

AD-A171 132

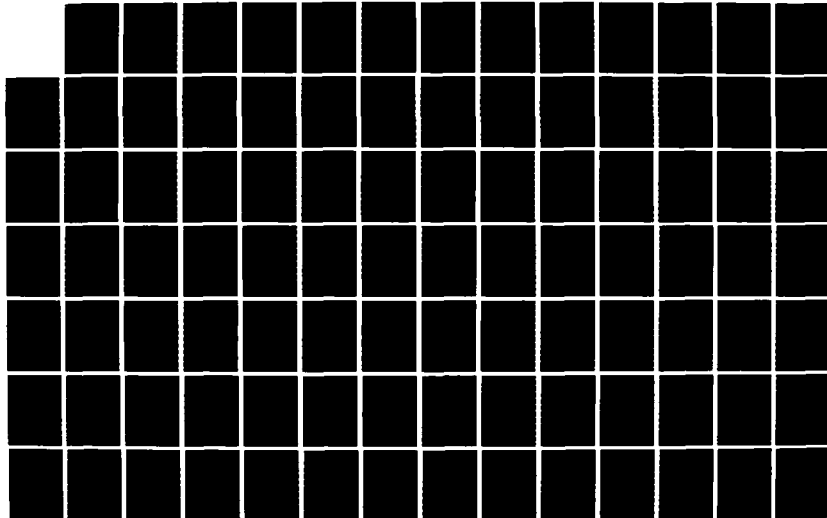
SURVEILLANCE REPORT STAGE I DISSECTED MOTOR/PROPELLANT  
MOTOR NUMBER 0012029(U) OGDEN AIR LOGISTICS CENTER HILL  
AFB UT PROPELLANT ANALYSIS LAB J A THOMPSON FEB 86  
NAACP-515(86)

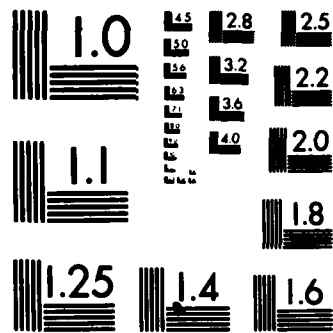
1/3

UNCLASSIFIED

F/G 21/8.2

NL





MICROCOPY RESOLUTION TEST CHART  
NATIONAL BUREAU OF STANDARDS-1963-A

AD-A171 132

2

HEADQUARTERS  
OGDEN AIR LOGISTICS CENTER  
UNITED STATES AIR FORCE  
HILL AIR FORCE BASE, UTAH 84056-5149

SURVEILLANCE REPORT  
STAGE I  
DISSECTED MOTOR/PROPELLANT  
MOTOR NUMBER 0012029  
PHASE VI

PROPELLANT ANALYSIS LABORATORY

MAQCP REPORT NR  
515 (86)

February 1986

AUG 7 1986  
A

APPROVED FOR PUBLIC RELEASE, DISTRIBUTION UNLIMITED

86 8 7 062

## **DISCLAIMER NOTICE**

**THIS DOCUMENT IS BEST QUALITY  
PRACTICABLE. THE COPY FURNISHED  
TO DTIC CONTAINED A SIGNIFICANT  
NUMBER OF PAGES WHICH DO NOT  
REPRODUCE LEGIBLY.**

SURVEILLANCE REPORT  
STAGE I DISSECTED MOTOR 0012029  
PHASE VI PROPELLANT & COMPONENT TESTING

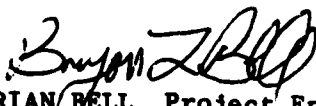
Author

  
JOHN A. THOMPSON, Chemist  
Component and Combustion Test Unit

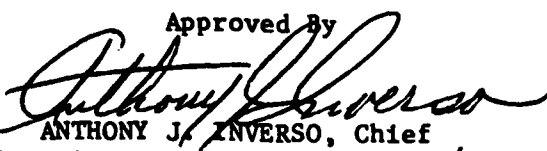
Statistical Review By

  
REONA CHRISTENSEN, Math/Stat  
Data Analysis Unit

Engineering Review By

  
BRIAN BELL, Project Engineer  
Service Engineering

Approved By

  
ANTHONY J. INVERSO, Chief  
Propellant Analysis Laboratory

February 1986

This document has been approved  
for public release and sale; its  
distribution is unlimited.

Prod Qlty and Reliability Div  
Directorate of Maintenance  
Ogden Air Logistics Center  
United States Air Force  
Hill Air Force Base, Utah 84056

ABSTRACT

Testing was performed on First Stage Minuteman TP-H1011 propellant and case bond specimens from the dome end of motor S/N 0012029. This testing was performed to assure that deteriorations in motor physical and thermal properties could be detected in time to take corrective action before the system performance deteriorated below an acceptable level. Testing was accomplished in accordance with MMWRBA Project M34929C.

From the analysis of the test results, the propellant and case bond properties have not deteriorated below an acceptable level at the present time and for two years beyond the oldest data point.



Approved For	
DTIC	✓
DTIC	
Use	
Just	
By	
District	
Avail	
Dist	
AI	

## TABLE OF CONTENTS

	<u>Page</u>
Abstract	ii
List of Figures	iv
Glossary of Terms and Abbreviations	ix
Introduction	1
Statistical Analysis	4
Test Results	6
Discussion of Test Results	11
Conclusions and Recommendations	12
Table 1, Test Program	13
Table 2, Regression Trend Line Summary	15
DD 1473	214
Distribution List	216

TABLE OF CONTENTS (cont)

<u>Figure Nr</u>		<u>Page</u>
	Regression Plot, Very Low Rate Tensile, .002 in/min, 180°F	
1	Strain at Max Stress	16
2	Max Stress	18
3	Strain at Rupture	20
4	Stress at Rupture	22
5	Modulus	24
	Regression Plot, Low Rate Tensile, 0.02 in/min	
6	Strain at Max Stress	26
7	Max Stress	28
8	Strain at Rupture	30
9	Stress at Rupture	32
10	Modulus	34
	Regression Plot, Low Rate Tensile, 0.2 in/min	
11	Strain at Max Stress	36
12	Max Stress	38
13	Strain at Rupture	40
14	Stress at Rupture	42
15	Modulus	44
	Regression Plot, Low Rate Tensile, 2.0 in/min	
16	Strain at Max Stress	46
17	Max Stress	48
18	Strain at Rupture	50
19	Stress at Rupture	52
20	Modulus	54
	Regression Plot, Low Rate Hydro, 2.0 in/min, 800 psi	
21	Strain at Max Stress	56
22	Max Stress	58



**TABLE OF CONTENTS (cont)**

<u>Figure Nr</u>		<u>Page</u>
23	Strain at Rupture	60
24	Stress at Rupture	62
25	Modulus	64
<b>Regression Plot, Low Rate Hydro, 20 in/min, 800 psi</b>		
26	Strain at Max Stress	66
27	Max Stress	68
28	Strain at Rupture	70
29	Stress at Rupture	72
30	Modulus	74
<b>Regression Plot, Low Rate Hydro, 2.0 in/min, 800 psi, 30°F</b>		
31	Strain at Max Stress	76
32	Max Stress	78
33	Strain at Rupture	80
34	Stress at Rupture	82
35	Modulus	84
<b>Regression Plot, Low Rate Hydro, 20.0 in/min, 800 psi, 30°F</b>		
36	Strain at Max Stress	86
37	Max Stress	88
38	Strain at Rupture	90
39	Stress at Rupture	92
40	Modulus	94
<b>Regression Plot, Biaxial Tensile, 0.002 in/min, 180°F</b>		
41	Strain at Max Stress	96
42	Max Stress	98
43	Strain at Rupture	100
44	Stress at Rupture	102
45	Modulus	104

TABLE OF CONTENTS (cont)

<u>Figure Nr</u>		<u>Page</u>
	Regression Plot, Biaxial Tensile, .02 in/min, 180°F	
46	Strain at Max Stress	106
47	Max Stress	108
48	Strain at Rupture	110
49	Stress at Rupture	112
50	Modulus	114
	Regression Plot, Biaxial Tensile, 0.2 in/min, Amb	
51	Strain at Max Stress	116
52	Max Stress	118
53	Strain at Rupture	120
54	Stress at Rupture	122
55	Modulus	124
	Regression Plot, Biaxial Tensile, 2.0 in/min, Amb	
56	Strain at Max Stress	126
57	Max Stress	128
58	Strain at Rupture	130
59	Stress at Rupture	132
60	Modulus	134
	Regression Plot, Triaxial Tensile, 2.0 in/min, 800 psi, 30°F	
61	Strain at Max Stress	136
62	Max Stress	138
63	Strain at Rupture	140
64	Stress at Rupture	142
65	Modulus	144
	Regression Plot, Triaxial Tensile, 2.0 in/min, 800 psi, Amb	
66	Strain at Max Stress	146

TABLE OF CONTENTS (cont)

<u>Figure Nr</u>		<u>Page</u>
67	Max Stress	148
68	Strain at Rupture	150
69	Stress at Rupture	152
70	Modulus	154
Regression Plot, Triaxial Tensile, 20 in/min, 800 psi, 30 <sup>o</sup> F		
71	Strain at Max Stress	156
72	Max Stress	158
73	Strain at Rupture	160
74	Stress at Rupture	162
75	Modulus	164
Regression Plot, Triaxial Tensile, 20 in/min, 800 psi, Amb		
76	Strain at Max Stress	166
77	Max Stress	168
78	Strain at Rupture	170
79	Stress at Rupture	172
80	Modulus	174
Regression Plot, Tear Energy		
81	0.002 in/min, 180 <sup>o</sup> F	176
82	0.02 in/min, 180 <sup>o</sup> F	178
83	0.2 in/min, 77 <sup>o</sup> F	180
84	2.0 in/min, 30 <sup>o</sup> F	182
85	2.0 in/min, 77 <sup>o</sup> F	184
Regression Plot, Stress Relaxation, 3% Strain, Amb		
86	Modulus at 10 sec	186
87	Modulus at 50 sec	188
88	Modulus at 100 sec	190

TABLE OF CONTENTS (cont)

<u>Figure Nr</u>		<u>Page</u>
89	Modulus at 1000 sec	192
90	Modulus at 10,000 sec	194
	Regression Plot, Stress Relaxation, 3% Strain, 180°F	
91	Modulus at 10 sec	196
92	Modulus at 50 sec	198
93	Modulus at 100 sec	200
94	Modulus at 1000 sec	202
95	Modulus at 10,000 sec	204
96	Regression Plot, Case Bond Tensile	206
	Regression Plot, Thermal Coefficient of Linear Expansion	
97	Glass Point	208
98	Below Glass Point	210
99	Above Glass Point	212

## INTRODUCTION

### A. PURPOSE:

1. The test data in this report compiled with other laboratory data, flight test data, static firing data and engineering judgement is used to determine the useful shelf/service life for LGM-30 Stage I Rocket motors. The regression trend lines project aging trends two years beyond the last test data point.

2. This report contains test data, in the form of regression analysis, from dissected motor S/N 0012029. This is a LGM-30, Stage I, Wing II motor produced by Morton-Thiokol, Wasatch Division, on 63074.

3. Aerojet Strategic Propulsion Company (ASPC) dissected the motor and tested the bond specimens in 1980 (see Note). The data from ASPC is included in this report. The remaining case bond sections and TP-H1011 propellant were transferred to OO-ALC's Propellant Laboratory for storage, test, analysis of data and reporting. The test program used by the laboratory to test motor S/N 0012029 is contained in Table 1.

### B. HISTORICAL BACKGROUND:

1. In May 1961, Thiokol began a three year LGM-30 Laboratory storage and test program to determine the rate of degradation from age for Stage I materials. During June 1962 and again in August 1963, additional samples were included in the program. New samples were added in July and August 1964 when the surveillance test program was extended to ten years (Test Plan 0717-62-0967, 53-8). The samples added to the inventory were considered to be a new population and were combined in regression analysis with the three dissected motors. STM-012 was a motor prepared by Thiokol specifically for dissection, S/N 0012099 a SLIM motor and S/N 0012199 were selected from inventory for dissection. Propellant (TP-H1011) was tested

from all three motors and case bond specimens from two of the motors. STM-012 and S/N 0012199.

2. The dissected motors STM-012, 0012099 and 0012199 with dates of manufacture of 61221, 63166 and 63227 respectively, were dissected by Morton Thiokol. The assets were transferred to OO-ALC in 1967 for testing and reporting. This provides nearly twenty years of data for the original dissected motor testing.

3. By 1978, the dissected motor assets would only last three to four years except that propellant from motor S/N 0012199 was still available for future testing.

4. The decision was made to select a field motor for dissection in order to obtain TP-H1011 propellant and case bond specimens from the dome end. Motor S/N 0012029, manufactured in 63074, was selected for dissection and laboratory testing. From the propellant and case bond sections received from Aerojet, there is only propellant sufficient for two or three years of testing. Only one section of case bond is available for one year of testing.

5. Up to 1982, due to a limited number of dissected motor data, the data from all motors were combined for statistical analysis for the respective tests. In 1983, key LRSLA parameters were also reported for the individual motors. A statistical analysis (analysis of variance) was made to determine the statistical validity for combining the three dissected motor data. This analysis demonstrated that the data for the individual motors should not be statistically combined since they have been biased differently at some point in time.

NOTE: Aerojet Strategic Propulsion Company Report AUE-900-1, August 1980, Minuteman LGM-30 Stage I Motor S/N 0012029, Dissection and Material Test Analysis

### C. DISCUSSION OF STATISTICAL TECHNIQUES:

The method used in this report to accomplish the statistical analysis is regression analysis. A successful analysis of data depends on a careful choice of the underlying mathematical model. The linear regression equation  $Y = a + bX$  was found to be the best fit model (out of 16 models tested) for this data. It yields the most significant "F" values for the data. If data are forced into a model which is inappropriate, it will yield less significant "F" values. In addition, the regression line will not be an accurate projection of the data. This line-fitting procedure assumes that the data are normally distributed and the means of these distributions are located about a line of least squares.

## STATISTICAL ANALYSIS

This report contains data and analysis for motor S/N 0012029. The analysis will be based on this motor only.

The testing of TP-H1011 propellant was consistently used for Stage I dissected motors. Therefore, a normal distribution population was assumed and the data from these motors were all statistically combined. In December 1983, MANPA Report Nr. 482(83), the data accumulated up to that time for each dissected motor was analyzed for motor-to-motor comparisons using the Analysis of Covariance. The results were that the data from these motors should not be statistically combined. Based on that analysis and coordination with Engineering, the individual motors have been reported separately.

The objective of this statistical analysis is to determine the effect aging has on Stage I propellant from Motor S/N 0012029. This analysis will assist Service Engineering in predicting Stage I serviceability.

The method used to accomplish this analysis was regression analysis. The linear equation  $Y = a + bX$  was found to be the best fit model for this data.

The sample sizes for each test age group used throughout the regressions can be found on the sample size summary which accompanies each plot. One disadvantage of plotting sample mean values, per age group, is the masking of individual sample points per age group.

The variance of data about each regression line is used to compute a tolerance interval such that 90% of the sample distribution will fall within this interval.

Since this was the first time motor S/N 0012029 was reported, mean value masking of individual values for tensile data was investigated. It was found



that out of 1230 tensile specimens tested, 3.25% were above or below the 90% band. This tolerance interval is extrapolated 24 months beyond the age of the last test date.

The 't' value and the significance of this statistic will be given as an indication of the "statistical significance" of the slope of the trend lines as it is compared to a line of zero slope. When a regression slope is labeled as significant, it should be noted that the slope of the trend line is significant from a statistical standpoint and a change over time is occurring. A significant indication does not necessarily mean that the change in test values obtained during testing is significant in regards to motor fleet operational performance.

The regression summaries can be found in table 2. From table 2 it can be observed the 64% of the regressions are significantly changing.

## TEST RESULTS

### A. UNIAXIAL TENSILE:

#### 1. Very Low Rate Tensile (0.002 in/min CHS, 180°F):

The strain at maximum stress, strain at rupture and modulus regressions show no significant trend line direction (figures 1, 3 and 5). The maximum stress and stress at rupture regressions show a statistically significant increasing trend line direction (figures 2 and 4).

#### 2. Very Low Rate Tensile (0.02 in/min CHS, 77°F):

The strain at maximum stress, strain at rupture and modulus regressions show no significant trend line direction (figures 6, 8 and 10). The maximum stress and stress at rupture regressions show a statistically significant increasing trend line direction (figures 7 and 9).

#### 3. Low Rate Tensile (0.2 in/min CHS, 77°F):

The strain at maximum stress regression does not show a significant trend (figure 11). The strain at rupture regression shows a statistically significant decreasing trend line direction (figure 13). Maximum stress, stress at rupture and modulus regressions show a statistically significant increasing trend line direction ( figures 12, 14 and 15). The slope of the stress and modulus regressions is greater than expected and will be observed closely during the next test cycle.

#### 4. Low Rate Tensile (2.0 in/min CHS, 77°F):

The strain at maximum stress regression does not show a significant trend (figure 16). The strain at rupture regression shows a statistically significant decreasing trend line direction (figure 18). Maximum stress, stress at rupture and modulus show statistically significant increasing trend line directions that are greater than expected ( figures 17, 19 & 20).

**B. HYDROSTATIC TENSILE, JANNAF DOGBONES, 800 psig:**

**1. Hydrostatic Low Rate (2.0 in/min CHS, 77°F):**

The strain at maximum stress, strain at rupture, maximum stress and stress at rupture regressions all show an increasing statistically significant trend line direction (figures 21 thru 24). The modulus regression does not show a significant trend (figure 25).

**2. Hydrostatic Low Rate (20.0 in/minCHS, 77°F):**

The strain at maximum stress regression shows a statistically significant increasing trend line (figure 26). The strain at rupture does not show a significant trend (figure 28). Maximum stress, stress at rupture and modulus regressions also show a statistically significant increasing trend line direction (figures 27, 29 and 30).

**3. Hydrostatic Low Rate (2.0 in/min, 30°F):**

The strain at maximum stress and strain at rupture regressions do not show a significant trend line direction (figures 31 and 33). The maximum stress, stress at rupture and modulus regressions show a statistically significant increasing trend line direction (figures 32, 34 and 35). The stresses and modulus slopes are greater than expected and will be monitored closely at the next test period.

**4. Hydrostatic Low Rate (20.0 in/minCHS, 30°F):**

The strain at maximum stress and strain at rupture regressions show a statistically significant decreasing trend line direction (figures 36 and 38). The maximum stress, stress at rupture and modulus regressions show a statistically significant increasing trend line direction (figures 37, 39 and 40).

**C. BIAXIAL TENSILE, RAIL SPECIMENS:**

**1. Biaxial Very Low Rate Tensile (0.002 in/min CHS, 180°F):**

The strain and stress regressions do not show significant trends

(figures 41 thru 44). The modulus regression shows a statistically significant increasing trend line direction (figure 45).

2. Biaxial Very Low Rate Tensile (0.02 in/min CHS, 180°F):

The strain at maximum stress and strain at rupture regressions show a statistically significant increasing trend line direction (figures 46 and 48). The maximum stress, stress at rupture and modulus regressions are not significant (figures 47, 49 and 50).

3. Biaxial Low Rate Tensile (0.2 in/min CHS, 77°F):

All of the regressions except modulus show a statistically significant increase in the trend line direction (figures 51 thru 54). The modulus regression does not show a significant trend (figure 55). The slopes of the stress regressions are greater than expected and will be monitored closely at the next test cycle.

4. Biaxial Low Rate Tensile (2.0 in/min CHS, 77°F):

The strain at maximum stress shows a statistically significant increase in trend direction (figure 56). The strain at rupture does not show a significant trend (figure 58). The maximum stress and stress at rupture regressions show statistically significant increasing trend lines (figures 57 and 59). The modulus regression does not show a significant trend (figure 60). When compared to other test parameters on Minuteman First Stage TP-H1011 propellant, these slope directions are statistically higher for this test.

D. TRIAXIAL TENSILE:

1. Low Rate Triaxial Tensile (2.0 in/min CHS, 800 psig, 30°F):

The strain regressions show a statistically significant decreasing trend line direction (figures 61 and 63). Maximum stress, stress at rupture and modulus regressions show a statistically significant sharp increase in the trend line direction (figures 62, 64 and 65).

2. Low Rate Triaxial Tensile (2.0 in/min CHS, 800 psig, 77°F):

All of the regressions show a statistically significant increasing trend line direction except modulus which does not show a trend (figures 66 thru 70).

3. Low Rate Triaxial Tensile (20.0 in/min CHS, 800 psig, 30°F):

The strain at maximum stress and strain at rupture regressions show a statistically significant gradual decrease in the trend line direction (figures 71 and 73). Maximum stress, stress at rupture and modulus regressions show a strong statistically significant rapid increase in the trend line direction (figures 72, 74 and 75).

4. Low Rate Triaxial Tensile (20.0 in/min CHS, 800 psig, 77°F):

The strain at maximum stress regression shows a statistically significant increase in the trend line direction (figure 76). The strain at rupture regression does not show a significant trend (figure 78). The maximum stress, stress at rupture and modulus regressions show a strong statistically significant sharp increase in the trend line direction (figures 77, 79 and 80).

E. TEAR ENERGY:

1. Very Low Rate Tear Energy (0.002 in/min CHS, 180°F):

The tear energy regression does not show a significant trend line direction (figure 81).

2. Very Low Rate Tear Energy (0.2 in/min CHS, 77°F):

This regression does not show a significant trend (figure 81).

3. Low Rate Tear Energy (0.2 in/min CHS, 77°F):

This regression shows a statistically significant increase in the trend line direction (figure 83).

4. Low Rate Tear Energy (2.0 in/min, 30°F):

This regression does not show a significant trend (figure 84).

5. Low Rate Tear Energy (2.0 in/min CHS, 77°F):

This regression does not show a significant trend (figure 85).

F. STRESS RELAXATION MODULUS:

All of the stress relaxation modulus regressions at 77°F do not show a significant trend (figures 86 thru 90). At 180°F, the 1000 and 10,000 second data do not show a significant trend (figures 94 and 95).

G. CASE BOND TENSILE (0.002 in/min, 180°F):

The case bond tensile regression shows a statistically significant decreasing trend line direction (figure 96).

H. THERMAL COEFFICIENT OF LINEAR EXPANSION (TCLE), (-120°C to 0°C):

1. Glass Point:

The glass point regression shows a statistically significant gradual increase in the slope of the trend line (figure 97).

2. TCLE Below  $T_g$ :

This regression shows a statistically significant gradual increase in the trend line direction (figure 98).

3. TCLE Above  $T_g$ :

This regression shows a statistically significant rapid increase in the trend line direction (figure 99).

## DISCUSSION OF TEST RESULTS

1. A statistically significant trend is shown in 66% of the tensile data. Most of these regressions show a statistically significant gradual change in the trend line direction.

2. Some of the regressions show a statistically significant rapid increase in tensile strength and modulus.

3. Although most of the regressions have a statistically significant trend line, the change in propellant physical properties, with respect to age, are moderate and no operational problems are expected at this time.

4. A gradual increase is seen in the glass transition temperature ( $T_g$ ) and in the TCLE below  $T_g$ . A statistically significant rapid increase is shown in TCLE above the  $T_g$  as the propellant ages.

5. For those regressions where statistically significant trends are seen, most of the changes are gradual. The same general trend is seen in block propellant and other dissected motor test data. The propellant regressions show less strain capability and higher tensile strength as the age increases.

6. For the case bond tensile testing, the regressions shows a fairly rapid decrease in tensile strength with age.

## CONCLUSIONS AND RECOMMENDATIONS

### A. CONCLUSIONS:

The test results show, under present storage conditions, most of the physical and thermal properties of the propellant along with the case bond test results indicate statistically significant aging trends. Some of the stress and modulus regressions that showed a statistically significant change had trend lines greater than expected.

However, the corresponding strain curves do not substantiate the rapid increase in stress and modulus trends. This trend maybe attributed to a change in test techniques, test operators or in test equipment set-up. Although the concern is not as great at this time due to the limited tests performed to date, additional testing should be performed immediately to assist in verifying the current trend. In addition, physical tests such as hardness, density, and crosslink density should be performed to complement and verify the stress and modulus trends.

### B. RECOMMENDATIONS:

It is recommended that testing be performed immediately on propellant from motor S/N 0012029. In addition, another motor should be selected, as soon as possible, for dissection and testing to confirm that the changes observed are not indicative of an operational problem.



TABLE 1  
TEST PROGRAM

CASE BOND - DOME END  
Section G

<u>Test</u>	<u>Conditions</u>	<u>Configuration</u>	<u>G085 Spec Code</u>	<u>Spec Per Cond</u>	<u>Total Number of Spec</u>	<u>Test Meth</u>
Case Bond Constant Rate Tensile	180°F, 0 psig 0.002 in/min	Poker Chip see Fig 1	CG	12	12	A
Case Bond Constant Rate Shear	180°F, 0 psig 0.002 in/min CHS	Poker Chip with 22° Groove	CH	12	12	B
PROPELLANT SECTION 3, AREA G All Temperatures ± 2°F						
Stress Relax Modulus	77 + 180°F, 0 psig, 3% Strain, to 10,000 sec	JANNAF 1/2" Wood End Tab Dogbones, see Figure 3	TW	9	18	C
Tear Energy	30°F, 0 psig 2 in/min CHS	Tear Spec see Fig 4	TS	9	9	D
Tear Energy	77°F, 0 psig 0.2 + 2.0 in/min CHS	Tear Spec see Fig 4	TS	9	18	D
Tear Energy	180°F, 0 psig 0.002 + 0.02 in/min CHS	Tear Spec see Fig 4	TS	9	18	D
Low Rate Hydrostatic	30°F + 77°F 800 psig, 2.0 + 20.0 in/min CHS	JANNAF Dogbone	JA	9	18	E
Low Rate Tensile	77°F, 0 psig 0.2 + 2.0 in/min CHS	JANNAF Dogbone	JA	9	27	F
Very Low Rate Tensile	180°F, 0 psig 0.0002 in/min CHS	JANNAF Dogbone	JA	9	27	F
Triaxial Low Rate	30 to 77°F, 800 psig, 2.0 + 20.0 in/min CHS	3/4" GL Rail End Bonded see Fig 5	JD	9	18	H
Biaxial Low Rate	77°F, 0 psig, 0.2 + 2.0 in/min CHS	3/4" GL Rail End Bonded, see Fig 5	JD	9	18	H

TABLE 1 (cont)

<u>Test</u>	<u>Conditions</u>	<u>Configuration</u>	<u>G085 Spec Code</u>	<u>Spec Per Cond</u>	<u>Total Number of Spec</u>	<u>Test Meth</u>
Biaxial Very Low Rate	180°F, 0 psig, 0.02 to 0.002 in/min CHS	3/4" GL Rail End Bonded see Fig 5	JD	9	18	H
TCLE*	5°C rise/min	0.200" wafer (about 16 sq in)	WR	9	9	I

\*One package of wafers will be delivered to the laboratory and the specimens will be cut from the wafers.

TABLE 2

## REGRESSION TREND LINE SUMMARY

<u>TENSILE</u>	<u>X-HEAD SPEED</u>	<u>Sm</u>	<u>em</u>	<u>er</u>	<u>Sr</u>	<u>E</u>
Very LR, 180°F	0.002	S(+)	NS	NS	S(+)	NS
LR 77°F	0.02	S(+)	NS	NS	S(+)	NS
LR 77°F	0.2	S(+)	NS	S(-)	S(+)	NS
LR 77°F	2.0	S(+)	NS	S(-)	S(+)	S(+)
LR Hyd 800psi 77°F	2.0	S(+)	S(+)	S(+)	S(+)	NS
LR Hyd 800psi 77°F	20.0	S(+)	S(+)	NS	S(+)	S(+)
LR Hyd 800psi 30°F	2.0	S(+)	NS	NS	S(+)	S(+)
LR Hyd 800psi 30°F	20.0	S(+)	S(-)	S(-)	S(+)	S(+)
VERY LR BLAX 180°	0.002	NS	NS	NS	NS	S(+)
VERY LR BLAX 180°F	0.02	NS	S(+)	S(+)	NS	NS
LR BLAXIAL 77°F	0.2	S(+)	S(+)	S(+)	S(+)	NS
LR BLAXIAL 77°F	2.0	S(+)	S(+)	NS	S(+)	NS
LR TRIAX800psi 30°F	2.0	S(+)	S(-)	S(-)	S(+)	S(+)
LR TRIAX800psi 77°F	2.0	S(+)	S(+)	S(+)	S(+)	NS
LR TRIAX800psi 30°F	20.0	S(+)	S(-)	S(-)	S(+)	S(+)
LR TRIAX800psi 77°F	20.0	S(+)	S(+)	NS	S(+)	S(+)
TEAR ENERGY 180°F	0.002	NS				
TEAR ENERGY 180°F	0.02	NS				
TEAR ENERGY 77°F	0.2	S(+)				
TEAR ENERGY 30°F	2.0	NS				
TEAR ENERGY 77°F	2.0	NS				
<u>STRESS RELAXATION</u>	<u>10-SEC</u>	<u>50-SEC</u>	<u>100-SEC</u>	<u>1000-SEC</u>	<u>10000-SEC</u>	
3% STRAIN						
77°F 0 psi	NS	NS	NS	NS	NS	
120°F 0 psi	NS	NS	NS	NS	NS	
180°F 0 psi	S	S	S	NS	NS	
CAS BND TENSILE 180°F	0.002	S(-)				
<u>TCLE</u>	GP	S(+)				
	B/GP	S(+)				
	A/GP	S(+)				

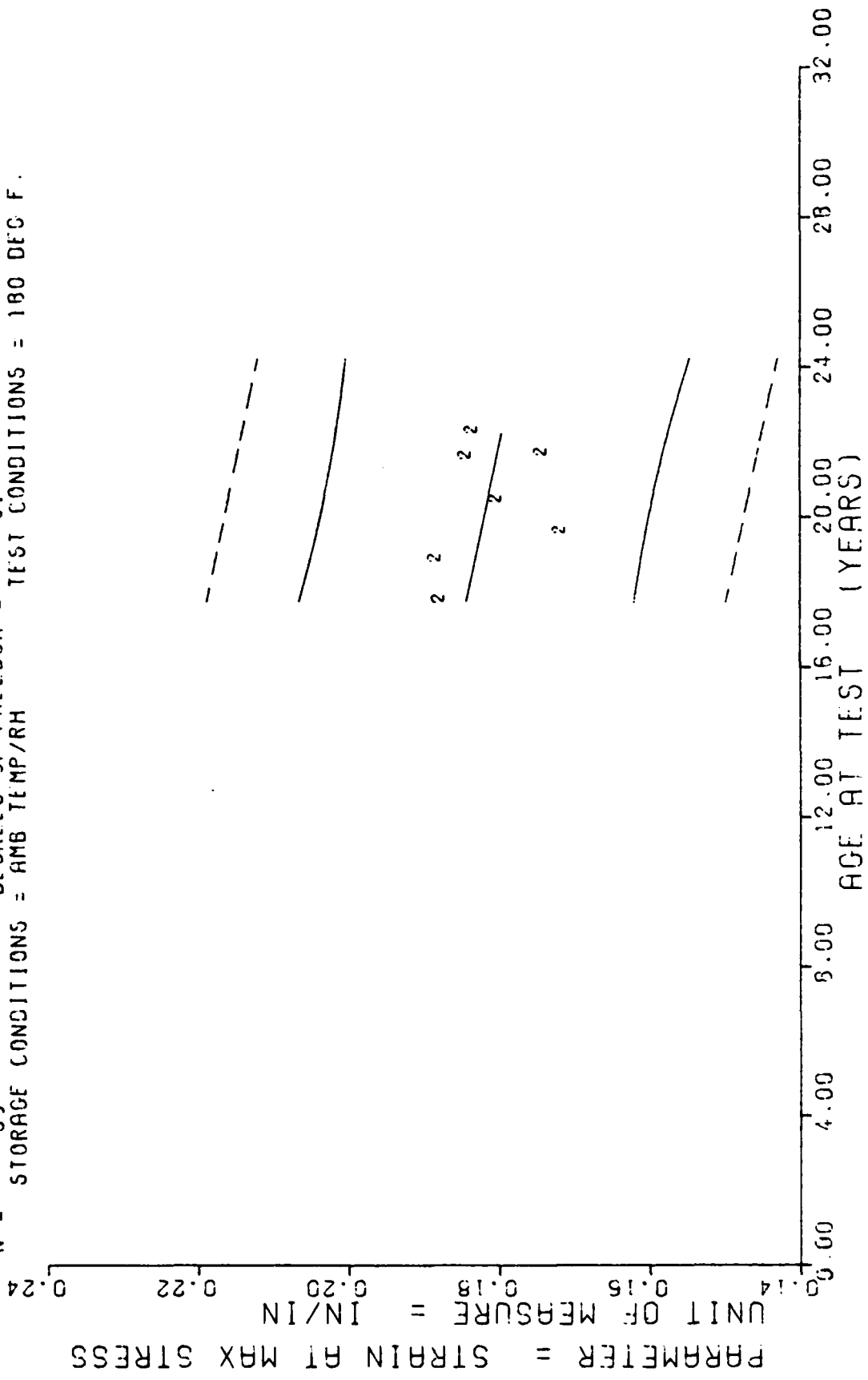
NS= Non-significant trend line from a line of zero slope

+ = Significant slope in a positive direction

- = Significant slope in a negative direction

NOTE: All testing performed at the 5% significance level.

Y = (( +2.0290759E-01 ) + ( -8.7496976E-05 ) \* X )  
 F = +1.2788195E+00 SIGNIFICANCE OF F = NOT SIGNIFICANT  $\sigma_f = +1.1515190E-02$   
 R = -1.4329612E-01 SIGNIFICANCE OF R = NOT SIGNIFICANT  $S_r = +7.7372817E-05$   
 I = +1.1308490E+00 SIGNIFICANCE OF I = NOT SIGNIFICANT  $S_r = +1.1489304E-02$   
 N = 63 DEGREES OF FREEDOM = 61 TEST CONDITIONS = 180 DEG F.  
 STORAGE CONDITIONS = AMB TEMP/RH



STAGE 1 DISSECTED MOTOR=0012029, VERY LOW RATE (HS=.002 IN/MIN, STRAIN MAX STRS

Figure 1

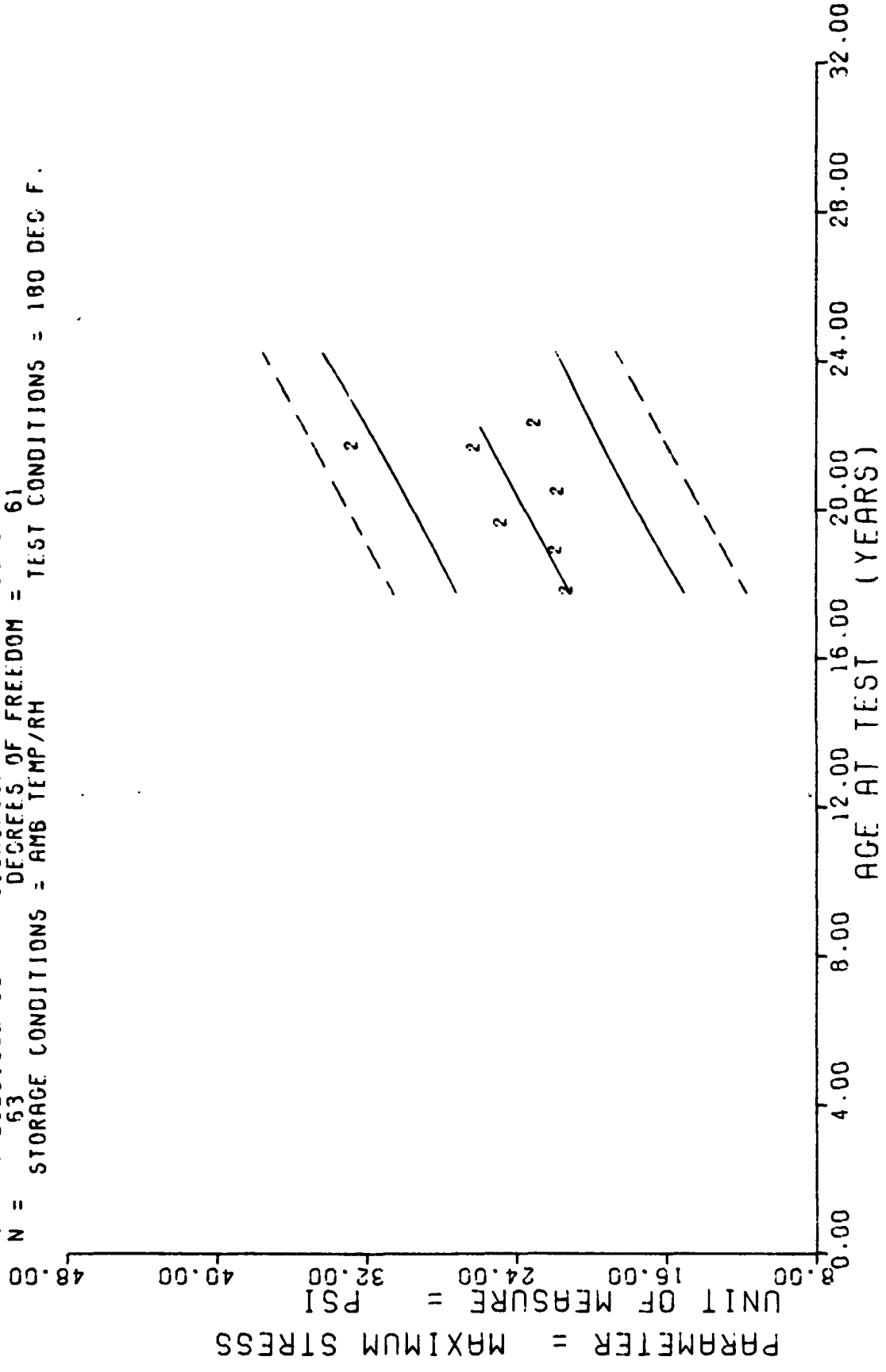
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	9	+1.8724417E-01	+6.8398165E-03	+1.5599597E-01	+1.7799997E-01	+1.8427067E-01
226.0	9	+1.8775534E-01	+8.5889077E-03	+1.9839596E-01	+1.7199999E-01	+1.8313324E-01
235.0	8	+1.7124974E-01	+8.5525524E-03	+1.8499594E-01	+1.6099995E-01	+1.8234574E-01
245.0	9	+1.7973315E-01	+6.7401358E-03	+1.8919598E-01	+1.6979998E-01	+1.8147081E-01
259.0	11	+1.8372690E-01	+1.2811388E-02	+2.0799594E-01	+1.6799998E-01	+1.8024587E-01
260.0	6	+1.7366659E-01	+6.2824122E-03	+1.8199598E-01	+1.6399997E-01	+1.8015837E-01
267.0	11	+1.8288159E-01	+1.5908465E-02	+2.0889597E-01	+1.6529995E-01	+1.7954587E-01

STAGE 1 DISSECTED MOTOR=0012029.VERY LOW RATE CHE=.002 IN/MIN. STRAIN MAX STRS

$Y = (( +1.9825489E+00 ) + ( +8.9669055E-02 ) \cdot X )$   
 F = +1.8079645E+01      SIGNIFICANCE OF F = SIGNIFICANT       $\sigma_f = +3.5366534E+00$   
 R = +4.7814828E-01      SIGNIFICANCE OF R = SIGNIFICANT       $S_e = +2.1086594E-02$   
 t = +4.2520166E+00      SIGNIFICANCE OF t = SIGNIFICANT       $S_r = +3.1315256E+00$   
 N = 53      DEGREES OF FREEDOM = 61  
 STORAGE CONDITIONS = AMB TEMP/RH      TEST CONDITIONS = 180 DEG F.



STAGE 1 DISSECTED MOTOR=0012029, VERY LOW RATE CHS=.002 IN/MIN, MAX STRESS

Figure 2

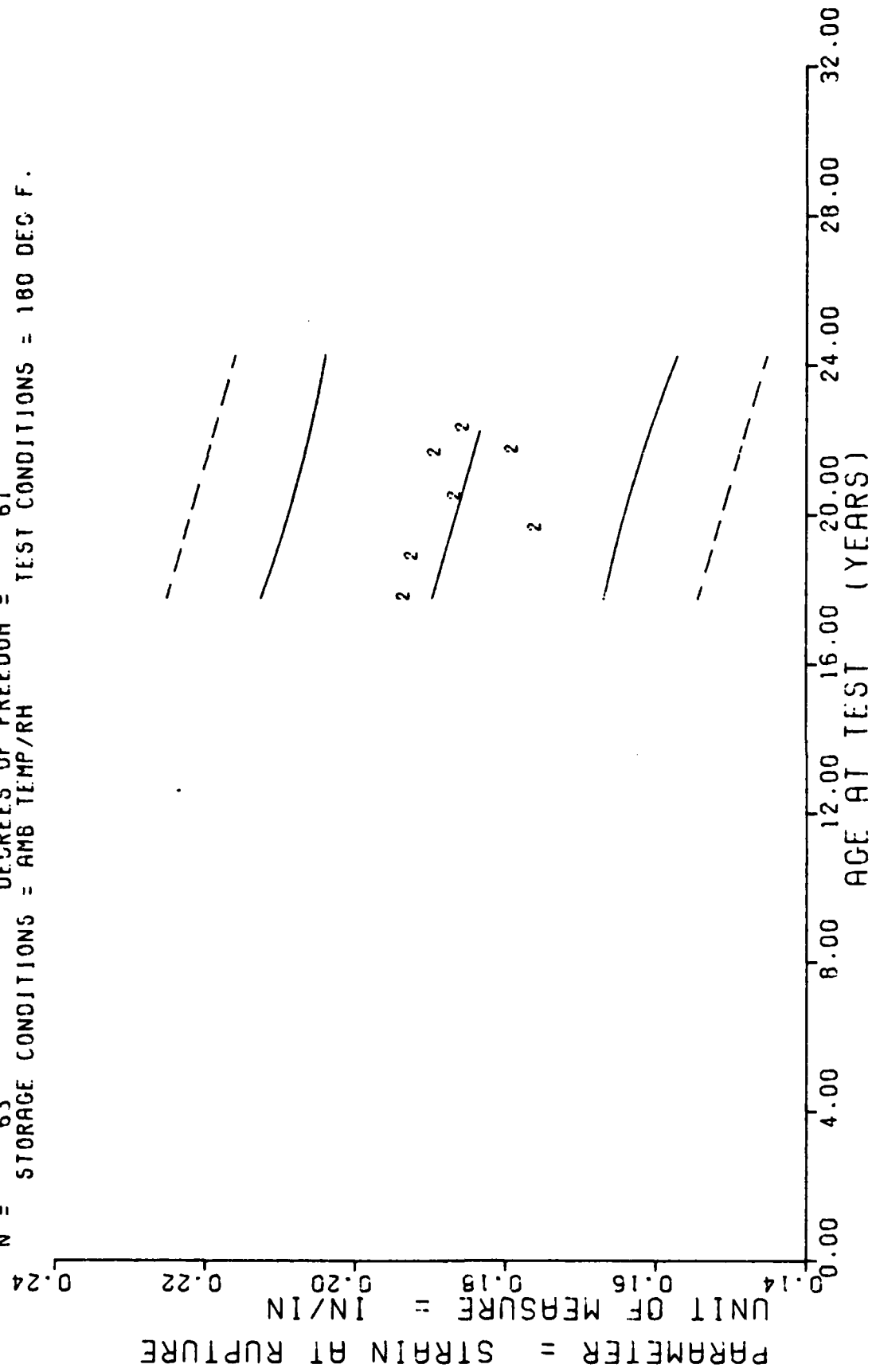
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	9	+2.1023315E+01	+1.1529172E+00	+2.2605585E+01	+1.9099990E+01	+2.1082046E+01
226.0	9	+2.1616653E+01	+5.1446395E-01	+2.2599590E+01	+2.1029998E+01	+2.2247741E+01
235.0	8	+2.4532737E+01	+1.3068543E+00	+2.6679552E+01	+2.2819992E+01	+2.3054763E+01
245.0	9	+2.1502212E+01	+6.5237552E-01	+2.2439587E+01	+2.0359985E+01	+2.3951461E+01
259.0	11	+2.5563592E+01	+2.4372010E+00	+2.9099590E+01	+2.1899993E+01	+2.5206832E+01
260.0	6	+3.2466659E+01	+9.6854832E-01	+3.3500000E+01	+3.0899993E+01	+2.5296493E+01
267.0	11	+2.2749084E+01	+6.5324371E-01	+2.3789593E+01	+2.1239990E+01	+2.5924179E+01

STAGE 1 DISSECTED MCTOR=0012029, VERY LOW RATE CHS=.002 IN/MIN, MAX STRESS

Y = ( ( +2.1469276E-01 ) + ( -1.1730862E-04 ) \* X )  
 SIGNIFICANCE OF F = NOT SIGNIFICANT  $\sigma_r = +1.1867630E-02$   
 SIGNIFICANCE OF R = NOT SIGNIFICANT  $S_r = +7.9298321E-05$   
 SIGNIFICANCE OF t = NOT SIGNIFICANT  $S_r = +1.1775310E-02$   
 DEGREES OF FREEDOM = 61  
 STORAGE CONDITIONS = AMB TEMP/RH  
 TEST CONDITIONS = 180 DEG F.



STAGE 1 DISSECTED MOTOR=0012029, VERY LOW RATE CHS=.002 IN/MIN, STRAIN AT RUPT.

Figure 3



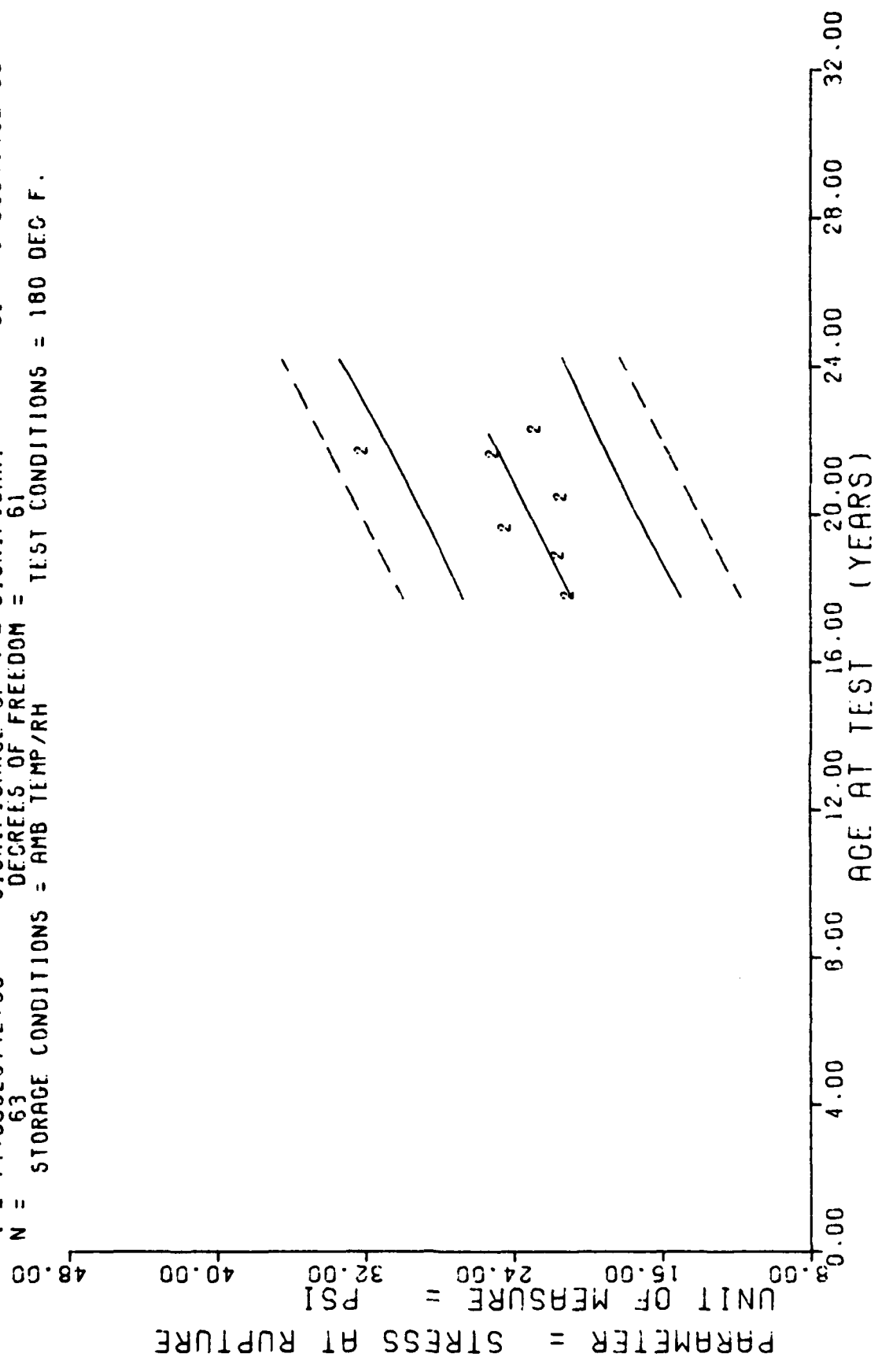
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	9	+1.5282197E-01	+6.5016781E-03	+1.5999598E-01	+1.8299996E-01	+1.8970596E-01
226.0	9	+1.917535E-01	+8.5185366E-03	+2.0599597E-01	+1.7699998E-01	+1.8818092E-01
235.0	8	+1.7537474E-01	+9.6688279E-03	+1.9099598E-01	+1.6599994E-01	+1.8712514E-01
245.0	9	+1.8607753E-01	+7.3594726E-03	+1.9469554E-01	+1.7509996E-01	+1.8595206E-01
259.0	11	+1.8872690E-01	+1.2278687E-02	+2.1395598E-01	+1.7199959E-01	+1.8430978E-01
260.0	6	+1.7845581E-01	+6.5364201E-03	+1.8899595E-01	+1.7099994E-01	+1.8419241E-01
267.0	11	+1.8502682E-01	+1.6230159E-02	+2.1199595E-01	+1.6709955E-01	+1.8337130E-01

STAGE 1 DISSECTED MOTOR=0012029, VERY LOW RATE CHS=.002 IN/MIN, STRAIN AT RUPT.

Y = ( ( +3.0332377E+00 ) + ( +8.3473282E-02 ) \* X )  
 F = +1.6730451E+01      SIGNIFICANCE OF F = SIGNIFICANT      S<sub>r</sub> = +3.3931399E+00  
 R = +4.6393617E-01      SIGNIFICANCE OF R = SIGNIFICANT      S<sub>0</sub> = +2.0407660E-02  
 I = +4.0902874E+00      SIGNIFICANCE OF I = SIGNIFICANT      S<sub>r</sub> = +3.0304143E+00  
 N = 63      DEGREES OF FREEDOM = 61  
 STORAGE CONDITIONS = AMB TEMP/RH      TEST CONDITIONS = 180 DEG F.



STAGE 1 DISSECTED MOTOR=0012029.VERY LOW RATE CHS=.002 IN/MIN.STRESS AT RUPT.

Figure 4

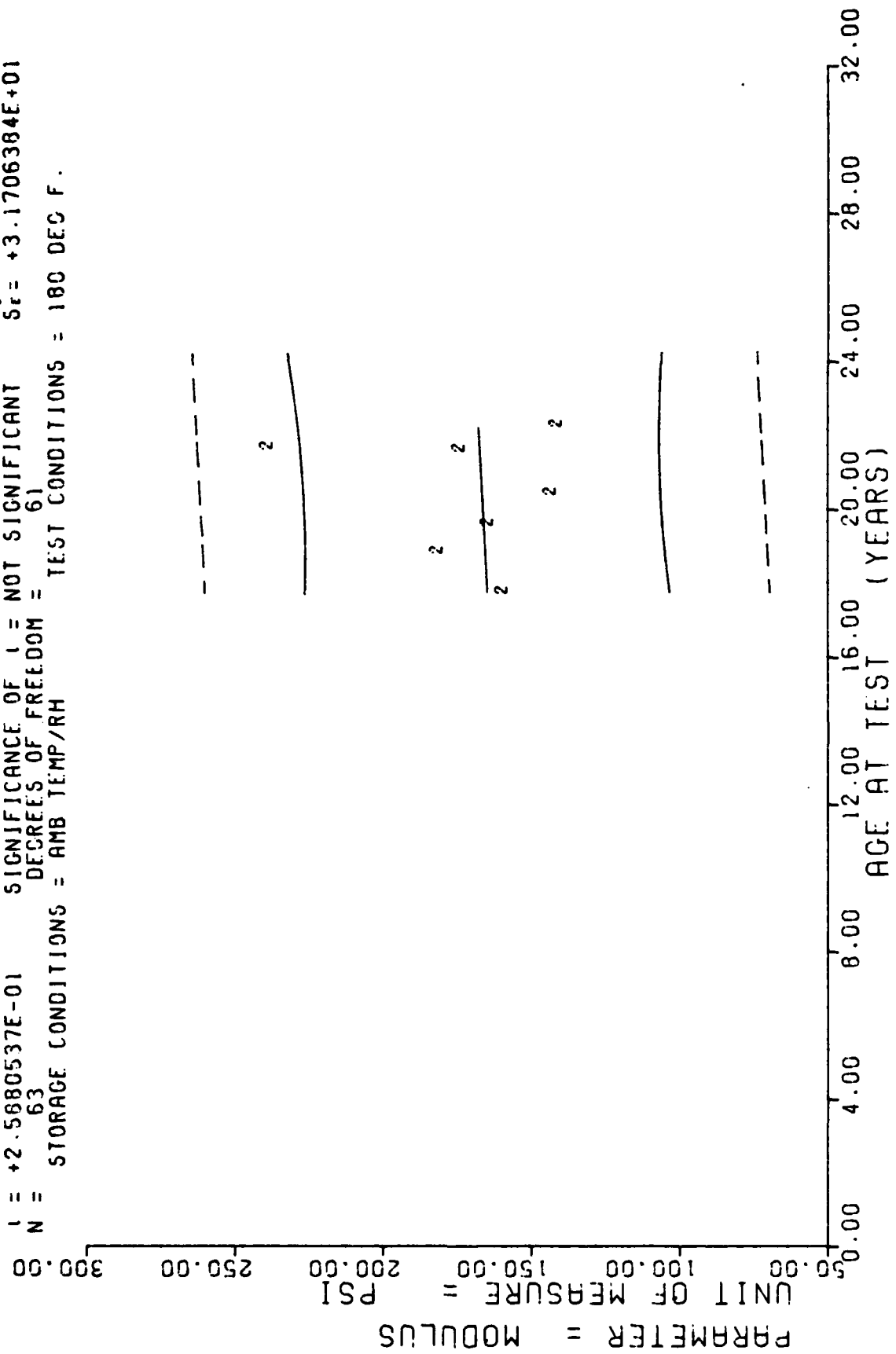
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\* ANALYSIS OF TIME SERIES \*\*

AGE (MCNTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	9	+2.075554E+01	+1.2159443E+00	+2.2500000E+01	+1.8799987E+01	+2.0813034E+01
226.0	9	+2.1311096E+01	+5.0124319E-01	+2.2199596E+01	+2.0699996E+01	+2.1898193E+01
235.0	8	+2.4162490E+01	+1.3564183E+00	+2.6355593E+01	+2.2500000E+01	+2.2649444E+01
245.0	9	+2.1151092E+01	+6.6876041E-01	+2.2019589E+01	+2.0119995E+01	+2.3484176E+01
259.0	11	+2.4836334E+01	+2.4432881E+00	+2.8000000E+01	+2.0599990E+01	+2.4652816E+01
260.0	6	+3.185593E+01	+7.6118643E-01	+3.2899593E+01	+3.0699956E+01	+2.4736282E+01
267.0	11	+2.2561758E+01	+6.5805207E-01	+2.3599550E+01	+2.0989990E+01	+2.5320602E+01

STAGE 1 DISSECTED MCTOR=0012029, VERY LOW RATE CHS=.002 IN/MIN, STRESS AT RUPT.

F = +6.6980219E-02  
 R = +3.3118454E-02  
 I = +2.5880537E-01  
 N = 63  
 Y = (( +1.5285697E+02 ) + ( +5.5260096E-02 ) \* X )  
 SIGNIFICANCE OF F = NOT SIGNIFICANT  
 SIGNIFICANCE OF R = NOT SIGNIFICANT  
 SIGNIFICANCE OF I = NOT SIGNIFICANT  
 DEGREES OF FREEDOM = 61  
 STORAGE CONDITIONS = AMB TEMP/RH  
 TEST CONDITIONS = 180 DEG F.



STAGE 1 DISSECTED MOTOR=0012029, VERY LOW RATE CHS=.002 IN/MIN, MODULUS

Figure 5

\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

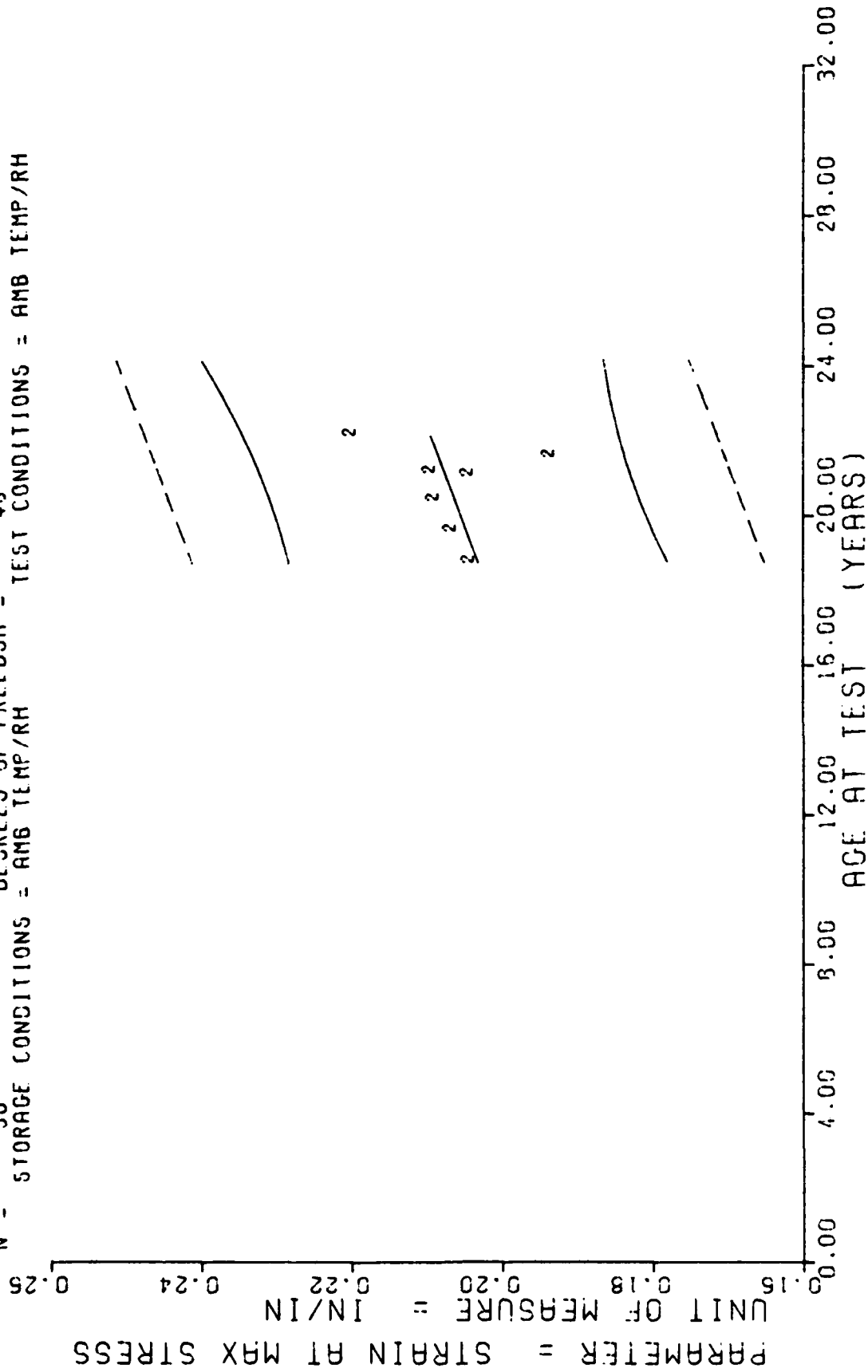
\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	9	+1.5811109E+02	+8.0846218E+00	+1.6700000E+02	+1.4400000E+02	+1.6462736E+02
226.0	9	+1.7588888E+02	+1.8684515E+01	+2.0900000E+02	+1.5400000E+02	+1.6534574E+02
235.0	8	+1.6300000E+02	+1.7614528E+01	+1.8900000E+02	+1.3800000E+02	+1.6584309E+02
245.0	9	+1.4177777E+02	+5.2862505E+00	+1.4900000E+02	+1.3600000E+02	+1.6639569E+02
259.0	11	+1.7245454E+02	+2.4155180E+01	+2.0400000E+02	+1.4800000E+02	+1.6716932E+02
260.0	6	+2.3716665E+02	+1.4062953E+01	+2.5100000E+02	+2.1100000E+02	+1.6722459E+02
267.0	11	+1.3581817E+02	+1.6815577E+01	+1.6400000E+02	+1.1100000E+02	+1.6761140E+02

STAGE 1 DISSECTED MOTOR=0012029, VERY LOW RATE CHS=.002 IN/MIN, MODULUS

Y = ( ( +1.6833849E-01 ) + ( +1.5465812E-04 ) \* X )  
 F = +1.4420049E+00 SIGNIFICANCE OF F = NOT SIGNIFICANT  $\sigma_f = +1.2714140E-02$   
 R = +1.7077934E-01 SIGNIFICANCE OF R = NOT SIGNIFICANT  $S_R = +1.2879214E-04$   
 I = +1.2008350E+00 SIGNIFICANCE OF I = NOT SIGNIFICANT  $S_I = +1.2657181E-02$   
 N = 50 DEGREES OF FREEDOM = 48

STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = AMB TEMP/RH



STAGE 1 DISSECTED MOTOR=0012029.10W RATE CHS=0.02 IN/MIN. STRAIN MAX STRESS

Figure 6

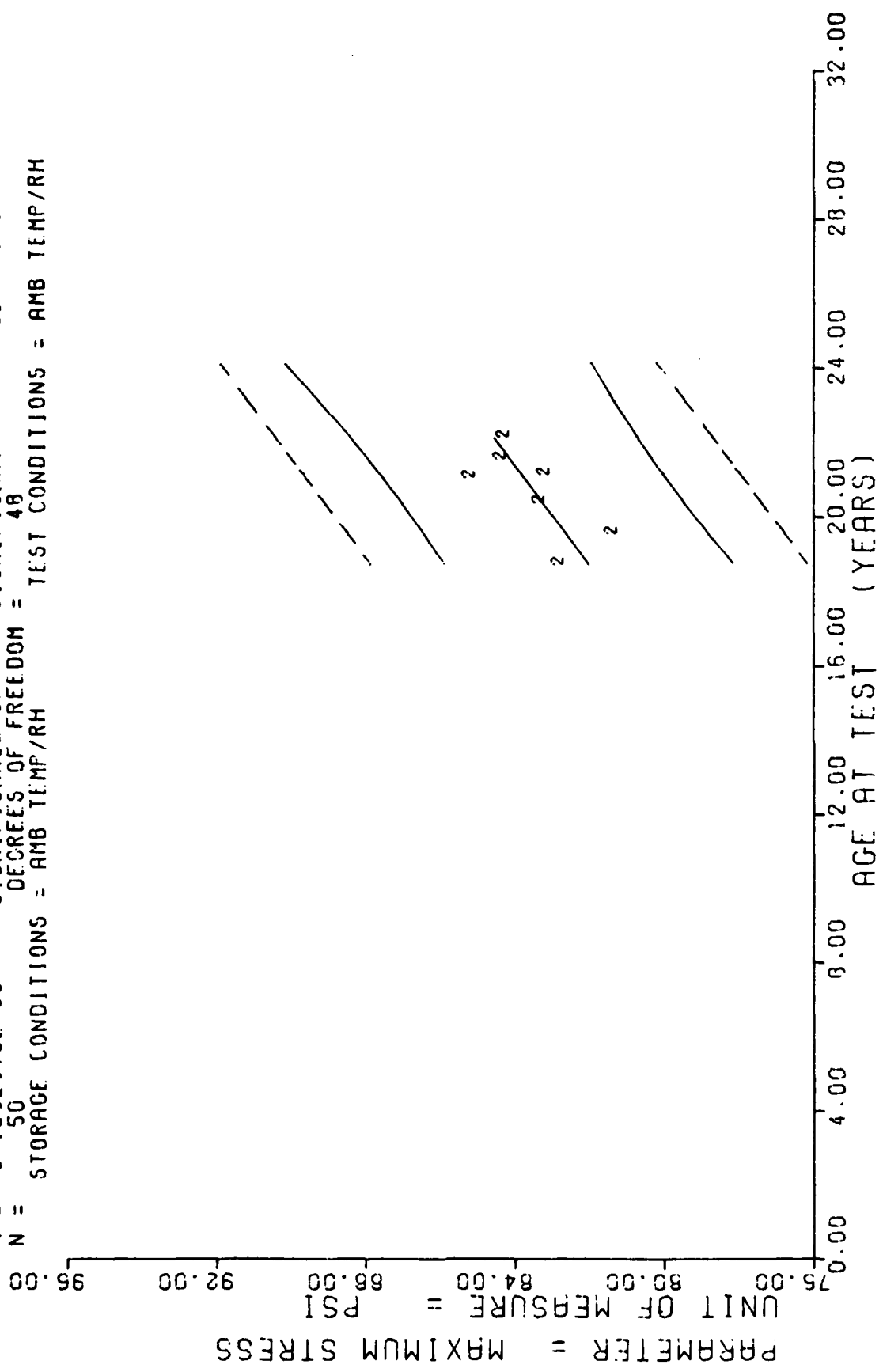
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
225.0	8	+2.0375984E-01	+6.6575615E-03	+2.1829598E-01	+1.9579994E-01	+2.0313656E-01
235.0	8	+2.0624971E-01	+1.8032326E-02	+2.2499556E-01	+1.7459994E-01	+2.0468312E-01
245.0	9	+2.0847743E-01	+5.5115776E-03	+2.1729599E-01	+1.9899994E-01	+2.0622968E-01
253.0	7	+2.0395545E-01	+8.3764565E-03	+2.1535598E-01	+1.9399994E-01	+2.0746695E-01
254.0	2	+2.0899993E-01	+1.5556939E-02	+2.1999556E-01	+1.9799995E-01	+2.0762163E-01
259.0	7	+1.9314259E-01	+1.2498669E-02	+2.0799594E-01	+1.8099999E-01	+2.0839488E-01
266.0	9	+2.1951067E-01	+8.2907318E-03	+2.2619558E-01	+1.9909995E-01	+2.0947754E-01

STAGE 1 DISSECTED MOTOR=0012029,LOW RATE CHS=0.02 IN/MIN,STRAIN MAX STRESS

Y = ( ( +6.9080490E+01 ) + ( +6.1946929E-02 ) \* X )  
 F = +9.7856671E+00 SIGNIFICANCE OF F = SIGNIFICANT  $\sigma_r = +2.1133944E+00$   
 R = +4.1151800E-01 SIGNIFICANCE OF R = SIGNIFICANT  $S_b = +1.9802504E-02$   
 I = +3.1282370E+00 SIGNIFICANCE OF I = SIGNIFICANT  $S_c = +1.9461117E+00$   
 N = 50 DEGREES OF FREEDOM = 48  
 STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = AMB TEMP/RH



STAGE 1 DISSECTED MOTOR=0012029,LOW RATE CHS=0.02 IN/MIN,MAX STRS

Figure 7



\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

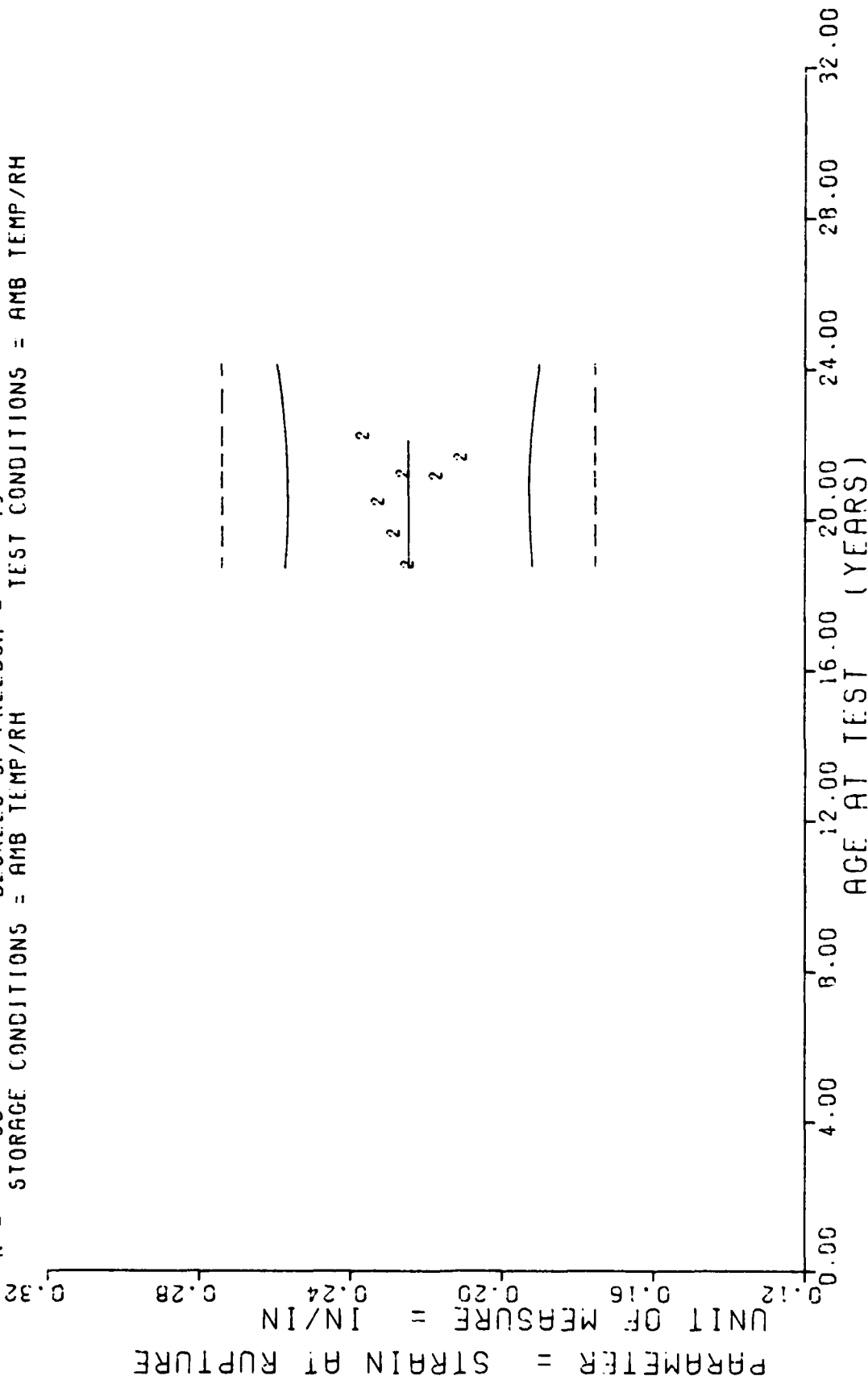
\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
225.0	8	+8.2711181E+01	+1.5461941E+00	+8.4045587E+01	+7.9179992E+01	+8.2018539E+01
235.0	8	+8.1294921E+01	+2.6649735E+00	+8.6379589E+01	+7.6829986E+01	+8.2638015E+01
245.0	9	+8.3228775E+01	+6.6755541E-01	+8.4279598E+01	+8.2259994E+01	+8.3257476E+01
253.0	7	+8.5095626E+01	+9.2578101E-01	+8.6679592E+01	+8.4179992E+01	+8.3753051E+01
254.0	2	+8.3085556E+01	+2.7865545E-01	+8.3289593E+01	+8.2899999E+01	+8.3815002E+01
259.0	7	+8.4257034E+01	+3.0458303E+00	+8.7299587E+01	+7.9799987E+01	+8.4124740E+01
266.0	9	+8.4178817E+01	+1.1354390E+00	+8.5529598E+01	+8.2569992E+01	+8.4558364E+01

STAGE 1 DISSECTED MOTOR=0012029, LOW RATE CHS=0.02 IN/MIN, MAX STRS.

