1,295760-04 | 4,630-05 | 2,8 | 0,7795 | 3,6660 00 | 1,1750 04 | 1,1750 04 | 0,20 |
| 16 | DPS | 2,144410-04 | 1,290-04 | 1,8 | 0,3621 | 3,8490 01 | 2,9290 03 | 2,9290 03 | 0,12 |
| 17 | DST | -1,465990-04 | 9,280-05 | 1,6 | 0,5269 | 2,9890 02 | 3,3370 03 | 3,0410 03 | 0,08 |
| 18 | DSS | 2,184330-04 | 6,980-05 | 3,1 | 0,9399 | 1,3490 01 | 2,8790 00 | 2,8660 03 | 0,11 |
| 19 | DPO | -3,446810-07 | 1,260-07 | 2,7 | 0,3518 | 8,2590 02 | 4,1810 05 | 4,1820 05 | 0,26 |
| 20 | DUP | -7,577790-01 | 1,630-01 | 4,7 | 0,3787 | 1,7640-01 | 2,0180 00 | 1,8440 00 | 0,26 |
| 21 | LUP | -2,865640-01 | 5,450-02 | 4,9 | 0,7757 | 5,0390 00 | 1,3250 01 | 8,2170 00 | 0,41 |
| 22 | LVO | -8,195440-01 | 1,350-01 | 6,1 | 0,9283 | 3,4810 00 | 9,0170 00 | 5,5110 00 | 0,84 |
| 23 | LPO | -9,402840-02 | 4,790-02 | 2,0 | 0,9382 | 1,0990 00 | 8,0980 00 | 6,9980 00 | 0,18 |

| | |
|---|---|
| NO. OF OBSERVATIONS | 131 |
| NO. OF IND. VARIABLES | 23 |
| RESIDUAL DEGREES OF FREEDOM | 107 |
| F-VALUE | 29,7 |
| RESIDUAL ROOT MEAN SQUARE | 0,48819977 |
| RESIDUAL MEAN SQUARE | 0,23759182 |
| RESIDUAL SUM OF SQUARES | 24,67332430 |
| TOTAL SUM OF SQUARES | 102,18723383 |
| MULT. CORREL. COEF. SQUARED | ,8848 |

| IND,VAR(I) | NAME | COEF,B(I) | MIN X(I) | MAX X(I) | RANGE X(I) | REL.IMP.B(I) |
|---|---|---|---|---|---|---|
| ••• COEFFICIENTS FROM PREVIOUS FIT ••• | | | | | | |
| 0 | | 1,479770 01 | | | | |
| 1 | FIGCOM | -7,857240-01 | 0,0 | 1,0000 00 | 1,0000 00 | 0,14 |
| 2 | HOMNAV | -1,171090 00 | 0,0 | 1,0000 00 | 1,0000 00 | 0,22 |
| 3 | SQNCOM | -1,183910 00 | 0,0 | 1,0000 00 | 1,0000 00 | 0,22 |
| 4 | CARNAV | -5,714540-01 | 0,0 | 1,0000 00 | 1,0000 00 | 0,10 |
| 5 | CARCOM | -1,877550 00 | 0,0 | 1,0000 00 | 1,0000 00 | 0,24 |
| 6 | UP | -2,818260-06 | 1,5380 02 | 5,8630 05 | 5,8630 05 | 0,29 |
| 7 | CO | -2,[illegible] | 4,9230-03 | 8,8740 00 | 8,8690 00 | 0,25 |
| 8 | DI | 8,227710-03 | 0,0 | 1,0000 02 | 1,0000 02 | 0,15 |
| 9 | EM | 1,829380-02 | 0,0 | 1,0000 02 | 1,0000 02 | 0,34 |
| 10 | MVO | 5,551780-04 | -1,2510 03 | 6,9190 03 | 8,1700 03 | 0,83 |
| 11 | MWT | -1,155590-02 | -3,9240 01 | 1,4250 02 | 1,7270 02 | 0,37 |
| 12 | MSS | 1,128750-02 | -7,9990 01 | 2,1990 01 | 1,9990 02 | 0,21 |
| 13 | MUP | -5,735560-01 | -1,4390 00 | 1,3790 00 | 2,8990 00 | 0,19 |
| 14 | DVO | -1,[illegible] | 2,3940 03 | 2,4740 07 | 2,4740 07 | 0,48 |
| 15 | DWT | 1,359630-04 | 3,6660 00 | 1,1750 04 | 1,1750 04 | 0,20 |
| 16 | DPS | 2,214120-04 | 3,8490 01 | 2,9290 03 | 2,9290 03 | 0,12 |
| 17 | DST | -1,[illegible] | 2,9890 02 | 3,3370 03 | 3,0410 03 | 0,10 |
| 18 | DSS | 2,[illegible] | 1,3490 01 | 2,8790 00 | 2,8660 03 | 0,11 |
| 19 | DPO | -3,[illegible] | 8,2590 02 | 4,1810 05 | 4,1820 05 | 0,24 |
| 20 | DUP | -7,731790-01 | 1,7640-01 | 2,0180 00 | 1,8440 00 | 0,26 |
| 21 | LUP | -2,892250-01 | 5,0390 00 | 1,3250 01 | 8,2170 00 | 0,41 |
| 22 | LVO | -8,007840-01 | 3,4810 00 | 9,0170 00 | 5,5110 00 | 0,83 |
| 23 | LPO | -1,961850-01 | 1,0990 00 | 8,0980 00 | 6,9980 00 | 0,13 |

LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

O&M MODEL RUN20 DEP VAR IS LMTBMA

COMPONENT EFFECT OF EACH VARIABLE ON EACH OBSERVATION (IN UNITS OF Y)
(VARIABLES ORDERED BY THEIR RELATIVE INFLUENCE --- OBSERVATIONS ORDERED BY INFLUENCE OF MOST INFLUENTIAL VARIABLE)

| SEQ. | OBSV. | VARIABLES | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 10 | 22 | 14 | 21 | 11 | 9 | 6 | 15 | 20 | 7 | 19 | 3 | 2 | 12 |
| | | 5 | 13 | 8 | 1 | 23 | 16 | 18 | 4 | 17 | | | | | |
| | | MVO | LVO | OVO | LUP | MNT | EN | UP | ONT | DUF | CD | DPD | BOMCOM | BOMNAV | MBB |
| | | CARCOM | MUF | DI | FIGCOM | LPD | OPS | OSS | CARNAV | DET | | | | | |
| 1 | 77 | 3.84 | -1.95 | -1.91 | -0.15 | -1.08 | -0.16 | 0.85 | 0.89 | 0.12 | 0.24 | -0.01 | 0.00 | -1.03 | -0.16 |
| | | 0.10 | 0.16 | -0.19 | 0.85 | -0.01 | 0.02 | -0.36 | 0.88 | 0.21 | | | | | |
| 2 | 18 | 3.75 | -1.94 | -1.75 | -0.28 | 0.11 | -0.16 | 0.82 | -0.83 | 0.00 | 0.25 | -0.05 | 0.00 | 0.14 | 0.21 |
| | | 0.10 | -0.21 | -0.19 | 0.85 | 0.07 | -0.42 | 0.83 | 0.88 | -0.04 | | | | | |
| 3 | 73 | 2.99 | -1.76 | -0.47 | 0.16 | -0.68 | -0.16 | 0.89 | -0.28 | 0.12 | 0.24 | 0.06 | 0.00 | -1.03 | -0.02 |
| | | 0.10 | 0.16 | -0.19 | 0.85 | -0.26 | 0.02 | -0.22 | 0.88 | 0.21 | | | | | |
| 4 | 101 | 2.99 | -1.76 | -0.47 | 0.28 | -0.65 | -0.16 | 0.89 | -0.22 | 0.05 | 0.24 | 0.06 | 0.00 | 0.14 | -0.02 |
| | | 0.10 | 0.20 | -0.19 | 0.85 | -0.26 | 0.02 | -0.22 | -0.49 | 0.21 | | | | | |
| 5 | 207 | 2.48 | -1.67 | -0.03 | -0.21 | -0.01 | -0.03 | 0.04 | -0.12 | 0.05 | 0.17 | -0.27 | 0.00 | -1.03 | 0.15 |
| | | 0.10 | 0.20 | -0.19 | 0.85 | -0.29 | 0.02 | -0.07 | 0.88 | 0.21 | | | | | |
| 6 | 42 | 2.25 | -1.61 | 0.16 | -0.72 | -1.65 | -0.16 | -0.34 | 1.30 | 0.00 | 0.28 | 0.04 | 0.00 | 0.14 | 0.02 |
| | | 0.10 | -0.21 | -0.19 | 0.85 | -0.07 | 0.02 | 0.04 | 0.88 | -0.31 | | | | | |
| 7 | 102 | 1.65 | -1.42 | 0.51 | 0.44 | -0.37 | -0.16 | 0.10 | -0.20 | 0.05 | 0.05 | -0.01 | 0.00 | 0.14 | -0.00 |
| | | 0.10 | 0.20 | -0.19 | 0.85 | -0.01 | 0.02 | 0.21 | -0.49 | -0.04 | | | | | |
| 8 | 81 | 1.55 | -1.39 | 0.54 | -0.69 | -1.32 | -0.16 | -0.29 | 0.57 | 0.05 | 0.22 | -1.00 | 0.00 | 0.14 | 0.23 |
| | | 0.10 | 0.20 | -0.19 | 0.85 | -0.32 | 0.02 | 0.06 | 0.88 | -0.31 | | | | | |
| 9 | 44 | 1.32 | -1.31 | 0.59 | -0.78 | -0.91 | 1.67 | -0.39 | -0.02 | 0.00 | 0.25 | 0.10 | 0.00 | 0.14 | -0.00 |
| | | 0.10 | -0.21 | -0.19 | 0.85 | -0.11 | 0.02 | 0.21 | 0.88 | -0.04 | | | | | |
| 10 | 23 | 1.06 | -1.19 | 0.61 | -0.93 | -0.45 | 0.10 | -0.06 | -0.28 | 0.00 | 0.09 | 0.09 | 0.00 | 0.14 | 0.07 |
| | | 0.10 | -0.21 | 0.02 | 0.85 | -0.25 | 0.02 | -0.10 | 0.88 | -0.04 | | | | | |
| 11 | 78 | 0.99 | -1.16 | 0.61 | 0.17 | -0.31 | 0.06 | 0.09 | -0.28 | 0.12 | 0.24 | 0.02 | 0.00 | -1.03 | -0.00 |
| | | 0.10 | 0.16 | -0.19 | 0.85 | -0.05 | 0.02 | 0.21 | 0.88 | -0.04 | | | | | |
| 12 | 57 | 0.79 | -1.06 | 0.58 | -0.28 | -0.27 | -0.16 | 0.04 | -0.27 | -1.21 | -0.06 | -0.03 | 0.00 | 0.14 | 0.23 |
| | | 0.10 | -0.21 | 0.61 | 0.85 | 0.01 | 0.02 | 0.06 | 0.88 | -0.04 | | | | | |
| 13 | 80 | 0.77 | -1.05 | 0.58 | -0.37 | -0.70 | -0.16 | -0.01 | -0.19 | -1.38 | 0.07 | 0.17 | 0.00 | 0.14 | 0.22 |
| | | 0.10 | 0.24 | -0.19 | 0.85 | -0.23 | 0.02 | 0.04 | 0.88 | -0.31 | | | | | |
| 14 | 52 | 0.75 | -1.04 | 0.56 | -0.45 | -0.29 | -0.16 | -0.05 | -0.19 | 0.00 | 0.21 | -0.00 | 0.00 | 0.14 | 0.23 |
| | | 0.10 | -0.21 | -0.19 | 0.85 | -0.02 | -0.09 | 0.00 | 0.88 | -0.04 | | | | | |
| 15 | 103 | 0.67 | -0.99 | 0.55 | -0.85 | -0.51 | -0.14 | -0.01 | -0.27 | 0.05 | -0.11 | 0.10 | 0.00 | 0.14 | 0.22 |
| | | 0.10 | 0.20 | 0.05 | 0.85 | -0.17 | 0.02 | 0.05 | -0.49 | -0.04 | | | | | |
| 16 | 82 | 0.60 | -0.95 | 0.53 | -0.87 | -0.23 | -0.16 | -0.04 | -0.26 | 0.05 | 0.04 | 0.05 | 0.00 | 0.14 | 0.23 |
| | | 0.10 | 0.20 | 0.52 | 0.05 | -0.07 | 0.02 | 0.06 | 0.88 | -0.04 | | | | | |
| 17 | 41 | 0.56 | -0.93 | 0.52 | -0.82 | -0.11 | -0.16 | -0.52 | -0.21 | 0.00 | -0.42 | 0.17 | 0.00 | 0.14 | 0.23 |
| | | 0.10 | -0.21 | 0.61 | 0.85 | -0.23 | 0.02 | 0.06 | 0.88 | -0.04 | | | | | |
| 18 | 19 | 0.35 | -0.78 | 0.43 | -0.24 | 0.12 | -0.15 | 0.03 | -0.02 | 0.00 | 0.06 | 0.20 | 0.00 | 0.14 | 0.03 |
| | | 0.10 | -0.21 | 0.52 | 0.85 | -0.21 | -0.07 | 0.06 | 0.88 | -0.04 | | | | | |
| 19 | 60 | 0.35 | -0.78 | 0.43 | -1.07 | -0.23 | -0.16 | -1.49 | -0.26 | 0.05 | -0.00 | 0.15 | 0.00 | 0.14 | 0.23 |
| | | 0.10 | 0.20 | 0.53 | 0.05 | -0.13 | 0.02 | 0.06 | 0.88 | -0.04 | | | | | |
| 20 | 94 | 0.33 | -0.77 | 0.42 | 0.16 | -0.21 | -0.16 | 0.09 | -0.25 | 0.12 | 0.11 | 0.09 | -1.10 | 0.14 | -0.11 |
| | | 0.10 | 0.16 | -0.19 | 0.85 | -0.10 | 0.02 | -0.34 | 0.88 | -0.04 | | | | | |
| 21 | 43 | 0.33 | -0.77 | 0.42 | -0.37 | -0.05 | -0.16 | -0.01 | -0.15 | 0.00 | 0.15 | 0.07 | 0.00 | 0.14 | 0.23 |
| | | 0.10 | -0.21 | -0.19 | 0.85 | -0.26 | 0.22 | 0.06 | 0.88 | -0.04 | | | | | |
| 22 | 93 | 0.32 | -0.76 | 0.42 | 0.27 | 0.02 | -0.14 | 0.09 | -0.11 | 0.12 | 0.12 | -0.05 | -1.10 | 0.14 | 0.20 |
| | | 0.10 | 0.16 | -0.19 | 0.85 | 0.05 | -0.12 | 0.01 | 0.88 | 0.14 | | | | | |
| 23 | 110 | 0.32 | -0.76 | 0.42 | 0.27 | 0.02 | -0.14 | 0.09 | -0.11 | 0.05 | 0.10 | -0.05 | 0.00 | 0.14 | 0.20 |
| | | -0.97 | 0.20 | -0.19 | 0.85 | 0.05 | -0.12 | 0.01 | 0.88 | 0.14 | | | | | |
| 24 | 85 | 0.27 | -0.72 | 0.39 | 0.02 | -0.16 | -0.07 | 0.08 | -0.23 | 0.12 | 0.15 | 0.08 | 0.00 | 0.14 | 0.17 |
| | | 0.10 | 0.16 | -0.18 | 0.85 | -0.10 | 0.02 | -0.04 | 0.88 | -0.04 | | | | | |
| 25 | 51 | 0.26 | -0.71 | 0.39 | -0.85 | -1.49 | -0.16 | -0.23 | 0.92 | 0.00 | -0.78 | 0.10 | 0.00 | 0.14 | 0.23 |
| | | 0.10 | -0.21 | 0.59 | 0.85 | -0.16 | 0.02 | 0.06 | 0.88 | -0.04 | | | | | |
| 26 | 100 | 0.26 | -0.71 | 0.38 | 0.32 | -0.33 | -0.16 | 0.10 | -0.28 | 0.05 | 0.15 | 0.13 | 0.00 | 0.14 | -0.00 |
| | | 0.10 | 0.20 | -0.19 | 0.85 | -0.13 | 0.02 | 0.21 | -0.49 | 0.21 | | | | | |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 60 | 201 | -0.14 | -0.29 | 0.12 | 0.18 | -0.14 | -0.16 | 0.09 | -0.22 | 0.08 | -0.02 | 0.06 | 0.08 | 0.14 | -0.02 |
| | | 0.18 | -0.21 | -0.19 | 0.85 | -0.08 | 0.02 | -0.27 | 0.88 | -0.04 | | | | | |
| 61 | 59 | -0.15 | -0.23 | 0.08 | -0.29 | -0.01 | -0.15 | 0.02 | -0.14 | 0.05 | 0.03 | 0.12 | 0.08 | 0.14 | 0.23 |
| | | 0.18 | 0.20 | -0.19 | 0.89 | -0.13 | 0.22 | 0.06 | 0.08 | -0.04 | | | | | |
| 62 | 58 | -0.18 | -0.23 | 0.08 | -0.34 | 0.14 | -0.15 | -0.08 | 0.07 | 0.00 | -0.12 | -0.02 | 0.08 | 0.14 | 0.22 |
| | | 0.18 | -0.21 | 0.46 | 0.85 | 0.01 | -0.09 | 0.05 | 0.08 | -0.04 | | | | | |
| 63 | 46 | -0.21 | -0.18 | 0.06 | -0.38 | 0.22 | 1.67 | -0.02 | 0.10 | -0.35 | 0.24 | -0.06 | 0.08 | 0.14 | -0.08 |
| | | 0.18 | 0.34 | -0.19 | 0.85 | 0.09 | 0.02 | 0.21 | 0.08 | -0.04 | | | | | |
| 64 | 12 | -0.23 | -0.15 | 0.04 | -0.28 | 0.01 | -0.16 | 0.02 | -0.12 | 0.08 | 0.25 | -0.06 | 0.08 | 0.14 | 0.15 |
| | | 0.18 | -0.21 | -0.19 | 0.85 | 0.08 | 0.02 | -0.07 | 0.08 | 0.21 | | | | | |
| 65 | 33 | -0.25 | -0.11 | 0.02 | 0.18 | 0.04 | -0.11 | 0.09 | -0.10 | 0.08 | 0.19 | 0.20 | 0.08 | 0.14 | 0.18 |
| | | 0.18 | -0.21 | -0.19 | 0.85 | -0.28 | 0.02 | -0.32 | 0.08 | -0.04 | | | | | |
| 66 | 205 | -0.26 | -0.07 | -0.08 | 0.02 | -0.11 | 0.35 | 0.08 | -0.21 | 0.08 | 0.23 | -0.01 | 0.08 | 0.14 | -0.12 |
| | | 0.18 | -0.21 | -0.19 | 0.85 | -0.27 | 0.02 | -0.35 | 0.08 | -0.04 | | | | | |
| 67 | 47 | -0.29 | -0.05 | -0.01 | 0.44 | 0.15 | -0.14 | 0.18 | 0.01 | 0.08 | -0.09 | -0.03 | 0.08 | 0.14 | 0.21 |
| | | 0.18 | -0.21 | 0.58 | 0.85 | 0.02 | -0.03 | 0.03 | 0.08 | -0.04 | | | | | |
| 68 | 21 | -0.29 | -0.03 | -0.01 | 0.08 | 0.05 | -0.15 | 0.08 | -0.08 | 0.08 | -0.30 | -0.04 | 0.08 | 0.14 | 0.23 |
| | | 0.18 | -0.21 | 0.41 | 0.85 | 0.04 | 0.02 | 0.06 | 0.08 | 0.21 | | | | | |
| 69 | 115 | -0.29 | -0.03 | -0.01 | 0.08 | 0.05 | -0.16 | 0.08 | -0.08 | 0.05 | -0.30 | -0.04 | 0.08 | 0.14 | 0.23 |
| | | 0.18 | 0.20 | 0.41 | 0.85 | 0.04 | 0.02 | 0.06 | -0.49 | 0.21 | | | | | |
| 70 | 205 | -0.30 | -0.03 | -0.02 | 0.13 | 0.14 | -0.15 | 0.09 | 0.08 | 0.08 | 0.01 | 0.04 | 0.08 | 0.14 | 0.23 |
| | | 0.18 | -0.21 | -0.19 | -0.74 | -0.05 | 0.02 | 0.06 | 0.08 | -0.04 | | | | | |
| 71 | 32 | -0.31 | 0.09 | -0.03 | -0.35 | 0.15 | -0.01 | -0.08 | 0.01 | 0.08 | 0.07 | -0.09 | 0.08 | 0.14 | 0.14 |
| | | 0.18 | -0.21 | -0.19 | 0.85 | 0.29 | 0.04 | -0.09 | 0.08 | -0.04 | | | | | |
| 72 | 93 | -0.32 | 0.03 | -0.04 | -0.34 | 0.17 | -0.15 | 0.08 | 0.04 | 0.08 | -0.26 | -0.02 | 0.08 | 0.14 | 0.23 |
| | | 0.18 | -0.21 | 0.47 | 0.85 | 0.01 | 0.02 | 0.06 | 0.08 | -0.04 | | | | | |
| 73 | 29 | -0.34 | 0.07 | -0.06 | -0.62 | 0.13 | -0.16 | -0.19 | -0.01 | 0.08 | 0.07 | -0.03 | 0.08 | 0.14 | 0.23 |
| | | 0.18 | -0.21 | -0.19 | 0.85 | 0.01 | -0.29 | 0.06 | 0.08 | -0.04 | | | | | |
| 74 | 13 | -0.35 | 0.09 | -0.07 | -0.11 | 0.17 | -0.16 | 0.06 | 0.04 | 0.08 | -0.07 | 0.01 | 0.08 | 0.14 | 0.23 |
| | | 0.18 | -0.21 | 0.51 | 0.85 | -0.03 | -0.08 | 0.06 | 0.08 | -0.04 | | | | | |
| 75 | 34 | -0.36 | 0.11 | -0.08 | 0.39 | 0.17 | -0.15 | 0.10 | 0.04 | 0.08 | -0.77 | -0.04 | 0.08 | 0.14 | 0.23 |
| | | 0.18 | -0.21 | -0.19 | 0.85 | 0.04 | 0.02 | 0.08 | 0.08 | -0.04 | | | | | |
| 76 | 98 | -0.36 | 0.11 | -0.08 | 0.81 | 0.17 | -0.14 | 0.08 | 0.04 | 0.12 | -0.79 | 0.01 | 0.08 | 0.14 | 0.22 |
| | | 0.18 | 0.18 | -0.19 | 0.85 | -0.04 | 0.02 | 0.04 | 0.08 | -0.04 | | | | | |
| 77 | 14 | -0.37 | 0.13 | -0.09 | -0.11 | 0.22 | -0.14 | 0.06 | 0.10 | 0.08 | -0.22 | 0.01 | 0.08 | 0.14 | 0.23 |
| | | 0.18 | -0.21 | 0.57 | 0.85 | -0.04 | -0.06 | 0.06 | 0.08 | -0.04 | | | | | |
| 78 | 15 | -0.37 | 0.13 | -0.09 | -0.33 | 0.22 | -0.16 | 0.02 | 0.10 | 0.08 | -0.12 | 0.01 | 0.08 | 0.14 | 0.23 |
| | | 0.18 | -0.21 | 0.61 | 0.85 | -0.03 | 0.02 | 0.06 | 0.08 | -0.04 | | | | | |
| 79 | 96 | -0.38 | 0.14 | -0.09 | -0.89 | 0.09 | 0.42 | 0.06 | -0.05 | 0.12 | 0.11 | -0.01 | -1.10 | 0.14 | 0.23 |
| | | 0.18 | 0.18 | -0.19 | 0.85 | -0.01 | -0.33 | 0.08 | 0.08 | -0.04 | | | | | |
| 80 | 202 | -0.38 | 0.15 | -0.10 | 0.87 | 0.21 | 0.08 | 0.08 | 0.09 | 0.08 | -0.05 | -0.06 | 0.08 | 0.14 | 0.08 |
| | | 0.18 | -0.21 | -0.19 | 0.85 | 0.18 | 0.02 | -0.18 | 0.04 | -0.04 | | | | | |
| 81 | 8 | -0.38 | 0.15 | -0.10 | -0.21 | 0.28 | 0.04 | 0.04 | 0.07 | 0.08 | 0.11 | -0.08 | 0.08 | 0.14 | -0.52 |
| | | 0.18 | -0.21 | -0.19 | 0.85 | -0.02 | 0.02 | -0.31 | 0.08 | -0.04 | | | | | |
| 82 | 38 | -0.39 | 0.17 | -0.10 | 0.14 | 0.23 | 1.67 | 0.09 | 0.11 | 0.00 | 0.24 | 0.11 | 0.08 | 0.14 | -0.08 |
| | | 0.18 | -0.21 | -0.19 | 0.85 | -0.12 | 0.02 | 0.21 | 0.08 | -0.04 | | | | | |
| 83 | 127 | -0.39 | 0.19 | -0.11 | 0.33 | 0.18 | -0.15 | 0.10 | 0.04 | 0.05 | -0.14 | 0.04 | 0.08 | 0.14 | 0.23 |
| | | -0.97 | 0.22 | -0.19 | 0.85 | -0.07 | 0.02 | 0.06 | 0.08 | 0.21 | | | | | |
| 84 | 294 | -0.39 | 0.19 | -0.11 | 0.82 | 0.22 | 0.26 | 0.08 | 0.10 | 0.08 | 0.18 | -0.06 | 0.08 | 0.14 | -0.03 |
| | | 0.18 | -0.21 | -0.19 | 0.85 | 0.19 | 0.02 | -0.28 | 0.08 | -0.04 | | | | | |
| 85 | 39 | -0.40 | 0.20 | -0.11 | 0.37 | 0.19 | -0.16 | 0.10 | 0.05 | 0.08 | -0.07 | 0.07 | 0.08 | 0.14 | 0.23 |
| | | 0.18 | -0.21 | -0.19 | 0.85 | -0.09 | 0.02 | 0.06 | 0.08 | -0.04 | | | | | |
| 86 | 40 | -0.40 | 0.21 | -0.12 | -0.16 | 0.07 | -0.16 | 0.05 | -0.07 | -1.30 | -0.23 | 0.17 | 0.08 | 0.14 | 0.23 |
| | | 0.18 | 0.54 | 0.42 | 0.85 | -0.23 | 0.02 | 0.06 | 0.08 | -0.04 | | | | | |
| 87 | 104 | -0.44 | 0.32 | -0.16 | 0.14 | 0.21 | -0.14 | 0.09 | 0.09 | 0.05 | -0.17 | -0.08 | 0.08 | 0.14 | 0.22 |
| | | 0.18 | 0.20 | -0.19 | 0.85 | -0.02 | 0.02 | 0.04 | -0.49 | -0.04 | | | | | |
| 88 | 58 | -0.44 | 0.33 | -0.16 | -0.14 | 0.30 | -0.15 | 0.05 | 0.09 | 0.08 | -0.13 | 0.08 | 0.08 | 0.14 | 0.22 |
| | | 0.10 | -0.21 | 0.69 | 0.85 | -0.03 | 0.02 | 0.05 | 0.08 | -0.04 | | | | | |
| 89 | 88 | -0.45 | 0.35 | -0.17 | 0.38 | 0.23 | -0.15 | 0.10 | 0.10 | 0.12 | 0.18 | -0.02 | 0.08 | -1.03 | -0.48 |
| | | 0.18 | 0.19 | -0.19 | 0.85 | 0.01 | 0.02 | -0.34 | 0.08 | -0.04 | | | | | |
| 90 | 1 | -0.46 | 0.38 | -0.18 | -0.87 | 0.15 | 0.09 | 0.07 | 0.02 | 0.08 | 0.07 | 0.01 | 0.08 | 0.14 | 0.07 |
| | | 0.18 | -0.21 | -0.19 | 0.85 | -0.04 | 0.02 | -0.17 | 0.08 | -0.04 | | | | | |
| 91 | 107 | -0.47 | 0.40 | -0.18 | -0.12 | 0.08 | -0.14 | 0.06 | -0.13 | 0.05 | -0.02 | 0.19 | 0.08 | 0.14 | 0.22 |
| | | 0.18 | 0.20 | -0.19 | 0.85 | -0.19 | 0.02 | 0.04 | -0.49 | -0.04 | | | | | |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 92 | 66 | -0.47 | 0.41 | -0.19 | 0.09 | 0.17 | -0.11 | 0.06 | 0.04 | 0.09 | -0.02 | -0.00 | 0.00 | 0.14 | 0.20 |
| | | 0.10 | -0.21 | 0.20 | -0.74 | 0.16 | 0.02 | 0.01 | 0.00 | -0.04 | | | | | |
| 93 | 10 | -0.47 | 0.42 | -0.19 | -0.03 | 0.20 | 1.06 | 0.07 | 0.07 | 0.09 | 0.22 | -0.00 | 0.00 | 0.14 | -0.53 |
| | | 0.10 | -0.21 | -0.19 | 0.05 | -0.02 | 0.02 | -0.31 | 0.03 | -0.04 | | | | | |
| 94 | 110 | -0.49 | 0.47 | -0.20 | 0.51 | 0.20 | -0.16 | 0.10 | 0.07 | 0.03 | 0.09 | 0.20 | 0.00 | 0.14 | -0.56 |
| | | 0.10 | 0.20 | -0.19 | 0.05 | -0.19 | 0.22 | -0.20 | -0.49 | -0.04 | | | | | |
| 95 | 125 | -0.49 | 0.49 | -0.21 | -0.22 | 0.21 | -0.16 | 0.04 | 0.00 | 0.05 | 0.15 | -0.01 | 0.00 | 0.14 | 0.23 |
| | | -0.07 | 0.20 | -0.19 | 0.05 | -0.01 | 0.02 | 0.06 | 0.06 | 0.21 | | | | | |
| 96 | 95 | -0.50 | 0.51 | -0.22 | -0.20 | 0.21 | -0.16 | 0.02 | 0.00 | 0.12 | 0.15 | -0.01 | -1.10 | 0.14 | 0.23 |
| | | 0.10 | 0.16 | -0.19 | 0.05 | -0.01 | 0.02 | 0.06 | 0.00 | 0.21 | | | | | |
| 97 | 67 | -0.50 | 0.51 | -0.22 | -0.00 | 0.20 | -0.16 | 0.06 | 0.07 | 0.00 | -0.27 | -0.06 | 0.00 | 0.14 | 0.23 |
| | | 0.10 | -0.21 | -0.19 | -0.74 | 0.00 | 0.02 | 0.06 | 0.06 | 0.21 | | | | | |
| 98 | 111 | -0.50 | 0.53 | -0.22 | 0.43 | 0.25 | 1.06 | 0.10 | 0.14 | 0.05 | 0.21 | 0.20 | 0.00 | 0.14 | -0.00 |
| | | 0.10 | 0.20 | -0.19 | 0.05 | -0.19 | 0.02 | 0.21 | -0.49 | -0.04 | | | | | |
| 99 | 203 | -0.53 | 0.63 | -0.25 | 0.31 | 0.25 | -0.16 | 0.10 | 0.14 | 0.00 | 0.22 | -0.05 | 0.00 | 0.14 | 0.23 |
| | | 0.10 | -0.21 | -0.19 | 0.05 | 0.07 | 0.22 | 0.06 | 0.00 | -0.04 | | | | | |
| 100 | 45 | -0.54 | 0.68 | -0.26 | -0.23 | 0.27 | -0.13 | 0.04 | 0.16 | -0.35 | -0.09 | 0.00 | 0.00 | 0.14 | 0.21 |
| | | 0.10 | 0.34 | -0.19 | 0.05 | -0.00 | 0.02 | 0.03 | 0.00 | -0.04 | | | | | |
| 101 | 20 | -0.54 | 0.71 | -0.26 | 0.03 | 0.28 | -0.05 | 0.00 | 0.17 | -1.21 | 0.07 | -0.00 | 0.00 | 0.14 | 0.23 |
| | | 0.10 | -0.51 | 0.19 | 0.05 | 0.10 | 0.02 | 0.06 | 0.00 | -0.04 | | | | | |
| 102 | 100 | -0.54 | 0.71 | -0.27 | 0.57 | 0.27 | -0.16 | 0.10 | 0.16 | 0.05 | 0.11 | -0.00 | 0.00 | 0.14 | 0.23 |
| | | 0.10 | 0.20 | -0.19 | 0.05 | 0.21 | 0.02 | 0.06 | -0.49 | -0.04 | | | | | |
| 103 | 210 | -0.55 | 0.73 | -0.27 | 0.73 | 0.28 | -0.16 | 0.10 | 0.17 | 0.12 | -0.00 | -0.06 | 0.00 | 0.14 | 0.23 |
| | | 0.10 | 0.16 | -0.19 | 0.05 | 0.00 | 0.02 | 0.06 | -0.49 | -0.04 | | | | | |
| 104 | 71 | -0.55 | 0.75 | -0.27 | 0.61 | 0.27 | -0.03 | 0.10 | 0.10 | 0.12 | 0.10 | -0.00 | 0.00 | -1.03 | 0.15 |
| | | 0.10 | 0.16 | -0.19 | 0.05 | 0.32 | 0.02 | -0.07 | 0.00 | -0.04 | | | | | |
| 105 | 81 | -0.55 | 0.77 | -0.28 | 0.44 | 0.27 | -0.16 | 0.10 | 0.17 | 0.12 | 0.04 | -0.00 | 0.00 | -1.03 | 0.23 |
| | | 0.10 | 0.16 | -0.19 | 0.05 | 0.34 | 0.02 | 0.06 | 0.00 | -0.04 | | | | | |
| 106 | 69 | -0.56 | 0.79 | -0.28 | 0.46 | 0.22 | -0.18 | 0.10 | 0.10 | 0.00 | -0.30 | -3.00 | 0.00 | 0.14 | 0.23 |
| | | 0.10 | -0.21 | 0.24 | -0.74 | 0.15 | -0.43 | 0.06 | 0.00 | -0.04 | | | | | |
| 107 | 78 | -0.57 | 0.82 | -0.29 | 0.36 | 0.24 | 1.07 | 0.10 | 0.12 | 0.12 | 0.24 | -0.04 | 0.00 | -1.03 | -0.00 |
| | | 0.10 | 0.16 | -0.19 | 0.05 | 0.04 | 0.02 | 0.21 | 0.00 | -0.04 | | | | | |
| 108 | 122 | -0.57 | 0.87 | -0.30 | 0.14 | 0.25 | -0.16 | 0.09 | 0.14 | 0.05 | -1.09 | -0.00 | 0.00 | 0.14 | 0.23 |
| | | -0.07 | 0.20 | 0.16 | 0.05 | 0.15 | 0.02 | 0.05 | 0.00 | 0.17 | | | | | |
| 109 | 86 | -0.58 | 0.94 | -0.31 | 0.68 | 0.25 | 1.07 | 0.10 | 0.15 | 0.12 | 0.25 | -0.04 | 0.00 | 0.14 | -0.00 |
| | | 0.10 | 0.16 | -0.19 | 0.05 | 0.04 | 0.02 | 0.21 | 0.00 | -0.04 | | | | | |
| 110 | 98 | -0.58 | 0.94 | -0.31 | 0.68 | 0.26 | 1.07 | 0.10 | 0.15 | 0.12 | 0.25 | -0.04 | 0.00 | 0.14 | -0.00 |
| | | 0.10 | 0.16 | -0.19 | 0.05 | 0.04 | 0.02 | 0.21 | 0.00 | -0.04 | | | | | |
| 111 | 11 | -0.60 | 1.02 | -0.32 | 0.19 | 0.26 | -0.16 | 0.09 | 0.10 | 0.00 | 0.10 | -0.00 | 0.00 | 0.14 | 0.23 |
| | | 0.10 | -0.21 | -0.19 | 0.05 | 0.21 | 0.02 | 0.06 | 0.00 | -0.04 | | | | | |
| 112 | 200 | -0.61 | 1.10 | -0.34 | 0.14 | 0.32 | 0.51 | 0.00 | 0.24 | 0.05 | 0.10 | -0.00 | 0.00 | -1.03 | -0.10 |
| | | 0.10 | 0.20 | -0.19 | 0.05 | 0.21 | 0.02 | -0.38 | 0.00 | -0.04 | | | | | |
| 113 | 22 | -0.62 | 1.23 | -0.35 | 0.52 | 0.30 | -0.16 | 0.10 | 0.20 | 0.00 | -0.02 | -0.00 | 0.00 | 0.14 | 0.23 |
| | | 0.10 | -0.21 | 0.21 | 0.05 | 0.10 | 0.02 | 0.06 | 0.00 | -0.04 | | | | | |
| 114 | 116 | -0.62 | 1.23 | -0.35 | 0.52 | 0.30 | -0.16 | 0.10 | 0.20 | 0.05 | -0.02 | -0.00 | 0.00 | 0.14 | 0.23 |
| | | 0.10 | 0.20 | 0.21 | 0.05 | 0.10 | 0.02 | 0.06 | -0.49 | -0.04 | | | | | |
| 115 | 126 | -0.63 | 1.27 | -0.36 | 0.69 | 0.31 | -0.16 | 0.10 | 0.22 | 0.05 | 0.20 | -0.00 | 0.00 | 0.14 | 0.23 |
| | | -0.07 | 0.20 | -0.19 | 0.05 | 0.32 | 0.02 | 0.06 | 0.00 | -0.04 | | | | | |
| 116 | 9 | -0.63 | 1.30 | -0.36 | -0.13 | 0.20 | -0.13 | 0.06 | 0.07 | 0.06 | -0.33 | 0.00 | 0.00 | 0.14 | 0.21 |
| | | 0.10 | -0.21 | 0.20 | 0.05 | -0.11 | 0.02 | 0.02 | 0.00 | -0.04 | | | | | |
| 117 | 97 | -0.63 | 1.34 | -0.36 | -0.04 | 0.31 | -0.16 | 0.07 | 0.22 | 0.12 | -0.45 | -0.06 | -1.10 | 0.14 | 0.23 |
| | | 0.10 | 0.16 | -0.19 | 0.05 | 0.00 | 0.02 | 0.06 | 0.00 | -0.04 | | | | | |
| 118 | 120 | -0.63 | 1.34 | -0.38 | 0.11 | 0.31 | -0.16 | 0.09 | 0.22 | 0.05 | -0.45 | -0.00 | 0.00 | 0.14 | 0.23 |
| | | -0.07 | 0.20 | -0.19 | 0.05 | 0.00 | 0.02 | 0.06 | 0.00 | -0.04 | | | | | |
| 119 | 7 | -0.63 | 1.35 | -0.38 | 0.44 | 0.34 | -0.11 | 0.10 | 0.27 | 0.00 | 0.13 | -0.05 | 0.00 | 0.14 | 0.20 |
| | | 0.10 | -0.21 | -0.19 | 0.05 | 0.05 | 0.02 | 0.00 | 0.00 | -0.04 | | | | | |
| 120 | 79 | -0.63 | 1.35 | -0.38 | 0.56 | 0.32 | -0.16 | 0.10 | 0.23 | 0.12 | 0.07 | -0.00 | 0.00 | -1.03 | 0.07 |
| | | 0.10 | 0.16 | -0.19 | 0.05 | 0.15 | 0.02 | -0.17 | 0.00 | -0.04 | | | | | |
| 121 | 58 | -0.64 | 1.44 | -0.37 | 0.22 | 0.32 | 0.02 | 0.09 | 0.23 | 0.00 | 0.21 | -0.00 | 0.00 | 0.14 | 0.12 |
| | | 0.10 | -0.21 | 0.53 | 0.05 | 0.21 | 0.02 | -0.12 | 0.00 | -0.04 | | | | | |
| 122 | 35 | -0.65 | 1.63 | -0.39 | 0.34 | 0.31 | -0.16 | 0.10 | 0.22 | 0.00 | 0.02 | -0.00 | 0.00 | 0.14 | 0.23 |
| | | 0.10 | -0.21 | -0.19 | 0.05 | 0.32 | 0.02 | 0.06 | 0.00 | -0.04 | | | | | |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 123 | 117 | -0.05 | 1.03 | -0.39 | 0.01 | 0.34 | -0.16 | 0.10 | 0.25 | 0.05 | 0.05 | -0.00 | 0.00 | 0.14 | 0.23 |
| | | 0.10 | 0.20 | -0.19 | 0.05 | 0.20 | 0.02 | 0.06 | -0.49 | -0.04 | | | | | |
| 124 | 0 | -0.06 | 1.05 | -0.39 | 0.00 | 0.31 | -0.16 | 0.10 | 0.22 | 0.00 | 0.23 | -0.00 | 0.00 | 0.14 | 0.23 |
| | | 0.10 | -0.21 | -0.19 | 0.05 | 0.21 | 0.02 | 0.06 | 0.00 | -0.04 | | | | | |
| 125 | 112 | -0.06 | 1.05 | -0.39 | 0.11 | 0.33 | 0.75 | 0.00 | 0.25 | 0.05 | 0.20 | -0.00 | 0.00 | 0.14 | -2.34 |
| | | 0.10 | 0.20 | -0.19 | 0.05 | 0.32 | 0.02 | -0.39 | -0.49 | -0.04 | | | | | |
| 126 | 74 | -0.06 | 1.70 | -0.39 | 1.14 | 0.33 | -0.16 | 0.10 | 0.24 | 0.12 | 0.07 | -0.00 | 0.00 | -1.03 | -0.00 |
| | | 0.10 | 0.10 | -0.19 | 0.05 | 0.23 | 0.02 | 0.21 | 0.06 | -0.04 | | | | | |
| 127 | 10 | -0.06 | 1.70 | -0.40 | 0.36 | 0.34 | -0.16 | 0.10 | 0.25 | 0.00 | 0.05 | -0.00 | 0.00 | 0.14 | 0.23 |
| | | 0.10 | -0.21 | -0.19 | 0.05 | 0.32 | 0.02 | 0.06 | 0.00 | -0.04 | | | | | |
| 128 | 70 | -0.06 | 1.76 | -0.40 | 0.34 | 0.34 | -0.16 | 0.10 | 0.25 | 0.00 | -0.16 | -0.10 | 0.00 | 0.14 | 0.23 |
| | | 0.10 | -0.21 | 0.52 | -0.74 | 0.41 | -0.17 | 0.06 | 0.00 | -0.04 | | | | | |
| 129 | 90 | -0.07 | 1.00 | -0.41 | -0.04 | 0.31 | -0.16 | 0.07 | 0.22 | 0.12 | 0.07 | -0.00 | -1.10 | 0.14 | 0.10 |
| | | 0.10 | 0.10 | -0.19 | 0.05 | 0.20 | 0.02 | -0.01 | 0.00 | 0.21 | | | | | |
| 130 | 00 | -0.00 | 2.30 | -0.43 | 0.70 | 0.35 | -0.16 | 0.10 | 0.27 | 0.12 | 0.04 | -0.00 | -1.10 | 0.14 | 0.23 |
| | | 0.10 | 0.10 | -0.19 | 0.05 | 0.20 | 0.02 | 0.00 | 0.00 | -0.04 | | | | | |
| 131 | 70 | -0.00 | 2.54 | -0.43 | 1.13 | 0.34 | -0.10 | 0.10 | 0.27 | 0.12 | -0.00 | -0.00 | 0.00 | -1.03 | -0.00 |
| | | 0.10 | 0.10 | -0.19 | 0.05 | 0.10 | 0.02 | 0.21 | 0.00 | -0.04 | | | | | |

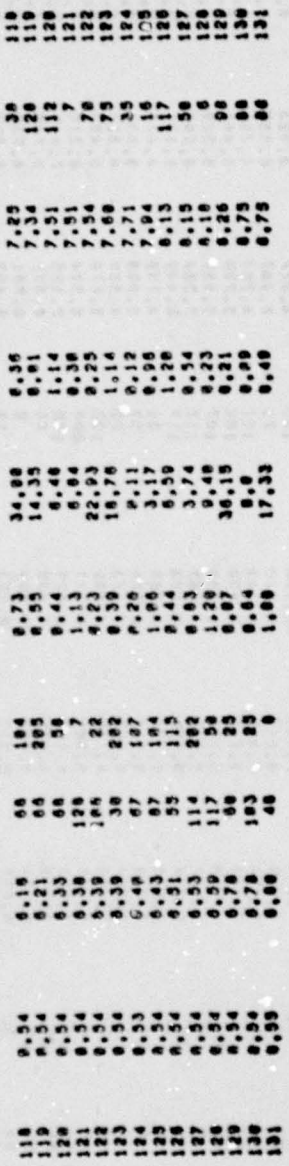
LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

D&M MODEL RUN28 DEP VAR 11 LMTSMA RESIDUAL ROOT MEAN SQUARE OF FITTED EQUATION: 0.48

STANDARD DEVIATION ESTIMATED FROM RESIDUALS OF NEIGHBORING OBSERVATIONS (OBSERVATIONS 1 TO 4 APART IN FITTED Y ORDER).

| NO. | CUMULATIVE STD DEV | ORDERED BY WSSD: WSSD | OBSV. | OBSV. | DEL RESIDUALS | ORDERED BY FITTED Y: WSSD | DEL RESIDUALS | FITTED Y | OBSV. | SEQ. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.00 | 0.0 | 88 | 86 | 0.00 | 00.11 | 0.01 | 3.85 | 26 | 1 |
| 2 | 0.25 | 0.0 | 85 | 84 | 0.42 | 07.36 | 0.02 | 3.87 | 77 | 2 |
| 3 | 0.25 | 0.4 | 92 | 91 | 0.24 | 20.29 | 0.39 | 3.89 | 61 | 3 |
| 4 | 0.34 | 0.00 | 119 | 121 | 0.64 | 7.06 | 0.71 | 3.92 | 103 | 4 |
| 5 | 0.35 | 0.01 | 100 | 109 | 0.36 | 24.92 | 0.76 | 3.94 | 60 | 5 |
| 6 | 0.31 | 0.11 | 35 | 16 | 0.12 | 20.12 | 0.69 | 4.00 | 89 | 6 |
| 7 | 0.34 | 0.14 | 211 | 110 | 0.53 | 11.43 | 0.14 | 4.21 | 25 | 7 |
| 8 | 0.34 | 0.16 | 13 | 14 | 0.33 | 10.35 | 0.51 | 4.22 | 84 | 8 |
| 9 | 0.33 | 0.31 | 81 | 71 | 0.32 | 0.0 | 0.24 | 4.26 | 92 | 9 |
| 10 | 0.34 | 0.32 | 15 | 14 | 0.37 | 11.00 | 0.13 | 4.20 | 91 | 10 |
| 11 | 0.37 | 0.37 | 15 | 13 | 0.70 | 13.13 | 0.56 | 4.31 | 119 | 11 |
| 12 | 0.34 | 0.38 | 54 | 55 | 0.04 | 16.00 | 0.54 | 4.32 | 72 | 12 |
| 13 | 0.37 | 0.46 | 66 | 64 | 0.70 | 21.35 | 1.67 | 4.35 | 94 | 13 |
| 14 | 0.36 | 0.46 | 66 | 65 | 0.27 | 23.00 | 1.21 | 4.35 | 83 | 14 |
| 15 | 0.35 | 0.50 | 50 | 53 | 0.15 | 17.72 | 0.30 | 4.36 | 121 | 15 |
| 16 | 0.42 | 0.71 | 07 | 59 | 1.37 | 69.47 | 0.41 | 4.37 | 27 | 16 |
| 17 | 0.41 | 0.72 | 16 | 0 | 0.30 | 00.45 | 0.10 | 4.42 | 73 | 17 |
| 18 | 0.40 | 0.75 | 35 | 0 | 0.10 | 23.70 | 0.29 | 4.00 | 51 | 18 |
| 19 | 0.44 | 0.00 | 7 | 35 | 1.20 | 12.17 | 0.34 | 4.40 | 124 | 19 |
| 20 | 0.42 | 0.00 | 13 | 21 | 0.13 | 14.33 | 0.44 | 4.01 | 02 | 20 |
| 21 | 0.41 | 1.05 | 12 | 32 | 0.06 | 00.50 | 0.70 | 4.02 | 20 | 21 |
| 22 | 0.40 | 1.07 | 21 | 14 | 0.20 | 30.00 | 1.10 | 4.07 | 207 | 22 |
| 23 | 0.43 | 1.00 | 11 | 203 | 1.17 | 1.50 | 0.10 | 4.72 | 41 | 23 |
| 24 | 0.47 | 1.21 | 7 | 10 | 1.31 | 7.35 | 0.35 | 4.73 | 17 | 24 |
| 25 | 0.45 | 1.34 | 34 | 00 | 0.00 | 14.00 | 0.05 | 4.73 | 37 | 25 |
| 26 | 0.45 | 1.44 | 00 | 200 | 0.35 | 17.30 | 0.72 | 4.74 | 57 | 26 |
| 27 | 0.44 | 1.50 | 41 | 17 | 0.10 | 10.00 | 0.00 | 4.70 | 40 | 27 |
| 28 | 0.45 | 1.75 | 02 | 04 | 0.73 | 0.55 | 0.20 | 4.03 | 00 | 28 |
| 29 | 0.40 | 1.75 | 01 | 04 | 0.07 | 4.23 | 0.14 | 4.05 | 0 | 29 |
| 30 | 0.47 | 1.00 | 15 | 21 | 0.57 | 2.02 | 0.32 | 4.00 | 201 | 30 |
| 31 | 0.45 | 1.04 | 43 | 02 | 0.00 | 4.24 | 0.05 | 4.02 | 2 | 31 |
| 32 | 0.45 | 1.05 | 70 | 71 | 0.43 | 10.20 | 0.70 | 4.05 | 100 | 32 |
| 33 | 0.45 | 2.00 | 33 | 202 | 0.51 | 10.07 | 0.43 | 4.00 | 123 | 33 |
| 34 | 0.40 | 2.14 | 01 | 70 | 0.75 | 14.02 | 0.20 | 5.00 | 100 | 34 |
| 35 | 0.45 | 2.10 | 110 | 22 | 0.01 | 0.53 | 0.10 | 5.02 | 120 | 35 |
| 36 | 0.44 | 2.24 | 50 | 33 | 0.12 | 0.40 | 0.27 | 5.03 | 00 | 36 |
| 37 | 0.45 | 2.20 | 52 | 40 | 0.01 | 0.0 | 0.42 | 5.04 | 05 | 37 |
| 30 | 0.47 | 2.30 | 30 | 54 | 1.12 | 7.22 | 1.24 | 5.04 | 04 | 30 |
| 30 | 0.47 | 2.40 | 117 | 0 | 0.00 | 0.00 | 0.10 | 5.05 | 205 | 30 |
| 40 | 0.40 | 2.51 | 05 | 200 | 0.03 | 70.00 | 0.01 | 5.12 | 200 | 40 |
| 41 | 0.40 | 2.51 | 04 | 200 | 1.05 | 20.03 | 0.03 | 5.14 | 101 | 41 |
| 42 | 0.40 | 2.57 | 50 | 47 | 0.33 | 01.00 | 0.05 | 5.10 | 42 | 42 |
| 43 | 0.40 | 2.57 | 200 | 07 | 0.21 | 13.24 | 0.50 | 5.10 | 07 | 43 |
| 44 | 0.40 | 2.50 | 00 | 00 | 1.11 | 20.04 | 0.23 | 5.24 | 00 | 44 |
| 45 | 0.40 | 2.02 | 201 | 2 | 0.32 | 23.73 | 0.47 | 5.20 | 02 | 45 |
| 46 | 0.40 | 2.01 | 203 | 100 | 0.00 | 10.40 | 0.03 | 5.33 | 127 | 46 |
| 47 | 0.40 | 2.04 | 204 | 30 | 0.35 | 10.00 | 0.40 | 5.30 | 100 | 47 |
| 40 | 0.50 | 2.01 | 07 | 114 | 1.13 | 21.51 | 0.54 | 5.43 | 05 | 40 |
| 40 | 0.50 | 2.02 | 114 | 30 | 0.43 | 23.23 | 0.22 | 5.43 | 30 | 40 |
| 50 | 0.50 | 3.03 | 35 | 50 | 0.30 | 53.03 | 0.70 | 5.45 | 40 | 50 |
| 51 | 0.40 | 3.07 | 30 | 21 | 0.22 | 21.21 | 0.02 | 5.40 | 102 | 51 |
| 52 | 0.50 | 3.00 | 50 | 07 | 0.70 | 5.05 | 0.10 | 5.40 | 43 | 52 |
| 53 | 0.51 | 3.15 | 115 | 13 | 1.03 | 21.02 | 0.50 | 5.40 | 105 | 53 |
| 54 | 0.51 | 3.15 | 35 | 117 | 0.04 | 43.21 | 0.44 | 5.47 | 122 | 54 |
| 55 | 0.52 | 3.17 | 10 | 117 | 0.00 | 20.07 | 0.51 | 5.40 | 52 | 55 |
| 56 | 0.52 | 3.22 | 11 | 100 | 0.40 | 11.41 | 1.41 | 5.50 | 34 | 56 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 57 | 0.52 | 3.27 | 49 | 12 | 0.19 | 21.94 | 0.95 | 5.51 | 49 | 57 |
| 58 | 0.51 | 3.28 | 39 | 13 | 0.18 | 13.16 | 0.76 | 5.52 | 26 | 58 |
| 59 | 0.50 | 3.34 | 22 | 7 | 0.24 | 6.82 | 1.38 | 5.52 | 12 | 59 |
| 60 | 0.50 | 3.35 | 16 | 58 | 0.24 | 9.41 | 1.43 | 5.54 | 90 | 60 |
| 61 | 0.49 | 3.36 | 96 | 25 | 0.14 | 5.84 | 0.86 | 5.55 | 5 | 61 |
| 62 | 0.49 | 3.36 | 59 | 114 | 0.44 | 14.32 | 0.59 | 5.57 | 32 | 62 |
| 63 | 0.50 | 3.40 | 55 | 85 | 0.77 | 23.85 | 0.92 | 5.57 | 93 | 63 |
| 64 | 0.49 | 3.46 | 206 | 79 | 0.26 | 122.82 | 0.85 | 5.58 | 125 | 64 |
| 65 | 0.50 | 3.47 | 58 | 59 | 0.79 | 86.43 | 0.13 | 5.59 | 16 | 65 |
| 66 | 0.50 | 3.48 | 210 | 203 | 0.41 | 11.26 | 0.89 | 5.60 | 211 | 66 |
| 67 | 0.51 | 3.63 | 87 | 30 | 1.56 | 15.57 | 0.74 | 5.60 | 209 | 67 |
| 68 | 0.50 | 3.64 | 49 | 5 | 0.00 | 48.16 | 0.16 | 5.62 | 110 | 68 |
| 69 | 0.50 | 3.64 | 17 | 48 | 0.31 | 24.89 | 0.23 | 5.62 | 78 | 69 |
| 70 | 0.50 | 3.66 | 53 | 114 | 0.50 | 48.26 | 0.24 | 5.65 | 110 | 70 |
| 71 | 0.50 | 3.71 | 123 | 128 | 0.17 | 89.24 | 0.21 | 5.69 | 44 | 71 |
| 72 | 0.50 | 3.74 | 50 | 6 | 0.54 | 13.76 | 0.19 | 5.69 | 97 | 72 |
| 73 | 0.50 | 3.88 | 59 | 202 | 0.39 | 12.62 | 1.41 | 5.70 | 89 | 73 |
| 74 | 0.50 | 3.94 | 210 | 1 | 0.76 | 7.71 | 1.49 | 5.71 | 127 | 74 |
| 75 | 0.50 | 3.95 | 115 | 15 | 0.33 | 4.48 | 1.19 | 5.73 | 1 | 75 |
| 76 | 0.50 | 4.03 | 1 | 53 | 0.98 | 6.33 | 0.44 | 5.76 | 68 | 76 |
| 77 | 0.51 | 4.07 | 53 | 59 | 0.94 | 8.58 | 0.19 | 5.79 | 58 | 77 |
| 78 | 0.50 | 4.14 | 26 | 183 | 0.18 | 4.55 | 0.83 | 5.83 | 53 | 78 |
| 79 | 0.50 | 4.21 | 59 | 38 | 0.81 | 6.43 | 1.86 | 5.84 | 87 | 79 |
| 80 | 0.49 | 4.22 | 8 | 201 | 0.14 | 5.81 | 0.58 | 5.84 | 184 | 80 |
| 81 | 0.49 | 4.23 | 188 | 116 | 0.22 | 3.36 | 0.44 | 5.84 | 59 | 81 |
| 82 | 0.49 | 4.24 | 2 | 188 | 0.86 | 2.92 | 0.43 | 5.85 | 114 | 82 |
| 83 | 0.49 | 4.25 | 37 | 48 | 0.66 | 6.89 | 0.11 | 5.86 | 38 | 83 |
| 84 | 0.51 | 4.26 | 202 | 45 | 1.77 | 2.88 | 0.51 | 5.88 | 33 | 84 |
| 85 | 0.51 | 4.33 | 2 | 189 | 0.51 | 13.62 | 0.92 | 5.90 | 202 | 85 |
| 86 | 0.52 | 4.40 | 1 | 68 | 1.19 | 38.68 | 0.68 | 5.94 | 126 | 86 |
| 87 | 0.51 | 4.44 | 12 | 5 | 0.13 | 14.92 | 0.26 | 5.97 | 54 | 87 |
| 88 | 0.51 | 4.45 | 184 | 33 | 0.38 | 16.25 | 0.29 | 6.10 | 45 | 88 |
| 89 | 0.52 | 4.59 | 185 | 49 | 1.86 | 19.89 | 1.93 | 6.10 | 55 | 89 |
| 90 | 0.52 | 4.55 | 53 | 87 | 0.63 | 7.26 | 1.47 | 6.12 | 204 | 90 |
| 91 | 0.52 | 4.61 | 62 | 186 | 0.36 | 8.39 | 1.21 | 6.14 | 115 | 91 |
| 92 | 0.52 | 4.72 | 48 | 201 | 0.86 | 9.29 | 0.89 | 6.21 | 85 | 92 |
| 93 | 0.52 | 4.79 | 33 | 54 | 1.81 | 5.86 | 0.79 | 6.21 | 39 | 93 |
| 94 | 0.52 | 4.85 | 68 | 53 | 0.29 | 9.37 | 0.78 | 6.23 | 15 | 94 |
| 95 | 0.52 | 4.88 | 208 | 81 | 0.46 | 8.99 | 0.13 | 6.24 | 13 | 95 |
| 96 | 0.52 | 5.01 | 184 | 59 | 0.58 | 14.84 | 0.12 | 6.25 | 21 | 96 |
| 97 | 0.52 | 5.05 | 43 | 185 | 0.18 | 13.26 | 0.88 | 6.28 | 18 | 97 |
| 98 | 0.52 | 5.08 | 39 | 15 | 0.79 | 19.22 | 0.85 | 6.30 | 14 | 98 |
| 99 | 0.52 | 5.20 | 36 | 43 | 0.38 | 4.88 | 0.48 | 6.32 | 208 | 99 |
| 100 | 0.52 | 5.23 | 115 | 39 | 1.12 | 11.64 | 0.29 | 6.43 | 81 | 100 |
| 101 | 0.52 | 5.24 | 1 | 58 | 0.75 | 27.88 | 0.29 | 6.44 | 9 | 101 |
| 102 | 0.53 | 5.25 | 98 | 32 | 1.36 | 48.89 | 0.17 | 6.47 | 19 | 102 |
| 103 | 0.54 | 5.27 | 78 | 18 | 1.81 | 1.85 | 0.43 | 6.55 | 79 | 103 |
| 104 | 0.53 | 5.31 | 184 | 114 | 0.97 | 13.66 | 0.49 | 6.56 | 71 | 104 |
| 105 | 0.54 | 5.33 | 78 | 35 | 0.89 | 27.11 | 0.14 | 6.68 | 56 | 105 |
| 106 | 0.54 | 5.38 | 45 | 204 | 1.32 | 27.76 | 0.47 | 6.82 | 46 | 106 |
| 107 | 0.54 | 5.47 | 9 | 56 | 0.52 | 32.88 | 0.18 | 6.87 | 47 | 107 |
| 108 | 0.54 | 5.48 | 114 | 33 | 0.32 | 15.29 | 0.49 | 6.93 | 74 | 108 |
| 109 | 0.55 | 5.57 | 204 | 15 | 1.14 | 3.94 | 0.76 | 6.97 | 210 | 109 |
| 110 | 0.54 | 5.62 | 53 | 184 | 0.44 | 1.88 | 1.17 | 6.98 | 11 | 110 |
| 111 | 0.54 | 5.66 | 8 | 2 | 0.46 | 15.15 | 0.88 | 6.99 | 203 | 111 |
| 112 | 0.54 | 5.78 | 54 | 115 | 0.48 | 38.24 | 2.51 | 6.99 | 111 | 112 |
| 113 | 0.54 | 5.94 | 5 | 32 | 0.98 | 15.63 | 0.39 | 7.08 | 99 | 113 |
| 114 | 0.55 | 5.95 | 1 | 87 | 1.53 | 4.23 | 0.22 | 7.84 | 188 | 114 |
| 115 | 0.54 | 5.99 | 47 | 203 | 0.91 | 32.43 | 0.84 | 7.87 | 116 | 115 |
| 116 | 0.54 | 6.08 | 205 | 208 | 0.19 | 31.65 | 0.85 | 7.11 | 78 | 116 |
| 117 | 0.54 | 6.09 | 38 | 33 | 0.11 | 38.84 | 0.53 | 7.18 | 22 | 117 |



LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

D&N MODEL RUN29 DEP VAR IS LMT8M4
RESIDUAL ROOT MEAN SQUARE 0.48268129
RESIDUAL MEAN SQUARE 0.23298123
RESIDUAL SUM OF SQUARES 24.92899135
TOTAL SUM OF SQUARES 182.18723384
MULT. CORREL. COEF. SQUARED .8630

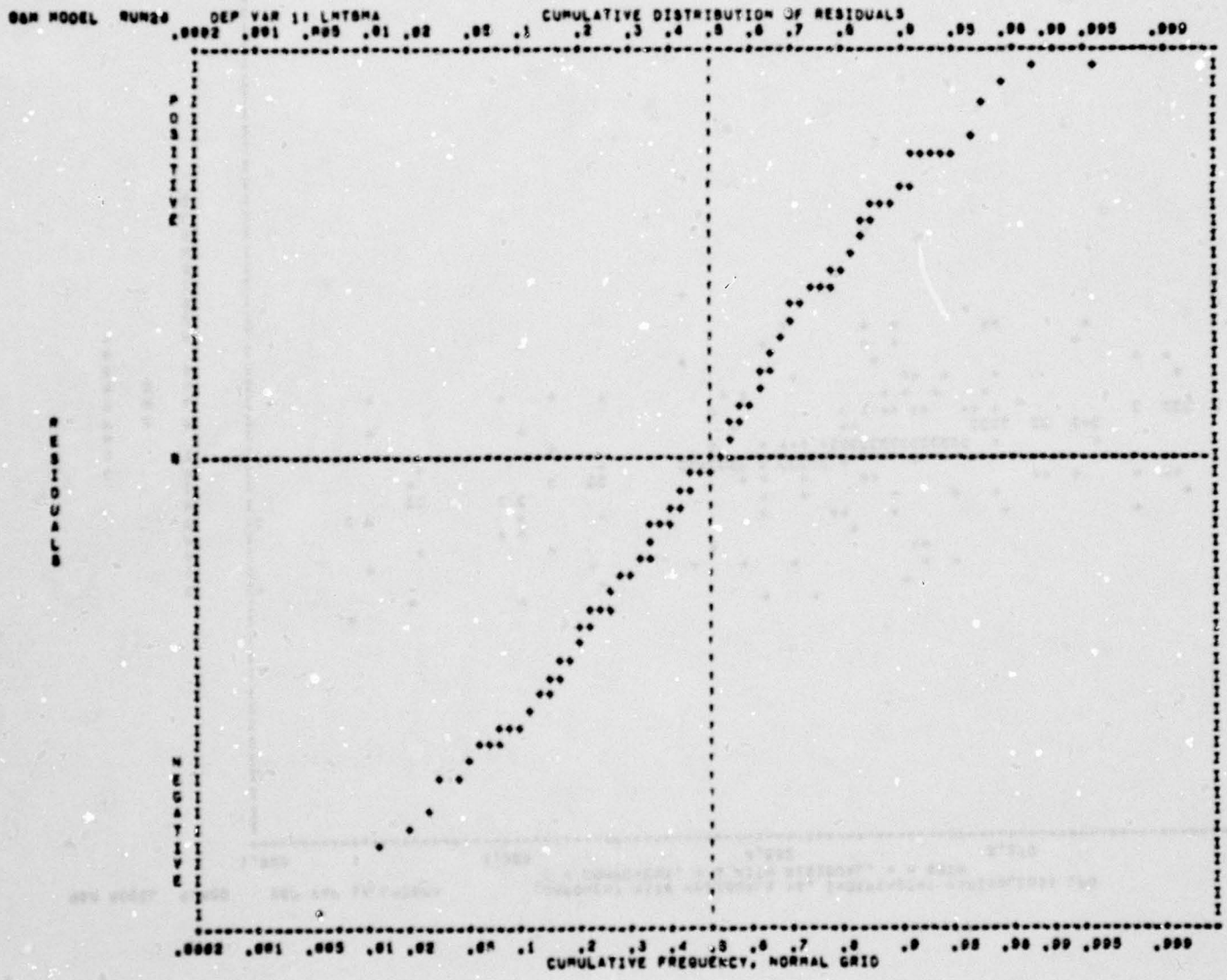
ORDERED BY COMPUTER INPUT

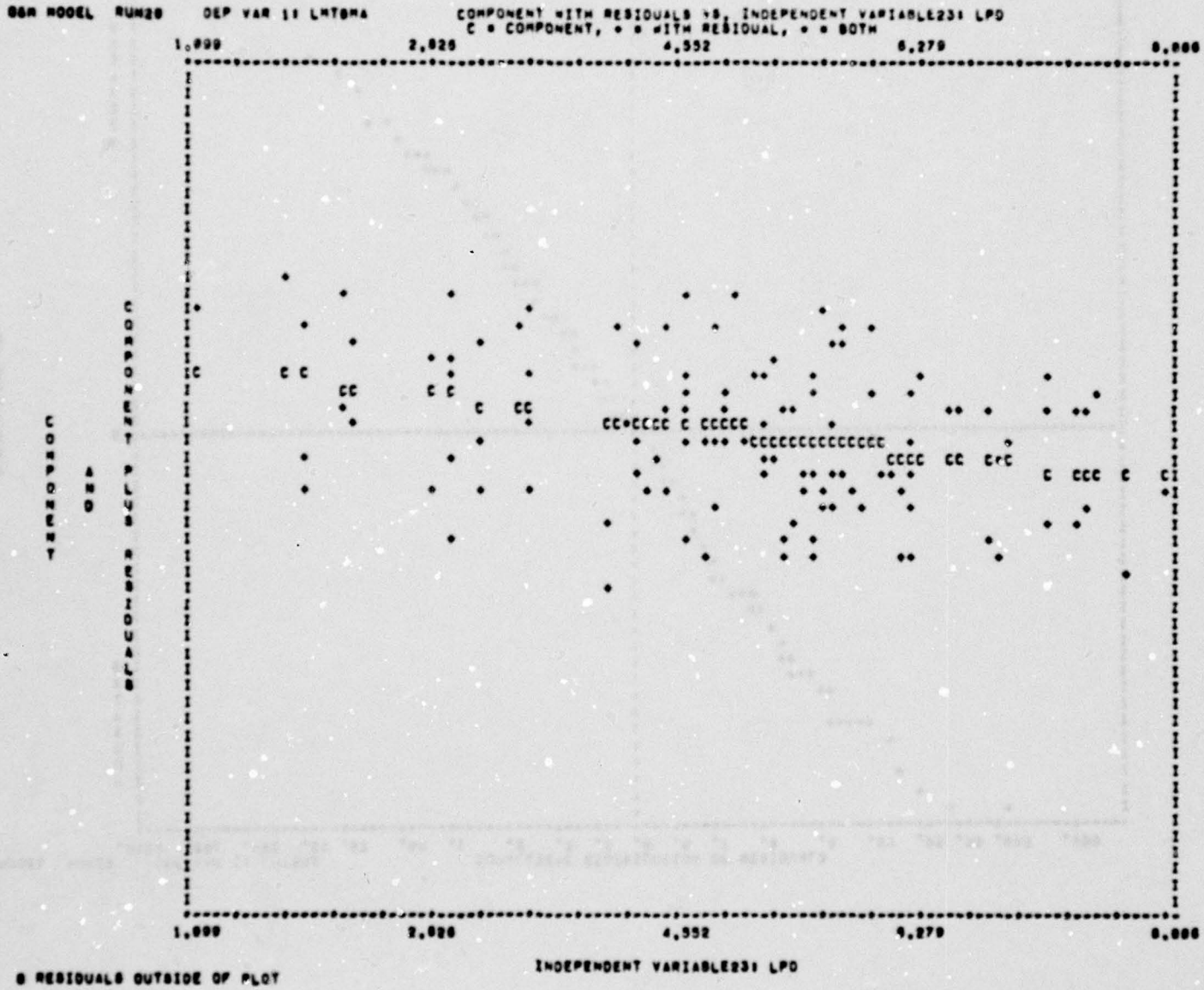
| IDENT. | OBSV. | MSS DISTANCE | OBS. Y | FITTED Y | RESIDUAL |
|---|---|---|---|---|---|
| 71B20 | 1 | 3. | 5.896 | 5.732 | -0.837 |
| 71L80 | 2 | 5. | 5.981 | 4.923 | 0.158 |
| 71PC0 | 5 | 3. | 6.166 | 5.546 | 0.620 |
| 71710 | 6 | 18. | 7.832 | 8.181 | -0.349 |
| 724G0 | 7 | 13. | 8.172 | 7.598 | 0.664 |
| 71G50 | 8 | 3. | 4.546 | 4.851 | -0.305 |
| 71FA0 | 9 | 11. | 6.819 | 6.435 | 0.383 |
| 71F80 | 10 | 9. | 6.358 | 6.283 | 0.075 |
| 71CA0 | 11 | 8. | 7.669 | 6.984 | 0.685 |
| 710A0 | 12 | 2. | 6.009 | 5.524 | 0.485 |
| 51EA0 | 13 | 3. | 6.064 | 6.237 | -0.173 |
| 92AA0 | 14 | 3. | 6.453 | 6.300 | 0.153 |
| 52A80 | 15 | 4. | 6.757 | 6.234 | 0.523 |
| 638D0 | 16 | 19. | 7.293 | 7.941 | -0.648 |
| 71AE0 | 17 | 8. | 5.110 | 4.726 | 0.384 |
| 74JA0 | 18 | 92. | 5.569 | 3.588 | -0.818 |
| 74JC0 | 19 | 7. | 6.569 | 6.471 | 0.098 |
| 52GA1 | 20 | 12. | 5.242 | 5.517 | -0.275 |
| 71Z40 | 21 | 3. | 6.199 | 6.245 | -0.047 |
| 71Z90 | 22 | 13. | 7.598 | 7.176 | 0.421 |
| 73EP0 | 25 | 9. | 4.924 | 4.212 | -0.288 |
| 73MA0 | 26 | 22. | 4.299 | 3.850 | 0.449 |
| 73MC0 | 27 | 4. | 4.329 | 4.367 | -0.037 |
| 73090 | 29 | 4. | 4.784 | 4.622 | 0.062 |
| 738C0 | 30 | 4. | 5.198 | 5.858 | -0.678 |
| 73KE0 | 32 | 2. | 6.111 | 5.568 | 0.543 |
| 73KF0 | 33 | 2. | 5.344 | 5.901 | -0.557 |
| 73KK0 | 34 | 5. | 4.765 | 5.501 | -0.736 |
| 75930 | 35 | 16. | 7.177 | 7.708 | -0.931 |
| 74B0P | 36 | 8. | 4.840 | 5.429 | -0.589 |
| 74BF0 | 37 | 5. | 4.765 | 4.728 | 0.037 |
| 74810 | 38 | 18. | 7.143 | 7.249 | -0.106 |
| 76A10 | 39 | 8. | 5.945 | 6.215 | -0.270 |
| 78GA0 | 40 | 12. | 5.884 | 5.448 | -0.564 |
| 74FF0 | 41 | 14. | 5.287 | 4.717 | 0.570 |
| 74FAP | 42 | 56. | 4.919 | 5.198 | -2.278 |
| 74FH0 | 43 | 6. | 5.177 | 5.464 | -0.287 |
| 74FUP | 44 | 39. | 5.524 | 5.687 | -0.163 |
| 73CRP | 45 | 6. | 6.828 | 6.128 | 0.700 |
| 73CG0 | 46 | 19. | 6.818 | 6.817 | 0.001 |
| 858M0 | 47 | 3. | 6.394 | 6.867 | -0.473 |
| 74FJ0 | 48 | 4. | 5.469 | 4.775 | 0.692 |
| 74FJA | 49 | 4. | 6.185 | 5.507 | 0.677 |
| 74FK0 | 50 | 14. | 7.258 | 8.147 | -0.889 |
| 74FQA | 51 | 23. | 4.745 | 4.476 | 0.269 |
| 74MA0 | 52 | 11. | 5.264 | 5.493 | -0.229 |
| 74RC0 | 53 | 0. | 6.796 | 5.533 | 0.263 |
| 74CA0 | 54 | 4. | 6.428 | 5.968 | 0.452 |
| 74C80 | 55 | 5. | 6.513 | 6.100 | 0.413 |
| 74CC0 | 56 | 4. | 6.543 | 6.683 | -0.140 |
| 74FA1 | 57 | 18. | 4.715 | 4.743 | -0.028 |
| 74E8A | 58 | 3. | 5.896 | 5.785 | 0.110 |
| 73PH0 | 59 | 2. | 5.166 | 5.843 | -0.677 |

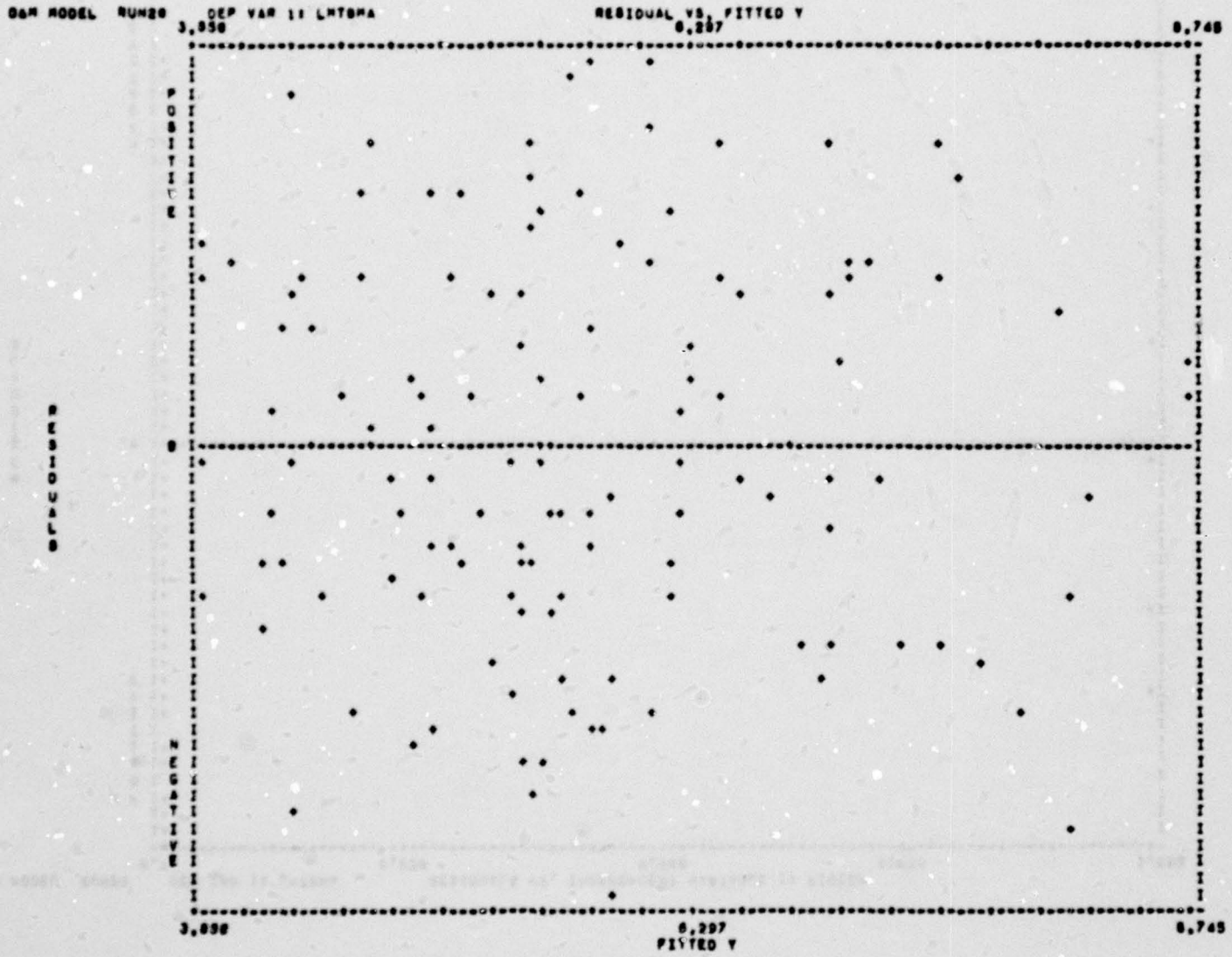
ORDERED BY RESIDUALS

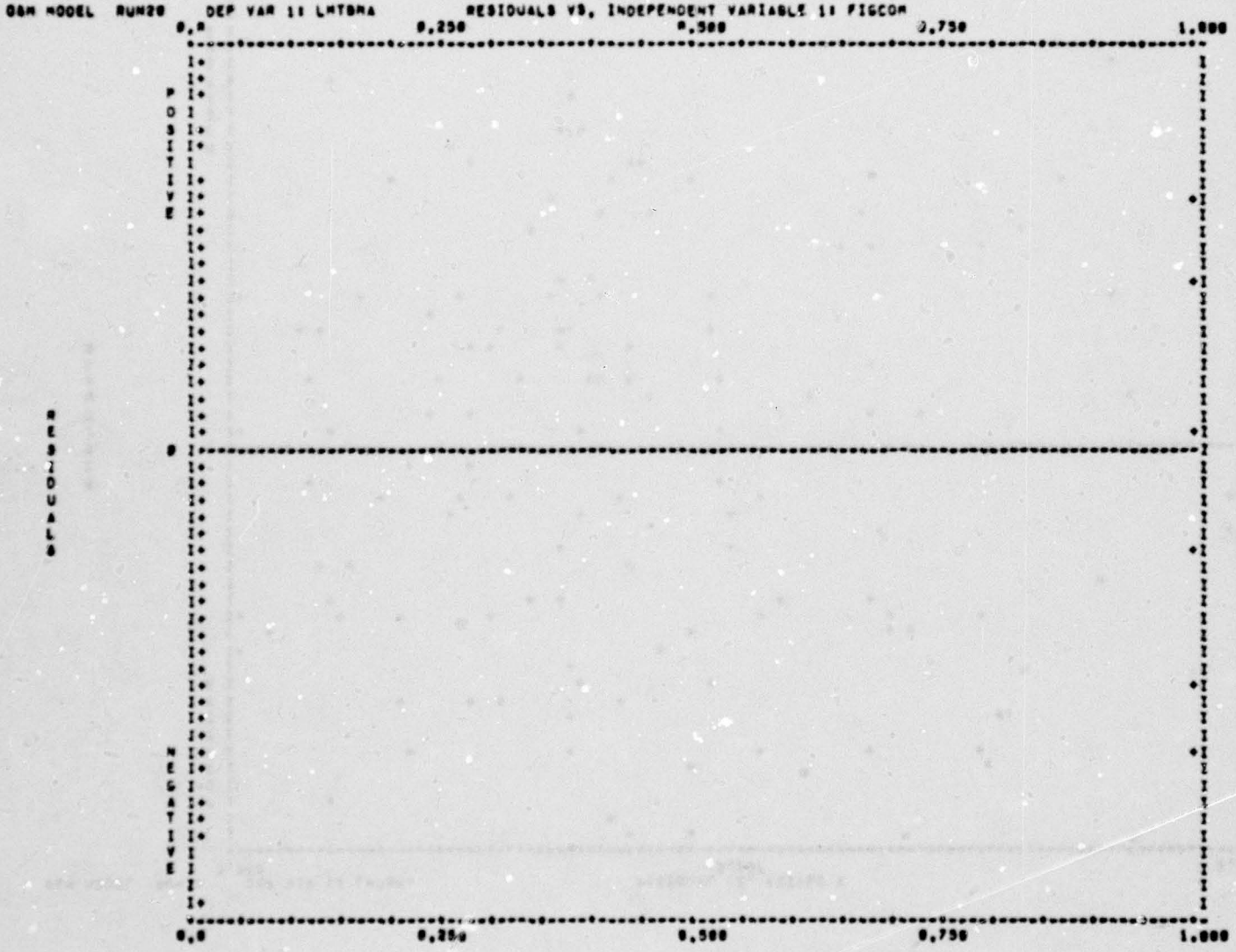
| OBSV. | OBS. Y | FITTED Y | ORDERED RESID. | SEQ |
|---|---|---|---|---|
| 87 | 6.738 | 5.848 | 0.891 | 1 |
| 115 | 6.989 | 6.135 | 0.854 | 2 |
| 127 | 6.562 | 5.711 | 0.851 | 3 |
| 94 | 5.153 | 4.351 | 0.802 | 4 |
| 45 | 6.898 | 6.189 | 0.708 | 5 |
| 48 | 5.468 | 4.775 | 0.692 | 6 |
| 11 | 7.669 | 6.984 | 0.685 | 7 |
| 49 | 6.185 | 5.507 | 0.677 | 8 |
| 81 | 7.103 | 6.433 | 0.670 | 9 |
| 7 | 8.172 | 7.508 | 0.664 | 10 |
| 5 | 5.166 | 5.548 | 0.620 | 11 |
| 75 | 8.217 | 7.604 | 0.613 | 12 |
| 67 | 5.760 | 5.183 | 0.577 | 13 |
| 41 | 5.287 | 4.717 | 0.570 | 14 |
| 205 | 5.812 | 5.454 | 0.358 | 15 |
| 88 | 6.314 | 5.761 | 0.552 | 16 |
| 32 | 6.111 | 5.568 | 0.543 | 17 |
| 15 | 6.757 | 6.234 | 0.523 | 18 |
| 12 | 6.009 | 5.524 | 0.485 | 19 |
| 54 | 6.428 | 5.968 | 0.452 | 20 |
| 26 | 4.299 | 3.850 | 0.449 | 21 |
| 22 | 7.598 | 7.176 | 0.421 | 22 |
| 55 | 6.513 | 6.100 | 0.413 | 23 |
| 116 | 7.477 | 7.066 | 0.410 | 24 |
| 80 | 4.498 | 4.085 | 0.404 | 25 |
| 17 | 5.110 | 4.726 | 0.384 | 26 |
| 9 | 6.819 | 6.435 | 0.383 | 27 |
| 78 | 7.485 | 7.111 | 0.374 | 28 |
| 73 | 6.795 | 6.425 | 0.370 | 29 |
| 208 | 5.487 | 5.120 | 0.367 | 30 |
| 78 | 7.898 | 7.538 | 0.360 | 31 |
| 103 | 4.277 | 3.923 | 0.354 | 32 |
| 71 | 6.907 | 6.557 | 0.350 | 33 |
| 121 | 4.784 | 4.461 | 0.343 | 34 |
| 102 | 5.799 | 5.463 | 0.336 | 35 |
| 109 | 5.659 | 5.339 | 0.321 | 36 |
| 111 | 7.304 | 6.990 | 0.314 | 37 |
| 117 | 8.442 | 8.131 | 0.311 | 38 |
| 51 | 4.745 | 4.476 | 0.269 | 39 |
| 53 | 6.096 | 5.833 | 0.263 | 40 |
| 72 | 4.588 | 4.328 | 0.260 | 41 |
| 122 | 5.679 | 5.472 | 0.208 | 42 |
| 209 | 6.524 | 6.318 | 0.206 | 43 |
| 198 | 7.235 | 7.042 | 0.193 | 44 |
| 88 | 8.927 | 8.745 | 0.181 | 45 |
| 2 | 5.081 | 4.923 | 0.158 | 46 |
| 14 | 6.453 | 6.329 | 0.153 | 47 |
| 211 | 5.726 | 5.596 | 0.130 | 48 |
| 58 | 5.896 | 5.785 | 0.110 | 49 |
| 19 | 6.569 | 6.471 | 0.098 | 50 |
| 88 | 8.836 | 8.745 | 0.091 | 51 |
| 123 | 5.073 | 4.990 | 0.083 | 52 |
| 96 | 5.319 | 5.237 | 0.082 | 53 |

