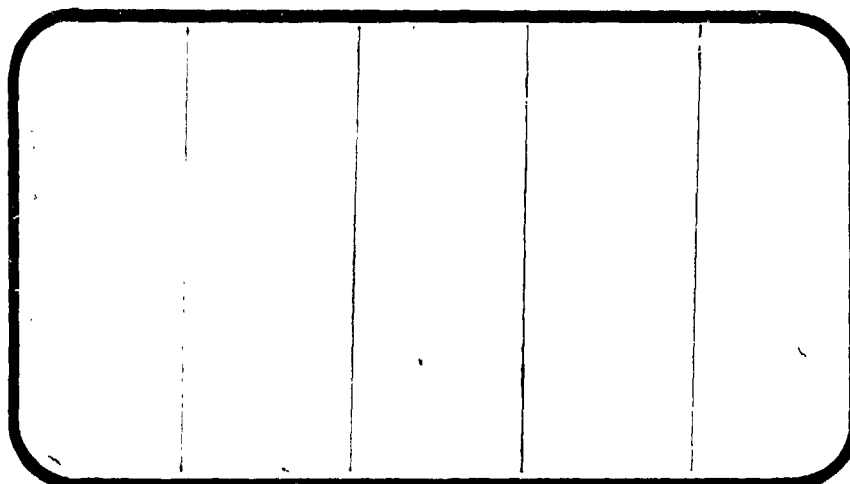




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(NASA-CR-141549) REENTRY STATIC STABILITY
CHARACTERISTICS OF A (MODEL 471)
.005479-SCALE 146-INCH SOLID ROCKET BOOSTER
TESTED IN THE NASA/MSFC 14 BY 14 INCH TWT
(SA8F) (Chrysler Corp.) 897 p HC \$19.25

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SPACE SHUTTLE

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REENTRY STATIC STABILITY CHARACTERISTICS OF A
(MODEL 471) .005479-SCALE 146-INCH SOLID ROCKET
BOOSTER TESTED IN THE NASA/MSFC 14 x 14 INCH TWT
(SA8F)

by

J. D. Johnson, MSFC
W. F. Braddock, Sarat C. Praharaj, NSI

Prepared under NASA Contract Number NAS9-13247

by

Data Management Services
Chrysler Corporation Space Division
New Orleans, La. 70189

for

Engineering Analysis Division
Johnson Space Center
National Aeronautics and Space Administration
Houston, Texas

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FACILITY COORDINATOR:

C. D. Andrews
Marshall Space Flight Center
Mail Stop ED32
Huntsville, Alabama 35812

Phone: (205) 453-2519

PROJECT ENGINEERS:

J. D. Johnson
Marshall Space Flight Center
Mail Stop ED32
Huntsville, Alabama 35812

Phone: (205) 453-2519

W. F. Braddock, S. C. Praharaj
Northrop Services Inc.
6025 Technology Drive
Huntsville, Alabama 35805

Phone: (205) 837-0580

DATA MANAGEMENT SERVICES:

Prepared by: Liaison--J. E. Vaughn
Operations--Maurice Moser, Jr.

Reviewed by: G. G. McDonald, J. L. Glynn *jk.*

Approved: *N. D. Kemp*
N. D. Kemp, Manager
Data Management Services

Concurrence: *J. G. Swider*
J. G. Swider, Manager
Flight Technology Branch

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REENTRY STATIC STABILITY CHARACTERISTICS OF A (MODEL 471)
.005479-SCALE 146-INCH SOLID ROCKET BOOSTER
TESTED IN THE NASA/MSFC 14 x 14 INCH TWT (SA8F)

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ABSTRACT

A force test of a 0.5479 percent scale model of the Space Shuttle Solid Rocket Booster (SRB) was conducted at the Marshall Space Flight Center 14 x 14 inch Trisonic Wind Tunnel. The test, TWT 604 (NASA Series No. SA8F), occupied the tunnel for 247 hours (Oct. 18, 1974, through Nov. 14, 1974, and Nov. 25, 1974, through Dec. 11, 1974). Runs totaled 458. Mach numbers were 0.4, 0.5, 0.6, 0.8, 0.9, 1.0, 1.2, 1.96, 2.74, 3.48, 4.00, and 4.45; angles of attack ranged from -10 to 190 degrees; Reynolds numbers ranged from 5.2 to 7.0 million per foot; roll angles were 0, 45, 90, 135, 180, 225, 270, 315 degrees. The model was tested with such protuberances as the camera capsule, electrical tunnel, attach rings, aft separation rockets, ET attachment structure, and hold-down struts. The model was also tested with the nozzle at gimbals angles of 0, 2.5, and 5 degrees. The influence of a unique heat shield configuration was also determined. Some photographs of model installations in the tunnel were taken. Schlieren photographs were taken of selected configurations at several angles of attack.

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* Coefficients Plotted:			
CNM, CLMM, CA, XCP/L, CYM, CYNM, CBL vs ALPHA			

INTRODUCTION

The wind tunnel test described herein is a continuation of a series of tests that are being conducted to establish the static stability characteristics of the Space Shuttle Solid Rocket Booster (SRB) during reentry. This test was conducted on a 0.5479 percent model of the full scale 146 inch SRB configuration and provides data for the updated baseline SRB configuration described in reference (1). The basic model configurations investigated were as follows:

1. SRB with "CLEAN" attach ring and aft ring (but without protuberances).
2. SRB with all protuberances.
3. SRB with "CLEAN" attach ring and aft ring (but without protuberances) with nose cap removed.
4. SRB with "CLEAN" attach ring and aft ring (but without protuberances) for different nozzle gimbals angles.
5. SRB with all protuberances but without the heat shield.

During this test, data were obtained at Mach numbers from 0.4 to 4.45, angles of attack from -10 to 190 degrees, roll angles from 0 to 315 degrees, Reynolds numbers from 0.2 to 0.46 million.

Other tests which have been conducted to determine static aerodynamic stability characteristics of earlier SRB configurations are: TWT 541, TWT 554, TWT 565, TWT 572, TWT 578, TWT 590 and 595, LaRC 8' TPT Test 655 and 662, LaRC UPWT Test 1087, and Lewis Test 035 (references (2) through (10) respectively).

NOMENCLATURE

<u>SYMBOL</u>	<u>PLOT SYMBOL</u>	<u>DEFINITION</u>	<u>UNITS</u>
A_{b1}		Base area of nozzle	in. ²
A_{b2}		Base area of nose cavity	in. ²
A_{b3}		Exposed base area of shroud (i.e. base area of shroud less base area of nozzle)	in. ²
AF		Abbreviation for axial force	
B.C.		Abbreviation for balance center	
C_A	CA	Total axial force coefficient in the body axis system	
C_{Ab}	CAB	Base axial force coefficient (same in both missile and body axis systems, see section on Data Presentation)	
C_{Am}	CA	Total axial force coefficient in the missile axis system, $F_{Am}/q_\infty S_{ref}$	
C_ℓ	CBL	Rolling moment coefficient in the body axis system	
$C_{\ell m}$	CBL	Rolling moment coefficient in the missile axis system, $M_{Xm}/q_\infty S_{ref} \ell_{ref}$	
C_m	CLM	Pitching moment coefficient in the body axis system	
C_{mm}	CLMM	Pitching moment coefficient in the missile axis system, $M_{Ym}/q_\infty S_{ref} \ell_{ref}$	
C_N	CN	Normal force coefficient in the body axis system	
C_{Nm}	CNM	Normal force coefficient in the missile axis system, $F_{Nm}/q_\infty S_{ref}$	
C_n	CYN	Yawing moment coefficient in the body axis system	
	BREF	Reference span (diameter of the cylindrical section of the model)	

NOMENCLATURE (CONTINUED)

<u>SYMBOL</u>	<u>PLOT SYMBOL</u>	<u>DEFINITION</u>	<u>UNITS</u>
C_{n_m}	CYNM	Yawing moment coefficient in the missile axis system, $M_{Z_m}/q_{\infty} S_{ref} \ell_{ref}$	
$C_{p_{bi}}$	CPB	Base pressure coefficient; $\frac{P_{bi} - P_{\infty}}{q_{\infty}}$, $i = 1, 2, 3$	
C_Y	CY	Side force coefficient in the body axis system	
C_{Y_m}	CYM	Side force coefficient in the missile axis system, $F_{Y_m}/q_{\infty} S_{ref}$	
F_{A_m}		Total axial force in the missile axis system, positive in the negative direction of X_m	lb
F_{N_m}		Normal force in the missile axis system, positive in the negative direction of Z_m	lb
F_{Y_m}		Side force in the missile axis system, positive in the positive direction of Y_m	lb
ℓ_{body}		Length of the body	in.
ℓ_{ref}	LREF	Reference length (diameter of the cylindrical section of the model)	in.
M	MACH	Mach number	
M_{X_m}		Rolling moment in the missile axis system, i.e., moment about the X_m -axis (a positive rolling moment tends to rotate the positive Y_m -axis toward the positive Z_m -axis)	in.-lb
M_{Y_m}		Pitching moment in the missile axis system, i.e., moment about the Y_m -axis (a positive pitching moment tends to rotate the positive Z_m -axis toward the positive X_m -axis)	in.-lb
M_{Z_m}		Yawing moment in the missile axis system, i.e., moment about the Z_m -axis (a positive yawing moment tends to rotate the positive X_m -axis toward the positive Y_m -axis)	in.-lb
MRP		Abbreviation for moment reference point	

NOMENCLATURE (Continued)

<u>SYMBOL</u>	<u>PLOT SYMBOL</u>	<u>DEFINITION</u>	<u>UNITS</u>
NF		Abbreviation for normal force	
P_{bi}		Base pressures	psi
P_t		Free stream total pressure	psi
P_∞		Free stream static pressure	psi
PM		Abbreviation for pitching moment	
q_∞		Free stream dynamic pressure	psi
R_N		Reynolds number based on l_{ref}	
R_N/ft	RN/L	Reynolds number per unit length	million/ft
RM		Abbreviation for rolling moment	
S_{ref}	SREF	Reference area (cross sectional area of the cylindrical section of the model)	in. ²
SF		Abbreviation for side force	
T_t		Tunnel total temperature	°F
X,Y,Z		Body axes system coordinates (for an airplane, the X, Z-plane is the plane of symmetry, the origin of the axes system is the center of gravity or any other convenient point, and the X axis is the airplane longitudinal axis)	
X_{cp}/l	XCP/L	Center of pressure location from nose divided by body length; $\frac{X_{MRP}}{l_{body}} - \frac{C_{m_m} l_{ref}}{C_{N_m} l_{body}}$	
X_m, Y_m, Z_m		Missile axis (see text and Figure 17)	
XMRP	XMRP	Abbreviation for the location of the moment reference point measured from the nose	in.

NOMENCLATURE (Concluded)

<u>SYMBOL</u>	<u>PLOT SYMBOL</u>	<u>DEFINITION</u>	<u>UNITS</u>
YM		Abbreviation for yawing moment	
α		Angle of attack	degrees
α_t	ALPHA	Total angle of attack, angle between the X_m -axis and a vector in the direction of the air flow	degrees
β	BETA	Angle of sideslip	degrees
δ_N	NOZZLE	Deflection angle of the SRB nozzle from the SRB longitudinal centerline in the X-Z plane, positive in the direction to align the SRB nozzle with the undisturbed airstream	degrees
ϕ	PHI	Roll angle, i.e., angle between the missile Y_m -axis and the body Y-axis (from a pilot's viewpoint in an air-plane, a positive roll angle is a clockwise rotation)	degrees
	XS,YS,ZS	Reference dimension system for the SRB in the X, Y, and Z directions	in.
<u>SUBSCRIPTS</u>			
b		Base	
c.g.		Center of gravity	
i		Identifies the location of the base pressure measurements	
m		Missile axis system	
ref		Reference conditions	
t		Total conditions	
•		Free stream conditions	

TEST FACILITY DESCRIPTION

The Marshall Space Flight Center 14" x 14" Trisonic Wind Tunnel is an intermittent blowdown tunnel which operates by high pressure air flowing from storage to either vacuum or atmospheric conditions. A Mach number range from .2 to 5.85 is covered by utilizing two interchangeable test sections. The transonic section permits testing at Mach 0.20 through 2.50, and the supersonic section permits testing at Mach 2.74 through 5.85. Mach numbers between .2 and .9 are obtained by using a controllable diffuser. The range from .95 to 1.3 is achieved through the use of plenum section and perforated walls. Mach numbers of 1.44, 1.93 and 2.50 are produced by interchangeable sets of fixed contour nozzle blocks. Above Mach 2.50 a set of fixed contour nozzle blocks are tilted and translated automatically to produce any desired Mach number in .25 increments.

Air is supplied to a 6000 cubic foot storage tank at approximately -40°F dew point and 500 psi. The compressor is a three-stage reciprocating unit driven by a 1500 hp motor.

The tunnel flow is established and controlled with a servo-actuated gate valve. The controlled air flows through the valve diffuser into the stilling chamber and heat exchanger where the air temperature can be controlled from ambient to approximately 180°F . The air then passes through the test section which contains the nozzle blocks and test region.

Downstream of the test section is a hydraulically controlled pitch sector that provides a total angle-of-attack range of 20° ($\pm 10^{\circ}$). Sting

offsets are available for obtaining various maximum angles of attack up to 25°.

The diffuser section has movable floor and ceiling panels which are the primary means of controlling the subsonic Mach numbers and permit more efficient running supersonically. The sector assembly and supersonic diffuser telescope into the subsonic diffuser to allow easy access to the model and test section.

Tunnel flow is exhausted through an acoustically damped tower to atmosphere or into the vacuum field of 42,000 cubic feet. The vacuum tanks are evacuated by vacuum pumps driven by electric motors rated at a total of 500 hp.

Data are recorded by a solid-state digital data acquisition system. The digital data are transferred to punched cards during the run to be reduced later by a computer to proper coefficient form.

A comprehensive description of the test facility is presented in reference (11).

MODEL DESCRIPTION AND SUPPORT HARDWARE

Model Description

The model, MSFC Model 471, is a 0.5479 percent scale model of a 146-inch diameter right-hand SRB. Details of the model are given in Figure 1. Figure 2 shows the location of the right-hand SRB in the Space Shuttle launch configuration. The SRB consists of a spherically blunt 18° half angle nose cone, a cylindrical body, engine shroud, engine nozzle and protuberances. The protuberances are as follows:

1. Data capsule
2. ET attachment structure
3. Electrical tunnel
4. ET attachment rings (one CLEAN and one with protuberances)
5. Aft ring
6. Aft separation rockets
7. Hold down struts

Details of protuberances are given in Figures 3 and 4.

Some of the important design features of the model are the following:

- o The model was made in four parts: nose, body, engine shroud, and nozzle. Nozzles with different gimbal angles could be changed by merely removing four set-screws which fix the nozzle to the Engine Shroud Section.
- o Nose and base sections are interchangeable for testing at angles of attack below and above 90° .

- o There are two cylindrical bodies: one used for nose and tail mount configurations and the other, made in two parts, with a hole in the side for side mount configurations. Both bodies remain mounted in the same position with respect to the balance. When nose and base are interchanged, the distance from the nose to the balance center changes slightly. This is illustrated in Figure 5.
- o The attachment rings, one of which was fixed to the body throughout the test, have mounting locations on each end of both bodies so they can maintain their position relative to the nose and engine. A "CLEAN" slotted ring was necessary for the side mount model installation in the tunnel.
- o Roll angles were changed in the case of nose and tail mounts, by rotating the whole body about the balance axis and in the case of side mount by rotating the nose, engine/shroud section and mounting the electrical tunnel and attach ring at different angular locations on the body.
- o In all model installations, except in the case of tail-mount conditions, a plug was used to close the 0.641 inch diameter cavity inside the body in order to eliminate flow through the balance cavity. A cross section drawing of the nozzle cavity and body plug is presented in Figure 6.
- o Three different nozzle configurations were used during the test. One was a straight nozzle with no deflection (see Figure 6). Two deflected nozzles, with gimbal angles of 2.5 and 5.0 degrees, were

also used. A schematic drawing of a deflected nozzle is presented in Figure 7. The effective pivot point was located 0.626 inch from the nozzle exit plane. When used, the heat shield was attached to the nozzle as shown; therefore, it gimbaled with the nozzle.

- o Three nose sections were used for the test. One was a complete nose cone used for the model when it was tail-mounted and side-mounted. The second nose cone was truncated and was used to simulate the SRB configuration after drogue chute deployment. The third one had a through hole of 0.625 inch diameter, necessary for sting passage when the model was nose-mounted.

Support Hardware Description

The test model (MSFC 471) was designed to be used in conjunction with the MSFC 14-Inch TWT double knuckle sting system. When the included angle between the model and tunnel centerline was in the range $\alpha_t = 0^\circ$ to 50° and $\alpha_t = 130^\circ$ to 180° , the model was tail- and nose-mounted, respectively, on balance adapters 80M42509 and 113. For angles in the range $\alpha_t = 50^\circ$ to 130° , the model was side-mounted on balance adapter 118. Since the nose and base sections of the model are interchangeable, testing from $\alpha_t = 0^\circ$ to 50° and $\alpha_t = 50^\circ$ to 90° with the nose facing upstream and $\alpha_t = 130^\circ$ to 190° and $\alpha_t = 90^\circ$ to 130° with the nose facing downstream were accomplished with the same sting and balance setup. Along with the balance adapters 80M42509, 113 and 118, sting adapters 1 and 3 were utilized, respectively. The angle of attack ranges, sting arrangements and

adapters are summarized in Table I. Figures 8 and 9 present sketches of the two support hardware setups. Figures 10, 11, 12, and 13 are photographs of typical model installations.

The model and sting combinations have been designed to keep the model out of the tunnel boundary layer and centered as close as practicable in the test section.

Typical model-balance-adapter setups for the entire range of angle of attack are presented in Figures 14 and 15.

CONFIGURATIONS INVESTIGATED

The run schedule is presented in Table II and contains the data set collation identifiers for the test and gives the nominal conditions at which various configurations were tested. These conditions are angle of attack (α_t), roll angle (ϕ), nozzle gimbal angle (δ_N), Mach number (M), and free stream total pressure (P_t).

The tunnel conditions are presented in Table III for the desired Mach numbers along with balance capacities.

The different configurations indicated in Table II are as follows:

1. SRB with "CLEAN" attach ring and aft ring (but without protuberances).
2. SRB with all protuberances.
3. SRB with "CLEAN" attach ring and aft ring (but without protuberances) with nose cap removed.
4. SRB with "CLEAN" attach ring and aft ring (but without protuberances) for different nozzle gimbal angles.
5. SRB with all protuberances but without the heat shield.

DATA ACQUISITION AND REDUCTION

Parameters measured and recorded during the test were as follows:

1. Tunnel conditions (P_t , P_∞ , T_t)
2. Sting attitude
3. Base and cavity pressures (for $-10^\circ \leq \alpha_t \leq 50^\circ$ and $130^\circ \leq \alpha_t \leq 180^\circ$ only)
4. Six-component force and moment data.

Tunnel conditions were used to calculate the Mach number, the dynamic pressure and the Reynolds number; the sting attitude with deflection calibrations were used to calculate the model angle of attack; the base pressures were used to calculate base pressure coefficients; and the six-component force and moment data (measured by MSFC balance number 239) were used to calculate static aerodynamic stability coefficients.

The force and moment data were corrected for model weight tares but not flow angularity.

Three base pressures were measured for angles of attack from -10 to 50 degrees and three nose cavity pressures were measured for angles from 130 to 190 degrees. Location of base pressure tubes and nose cavity pressure tubes are indicated in Figure 16. A tabulation of the base pressure coefficients ($C_{p_{b_i}}$) is included in the appendix of this report.

All model force and moment data obtained from the six-component balance were resolved in the missile axis system and presented in the form of nondimensional coefficients. These coefficients, defined in the

nomenclature of this report, are C_{N_m} , C_{m_m} , C_{A_m} , C_{Y_m} , C_{n_m} and C_{ℓ_m} . Figure 17 illustrates the missile axis system (X_m , Y_m , Z_m). The missile axis system is a non-rolling body axis system that is frequently used in wind tunnel tests and studies of missile flight dynamics. It is a system of axes that does not rotate about the missile or model longitudinal axis and is identical with the body axis system at zero roll angle.

Six-component static aerodynamic coefficients in the missile axis system may be converted to coefficients in the body axis system by using the following equations:

$$\text{Normal Force: } C_N = C_{N_m} \cos \phi + C_{Y_m} \sin \phi$$

$$\text{Pitching Moment: } C_m = C_{m_m} \cos \phi + C_{n_m} \sin \phi$$

$$\text{Axial Force: } C_A = C_{A_m}$$

$$\text{Side Force: } C_Y = C_{Y_m} \cos \phi - C_{N_m} \sin \phi$$

$$\text{Yawing Moment: } C_n = C_{n_m} \cos \phi - C_{m_m} \sin \phi$$

$$\text{Rolling Moment: } C_{\ell} = C_{\ell_m}$$

The reference dimensions used to calculate the static stability coefficients are summarized in Table IV.

If base axial force coefficients are desired, the equations to be used are:

$$C_{Ab} = - \frac{A_{b1}}{S_{ref}} C_{P_{b1}} - 0.5 \frac{A_{b3}}{S_{ref}} C_{P_{b2}} - 0.5 \frac{A_{b3}}{S_{ref}} C_{P_{b3}}, \quad -10^\circ \leq \alpha_t \leq 50^\circ$$

(Tail Mount)

$$C_{Ab} = 0.5 \frac{A_{b2}}{S_{ref}} C_{P_{b1}} + 0.25 \frac{A_{b2}}{S_{ref}} C_{P_{b2}} + 0.25 \frac{A_{b2}}{S_{ref}} C_{P_{b3}}, \quad 130^\circ \leq \alpha_t \leq 190^\circ$$

(Nose Mount)

The base areas are listed in Table IV.

DATA PRESENTATION

Data are presented in two forms: (1) aerodynamic static stability data are plotted as a function of angle of attack and (2) data tables are presented in the appendix.

Data Plots

The plots of aerodynamic stability coefficients and center of pressure location are presented in the following groups.

- o Static stability characteristics of SRB with clean attach and aft rings.
- o Static stability characteristics of SRB with all protuberances.
- o Effect of RN on SRB static stability characteristics.
- o Effect of nose cap on SRB static stability characteristics.
- o Effect of nozzle gimbal angle on SRB static stability characteristics.
- o Effect of heat shield on SRB static stability characteristics.

Table V presents a summary of the Mach numbers and type of aerodynamic data plots that are available for each of the above configurational data plot groups. Each plot contains information that describes the dataset symbol, the configuration description, roll angle, Mach number and reference information.

Several datasets were joined to form a single dataset that has a combined angle of attack sweep of all the joined datasets. As an example, dataset R1H001, which has an alpha range from -10° to 10° , was joined with datasets R1H002 (alpha range 10° to 30°) and R1H003 (alpha range 30° to 50°) to form a single dataset, ALPHA01 with a total alpha range from -10° to 50° . Table VI delineates all the joined datasets.

Data Tables

In the appendix are data tables for each of the 458 runs, presented in order of the dataset number. Each table contains a listing of the six static stability coefficients, three base pressure coefficients, and center of pressure location. Each table also contains information that describes the model configuration, the model attitudes, the tunnel flow conditions, and model reference dimensions.

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Table I

ALPHA SCHEDULE AND STING COMBINATION NOMENCLATURE

α_t SCHEDULE	α_t RANGE**	NOMINAL PREBEND ANGLE, DEG.	STING NUMBER	STING ADAPTER NO.	HOLE	BALANCE ADAPTER NO.	HOLE
A	-10°-10°	0	1	1	53	113	1
B	10°-30°	20	1	1	51	113	3
C	30°-50°	40	1	1	54	113	4
D	50°-70°	60	3	3	63	113	A-3
E	70°-90°	80	3	3	61	118	A-2
*F	80°-100°	90	3	3	61	118	A-1
*G	90°-110°	80	3	3	61	118	A-2
*H	110°-130°	60	3	3	63	113	A-3
*I	130°-150°	40	1	1	54	113	4
*J	150°-170°	20	1	1	51	113	3
*K	170°-190°	0	1	1	53	113	1

*Model nose and base sections are interchanged for these setups.

**Alpha ranges were run in 2° increments.

Table III
TEST CONDITIONS AND BALANCE CAPABILITY

TEST: TWT 604				DATE: Oct. 18, 1974	
TEST CONDITIONS					
MACH NUMBER	REYNOLDS NUMBER (per unit length)	DYNAMIC PRESSURE (pounds/sq. inch)	STAGNATION TEMPERATURE (degrees Fahrenheit)	STAGNATION PRESSURE (pounds/sq inch)	
0.40	3.00×10^6 /ft	1.85	100	18	
0.40	5.40	3.33	100	32	
0.50	4.00	2.50	100	22	
0.60	4.95	4.35	100	22	
0.80	5.90	6.49	100	22	
0.90	6.25	7.37	100	22	
1.00	6.50	8.14	100	22	
1.20	6.62	9.14	100	22	
1.96	6.92	10.02	100	28	
2.74	4.70	6.36	100	30	
3.48	6.96	6.36	100	60	
4.00	6.30	5.53	100	75	
4.45	5.20	3.83	100	75	
BALANCE UTILIZED: <u>MSFC 239</u>					
	CAPACITY:	ACCURACY:	COEFFICIENT TOLERANCE: $q_{\infty} = 10$ psi		
NF	<u>200 lbs.</u>	<u>+ 1.0 lb.</u>	<u>+ 0.2</u>		
SF	<u>100 lbs.</u>	<u>+ 0.5 lb.</u>	<u>+ 0.1</u>		
AF	<u>50 lbs.</u>	<u>+ 0.25 lb.</u>	<u>+ 0.05</u>		
PM	<u>196 in.-lbs.</u>	<u>+ 1.0 in.-lb.</u>	<u>+ 0.25</u>		
RM	<u>98 in.-lbs.</u>	<u>+ 0.5 in.-lb.</u>	<u>+ 0.125</u>		
YM	<u>50 in.-lbs.</u>	<u>+ 0.25 in.-lb.</u>	<u>+ 0.063</u>		
COMMENTS: Accuracy based on <u>+ 0.5%</u> of balance capacity					

TABLE IV
REFERENCE DIMENSIONS

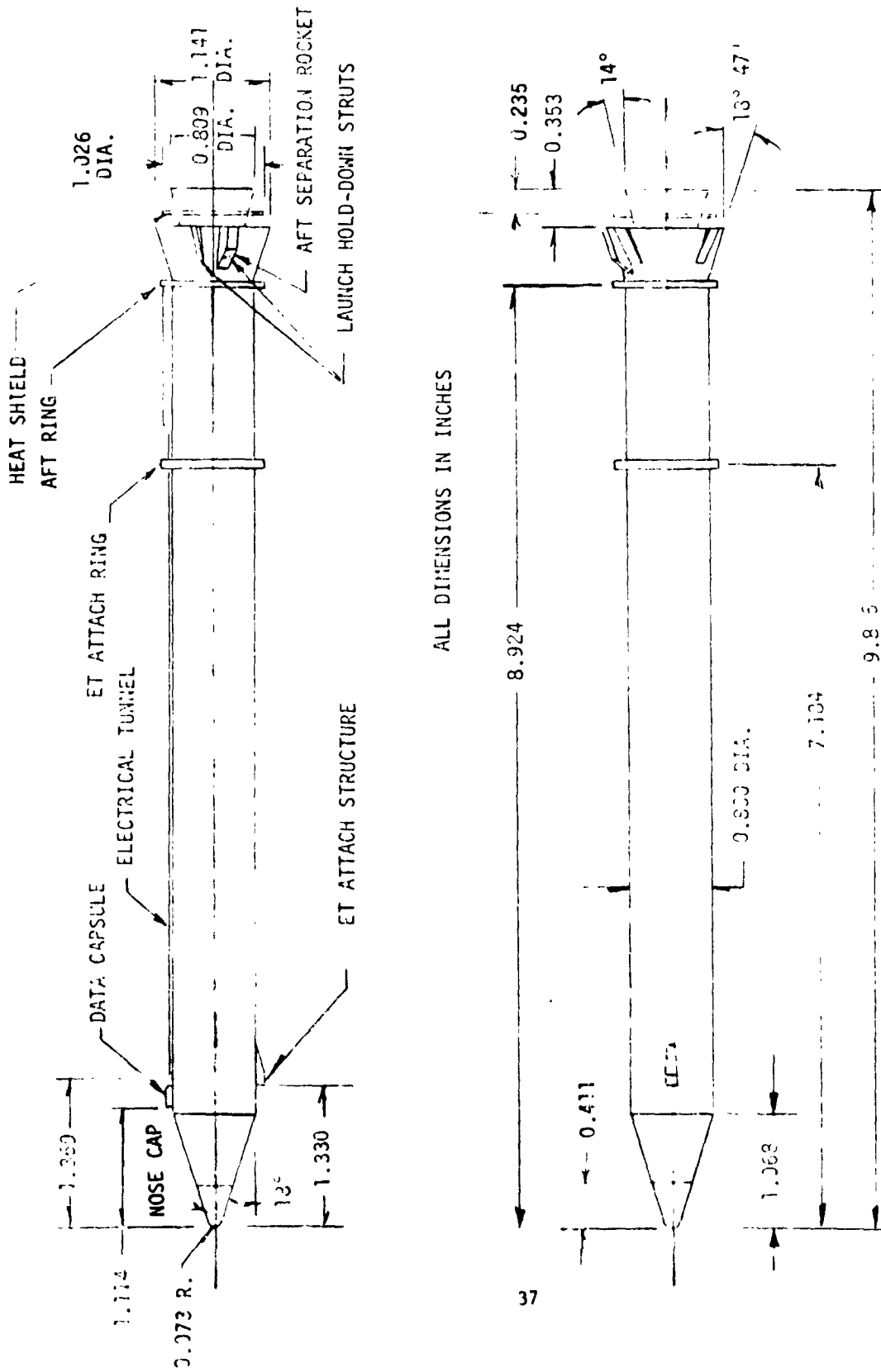
PARAMETER	FULL SCALE	MODEL SCALE
Reference Area, S_{ref}	115.261 ft. ²	0.503 in. ²
Reference Length, l_{ref}	146 in.	0.800 in.
Moment Reference Point XMRP (from Nose)	1044 in.	5.721 in.
Base Areas		
Nozzle Exposed Area A_{b1}	118.893 ft. ²	0.514 in. ²
Nose Cavity Area A_{b2}	N/A	0.323 in. ²
Shroud Exposed Area A_{b3}	117.527 ft. ²	0.508 in. ²

Table V. PLOT SUMMARY

PLOT GROUP	DATA PLOTTED		MACH NUMBERS											
	LONG. COEFF.	LAT. COEFF. x_{cp}/ℓ	0.4	0.5	0.6	0.8	0.9	1.0	1.2	1.96	2.74	3.48	4.00	4.45
SRB with CLEAN attach and aft rings	X	X	X	X	X	X	X	X	X	X	X	X	X	X
SRB with all protuberances	X	X	X		X		X		X		X		X	
Effect of RN	X	X	X											
Effect of nose cap	X		X	X										
Effect of nozzle gimbal angle	X				X				X		X		X	
Effect of heat shield	X	X	X		X		X		X		X		X	

TABLE VI. JOINED DATASET SCHEDULE

JOINED DATASET	DATASETS JOINED	JOINED ALPHA RANGE
AlHA01	AlH001 + AlH002 + AlH003	-10° to 50°
AlHB01	AlH004 + AlH006	50° to 90°
AlHC01	AlH011 + AlH012	90° to 130°
AlHD01	AlH016 + AlH018 + AlH019	130° to 190°
AlHC02	AlH021 + AlH022	90° to 130°
AlHA03	AlH023 + AlH024 + AlH025	-10° to 50°
AlHC03	AlH027 + AlH028	90° to 130°
AlHD03	AlH029 + AlH030 + AlH031	130° to 190°
AlHA04	AlH032 + AlH033	-10° to 10°, 30° to 50°
AlHA05	AlH037 + AlH038 + AlH039	-10° to 50°
AlHC05	AlH041 + AlH042	90° to 130°
AlHD05	AlH043 + AlH044 + AlH045	130° to 190°
AlHA06	AlH046 + AlH047	-10° to 10°, 30° to 50°
AlHA07	AlH051 + AlH052 + AlH053	-10° to 50°
AlHC07	AlH055 + AlH056	90° to 130°
AlHD07	AlH057 + AlH058 + AlH059	130° to 190°
AlHA08	AlH063 + AlH064 + AlH065	-10° to 50°
AlHC08	AlH067 + AlH068	90° to 130°
AlHD08	AlH069 + AlH070 + AlH071	130° to 190°
AlHD09	AlH075 + AlH076 + AlH077	130° to 190°
AlHD10	AlH081 + AlH082 + AlH083	130° to 190°
AlHC11	AlH084 + AlH085	90° to 130°
AlHD11	AlH086 + AlH087	130° to 170°
AlHC12	AlH088 + AlH089	90° to 130°
AlHD12	AlH090 + AlH091	130° to 170°
AlHC13	AlH092 + AlH093	90° to 130°
AlHD13	AlH094 + AlH095	130° to 170°



ALL DIMENSIONS IN INCHES

.005479 SCALE

Figure 1. GENERAL ARRANGEMENT OF SRB MODEL

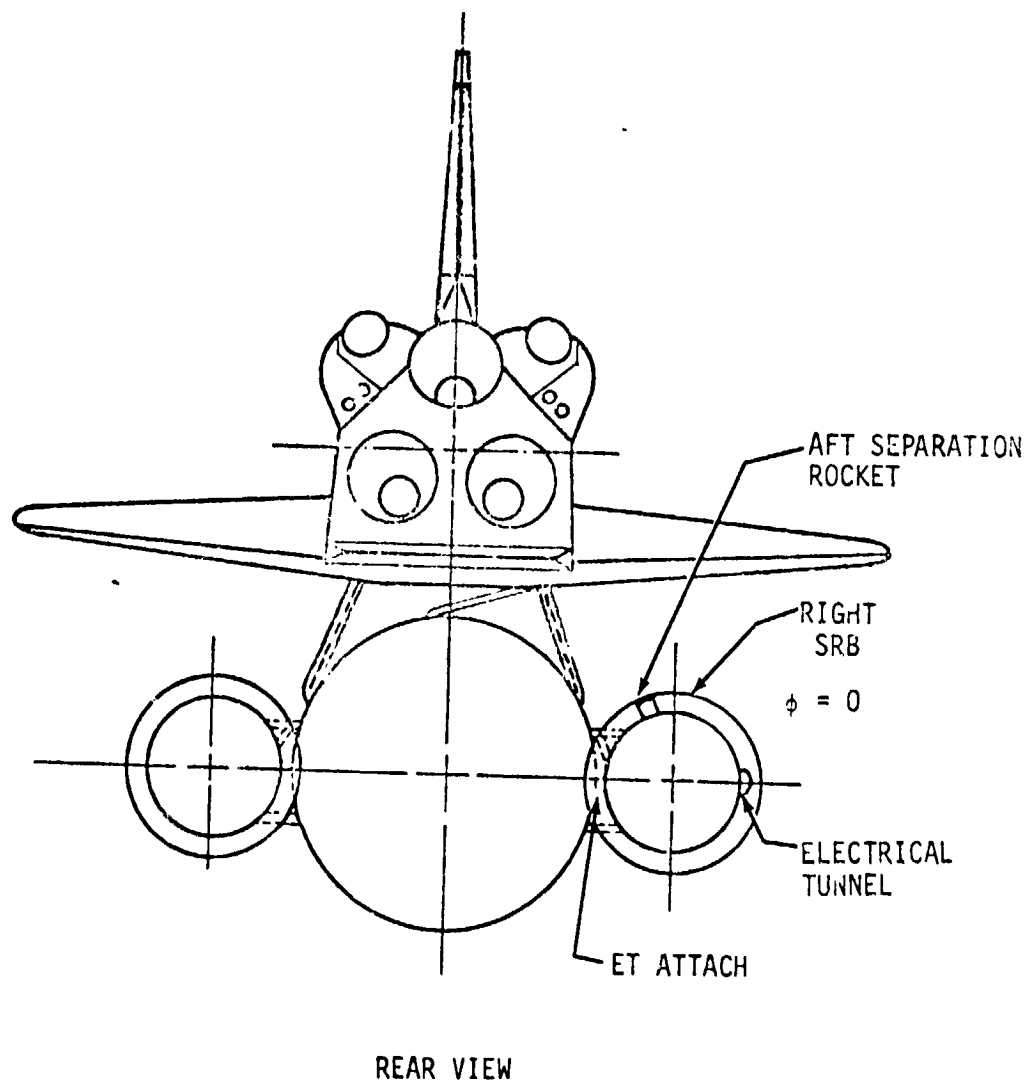


Figure 2. SPACE SHUTTLE LAUNCH CONFIGURATION

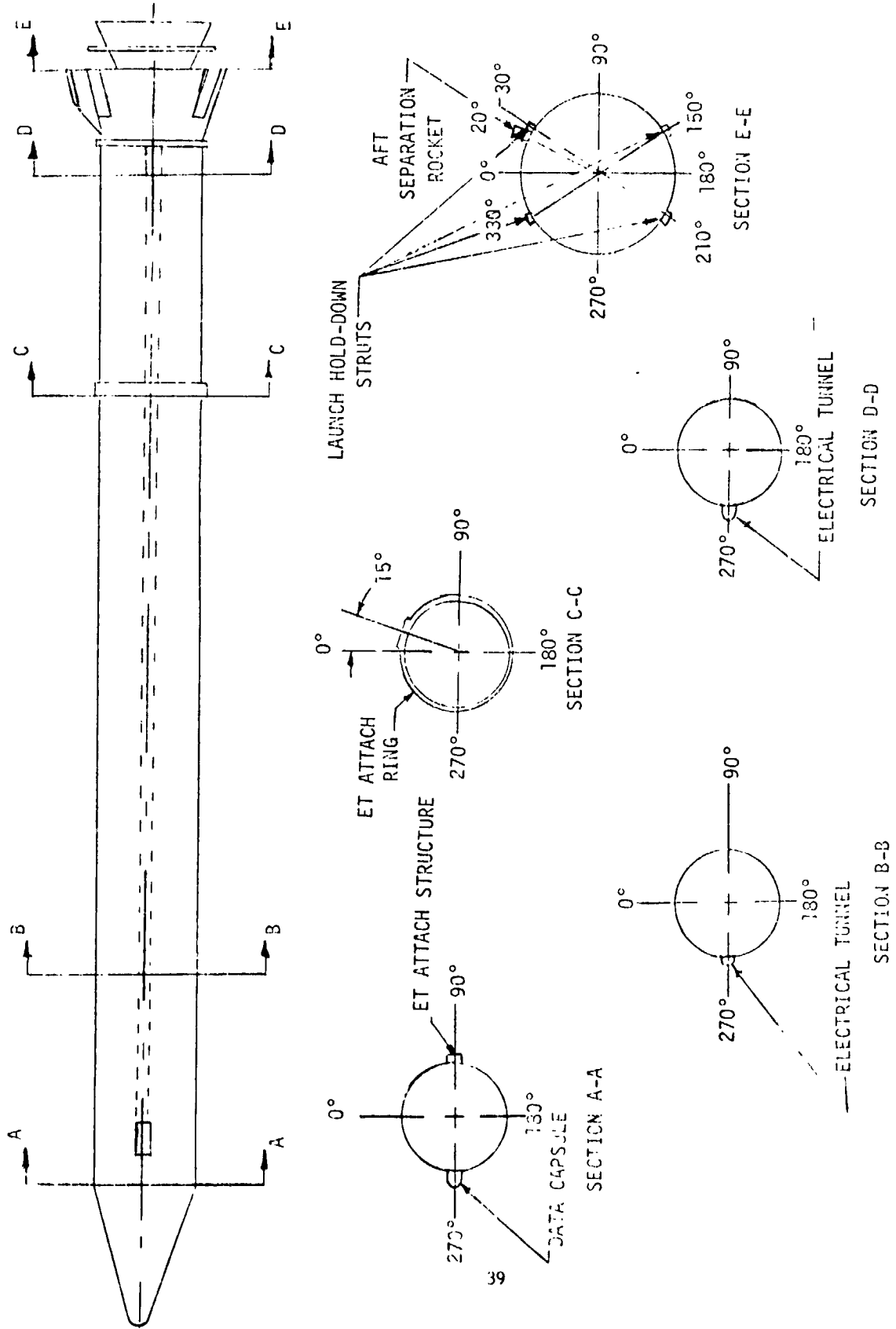
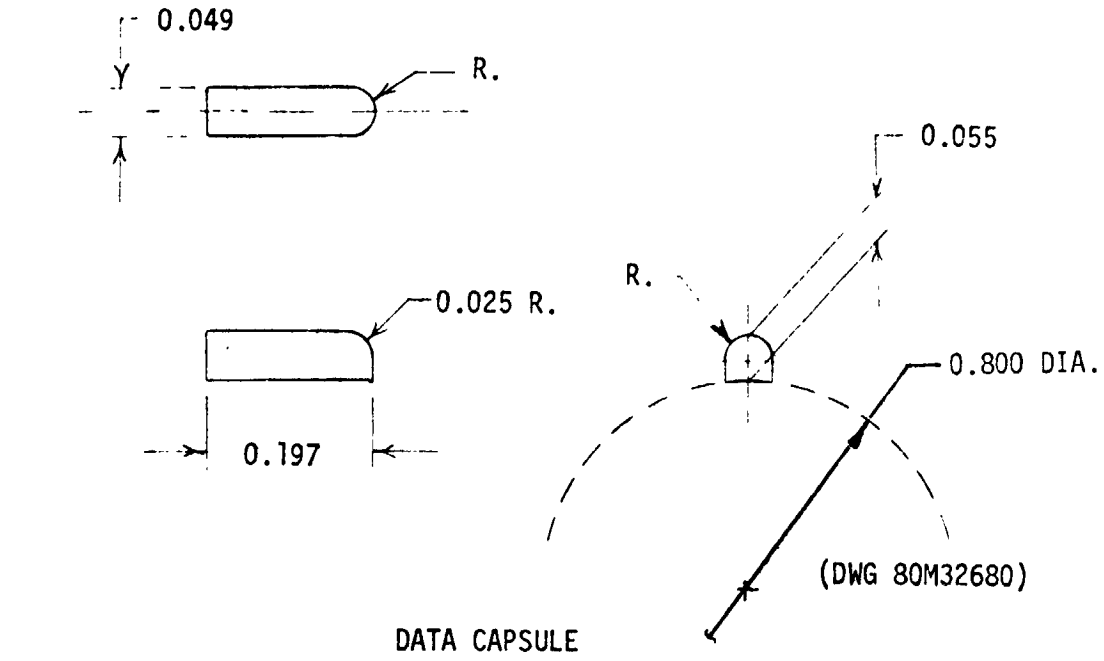
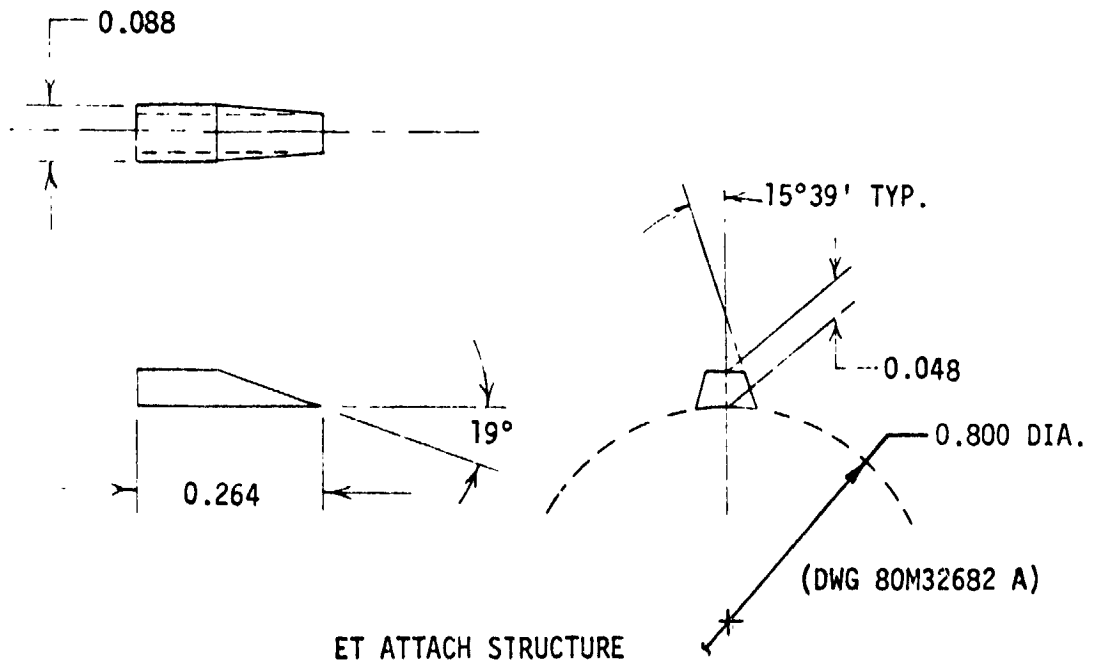


Figure 3. PROTUBERANCE RADIAL LOCATIONS



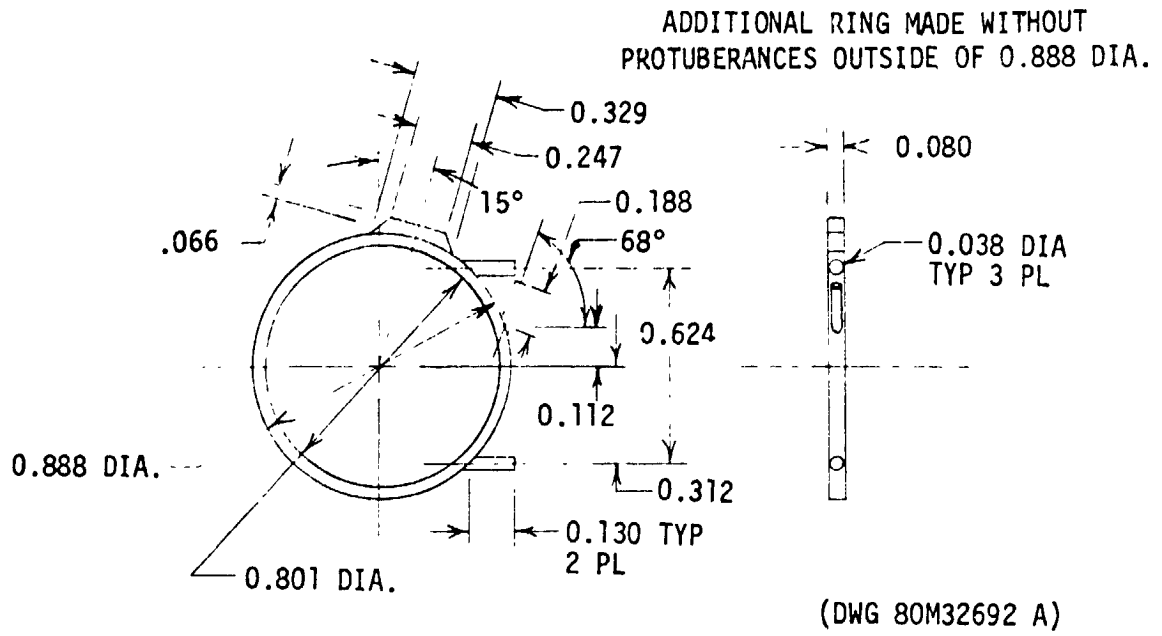
DATA CAPSULE

ALL DIMENSIONS IN INCHES



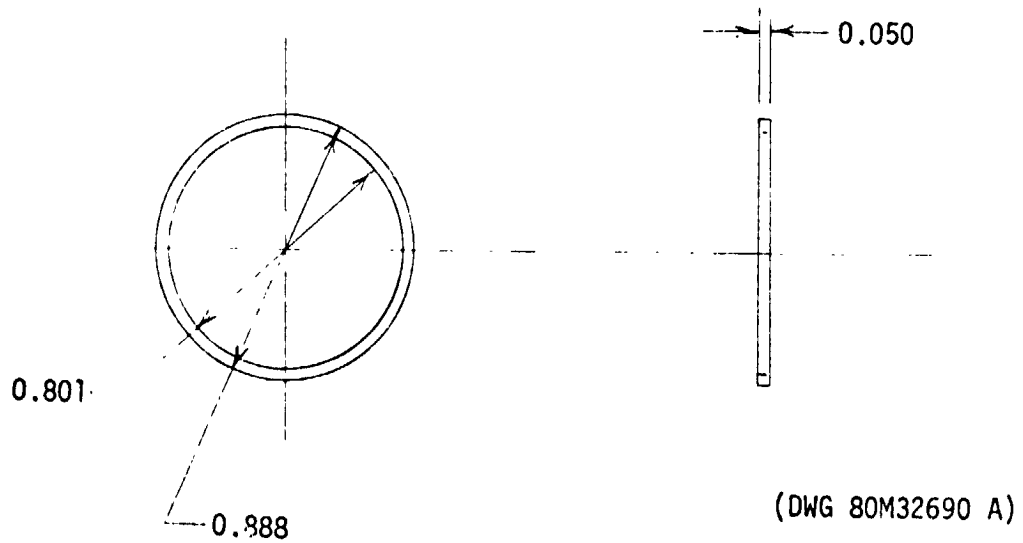
ET ATTACH STRUCTURE

Figure 4. PROTUBERANCE DIMENSIONS



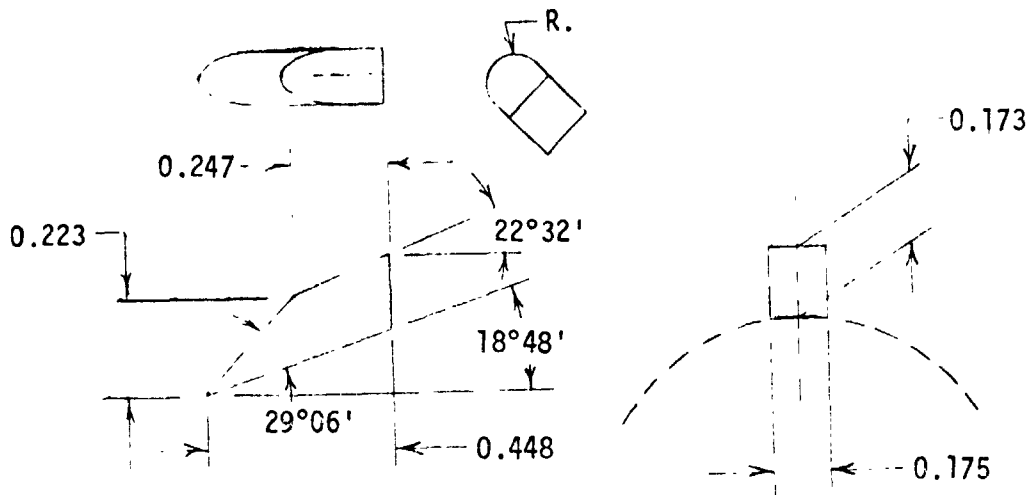
ET ATTACH RINGS

ALL DIMENSIONS IN INCHES



AFT RING

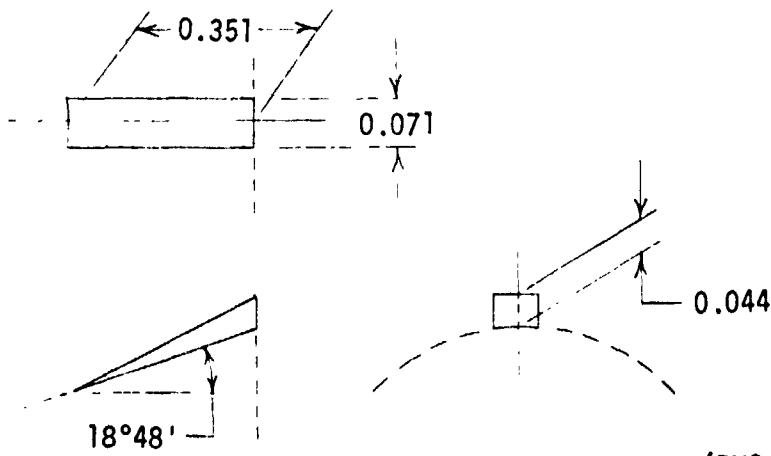
Figure 4. (con't) PROTUBERANCE DIMENSIONS



(DWG 80M32681 A)

AFT SEPARATION ROCKET

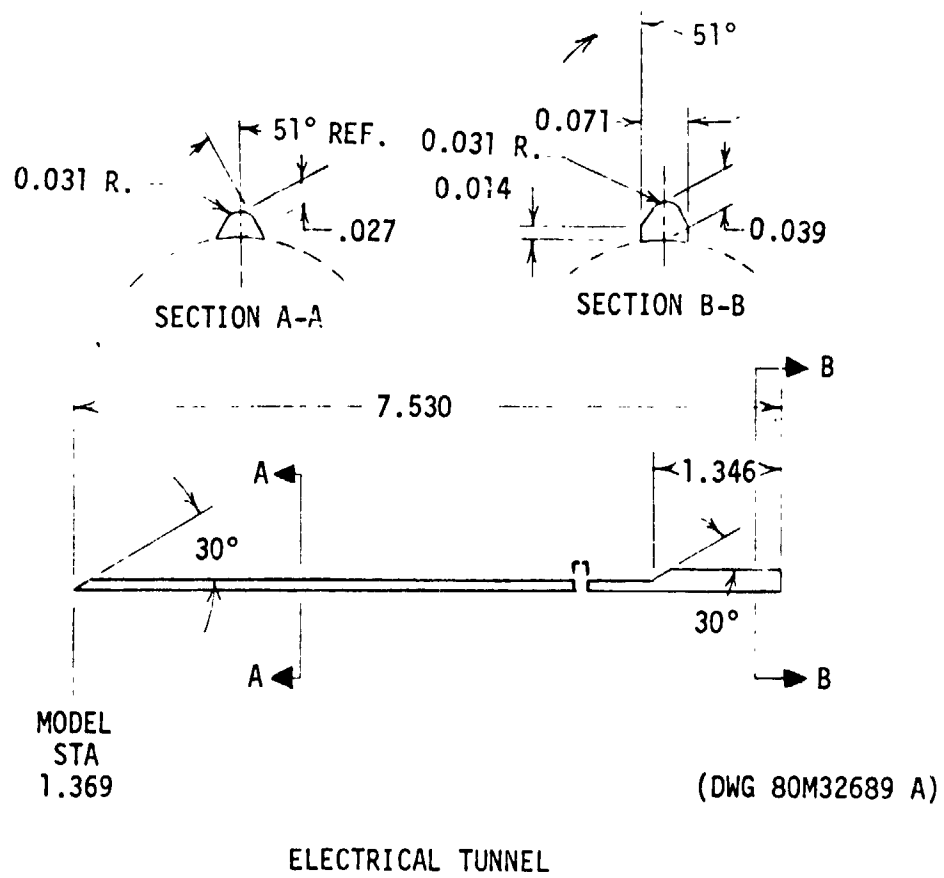
ALL DIMENSIONS IN INCHES



(DWG 80M32691 A)

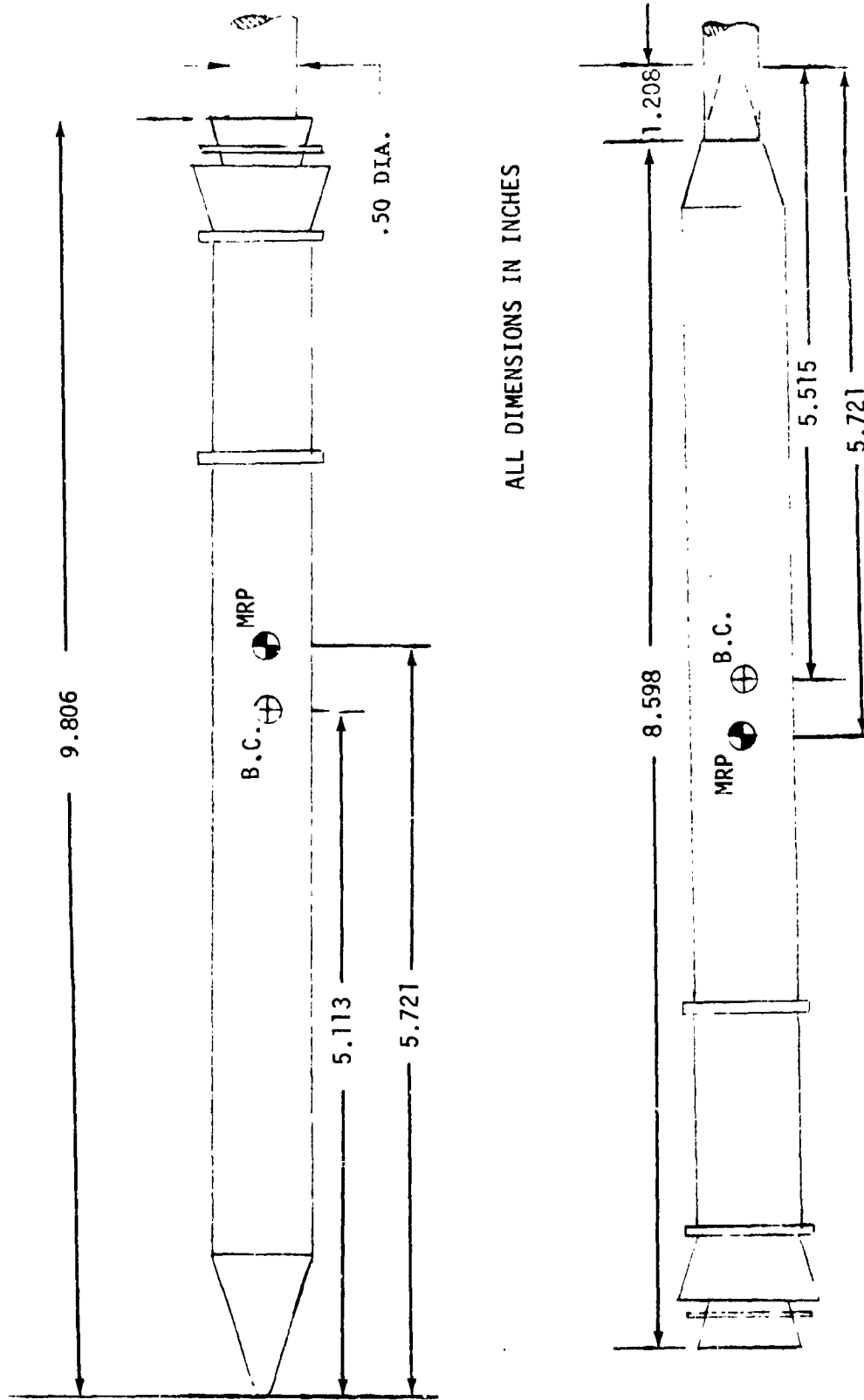
LAUNCH HOLD-DOWN STRUTS

Figure 4. (con't) PROTUBERANCE DIMENSIONS



ALL DIMENSIONS IN INCHES

Figure 4. (conc'd) PROTUBERANCE DIMENSIONS



ALL DIMENSIONS IN INCHES

Figure 5. BALANCE MOMENT CENTER AND MOMENT REFERENCE POINT LOCATION

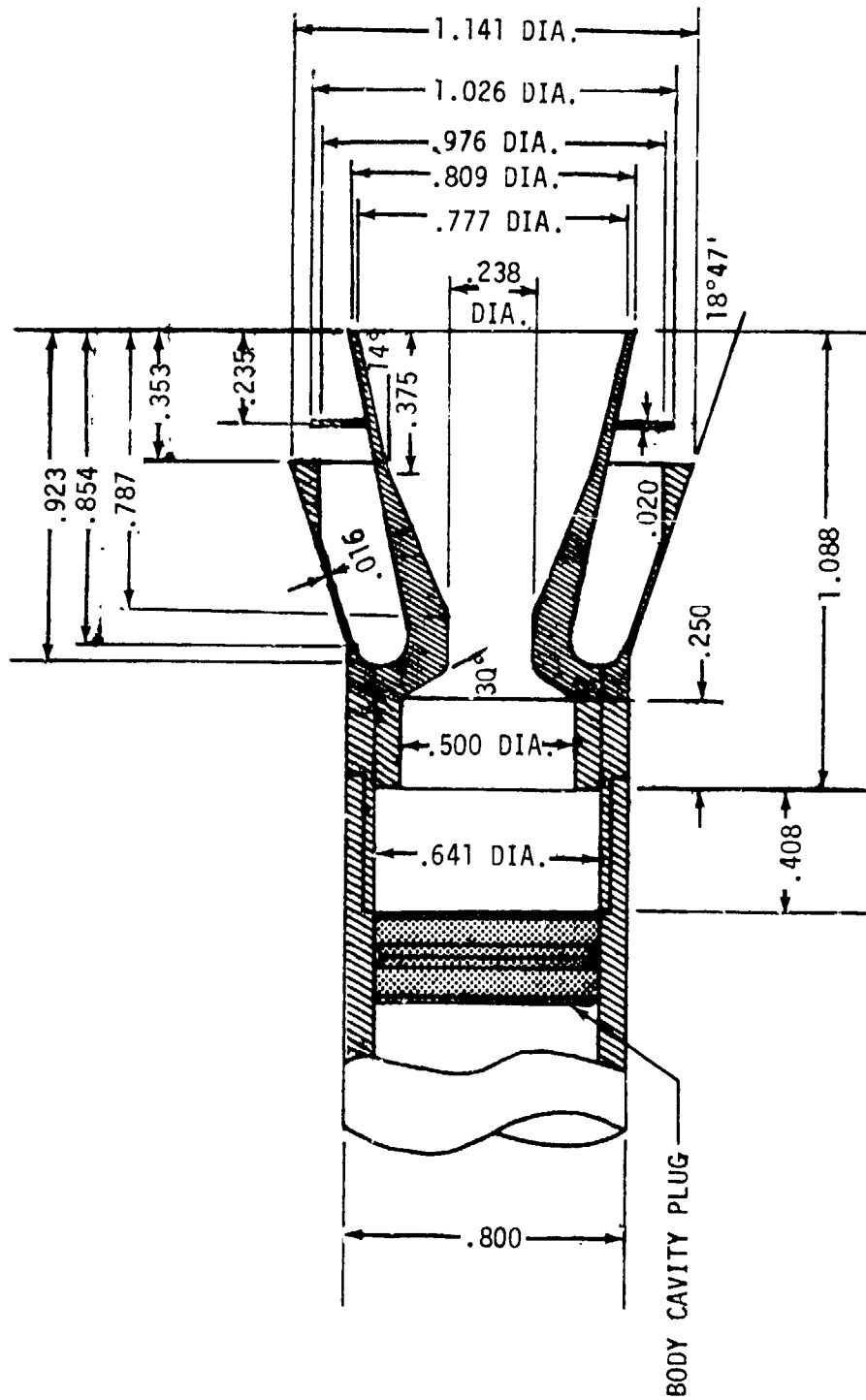


Figure 6. NOZZLE - AFT BODY CAVITY CROSS SECTION

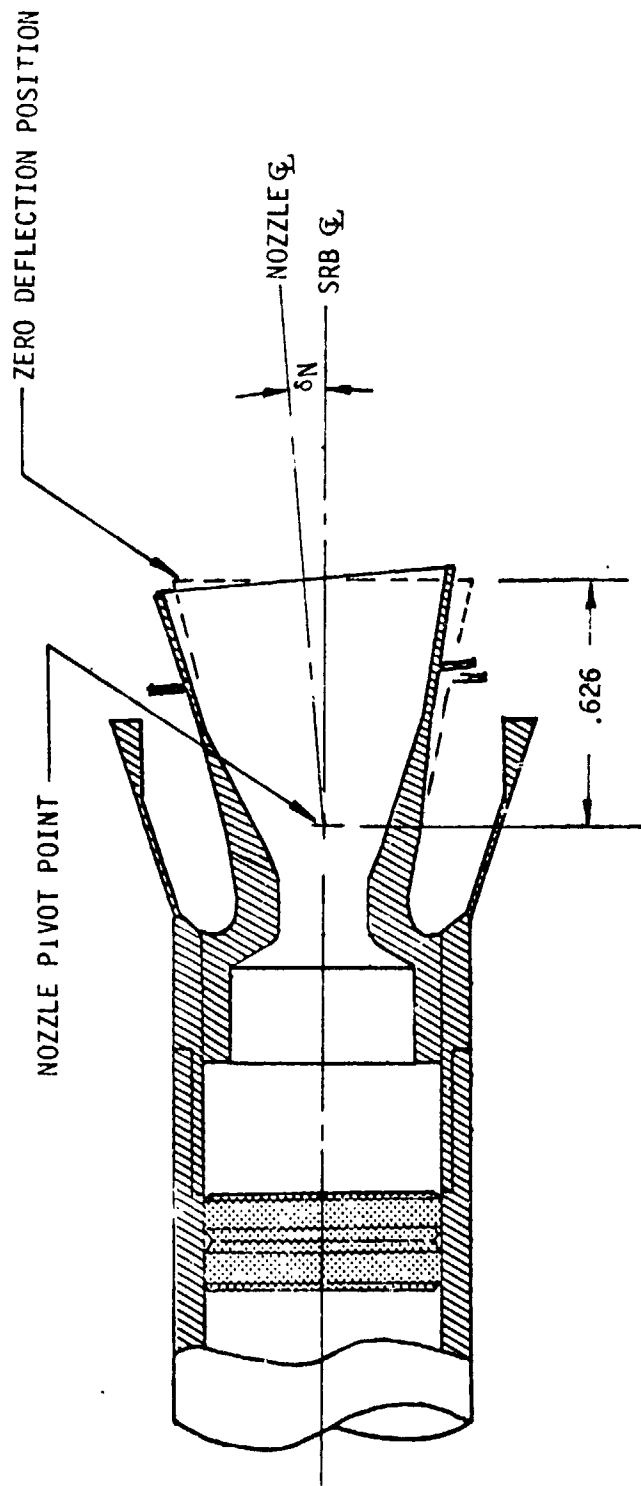


Figure 7. SCHEMATIC OF DEFLECTED NOZZLE

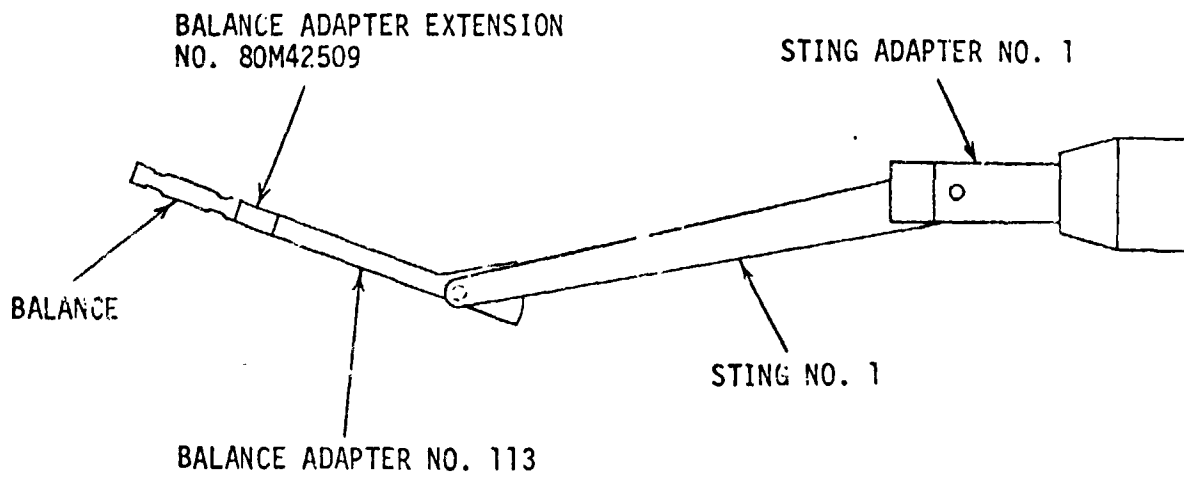


Figure 8. SUPPORT SETUP-END MOUNT

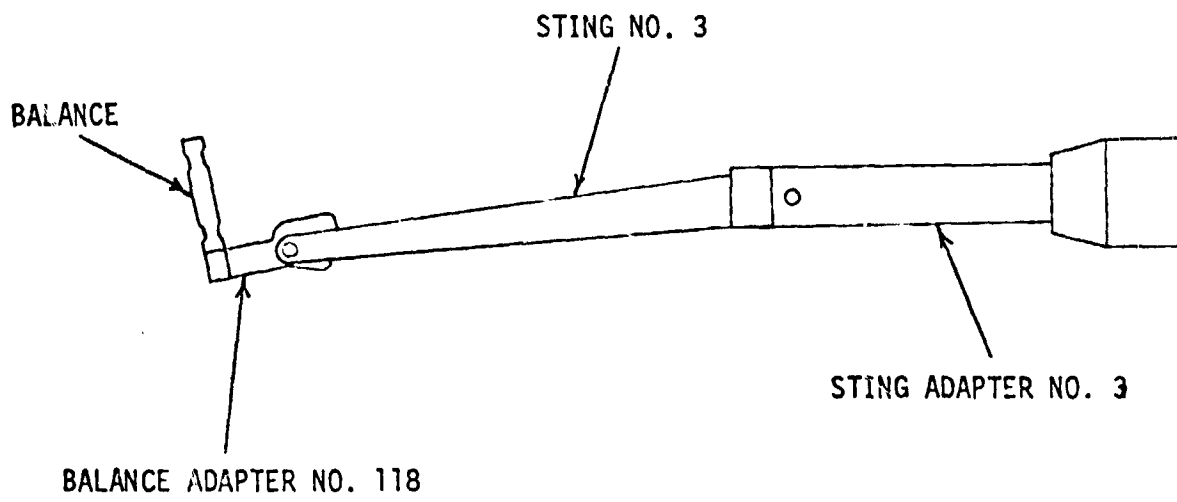


Figure 9. SUPPORT SETUP-SIDE MOUNT

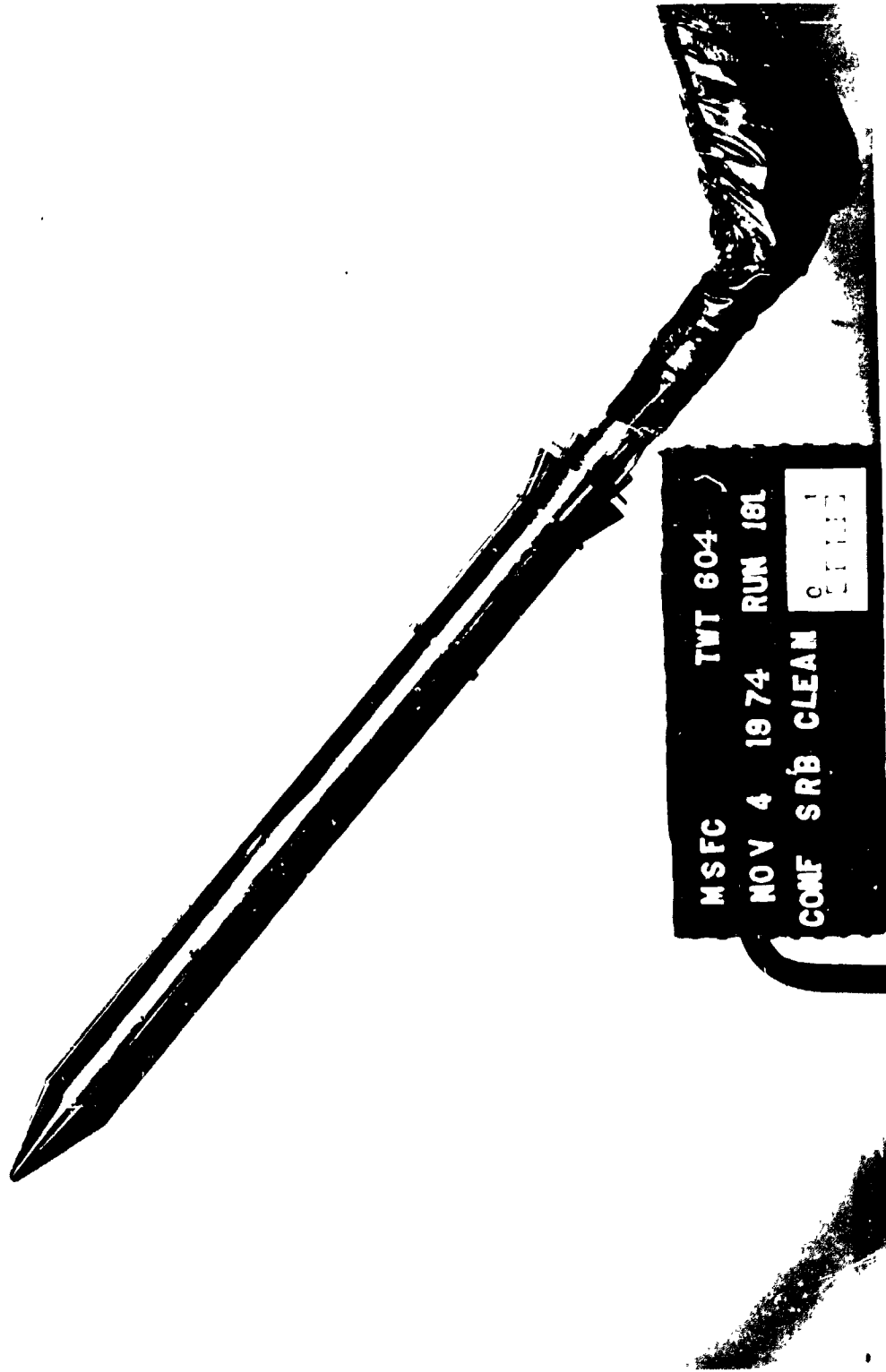


FIGURE 10. TUNNEL INSTALLATION OF "CLEAN" SRB MODEL IN TAIL-MOUNT CONFIGURATION

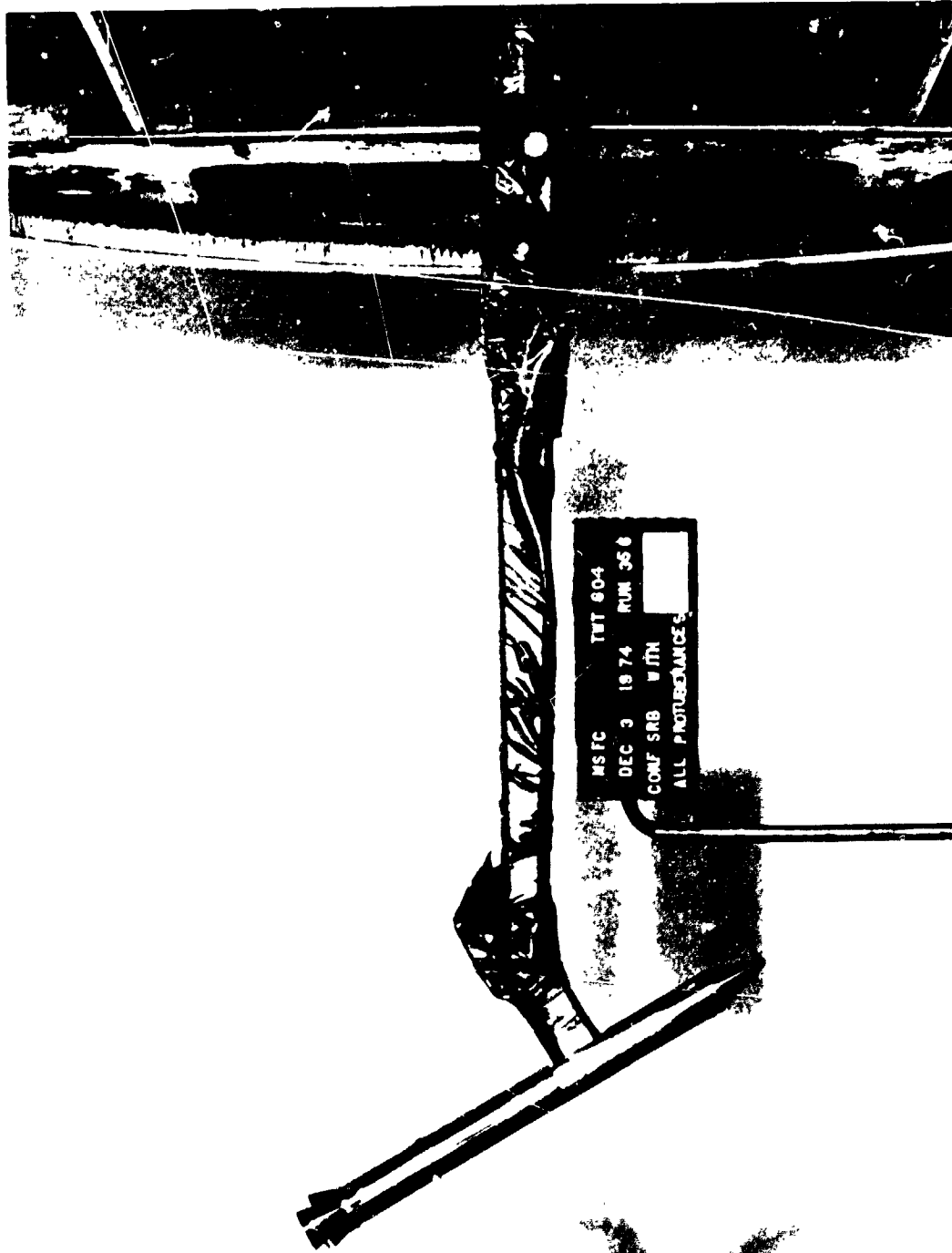


FIGURE 11. WIND TUNNEL INSTALLATION OF SRB MODEL WITH ALL PROTUBERANCES IN SIDE-MOUNT CONFIGURATION

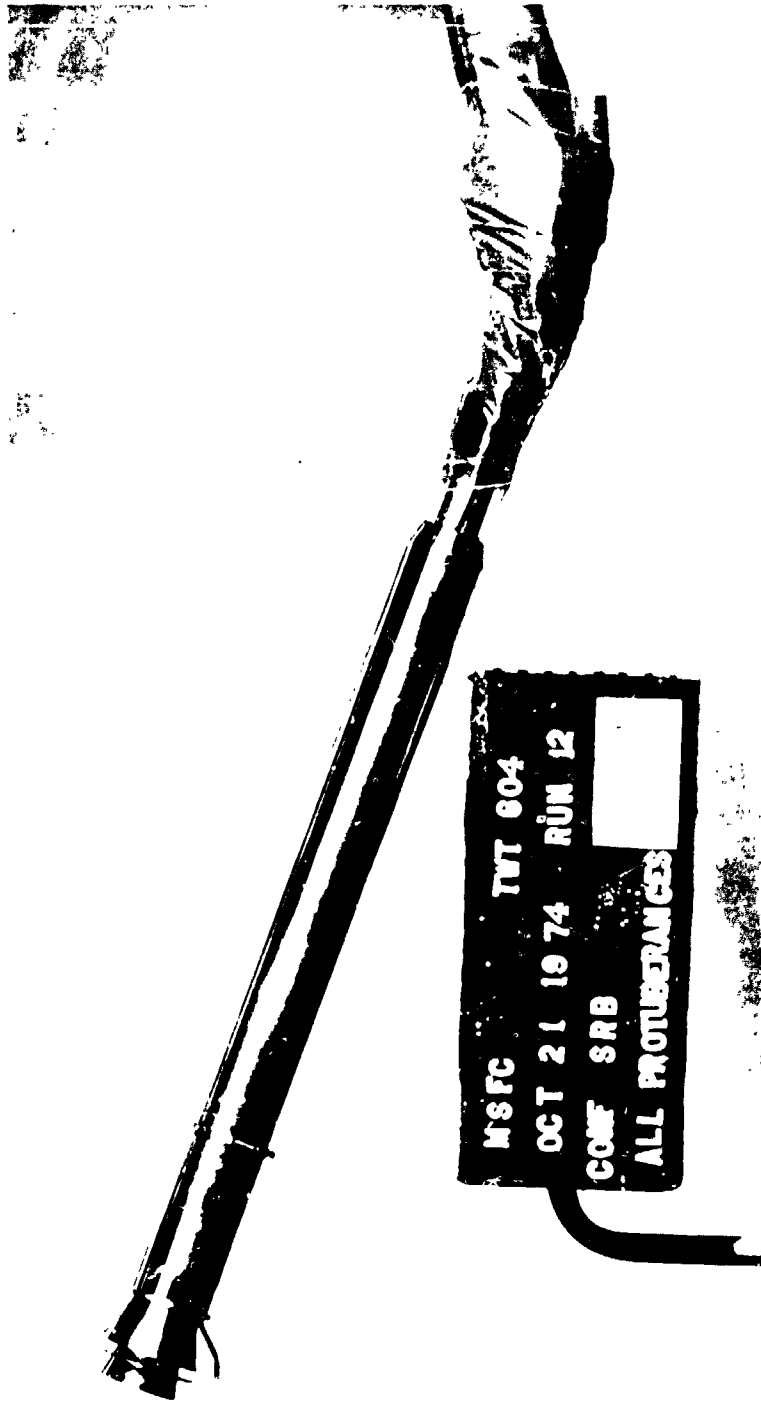


FIGURE 12. TUNNEL INSTALLATION OF SRB MODEL WITH ALL PROTUBERANCES IN NOSE-MOUNT CONFIGURATION



FIGURE 13. TUNNEL INSTALLATION OF SRB MODEL WITH ALL PROTUBERANCES BUT WITHOUT "HEATSHIELD"
IN NOSE-MOUNT CONFIGURATION

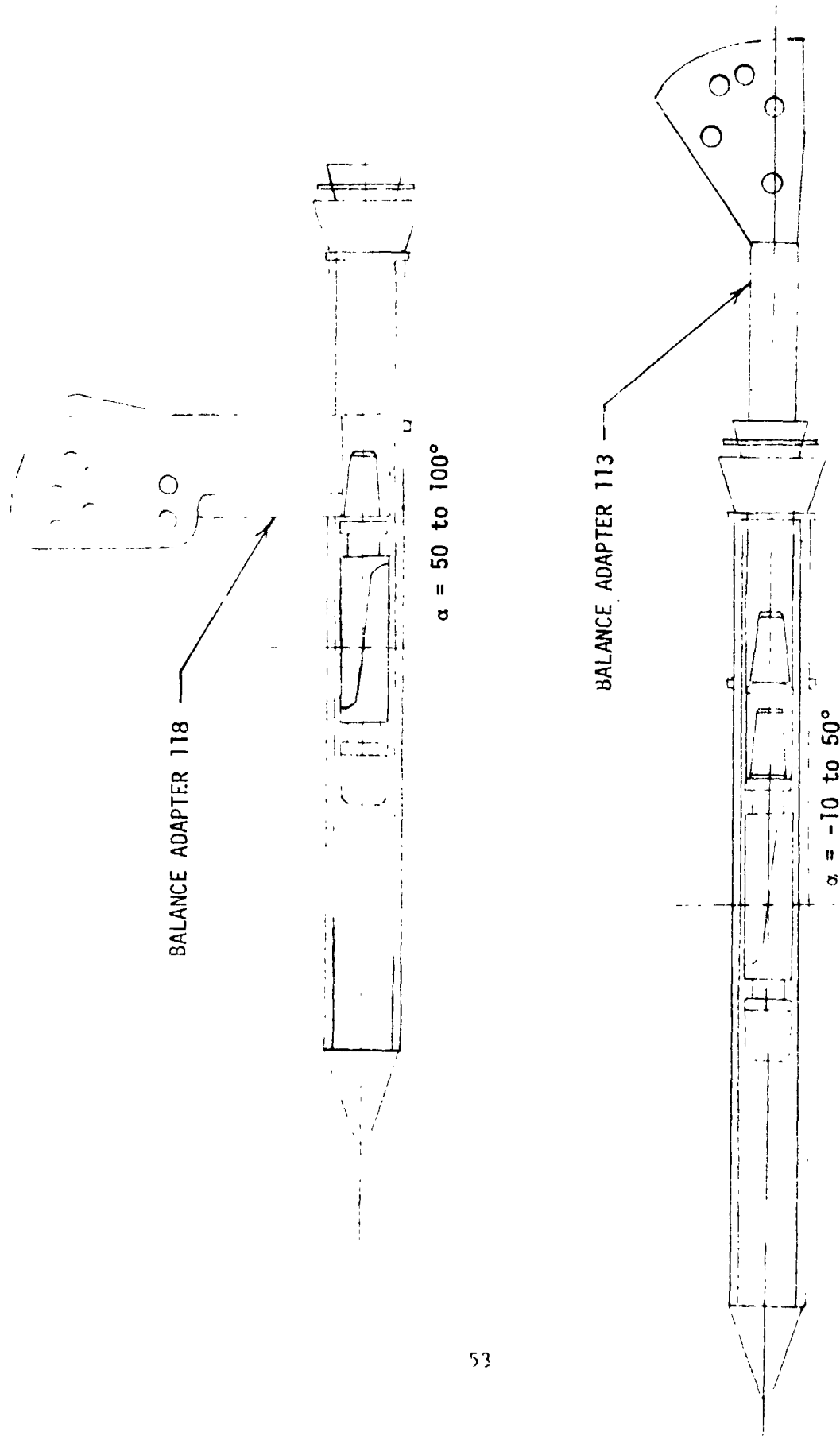


Figure 14. MOUNTING ARRANGEMENTS FOR ANGLE OF ATTACK -10 to 100 DEGREES

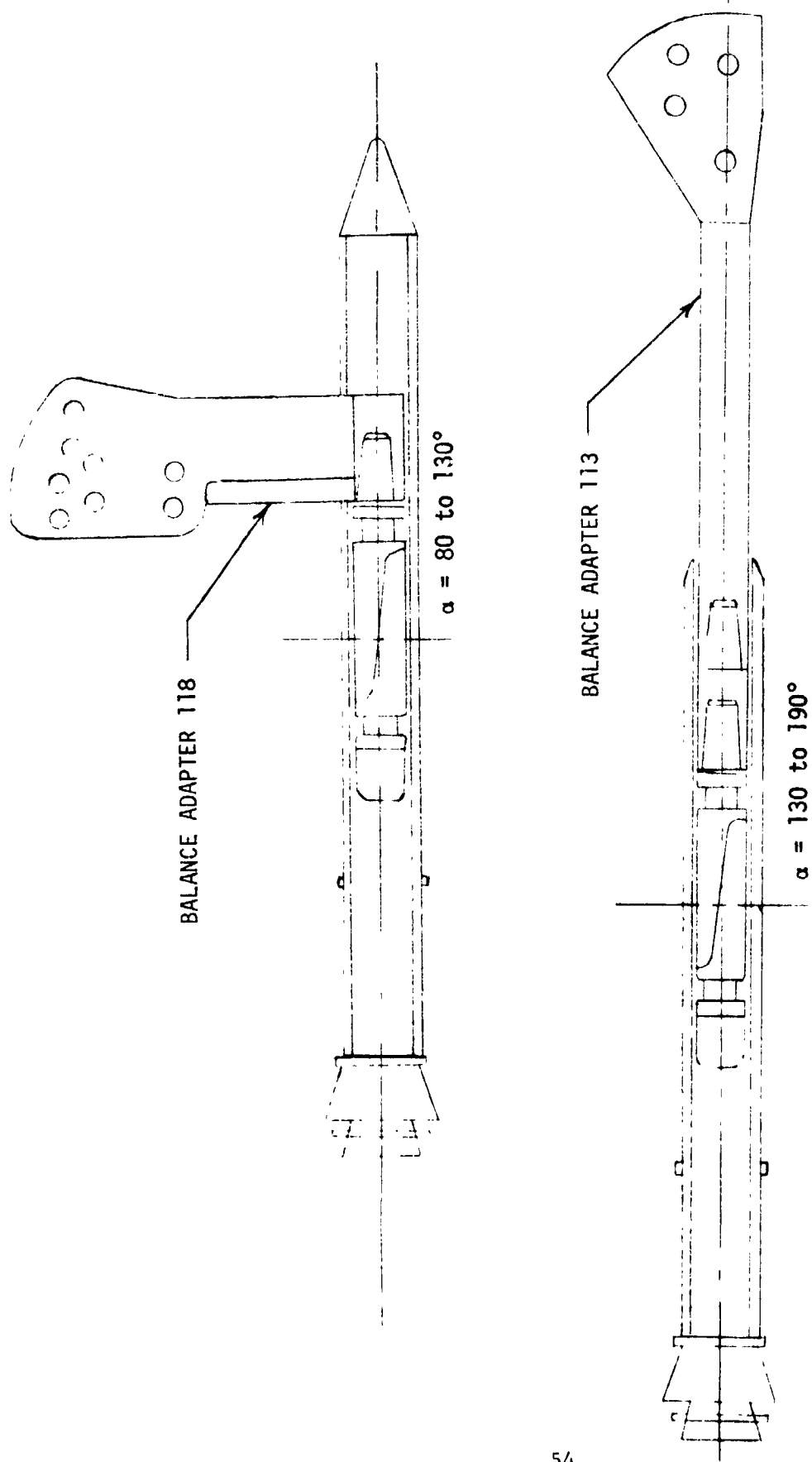


Figure 15. MOUNTING ARRANGEMENTS FOR ANGLE OF ATTACK 80 TO 190 DEGREES

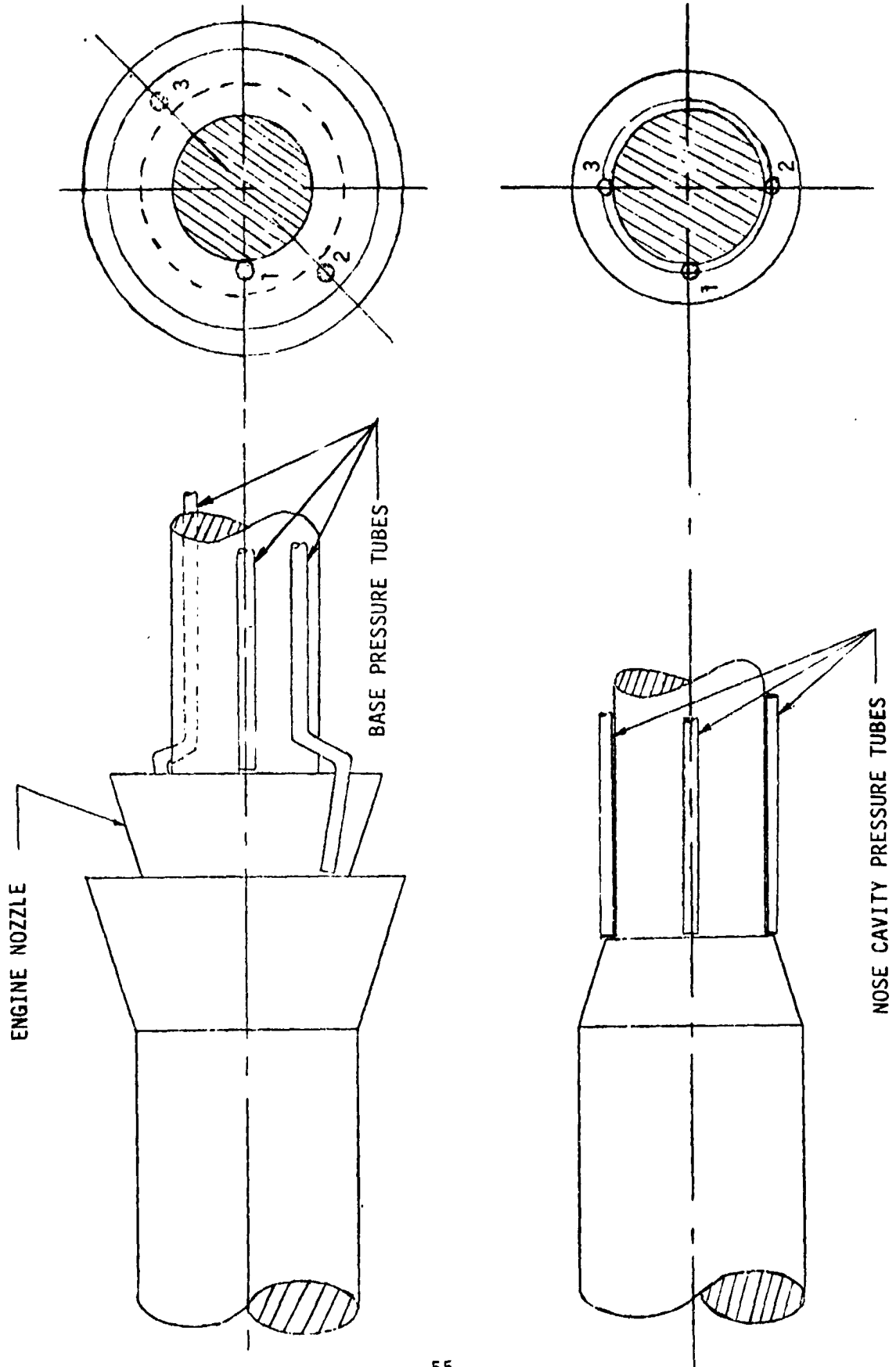
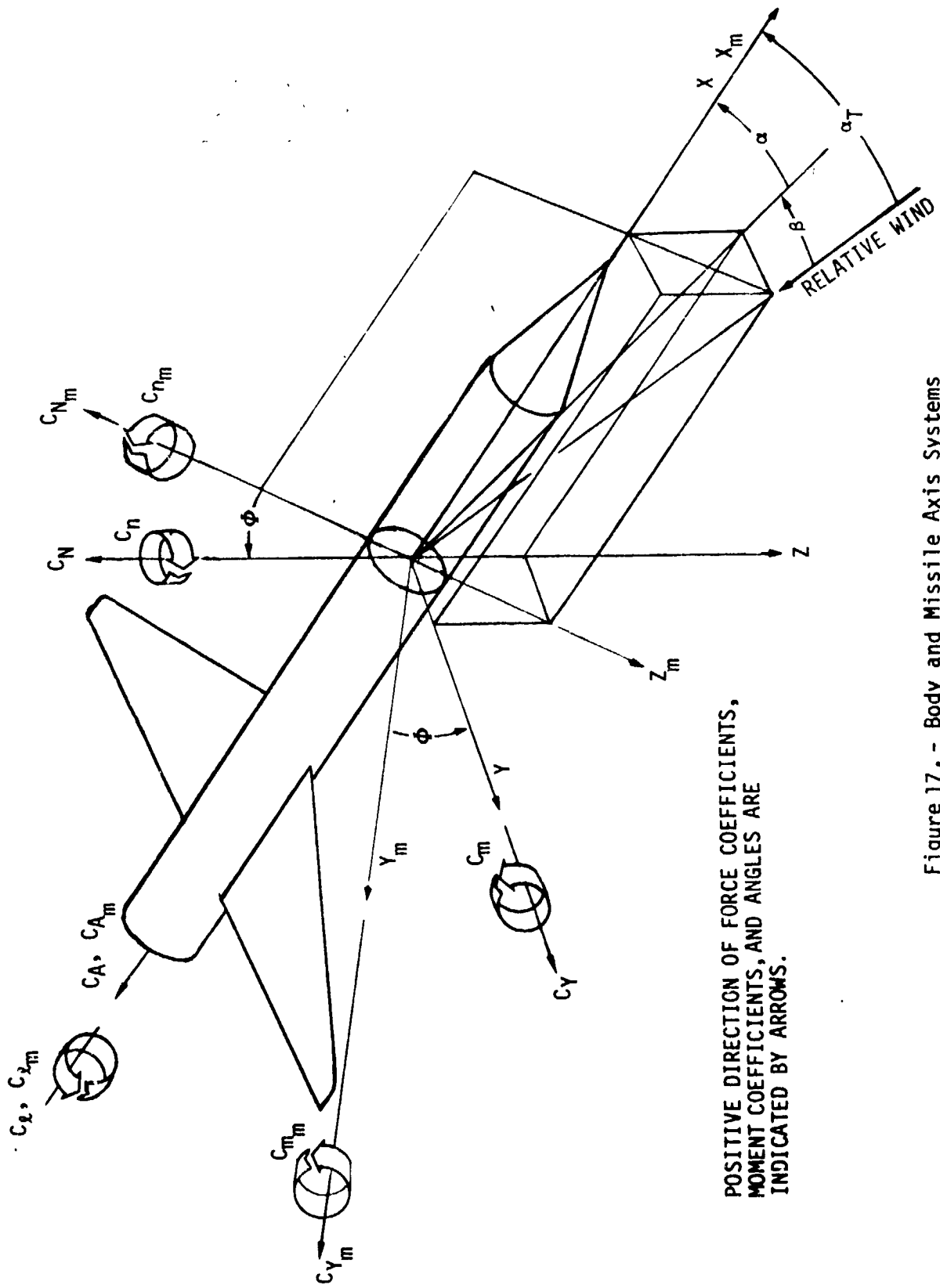


Figure 16. PRESSURE TUBE LOCATIONS



POSITIVE DIRECTION OF FORCE COEFFICIENTS,
MOMENT COEFFICIENTS, AND ANGLES ARE
INDICATED BY ARROWS.

Figure 17. - Body and Missile Axis Systems

DATA FIGURES

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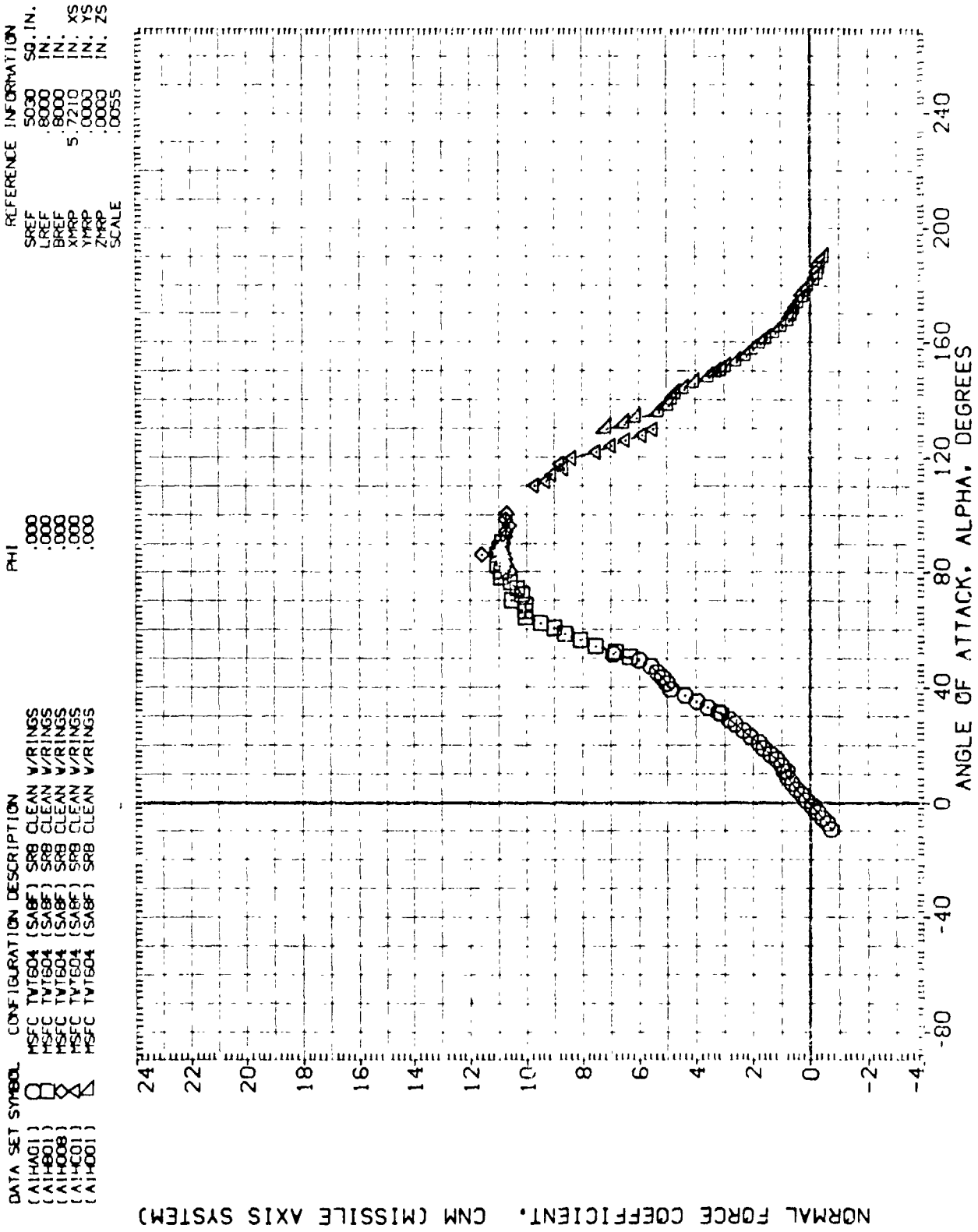


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

(A)MACH = .41

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 YMRP 5.7210 IN. XS
 ZMRP .0000 IN. YS
 SCALE .0055 IN. ZS

PHI
 .000
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 .000

CONFIGURATION DESCRIPTION
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS

DATA SET SYMBOL
 (A1H01) □
 (A1H01) ○
 (A1H01) △
 (A1H01) ▽

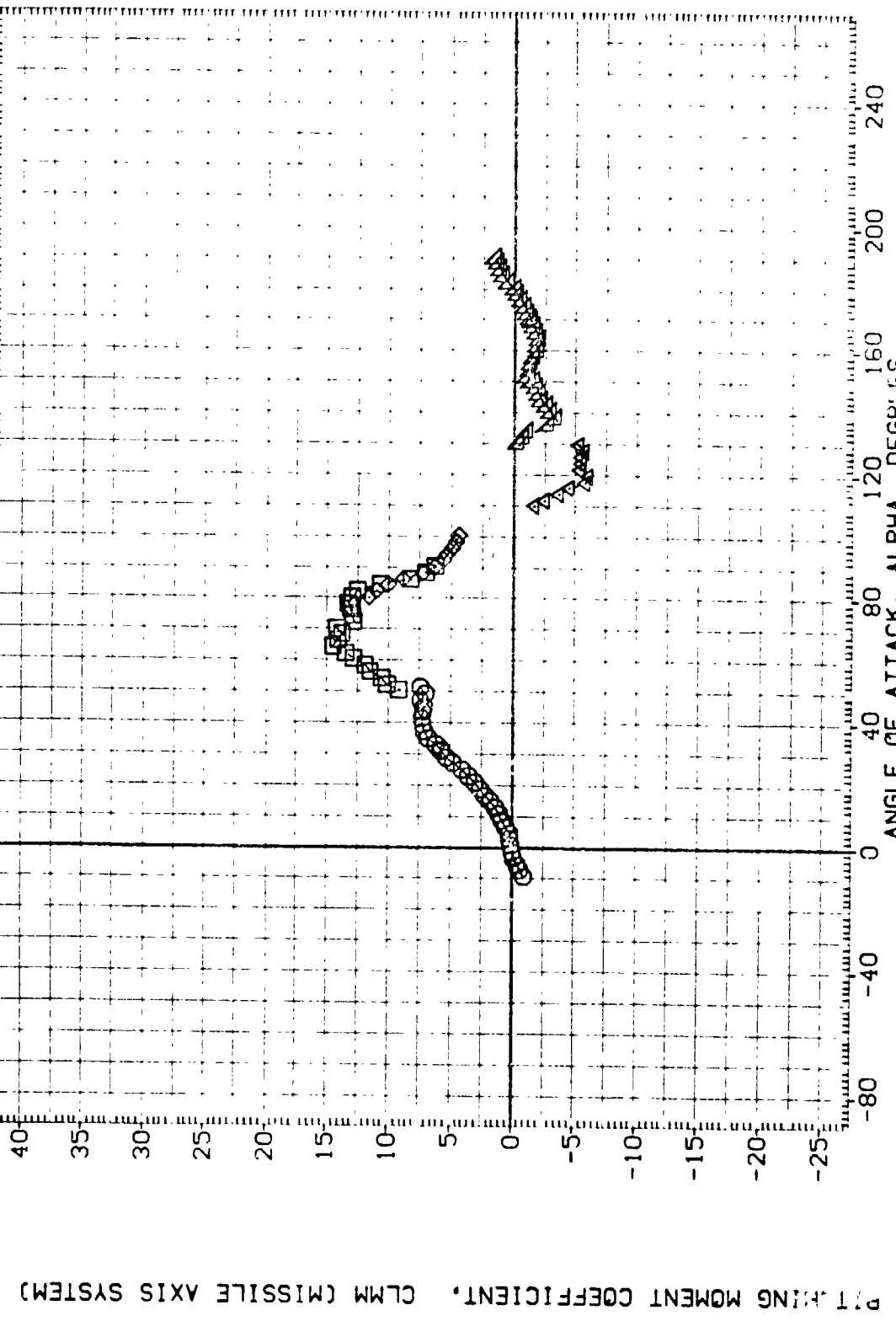


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

(A)MACH = .41

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI REFERENCE INFORMATION

(A1H01) MSFC TVT604 (SABF) SRB CLEAN V/RINGS .000 SREF .5030 IN. XS

(A1H02) MSFC TVT604 (SABF) SRB CLEAN V/RINGS .000 LRREF .8000 IN. XS

(A1H03) MSFC TVT604 (SABF) SRB CLEAN V/RINGS .000 BRREF .8000 IN. XS

(A1H04) MSFC TVT604 (SABF) SRB CLEAN V/RINGS .000 YMRP 5.7210 IN. YS

(A1H05) MSFC TVT604 (SABF) SRB CLEAN V/RINGS .000 ZMRP .0000 IN. ZS

SCALE .0055

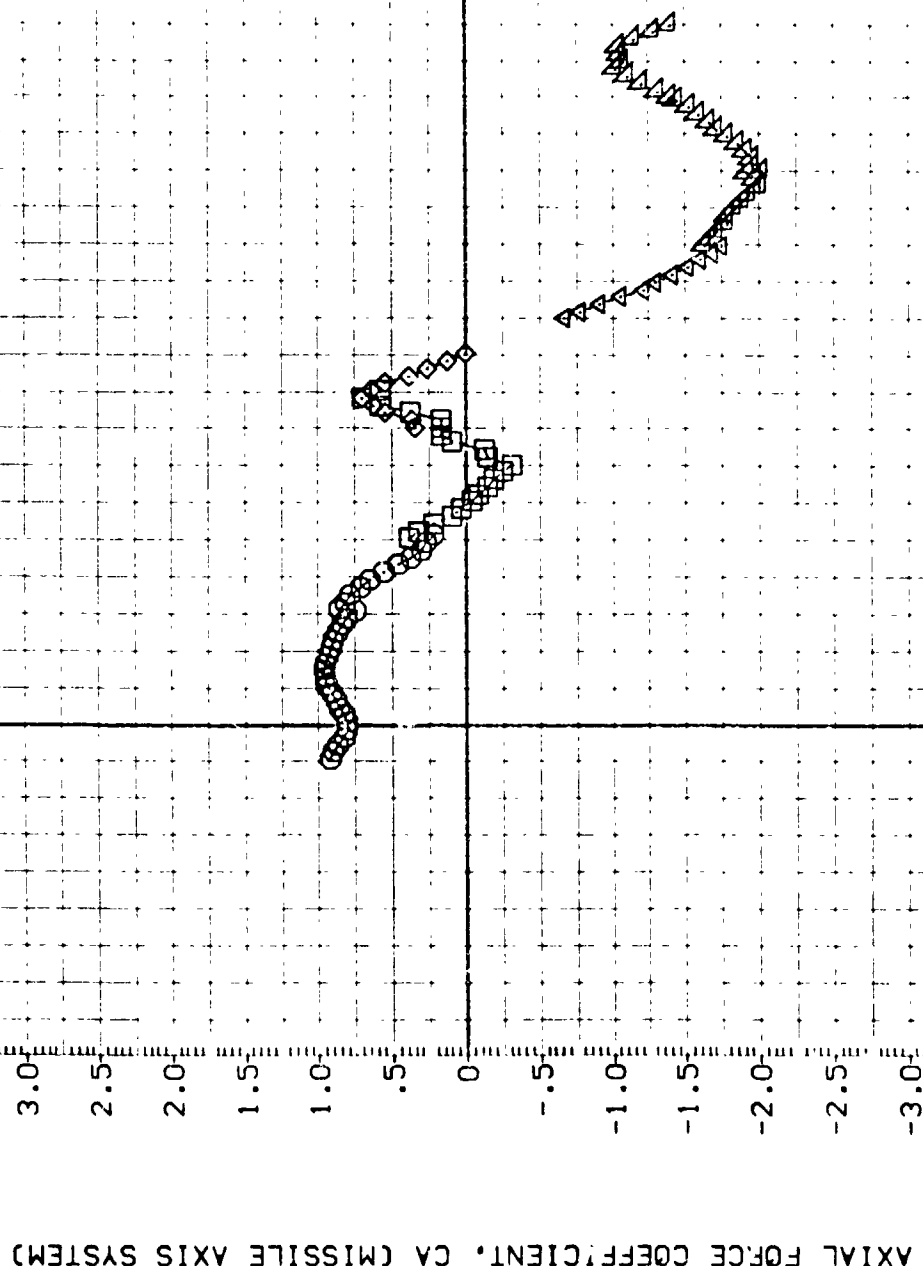


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

(A)MACH = .41

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI REFERENCE INFORMATION

(A1H001)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	SREF .5030 SQ. IN.
(A1H001)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	LREF .8000 IN.
(A1H008)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	BREF .8000 IN.
(A1H001)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	YMRP \$.7210 IN. XS
(A1H001)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	ZMRP .0000 IN. YS
(A1H001)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	SCALE .0055 IN. ZS

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

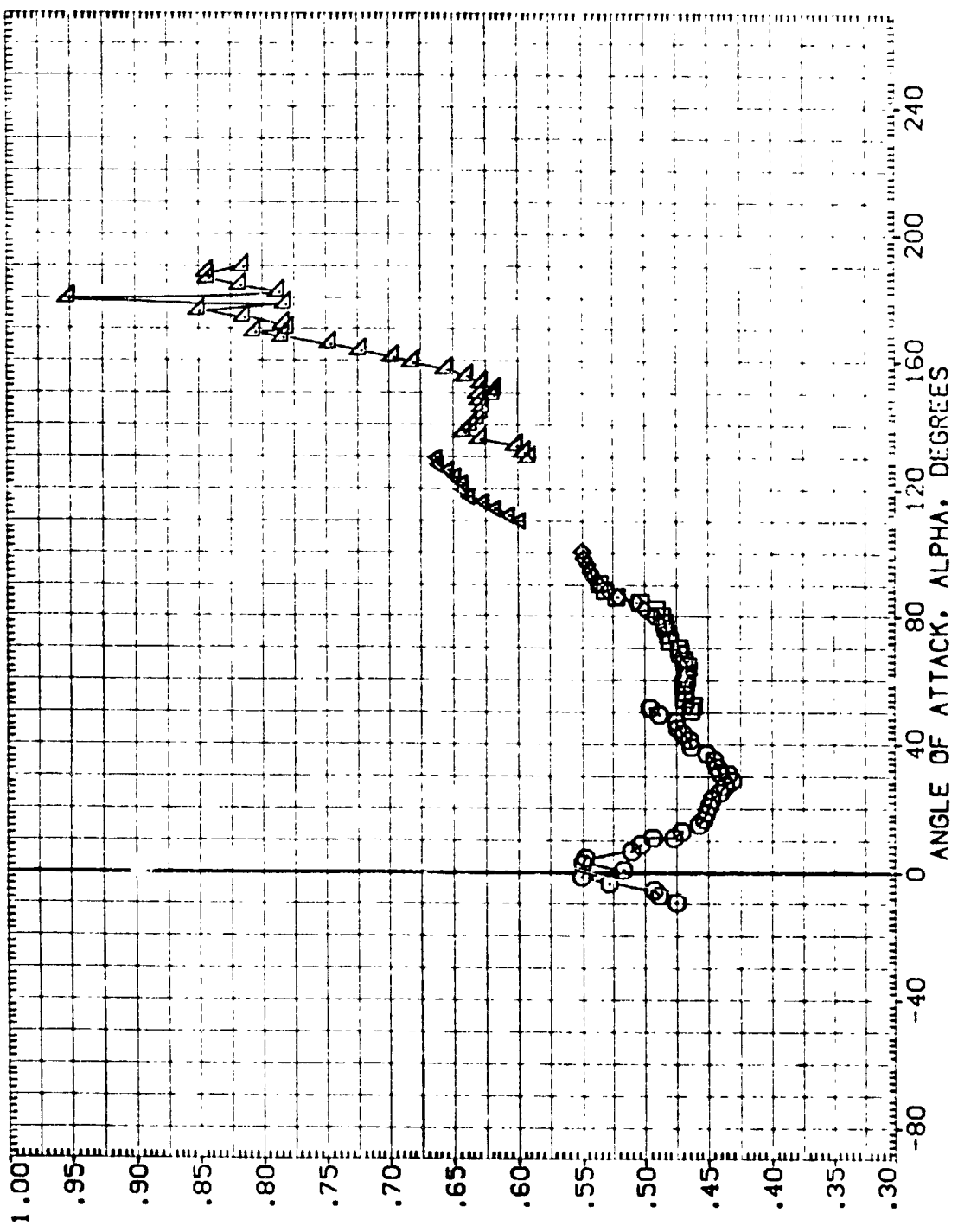


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS
 (A)MACH = .41 PAGE 4

REFERENCE INFORMATION
 SREF .3030 SQ. IN.
 LREF .3000 IN.
 BREF .3000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PI-1
 .000
 .000
 .000
 .000
 .000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H-001) MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 (A1H-001) MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 (A1H-008) MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 (A1H-001) MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 (A1H-001) MSFC TVT604 (SABF) SRB CLEAN V/RINGS

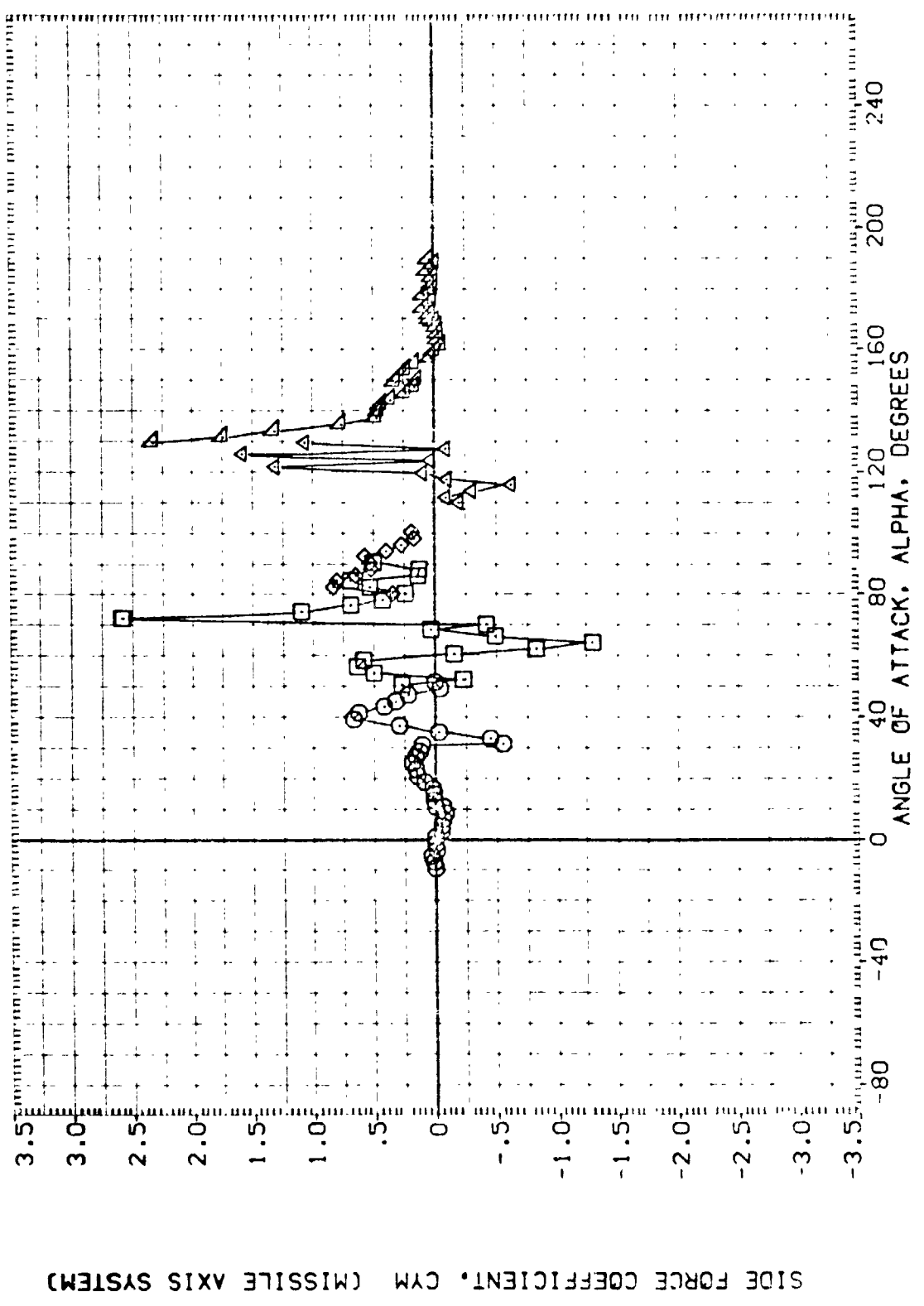


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H001)	MSFC	TVT604	(SABF)	SRB	CLEAN	V/RINGS
(A1H001)	MSFC	TVT604	(SABF)	SRB	CLEAN	V/RINGS
(A1H008)	MSFC	TVT604	(SABF)	SRB	CLEAN	V/RINGS
(A1H001)	MSFC	TVT604	(SABF)	SRB	CLEAN	V/RINGS
(A1H001)	MSFC	TVT604	(SABF)	SRB	CLEAN	V/RINGS

PHI
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 .000

REFERENCE INFORMATION

SREF	50.30	IN.
LREF	.6000	IN.
BREF	.6000	IN.
XPRP	5.7210	IN.
YPRP	.0000	IN.
ZPRP	.0000	IN.
SCALE	.0055	

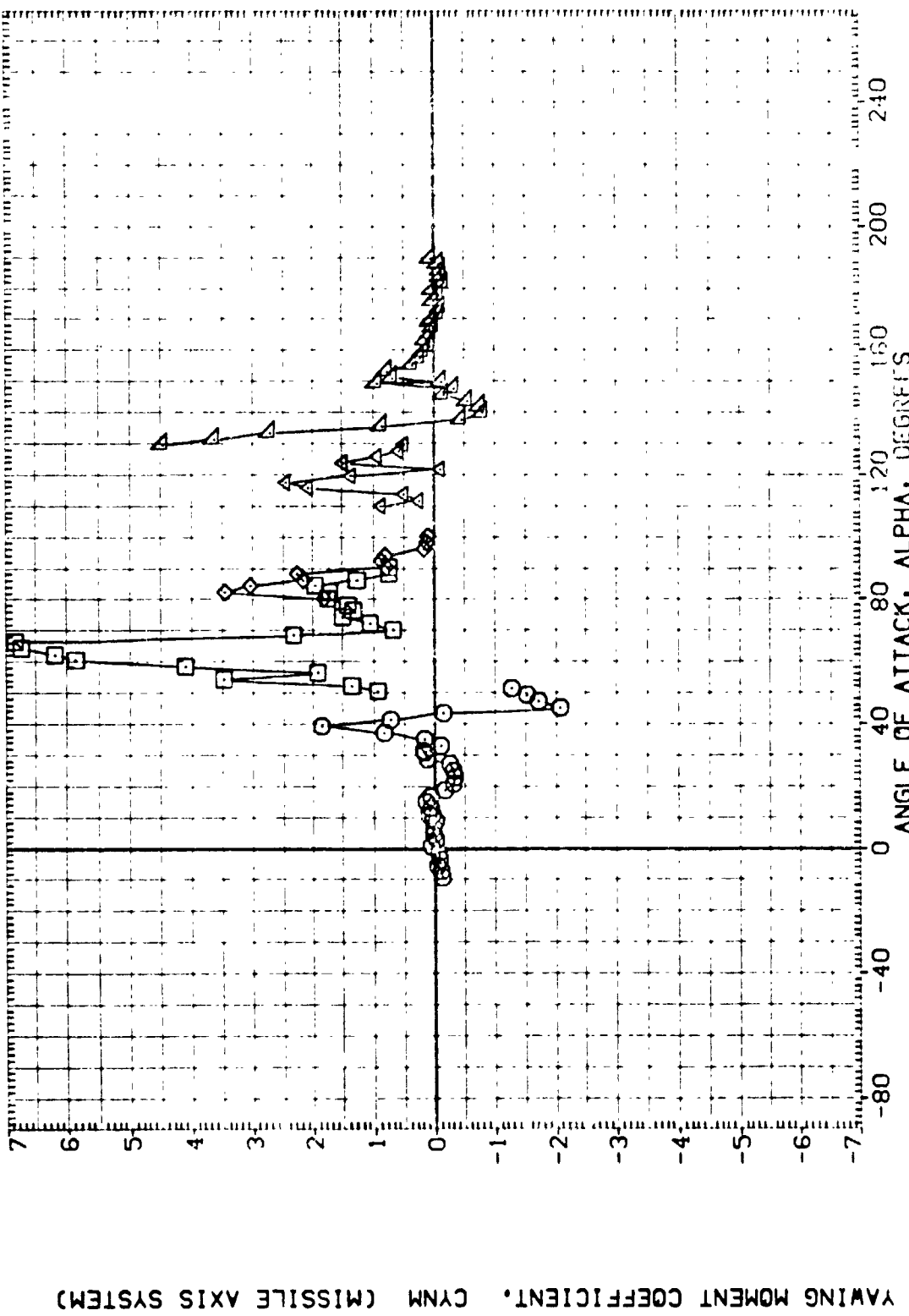


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS
 (A)MACH = .41

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI REFERENCE INFORMATION

(A1MAG1)	MSFC TWT604 (SABF) SRB CLEAN V/RINGS	.000	SREF .5030 SQ. IN.
(A1H001)	MSFC TWT604 (SABF) SRB CLEAN V/RINGS	.000	LREF .8000 IN.
(A1H008)	MSFC TWT604 (SABF) SRB CLEAN V/RINGS	.000	BREF .8000 IN.
(A1M01)	MSFC TWT604 (SABF) SRB CLEAN V/RINGS	.000	XRRP 5.7210 IN. X5
(A1M001)	MSFC TWT604 (SABF) SRB CLEAN V/RINGS	.000	ZRRP .0000 IN. Z5
			SCALE .0055

ROLLING MOMENT COEFFICIENT, CBL (MISSILE AXIS SYSTEM)

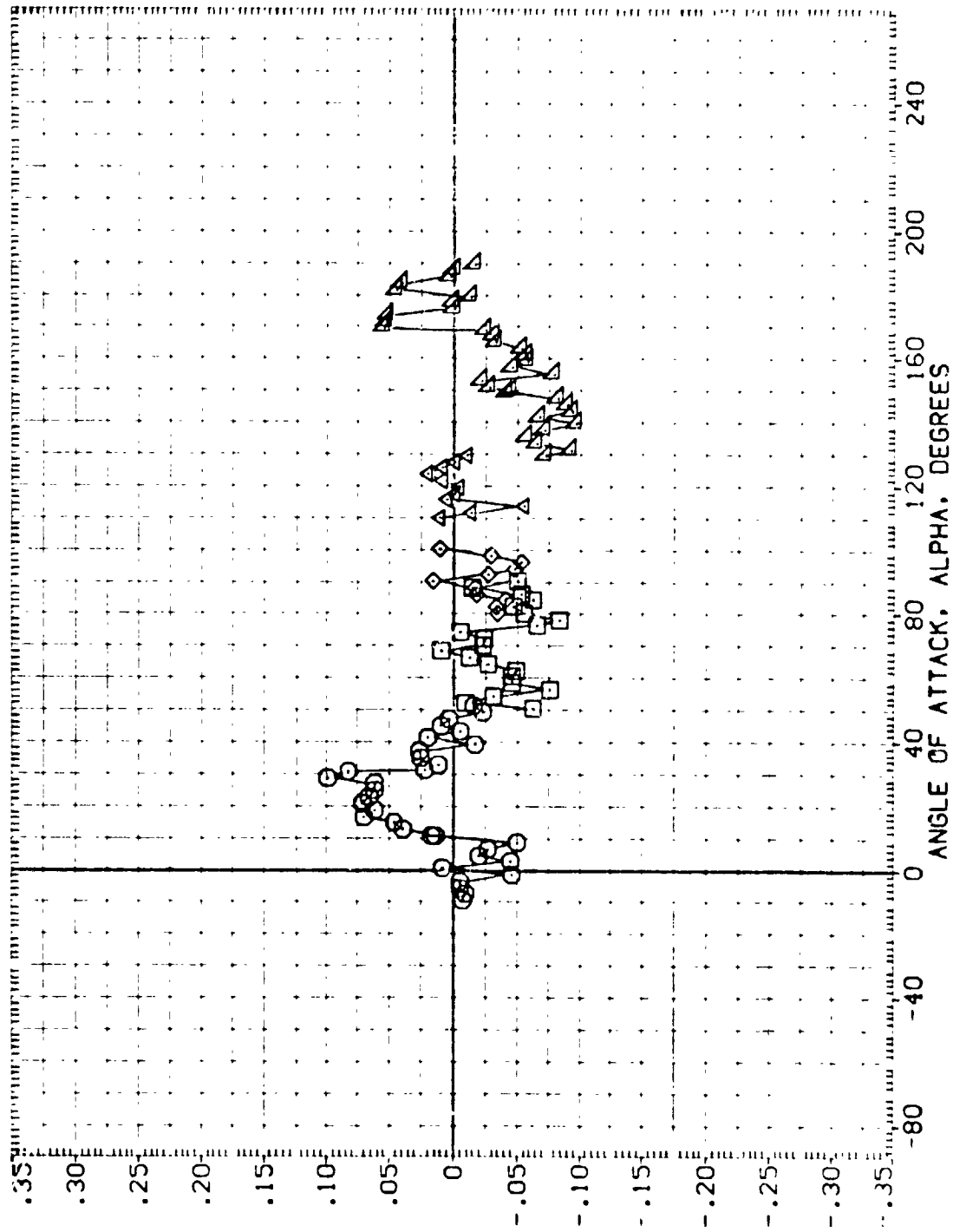


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H001) MSFC TVT60A (SABF) SRB CLEAN V/RINGS
 (A1H002) MSFC TVT60A (SABF) SRB CLEAN V/RINGS
 (A1H003) DATA NOT AVAILABLE
 (A1H004) DATA NOT AVAILABLE
 (A1H005) MSFC TVT60A (SABF) SRB CLEAN V/RINGS

PHI .000
 .000
 .000
 .000

REFERENCE INFORMATION

SREF 5030 50. IN.
 LREF 5000 50. IN.
 BREF 8000 50. IN.
 X-PRP 5.7210 IN. XS
 Y-PRP .0000 IN. YS
 Z-PRP .0000 IN. ZS
 SCALE 0055

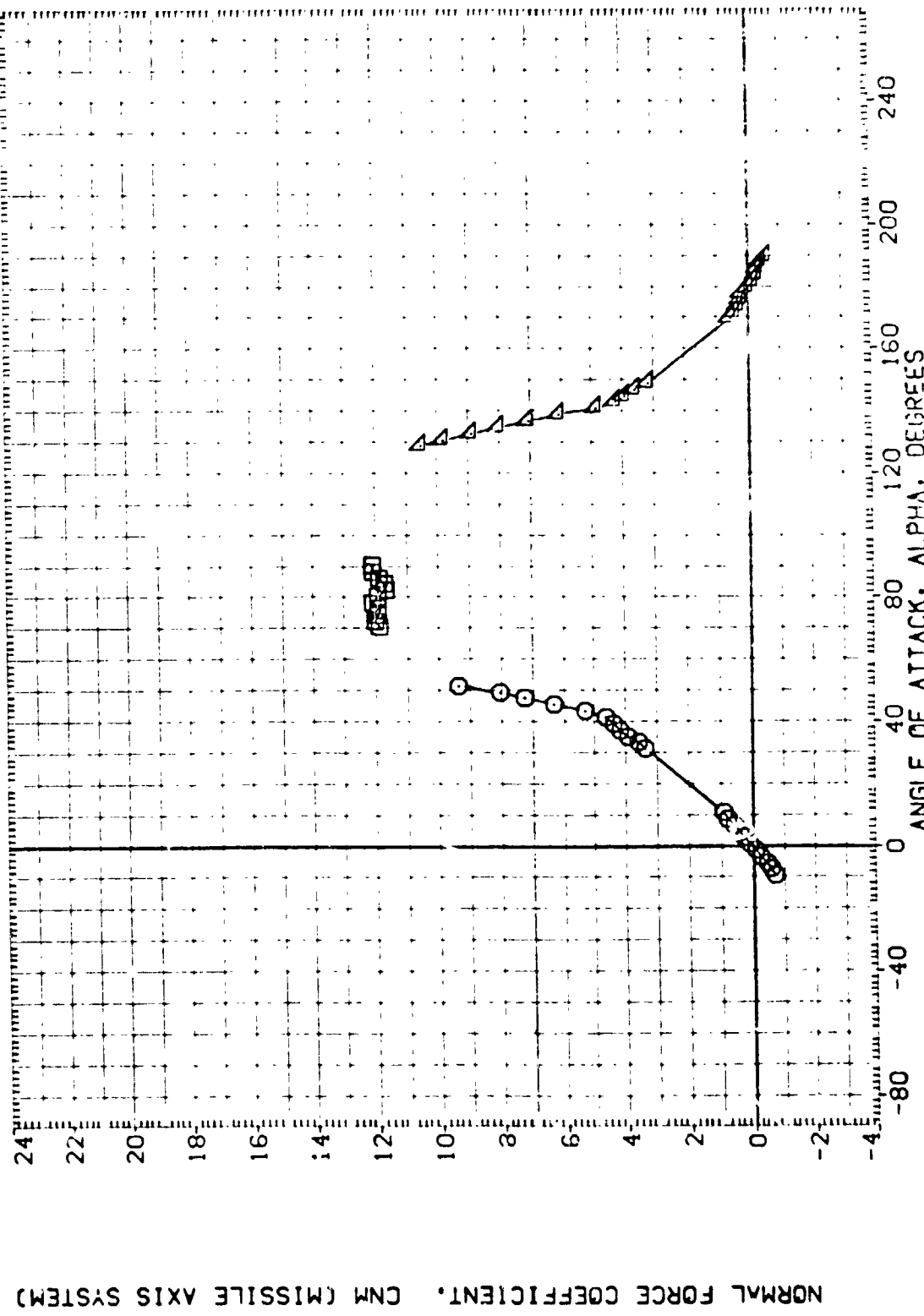


FIGURE 18. STATIC STABILITY CHARACT. OF SRB V CLEAN ATTACH AND ART WINGS
 (B)MACH - .50

REFERENCE INFORMATION

SREF	.5030	SU	IN.
LREF	.8000	IN.	
BREF	.8000	IN.	
AMRP	5	7.210	IN. XS
YMSP	.0000	IN.	YS
ZMSP	.0000	IN.	ZS
SCALE	.0055		

PHI

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.000
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.000

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(AIH401)	MSFC TVT604 (SABF) SRB CLEAN W/RINGS
(AIH801)	MSFC TVT604 (SABF) SRB CLEAN W/RINGS
(AIH008)	DATA NOT AVAILABLE
(AIH001)	DATA NOT AVAILABLE
(AIH001)	MSFC TVT604 (SABF) SRB CLEAN W/RINGS

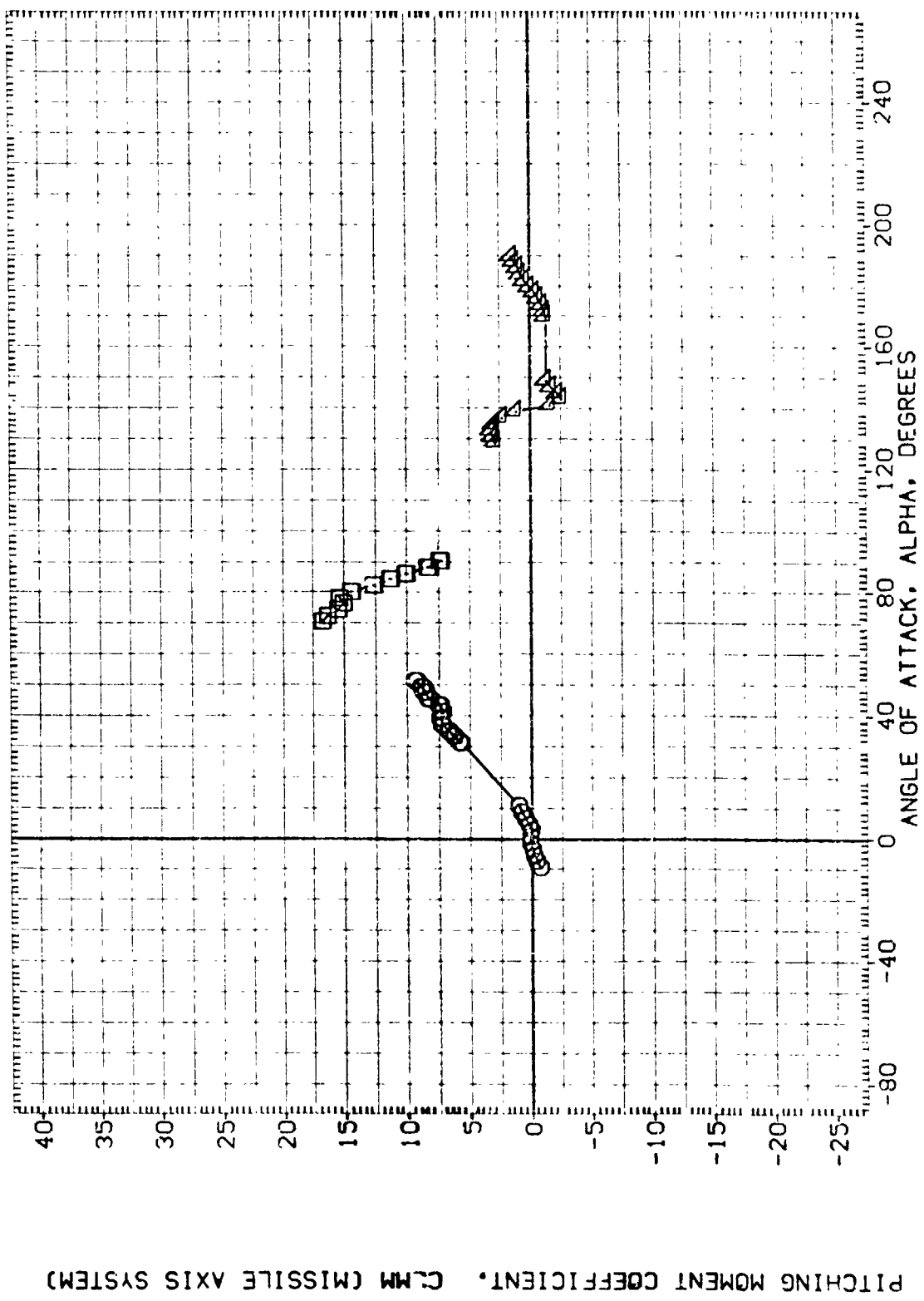


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

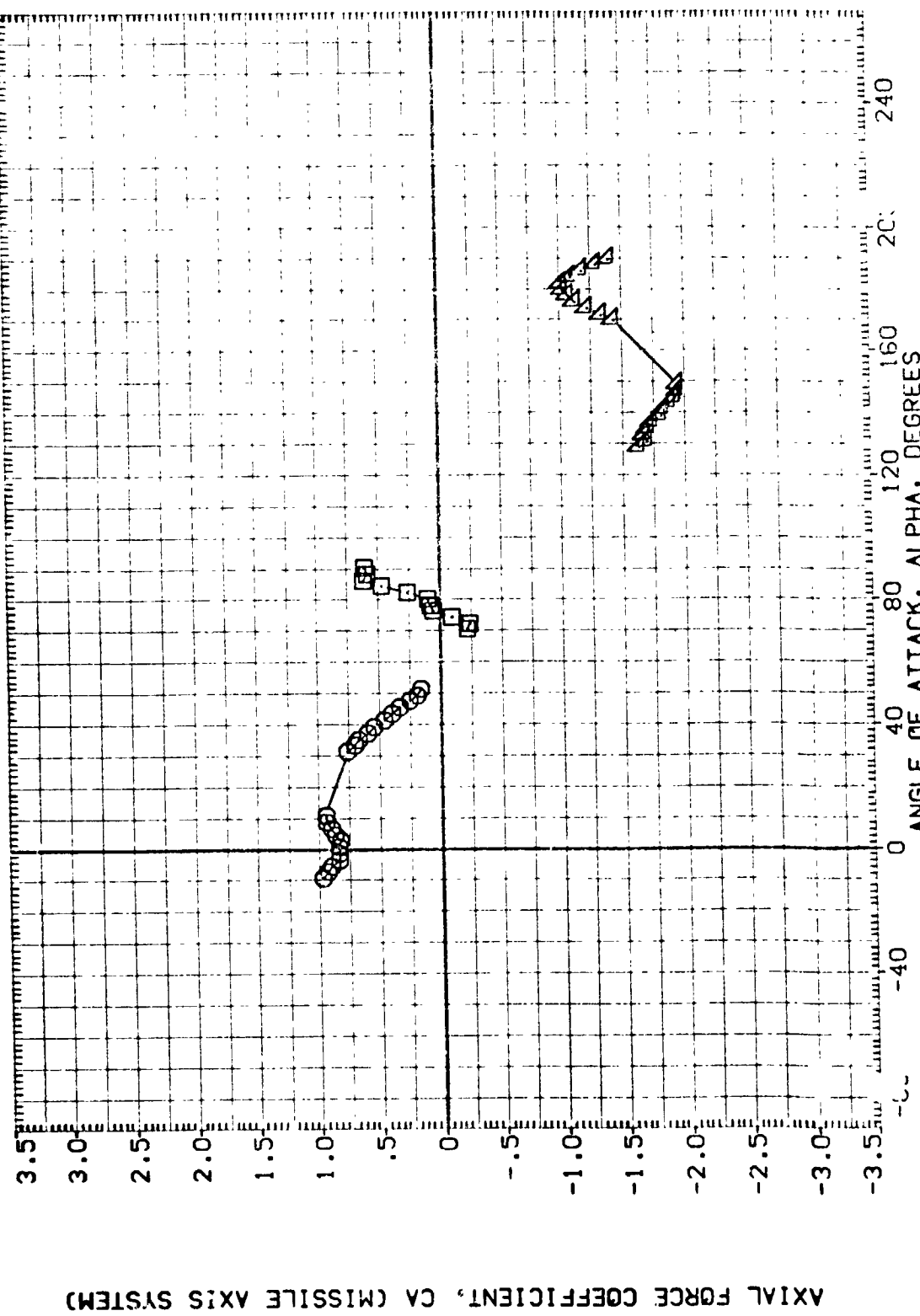
(B)MACH = .50

DATA SET SYMBOL
 (AIHQ01)
 (AIHQ01)
 (AIHQ08)
 (AIHQ01)
 (AIHQ01)

CONFIGURATION DESCRIPTION
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 DATA NOT AVAILABLE
 DATA NOT AVAILABLE
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS

PHI
 .000
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 .000
 .000

REFERENCE INFORMATION
 SREF SC 30 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055



AXIAL FORCE COEFFICIENT, CA (MISSILE AXIS SYSTEM)

FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

(B)MACH = .50 PAGE 10

REFERENCE INFORMATION

SREF	.5030	IN.
LREF	.8000	IN.
BREF	.8000	IN.
XMRP	5.7210	IN.
YMRP	.0000	IN.
ZMRP	.0000	IN.
SCALE	.0055	

PHI

.000
.000
.000
.000

CONFIGURATION DESCRIPTION

MSFC TVT604 (SABF)	SRB CLEAN W/RINGS
MSFC TVT604 (SABF)	SRB CLEAN W/RINGS
DATA NOT AVAILABLE	
DATA NOT AVAILABLE	
MSFC TVT604 (SABF)	SRB CLEAN W/RINGS

DATA SET SYMBOL

(AIHAG1)
(AIH801)
(AIH008)
(AIHCO1)
(AIH001)

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

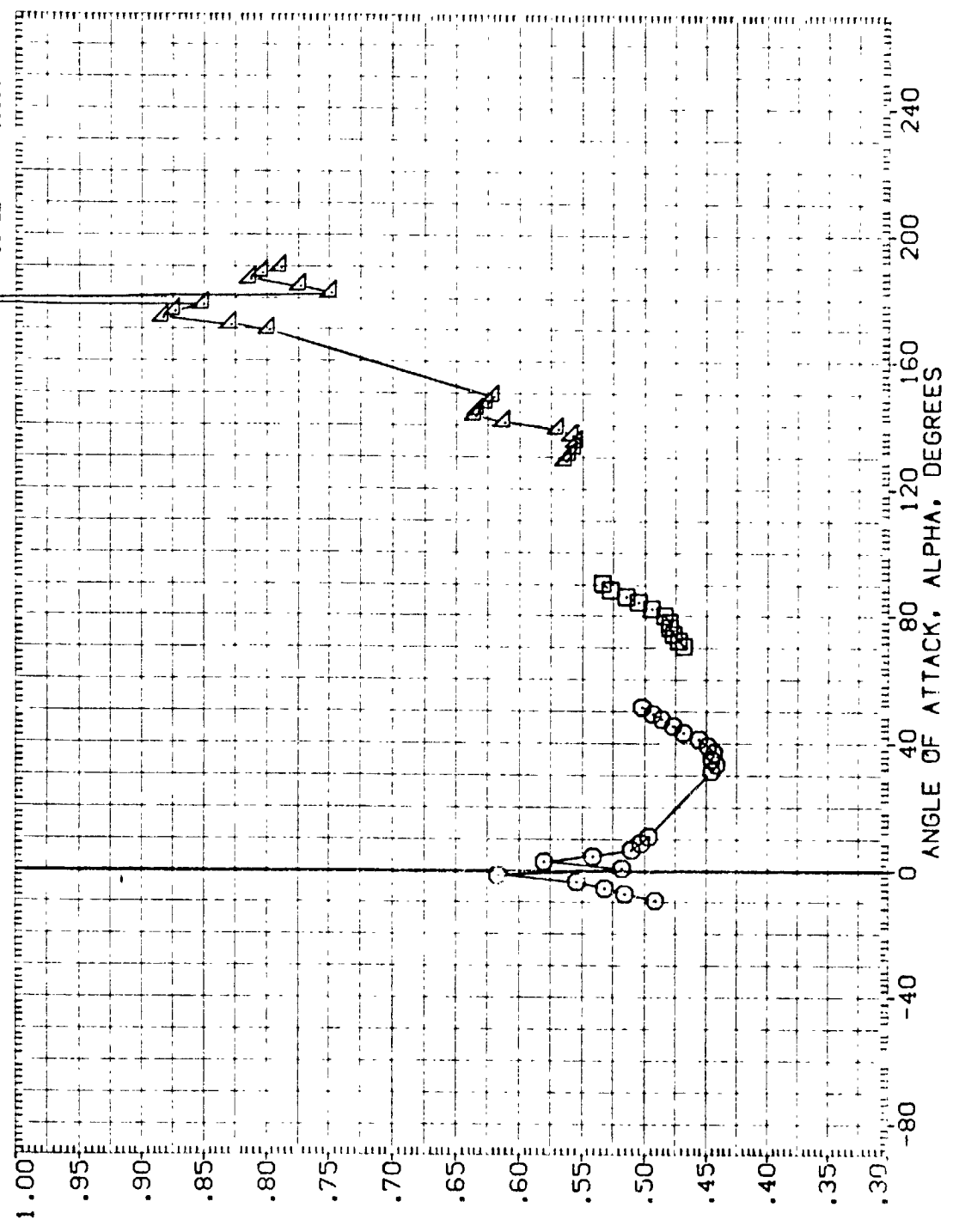


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

(B)MACH = .50

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(AIH001) MSFC TV1604 (SABF) SRB CLEAN W/RINGS

(AIH001) MSFC TV1604 (SABF) SRB CLEAN W/RINGS

(AIH008) DATA NOT AVAILABLE

(AIH001) DATA NOT AVAILABLE

(AIH001) MSFC TV1604 (SABF) SRB CLEAN W/RINGS

PHI .000

 .000

 .000

 .000

REFERENCE INFORMATION

TRF 5.230 SQ. IN.

LREF .8000 IN.

BRF .8000 IN.

XMRP 5.7210 IN. XS

ZMRP .0000 IN. YS

 .0000 IN. ZS

SCALE .0055

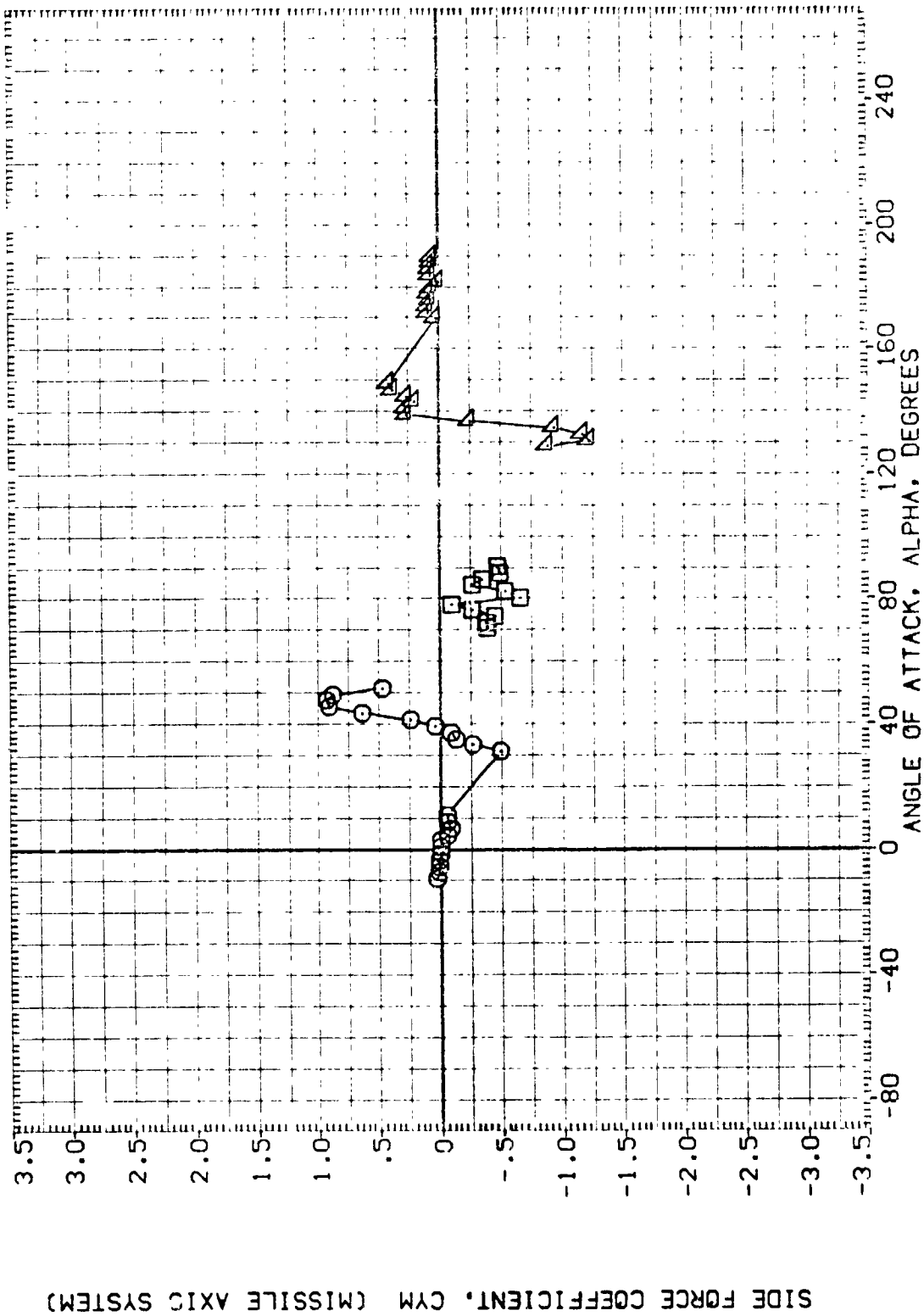


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS
 (B)MACH = .50



REFERENCE INFORMATION
 SREF .5030 SQ IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI .000
 .000
 .000
 .000
 .000

DATA SET SYMBOL. CONFIGURATION DESCRIPTION
 (A1H01) MSFC TVT604 (SABF) SRB CLEAN W/RINGS
 (A1H01) MSFC TVT604 (SABF) SRB CLEAN W/RINGS
 (A1H08) DATA NOT AVAILABLE
 (A1H01) DATA NOT AVAILABLE
 (A1H01) MSFC TVT604 (SABF) SRB CLEAN W/RINGS

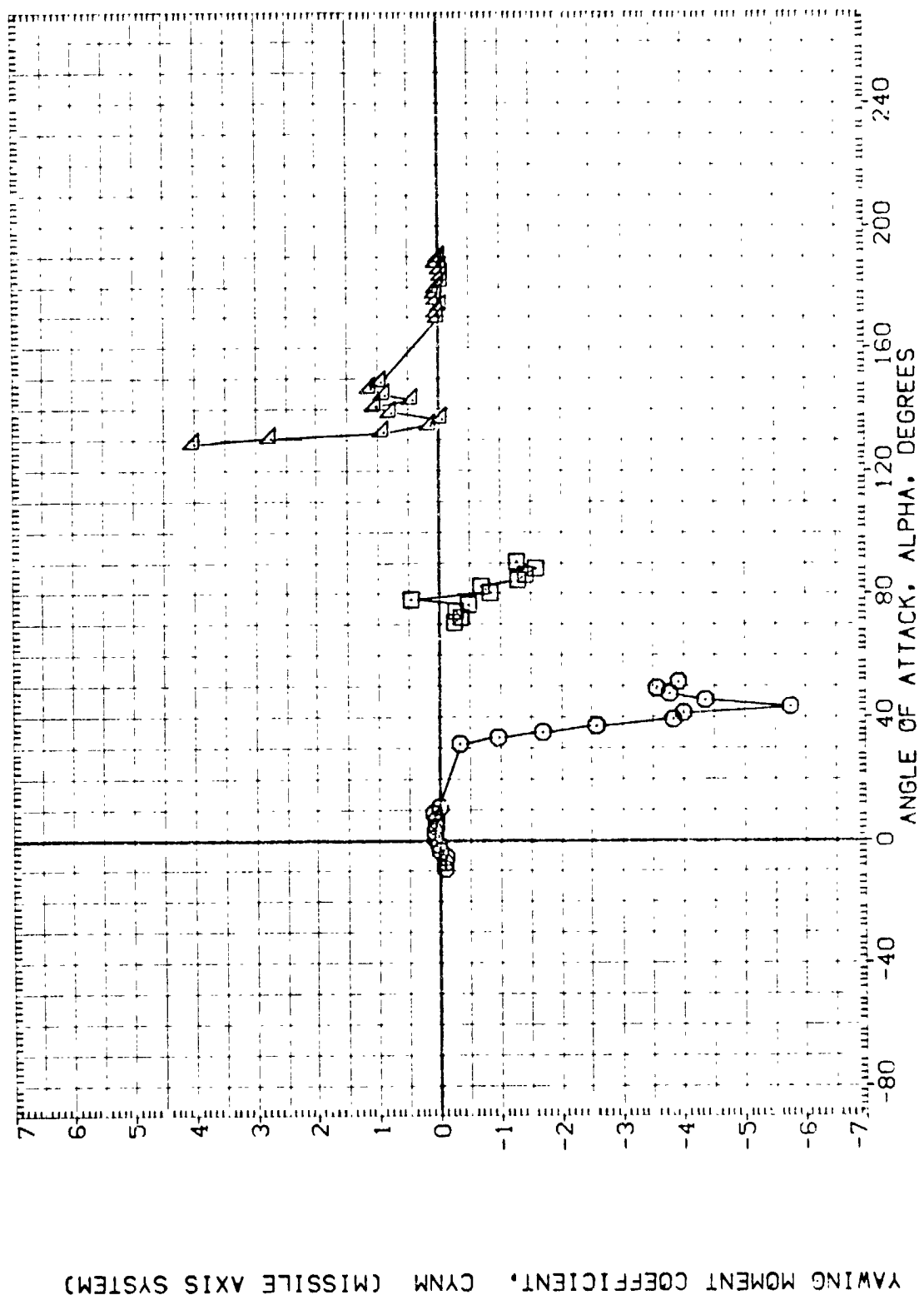


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

(B)MACH = .50

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H401) MSFC TWT604 (SABF) SRB CLEAN V/RINGS

(A1H401) MSFC TWT604 (SABF) SRB CLEAN V/RINGS

(A1H408) DATA NOT AVAILABLE

(A1H401) MSFC TWT604 (SABF) SRB CLEAN V/RINGS

(A1H401) MSFC TWT604 (SABF) SRB CLEAN V/RINGS

PHI .000

 .000

 .000

 .000

 .000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8700 IN.