Y = ( ( +2.2397396E-01 ) + ( +2.3529242E-06 ) \* X )  
 F = +1.9854137E-04 SIGNIFICANCE OF F = NOT SIGNIFICANT  $\sigma_r = +1.6241835E-02$   
 R = +2.0337801E-03 SIGNIFICANCE OF R = NOT SIGNIFICANT  $S_b = +1.6697981E-04$   
 I = +1.4090471E-02 SIGNIFICANCE OF I = NOT SIGNIFICANT  $S_c = +1.6410114E-02$   
 N = 50 DEGREES OF FREEDOM = 48

STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = AMB TEMP/RH



STAGE 1 DISSECTED MOTOR=0012029.10W RATE CHS=0.02 IN/MIN. STRAIN AT RUPT.

Figure 8

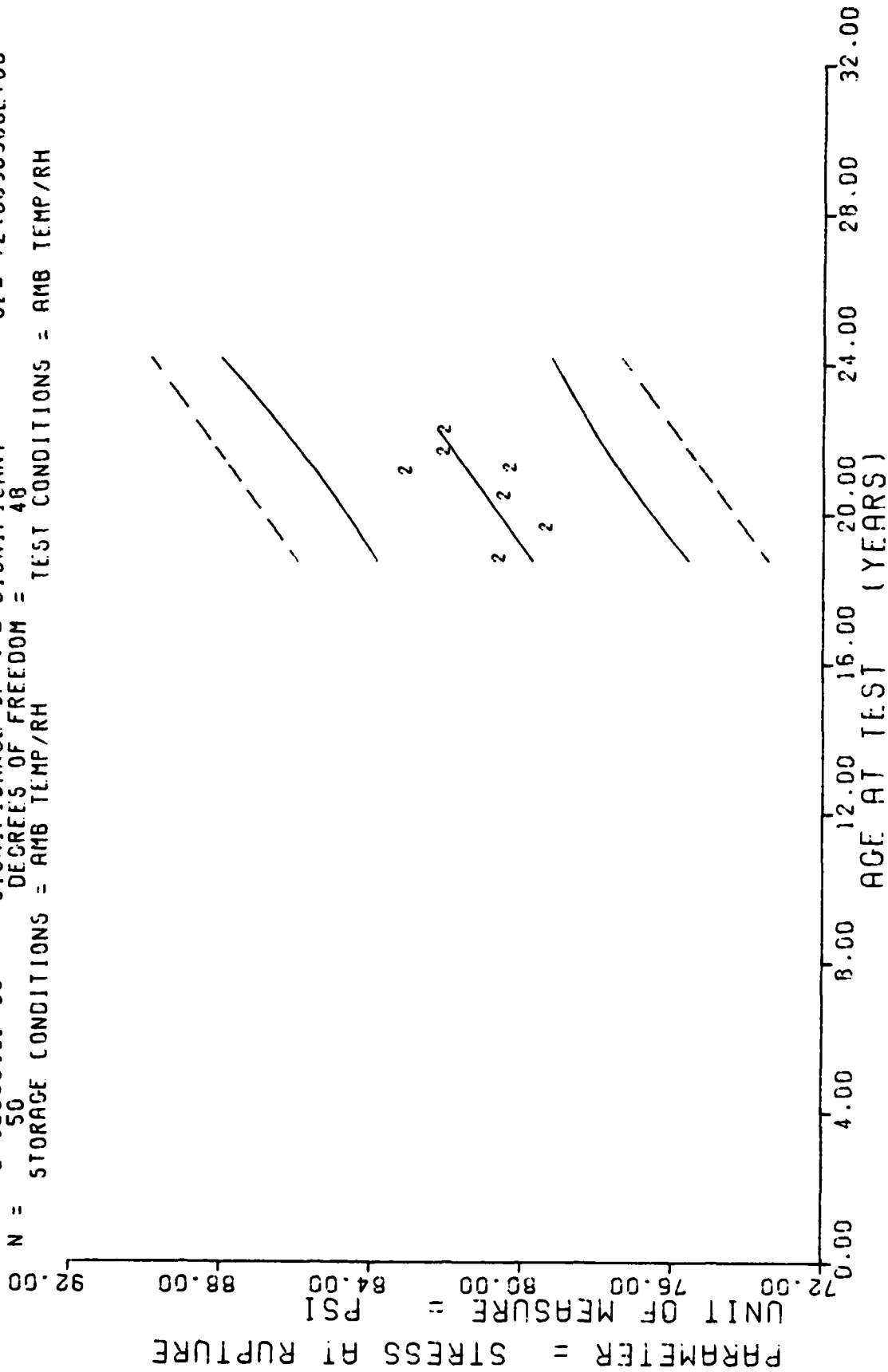
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
225.0	8	+2.233975E-01	+8.5466220E-03	+2.4159597E-01	+2.1369999E-01	+2.2450321E-01
235.0	8	+2.2706725E-01	+2.4452839E-02	+2.5000000E-01	+1.8199998E-01	+2.2452676E-01
245.0	9	+2.3121076E-01	+8.5871974E-03	+2.4899555E-01	+2.1799959E-01	+2.2455024E-01
253.0	7	+2.1566551E-01	+1.1304267E-02	+2.3139555E-01	+1.9899994E-01	+2.2456908E-01
254.0	2	+2.2459595E-01	+2.5031201E-02	+2.4229557E-01	+2.0689954E-01	+2.2457146E-01
259.0	7	+2.0942836E-01	+1.3917180E-02	+2.2899597E-01	+1.8999959E-01	+2.2458320E-01
266.0	9	+2.3517745E-01	+1.3126750E-02	+2.4655557E-01	+2.00439954E-01	+2.2459565E-01

STAGE 1 DISSECTED MCTOR=0012029, LOW RATE CHS=0.02 IN/MIN, STRAIN AT RUPT.

F = +8.0037960E+00  
 R = +3.7804132E-01  
 I = +2.6290980E+00  
 N = 50  
 STORAGE CONDITIONS = AMB TEMP/RH  
 Y = (( +6.6211479E+01 ) + ( +5.9964920E-02 ) \* X )  
 SIGNIFICANCE OF F = SIGNIFICANT  
 SIGNIFICANCE OF R = SIGNIFICANT  
 SIGNIFICANCE OF I = SIGNIFICANT  
 DEGREES OF FREEDOM = 48  
 TEST CONDITIONS = AMB TEMP/RH  
 $\sigma_1 = +2.2269352E+00$   
 $S_1 = +2.1195772E-02$   
 $S_f = +2.0830366E+00$



STAGE 1 DISSECTED MOTOR=0012029.10W RATE CH5=0.02 IN/MIN, STRESS AT RUPT.

Figure 9

\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
225.0	8	+8.0473663E+01	+1.5539977E+00	+8.1829986E+01	+7.7049987E+01	+7.9703582E+01
235.0	8	+7.9216658E+01	+3.2655625E+00	+8.4599990E+01	+7.4879989E+01	+8.0303222E+01
245.0	9	+8.0346588E+01	+7.3928228E-01	+8.1569992E+01	+7.9399993E+01	+8.0902877E+01
253.0	7	+8.2551339E+01	+1.5457188E+00	+8.5259994E+01	+8.0279998E+01	+8.1382599E+01
254.0	2	+8.0174987E+01	+1.1670874E+00	+8.1000000E+01	+7.9349990E+01	+8.1442565E+01
259.0	7	+8.1528457E+01	+2.6552497E+00	+8.5000000E+01	+7.8699996E+01	+8.1742385E+01
266.0	9	+8.1914352E+01	+1.4456886E+00	+8.37399950E+01	+7.9750000E+01	+8.2162139E+01

STAGE I DISSECTED MCTOR=0012029, LUW FATE CHS=0.02 IN/MIN, STRESS AT RUPT.



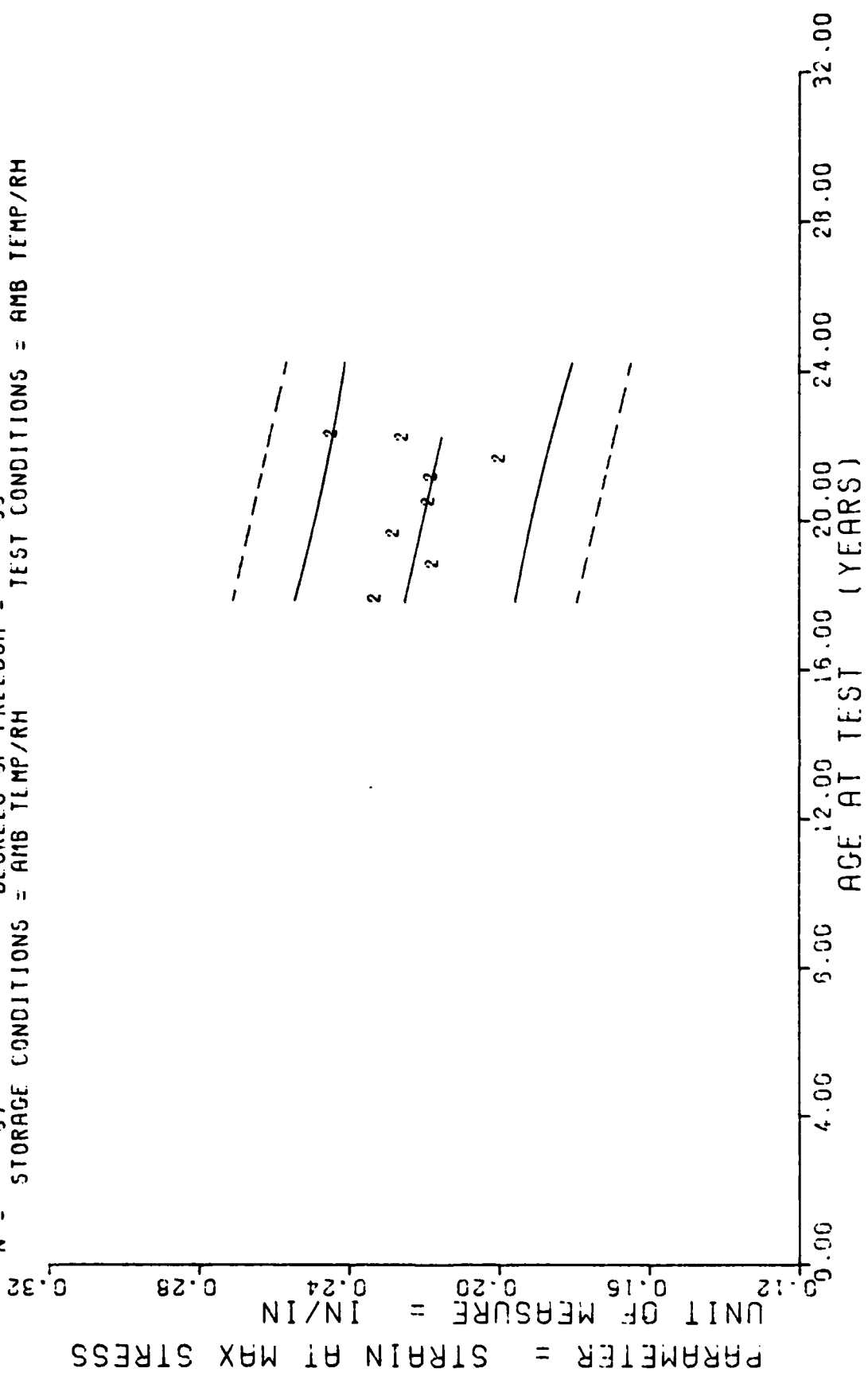
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
225.0	8	+6.8225000E+02	+5.0110591E+01	+7.2000000E+02	+5.6500000E+02	+6.4745434E+02
235.0	8	+6.1762500E+02	+9.4595815E+01	+7.4300000E+02	+5.0800000E+02	+6.4744799E+02
245.0	9	+5.5644433E+02	+3.0290720E+01	+6.4100000E+02	+5.5800000E+02	+6.4744140E+02
253.0	7	+6.7285693E+02	+2.7691325E+01	+7.0600000E+02	+6.4300000E+02	+6.4743627E+02
254.0	2	+6.2750000E+02	+2.4748737E+01	+6.4500000E+02	+6.1000000E+02	+6.4743554E+02
259.0	7	+7.2471411E+02	+6.6755585E+01	+7.8500000E+02	+6.1900000E+02	+6.4743237E+02
266.0	9	+6.1855541E+02	+1.6148615E+01	+6.4400000E+02	+5.9800000E+02	+6.4742797E+02

STAGE 1 DISSECTED MCTOR=0012029. LOW RATE CHS=0.02 IN/MIN. MODULUS

$Y = (( +2.6492323E-01 ) + ( -1.9618962E-04 ) * X )$   
 F = +3.1630388E+00 SIGNIFICANCE OF F = NOT SIGNIFICANT  $\sigma_f = +1.5519790E-02$   
 R = -2.1541591E-01 SIGNIFICANCE OF R = NOT SIGNIFICANT  $S_R = +1.0468895E-04$   
 I = +1.7784934E+00 SIGNIFICANCE OF I = NOT SIGNIFICANT  $S_I = +1.5271557E-02$   
 N = 67 DEGREES OF FREEDOM = 65 TEST CONDITIONS = AMB TEMP/RH  
 STORAGE CONDITIONS = AMB TEMP/RH



STAGE 1 DISSECTED MOTOR=0012029,LOW RATE CHS=0.2 IN/MIN,STRAIN MAX STRESS

Figure 11



\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

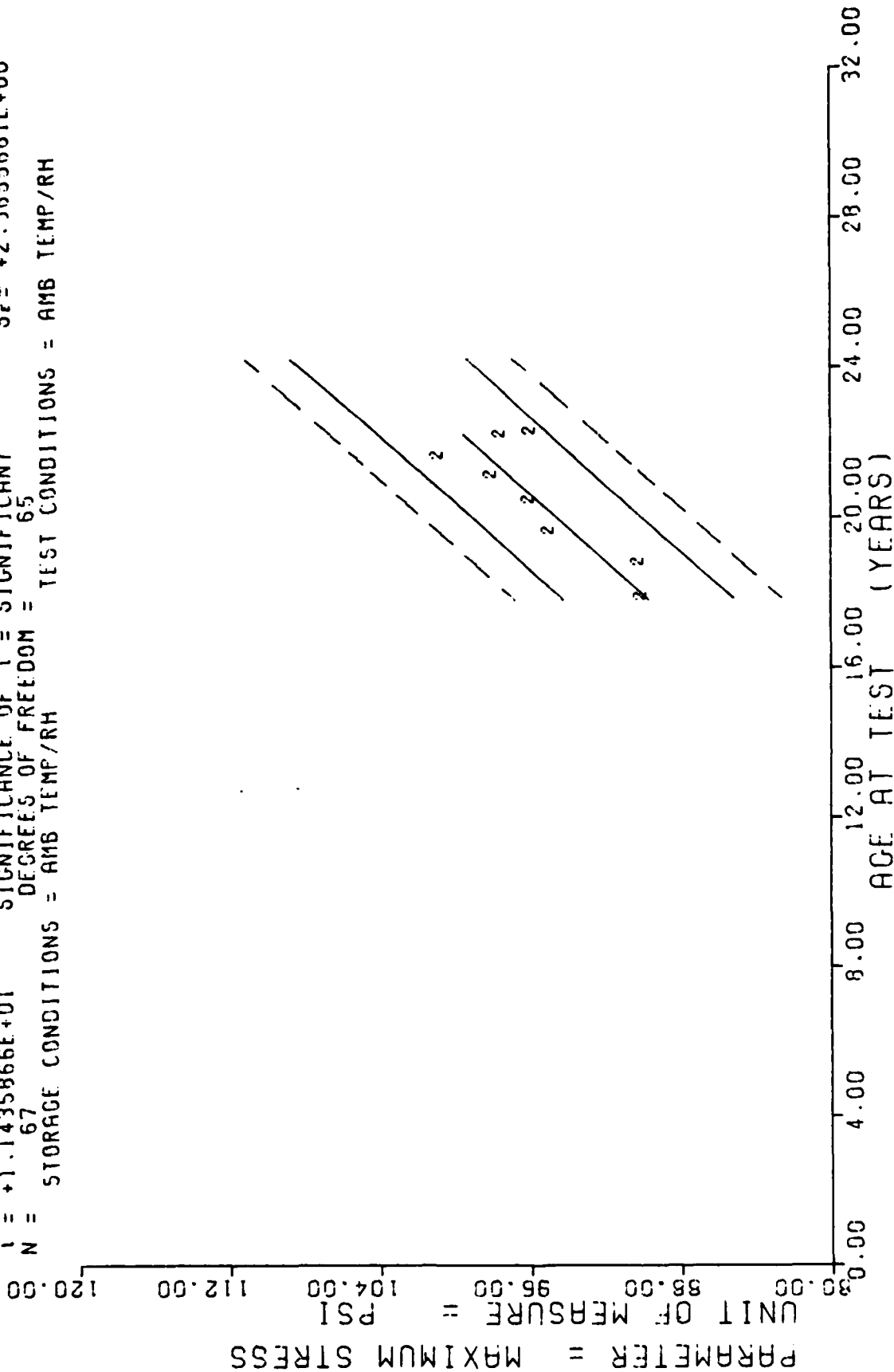
AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
214.0	9	+2.3163294E-01	+2.2495635E-03	+2.3585598E-01	+2.2839999E-01	+2.2457986E-01
225.0	10	+2.1630972E-01	+2.1626095E-02	+2.3669599E-01	+1.6899999E-01	+2.2293078E-01
235.0	8	+2.2676229E-01	+7.5737815E-03	+2.3449555E-01	+2.1199995E-01	+2.2106885E-01
245.0	9	+2.1734416E-01	+6.4648784E-03	+2.2449594E-01	+2.0669996E-01	+2.1920698E-01
253.0	9	+2.1673303E-01	+6.540305E-03	+2.2599555E-01	+2.0999997E-01	+2.1771746E-01
259.0	10	+1.9855581E-01	+1.5176368E-02	+2.2799598E-01	+1.8999999E-01	+2.1660035E-01
260.0	9	+2.2438659E-01	+5.4298696E-03	+2.3179599E-01	+2.1329998E-01	+2.1529704E-01
267.0	3	+2.4325996E-01	+3.4805782E-03	+2.4609594E-01	+2.3939996E-01	+2.1511083E-01

STAGE 1 DISSECTED MOTOR=0012029, LOW RATE CHS=0.2 IN/MIN, STRAIN MAX STRESS

$Y = (( +5.0004369E+01 ) + ( +1.8544797E-01 ) * X)$   
 SIGNIFICANCE OF F = SIGNIFICANT  
 SIGNIFICANCE OF R = SIGNIFICANT  
 SIGNIFICANCE OF I = SIGNIFICANT  
 DEGREES OF FREEDOM = 65  
 STORAGE CONDITIONS = AMB TEMP/RH  
 TEST CONDITIONS = AMB TEMP/RH

F = +1.3077904E+02  
 R = +8.1730842E-01  
 I = +1.1435866E+01  
 N = 67

$G_1 = +4.0742399E+00$   
 $S_1 = +1.6216346E-02$   
 $S_2 = +2.3655681E+00$



STAGE 1 DISSECTED MOTOR=0012029.10W RATE CHS=0.2 IN/MIN,MAX STRS

Figure 12

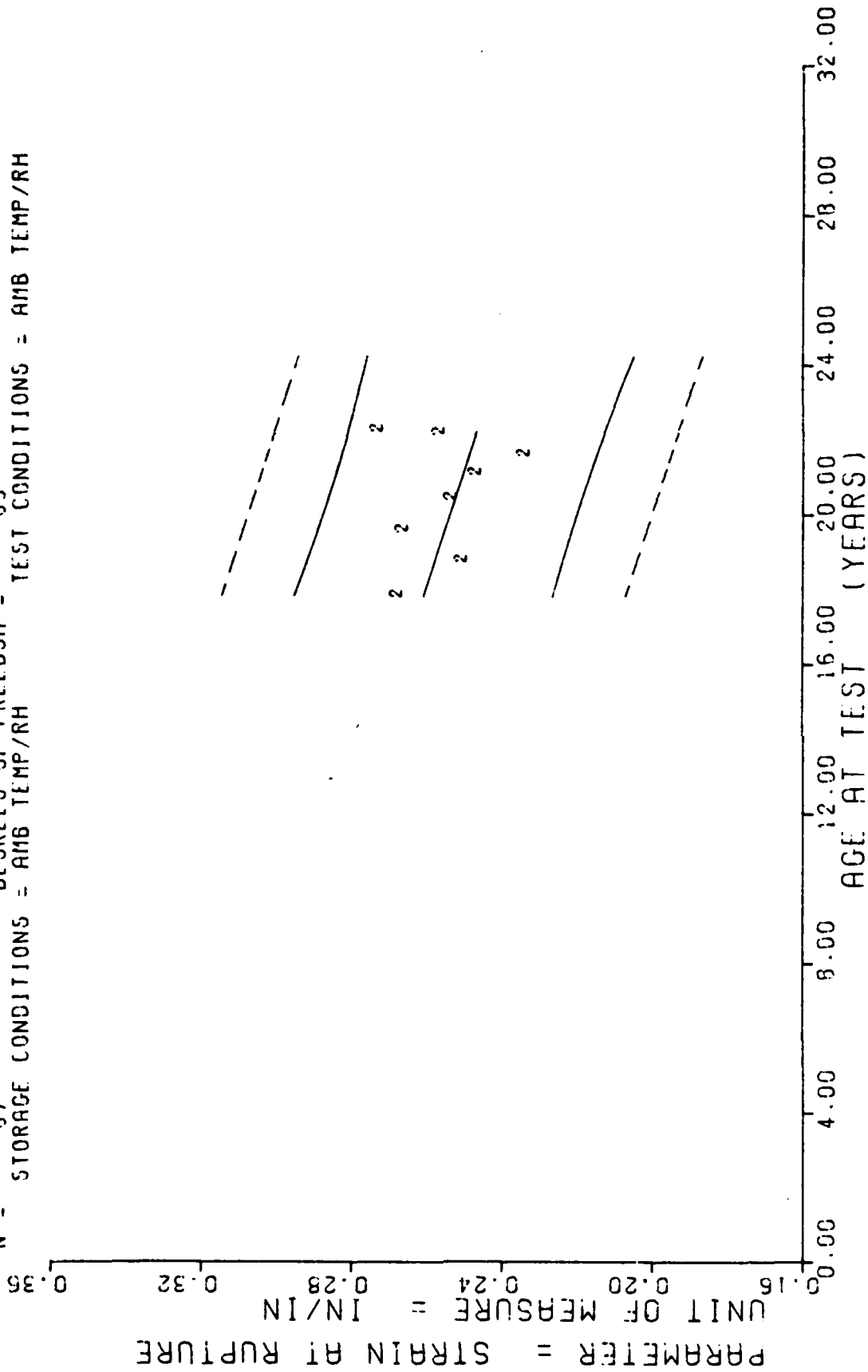
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MCNTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
214.0	9	+8.9844314E+01	+4.3567617E-01	+9.0569592E+01	+8.9299987E+01	+8.9690231E+01
225.0	10	+8.5588937E+01	+1.5886763E+00	+9.4089596E+01	+8.5879989E+01	+9.1730148E+01
235.0	8	+9.4737356E+01	+2.1829216E+00	+9.9149593E+01	+9.2059997E+01	+9.3584640E+01
245.0	9	+9.5788787E+01	+1.6678866E+00	+9.8619595E+01	+9.2899993E+01	+9.5439117E+01
253.0	9	+9.778778E+01	+8.913545E-01	+9.8955551E+01	+9.6519989E+01	+9.6922698E+01
259.0	10	+1.0657587E+02	+2.2927236E+00	+1.0179598E+02	+9.4299987E+01	+9.8035385E+01
266.0	9	+9.7522057E+01	+1.6027182E+00	+9.9215585E+01	+9.4429952E+01	+9.9333526E+01
267.0	3	+9.5719970E+01	+1.4202608E+00	+9.7189587E+01	+9.4359985E+01	+9.9518966E+01

STAGE 1 DISSECTED MCTOR=0012029, LOW RATE CHS=0.2 IN/MIN, MAX STPS.

$Y = 1 ( +3.1760112E-01 ) + 1 ( -2.6605252E-04 ) * X )$   
 F = +4.7214028E+00 SIGNIFICANCE OF F = SIGNIFICANT  $S_T = +1.9359002E-02$   
 R = -2.6022706E-01 SIGNIFICANCE OF R = NOT SIGNIFICANT  $S_R = +1.2244240E-04$   
 I = +2.1728789E+00 SIGNIFICANCE OF I = NOT SIGNIFICANT  $S_I = +1.7861351E-02$   
 N = 67 DEGREES OF FREEDOM = 65  
 STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = AMB TEMP/RH



STAGE 1 DISSECTED MOTOR=0012029.10W RATE CHS=0.2 IN/MIN. STRAIN AT RUPT.

Figure 13

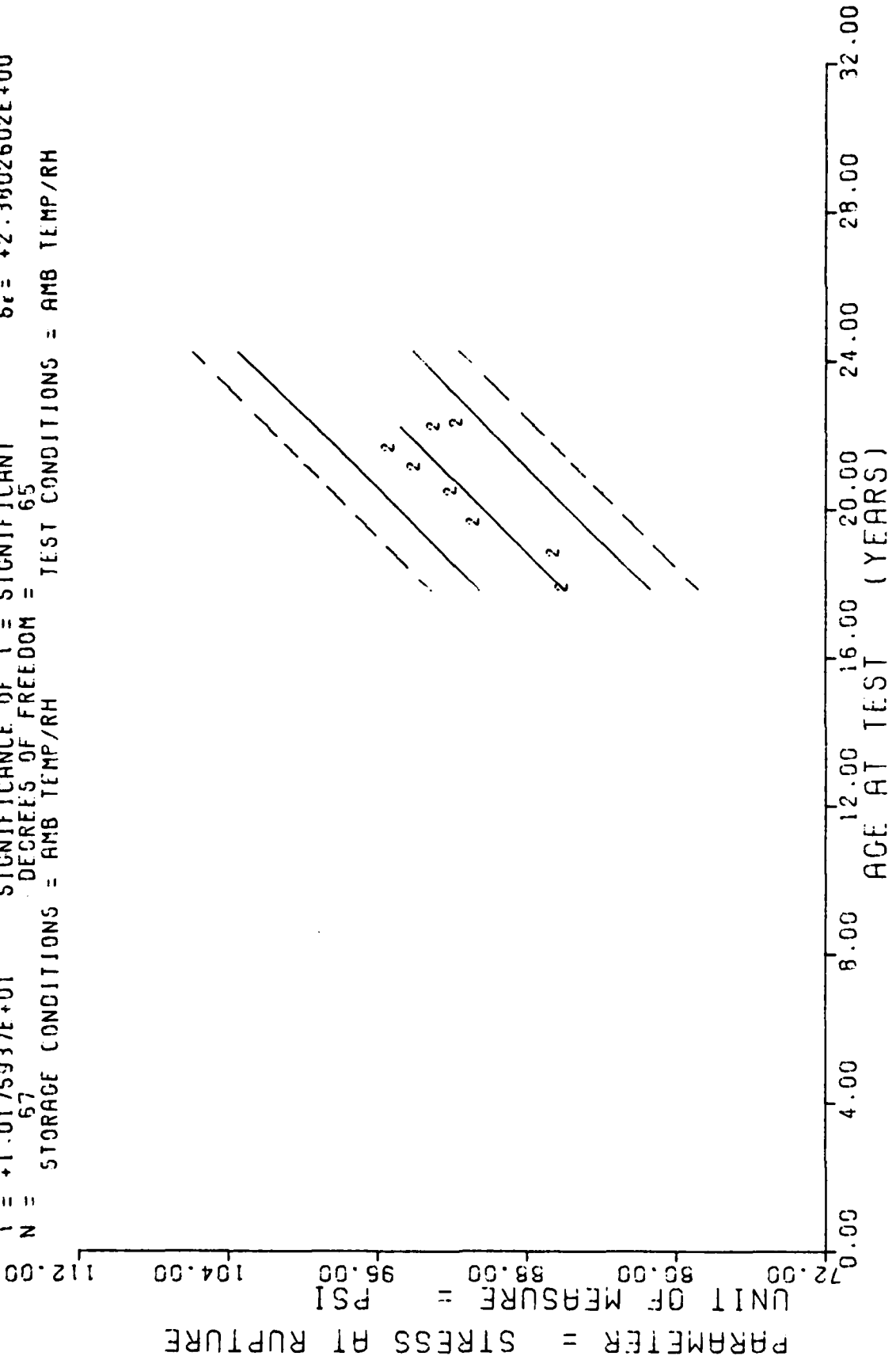
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
214.0	9	+2.6644408E-01	+7.4496370E-03	+2.8029556E-01	+2.5659956E-01	+2.6066583E-01
225.0	10	+2.4535960E-01	+2.9078959E-02	+2.7799599E-01	+1.819998E-01	+2.5773930E-01
235.0	8	+2.6504957E-01	+4.4618889E-03	+2.7079599E-01	+2.5979955E-01	+2.5507873E-01
245.0	9	+2.5224405E-01	+1.2267790E-02	+2.7199595E-01	+2.3499955E-01	+2.5241822E-01
253.0	10	+2.4577742E-01	+1.1050488E-02	+2.6099597E-01	+2.2589959E-01	+2.5028979E-01
259.0	9	+2.3285566E-01	+1.1634189E-02	+2.5299596E-01	+2.199996E-01	+2.4869346E-01
266.0	9	+2.5535529E-01	+1.4185014E-02	+2.7559595E-01	+2.2269959E-01	+2.4683111E-01
267.0	3	+2.7165956E-01	+1.6100242E-02	+2.8779959E-01	+2.5559957E-01	+2.4656504E-01

STAGE 1 DISSECTED MCTOR=0012029, LOW FATE CHS=0.2 IN/MIN, STRAIN AT RUPT.

$Y = (1 + 5.0454119E+01) + ( +1.6604141E-01 ) * X$   
 F = +1.0354970E+02      SIGNIFICANCE OF F = SIGNIFICANT       $\sigma_1 = +3.0037895E+00$   
 R = +7.8380933E-01      SIGNIFICANCE OF R = SIGNIFICANT       $S_0 = +1.6317062E-02$   
 I = +1.0175937E+01      SIGNIFICANCE OF I = SIGNIFICANT       $S_r = +2.3802602E+00$   
 N = 57      DEGREES OF FREEDOM = 65  
 STORAGE CONDITIONS = AMB TEMP/RH      TEST CONDITIONS = AMB TEMP/RH



STAGE 1 DISSECTED MOTOR=0012029, LOW RATE CHS=0.2 IN/MIN, STRESS AT RUPT.

Figure 14

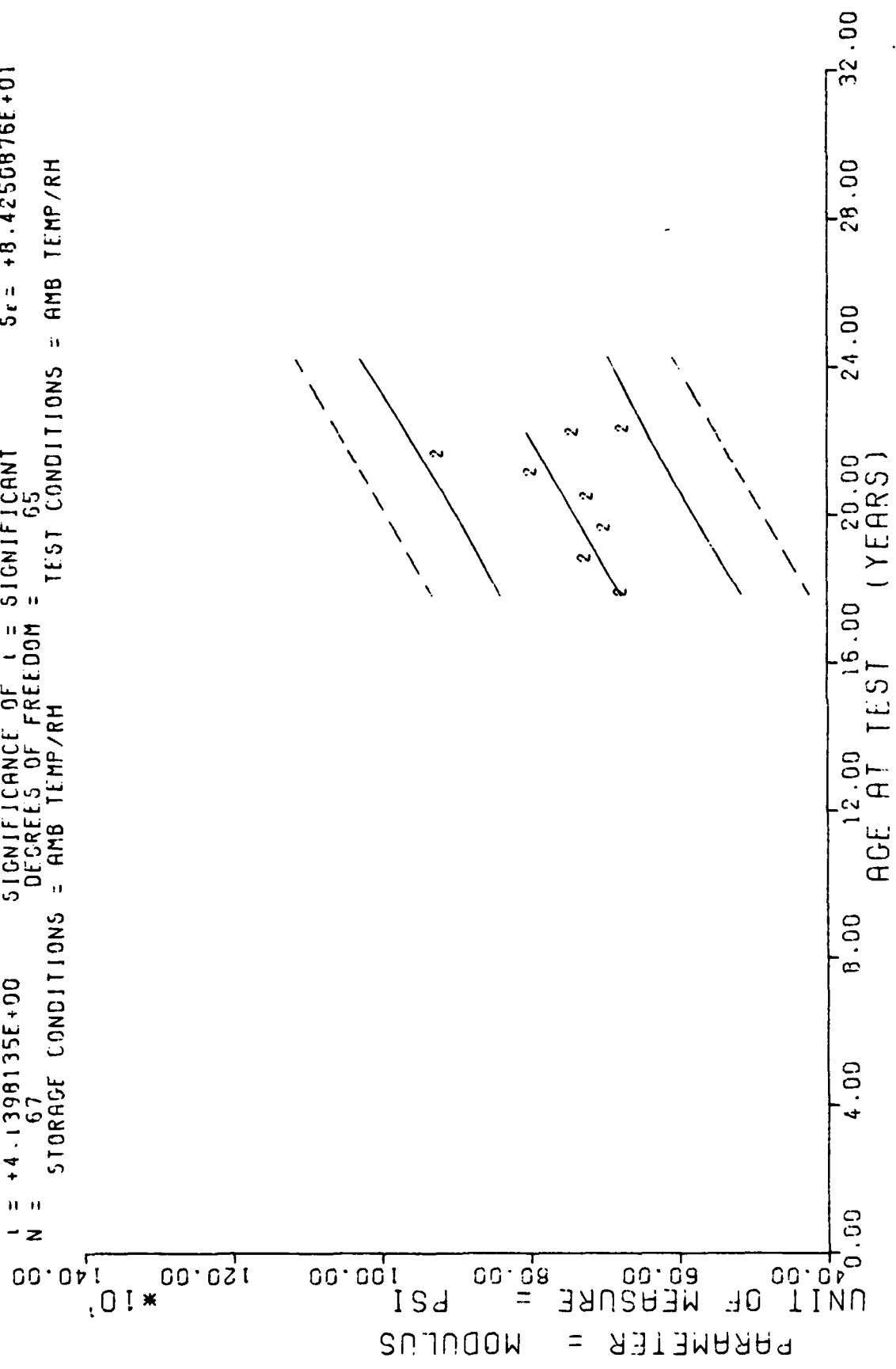
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
214.0	9	+8.5653271E+01	+1.3605270E+00	+8.7459591E+01	+8.3429952E+01	+8.5986968E+01
225.0	10	+8.6255856E+01	+1.9548672E+00	+8.9599590E+01	+8.2699996E+01	+8.7813430E+01
235.0	8	+9.0591156E+01	+1.7217584E+00	+9.3295587E+01	+8.7899993E+01	+8.9473846E+01
245.0	9	+9.1801025E+01	+2.1329450E+00	+9.4599590E+01	+8.9000000E+01	+9.1134262E+01
253.0	9	+9.3764373E+01	+1.4517947E+00	+9.6500000E+01	+9.1629989E+01	+9.2462585E+01
259.0	10	+9.5135507E+01	+2.0436064E+00	+9.7599590E+01	+9.1500000E+01	+9.3458831E+01
266.0	9	+9.2707672E+01	+2.5967719E+00	+9.7609585E+01	+8.9000000E+01	+9.4621124E+01
267.0	3	+9.1483306E+01	+1.5727012E+00	+9.3239590E+01	+8.9349990E+01	+9.4787170E+01

STAGE 1 DISSECTED MOTOR=0012029, LOW RATE CHS=0.2 IN/MIN, STRESS AT RUPT.

Y = (( +1.6533313E+02 ) + ( +2.3909624E+00 ) \* X )  
 F = +1.7138056E+01      SIGNIFICANCE OF F = SIGNIFICANT       $\sigma_1 = +9.3988490E+01$   
 R = +4.5678157E-01      SIGNIFICANCE OF R = SIGNIFICANT       $S_0 = +5.7755316E-01$   
 I = +4.1398135E+00      SIGNIFICANCE OF I = SIGNIFICANT       $S_r = +8.4250876E+01$   
 N = 67      DEGREES OF FREEDOM = 65  
 STORAGE CONDITIONS = AMB TEMP/RH      TEST CONDITIONS = AMB TEMP/RH



STAGE 1 DISSECTED MOTOR=0012029, LOW RATE CHS=0.2 IN/MIN, MODULUS

Figure 15



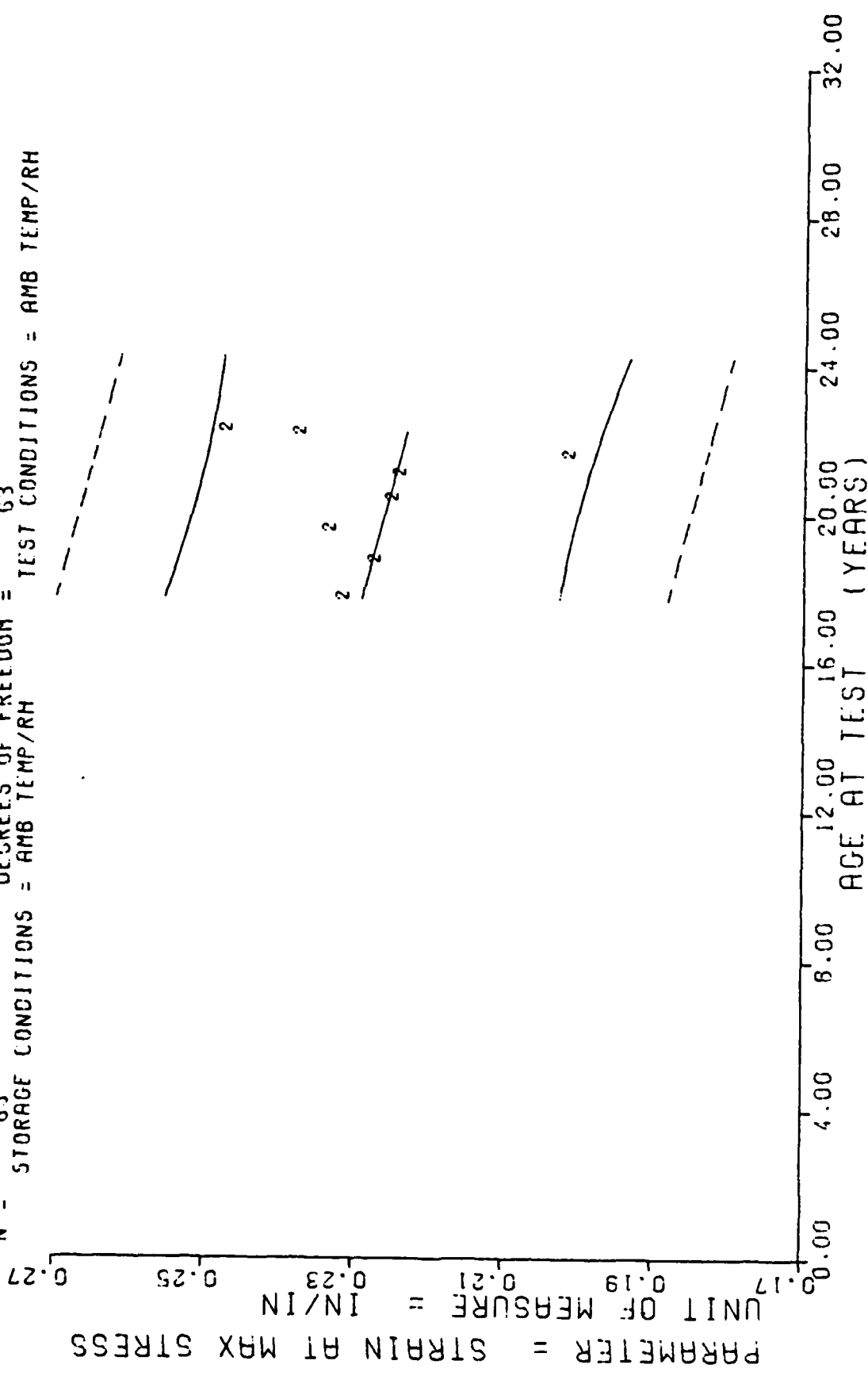
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
214.0	9	+6.7033225E+02	+1.1022703E+01	+6.8700000E+02	+6.5600000E+02	+6.7699902E+02
225.0	10	+7.1850000E+02	+8.2120845E+01	+8.3400000E+02	+6.1000000E+02	+7.0329956E+02
235.0	8	+6.9275000E+02	+4.5114298E+01	+7.6600000E+02	+6.2600000E+02	+7.2720922E+02
245.0	9	+7.1588867E+02	+3.8550111E+01	+7.9400000E+02	+6.7700000E+02	+7.5111889E+02
253.0	9	+7.9155541E+02	+3.5919377E+01	+8.4500000E+02	+7.3600000E+02	+7.7024658E+02
259.0	10	+9.1585990E+02	+8.1826585E+01	+9.7600000E+02	+7.4100000E+02	+7.8459228E+02
266.0	9	+7.3500000E+02	+2.4799193E+01	+7.8000000E+02	+6.8600000E+02	+8.0132910E+02
267.0	3	+6.6800000E+02	+1.5467922E+01	+6.8300000E+02	+6.4600000E+02	+8.0371997E+02

STAGE 1 DISSECTED MOTOR=0012029. LOW RATE CHS=J.2 IN/MIN, MODULUS

F = +1.2700122E+00  
 R = -1.4057230E-01  
 I = +1.1269481E+00  
 N = 65  
 STORAGE CONDITIONS = AMB TEMP/RH  
 Y = (( +2.5238597E-01 ) + ( -1.0962941E-04 ) \* X )  
 SIGNIFICANCE OF F = NOT SIGNIFICANT  
 SIGNIFICANCE OF R = NOT SIGNIFICANT  
 SIGNIFICANCE OF I = NOT SIGNIFICANT  
 DEGREES OF FREEDOM = 63  
 TEST CONDITIONS = AMB TEMP/RH  
 G1 = +1.3652684E-02  
 S1 = +9.7279904E-05  
 S1 = +1.3623974E-02



STAGE 1 DISSECTED MOTOR=0012029.10N RATE CHS=2.0 IN/MIN. STRAIN MAX STRESS

Figure 16

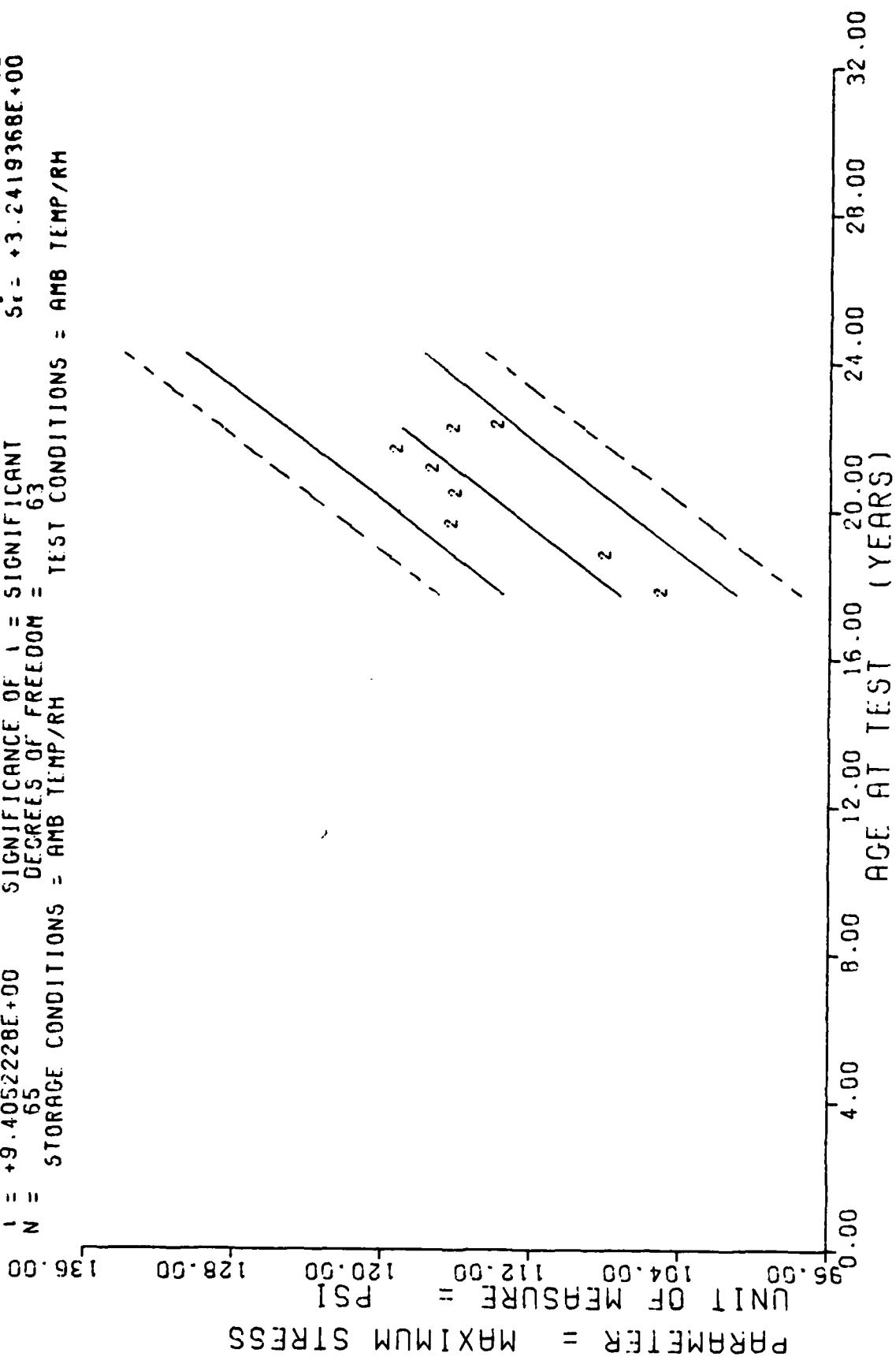
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	7	+2.3094254E-01	+7.5251006E-03	+2.4059558E-01	+2.1799559E-01	+2.2903490E-01
225.0	9	+2.2672194E-01	+7.3190848E-03	+2.3649596E-01	+2.1299959E-01	+2.2771930E-01
235.0	9	+2.3273307E-01	+1.0049670E-02	+2.479556E-01	+2.1979999E-01	+2.2662305E-01
245.0	9	+2.2442191E-01	+4.3308148E-03	+2.2859596E-01	+2.1519994E-01	+2.2552675E-01
253.0	9	+2.237752E-01	+6.7721894E-03	+2.3279554E-01	+2.1389997E-01	+2.2464972E-01
259.0	10	+2.0085566E-01	+2.7862427E-03	+2.0395559E-01	+1.9599997E-01	+2.2399193E-01
266.0	9	+2.3681074E-01	+6.6377722E-03	+2.4599599E-01	+2.2599995E-01	+2.2322452E-01
267.0	3	+2.4666661E-01	+6.6222938E-03	+2.5169598E-01	+2.3889994E-01	+2.2311490E-01

STAGE 1 DISSECTED MOTOR=0012029,LOW RATE CHS=2.0 IN/MIN,STRAIN MAX STRESS

$Y = (( +6.0906004E+01 ) + ( +2.1771730E-01 ) \cdot X)$   
 F = +8.8458217E+01 SIGNIFICANCE OF F = SIGNIFICANT  $\sigma_1 = +4.9872482E+00$   
 R = +7.6422751E-01 SIGNIFICANCE OF R = SIGNIFICANT  $\sigma_2 = +2.3148553E-02$   
 I = +9.4052228E+00 SIGNIFICANCE OF I = SIGNIFICANT  $\sigma_3 = +3.2419368E+00$   
 N = 65 DEGREES OF FREEDOM = 63  
 STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = AMB TEMP/RH



STAGE 1 DISSECTED MOTOR=0012029,LOW RATE CHS=2.0 IN/MIN,MAX STRS

Figure 17

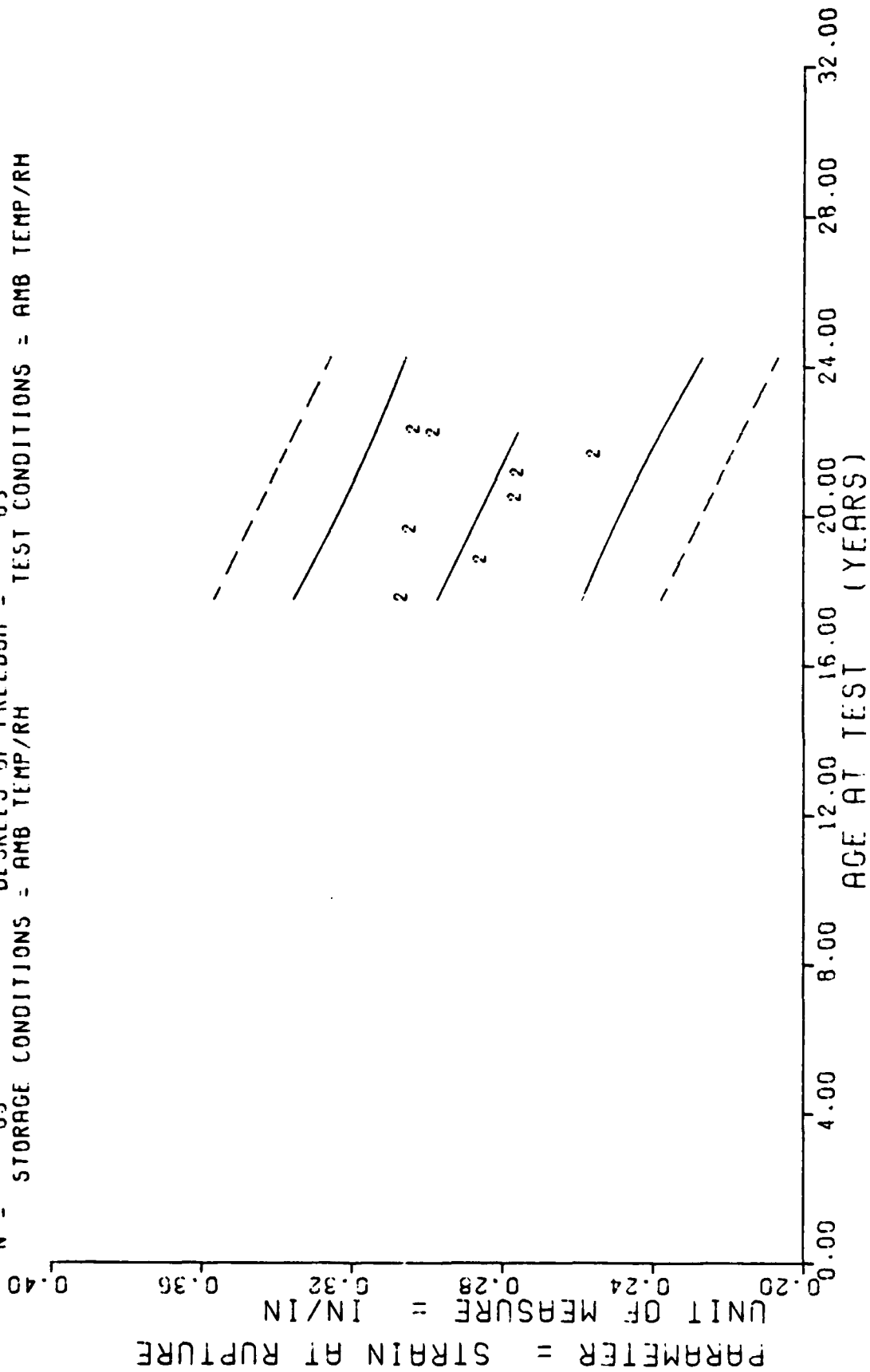
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	7	+1.0480419E+02	+1.0504985E+00	+1.0630559E+02	+1.0296998E+02	+1.0727978E+02
225.0	9	+1.0779431E+02	+8.7151532E-01	+1.0948599E+02	+1.0689999E+02	+1.0989239E+02
235.0	9	+1.1606770E+02	+3.8591812E+00	+1.2085558E+02	+1.1043998E+02	+1.1206956E+02
245.0	9	+1.1588655E+02	+1.5942971E+00	+1.2110998E+02	+1.1451998E+02	+1.1424673E+02
253.0	9	+1.1710656E+02	+8.5701457E-01	+1.1828559E+02	+1.1595999E+02	+1.1598847E+02
259.0	10	+1.1500950E+02	+1.2924222E+00	+1.2100000E+02	+1.1779998E+02	+1.1729478E+02
266.0	9	+1.158211E+02	+1.7211295E+00	+1.1926598E+02	+1.1413999E+02	+1.1881880E+02
267.0	3	+1.1362955E+02	+1.1863402E+00	+1.1496558E+02	+1.1272999E+02	+1.1903651E+02

STAGE 1 DISSECTED MOTOR=0012029,LOW RATE CHS=2.0 IN/MIN,MAX STRS.

$Y = (( +3.8134254E-01 ) + ( -3.9539978E-04 ) * X )$   
 F = +7.8440288E+00 SIGNIFICANCE OF F = SIGNIFICANT  $\sigma_f = +2.0R02195E-02$   
 R = -3.327492E-01 SIGNIFICANCE OF R = SIGNIFICANT  $S_R = +1.4117793E-04$   
 I = +2.8007193E+00 SIGNIFICANCE OF I = SIGNIFICANT  $S_I = +1.9771860E-02$   
 N = 65 DEGREES OF FREEDOM = 63  
 STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = AMB TEMP/RH



STAGE 1 DISSECTED MOTOR=0012029.10W RATE CHS=2.0 IN/MIN. STRAIN AT RUPT.

Figure 18

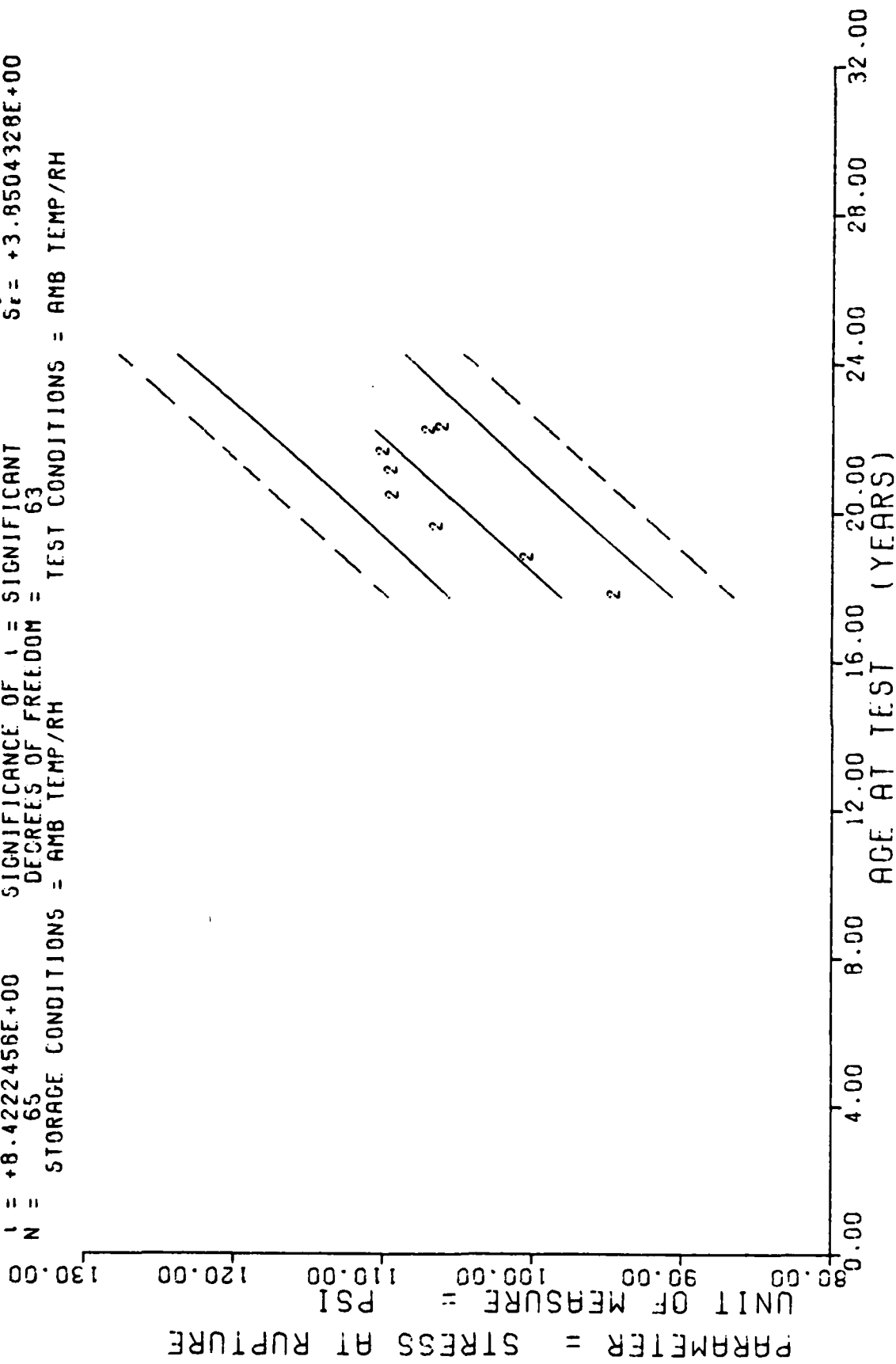
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MCNTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	7	+3.0534249E-01	+6.4243548E-03	+3.1599598E-01	+2.9799957E-01	+2.9712235E-01
225.0	9	+2.8454399E-01	+7.2308748E-03	+2.9649596E-01	+2.7569997E-01	+2.9237759E-01
235.0	9	+3.0321073E-01	+1.5853340E-02	+3.3295554E-01	+2.7199995E-01	+2.8842359E-01
245.0	9	+2.7535568E-01	+1.0789632E-02	+2.9259597E-01	+2.5999959E-01	+2.8446954E-01
253.0	9	+2.746660E-01	+1.6506009E-02	+3.0165559E-01	+2.4779959E-01	+2.8130638E-01
259.0	10	+2.5435965E-01	+8.0941206E-03	+2.6395599E-01	+2.3799957E-01	+2.7893400E-01
266.0	9	+2.5695528E-01	+1.4374271E-02	+3.1395555E-01	+2.6799954E-01	+2.7616620E-01
267.0	3	+3.0215555E-01	+1.5414270E-02	+3.1109594E-01	+2.8439958E-01	+2.7577078E-01

STAGE 1 DISSECTED MCTOR=0012029, LOW RATE CHS=2.0 IN. MIN. STRAIN AT RUPT.

Y = ( ( +4.8819947E+01 ) + ( +2.3155638E-01 ) \* X )  
 F = +7.0934225E+01      SIGNIFICANCE OF F = SIGNIFICANT      S<sub>f</sub> = +5.5701301E+00  
 R = +7.2774985E-01      SIGNIFICANCE OF R = SIGNIFICANT      S<sub>r</sub> = +2.7493425E-02  
 I = +8.4222458E+00      SIGNIFICANCE OF I = SIGNIFICANT      S<sub>i</sub> = +3.8504328E+00  
 N = 65  
 STORAGE CONDITIONS = AMB TEMP/RH  
 DEGREES OF FREEDOM = 63  
 TEST CONDITIONS = AMB TEMP/RH



STAGE 1 DISSECTED MOTOR=0012029,LOW RATE CMS=2.0 IN/MIN,STRESS AT RUPT.

Figure 19



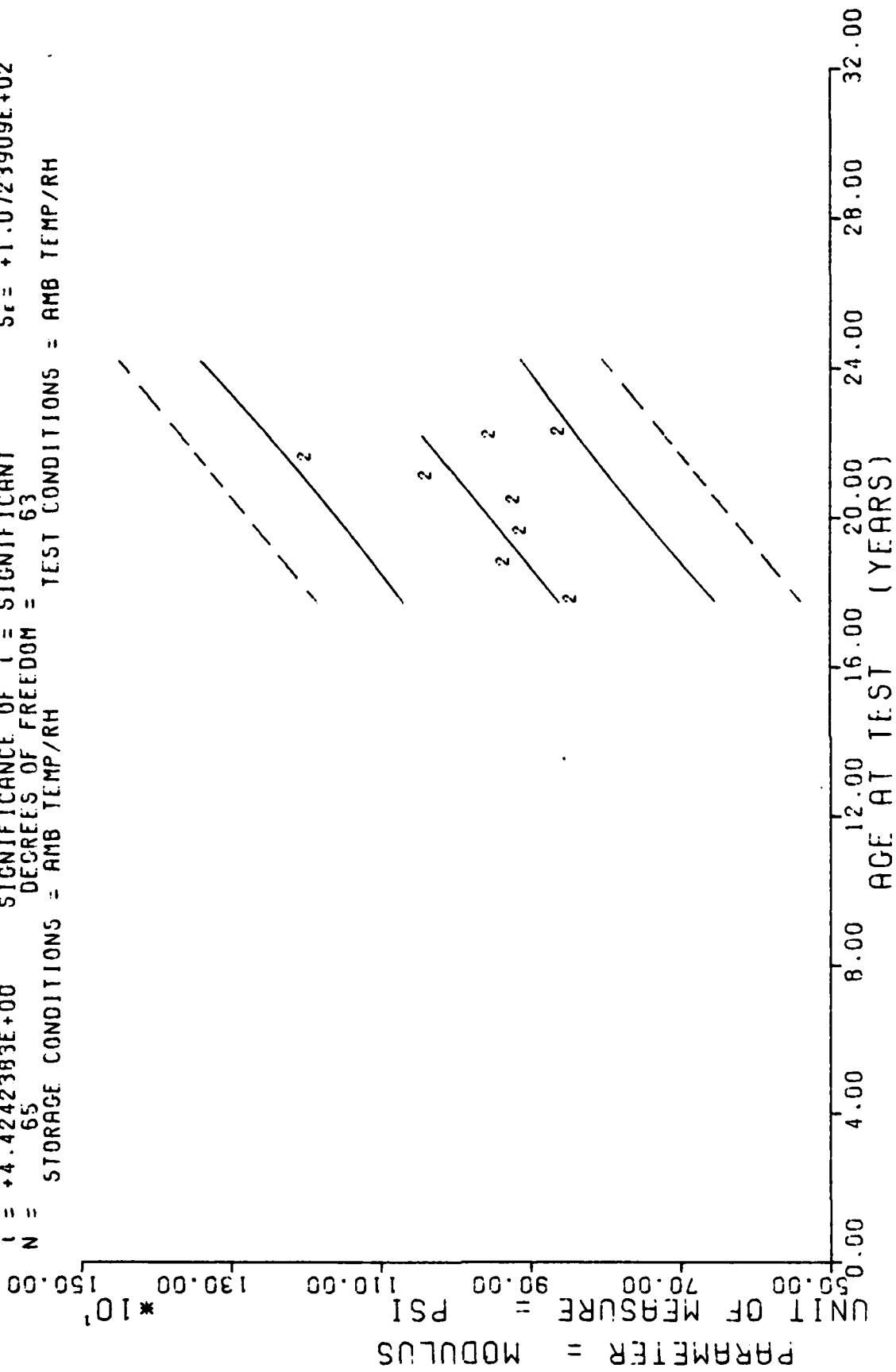
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	7	+9.423913E+01	+1.9654567E+00	+9.6500000E+01	+9.1439987E+01	+9.8141448E+01
225.0	9	+1.0006433E+02	+1.8355831E+00	+1.0234999E+02	+9.7500000E+01	+1.0092012E+02
235.0	9	+1.0612589E+02	+3.2496143E+00	+1.0989559E+02	+1.0039999E+02	+1.0323568E+02
245.0	9	+1.0908435E+02	+2.1877066E+00	+1.1365599E+02	+1.0555999E+02	+1.0555125E+02
253.0	9	+1.0917675E+02	+2.7664300E+00	+1.1275599E+02	+1.0512998E+02	+1.0740370E+02
259.0	10	+1.0572991E+02	+2.0064762E+00	+1.1350000E+02	+1.0750000E+02	+1.0879304E+02
266.0	9	+1.0666545E+02	+3.8032152E+00	+1.1163999E+02	+1.0136999E+02	+1.1041394E+02
267.0	3	+1.0576592E+02	+2.6627130E+00	+1.0823599E+02	+1.0416999E+02	+1.1064549E+02

STAGE 1 DISSECTED MOTOR=0012029. LOW FATE CHS=2.0 IN/MIN. STRESS AT RUPT.

$Y = (1 + 1.3994768E+02) + ( +3.3877469E+00 ) \cdot X$   
 F = +1.9573884E+01      SIGNIFICANCE OF F = SIGNIFICANT       $\sigma_1 = +1.2181044E+02$   
 R = +4.8687464E-01      SIGNIFICANCE OF R = SIGNIFICANT       $S_0 = +7.6572432E-01$   
 t = +4.4242383E+00      SIGNIFICANCE OF t = SIGNIFICANT       $S_e = +1.0723909E+02$   
 N = 65  
 DEGREES OF FREEDOM = 63  
 STORAGE CONDITIONS = AMB TEMP/RH      TEST CONDITIONS = AMB TEMP/RH



STAGE 1 DISSECTED MOTOR=0012029.10W RATE CHS=2.0 IN/MIN.MODULUS

Figure 20

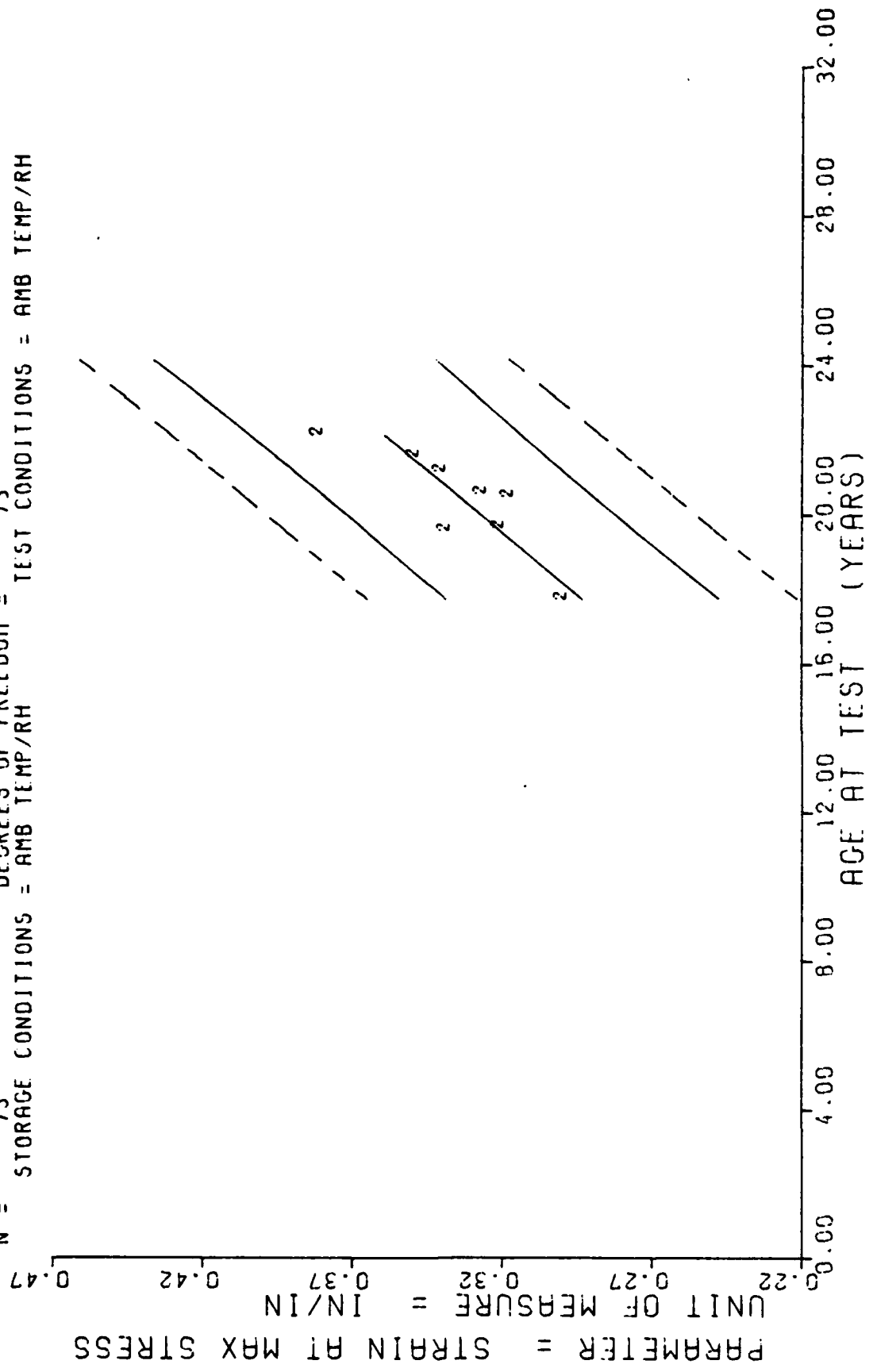
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*

AGE (MCNTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	7	+8.3528564E+02	+4.7562590E+01	+9.0800000E+02	+7.6700000E+02	+8.6153759E+02
225.0	9	+9.2866650E+02	+4.5295030E+01	+1.0110000E+03	+8.7400000E+02	+9.0219067E+02
235.0	9	+9.0644433E+02	+9.5633216E+01	+1.0340000E+03	+7.8000000E+02	+9.3606811E+02
245.0	9	+9.1566650E+02	+6.2090659E+01	+1.0790000E+03	+8.7900000E+02	+9.6994555E+02
253.0	9	+1.032332E+03	+4.2790185E+01	+1.0900000E+03	+9.6100000E+02	+9.9704760E+02
259.0	10	+1.1522598E+03	+2.5033533E+01	+1.2350000E+03	+1.1650000E+03	+1.0173740E+03
266.0	9	+5.4806000E+02	+3.0211752E+01	+9.8900000E+02	+9.0900000E+02	+1.0410881E+03
267.0	3	+8.5566650E+02	+4.3730233E+01	+9.0600000E+02	+8.2700000E+02	+1.0444760E+03

STAGE 1 DISSECTED MCTOR=0012029,LOW RATE CHS=2.0 IN/MIN,MODULUS

Y = ( ( +2.7337347E-02 ) + ( +1.2480227E-03 ) \* X )  
 F = +5.4551789E+01 SIGNIFICANCE OF F = SIGNIFICANT  $\sigma_f = +3.1297256E-02$   
 R = +6.5397511E-01 SIGNIFICANCE OF R = SIGNIFICANT  $S_r = +1.6897326E-04$   
 I = +7.3859183E+00 SIGNIFICANCE OF I = SIGNIFICANT  $S_r = +2.3839497E-02$   
 N = 75 DEGREES OF FREEDOM = 73  
 STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = AMB TEMP/RH



STAGE 1, DISCTED MOTOR=0012029, I. R. HYDRO. CHS=2.0 IN/MIN, 600 PSI, STRAIN MAX STRS.