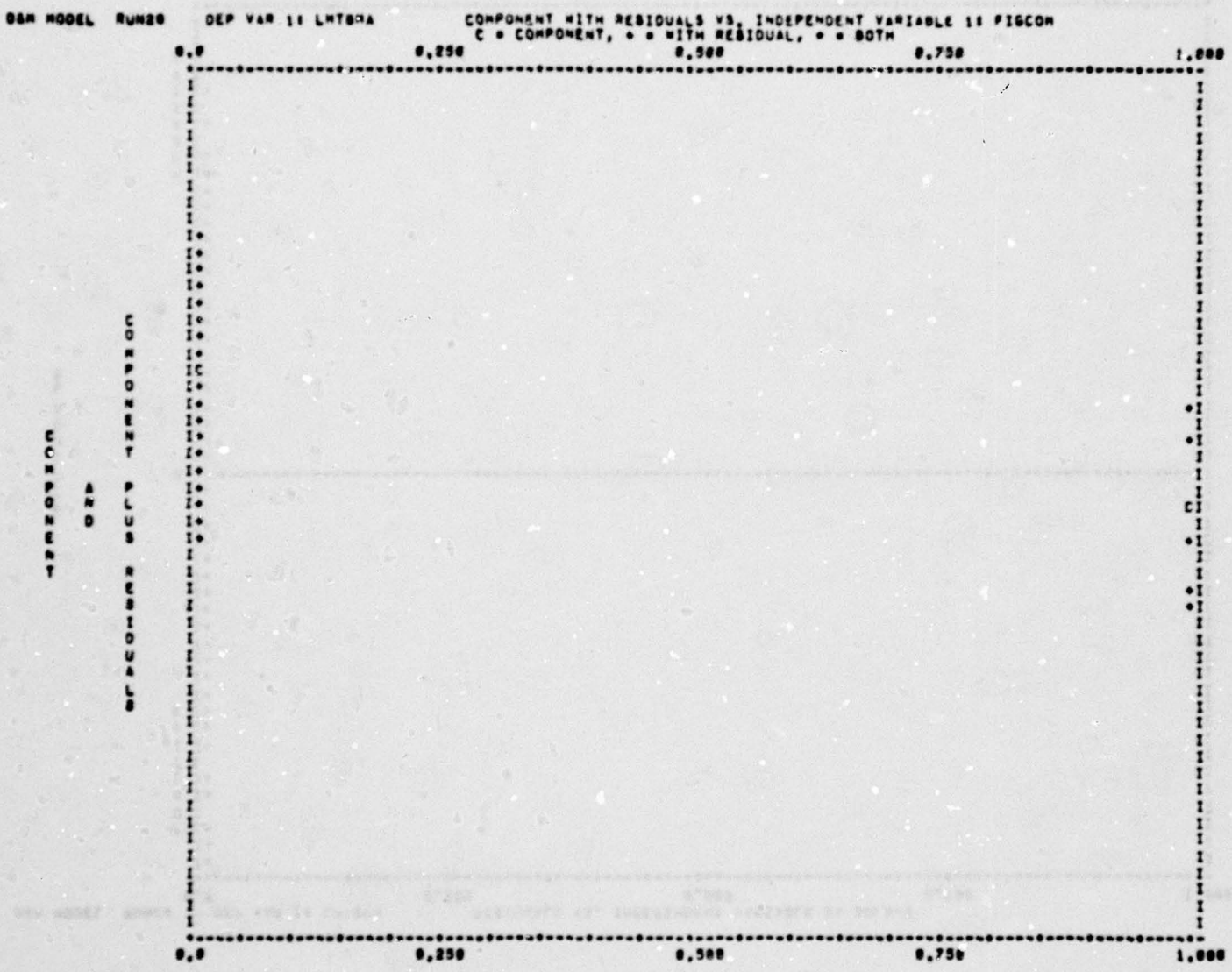
| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 01440 | 125 | 0. | 5.519 | 5.577 | -0.057 | 36 | 4.840 | 5.429 | -0.589 | 117 |
| 01460 | 126 | 10. | 5.788 | 5.935 | -0.147 | 284 | 5.586 | 6.121 | -0.615 | 118 |
| 02440 | 127 | 7. | 6.562 | 5.711 | 0.851 | 287 | 4.854 | 4.673 | -0.819 | 119 |
| 04211 | 128 | 17. | 6.878 | 7.340 | -0.462 | 1 | 5.906 | 5.732 | -0.837 | 120 |
| 21940 | 201 | 2. | 4.725 | 4.888 | -0.163 | 10 | 7.293 | 7.941 | -0.648 | 121 |
| 24BC0 | 202 | 2. | 4.848 | 5.985 | -1.954 | 3P | 5.199 | 5.859 | -0.670 | 122 |
| 2C9E0 | 203 | 9. | 6.506 | 5.989 | -0.483 | 59 | 5.166 | 5.843 | -0.677 | 123 |
| 24BG0 | 204 | 3. | 5.506 | 6.121 | -0.615 | 64 | 4.359 | 5.043 | -0.683 | 124 |
| 24BH0 | 205 | 3. | 5.612 | 5.954 | 0.558 | 1PP | 4.243 | 4.950 | -0.707 | 125 |
| 85CA0 | 206 | 4. | 5.487 | 5.120 | 0.367 | 34 | 4.765 | 5.501 | -0.736 | 126 |
| 73JC0 | 207 | 47. | 4.854 | 4.673 | -0.819 | 289 | 4.847 | 5.603 | -0.756 | 127 |
| 73JF0 | 208 | 16. | 6.524 | 6.318 | 0.206 | 9P | 4.728 | 5.543 | -0.815 | 128 |
| 71CA0 | 209 | 9. | 4.847 | 5.603 | -0.756 | 83 | 3.481 | 4.352 | -0.871 | 129 |
| 71G40 | 210 | 0. | 0.000 | 0.971 | -0.076 | 59 | 7.258 | 8.147 | -0.889 | 130 |
| 85AA0 | 211 | 0. | 9.720 | 9.596 | 0.130 | 2PE | 4.840 | 0.005 | -1.004 | 131 |

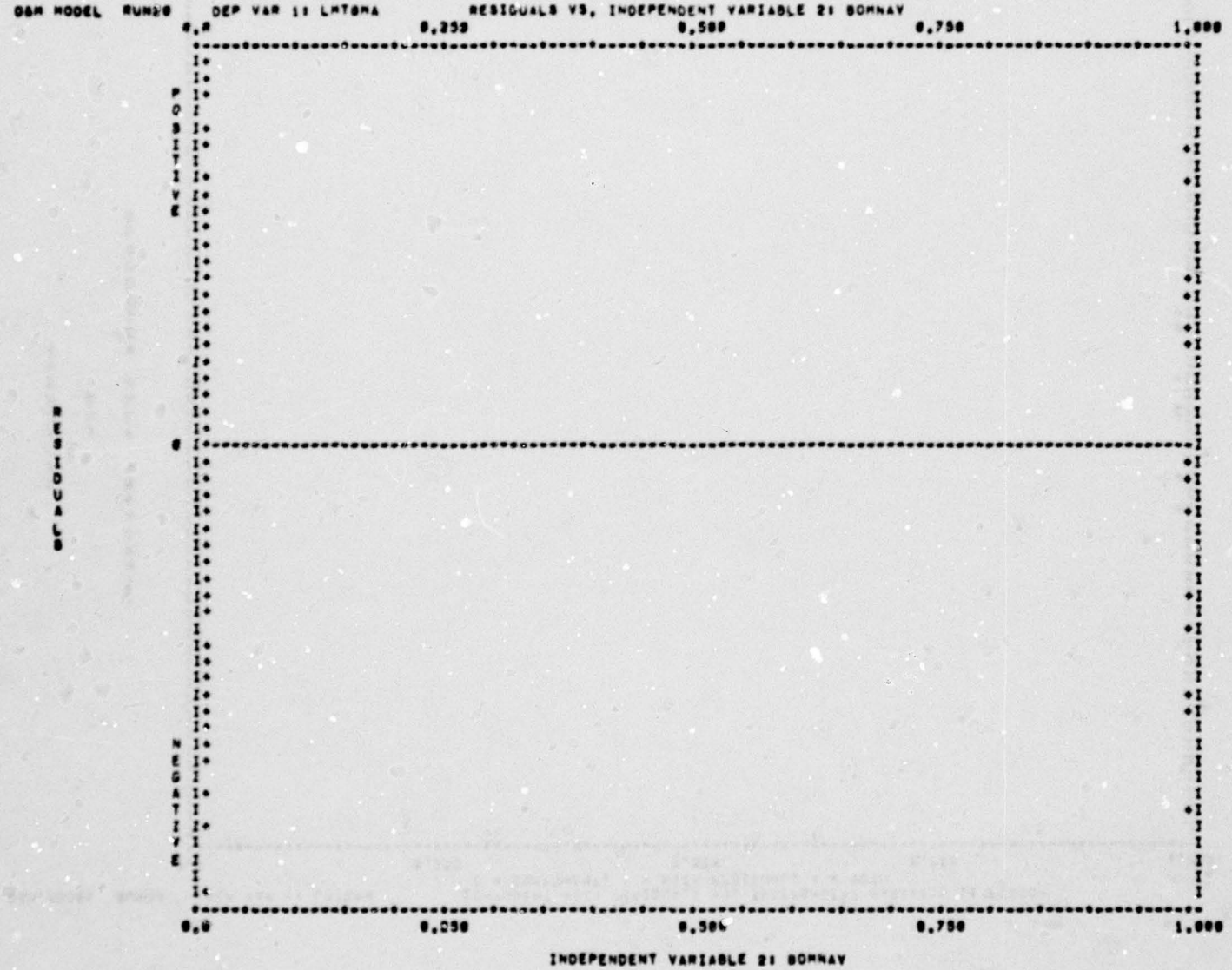

B&H MODEL RUN26
DEP VAR IS LNTSMA
CUMULATIVE DISTRIBUTION OF RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
POSITIVE
0
NEGATIVE
RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
CUMULATIVE FREQUENCY, NORMAL GRID

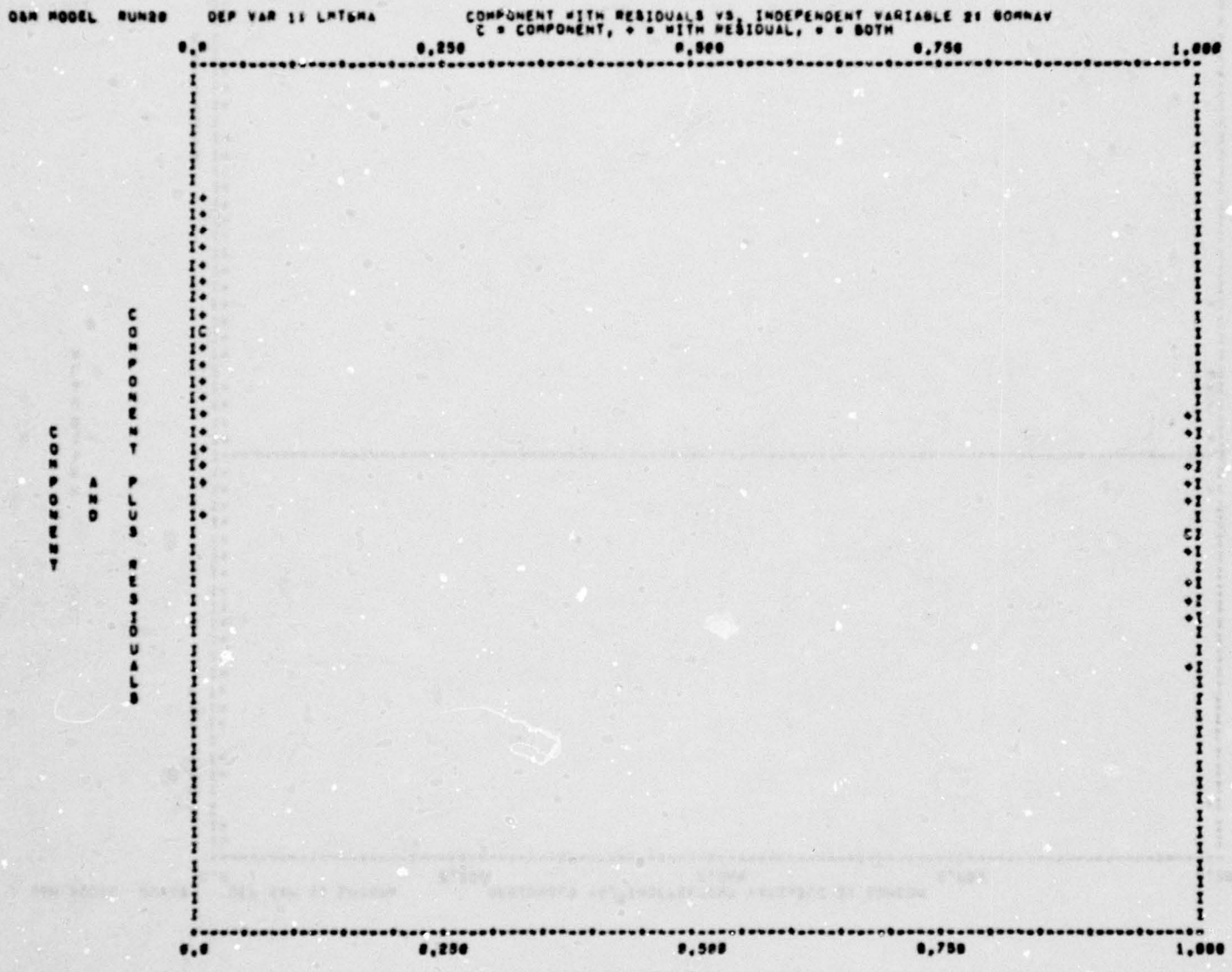

GGR MODEL RUN20 DEP VAR 1: LMTBMA
COMPONENT WITH RESIDUALS VS. INDEPENDENT VARIABLE23: LPD
C = COMPONENT, + = WITH RESIDUAL, * = BOTH
1.899
2.826
4.552
6.279
8.006
COMPONENT PLUS RESIDUALS
AND
COMPONENT
INDEPENDENT VARIABLE23: LPD
0 RESIDUALS OUTSIDE OF PLOT

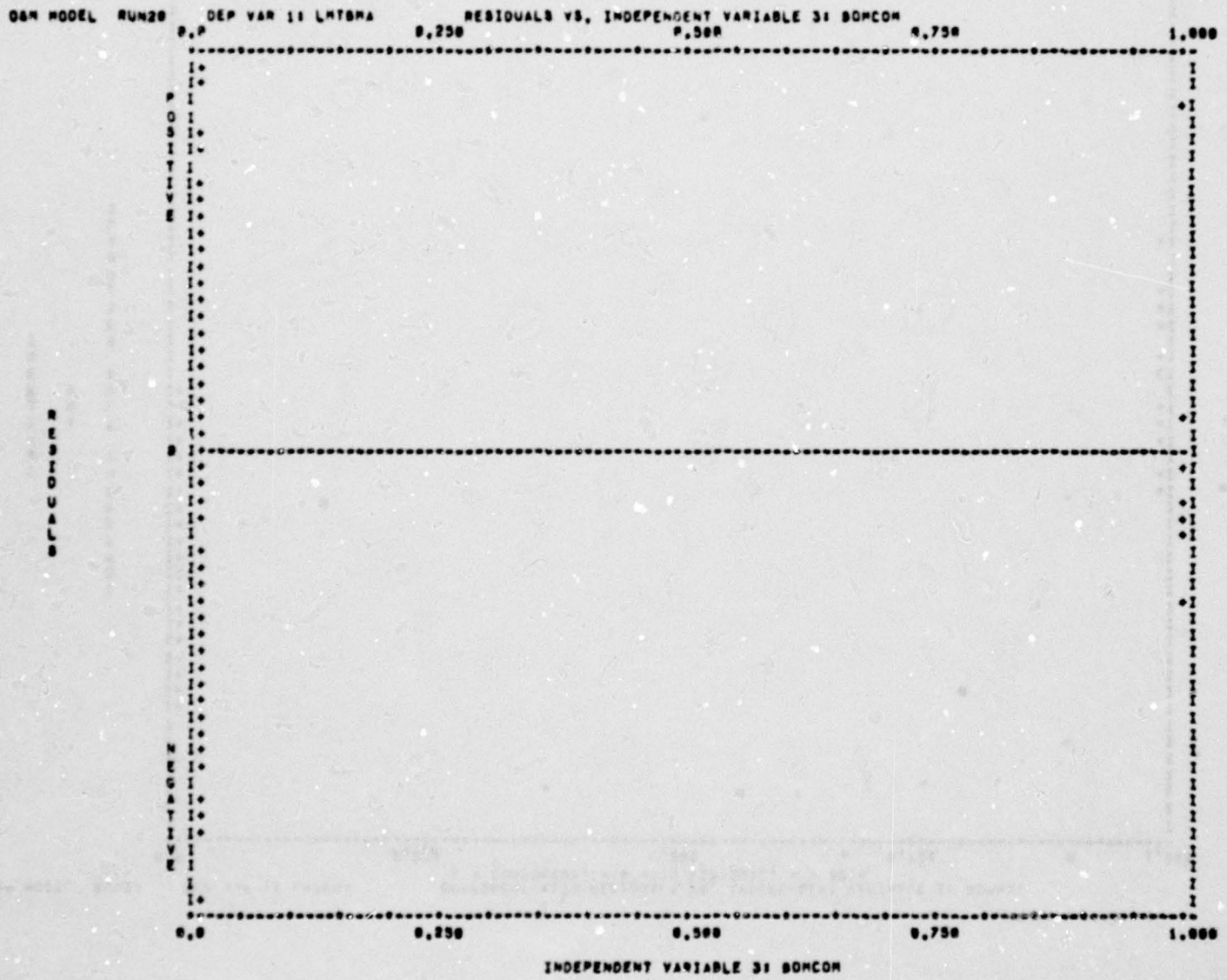

G&M MODEL RUN20 DEP VAR 1: LNTSMA
RESIDUAL VS. FITTED Y
3.838
8.297
8.745
POSITIVE
0
NEGATIVE
RESIDUALS
3.838
8.297
8.745
FITTED Y

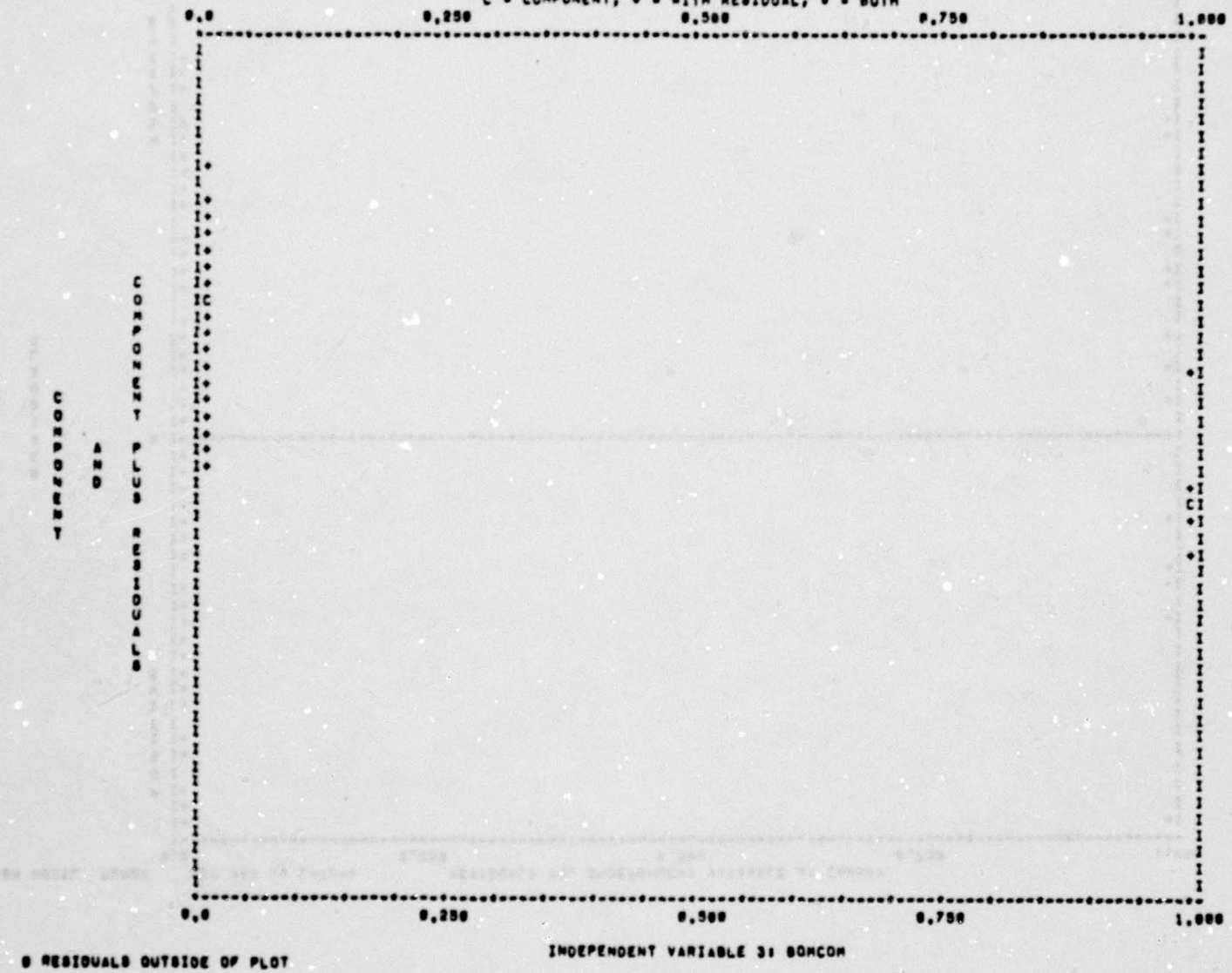

G&M MODEL RUN20 DEP VAR IS LMTBRA RESIDUALS VS. INDEPENDENT VARIABLE IS FIGCOM
0.0
0.250
0.500
0.750
1.000
POSITIVE
RESIDUALS
0
NEGATIVE
INDEPENDENT VARIABLE IS FIGCOM

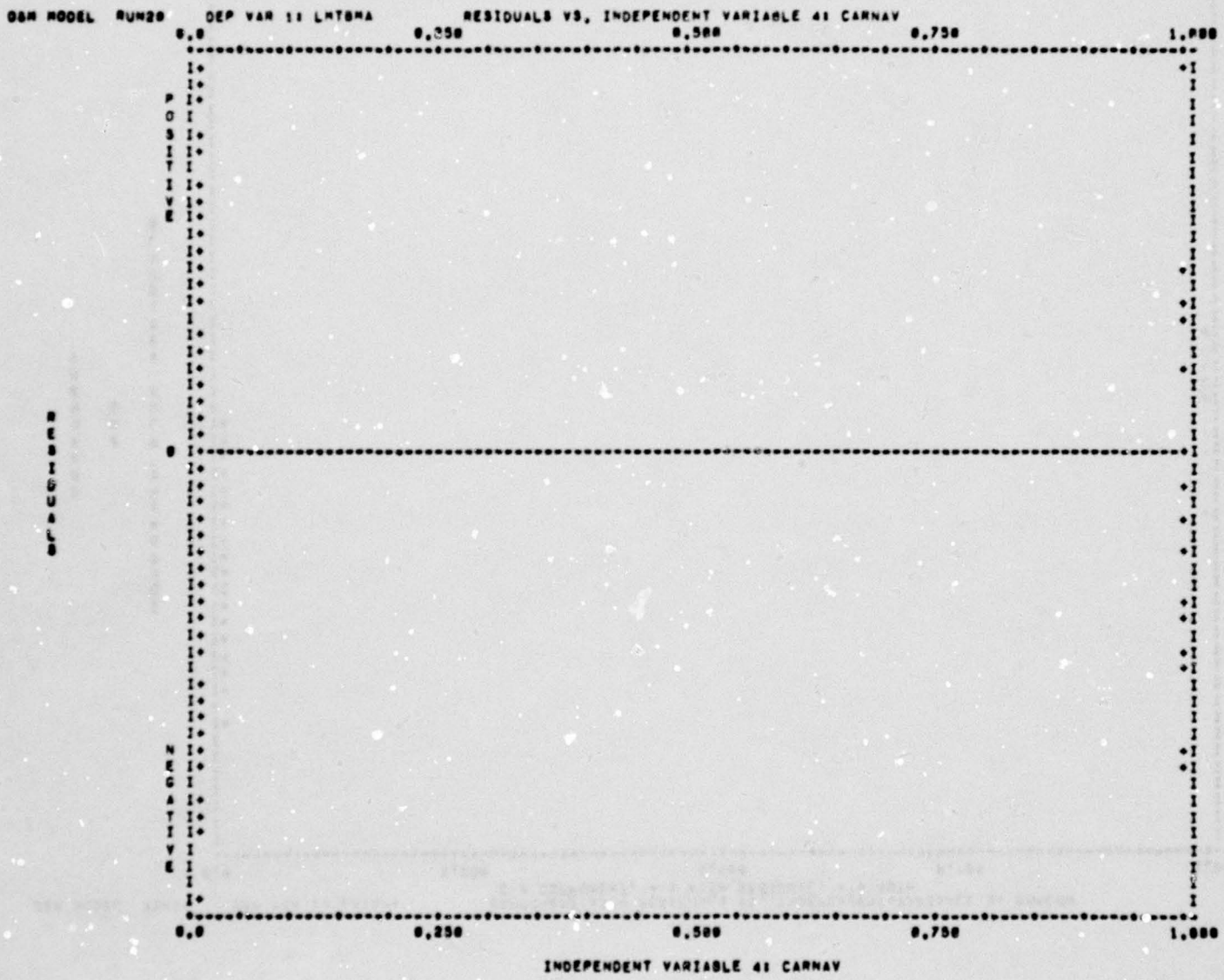

B&M MODEL RUN20 DEP VAR IS LMTBDA COMPONENT WITH RESIDUALS VS. INDEPENDENT VARIABLE IS FIGCON
C = COMPONENT, + = WITH RESIDUAL, * = BOTH
0.0
0.250
0.500
0.750
1.000
COMPONENT AND COMPONENT PLUS RESIDUALS
0 RESIDUALS OUTSIDE OF PLOT
INDEPENDENT VARIABLE IS FIGCON

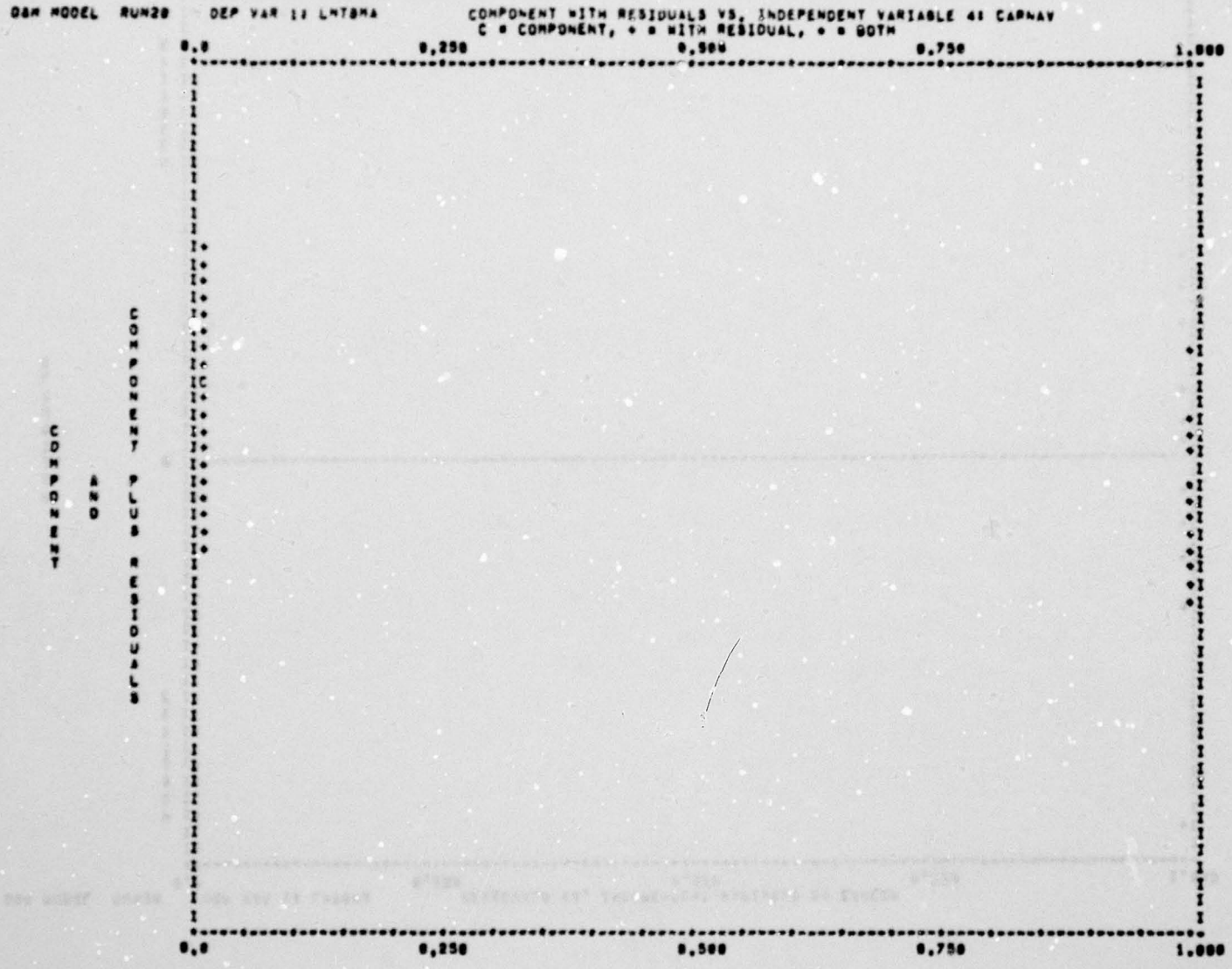

O&M MODEL RUN20 DEP VAR 11 LMTBMA RESIDUALS VS, INDEPENDENT VARIABLE 21 BOMNAV
0.0
0.250
0.500
0.750
1.000
POSITIVE
RESIDUALS
0
NEGATIVE
0.0
0.250
0.504
0.750
1.000
INDEPENDENT VARIABLE 21 BOMNAV

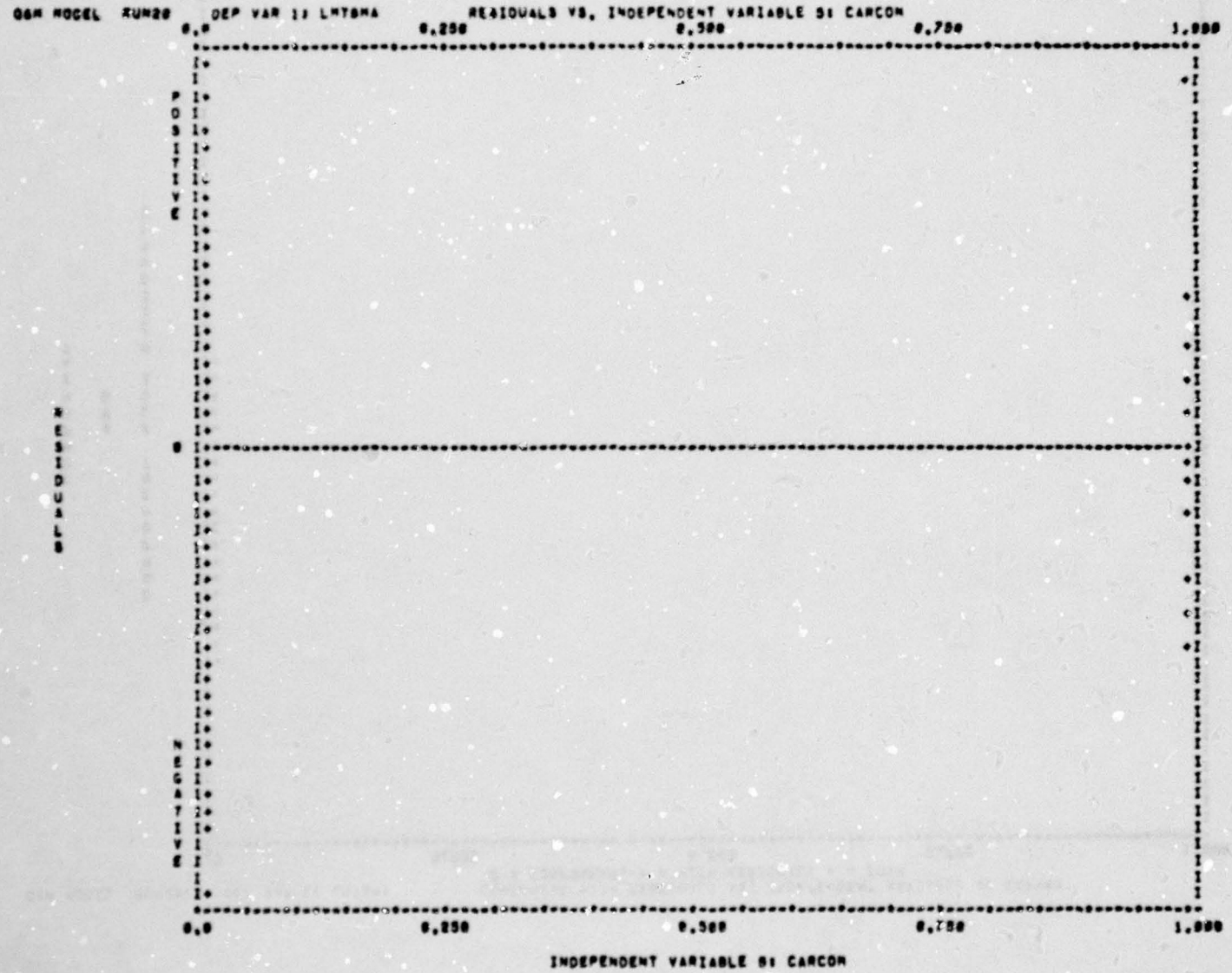

O&M MODEL RUN28 DEP VAR 11 LMTSMA COMPONENT WITH RESIDUALS VS. INDEPENDENT VARIABLE 21 BOMNAV
C = COMPONENT, + = WITH RESIDUAL, * = BOTH
0.0
0.250
0.500
0.750
1.000
COMPONENT PLUS RESIDUAL
AND
COMPONENT
INDEPENDENT VARIABLE 21 BOMNAV
0 RESIDUALS OUTSIDE OF PLOT

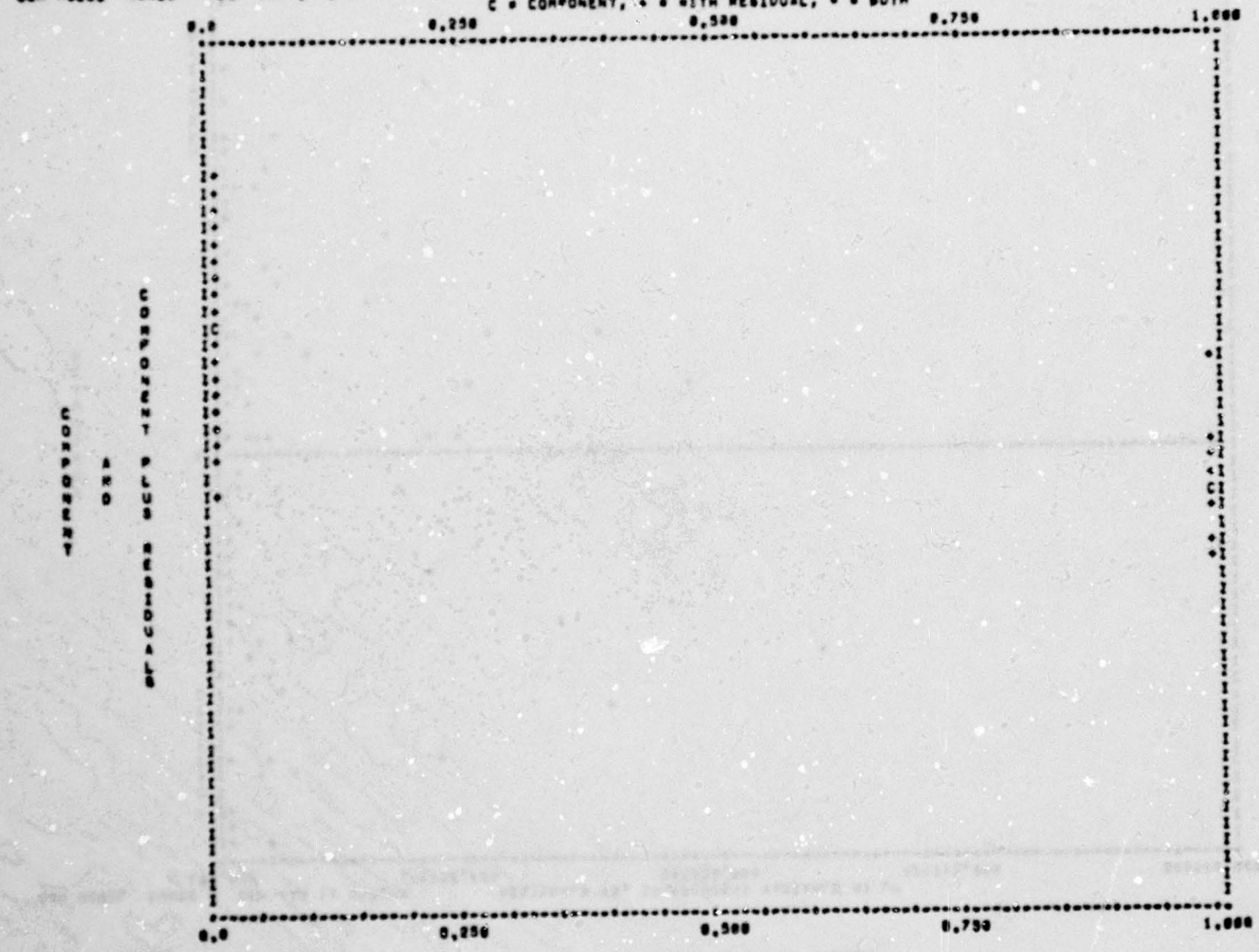

O&M MODEL RUN20 DEP VAR 1: LMTBMA RESIDUALS VS. INDEPENDENT VARIABLE 3: BOMCOM
0.0
0.250
0.500
0.750
1.000
POSITIVE
0
NEGATIVE
RESIDUALS
INDEPENDENT VARIABLE 3: BOMCOM

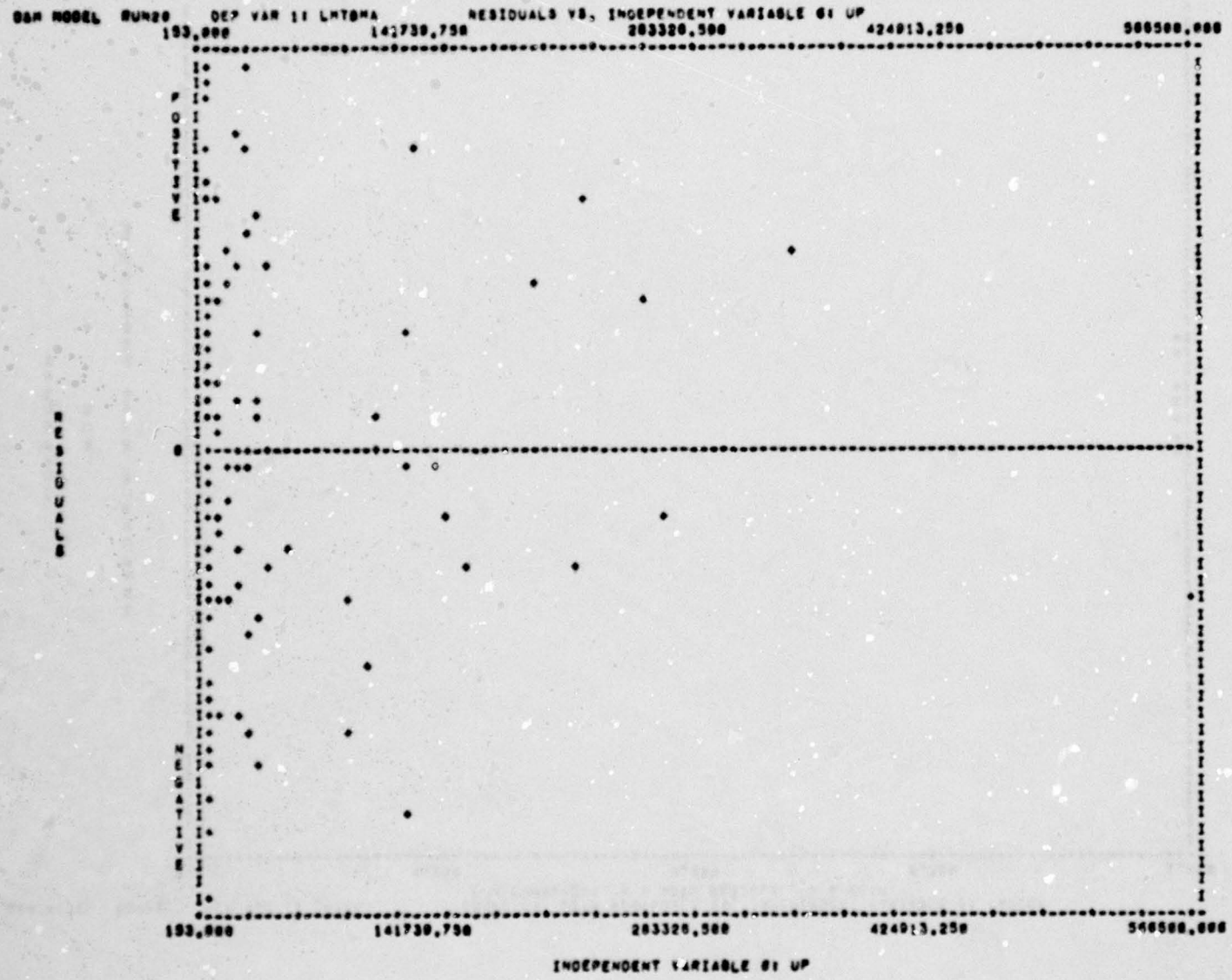

GSM MODEL RUN28 DEP VAR 1: LNTBMA
COMPONENT WITH RESIDUALS VS. INDEPENDENT VARIABLE 3: BOMCOM
C = COMPONENT, + = WITH RESIDUAL, * = BOTH
0.0
0.250
0.500
0.750
1.000
COMPONENT PLUS RESIDUALS
AND
COMPONENT
INDEPENDENT VARIABLE 3: BOMCOM
0 RESIDUALS OUTSIDE OF PLOT

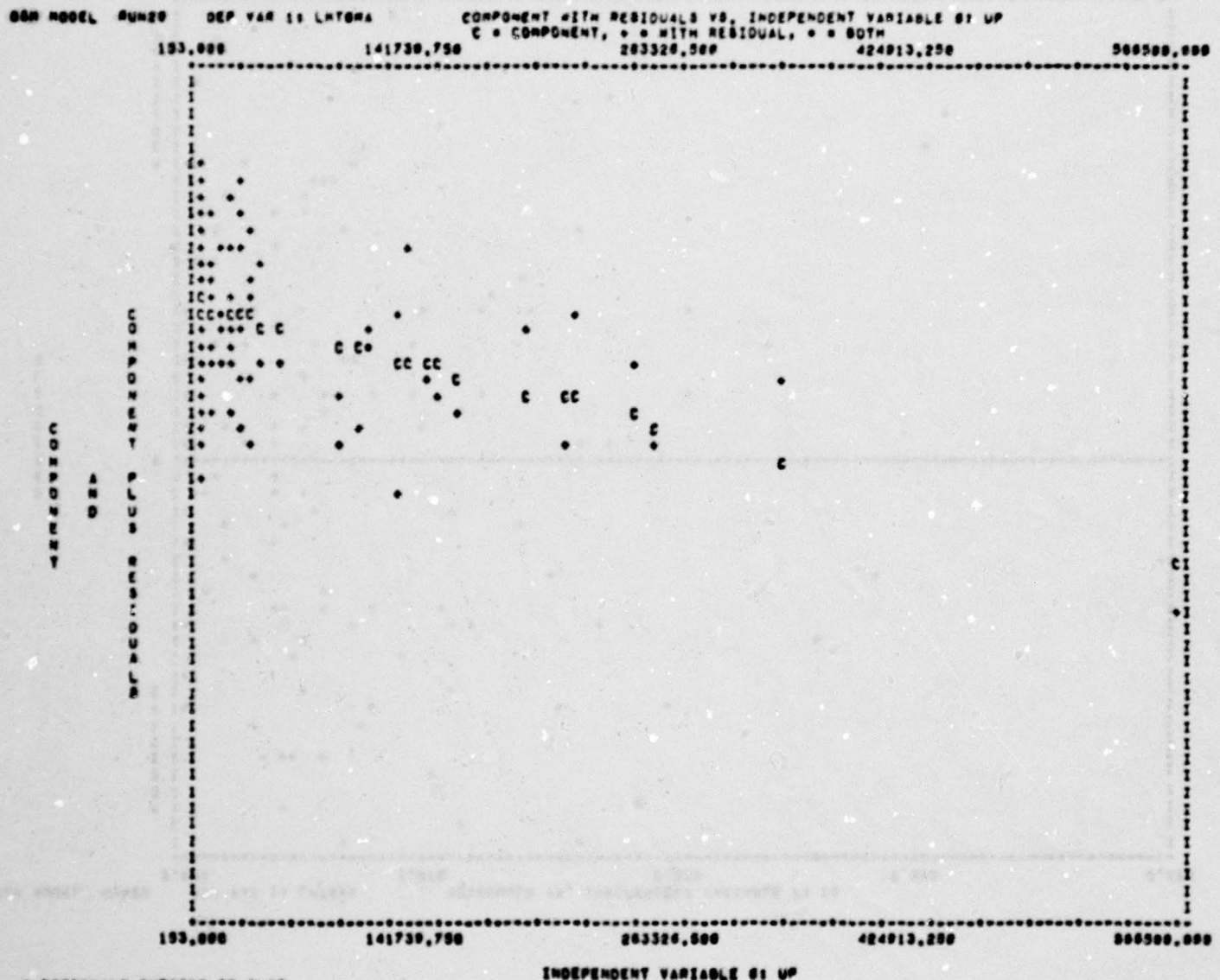

OSM MODEL RUN20 DEP VAR 1: LMTBMA RESIDUALS VS. INDEPENDENT VARIABLE 41 CARNAV
0.0
0.250
0.500
0.750
1.000
POSITIVE
RESIDUALS
0
NEGATIVE
INDEPENDENT VARIABLE 41 CARNAV

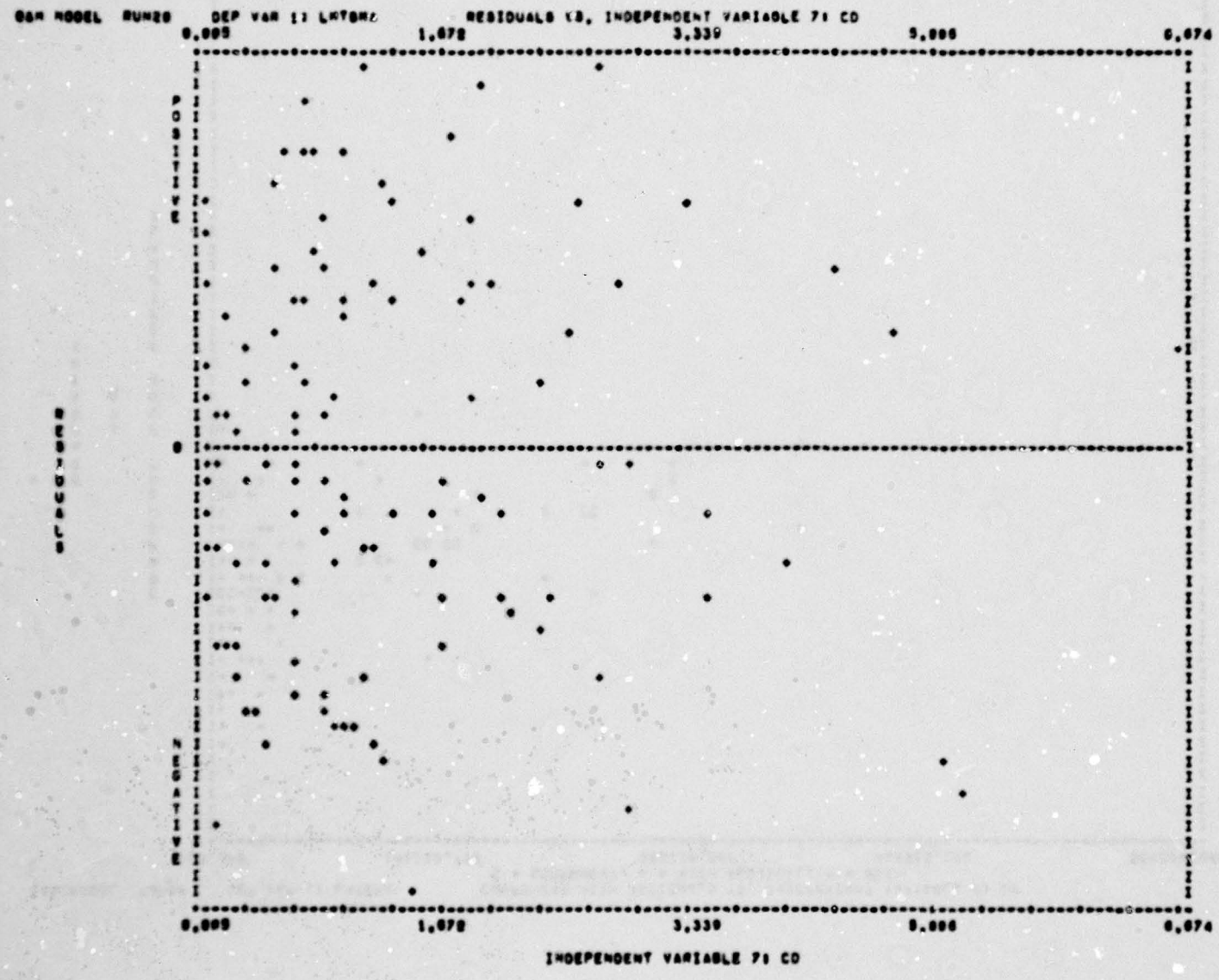

GAM MODEL RUN20 DEP VAR IS LNTSMA
COMPONENT WITH RESIDUALS VS. INDEPENDENT VARIABLE 41 CARNAV
C = COMPONENT, + = WITH RESIDUAL, * = BOTH
0.0
0.250
0.500
0.750
1.000
COMPONENT PLUS RESIDUALS
AND
COMPONENT
INDEPENDENT VARIABLE 41 CARNAV
0 RESIDUALS OUTSIDE OF PLOT

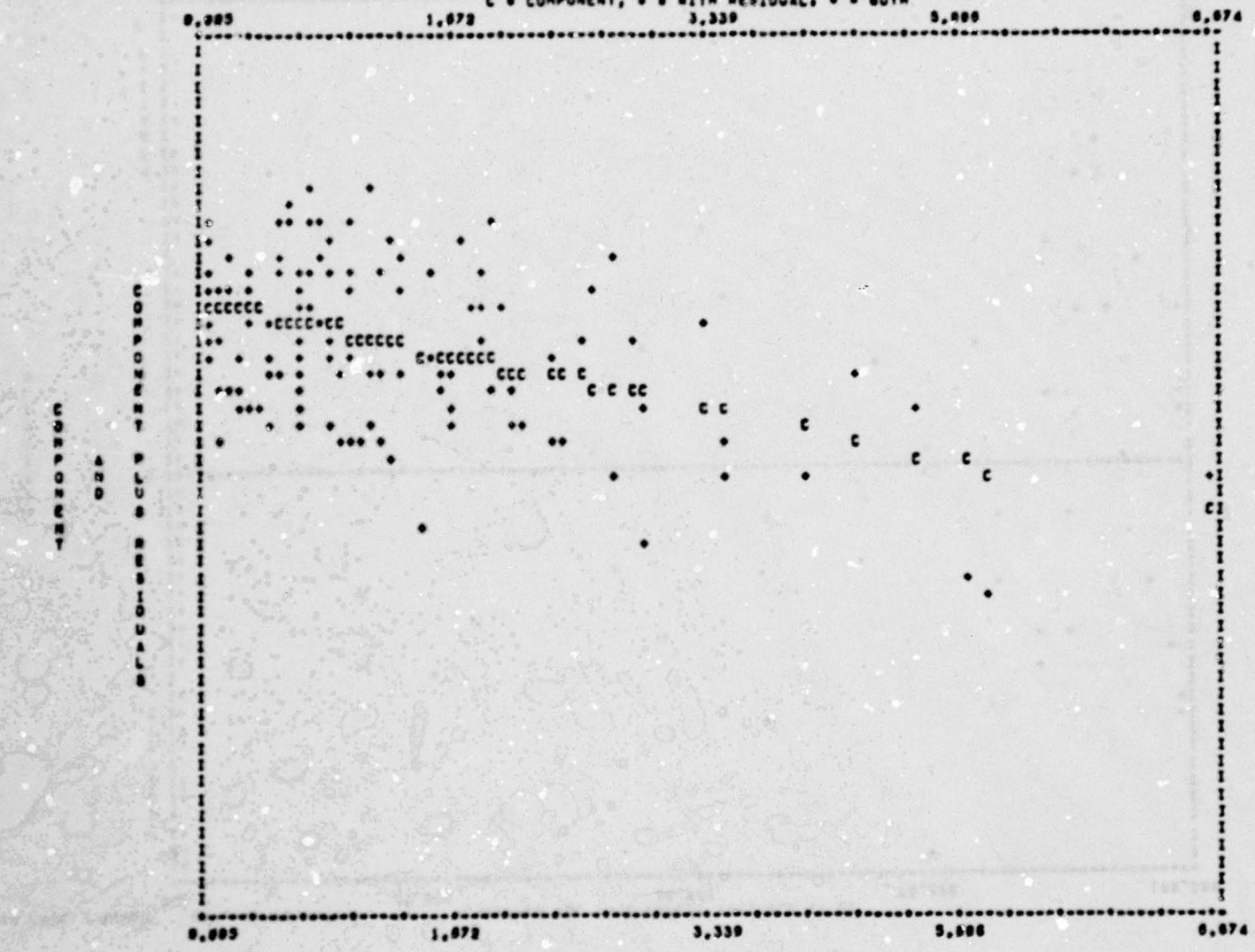

G&M MODEL RUN20 DEP VAR 1: LMTBMA RESIDUALS VS. INDEPENDENT VARIABLE 51 CARCON
0.0
0.250
0.500
0.750
1.000
POSITIVE
RESIDUALS
0
NEGATIVE
INDEPENDENT VARIABLE 51 CARCON

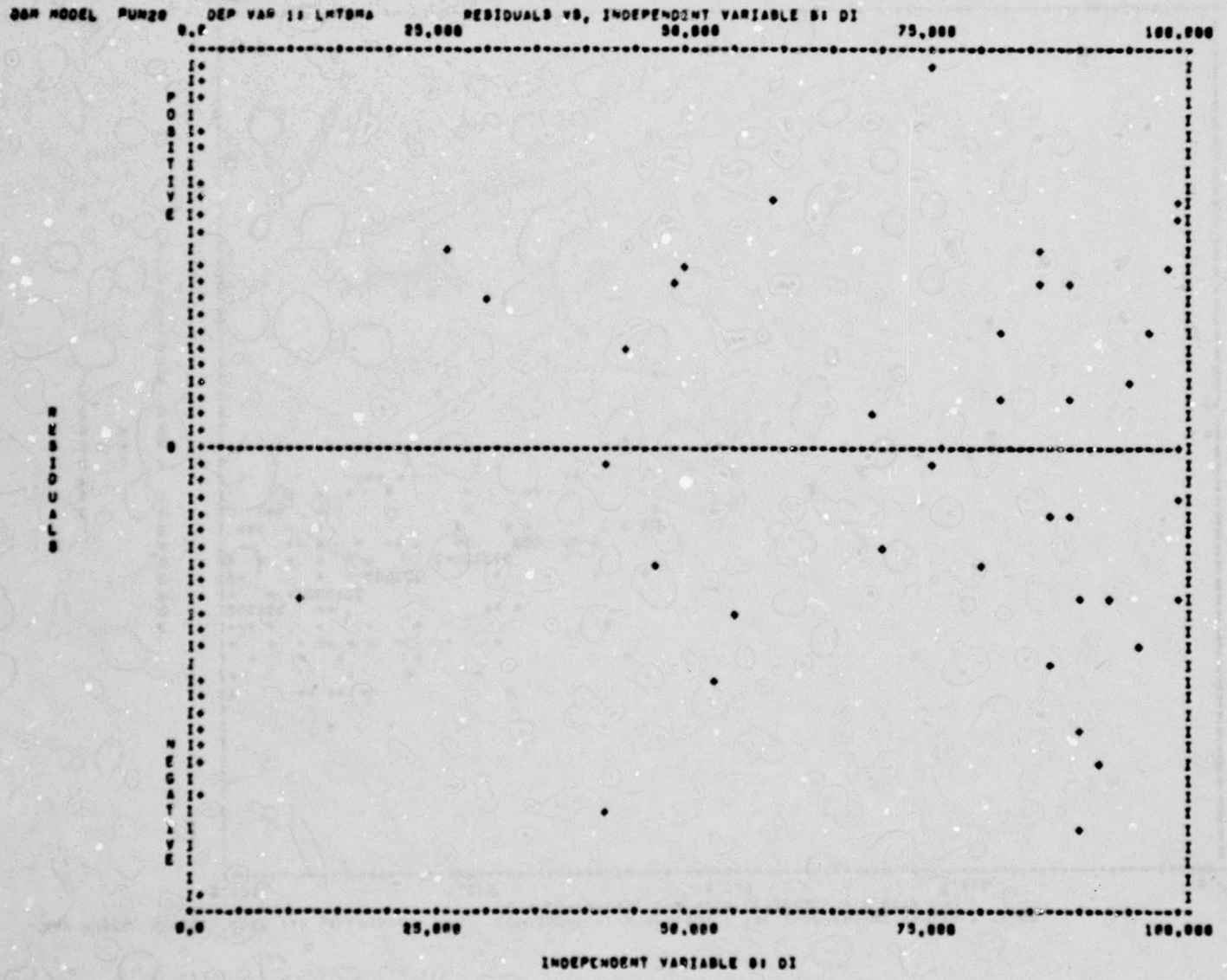

GAM MODEL RUN20 DEP VAR 11 LNTSNA
COMPONENT WITH RESIDUALS VS. INDEPENDENT VARIABLE 8: CARCOM
C = COMPONENT, + = WITH RESIDUAL, * = BOTH
0.0
0.250
0.500
0.750
1.000
COMPONENT PLUS RESIDUAL
AND
COMPONENT
INDEPENDENT VARIABLE 8: CARCOM
0 RESIDUALS OUTSIDE OF PLOT

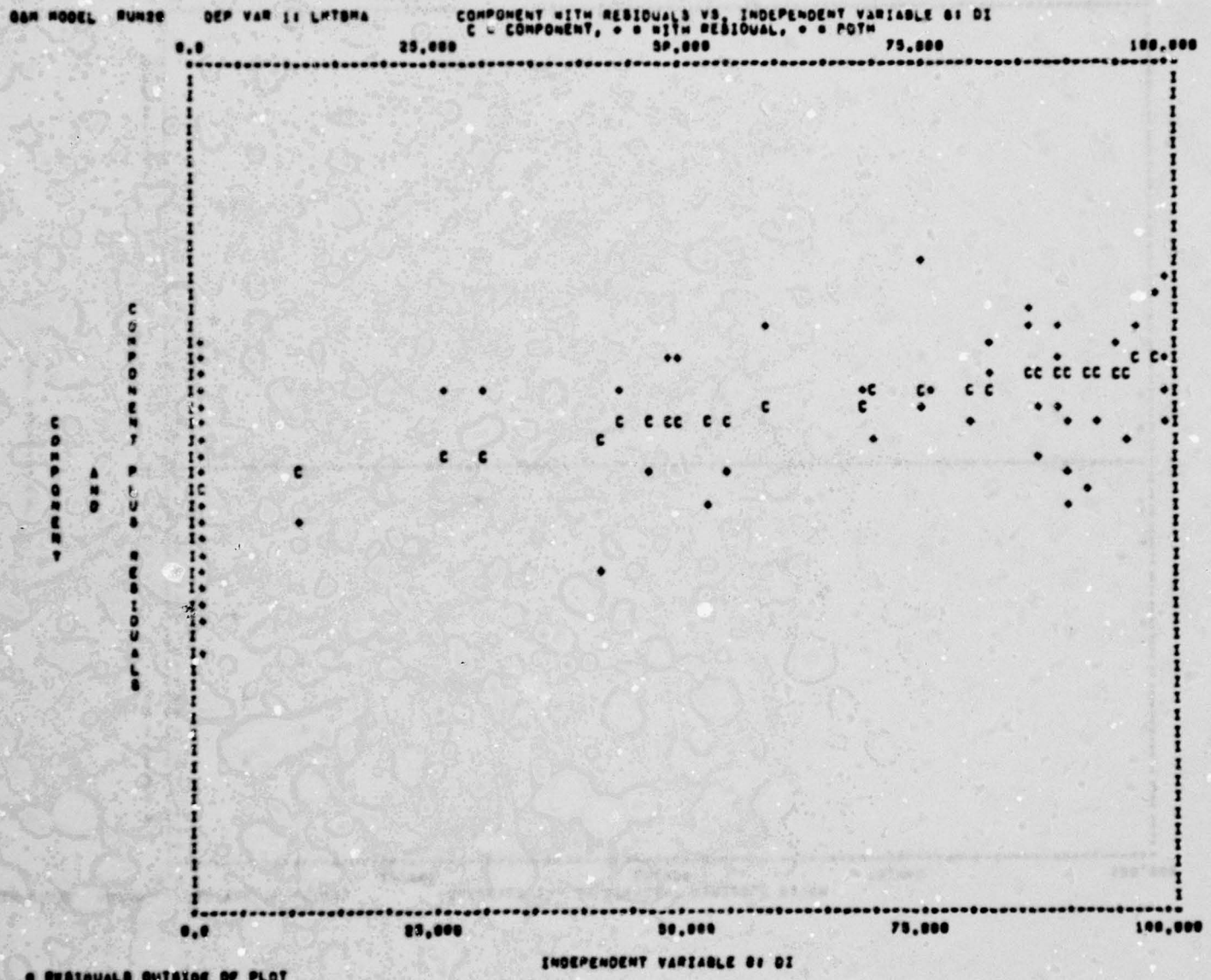

B&H MODEL RUN20 DEP VAR IS LNTSMA RESIDUALS VS. INDEPENDENT VARIABLE 61 UP
193,000
141739,750
283326,500
424913,250
566500,000
RESIDUALS
POSITIVE
0
NEGATIVE
INDEPENDENT VARIABLE 61 UP

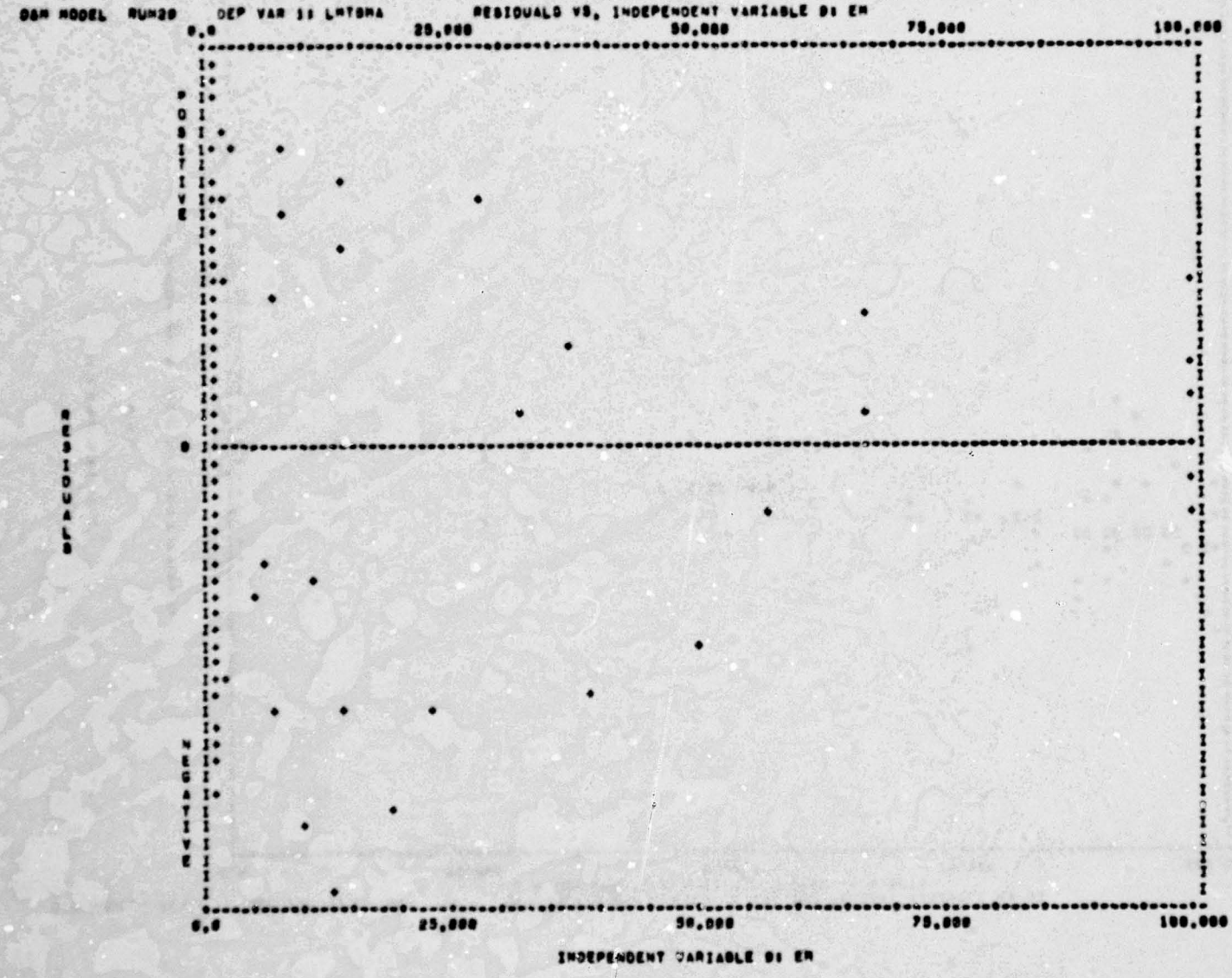

OGR MODEL RUN29 DEP VAR IS LNTGMA COMPONENT WITH RESIDUALS VS. INDEPENDENT VARIABLE 61 UP
C = COMPONENT, + = WITH RESIDUAL, * = BOTH
193.000
141739.750
283326.500
424913.250
566500.000
COMPONENT PLUS RESIDUALS
COMPONENT AND
INDEPENDENT VARIABLE 61 UP
0 RESIDUALS OUTSIDE OF PLOT

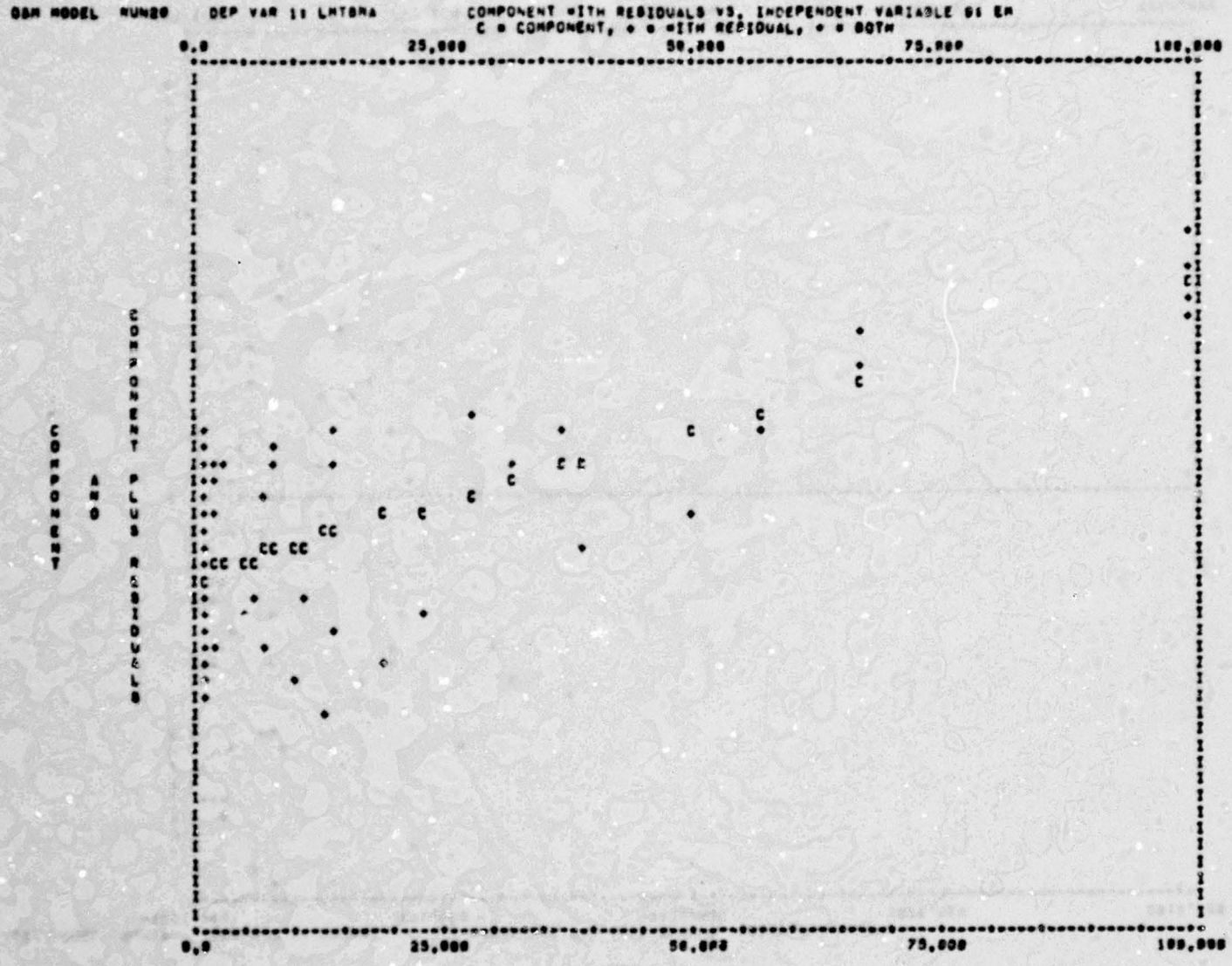

GSM MODEL RUN20 DEP VAR 11 LNTSHZ RESIDUALS (S, INDEPENDENT VARIABLE 7: CO
0,009
1,670
3,330
5,000
6,674
POSITIVE
0
NEGATIVE
RESIDUALS
INDEPENDENT VARIABLE 7: CO

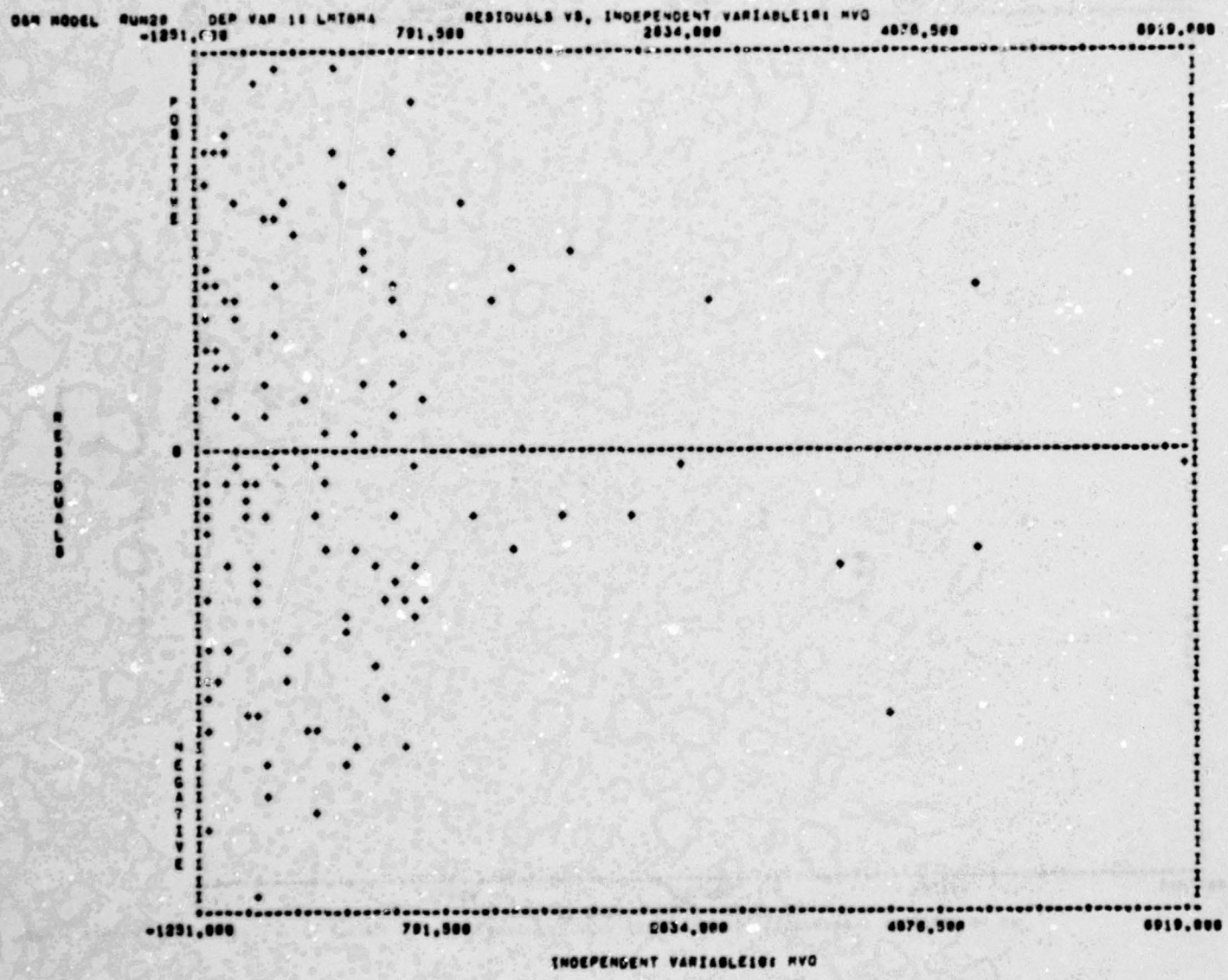

G&R MODEL RUN80 DEP VAR IS LMYBMA COMPONENT +WITH RESIDUALS VS. INDEPENDENT VARIABLE IS CD
C = COMPONENT, + = WITH RESIDUAL, * = BOTH
0.085
1.672
3.339
5.006
6.674
COMPONENT PLUS RESIDUALS
420
COMPONENT
INDEPENDENT VARIABLE IS CD
0 RESIDUALS OUTSIDE OF PLOT

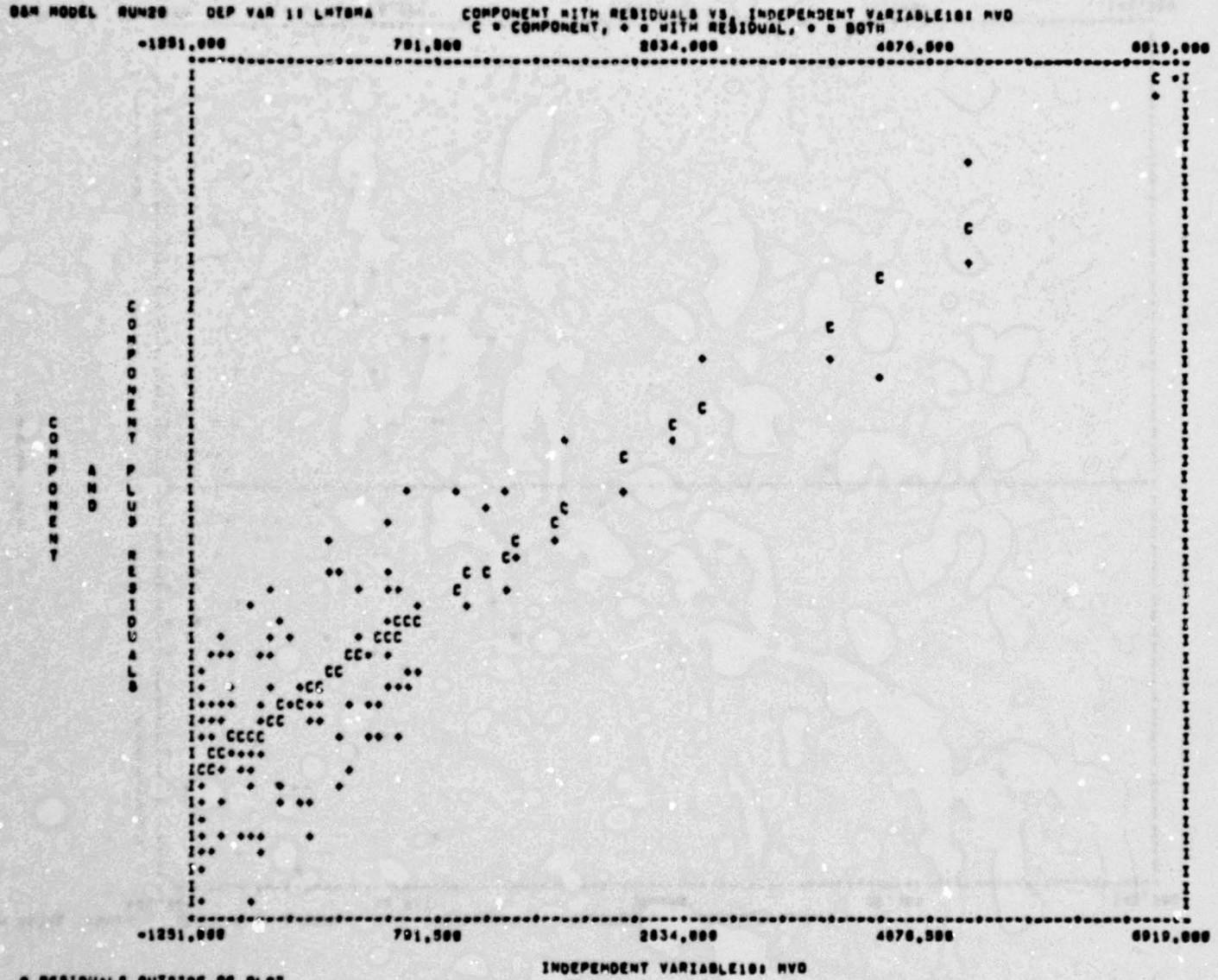

SAR MODEL PUN20 DEP VAR IS LNTSMA RESIDUALS VS. INDEPENDENT VARIABLE 8: DI
0.0
25,000
50,000
75,000
100,000
POSITIVE
RESIDUALS
0
NEGATIVE
INDEPENDENT VARIABLE 8: DI