BREF .6000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

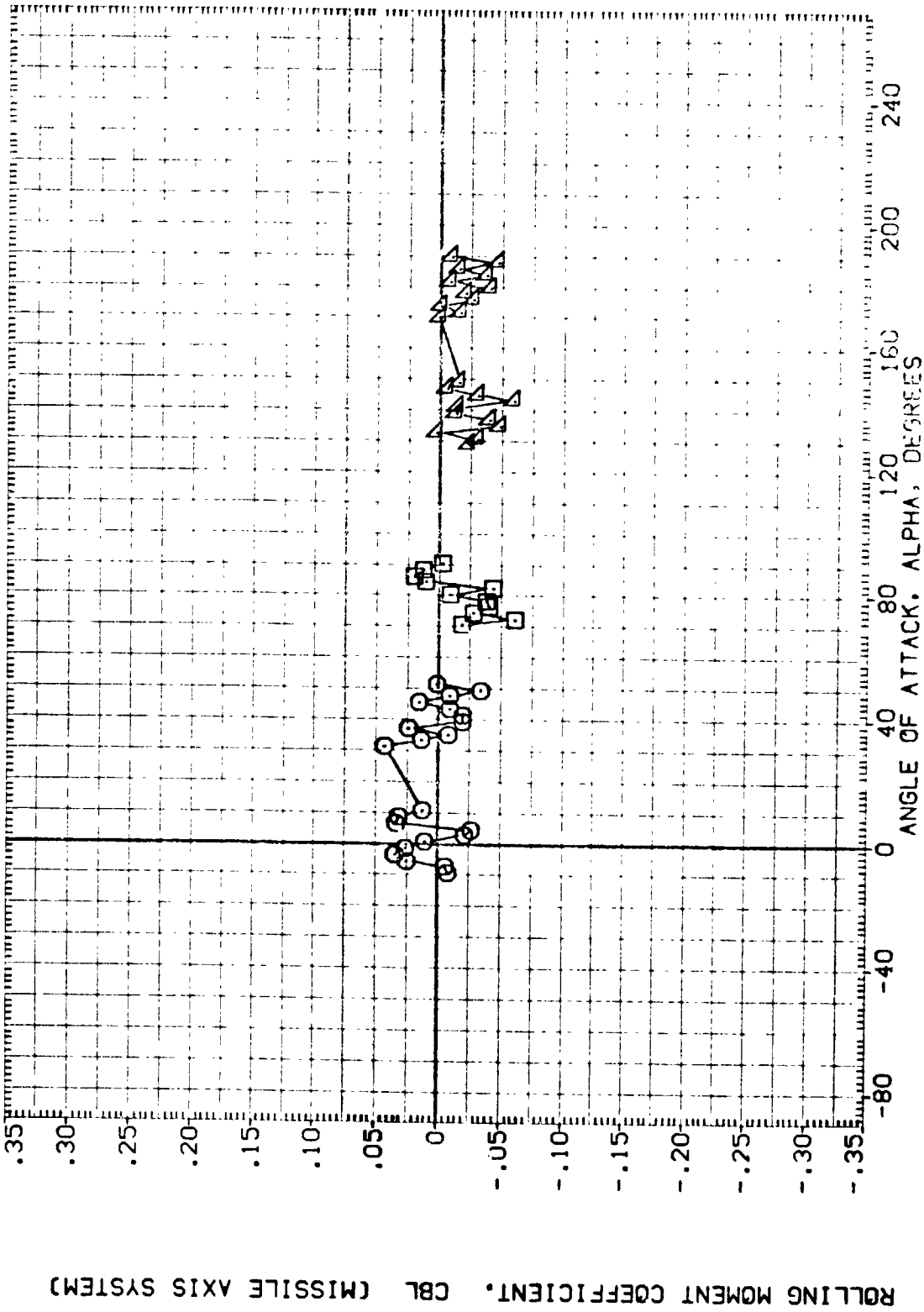


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN AFT RINGS AND AFT RINGS

(B)MACH = .50

REFERENCE INFORMATION
 SREF .5030 50. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 .000
 .000
 .000
 .000
 .000

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	V/R INGS
(A1H001)	MSFC TVT604 (SABF) SRB CLEAN	V/R INGS
(A1H601)	MSFC TVT604 (SABF) SRB CLEAN	V/R INGS
(A1H008)	MSFC TVT604 (SABF) SRB CLEAN	V/R INGS
(A1H001)	MSFC TVT604 (SABF) SRB CLEAN	V/R INGS
(A1H001)	MSFC TVT604 (SABF) SRB CLEAN	V/R INGS

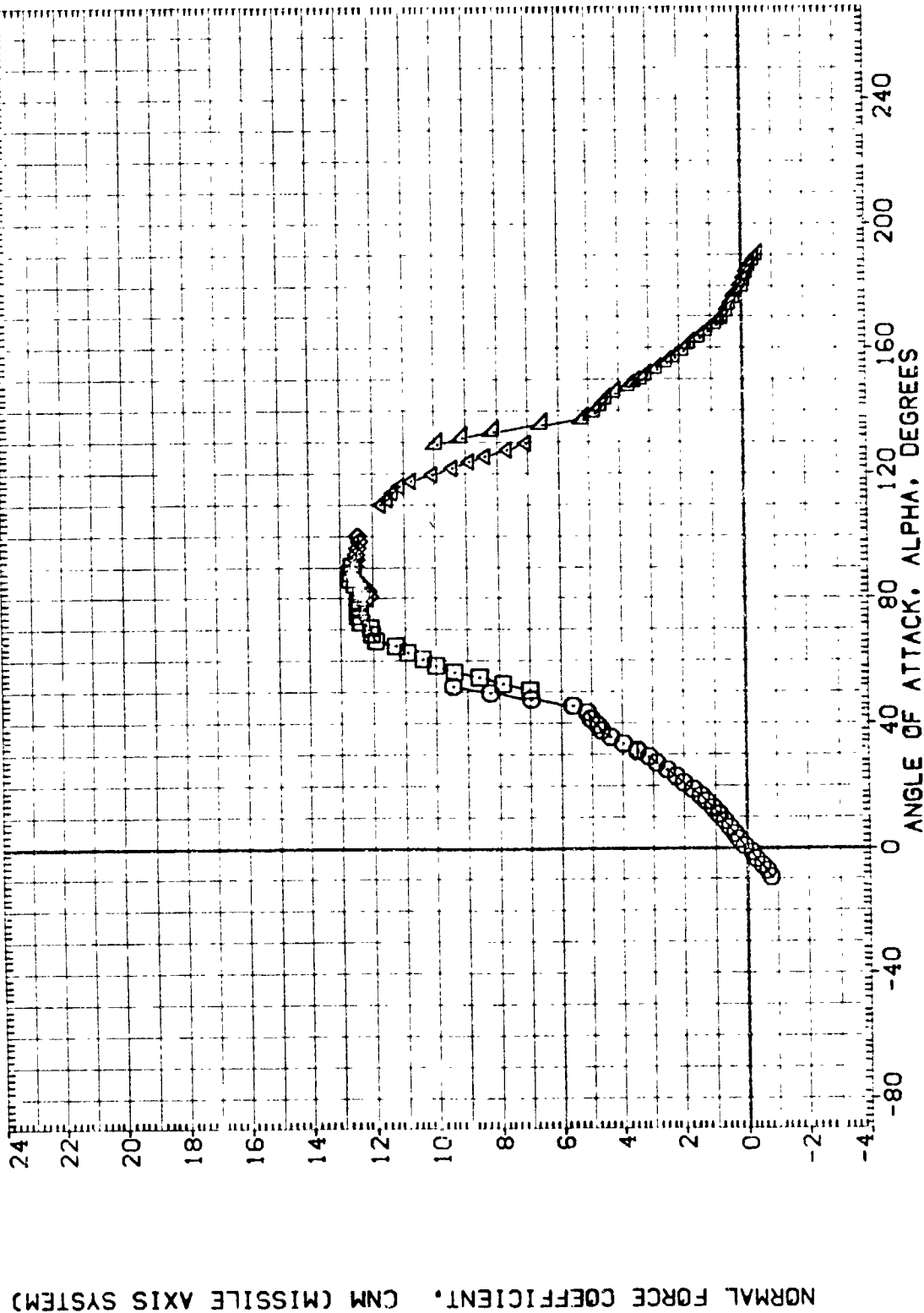


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1HA01)	MSFC	TVT604	(SABF)	SRB	CLEAN	V/RINGS
(A1HB01)	MSFC	TVT604	(SABF)	SRB	CLEAN	V/RINGS
(A1HC01)	MSFC	TVT604	(SABF)	SRB	CLEAN	V/RINGS
(A1HD01)	MSFC	TVT604	(SABF)	SRB	CLEAN	V/RINGS
(A1HE01)	MSFC	TVT604	(SABF)	SRB	CLEAN	V/RINGS

PHI .000
 .000
 .000
 .000
 .000

REFERENCE INFORMATION

SREF	.5030	SO	IN.
LREF	.8000	IN	
BREF	.8000	IN	
XMRP	S.7210	IN	X5
YMRP	.0000	IN	Y5
ZMRP	.0000	IN	Z5
SCALE	.0055		

PITCHING MOMENT COEFFICIENT, CLMM (MISSILE AXIS SYSTEM)

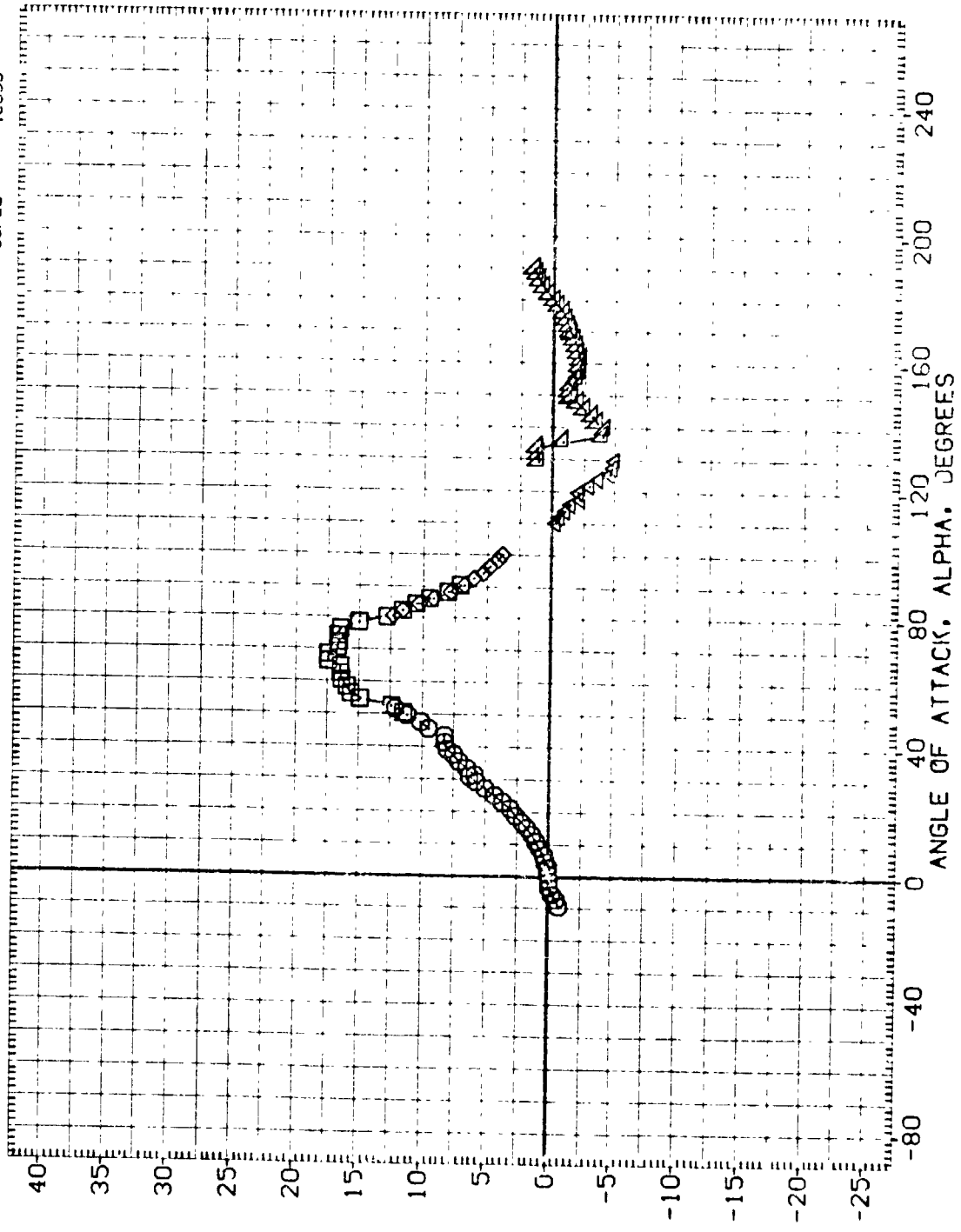


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS
 (CJMACH = .60) PAGE 16

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI REFERENCE INFORMATION

(A1H001) MSFC TVT604 (SABF) SRB CLEAN W/RINGS .000 SREF .5030 SQ. IN.

(A1H002) MSFC TVT604 (SABF) SRB CLEAN W/RINGS .000 LREF .8000 IN.

(A1H003) MSFC TVT604 (SABF) SRB CLEAN W/RINGS .000 BRREF .8000 IN.

(A1H004) MSFC TVT604 (SABF) SRB CLEAN W/RINGS .000 XMRP 5.7210 IN. XS

(A1H005) MSFC TVT604 (SABF) SRB CLEAN W/RINGS .000 YMRP .0000 IN. YS

(A1H006) MSFC TVT604 (SABF) SRB CLEAN W/RINGS .000 ZMRP .0000 IN. ZS

SCALE .0055

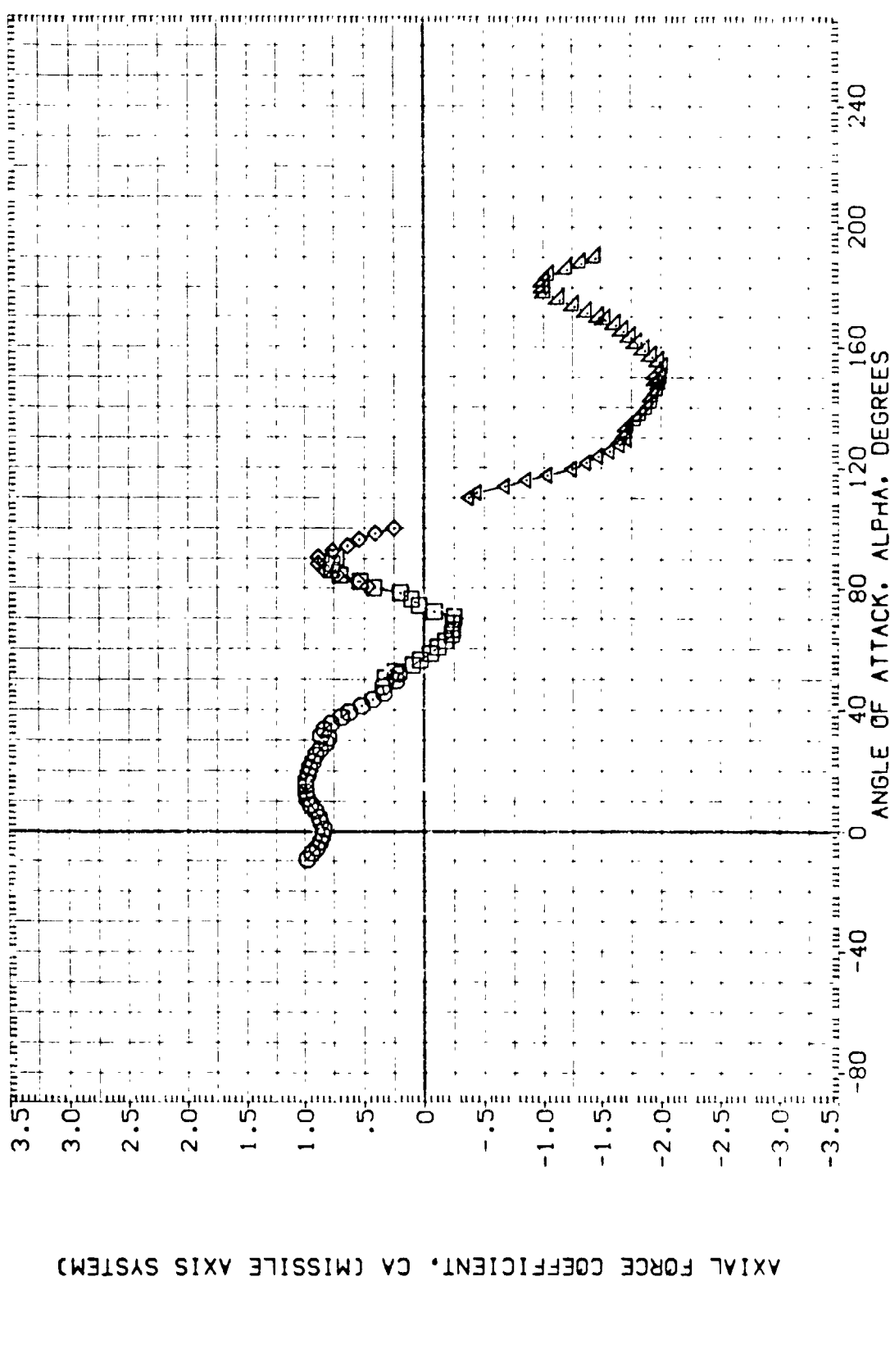


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

(C)MACH = .60

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 .000
 .000
 .000
 .000

CONFIGURATION DESCRIPTION
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS

DATA SET SYMBOL
 (A1H401) □
 (A1H801) ○
 (A1H008) ⊗
 (A1H001) △

CENTER OF PRESSURE LOCIGN • XCP/L, AS A FRACTION OF BODY LENGTH

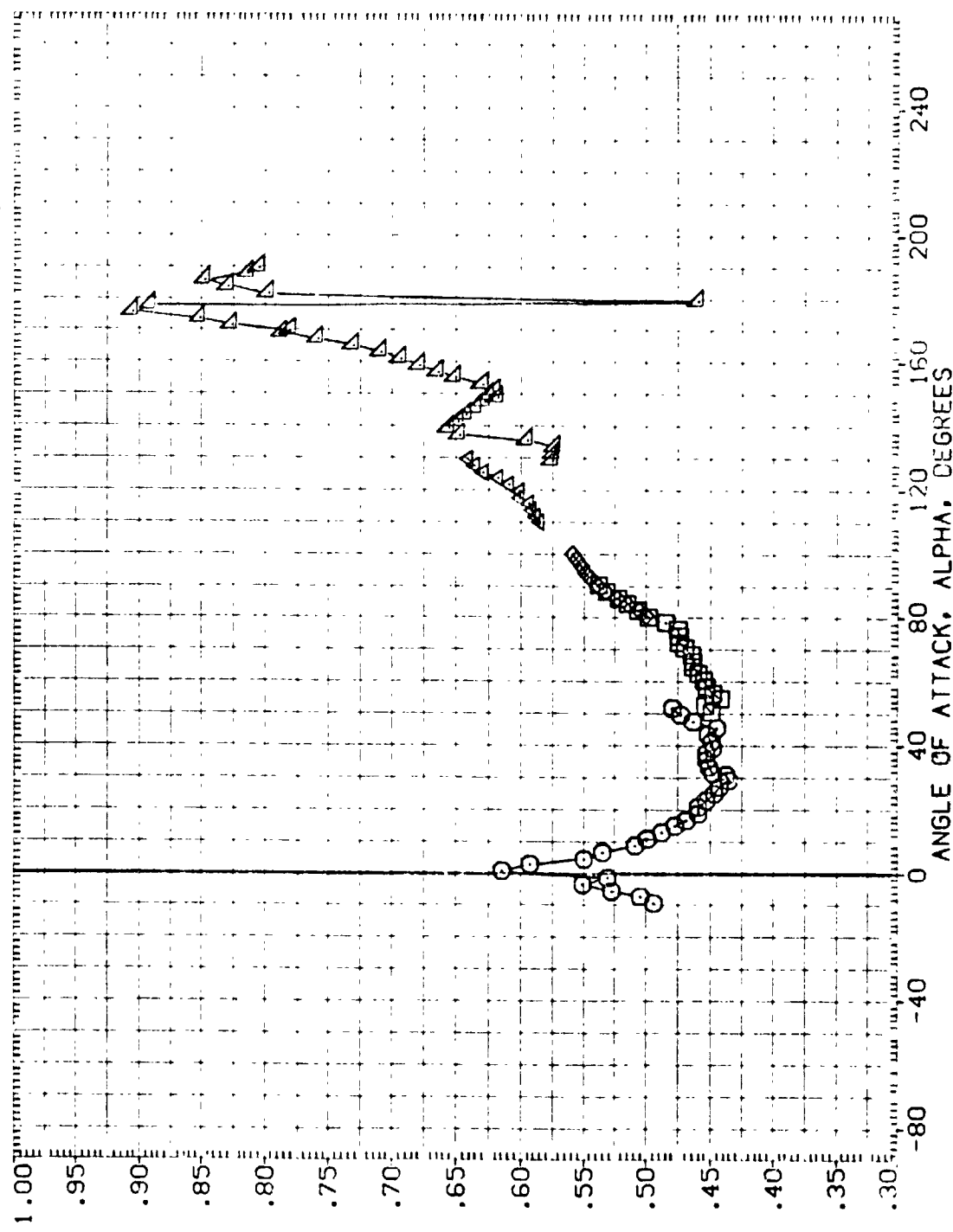


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

(C)MACH = .60

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(A1H001)	MSFC TVT604 (SABF) SRB CLEAN W/RINGS	.000	SREF .5030 SQ. IN.
(A1H001)	MSFC TVT604 (SABF) SRB CLEAN W/RINGS	.000	LREF .8000 IN.
(A1H008)	MSFC TVT604 (SABF) SRB CLEAN W/RINGS	.000	BREF .8000 IN.
(A1H001)	MSFC TVT604 (SABF) SRB CLEAN W/RINGS	.000	XMRP 5.7210 IN. XS
(A1H001)	MSFC TVT604 (SABF) SRB CLEAN W/RINGS	.000	YMRP .0000 IN. YS
			ZMRP .0000 IN. ZS
			SCALE .0055

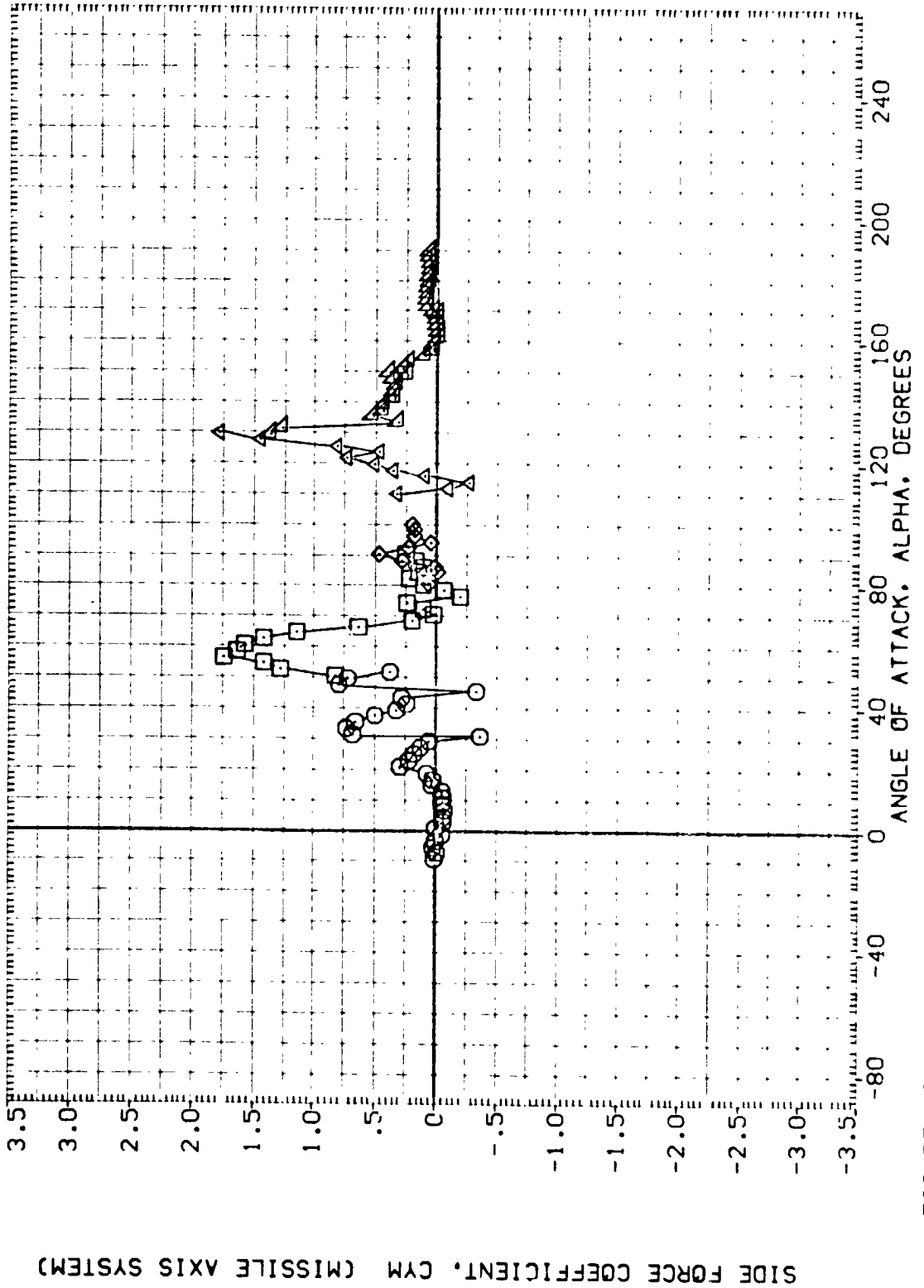


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

REFERENCE INFORMATION
 SC:30 90. IN.
 REF 8000 IN.
 BREF 8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 .000
 .000
 .000
 .000

DATA SET SYMBO. CONFIGURATION DESCRIPTION
 (A1MAG1) } MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 (A1MAG2) } MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 (A1MAG3) } MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 (A1MAG4) } MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 (A1MAG5) } MSFC TVT604 (SABF) SRB CLEAN V/RINGS

YAWING MOMENT COEFFICIENT, C_{YM} (MISSILE AXIS SYSTEM)

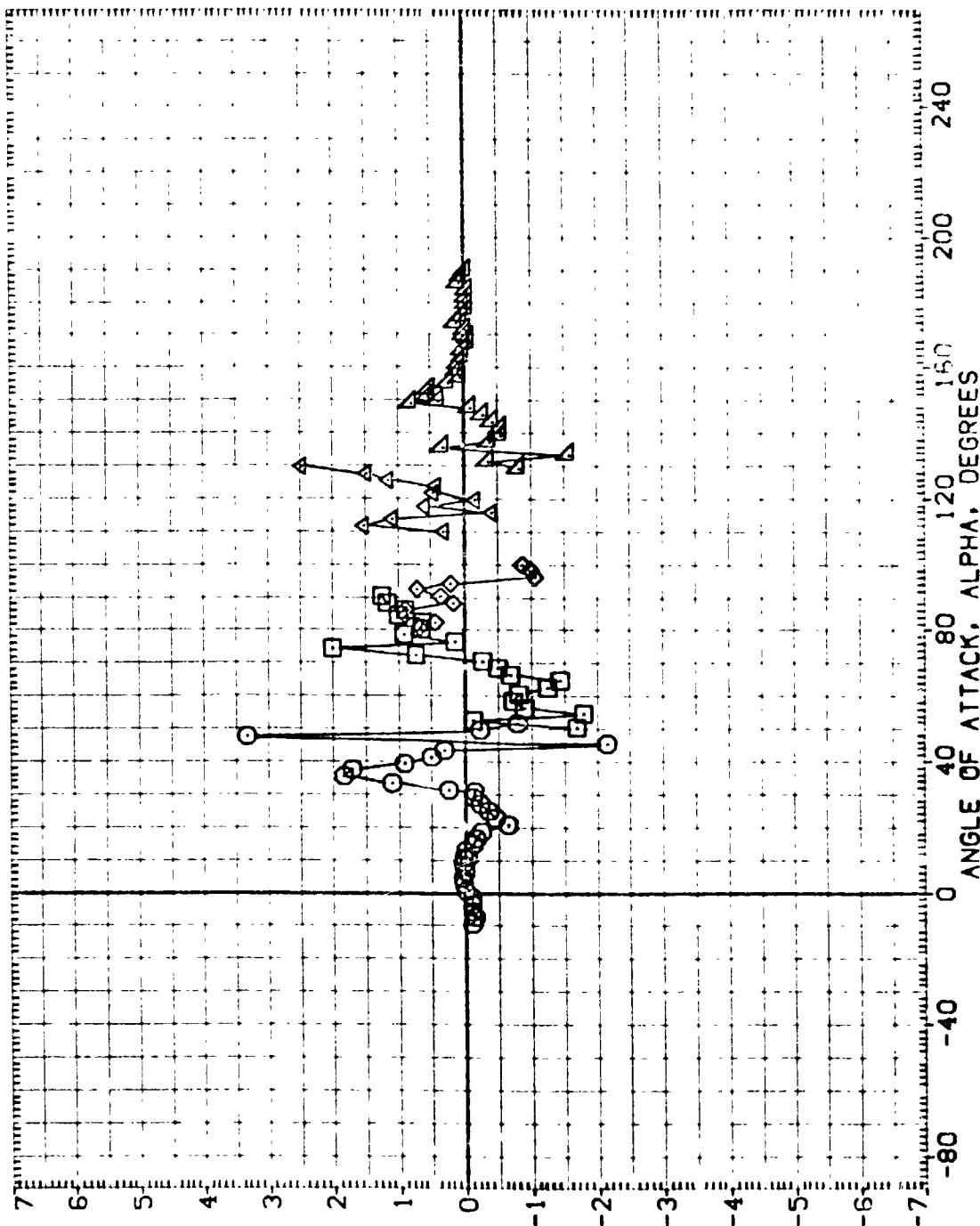


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFI RINGS

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H401) MSFC (WT604 (SABF) SRB CLEAN W/RINGS

(A1H402) MSFC (WT604 (SABF) SRB CLEAN W/RINGS

(A1H403) DATA NOT AVAILABLE

(A1H404) DATA NOT AVAILABLE

(A1H405) MSFC (WT604 (SABF) SRB CLEAN W/RINGS

PHI

.000

.000

.000

.000

REFERENCE INFORMATION

SREF .5030 SG. IN.

LREF .8000 IN.

BREF .8000 IN.

XPRP 5 IN. X5

ZPRP .0000 IN. Y5

SCALE .0055 IN. Z5

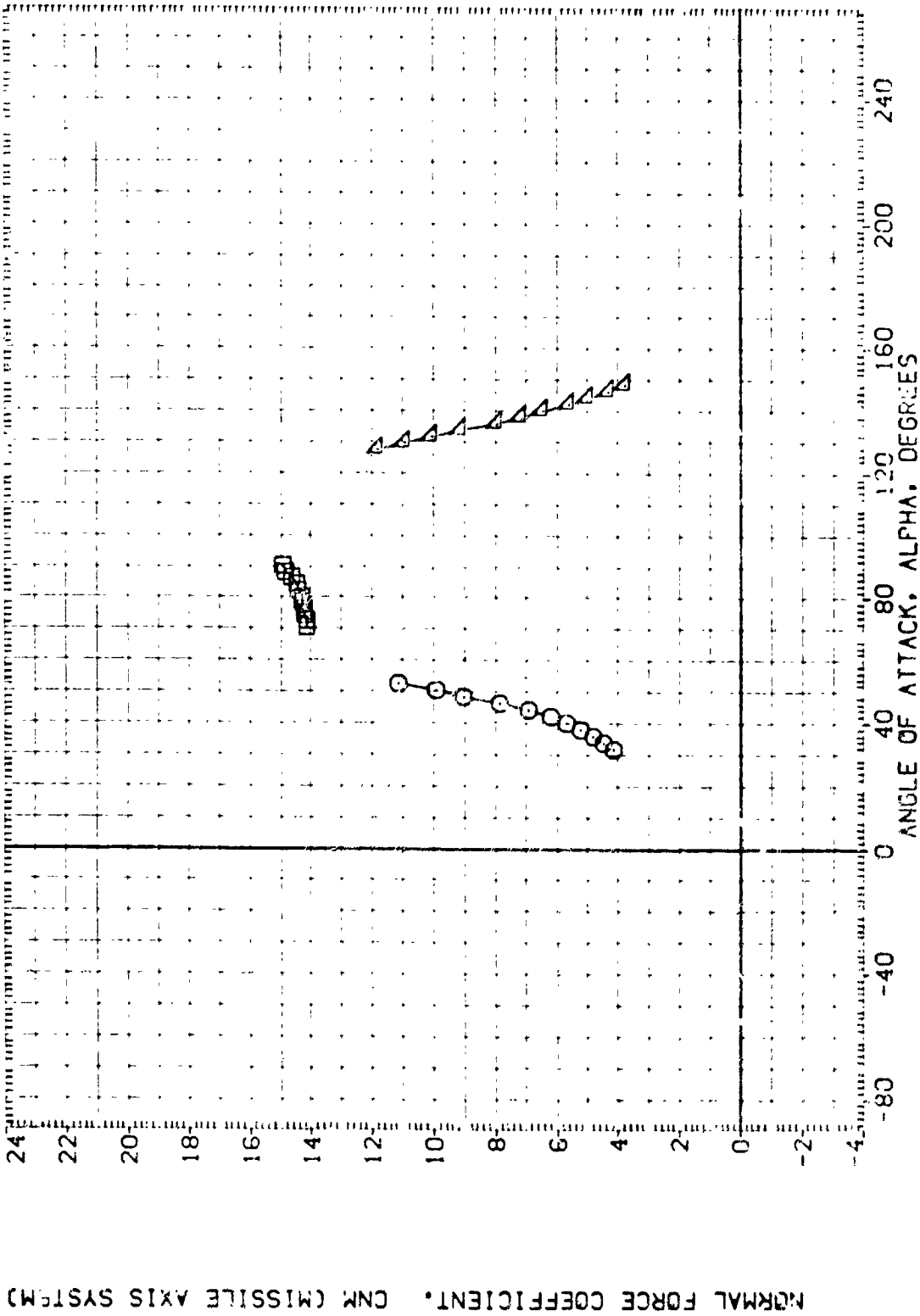


FIGURE 18. STATIC STABILITY CHARACTERISTICS OF SRB W/CLEAN ATTACH AND AFT RJTS
 (0)MACH = .80

REFERENCE INFORMATION
 SREF .5030 SO. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.72 0 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 .000
 .000
 .000
 .000
 .000

CONFIGURATION DESCRIPTION
 MSFC TVT604 (SABF) SRB CLEAN W/RINGS
 MSFC TVT604 (SABF) SRB CLEAN W/RINGS
 DATA NOT AVAILABLE
 DATA NOT AVAILABLE
 MSFC TVT604 (SABF) SRB CLEAN W/RINGS

DATA SET SYMBOL
 (A1H01)
 (A1H01)
 (A1H01)
 (A1H01)
 (A1H01)

PITCHING MOMENT COEFFICIENT, CLMM (MISSILE AXIS SYSTEM)

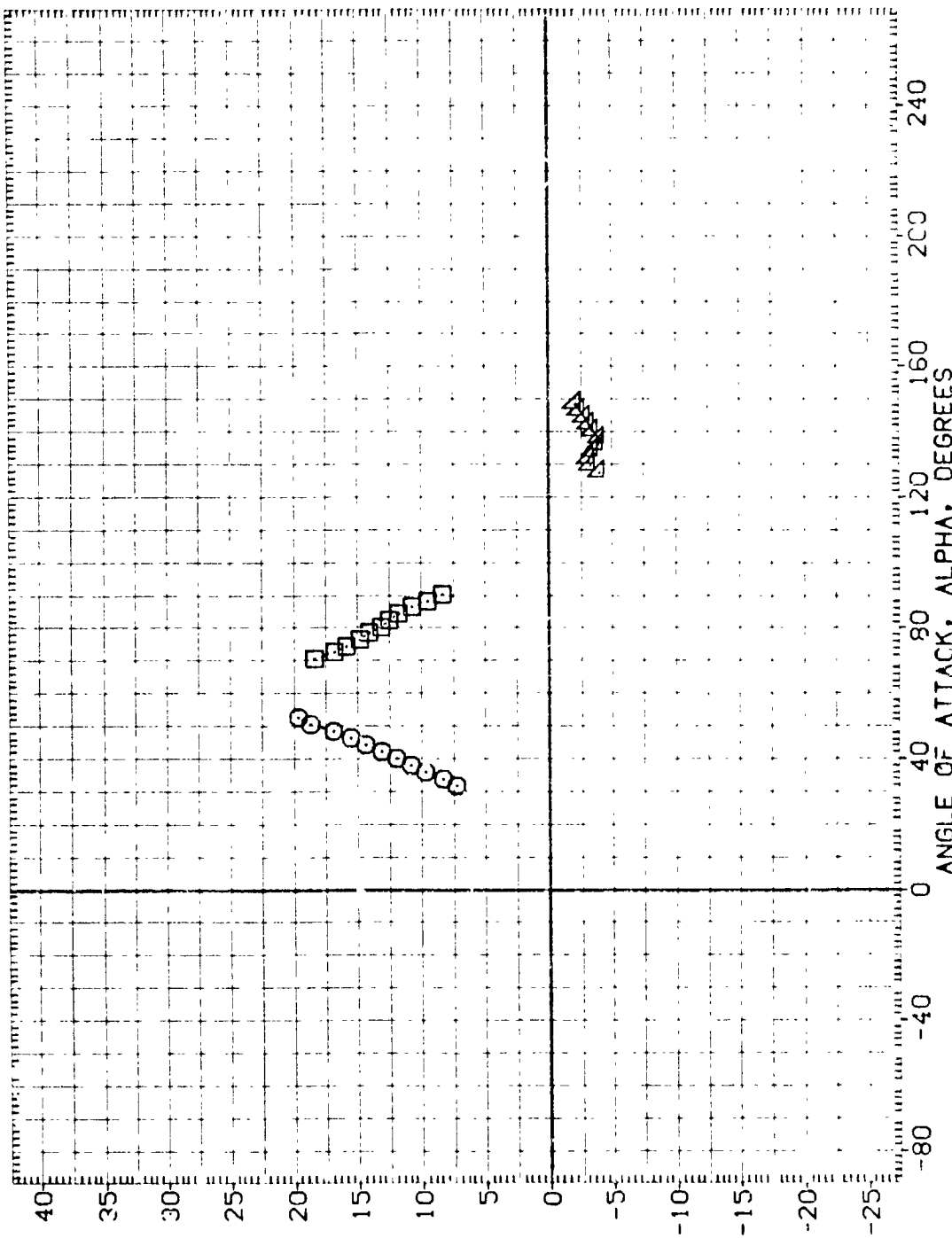


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

(O)MACH = .80

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(A1HA01)	MSFC TVT804 (SABF) SRB CLEAN V/RINGS	.000	SREF 5030 SQ. IN.
(A1HB01)	MSFC TVT804 (SABF) SRB CLEAN V/RINGS	.000	LREF 8000 IN.
(A1HC08)	DATA NOT AVAILABLE	.000	BREF 9000 IN.
(A1HD01)	DATA NOT AVAILABLE	.000	XMRP 57.210 IN. XS
(A1PE01)	MSFC TVT804 (SABF) SRB CLEAN V/RINGS	.000	YMRP .0000 IN. YS
			ZMRP .0000 IN. ZS
			SCALE .0055

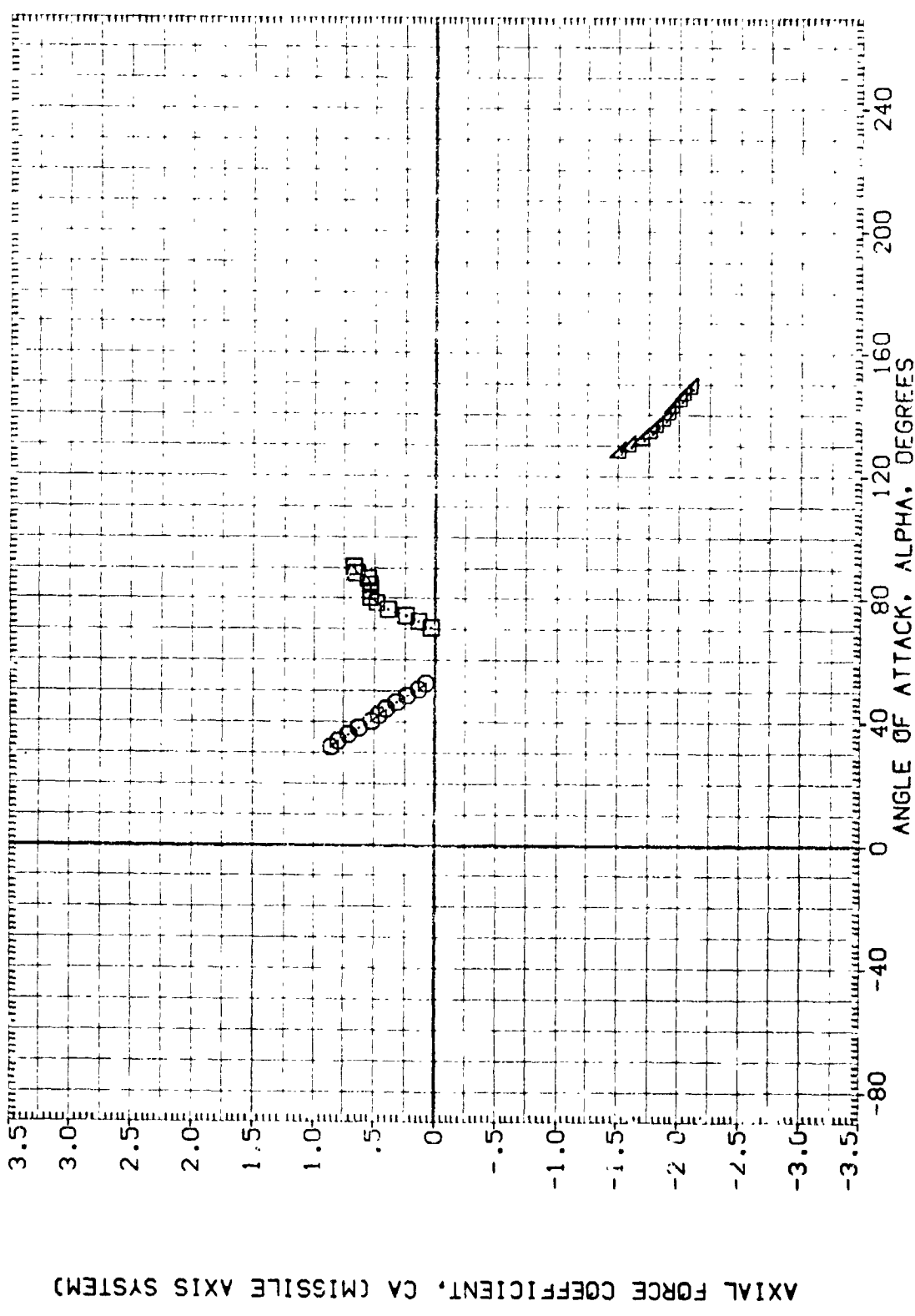


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

(C)MACH = .80

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 .000
 .000
 .000
 .000

CONFIGURATION DESCRIPTION
 MSFC TVT604 (SABF) SRB CLEAN W/RINGS
 MSFC TVT604 (SABF) SRB CLEAN W/RINGS
 DATA NOT AVAILABLE
 DATA NOT AVAILABLE
 MSFC TVT604 (SABF) SRB CLEAN W/RINGS

DATA SET SYMBOL
 (A1H401)
 (A1H601)
 (A1H008)
 (A1H001)
 (A1H001)

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

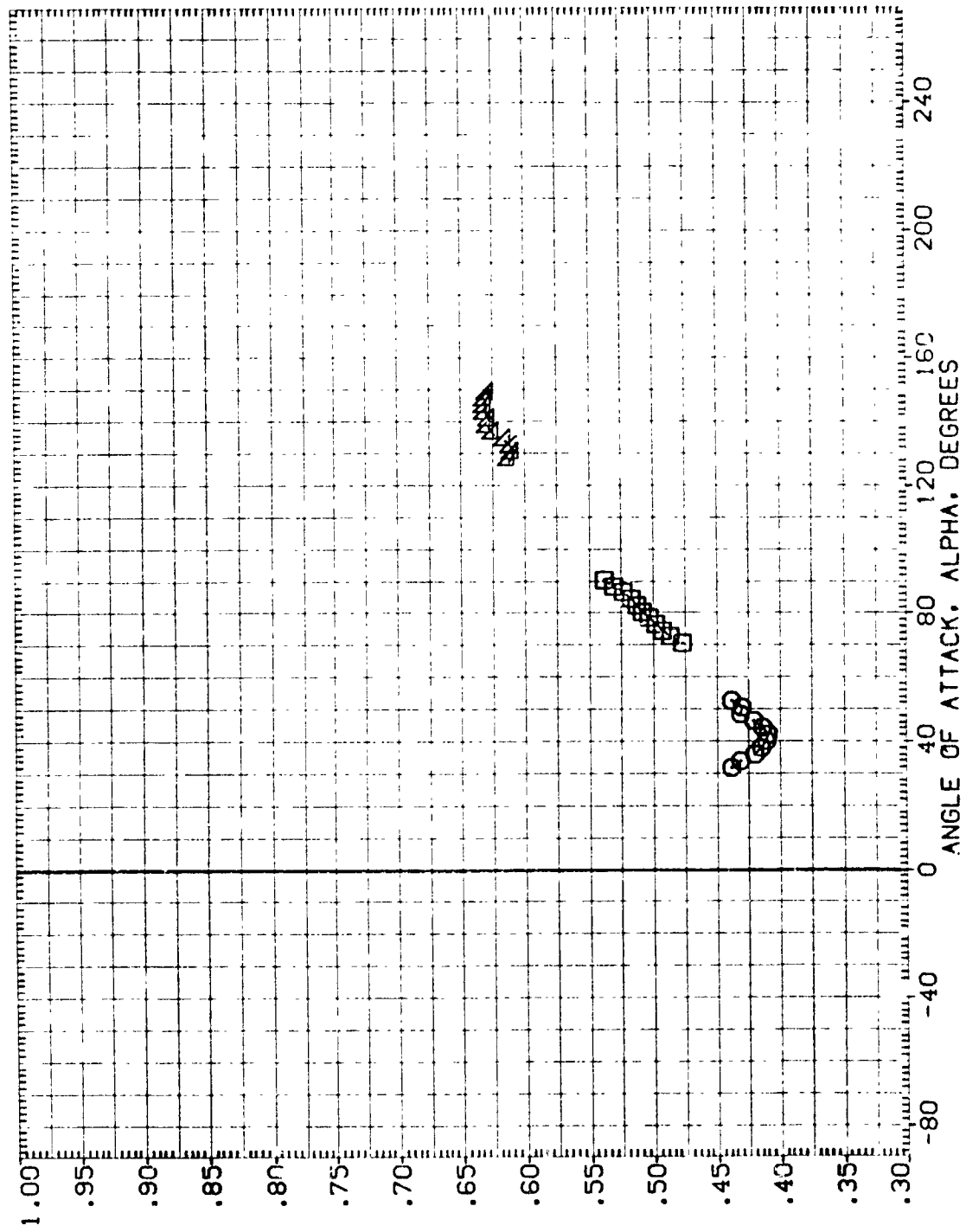


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

(D)MACH = .80

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(A1H001)	MSFC TVT604 (SABF) SRB CLEAN W/RINGS	.000	SREF 5030 SQ. IN.
(A1H001)	MSFC TVT604 (SABF) SRB CLEAN W/RINGS	.000	LREF .8000 IN.
(A1H008)	DATA NOT AVAILABLE	.000	BREF .8000 IN.
(A1H001)	DATA NOT AVAILABLE	.000	XMRP .7710 IN. XS
(A1H001)	MSFC TVT604 (SABF) SRB CLEAN W/RINGS	.000	YMRP .0000 IN. YS
			ZMRP .0000 IN. ZS
			SCALE .0055

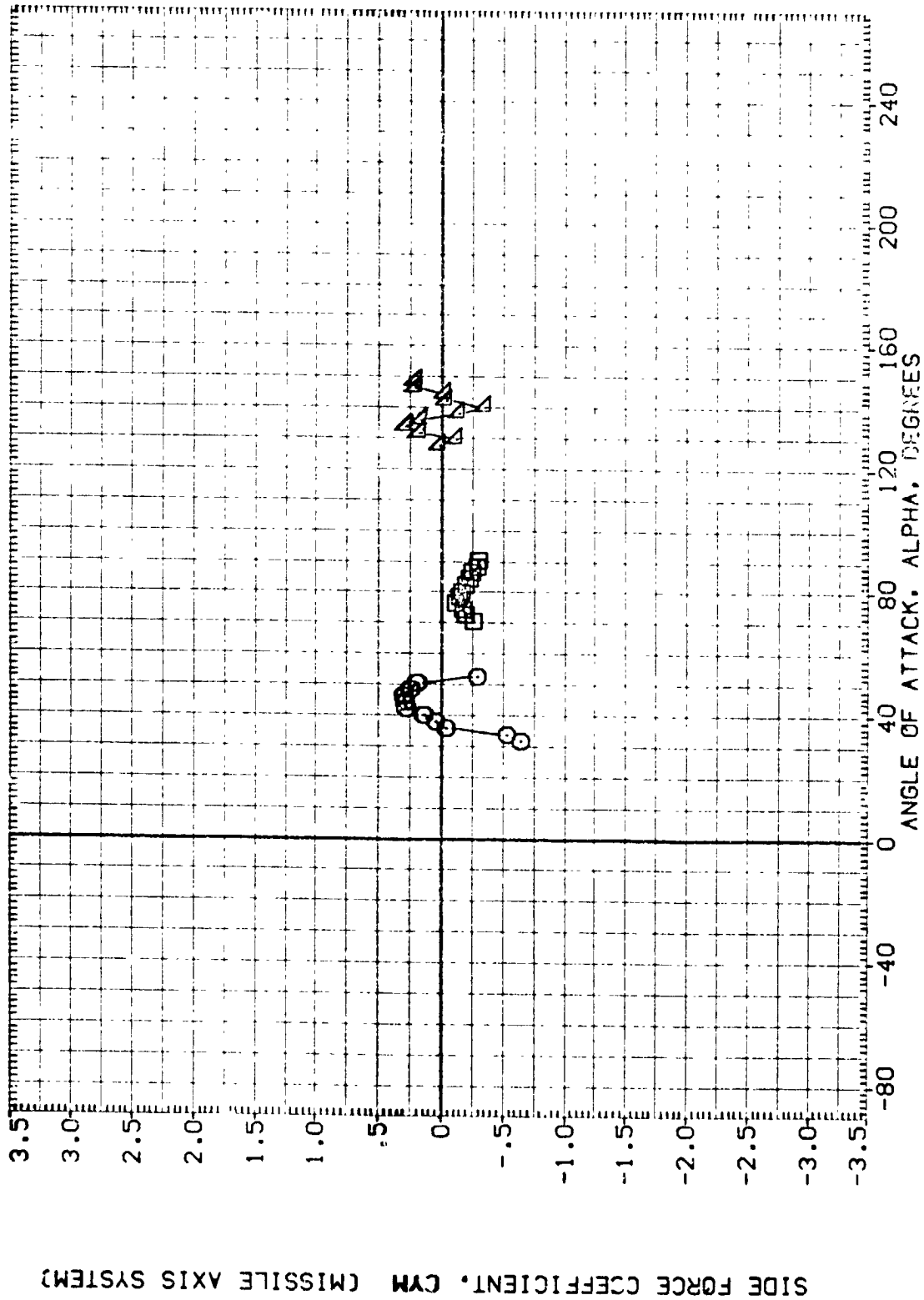


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

(C)MACH = .80

PAGE

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DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(A1H001)	MSFC TWT604 (SABF) SRB CLEAN W/RINGS	.000	SREF .5030 SQ. IN.
(A1H002)	MSFC TWT604 (SABF) SRB CLEAN W/RINGS	.000	LREF .8000 IN.
(A1H003)	DATA NOT AVAILABLE	.000	BREF .8000 IN.
(A1H004)	DATA NOT AVAILABLE	.000	YMRP 5.7210 IN. XS
(A1H001)	MSFC TWT604 (SABF) SRB CLEAN W/RINGS	.000	ZMRP .0000 IN. YS
			SCALE .0055

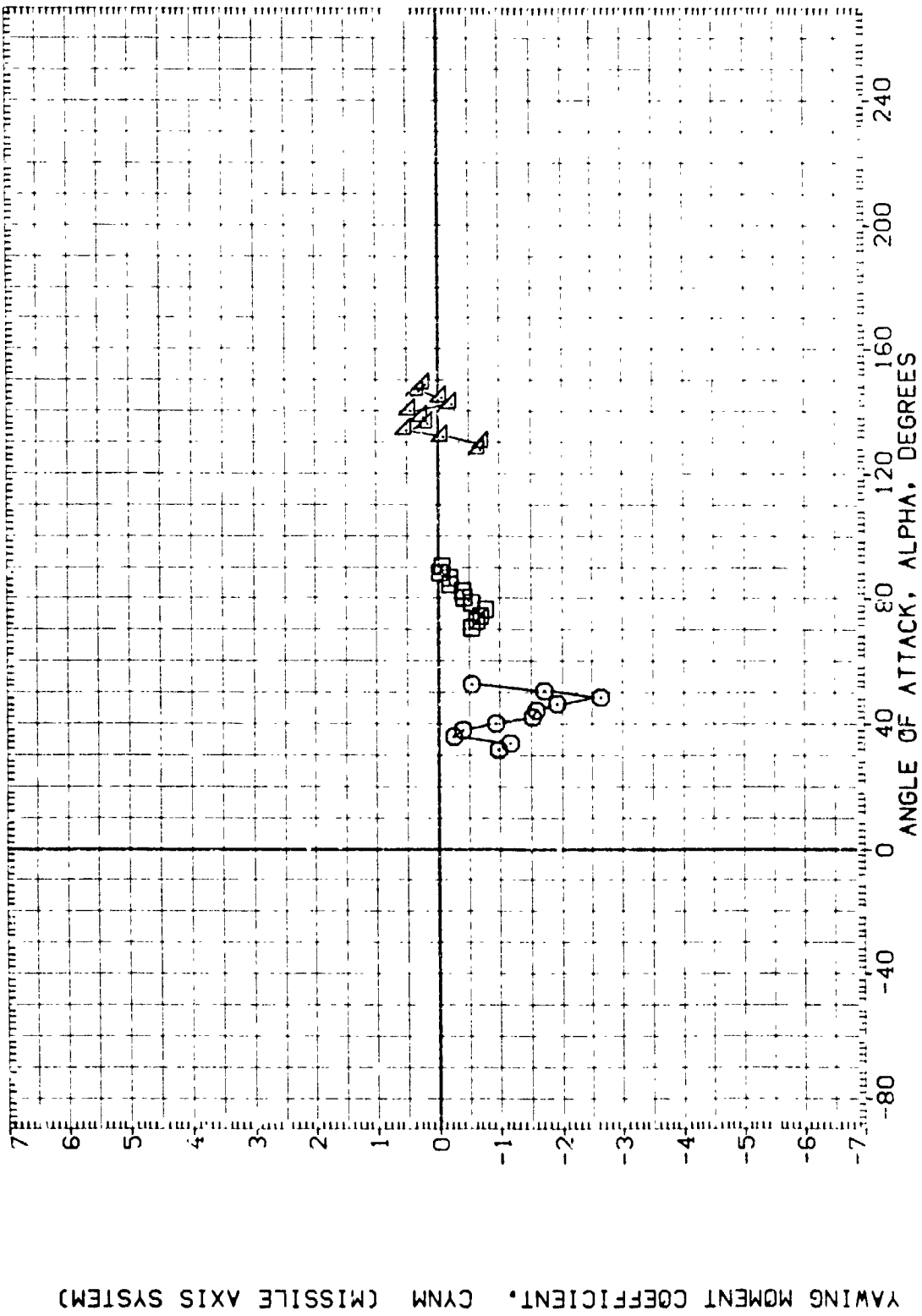


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

(C)MACH = .80

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(AIH001)	MSFC TV1604 (SABF) SRB CLEAN V/RINGS	.000	SREF .5030 SQ. IN.
(AIH001)	MSFC TV1604 (SABF) SRB CLEAN V/RINGS	.000	LREF .8000 IN.
(AIH008)	DATA NOT AVAILABLE	.000	BREF .8000 IN.
(AIH001)	DATA NOT AVAILABLE	.000	XMRP 5.7210 IN. XS
(AIH001)	MSFC TV1604 (SABF) SRB CLEAN V/RINGS	.000	YMRP .0000 IN. YS
			ZMRP .0000 IN. ZS
			SCALE .0055

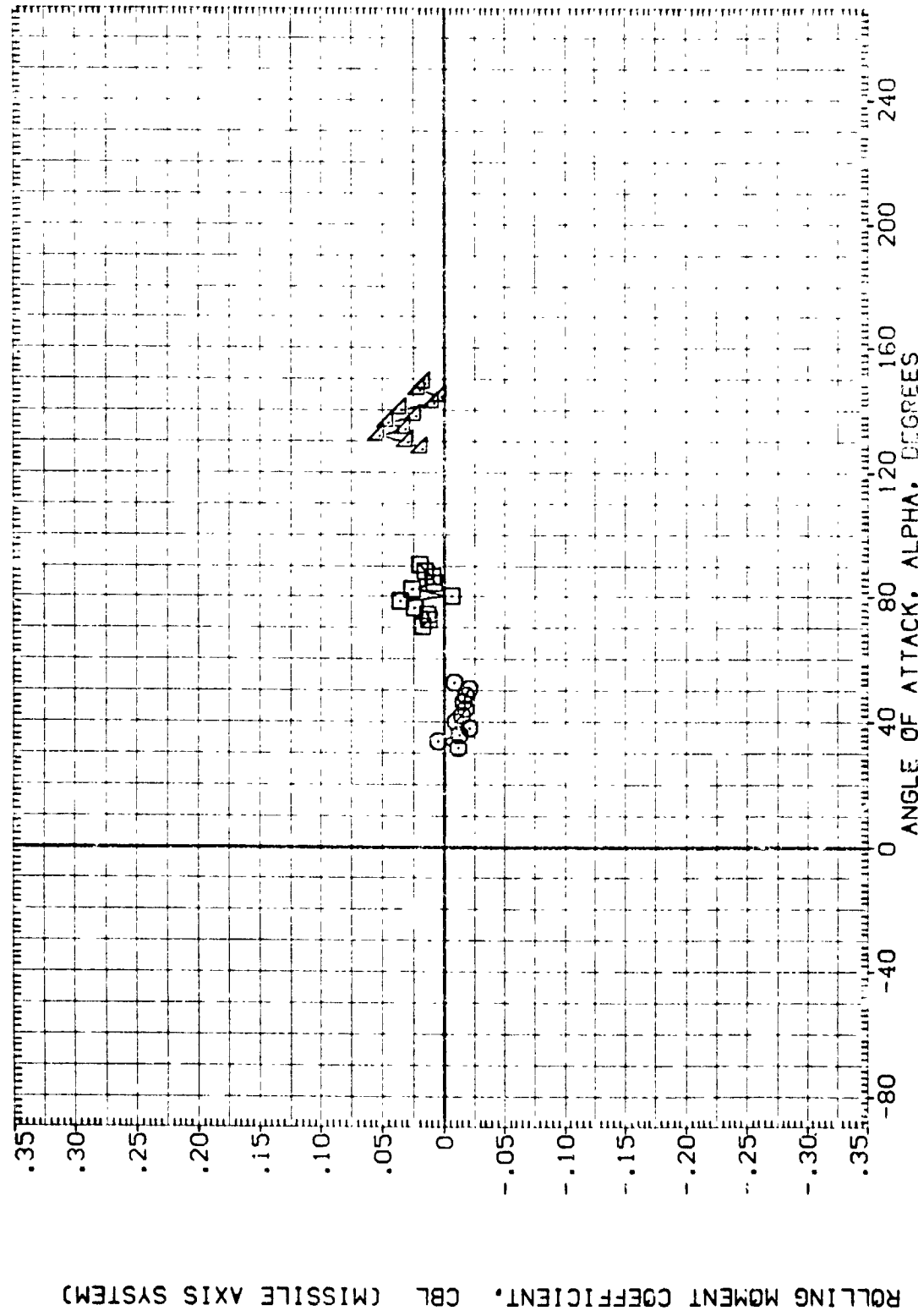


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(AI-H01)	MSFC TVT604 (SABF) SRB CLEAN W/RINGS	.000	SREF .5030 SQ. IN.
(AI-H01)	MSFC TVT604 (SABF) SRB CLEAN W/RINGS	.000	LREF .8000 IN.
(AI-H08)	MSFC TVT604 (SABF) SRB CLEAN W/RINGS	.000	BREF .9000 IN.
(AI-H01)	MSFC TVT604 (SABF) SRB CLEAN W/RINGS	.000	XMRP 5.7210 IN. XS
(AI-H01)	MSFC TVT604 (SABF) SRB CLEAN W/RINGS	.000	YMRP .0000 IN. YS
			ZMRP .0000 IN. ZS
			SCALE .0055

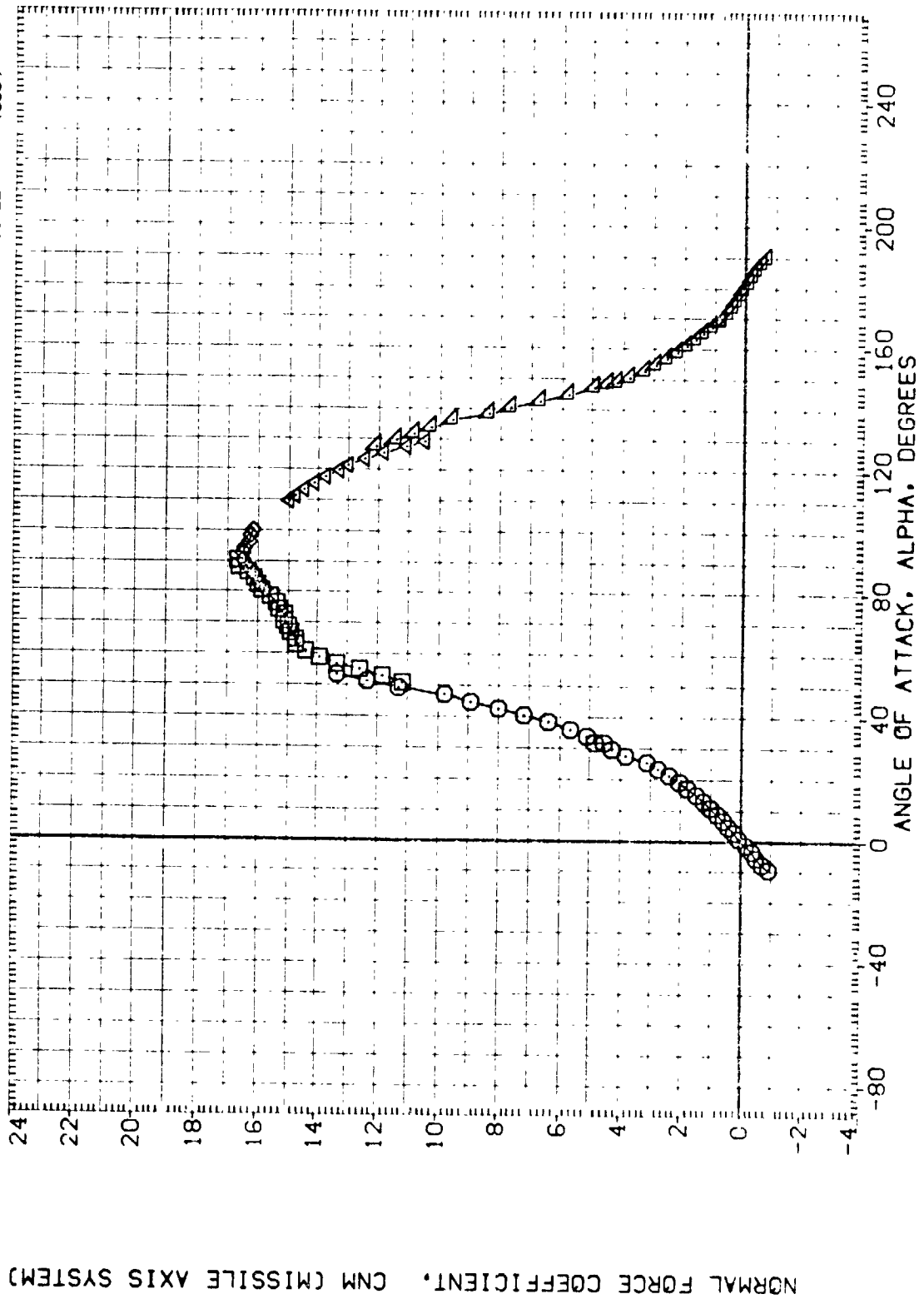


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

(E)MACH = .90

REFERENCE INFORMATION
 CREF 5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN. XS
 XMRP 5.7210 IN. YS
 YMRP .0000 IN. ZS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 .000
 .000
 .000
 .000
 .000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H001) MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 (A1H001) MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 (A1H008) MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 (A1H001) MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 (A1H001) MSFC TVT604 (SABF) SRB CLEAN V/RINGS

PITCHING MOMENT COEFFICIENT, CLM (MISSILE AXIS SYSTEM)

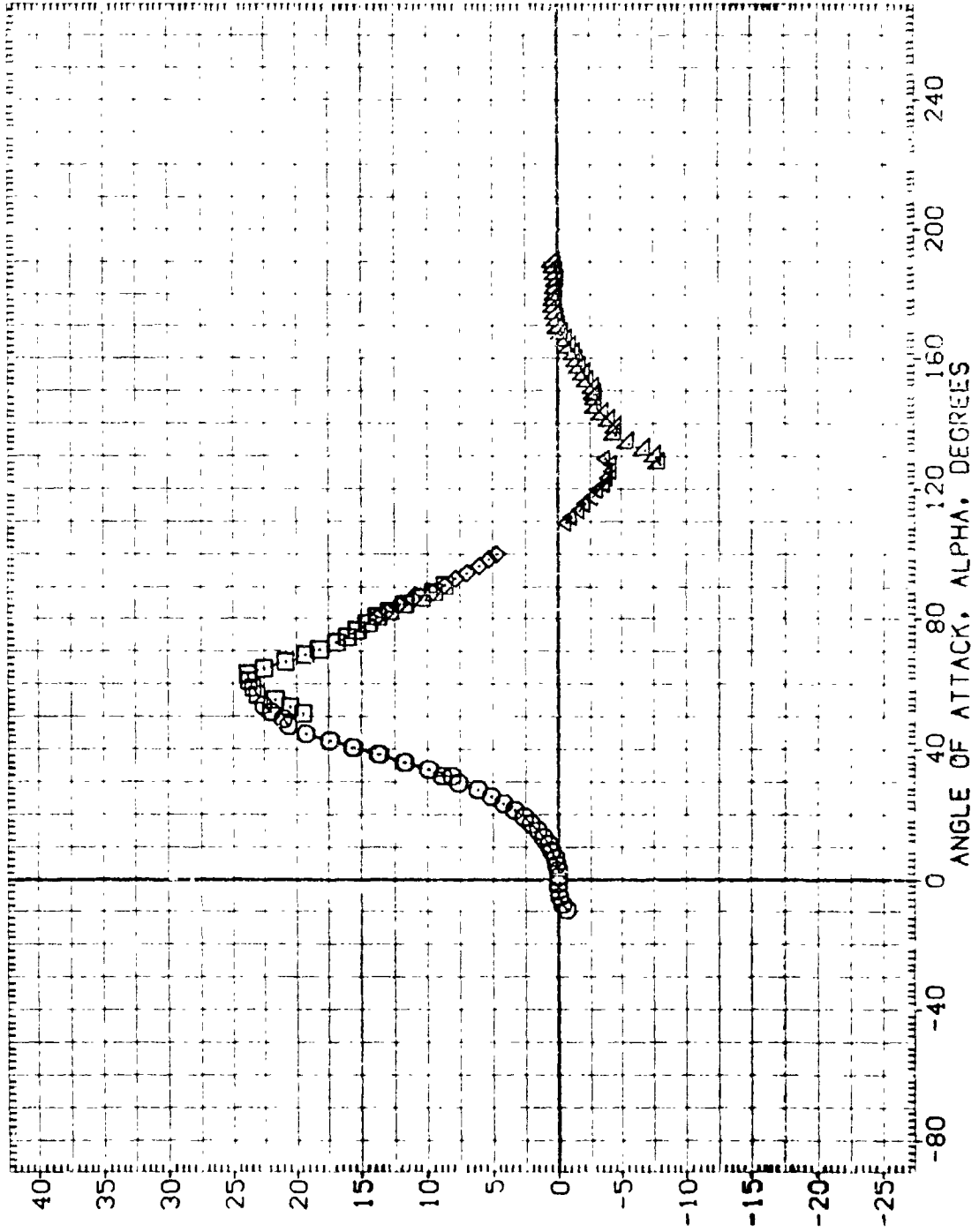


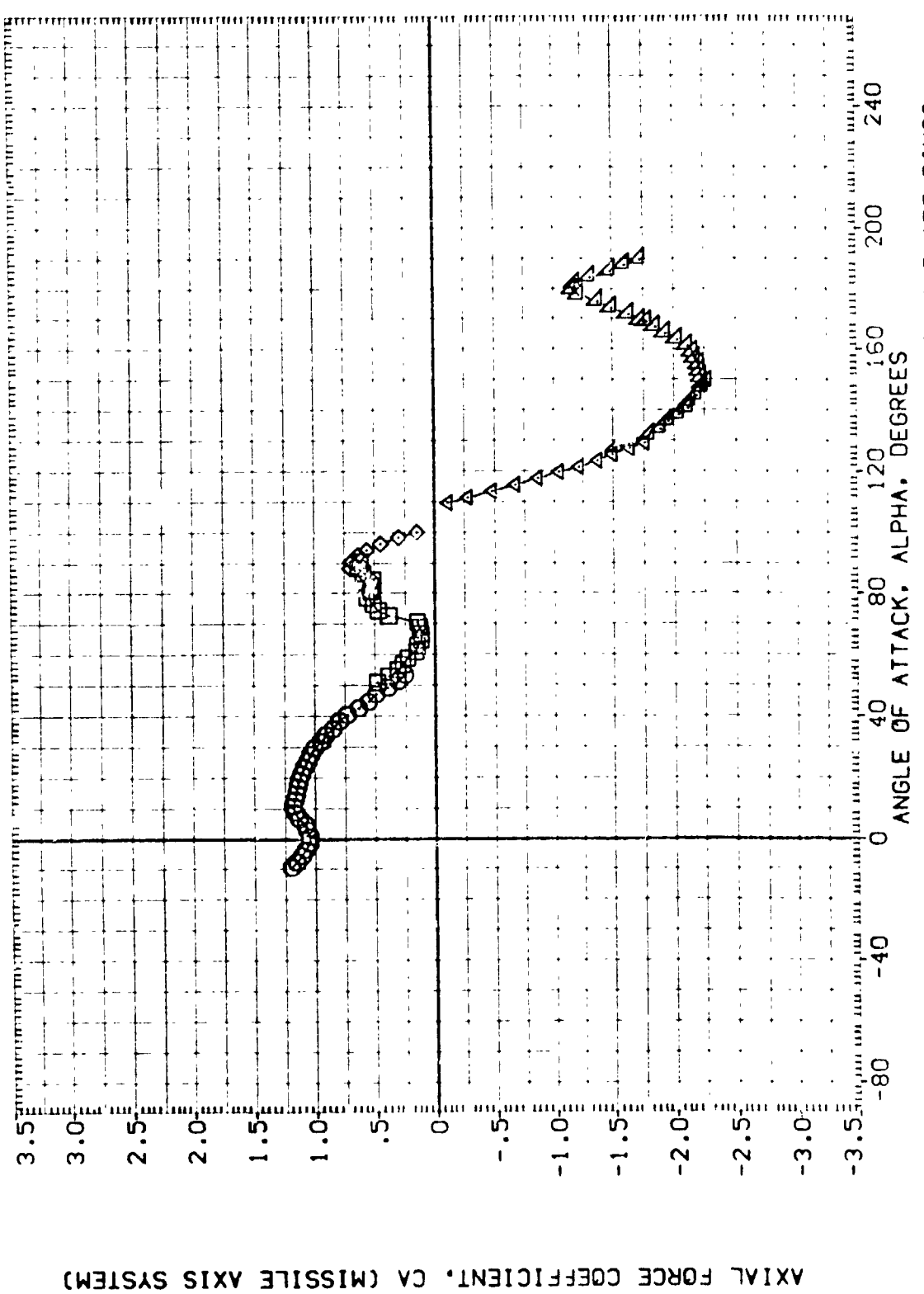
FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

REFERENCE INFORMATION
 SREF .5030 50. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. ZS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI .000
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 .000
 .000
 .000

CONFIGURATION DESCRIPTION
 MSFC TVT804 (SABF) SRB CLEAN V/RINGS
 MSFC TVT804 (SABF) SRB CLEAN V/RINGS
 MSFC TVT804 (SABF) SRB CLEAN V/RINGS
 MSFC TVT804 (SABF) SRB CLEAN V/RINGS
 MSFC TVT804 (SABF) SRB CLEAN V/RINGS

DATA SET SYMBOL
 (AIHAD1)
 (AIH001)
 (AIH001)
 (AIH001)
 (AIH001)



AXIAL FORCE COEFFICIENT, CA (MISSILE AXIS SYSTEM)

FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

(C)MACH = .90

REFERENCE INFORMATION
 SREF .5030 IN.
 LREF .8000 IN.
 BRREF .8000 IN.
 XMRP 5.7210 IN. YS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI .000
 .000
 .000
 .000
 .000

CONFIGURATION DESCRIPTION
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS

DATA SET SYMBOL
 (AIH001)
 (AIH001)
 (AIH001)
 (AIH001)
 (AIH001)
 (AIH001)

CENTER OF PRESSURE LOCATION • XCP/L. AS A FRACTION OF BODY LENGTH

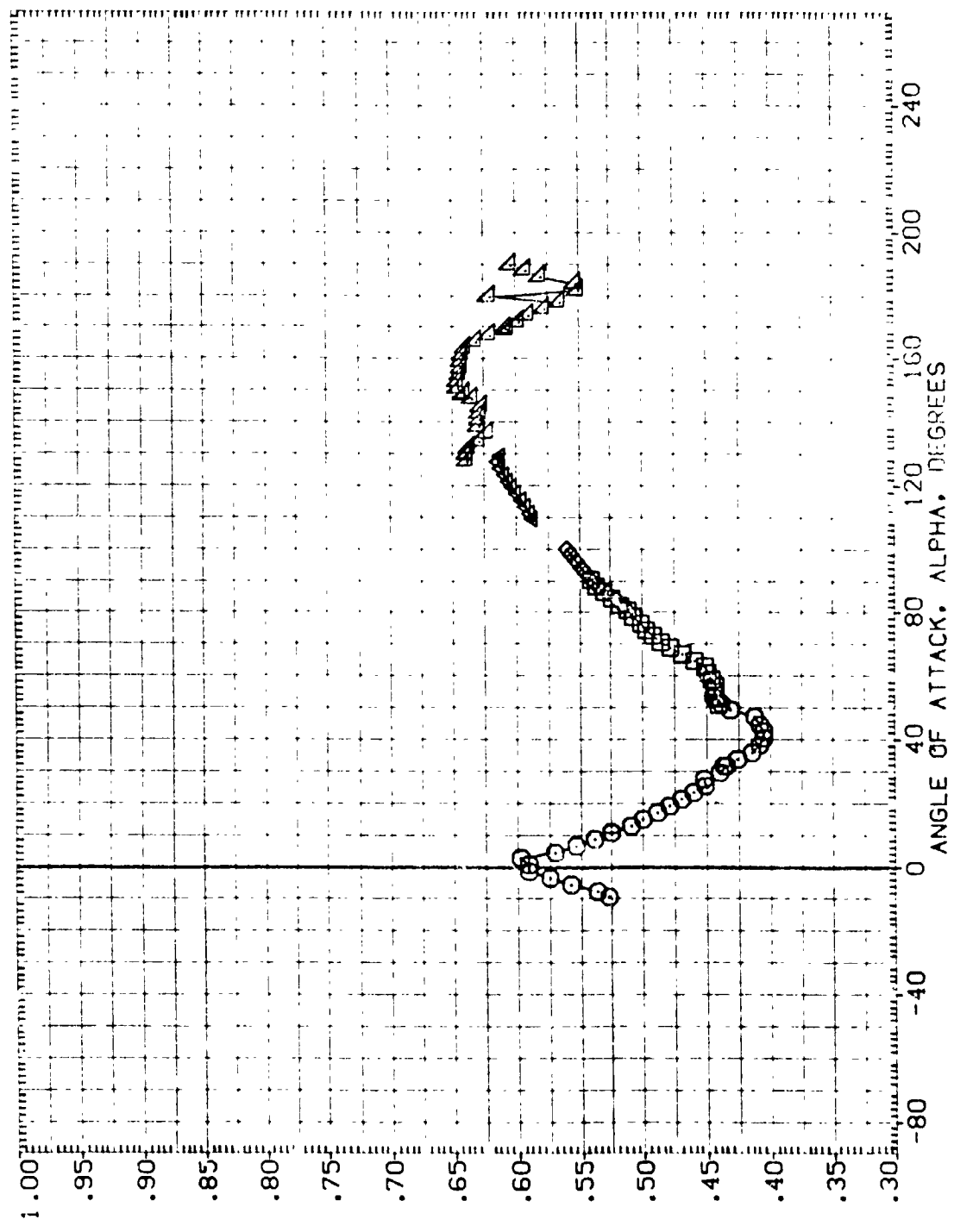


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

(E)MACH = .90

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI REFERENCE INFORMATION

(A1H001)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	SREF .5030 SQ. IN.
(A1H001)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	LREF .8000 IN.
(A1H008)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	BREF 9.70 IN.
(A1H001)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	XMRP 5.7210 IN. XS
(A1H001)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	YMRP .0000 IN. YS
(A1H001)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	ZMRP .0000 IN. ZS
			SCALE .0055

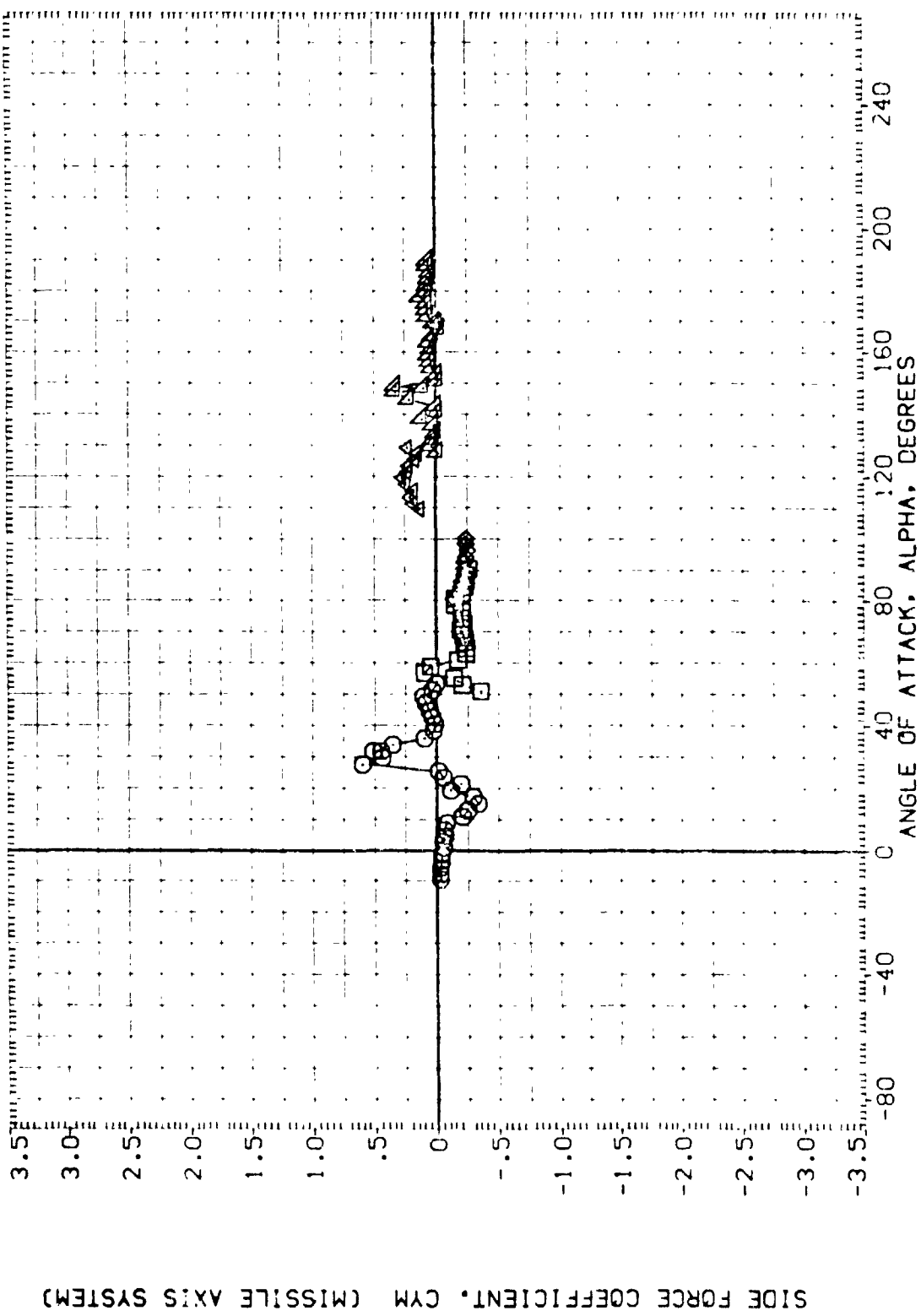


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

REFERENCE ORIENTATION
 SREF .030 SQ. IN.
 LREF .0300 IN.
 BREF .0300 IN.
 YMRP 5.75 IN. XS
 ZMRP .0300 IN. YS
 SCALE .0055

PHI
.000
.000
.000
.000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H001) MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 (A1H001) MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 (A1H008) MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 (A1H001) MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 (A1H001) MSFC TVT604 (SABF) SRB CLEAN V/RINGS

YAWING MOMENT COEFFICIENT, C_{YM} (MISSILE AXIS SYSTEM)

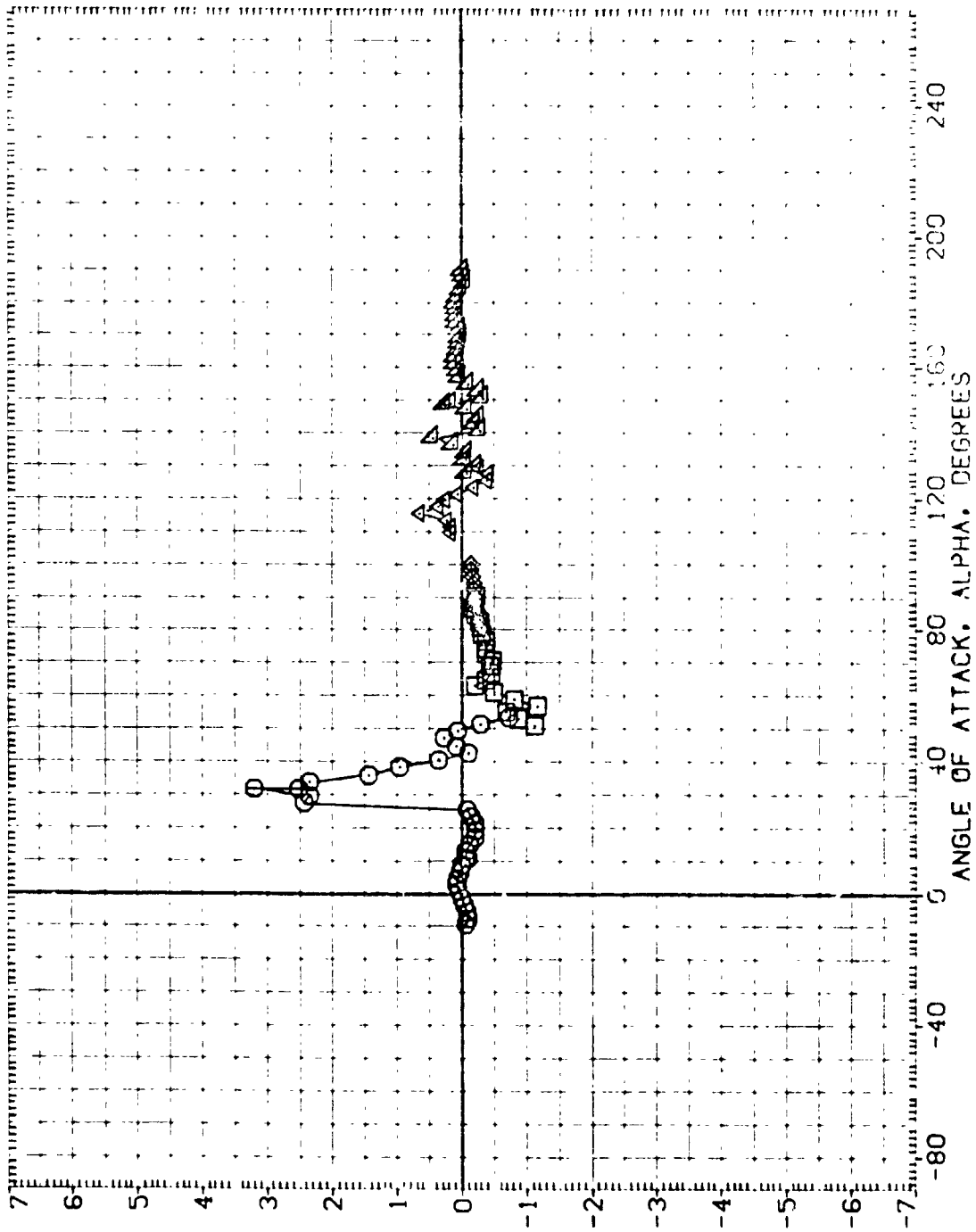


FIGURE 19. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

(C)MACH = .90

REFERENCE INFORMATION
 SREF :0030 50. IN.
 LPEF :8000 IN.
 BRFL :8000 IN.
 XMRP 5.7210 IN. XS
 YMRP :0000 IN. YS
 ZMRP :0000 IN. ZS
 SCALE :0055

PHI :000
 :000
 :000
 :000
 :000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1M01) MSFC TV1604 (SABF) SRB CLEAN V/RINGS
 (A1M02) MSFC TV1604 (SABF) SRB CLEAN V/RINGS
 (A1M03) MSFC TV1604 (SABF) SRB CLEAN V/RINGS
 (A1M04) MSFC TV1604 (SABF) SRB CLEAN V/RINGS
 (A1M05) MSFC TV1604 (SABF) SRB CLEAN V/RINGS

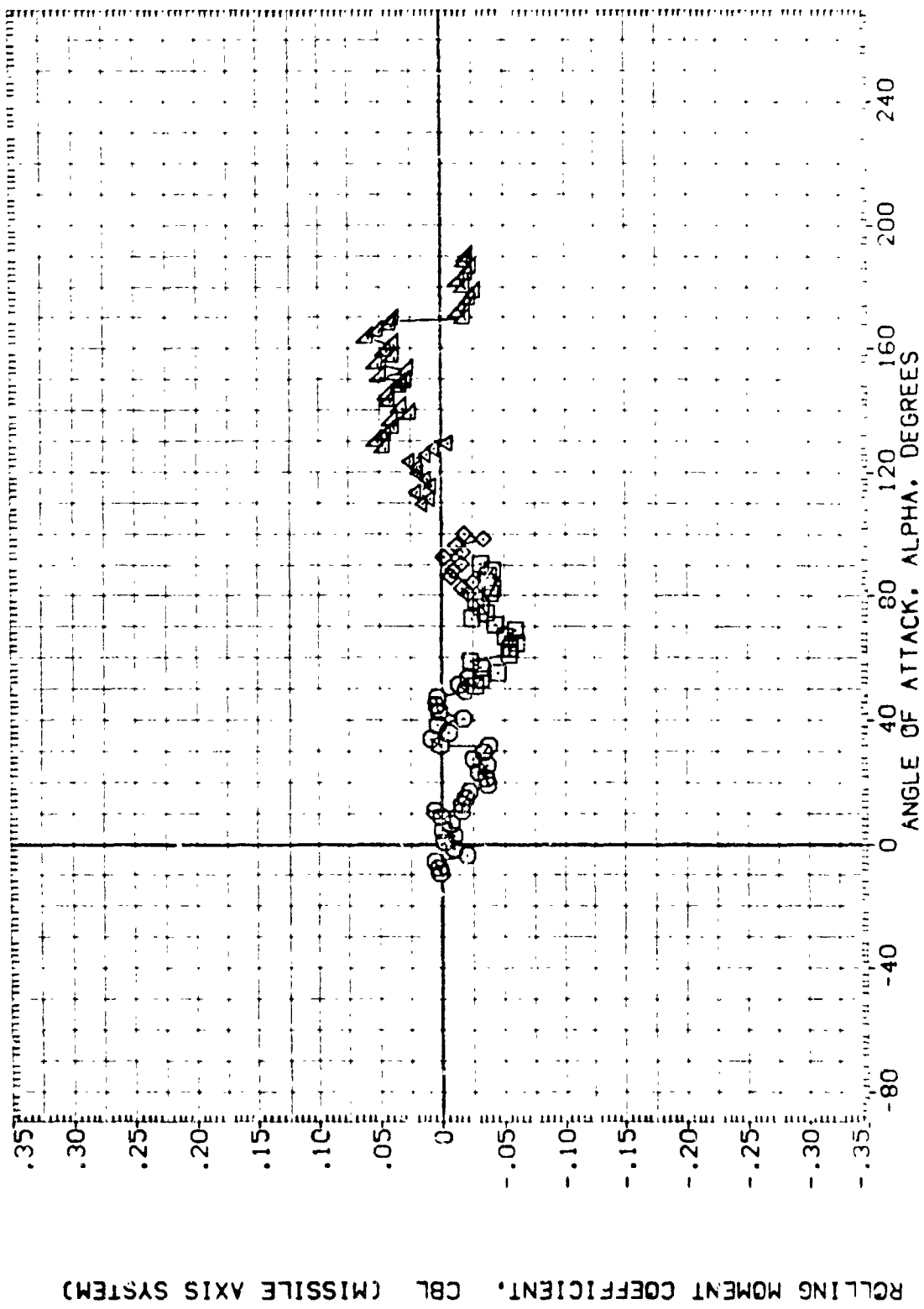


FIGURE 18. STATIC STABILITY CHARACTER. OF SRB W/CLEAN ATTACH AND AFT RINGS

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H001) MSFC TV1604 (SABF) SRB CLEAN V/RINGS

(A1H001) MSFC TV1604 (SABF) SRB CLEAN V/RINGS

(A1H008) MSFC TV1604 (SABF) SRB CLEAN V/RINGS

(A1H001) MSFC TV1604 (SABF) SRB CLEAN V/RINGS

(A1H001) MSFC TV1604 (SABF) SRB CLEAN V/RINGS

PHI

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REFERENCE INFORMATION

SREF 503C SQ. IN.

LREF 800C IN.

E-REF 8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

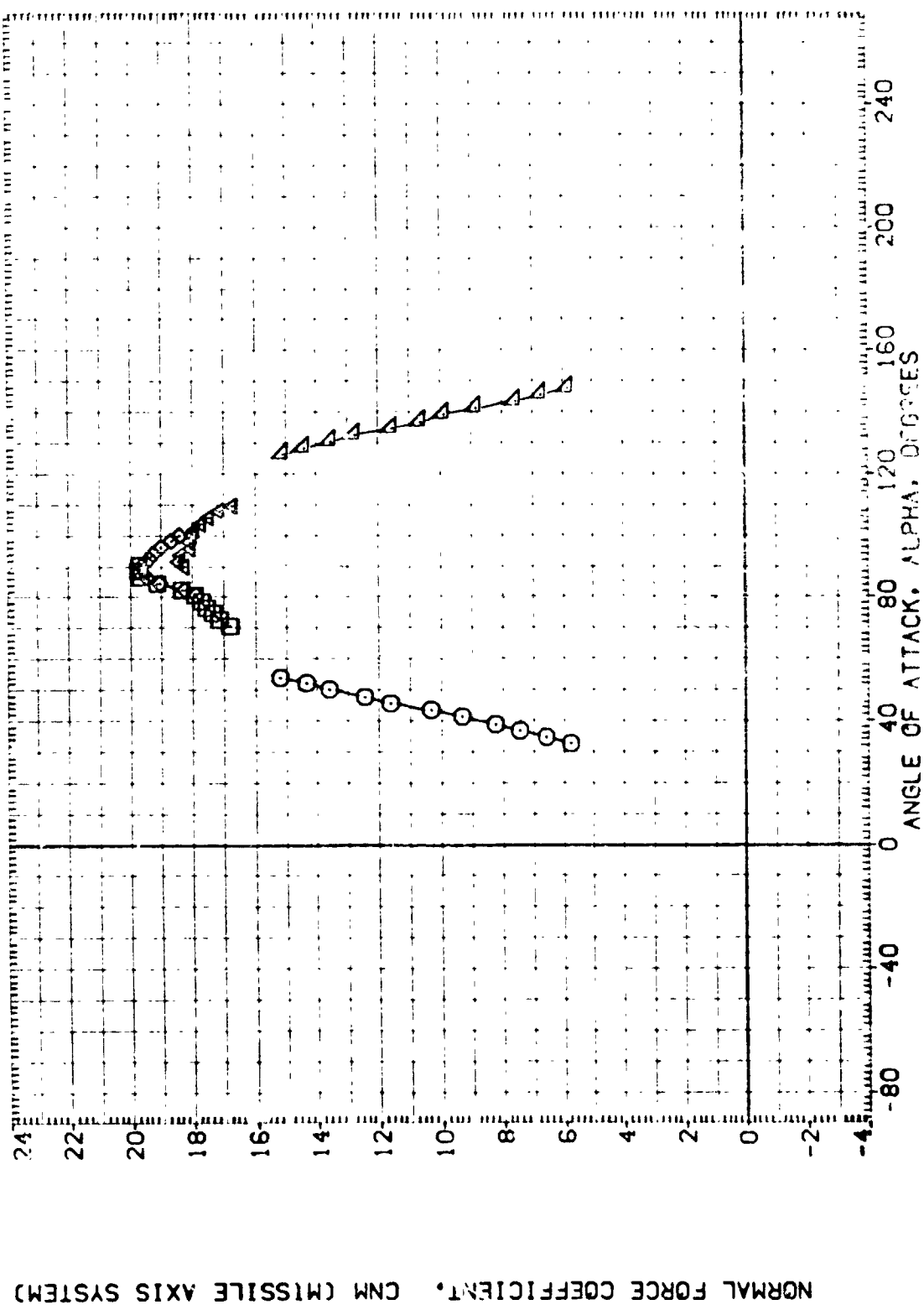


FIGURE 18. STATIC STABILITY CHARACTERISTICS OF SRB CLEAN ATTACH AND AFT RINGS

(F)MACH = .99

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(AIHAD1)	MSFC TV1604 (SABF) SRB CLEAN W/RINGS	.000	SREF .5030 SQ. IN.
(AIH001)	MSFC TV1604 (SABF) SRB CLEAN W/RINGS	.000	LREF .8007 IN.
(AIH008)	MSFC TV1604 (SABF) SRB CLEAN W/RINGS	.000	BREF .5000 IN.
(AIH001)	MSFC TV1604 (SABF) SRB CLEAN W/RINGS	.000	YMRP 5.7210 IN.
(AIH001)	MSFC TV1604 (SABF) SRB CLEAN W/RINGS	.000	ZMRP .0000 IN.
			SCALE .0055 IN.

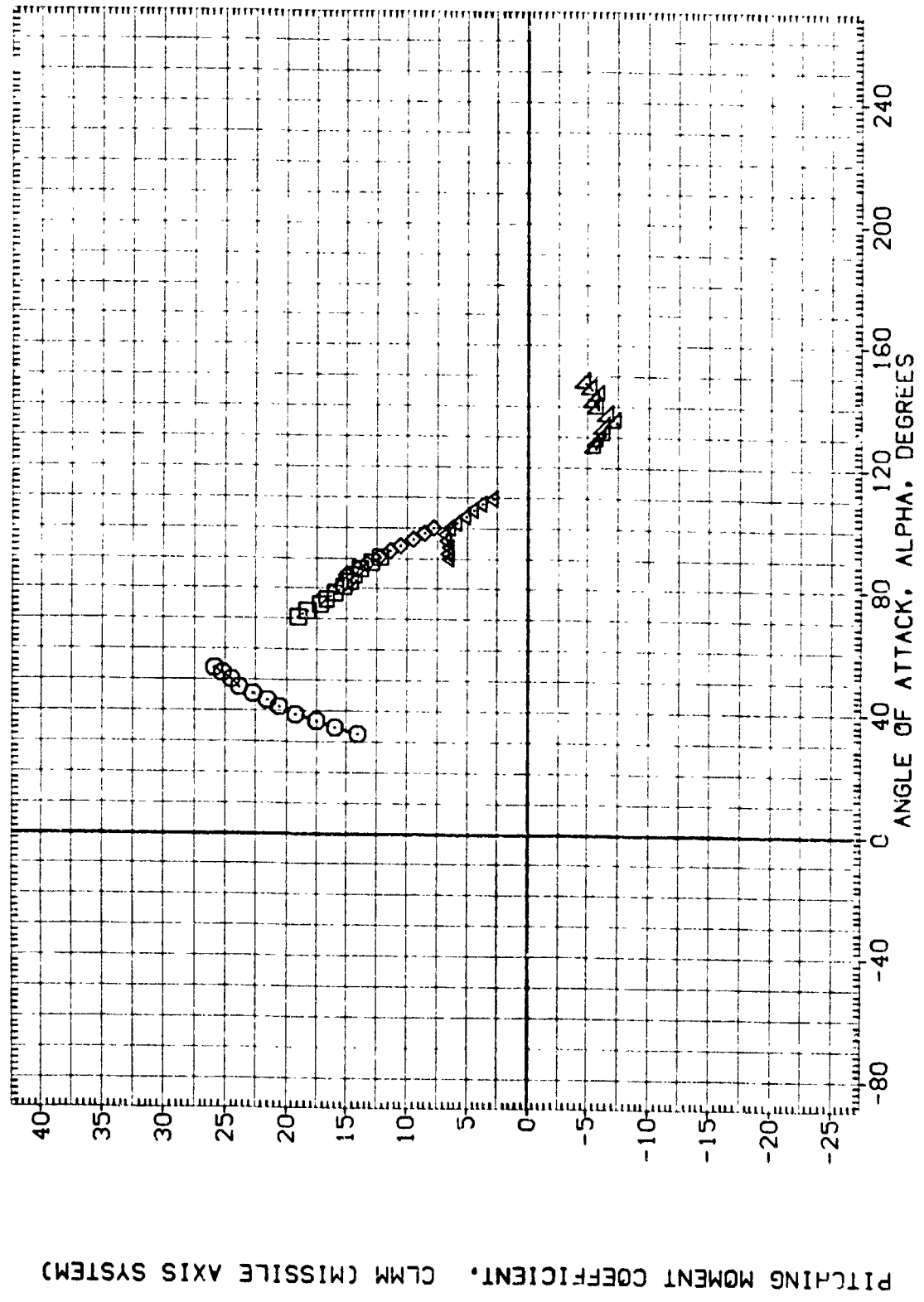


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

(F)MACH = .99

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(AIH401)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	SREF .5030 SQ. IN.
(AIH601)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	LREF .8000 IN.
(AIH008)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	BREF .9000 IN.
(AIH001)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	XMRP 5.7210 IN. XS
(AIH001)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	YMRP .0000 IN. YS
(AIH001)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	ZMRP .0000 IN. ZS
			SCALE .0055

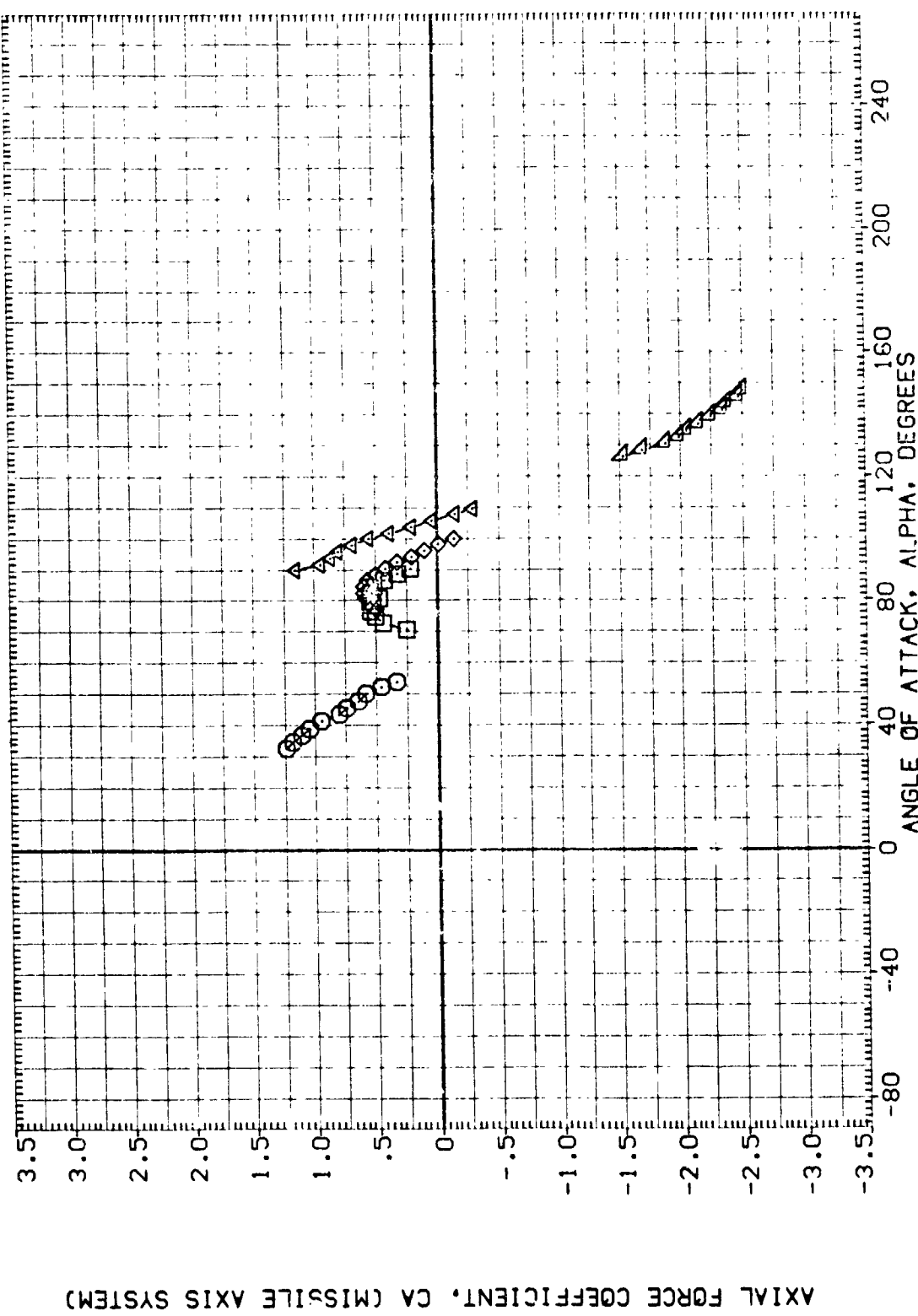


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

DATA SET SYMBOL
 (AIHQ1)
 (AIHQ2)
 (AIHQ3)
 (AIHQ4)
 (AIHQ5)

CONFIGURATION DESCRIPTION
 MSFC TVT604 (SABF) SRB CLEAN W/RINGS
 MSFC TVT604 (SABF) SRB CLEAN W/RINGS
 MSFC TVT604 (SABF) SRB CLEAN W/RINGS
 MSFC TVT604 (SABF) SRB CLEAN W/RINGS
 MSFC TVT604 (SABF) SRB CLEAN W/RINGS

PHI
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REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

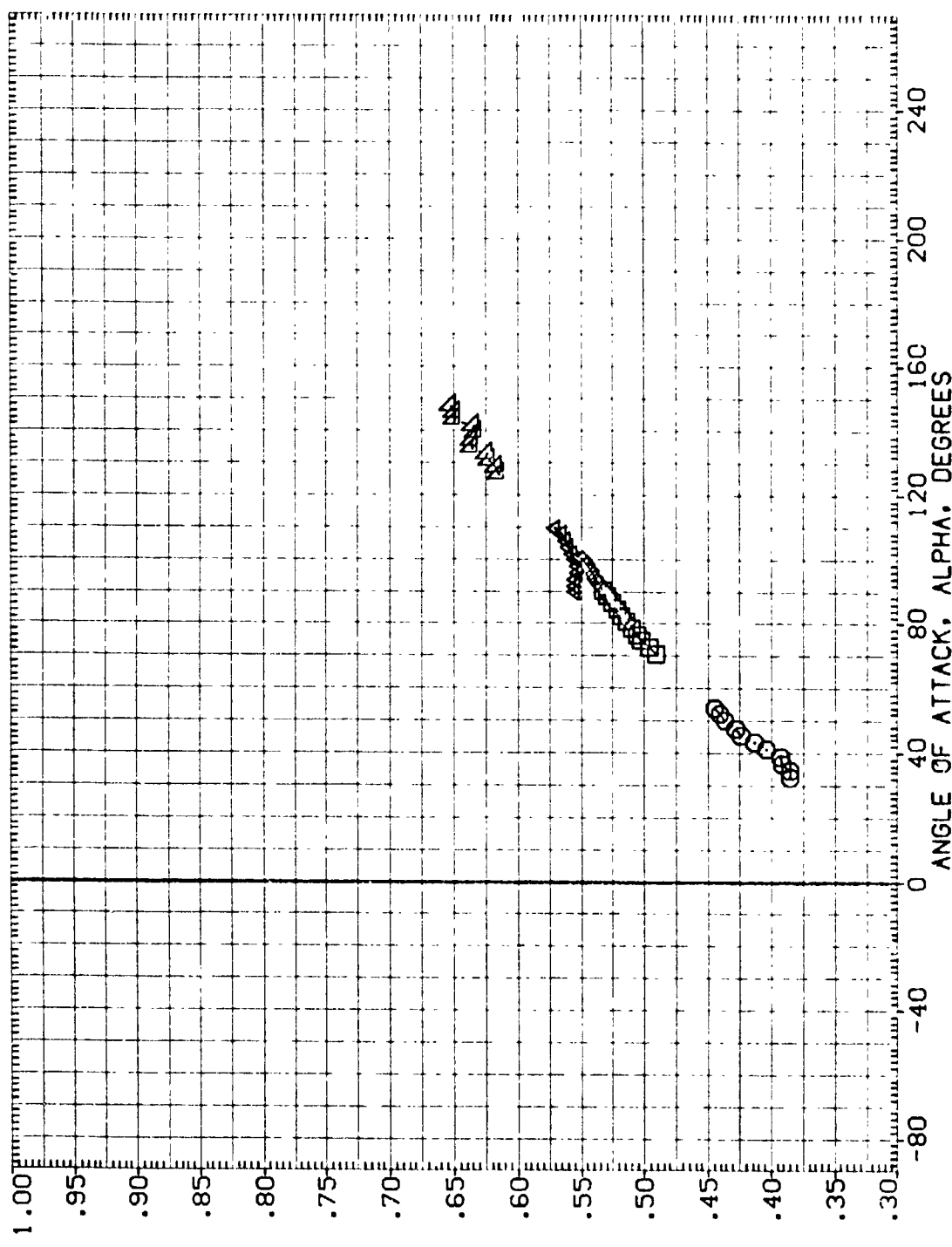


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

(F)MACH = .99

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(AIHQ01)	MSFC TVT604 (SABF) SRB CLEAN W/RINGS	.000	SREF .5030 SQ. IN.
(AIHQ01)	MSFC TVT604 (SABF) SRB CLEAN W/RINGS	.000	LREF .8000 IN.
(AIHQ01)	MSFC TVT604 (SABF) SRB CLEAN W/RINGS	.000	BREF .8000 IN.
(AIHQ01)	MSFC TVT604 (SABF) SRB CLEAN W/RINGS	.000	VMRP 5.7210 IN. XS
(AIHQ01)	MSFC TVT604 (SABF) SRB CLEAN W/RINGS	.000	ZMRP .0000 IN. YS
(AIHQ01)	MSFC TVT604 (SABF) SRB CLEAN W/RINGS	.000	ZMRP .0000 IN. ZS
			SCALE .0055

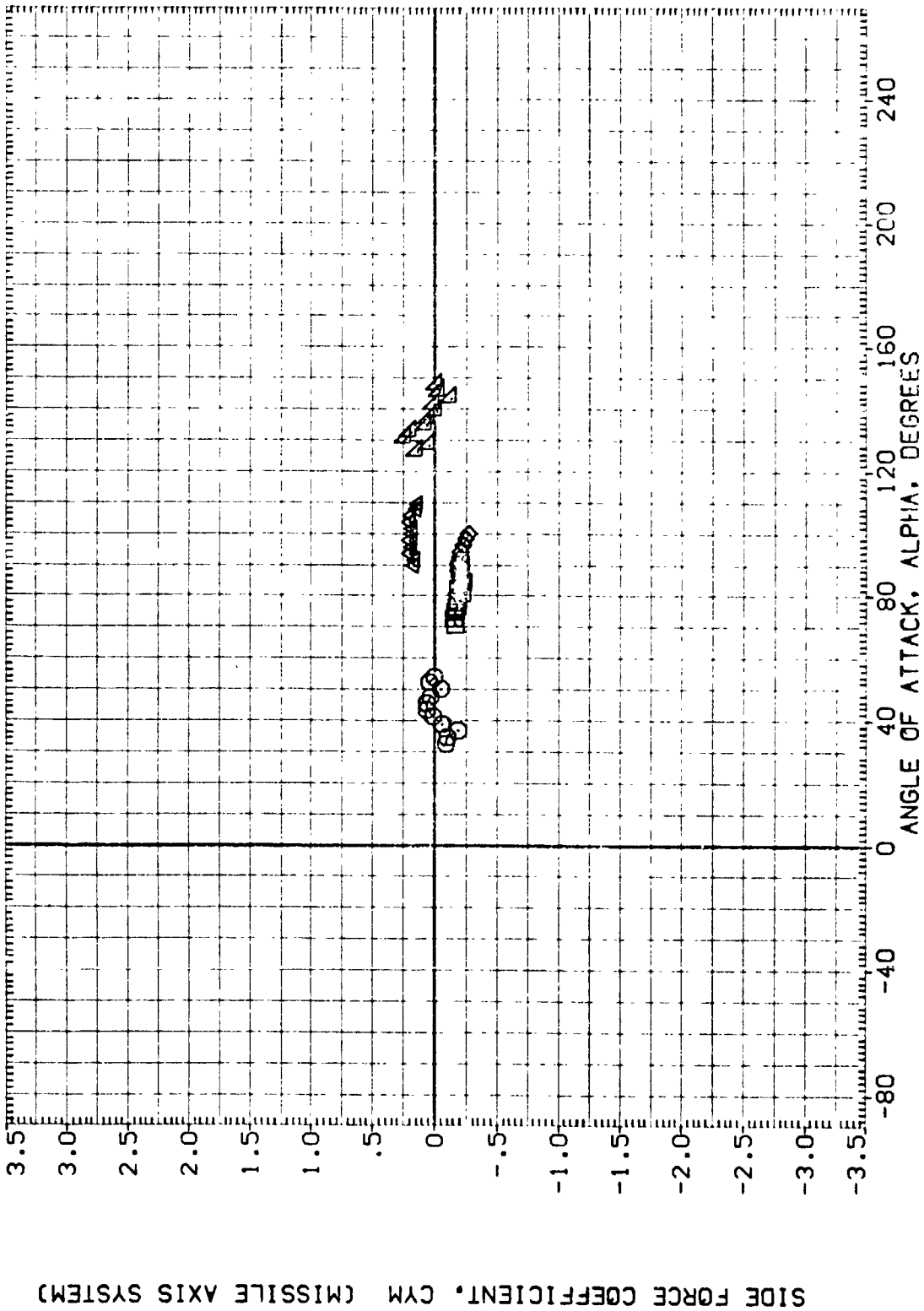


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

(F)MACH = .99



REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
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 .000

CONFIGURATION DESCRIPTION
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS

DATA SET SYMBOL
 (AIH001)
 (AIH001)
 (AIH008)
 (AIH001)
 (AIH001)

YAWING MOMENT COEFFICIENT, CYM (MISSILE AXIS SYSTEM)

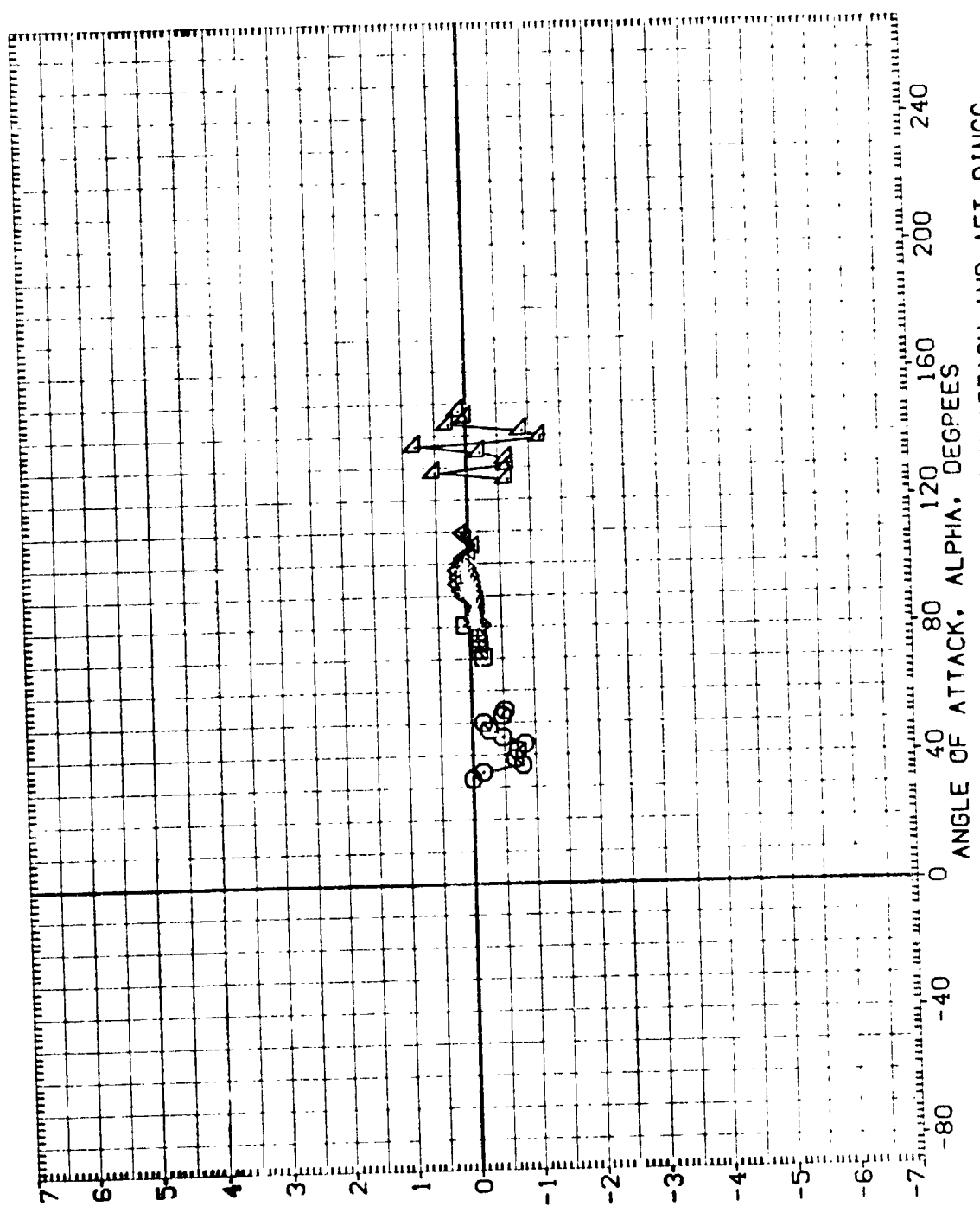


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(A1H001)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	SREF 5030 SQ. IN.
(A1H001)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	LREF .8000 IN.
(A1H008)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	BREF .8000 IN.
(A1H001)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	XMRP 5.7210 IN. XS
(A1H001)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	YMRP .0000 IN. YS
(A1H001)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	ZMRP .0000 IN. ZS
			SCALE .0055

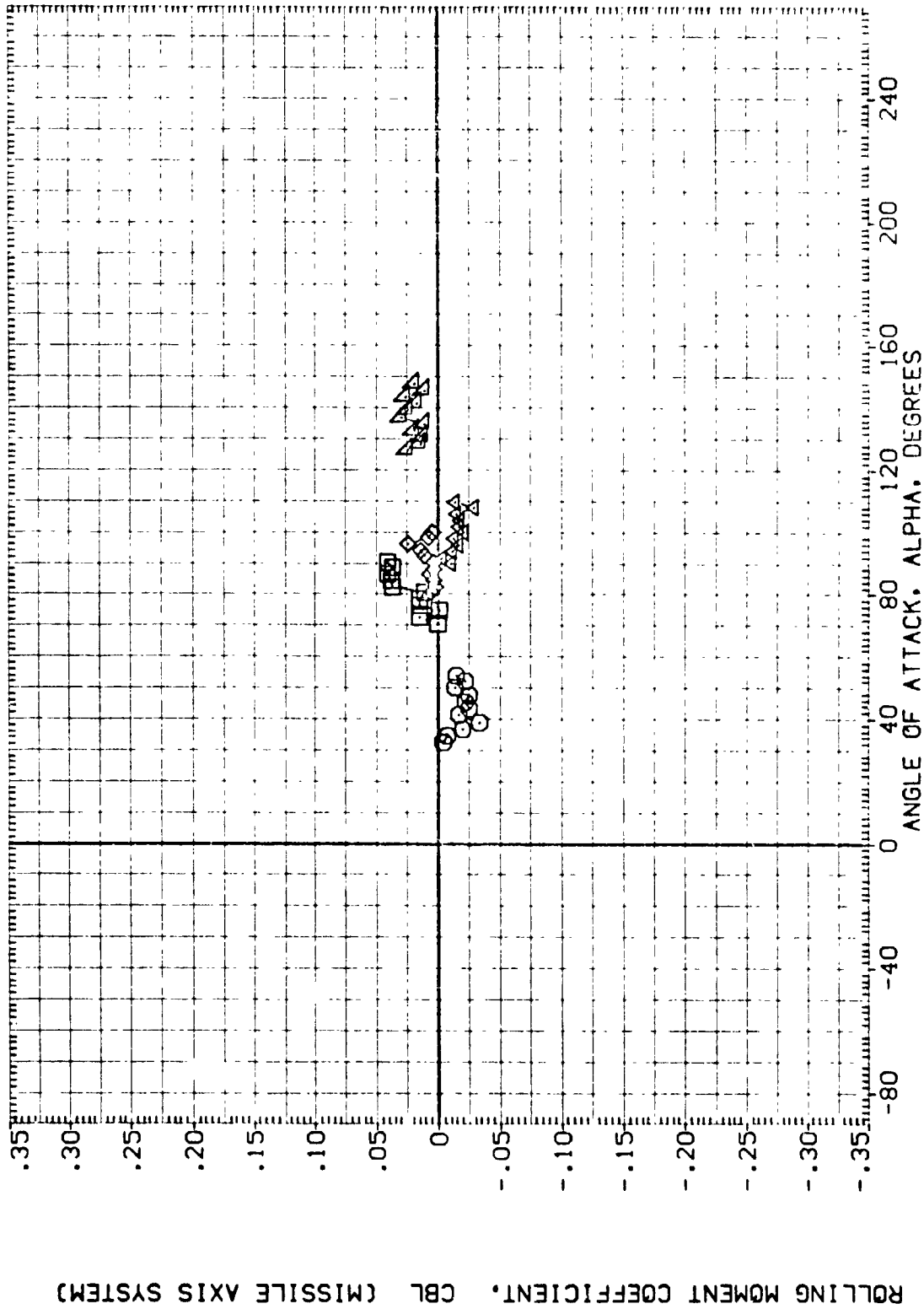


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

(F)MACH = .99

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(AIH001)	MSFC TVT604 (SABF) SRB CLEAN W/RINGS	.000	SREF .5030 SQ. IN.
(AIH001)	MSFC TVT604 (SABF) SRB CLEAN W/RINGS	.000	LREF .8000 IN.
(AIH008)	MSFC TVT604 (SABF) SRB CLEAN W/RINGS	.000	BREF .8000 IN.
(AIH001)	MSFC TVT604 (SABF) SRB CLEAN W/RINGS	.000	XMRP 5.7210 IN.
(AIH001)	MSFC TVT604 (SABF) SRB CLEAN W/RINGS	.000	YMRP .0000 IN.
(AIH001)	MSFC TVT604 (SABF) SRB CLEAN W/RINGS	.000	ZMRP .0000 IN.
			SCALE .0055

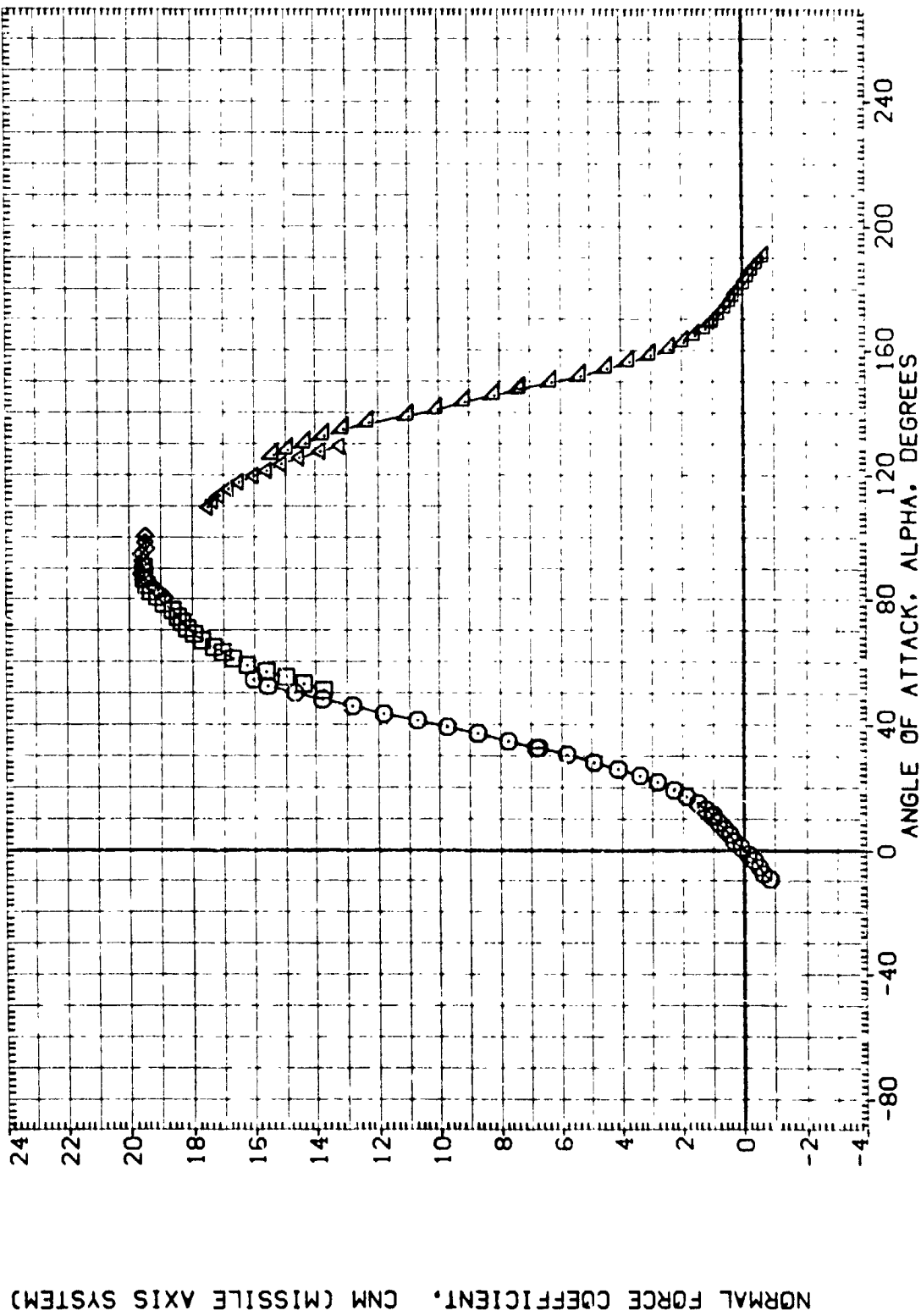


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

(G)MACH = 1.20

DATA SET SYMBOL
 (A1H001)
 (A1H001)
 (A1H008)
 (A1H001)
 (A1H001)

CONFIGURATION DESCRIPTION
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS

PHI
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 .000

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PITCHING MOMENT COEFFICIENT, CLM (MISSILE AXIS SYSTEM)

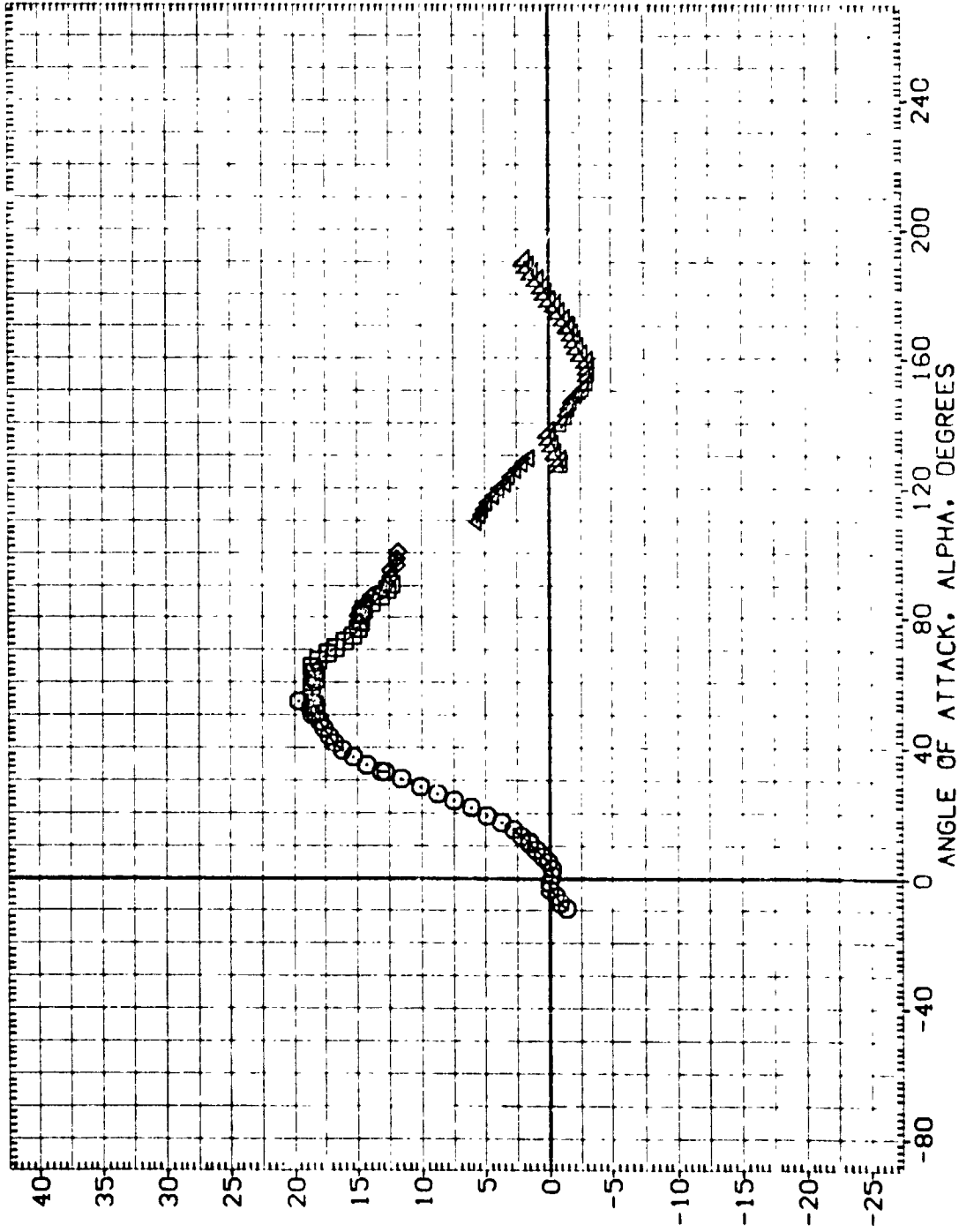


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

(G)MACH = 1.20

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(A1H401)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	SREF .5030 SQ. IN.
(A1H601)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	LREF .8000 IN.
(A1H008)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	BRFC .9000 IN.
(A1H001)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	XMRP 5.7210 IN. XS
(A1H001)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	YMRP .0000 IN. YS
			ZMRP .0000 IN. ZS
			SCALE .0055

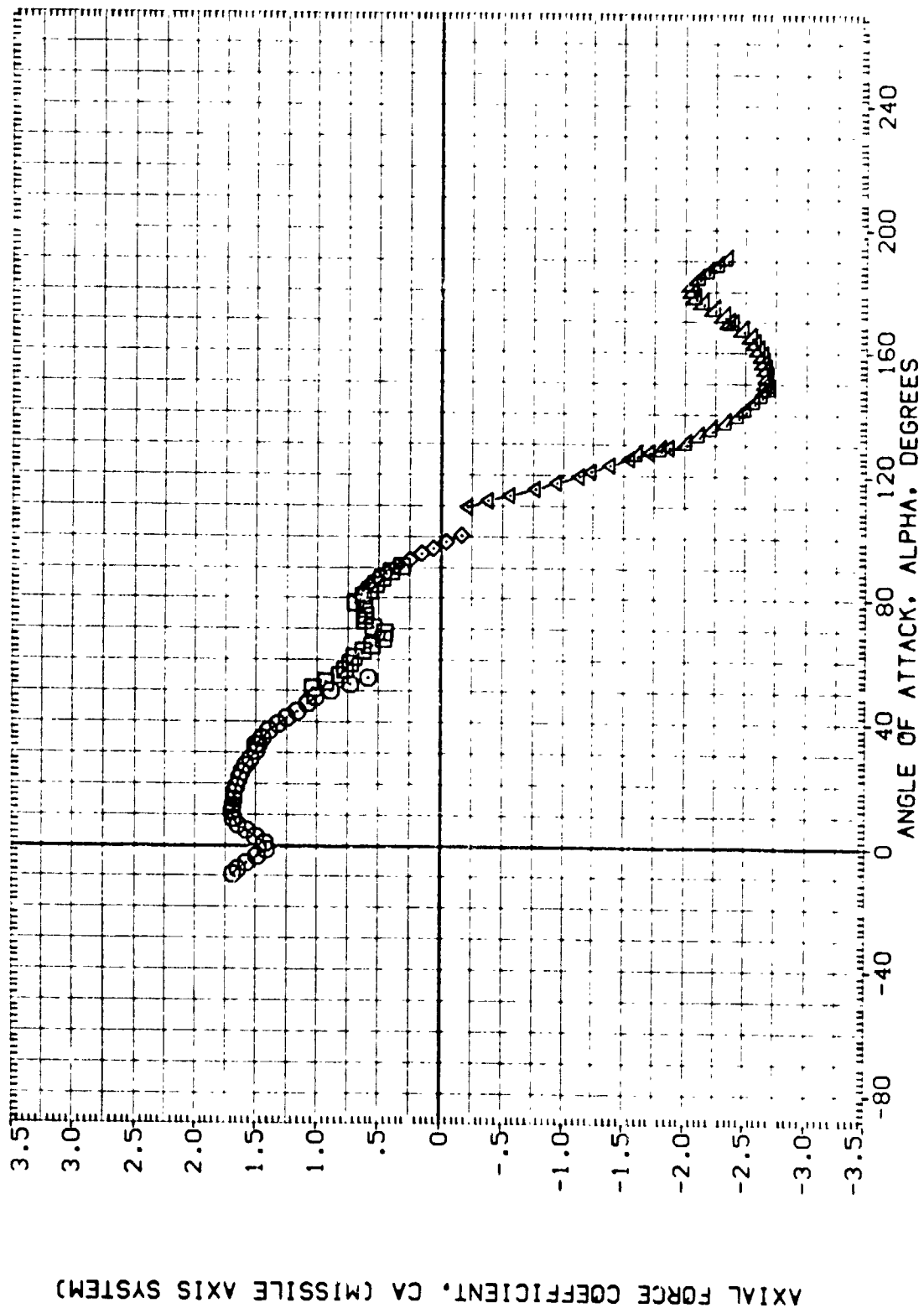


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI .000
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CONFIGURATION DESCRIPTION
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 MSFC TVT504 (SABF) SRB CLEAN V/RINGS
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS

DATA SET SYMBOL
 (AIHQ01)
 (AIHQ01)
 (AIHQ08)
 (AIHQ01)
 (AIHQ01)

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

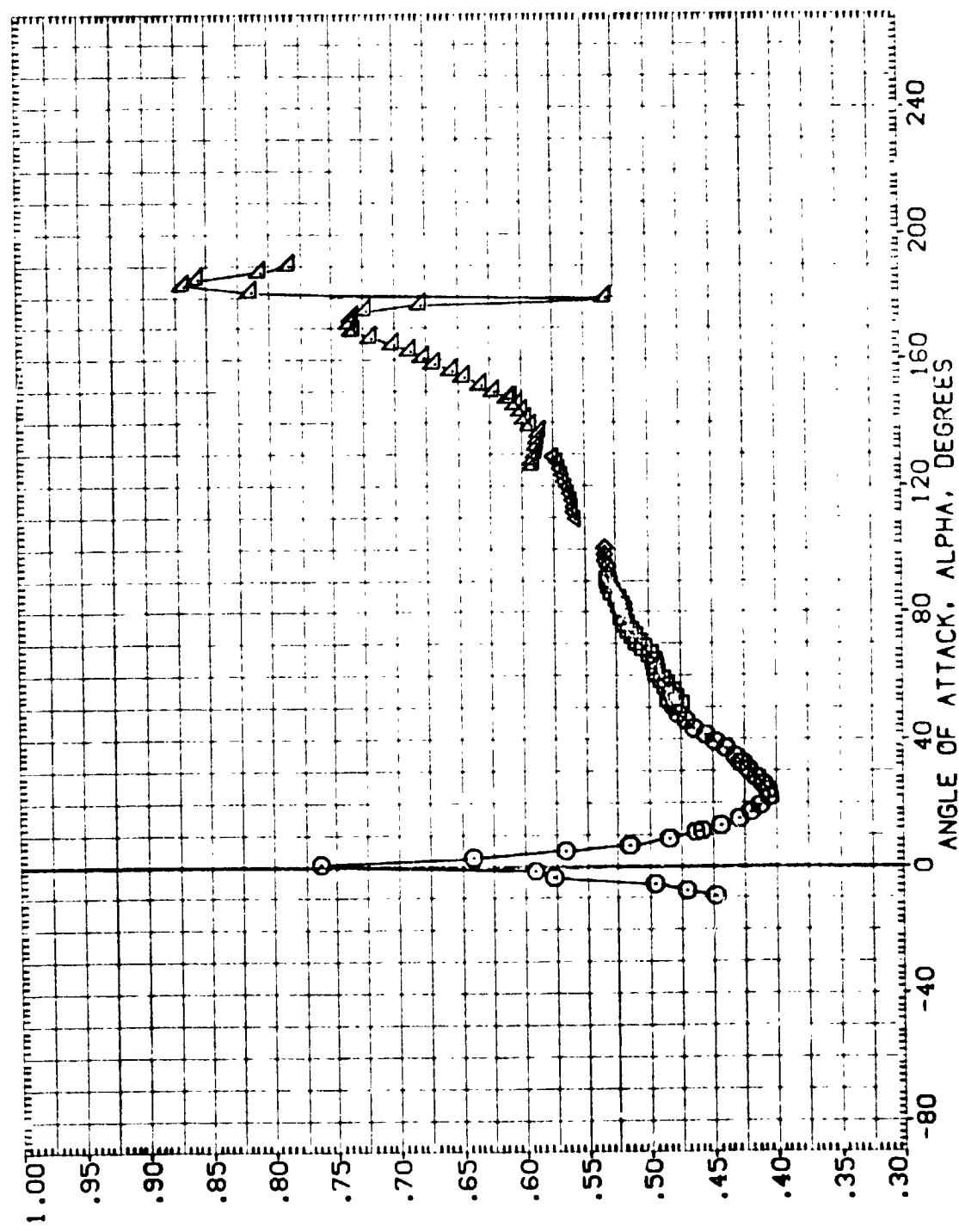


FIGURE 18. STATIC STABILITY CHARACTERISTICS OF SRB W/CLEAN ATTACH AND AFT RINGS

(G)MACH = 1.20

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(AIHQ01)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	SREF .5030 SQ. IN.
(AIHQ02)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	LREF .8000 IN.
(AIHQ03)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	BREF .8000 IN.
(AIHQ04)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	XMRP 5.7210 IN. XS
(AIHQ05)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	YMRP .0000 IN. YS
(AIHQ06)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	ZMRP .0000 IN. ZS
			SCALE .0055

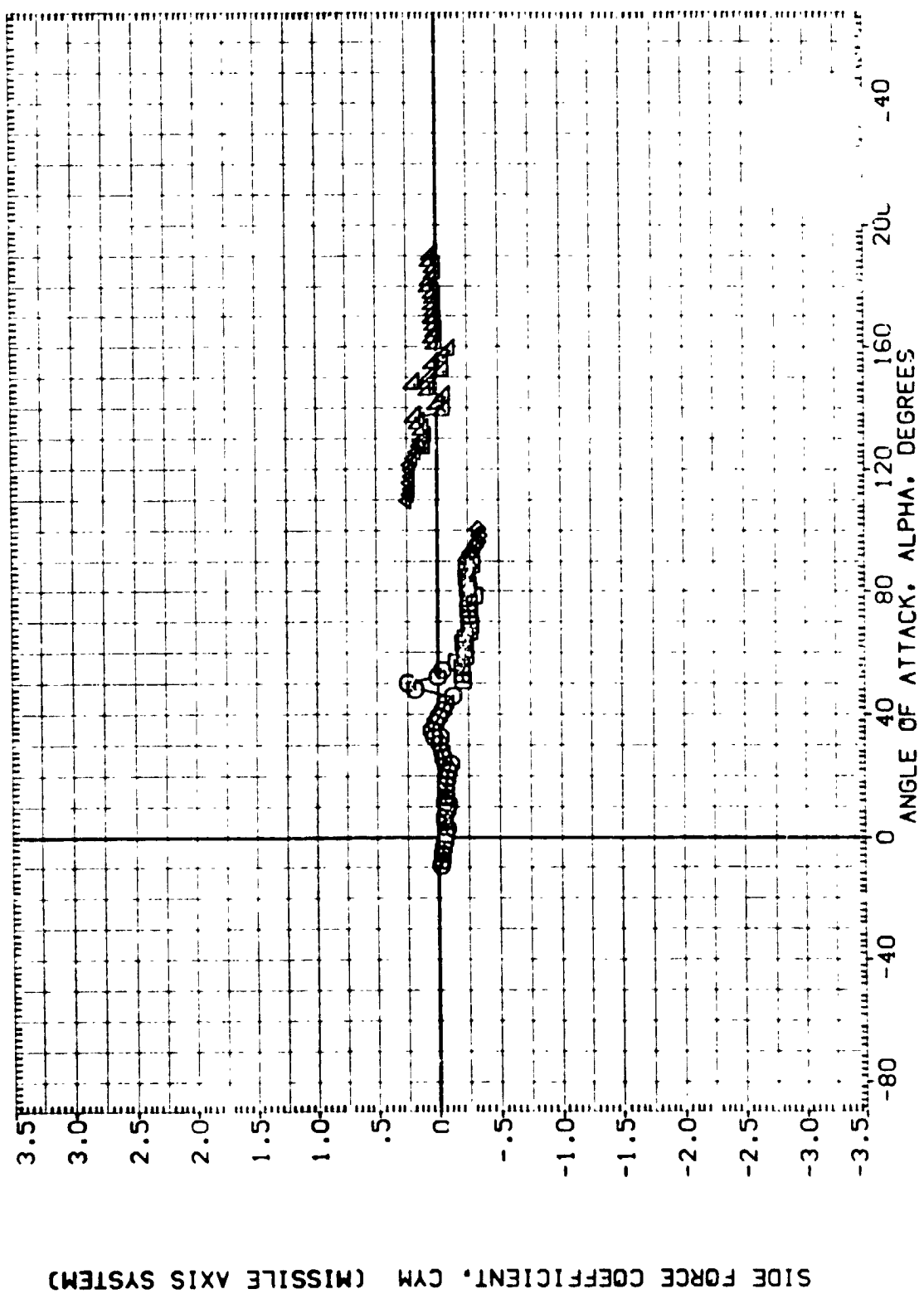


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(A1H001)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	SREF .5030 CO. IN.
(A1H001)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	LREF .8000 IN.
(A1H008)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	BREF .8000 IN.
(A1H001)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	XMRP 5.7210 IN. XS
(A1H001)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	YMRP .0000 IN. YS
(A1H001)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	ZMRP .0000 IN. ZS
			SCALE .0055

YAWING MOMENT COEFFICIENT, C_{YM} (MISSILE AXIS SYSTEM)

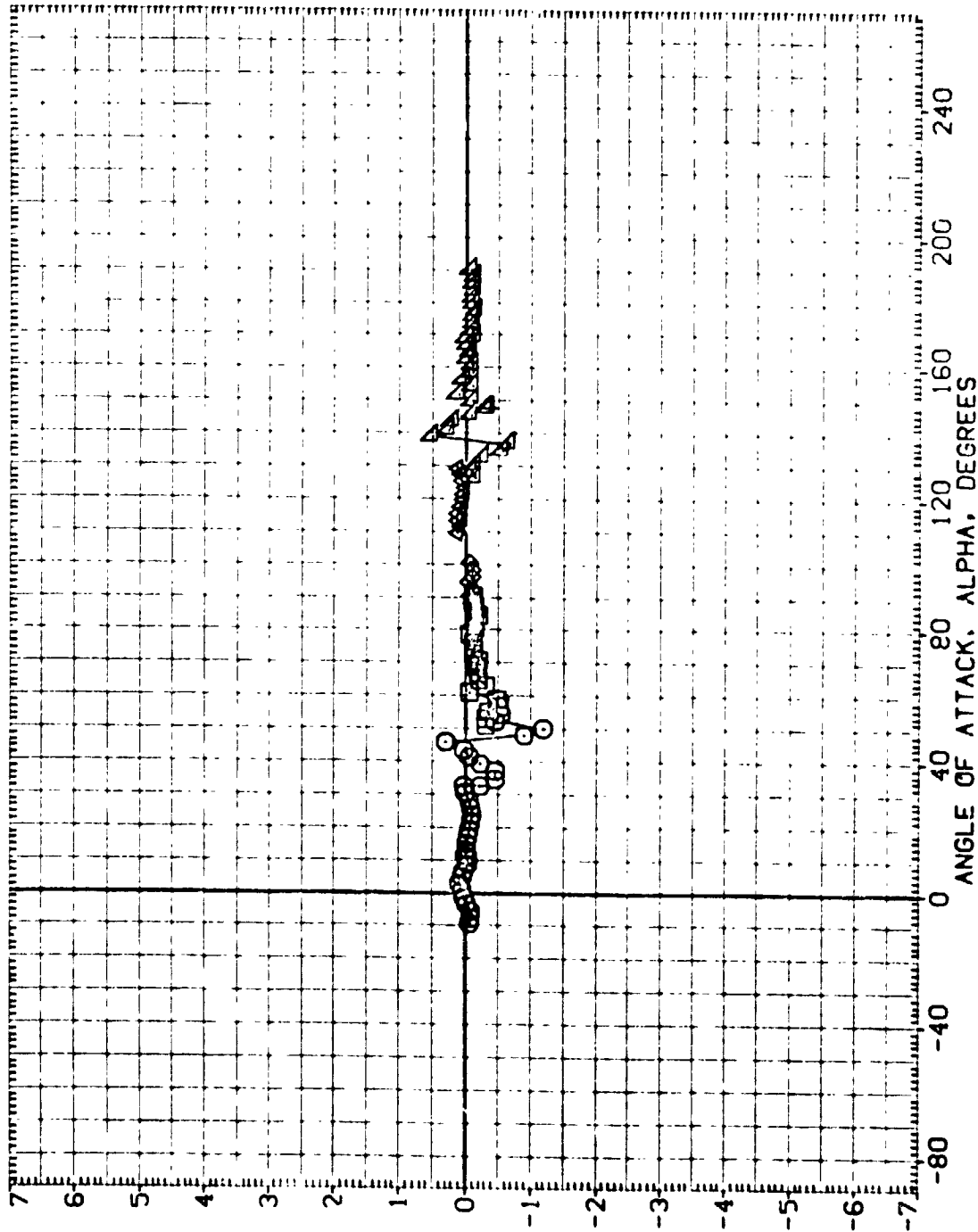


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

(G)MACH = 1.20

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(A1H401)	MSFC TVT604 (SABF) SRB CLEAN W/RINGS	.000	SREF .5030 SQ.IN.
(A1H401)	MSFC TVT604 (SABF) SRB CLEAN W/RINGS	.000	LREF .8000 IN.
(A1H408)	MSFC TVT604 (SABF) SRB CLEAN W/RINGS	.000	BREF .8000 IN.
(A1H401)	MSFC TVT604 (SABF) SRB CLEAN W/RINGS	.000	XMRP 5.7210 IN. XS
(A1H401)	MSFC TVT604 (SABF) SRB CLEAN W/RINGS	.000	ZMRP .0000 IN. ZS
(A1H401)	MSFC TVT604 (SABF) SRB CLEAN W/RINGS	.000	SCALE .0055