Figure 21

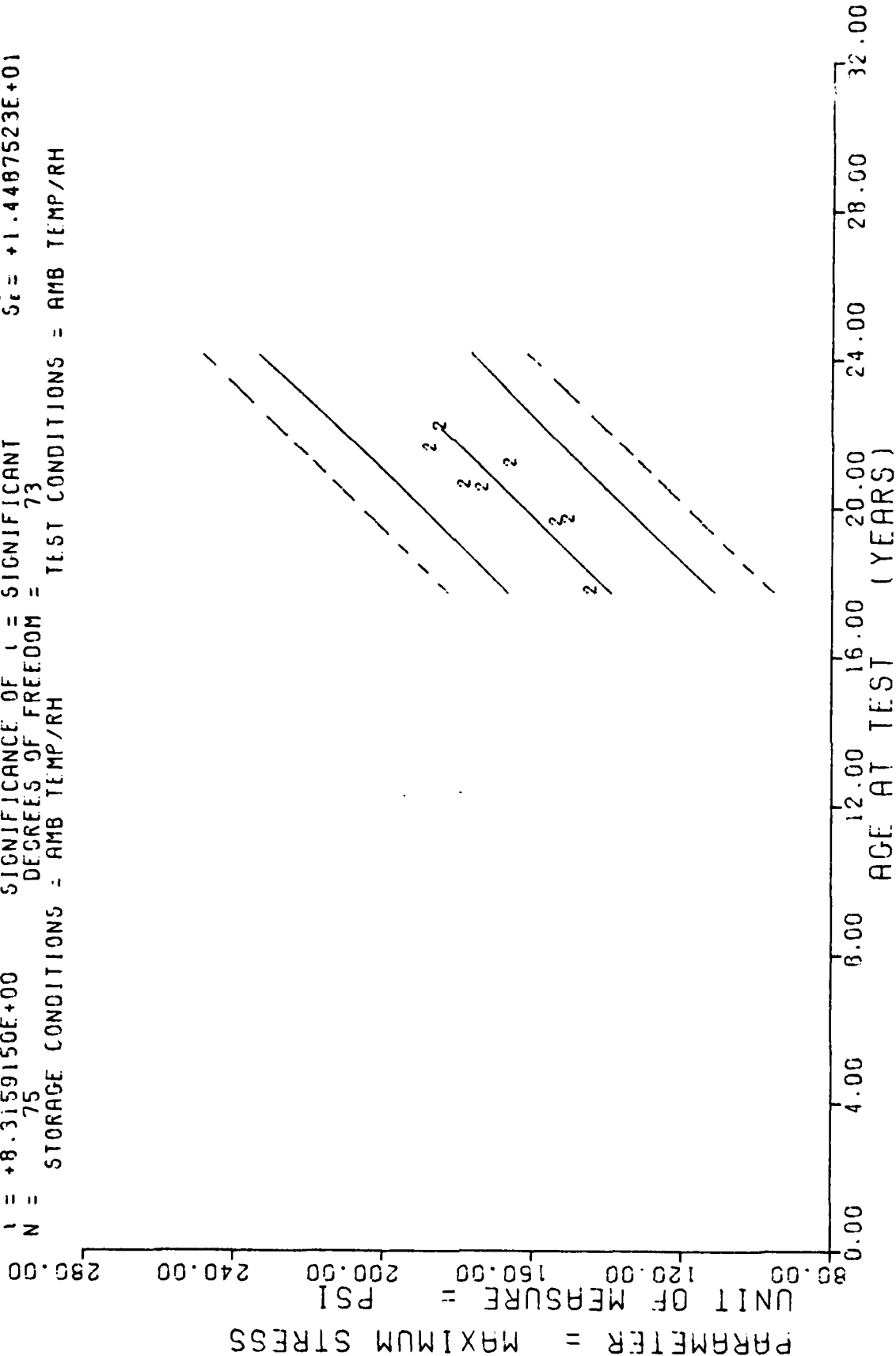
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	12	+2.5E6629E-01	+3.2409414E-02	+3.3299594E-01	+2.3299598E-01	+2.9316616E-01
235.0	6	+3.3771622E-01	+8.8305040E-03	+3.4899597E-01	+3.2629996E-01	+3.2062268E-01
236.0	12	+3.1574565E-01	+1.0045670E-02	+3.3799599E-01	+3.0299997E-01	+3.2187068E-01
246.0	10	+3.1668572E-01	+2.0323049E-02	+3.5499555E-01	+2.7779996E-01	+3.3435094E-01
247.0	9	+3.2565568E-01	+1.6035606E-02	+3.4755598E-01	+2.9899996E-01	+3.3559894E-01
254.0	9	+3.3522183E-01	+1.4102945E-02	+3.5199999E-01	+3.0399996E-01	+3.4433507E-01
259.0	8	+3.4812462E-01	+1.5958611E-02	+3.6099594E-01	+3.1599998E-01	+3.5057520E-01
266.0	9	+3.8022184E-01	+3.1565681E-02	+4.1799558E-01	+3.4099996E-01	+3.5931134E-01

STAGE 1.0 DISCTED MCTOR=0012029.L.R.HYDRC.CHS=2.0 IN/MIN.800 PSI. STRAIN MAX STRS.

$Y = ( (-4.2779603E+01) + (+8.5397138E-01) * X )$   
 SIGNIFICANCE OF F = SIGNIFICANT  
 $S_1 = +2.0079759E+01$   
 SIGNIFICANCE OF R = SIGNIFICANT  
 $S_2 = +1.0269121E-01$   
 SIGNIFICANCE OF t = SIGNIFICANT  
 $S_3 = +1.4487523E+01$   
 DEGREES OF FREEDOM = 73  
 STORAGE CONDITIONS = AMB TEMP/RH  
 TEST CONDITIONS = AMB TEMP/RH



STAGE 1, DISCTED MOTOR=0012029, 1 .R. HYDRO. CHS=2.0 IN/MIN, 800 PSI, MAX STRS

Figure 22

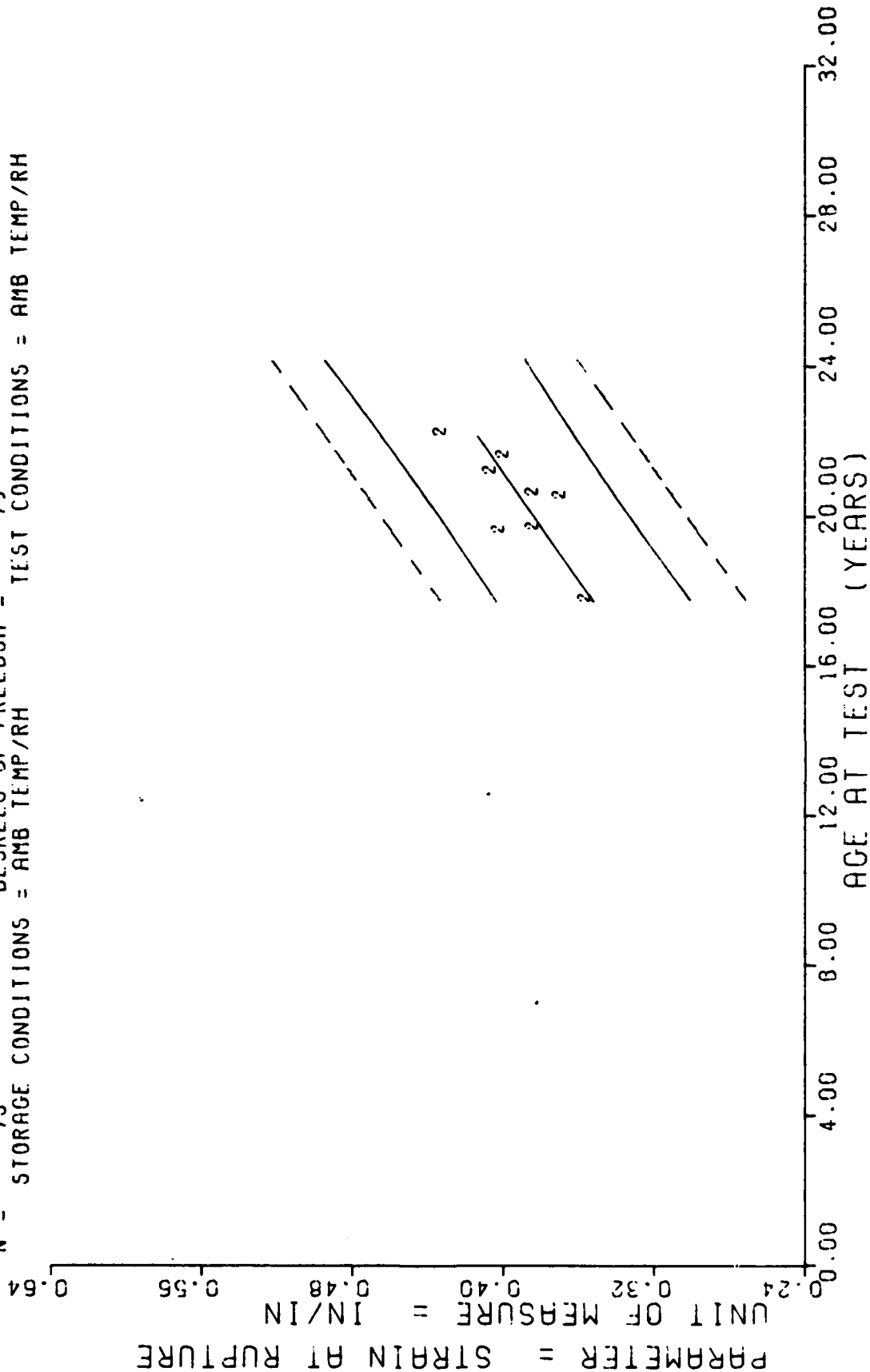
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	12	+1.4307159E+02	+2.2495827E+01	+1.6769555E+02	+1.0521998E+02	+1.3911628E+02
235.0	6	+1.5243322E+02	+1.5158548E+01	+1.7609559E+02	+1.3900999E+02	+1.5790367E+02
236.0	12	+1.4518408E+02	+8.5602996E+00	+1.6205599E+02	+1.4059999E+02	+1.5875762E+02
246.0	10	+1.7228991E+02	+5.8775560E+00	+1.8200000E+02	+1.5000000E+02	+1.6729734E+02
247.0	9	+1.7703324E+02	+1.1281037E+01	+1.8989559E+02	+1.5500000E+02	+1.6815132E+02
254.0	9	+1.6480680E+02	+7.5317291E+00	+1.8409559E+02	+1.6009999E+02	+1.7412911E+02
259.0	8	+1.8621246E+02	+1.0974632E+01	+2.0097599E+02	+1.7150000E+02	+1.7839897E+02
266.0	9	+1.8345589E+02	+1.0578065E+01	+1.5939559E+02	+1.6975000E+02	+1.8437677E+02

STAGE 1.DISC TEC MCTOR=0012029.L.R.HYDR.CHS=2.0 IN/MIN.800 PSI.MAX STRS.

$Y = ( ( +1.0611034E-01 ) + ( +1.1554337E-03 ) * X )$   
 F = +3.6660902E+01      SIGNIFICANCE OF F = SIGNIFICANT       $\sigma_f = +3.2772864E-02$   
 R = +5.7819677E-01      SIGNIFICANCE OF R = SIGNIFICANT       $S_b = +1.9082860E-04$   
 I = +6.0548247E+00      SIGNIFICANCE OF I = SIGNIFICANT       $S_r = +2.6921816E-02$   
 N = 75  
 STORAGE CONDITIONS = AMB TEMP/RH      TEST CONDITIONS = AMB TEMP/RH  
 DEGREES OF FREEDOM = 73



STAGE 1. DISCTED MOTOR=0012029.L.R.HYDRO.CH5=2.0 IN/MIN, 600 PSI, STRAIN AT RUPT.

Figure 23



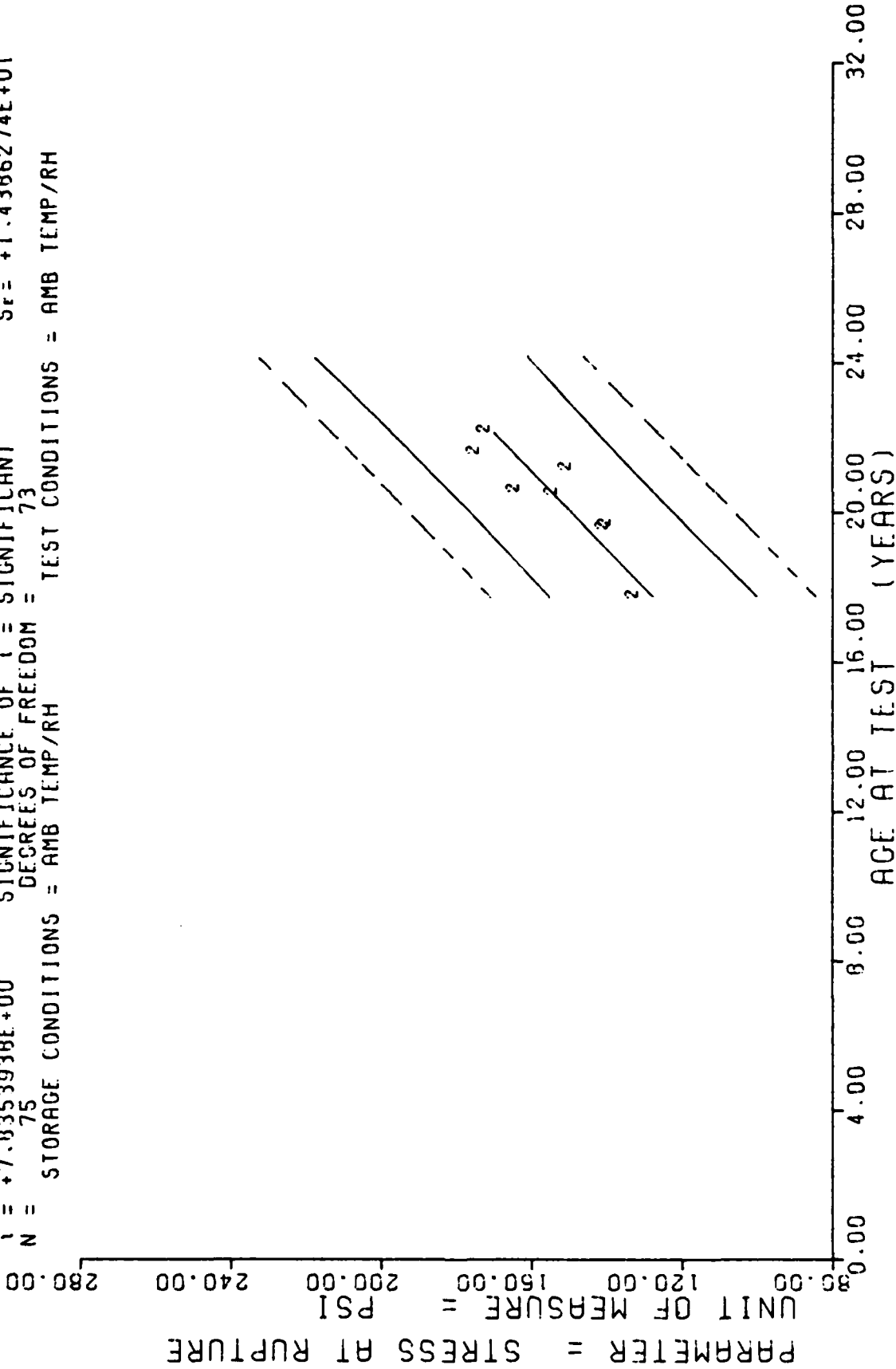
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MCNTHS)	SPECIMENS PER GRUPO	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	12	+3.5351622E-01	+3.7264222E-02	+3.9095557E-01	+2.9199999E-01	+3.5221773E-01
235.0	6	+3.9568299E-01	+1.3528494E-02	+4.1999595E-01	+3.8289999E-01	+3.7763726E-01
236.0	12	+3.8166630E-01	+5.8552713E-03	+4.0099596E-01	+3.6699998E-01	+3.7879270E-01
246.0	10	+3.6731564E-01	+1.8846427E-02	+3.9499598E-01	+3.2799994E-01	+3.9034700E-01
247.0	9	+3.8177740E-01	+1.4617547E-02	+4.0399598E-01	+3.5699999E-01	+3.9150243E-01
254.0	9	+4.0422155E-01	+1.5758078E-02	+4.2799597E-01	+3.7699997E-01	+3.9959049E-01
259.0	8	+3.9737474E-01	+1.8405715E-02	+4.2099594E-01	+3.6999995E-01	+4.0536767E-01
266.0	9	+4.3044354E-01	+4.1637997E-02	+4.8759597E-01	+3.8299995E-01	+4.1345572E-01

STAGE 1, DISCTED MCTCR=0012029, L.R. HYDRIC.CHS=2.0 IN/MIN. 800 PSI. STRAIN AT RUPT.

$Y = (( -4.2540371E+01 ) + ( +7.9900279E-01 ) * X)$   
 SIGNIFICANCE OF F = SIGNIFICANT  
 SIGNIFICANCE OF R = SIGNIFICANT  
 SIGNIFICANCE OF I = SIGNIFICANT  
 DEGREES OF FREEDOM = 73  
 STORAGE CONDITIONS = AMB TEMP/RH  
 TEST CONDITIONS = AMB TEMP/RH  
 $S_f = +1.9387483E+01$   
 $S_r = +1.0197353E-01$   
 $S_f = +1.4386274E+01$



STAGE 1, DISCTED MOTOR=0012029.1.R.HYDRO.CH5=2.0 IN/MIN.800 PSI,STRESS AT RUPT.

Figure 24

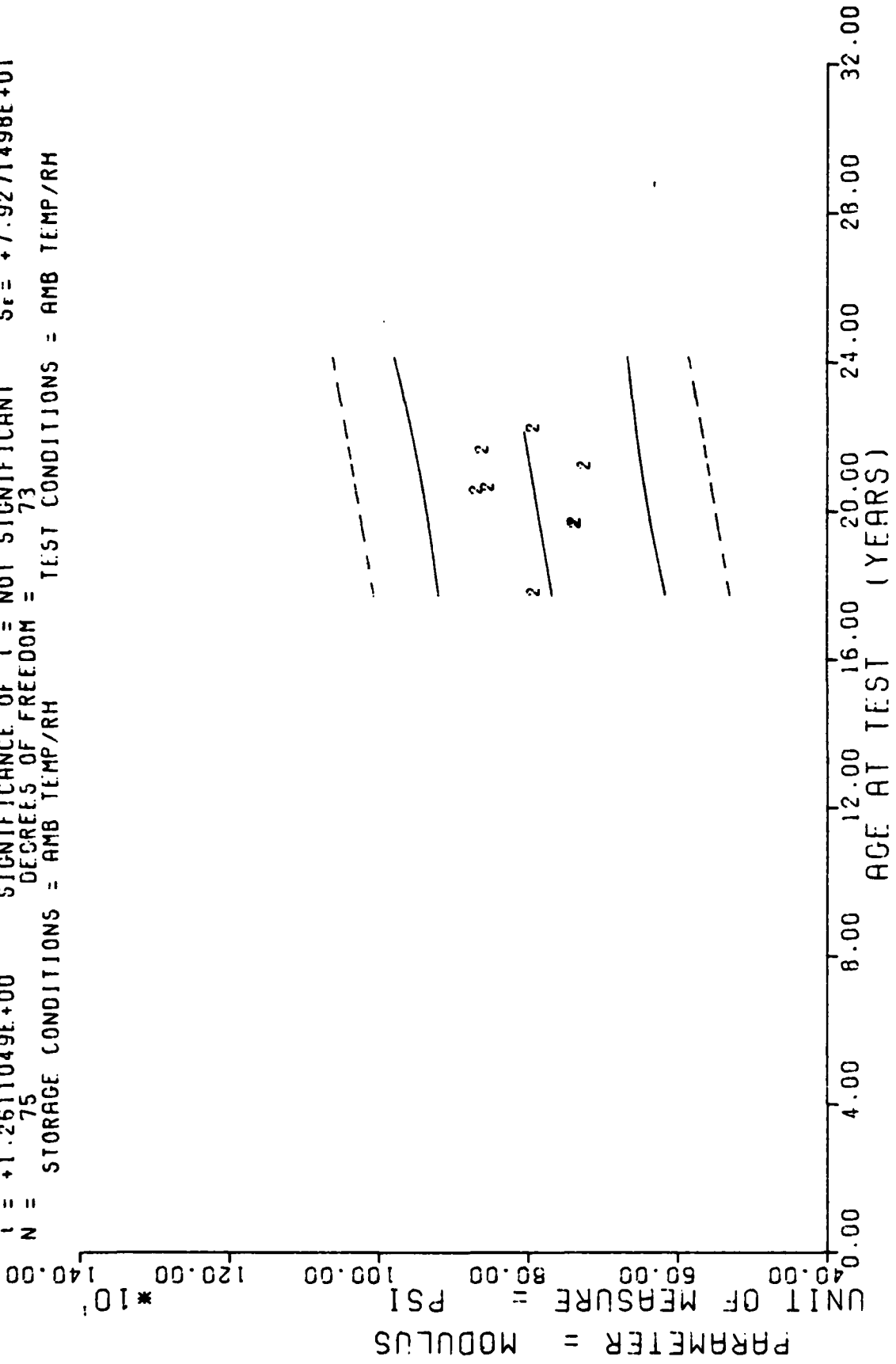
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	12	+1.2193408E+02	+2.0169370E+01	+1.5565599E+02	+9.6709999E+01	+1.2764721E+02
235.0	6	+1.3592489E+02	+1.7066997E+01	+1.6350000E+02	+1.2739999E+02	+1.4522528E+02
236.0	12	+1.3519992E+02	+9.5426816E+00	+1.5465599E+02	+1.2869999E+02	+1.4602427E+02
246.0	10	+1.533590E+02	+1.3090756E+01	+1.6879598E+02	+1.2209999E+02	+1.5401431E+02
247.0	9	+1.6341099E+02	+1.0545594E+01	+1.7539999E+02	+1.4339999E+02	+1.5481330E+02
254.0	9	+1.4564102E+02	+9.0536017E+00	+1.7119999E+02	+1.4073999E+02	+1.6040632E+02
259.0	8	+1.7359990E+02	+1.0912835E+01	+1.8939999E+02	+1.5709999E+02	+1.6440133E+02
266.0	9	+1.7126660E+02	+9.7300160E+00	+1.8739999E+02	+1.5969999E+02	+1.6999436E+02

STAGE 1.DISCTED MCTOR=0012029.L.R.HYDRC.CHS=2.0 IN/MIN.800 PSI.STRESS AT RUPT.

$Y = ( ( +6.1678546E+02 ) + ( +7.0861022E-01 ) * X )$   
 SIGNIFICANCE OF F = NOT SIGNIFICANT  $S_f = +7.9587092E+01$   
 SIGNIFICANCE OF R = NOT SIGNIFICANT  $S_r = +5.6189633E-01$   
 SIGNIFICANCE OF t = NOT SIGNIFICANT  $S_t = +7.9271498E+01$   
 DEGREES OF FREEDOM = 73  
 STORAGE CONDITIONS = AMB TEMP/RH  
 TEST CONDITIONS = AMB TEMP/RH



STAGE 1 DISSECTED MOTOR=0012029.1.L.R.HYDRO.CHS=2.0 IN/MIN.800 PSI.MODULUS

Figure 25

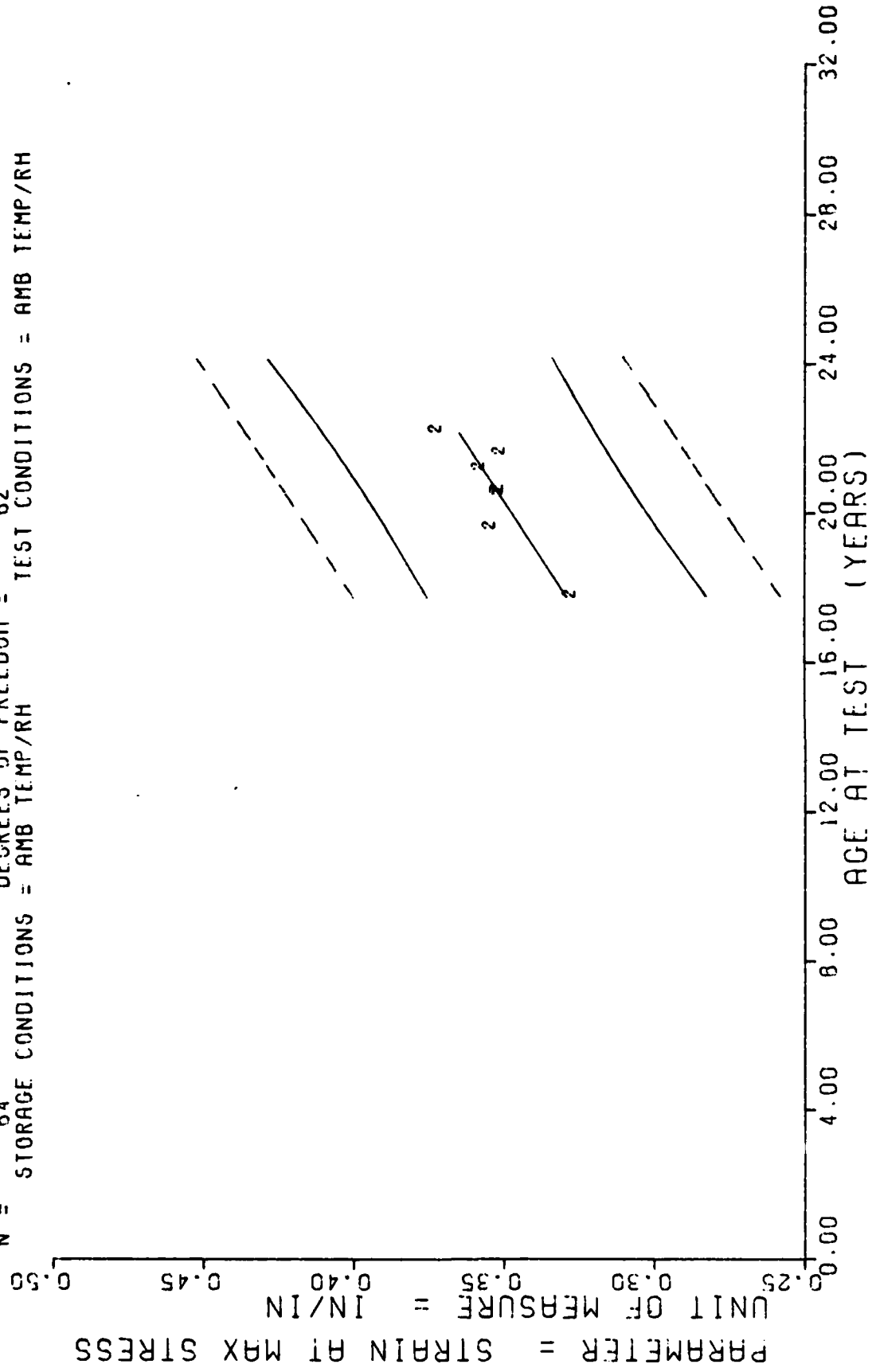
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MCNTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	12	+7.450000E+02	+6.5682431E+01	+8.9900000E+02	+6.6700000E+02	+7.6771923E+02
235.0	6	+7.303325E+02	+8.3055804E+01	+8.7300000E+02	+6.5500000E+02	+7.8330883E+02
236.0	12	+7.308325E+02	+5.0072371E+01	+8.2500000E+02	+6.5500000E+02	+7.8401733E+02
246.0	10	+8.6185590E+02	+3.6668030E+01	+9.2200000E+02	+8.0500000E+02	+7.9110351E+02
247.0	9	+8.4666650E+02	+9.2687647E+01	+9.6400000E+02	+6.7900000E+02	+7.9181201E+02
254.0	9	+7.1766650E+02	+3.5281038E+01	+7.8200000E+02	+6.7000000E+02	+7.9677221E+02
259.0	8	+8.5412500E+02	+4.5575481E+01	+9.1400000E+02	+7.4600000E+02	+8.0031542E+02
266.0	9	+7.8622216E+02	+5.5346133E+01	+9.1100000E+02	+7.0900000E+02	+8.0527563E+02

STAGE 1.0 DISCTED MCTCR=0012029. L.R. HYDRIC. CHS=2.0 IN/MIN. 800 PSI. MODULUS

$Y = ( ( +1.8450678E-01 ) + ( +6.7824163E-04 ) * X )$   
 F = +1.2402181E+01      SIGNIFICANCE OF F = SIGNIFICANT       $\sigma_f = +2.5668240E-02$   
 R = +4.0627821E-01      SIGNIFICANCE OF R = SIGNIFICANT       $S_s = +1.9259074E-04$   
 I = +3.5216731E+00      SIGNIFICANCE OF I = SIGNIFICANT       $S_r = +2.3619654E-02$   
 N = 64      DEGREES OF FREEDOM = 62  
 STORAGE CONDITIONS = AMB TEMP/RH      TEST CONDITIONS = AMB TEMP/RH



STAGE 1, DSCT MOTOR=0012029, I. R. HYDRO. CHS=20.0 IN/MIN, 800 PSI, STRAIN MAX STRS

Figure 26

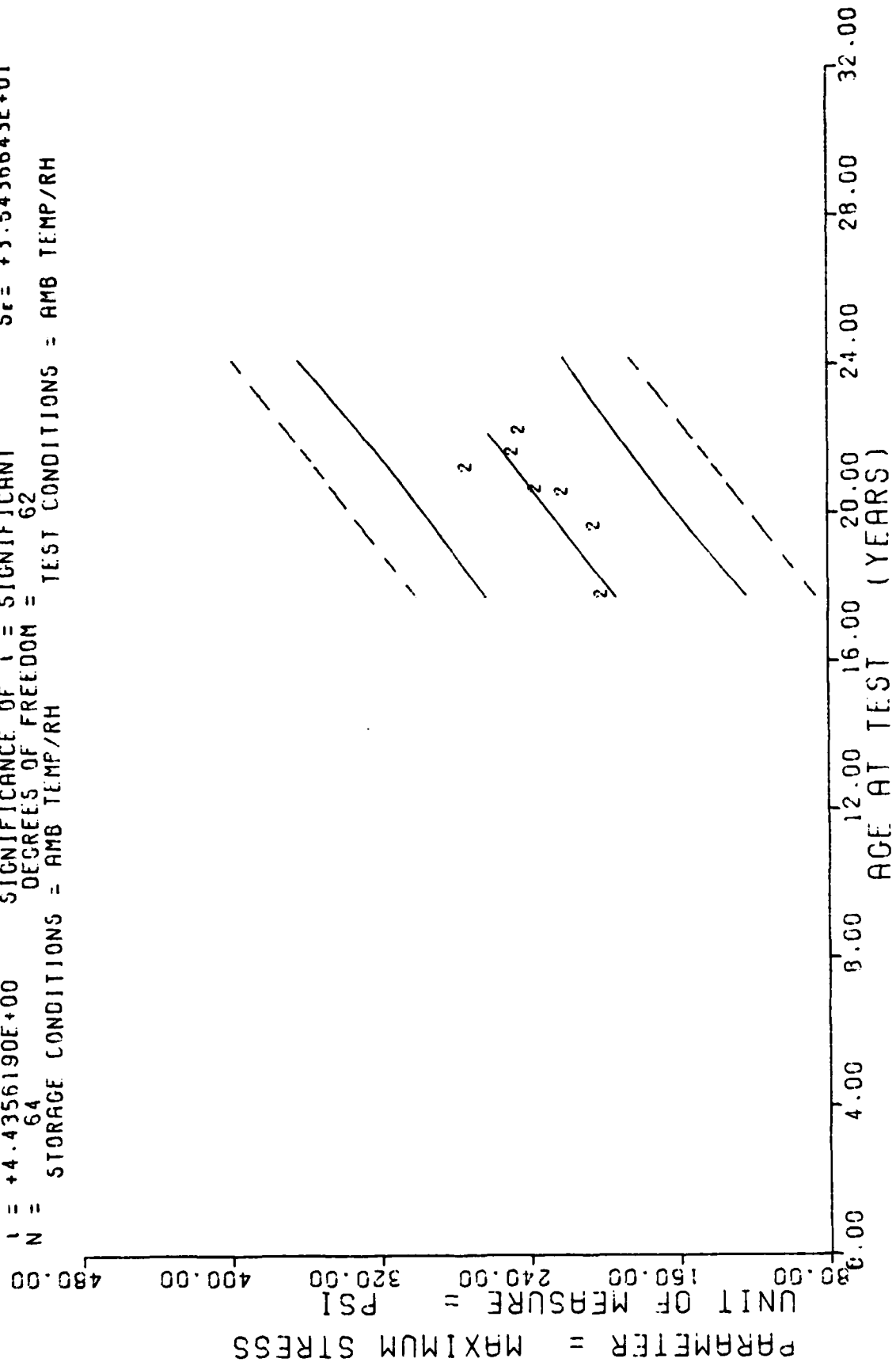
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MCNTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	8	+3.2627465E-01	+2.2339733E-02	+3.4399598E-01	+2.8699994E-01	+3.2897222E-01
235.0	7	+3.5306533E-01	+3.5581304E-02	+4.1999995E-01	+3.2299995E-01	+3.4389352E-01
246.0	7	+3.5057121E-01	+3.1465518E-02	+3.7899594E-01	+2.8299999E-01	+3.5135418E-01
247.0	9	+3.5044413E-01	+1.4105237E-02	+3.7199597E-01	+3.3399999E-01	+3.5203242E-01
254.0	18	+3.5672181E-01	+2.6645686E-02	+3.5699555E-01	+3.1999999E-01	+3.5678011E-01
259.0	7	+3.4557093E-01	+5.5761962E-03	+3.5499555E-01	+3.3879995E-01	+3.6017131E-01
266.0	8	+3.7095557E-01	+5.5519927E-03	+3.7799556E-01	+3.6099994E-01	+3.6491900E-01

STAGE 1.DSCT MOTCR=0012029,L.R.HYDRO.CHS=20.0 IN/MIN.800 PSI.STRAIN MAX STRS.

$Y = (( -7.9562603E+01 ) + ( +1.2816477E+00 ) * X )$   
 F = +1.9674716E+01      SIGNIFICANCE OF F = SIGNIFICANT       $S_v = +4.0348381E+01$   
 R = +4.9080663E-01      SIGNIFICANCE OF R = SIGNIFICANT       $S_a = +2.8894451E-01$   
 I = +4.4356190E+00      SIGNIFICANCE OF I = SIGNIFICANT       $S_r = +3.5436643E+01$   
 N = 64      DEGREES OF FREEDOM = 62  
 STORAGE CONDITIONS = AMB TEMP/RH      TEST CONDITIONS = AMB TEMP/RH



STAGE 1, D5CT MOTOR=0012029, I. R. HYDRO. CHS=20.0 IN/MIN, 800 PSI, MAX STRS

Figure 27



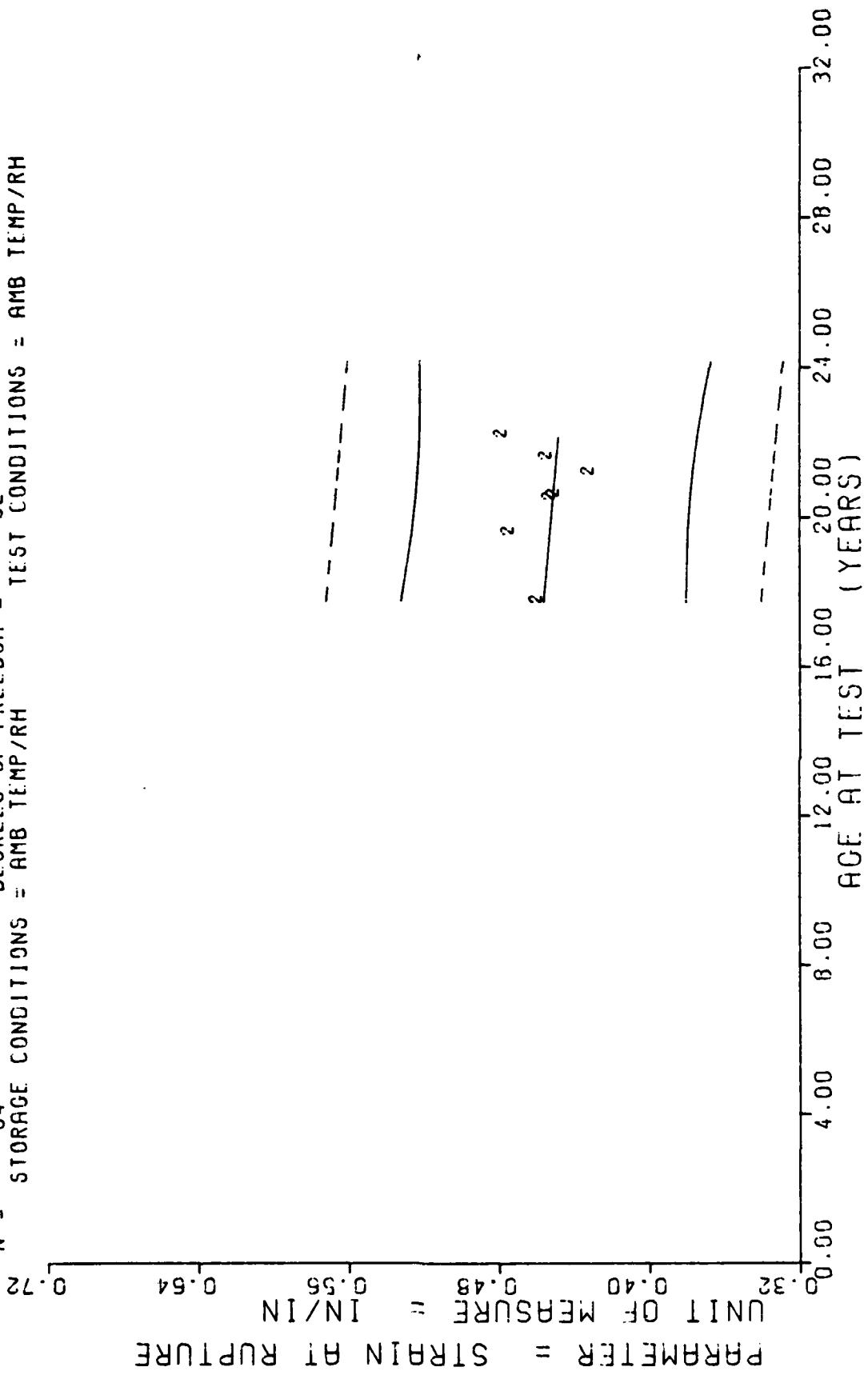
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MCNTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	8	+1.5655612E+02	+3.7544142E+00	+2.0375999E+02	+1.9363999E+02	+1.9342637E+02
235.0	7	+2.0212845E+02	+6.2755282E+00	+2.1009999E+02	+1.9329998E+02	+2.2162461E+02
246.0	7	+2.1516560E+02	+8.5451638E+00	+2.2889999E+02	+2.0679998E+02	+2.3572274E+02
247.0	9	+2.2328210E+02	+1.2087341E+01	+2.5829999E+02	+2.1839999E+02	+2.3700439E+02
254.0	18	+2.7059667E+02	+5.6616256E+01	+3.4750000E+02	+2.1050000E+02	+2.4597592E+02
259.0	7	+2.4601136E+02	+1.1229821E+01	+2.6711587E+02	+2.3659999E+02	+2.5238417E+02
266.0	8	+2.4211364E+02	+1.4941450E+01	+2.6996557E+02	+2.2559999E+02	+2.6135546E+02

STAGE 1, DSCT NCTCR=0012029, L.R.HYCRD.CFS=20.0 IN/MIN. 600 PSI. MAX STRS.

$Y = ( ( +4.8868439E-01 ) + ( -1.5279948E-04 ) * X )$   
 F = +2.3634610E-01      SIGNIFICANCE OF F = NOT SIGNIFICANT       $S_1 = +3.8312242E-02$   
 R = -6.1624325E-02      SIGNIFICANCE OF R = NOT SIGNIFICANT       $S_2 = +3.1430239E-04$   
 I = +4.9615440E-01      SIGNIFICANCE OF I = NOT SIGNIFICANT       $S_3 = +3.8546575E-02$   
 N = 64      DEGREES OF FREEDOM = 62  
 STORAGE CONDITIONS = AMB TEMP/RH      TEST CONDITIONS = AMB TEMP/RH



STAGE 1, D5CT MOTOR=0012029, I. R. HYDRO. CH5=20.0 IN/MIN, 800 PSI, STRAIN AT RUPT.

Figure 28

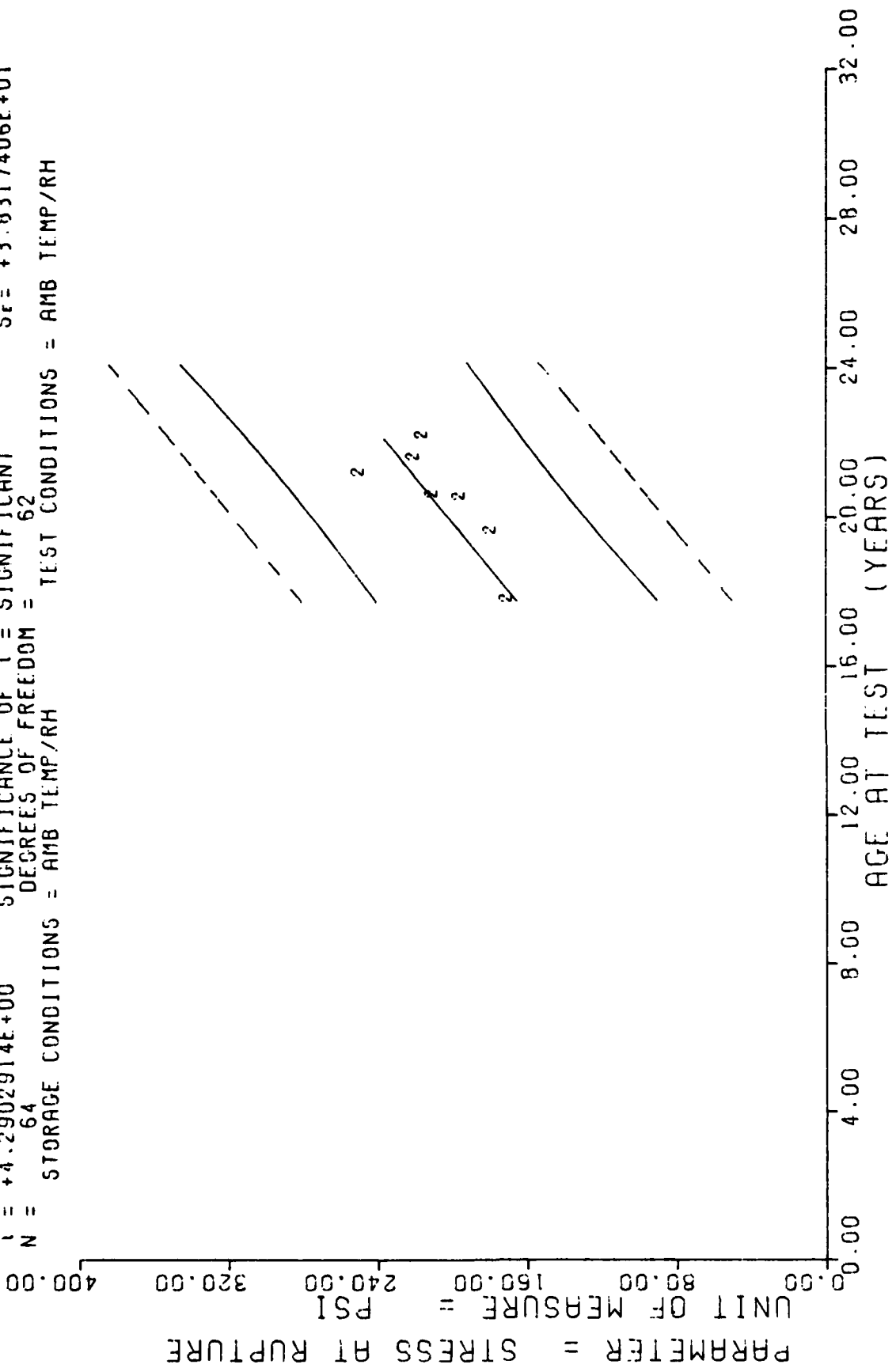
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	8	+4.5737457E-01	+3.2749507E-02	+5.0999999E-01	+4.1399997E-01	+4.5613807E-01
235.0	7	+4.7228527E-01	+5.2665646E-02	+5.6699997E-01	+4.1999995E-01	+4.5277649E-01
246.0	7	+4.5042800E-01	+3.0811373E-02	+4.8099994E-01	+3.8699996E-01	+4.5109570E-01
247.0	9	+4.4822180E-01	+1.9245718E-02	+4.7099995E-01	+4.1899996E-01	+4.5094287E-01
254.0	18	+4.2572737E-01	+4.8219355E-02	+4.8299998E-01	+2.9799997E-01	+4.4987332E-01
259.0	7	+4.5221394E-01	+1.8546126E-02	+4.8499995E-01	+4.2249995E-01	+4.4910931E-01
266.0	8	+4.7558719E-01	+1.1310581E-02	+4.8899996E-01	+4.5699995E-01	+4.4803971E-01

STAGE 1, DSCT MCTCF=0012029, L.R. HYDRO. CFS=20.0 IN/MIN. 600 PSI. STRAIN AT RUPT.

$Y = (( -1.2022996E+02 ) + ( +1.3404319E+00 ) * X )$   
 F = +1.8406600E+01      SIGNIFICANCE OF F = SIGNIFICANT       $S_f = +4.3288414E+01$   
 R = +4.7845483E-01      SIGNIFICANCE OF R = SIGNIFICANT       $S_b = +3.1243377E-01$   
 I = +4.2902914E+00      SIGNIFICANCE OF I = SIGNIFICANT       $S_{Tf} = +3.8317406E+01$   
 N = 64  
 DEGREES OF FREEDOM = 62  
 STORAGE CONDITIONS = AMB TEMP/RH      TEST CONDITIONS = AMB TEMP/RH



STAGE 1, DSCT MOTOR=0012029, I .R. HYDRO. CH5=20.0 IN/MIN, 800 PSI, STRESS AT RUPT.

Figure 29

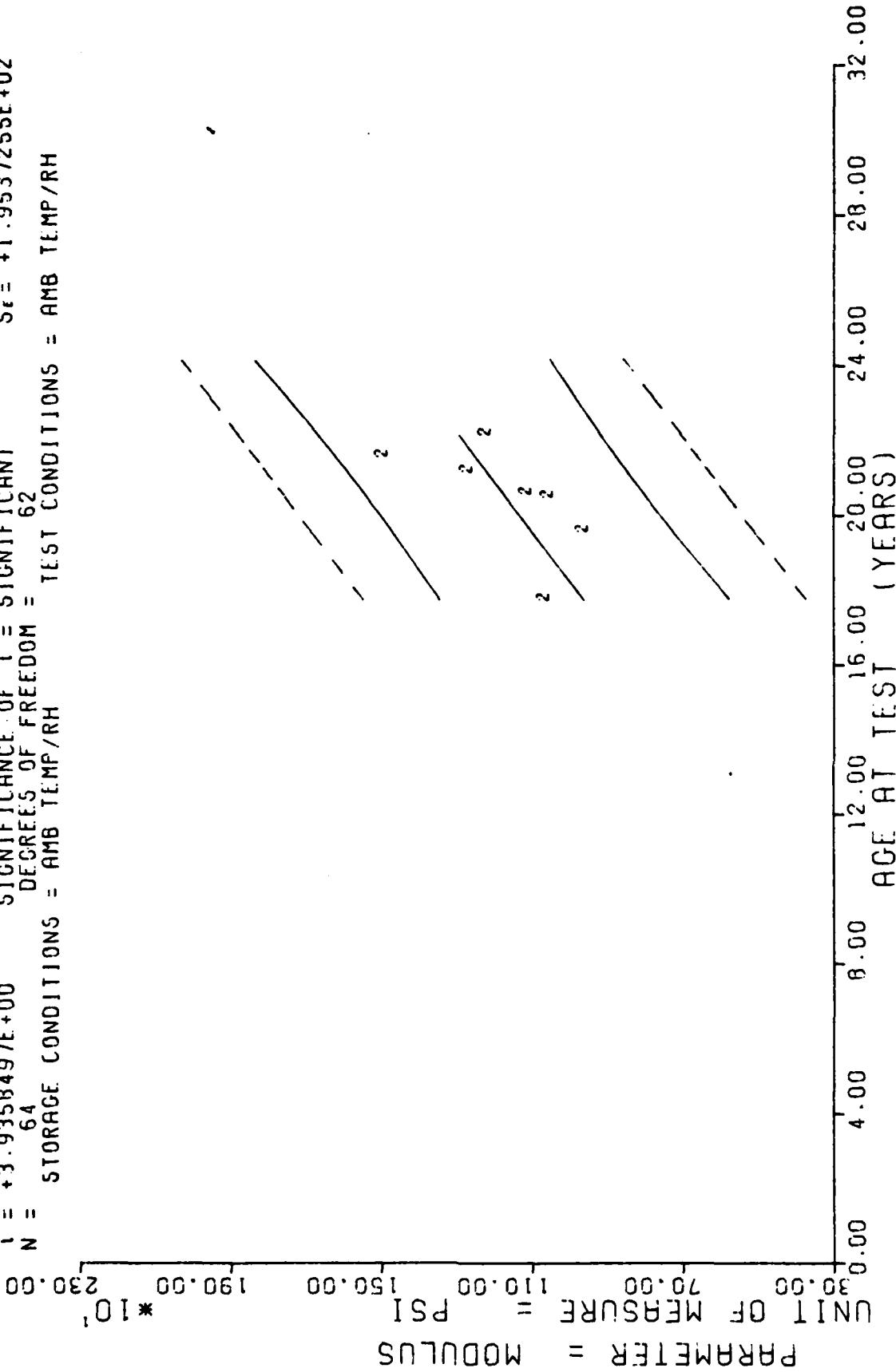
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	8	+1.6818615E+02	+3.6794727E+00	+1.7569599E+02	+1.6300000E+02	+1.6528202E+02
235.0	7	+1.7685849E+02	+1.2702456E+01	+1.9088599E+02	+1.5700000E+02	+1.9477153E+02
246.0	7	+1.9241423E+02	+1.3357652E+01	+2.0585599E+02	+1.7469999E+02	+2.0951628E+02
247.0	9	+2.0784431E+02	+1.1074458E+01	+2.2439599E+02	+1.9169999E+02	+2.1085671E+02
254.0	18	+2.4735069E+02	+6.0891132E+01	+3.2555585E+02	+1.8009999E+02	+2.2023974E+02
259.0	7	+2.1756592E+02	+1.2806245E+01	+2.3498599E+02	+1.9679998E+02	+2.2694189E+02
266.0	8	+2.1338742E+02	+1.5581729E+01	+2.4329598E+02	+2.0069999E+02	+2.3632492E+02

STAGE 1, DSCT MCTCF=0012029, L. R. HYDRO. CHS=20.0 IN/MIN. 800 PSI. STRESS AT RUPT.

$Y = (( -3.7539164E+02 ) + ( +6.2699478E+00 ) * X )$   
 F = +1.5490913E+01      SIGNIFICANCE OF F = SIGNIFICANT       $\sigma_1 = +2.1667991E+02$   
 R = +4.4710870E-01      SIGNIFICANCE OF R = SIGNIFICANT       $S_e = +1.5930353E+00$   
 t = +3.9358497E+00      SIGNIFICANCE OF t = SIGNIFICANT       $S_{t1} = +1.9537255E+02$   
 N = 64  
 DEGREES OF FREEDOM = 62  
 STORAGE CONDITIONS = AMB TEMP/RH      TEST CONDITIONS = AMB TEMP/RH



STAGE 1 DISCTED MOTOR=0012029.1.R.HYDR CHS=20.0 IN/MIN.600 PSI.MODULUS

Figure 30

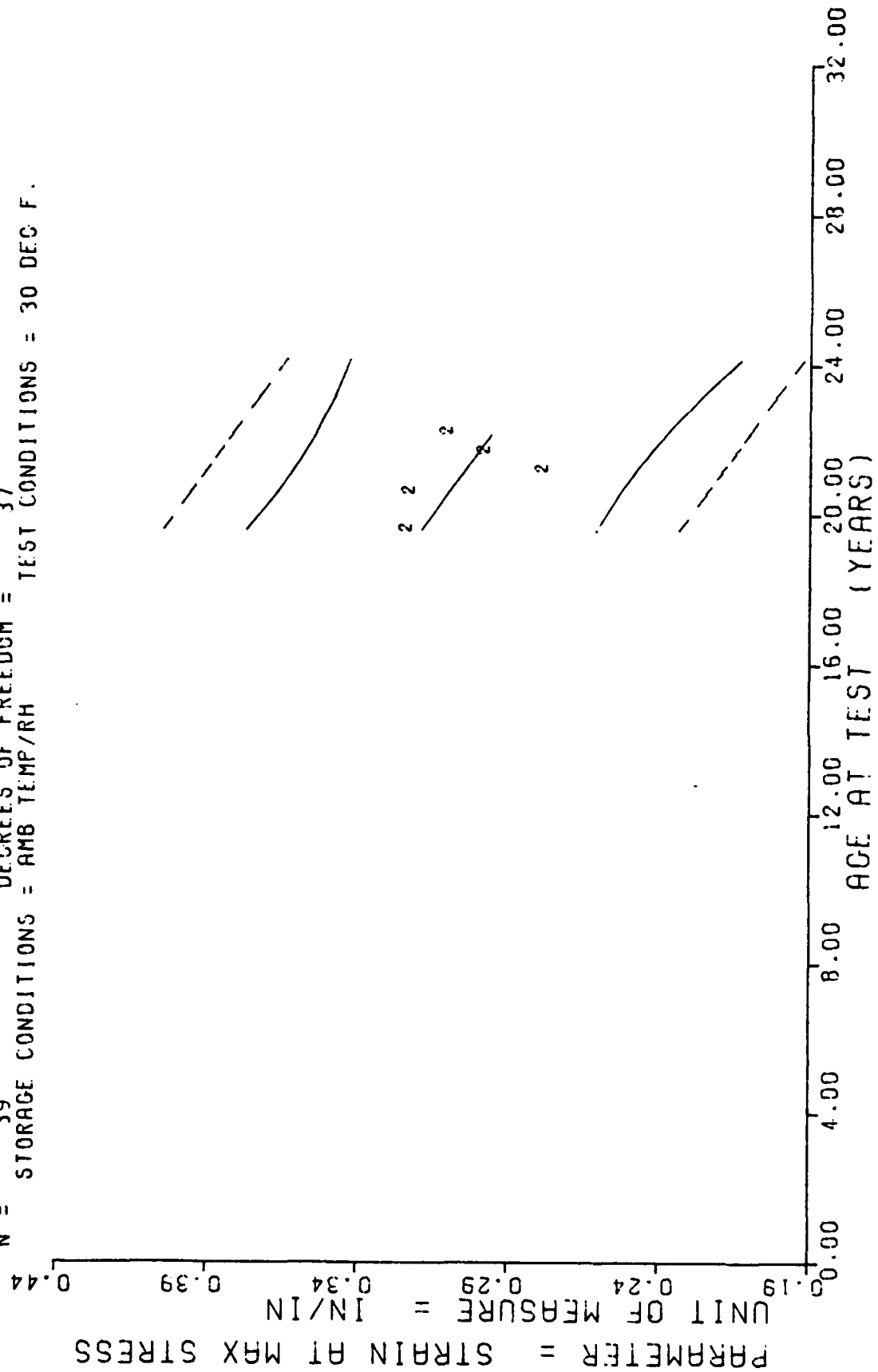
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MCNTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	8	+1.0551250E+03	+1.1267835E+02	+1.2530000E+03	+9.3600000E+02	+9.6010717E+02
235.0	7	+9.5142846E+02	+1.2602800E+02	+1.1450000E+03	+7.8900000E+02	+1.0980458E+03
246.0	7	+1.0454284E+03	+1.0083791E+02	+1.2510000E+03	+9.2100000E+02	+1.1670153E+03
247.0	9	+1.1030000E+03	+7.1747822E+01	+1.2600000E+03	+1.0360000E+03	+1.1732854E+03
254.0	18	+1.2555556E+03	+2.5247128E+02	+1.6010000E+03	+9.8600000E+02	+1.2171750E+03
259.0	7	+1.4844284E+03	+1.3173060E+02	+1.6350000E+03	+1.3000000E+03	+1.2485246E+03
266.0	8	+1.2105750E+03	+6.7632277E+01	+1.3150000E+03	+1.1120000E+03	+1.2924147E+03

STAGE 1.0 CISCATED MCTCR=0012029.0 L.R.HYDR CHS=20.0 IN/MIN.600 PSI.MODULUS

$Y = (( +4.9454741E-01 ) + ( -7.4711441E-04 ) * X)$   
 F = +3.4080666E+00 SIGNIFICANCE OF F = NOT SIGNIFICANT  $\sigma_1 = +2.9407222E-02$   
 R = -2.9041564E-01 SIGNIFICANCE OF R = NOT SIGNIFICANT  $S_1 = +4.0469987E-04$   
 I = +1.8460949E+00 SIGNIFICANCE OF I = NOT SIGNIFICANT  $S_I = +2.0517520E-02$   
 N = 39 DEGREES OF FREEDOM = 37  
 STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = 30 DEG F.



STAGE 1.DISC TED MOTOR=0012029,L.R.HYDRO.(HS=2.0 IN/MIN,600 PSI,STRAIN MAX STRS

Figure 31



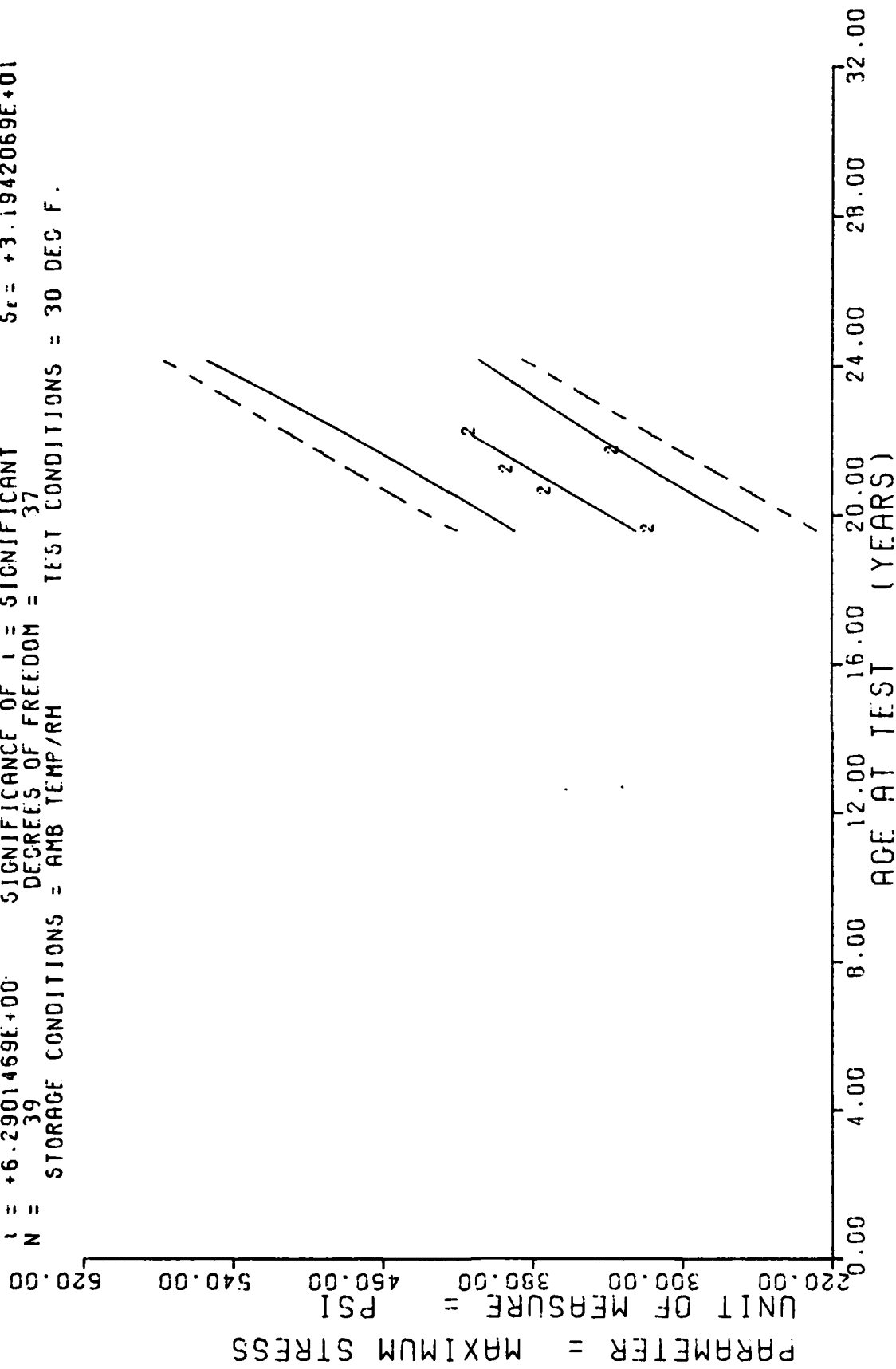
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
235.0	10	+3.2235956E-01	+9.0037214E-03	+3.3059556E-01	+3.0519998E-01	+3.1897550E-01
247.0	9	+3.2144397E-01	+2.7043215E-02	+3.8599997E-01	+2.9099994E-01	+3.1001013E-01
254.0	9	+2.7735519E-01	+4.0649916E-02	+3.1995599E-01	+1.8419998E-01	+3.0478030E-01
260.0	2	+2.5674994E-01	+1.1667394E-02	+3.0499994E-01	+2.8849995E-01	+3.0029761E-01
266.0	9	+3.0883312E-01	+8.2548206E-03	+3.2269956E-01	+2.9899996E-01	+2.9581493E-01

STAGE 1, DISCTED MCTOR=0012029, L.R. HYDRIC.CHS=2.0 IN/MIN.800 PSI, STRAIN MAX STRS.

$Y = (1 - 3.4561457E+02) + ( +2.9513146E+00 ) * X$   
 $F = +3.9565948E+01$  SIGNIFICANCE OF F = SIGNIFICANT  $S_f = +4.5340790E+01$   
 $R = +7.1885774E-01$  SIGNIFICANCE OF R = SIGNIFICANT  $S_r = +4.5329858E-01$   
 $t = +6.2901469E+00$  SIGNIFICANCE OF t = SIGNIFICANT  $S_t = +3.1942069E+01$   
 $N = 39$  DEGREES OF FREEDOM = 37  
 STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = 30 DEC F.



STAGE 1-DISCATED MOTOR=0012029.1.R.HYDRO.CHS=2.0 IN/MIN.800 PSI,MAX STRS

Figure 32

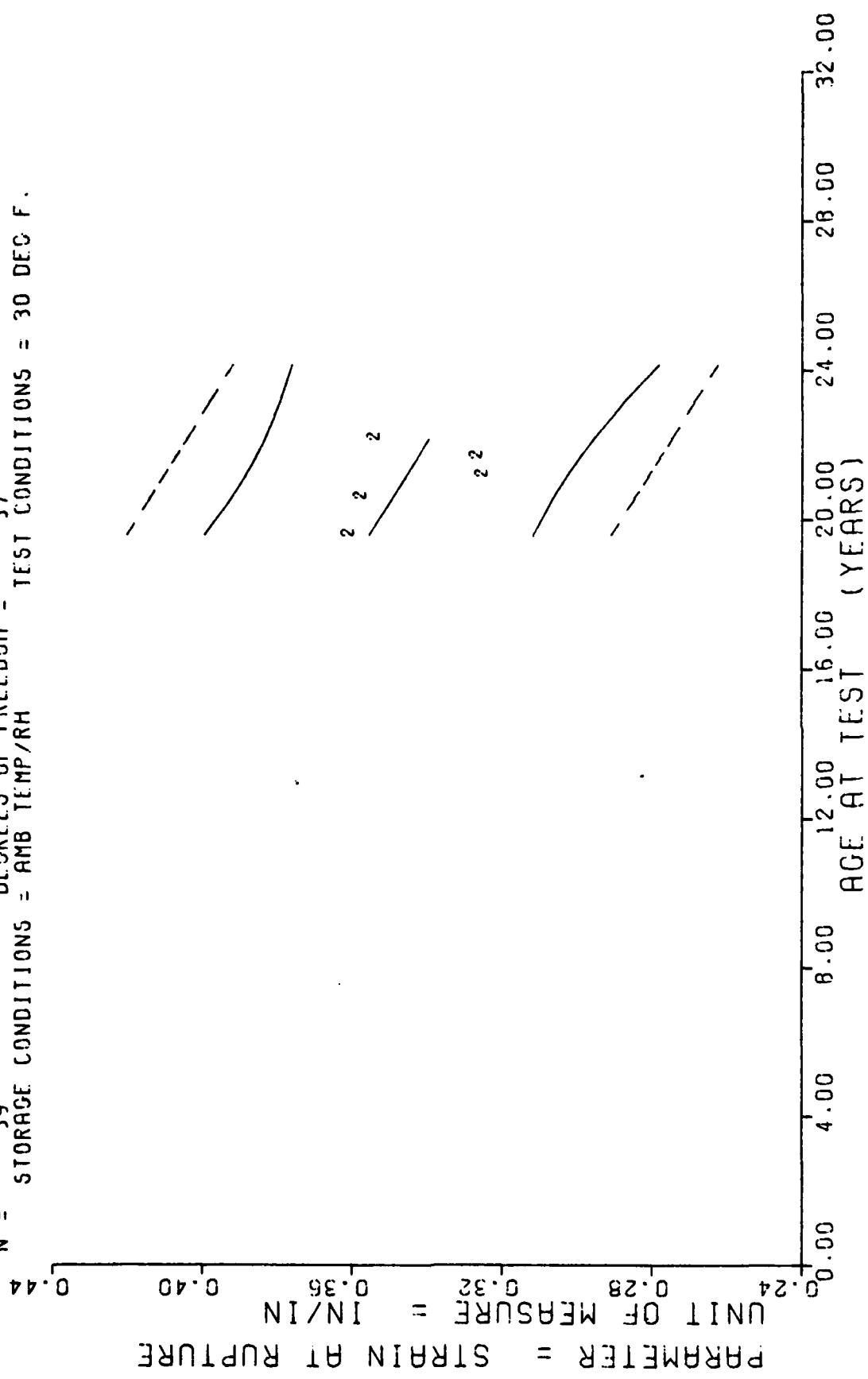
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
235.0	10	+3.1540566E+02	+2.2379994E+01	+3.6186587E+02	+2.9401977E+02	+3.242414E+02
247.0	9	+3.7072315E+02	+2.7619356E+01	+4.1000000E+02	+3.3000000E+02	+3.5845996E+02
254.0	9	+3.9109204E+02	+4.2242700E+01	+4.6750000E+02	+3.2903979E+02	+3.7841918E+02
260.0	2	+3.3475980E+02	+8.2055216E+00	+3.4059585E+02	+3.2900000E+02	+3.9552709E+02
266.0	9	+4.1055575E+02	+1.5069016E+01	+4.4400000E+02	+3.9759985E+02	+4.1263500E+02

STAGE 1, DISCTED MCTCR=0012029, L.R. HYDRC.CHS=2.0 IN/MIN. 800 PSI. MAX STRS.

F = +2.8637594E+00  
 R = -2.6802736E-01  
 I = +1.6922645E+00  
 N = 39  
 Y = ( ( +4.7680832E-01 ) + ( -5.1670160E-04 ) \* X )  
 SIGNIFICANCE OF F = NOT SIGNIFICANT  $\sigma_f = +2.2036750E-02$   
 SIGNIFICANCE OF R = NOT SIGNIFICANT  $S_b = +3.0533145E-04$   
 SIGNIFICANCE OF I = NOT SIGNIFICANT  $S_r = +2.1515440E-02$   
 DEGREES OF FREEDOM = 37  
 STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = 30 DEC F.



STAGE 1, DISCTED MOTOR=0012029, 1. R. HYDRO. CHS=2.0 IN/MIN, 800 FSI, STRAIN AT RUPT.

Figure 33

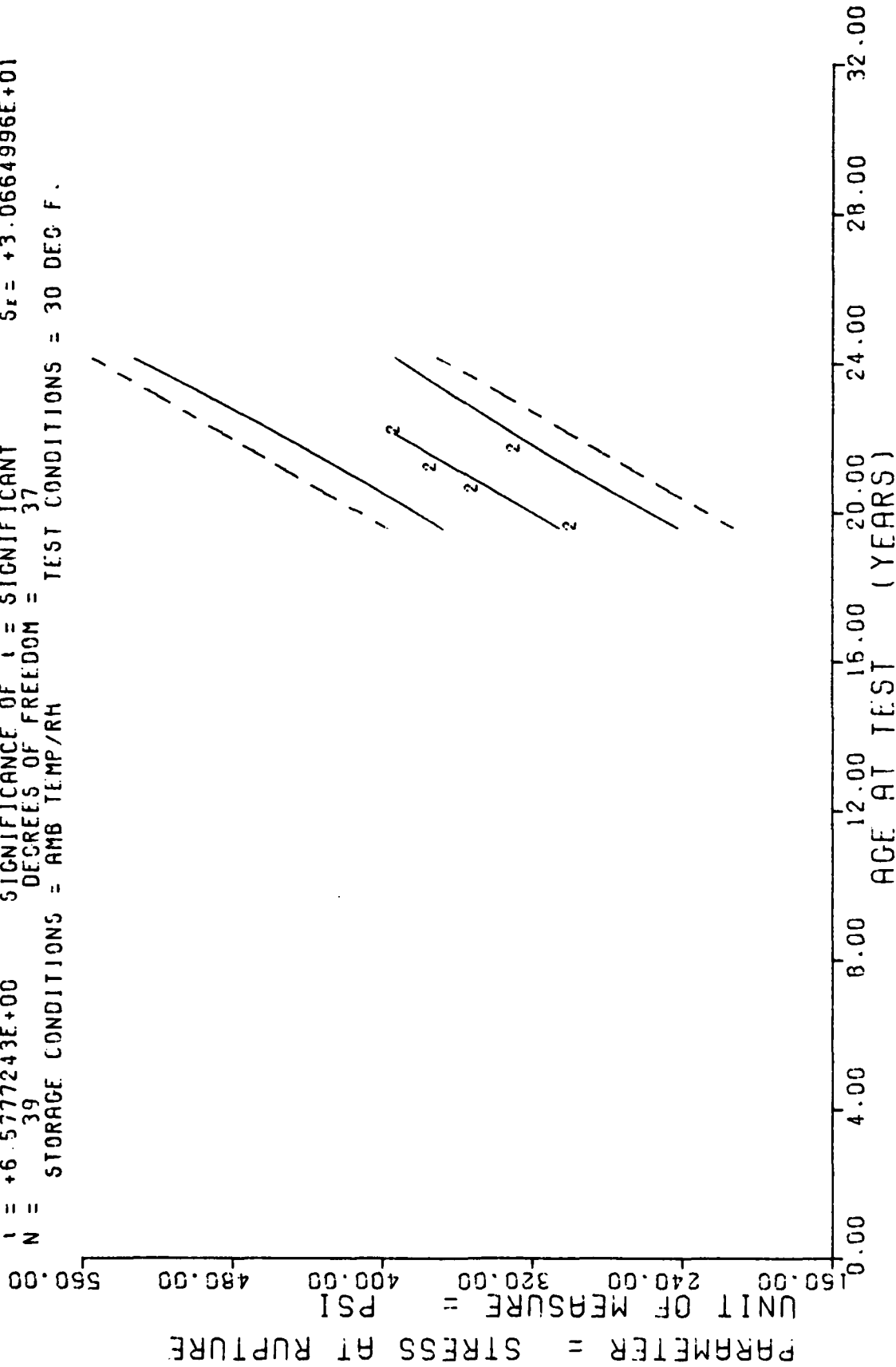
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
235.0	10	+3.55E7556E-01	+1.4465885E-02	+3.5279557E-01	+3.4129995E-01	+3.5538339E-01
247.0	9	+3.5634358E-01	+1.7425748E-02	+3.7899594E-01	+3.2799994E-01	+3.4918302E-01
254.0	9	+3.2406634E-01	+2.1270334E-02	+3.5295558E-01	+2.7799995E-01	+3.4556609E-01
262.0	2	+3.254595E-01	+2.1226620E-03	+3.2699556E-01	+3.2399994E-01	+3.4246587E-01
266.0	9	+3.52E1062E-01	+1.6565897E-02	+3.7599598E-01	+3.2309957E-01	+3.3936566E-01

STAGE 1, DISCTED MCTCR=0012029, L.R. HYDRIC.CHS=2.0 IN/MIN, 800 PSI, STRAIN AT RUPT.

Y = ( ( -3.6764032E+02 ) + ( +2.0624631E+00 ) \* X )  
 F = +4.3266458E+01      SIGNIFICANCE OF F = SIGNIFICANT       $\sigma_1 = +4.4567490E+01$   
 R = +7.3419026E-01      SIGNIFICANCE OF R = SIGNIFICANT       $S_0 = +4.3517529E-01$   
 I = +6.5777243E+00      SIGNIFICANCE OF I = SIGNIFICANT       $S_F = +3.0664996E+01$   
 N = 39  
 STORAGE CONDITIONS = AMB TEMP/RH      TEST CONDITIONS = 30 DEG F.



STAGE 1, DISCTED MOTOR=0012029, I . R . HYDRO . CHS=2.0 IN/MIN, 800 PSI, STRESS AT RUPT .