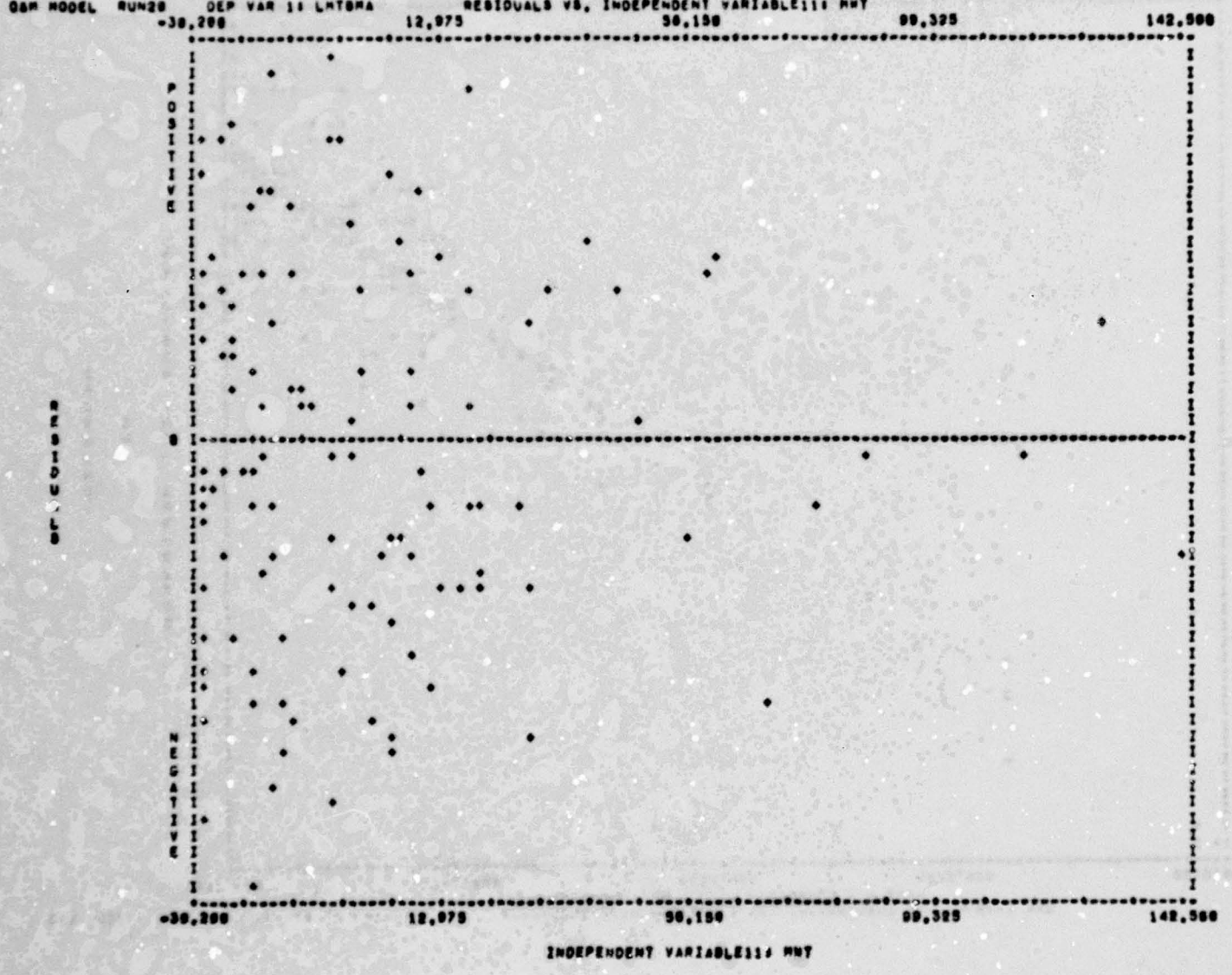

BSR MODEL RUN20 DEP VAR :: LMTBMA
COMPONENT WITH RESIDUALS VS. INDEPENDENT VARIABLE 81 DI
C = COMPONENT, * = WITH RESIDUAL, + = BOTH
0.0
25,000
50,000
75,000
100,000
COMPONENT PLUS RESIDUALS
AND
COMPONENT
0.0
25,000
50,000
75,000
100,000
INDEPENDENT VARIABLE 81 DI
0 RESIDUALS OUTSIDE OF PLOT

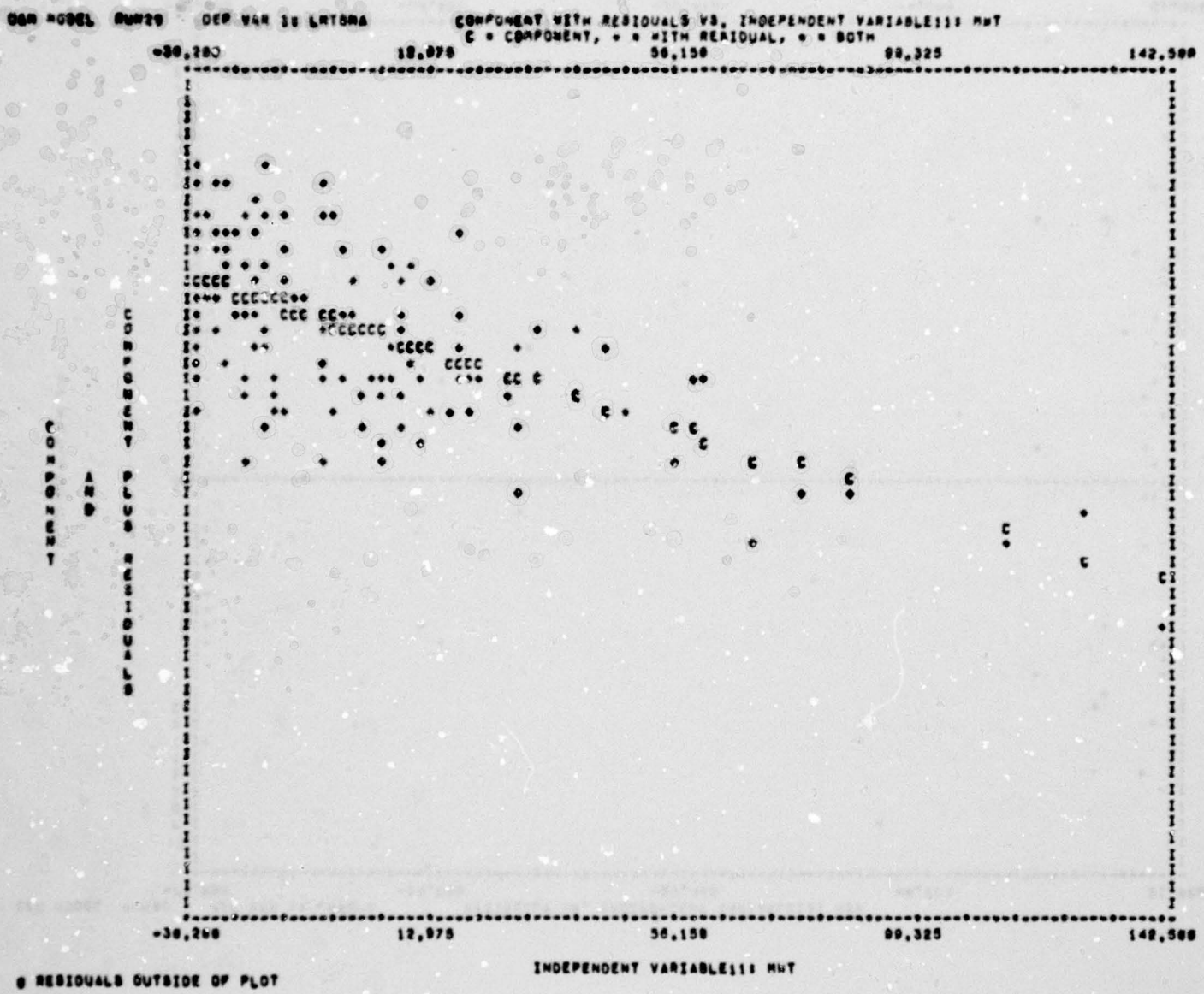

O&M MODEL RUN29 DEP VAR IS LNTSMA RESIDUALS VS. INDEPENDENT VARIABLE IS EM
0.0
25,000
50,000
75,000
100,000
POSITIVE
RESIDUALS
0
NEGATIVE
INDEPENDENT VARIABLE IS EM


GSM MODEL RUN20 DEP VAR 11 LNTSRA
COMPONENT WITH RESIDUALS VS. INDEPENDENT VARIABLE 91 EM
C = COMPONENT, + = WITH RESIDUAL, * = BOTH
COMPONENT AND COMPONENT PLUS RESIDUALS
0.0
25,000
50,000
75,000
100,000
INDEPENDENT VARIABLE 91 EM
0 RESIDUALS OUTSIDE OF PLOT


OLS MODEL RUN28 DEP VAR IS LNTONA RESIDUALS VS. INDEPENDENT VARIABLE(S): NVO
-1291,000
791,500
2834,000
4876,500
6919,000
POSITIVE
0
NEGATIVE
RESIDUALS
INDEPENDENT VARIABLE(S): NVO

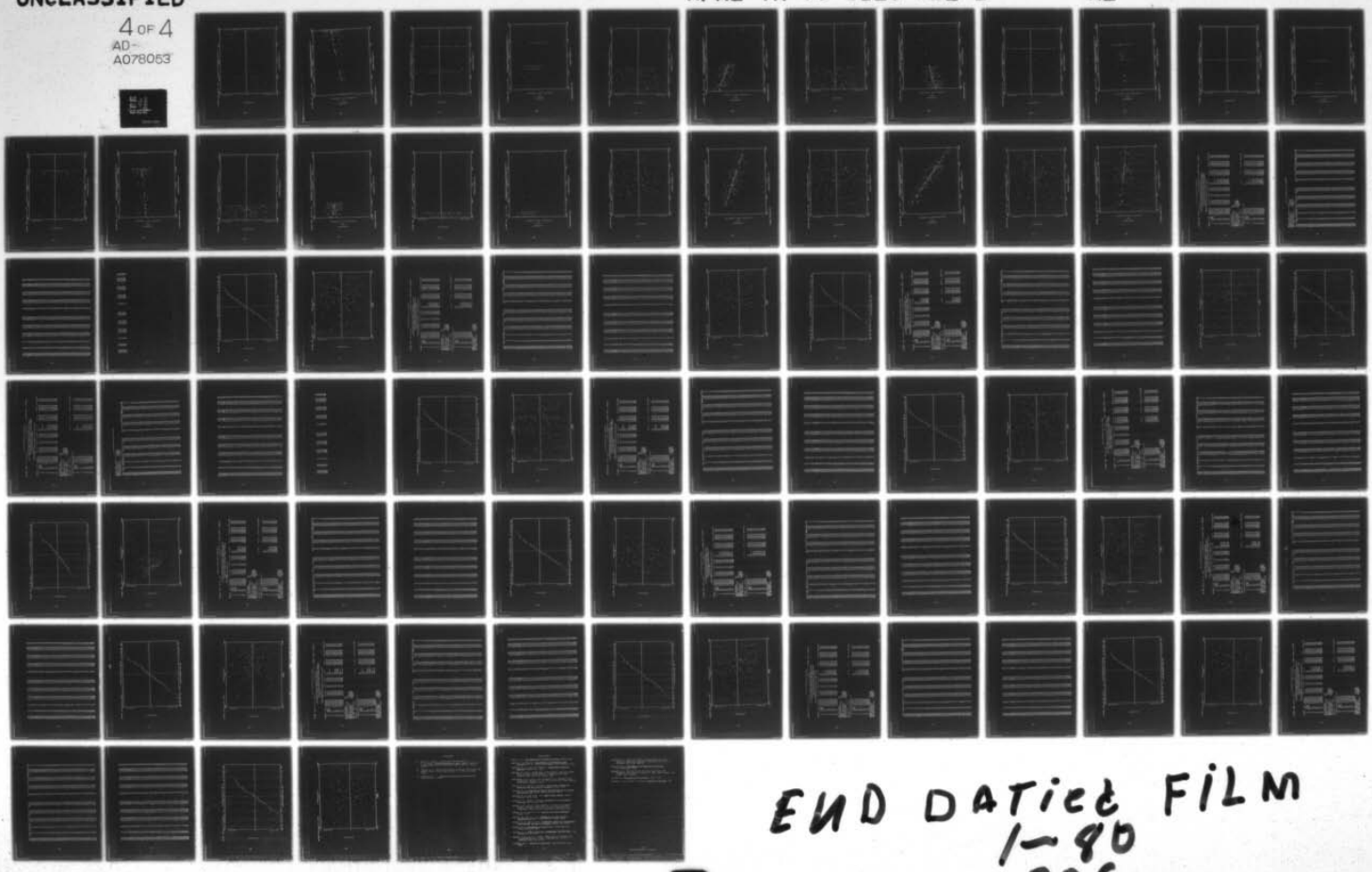

BSM MODEL RUN20 DEP VAR IS LNTSMA
COMPONENT WITH RESIDUALS VS. INDEPENDENT VARIABLE10: NVD
C = COMPONENT, * = WITH RESIDUAL, @ = BOTH
-1251.000
791.000
2834.000
4876.000
6919.000
COMPONENT AND COMPONENT PLUS RESIDUALS
INDEPENDENT VARIABLE10: NVD
@ RESIDUALS OUTSIDE OF PLOT


G&M MODEL RUN28 DEP VAR 1: LNTSMA RESIDUALS VS. INDEPENDENT VARIABLE11: MNT
-38,288
12,975
38,138
88,325
142,588
POSITIVE
RESIDUALS
0
NEGATIVE
-38,288
12,975
38,138
88,325
142,588
INDEPENDENT VARIABLE11: MNT

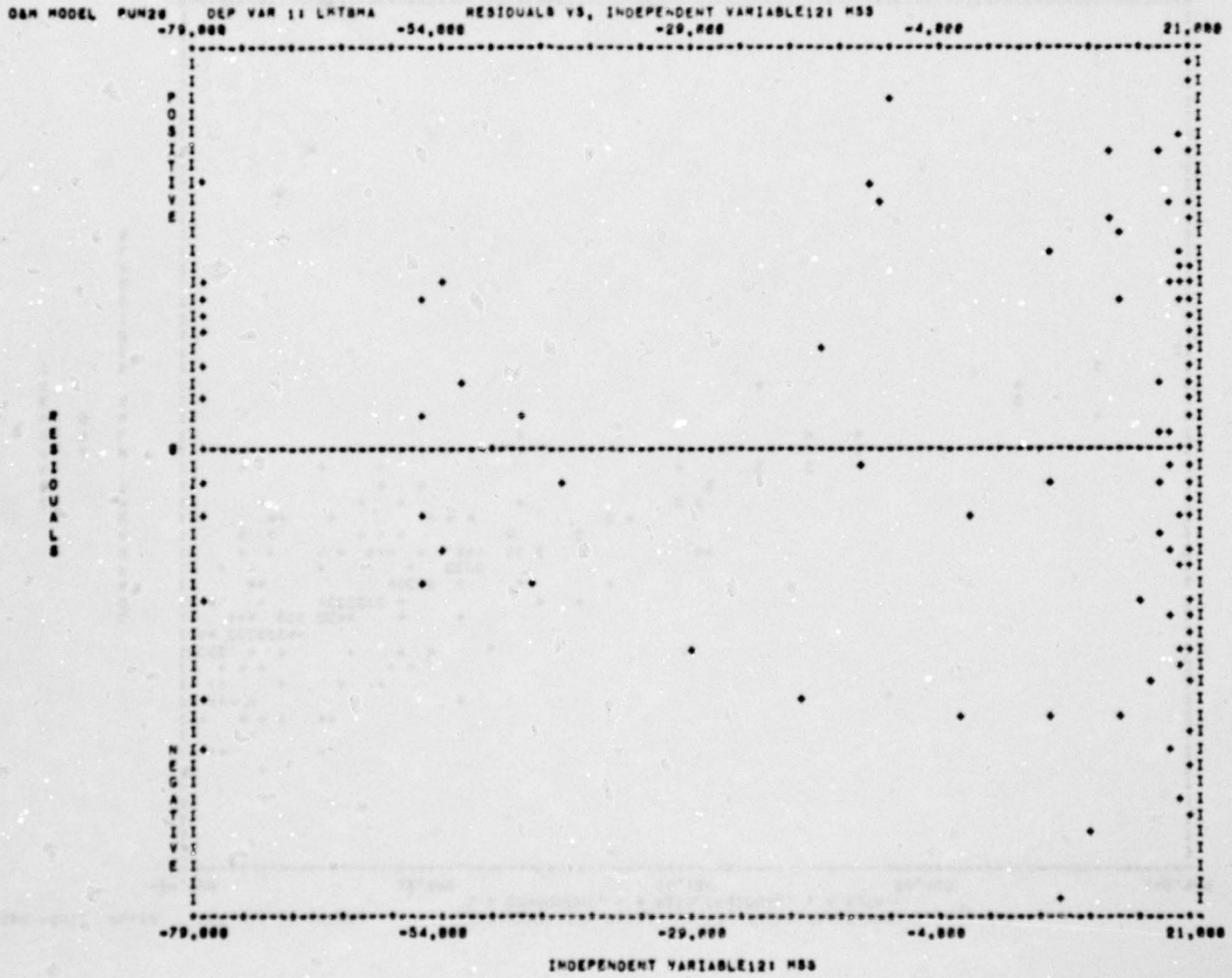

OSR MODEL RUN29 DEP VAR IS LRTORA
COMPONENT WITH RESIDUALS VS. INDEPENDENT VARIABLE(S): MWT
C = COMPONENT, + = WITH RESIDUAL, * = BOTH
-30,280
18,975
56,150
93,325
142,500
COMPONENT AND COMPONENT PLUS RESIDUALS
INDEPENDENT VARIABLE(S): MWT
0 RESIDUALS OUTSIDE OF PLOT

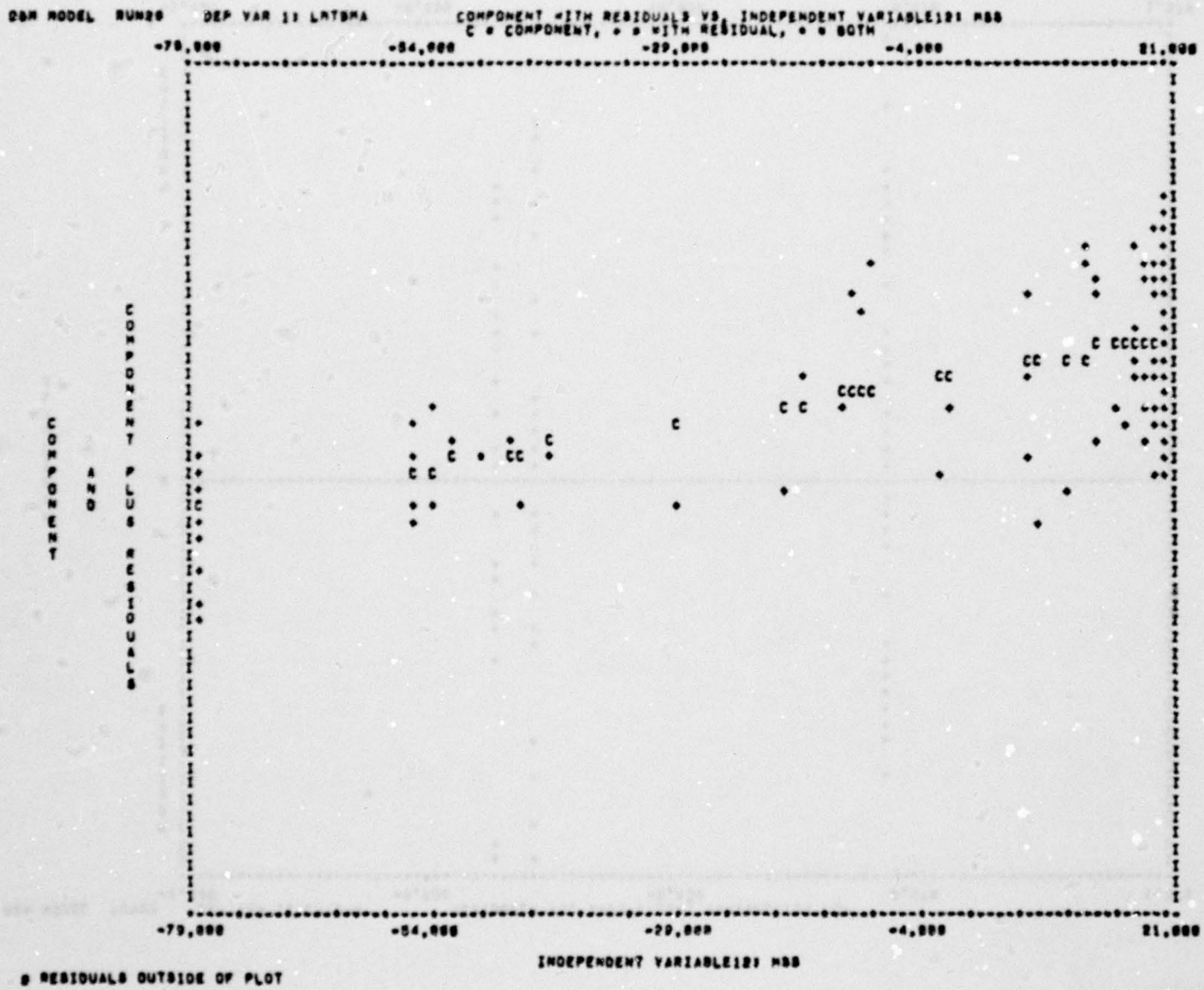
AD-A078 053 WESTINGHOUSE ELECTRIC CORP HUNT VALLEY MD F/G 14/1
PREDICTIVE OPERATIONS AND MAINTENANCE COST MODEL. VOLUME II.(U)
AUG 79 E E FELTUS F33615-77-C-1105
UNCLASSIFIED AFAL-TR-79-1120-VOL-2 NL

4 OF 4
AD-
A078053

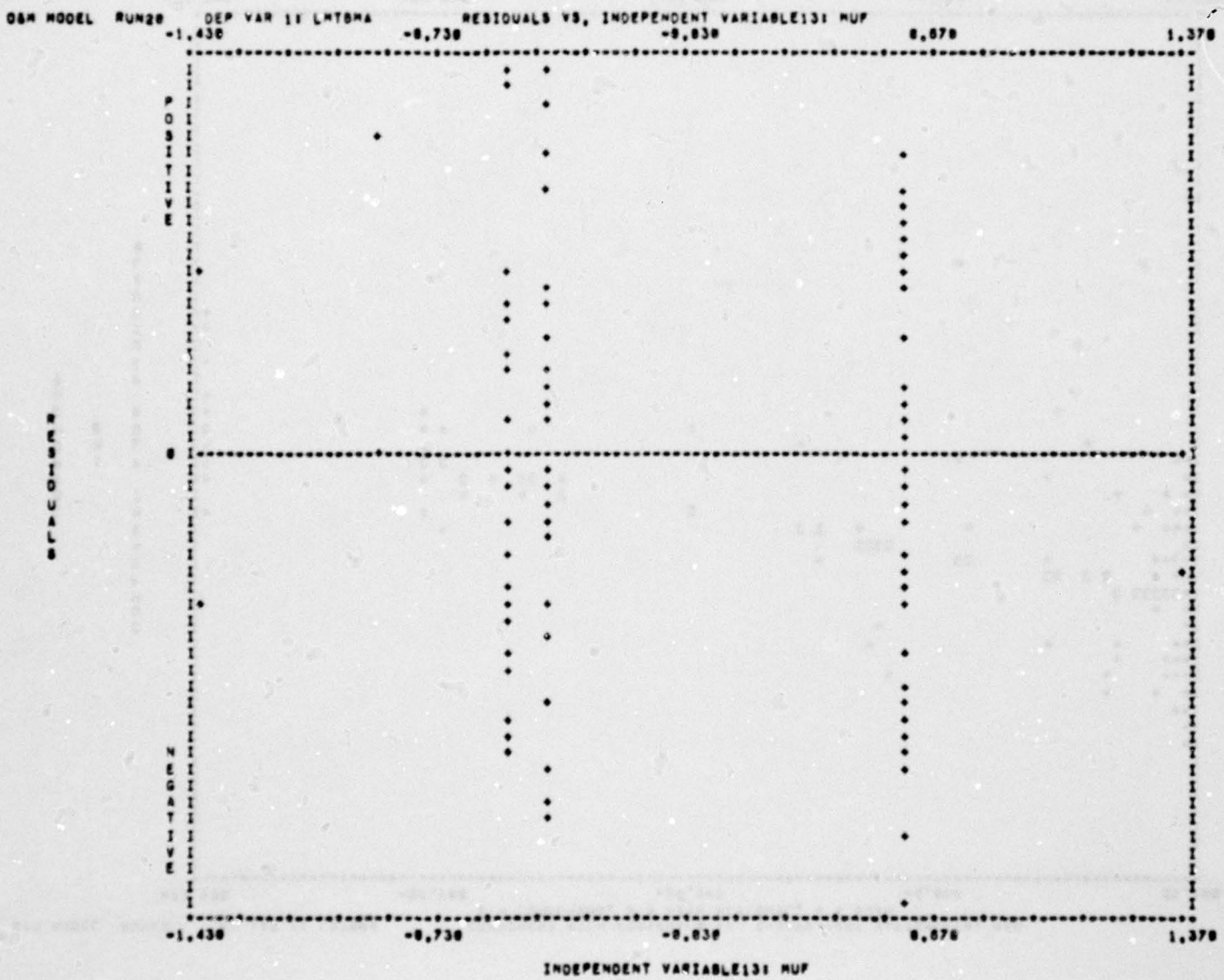


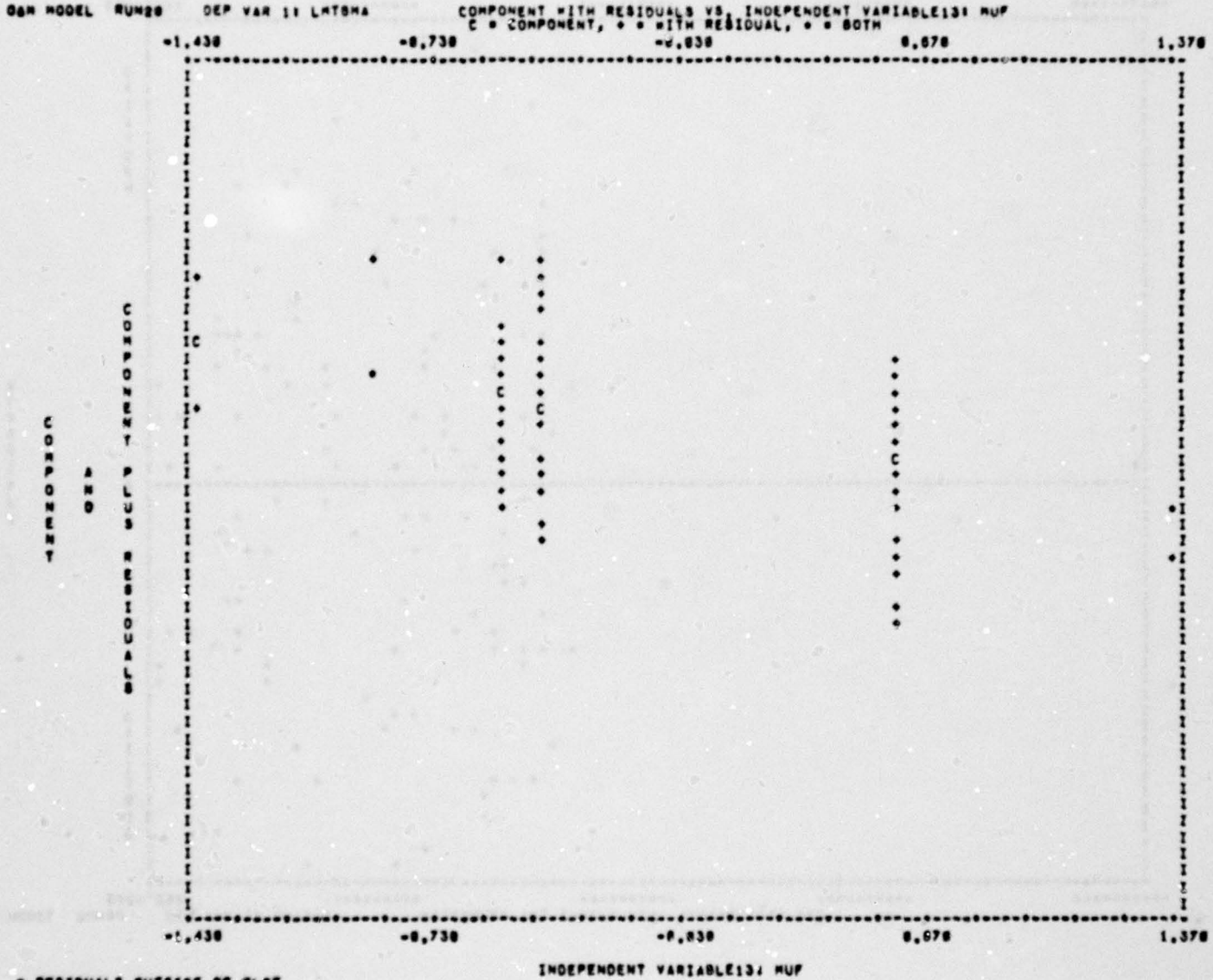
END DATE FILMED
1-80
DDC

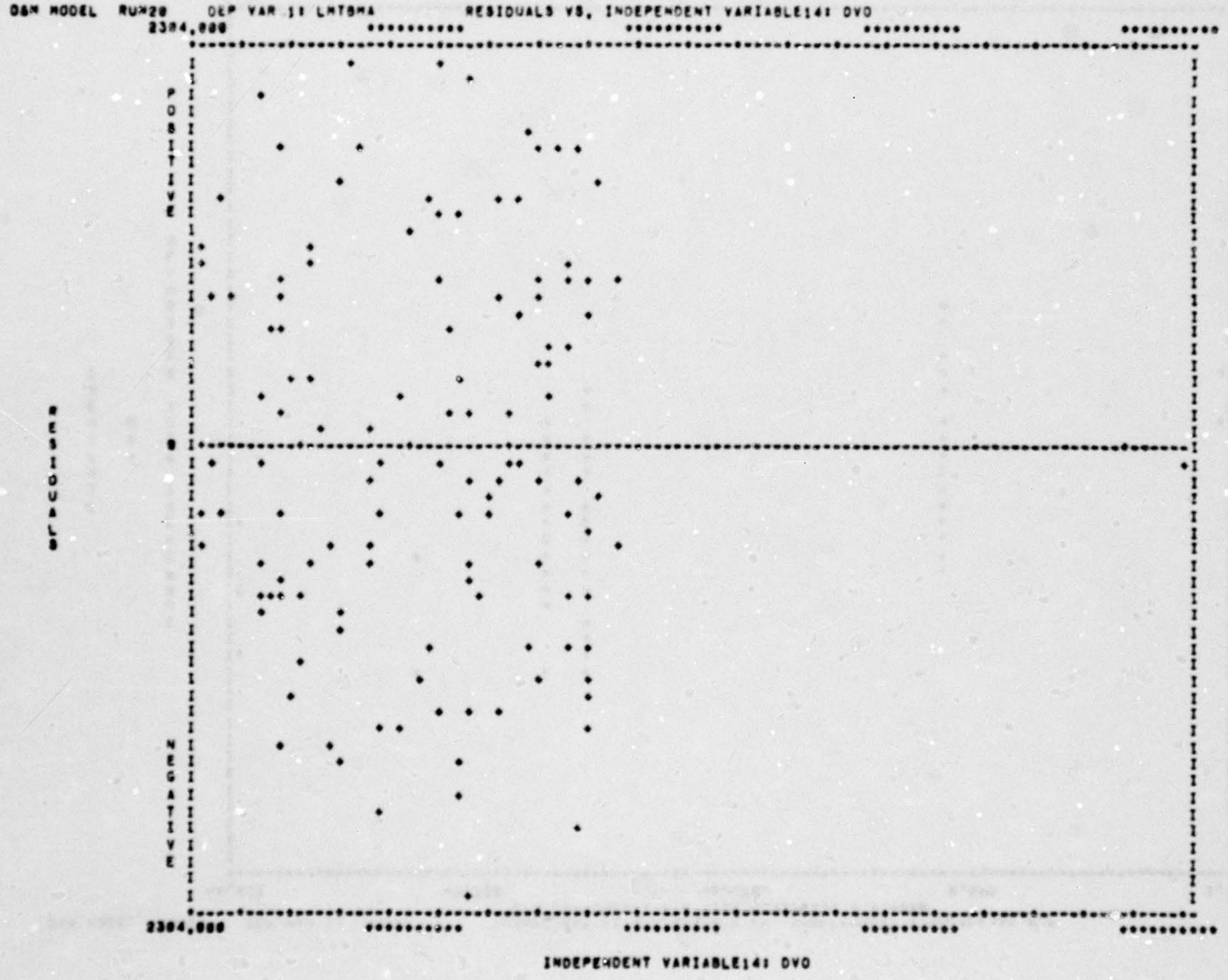

O&M MODEL PUN28 DEP VAR 1: LMTBMA RESIDUALS VS. INDEPENDENT VARIABLE12: MSS
-79,000
-54,000
-29,000
-4,000
21,000
POSITIVE
RESIDUALS
0
NEGATIVE
INDEPENDENT VARIABLE12: MSS

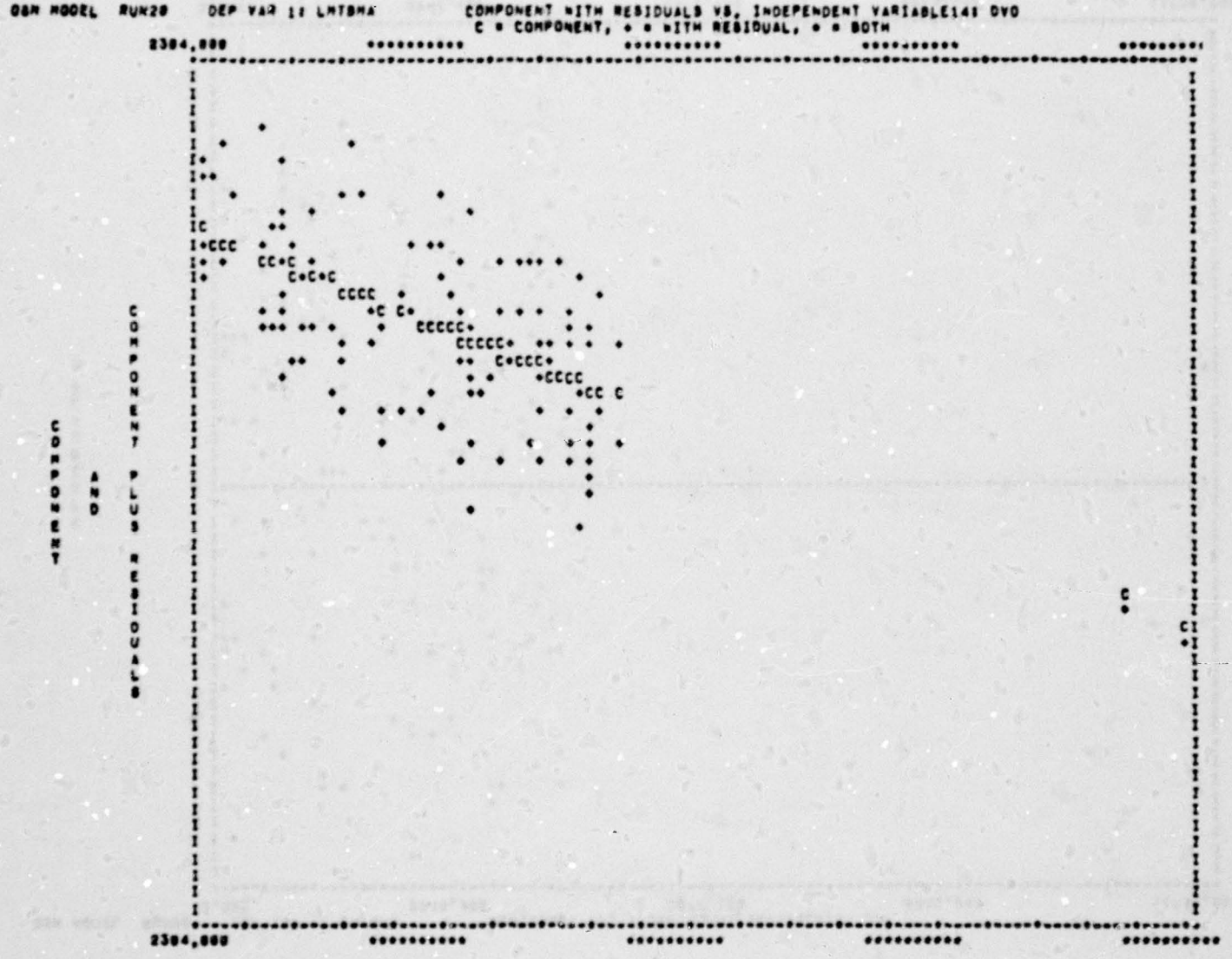



0 RESIDUALS OUTSIDE OF PLOT

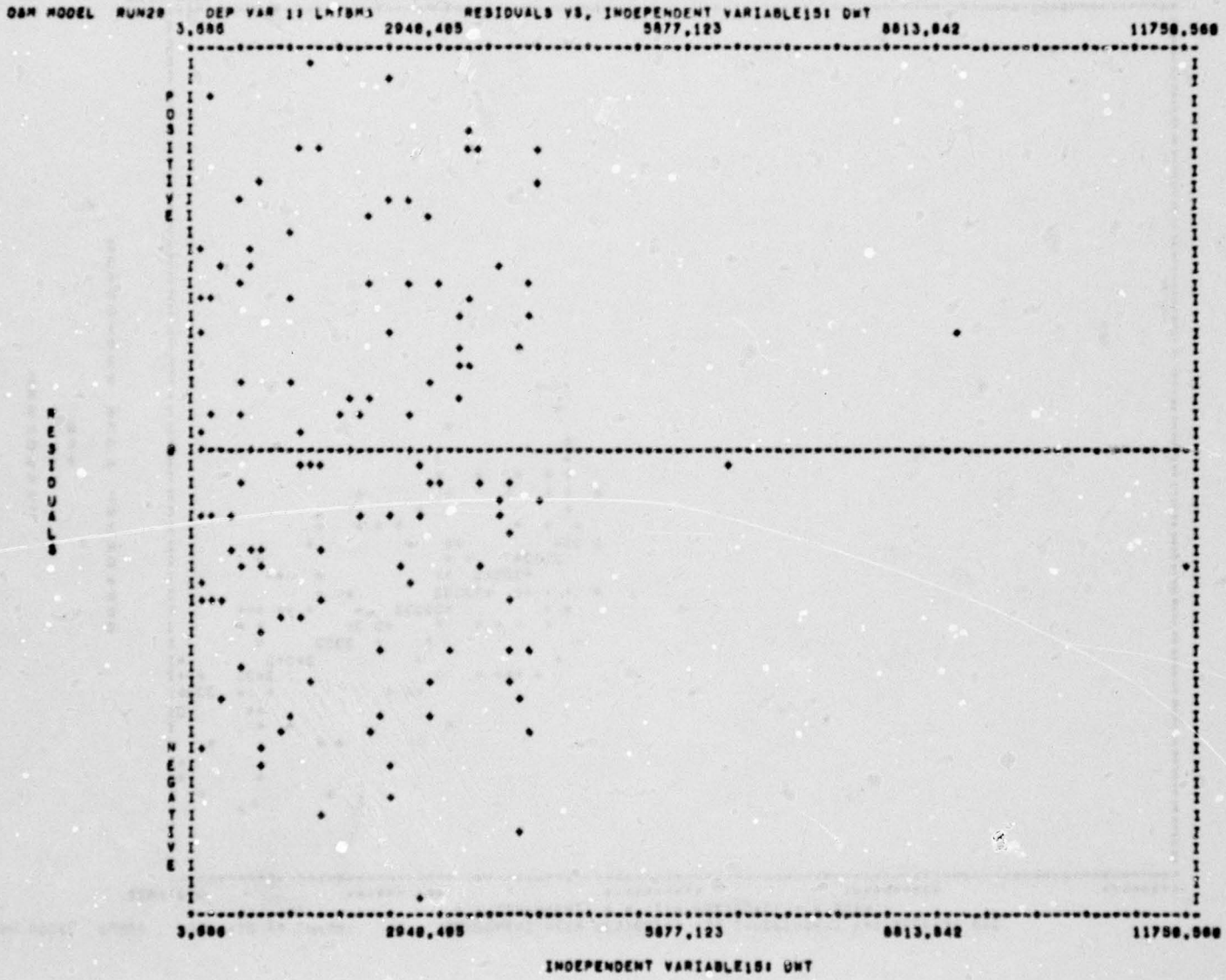

G&M MODEL RUN28 DEP VAR IS LMTBMA RESIDUALS VS. INDEPENDENT VARIABLE(3): MUF
-1.438
-0.738
-0.038
0.678
1.378
POSITIVE
0
NEGATIVE
RESIDUALS
INDEPENDENT VARIABLE(3): MUF

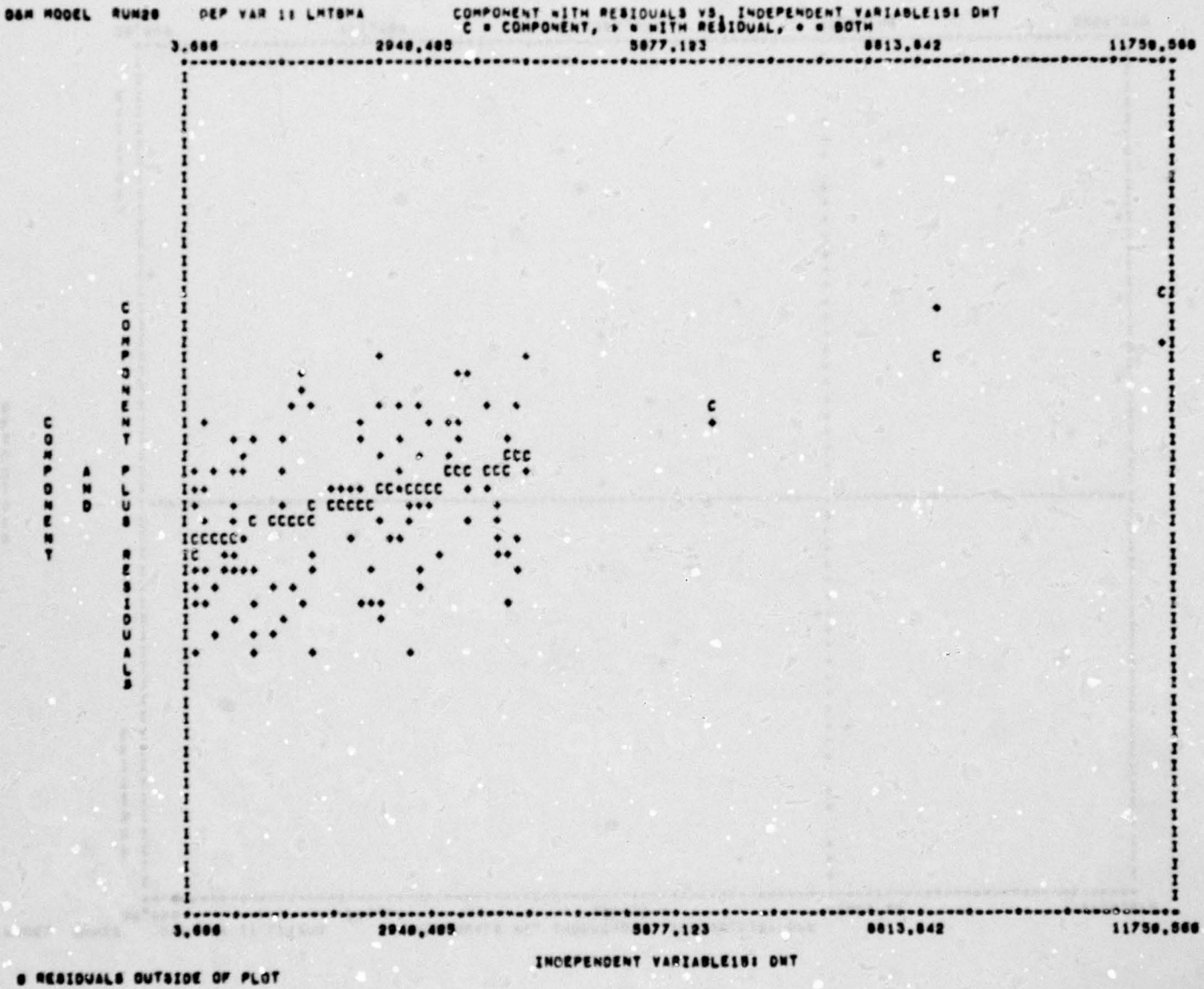

G&M MODEL RUN20 DEP VAR IS LMTSMA COMPONENT WITH RESIDUALS VS. INDEPENDENT VARIABLE13: MUF
C = COMPONENT, + = WITH RESIDUAL, * = BOTH
-1.438
-0.738
-0.038
0.678
1.378
COMPONENT PLUS RESIDUAL
COMPONENT AND
INDEPENDENT VARIABLE13: MUF
0 RESIDUALS OUTSIDE OF PLOT

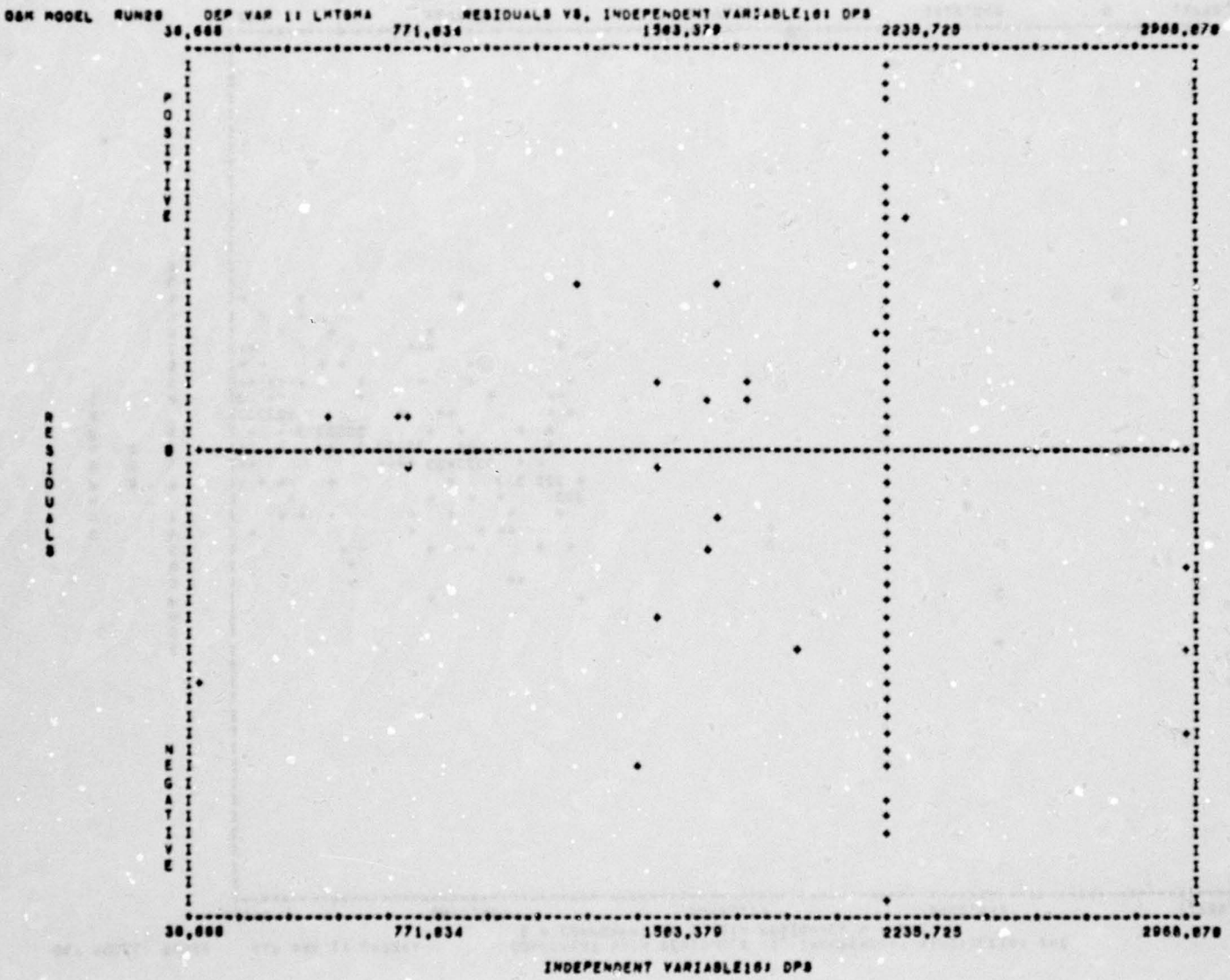

D&M MODEL RUN28 DEP VAR 1: LMTSMA RESIDUALS VS. INDEPENDENT VARIABLE14: DVO
2384.000
POSITIVE
RESIDUALS
0
NEGATIVE
2384.000
INDEPENDENT VARIABLE14: DVO

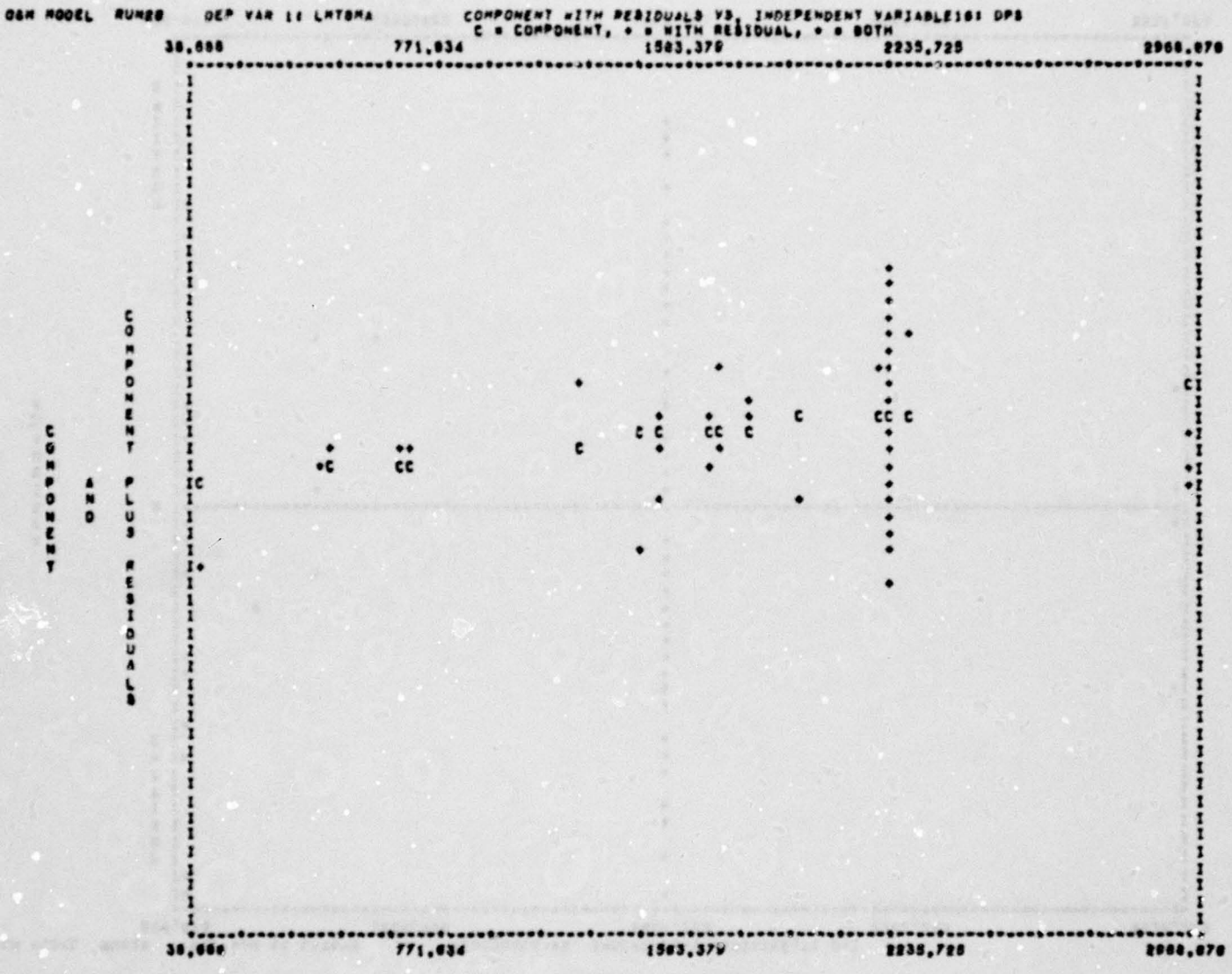


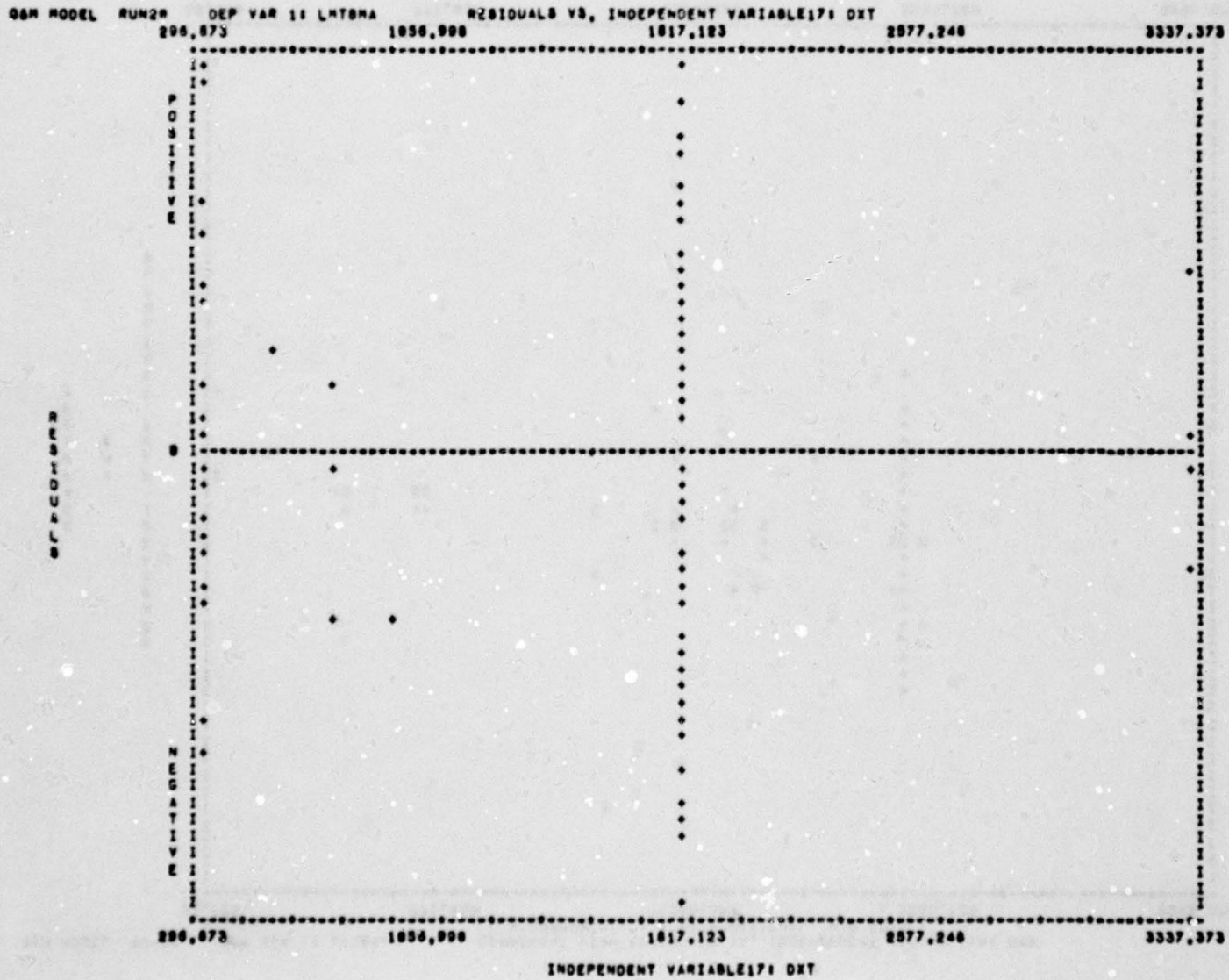

0 RESIDUALS OUTSIDE OF PLOT

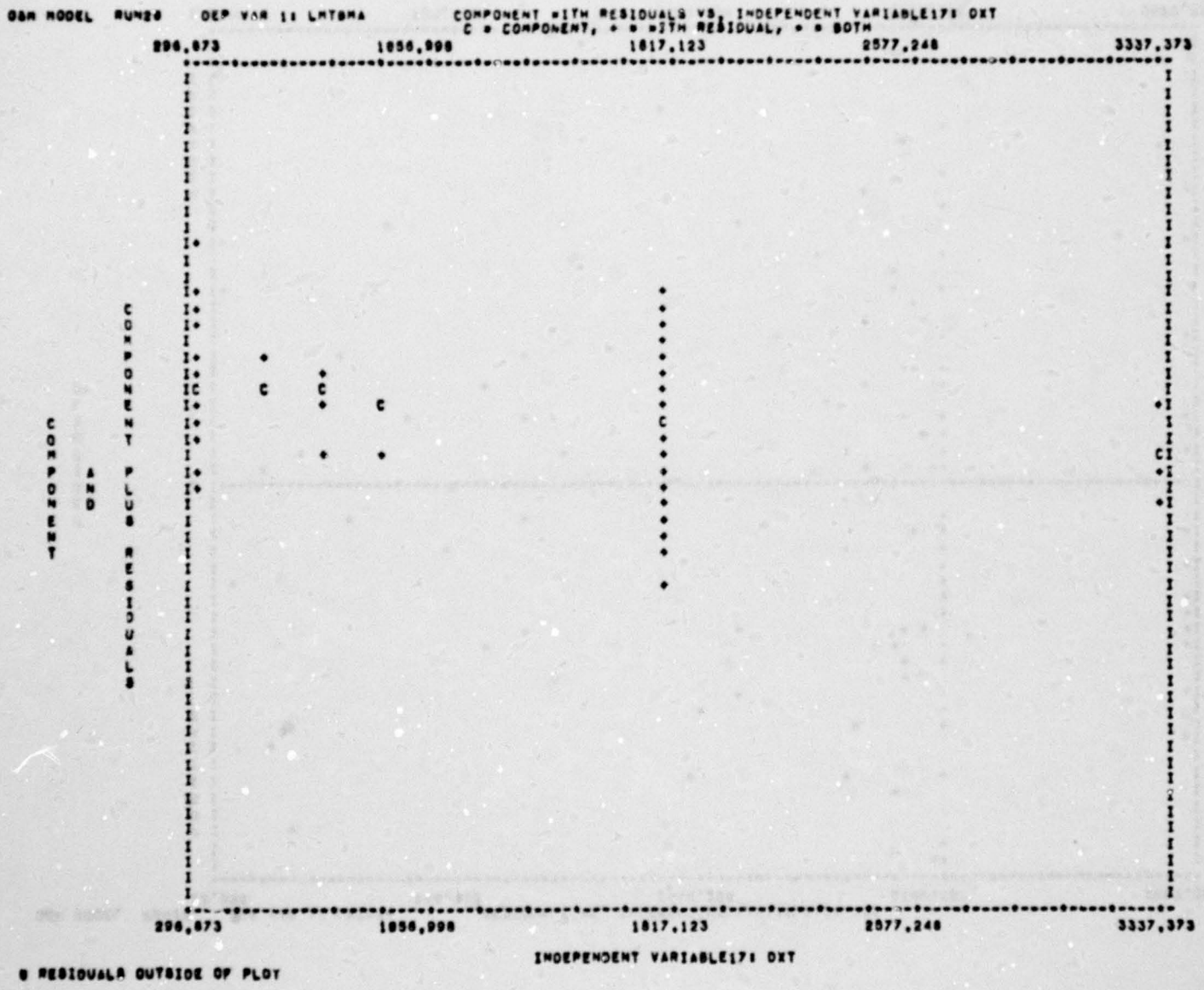

O&M MODEL RUN28 DEP VAR IS LN(O&M) RESIDUALS VS. INDEPENDENT VARIABLE(S): DHT
3,686
2948,485
5877,123
8813,842
11750,560
POSITIVE
RESIDUALS
0
NEGATIVE
INDEPENDENT VARIABLE(S): DHT

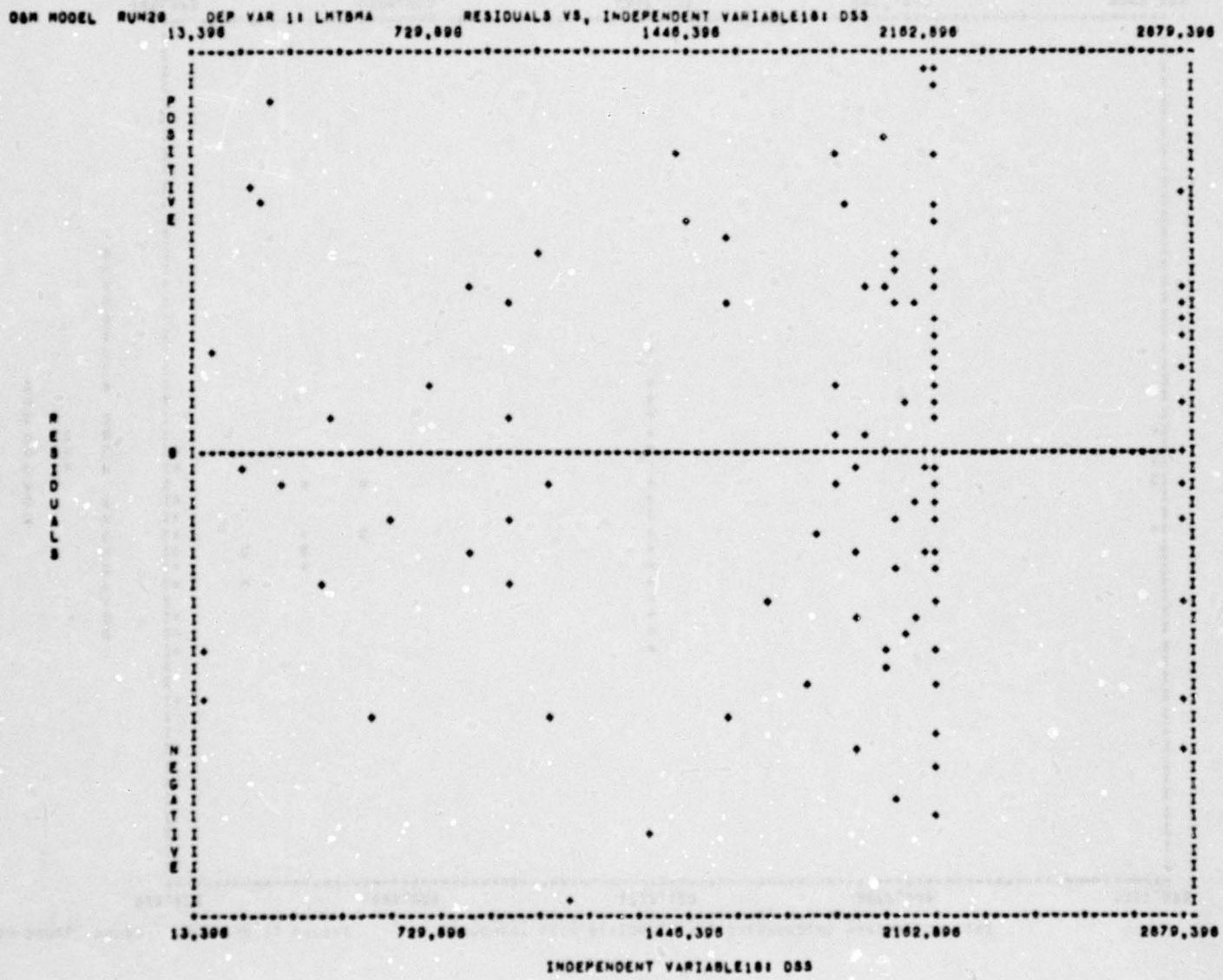

GSM MODEL RUN20 DEP VAR 1: LNTSMA
COMPONENT WITH RESIDUALS VS. INDEPENDENT VARIABLE15: DNT
C = COMPONENT, > = WITH RESIDUAL, * = BOTH
3,686
2948,405
5877,123
8813,842
11750,560
COMPONENT AND COMPONENT PLUS RESIDUALS
INDEPENDENT VARIABLE15: DNT
0 RESIDUALS OUTSIDE OF PLOT

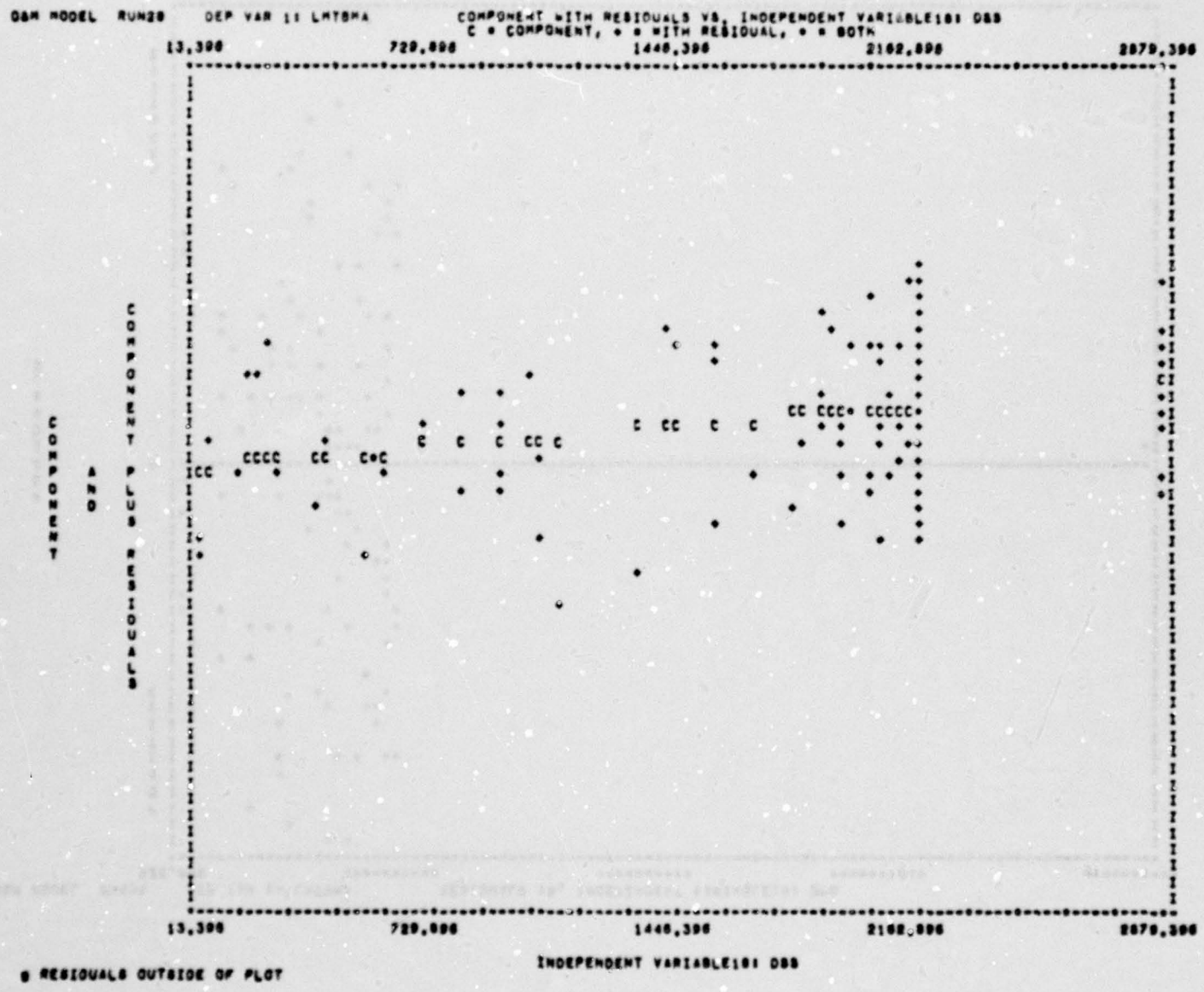

BSK MODEL RUN28 DEP VAR IS LNTSMA RESIDUALS VS. INDEPENDENT VARIABLE(S) DPS
38,688
771,834
1503,379
2235,725
2968,070
POSITIVE
RESIDUALS
0
NEGATIVE
INDEPENDENT VARIABLE(S) DPS

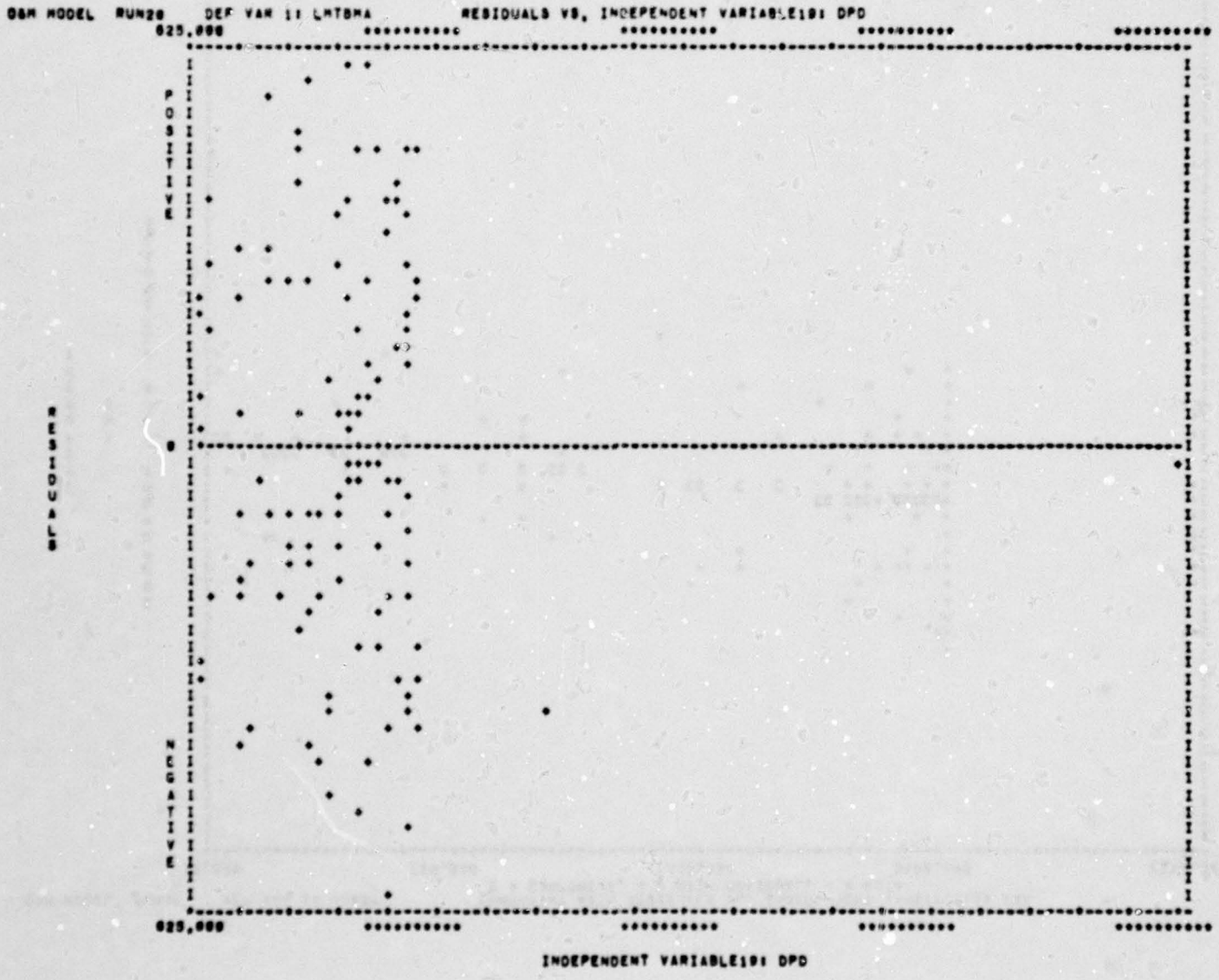

O&M MODEL RUN28 DEP VAR IS LMTBMA COMPONENT WITH RESIDUALS VS. INDEPENDENT VARIABLE161 OPS
C = COMPONENT, + = WITH RESIDUAL, * = BOTH
38,688
771,634
1503,379
2235,725
2968,070
COMPONENT PLUS RESIDUALS
COMPONENT AND
INDEPENDENT VARIABLE161 OPS
0 RESIDUALS OUTSIDE OF PLOT

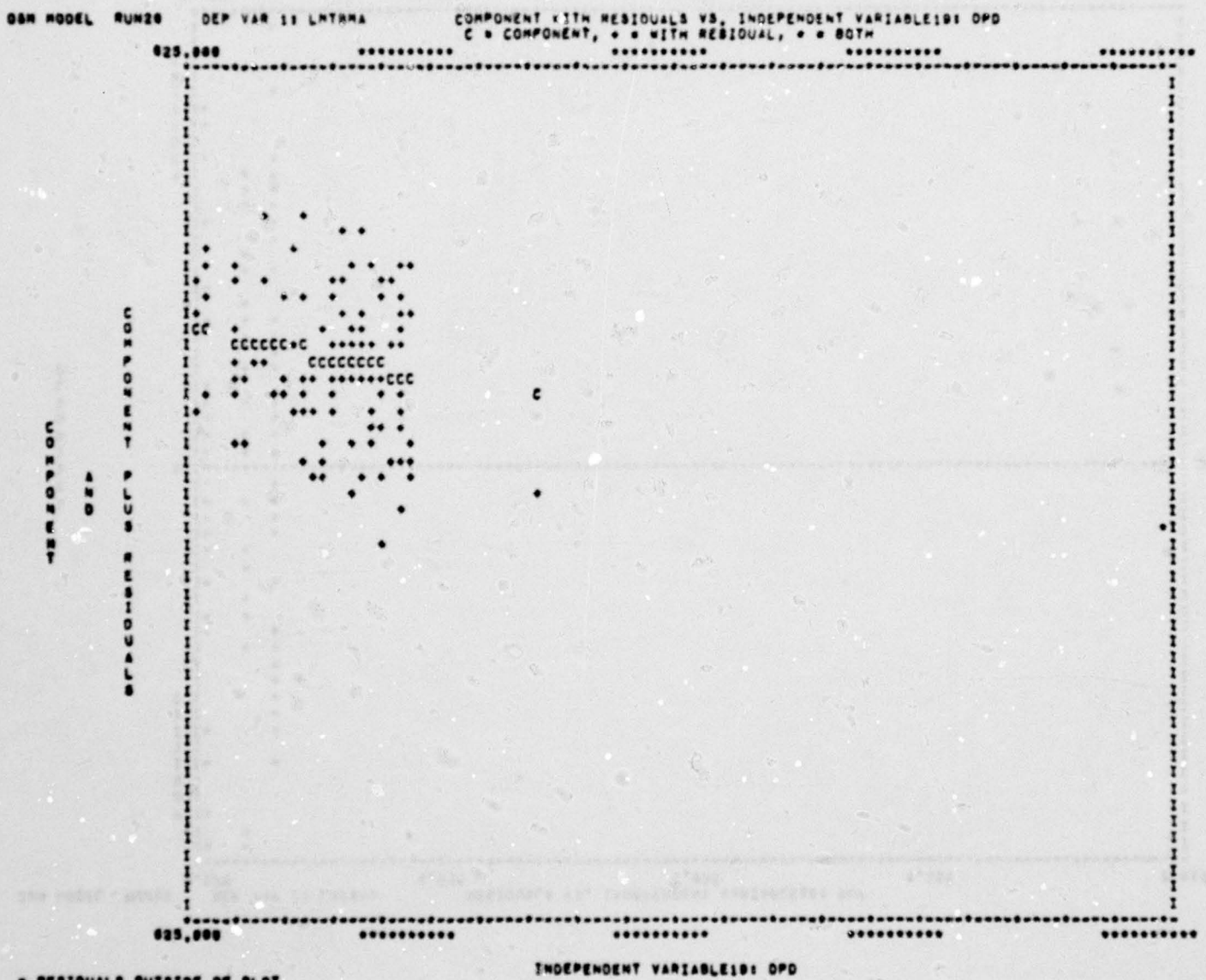

G&M MODEL RUN2R DEP VAR 1: LNTSMA RESIDUALS VS. INDEPENDENT VARIABLE17: DXT
296,873
1056,998
1817,123
2577,248
3337,373
POSITIVE
0
NEGATIVE
RESIDUALS
INDEPENDENT VARIABLE17: DXT


G&M MODEL RUN20 DEP VAR 1: LMTBMA COMPONENT WITH RESIDUALS VS. INDEPENDENT VARIABLE17: DXT
C = COMPONENT, + = WITH RESIDUAL, * = BOTH
296,873
1856,998
1817,123
2577,248
3337,373
COMPONENT PLUS RESIDUALS
AND
COMPONENT
INDEPENDENT VARIABLE17: DXT
0 RESIDUALS OUTSIDE OF PLOT

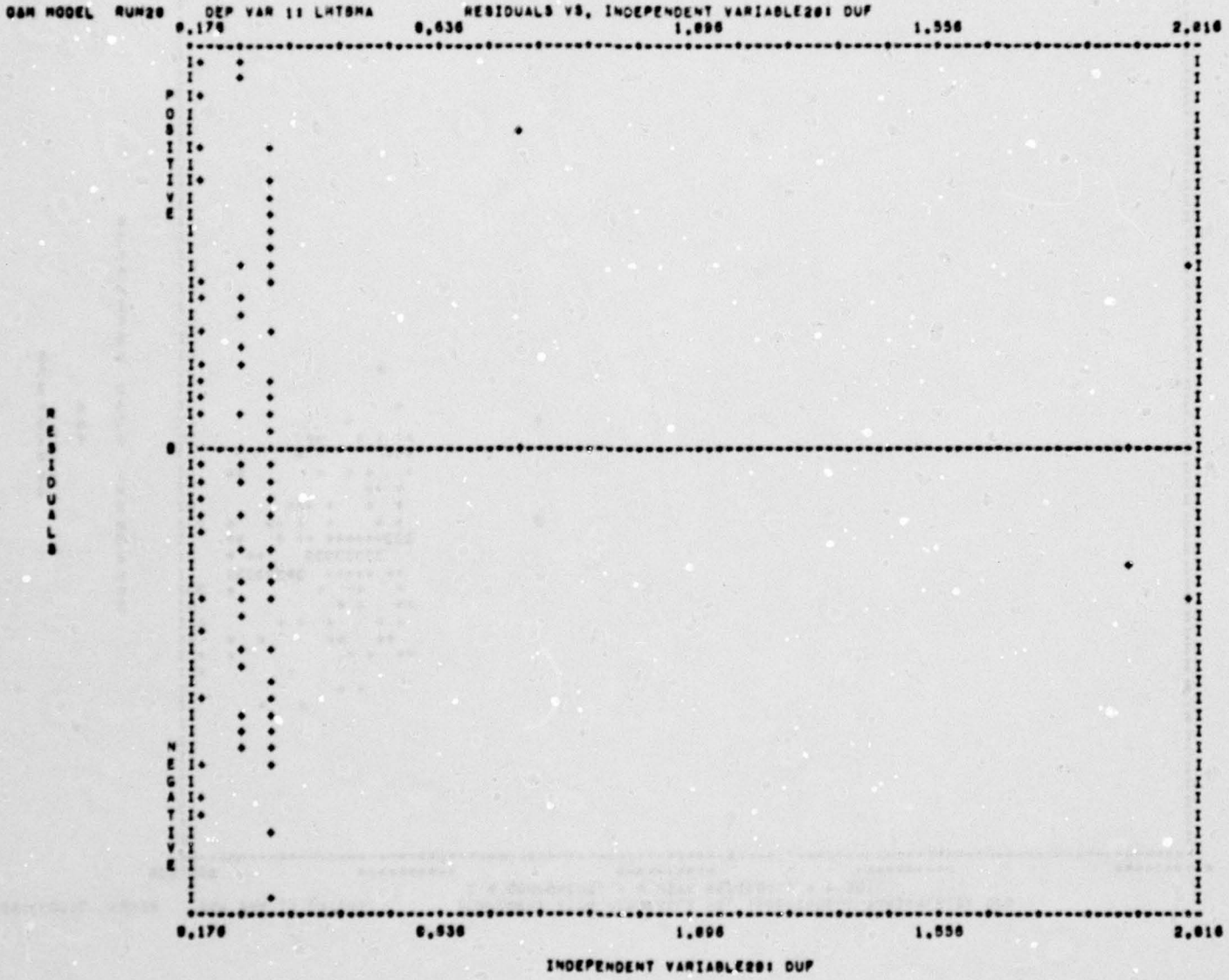

OSM MODEL RUN28 DEP VAR 1: LMTSMA RESIDUALS VS. INDEPENDENT VARIABLE16: DS3
13,396
729,896
1446,396
2162,896
2879,396
POSITIVE
RESIDUALS
0
NEGATIVE
INDEPENDENT VARIABLE16: DS3

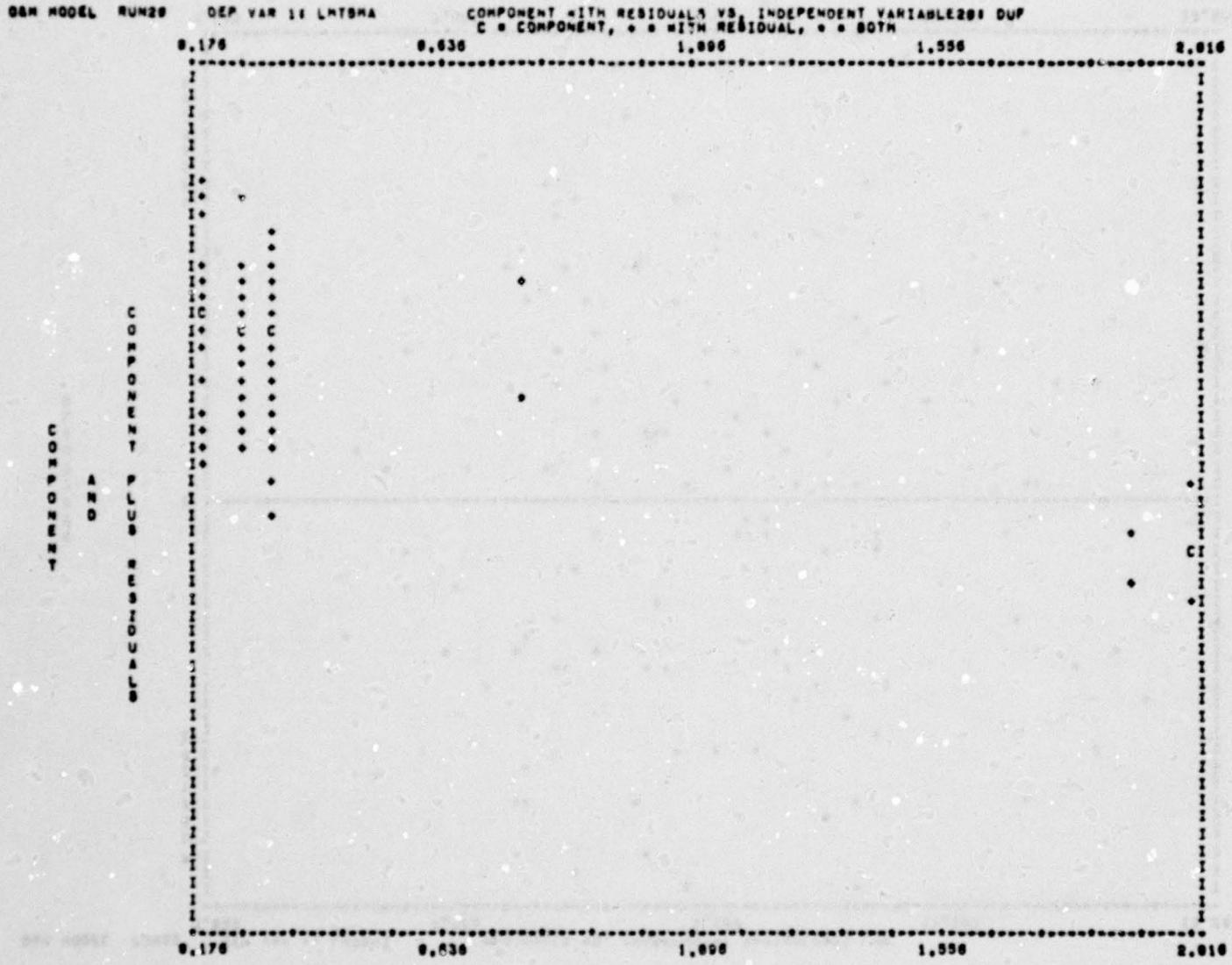

O&M MODEL RUN28 DEP VAR 11 LMTSMA
COMPONENT WITH RESIDUALS VS. INDEPENDENT VARIABLE101 O&S
C = COMPONENT, * = WITH RESIDUAL, + = BOTH
13,396
729,896
1446,396
2162,896
2879,396
COMPONENT AND COMPONENT PLUS RESIDUALS
INDEPENDENT VARIABLE101 O&S
0 RESIDUALS OUTSIDE OF PLOT