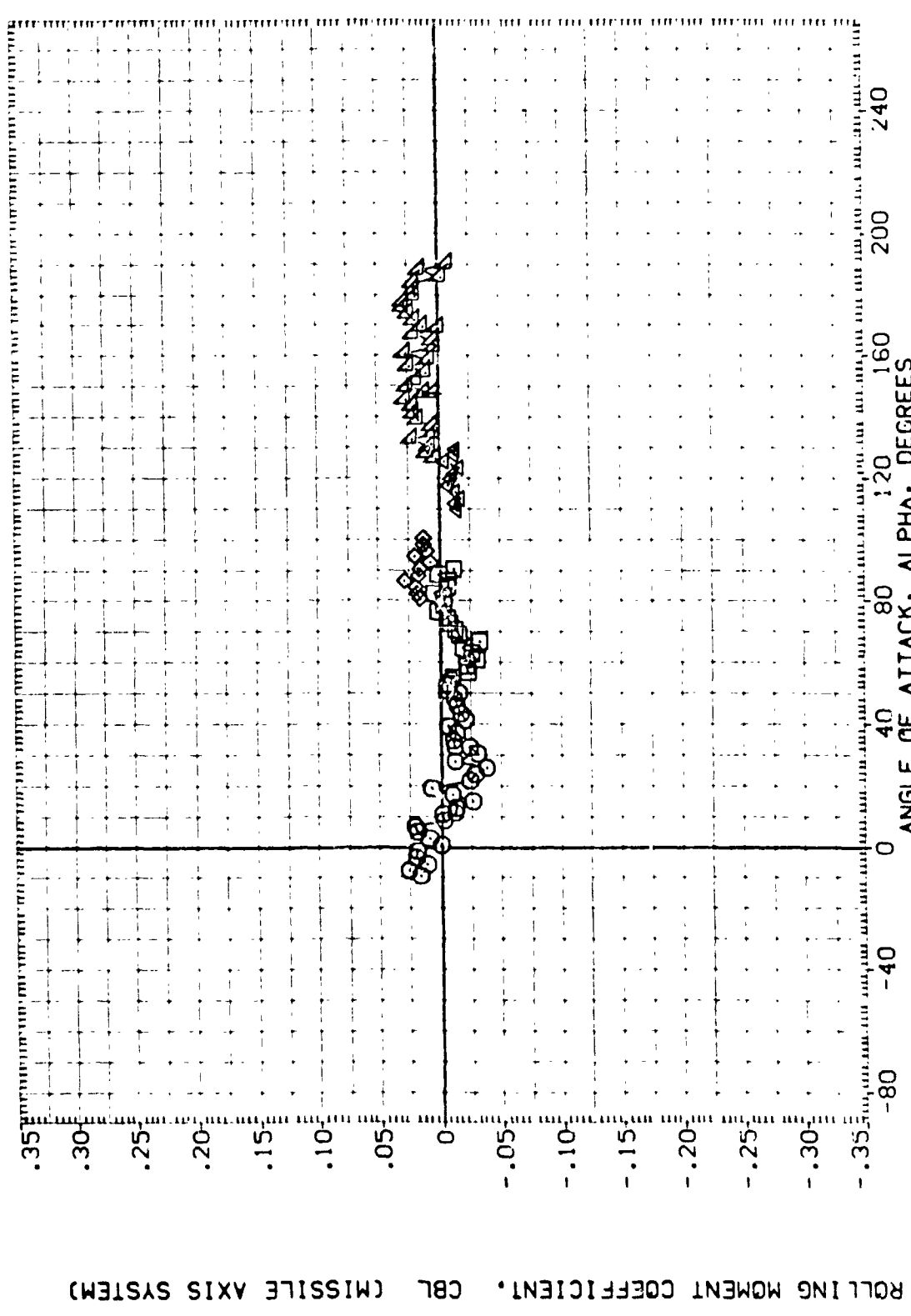


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(AIHQ01)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	S _{REF} .5030 50. IN.
(AIHQ02)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	LREF .8000 IN.
(AIHQ03)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	SREF .8000 IN.
(AIHQ04)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	XMRP 5.7210 IN. XS
(AIHQ05)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	YMRP .0000 IN. YS
(AIHQ06)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	ZMRP .0000 IN. ZS
			SCALE .0055

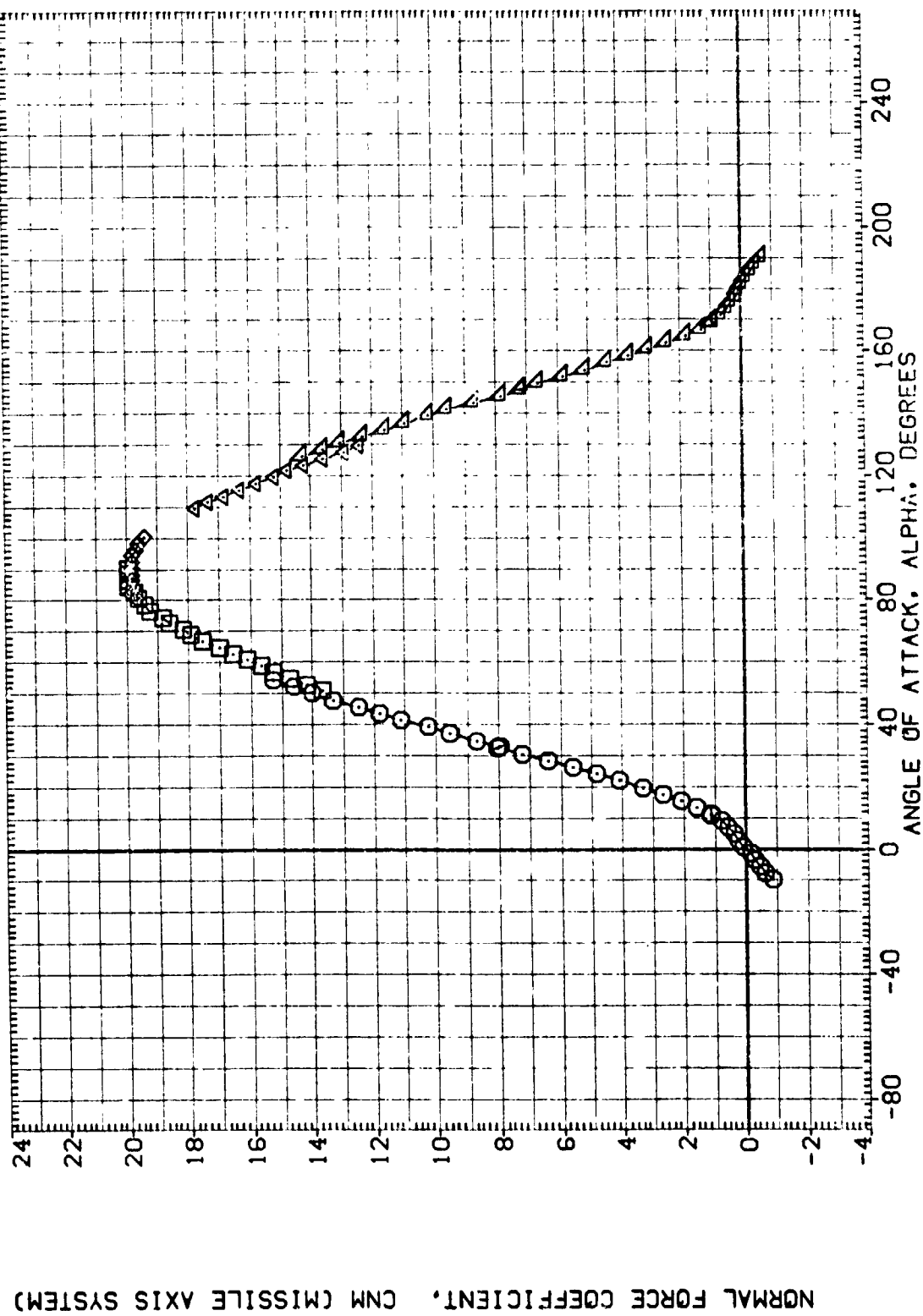


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
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DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1HA01) MSFC TVT604 (SABF) SRB CLEAN W/RINGS
 (A1HB01) MSFC TVT604 (SABF) SRB CLEAN W/RINGS
 (A1HC08) MSFC TVT604 (SABF) SRB CLEAN W/RINGS
 (A1HD01) MSFC TVT604 (SABF) SRB CLEAN W/RINGS
 (A1HE01) MSFC TVT604 (SABF) SRB CLEAN W/RINGS

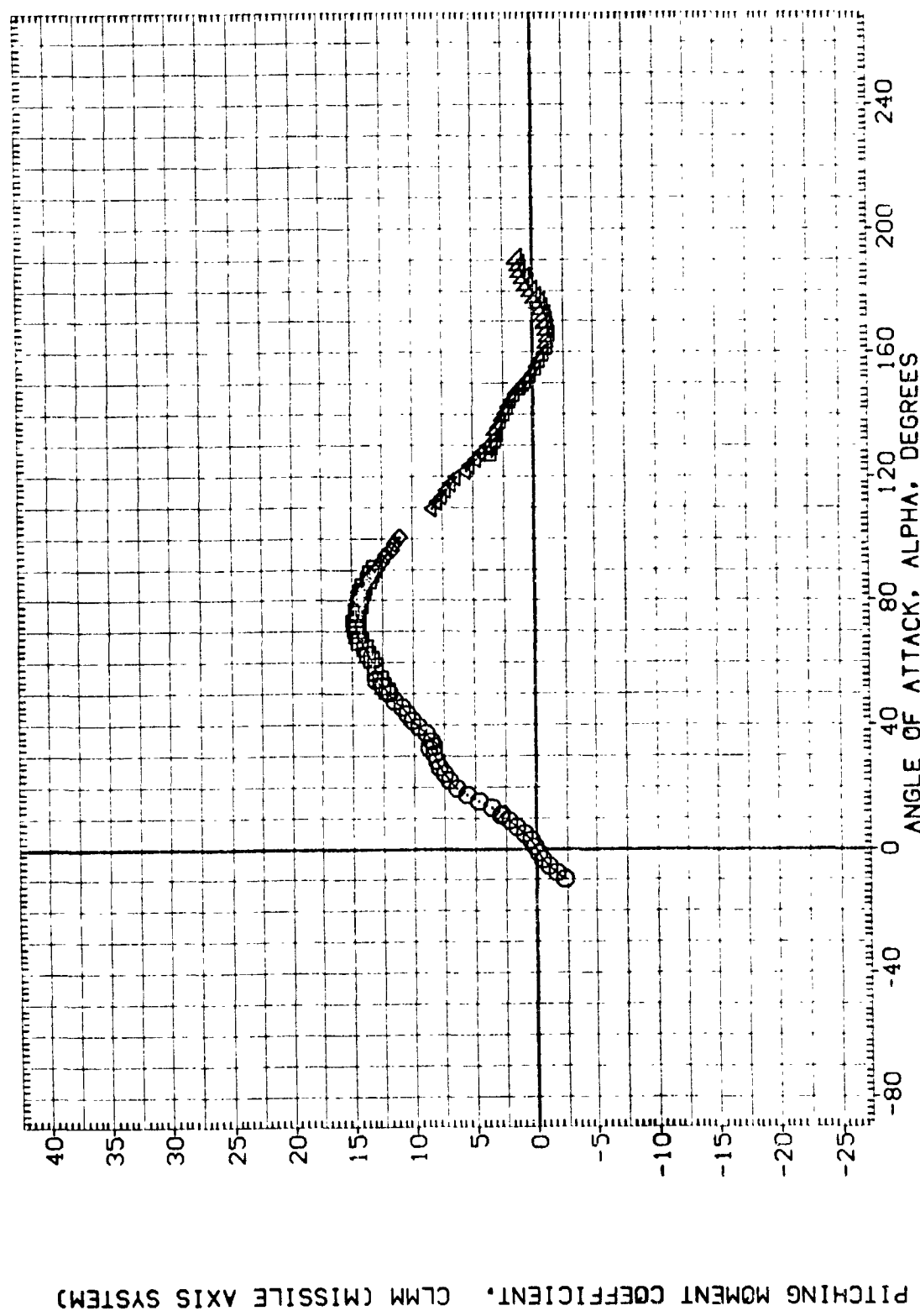







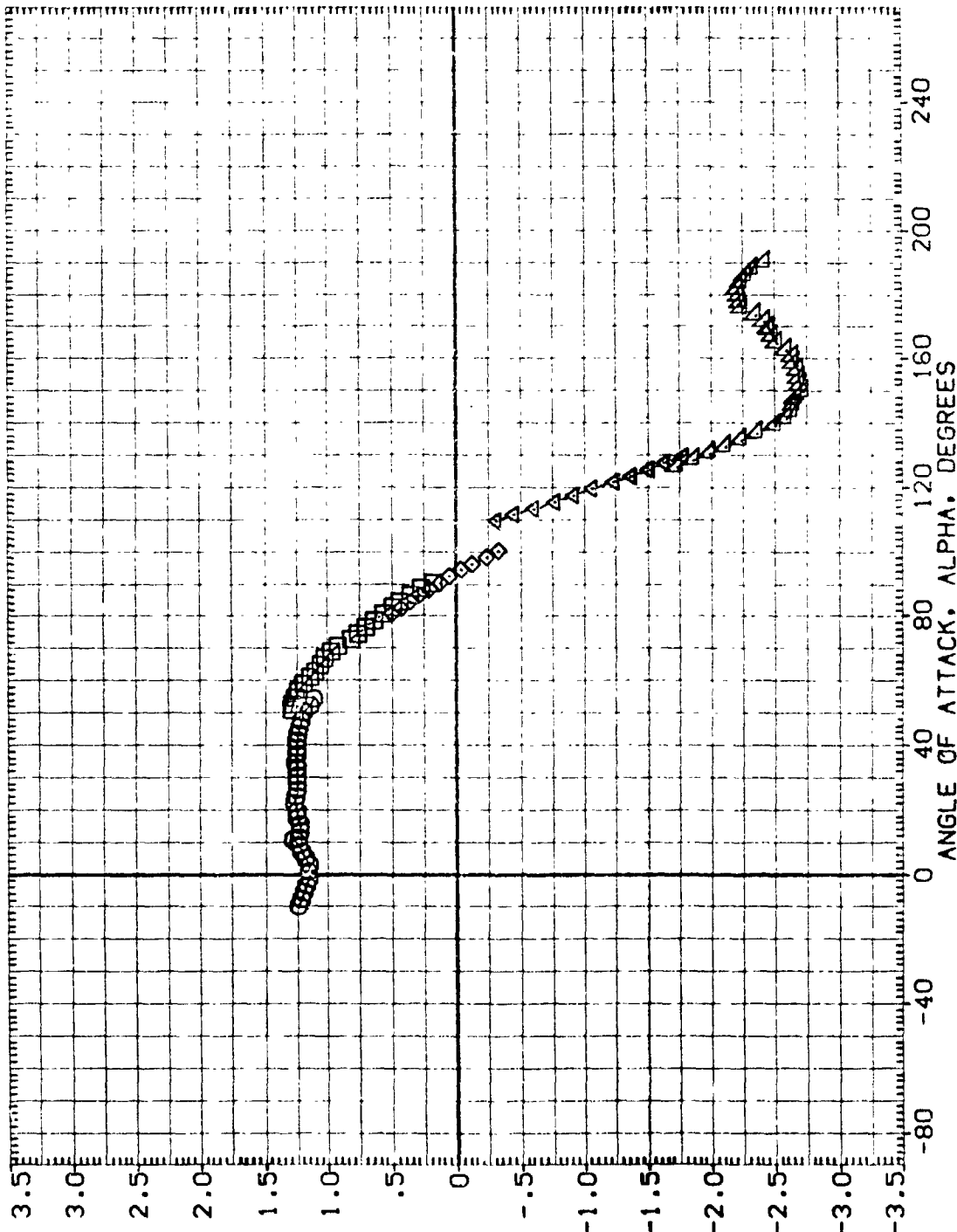
FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS
 (H)MACH = 1.96

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5 7.710 IN. X5
 YMRP .0000 IN. Y5
 ZMRP .0000 IN. Z5
 SCALE .0055

PHI .000
 .000
 .000
 .000

CONFIGURATION DESCRIPTION
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS

DATA SET SYMBOL
 (AIHQ01) 
 (AIHQ02) 
 (AIHQ03) 
 (AIHQ04) 
 (AIHQ05) 



AXIAL FORCE COEFFICIENT, CA (MISSILE AXIS SYSTEM)

FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS
 (H)MACH = 1.96

REFERENCE INFORMATION

SREF	.5030	SQ. IN.
LREF	.8000	IN.
BREF	.8000	IN.
XMRP	5.7210	IN. XS
YMRP	.0000	IN. YS
ZMRP	.0000	IN. ZS
SCALE	.0055	

PHI .000
 .000
 .000
 .000
 .000

CONFIGURATION DESCRIPTION

MSFC TV1604 (SABF)	SRB CLEAN	V/RINGS
MSFC TV1604 (SABF)	SRB CLEAN	V/RINGS
MSFC TV1604 (SABF)	SRB CLEAN	V/RINGS
MSFC TV1604 (SABF)	SRB CLEAN	V/RINGS
MSFC TV1604 (SABF)	SRB CLEAN	V/RINGS

DATA SET SYMBOL

(A1HA01)	□
(A1HG01)	○
(A1HQ08)	○
(A1HC01)	△
(A1H001)	△

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

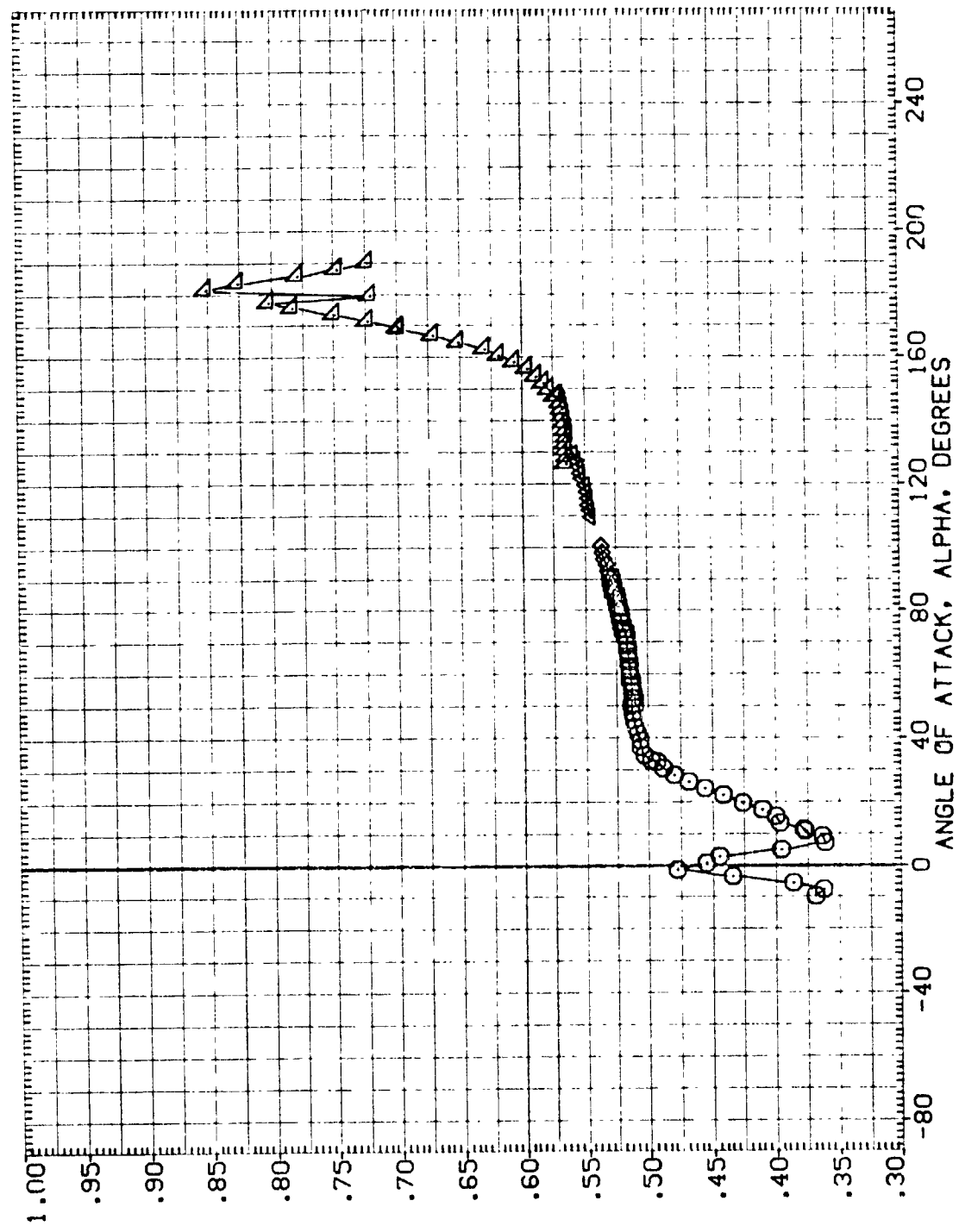


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

(M)MACH = 1.96

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
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 .000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H001) MSFC TVT604 (SABF) SRB CLEAN W/RINGS
 (A1H001) MSFC TVT604 (SABF) SRB CLEAN W/RINGS
 (A1H008) MSFC TVT604 (SABF) SRB CLEAN W/RINGS
 (A1H001) MSFC TVT604 (SABF) SRB CLEAN W/RINGS
 (A1H001) MSFC TVT604 (SABF) SRB CLEAN W/RINGS

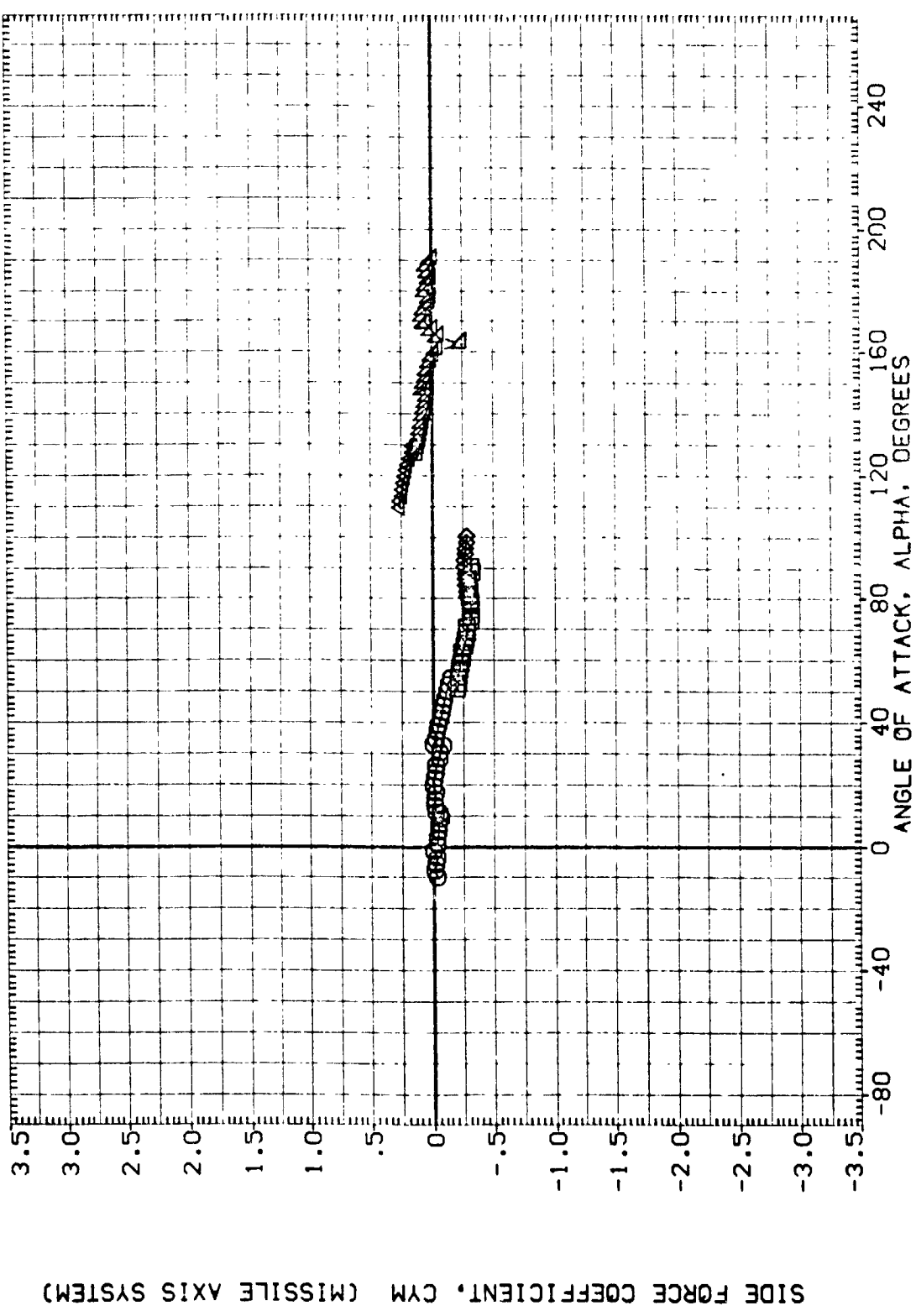


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI .000
 .000
 .000
 .000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1HA01) MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 (A1HB01) MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 (A1HC08) MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 (A1HD01) MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 (A1HE01) MSFC TVT604 (SABF) SRB CLEAN V/RINGS

YAWING MOMENT COEFFICIENT, C_{YM} (MISSILE AXIS SYSTEM)

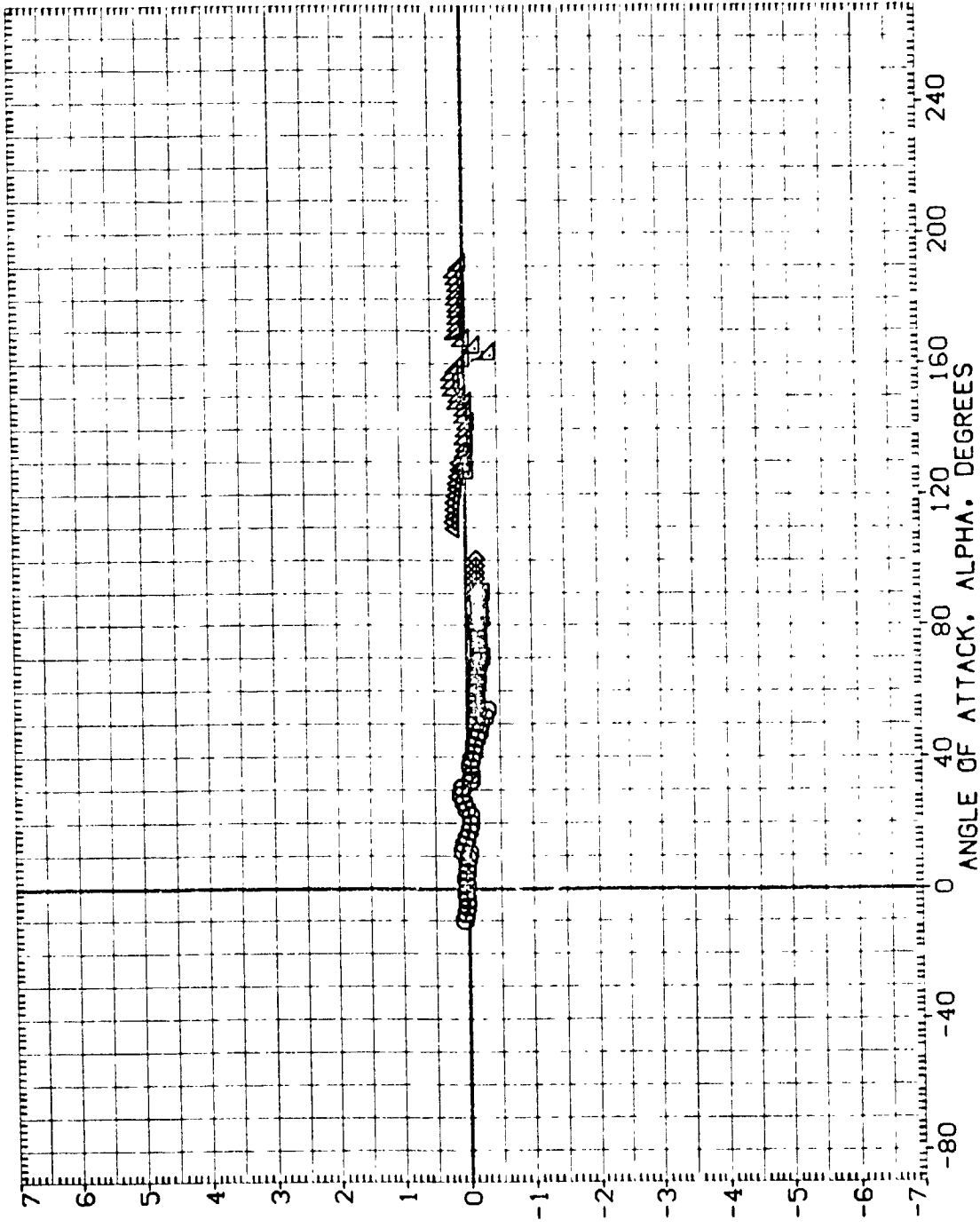


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

(H)MACH = 1.96

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H01)	MSFC TVT604 (SABF)	SRB CLEAN	V/RINGS
(A1H01)	MSFC TVT604 (SABF)	SRB CLEAN	V/RINGS
(A1H008)	MSFC TVT604 (SABF)	SRB CLEAN	V/RINGS
(A1H001)	MSFC TVT604 (SABF)	SRB CLEAN	V/RINGS
(A1H001)	MSFC TVT604 (SABF)	SRB CLEAN	V/RINGS

PHI .000
 .000
 .000
 .000

REFERENCE INFORMATION

SREF	.5030	IN.
LREF	.8000	IN.
EREF	.8000	IN.
XMRP	5.7210	IN.
YMRP	.0000	IN.
ZMRP	.0000	IN.
SCALE	.0055	

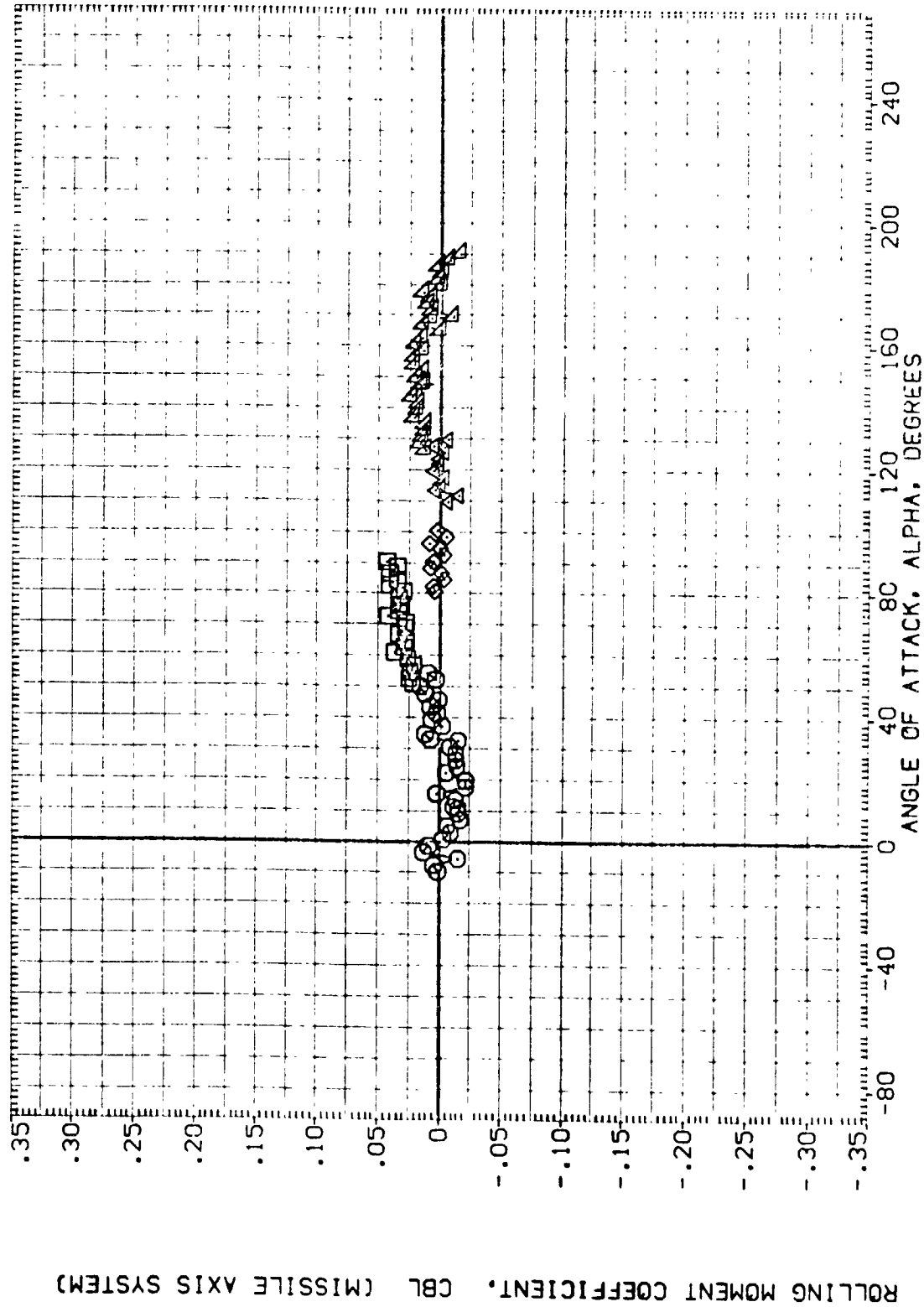


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

(H)MACH = 1.96

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 .000
 .000
 .000
 .000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1M01) MSFC TVT604 (SABF) SRB CLEAN W/RINGS
 (A1M01) MSFC TVT604 (SABF) SRB CLEAN W/RINGS
 (A1M08) DATA NOT AVAILABLE
 (A1M01) MSFC TVT604 (SABF) SRB CLEAN W/RINGS
 (A1M07) MSFC TVT604 (SABF) SRB CLEAN W/RINGS

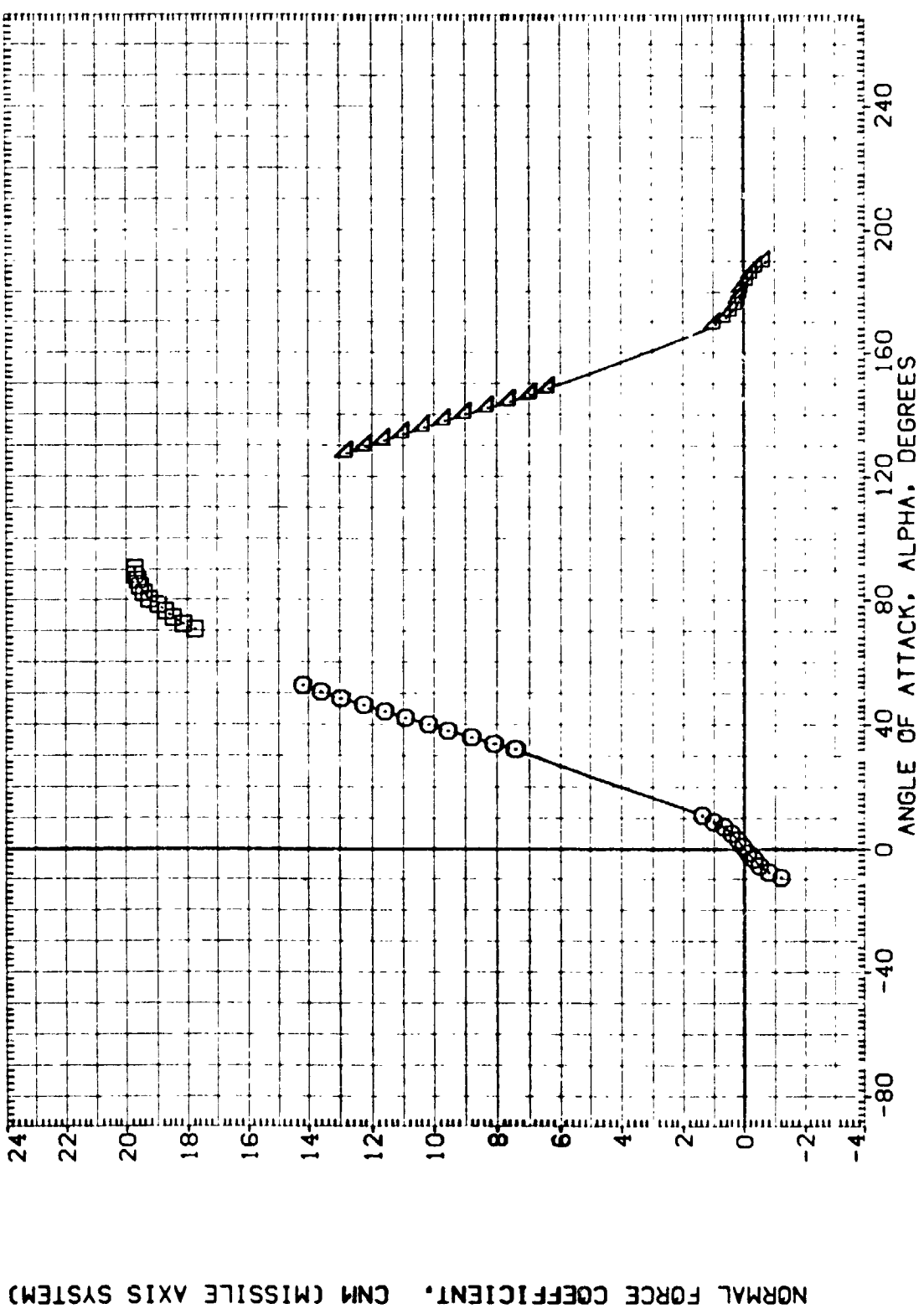


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS
 (M)MACH = 2.74 PAGE 57

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H001) MSFC TVT604 (SABF) SRB CLEAN V/RINGS

(A1H001) MSFC TVT604 (SABF) SRB CLEAN V/RINGS

(A1H008) DATA NOT AVAILABLE

(A1H001) DATA NOT AVAILABLE

(A1H001) MSFC TVT604 (SABF) SRB CLEAN V/RINGS

PHI

.000

.000

.000

.000

.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN.

YMRP .0000 IN.

ZMRP .0000 IN.

SCALE .0055

PITCHING MOMENT COEFFICIENT, CLM (MISSILE AXIS SYSTEM)

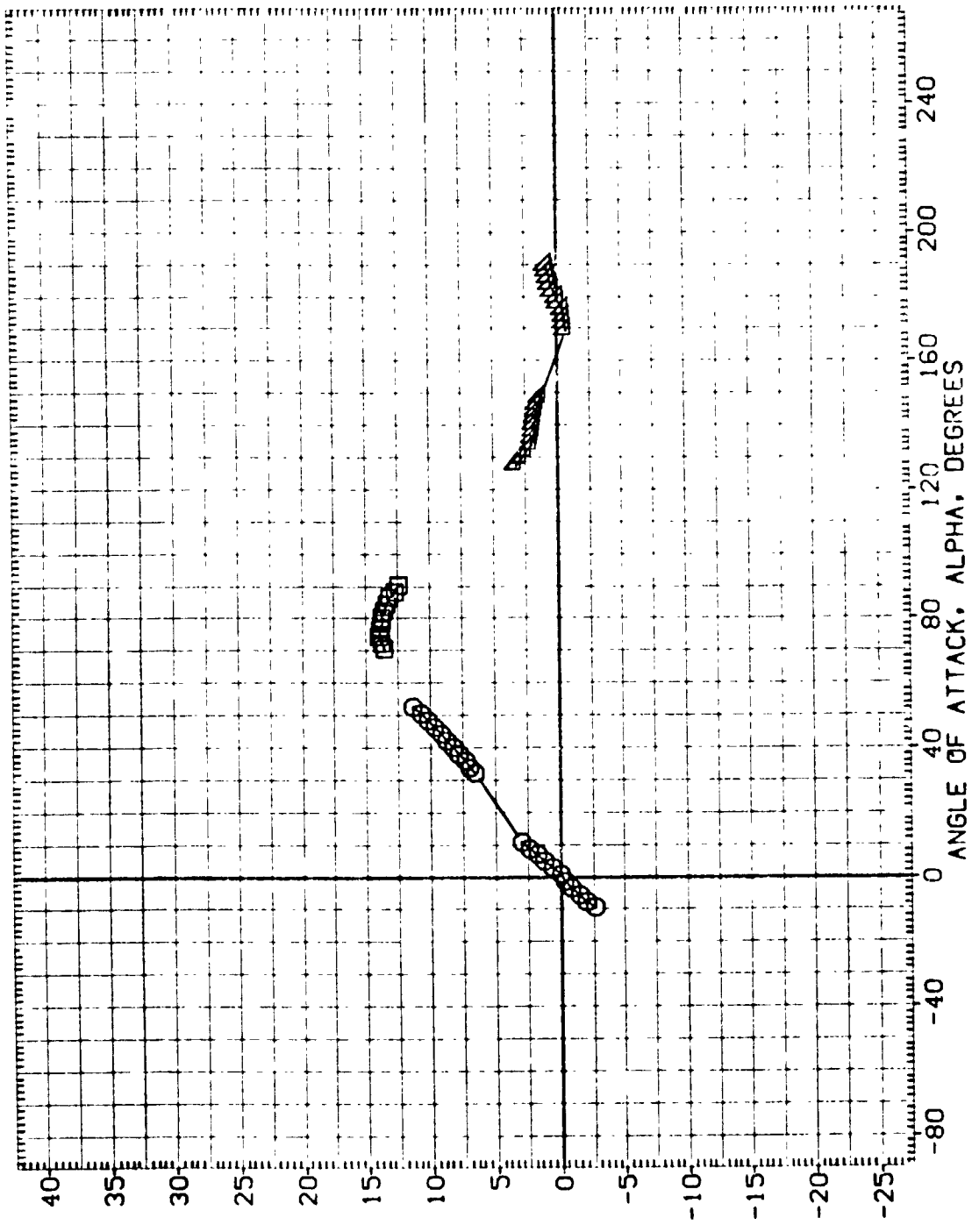
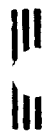


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

(1)MACH = 2.74



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(A)MAD1)	MSFC TVT604 (SABF) SRB CLEAN W/RINGS	.000	SREF 5030 SO. IN.
(A)H601)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	LREF .8000 IN.
(A)H008)	DATA NOT AVAILABLE	.000	BREF .8000 IN. XS
(A)HCC1)	DATA NOT AVAILABLE	.000	XMRP 5.7210 IN. YS
(A)001)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	YMRP .0000 IN. ZS
			ZMRP .0000 IN. ZS
			SCALE .0055

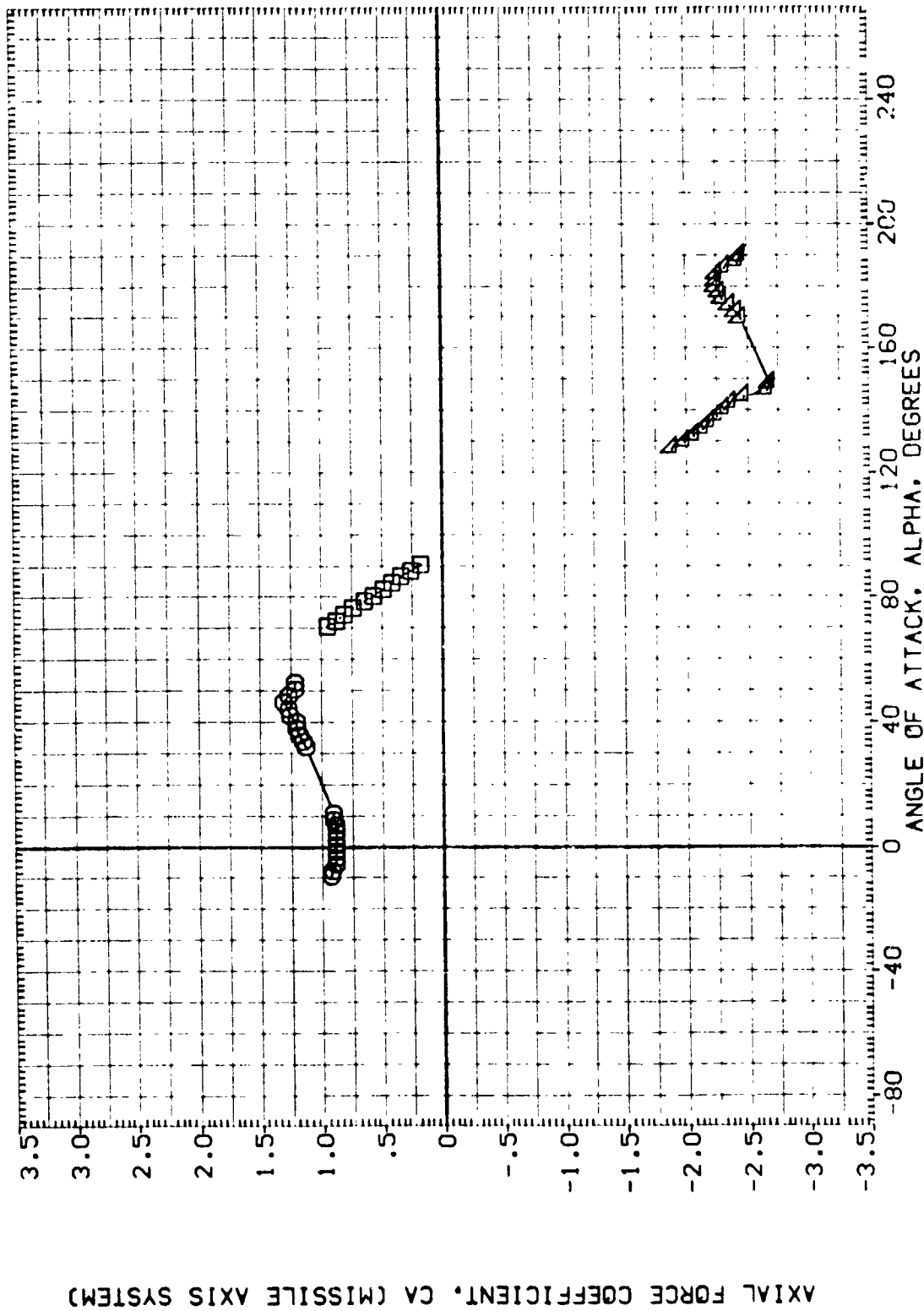


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

DATA SET SYMBOL CONFIGURATION DESCRIPTION PH1

(A1H401) MSFC TVT604 (SABF) SRB CLEAN W/RINGS .000

(A1H402) MSFC TVT604 (SABF) SRB CLEAN W/RINGS .000

(A1H403) DATA NOT AVAILABLE .000

(A1H404) DATA NOT AVAILABLE .000

(A1H405) MSFC TVT604 (SABF) SRB CLEAN W/RINGS .000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

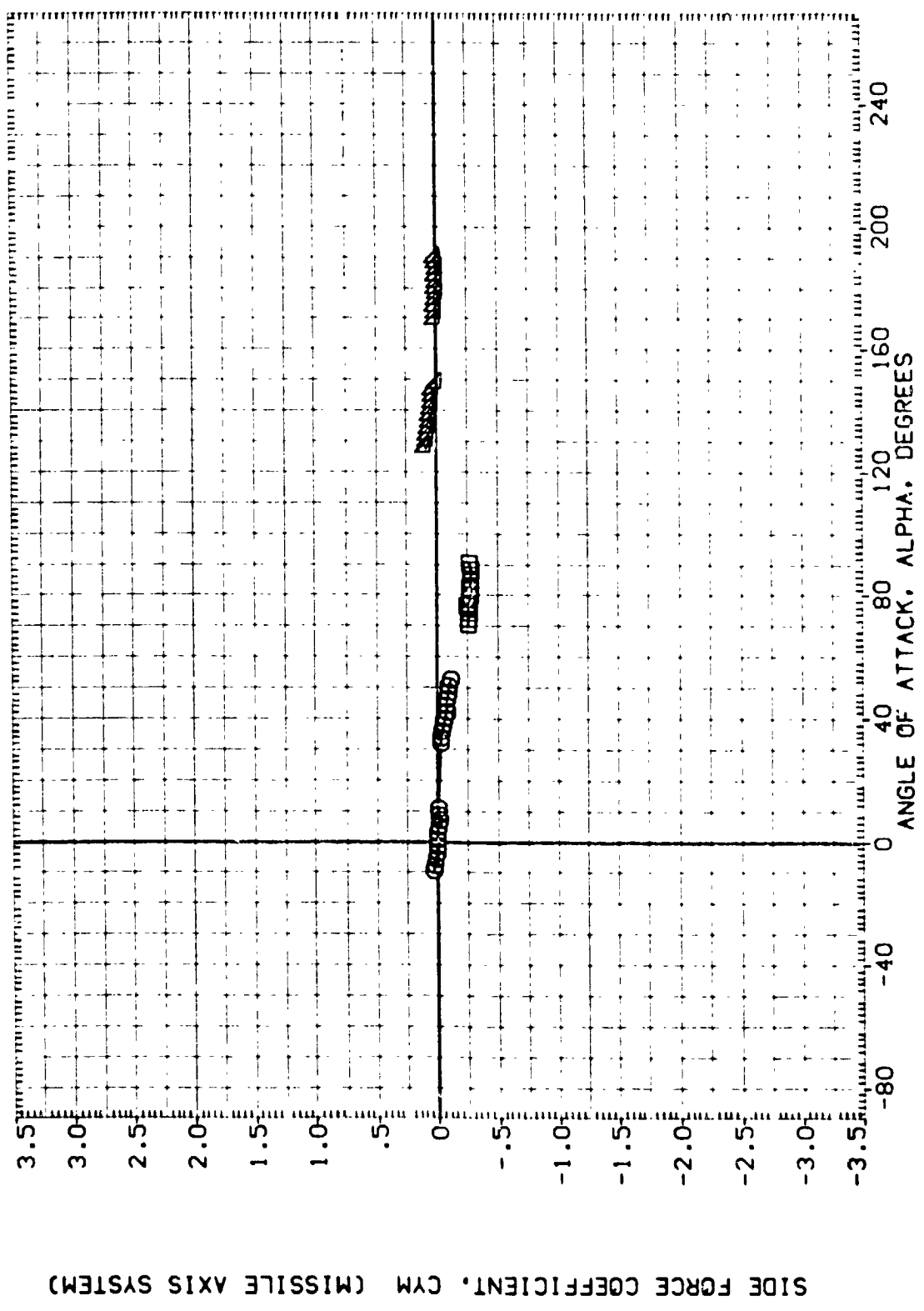


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

(1)MACH = 2.74

PAGE 61

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H001) MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 (A1H001) MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 (A1H008) DATA NOT AVAILABLE
 (A1H001) DATA NOT AVAILABLE
 (A1H001) MSFC TVT604 (SABF) SRB CLEAN V/RINGS

PHI
 .000
 .000
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 .000

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .0000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

YAWING MOMENT COEFFICIENT, C_{YM} (MISSILE AXIS SYSTEM)

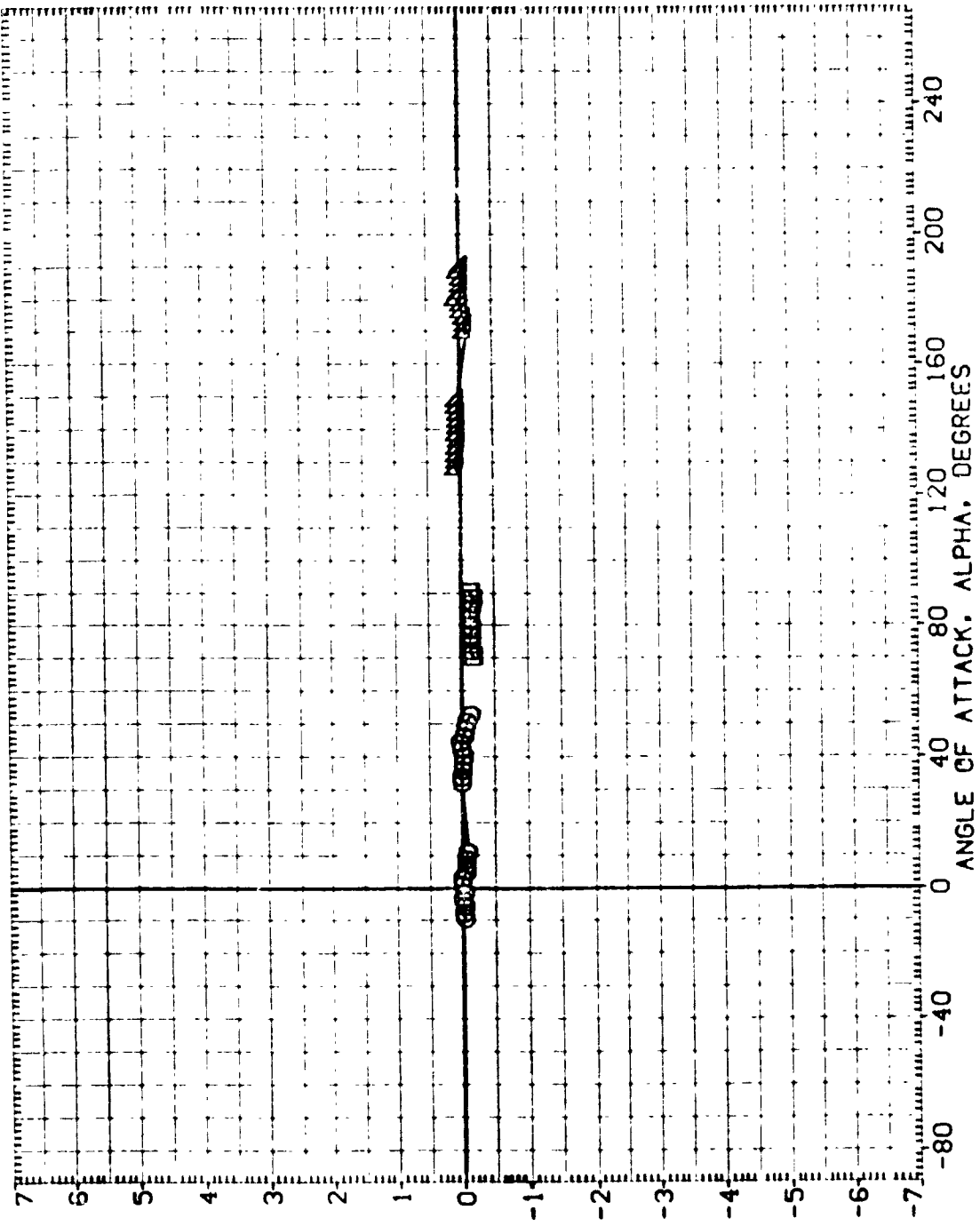


FIGURE 18. STATIC STABILITY CHARACTER OF SRB W/CLEAN ATTACH AND AFT RINGS

(1)MACH = 2.74

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI REFERENCE INFORMATION

(A1M001)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	SREF .5030 SQ. IN.
(A1M002)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	LREF .8000 IN.
(A1M003)	DATA NOT AVAILABLE	.000	BREF .8000 IN.
(A1M004)	DATA NOT AVAILABLE	.000	XMRP 5.7210 IN. XS
(A1M005)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	YMRP .0000 IN. YS
			ZMRP .0000 IN. ZS
			SCALE .0055

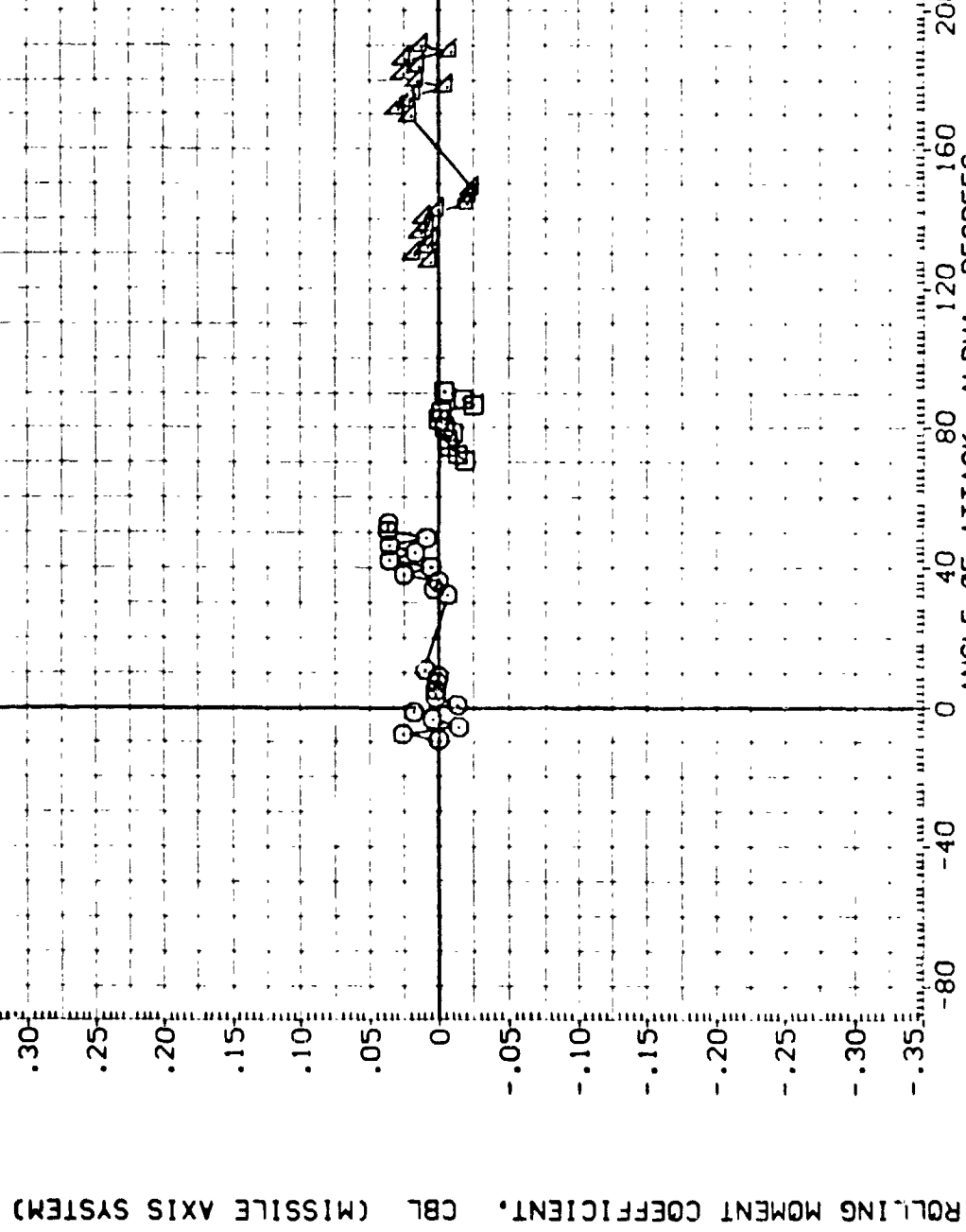


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

(1)MACH = 2.74

REFERENCE INFORMATION
 SREF .5030 IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0055

PHI
 .000
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 .000
 .000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (AIHQ01) MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 (AIHQ01) MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 (AIHQ01) DATA NOT AVAILABLE
 (AIHQ01) MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 (AIHQ01) MSFT TVT604 (SABF) SRB CLEAN V/RINGS

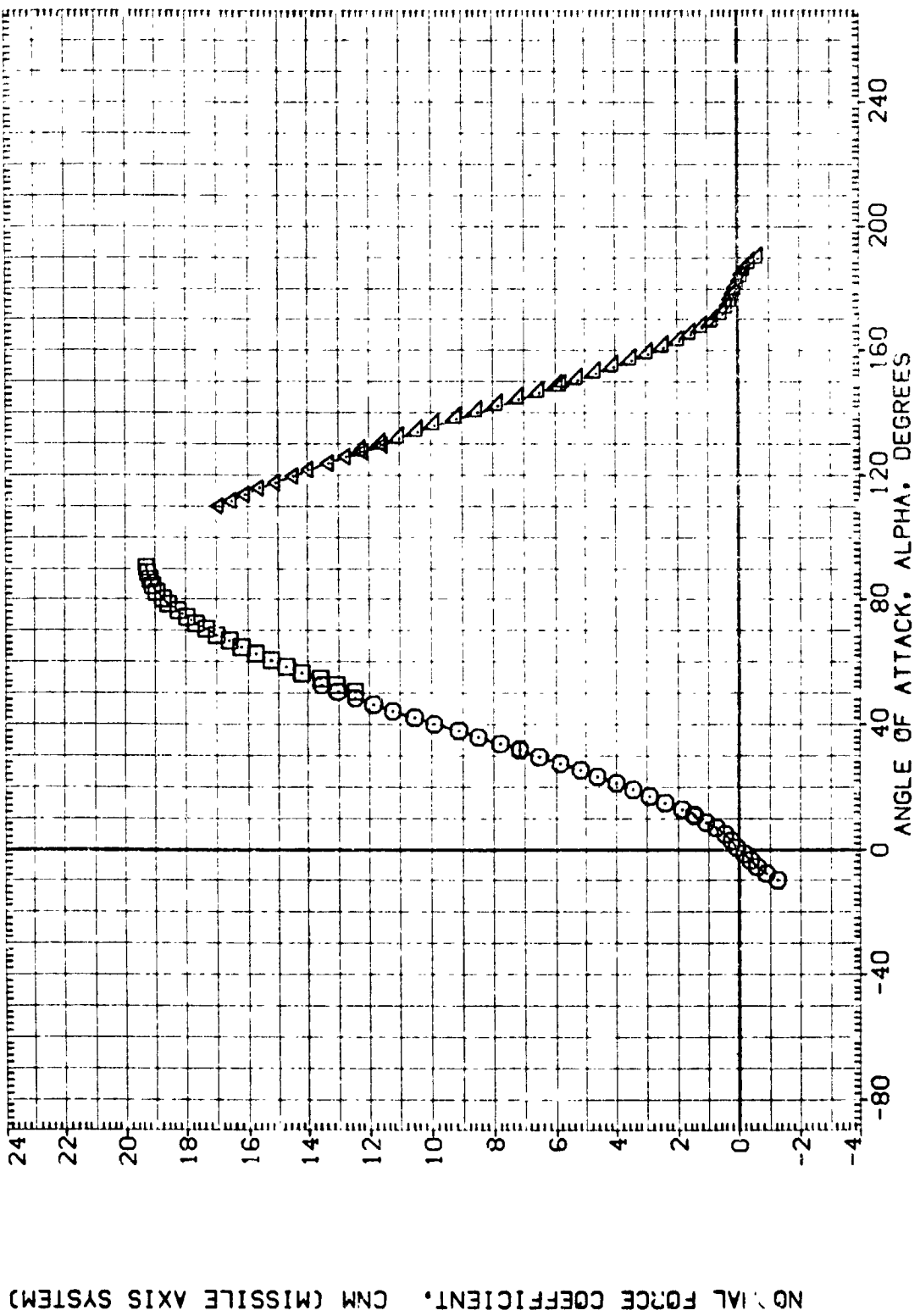


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS
 (JJ)MACH = 3.48

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H001)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS
(A1H001)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS
(A1H008)	DATA NOT AVAILABLE
(A1H001)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS
(A1H001)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS

PHI .000
 .000
 .000
 .000
 .000

REFERENCE INFORMATION

SREF	.5030	50. IN.
LREF	.8000	IN.
BREF	.8000	IN.
XMRP	5.7210	IN. X5
YMRP	.0000	IN. Y5
ZMRP	.0000	IN. Z5
SCALE	.0055	

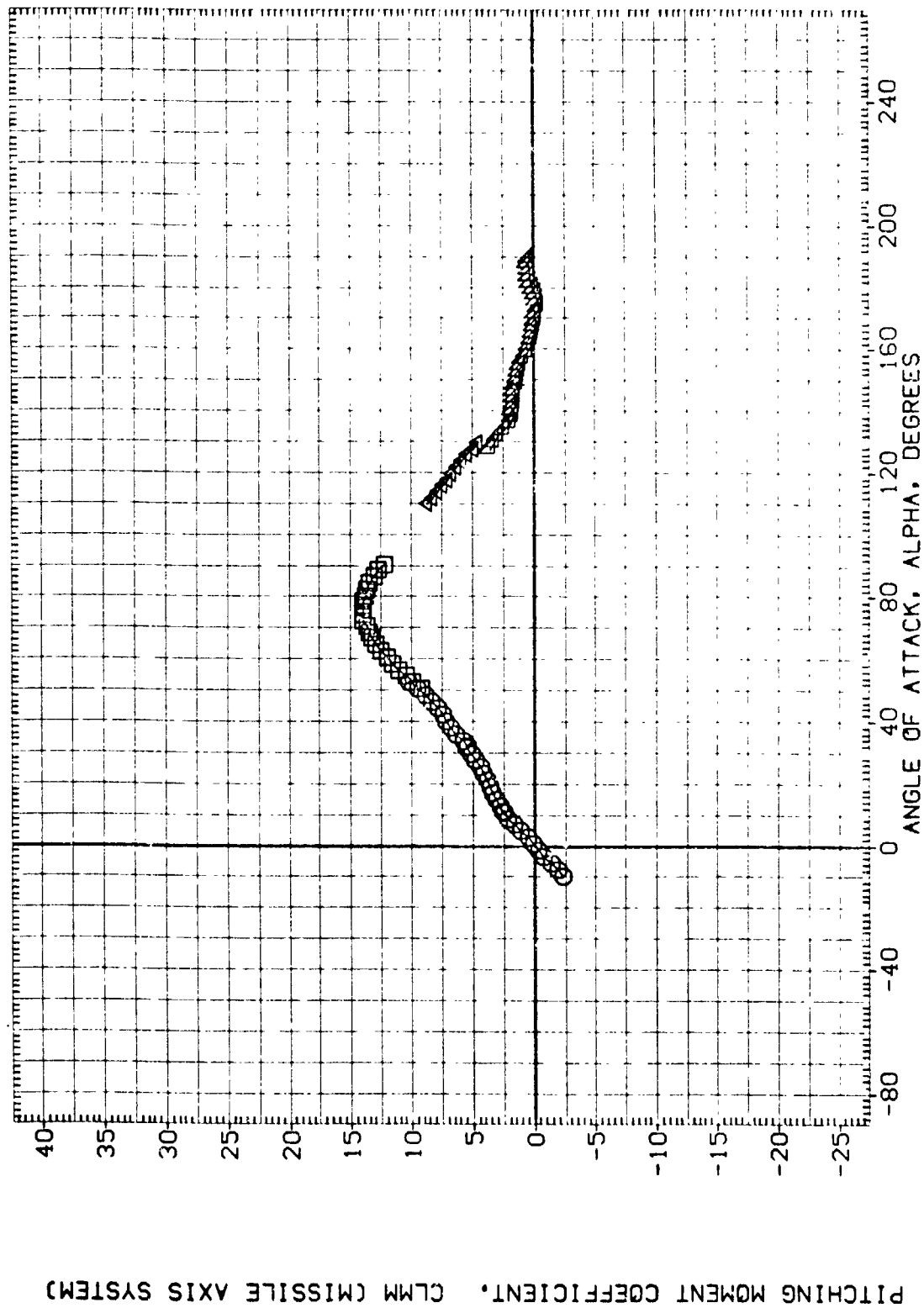


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP .210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 .000
 .000
 .000
 .000
 .000

CONFIGURATION DESCRIPTION
 MSFC TV1604 (SABF) SRB CLEAN W/RINGS
 MSFC TV1604 (SABF) SRB CLEAN W/RINGS
 DATA NOT AVAILABLE
 MSFC TV1604 (SABF) SRB CLEAN W/RINGS
 MSFC TV1604 (SABF) SRB CLEAN W/RINGS

DATA SET SYMBOL
 (A1HA01) □
 (A1HB01) ○
 (A1HC01) △
 (A1HD01) ◇

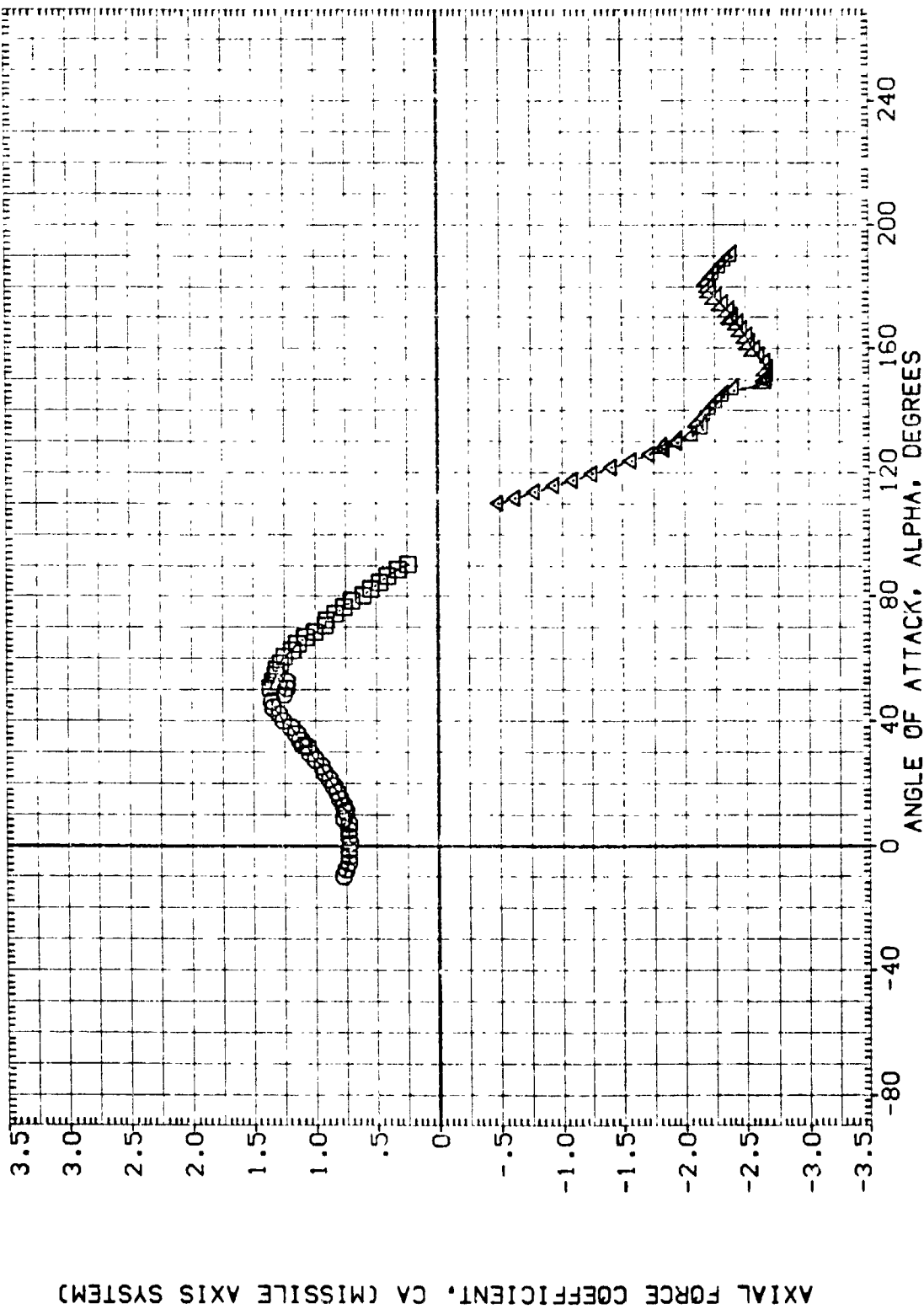


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

REFERENCE INFORMATION

SREF	.5030	IN.
LREF	.8000	IN.
BREF	.8000	IN.
XMRP	5.7210	IN.
YMRP	.0000	IN.
ZMRP	.0000	IN.
SCALE	.0055	

PHI

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.000
.000
.000
.000

CONFIGURATION DESCRIPTION

MSFC TVT604 (SABF)	SRB CLEAN	V/RINGS
MSFC TVT604 (SABF)	SRB CLEAN	V/RINGS
DATA NOT AVAILABLE		
MSFC TVT604 (SABF)	SRB CLEAN	V/RINGS
MSFC TVT604 (SABF)	SRB CLEAN	V/RINGS

DATA SET SYMBOL

(A1H01)
(A1H01)
(A1H08)
(A1H01)
(A1H01)

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

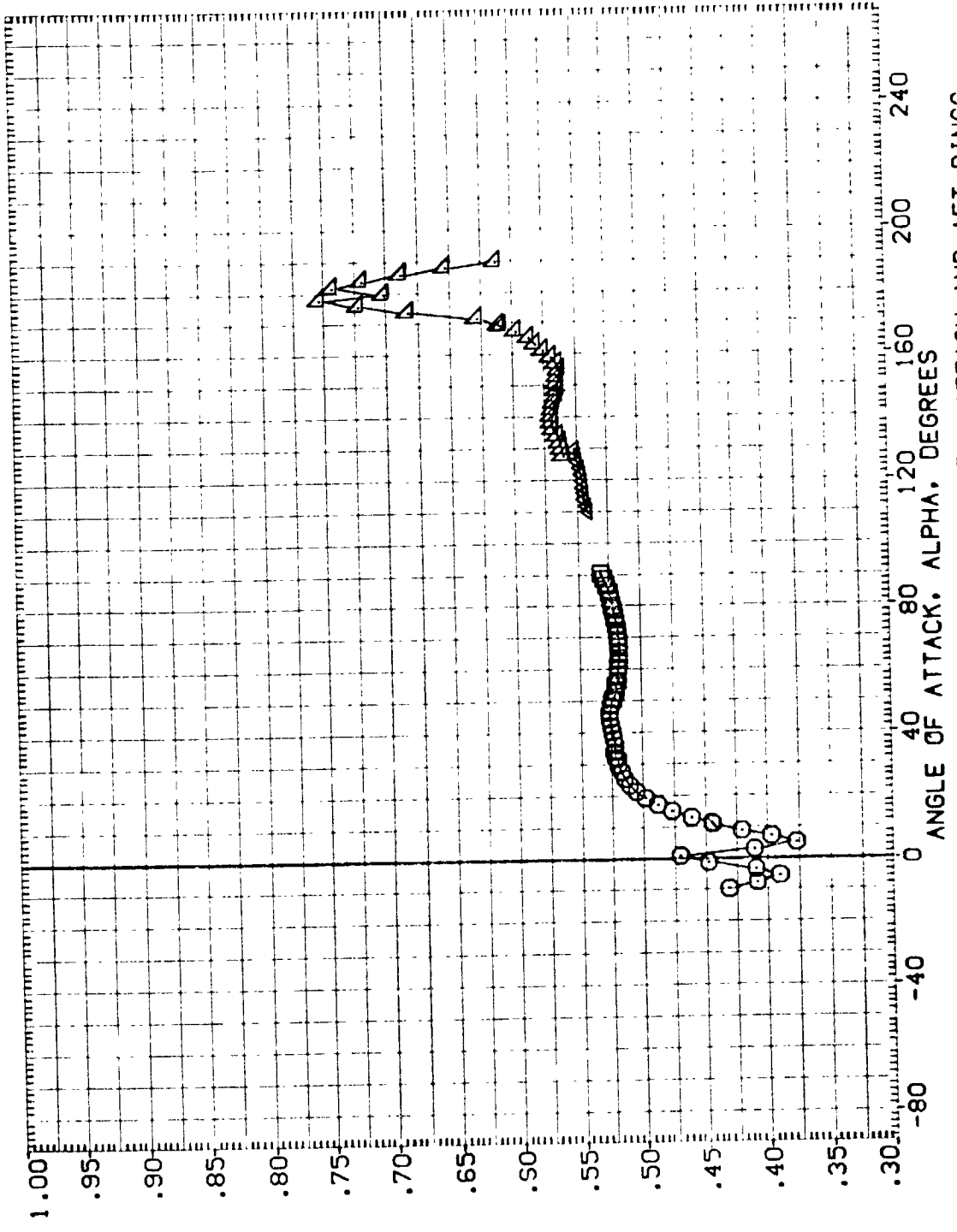


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H001) MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 (A1H001) MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 (A1H008) DATA NOT AVAILABLE
 (A1H001) MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 (A1H001) MSFC TVT604 (SABF) SRB CLEAN V/RINGS

PHI
 .000
 .000
 .000
 .000

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 VMSP 5.7210 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0055

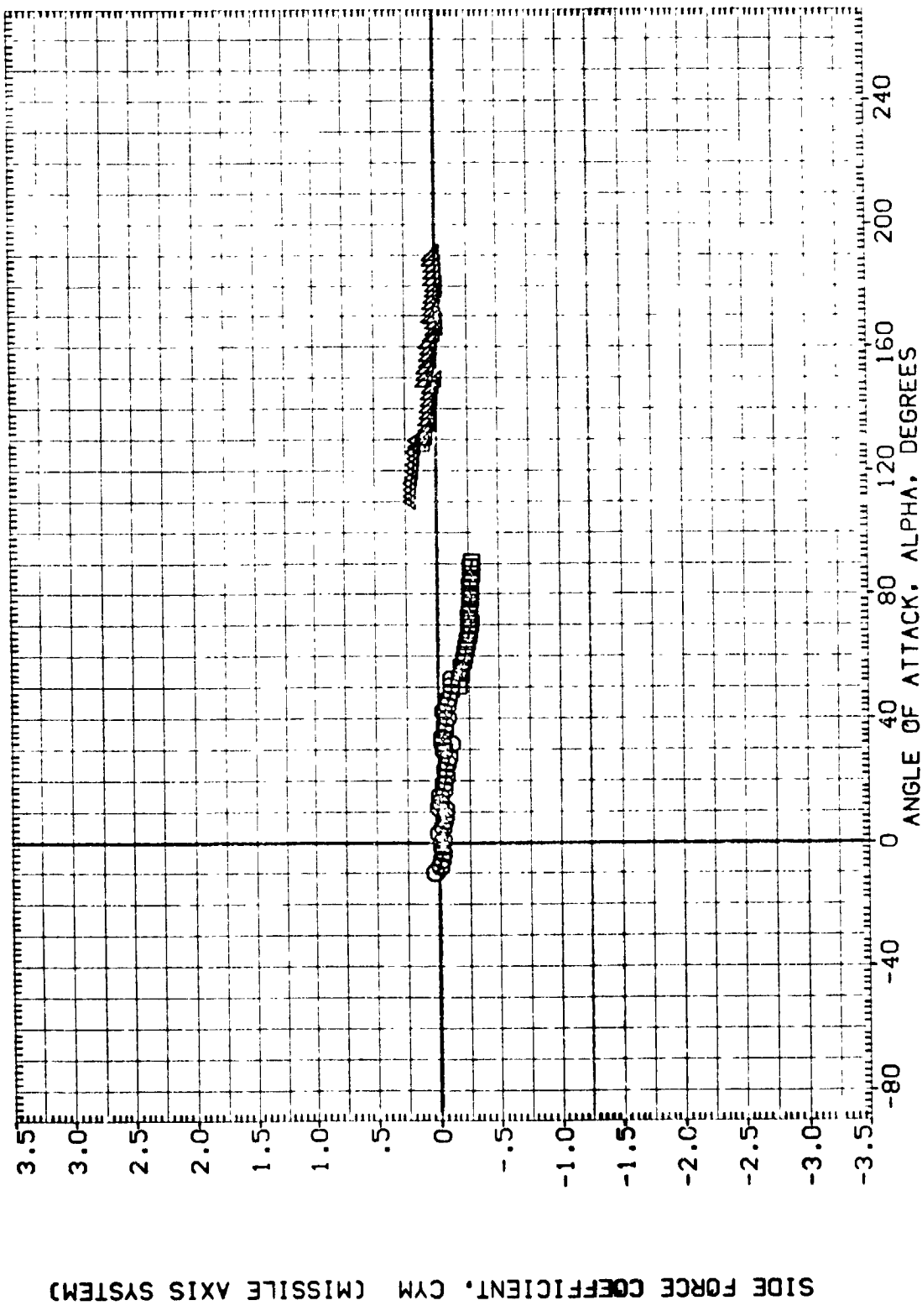


FIGURE 18. STATIC STABILITY CHARACTERISTICS OF SRB W/CLEAN ATTACH AND AFT RINGS

(CJM)MACH = 3.48

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI .000
 .000
 .000
 .000
 .000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (AIH001) MSFC TVT604 (SABF) SRB CLEAN V/R/RINGS
 (AIH001) MSFC TVT604 (SABF) SRB CLEAN V/R/RINGS
 (AIH008) DATA NOT AVAILABLE
 (AIH001) MSFC TVT604 (SABF) SRB CLEAN V/R/RINGS
 (AIH001) MSFC TVT604 (SABF) SRB CLEAN V/R/RINGS

YAWING MOMENT COEFFICIENT, C_{YM} (MISSILE AXIS SYSTEM)

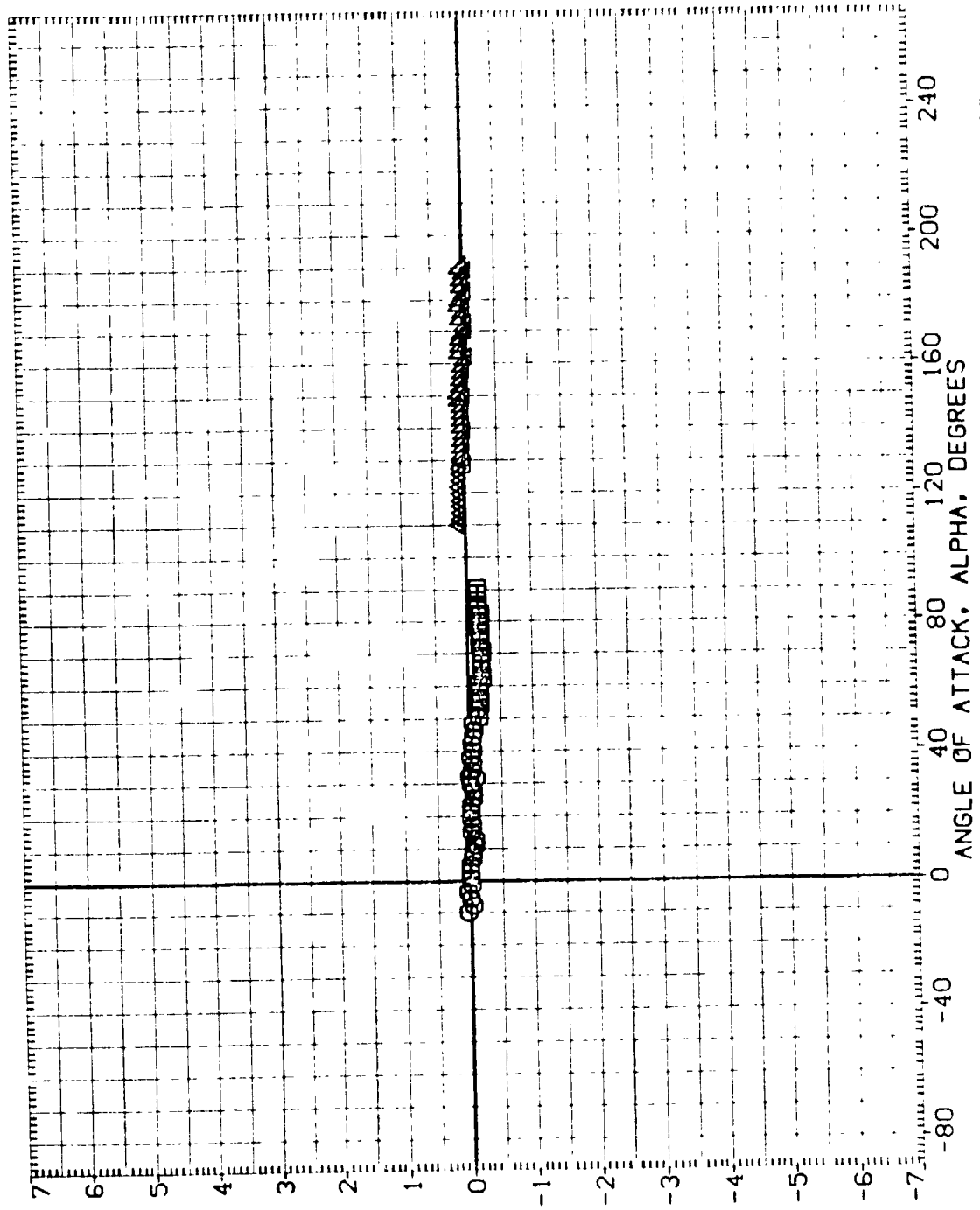


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
{AIH001}	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	SREF .5030 SQ. IN.
{AIH001}	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	LREF .8000 IN.
{AIH006}	DATA NOT AVAILABLE	.000	BREF .8000 IN.
{AIH001}	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	XMRP S.7210 IN. XS
{AIH001}	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	YMRP .0000 IN. YS
			ZMRP .0000 IN. ZS
			SCALE .0055

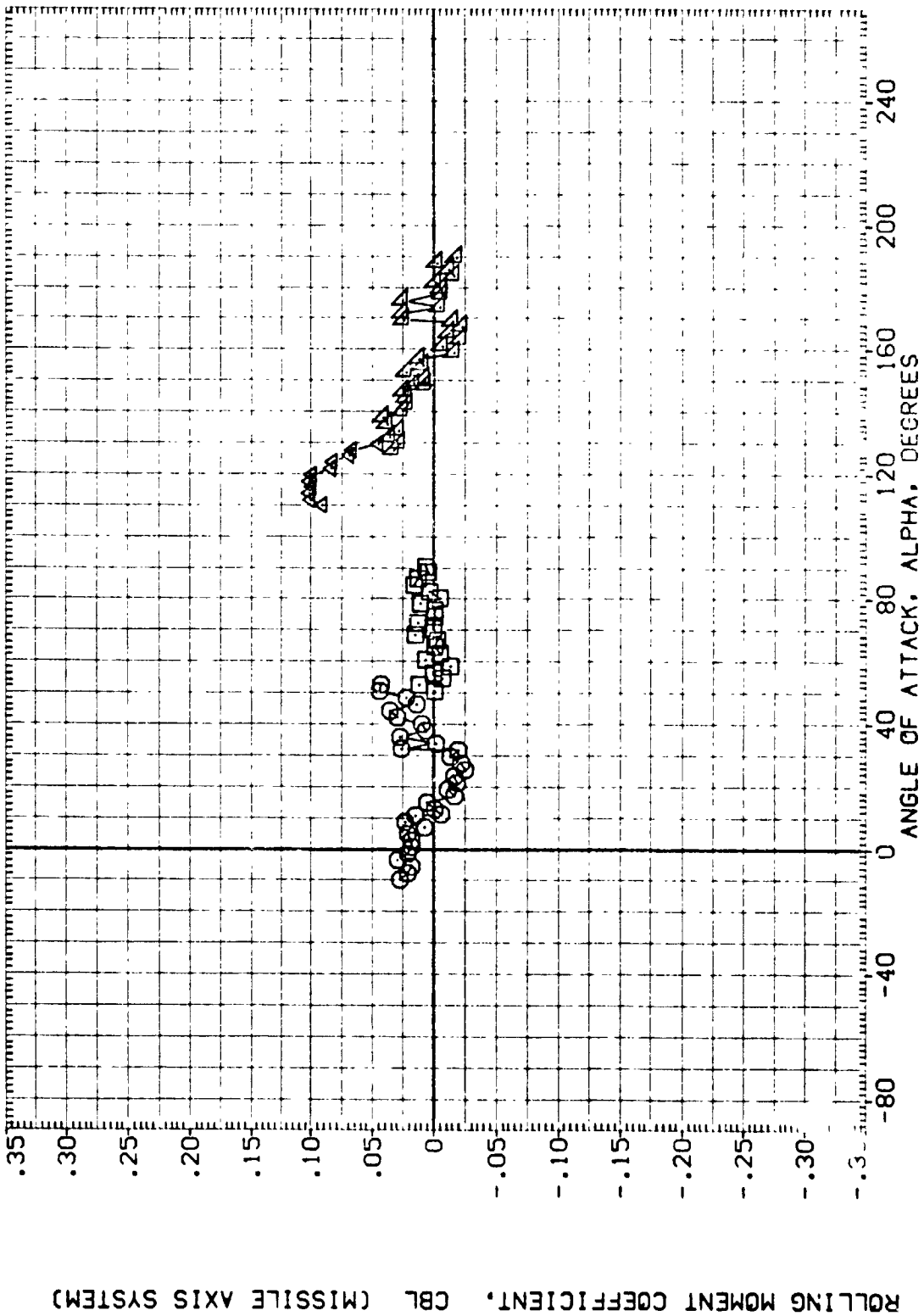


FIGURE 18. STATIC STABILITY CHARACTERISTICS OF SRB W/CLEAN ATTACH AND AFT RINGS

(J)MACH = 3.48

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 .000
 .000
 .000
 .000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H001) MSFC TVT604 (SABF) SRB CLEAN W/RINGS
 (A1H002) DATA NOT AVAILABLE
 (A1H003) DATA NOT AVAILABLE
 (A1H004) DATA NOT AVAILABLE
 (A1H005) MSFC TVT604 (SABF) SRB CLEAN W/RINGS

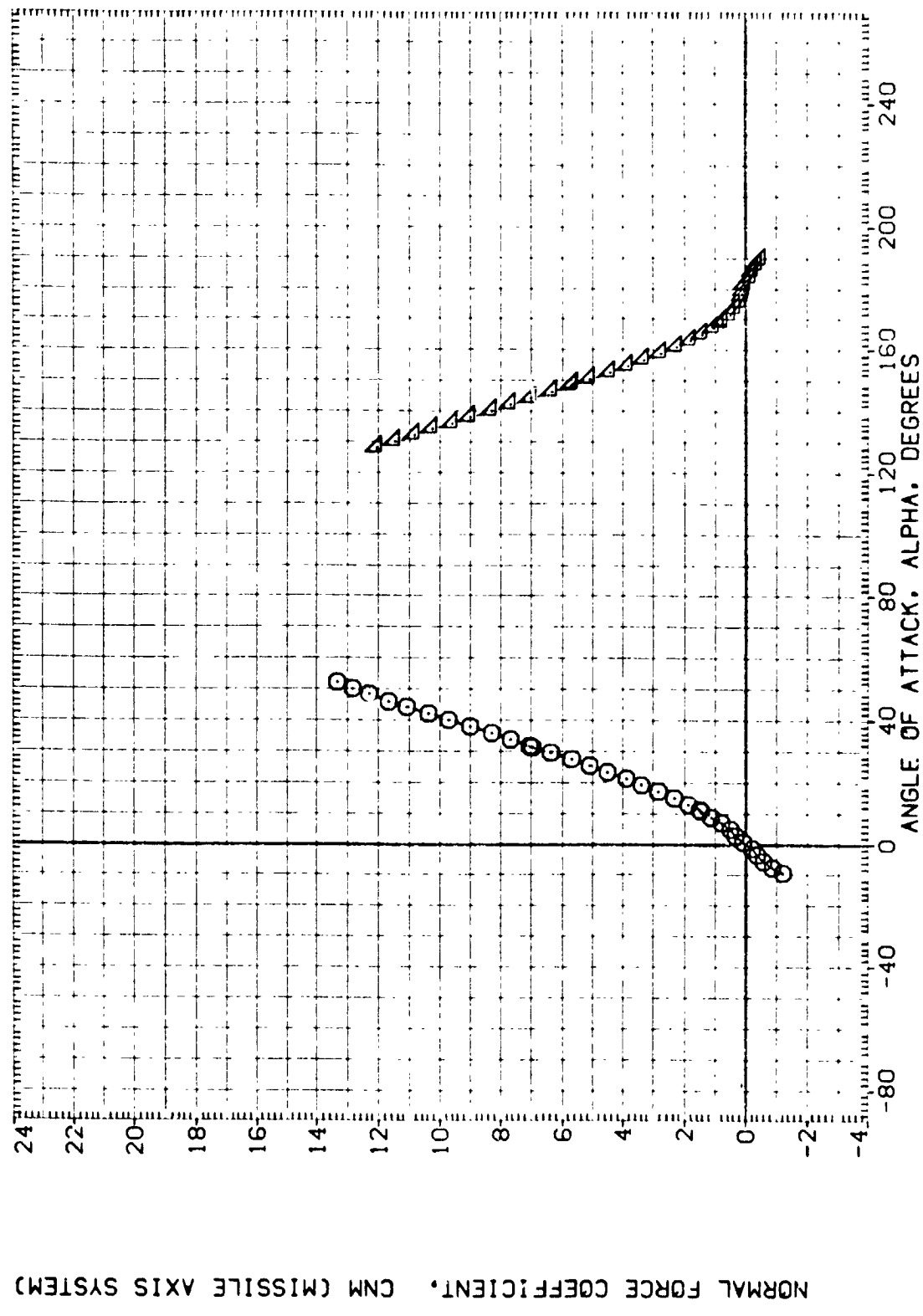


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS
 (K)MACH = 4.00

DATA SET SYMBOL
 (A1HA01)
 (A1HB01)
 (A1HC08)
 (A1HD01)
 (A1HE01)

PHI
 .000
 .000
 .000
 .000

CONFIGURATION DESCRIPTION
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 DATA NOT AVAILABLE
 DATA NOT AVAILABLE
 DATA NOT AVAILABLE
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PITCHING MOMENT COEFFICIENT, CLM (MISSILE AXIS SYSTEM)

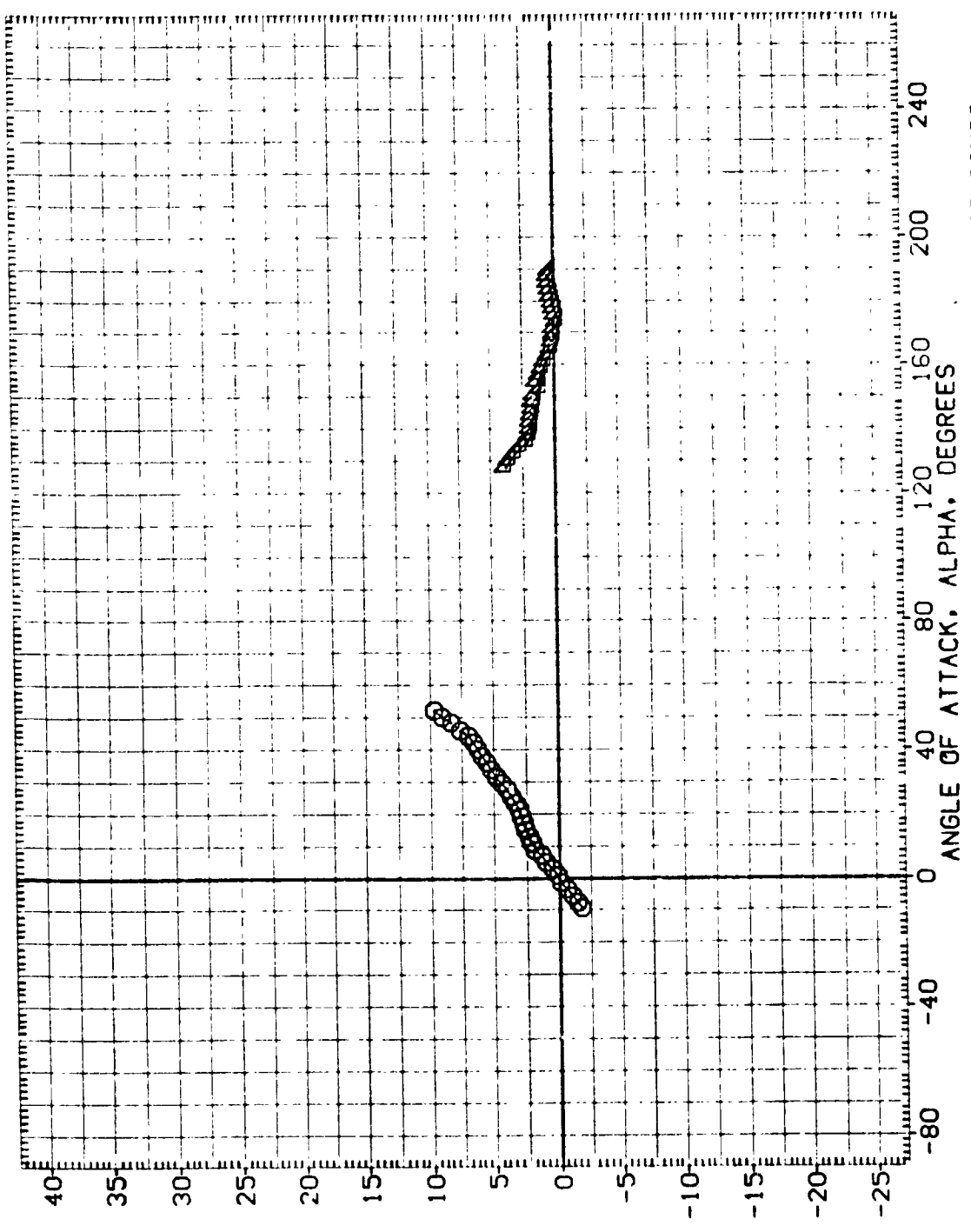


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

(K)MACH = 4.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H001) MFC TYT04 (SAB) SRB CLEAN V/RINGS
 (A1H002) DATA NOT AVA LAB
 (A1H003) DATA NOT AVA LAB
 (A1H004) DATA NOT AVA LAB
 (A1H005) MFC TYT04 (SAB) SRB CLEAN V/RINGS

PHI .000
 .000
 .000
 .000
 .000

REFERENCE INFORMATION
 SREF .0010 SQ IN.
 LREF .0000 IN.
 MREF .0000 IN.
 XMRP 5.72 0 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

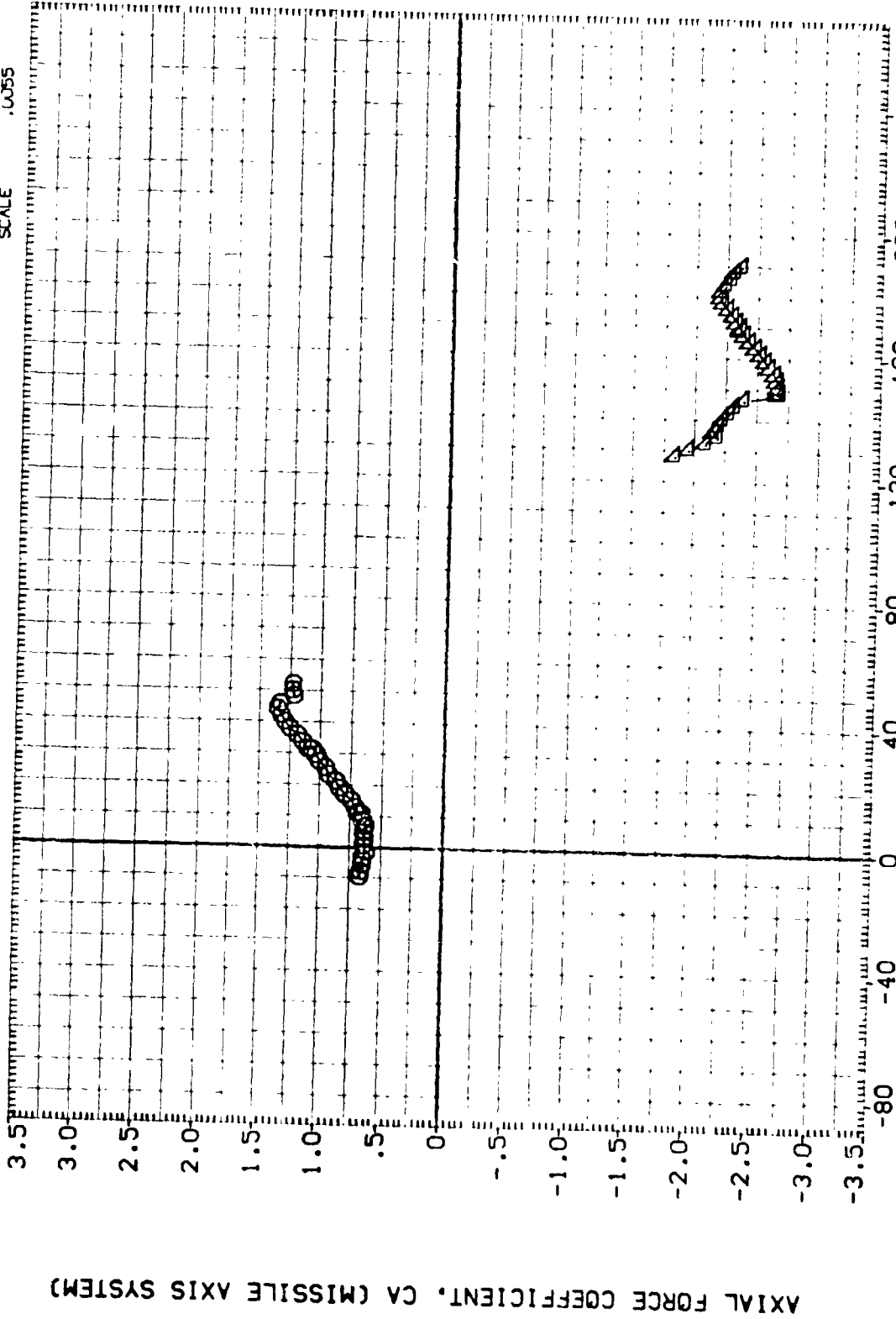


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS
 (K)MACH = 4.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H001) MSFC TVT604 (SABF) SRB CLEAN V/RINGS

(A1H002) DATA NOT AVAILABLE

(A1H003) DATA NOT AVAILABLE

(A1H004) DATA NOT AVAILABLE

(A1H005) MSFC TVT604 (SABF) SRB CLEAN V/RINGS

PHI

.000

.000

.000

.000

REFERENCE INFORMATION

SREF .5030 50. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

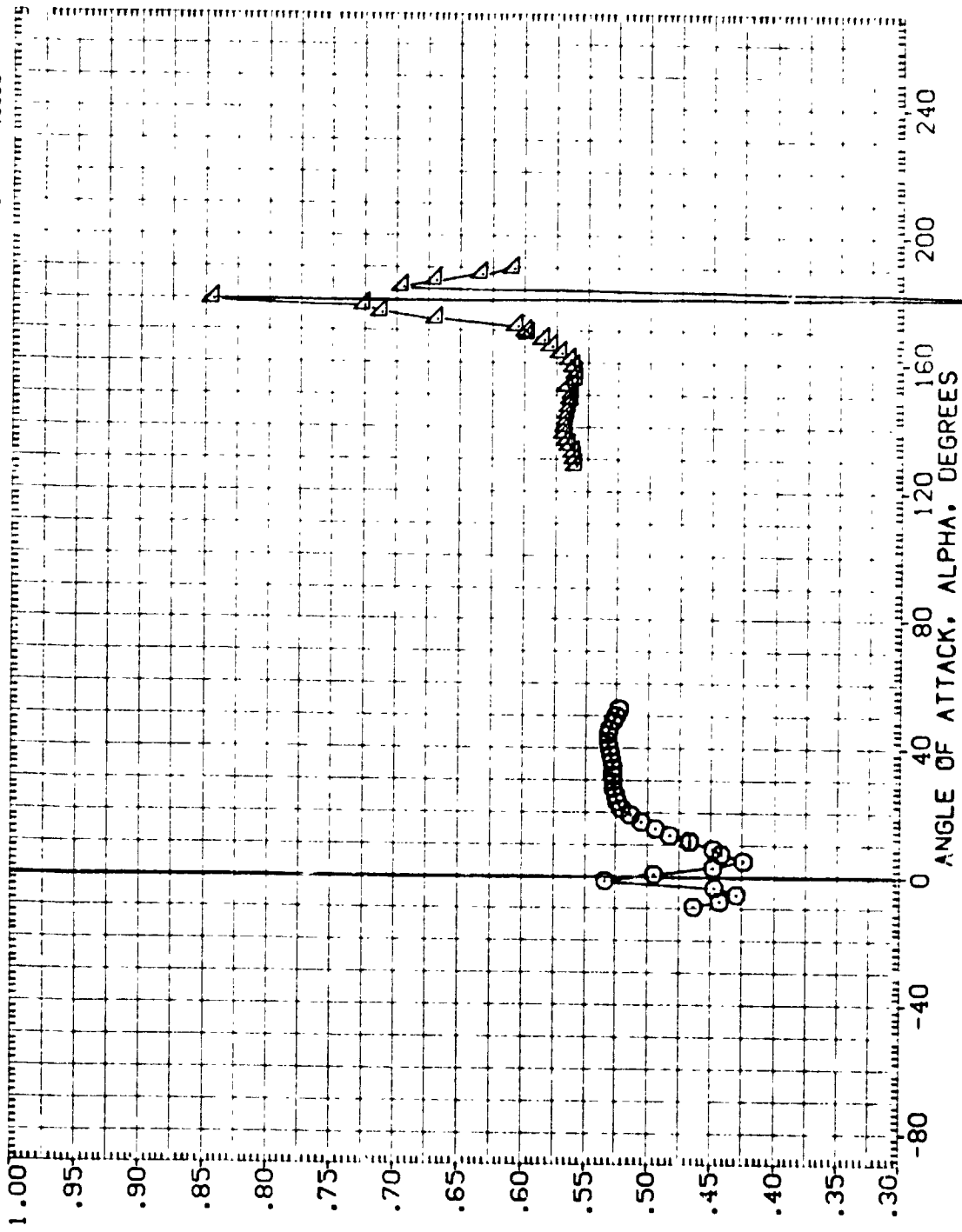


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

(K)MACH = 4.00

REFERENCE INFORMATION
 SREF :5030 IN. 50. IN.
 LREF :8000 IN.
 BREF :8000 IN.
 XMRP 5.7210 IN. XS
 YMRP :0000 IN. YS
 ZMRP :0000 IN. ZS
 SCALE :.0055

PHI
 .000
 .000
 .000
 .000

CONFIGURATION DESCRIPTION
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 DATA NOT AVAILABLE
 DATA NOT AVAILABLE
 DATA NOT AVAILABLE
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS

DATA SET SYMBOL
 (A1H401)
 (A1H601)
 (A1H008)
 (A1H001)
 (A1H001)

YAWING MOMENT COEFFICIENT, C_{YM} (MISSILE AXIS SYSTEM)

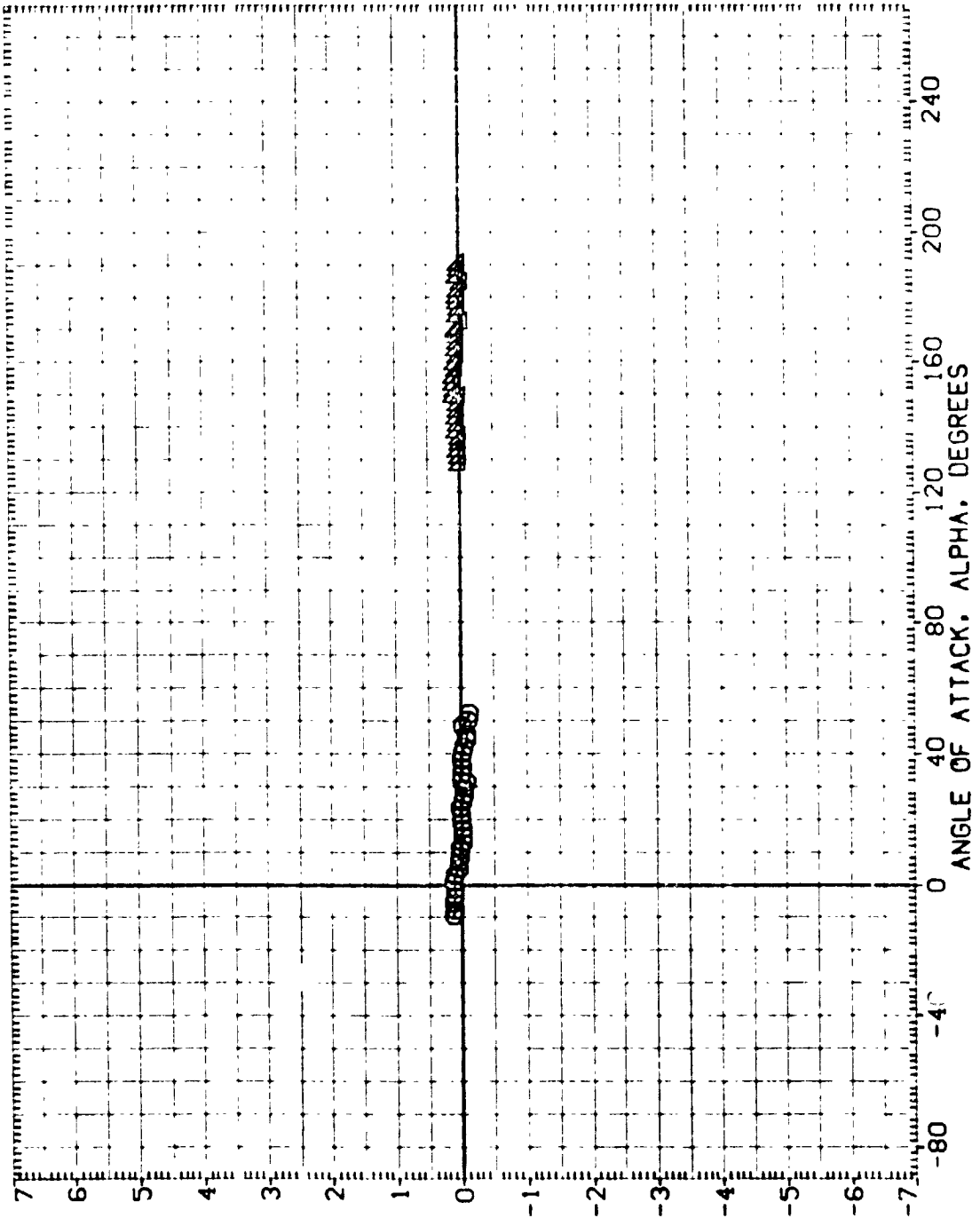


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

(K)MACH = 4.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H401) MSFC TV1604 (SABF) SRB CLEAN W/RINGS

(A1H402) DATA NOT AVAILABLE

(A1H403) DATA NOT AVAILABLE

(A1H404) DATA NOT AVAILABLE

(A1H405) MSFC TV1604 (SABF) SRB CLEAN W/RINGS

PHI .000

 .000

 .000

 .000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

X-MRP 5.7210 IN. XS

Y-MRP .0000 IN. YS

Z-MRP .0000 IN. ZS

SCALE .0055

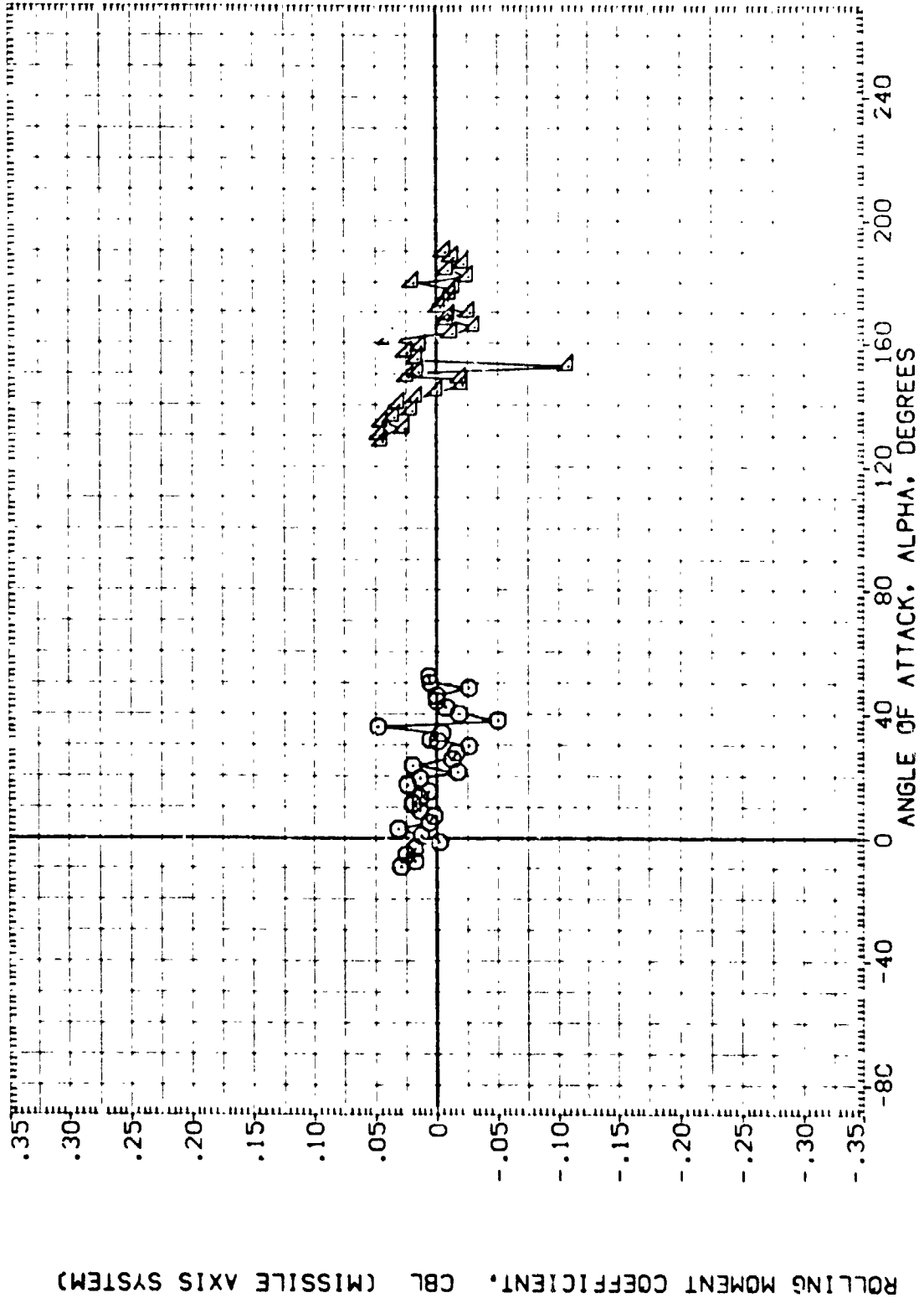


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

REFERENCE INFORMATION
 CREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 .000
 .000
 .000
 .000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H001) MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 (A1H002) DATA NOT AVAILABLE
 (A1H003) DATA NOT AVAILABLE
 (A1H004) DATA NOT AVAILABLE
 (A1H005) MSFC TVT604 (SABF) SRB CLEAN V/RINGS

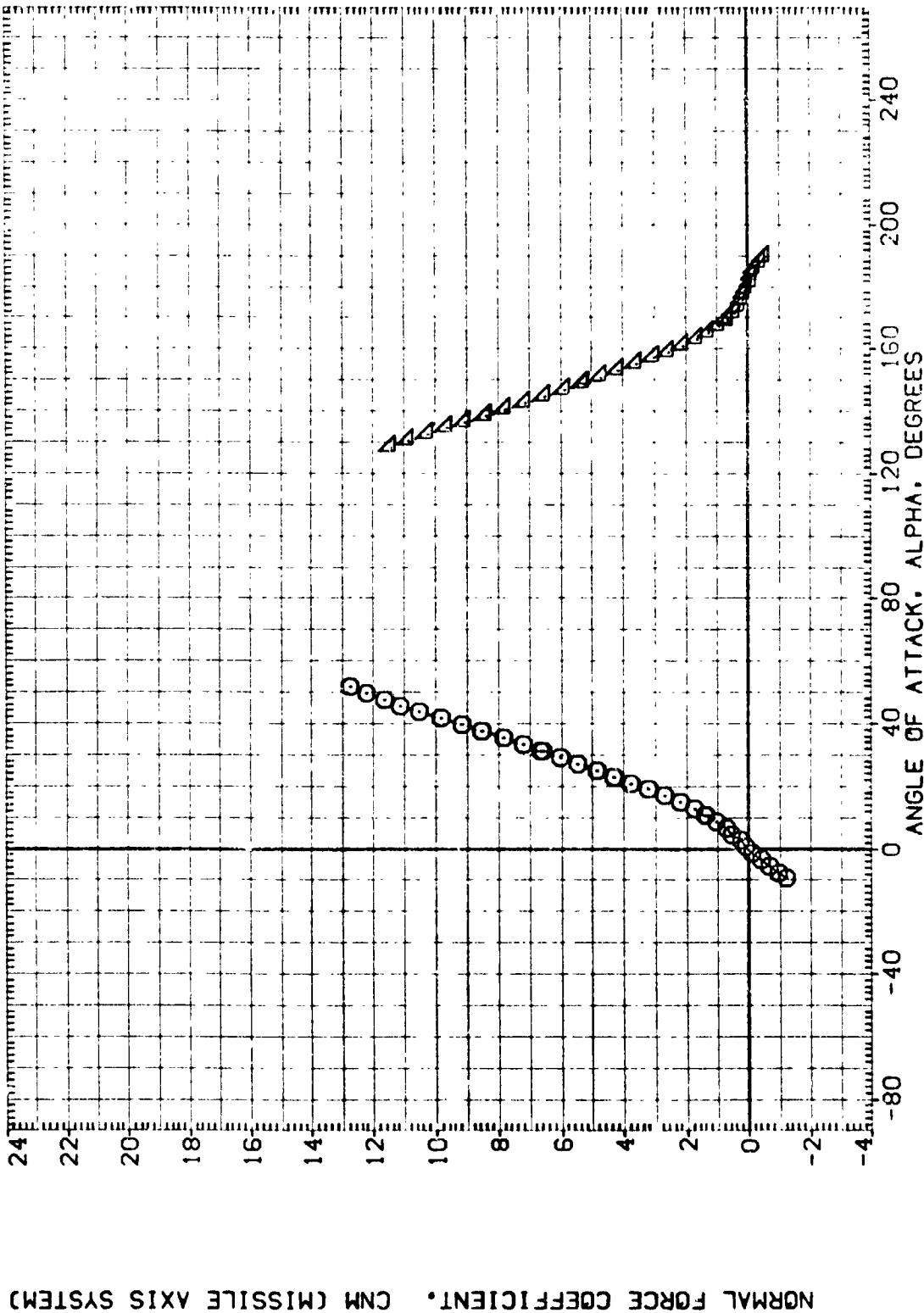


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

(L)MACH = 4.45

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI .000
 .000
 .000
 .000
 .000

CONFIGURATION DESCRIPTION
 MSFC TVT604 (SABF) S-B CLEAN W/RINGS
 DATA NOT AVAILABLE
 DATA NOT AVAILABLE
 DATA NOT AVAILABLE
 MSFC TVT604 (SABF) SRB CLEAN W/RINGS

DATA SET SYMBOL
 (A1H401)
 (A1H501)
 (A1H601)
 (A1H701)
 (A1H801)

PITCHING MOMENT COEFFICIENT, CLM (MISSILE AXIS SYSTEM)

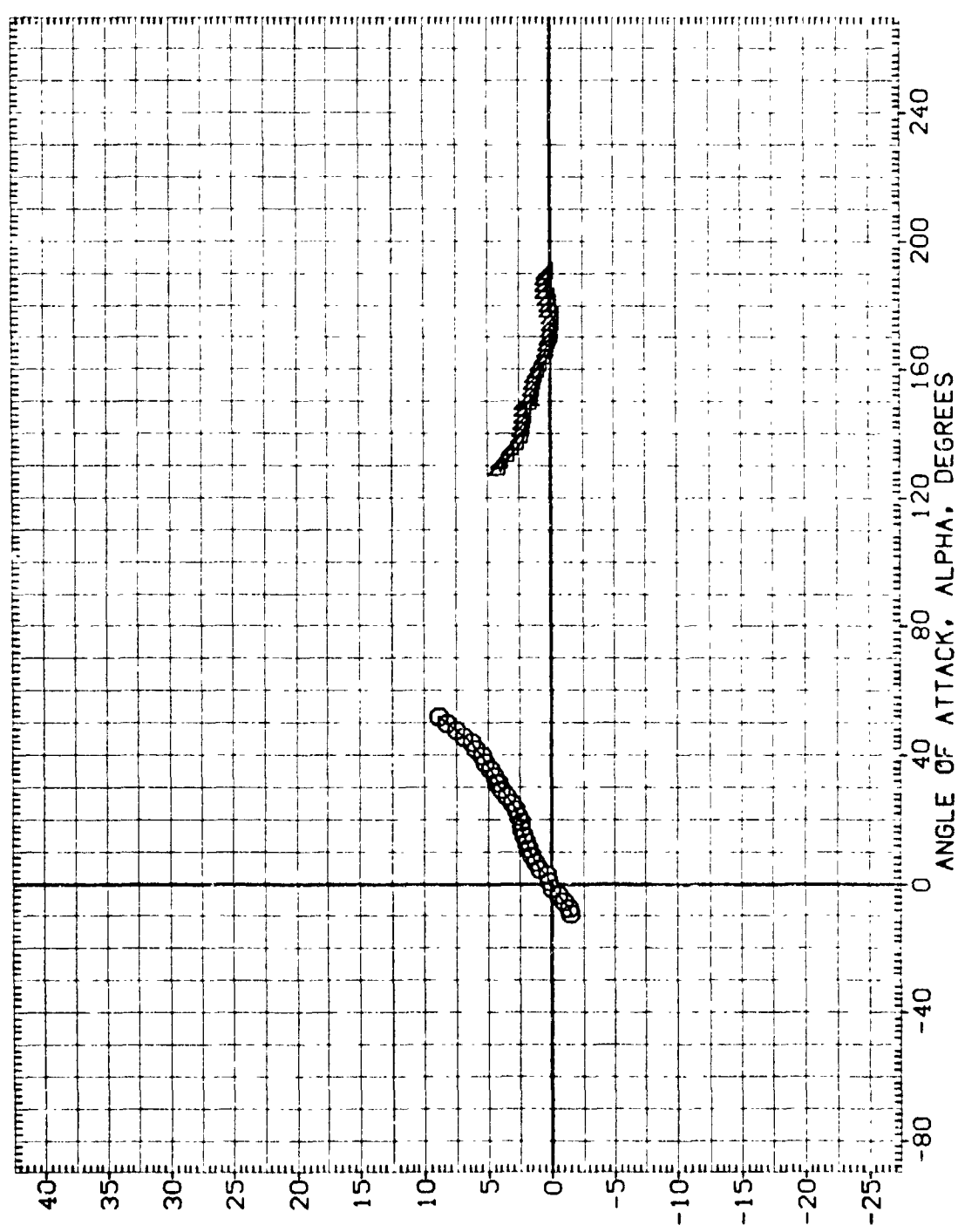


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BRREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 .000
 .000
 .000
 .000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H001) MSFC TV1604 (SABF) SRB CLEAN W/RINGS
 (A1H002) DATA NOT AVAILABLE
 (A1H003) DATA NOT AVAILABLE
 (A1H004) DATA NOT AVAILABLE
 (A1H005) MSFC TV1604 (SABF) SRB CLEAN W/RINGS

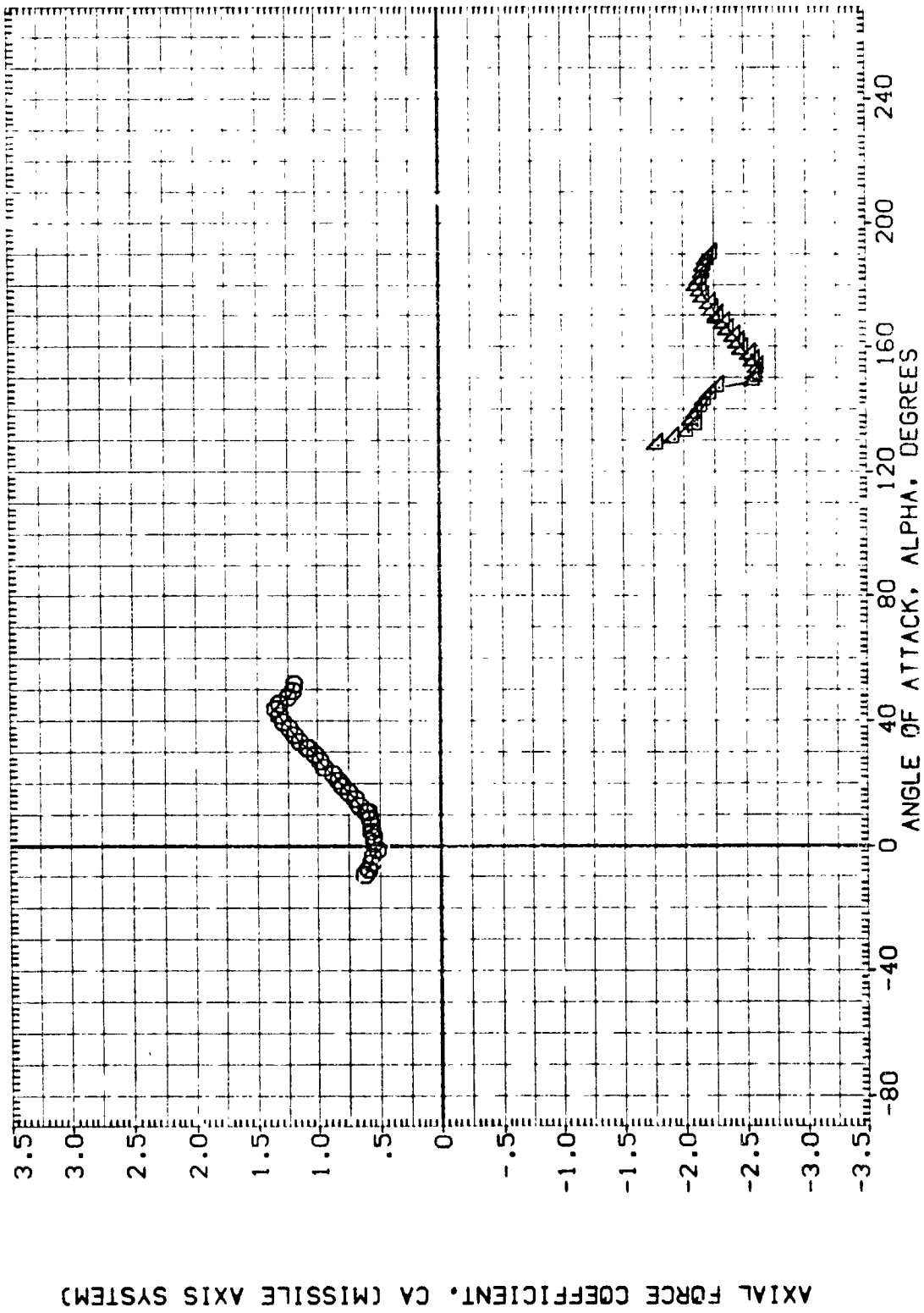


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

(L)MACH = 4.45

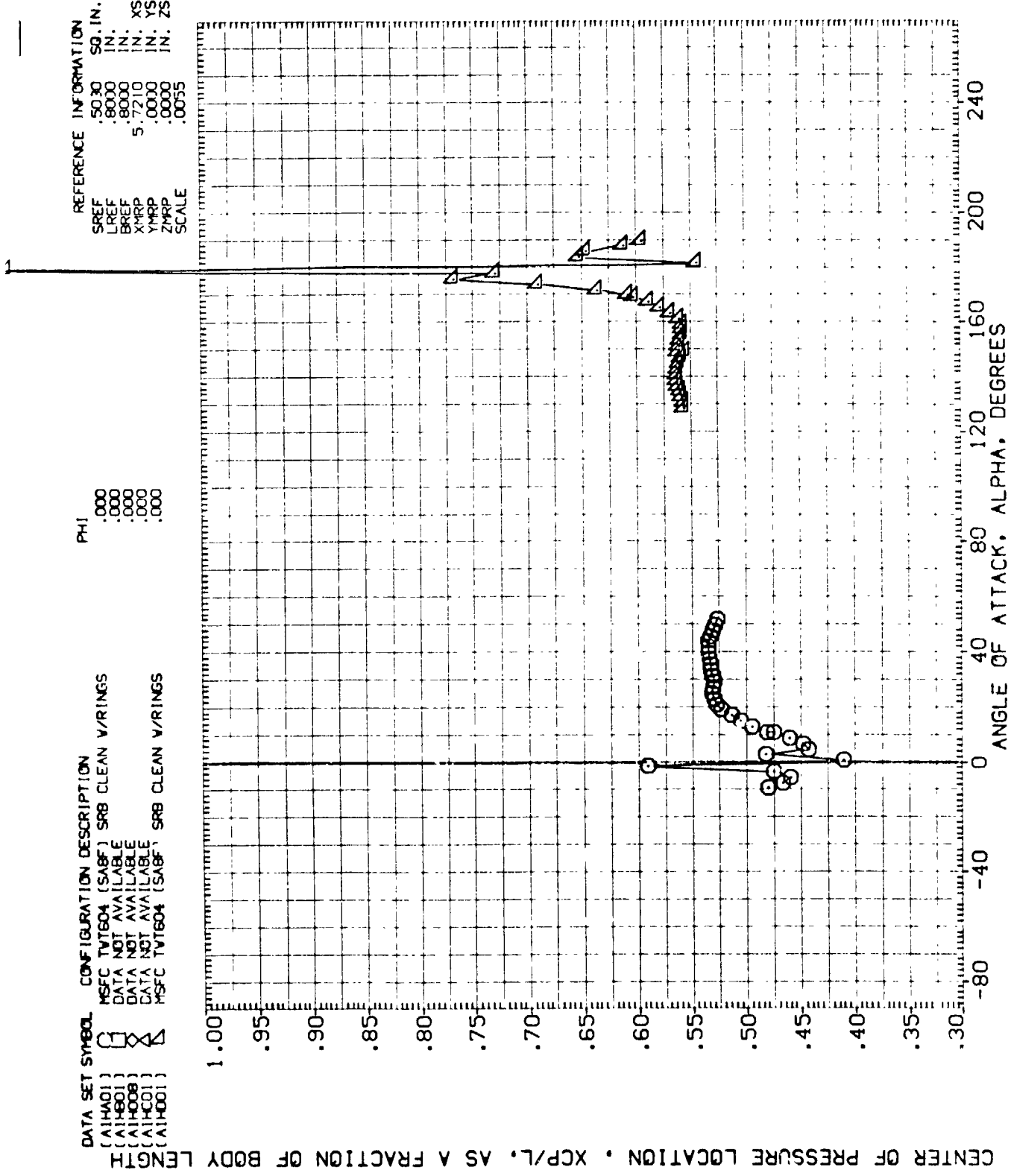


FIGURE 18. STATIC STABILITY CHARACTERISTICS OF SRB W/CLEAN ATTACH AND AFT RINGS

(L)MACH = 4.45

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
[AIH801]	MSFC TVT804 (SABF) SRB CLEAN V/RINGS	.000	SREF .50.00 50. IN.
[AIH801]	DATA NOT AVAILABLE	.000	LREF .6000 60. IN.
[AIHCO8]	DATA NOT AVAILABLE	.000	BREF .6000 60. IN.
[AIHCO1]	DATA NOT AVAILABLE	.000	XMRP 5.7210 57.21 IN. XS
[AIHDD1]	MSFC TVT804 (SABF) SRB CLEAN V/RINGS	.000	YMRP .0000 0. IN. YS
			ZMRP .0000 0. IN. ZS
			SCALE .0055

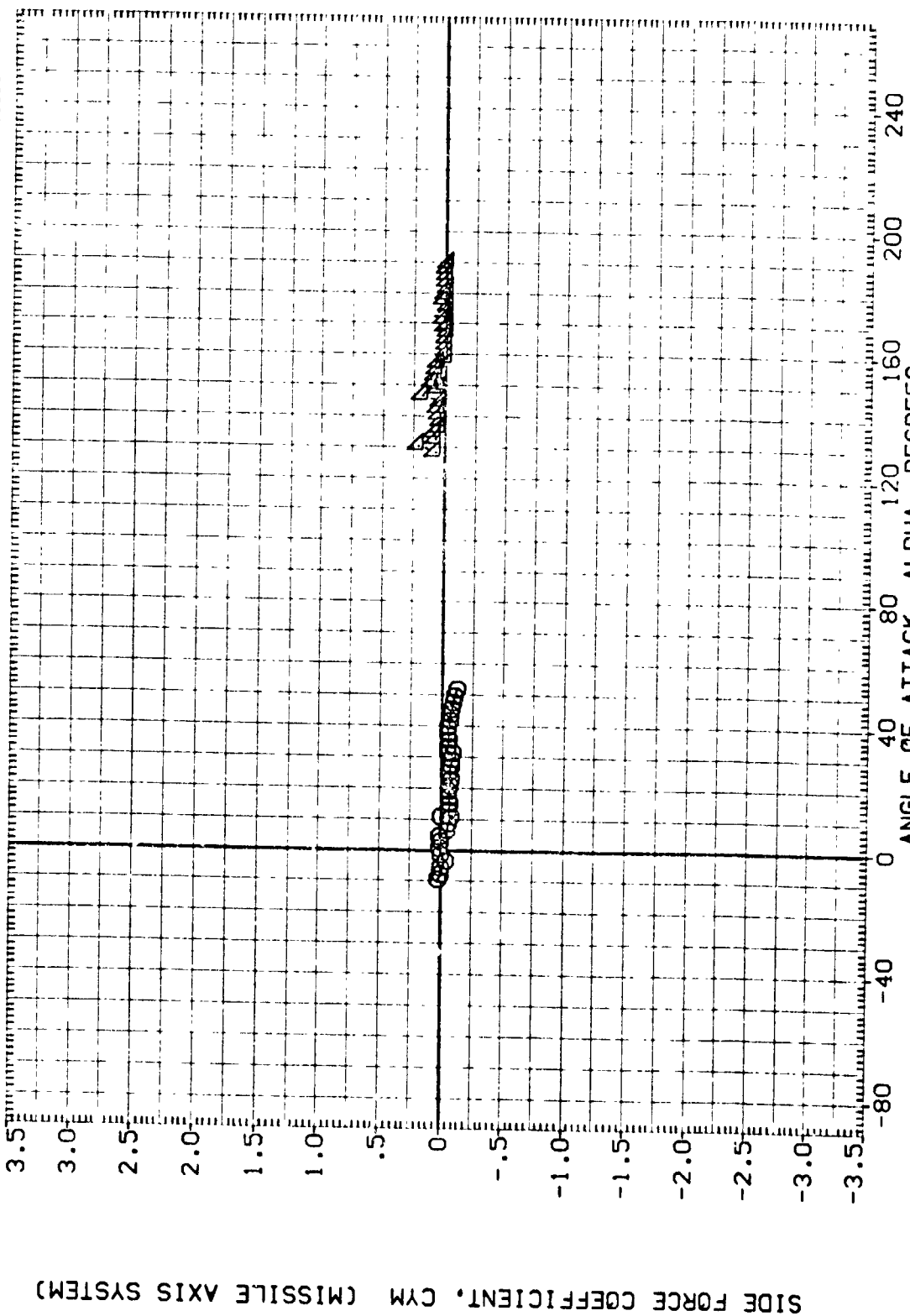


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS
(L)MACH = 4.45

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BRFC .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 .000
 .000
 .000
 .000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H001) MSFC TWT604 (SABF) SRB CLEAN W/RINGS
 (A1H002) DATA NOT AVAILABLE
 (A1H003) DATA NOT AVAILABLE
 (A1H004) DATA NOT AVAILABLE
 (A1H005) MSFC TWT604 (SABF) SRB CLEAN W/RINGS

YAWING MOMENT COEFFICIENT, C_{YM} (MISSILE AXIS SYSTEM)

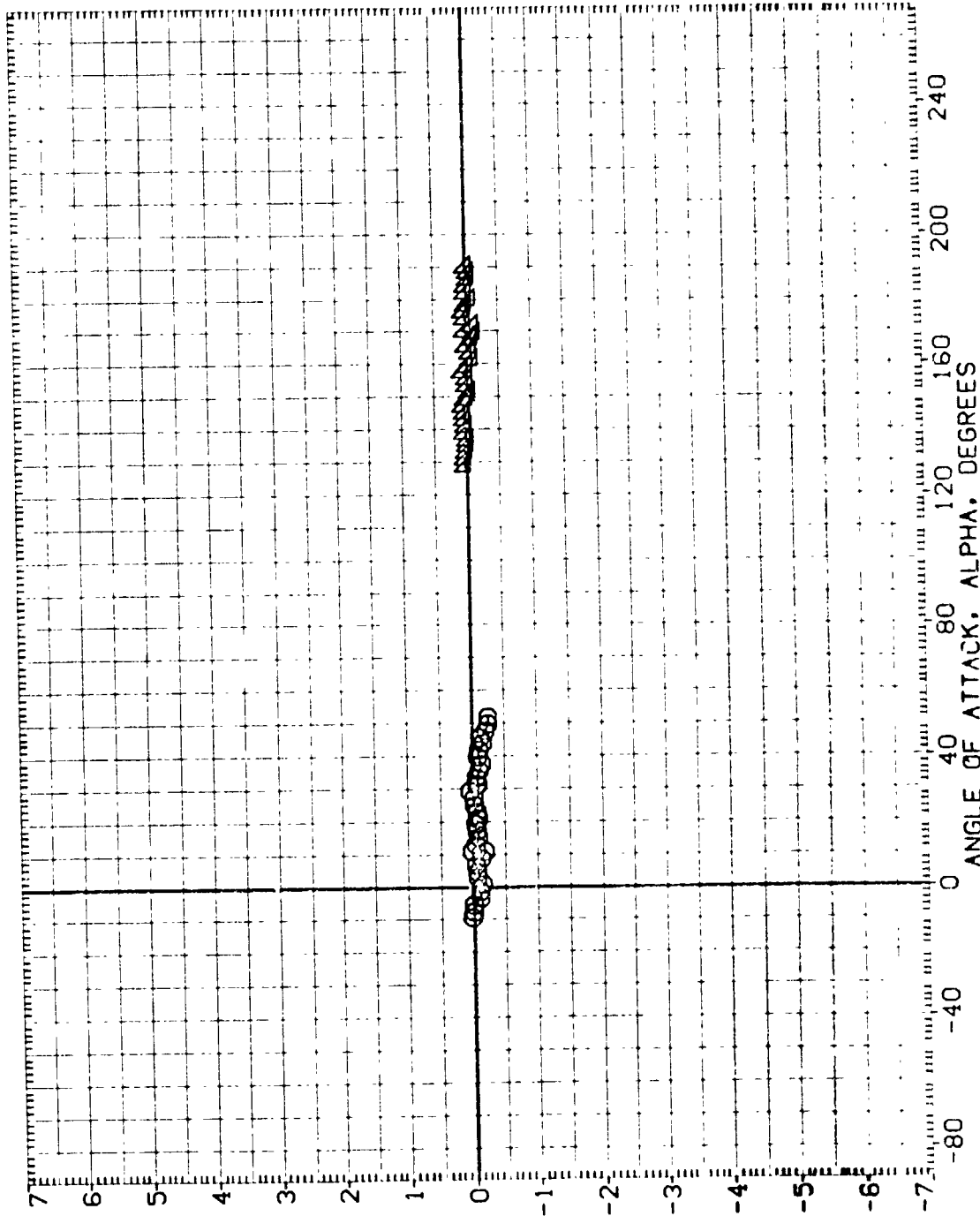


FIGURE 13. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

REFERENCE INFORMATION
 SRREF .5030 SQ. IN.
 LRREF .8000 IN.
 BRREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 .000
 .000
 .000
 .000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1HA01) MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 (A1HB01) DATA NOT AVAILABLE
 (A1HC01) DATA NOT AVAILABLE
 (A1HD01) DATA NOT AVAILABLE
 (A1HE01) MSFC TVT604 (SABF) SRB CLEAN V/RINGS

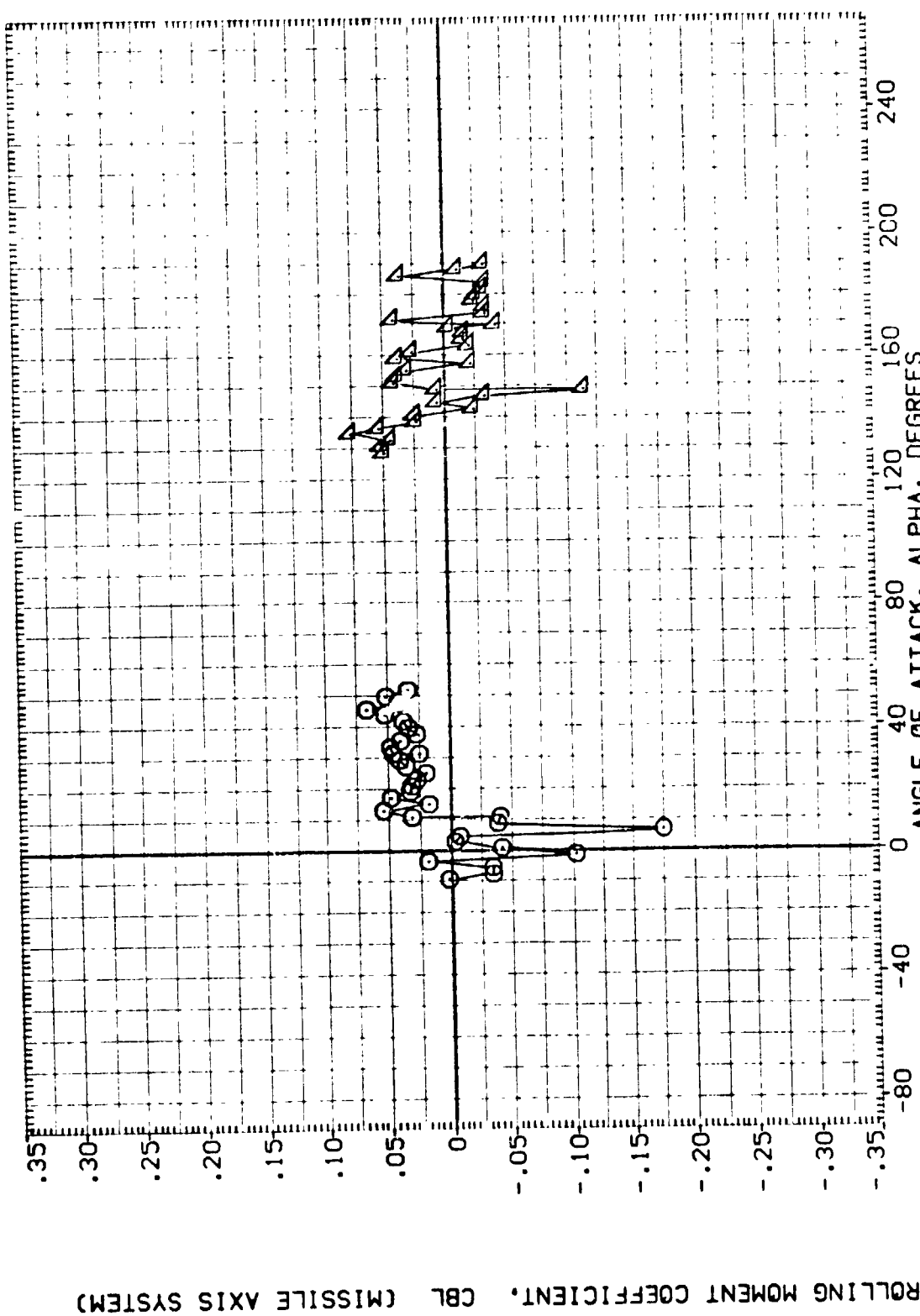


FIGURE 18. STATIC STABILITY CHARACT. OF SRB W/CLEAN ATTACH AND AFT RINGS

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .6000 IN.
 BREF .6000 IN.
 XHRP 5.7210 IN. XS
 YHRP .0000 IN. YS
 ZHRP .0000 IN. ZS
 SCALE .0055

PHI
 .000
 .000
 .000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H003) DATA NOT AVAILABLE
 (A1H026) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

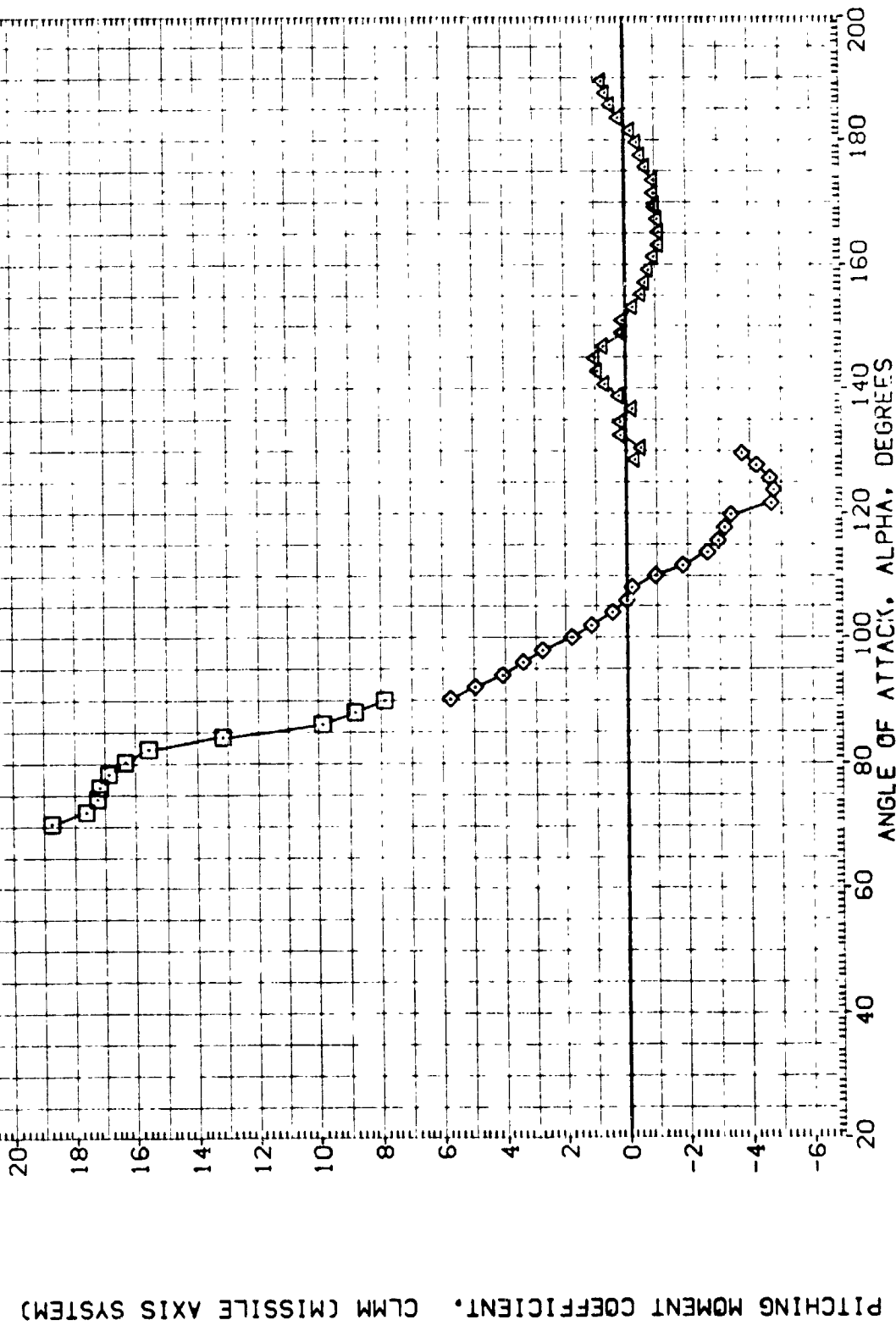


FIGURE 19. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 0)

==

DATA SET SYMBOL CONFIGURATION DESCRIPTION S-HI .000

(AIHQ03) DATA NOT AVAILABLE .000

(AIHQ26) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000

(AIHQ03) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000

(AIHQ03) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

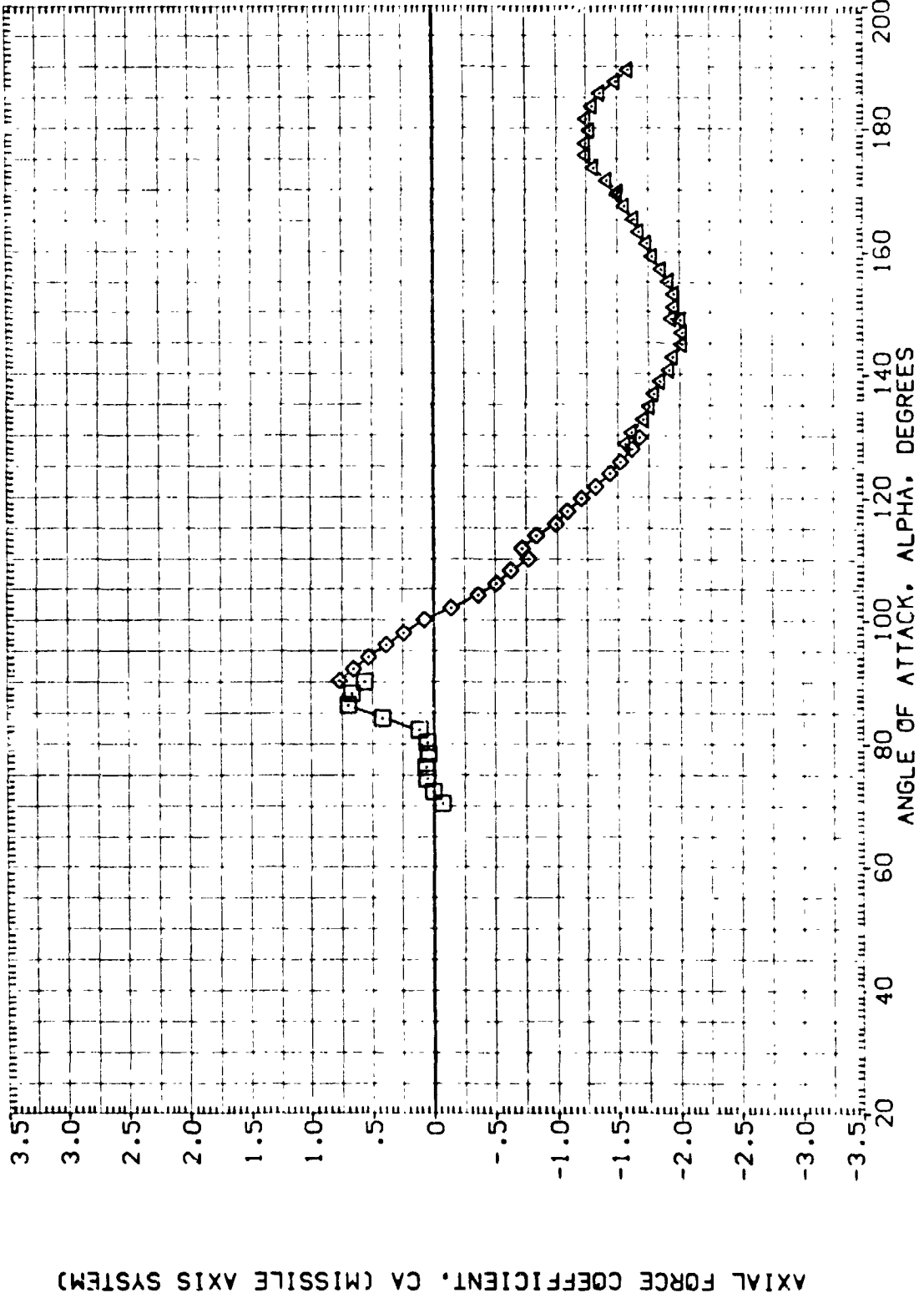


FIGURE 19. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 0)

(M)MACH = .40

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI .000

(AIH003) DATA NOT AVAILABLE .000

(AIH026) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000

(AIH003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000

(AIH003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000

REFERENCE INFORMATION

SREF .5030 IN. SQ. IN.