Figure 34

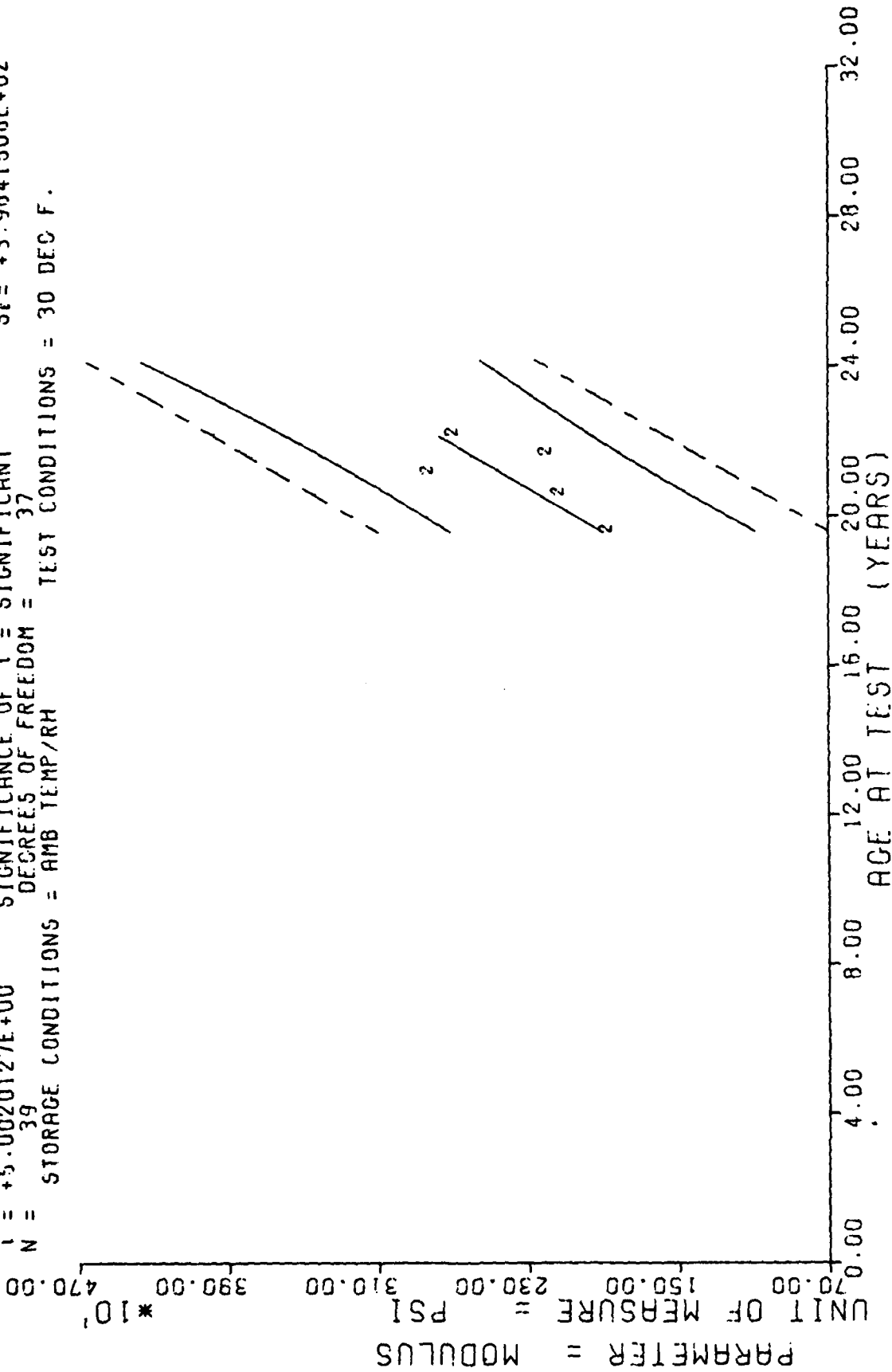
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
235.0	10	+2.5712475E+02	+2.5230160E+01	+3.5258599E+02	+2.6950000E+02	+3.0503833E+02
247.0	9	+3.4955419E+02	+2.6339622E+01	+3.8629580E+02	+3.0729980E+02	+3.3938793E+02
254.0	9	+3.7153759E+02	+3.5935537E+01	+4.3985590E+02	+3.1335926E+02	+3.5942529E+02
262.0	2	+3.2714590E+02	+2.0634420E+00	+3.2855585E+02	+3.2569995E+02	+3.7660009E+02
266.0	9	+3.9127758E+02	+1.6011241E+01	+4.3125580E+02	+3.7609985E+02	+3.9377465E+02

STAGE 1, DISCTED MCTOR=0012029, L.R. HYDRC. CHS=2.0 IN/MIN. 800 PSI. STRESS AT RUPT.

$Y = (( -4.7485575E+03 ) + ( +2.6281463E+01 ) * X )$   
 F = +2.5020131E+01      SIGNIFICANCE OF F = SIGNIFICANT       $\sigma_f = +5.0899125E+02$   
 R = +6.3515314E-01      SIGNIFICANCE OF R = SIGNIFICANT       $S_e = +5.6540167E+00$   
 t = +5.0020127E+00      SIGNIFICANCE OF t = SIGNIFICANT       $S_t = +3.9841508E+02$   
 N = 39      DEGREES OF FREEDOM = 37  
 STORAGE CONDITIONS = AMB TEMP/RH      TEST CONDITIONS = 30 DEC F.



STAGE 1. DISCTED MOTOR=0012029. I. R. HYDRO. CHS=2.0 IN/MIN. 900 PSI. MODULUS

Figure 35



\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

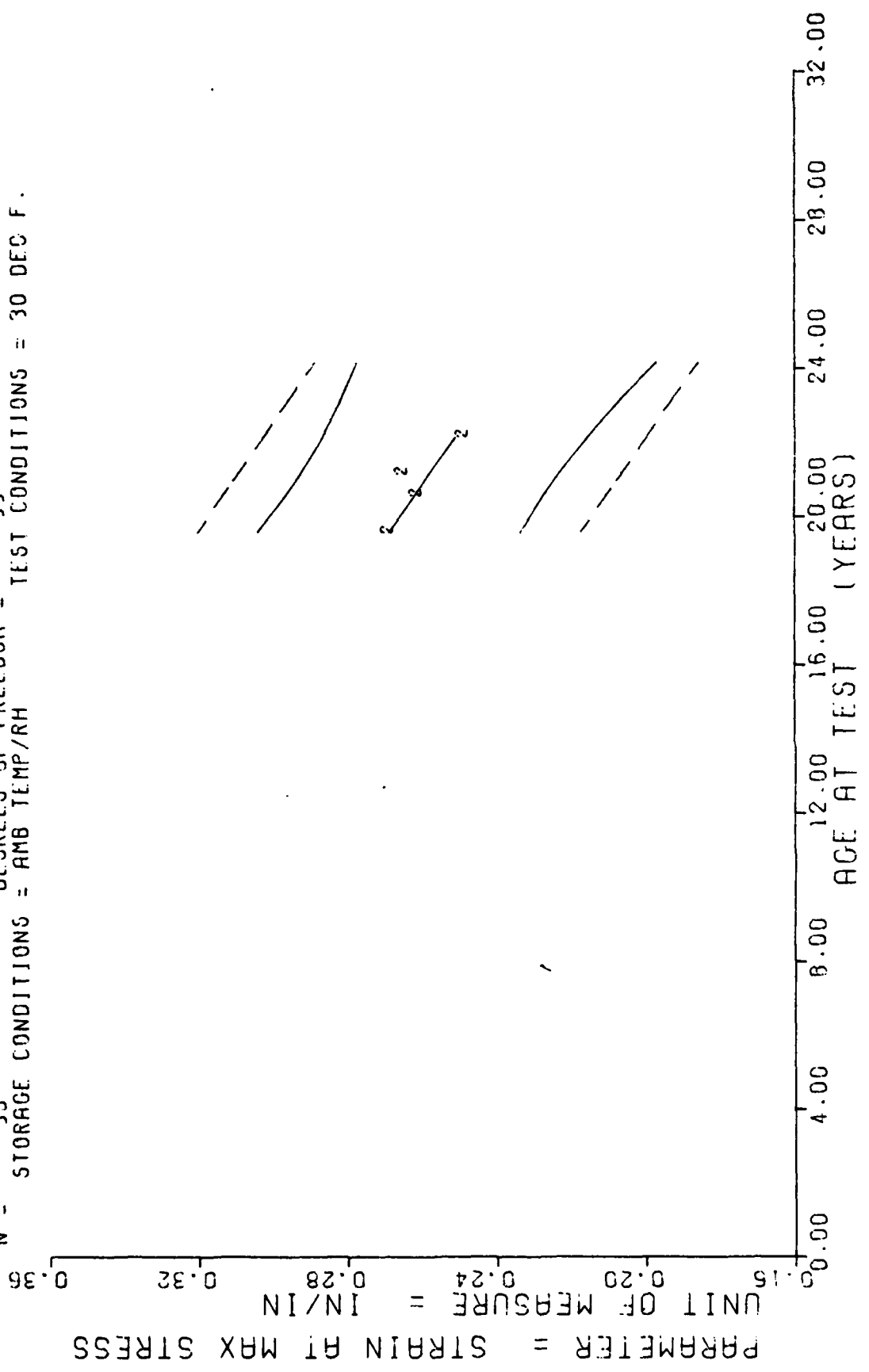
\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
235.0	10	+1.854659E+03	+2.3092219E+02	+2.2170000E+03	+1.5670000E+03	+1.8975861E+03
247.0	9	+2.1102221E+03	+2.7644247E+02	+2.5290000E+03	+1.7810000E+03	+2.2369638E+03
254.0	9	+2.8062221E+03	+5.6310074E+02	+3.7130000E+03	+2.0930000E+03	+2.4349340E+03
260.0	2	+2.1770000E+03	+2.0081832E+02	+2.3190000E+03	+2.0350000E+03	+2.6046228E+03
266.0	9	+2.6724443E+03	+2.0675535E+02	+2.9650000E+03	+2.3990000E+03	+2.7743117E+03

STAGE 1, DISCTED MCTOR=0012029, L.R. HYDRIC CHS=2.0 IN/MIN, 800 PSI, MODULUS

Y = ( ( +4.0289468E-01 ) + ( -5.7116845E-04 ) \* X )  
 SIGNIFICANCE OF F = SIGNIFICANT      $\sigma_f = +1.8099915E-02$   
 SIGNIFICANCE OF R = NOT SIGNIFICANT      $S_R = +2.5523077E-04$   
 SIGNIFICANCE OF t = NOT SIGNIFICANT      $S_t = +1.7119009E-02$   
 DEGREES OF FREEDOM = 33  
 STORAGE CONDITIONS = AMB TEMP/RH     TEST CONDITIONS = 30 DEC F.

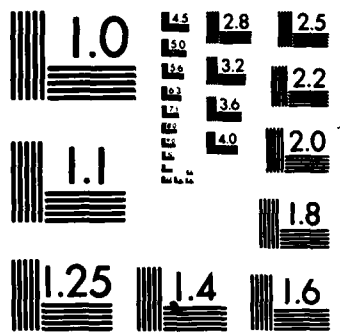
F = +5.0079771E+00  
 R = -3.6298927E-01  
 t = +2.2378510E+00  
 N = 35



STAGE 1, DSCT MOTOR=0012029, I .R. HYDRO. CHS=20.0 IN/MIN, 800 PSI, STRAIN MAX STRS.

Figure 36





MICROCOPY RESOLUTION TEST CHART  
NATIONAL BUREAU OF STANDARDS-1963-A

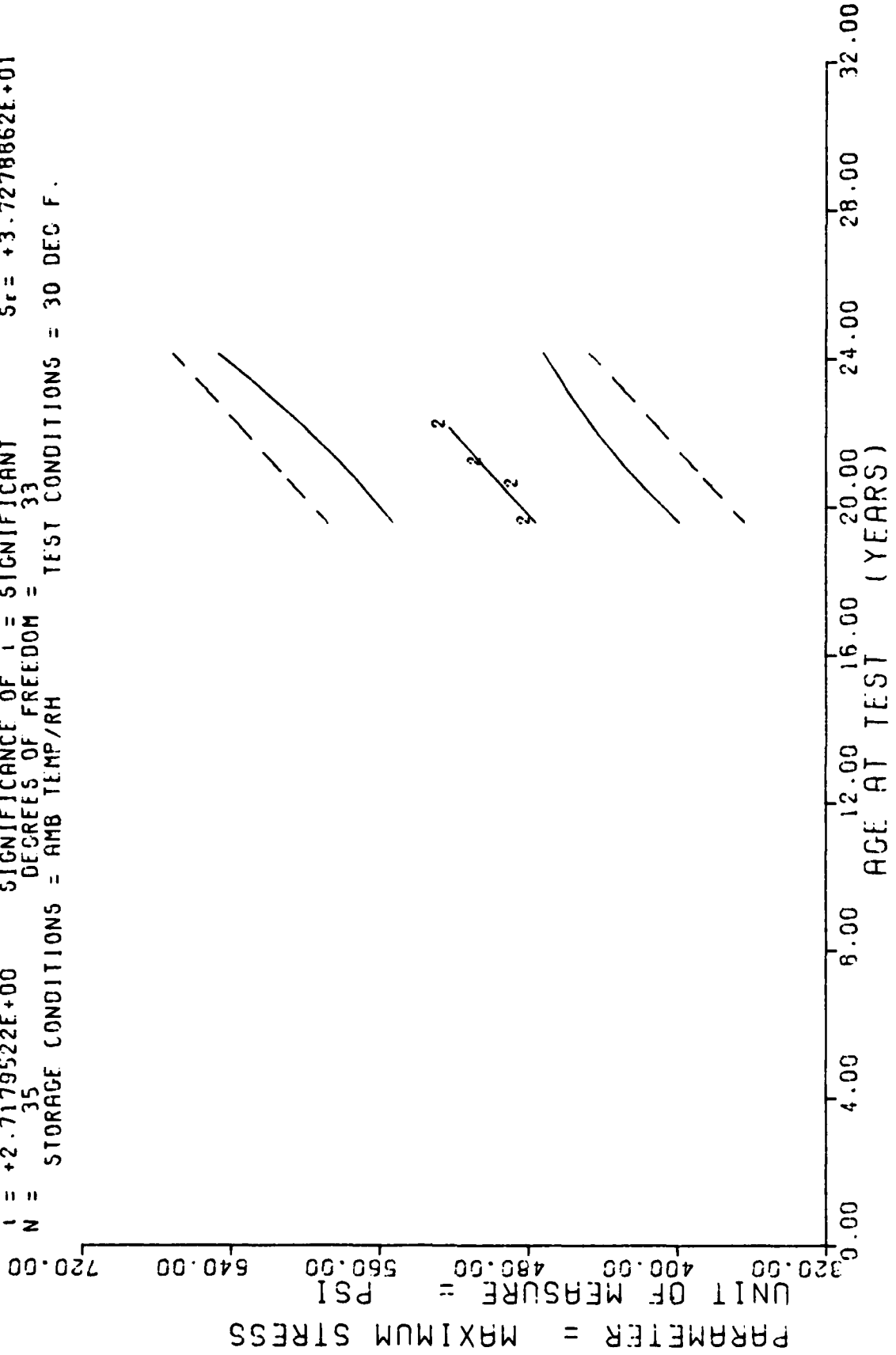
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MCNTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
235.0	10	+2.6765577E-01	+9.8496162E-03	+2.9015559E-01	+2.6039959E-01	+2.6867008E-01
247.0	9	+2.6011085E-01	+1.1444662E-02	+2.8599595E-01	+2.4599999E-01	+2.6181602E-01
254.0	8	+2.6398730E-01	+2.1800319E-02	+3.0475557E-01	+2.2799958E-01	+2.5781786E-01
266.0	8	+2.4792468E-01	+1.4799356E-02	+2.6285559E-01	+2.2479959E-01	+2.5096386E-01

STAGE 1.DSCT NOTCF=0U12029.L.R.HYDFO.CFS=20.0 IN/MIN.600 PSI.STRAIN MAX STRS.

$Y = (( +1.2075697E+02 ) + ( +1.5106327E+00 ) * X )$   
 F = +7.3872646E+00      SIGNIFICANCE OF F = SIGNIFICANT       $\sigma_f = +4.0629866E+01$   
 R = +4.2768065E-01      SIGNIFICANCE OF R = SIGNIFICANT       $S_b = +5.5579811E-01$   
 I = +2.7179522E+00      SIGNIFICANCE OF I = SIGNIFICANT       $S_r = +3.72788662E+01$   
 N = 35  
 STORAGE CONDITIONS = AMB TEMP/RH      TEST CONDITIONS = 30 DEG F.



STAGE 1.05CT MOTOR=0012029.L.R.HYDRO.CHS=20.0 IN/MIN,800 PSI,MAX STRS.

Figure 37

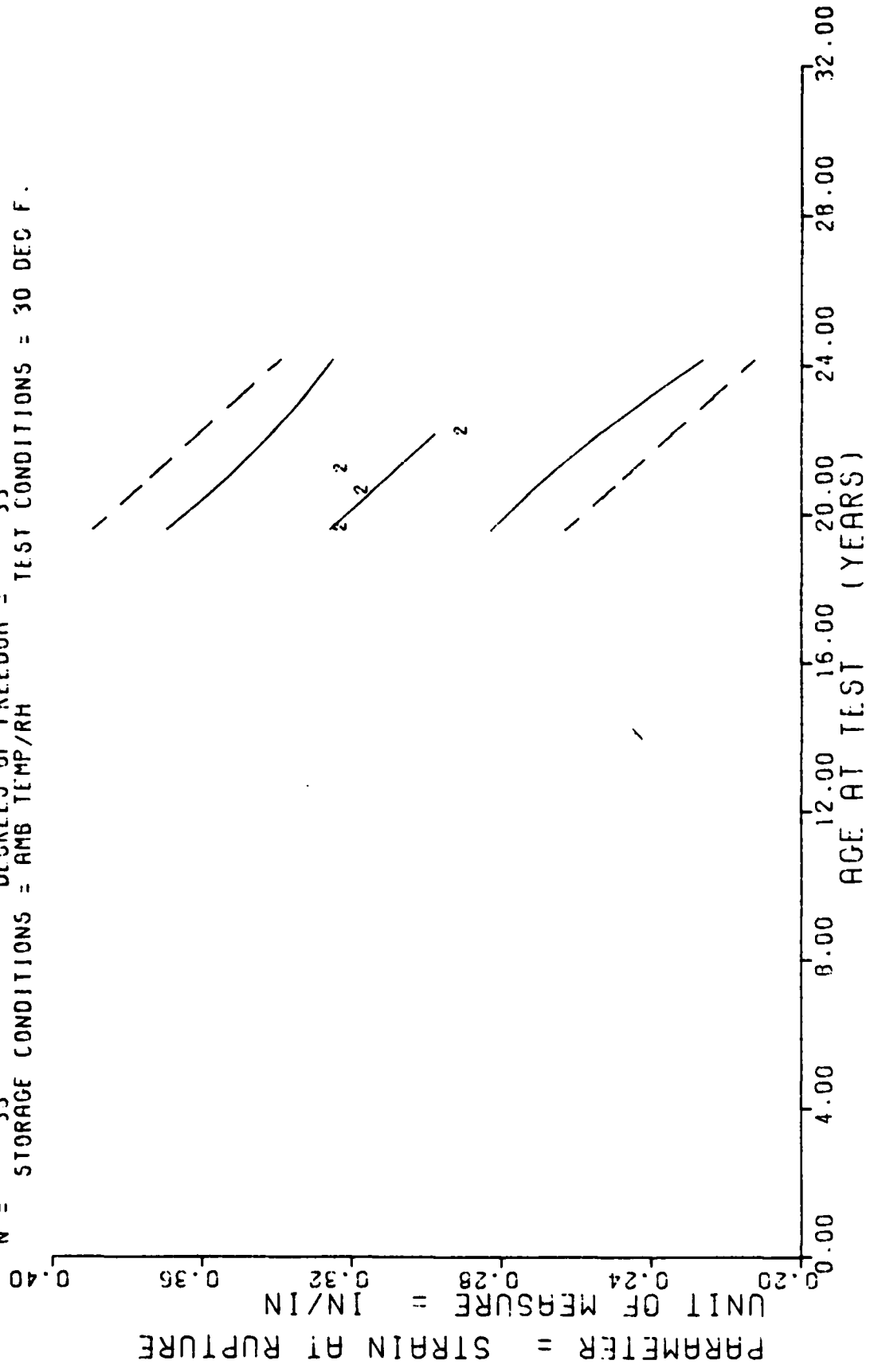
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
235.0	10	+4.7555664E+02	+3.3982486E+01	+5.2169595E+02	+4.0835986E+02	+4.7575756E+02
247.0	9	+4.8617749E+02	+2.4297105E+01	+5.2429580E+02	+4.5979980E+02	+4.9388525E+02
254.0	8	+5.0551592E+02	+5.5513817E+01	+5.6700000E+02	+4.1210986E+02	+5.0445947E+02
266.0	8	+5.2504833E+02	+2.7273552E+01	+5.5982583E+02	+4.7879980E+02	+5.2258715E+02

STAGE 1.DSCT MCICF=0012029.L.R.HYDRO.CFS=20.0 IN/MIN.800 PSI.MAX STRS.

$Y = (( +5.4180719E-01 ) + ( -9.1781196E-04 ) * X )$   
 F = +8.5729921E+00 SIGNIFICANCE OF F = SIGNIFICANT  $\sigma_1 = +2.3248731E-02$   
 R = -4.5410948E-01 SIGNIFICANCE OF R = SIGNIFICANT  $S_A = +3.1346387E-04$   
 t = +2.9279672E+00 SIGNIFICANCE OF t = SIGNIFICANT  $S_F = +2.1024858E-02$   
 N = 35 DEGREES OF FREEDOM = 33  
 STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = 30 DEG F.



STAGE 1, D5CT MOTOR=0012029, I. R. HYDRO. CHS=20.0 IN/MIN, 800 PSI, STRAIN AT RUPT.

Figure 38



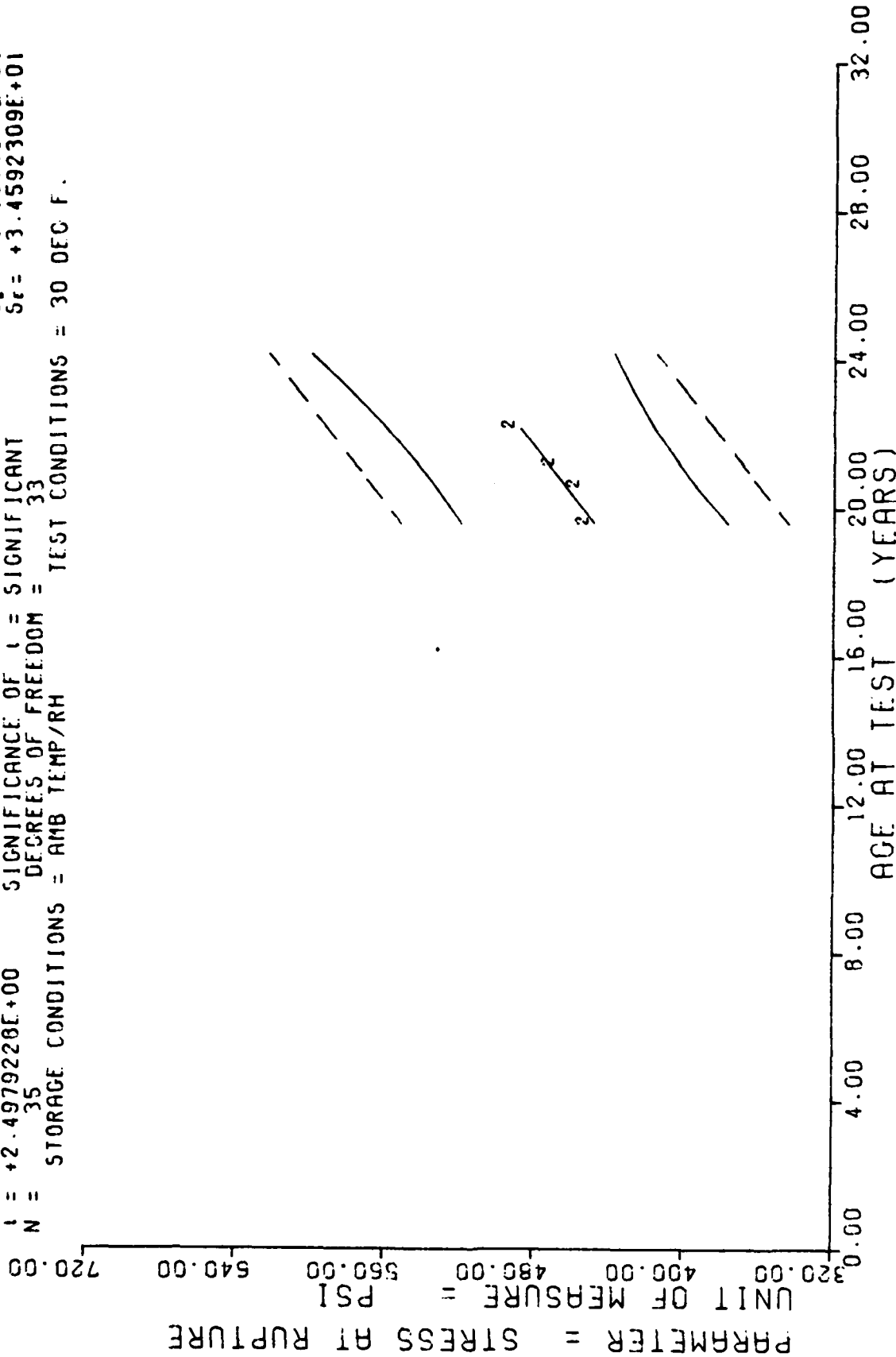
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MCNTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
235.0	10	+3.216562E-01	+1.2444226E-02	+3.483959E-01	+3.0779999E-01	+3.2612133E-01
247.0	9	+3.155574E-01	+1.7084513E-02	+3.3699595E-01	+2.8999996E-01	+3.1510758E-01
254.0	8	+3.2149546E-01	+3.0813803E-02	+3.7399595E-01	+2.8599999E-01	+3.0868291E-01
266.0	8	+2.8542465E-01	+1.7544401E-02	+3.1659597E-01	+2.7189999E-01	+2.9766917E-01

STAGE 1.DSCT WCTCF=0012029.L.R.HYDRO.CFS=20.0 IN/MIN.800 PSI.STRAIN AT RUPT.

Y = ( ( +1.4529000E+02 ) + ( +1.2882880E+00 ) \* X )  
 F = +6.2396186E+00 SIGNIFICANCE OF F = SIGNIFICANT  $\sigma_1 = +3.7162291E+01$   
 R = +3.9876463E-01 SIGNIFICANCE OF R = SIGNIFICANT  $S_0 = +5.1574374E-01$   
 I = +2.4979228E+00 SIGNIFICANCE OF I = SIGNIFICANT  $S_r = +3.4592309E+01$   
 N = 35 DEGREES OF FREEDOM = 33  
 STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = 30 DEG F.



STAGE 1.DSCT MOTOR=0012029.1.R.HYDRO.CH5=20.0 IN/MIN.800 PSI.STRESS AT RUPT.

Figure 39

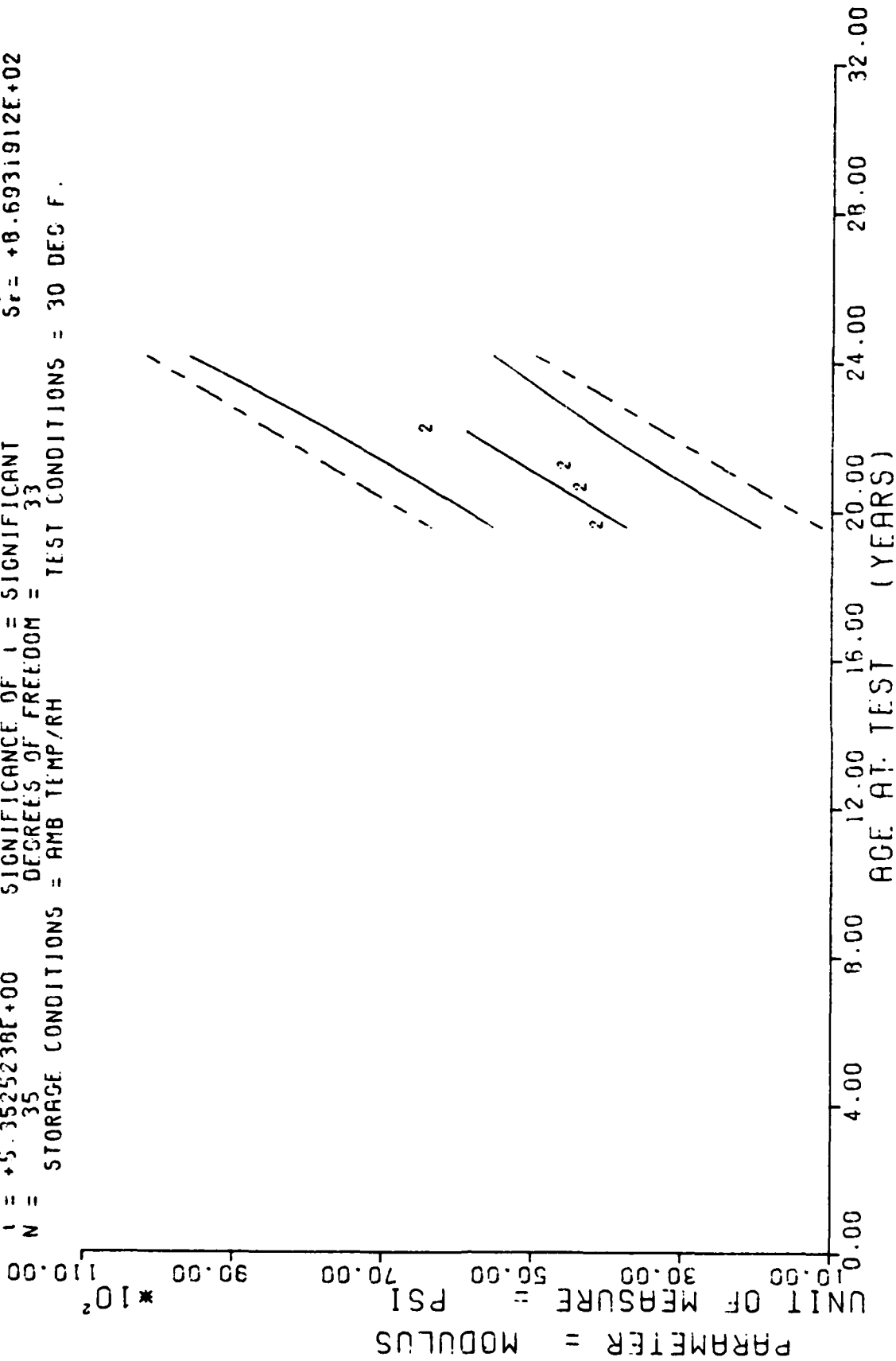
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
235.0	10	+4.5205570E+02	+3.0693379E+01	+4.8606582E+02	+3.8519995E+02	+4.4803759E+02
247.0	9	+4.5708837E+02	+2.5368744E+01	+4.9000000E+02	+4.2409985E+02	+4.6349707E+02
254.0	8	+4.7082470E+02	+5.4857455E+01	+5.4715555E+02	+3.8329960E+02	+4.7251513E+02
266.0	8	+4.9180102E+02	+2.4260640E+01	+5.2227578E+02	+4.4405981E+02	+4.8797460E+02

STAGE 1.0DCT MC1CF=0012029,L.R.HYDFO.CHS=20.0 IN/MIN.800 PSI.STRESS AT RUPT.

$Y = (( -1.2556768E+04 ) + ( +6.9373285E+01 ) * X )$   
 F = +2.8649511E+01      SIGNIFICANCE OF F = SIGNIFICANT       $\sigma_e = +1.1705694E+03$   
 R = +6.8170078E-01      SIGNIFICANCE OF R = SIGNIFICANT       $S_e = +1.2960854E+01$   
 t = +5.3525238E+00      SIGNIFICANCE OF t = SIGNIFICANT       $S_r = +8.6931912E+02$   
 N = 35      DEGREES OF FREEDOM = 33  
 STORAGE CONDITIONS = AMB TEMP/RH      TEST CONDITIONS = 30 DEG F.



STAGE 1, DISCTED MOTOR=0012029, I.R. HYDR CHS=20.0 IN/MIN, 900 PSI, MODULUS

Figure 40

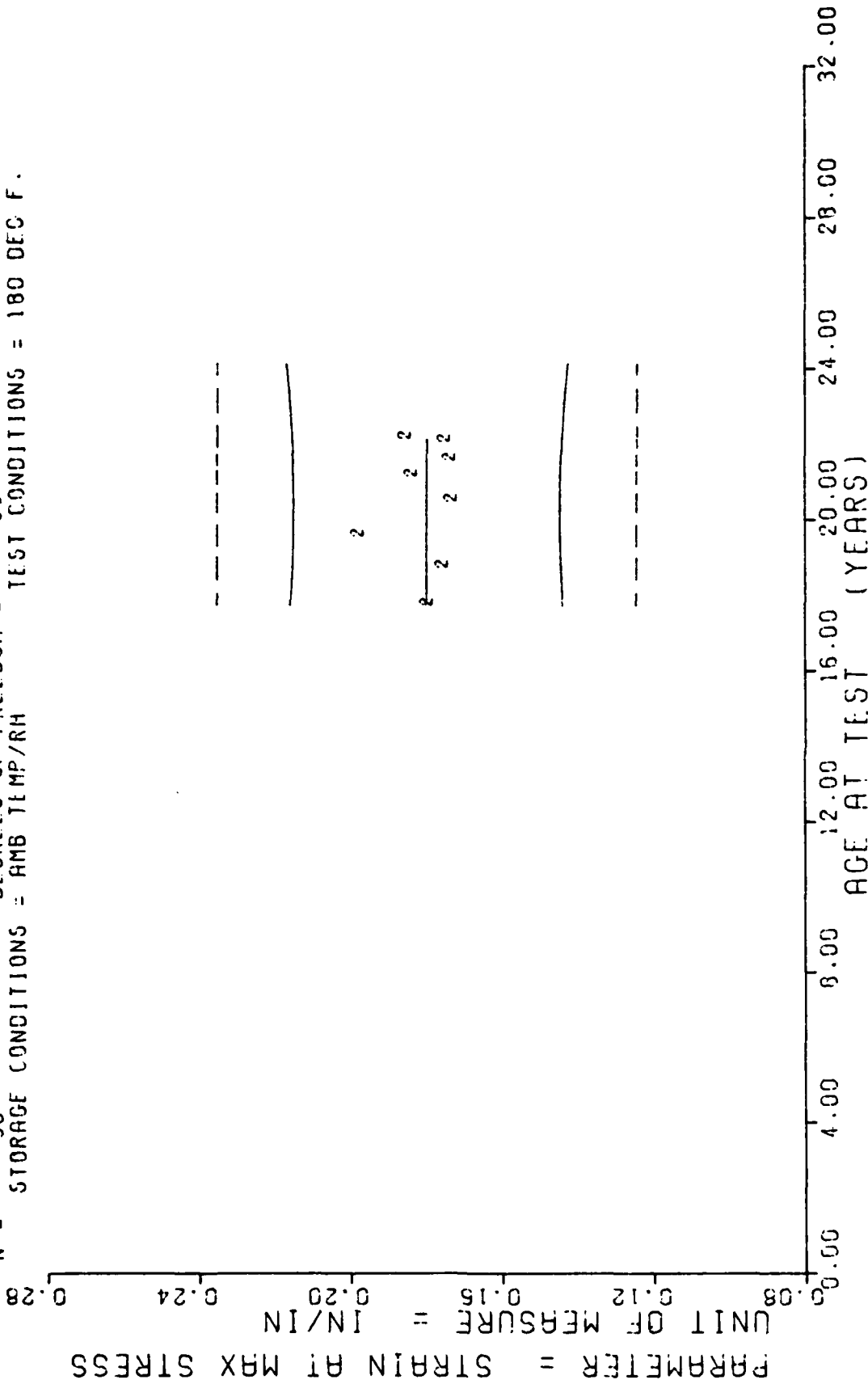
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
235.0	10	+4.075558E+03	+3.7205232E+02	+4.3670000E+03	+3.2260000E+03	+3.7459533E+03
247.0	9	+4.2925546E+03	+3.5798852E+02	+4.8530000E+03	+3.7350000E+03	+4.5784296E+03
254.0	8	+4.5070000E+03	+1.0602894E+03	+5.7400000E+03	+3.1910000E+03	+5.0640429E+03
266.0	8	+6.3620000E+03	+1.1034843E+03	+7.5620000E+03	+4.5600000E+03	+5.8965234E+03

STAGE 1. DISCTED MCTCR=0012029. L.R. HYDR CHS=20.0 IN/MIN. 800 PSI. MODULUS

F = +1.4498721E-03  
 R = -4.9997172E-03  
 I = +3.8077186E-02  
 N = 50  
 STORAGE CONDITIONS = AMB TEMP/RH  
 Y = (( +1.0088307E-01 ) + ( -5.1450860E-06 ) \* X )  
 SIGNIFICANCE OF F = NOT SIGNIFICANT  
 SIGNIFICANCE OF R = NOT SIGNIFICANT  
 SIGNIFICANCE OF I = NOT SIGNIFICANT  
 DEGREES OF FREEDOM = 56  
 TEST CONDITIONS = 180 DEG F.



STAGE 1, DISJCTED MOTOR=0012029, BIAXIAL CHS=.002 IN/MIN, STRAIN MAX STRS

Figure 41

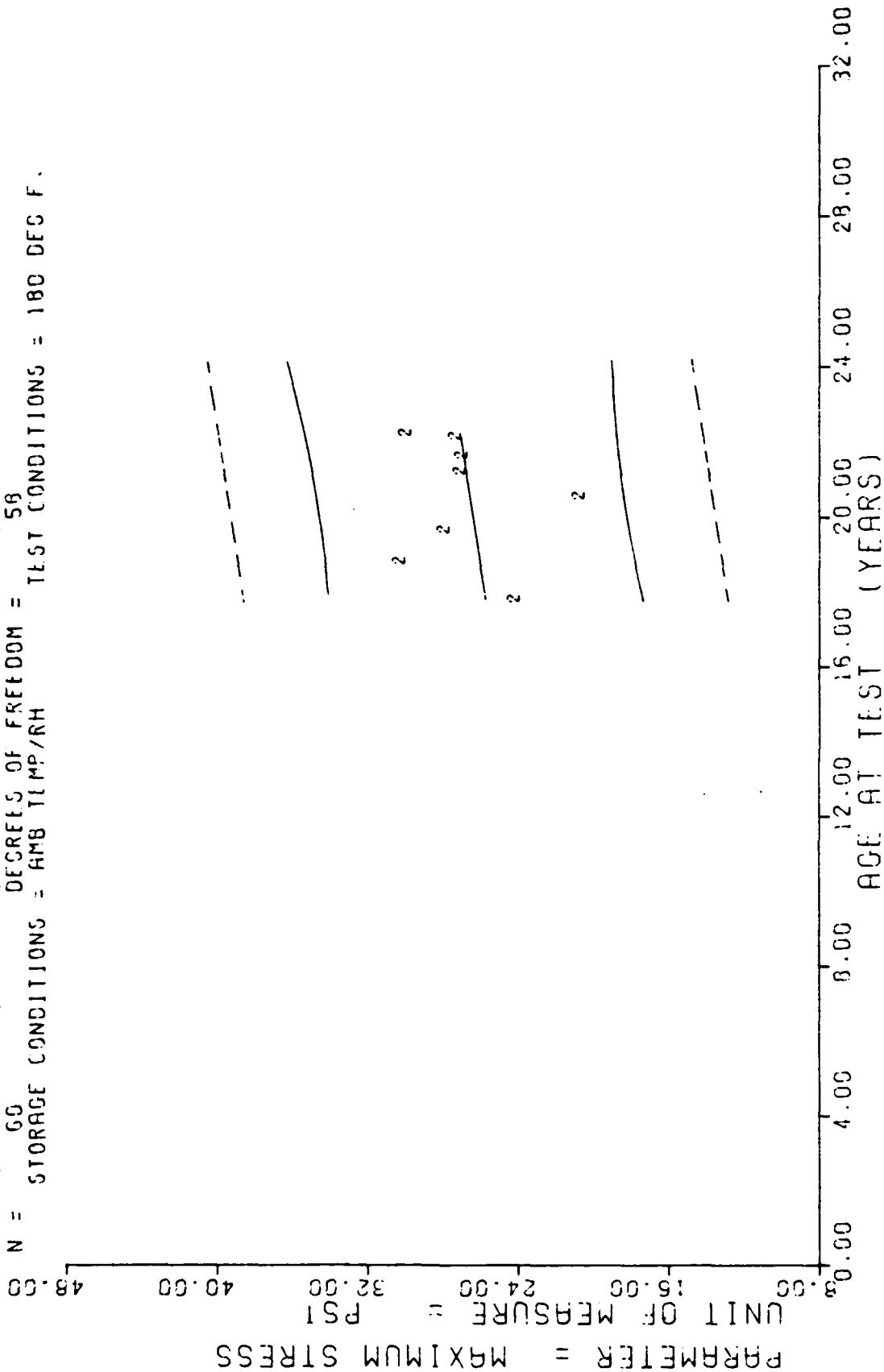
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	8	+1.7624983E-01	+1.7319631E-02	+2.0699555E-01	+1.5099999E-01	+1.7978715E-01
225.0	9	+1.7427772E-01	+1.5474096E-02	+1.9099598E-01	+1.2459999E-01	+1.7972540E-01
235.0	8	+1.5645579E-01	+2.2560246E-02	+2.4099599E-01	+1.7099994E-01	+1.7967396E-01
246.0	9	+1.7186676E-01	+1.4487326E-02	+2.0079594E-01	+1.5659999E-01	+1.7961734E-01
254.0	9	+1.8225579E-01	+1.0254205E-02	+1.9849597E-01	+1.6799998E-01	+1.7957621E-01
259.0	8	+1.7226231E-01	+2.3991595E-02	+1.9299595E-01	+1.190997E-01	+1.7955046E-01
265.0	1	+1.7365997E-01	+0.000000E+07	+1.7365997E-01	+1.7365997E-01	+1.7951959E-01
266.0	8	+1.8395977E-01	+9.5409702E-03	+1.9799595E-01	+1.7239999E-01	+1.7951446E-01

STAGE 1, DISCTED MOTOR=0012029, BIAxIAL CHS=.002 IN/MIN, STRAIN MAX STRS.

Y = (( +2.0302194E+01 ) + ( +2.5215339E-02 ) \* X )  
 SIGNIFICANCE OF F = NOT SIGNIFICANT  $\sigma_1 = +4.2709588E+00$   
 SIGNIFICANCE OF R = NOT SIGNIFICANT  $S_1 = +3.1443993E-02$   
 SIGNIFICANCE OF t = NOT SIGNIFICANT  $S_2 = +4.2839368E+00$   
 DEGREES OF FREEDOM = 58  
 STORAGE CONDITIONS = AMB T/MP/RH TEST CONDITIONS = 180 DEG F.



STAGE 1, DISCTED MOTOR=0012029, R/AXIAL CHS=.002 IN/MIN, MAX STRS

Figure 42



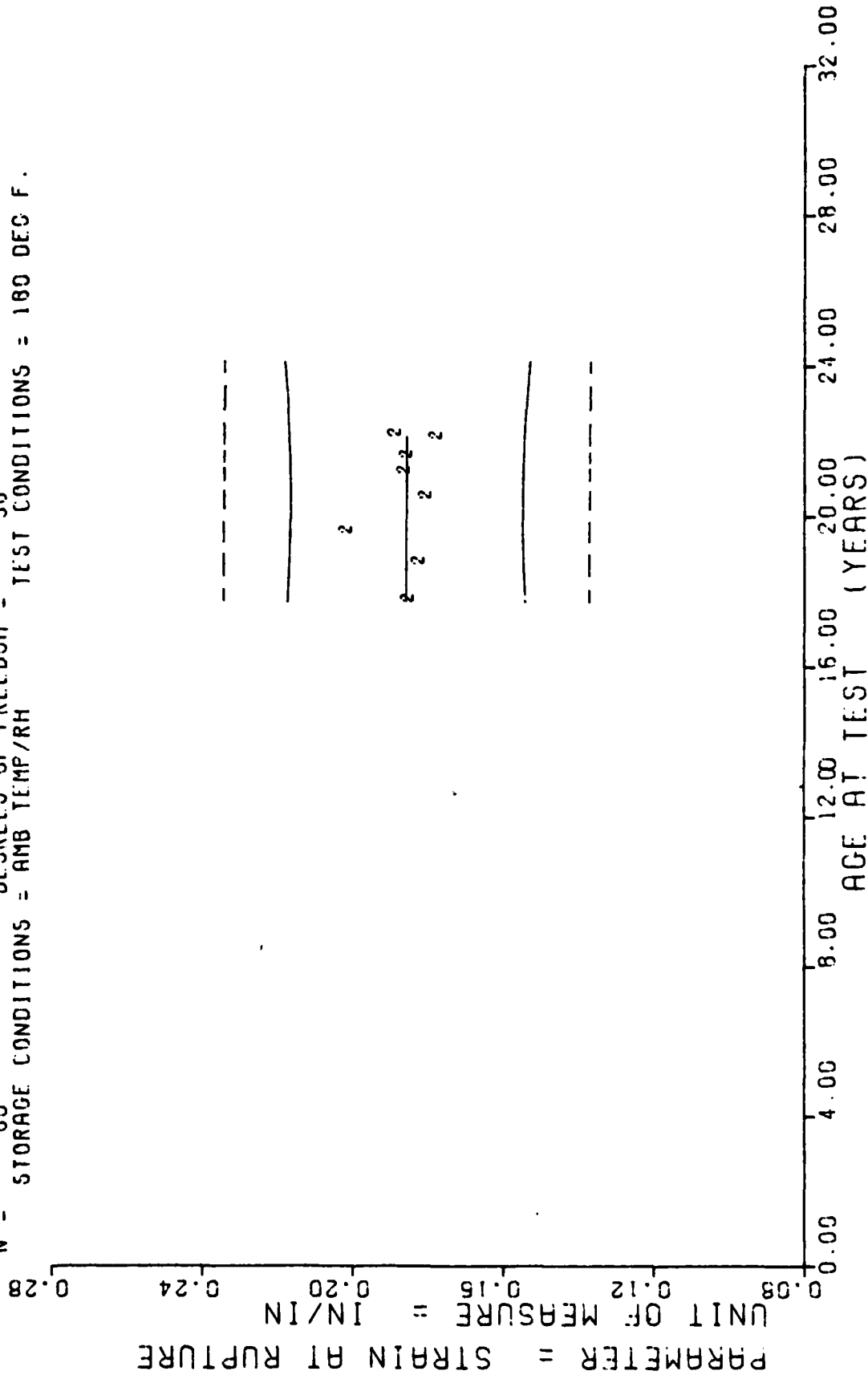
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	8	+2.3512490E+01	+5.7782296E+00	+3.1000000E+01	+1.8599990E+01	+2.5673049E+01
225.0	9	+2.9992202E+01	+4.0137769E+00	+3.6789553E+01	+2.5389990E+01	+2.5975631E+01
235.0	8	+2.7637481E+01	+2.3001532E+00	+3.0295587E+01	+2.3899993E+01	+2.6227798E+01
246.0	9	+2.0463317E+01	+1.5734271E+00	+2.2989590E+01	+1.8069992E+01	+2.6505157E+01
254.0	9	+2.6756646E+01	+2.6300656E+00	+3.0335596E+01	+2.2299987E+01	+2.6706878E+01
259.0	8	+2.6655581E+01	+1.4556369E+00	+2.8299587E+01	+2.4199996E+01	+2.6832962E+01
265.0	1	+2.7015589E+01	+9.000000E+07	+2.7015589E+01	+2.7015589E+01	+2.6984252E+01
266.0	8	+2.5666229E+01	+7.2425086E-01	+3.0615555E+01	+2.8799987E+01	+2.7009460E+01

1 STAGE 1.DISC TED MCTOR=0012029.EIAXIAL CHS=.002 IN/MIN.MAX STRS.

$Y = (( +1.9669530E-01 ) + ( -5.1817212E-06 ) * X )$   
 F = +1.9055564E-03      SIGNIFICANCE OF F = NOT SIGNIFICANT       $\sigma_f = +1.6034802E-02$   
 R = -5.7317834E-03      SIGNIFICANCE OF R = NOT SIGNIFICANT       $S_s = +1.1870339E-04$   
 I = +4.3652679E-02      SIGNIFICANCE OF I = NOT SIGNIFICANT       $S_r = +1.6172177E-02$   
 N = 60      DEGREES OF FREEDOM = 58  
 STORAGE CONDITIONS = AMB TEMP/RH      TEST CONDITIONS = 180 DEG F.



STAGE 1. DISCATED MOTOR=0012029, BIAXIAL CH5=.002 IN/MIN, STRAIN AT RUPT.

Figure 43

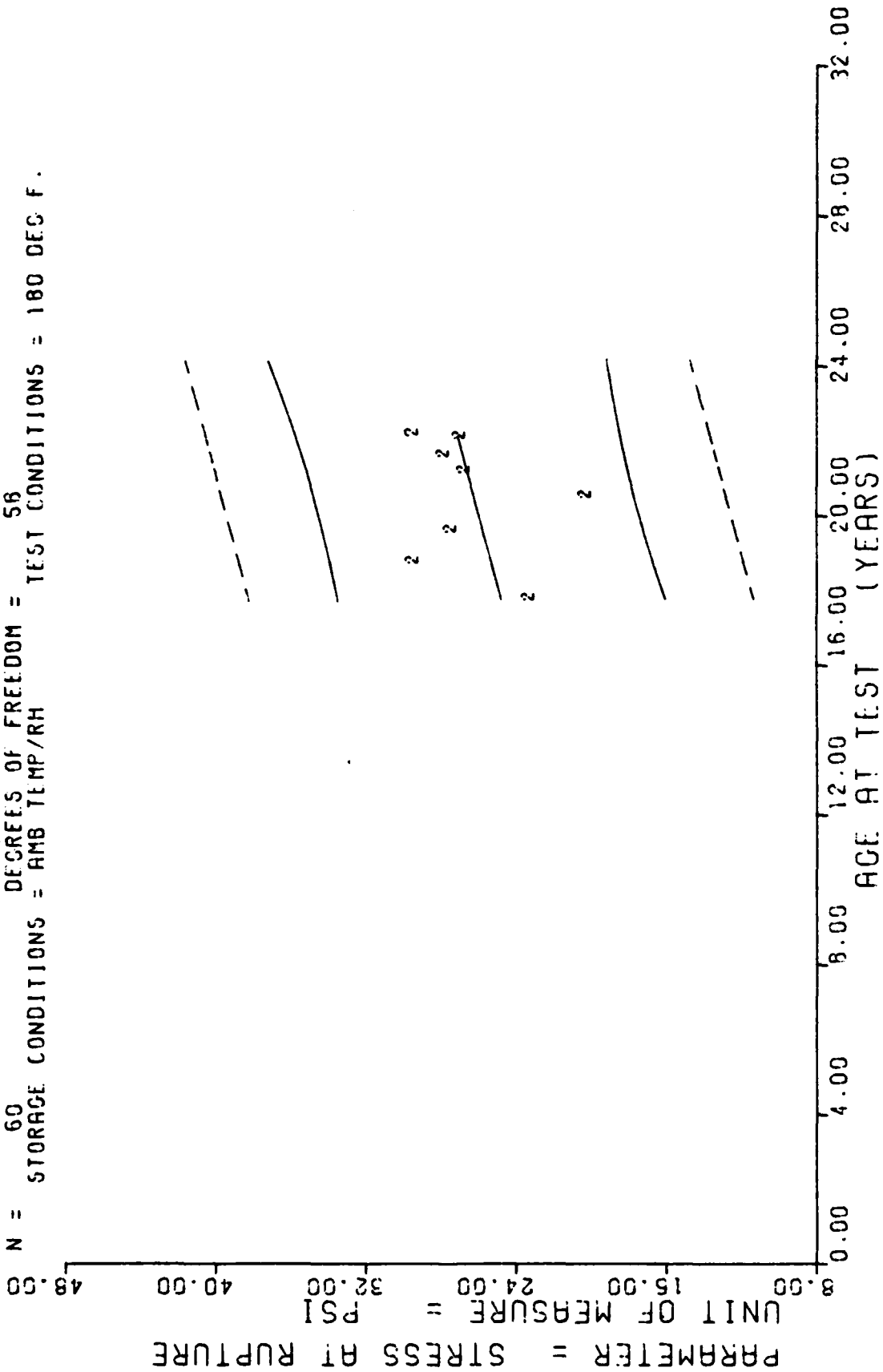
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	8	+1.8387484E-01	+1.7391153E-02	+2.1199595E-01	+1.5699994E-01	+1.8559157E-01
225.0	9	+1.8052860E-01	+2.0483115E-02	+1.9899594E-01	+1.2859994E-01	+1.8552941E-01
235.0	8	+2.0015572E-01	+2.1640156E-02	+2.4195558E-01	+1.7259997E-01	+1.8547755E-01
246.0	9	+1.7515534E-01	+1.4159035E-02	+2.0759599E-01	+1.6289997E-01	+1.8542057E-01
254.0	9	+1.8492186E-01	+9.7928230E-03	+2.0039599E-01	+1.7199999E-01	+1.8537914E-01
259.0	8	+1.8424975E-01	+1.1439349E-02	+1.9599597E-01	+1.6599994E-01	+1.8535321E-01
265.0	1	+1.7625558E-01	+0.000000E+07	+1.7629598E-01	+1.7629998E-01	+1.8532210E-01
266.0	8	+1.8721234E-01	+1.0113811E-02	+2.0099597E-01	+1.7479997E-01	+1.8531692E-01

STAGE 1, DISCTED MCTOR=0012029, EIAXIAL CHS=.002 IN/MIN, STRAIN AT RUPT.

Y = (1 + 1.5428166E+01) + ( +4.3948732E-02 ) \* X )  
 F = +1.7916295E+00 SIGNIFICANCE OF F = NOT SIGNIFICANT  $G_1 = +4.5032056E+00$   
 R = +1.7310272E-01 SIGNIFICANCE OF R = NOT SIGNIFICANT  $S_0 = +3.2833883E-02$   
 I = +1.3385176E+00 SIGNIFICANCE OF I = NOT SIGNIFICANT  $S_T = +4.4732957E+00$   
 N = 60 DEGREES OF FREEDOM = 58  
 STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = 180 DEG F.



STAGE 1, DISCTED MOTOR=0012029, R/AXIAL, CHS=.002 IN/MIN, STRESS AT RUPT.

Figure 44

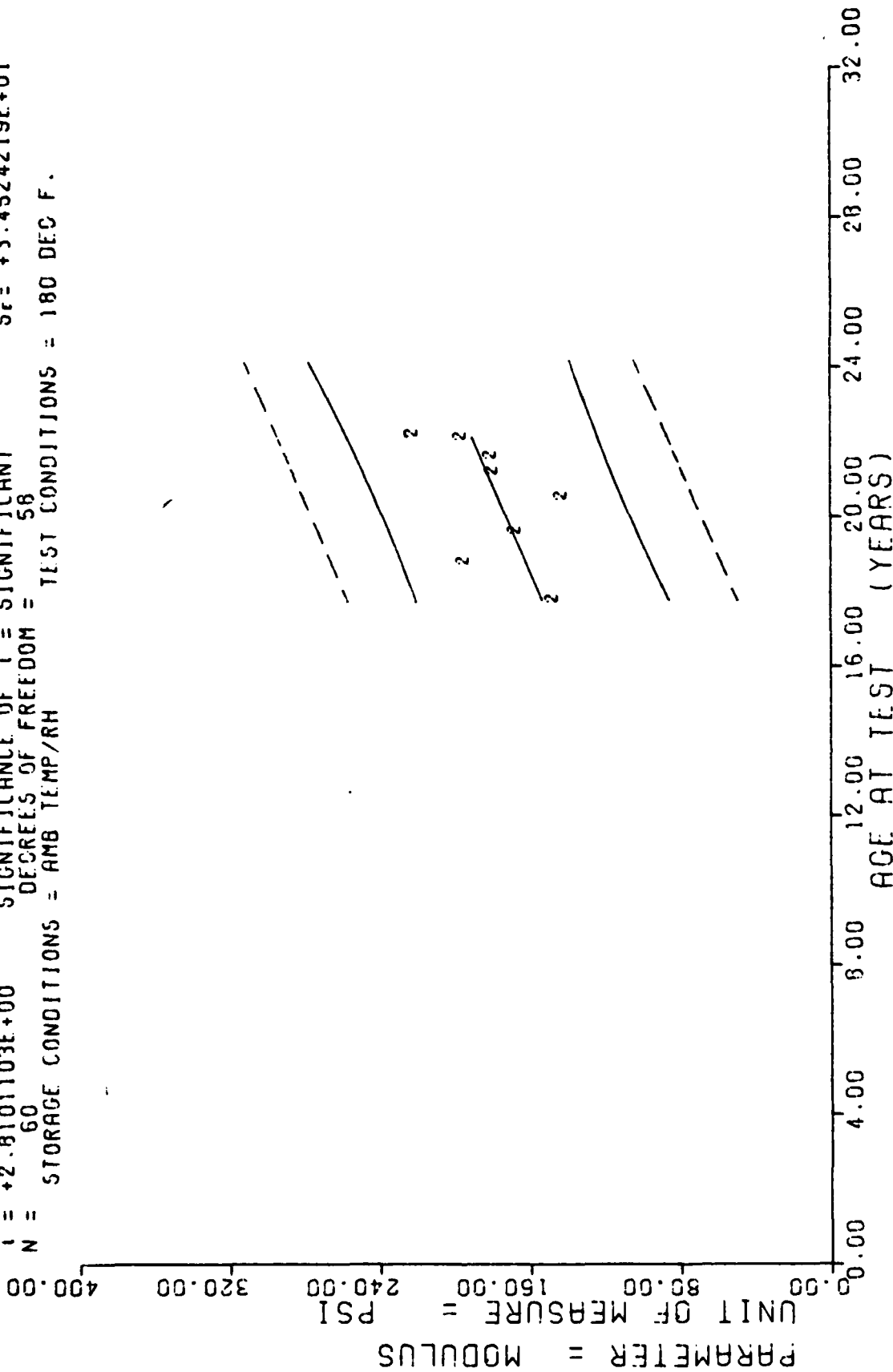
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	8	+2.3077484E+01	+5.4772855E+00	+3.0999999E+01	+1.8099999E+01	+2.4787260E+01
225.0	9	+2.9226638E+01	+4.2554981E+00	+3.6999999E+01	+2.2569992E+01	+2.5316650E+01
235.0	8	+2.7212493E+01	+2.2299417E+00	+2.9899999E+01	+2.3500000E+01	+2.5756134E+01
246.0	9	+2.0038679E+01	+1.5929571E+00	+2.2999999E+01	+1.7399999E+01	+2.6239562E+01
254.0	9	+2.6522315E+01	+2.5758820E+00	+3.0109985E+01	+2.2239999E+01	+2.6591156E+01
259.0	8	+2.7624584E+01	+4.2787038E+00	+3.7699999E+01	+2.4000000E+01	+2.6810897E+01
265.0	1	+2.6750000E+01	+9.0093000E+07	+2.6750000E+01	+2.6750000E+01	+2.7074600E+01
266.0	8	+2.9252738E+01	+7.2719175E-01	+3.0109985E+01	+2.8199999E+01	+2.7118545E+01

STAGE 1, DISCTED PCTOR=0012029, EIAXIAL CHS=.002 IN/MIN, STRESS AT RUPT.

Y = (( +1.2972225E+00 ) + ( +7.1210145E-01 ) \* X )  
 F = +7.8967199E+00 SIGNIFICANCE OF F = SIGNIFICANT  $\sigma_r = +3.6486294E+01$   
 R = +3.4617162E-01 SIGNIFICANCE OF R = SIGNIFICANT  $S_e = +2.5340694E-01$   
 t = +2.8101103E+00 SIGNIFICANCE OF t = SIGNIFICANT  $S_r = +3.4524219E+01$   
 N = 60 DEGREES OF FREEDOM = 58  
 STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = 180 DEG F.



STAGE 1. DISCTED MOTOR=0012029.61AXIAL. CHS=.002 IN/MIN. MODULUS

Figure 45

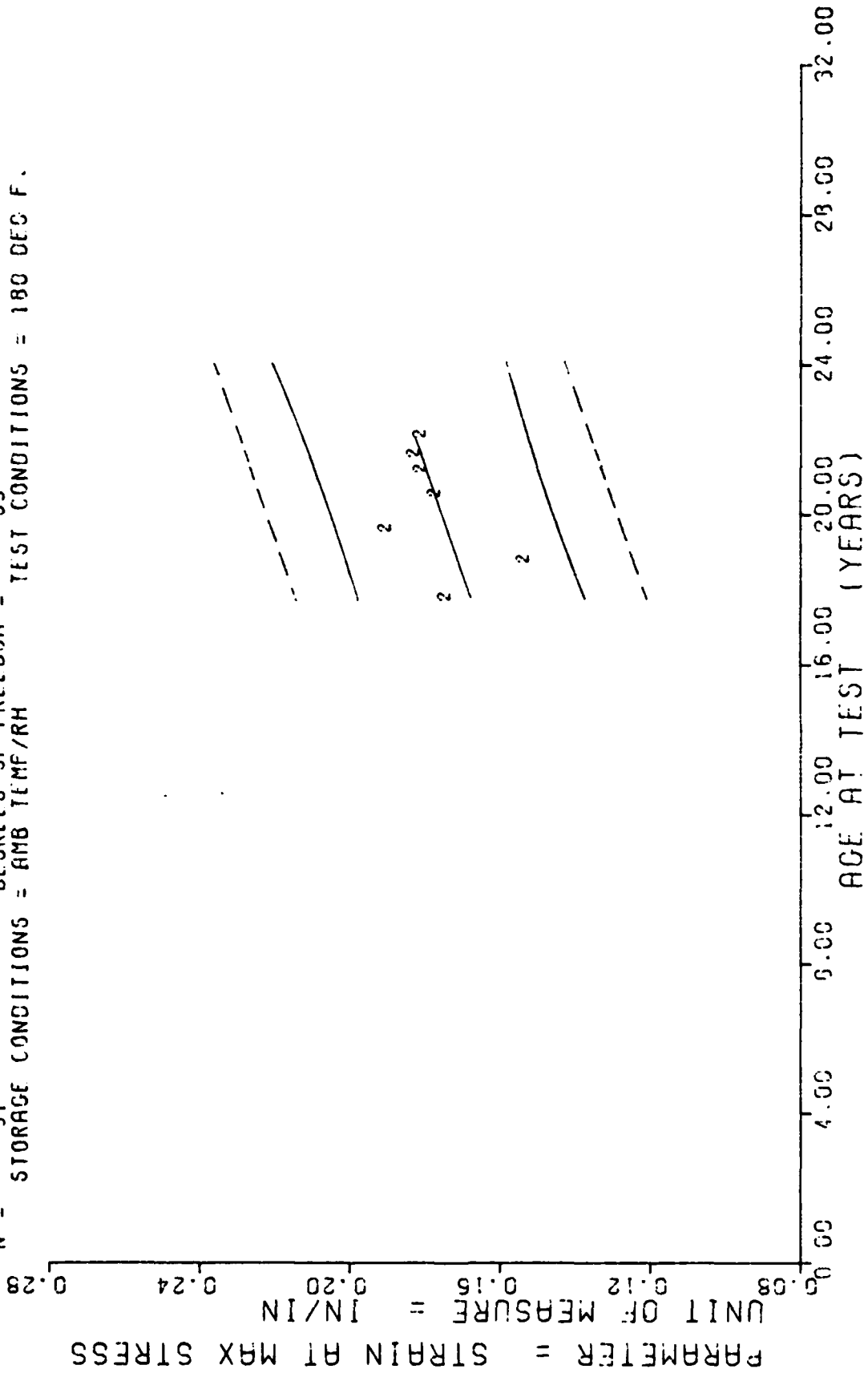
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	8	+1.4537500E+02	+3.2784741E+01	+2.0400000E+02	+1.2000000E+02	+1.5297482E+02
225.0	9	+1.9266665E+02	+3.1960913E+01	+2.7400000E+02	+1.6400000E+02	+1.6152005E+02
235.0	8	+1.6525000E+02	+2.5488092E+01	+1.9900000E+02	+1.3400000E+02	+1.6864105E+02
246.0	9	+1.4044444E+02	+1.5359178E+01	+1.7600000E+02	+1.2200000E+02	+1.7647416E+02
254.0	9	+1.7733332E+02	+2.0615528E+01	+2.0000000E+02	+1.3600000E+02	+1.8217098E+02
259.0	8	+1.7812500E+02	+1.6409383E+01	+2.1100000E+02	+1.6000000E+02	+1.8573149E+02
265.0	1	+1.9400000E+02	+0.0000000E+07	+1.9400000E+02	+1.9400000E+02	+1.9000410E+02
266.0	8	+2.1575000E+02	+4.1753528E+01	+2.8700000E+02	+1.8400000E+02	+1.9071620E+02

STAGE 1. DISCTED MCTOR=0J12029.EIAXIAL CHS=002 IN/MIN.MODULUS

Y = (( +1.0663639E-01 ) + ( +2.8626204E-04 ) \* X )  
 SIGNIFICANCE OF F = SIGNIFICANT  
 SIGNIFICANCE OF R = SIGNIFICANT  
 SIGNIFICANCE OF I = SIGNIFICANT  
 DEGREES OF FREEDOM = 59  
 STORAGE CONDITIONS = AMB TEMP/RH  
 TEST CONDITIONS = 180 DEG F.



STAGE 1, DISCTED MOTOR=0012029, BIAXIAL CHS=.02 IN/MIN, STRAIN MAX STRS.

Figure 46



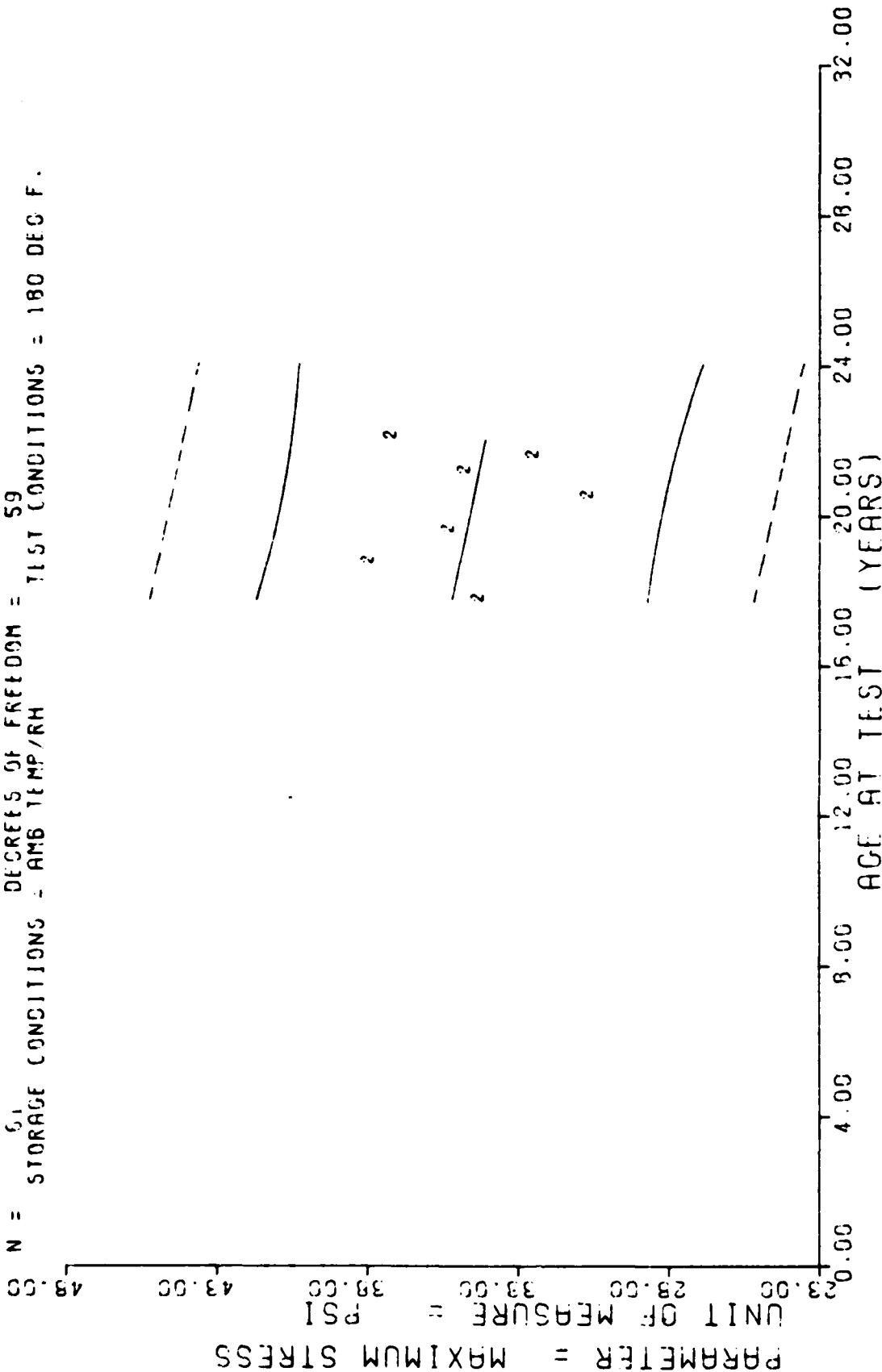
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	9	+1.7333304E-01	+1.2138170E-02	+1.8899995E-01	+1.4699995E-01	+1.6761016E-01
225.0	9	+1.5245538E-01	+8.0593527E-03	+1.7089998E-01	+1.4489996E-01	+1.7104530E-01
235.0	9	+1.8906870E-01	+2.1004765E-02	+2.1299999E-01	+1.5799995E-01	+1.7390793E-01
246.0	8	+1.7556724E-01	+1.3760742E-02	+1.9699996E-01	+1.5749996E-01	+1.7705678E-01
254.0	7	+1.7571402E-01	+1.1055135E-02	+1.9279998E-01	+1.5889996E-01	+1.7934691E-01
259.0	10	+1.8159567E-01	+1.0127923E-02	+2.0099997E-01	+1.6899996E-01	+1.8077820E-01
265.0	9	+1.7593307E-01	+7.7528537E-03	+1.8999999E-01	+1.6529995E-01	+1.8249577E-01

STAGE 1. DISCTED MCTOR=0012029. EIAIAL CHS=.02 IN/MIN. STRAIN MAX STRS.

F = +8.0431483E-01 SIGNIFICANCE OF F = (-2.1518551E-02) \* X1  
 R = 1.1597029E-01 SIGNIFICANCE OF R = NOT SIGNIFICANT  $\sigma_1 = +3.3359699E+00$   
 I = +9.9683601E-01 SIGNIFICANCE OF I = NOT SIGNIFICANT  $S_0 = +2.3993853E-02$   
 N =  $\sigma_1$  DEGREES OF FREEDOM = 59  $S_1 = +3.3414232E+00$   
 STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = 180 DEG F.



STAGE 1 DISSECTED MOTOR=0012029, R1AXIAL CHS=.02 IN/MIN, MAX STRS

Figure 47

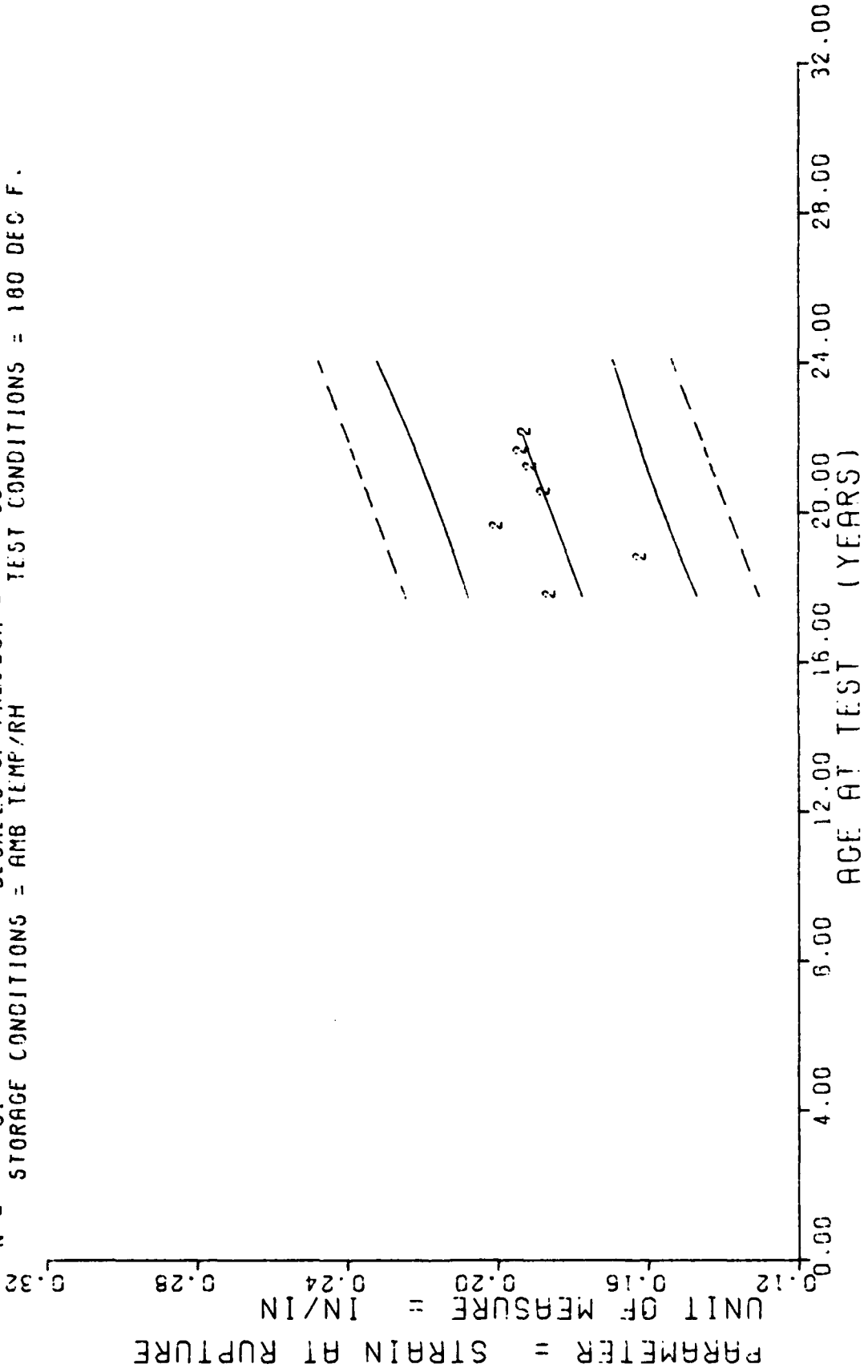
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	9	+3.415517E+01	+4.440566E+00	+3.7599990E+01	+2.5399993E+01	+3.5175079E+01
225.0	9	+3.7811050E+01	+1.5388230E+00	+4.2369995E+01	+3.5939987E+01	+3.4916854E+01
235.0	9	+3.5147720E+01	+1.7451754E+00	+3.8519989E+01	+3.2500000E+01	+3.4701675E+01
246.0	8	+3.0527481E+01	+2.0561628E+00	+3.3699996E+01	+2.7679992E+01	+3.4464965E+01
254.0	7	+3.4604278E+01	+2.8271237E+00	+3.8789993E+01	+3.1569992E+01	+3.4292831E+01
259.0	10	+3.2335981E+01	+1.8344079E+00	+3.5199996E+01	+2.9000000E+01	+3.4185226E+01
265.0	9	+3.7043258E+01	+1.2249066E+00	+3.8989990E+01	+3.5519989E+01	+3.4056121E+01

STAGE 1.0 DISCTED MCTOR=0012029.81AXIAL CHS=.02 IN/MIN. MAX STRS.