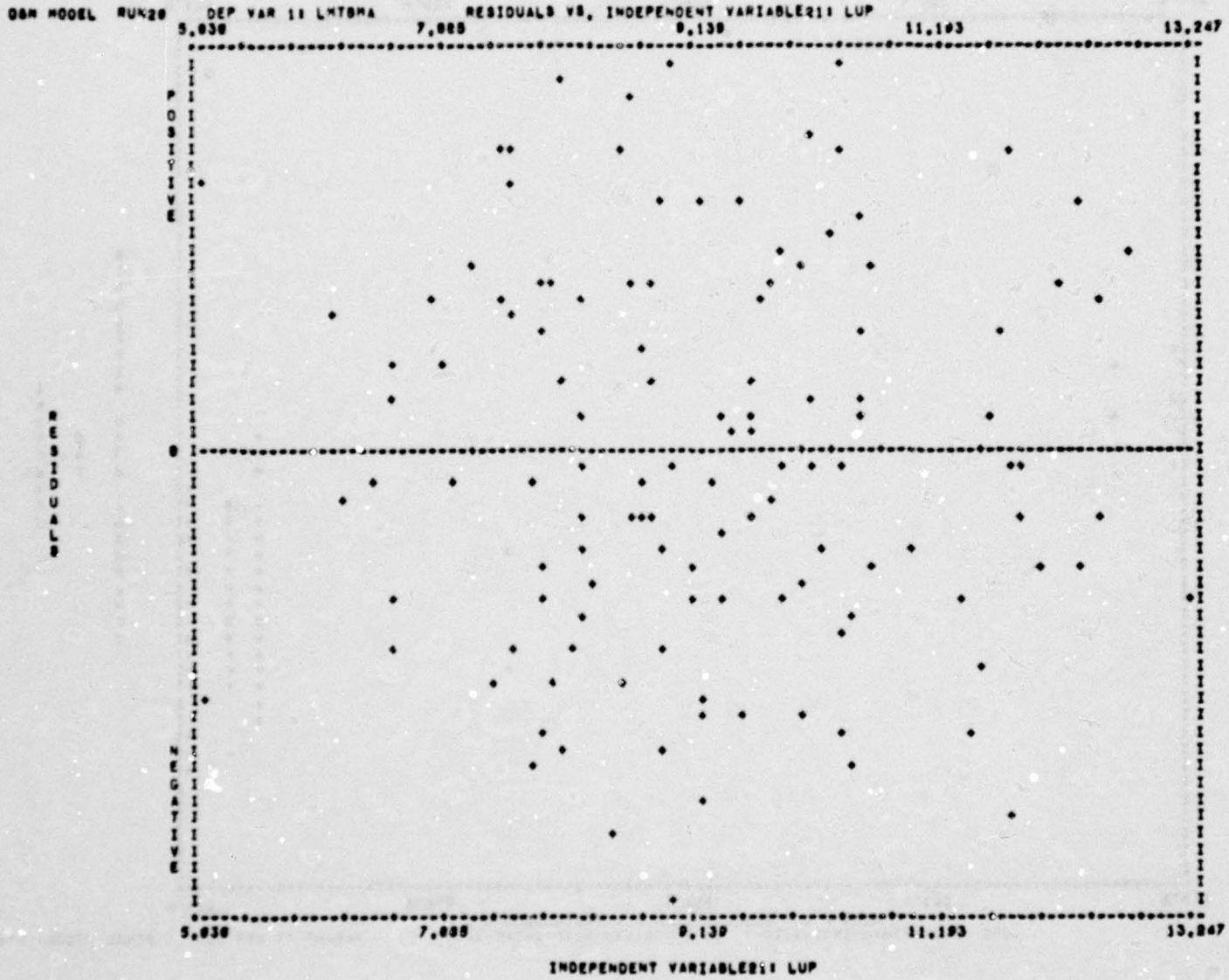

G&M MODEL RUN28 DEF VAR 1: LMTBMA RESIDUALS VS, INDEPENDENT VARIABLE19: DPD
625.000
POSITIVE
0
NEGATIVE
625.000
RESIDUALS
INDEPENDENT VARIABLE19: DPD

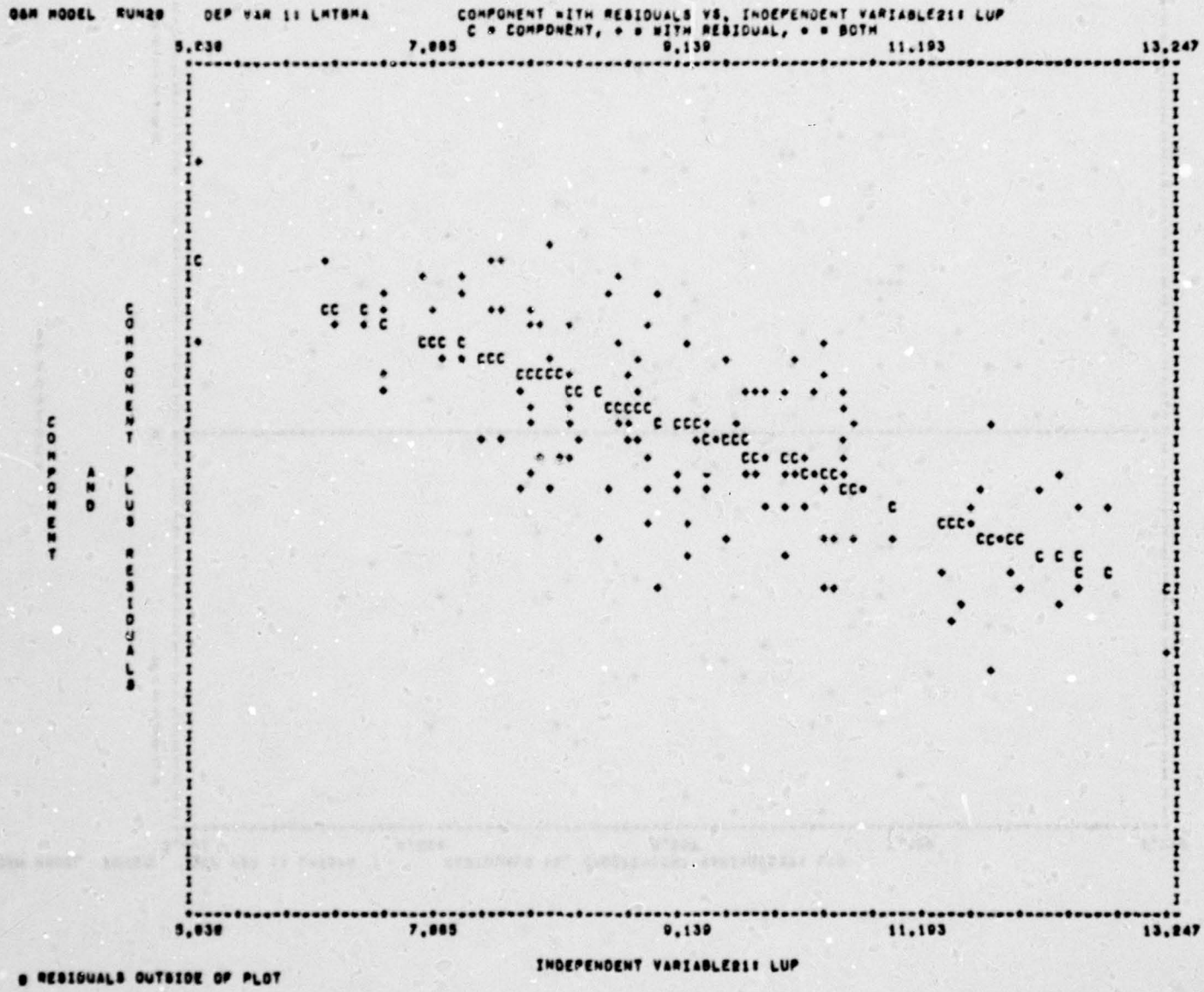


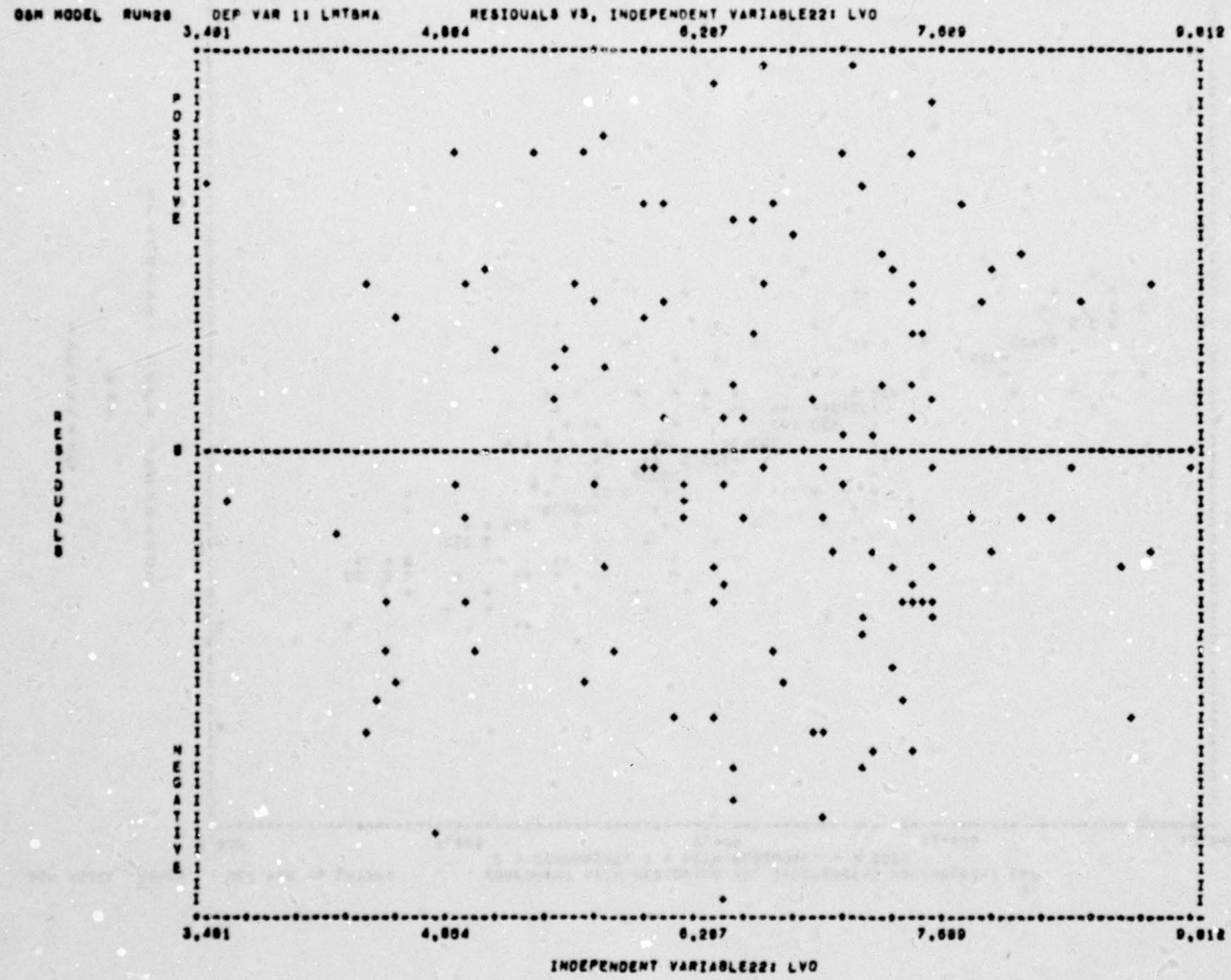

* RESIDUALS OUTSIDE OF PLOT

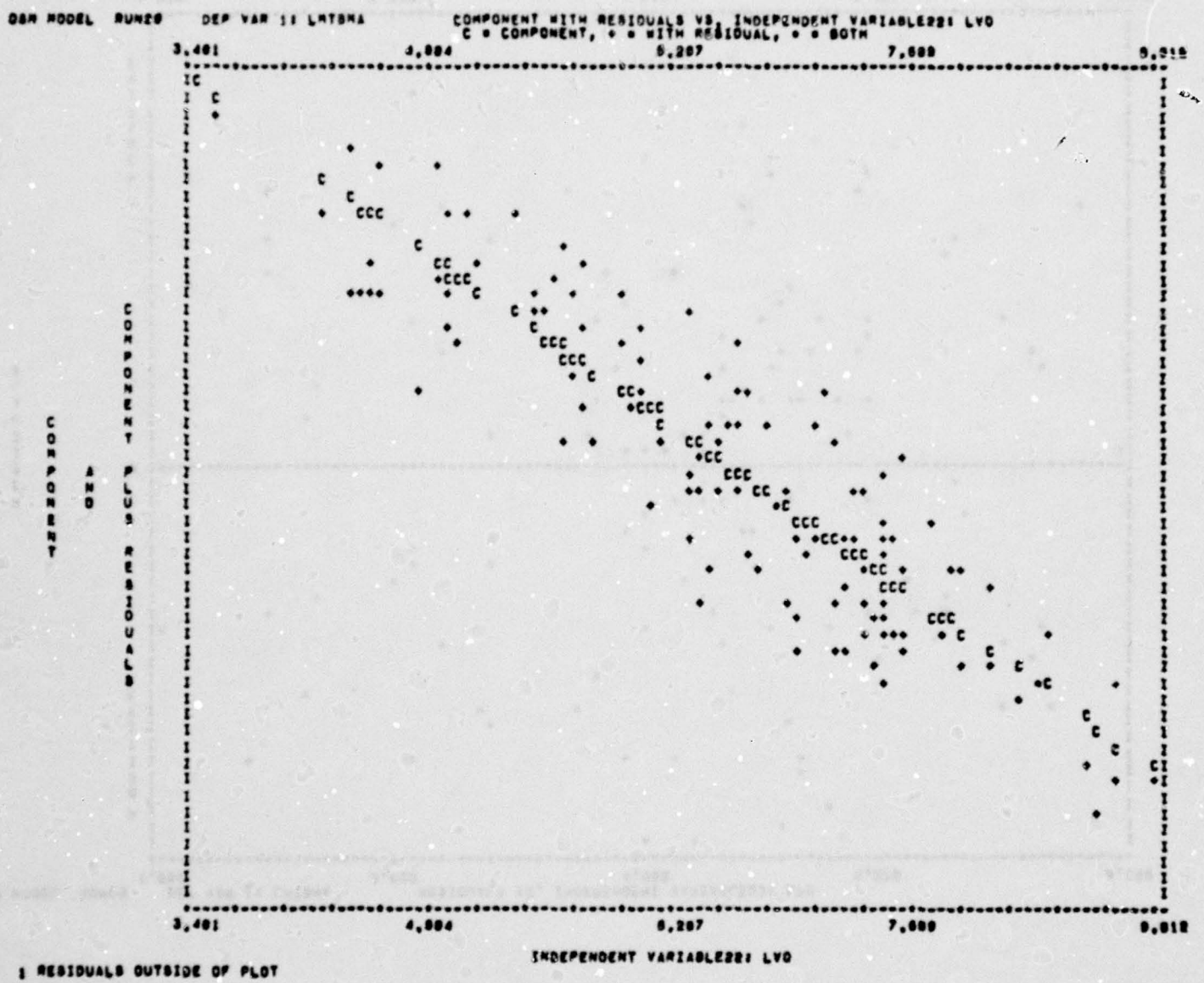

G&M MODEL RUN28 DEP VAR 1: LHTSMA RESIDUALS VS. INDEPENDENT VARIABLE28: DUF
0.176
0.636
1.096
1.556
2.016
POSITIVE RESIDUALS
0
NEGATIVE
INDEPENDENT VARIABLE28: DUF


G&M MODEL RUN28 DEP VAR IS LMTSMA COMPONENT WITH RESIDUALS VS. INDEPENDENT VARIABLE28: DUP
C = COMPONENT, * = WITH RESIDUAL, @ = BOTH
0.176
0.636
1.096
1.556
2.016
COMPONENT AND COMPONENT PLUS RESIDUALS
INDEPENDENT VARIABLE28: DUP
0 RESIDUALS OUTSIDE OF PLOT

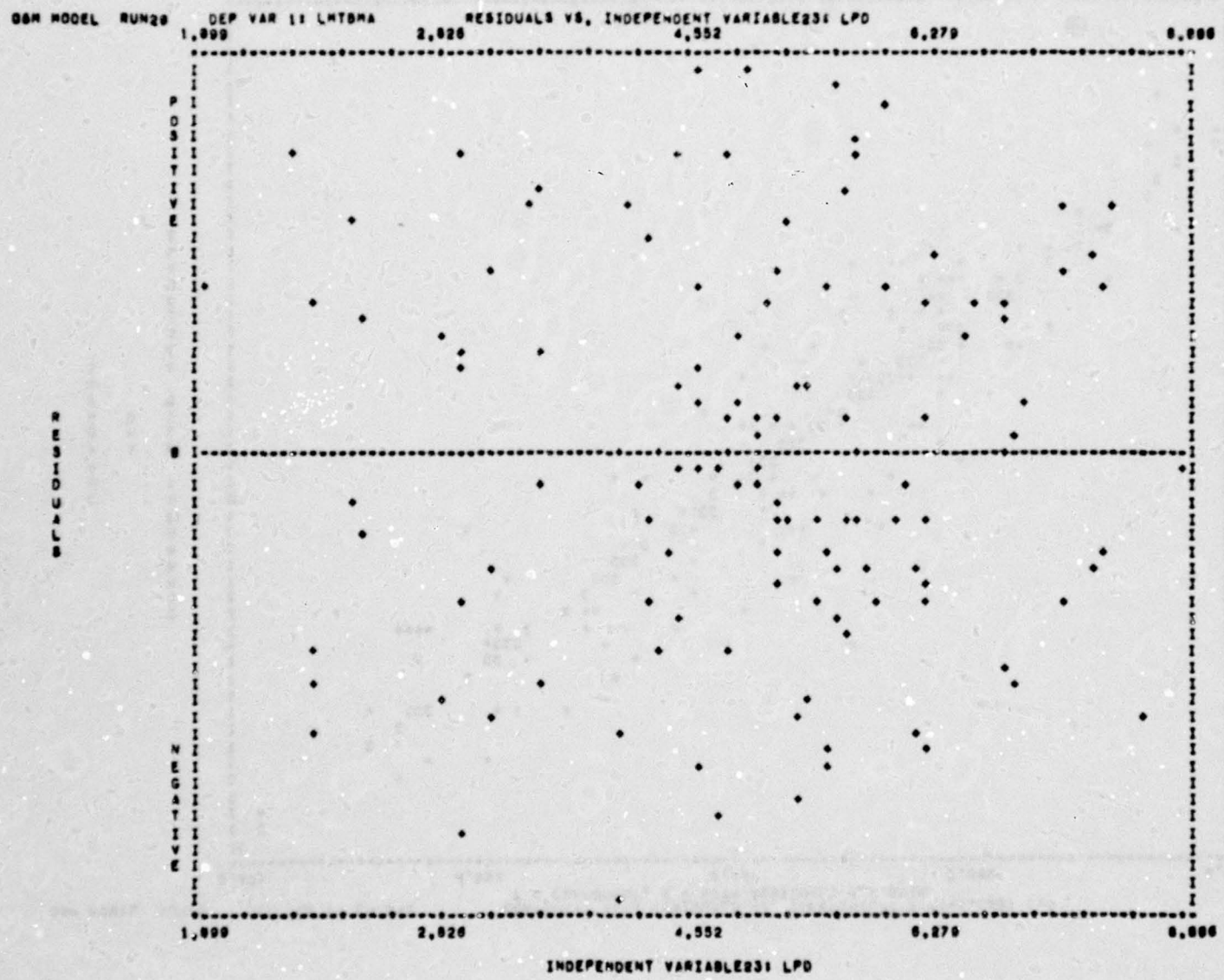

GBH MODEL RUN20 DEP VAR 11 LMTBMA RESIDUALS VS, INDEPENDENT VARIABLE21 LUP
5,038
7,088
9,139
11,193
13,247
POSITIVE
RESIDUALS
0
NEGATIVE
INDEPENDENT VARIABLE21 LUP

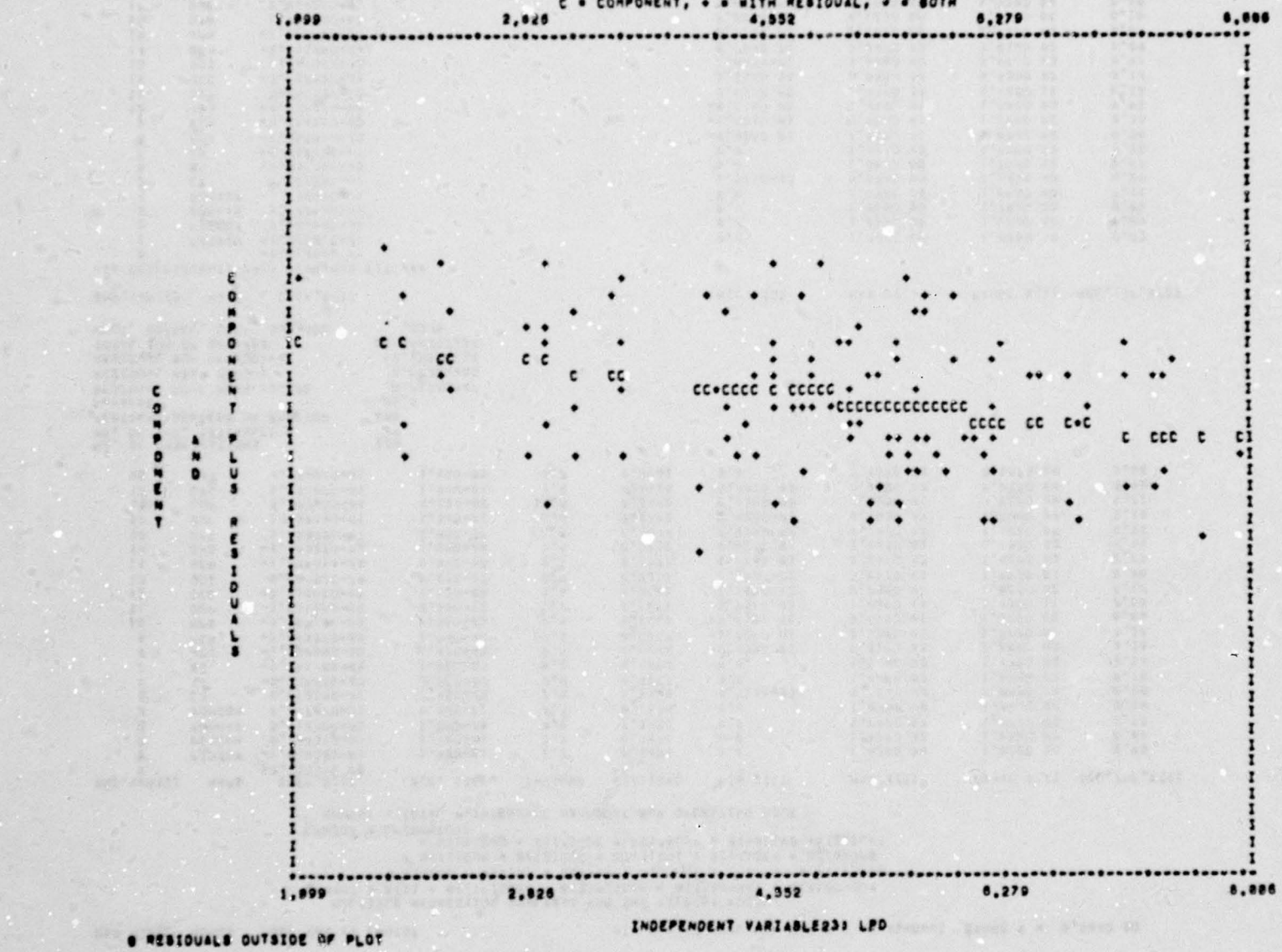

GSM MODEL RUN20 DEP VAR 11 LMTBMA
COMPONENT WITH RESIDUALS VS, INDEPENDENT VARIABLE21: LUP
C = COMPONENT, + = WITH RESIDUAL, * = BOTH
5,238
7,885
9,139
11,193
13,247
COMPONENT AND COMPONENT PLUS RESIDUALS
INDEPENDENT VARIABLE21: LUP
0 RESIDUALS OUTSIDE OF PLOT


GSM MODEL RUN28 DEP VAR 1: LMTSMA RESIDUALS VS. INDEPENDENT VARIABLE22: LVO
3,481
4,884
6,287
7,689
9,812
POSITIVE
RESIDUALS
0
NEGATIVE
INDEPENDENT VARIABLE22: LVO




1 RESIDUALS OUTSIDE OF PLOT


GSM MODEL RUN20 DEP VAR 1: LMTBMA RESIDUALS VS. INDEPENDENT VARIABLE23: LPD
1,899
2,826
4,552
6,279
8,006
POSITIVE
0
NEGATIVE
RESIDUALS
INDEPENDENT VARIABLE23: LPD


O&M MODEL RUN28 DEP VAR 1: LNTBM4
COMPONENT WITH RESIDUALS VS. INDEPENDENT VARIABLE23: LPD
C = COMPONENT, + = WITH RESIDUAL, * = BOTH
1,999
2,826
4,352
6,279
8,886
COMPONENT AND COMPONENT PLUS RESIDUALS
INDEPENDENT VARIABLE23: LPD
0 RESIDUALS OUTSIDE OF PLOT

LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

O&M MODEL RUN38 DEP VAR IS LMHTOT MIN Y = -7.8980 00 MAX Y = -5.4590-01 RANGE Y = 6.8440 00

MULTIPLE REGRESSION ANALYSIS FOR THE "ALPOS" MODEL

LMHTOT = B(0) + B(1)FIGSEN + B(2)FIGCOM + B(3)BOMNAV + B(4)BOMCOM
+ B(5)CO + B(6)XT + B(7)SS + B(8)MDI + B(9)MEM + B(10)MPS
+ B(11)DUP + B(12)DCC + B(13)DDI + B(14)DEM + B(15)DPS
+ B(16)DPD + B(17)DUP + B(18)LUP + B(19)LVO +B(20)LMT

LMHTOT = LN(MMHTOT)

MMHTOT = TOTAL MAINTENANCE MANHOURS PER OPERATING HOUR

| IND,VAR(I) | NAME | COEF,B(I) | S.E. COEF, | T-VALUE | R(I)SQRD | MIN X(I) | MAX X(I) | RANGE X(I) | REL,INF,X(I) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | -9.758060 00 | | | | | | | |
| 1 | FIGSEN | -1.889560-01 | 1.960-01 | 1.0 | 0.3389 | 0.0 | 1.0000 00 | 1.0000 00 | 0.03 |
| 2 | FIGCOM | 5.493310-01 | 1.780-01 | 3.2 | 0.2842 | 0.0 | 1.0000 00 | 1.0000 00 | 0.09 |
| 3 | BOMNAV | 5.117460-01 | 1.290-01 | 4.2 | 0.2482 | 0.0 | 1.0000 00 | 1.0000 00 | 0.08 |
| 4 | BOMCOM | 8.777820-01 | 1.580-01 | 4.3 | 0.1598 | 0.0 | 1.0000 00 | 1.0000 00 | 0.10 |
| 5 | CO | 2.573150-01 | 3.950-02 | 6.5 | 0.3799 | 4.9230-03 | 6.6590 00 | 6.6590 00 | 0.26 |
| 6 | XT | -5.336710-03 | 2.660-03 | 2.0 | 0.4727 | 0.0 | 1.0000 02 | 1.0000 02 | 0.06 |
| 7 | SS | -1.581780-02 | 1.920-03 | 8.2 | 0.6892 | 0.0 | 1.0000 02 | 1.0000 02 | 0.24 |
| 8 | MDI | -1.329890-02 | 1.420-03 | 9.3 | 0.5154 | -2.4990 01 | 7.5190 01 | 1.0000 02 | 0.28 |
| 9 | MEM | -2.488550-02 | 2.350-03 | 10.5 | 0.6057 | -1.9280 01 | 8.9890 01 | 1.0000 02 | 0.38 |
| 10 | MPS | -4.187130-03 | 2.860-03 | 2.0 | 0.1513 | -5.8190 00 | 9.4990 01 | 1.0000 02 | 0.06 |
| 11 | DUP | 2.881850-12 | 2.540-12 | 1.1 | 0.1871 | 3.6910 05 | 1.4360 11 | 1.4360 11 | 0.06 |
| 12 | DCC | -3.725850-08 | 1.150-08 | 3.3 | 0.2785 | 7.2990 02 | 2.8560 07 | 2.8560 07 | 0.16 |
| 13 | DDI | 1.869520-04 | 6.610-05 | 2.5 | 0.2259 | 1.6800-01 | 3.8910 03 | 3.8910 03 | 0.06 |
| 14 | DEM | -1.867810-04 | 6.640-05 | 2.7 | 0.1977 | 2.7940 01 | 3.8470 03 | 3.8220 03 | 0.09 |
| 15 | DPS | -1.763870-04 | 1.080-04 | 1.6 | 0.2752 | 9.4280 01 | 2.8830 03 | 2.7880 03 | 0.06 |
| 16 | DPD | 1.933220-07 | 1.250-07 | 1.6 | 0.3844 | 7.2990 02 | 4.1490 06 | 4.1080 06 | 0.12 |
| 17 | DUP | 3.299880-01 | 1.340-01 | 2.4 | 0.1582 | 2.8250-01 | 2.1030 00 | 1.9880 00 | 0.10 |
| 18 | LUP | 5.623650-01 | 4.120-02 | 13.6 | 0.6992 | 9.8380 00 | 1.3250 01 | 0.2170 00 | 0.71 |
| 19 | LVO | 1.833870-01 | 1.910-01 | 1.0 | 0.0014 | 3.4810 00 | 9.6120 00 | 5.6110 00 | 0.10 |
| 20 | LMT | 4.037810-01 | 1.090-01 | 3.7 | 0.0841 | 0.0 | 5.1570 00 | 5.1570 00 | 0.32 |

| | |
|---|---|
| NO. OF OBSERVATIONS | 138 |
| NO. OF IND. VARIABLES | 20 |
| RESIDUAL DEGREES OF FREEDOM | 109 |
| F-VALUE | 65.5 |
| RESIDUAL ROOT MEAN SQUARE | 0.41932847 |
| RESIDUAL MEAN SQUARE | 0.17583489 |
| RESIDUAL SUM OF SQUARES | 19.16598138 |
| TOTAL SUM OF SQUARES | 249.59267129 |
| MULT. CORREL. COEF. SQUARED | .9232 |

| IND,VAR(I) | NAME | COEF,B(I) | MIN X(I) | MAX X(I) | RANGE X(I) | REL,INF,X(I) |
|---|---|---|---|---|---|---|
| *** COEFFICIENTS FROM PREVIOUS FIT *** | | | | | | |
| 0 | | -1.814220 01 | | | | |
| 1 | FIGSEN | -1.992810-01 | 0.0 | 1.0000 00 | 1.0000 00 | 0.03 |
| 2 | FIGCOM | 5.946240-01 | 0.0 | 1.0000 00 | 1.0000 00 | 0.09 |
| 3 | BOMNAV | 5.777580-01 | 0.0 | 1.0000 00 | 1.0000 00 | 0.09 |
| 4 | BOMCOM | 7.132410-01 | 0.0 | 1.0000 00 | 1.0000 00 | 0.11 |
| 5 | CO | 2.571540-01 | 4.9230-03 | 6.6590 00 | 6.6590 00 | 0.26 |
| 6 | XT | -4.491080-03 | 0.0 | 1.0000 02 | 1.0000 02 | 0.07 |
| 7 | SS | -1.637270-02 | 0.0 | 1.0000 02 | 1.0000 02 | 0.25 |
| 8 | MDI | -1.315870-02 | -2.4990 01 | 7.5190 01 | 1.0000 02 | 0.28 |
| 9 | MEM | -2.484210-02 | -1.9280 01 | 8.9890 01 | 1.0000 02 | 0.38 |
| 10 | MPS | -4.238870-03 | -5.8190 00 | 9.4990 01 | 1.0000 02 | 0.06 |
| 11 | DUP | 5.866320-12 | 3.6910 05 | 1.4360 11 | 1.4360 11 | 0.13 |
| 12 | DCC | -3.167740-08 | 7.2990 02 | 2.8560 07 | 2.8560 07 | 0.14 |
| 13 | DDI | 1.492970-04 | 1.6800-01 | 3.8910 03 | 3.8910 03 | 0.07 |
| 14 | DEM | -2.012490-04 | 2.7940 01 | 3.8470 03 | 3.8220 03 | 0.09 |
| 15 | DPS | -1.823140-04 | 9.4280 01 | 2.8830 03 | 2.7880 03 | 0.07 |
| 16 | DPD | 1.897620-07 | 7.2990 02 | 4.1490 06 | 4.1080 06 | 0.12 |
| 17 | DUP | 3.014280-01 | 2.8250-01 | 2.1030 00 | 1.9880 00 | 0.10 |
| 18 | LUP | 5.981230-01 | 9.8380 00 | 1.3250 01 | 0.2170 00 | 0.78 |
| 19 | LVO | 1.883790-01 | 3.4810 00 | 9.6120 00 | 5.6110 00 | 0.10 |
| 20 | LMT | 3.789540-01 | 0.0 | 5.1570 00 | 5.1570 00 | 0.30 |

LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

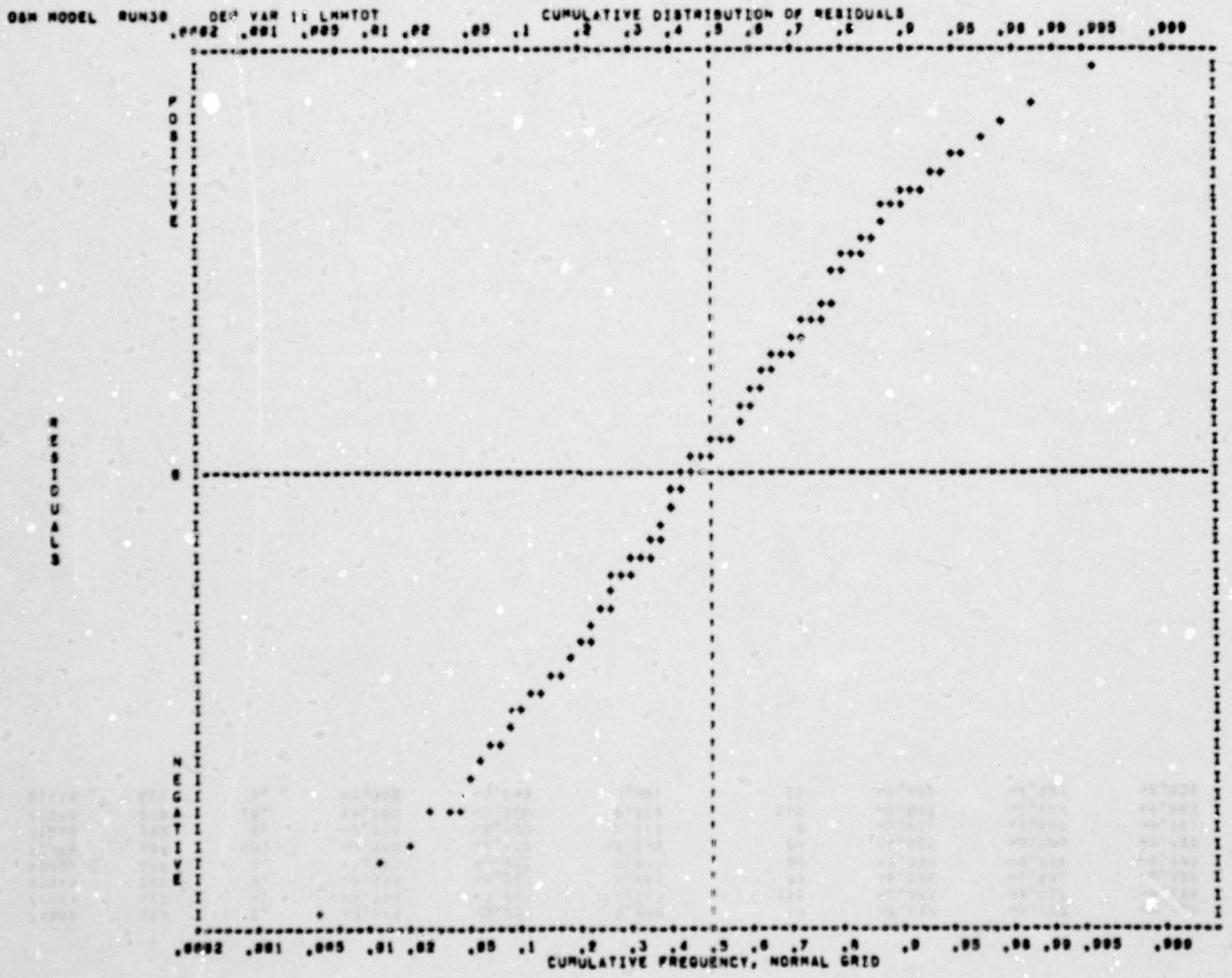
D&M MODEL RUN38 DEP VAR IS LMHTOT

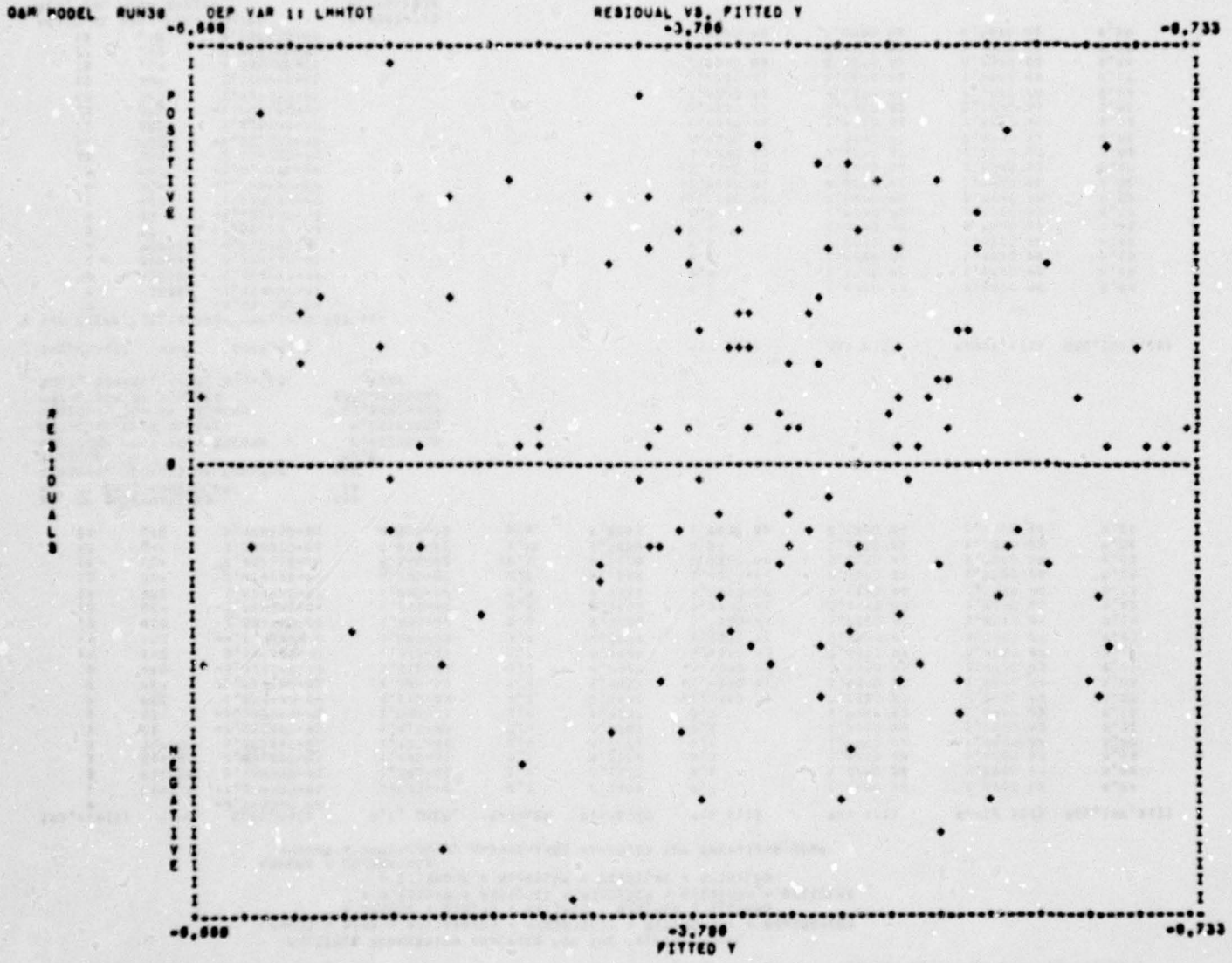
| | |
|---|---|
| RESIDUAL ROOT MEAN SQUARE | .42611126 |
| RESIDUAL MEAN SQUARE | .18157868 |
| RESIDUAL SUM OF SQUARES | 19.79121759 |
| TOTAL SUM OF SQUARES | 249.59267129 |
| MULT. CORREL. COEF. SQUARED | .9206 |

| ORDERED BY COMPUTER INPUT | | | | | | ORDERED BY RESIDUALS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| IDENT, | OBSV, | MSB DISTANCE | OBS, Y | FITTED Y | RESIDUAL | OBSV, | OBS, Y | FITTED Y | ORDERED RESID, | SEQ |
| 71B2B | 1 | 1, | -3.385 | -3.171 | -0.213 | 218 | -4.565 | -5.439 | 0.874 | 1 |
| 71L8B | 2 | 6, | -2.971 | -2.208 | -0.763 | 13 | -3.782 | -3.992 | 0.798 | 2 |
| 71M6B | 3 | 23, | -2.855 | -3.087 | 0.233 | 58 | -5.499 | -6.254 | 0.756 | 3 |
| 71PKB | 4 | 2, | -3.899 | -3.899 | 0.000 | 25 | -1.978 | -1.769 | 0.699 | 4 |
| 71P8B | 5 | 7, | -3.687 | -3.528 | -0.117 | 84 | -4.566 | -1.231 | 0.685 | 5 |
| 71718 | 6 | 19, | -5.661 | -5.985 | 0.325 | 289 | -2.618 | -3.292 | 0.673 | 6 |
| 724GB | 7 | 14, | -6.023 | -5.677 | -0.346 | 221 | -2.289 | -2.926 | 0.638 | 7 |
| 71PAB | 9 | 4, | -3.870 | -3.899 | 0.024 | 63 | -0.989 | -2.721 | 0.632 | 8 |
| 71P8B | 10 | 16, | -3.992 | -3.963 | -0.029 | 44 | -1.947 | -2.552 | 0.605 | 9 |
| 71CAB | 11 | 4, | -5.328 | -4.391 | -0.938 | 119 | -1.691 | -2.189 | 0.598 | 10 |
| 71DAB | 12 | 4, | -3.344 | -2.753 | -0.598 | 74 | -4.187 | -4.785 | 0.598 | 11 |
| 51EAB | 13 | 5, | -3.282 | -3.992 | 0.798 | 14 | -3.314 | -3.983 | 0.588 | 12 |
| 52AA0 | 14 | 7, | -3.314 | -3.903 | 0.588 | 188 | -4.585 | -5.091 | 0.587 | 13 |
| 52A80 | 15 | 10, | -3.322 | -3.625 | 0.303 | 28 | -3.718 | -4.283 | 0.573 | 14 |
| 63B00 | 16 | 11, | -5.497 | -5.315 | -0.182 | 17 | -1.425 | -1.964 | 0.548 | 15 |
| 714EB | 17 | 21, | -1.425 | -1.964 | 0.548 | 118 | -2.911 | -3.415 | 0.504 | 16 |
| 74JA0 | 18 | 5, | -2.432 | -2.226 | -0.206 | 96 | -2.179 | -2.681 | 0.502 | 17 |
| 74JC0 | 19 | 7, | -3.649 | -3.632 | -0.017 | 211 | -3.252 | -3.743 | 0.491 | 18 |
| 52GA1 | 20 | 5, | -3.718 | -4.283 | 0.573 | 64 | -1.943 | -2.421 | 0.478 | 19 |
| 71Z40 | 21 | 5, | -4.368 | -3.894 | -0.474 | 31 | -2.389 | -2.859 | 0.468 | 20 |
| 73E50 | 24 | 13, | -2.218 | -2.472 | 0.256 | 189 | -1.498 | -1.955 | 0.457 | 21 |
| 73EP0 | 25 | 24, | -1.978 | -1.769 | 0.699 | 284 | -3.592 | -3.955 | 0.453 | 22 |
| 70MA0 | 26 | 25, | -0.793 | -0.847 | 0.055 | 118 | -3.722 | -4.162 | 0.448 | 23 |
| 73MCP | 27 | 14, | -1.879 | -1.749 | -0.130 | 83 | -1.132 | -1.566 | 0.434 | 24 |
| 73N40 | 28 | 31, | -2.380 | -2.644 | 0.147 | 282 | -3.275 | -3.688 | 0.413 | 25 |
| 73Q90 | 29 | 11, | -2.137 | -1.858 | -0.279 | 43 | -2.553 | -2.911 | 0.358 | 26 |
| 73SC0 | 30 | 13, | -3.217 | -3.125 | -0.091 | 35 | -4.783 | -5.135 | 0.352 | 27 |
| 73K80 | 31 | 2, | -2.399 | -2.859 | 0.458 | 128 | -5.529 | -5.881 | 0.341 | 28 |
| 73KE0 | 32 | 4, | -3.494 | -2.786 | -0.709 | 68 | -2.653 | -2.979 | 0.325 | 29 |
| 73KF0 | 33 | 3, | -3.908 | -3.763 | -0.138 | 6 | -5.661 | -5.985 | 0.325 | 30 |
| 73KK0 | 34 | 12, | -2.728 | -2.919 | 0.189 | 194 | -3.697 | -3.428 | 0.324 | 31 |
| 75930 | 35 | 8, | -4.783 | -5.535 | 0.352 | 37 | -3.881 | -3.329 | 0.319 | 32 |
| 74B00 | 36 | 6, | -2.739 | -2.958 | 0.218 | 15 | -3.392 | -3.625 | 0.303 | 33 |
| 74BF0 | 37 | 5, | -3.981 | -3.338 | 0.319 | 189 | -1.765 | -2.058 | 0.293 | 34 |
| 74B10 | 38 | 39, | -5.473 | -5.950 | -0.023 | 181 | -1.787 | -2.071 | 0.284 | 35 |
| 76A10 | 39 | 8, | -4.426 | -4.226 | -0.199 | 99 | -3.338 | -3.618 | 0.281 | 36 |
| 76GA0 | 40 | 18, | -3.618 | -3.194 | -0.424 | 58 | -3.145 | -3.410 | 0.267 | 37 |
| 74FF0 | 41 | 28, | -2.760 | -2.453 | -0.307 | 263 | -5.238 | -5.518 | 0.281 | 38 |
| 74FA0 | 42 | 21, | -1.775 | -1.320 | -0.455 | 24 | -2.218 | -2.472 | 0.258 | 39 |
| 74FM0 | 43 | 8, | -2.553 | -2.911 | 0.358 | 93 | -3.184 | -3.434 | 0.250 | 40 |
| 74FU0 | 44 | 54, | -1.947 | -2.552 | 0.605 | 77 | -0.785 | -1.026 | 0.241 | 41 |
| 73CG0 | 45 | 42, | -4.097 | -3.939 | -0.159 | 125 | -3.088 | -3.325 | 0.238 | 42 |
| 74FC0 | 46 | 13, | -1.928 | -1.938 | 0.010 | 0 | -2.855 | -3.087 | 0.233 | 43 |
| 74FJ0 | 49 | 3, | -2.929 | -2.453 | -0.477 | 98 | -5.777 | -6.008 | 0.231 | 44 |
| 74FK0 | 50 | 10, | -5.499 | -6.254 | 0.756 | 36 | -2.739 | -2.958 | 0.218 | 45 |
| 74FQ0 | 51 | 28, | -2.919 | -2.191 | 0.171 | 34 | -2.728 | -2.919 | 0.199 | 46 |
| 74KA0 | 52 | 8, | -2.881 | -2.171 | 0.289 | 99 | -1.944 | -2.125 | 0.185 | 47 |
| 74KC0 | 53 | 8, | -3.184 | -3.434 | 0.250 | 51 | -2.819 | -2.191 | 0.171 | 48 |
| 74CA0 | 54 | 8, | -4.335 | -3.626 | -0.709 | 88 | -6.526 | -6.688 | 0.153 | 49 |
| 74CB0 | 55 | 8, | -4.330 | -3.779 | -0.551 | 89 | -1.231 | -1.375 | 0.143 | 50 |
| 74CC0 | 56 | 9, | -4.558 | -4.589 | 0.030 | 28 | -2.392 | -2.514 | 0.142 | 51 |
| 74FA1 | 57 | 11, | -2.859 | -2.677 | -0.182 | 121 | -2.116 | -2.251 | 0.135 | 52 |
| 74E50 | 58 | 7, | -3.145 | -3.413 | 0.267 | 95 | -2.429 | -2.564 | 0.135 | 53 |
| 73PH0 | 59 | 5, | -3.257 | -3.881 | -0.176 | 85 | -3.871 | -3.174 | 0.103 | 54 |
| 73PB0 | 60 | 39, | -0.857 | -0.733 | 0.077 | 123 | -3.217 | -3.309 | 0.092 | 55 |
| 73PD0 | 61 | 21, | -0.919 | -0.953 | 0.044 | 4 | -3.089 | -3.099 | 0.090 | 56 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 73PFM | 62 | 25. | -2.593 | -2.894 | -0.528 | 52 | -2.891 | -2.171 | 0.889 | 57 |
| 73PMB | 63 | 5. | -2.889 | -2.721 | 0.632 | 71 | -4.488 | -4.572 | 0.984 | 58 |
| 71N4B | 64 | 4. | -1.943 | -2.421 | 0.478 | 68 | -3.792 | -3.871 | 0.979 | 59 |
| 71QUB | 65 | 4. | -2.368 | -2.421 | 0.453 | 62 | -0.657 | -0.733 | 0.877 | 60 |
| 63AAB | 66 | 3. | -2.416 | -2.396 | -0.026 | 126 | -3.648 | -3.728 | 0.867 | 61 |
| 65AAB | 67 | 4. | -2.752 | -2.323 | -0.429 | 226 | -2.988 | -7.927 | 0.859 | 62 |
| 63AGB | 68 | 5. | -3.792 | -3.871 | 0.879 | 26 | -0.793 | -4.847 | 0.855 | 63 |
| 63BFB | 70 | 16. | -5.631 | -5.476 | -0.155 | 85 | -2.388 | -3.421 | 0.853 | 64 |
| 71ABE | 71 | 16. | -4.488 | -4.572 | 0.984 | 113 | -2.293 | -2.344 | 0.852 | 65 |
| 71ADA | 72 | 17. | -1.556 | -1.273 | -0.282 | 81 | -0.918 | -0.953 | 0.844 | 66 |
| 73DRA | 73 | 11. | -1.737 | -1.241 | -0.496 | 287 | -1.185 | -1.227 | 0.843 | 67 |
| 71ACC | 74 | 53. | -4.147 | -4.785 | 0.598 | 56 | -4.558 | -4.589 | 0.839 | 68 |
| 73C6Q | 75 | 57. | -5.913 | -5.178 | -0.435 | 76 | -5.245 | -5.272 | 0.826 | 69 |
| 73CEN | 76 | 44. | -5.245 | -5.272 | 0.026 | 9 | -3.875 | -3.899 | 0.824 | 70 |
| 73CFK | 77 | 7. | -0.785 | -1.026 | 0.241 | 79 | -4.687 | -4.710 | 0.823 | 71 |
| 73DAM | 78 | 22. | -2.564 | -2.897 | -0.467 | 48 | -1.925 | -1.938 | 0.813 | 72 |
| 73ERA | 79 | 15. | -4.687 | -4.710 | 0.023 | 91 | -1.585 | -1.574 | 0.988 | 73 |
| 73ERF | 80 | 18. | -2.653 | -2.979 | 0.325 | 97 | -2.717 | -2.710 | -0.008 | 74 |
| 71CAB | 81 | 10. | -4.754 | -4.176 | -0.578 | 19 | -3.549 | -3.532 | -0.017 | 75 |
| 73EGB | 82 | 16. | -1.949 | -1.790 | -0.159 | 34 | -5.473 | -5.450 | -0.023 | 76 |
| 73MCB | 83 | 16. | -1.132 | -1.566 | 0.434 | 88 | -2.416 | -2.390 | -0.026 | 77 |
| 73LAB | 84 | 6. | -0.546 | -1.231 | 0.685 | 18 | -3.992 | -3.963 | -0.029 | 78 |
| 77ECB | 85 | 2. | -3.871 | -3.174 | 0.193 | 105 | -2.949 | -2.868 | -0.080 | 79 |
| 77EEB | 86 | 53. | -7.898 | -6.688 | -0.410 | 30 | -3.217 | -3.125 | -0.091 | 80 |
| 77DBB | 88 | 53. | -6.526 | -6.688 | 0.153 | 5 | -3.635 | -3.528 | -0.117 | 81 |
| 78AEA | 89 | 10. | -1.231 | -1.375 | 0.143 | 27 | -1.879 | -1.749 | -0.130 | 82 |
| 73KAB | 90 | 8. | -1.948 | -2.125 | 0.185 | 33 | -3.620 | -3.783 | -0.136 | 83 |
| 63BAA | 91 | 11. | -1.565 | -1.574 | 0.008 | 78 | -5.631 | -5.476 | -0.155 | 84 |
| 63CAA | 92 | 11. | -1.782 | -1.574 | -0.208 | 138 | -3.118 | -2.962 | -0.155 | 85 |
| 65BAA | 93 | 7. | -2.952 | -2.738 | -0.214 | 46 | -4.897 | -3.939 | -0.159 | 86 |
| 71BBA | 94 | 5. | -2.596 | -1.901 | -0.695 | 82 | -1.949 | -1.790 | -0.159 | 87 |
| 61AAB | 95 | 8. | -2.428 | -2.524 | 0.193 | 127 | -4.839 | -3.875 | -0.164 | 88 |
| 61ARB | 96 | 6. | -2.179 | -2.681 | 0.502 | 59 | -3.257 | -3.081 | -0.176 | 89 |
| 61ACB | 97 | 8. | -2.717 | -2.718 | -0.000 | 117 | -6.471 | -6.291 | -0.181 | 90 |
| 72AAB | 98 | 31. | -5.777 | -6.008 | 0.231 | 97 | -2.859 | -2.677 | -0.182 | 91 |
| 72ACB | 99 | 7. | -3.338 | -3.618 | 0.281 | 16 | -5.497 | -5.315 | -0.182 | 92 |
| 73CAB | 100 | 15. | -1.498 | -1.955 | 0.457 | 39 | -4.426 | -4.226 | -0.199 | 93 |
| 72EAA | 101 | 11. | -1.787 | -2.071 | 0.284 | 18 | -2.432 | -2.226 | -0.206 | 94 |
| 72BPD | 103 | 22. | -1.579 | -1.201 | -0.378 | 92 | -1.782 | -1.574 | -0.208 | 95 |
| 71JAB | 104 | 3. | -3.897 | -3.429 | 0.324 | 8 | -3.385 | -3.171 | -0.213 | 96 |
| 71LAB | 105 | 5. | -2.949 | -2.868 | -0.080 | 93 | -2.952 | -2.738 | -0.214 | 97 |
| 72DMB | 106 | 15. | -3.392 | -2.894 | -0.498 | 288 | -4.553 | -4.253 | -0.248 | 98 |
| 72ACB | 107 | 2. | -3.320 | -2.992 | -0.328 | 29 | -2.137 | -1.858 | -0.279 | 99 |
| 71716 | 108 | 12. | -4.385 | -5.091 | 0.587 | 285 | -3.793 | -3.510 | -0.282 | 100 |
| 71J1D | 109 | 13. | -1.765 | -2.058 | 0.293 | 72 | -1.556 | -1.273 | -0.282 | 101 |
| 72RFB | 110 | 14. | -3.722 | -4.162 | 0.440 | 41 | -2.760 | -2.453 | -0.307 | 102 |
| 72RHA | 111 | 28. | -5.325 | -4.697 | -0.628 | 112 | -5.265 | -4.951 | -0.314 | 103 |
| 71JCE | 112 | 14. | -5.265 | -4.951 | -0.314 | 124 | -3.074 | -2.738 | -0.336 | 104 |
| 72SEB | 113 | 16. | -2.293 | -2.344 | 0.052 | 114 | -3.881 | -3.482 | -0.339 | 105 |
| 72CCB | 114 | 5. | -3.881 | -3.482 | -0.339 | 7 | -6.823 | -6.477 | -0.346 | 106 |
| 71ZRB | 115 | 18. | -6.082 | -5.199 | -0.883 | 193 | -1.579 | -1.201 | -0.378 | 107 |
| 71ZD9 | 117 | 26. | -6.471 | -6.291 | -0.151 | 122 | -3.744 | -3.360 | -0.384 | 108 |
| 65BAA | 118 | 4. | -2.911 | -3.415 | 0.504 | 197 | -3.328 | -2.922 | -0.398 | 109 |
| 63AFB | 119 | 9. | -1.681 | -2.199 | 0.598 | 86 | -7.898 | -6.688 | -0.418 | 110 |
| 63AAP | 120 | 2. | -3.116 | -2.962 | -0.155 | 46 | -3.518 | -3.194 | -0.424 | 111 |
| 63121 | 121 | 9. | -2.116 | -2.251 | 0.135 | 67 | -2.752 | -2.323 | -0.429 | 112 |
| 63AAA | 122 | 14. | -3.744 | -3.360 | -0.384 | 75 | -5.613 | -5.178 | -0.435 | 113 |
| 65ALB | 123 | 7. | -3.217 | -3.309 | 0.092 | 42 | -1.775 | -1.328 | -0.455 | 114 |
| 65AVB | 124 | 14. | -3.874 | -2.738 | -0.336 | 78 | -2.594 | -2.997 | -0.467 | 115 |
| 61AAP | 125 | 3. | -3.988 | -3.329 | 0.736 | 21 | -4.365 | -3.894 | -0.474 | 116 |
| 61AEB | 126 | 7. | -3.648 | -3.788 | 0.957 | 89 | -2.929 | -2.453 | -0.477 | 117 |
| 62AAB | 127 | 5. | -4.938 | -3.875 | -0.164 | 198 | -3.399 | -2.984 | -0.488 | 118 |
| 64211 | 129 | 18. | -5.520 | -5.861 | 0.341 | 73 | -1.737 | -1.241 | -0.496 | 119 |
| 71RAB | 201 | 3. | -2.289 | -2.925 | 0.636 | 57 | -2.893 | -2.884 | -0.528 | 120 |
| 74RCB | 202 | 2. | -3.273 | -3.686 | 0.413 | 55 | -4.338 | -3.779 | -0.551 | 121 |
| 74BEB | 203 | 7. | -5.255 | -5.516 | 0.261 | 81 | -4.754 | -4.176 | -0.578 | 122 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 74BG8 | 204 | 2. | -3.582 | -3.955 | 0.453 | 12 | -3.344 | -2.753 | -0.598 | 123 |
| 74BH8 | 205 | 4. | -3.793 | -3.518 | -0.282 | 111 | -5.329 | -4.697 | -0.628 | 124 |
| 63HA8 | 206 | 4. | -2.968 | -3.827 | 0.859 | 94 | -2.596 | -1.901 | -0.695 | 125 |
| 73JC8 | 207 | 7. | -1.185 | -1.227 | 0.043 | 32 | -3.494 | -2.786 | -0.709 | 126 |
| 73JF8 | 208 | 10. | -4.588 | -4.253 | -0.246 | 54 | -4.335 | -3.626 | -0.709 | 127 |
| 71CA8 | 209 | 8. | -2.618 | -3.292 | 0.673 | 2 | -2.971 | -2.206 | -0.763 | 128 |
| 71G48 | 210 | 18. | -4.565 | -5.439 | 0.874 | 116 | -6.002 | -5.199 | -0.803 | 129 |
| 65AA8 | 211 | 8. | -3.252 | -3.743 | 0.491 | 11 | -5.328 | -4.391 | -0.938 | 130 |


G&R MODEL RUN38
DEP VAR IS LNHTOT
CUMULATIVE DISTRIBUTION OF RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
POSITIVE
0
NEGATIVE
RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
CUMULATIVE FREQUENCY, NORMAL GRID


G&R MODEL RUN38 DEP VAR IS LHHTOT
RESIDUAL VS. FITTED Y
-6.688
-3.706
-0.733
POSITIVE
RESIDUALS
0
NEGATIVE
-6.688
-3.706
-0.733
FITTED Y

LINEAR LEAST-SQUARES CURVI FITTING PROGRAM

O&M MODEL RUN48 DEP VAR IS LMMUNS MIN Y = -7,4770 00 MAX Y = -1,8320 00 RANGE Y = 5,6450 00

MULTIPLE REGRESSION ANALYSIS FOR THE "ALPES" MODEL

LMMUNS = B(0) + B(1)FIGSEN + B(2)FIGCOM + B(3)BOMNAV + B(4)BOMCOM
+ B(5)OI + B(6)SS + B(7)MCC + B(8)MEM + B(9)MPD
+ B(10)OVD + B(11)OCC + B(12)OCD + B(13)DEM + B(14)DPD
+ B(15)OUP + B(16)LUP + B(17)LWT + B(18)LPD

LMMUNS = LN(MMMUNS)
MMMUNS = UNSCHEDULED MAINTENANCE MANHOURS PER OPERATING HOUR

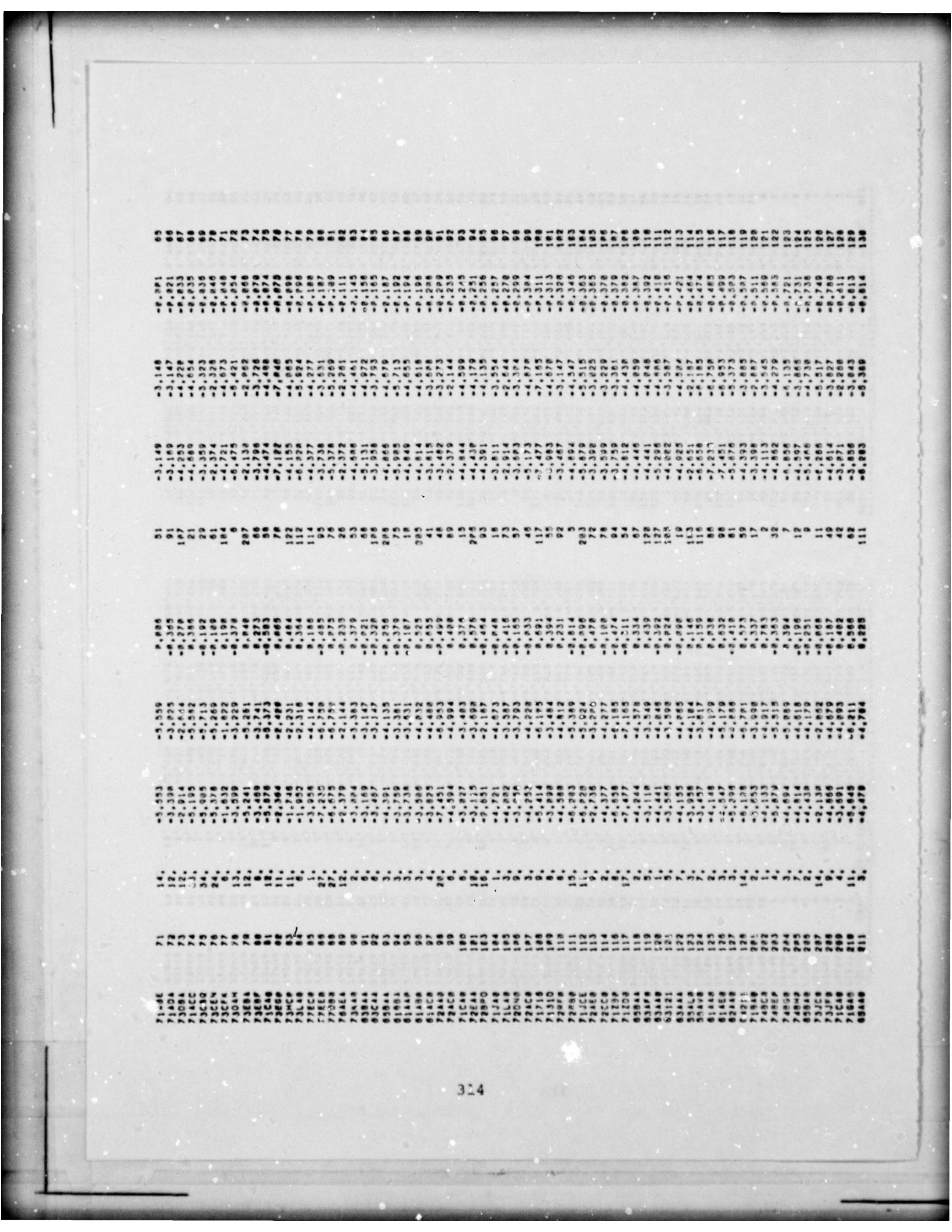
| IND.VAR(I) | NAME | COEF.B(I) | S.E. COEF. | T-VALUE | B(I)SQRD | MIN X(I) | MAX X(I) | RANGE X(I) | REL.INF.X(I) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | -9,775340 00 | | | | | | | |
| 1 | FIGSEN | -2,374320-01 | 1,030-01 | 2,3 | 0,2482 | 0,0 | 1,0000 00 | 1,0000 00 | 0,04 |
| 2 | FIGCOM | 2,458930-01 | 1,790-01 | 1,4 | 0,1187 | 0,0 | 1,0000 00 | 1,0000 00 | 0,04 |
| 3 | BOMNAV | 7,991920-01 | 1,480-01 | 5,7 | 0,3173 | 0,0 | 1,0000 00 | 1,0000 00 | 0,14 |
| 4 | BOMCOM | 4,571180-01 | 1,590-01 | 2,9 | 0,1171 | 0,0 | 1,0000 00 | 1,0000 00 | 0,08 |
| 5 | OI | -7,823980-03 | 1,410-03 | 5,4 | 0,4783 | 0,0 | 1,0000 02 | 1,0000 02 | 0,13 |
| 6 | SS | -1,125540-02 | 1,990-03 | 5,6 | 0,6987 | 0,0 | 1,0000 02 | 1,0000 02 | 0,19 |
| 7 | MCC | 1,973440-04 | 4,140-05 | 4,8 | 0,5639 | -1,1680 03 | 7,1220 03 | 8,2900 03 | 0,26 |
| 8 | MEM | -1,729350-02 | 2,480-03 | 7,2 | 0,5957 | -1,0280 01 | 8,9890 01 | 1,0170 02 | 0,38 |
| 9 | MPD | -5,548120-04 | 1,610-04 | 3,4 | 0,7573 | -3,3290 02 | 2,6650 03 | 2,9970 03 | 0,26 |
| 10 | OVD | 2,358640-08 | 1,370-08 | 1,7 | 0,4798 | 4,4890 03 | 2,4550 07 | 2,4550 07 | 0,18 |
| 11 | OCC | -4,739390-08 | 1,260-08 | 3,7 | 0,3672 | 7,2990 02 | 2,8560 07 | 2,8560 07 | 0,23 |
| 12 | OCD | 4,554980-02 | 1,980-02 | 2,3 | 0,3093 | 1,7840-04 | 1,8610 01 | 1,8610 01 | 0,14 |
| 13 | DEM | -1,768440-04 | 7,880-05 | 2,5 | 0,0898 | 2,7840 01 | 3,8470 03 | 3,8290 03 | 0,09 |
| 14 | DPD | 3,639180-07 | 1,290-07 | 2,8 | 0,5613 | 7,2990 02 | 4,1890 05 | 4,1880 05 | 0,26 |
| 15 | OUP | 4,889190-01 | 1,390-01 | 3,5 | 0,1549 | 2,8250-01 | 2,1830 00 | 1,9980 00 | 0,16 |
| 16 | LUP | 4,457310-01 | 4,140-02 | 10,8 | 0,6828 | 5,8380 05 | 1,3250 01 | 8,2170 00 | 0,63 |
| 17 | LWT | 3,372970-01 | 7,870-02 | 4,8 | 0,7558 | 0,0 | 5,1570 00 | 5,1570 00 | 0,30 |
| 18 | LPD | 2,488880-01 | 5,920-02 | 5,5 | 0,8583 | 1,0990 00 | 8,0880 00 | 8,9880 00 | 0,28 |

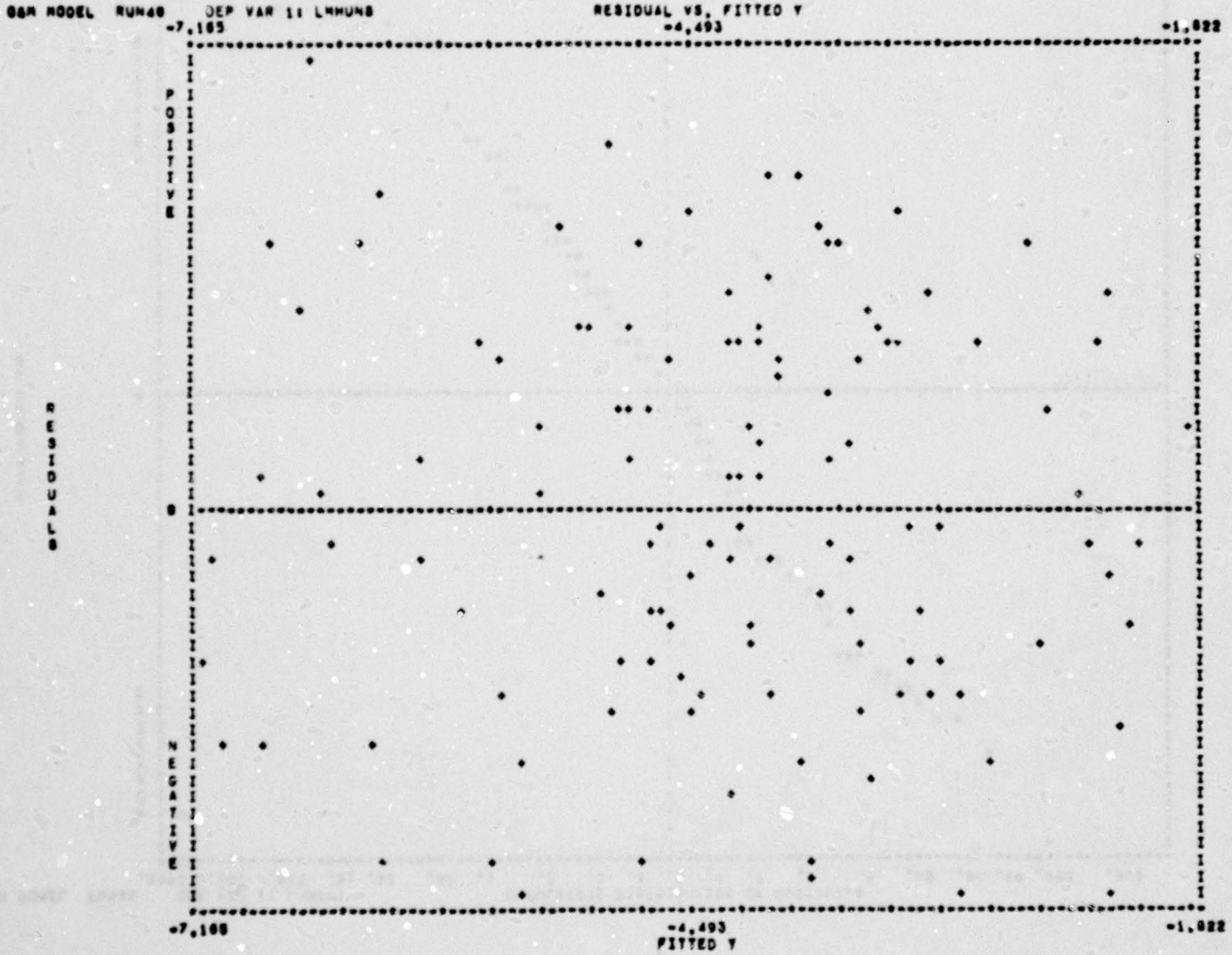
| | |
|---|---|
| NO. OF OBSERVATIONS | 134 |
| NO. OF IND. VARIABLES | 19 |
| RESIDUAL DEGREES OF FREEDOM | 111 |
| F-VALUE | 52,9 |
| RESIDUAL ROOT MEAN SQUARE | 0,4333840 |
| RESIDUAL MEAN SQUARE | 0,18782283 |
| RESIDUAL SUM OF SQUARES | 20,84824497 |
| TOTAL SUM OF SQUARES | 190,89678887 |
| MULT. CORREL. COEF. SQUARED | ,8957 |

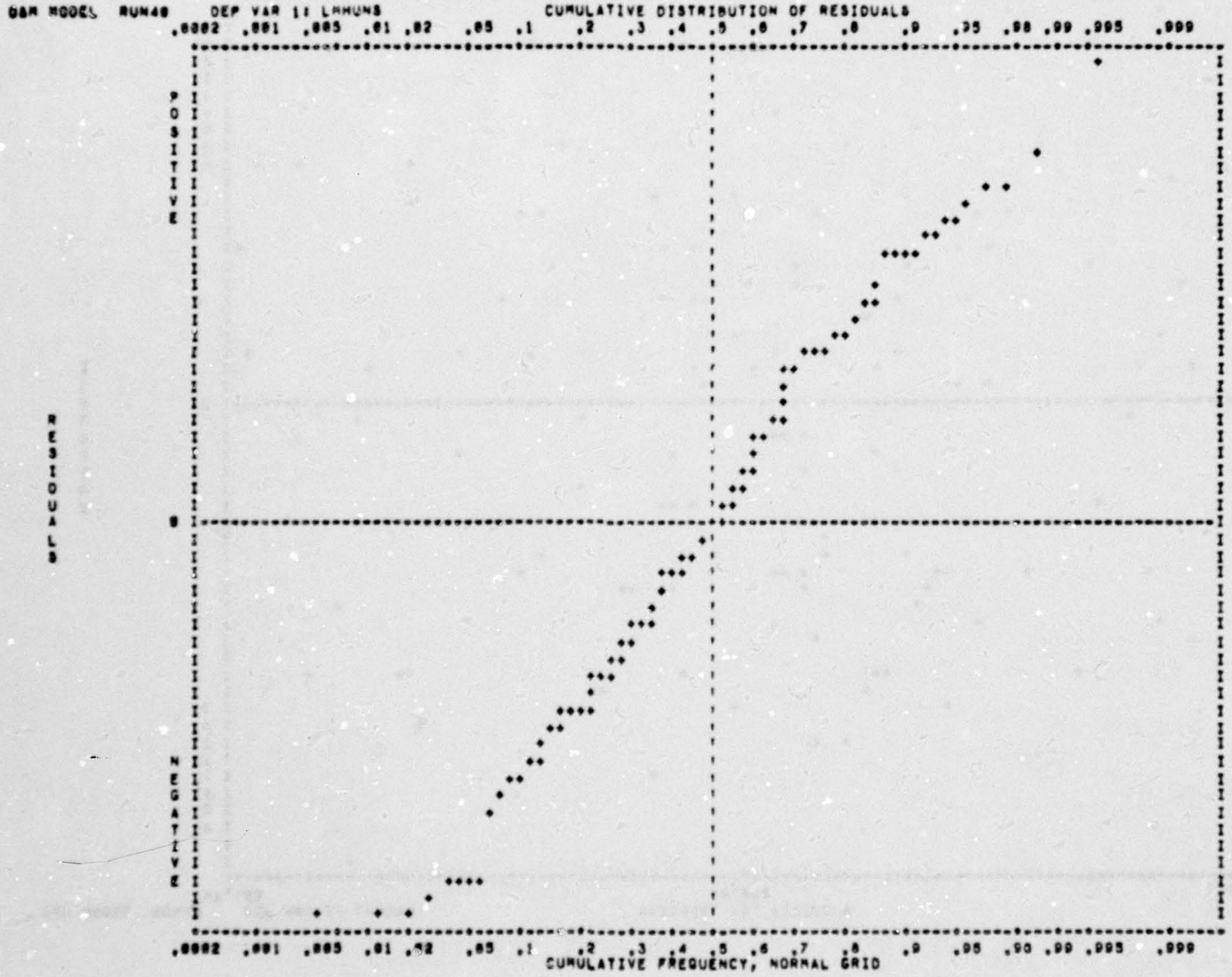
| IND.VAR(I) | NAME | COEF.B(I) | MIN X(I) | MAX X(I) | RANGE X(I) | REL.INF.X(I) |
|---|---|---|---|---|---|---|
| *** COEFFICIENTS FROM PREVIOUS FIT *** | | | | | | |
| 0 | | -9,991890 00 | | | | |
| 1 | FIGSEN | -2,499440-01 | 0,0 | 1,0000 00 | 1,0000 00 | 0,04 |
| 2 | FIGCOM | 3,489720-01 | 0,0 | 1,0000 00 | 1,0000 00 | 0,06 |
| 3 | BOMNAV | 8,787140-01 | 0,0 | 1,0000 00 | 1,0000 00 | 0,15 |
| 4 | BOMCOM | 4,945880-01 | 0,0 | 1,0000 00 | 1,0000 00 | 0,08 |
| 5 | OI | -7,588740-03 | 0,0 | 1,0000 02 | 1,0000 02 | 0,13 |
| 6 | SS | -1,112540-02 | 0,0 | 1,0000 02 | 1,0000 02 | 0,19 |
| 7 | MCC | 1,898890-04 | -1,1680 03 | 7,1220 03 | 8,2900 03 | 0,27 |
| 8 | MEM | -1,769490-02 | -1,0280 01 | 8,9890 01 | 1,0170 02 | 0,39 |
| 9 | MPD | -5,333560-04 | -3,3290 02 | 2,6650 03 | 2,9970 03 | 0,27 |
| 10 | OVD | 2,144930-08 | 4,4890 03 | 2,4550 07 | 2,4550 07 | 0,09 |
| 11 | OCC | -4,522370-08 | 7,2990 02 | 2,8560 07 | 2,8560 07 | 0,22 |
| 12 | OCD | 5,736780-02 | 1,7840-04 | 1,8610 01 | 1,8610 01 | 0,16 |
| 13 | DEM | -1,629180-04 | 2,7840 01 | 3,8470 03 | 3,8290 03 | 0,08 |
| 14 | DPD | 3,437380-07 | 7,2990 02 | 4,1890 05 | 4,1880 05 | 0,24 |
| 15 | OUP | 9,199280-01 | 2,8250-01 | 2,1830 00 | 1,9980 00 | 0,17 |
| 16 | LUP | 4,633880-01 | 5,8380 05 | 1,3250 01 | 8,2170 00 | 0,65 |
| 17 | LWT | 3,878180-01 | 0,0 | 5,1570 00 | 5,1570 00 | 0,27 |
| 18 | LPD | 2,527810-01 | 1,0990 00 | 8,0880 00 | 8,9880 00 | 0,30 |

| | |
|---|---|
| RESIDUAL ROOT MEAN SQUARE | 0,43574113 |
| RESIDUAL MEAN SQUARE | 0,18987034 |
| RESIDUAL SUM OF SQUARES | 21,07568729 |
| TOTAL SUM OF SQUARES | 190,89678887 |
| MULT. CORREL. COEF. SQUARED | ,8944 |

| ORDERED BY COMPUTER INPUT | | | | | | ORDERED BY RESIDUALS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| IDENT, | OBSV, | WEB DISTANCE | OBS, Y | FITTED Y | RESIDUAL | OBSV, | OBS, Y | FITTED Y | ORDERED RESID, | SEQ |
| 71B2P | 1 | 1, | -4,150 | -4,248 | 0,098 | 35 | -5,493 | -6,486 | 0,993 | 1 |
| 71L8P | 2 | 3, | -4,113 | -3,545 | -0,569 | 282 | -4,133 | -4,917 | 0,783 | 2 |
| 71M6P | 3 | 13, | -3,797 | -4,274 | 0,477 | 31 | -3,347 | -4,069 | 0,722 | 3 |
| 71PKP | 4 | 1, | -3,997 | -4,265 | 0,268 | 44 | -3,283 | -3,915 | 0,712 | 4 |
| 71P8P | 5 | 4, | -4,894 | -4,547 | -0,346 | 185 | -5,414 | -6,105 | 0,691 | 5 |
| 71710 | 6 | 12, | -6,475 | -6,421 | -0,054 | 97 | -3,825 | -4,488 | 0,655 | 6 |
| 724GP | 7 | 8, | -6,856 | -6,135 | -0,721 | 24 | -2,749 | -3,378 | 0,638 | 7 |
| 71FAP | 9 | 1, | -5,466 | -4,730 | -0,736 | 126 | -4,547 | -5,179 | 0,632 | 8 |
| 71F8P | 10 | 8, | -4,849 | -4,655 | -0,194 | 63 | -3,168 | -3,774 | 0,614 | 9 |
| 71CAP | 11 | 4, | -6,266 | -5,517 | -0,749 | 28 | -4,155 | -4,744 | 0,590 | 10 |
| 71DAP | 12 | 2, | -4,527 | -3,866 | -0,731 | 64 | -3,131 | -3,716 | 0,585 | 11 |
| 51EAP | 13 | 2, | -4,396 | -4,807 | 0,411 | 181 | -3,115 | -3,690 | 0,576 | 12 |
| 72AAP | 14 | 3, | -4,636 | -4,853 | 0,217 | 128 | -6,128 | -6,701 | 0,573 | 13 |
| 72ABP | 15 | 4, | -4,844 | -4,599 | -0,245 | 88 | -2,089 | -2,659 | 0,570 | 14 |
| 63BDP | 16 | 9, | -6,419 | -6,472 | 0,054 | 210 | -5,645 | -6,211 | 0,566 | 15 |
| 71AEP | 17 | 12, | -3,398 | -2,887 | -0,511 | 96 | -3,598 | -4,032 | 0,525 | 16 |
| 74JAP | 18 | 3, | -3,811 | -3,554 | -0,257 | 83 | -1,746 | -2,231 | 0,484 | 17 |
| 74JCP | 19 | 5, | -4,925 | -4,504 | -0,421 | 3 | -3,797 | -4,274 | 0,477 | 18 |
| 72GA1 | 20 | 6, | -4,155 | -4,744 | 0,590 | 113 | -2,736 | -3,206 | 0,470 | 19 |
| 71ZA0 | 21 | 2, | -4,689 | -4,854 | -0,835 | 119 | -3,119 | -3,549 | 0,439 | 20 |
| 73EGP | 24 | 7, | -2,748 | -3,378 | 0,638 | 58 | -6,134 | -6,558 | 0,424 | 21 |
| 73EP0 | 25 | 16, | -2,337 | -2,578 | 0,241 | 13 | -4,396 | -4,807 | 0,411 | 22 |
| 73KA0 | 26 | 18, | -2,372 | -2,261 | -0,111 | 209 | -3,691 | -4,093 | 0,402 | 23 |
| 73HCP | 27 | 8, | -2,543 | -2,928 | 0,385 | 99 | -4,594 | -4,994 | 0,400 | 24 |
| 73NA0 | 28 | 10, | -3,287 | -3,559 | 0,352 | 204 | -4,894 | -5,289 | 0,394 | 25 |
| 73QB0 | 29 | 6, | -3,359 | -3,323 | -0,036 | 199 | -3,998 | -3,484 | 0,394 | 26 |
| 735C0 | 30 | 7, | -3,743 | -4,114 | 0,371 | 74 | -5,195 | -5,582 | 0,386 | 27 |
| 73K80 | 31 | 1, | -3,347 | -4,069 | 0,722 | 27 | -2,543 | -2,928 | 0,385 | 28 |
| 73KE0 | 32 | 5, | -4,882 | -4,279 | -0,583 | 98 | -3,884 | -3,383 | 0,379 | 29 |
| 73KF0 | 33 | 3, | -4,669 | -4,773 | 0,104 | 108 | -3,827 | -3,483 | 0,376 | 30 |
| 73KK0 | 34 | 5, | -4,816 | -4,185 | -0,589 | 30 | -3,743 | -4,114 | 0,371 | 31 |
| 7593P | 35 | 8, | -5,493 | -6,486 | 0,993 | 4 | -3,897 | -4,255 | 0,358 | 32 |
| 748D8 | 36 | 3, | -3,968 | -4,169 | 0,200 | 84 | -1,952 | -2,316 | 0,364 | 33 |
| 748F8 | 37 | 4, | -3,856 | -4,214 | 0,358 | 37 | -3,856 | -4,214 | 0,358 | 34 |
| 74810 | 38 | 20, | -5,836 | -5,939 | 0,103 | 28 | -3,287 | -3,559 | 0,352 | 35 |
| 78A10 | 39 | 4, | -5,115 | -5,299 | 0,185 | 281 | -3,653 | -3,998 | 0,337 | 36 |
| 78GA0 | 40 | 10, | -4,189 | -4,199 | 0,009 | 118 | -4,244 | -4,578 | 0,334 | 37 |
| 74FF0 | 41 | 27, | -3,815 | -3,598 | -0,208 | 56 | -5,167 | -5,497 | 0,330 | 38 |
| 74FA0 | 42 | 11, | -3,071 | -2,260 | -0,811 | 43 | -3,682 | -3,979 | 0,297 | 39 |
| 74FH0 | 43 | 7, | -3,682 | -3,979 | 0,297 | 80 | -3,469 | -3,741 | 0,273 | 40 |
| 74FU0 | 44 | 28, | -3,203 | -3,915 | 0,712 | 25 | -2,337 | -2,578 | 0,241 | 41 |
| 73CG0 | 45 | 21, | -5,173 | -4,870 | -0,304 | 110 | -4,584 | -4,812 | 0,231 | 42 |
| 74FC0 | 46 | 7, | -3,482 | -3,273 | -0,209 | 211 | -4,479 | -4,704 | 0,225 | 43 |
| 74FJ0 | 49 | 2, | -4,614 | -3,827 | -0,788 | 14 | -4,636 | -4,853 | 0,217 | 44 |
| 74FK0 | 50 | 6, | -6,134 | -6,558 | 0,424 | 36 | -3,968 | -4,169 | 0,200 | 45 |
| 74F00 | 51 | 27, | -3,149 | -3,148 | -0,001 | 77 | -1,632 | -1,822 | 0,190 | 46 |
| 74KA0 | 52 | 4, | -3,843 | -3,657 | 0,814 | 85 | -3,958 | -4,144 | 0,186 | 47 |
| 74KC0 | 53 | 4, | -4,896 | -4,461 | -0,145 | 34 | -5,115 | -5,299 | 0,185 | 48 |
| 74CA0 | 54 | 4, | -4,812 | -4,430 | -0,382 | 124 | -3,457 | -3,617 | 0,159 | 49 |
| 74CB0 | 55 | 3, | -4,983 | -4,670 | -0,313 | 123 | -3,954 | -4,104 | 0,148 | 50 |
| 74CC0 | 56 | 4, | -5,167 | -5,497 | 0,330 | 65 | -3,816 | -3,716 | 0,100 | 51 |
| 74F41 | 57 | 9, | -3,603 | -3,304 | -0,299 | 33 | -4,889 | -4,773 | 0,104 | 52 |
| 74E80 | 58 | 4, | -4,474 | -4,498 | 0,024 | 38 | -5,836 | -5,939 | 0,103 | 53 |
| 73PH0 | 59 | 3, | -4,393 | -3,885 | -0,507 | 1 | -4,150 | -4,248 | 0,098 | 54 |
| 73P90 | 60 | 21, | -2,959 | -2,559 | 0,579 | 49 | -4,189 | -4,189 | 0,000 | 55 |
| 73P00 | 61 | 31, | -2,374 | -2,528 | 0,045 | 34 | -4,816 | -4,185 | 0,030 | 56 |
| 73PFP | 62 | 14, | -3,656 | -3,843 | 0,813 | 88 | -6,675 | -6,750 | 0,075 | 57 |
| 73PH0 | 63 | 3, | -3,168 | -3,774 | 0,614 | 92 | -2,364 | -2,429 | 0,065 | 58 |
| 71NA0 | 64 | 2, | -3,131 | -3,716 | 0,585 | 16 | -6,419 | -6,472 | 0,054 | 59 |
| 710U0 | 65 | 2, | -3,810 | -3,716 | 0,106 | 79 | -5,241 | -5,281 | 0,040 | 60 |
| 63AA0 | 66 | 1, | -3,798 | -3,726 | -0,072 | 125 | -4,148 | -4,179 | 0,030 | 61 |
| 65AA0 | 67 | 2, | -4,448 | -4,859 | 0,387 | 121 | -3,588 | -3,598 | 0,024 | 62 |
| 63AG0 | 68 | 3, | -5,131 | -4,972 | -0,158 | 32 | -3,643 | -3,657 | 0,014 | 63 |
| 638F0 | 70 | 13, | -7,122 | -7,046 | -0,075 | 71 | -5,553 | -5,559 | 0,006 | 64 |