UREF .8000 IN.

BRF .9000 IN.

YMRP .7210 IN. XS

ZMRP .6000 IN. YS

SCALE .0055 IN. ZS

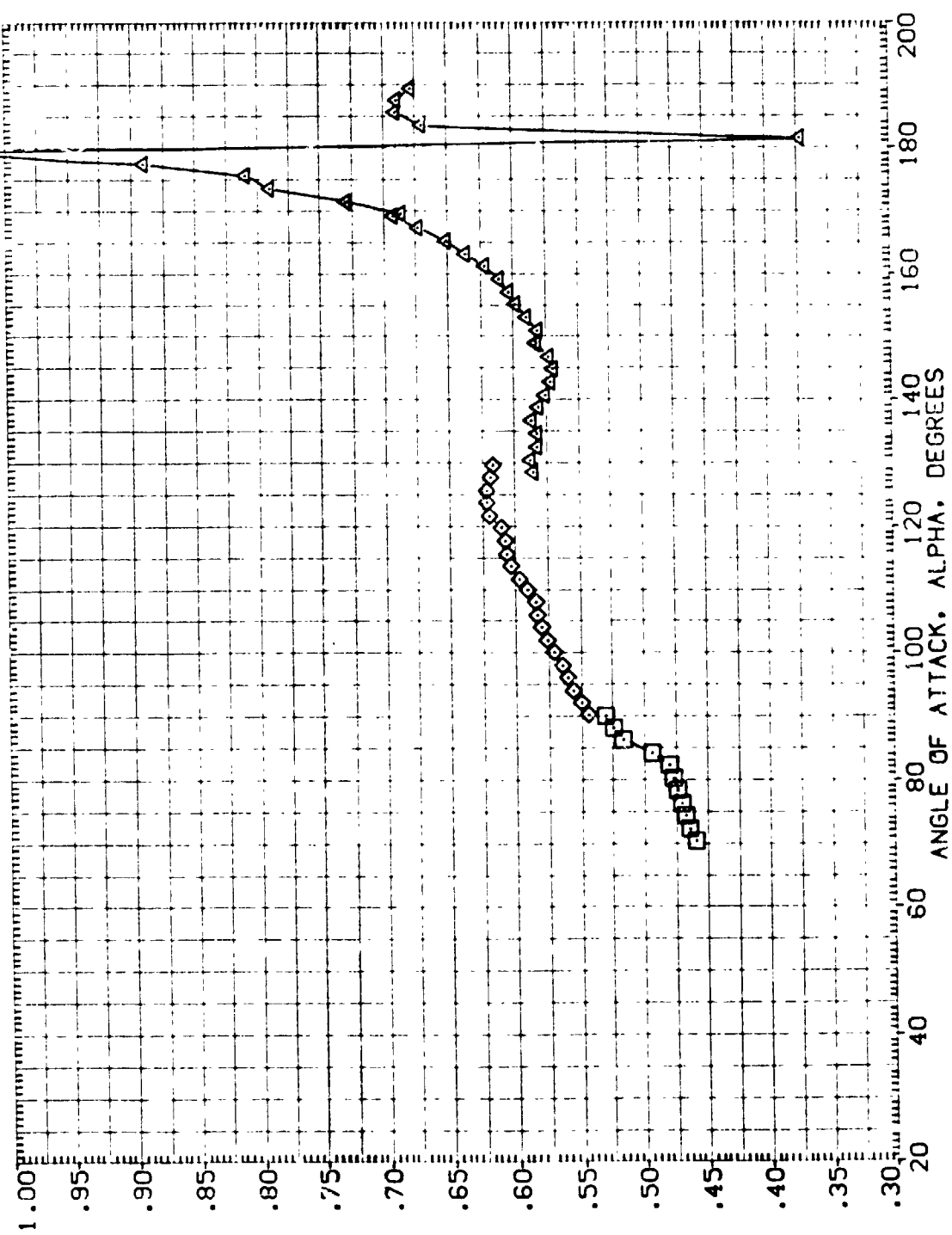


FIGURE 18. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 0)

(A)MACH = .40

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI REFERENCE INFORMATION

(A1H003) DATA NOT AVAILABLE .000 SREF .5C30 SQ. IN.

(A1H026) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000 LREF 8C00 IN.

(A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000 BRFF 8C00 IN.

(A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000 XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

SIDE FORCE COEFFICIENT, C_{YM} (MISSILE AXIS SYSTEM)

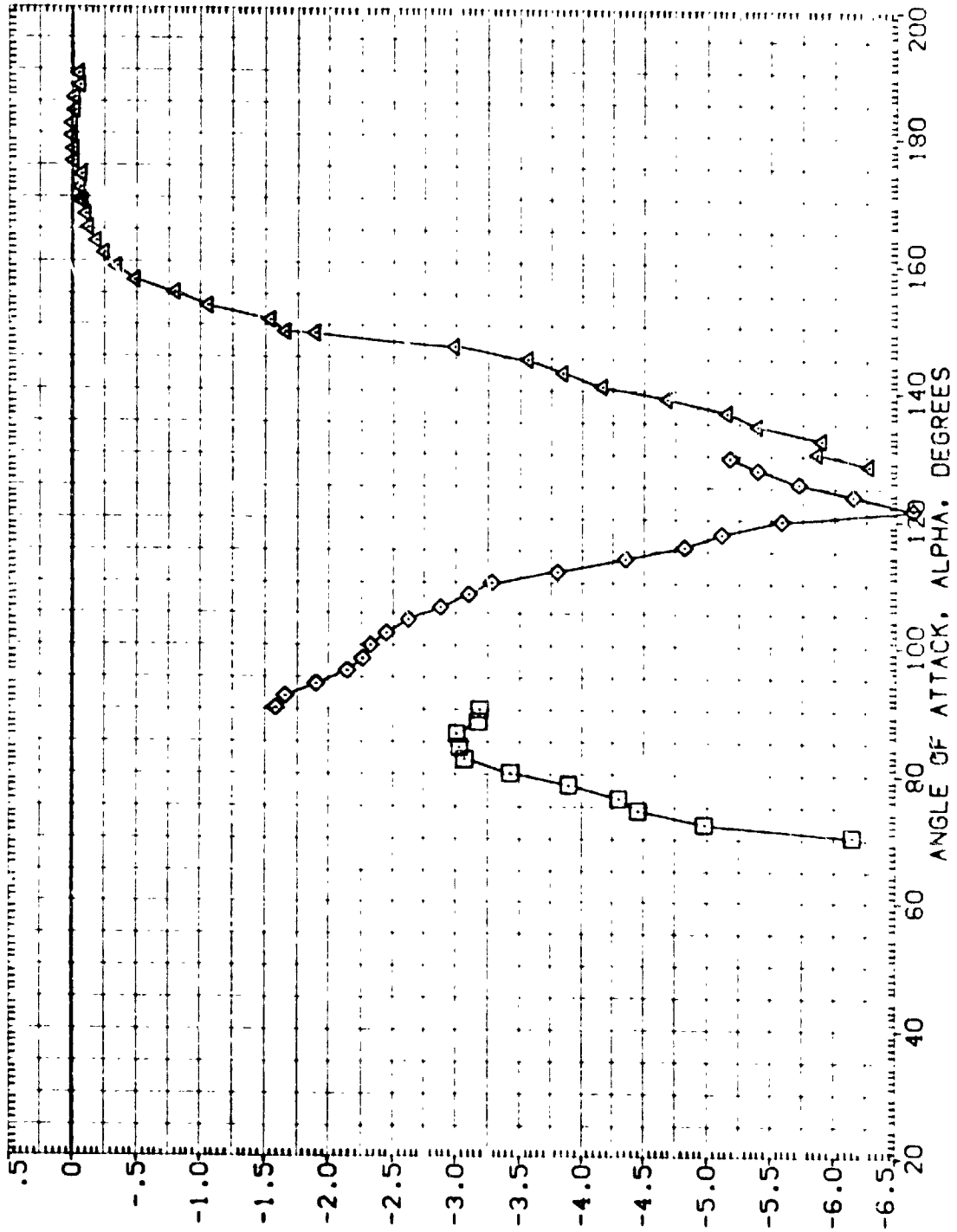


FIGURE 19. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 0)

(A)MACH = .40

==

DATA SET SYMBOL
 (AIH003)
 (AIH026)
 (AIH003)
 (AIH003)

PHI
 .000
 .000
 .000
 .000

CONFIGURATION DESCRIPTION
 DATA NOT AVAILABLE
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XTRP 5.7210 IN. XS
 YTRP .0000 IN. YS
 ZTRP .0000 IN. ZS
 SCALE .0055

ROLLING MOMENT COEFFICIENT, CBL (MISSILE AXIS SYSTEM)

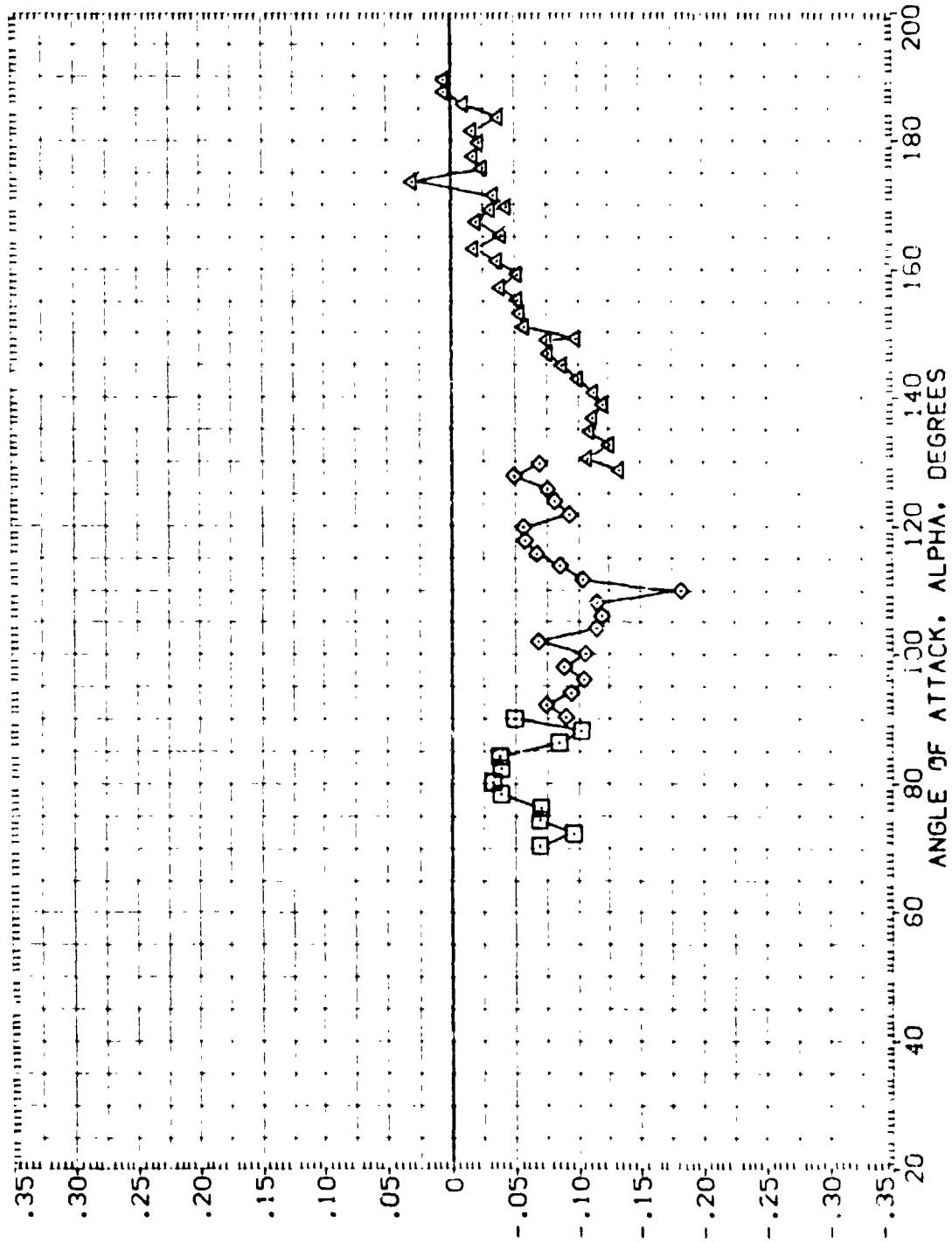


FIGURE 19. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 0)

(A) MACH = .40

REFERENCE INFORMATION
 SREF :5030 SQ. IN.
 LREF :8000 IN.
 BREF :9000 IN.
 XMRP 5.7210 IN. XS
 YMRP :0000 IN. YS
 ZMRP :0000 IN. ZS
 SCALE :0055

PHI
 .000
 .000
 .000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H003) DATA NOT AVAILABLE
 (A1H026) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

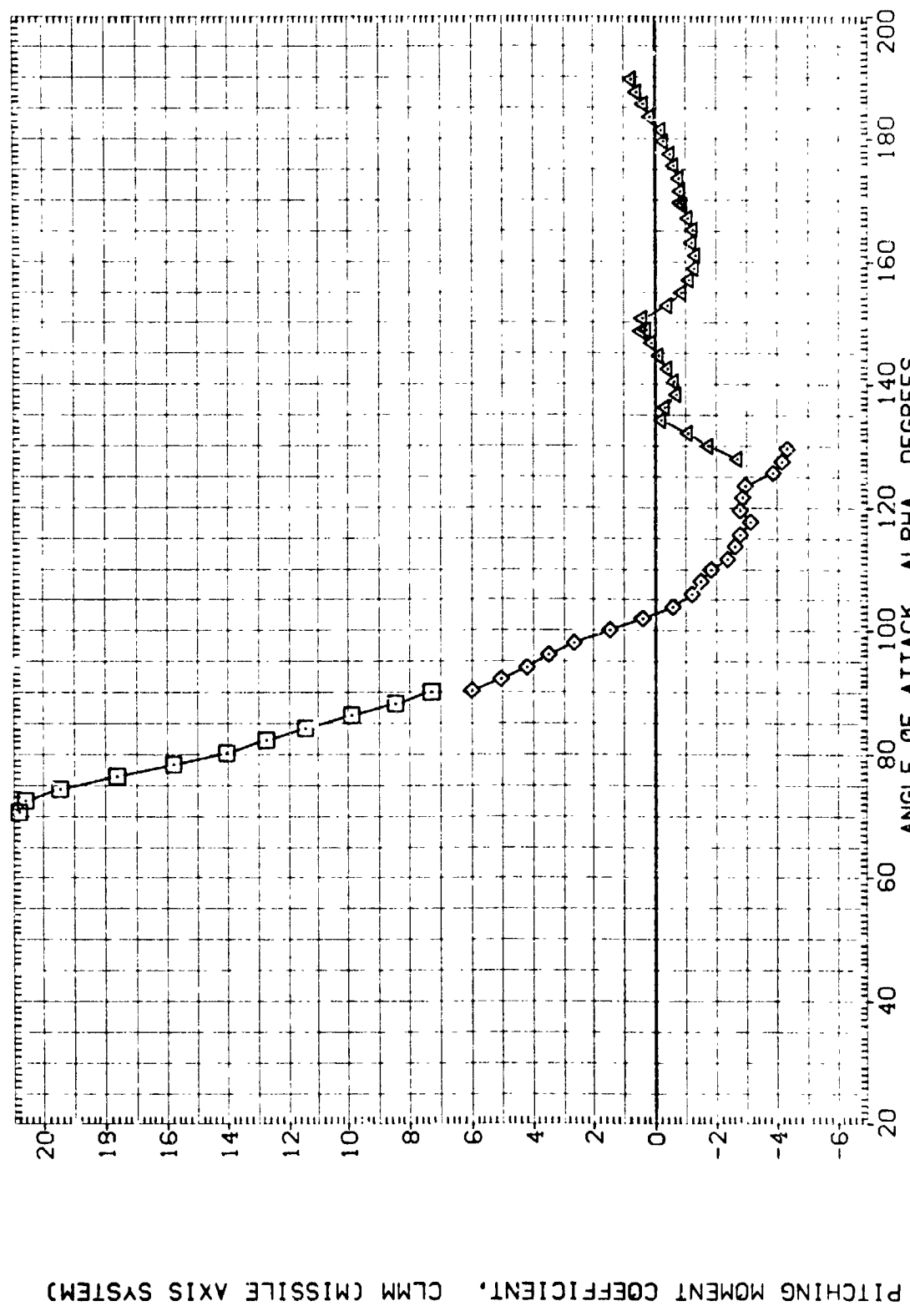


FIGURE 19. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 0)
 (B)MACH = .60

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1M03) DATA NOT AVAILABLE .000

(A1M026) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES .000

(A1M003) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES .000

(A1M003) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES .000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .18000 IN.

BREF .18000 IN.

YMRP 5 IN. XS

ZMRP .0000 IN. YS

SCALE .0055 IN. ZS

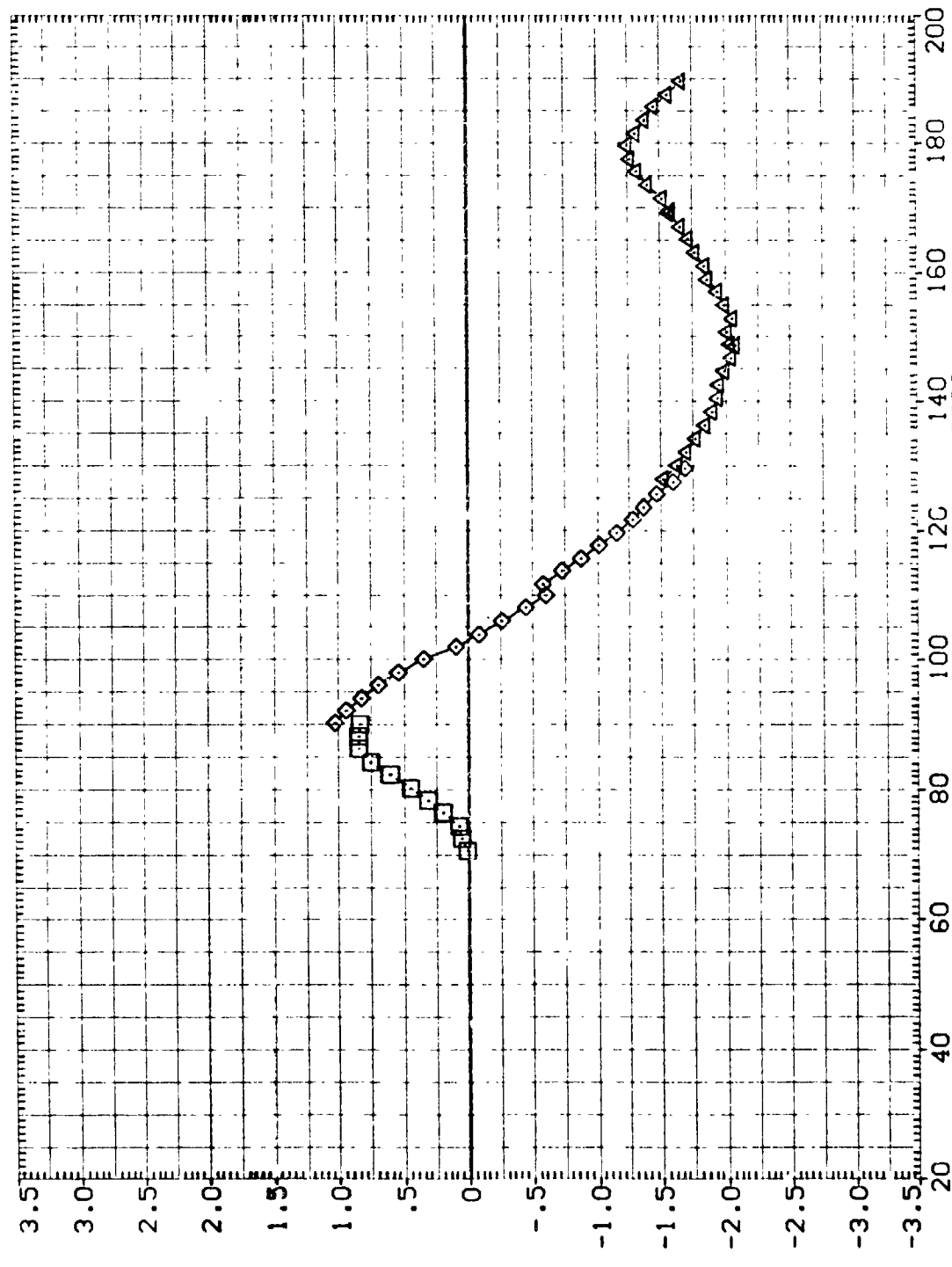


FIGURE 19. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 0)

(B)MACH = .60



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1HA03) DATA NOT AVAILABLE

(A1HO26) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1HC03) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1HO03) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI .000

 .000

 .000

REFERENCE INFORMATION

SREF .5030 50. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. YS

YMRP .0000 IN. XS

ZMRP .0000 IN. ZS

SCALE .0055

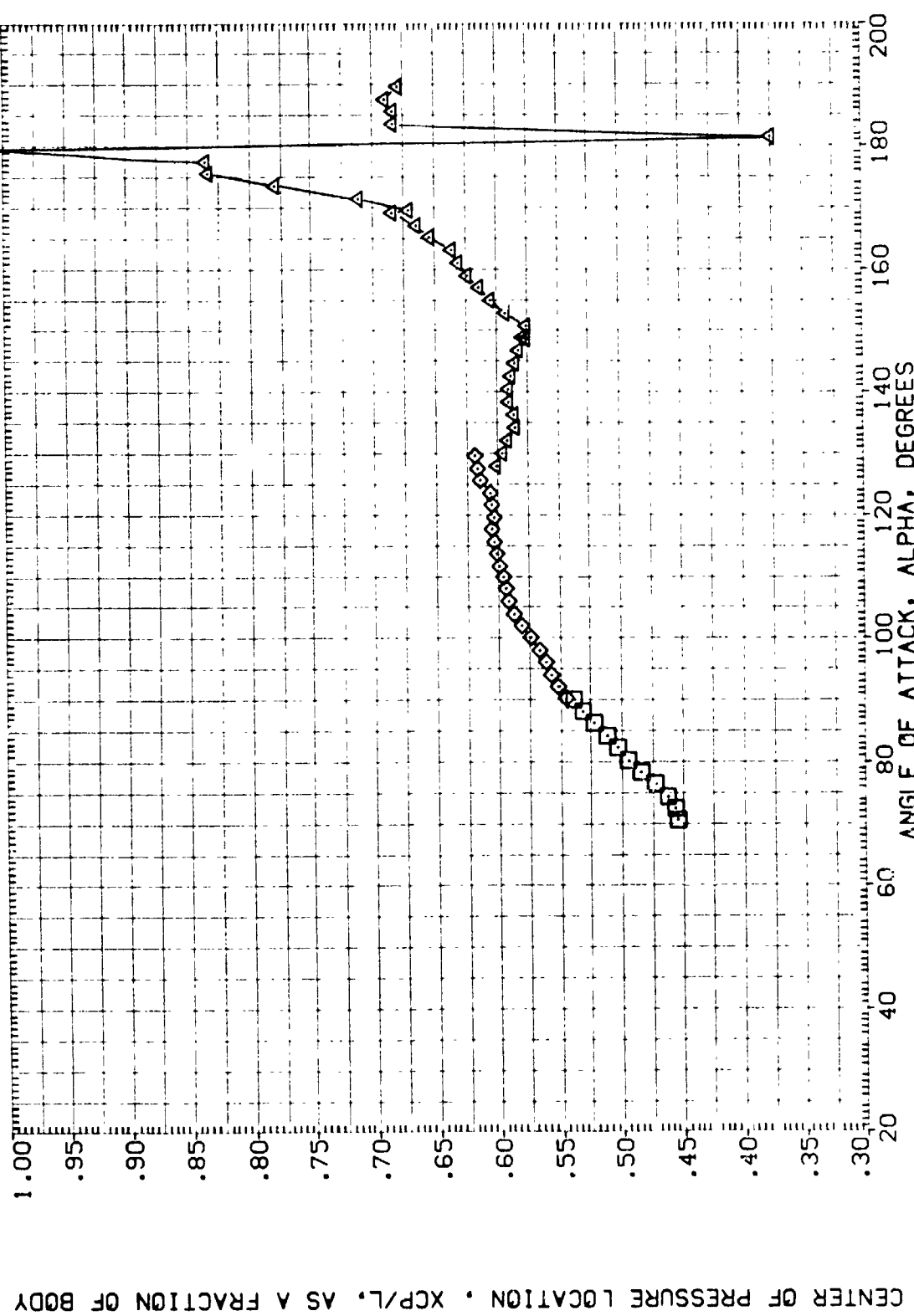
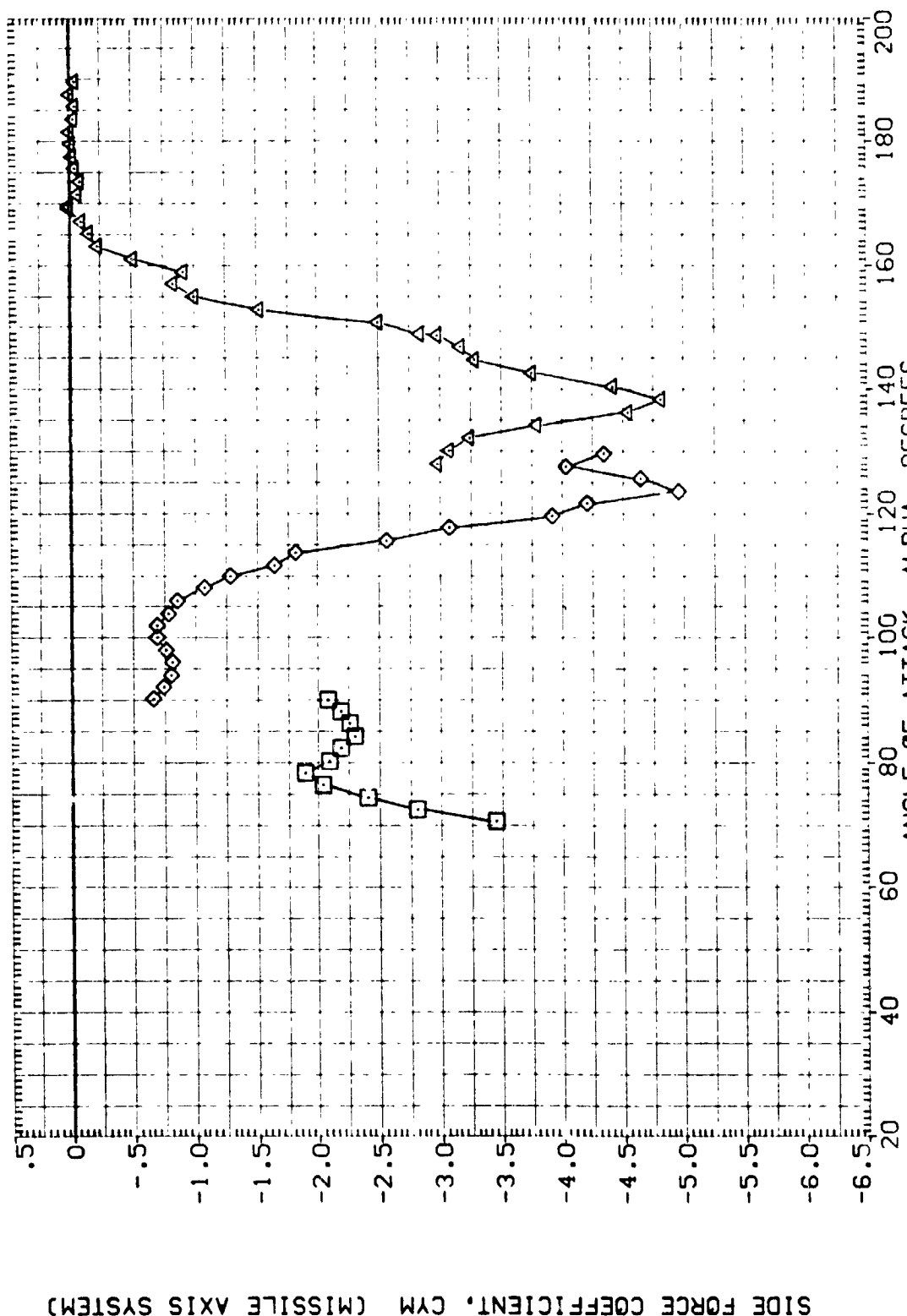


FIGURE 19. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 0)

(B) MACH = .60

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI .000
 (A1H026) DATA NOT AVAILABLE .000
 (A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000
 (A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000
 (A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .0000 IN.
 BRFP .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055



SIDE FORCE COEFFICIENT, CYM (MISSILE AXIS SYSTEM)

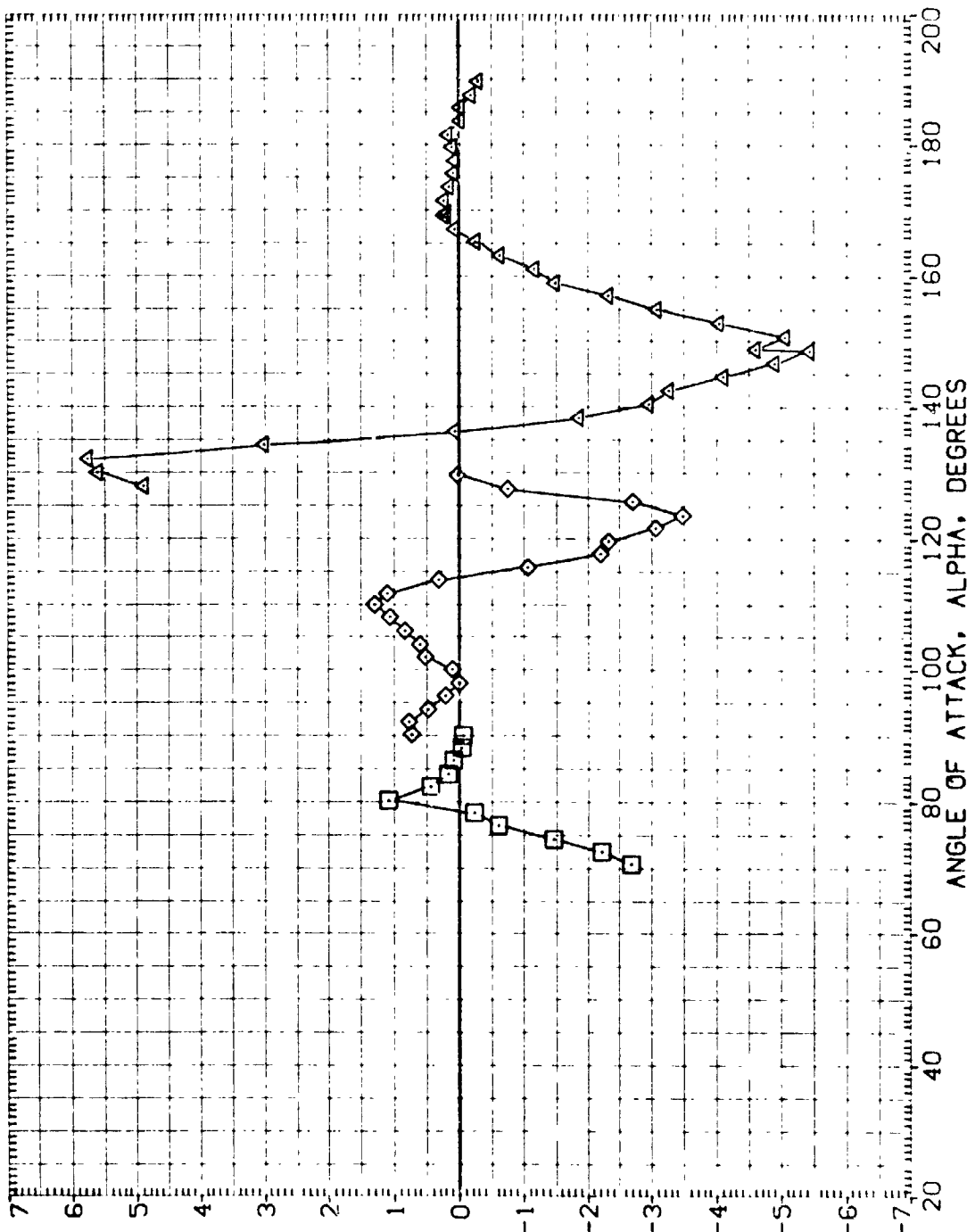
FIGURE 19. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 0)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H003) DATA NOT AVAILABLE .000
 (A1H026) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000
 (A1H003) MSFC TVT604 (S'BF) SRB WITH ALL PROTUBERANCES .000
 (A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000

REFERENCE INFORMATION

SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055



YAWING MOMENT COEFFICIENT, CYNM (MISSILE AXIS SYSTEM)

FIGURE 19. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 0)

(B)MACH = .60

REFERENCE INFORMATION
 SREF :5030 SQ. IN.
 LREF :8000 IN.
 BREF :8000 IN.
 XMRP 5.7110 IN. XS
 YMRP :0000 IN. YS
 ZMRP :0000 IN. ZS
 SCALE :0055

PHI .000
 .000
 .000
 .000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H003) DATA NOT AVAILABLE SRB WITH ALL PROTUBERANCES
 (A1H026) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

ROLLING MOMENT COEFFICIENT, CBL (MISSILE AXIS SYSTEM)

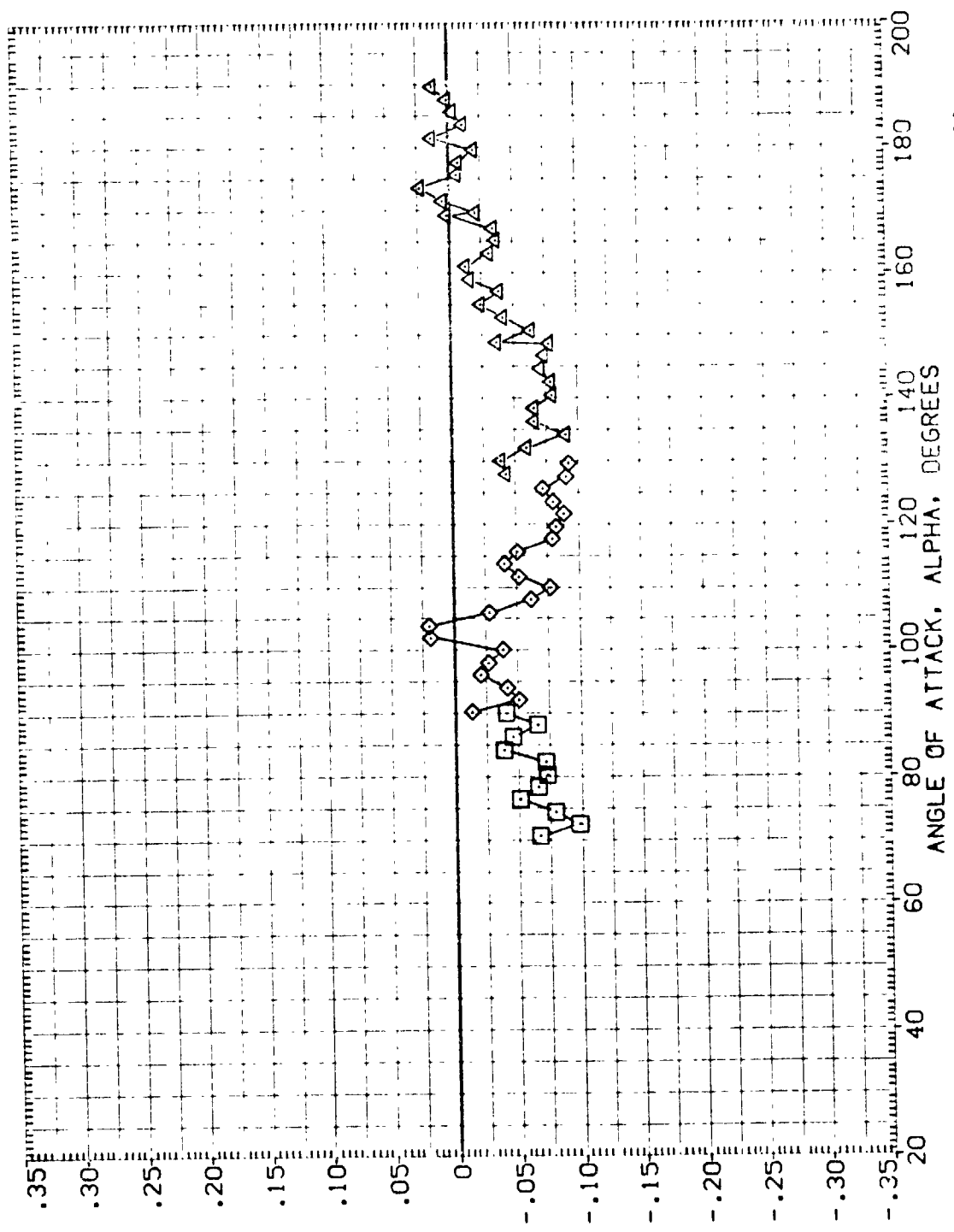


FIGURE 19. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 0)

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BRREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI .000
 .000
 .000
 .000

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(AIH003) DATA NOT AVAILABLE
 (AIH026) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (AIH003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (AIH003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

NORMAL FORCE COEFFICIENT, CNM (MISSILE AXIS SYSTEM)

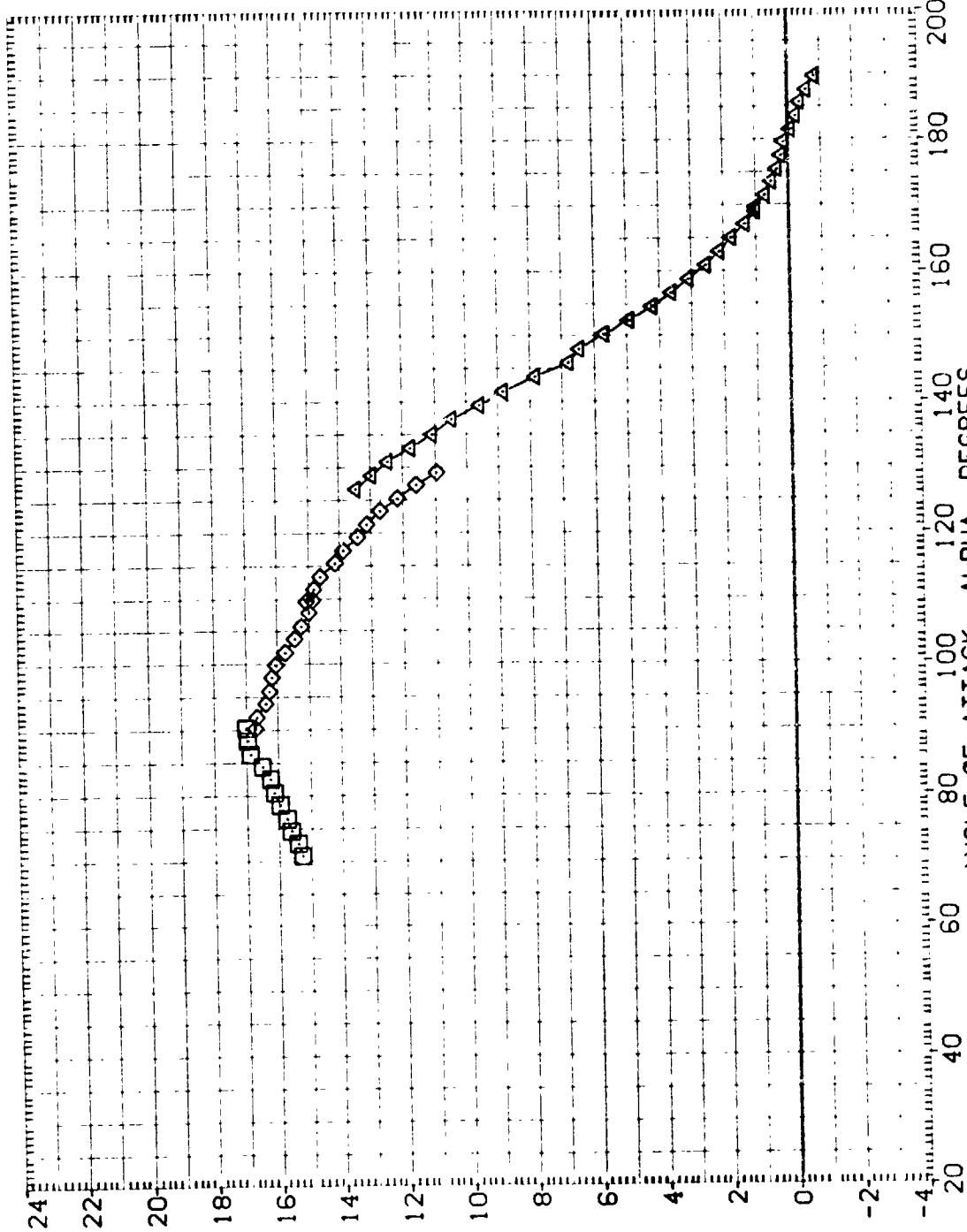


FIGURE 19. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 0)

(C)MACH = .30

REFERENCE INFORMATION
 SREF 50.30 SQ. IN.
 LREF .2000 IN.
 BREF .0070 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI .000
 .000
 .000
 .000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1HA03) DATA NOT AVAILABLE
 (A1H026) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1HC03) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1HD03) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

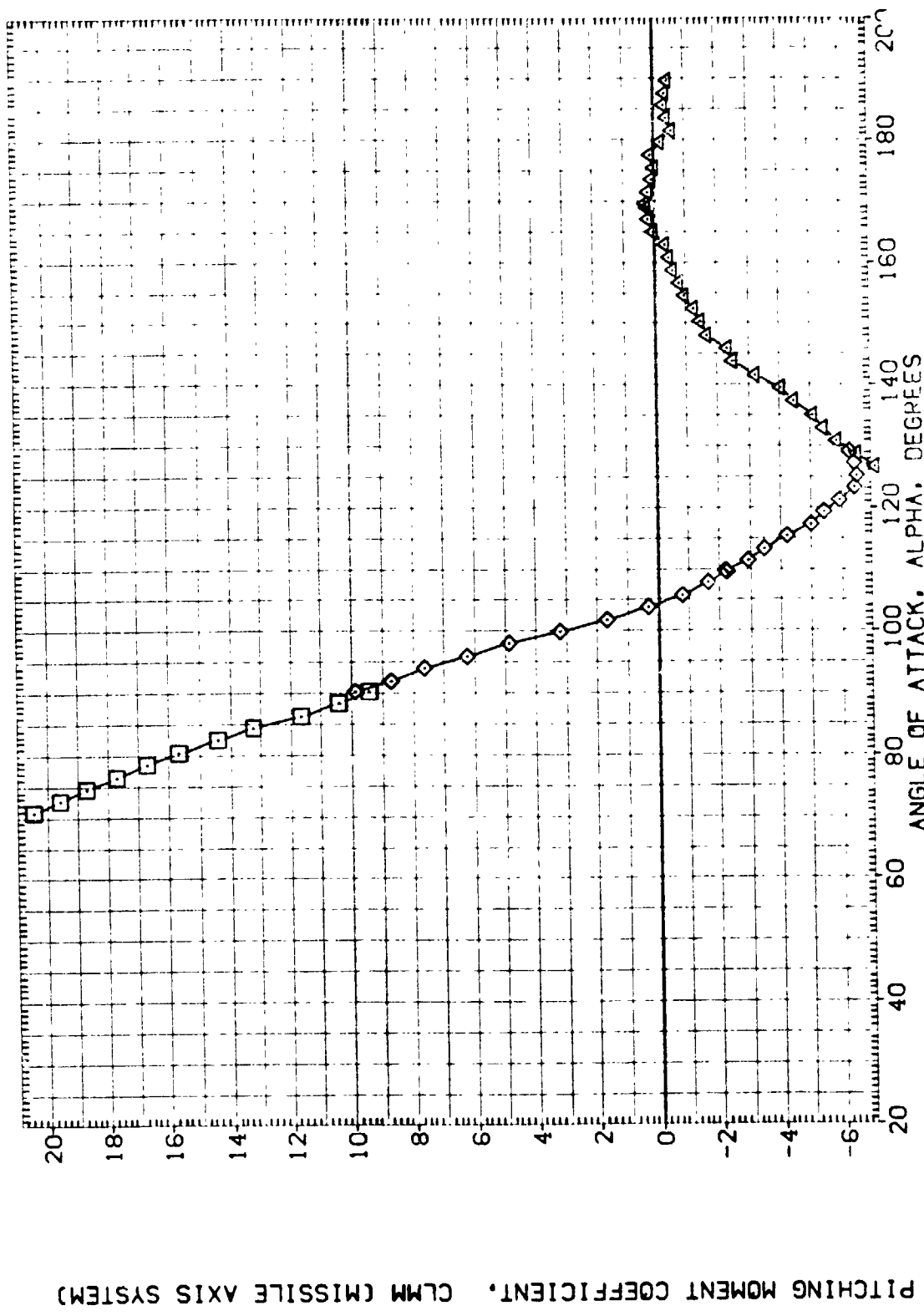


FIGURE 19. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 0)

(C)MACH = .90

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI REFERENCE INFORMATION

(A1H003)	DATA NOT AVAILABLE	.000	SREF 50.30 IN.
(A1H026)	MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES	.000	LREF 8000 IN.
(A1H003)	MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES	.000	BREF 8000 IN.
(A1H003)	MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES	.000	XMRP 5.7210 IN. XS
			YMRP .0000 IN. YS
			ZMRP .0000 IN. ZS
			SCALE .0055

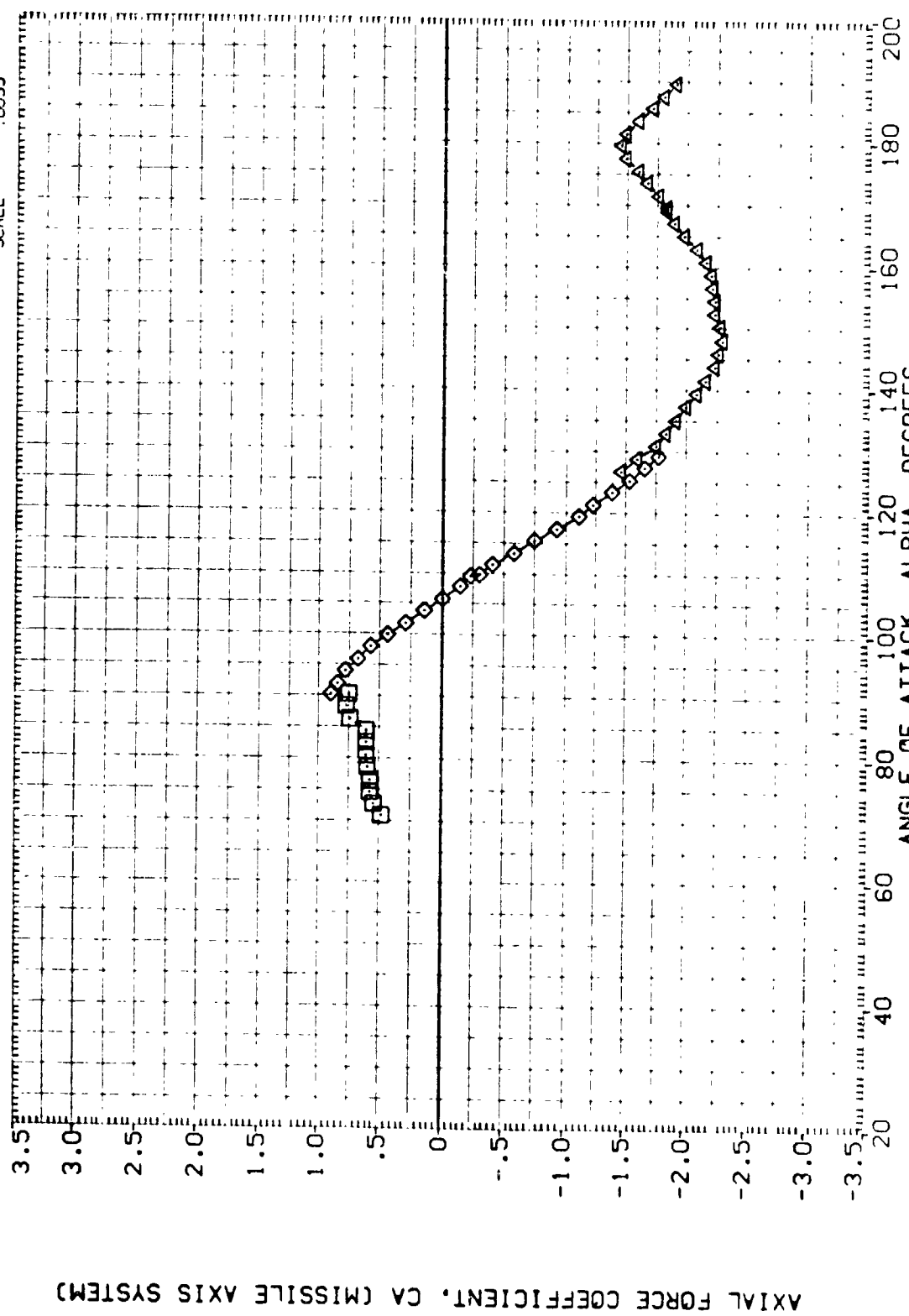


FIGURE 19. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 0)

(C)MACH = .90

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI REFERENCE INFORMATION

(A1H003) DATA NOT AVAILABLE .000 SREF .50 IN.

(A1H026) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000 LREF .8000 IN.

(A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000 BRPREF .8000 IN.

(A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000 XMRP 5.72 IN.

(A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000 YMRP .0000 IN.

(A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000 ZMRP .0000 IN.

(A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000 SCALE .0035 IN.

PHI

.000

.000

.000

DATA NOT AVAILABLE

SRB WITH ALL PROTUBERANCES

SRB WITH ALL PROTUBERANCES

SRB WITH ALL PROTUBERANCES

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

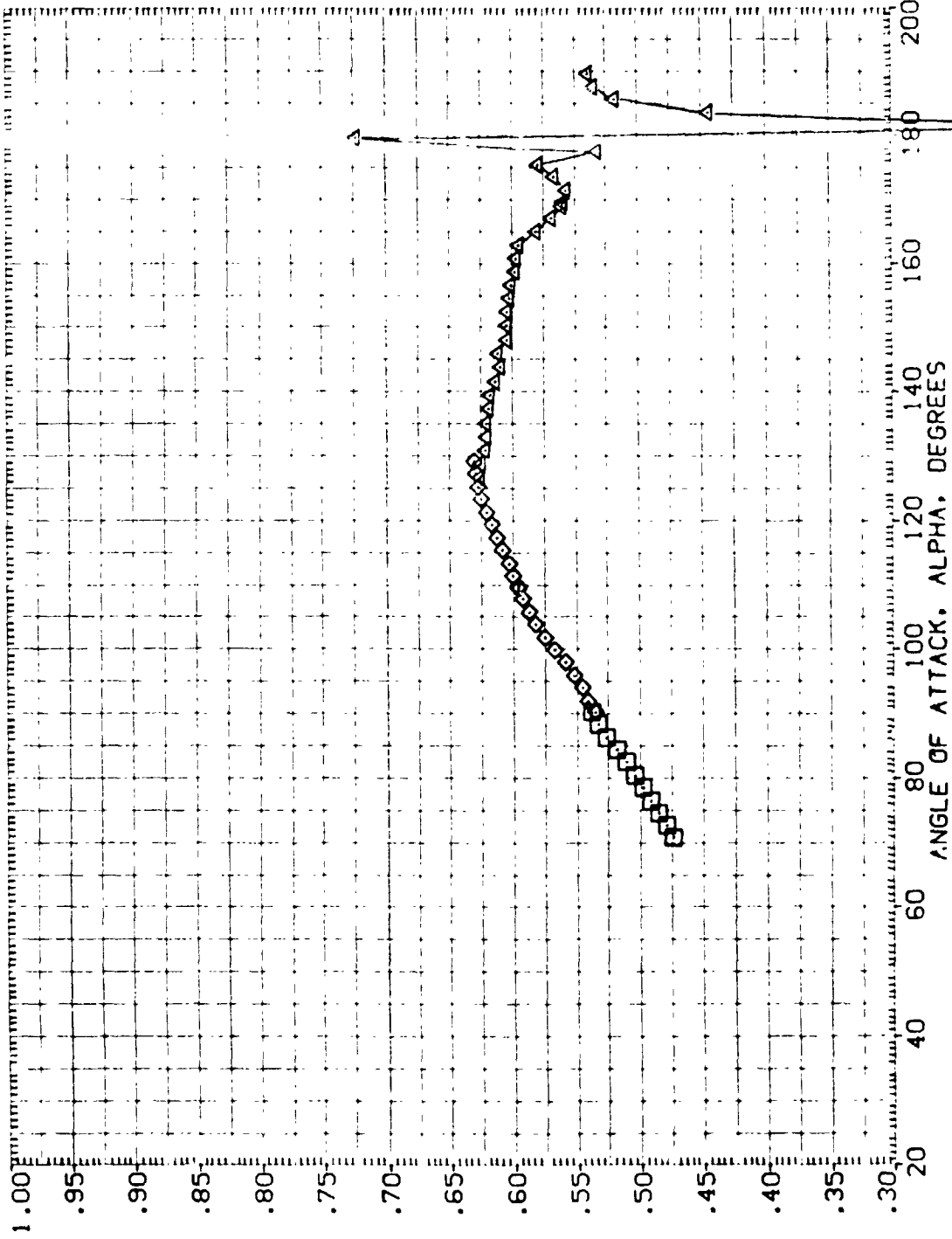


FIGURE 19. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 0)

(C)MACH = .90



REFERENCE INFORMATION
 SREF .5C30 SQ. IN.
 LREF .8C00 IN.
 BREF .8C00 IN.
 XPRP 5.7210 IN. XS
 YPRP .0C00 IN. YS
 ZPRP .0C00 IN. ZS
 SCALE .0C55

PHI
 .000
 .000
 .000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H003) DATA NOT AVAILABLE
 (A1H026) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

SIDE FORCE COEFFICIENT, C_{YM} (MISSILE AXIS SYSTEM)

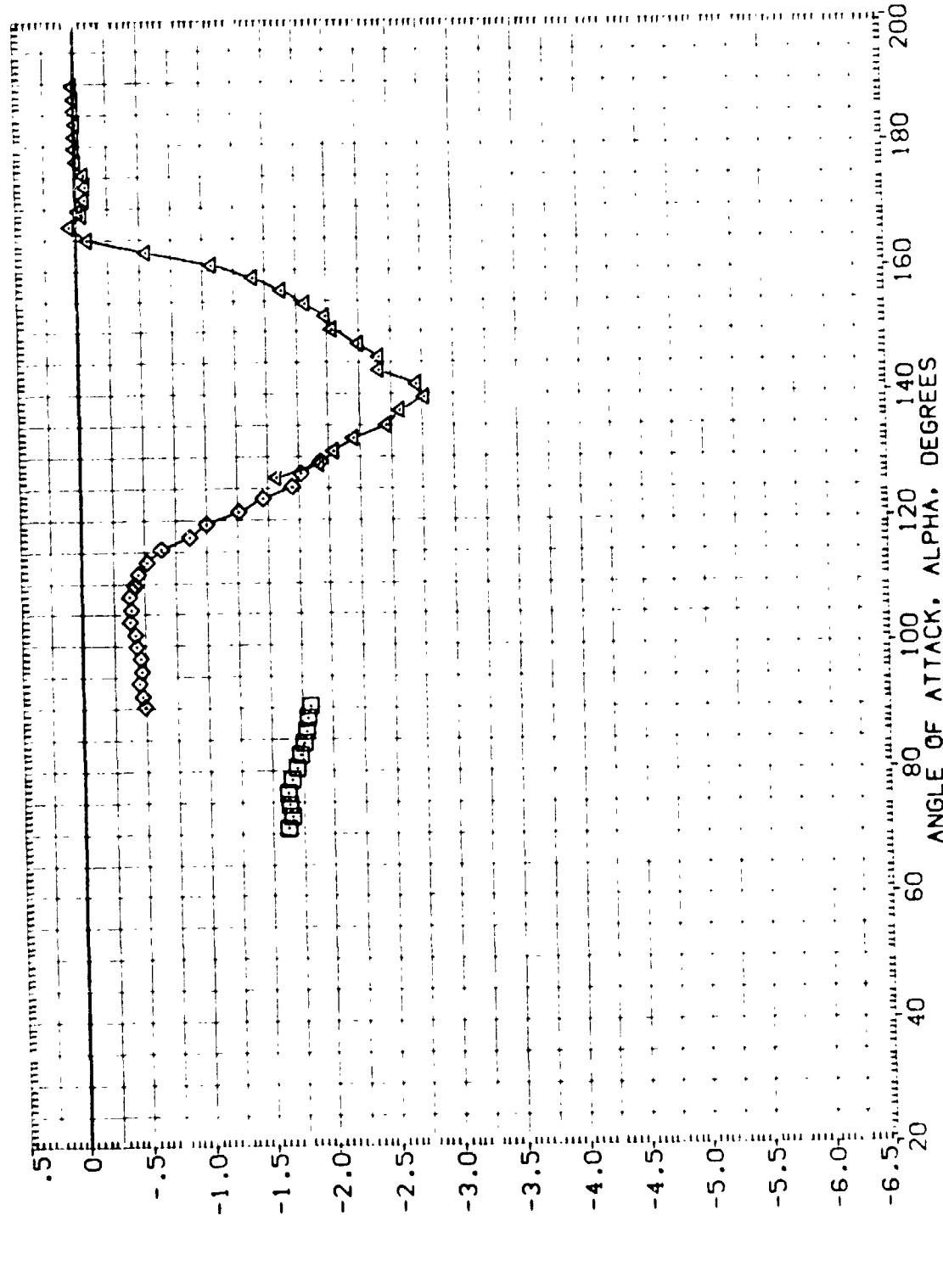


FIGURE 19. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 0)

(C)MACH = .20

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H003) DATA NOT AVAILABLE
 (A1H026) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H003) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H003) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES

PHI .000
 .000
 .000
 .000

REFERENCE INFORMATION

SREF 5030 SQ. IN.
 LREF 8000 IN.
 BREF 8600 IN.
 XRRP 5.7210 IN. XS
 YRRP .0000 IN. YS
 ZRRP .0000 IN. ZS
 SCALE .0055

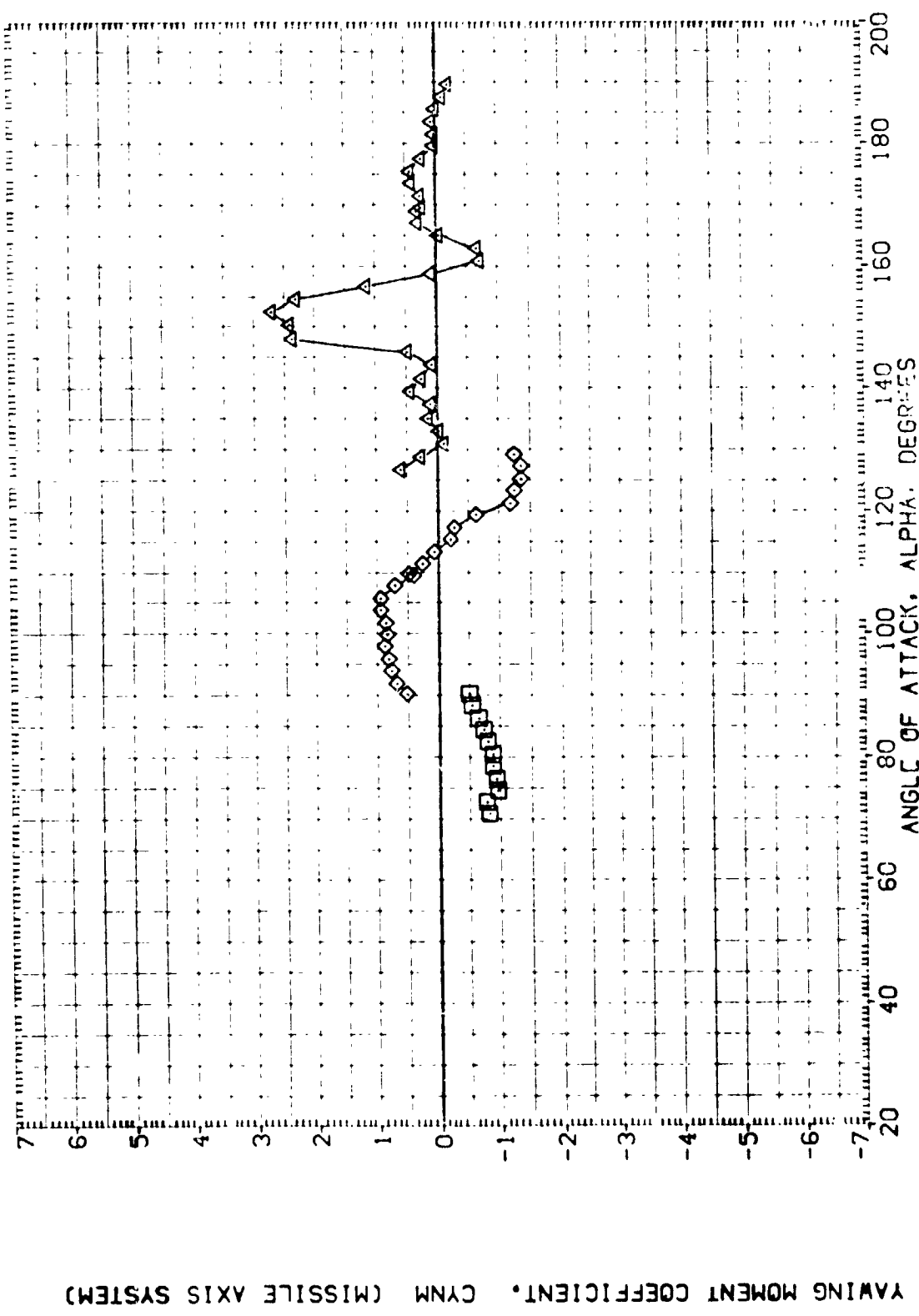


FIGURE 19. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 0)



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(A1-H03)	DATA NOT AVAILABLE	.000	SREF 50.30 SQ. IN.
(A1-H026)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	.000	LREF .8000 IN.
(A1-H03)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	.000	BREF .8000 IN.
(A1-H003)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	.000	XMRP 5.7210 IN. XS
			YMRP .0000 IN. YS
			ZMRP .0000 IN. ZS
			SCALE .0055

ROLLING MOMENT COEFFICIENT, CBL (MISSILE AXIS SYSTEM)

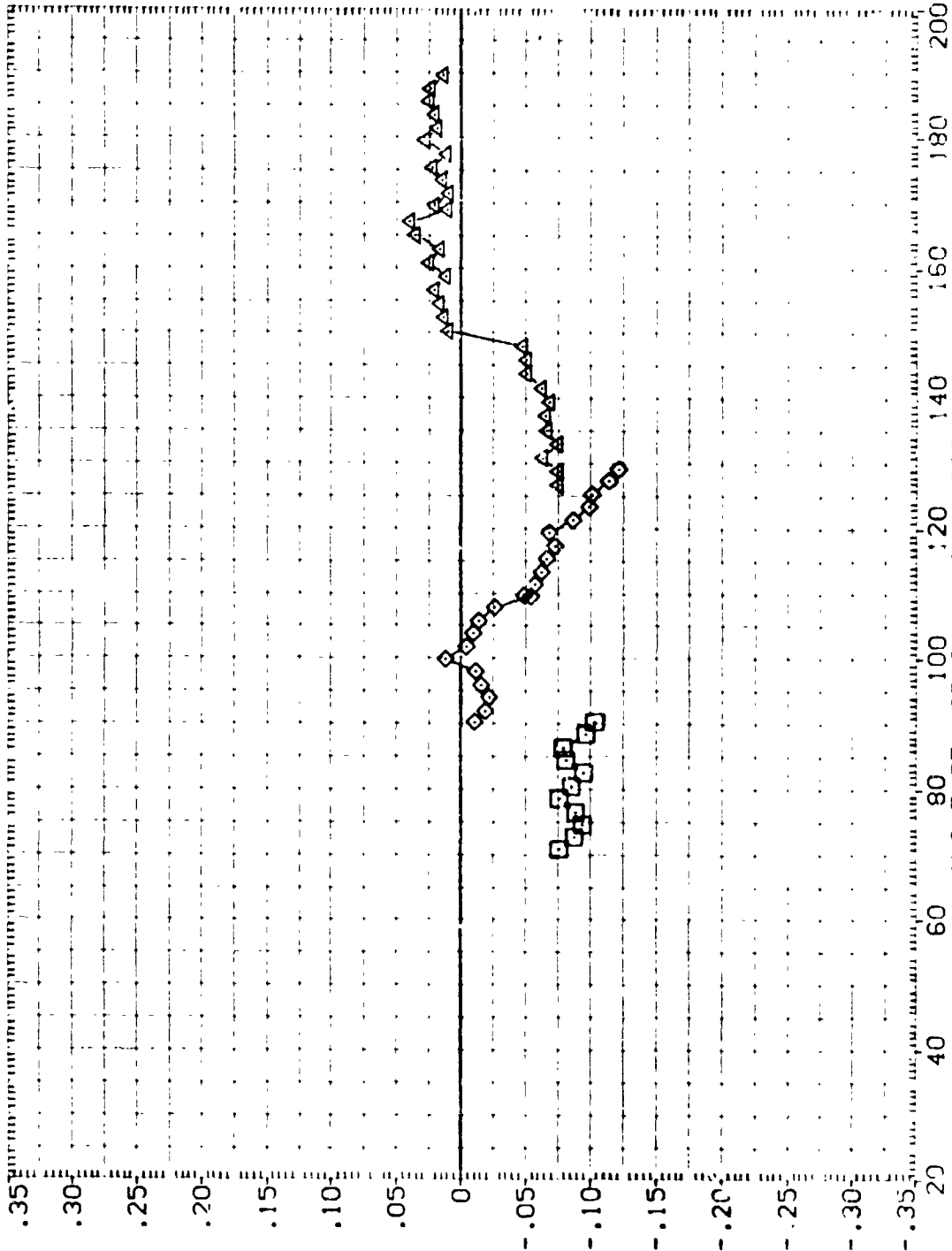


FIGURE 19. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 0)

(COMACH = .90

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H003) DATA NOT AVAILABLE

(A1H026) MSEC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H003) MSEC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H003) MSEC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI .000

 .000

 .000

 .000

REFERENCE INFORMATION

SREF 50.30 50. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.210 IN.

ZMRP .0000 IN.

SCALE .0055 IN. ZS

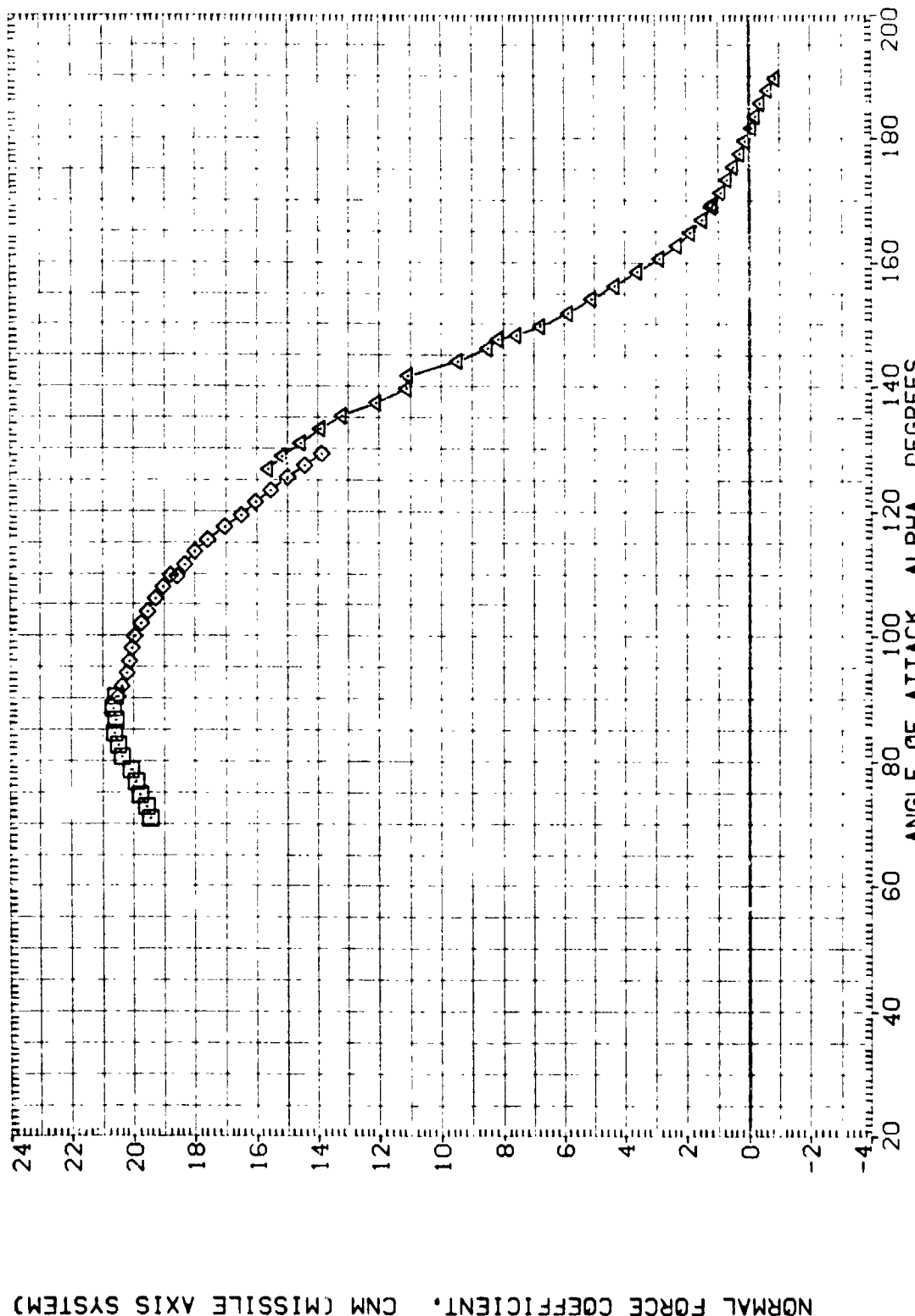


FIGURE 19. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 0)

(C)MACH = 1.20

REFERENCE INFORMATION

SREF	.5030	IN.
LREF	.8000	IN.
BREF	.8000	IN.
XMRP	5.7210	IN.
YMRP	.0000	IN.
ZMRP	.0000	IN.
SCALE	.0055	

PHI .000
.000
.000
.000

CONFIGURATION DESCRIPTION

MSFC	DATA NOT AVAILABLE
MSFC	MSFC TVT504 (SABF) SRB WITH ALL PROTUBERANCES
MSFC	MSFC TVT504 (SABF) SRB WITH ALL PROTUBERANCES
MSFC	MSFC TVT504 (SABF) SRB WITH ALL PROTUBERANCES

DATA SET SYMBOL

(A1H003)	□
(A1H026)	○
(A1H003)	△
(A1H003)	×

PITCHING MOMENT COEFFICIENT, CLMM (MISSILE AXIS SYSTEM)

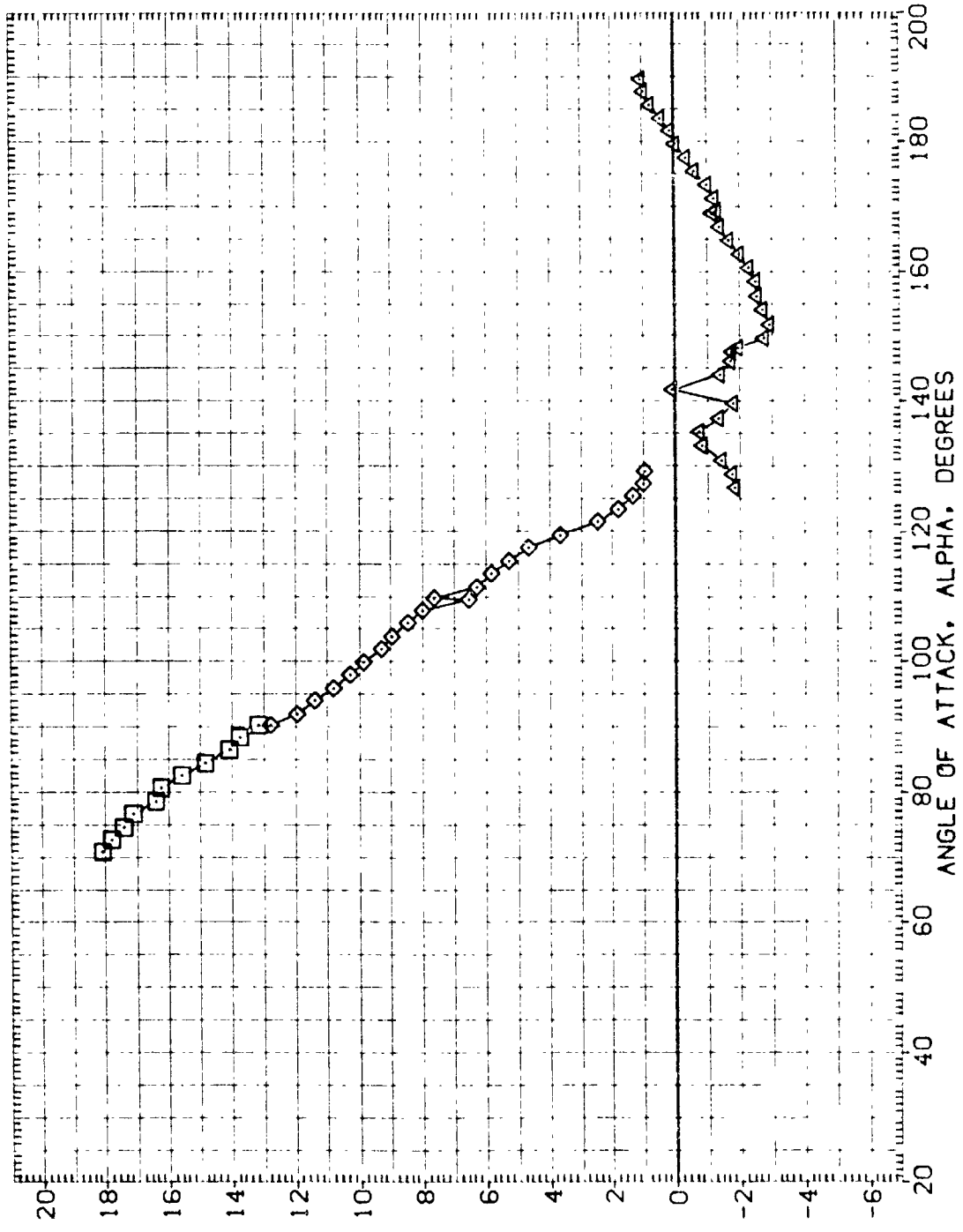


FIGURE 19. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 0)

(C)MACH = 1.20

REFERENCE INFORMATION
 SR F 50.30 IN.
 LR F 80.00 IN.
 BR F 80.00 IN.
 XMRP 5.7710 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 .000
 .000
 .000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (AIH003) DATA NOT AVAILABLE
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (AIH026) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (AIH003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (AIH003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

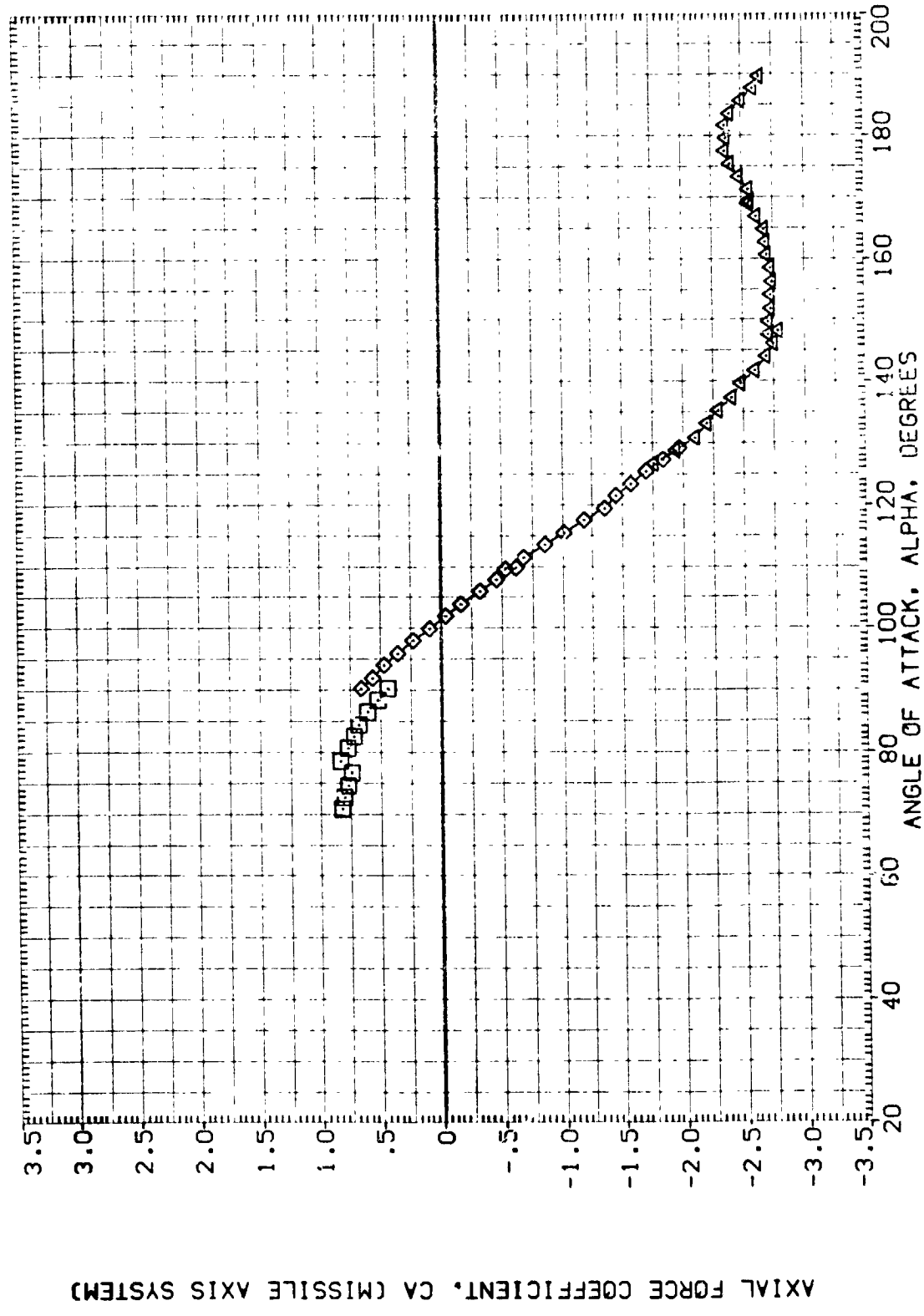


FIGURE 19. STATIC STABILITY CHARACTERISTICS OF SRB W/ALL PROTUBERANCES (PHI = 0)

REFERENCE INFORMATION
 SREF .5030 SO. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI .000
 .000
 .000
 .000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (AIHQ03) DATA NOT AVAILABLE
 (AIHQ26) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (AIHQ03) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (AIHQ03) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

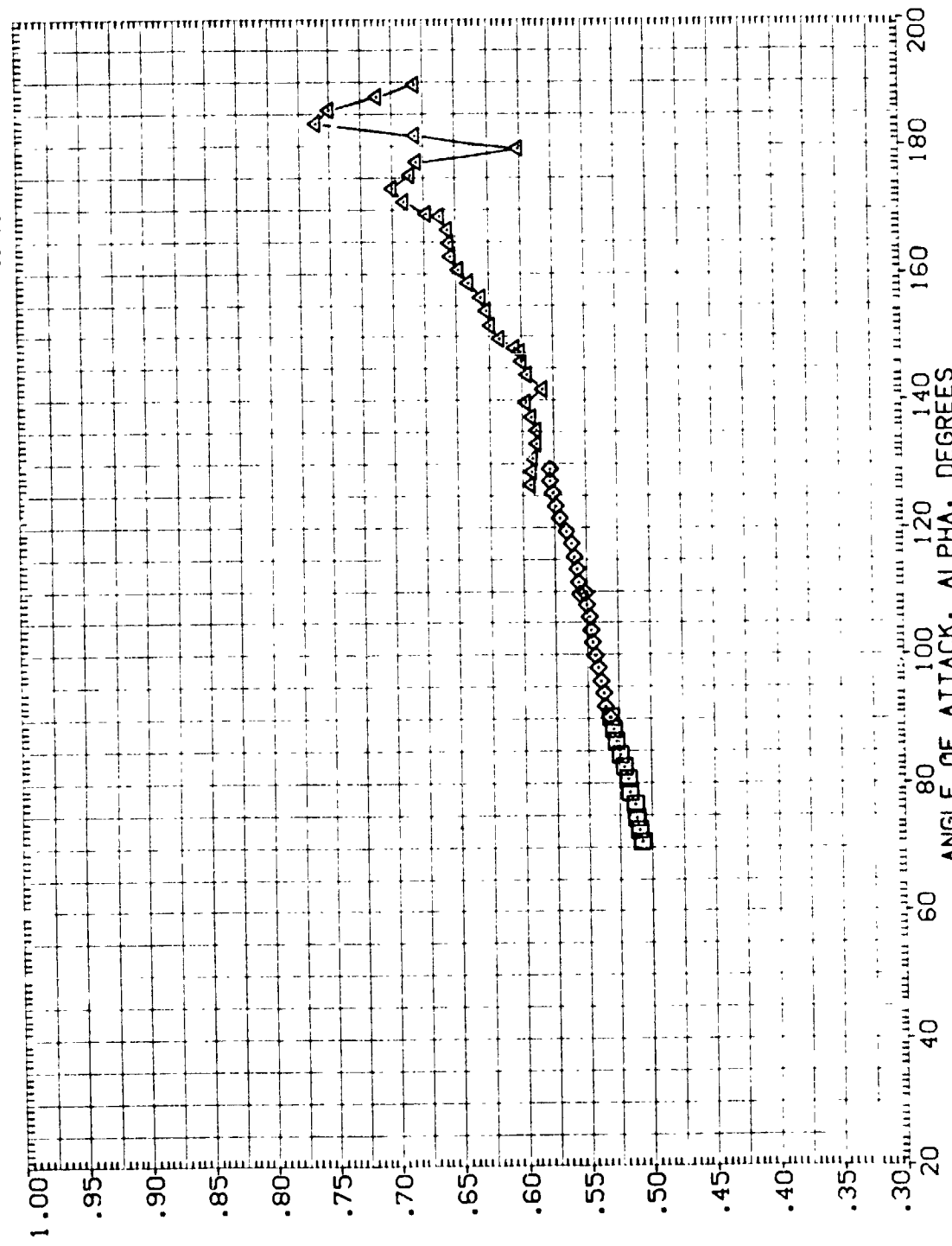


FIGURE 19. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 0)

(O) MACH = 1.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(AIH003) DATA NOT AVAILABLE .000

(AIH026) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000

(AIHC03) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000

(AIHD03) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000

REFERENCE INFORMATION

SREF 5030 SQ. IN.

LREF 8000 IN.

BREF 8000 IN.

XMRP 5.7210 IN. XS

ZMRP .0000 IN. YS

SCALE .0055 IN. ZS

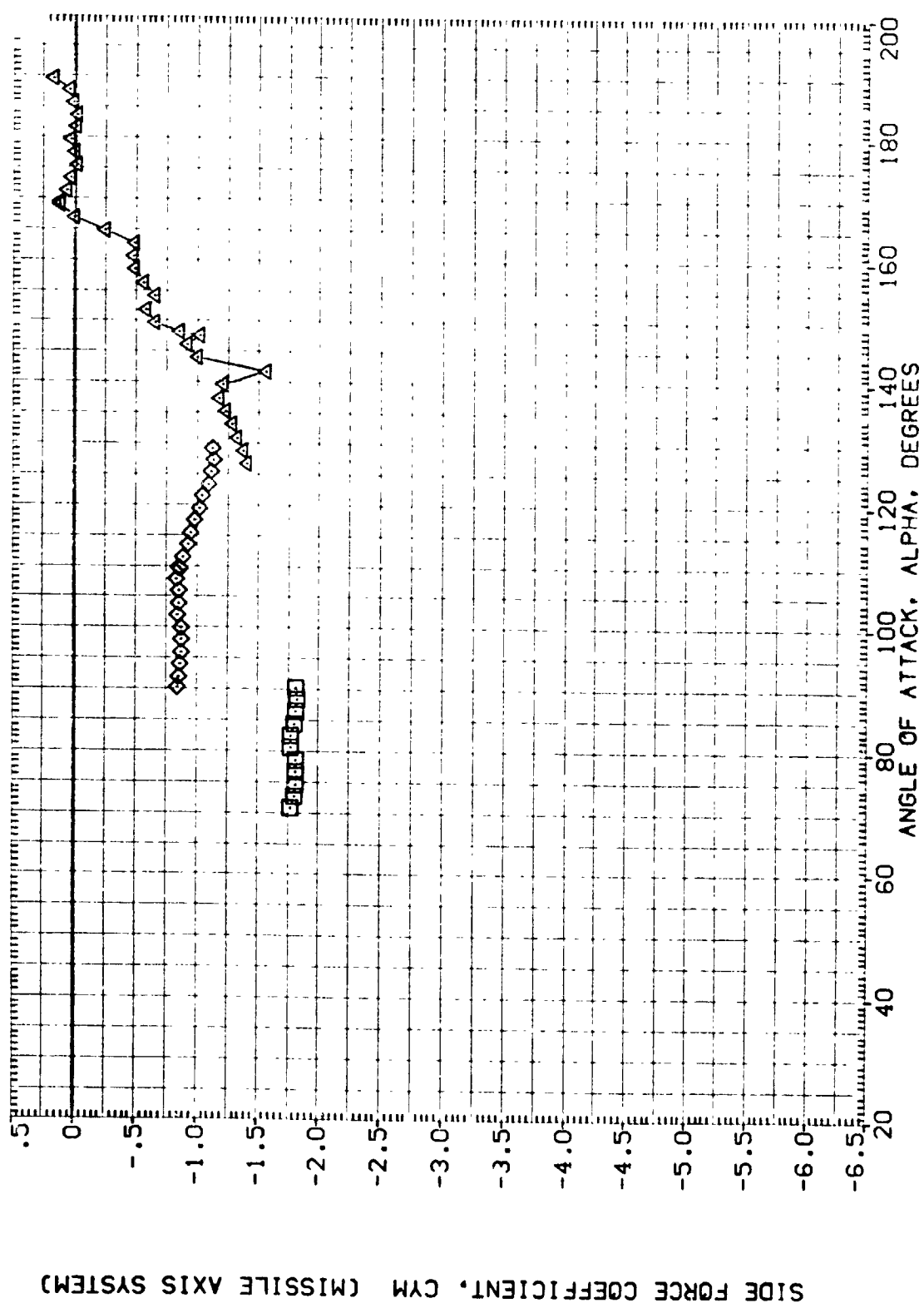


FIGURE 19. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 0)

(CD)MACH = 1.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H003) DATA NOT AVAILABLE .000

(A1H026) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000

(A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000

(A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000

REFERENCE INFORMATION

SREF .5030 SQ.IN.

LREF .8000 IN.

BREF .8000 IN.

XPRP 5.7210 IN. XS

YPRP .0000 IN. YS

ZPRP .0000 IN. ZS

SCALE .0055

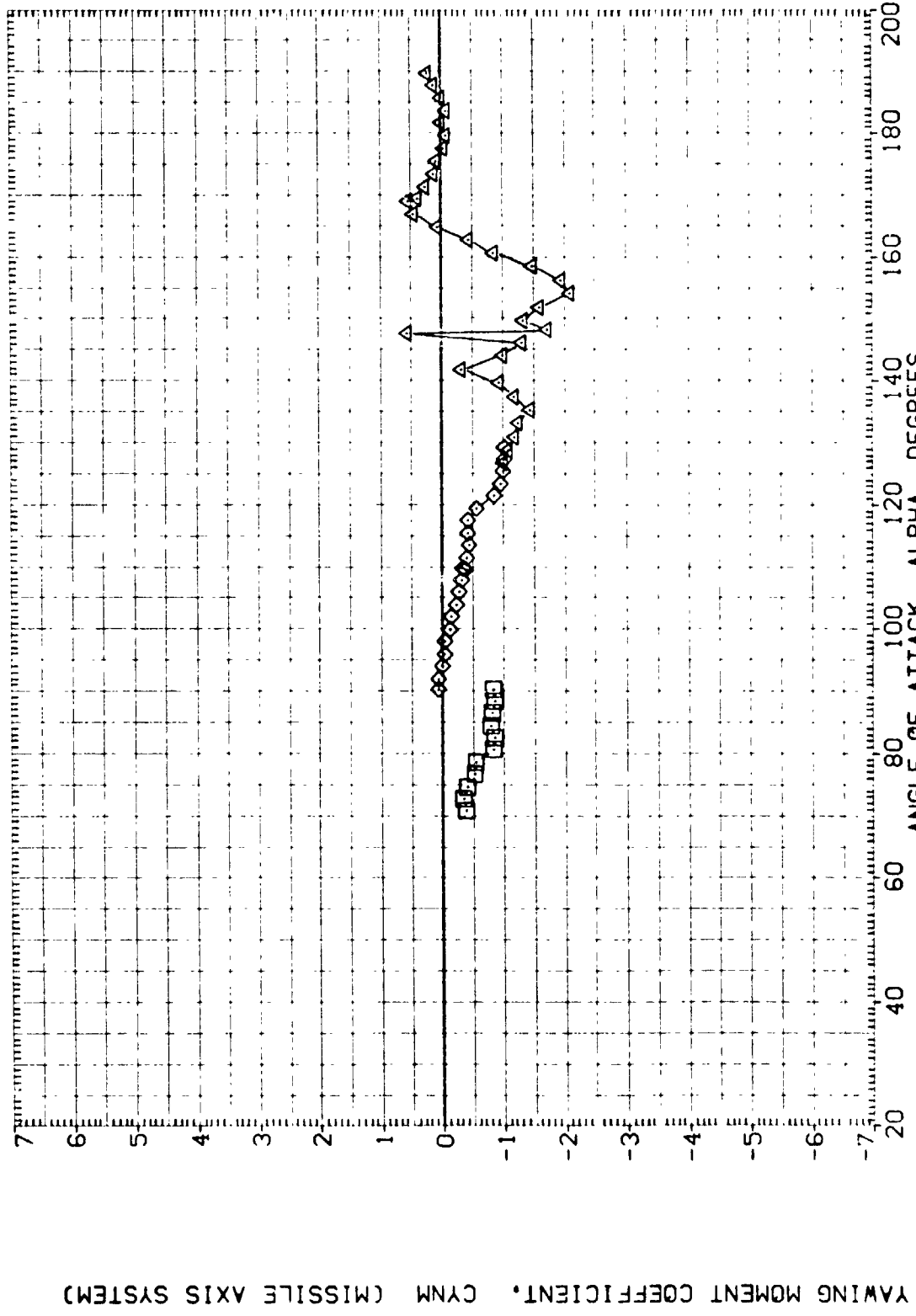


FIGURE 19. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 0)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H003) DATA NOT AVAILABLE .000

(A1H026) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000

(A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000

(A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000

REFERENCE INFORMATION

SREF 5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

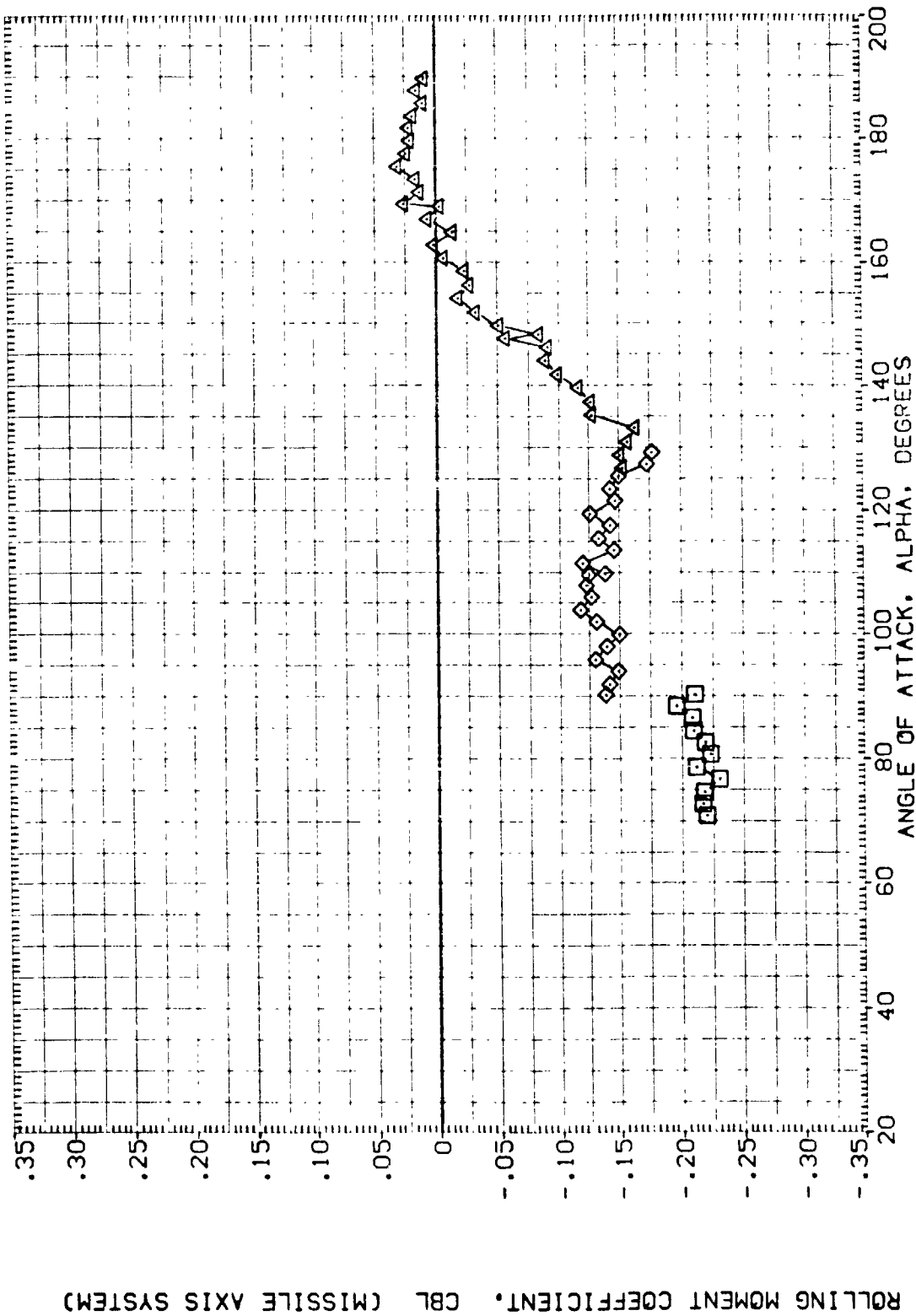


FIGURE 19. STATIC STABILITY CHARACTERISTICS OF SRB WITH WALL PROTUBERANCES (PHI = 0)

(C)MACH = 1.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H003) DATA NOT AVAILABLE .000

(A1H026) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000

(A1H003) HSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000

(A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .6000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

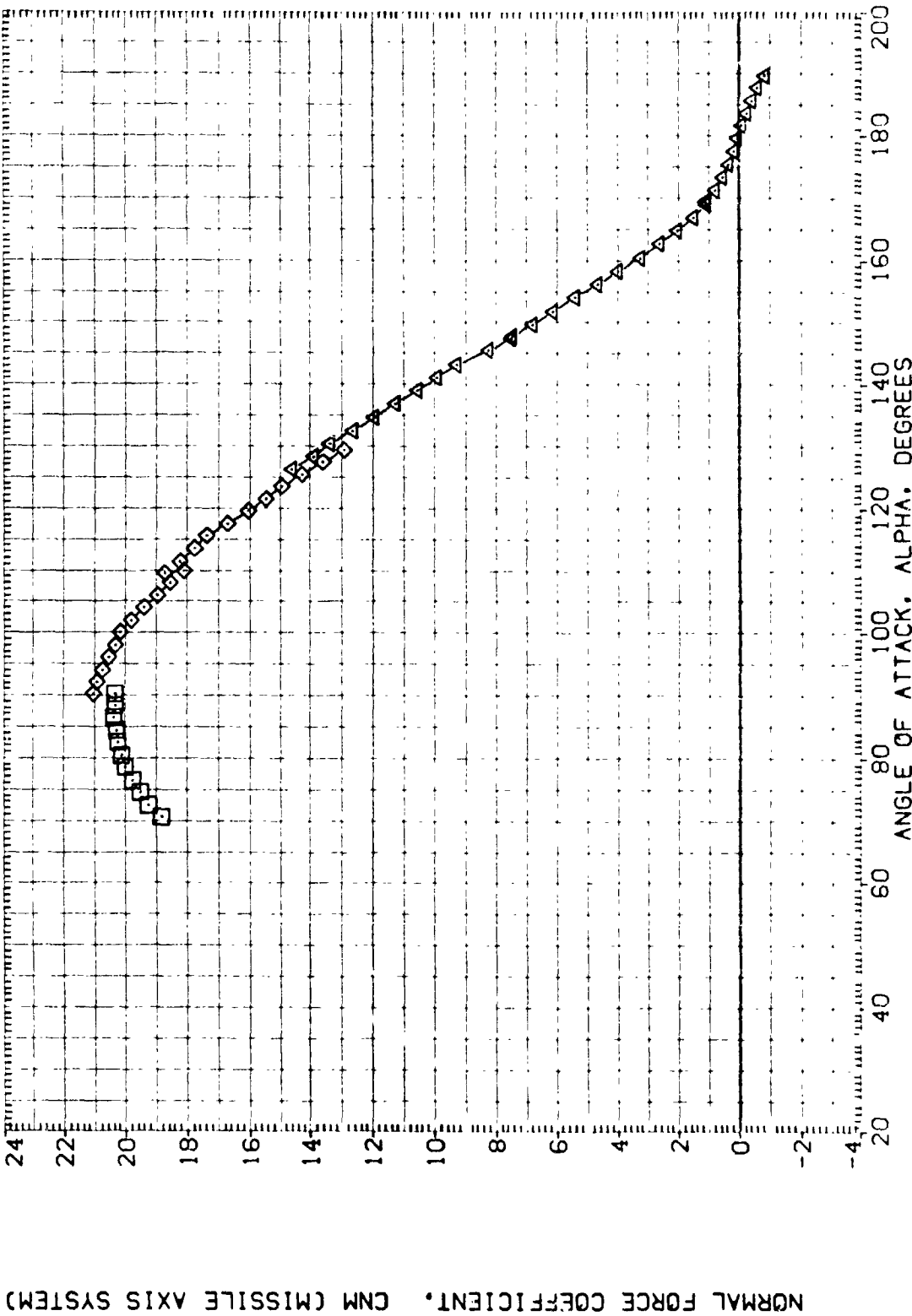


FIGURE 19. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 0)

(E)MACH = 1.96

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H003) DATA NOT AVAILABLE
 (A1H026) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI
 .000
 .000
 .000

REFERENCE INFORMATION
 SREF .5030 IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0035

PITCHING MOMENT COEFFICIENT, CLM (MISSILE AXIS SYSTEM)

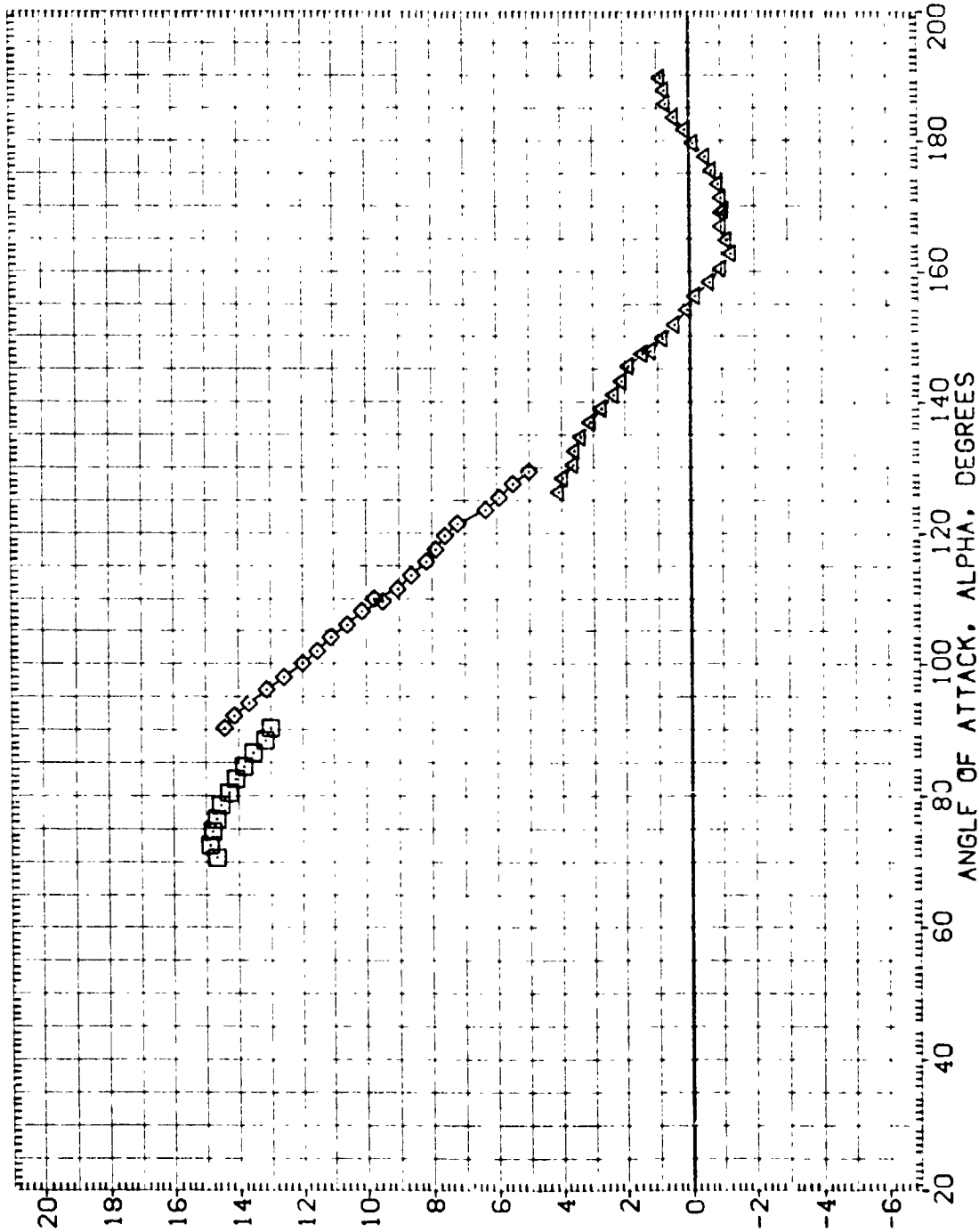


FIGURE 19. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 0)

(E)MACH = 1.96

REFERENCE INFORMATION
 SREF .SC30 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP S.721C IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 .000
 .000
 .000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H003) DATA NOT AVAILABLE
 (A1H026) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

AXIAL FORCE COEFFICIENT, CA (MISSILE AXIS SYSTEM)

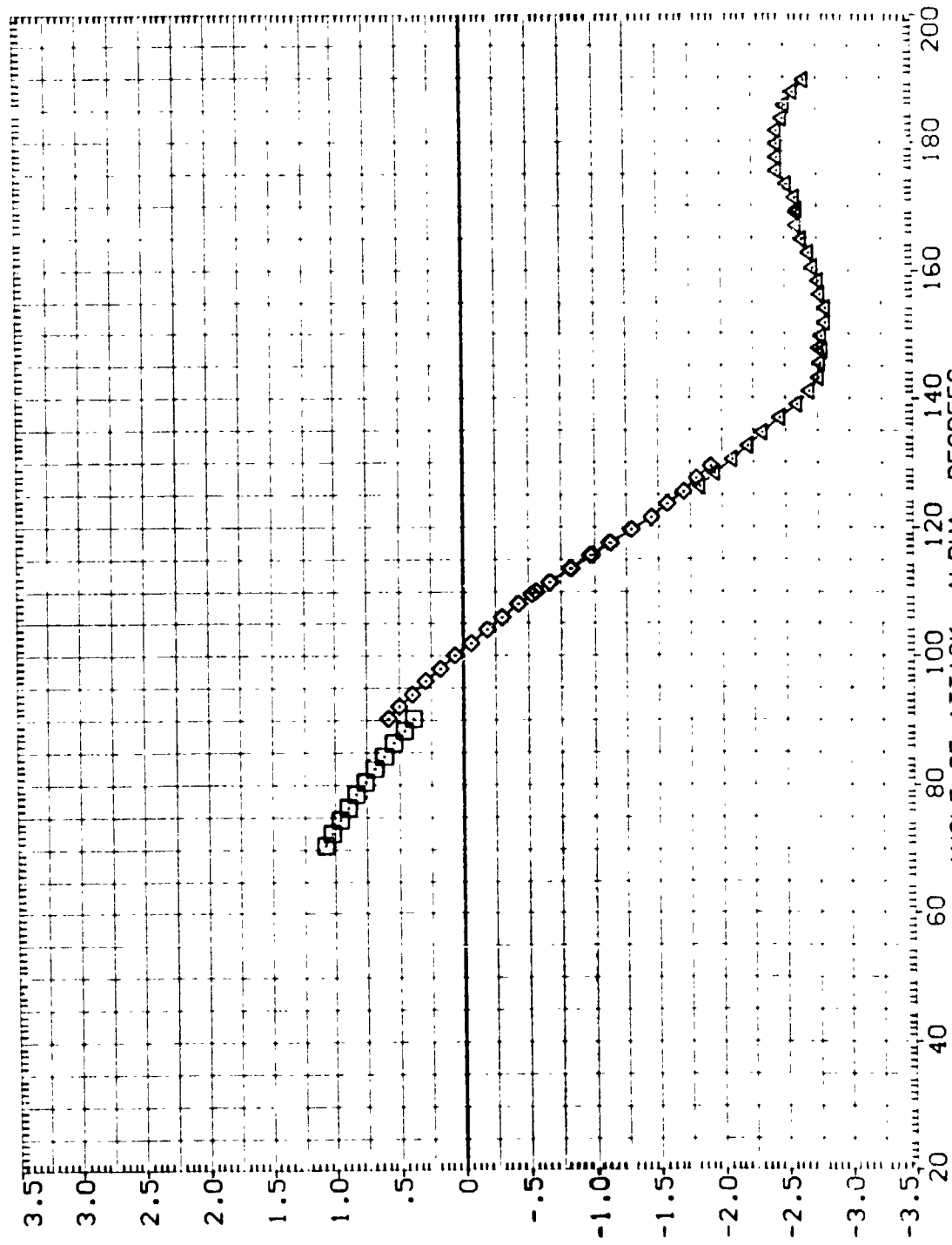


FIGURE 19. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 0)

(M)MACH = 1.96

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1M003) DATA NOT AVAILABLE .000

(A1M026) MSFC TVT604 (SABF) SFB WITH ALL PROTUBERANCES .000

(A1M003) MSFC TVT604 (SABF) SFB WITH ALL PROTUBERANCES .000

(A1M003) MSFC TVT604 (SABF) SFB WITH ALL PROTUBERANCES .000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XPRP 5.7710 IN. XS

YPRP .0000 IN. YS

ZPRP .0000 IN. ZS

SCALE .0055

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

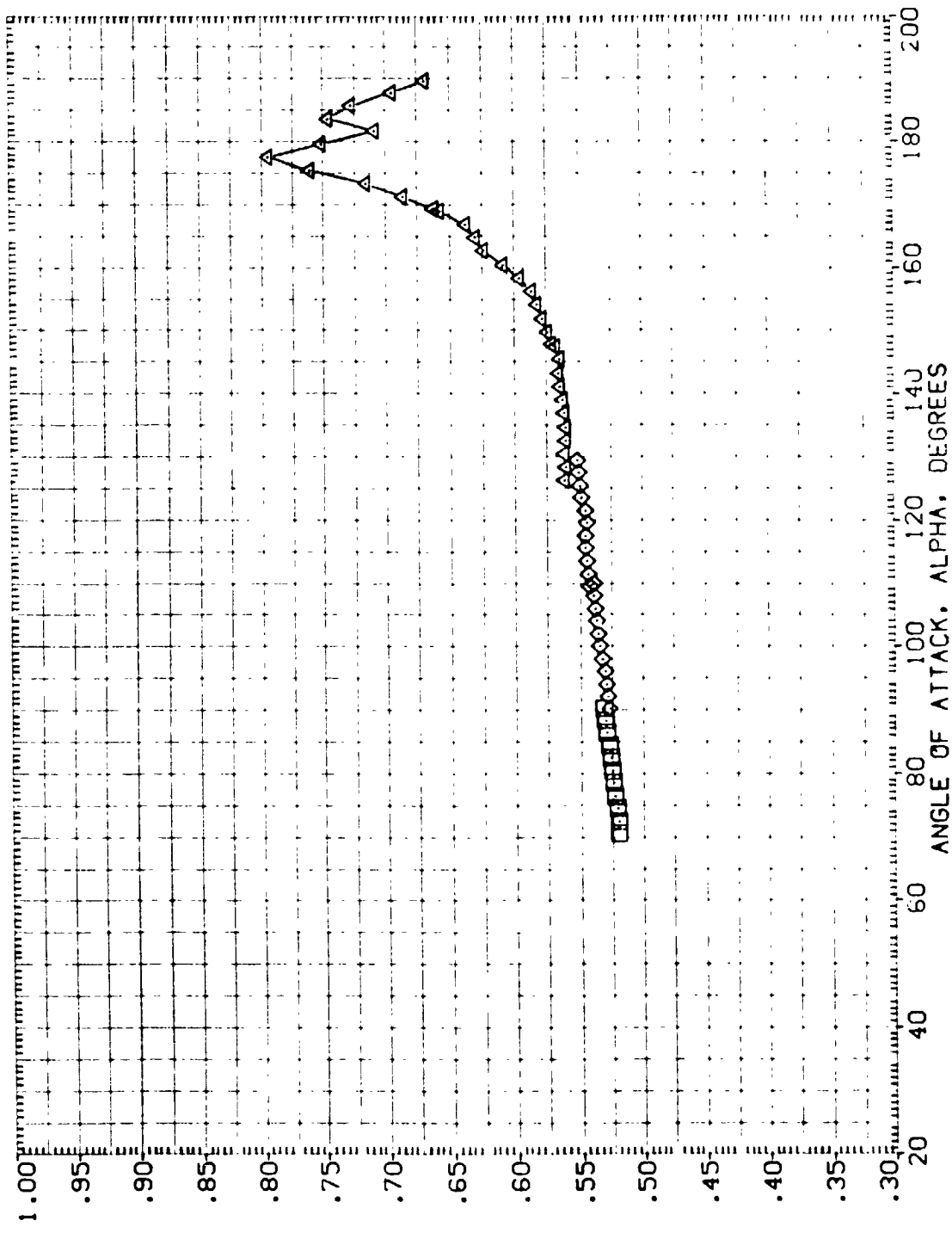


FIGURE 19. STATIC STABILITY CHARACT. OF SRB WALL PROTUBERANCES (PHI = 0)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI REFERENCE INFORMATION

(A1H003)	DATA NOT AVAILABLE	.000	SREF .5030 SQ. IN.
(A1H026)	MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES	.000	LREF .8000 IN.
(A1H003)	MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES	.000	BREF .8000 IN.
(A1H003)	MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES	.000	XMRP 5.7210 IN. XS
			YMRP .0000 IN. YS
			ZMRP .0000 IN. ZS
			SCALE .0055

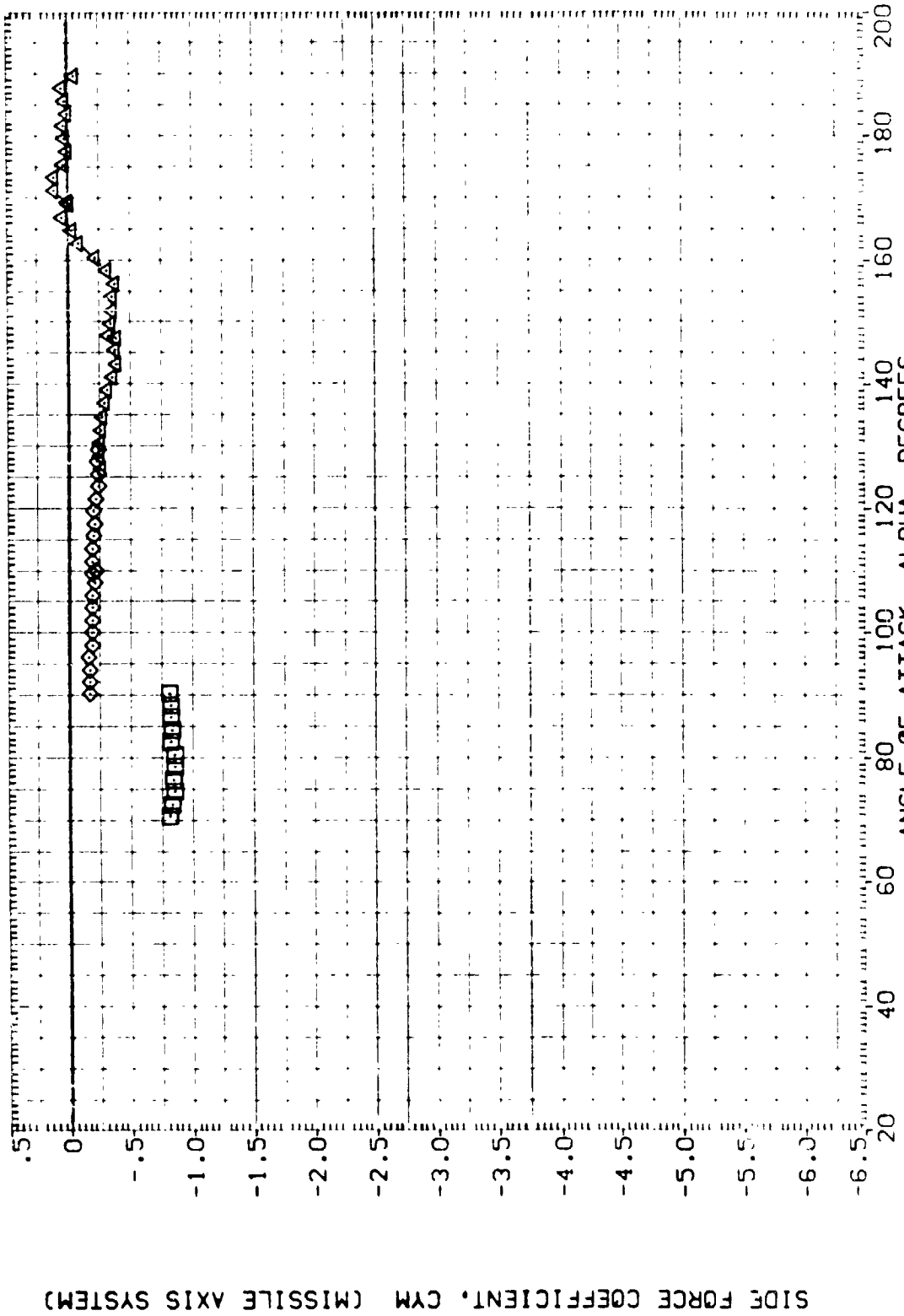


FIGURE 19. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = C)

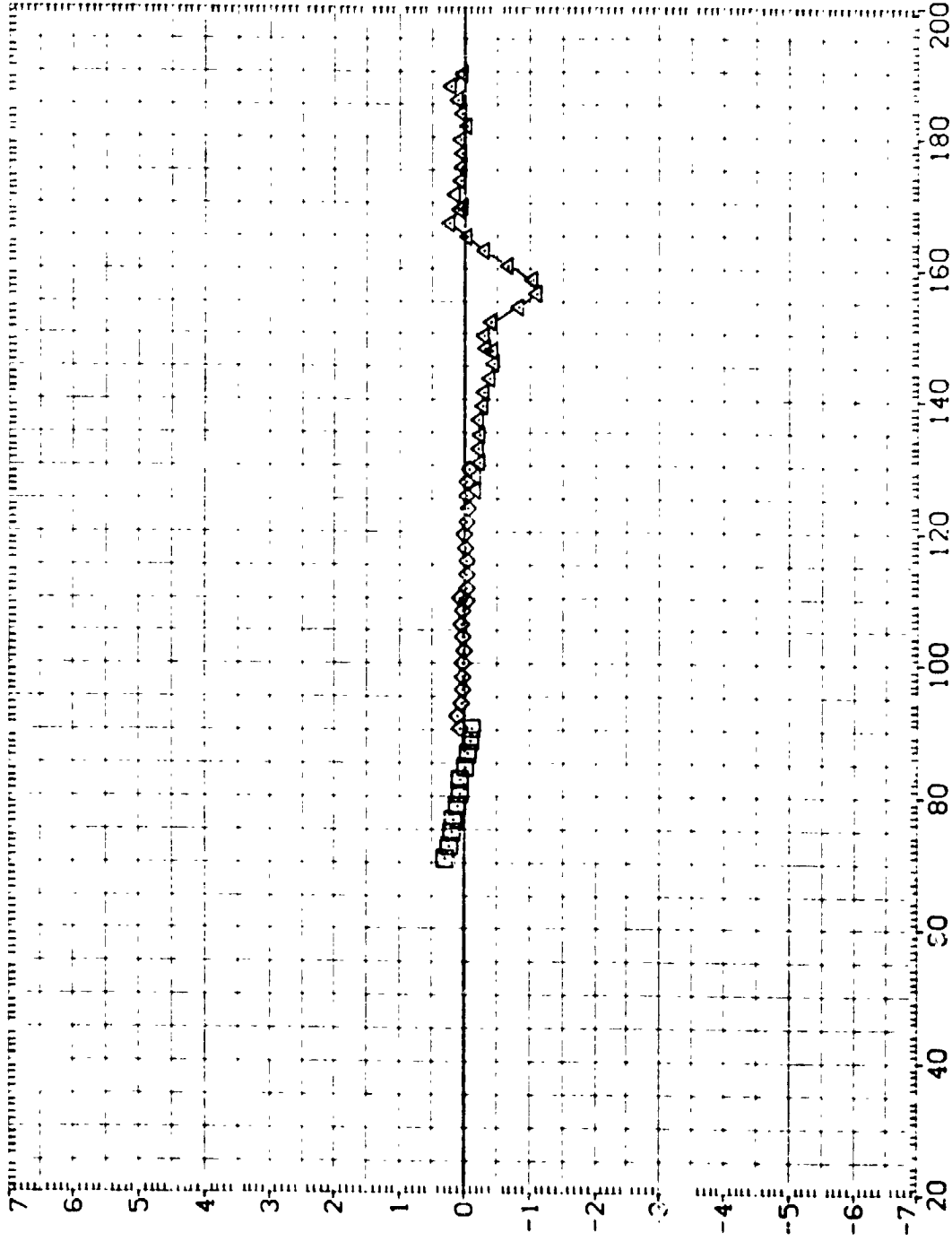
DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H003) DATA NOT AVAILABLE
 (A1H026) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI .000
 .000
 .000
 .000

REFERENCE INFORMATION

SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .9000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055



YAWING MOMENT COEFFICIENT, CYNM (MISSILE AXIS SYSTEM)

FIGURE 19. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 0)

(E)MACH = 1.96

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H003) DATA NOT AVAILABLE .000
 (A1H026) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES .000
 (A1H003) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES .000
 (A1H003) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES .000

REFERENCE INFORMATION SQ. IN. IN. IN. XS IN. ZS
 SREF .5030
 LREF .8000
 RREF .8000
 X1RP 5.7210
 Y1RP .0000
 Z1RP .0000
 SCALE .0055

ROLLING MOMENT COEFFICIENT, CBL (MISSILE AXIS SYSTEM)

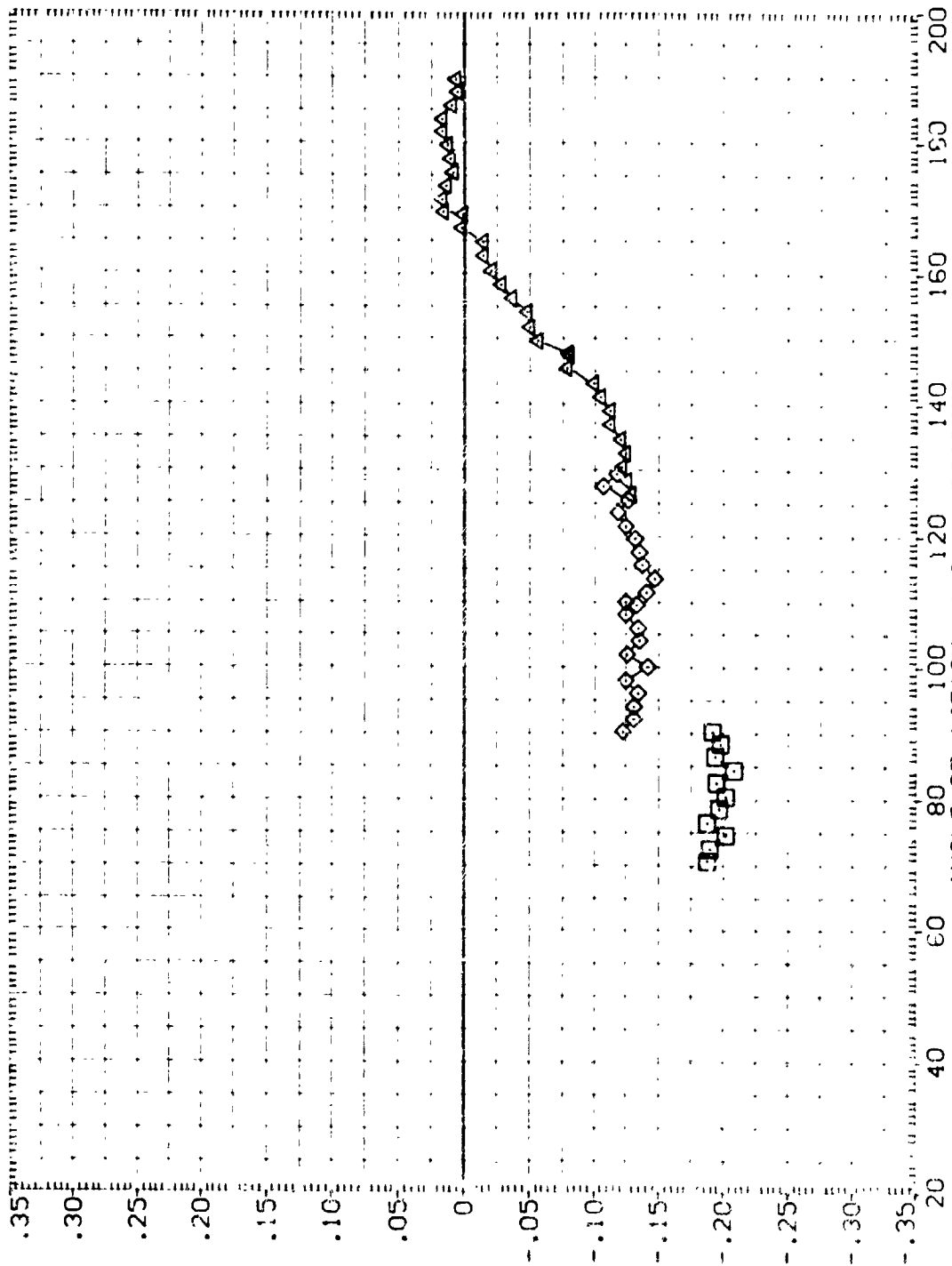


FIGURE 19. STATIC STABILITY CHARACTERISTICS OF SRB WITH WALL PROTUBERANCES (PHI = 0)

DATA SET SYMBOL: (A1H003) (A1H026) (A1H003) (A1H003)

CONFIGURATION DESCRIPTION: DATA NOT AVAILABLE MSFC TVT604 (SABF) MSFC TVT604 (SABF) MSFC TVT604 (SABF)

SRB WITH ALL PROTUBERANCES SRB WITH ALL PROTUBERANCES SRB WITH ALL PROTUBERANCES

PHI: .000 .000 .000

REFERENCE INFORMATION: SREF .5030 SQ. IN. LREF .8000 IN. BRZF .8000 IN. XHRP 5.7210 IN. YS ZHRP .0000 IN. ZS SCALE .0055

PITCHING MOMENT COEFFICIENT, CLM (MISSILE AXIS SYSTEM)

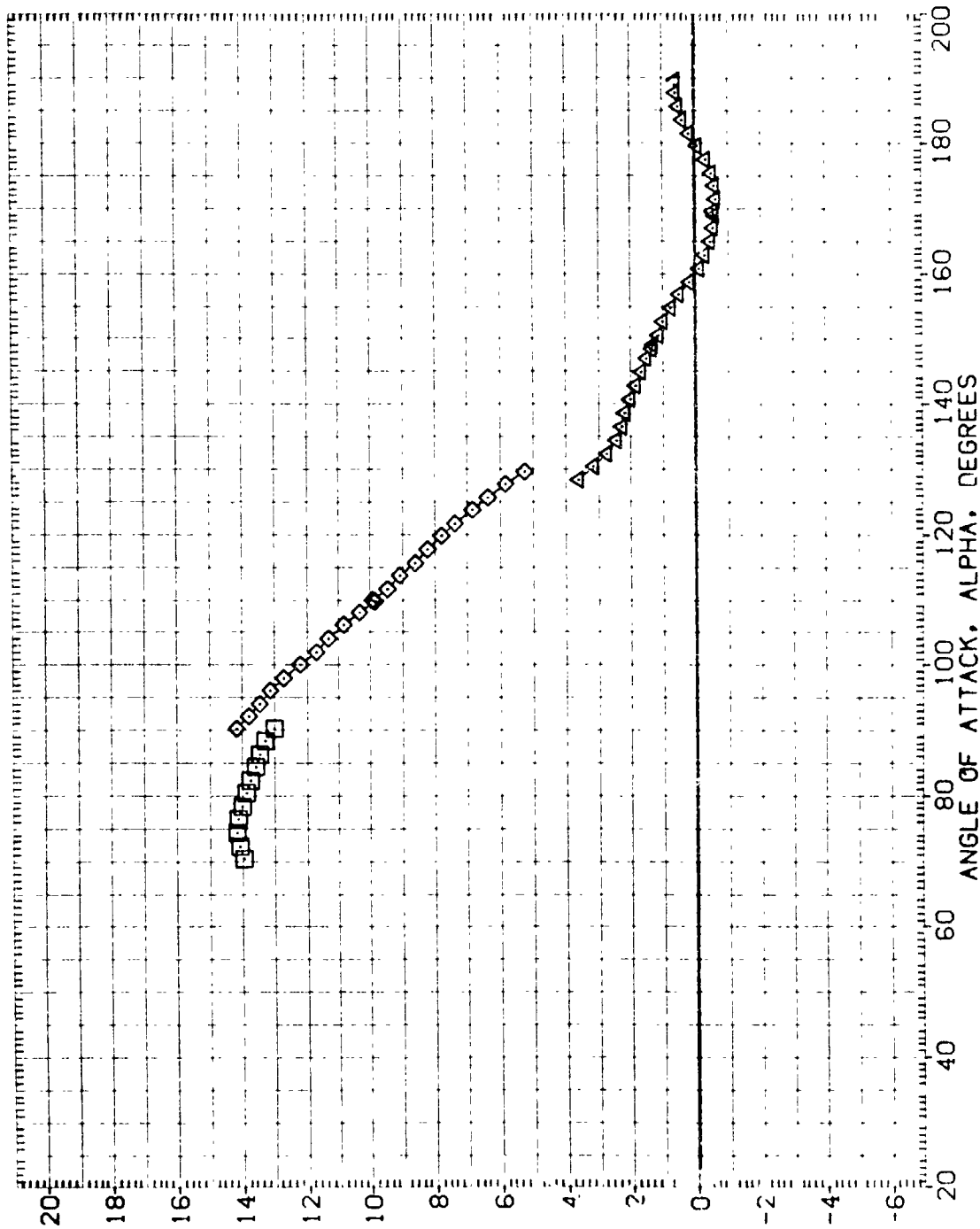


FIGURE 19. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 0)

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(A1H003)	DATA NOT AVAILABLE	.000	SREF 5030 SQ. IN.
(A1H026)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	.000	LREF 8000 IN.
(A1H003)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	.000	BREF 8000 IN.
(A1H003)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	.000	YMRP 5.7210 IN. XS
			ZMRP .0000 IN. YS
			SCALE .0055 IN. ZS

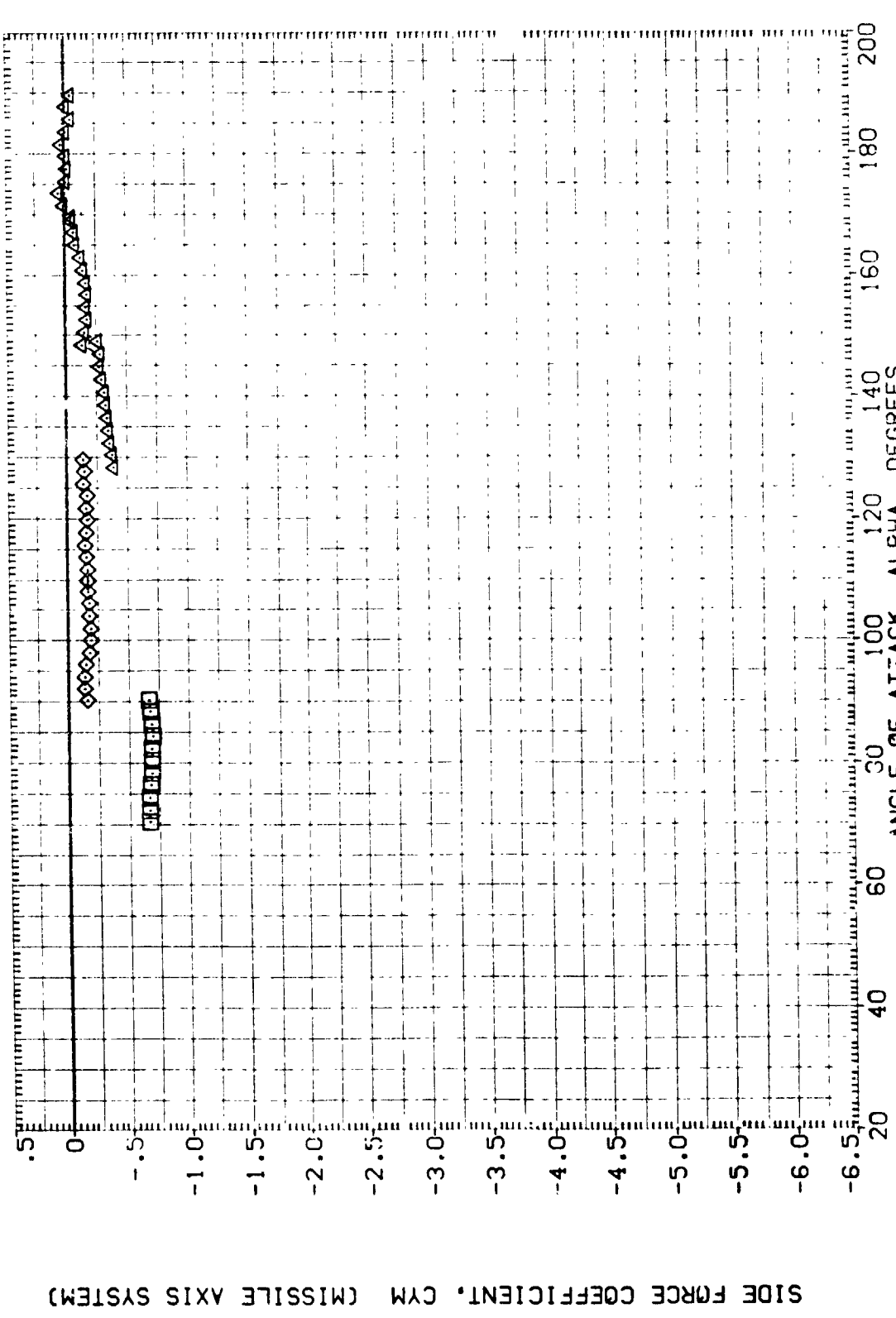


FIGURE 19. STATIC STABILITY CHARACT. OF SRB W/WALL PROTUBERANCES (PHI = 0)

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(A1H003)	DATA NOT AVAILABLE	.000	SREF .5030 50. IN.
(A1H026)	MSFC 1V1604 (SABF) SRB WITH ALL PROTUBERANCES	.000	LREF .8000 IN.
(A1H003)	MSFC 1V1604 (SABF) SRB WITH ALL PROTUBERANCES	.000	BREF .8000 IN.
(A1H003)	MSFC 1V1604 (SABF) SRB WITH ALL PROTUBERANCES	.000	XMRP 5.7210 IN. XS
			YMRP .0000 IN. YS
			ZMRP .0000 IN. ZS
			SCALE .0055

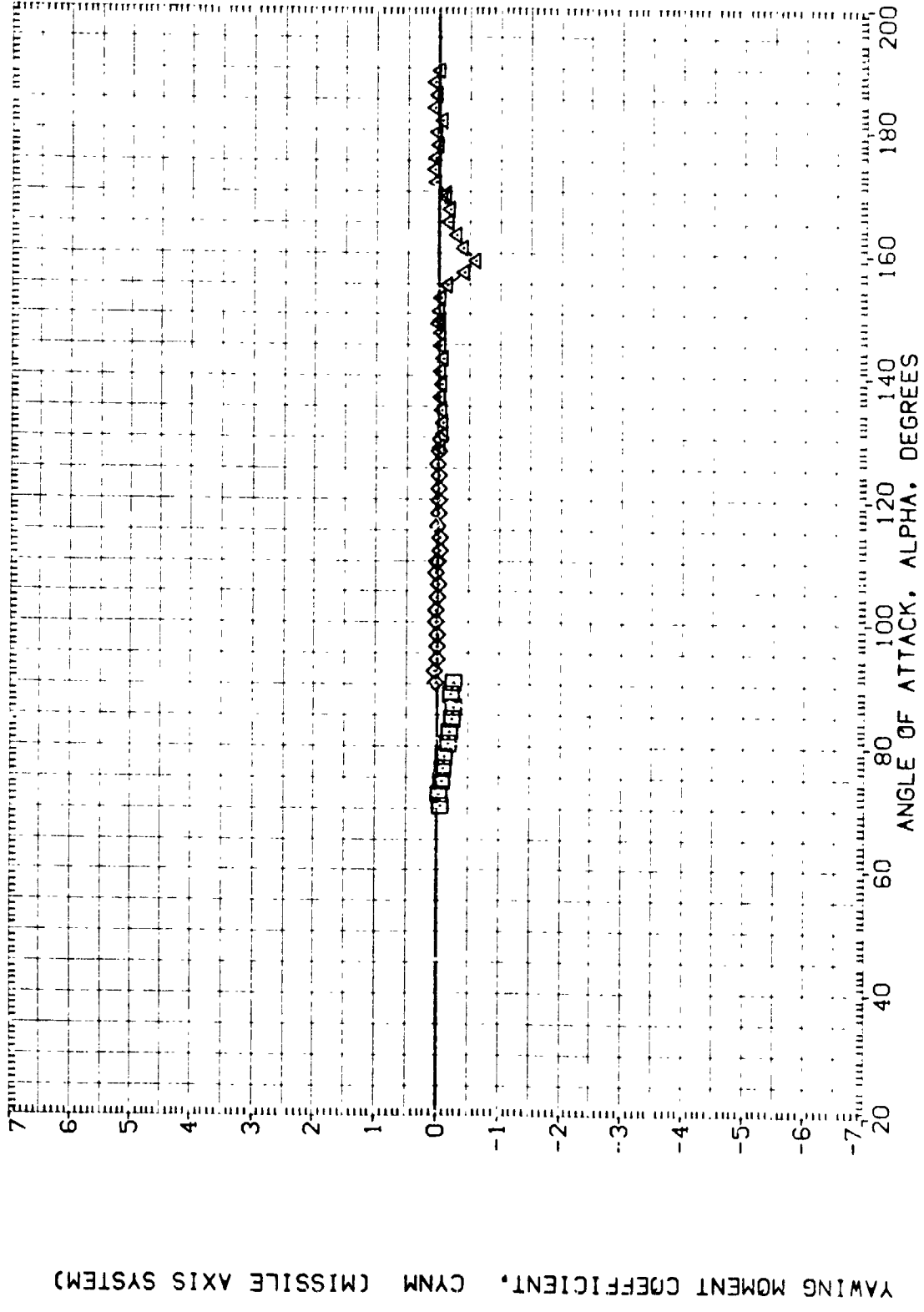


FIGURE 19. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 0)
(F)MACH = 2.74 PAGE 125

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 .000
 .000
 .000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H003) DATA NOT AVAILABLE
 (A1H026) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

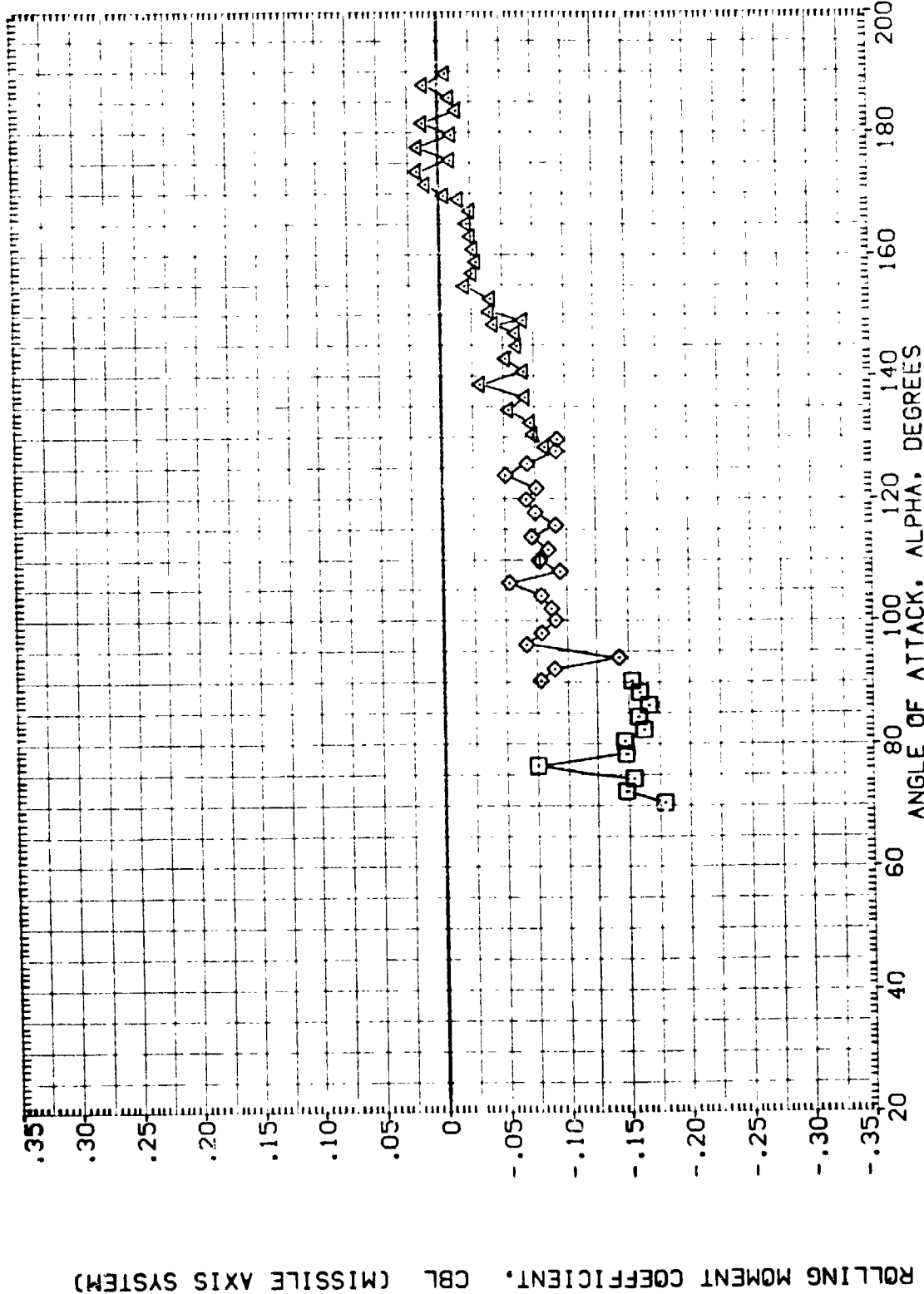


FIGURE 19. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 0)

(F)MACH = 2.74

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1HA03) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1HO26) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1HC03) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1HO03) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI .000
 .000
 .000

REFERENCE INFORMATION

SFEE SQ. IN.
 LREF IN.
 BREF IN.
 XMRP S.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

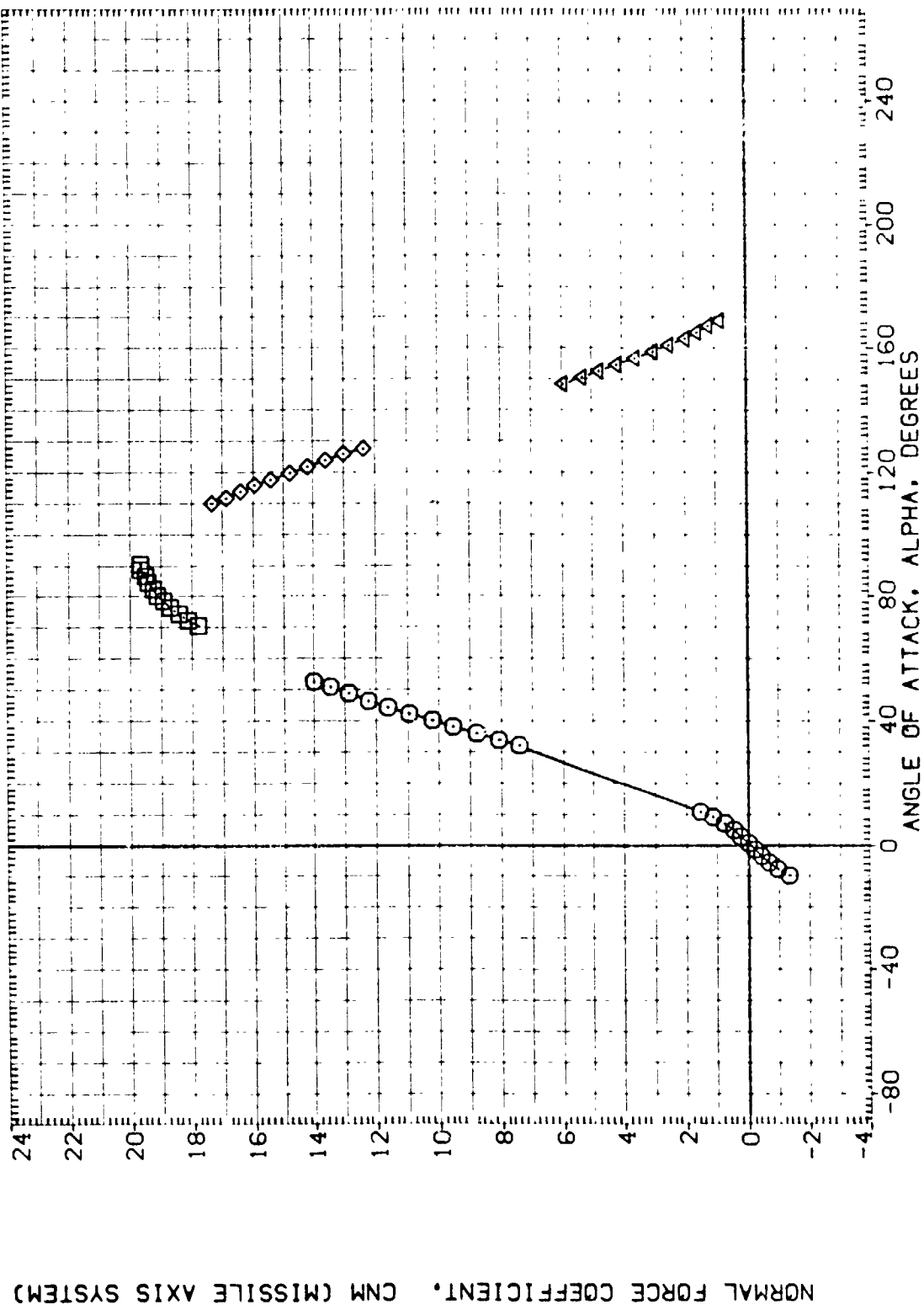


FIGURE 19. STATIC STABILITY CHARACT. OF SRB W/WALL PROTUBERANCES (PHI = 0)

(A)MACH = 3.48

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REFERENCE INFORMATION

SREF	.5030	SO, IN.
LREF	.8000	IN.
BREF	.8000	IN.
YMRP	5.7210	IN. YS
ZMRP	.0000	IN. ZS
SCALE	.0055	

PHI

.000
.000
.000
.000

PROTUBERANCES

ALL
ALL
ALL
ALL

CONFIGURATION DESCRIPTION

MSFC TVT604 (SABF)	SRB WITH ALL
MSFC TVT604 (SABF)	SRB WITH ALL
MSFC TVT604 (SABF)	SRB WITH ALL
MSFC TVT604 (SABF)	SRB WITH ALL

DATA SET SYMBOL

(A1H003)	□
(A1H026)	○
(A1H003)	×
(A1H003)	○

PITCHING MOMENT COEFFICIENT, CLM (MISSILE AXIS SYSTEM)

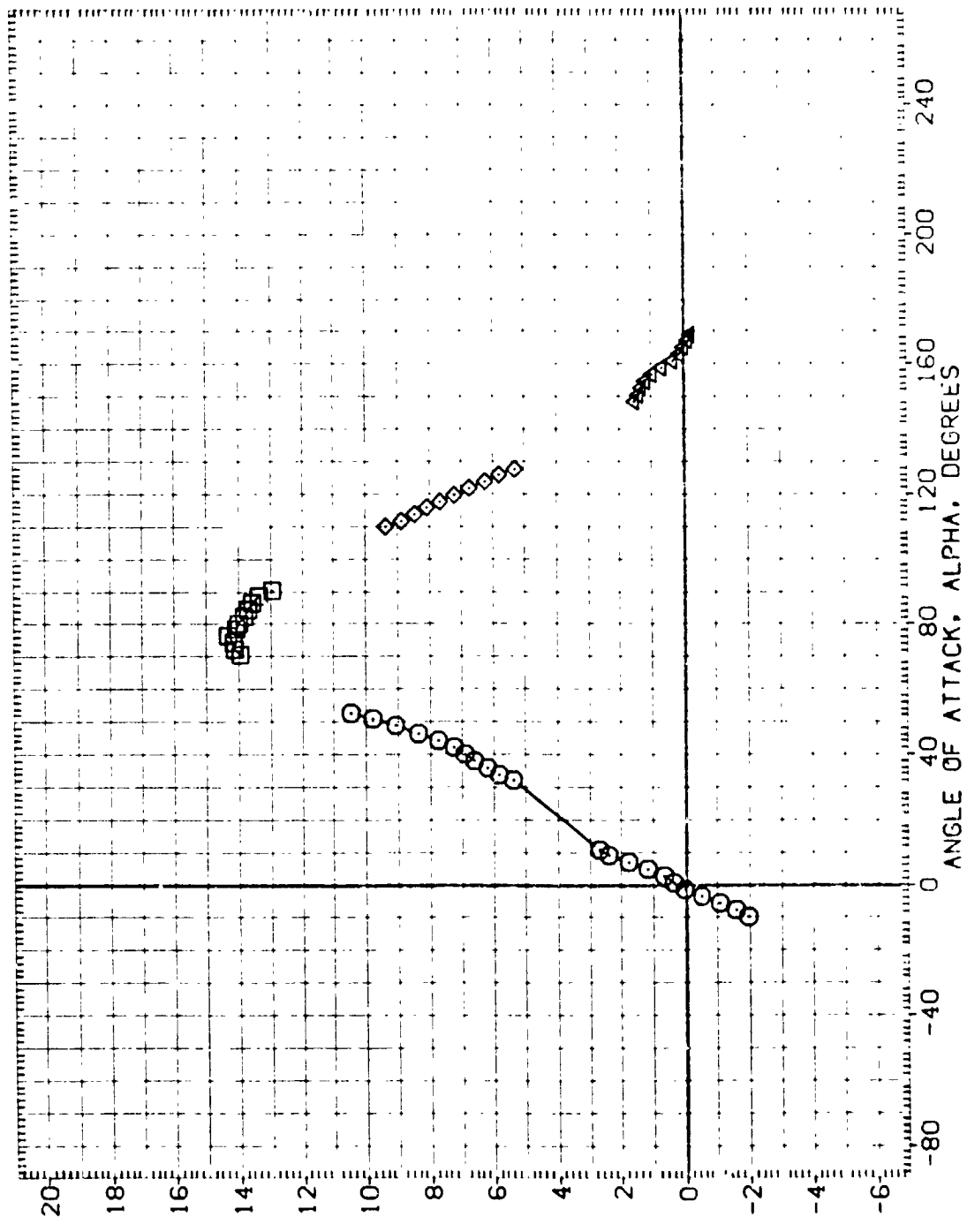


FIGURE 19. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 0)

(A)MACH = 3.48

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(A1H003)	MSFC TVT504 (SABF) SRB WITH ALL PROTUBERANCES	.000	SREF .5030 SQ. IN.
(A1H026)	MSFC TVT504 (SABF) SRB WITH ALL PROTUBERANCES	.000	LREF .8000 IN.
(A1H003)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	.000	BREF .8000 IN.
(A1H003)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	.000	XMRP 5.7210 IN. XS
			YMRP .0000 IN. YS
			ZMRP .0000 IN. ZS
			SCALE .0055

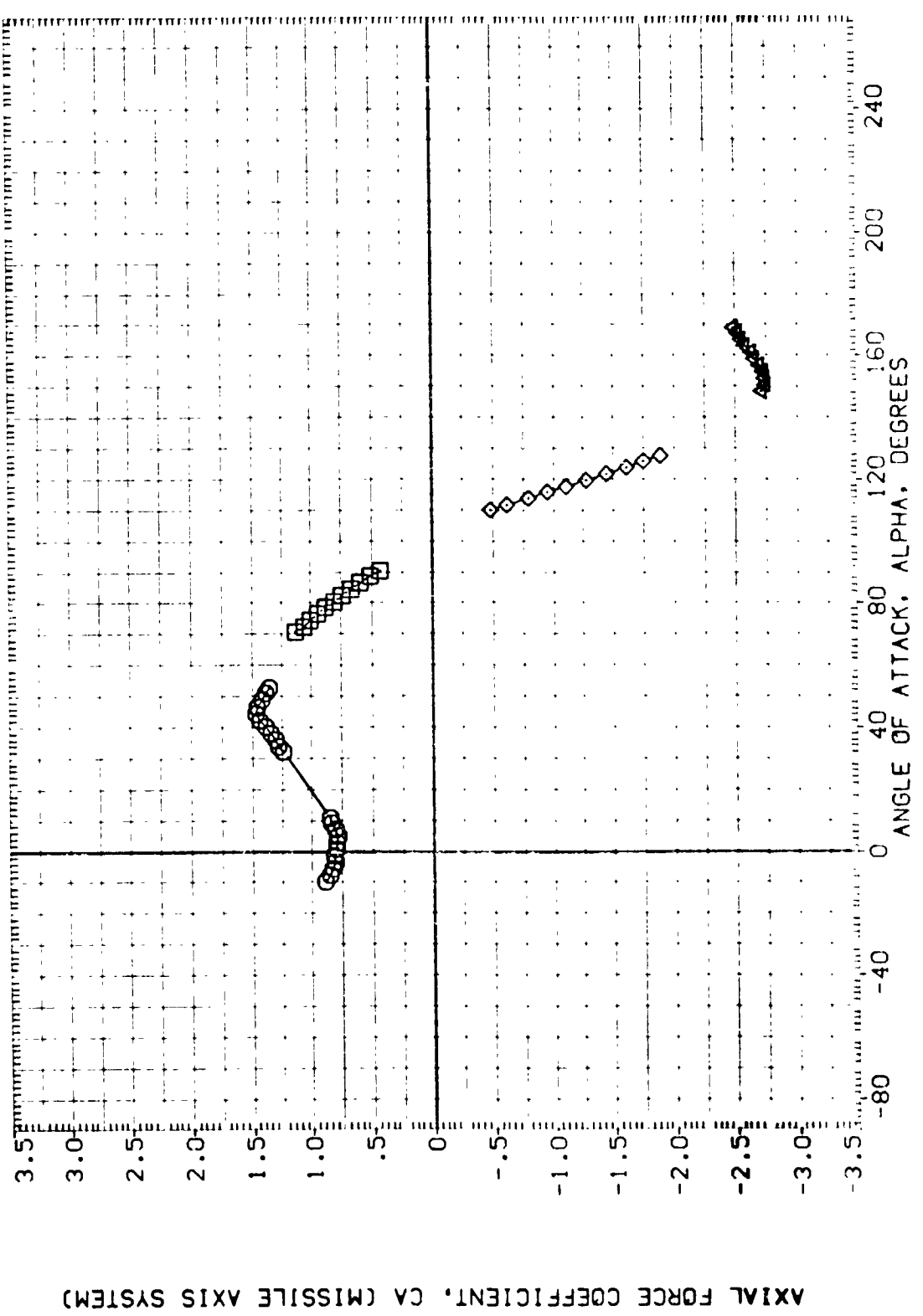


FIGURE 19. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 0)

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BRREF .8000 IN.
 XMPF 5.7210 IN. XS
 YMPF .0000 IN. YS
 ZMPF .0000 IN. ZS
 SCALE .0055

PHI
 .000
 .000
 .000

CONFIGURATION DESCRIPTION
 MSFC TV' 604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TV' 604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TV' 604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TV' 604 (SABF) SRB WITH ALL PROTUBERANCES

DATA SET SYMBOL
 (A1H003)
 (A1H026)
 (A1H003)
 (A1H003)

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

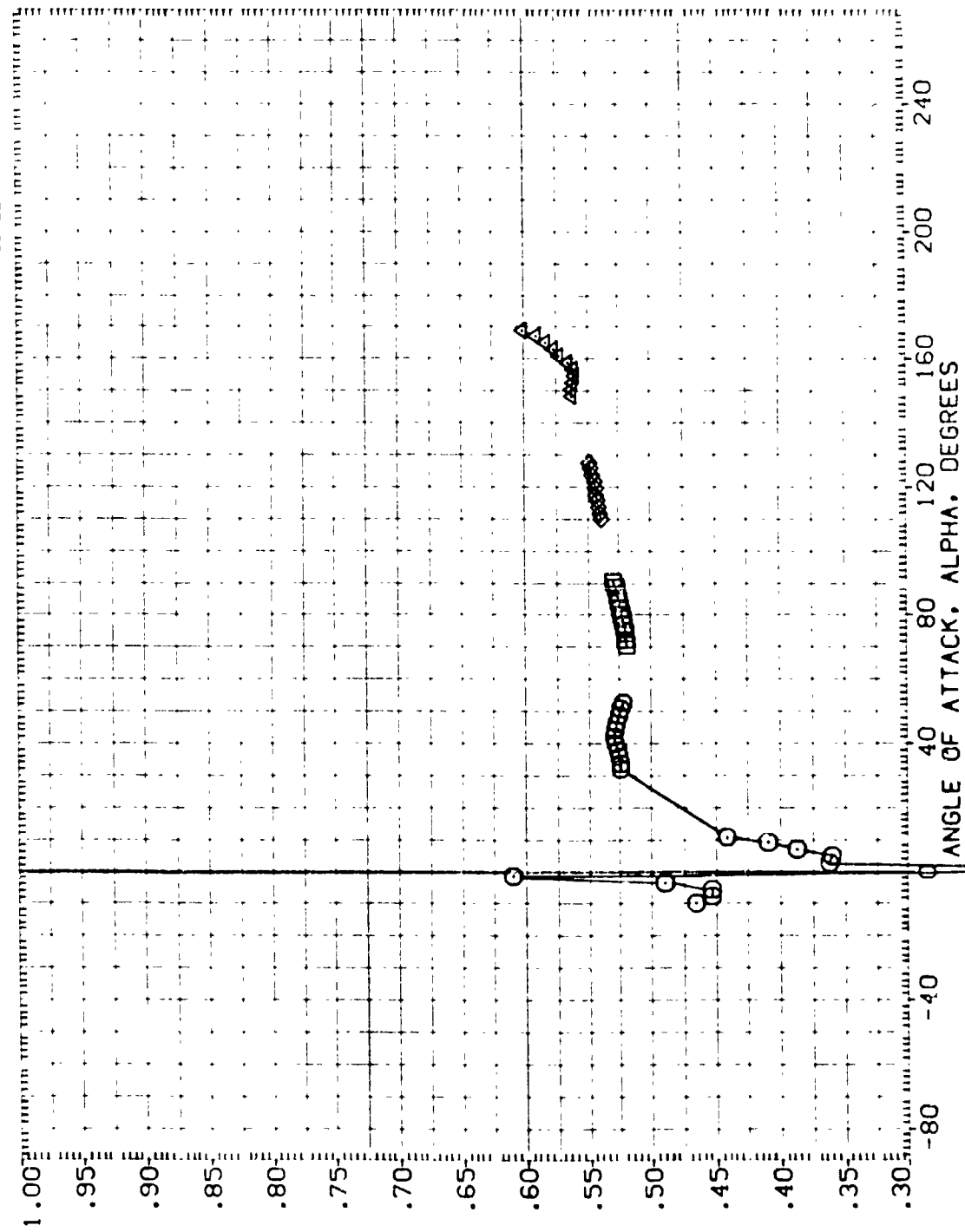


FIGURE 19. STATIC STABILITY CHARACTERISTICS OF SRB W/ALL PROTUBERANCES (PHI = 0)

(A)MACH = 3.48

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI REFERENCE INFORMATION

(A1H403)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	.000	SREF .5030 IN.
(A1H026)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	.000	LREF .8000 IN.
(A1H003)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	.000	BREF .8000 IN.
(A1H003)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	.000	XMRP 5.7210 IN. XS
			YMRP .0000 IN. YS
			ZMRP .0000 IN. ZS
			SCALE .0055

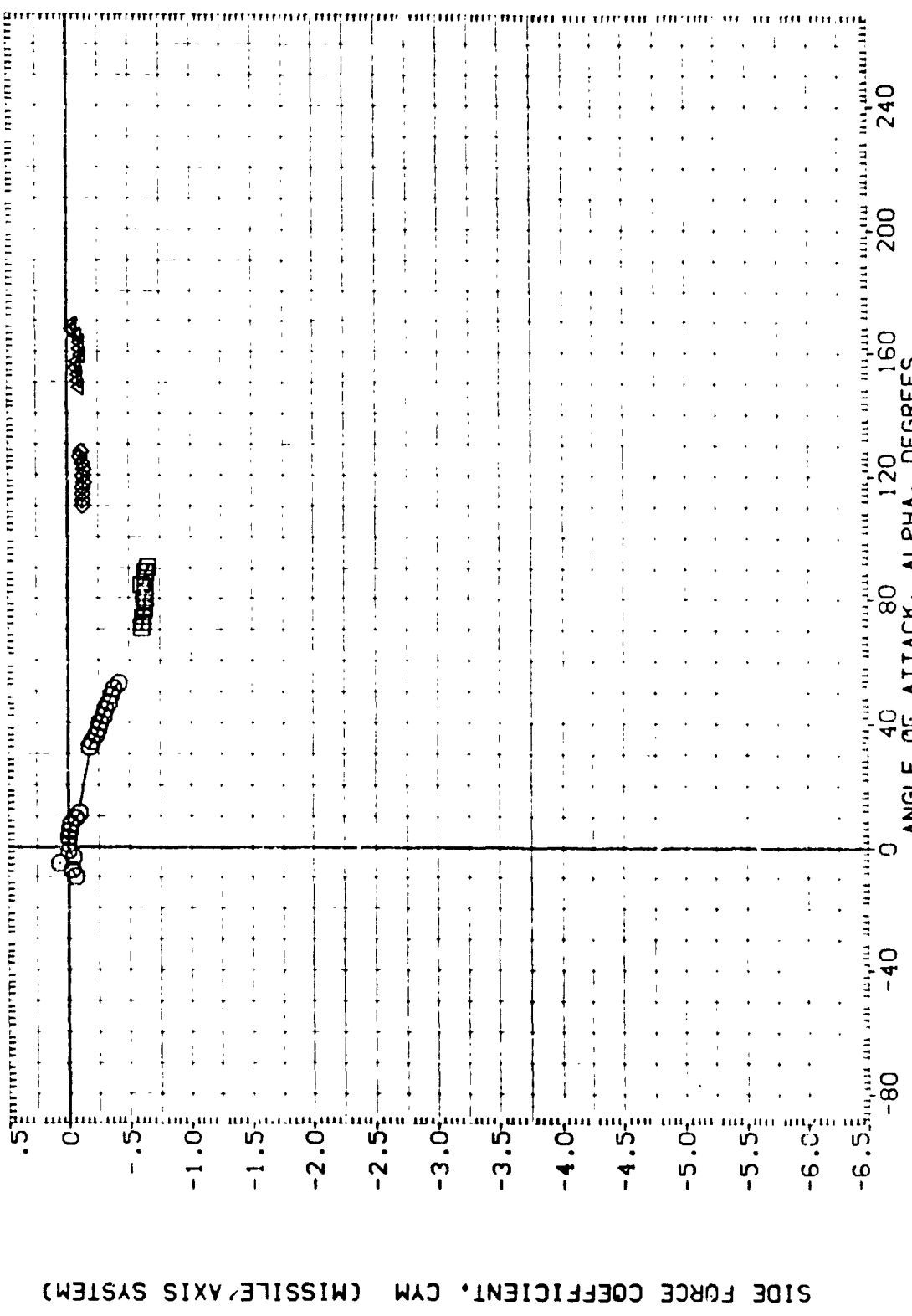


FIGURE 19. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 0)

(A)MACH = 3.48

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H03) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES .000

(A1M26) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES .000

(A1K03) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES .000

(A1H003) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES .000

REFERENCE INFORMATION

SREF .50 IN. SQ. IN.