Y = (( +1.1200381E-01 ) + ( +3.0642625E-04 ) \* X )  
 F = +7.4463872E+00 SIGNIFICANCE OF F = SIGNIFICANT  $\sigma_r = +1.6456774E-02$   
 R = +3.3476274E-01 SIGNIFICANCE OF R = SIGNIFICANT  $S_s = +1.1229312E-04$   
 I = +2.7288069E+00 SIGNIFICANCE OF I = SIGNIFICANT  $S_t = +1.5638124E-02$   
 N = 61 DEGREES OF FREEDOM = 59  
 STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = 180 DEG F.



STAGE 1, DISCTED MOTOR=0012029, R1AXIAL CHS=.02 IN/MIN, STRAIN AT RUPT.

Figure 48

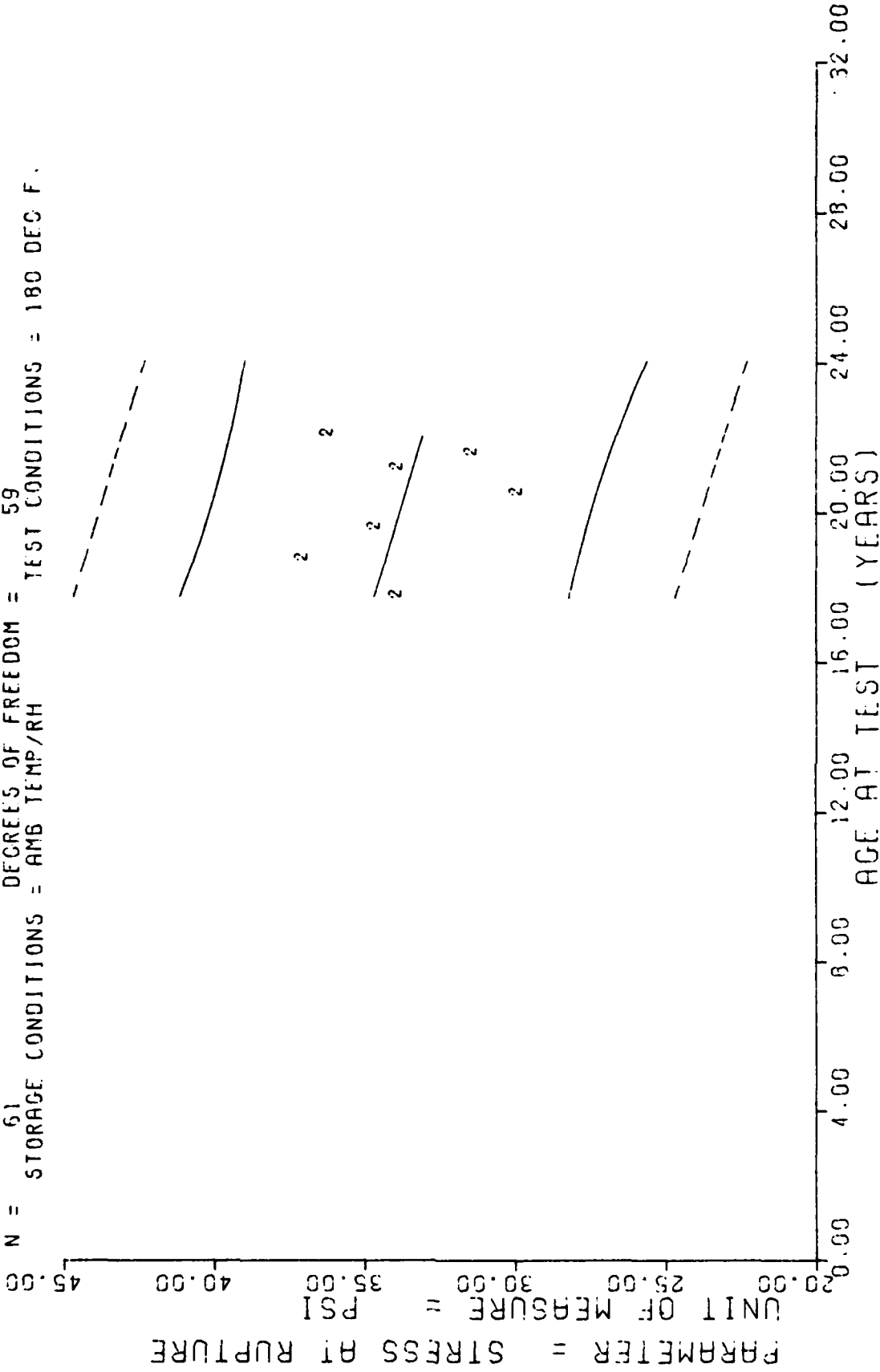
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	9	+1.8466639E-01	+6.4285038E-03	+1.9399594E-01	+1.7499995E-01	+1.7727255E-01
225.0	9	+1.6061091E-01	+1.0281990E-02	+1.8489598E-01	+1.5179997E-01	+1.8094968E-01
235.0	9	+1.5E77737E-01	+2.1197477E-02	+2.1999996E-01	+1.6799998E-01	+1.8401396E-01
246.0	8	+1.8617475E-01	+1.2225079E-02	+2.0199596E-01	+1.6959995E-01	+1.8738466E-01
254.0	7	+1.8575584E-01	+1.3125375E-02	+2.0189594E-01	+1.6229999E-01	+1.8983608E-01
259.0	10	+1.9239574E-01	+1.0343657E-02	+2.1599596E-01	+1.7899996E-01	+1.9136816E-01
265.0	9	+1.9134414E-01	+6.5621119E-03	+2.0109599E-01	+1.8209999E-01	+1.9320672E-01

STAGE 1.DISC TEC MCTOR=0012029.EIAXIAL CHS=.02 IN/MIN. STRAIN AT RUPT.

Y = (( +4.1279818E+01 ) + ( -3.1118483E-02 ) \* X )  
 SIGNIFICANCE OF F = NOT SIGNIFICANT  
 SIGNIFICANCE OF R = NOT SIGNIFICANT  
 SIGNIFICANCE OF I = NOT SIGNIFICANT  
 DEGREES OF FREEDOM = 59  
 STORAGE CONDITIONS = AMB TEMP/RH  
 TEST CONDITIONS = 180 DEG F.



STAGE 1, DISCATED MOTOR=0012029, MAXIAL. CHS=.02 IN/MIN, STRESS AT RUPT.

Figure 49

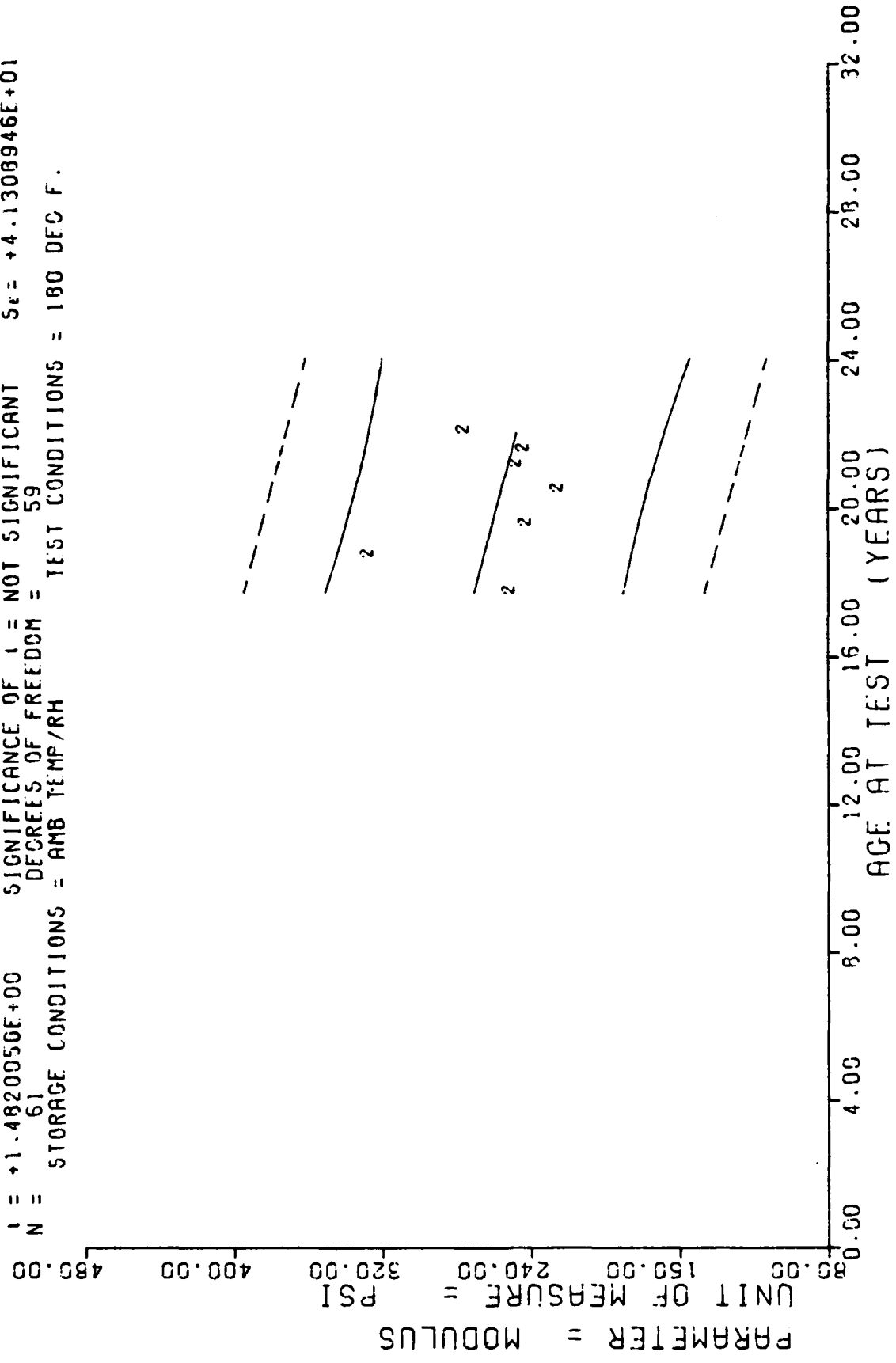
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	9	+3.3766616E+01	+4.6004558E+00	+3.8399593E+01	+2.4799987E+01	+3.4651580E+01
225.0	9	+3.6902175E+01	+2.0865903E+00	+4.1699996E+01	+3.4269989E+01	+3.4278152E+01
235.0	9	+3.445627E+01	+1.593657E+00	+3.8000000E+01	+3.2299987E+01	+3.3966964E+01
246.0	8	+2.9776229E+01	+2.1290267E+00	+3.2899593E+01	+2.6599990E+01	+3.3624664E+01
254.0	7	+3.3737136E+01	+2.6739765E+00	+3.8000000E+01	+3.0989990E+01	+3.3375717E+01
259.0	10	+3.1275568E+01	+1.8820266E+00	+3.4299587E+01	+2.8199996E+01	+3.3220123E+01
265.0	9	+3.6055567E+01	+1.2213937E+00	+3.7789553E+01	+3.4409988E+01	+3.3033416E+01

STAGE 1. DISCTED MCTOR=0012029. BIAXIAL CHS=.02 IN/MIN. STRESS AT RUPT.

Y = 1 ( +3.6397504E+02 ) + ( -4.3960467E-01 ) \* X )  
 F = +2.1963388E+00 SIGNIFICANCE OF F = NOT SIGNIFICANT  $\sigma_1 = +4.1718743E+01$   
 R = -1.8944665E-01 SIGNIFICANCE OF R = NOT SIGNIFICANT  $\sigma_0 = +2.9662833E-01$   
 I = +1.4820050E+00 SIGNIFICANCE OF I = NOT SIGNIFICANT  $\sigma_2 = +4.1308946E+01$   
 N = 61 DEGREES OF FREEDOM = 59  
 STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = 180 DEC F.



STAGE 1, DISCTED MOTOR=0012029, RIAXIAL CHS=.02 IN/MIN, MODULUS

Figure 50



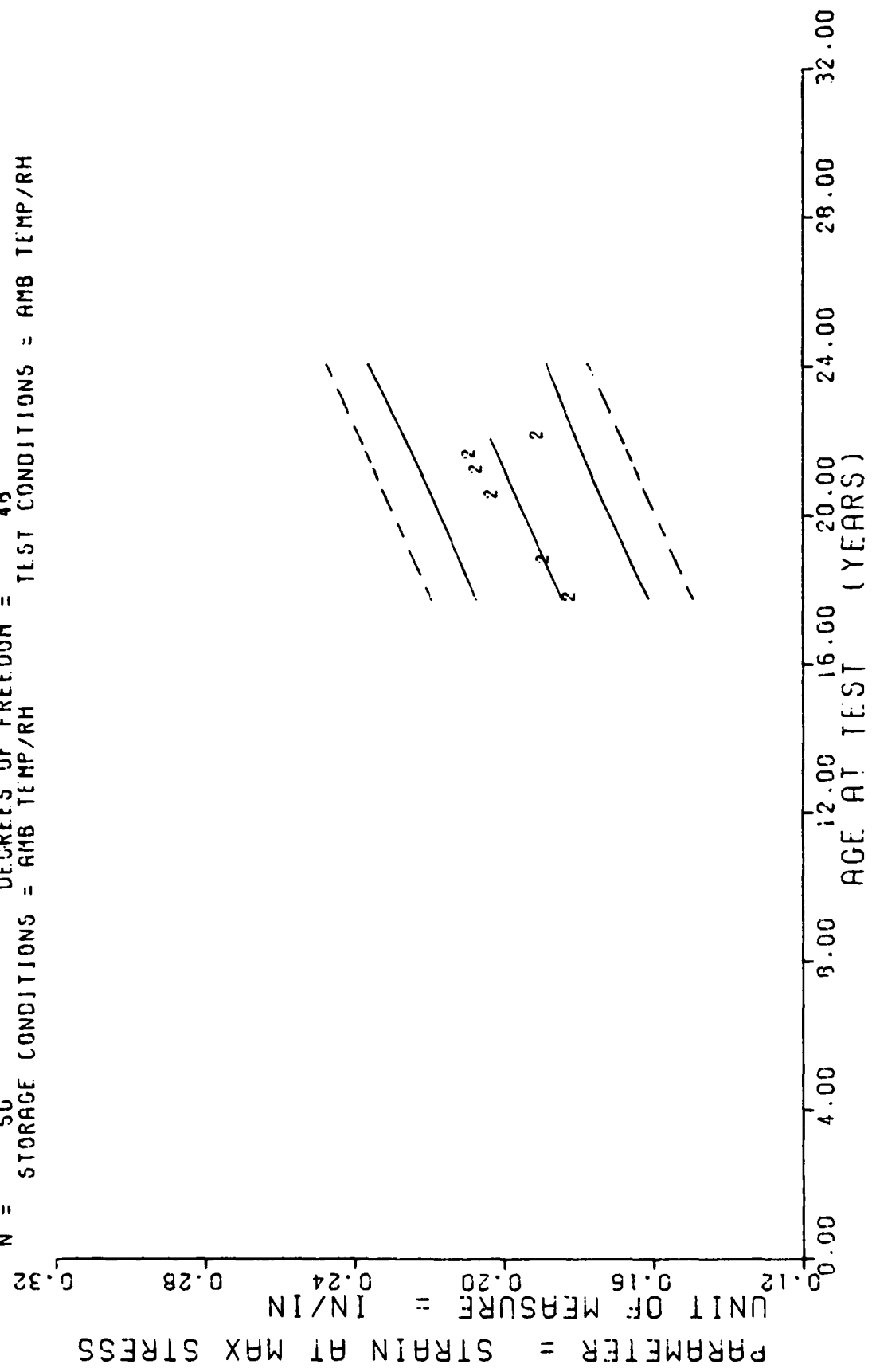
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	9	+2.4900000E+02	+3.8356876E+01	+3.1500000E+02	+1.8500000E+02	+2.7033911E+02
225.0	9	+3.2500000E+02	+3.0074906E+01	+3.8300000E+02	+2.7500000E+02	+2.6506396E+02
235.0	9	+2.4011109E+02	+3.7176754E+01	+2.9800000E+02	+1.9700000E+02	+2.6066772E+02
246.0	8	+2.2287500E+02	+2.2408145E+01	+2.6900000E+02	+2.0200000E+02	+2.5583229E+02
254.0	7	+2.4557142E+02	+2.2824381E+01	+2.8100000E+02	+2.2100000E+02	+2.5231544E+02
259.0	10	+2.4159999E+02	+1.8488434E+01	+2.7900000E+02	+2.1800000E+02	+2.5011743E+02
265.0	9	+2.7344433E+02	+2.4663288E+01	+3.0700000E+02	+2.3800000E+02	+2.4747979E+02

STAGE 1. DISCTED MOTOR=0012029. EIAXIAL CHS=.02 IN/MIN. MODULUS

$Y = (1 + 1.0579097E-01) + ( + 3.6867644E-04 ) * X$   
 F = +1.7794199E+01 SIGNIFICANCE OF F = SIGNIFICANT  $\sigma_1 = +1.3485699E-02$   
 R = +5.2005038E-01 SIGNIFICANCE OF R = SIGNIFICANT  $S_0 = +8.7446352E-05$   
 I = +4.2183171E+00 SIGNIFICANCE OF I = SIGNIFICANT  $S_f = +1.1637982E-02$   
 N = 50 DEGREES OF FREEDOM = 48  
 STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = AMB TEMP/RH



STAGE 1, DISCTED MOTOR=0012029, BIAXIAL CHS=0.2 IN/MIN, STRAIN MAX STRS

Figure 51

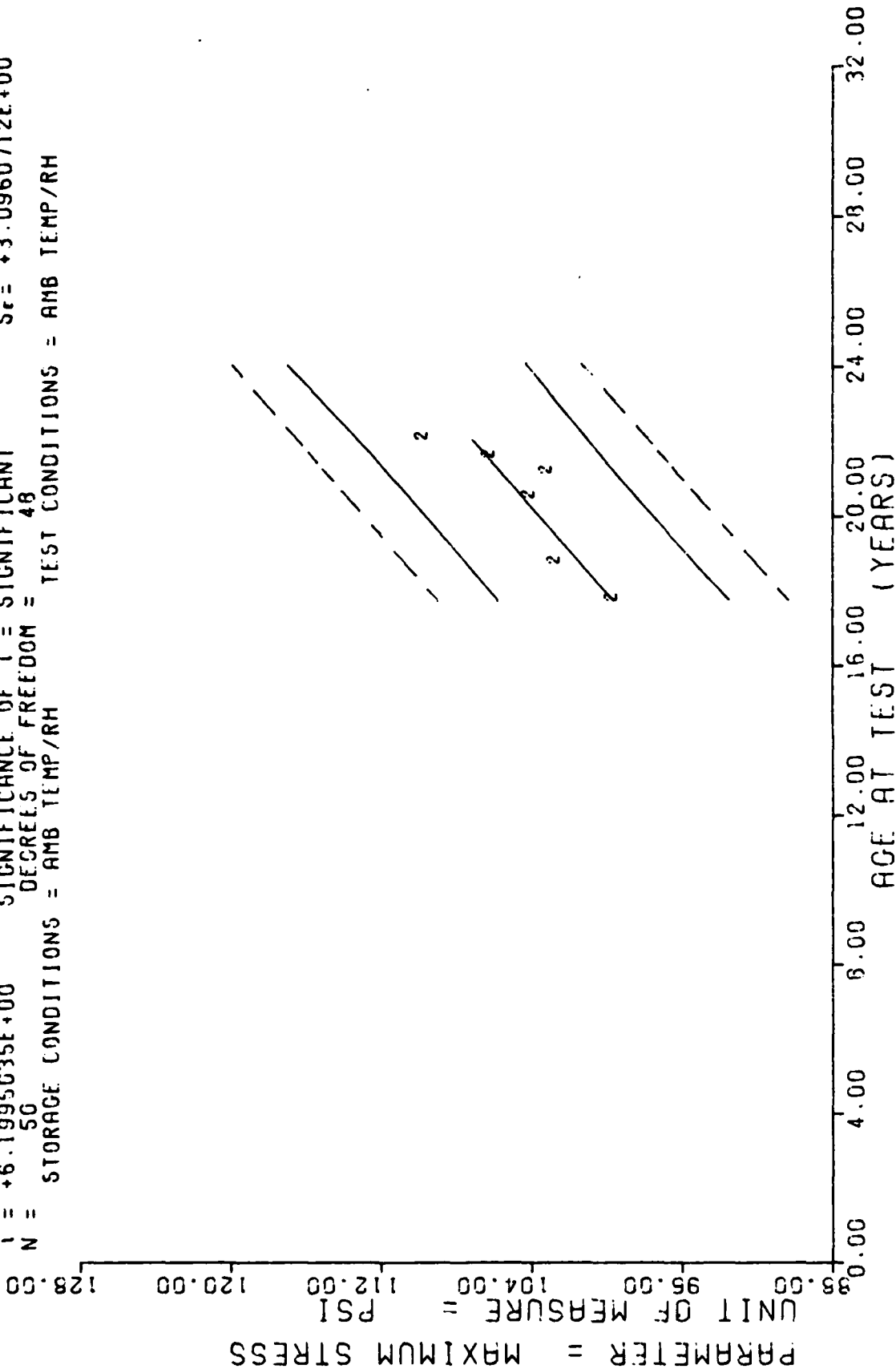
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	9	+1.9112315E-01	+7.96932212E-03	+1.94399595E-01	+1.6939997E-01	+1.8436163E-01
225.0	9	+1.8807744E-01	+1.2728030E-02	+2.1519994E-01	+1.7089998E-01	+1.887811E-01
246.0	9	+2.0187759E-01	+5.6006523E-03	+2.09099594E-01	+1.9349998E-01	+1.9653457E-01
254.0	8	+2.0606219E-01	+9.1417013E-03	+2.16999554E-01	+1.9299995E-01	+1.9948554E-01
259.0	7	+2.0765683E-01	+1.2619358E-02	+2.2399997E-01	+1.8999999E-01	+2.0132994E-01
265.0	8	+1.8967485E-01	+7.2759005E-03	+1.96999596E-01	+1.7429995E-01	+2.0354319E-01

STAGE 1, DISCTED MCTOR=0012029, EIAXIAL CHS=0.2 IN/MIN, STRAIN MAX STRS.

Y = (( +6.8929675E+01 ) + ( +1.4422211E-01 ) \* X )  
 F = +3.6433843E+01 SIGNIFICANCE OF F = SIGNIFICANT  $\sigma_1 = +4.1120162E+00$   
 R = +6.6682979E-01 SIGNIFICANCE OF R = SIGNIFICANT  $S_0 = +2.3263493E-02$   
 I = +6.1995035E+00 SIGNIFICANCE OF I = SIGNIFICANT  $S_r = +3.0960712E+00$   
 N = 50 DEGREES OF FREEDOM = 48  
 STORAGE CONDITIONS = AMB TEMP/RH  
 TEST CONDITIONS = AMB TEMP/RH



STAGE 1. DISCTED MOTOR=0012029. RIAXIAL CHS=0.2 IN/MIN. MAX STRS

Figure 52

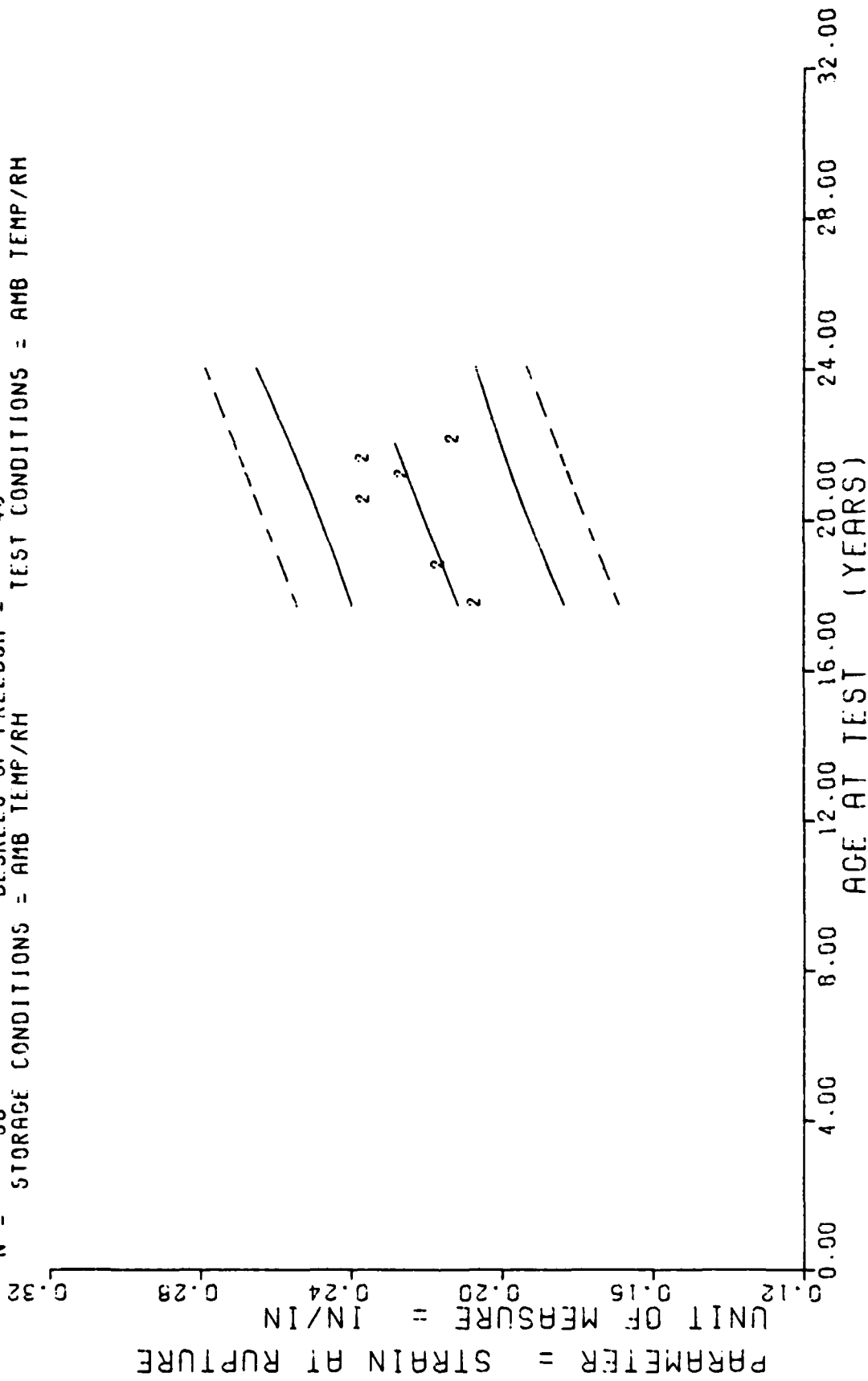
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	9	+9.5466784E+01	+2.2185737E+00	+1.0316599E+02	+9.6309997E+01	+9.9648971E+01
225.0	9	+1.0251768E+02	+1.4357205E+00	+1.0529598E+02	+1.0097999E+02	+1.0137963E+02
246.0	9	+1.0366588E+02	+3.5336691E+00	+1.0848599E+02	+9.8879989E+01	+1.0440830E+02
254.0	8	+1.0293862E+02	+1.5111031E+00	+1.0554598E+02	+1.0028999E+02	+1.0556208E+02
255.0	7	+1.0599992E+02	+5.0307970E+00	+1.1309599E+02	+9.8500000E+01	+1.0628318E+02
265.0	8	+1.0552490E+02	+1.7598146E+00	+1.1203599E+02	+1.0779998E+02	+1.0714852E+02

STAGE 1.DISCCTED MCTCR=0012029,BIAXIAL CHS=0.2 IN/MIN,MAX STRS.

$Y = (( +1.4318865E-01 ) + ( +3.2104258E-04 ) * X )$   
 F = +9.0545563E+00 SIGNIFICANCE OF F = SIGNIFICANT  $G_1 = +1.5321884E-02$   
 R = +3.9837164E-01 SIGNIFICANCE OF R = SIGNIFICANT  $S_1 = +1.0669131E-04$   
 I = +3.0090789E+00 SIGNIFICANCE OF I = SIGNIFICANT  $S_2 = +1.4199238E-02$   
 N = 50 DEGREES OF FREEDOM = 48  
 STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = AMB TEMP/RH



STAGE 1, DISCTED MOTOR=0012029, BIAXIAL CHS=0.2 IN/MIN, STRAIN AT RUPT.

Figure 53

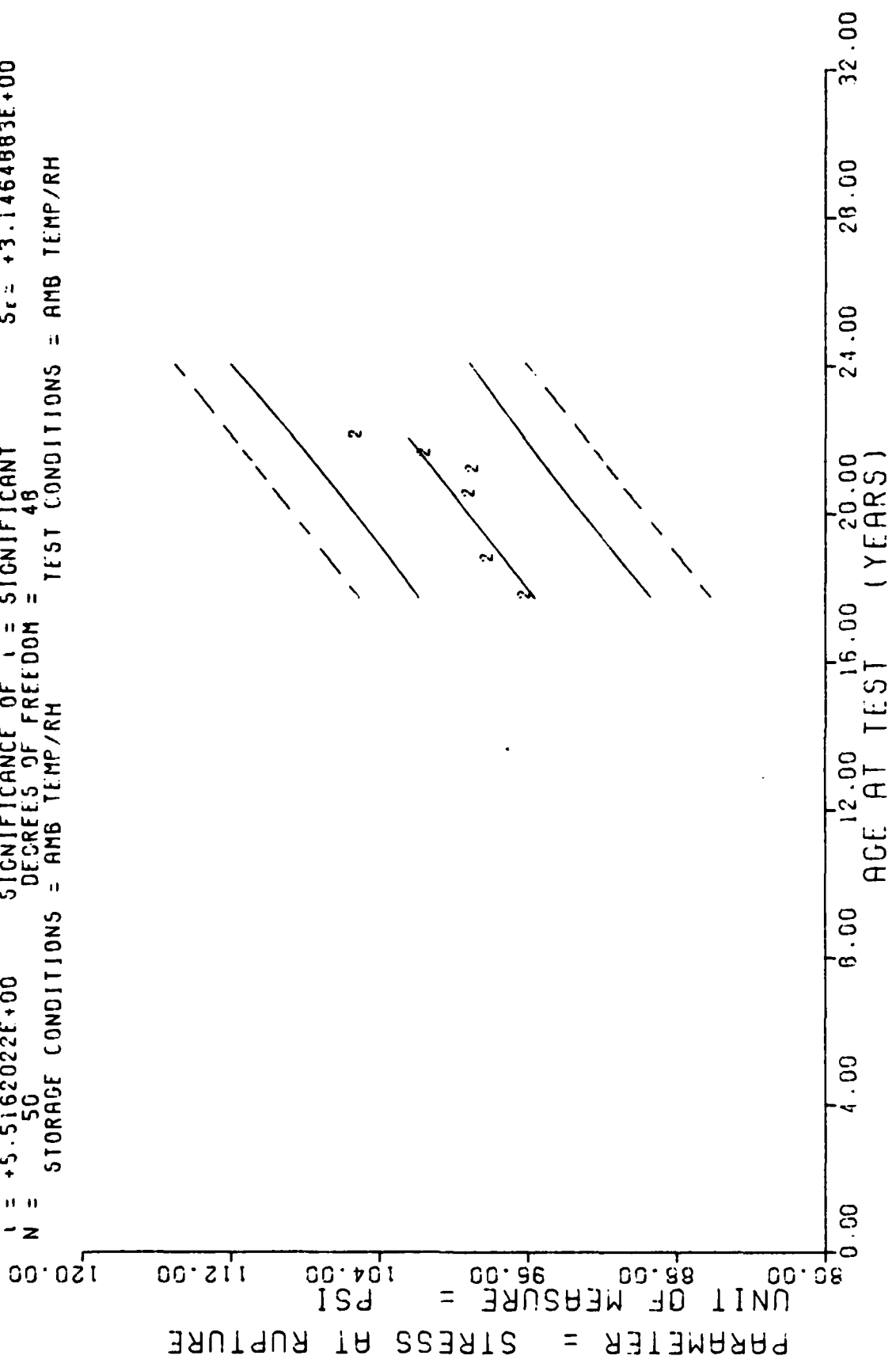
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	9	+2.0588650E-01	+8.6978124E-03	+2.2249596E-01	+1.9099998E-01	+2.1157091E-01
225.0	9	+2.1548849E-01	+1.3448483E-02	+2.3769598E-01	+1.9259995E-01	+2.1542340E-01
246.0	9	+2.3514407E-01	+7.3752533E-03	+2.4675594E-01	+2.1999996E-01	+2.2216528E-01
254.0	8	+2.2512471E-01	+9.3326120E-03	+2.3699598E-01	+2.0999997E-01	+2.2473365E-01
259.0	7	+2.3542839E-01	+1.4118943E-02	+2.5599598E-01	+2.1099996E-01	+2.2633886E-01
265.0	8	+2.1163725E-01	+1.0636552E-02	+2.2699599E-01	+1.9629997E-01	+2.2826510E-01

STAGE 1, DISCTED MCTOR=0012029, EIAXIAL CHS=0.2 IN/MIN, STRAIN AT RUPT.

$Y = (( +6.7837995E+01 ) + ( +1.3041582E-01 ) * X )$   
 F = +3.0428487E+01      SIGNIFICANCE OF F = SIGNIFICANT       $\sigma_1 = +3.9807509E+00$   
 R = +6.2287830E-01      SIGNIFICANCE OF F = SIGNIFICANT       $S_0 = +2.3642321E-02$   
 I = +5.5162022E+00      SIGNIFICANCE OF I = SIGNIFICANT       $S_e = +3.1464883E+00$   
 N = 50      DEGREES OF FREEDOM = 48  
 STORAGE CONDITIONS = AMB TEMP/RH      TEST CONDITIONS = AMB TEMP/RH



STAGE 1, DISCTED MOTOR=0012029, BIAXIAL CHS=0.2 IN/MIN, STRESS AT RUPT.

Figure 54



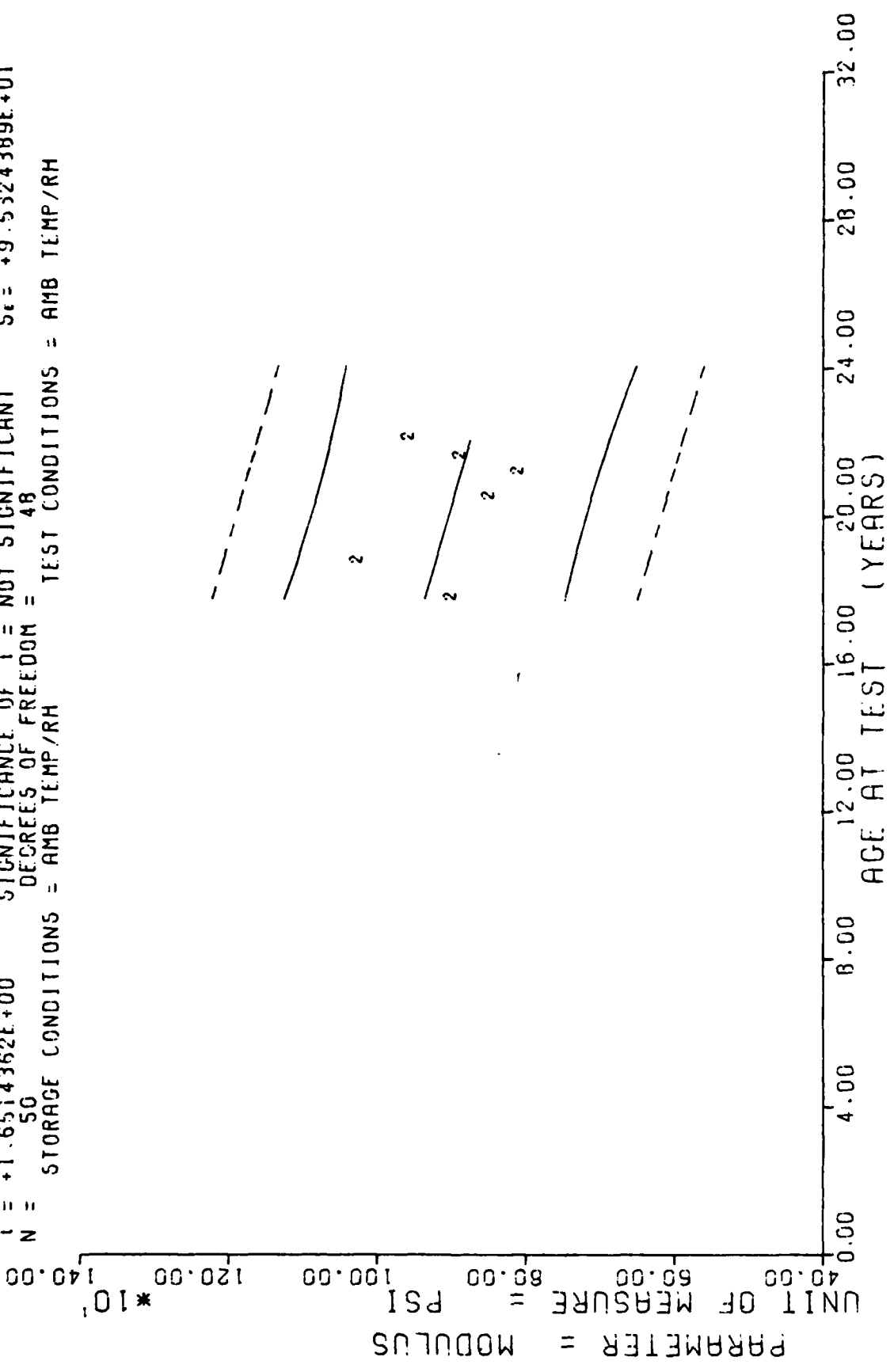
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	9	+9.5874374E+01	+2.1139072E+00	+9.5765586E+01	+9.3399993E+01	+9.5616561E+01
225.0	9	+9.7923217E+01	+1.9840577E+00	+1.0103599E+02	+9.4809997E+01	+9.7181549E+01
246.0	9	+9.8505456E+01	+3.2633652E+00	+1.0315595E+02	+9.4399993E+01	+9.9920288E+01
254.0	8	+9.8693664E+01	+1.7747080E+00	+1.0139999E+02	+9.5299987E+01	+1.0096360E+02
259.0	7	+1.0127133E+02	+5.3374145E+00	+1.0839599E+02	+9.2799987E+01	+1.0161569E+02
265.0	8	+1.0496617E+02	+1.6759248E+00	+1.0779598E+02	+1.0319999E+02	+1.0239817E+02

STAGE 1, DISCTEC MCTOR=0012029, EIAXIAL CHS=0.2 IN/MIN, STRESS AT RUPT.

$Y = (1 + 1.1974066E+03) + (-1.1928504E+00) * X$   
 F = +2.7272416E+00 SIGNIFICANCE OF F = NOT SIGNIFICANT  $\sigma_1 = +9.6989923E+01$   
 R = -2.3186819E-01 SIGNIFICANCE OF R = NOT SIGNIFICANT  $\sigma_2 = +7.1625559E-01$   
 t = +1.6514362E+00 SIGNIFICANCE OF t = NOT SIGNIFICANT  $\sigma_3 = +9.5324389E+01$   
 N = 50 DEGREES OF FREEDOM = 48  
 STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = AMB TEMP/RH



STAGE 1 DISCITED MOTOR=0012029, BIAXIAL, CH5=0.2 IN/MIN, MODULUS

Figure 55

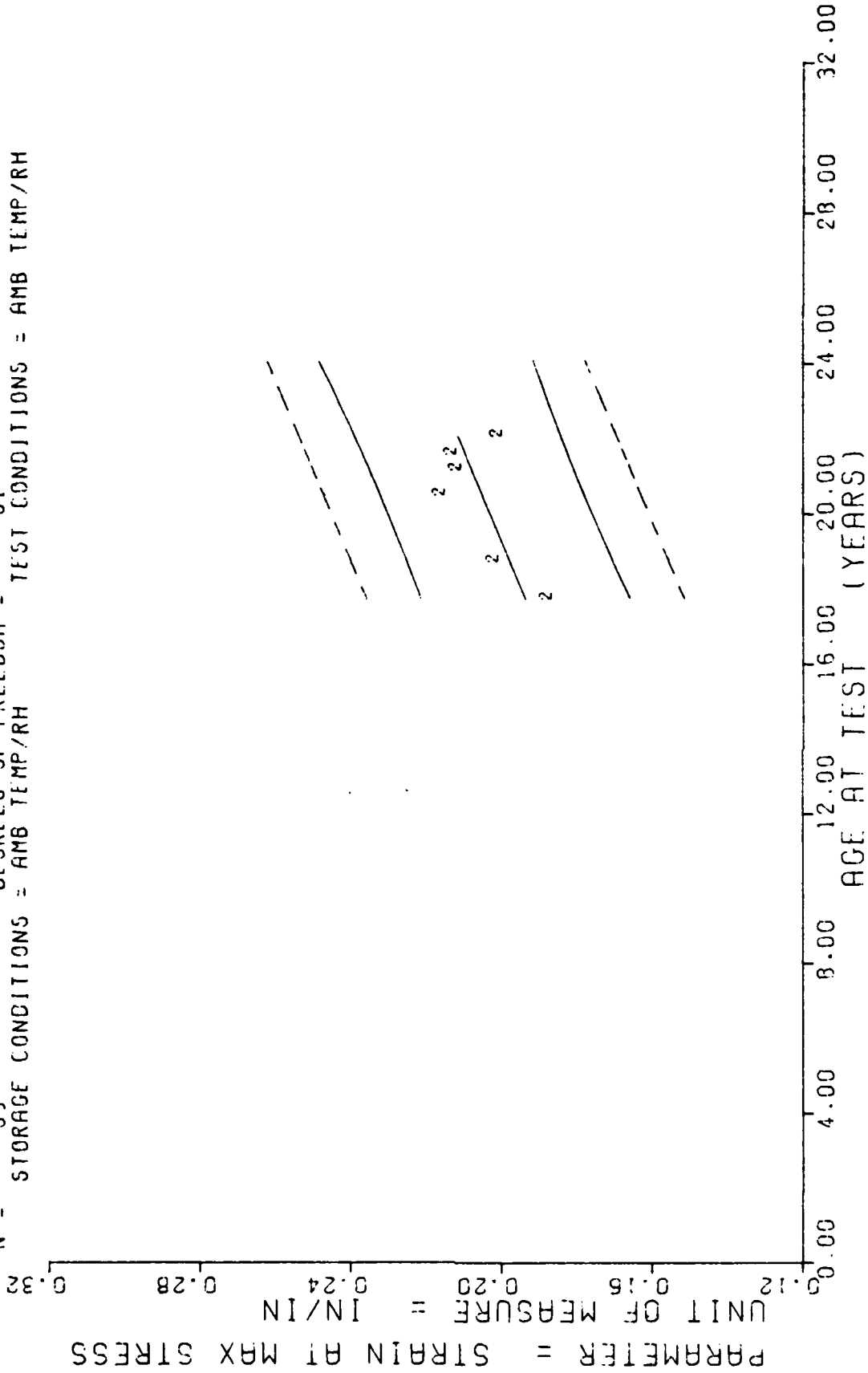
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	9	+8.538867E+02	+5.2353234E+01	+9.9000000E+02	+8.3200000E+02	+9.3545922E+02
225.0	9	+1.020886E+03	+1.0725838E+02	+1.1340000E+03	+8.6600000E+02	+9.2126513E+02
240.0	9	+8.428867E+02	+5.5415862E+01	+9.1800000E+02	+7.4000000E+02	+8.9642529E+02
254.0	8	+8.040000E+02	+6.2541414E+01	+9.0400000E+02	+7.3500000E+02	+8.8696240E+02
259.0	7	+8.821428E+02	+6.5496831E+01	+9.9700000E+02	+7.9400000E+02	+8.9104809E+02
265.0	8	+9.508750E+02	+3.4207089E+01	+9.9700000E+02	+8.9700000E+02	+8.7395117E+02

STAGE 1, DISCTED MOTOR=0012029, EIAXIAL CHS=0.2 IN/MIN, MODULUS

F = +1.1227025E+01  
 R = +4.2475924E-01  
 I = +3.3506754E+00  
 N = 53  
 STORAGE CONDITIONS = AMB TEMP/RH  
 Y = (( +1.1994106E-01 ) + ( +3.4600817E-04 ) \* X )  
 SIGNIFICANCE OF F = SIGNIFICANT  
 SIGNIFICANCE OF R = SIGNIFICANT  
 SIGNIFICANCE OF I = SIGNIFICANT  
 DEGREES OF FREEDOM = 51  
 TEST CONDITIONS = AMB TEMP/RH



STAGE 1.DISCIED MOTOR=0012029.BIAXIAL CHS=2.0 IN/MIN,STRAIN AT MAX STRS

Figure 56

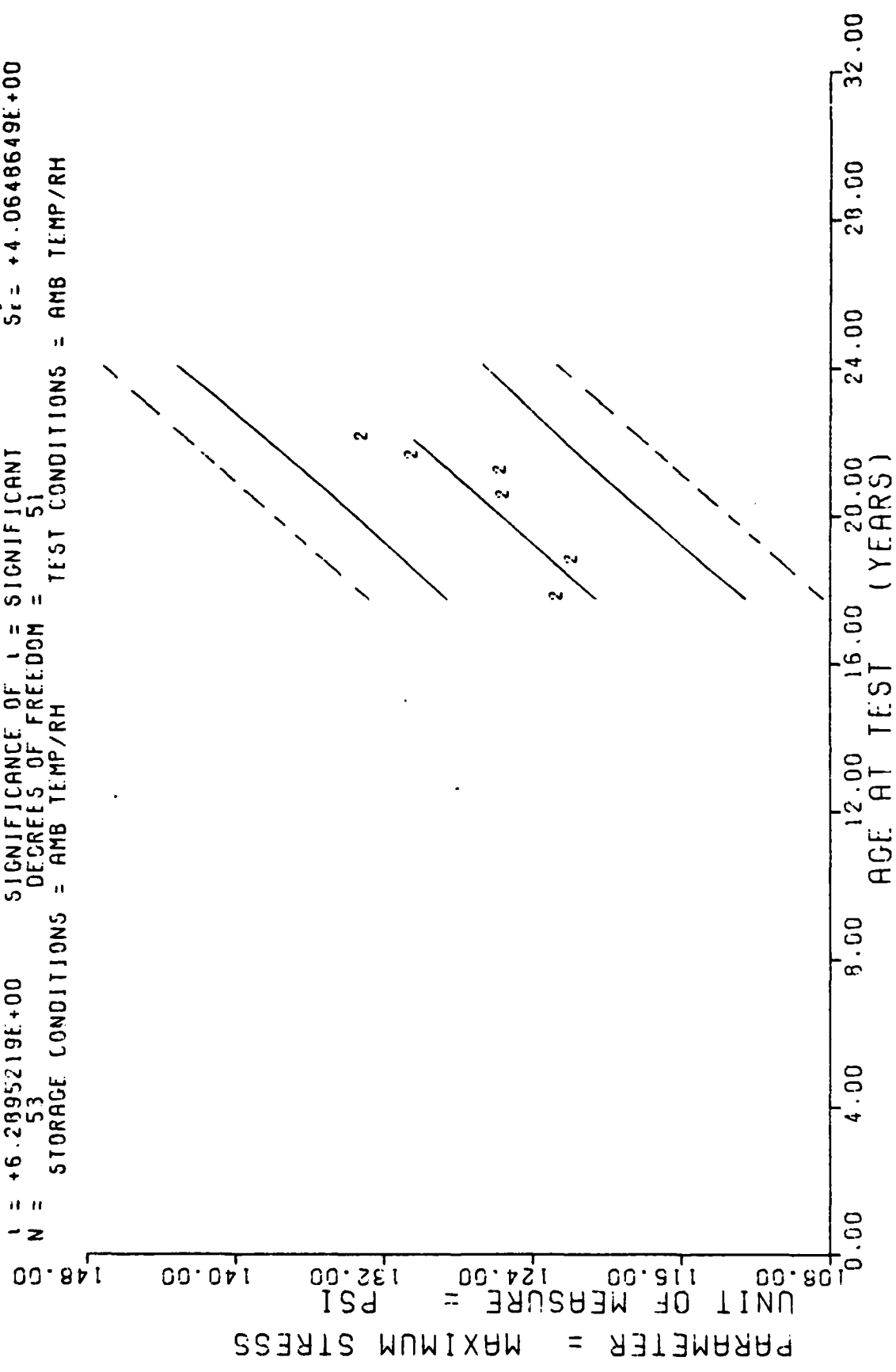
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	9	+1.8672198E-01	+5.4588830E-03	+2.0049595E-01	+1.8199998E-01	+1.9354075E-01
225.0	8	+2.0092475E-01	+2.1535587E-02	+2.4729596E-01	+1.7639994E-01	+1.9769287E-01
246.0	9	+2.1502184E-01	+7.7239425E-03	+2.2409559E-01	+2.0369994E-01	+2.0495903E-01
254.0	9	+2.1074432E-01	+1.0644858E-02	+2.3299598E-01	+1.9599997E-01	+2.0772713E-01
259.0	9	+2.1155577E-01	+1.5947555E-02	+2.3499555E-01	+1.9099998E-01	+2.0945715E-01
265.0	9	+1.9585532E-01	+6.7314858E-03	+2.0999597E-01	+1.9089996E-01	+2.1153318E-01

STAGE 1. DISCTED FACTOR=0012029. ELAXIAL CHS=2.0 IN/MIN. STRAIN AT MAX STRS.

$Y = (1 + 8.0526817E+01) + (1.0813335E-01) * X$   
 F = +3.9558085E+01      SIGNIFICANCE OF F = SIGNIFICANT       $\sigma_f = +5.3642382E+00$   
 R = +6.6092779E-01      SIGNIFICANCE OF R = SIGNIFICANT       $S_b = +2.9912186E-02$   
 t = +6.2895219E+00      SIGNIFICANCE OF t = SIGNIFICANT       $S_c = +4.0648649E+00$   
 N = 53      DEGREES OF FREEDOM = 51  
 STORAGE CONDITIONS = AMB TEMP/RH      TEST CONDITIONS = AMB TEMP/RH



STAGE 1 DISCATED MOTOR=0012029, BIAXIAL CHS=2.0 IN/MIN, MAX STRS

Figure 57

\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

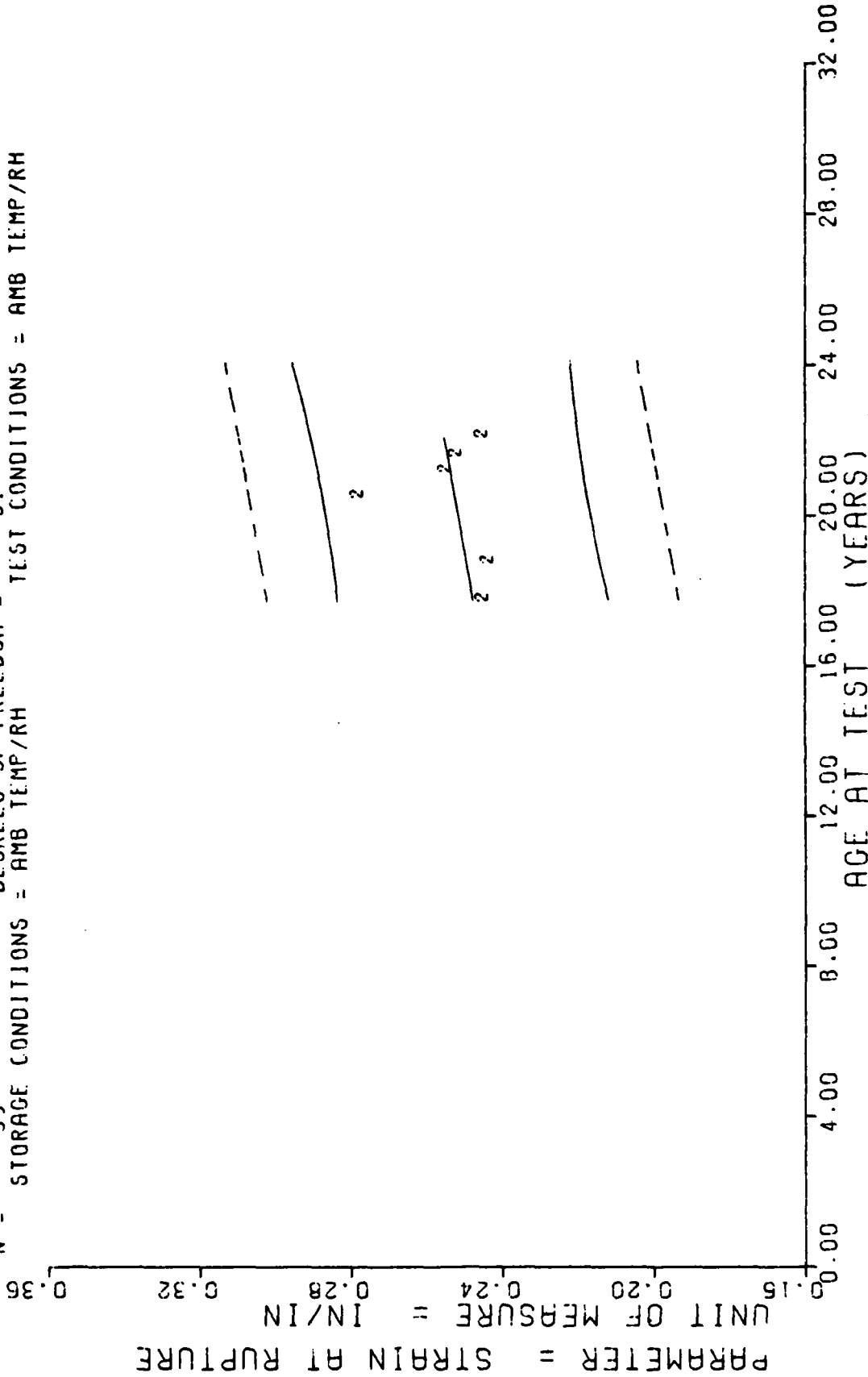
\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	9	+1.2244649E+02	+2.1419327E+00	+1.2558595E+02	+1.1850000E+02	+1.2059921E+02
225.0	8	+1.2164492E+02	+2.4829267E+00	+1.2737598E+02	+1.1989999E+02	+1.2285681E+02
246.0	9	+1.2534878E+02	+3.5832074E+00	+1.3343598E+02	+1.1844559E+02	+1.2680761E+02
254.0	9	+1.2546658E+02	+1.5611572E+00	+1.2944595E+02	+1.2244999E+02	+1.2831268E+02
259.0	9	+1.3023326E+02	+6.8498433E+00	+1.3615559E+02	+1.1839999E+02	+1.2925334E+02
265.0	9	+1.3251772E+02	+1.5273966E+00	+1.3646558E+02	+1.3005999E+02	+1.3038215E+02

STAGE 1. DISCTED MCTCR=0J12029. EIAIAL CHS=2.0 IN/MIN. MAX STRS.

$Y = (( +2.1674514E-01 ) + ( +1.4517956E-04 ) * X )$   
 SIGNIFICANCE OF F = NOT SIGNIFICANT  $\sigma_f = +1.0137375E-02$   
 SIGNIFICANCE OF R = NOT SIGNIFICANT  $S_s = +1.3322786E-04$   
 SIGNIFICANCE OF t = NOT SIGNIFICANT  $S_{se} = +1.9104769E-02$   
 DEGREES OF FREEDOM = 51  
 STORAGE CONDITIONS = AMB TEMP/RH  
 TEST CONDITIONS = AMB TEMP/RH

F = +1.1874651E+00  
 R = +1.5084375E-01  
 t = +1.0897087E+00  
 N = 53



STAGE 1, DISCTED MOTOR=0012029, RIAXIAL CH5=2.0 IN/MIN, STRAIN AT RUPT.

Figure 58



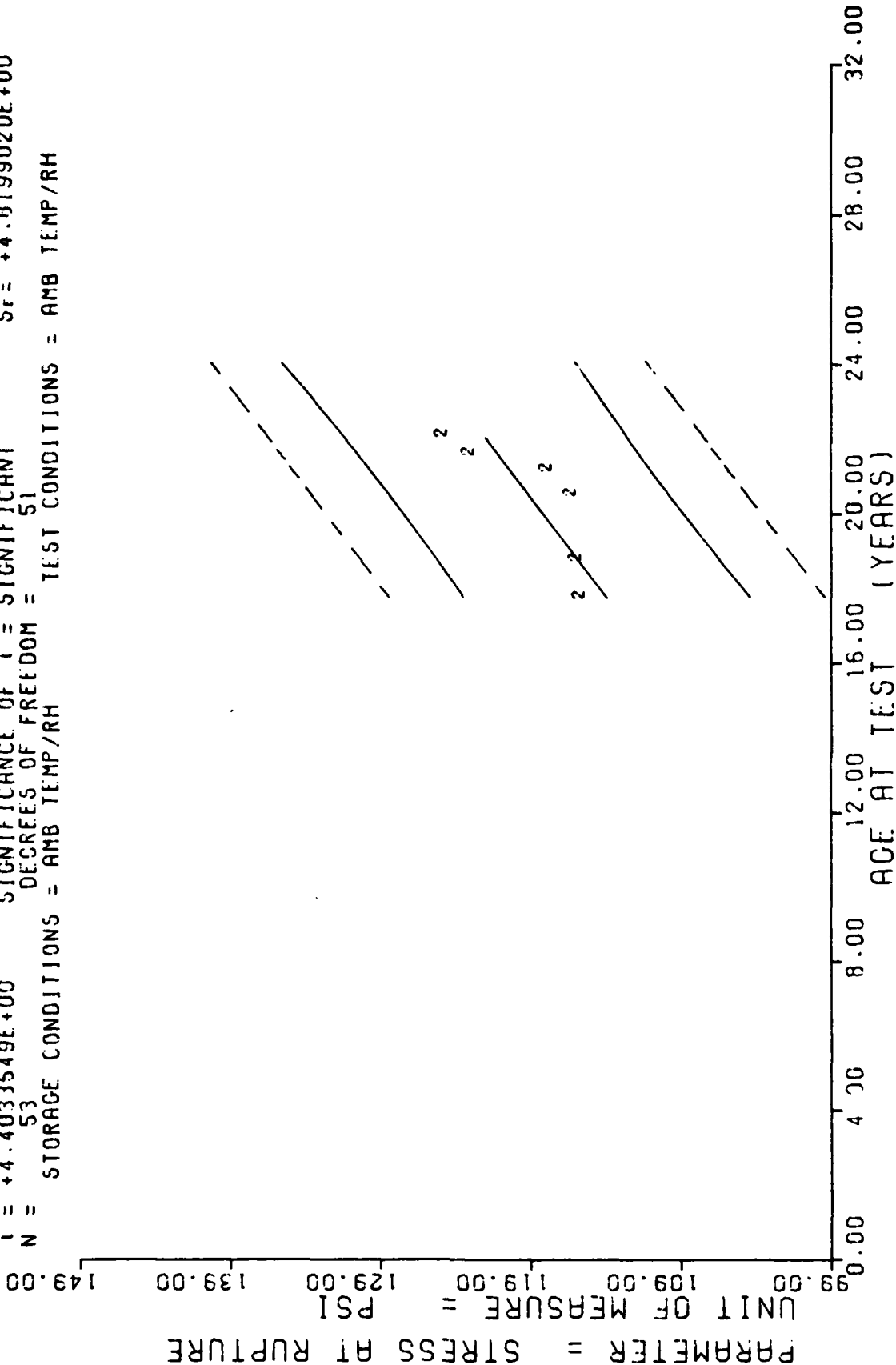
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\* ANALYSIS OF TIME SERIES \*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	9	+2.4324409E-01	+9.1837536E-03	+2.5369955E-01	+2.2799998E-01	+2.4766838E-01
225.0	8	+2.4252474E-01	+1.5606089E-02	+2.7399598E-01	+2.0999999E-01	+2.4941051E-01
246.0	9	+2.7681054E-01	+1.3660394E-02	+2.9899596E-01	+2.5699996E-01	+2.5245928E-01
254.0	9	+2.5377738E-01	+9.3877122E-03	+2.6899599E-01	+2.4299997E-01	+2.5362074E-01
259.0	9	+2.5088870E-01	+1.5574830E-02	+2.6799594E-01	+2.0399999E-01	+2.5434660E-01
265.0	9	+2.4411070E-01	+1.1089263E-02	+2.6509594E-01	+2.2859996E-01	+2.5521767E-01

STAGE 1, DISCTED MCTOR=0012029, EIAXIAL CHS=2.0 IN/MIN, STRAIN AT RUPT.

$Y = ( ( +8.0655865E+01 ) + ( +1.5617947E-01 ) * X )$   
 F = +1.9309534E+01 SIGNIFICANCE OF F = SIGNIFICANT  $G_1 = +5.6077751E+00$   
 R = +5.2484328E-01 SIGNIFICANCE OF R = SIGNIFICANT  $S_1 = +3.5468291E-02$   
 I = +4.4033549E+00 SIGNIFICANCE OF I = SIGNIFICANT  $S_f = +4.8199020E+00$   
 N = 53 DEGREES OF FREEDOM = 51  
 STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = AMB TEMP/RH



STAGE 1.0 DISCED MOTOR=0012029.61 AXIAL CHS=2.0 IN/MIN. STRESS AT RUPT.

Figure 59

\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	9	+1.1546321E+02	+2.1183411E+00	+1.1775558E+02	+1.1129998E+02	+1.1392209E+02
225.0	8	+1.1571115E+02	+4.4047222E+00	+1.2559599E+02	+1.1129958E+02	+1.1579623E+02
246.0	9	+1.1603770E+02	+4.7261802E+00	+1.2650000E+02	+1.0950000E+02	+1.1907600E+02
254.0	9	+1.1764436E+02	+2.0108475E+00	+1.2186599E+02	+1.1573999E+02	+1.2032543E+02
259.0	5	+1.2278881E+02	+7.6535675E+00	+1.3189599E+02	+1.1119959E+02	+1.2110633E+02
265.0	9	+1.2461433E+02	+2.4927572E+00	+1.2873555E+02	+1.2133999E+02	+1.2204341E+02

STAGE 1, DISCTEC MCTCR=0012029, EIAXIAL CHS=2.0 IN/MIN, STRESS AT RUPT.

Y = ( ( +1.4668516E+03 ) + ( -1.1995003E+00 ) \* X )  
 F = +1.7668816E+00 SIGNIFICANCE OF F = NOT SIGNIFICANT  $\sigma_1 = +1.2353034E+02$   
 R = -1.0298817E-01 SIGNIFICANCE OF R = NOT SIGNIFICANT  $\sigma_2 = +9.0239495E-01$   
 I = +1.3292410E+00 SIGNIFICANCE OF I = NOT SIGNIFICANT  $\sigma_3 = +1.2262940E+02$   
 N = 53 DEGREES OF FREEDOM = 51  
 STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = AMB TEMP/RH

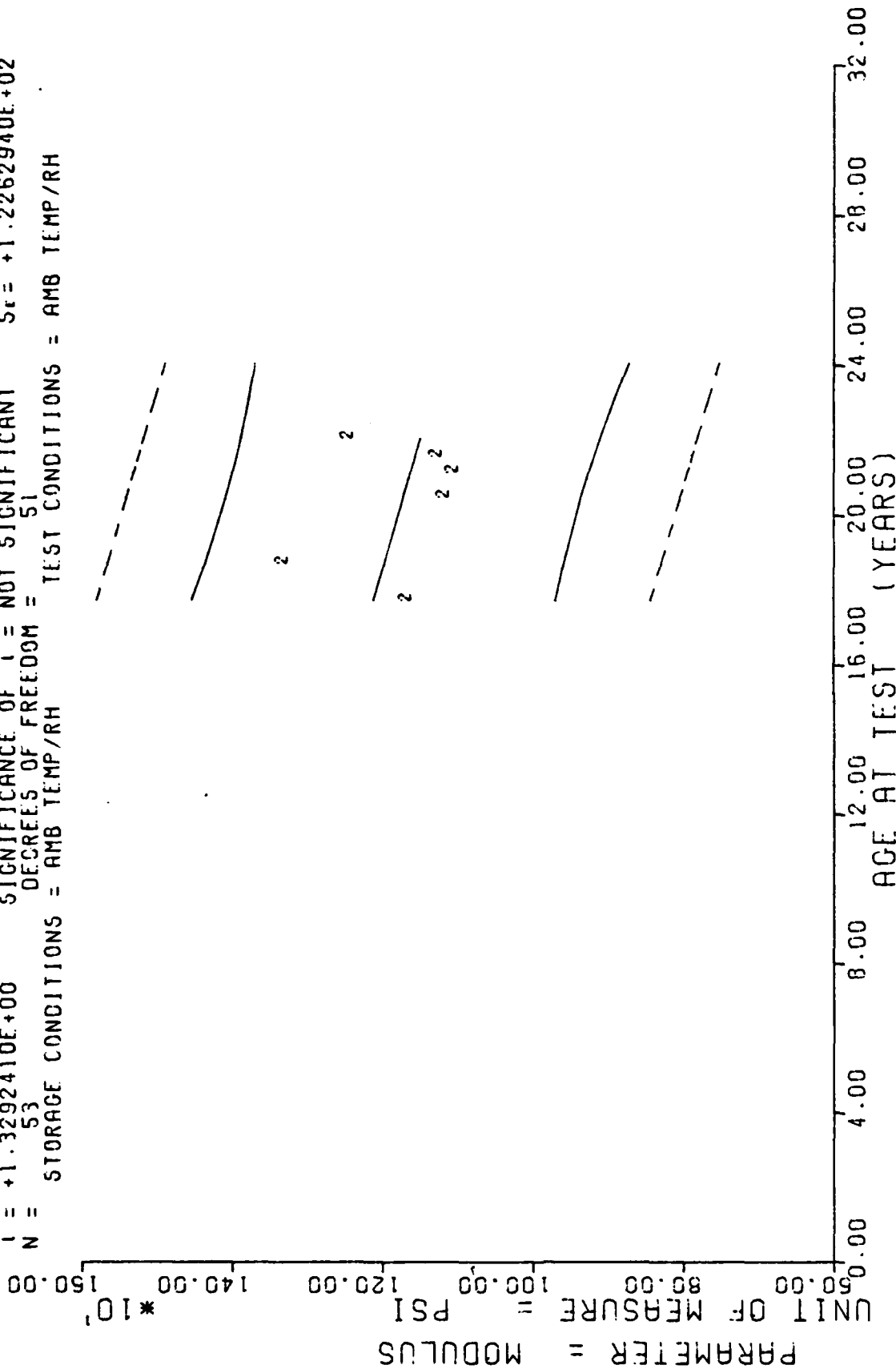


Figure 60

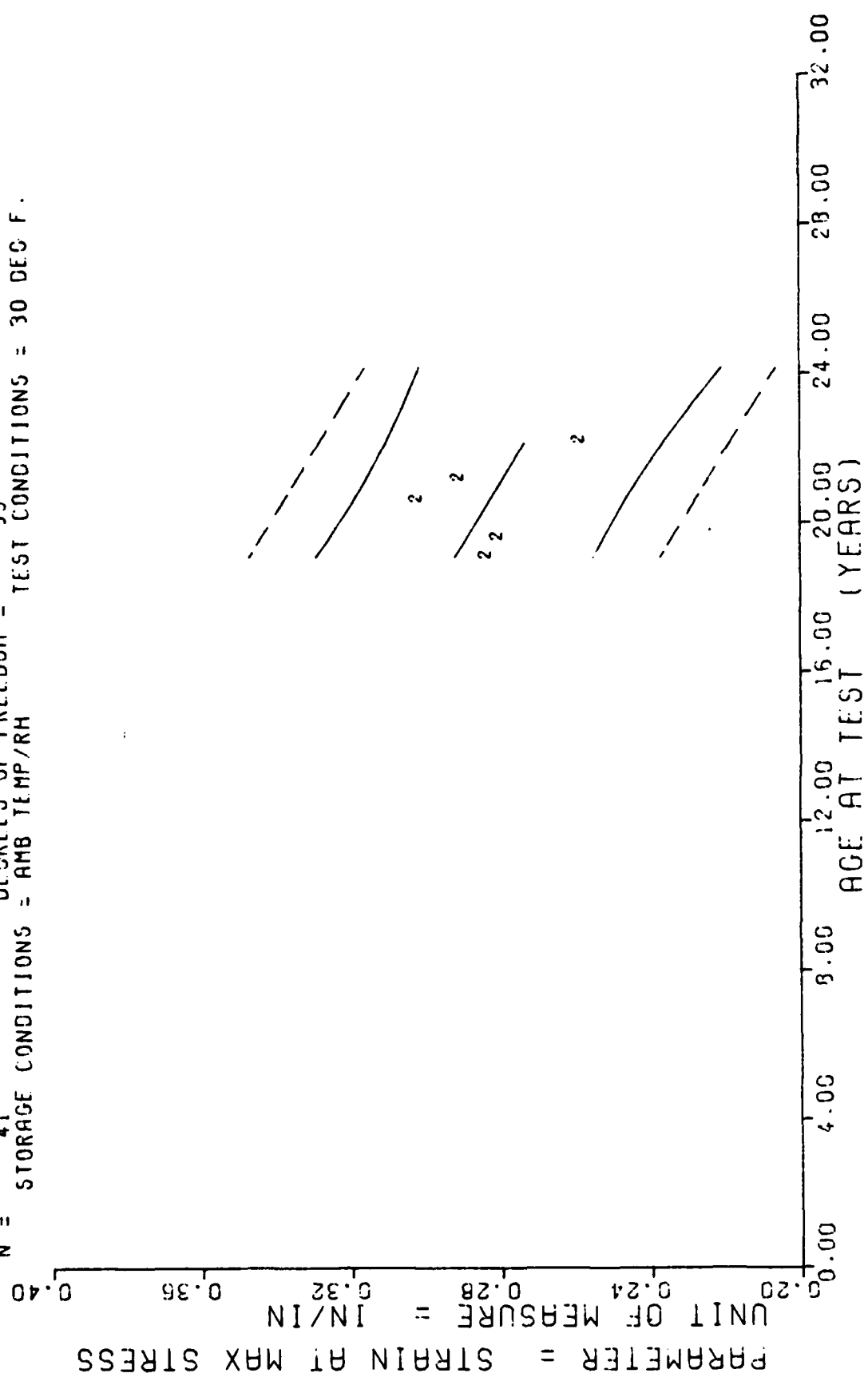
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	9	+1.1617775E+03	+3.7295367E+01	+1.2300000E+03	+1.0950000E+03	+1.2113579E+03
225.0	8	+1.2265000E+03	+1.4839715E+02	+1.4970000E+03	+1.0730000E+03	+1.1969638E+03
246.0	9	+1.1116665E+03	+8.3842113E+01	+1.2050000E+03	+9.1400000E+02	+1.1717744E+03
254.0	9	+1.1004443E+03	+1.1168382E+02	+1.2690000E+03	+8.9500000E+02	+1.1621784E+03
259.0	9	+1.1217775E+03	+9.0756236E+01	+1.3120000E+03	+9.9800000E+02	+1.1561809E+03
265.0	9	+1.2396665E+03	+9.4803744E+01	+1.3740000E+03	+1.0570000E+03	+1.1489838E+03

STAGE 1. DISCTEC MCTCR=0012029. EIA XIAL CHS=2.0 IN/MIN. MODULUS

$Y = ( ( +4.0824506E-01 ) + ( -5.0730496E-04 ) * X )$   
 $F = +5.4081542E+00$  SIGNIFICANCE OF F = SIGNIFICANT  $\sigma_f = +1.9254868E-02$   
 $R = -3.4897408E-01$  SIGNIFICANCE OF R = SIGNIFICANT  $S_s = +2.1814465E-04$   
 $I = +2.3255438E+00$  SIGNIFICANCE OF I = NOT SIGNIFICANT  $S_t = +1.8274234E-02$   
 $N = 41$  DEGREES OF FREEDOM = 39  
 STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = 30 DEC F.