G&M MODEL RUN48 DEP VAR IS LMMUNB
RESIDUAL VS. FITTED Y
-7.165
-4.493
-1.822
POSITIVE
0
NEGATIVE
RESIDUALS
-7.165
-4.493
-1.822
FITTED Y


O&M MODEL RUN48 DEP VAR 11 LHHUNS CUMULATIVE DISTRIBUTION OF RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
POSITIVE
0
NEGATIVE
RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
CUMULATIVE FREQUENCY, NORMAL GRID

LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

O&R MODEL RUN38 DEP VAR IS LMMSMO MIN Y = -9,8910 00 MAX Y = -8,2720-01 RANGE Y = 8,2640 00

MULTIPLE REGRESSION ANALYSIS FOR THE "ALPOD" MODEL
LMMSMO = B(0) + B(1)FIGCOM + B(2)BOMNAV + B(3)BOMCOM + B(4)DI
+ B(5)PS + B(6)SS + B(7)MCD + B(8)MEM + B(9)DUP
+ B(10)DCO + B(11)DEM + B(12)DUF + B(13)LUP + B(14)LVO
LMMSMO = LN(MMMSMC)
MMMSMO = SHOP MAINTENANCE MANHOURS PER OPERATING HOUR

| IND.VAR(I) | NAME | COEF.B(I) | S.E. COEF. | T-VALUE | R(I)SQRD | MIN X(I) | MAX X(I) | RANGE X(I) | REL.IMP.X(I) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | -1,124560 01 | | | | | | | |
| 1 | FIGCOM | 7,489710-01 | 2,280-01 | 3,3 | 7,8925 | 0,0 | 1,0000 00 | 1,0000 00 | 0,09 |
| 2 | BOMNAV | 3,874220-01 | 1,650-01 | 1,9 | 0,1812 | 0,0 | 1,0000 00 | 1,0000 00 | 0,04 |
| 3 | BOMCOM | 9,088750-01 | 2,050-01 | 4,4 | 0,1149 | 0,0 | 1,0000 00 | 1,0000 00 | 0,11 |
| 4 | DI | -1,746280-02 | 1,770-03 | 9,9 | 0,4487 | 0,0 | 1,0000 02 | 1,0000 02 | 0,21 |
| 5 | PS | -5,683330-03 | 2,630-03 | 2,2 | 0,0796 | 0,0 | 1,0000 02 | 1,0000 02 | 0,07 |
| 6 | SS | -1,807850-02 | 2,400-03 | 7,5 | 0,6462 | 0,0 | 1,0000 02 | 1,0000 02 | 0,22 |
| 7 | MCD | 3,236290-01 | 5,150-02 | 6,3 | 0,3536 | -1,2150 00 | 5,4540 00 | 6,6690 00 | 0,26 |
| 8 | MEM | -3,178140-02 | 3,060-03 | 10,4 | 0,5871 | -1,0220 01 | 0,0000 01 | 1,0220 02 | 0,36 |
| 9 | DUP | 3,914800-12 | 3,380-12 | 1,2 | 0,1448 | 3,6910 05 | 1,4360 11 | 1,4360 11 | 0,07 |
| 10 | DCO | -7,257750-02 | 2,520-02 | 2,9 | 0,2847 | 1,7840-04 | 1,8610 01 | 1,8610 01 | 0,16 |
| 11 | DEM | -3,262990-04 | 8,910-05 | 3,7 | 0,0679 | 2,7840 01 | 3,0470 03 | 3,0220 03 | 0,12 |
| 12 | DUF | 1,713460-01 | 1,710-01 | 1,0 | 0,0818 | 2,0250-01 | 2,1830 00 | 1,9800 00 | 0,04 |
| 13 | LUP | 6,119970-01 | 5,260-02 | 11,6 | 0,6720 | 5,0380 00 | 1,3250 01 | 8,2170 00 | 0,61 |
| 14 | LVO | 6,212180-01 | 6,440-02 | 9,6 | 0,5898 | 3,4810 00 | 9,0120 00 | 5,6110 00 | 0,42 |

| | |
|---|---|
| NO. OF OBSERVATIONS | 130 |
| NO. OF IND. VARIABLES | 14 |
| RESIDUAL DEGREES OF FREEDOM | 115 |
| F-VALUE | 87,4 |
| RESIDUAL ROOT MEAN SQUARE | 0,55815869 |
| RESIDUAL MEAN SQUARE | 0,31153228 |
| RESIDUAL SUM OF SQUARES | 35,82628256 |
| TOTAL SUM OF SQUARES | 329,94538961 |
| MULT. CORREL. COEF. SQUARED | ,8914 |

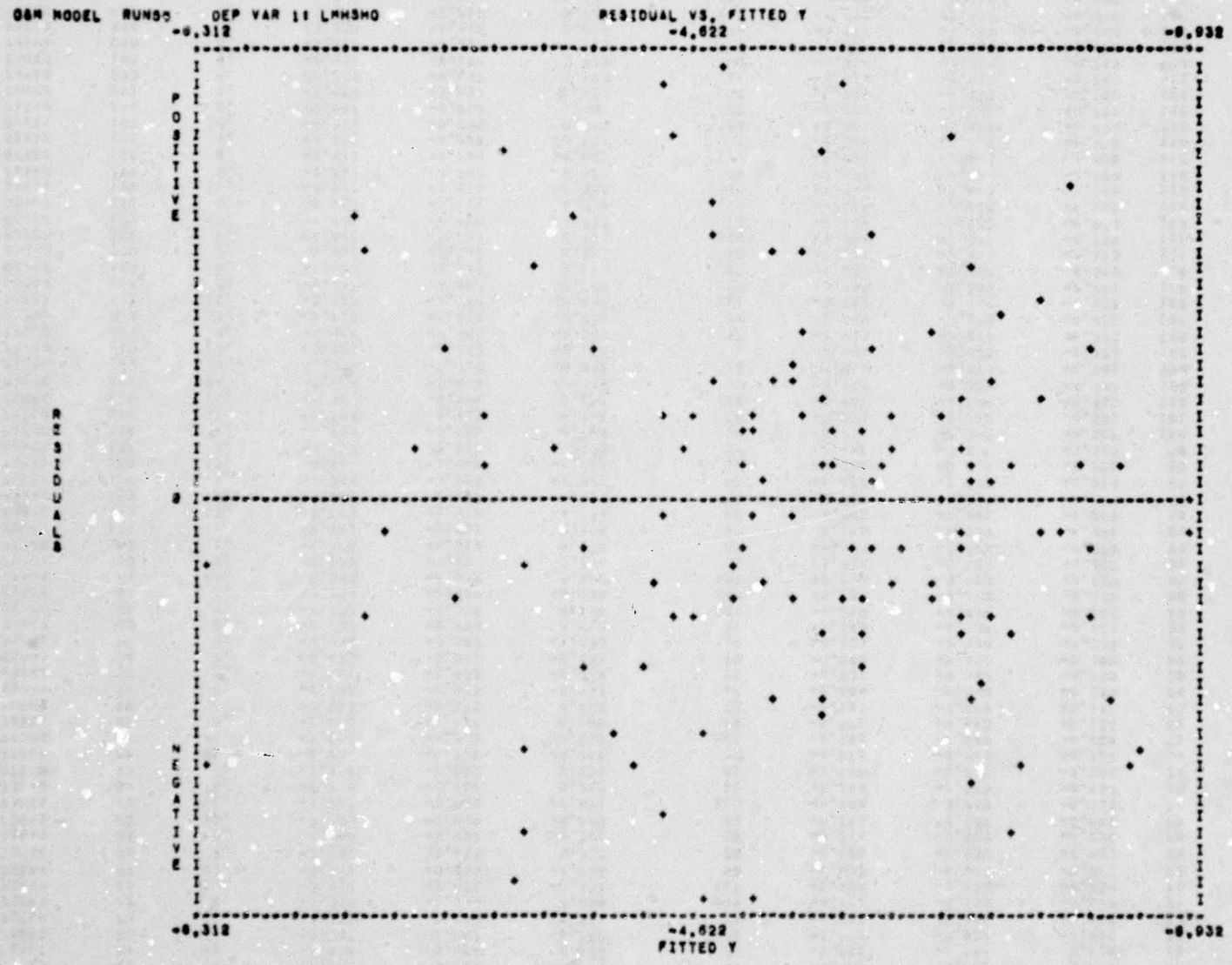
| IND.VAR(I) | NAME | COEF.B(I) | MIN X(I) | MAX X(I) | RANGE X(I) | REL.IMP.X(I) |
|---|---|---|---|---|---|---|
| *** COEFFICIENTS FROM PREVIOUS FIT *** | | | | | | |
| 0 | | -1,146880 01 | | | | |
| 1 | FIGCOM | 8,426910-01 | 0,0 | 1,0000 00 | 1,0000 00 | 0,10 |
| 2 | BOMNAV | 4,182110-01 | 0,0 | 1,0000 00 | 1,0000 00 | 0,05 |
| 3 | BOMCOM | 9,395380-01 | 0,0 | 1,0000 00 | 1,0000 00 | 0,11 |
| 4 | DI | -1,783970-02 | 0,0 | 1,0000 02 | 1,0000 02 | 0,21 |
| 5 | PS | -0,478910-03 | 0,0 | 1,0000 02 | 1,0000 02 | 0,07 |
| 6 | SS | -1,988860-02 | 0,0 | 1,0000 02 | 1,0000 02 | 0,23 |
| 7 | MCD | 3,139220-01 | -1,2150 00 | 5,4540 00 | 6,6690 00 | 0,25 |
| 8 | MEM | -3,237930-02 | -1,0220 01 | 0,0000 01 | 1,0220 02 | 0,39 |
| 9 | DUP | 7,343870-12 | 3,6910 05 | 1,4360 11 | 1,4360 11 | 0,13 |
| 10 | DCO | -5,884180-02 | 1,7840-04 | 1,8610 01 | 1,8610 01 | 0,13 |
| 11 | DEM | -3,761690-04 | 2,7840 01 | 3,0470 03 | 3,0220 03 | 0,14 |
| 12 | DUF | 2,438150-01 | 2,0250-01 | 2,1830 00 | 1,9800 00 | 0,06 |
| 13 | LUP | 6,788290-01 | 5,0380 00 | 1,3250 01 | 8,2170 00 | 0,67 |
| 14 | LVO | 9,657860-01 | 3,4810 00 | 9,0120 00 | 5,6110 00 | 0,38 |

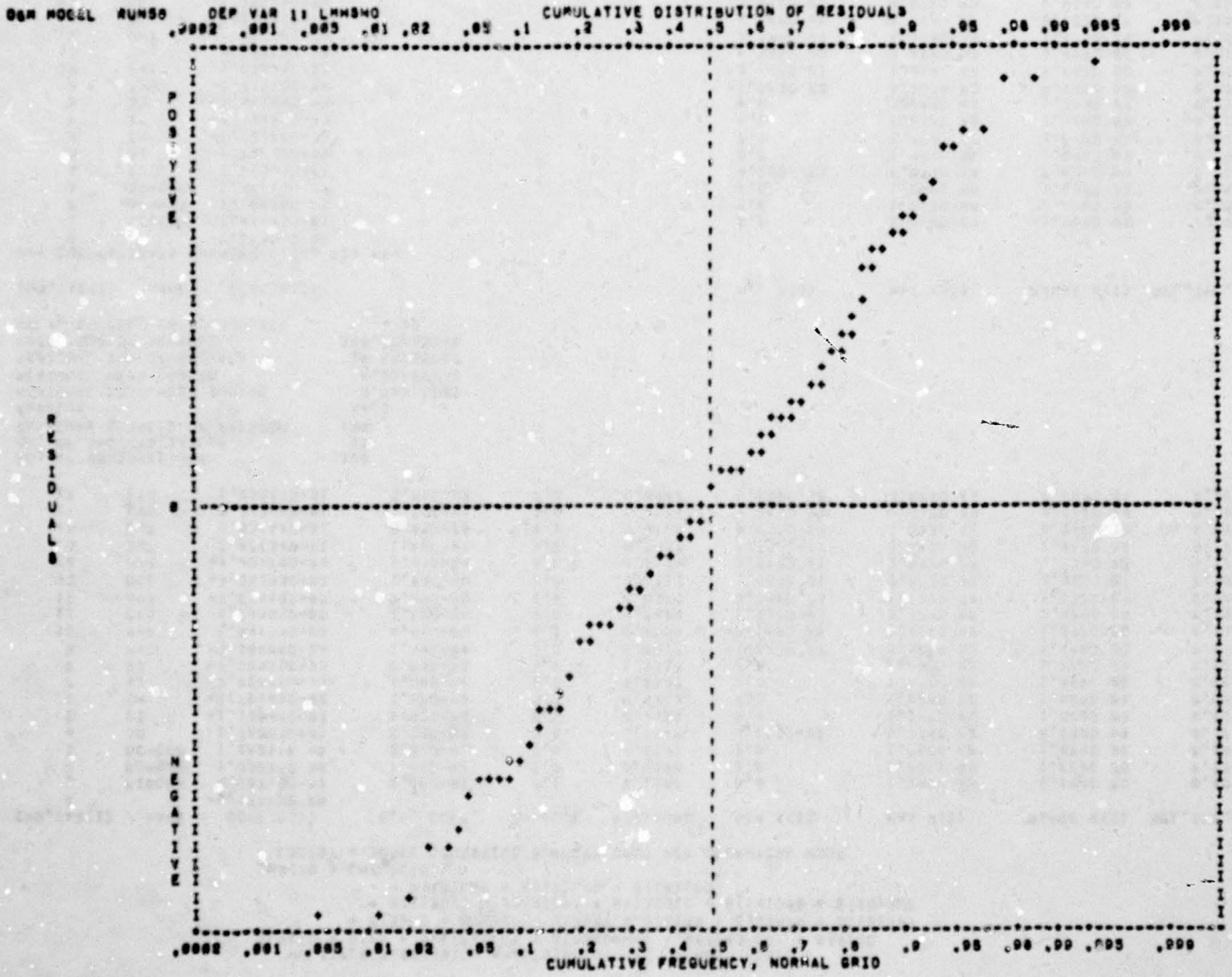
| | |
|---|---|
| RESIDUAL ROOT MEAN SQUARE | 0,56731835 |
| RESIDUAL MEAN SQUARE | 0,32185811 |
| RESIDUAL SUM OF SQUARES | 37,01276231 |
| TOTAL SUM OF SQUARES | 329,94538961 |
| MULT. CORREL. COEF. SQUARED | ,8877 |

| IDENT. | OBSV. | NBR | ORDERED BY DISTANCE | COMPUTER INPUT OBS. Y | FITTED Y | RESIDUAL |
|---|---|---|---|---|---|---|
| 71B2B | 1 | 1. | | -4.829 | -3.656 | -0.372 |
| 71L9B | 2 | 5. | | -3.357 | -2.568 | -0.789 |
| 71M8B | 3 | 21. | | -3.357 | -3.589 | 0.232 |
| 71P4B | 4 | 2. | | -3.542 | -3.651 | 0.110 |
| 71P8B | 5 | 5. | | -3.979 | -4.863 | 0.884 |
| 71710 | 6 | 16. | | -6.246 | -7.216 | 0.771 |
| 72AGB | 7 | 8. | | -6.598 | -5.879 | -0.719 |
| 71FAB | 9 | 5. | | -4.103 | -4.474 | 0.371 |
| 71F8B | 10 | 15. | | -4.549 | -4.719 | 0.161 |
| 71CAB | 11 | 4. | | -5.817 | -5.035 | -0.782 |
| 71DAB | 12 | 3. | | -3.681 | -3.334 | -0.347 |
| 51EAB | 13 | 5. | | -3.572 | -4.835 | 1.264 |
| 52AAB | 14 | 8. | | -3.628 | -4.724 | 1.096 |
| 52A8B | 15 | 9. | | -3.572 | -4.458 | 0.885 |
| 63BDB | 16 | 9. | | -6.884 | -5.844 | -0.159 |
| 71AEB | 17 | 16. | | -1.574 | -2.671 | 1.097 |
| 74JAB | 18 | 9. | | -2.724 | -2.397 | -0.327 |
| 74JCB | 19 | 7. | | -3.981 | -4.220 | 0.239 |
| 52GA1 | 20 | 3. | | -4.837 | -4.881 | -0.956 |
| 71ZAB | 21 | 4. | | -5.789 | -4.557 | -1.151 |
| 73EGB | 24 | 11. | | -3.139 | -3.368 | 0.229 |
| 73EPB | 25 | 19. | | -1.424 | -2.028 | 0.624 |
| 73HAB | 26 | 18. | | -1.925 | -0.932 | -0.993 |
| 73HCB | 27 | 18. | | -2.613 | -2.231 | -0.383 |
| 73NAB | 28 | 26. | | -2.821 | -3.306 | 0.485 |
| 73Q9B | 29 | 8. | | -2.488 | -2.563 | 0.075 |
| 73SCB | 30 | 11. | | -4.135 | -3.860 | -0.275 |
| 73K8B | 31 | 3. | | -2.889 | -3.163 | 0.273 |
| 73KEB | 32 | 4. | | -3.804 | -3.333 | -0.471 |
| 73KFB | 33 | 2. | | -4.531 | -4.344 | -0.188 |
| 73KKB | 34 | 18. | | -3.844 | -3.782 | 0.738 |
| 75938 | 35 | 8. | | -5.468 | -5.631 | 0.171 |
| 74B0B | 36 | 6. | | -3.128 | -3.228 | 0.100 |
| 74BFB | 37 | 2. | | -3.573 | -3.446 | -0.128 |
| 74B1B | 38 | 36. | | -6.687 | -6.398 | -0.289 |
| 76A1B | 39 | 5. | | -5.158 | -4.504 | -0.654 |
| 76GAB | 40 | 8. | | -4.565 | -4.281 | -0.283 |
| 74FFB | 41 | 21. | | -3.195 | -2.233 | -0.962 |
| 74FAB | 42 | 15. | | -2.105 | -1.349 | -0.756 |
| 74FHB | 43 | 5. | | -2.958 | -3.131 | 0.172 |
| 74FUB | 44 | 46. | | -2.788 | -3.515 | 1.229 |
| 73CGB | 46 | 38. | | -4.514 | -4.799 | 0.285 |
| 74FCB | 48 | 10. | | -2.163 | -2.968 | -0.998 |
| 74FJB | 49 | 3. | | -3.137 | -2.574 | -0.563 |
| 74FKB | 50 | 18. | | -8.262 | -7.998 | 0.836 |
| 74FQB | 51 | 16. | | -2.417 | -2.539 | 0.122 |
| 74KAB | 52 | 7. | | -2.318 | -2.415 | 0.097 |
| 74MCB | 53 | 7. | | -3.481 | -3.838 | 0.378 |
| 73CAB | 54 | 5. | | -5.345 | -4.178 | -1.167 |
| 74C8B | 55 | 7. | | -5.102 | -4.777 | -0.328 |
| 74CCB | 56 | 7. | | -5.432 | -4.976 | -0.455 |
| 74FA1 | 57 | 9. | | -3.532 | -3.644 | 0.112 |
| 74E8B | 58 | 6. | | -3.453 | -3.882 | 0.428 |
| 73PHB | 59 | 4. | | -3.646 | -3.381 | -0.265 |
| 73P8B | 60 | 29. | | -0.930 | -0.966 | 0.036 |
| 73PDB | 61 | 13. | | -1.173 | -1.648 | 0.476 |
| 73PFB | 62 | 20. | | -2.948 | -2.618 | -0.321 |
| 73PHB | 63 | 4. | | -2.589 | -2.774 | 0.185 |
| 71NAB | 64 | 4. | | -2.317 | -2.622 | 0.305 |
| 71QUB | 65 | 4. | | -2.715 | -2.622 | -0.094 |
| 63AAB | 66 | 3. | | -2.788 | -2.588 | -0.121 |
| 65AAB | 67 | 5. | | -2.955 | -2.453 | -0.502 |
| 63AGB | 68 | 4. | | -4.899 | -4.219 | 0.120 |
| 63BFB | 70 | 15. | | -5.886 | -6.177 | 0.291 |

| OBSV. | OBS. Y | FITTED Y | ORDERED RESID. | SEQ |
|---|---|---|---|---|
| 209 | -3.939 | -4.364 | 1.325 | 1 |
| 13 | -3.572 | -4.835 | 1.264 | 2 |
| 44 | -2.286 | -3.515 | 1.229 | 3 |
| 17 | -1.574 | -2.671 | 1.097 | 4 |
| 14 | -3.628 | -4.724 | 1.096 | 5 |
| 210 | -4.988 | -6.832 | 1.051 | 6 |
| 201 | -2.587 | -3.618 | 1.038 | 7 |
| 84 | -0.927 | -1.791 | 0.963 | 8 |
| 15 | -3.572 | -4.458 | 0.885 | 9 |
| 74 | -4.646 | -5.490 | 0.844 | 10 |
| 58 | -6.262 | -7.098 | 0.836 | 11 |
| 96 | -2.487 | -3.317 | 0.830 | 12 |
| 211 | -3.598 | -4.424 | 0.825 | 13 |
| 118 | -3.217 | -3.997 | 0.780 | 14 |
| 5 | -6.246 | -7.016 | 0.770 | 15 |
| 34 | -3.644 | -3.782 | 0.738 | 16 |
| 198 | -5.034 | -5.781 | 0.747 | 17 |
| 119 | -1.852 | -2.547 | 0.696 | 18 |
| 25 | -1.424 | -2.028 | 0.624 | 19 |
| 188 | -1.743 | -2.318 | 0.575 | 20 |
| 194 | -3.322 | -3.827 | 0.505 | 21 |
| 98 | -2.363 | -2.856 | 0.492 | 22 |
| 28 | -2.821 | -3.306 | 0.485 | 23 |
| 61 | -1.173 | -1.648 | 0.476 | 24 |
| 71 | -4.911 | -5.355 | 0.445 | 25 |
| 98 | -5.985 | -6.428 | 0.443 | 26 |
| 38 | -3.453 | -3.882 | 0.428 | 27 |
| 53 | -3.461 | -3.838 | 0.378 | 28 |
| 9 | -4.103 | -4.474 | 0.371 | 29 |
| 189 | -2.884 | -2.433 | 0.349 | 30 |
| 99 | -3.673 | -4.017 | 0.344 | 31 |
| 207 | -1.682 | -2.010 | 0.328 | 32 |
| 72 | -1.738 | -2.056 | 0.318 | 33 |
| 89 | -3.301 | -3.618 | 0.317 | 34 |
| 64 | -2.317 | -2.622 | 0.305 | 35 |
| 79 | -5.886 | -6.177 | 0.291 | 36 |
| 110 | -4.311 | -4.598 | 0.287 | 37 |
| 46 | -4.514 | -4.799 | 0.285 | 38 |
| 125 | -3.522 | -3.799 | 0.276 | 39 |
| 31 | -2.889 | -3.163 | 0.273 | 40 |
| 63 | -2.589 | -2.774 | 0.185 | 41 |
| 204 | -3.931 | -4.187 | 0.256 | 42 |
| 19 | -3.981 | -4.220 | 0.239 | 43 |
| 3 | -3.357 | -3.589 | 0.232 | 44 |
| 123 | -3.933 | -4.165 | 0.232 | 45 |
| 24 | -3.139 | -3.368 | 0.229 | 46 |
| 121 | -2.481 | -2.589 | 0.108 | 47 |
| 43 | -2.958 | -3.131 | 0.172 | 48 |
| 35 | -5.468 | -5.631 | 0.171 | 49 |
| 128 | -6.521 | -6.686 | 0.165 | 50 |
| 19 | -4.549 | -4.710 | 0.161 | 51 |
| 101 | -2.101 | -2.231 | 0.130 | 52 |
| 51 | -2.417 | -2.539 | 0.122 | 53 |
| 68 | -4.099 | -4.219 | 0.120 | 54 |
| 57 | -3.532 | -3.644 | 0.112 | 55 |
| 4 | -3.542 | -3.651 | 0.110 | 56 |
| 223 | -6.229 | -6.137 | 0.108 | 57 |
| 89 | -1.619 | -1.727 | 0.108 | 58 |
| 120 | -3.451 | -3.552 | 0.101 | 59 |
| 36 | -3.128 | -3.220 | 0.100 | 60 |
| 77 | -1.345 | -1.444 | 0.099 | 61 |
| 52 | -2.318 | -2.415 | 0.097 | 62 |
| 5 | -3.979 | -4.863 | 0.884 | 63 |
| 206 | -3.232 | -3.310 | 0.078 | 64 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 71ABE | 71 | 10. | -4.911 | -5.355 | 0.445 | 29 | -2.456 | -2.563 | 0.075 | 65 |
| 71ADA | 72 | 12. | -1.738 | -2.049 | 0.310 | 68 | -0.930 | -0.966 | 0.036 | 66 |
| 73DBA | 73 | 10. | -2.106 | -1.535 | -0.572 | 89 | -3.602 | -3.623 | 0.021 | 67 |
| 71ACC | 74 | 40. | -4.645 | -5.090 | 0.444 | 93 | -2.732 | -2.750 | 0.018 | 68 |
| 73CBQ | 75 | 45. | -6.947 | -5.980 | -1.007 | 202 | -3.860 | -3.834 | -0.026 | 69 |
| 73CEN | 76 | 40. | -7.333 | -7.002 | -0.331 | 28 | -4.837 | -4.801 | -0.036 | 70 |
| 73CFK | 77 | 8. | -1.345 | -1.444 | 0.099 | 126 | -4.172 | -4.138 | -0.042 | 71 |
| 73DAM | 78 | 20. | -3.812 | -2.651 | -0.361 | 117 | -0.927 | -0.876 | -0.050 | 72 |
| 73EBA | 79 | 11. | -5.571 | -5.433 | -0.138 | 83 | -1.925 | -1.853 | -0.071 | 73 |
| 73EBF | 80 | 7. | -3.301 | -3.618 | 0.317 | 26 | -1.825 | -1.932 | -0.093 | 74 |
| 71CA0 | 81 | 7. | -5.149 | -4.927 | -0.221 | 65 | -2.716 | -2.622 | -0.094 | 75 |
| 73EG0 | 82 | 18. | -3.033 | -2.829 | -0.205 | 49 | -2.103 | -2.006 | -0.098 | 76 |
| 73HCB | 83 | 11. | -1.925 | -1.853 | -0.071 | 113 | -3.368 | -3.252 | -0.115 | 77 |
| 73LAB | 84 | 4. | -0.827 | -1.791 | 0.963 | 91 | -1.798 | -1.673 | -0.117 | 78 |
| 77ECB | 85 | 1. | -3.682 | -3.623 | 0.021 | 66 | -2.726 | -2.598 | -0.121 | 79 |
| 77EEB | 86 | 46. | -9.891 | -8.312 | -0.788 | 37 | -3.573 | -3.446 | -0.126 | 80 |
| 77DBB | 88 | 46. | -8.503 | -8.312 | -0.192 | 127 | -4.382 | -4.248 | -0.134 | 81 |
| 76AEA | 89 | 6. | -1.619 | -1.727 | 0.108 | 79 | -5.571 | -5.433 | -0.138 | 82 |
| 73KAB | 90 | 7. | -2.363 | -2.856 | 0.492 | 93 | -3.223 | -3.082 | -0.141 | 83 |
| 83BAA | 91 | 9. | -1.790 | -1.673 | -0.117 | 16 | -6.824 | -5.644 | -0.159 | 84 |
| 63CAA | 92 | 9. | -1.987 | -1.673 | -0.314 | 33 | -4.531 | -4.344 | -0.186 | 85 |
| 65BAC | 93 | 6. | -3.223 | -3.082 | -0.141 | 88 | -6.593 | -6.312 | -0.192 | 86 |
| 61BBA | 94 | 5. | -2.990 | -2.807 | -0.183 | 82 | -3.233 | -2.829 | -0.205 | 87 |
| 61AAP | 95 | 8. | -2.732 | -2.758 | 0.018 | 81 | -5.149 | -4.927 | -0.221 | 88 |
| 61ABP | 96 | 6. | -2.487 | -3.317 | 0.830 | 285 | -4.312 | -4.090 | -0.222 | 89 |
| 61ACP | 97 | 8. | -3.124 | -2.844 | -0.280 | 195 | -3.384 | -3.159 | -0.225 | 90 |
| 72AAB | 98 | 26. | -5.985 | -6.428 | 0.443 | 107 | -3.793 | -3.535 | -0.259 | 91 |
| 72ACB | 99 | 9. | -3.673 | -4.017 | 0.344 | 59 | -3.646 | -3.381 | -0.265 | 92 |
| 71CA0 | 100 | 11. | -1.743 | -2.318 | 0.575 | 39 | -4.135 | -3.858 | -0.275 | 93 |
| 72EAA | 101 | 11. | -2.181 | -2.231 | 0.130 | 97 | -3.124 | -2.844 | -0.280 | 94 |
| 72BPO | 103 | 16. | -2.993 | -1.278 | -0.734 | 48 | -4.565 | -4.281 | -0.283 | 95 |
| 71JAB | 104 | 2. | -3.322 | -3.827 | 0.505 | 38 | -6.687 | -6.398 | -0.289 | 96 |
| 71LAB | 105 | 4. | -3.384 | -3.159 | -0.225 | 92 | -1.987 | -1.673 | -0.314 | 97 |
| 72CNB | 106 | 12. | -4.244 | -3.628 | -0.615 | 62 | -2.948 | -2.618 | -0.321 | 98 |
| 72ACB | 107 | 2. | -3.793 | -3.535 | -0.259 | 55 | -5.182 | -4.777 | -0.326 | 99 |
| 71716 | 108 | 9. | -5.934 | -5.761 | 0.727 | 16 | -2.724 | -2.397 | -0.327 | 100 |
| 71310 | 109 | 12. | -2.884 | -2.433 | 0.349 | 76 | -7.333 | -7.002 | -0.331 | 101 |
| 72RP6 | 110 | 11. | -4.311 | -4.598 | 0.287 | 122 | -4.941 | -4.608 | -0.333 | 102 |
| 72RNP | 111 | 24. | -5.899 | -5.219 | -0.680 | 12 | -3.681 | -3.334 | -0.347 | 103 |
| 71JCE | 112 | 13. | -3.900 | -5.442 | -0.458 | 78 | -3.912 | -3.551 | -0.361 | 104 |
| 72AEB | 113 | 13. | -3.368 | -3.252 | -0.115 | 1 | -4.829 | -3.456 | -0.372 | 105 |
| 72CCB | 114 | 4. | -4.628 | -4.845 | 0.583 | 27 | -2.613 | -2.231 | -0.383 | 106 |
| 71ZB8 | 116 | 13. | -6.765 | -5.816 | -0.948 | 36 | -5.432 | -4.976 | -0.455 | 107 |
| 71ZU8 | 117 | 19. | -6.927 | -6.876 | -0.050 | 112 | -5.988 | -5.442 | -0.458 | 108 |
| 65BAA | 118 | 4. | -3.217 | -3.997 | 0.780 | 32 | -3.804 | -3.333 | -0.471 | 109 |
| 63AP8 | 119 | 7. | -1.852 | -2.547 | 0.695 | 67 | -2.955 | -2.453 | -0.502 | 110 |
| 63AAB | 120 | 2. | -3.451 | -3.552 | 0.101 | 49 | -3.137 | -2.574 | -0.563 | 111 |
| 63121 | 121 | 7. | -2.481 | -2.589 | 0.108 | 124 | -4.237 | -3.671 | -0.566 | 112 |
| 63AAA | 122 | 15. | -4.941 | -4.608 | -0.333 | 73 | -2.188 | -1.858 | -0.372 | 113 |
| 55ALB | 123 | 6. | -3.933 | -4.165 | 0.232 | 114 | -4.628 | -4.045 | -0.583 | 114 |
| 55AVA | 124 | 11. | -4.237 | -3.671 | -0.566 | 186 | -4.244 | -3.628 | -0.615 | 115 |
| 61AAP | 125 | 3. | -3.522 | -3.799 | 0.276 | 39 | -5.158 | -4.584 | -0.654 | 116 |
| 61AEP | 126 | 8. | -4.172 | -4.132 | -0.040 | 111 | -5.899 | -5.219 | -0.680 | 117 |
| 62AAB | 127 | 4. | -4.382 | -4.248 | -0.134 | 7 | -6.598 | -5.879 | -0.719 | 118 |
| 64211 | 128 | 14. | -6.521 | -6.686 | 0.165 | 183 | -2.883 | -1.278 | -0.734 | 119 |
| 71RAB | 201 | 2. | -2.587 | -3.618 | 1.030 | 42 | -2.195 | -1.349 | -0.756 | 120 |
| 74BCB | 202 | 1. | -3.868 | -3.834 | -0.026 | 88 | -9.991 | -8.312 | -0.780 | 121 |
| 74BEB | 203 | 6. | -6.829 | -6.137 | -0.188 | 11 | -5.817 | -5.035 | -0.782 | 122 |
| 74BGB | 204 | 2. | -3.931 | -4.187 | 0.256 | 94 | -2.998 | -2.207 | -0.783 | 123 |
| 74BHB | 205 | 3. | -4.312 | -4.090 | -0.222 | 2 | -3.357 | -2.568 | -0.789 | 124 |
| 65BAB | 206 | 4. | -3.232 | -3.310 | 0.078 | 208 | -5.582 | -4.794 | -0.888 | 125 |
| 73JCB | 207 | 6. | -1.882 | -2.210 | 0.328 | 116 | -6.765 | -5.816 | -0.948 | 126 |
| 73JEB | 208 | 8. | -5.682 | -4.794 | -0.888 | 41 | -3.195 | -2.233 | -0.962 | 127 |
| 71CA3 | 209 | 7. | -3.839 | -4.364 | 1.325 | 75 | -6.967 | -5.980 | -1.007 | 128 |
| 71GA0 | 210 | 14. | -4.980 | -6.032 | 1.051 | 21 | -5.709 | -4.557 | -1.151 | 129 |
| 65AA0 | 211 | 4. | -0.600 | -4.424 | 0.825 | 84 | -0.345 | -4.178 | -1.167 | 130 |


GSM MODEL RUN50 DEP VAR IS LMMSMO
RESIDUAL VS. FITTED Y
-0.312
-4.622
-8.932
POSITIVE
RESIDUALS
0
NEGATIVE
-0.312
-4.622
-8.932
FITTED Y


B&M MODEL RUN58 DEP VAR 11 LHHSHO
CUMULATIVE DISTRIBUTION OF RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
POSITIVE
0
NEGATIVE
RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
CUMULATIVE FREQUENCY, NORMAL GRID

LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

O&M MODEL RUN80 DEP VAR IS LLSCTO MIN Y = -4.5297 00 MAX Y = 3.2820 00 RANGE Y = 7.8110 00

MULTIPLE REGRESSION ANALYSIS FOR THE "ALPOS" MODEL

LLSCTO = B(0) + B(1)FIGCOM + B(2)BOMNAV + B(3)BOMCOM + B(4)CO
+ B(5)DI + B(6)EM + B(7)XT + B(8)SS + B(9)MVO + B(10)MMT
+ B(11)DVO + B(12)DMT + B(13)DCC + B(14)DPS + B(15)DUP
+ B(16)LUP + B(17)LVO + B(18)LPO

LLSCTO = LN(LSCTOT)

LSCTOT = TOTAL LOGISTICS SUPPORT COST PER OPERATING HOUR

| IND,VAR(I) | NAME | COEF,B(I) | S.E. COEF. | T-VALUE | B(I)SUMD | MIN X(I) | MAX X(I) | RANGE X(I) | REL.INF,X(I) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | -8.188820 00 | | | | | | | |
| 1 | FIGCOM | 6.987160-01 | 2.250-01 | 3.1 | 0.1187 | 0.0 | 1.0000 00 | 1.0000 00 | 0.09 |
| 2 | BOMNAV | 1.032940 00 | 1.790-01 | 5.8 | 0.2520 | 0.0 | 1.0000 00 | 1.0000 00 | 0.13 |
| 3 | BOMCOM | 1.059190 00 | 2.310-01 | 4.6 | 0.1087 | 0.0 | 1.0000 00 | 1.0000 00 | 0.14 |
| 4 | CO | 1.883350-01 | 5.260-02 | 3.6 | 0.3599 | 4.9230-03 | 6.6740 00 | 6.6690 00 | 0.17 |
| 5 | DI | -1.188410-02 | 1.930-03 | 6.1 | 0.4678 | 0.0 | 1.0000 02 | 1.0000 02 | 0.15 |
| 6 | EM | -1.791490-02 | 3.370-03 | 5.3 | 0.5413 | 0.0 | 1.0000 02 | 1.0000 02 | 0.23 |
| 7 | XT | -9.899270-03 | 4.480-03 | 2.2 | 0.5665 | 0.0 | 1.0000 02 | 1.0000 02 | 0.12 |
| 8 | SS | -9.885590-03 | 2.540-03 | 3.5 | 0.6534 | 0.0 | 1.0000 02 | 1.0000 02 | 0.12 |
| 9 | MVO | -3.688980-04 | 1.040-04 | 3.5 | 0.8917 | -1.3930 03 | 6.8670 03 | 8.1700 03 | 0.39 |
| 10 | MMT | 1.941380-02 | 4.490-03 | 4.3 | 0.8653 | -3.1380 01 | 1.4140 02 | 1.7270 02 | 0.43 |
| 11 | DVO | 6.995990-08 | 2.620-08 | 2.7 | 0.7429 | 1.9360 03 | 2.4780 07 | 2.4780 07 | 0.22 |
| 12 | DMT | -9.511130-05 | 5.090-05 | 1.9 | 0.6543 | 3.6860 00 | 1.1750 04 | 1.1750 04 | 0.14 |
| 13 | DCC | -4.353900-09 | 1.740-08 | 2.5 | 0.3413 | 1.6800 01 | 2.8230 07 | 2.8230 07 | 0.16 |
| 14 | DPS | -1.434770-04 | 1.330-04 | 3.3 | 0.2278 | 3.8190 01 | 2.9720 03 | 2.9340 03 | 0.17 |
| 15 | DUP | 7.371340-01 | 1.860-01 | 4.0 | 0.1657 | 1.7640-01 | 2.2160 00 | 1.8400 00 | 0.18 |
| 16 | LUP | 9.539680-01 | 5.460-02 | 18.1 | 0.6708 | 5.8300 00 | 1.3250 01 | 8.2170 00 | 0.58 |
| 17 | LVO | 3.643460-01 | 1.520-01 | 8.6 | 1.9171 | 3.4810 00 | 9.8120 00 | 5.8110 00 | 0.39 |
| 18 | LPO | 1.292340-01 | 5.550-02 | 2.0 | 0.6887 | 1.8990 00 | 8.8860 00 | 6.9880 00 | 0.18 |

| | |
|---|---|
| NO. OF OBSERVATIONS | 128 |
| NO. OF IND. VARIABLES | 18 |
| RESIDUAL DEGREES OF FREEDOM | 109 |
| F-VALUE | 44.3 |
| RESIDUAL ROOT MEAN SQUARE | 5.5881728S |
| RESIDUAL MEAN SQUARE | 3.33639961 |
| RESIDUAL SUM OF SQUARES | 36.68935783 |
| TOTAL SUM OF SQUARES | 383.27289348 |
| MULT. CORREL. COEF. SQUARED | .8788 |

| IND,VAR(I) | NAME | COEF,B(I) | MIN X(I) | MAX X(I) | RANGE X(I) | REL.INF,X(I) |
|---|---|---|---|---|---|---|
| *** COEFFICIENTS FROM PREVIOUS FIT *** | | | | | | |
| 0 | | -7.979570 00 | | | | |
| 1 | FIGCOM | 7.851430-01 | 0.0 | 1.0000 00 | 1.0000 00 | 0.10 |
| 2 | BOMNAV | 1.149780 00 | 0.0 | 1.0000 00 | 1.0000 00 | 0.15 |
| 3 | BOMCOM | 1.077190 00 | 0.0 | 1.0000 00 | 1.0000 00 | 0.14 |
| 4 | CO | 1.915970-01 | 4.9230-03 | 6.6740 00 | 6.6690 00 | 0.16 |
| 5 | DI | -1.229970-02 | 0.0 | 1.0000 02 | 1.0000 02 | 0.16 |
| 6 | EM | -1.723970-02 | 0.0 | 1.0000 02 | 1.0000 02 | 0.22 |
| 7 | XT | -9.499290-03 | 0.0 | 1.0000 02 | 1.0000 02 | 0.12 |
| 8 | SS | -8.351540-03 | 0.0 | 1.0000 02 | 1.0000 02 | 0.11 |
| 9 | MVO | -3.336350-04 | -1.3930 03 | 6.8670 03 | 8.1700 03 | 0.35 |
| 10 | MMT | 1.986410-02 | -3.1380 01 | 1.4140 02 | 1.7270 02 | 0.44 |
| 11 | DVO | 8.725930-08 | 1.9360 03 | 2.4780 07 | 2.4780 07 | 0.21 |
| 12 | DMT | -1.053590-04 | 3.6860 00 | 1.1750 04 | 1.1750 04 | 0.16 |
| 13 | DCC | -4.249910-08 | 1.6800 01 | 2.8230 07 | 2.8230 07 | 0.15 |
| 14 | DPS | -4.385250-04 | 3.8190 01 | 2.9720 03 | 2.9340 03 | 0.18 |
| 15 | DUP | 7.799840-01 | 1.7640-01 | 2.2160 00 | 1.8400 00 | 0.18 |
| 16 | LUP | 9.841310-01 | 5.8300 00 | 1.3250 01 | 8.2170 00 | 0.59 |
| 17 | LVO | 4.816820-01 | 3.4810 00 | 9.8120 00 | 5.8110 00 | 0.33 |
| 18 | LPO | 1.472840-01 | 1.8990 00 | 8.8860 00 | 6.9880 00 | 0.13 |

LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

GSH MODEL NUMBR DEP VAR IS LLPCTC
RESIDUAL ROOT MEAN SQUARE 2.58393078
RESIDUAL MEAN SQUARE 6.34897516
RESIDUAL SUM OF SQUARES 57.18529224
TOTAL SUM OF SQUARES 385.27[illegible]5346
MULT. CORREL. COEF. SQUARED .8781

ORDERED BY COMPUTER INPUT

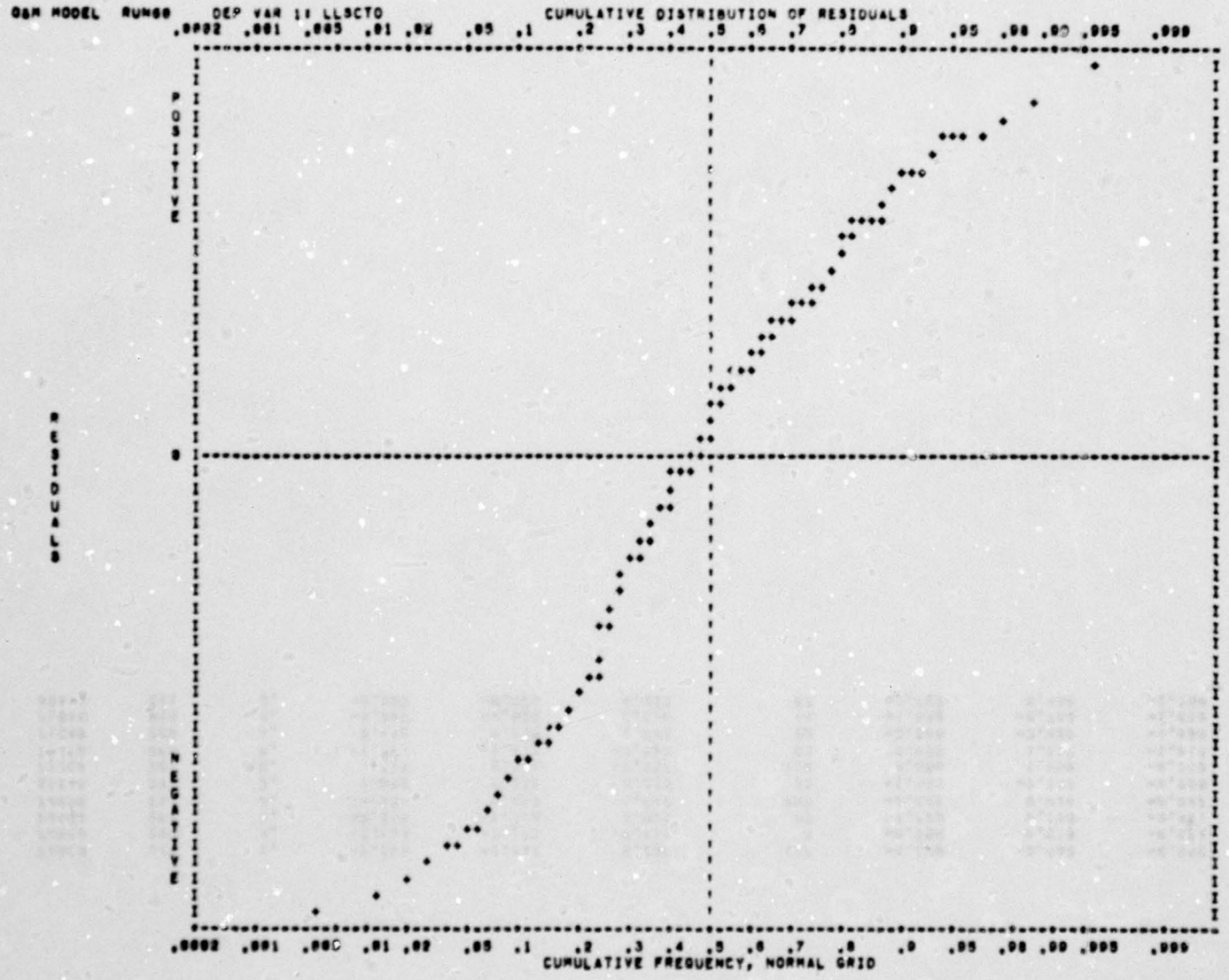
| IDENT. | OBSV. | NSS DISTANCE | OBS. Y | FITTED Y | RESIDUAL |
|---|---|---|---|---|---|
| 71B29 | 1 | 1. | -0.522 | -0.429 | -0.093 |
| 71L8A | 2 | 2. | -0.174 | 0.094 | -0.268 |
| 71PK8 | 4 | 1. | 0.118 | -0.461 | 0.578 |
| 71P6A | 5 | 3. | -0.990 | -0.778 | -0.138 |
| 71719 | 6 | 12. | -2.999 | -3.367 | 0.458 |
| 72AG9 | 7 | 7. | -3.257 | -2.585 | -0.731 |
| 71G58 | 8 | 2. | -0.659 | 0.215 | -0.874 |
| 71FA8 | 9 | 4. | -0.786 | -0.737 | -0.049 |
| 71CAA | 11 | 4. | -2.545 | -1.825 | -0.720 |
| 71D66 | 12 | 2. | 0.998 | -0.995 | 0.175 |
| 91EA8 | 13 | 3. | -0.445 | -0.845 | 0.423 |
| 92AA8 | 14 | 4. | -0.809 | -0.918 | 0.842 |
| 92A88 | 15 | 5. | 0.813 | -0.816 | 0.828 |
| 74J46 | 16 | 28. | 1.215 | 0.599 | 0.617 |
| 74JC8 | 19 | 4. | -0.893 | -0.585 | -0.377 |
| 92GA1 | 20 | 7. | -0.384 | -0.718 | 0.334 |
| 71ZA8 | 21 | 2. | -0.981 | -0.979 | 0.017 |
| 71Z88 | 22 | 9. | -3.596 | -2.470 | -1.986 |
| 71ZC8 | 23 | 14. | -2.718 | -3.618 | 0.899 |
| 73EGC | 24 | 7. | 0.985 | 0.632 | 0.352 |
| 73EP8 | 25 | 12. | 1.678 | 1.385 | 0.286 |
| 73MA8 | 26 | 18. | 2.481 | 2.377 | 0.104 |
| 73MC8 | 27 | 7. | 1.842 | 1.852 | -0.811 |
| 73NA8 | 28 | 18. | 1.881 | 0.678 | 0.485 |
| 73G88 | 29 | 7. | 1.591 | 1.548 | -0.948 |
| 73488 | 31 | 3. | 0.386 | -0.514 | 0.828 |
| 734E8 | 32 | 3. | -0.812 | -2.188 | -0.632 |
| 73AF8 | 33 | 1. | -1.283 | -0.455 | -0.748 |
| 73KK8 | 34 | 5. | 0.135 | -0.295 | 0.438 |
| 75838 | 35 | 7. | -2.357 | -2.589 | 0.212 |
| 74B08 | 36 | 2. | 0.201 | -0.156 | 0.357 |
| 74BF8 | 37 | 8. | -0.288 | 0.208 | -0.537 |
| 74818 | 38 | 18. | -1.536 | -1.951 | 0.395 |
| 78A18 | 39 | 3. | -0.999 | -0.978 | -0.021 |
| 76GA8 | 40 | 9. | 0.815 | 0.936 | -0.121 |
| 74FF8 | 41 | 15. | -0.128 | 0.463 | -0.586 |
| 747A8 | 42 | 43. | 0.954 | 1.530 | -0.667 |
| 74FH8 | 43 | 4. | 0.295 | 0.538 | -0.243 |
| 74FU8 | 44 | 26. | 1.344 | 1.214 | 0.138 |
| 53CG8 | 46 | 12. | -1.952 | -0.793 | -1.159 |
| 74FC8 | 48 | 8. | 1.113 | 1.299 | -0.186 |
| 74FJ8 | 49 | 2. | 1.253 | 0.226 | 1.026 |
| 74FK8 | 50 | 7. | -2.724 | -3.483 | 0.759 |
| 74F08 | 51 | 33. | 2.[illegible] | 1.666 | 0.411 |
| 74KA8 | 52 | 5. | 0.598 | 0.742 | -0.143 |
| 74HC8 | 53 | 4. | 0.887 | 0.298 | 0.377 |
| 74C98 | 55 | 4. | -1.598 | -0.638 | -0.958 |
| 74CC8 | 56 | 4. | -1.804 | -1.478 | -0.326 |
| 74FA1 | 57 | 11. | 0.654 | 0.772 | -0.118 |
| 74E88 | 58 | 4. | -0.998 | -0.129 | 0.831 |
| 73PH8 | 59 | 2. | -0.298 | 0.419 | -0.718 |
| 73P86 | 60 | 16. | 2.118 | 1.870 | 0.248 |
| 73P08 | 61 | 29. | 2.376 | 1.758 | 0.617 |
| 73PF8 | 62 | 14. | 0.898 | 1.117 | -1.818 |
| 73PH2 | 63 | 3. | 0.989 | 0.278 | 0.703 |
| 71N48 | 64 | 3. | 0.861 | 0.635 | 0.226 |
| 719U8 | 65 | 3. | 0.439 | 0.636 | -0.196 |
| 83AA8 | 68 | 2. | 0.397 | 0.532 | -0.135 |

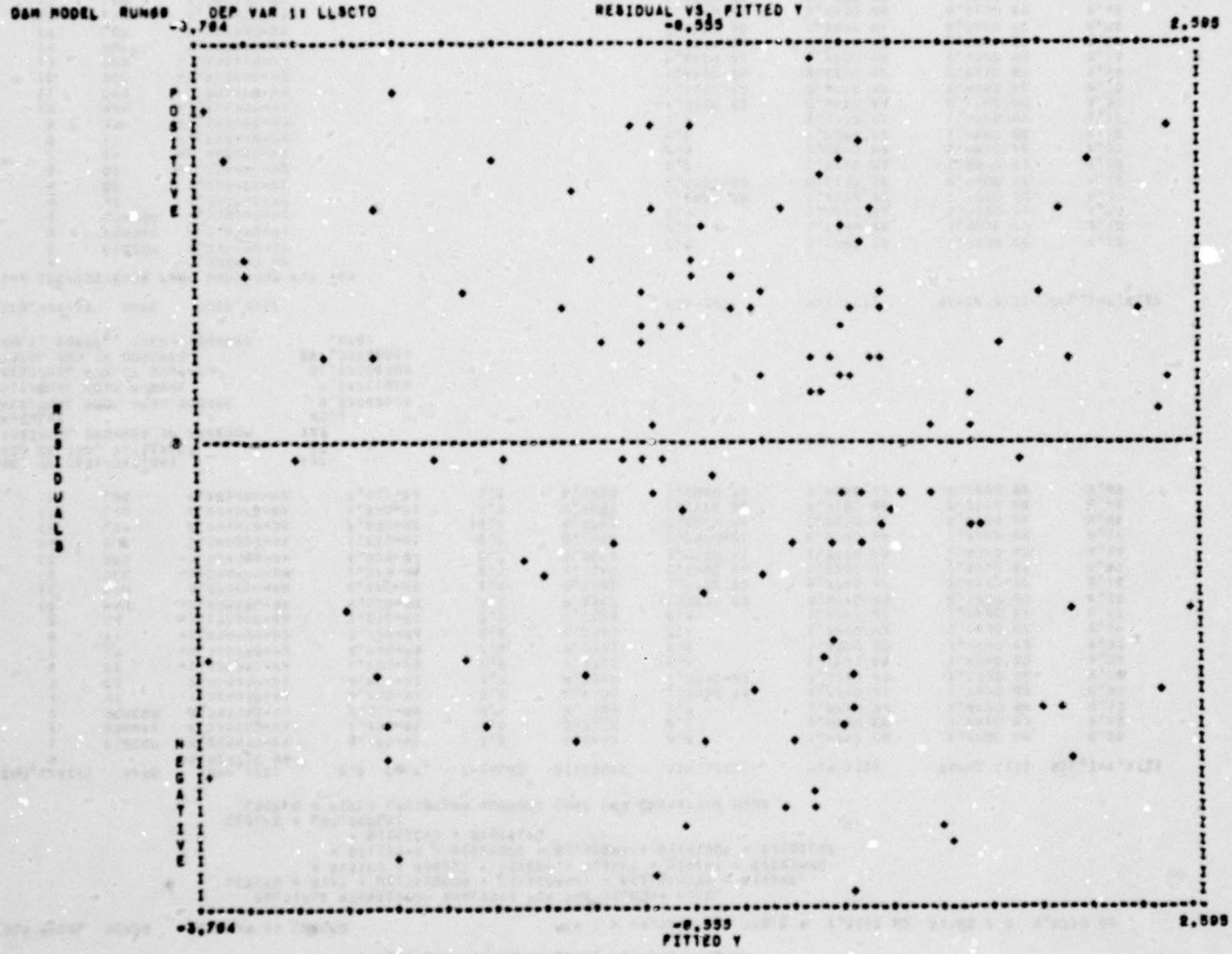
ORDERED BY RESIDUALS

| OBSV. | OBS. Y | FITTED Y | ORDERED RESID. | SEQ |
|---|---|---|---|---|
| 49 | 1.253 | 0.226 | 1.026 | 1 |
| 74 | -1.479 | -2.395 | 0.916 | 2 |
| 93 | -2.719 | -3.610 | 0.892 | 3 |
| 14 | -0.869 | -0.910 | 0.842 | 4 |
| 183 | 3.282 | 2.448 | 0.834 | 5 |
| 15 | 0.813 | -0.816 | 0.828 | 6 |
| 31 | 0.388 | -0.514 | 0.828 | 7 |
| 188 | 1.271 | 0.496 | 0.775 | 8 |
| 50 | -2.724 | -3.483 | 0.759 | 9 |
| 76 | -1.810 | -1.766 | 0.756 | 10 |
| 181 | 1.135 | 0.397 | 0.739 | 11 |
| 83 | 2.655 | 1.948 | 0.725 | 12 |
| 63 | 0.980 | 0.276 | 0.703 | 13 |
| 284 | -0.668 | -1.314 | 0.646 | 14 |
| 218 | -1.989 | -2.528 | 0.539 | 15 |
| 186 | -1.988 | -2.519 | 0.519 | 16 |
| 19 | 1.218 | 0.599 | 0.617 | 17 |
| 118 | -0.192 | -0.806 | 0.614 | 18 |
| 61 | 2.326 | 1.738 | 0.612 | 19 |
| 289 | 0.655 | 0.255 | 0.398 | 20 |
| 189 | 0.989 | 0.360 | 0.582 | 21 |
| 4 | 0.339 | -0.485 | 0.578 | 22 |
| 95 | 1.971 | 0.527 | 0.544 | 23 |
| 69 | -0.913 | -0.513 | 0.398 | 24 |
| 128 | -2.888 | -3.371 | 0.483 | 25 |
| 99 | -0.686 | -1.183 | 0.477 | 26 |
| 114 | -0.853 | -0.514 | 0.458 | 27 |
| 8 | -2.989 | -3.367 | 0.456 | 28 |
| 34 | 0.135 | -0.295 | 0.430 | 29 |
| 81 | 2.277 | 1.866 | 0.411 | 30 |
| 28 | 1.981 | 0.676 | 0.485 | 31 |
| 13 | -0.445 | -0.845 | 0.400 | 32 |
| 85 | 0.266 | -0.131 | 0.397 | 33 |
| 39 | -1.556 | -1.951 | 0.395 | 34 |
| 88 | 0.267 | -0.098 | 0.365 | 35 |
| 53 | 0.087 | -0.290 | 0.377 | 36 |
| 98 | 0.848 | 0.479 | 0.369 | 37 |
| 36 | 0.201 | -0.156 | 0.357 | 38 |
| 116 | -0.976 | -1.329 | 0.353 | 39 |
| 24 | 0.985 | 0.632 | 0.352 | 40 |
| 84 | 2.515 | 2.264 | 0.351 | 41 |
| 28 | -0.384 | -0.718 | 0.334 | 42 |
| 281 | 0.780 | 0.376 | 0.328 | 43 |
| 125 | -0.278 | -0.604 | 0.325 | 44 |
| 282 | -0.529 | -0.829 | 0.299 | 45 |
| 25 | 1.670 | 1.385 | 0.286 | 46 |
| 211 | -0.593 | -0.875 | 0.283 | 47 |
| 126 | -0.874 | -1.132 | 0.258 | 48 |
| 60 | 2.116 | 1.878 | 0.248 | 49 |
| 113 | 0.851 | 0.613 | 0.238 | 50 |
| 112 | -2.611 | -2.848 | 0.237 | 51 |
| 121 | 0.472 | 0.235 | 0.237 | 52 |
| 64 | 0.861 | 0.636 | 0.226 | 53 |
| 35 | -2.357 | -2.569 | 0.212 | 54 |
| 123 | 0.567 | 0.356 | 0.211 | 55 |
| 186 | 0.675 | 0.486 | 0.189 | 56 |
| 12 | 0.899 | -0.883 | 0.175 | 57 |
| 89 | 2.622 | 2.456 | 0.167 | 58 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 85A40 | 87 | 3. | 0.558 | 0.392 | 0.166 | 87 | 0.558 | 0.392 | 0.166 | 59 |
| 85AC0 | 88 | 3. | -0.749 | -0.795 | 0.045 | 105 | 0.446 | 0.303 | 0.143 | 60 |
| 838C0 | 89 | 9. | -0.913 | -0.513 | 0.588 | 44 | 1.344 | 1.214 | 0.130 | 61 |
| 838F0 | 70 | 12. | -3.172 | -2.366 | -0.806 | 97 | 0.315 | 0.191 | 0.124 | 62 |
| 71ABE | 71 | 11. | -1.702 | -1.745 | -0.036 | 26 | 2.481 | 2.377 | 0.104 | 63 |
| 71ADA | 72 | 9. | 1.253 | 1.214 | 0.039 | 90 | 1.088 | 0.951 | 0.057 | 64 |
| 73D9A | 73 | 21. | 1.101 | 1.775 | -0.674 | 88 | -0.749 | -0.795 | 0.045 | 65 |
| 71ACC | 74 | 27. | -1.479 | -2.395 | 0.916 | 72 | 1.253 | 1.214 | 0.039 | 66 |
| 73C80 | 75 | 30. | -3.126 | -2.706 | -0.420 | 58 | -0.998 | -0.129 | 0.831 | 67 |
| 73CE0 | 76 | 16. | -1.818 | -1.766 | 0.759 | 91 | -0.961 | -0.978 | 0.017 | 68 |
| 73CFK | 77 | 38. | 2.185 | 2.595 | -0.410 | 91 | 1.238 | 1.239 | -0.009 | 69 |
| 73DAH | 78 | 11. | 0.268 | 0.401 | -0.134 | 203 | -2.194 | -2.173 | -0.021 | 70 |
| 73E84 | 79 | 11. | -1.895 | -1.584 | -0.311 | 39 | -0.999 | -0.978 | -0.021 | 71 |
| 73F8F | 80 | 7. | 0.287 | -0.098 | 0.385 | 71 | -1.782 | -1.745 | -0.036 | 72 |
| 71CAP | 81 | 9. | -2.036 | -1.285 | -0.781 | 29 | 1.591 | 1.548 | -0.048 | 73 |
| 7328G | 82 | 10. | 1.428 | 1.814 | -0.426 | 122 | -0.911 | -0.854 | -0.007 | 74 |
| 73MC0 | 83 | 9. | 2.665 | 1.940 | 0.725 | 9 | -0.786 | -0.737 | -0.049 | 75 |
| 73LA0 | 84 | 5. | 2.815 | 2.264 | 0.351 | 98 | -3.117 | -3.067 | -0.050 | 76 |
| 77EZ0 | 85 | 1. | 0.266 | -0.131 | 0.397 | 1 | -0.522 | -0.428 | -0.093 | 77 |
| 77DZA | 87 | 2. | -0.726 | 0.438 | -1.164 | 57 | 0.654 | 0.772 | -0.118 | 78 |
| 77D80 | 88 | 18. | -4.274 | -3.784 | -0.578 | 40 | 0.815 | 0.935 | -0.121 | 79 |
| 78AEA | 89 | 16. | 2.622 | 2.456 | 0.167 | 5 | -0.992 | -0.770 | -0.138 | 80 |
| 73KA0 | 90 | 3. | 0.848 | 0.479 | 0.369 | 78 | 0.268 | 0.401 | -0.134 | 81 |
| 838AA | 91 | 6. | 1.230 | 1.239 | -0.009 | 86 | 0.397 | 0.532 | -0.135 | 82 |
| 85CAA | 92 | 6. | 1.018 | 1.239 | -0.221 | 52 | 0.598 | 0.742 | -0.143 | 83 |
| 858AA | 93 | 6. | -0.723 | 0.198 | -0.921 | 184 | -0.798 | -0.622 | -0.176 | 84 |
| 81AA0 | 95 | 6. | 1.071 | 0.527 | 0.544 | 48 | 1.113 | 1.299 | -0.186 | 85 |
| 81A80 | 96 | 6. | 1.808 | 0.951 | 0.857 | 65 | 0.439 | 0.636 | -0.198 | 86 |
| 81AC0 | 97 | 8. | 0.315 | 0.191 | 0.124 | 92 | 1.018 | 1.239 | -0.221 | 87 |
| 72AA8 | 98 | 28. | -3.117 | -3.067 | -0.050 | 43 | 0.295 | 0.538 | -0.243 | 88 |
| 72ACP | 99 | 9. | -0.588 | -1.163 | 0.477 | 208 | 0.789 | 0.331 | -0.243 | 89 |
| 71CA0 | 100 | 5. | 1.271 | 0.496 | 0.775 | 127 | -1.323 | -1.071 | -0.252 | 90 |
| 72EAA | 101 | 18. | 1.135 | 0.397 | 0.739 | 2 | -0.174 | 0.894 | -0.268 | 91 |
| 72ECA | 102 | 11. | -0.717 | 0.060 | -0.777 | 79 | -1.895 | -1.584 | -0.311 | 92 |
| 728P0 | 103 | 14. | 3.282 | 2.448 | 0.834 | 56 | -1.804 | -1.478 | -0.326 | 93 |
| 71JA0 | 104 | 2. | -0.798 | -0.622 | -0.176 | 120 | -0.424 | -0.097 | -0.327 | 94 |
| 71LA0 | 105 | 2. | 0.446 | 0.303 | 0.143 | 19 | -0.883 | -0.505 | -0.377 | 95 |
| 720N0 | 106 | 7. | 0.675 | 0.486 | 0.189 | 82 | 1.488 | 1.814 | -0.488 | 96 |
| 72AC8 | 107 | 1. | -0.792 | 0.481 | -0.664 | 77 | 2.185 | 2.595 | -0.410 | 97 |
| 71718 | 108 | 7. | -1.908 | -2.319 | 0.619 | 75 | -3.126 | -2.706 | -0.420 | 98 |
| 71310 | 109 | 5. | 0.988 | 0.399 | 0.589 | 119 | -0.171 | 0.317 | -0.488 | 99 |
| 72NF0 | 110 | 6. | -0.976 | -1.329 | 0.353 | 37 | -0.268 | 0.268 | -0.537 | 100 |
| 72R8P | 111 | 9. | -0.569 | -2.892 | -0.567 | 111 | -2.569 | -2.892 | -0.567 | 101 |
| 71JCE | 112 | 8. | -2.611 | -2.848 | 0.237 | 88 | -4.276 | -3.704 | -0.572 | 102 |
| 72AE8 | 113 | 9. | 0.851 | 0.613 | 0.238 | 41 | -0.128 | 0.468 | -0.596 | 103 |
| 72CC8 | 114 | 2. | -0.956 | -0.514 | 0.458 | 208 | -1.809 | -1.212 | -0.596 | 104 |
| 71Z88 | 116 | 9. | -3.297 | -2.472 | -0.825 | 78 | -3.172 | -2.568 | -0.606 | 105 |
| 71Z08 | 117 | 14. | -4.529 | -3.662 | -0.863 | 32 | -0.812 | -0.180 | -0.632 | 106 |
| 858AA | 118 | 3. | -0.192 | -0.806 | 0.614 | 207 | 1.723 | 2.380 | -0.657 | 107 |
| 83AF8 | 119 | 3. | -0.171 | 0.317 | -0.488 | 107 | -0.292 | 0.441 | -0.734 | 108 |
| 85AA8 | 120 | 1. | -0.424 | -0.097 | -0.327 | 42 | 0.964 | 1.632 | -0.667 | 109 |
| 83121 | 121 | 3. | 0.472 | 0.235 | 0.237 | 73 | 1.191 | 1.775 | -0.584 | 110 |
| 83AAA | 122 | 6. | -0.911 | -0.864 | -0.047 | 59 | -0.299 | 0.419 | -0.718 | 111 |
| 85AL8 | 123 | 4. | 0.587 | 0.356 | 0.211 | 11 | -2.545 | -1.825 | -0.720 | 112 |
| 85AV8 | 124 | 8. | 0.958 | 1.958 | -0.992 | 7 | -3.237 | -2.506 | -0.731 | 113 |
| 81A38 | 125 | 2. | -0.278 | -0.604 | 0.325 | 33 | -1.293 | -0.455 | -0.748 | 114 |
| 81AE8 | 126 | 5. | -0.874 | -1.130 | 0.256 | 192 | -0.717 | 0.060 | -0.777 | 115 |
| 82AA8 | 127 | 3. | -1.323 | -1.871 | -0.252 | 81 | -2.056 | -1.285 | -0.781 | 116 |
| 84211 | 128 | 11. | -2.888 | -3.371 | 0.483 | 27 | 1.042 | 1.852 | -0.811 | 117 |
| 718AP | 201 | 1. | 0.798 | 0.376 | 0.329 | 118 | -3.297 | -2.472 | -0.825 | 118 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 748C0 | 282 | 1. | -0.529 | -0.029 | 0.299 | 117 | -4.529 | -3.662 | -0.868 | 119 |
| 748E0 | 283 | 4. | -2.194 | -2.173 | -0.921 | 8 | -0.659 | 0.215 | -0.874 | 120 |
| 748G0 | 284 | 2. | -0.665 | -1.314 | 0.648 | 93 | -0.723 | 0.198 | -0.921 | 121 |
| 748H0 | 285 | 2. | -0.088 | 0.939 | -0.947 | 285 | -0.988 | 0.039 | -0.947 | 122 |
| 65BA0 | 286 | 3. | 0.889 | 0.331 | -0.243 | 55 | -1.598 | -0.638 | -0.968 | 123 |
| 73JC0 | 287 | 19. | 1.723 | 2.388 | -0.657 | 124 | 0.858 | 1.958 | -0.992 | 124 |
| 73JF0 | 288 | 8. | -1.889 | -1.212 | -0.596 | 62 | 0.899 | 1.117 | -1.018 | 125 |
| 71CA0 | 2C9 | 4. | 0.655 | 0.855 | 0.698 | 22 | -3.586 | -2.428 | -1.086 | 126 |
| 716A0 | 210 | 0. | -1.989 | -2.528 | 0.619 | 46 | -1.652 | -0.763 | -1.089 | 127 |
| 65AA0 | 211 | 3. | -0.593 | -0.078 | 0.283 | 87 | -0.726 | 0.438 | -1.164 | 128 |


O&M MODEL RUN68 DEP VAR II LLSCTO
CUMULATIVE DISTRIBUTION OF RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
POSITIVE
0
NEGATIVE
RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
CUMULATIVE FREQUENCY, NORMAL GRID


D&H MODEL RUN68 DEP VAR IS LLSCTO
RESIDUAL VS. FITTED Y
-3.784
-0.555
2.595
POSITIVE
RESIDUALS
0
NEGATIVE
-3.784
-0.555
2.595
FITTED Y

LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

S&R MODEL RUN76 DEP VAR IS LLSCFD MIN Y = -4.5290 00 MAX Y = 2.3480 00 RANGE Y = 6.8710 00

MULTIPLE REGRESSION ANALYSIS FOR THE "ALPHA" MODEL

LLSCFD = B(0) + B(1)FIGCOM + B(2)BOMNAV + B(3)BOMCOM + B(4)WT
+ B(5)CO + B(6)DI + B(7)EM + B(8)XT + B(9)SS + B(10)MVO
+ B(11)DVO + B(12)DCC + B(13)DPS + B(14)DUP + B(15)LUP
+ B(16)LVO + B(17)LPO

LLSCFD = LN(LSCFLD)

LSCFLD = FIELD LOGISTICS SUPPORT COST PER OPERATING HOUR

| IND,VAR(I) | NAME | COEF,B(I) | S.E. COEF, | T-VALUE | B(I)SQRD | MIN X(I) | MAX X(I) | RANGE X(I) | REL,IMP,X(I) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | -8.624710 00 | | | | | | | |
| 1 | FIGCOM | 8.845950-01 | 2.770-01 | 3.2 | 0.1937 | 0.0 | 1.0000 00 | 1.0000 00 | 0.10 |
| 2 | BOMNAV | 8.936620-01 | 1.650-01 | 4.9 | 0.2458 | 0.0 | 1.0000 00 | 1.0000 00 | 0.12 |
| 3 | BOMCOM | 8.747580-01 | 2.120-01 | 4.1 | 0.1491 | 0.0 | 1.0000 00 | 1.0000 00 | 0.13 |
| 4 | WT | 1.328380-02 | 3.750-03 | 3.5 | 0.8251 | 1.0000 00 | 1.7370 02 | 1.7270 02 | 0.33 |
| 5 | CO | 2.866450-01 | 4.830-02 | 4.3 | 0.3528 | 4.9230-03 | 6.6740 00 | 6.6690 00 | 0.20 |
| 6 | DI | -1.349280-02 | 1.790-03 | 7.5 | 0.4713 | 0.0 | 1.0000 02 | 1.0000 02 | 0.23 |
| 7 | EM | -2.412790-02 | 3.840-03 | 7.9 | 0.5191 | 0.0 | 1.0000 02 | 1.0000 02 | 0.35 |
| 8 | XT | -1.059850-02 | 3.720-03 | 2.9 | 0.5583 | 0.0 | 1.0000 02 | 1.0000 02 | 0.18 |
| 9 | SS | -1.157900-02 | 2.290-03 | 5.1 | 0.6326 | 0.0 | 1.0000 02 | 1.0000 02 | 0.17 |
| 10 | MVO | -2.942960-04 | 9.630-05 | 3.1 | 0.8917 | -1.3830 03 | 6.8670 03 | 8.1700 03 | 0.35 |
| 11 | DVO | 3.874660-06 | 2.350-06 | 1.6 | 0.7281 | 1.9360 03 | 2.4780 07 | 2.4780 07 | 0.13 |
| 12 | DCC | -3.893770-08 | 1.580-08 | 2.5 | 0.3556 | 1.6800 01 | 2.8230 07 | 2.8230 07 | 0.16 |
| 13 | DPS | -3.334380-04 | 1.230-04 | 2.7 | 0.2279 | 3.8190 01 | 2.9720 03 | 2.9340 03 | 0.14 |
| 14 | DUP | 6.388320-01 | 1.710-01 | 3.7 | 0.1576 | 1.7640-01 | 2.8160 00 | 1.8480 00 | 0.17 |
| 15 | LUP | 5.864970-01 | 5.850-02 | 10.0 | 0.6781 | 5.0380 00 | 1.3250 01 | 8.2170 00 | 0.61 |
| 16 | LVO | 5.944670-01 | 1.330-01 | 4.5 | 0.9888 | 3.4810 00 | 9.8120 00 | 6.8110 00 | 0.49 |
| 17 | LPO | 8.865450-02 | 5.810-02 | 1.6 | 0.5622 | 1.0990 00 | 8.0860 00 | 6.9880 00 | 0.09 |

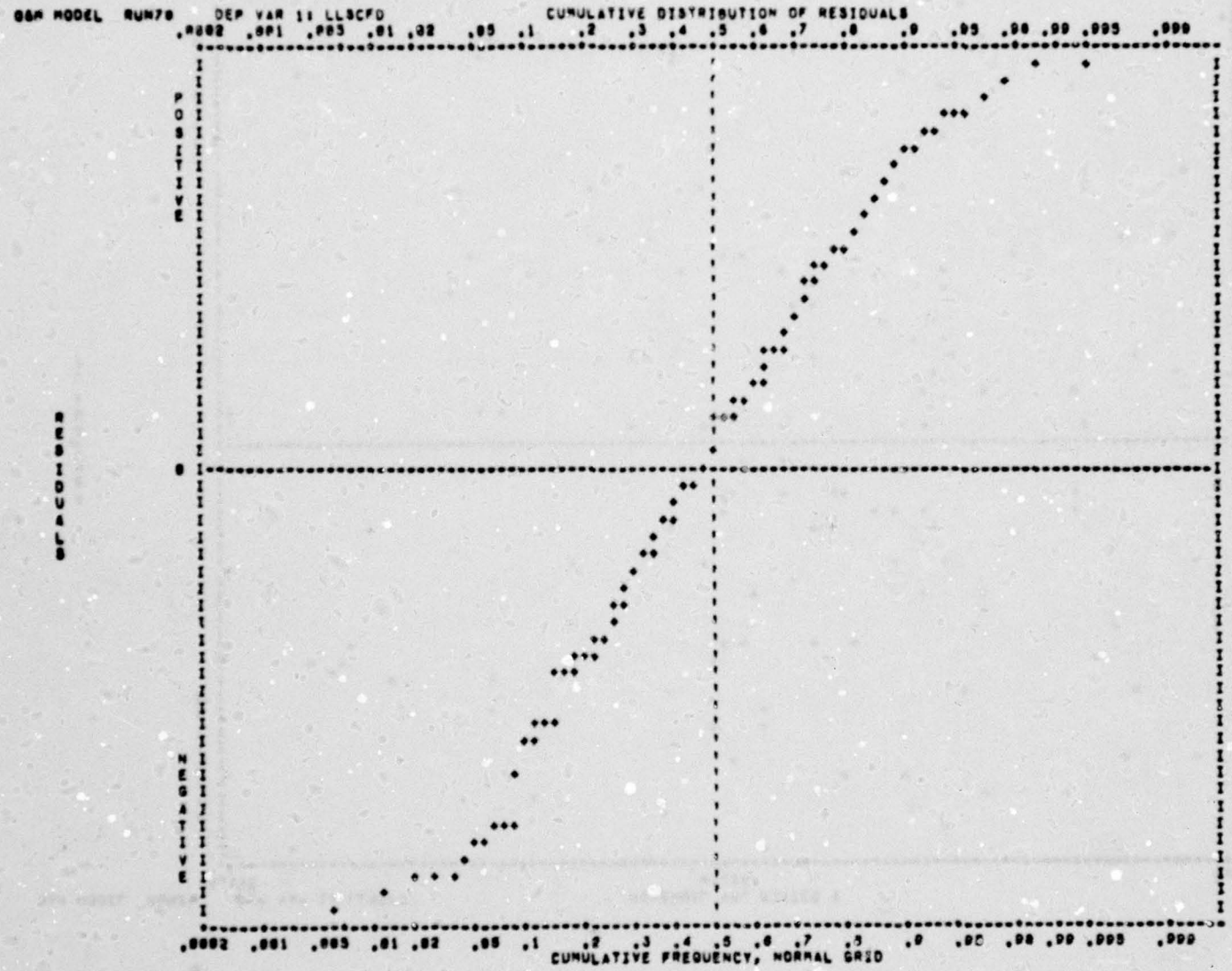
| | |
|---|---|
| NO. OF OBSERVATIONS | 127 |
| NO. OF IND. VARIABLES | 17 |
| RESIDUAL DEGREES OF FREEDOM | 109 |
| F-VALUE | 46.3 |
| RESIDUAL ROOT MEAN SQUARE | 0.53582915 |
| RESIDUAL MEAN SQUARE | 0.28711286 |
| RESIDUAL SUM OF SQUARES | 31.29548396 |
| TOTAL SUM OF SQUARES | 257.35638814 |
| MULT. CORREL. COEF. SQUARED | .8784 |