LREF .9770 IN.

BREF .8000 IN.

VMRP 5 7710 IN. XS

ZMRP .0000 IN. YS

SCALE .0055 IN. ZS

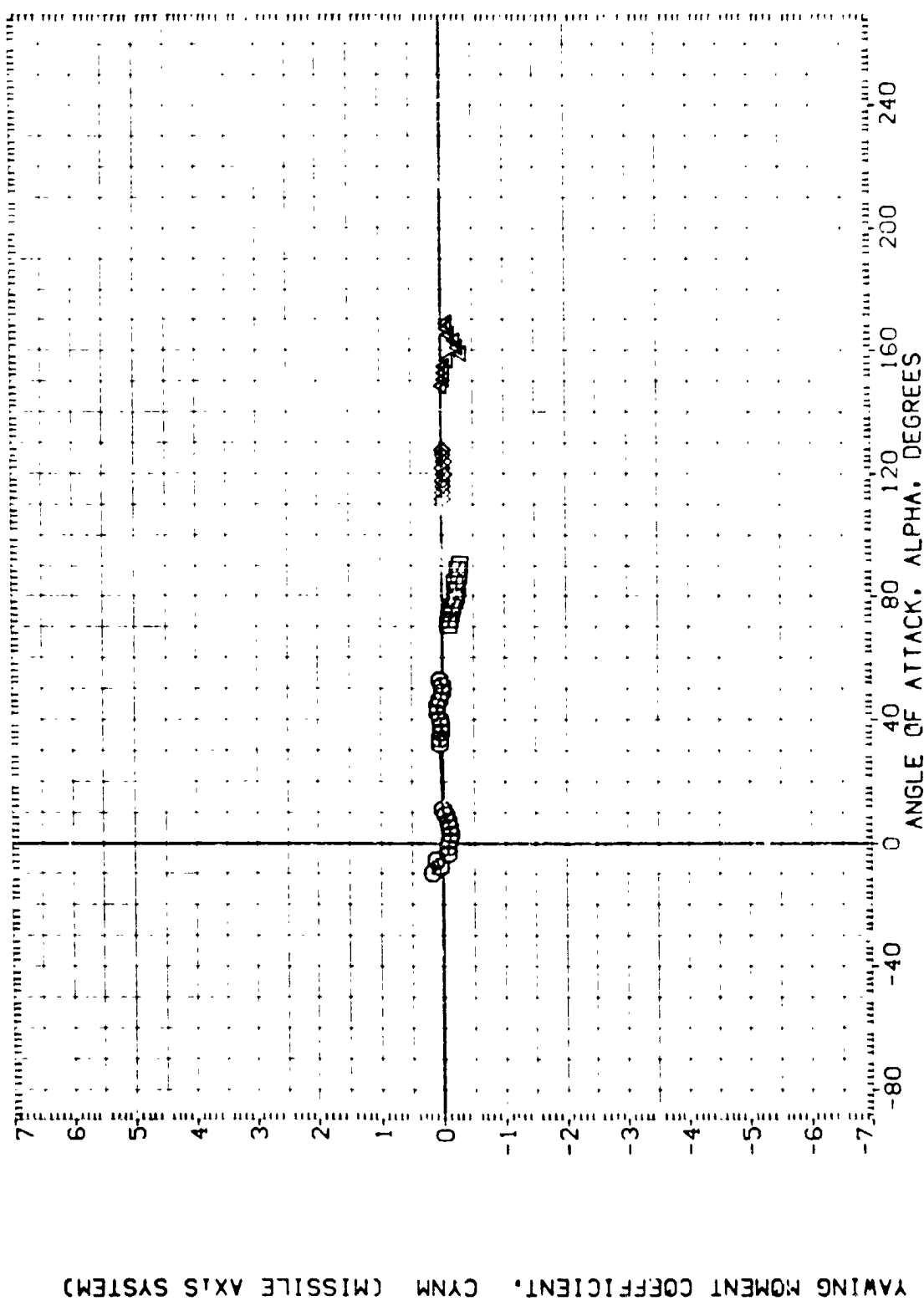


FIGURE 19. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 0)

(A)MACH = 3.48

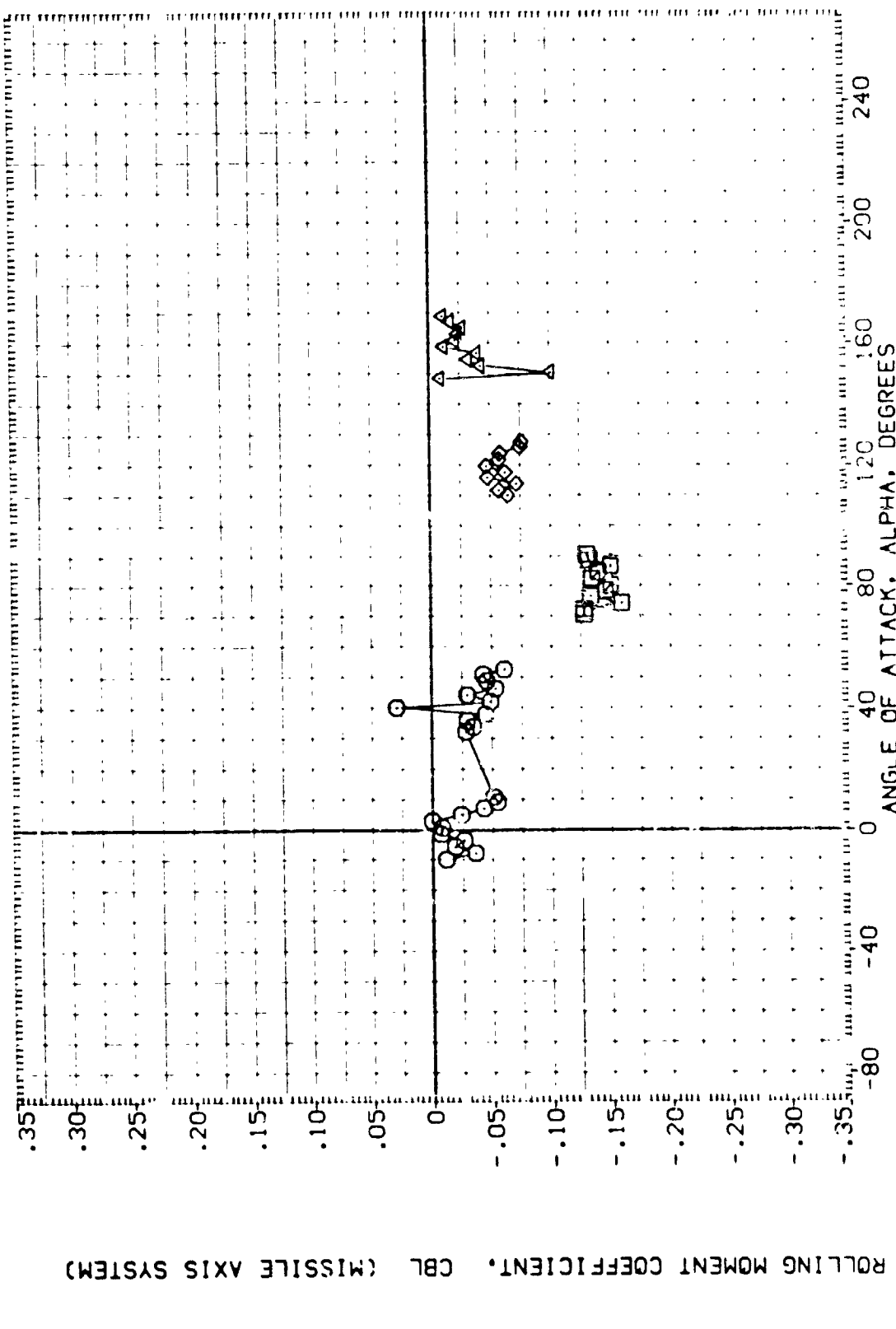
DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H026) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI .000
 .000
 .000

REFERENCE INFORMATION

SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055



ROLLING MOMENT COEFFICIENT, CBL (MISSILE AXIS SYSTEM)

ANGLE OF ATTACK, ALPHA, DEGREES

(A)MACH = 3.48

FIGURE 19. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 0)

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DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000

(A1K026) DATA NOT AVAILABLE .000

(A1M003) DATA NOT AVAILABLE .000

(A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XHRP 5.7210 IN. XS

YHRP .0000 IN. YS

ZHRP .0000 IN. ZS

SCALE .0055

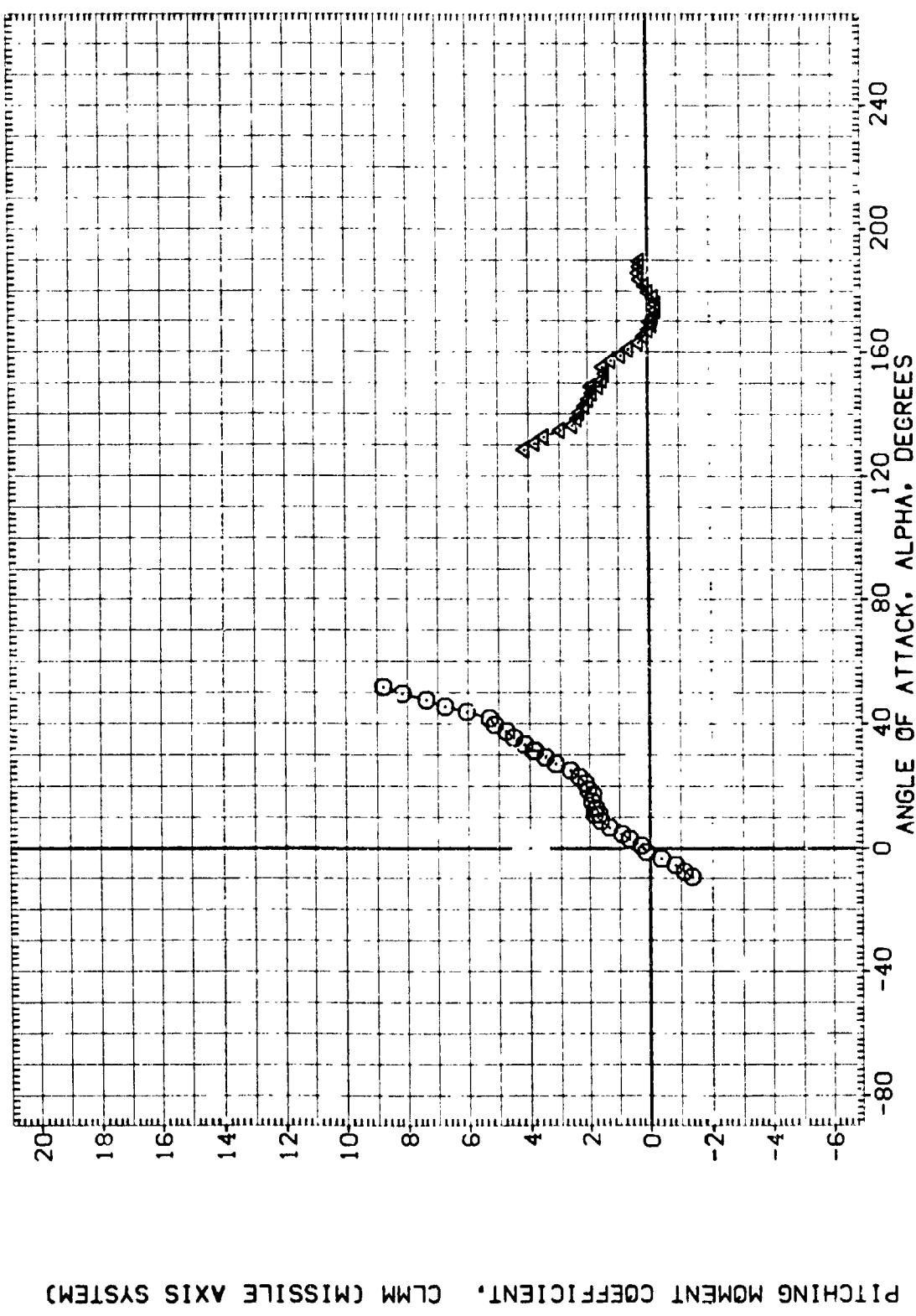


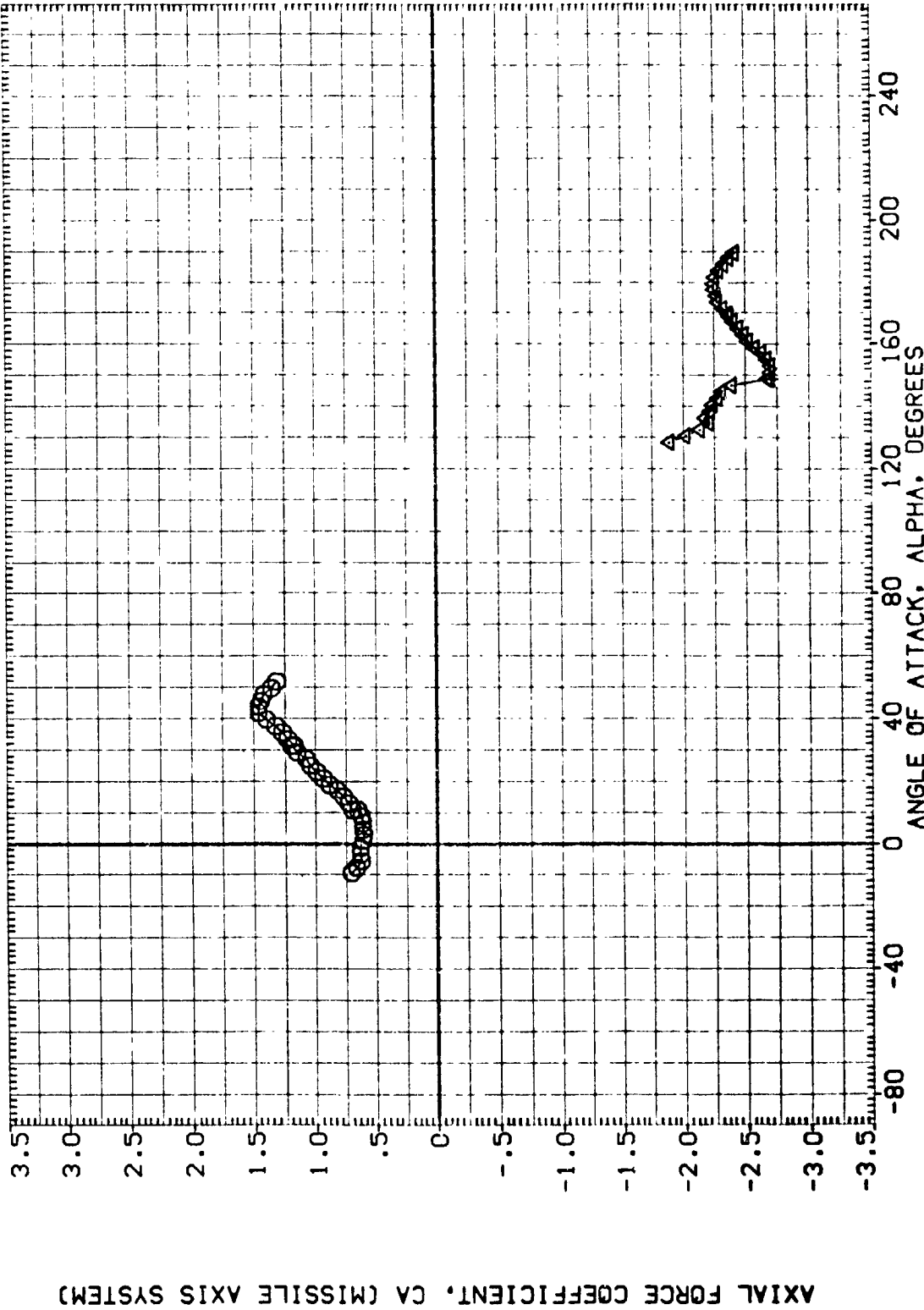
FIGURE 19. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 0)

(B)MACH = 4.45

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 .000
 .000
 .000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H003) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H026) DATA NOT AVAILABLE
 (A1H003) DATA NOT AVAILABLE
 (A1H003) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES



AXIAL FORCE COEFFICIENT, CA (MISSILE AXIS SYSTEM)

FIGURE 19. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 0)

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0095

PHI
 .000
 .000
 .000
 .000

CONFIGURATION DESCRIPTION
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 DATA NOT AVAILABLE
 DATA NOT AVAILABLE
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

DATA SET SYMBOL
 (AIHA03)
 (AIHO26)
 (AIHC03)
 (AIHO03)

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

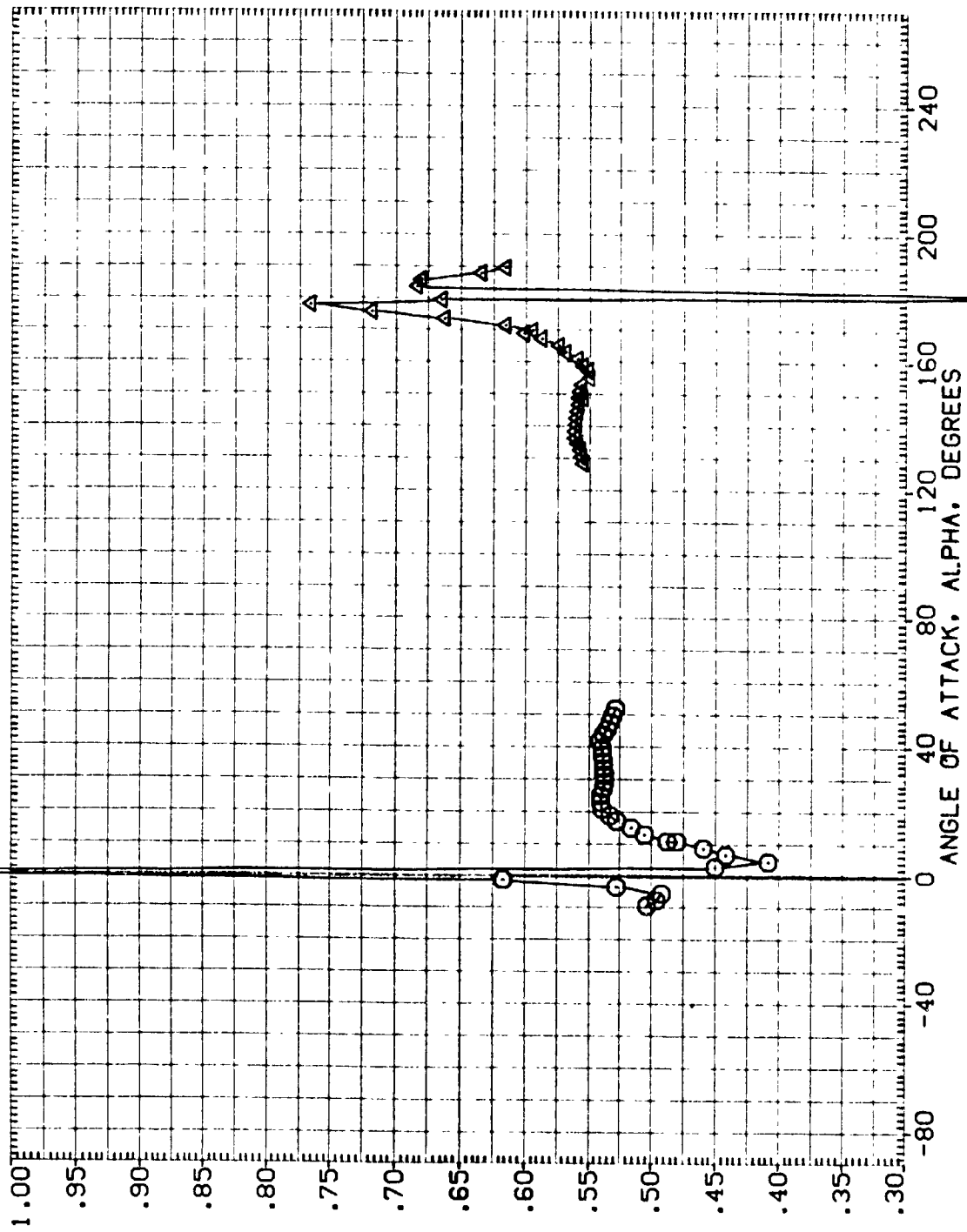


FIGURE 19. STATIC STABILITY CHARACT. OF SRB W/WALL PROTUBERANCES (PHI = 0)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000

(A1H026) DATA NOT AVAILABLE .000

(A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000

(A1H003) DATA NOT AVAILABLE .000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .9000 IN.

BREF .8000 IN.

YMRP 5.7210 IN. XS

ZMRP .0000 IN. YS

SCALE .0055 IN. ZS

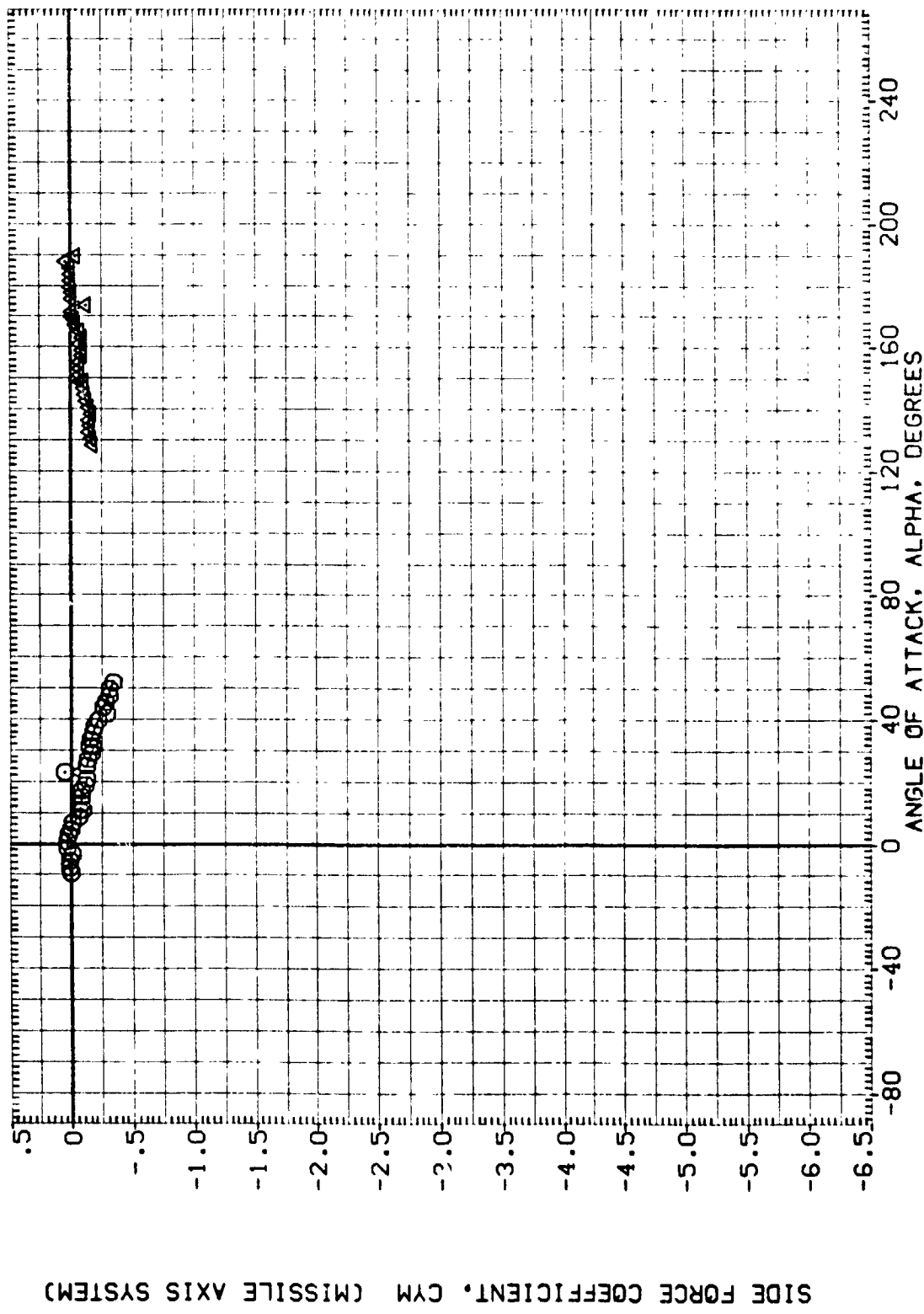


FIGURE 19. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 0)

(B)MACH = 4.45

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H003) MSFC TW1604 (SABF) SRB WITH ALL PROTUBERANCES .000

(A1H026) DATA NOT AVAILABLE .000

(A1H003) DATA NOT AVAILABLE .000

(A1H003) MSFC TW1604 (SABF) SRB WITH ALL PROTUBERANCES .000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

YMPP 5.7210 IN. XS

ZMPP .0000 IN. YS

SCALE .0055 IN. ZS

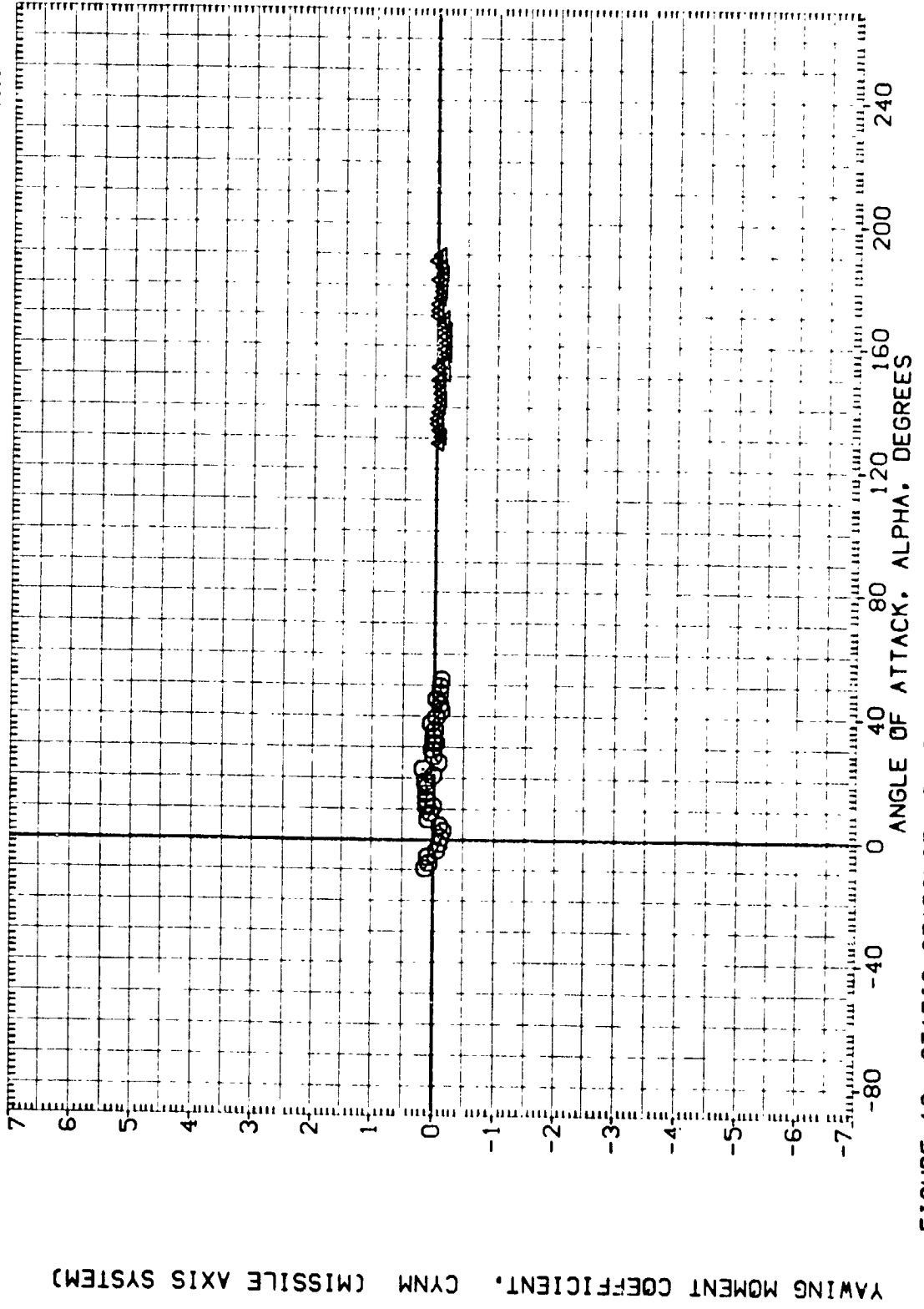


FIGURE 19. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 0)

(B)MACH = 4.45

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI
 (A11-H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000
 (A11-H026) DATA NOT AVAILABLE .000
 (A11-H003) DATA NOT AVAILABLE .000
 (A11-H003) MSFC TVT604 (SABF) SRB WITH AL' PROTUBERANCES .000

ROLLING MOMENT COEFFICIENT, CBL (MISSILE AXIS SYSTEM)

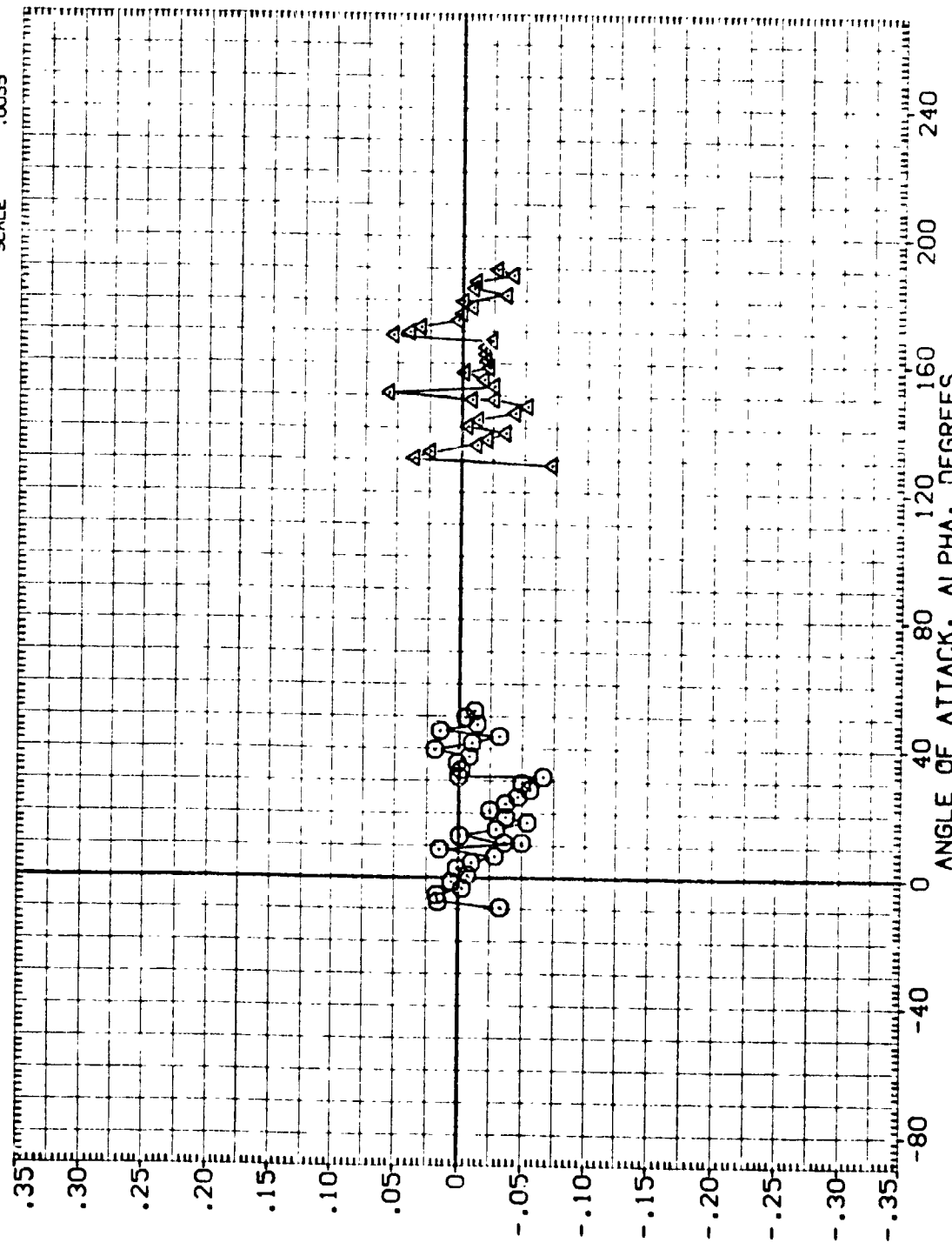


FIGURE 19. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 0)

(B)MACH = 4.45

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H034) DATA NOT AVAILABLE 45.000

(A1H034) MSFC TV1604 (SAB) SRB WITH ALL PROTUBERANCES 45.000

(A1H035) MSFC TV1604 (SAB) SRB WITH ALL PROTUBERANCES 45.000

(A1H036) MSFC TV1604 (SAB) SRB WITH ALL PROTUBERANCES 45.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XHRP 5.7210 IN. XS

YHRP .0000 IN. YS

ZHRP .0000 IN. ZS

SCALE .0055

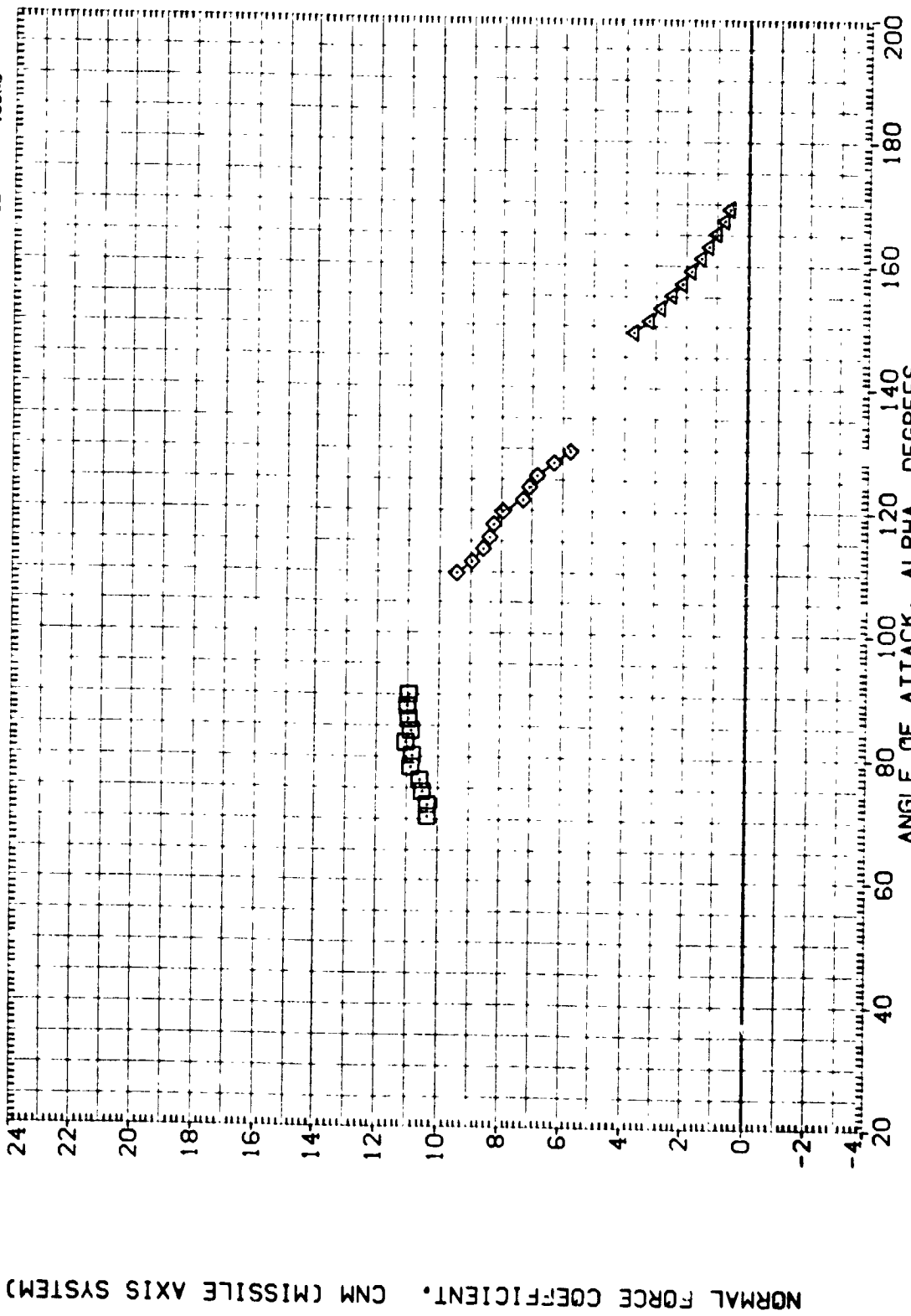


FIGURE 20. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 45)

(A)MACH = .40

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 45.000
 45.000
 45.000

CONFIGURATION DESCRIPTION
 DATA NOT AVAILABLE SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

DATA SET SYMBOL
 (A1H004)
 (A1H004)
 (A1H035)
 (A1H036)

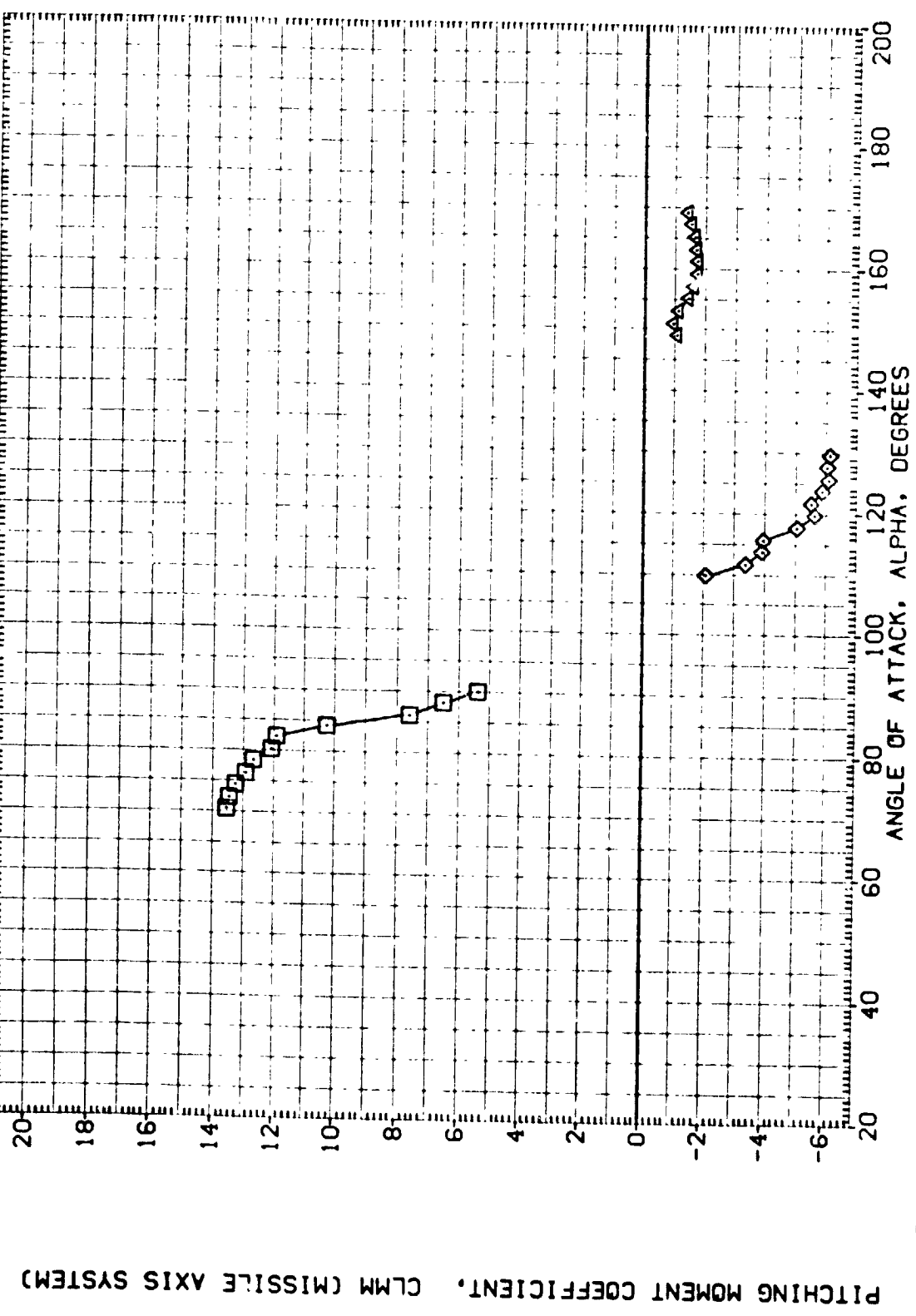


FIGURE 20. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 45)

(A)MACH = .40

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H034) DATA NOT AVAILABLE 45.000

(A1H034) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 45.000

(A1H035) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 45.000

(A1H036) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 45.000

REFERENCE INFORMATION

SREF .5030 IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

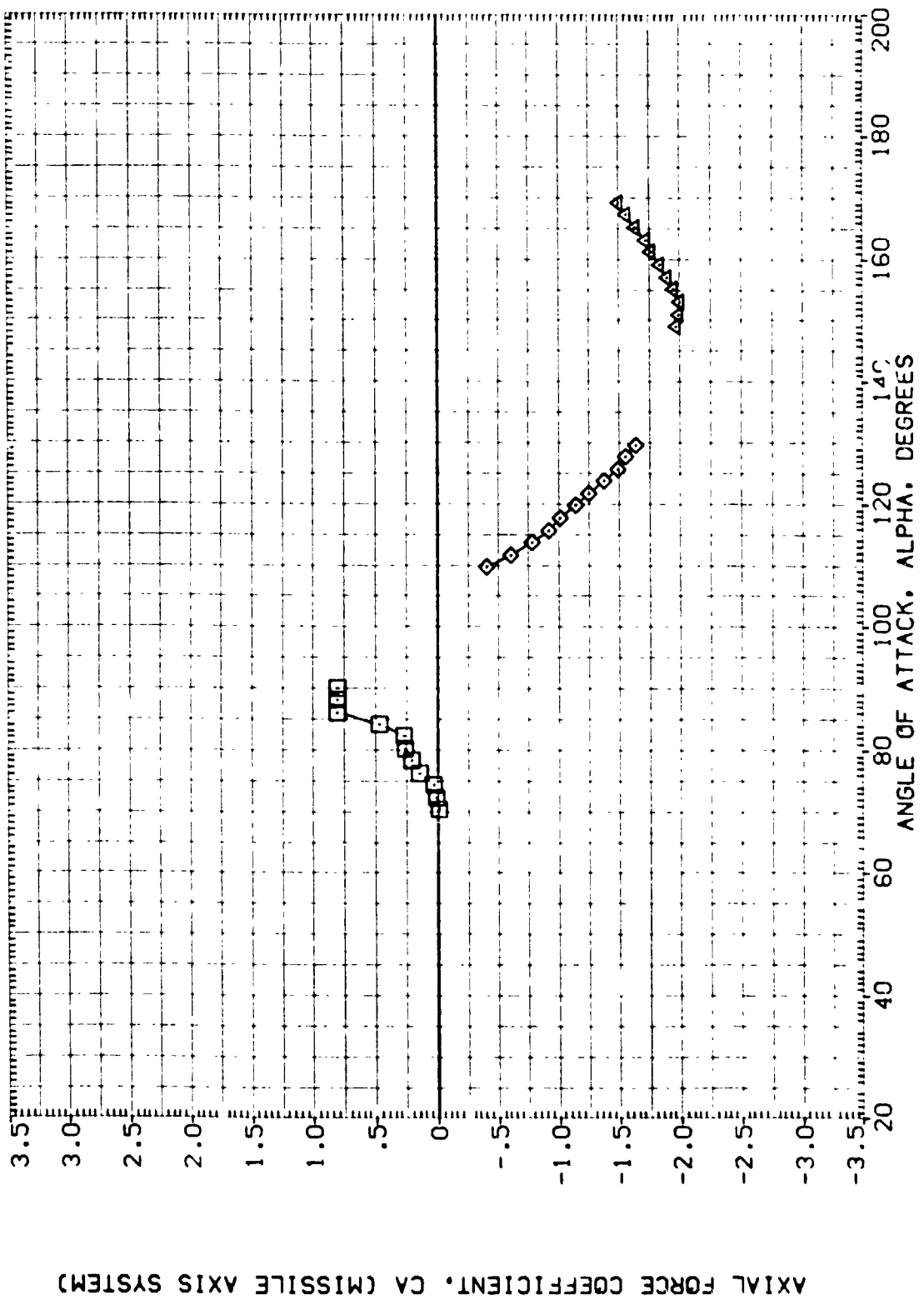


FIGURE 20. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 45)

(A)MACH = .40

DATA SET SYMBOL (A11H004) (A11H034) (A11H035) (A11H036)

CONFIGURATION DESCRIPTION
 DATA NOT AVAILABLE
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI
 45.000
 45.000
 45.000

REFERENCE INFORMATION
 SREF .5030 50. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XHRP 5.7210 IN. XS
 YHRP .0000 IN. YS
 ZHRP .0000 IN. ZS
 SCALE .0055

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

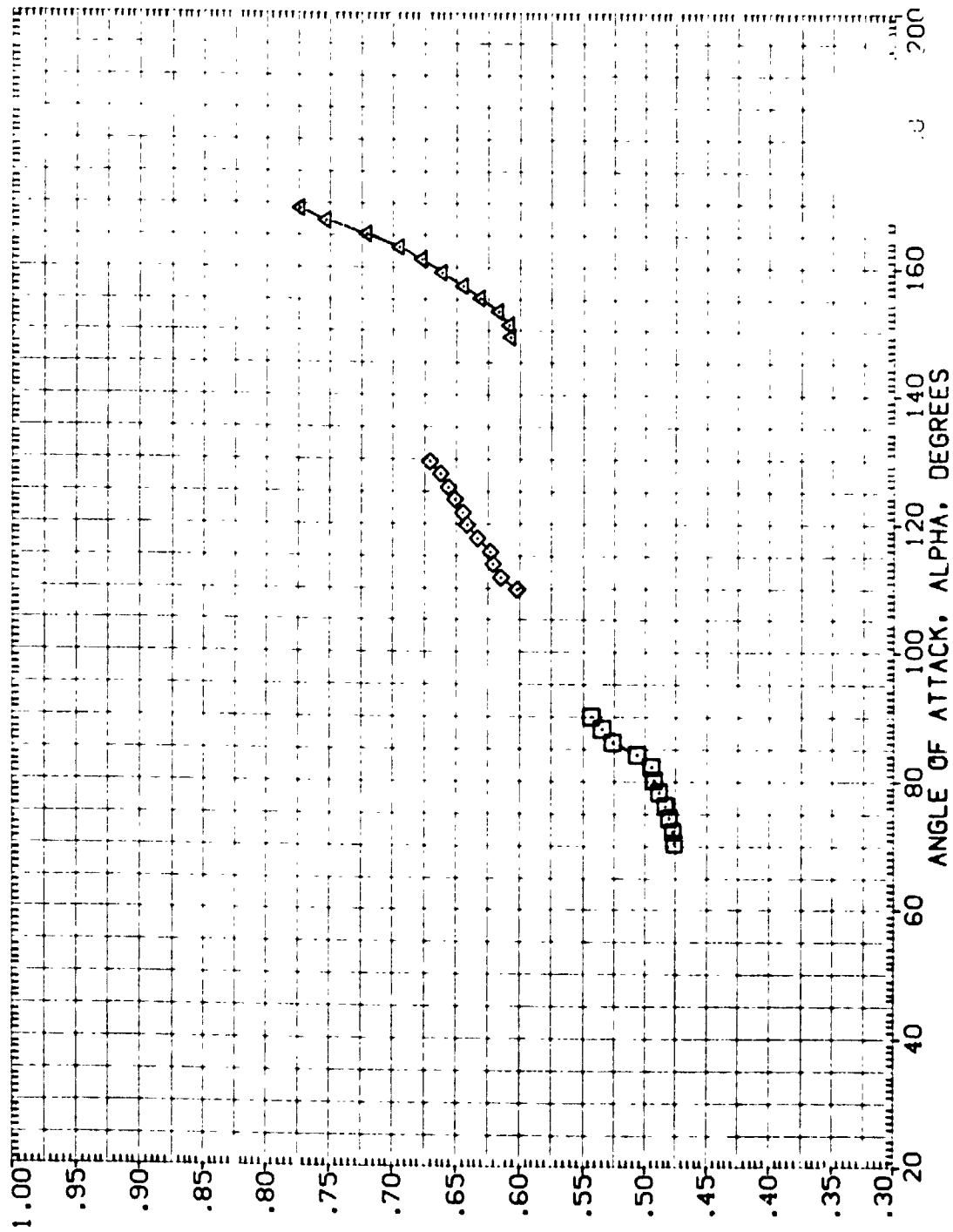


FIGURE 20. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 45)

(A)MACH = .40

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(A1H004)	DATA NOT AVAILABLE	45.000	SREF .5030 SQ.IN.
(A1H034)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	45.000	LREF .8000 IN.
(A1H035)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	45.000	BREF .8000 IN.
(A1H036)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	45.000	XMRP 5.7210 IN. XS
			YMRP .0000 IN. YS
			ZMRP .0000 IN. ZS
			SCALE .0055

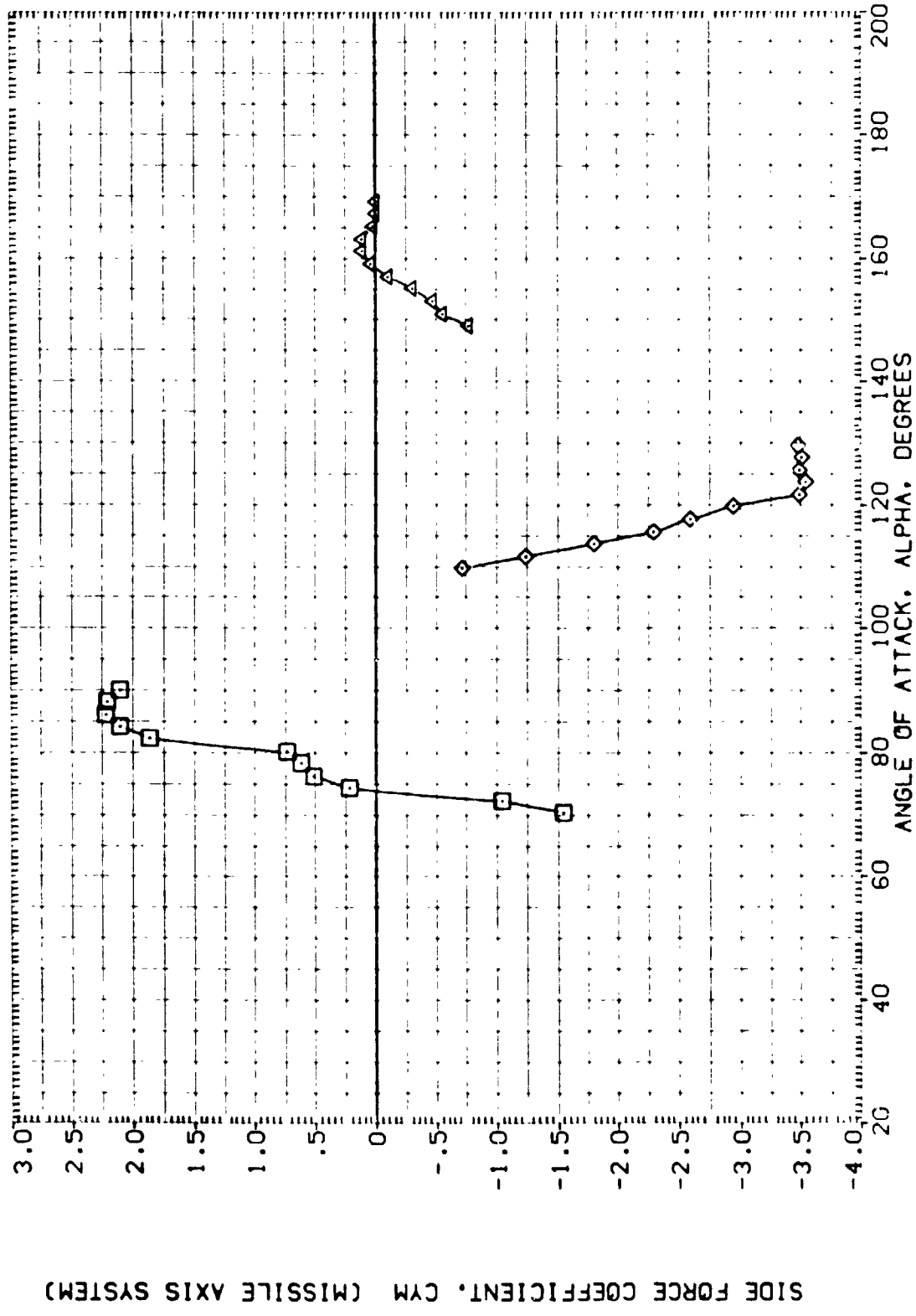


FIGURE 20. STATIC STABILITY CHARACT. OF SRB W/WALL PROTUBERANCES (PHI = 45)
 (A)MACH = .40 PAGE 145

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H031) DATA NOT AVAILABLE

(A1H034) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H035) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H036) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI

45.000

45.000

45.000

REFERENCE INFORMATION

SREF .5030 IN.

LREF .8000 IN.

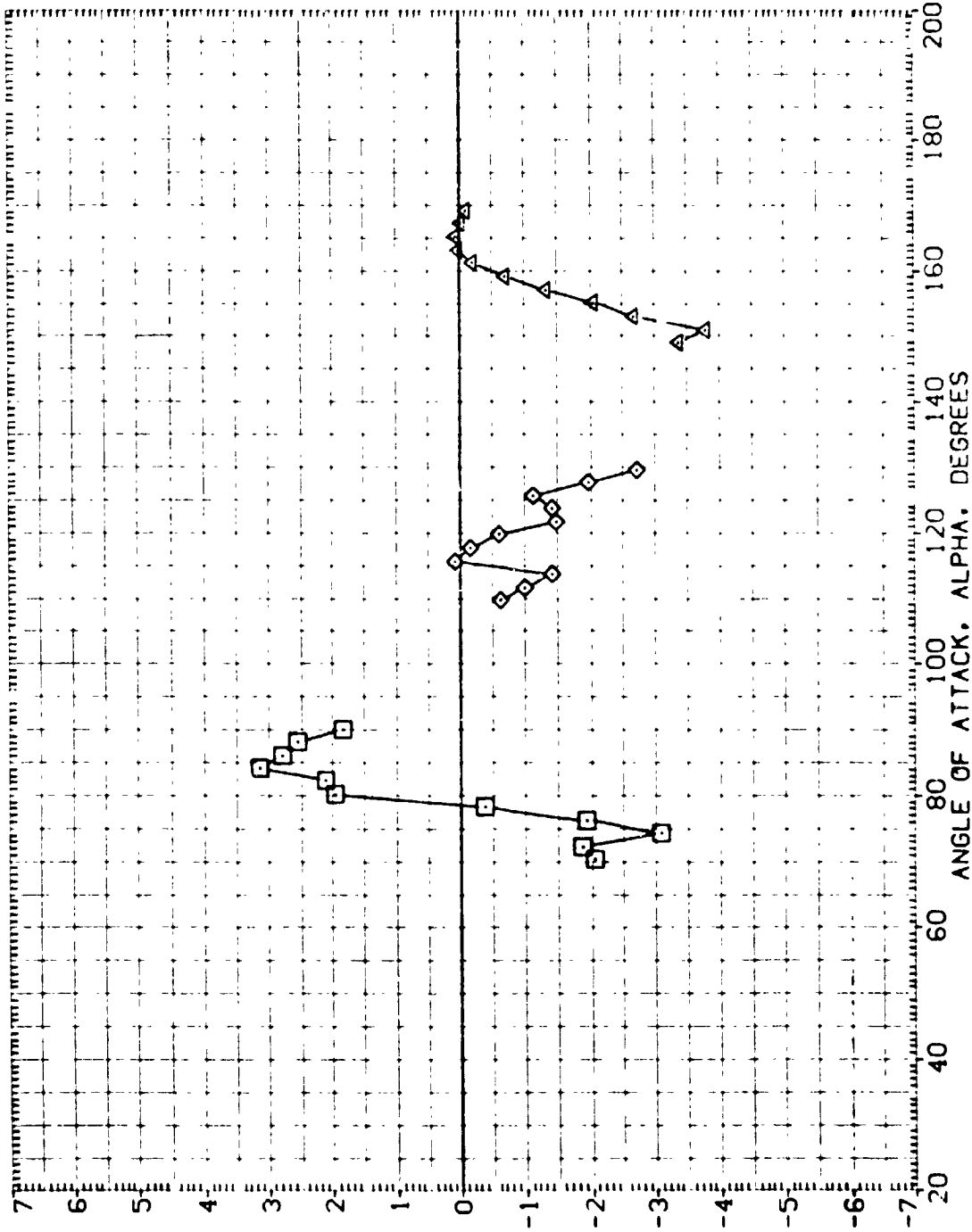
BREF .8000 IN.

XPRP 5.7210 IN.

YPRP .0000 IN.

ZPRP .0000 IN.

SCALE .0055



YAWING MOMENT COEFFICIENT, C_{YM} (MISSILE AXIS SYSTEM)

FIGURE 20. STATIC STABILITY CHARACTER OF SRB W/ALL PROTUBERANCES (PHI = 45)

(A)MACH = .40

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H034) DATA NOT AVAILABLE
 (A1H034) MSFC TV1B04 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H035) MSFC TV1B04 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H036) MSFC TV1B04 (SABF) SRB WITH ALL PROTUBERANCES

PHI
 45.000
 45.000
 45.000

REFERENCE INFORMATION
 SKJF .5030 SG. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

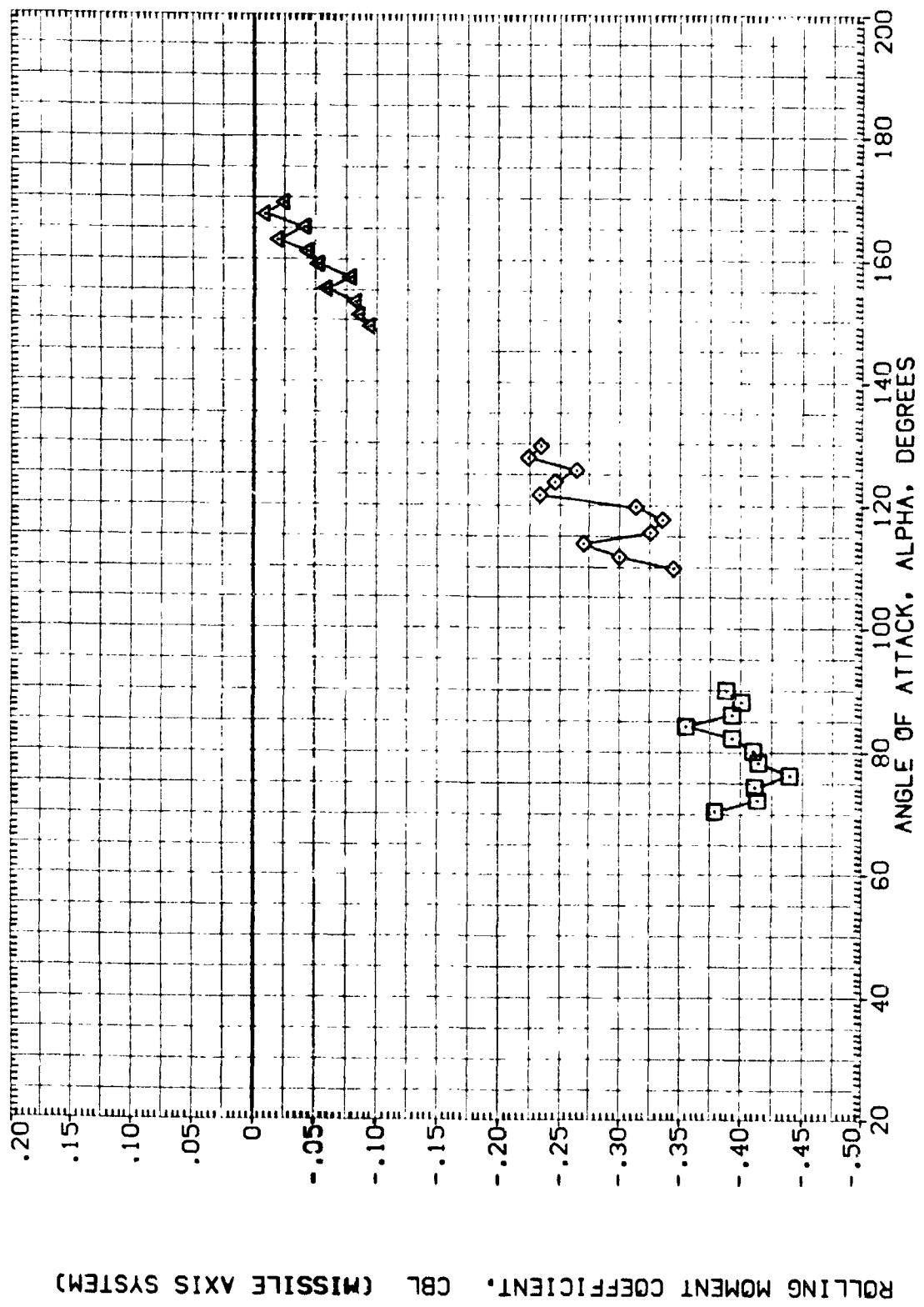


FIGURE 20. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 45)

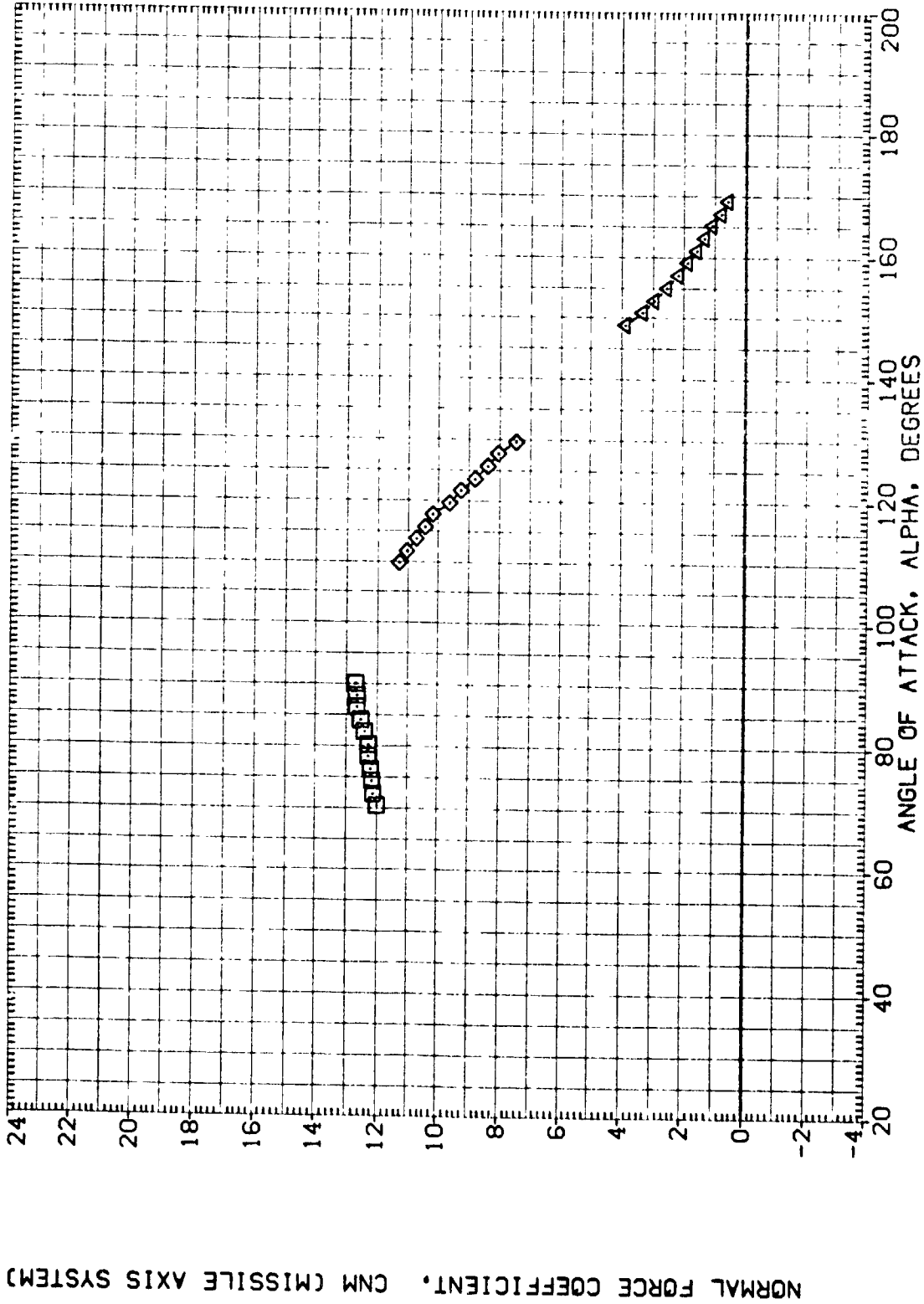
DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H004) DATA NOT AVAILABLE
 (A1H004) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H005) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H006) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES

PHI
 45.000
 45.000
 45.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055



NORMAL FORCE COEFFICIENT, CNM (MISSILE AXIS SYSTEM)

FIGURE 20. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 45)

(B)MACH = .60

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(AIH034) DATA NOT AVAILABLE

(AIH034) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(AIH035) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(AIH036) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI

45.000

45.000

45.000

REFERENCE INFORMATION

SREF 5000 SQ. IN.

LREF 8000 IN.

BREF 8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

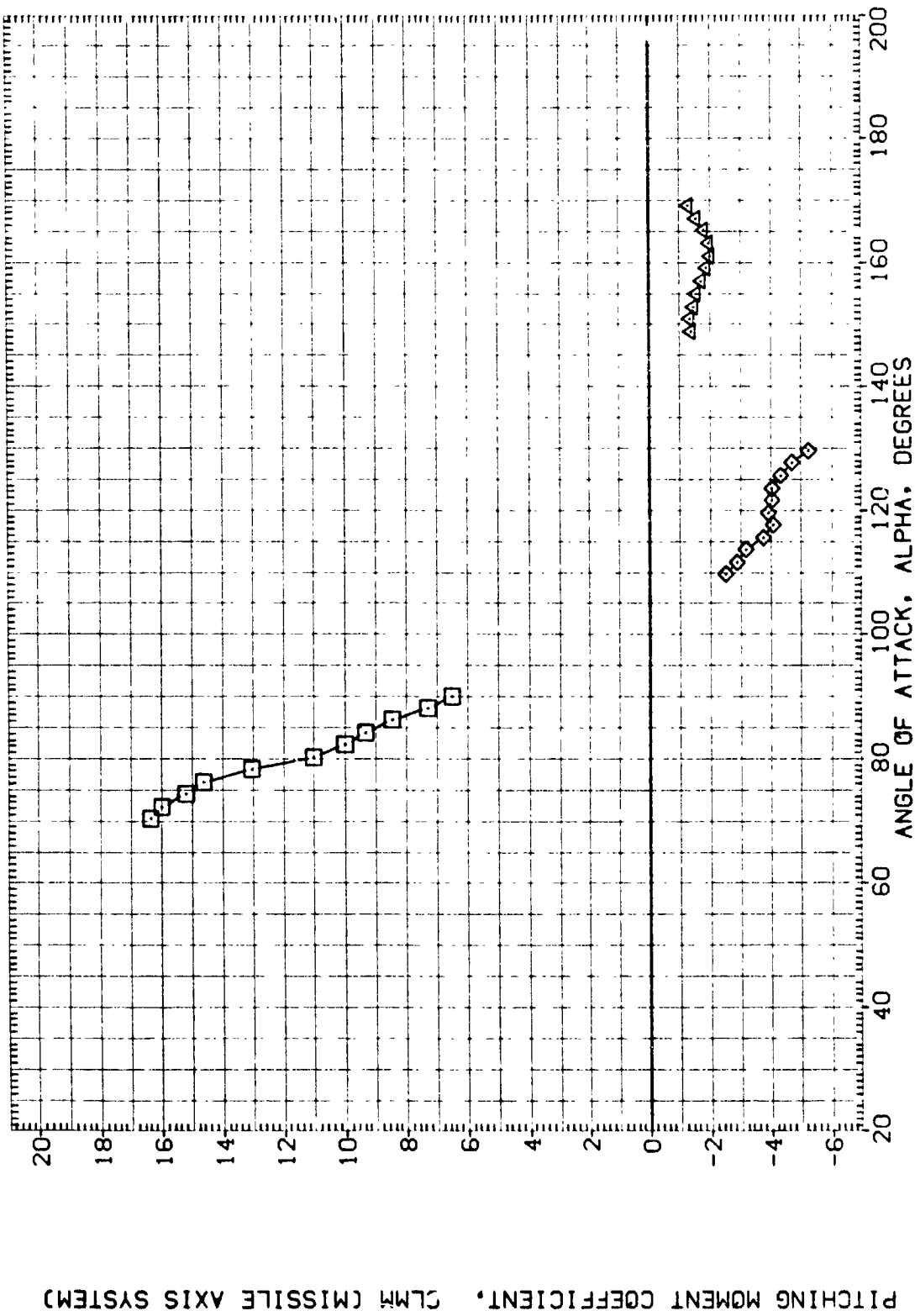


FIGURE 20. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 45)

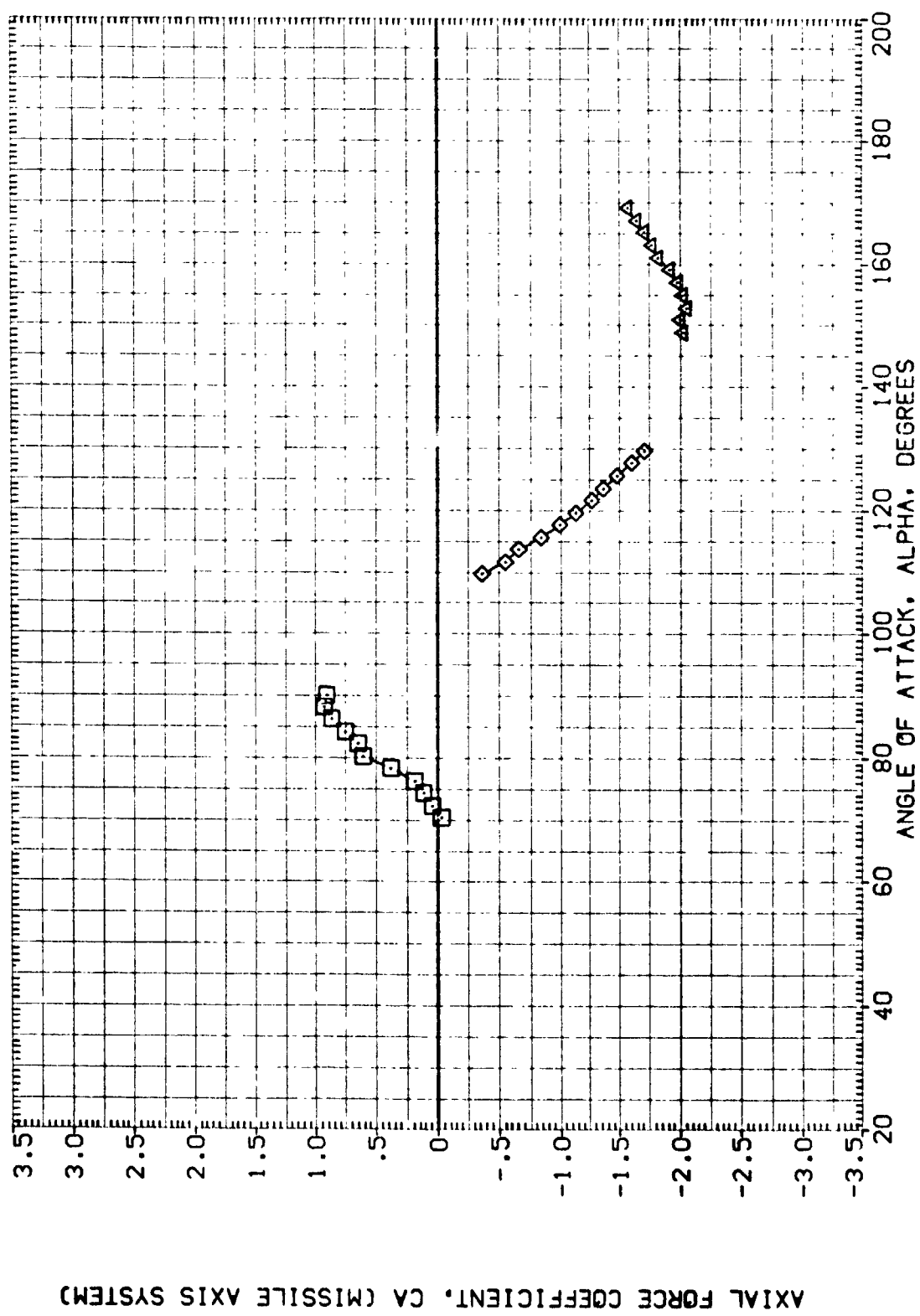
(B)MACH = .60

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H034) DATA NOT AVAILABLE 45.000
 (A1H034) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 45.000
 (A1H035) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 45.000
 (A1H036) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 45.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 YMRP 5.7210 IN. XS
 ZMRP .0000 IN. YS
 SCALE .0055 IN. ZS



AXIAL FORCE COEFFICIENT, CA (MISSILE AXIS SYSTEM)

FIGURE 20. STATIC STABILITY CHARACT. OF SRB W/WALL PROTUBERANCES (PHI = 45)

(B)MACH = .60

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP .7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 45.000
 45.000
 45.000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H004) DATA NOT AVAILABLE
 (A1H034) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H035) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H036) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

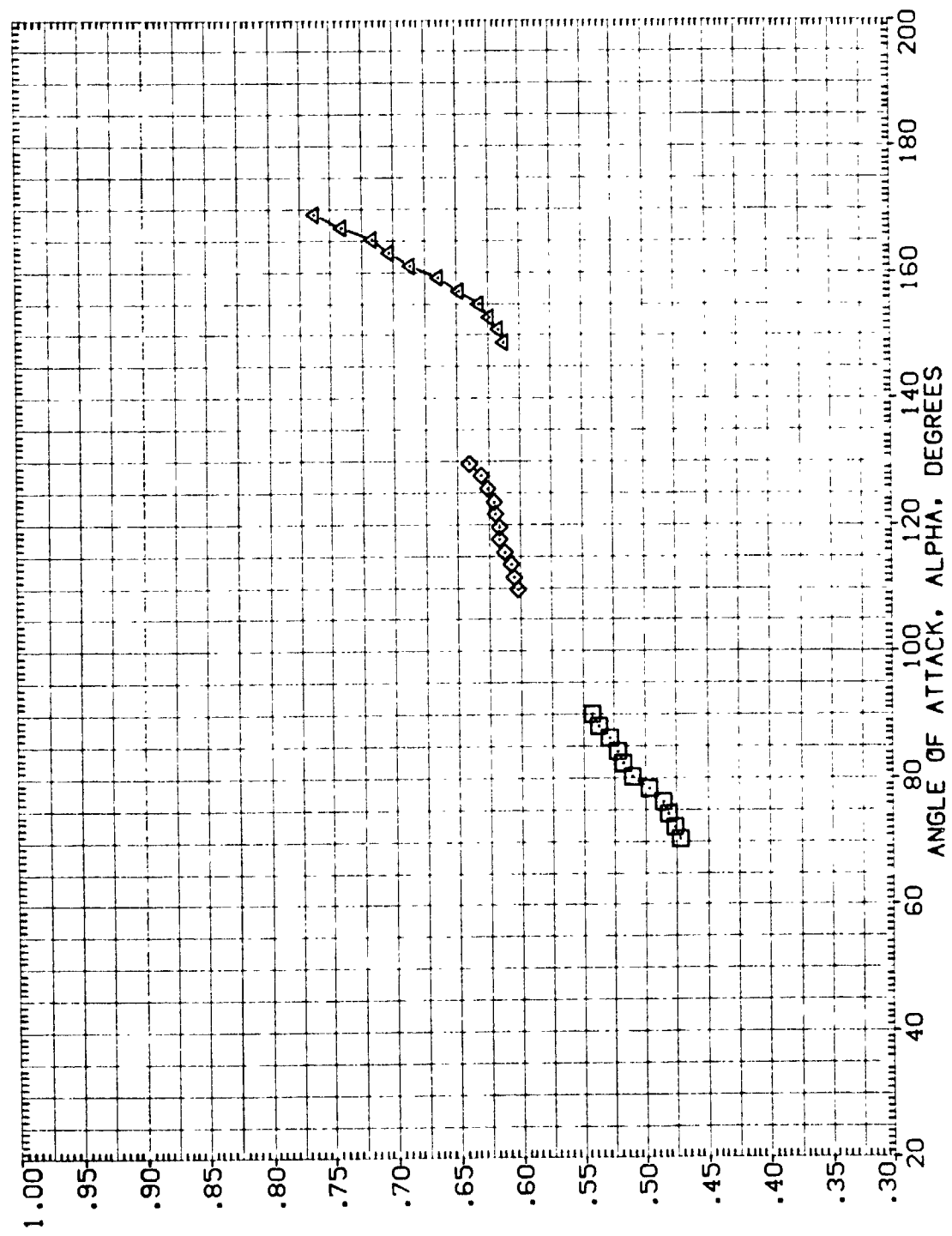


FIGURE 20. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 45)
 (B)MACH = .60

DATA SET SYMBOL
 (A1H04) □
 (A1H034) □
 (A1H035) □
 (A1H036) □

PHI
 45.000
 45.000
 45.000

CONFIGURATION DESCRIPTION
 DATA NOT AVAILABLE
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

REFERENCE INFORMATION
 SREF 5030 50. IN.
 LREF 8000 IN.
 BRFP 8000 IN. XS
 XMRP 5.7210 IN. YS
 YMRP .0000 IN. ZS
 ZMRP .0000 IN. ZS
 SCALE .0055

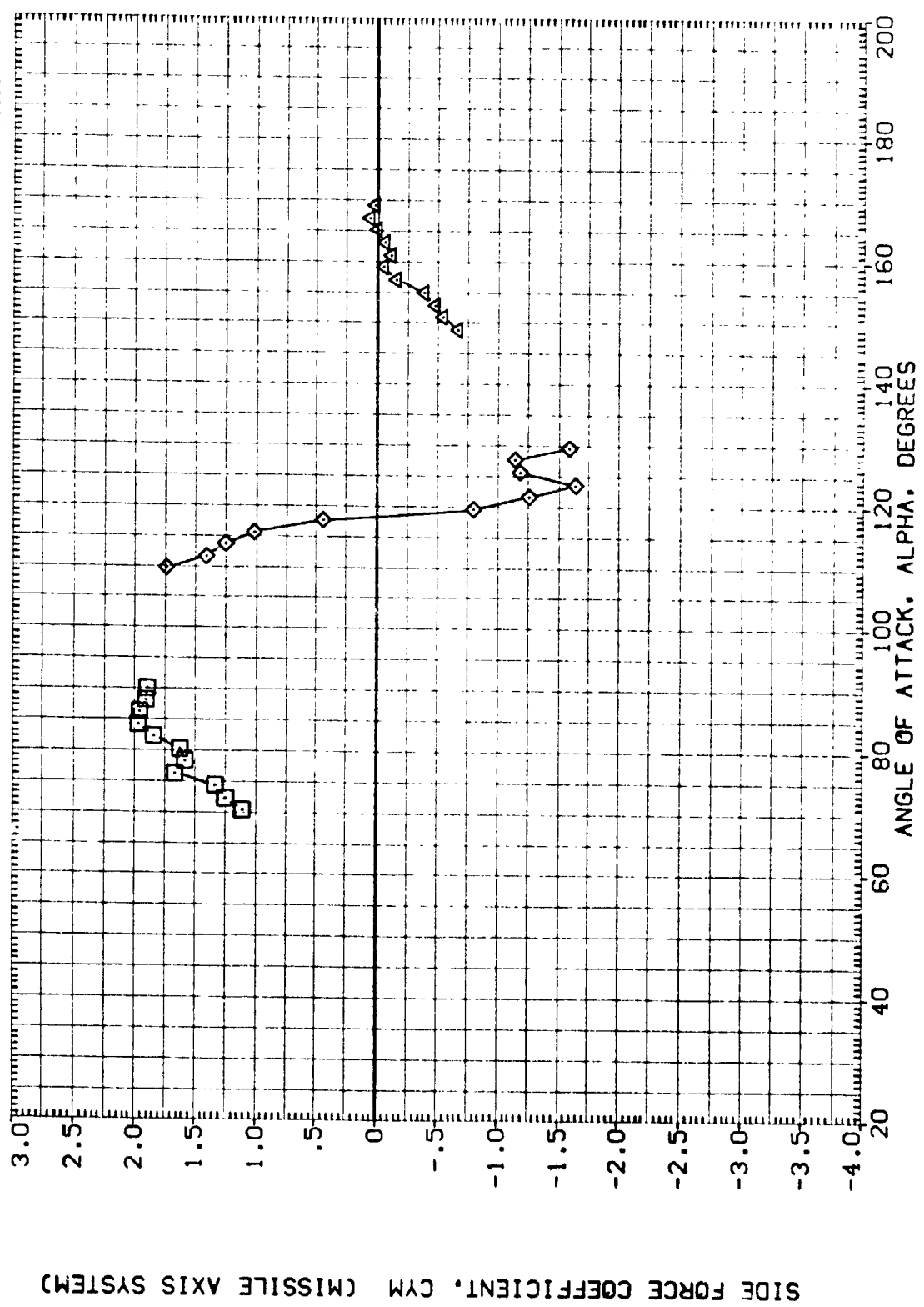


FIGURE 20. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 45)

(B)MACH = .60

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(A1H034)	DATA NOT AVAILABLE	45.000	SREF .5030 SG.IN.
(A1H034)	MSFC TVT804 (SABF) SRB WITH ALL PROTUBERANCES	45.000	LREF .8000 IN.
(A1H035)	MSFC TVT804 (SABF) SRB WITH ALL PROTUBERANCES	45.000	BREF .8000 IN.
(A1H036)	MSFC TVT804 (SABF) SRB WITH ALL PROTUBERANCES	45.000	YMRP 5.7210 IN. XS
			ZMRP .0000 IN. YS
			SCALE .0055 IN. ZS

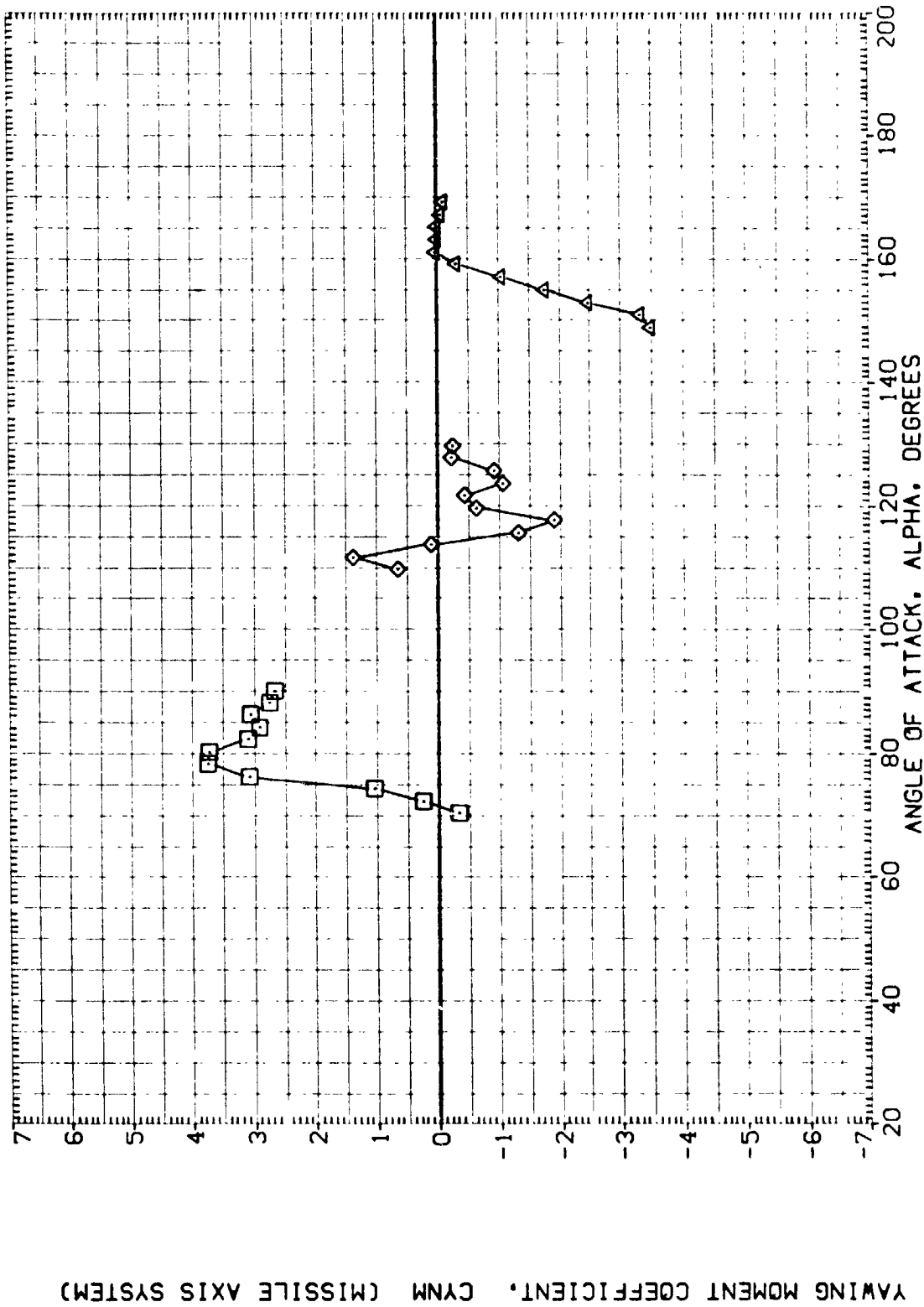


FIGURE 20. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 45)

(B)M CH = .60

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H004) DATA NOT AVAILABLE
 (A1H034) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H035) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H036) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI
 45.000
 45.000
 45.000

REFERENCE INFORMATION

SREF 5030 SQ. IN.
 LREF .8000 IN.
 BREF .9000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

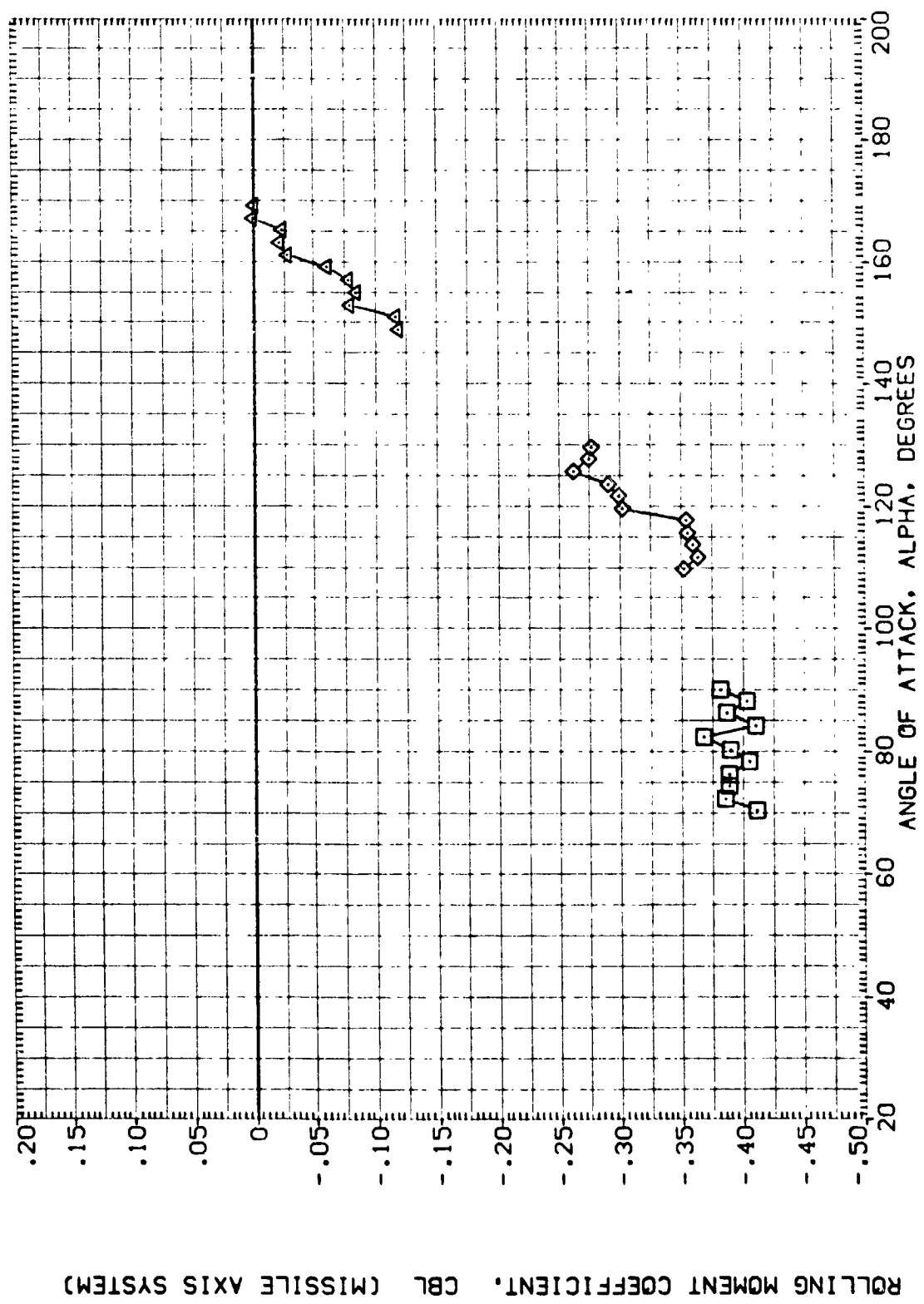


FIGURE 20. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 45)

(B)MACH = .60

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(A1H04)	DATA NOT AVAILABLE	45.000	SREF .5030 SQ. IN.
(A1H034)	MSFC TVT804 (SABF) SRB WITH ALL PROTUBERANCES	45.000	LREF .8000 IN.
(A1H035)	MSFC TVT804 (SABF) SRB WITH ALL PROTUBERANCES	45.000	BREF .8000 IN.
(A1H036)	MSFC TVT804 (SABF) SRB WITH ALL PROTUBERANCES	45.000	XTRP 5.7210 IN. XS
			YTRP .0000 IN. YS
			ZTRP .0000 IN. ZS
			SCALE .0055

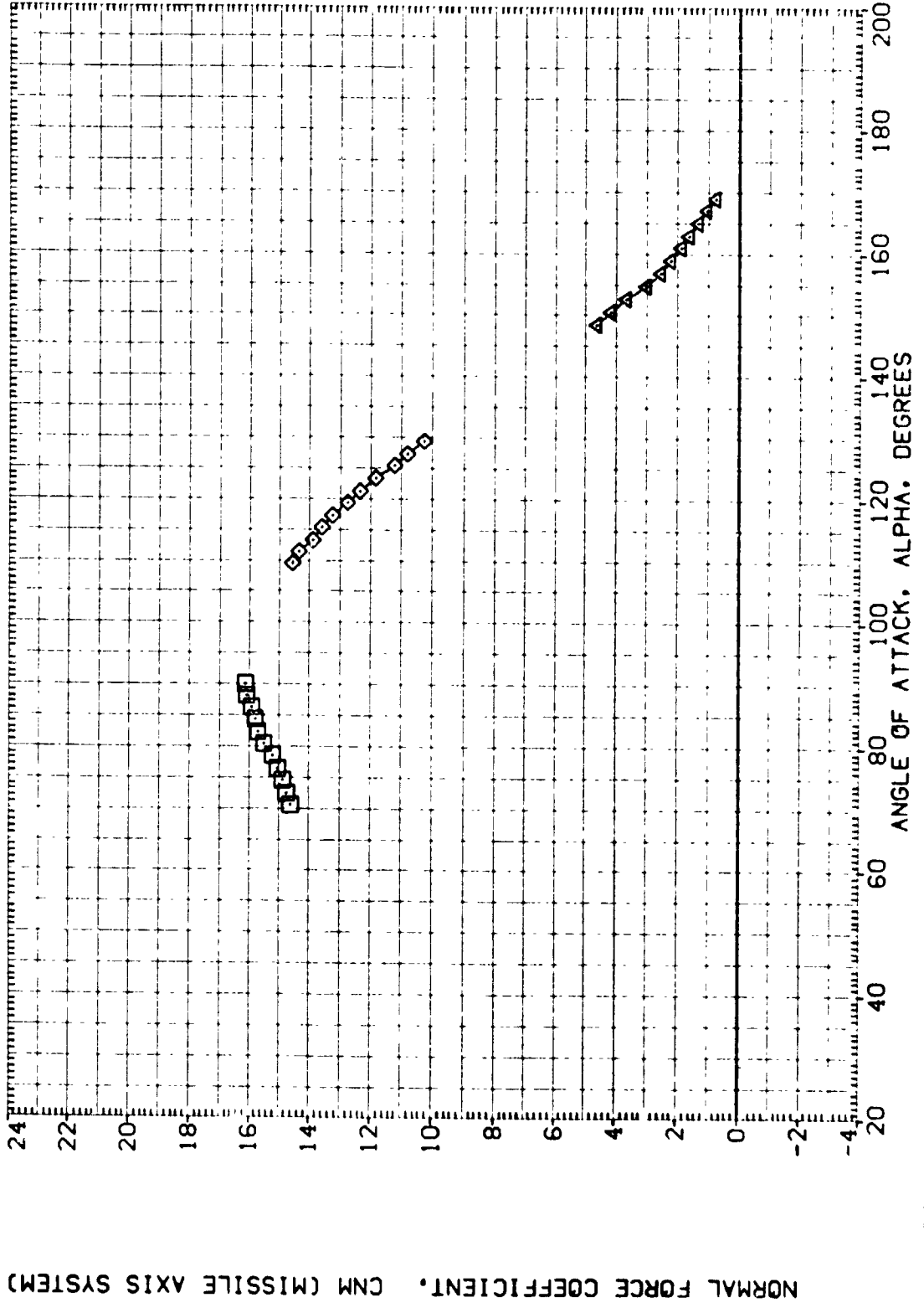


FIGURE 20. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 45)

(C)MACH = .90

DATA SET SYMBOL
 (A1H004)
 (A1H004)
 (A1H005)
 (A1H006)

CONFIGURATION DESCRIPTION
 DATA NOT AVAILABLE
 MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES

PHI
 45.000
 45.000
 45.000

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BRREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

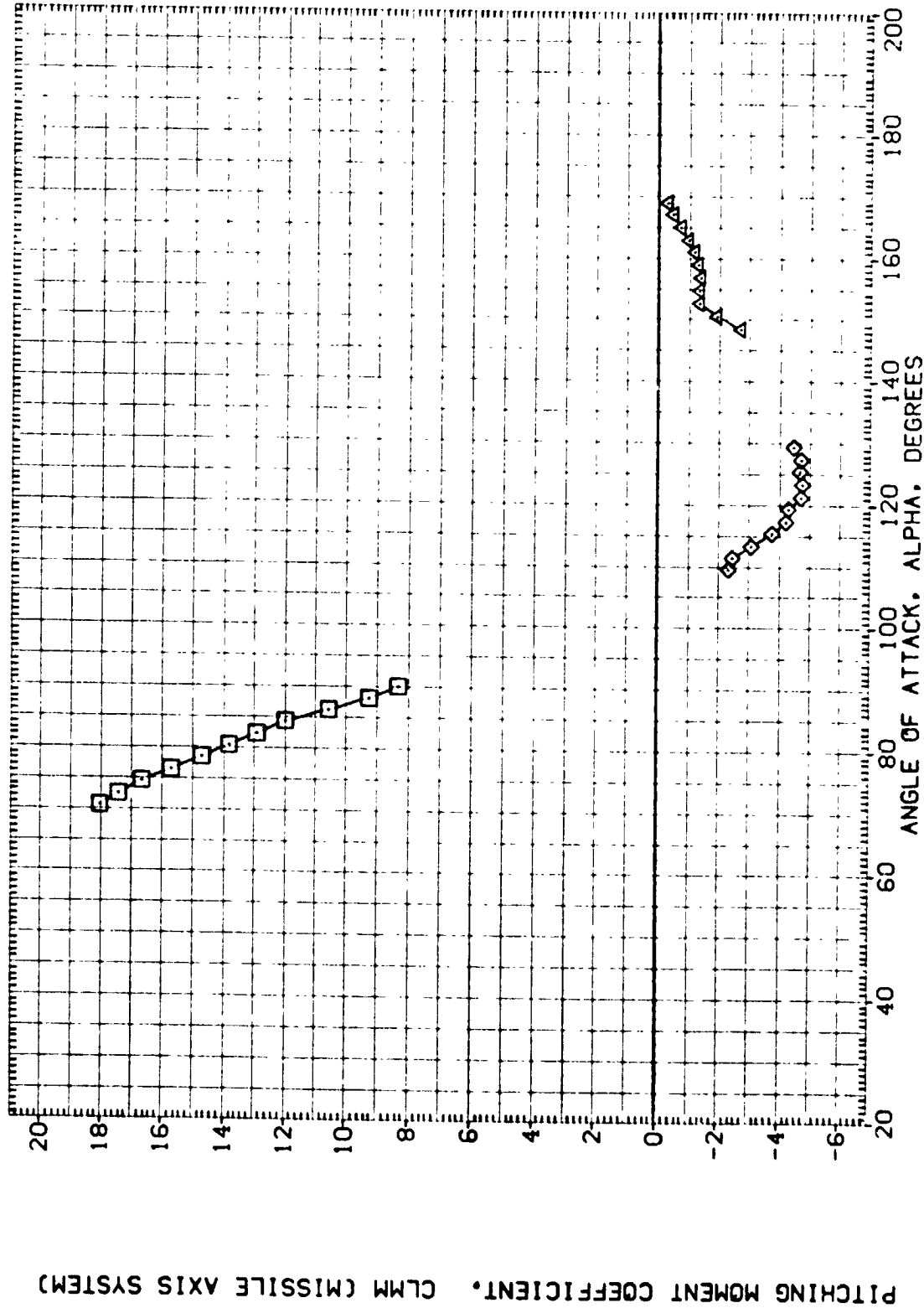


FIGURE 20. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 45)

(C)MACH = .90

REFERENCE INFORMATION
 SREF 5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. X\$
 YMRP .0000 IN. Y\$
 ZMRP .0000 IN. Z\$
 SCALE .0055

PHI
 45.000
 45.000
 45.000

PROTUBERANCES
 PROTUBERANCES
 PROTUBERANCES

CONFIGURATION DESCRIPTION
 DATA NOT AVAILABLE
 MSFC TVT604 (SABF) SRB WITH ALL
 MSFC TVT604 (SABF) SRB WITH ALL
 MSFC TVT604 (SABF) SRB WITH ALL

DATA SET SYMBOL
 (A1H034)
 (A1H034)
 (A1H035)
 (A1H036)

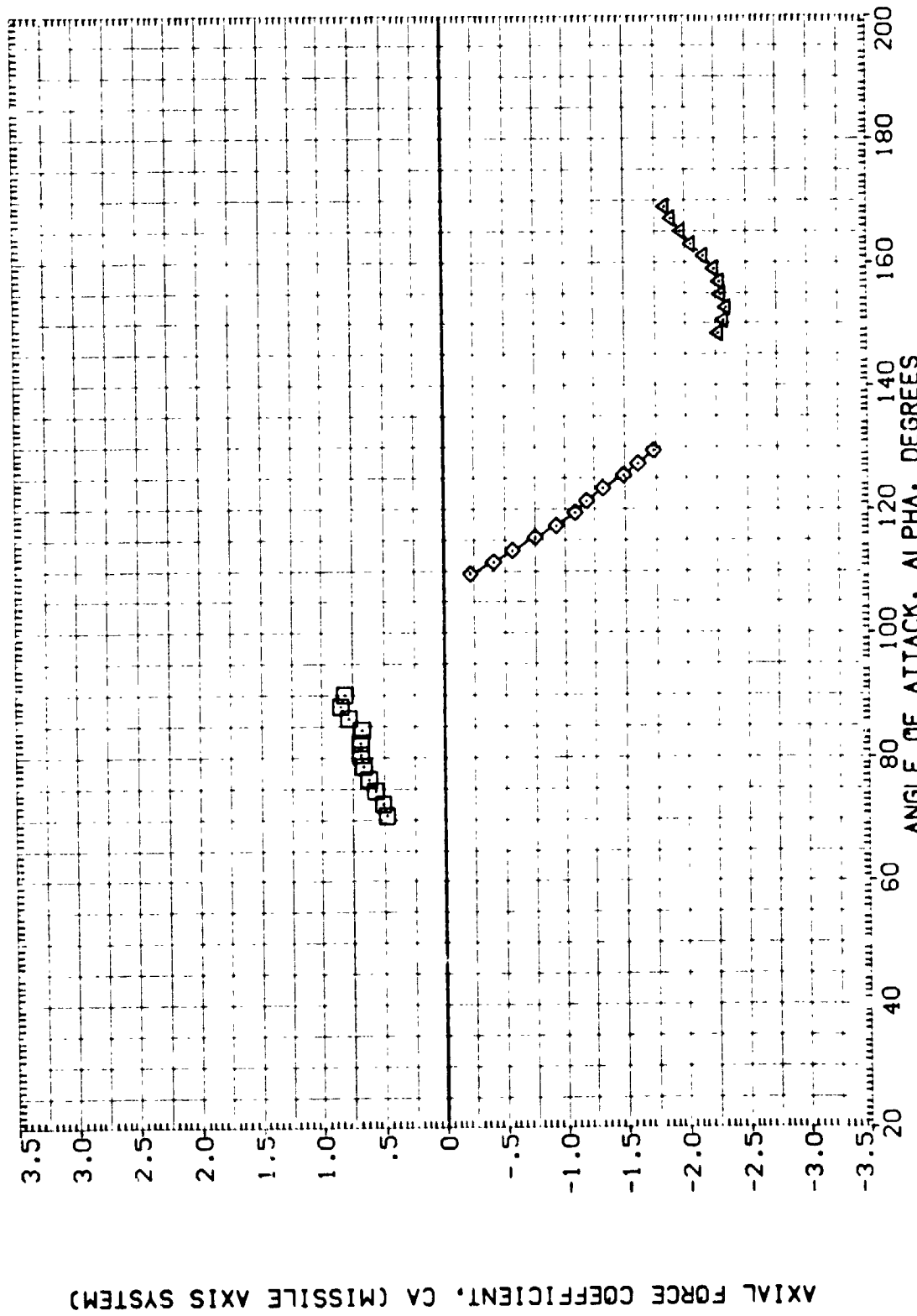


FIGURE 20. STATIC STABILITY CHARACTER OF SRB W/ALL PROTUBERANCES (PHI = 45)

(C)MACH = .90

DATA SET SYMB. CONFIGURATION DESCRIPTION

(AIH034) DATA NOT AVAILABLE
 (AIH034) MSFC TVT6L4 (SABF) SRB WITH ALL PROTUBERANCES
 (AIH035) MSFC TVT6C4 (SABF) SRB WITH ALL PROTUBERANCES
 (AIH036) MSFC TVT6D4 (SABF) SRB WITH ALL PROTUBERANCES

PHI
 45.000
 45.000
 45.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

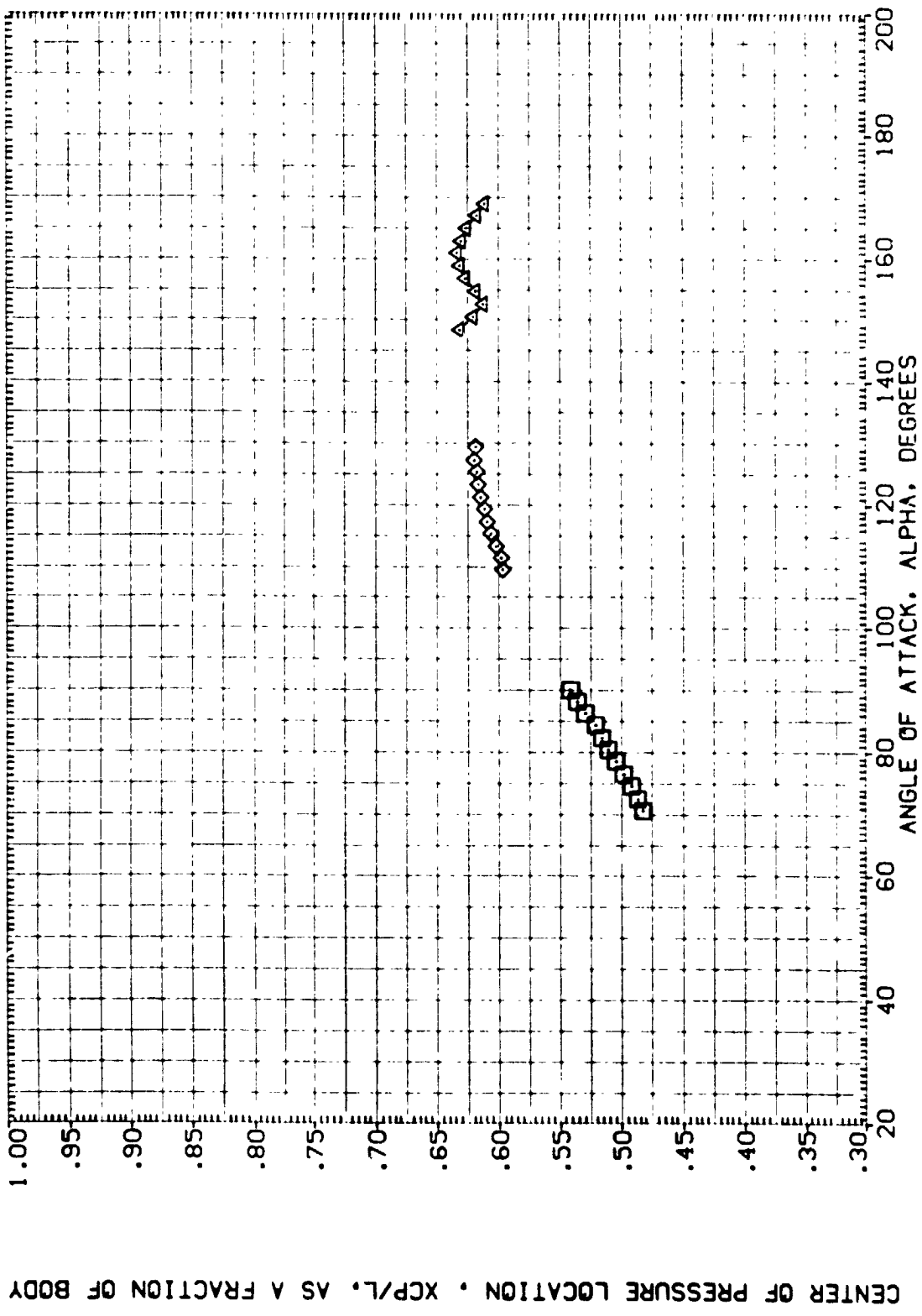


FIGURE 20. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 45)

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(A1H004)	DATA NOT AVAILABLE	45.000	SREF .5030 SQ. IN.
(A1H034)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	45.000	LREF .8000 IN.
(A1H035)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	45.000	BREF .8000 IN.
(A1H036)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	45.000	XMRP 5.7210 IN. XS
			YMRP .0000 IN. YS
			ZMRP .0000 IN. ZS
			SCALE .0055

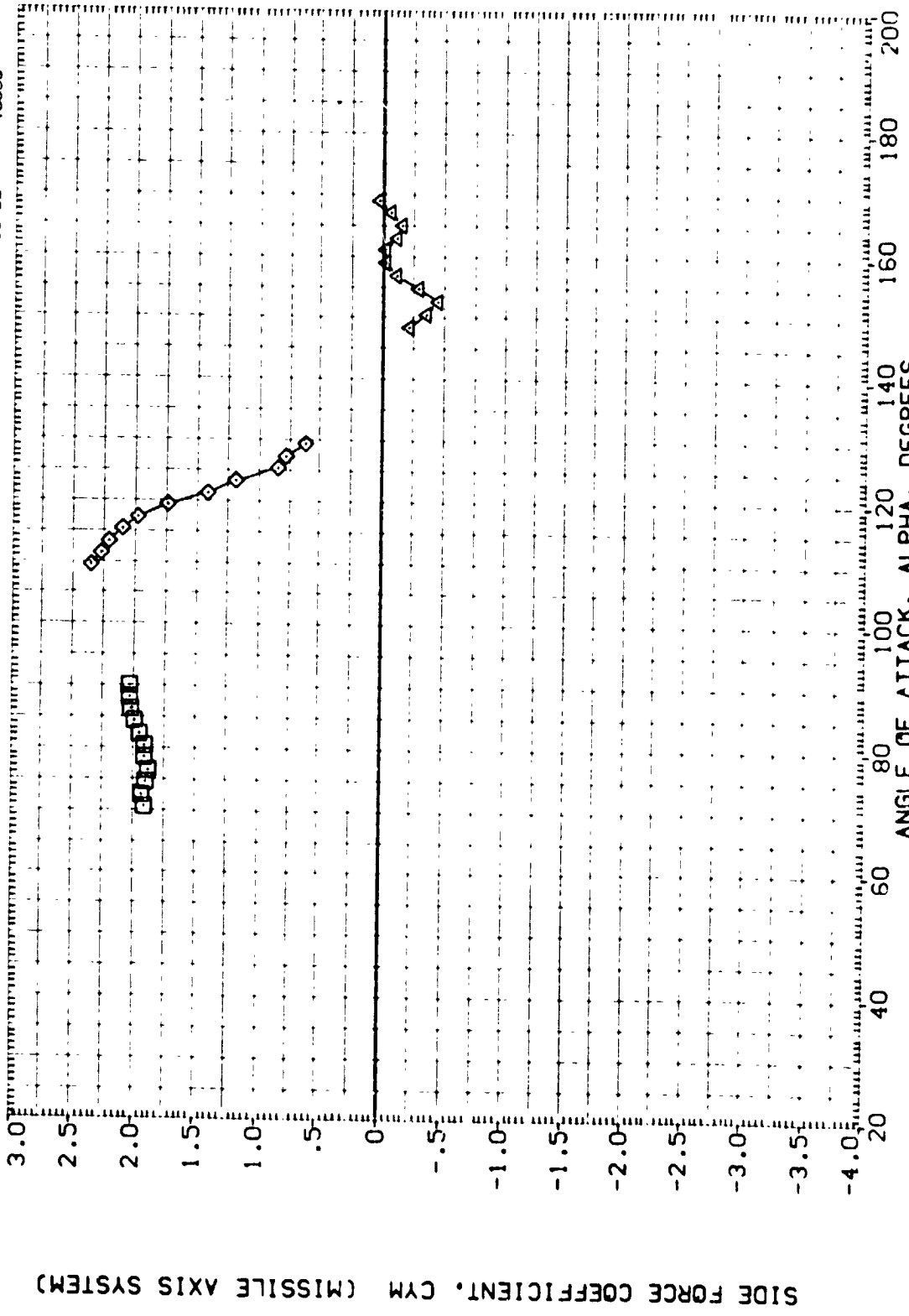


FIGURE 20. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 45)

(C)MACH = .90

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H004) DATA NOT AVAILABLE SRB WITH ALL PROTUBERANCES
 (A1H004) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H005) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H006) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES

PHI

45.000
 45.000
 45.000

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XPRP 5.7210 IN. XS
 YPRP .0000 IN. YS
 ZPRP .0000 IN. ZS
 SCALE .0055

YAWING MOMENT COEFFICIENT, C_{YM} (MISSILE AXIS SYSTEM)

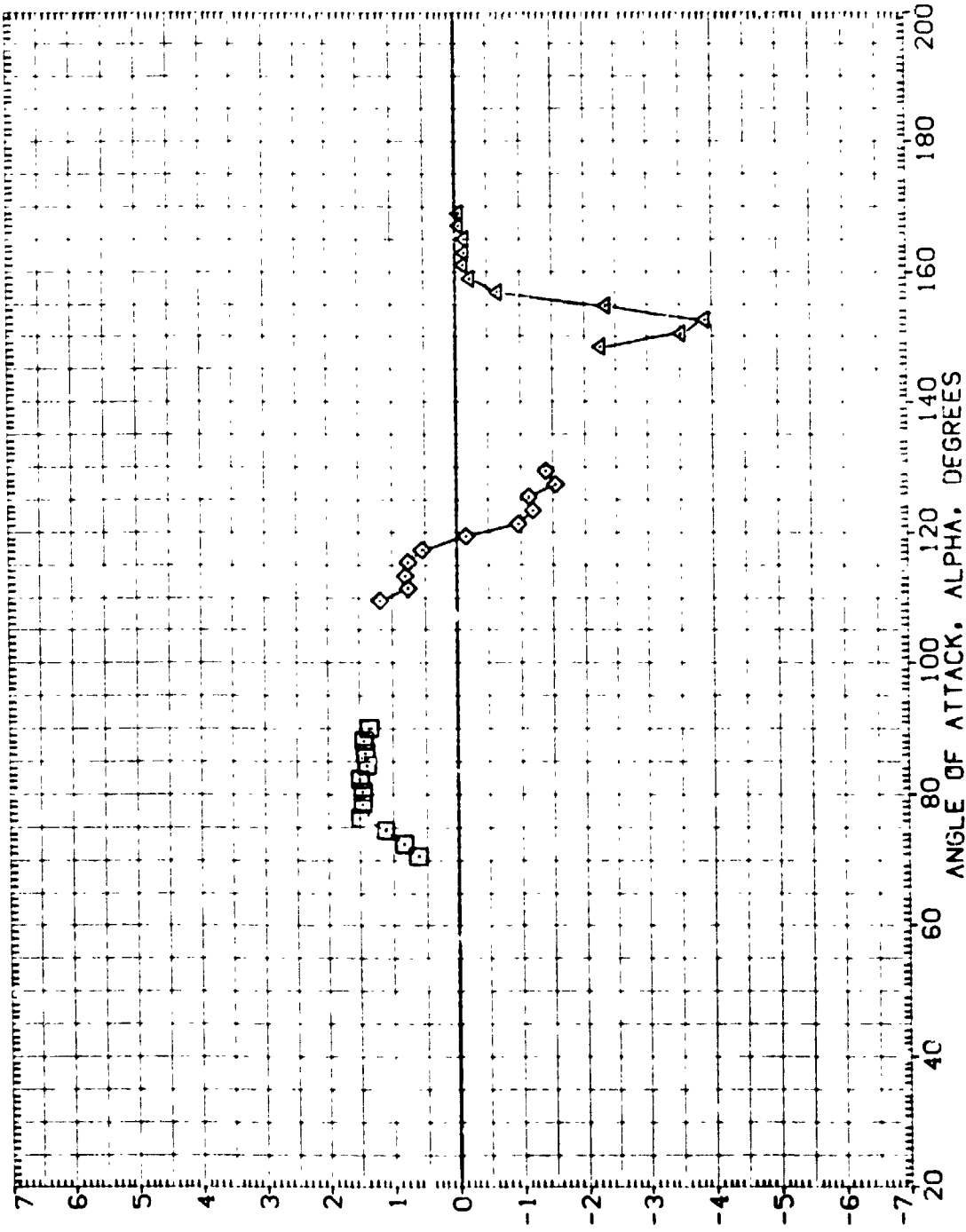


FIGURE 20. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 45)

(C)MACH = .90

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BRREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 45.000
 45.000
 45.000

PROTUBERANCES
 WITH ALL
 PROTUBERANCES
 WITH ALL
 PROTUBERANCES

CONFIGURATION DESCRIPTION
 DATA NOT AVAILABLE
 MSFC TVT604 (SABF) SRB WITH ALL
 MSFC TVT604 (SABF) SRB WITH ALL
 MSFC TVT604 (SABF) SRB WITH ALL

DATA SET SYMBOL
 (AIH034)
 (AIH034)
 (AIH033)
 (AIH036)

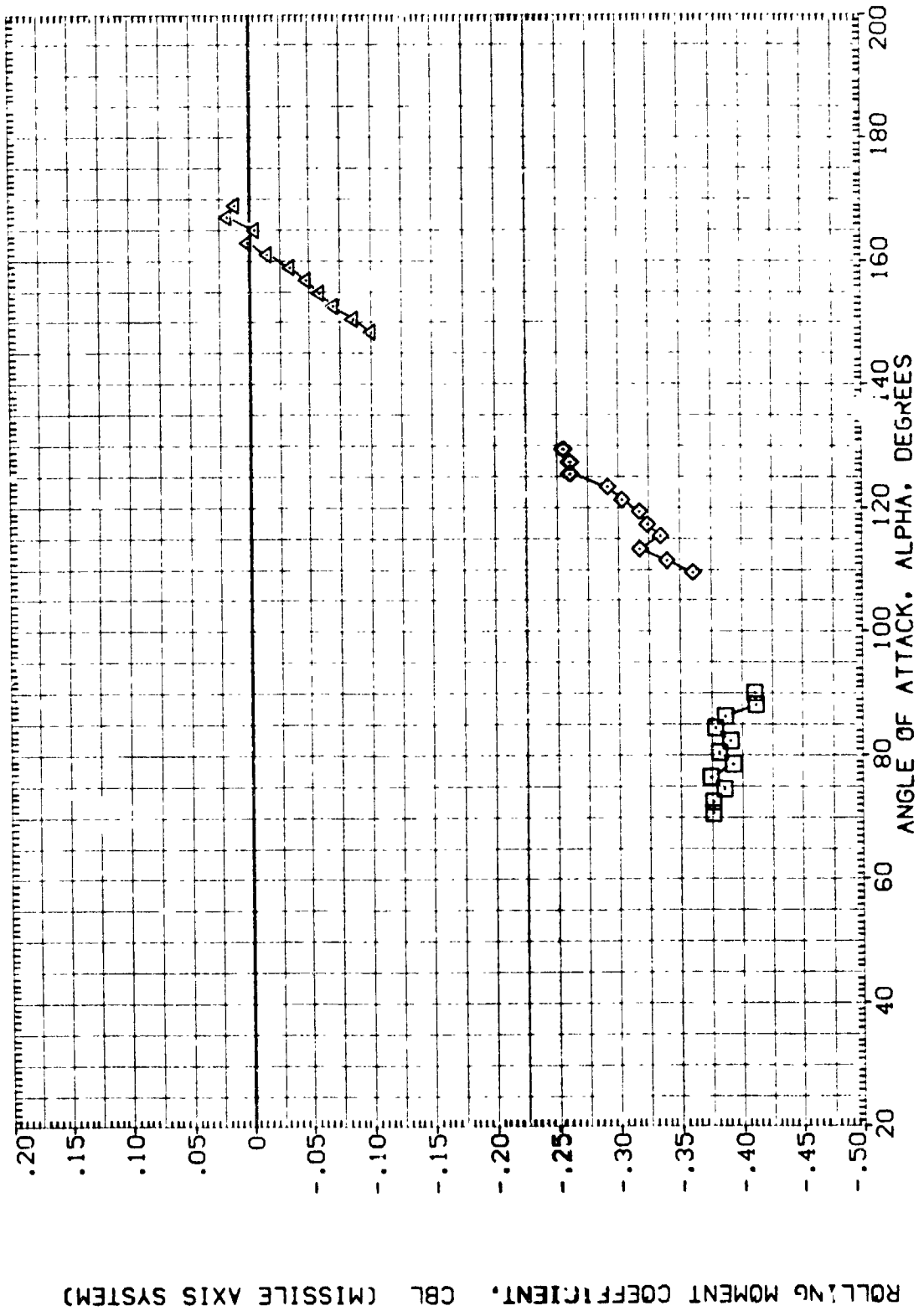


FIGURE 20. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 45)

(C)MACH = .90

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H004) DATA NOT AVAILABLE

(A1H034) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H035) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H036) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI

45.000

45.000

45.000

REFERENCE INFORMATION

SREF 5030 SQ. IN.

LREF .6000 IN.

BREF .6000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

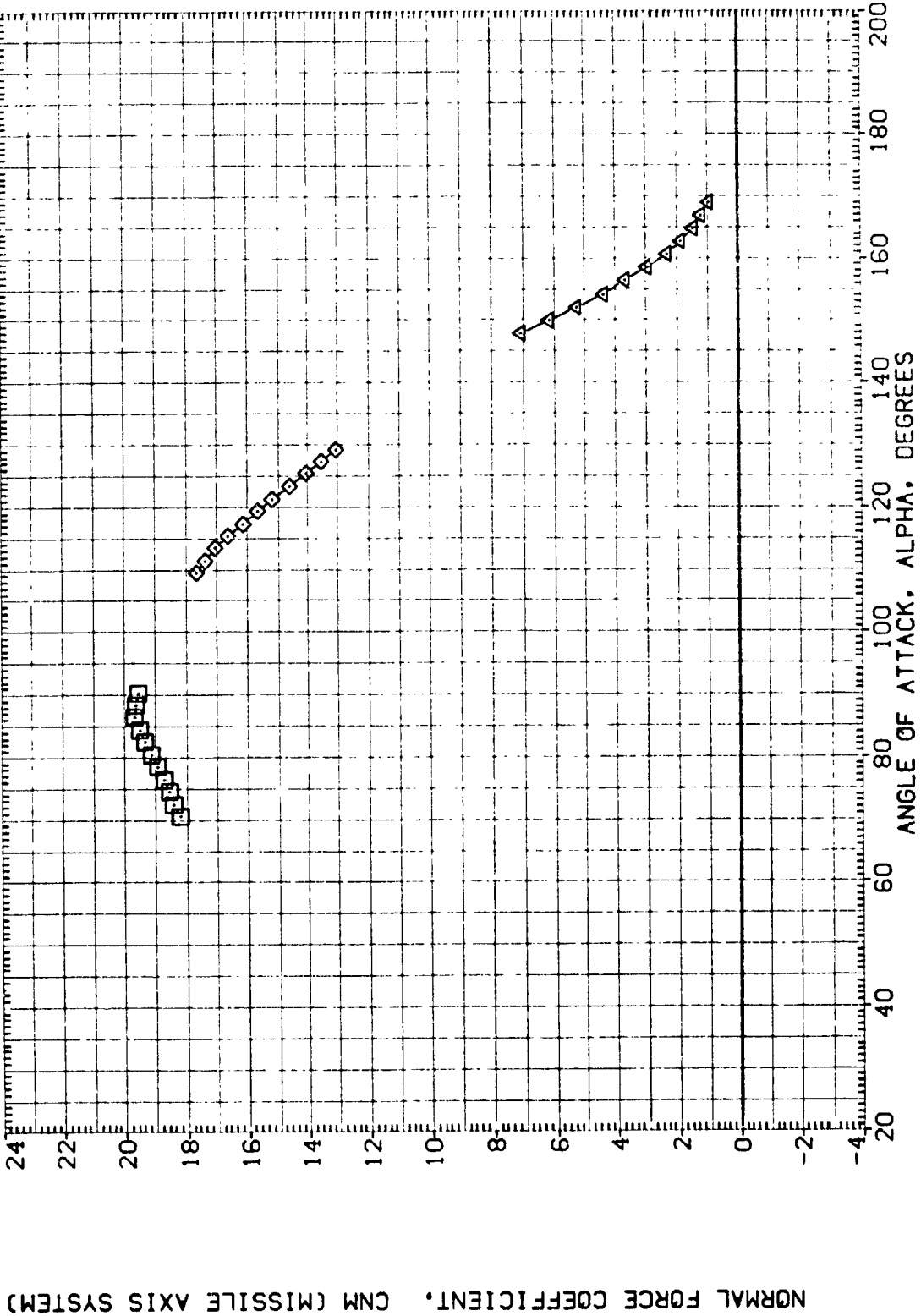


FIGURE 20. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 45)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H034) DATA NOT AVAILABLE 45.000

(A1H034) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 45.000

(A1H035) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 45.000

(A1H036) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 45.000

REFERENCE INFORMATION

SREF 5030 SQ. IN.

LREF 8000 IN.

BREF 9000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

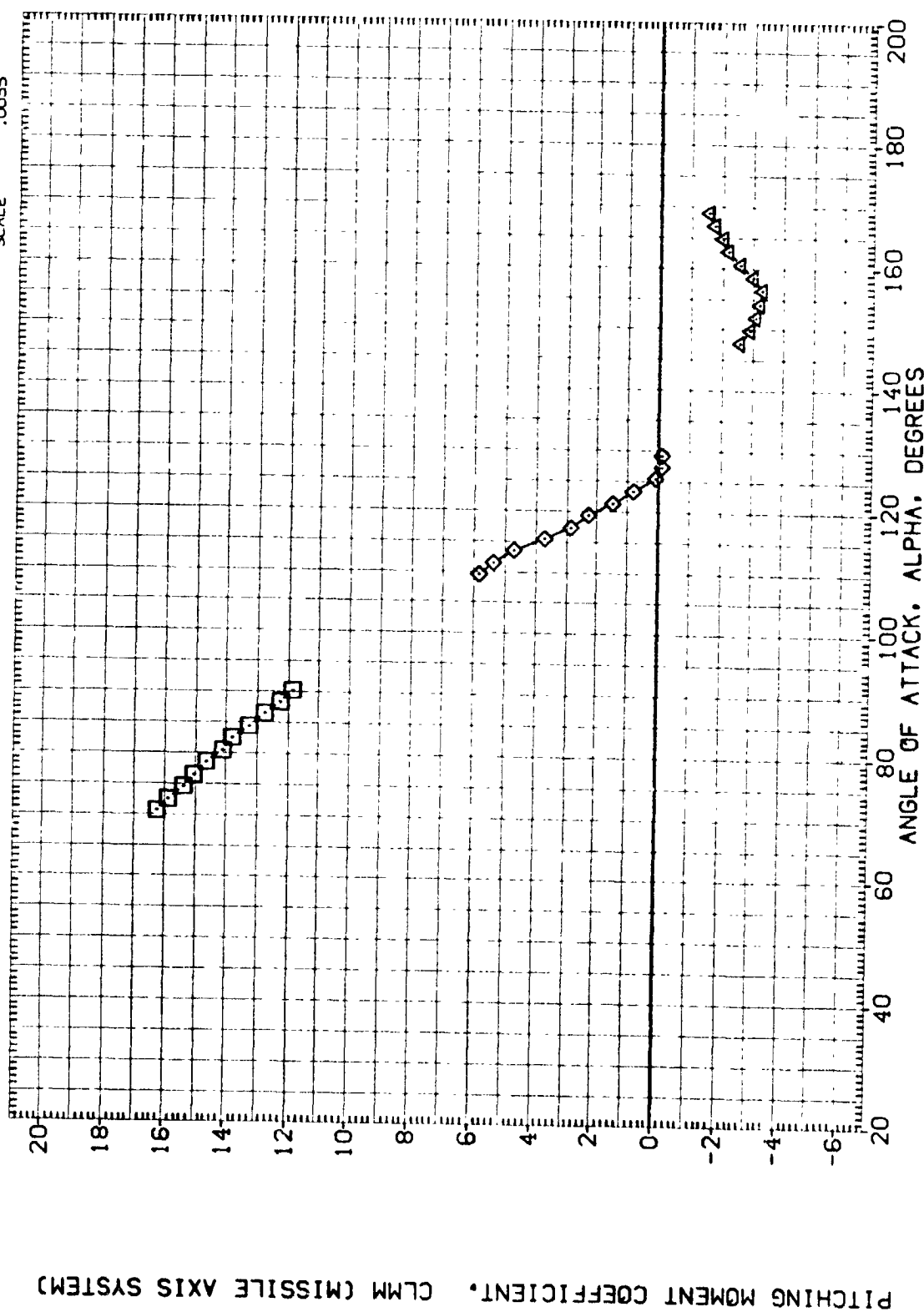


FIGURE 20. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 45)

(D)MACH = 1.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H034) DATA NOT AVAILABLE 45.000

(A1H035) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 45.000

(A1H036) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 45.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

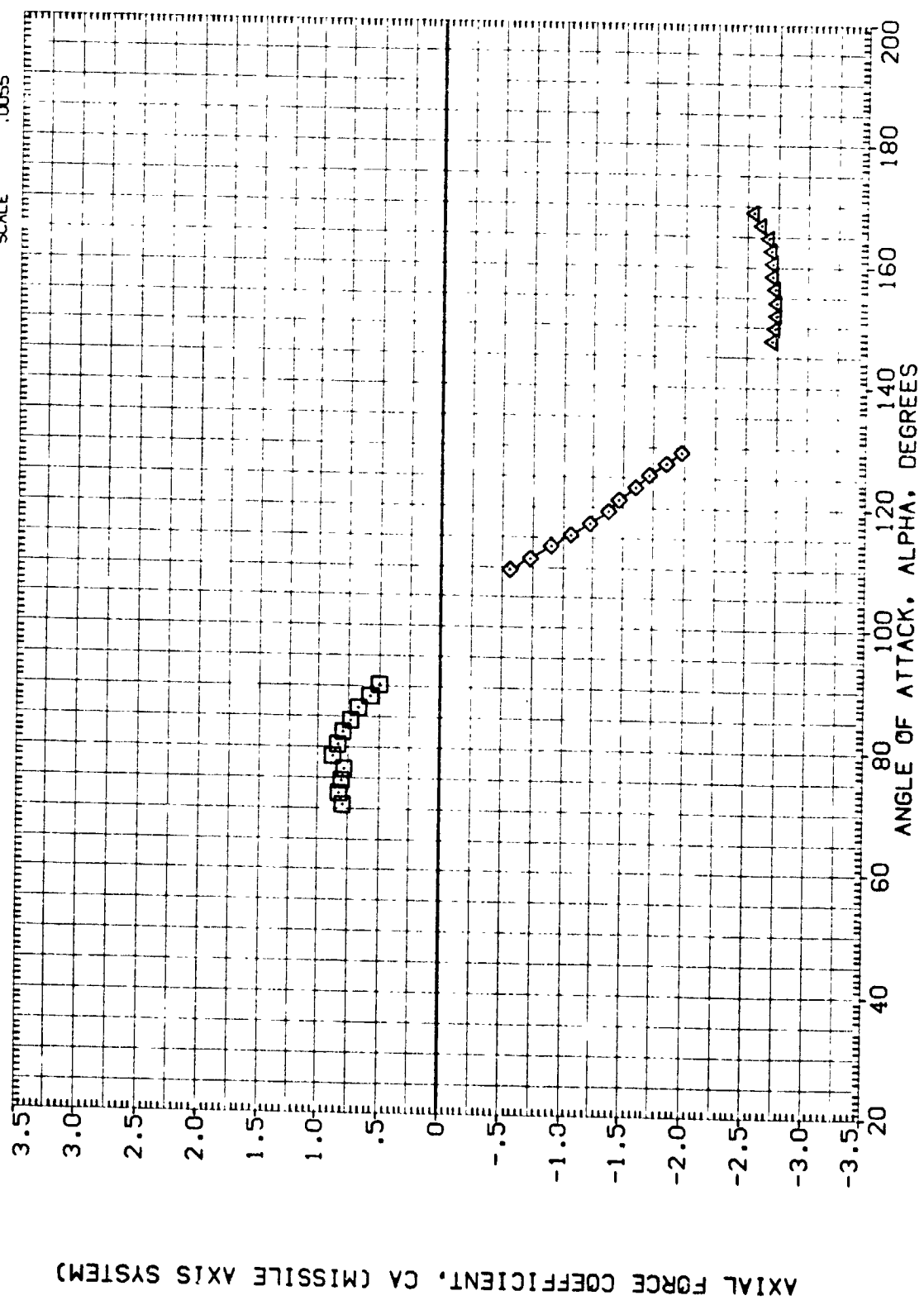


FIGURE 20. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 45)

(O)MACH = 1.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H04) DATA NOT AVAILABLE 45.000

(A1H034) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 45.000

(A1H035) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 45.000

(A1H036) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 45.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

MRP .8000 IN.