STAGE 1, DISCTED MOTOR=0012029, TRIAXIAL CHS=2.0 IN/MJN, 800 PSI, STRAIN MAX STRS

Figure 61

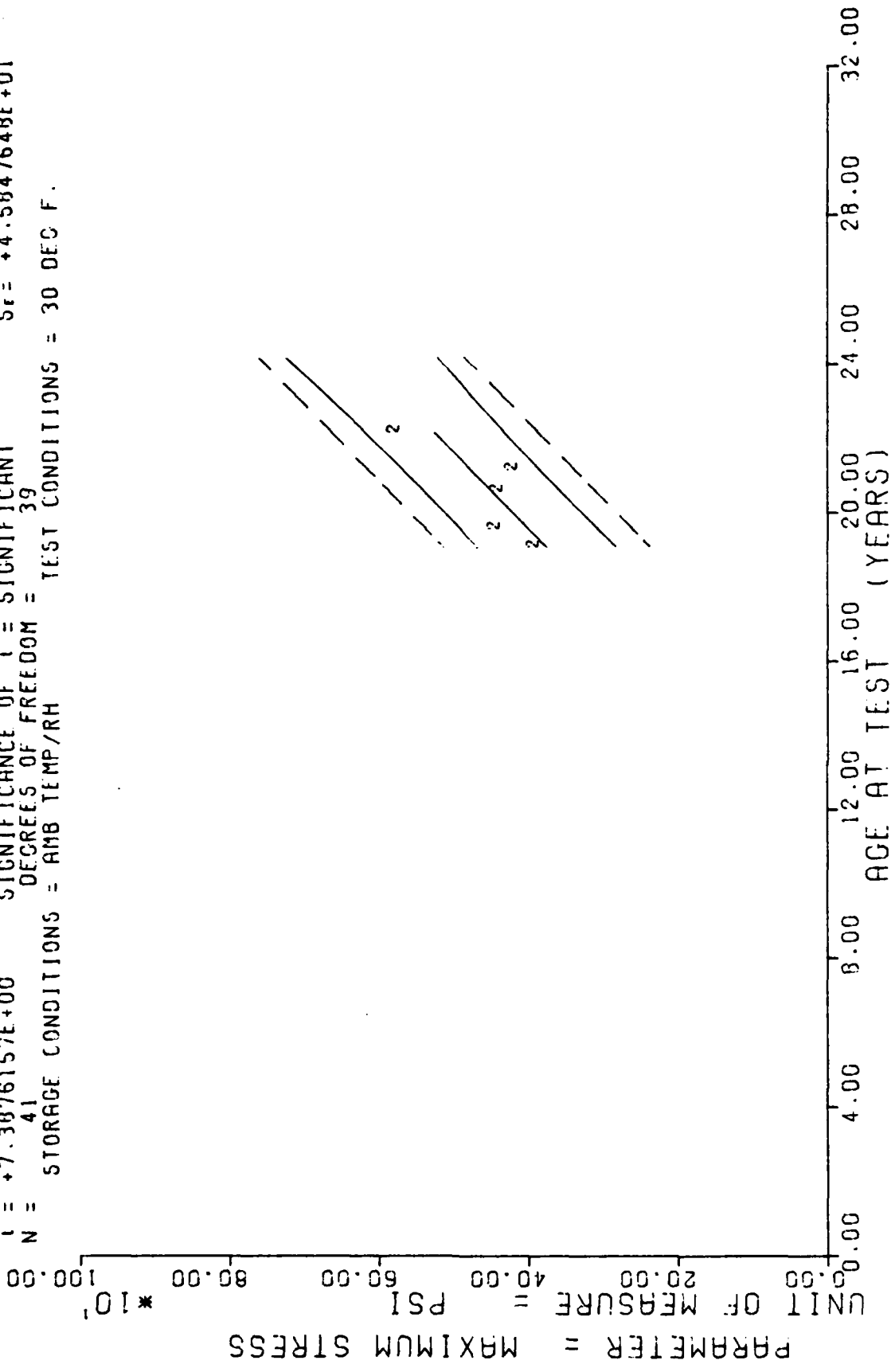
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
229.0	8	+2.8245579E-01	+1.0944922E-02	+2.9409558E-01	+2.6699955E-01	+2.9207217E-01
235.0	5	+2.7935587E-01	+1.4190042E-02	+2.9295598E-01	+2.5899954E-01	+2.8902834E-01
247.0	9	+3.0091083E-01	+1.5466383E-02	+3.2959598E-01	+2.7099956E-01	+2.8294068E-01
254.0	10	+2.8582973E-01	+1.1569529E-02	+3.0289595E-01	+2.6699955E-01	+2.7938956E-01
266.0	9	+2.5758856E-01	+9.7860809E-03	+2.7139597E-01	+2.4569994E-01	+2.7330189E-01

STAGE 1, DISCTED MCTOR=0012029, TRIAXIAL CHS=2.0 IN/MIN, 800 PSI, STRAIN MAX STRS.

$Y = (( -5.5042268E+02 ) + ( +4.0432142E+00 ) * X)$   
 F = +5.4576866E+01      SIGNIFICANCE OF F = SIGNIFICANT       $\sigma_f = +7.0124749E+01$   
 R = +7.6369517E-01      SIGNIFICANCE OF R = SIGNIFICANT       $S_r = +5.4729623E-01$   
 I = +7.3876157E+00      SIGNIFICANCE OF I = SIGNIFICANT       $S_r = +4.5847648E+01$   
 N = 41      DEGREES OF FREEDOM = 39  
 STORAGE CONDITIONS = AMB TEMP/RH      TEST CONDITIONS = 30 DEC F.



STAGE 1, DISCIED MOTOR=0012029, TRIAXIAL CHS=2.0 IN/MIN, 600 PSI, MAX STRS

Figure 62



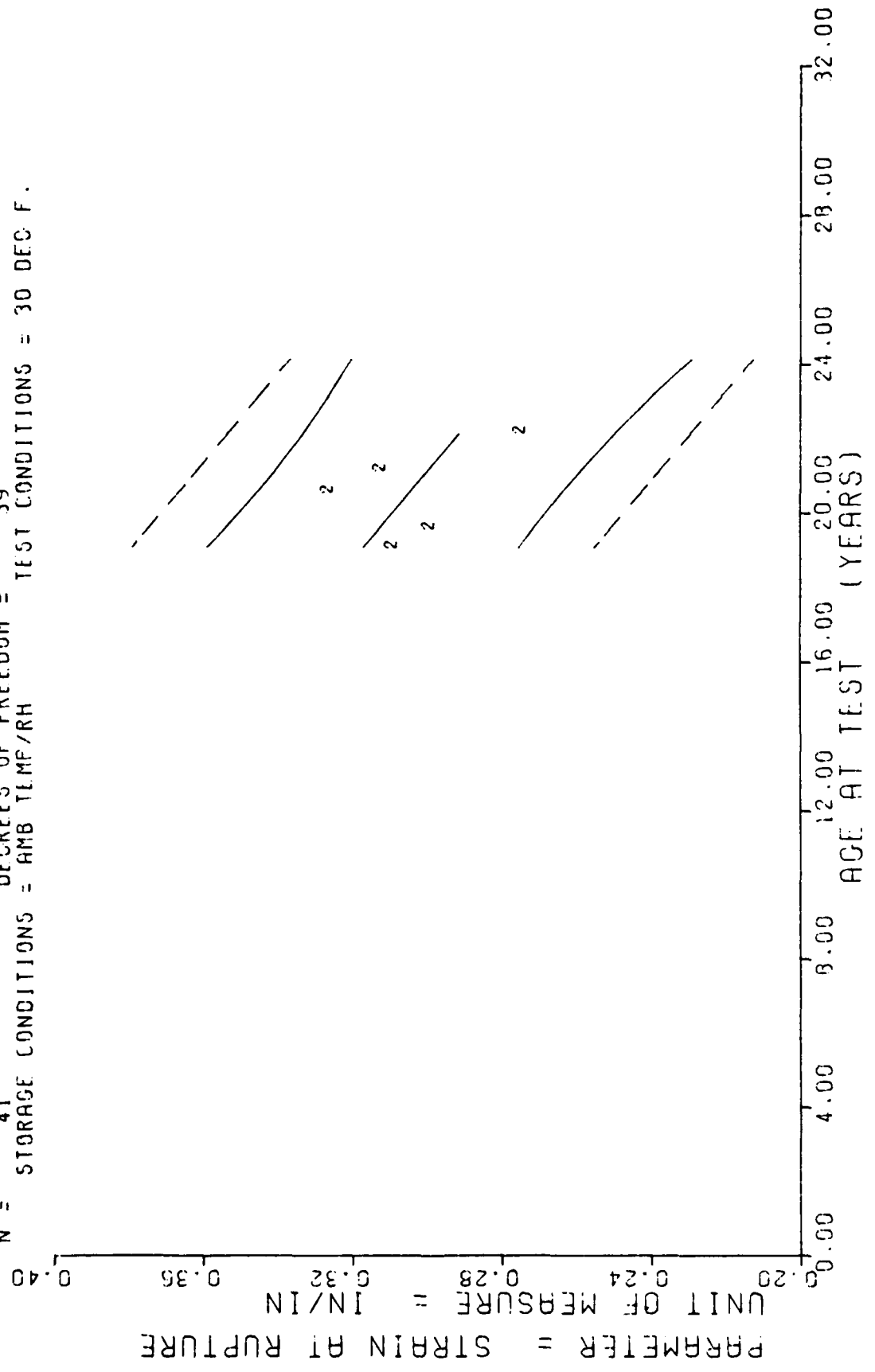
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
229.0	8	+3.8673852E+02	+1.3693375E+01	+4.0655585E+02	+3.6819995E+02	+3.7547314E+02
235.0	5	+4.3534985E+02	+8.1187449E+00	+4.5250000E+02	+4.3250976E+02	+3.9973266E+02
247.0	9	+4.3545575E+02	+2.5421108E+01	+4.8755800E+02	+4.0279980E+02	+4.4825122E+02
254.0	10	+4.1576367E+02	+1.4631364E+01	+4.3847598E+02	+3.8353979E+02	+4.7655371E+02
266.0	9	+5.7334399E+02	+2.0310156E+01	+6.0600000E+02	+5.4969995E+02	+5.2507226E+02

STAGE 1. DISCTED NCTCR=0012029, TRIAXIAL CHS=2.0 IN/MIN, 800 PSI, MAX STRS.

$Y = (( +4.7599544E-01 ) + ( -6.9460972E-04 ) * X )$   
 F = +7.9653862E+00      SIGNIFICANCE OF F = SIGNIFICANT       $\sigma_f = +2.2340400E-02$   
 R = -4.1182671E-01      SIGNIFICANCE OF R = SIGNIFICANT       $S_b = +2.4611460E-04$   
 t = +2.0223019E+00      SIGNIFICANCE OF t = SIGNIFICANT       $S_{eE} = +2.0617309E-02$   
 N = 41      DEGREES OF FREEDOM = 39  
 STORAGE CONDITIONS = AMB TEMP/RH      TEST CONDITIONS = 30 DEG F.



STAGE 1, DISCTED MOTOR=0012029, TRIAXIAL CHS=2.0 IN/MIN, 800 PSI, STRAIN AT RUPT.

Figure 63

\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*

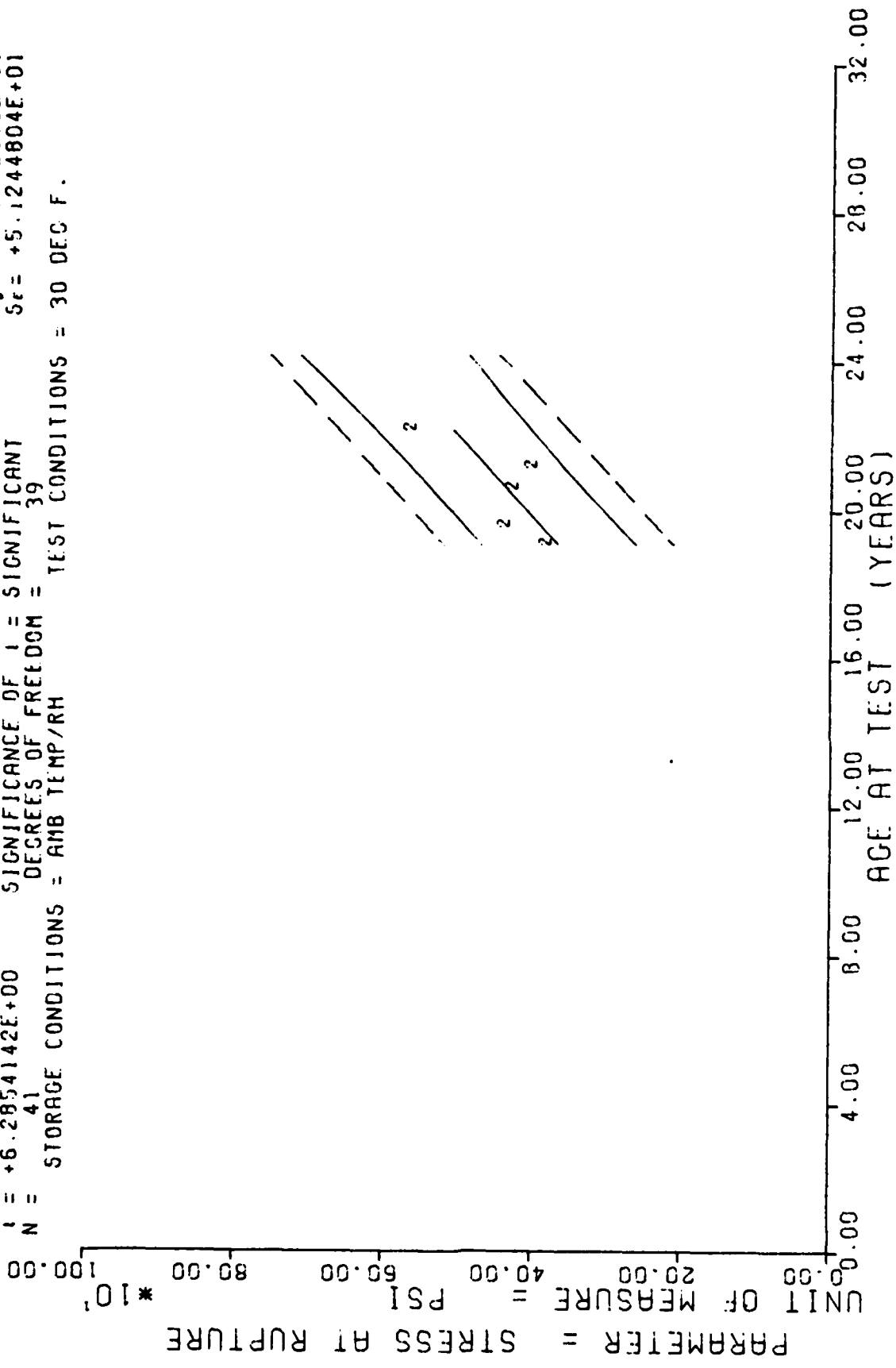
AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
229.0	8	+3.0752714E-01	+1.3383155E-02	+3.2455558E-01	+2.9099994E-01	+3.1692981E-01
235.0	5	+2.5795973E-01	+1.4339690E-02	+3.0999954E-01	+2.7399998E-01	+3.1276214E-01
247.0	9	+3.2522189E-01	+1.5808205E-02	+3.5999955E-01	+3.0499954E-01	+3.0442678E-01
254.0	10	+3.1117563E-01	+1.5097183E-02	+3.2899999E-01	+2.7799999E-01	+2.9956454E-01
266.0	9	+2.7372167E-01	+9.4994652E-03	+2.8689558E-01	+2.5769996E-01	+2.9122924E-01

STAGE 1. DISCTED VCTOR=0012029, TRIAXIAL CHS=2.0 IN/MIN, 800 PSI, STRAIN AT RUPT.

$Y = ( (-5.1552857E+02) + ( +3.0449362E+00 ) * X )$   
 SIGNIFICANCE OF F = SIGNIFICANT  
 SIGNIFICANCE OF R = SIGNIFICANT  
 SIGNIFICANCE OF I = SIGNIFICANT  
 DEGREES OF FREEDOM = 39  
 STORAGE CONDITIONS = AMB TEMP/RH  
 TEST CONDITIONS = 30 DEC F.

F = +3.9506432E+01  
 R = +7.0938383E-01  
 I = +6.2854142E+00  
 N = 41

$\sigma_r = +7.1791407E+01$   
 $S_b = +6.1172359E-01$   
 $S_{fc} = +5.1244804E+01$



STAGE 1-DISCTED MOTOR=0012029, TRIAXIAL CHS=2.0 IN/MIN, 800 PSI, STRESS AT RUPT.

Figure 64

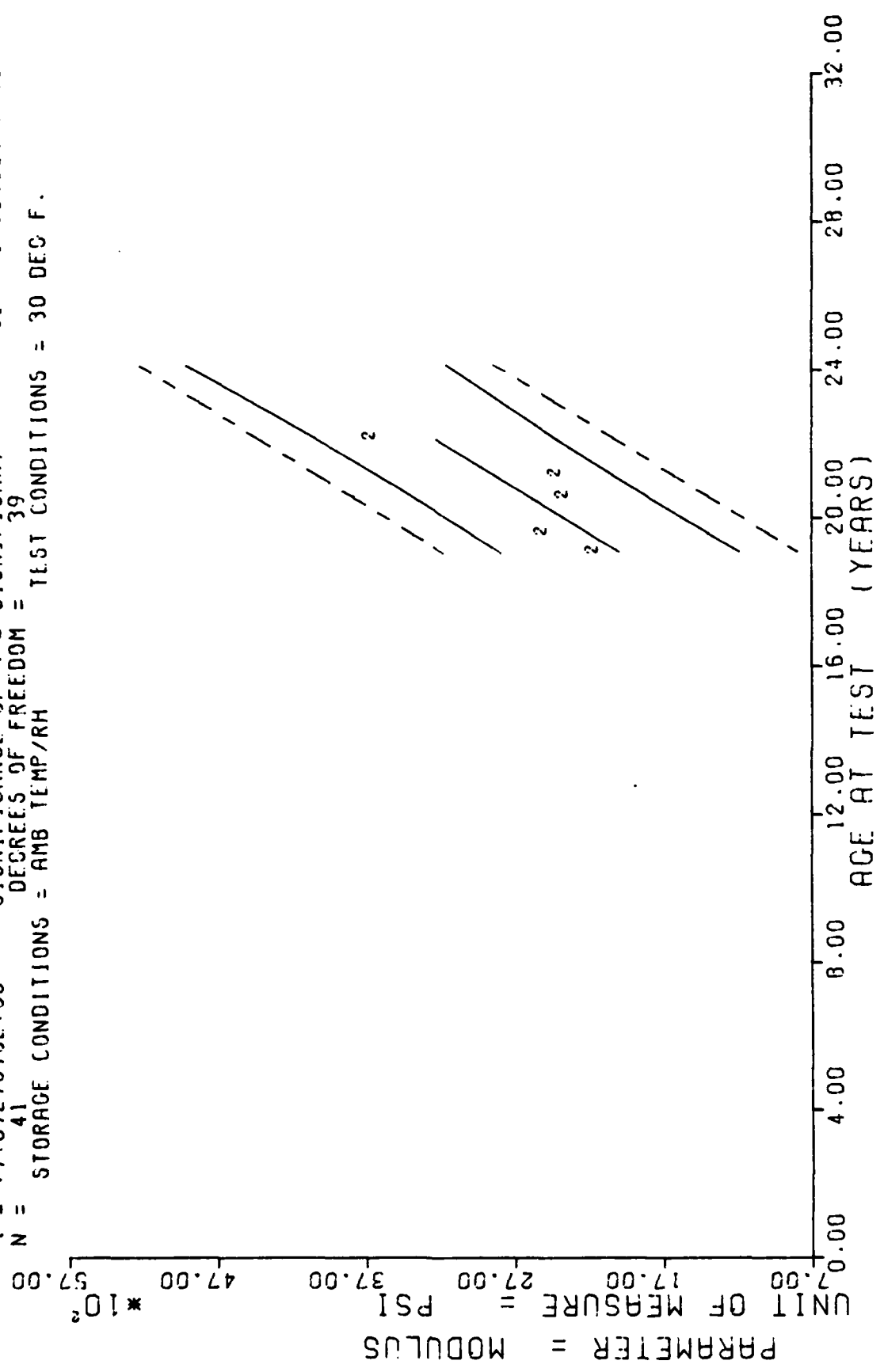
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
229.0	8	+3.7602856E+02	+1.3652747E+01	+4.0027578E+02	+3.6089990E+02	+3.6496166E+02
235.0	5	+4.3171972E+02	+3.5091338E+00	+4.3689590E+02	+4.2729980E+02	+3.8803125E+02
247.0	9	+4.2119213E+02	+3.6386347E+01	+4.8015555E+02	+3.8482983E+02	+4.3417065E+02
254.0	10	+3.5884525E+02	+3.6211643E+01	+4.2609985E+02	+2.9989990E+02	+4.6108520E+02
266.0	9	+5.5857763E+02	+2.1043610E+01	+5.9315555E+02	+5.3650000E+02	+5.0722436E+02

STAGE 1. DISCTED MCTCR=0012029. TRIAXIAL CHS=2.0 IN/MIN. 800 PSI. STRESS AT RUPT.

$Y = (1 - 5.6803090E+03) + ( +3.3472911E+01 ) * X$   
 F = +5.0024045E+01      SIGNIFICANCE OF F = SIGNIFICANT       $\sigma_f = +5.9145568E+02$   
 R = +7.4961063E-01      SIGNIFICANCE OF R = SIGNIFICANT       $S_f = +4.7326466E+00$   
 I = +7.0727678E+00      SIGNIFICANCE OF I = SIGNIFICANT       $S_f = +3.9645937E+02$   
 N = 41  
 STORAGE CONDITIONS = AMB TEMP/RH      DEGREES OF FREEDOM = 39  
 TEST CONDITIONS = 30 DEG F.



STAGE 1, DISCTED MOTOR=0012029, TRIAXIAL CHS=2.0 IN/MIN, 800 PSI, MODULUS

Figure 65

\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

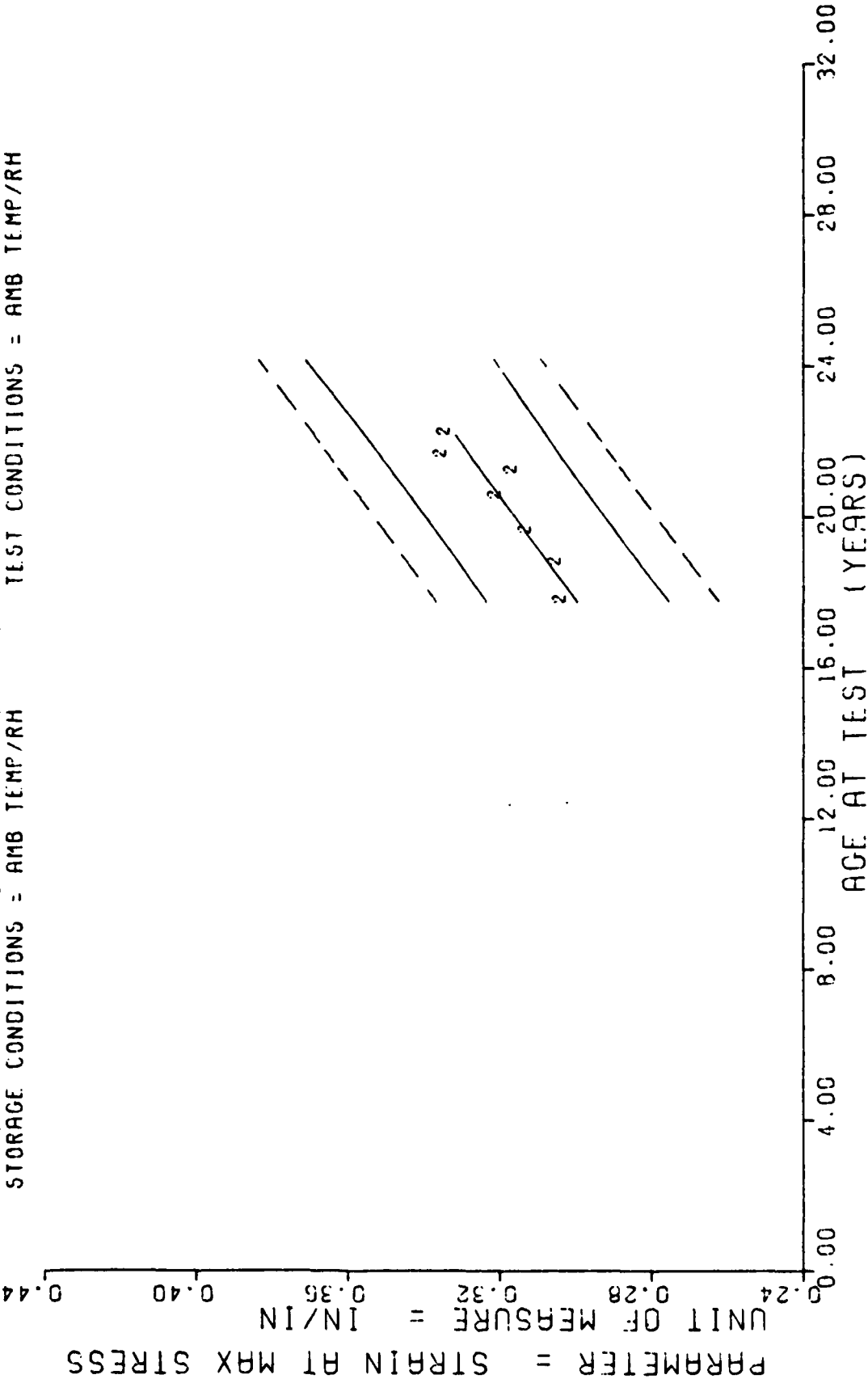
AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
229.0	8	+2.1417500E+03	+1.4517354E+02	+2.3500000E+03	+1.9480000E+03	+1.9849875E+03
235.0	5	+2.4866000E+03	+1.5597749E+02	+2.7440000E+03	+2.2140000E+03	+2.1858249E+03
247.0	9	+2.344554E+03	+2.6625110E+02	+2.7890000E+03	+1.9520000E+03	+2.5875000E+03
254.0	10	+2.353598E+03	+1.7318147E+02	+2.7590000E+03	+2.1970000E+03	+2.8218103E+03
266.0	9	+3.636110E+03	+2.2475588E+02	+3.5560000E+03	+3.3520000E+03	+3.2234953E+03

STAGE 1. DISCTED NCTCR=0012029, TRIAXIAL CHS=2.0 IN/MIN, 800 PSI, MODULUS

$Y = (( +1.7007897E-01 ) + ( +6.0779030E-04 ) * X )$   
 SIGNIFICANCE OF F = SIGNIFICANT  
 SIGNIFICANCE OF R = SIGNIFICANT  
 SIGNIFICANCE OF I = SIGNIFICANT  
 DEGREES OF FREEDOM = 59  
 STORAGE CONDITIONS = AMB TEMP/RH  
 TEST CONDITIONS = AMB TEMP/RH

F = +4.7068952E+01  
 R = +6.6615167E-01  
 I = +6.0606816E+00  
 N = 61

$S_f = +1.6444822E-02$   
 $S_e = +8.0590367E-05$   
 $S_{f_e} = +1.2368319E-02$



STAGE 1, DISCTED MOTOR=0012029, TRIAXIAL CH5=2.0 IN/MIN, 800 PSI, STRAIN MAX STRS

Figure 66



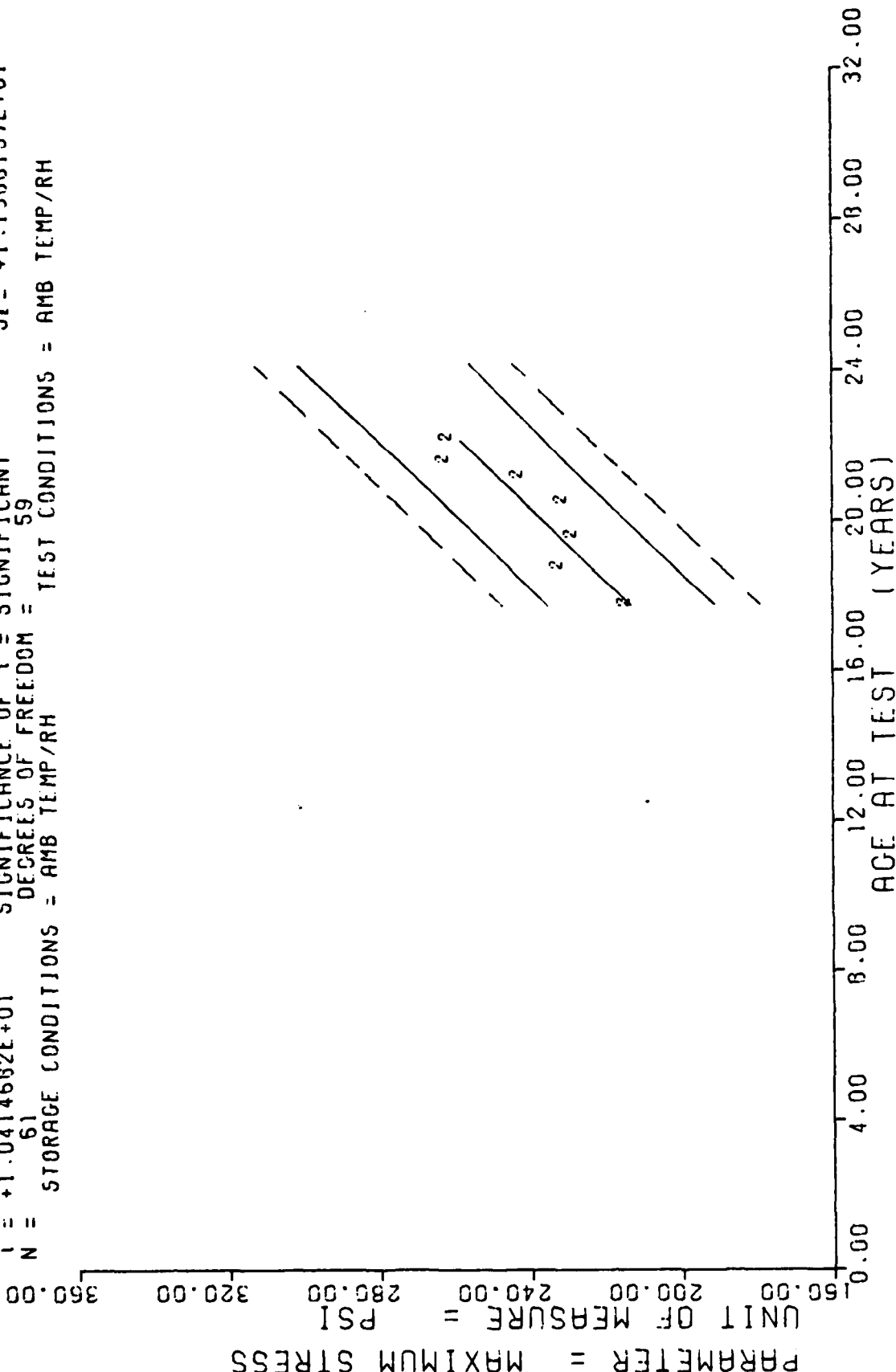
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	9	+3.0288851E-01	+5.1044502E-03	+3.0899555E-01	+2.9399956E-01	+2.9953831E-01
225.0	8	+3.0417478E-01	+1.8438787E-02	+3.2669597E-01	+2.7499957E-01	+3.0683177E-01
235.0	9	+3.1155573E-01	+9.715589E-03	+3.3059557E-01	+3.0099959E-01	+3.1290966E-01
246.0	8	+3.1992459E-01	+1.2902579E-02	+3.3995557E-01	+2.9999955E-01	+3.1959533E-01
254.0	9	+3.1566625E-01	+8.5295924E-03	+3.2495558E-01	+3.0099959E-01	+3.2445770E-01
259.0	9	+3.3422183E-01	+1.541589E-02	+3.6099594E-01	+3.179995E-01	+3.2749664E-01
266.0	9	+3.3344405E-01	+5.3108053E-03	+3.5495555E-01	+3.2499958E-01	+3.3175116E-01

STAGE 1. DISCTED MCTCR=0012029, TRIAXIAL CHS=2.0 IN/MIN. 800 PSI. STRAIN MAX STRS.

F = +1.0846560E+02  
 R = +8.0479118E-01  
 I = +1.0414662E+01  
 N = 61  
 STORAGE CONDITIONS = AMB TEMP/RH  
 Y = (1 +3.2639471E+01 ) + ( +8.4803134E-01 ) \* X1  
 SIGNIFICANCE OF F = SIGNIFICANT  
 SIGNIFICANCE OF R = SIGNIFICANT  
 SIGNIFICANCE OF I = SIGNIFICANT  
 DEGREES OF FREEDOM = 59  
 TEST CONDITIONS = AMB TEMP/RH



STAGE 1, DISCTED MOTOR=0012029, TRIAXIAL CHS=2.0 IN/MIN, 800 PSI, MAX STRS

Figure 67

\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

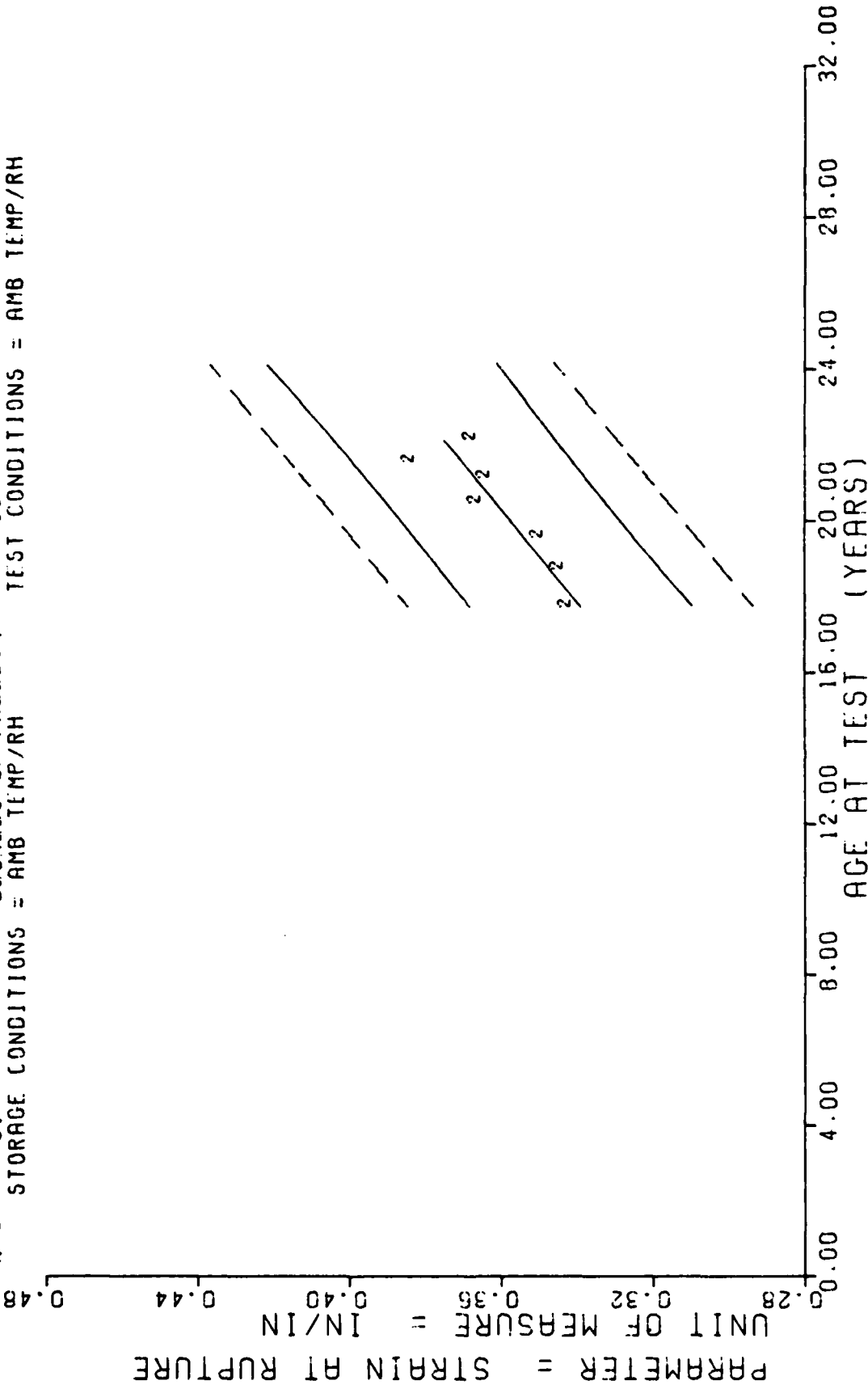
AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	9	+2.1384326E+02	+5.5003949E+00	+2.2282558E+02	+2.0338559E+02	+2.1327014E+02
225.0	8	+2.3153613E+02	+4.8527034E+00	+2.3952599E+02	+2.2530999E+02	+2.2344651E+02
235.0	9	+2.2778881E+02	+5.6547584E+00	+2.3565555E+02	+2.1779958E+02	+2.3192683E+02
246.0	8	+2.3045243E+02	+1.2246568E+01	+2.4205599E+02	+2.0716959E+02	+2.4125517E+02
254.0	9	+2.4209434E+02	+9.5652056E+00	+2.5935550E+02	+2.2589999E+02	+2.4803942E+02
259.0	9	+2.6167187E+02	+1.5348601E+01	+2.8714550E+02	+2.4127959E+02	+2.5227958E+02
266.0	9	+2.6070674E+02	+7.5309330E+00	+2.7185550E+02	+2.5329999E+02	+2.5821557E+02

STAGE 1. DISCTED MCTCR=0012029, TRIAXIAL CHS=2.0 IN/MIN. 800 PSI. MAX STRS.

$Y = ( ( +1.9458160E-01 ) + ( +6.7801781E-04 ) \cdot X )$   
 SIGNIFICANCE OF F = SIGNIFICANT  
 SIGNIFICANCE OF R = SIGNIFICANT  
 SIGNIFICANCE OF I = SIGNIFICANT  
 DEGREES OF FREEDOM = 59  
 STORAGE CONDITIONS = AMB TEMP/RH  
 TEST CONDITIONS = AMB TEMP/RH

F = +3.9289972E+01  
 R = +6.3224623E-01  
 I = +6.2681713E+00  
 N = 61

S<sub>1</sub> = +1.9328733E-02  
 S<sub>2</sub> = +1.0816835E-04  
 S<sub>3</sub> = +1.5101650E-02



STAGE 1, DISCTED MOTOR=0012029, TRIAXIAL CHS=2.0 IN/MIN, 800 PSI, STRAIN AT RUPT.

Figure 68

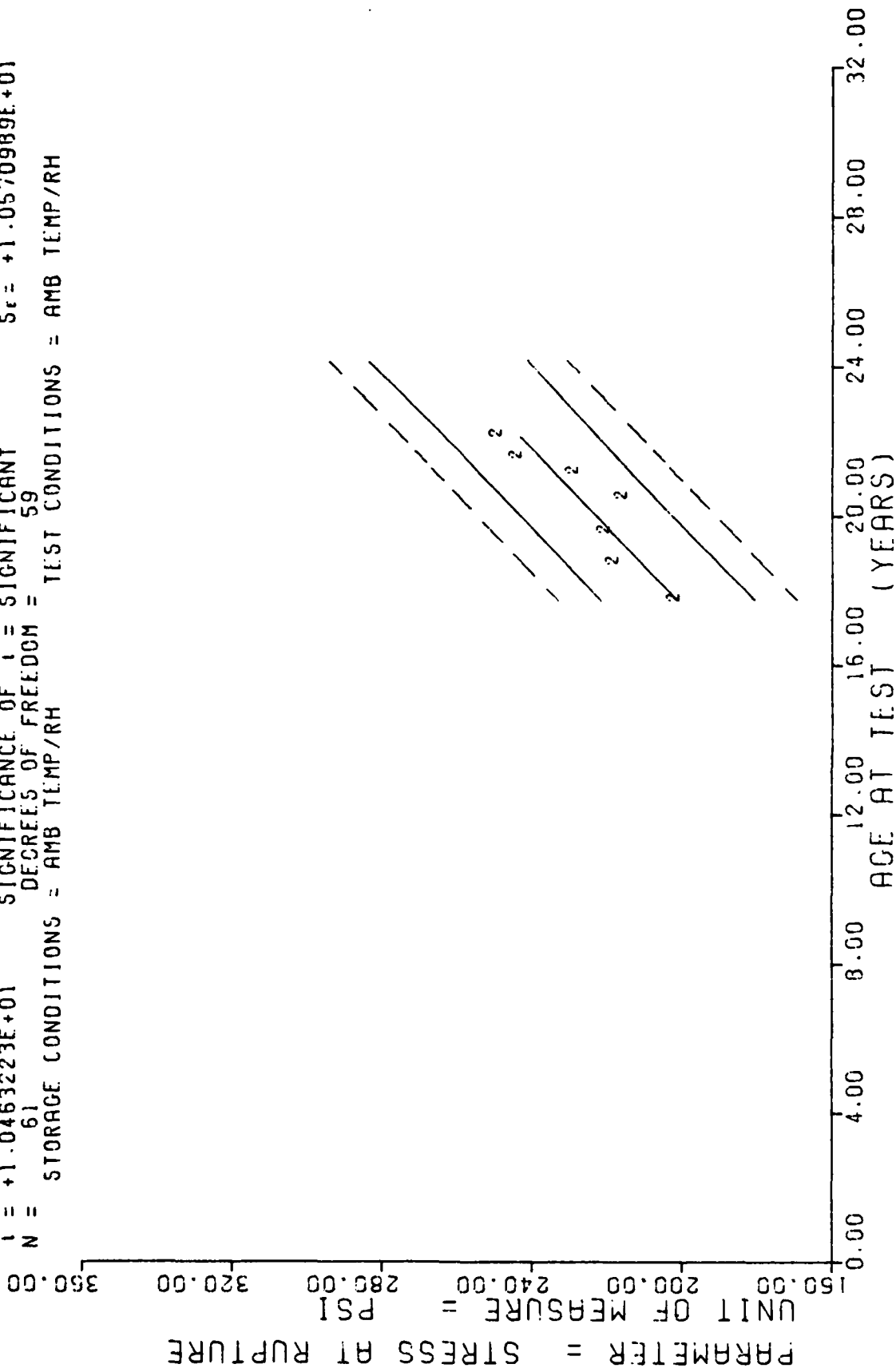
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MCNTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	9	+3.4177726E-01	+8.4886625E-03	+3.5199999E-01	+3.2399994E-01	+3.3899939E-01
225.0	8	+3.4382462E-01	+2.2885544E-02	+3.7709999E-01	+3.1399955E-01	+3.4713560E-01
235.0	9	+3.4911078E-01	+6.7583454E-03	+3.6099999E-01	+3.3699999E-01	+3.5391575E-01
246.0	8	+3.6562466E-01	+1.1667294E-02	+3.8399999E-01	+3.4499956E-01	+3.6137396E-01
254.0	9	+3.6322164E-01	+1.2247465E-02	+3.7699999E-01	+3.3899958E-01	+3.6679810E-01
259.0	9	+3.8299947E-01	+1.9504809E-02	+4.1599999E-01	+3.6099994E-01	+3.7018817E-01
266.0	9	+3.6668846E-01	+9.5593596E-03	+3.8299999E-01	+3.5099995E-01	+3.7493431E-01

STAGE 1, DISCTED MCTCR=0012029, TRIAXIAL CHS=2.0 IN/MIN, 800 PSI, STRAIN AT RUPT.

$Y = ( ( +3.2513407E+01 ) + ( +7.9224037E-01 ) * X )$   
 F = +1.0947905E+02 SIGNIFICANCE OF F = SIGNIFICANT  $S_f = +1.7713850E+01$   
 R = +8.0610675E-01 SIGNIFICANCE OF R = SIGNIFICANT  $S_r = +7.5716660E-02$   
 I = +1.0463223E+01 SIGNIFICANCE OF I = SIGNIFICANT  $S_i = +1.0570969E+01$   
 N = 61 DEGREES OF FREEDOM = 59  
 STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = AMB TEMP/RH



STAGE 1, DISCILD MOTOR=0012029, TRIAXIAL CHS=2.0 IN/MIN, 800 PSI, STRESS AT RUPT.

Figure 69

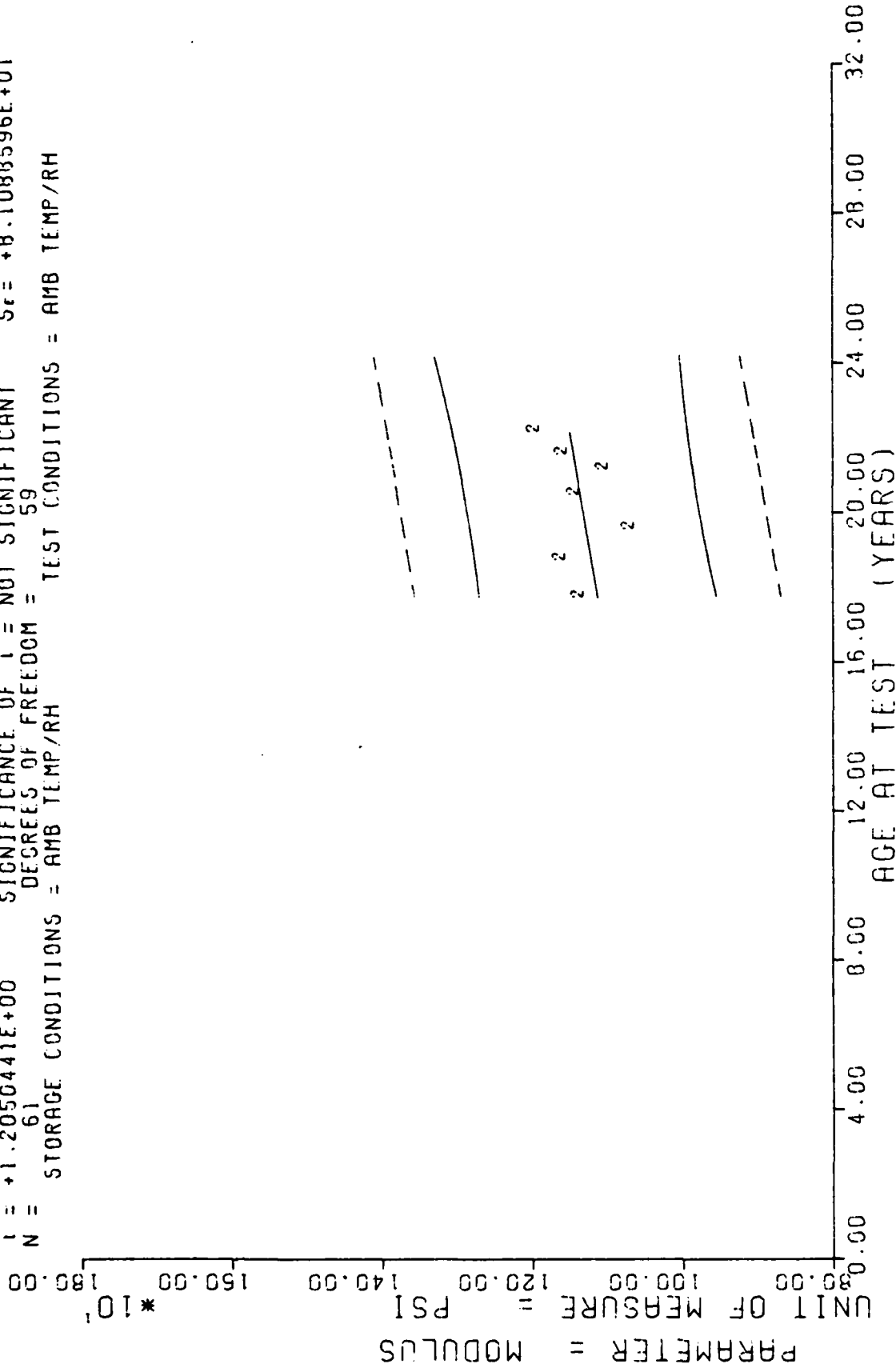
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MCNTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARC CEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	9	+2.0104765E+02	+6.6645567E+00	+2.3935559E+02	+1.9216955E+02	+2.0126060E+02
225.0	8	+2.1725241E+02	+8.3412542E+00	+2.2660598E+02	+2.0430999E+02	+2.1076748E+02
235.0	9	+2.1555589E+02	+5.0014006E+00	+2.2689599E+02	+2.1439959E+02	+2.1868988E+02
246.0	8	+2.1491241E+02	+9.7163895E+00	+2.2609599E+02	+1.9619959E+02	+2.2740452E+02
254.0	9	+2.2787589E+02	+9.0564708E+00	+2.4222599E+02	+2.1078999E+02	+2.3374244E+02
259.0	9	+2.4306880E+02	+1.2705615E+01	+2.6419555E+02	+2.2950000E+02	+2.3770365E+02
266.0	9	+2.4833322E+02	+8.0747292E+00	+2.6165595E+02	+2.4109959E+02	+2.4324934E+02

STAGE 1, DISCTED MCTCR=0012029, TRIAXIAL CHS=2.0 IN/MIN, 800 PSI, STRESS AT RUPT.

F = +1.4521313E+00  
 R = +1.5498766E-01  
 I = +1.2050441E+00  
 N = 61  
 Y = ( ( +9.6366754E+02 ) + ( +6.9990412E-01 ) \* X )  
 SIGNIFICANCE OF F = NOT SIGNIFICANT  
 SIGNIFICANCE OF R = NOT SIGNIFICANT  
 SIGNIFICANCE OF I = NOT SIGNIFICANT  
 DEGREES OF FREEDOM = 59  
 STORAGE CONDITIONS = AMB TEMP/RH  
 TEST CONDITIONS = AMB TEMP/RH



STAGE 1, DISCILD MOTOR=0012029, TRIAXIAL CHS=2.0 IN/MIN, 600 PSI, MODULUS

Figure 70



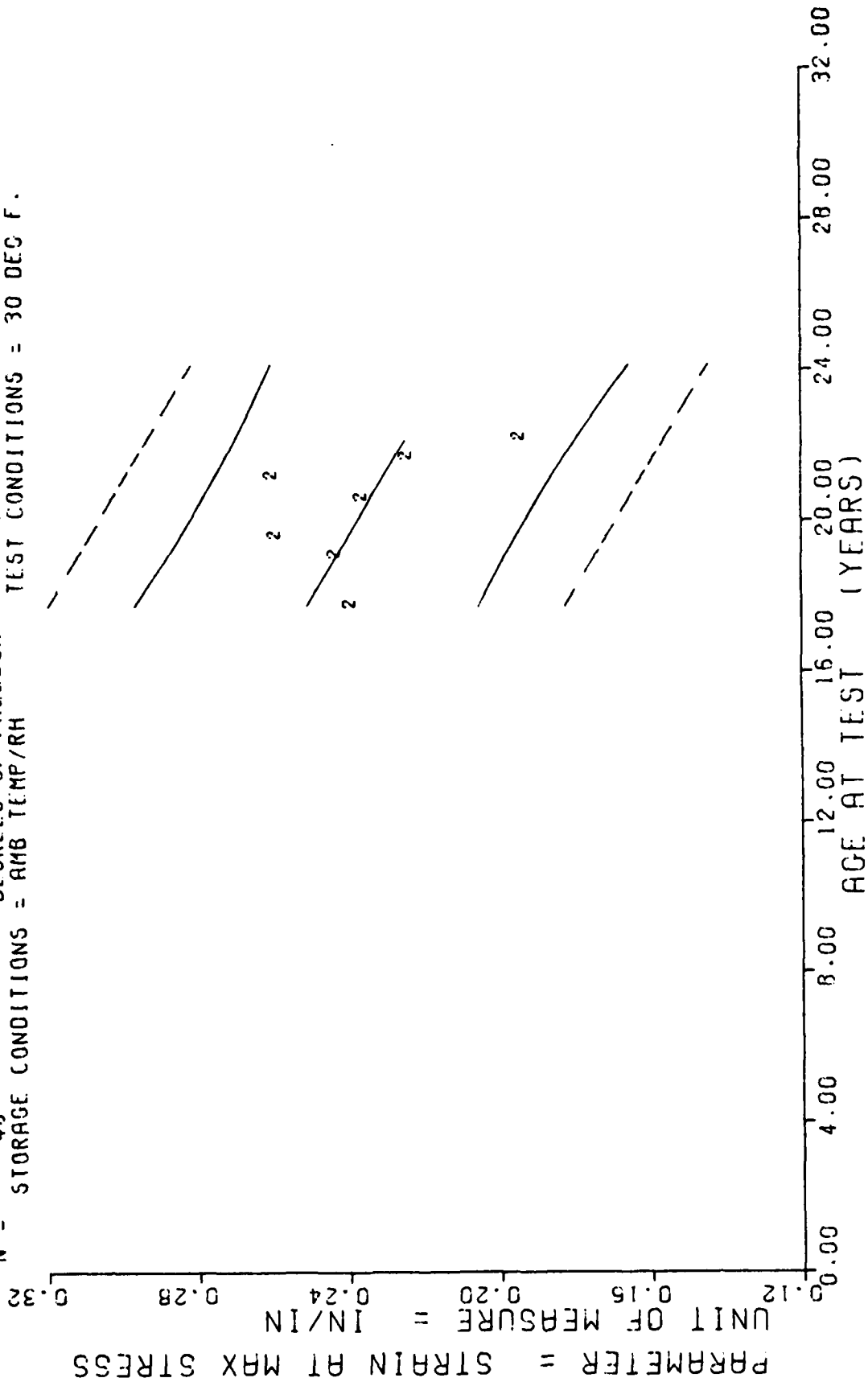
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	9	+1.1324443E+03	+4.2021158E+01	+1.1840000E+03	+1.0640000E+03	+1.1127470E+03
225.0	8	+1.1562750E+03	+1.1658404E+02	+1.3570000E+03	+1.0340000E+03	+1.1211457E+03
235.0	9	+1.0651110E+03	+3.5563079E+01	+1.1170000E+03	+1.0080000E+03	+1.1281447E+03
246.0	8	+1.1378750E+03	+8.5866070E+01	+1.2650000E+03	+1.0170000E+03	+1.1358437E+03
254.0	9	+1.1002221E+03	+6.4375418E+01	+1.2240000E+03	+1.0040000E+03	+1.1414431E+03
259.0	9	+1.1544443E+03	+9.2857567E+01	+1.3250000E+03	+1.0400000E+03	+1.1449426E+03
266.0	9	+1.1513332E+03	+6.3186232E+01	+1.3440000E+03	+1.1390000E+03	+1.1498417E+03

STAGE 1. DISCTED MCTCR=0012029, TRIAXIAL CHS=2.0 IN/MIN, 800 PSI, MODULUS

Y = (1 + 3.5631629E-01) + (-4.9489867E-04) \* X )  
 F = +7.3244282E+00 SIGNIFICANCE OF F = SIGNIFICANT  
 R = -3.7061565E-01 SIGNIFICANCE OF R = SIGNIFICANT  
 I = +2.7063680E+00 SIGNIFICANCE OF I = SIGNIFICANT  
 N = 48 DEGREES OF FREEDOM = 46  
 STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = 30 DEG F.



STAGE 1, DISCTED MOTOR=0012029, TRIAXIAL CHS=20.0 IN/MIN, 800 PSI, STRAIN MAX STRS.

Figure 71

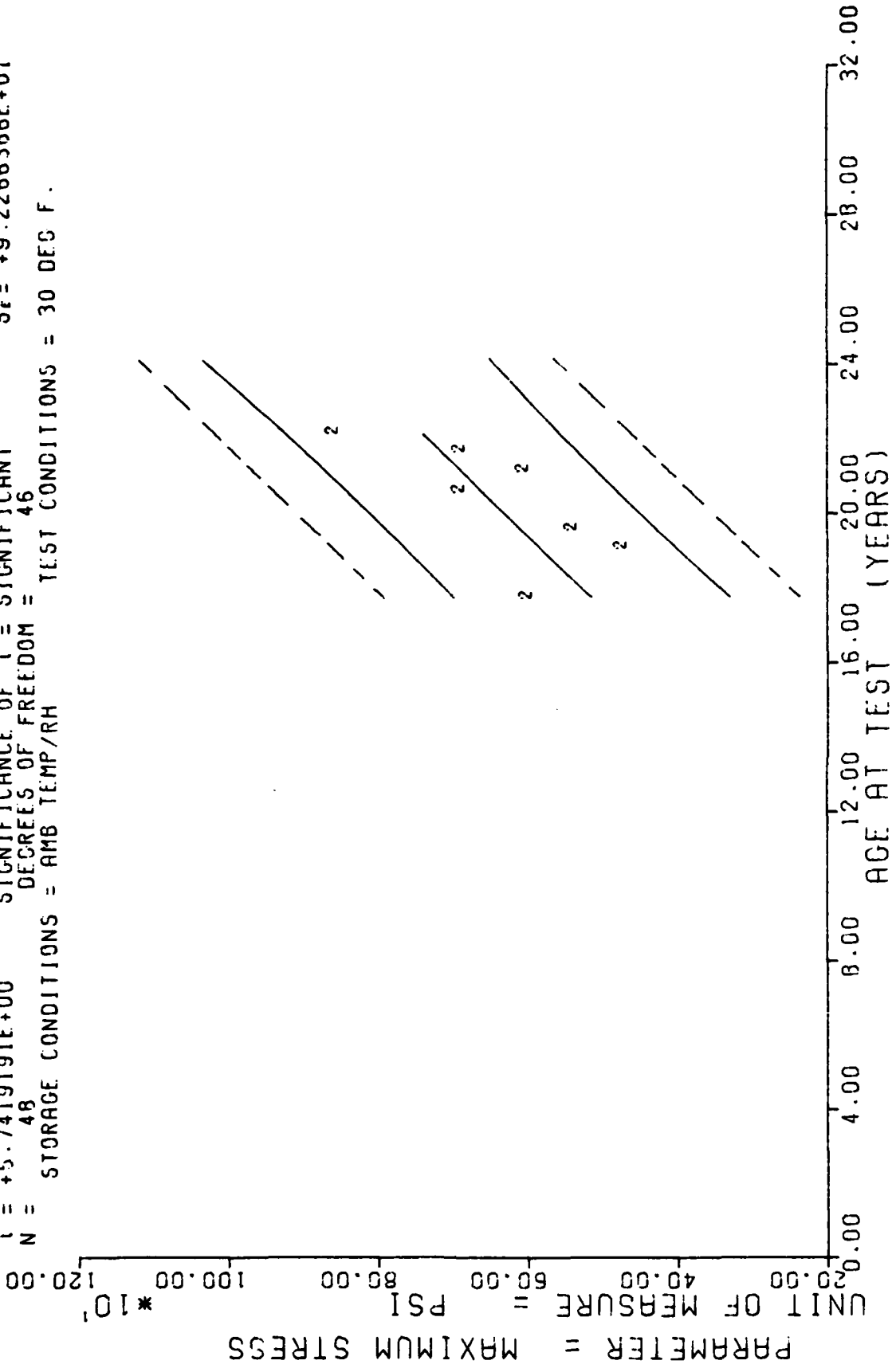
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	9	+2.3811084E-01	+6.3594617E-03	+2.5199557E-01	+2.3199959E-01	+2.5090283E-01
229.0	5	+2.4205594E-01	+1.0583296E-02	+2.5339596E-01	+2.2839999E-01	+2.4298441E-01
235.0	5	+2.5755577E-01	+1.1601533E-02	+2.7799599E-01	+2.4899995E-01	+2.4001502E-01
247.0	9	+2.3455571E-01	+1.092071E-02	+2.4499594E-01	+2.1999996E-01	+2.3407626E-01
254.0	10	+2.5873965E-01	+1.5381349E-02	+2.8899557E-01	+2.3899956E-01	+2.3061192E-01
260.0	2	+2.2255593E-01	+1.4077184E-03	+2.2399597E-01	+2.2199994E-01	+2.2764253E-01
266.0	8	+1.9333332E-01	+1.0449113E-02	+2.0589595E-01	+1.7599959E-01	+2.2467315E-01

STAGE 1. DISCTED MCTCR=0012029. TRIAXIAL CHS=20.0 IN/MIN.800 PSI. STRAIN MAX STRS.

$Y = ( (-3.9061492E+02) + ( +4.2473142E+00 ) \cdot X )$   
 F = +3.2969635E+01      SIGNIFICANCE OF F = SIGNIFICANT       $G_1 = +1.1959820E+02$   
 R = +6.4614056E-01      SIGNIFICANCE OF R = SIGNIFICANT       $S_1 = +7.3970290E-01$   
 I = +5.7419191E+00      SIGNIFICANCE OF I = SIGNIFICANT       $S_2 = +9.2266386E+01$   
 N = 48      DEGREES OF FREEDOM = 46  
 STORAGE CONDITIONS = AMB TEMP/RH      TEST CONDITIONS = 30 DEG F.



STAGE 1, DISCIED MOTOR=0012029, TRIAXIAL CHS=20.0 IN/MIN, 800 PSI, MAX STRS

Figure 72

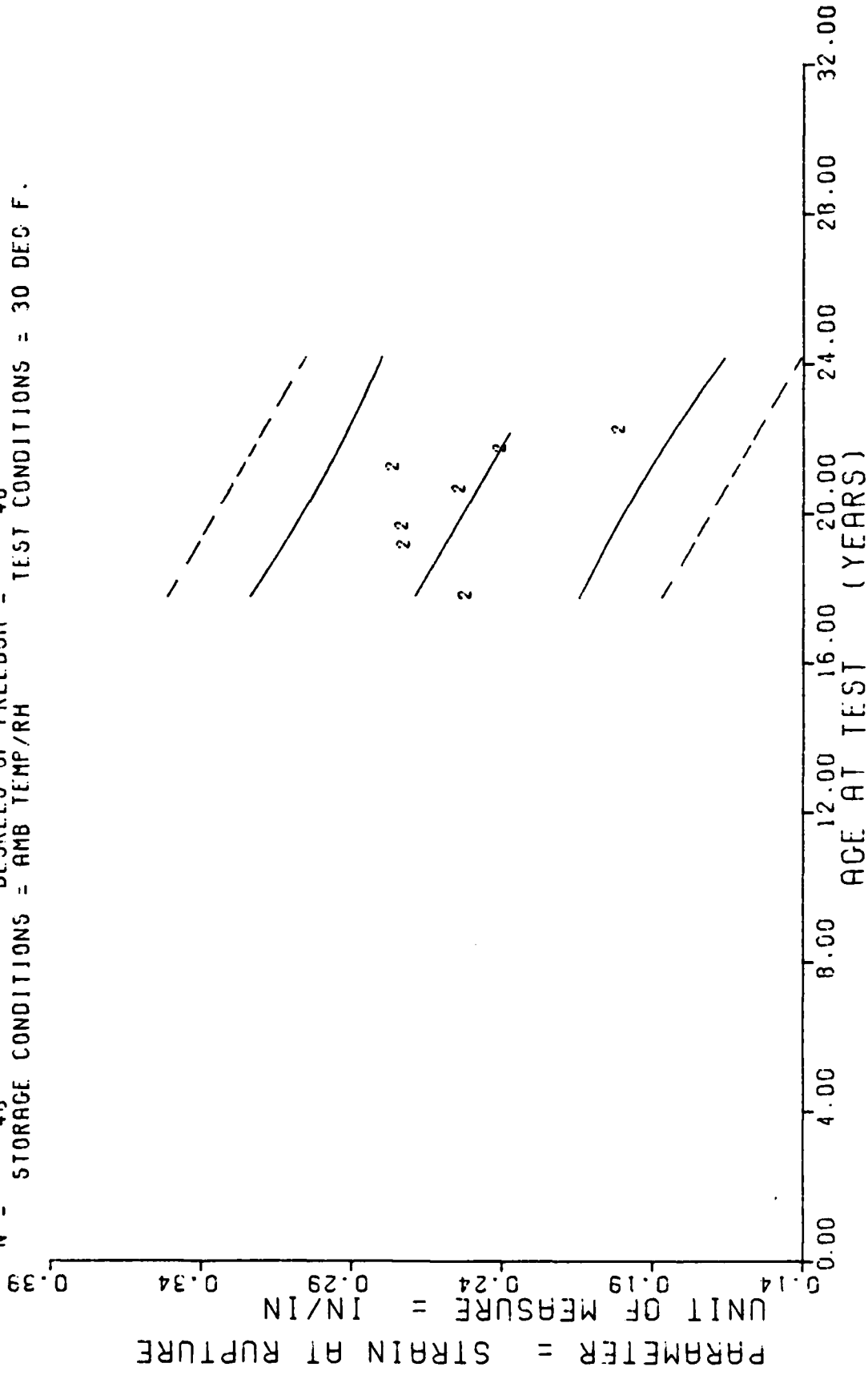
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	9	+5.5521044E+02	+2.2386125E+01	+6.4385990E+02	+5.6919955E+02	+5.1406298E+02
229.0	5	+4.6511572E+02	+4.0719398E+01	+5.2419955E+02	+4.2707983E+02	+5.8202001E+02
235.0	5	+5.2457583E+02	+2.4247393E+01	+5.7385990E+02	+5.0839950E+02	+6.0750390E+02
247.0	9	+6.8474389E+02	+5.4339018E+01	+7.5759585E+02	+6.0950000E+02	+6.5847167E+02
254.0	10	+5.5542211E+02	+2.1626821E+01	+6.4805585E+02	+5.7429980E+02	+6.8820288E+02
263.0	2	+6.8400000E+02	+3.7476659E+01	+7.1050000E+02	+6.5750000E+02	+7.1368676E+02
266.0	6	+8.5286083E+02	+3.7029144E+01	+8.5405585E+02	+7.8450000E+02	+7.3917065E+02

STAGE 1, DISCTED MCTCR=J012029, TRIAXIAL CHS=20.0 IN/MIN, 600 PSI, MAX STFS.

$Y = ( ( +3.9642888E-01 ) + ( -5.9827320E-04 ) * X )$   
 F = +7.4239067E+00      SIGNIFICANCE OF F = SIGNIFICANT       $S_f = +2.9200371E-02$   
 R = -3.7277641E-01      SIGNIFICANCE OF R = SIGNIFICANT       $S_r = +2.1957520E-04$   
 I = +2.7246847E+00      SIGNIFICANCE OF I = SIGNIFICANT       $S_r = +2.7388577E-02$   
 N = <sup>48</sup>      DEGREES OF FREEDOM = 46  
 STORAGE CONDITIONS = AMB TEMP/RH      TEST CONDITIONS = 30 DEG F.



STAGE 1, DISCTED MOTOR=0012029, TRIAXIAL CHS=20.0 IN/MIN, 800 PSI, STRAIN AT RUPT.

Figure 73

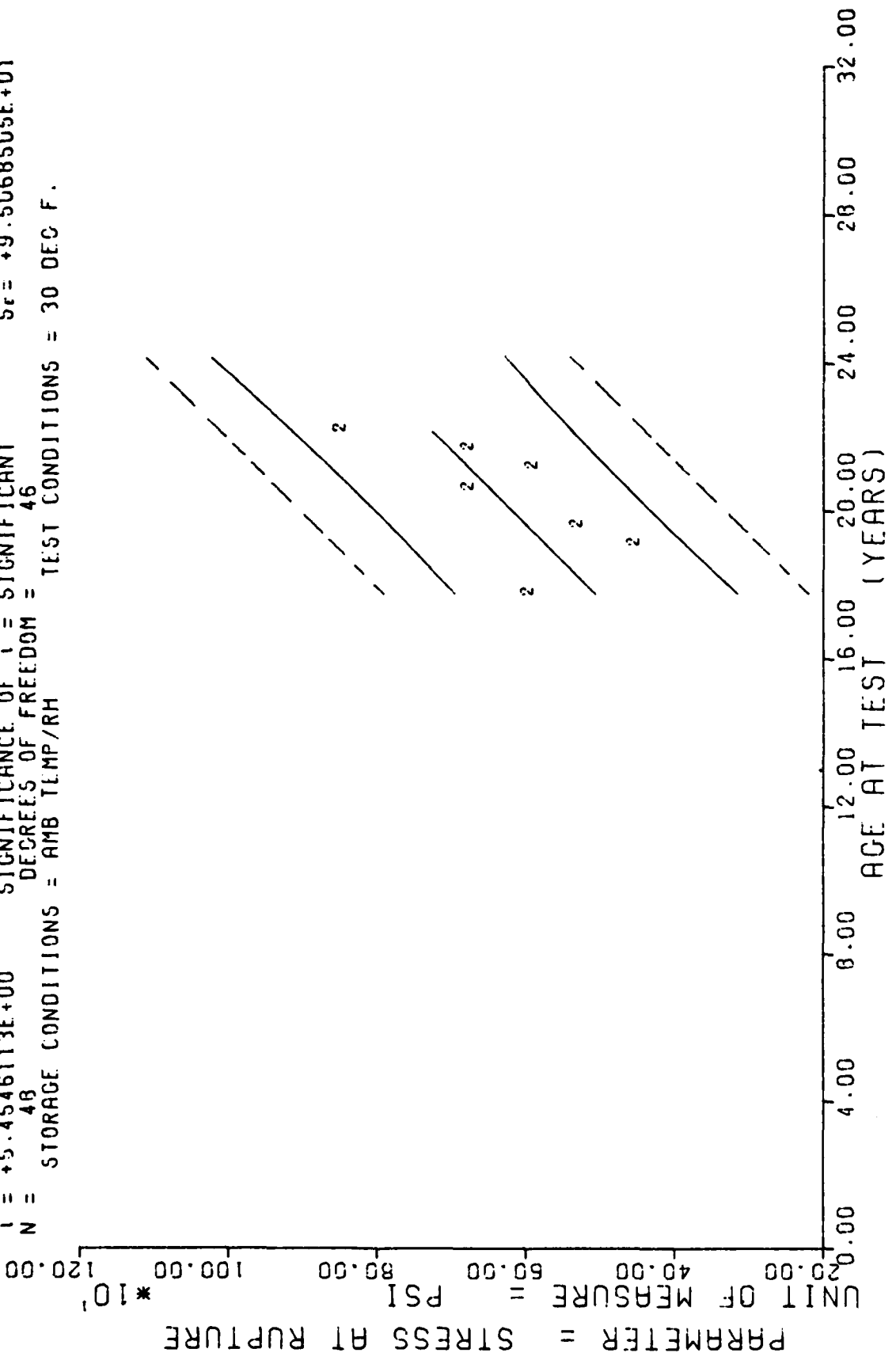
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	9	+2.505521E-01	+5.5387161E-03	+2.5455555E-01	+2.3699998E-01	+2.6859665E-01
229.0	5	+2.7075981E-01	+1.6487156E-02	+2.9899596E-01	+2.4799956E-01	+2.5942426E-01
235.0	5	+2.7135567E-01	+1.0884571E-02	+2.6755558E-01	+2.6299555E-01	+2.5583463E-01
247.0	9	+2.5266623E-01	+1.4298541E-02	+2.7399558E-01	+2.3099994E-01	+2.4865537E-01
254.0	10	+2.745573E-01	+2.1326913E-02	+3.0295597E-01	+2.4099959E-01	+2.4446743E-01
260.0	2	+2.3855556E-01	+1.4211893E-03	+2.3999554E-01	+2.379997E-01	+2.4087780E-01
266.0	8	+1.9548732E-01	+1.2604590E-02	+2.1385597E-01	+1.7779959E-01	+2.3728817E-01

STAGE 1, DISCTED MCTCR=0012029, TRIAXIAL CHS=20.0 IN/MIN, 800 PSI, STRAIN AT RUPT.

$Y = ( (-3.6028304E+02) + (+4.1573279E+00) * X )$   
 F = +2.9752784E+01      SIGNIFICANCE OF F = SIGNIFICANT       $\sigma_f = +1.2069437E+02$   
 R = +6.2670694E-01      SIGNIFICANCE OF R = SIGNIFICANT       $S_R = +7.6216759E-01$   
 I = +5.4546113E+00      SIGNIFICANCE OF I = SIGNIFICANT       $S_I = +9.5068505E+01$   
 N = 48  
 DEGREES OF FREEDOM = 46  
 STORAGE CONDITIONS = AMB TEMP/RH      TEST CONDITIONS = 30 DEG F.



STAGE 1-DISCTED MOTOR=0012029, TRIAXIAL CH5=20.0 IN/MIN, 800 PSI, STRESS AT RUPT.