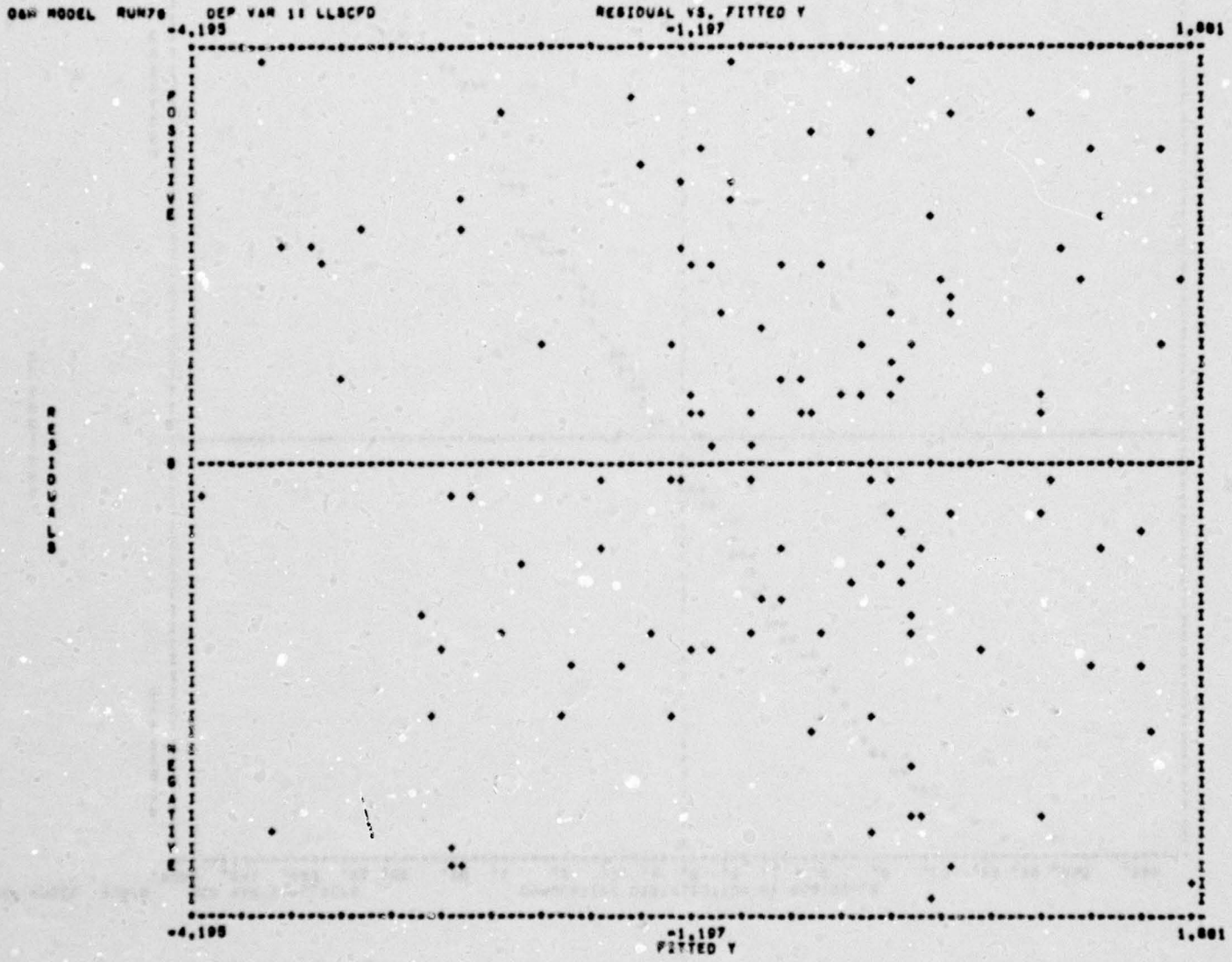
| IND,VAR(I) | NAME | COEF,B(I) | MIN X(I) | MAX X(I) | RANGE X(I) | REL,IMP,X(I) |
|---|---|---|---|---|---|---|
| *** COEFFICIENTS FROM PREVIOUS FIT *** | | | | | | |
| 0 | | -8.638850 00 | | | | |
| 1 | FIGCOM | 8.344940-01 | 0.0 | 1.0000 00 | 1.0000 00 | 0.12 |
| 2 | BOMNAV | 8.531950-01 | 0.0 | 1.0000 00 | 1.0000 00 | 0.12 |
| 3 | BOMCOM | 9.139510-01 | 0.0 | 1.0000 00 | 1.0000 00 | 0.13 |
| 4 | WT | 1.325940-02 | 1.0000 00 | 1.7370 02 | 1.7270 02 | 0.33 |
| 5 | CO | 1.999490-01 | 4.9230-03 | 6.6740 00 | 6.6690 00 | 0.19 |
| 6 | DI | -1.357690-02 | 0.0 | 1.0000 02 | 1.0000 02 | 0.20 |
| 7 | EM | -2.435210-02 | 0.0 | 1.0000 02 | 1.0000 02 | 0.35 |
| 8 | XT | -1.132440-02 | 0.0 | 1.0000 02 | 1.0000 02 | 0.16 |
| 9 | SS | -1.163120-02 | 0.0 | 1.0000 02 | 1.0000 02 | 0.17 |
| 10 | MVO | -2.741780-04 | -1.3830 03 | 6.8670 03 | 8.1700 03 | 0.33 |
| 11 | DVO | 3.583690-06 | 1.9360 03 | 2.4780 07 | 2.4780 07 | 0.13 |
| 12 | DCC | -3.849440-08 | 1.6800 01 | 2.8230 07 | 2.8230 07 | 0.16 |
| 13 | DPS | -3.882410-04 | 3.8190 01 | 2.9720 03 | 2.9340 03 | 0.13 |
| 14 | DUP | 6.587840-01 | 1.7640-01 | 2.8160 00 | 1.8480 00 | 0.18 |
| 15 | LUP | 5.288850-01 | 5.0380 00 | 1.3250 01 | 8.2170 00 | 0.62 |
| 16 | LVO | 5.472870-01 | 3.4810 00 | 9.8120 00 | 6.8110 00 | 0.43 |
| 17 | LPO | 1.191980-01 | 1.0990 00 | 8.0860 00 | 6.9880 00 | 0.12 |

| | |
|---|---|
| RESIDUAL ROOT MEAN SQUARE | 0.53862869 |
| RESIDUAL MEAN SQUARE | 0.29011224 |
| RESIDUAL SUM OF SQUARES | 31.62223468 |
| TOTAL SUM OF SQUARES | 257.35638814 |
| MULT. CORREL. COEF. SQUARED | .8778 |

| ORDERED BY COMPUTER INPUT | | | | | | ORDERED BY RESIDUALS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| IDENT, | OBSV, | NSS DISTANCE | OBS, Y | FITTED Y | RESIDUAL | OBSV, | OBS, Y | FITTED Y | ORDERED RESID, | SEQ |
| 71B2B | 1 | 1, | -P.711 | -P.PP3 | P,P91 | 58 | -2.821 | -3.776 | P,955 | 1 |
| 71L4B | 2 | 3, | -P.273 | -P.923 | P.P5P | 69 | -P.P2P | -P.956 | P,936 | 2 |
| 71PAB | 4 | 1, | -P.469 | -P.784 | P,315 | 191 | 1.P13 | P.133 | P,68P | 3 |
| 71PBB | 5 | 3, | -1.P22 | -1.P35 | P.P14 | 99 | -P.686 | -1.561 | P,P75 | 4 |
| 71710 | 6 | 13, | -2.969 | -3.465 | P,496 | 25 | 1.67P | P.843 | P,828 | 5 |
| 724G0 | 7 | 7, | -3.535 | -2.601 | -P.934 | 74 | -1.527 | -2.336 | P,808 | 6 |
| 71G50 | 8 | 2, | -P.783 | P.131 | -P.P54 | 189 | 1.147 | P.341 | P,805 | 7 |
| 71FA0 | 9 | 5, | -1.367 | -1.253 | -P.P54 | 31 | P.3P6 | -P.461 | P,787 | 8 |
| 71CA0 | 11 | 4, | -2.545 | -1.955 | -P.598 | 196 | P.675 | -P.P21 | P,766 | 9 |
| 710AP | 12 | 2, | -1.P96 | -P.464 | -P.632 | 29 | -P.384 | -1.135 | P,751 | 10 |
| 51EA0 | 13 | 4, | -P.758 | -1.256 | P,498 | 84 | 2.342 | 1.683 | P,739 | 11 |
| 52AA0 | 14 | 4, | -P.596 | -1.264 | P,669 | 68 | 1.912 | 1.186 | P,726 | 12 |
| 52480 | 15 | 6, | -P.697 | -1.153 | P,456 | 284 | -P.788 | -1.493 | P,704 | 13 |
| 74JA0 | 18 | 22, | -P.P35 | P.184 | -P.219 | 14 | -P.596 | -1.264 | P,669 | 14 |
| 74JC0 | 19 | 5, | -1.P92 | -P.758 | -P.342 | 125 | -P.278 | -P.924 | P,646 | 15 |
| 52GA1 | 2P | P, | -P.384 | -1.135 | P,751 | 219 | -1.999 | -2.545 | P,636 | 16 |
| 71ZA2 | 21 | 3, | -1.847 | -1.434 | -P,413 | 118 | -P.328 | -P.951 | P,623 | 17 |
| 71Z8P | 22 | P, | -3.5P6 | -2.558 | -P.948 | 61 | 1.867 | 1.286 | P,582 | 18 |
| 71ZC0 | 23 | 15, | -3.121 | -3.617 | P.497 | 169 | P.82P | P.251 | P,569 | 19 |
| 73EGP | 24 | 8, | -P.927 | P.P29 | -P.956 | 112 | -2.611 | -3.153 | P,543 | 2P |
| 73EPP | 25 | 13, | 1.675 | P.843 | P,828 | 188 | -2.PP4 | -2.842 | P,538 | 21 |
| 73MAP | 26 | 16, | 2.147 | 1.733 | P,413 | 29 | 1.5P1 | 1.PP1 | P,5PP | 22 |
| 73MC0 | 27 | 7, | 1.842 | 1.273 | -P,231 | 13 | -P.758 | -1.256 | P,498 | 23 |
| 73NA0 | 28 | 17, | -P.P6P | -P.192 | P,124 | 23 | -3.121 | -3.617 | P,497 | 24 |
| 73QBP | 29 | 6, | 1.5P1 | 1.PP1 | P,5PP | 6 | -2.969 | -3.465 | P,496 | 25 |
| 73XPP | 31 | 3, | P.3P5 | -P.461 | P,767 | 36 | -P.17P | -P.648 | P,478 | 26 |
| 73KEP | 32 | 3, | -P.812 | -P.387 | -P,425 | 211 | -P.593 | -1.P63 | P,47P | 27 |
| 73KF0 | 33 | 1, | -1.283 | -P.885 | -P,398 | 34 | P.P43 | -P.415 | P,462 | 28 |
| 73KK0 | 34 | 5, | P.P45 | -2.416 | P,462 | 35 | -P.697 | -1.153 | P,456 | 29 |
| 75930 | 35 | 8, | -3.149 | -2.681 | -P,468 | 128 | -2.919 | -3.374 | P,454 | 3P |
| 748D6 | 36 | 3, | -P.17P | -P.648 | P,478 | 83 | 1.545 | 1.127 | P,417 | 31 |
| 748F0 | 37 | 7, | -3.429 | -P.617 | P,188 | 98 | P.729 | P.295 | P,415 | 32 |
| 74810 | 38 | 22, | -2.575 | -2.475 | -P,1PP | 26 | 2.147 | 1.733 | P,413 | 33 |
| 78A10 | 39 | 3, | -1.949 | -1.152 | P,183 | 64 | P.714 | P.349 | P,365 | 34 |
| 78GA0 | 4P | P, | -P.121 | P.123 | -P,244 | 281 | P.329 | -P.P17 | P,345 | 35 |
| 74FF0 | 41 | 17, | -P.12P | P.P45 | -P,165 | 44 | P.7P1 | P.362 | P,348 | 36 |
| 74FA0 | 42 | 32, | P.912 | 1.578 | -P,664 | 282 | -P.67P | -P.995 | P,326 | 37 |
| 74FH0 | 43 | 4, | P.229 | P.347 | -P,127 | 4 | -P.469 | -P.784 | P,315 | 38 |
| 74FU0 | 44 | 35, | P.7P1 | P.362 | P,34P | 128 | -1.P18 | -1.297 | P,28P | 39 |
| 73CG0 | 45 | 23, | -1.87P | -1.278 | -P,592 | 71 | -1.782 | -2.P48 | P,267 | 4P |
| 73PC0 | 46 | 7, | P.935 | P.97P | -P,P35 | 97 | P.118 | -P.148 | P,266 | 41 |
| 74FJ0 | 49 | 2, | P.243 | P.P4P | P,2P4 | 78 | P.P88 | -P.172 | P,26P | 42 |
| 74FK0 | 5P | P, | -2.821 | -3.776 | P,955 | 57 | P.4P7 | P.16P | P,247 | 43 |
| 74FQ0 | 51 | 25, | 1.318 | 1.338 | -P,P2P | 77 | 1.874 | 1.629 | P,246 | 44 |
| 74KA0 | 52 | 6, | P.51P | P.512 | -P,PP2 | 49 | P.243 | P.P4P | P,2P4 | 45 |
| 74KC0 | 53 | 5, | -P.P48 | -P.P41 | -P,2P6 | 37 | -P.429 | -P.617 | P,188 | 46 |
| 74C8P | 55 | 5, | -1.635 | -1.172 | -P,463 | 229 | -P.345 | -P.525 | P,181 | 47 |
| 74CC0 | 56 | 5, | -1.934 | -1.7P4 | -P,229 | 98 | -3.117 | -3.293 | P,176 | 48 |
| 74FA1 | 57 | 11, | P.4P7 | P.16P | P,247 | 121 | P.251 | P.P81 | P,17P | 49 |
| 74EBP | 58 | 4, | -P.398 | -P.519 | P,121 | 72 | 1.P92 | P.933 | P,159 | 5P |
| 73PH0 | 59 | 2, | -P.298 | P.113 | -P,411 | 8P | -P.127 | -P.285 | P,157 | 51 |
| 73P8P | 6P | 19, | 1.912 | 1.186 | P,726 | 113 | P.17P | P.P24 | P,154 | 52 |
| 73PD0 | 61 | 24, | 1.867 | 1.286 | P,582 | 11P | -1.P58 | -1.2P1 | P,144 | 53 |
| 73PF0 | 62 | 15, | P.P99 | P.5P8 | -P,461 | 28 | -P.P68 | -P.192 | P,124 | 54 |
| 73PH0 | 63 | 3, | -P.167 | -P.P93 | -P,P74 | 58 | -P.398 | -P.519 | P,121 | 55 |
| 71NA0 | 64 | 4, | P.714 | P.349 | P,365 | 91 | 1.P51 | P.934 | P,11P | 56 |
| 71GU0 | 65 | 4, | P.239 | P.349 | -P,11P | 85 | -P.365 | -P.481 | P,11P | 57 |
| 63AA0 | 66 | 3, | P.275 | P.27P | -P,P21 | 122 | -P.998 | -1.1P1 | P,1P6 | 58 |
| 65AA5 | 67 | 4, | -P.224 | P.148 | -P,37P | 39 | -1.P49 | -1.152 | P,1P3 | 59 |
| 63AG0 | 68 | 4, | -1.512 | -1.P57 | -P,455 | 1 | -P.711 | -P.8P3 | P,P91 | 6P |
| 635C0 | 69 | 9, | -P.P28 | -P.958 | P,938 | 12P | -P.455 | -P.54P | P,P85 | 61 |
| 638F0 | 7P | 14, | -3.172 | -2.815 | -P,357 | 114 | -P.828 | -P.852 | P,P24 | 62 |
| 71A8E | 71 | P, | -1.782 | -2.P48 | P,267 | 5 | -1.P22 | -1.P36 | P,P14 | 63 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 71AD4 | 72 | 9. | 1.992 | 0.933 | 0.159 | 105 | -0.125 | -0.126 | 0.001 | 64 |
| 73D8A | 73 | 19. | 0.696 | 1.203 | -0.507 | 66 | 0.276 | 0.278 | -0.001 | 65 |
| 71ACC | 74 | 28. | -1.527 | -2.336 | 0.808 | 52 | 0.510 | 0.512 | -0.002 | 66 |
| 73C8Q | 75 | 34. | -3.357 | -2.742 | -0.615 | 51 | 1.310 | 1.338 | -0.028 | 67 |
| 73CEN | 76 | 25. | -2.732 | -2.621 | -0.111 | 48 | 0.935 | 0.970 | -0.035 | 68 |
| 73CFK | 77 | 27. | 1.874 | 1.629 | 0.246 | 104 | -0.843 | -0.801 | -0.042 | 69 |
| 73DAM | 78 | 14. | 0.988 | -0.172 | 0.260 | 9 | -1.307 | -1.253 | -0.054 | 70 |
| 73E9A | 79 | 11. | -2.371 | -1.892 | -0.479 | 29 | -0.827 | 0.029 | -0.056 | 71 |
| 73E8F | 80 | 6. | -0.127 | -0.285 | 0.157 | 127 | -1.355 | -1.298 | -0.057 | 72 |
| 71CA8 | 81 | 7. | -2.866 | -1.582 | -0.483 | 208 | -1.809 | -1.737 | -0.072 | 73 |
| 73EG0 | 82 | 11. | 0.065 | 0.923 | -0.858 | 93 | -0.167 | -0.093 | -0.074 | 74 |
| 73MC0 | 83 | 0. | 1.545 | 1.127 | 0.417 | 88 | -4.274 | -4.195 | -0.080 | 75 |
| 73LA0 | 84 | 4. | 2.342 | 1.883 | 0.739 | 58 | -2.575 | -2.475 | -0.100 | 76 |
| 77EC8 | 85 | 1. | -0.365 | -0.481 | 0.116 | 70 | -2.732 | -2.621 | -0.111 | 77 |
| 7708B | 86 | 29. | -4.274 | -4.195 | -0.080 | 80 | 0.819 | 0.934 | -0.115 | 78 |
| 76AEA | 89 | 15. | 1.007 | 1.484 | -0.477 | 96 | -0.992 | 0.027 | -0.119 | 79 |
| 73KA0 | 90 | 3. | 0.709 | 0.295 | 0.415 | 65 | 0.230 | 0.349 | -0.119 | 80 |
| 839AA | 91 | 7. | 1.851 | 0.934 | 0.118 | 43 | 0.228 | 0.347 | -0.127 | 81 |
| 83CAA | 92 | 7. | 0.819 | 0.934 | -0.115 | 41 | -0.120 | 0.045 | -0.165 | 82 |
| 858AA | 93 | 5. | -0.990 | -0.299 | -0.891 | 207 | 1.332 | 1.507 | -0.174 | 83 |
| 81AA0 | 95 | 5. | -0.268 | 0.042 | -0.310 | 53 | -0.848 | -0.641 | -0.206 | 84 |
| 81A90 | 96 | 5. | -0.890 | 0.027 | -0.119 | 18 | -0.935 | 0.184 | -0.219 | 85 |
| 814C0 | 97 | 8. | 0.118 | -0.148 | 0.266 | 56 | -1.934 | -1.704 | -0.229 | 86 |
| 72AA0 | 98 | 23. | -3.117 | -3.293 | 0.176 | 27 | 1.042 | 1.273 | -0.231 | 87 |
| 72AC0 | 99 | 11. | -0.686 | -1.561 | 0.875 | 49 | -0.121 | 0.123 | -0.244 | 88 |
| 71CA0 | 100 | 6. | 1.147 | 0.341 | 0.805 | 2 | -0.273 | -0.023 | -0.250 | 89 |
| 72EAA | 101 | 17. | 1.813 | 0.133 | 0.680 | 203 | -2.451 | -2.191 | -0.260 | 90 |
| 72ECA | 102 | 12. | -0.589 | 0.244 | -1.054 | 123 | -0.548 | -0.253 | -0.295 | 91 |
| 728P0 | 103 | 13. | 0.756 | 1.801 | -1.013 | 95 | -0.268 | 0.042 | -0.310 | 92 |
| 71JA0 | 104 | 2. | -0.843 | -0.801 | -0.042 | 205 | -0.971 | -0.638 | -0.333 | 93 |
| 71LA0 | 105 | 3. | -0.125 | -0.126 | 0.001 | 19 | -1.992 | -0.758 | -0.342 | 94 |
| 720N0 | 106 | 8. | 0.675 | -0.991 | 0.766 | 70 | -3.172 | -2.815 | -0.357 | 95 |
| 72ACP | 107 | 2. | -0.768 | -0.116 | -0.592 | 87 | -0.224 | 0.148 | -0.370 | 96 |
| 71718 | 108 | 7. | -2.884 | -2.542 | 0.538 | 33 | -1.293 | -0.895 | -0.398 | 97 |
| 71310 | 109 | 7. | 0.828 | 0.230 | 0.569 | 111 | -2.718 | -2.289 | -0.491 | 98 |
| 72PP0 | 110 | 7. | -1.856 | -1.281 | 0.144 | 59 | -0.298 | 0.113 | -0.411 | 99 |
| 72980 | 111 | 14. | -2.718 | -2.309 | -0.401 | 21 | -1.847 | -1.434 | -0.413 | 100 |
| 71JCE | 112 | 11. | -2.611 | -3.153 | 0.543 | 32 | -0.812 | -0.387 | -0.425 | 101 |
| 72AE0 | 113 | 10. | 0.178 | 0.024 | 0.154 | 68 | -1.512 | -1.057 | -0.455 | 102 |
| 72CC0 | 114 | 3. | -0.828 | -0.852 | 0.024 | 62 | 0.099 | 0.560 | -0.461 | 103 |
| 71Z80 | 116 | 9. | -3.583 | -2.691 | -0.892 | 55 | -1.635 | -1.172 | -0.463 | 104 |
| 71ZD0 | 117 | 15. | -4.529 | -3.661 | -0.869 | 35 | -3.149 | -2.681 | -0.468 | 105 |
| 859AA | 118 | 3. | -0.328 | -0.951 | 0.623 | 89 | 1.007 | 1.484 | -0.477 | 106 |
| 83AF0 | 119 | 4. | -0.589 | 0.142 | -0.731 | 79 | -0.371 | -1.892 | -0.479 | 107 |
| 83AA0 | 120 | 1. | -0.455 | -0.542 | 0.085 | 81 | -2.866 | -1.582 | -0.483 | 108 |
| 83121 | 121 | 4. | 0.251 | 0.081 | 0.170 | 73 | 0.696 | 1.203 | -0.507 | 109 |
| 83AAA | 122 | 7. | -0.996 | -1.101 | 0.105 | 11 | -2.545 | -1.955 | -0.590 | 110 |
| 85AL0 | 123 | 5. | -0.548 | -0.253 | -0.295 | 107 | -0.788 | -0.116 | -0.592 | 111 |
| 85AV0 | 124 | 8. | -0.612 | 0.345 | -0.958 | 46 | -1.870 | -1.278 | -0.592 | 112 |
| 81AA2 | 125 | 2. | -0.278 | -0.924 | 0.646 | 75 | -3.357 | -2.742 | -0.615 | 113 |
| 81AE0 | 126 | 8. | -1.818 | -1.297 | 0.288 | 12 | -1.998 | -0.464 | -0.832 | 114 |
| 82AA0 | 127 | 3. | -1.355 | -1.298 | -0.057 | 42 | 0.912 | 1.576 | -0.664 | 115 |
| 84211 | 128 | 11. | -2.919 | -3.374 | 0.454 | 119 | -0.589 | 0.142 | -0.731 | 116 |
| 71BA2 | 201 | 1. | 0.329 | -0.817 | 0.345 | 8 | -0.793 | 0.131 | -0.924 | 117 |
| 749CA | 202 | 1. | -0.670 | -0.995 | 0.326 | 206 | -0.687 | 0.168 | -0.855 | 118 |
| 748E0 | 203 | 4. | -2.451 | -2.191 | -0.260 | 82 | 0.265 | 0.923 | -0.858 | 119 |
| 748G0 | 204 | 2. | -0.788 | -1.493 | 0.704 | 117 | -4.529 | -3.661 | -0.869 | 120 |
| 748H0 | 205 | 2. | -0.971 | -0.638 | -0.333 | 93 | -0.992 | -0.099 | -0.891 | 121 |
| 858A2 | 206 | 3. | -0.687 | 0.168 | -0.855 | 7 | -3.535 | -2.681 | -0.934 | 122 |
| 73JC0 | 207 | 16. | 1.332 | 1.507 | -0.174 | 22 | -3.586 | -2.558 | -0.948 | 123 |
| 73JF0 | 208 | 8. | -1.889 | -1.737 | -0.972 | 124 | -0.612 | 0.345 | -0.958 | 124 |
| 71CA8 | 209 | 5. | -0.345 | -0.826 | 0.181 | 116 | -3.583 | -2.681 | -0.982 | 125 |
| 719A0 | 210 | 0. | -1.989 | -2.545 | 0.636 | 103 | 0.788 | 1.301 | -1.013 | 126 |
| 89AA0 | 211 | 3. | -0.593 | -1.083 | 0.470 | 103 | -0.889 | 0.244 | -1.054 | 127 |


BBN MODEL RUN78 DEP VAR 11 LLSCFD
CUMULATIVE DISTRIBUTION OF RESIDUALS
.0002 .0P1 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
POSITIVE
0
NEGATIVE
RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
CUMULATIVE FREQUENCY, NORMAL GRID


OSH MODEL RUN78 DEP VAR IS LLSCFD
RESIDUAL VS. FITTED Y
-4,195
-1,197
1,801
POSITIVE
RESIDUALS
0
NEGATIVE
-4,195
-1,197
FITTED Y
1,801

LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

O&M MODEL RUN88 DEP VAR IS NRTS MIN Y = 0.0 MAX Y = 1.0000 02 RANGE Y = 1.0000 02

MULTIPLE REGRESSION ANALYSIS FOR THE "ALPOS" MODEL
NRTS = B(0) + B(1)VO + B(2)OI + B(3)UF + B(4)MUP + B(5)MWT
+ B(6)MEM + B(7)MXT + B(8)DWT + B(9)OCC + B(10)DEM
+ B(11)DXT + B(12)LVO + B(13)LWT
NRTS = FRACTION NOT REPAIRABLE THIS STATION

| IND.VAR(I) | NAME | COEF.B(I) | S.E. COEF. | T-VALUE | R(I)SQRD | MIN X(I) | MAX X(I) | RANGE X(I) | REL.INF.X(I) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | -3.564[RD 01 | | | | | | | |
| 1 | VO | 4.299970-03 | 1.510-03 | 2.9 | 0.8468 | 3.8880 01 | 8.2880 03 | 8.1640 03 | 0.35 |
| 2 | OI | 1.239770-01 | 2.850-02 | 4.4 | 0.3377 | 0.0 | 1.0880 02 | 1.0880 02 | 0.12 |
| 3 | UF | -2.563490 00 | 1.610 00 | 1.7 | 0.1399 | 3.1880 00 | 2.8880 00 | 2.8880 00 | 0.07 |
| 4 | MUP | -2.519730-05 | 1.430-05 | 1.8 | 0.2677 | -3.9680 04 | 5.2670 05 | 5.6630 05 | 0.14 |
| 5 | MWT | -5.432350-01 | 1.020-01 | 5.3 | 0.9223 | -3.2180 01 | 1.4860 02 | 1.7270 02 | 0.94 |
| 6 | MEM | 4.823570-01 | 4.110-02 | 9.8 | 0.2063 | -9.6980 00 | 9.8310 01 | 1.0880 02 | 0.48 |
| 7 | MXT | 2.327880-01 | 6.590-02 | 3.5 | 0.5247 | -8.5880 00 | 9.1520 01 | 1.0880 02 | 0.23 |
| 8 | DWT | 2.518570-03 | 9.210-04 | 2.7 | 0.6844 | 0.6180 00 | 1.1410 04 | 1.1400 04 | 0.29 |
| 9 | OCC | 5.781590-07 | 2.910-07 | 2.0 | 0.3891 | 8.1880 01 | 2.7890 07 | 2.7890 07 | 0.16 |
| 10 | DEM | 1.156860-02 | 1.610-03 | 7.2 | 0.8784 | 2.5910 01 | 3.1260 03 | 3.1080 03 | 0.36 |
| 11 | DXT | 3.787690-03 | 1.530-03 | 2.5 | 0.9671 | 3.8830 02 | 3.3860 03 | 3.0980 03 | 0.11 |
| 12 | LVO | -6.489550 00 | 3.430 00 | 1.9 | 0.9652 | 3.5840 00 | 9.8120 00 | 8.4280 00 | 0.35 |
| 13 | LWT | 1.724350 01 | 4.180 00 | 4.1 | 0.9574 | 0.0 | 9.1570 00 | 9.1570 00 | 0.00 |

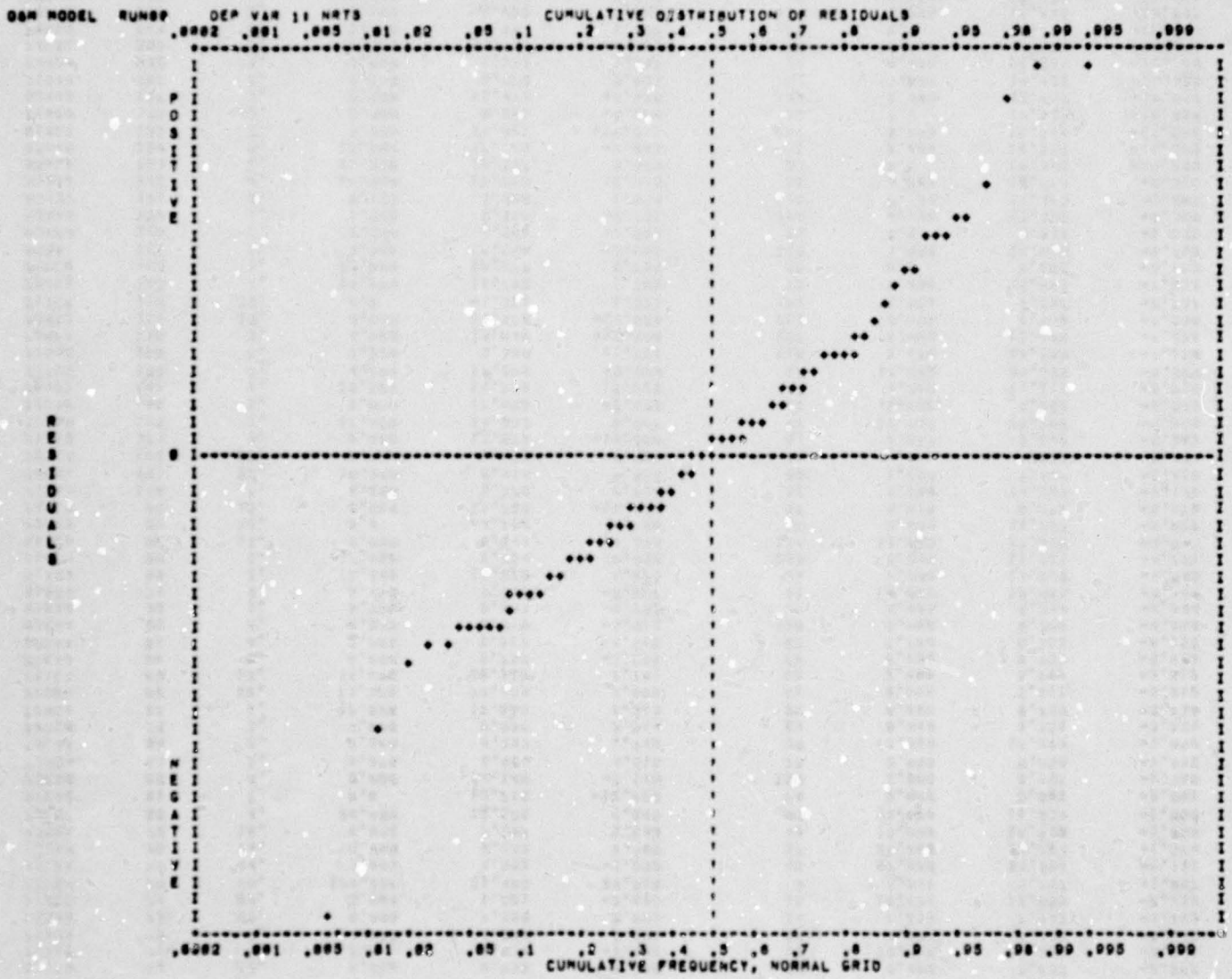
| | |
|---|---|
| NO. OF OBSERVATIONS | 127 |
| NO. OF IND. VARIABLES | 13 |
| RESIDUAL DEGREES OF FREEDOM | 113 |
| F-VALUE | 16.5 |
| RESIDUAL ROOT MEAN SQUARE | 9.81711628 |
| RESIDUAL MEAN SQUARE | 96.37577171 |
| RESIDUAL SUM OF SQUARES | 10890.46228291 |
| TOTAL SUM OF SQUARES | 31574.68653142 |
| MULT. CORREL. COEF. SQUARED | .6551 |

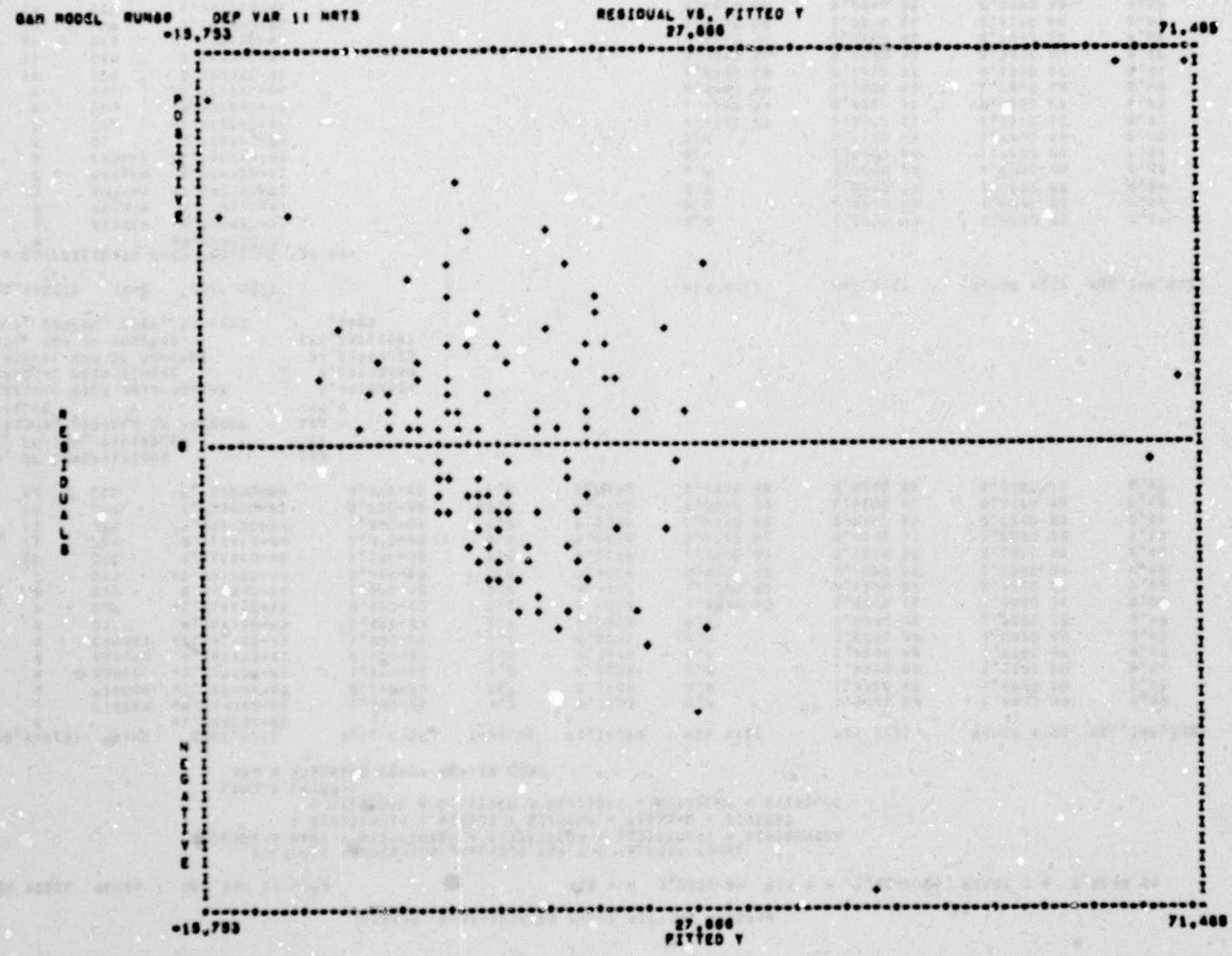
| IND.VAR(I) | NAME | COEF.B(I) | MIN X(I) | MAX X(I) | RANGE X(I) | REL.INF.X(I) |
|---|---|---|---|---|---|---|
| ••• COEFFICIENTS FROM PREVIOUS FIT ••• | | | | | | |
| 0 | | -4.253530 01 | | | | |
| 1 | VO | 3.992510-03 | 3.8880 01 | 8.2880 03 | 8.1640 03 | 0.33 |
| 2 | OI | 1.278810-01 | 0.0 | 1.0880 02 | 1.0880 02 | 0.13 |
| 3 | UF | -3.272910 00 | 3.0880-01 | 3.1880 00 | 2.8880 00 | 0.09 |
| 4 | MUP | -2.486160-05 | -3.9680 04 | 5.2670 05 | 5.6630 05 | 0.14 |
| 5 | MWT | -5.755180-01 | -3.2180 01 | 1.4860 02 | 1.7270 02 | 0.99 |
| 6 | MEM | 3.939420-01 | -9.6980 00 | 9.8310 01 | 1.0880 02 | 0.39 |
| 7 | MXT | 2.438350-01 | -8.5880 00 | 9.1520 01 | 1.0880 02 | 0.24 |
| 8 | DWT | 2.658810-03 | 0.6180 00 | 1.1410 04 | 1.1400 04 | 0.30 |
| 9 | OCC | 6.013770-07 | 8.1880 01 | 2.7890 07 | 2.7890 07 | 0.18 |
| 10 | DEM | 1.223260-02 | 2.5910 01 | 3.1260 03 | 3.1080 03 | 0.38 |
| 11 | DXT | 4.195890-03 | 3.8830 02 | 3.3860 03 | 3.0980 03 | 0.13 |
| 12 | LVO | -5.782480 00 | 3.5840 00 | 9.8120 00 | 8.4280 00 | 0.31 |
| 13 | LWT | 1.756760 01 | 0.0 | 9.1570 00 | 9.1570 00 | 0.01 |

| | |
|---|---|
| RESIDUAL ROOT MEAN SQUARE | 9.84951955 |
| RESIDUAL MEAN SQUARE | 97.01482795 |
| RESIDUAL SUM OF SQUARES | 10962.67523862 |
| TOTAL SUM OF SQUARES | 31574.68653142 |
| MULT. CORREL. COEF. SQUARED | .6526 |

| ORDERED BY COMPUTER INPUT | | | | | | ORDERED BY RESIDUALS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| IDENT, | OBSV, | NBR DISTANCE | OBS, Y | FITTED Y | RESIDUAL | OBSV, | OBS, Y | FITTED Y | ORDERED RESID, | SEQ |
| 71920 | 1 | 2, | 13,000 | 6,257 | 6,743 | 70 | 100,000 | 71,485 | 28,515 | 1 |
| 71L80 | 2 | 2, | 27,000 | 7,303 | 19,697 | 38 | 93,000 | 65,238 | 27,778 | 2 |
| 71M60 | 3 | 9, | 16,000 | 29,216 | -13,216 | 26 | 10,000 | -15,753 | 25,753 | 3 |
| 71PK0 | 4 | 2, | 11,000 | 5,952 | 5,048 | 2 | 27,000 | 7,303 | 19,697 | 4 |
| 71P80 | 5 | 2, | 6,000 | 577 | 5,423 | 7 | 4,000 | -13,472 | 17,472 | 5 |
| 71710 | 6 | 14, | 9,000 | 8,770 | 230 | 207 | 9,000 | -7,366 | 16,366 | 6 |
| 724G0 | 7 | 31, | 4,000 | -13,472 | 17,472 | 52 | 24,000 | 7,994 | 16,006 | 7 |
| 71G50 | 8 | 3, | 4,000 | 5,887 | -1,887 | 107 | 30,000 | 14,778 | 15,222 | 8 |
| 71FA0 | 9 | 3, | 25,000 | 22,629 | 2,371 | 51 | 23,000 | 7,867 | 15,133 | 9 |
| 71F90 | 10 | 10, | 10,000 | 22,952 | -12,952 | 48 | 20,000 | 6,226 | 13,774 | 10 |
| 71C40 | 11 | 8, | 10,000 | 10,298 | -298 | 40 | 42,000 | 28,913 | 13,087 | 11 |
| 71DA0 | 12 | 1, | 17,000 | 11,464 | 5,536 | 122 | 30,000 | 17,055 | 12,945 | 12 |
| 71E40 | 13 | 2, | 14,000 | 20,989 | -6,989 | 49 | 15,000 | 2,918 | 12,082 | 13 |
| 72AA0 | 14 | 4, | 20,000 | 18,639 | 1,361 | 69 | 31,000 | 19,686 | 11,314 | 14 |
| 72A90 | 15 | 4, | 25,000 | 20,209 | 4,791 | 98 | 17,000 | 6,164 | 10,836 | 15 |
| 74JA0 | 18 | 18, | 29,000 | 27,413 | 1,587 | 123 | 29,000 | 19,337 | 9,663 | 16 |
| 74JC0 | 19 | 2, | 26,000 | 18,569 | 7,431 | 78 | 18,000 | 9,105 | 8,895 | 17 |
| 72G41 | 20 | 7, | 2,000 | 8,392 | -6,392 | 88 | 24,000 | 15,151 | 8,849 | 18 |
| 73EG0 | 24 | 4, | 7,000 | 11,508 | -4,508 | 36 | 5,000 | -3,550 | 8,550 | 19 |
| 73EP0 | 25 | 3, | 2,000 | 14,272 | -12,272 | 89 | 33,000 | 25,259 | 7,741 | 20 |
| 73MA0 | 26 | 13, | 10,000 | -15,753 | 25,753 | 101 | 16,000 | 9,414 | 7,586 | 21 |
| 73MC0 | 27 | 1, | 4,000 | 9,070 | -5,070 | 19 | 26,000 | 18,569 | 7,431 | 22 |
| 73NA0 | 28 | 11, | 8,000 | 27,692 | -19,692 | 43 | 14,000 | 6,807 | 7,193 | 23 |
| 73Q80 | 29 | 1, | 6,000 | 9,331 | -3,331 | 67 | 18,000 | 11,131 | 6,869 | 24 |
| 735C0 | 30 | 9, | 10,000 | 10,858 | -858 | 1 | 13,000 | 6,257 | 6,743 | 25 |
| 73X80 | 31 | 8, | 8,000 | 10,582 | -10,582 | 114 | 27,000 | 20,277 | 6,723 | 26 |
| 73XE0 | 32 | 10, | 8,0 | 5,667 | -5,667 | 58 | 17,000 | 10,304 | 6,696 | 27 |
| 73XF0 | 33 | 10, | 8,0 | 10,843 | -10,843 | 87 | 17,000 | 10,385 | 6,615 | 28 |
| 73XK0 | 34 | 2, | 7,000 | 7,742 | -742 | 53 | 24,000 | 17,985 | 6,015 | 29 |
| 75930 | 35 | 14, | 9,0 | 8,165 | -8,165 | 201 | 9,100 | 3,476 | 5,624 | 30 |
| 74BD0 | 36 | 9, | 5,000 | -3,550 | 8,550 | 12 | 17,000 | 11,464 | 5,536 | 31 |
| 74BF0 | 37 | 19, | 25,000 | 23,374 | 1,374 | 5 | 6,000 | 577 | 5,423 | 32 |
| 74B10 | 38 | 19, | 93,000 | 69,238 | 27,778 | 208 | 0,0 | -5,151 | 5,151 | 33 |
| 78A10 | 39 | 2, | 0,0 | 10,636 | -10,636 | 4 | 11,000 | 5,952 | 5,048 | 34 |
| 78GA0 | 40 | 2, | 42,000 | 28,913 | 13,087 | 15 | 25,000 | 20,209 | 4,791 | 35 |
| 74FF0 | 41 | 5, | 19,000 | 25,268 | -6,268 | 98 | 0,0 | -4,766 | 4,766 | 36 |
| 74FA0 | 42 | 98, | 15,000 | 16,868 | -1,868 | 88 | 75,000 | 70,305 | 4,695 | 37 |
| 74FH0 | 43 | 2, | 14,000 | 6,807 | 7,193 | 65 | 8,000 | 3,484 | 4,516 | 38 |
| 74FU0 | 44 | 47, | 10,000 | 43,722 | -33,722 | 47 | 25,000 | 20,736 | 4,264 | 39 |
| 73CR0 | 45 | 8, | 10,000 | 11,934 | -1,934 | 206 | 13,300 | 9,488 | 3,812 | 40 |
| 73CG0 | 46 | 19, | 67,000 | 68,121 | -1,121 | 205 | 2,100 | -0,922 | 3,022 | 41 |
| 659HR | 47 | 2, | 25,000 | 20,736 | 4,264 | 85 | 9,000 | 6,086 | 2,914 | 42 |
| 74FC0 | 48 | 1, | 20,000 | 6,226 | 13,774 | 50 | 4,000 | 1,213 | 2,787 | 43 |
| 74FJ0 | 49 | 1, | 15,000 | 2,918 | 12,082 | 105 | 17,000 | 14,333 | 2,667 | 44 |
| 74FK0 | 50 | 17, | 17,000 | 18,304 | -1,304 | 9 | 25,000 | 22,629 | 2,371 | 45 |
| 74F00 | 51 | 75, | 23,000 | 7,867 | 15,133 | 88 | 21,000 | 18,667 | 2,333 | 46 |
| 74KA0 | 52 | 2, | 24,000 | 7,994 | 16,006 | 204 | 2,000 | 0,080 | 1,920 | 47 |
| 74KC0 | 53 | 2, | 24,000 | 17,985 | 6,015 | 121 | 8,100 | 6,220 | 1,880 | 48 |
| 74CA0 | 54 | 2, | 3,000 | 14,838 | -11,838 | 84 | 8,600 | 6,858 | 1,742 | 49 |
| 74C80 | 55 | 4, | 9,000 | 16,833 | -7,833 | 100 | 5,000 | 3,389 | 1,611 | 50 |
| 74CC0 | 56 | 11, | 3,000 | 12,518 | -9,518 | 18 | 29,000 | 27,413 | 1,587 | 51 |
| 74FA1 | 57 | 7, | 4,300 | 11,116 | -6,816 | 14 | 20,000 | 18,639 | 1,361 | 52 |
| 74E80 | 58 | 2, | 14,000 | 17,000 | -3,000 | 112 | 0,0 | -1,321 | 1,321 | 53 |
| 73PH0 | 59 | 1, | 8,000 | 13,027 | -5,027 | 202 | 2,000 | 1,553 | 1,247 | 54 |
| 73PH0 | 60 | 7, | 4,000 | 1,213 | 2,787 | 113 | 15,000 | 13,792 | 1,208 | 55 |
| 73PD0 | 61 | 64, | 14,000 | 18,488 | -4,488 | 95 | 17,000 | 15,929 | 1,071 | 56 |
| 73PF0 | 62 | 8, | 3,000 | 9,248 | -6,248 | 86 | 10,000 | 8,945 | 1,055 | 57 |
| 73PM0 | 63 | 2, | 1,000 | 6,489 | -5,489 | 79 | 8,000 | 7,107 | 893 | 58 |
| 71NA0 | 64 | 2, | 4,000 | 5,332 | -1,332 | 72 | 4,000 | 3,299 | 701 | 59 |
| 71QU0 | 65 | 2, | 5,200 | 5,332 | -132 | 108 | 4,000 | 3,376 | 624 | 60 |
| 63AA0 | 66 | 1, | 10,000 | 8,945 | 1,055 | 73 | 8,000 | 7,399 | 601 | 61 |
| 65AA0 | 67 | 3, | 18,000 | 11,131 | 6,869 | 102 | 6,000 | 5,699 | 318 | 62 |
| 63AG0 | 68 | 2, | 21,000 | 18,667 | 2,333 | 6 | 9,000 | 8,770 | 230 | 63 |
| 638C0 | 69 | 4, | 31,000 | 19,686 | 11,314 | 85 | 5,200 | 5,332 | -132 | 64 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 638F0 | 70 | 25. | 5,000 | 9,938 | -3,938 | 94 | 5,400 | 5,697 | -0,297 | 65 |
| 71A8E | 71 | 7. | 0.0 | 9,938 | -9,938 | 11 | 10,000 | 10,298 | -0,298 | 66 |
| 71A0A | 72 | 7. | 4,000 | 3,299 | 0,701 | 64 | 4,000 | 5,332 | -0,532 | 67 |
| 73DBA | 73 | 25. | 0,000 | 7,399 | 0,601 | 34 | 7,000 | 7,742 | -0,742 | 68 |
| 71ACC | 74 | 20. | 3,000 | 5,601 | -2,601 | 38 | 16,000 | 16,858 | -0,858 | 69 |
| 73CEN | 76 | 20. | 100,000 | 71,485 | 28,515 | 0 | 4,000 | 5,087 | -1,087 | 70 |
| 73CFR | 77 | 44. | 3,000 | 5,632 | -2,952 | 46 | 67,000 | 68,121 | -1,121 | 71 |
| 73DAH | 78 | 14. | 10,000 | 9,105 | 0,895 | 37 | 25,000 | 26,374 | -1,374 | 72 |
| 73E0A | 79 | 16. | 6,000 | 7,107 | 0,893 | 42 | 15,000 | 16,860 | -1,860 | 73 |
| 73E0F | 80 | 4. | 24,000 | 15,151 | 8,849 | 45 | 10,000 | 11,934 | -1,934 | 74 |
| 71C40 | 81 | 7. | 0.0 | 12,716 | -12,716 | 74 | 3,000 | 5,001 | -2,001 | 75 |
| 73C80 | 82 | 4. | 9,000 | 14,148 | -5,148 | 119 | 2,000 | 5,588 | -2,988 | 76 |
| 73HC0 | 83 | 3. | 8,000 | 3,484 | 4,516 | 77 | 3,000 | 5,952 | -2,952 | 77 |
| 73L40 | 84 | 2. | 8,000 | 6,658 | 1,342 | 56 | 14,000 | 17,098 | -3,098 | 78 |
| 77EC0 | 85 | 3. | 9,000 | 6,086 | 2,914 | 29 | 6,000 | 9,331 | -3,331 | 79 |
| 77DC4 | 87 | 1. | 17,000 | 10,385 | 6,615 | 94 | 6,000 | 9,739 | -3,739 | 80 |
| 77D80 | 86 | 22. | 75,000 | 70,305 | 4,695 | 91 | 2,000 | 5,912 | -3,912 | 81 |
| 78AEA | 89 | 26. | 33,000 | 25,259 | 7,741 | 92 | 2,000 | 5,912 | -3,912 | 82 |
| 73K40 | 90 | 2. | 6,000 | 9,739 | -3,739 | 78 | 6,000 | 9,938 | -3,938 | 83 |
| 638A4 | 91 | 4. | 2,000 | 5,912 | -3,912 | 93 | 5,700 | 9,853 | -4,153 | 84 |
| 63CA4 | 92 | 4. | 2,000 | 5,912 | -3,912 | 126 | 5,000 | 9,288 | -4,288 | 85 |
| 65B44 | 93 | 1. | 5,700 | 9,853 | -4,153 | 97 | 4,000 | 8,344 | -4,344 | 86 |
| 61B9A | 94 | 4. | 5,400 | 9,697 | -4,297 | 61 | 14,000 | 18,468 | -4,468 | 87 |
| 61A40 | 95 | 3. | 17,000 | 15,929 | 1,071 | 24 | 7,000 | 11,598 | -4,598 | 88 |
| 61A50 | 96 | 5. | 17,000 | 6,164 | 10,836 | 203 | 6,500 | 11,231 | -4,731 | 89 |
| 61AC0 | 97 | 13. | 4,000 | 8,344 | -4,344 | 124 | 13,000 | 17,945 | -4,945 | 90 |
| 72AA0 | 98 | 38. | 0.0 | -4,766 | 4,766 | 59 | 6,000 | 11,027 | -5,027 | 91 |
| 72AC0 | 99 | 15. | 8,000 | 12,738 | -12,138 | 27 | 4,000 | 9,078 | -5,078 | 92 |
| 71CA0 | 100 | 7. | 4,000 | 3,376 | 8,624 | 82 | 9,000 | 14,148 | -5,148 | 93 |
| 72EAA | 101 | 23. | 16,000 | 8,414 | 7,586 | 83 | 1,000 | 6,489 | -5,489 | 94 |
| 72EC0 | 102 | 10. | 6,000 | 5,690 | 8,310 | 32 | 0.0 | 5,687 | -5,687 | 95 |
| 71J30 | 104 | 3. | 2,000 | 12,658 | -10,658 | 82 | 3,000 | 9,248 | -6,248 | 96 |
| 71L40 | 105 | 1. | 17,000 | 14,133 | 2,867 | 41 | 19,000 | 25,268 | -6,268 | 97 |
| 72DN0 | 106 | 3. | 5,000 | 17,493 | -9,493 | 80 | 2,000 | 8,592 | -6,592 | 98 |
| 72AC0 | 107 | 1. | 30,000 | 14,778 | 15,222 | 57 | 4,300 | 11,116 | -6,816 | 99 |
| 71710 | 106 | 7. | 4,000 | 13,389 | -9,389 | 13 | 14,000 | 20,989 | -6,989 | 100 |
| 7331D | 109 | 7. | 5,000 | 3,389 | 1,611 | 118 | 3,000 | 10,168 | -7,168 | 101 |
| 72RF0 | 110 | 3. | 4,000 | 16,848 | -12,848 | 127 | 6,000 | 13,478 | -7,478 | 102 |
| 72R90 | 111 | 13. | 9,000 | 23,676 | -14,676 | 211 | 8,000 | 8,398 | -7,598 | 103 |
| 71JC0 | 112 | 38. | 0.0 | -1,321 | 1,321 | 128 | 1,000 | 9,537 | -7,737 | 104 |
| 72AE0 | 113 | 7. | 15,000 | 13,792 | 1,208 | 55 | 9,000 | 16,833 | -7,833 | 105 |
| 72CC0 | 114 | 1. | 27,000 | 20,277 | 6,723 | 35 | 0.0 | 8,165 | -8,165 | 106 |
| 65B44 | 110 | 1. | 3,000 | 10,160 | -7,160 | 210 | 1,000 | 10,512 | -8,712 | 107 |
| 63AF0 | 119 | 5. | 2,000 | 5,588 | -2,988 | 71 | 0.0 | 9,838 | -9,838 | 108 |
| 63640 | 120 | 3. | 1,000 | 9,537 | -7,737 | 180 | 4,000 | 13,389 | -9,389 | 109 |
| 63121 | 121 | 4. | 0,100 | 8,220 | 1,880 | 176 | 8,000 | 17,483 | -9,483 | 110 |
| 63AAA | 122 | 6. | 30,000 | 17,855 | 12,945 | 56 | 3,000 | 12,518 | -9,518 | 111 |
| 55AL0 | 123 | 2. | 29,000 | 19,337 | 9,663 | 33 | 0.0 | 10,843 | -10,843 | 112 |
| 55AV0 | 124 | 2. | 13,000 | 17,945 | -4,945 | 31 | 8,300 | 18,562 | -10,262 | 113 |
| 61AA0 | 125 | 3. | 2,000 | 16,311 | -14,311 | 289 | 8,000 | 18,594 | -10,594 | 114 |
| 61AE0 | 126 | 13. | 5,000 | 9,288 | -4,288 | 39 | 0.0 | 10,636 | -10,636 | 115 |
| 62AA0 | 127 | 2. | 6,000 | 13,478 | -7,478 | 184 | 2,000 | 12,658 | -10,658 | 116 |
| 719A0 | 201 | 3. | 9,100 | 3,476 | 5,624 | 54 | 3,000 | 14,038 | -11,038 | 117 |
| 748C0 | 202 | 4. | 2,000 | 1,553 | 1,247 | 99 | 0,600 | 14,736 | -12,136 | 118 |
| 748E0 | 203 | 5. | 6,500 | 11,231 | -4,731 | 25 | 2,000 | 14,272 | -12,272 | 119 |
| 748G0 | 204 | 8. | 2,000 | 0,988 | 1,928 | 81 | 0.0 | 12,716 | -12,716 | 120 |
| 748H0 | 205 | 8. | 2,100 | 30,922 | 3,022 | 116 | 4,000 | 16,848 | -12,848 | 121 |
| 65B40 | 206 | 1. | 13,300 | 9,488 | 3,812 | 19 | 10,000 | 22,952 | -12,952 | 122 |
| 73JC0 | 207 | 29. | 9,000 | -7,366 | 16,366 | 3 | 16,000 | 29,216 | -13,216 | 123 |
| 73JF0 | 209 | 23. | 0,0 | -5,151 | 5,151 | 125 | 2,000 | 16,311 | -14,311 | 124 |
| 71CA0 | 209 | 2. | 8,000 | 18,594 | -10,594 | 111 | 9,000 | 23,676 | -14,676 | 125 |
| 71640 | 210 | 7. | 1,000 | 10,612 | -8,712 | 28 | 8,000 | 27,692 | -19,692 | 126 |
| 65AA0 | 211 | 1. | 0,000 | 8,398 | -7,398 | 44 | 10,000 | 43,722 | -33,722 | 127 |


G&M MODEL RUN8P DEP VAR 11 NRTS
CUMULATIVE DISTRIBUTION OF RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
POSITIVE
0
NEGATIVE
RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
CUMULATIVE FREQUENCY, NORMAL GRID


BAM MODEL RUN80 DEP VAR 11 HRTS
RESIDUAL VS. FITTED Y
-15,753
27,866
71,485
POSITIVE
RESIDUALS
0
NEGATIVE
-15,753
27,866
71,488
FITTED Y

LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

O&M MODEL RUN80 DEP VAR IS LSRA MIN Y = 4.2630 00 MAX Y = 1.1340 01 RANGE Y = 7.0750 00

MULTIPLE REGRESSION ANALYSIS FOR THE "ALPOS" MODEL
LSRA = B(0) + B(1)FIGSEN + B(2)FIGCOM + B(3)BOMNAV + B(4)BOMSEN
+ B(5)CARNAV + B(6)DI + B(7)DUP + B(8)DVO + B(9)DNT
+ B(10)DCC + B(11)DEM + B(12)OPS + B(13)LUP + B(14)LCC
LSRA = LN(SRA)
SRA = STANDARD DEPOT REPAIR COST

| IND,VAR(I) | NAME | COEF,B(I) | S.E. COEF. | T-VALUE | B(I)SQRD | MIN X(I) | MAX X(I) | RANGE X(I) | REL,INF,X(I) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | -1.724850-01 | | | | | | | |
| 1 | FIGSEN | -8.384890-01 | 1.340-01 | 4.7 | 0.3233 | 0.0 | 1.0000 00 | 1.0000 00 | 0.09 |
| 2 | FIGCOM | -9.726880-01 | 2.110-01 | 2.7 | 0.3789 | 0.0 | 1.0000 00 | 1.0000 00 | 0.08 |
| 3 | BOMNAV | -2.722730-01 | 1.480-01 | 1.9 | 0.2088 | 0.0 | 1.0000 00 | 1.0000 00 | 0.04 |
| 4 | BOMSEN | 4.569350-01 | 2.680-01 | 1.8 | 0.1185 | 0.0 | 1.0000 00 | 1.0000 00 | 0.06 |
| 5 | CARNAV | -2.341560-01 | 1.340-01 | 1.7 | 0.2221 | 0.0 | 1.0000 00 | 1.0000 00 | 0.03 |
| 6 | DI | 4.364110-03 | 1.490-03 | 2.9 | 0.3268 | 0.0 | 1.0000 02 | 1.0000 02 | 0.06 |
| 7 | DUP | -1.519810-11 | 2.950-12 | 5.1 | 0.2854 | 4.4840 05 | 1.3500 11 | 1.3500 11 | 0.29 |
| 8 | DVO | 5.734840-08 | 1.520-08 | 4.4 | 0.4487 | 1.8220 04 | 2.4220 07 | 2.4210 07 | 0.23 |
| 9 | DNT | -2.826790-04 | 3.320-05 | 8.5 | 0.4226 | 6.8540 08 | 1.1680 04 | 1.1590 04 | 0.46 |
| 10 | DCC | 9.815510-08 | 1.580-08 | 6.2 | 0.3549 | 1.6980 02 | 3.1810 07 | 3.1810 07 | 0.43 |
| 11 | DEM | 3.114410-04 | 9.270-05 | 3.4 | 0.0482 | 3.2380 01 | 3.2520 03 | 3.2520 03 | 0.14 |
| 12 | OPS | 5.498760-04 | 1.380-04 | 4.2 | 0.2235 | 1.8440 02 | 2.8280 03 | 2.7240 03 | 0.21 |
| 13 | LUP | 5.723680-01 | 3.730-02 | 15.3 | 0.4542 | 5.8380 00 | 1.3250 01 | 8.2170 00 | 6.03 |
| 14 | LCC | 7.134950-02 | 4.350-02 | 1.6 | 0.0842 | 2.4850 00 | 9.0240 00 | 6.5390 00 | 0.07 |

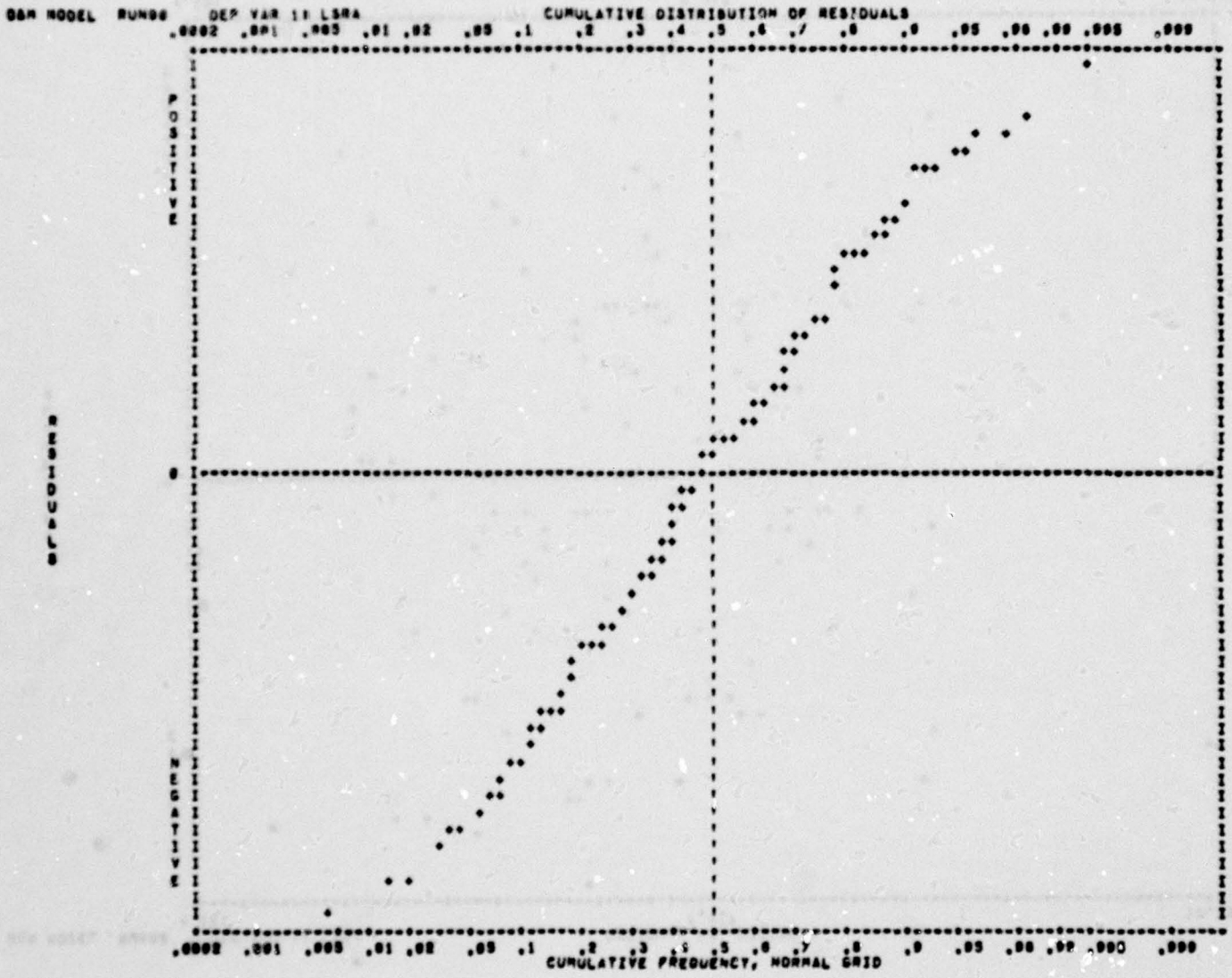
| | |
|---|---|
| NO. OF OBSERVATIONS | 119 |
| NO. OF IND. VARIABLES | 14 |
| RESIDUAL DEGREES OF FREEDOM | 104 |
| F-VALUE | 49.8 |
| RESIDUAL ROOT MEAN SQUARE | 0.48263133 |
| RESIDUAL MEAN SQUARE | 0.23293388 |
| RESIDUAL SUM OF SQUARES | 24.22583213 |
| TOTAL SUM OF SQUARES | 176.75716587 |
| MULT. CORREL. COEF. SQUARED | .8629 |

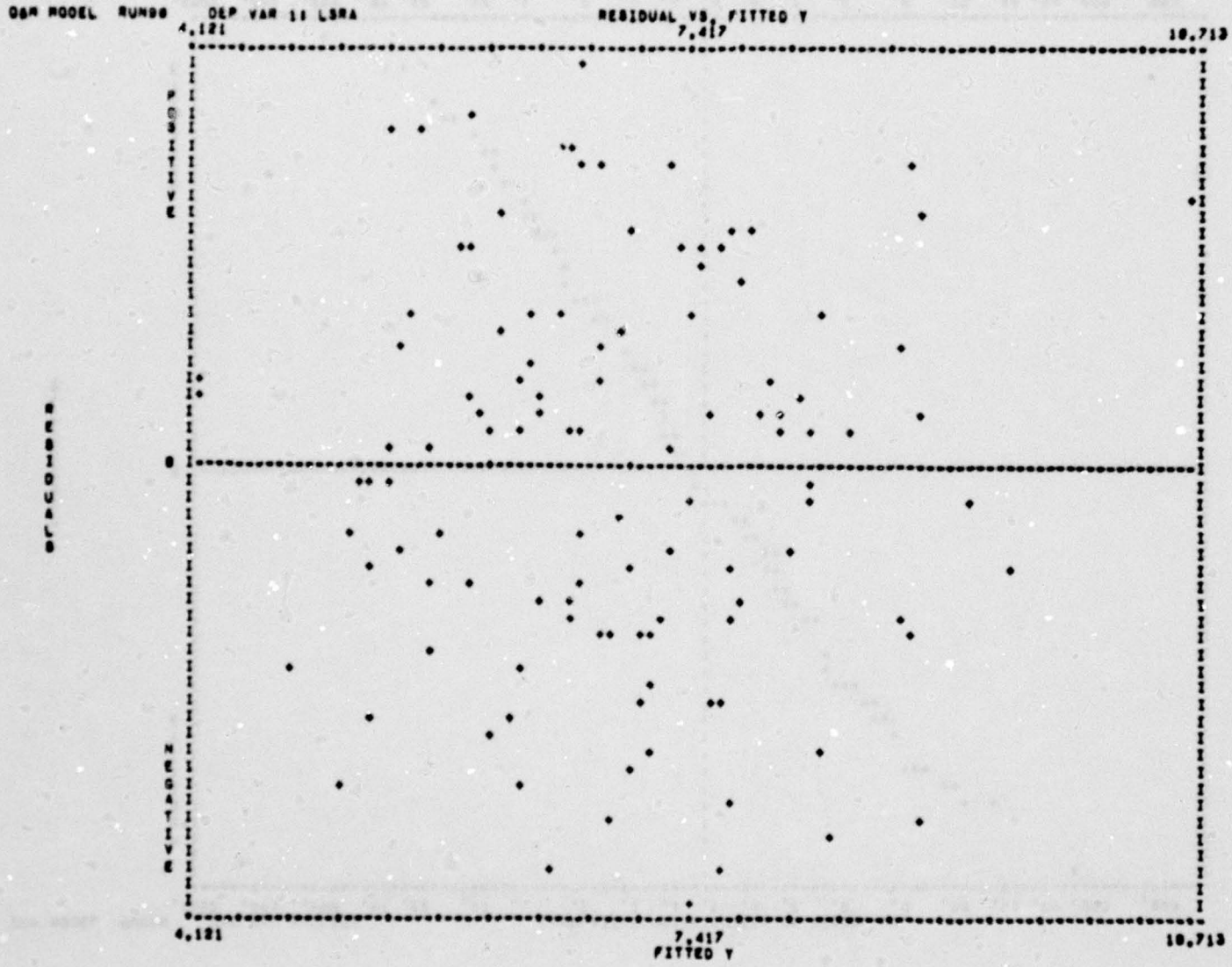
| IND,VAR(I) | NAME | COEF,B(I) | MIN X(I) | MAX X(I) | RANGE X(I) | REL,INF,X(I) |
|---|---|---|---|---|---|---|
| *** COEFFICIENTS FROM PREVIOUS FIT *** | | | | | | |
| 0 | | -2.279740-01 | | | | |
| 1 | FIGSEN | -8.775550-01 | 0.0 | 1.0000 00 | 1.0000 00 | 0.10 |
| 2 | FIGCOM | -8.498110-01 | 0.0 | 1.0000 00 | 1.0000 00 | 0.09 |
| 3 | BOMNAV | -2.643190-01 | 0.0 | 1.0000 00 | 1.0000 00 | 0.04 |
| 4 | BOMSEN | 3.759710-01 | 0.0 | 1.0000 00 | 1.0000 00 | 0.05 |
| 5 | CARNAV | -2.768940-01 | 0.0 | 1.0000 00 | 1.0000 00 | 0.04 |
| 6 | DI | 3.792780-03 | 0.0 | 1.0000 02 | 1.0000 02 | 0.05 |
| 7 | DUP | -1.612790-11 | 4.4840 05 | 1.3500 11 | 1.3500 11 | 0.31 |
| 8 | DVO | 6.598840-08 | 1.8220 04 | 2.4220 07 | 2.4210 07 | 0.23 |
| 9 | DNT | -2.773770-04 | 6.8540 08 | 1.1680 04 | 1.1590 04 | 0.45 |
| 10 | DCC | 9.328450-08 | 1.6980 02 | 3.1810 07 | 3.1810 07 | 0.41 |
| 11 | DEM | 3.683610-04 | 3.2380 01 | 3.2520 03 | 3.2520 03 | 0.17 |
| 12 | OPS | 5.197160-04 | 1.8440 02 | 2.8280 03 | 2.7240 03 | 0.20 |
| 13 | LUP | 5.594480-01 | 5.8380 00 | 1.3250 01 | 8.2170 00 | 0.05 |
| 14 | LCC | 1.847630-01 | 2.4850 00 | 9.0240 00 | 6.5390 00 | 0.10 |

| | |
|---|---|
| RESIDUAL ROOT MEAN SQUARE | 0.48757938 |
| RESIDUAL MEAN SQUARE | 0.23773357 |
| RESIDUAL SUM OF SQUARES | 24.72429142 |
| TOTAL SUM OF SQUARES | 176.75716587 |
| MULT. CORREL. COEF. SQUARED | .8599 |

| ORDERED BY COMPUTER INPUT | | | | | | ORDERED BY RESIDUALS | | | |
|---|---|---|---|---|---|---|---|---|---|
| IDENT, | OBSV, | MSB DISTANCE | OBS, Y | FITTED Y | RESIDUAL | OBSV, | OBS, Y | FITTED Y | ORDERED RESID, | SEQ |
| 71L80 | 2 | 1, | 8,345 | 7,885 | -0,539 | 18 | 7,681 | 6,794 | 0,887 | 1 |
| 71H80 | 3 | 3, | 8,157 | 7,734 | 0,423 | 34 | 6,833 | 6,004 | 0,829 | 2 |
| 71P80 | 4 | 1, | 5,628 | 7,143 | -2,515 | 79 | 6,248 | 5,442 | 0,798 | 3 |
| 71P80 | 5 | 4, | 8,153 | 8,007 | 0,146 | 116 | 6,477 | 5,682 | 0,795 | 4 |
| 7171J | 6 | 11, | 5,252 | 5,289 | -0,037 | 135 | 7,434 | 6,666 | 0,768 | 5 |
| 72460 | 7 | 6, | 5,541 | 5,768 | -0,259 | 11 | 7,313 | 6,570 | 0,743 | 6 |
| 71FA0 | 8 | 1, | 6,928 | 7,679 | -0,772 | 56 | 7,478 | 6,748 | 0,731 | 7 |
| 71P80 | 10 | 2, | 7,681 | 6,714 | 0,967 | 205 | 7,553 | 6,824 | 0,729 | 8 |
| 71CA0 | 11 | 2, | 7,313 | 6,570 | 0,743 | 53 | 8,086 | 7,383 | 0,703 | 9 |
| 710A0 | 12 | 3, | 8,176 | 7,975 | 0,201 | 28 | 9,585 | 8,886 | 0,698 | 10 |
| 51EA0 | 13 | 1, | 7,368 | 7,320 | 0,048 | 25 | 11,338 | 10,713 | 0,625 | 11 |
| 52A80 | 15 | 3, | 8,189 | 8,052 | 0,137 | 146 | 9,517 | 8,923 | 0,594 | 12 |
| 63900 | 16 | 5, | 8,209 | 8,078 | 0,131 | 208 | 8,786 | 8,205 | 0,581 | 13 |
| 74JA0 | 18 | 11, | 8,938 | 7,986 | 0,932 | 125 | 8,251 | 7,686 | 0,564 | 14 |
| 74JC0 | 19 | 2, | 7,856 | 7,347 | 0,508 | 54 | 7,419 | 7,062 | 0,357 | 15 |
| 52GA1 | 20 | 1, | 6,189 | 6,918 | -0,809 | 95 | 8,390 | 7,855 | 0,536 | 16 |
| 71Z40 | 21 | 1, | 8,477 | 7,158 | -0,683 | 85 | 8,007 | 7,474 | 0,533 | 17 |
| 71Z80 | 22 | 6, | 6,477 | 5,958 | 0,519 | 22 | 6,477 | 5,958 | 0,519 | 18 |
| 71ZC0 | 23 | 14, | 4,382 | 5,118 | -0,736 | 19 | 7,856 | 7,347 | 0,508 | 19 |
| 73EG0 | 24 | 7, | 8,448 | 8,858 | -0,408 | 114 | 8,155 | 7,648 | 0,507 | 20 |
| 73EP0 | 25 | 16, | 11,338 | 10,713 | 0,625 | 93 | 6,436 | 5,940 | 0,496 | 21 |
| 73HA0 | 25 | 28, | 9,087 | 8,958 | 0,128 | 110 | 6,436 | 5,940 | 0,496 | 22 |
| 73HC0 | 27 | 12, | 8,121 | 8,287 | -0,985 | 197 | 7,961 | 7,493 | 0,468 | 23 |
| 73NA0 | 28 | 7, | 9,585 | 8,886 | 0,698 | 3 | 8,157 | 7,734 | 0,423 | 24 |
| 73090 | 29 | 10, | 8,292 | 8,126 | 0,166 | 77 | 8,639 | 8,266 | 0,373 | 25 |
| 73BC0 | 30 | 7, | 9,114 | 8,825 | 0,289 | 112 | 5,961 | 5,596 | 0,365 | 26 |
| 73K80 | 31 | 1, | 7,383 | 6,984 | 0,328 | 57 | 7,812 | 7,462 | 0,350 | 27 |
| 73KF0 | 33 | 1, | 7,136 | 6,857 | 0,278 | 283 | 6,939 | 6,588 | 0,349 | 28 |
| 73KK0 | 34 | 4, | 8,833 | 8,004 | 0,829 | 198 | 6,745 | 6,403 | 0,343 | 29 |
| 75930 | 35 | 5, | 5,333 | 5,522 | -0,189 | 64 | 6,548 | 6,211 | 0,329 | 30 |
| 74BF0 | 37 | 3, | 6,793 | 7,099 | -0,306 | 65 | 6,548 | 6,211 | 0,329 | 31 |
| 74810 | 38 | 4, | 8,605 | 8,448 | 0,157 | 31 | 7,383 | 6,984 | 0,328 | 32 |
| 78A10 | 39 | 4, | 5,787 | 5,502 | 0,285 | 38 | 9,114 | 8,805 | 0,289 | 33 |
| 74FA0 | 42 | 41, | 5,352 | 5,544 | -0,192 | 39 | 5,787 | 5,502 | 0,285 | 34 |
| 74FH0 | 43 | 5, | 7,338 | 7,697 | -0,358 | 33 | 7,136 | 6,857 | 0,278 | 35 |
| 74FU0 | 44 | 14, | 8,592 | 8,514 | 0,079 | 284 | 6,687 | 6,362 | 0,244 | 36 |
| 858H0 | 47 | 5, | 5,455 | 5,484 | -0,029 | 61 | 7,090 | 6,871 | 0,219 | 37 |
| 74FC0 | 48 | 10, | 7,601 | 8,254 | -0,653 | 12 | 8,176 | 7,975 | 0,201 | 38 |
| 74FK0 | 50 | 5, | 5,273 | 5,697 | -0,424 | 72 | 6,589 | 6,304 | 0,285 | 39 |
| 74FQ0 | 51 | 51, | 9,210 | 9,276 | -0,066 | 74 | 4,369 | 4,185 | 0,185 | 40 |
| 74MC0 | 53 | 4, | 8,086 | 7,383 | 0,703 | 29 | 8,292 | 8,126 | 0,166 | 41 |
| 74CA0 | 54 | 3, | 7,819 | 7,262 | 0,557 | 38 | 6,605 | 6,448 | 0,157 | 42 |
| 74CC0 | 56 | 3, | 7,474 | 6,740 | 0,731 | 5 | 6,153 | 6,007 | 0,146 | 43 |
| 74FA1 | 57 | 5, | 7,812 | 7,462 | 0,350 | 75 | 4,263 | 4,121 | 0,142 | 44 |
| 74E80 | 58 | 4, | 7,819 | 7,817 | 0,002 | 15 | 8,189 | 8,052 | 0,137 | 45 |
| 73PH0 | 59 | 4, | 7,090 | 7,625 | -0,535 | 18 | 8,938 | 7,986 | 0,132 | 46 |
| 73P80 | 60 | 37, | 7,340 | 7,436 | -0,056 | 16 | 6,209 | 6,078 | 0,131 | 47 |
| 73P0R | 61 | 17, | 7,090 | 6,871 | 0,219 | 25 | 9,087 | 8,958 | 0,128 | 48 |
| 73PH0 | 63 | 5, | 7,148 | 7,324 | -0,176 | 84 | 7,654 | 7,545 | 0,110 | 49 |
| 71HA0 | 64 | 3, | 6,548 | 6,211 | 0,329 | 76 | 6,544 | 6,436 | 0,108 | 50 |
| 710U0 | 65 | 3, | 6,548 | 6,211 | 0,329 | 199 | 6,484 | 6,382 | 0,101 | 51 |
| 63AA0 | 66 | 2, | 6,399 | 6,688 | -0,281 | 206 | 6,818 | 6,725 | 0,096 | 52 |
| 63AG0 | 68 | 2, | 8,133 | 8,459 | -0,325 | 119 | 8,178 | 8,099 | 0,079 | 53 |
| 63NF0 | 70 | 7, | 5,343 | 5,354 | -0,058 | 44 | 8,592 | 8,514 | 0,079 | 54 |
| 71A8E | 71 | 8, | 5,959 | 5,219 | -0,159 | 249 | 8,070 | 7,993 | 0,077 | 55 |
| 71ADA | 72 | 4, | 6,509 | 6,314 | 0,195 | 91 | 6,741 | 6,666 | 0,075 | 56 |
| 73D8A | 73 | 2, | 6,927 | 7,258 | -0,332 | 92 | 6,741 | 6,666 | 0,075 | 57 |
| 714CC | 74 | 26, | 4,369 | 4,185 | 0,185 | 89 | 8,274 | 8,200 | 0,074 | 58 |
| 73C80 | 75 | 26, | 4,263 | 4,121 | 0,142 | 210 | 5,882 | 5,743 | 0,059 | 59 |
| 73CEN | 76 | 8, | 6,544 | 6,436 | 0,108 | 13 | 7,368 | 7,320 | 0,048 | 60 |
| 73CFK | 77 | 7, | 8,639 | 8,266 | 0,373 | 108 | 5,529 | 5,484 | 0,045 | 61 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 730AM | 78 | 4. | 5.485 | 6.113 | -0.628 | 102 | 6.170 | 6.154 | 0.016 | 62 |
| 73EBA | 79 | 8. | 6.240 | 5.442 | 0.798 | 58 | 7.919 | 7.917 | 0.002 | 63 |
| 73EBF | 80 | 4. | 5.788 | 5.962 | -0.261 | 47 | 5.455 | 5.484 | -0.029 | 64 |
| 71CA0 | 81 | 5. | 5.624 | 5.775 | -0.151 | 6 | 5.252 | 5.289 | -0.037 | 65 |
| 73EG0 | 82 | 9. | 6.485 | 6.833 | -0.348 | 83 | 6.170 | 6.218 | -0.048 | 66 |
| 73HC0 | 83 | 11. | 6.170 | 6.218 | -0.048 | 78 | 5.303 | 5.354 | -0.050 | 67 |
| 73LA0 | 84 | 3. | 7.654 | 7.545 | 0.110 | 60 | 7.380 | 7.436 | -0.056 | 68 |
| 77EC0 | 85 | 2. | 8.947 | 7.474 | 0.533 | 51 | 9.219 | 9.276 | -0.056 | 69 |
| 770CA | 87 | 3. | 7.872 | 8.283 | -0.211 | 27 | 8.121 | 8.287 | -0.065 | 70 |
| 78AEA | 89 | 5. | 8.274 | 8.288 | 0.974 | 101 | 6.981 | 7.089 | -0.108 | 71 |
| 73KA0 | 90 | 2. | 6.782 | 7.179 | -0.396 | 71 | 5.069 | 5.219 | -0.150 | 72 |
| 639AA | 91 | 3. | 6.741 | 6.666 | 0.075 | 81 | 5.624 | 5.775 | -0.151 | 73 |
| 63CAA | 92 | 3. | 6.741 | 6.660 | 0.075 | 119 | 6.547 | 6.705 | -0.158 | 74 |
| 699AA | 93 | 3. | 6.436 | 5.940 | 0.496 | 63 | 7.148 | 7.324 | -0.176 | 75 |
| 81BBA | 94 | 2. | 5.429 | 6.934 | -0.505 | 35 | 5.333 | 5.522 | -0.189 | 76 |
| 61AA0 | 95 | 2. | 6.399 | 7.855 | 0.536 | 42 | 5.352 | 5.544 | -0.192 | 77 |
| 61AC0 | 97 | 1. | 6.339 | 7.824 | -0.686 | 87 | 7.872 | 8.083 | -0.211 | 78 |
| 72AC0 | 99 | 2. | 6.781 | 7.819 | -0.238 | 123 | 7.498 | 7.715 | -0.225 | 79 |
| 71CA0 | 100 | 4. | 6.745 | 6.483 | 0.343 | 103 | 9.286 | 9.519 | -0.233 | 80 |
| 72EAA | 101 | 3. | 6.981 | 7.288 | -0.108 | 99 | 6.781 | 7.019 | -0.238 | 81 |
| 72EC0 | 102 | 6. | 6.170 | 6.154 | 0.016 | 111 | 5.081 | 5.328 | -0.246 | 82 |
| 728P0 | 103 | 17. | 9.286 | 9.519 | -0.233 | 7 | 5.501 | 5.760 | -0.259 | 83 |
| 71JA0 | 104 | 1. | 5.587 | 6.318 | -0.731 | 88 | 5.728 | 5.982 | -0.261 | 84 |
| 71LA0 | 105 | 4. | 7.401 | 7.730 | -0.329 | 66 | 6.399 | 6.660 | -0.261 | 85 |
| 720N0 | 106 | 9. | 9.517 | 8.923 | 0.594 | 68 | 6.133 | 6.459 | -0.325 | 86 |
| 72AC0 | 107 | 1. | 7.951 | 7.493 | 0.458 | 105 | 7.401 | 7.730 | -0.329 | 87 |
| 71716 | 108 | 7. | 5.529 | 5.484 | 0.045 | 122 | 6.337 | 6.666 | -0.329 | 88 |
| 71317 | 109 | 4. | 6.494 | 6.392 | 0.101 | 93 | 6.927 | 7.258 | -0.332 | 89 |
| 725F0 | 110 | 8. | 6.178 | 6.799 | 0.079 | 82 | 8.485 | 8.833 | -0.348 | 90 |
| 72980 | 111 | 5. | 5.881 | 5.628 | -0.248 | 126 | 6.312 | 6.674 | -0.363 | 91 |
| 71JCE | 112 | 4. | 5.961 | 5.596 | 0.365 | 43 | 7.339 | 7.697 | -0.358 | 92 |
| 72AE0 | 113 | 9. | 8.145 | 8.953 | -0.808 | 37 | 6.783 | 7.799 | -0.396 | 93 |
| 72CC0 | 114 | 8. | 8.155 | 7.648 | 0.507 | 98 | 6.782 | 7.179 | -0.396 | 94 |
| 71ZAP | 115 | 1. | 6.477 | 6.884 | -0.407 | 115 | 6.477 | 6.884 | -0.407 | 95 |
| 71ZB0 | 116 | 8. | 6.477 | 5.882 | 0.795 | 94 | 6.428 | 6.834 | -0.406 | 96 |
| 71ZD0 | 117 | 14. | 4.382 | 4.842 | -0.460 | 24 | 8.448 | 8.856 | -0.408 | 97 |
| 699AA | 118 | 3. | 5.436 | 5.940 | 0.496 | 58 | 5.273 | 5.697 | -0.424 | 98 |
| 63AF0 | 119 | 3. | 6.547 | 6.705 | -0.158 | 117 | 4.382 | 4.842 | -0.460 | 99 |
| 63AA0 | 120 | 1. | 6.378 | 7.406 | -1.028 | 292 | 5.844 | 6.324 | -0.480 | 100 |
| 63121 | 121 | 3. | 7.434 | 6.666 | 0.768 | 4 | 6.628 | 7.143 | -0.515 | 101 |
| 63AA4 | 122 | 2. | 6.337 | 6.666 | -0.329 | 59 | 7.390 | 7.925 | -0.535 | 102 |
| 55AL0 | 123 | 6. | 7.490 | 7.715 | -0.225 | 2 | 6.545 | 7.085 | -0.539 | 103 |
| 55AV0 | 124 | 11. | 7.490 | 8.368 | -0.878 | 291 | 6.976 | 7.542 | -0.566 | 104 |
| 61AA0 | 125 | 2. | 8.251 | 7.686 | 0.564 | 127 | 5.694 | 6.263 | -0.570 | 105 |
| 61AE0 | 126 | 2. | 6.312 | 6.674 | -0.363 | 128 | 4.787 | 5.367 | -0.580 | 106 |
| 62AA0 | 127 | 2. | 5.694 | 6.263 | -0.570 | 78 | 5.485 | 6.113 | -0.628 | 107 |
| 64211 | 129 | 10. | 4.787 | 5.367 | -0.580 | 46 | 7.691 | 8.254 | -0.563 | 108 |
| 719A0 | 281 | 3. | 6.976 | 7.542 | -0.566 | 21 | 6.477 | 7.160 | -0.683 | 109 |
| 749C0 | 282 | 3. | 5.844 | 6.324 | -0.480 | 97 | 6.339 | 7.024 | -0.686 | 110 |
| 749E0 | 283 | 5. | 6.929 | 6.580 | 0.349 | 104 | 5.587 | 6.318 | -0.731 | 111 |
| 749G0 | 284 | 4. | 6.667 | 6.362 | 0.244 | 23 | 4.382 | 5.118 | -0.736 | 112 |
| 749H0 | 285 | 5. | 7.553 | 6.824 | 0.729 | 9 | 6.998 | 7.679 | -0.772 | 113 |
| 699A0 | 286 | 3. | 6.810 | 6.725 | 0.085 | 113 | 8.145 | 8.953 | -0.808 | 114 |
| 73JC0 | 287 | 3. | 6.706 | 7.630 | 0.924 | 28 | 6.109 | 6.918 | -0.809 | 115 |
| 73JF0 | 288 | 5. | 6.788 | 6.285 | 0.501 | 124 | 7.498 | 8.368 | -0.870 | 116 |
| 71CA0 | 289 | 5. | 6.870 | 7.093 | 0.877 | 287 | 6.706 | 7.630 | -0.924 | 117 |
| 719A0 | 210 | 12. | 5.802 | 5.743 | 0.059 | 211 | 5.587 | 6.516 | -0.929 | 118 |
| 69AA0 | 811 | 4. | 6.587 | 6.516 | -0.929 | 120 | 6.378 | 7.406 | -1.028 | 119 |