YMRP 5.7210 IN. XS

ZMRP .0000 IN. YS

SCALE .0055 IN. ZS

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

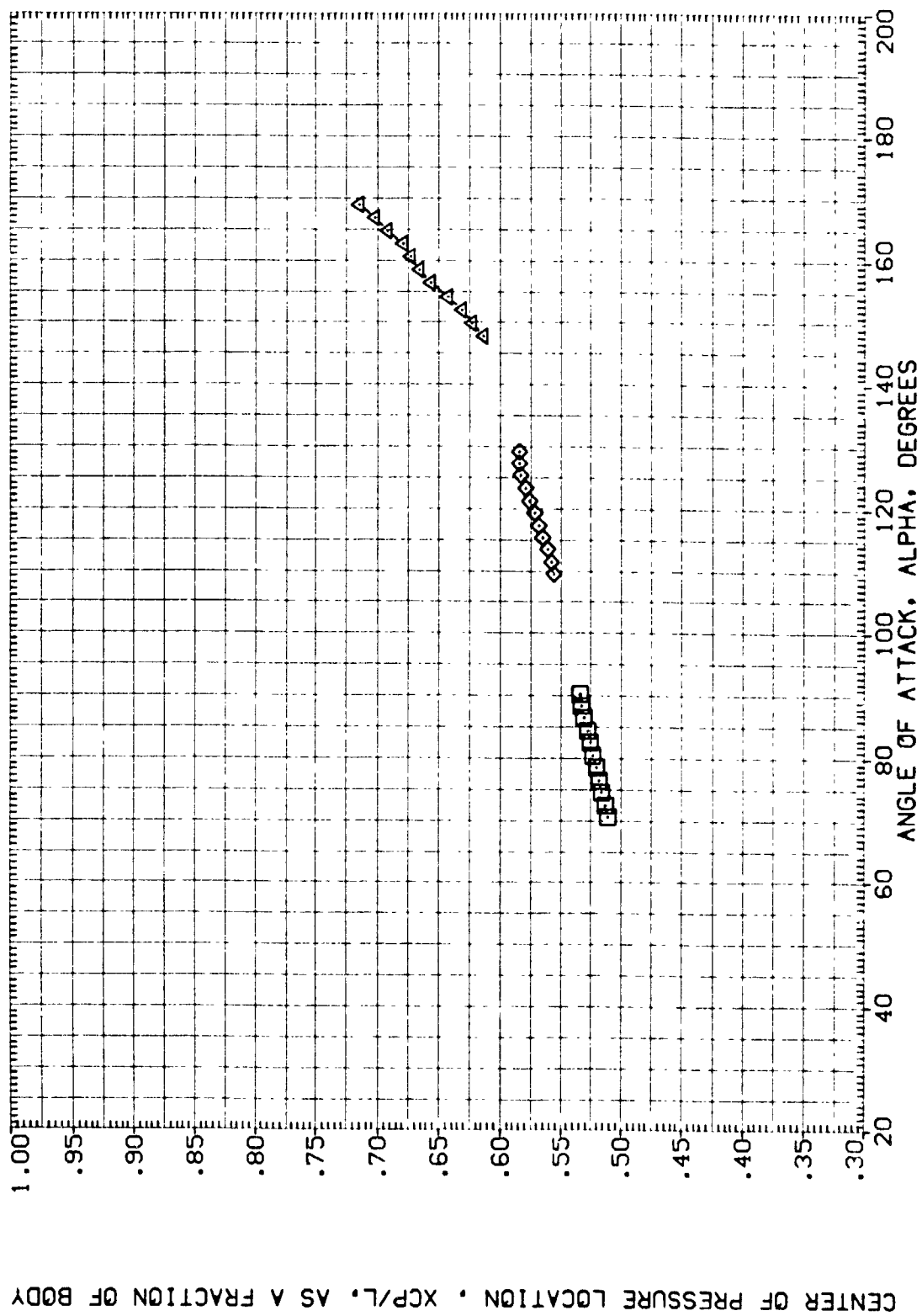


FIGURE 20. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 45)

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(AIH004) DATA NOT AVAILABLE
 (AIH034) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (AIH035) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (AIH036) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI
 45.000
 45.000
 45.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.
 LREF .8000 IN.
 BRREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

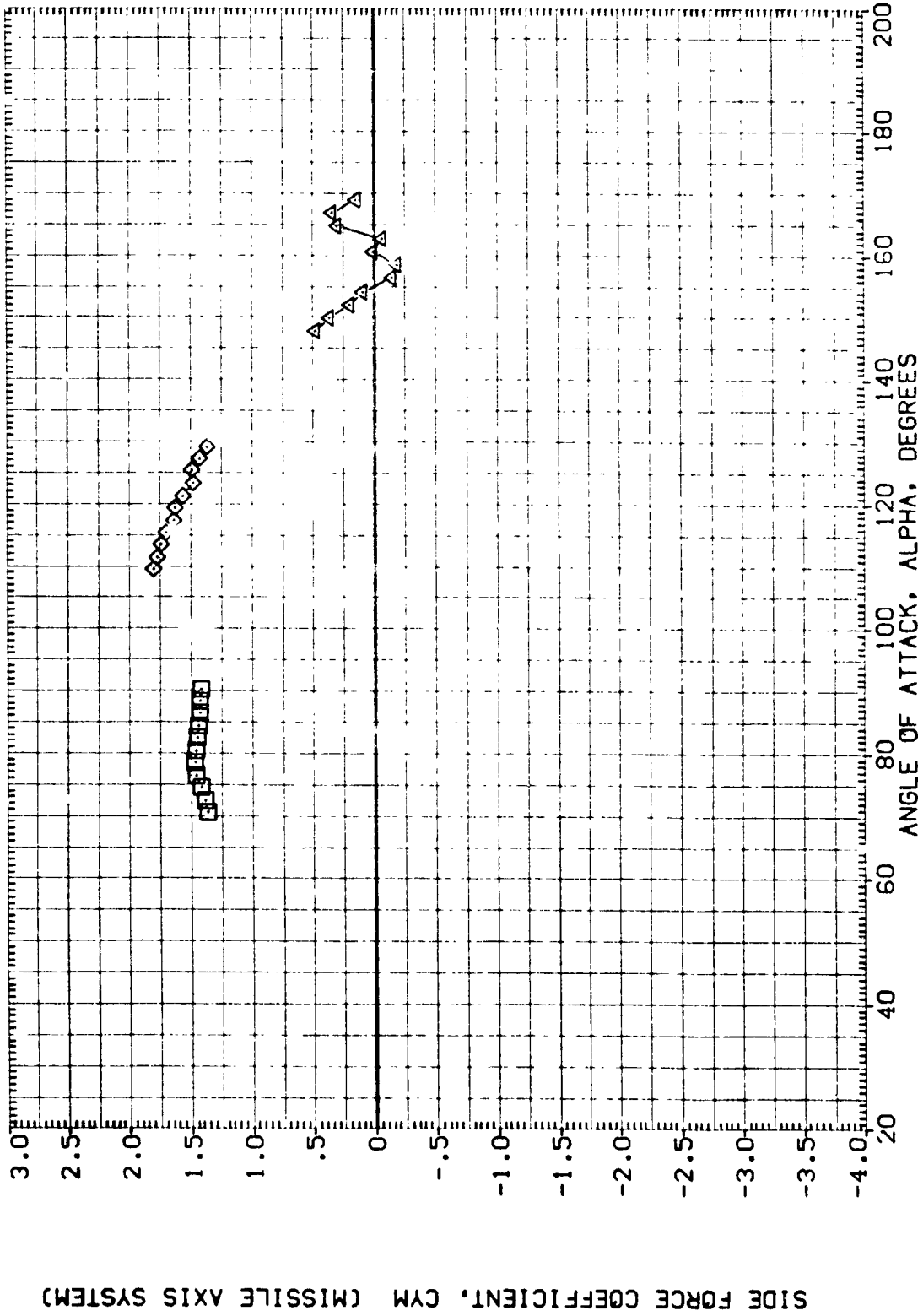


FIGURE 20. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 45)

(D)MACH = 1.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI REFERENCE INFORMATION

(A1H04)	DATA NOT AVAILABLE	45.000	SREF .5030 SQ. IN.
(A1H034)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	45.000	LREF .8000 IN.
(A1H035)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	45.000	BREF .8000 IN.
(A1H036)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	45.000	XMRP 5.7210 IN. XS
			YMRP .0000 IN. YS
			ZMRP .0000 IN. ZS
			SCALE .0055

YAWING MOMENT COEFFICIENT, C_{YM} (MISSILE AXIS SYSTEM)

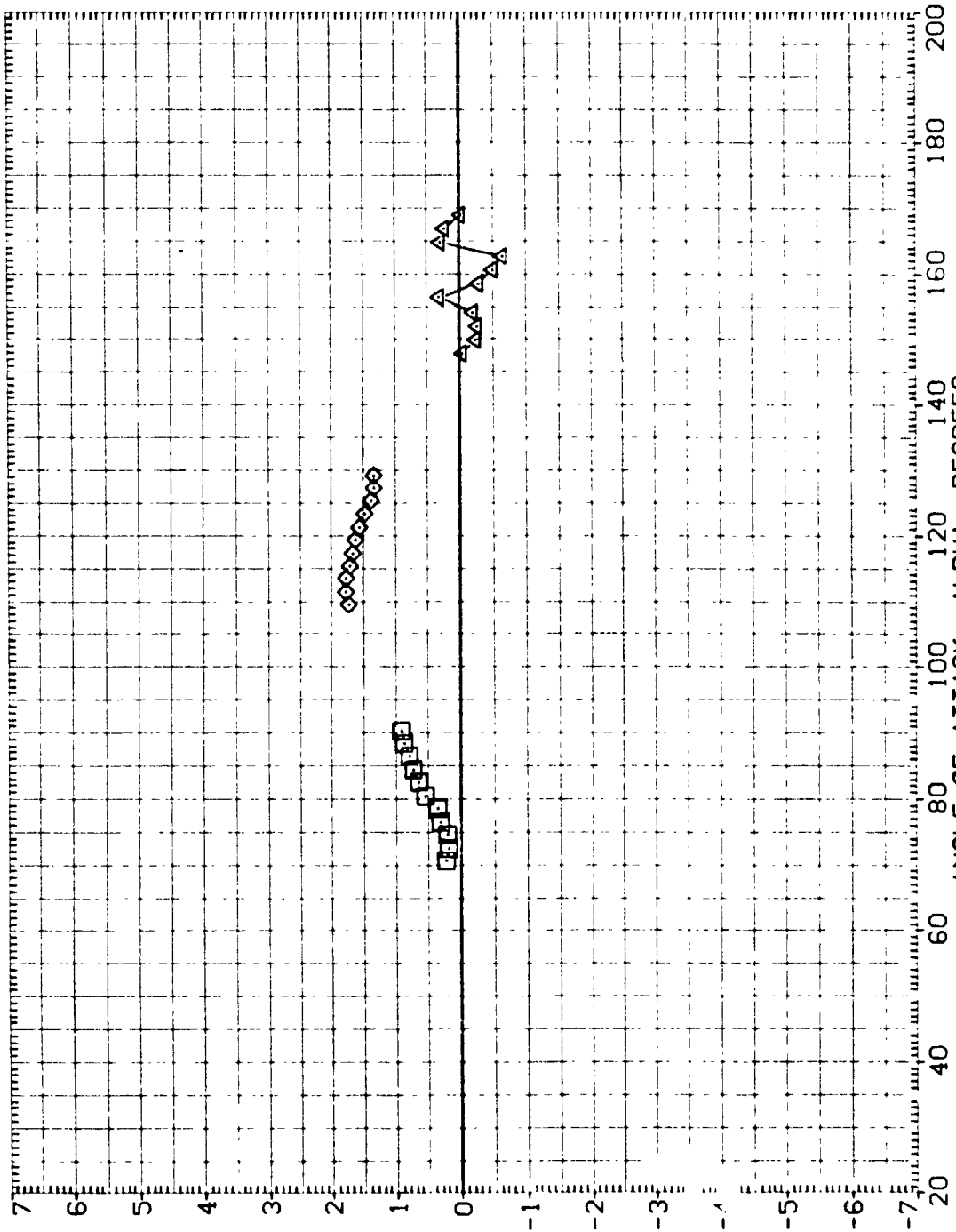


FIGURE 20. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 45)

(C)MACH = 1.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H404) DATA NOT AVAILABLE 45.000

(A1H404) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 45.000

(A1H4035) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 45.000

(A1H4036) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 45.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0700 IN. ZS

SCALE .0055

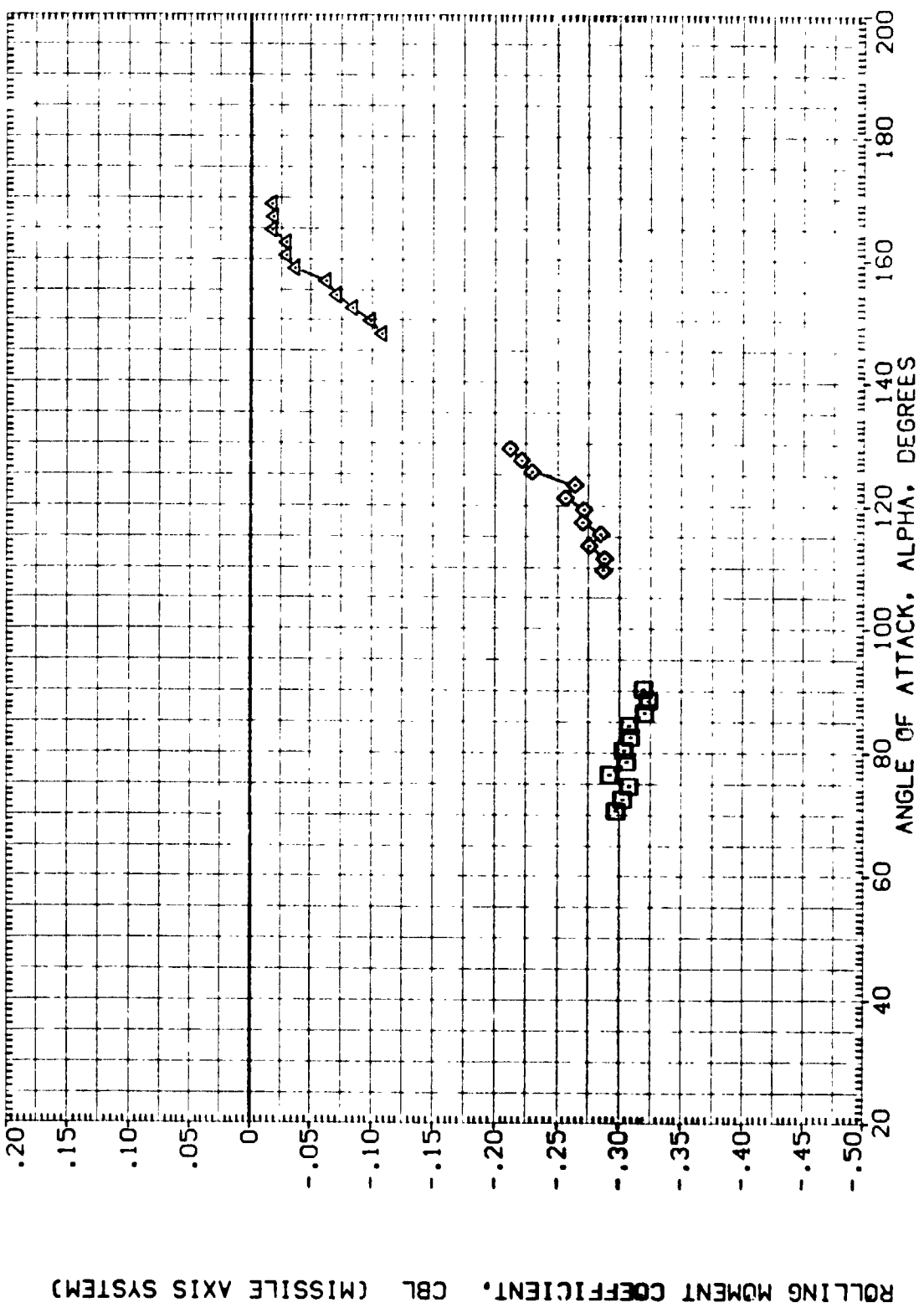


FIGURE 20. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 45)

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H004) DATA NOT AVAILABLE

(A1H034) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H035) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H036) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI

45.000

45.000

45.000

REFERENCE INFORMATION

SREF .5030 50. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

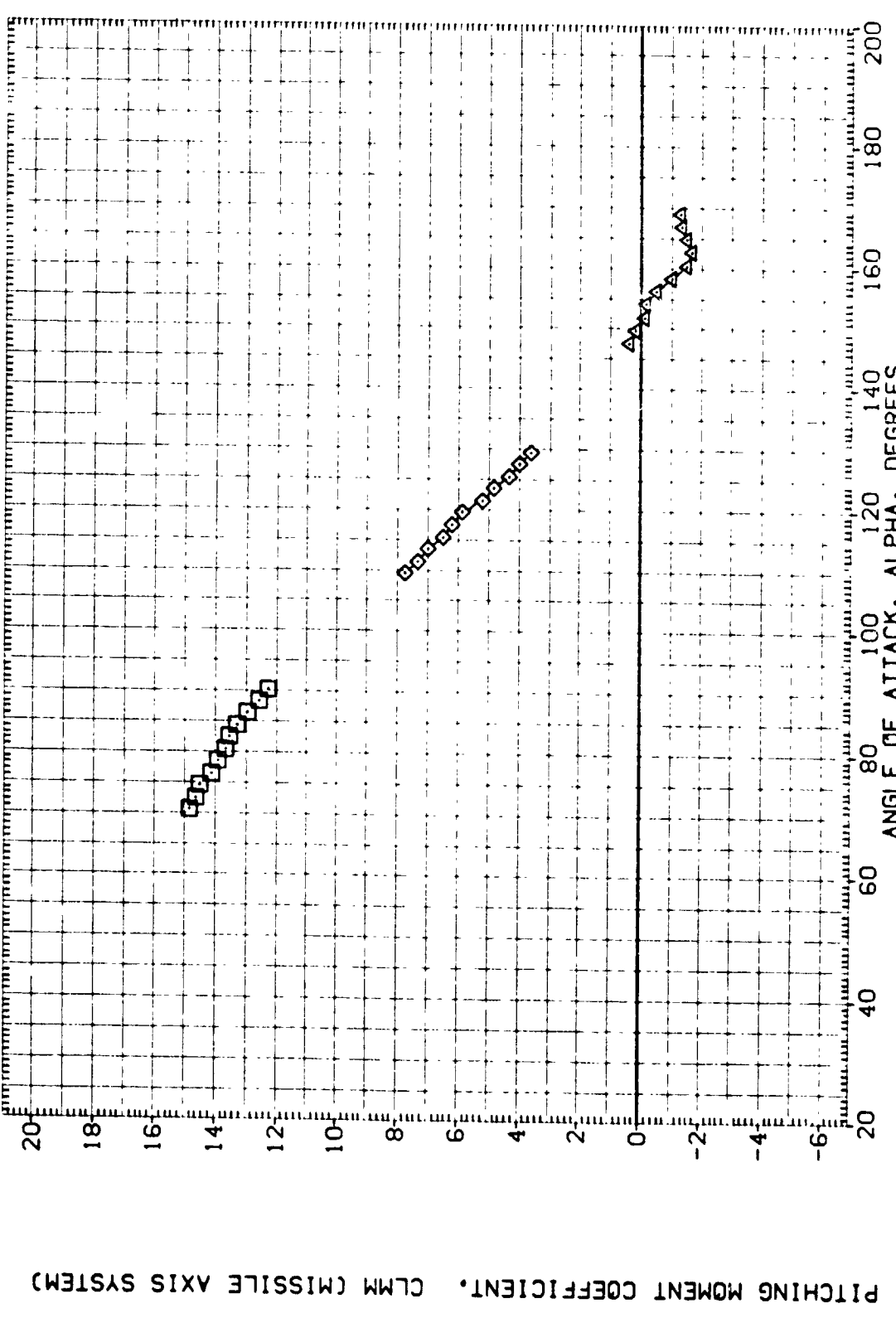


FIGURE 20. STATIC STABILITY CHARACT. OF SRB W/WALL PROTUBERANCES (PHI = 45)

(E)MACH = 1.96

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H04) DATA NOT AVAILABLE 45.000

(A1H03A) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 45.000

(A1H03S) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 45.000

(A1H036) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 45.000

REFERENCE INFORMATION

SREF 5030 SQ. IN.

LREF 8000 IN.

BREF 8000 IN.

XTRP 5.7210 IN. XS

YTRP .0000 IN. YS

ZTRP .0000 IN. ZS

SCALE .0055

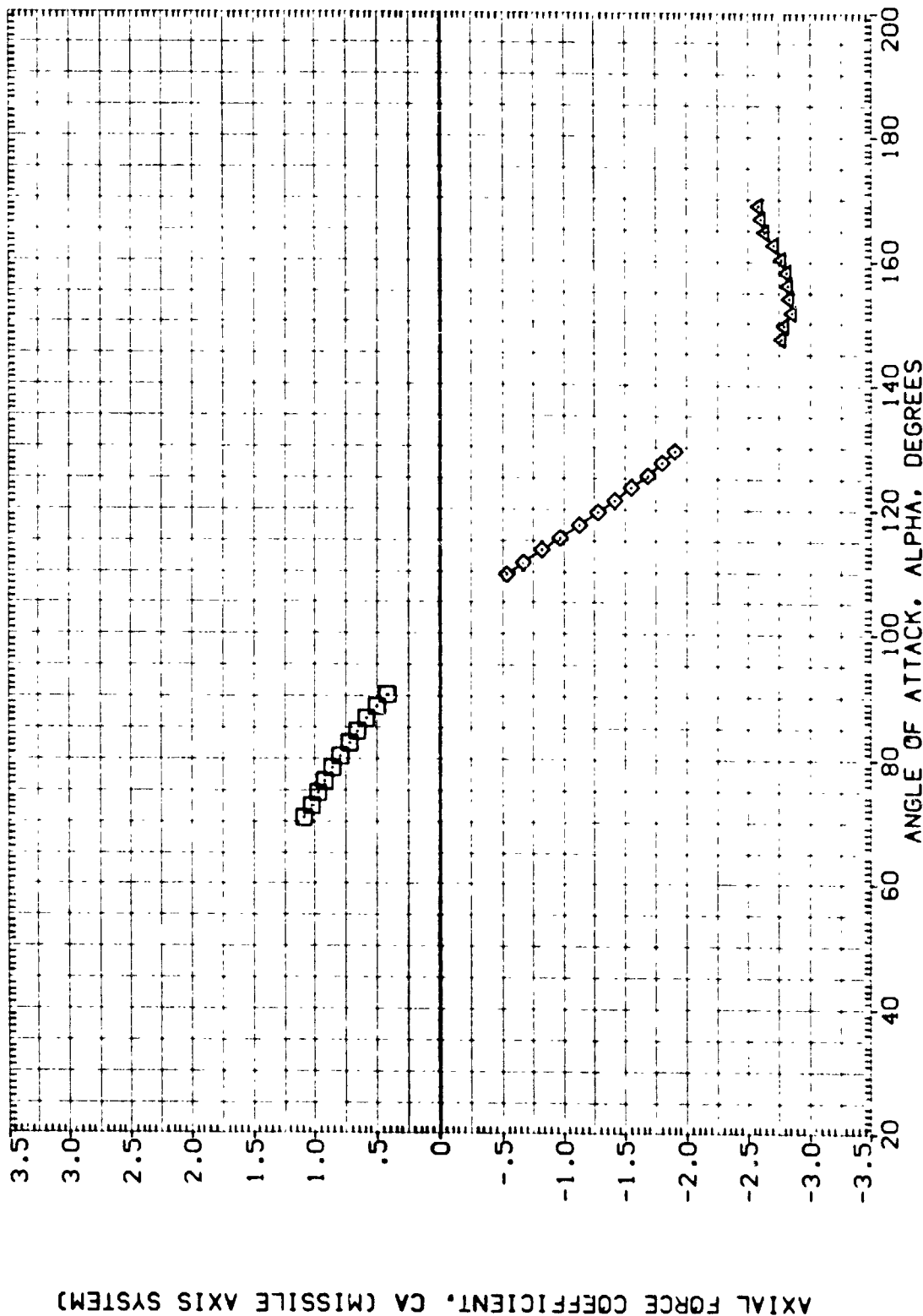


FIGURE 20. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 45)

(E)MACH = 1.96

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1M004) DATA NOT AVAILABLE

(A1M034) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1M035) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1M036) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI

45.000

45.000

45.000

45.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

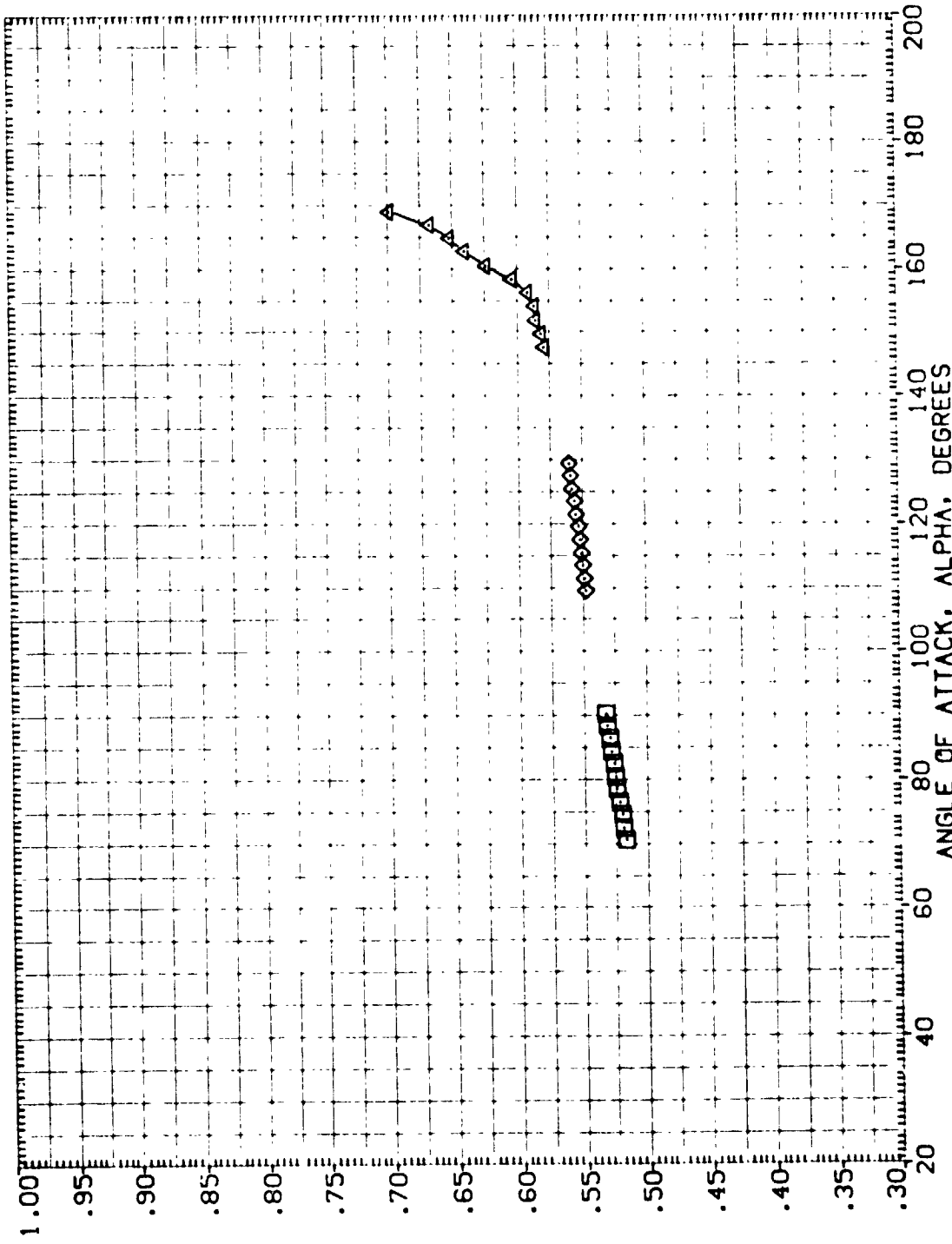


FIGURE 20. STATIC STABILITY CHARACTER OF SRB W/ALL PROTUBERANCES (PHI = 45)

(E)MACH = 1.96

DATA SET SYMBOL: (A1H04) (A1H034) (A1H035) (A1H036)

CONFIGURATION DESCRIPTION: DATA NOT AVAILABLE MSFC TVT604 (SABF) MSFC TVT604 (SABF) MSFC TVT604 (SABF)

PHI: 45.000 45.000 45.000

REFERENCE INFORMATION: SREF .5030 SQ. IN. LREF .8000 IN. BREF .8000 IN. XMRP 5.7213 IN. XS YMRP .0000 IN. YS ZMRP .0000 IN. ZS SCALE .0055

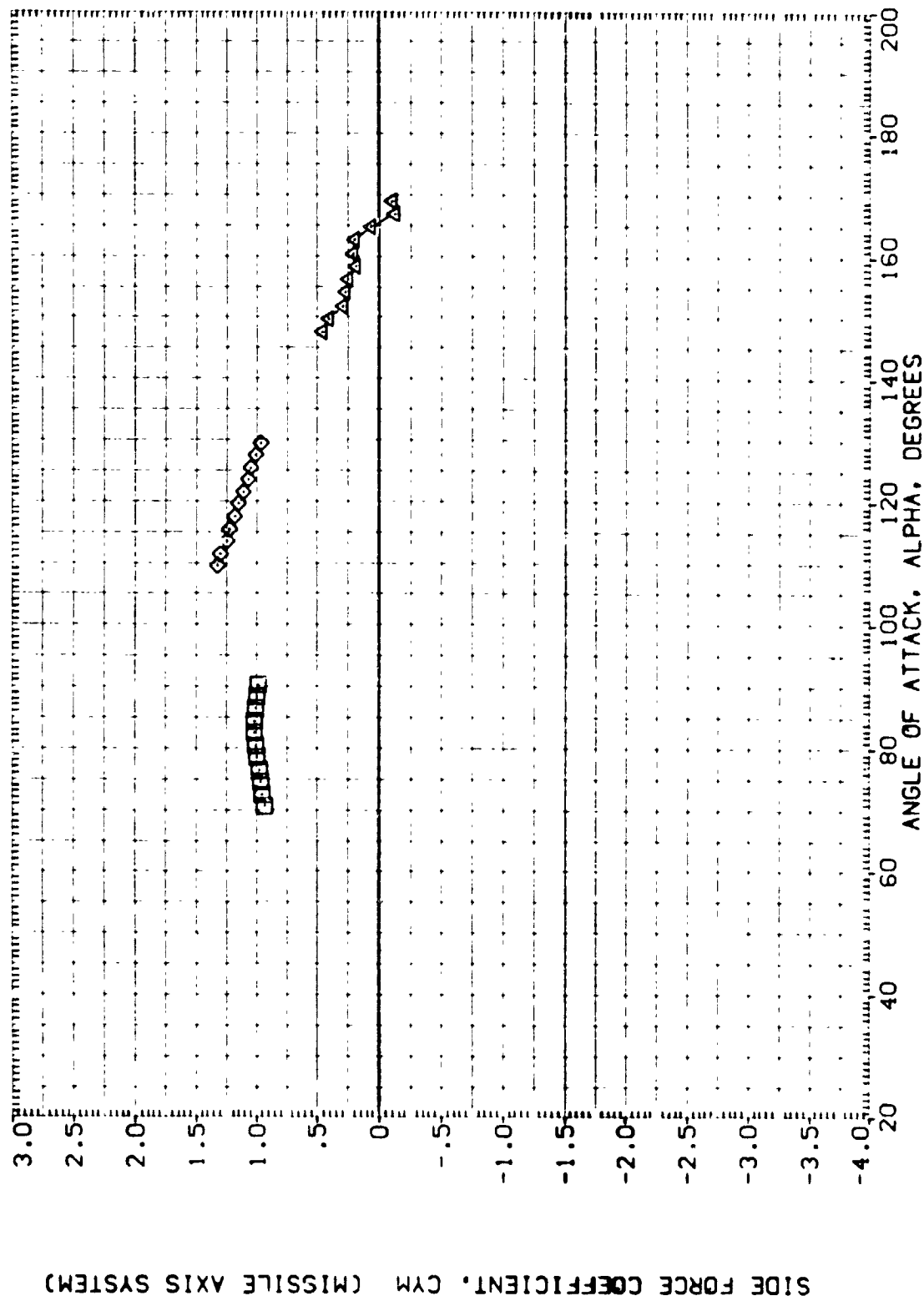


FIGURE 20. STATIC STABILITY CHARACTERISTICS OF SRB W/ALL PROTUBERANCES ($\phi = 45^\circ$)

(E)MACH = 1.96

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H004) DATA NOT AVAILABLE
 (A1H004) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H006) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI
 45.000
 45.000
 45.000
 45.000

REFERENCE INFORMATION
 SREF 5030 SQ. IN.
 LREF 8000 IN.
 BREF 8000 IN.
 XMRP 1.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

YAWING MOMENT COEFFICIENT, C_{YM} (MISSILE AXIS SYSTEM)

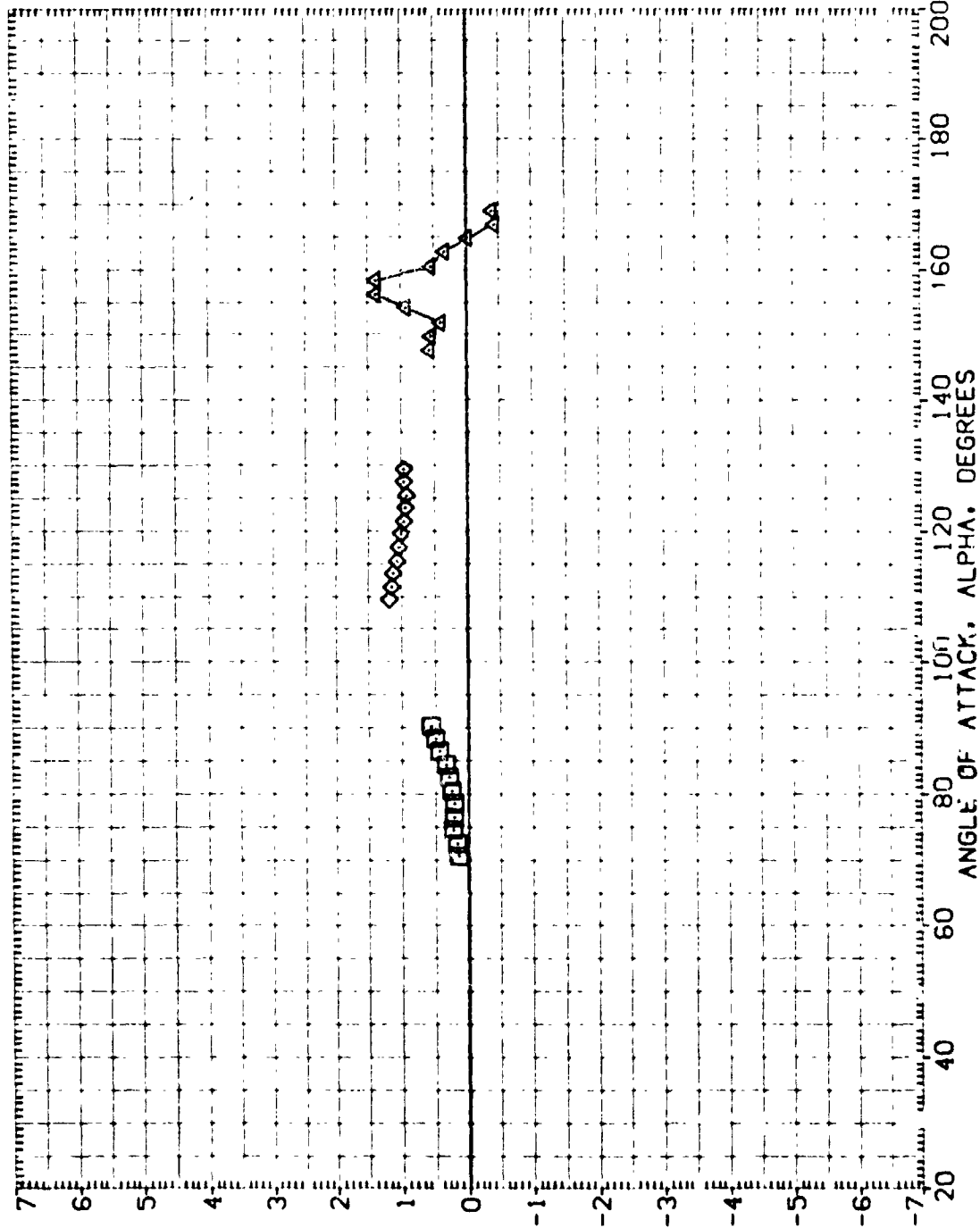


FIGURE 20. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 45)

(E)MACH = 1.96

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H034) DATA NOT AVAILABLE 45.000
 (A1H034) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 45.000
 (A1H035) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 45.000
 (A1H036) MSFC TVT604 (SABF) SR3 WITH ALL PROTUBERANCES 45.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

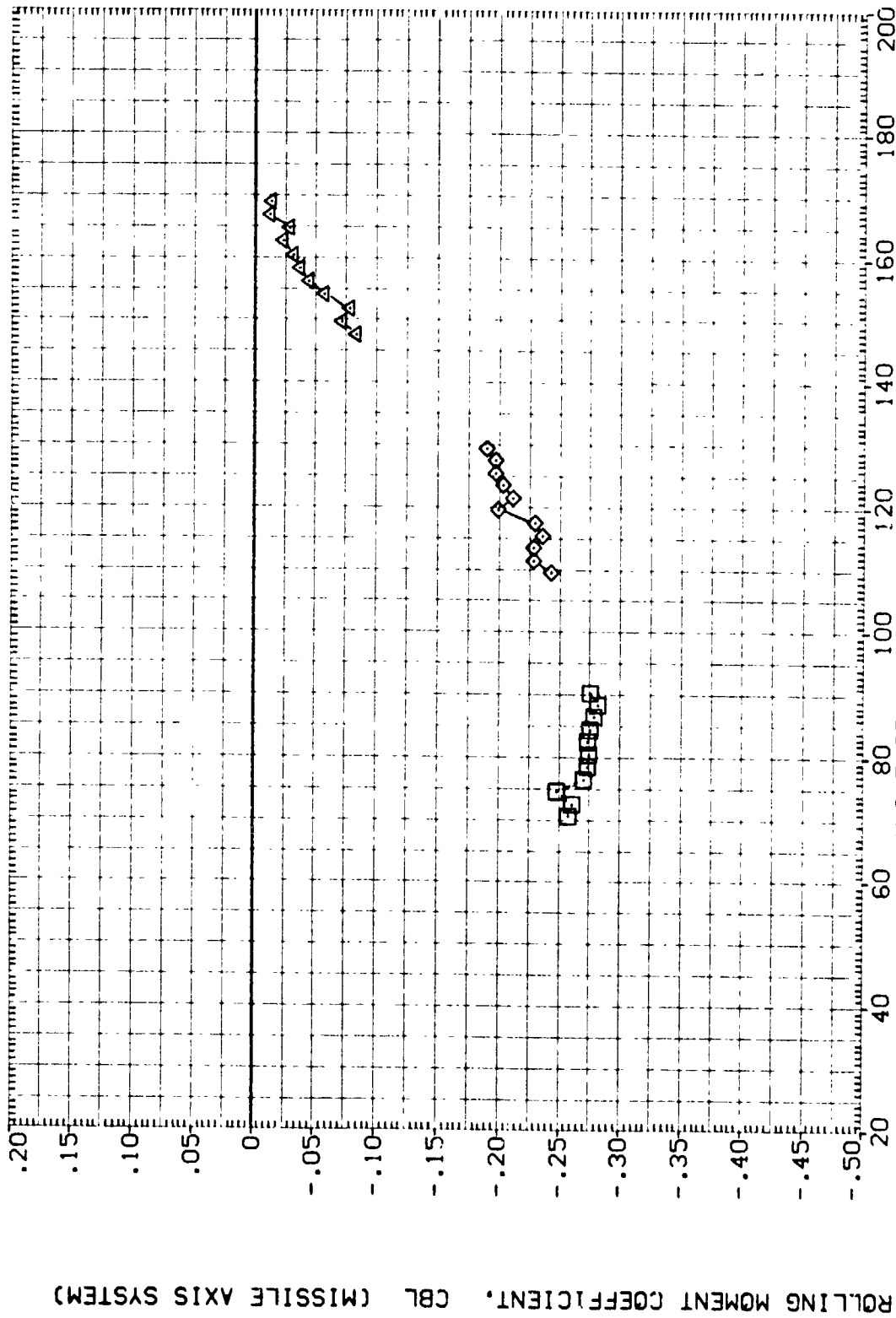


FIGURE 20. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 45)

(MACH = 1.96)

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 45.000
 45.000
 45.000

CONFIGURATION DESCRIPTION
 DATA NOT AVAILABLE
 MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES

DATA SET SYMBOL
 (A1H004)
 (A1H034)
 (A1H035)
 (A1H036)

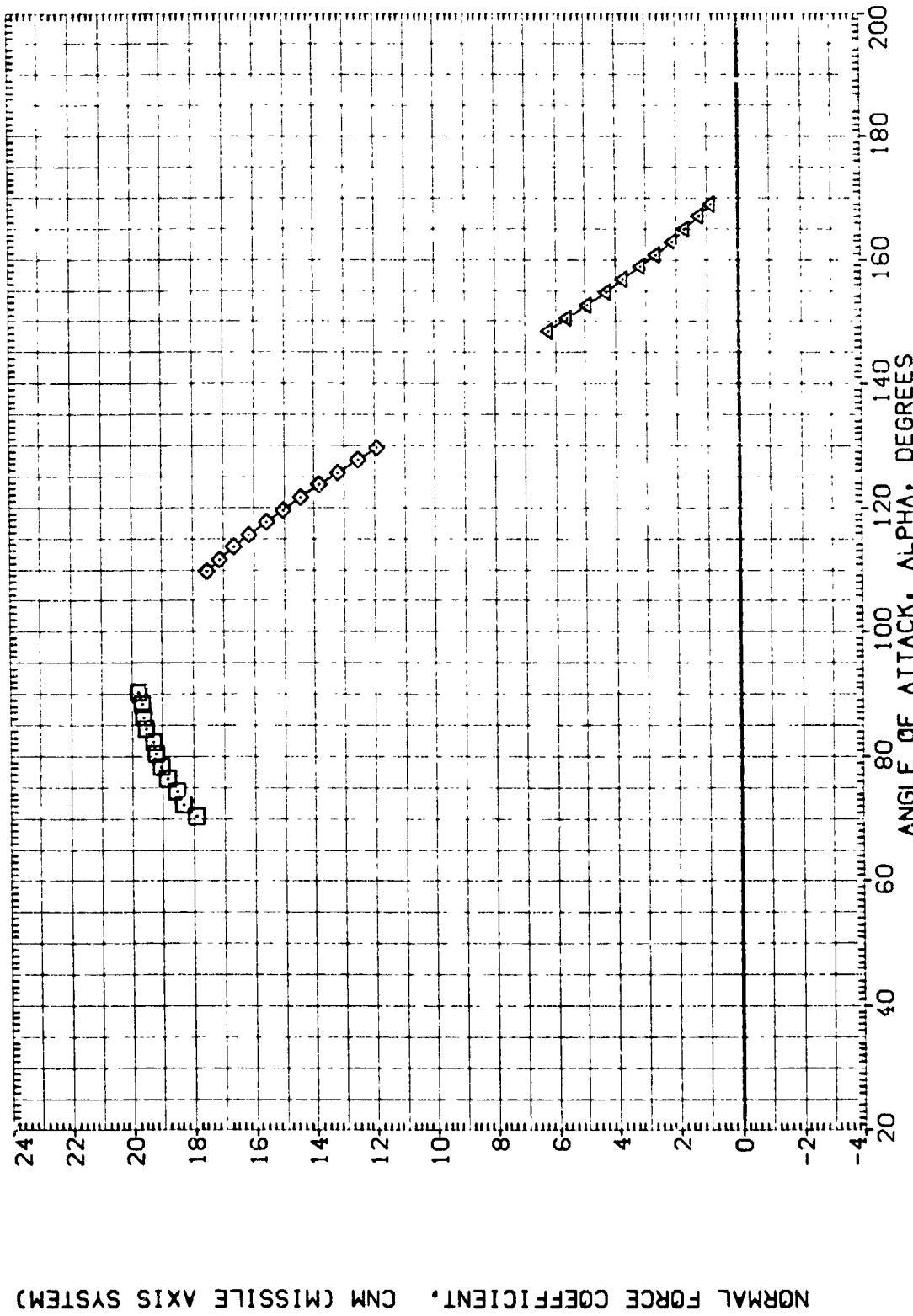


FIGURE 20. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 45)
 (F)MACH = 2.74

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H034) DATA NOT AVAILABLE 45.000

(A1H034) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 45.000

(A1H035) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 45.000

(A1H036) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 45.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

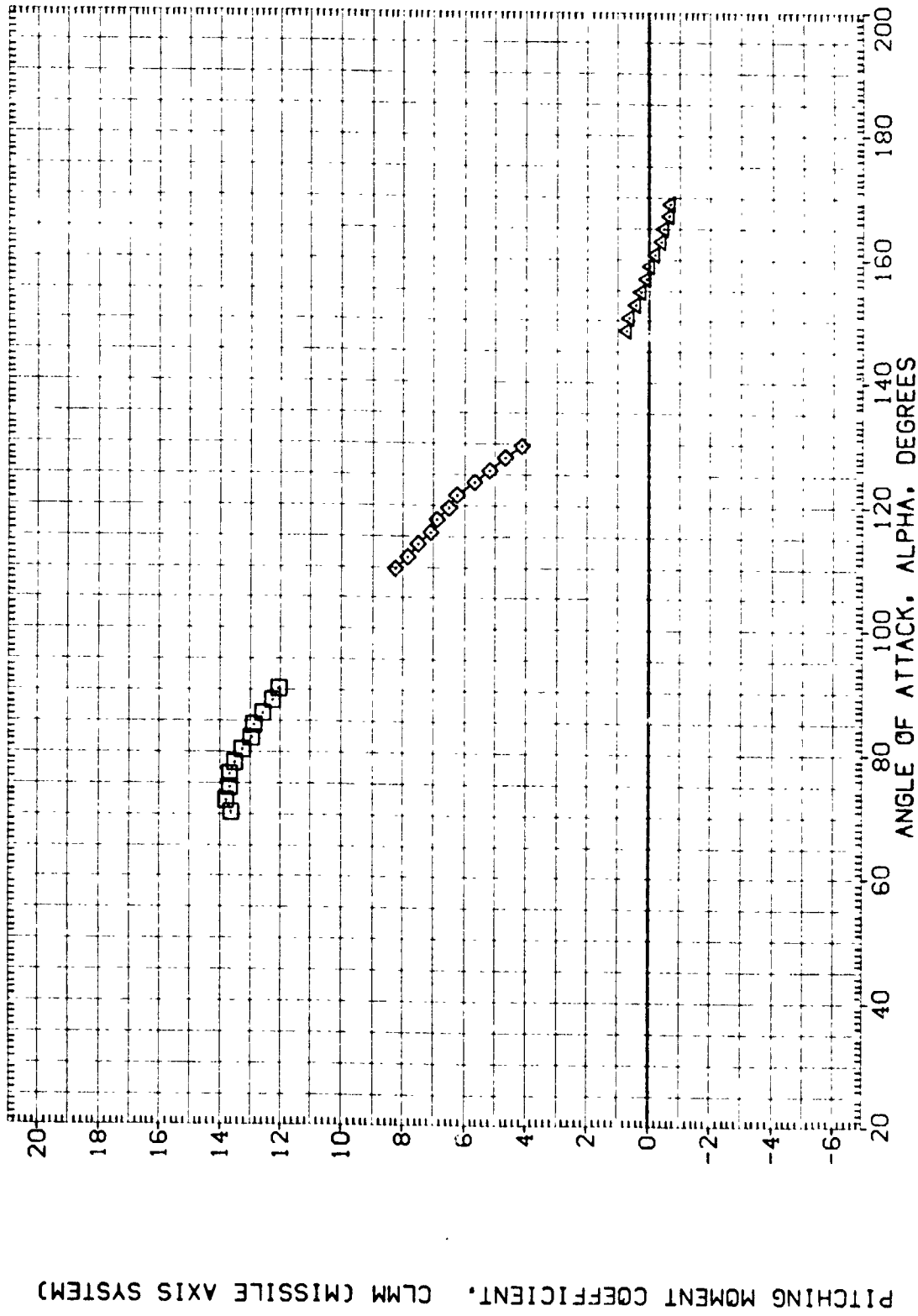


FIGURE 20. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 45)

(F)MACH = 2.74

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H034) DATA NOT AVAILABLE 45.000

(A1H034) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 45.000

(A1H035) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 45.000

(A1H036) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 45.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

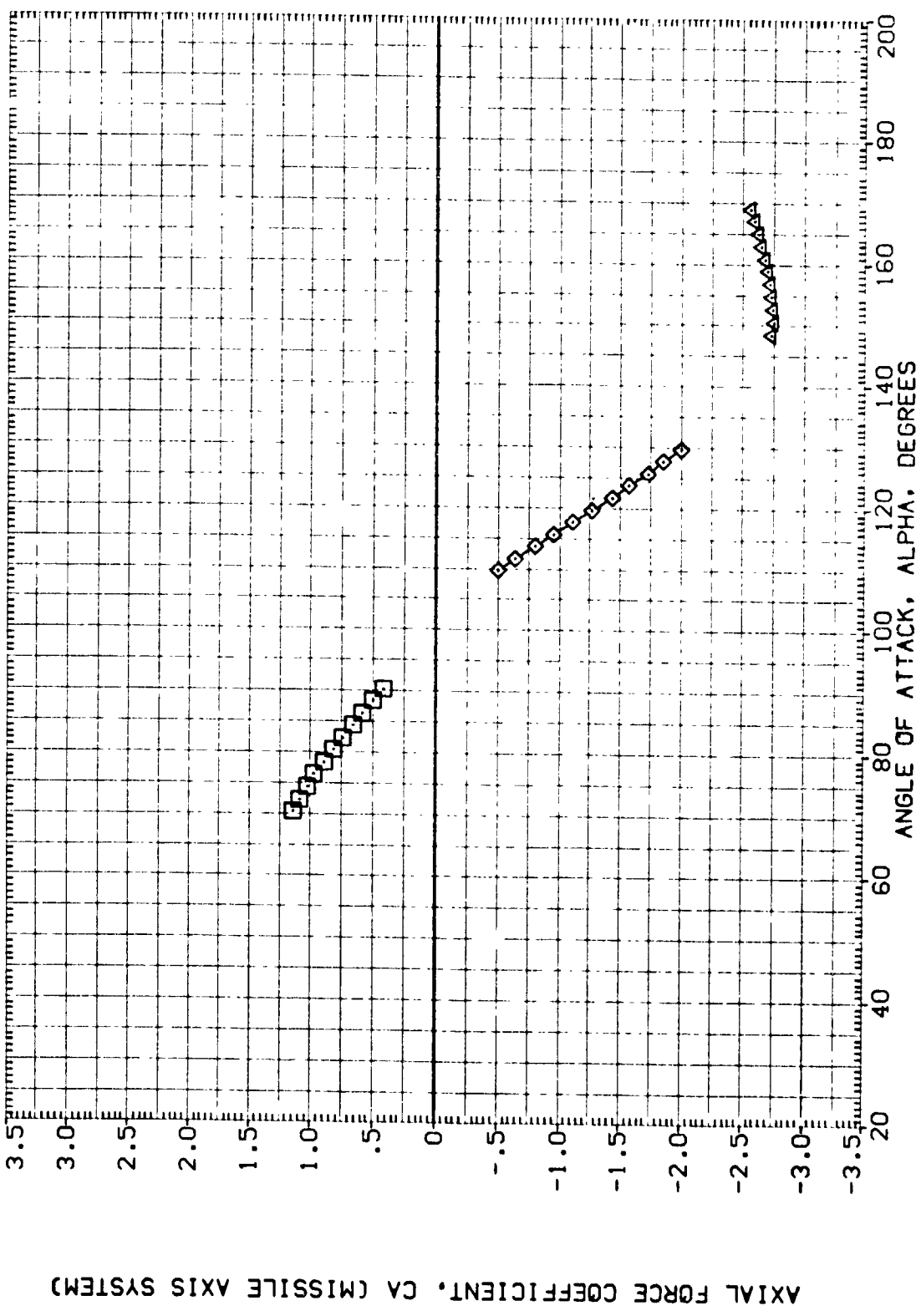


FIGURE 20. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 45)

(F)MACH = 2.74

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 45.000
 45.000
 45.000

CONFIGURATION DESCRIPTION
 DATA NOT AVAILABLE
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

DATA SET SYMBOL
 (A1-HA04)
 (A1-H034)
 (A1-H035)
 (A1-H036)

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

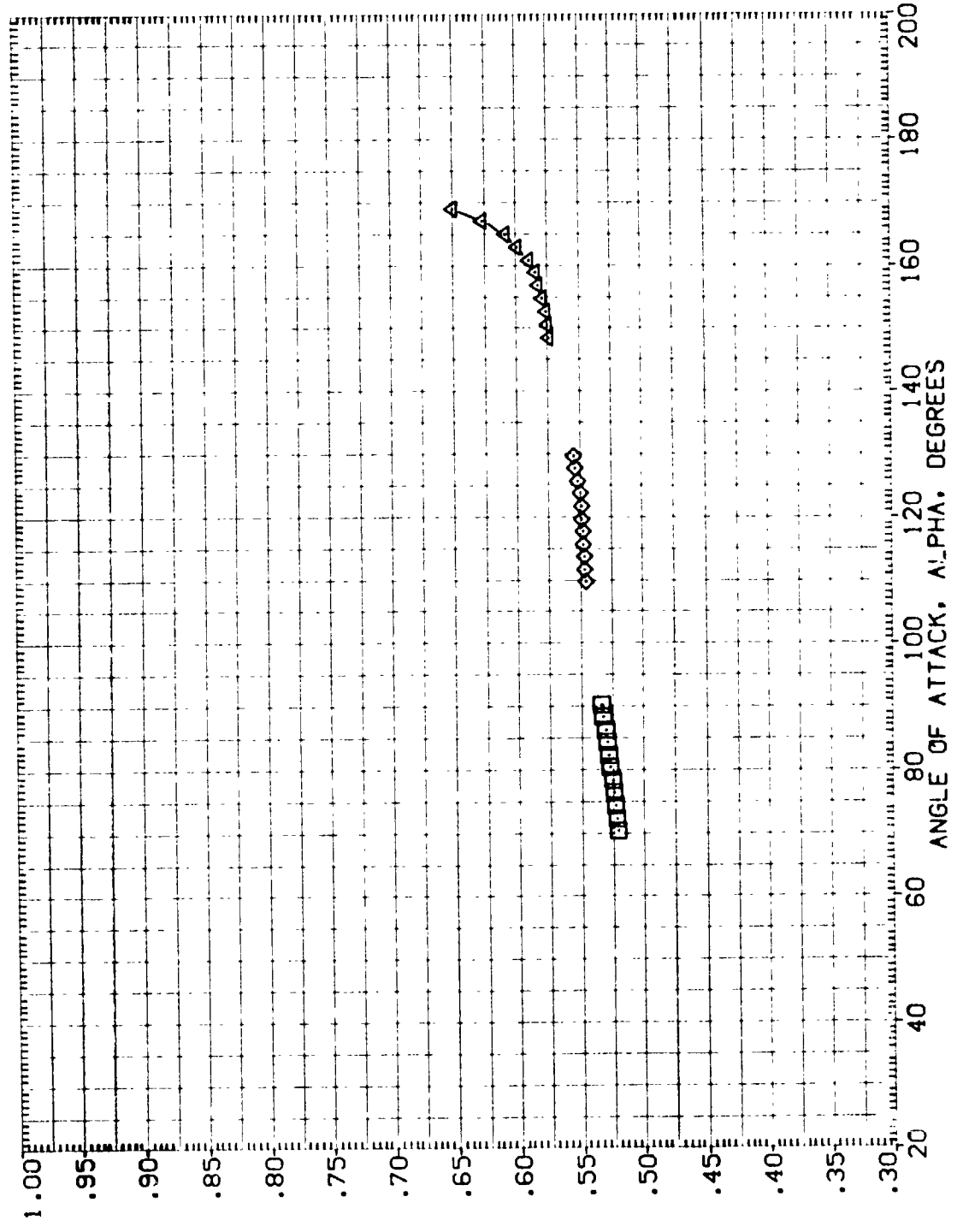


FIGURE 20. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 45)

(F)MACH = 2.74

DATA SET SYMBOL
 (AIH034)
 (AIH034)
 (AIH035)
 (AIH036)

CONFIGURATION DESCRIPTION
 DATA NOT AVAILABLE
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI
 45.000
 45.000
 45.000

REFERENCE INFORMATION
 SREF 5030 SO. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

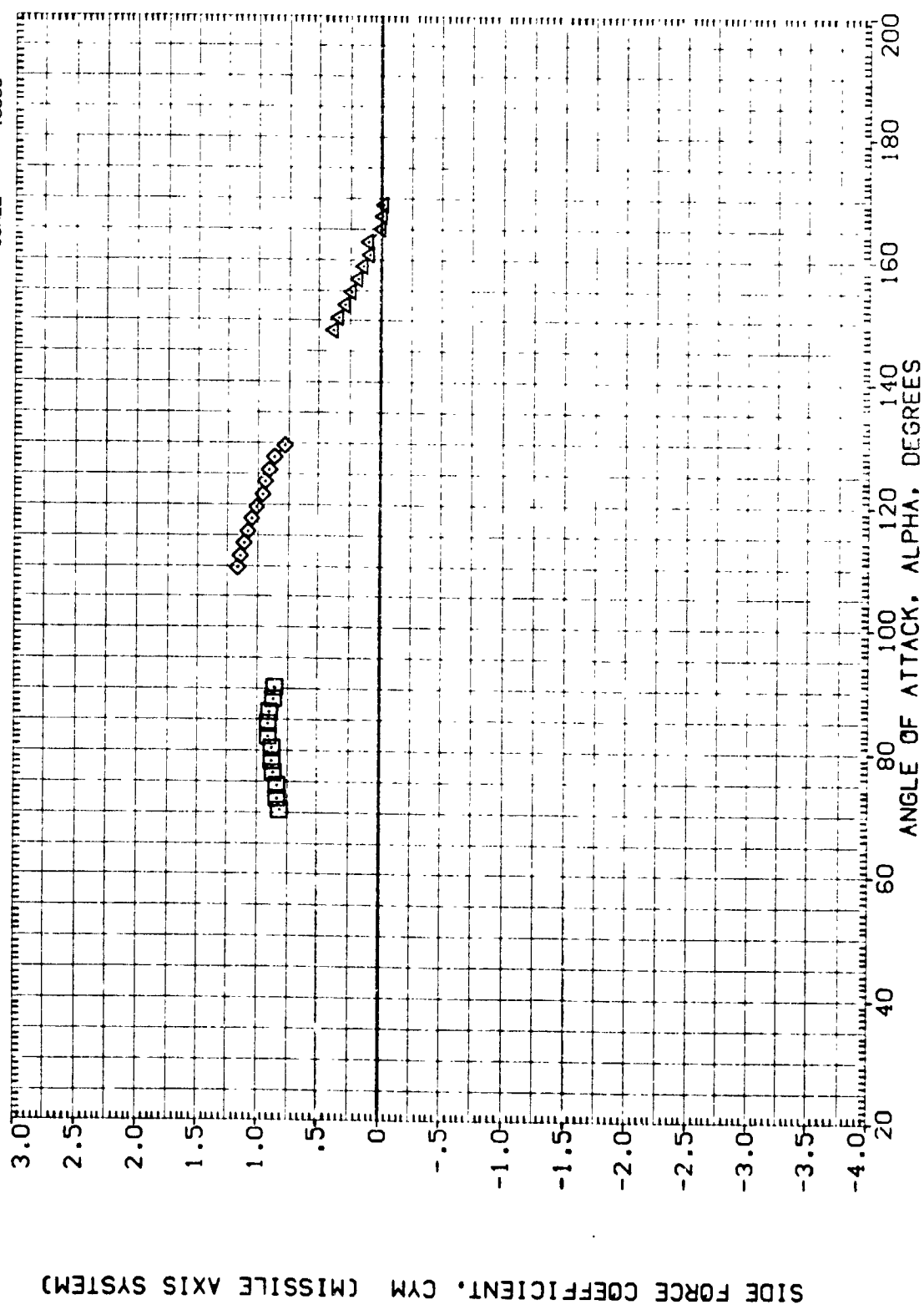


FIGURE 20. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 45)

(F)MACH = 2.74

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1HC74) DATA NOT AVAILABLE 45.000

(A1HC74) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 45.000

(A1HC35) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 45.000

(A1HC36) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 45.000

REFERENCE INFORMATION

SREF 5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

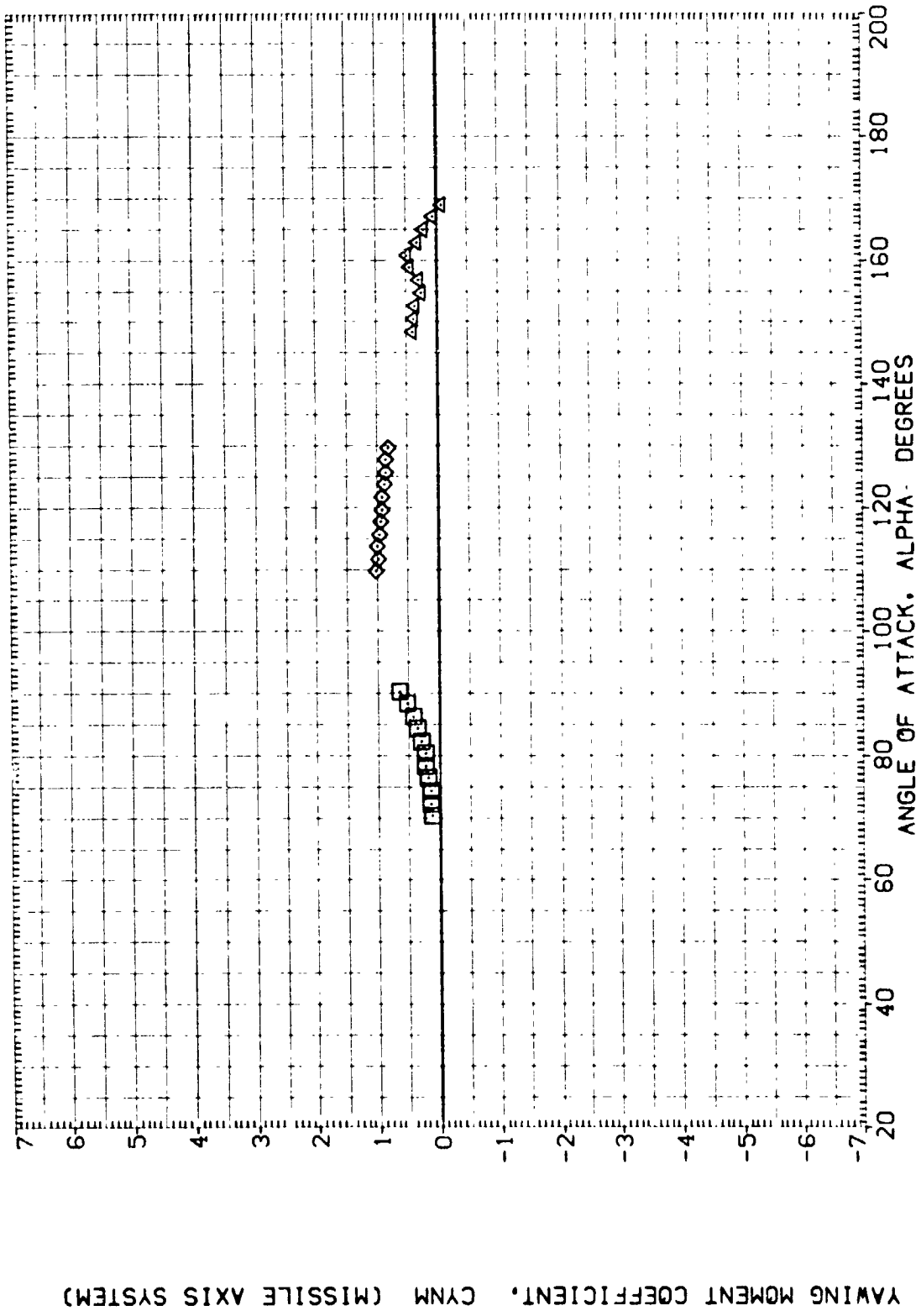


FIGURE 20. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 45)

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H004) □ DATA NOT AVAILABLE
 (A1H004) ○ MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H005) △ MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H006) × MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES

PHI
 45.000
 45.000
 45.000

REFERENCE INFORMATION
 SREF 5030 50. IN.
 LREF 8000 IN.
 BRFP 8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

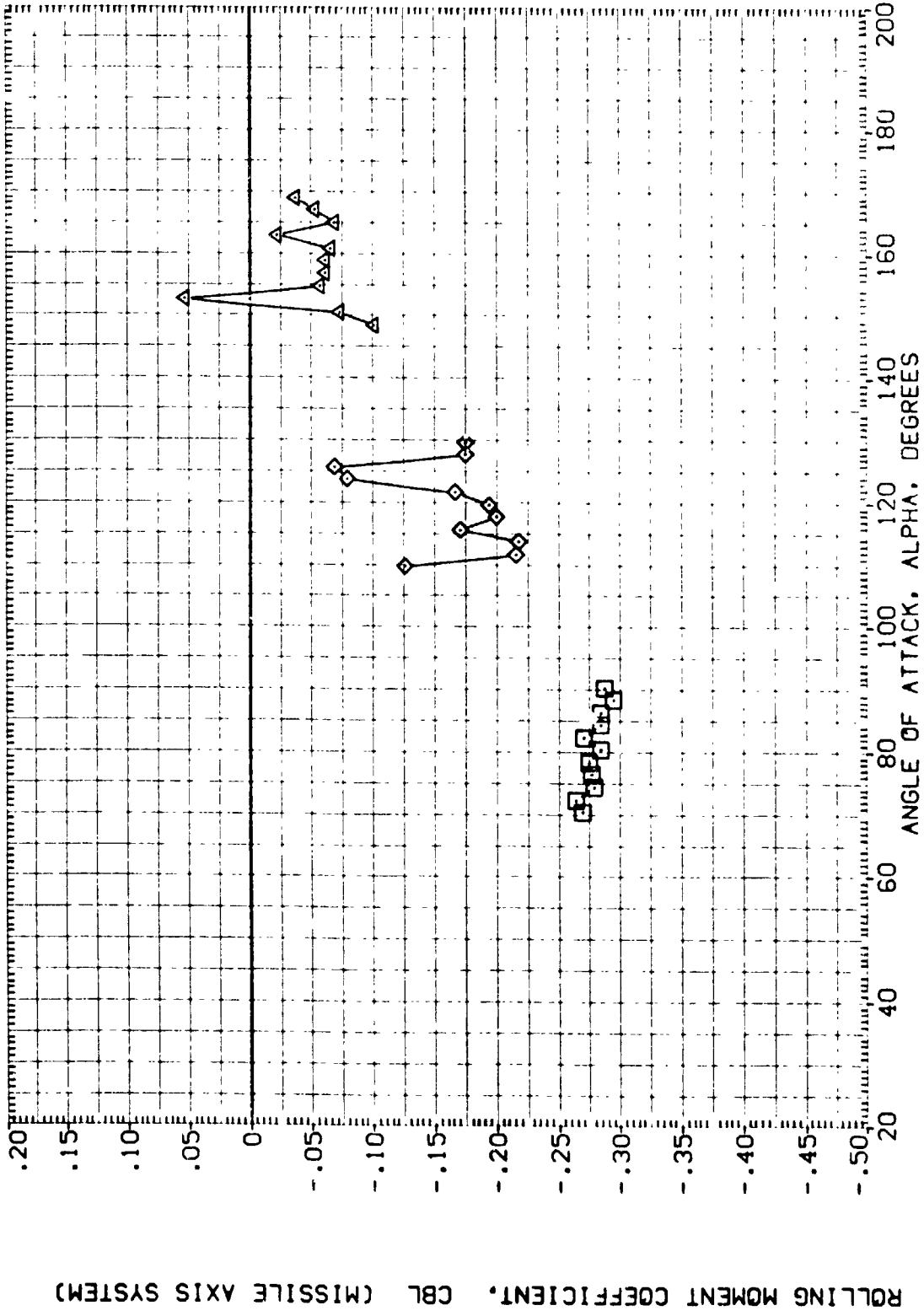


FIGURE 20. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 45)
 (F)MACH = 2.74

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(A)H004	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	45.000	SREF .5030 SQ. IN.
(A)H034	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	45.000	LREF .8000 IN.
(A)H035	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	45.000	BREF .8000 IN.
(A)H036	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	45.000	XMRP 5.7210 IN. XS
			YMRP .0000 IN. YS
			ZMRP .0000 IN. ZS
			SCALE .0055

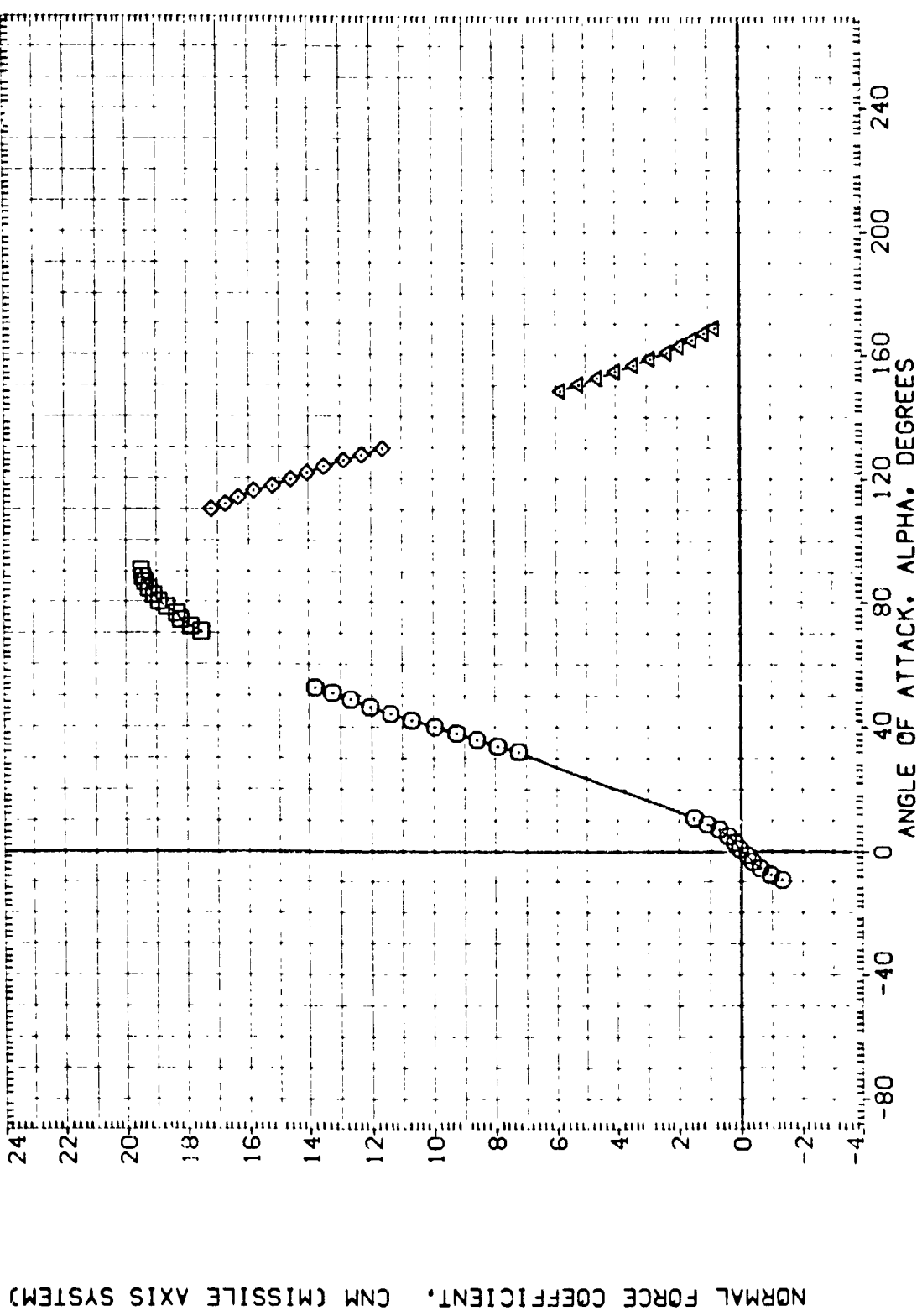


FIGURE 20. STATIC STABILITY CHARACT. OF SRB W/WALL PROTUBERANCES (PHI = 45)

(A)MACH = 3.48

REFERENCE INFORMATION
 SREF .5030 SG.IN.
 LREF .8000 IN.
 BRFF .8000 IN.
 XPRP 5.7210 IN. XS
 YPRP .0000 IN. YS
 ZPRP .0000 IN. ZS
 SCALE .0055

PHI
 45.000
 45.000
 45.000
 45.000

CONFIGURATION DESCRIPTION
 MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES

DATA SET SYMBOL
 (A1H004) □
 (A1H034) ○
 (A1H035) △
 (A1H036) X

PITCHING MOMENT COEFFICIENT, CLMM (MISSILE AXIS SYSTEM)

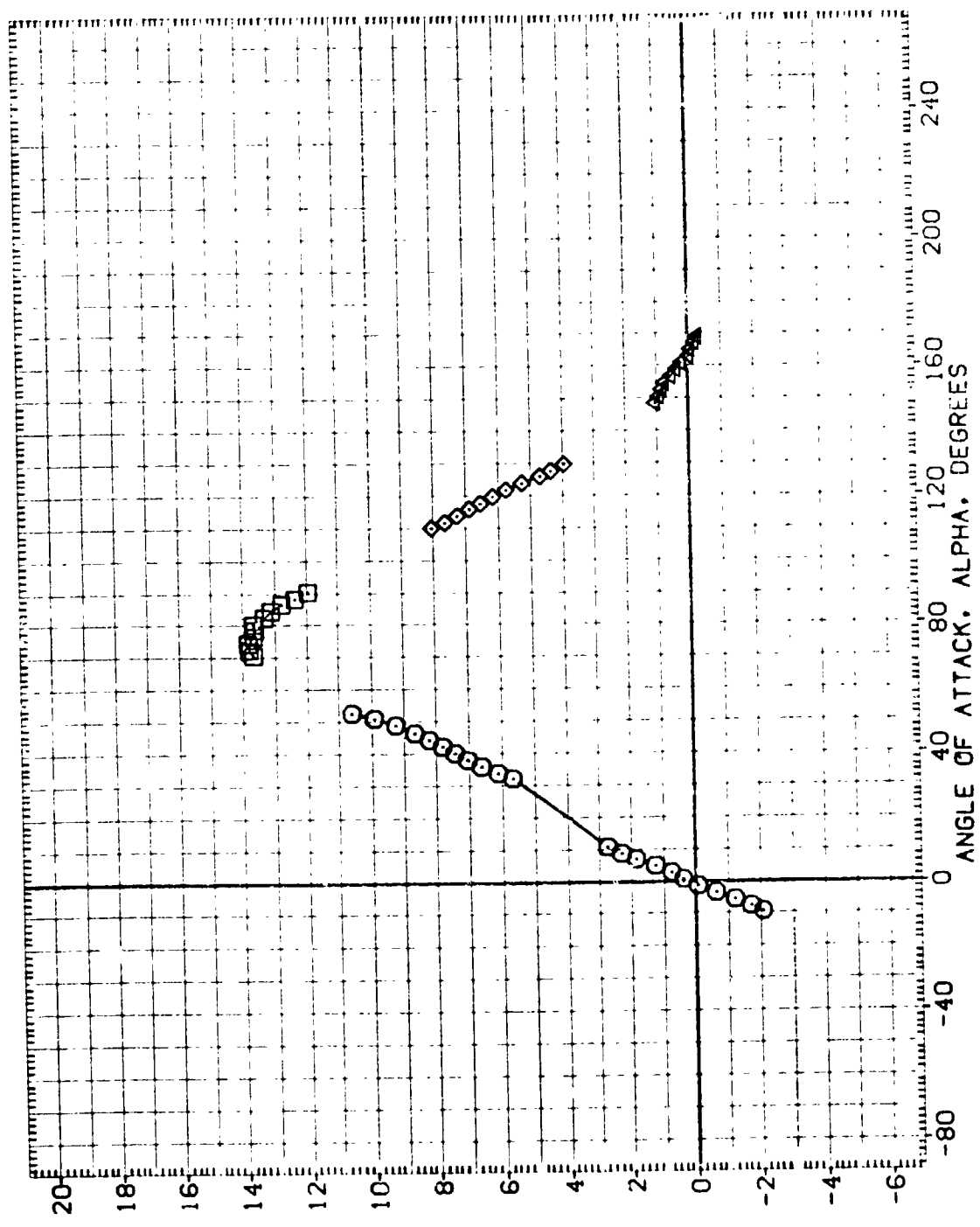


FIGURE 20. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 45)

(A)MACH = 3.48

REFERENCE INFORMATION
 SREF .5030 IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 45.000
 45.000
 45.000

PROTUBERANCES
 ALL PROTUBERANCES
 ALL PROTUBERANCES
 ALL PROTUBERANCES

CONFIGURATION DESCRIPTION
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

DATA SET SYMBOL
 (AIH034) □
 (AIH034) ○
 (AIH035) △
 (AIH036) △

AXIAL FORCE COEFFICIENT, CA (MISSILE AXIS SYSTEM)

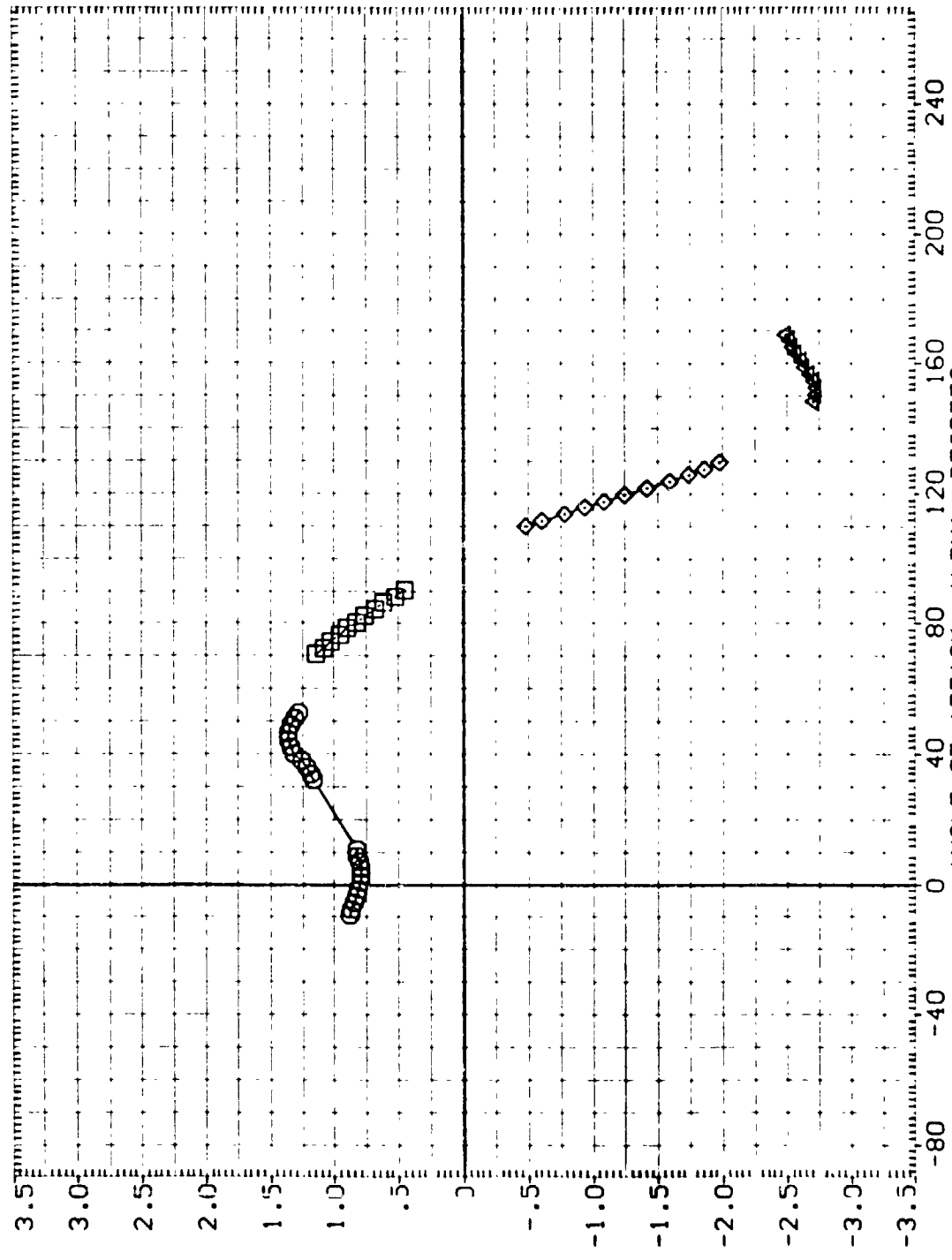


FIGURE 20. STATIC STABILITY CHARACT. OF SRB W/WALL PROTUBERANCES (PHI = 45)

(A)MACH = 3.48

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H004) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 45.000
 (A1H004) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 45.000
 (A1H005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 45.000
 (A1H006) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 45.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XPRP 5.7210 IN. XS
 YPRP .0000 IN. YS
 ZPRP .0000 IN. ZS
 SCALE .0055

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

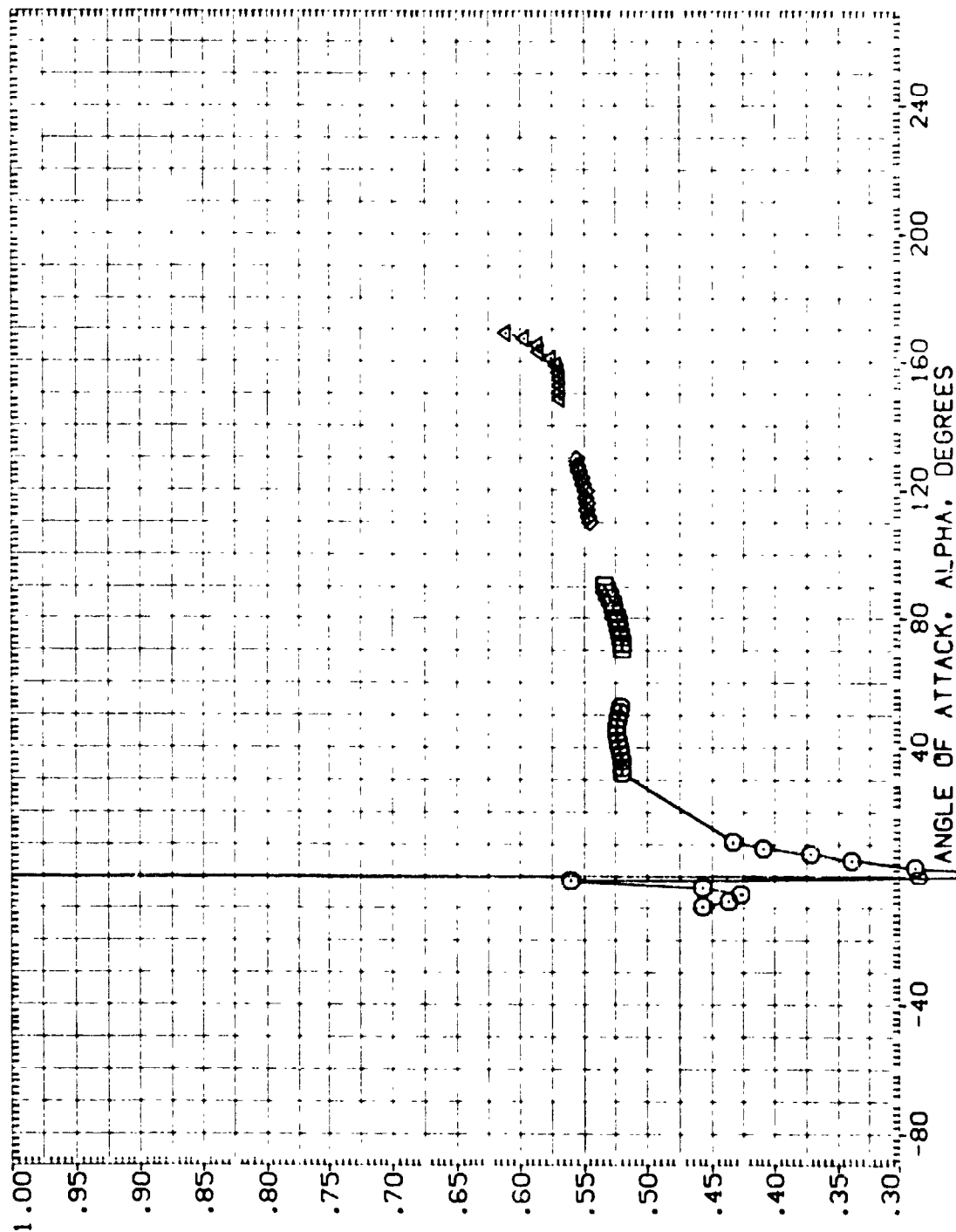


FIGURE 20. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 45)

(A)MACH = 3.48

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(A1H004)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	45.000	SREF .5030 SQ. IN.
(A1H034)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	45.000	LREF .8000 IN.
(A1H035)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	45.000	BREF .8000 IN.
(A1H036)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	45.000	XMRP 5.7210 IN. XS
			YMRP .0000 IN. YS
			ZMRP .0000 IN. ZS
			SCALE .0055

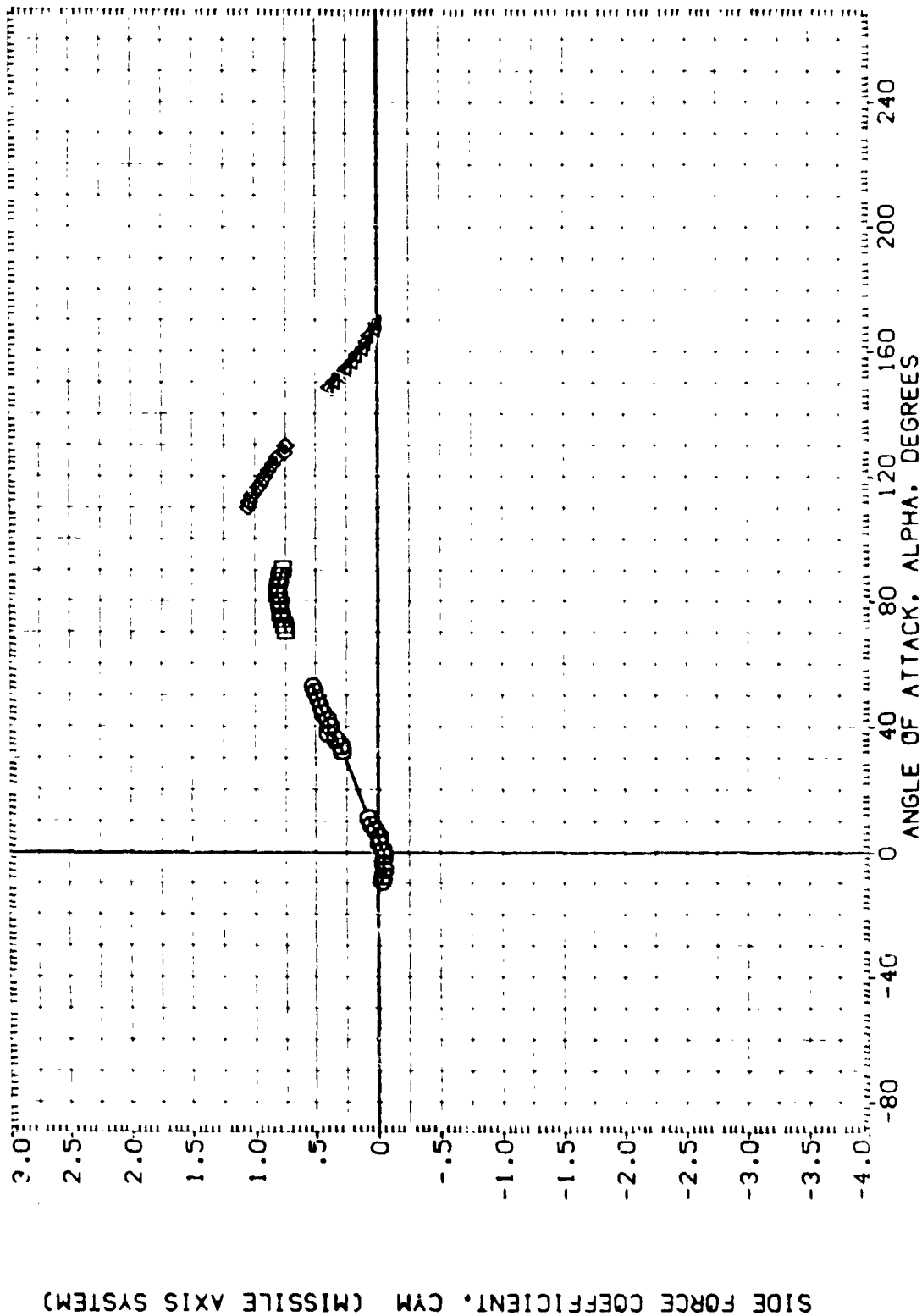


FIGURE 20. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 45)

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 UAREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 45.000
 45.000
 45.000

CONFIGURATION DESCRIPTION
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

DATA SET SYMBOL
 (A1H004)
 (A1H014)
 (A1H025)
 (A1H036)

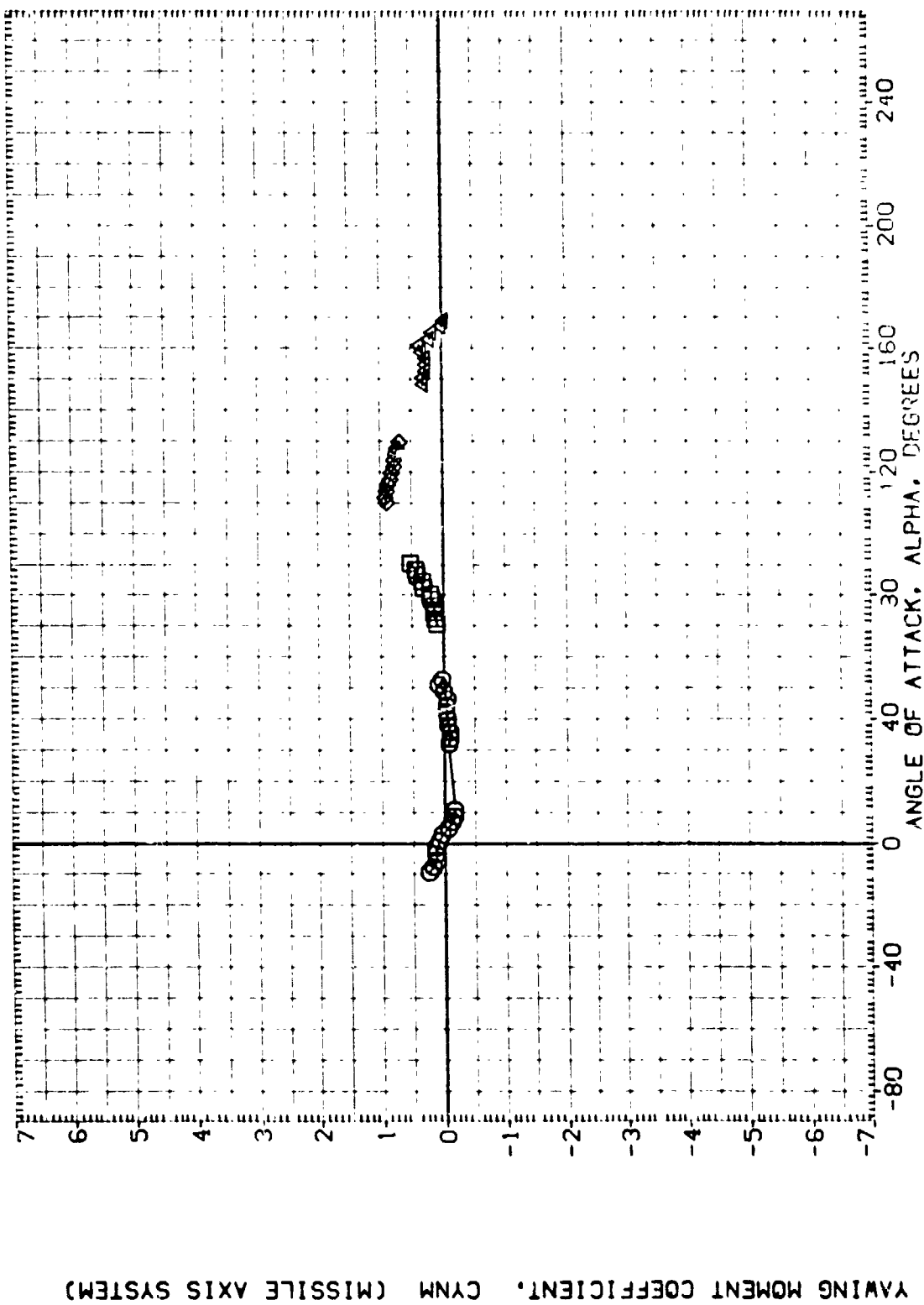


FIGURE 20. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 45)

(A)MACH = 3.48

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BRREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 45.000
 45.000
 45.000

DATA SET SYMBO. CONFIGURATION DESCRIPTION
 (A1H034) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H034) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H035) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H036) MSFC TVT604 (GAUF) SRB WITH ALL PROTUBERANCES

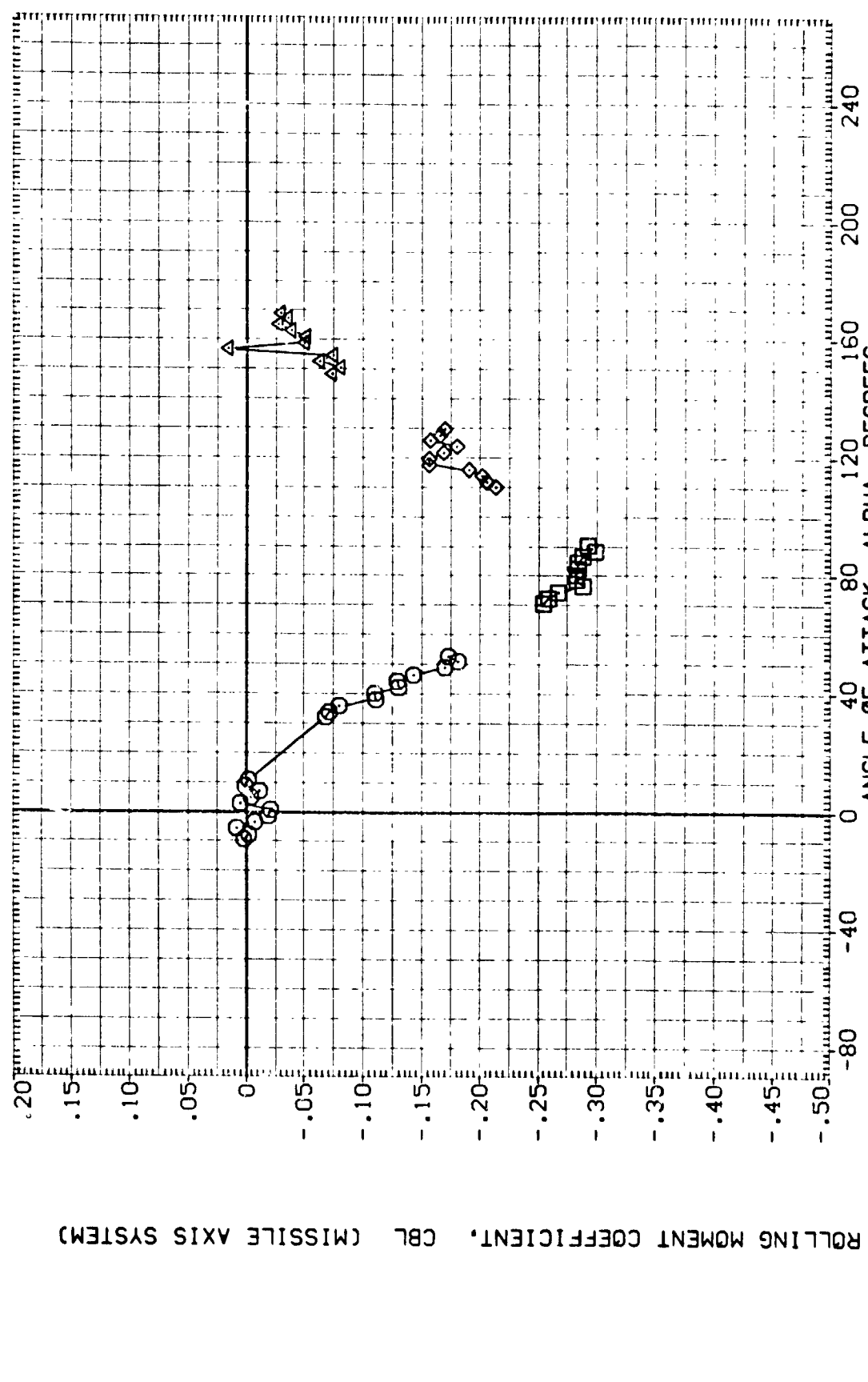


FIGURE 20. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 45)

(A)MACH = 3.48

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A11H005) DATA NOT AVAILABLE

(A11H040) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A11H005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A11H005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI

90.000

90.000

90.000

REFERENCE INFORMATION

SREF .5030 50. IN.

LREF .9000 IN.

BREF .9000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

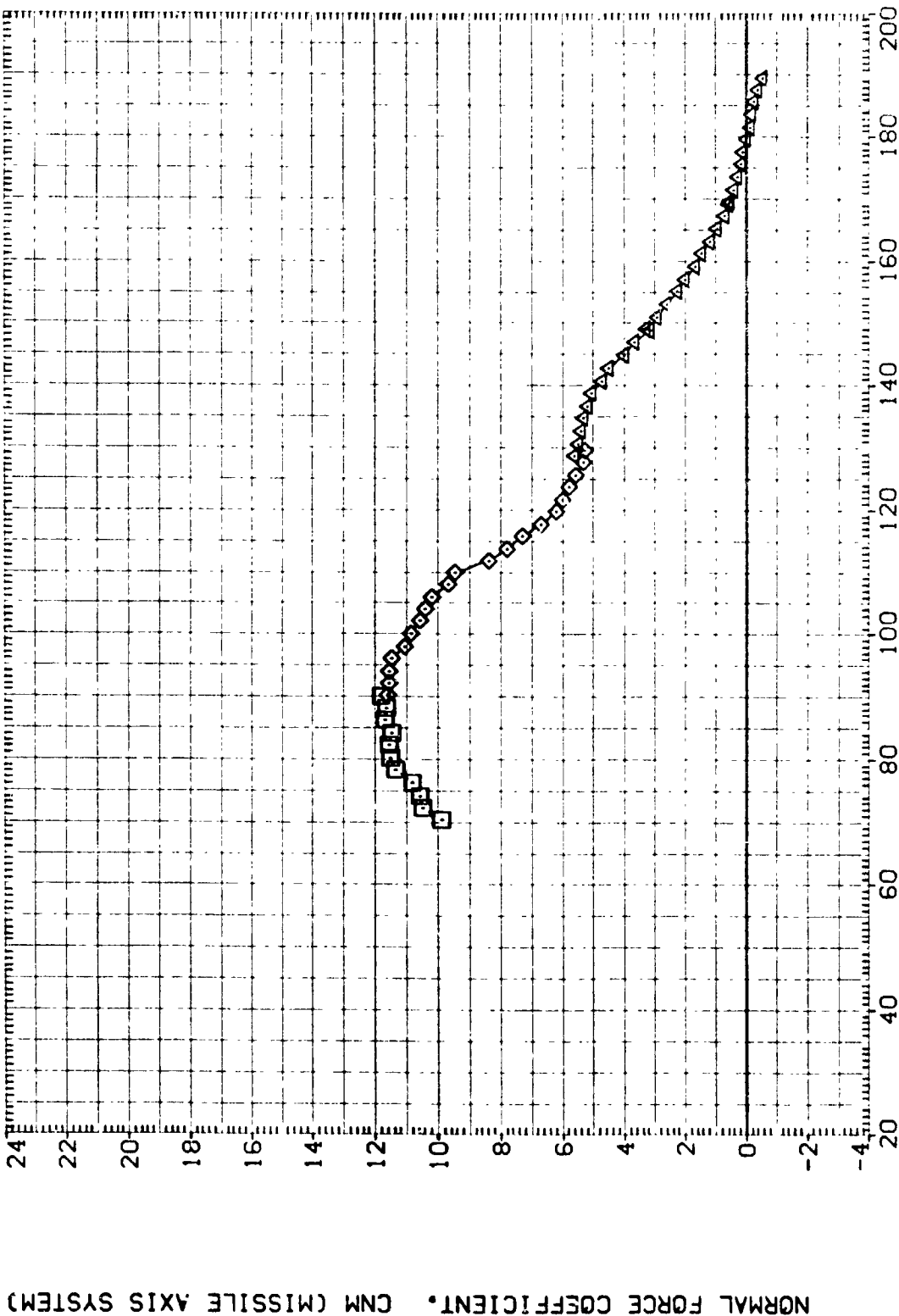


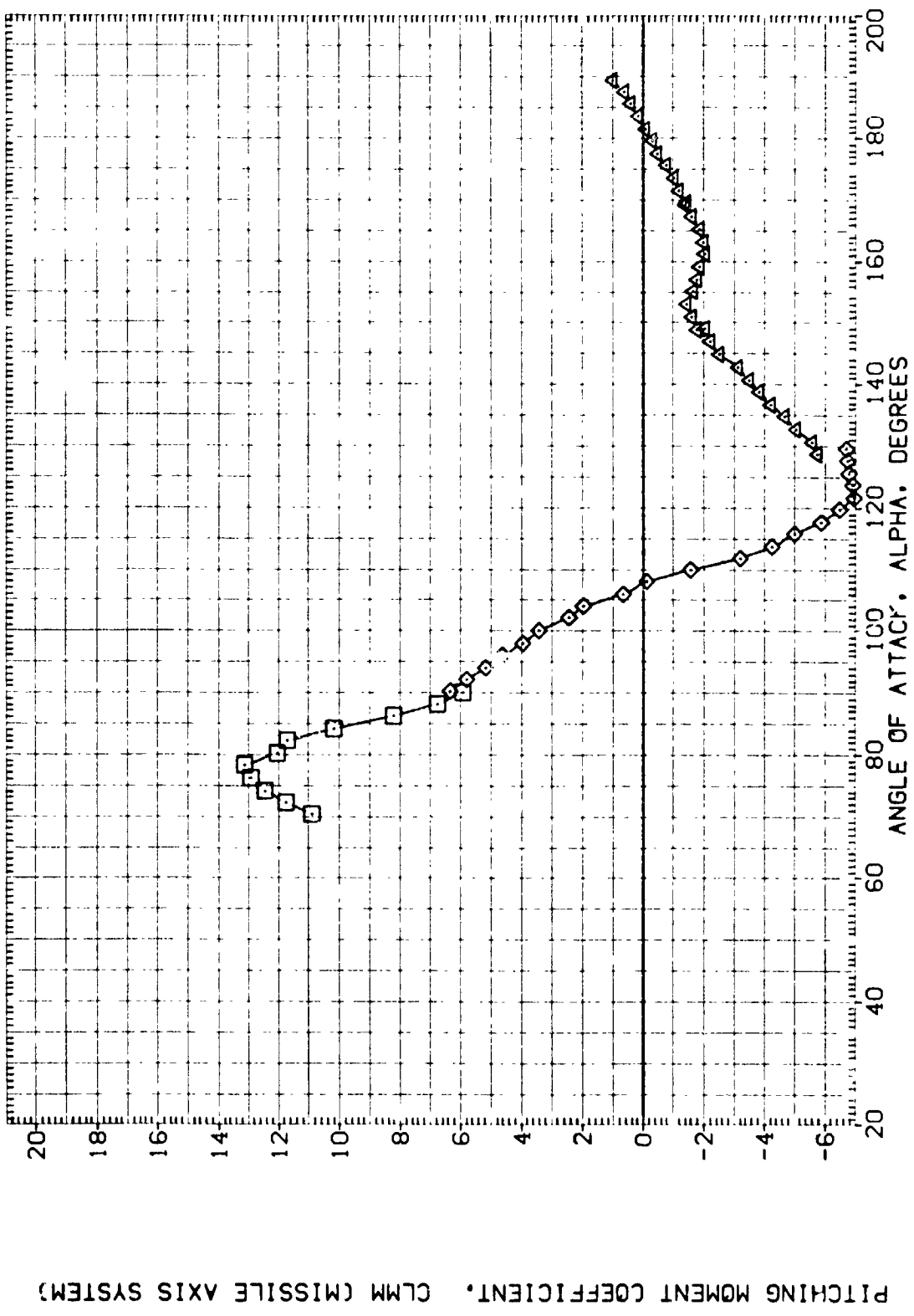
FIGURE 21. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 90)

(A)MACH = .40

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 90.000
 90.000
 90.000
 90.000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H405) DATA NOT AVAILABLE
 (A1H404) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H403) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H405) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES



PITCHING MOMENT COEFFICIENT, CLMM (MISSILE AXIS SYSTEM)

FIGURE 21. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 90)

MACH = .40

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H405) DATA NOT AVAILABLE 90.000

(A1H400) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

(A1H405) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

(A1H405) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

REFERENCE INFORMATION

SREF .5030 50. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

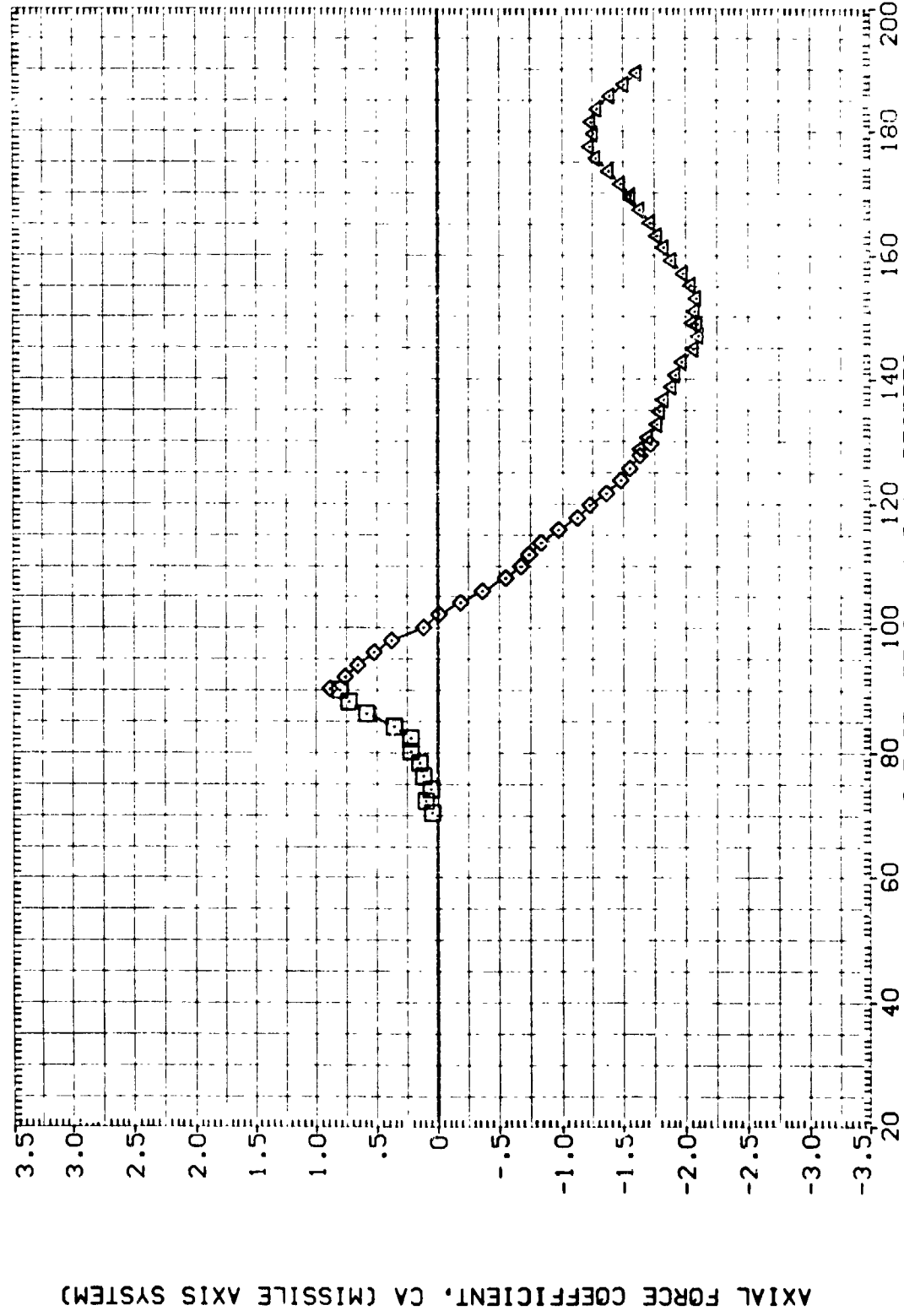


FIGURE 21. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 90)

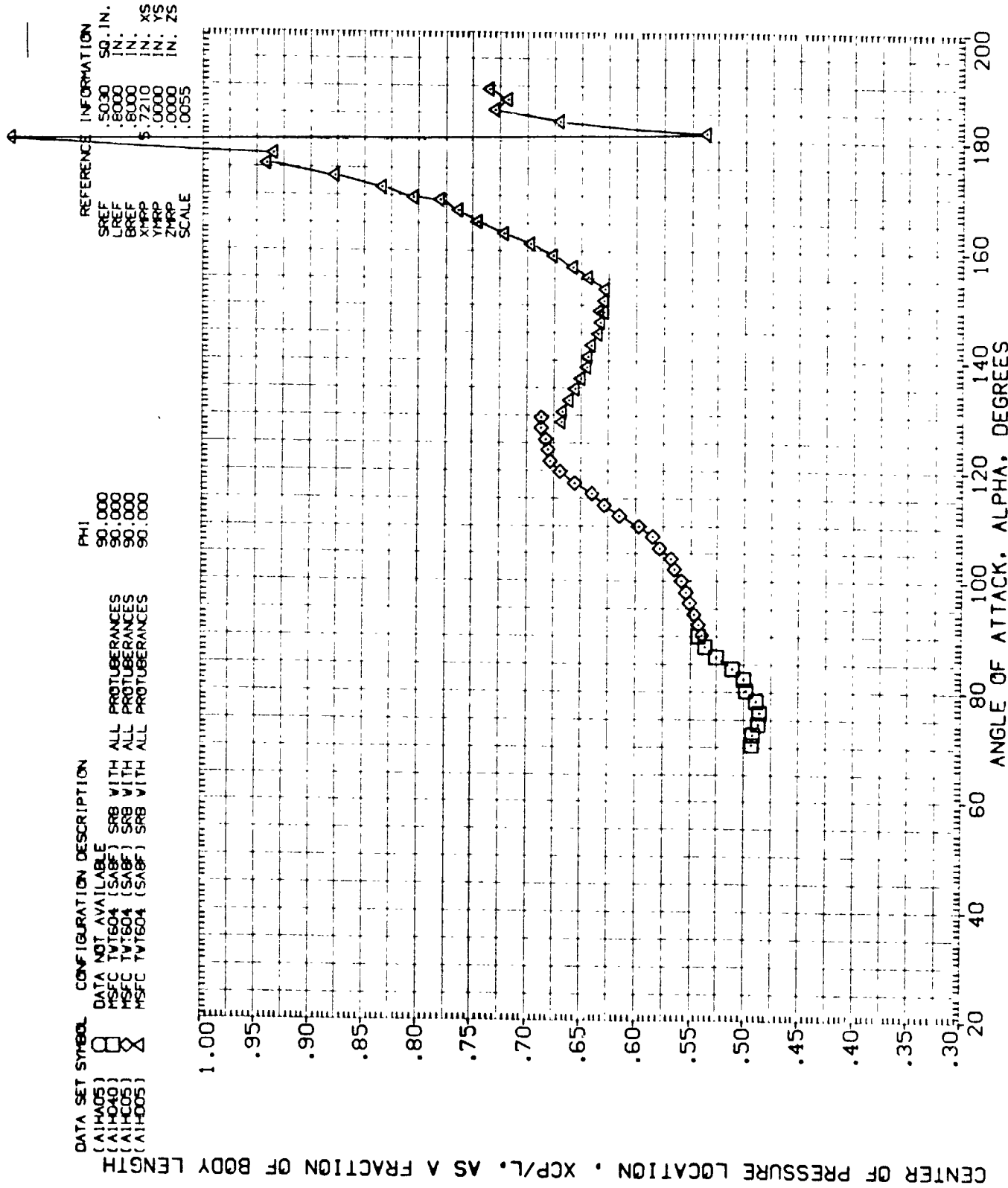


FIGURE 21. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 90)

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 90.000
 90.000
 90.000
 90.000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H005) DATA NOT AVAILABLE
 (A1H040) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

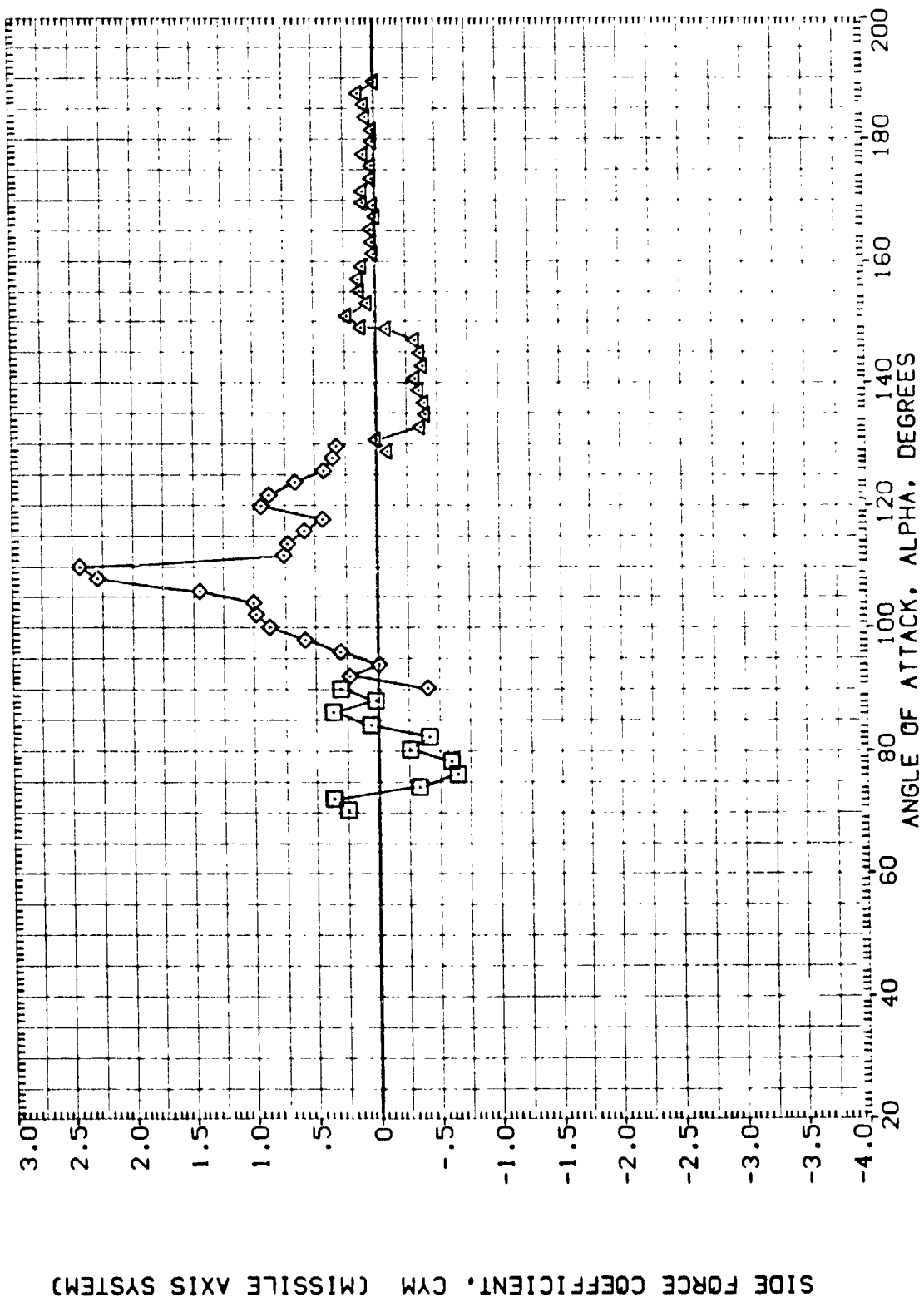


FIGURE 21. STATIC STABILITY CHARACTERISTICS OF SRB W/ALL PROTUBERANCES (PHI = 90)

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1M005) DATA NOT AVAILABLE

(A1M040) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES

(A1M005) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES

(A1M005) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES

PHI

90.000

90.000

90.000

90.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

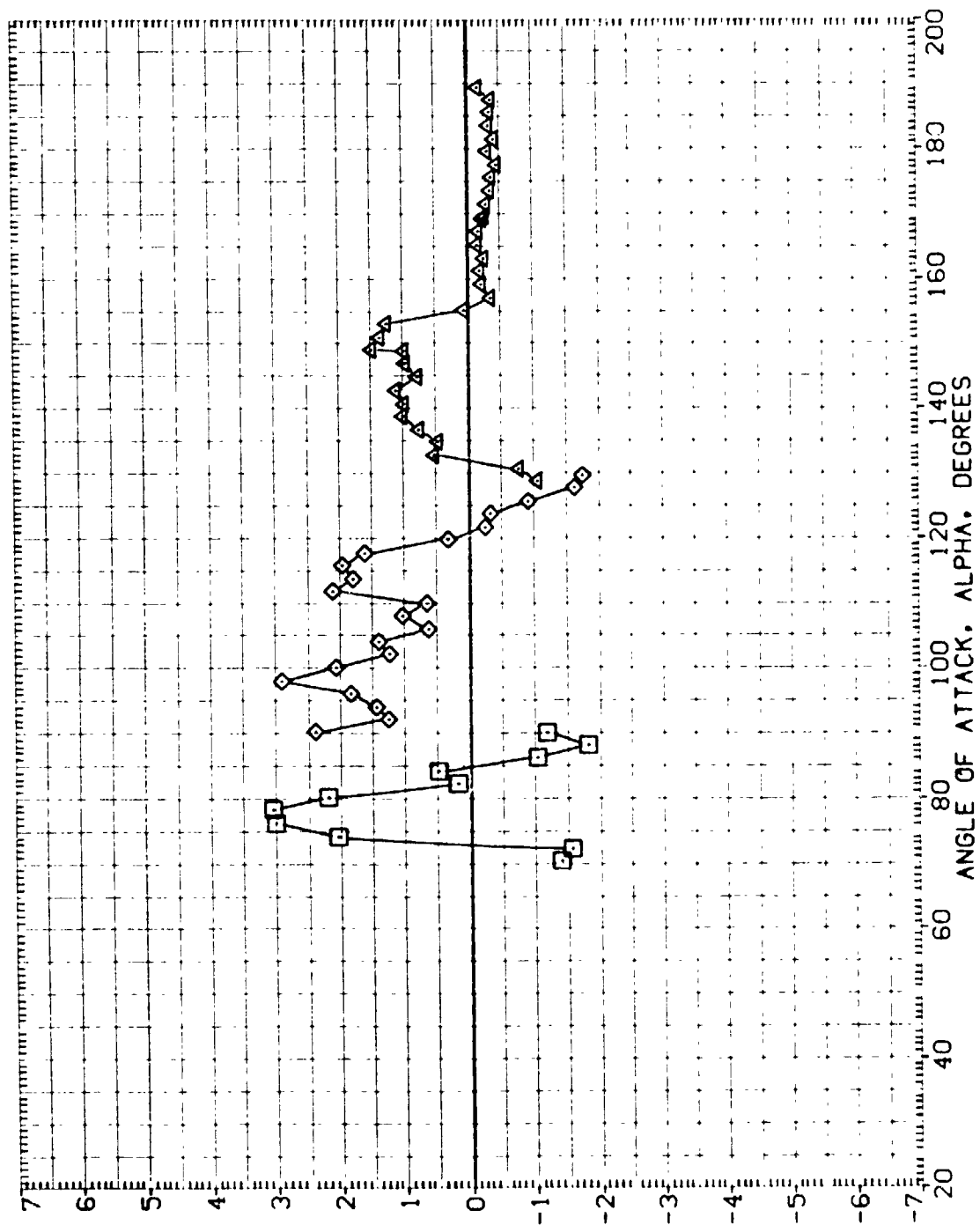
BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055



YAWING MOMENT COEFFICIENT, C_{YM} (MISSILE AXIS SYSTEM)

FIGURE 21. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 90)

(A)MACH = .40

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H005) DATA NOT AVAILABLE
 (A1H040) MSFC TVT804 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H005) MSFC TVT804 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H005) MSFC TVT804 (SABF) SRB WITH ALL PROTUBERANCES

PHI

90.000
 90.000
 90.000

REFERENCE INFORMATION

SREF 5030 50. IN.
 LREF 8000 IN.
 BREF 8000 IN.
 XMRP 5.7210 IN. XS
 ZMRP .0000 IN. ZS
 SCALE .0055

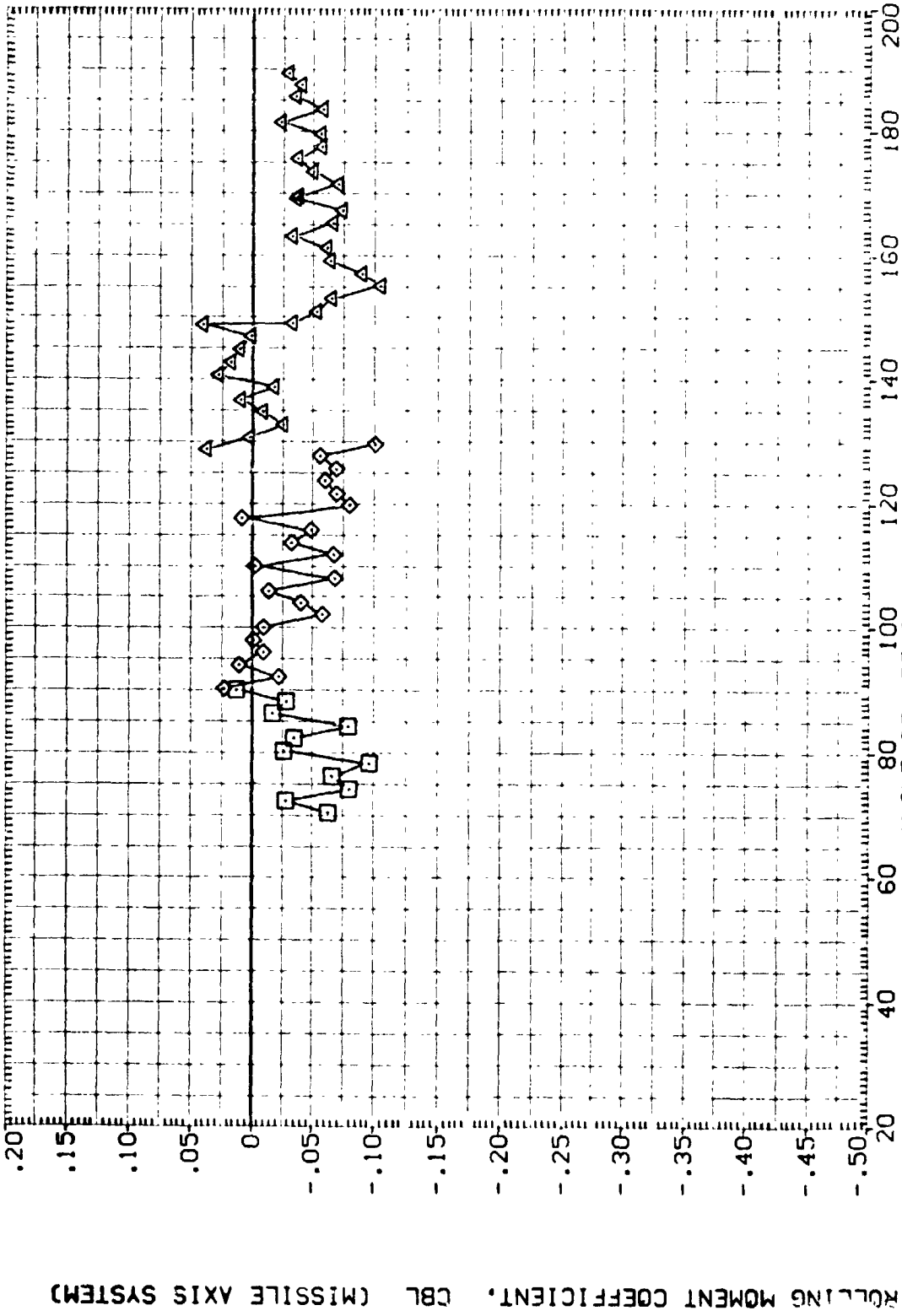


FIGURE 21. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 90)

(A)MACH = .40

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI REFERENCE INFORMATION

(AIH005) DATA NOT AVAILABLE 90.000 SREF .5030 50. IN.

(AIH040) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000 LREF .6000 IN.

(AIH005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000 BRFC .6000 IN.

(AIH005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000 XMRP 5.7210 IN. XS

(AIH005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000 YMRP .0000 IN. YS

(AIH005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000 ZMRP .0000 IN. ZS

SCALE .0055

PHI 90.000

90.000

90.000

90.000

SRB WITH ALL PROTUBERANCES

SRB WITH ALL PROTUBERANCES

SRB WITH ALL PROTUBERANCES

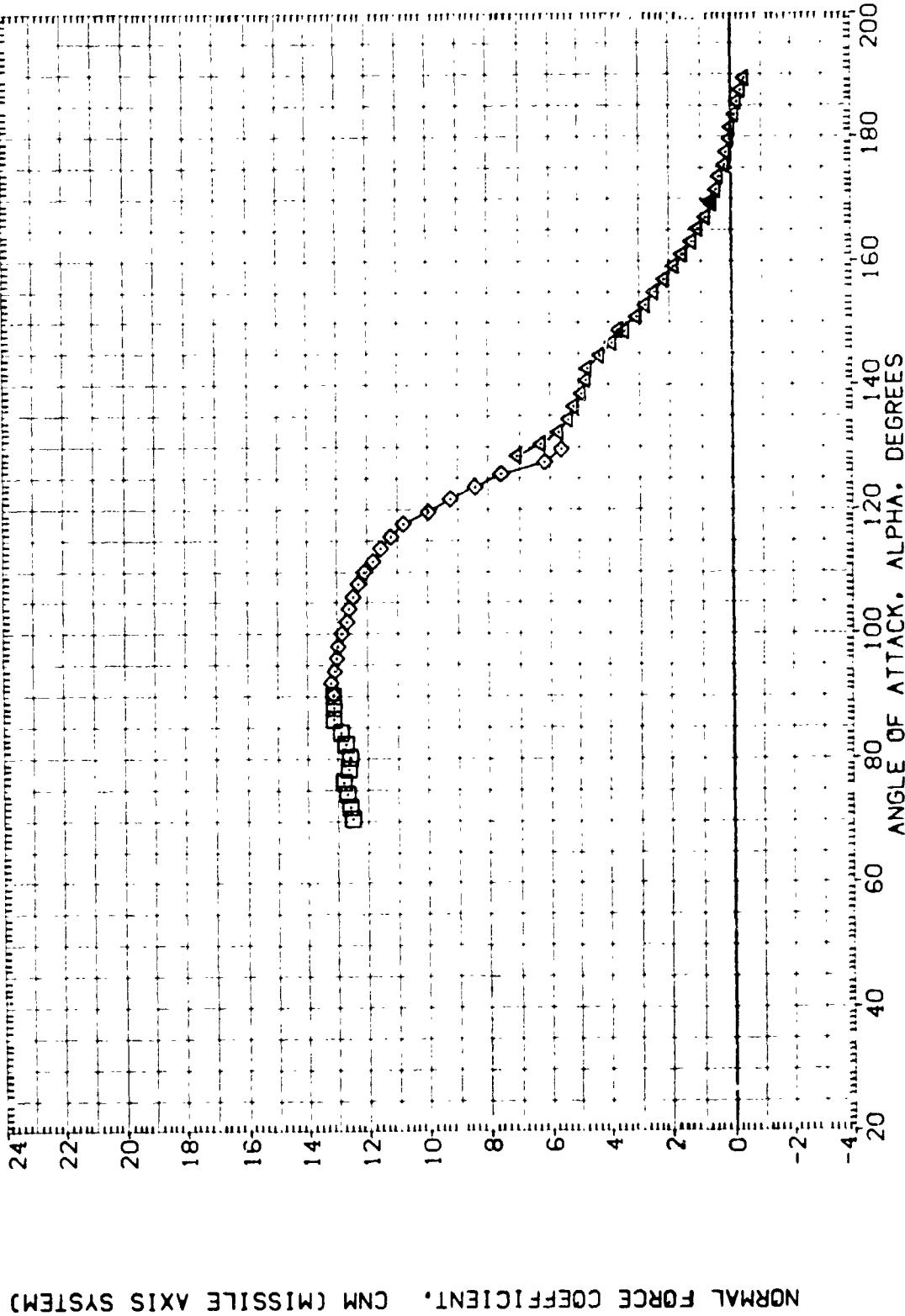


FIGURE 21. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 90)

(8)MACH = .60

PAGE 197

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A11-HA05) DATA NOT AVAILABLE

(A11-H040) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A11-H005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A11-H005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI

90.000

90.000

90.000

90.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

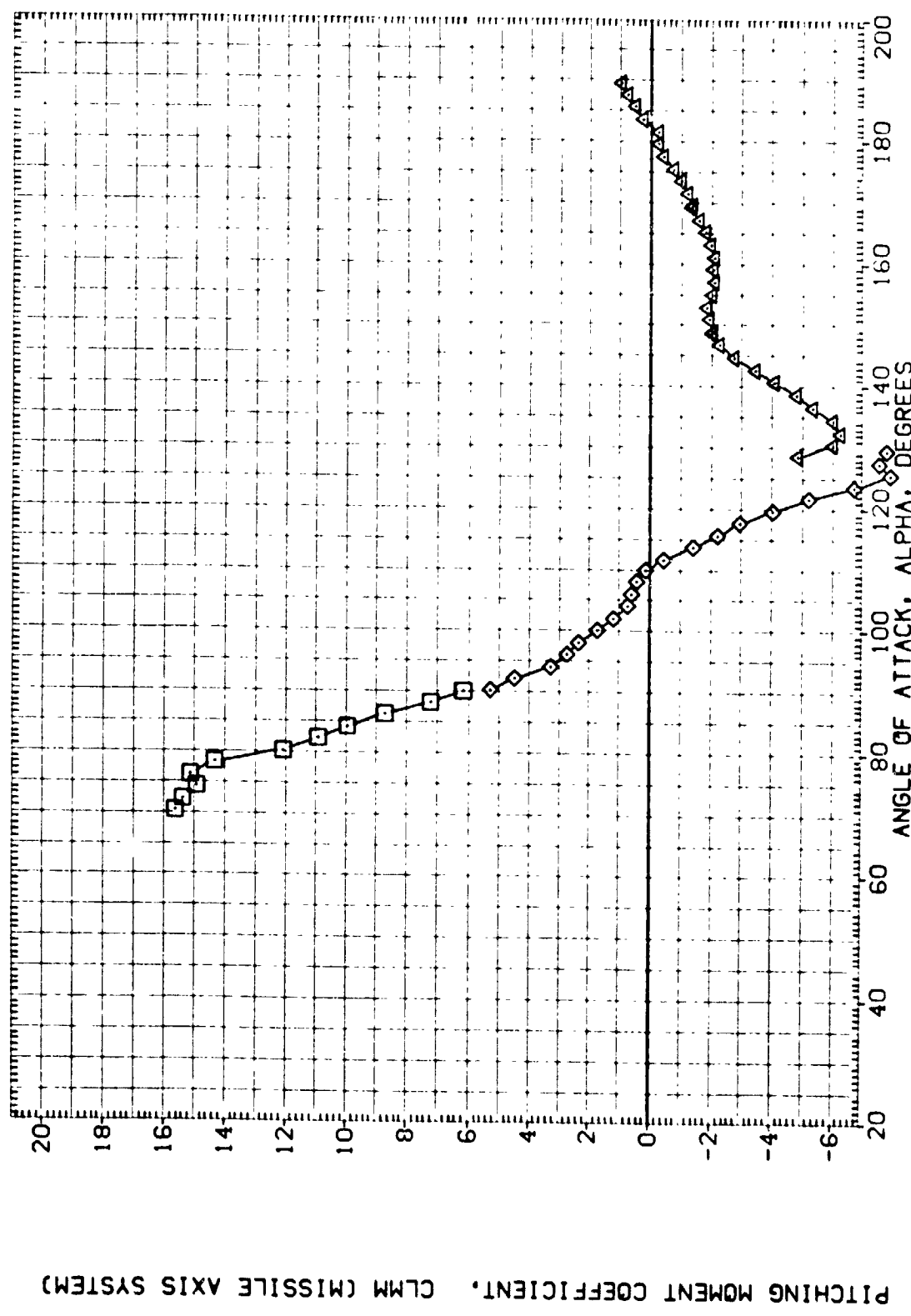


FIGURE 21. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 90)

(B)MACH = .60

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H005) DATA NOT AVAILABLE 90.000

(A1H040) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

(A1HC05) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

(A1H005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

REFERENCE INFORMATION

SREF .5030 IN. 50. IN.

LREF .3000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

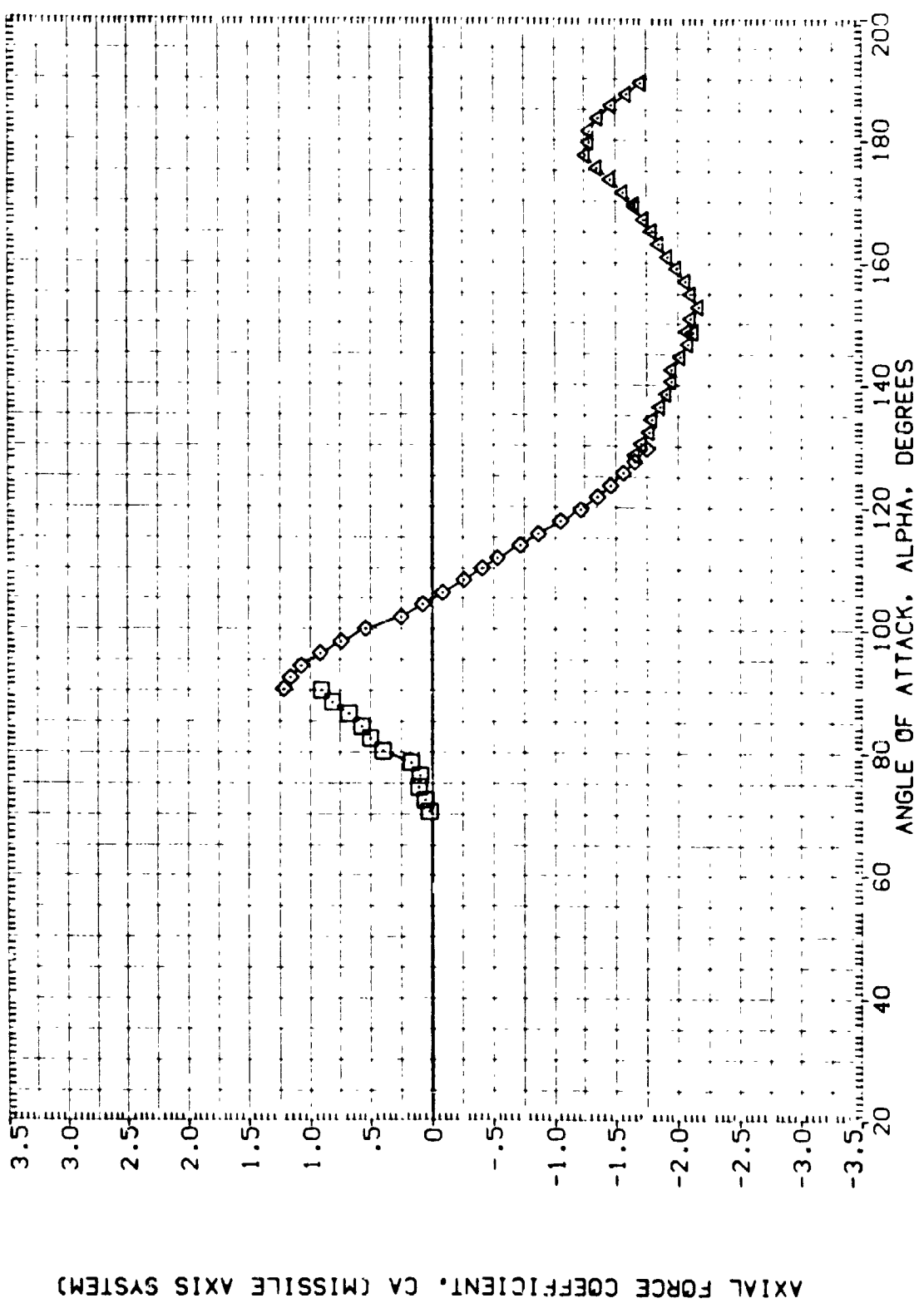


FIGURE 21. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 90)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(ALH005) DATA NOT AVAILABLE 90.000

(A1H040) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

(A1H005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

(A1H005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .6000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

SIDE FORCE COEFFICIENT, C_{YM} (MISSILE AXIS SYSTEM)

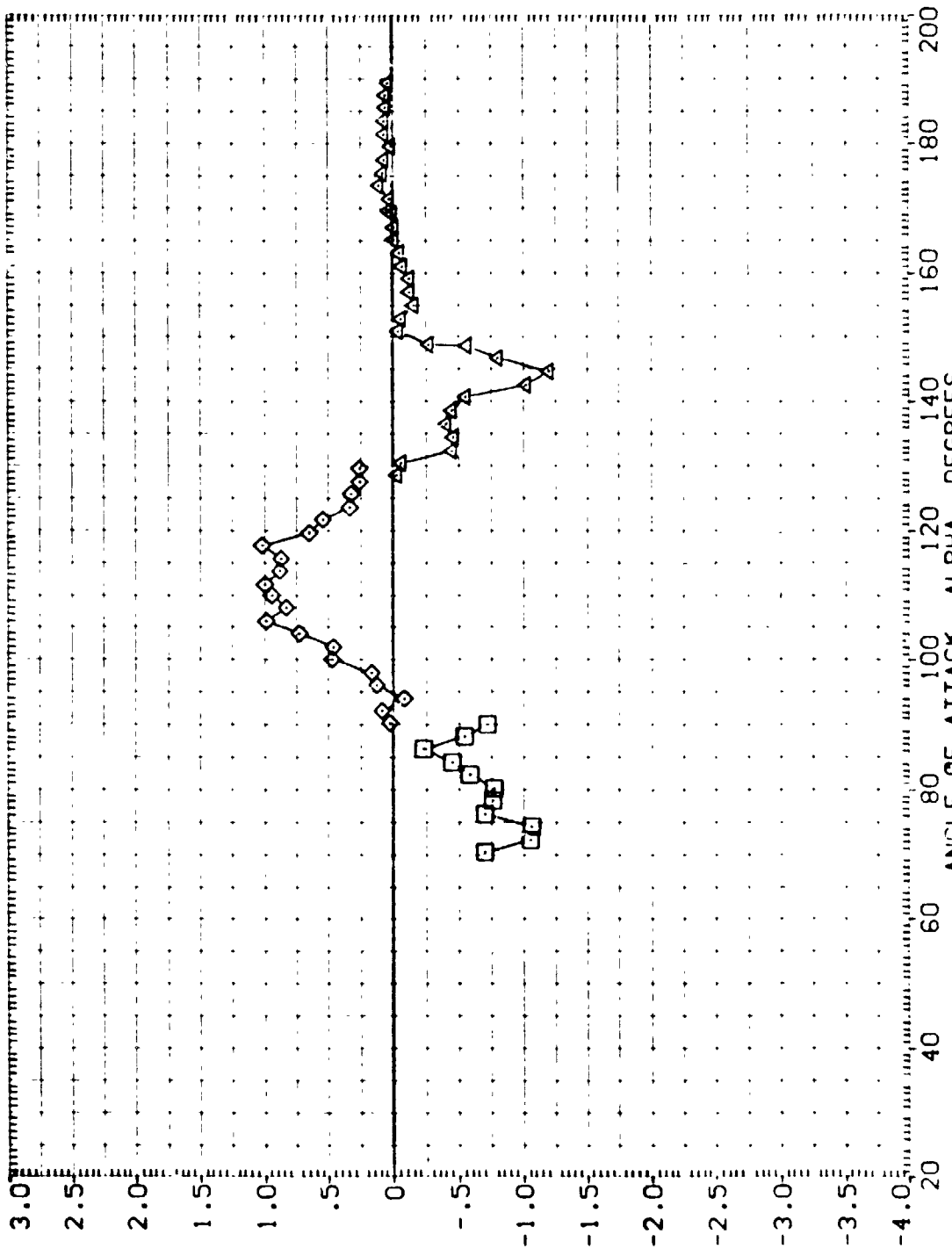


FIGURE 21. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 90)

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .18000 IN.
 BREF .18000 IN.
 XMRP 5.7210 IN. XS
 YMRP .00000 IN. YS
 ZMRP .00000 IN. ZS
 SCALE .0055

PHI
 90.000
 90.000
 90.000
 90.000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1P005) DATA NOT AVAILABLE
 (A1P040) MSFC TVT604 (SAB) SRB WITH ALL PROTLBERANCES
 (A1P005) MSFC TVT604 (SAB) SRB WITH ALL PROTLBERANCES
 (A1P005) MSFC TVT604 (SAB) SRB WITH ALL PROTLBERANCES

YAWING MOMENT COEFFICIENT, C_{ym} (MISSILE AXIS SYSTEM)

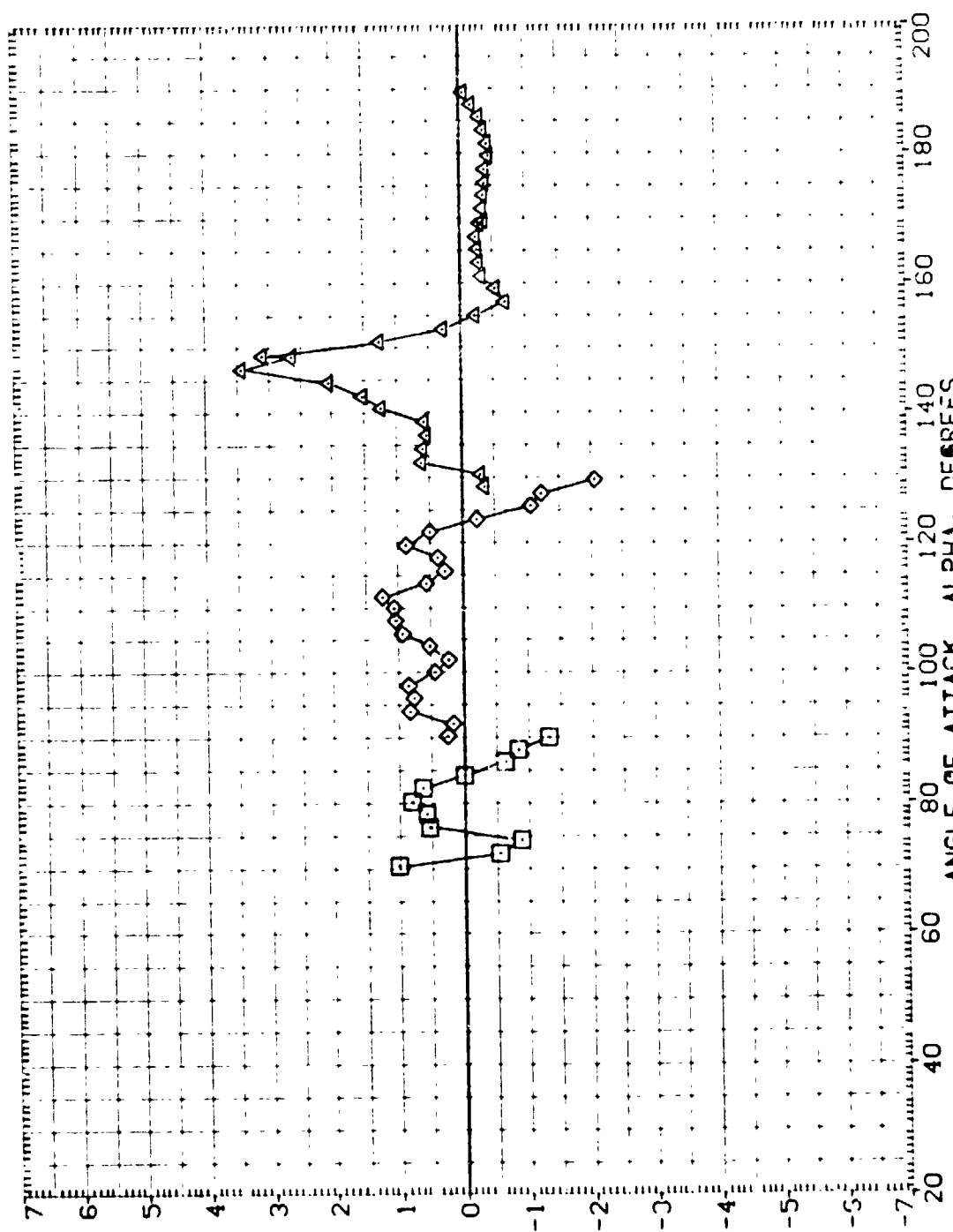


FIGURE 21. STATIC STABILITY CHARACT. OF SRB W/ALL PROTLBERANCES (PHI = 90)
 (B)MACH = .60 PAGE 202

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H405) □ DATA NOT AVAILABLE

(A1H404) □ MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H405) □ MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H405) □ MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI

50.000

50.000

50.000

50.000

REFERENCE INFORMATION

SREF .5C30 SQ. IN.

LREF .8C00 IN.

BREF .8C00 IN.