Figure 74



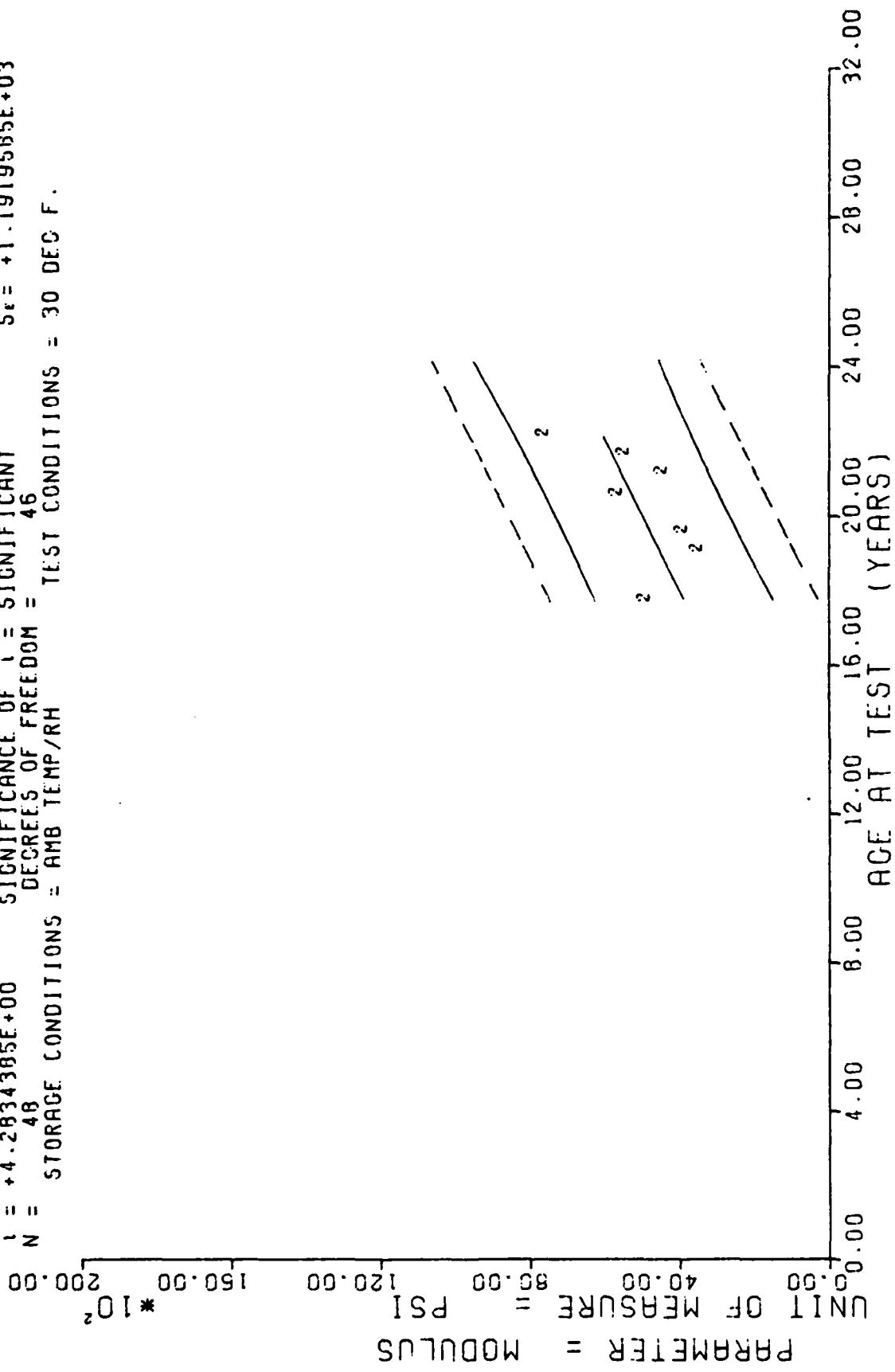
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	9	+5.905936E+02	+1.6129242E+01	+6.2439590E+02	+5.7100000E+02	+5.0522778E+02
229.0	5	+4.4857573E+02	+4.2715846E+01	+5.0600000E+02	+3.9769955E+02	+5.7174487E+02
235.0	5	+5.2531582E+02	+2.3690179E+01	+5.6365555E+02	+5.0269955E+02	+5.9668896E+02
247.0	9	+6.7129248E+02	+5.703284E+01	+7.8889590E+02	+5.9809985E+02	+6.4657690E+02
254.0	10	+5.8544726E+02	+1.5703332E+01	+6.2800000E+02	+5.5929980E+02	+6.7567822E+02
260.0	2	+6.7164990E+02	+3.3732474E+01	+6.9550000E+02	+6.4779980E+02	+7.0062207E+02
266.0	8	+8.4306056E+02	+3.3867954E+01	+8.8339550E+02	+7.7859985E+02	+7.2556616E+02

STAGE 1. DISCTED MCTDR=0012029, TRIAXIAL CHS=20.0 IN./MIN. 800 PSI. STRESS AT RUPT.

Y = (( -4.8471856E+03 ) + ( +4.0932427E+01 ) \* X )  
 F = +1.8347845E+01      SIGNIFICANCE OF F = SIGNIFICANT      G<sub>r</sub> = +1.3946949E+03  
 R = +5.3398066E-01      SIGNIFICANCE OF R = SIGNIFICANT      S<sub>r</sub> = +9.5559741E+00  
 I = +4.2834385E+00      SIGNIFICANCE OF I = SIGNIFICANT      S<sub>i</sub> = +1.1919585E+03  
 N = 48      DEGREES OF FREEDOM = 46  
 STORAGE CONDITIONS = AMB TEMP/RH      TEST CONDITIONS = 30 DEG F.



STAGE 1, DISCTED MOTOR=0012029, TRJXJAL CH5=20.0 IN/MIN, 800 PSI, MODULUS

Figure 75

\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

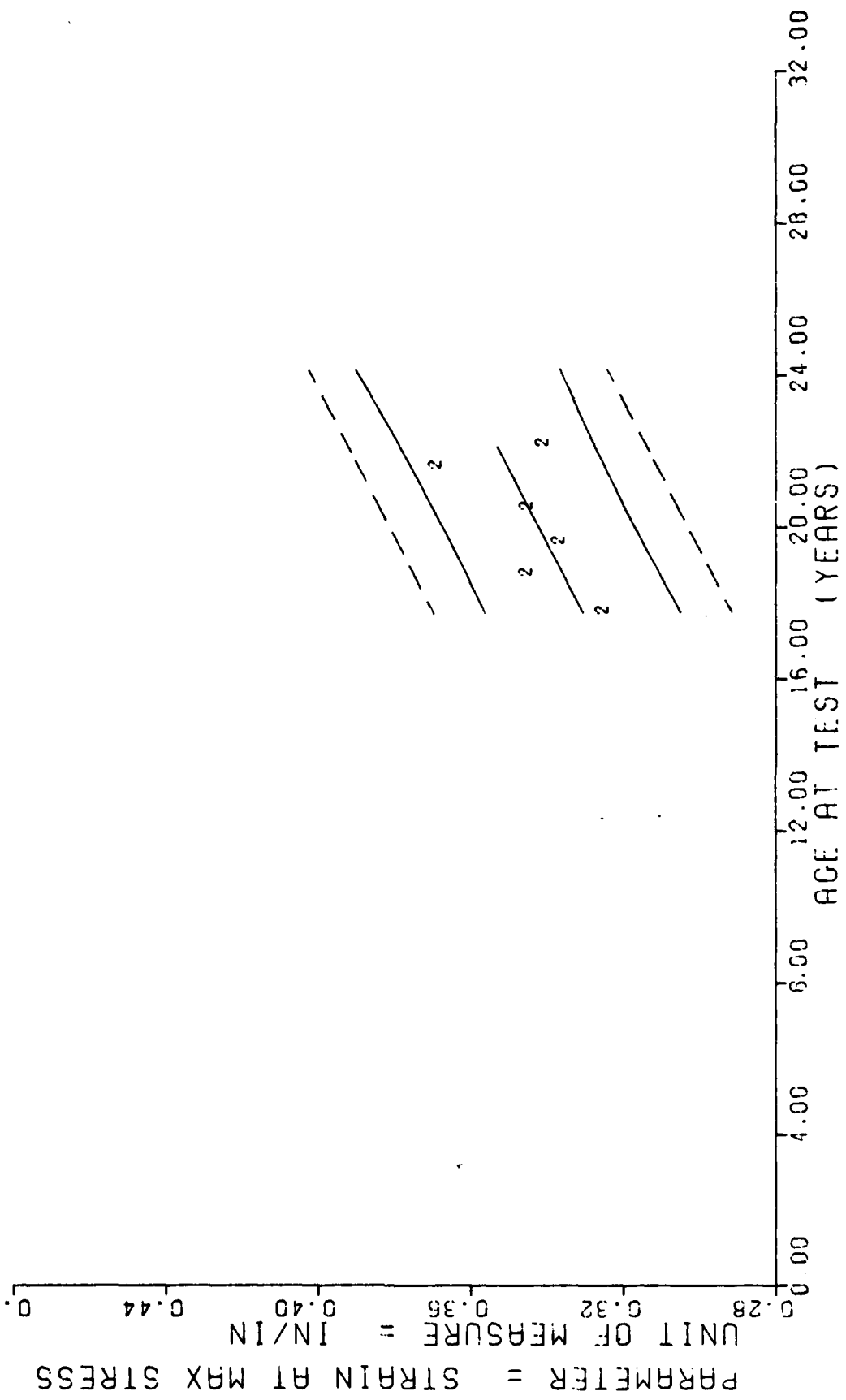
\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	9	+4.8148867E+03	+3.5162049E+02	+5.4630000E+03	+4.3570000E+03	+3.8714211E+03
229.0	5	+3.4125558E+03	+4.4464007E+02	+3.9320000E+03	+2.9130000E+03	+4.5263398E+03
235.0	5	+3.8153559E+03	+3.1456883E+02	+4.1770000E+03	+3.3380000E+03	+4.7719335E+03
247.0	9	+5.5610000E+03	+5.1575261E+02	+7.5360000E+03	+4.1910000E+03	+5.2631210E+03
254.0	10	+4.3625976E+03	+5.8815695E+02	+5.8490000E+03	+3.8310000E+03	+5.5496484E+03
260.0	2	+5.3765000E+03	+3.0191058E+01	+5.3980000E+03	+5.3550000E+03	+5.7952421E+03
266.0	8	+7.5236250E+03	+4.6150419E+02	+8.3280000E+03	+6.8640000E+03	+6.0408398E+03

STAGE 1, DISCTED MCTCR=0012029, TRIAXIAL CHS=20.0 IN/MIN, 800 PSI, MODULUS

$Y = ( ( +2.4017697E-01 ) + ( +4.2429712E-04 ) * X )$   
 F = +1.0427783E+01 SIGNIFICANCE OF F = SIGNIFICANT  $\sigma_f = +1.5076442E-02$   
 R = +5.1894373E-01 SIGNIFICANCE OF R = SIGNIFICANT  $S_r = +9.8840182E-05$   
 I = +4.2927593E+00 SIGNIFICANCE OF I = SIGNIFICANT  $S_i = +1.3015705E-02$   
 N = 52 DEGREES OF FREEDOM = 50

STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = AMB TEMP/RH



STAGE 1, DISCIED MOTOR=0012029, TRIAXIAL CHS=20.0 IN/MIN, 800 PSI, STRAIN MAX STRS

Figure 76

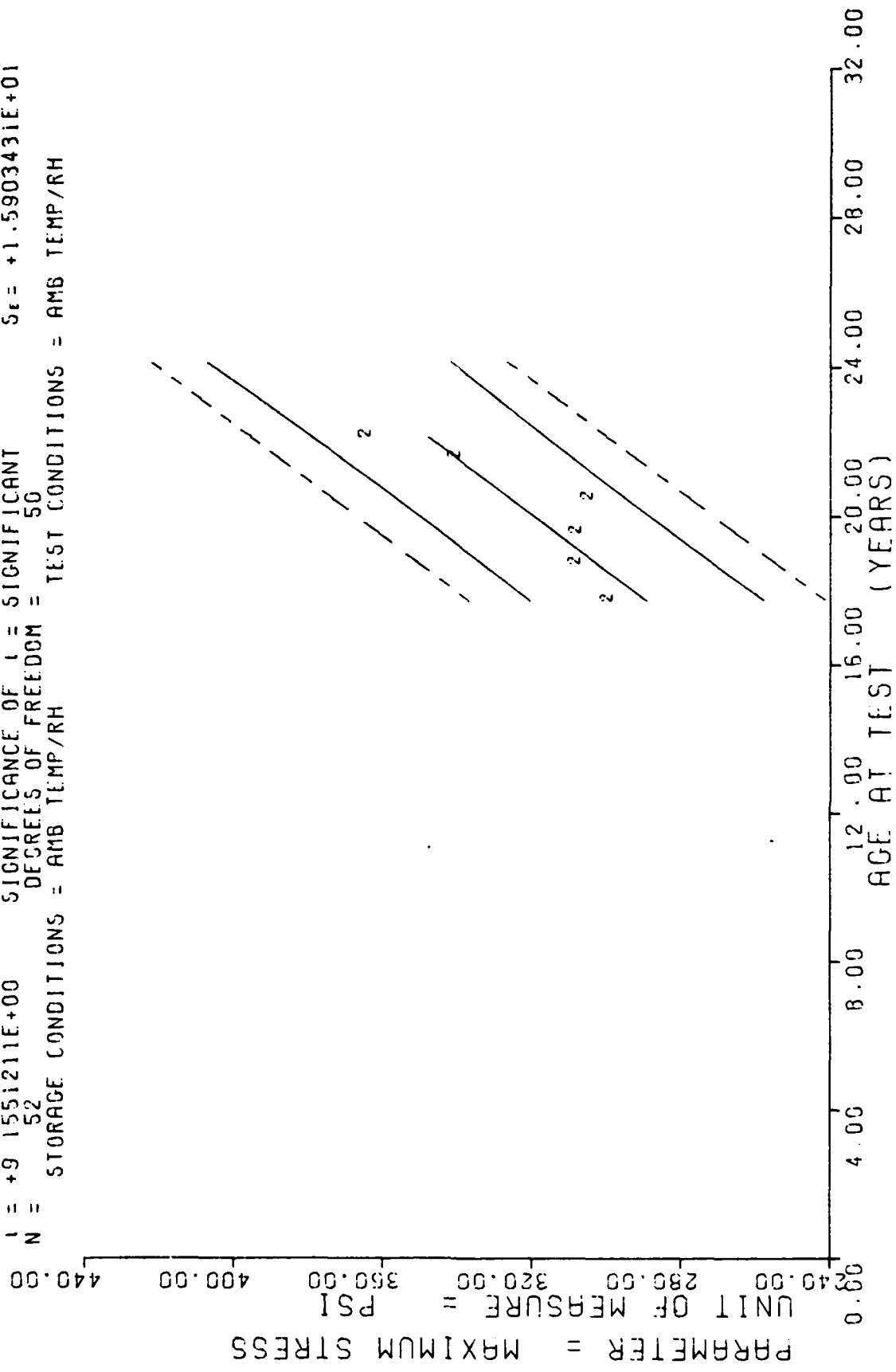
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	8	+3.2355576E-01	+4.7565514E-03	+3.2799994E-01	+3.15999998E-01	+3.3055222E-01
225.0	9	+3.4408855E-01	+9.8330574E-03	+3.6189997E-01	+3.27599994E-01	+3.3564382E-01
235.0	9	+2.3555513E-01	+5.7457414E-03	+3.44599996E-01	+3.13999995E-01	+3.3988678E-01
246.0	9	+3.4388846E-01	+8.6541325E-03	+3.5699999E-01	+3.32999994E-01	+3.4455406E-01
259.0	8	+3.6774569E-01	+8.7582872E-03	+3.78999994E-01	+3.49999996E-01	+3.5006988E-01
266.0	9	+3.3565550E-01	+6.5041173E-03	+3.52999998E-01	+3.30999997E-01	+3.5303997E-01

STAGE 1, DISCTEC MCTCR=0012029, TRIAXIAL CHS=20.0 IN/MIN, 600 PSI, STRAIN MAX STRS.

$Y = (( +5.3635019E+01 ) + ( +1.1056578E+00 ) * X)$   
 F = +8.3816243E+01 SIGNIFICANCE OF F = SIGNIFICANT  $S_f = +2.5760848E+01$   
 R = +7.9142484E-01 SIGNIFICANCE OF R = SIGNIFICANT  $S_R = +1.2076933E-01$   
 t = +9.1551211E+00 SIGNIFICANCE OF t = SIGNIFICANT  $S_t = +1.5903431E+01$   
 N = 52 DEGREES OF FREEDOM = 50  
 STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = AMB TEMP/RH



STAGE 1, DISCIED MOTOR=0012029, TRIAXIAL CHS=20 0 IN/MIN, 800 PSI, MAX STRS.

Figure 77

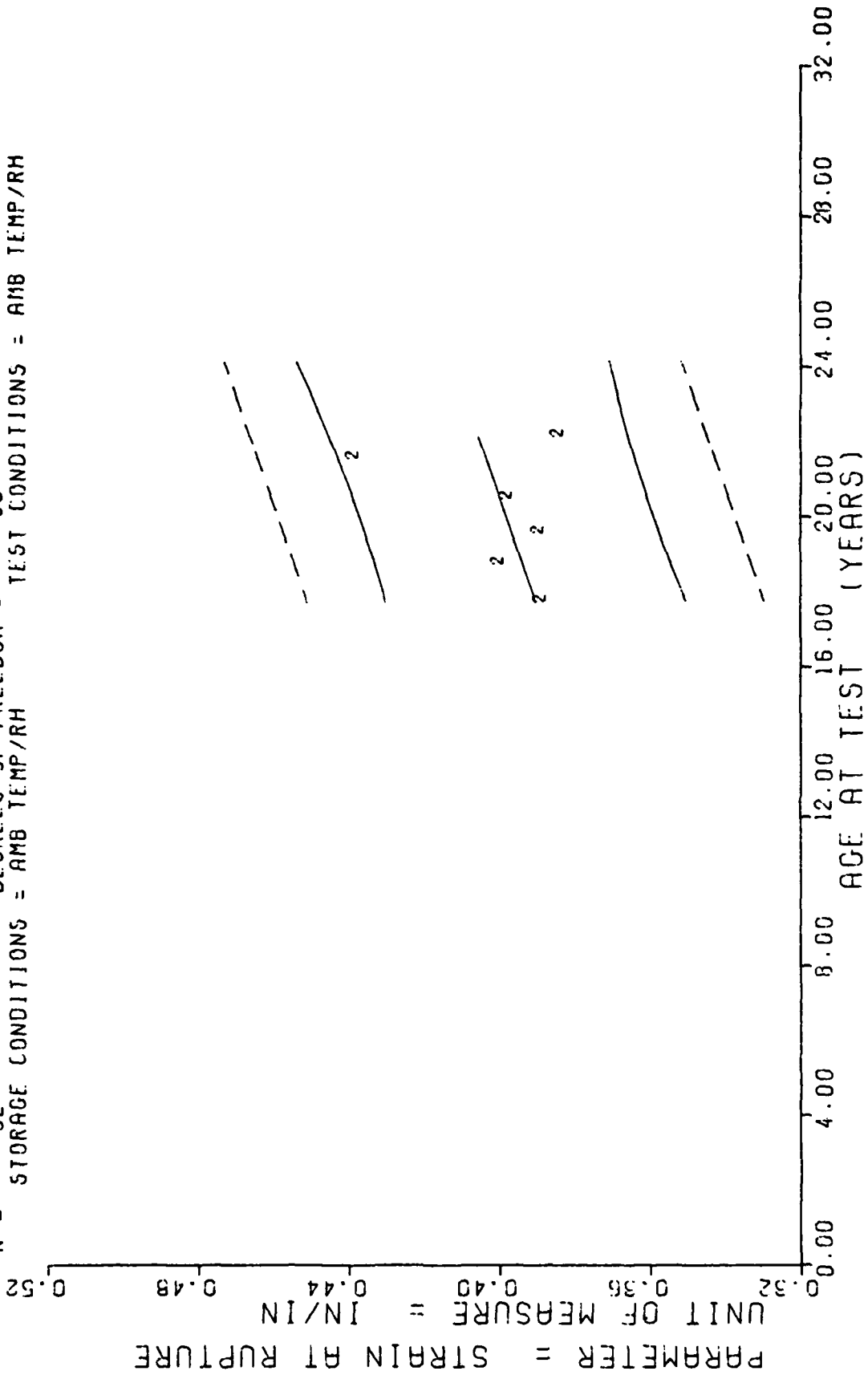
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\* ANALYSIS OF TIME SERIES \*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	8	+2.5883857E+02	+7.1909276E+00	+3.1036587E+02	+2.8557983E+02	+2.8914013E+02
225.0	9	+3.0715649E+02	+5.5594009E+00	+3.1232583E+02	+2.9914990E+02	+3.0240795E+02
235.0	9	+3.0706103E+02	+3.5750646E+00	+3.1427578E+02	+3.0319995E+02	+3.1346459E+02
246.0	9	+3.0367524E+02	+1.4414454E+01	+3.2550000E+02	+2.8900000E+02	+3.2562670E+02
259.0	8	+3.3936718E+02	+1.2383450E+01	+3.5975580E+02	+3.2788969E+02	+3.4000024E+02
266.0	9	+3.6335424E+02	+1.3534696E+01	+3.8461582E+02	+3.4432983E+02	+3.4773999E+02

STAGE 1, DISCTEC MCTCR=0012029, TRIAXIAL CHS=20.0 IN/MIN, 600 PSI, MAX STRS.

Y = (( +3.2919831E-01 ) + ( +2.8640110E-04 ) \* X )  
 F = +3.4886031E+00 SIGNIFICANCE OF F = NOT SIGNIFICANT  $G_f = +2.0678402E-02$   
 R = +2.5539170E-01 SIGNIFICANCE OF R = NOT SIGNIFICANT  $S_p = +1.5333328E-04$   
 I = +1.8678338E+00 SIGNIFICANCE OF I = NOT SIGNIFICANT  $S_t = +2.0191595E-02$   
 N = 52 DEGREES OF FREEDOM = 50  
 STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = AMB TEMP/RH



STAGE 1.0 DISCTED MOTOR=0012029. TRIAXIAL CH5=20.0 IN/MIN, 800 PSI. STRAIN AT RUPT.

Figure 78



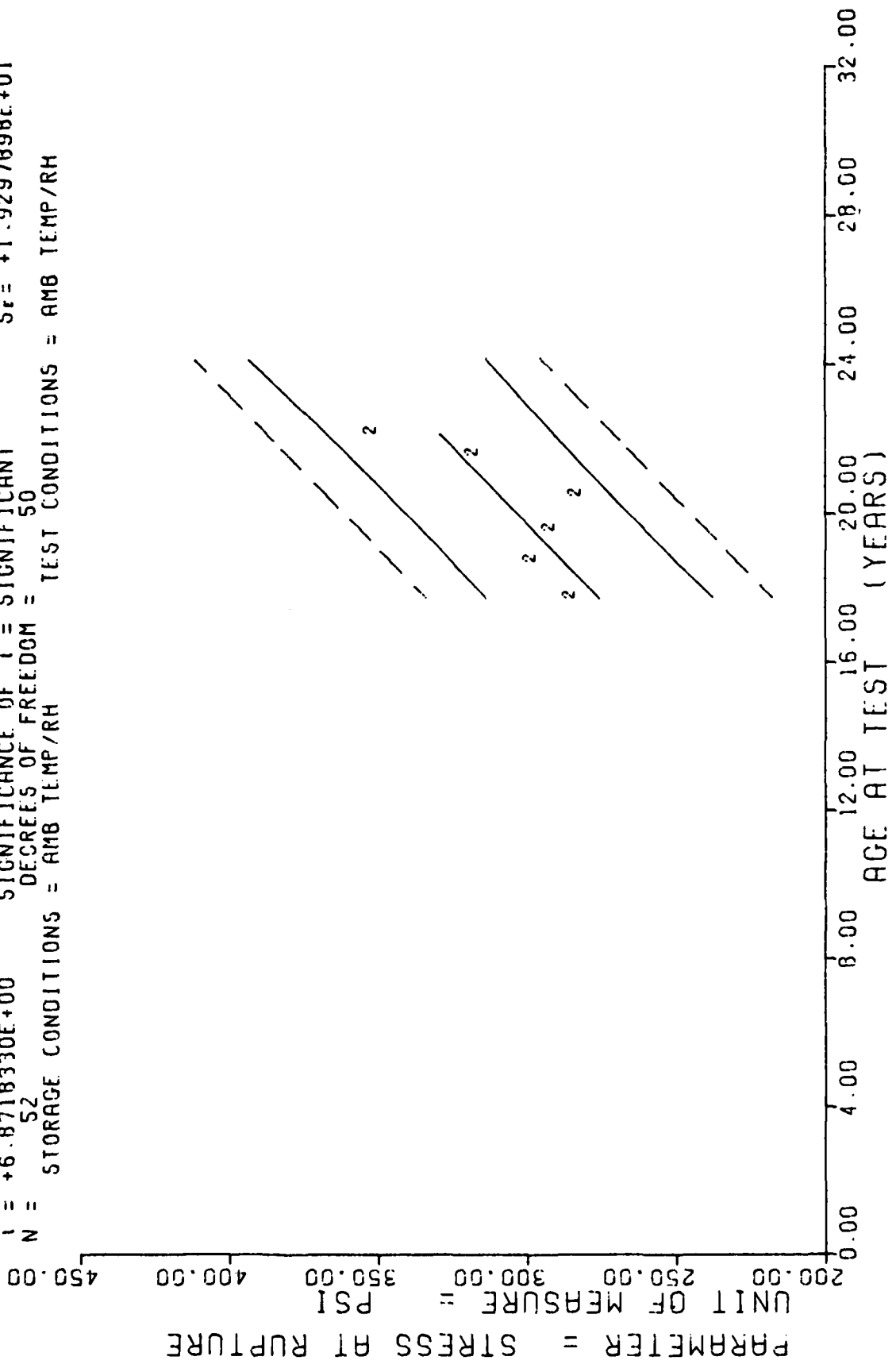
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	8	+3.6762474E-01	+9.1086858E-03	+4.0399598E-01	+3.7699957E-01	+3.9020174E-01
225.0	9	+3.5655569E-01	+1.3250328E-02	+4.2299597E-01	+3.8099958E-01	+3.9363855E-01
235.0	9	+3.6833308E-01	+1.0720442E-02	+4.0399598E-01	+3.7399595E-01	+3.9650255E-01
246.0	9	+3.5677757E-01	+9.9233129E-03	+4.0959596E-01	+3.7899954E-01	+3.9965295E-01
259.0	8	+4.3149576E-01	+1.2555097E-02	+4.5655555E-01	+4.2099954E-01	+4.0337616E-01
266.0	9	+3.8302177E-01	+9.5319172E-03	+3.9349597E-01	+3.6179955E-01	+4.0538096E-01

STAGE 1. DISCTED MCTCR=0012029. TRIAXIAL CHS=20.0 IN/MIN.800 PSI. STRAIN AT RUPT.

$Y = (1 + 6.1280786E+01) + (1 + 1.0070440E+00) * X$   
 F = +4.7222089E+01      SIGNIFICANCE OF F = SIGNIFICANT       $S_f = +2.6644490E+01$   
 R = +6.9693154E-01      SIGNIFICANCE OF R = SIGNIFICANT       $S_r = +1.4654663E-01$   
 I = +6.8718330E+00      SIGNIFICANCE OF I = SIGNIFICANT       $S_i = +1.9297898E+01$   
 N = 52  
 DEGREES OF FREEDOM = 50  
 STORAGE CONDITIONS = AMB TEMP/RH      TEST CONDITIONS = AMB TEMP/RH



STAGE 1 DISCTED MOTOR=0012029, TRIAXIAL CHS=20.0 IN/MIN, 800 PSI, STRESS AT RUPT.

Figure 79

\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\* ANALYSIS OF TIME SERIES \*\*

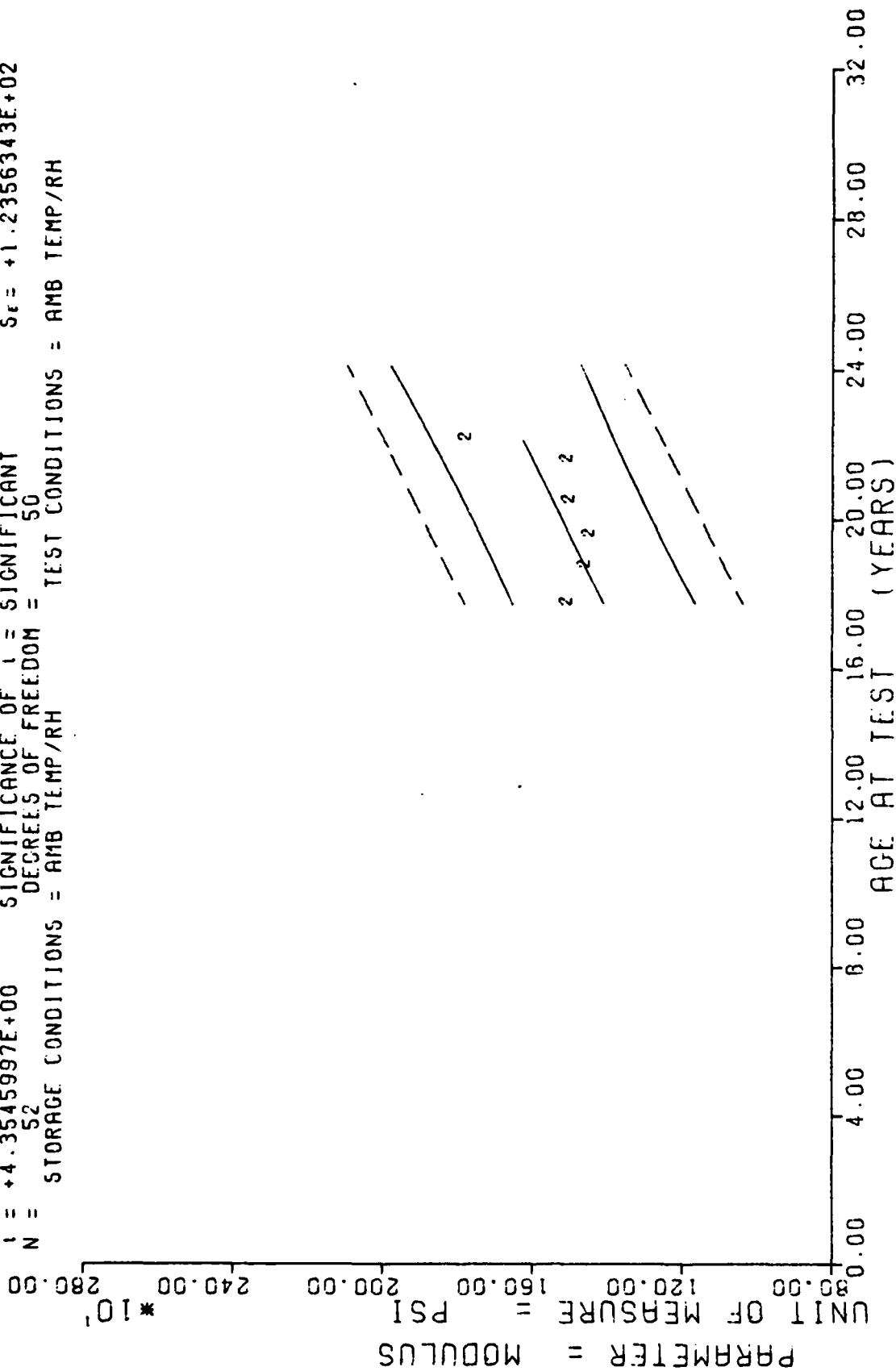
AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	8	+2.8413720E+02	+6.7500737E+00	+2.9585590E+02	+2.7550000E+02	+2.7578100E+02
225.0	9	+2.5730761E+02	+7.0911390E+00	+3.0455585E+02	+2.8279980E+02	+2.8786547E+02
235.0	9	+2.9115527E+02	+4.6531653E+00	+2.9705525E+02	+2.8189550E+02	+2.9793603E+02
246.0	9	+2.8217651E+02	+1.3812803E+01	+3.0355585E+02	+2.6409855E+02	+3.0901342E+02
259.0	8	+3.1666235E+02	+1.3457585E+01	+3.4200000E+02	+3.0229980E+02	+3.2210498E+02
266.0	9	+3.5073574E+02	+1.6739990E+01	+3.7664550E+02	+3.3271957E+02	+3.2915429E+02

STAGE 1. DISCTED MCTOR=0012029. TRIAXIAL CHS=20.0 IN/MIN. 800 PSI. STRESS AT RUPT.

$Y = ( ( +5.3867623E+02 ) + ( +4.0860533E+00 ) * X )$   
 SIGNIFICANCE OF F = SIGNIFICANT  
 SIGNIFICANCE OF R = SIGNIFICANT  
 SIGNIFICANCE OF I = SIGNIFICANT  
 DEGREES OF FREEDOM = 50  
 STORAGE CONDITIONS = AMB TEMP/RH  
 TEST CONDITIONS = AMB TEMP/RH

F = +1.8962538E+01  
 R = +5.2437456E-01  
 I = +4.3545997E+00  
 N = 52

$\sigma_f = +1.4368502E+02$   
 $S_b = +9.3833040E-01$   
 $S_e = +1.2356343E+02$



STAGE 1, DISCIED MOTOR=0012029, TRIAXIAL CHS=20.0 IN/MIN, 800 PSI, MODULUS

Figure 80

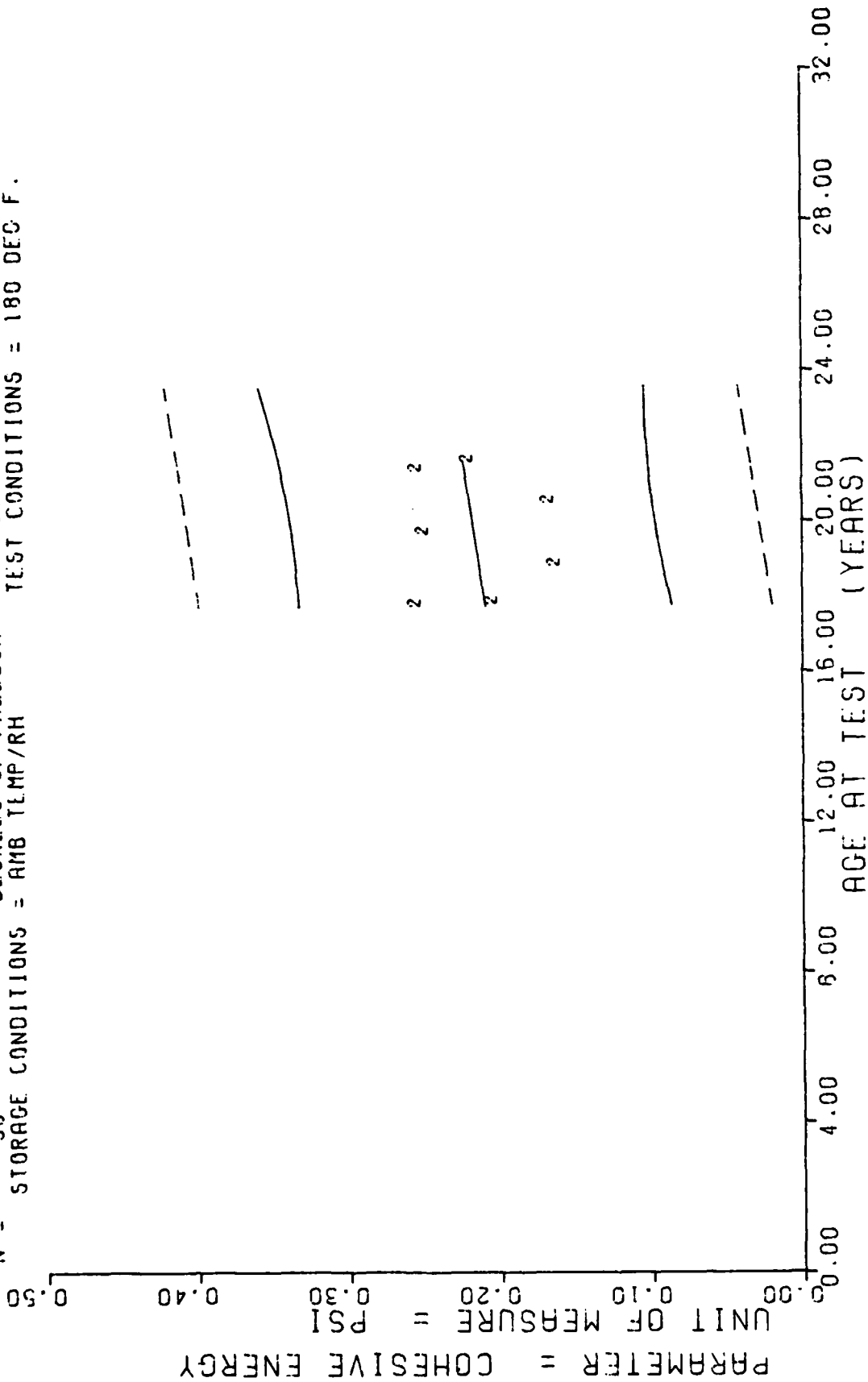
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	8	+1.4956250E+03	+6.347E764E+01	+1.5700000E+03	+1.3900000E+03	+1.4090075E+03
225.0	9	+1.4477775E+03	+9.4593575E+01	+1.5940000E+03	+1.3290000E+03	+1.4580400E+03
235.0	9	+1.4357775E+03	+7.4672246E+01	+1.5290000E+03	+1.3480000E+03	+1.4989006E+03
246.0	9	+1.4502221E+03	+8.7478251E+01	+1.6850000E+03	+1.4140000E+03	+1.5438471E+03
259.0	8	+1.4956250E+03	+1.2896891E+02	+1.6270000E+03	+1.2760000E+03	+1.5969658E+03
266.0	9	+1.7656665E+03	+8.6440008E+01	+1.9240000E+03	+1.6730000E+03	+1.6255683E+03

STAGE 1, DISCTEC MCTCR=0012029, TRIAXIAL CHS=20.0 IN/MIN, 800 PSI, MODULUS

F = +3.8799636E-01  
 R = +8.2950784E-02  
 I = +6.2289354E-01  
 N = 56  
 STORAGE CONDITIONS = AMB TEMP/RH  
 Y = ( ( +1.4235140E-01 ) + ( +3.1290988E-04 ) \* X )  
 SIGNIFICANCE OF F = NOT SIGNIFICANT  
 SIGNIFICANCE OF R = NOT SIGNIFICANT  
 SIGNIFICANCE OF I = NOT SIGNIFICANT  
 DEGREES OF FREEDOM = 56  
 TEST CONDITIONS = 180 DEC F.



STAGE 1. DISSECTED MOTOR=0012029. TEAR ENERGY, CH5=.002IN/MIN, T/TEMP=180DEC.

Figure 81

\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

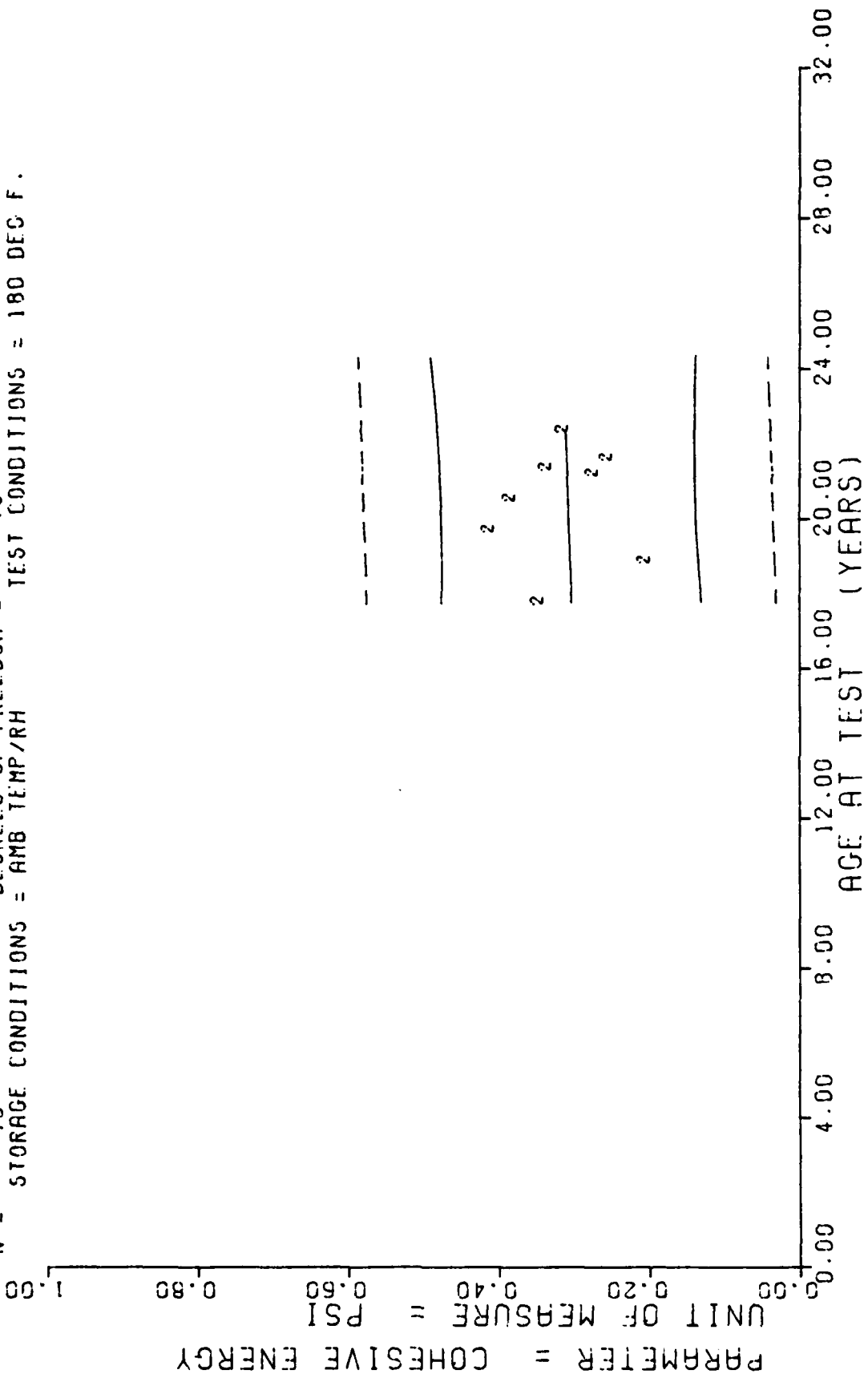
\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	8	+2.5204956E-01	+8.5341140E-02	+4.1389595E-01	+1.2089997E-01	+2.0900118E-01
214.0	2	+2.0185994E-01	+8.4838484E-03	+2.0789598E-01	+1.9589956E-01	+2.0931410E-01
226.0	9	+1.6018867E-01	+3.6216185E-02	+2.1685595E-01	+1.0489994E-01	+2.1306902E-01
236.0	8	+2.4691224E-01	+2.8275579E-02	+3.0399596E-01	+2.0259954E-01	+2.1619808E-01
246.0	9	+1.6435574E-01	+5.2346823E-02	+2.7249597E-01	+9.4299972E-02	+2.1932721E-01
256.0	15	+2.5147300E-01	+3.6848134E-02	+3.3089595E-01	+1.9029998E-01	+2.2245627E-01
259.0	7	+2.1764260E-01	+6.7186742E-02	+3.2689594E-01	+1.2089997E-01	+2.2339504E-01

STAGE 1. DISSECTED MOTCR=0012029. TEAR ENERGY. CHS=.002 IN/MIN. T/TEMP=180DEG.

Y = ( ( +2.7249228E-01 ) + ( +1.4064762E-04 ) \* X )  
 SIGNIFICANCE OF F = NOT SIGNIFICANT  $\sigma_1 = +0.9914816E-02$   
 SIGNIFICANCE OF R = NOT SIGNIFICANT  $S_0 = +5.6188076E-04$   
 SIGNIFICANCE OF t = NOT SIGNIFICANT  $S_{t1} = +9.0467143E-02$   
 DEGREES OF FREEDOM = 76  
 STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = 180 DEC F.

F = +6.2657992E-02  
 R = +2.8701360E-02  
 t = +2.5031578E-01  
 N = 78



STAGE 1. DISSECTED MOTOR=0012029. TEAR ENERGY, CHS=.02 IN/MIN. T/TEMP=180DEC

Figure 82



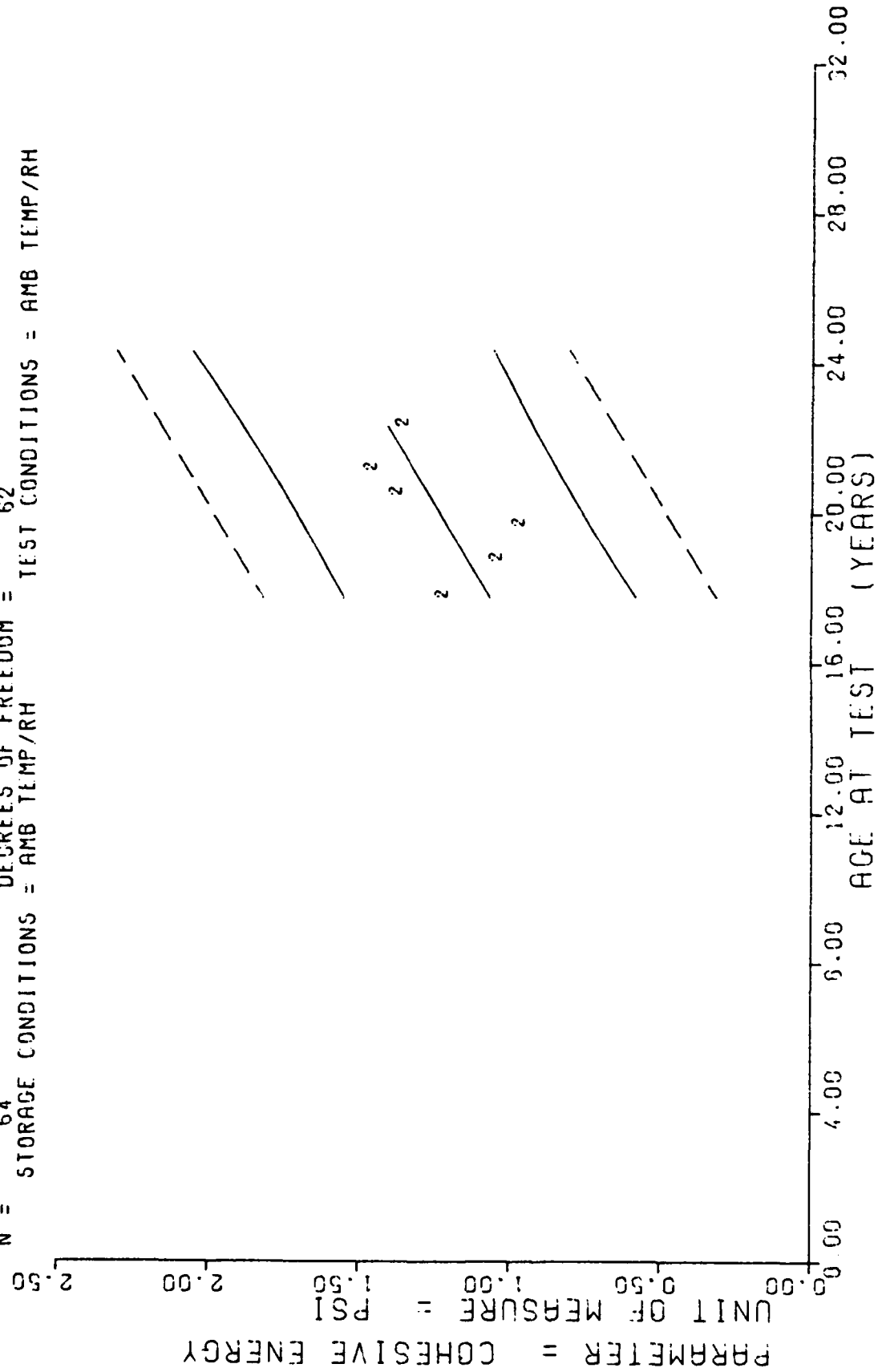
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*

AGE (MCNTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	9	+2.4031069E-01	+4.5805569E-02	+4.2485559E-01	+2.7719999E-01	+3.0245018E-01
226.0	12	+1.9535780E-01	+4.0602338E-02	+2.5289994E-01	+1.2589997E-01	+3.0427861E-01
236.0	9	+4.0556622E-01	+3.5020549E-02	+4.7505598E-01	+3.5689997E-01	+3.0568510E-01
246.0	8	+3.7818706E-01	+1.0434053E-01	+5.2879995E-01	+2.3499995E-01	+3.0709159E-01
254.0	15	+2.666638E-01	+7.0862139E-02	+3.6599999E-01	+1.0019999E-01	+3.0821675E-01
256.0	6	+2.3044558E-01	+5.0453247E-02	+4.1899996E-01	+2.8809994E-01	+3.0849802E-01
259.0	1	+2.5000000E-01	+0.0000000E+07	+2.5000000E-01	+2.5000000E-01	+3.0891996E-01
268.0	18	+3.0637738E-01	+8.1246552E-02	+4.6499997E-01	+1.7539995E-01	+3.1018579E-01

STAGE 1. DISSECTEC MOTOR=0012029. TEAR ENERGY. CHS=.02 IN/MIN. T/TEMP=180DEG.

$Y = (( -2.5202009E-01 ) + ( +6.1858594E-03 ) * X )$   
 SIGNIFICANCE OF F = SIGNIFICANT  $S_f = +2.7247718E-01$   
 SIGNIFICANCE OF R = SIGNIFICANT  $S_r = +1.7317711E-03$   
 SIGNIFICANCE OF t = SIGNIFICANT  $S_t = +2.5013154E-01$   
 N = 64 DEGREES OF FREEDOM = 62  
 STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = AMB TEMP/RH



STAGE 1, DISSECTED MOTOR=0012029, TEAR ENERGY, CHS-0.2 IN/MIN, T/TEMP=77 DEG.

Figure 83

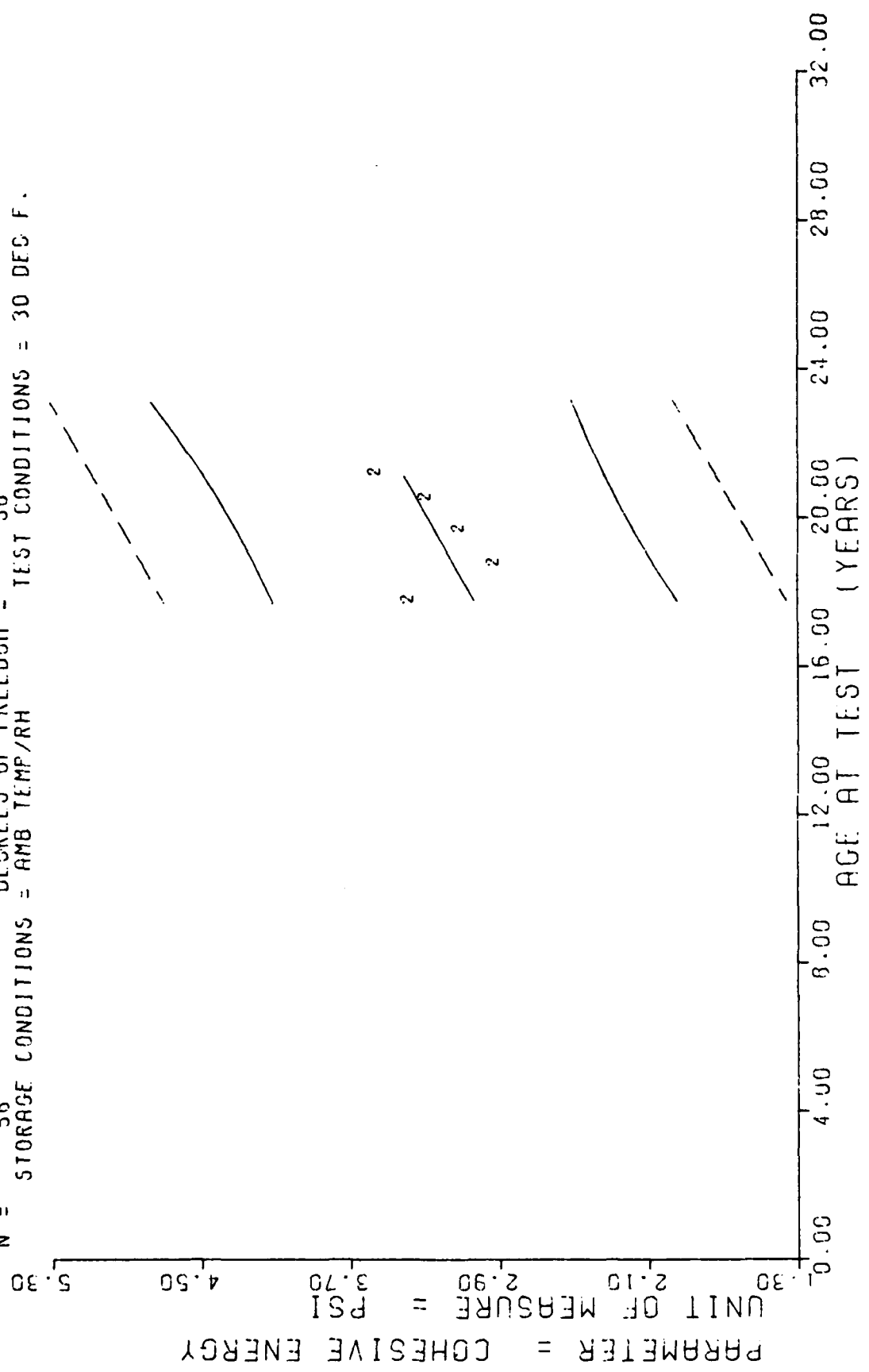
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MNTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	9	+1.2066657E+00	+1.4121932E-01	+1.4705597E+00	+9.63899997E-01	+1.0655670E+00
225.0	9	+1.0280103E+00	+1.6425261E-01	+1.22299995E+00	+7.61899994E-01	+1.1397981E+00
236.0	9	+9.5341062E-01	+1.1360751E-01	+1.16999991E+00	+7.96899997E-01	+1.2078418E+00
246.0	10	+1.3613586E+00	+2.0797104E-01	+1.71789993E+00	+1.11489996E+00	+1.2697010E+00
254.0	15	+1.4456033E+00	+1.8234639E-01	+1.76149994E+00	+1.19729999E+00	+1.3191881E+00
268.0	12	+1.3402328E+00	+3.4327530E-01	+2.30519996E+00	+1.00289991E+00	+1.4057893E+00

STAGE 1. DISSECTED MOTOR=0012029. TEAR ENERGY. CHS=0.2 IN/MIN. T/TEMP=77 DEG.

Y = (( +1.0306793E+00 ) + ( +9.3696276E-03 ) \* X )  
 F = +3.6692548E+00 SIGNIFICANCE OF F = NOT SIGNIFICANT  $\sigma_1 = +5.6903423E-01$   
 R = +2.4797827E-01 SIGNIFICANCE OF R = NOT SIGNIFICANT  $S_0 = +4.8914024E-03$   
 t = +1.9155299E+00 SIGNIFICANCE OF t = NOT SIGNIFICANT  $S_r = +5.5616097E-01$   
 N = 56 DEGREES OF FREEDOM = 56  
 STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = 30 DEG F.



STAGE 1, DISSECTED MOTOR=0012029, TEAR ENERGY, CH5=2.0 IN/MIN, T/TEMP=30 DEG

Figure 84

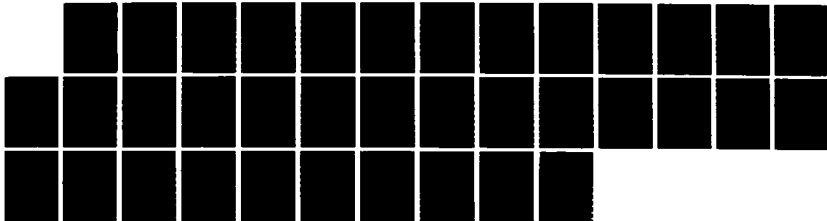
AD-A171 132

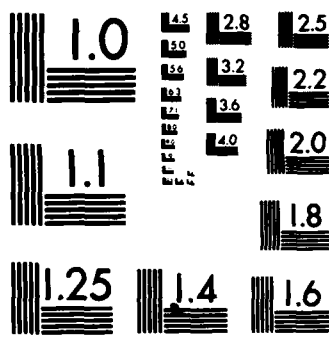
SURVEILLANCE REPORT STAGE I DISSECTED MOTOR/PROPELLANT  
MOTOR NUMBER 0012029(U) OGDEN AIR LOGISTICS CENTER HILL  
AFB UT PROPELLANT ANALYSIS LAB J A THOMPSON FEB 86  
MAQCP-515(86)

3/3

UNCLASSIFIED

F/G 21/0.2 NL





MICROCOPY RESOLUTION TEST CHART  
NATIONAL BUREAU OF STANDARDS-1963-A

\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

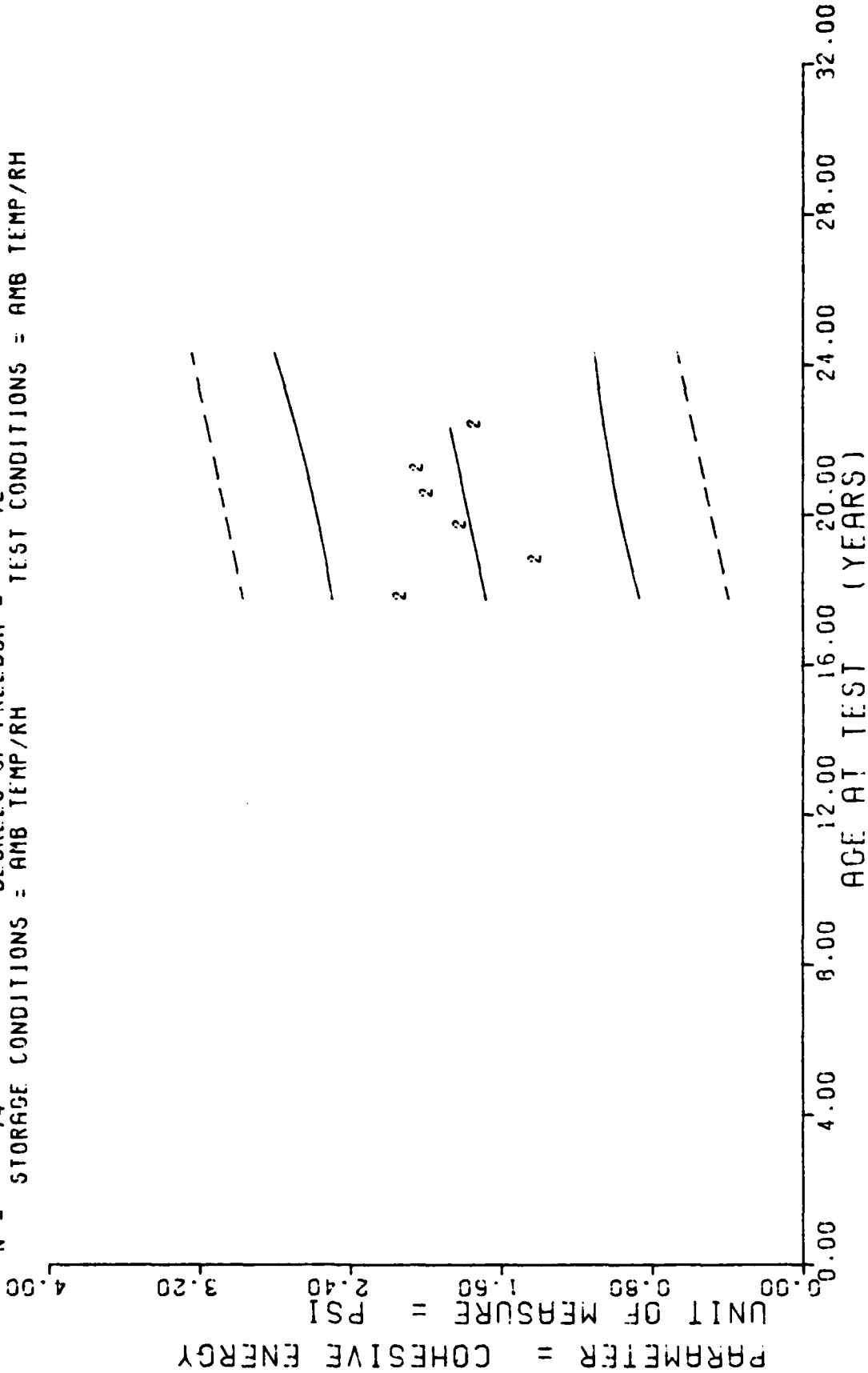
AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	9	+3.3592624E+00	+3.0650620E-01	+3.5605554E+00	+2.9319992E+00	+3.0264091E+00
225.0	14	+2.9025449E+00	+4.5835577E-01	+4.0307598E+00	+2.3628997E+00	+3.1388454E+00
236.0	8	+3.0920372E+00	+4.0826209E-01	+3.5736599E+00	+2.5707958E+00	+3.2419109E+00
246.0	10	+3.2652756E+00	+4.7052791E-01	+3.8438557E+00	+2.4749954E+00	+3.3356075E+00
254.0	17	+3.5384817E+00	+7.2448510E-01	+5.3588551E+00	+2.4639556E+00	+3.4105644E+00

STAGE 1. DISSECTED MOTCR=0012029. TEAR ENERGY.CHS=2.0 IN/MIN.T/TEMP=30 DEG.

$Y = ( ( +9.4446580E-01 ) + ( +3.4468150E-03 ) * X )$   
 SIGNIFICANCE OF F = NOT SIGNIFICANT  
 SIGNIFICANCE OF R = NOT SIGNIFICANT  
 SIGNIFICANCE OF t = NOT SIGNIFICANT  
 DEGREES OF FREEDOM = 72  
 STORAGE CONDITIONS = AMB TEMP/RH  
 TEST CONDITIONS = AMB TEMP/RH

F = +1.4976331E+00  
 R = +1.4274669E-01  
 t = +1.2237782E+00  
 N = 74

$S_1 = +4.2995890E-01$   
 $S_0 = +2.8165356E-03$   
 $S_2 = +4.2850086E-01$



STAGE 1 DISSECTED MOTOR=0012029.TEAR ENERGY.CHS=2.0 IN/MIN.T/TEMP=77 DEC.

Figure 85



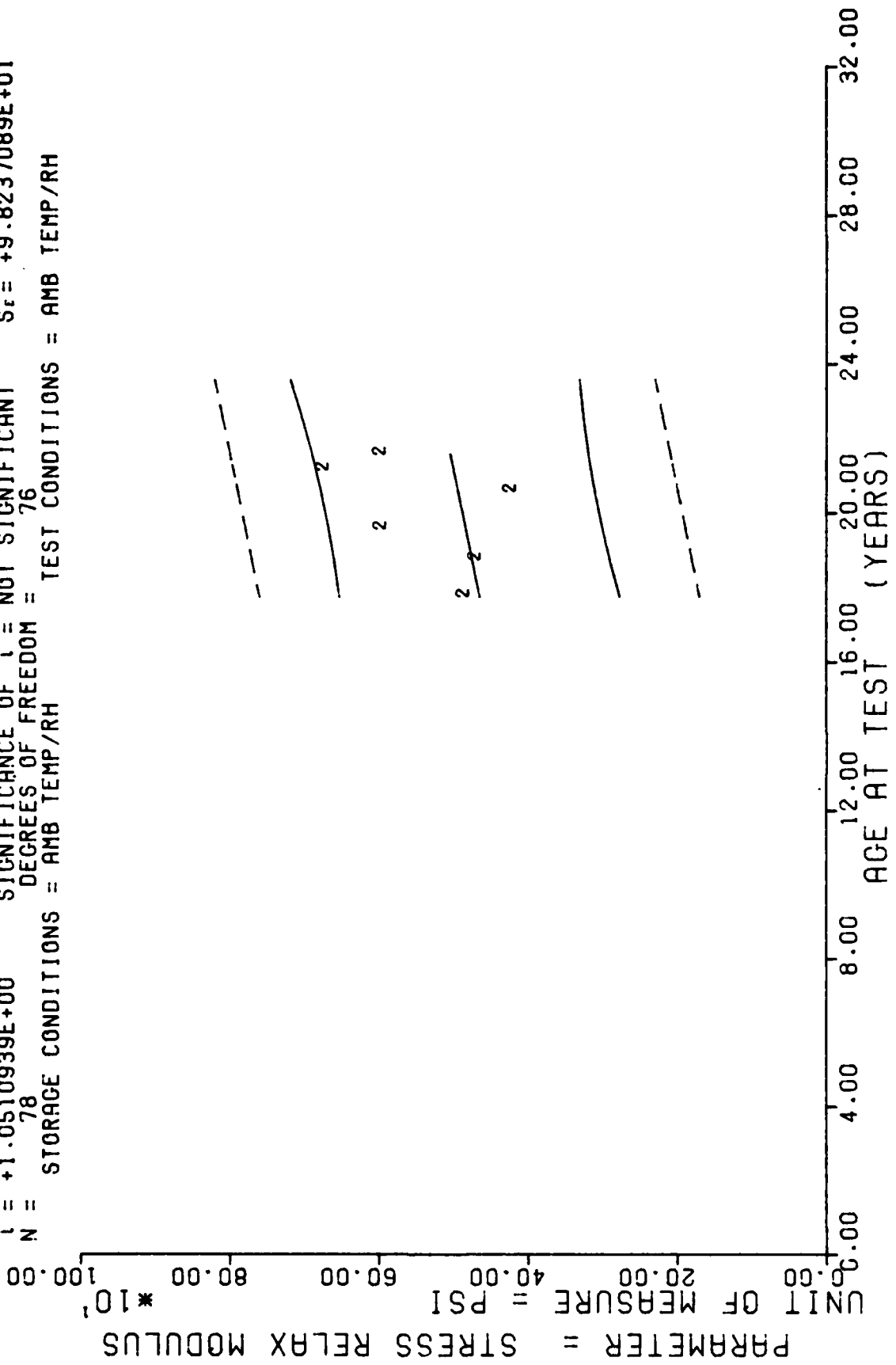
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\* ANALYSIS OF TIME SERIES \*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	9	+2.1049308E+00	+3.0197642E-01	+2.5698555E+00	+1.7658556E+00	+1.6786365E+00
225.0	21	+1.3516749E+00	+3.5750382E-01	+2.3799591E+00	+9.5789998E-01	+1.7199983E+00
236.0	9	+1.7897758E+00	+3.4817790E-01	+2.3349590E+00	+1.3633995E+00	+1.7579135E+00
246.0	10	+1.5629974E+00	+3.7146748E-01	+2.6465555E+00	+1.5579996E+00	+1.7923822E+00
254.0	14	+2.0176172E+00	+3.7682541E-01	+2.530551E+00	+1.3147993E+00	+1.8199567E+00
268.0	11	+1.7134618E+00	+2.5451050E-01	+2.3148594E+00	+1.2419956E+00	+1.8682117E+00

STAGE 1.CISSECTEC MOTOR=0012029, TEAR ENERGY, CHS=2.0 IN/MIN, T/TEMP=77 DEG.

Y = (( +2.8364645E+02 ) + ( +8.4948504E-01 ) \* X )  
 F = +1.1047985E+00 SIGNIFICANCE OF F = NOT SIGNIFICANT  $\sigma_f = +9.8303918E+01$   
 R = +1.1970184E-01 SIGNIFICANCE OF R = NOT SIGNIFICANT  $S_R = +8.0819133E-01$   
 I = +1.0510939E+00 SIGNIFICANCE OF I = NOT SIGNIFICANT  $S_I = +9.8237089E+01$   
 N = 78 DEGREES OF FREEDOM = 76  
 STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = AMB TEMP/RH



STAGE 1, DISCTED MOTOR=0012029, STRESS RELAXATION MODULUS, 3 % STRAIN AT 10 SEC.

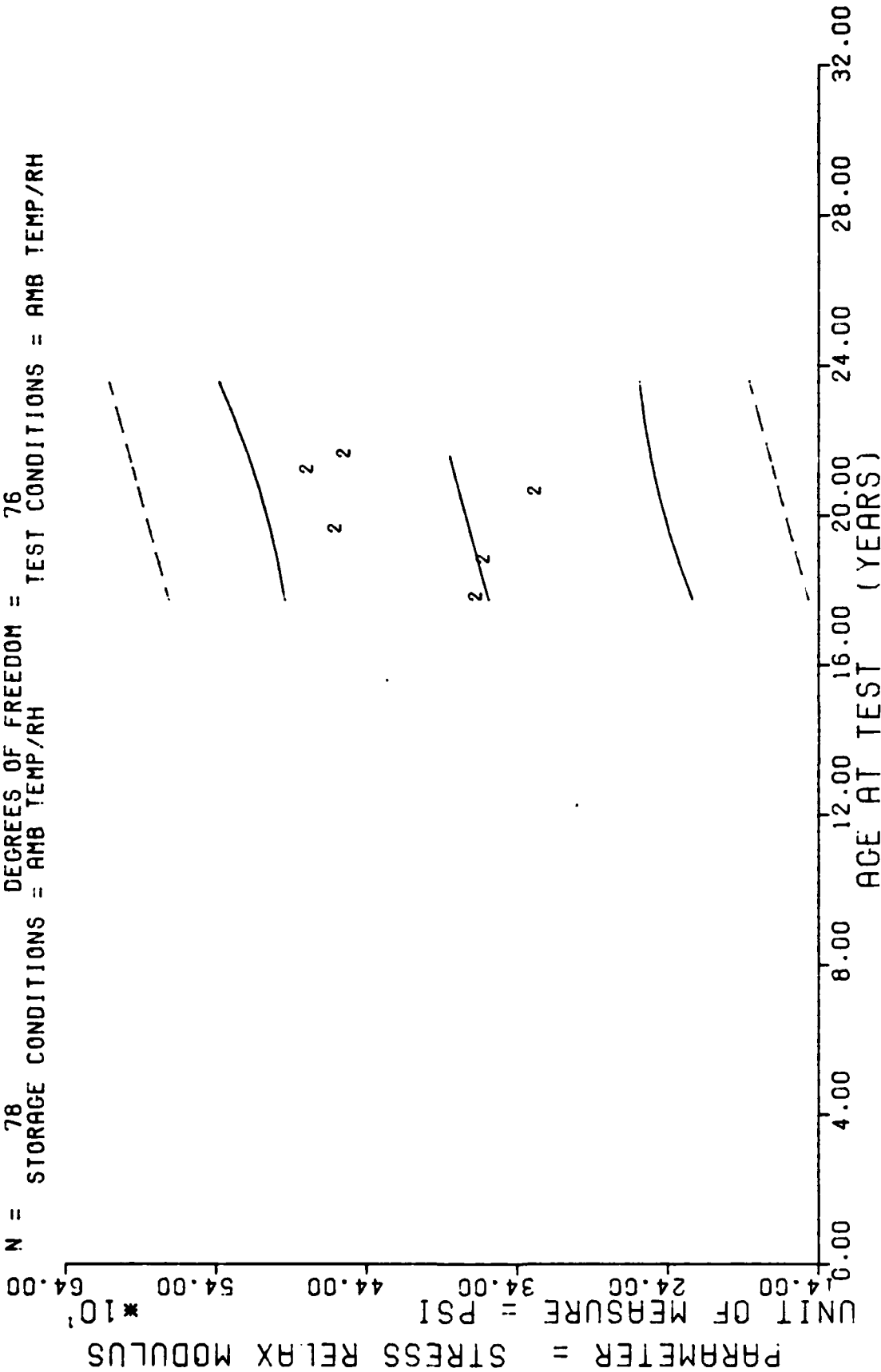
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	9	+4.7555541E+02	+4.2473848E+01	+5.7000000E+02	+4.2300000E+02	+4.6458666E+02
225.0	9	+4.6422216E+02	+2.6152331E+01	+5.0300000E+02	+4.3300000E+02	+4.7478051E+02
235.0	10	+5.5065595E+02	+6.1786460E+01	+6.4000000E+02	+4.4300000E+02	+4.8327539E+02
247.0	36	+4.1716650E+02	+3.3706718E+01	+4.8700000E+02	+3.5700000E+02	+4.9346923E+02
254.0	5	+6.6800000E+02	+1.1890962E+02	+7.6300000E+02	+5.1000000E+02	+4.9941552E+02
259.0	9	+5.9144433E+02	+7.3642907E+01	+6.9700000E+02	+4.7000000E+02	+5.0366284E+02

STAGE 1. DISCTED MCTOR=0012029. STRESS RELAXATION MOCULUS.3 X STRAIN AT 10 SEC.