O&M MODEL RUN96 DEP VAR 11 LSRA
CUMULATIVE DISTRIBUTION OF RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
POSITIVE
0
NEGATIVE
RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
CUMULATIVE FREQUENCY, NORMAL GRID


OSR MODEL RUN88 DEP VAR IS LSRA
RESIDUAL VS. FITTED Y
4.121
7.417
10.713
POSITIVE
0
NEGATIVE
RESIDUALS
4.121
7.417
10.713
FITTED Y

LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

O&M MODEL RUN110 DEP VAR IS LMHTOT MIN Y = -7.8980 00 MAX Y = -5.4590-01 RANGE Y = 6.8440 00

MULTIPLE REGRESSION ANALYSIS FOR THE "ALPOS" MODEL

LMHTOT = B(0) + B(1)FIGSEN + B(2)FIGCOM + B(3)SOMNAV + B(4)SOMCOM
+ B(5)CO + B(6)SS + B(7)MCC + B(8)MDI + B(9)MEM
+ B(10)DUP + B(11)OCC + B(12)DDI + B(13)DEM + B(14)OPS
+ B(15)OPD + B(16)DUF + B(17)MRTS + B(18)LUP
+ B(19)LVO + B(20)LMT

LMHTOT = LN(MMHTOT)
MMHTOT = TOTAL MAINTENANCE MANHOURS PER OPERATING HOUR

| IND,VAR(I) | NAME | COEF,B(I) | S.E. COEF. | T-VALUE | B(I)SQRD | MIN X(I) | MAX X(I) | RANGE X(I) | REL.INF.X(I) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | -8.917780 00 | | | | | | | |
| 1 | FIGSEN | -1.884180-01 | 1.960-01 | 1.0 | 0.3386 | 0.0 | 1.0000 00 | 1.0000 00 | 0.03 |
| 2 | FIGCOM | 5.192410-01 | 1.790-01 | 3.1 | 0.0827 | 0.0 | 1.0000 00 | 1.0000 00 | 0.00 |
| 3 | SOMNAV | 5.492280-01 | 1.290-01 | 4.3 | 0.2589 | 0.0 | 1.0000 00 | 1.0000 00 | 0.00 |
| 4 | SOMCOM | 6.254910-01 | 1.540-01 | 3.9 | 0.1674 | 0.0 | 1.0000 00 | 1.0000 00 | 0.10 |
| 5 | CO | 2.226140-01 | 5.220-02 | 4.3 | 0.6457 | 4.9230-03 | 6.6740 00 | 6.6690 00 | 0.23 |
| 6 | SS | -1.579750-02 | 1.920-03 | 8.2 | 0.8698 | 0.0 | 1.0000 02 | 1.0000 02 | 0.24 |
| 7 | MCC | 8.243980-05 | 5.260-05 | 1.5 | 0.7498 | -1.1680 03 | 7.1220 03 | 8.2900 03 | 0.10 |
| 8 | MDI | -1.223110-02 | 1.480-03 | 8.7 | 0.5947 | -2.4980 01 | 7.5120 01 | 1.0100 02 | 0.19 |
| 9 | MEM | -2.182120-02 | 2.320-03 | 9.4 | 0.5957 | -1.9280 01 | 8.9890 01 | 1.0880 02 | 0.33 |
| 10 | DUP | 5.434250-12 | 2.540-12 | 1.4 | 0.1857 | 3.6910 05 | 1.4360 11 | 1.4360 11 | 0.58 |
| 11 | OCC | -4.177730-08 | 1.230-08 | 3.4 | 0.3727 | 7.2990 02 | 2.8560 07 | 2.8560 07 | 0.18 |
| 12 | DDI | 1.251540-04 | 6.780-05 | 1.8 | 0.2674 | 1.6880-01 | 3.8910 03 | 3.8910 03 | 0.06 |
| 13 | DEM | -1.587250-04 | 7.210-05 | 2.2 | 0.1998 | 2.7840 01 | 3.8470 03 | 3.8220 03 | 0.07 |
| 14 | OPS | -2.432940-04 | 1.090-04 | 2.2 | 0.2919 | 9.4280 01 | 2.8830 03 | 2.7880 03 | 0.10 |
| 15 | OPD | 1.686790-07 | 9.940-08 | 1.7 | 0.2161 | 7.2990 02 | 4.1890 06 | 4.1880 06 | 0.10 |
| 16 | DUF | 2.838580-01 | 1.310-01 | 2.2 | 0.1128 | 2.8250-01 | 2.1830 00 | 1.9840 00 | 0.00 |
| 17 | MRTS | -4.538280-03 | 2.060-03 | 2.2 | 0.3817 | 0.0 | 1.0000 02 | 1.0000 02 | 0.07 |
| 18 | LUP | 9.329610-01 | 4.160-02 | 12.8 | 0.7847 | 0.0360 00 | 1.3250 01 | 8.2170 00 | 0.07 |
| 19 | LVO | 1.683990-01 | 1.020-01 | 1.7 | 0.0823 | 3.4810 00 | 9.0180 00 | 5.0110 00 | 0.14 |
| 20 | LMT | 3.368160-01 | 1.030-01 | 3.3 | 0.0828 | 0.0 | 8.1970 00 | 8.1970 00 | 0.07 |

| | |
|---|---|
| NO. OF OBSERVATIONS | 130 |
| NO. OF IND. VARIABLES | 20 |
| RESIDUAL DEGREES OF FREEDOM | 109 |
| F-VALUE | 83.7 |
| RESIDUAL ROOT MEAN SQUARE | 0.41877720 |
| RESIDUAL MEAN SQUARE | 0.17537434 |
| RESIDUAL SUM OF SQUARES | 19.11588350 |
| TOTAL SUM OF SQUARES | 249.59287129 |
| MULT. CORREL. COEF. SQUARED | .9234 |

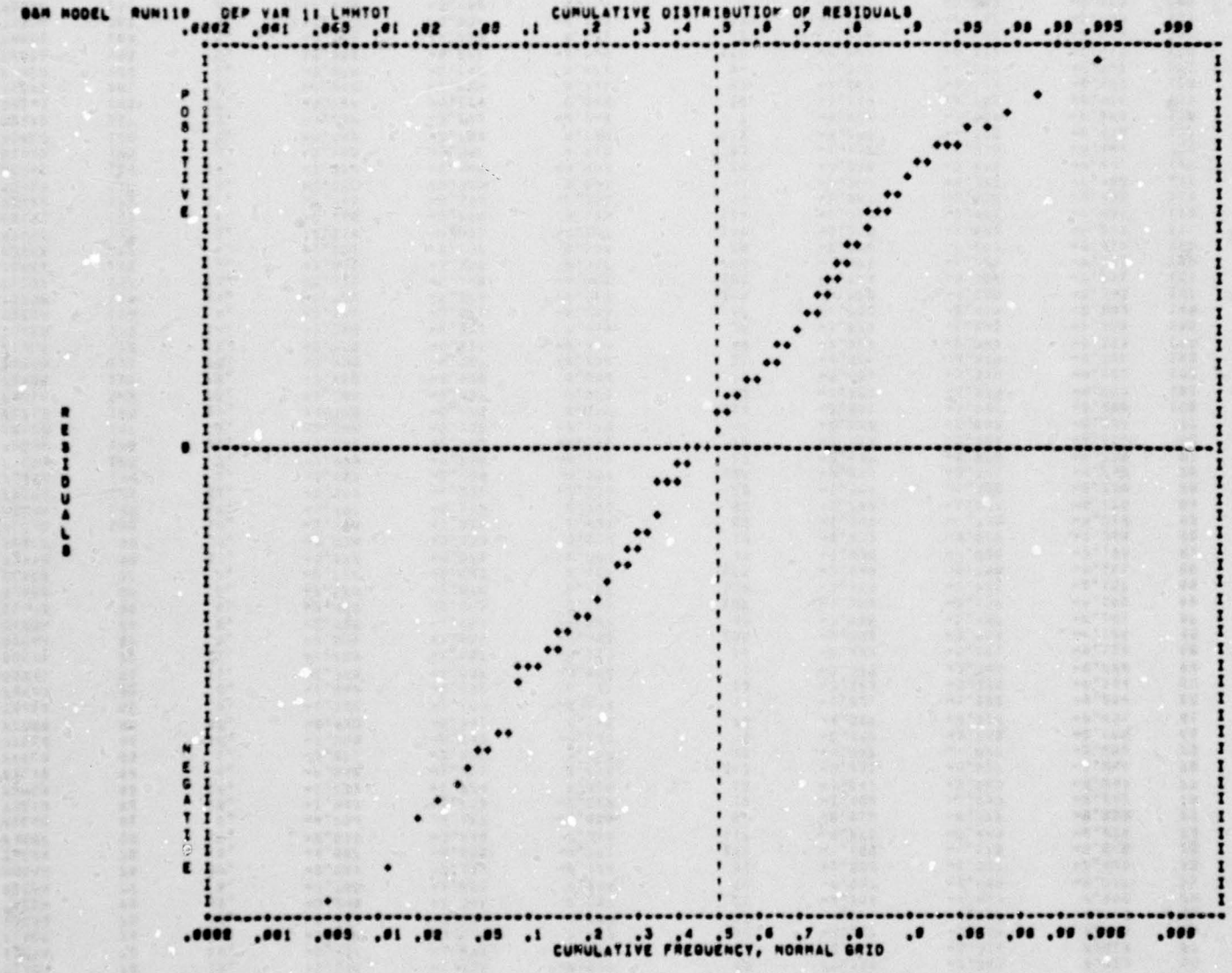
| IND,VAR(I) | NAME | COEF,B(I) | MIN X(I) | MAX X(I) | RANGE X(I) | REL.INF.X(I) |
|---|---|---|---|---|---|---|
| *** COEFFICIENTS FROM PREVIOUS FIT *** | | | | | | |
| 0 | | -8.419880 00 | | | | |
| 1 | FIGSEN | -2.833230-01 | 0.0 | 1.0000 00 | 1.0000 00 | 0.03 |
| 2 | FIGCOM | 5.452950-01 | 0.0 | 1.0000 00 | 1.0000 00 | 0.00 |
| 3 | SOMNAV | 6.199730-01 | 0.0 | 1.0000 00 | 1.0000 00 | 0.00 |
| 4 | SOMCOM | 6.712330-01 | 0.0 | 1.0000 00 | 1.0000 00 | 0.10 |
| 5 | CO | 2.199190-01 | 4.9230-03 | 6.6740 00 | 6.6690 00 | 0.22 |
| 6 | SS | -1.621820-02 | 0.0 | 1.0000 02 | 1.0000 02 | 0.25 |
| 7 | MCC | 7.836210-05 | -1.1680 03 | 7.1220 03 | 8.2900 03 | 0.19 |
| 8 | MDI | -1.227740-02 | -2.4980 01 | 7.5120 01 | 1.0100 02 | 0.19 |
| 9 | MEM | -2.213810-02 | -1.9280 01 | 8.9880 01 | 1.0880 02 | 0.34 |
| 10 | DUP | 6.534460-12 | 3.6910 05 | 1.4360 11 | 1.4360 11 | 0.14 |
| 11 | OCC | -3.599280-08 | 7.2990 02 | 2.8560 07 | 2.8560 07 | 0.18 |
| 12 | DDI | 1.284950-04 | 1.6880-01 | 3.8910 03 | 3.8910 03 | 0.05 |
| 13 | DEM | -1.685950-04 | 2.7840 01 | 3.8470 03 | 3.7280 03 | 0.08 |
| 14 | OPS | -2.123270-04 | 9.4280 01 | 2.8830 03 | 2.7880 03 | 0.09 |
| 15 | OPD | 1.782740-07 | 7.2990 02 | 4.1890 06 | 4.1880 06 | 0.11 |
| 16 | DUF | 3.316740-01 | 2.8250-01 | 2.1830 00 | 1.9840 00 | 0.10 |
| 17 | MRTS | -3.988480-03 | 0.0 | 1.0000 02 | 1.0000 02 | 0.06 |
| 18 | LUP | 5.695820-01 | 0.0360 00 | 1.3250 01 | 8.2170 00 | 0.72 |
| 19 | LVO | 1.791880-01 | 3.4810 00 | 9.0180 00 | 5.0110 00 | 0.15 |
| 20 | LMT | 3.138870-01 | 0.0 | 8.1970 00 | 8.1970 00 | 0.05 |

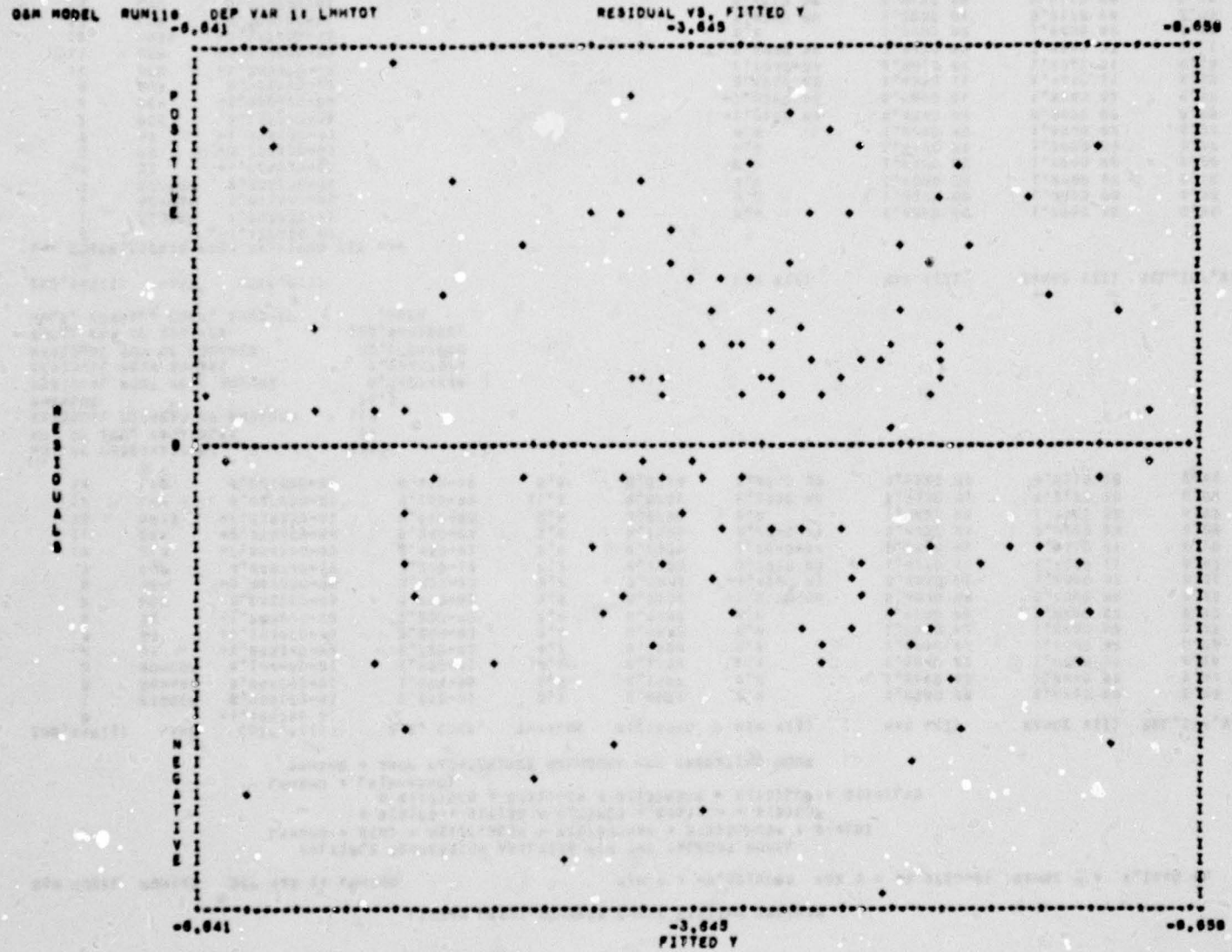
| | |
|---|---|
| RESIDUAL ROOT MEAN SQUARE | 0.42536683 |
| RESIDUAL MEAN SQUARE | 0.18093628 |
| RESIDUAL SUM OF SQUARES | 19.72209213 |
| TOTAL SUM OF SQUARES | 249.59287129 |
| MULT. CORREL. COEF. SQUARED | .9209 |

| IDENT, | OBSV, | MAH DISTANCE | OBS, Y | FITTED Y | RESIDUAL |
|---|---|---|---|---|---|
| 71920 | 1 | 1. | -3.385 | -3.384 | -0.000 |
| 71L80 | 2 | 6. | -2.971 | -2.380 | -0.663 |
| 71M60 | 3 | 20. | -2.855 | -3.147 | 0.293 |
| 71PK0 | 4 | 2. | -3.009 | -3.120 | 0.111 |
| 71P90 | 5 | 8. | -3.637 | -3.582 | -0.055 |
| 71710 | 6 | 17. | -5.841 | -5.923 | 0.082 |
| 724G0 | 7 | 12. | -6.023 | -5.559 | -0.465 |
| 71FA0 | 8 | 3. | -3.875 | -4.012 | 0.137 |
| 71F8A | 10 | 13. | -3.992 | -3.949 | -0.042 |
| 71CA0 | 11 | 4. | -5.328 | -4.434 | -0.887 |
| 71DA0 | 12 | 3. | -3.344 | -2.866 | -0.478 |
| 91EA0 | 13 | 5. | -3.282 | -3.989 | 0.708 |
| 92AA0 | 14 | 6. | -3.314 | -3.902 | 0.588 |
| 92AB0 | 15 | 9. | -3.322 | -3.739 | 0.417 |
| 63900 | 16 | 9. | -5.497 | -5.371 | -0.126 |
| 714E0 | 17 | 19. | -1.425 | -2.032 | 0.607 |
| 74JA0 | 18 | 5. | -2.432 | -2.222 | -0.210 |
| 74JC0 | 19 | 8. | -3.649 | -3.605 | -0.044 |
| 52GA1 | 20 | 4. | -3.718 | -4.239 | 0.520 |
| 71ZA0 | 21 | 5. | -4.388 | -4.068 | -0.320 |
| 73EG0 | 24 | 11. | -2.218 | -2.437 | 0.221 |
| 73EP0 | 25 | 22. | -1.878 | -1.618 | 0.540 |
| 73HA0 | 26 | 22. | -0.793 | -0.873 | 0.081 |
| 73HC0 | 27 | 13. | -1.879 | -1.541 | -0.338 |
| 73NA0 | 28 | 26. | -2.382 | -2.498 | 0.108 |
| 73090 | 29 | 11. | -2.137 | -1.878 | -0.259 |
| 739C0 | 30 | 12. | -3.217 | -3.230 | 0.013 |
| 73K80 | 31 | 2. | -2.399 | -2.921 | 0.522 |
| 73KE0 | 32 | 3. | -3.494 | -2.517 | -0.978 |
| 73KF0 | 33 | 3. | -3.988 | -3.836 | -0.064 |
| 73KK0 | 34 | 10. | -2.728 | -2.894 | 0.174 |
| 73930 | 35 | 7. | -4.783 | -5.107 | 0.324 |
| 74900 | 36 | 4. | -2.739 | -3.004 | 0.265 |
| 748F0 | 37 | 3. | -3.001 | -3.137 | 0.136 |
| 748K0 | 38 | 34. | -5.473 | -5.567 | 0.094 |
| 78A10 | 39 | 6. | -4.426 | -4.238 | -0.190 |
| 78GA0 | 40 | 9. | -3.618 | -3.457 | -0.161 |
| 74FF0 | 41 | 27. | -2.760 | -2.327 | -0.433 |
| 74FA0 | 42 | 17. | -1.775 | -1.143 | -0.632 |
| 74FH0 | 43 | 5. | -2.553 | -2.712 | 0.159 |
| 74FU0 | 45 | 48. | -1.947 | -2.615 | 0.668 |
| 73CG0 | 46 | 36. | -4.897 | -4.947 | -0.050 |
| 74FC0 | 48 | 13. | -2.925 | -2.157 | 0.232 |
| 74FJ0 | 49 | 3. | -2.929 | -2.596 | -0.333 |
| 74FK0 | 50 | 8. | -5.499 | -5.195 | 0.597 |
| 74FQ0 | 51 | 27. | -2.819 | -2.165 | 0.146 |
| 74KA0 | 52 | 7. | -2.981 | -2.379 | 0.297 |
| 74KC0 | 53 | 7. | -3.184 | -3.406 | 0.382 |
| 74CA0 | 54 | 5. | -4.385 | -3.568 | -0.775 |
| 74C90 | 55 | 7. | -4.330 | -3.888 | -0.442 |
| 74CCP | 56 | 7. | -4.556 | -4.557 | 0.000 |
| 74FA1 | 57 | 9. | -2.859 | -2.597 | -0.262 |
| 74E80 | 58 | 8. | -3.145 | -3.363 | 0.218 |
| 73PH0 | 59 | 4. | -3.257 | -2.837 | -0.420 |
| 73P80 | 60 | 36. | -0.657 | -0.650 | -0.007 |
| 73PD0 | 61 | 18. | -0.910 | -0.877 | -0.033 |
| 73PF0 | 62 | 23. | -2.593 | -2.184 | -0.409 |
| 73PH0 | 63 | 5. | -2.889 | -2.788 | 0.099 |
| 71NA0 | 64 | 4. | -1.943 | -2.388 | 0.445 |
| 71QU0 | 65 | 4. | -2.368 | -2.389 | 0.021 |
| 63AA0 | 66 | 3. | -2.416 | -2.444 | 0.027 |
| 65AA0 | 67 | 4. | -2.752 | -2.410 | -0.342 |
| 63AG0 | 68 | 4. | -3.792 | -3.943 | 0.151 |
| 638F0 | 70 | 14. | -5.631 | -5.329 | -0.302 |

| OBSV, | OBS, Y | FITTED Y | ORDERED RESID, | SEQ |
|---|---|---|---|---|
| 210 | -4.585 | -5.422 | 0.857 | 1 |
| 13 | -3.292 | -3.960 | 0.668 | 2 |
| 201 | -2.289 | -3.030 | 0.741 | 3 |
| 63 | -2.289 | -2.788 | 0.699 | 4 |
| 50 | -5.499 | -6.195 | 0.697 | 5 |
| 44 | -1.947 | -2.615 | 0.668 | 6 |
| 84 | -2.548 | -1.211 | 0.665 | 7 |
| 126 | -5.528 | -6.164 | 0.644 | 8 |
| 209 | -2.818 | -3.252 | 0.634 | 9 |
| 17 | -1.425 | -2.032 | 0.607 | 10 |
| 14 | -3.314 | -3.902 | 0.588 | 11 |
| 108 | -4.585 | -5.175 | 0.578 | 12 |
| 119 | -1.581 | -2.147 | 0.566 | 13 |
| 25 | -1.878 | -1.618 | 0.540 | 14 |
| 204 | -3.592 | -4.133 | 0.531 | 15 |
| 20 | -3.718 | -4.234 | 0.529 | 16 |
| 31 | -2.399 | -2.921 | 0.522 | 17 |
| 96 | -2.178 | -2.676 | 0.497 | 18 |
| 202 | -3.275 | -3.749 | 0.474 | 19 |
| 64 | -1.943 | -2.388 | 0.445 | 20 |
| 198 | -1.498 | -1.938 | 0.438 | 21 |
| 74 | -4.187 | -4.616 | 0.429 | 22 |
| 15 | -3.322 | -3.739 | 0.417 | 23 |
| 66 | -2.553 | -3.249 | 0.395 | 24 |
| 101 | -1.787 | -2.179 | 0.393 | 25 |
| 118 | -2.911 | -3.298 | 0.386 | 26 |
| 211 | -3.252 | -3.638 | 0.384 | 27 |
| 194 | -3.907 | -3.454 | 0.357 | 28 |
| 83 | -1.132 | -1.470 | 0.338 | 29 |
| 55 | -4.783 | -5.107 | 0.324 | 30 |
| 53 | -3.184 | -3.486 | 0.302 | 31 |
| 77 | -2.785 | -1.883 | 0.298 | 32 |
| 52 | -2.881 | -2.378 | 0.297 | 33 |
| 3 | -2.855 | -3.147 | 0.293 | 34 |
| 189 | -1.785 | -2.057 | 0.273 | 35 |
| 38 | -2.739 | -3.004 | 0.265 | 36 |
| 6 | -5.661 | -5.923 | 0.262 | 37 |
| 48 | -1.925 | -2.157 | 0.232 | 38 |
| 24 | -2.218 | -2.437 | 0.221 | 39 |
| 125 | -3.088 | -3.307 | 0.219 | 40 |
| 58 | -3.145 | -3.363 | 0.218 | 41 |
| 206 | -2.958 | -3.182 | 0.214 | 42 |
| 99 | -3.338 | -3.552 | 0.214 | 43 |
| 95 | -2.428 | -2.613 | 0.193 | 44 |
| 98 | -1.948 | -2.131 | 0.191 | 45 |
| 28 | -2.382 | -2.498 | 0.188 | 46 |
| 34 | -2.728 | -2.894 | 0.174 | 47 |
| 85 | -3.071 | -3.239 | 0.168 | 48 |
| 43 | -2.553 | -2.712 | 0.159 | 49 |
| 68 | -3.792 | -3.943 | 0.151 | 50 |
| 91 | -2.819 | -2.165 | 0.146 | 51 |
| 126 | -3.648 | -3.788 | 0.140 | 52 |
| 9 | -3.875 | -4.012 | 0.137 | 53 |
| 37 | -3.001 | -3.137 | 0.136 | 54 |
| 97 | -2.717 | -2.833 | 0.116 | 55 |
| 88 | -6.526 | -6.641 | 0.115 | 56 |
| 4 | -3.009 | -3.120 | 0.111 | 57 |
| 121 | -2.116 | -2.219 | 0.103 | 58 |
| 110 | -3.722 | -3.828 | 0.096 | 59 |
| 123 | -3.217 | -3.315 | 0.098 | 60 |
| 78 | -5.245 | -5.342 | 0.097 | 61 |
| 38 | -5.473 | -5.567 | 0.094 | 62 |
| 98 | -5.777 | -5.871 | 0.093 | 63 |
| 26 | -0.793 | -0.873 | 0.081 | 64 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 714BE | 71 | 13. | -4.498 | -4.494 | 0.006 | 66 | -2.416 | -2.444 | 0.027 | 65 |
| 71ADA | 72 | 16. | -1.556 | -1.328 | -0.230 | 65 | -2.366 | -2.389 | 0.021 | 66 |
| 73D8A | 73 | 18. | -1.737 | -1.298 | -0.440 | 113 | -2.293 | -2.311 | 0.019 | 67 |
| 71ACC | 74 | 49. | -4.187 | -4.618 | 0.429 | 38 | -3.217 | -3.238 | 0.013 | 68 |
| 73C8Q | 75 | 52. | -5.613 | -5.354 | -0.259 | 56 | -4.554 | -4.557 | 0.008 | 69 |
| 73CEN | 76 | 35. | -5.245 | -5.342 | 0.097 | 71 | -4.488 | -4.494 | 0.006 | 70 |
| 73CPK | 77 | 6. | -0.785 | -1.083 | 0.298 | 68 | -0.857 | -0.858 | -0.007 | 71 |
| 73DAM | 78 | 28. | -2.564 | -2.189 | -0.374 | 91 | -1.565 | -1.557 | -0.008 | 72 |
| 73EBA | 79 | 13. | -4.687 | -4.626 | -0.061 | 287 | -1.185 | -1.175 | -0.010 | 73 |
| 73E8F | 80 | 10. | -2.833 | -3.049 | 0.395 | 117 | -0.471 | -0.448 | -0.020 | 74 |
| 71CA8 | 81 | 0. | -4.754 | -4.117 | -0.638 | 61 | -0.910 | -0.877 | -0.033 | 75 |
| 73EG8 | 82 | 15. | -1.949 | -1.738 | -0.219 | 18 | -3.992 | -3.949 | -0.042 | 76 |
| 73MC8 | 83 | 14. | -1.132 | -1.478 | 0.338 | 19 | -3.649 | -3.605 | -0.044 | 77 |
| 73L48 | 84 | 0. | -0.948 | -1.211 | 0.665 | 283 | -5.255 | -5.207 | -0.049 | 78 |
| 77EC8 | 85 | 1. | -3.971 | -3.239 | 0.158 | 46 | -4.897 | -4.847 | -0.050 | 79 |
| 77EE8 | 86 | 46. | -7.998 | -6.342 | -0.748 | 5 | -3.637 | -3.582 | -0.055 | 80 |
| 77D86 | 88 | 46. | -6.526 | -6.441 | 0.115 | 79 | -4.687 | -4.628 | -0.061 | 81 |
| 76AEA | 89 | 0. | -1.251 | -1.168 | -0.084 | 69 | -1.231 | -1.168 | -0.064 | 82 |
| 73KA8 | 90 | 6. | -1.948 | -2.131 | 0.191 | 33 | -3.988 | -3.838 | -0.064 | 83 |
| 839AA | 91 | 11. | -1.565 | -1.557 | -0.008 | 1 | -3.385 | -3.384 | -0.088 | 84 |
| 83CAA | 92 | 11. | -1.782 | -1.557 | -0.225 | 18 | -5.497 | -5.371 | -0.126 | 85 |
| 859AA | 93 | 0. | -2.952 | -2.669 | -0.283 | 285 | -3.793 | -3.664 | -0.128 | 86 |
| 8188A | 94 | 5. | -2.598 | -1.999 | -0.597 | 48 | -3.618 | -3.457 | -0.161 | 87 |
| 81AA8 | 95 | 6. | -2.428 | -2.613 | 0.193 | 187 | -3.328 | -3.138 | -0.182 | 88 |
| 81A88 | 96 | 6. | -2.179 | -2.078 | -0.097 | 128 | -3.118 | -2.951 | -0.167 | 89 |
| 81AC8 | 97 | 7. | -2.717 | -2.833 | 0.116 | 185 | -2.948 | -2.756 | -0.191 | 90 |
| 72AA8 | 98 | 27. | -5.777 | -5.871 | 0.093 | 39 | -4.425 | -4.238 | -0.196 | 91 |
| 72AC8 | 99 | 6. | -3.338 | -3.552 | 0.214 | 16 | -2.432 | -2.222 | -0.210 | 92 |
| 71CA8 | 100 | 14. | -1.498 | -1.936 | 0.438 | 82 | -1.949 | -1.738 | -0.219 | 93 |
| 72EAA | 101 | 10. | -1.787 | -2.179 | 0.393 | 92 | -1.782 | -1.557 | -0.225 | 94 |
| 729P0 | 103 | 20. | -1.579 | -1.221 | -0.358 | 72 | -1.556 | -1.328 | -0.238 | 95 |
| 71J48 | 104 | 2. | -3.997 | -3.454 | 0.357 | 127 | -4.939 | -3.721 | -0.249 | 96 |
| 71L48 | 105 | 9. | -2.949 | -2.758 | -0.191 | 29 | -2.137 | -1.878 | -0.259 | 97 |
| 72D48 | 106 | 13. | -3.392 | -2.993 | -0.399 | 75 | -5.613 | -5.354 | -0.259 | 98 |
| 72AC8 | 107 | 2. | -3.388 | -3.138 | -0.162 | 57 | -2.859 | -2.597 | -0.262 | 99 |
| 71716 | 108 | 11. | -4.585 | -5.078 | 0.570 | 114 | -3.881 | -3.521 | -0.288 | 100 |
| 71310 | 109 | 15. | -1.765 | -2.037 | 0.273 | 93 | -2.952 | -2.669 | -0.283 | 101 |
| 72RF8 | 110 | 12. | -3.722 | -3.828 | 0.098 | 78 | -5.631 | -5.329 | -0.302 | 102 |
| 72R88 | 111 | 25. | -5.325 | -4.597 | -0.729 | 21 | -4.368 | -4.048 | -0.320 | 103 |
| 71JCE | 112 | 11. | -5.265 | -4.815 | -0.450 | 49 | -2.929 | -2.596 | -0.333 | 104 |
| 72AE8 | 113 | 14. | -2.293 | -2.311 | 0.019 | 27 | -1.879 | -1.541 | -0.338 | 105 |
| 720C8 | 114 | 4. | -3.991 | -3.521 | -0.288 | 67 | -2.752 | -2.410 | -0.342 | 106 |
| 71Z88 | 115 | 14. | -5.882 | -5.384 | -0.617 | 288 | -4.588 | -4.155 | -0.345 | 107 |
| 71Z08 | 117 | 23. | -6.471 | -6.446 | -0.026 | 122 | -3.744 | -3.394 | -0.351 | 108 |
| 859AA | 118 | 4. | -2.911 | -3.298 | 0.386 | 183 | -1.579 | -1.221 | -0.358 | 109 |
| 83AF8 | 119 | 8. | -1.681 | -2.147 | 0.548 | 78 | -2.564 | -2.189 | -0.374 | 110 |
| 83AA8 | 120 | 2. | -3.118 | -2.951 | -0.167 | 106 | -3.392 | -2.993 | -0.399 | 111 |
| 83121 | 121 | 0. | -2.116 | -2.219 | 0.103 | 124 | -3.074 | -2.665 | -0.408 | 112 |
| 83AAA | 122 | 11. | -3.744 | -3.394 | -0.351 | 59 | -3.257 | -2.837 | -0.420 | 113 |
| 85AL8 | 123 | 6. | -3.217 | -3.315 | 0.098 | 41 | -2.760 | -2.327 | -0.433 | 114 |
| 85AV8 | 124 | 13. | -3.074 | -2.665 | -0.408 | 55 | -4.338 | -3.888 | -0.442 | 115 |
| 81AA8 | 125 | 3. | -3.888 | -3.387 | 0.219 | 73 | -1.737 | -1.288 | -0.448 | 116 |
| 81AE8 | 126 | 5. | -3.840 | -3.788 | 0.148 | 112 | -5.265 | -4.815 | -0.452 | 117 |
| 82AA8 | 127 | 5. | -4.039 | -3.791 | -0.249 | 7 | -5.823 | -5.359 | -0.465 | 118 |
| 84211 | 128 | 17. | -5.528 | -6.184 | 0.644 | 12 | -3.344 | -2.868 | -0.478 | 119 |
| 71BA8 | 201 | 2. | -2.289 | -3.030 | 0.741 | 62 | -2.683 | -2.184 | -0.499 | 120 |
| 748C8 | 202 | 1. | -3.275 | -3.749 | 0.474 | 94 | -2.596 | -1.999 | -0.597 | 121 |
| 748E8 | 203 | 5. | -5.255 | -5.287 | -0.049 | 116 | -6.882 | -5.384 | -0.817 | 122 |
| 748G8 | 204 | 2. | -3.582 | -4.033 | 0.531 | 42 | -1.775 | -1.143 | -0.632 | 123 |
| 748H8 | 205 | 3. | -3.793 | -3.664 | -0.128 | 81 | -4.784 | -4.117 | -0.638 | 124 |
| 858A8 | 206 | 4. | -2.968 | -3.182 | 0.214 | 2 | -2.971 | -2.309 | -0.663 | 125 |
| 73JC8 | 207 | 0. | -1.185 | -1.175 | -0.010 | 111 | -5.325 | -4.597 | -0.729 | 126 |
| 73JF8 | 208 | 0. | -4.500 | -4.155 | -0.345 | 88 | -7.090 | -6.342 | -0.748 | 127 |
| 71CA8 | 209 | 7. | -2.818 | -3.252 | 0.434 | 94 | -4.335 | -3.560 | -0.775 | 128 |
| 716A8 | 210 | 17. | -4.965 | -5.422 | 0.457 | 11 | -5.320 | -4.434 | -0.887 | 129 |
| 89AA8 | 211 | 0. | -3.252 | -3.636 | 0.384 | 32 | -3.494 | -2.317 | -0.978 | 130 |


B&M MODEL RUN119 DEP VAR 11 LMHTOT
CUMULATIVE DISTRIBUTION OF RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
POSITIVE
0
NEGATIVE
RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
CUMULATIVE FREQUENCY, NORMAL GRID


G&M MODEL RUN118 DEP VAR IS LMHTOT
RESIDUAL VS. FITTED Y
-8.641
-3.645
-0.650
POSITIVE
RESIDUALS
0
NEGATIVE
-8.641
-3.645
-0.650
FITTED Y

LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

B&N MODEL RUN128 DEP VAR 11 LMMSHO MIN Y = -9.6910 00 MAX Y = -8.2720-01 RANGE Y = 8.8640 00

MULTIPLE REGRESSION ANALYSIS FOR THE "ALPOS" MODEL
LMMSHO = B(0) + B(1)FIGCOM + B(2)BOMNAV + B(3)BOMCOM + B(4)DI
+ B(5)PS + B(6)SS + B(7)MCO + B(8)MEM + B(9)DUP
+ B(10)DCO + B(11)DEM + B(12)MRTS + B(13)LUP + B(14)LVO
LMMSHO = LN(MMMSHO)
MMMSHO = SHOP MAINTENANCE MANHOURS PER OPERATING HOUR

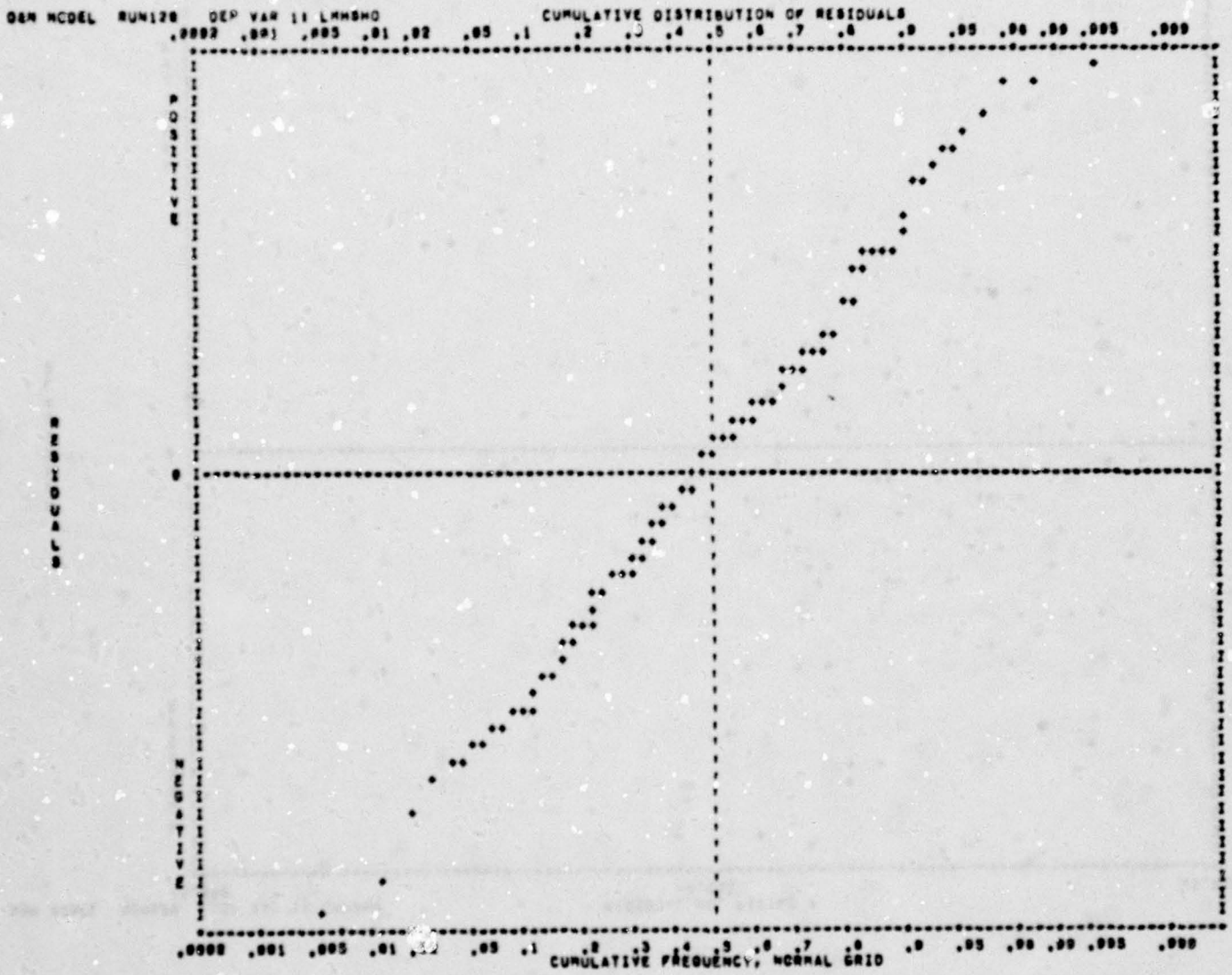
| IND,VAR(I) | NAME | COEF,B(I) | S.E. COEF. | T-VALUE | R(I)SQRD | MIN X(I) | MAX X(I) | RANGE X(I) | REL,INF,X(I) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | -1.126260 01 | | | | | | | |
| 1 | FIGCOM | 6.953190-01 | 2.210-01 | 3.1 | 0.0922 | 0.0 | 1.0000 00 | 1.0000 00 | 0.00 |
| 2 | BOMNAV | 3.882290-01 | 1.590-01 | 1.9 | 0.1687 | 0.0 | 1.0000 00 | 1.0000 00 | 0.04 |
| 3 | BOMCOM | 8.144960-01 | 1.990-01 | 4.1 | 0.1158 | 0.0 | 1.0000 00 | 1.0000 00 | 0.10 |
| 4 | DI | -1.665340-02 | 1.720-03 | 9.7 | 0.4528 | 0.0 | 1.0000 02 | 1.0000 02 | 0.28 |
| 5 | PS | -6.163890-03 | 2.580-03 | 2.4 | 0.0842 | 0.0 | 1.0000 02 | 1.0000 02 | 0.07 |
| 6 | SS | -1.785240-02 | 2.330-03 | 7.7 | 0.6449 | 0.0 | 1.0000 02 | 1.0000 02 | 0.22 |
| 7 | MCO | 3.232210-01 | 5.980-02 | 6.5 | 0.3532 | -1.2150 00 | 5.4540 00 | 6.6690 00 | 0.26 |
| 8 | MEM | -2.967350-02 | 3.090-03 | 9.7 | 0.4858 | -1.0280 01 | 8.9880 01 | 1.0000 02 | 0.36 |
| 9 | DUP | 4.899740-12 | 3.280-12 | 1.3 | 0.1433 | 3.6910 05 | 1.4360 11 | 1.4360 11 | 0.07 |
| 10 | DCO | -7.854820-02 | 2.450-02 | 2.9 | 0.2829 | 1.7840-04 | 1.8610 01 | 1.8610 01 | 0.16 |
| 11 | DEM | -2.356250-04 | 9.240-05 | 2.6 | 0.1886 | 2.7840 01 | 3.8470 03 | 3.8280 03 | 0.09 |
| 12 | MRTS | -7.235350-03 | 2.610-03 | 2.8 | 0.2788 | 0.0 | 1.0000 02 | 1.0000 02 | 0.09 |
| 13 | LUP | 6.827230-01 | 5.120-02 | 11.8 | 0.6731 | 5.0380 00 | 1.3250 01 | 8.2170 00 | 0.66 |
| 14 | LVO | 6.825580-01 | 6.310-02 | 9.8 | 0.5744 | 3.4810 00 | 9.0120 00 | 5.6110 00 | 0.41 |

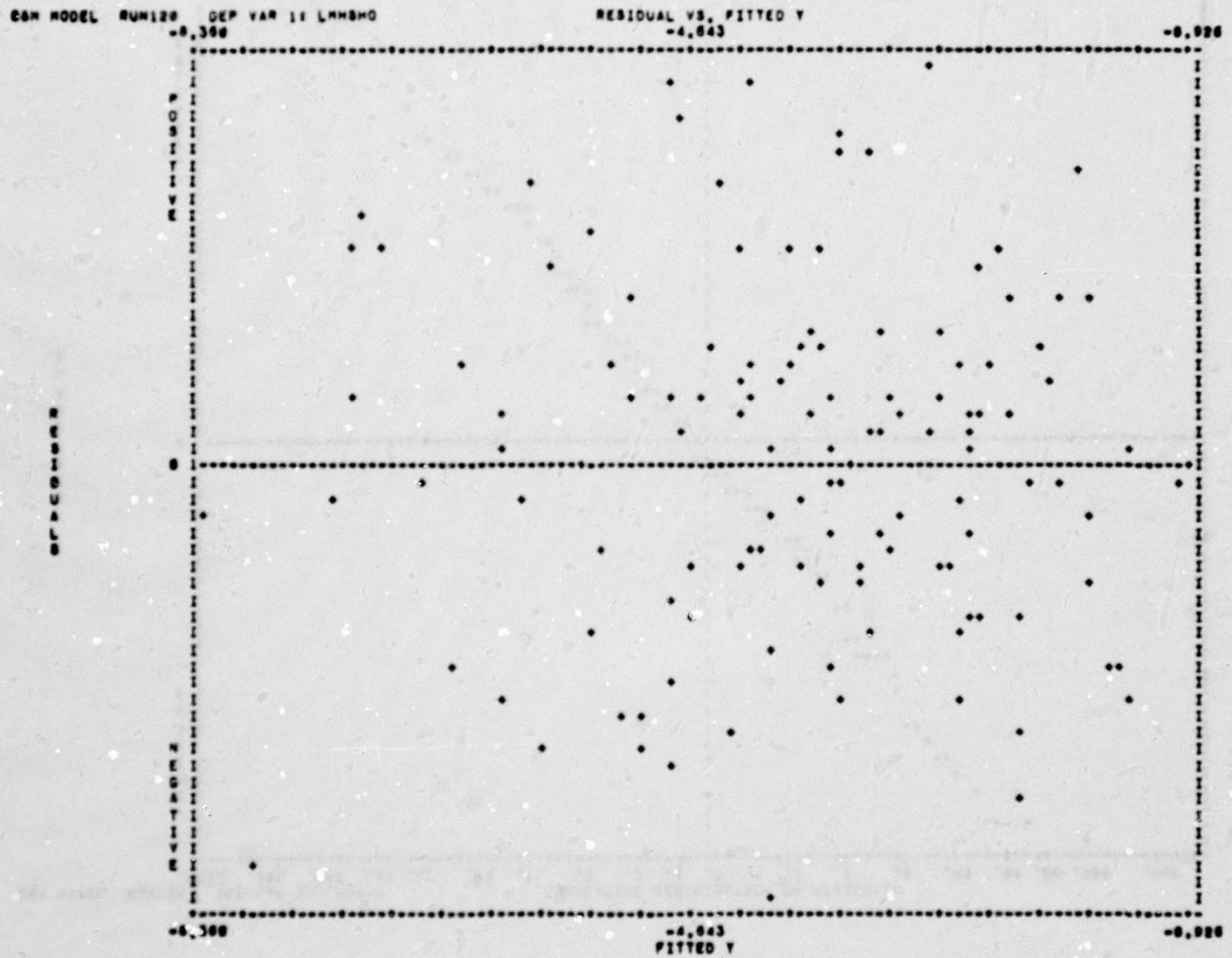
| | |
|---|---|
| NO. OF OBSERVATIONS | 130 |
| NO. OF IND. VARIABLES | 14 |
| RESIDUAL DEGREES OF FREEDOM | 115 |
| F-VALUE | 71.8 |
| RESIDUAL ROOT MEAN SQUARE | 0.54274648 |
| RESIDUAL MEAN SQUARE | 0.29457374 |
| RESIDUAL SUM OF SQUARES | 33.87597980 |
| TOTAL SUM OF SQUARES | 329.94538861 |
| MULT. CORREL. COEF. SQUARED | .8973 |

| IND,VAR(I) | NAME | COEF,B(I) | MIN X(I) | MAX X(I) | RANGE X(I) | REL,INF,X(I) |
|---|---|---|---|---|---|---|
| *** COEFFICIENTS FROM PREVIOUS FIT *** | | | | | | |
| 0 | | -1.129330 01 | | | | |
| 1 | FIGCOM | 7.697730-01 | 0.0 | 1.0000 00 | 1.0000 00 | 0.09 |
| 2 | BOMNAV | 3.891690-01 | 0.0 | 1.0000 00 | 1.0000 00 | 0.05 |
| 3 | BOMCOM | 8.432150-01 | 0.0 | 1.0000 00 | 1.0000 00 | 0.10 |
| 4 | DI | -1.678640-02 | 0.0 | 1.0000 02 | 1.0000 02 | 0.28 |
| 5 | PS | -5.897730-03 | 0.0 | 1.0000 02 | 1.0000 02 | 0.07 |
| 6 | SS | -1.856130-02 | 0.0 | 1.0000 02 | 1.0000 02 | 0.23 |
| 7 | MCO | 3.136260-01 | -1.2150 00 | 5.4540 00 | 6.6690 00 | 0.25 |
| 8 | MEM | -3.032620-02 | -1.0280 01 | 8.9880 01 | 1.0000 02 | 0.37 |
| 9 | DUP | 6.921740-12 | 3.6910 05 | 1.4360 11 | 1.4360 11 | 0.12 |
| 10 | DCO | -5.783970-02 | 1.7840-04 | 1.8610 01 | 1.8610 01 | 0.13 |
| 11 | DEM | -2.938890-04 | 2.7840 01 | 3.8470 03 | 3.8280 03 | 0.11 |
| 12 | MRTS | -6.567230-03 | 0.0 | 1.0000 02 | 1.0000 02 | 0.08 |
| 13 | LUP | 6.526160-01 | 5.0380 00 | 1.3250 01 | 8.2170 00 | 0.65 |
| 14 | LVO | 5.552680-01 | 3.4810 00 | 9.0120 00 | 5.6110 00 | 0.38 |

| | |
|---|---|
| RESIDUAL ROOT MEAN SQUARE | 0.54968553 |
| RESIDUAL MEAN SQUARE | 0.30216518 |
| RESIDUAL SUM OF SQUARES | 34.74899535 |
| TOTAL SUM OF SQUARES | 329.94538861 |
| MULT. CORREL. COEF. SQUARED | .8946 |

| ORDERED BY COMPUTER INPUT | | | | | | ORDERED BY RESIDUALS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| IDENT, | OBSV, | WSS DISTANCE | OBS, Y | FITTED Y | RESIDUAL | OBSV, | OBS, Y | FITTED Y | ORDERED RESID, | SEQ |
| 71B2@ | 1 | 1, | -4,829 | -3,688 | -@,341 | 17 | -1,574 | -2,*14 | 1,248 | 1 |
| 71L8@ | 2 | 5, | -3,357 | -2,660 | -@,697 | 209 | -3,839 | -4,215 | 1,175 | 2 |
| 71M6@ | 3 | 20, | -3,357 | -3,569 | @,212 | 13 | -3,572 | -4,741 | 1,178 | 3 |
| 7[P8@ | 4 | 2, | -3,54[ | -3,618 | @,@76 | 14 | -3,628 | -4,667 | 1,039 | 4 |
| 71P8@ | 5 | 5, | -3,979 | -4,037 | @,@58 | 96 | -2,487 | -3,483 | @,996 | 5 |
| 71710 | 6 | 10, | -6,246 | -6,893 | @,647 | 44 | -2,286 | -3,271 | @,985 | 6 |
| 724G@ | 7 | 9, | -6,598 | -5,758 | -@,839 | 221 | -2,557 | -3,547 | @,960 | 7 |
| 71F4@ | 8 | 5, | -4,193 | -4,489 | @,376 | 84 | -@,827 | -1,748 | @,921 | 8 |
| 71F8@ | 10 | 14, | -4,549 | -4,673 | @,123 | 15 | -3,572 | -4,434 | @,862 | 9 |
| 71CA@ | 11 | 4, | -5,817 | -4,958 | -@,859 | 218 | -4,988 | -5,828 | @,848 | 10 |
| 71DA@ | 12 | 3, | -3,581 | -3,352 | -@,329 | 50 | -@,262 | -7,034 | @,772 | 11 |
| 91EA@ | 13 | 5, | -3,572 | -4,741 | 1,178 | 74 | -4,646 | -5,334 | @,688 | 12 |
| 92AA@ | 14 | 6, | -3,628 | -4,467 | 1,039 | 118 | -3,217 | -3,902 | @,685 | 13 |
| 92A9@ | 15 | 8, | -3,572 | -4,434 | @,862 | 89 | -1,619 | -2,299 | @,679 | 14 |
| 63BD@ | 16 | 19, | -6,884 | -5,918 | -@,894 | 211 | -3,6@8 | -4,272 | @,672 | 15 |
| 71AE@ | 17 | 16, | -1,574 | -2,814 | 1,248 | 6 | -6,246 | -5,893 | @,647 | 16 |
| 74JA@ | 18 | 9, | -2,724 | -2,538 | -@,193 | 34 | -3,944 | -[,691 | @,647 | 17 |
| 74JC@ | 19 | 7, | -3,981 | -4,224 | @,243 | 128 | -6,521 | -7,159 | @,638 | 18 |
| 52GA1 | 20 | 2, | -4,837 | -5,043 | @,208 | 119 | -1,852 | -2,473 | @,621 | 19 |
| 7[ZA@ | 21 | 5, | -5,709 | -4,961 | -@,748 | 188 | -5,834 | -5,624 | @,589 | 20 |
| 73EG@ | 24 | 18, | -3,139 | -3,250 | @,111 | 46 | -4,514 | -5,@32 | @,518 | 21 |
| 73EP@ | 25 | 19, | -1,484 | -1,996 | @,503 | 188 | -1,743 | -2,260 | @,516 | 22 |
| 73HA@ | 26 | 18, | -1,825 | -@,998 | -@,826 | 61 | -1,173 | -1,678 | @,505 | 23 |
| 73HC@ | 27 | 18, | -2,613 | -2,147 | -@,466 | 25 | -1,484 | -1,996 | @,503 | 24 |
| 73N4@ | 28 | 25, | -2,821 | -3,210 | @,389 | 99 | -2,363 | -2,769 | @,406 | 25 |
| 73@8@ | 29 | 8, | -2,488 | -2,524 | @,@36 | 194 | -3,322 | -3,714 | @,391 | 26 |
| 735C@ | 30 | 11, | -4,135 | -3,817 | -@,318 | 28 | -2,821 | -3,210 | @,389 | 27 |
| 73K8@ | 31 | 3, | -2,889 | -3,067 | @,178 | 9 | -4,193 | -4,488 | @,378 | 28 |
| 73KE@ | 32 | 4, | -3,884 | -3,315 | -@,469 | 53 | -3,461 | -3,825 | @,365 | 29 |
| 73KF@ | 33 | 2, | -4,531 | -4,234 | -@,296 | 58 | -3,453 | -3,814 | @,362 | 30 |
| 73KK@ | 34 | 18, | -3,844 | -3,@91 | @,647 | 88 | -3,381 | -3,654 | @,353 | 31 |
| 7593@ | 35 | 8, | -5,468 | -5,469 | @,@@9 | 207 | -1,682 | -2,033 | @,351 | 32 |
| 748D@ | 36 | 5, | -3,128 | -3,242 | @,122 | 57 | -3,532 | -3,864 | @,332 | 33 |
| 748F@ | 37 | 2, | -3,573 | -3,588 | -@,@@5 | 98 | -5,985 | -6,299 | @,314 | 34 |
| 74810 | 38 | 35, | -6,687 | -6,635 | -@,@52 | 71 | -4,911 | -5,271 | @,310 | 35 |
| 78A1@ | 39 | 5, | -5,158 | -4,358 | -@,799 | 130 | -2,@84 | -2,378 | @,294 | 36 |
| 78GA@ | 40 | 7, | -4,565 | -4,787 | @,232 | 84 | -2,317 | -2,609 | @,293 | 37 |
| 74FF@ | 41 | 21, | -3,195 | -2,209 | -@,985 | 123 | -3,933 | -4,218 | @,285 | 38 |
| 74FA@ | 42 | 15, | -2,185 | -1,369 | -@,716 | 99 | -3,673 | -3,955 | @,282 | 39 |
| 74FH@ | 43 | 6, | -2,958 | -3,179 | @,221 | 72 | -1,738 | -1,983 | @,253 | 40 |
| 74FU@ | 44 | 45, | -2,286 | -3,271 | @,985 | 19 | -3,991 | -4,224 | @,243 | 41 |
| 73CG@ | 46 | 36, | -4,514 | -5,@32 | @,518 | 40 | -4,565 | -4,797 | @,232 | 42 |
| 74F[@ | 48 | 18, | -2,163 | -@,120 | -@,043 | 83 | -2,529 | -2,748 | @,231 | 43 |
| 74F_@ | 49 | 3, | -3,137 | -2,626 | -@,511 | 204 | -3,@31 | -4,162 | @,231 | 44 |
| 74FK@ | 50 | 9, | -6,262 | -7,@34 | @,772 | 117 | -6,927 | -7,156 | @,230 | 45 |
| 74F9@ | 51 | 18, | -2,417 | -2,537 | @,120 | 110 | -4,311 | -4,539 | @,228 | 46 |
| 74KA@ | 52 | 7, | -2,319 | -2,498 | @,180 | 43 | -2,958 | -3,179 | @,221 | 47 |
| 74KC@ | 53 | 7, | -3,461 | -3,825 | @,365 | 3 | -3,357 | -3,569 | @,212 | 48 |
| 74CA@ | 54 | 5, | -5,345 | -4,@30 | -1,315 | 22 | -4,837 | -4,@43 | @,208 | 49 |
| 74CR@ | 55 | 7, | -5,102 | -4,661 | -@,442 | 52 | -2,318 | -2,498 | @,180 | 50 |
| 74CC@ | 56 | 7, | -5,432 | -4,@@@ | -@,632 | 125 | -3,522 | -3,702 | @,180 | 51 |
| 74FA1 | 57 | 9, | -3,532 | -3,864 | @,332 | 31 | -2,889 | -3,067 | @,178 | 52 |
| 74ER@ | 58 | 6, | -3,453 | -3,814 | @,360 | 78 | -5,@@5 | -6,@54 | @,168 | 53 |
| 73PH@ | 59 | 4, | -3,@46 | -3,384 | -@,282 | 68 | -4,@99 | -4,265 | @,166 | 54 |
| 73P8@ | 60 | 29, | -6,930 | -6,@26 | -@,@03 | 101 | -2,1@1 | -2,258 | @,157 | 55 |
| 73PD@ | 61 | 13, | -1,173 | -1,678 | @,505 | 121 | -2,491 | -2,549 | @,148 | 56 |
| 73PF@ | 62 | 28, | -2,948 | -2,5@5 | -@,435 | 18 | -4,549 | -4,673 | @,123 | 57 |
| 73PH@ | 63 | 4, | -2,589 | -2,749 | @,231 | 35 | -3,128 | -3,242 | @,122 | 58 |
| 71NA@ | 64 | 4, | -2,317 | -2,589 | @,293 | 51 | -2,417 | -2,537 | @,120 | 59 |
| 71QU@ | 65 | 4, | -2,716 | -2,612 | -@,104 | 24 | -3,139 | -3,250 | @,111 | 60 |
| 83A4@ | 66 | 3, | -2,788 | -2,618 | -@,@@@ | 206 | -3,232 | -3,338 | @,@@9 | 61 |
| 65AA@ | 67 | 4, | -2,955 | -2,523 | -@,432 | 93 | -@,732 | -@,827 | @,@@5 | 62 |
| 63AG@ | 68 | 4, | -4,@99 | -4,265 | @,166 | 4 | -3,542 | -3,618 | @,@76 | 63 |
| 638F@ | 70 | 15, | -5,@88 | -6,@54 | @,168 | 5 | -3,@73 | -4,@37 | @,@58 | 64 |


G&M MODEL RUN128 DEP VAR IS LMMSHO
CUMULATIVE DISTRIBUTION OF RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
POSITIVE
0
NEGATIVE
RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
CUMULATIVE FREQUENCY, NORMAL GRID


C&H MODEL RUN128 DEP VAR IS LMMSMG
RESIDUAL VS. FITTED Y
-8.366
-4.643
-0.926
POSITIVE
0
NEGATIVE
RESIDUALS
-8.366
-4.643
-0.926
FITTED Y

LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

O&M MODEL RUN138 DEP VAR IS LLSCFD MIN Y = -4.5290 P5 MAX Y = 8.3420 00 RANGE Y = 8.8710 00

MULTIPLE REGRESSION ANALYSIS FOR THE "ALPOS" MODEL

LLSCFD = B(0) + B(1)FIGCOM + B(2)BOMNAV + B(3)BOMCOM + B(4)CD
+ B(5)DI + B(6)EM + B(7)XT + B(8)SS + B(9)DCC + B(10)DPS
+ B(11)DPD + B(12)DUP + B(13)NRTS + B(14)LUP + B(15)LMT
+ B(16)LPO

LLSCFD = LN(LSCFLD)

LSCFLD = FIELD LOGISTICS SUPPORT COST PER OPERATING HOUR

| IND.VAR(I) | NAME | COEF.B(I) | S.E. COEF. | T-VALUE | R(I)SQRD | MIN X(I) | MAX X(I) | RANGE X(I) | REL.INF.X(I) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | -5.629180 00 | | | | | | | |
| 1 | FIGCOM | 5.588920-01 | 1.970-01 | 2.8 | 0.1872 | 0.0 | 1.0000 00 | 1.0000 00 | 0.06 |
| 2 | BOMNAV | 7.768980-01 | 1.520-01 | 5.1 | 0.1988 | 0.0 | 1.0000 00 | 1.0000 00 | 0.11 |
| 3 | BOMCOM | 6.929950-01 | 2.020-01 | 3.4 | 0.1443 | 0.0 | 1.0000 00 | 1.0000 00 | 0.10 |
| 4 | CD | 2.312610-01 | 4.380-02 | 5.3 | 0.2858 | 4.9230-03 | 6.6740 00 | 6.6690 00 | 0.22 |
| 5 | DI | -1.143580-02 | 1.720-03 | 6.6 | 0.4885 | 0.0 | 1.0000 02 | 1.0000 02 | 0.17 |
| 6 | EM | -1.958310-02 | 3.870-03 | 6.3 | 0.5721 | 0.0 | 1.0000 02 | 1.0000 02 | 0.28 |
| 7 | XT | -6.594120-03 | 3.160-03 | 2.1 | 0.4413 | 0.0 | 1.0000 02 | 1.0000 02 | 0.10 |
| 8 | SS | -1.112880-02 | 2.180-03 | 5.1 | 0.6347 | 0.0 | 1.0000 02 | 1.0000 02 | 0.16 |
| 9 | DCC | -2.446930-06 | 1.310-08 | 1.9 | 0.1419 | 1.0000 01 | 2.8230 07 | 2.8230 07 | 0.10 |
| 10 | DPS | -3.376630-04 | 1.120-04 | 3.0 | 0.1556 | 3.8190 01 | 2.9720 03 | 2.9340 03 | 0.14 |
| 11 | DPD | 1.899680-07 | 1.310-07 | 1.4 | 0.3093 | 4.4190 02 | 4.8840 06 | 4.8840 06 | 0.11 |
| 12 | DUP | 6.251730-01 | 1.840-01 | 3.8 | 0.1844 | 1.7640-01 | 2.8160 00 | 1.0400 00 | 0.17 |
| 13 | NRTS | -8.645850-03 | 2.430-03 | 3.6 | 0.2928 | 0.0 | 1.0000 02 | 1.0000 02 | 0.13 |
| 14 | LUP | 4.732820-01 | 4.880-02 | 9.7 | 0.6792 | 5.0360 00 | 1.3250 01 | 8.2170 00 | 0.57 |
| 15 | LMT | 5.388330-01 | 7.910-02 | 6.8 | 0.7381 | 0.0 | 5.1570 00 | 5.1570 00 | 0.40 |
| 16 | LPO | 1.943630-01 | 5.880-02 | 2.1 | 0.0383 | 1.0000 00 | 0.0000 00 | 0.0000 00 | 0.10 |

| | |
|---|---|
| NO. OF OBSERVATIONS | 127 |
| NO. OF IND. VARIABLES | 16 |
| RESIDUAL DEGREES OF FREEDOM | 110 |
| F-VALUE | 54.8 |
| RESIDUAL ROOT MEAN SQUARE | 0.51852114 |
| RESIDUAL MEAN SQUARE | 0.26863183 |
| RESIDUAL SUM OF SQUARES | 29.68958154 |
| TOTAL SUM OF SQUARES | 257.35638814 |
| MULT. CORREL. COEF. SQUARED | .8846 |

| IND.VAR(I) | NAME | COEF.B(I) | MIN X(I) | MAX X(I) | RANGE X(I) | REL.INF.X(I) |
|---|---|---|---|---|---|---|
| *** COEFFICIENTS FROM PREVIOUS FIT *** | | | | | | |
| 0 | | -5.921240 P0 | | | | |
| 1 | FIGCOM | 6.984110-01 | 0.0 | 1.0000 00 | 1.0000 00 | 0.10 |
| 2 | BOMNAV | 8.443730-01 | 0.0 | 1.0000 00 | 1.0000 00 | 0.12 |
| 3 | BOMCOM | 7.346230-01 | 0.0 | 1.0000 00 | 1.0000 00 | 0.11 |
| 4 | CD | 2.213460-01 | 4.9230-03 | 6.6740 00 | 6.6690 00 | 0.21 |
| 5 | DI | -1.155770-02 | 0.0 | 1.0000 02 | 1.0000 02 | 0.17 |
| 6 | EM | -1.985420-02 | 0.0 | 1.0000 02 | 1.0000 02 | 0.29 |
| 7 | XT | -7.383850-03 | 0.0 | 1.0000 02 | 1.0000 02 | 0.11 |
| 8 | SS | -1.881250-02 | 0.0 | 1.0000 02 | 1.0000 02 | 0.16 |
| 9 | DCC | -2.276360-06 | 1.0000 01 | 2.8230 07 | 2.8230 07 | 0.09 |
| 10 | DPS | -3.189740-04 | 3.8190 01 | 2.9720 03 | 2.9340 03 | 0.13 |
| 11 | DPD | 2.153360-07 | 4.4190 02 | 4.8840 06 | 4.8840 06 | 0.13 |
| 12 | DUP | 0.479590-01 | 1.7640-01 | 2.8160 00 | 1.0400 00 | 0.17 |
| 13 | NRTS | -8.224180-03 | 0.0 | 1.0000 02 | 1.0000 02 | 0.12 |
| 14 | LUP | 4.776590-01 | 5.0360 00 | 1.3250 01 | 8.2170 00 | 0.57 |
| 15 | LMT | 5.226630-01 | 0.0 | 5.1570 00 | 5.1570 00 | 0.38 |
| 16 | LPO | 1.483780-01 | 1.0000 00 | 0.0000 00 | 0.0000 00 | 0.14 |

| | |
|---|---|
| RESIDUAL ROOT MEAN SQUARE | 0.51317730 |
| RESIDUAL MEAN SQUARE | 0.26335894 |
| RESIDUAL SUM OF SQUARES | 29.28868391 |
| TOTAL SUM OF SQUARES | 257.35638814 |
| MULT. CORREL. COEF. SQUARED | .8873 |

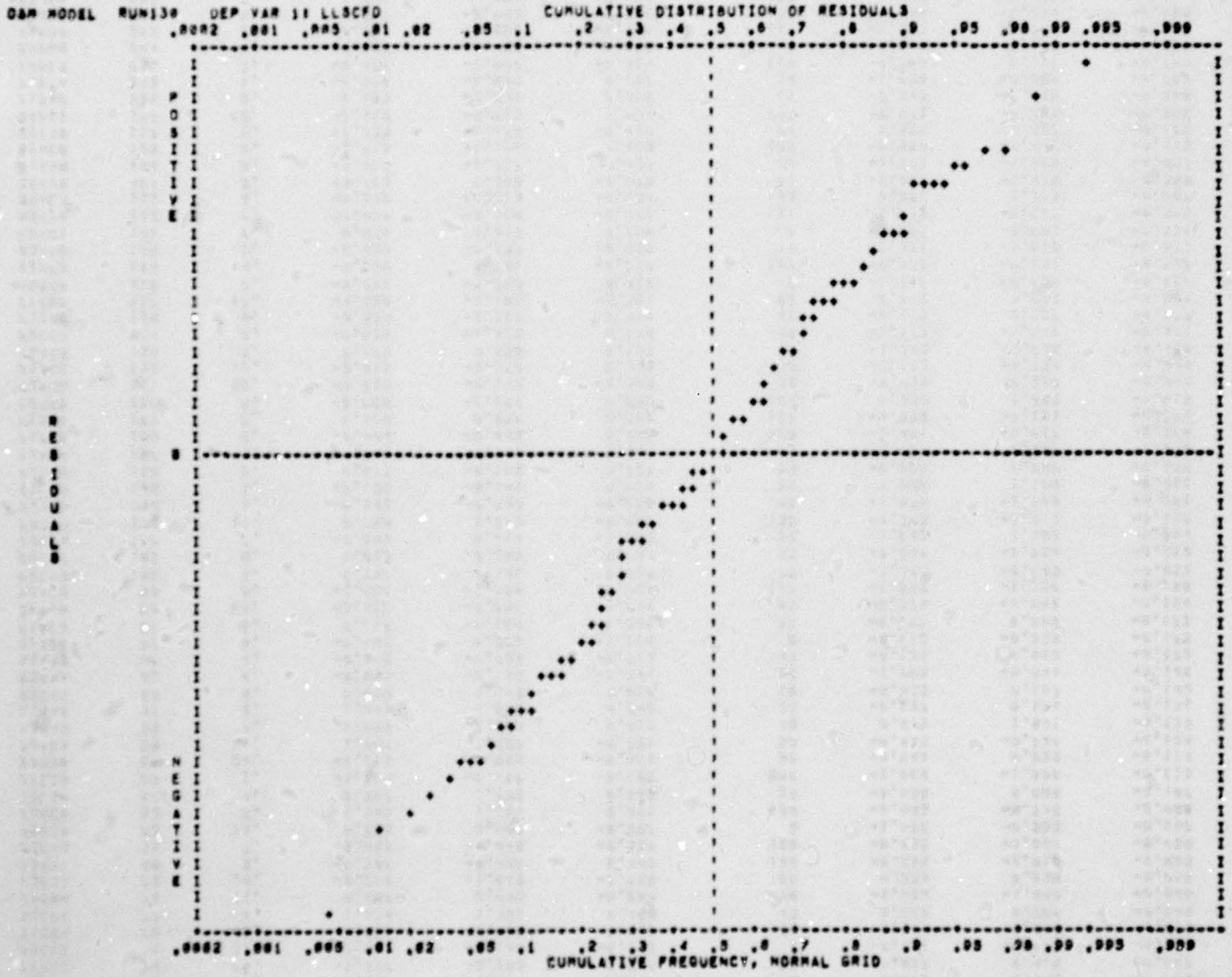
ORDERED BY COMPUTER INPUT

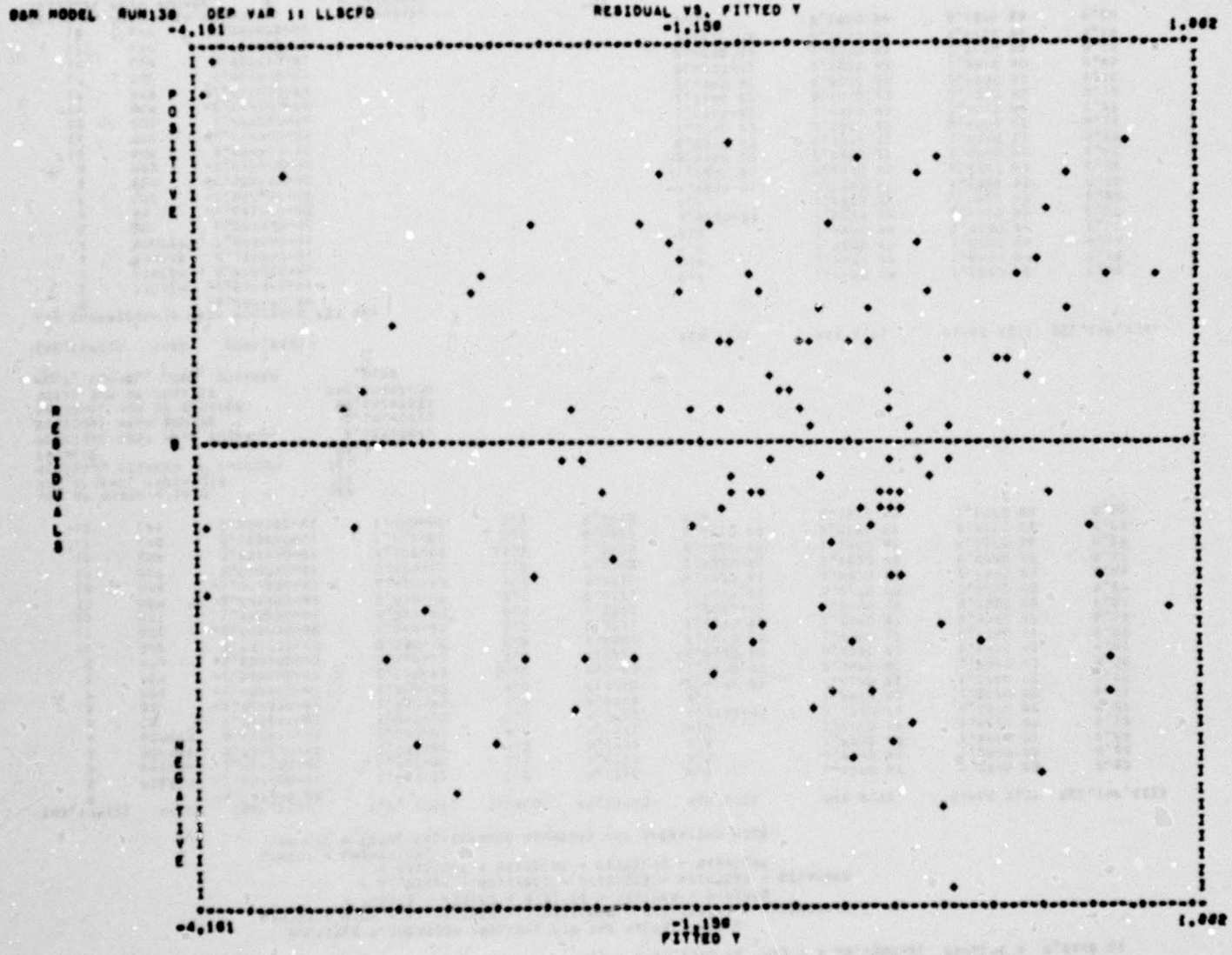
| IDENT. | OBSV. | PSB DISTANCE | OBS. Y | FITTED Y | RESIDUAL |
|---|---|---|---|---|---|
| 71B2B | 1 | 8. | -0.711 | -0.678 | -0.033 |
| 71L9B | 2 | 3. | -0.273 | -0.098 | -0.175 |
| 71PKB | 4 | 1. | -0.469 | -0.664 | 0.195 |
| 71P8B | 5 | 3. | -1.022 | -0.925 | -0.097 |
| 71712 | 6 | 10. | -2.969 | -3.115 | 0.145 |
| 724GB | 7 | 11. | -3.535 | -2.981 | -0.554 |
| 71G5B | 8 | 2. | -0.793 | 0.093 | -0.795 |
| 71FAB | 9 | 2. | -1.307 | -0.780 | -0.527 |
| 71CAB | 11 | 3. | -2.545 | -1.845 | -0.700 |
| 71DAB | 12 | 2. | -1.096 | -0.392 | -0.703 |
| 51EAB | 13 | 3. | -0.758 | -1.185 | 0.427 |
| 52AAB | 14 | 4. | -0.596 | -1.327 | 0.731 |
| 52AB9 | 15 | 5. | -0.897 | -1.278 | 0.582 |
| 76JA9 | 18 | 3. | -0.835 | 0.107 | -0.142 |
| 74JC9 | 19 | 4. | -1.092 | -0.944 | -0.148 |
| 52GA1 | 20 | 6. | -0.384 | -1.014 | 0.630 |
| 71ZA9 | 21 | 4. | -1.847 | -1.808 | -0.039 |
| 71Z8P | 22 | 8. | -3.506 | -2.583 | -0.923 |
| 71ZC9 | 23 | 15. | -3.121 | -4.110 | 0.989 |
| 73EG9 | 24 | 7. | -0.827 | 0.104 | -0.131 |
| 73EP9 | 25 | 12. | 1.479 | 1.825 | 0.645 |
| 73HA9 | 26 | 13. | 2.147 | 1.658 | 0.487 |
| 73HC9 | 27 | 7. | 1.592 | 1.268 | -0.224 |
| 53HA8 | 28 | 14. | -0.868 | 0.039 | -0.107 |
| 73DB9 | 29 | 6. | 1.721 | 0.965 | 0.538 |
| 73K9B | 31 | 1. | 0.306 | -0.321 | 0.627 |
| 73KEB | 32 | 2. | -0.812 | -0.367 | -0.446 |
| 73KF8 | 33 | 2. | -1.203 | -0.736 | -0.466 |
| 73KK8 | 34 | 5. | 0.943 | -0.347 | 0.390 |
| 75938 | 35 | 5. | -3.149 | -2.334 | -0.815 |
| 74BDP | 36 | 3. | -0.178 | -0.488 | 0.310 |
| 74BF8 | 37 | 5. | -0.429 | -0.601 | 0.172 |
| F4B18 | 38 | 18. | -2.575 | -2.916 | 0.341 |
| 78A18 | 39 | 3. | -1.949 | -1.779 | 0.830 |
| F8GA8 | 40 | 9. | -0.121 | 0.050 | -0.172 |
| 74FF8 | 41 | 14. | -0.120 | 0.357 | -0.477 |
| 74FA8 | 42 | 14. | 0.912 | 1.041 | -0.129 |
| 74FMP | 43 | 3. | 0.220 | 0.268 | -0.048 |
| 74FU8 | 44 | 25. | 0.701 | 0.445 | 0.256 |
| 73CG9 | 46 | 19. | -1.878 | -1.589 | -0.281 |
| 74FC9 | 48 | 8. | 0.935 | 0.707 | 0.228 |
| 74FJ8 | 49 | 2. | 0.243 | -0.038 | 0.282 |
| 74FK8 | 50 | 7. | -2.821 | -3.567 | 0.746 |
| 74FW8 | 51 | 18. | 1.318 | 0.842 | 0.476 |
| 74KAP | 52 | 4. | 0.518 | 0.434 | 0.078 |
| 74KC9 | 53 | 4. | -0.848 | -0.729 | -0.120 |
| 74CH9 | 55 | 5. | -1.535 | -1.892 | 0.833 |
| 74JCP | 56 | 6. | -1.934 | -1.889 | -0.045 |
| 74FA1 | 57 | 8. | 0.427 | 0.416 | 0.089 |
| 74EBP | 58 | 4. | -0.398 | -0.544 | 0.146 |
| 73PH8 | 59 | 2. | -0.298 | 0.040 | -0.338 |
| 73PE8 | 60 | 17. | 1.912 | 1.138 | 0.774 |
| 73P08 | 61 | 15. | 1.867 | 1.862 | 0.008 |
| 73PF8 | 62 | 12. | 0.999 | 0.624 | 0.525 |
| 73PM8 | 63 | 3. | -0.167 | 0.008 | -0.175 |
| 71HA8 | 64 | 3. | 0.714 | 0.302 | 0.412 |
| 71GU8 | 65 | 3. | 0.230 | 0.299 | -0.069 |
| 83AAY | 66 | 2. | 0.278 | 0.209 | 0.068 |
| 85A38 | 67 | 3. | -0.224 | 0.128 | -0.352 |
| 83AG8 | 68 | 3. | -1.512 | -1.040 | -0.471 |
| 638C8 | 69 | 7. | -0.020 | -0.881 | 0.861 |
| 638F8 | 70 | 13. | -3.172 | -2.724 | -0.449 |
| 7148E | 71 | 9. | -1.782 | -1.884 | 0.098 |