YPRP 5.7210 IN. XS

ZPRP .0000 IN. YS

SCALE .0055 IN. ZS

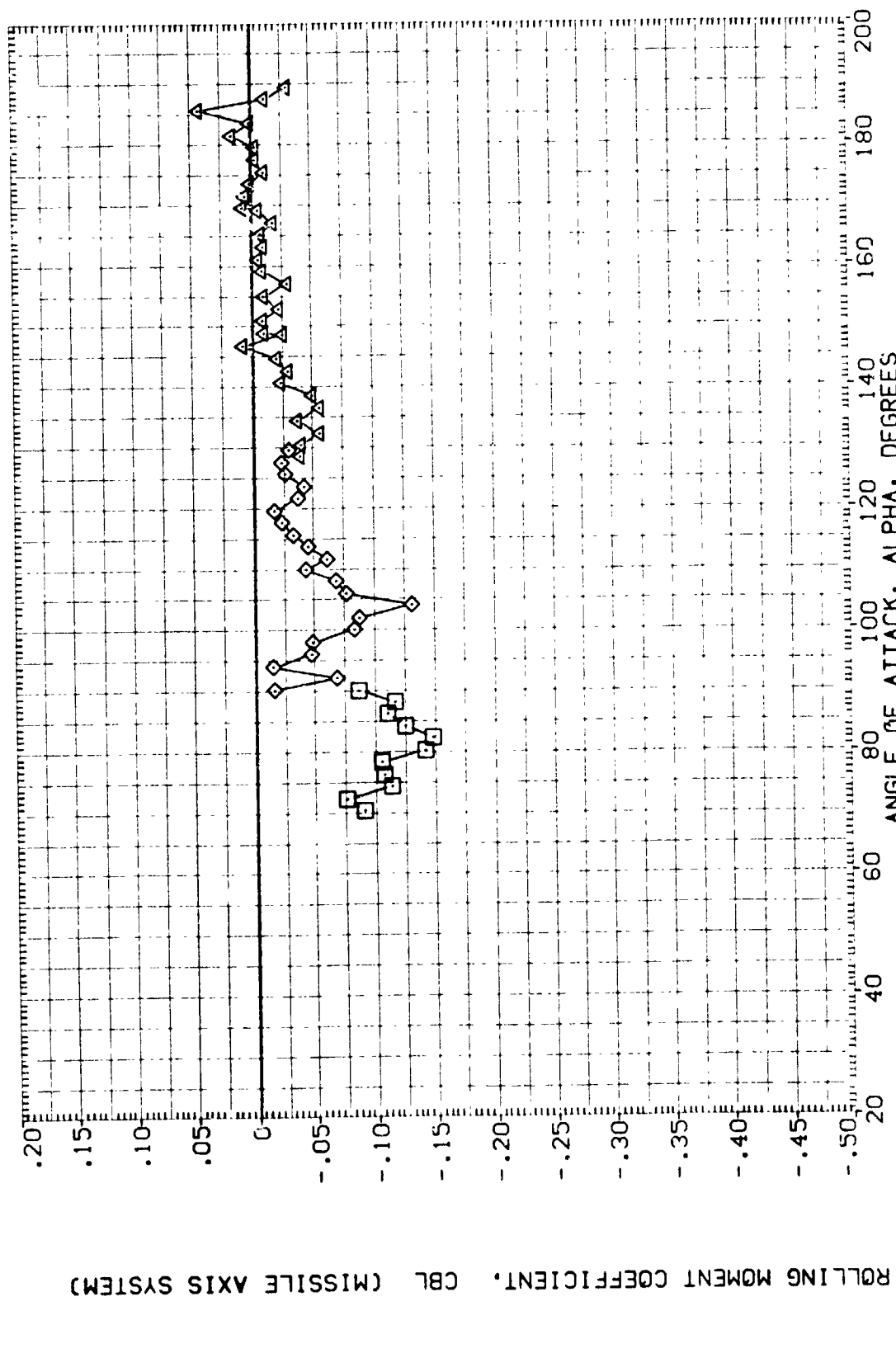


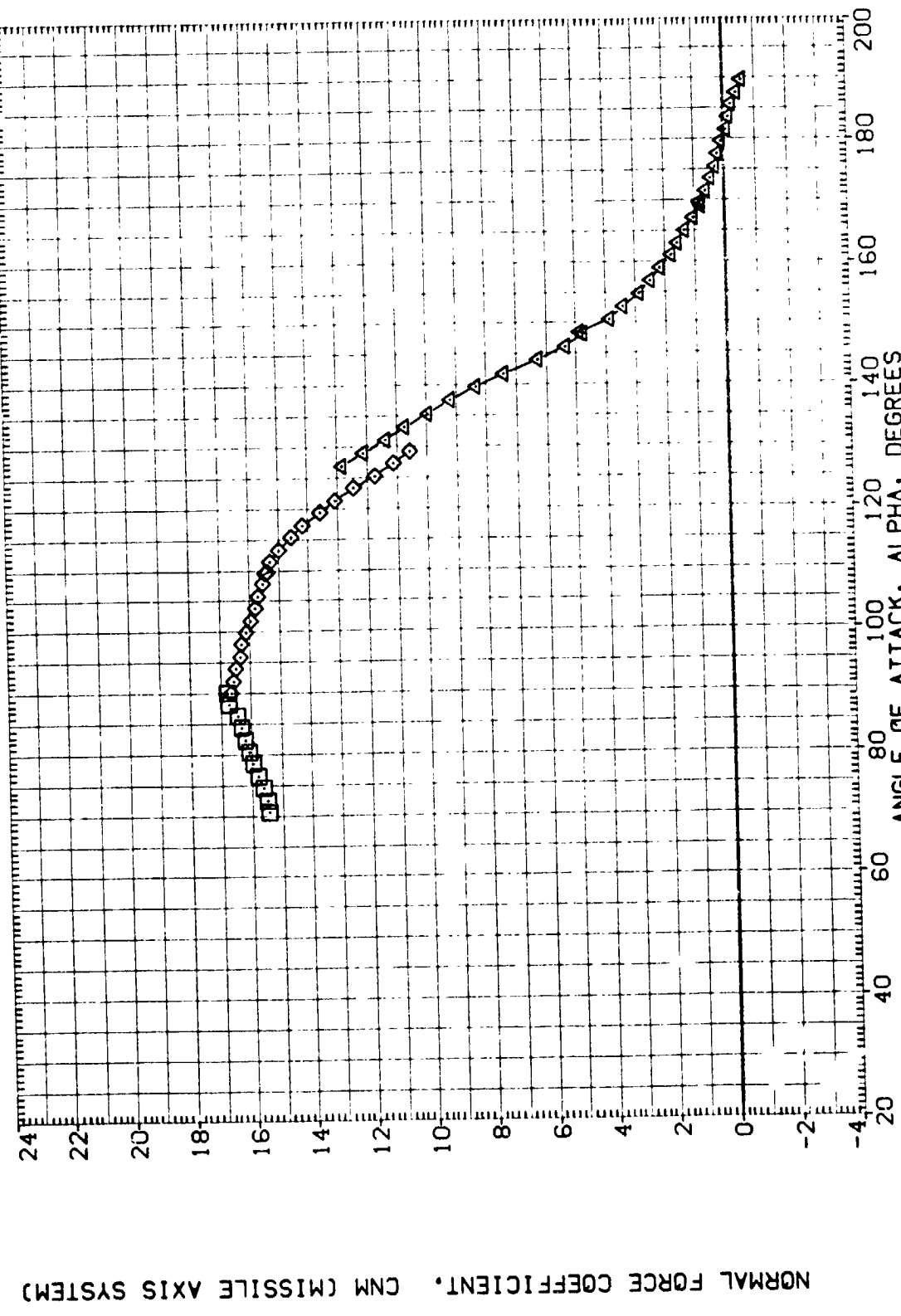
FIGURE 21. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 90)

(B)MACH = .60

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BRREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 90.000
 90.000
 90.000
 90.000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H405) DATA NOT AVAILABLE
 (A1H404) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H403) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H405) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES



NORMAL FORCE COEFFICIENT, CNM (MISSILE AXIS SYSTEM)

FIGURE 21. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 90)

(C, ACP = .90

REFERENCE INFORMATION
 SREF .5030 IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 90.000
 90.000
 90.000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (AIHD05) DATA NOT AVAILABLE
 (AIHD04) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (AIHD05) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (AIHD05) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PITCHING MOMENT COEFFICIENT, CLMM (MISSILE AXIS SYSTEM)

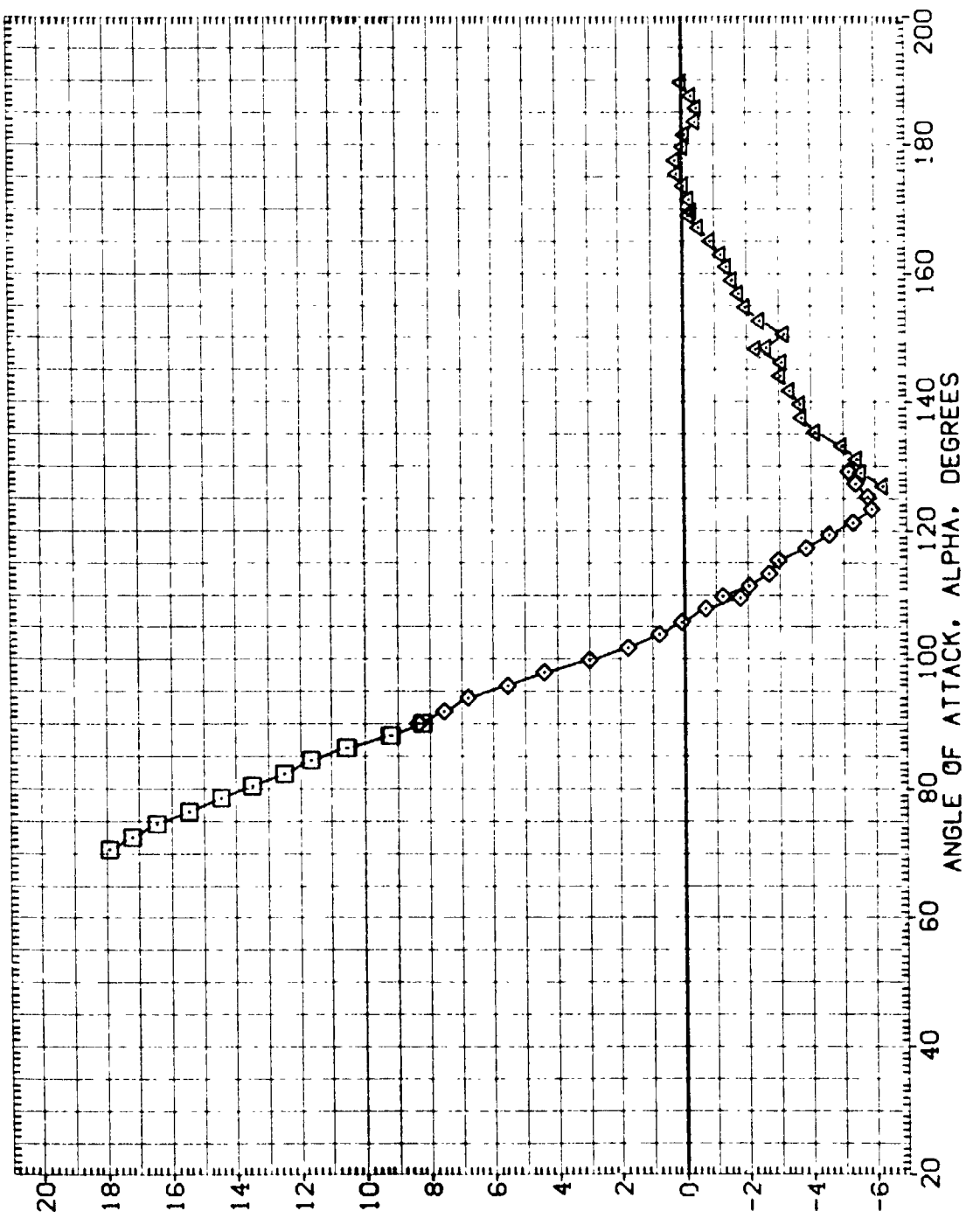


FIGURE 21. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 90)

(C)MACH = .90

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H005) DATA NOT AVAILABLE

(A1H040) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H005) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H005) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES

PHI

90.000

90.000

90.000

REFERENCE INFORMATION

SREF 5030 50. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

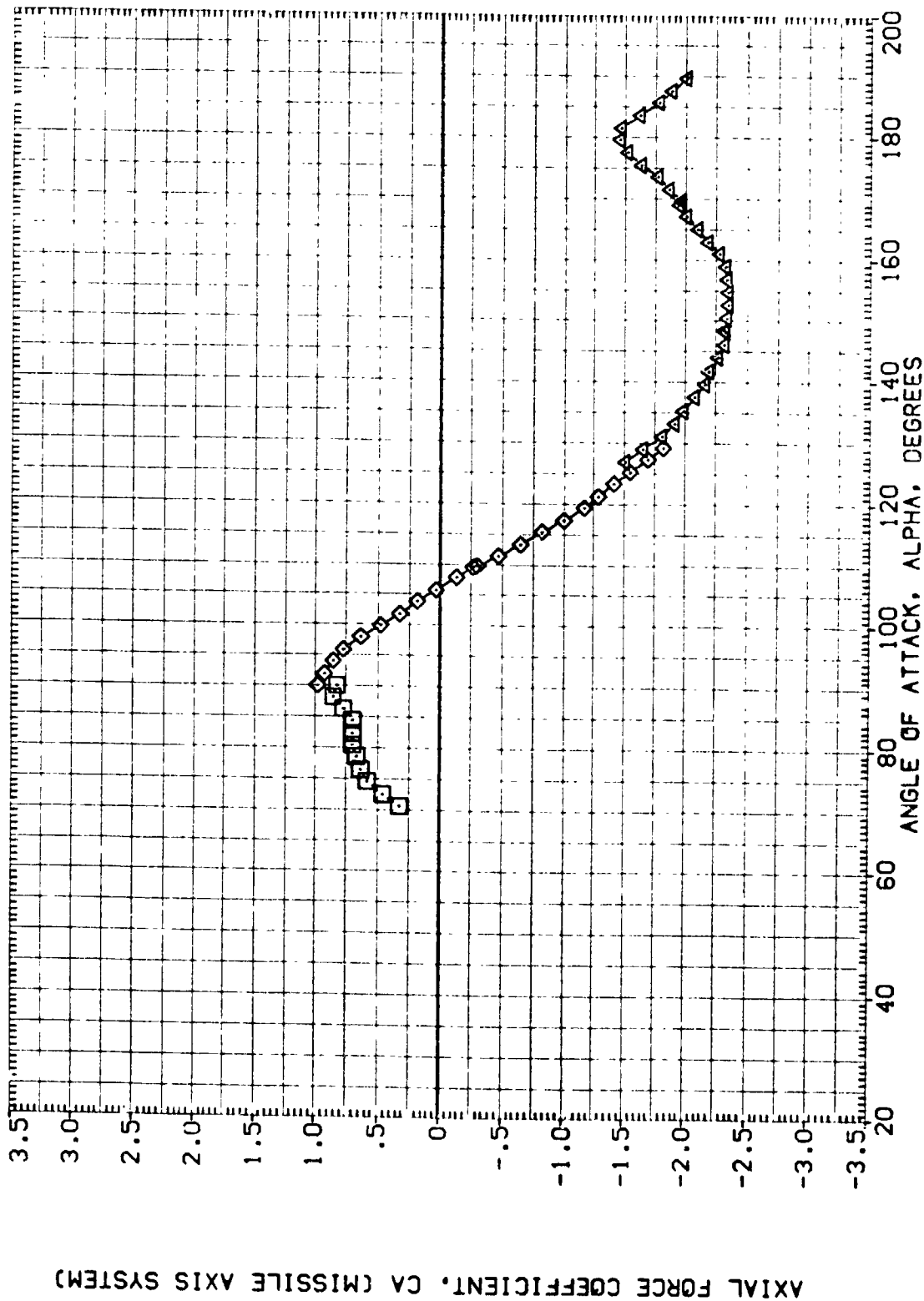


FIGURE 21. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 90)

(C)MACH = .90

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H005) DATA NOT AVAILABLE

(A1H040) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H005) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H005) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES

PHI

90.000

90.000

90.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XHRP S.7210 IN. XS

YHRP .0000 IN. YS

ZHRP .0000 IN. ZS

SCALE .0055

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

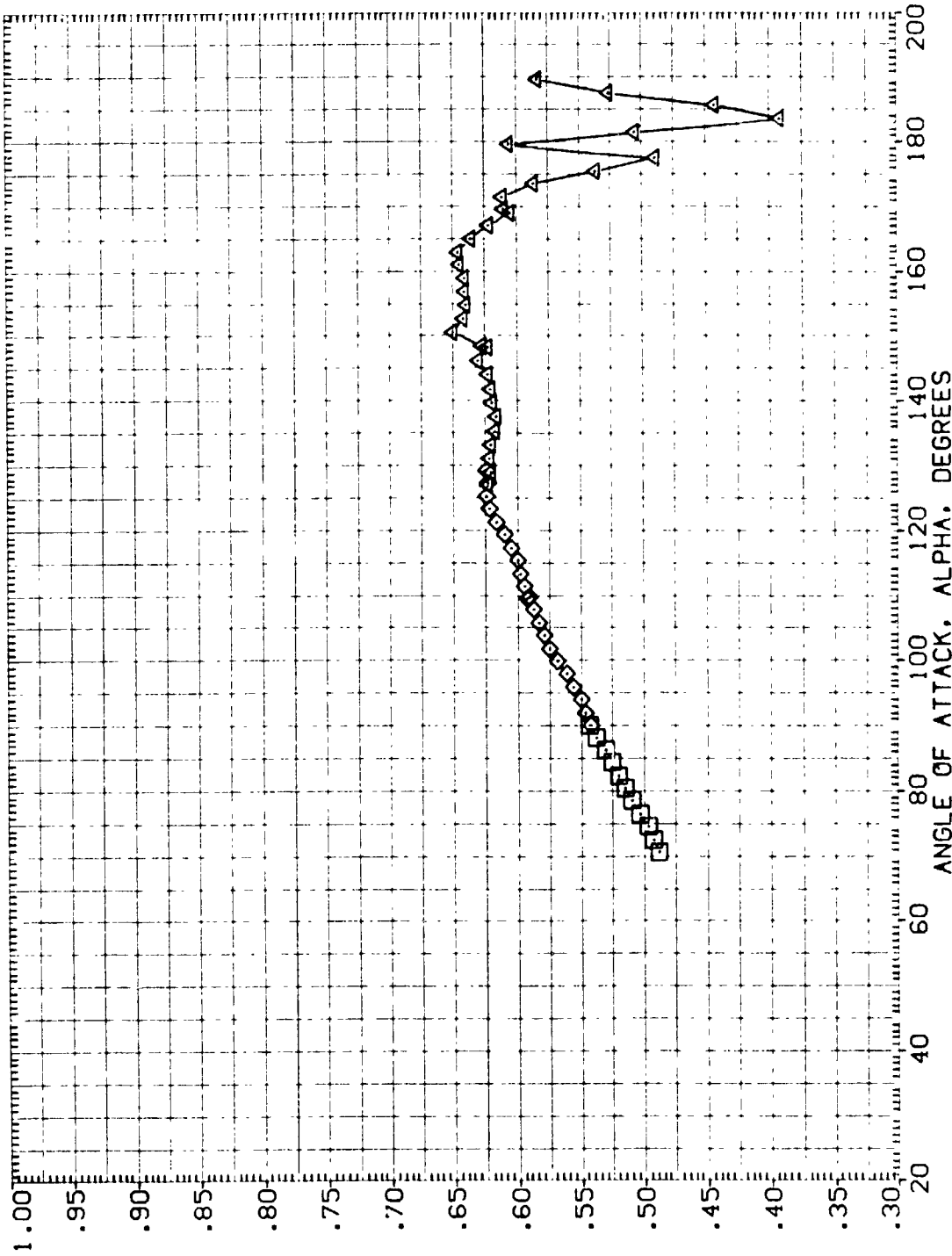


FIGURE 21. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 90)

(C)MACH = .90

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H005) DATA NOT AVAILABLE

(A1H040) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI

90.000

90.000

90.000

REFERENCE INFORMATION

SREF .5030 IN.

LREF .8000 IN.

BREF .8000 IN.

YMRP 5.7210 IN.

ZMRP .0000 IN.

SCALE .0055 IN.

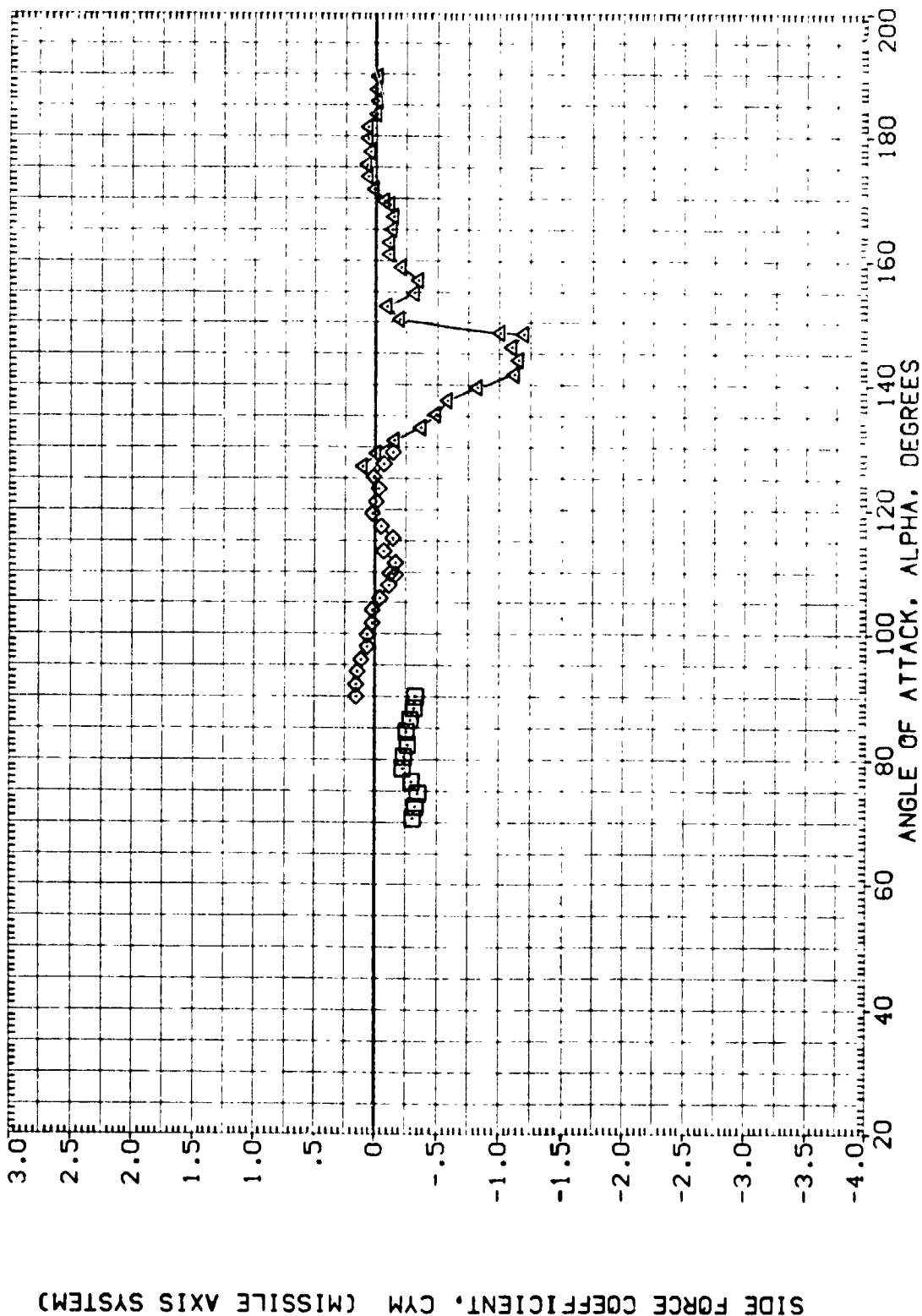


FIGURE 21. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 90)

(C)MACH = .90

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H005) DATA NOT AVAILABLE

(A1H040) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI

90.000

90.000

90.000

REFERENCE INFORMATION

SREF .5030 50. IN.

LREF .8000 IN.

BREF .6000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

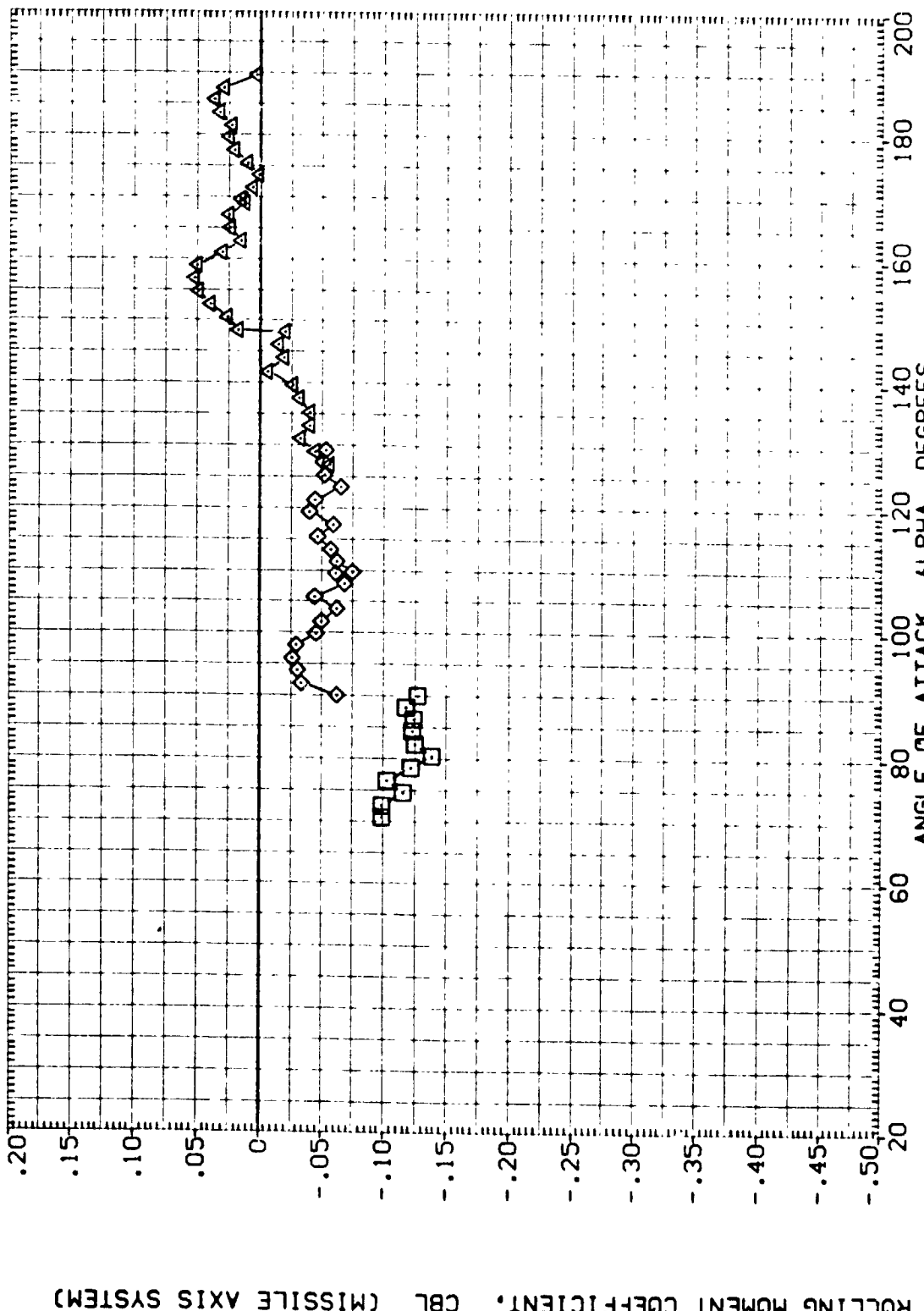


FIGURE 21. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 90)

(C)MACH = .90

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H003) DATA NOT AVAILABLE
 (A1H004) MSFC TVT804 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H005) MSFC TVT804 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H006) MSFC TVT804 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H007) MSFC TVT804 (SABF) SRB WITH ALL PROTUBERANCES

PHI 90.000
 90.000
 90.000
 90.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

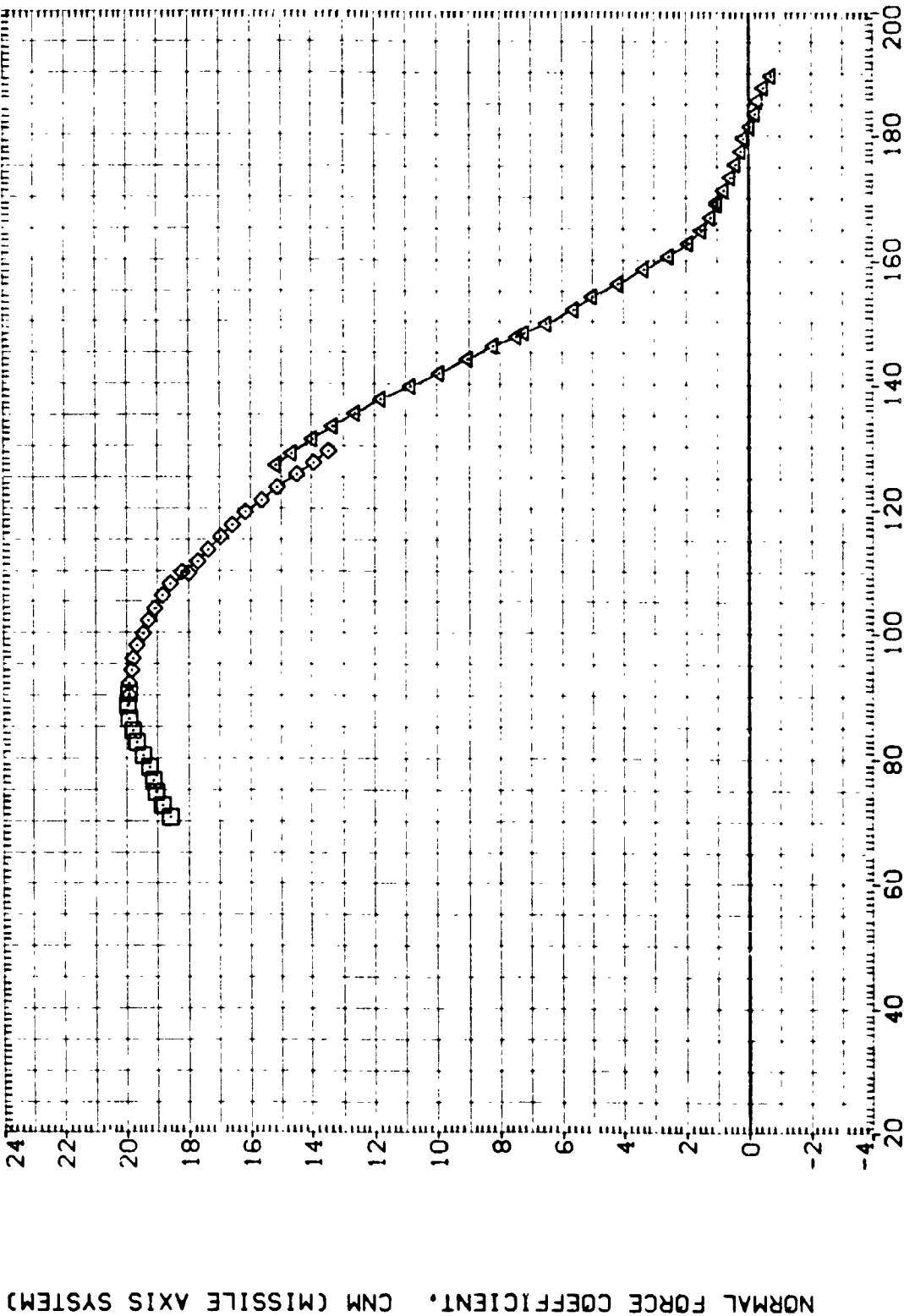


FIGURE 21. STATIC STABILITY CHARACTERISTICS OF SRB WITH WALL PROTUBERANCES (PHI = 90)
 (O) MACH = 1.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H005) DATA NOT AVAILABLE
 (A1H040) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI
 90.000
 90.000
 90.000
 90.000

REFERENCE INFORMATION
 SREF .5030 IN.
 LREF .6000 IN.
 BREF .9000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0005

PITCHING MOMENT COEFFICIENT, CLM (MISSILE AXIS SYSTEM)

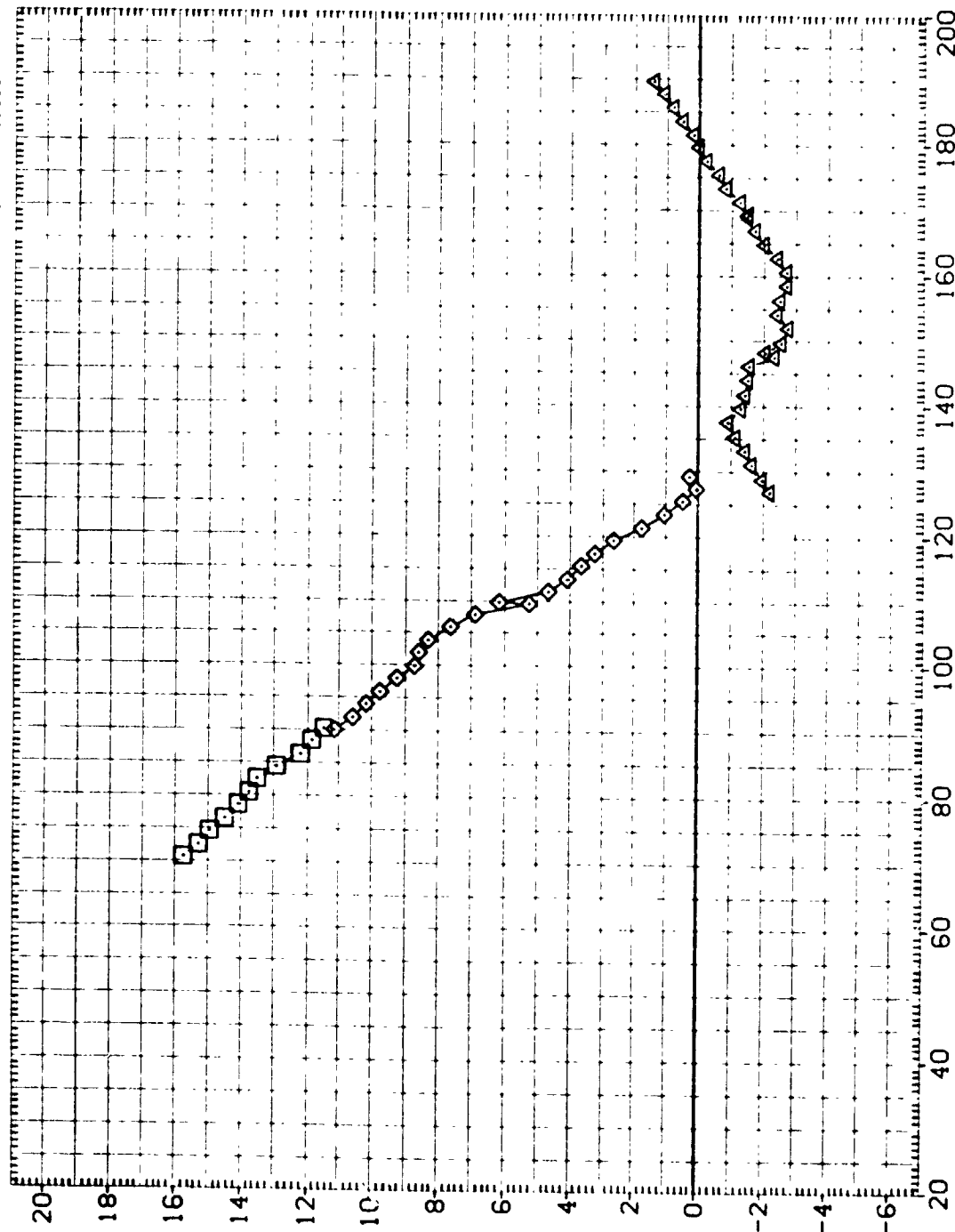


FIGURE 21. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 90)

(O)MACH = 1.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI REFERENCE INFORMATION

(A1HA05)	DATA NOT AVAILABLE	90.000	SREF	.5030	50. IN.
(A1HO40)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	90.000	LREF	.8000	IN.
(A1HC05)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	90.000	BRFP	.8000	IN.
(A1HO05)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	90.000	XMRP	5.7210	IN. XS
			YMRP	.0000	IN. YS
			ZMRP	.0000	IN. ZS
			SCALE	.0055	

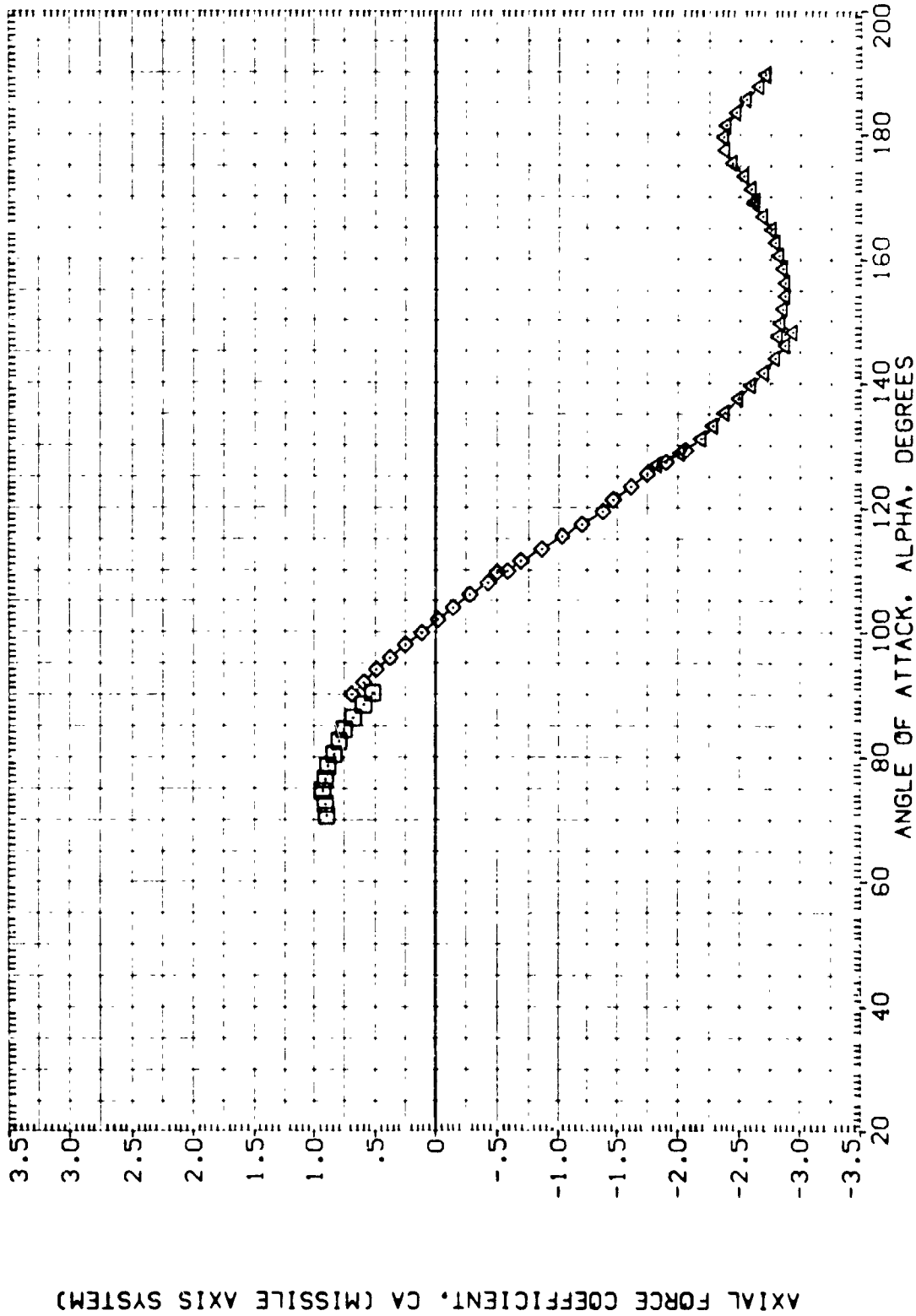


FIGURE 21. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 90)

(O)MACH = 1.20

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A11A05) DATA NOT AVAILABLE
 (A11H040) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES
 (A11H005) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES
 (A11H005) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES

PHI
 90.000
 90.000
 90.000

REFERENCE INFORMATION
 SREF .5030 50. IN.
 LREF .6000 60. IN.
 BREF .6000 60. IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

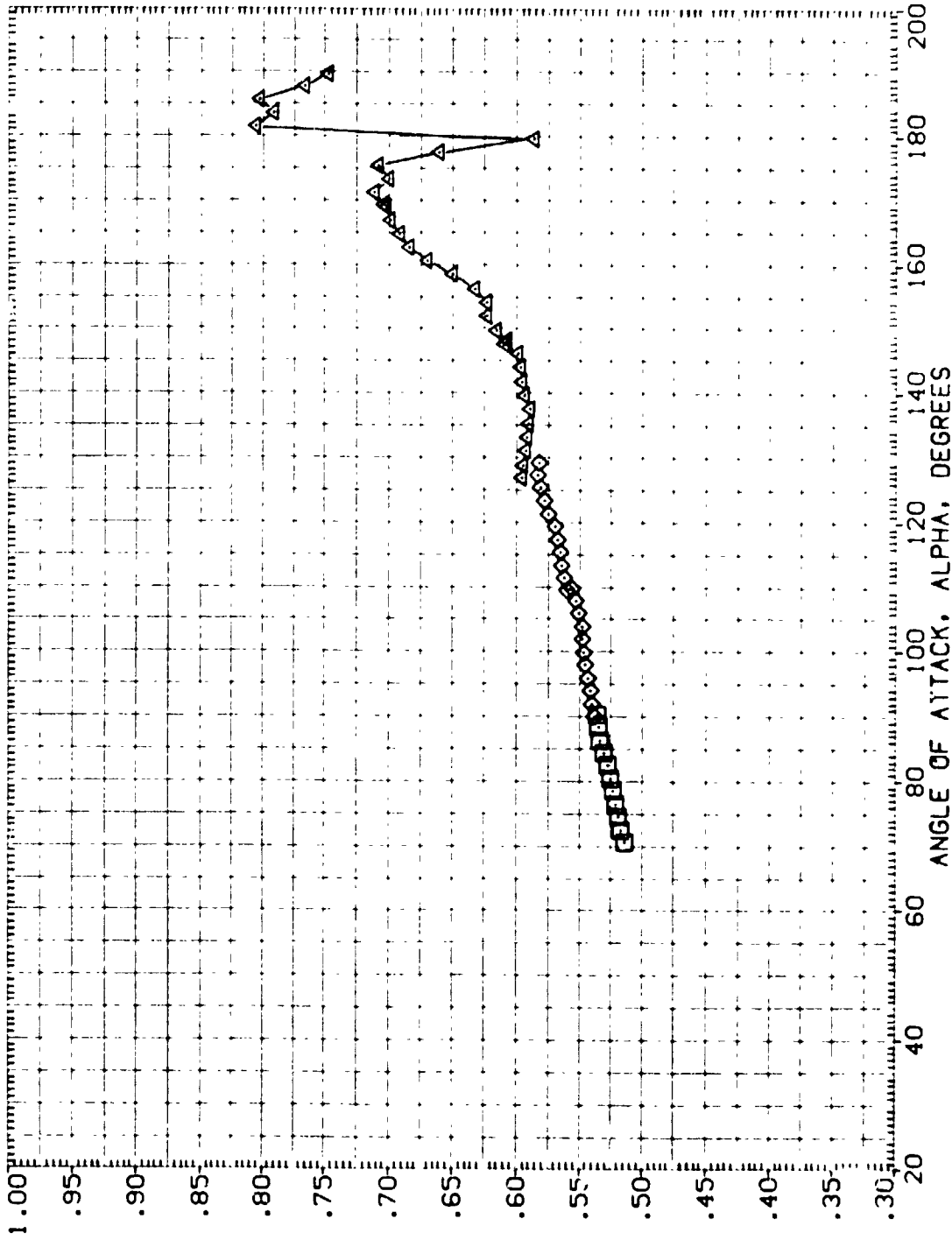


FIGURE 21. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 90)

(C)MACH = 1.20

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(A1M405)	DATA NOT AVAILABLE	90.000	SREF .5030 SQ. IN.
(A1M400)	MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES	90.000	LREF .8000 IN.
(A1M405)	MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES	90.000	BREF .8000 IN.
(A1H005)	MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES	90.000	XMRP 5.7210 IN. XS
			YMRP .0000 IN. YS
			ZMRP .0000 IN. ZS
			SCALE .0055

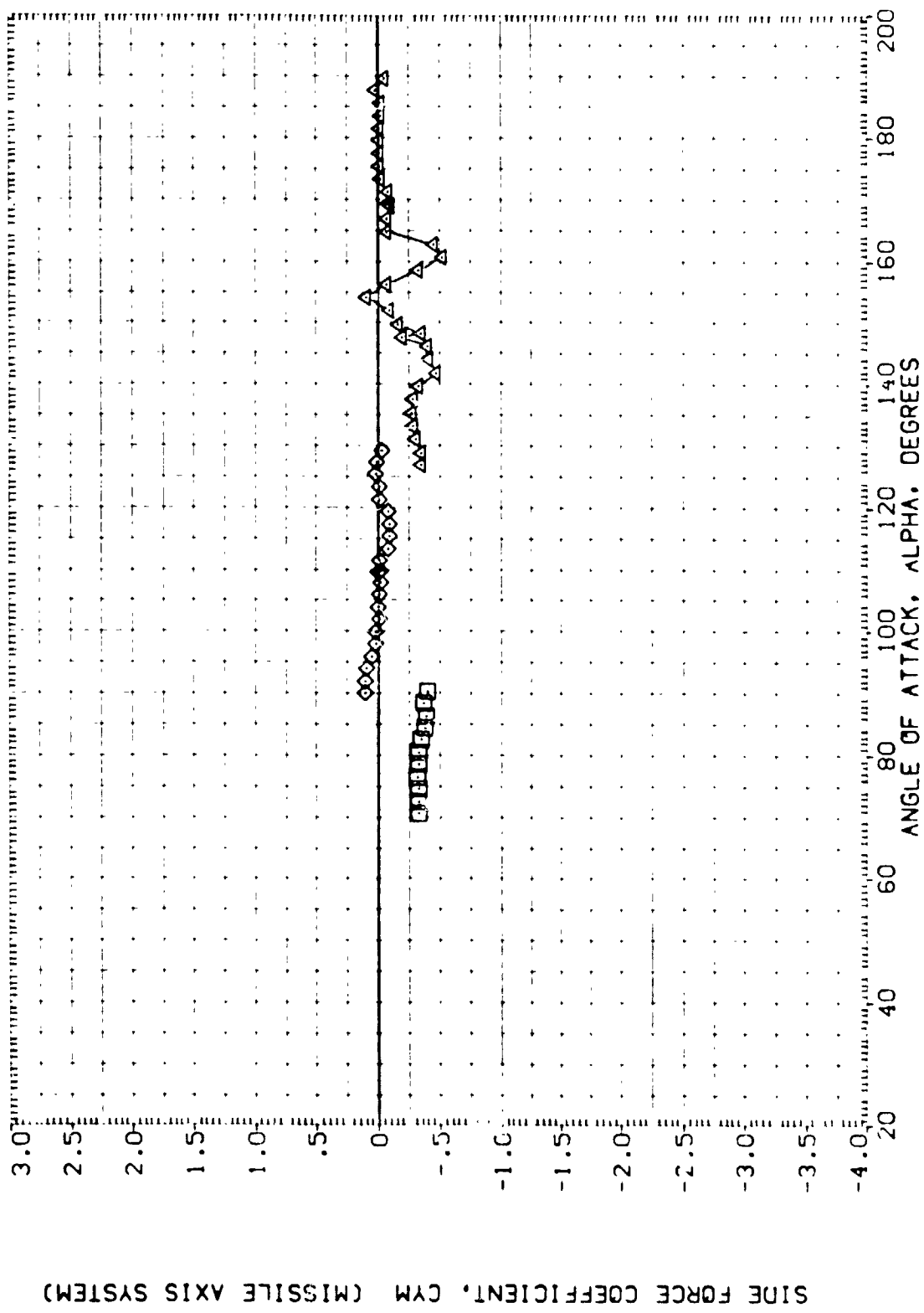


FIGURE 21. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 90)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H005) DATA NOT AVAILABLE 90.000

(A1H000) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

(A1H005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

(A1H000) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

(A1H005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

(A1H000) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

(A1H005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

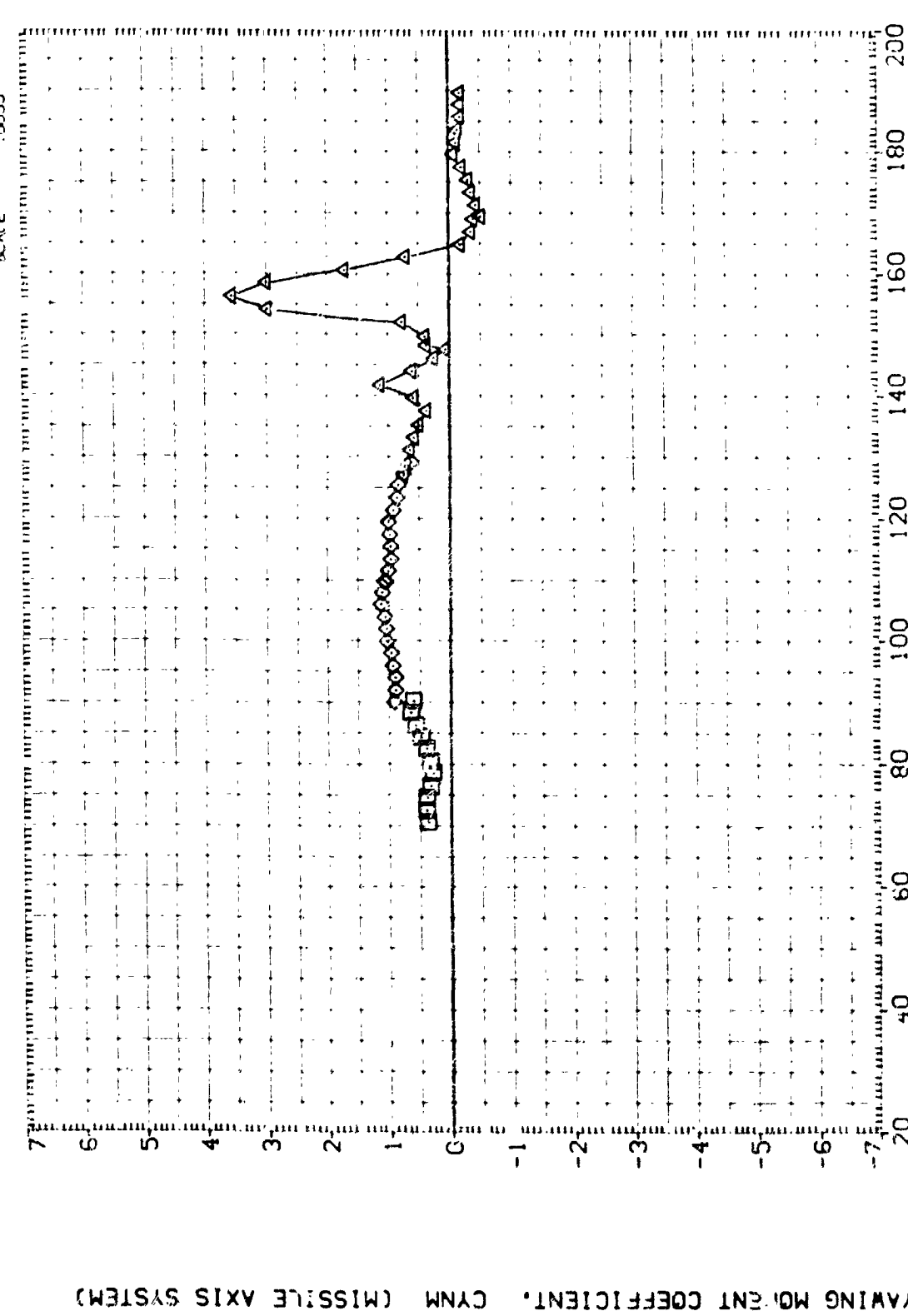


FIGURE 21. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 90)

DATA SET SYMBOLS: (A1H405), (A1H040), (A1H405), (A1H005)

CONFIGURATION DESCRIPTION: DATA NOT AVAILABLE, MSFC TV1604 (SABF), MSFC TV1604 (SABF)

SRB WITH ALL PROTUBERANCES, SRB WITH ALL PROTUBERANCES

PHI: 90.000, 90.000, 90.000, 90.000

REFERENCE INFORMATION: SREF, LREF, SRREF, XMRP, YMRP, ZMRP, SCALE

50.30 IN., .8000 IN., .8000 IN., 5.7210 IN., .0000 IN., .0000 IN., .0055

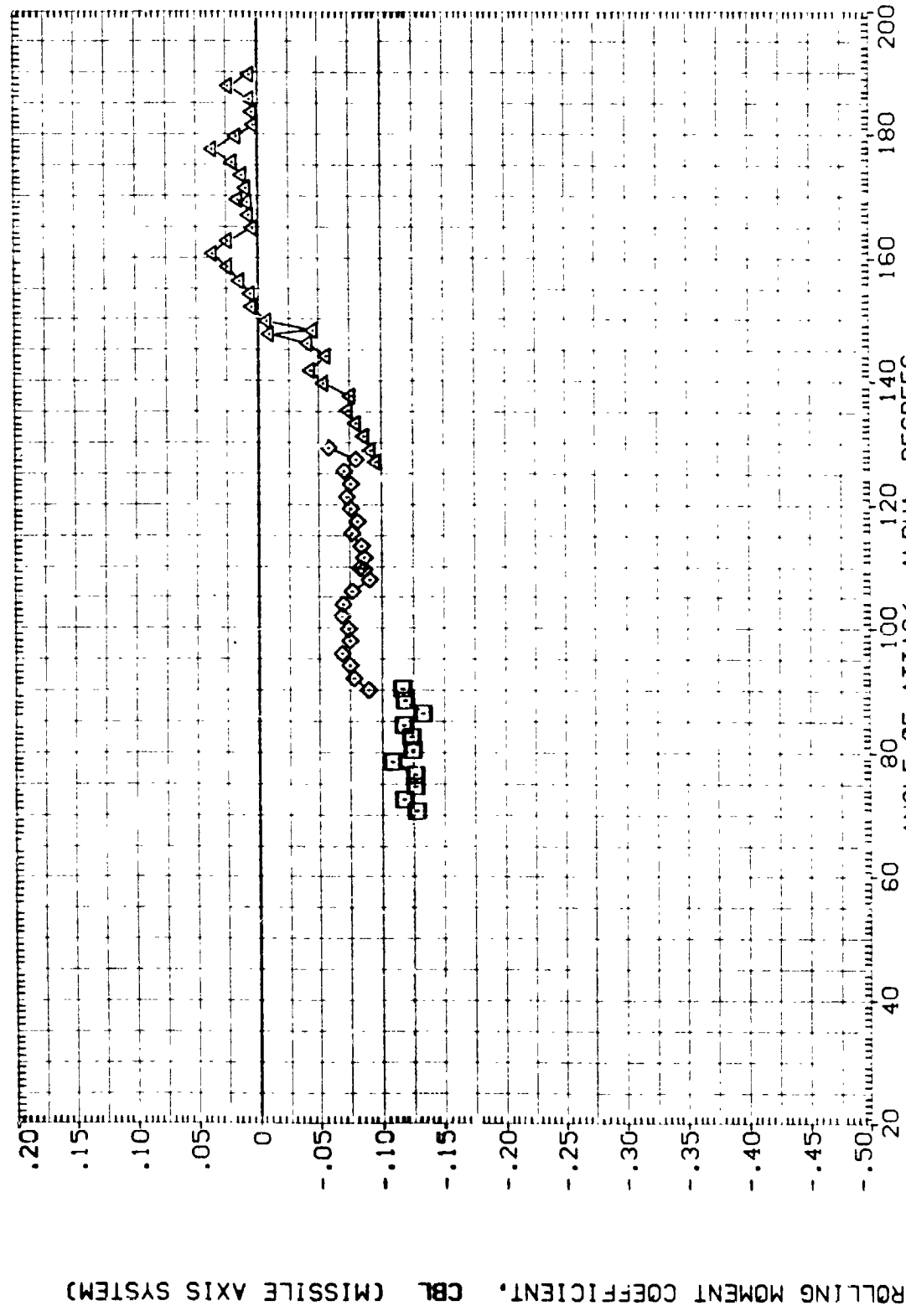


FIGURE 21. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 90)

(MACH = 1.20)

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REFERENCE INFORMATION

SREF	.5030	IN.
LREF	.8000	IN.
BREF	.8000	IN.
XTRP	5.7210	IN.
YTRP	.0000	IN.
ZTRP	.0000	IN.
SCALE	.0055	

FHI

90.000
90.000
90.000
90.000

CONFIGURATION DESCRIPTION

DATA NOT AVAILABLE	SRB WITH ALL PROTUBERANCES
MSFC TVT604 (SABF)	SRB WITH ALL PROTUBERANCES
MSFC TVT604 (SABF)	SRB WITH ALL PROTUBERANCES
MSFC TVT604 (SABF)	SRB WITH ALL PROTUBERANCES

DATA SET SYMBOL

(A1HA05)	□
(A1H040)	○
(A1H175)	△
(A1HA05)	◇

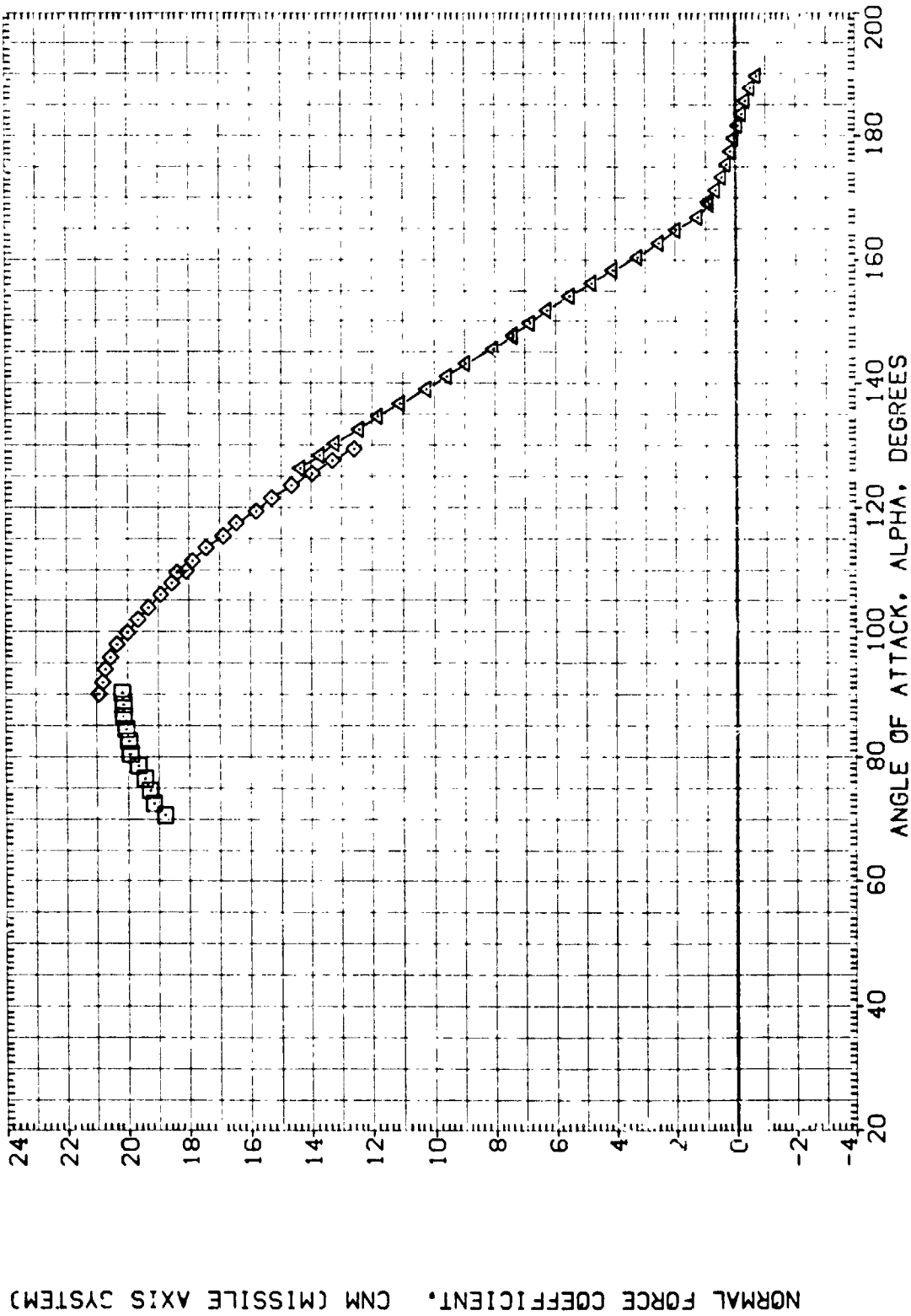


FIGURE 21. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 90)
 (MACH = 1.96)



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1HACS) DATA NOT AVAILABLE

(A1H040) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI

90.000

90.000

90.000

90.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

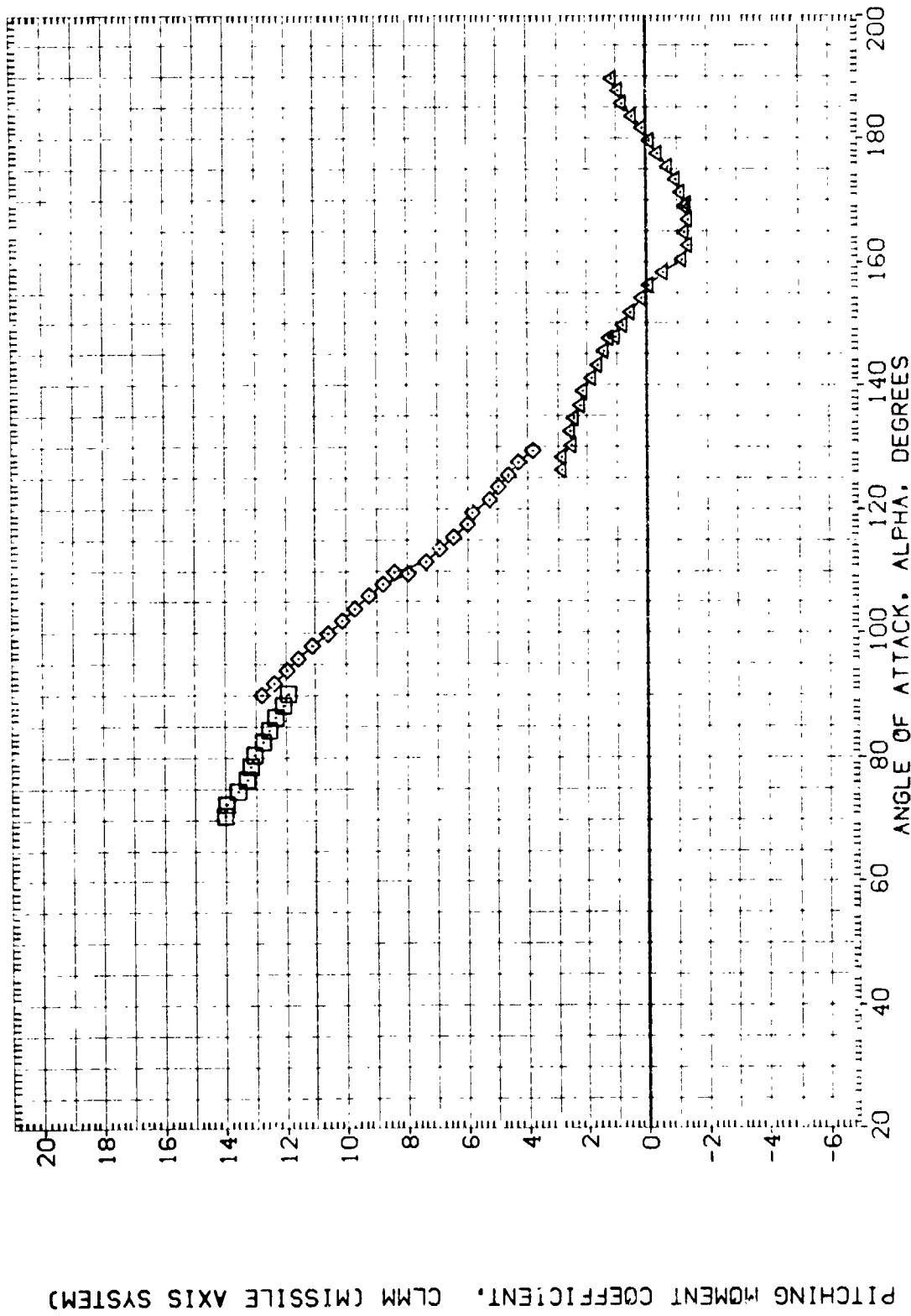


FIGURE 21. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 90)

(E)MACH = 1.96

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H405) DATA NOT AVAILABLE

(A1H400) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H405) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H405) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI

90.000

90.000

90.000

90.000

REFERENCE INFORMATION

SREF 50.90 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

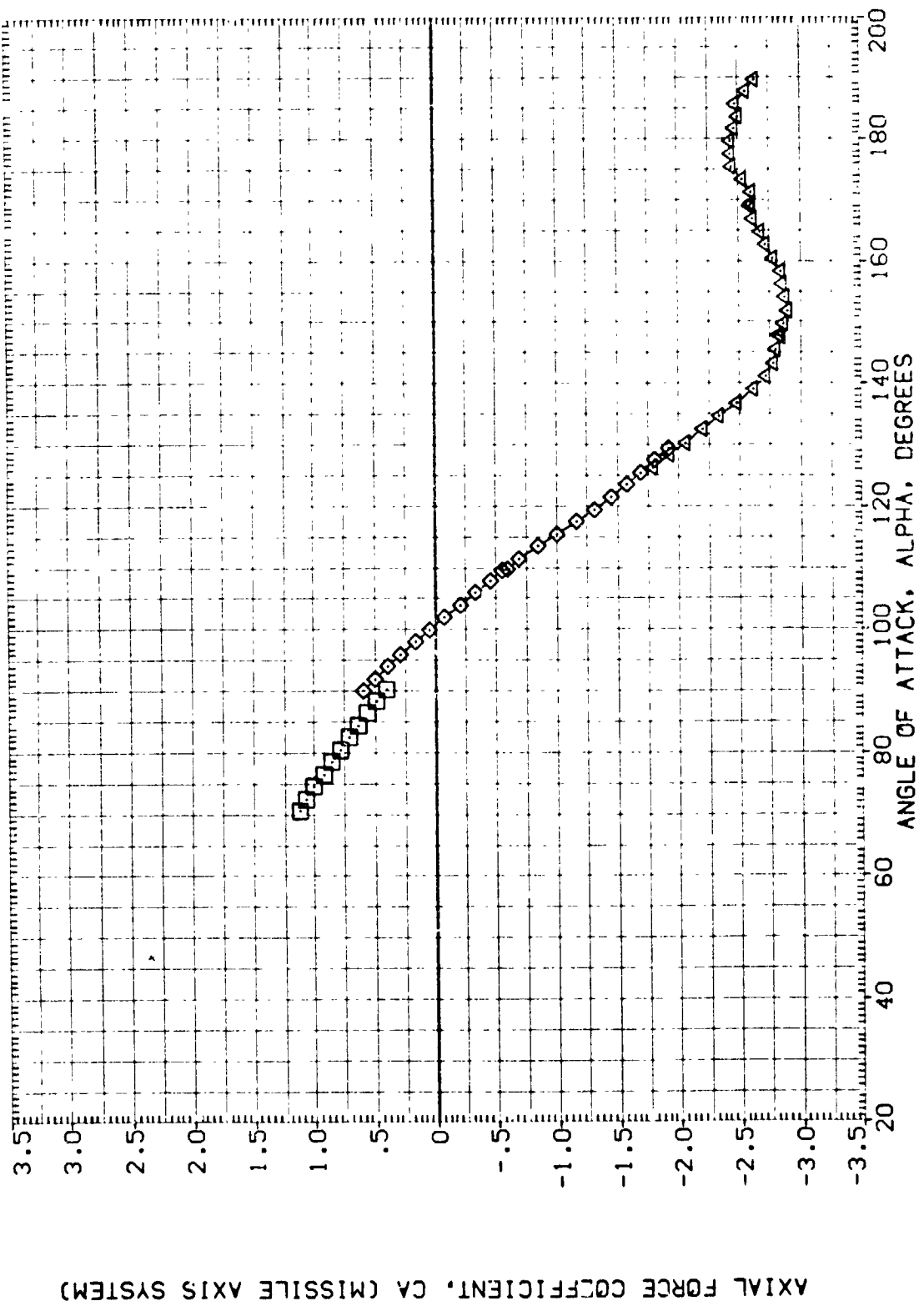


FIGURE 21. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 90)

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H040) DATA NOT AVAILABLE

(A1H040) MSEC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H040) MSEC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H005) MSEC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H005) MSEC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI

90.000

90.000

90.000

90.000

REFERENCE INFORMATION

SREF 50.30 IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN.

YMRP .0000 IN.

ZMRP .0000 IN.

SCALE .0055

SRB WITH ALL PROTUBERANCES

SRB WITH ALL PROTUBERANCES

SRB WITH ALL PROTUBERANCES

SRB WITH ALL PROTUBERANCES

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

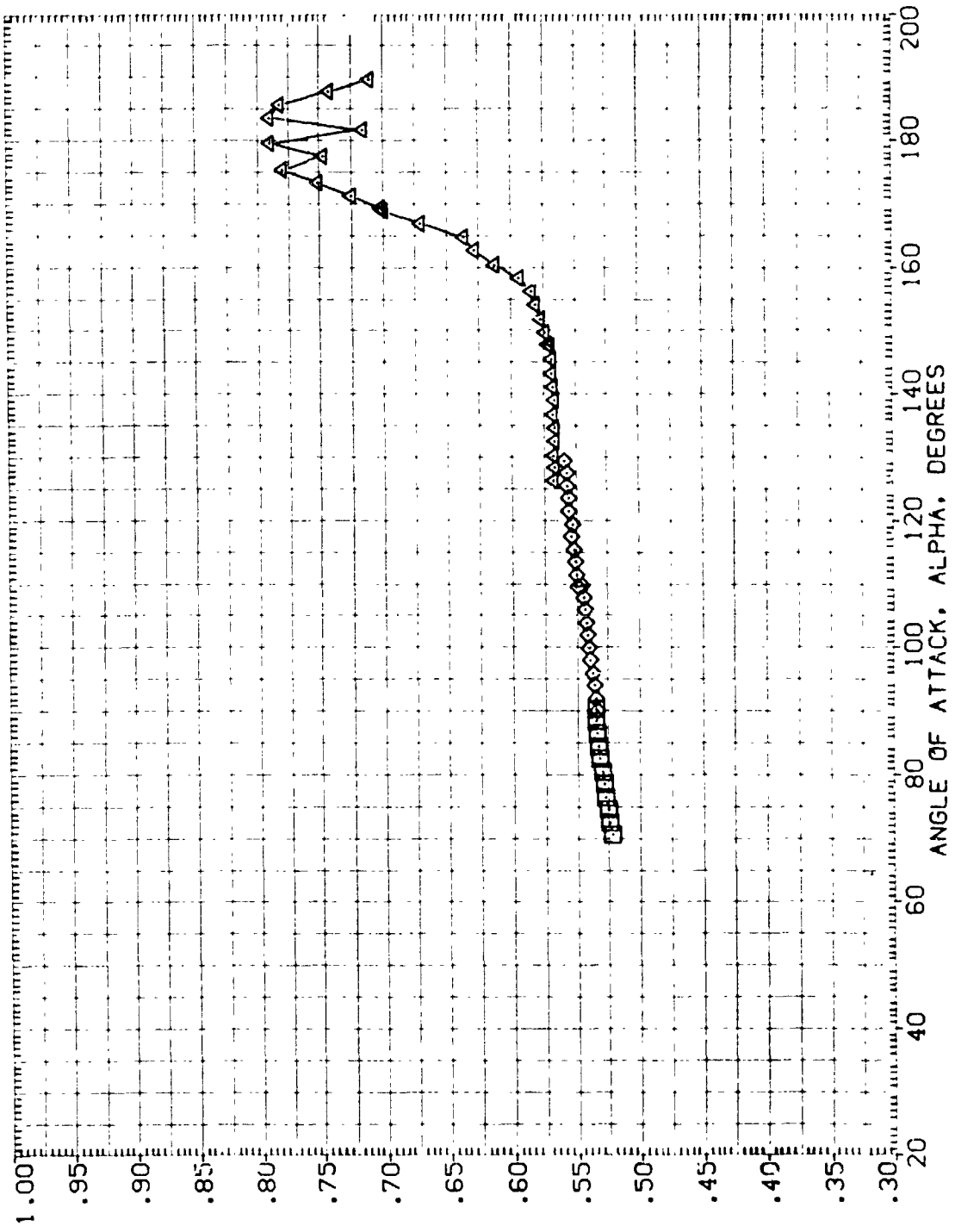


FIGURE 21. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 90)

(E)MACH = 1.96

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H005) DATA NOT AVAILABLE

(A1H040) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI

50.000

50.000

50.000

REFERENCE INFORMATION

SREF .5030 IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN.

YMRP .0000 IN.

ZMRP .0000 IN.

SCALE .0055

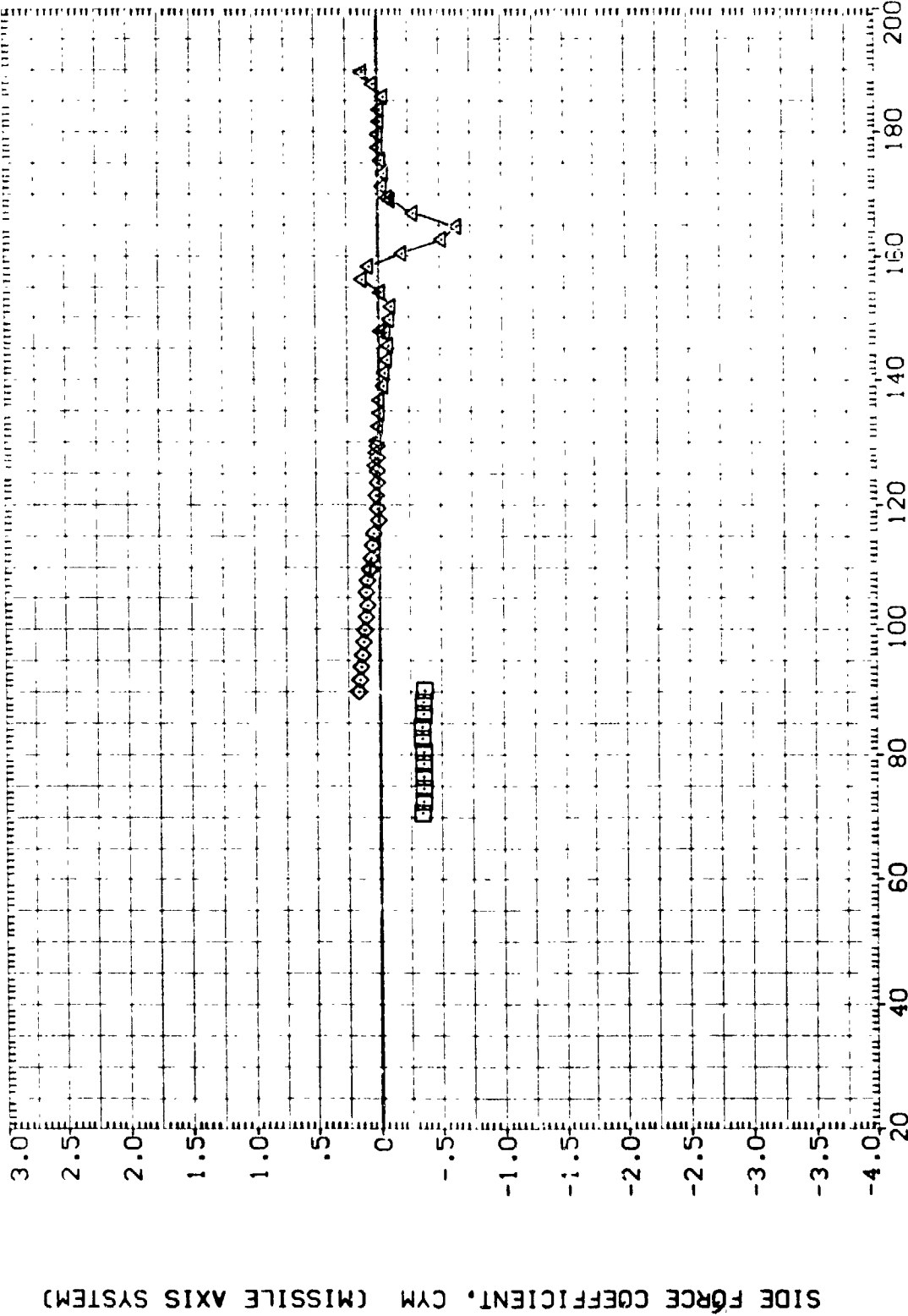


FIGURE 21. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 90)

(E)MACH = 1.96

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H005) DATA NOT AVAILABLE

(A1H040) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H005) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H005) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES

PHI

90.000

90.000

90.000

90.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BRREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

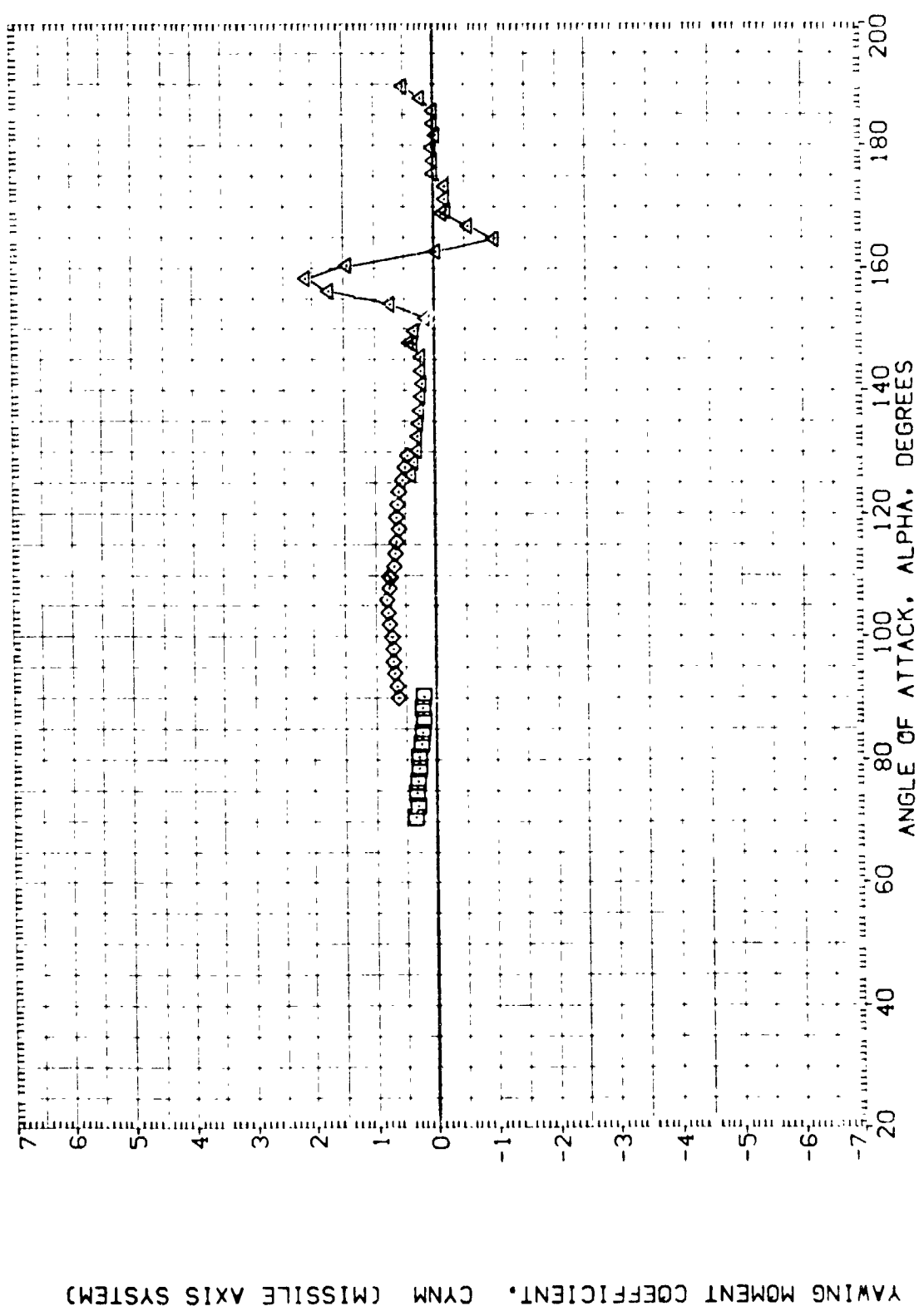


FIGURE 21. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 90)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H005) DATA NOT AVAILABLE 90.000

(A1H040) MSFC TWT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

(A1H005) MSFC TWT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

(A1H005) MSFC TWT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

REFERENCE INFORMATION

SABF 1.0000 IN.

LREF 1.0000 IN.

BRF 1.0000 IN.

XMRP 5.7210 IN. XS

YMRP 1.0000 IN. YS

ZMRP 1.0000 IN. ZS

SCALE .0055

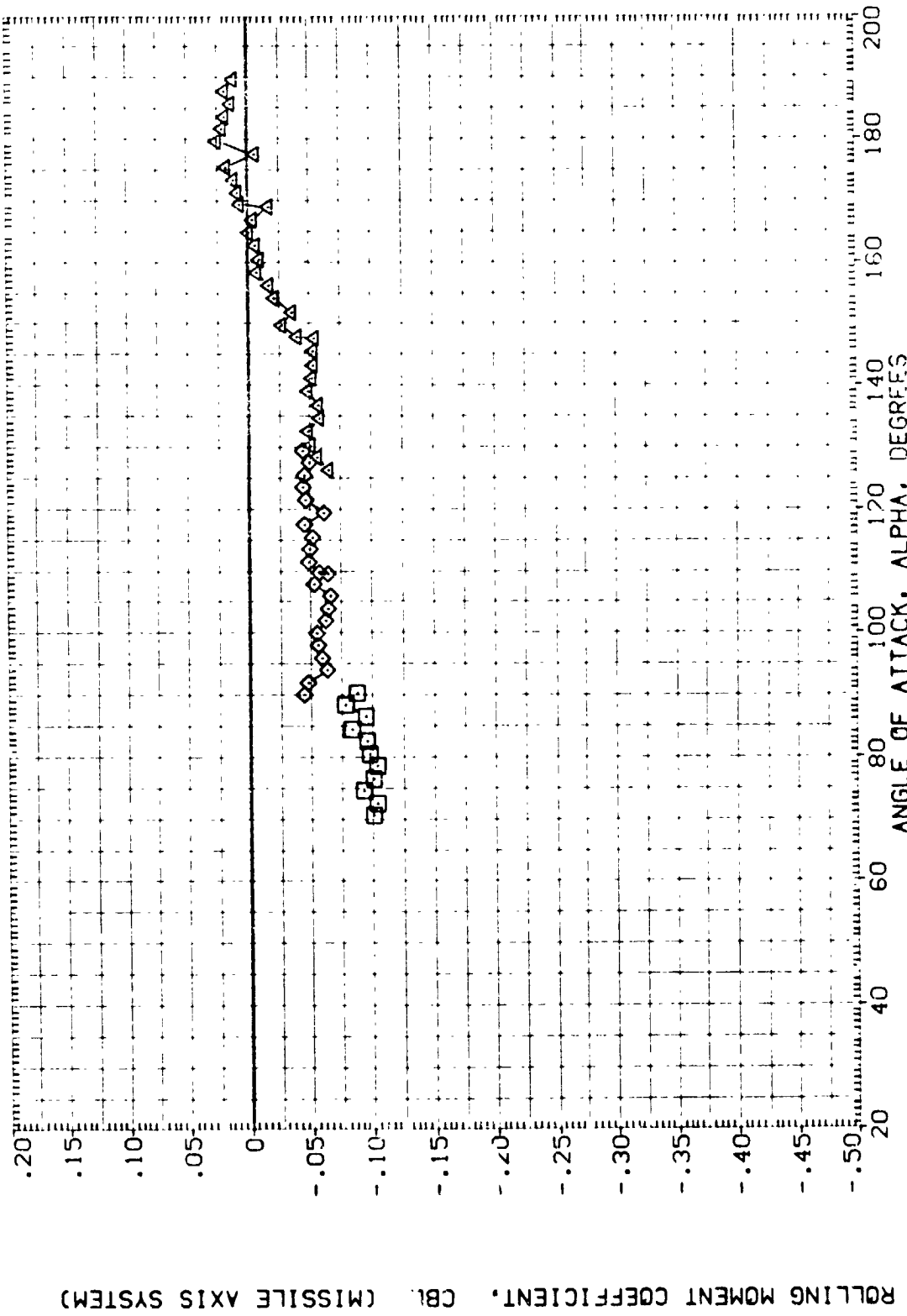


FIGURE 21. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 90)

(E)MACH = 1.96

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7213 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 90.000
 90.000
 90.000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H005) DATA NOT AVAILABLE
 (A1H040) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

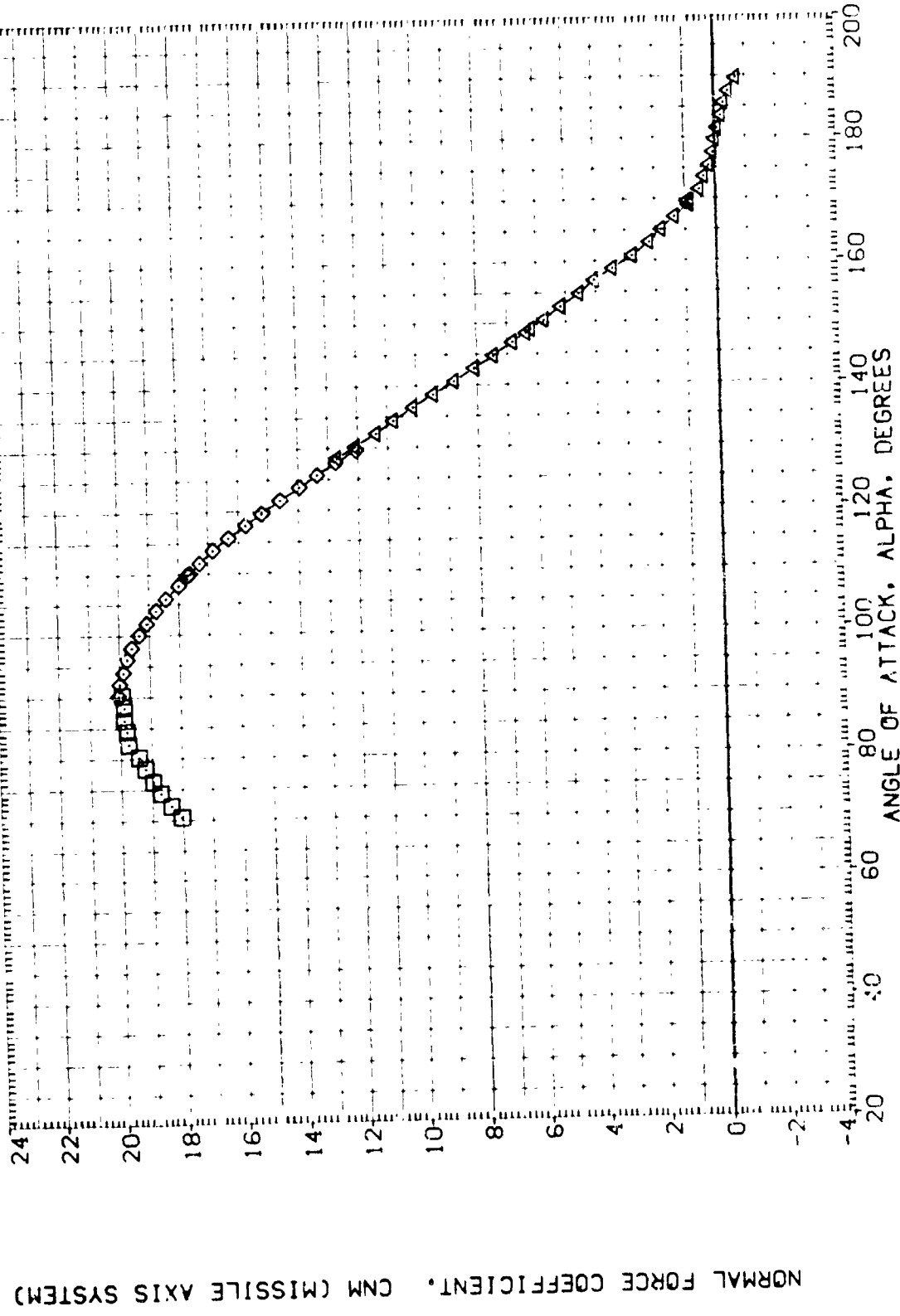


FIGURE 21. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 90)
 (F)MACH = 2.74

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H005) DATA NOT AVAILABLE 90.000

(A1H040) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

(A1H007) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

(A1H005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

REFERENCE INFORMATION

SREF .503C 50. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.721C IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

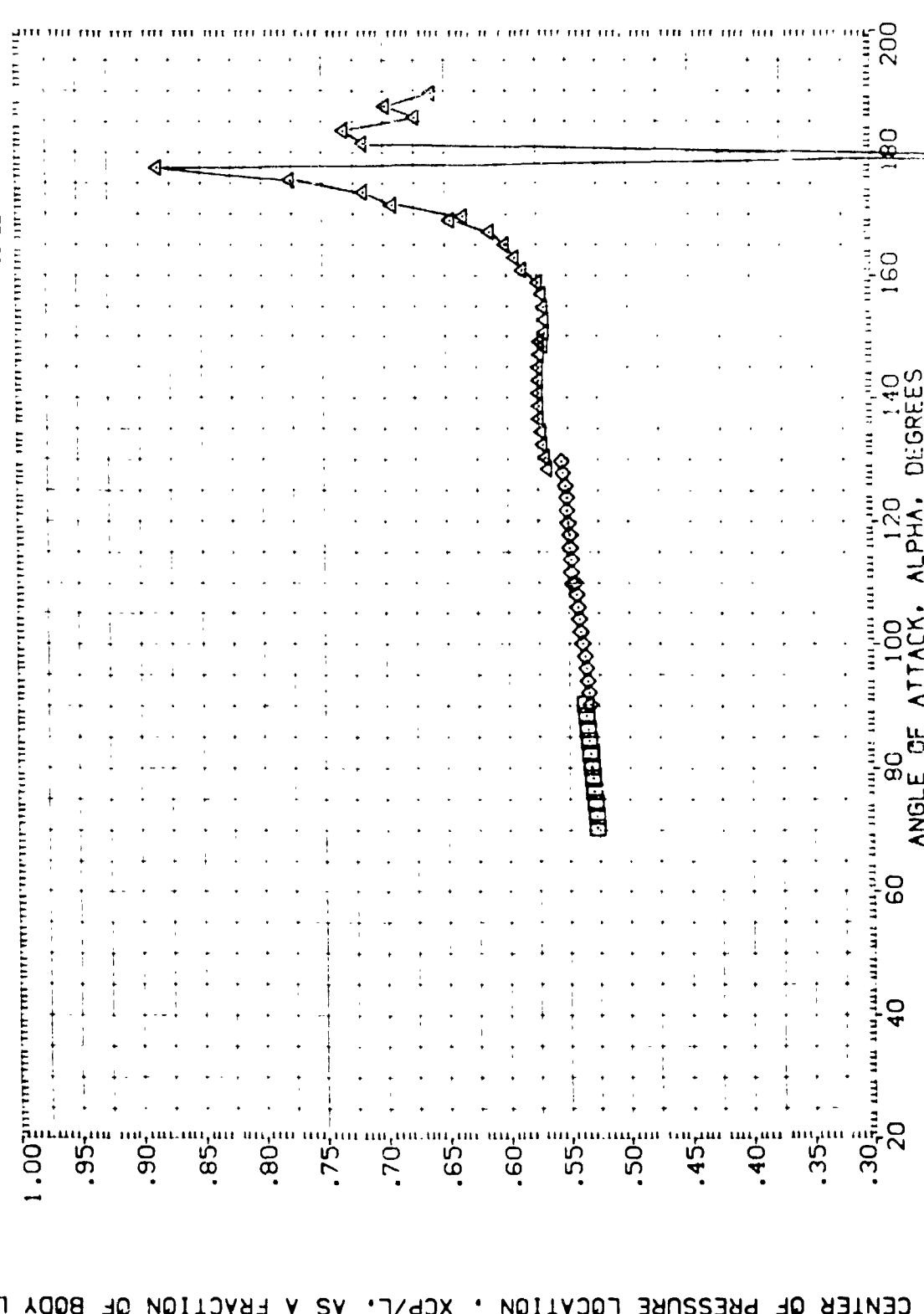


FIGURE 21. STATIC STABILITY CHARACTERISTICS OF SRB WALL PROTUBERANCES (PHI = 90)

(F)MACH = 2.74

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(A1H405)	DATA NOT AVAILABLE	90.000	SREF .5030 SO. IN.
(A1H404)	MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES	90.000	LREF .8000 IN.
(A1H405)	MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES	90.000	BREF .8000 IN. XS
(A1H405)	MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES	90.000	XMRP 5.7210 IN. YS
			YMRP .0000 IN. ZS
			ZMRP .0000 IN. ZS
			SCALE .0055

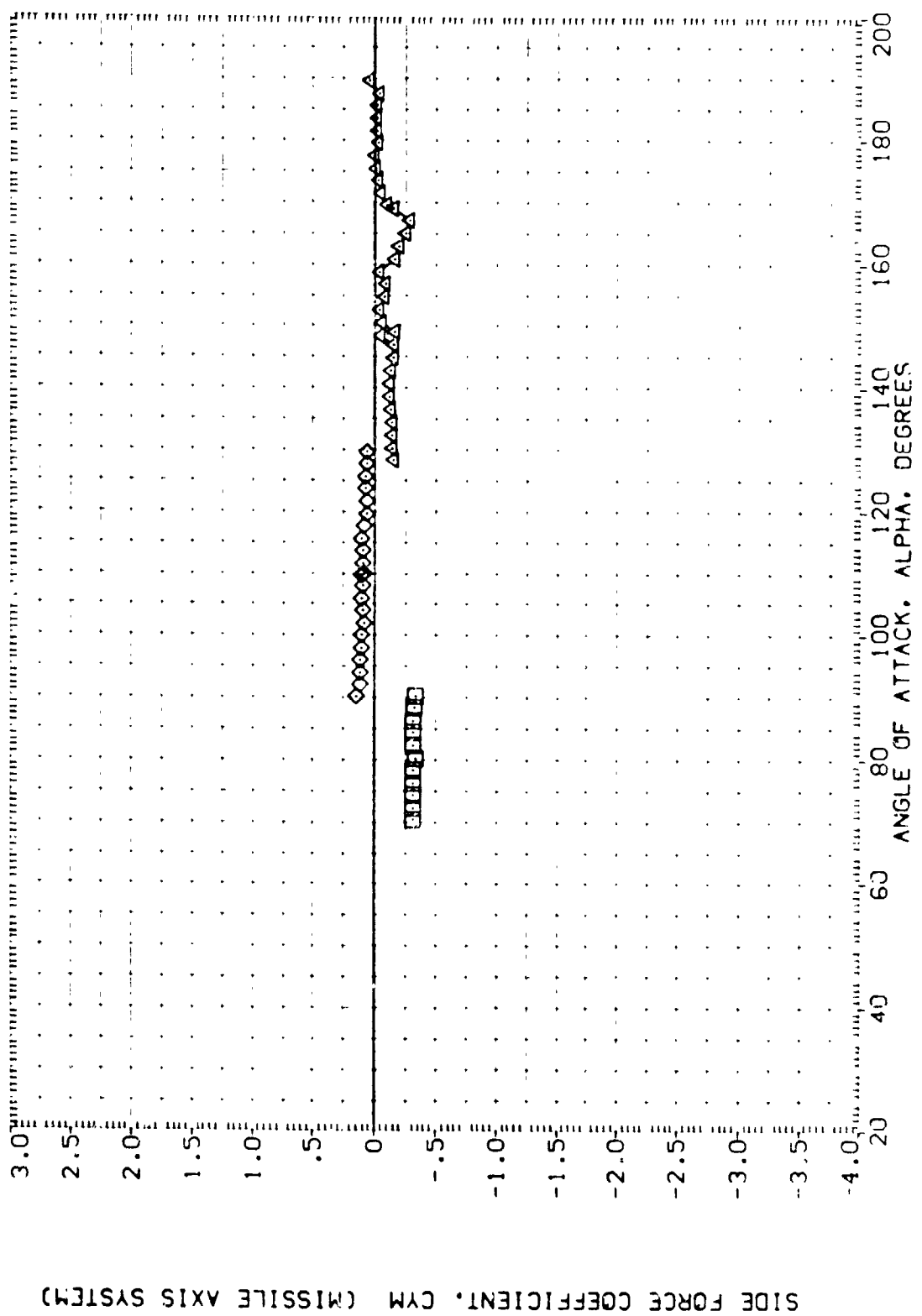


FIGURE 21. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 90)

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(A1H005)	CATA NOT AVAILABLE	90.000	SREF .50 IN.
(A1H040)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	90.000	LREF .8000 IN.
(A1H005)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	90.000	BREF .8000 IN.
(A1H005)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	90.000	XREF 5.7210 IN.
			YREF .0000 IN.
			ZREF .0000 IN.
			SCALE .0055

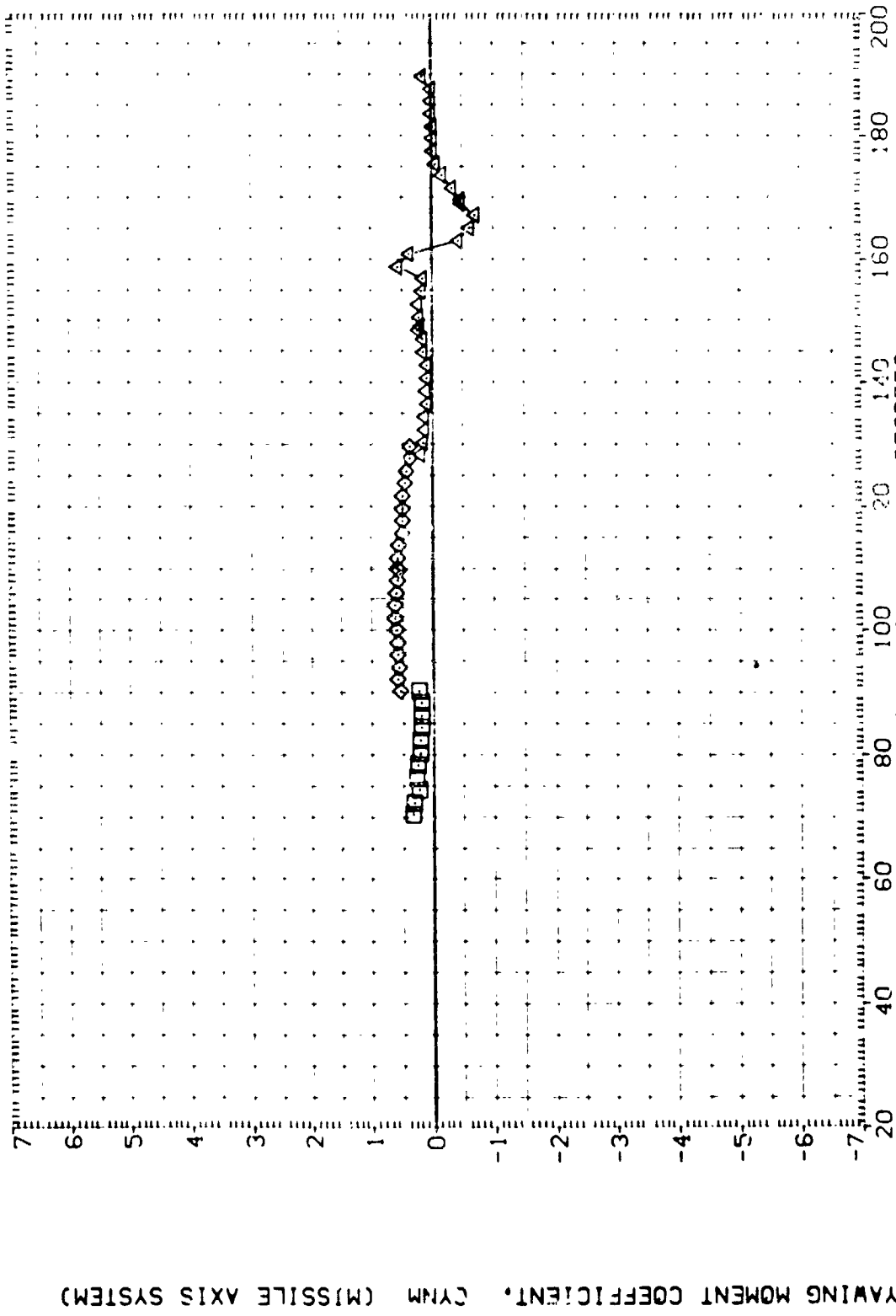


FIGURE 21. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 90)

(F)MACH = 2.74

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4-4

DATA SET SYMBOL (A1H405) (A1H404) (A1H403) (A1H005)

CONFIGURATION DESCRIPTION DATA NOT AVAILABLE MSFC TVT604 (SABF) MSFC TVT604 (SABF)

SRB WITH ALL PROTUBERANCES SRB WITH ALL PROTUBERANCES

PHI 90.000 90.000 90.000 90.000

REFERENCE INFORMATION SREF .5030 SO, IN. LREF .8000 IN. BREF .8000 IN. XMRP 5.7210 IN. XS ZMRP .0000 IN. YS SCALE .005F ZS

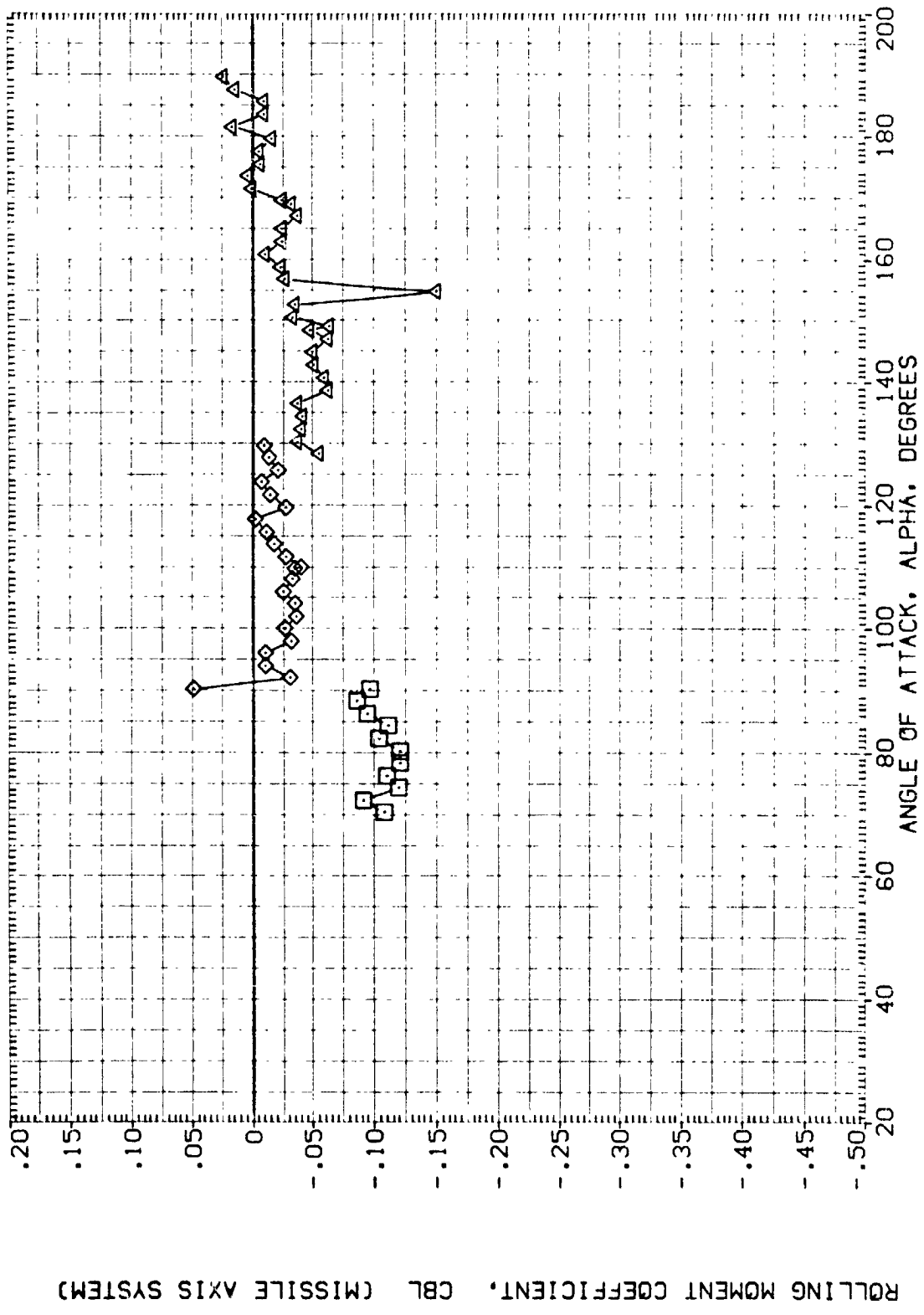


FIGURE 21. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 90)

(F)MACH = 2.74

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 90.000
 90.000
 90.000

PROTUBERANCES
 ALL PROTUBERANCES
 ALL PROTUBERANCES
 ALL PROTUBERANCES

CONFIGURATION DESCRIPTION
 MSFC TVT604 (SABF) SRB WITH ALL
 MSFC TVT604 (SABF) SRB WITH ALL
 MSFC TVT604 (SABF) SRB WITH ALL
 MSFC TVT604 (SABF) SRB WITH ALL

DATA SET SYMBOL
 (A1H005) □
 (A1H040) ○
 (A1H005) △

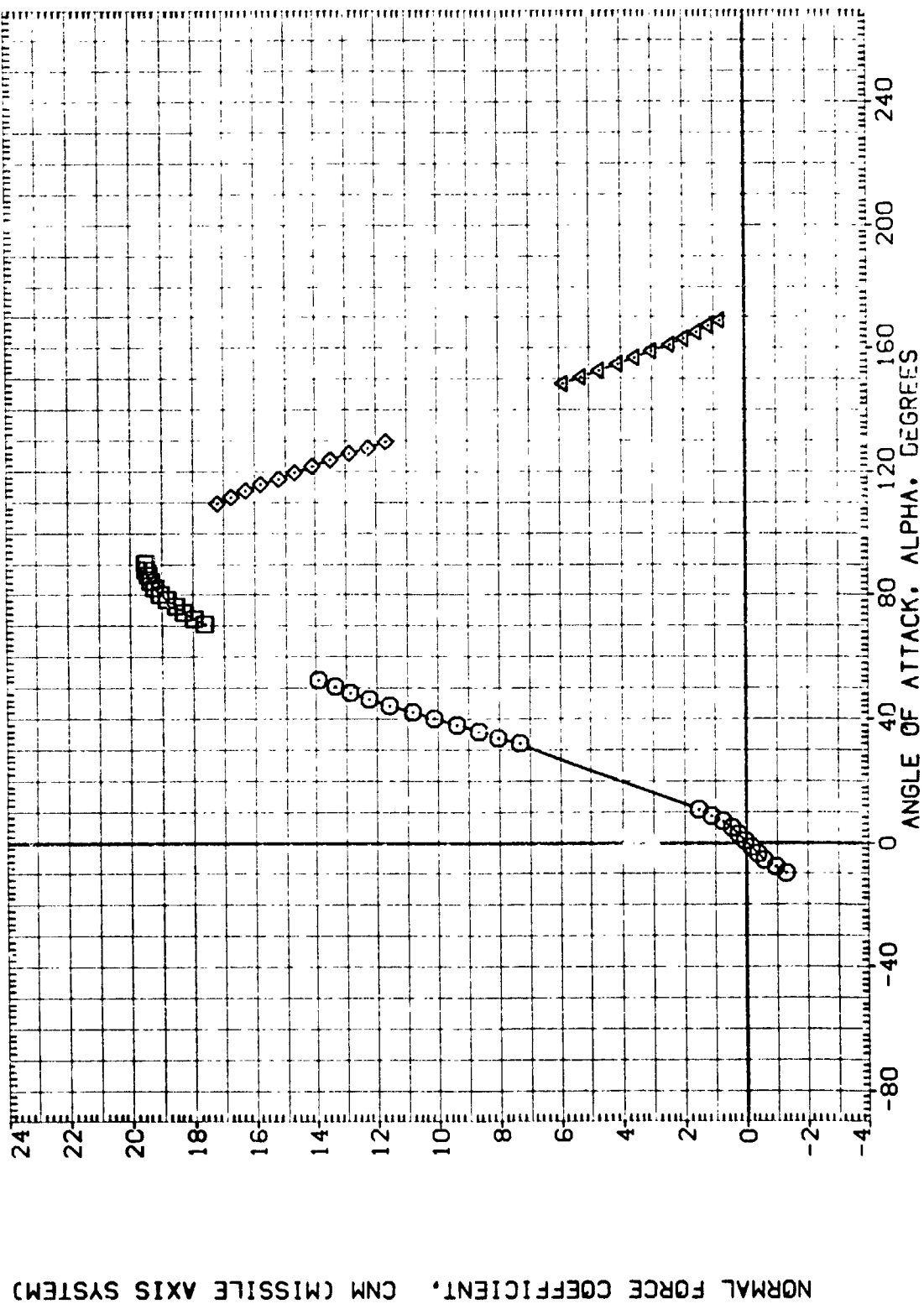


FIGURE 21. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 90)



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(A1H005)	MSFC TVT804 (SABF) SRB WITH ALL PROTUBERANCES	90.000	SREF .5030 SQ. IN.
(A1H040)	MSFC TVT804 (SABF) SRB WITH ALL PROTUBERANCES	90.000	LREF .8000 IN.
(A1H005)	MSFC TVT804 (SABF) SRB WITH ALL PROTUBERANCES	90.000	BREF .8000 IN.
(A1H005)	MSFC TVT804 (SABF) SRB WITH ALL PROTUBERANCES	90.000	XMRP 5.7210 IN. XS
			YMRP .0000 IN. YS
			ZMRP .0000 IN. ZS
			SCALE .0055

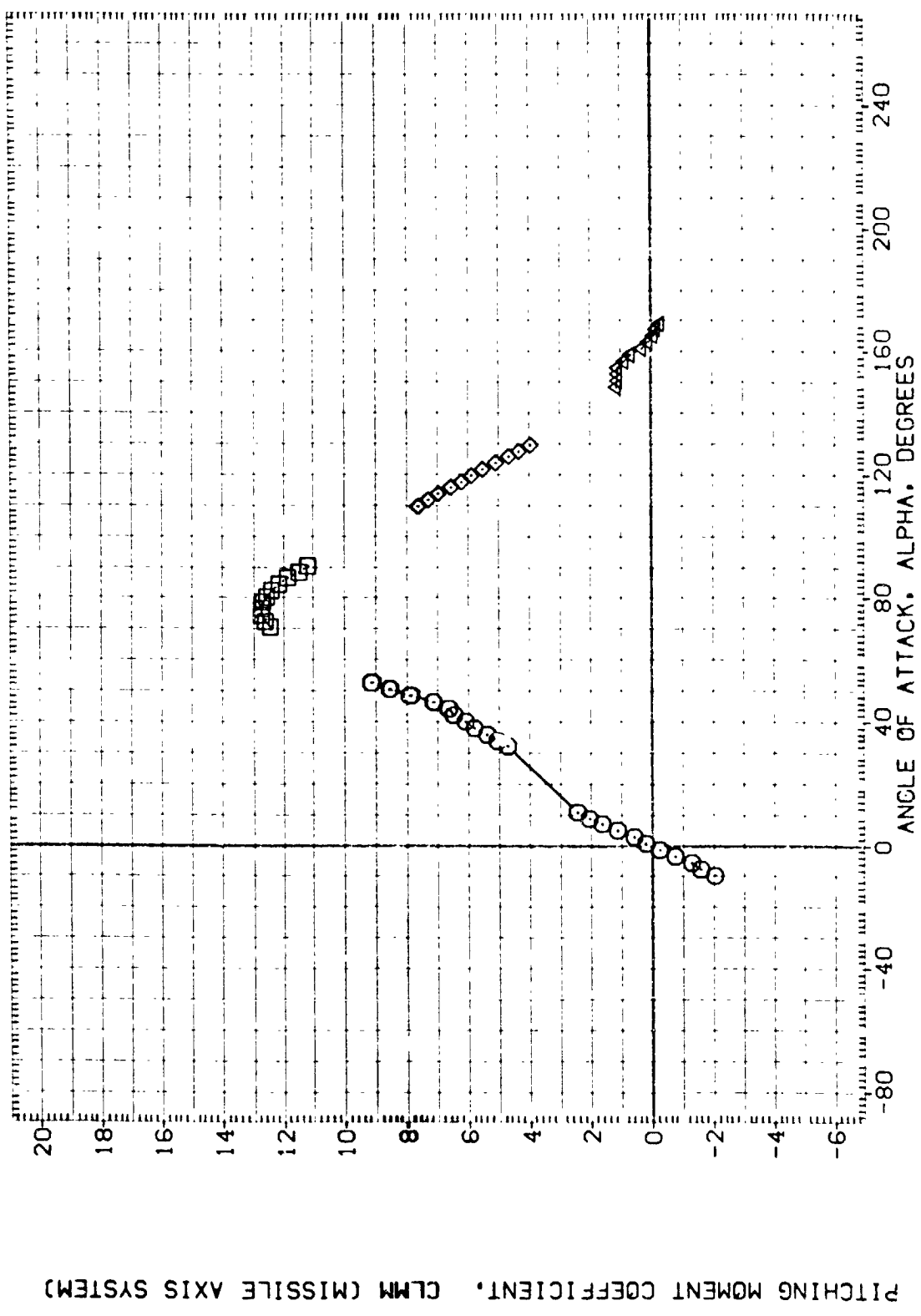


FIGURE 21. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 90)

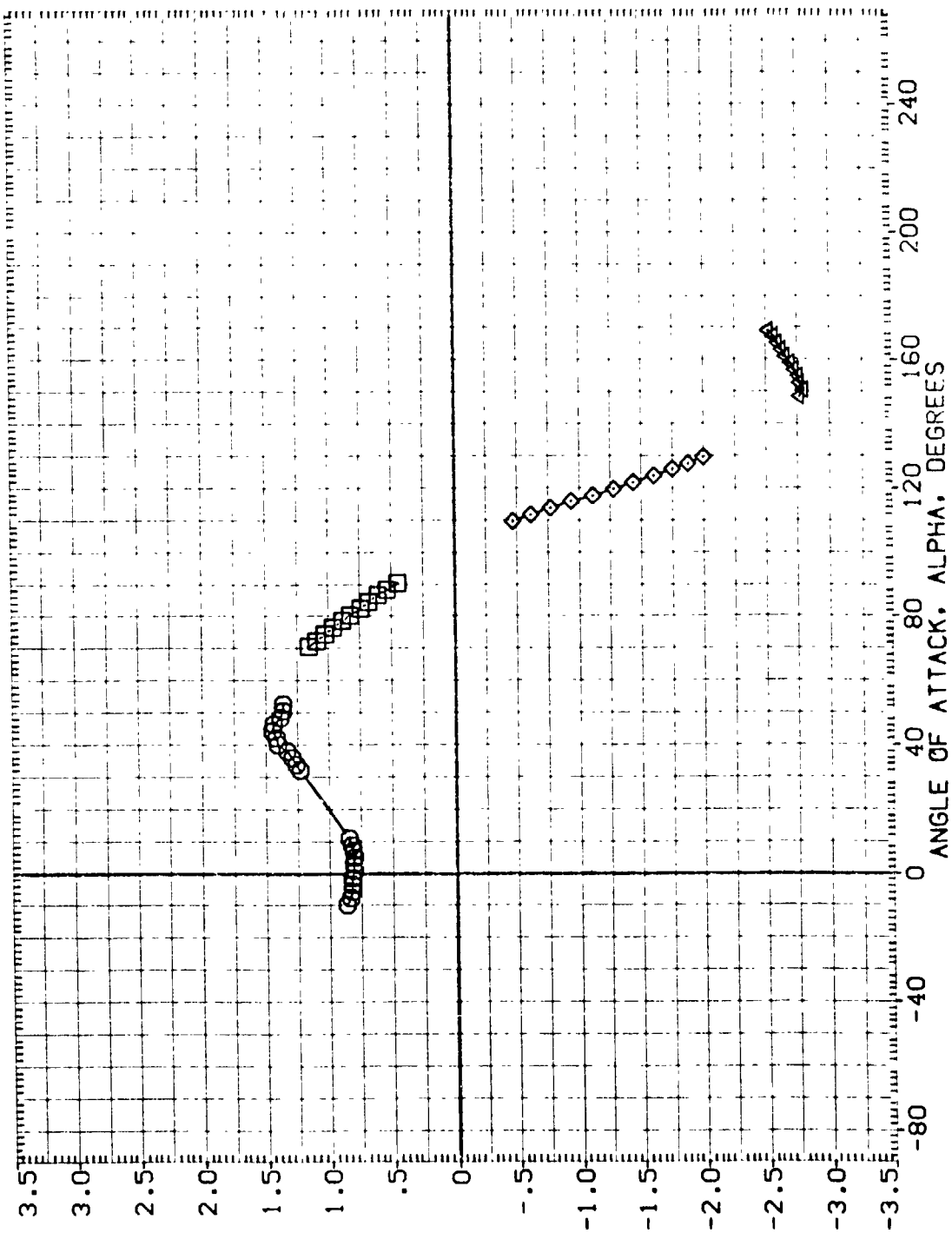
REFERENCE INFORMATION
 SREF .5030 50. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 90.000
 90.000
 90.000
 90.000

PROTUBERANCES
 SRB WITH ALL
 PROTUBERANCES
 SRB WITH ALL
 PROTUBERANCES
 SRB WITH ALL
 PROTUBERANCES
 SRB WITH ALL
 PROTUBERANCES

CONFIGURATION DESCRIPTION
 MSFC TVT804 (SABF) SRB WITH ALL
 MSFC TVT804 (SABF) SRB WITH ALL
 MSFC TVT804 (SABF) SRB WITH ALL
 MSFC TVT804 (SABF) SRB WITH ALL

DATA SET SYMBOL
 (A1H005) □
 (A1H040) ○
 (A1H005) △



AXIAL FORCE COEFFICIENT, CA (MISSILE AXIS SYSTEM)

FIGURE 21. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 90)

(A)MACH = 3.48

DATA SET SYMBOL CONFIGURATION DESCRIPTION PH. REFERENCE INFORMATION

(A1H405)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	90.000	SREF .5030 SO. IN.
(A1H040)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	90.000	LREF .8000 IN.
(A1H005)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	90.000	BREF .8000 IN.
(A1H005)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	90.000	XMRP 5.7210 IN. XS
			YMRP .0000 IN. YS
			ZMRP .0000 IN. ZS
			SCALE .0055

PH. 90.000
90.000
90.000

MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H405)
(A1H040)
(A1H005)

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

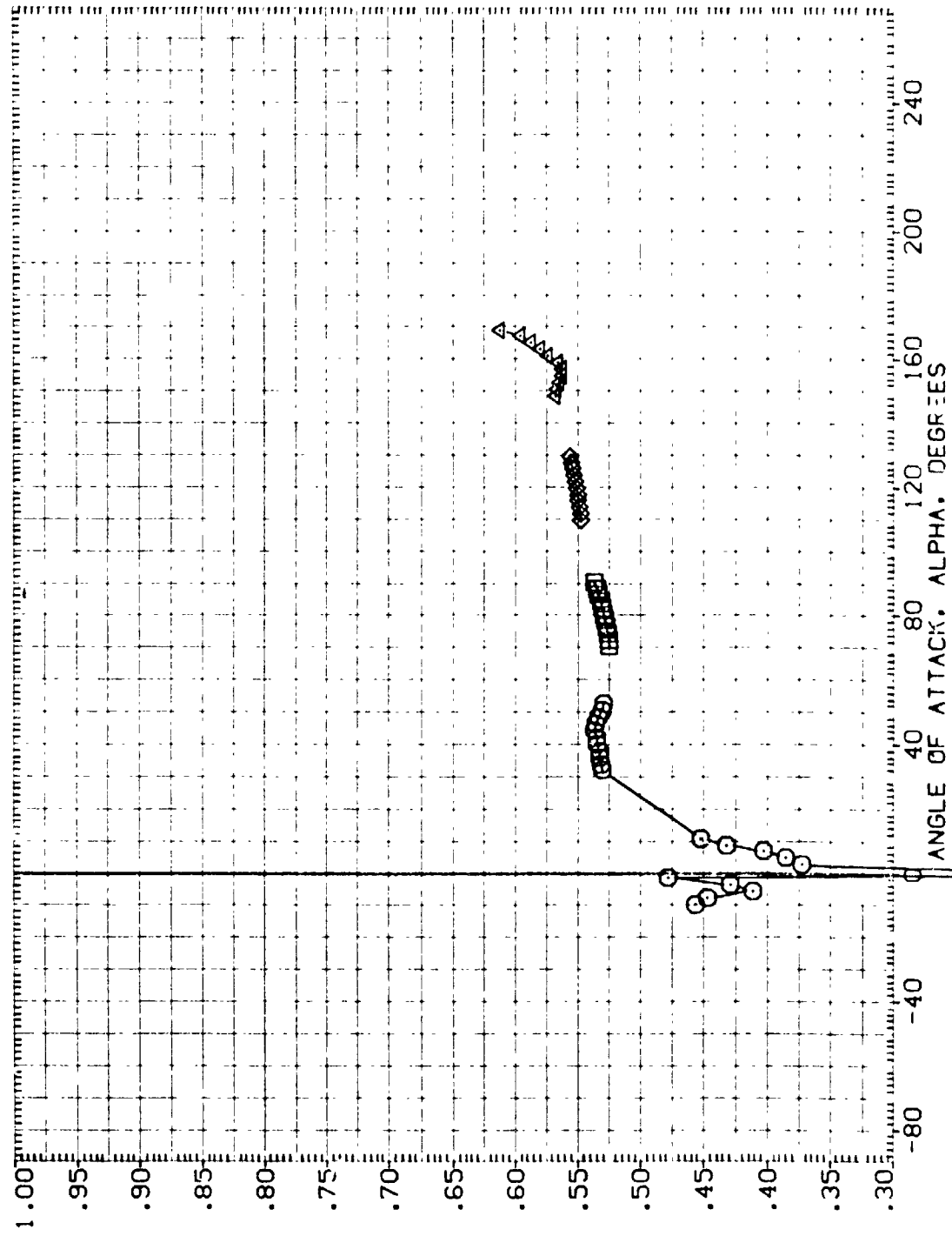


FIGURE 21. STATIC STABILITY CHARACTERISTICS OF SRB W/WALL PROTUBERANCES (PHI = 90)

(A)MACH = 3.48

REFERENCE INFORMATION
 SREF .5030 IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XTRP 5.7210 IN.
 YTRP .0000 IN.
 ZTRP .0000 IN.
 SCALE .0055

PHI
 90.000
 90.000
 90.000

PROTUBERANCES
 ALL PROTUBERANCES
 ALL PROTUBERANCES
 ALL PROTUBERANCES

CONFIGURATION DESCRIPTION
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

DATA SET SYMBOL
 (A1H005)
 (A1H040)
 (A1H005)
 (A1H005)

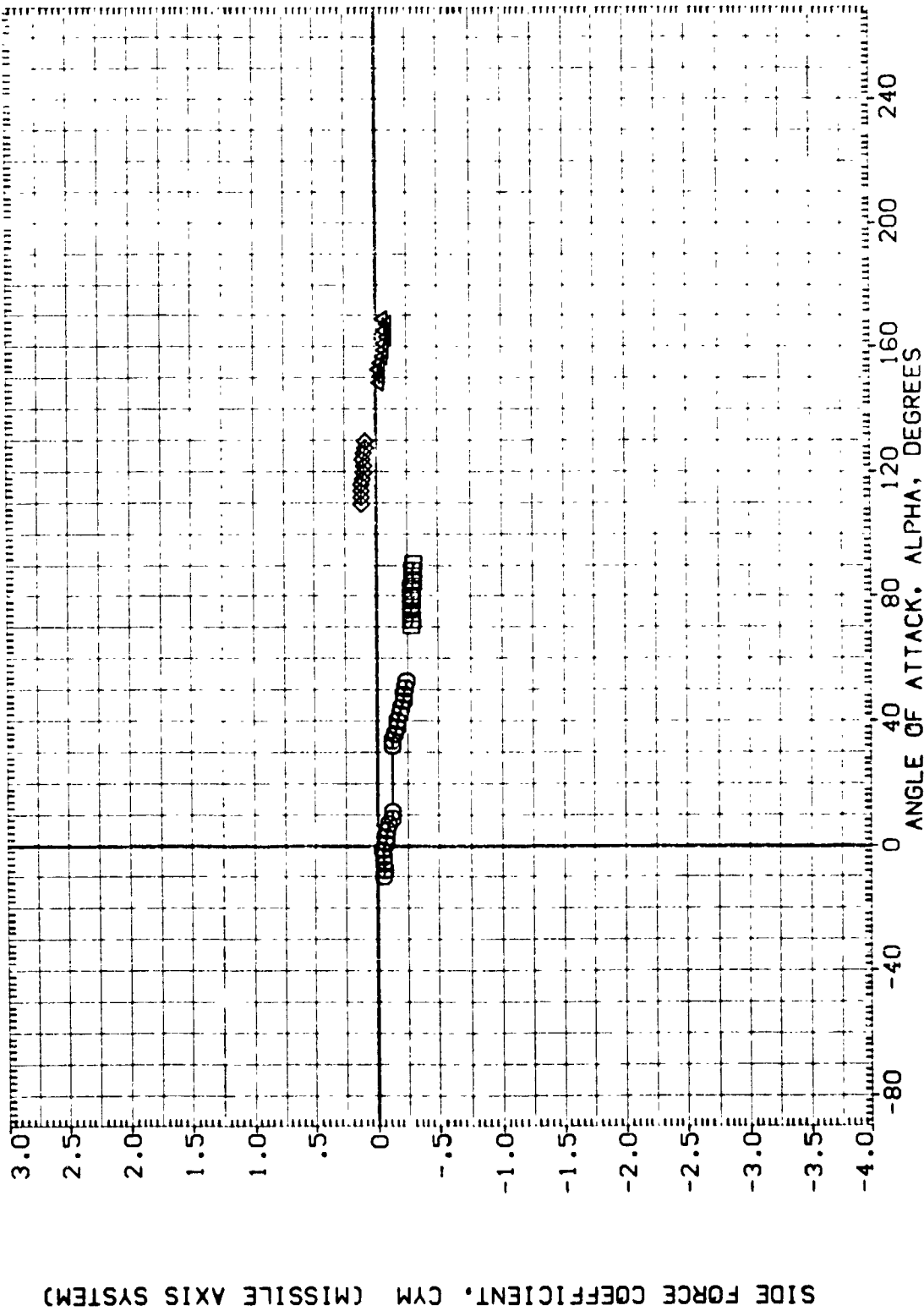


FIGURE 21. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 90)

(A)MACH = 3.48

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

(A1H040) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

(A1H005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

(A1H005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

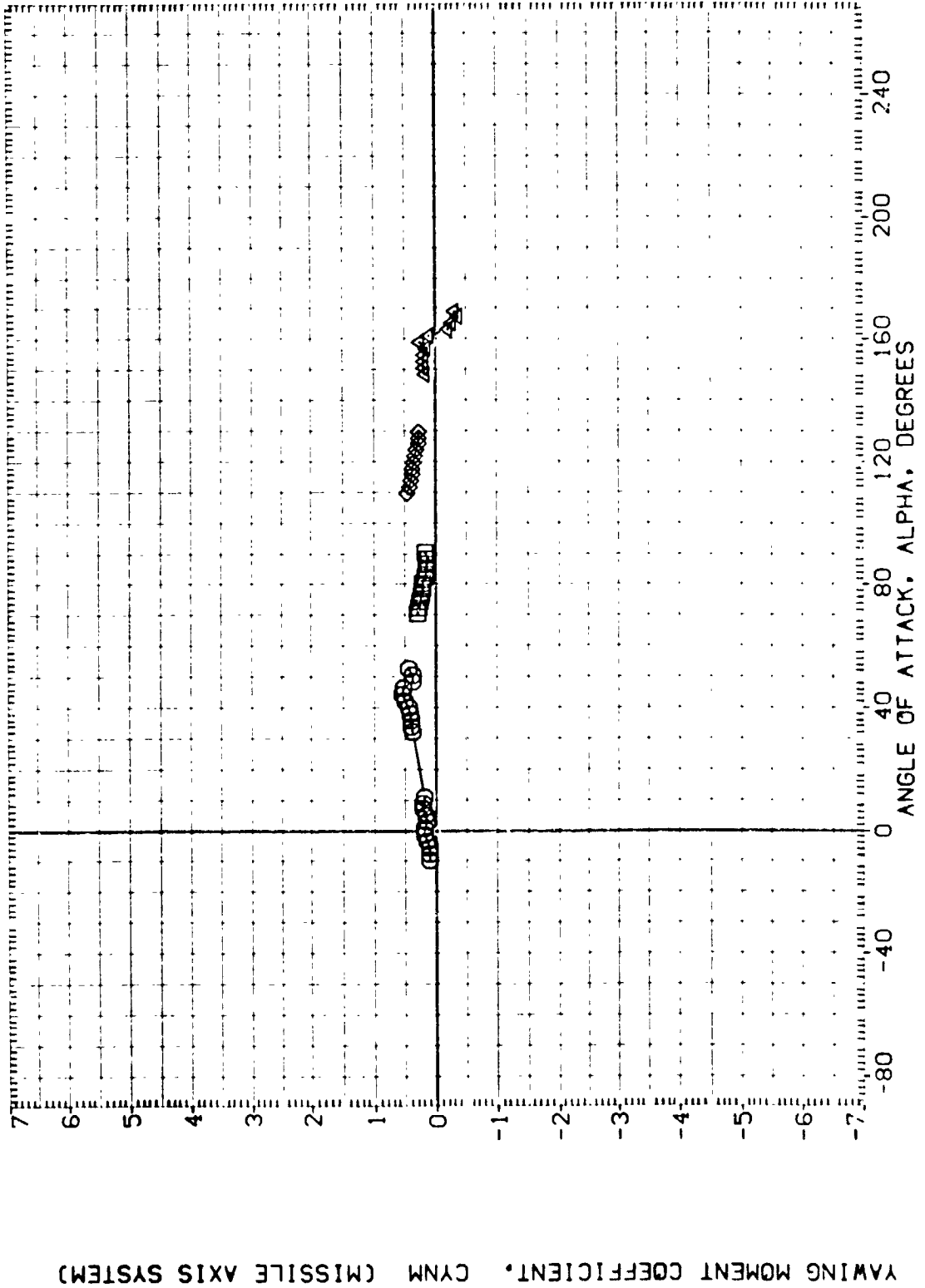


FIGURE 21. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 90)

(A)MACH = 3.48

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H040) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI

90.000

90.000

90.000

90.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN.

YMRP .0000 IN.

ZMRP .0000 IN.

SCALE .0055

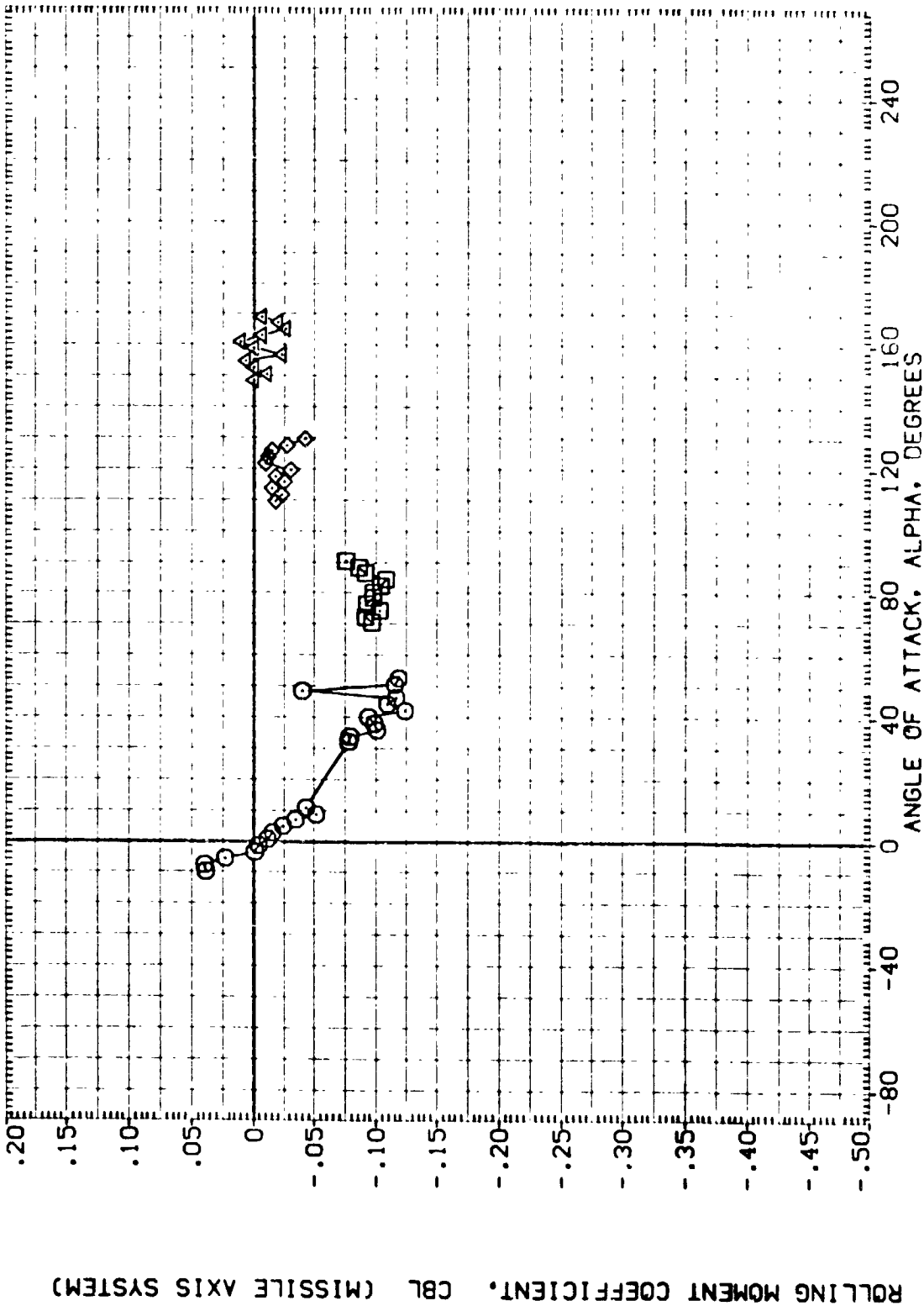


FIGURE 21. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 90)

(A)MACH = 3.48

==

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

(A1H040) DATA NOT AVAILABLE 90.000

(A1H005) DATA NOT AVAILABLE 90.000

(A1H005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

REFERENCE INFORMATION

SREF .5030 50. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

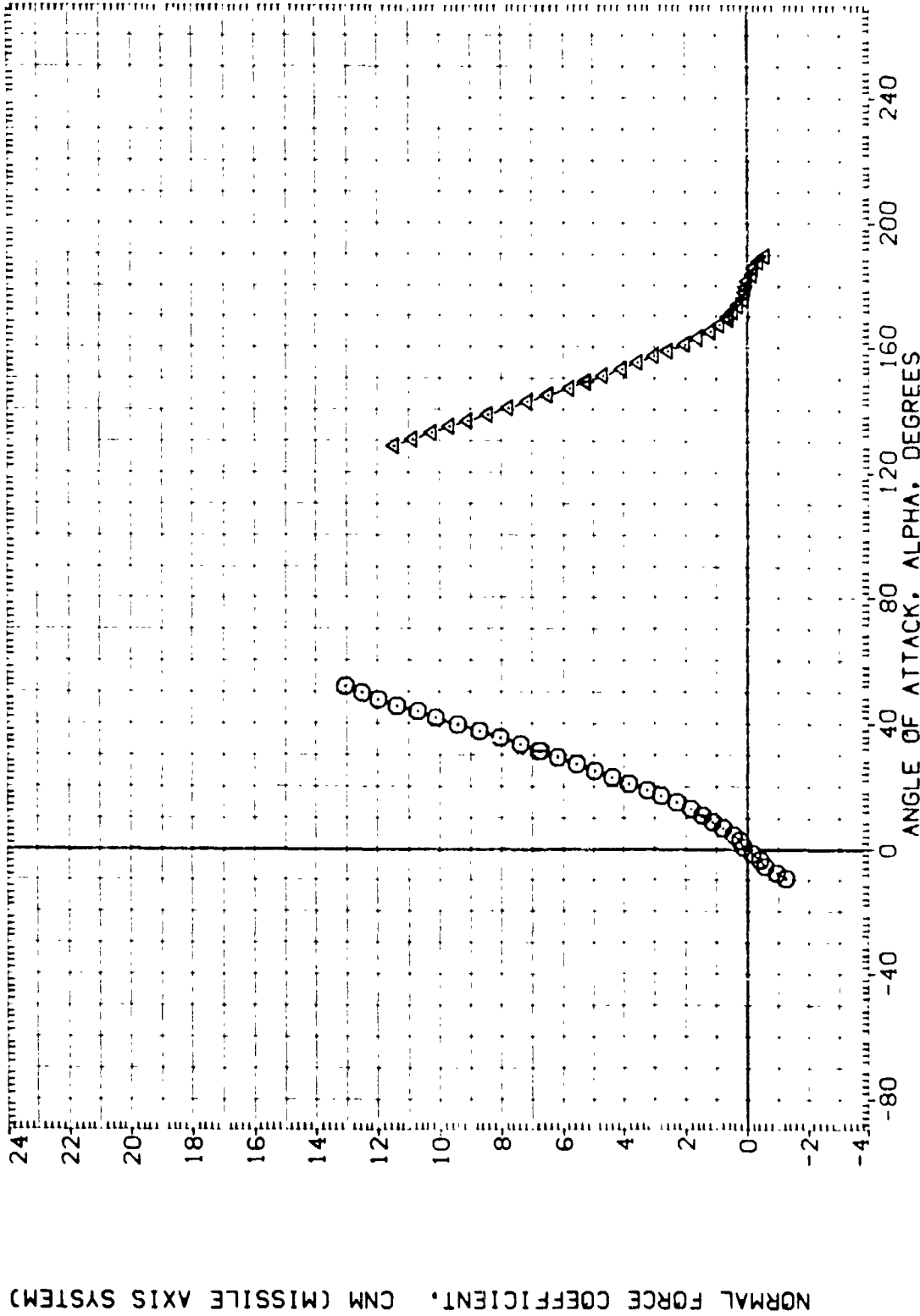
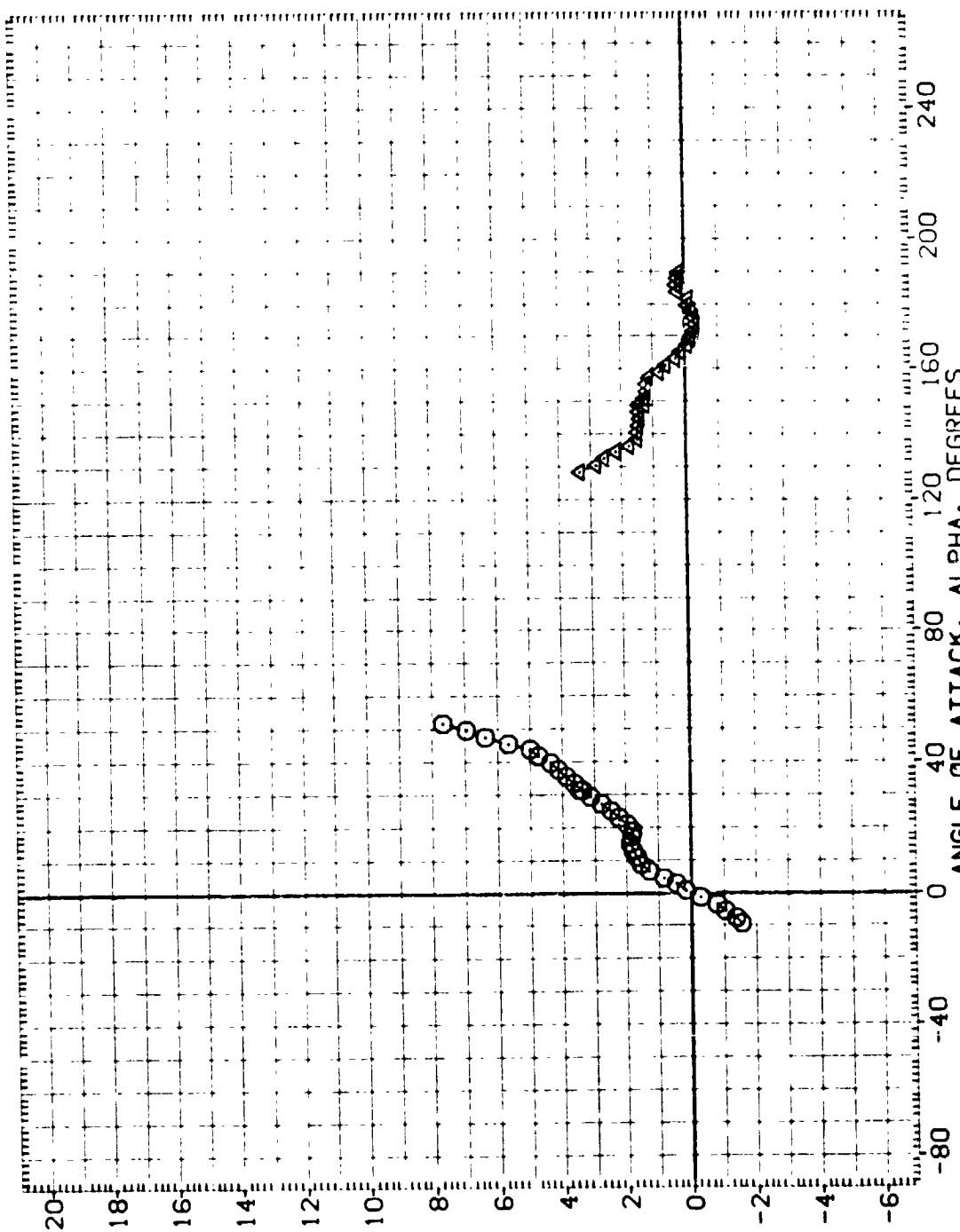


FIGURE 21. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 90)

REFERENCE INFORMATION
 SREF .5030 IN.
 LREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 90.000
 90.000
 90.000
 90.000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H005) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H040) DATA NOT AVAILABLE
 (A1H005) DATA NOT AVAILABLE
 (A1H005) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES



PITCHING MOMENT COEFFICIENT, CLM (MISSILE AXIS SYSTEM)

FIGURE 21. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 90)
 (B)MACH = 4.45

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(A1H005)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	90.000	SREF .5030 SQ. IN.
(A1H040)	DATA NOT AVAILABLE	90.000	LREF .8000 IN.
(A1H005)	DATA NOT AVAILABLE	90.000	BREF .8000 IN.
(A1H005)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	90.000	XMRP 5.7210 IN. XS
			YMRP .0000 IN. YS
			ZMRP .0000 IN. ZS
			SCALE .0075

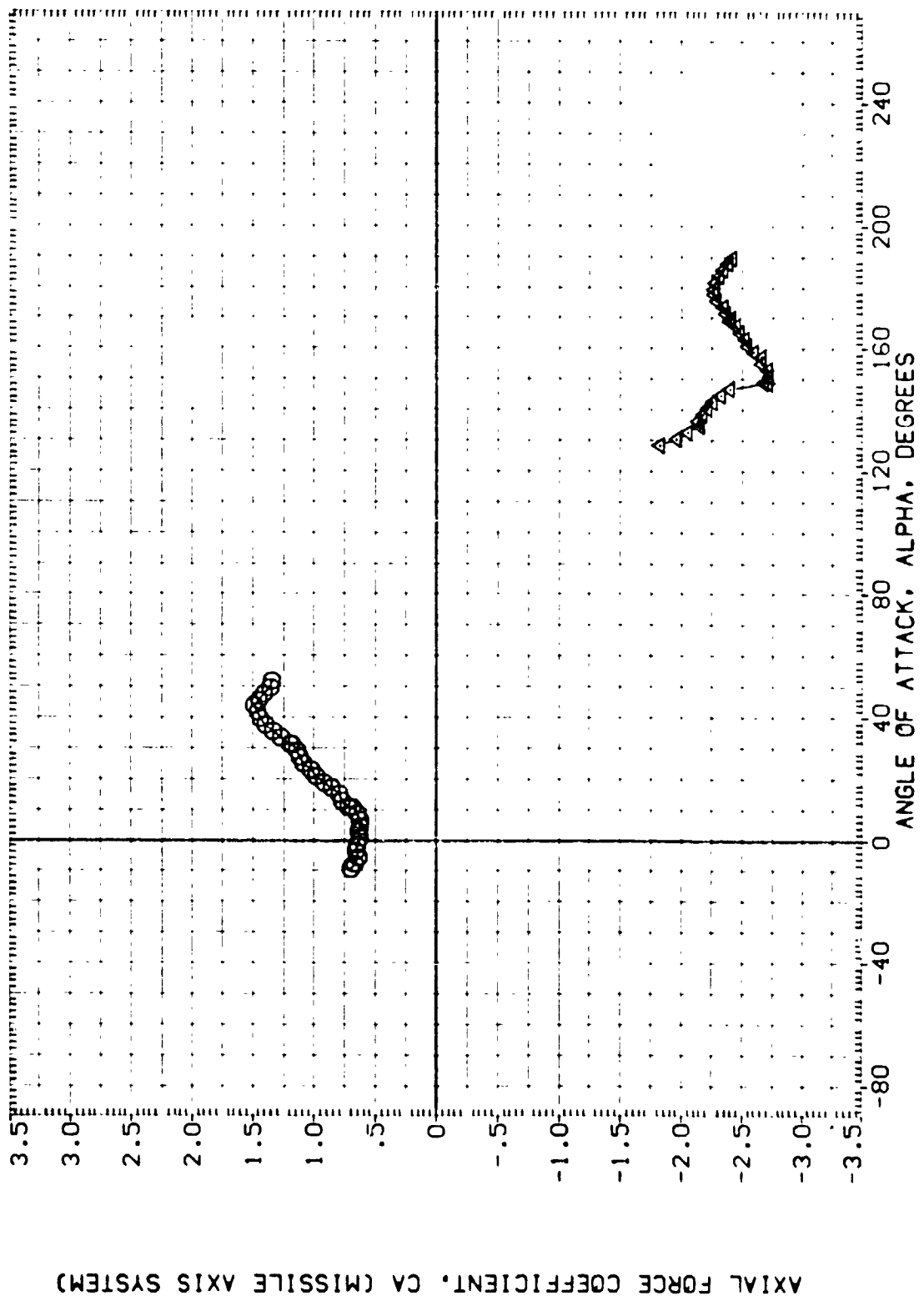


FIGURE 21. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 90)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H403) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

(A1H404) DATA NOT AVAILABLE 90.000

(A1H405) DATA NOT AVAILABLE 90.000

(A1H406) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

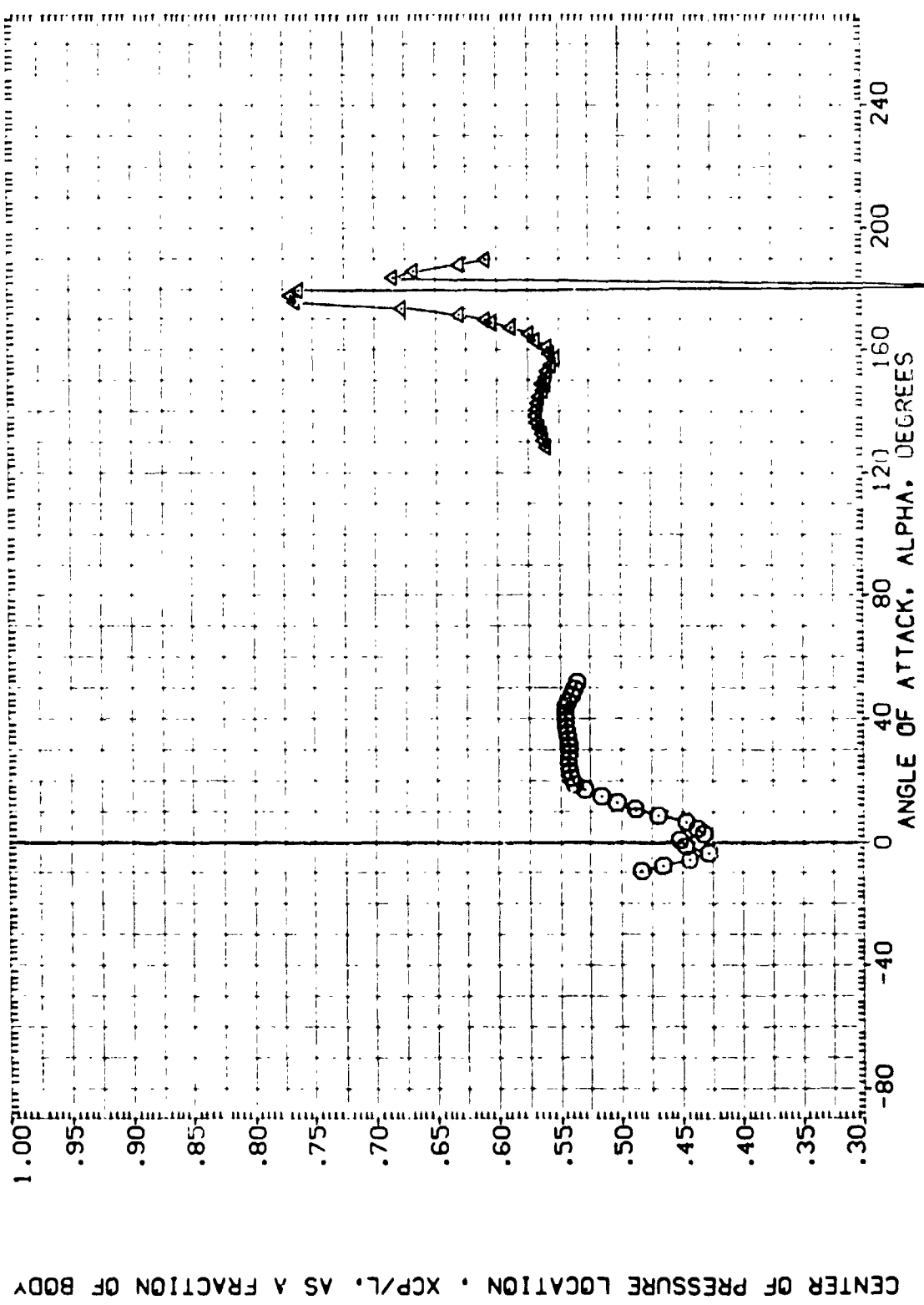


FIGURE 21. STATIC STABILITY CHARACTERISTICS OF SRB WITH WALL PROTUBERANCES (PHI = 90)

(B)MACH = 4.45

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H405) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

(A1H406) DATA NOT AVAILABLE 90.000

(A1H407) DATA NOT AVAILABLE 90.000

(A1H408) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

REFERENCE INFORMATION

SREF .5000 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

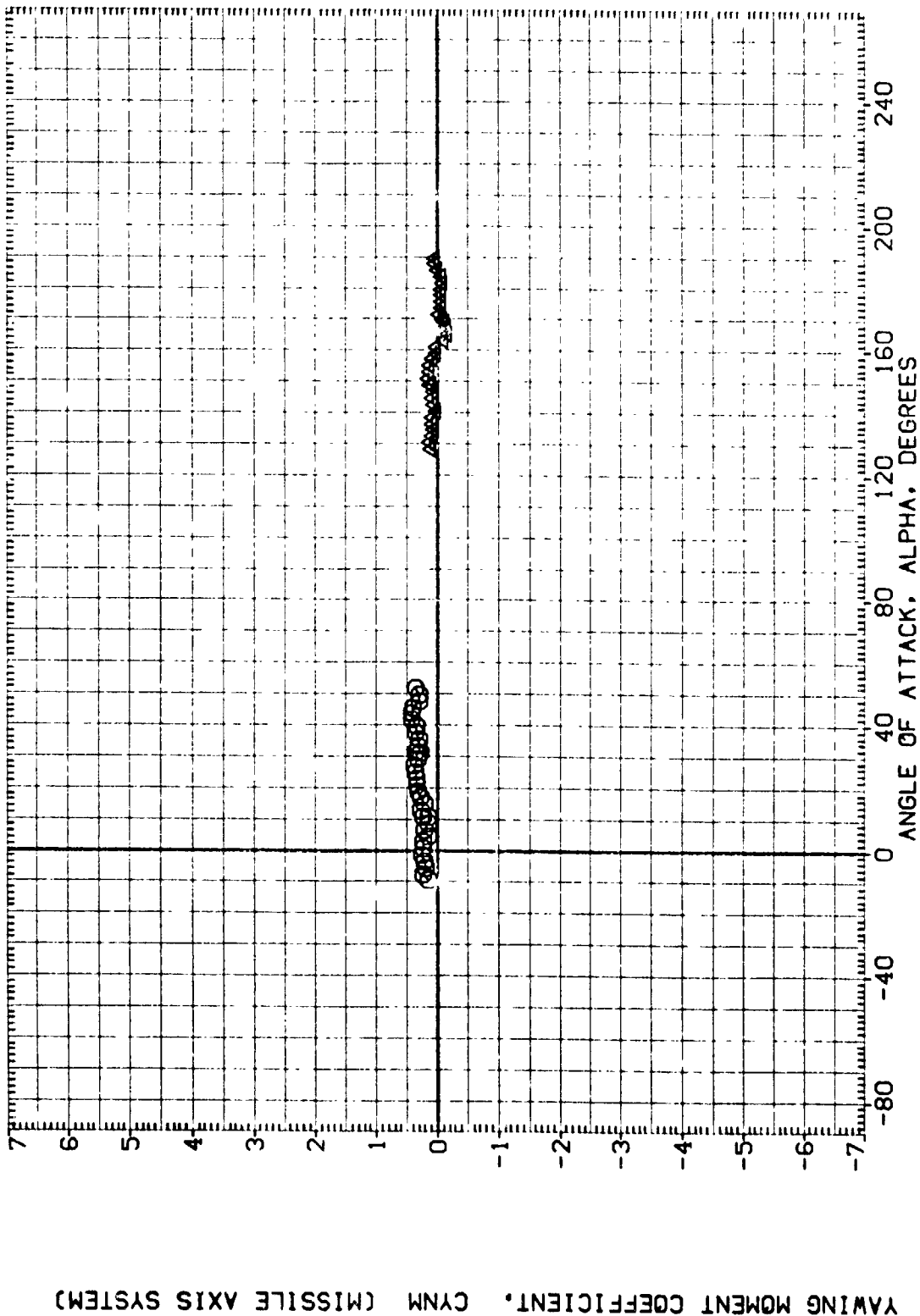


FIGURE 21. STATIC STABILITY CHARACTERISTICS OF SRB W/ALL PROTUBERANCES ($\Phi = 90^\circ$)

(B) MACH = 4.45

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H405) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

(A1H404) DATA NOT AVAILABLE 90.000

(A1H403) DATA NOT AVAILABLE 90.000

(A1H405) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

REFERENCE INFORMATION

SREF .5030 SQ.IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN.

YMRP .0000 IN.

ZMRP .0000 IN.