F = +9.2565352E-01  
 R = +1.0969545E-01  
 I = +9.6210889E-01  
 N = 78  
 STORAGE CONDITIONS = AMB TEMP/RH  
 Y = ( ( +2.3960965E+02 ) + ( +5.5993863E-01 ) \* X )  
 SIGNIFICANCE OF F = NOT SIGNIFICANT  
 SIGNIFICANCE OF R = NOT SIGNIFICANT  
 SIGNIFICANCE OF I = NOT SIGNIFICANT  
 DEGREES OF FREEDOM = 76  
 TEST CONDITIONS = AMB TEMP/RH



STAGE 1, DISCATED MOTOR=0012029, STRESS RELAXATION MODULUS, 3 % STRAIN AT 50 SEC.

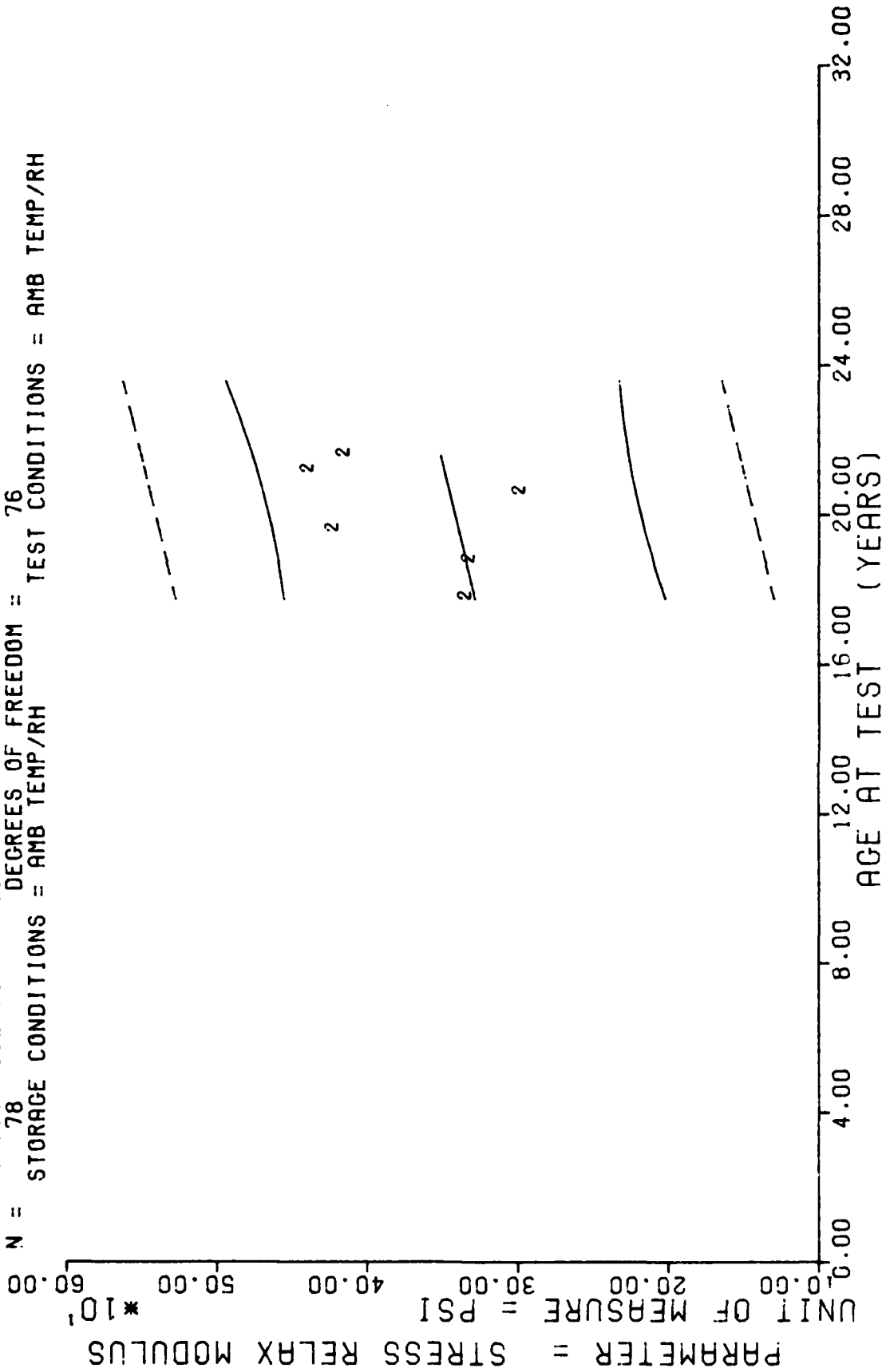
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	9	+3.638867E+02	+2.6997605E+01	+4.2700000E+02	+3.2700000E+02	+3.5887646E+02
225.0	9	+3.5877758E+02	+2.2331467E+01	+4.0000000E+02	+3.3300000E+02	+3.6559570E+02
235.0	10	+4.5705985E+02	+5.0533707E+01	+5.0000000E+02	+3.4000000E+02	+3.7119506E+02
247.0	36	+3.2477758E+02	+3.1472537E+01	+3.9700000E+02	+2.7000000E+02	+3.7791430E+02
254.0	5	+4.7575580E+02	+7.5590828E+01	+5.3300000E+02	+3.7000000E+02	+3.8183398E+02
259.0	9	+4.5133325E+02	+5.7397735E+01	+5.3300000E+02	+3.5700000E+02	+3.8463354E+02

STAGE 1. DISCTED MCTOR=0012029. STRESS RELAXATION MODULUS.3 X STRAIN AT 50 SEC.

Y = (( +2.2339945E+02 ) + ( +4.9245902E-01 ) \* X )  
 F = +8.1681307E-01      SIGNIFICANCE OF F = NOT SIGNIFICANT       $\sigma_f = +6.6153501E+01$   
 R = +1.0311769E-01      SIGNIFICANCE OF R = NOT SIGNIFICANT       $S_r = +5.4488990E-01$   
 I = +9.0377711E-01      SIGNIFICANCE OF I = NOT SIGNIFICANT       $S_i = +6.6232333E+01$   
 N = 78      DEGREES OF FREEDOM = 76  
 STORAGE CONDITIONS = AMB TEMP/RH      TEST CONDITIONS = AMB TEMP/RH



STAGE 1, DISCTED MOTOR=0012029, STRESS RELAXATION MODULUS, 3 % STRAIN AT 100 SEC.

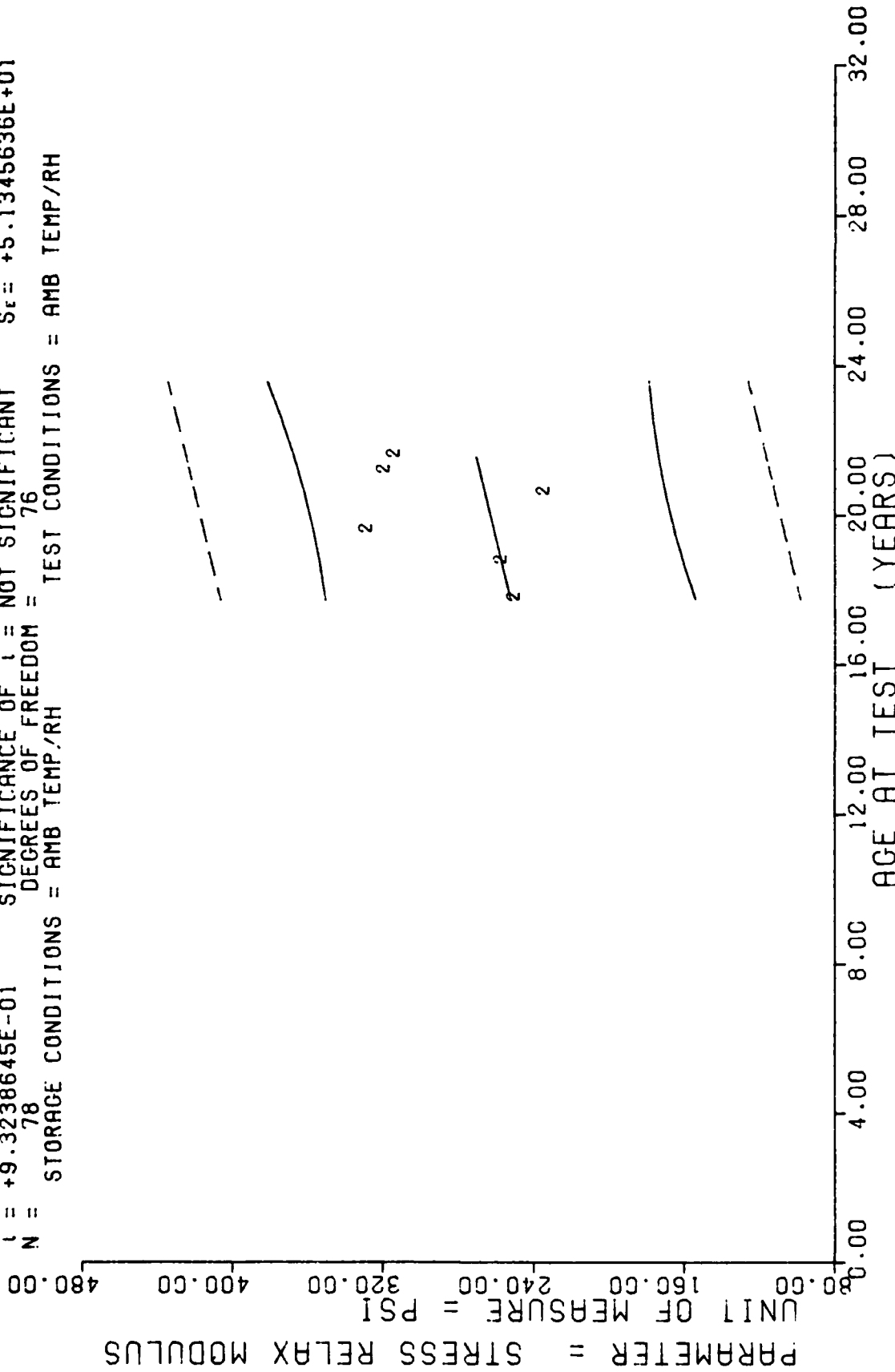
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	9	+3.3144433E+02	+2.4556623E+01	+3.8300000E+02	+2.9700000E+02	+3.2829321E+02
225.0	9	+3.2933325E+02	+2.0706279E+01	+3.7000000E+02	+3.0700000E+02	+3.3420263E+02
235.0	10	+4.1575580E+02	+4.7994907E+01	+4.6000000E+02	+3.0700000E+02	+3.3912719E+02
247.0	36	+2.9558325E+02	+3.0893711E+01	+3.7300000E+02	+2.4300000E+02	+3.4503662E+02
254.0	5	+4.3600000E+02	+7.3375745E+01	+4.9700000E+02	+3.4300000E+02	+3.4848388E+02
259.0	9	+4.1222216E+02	+5.4714663E+01	+4.8700000E+02	+3.2300000E+02	+3.5094628E+02

STAGE 1. DISCTED MCTOR=0012029. STRESS RELAXATION MODULUS.3 X STRAIN AT 100 SEC.

Y = ( ( +1.6823592E+02 ) + ( +3.9385667E-01 ) \* X )  
 F = +8.6934451E-01      SIGNIFICANCE OF F = NOT SIGNIFICANT       $\sigma_f = +5.1302055E+01$   
 R = +1.0634556E-01      SIGNIFICANCE OF R = NOT SIGNIFICANT       $S_R = +4.2241783E-01$   
 I = +9.3238645E-01      SIGNIFICANCE OF I = NOT SIGNIFICANT       $S_I = +5.1345636E+01$   
 N = 78  
 STORAGE CONDITIONS = AMB TEMP./RH      TEST CONDITIONS = AMB TEMP./RH  
 DEGREES OF FREEDOM = 76



STAGE 1, DISC TED MOTOR=0012029, STRESS RELAXATION MODULUS, 3 % STRAIN AT 1000 SEC.



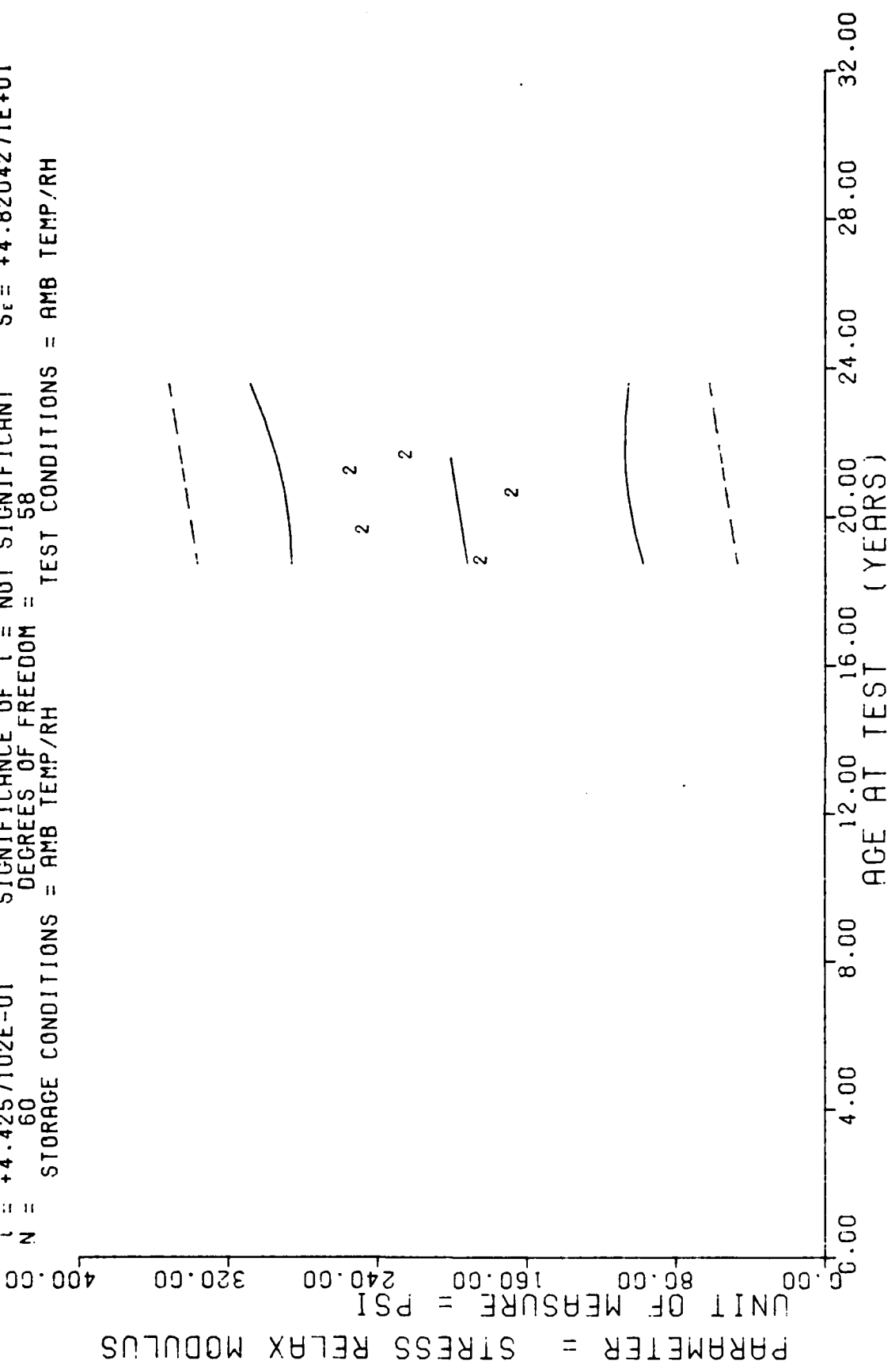
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	9	+2.478888E+02	+1.558400E+01	+2.770000E+02	+2.270000E+02	+2.5212739E+02
225.0	9	+2.547777E+02	+1.780995E+01	+2.930000E+02	+2.330000E+02	+2.5685351E+02
235.0	10	+3.260000E+02	+3.514928E+01	+3.570000E+02	+2.370000E+02	+2.6079223E+02
247.0	36	+2.320277E+02	+3.523836E+01	+3.300000E+02	+1.830000E+02	+2.6551831E+02
254.0	5	+3.165585E+02	+5.227618E+01	+3.600000E+02	+2.500000E+02	+2.6827539E+02
259.0	9	+3.112221E+02	+4.718256E+01	+3.670000E+02	+2.370000E+02	+2.7024462E+02

STAGE 1. DISCTED MCTOR=0012029. STRESS RELAXATION MOCULUS.3 X STRAIN AT 1000 SEC.

F = +1.9586910E-01  
 R = +5.8014545E-02  
 L = +4.4257102E-01  
 N = 60  
 STORAGE CONDITIONS = AMB TEMP/RH  
 Y = (( +1.3344281E+02 ) + ( +2.5820627E-01 ) \* X )  
 SIGNIFICANCE OF F = NOT SIGNIFICANT  
 SIGNIFICANCE OF R = NOT SIGNIFICANT  
 SIGNIFICANCE OF L = NOT SIGNIFICANT  
 DEGREES OF FREEDOM = 58  
 TEST CONDITIONS = AMB TEMP/RH  
 $\sigma_f = +4.7874647E+01$   
 $S_f = +5.8342337E-01$   
 $S_f = +4.8204271E+01$



STAGE 1 DISCATED MOTOR=0012029, STRESS RELAXATION MODULUS, 3% STRAIN AT 10000 SEC.

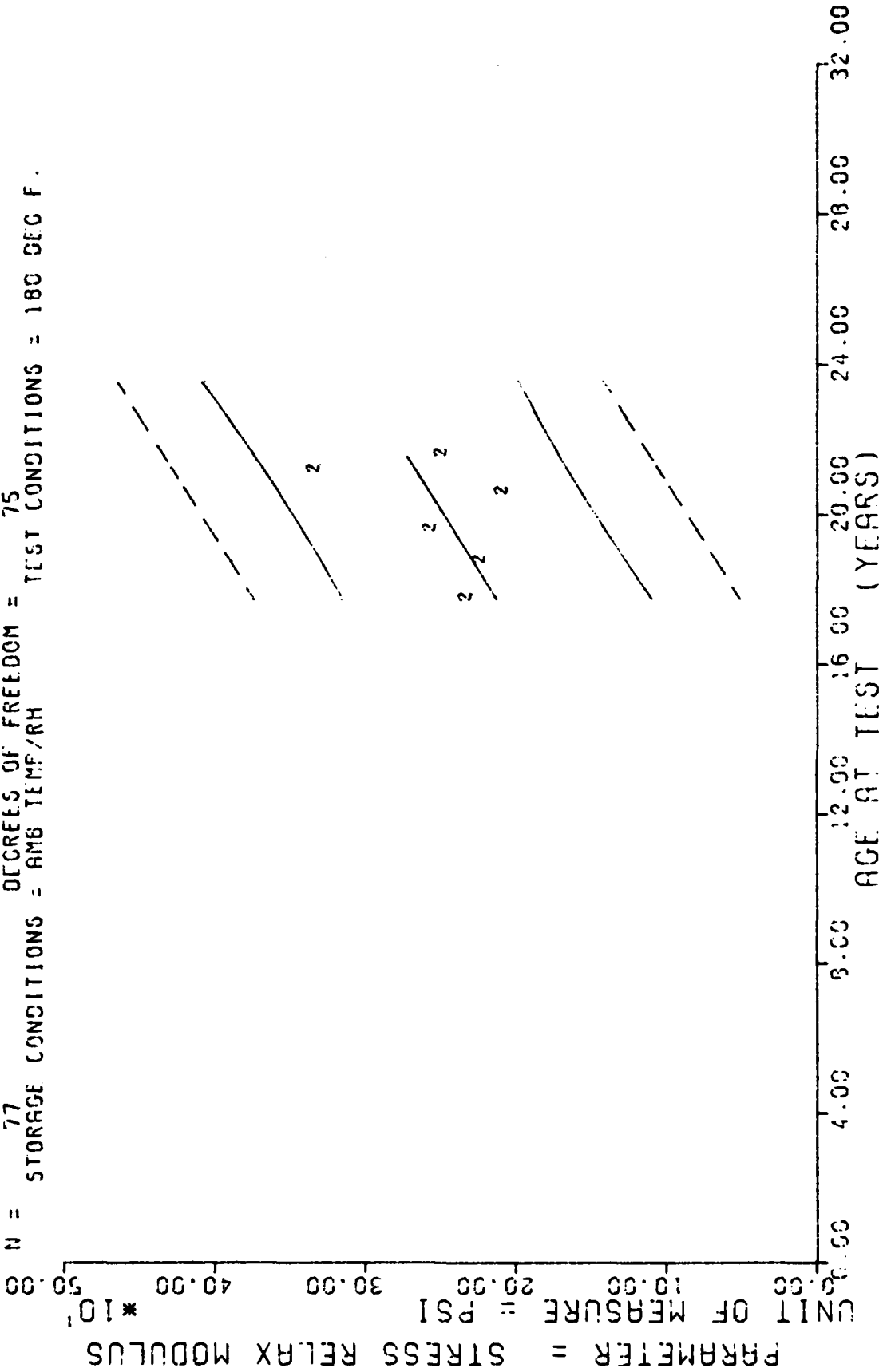
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
225.0	9	+1.816665E+02	+2.4181604E+01	+2.3300000E+02	+1.5300000E+02	+1.9153921E+02
235.0	10	+2.4489999E+02	+2.6876052E+01	+2.7700000E+02	+1.6700000E+02	+1.9412129E+02
247.0	27	+1.6488888E+02	+3.2989897E+01	+2.2700000E+02	+1.0700000E+02	+1.9721975E+02
254.0	5	+2.5135999E+02	+4.5812662E+01	+2.9700000E+02	+1.9300000E+02	+1.9902720E+02
259.0	9	+2.2166665E+02	+4.2130748E+01	+2.6300000E+02	+1.6300000E+02	+2.0031823E+02

STAGE 1. DISCTED MCTOR=0012029. STRESS RELAXATICN MOCULUS.3X STRAIN AT 10000 SEC.

$Y = ( (-6.4406055E+01) + ( +1.2982815E+00 ) * X )$   
 SIGNIFICANCE OF F = SIGNIFICANT  $\sigma = +5.6636557E+01$   
 SIGNIFICANCE OF R = SIGNIFICANT  $S_e = +4.1950846E-01$   
 SIGNIFICANCE OF t = SIGNIFICANT  $S_{t_e} = +5.3687846E+01$   
 DEGREES OF FREEDOM = 75  
 STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = 180 DEG F.



STAGE 1, DISCIED MOTOR=00:2023 STRESS RELAXATION MODULUS, 3 % STRAIN AT 10 SEC.

Figure 91

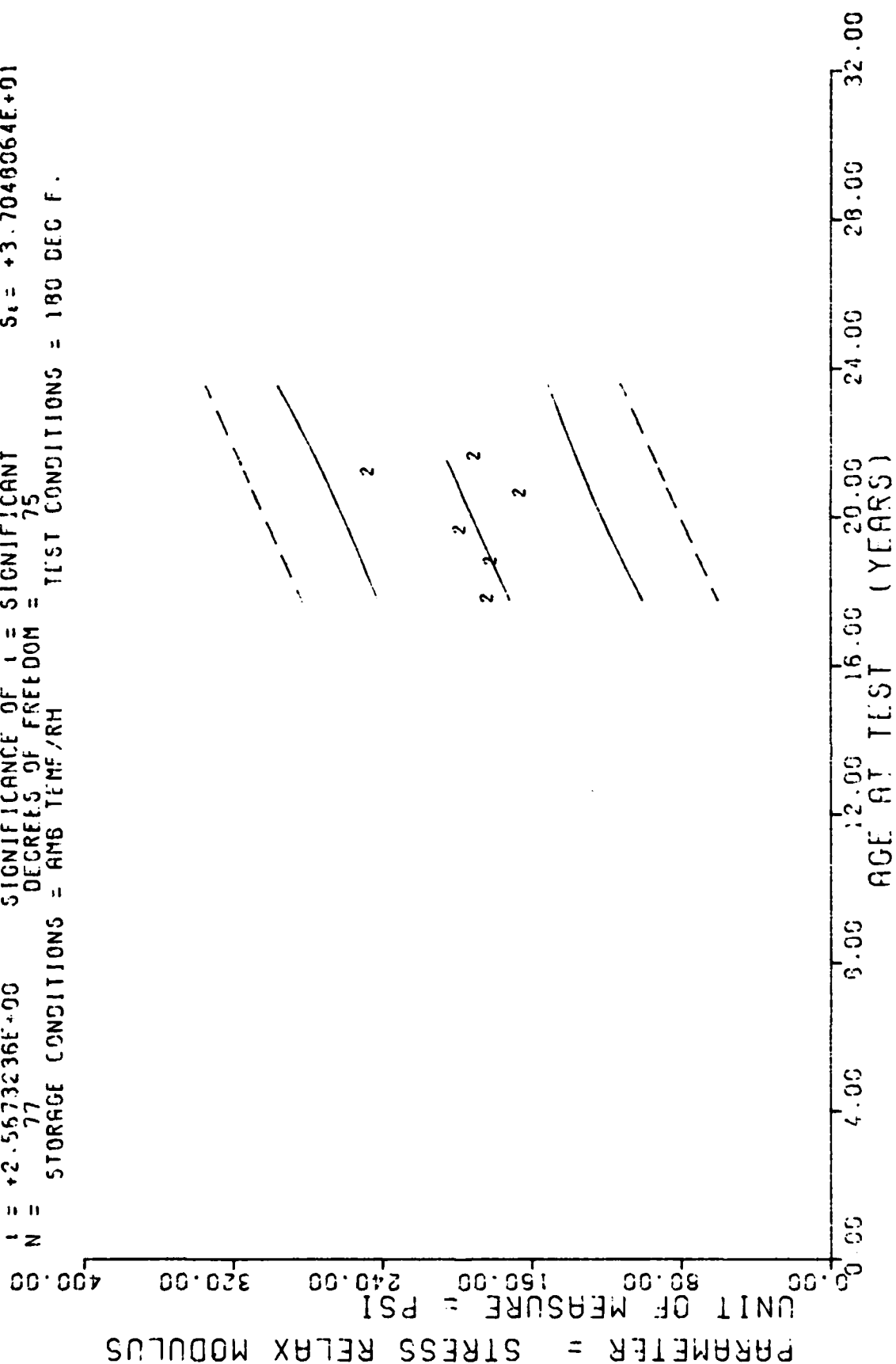
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	9	+2.2577777E+02	+1.0329300E+01	+2.4300000E+02	+2.1300000E+02	+2.1212789E+02
225.0	9	+2.2077777E+02	+2.0306728E+01	+2.4300000E+02	+1.7700000E+02	+2.2770729E+02
235.0	9	+2.5366665E+02	+2.1511624E+01	+2.8700000E+02	+2.2300000E+02	+2.4069009E+02
247.0	23	+2.0604347E+02	+3.1110475E+01	+2.6300000E+02	+1.6700000E+02	+2.5626928E+02
254.0	18	+3.3061108E+02	+4.8429620E+01	+4.0000000E+02	+2.6700000E+02	+2.6535742E+02
259.0	9	+2.4600000E+02	+1.4696938E+01	+2.7700000E+02	+2.2700000E+02	+2.7184863E+02

STAGE 1.DISTEC NCTOR=0012029.STRESS RELAXATION MODULUS.3 X STRAIN AT 10 SEC.

F = +6.5911508E+00  
 R = +2.8422291E-01  
 I = +2.5673236E+00  
 N = 77  
 STORAGE CONDITIONS = AMB TEMP/RH  
 Y = ( ( +1.3140919E+01 ) + ( +7.4320898E-01 ) \* X )  
 SIGNIFICANCE OF F = SIGNIFICANT  
 SIGNIFICANCE OF R = SIGNIFICANT  
 SIGNIFICANCE OF I = SIGNIFICANT  
 DEGREES OF FREEDOM = 75  
 STORAGE CONDITIONS = 180 DEG F.



STAGE 1, DISCED MOTOR=0012029, STRESS RELAXATION MODULUS, 3 % STRAIN AT 50 SEC

Figure 92

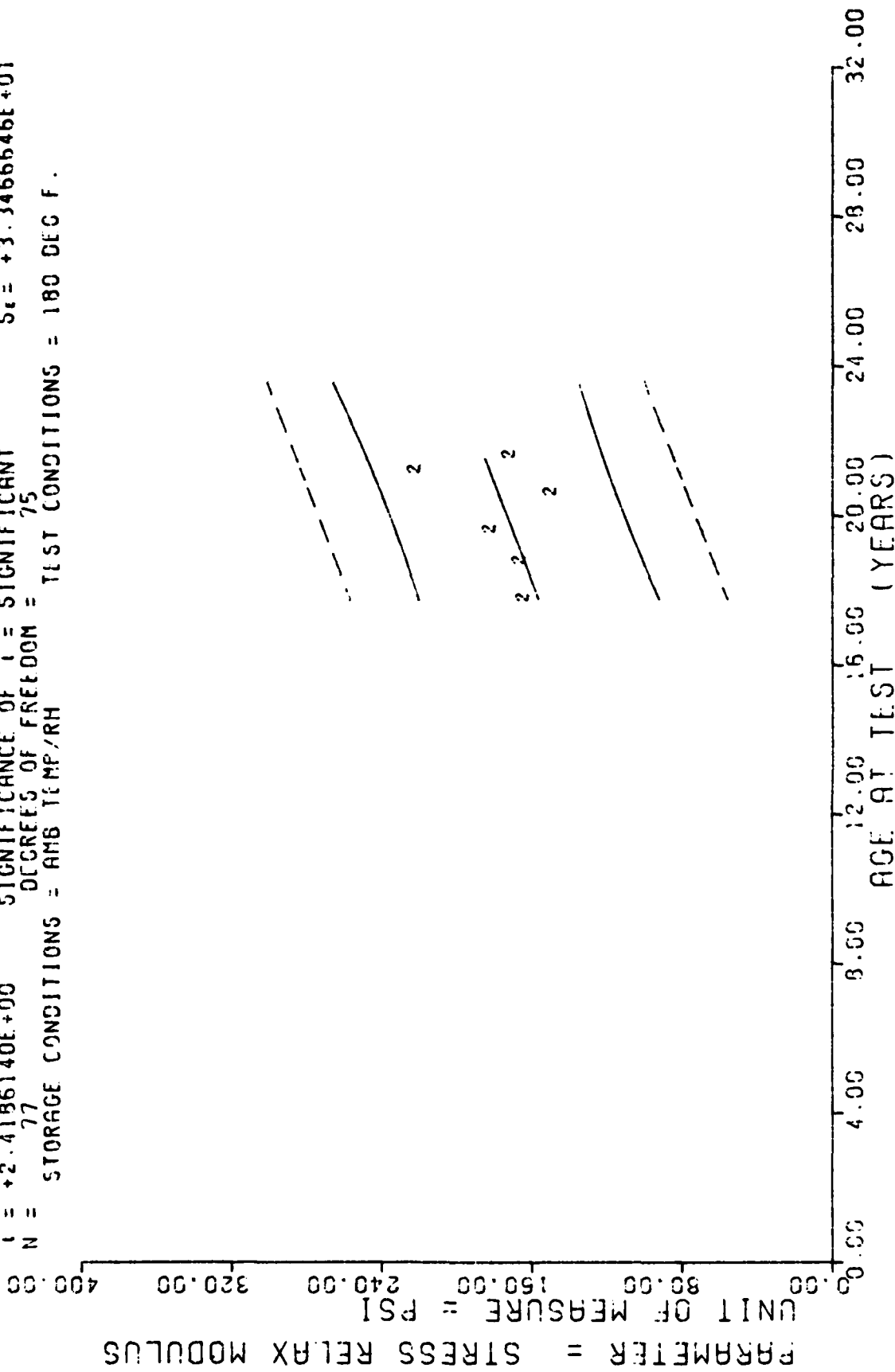
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	9	+1.810000E+02	+5.172040E+00	+1.870000E+02	+1.730000E+02	+1.7144430E+02
225.0	9	+1.792222E+02	+1.508126E+01	+2.030000E+02	+1.530000E+02	+1.8036280E+02
235.0	9	+1.955555E+02	+2.213092E+01	+2.270000E+02	+1.630000E+02	+1.8779490E+02
247.0	23	+1.635217E+02	+2.634538E+01	+2.200000E+02	+1.300000E+02	+1.9671340E+02
254.0	18	+2.450000E+02	+3.141561E+01	+2.970000E+02	+2.070000E+02	+2.0191586E+02
259.0	9	+1.881109E+02	+1.601908E+01	+2.170000E+02	+1.700000E+02	+2.0563191E+02

STAGE 1, DISCTED MCTOR=0012029, STRESS RELAXATION MOCULUS.3 X STRAIN AT 50 SEC.

Y = (1 + 2.1325056E+01) + ( +6.3247521E-01 ) \* X )  
 F = +5.0496937E+00 SIGNIFICANCE OF F = SIGNIFICANT G<sub>t</sub> = +3.4517918E+01  
 R = +2.6698457E-01 SIGNIFICANCE OF R = SIGNIFICANT S<sub>t</sub> = +2.6150316E-01  
 I = +2.4186140E+00 SIGNIFICANCE OF I = SIGNIFICANT S<sub>e</sub> = +3.3466646E+01  
 N = 77 DEGREES OF FREEDOM = 75  
 STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = 180 DEG F.



STAGE 1 DISSECTED MOTOR=0012029, STRESS RELAXATION MODULUS, 3 % STRAIN AT 100 SEC.

Figure 93



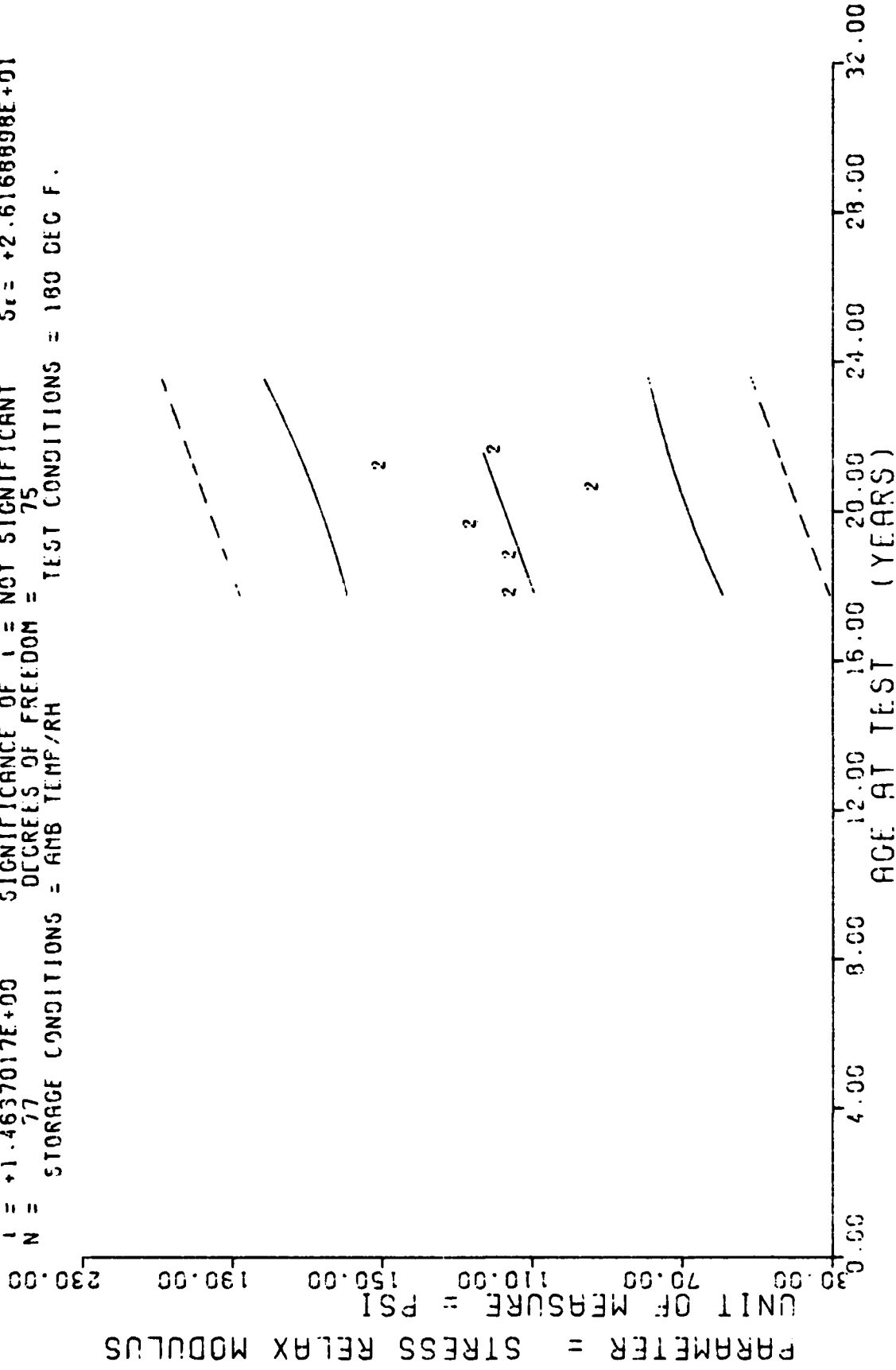
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	9	+1.6211109E+02	+5.5465209E+00	+1.7000000E+02	+1.5300000E+02	+1.5604226E+02
225.0	9	+1.6433332E+02	+1.4645818E+01	+1.9000000E+02	+1.4300000E+02	+1.6363197E+02
235.0	9	+1.8000000E+02	+1.5672315E+01	+2.1000000E+02	+1.5000000E+02	+1.6995672E+02
247.0	23	+1.4747825E+02	+2.3836316E+01	+1.9700000E+02	+1.1700000E+02	+1.7754643E+02
254.0	18	+2.1577777E+02	+2.9312827E+01	+2.7000000E+02	+1.8300000E+02	+1.8197375E+02
259.0	9	+1.6955554E+02	+1.5216036E+01	+1.9700000E+02	+1.5300000E+02	+1.8513613E+02

STAGE 1. DISCTED MCTCR=0012029. STRESS RELAXATION MODULUS.3 X STRAIN AT 100 SEC.

Y = ( ( +4.5542844E+01 ) + ( +2.9929729E-01 ) \* X )  
 F = +2.1424229E+00 SIGNIFICANCE OF F = NOT SIGNIFICANT  $\sigma_1 = +2.6364849E+01$   
 R = +1.6665024E-01 SIGNIFICANCE OF R = NOT SIGNIFICANT  $\sigma_2 = +2.0447969E-01$   
 I = +1.4637017E+00 SIGNIFICANCE OF I = NOT SIGNIFICANT  $\sigma_3 = +2.6168898E+01$   
 N = 77 DEGREES OF FREEDOM = 75  
 STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = 180 DEG F.



STAGE 1. DIGITIZED MOTOR=0012029 STRESS RELAXATION MODULUS. 3 % STRAIN AT 1000 SEC

Figure 94

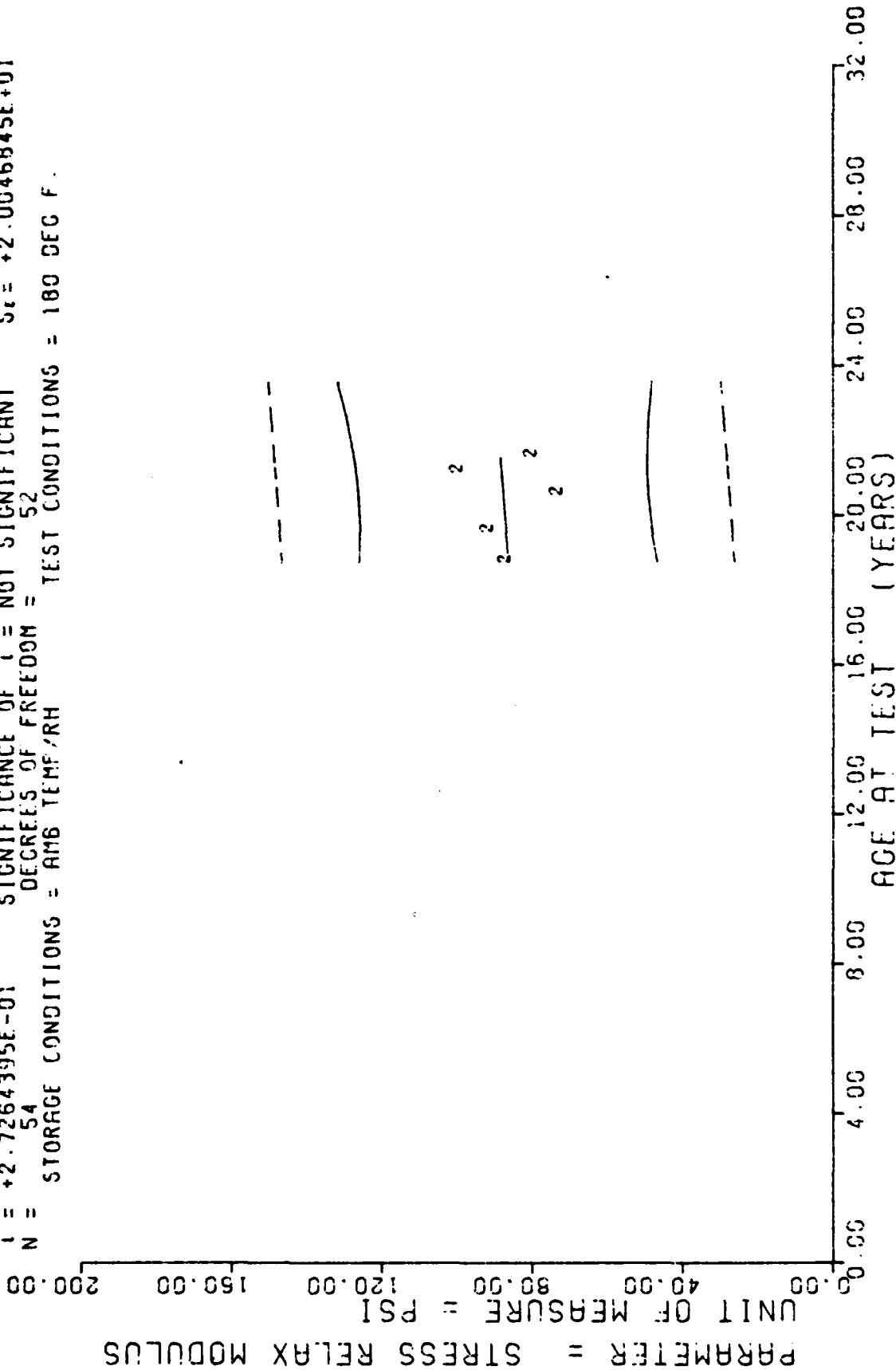
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
213.0	9	+1.1477777E+02	+1.3608616E+01	+1.4000000E+02	+9.7000000E+01	+1.0929316E+02
225.0	9	+1.1477777E+02	+1.2346839E+01	+1.3700000E+02	+9.3000000E+01	+1.1288473E+02
235.0	9	+1.2522221E+02	+1.4228297E+01	+1.4000000E+02	+1.0700000E+02	+1.1587770E+02
247.0	23	+9.2739120E+01	+1.2512602E+01	+1.1700000E+02	+7.0000000E+01	+1.1946926E+02
254.0	18	+1.4944444E+02	+2.3717013E+01	+1.9700000E+02	+1.2000000E+02	+1.2156434E+02
259.0	9	+1.1888888E+02	+1.7186073E+01	+1.5300000E+02	+9.3000000E+01	+1.2306083E+02

STAGE 1. DISCTEC MCTOR=0012029. STRESS RELAXATION MODULUS.3 X STRAIN AT 1000 SEC.

F = +7.4334728E-02  
 R = +3.7781919E-02  
 I = +2.7264395E-01  
 N = 54  
 STORAGE CONDITIONS = AMB TEMP/RH  
 Y = (( +7.2268599E+01 ) + ( +6.2149814E-02 ) \* X )  
 SIGNIFICANCE OF F = NOT SIGNIFICANT  
 SIGNIFICANCE OF R = NOT SIGNIFICANT  
 SIGNIFICANCE OF I = NOT SIGNIFICANT  
 DEGREES OF FREEDOM = 52  
 TEST CONDITIONS = 180 DEG F.



STAGE 1. DISCTED MOTOR=0612029. STRESS RELAXATION MODULUS. 3% STRAIN AT 10000 SEC.

Figure 95

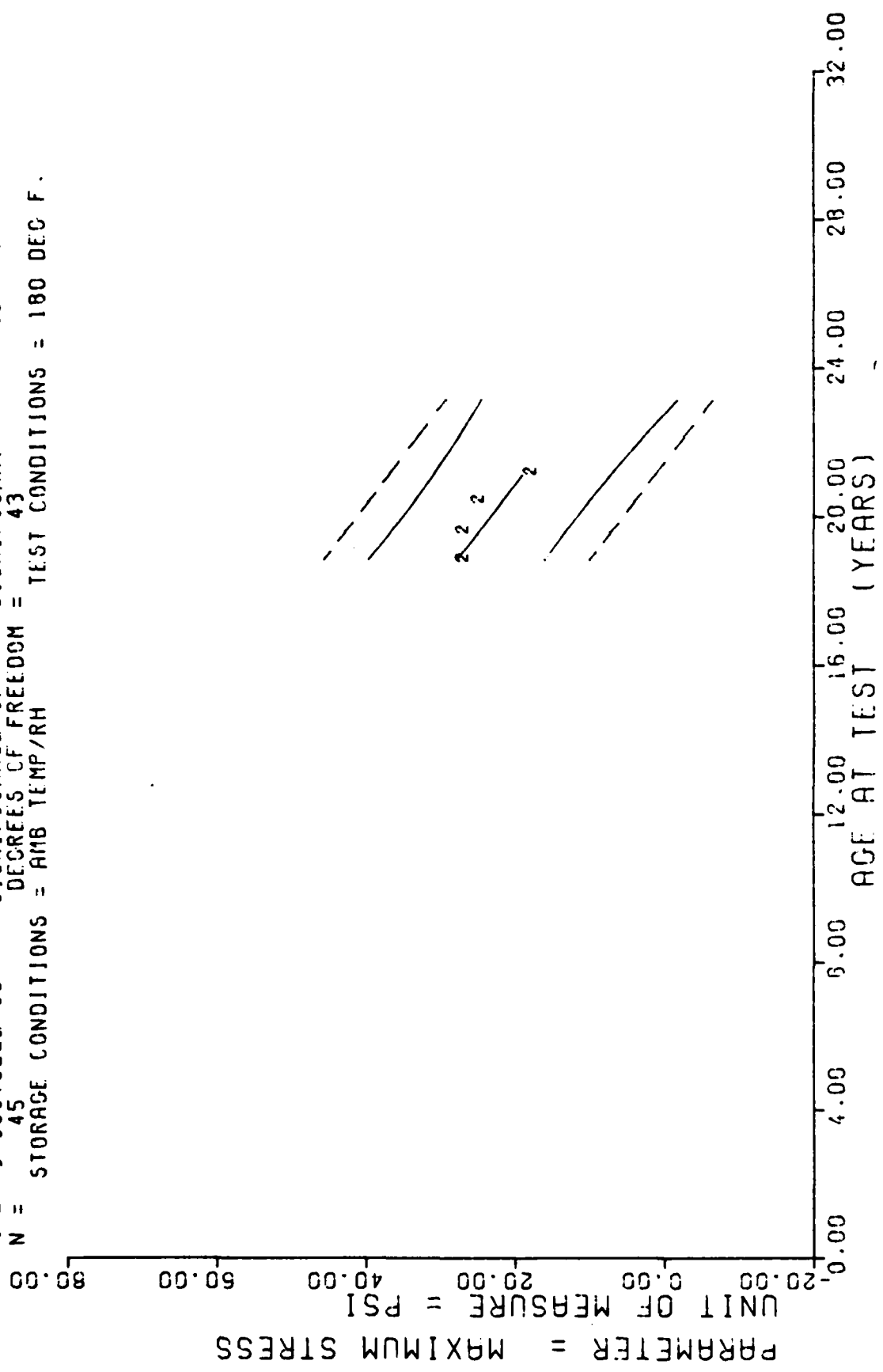
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
225.0	9	+8.586685E+01	+1.6251495E+01	+1.0700000E+02	+7.0000000E+01	+8.6252593E+01
235.0	9	+9.0666656E+01	+1.8874586E+01	+1.2700000E+02	+7.0000000E+01	+8.6874099E+01
247.0	9	+7.2222213E+01	+6.4377359E+00	+8.0000000E+01	+6.0000000E+01	+8.7619888E+01
254.0	18	+9.8666656E+01	+1.8567464E+01	+1.3700000E+02	+7.0000000E+01	+8.8054946E+01
259.0	9	+7.9111099E+01	+2.3518314E+01	+1.2700000E+02	+5.7000000E+01	+8.8365692E+01

STAGE 1. DISCTED MCTOR=0012029. STRESS RELAXATION MOCULUS.3X STRAIN AT 10000 SEC.

$Y = (( +9.9359689E+01 ) + ( -3.1664497E-01 ) * X)$   
 F = +1.4897996E+01      SIGNIFICANCE OF F = SIGNIFICANT       $\sigma_1 = +6.8016719E+00$   
 R = -5.0726180E-01      SIGNIFICANCE OF R = SIGNIFICANT       $S_1 = +8.2036791E-02$   
 t = +3.8597922E+00      SIGNIFICANCE OF t = SIGNIFICANT       $S_t = +5.9293931E+00$   
 N = 45      DEGREES OF FREEDOM = 43  
 STORAGE CONDITIONS = AMB TEMP/RH      TEST CONDITIONS = 180 DEG F.



CASEBOND CONSTANT RATE TENSILE, STAGE 1 DISSECTED, CHS=.002

Figure 96

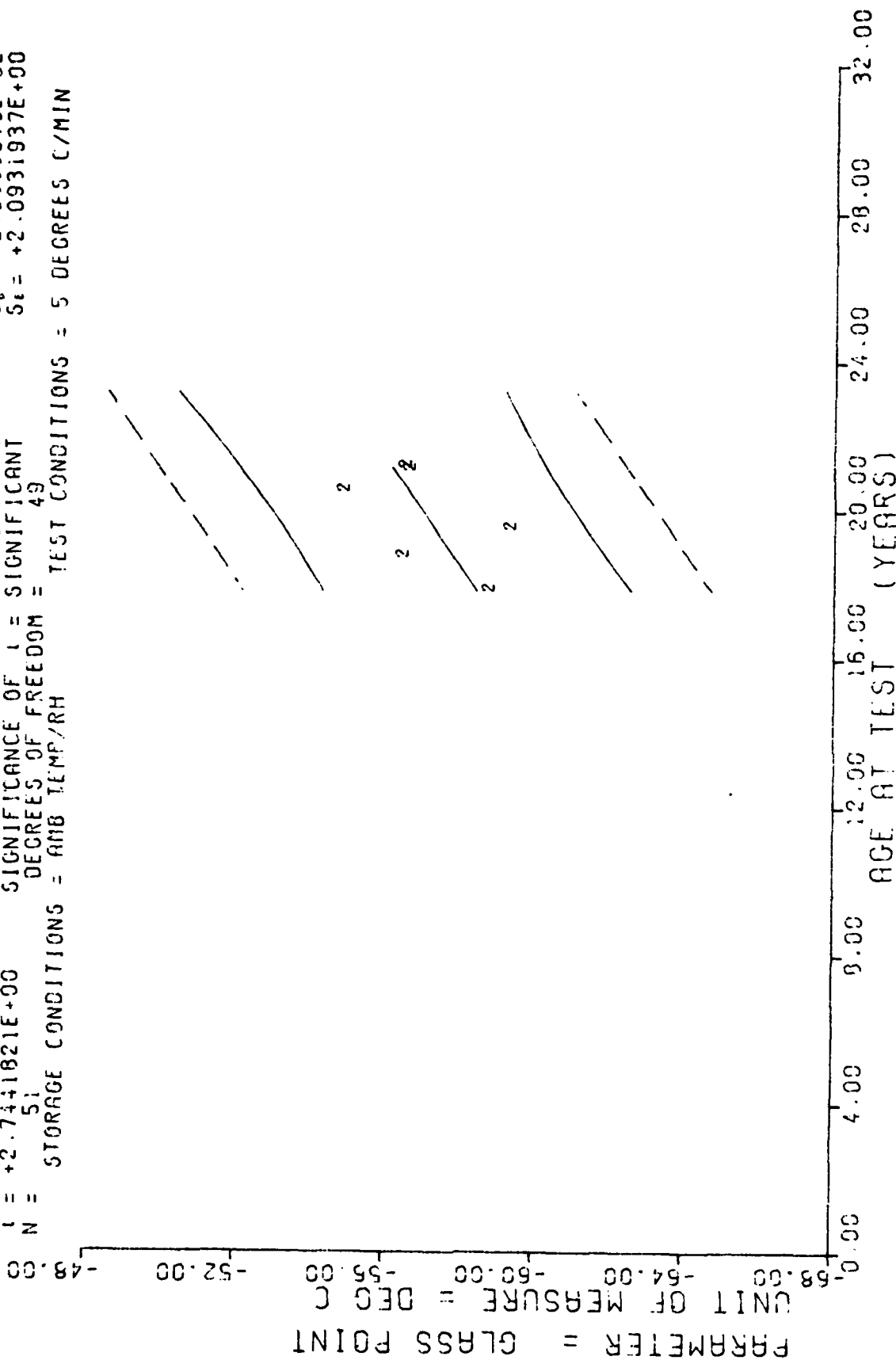
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
226.0	12	+2.6250786E+01	+3.6602412E+00	+3.0465585E+01	+1.9129989E+01	+2.7797912E+01
235.0	12	+2.6286621E+01	+3.5353646E+00	+3.0199596E+01	+1.9669998E+01	+2.4948120E+01
245.0	9	+2.4265548E+01	+1.1445650E+01	+5.2500000E+01	+1.0899999E+01	+2.1781661E+01
254.0	12	+1.7237487E+01	+1.5114957E+00	+1.5779598E+01	+1.3679999E+01	+1.8931854E+01

CASEBOND CONSTANT RATE TENSILE, STAGE 1 DISSECTED, CHS=.002

F = +7.5305356E+00  
 R = +3.6498194E-01  
 I = +2.74+1821E+00  
 N = 51  
 STORAGE CONDITIONS = AMB TEMP/RH  
 Y = ( (-7.0577520E+01) + ( +5.6691992E-02 ) \* X )  
 SIGNIFICANCE OF F = SIGNIFICANT  
 SIGNIFICANCE OF R = SIGNIFICANT  
 SIGNIFICANCE OF I = SIGNIFICANT  
 DEGREES OF FREEDOM = 49  
 TEST CONDITIONS = 5 DEGREES C/MIN  
 G<sub>r</sub> = +2.2256966E+00  
 S<sub>r</sub> = +2.0650975E-02  
 S<sub>e</sub> = +2.0931937E+00



DISSECTED MTR. STAGE 1. THERMAL COEFFICIENT OF LINEAR EXPANSION GLASS POINT

Figure 97



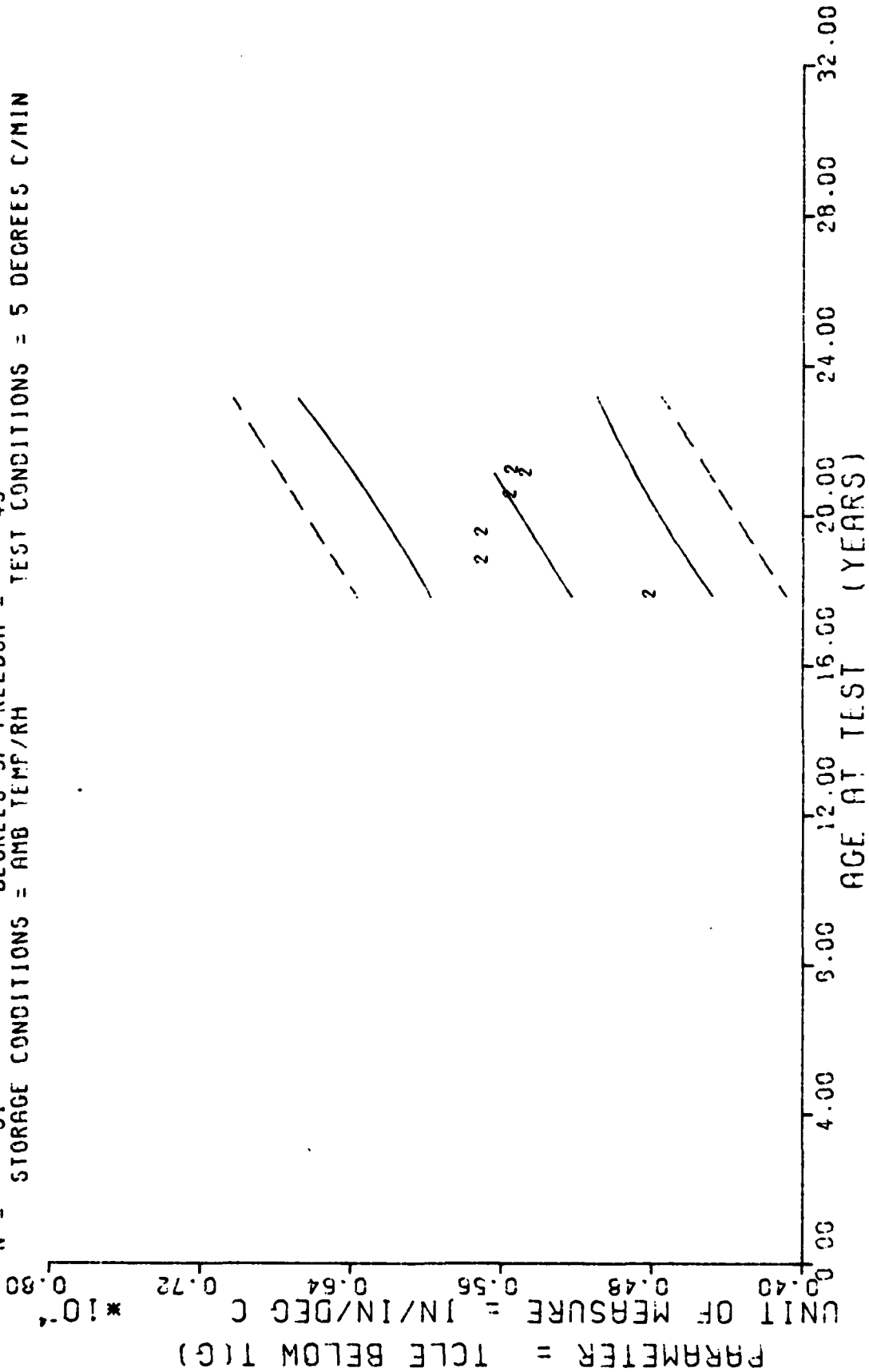
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
214.0	9	-5.6882385E+01	+1.7638342E+00	-5.7000000E+01	-6.3000000E+01	-5.8445419E+01
225.0	12	-5.6582328E+01	+2.3143164E+00	-5.3000000E+01	-6.2000000E+01	-5.7821407E+01
234.0	9	-5.9444442E+01	+1.4240006E+00	-5.7000000E+01	-6.1000000E+01	-5.7711584E+01
246.0	9	-5.5000000E+01	+1.6533123E+00	-5.3000000E+01	-5.8000000E+01	-5.6631286E+01
253.0	9	-5.6777770E+01	+6.6606666E-01	-5.6000000E+01	-5.9000000E+01	-5.6274436E+01
254.0	3	-5.6666665E+01	+5.7735026E-01	-5.6000000E+01	-5.7000000E+01	-5.6177749E+01

DISSECTED MTR. STAGE 1, THERMAL COEFFICIENT OF LINEAR EXPANSION GLASS POINT

Y = (( +3.0191342E-05 ) + ( +1.0310734E-07 ) \* X )  
 F = +7.5930183E+00 SIGNIFICANCE OF F = SIGNIFICANT  $\sigma_1 = +4.0334756E-06$   
 R = +3.6629061E-01 SIGNIFICANCE OF R = SIGNIFICANT  $S_0 = +3.7418155E-08$   
 I = +2.7555431E+00 SIGNIFICANCE OF I = SIGNIFICANT  $S_1 = +3.7912551E-06$   
 N = 51 DEGREES OF FREEDOM = 49  
 STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = 5 DEGREES C/MIN



DISSECTED MTR. STAGE 1. THERMAL COEFFICIENT OF LINEAR EXPANSION BELOW TO

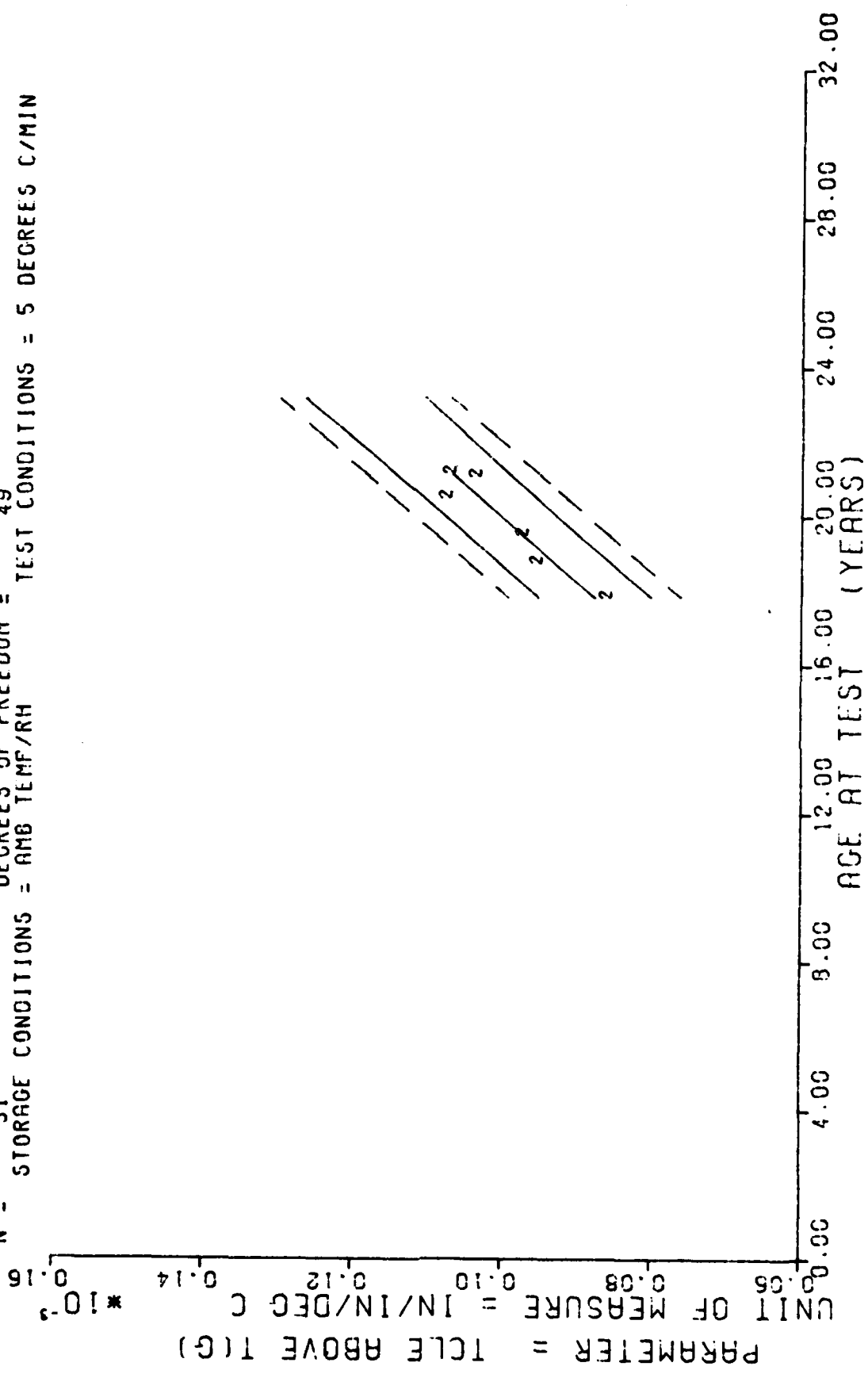
\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
214.0	9	+4.7666589E-05	+2.5800127E-06	+5.1593585E-05	+4.3699998E-05	+5.2256305E-05
225.0	12	+5.0783275E-05	+3.1553858E-06	+6.2199593E-05	+4.8299989E-05	+5.3390482E-05
234.0	9	+5.6755496E-05	+3.2020393E-06	+6.0299593E-05	+5.2199990E-05	+5.4318457E-05
240.0	9	+5.5244338E-05	+1.3766482E-06	+5.7399585E-05	+5.3299998E-05	+5.5555748E-05
253.0	9	+5.4422140E-05	+1.7426126E-06	+5.6499593E-05	+5.1699986E-05	+5.6277404E-05
254.0	3	+5.5166659E-05	+3.0858398E-06	+5.8699595E-05	+5.2999986E-05	+5.6380595E-05

DISSECTED MTR. STAGE 1. THERMAL COEFFICIENT OF LINEAR EXPANSION BELOW TG

F = +1.6059066E+02  
 R = +8.7532840E-01  
 I = +1.2672042E+01  
 N = 51  
 STORAGE CONDITIONS = AMB TEMP/RH  
 Y = (( -1.5165984E-05 ) + ( +4.8043054E-07 ) \* X )  
 SIGNIFICANCE OF F = SIGNIFICANT  
 SIGNIFICANCE OF R = SIGNIFICANT  
 SIGNIFICANCE OF I = SIGNIFICANT  
 DEGREES OF FREEDOM = 49  
 TEST CONDITIONS = 5 DEGREES C/MIN  
 G<sub>1</sub> = +7.8645743E-06  
 S<sub>1</sub> = +3.7912636E-08  
 S<sub>ε</sub> = +3.0413564E-06



DISSECTED MTR, STAGE 1. THERMAL COEFFICIENT OF LINEAR EXPANSION ABOVE 1C

Figure 99

\*\*\* LINEAR REGRESSION ANALYSIS \*\*\*

\*\*\* ANALYSIS OF TIME SERIES \*\*\*

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
214.0	9	+8.5477689E-05	+1.8628938E-06	+8.8999993E-05	+8.3009992E-05	+8.7646243E-05
225.0	12	+9.4758230E-05	+3.5020615E-06	+9.819591E-05	+3.609986E-05	+9.2930775E-05
234.0	9	+9.6677671E-05	+2.3469725E-06	+1.0079999E-04	+9.2999995E-05	+9.7254858E-05
246.0	9	+1.0689994E-04	+4.0425542E-06	+1.1539999E-04	+1.0229999E-04	+1.0302002E-04
253.0	9	+1.0296660E-04	+2.6855885E-06	+1.0709998E-04	+9.8999997E-05	+1.0638304E-04
254.0	3	+1.0639995E-04	+8.6062696E-07	+1.0719998E-04	+1.0549998E-04	+1.0686347E-04

DISSECTED MTF. STAGE 1. THERMAL COEFFICIENT OF LINEAR EXPANSION ABOVE TG

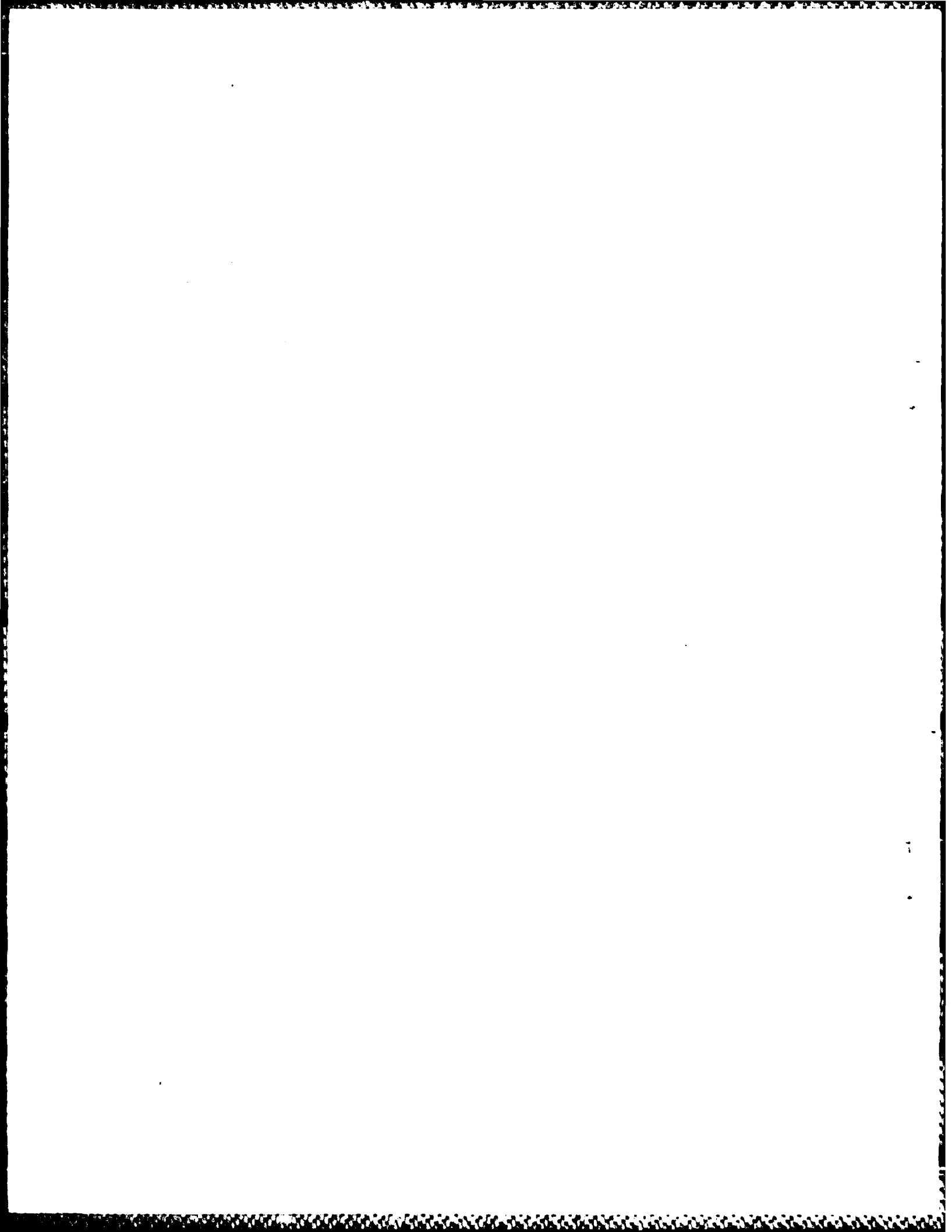
REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER MAQCP REPORT NR 515(86)	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) Surveillance Report, Stage I Dissected Motor/Propellant Motor Number 0012029, Phase VI		5. TYPE OF REPORT & PERIOD COVERED Test Results - Annual
		6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s)	8. CONTRACT OR GRANT NUMBER(s)	
9. PERFORMING ORGANIZATION NAME AND ADDRESS  JOHN A. THOMPSON		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS Propellant Analysis Laboratory Directorate of Maintenance Hill AFB, Utah 84056-5149		12. REPORT DATE February 1986
		13. NUMBER OF PAGES 225
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) Service Engineering Division Directorate of Materiel Management Hill AFB, UT 84056-5149		15. SECURITY CLASS. (of this report)  Unclassified
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report)  Approved for Public Release Distribution Unlimited		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number)  Minuteman Solid Propellant Dissected Motors		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Testing was performed on First Stage Minuteman TP-H1011 propellant and case bond specimens from the dome end of motor S/N 0012029. This testing was performed to assure that deterioration in motor physical and thermal properties could be detected in time to take corrective action before the system performance deteriorated below an acceptable level. Testing was accomplished in accordance with MWRBA Project M34929C. From the analysis of the test results, the propellant and case bond properties have not deteriorated below an acceptable level at the present time and		

for two years beyond the oldest data point

DISTRIBUTION

	<u>NR</u> <u>COPIES</u>
OOALC	
MMGRMP	1
MMGRTD	1
TRW, Norton AFB, CA 92409 Attn. Mr. Sanford Collins, Bldg 526, Room 620	1
BMO/SYT, Norton AFB, CA 92409 Attn: Lt. Paramore	1
DDC (TISIR) Cameron Station, Alexandria, VA 22314	2
AFPRO, Morton/Thiokol P.O. Box 524 Brigham City, UT 84302 (Cy to Larry Hales)	2
AFRPL (MKPB) Edwards AFB, CA 93523	1
SAC (LGBM) Offutt AFB, NB 68113	1
U.S. Naval Ordnance Station, Indian Head, MD 20460 M.E. Loman, Code 3012A4 Air Launched Weapons Branch Weapons Quality Engineering Center	1
CPIA, Johns Hopkins University Applied Physics Lab John Hopkins Road, Laurel, MD 20810 Attn: Mr. Ronald D. Brown	1





END

DTIC

9-86