ORDERED BY RESIDUALS

| OBSV. | OBS. Y | FITTED Y | ORDERED RESID. | SEQ |
|---|---|---|---|---|
| 128 | -2.910 | -4.813 | 1.894 | 1 |
| 23 | -3.121 | -4.110 | 0.989 | 2 |
| 69 | -0.020 | -0.881 | 0.861 | 3 |
| 84 | 2.342 | 1.492 | 0.850 | 4 |
| 108 | 1.147 | 0.341 | 0.806 | 5 |
| 178 | 0.575 | -0.182 | 0.777 | 6 |
| 89 | 1.912 | 1.138 | 0.774 | 7 |
| 58 | -2.821 | -3.567 | 0.746 | 8 |
| 101 | 1.013 | 0.268 | 0.744 | 9 |
| 14 | -0.596 | -1.327 | 0.731 | 10 |
| 25 | 1.670 | 0.825 | 0.845 | 11 |
| 204 | -0.788 | -1.425 | 0.637 | 12 |
| 29 | -0.384 | -1.014 | 0.630 | 13 |
| 31 | 0.306 | -0.321 | 0.627 | 14 |
| 74 | -1.527 | -2.153 | 0.598 | 15 |
| 15 | -0.697 | -1.278 | 0.582 | 16 |
| 189 | 0.020 | 0.258 | 0.578 | 17 |
| 29 | 1.591 | 0.985 | 0.536 | 18 |
| 99 | -0.686 | -1.198 | 0.504 | 19 |
| 218 | -1.990 | -2.398 | 0.487 | 20 |
| 26 | 2.147 | 1.658 | 0.487 | 21 |
| 77 | 1.874 | 1.392 | 0.482 | 22 |
| 51 | 1.318 | 0.842 | 0.476 | 23 |
| 118 | -0.328 | -0.800 | 0.472 | 24 |
| 125 | -0.270 | -0.717 | 0.430 | 25 |
| 188 | -2.004 | -2.433 | 0.429 | 26 |
| 13 | -0.758 | -1.185 | 0.427 | 27 |
| 98 | 0.709 | 0.297 | 0.412 | 28 |
| 64 | 0.714 | 0.302 | 0.412 | 29 |
| 34 | 0.043 | -0.347 | 0.390 | 30 |
| 83 | 1.545 | 1.164 | 0.381 | 31 |
| 201 | 0.329 | -0.039 | 0.368 | 32 |
| 112 | -2.619 | -2.954 | 0.343 | 33 |
| 38 | -2.575 | -2.916 | 0.341 | 34 |
| 36 | -0.178 | -0.488 | 0.310 | 35 |
| 80 | -0.127 | -0.420 | 0.302 | 36 |
| 97 | 0.118 | -0.180 | 0.298 | 37 |
| 202 | -0.670 | -0.966 | 0.297 | 38 |
| 211 | -0.593 | -0.888 | 0.295 | 39 |
| 49 | 0.243 | -0.038 | 0.282 | 40 |
| 44 | 0.701 | 0.445 | 0.256 | 41 |
| 91 | 1.051 | 0.809 | 0.242 | 42 |
| 48 | 0.935 | 0.707 | 0.228 | 43 |
| 4 | -0.459 | -0.664 | 0.195 | 44 |
| 72 | 1.092 | 0.901 | 0.191 | 45 |
| 37 | -0.429 | -0.601 | 0.172 | 46 |
| 121 | 0.251 | 0.085 | 0.166 | 47 |
| 58 | -0.398 | -0.544 | 0.146 | 48 |
| 6 | -2.986 | -3.115 | 0.145 | 49 |
| 113 | 0.178 | 0.056 | 0.122 | 50 |
| 98 | -3.117 | -3.231 | 0.114 | 51 |
| 126 | -1.018 | -1.121 | 0.103 | 52 |
| 85 | -0.385 | -0.487 | 0.102 | 53 |
| 114 | -0.828 | -0.928 | 0.100 | 54 |
| 71 | -1.782 | -1.880 | 0.098 | 55 |
| 118 | -1.056 | -1.151 | 0.095 | 56 |
| 209 | -0.345 | -0.425 | 0.080 | 57 |
| 52 | 0.518 | 0.434 | 0.076 | 58 |
| 66 | 0.276 | 0.209 | 0.068 | 59 |
| 39 | -1.049 | -1.079 | 0.030 | 60 |
| 195 | -0.175 | -0.149 | 0.024 | 61 |
| 76 | -2.732 | -2.750 | 0.017 | 62 |
| 92 | 0.819 | 0.809 | 0.010 | 63 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 71A04 | 72 | 9. | 1.892 | 0.991 | 0.191 | 61 | 1.887 | 1.862 | 0.996 | 64 |
| 73084 | 73 | 7. | 0.696 | 1.357 | -0.661 | 78 | 0.288 | 0.892 | -0.995 | 65 |
| 71ACC | 74 | 26. | -1.527 | -2.193 | 0.598 | 57 | 0.487 | 0.416 | -0.928 | 66 |
| 73CB0 | 75 | 31. | -3.397 | -3.145 | -0.212 | 1 | -0.711 | -0.678 | -0.833 | 67 |
| 73CE4 | 76 | 22. | -2.732 | -2.758 | 0.017 | 21 | -1.847 | -1.606 | -0.838 | 68 |
| 73CF4 | 77 | 7. | 1.874 | 1.392 | 0.482 | 43 | 0.228 | 0.268 | -0.848 | 69 |
| 73D4H | 78 | 11. | 0.888 | 0.892 | -0.005 | 56 | -1.934 | -1.889 | -0.845 | 70 |
| 73E94 | 79 | 18. | -2.371 | -1.819 | -0.552 | 65 | 0.238 | 0.299 | -0.859 | 71 |
| 73E8F | 80 | 0. | -0.127 | -0.429 | 0.302 | 122 | -0.996 | -0.910 | -0.885 | 72 |
| 71CA0 | 81 | 7. | -2.885 | -1.476 | -0.598 | 128 | -0.455 | -0.367 | -0.889 | 73 |
| 73EG0 | 82 | 10. | 0.885 | 0.982 | -0.897 | 5 | -1.922 | -0.825 | -0.897 | 74 |
| 73HC0 | 83 | 0. | 1.945 | 1.184 | 0.381 | 104 | -0.843 | -0.745 | -0.898 | 75 |
| 73L40 | 84 | 4. | 2.342 | 1.492 | 0.850 | 26 | -0.868 | 0.839 | -0.197 | 76 |
| 7?EC0 | 85 | 1. | -0.365 | -0.467 | 0.102 | 208 | -1.889 | -1.696 | -0.113 | 77 |
| 77D80 | 86 | 23. | -4.274 | -4.288 | -0.194 | 96 | -0.882 | 0.822 | -0.114 | 78 |
| 7?AE4 | 89 | 11. | 1.887 | 1.329 | -0.321 | 53 | -0.848 | -0.728 | -0.128 | 79 |
| 73C40 | 90 | 4. | 0.789 | 0.297 | 0.412 | 42 | 0.912 | 1.041 | -0.129 | 80 |
| 83B44 | 91 | 6. | 1.851 | 0.889 | 0.242 | 24 | -0.827 | 0.184 | -0.131 | 81 |
| 83C44 | 92 | 6. | 0.619 | 0.889 | 0.818 | 16 | -0.835 | 0.187 | -0.142 | 82 |
| 85B44 | 93 | 4. | -0.998 | -0.149 | -0.841 | 19 | -1.992 | -0.944 | -0.148 | 83 |
| 81AA0 | 95 | 4. | -0.288 | -0.854 | -0.214 | 48 | -0.121 | 0.859 | -0.172 | 84 |
| 81AB0 | 96 | 4. | -0.992 | 0.922 | -0.114 | 2 | -0.273 | -0.998 | -0.175 | 85 |
| 81AC0 | 97 | 8. | 0.118 | -0.188 | 0.298 | 83 | -0.187 | 0.988 | -0.175 | 86 |
| 72A40 | 98 | 28. | -3.117 | -3.231 | 0.114 | 88 | -4.274 | -4.088 | -0.194 | 87 |
| 72AC0 | 99 | 6. | -0.986 | -1.198 | 0.584 | 127 | -1.355 | -1.156 | -0.198 | 88 |
| 71CA0 | 100 | 8. | 1.147 | 0.341 | 0.806 | 75 | -3.357 | -3.145 | -0.212 | 89 |
| 72EA4 | 101 | 6. | 1.913 | 0.268 | 0.744 | 95 | -0.288 | -0.854 | -0.214 | 90 |
| 72EC4 | 102 | 7. | -0.809 | 0.414 | -1.223 | 27 | 1.942 | 1.266 | -0.224 | 91 |
| 72BF0 | 103 | 11. | 0.766 | 1.379 | -0.587 | 123 | -0.549 | -0.312 | -0.236 | 92 |
| 71JA0 | 104 | 1. | -0.843 | -0.745 | -0.098 | 46 | -1.879 | -1.589 | -0.281 | 93 |
| 71LA0 | 105 | 3. | -0.125 | -0.148 | 0.024 | 89 | 1.887 | 1.329 | -0.321 | 94 |
| 72DN0 | 106 | 8. | 0.675 | -0.102 | 0.777 | 59 | -0.298 | 0.948 | -0.338 | 95 |
| 72AC0 | 107 | 1. | -0.708 | -0.161 | -0.547 | 87 | -0.294 | 0.128 | -0.352 | 96 |
| 71710 | 108 | 6. | -2.844 | -2.433 | 0.429 | 203 | -2.451 | -2.887 | -0.364 | 97 |
| 71310 | 109 | 7. | 0.829 | 0.259 | 0.578 | 117 | -4.529 | -4.161 | -0.369 | 98 |
| 72RF0 | 110 | 6. | -1.856 | -1.151 | 0.295 | 207 | 1.332 | 1.758 | -0.418 | 99 |
| 72R40 | 111 | 12. | -2.718 | -2.149 | -0.585 | 32 | -0.812 | -0.367 | -0.446 | 100 |
| 71JCE | 112 | 10. | -2.611 | -2.094 | 0.343 | 79 | -3.172 | -2.724 | -0.449 | 101 |
| 72AE0 | 113 | 0. | 0.178 | 0.058 | 0.122 | 33 | -1.283 | -0.728 | -0.558 | 102 |
| 72CC0 | 114 | 2. | -0.828 | -0.928 | 0.108 | 66 | -1.512 | -1.048 | -0.471 | 103 |
| 71Z90 | 116 | 9. | -3.583 | -2.782 | -0.809 | 41 | -0.128 | 0.357 | -0.477 | 104 |
| 71Z0P | 117 | 15. | -4.529 | -4.161 | -0.369 | 62 | 0.899 | 0.824 | -0.525 | 105 |
| 8804A | 218 | 2. | -0.328 | -0.808 | 0.472 | 9 | -1.387 | -0.789 | -0.527 | 106 |
| 83AP0 | 119 | 4. | -0.569 | 0.101 | -0.779 | 107 | -0.798 | -0.161 | -0.547 | 107 |
| 83440 | 120 | 1. | -0.455 | -0.367 | -0.089 | 79 | -2.371 | -1.819 | -0.552 | 108 |
| 83121 | 121 | 4. | 0.251 | 0.085 | 0.166 | 7 | -3.535 | -2.981 | -0.554 | 109 |
| 83444 | 122 | 7. | -0.998 | -0.919 | -0.085 | 111 | -2.718 | -2.145 | -0.565 | 110 |
| 85AL0 | 123 | 4. | -0.548 | -0.312 | -0.236 | 103 | 0.788 | 1.375 | -0.587 | 111 |
| 85AV0 | 124 | 8. | -0.812 | 0.360 | -0.973 | 81 | -2.858 | -1.476 | -0.598 | 112 |
| 81AA0 | 125 | 2. | -0.278 | -0.717 | 0.438 | 55 | -1.635 | -1.002 | -0.633 | 113 |
| 81AE0 | 126 | 4. | -1.918 | -1.121 | 0.183 | 208 | -0.697 | -0.242 | -0.645 | 114 |
| 82AA0 | 127 | 2. | -1.355 | -1.156 | -0.198 | 73 | 0.698 | 1.357 | -0.661 | 115 |
| 84211 | 128 | 12. | -2.219 | -4.913 | 1.894 | 205 | -0.971 | -0.382 | -0.689 | 116 |
| 71940 | 201 | 2. | 0.329 | -0.839 | 0.368 | 11 | -2.545 | -1.848 | -0.708 | 117 |
| 74BC0 | 202 | 1. | -0.878 | -2.988 | 0.297 | 12 | -1.498 | -0.392 | -0.783 | 118 |
| 74BE0 | 203 | 3. | -2.451 | -2.787 | -0.364 | 119 | -0.589 | 0.181 | -0.778 | 119 |
| 74BG0 | 204 | 1. | -0.788 | -1.425 | 0.637 | 8 | -0.783 | 0.793 | -0.795 | 120 |
| 74BH0 | 205 | 2. | -0.971 | -0.382 | -0.669 | 114 | -3.583 | -2.782 | -0.808 | 121 |
| 85BA0 | 206 | 2. | -0.887 | -0.842 | -0.645 | 35 | -3.149 | -2.334 | -0.815 | 122 |
| 73JC0 | 207 | 7. | 1.332 | 1.758 | -0.418 | 93 | -0.998 | -0.148 | -0.841 | 123 |
| 73JF0 | 208 | 0. | -1.889 | -1.696 | -0.113 | 82 | 0.885 | 1.982 | -0.897 | 124 |
| 71CA0 | 209 | 4. | -0.345 | -0.425 | 0.079 | 22 | -3.586 | -2.583 | -0.923 | 125 |
| 71GA0 | 210 | 0. | -1.989 | -2.398 | 0.407 | 184 | -0.812 | 0.368 | -0.978 | 126 |
| 89AA0 | 811 | 8. | -0.593 | -0.888 | 0.295 | 182 | -0.899 | 0.414 | -1.823 | 127 |


D&R MODEL RUN130 DEP VAR IS LLSCFD
CUMULATIVE DISTRIBUTION OF RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
POSITIVE
RESIDUALS
0
NEGATIVE
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
CUMULATIVE FREQUENCY, NORMAL GRID


BBR MODEL RUN138 DEP VAR 1: LLSCFD
RESIDUAL VS. FITTED Y
-4.101
-1.198
1.002
POSITIVE
0
NEGATIVE
RESIDUALS
-4.101
-1.198
1.002
FITTED Y

LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

B&R MODEL RUN148 DEP VAR IS LMHTOT MIN Y = -7.8980 00 MAX Y = -8.4590-01 RANGE Y = 8.5440 00

MULTIPLE REGRESSION ANALYSIS FOR THE "ALPOS" MODEL

LMHTOT = B(0) + B(1)FIGSEN + B(2)FIGCOM + B(3)BOMNAV + B(4)BOMCOM
+ B(5)CO + B(6)SS + B(7)MOI + B(C)MEM + B(9)MPS
+ B(10)DUP + B(11)OCC + B(12)ODI + B(13)DEM + B(14)DPS
+ B(15)DUP + B(16)LUP + B(17)LVO + B(18)LWT

LMHTOT = LN(MMHTOT)

MMHTOT = TOTAL MAINTENANCE MANHOURS PER OPERATING HOUR

| IND.VAR(I) | NAME | COEF.B(I) | S.E. COEF. | T-VALUE | B(I)SQRD | MIN X(I) | MAX X(I) | RANGE X(I) | REL.INF.X(I) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | -9.535480 00 | | | | | | | |
| 1 | FIGSEN | -1.894430-01 | 1.220-01 | 1.6 | 0.3217 | 0.0 | 1.0000 00 | 1.0000 00 | 0.03 |
| 2 | FIGCOM | 5.3747D0-01 | 1.720-01 | 3.1 | 0.8703 | 0.0 | 1.0000 00 | 1.0000 00 | 0.06 |
| 3 | BOMNAV | 5.738710-01 | 1.280-01 | 4.5 | 2.2849 | 0.0 | 1.0000 00 | 1.0000 00 | 0.09 |
| 4 | BOMCOM | 6.611210-01 | 1.600-01 | 4.1 | 0.1571 | 0.0 | 1.0000 00 | 1.0000 00 | 0.10 |
| 5 | CO | 2.825190-01 | 3.960-02 | 8.8 | 0.3632 | 4.9230-03 | 8.6740 00 | 8.6690 00 | 0.27 |
| 6 | SS | -1.515330-02 | 1.920-03 | 7.9 | 0.8779 | 0.0 | 1.0000 02 | 1.0000 02 | 0.23 |
| 7 | MOI | -1.259230-02 | 1.350-03 | 9.3 | 0.4499 | -2.4980 01 | 7.5100 01 | 1.0000 02 | 0.19 |
| 8 | MEM | -2.388540-02 | 2.320-03 | 10.2 | 0.5885 | -1.0200 01 | 8.9400 01 | 1.0000 02 | 0.36 |
| 9 | MPS | -3.564480-03 | 2.840-03 | 1.8 | 0.1235 | -5.8180 00 | 9.4990 01 | 1.0000 02 | 0.05 |
| 10 | DUP | 2.131730-12 | 2.550-12 | 0.8 | 0.1699 | 3.6910 05 | 1.4360 11 | 1.4360 11 | 0.05 |
| 11 | OCC | -3.728840-08 | 1.160-08 | 3.2 | 0.2751 | 7.2980 02 | 2.8560 07 | 2.8560 07 | 0.10 |
| 12 | ODI | 1.382880-04 | 6.780-05 | 2.4 | 0.2229 | 1.6800-01 | 3.2910 03 | 3.2910 03 | 0.07 |
| 13 | DEM | -2.245980-04 | 6.830-05 | 3.8 | 0.4771 | 2.7840 01 | 3.0470 03 | 3.0240 03 | 0.09 |
| 14 | DPS | -1.974220-04 | 1.490-04 | 1.8 | 0.2689 | 9.4280 01 | 2.8630 03 | 2.7880 03 | 0.08 |
| 15 | DUP | 2.568730-01 | 1.320-01 | 1.9 | 0.1828 | 2.8250-01 | 2.1830 00 | 1.9000 00 | 0.07 |
| 16 | LUP | 5.551880-01 | 4.170-02 | 13.3 | 0.6974 | 5.8380 00 | 1.3250 01 | 8.2170 00 | 0.70 |
| 17 | LVO | 2.183910-01 | 1.910-01 | 2.2 | 0.0981 | 3.4810 00 | 9.6120 00 | 5.6110 00 | 0.19 |
| 18 | LWT | 3.284560-01 | 1.040-01 | 3.1 | 0.0915 | 0.0 | 5.1570 00 | 5.1570 00 | 0.00 |

| | |
|---|---|
| NO. OF OBSERVATIONS | 130 |
| NO. OF IND. VARIABLES | 19 |
| RESIDUAL DEGREES OF FREEDOM | 111 |
| F-VALUE | 78.3 |
| RESIDUAL ROOT MEAN SQUARE | 0.42593686 |
| RESIDUAL MEAN SQUARE | 0.18142221 |
| RESIDUAL SUM OF SQUARES | 20.13788527 |
| TOTAL SUM OF SQUARES | 249.59267129 |
| MULT. CORREL. COEF. SQUARED | .9193 |

| IND.VAR(I) | NAME | COEF.B(I) | MIN X(I) | MAX X(I) | RANGE X(I) | REL.INF.X(I) |
|---|---|---|---|---|---|---|
| *** COEFFICIENTS FROM PREVIOUS FIT *** | | | | | | |
| 0 | | -9.995570 00 | | | | |
| 1 | FIGSEN | -1.827490-01 | 0.0 | 1.0000 00 | 1.0000 00 | 0.03 |
| 2 | FIGCOM | 5.787930-01 | 0.0 | 1.0000 00 | 1.0000 00 | 0.09 |
| 3 | BOMNAV | 6.387720-01 | 0.0 | 1.0000 00 | 1.0000 00 | 0.10 |
| 4 | BOMCOM | 7.095640-01 | 0.0 | 1.0000 00 | 1.0000 00 | 0.11 |
| 5 | CO | 2.897540-01 | 4.9230-03 | 8.6740 00 | 8.6690 00 | 0.27 |
| 6 | SS | -1.581720-02 | 0.0 | 1.0000 02 | 1.0000 02 | 0.24 |
| 7 | MOI | -1.267150-02 | -2.4980 01 | 7.5100 01 | 1.0000 02 | 0.19 |
| 8 | MEM | -2.386750-02 | -1.0200 01 | 8.9400 01 | 1.0000 02 | 0.38 |
| 9 | MPS | -3.627130-03 | -5.8180 00 | 9.4990 01 | 1.0000 02 | 0.06 |
| 10 | DUP | 5.888710-12 | 3.6910 05 | 1.4360 11 | 1.4360 11 | 0.12 |
| 11 | OCC | -3.138990-08 | 7.2980 02 | 2.8560 07 | 2.8560 07 | 0.14 |
| 12 | ODI | 1.489280-04 | 1.6800-01 | 3.2910 03 | 3.2910 03 | 0.07 |
| 13 | DEM | -2.144390-04 | 2.7840 01 | 3.0470 03 | 3.0240 03 | 0.10 |
| 14 | DPS | -1.928630-04 | 9.4280 01 | 2.8630 03 | 2.7880 03 | 0.08 |
| 15 | DUP | 3.281940-01 | 2.8250-01 | 2.1830 00 | 1.9000 00 | 0.08 |
| 16 | LUP | 5.857720-01 | 5.8380 00 | 1.3250 01 | 8.2170 00 | 0.75 |
| 17 | LVO | 2.282820-01 | 3.4810 00 | 9.6120 00 | 5.6110 00 | 0.19 |
| 18 | LWT | 2.998870-01 | 0.0 | 5.1570 00 | 5.1570 00 | 0.04 |

| | |
|---|---|
| RESIDUAL ROOT MEAN SQUARE | 0.43352282 |
| RESIDUAL MEAN SQUARE | 0.18794187 |
| RESIDUAL SUM OF SQUARES | 20.86154708 |
| TOTAL SUM OF SQUARES | 249.59267129 |
| MULT. CORREL. COEF. SQUARED | .9183 |

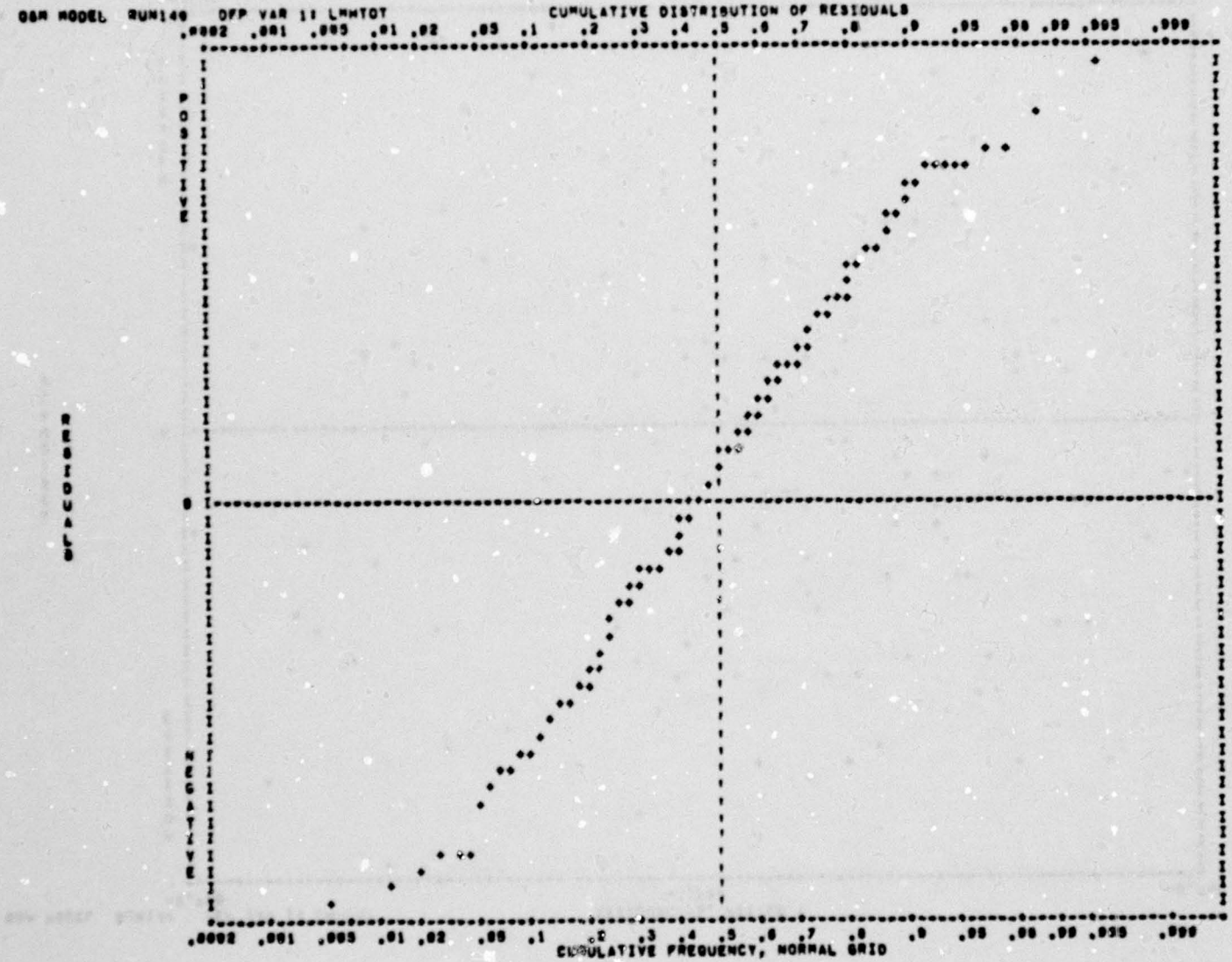
ORDERED BY CUMULATIVE INPUT

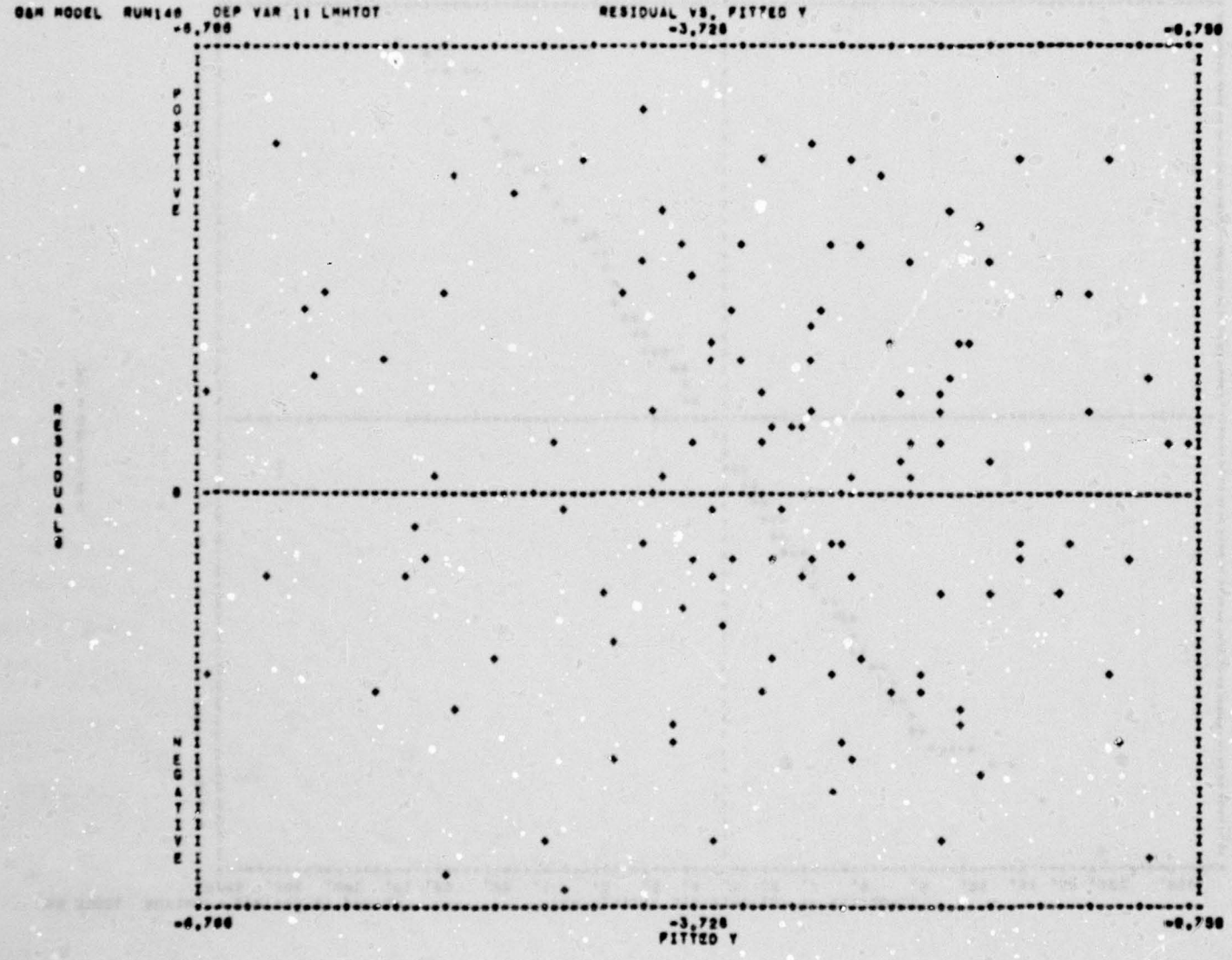
| IDENT. | OBSV. | NSS DISTANCE | OBS. Y | FITTED Y | RESIDUAL |
|---|---|---|---|---|---|
| 71020 | 1 | 1. | -3,305 | -3,221 | -0,183 |
| 71L40 | 2 | 6. | -2,971 | -2,231 | -0,748 |
| 71H80 | 3 | 21. | -2,855 | -3,007 | 0,152 |
| 71PK0 | 4 | 2. | -3,099 | -3,124 | 0,115 |
| 71P80 | 5 | 7. | -3,637 | -3,578 | -0,059 |
| 71710 | 6 | 17. | -6,681 | -6,842 | 0,382 |
| 724G0 | 7 | 11. | -6,923 | -5,681 | -0,422 |
| 71FA0 | 8 | 4. | -3,875 | -3,888 | 0,012 |
| 71F80 | 10 | 14. | -3,992 | -3,976 | -0,016 |
| 71CA0 | 11 | 4. | -5,328 | -4,663 | -0,657 |
| 71DA0 | 12 | 3. | -3,344 | -2,779 | -0,565 |
| 51EA0 | 13 | 5. | -3,292 | -3,089 | 0,787 |
| 72AA0 | 14 | 8. | -3,314 | -3,872 | 0,557 |
| 72A80 | 15 | 9. | -3,322 | -3,615 | 0,293 |
| 838D9 | 16 | 9. | -5,497 | -5,328 | -0,171 |
| 71AE0 | 17 | 28. | -1,425 | -1,981 | 0,556 |
| 74JA0 | 18 | 6. | -2,432 | -2,288 | -0,228 |
| 74JC0 | 19 | 8. | -3,649 | -3,594 | -0,145 |
| 52GA1 | 20 | 3. | -3,718 | -4,188 | 0,678 |
| 71IA0 | 21 | 5. | -4,368 | -3,847 | -0,521 |
| 73EG0 | 24 | 12. | -2,218 | -2,529 | 0,313 |
| 73EP0 | 25 | 23. | -1,978 | -1,743 | 0,673 |
| 73HA0 | 26 | 23. | -0,793 | -0,877 | 0,884 |
| 73HC0 | 27 | 14. | -1,879 | -1,766 | -0,113 |
| 73NA0 | 28 | 28. | -2,392 | -2,492 | 0,198 |
| 73080 | 29 | 11. | -2,137 | -1,988 | -0,229 |
| 73SC0 | 30 | 12. | -3,217 | -3,174 | -0,043 |
| 73K80 | 31 | 2. | -2,399 | -2,918 | 0,512 |
| 73KE0 | 32 | 4. | -3,494 | -2,858 | -0,639 |
| 73KF0 | 33 | 3. | -3,988 | -3,735 | -0,187 |
| 73KK0 | 34 | 12. | -2,728 | -2,987 | 0,267 |
| 79938 | 35 | 7. | -4,783 | -5,178 | 0,395 |
| 74800 | 36 | 5. | -2,739 | -2,888 | 0,258 |
| 748F0 | 37 | 3. | -3,091 | -2,898 | -0,193 |
| 74810 | 38 | 35. | -5,473 | -5,372 | -0,101 |
| 76K10 | 39 | 6. | -4,426 | -4,218 | -0,287 |
| 76GA0 | 40 | 9. | -3,618 | -3,243 | -0,375 |
| 74FF0 | 41 | 26. | -2,760 | -2,375 | -0,385 |
| 74FA0 | 42 | 18. | -1,775 | -1,010 | -0,765 |
| 74FH0 | 43 | 6. | -2,553 | -2,915 | 0,362 |
| 74FU0 | 44 | 40. | -1,947 | -2,685 | 0,658 |
| 73CG0 | 45 | 36. | -4,897 | -3,991 | -0,107 |
| 74FC0 | 48 | 12. | -1,925 | -1,982 | 0,057 |
| 74FJ0 | 49 | 3. | -2,929 | -2,513 | -0,416 |
| 74FK0 | 50 | 9. | -5,499 | -6,217 | 0,718 |
| 74F00 | 51 | 20. | -2,919 | -2,221 | 0,201 |
| 74KA0 | 52 | 7. | -2,881 | -2,225 | 0,143 |
| 74KC0 | 53 | 7. | -3,184 | -3,437 | 0,253 |
| 74CA0 | 54 | 5. | -4,335 | -3,583 | -0,752 |
| 74C80 | 55 | 7. | -4,338 | -3,834 | -0,498 |
| 74CC0 | 56 | 8. | -4,558 | -4,582 | -0,047 |
| 74FA1 | 57 | 9. | -2,859 | -2,848 | -0,010 |
| 74E80 | 58 | 7. | -3,145 | -3,407 | 0,261 |
| 73PH0 | 59 | 4. | -3,957 | -3,768 | -0,190 |
| 73080 | 60 | 36. | -0,657 | -0,758 | 0,893 |
| 73PD0 | 61 | 18. | -0,918 | -1,322 | 0,413 |
| 73PF0 | 62 | 24. | -2,883 | -2,186 | -0,697 |
| 73PH0 | 63 | 5. | -2,880 | -2,784 | 0,875 |
| 71NA0 | 64 | 6. | -1,943 | -2,401 | 0,458 |
| 710U0 | 65 | 4. | -2,358 | -2,481 | 0,033 |
| 63AA0 | 66 | 3. | -2,416 | -2,391 | -0,025 |
| 65A40 | 67 | 4. | -2,752 | -2,321 | -0,431 |
| 63AG0 | 68 | 4. | -3,792 | -3,954 | 0,163 |
| 638F0 | 70 | 14. | -5,631 | -5,434 | -0,197 |

ORDERED BY RESIDUALS

| OBSV. | OBS. Y | FITTED Y | ORDERED RESID. | SEQ |
|---|---|---|---|---|
| 210 | -4,565 | -5,468 | 0,903 | 1 |
| 13 | -3,282 | -3,989 | 0,707 | 2 |
| 201 | -2,289 | -3,013 | 0,724 | 3 |
| 50 | -5,499 | -6,217 | 0,718 | 4 |
| 84 | -0,548 | -1,238 | 0,684 | 5 |
| 209 | -2,618 | -3,389 | 0,882 | 6 |
| 29 | -3,718 | -4,388 | 0,670 | 7 |
| 83 | -2,989 | -2,764 | 0,675 | 8 |
| 25 | -1,978 | -1,743 | 0,673 | 9 |
| 44 | -1,947 | -2,685 | 0,658 | 10 |
| 198 | -4,585 | -5,168 | 0,655 | 11 |
| 74 | -4,187 | -4,792 | 0,585 | 12 |
| 119 | -1,691 | -2,178 | 0,569 | 13 |
| 14 | -3,314 | -3,872 | 0,557 | 14 |
| 17 | -1,425 | -1,981 | 0,556 | 15 |
| 118 | -2,911 | -3,428 | 0,518 | 16 |
| 31 | -2,399 | -2,918 | 0,512 | 17 |
| 98 | -2,179 | -2,696 | 0,507 | 18 |
| 211 | -3,252 | -3,749 | 0,497 | 19 |
| 204 | -3,592 | -3,988 | 0,486 | 20 |
| 84 | -1,943 | -2,401 | 0,458 | 21 |
| 188 | -1,498 | -1,951 | 0,453 | 22 |
| 202 | -3,275 | -3,721 | 0,446 | 23 |
| 61 | -0,910 | -1,322 | 0,413 | 24 |
| 35 | -4,783 | -5,178 | 0,395 | 25 |
| 118 | -3,722 | -4,114 | 0,392 | 26 |
| 128 | -5,520 | -5,907 | 0,387 | 27 |
| 83 | -1,132 | -1,515 | 0,383 | 28 |
| 8 | -5,961 | -6,342 | 0,382 | 29 |
| 194 | -3,897 | -3,493 | 0,387 | 30 |
| 43 | -2,553 | -2,915 | 0,362 | 31 |
| 89 | -2,853 | -3,201 | 0,347 | 32 |
| 24 | -2,218 | -2,529 | 0,313 | 33 |
| 181 | -1,787 | -2,084 | 0,297 | 34 |
| 15 | -3,322 | -3,615 | 0,293 | 35 |
| 199 | -1,765 | -2,053 | 0,289 | 36 |
| 203 | -5,255 | -5,532 | 0,277 | 37 |
| 34 | -2,720 | -2,987 | 0,267 | 38 |
| 58 | -3,145 | -3,407 | 0,261 | 39 |
| 53 | -3,184 | -3,437 | 0,253 | 40 |
| 38 | -2,739 | -2,998 | 0,258 | 41 |
| 99 | -3,338 | -3,587 | 0,250 | 42 |
| 77 | -0,785 | -1,011 | 0,228 | 43 |
| 98 | -1,940 | -2,155 | 0,215 | 44 |
| 98 | -5,777 | -5,998 | 0,213 | 45 |
| 51 | -2,919 | -2,221 | 0,201 | 46 |
| 125 | -3,088 | -3,288 | 0,191 | 47 |
| 28 | -2,302 | -2,492 | 0,198 | 48 |
| 88 | -6,526 | -6,706 | 0,180 | 49 |
| 68 | -3,792 | -3,954 | 0,163 | 50 |
| 207 | -1,185 | -1,348 | 0,158 | 51 |
| 3 | -2,855 | -3,007 | 0,152 | 52 |
| 52 | -2,881 | -2,225 | 0,143 | 53 |
| 85 | -3,371 | -3,218 | 0,139 | 54 |
| 4 | -3,989 | -3,124 | 0,115 | 55 |
| 208 | -2,968 | -3,078 | 0,108 | 56 |
| 121 | -2,116 | -2,219 | 0,103 | 57 |
| 126 | -3,848 | -3,733 | 0,093 | 58 |
| 68 | -0,657 | -0,758 | 0,893 | 59 |
| 113 | -2,293 | -2,381 | 0,088 | 60 |
| 28 | -0,793 | -0,877 | 0,884 | 61 |
| 71 | -4,488 | -4,589 | 0,881 | 62 |
| 123 | -3,217 | -3,298 | 0,079 | 63 |
| 95 | -2,428 | -2,485 | 0,065 | 64 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 71A8E | 71 | 14. | -4.488 | -4.569 | 0.081 | 48 | -1.925 | -1.982 | 0.057 | 65 |
| 71ADA | 72 | 10. | -1.556 | -1.445 | -0.111 | 65 | -2.388 | -2.421 | 0.033 | 66 |
| 73D8A | 73 | 18. | -1.737 | -1.190 | -0.547 | 97 | -2.717 | -2.741 | 0.023 | 67 |
| 71ACC | 74 | 58. | -4.187 | -4.792 | 0.605 | 9 | -3.875 | -3.886 | 0.012 | 68 |
| 73C8Q | 75 | 53. | -5.613 | -5.150 | -0.463 | 76 | -5.245 | -5.253 | 0.007 | 69 |
| 73CEN | 76 | 48. | -5.245 | -5.253 | 0.007 | 79 | -4.687 | -4.676 | -0.011 | 70 |
| 73CFK | 77 | 7. | -2.785 | -1.811 | 0.226 | 10 | -3.992 | -3.976 | -0.015 | 71 |
| 73DAM | 78 | 20. | -2.364 | -2.182 | -0.462 | 91 | -1.565 | -1.548 | -0.017 | 72 |
| 73E8A | 79 | 14. | -4.687 | -4.676 | -0.011 | 57 | -2.859 | -2.848 | -0.010 | 73 |
| 73E9F | 80 | 10. | -2.853 | -3.881 | 0.347 | 66 | -2.416 | -2.391 | -0.025 | 74 |
| 71CA8 | 81 | 10. | -4.756 | -4.183 | -0.571 | 38 | -3.217 | -3.174 | -0.043 | 75 |
| 73EG8 | 82 | 15. | -1.949 | -1.779 | -0.170 | 56 | -4.558 | -4.592 | -0.047 | 76 |
| 73MC8 | 83 | 15. | -1.132 | -1.515 | 0.383 | 5 | -3.637 | -3.578 | -0.059 | 77 |
| 73LAR | 84 | 8. | -2.548 | -1.238 | 0.684 | 38 | -5.473 | -5.372 | -0.101 | 78 |
| 77EC8 | 85 | 1. | -3.471 | -3.218 | 0.139 | 37 | -3.881 | -2.898 | -0.183 | 79 |
| 77EE8 | 86 | 48. | -7.298 | -6.786 | -0.383 | 46 | -4.897 | -3.991 | -0.187 | 80 |
| 77DB8 | 87 | 48. | -6.526 | -5.786 | 0.188 | 72 | -1.556 | -1.445 | -0.111 | 81 |
| 78AEA | 89 | 8. | -1.231 | -1.090 | -0.141 | 27 | -1.879 | -1.766 | -0.113 | 82 |
| 73KA8 | 90 | 7. | -1.948 | -2.155 | 0.215 | 185 | -2.949 | -2.834 | -0.115 | 83 |
| 63B4A | 91 | 18. | -1.565 | -1.548 | -0.017 | 89 | -1.231 | -1.090 | -0.141 | 84 |
| 63CAA | 92 | 10. | -1.782 | -1.548 | -0.234 | 128 | -3.118 | -2.975 | -0.142 | 85 |
| 69AAA | 93 | 8. | -2.952 | -2.758 | -0.194 | 19 | -3.849 | -3.524 | -0.325 | 86 |
| 6188A | 94 | 5. | -2.596 | -1.984 | -0.613 | 1 | -3.385 | -3.221 | -0.163 | 87 |
| 61AA8 | 95 | 6. | -2.428 | -2.485 | 0.057 | 33 | -3.888 | -3.733 | -0.157 | 88 |
| 61A98 | 96 | 8. | -2.179 | -2.686 | 0.507 | 82 | -1.649 | -1.779 | -0.170 | 89 |
| 61ACB | 97 | 8. | -2.717 | -2.741 | 0.023 | 16 | -5.497 | -5.326 | -0.171 | 90 |
| 72AAP | 98 | 28. | -5.777 | -5.998 | 0.213 | 117 | -6.471 | -6.291 | -0.180 | 91 |
| 72ACB | 99 | 6. | -3.338 | -3.567 | 0.259 | 59 | -3.257 | -3.268 | -0.190 | 92 |
| 71CAB | 100 | 13. | -1.498 | -1.951 | 0.453 | 93 | -2.952 | -2.758 | -0.194 | 93 |
| 72EAA | 101 | 19. | -1.787 | -2.084 | 0.297 | 79 | -5.631 | -5.434 | -0.197 | 94 |
| 728PD | 103 | 28. | -1.579 | -1.197 | -0.382 | 285 | -3.793 | -3.589 | -0.203 | 95 |
| 71JA8 | 104 | 3. | -3.897 | -3.463 | 0.367 | 39 | -4.426 | -4.218 | -0.207 | 96 |
| 71LA8 | 105 | 5. | -2.948 | -2.834 | -0.113 | 18 | -2.432 | -2.208 | -0.226 | 97 |
| 720N8 | 106 | 13. | -3.392 | -2.844 | -0.548 | 29 | -2.137 | -1.908 | -0.229 | 98 |
| 72ACB | 107 | 2. | -3.348 | -2.984 | -0.395 | 92 | -1.782 | -1.548 | -0.234 | 99 |
| 71718 | 108 | 12. | -4.585 | -5.168 | 0.656 | 127 | -4.839 | -3.794 | -0.248 | 100 |
| 71310 | 109 | 14. | -1.745 | -2.053 | 0.289 | 114 | -3.801 | -3.525 | -0.276 | 101 |
| 72MF8 | 110 | 13. | -3.722 | -4.114 | 0.392 | 228 | -4.598 | -4.168 | -0.339 | 102 |
| 72M88 | 111 | 25. | -5.325 | -4.576 | -0.749 | 112 | -5.265 | -4.918 | -0.347 | 103 |
| 71JCE | 112 | 12. | -5.265 | -4.918 | -0.347 | 124 | -3.274 | -2.712 | -0.362 | 104 |
| 72AE8 | 113 | 14. | -2.293 | -2.381 | 0.088 | 48 | -3.618 | -3.243 | -0.375 | 105 |
| 72CC8 | 114 | 4. | -3.871 | -3.595 | -0.276 | 183 | -1.579 | -1.197 | -0.382 | 106 |
| 71Z98 | 115 | 15. | -5.972 | -5.288 | -0.882 | 86 | -7.298 | -6.786 | -0.383 | 107 |
| 71208 | 117 | 84. | -6.471 | -6.291 | -0.180 | 41 | -2.748 | -2.375 | -0.385 | 108 |
| 659AA | 118 | 4. | -2.911 | -3.428 | 0.518 | 187 | -3.388 | -2.984 | -0.396 | 109 |
| 634F8 | 119 | 8. | -1.681 | -2.178 | 0.589 | 49 | -2.929 | -2.513 | -0.416 | 110 |
| 634A8 | 120 | 2. | -3.118 | -2.975 | -0.142 | 7 | -5.923 | -5.501 | -0.422 | 111 |
| 63121 | 121 | 8. | -2.116 | -2.219 | 0.103 | 67 | -2.752 | -2.321 | -0.431 | 112 |
| 63AAA | 122 | 14. | -3.744 | -3.304 | -0.440 | 122 | -3.744 | -3.304 | -0.440 | 113 |
| 554L8 | 123 | 7. | -3.217 | -3.296 | 0.079 | 78 | -2.584 | -2.122 | -0.462 | 114 |
| 554V8 | 124 | 13. | -3.874 | -2.712 | -0.362 | 75 | -5.613 | -5.150 | -0.463 | 115 |
| 61AA8 | 125 | 3. | -3.344 | -3.288 | 0.191 | 55 | -4.338 | -3.834 | -0.498 | 116 |
| 614EP | 126 | 8. | -3.848 | -3.733 | 0.093 | 82 | -2.685 | -2.188 | -0.497 | 117 |
| 62AA8 | 127 | 5. | -4.939 | -3.794 | -0.246 | 21 | -4.388 | -3.847 | -0.521 | 118 |
| 64211 | 128 | 17. | -5.528 | -5.987 | 0.387 | 73 | -1.737 | -1.190 | -0.547 | 119 |
| 715A8 | 201 | 2. | -2.289 | -3.013 | 0.724 | 186 | -3.392 | -2.844 | -0.548 | 120 |
| 748C8 | 202 | 1. | -3.275 | -3.721 | 0.446 | 12 | -3.344 | -2.779 | -0.565 | 121 |
| 749E8 | 203 | 6. | -5.255 | -5.532 | 0.277 | 81 | -4.754 | -4.183 | -0.571 | 122 |
| 748G8 | 204 | 2. | -3.542 | -3.988 | 0.446 | 94 | -2.595 | -1.984 | -0.613 | 123 |
| 748M8 | 205 | 3. | -3.793 | -3.589 | -0.203 | 32 | -3.494 | -2.856 | -0.639 | 124 |
| 658A8 | 206 | 4. | -2.988 | -3.076 | 0.188 | 2 | -2.971 | -2.231 | -0.740 | 125 |
| 73JC8 | 207 | 8. | -1.185 | -1.348 | 0.156 | 111 | -5.325 | -4.576 | -0.749 | 126 |
| 73JF8 | 208 | 9. | -4.538 | -4.188 | -0.339 | 54 | -4.335 | -3.583 | -0.752 | 127 |
| 71CA8 | 209 | 8. | -2.618 | -3.300 | 0.682 | 42 | -1.775 | -1.010 | -0.765 | 128 |
| 716A8 | 210 | 17. | -4.585 | -5.468 | 0.983 | 116 | -6.082 | -5.288 | -0.892 | 129 |
| 68AA8 | 211 | 2. | -3.258 | -3.749 | 0.497 | 11 | -5.389 | -4.483 | -0.857 | 130 |


GSM MODEL RUN146 DEP VAR 11 LHHTOT
CUMULATIVE DISTRIBUTION OF RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
POSITIVE
0
NEGATIVE
SPACINGER
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
CUMULATIVE FREQUENCY, NORMAL GRID


G&M MODEL RUN148 DEP VAR IS LHHTOT
RESIDUAL VS. FITTED Y
-6.786
-3.726
-0.786
POSITIVE
0
NEGATIVE
RESIDUALS
-6.786
-3.726
-0.786
FITTED Y

LINEAR LEAST-SQUARES CURVE FITTING PROGRAM

B&R MODEL RUN190 DEP VAR IS LMMUNS MIN Y = -7.4770 00 MAX Y = -1.0320 00 RANGE Y = 6.0450 00

MULTIPLE REGRESSION ANALYSIS FOR THE "ALPOS" MODEL
LMMUNS = B(0) + B(1)FIGSEN + B(2)FIGCOM + B(3)BOMNAV + B(4)BOMCOM
+ B(5)DI + B(6)SS + B(7)MCC + B(8)MEM + B(9)MPO
+ B(10)OCC + B(11)OCO + B(12)OEM + B(13)OPO + B(14)OUP
+ B(15)LUP + B(16)LWT + B(17)LPO
LMMUNS = LN(MMMUNS)
MMMUNS = UNSCHEDULED MAINTENANCE MANHOURS PER OPERATING HOUR

| IND.VAR(I) | NAME | COEF.B(I) | S.E. COEF. | T-VALUE | B(I)SQRD | MIN X(I) | MAX X(I) | RANGE X(I) | REL.IMP.X(I) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | -9.658290 00 | | | | | | | |
| 1 | FIGSEN | -2.682480-01 | 1.030-01 | 2.5 | 0.2333 | 0.0 | 1.0000 00 | 1.0000 00 | 0.04 |
| 2 | FIGCOM | 2.465920-01 | 1.810-01 | 1.4 | 0.1187 | 0.0 | 1.0000 00 | 1.0000 00 | 0.04 |
| 3 | BOMNAV | 8.583380-01 | 1.370-01 | 6.2 | 0.2761 | 0.0 | 1.0000 00 | 1.0000 00 | 0.15 |
| 4 | BOMCOM | 4.388010-01 | 1.580-01 | 2.7 | 0.1136 | 0.0 | 1.0000 00 | 1.0000 00 | 0.08 |
| 5 | DI | -7.641290-03 | 1.420-03 | 5.4 | 0.4783 | 0.0 | 1.0000 02 | 1.0000 02 | 0.13 |
| 6 | SS | -1.854660-02 | 1.990-03 | 5.3 | 0.6836 | 0.0 | 1.0000 02 | 1.0000 02 | 0.18 |
| 7 | MCC | 1.775530-04 | 4.810-05 | 4.4 | 0.5293 | -1.1680 03 | 7.1290 03 | 8.2960 03 | 0.25 |
| 8 | MEM | -1.748860-02 | 2.420-03 | 7.2 | 0.5946 | -1.0290 01 | 8.0000 01 | 1.0290 02 | 0.39 |
| 9 | MPO | -5.597950-04 | 1.630-04 | 3.4 | 0.7577 | -3.3280 02 | 2.6650 03 | 2.9970 03 | 0.29 |
| 10 | OCC | -4.266940-08 | 1.250-08 | 3.4 | 0.3356 | 7.2990 02 | 2.8560 07 | 2.8560 07 | 0.21 |
| 11 | OCO | 5.815850-07 | 1.980-02 | 2.5 | 0.2871 | 1.7840-04 | 1.8810 01 | 1.8810 01 | 0.16 |
| 12 | OEM | -1.833520-04 | 7.820-05 | 2.3 | 0.8794 | 2.7840 01 | 3.8470 03 | 3.8290 03 | 0.08 |
| 13 | OPO | 3.618620-07 | 1.380-07 | 2.6 | 0.5812 | 7.2980 02 | 4.1890 06 | 4.1880 06 | 0.25 |
| 14 | OUP | 4.942980-01 | 1.480-01 | 3.5 | 0.1544 | 2.8250-01 | 2.1830 00 | 1.9880 00 | 0.16 |
| 15 | LUP | 4.454820-01 | 4.180-02 | 10.7 | 0.6628 | 5.0380 00 | 1.3250 01 | 8.2170 00 | 0.63 |
| 16 | LWT | 3.851830-01 | 8.870-02 | 4.4 | 0.7364 | 0.0 | 5.1570 00 | 5.1570 00 | 0.27 |
| 17 | LPO | 2.442390-01 | 8.970-02 | 3.5 | 0.0582 | 1.0000 00 | 8.0060 00 | 8.0060 00 | 0.20 |

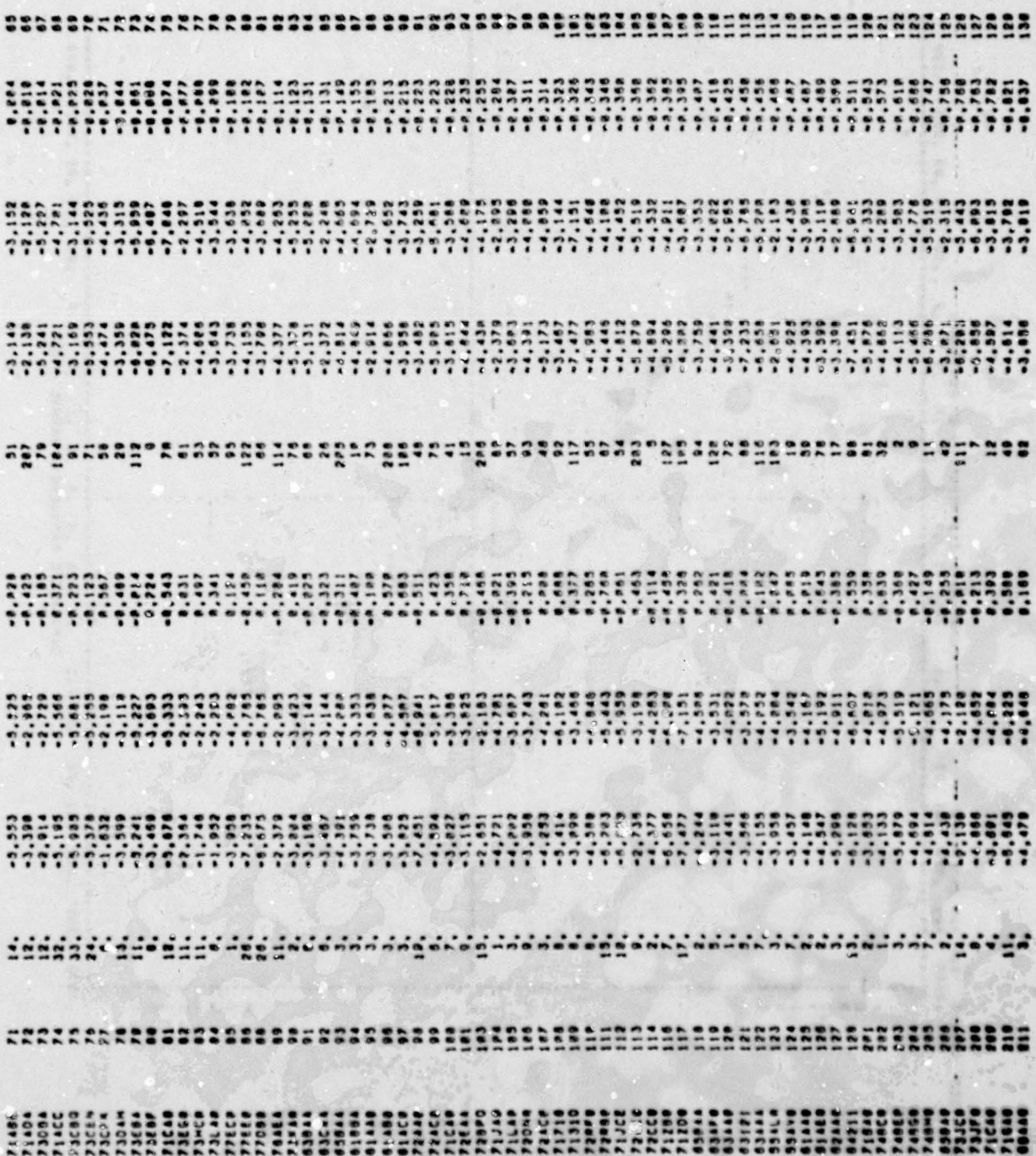
| | |
|---|---|
| NO. OF OBSERVATIONS | 130 |
| NO. OF IND. VARIABLES | 17 |
| RESIDUAL DEGREES OF FREEDOM | 112 |
| F-VALUE | 94.9 |
| RESIDUAL ROOT MEAN SQUARE | 0.43712272 |
| RESIDUAL MEAN SQUARE | 0.19107827 |
| RESIDUAL SUM OF SQUARES | 21.40854244 |
| TOTAL SUM OF SQUARES | 199.88678887 |
| MULT. CORREL. COEF. SQUARED | .8929 |

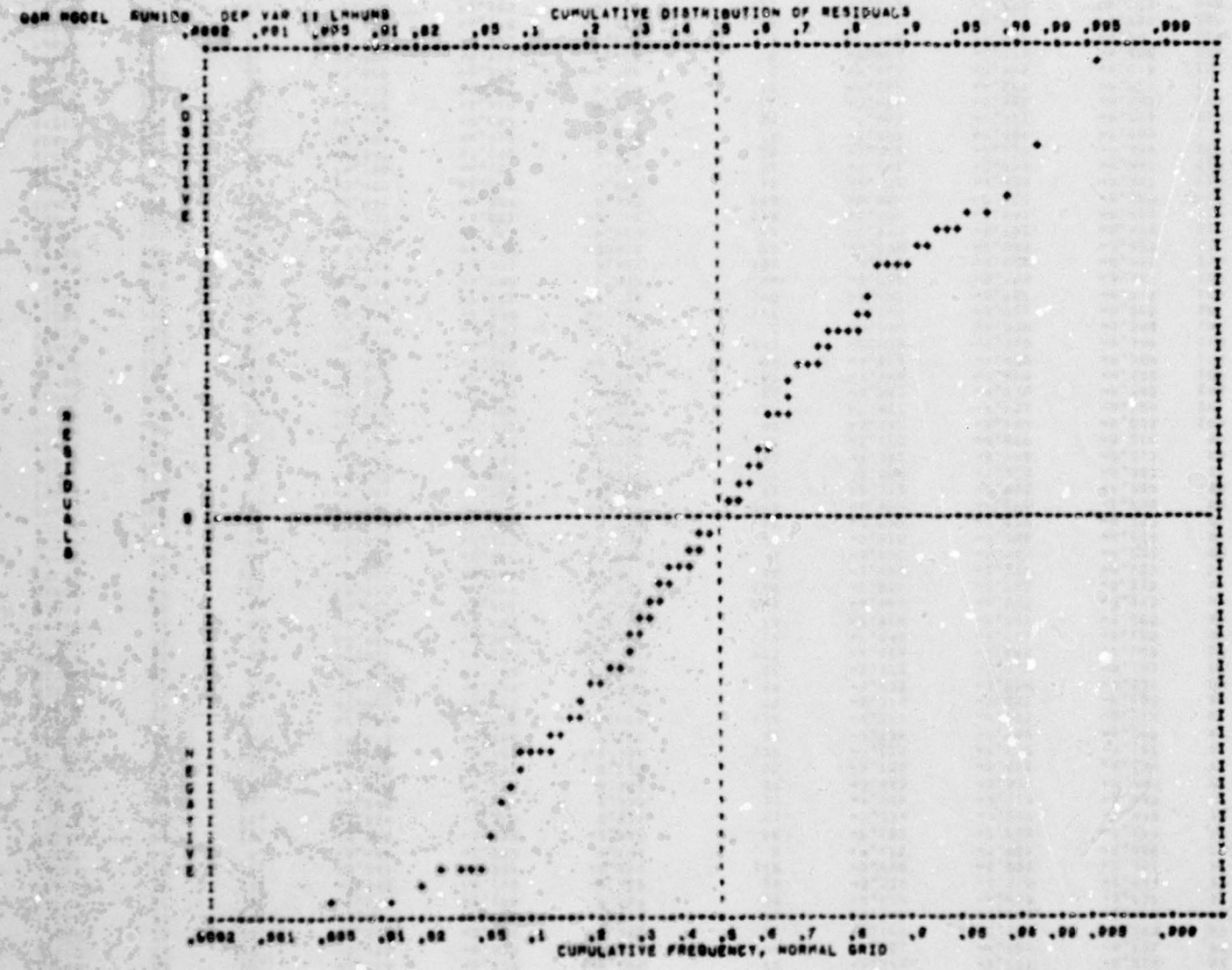
| IND.VAR(I) | NAME | COEF.B(I) | MIN X(I) | MAX X(I) | RANGE X(I) | REL.IMP.X(I) |
|---|---|---|---|---|---|---|
| *** COEFFICIENTS FROM PREVIOUS FIT *** | | | | | | |
| 0 | | -9.983140 00 | | | | |
| 1 | FIGSEN | -2.757310-01 | 0.0 | 1.0000 00 | 1.0000 00 | 0.05 |
| 2 | FIGCOM | 3.417140-01 | 0.0 | 1.0000 00 | 1.0000 00 | 0.06 |
| 3 | BOMNAV | 9.223270-01 | 0.0 | 1.0000 00 | 1.0000 00 | 0.16 |
| 4 | BOMCOM | 4.788190-01 | 0.0 | 1.0000 00 | 1.0000 00 | 0.08 |
| 5 | DI | -7.583470-03 | 0.0 | 1.0000 02 | 1.0000 02 | 0.13 |
| 6 | SS | -1.868850-02 | 0.0 | 1.0000 02 | 1.0000 02 | 0.18 |
| 7 | MCC | 1.783540-04 | -1.1680 03 | 7.1290 03 | 8.2960 03 | 0.24 |
| 8 | MEM | -1.791490-02 | -1.0290 01 | 8.0000 01 | 1.0290 02 | 0.31 |
| 9 | MPO | -5.463250-04 | -3.3280 02 | 2.6650 03 | 2.9970 03 | 0.28 |
| 10 | OCC | -4.035410-08 | 7.2990 02 | 2.8560 07 | 2.8560 07 | 0.20 |
| 11 | OCO | 6.179330-02 | 1.7840-04 | 1.8810 01 | 1.8810 01 | 0.20 |
| 12 | OEM | -1.476940-04 | 2.7840 01 | 3.8470 03 | 3.8290 03 | 0.08 |
| 13 | OPO | 3.476580-07 | 7.2980 02 | 4.1890 06 | 4.1880 06 | 0.24 |
| 14 | OUP | 5.262740-01 | 2.8250-01 | 2.1830 00 | 1.9880 00 | 0.17 |
| 15 | LUP | 4.548940-01 | 5.0380 00 | 1.3250 01 | 8.2170 00 | 0.65 |
| 16 | LWT | 2.781210-01 | 0.0 | 5.1570 00 | 5.1570 00 | 0.20 |
| 17 | LPO | 2.388750-01 | 1.0000 00 | 8.0060 00 | 8.0060 00 | 0.30 |

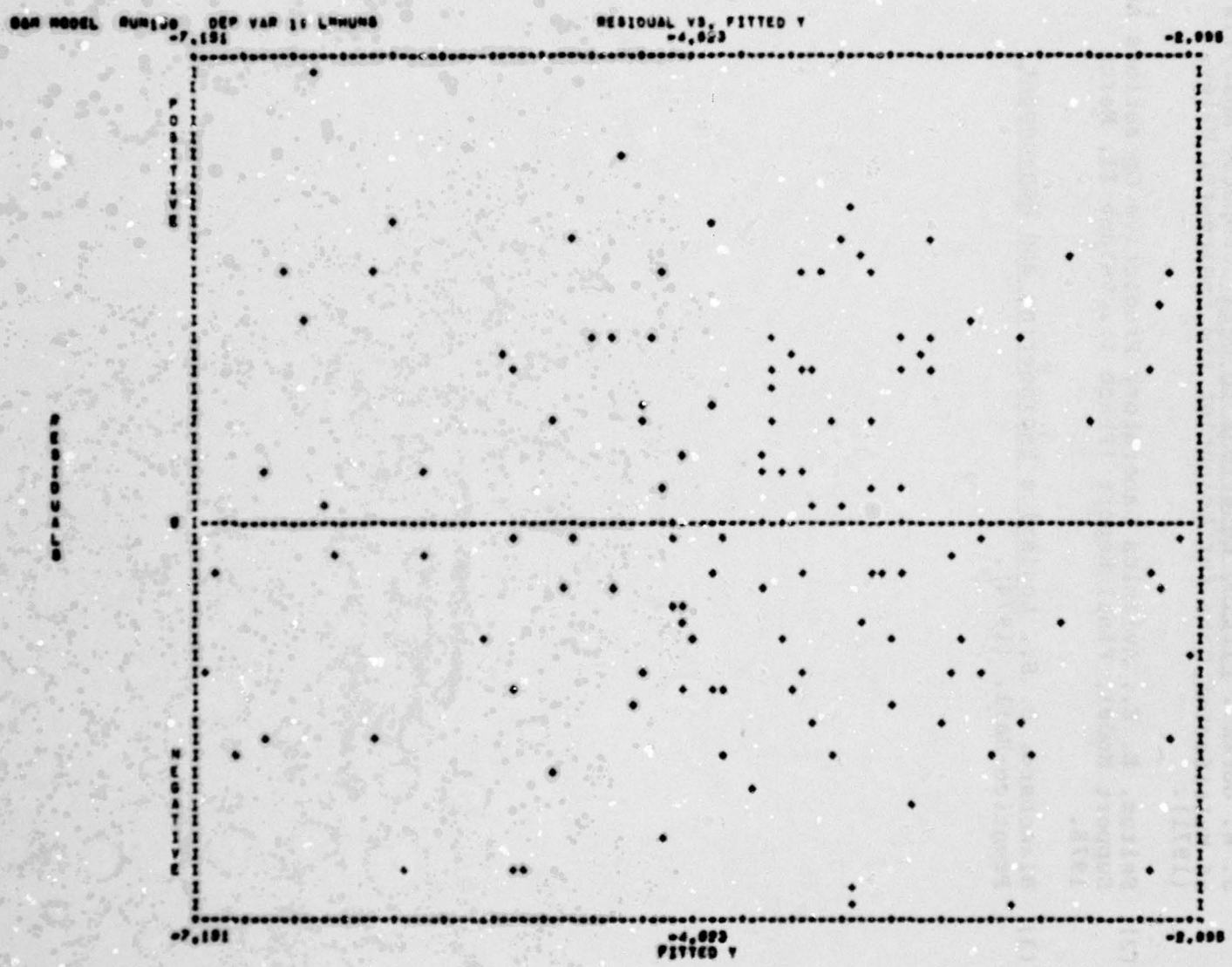
| | |
|---|---|
| RESIDUAL ROOT MEAN SQUARE | 0.43847259 |
| RESIDUAL MEAN SQUARE | 0.19013618 |
| RESIDUAL SUM OF SQUARES | 21.29124938 |
| TOTAL SUM OF SQUARES | 199.88678887 |
| MULT. CORREL. COEF. SQUARED | .8918 |

| IDENT, | OBSV, | ABA DISTANCE | ORDERED BY COMPUTER INPUT OBS, Y | FITTED Y | RESIDUAL |
|---|---|---|---|---|---|
| F1B2@ | 1 | 1. | -4.158 | -4.278 | 0.129 |
| F1L5@ | 2 | 3. | -4.113 | -3.583 | -0.610 |
| F1M6@ | 3 | 13. | -3.797 | -4.218 | 0.421 |
| F1P4@ | 4 | 1. | -5.897 | -4.285 | 0.388 |
| F1P9@ | 5 | 4. | -4.894 | -4.532 | -0.362 |
| F1T1@ | 6 | 11. | -6.475 | -6.497 | 0.022 |
| F24G@ | 7 | 7. | -6.856 | -6.893 | 0.037 |
| F1F4@ | 9 | 1. | -5.466 | -4.778 | -0.688 |
| F1P8@ | 10 | 6. | -4.849 | -4.694 | -0.155 |
| F1CA@ | 11 | 4. | -6.269 | -5.519 | -0.747 |
| F1D4@ | 12 | 2. | -4.597 | -3.815 | -0.782 |
| 51EA@ | 13 | 2. | -4.396 | -4.818 | 0.422 |
| 32GA@ | 14 | 2. | -4.836 | -4.877 | 0.040 |
| 52A8@ | 15 | 4. | -4.840 | -4.699 | -0.235 |
| 63J0@ | 16 | 9. | -6.419 | -6.468 | 0.041 |
| F1AE@ | 17 | 12. | -3.398 | -2.899 | -0.599 |
| F4J6@ | 18 | 2. | -3.811 | -3.871 | 0.060 |
| F4JC@ | 19 | 5. | -4.925 | -4.438 | -0.487 |
| 52GA1 | 20 | 6. | -4.155 | -4.740 | 0.585 |
| F1Z4@ | 21 | 2. | -4.689 | -4.784 | 0.096 |
| F3EG@ | 24 | 7. | -2.748 | -3.395 | 0.655 |
| F3EP@ | 25 | 15. | -2.337 | -2.590 | 0.254 |
| F3HA@ | 26 | 18. | -2.372 | -2.240 | -0.131 |
| F3HC@ | 27 | 8. | -2.543 | -2.967 | 0.425 |
| F3HA@ | 28 | 19. | -3.287 | -3.650 | 0.363 |
| F3QC@ | 29 | 6. | -3.359 | -3.315 | -0.044 |
| F38C@ | 30 | 7. | -3.743 | -4.082 | 0.339 |
| F3K8@ | 31 | 1. | -3.347 | -3.933 | 0.586 |
| F3KE@ | 32 | 5. | -4.882 | -4.289 | -0.593 |
| F3KF@ | 33 | 3. | -4.589 | -4.744 | 0.075 |
| F3KK@ | 34 | 9. | -4.916 | -4.148 | 0.132 |
| F593@ | 35 | 8. | -6.493 | -6.521 | 1.028 |
| F4B0@ | 36 | 3. | -3.968 | -4.195 | 0.234 |
| F4BF@ | 37 | 4. | -3.836 | -4.169 | 0.333 |
| F481@ | 38 | 19. | -5.836 | -5.962 | 0.126 |
| F6A1@ | 39 | 4. | -5.115 | -5.340 | 0.225 |
| F6GA@ | 40 | 11. | -4.189 | -4.255 | 0.156 |
| FCFF@ | 41 | 20. | -3.815 | -3.588 | -0.228 |
| F4FA@ | 42 | 18. | -3.971 | -2.315 | -0.756 |
| F4FH@ | 43 | 7. | -3.582 | -3.927 | 0.245 |
| F4FU@ | 44 | 27. | -3.293 | -3.653 | 0.059 |
| F3CG@ | 45 | 21. | -5.173 | -4.859 | -0.314 |
| F4FC@ | 46 | 7. | -3.492 | -3.259 | -0.223 |
| F4FJ@ | 49 | 2. | -4.614 | -3.792 | -0.821 |
| F4FK@ | 50 | 6. | -6.134 | -6.579 | 0.445 |
| F3F0@ | 51 | 20. | -3.149 | -3.152 | 0.004 |
| F4KA@ | 52 | 4. | -3.543 | -3.544 | -0.999 |
| F4KC@ | 53 | 4. | -4.806 | -4.518 | -0.288 |
| F4CA@ | 54 | 3. | -4.812 | -4.452 | -0.359 |
| F4CB@ | 55 | 3. | -4.993 | -4.648 | -0.343 |
| F4CC@ | 56 | 4. | -5.167 | -5.518 | 0.349 |
| F4FA1 | 57 | 8. | -3.693 | -3.295 | -0.397 |
| F4EB@ | 58 | 4. | -4.474 | -4.435 | -0.037 |
| F3PH@ | 59 | 3. | -4.393 | -3.906 | -0.487 |
| F3P8@ | 60 | 21. | -2.989 | -2.578 | 0.589 |
| F3P0@ | 61 | 31. | -2.374 | -2.297 | -0.077 |
| F3PF@ | 62 | 14. | -3.856 | -3.019 | -0.837 |
| F3PH@ | 63 | 3. | -3.188 | -3.755 | 0.594 |
| F1NA@ | 64 | 2. | -3.131 | -3.700 | 0.568 |
| F1GU@ | 65 | 2. | -3.519 | -3.788 | 0.268 |
| 63AA@ | 66 | 1. | -3.796 | -3.689 | -0.107 |
| 6FAA@ | 67 | 2. | -4.445 | -4.100 | -0.345 |
| 634G@ | 68 | 3. | -5.131 | -5.000 | -0.131 |
| 638F@ | 70 | 12. | -7.122 | -7.048 | -0.074 |

| OBSV, | ORS, Y | FITTED Y | ORDERED RESID, | SEQ |
|---|---|---|---|---|
| 35 | -5.493 | -6.521 | 1.028 | 1 |
| 202 | -4.133 | -4.973 | 0.839 | 2 |
| 191 | -3.115 | -3.825 | 0.710 | 3 |
| 189 | -5.414 | -6.102 | 0.688 | 4 |
| 97 | -3.825 | -4.507 | 0.683 | 5 |
| 24 | -2.748 | -3.395 | 0.655 | 6 |
| 44 | -3.293 | -3.853 | 0.658 | 7 |
| 126 | -4.047 | -5.192 | 0.645 | 8 |
| 63 | -3.160 | -3.755 | 0.594 | 9 |
| 68 | -2.889 | -2.678 | 0.589 | 10 |
| 31 | -3.347 | -3.933 | 0.586 | 11 |
| 28 | -4.155 | -4.740 | 0.585 | 12 |
| 218 | -5.645 | -6.225 | 0.580 | 13 |
| 96 | -3.598 | -4.177 | 0.578 | 14 |
| 84 | -3.131 | -3.700 | 0.568 | 15 |
| 77 | -1.832 | -2.198 | 0.367 | 16 |
| 128 | -6.128 | -6.687 | 0.559 | 17 |
| 63 | -1.746 | -2.243 | 0.497 | 18 |
| 113 | -2.736 | -3.198 | 0.463 | 19 |
| 58 | -6.134 | -6.579 | 0.445 | 20 |
| 204 | -4.694 | -5.121 | 0.427 | 21 |
| 27 | -2.543 | -2.967 | 0.425 | 22 |
| 99 | -4.542 | -4.967 | 0.423 | 23 |
| 13 | -4.396 | -4.818 | 0.422 | 24 |
| 119 | -3.119 | -3.531 | 0.421 | 25 |
| 3 | -3.797 | -4.218 | 0.421 | 26 |
| 98 | -3.084 | -3.423 | 0.419 | 27 |
| 209 | -3.691 | -4.084 | 0.393 | 28 |
| 199 | -3.799 | -3.466 | 0.377 | 29 |
| 74 | -5.195 | -5.566 | 0.371 | 30 |
| 28 | -3.287 | -3.650 | 0.363 | 31 |
| 189 | -3.027 | -3.366 | 0.338 | 32 |
| 201 | -3.653 | -4.010 | 0.358 | 33 |
| 56 | -5.167 | -5.516 | 0.349 | 34 |
| 84 | -1.952 | -2.293 | 0.341 | 35 |
| 58 | -3.743 | -4.082 | 0.339 | 36 |
| 37 | -3.856 | -4.199 | 0.333 | 37 |
| 4 | -3.897 | -4.285 | 0.388 | 38 |
| 110 | -4.580 | -4.946 | 0.365 | 39 |
| 118 | -4.244 | -4.586 | 0.262 | 40 |
| 25 | -2.337 | -2.590 | 0.254 | 41 |
| 43 | -3.582 | -3.907 | 0.245 | 42 |
| 16 | -4.836 | -4.977 | 0.242 | 43 |
| 35 | -3.968 | -4.195 | 0.234 | 44 |
| 39 | -5.115 | -5.340 | 0.225 | 45 |
| 88 | -3.469 | -3.693 | 0.224 | 46 |
| 211 | -4.479 | -4.648 | 0.169 | 47 |
| 48 | -4.109 | -4.265 | 0.156 | 48 |
| 34 | -4.016 | -4.148 | 0.132 | 49 |
| 1 | -4.158 | -4.278 | 0.129 | 50 |
| 36 | -5.836 | -5.962 | 0.126 | 51 |
| 85 | -3.968 | -4.092 | 0.124 | 52 |
| 88 | -6.875 | -6.785 | 0.010 | 53 |
| 65 | -3.810 | -3.700 | 0.090 | 54 |
| 124 | -3.457 | -3.542 | 0.085 | 55 |
| 33 | -4.669 | -4.744 | 0.075 | 56 |
| 18 | -3.811 | -3.871 | 0.060 | 57 |
| 123 | -3.958 | -4.004 | 0.047 | 58 |
| 18 | -6.419 | -6.460 | 0.041 | 59 |
| 82 | -2.364 | -2.395 | 0.031 | 60 |
| 125 | -4.148 | -4.167 | 0.019 | 61 |
| 21 | -4.689 | -4.704 | 0.015 | 62 |
| 107 | -4.253 | -4.261 | 0.008 | 63 |
| 121 | -3.565 | -3.570 | 0.004 | 64 |




OSR MODEL RUN108 DEP VAR IS LRHUNS CUMULATIVE DISTRIBUTION OF RESIDUALS
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
POSITIVE
RESIDUALS
0
NEGATIVE
.0002 .001 .005 .01 .02 .05 .1 .2 .3 .4 .5 .6 .7 .8 .9 .95 .98 .99 .995 .999
CUMULATIVE FREQUENCY, NORMAL GRID


OSR MODEL RUN130 DEP VAR IS LNHUNS
RESIDUAL VS. FITTED Y
-7.191
-4.823
-2.455
POSITIVE
0
NEGATIVE
RESIDUALS
-7.191
-4.823
-2.455
FITTED Y

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