SCALE .0055

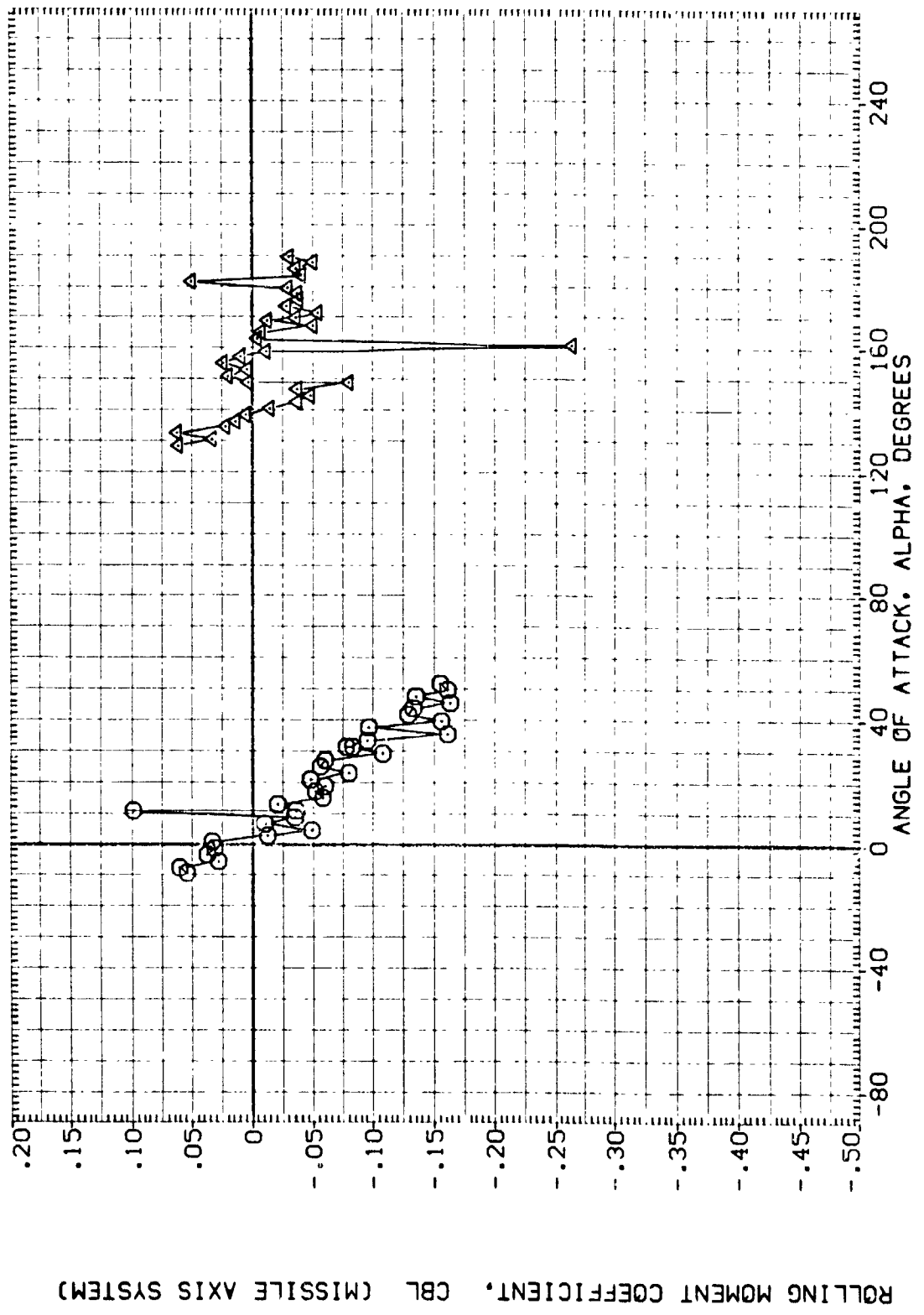


FIGURE 21. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 90)

(B)MACH = 4.45

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0700 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 135.000
 135.000
 135.000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H006) DATA NOT AVAILABLE
 (A1H048) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H049) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H050) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES

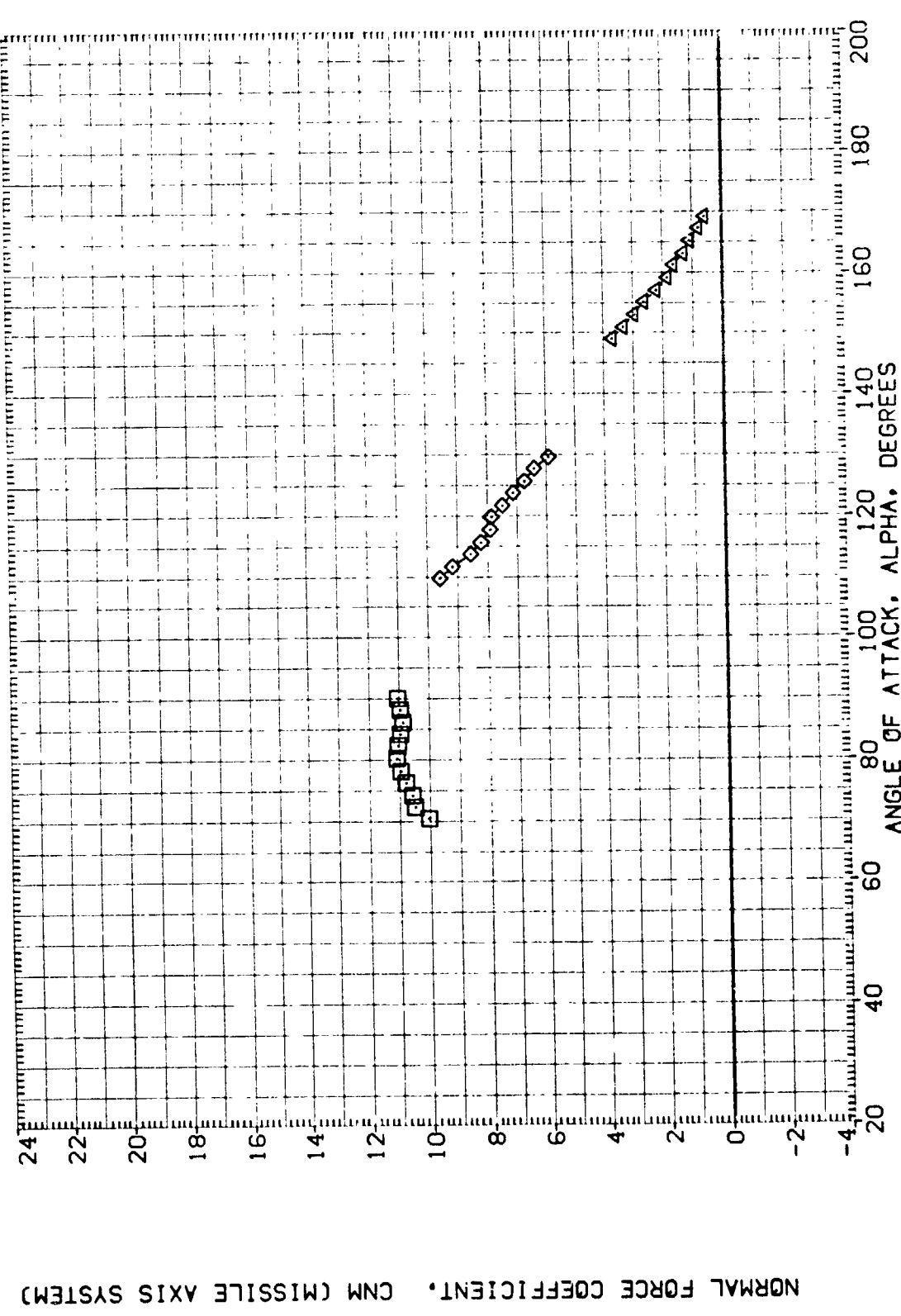


FIGURE 22. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 135)

(A)MACH = .40

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H005) DATA NOT AVAILABLE
 (A1H048) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H049) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H050) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI
 135.000
 135.000
 135.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PITCHING MOMENT COEFFICIENT, CLM (MISSILE AXIS SYSTEM)

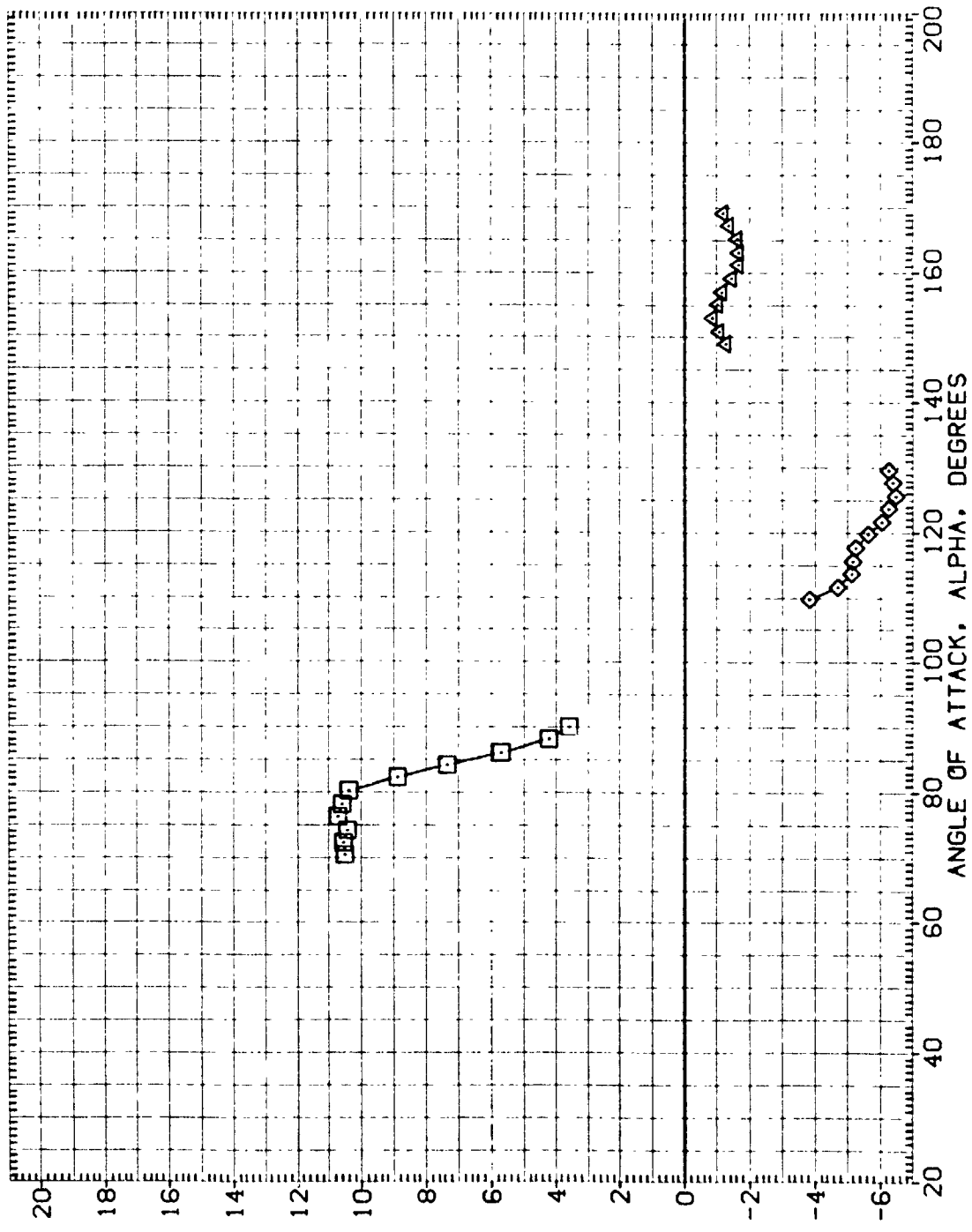


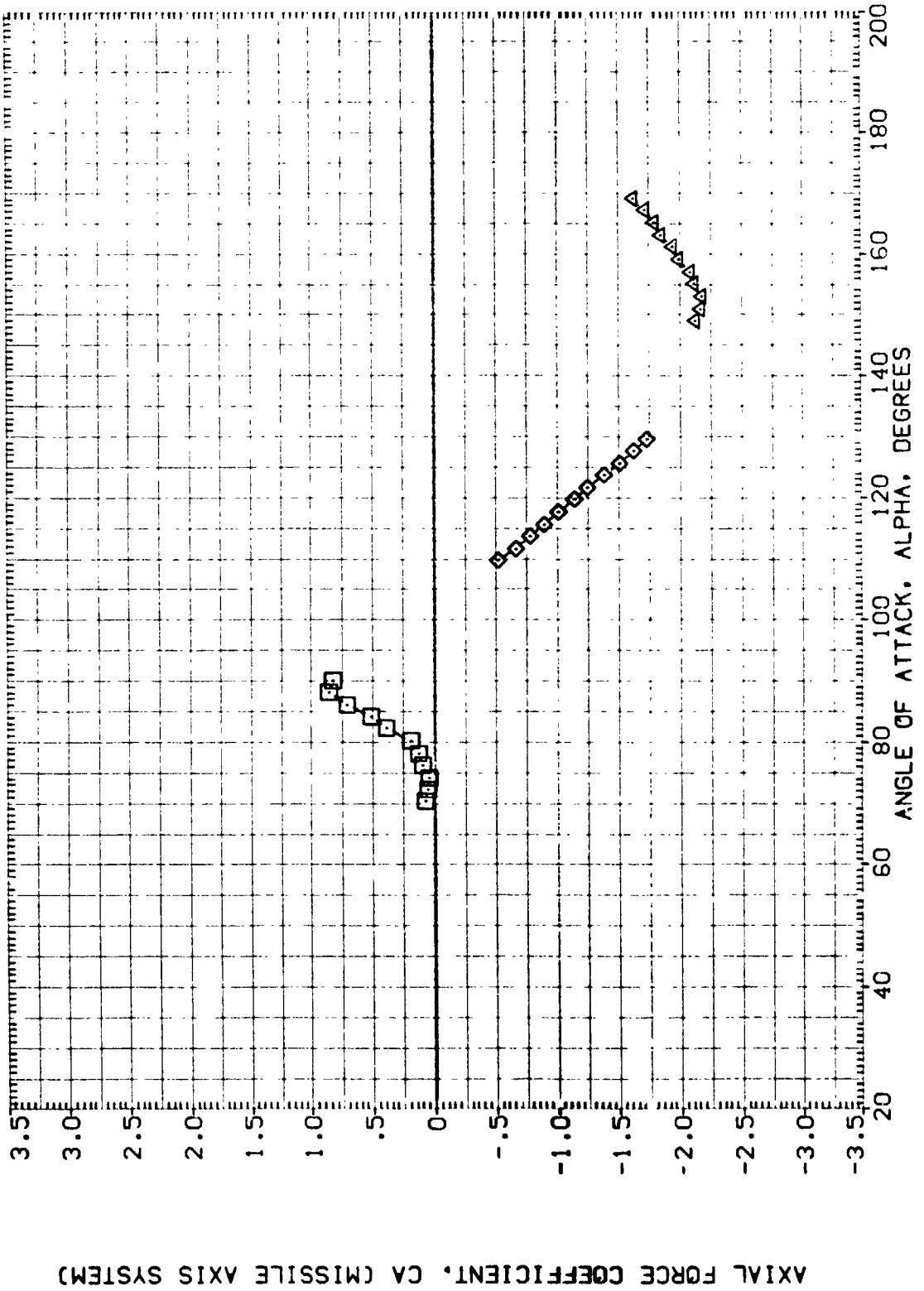
FIGURE 22. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 135)

(A)MACH = .40

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H048) □ DATA NOT AVAILABLE
 (A1H048) □ MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H049) □ MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H050) □ MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI
 135.000
 135.000
 135.000

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055



AXIAL FORCE COEFFICIENT, CA (MISSILE AXIS SYSTEM)

FIGURE 22. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 135)

(A)MACH = .40

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H036) □ DATA NOT AVAILABLE

(A1H048) □ MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H049) □ MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H050) □ MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI

135.000

135.000

135.000

135.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

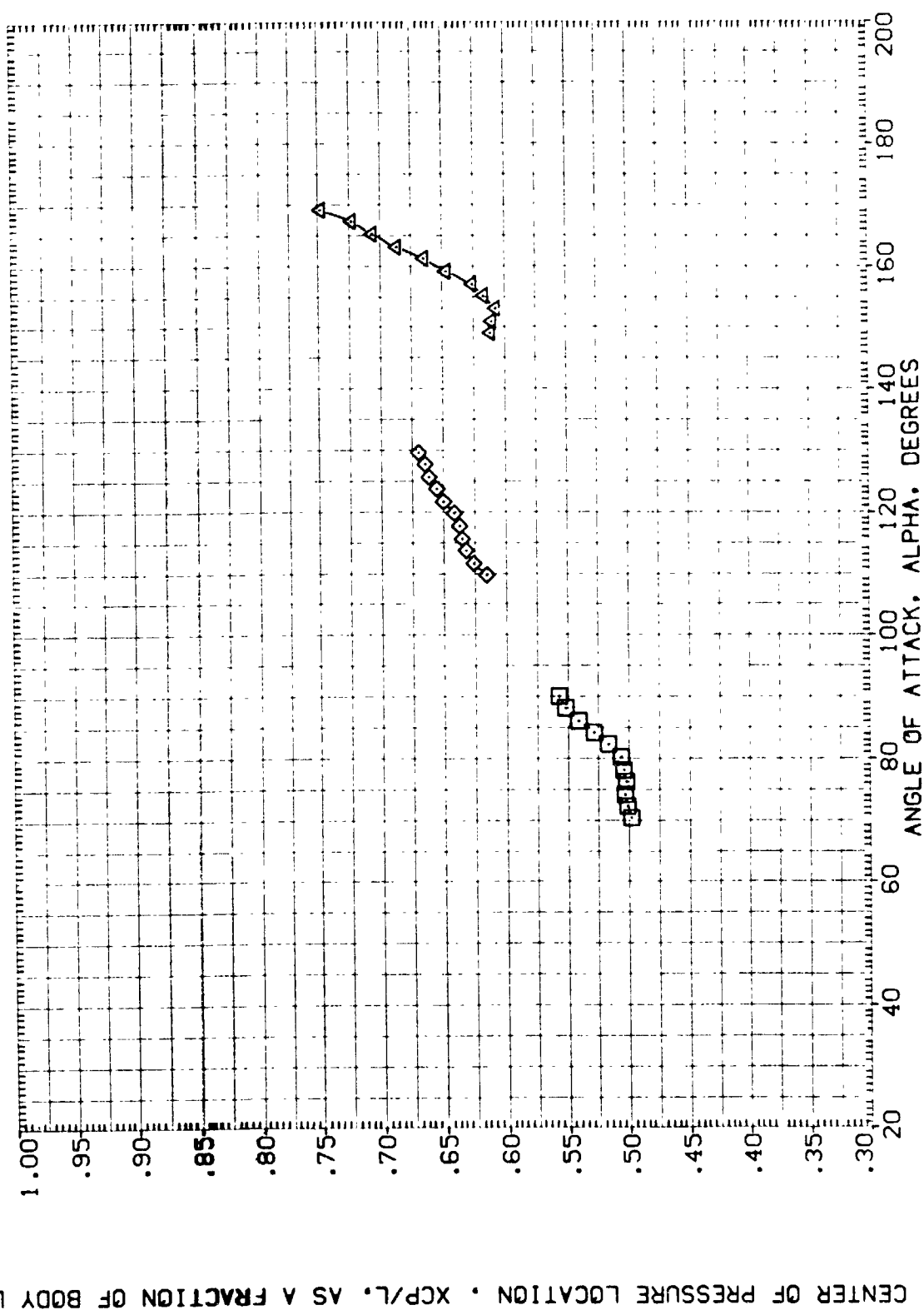


FIGURE 22. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 135)

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A)H406) DATA NOT AVAILABLE
 (A)H418) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES
 (A)H449) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES
 (A)H450) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES

PHI
 135.000
 135.000
 135.000

REFERENCE INFORMATION

SREF .5030 50. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

YAWING MOMENT COEFFICIENT, C_{YM} (MISSILE AXIS SYSTEM)

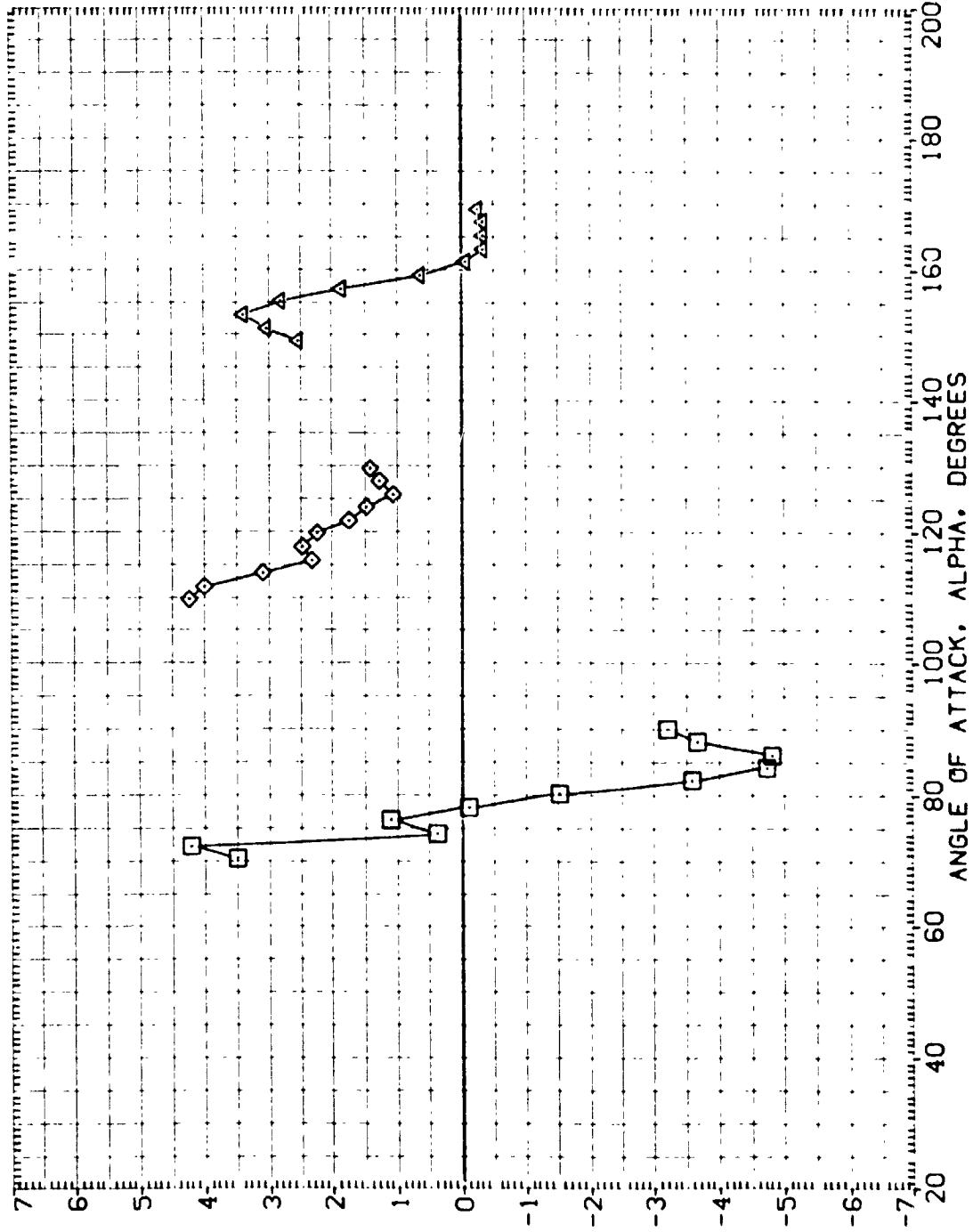


FIGURE 22. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 135)

(A)MACH = .40

REFERENCE INFORMATION
 SREF 5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 135.000
 135.000
 135.000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (AIHQ06) DATA NOT AVAILABLE
 (AIHQ08) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (AIHQ09) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (AIHQ50) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

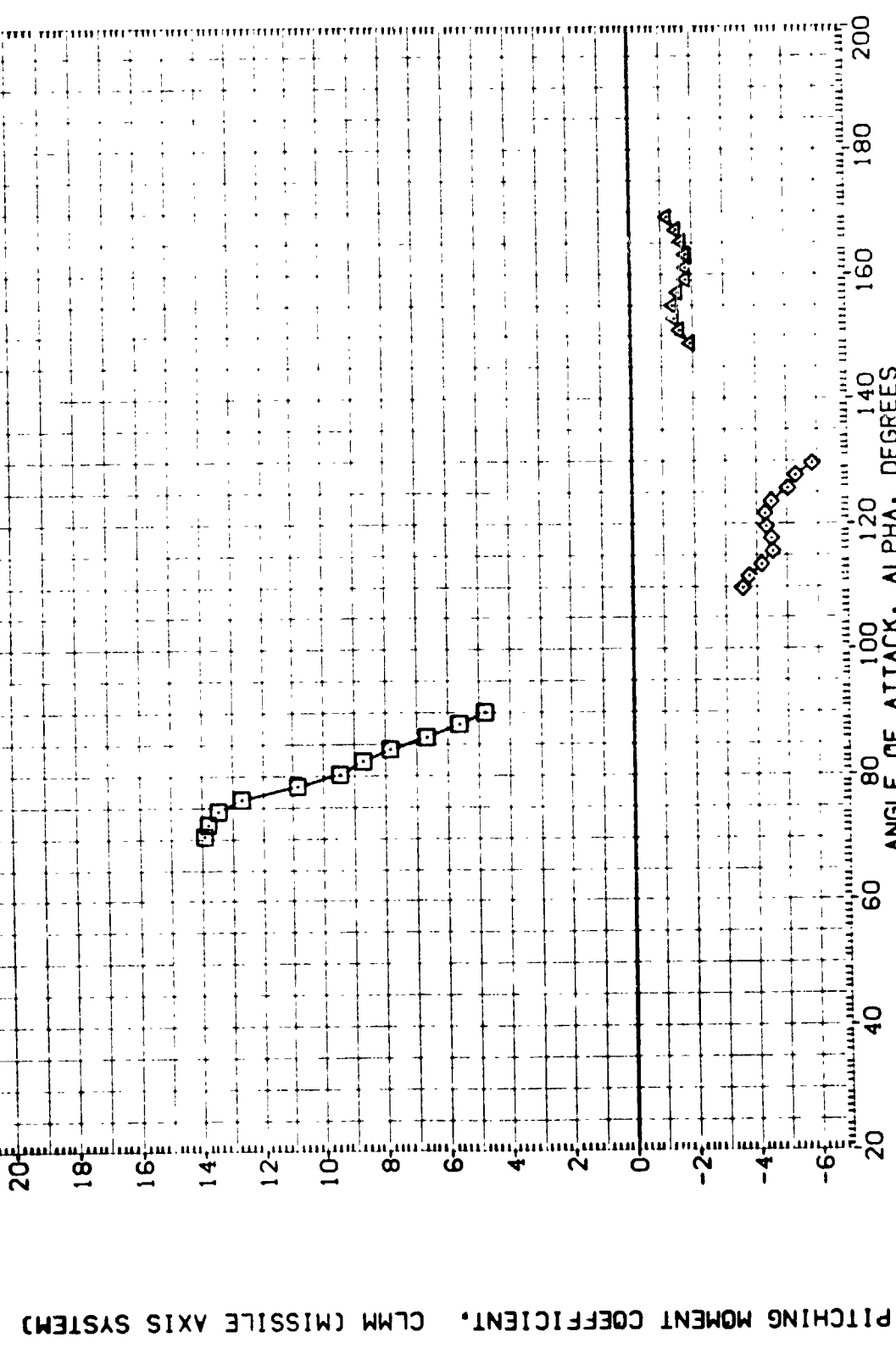


FIGURE 22. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 135)

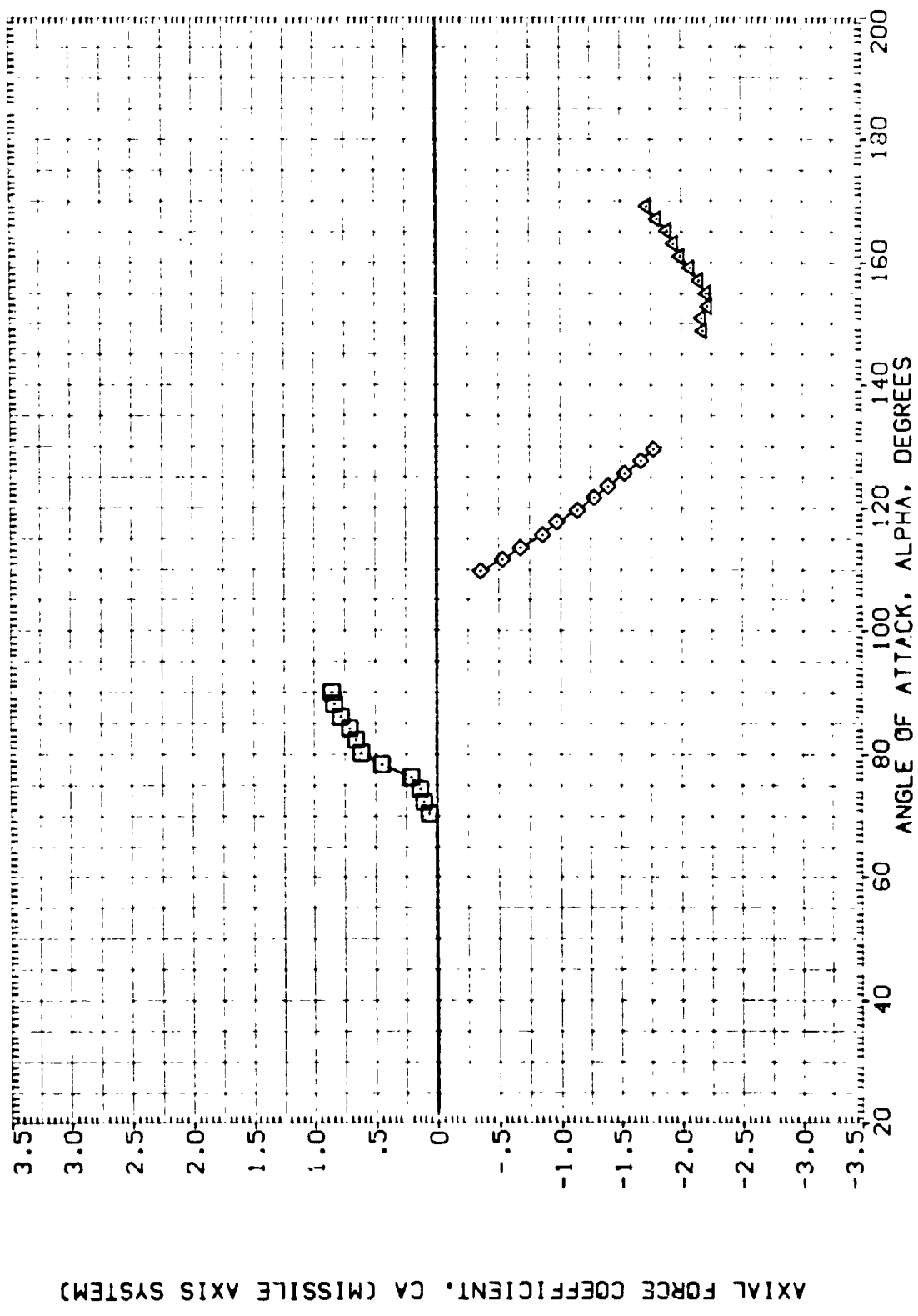
(8)MACH = .60

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H006) DATA NOT AVAILABLE 135.000
 (A1H046) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 135.000
 (A1H049) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 135.000
 (A1H050) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

REFERENCE INFORMATION

SREF 5030 50. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055



AXIAL FORCE COEFFICIENT, CA (MISSILE AXIS SYSTEM)

FIGURE 22. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 135)

(B)MACH = .60

DATA SET SYMBOL: (A11406) (A11408) (A11409) (A11450)

CONFIGURATION DESCRIPTION: DATA NOT AVAILABLE MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI: 135.000 135.000 135.000 135.000

REFERENCE INFORMATION: SREF .5030 SQ. IN. LREF .8000 IN. BREF .8000 IN. XMRP 5.7210 IN. YMRP .0000 IN. ZMRP .0000 IN. SCALE .0055

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

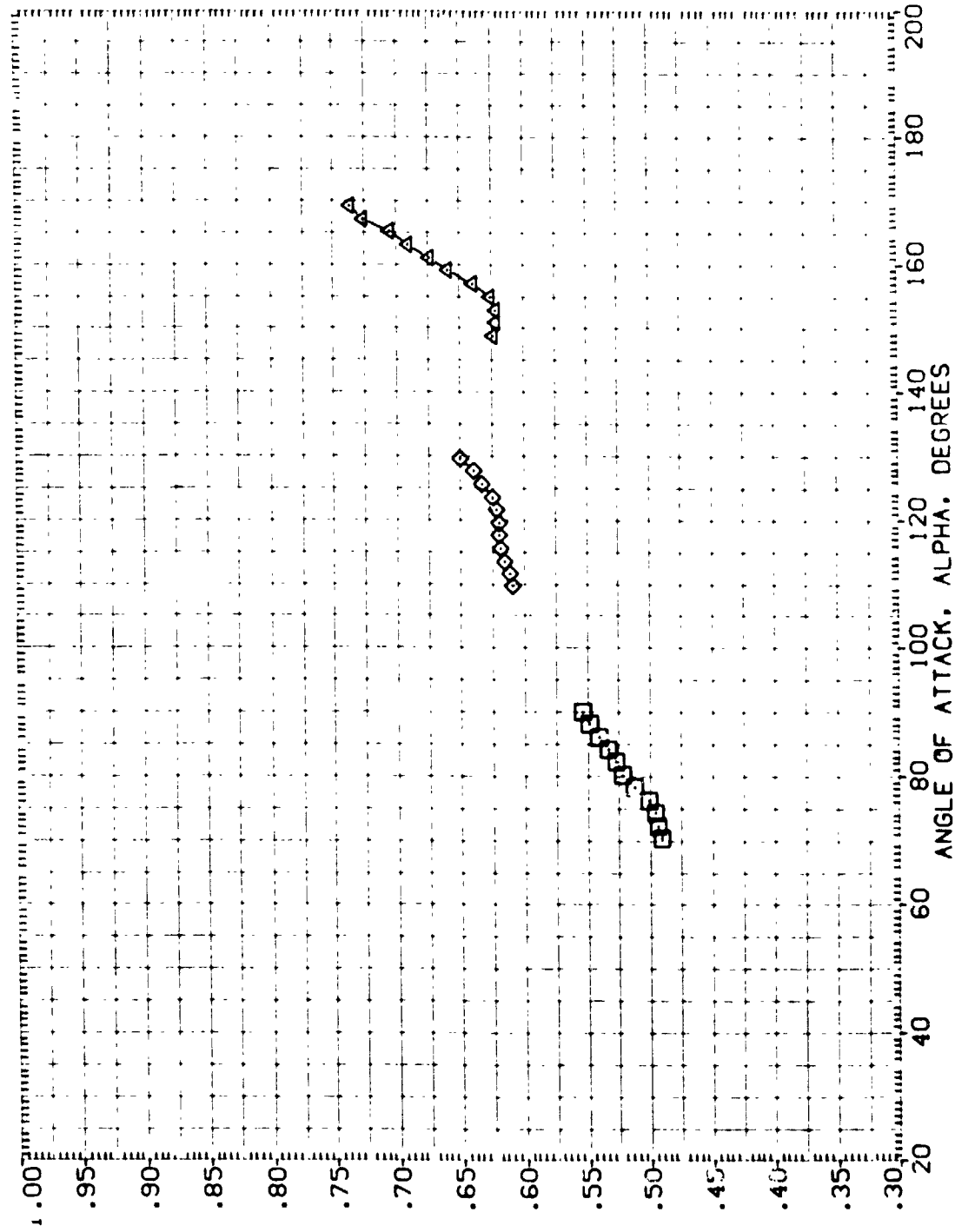


FIGURE 22. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 135)

(8)MACH = .60

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H006) DATA NOT AVAILABLE 135.000

(A1H048) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 135.000

(A1H049) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 135.000

(A1H050) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 135.000

REFERENCE INFORMATION

SREF 5030 SQ. IN.

LREF 8000 IN.

BREF 8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

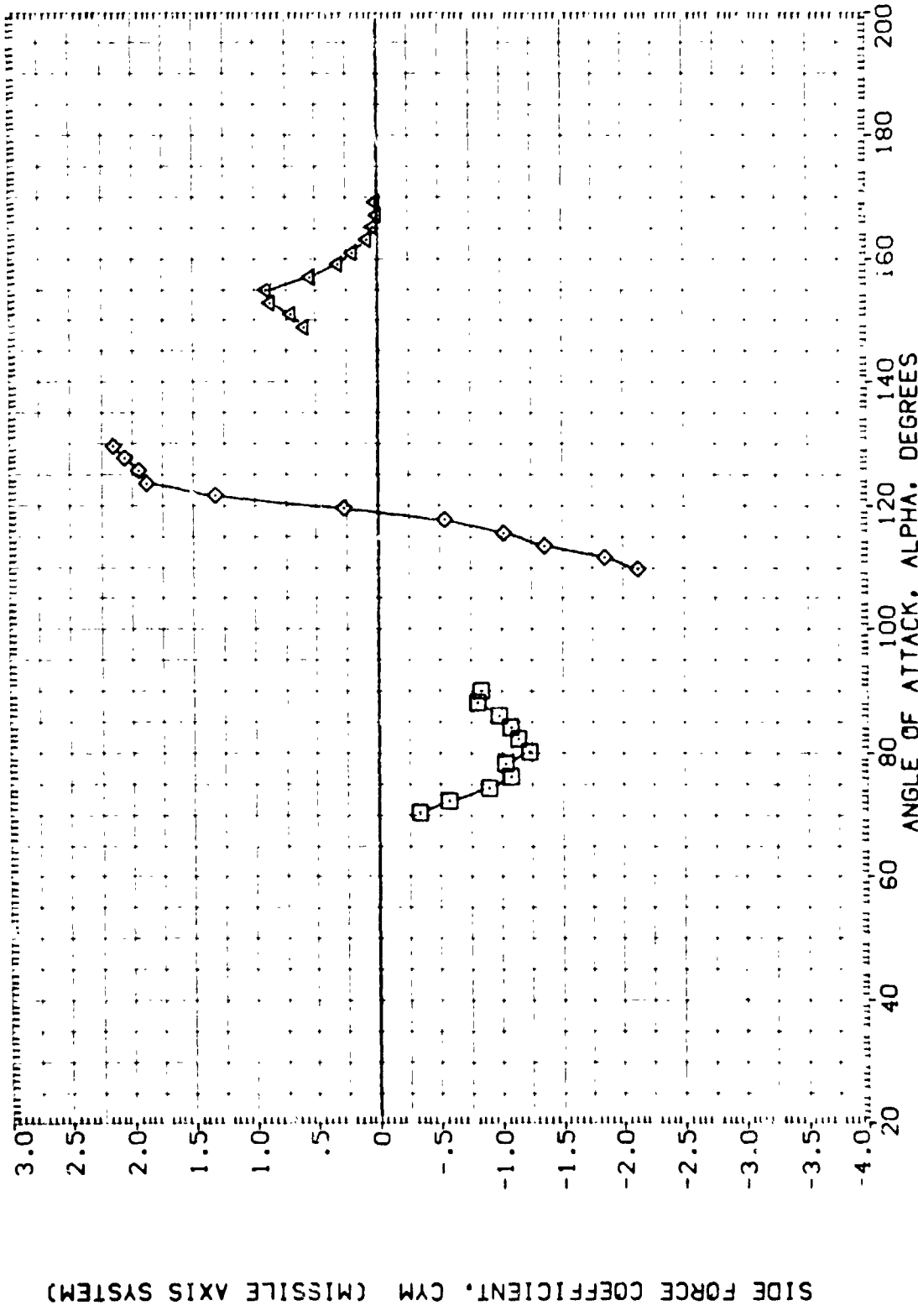


FIGURE 22. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 135)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H006) DATA NOT AVAILABLE 135.000

(A1H048) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 135.000

(A1H049) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 135.000

(A1H050) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 135.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XZ

YMRP .0000 IN. YZ

ZMRP .0000 IN. ZS

SCALE .0055

YAWING MOMENT COEFFICIENT, C_{YM} (MISSILE AXIS SYSTEM)

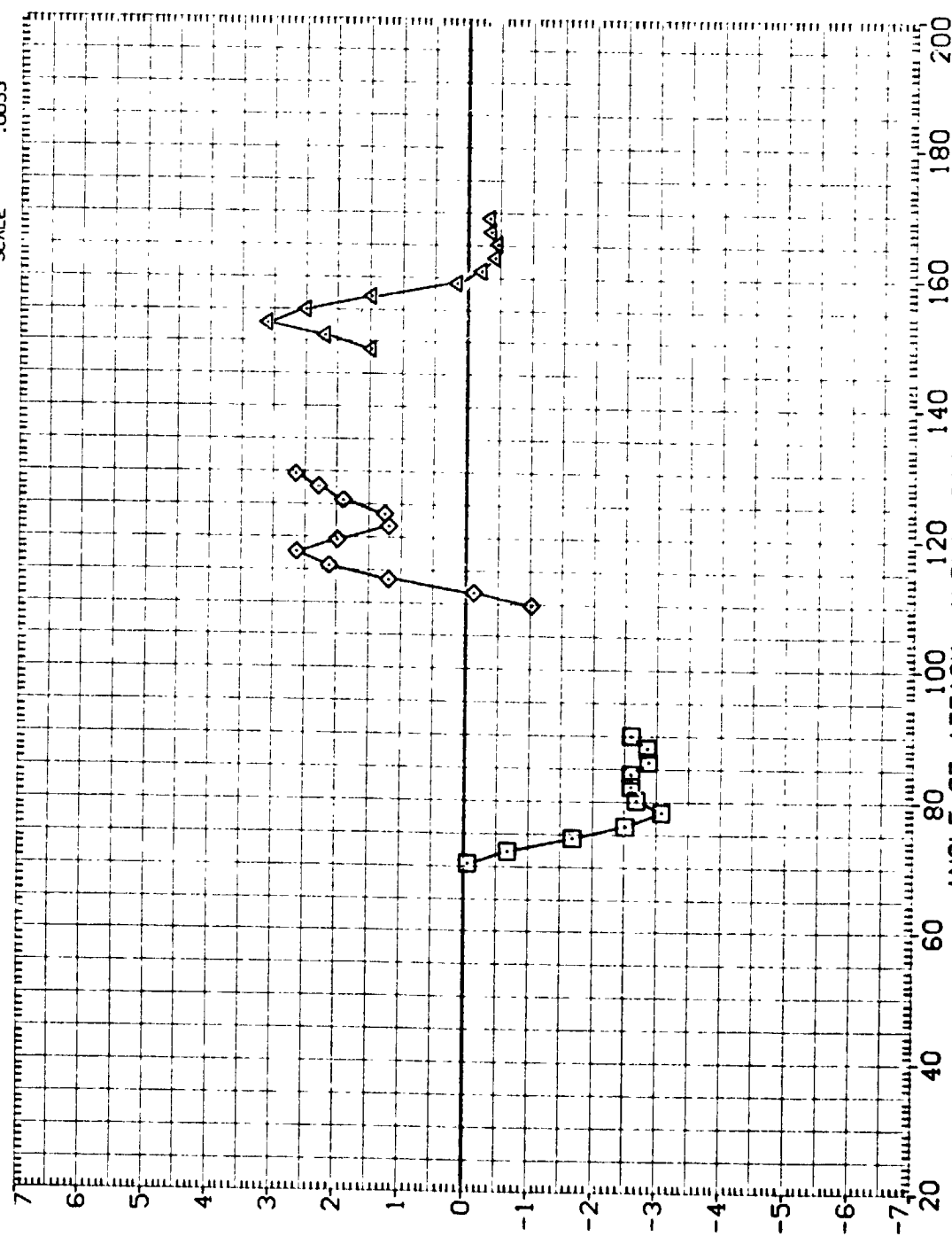


FIGURE 22. STATIC STABILITY CHARACTERISTICS OF SRB W/ALL PROTUBERANCES (PHI = 135)

(B)MACH = .60

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H005) DATA NOT AVAILABLE

(A1H048) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H049) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H050) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI

135.000

135.000

135.000

135.000

REFERENCE INFORMATION

SREF SQ. IN.

LREF IN.

BREF IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

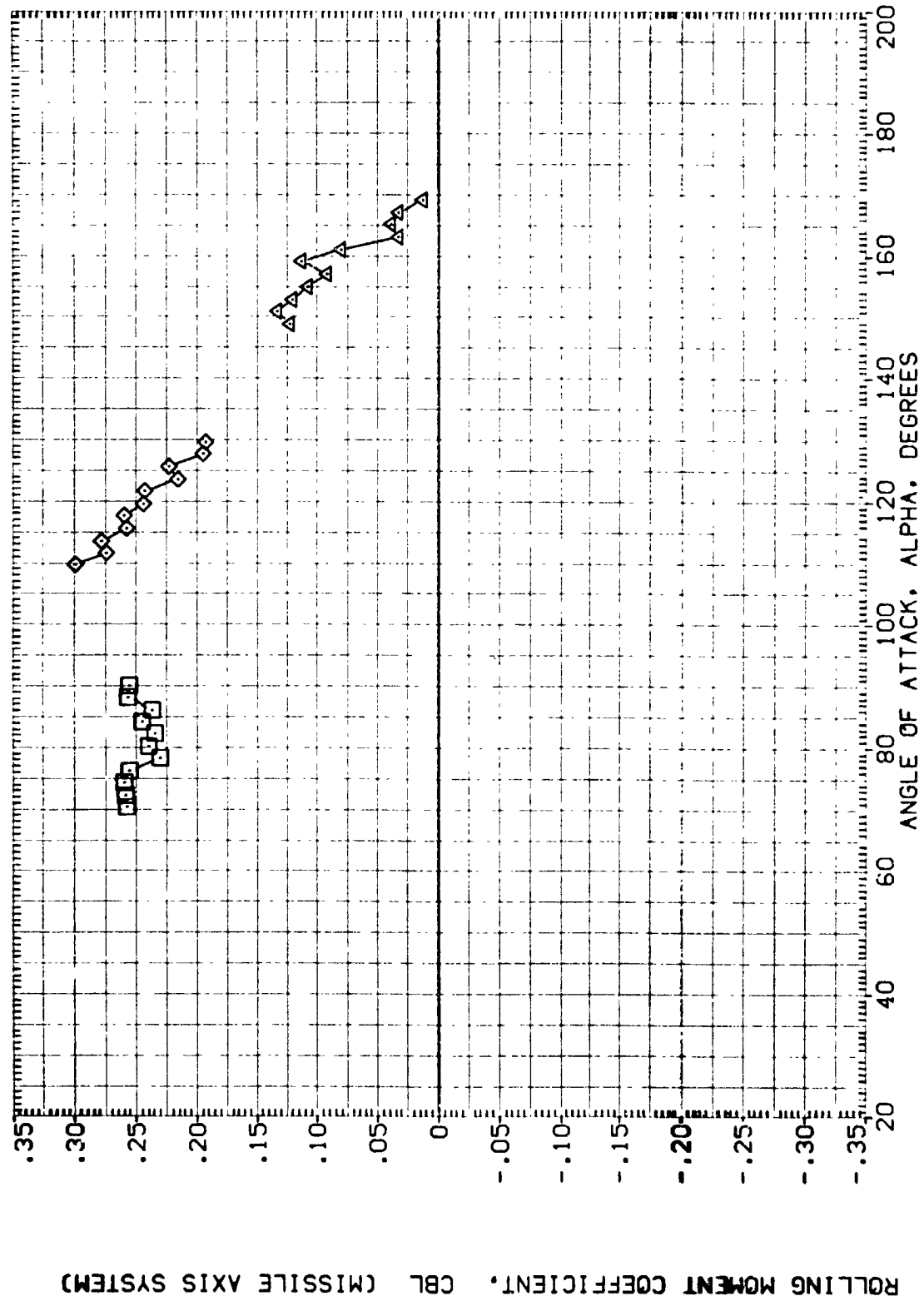


FIGURE 22. STATIC STABILITY CHARACT. OF SRB W/WALL PROTUBERANCES (PHI = 135)

(B)MACH = .60

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 135.000
 135.000
 135.000
 135.000

CONFIGURATION DESCRIPTION

DATA NOT AVAILABLE
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

DATA SET SYMBOL
 (A1H406) □
 (A1H408) □
 (A1H409) □
 (A1H500) □

NORMAL FORCE COEFFICIENT, CNM (MISSILE AXIS SYSTEM)

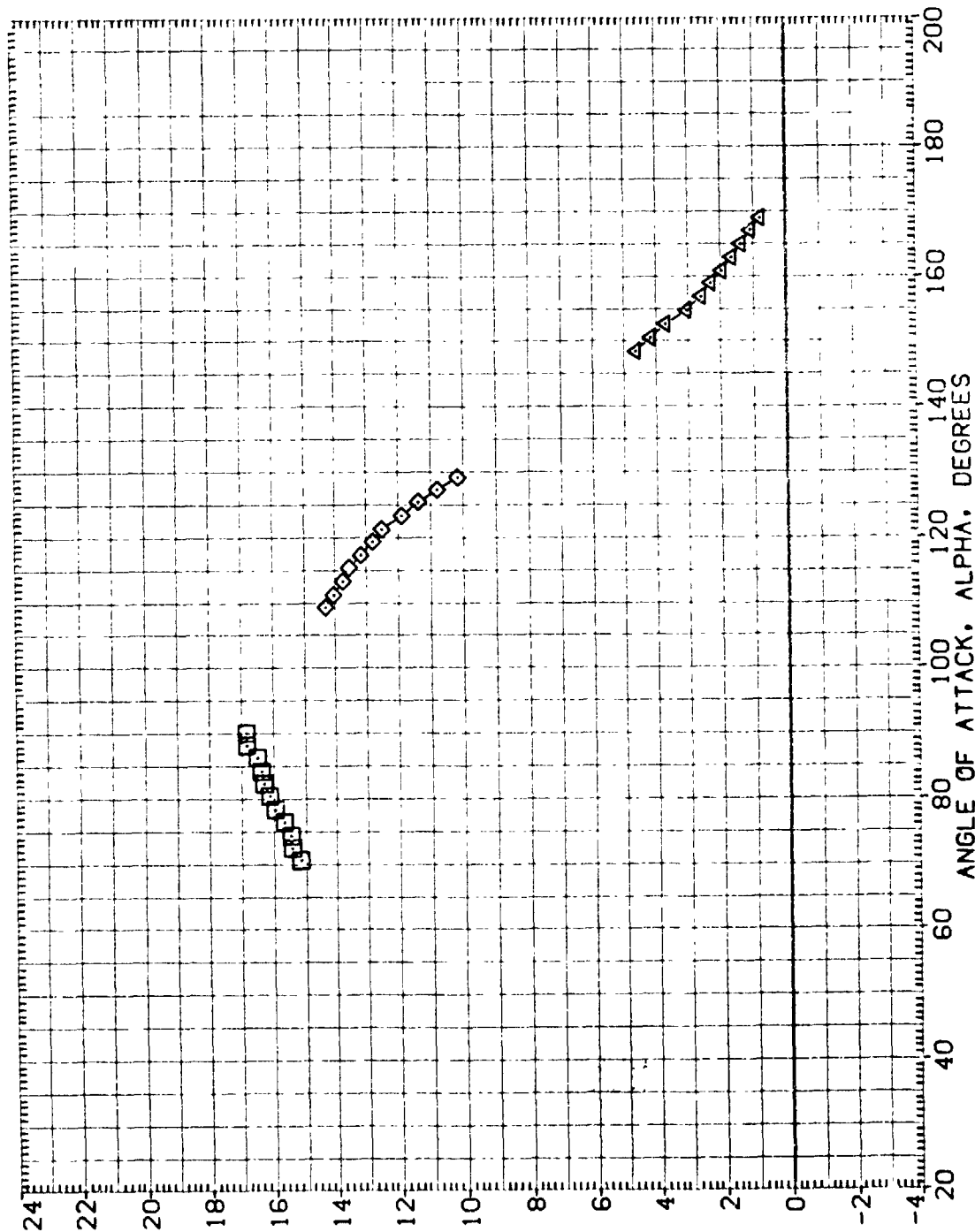


FIGURE 22. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 135)

(C)MACH = .90

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H006) DATA NOT AVAILABLE 135.000

(A1H048) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 135.000

(A1H049) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 135.000

(A1H050) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 135.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .9000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

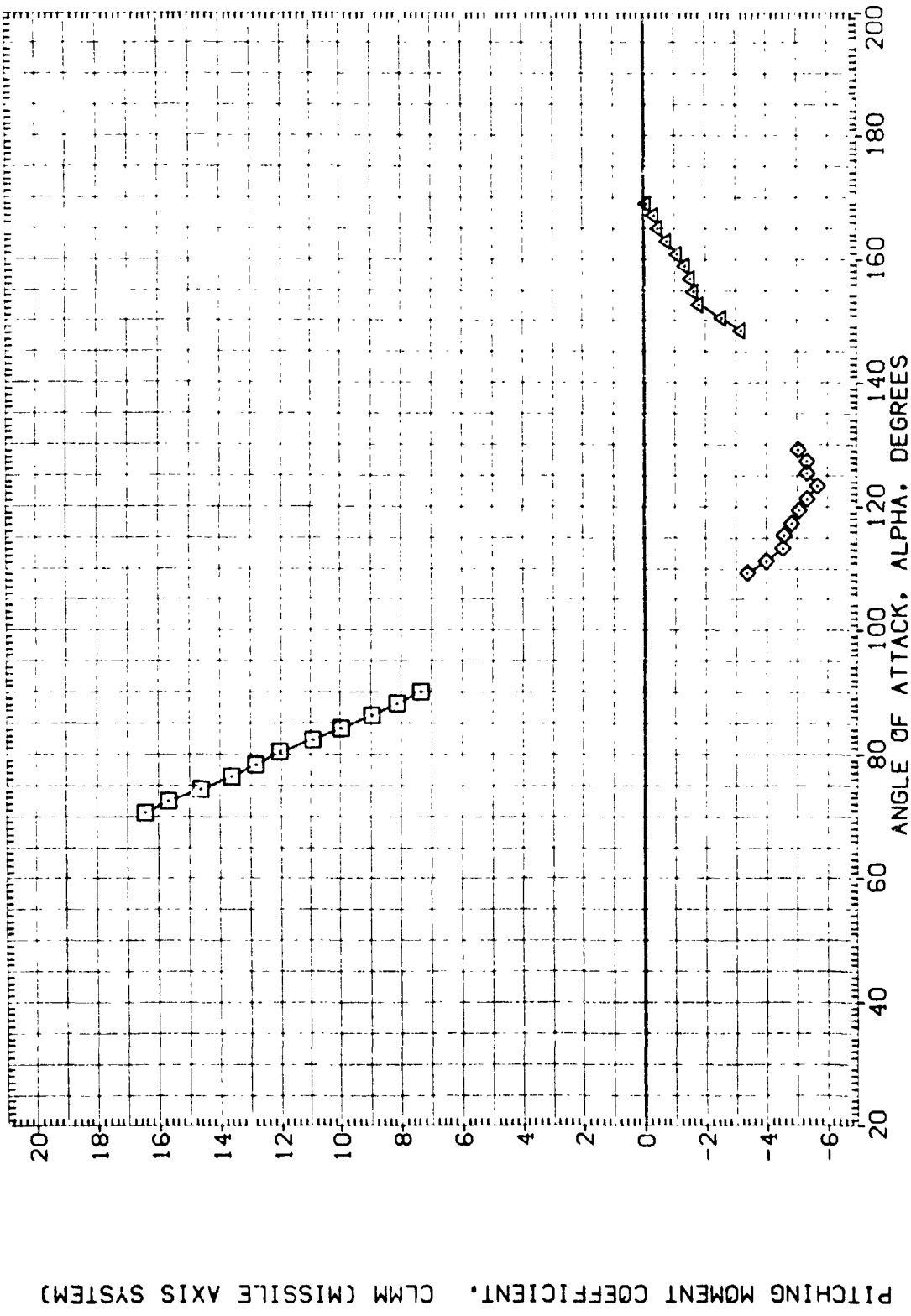


FIGURE 22. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 135)

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .6000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 135.000
 135.000
 135.000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H006) DATA NOT AVAILABLE
 (A1H048) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H049) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H050) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

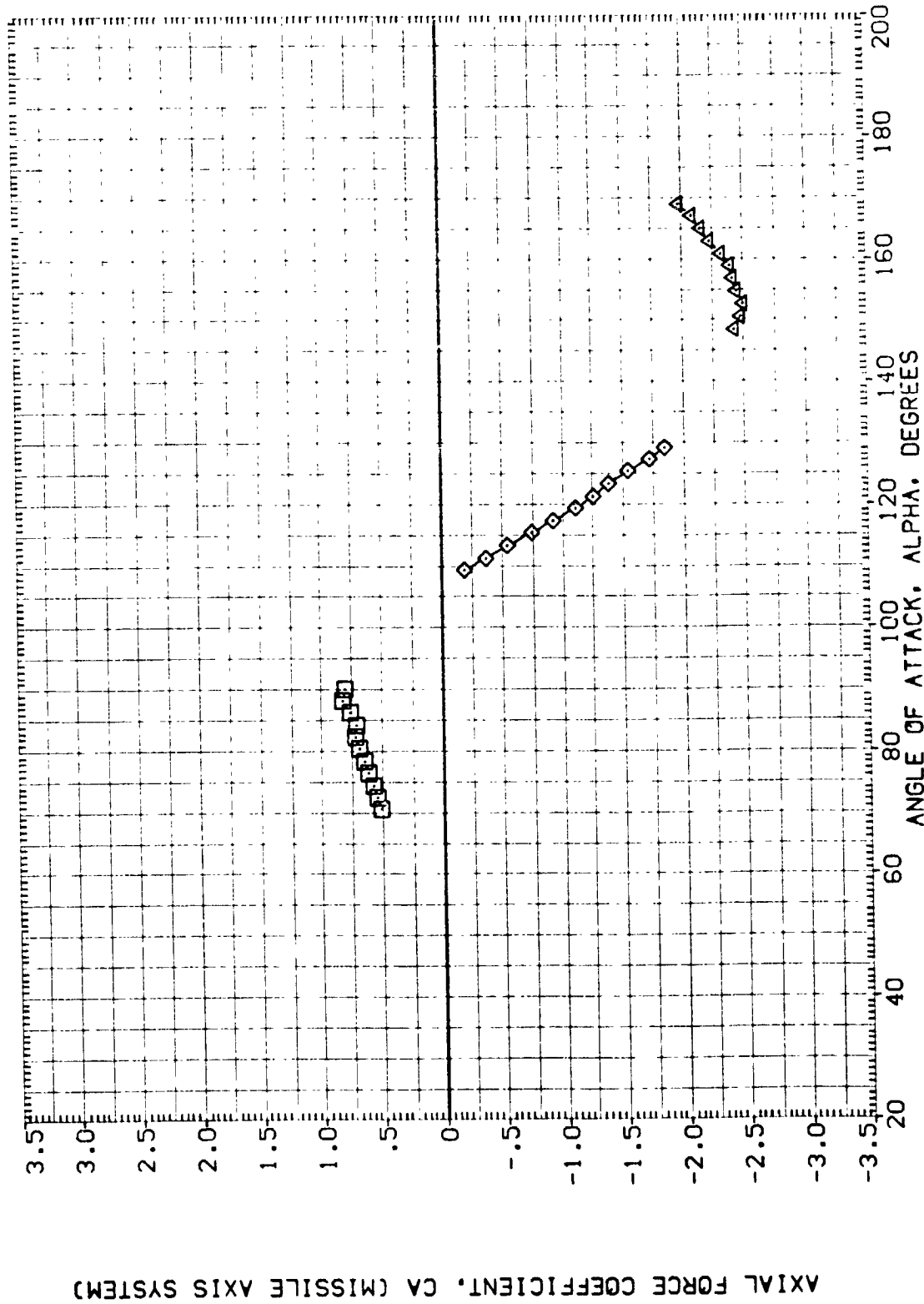


FIGURE 22. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 135)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H06) DATA NOT AVAILABLE 135.000

(A1H048) MSFC TWT604 (SABF) SRB WITH ALL PROTUBERANCES 135.000

(A1H049) MSFC TWT604 (SABF) SRB WITH ALL PROTUBERANCES 135.000

(A1H050) MSFC TWT604 (SABF) SRB WITH ALL PROTUBERANCES 135.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

YMRP 5.7210 IN. XS

ZMRP .0000 IN. YS

SCALE .0055 IN. ZS

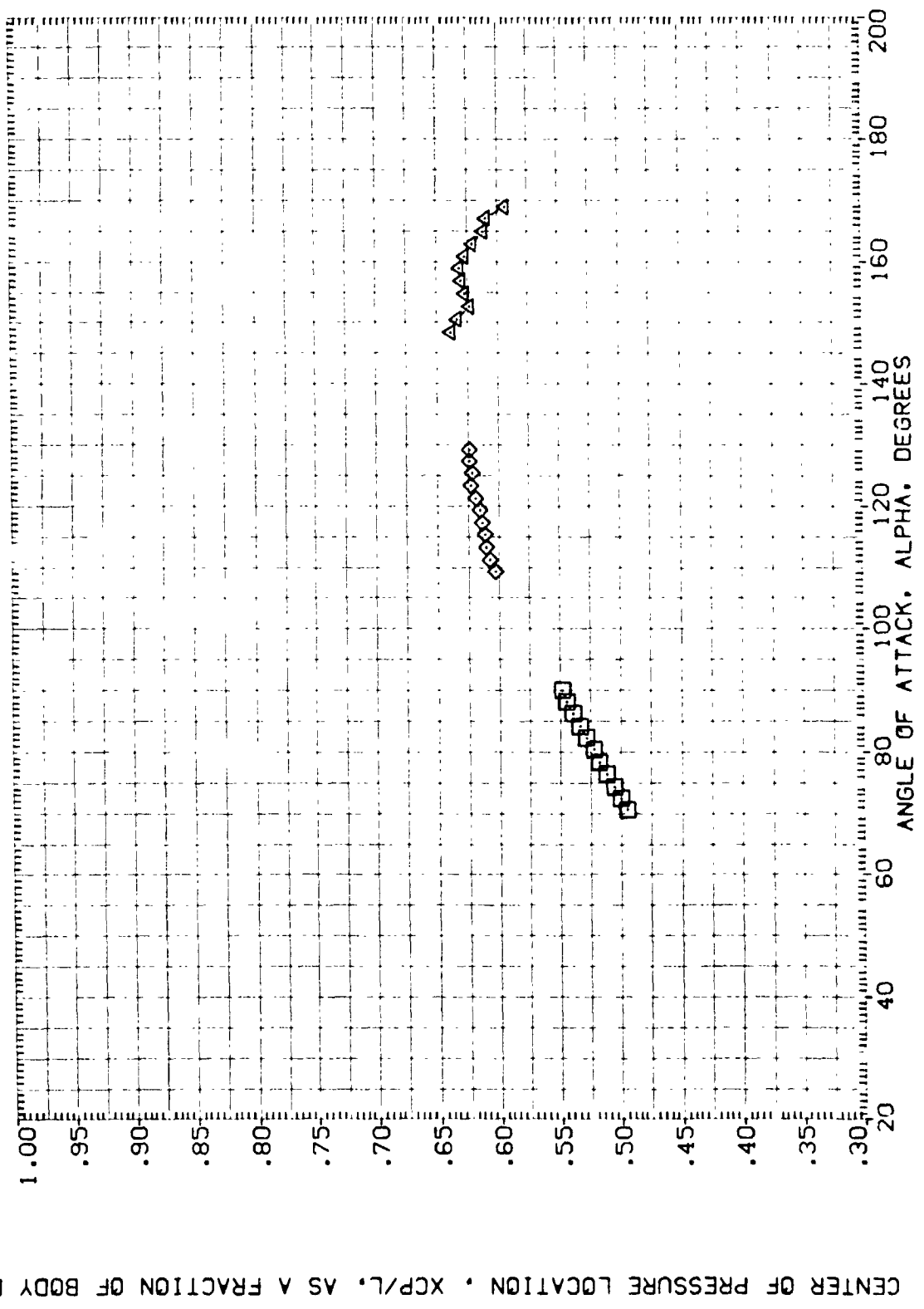


FIGURE 22. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 135)

(C)MACH = .90

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H406) □ DATA NOT AVAILABLE
 (A1H408) □ MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H409) □ MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H450) X MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI
 | 35.000
 | 35.000
 | 35.000

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0055

SIDE FORCE COEFFICIENT, C_{YM} (MISSILE AXIS SYSTEM)

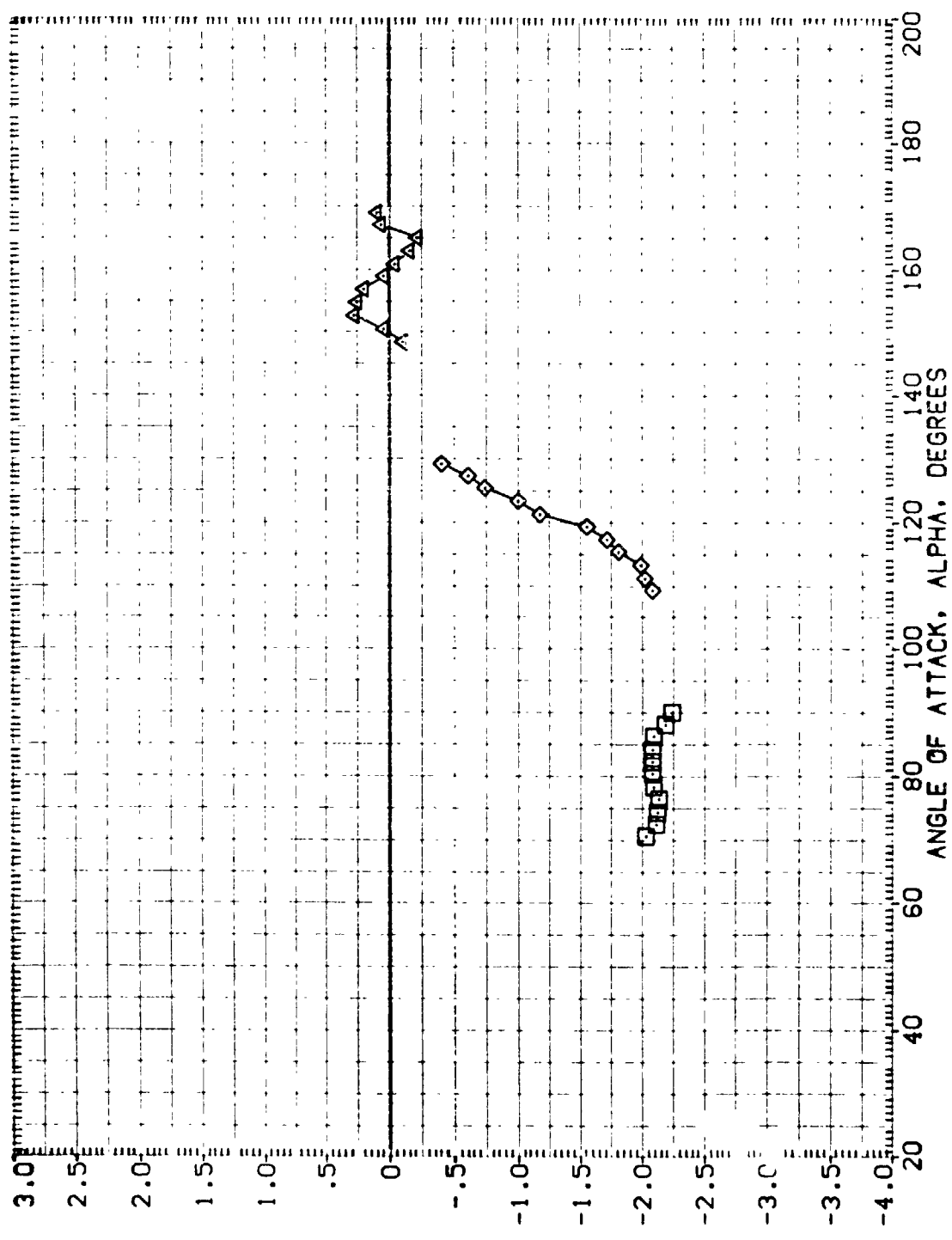


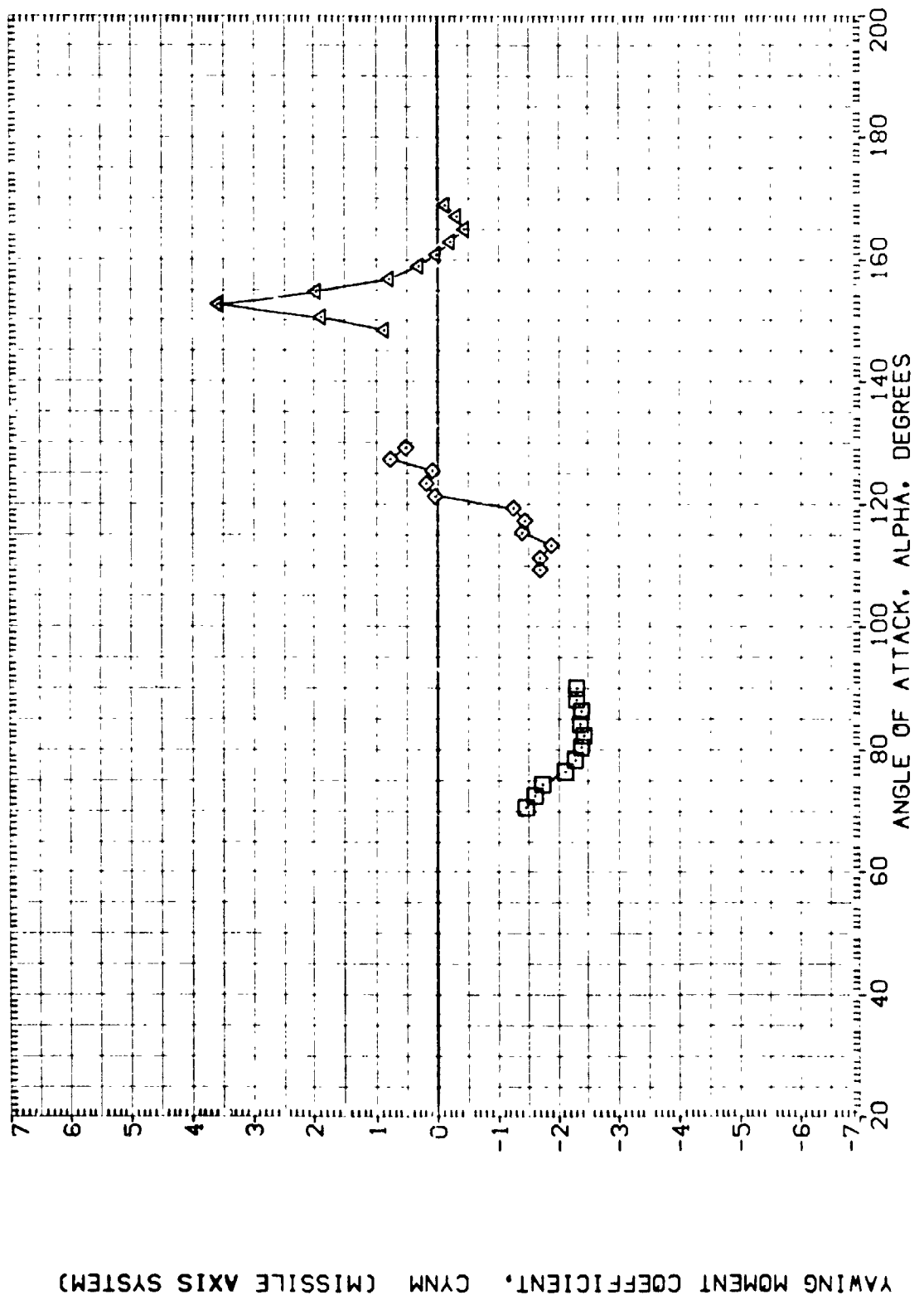
FIGURE 22. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 135)

(C)MACH = .90

DATA SET SY 30L
 (A1H005) DATA NOT AVAILABLE
 (A1H048) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H049) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H050) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI
 135.000
 135.000
 135.000
 135.000

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LRREF .8000 IN.
 BRREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055



YAWING MOMENT COEFFICIENT, CYNM (MISSILE AXIS SYSTEM)

FIGURE 22. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 135)

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H048) □ DATA NOT AVAILABLE SRB WITH ALL PROTUBERANCES
 (A1H049) X MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H050) X MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI
 135.000
 135.000
 135.000

REFERENCE INFORMATION
 SREF .5030 50. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XHRP S.7210 IN. XS
 YHRP .0000 IN. YS
 ZHRP .0000 IN. ZS
 SCALE .0055

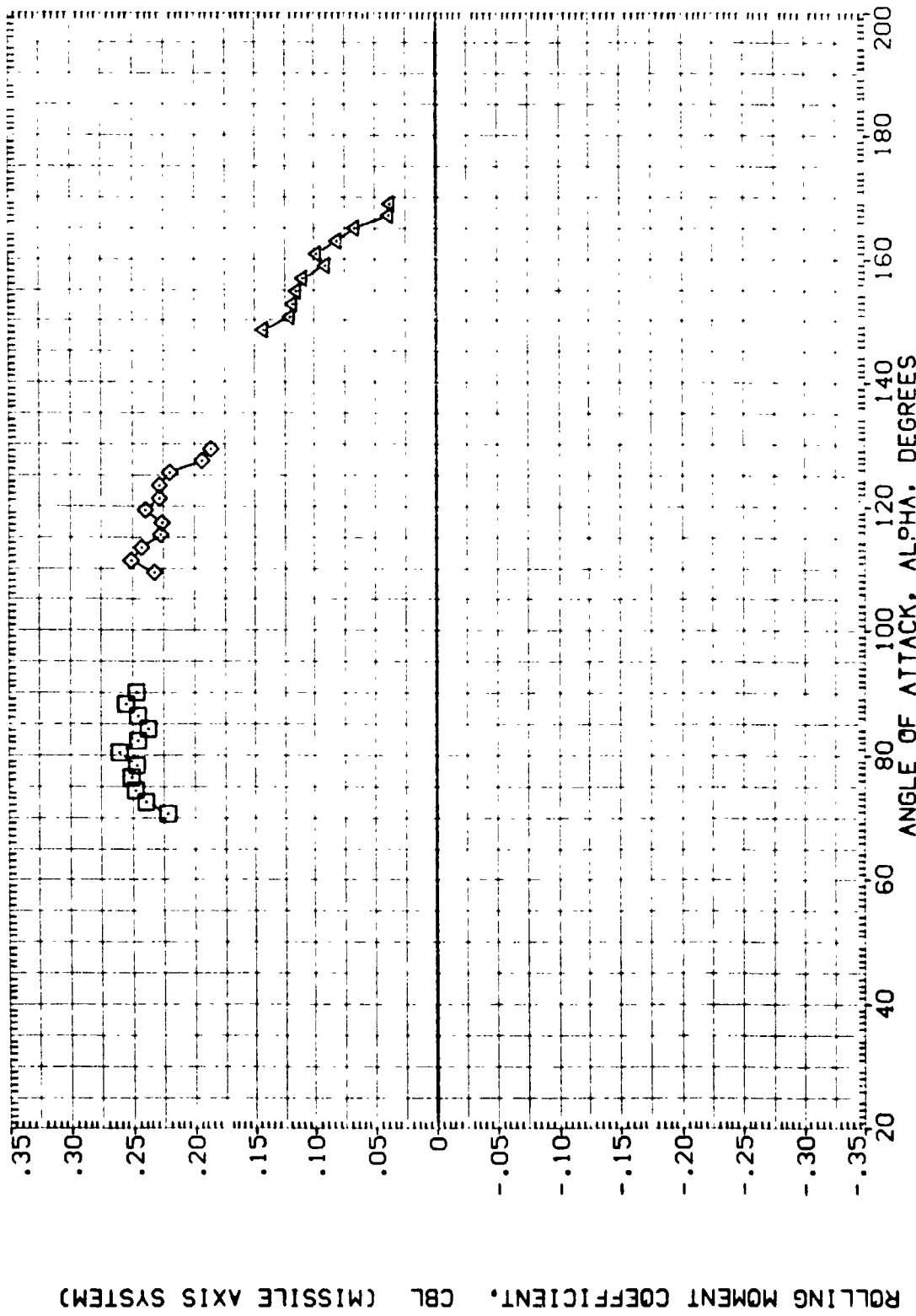


FIGURE 22. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 135)

(C)MACH = .90

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .9000 IN.
 XHRP 5.7210 IN. XS
 YHRP .0000 IN. YS
 ZHRP .0000 IN. ZS
 SCALE .0055

PHI
 135.000
 135.000
 135.000
 135.000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (AIH006) DATA NOT AVAILABLE
 (AIH048) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (AIH049) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (AIH050) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

NORMAL FORCE COEFFICIENT, CNM (MISSILE AXIS SYSTEM)

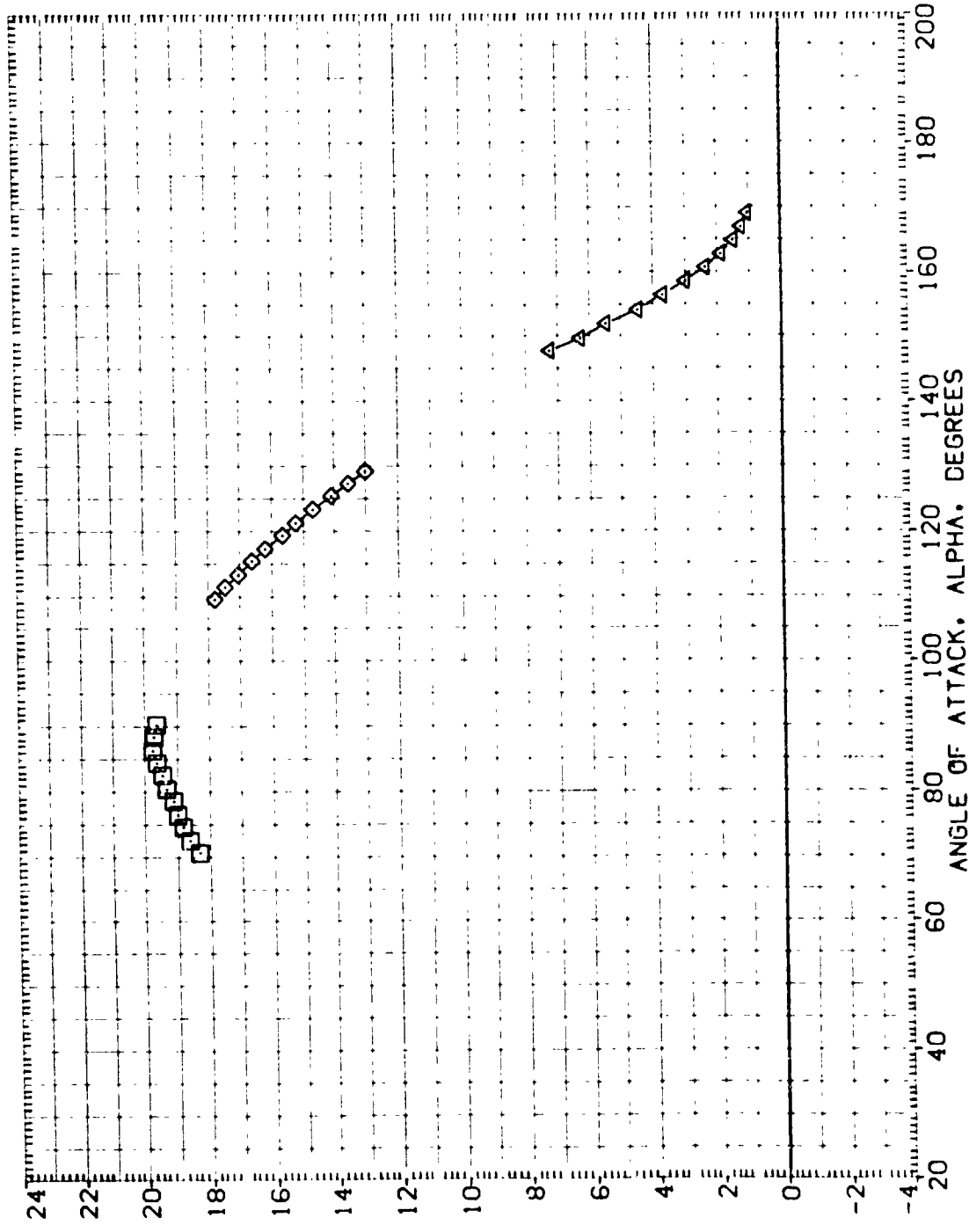


FIGURE 22. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 135)

(D)MACH = 1.20

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(A1H006)	DATA NOT AVAILABLE	135.000	SREF .5030 SO. IN.
(A1H048)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	135.000	LREF .8000 IN.
(A1H049)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	135.000	BREF .8000 IN.
(A1H050)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	135.000	XMRP 5.7210 IN. XS
			YMRP .0000 IN. YS
			ZMRP .0000 IN. ZS
			SCALE .0055

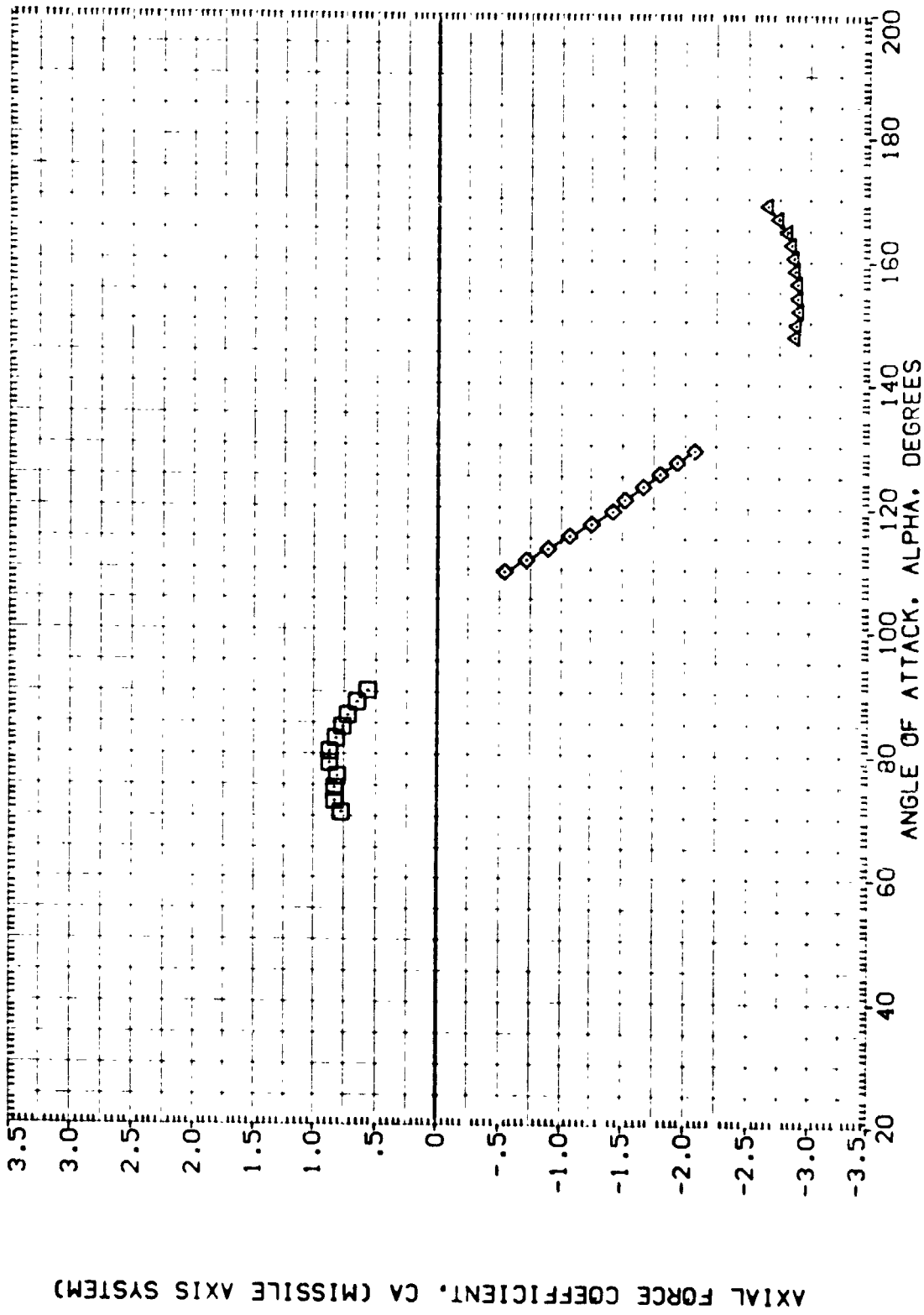


FIGURE 22. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 135)

DATA SET SYMBOL (A11H045) (A11H048) (A11H049) (A11H050)

PHI 135.000 135.000 135.000

CONFIGURATION DESCRIPTION
 DATA NOT AVAIL (LABLE)
 MSFC TVT804 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT804 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT804 (SABF) SRB WITH ALL PROTUBERANCES

REFERENCE INFORMATION
 SREF .503C SQ. IN.
 LREF .800C IN.
 BRFP .800C IN.
 XMRP 5.721C IN. XS
 YMRP .000C IN. YS
 ZMRP .000C IN. ZS
 SCALE .0055

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

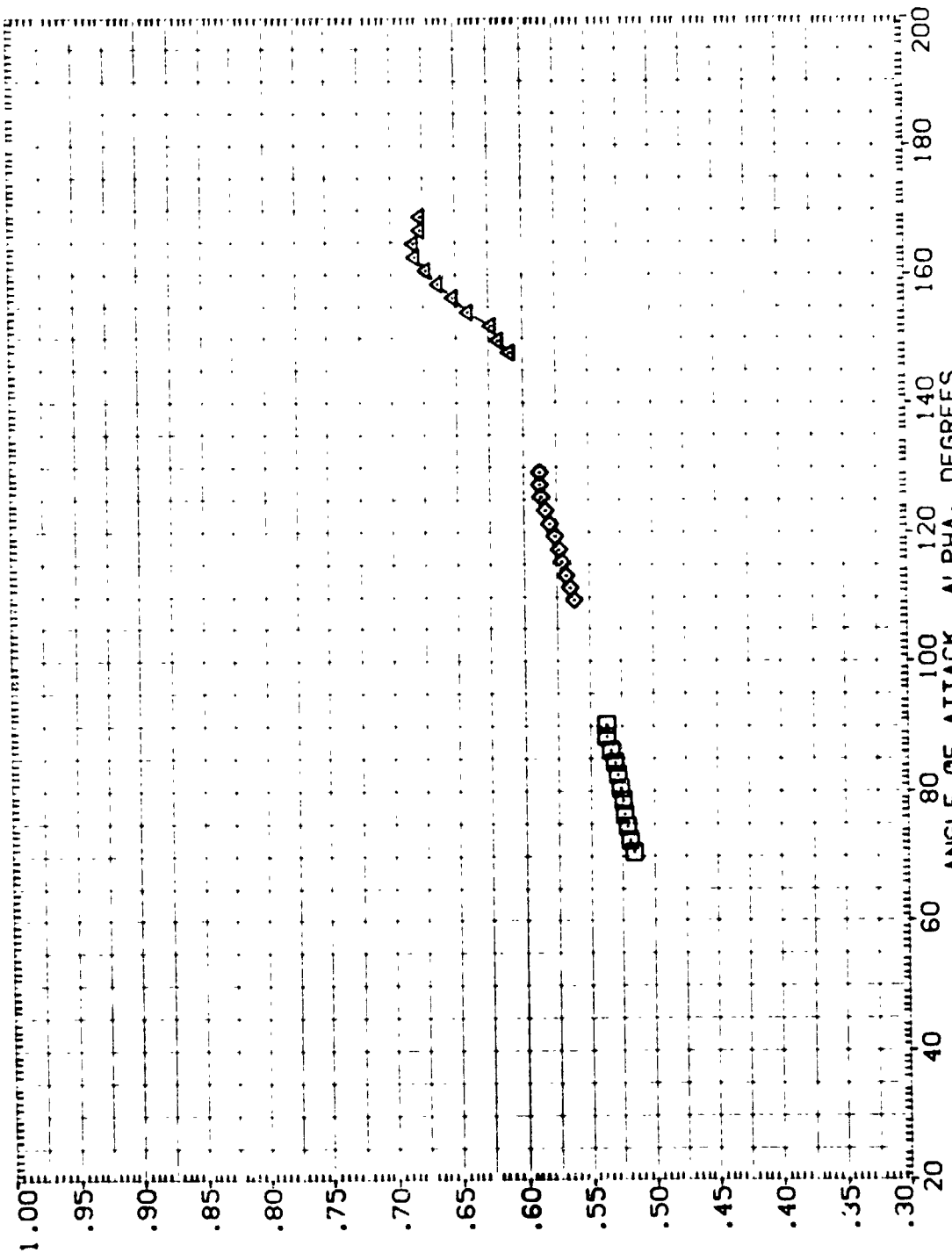


FIGURE 22. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 135)



DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A11H048) DATA NOT AVAILABLE 135.000

(A11H048) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 135.000

(A11H049) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 135.000

(A11H050) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 135.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0030 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

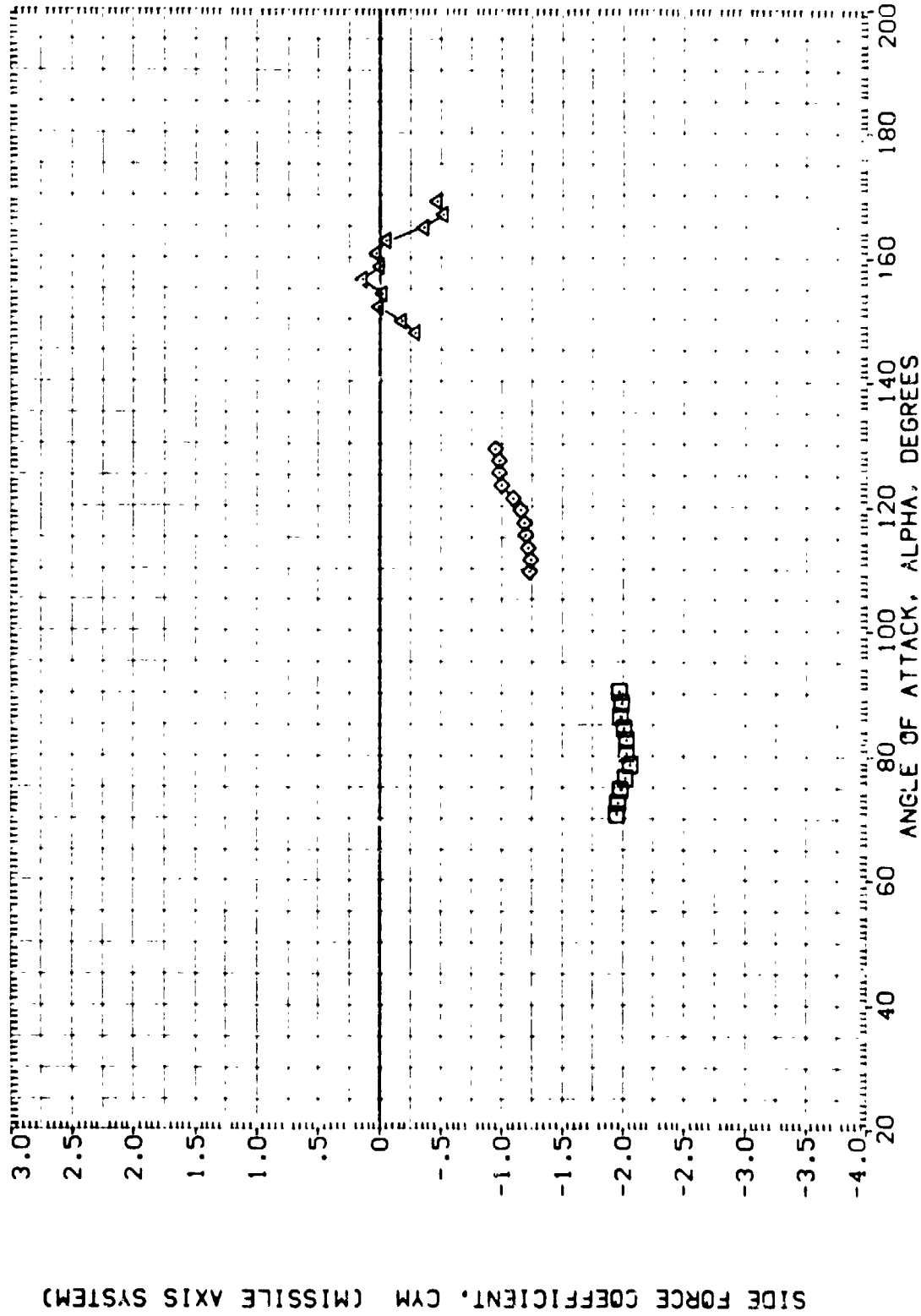


FIGURE 22. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 135)

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H006) DATA NOT AVAILABLE
 (A1H048) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H049) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H050) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

P41
 135.000
 135.000
 135.000

REFERENCE INFORMATION

SREF 5030 SQ. IN.
 LREF 8000 IN.
 BREF 8000 IN.
 XMRP 5.7210 IN. XS
 YMRP 0.0000 IN. YS
 ZMRP 0.0000 IN. ZS
 SCALE 0.0055

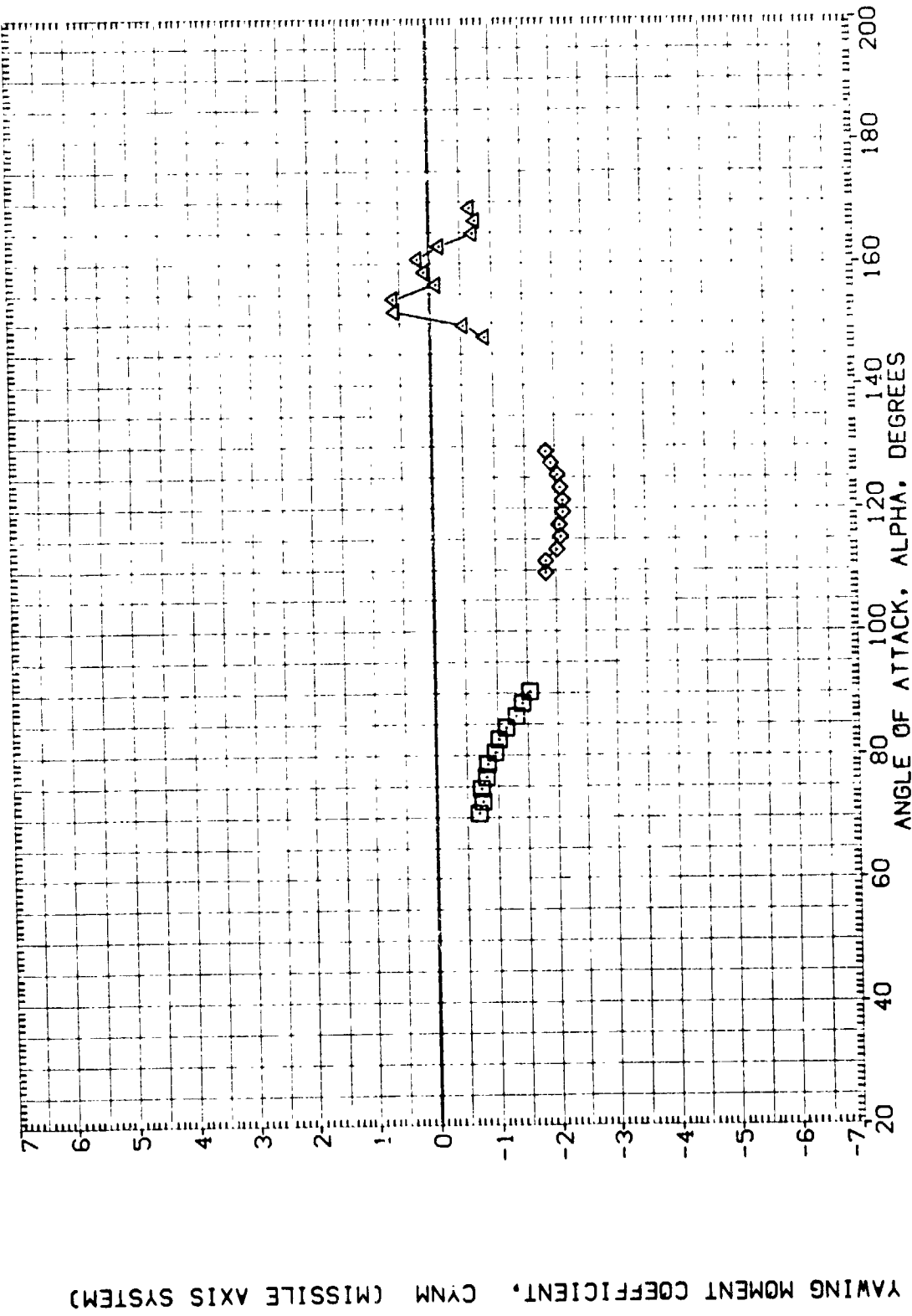


FIGURE 22. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 135)

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H006) DATA NOT AVAILABLE SRB WITH ALL PROTUBERANCES
 (A1H048) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H049) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H050) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI
 135.000
 135.000
 135.000
 135.000

REFERENCE INFORMATION

SREF .5030 IN.
 LREF .8000 IN.
 MREF .8000 IN.
 XMRP 5.7210 IN. XC
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

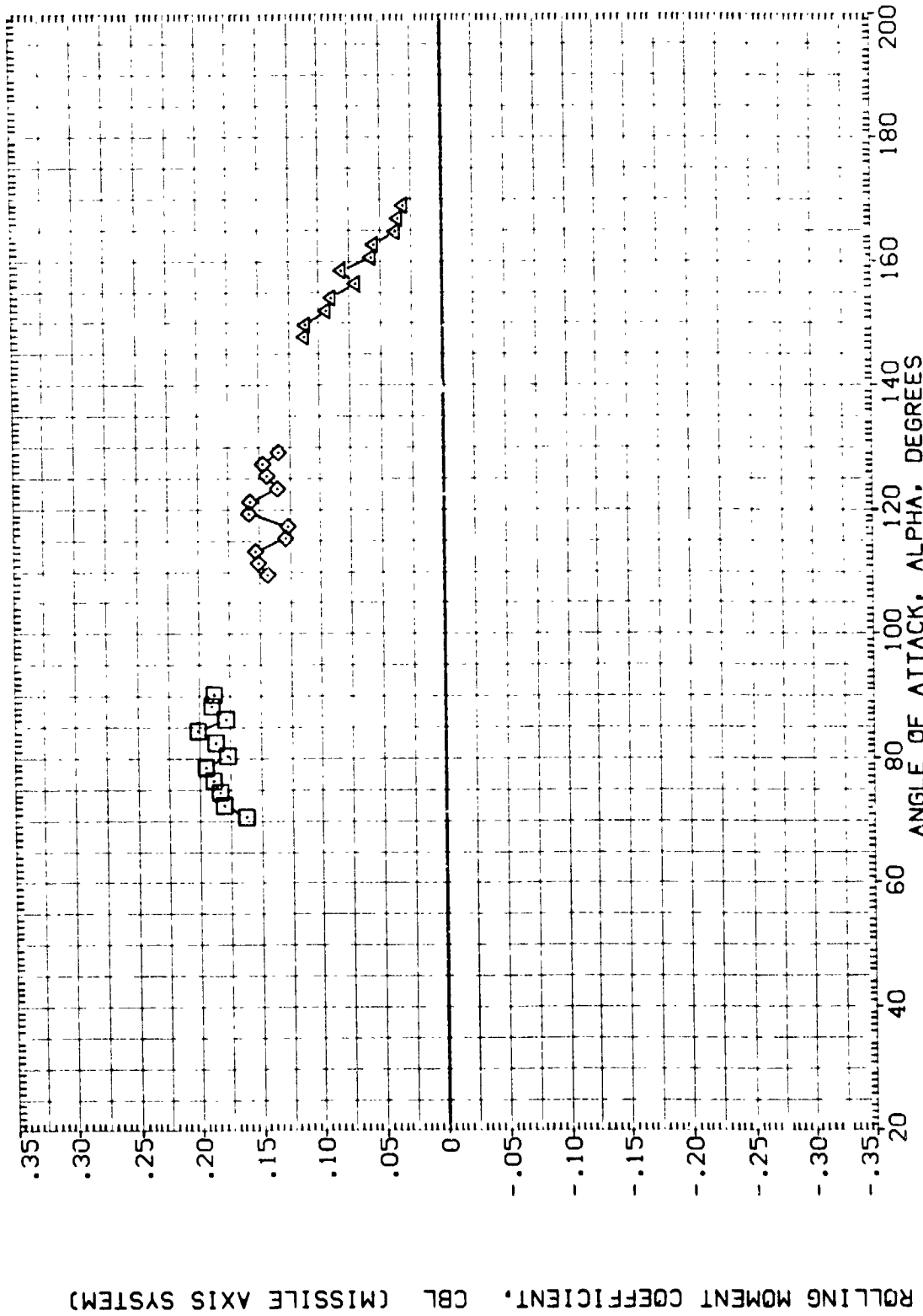


FIGURE 22. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 135)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H048) DATA NOT AVAILABLE 135.000

(A1H048) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 135.000

(A1H049) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 135.000

(A1H050) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 135.000

REFERENCE INFORMATION

SREF .5030 IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN.

YMRP .0000 IN.

ZMRP .0000 IN.

SCALE .0055

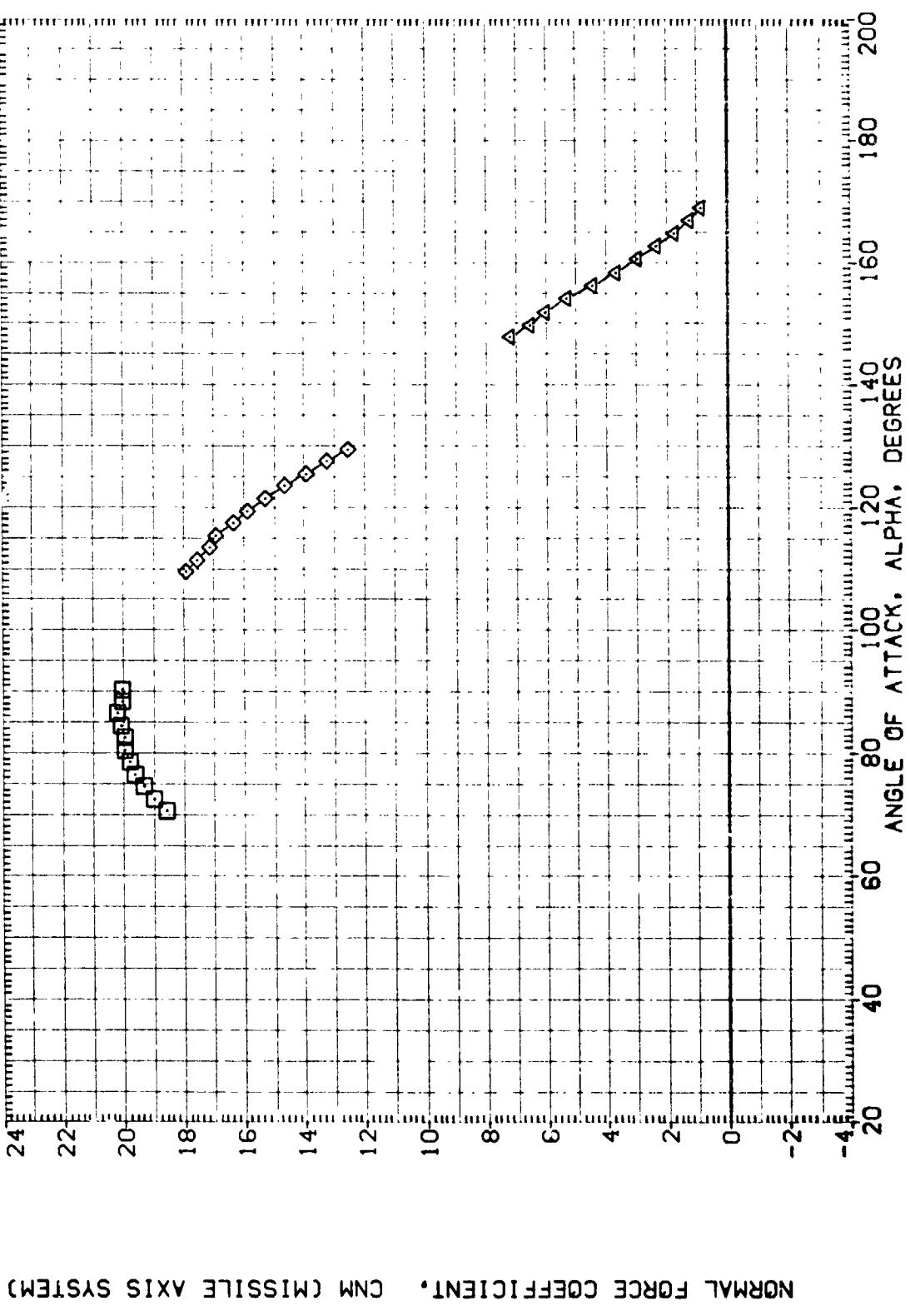


FIGURE 22. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 135)

(E)MACH = 1.96

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(AIH006) DATA NOT AVAILABLE

(AIH048) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(AIH049) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(AIH050) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI

135.000

135.000

135.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

PITCHING MOMENT COEFFICIENT, CLM (MISSILE AXIS SYSTEM)

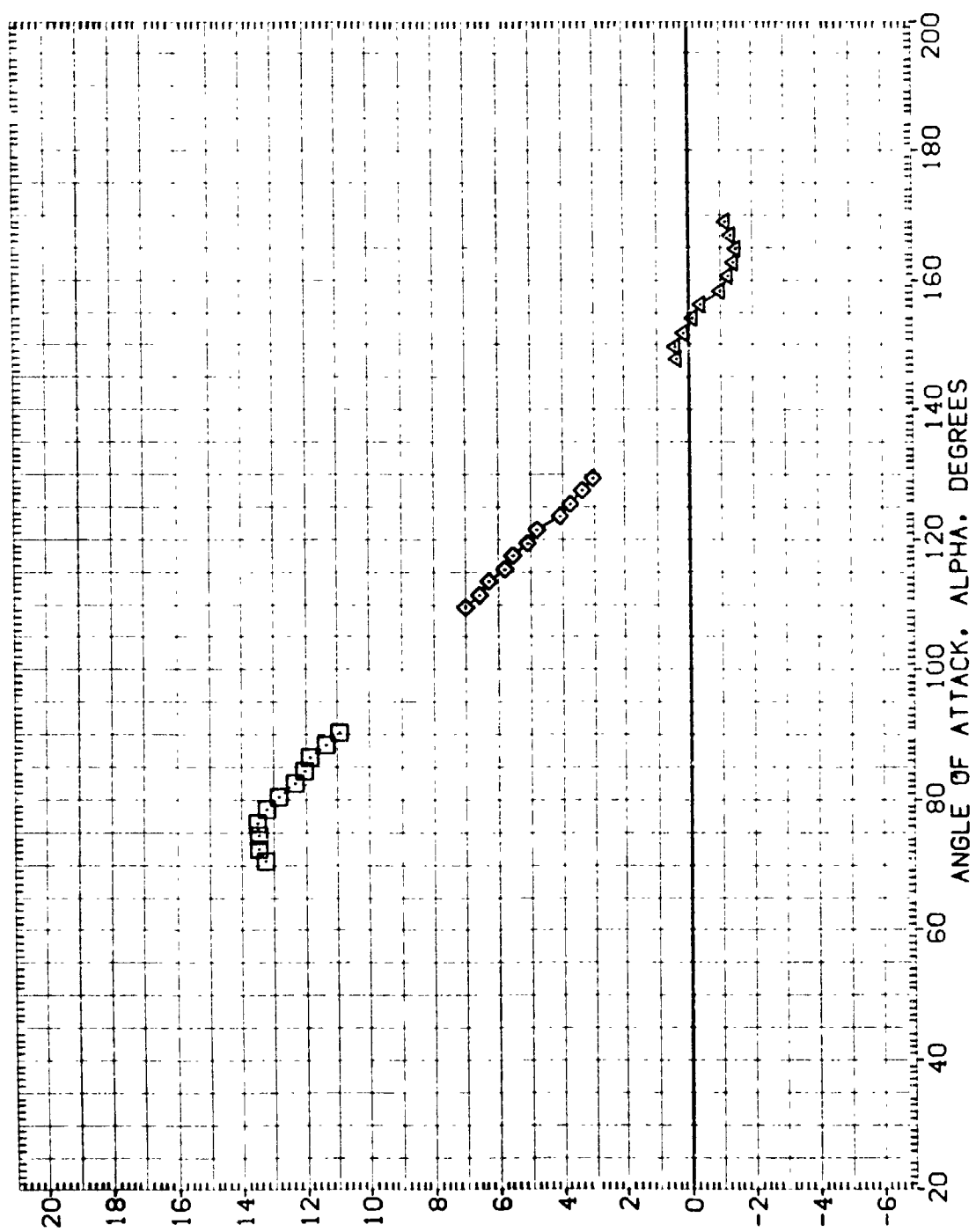


FIGURE 22. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 135)

(EJMACH = 1.96)

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(A1H046)	DATA NOT AVAILABLE	135.000	SREF .5030 50. IN.
(A1H048)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	135.000	LREF .8000 IN.
(A1H049)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	135.000	BREF .8000 IN.
(A1H050)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	135.000	XMRP 5.7210 IN. XS
			YMRP .0000 IN. YS
			ZMRP .0000 IN. ZS
			SCALE .0055

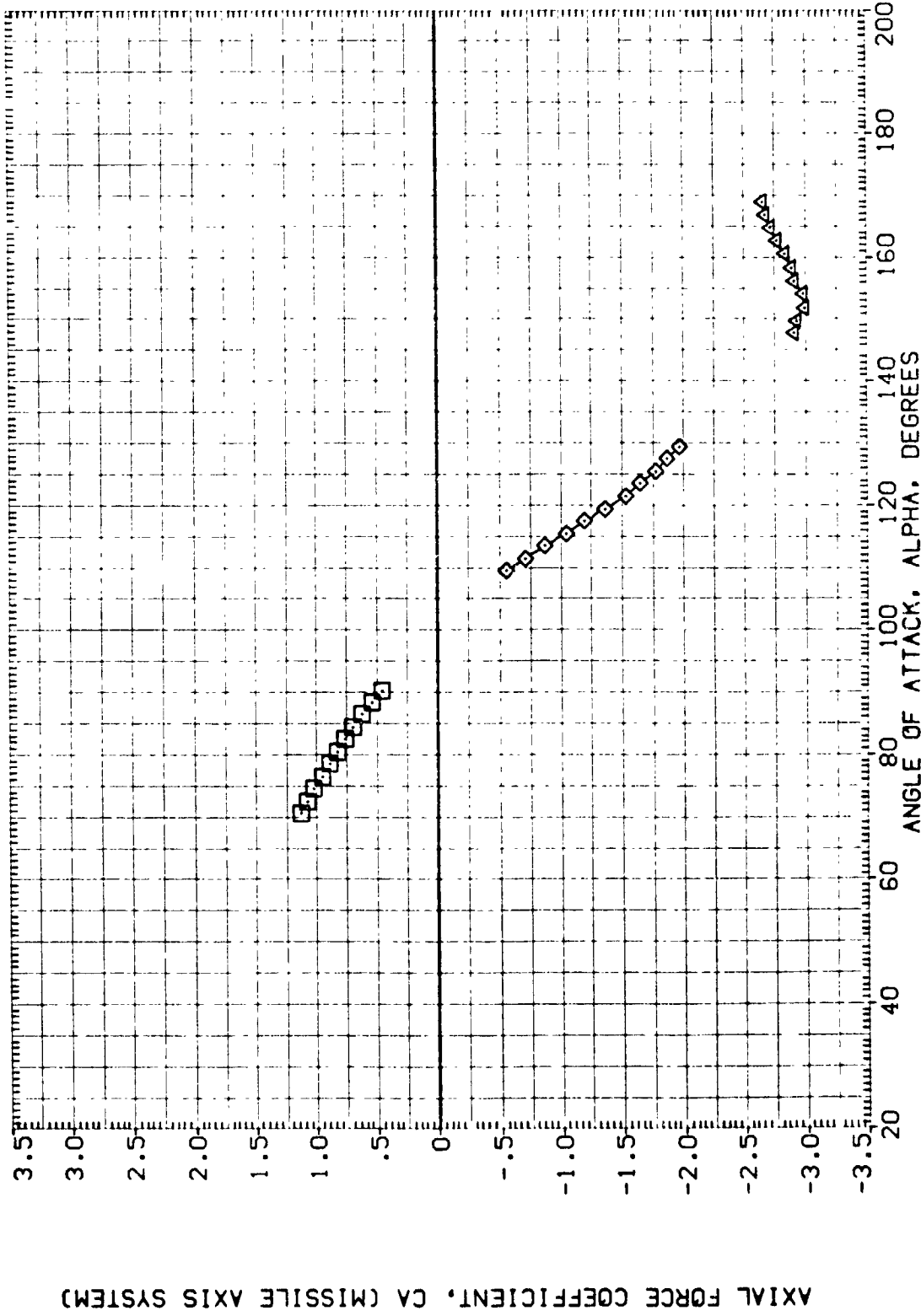


FIGURE 22. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 135)
 (EJMACH = 1.96) PAGE 276

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A11H006) DATA NOT AVAILABLE 135.000
 (A11H048) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 135.000
 (A11H049) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 135.000
 (A11H050) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 135.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.
 LREF .8000 IN.
 BRFP .8000 IN.
 YMRP .7210 IN. XS
 ZMRP .0000 IN. YS
 SCALE .0055 IN. ZS

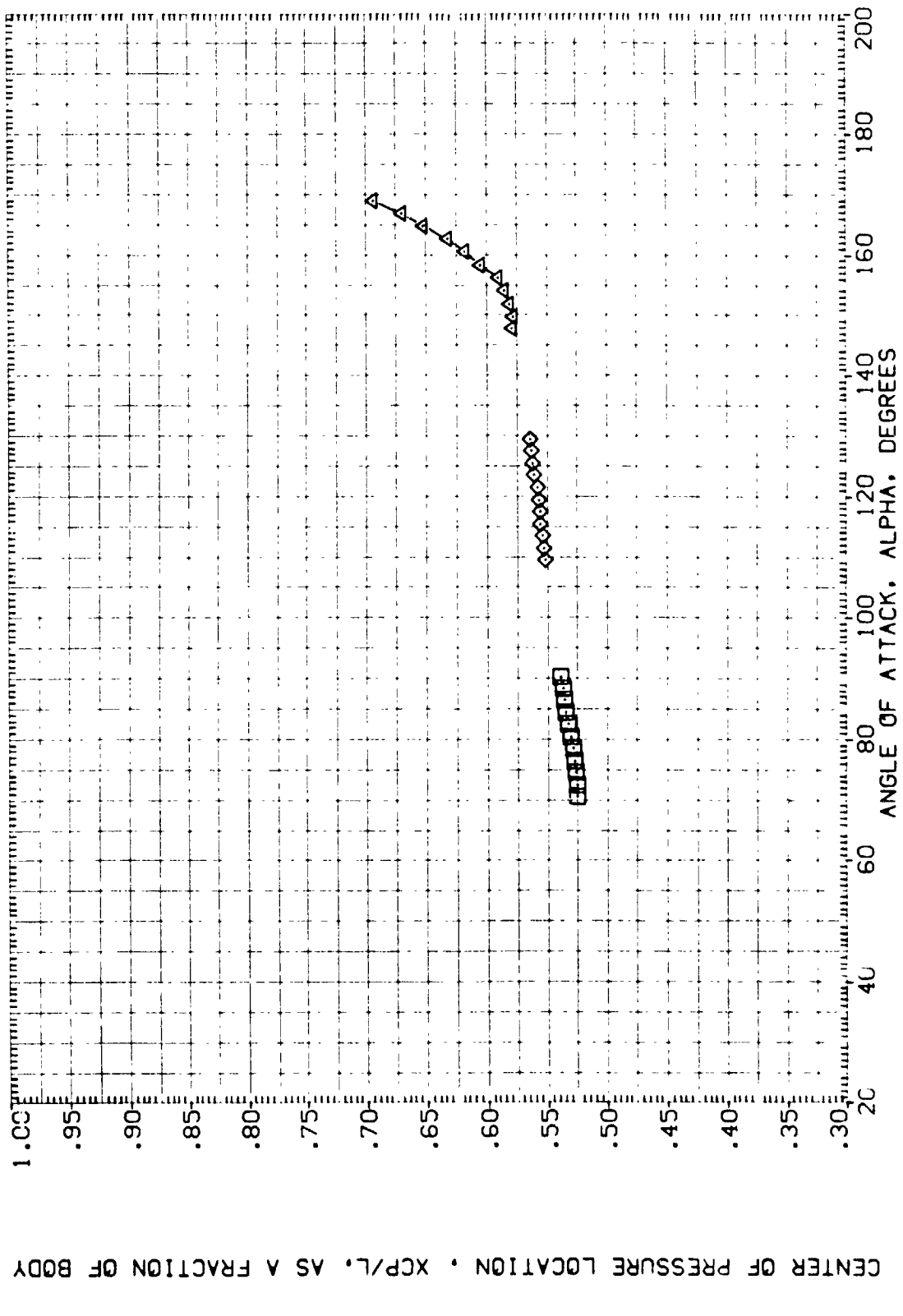


FIGURE 22. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 135)
 (E)MACH = 1.96 PAGE 277

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H405) DATA NOT AVAILABLE

(A1H408) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H409) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H450) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI

135.000

135.000

135.000

REFERENCE INFORMATION

SREF .503C SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

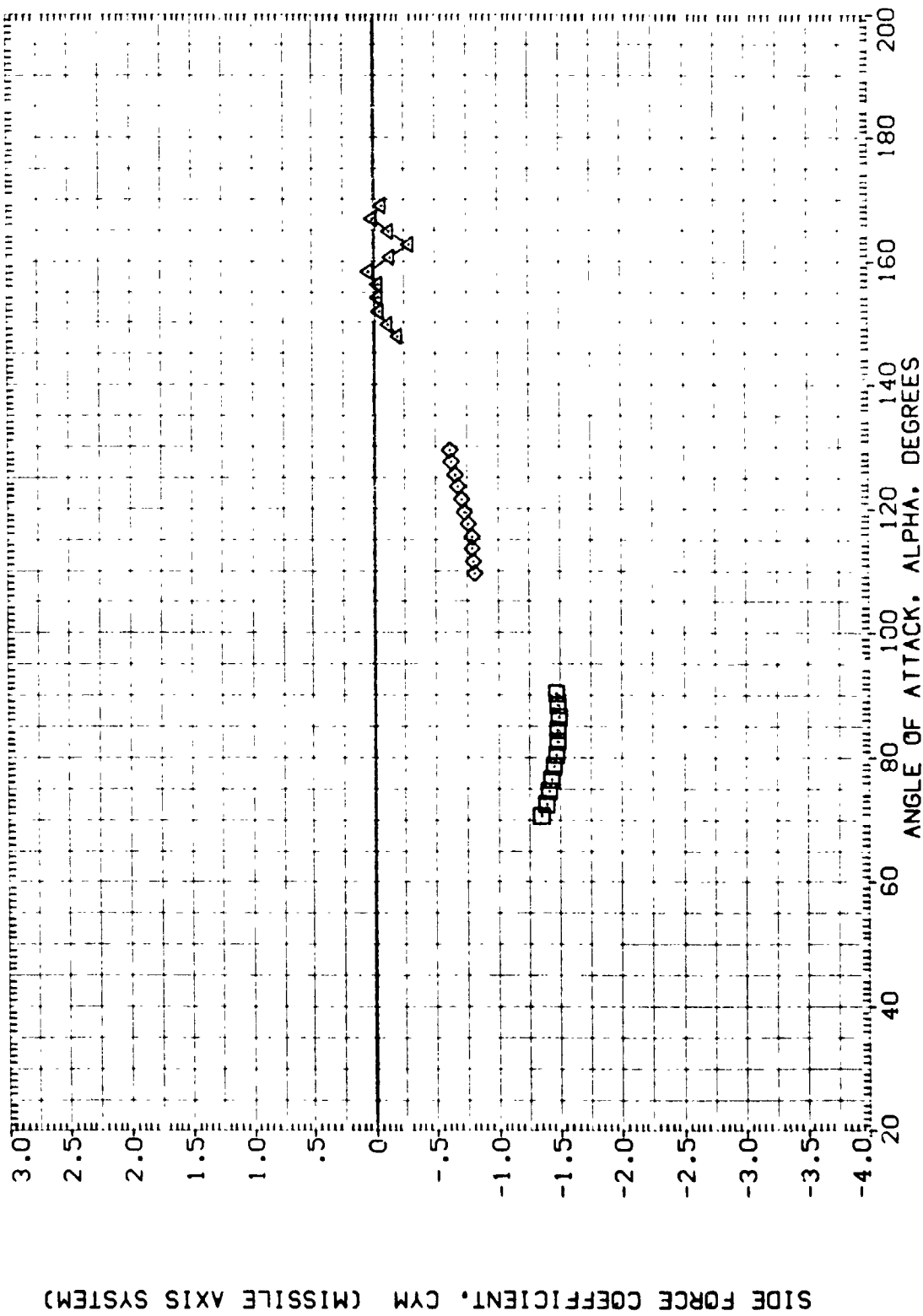


FIGURE 22. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 135)

(C)MACH = 1.96

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(AIH006) DATA NOT AVAILABLE 135.000

(AIH048) MSFC TVTE04 (SA8F) SRB WITH ALL PROTUBERANCES 135.000

(AIH049) MSFC TVTE04 (SA8F) SRB WITH ALL PROTUBERANCES 135.000

(AIH050) MSFC TVTE04 (SA8F) SRB WITH ALL PROTUBERANCES 135.000

REFERENCE INFORMATION

SREF 5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

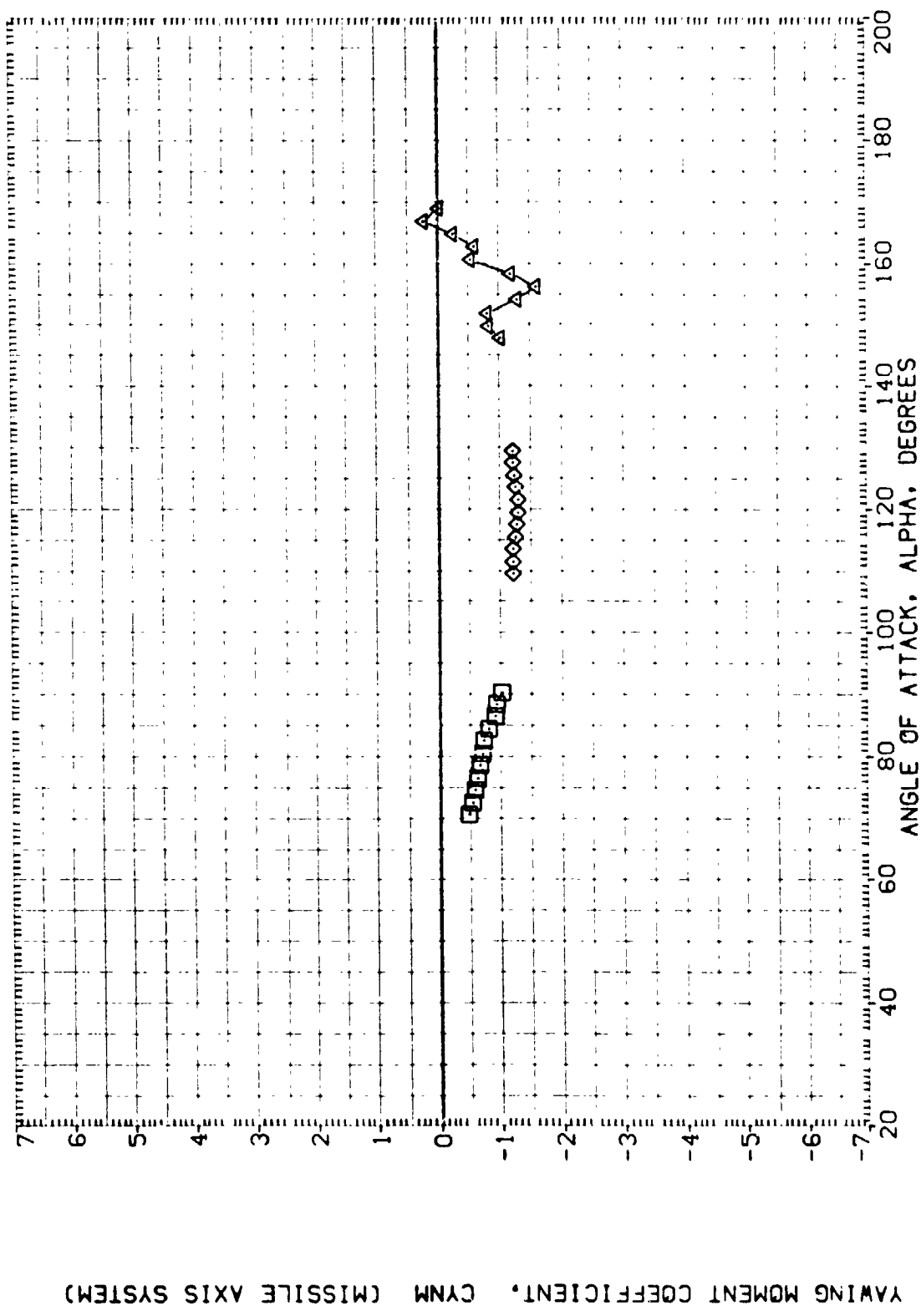


FIGURE 22. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 135)

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H405) DATA NOT AVAILABLE

(A1H406) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H407) MSFC TVT304 (SABF) SRB WITH ALL PROTUBERANCES

(A1H408) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H409) MSFC TVT304 (SABF) SRB WITH ALL PROTUBERANCES

(A1H450)

PHI

135.000

135.000

135.000

135.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

YMRP 5.7210 IN. XS

ZMRP .0000 IN. ZS

SCALE .0055

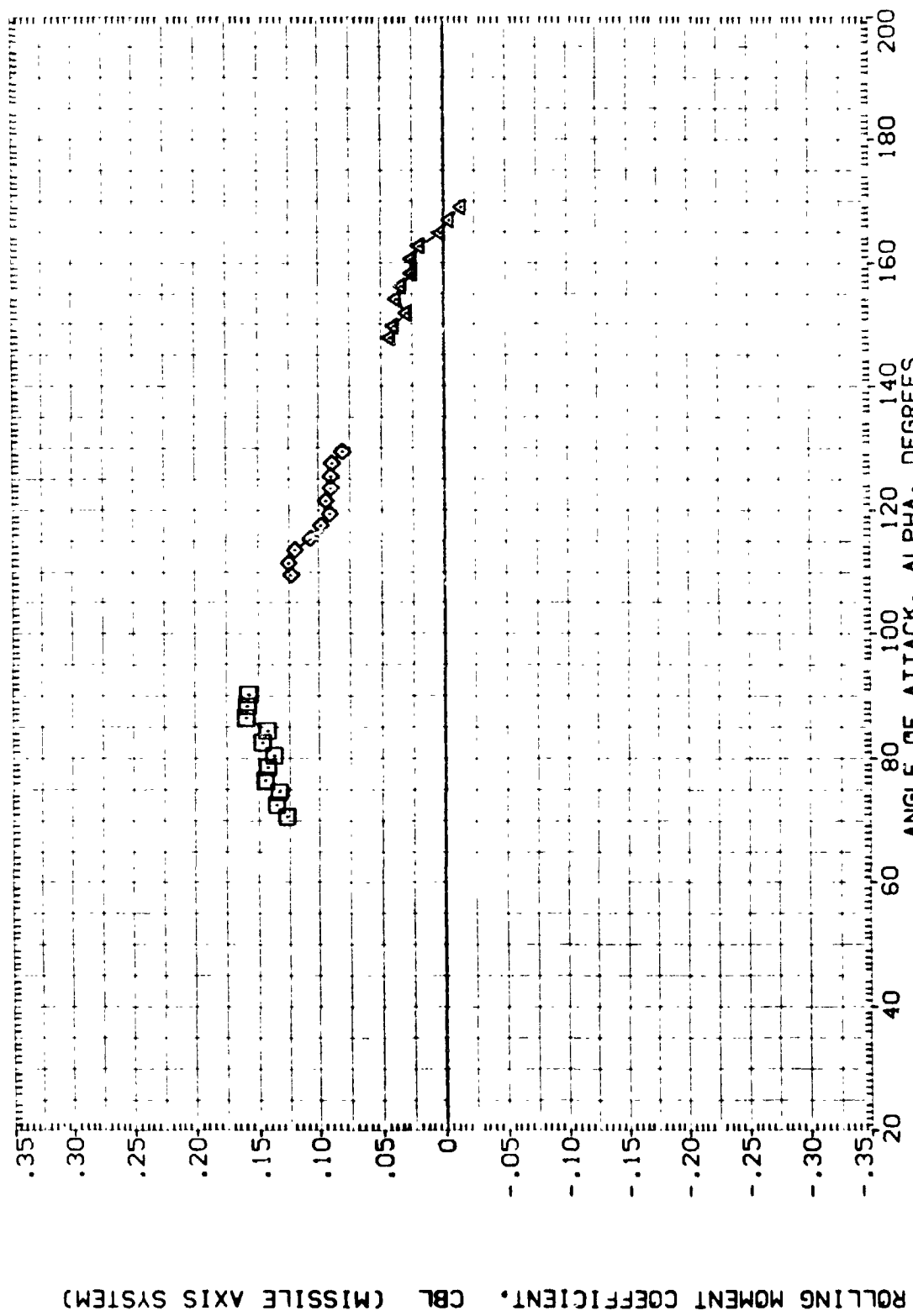


FIGURE 22. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 135)

(E)MACH = 1.96

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H006) DATA NOT AVAILABLE 135.000
 (A1H048) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 135.000
 (A1H049) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 135.000
 (A1H050) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 135.000

REFERENCE INFORMATION

SREF .5030 SC. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0053

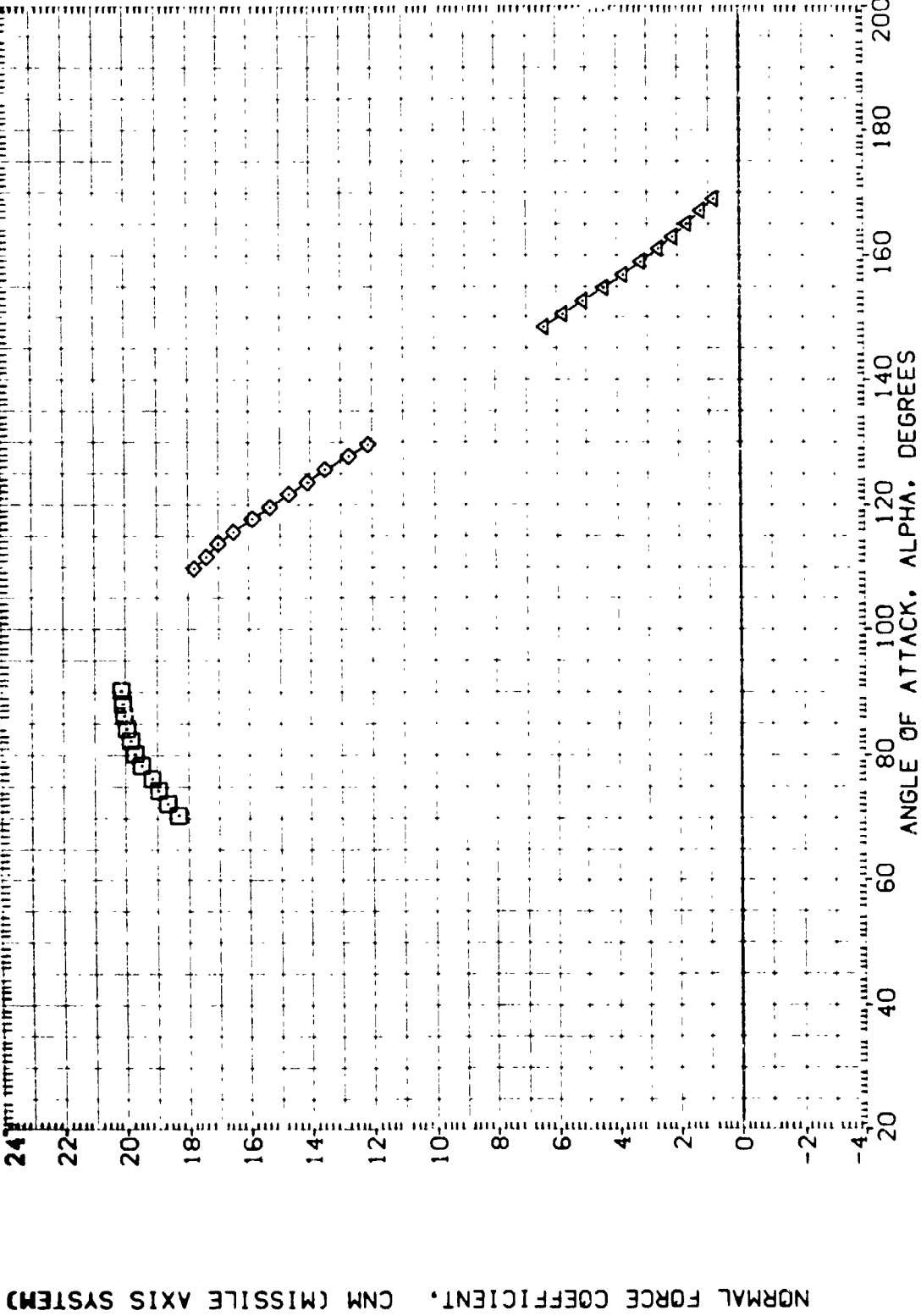


FIGURE 22. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 135)

(MACH = 2.74)

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H045) DATA NOT AVAILABLE

(A1H048) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H049) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H050) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI

135.000

135.000

135.000

REFERENCE INFORMATION

SREF .5030 SQ.IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.2210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

PITCHING MOMENT COEFFICIENT, CLM (MISSILE AXIS SYSTEM)

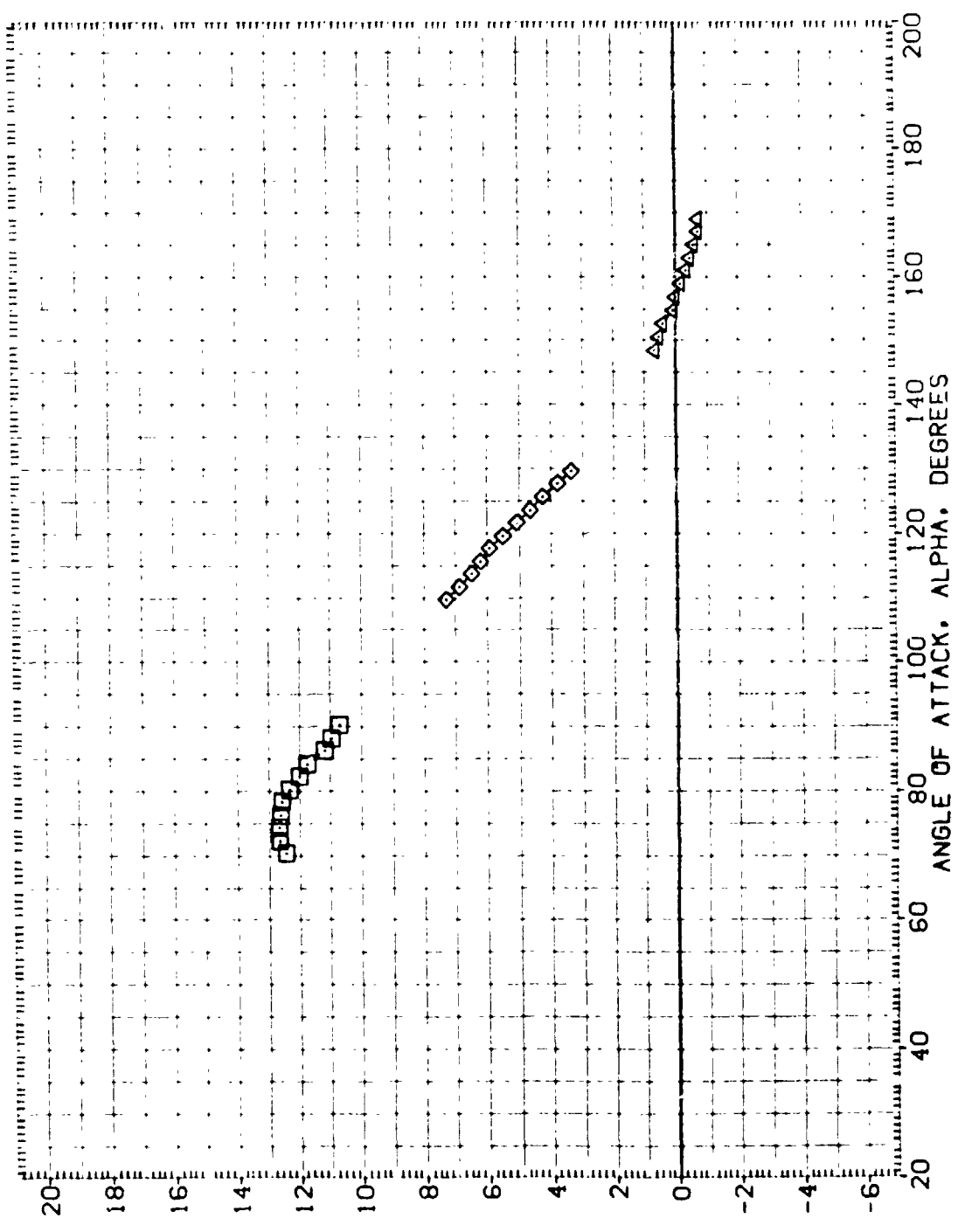


FIGURE 22. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 135)

(F)MACH = 2.74

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H006) □ DATA NOT AVAILABLE

(A1H048) ⊗ MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H049) ⊗ MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H050) ⊗ MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI

135.000

135.000

135.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

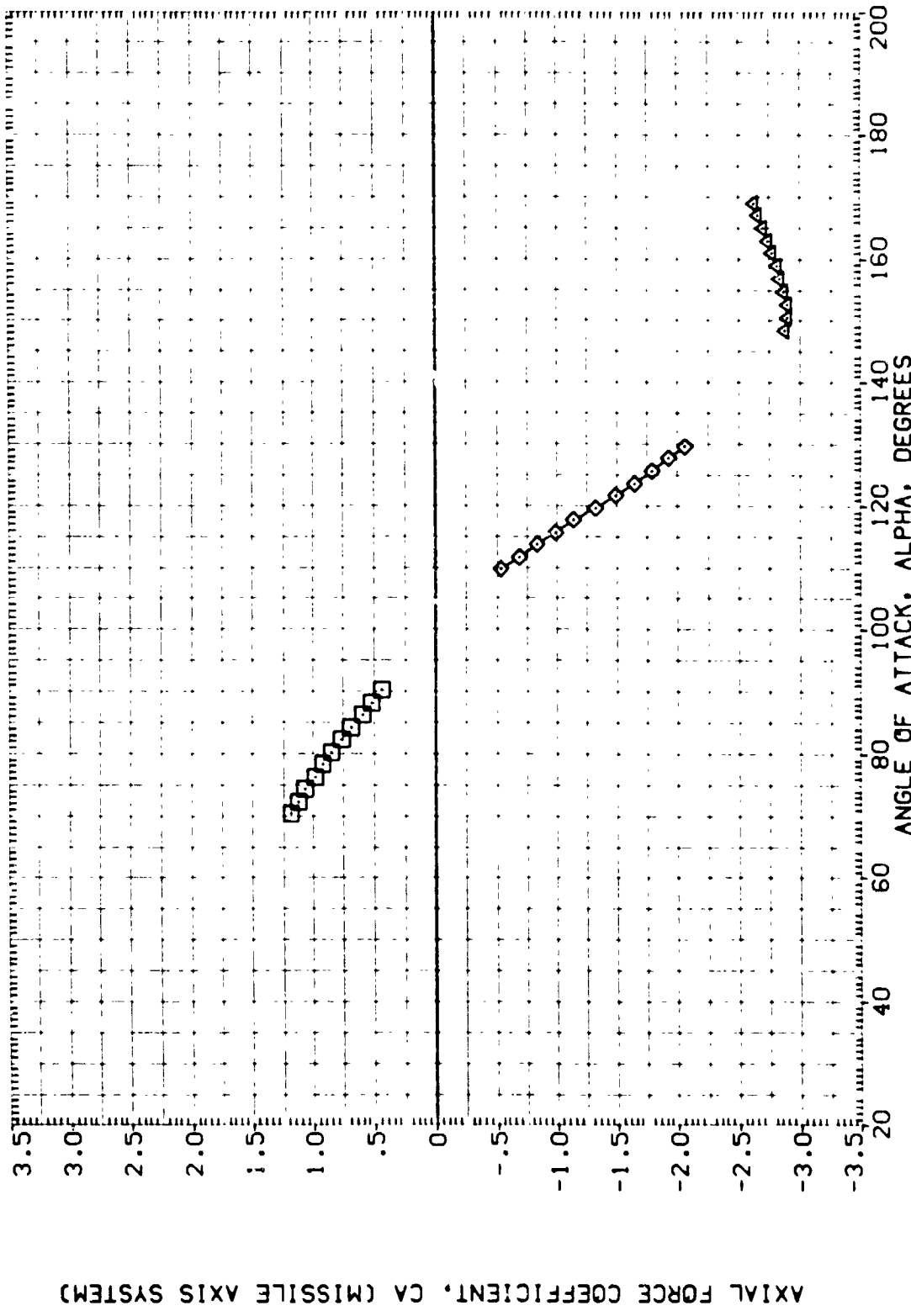


FIGURE 22. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 135)

(F)MACH = 2.74

PAGE 283

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H005) DATA NOT AVAILABLE

(A1H048) MSFC TVTGO4 (SABF) SRB WITH ALL PROTUBERANCES

(A1H049) MSFC TVTGO4 (SABF) SRB WITH ALL PROTUBERANCES

(A1H050) MSFC TVTGO4 (SABF) SRB WITH ALL PROTUBERANCES

135.000

135.000

135.000

135.000

REFERENCE INFORMATION

SREF 5.31 SQ IN.

LREF .8003 IN.

BREF .8003 IN.

XMRP 5.7213 IN. XS

YMRP .0003 IN. YS

ZMRP .0003 IN. ZS

SCALE .0055

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

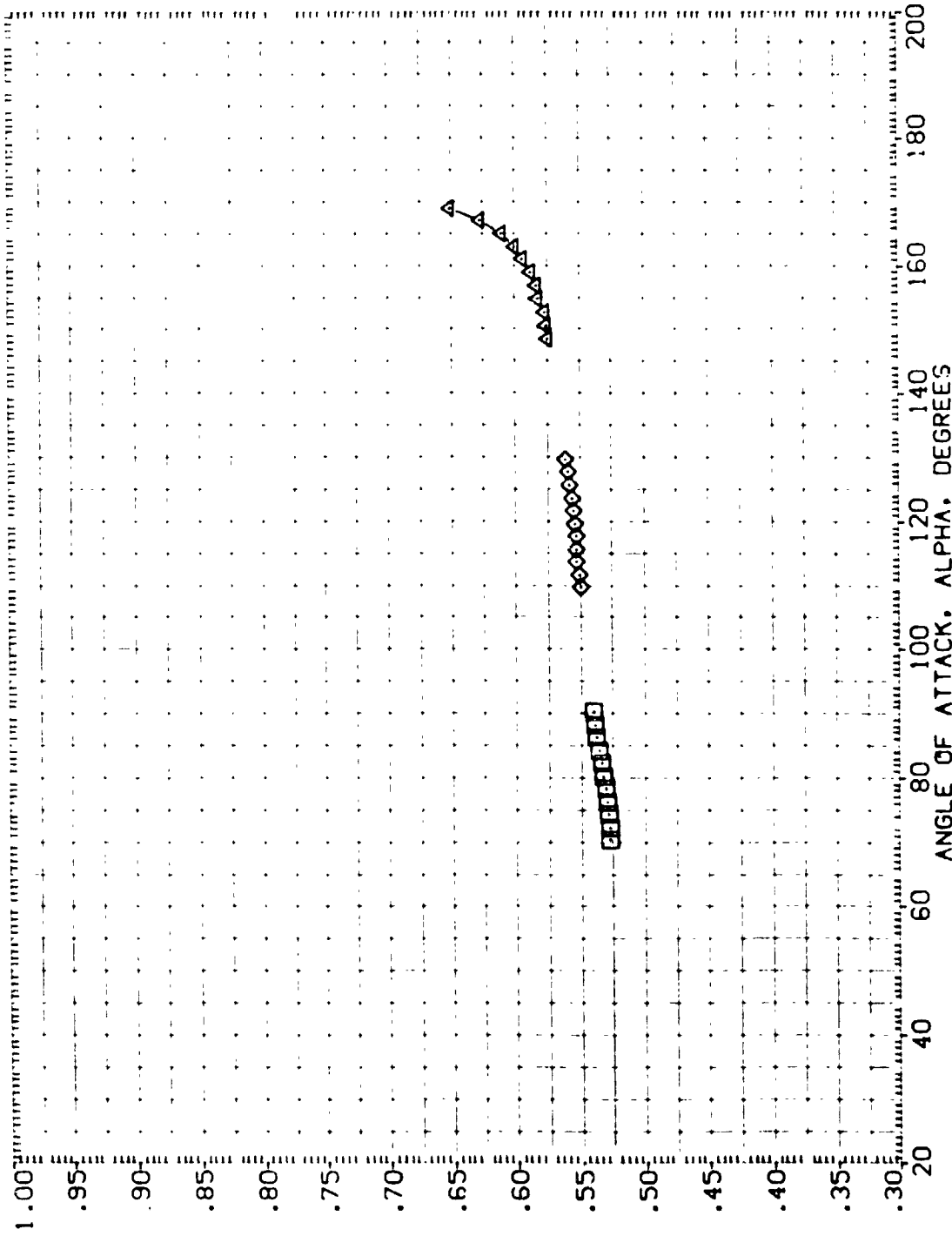


FIGURE 22. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 135)

(F)MACH = 2.74

DATA SET SYMBOL: (A1H06) (A1H08) (A1H09) (A1H050)

CONFIGURATION DESCRIPTION: DATA NOT AVAILABLE MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI: 135.000 135.000 135.000

REFERENCE INFORMATION: SREF .5030 50. IN. LREF .6000 IN. BREF .8000 IN. XPRP 5.7210 IN. XS YPRP .0000 IN. ZS ZPRP .0000 IN. ZS SCALE .0055

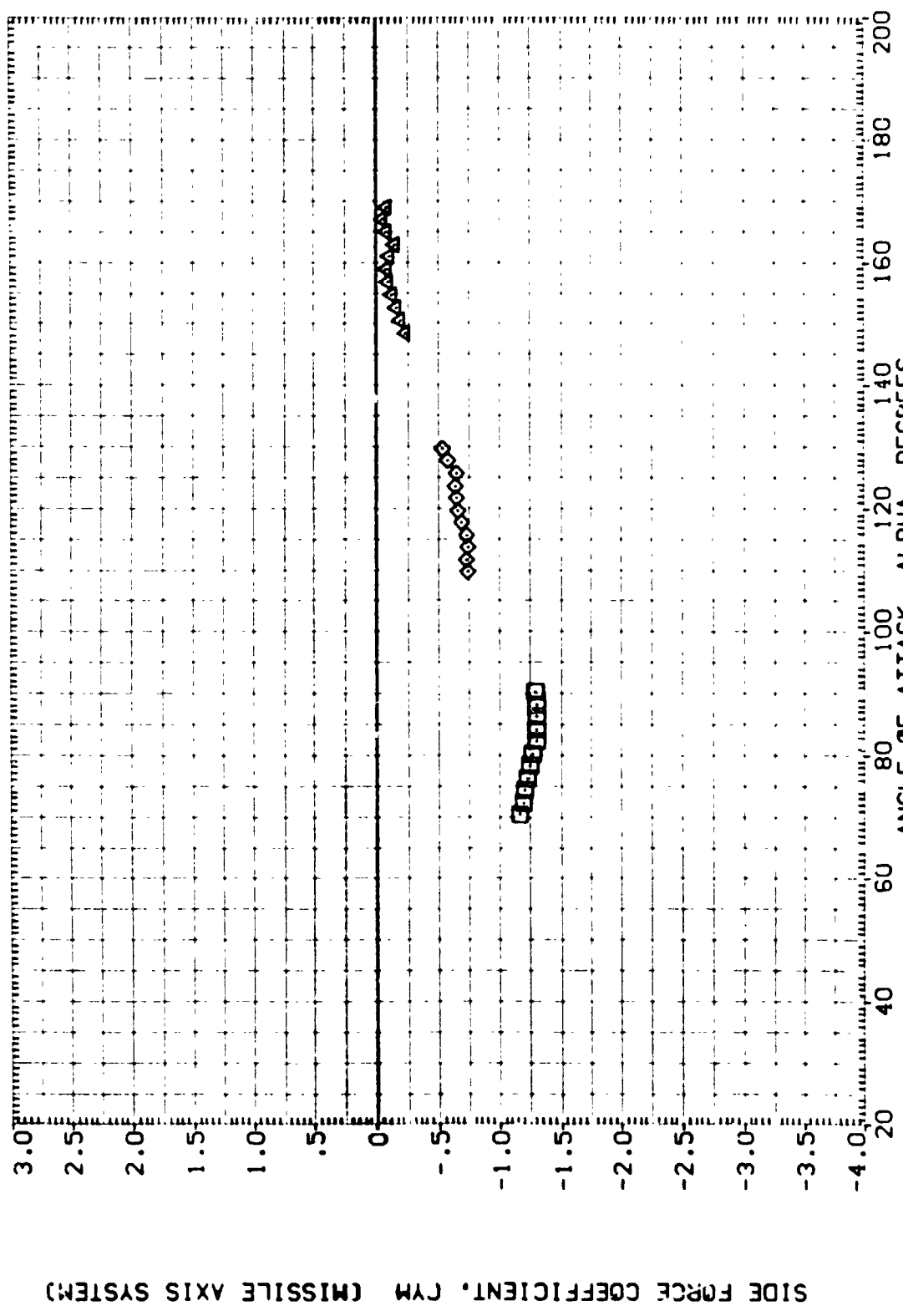


FIGURE 22. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 135)

(F)MACH = 2.74

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H048) DATA NOT AVAILABLE
 (A1H048) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H048) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H050) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI
 135.000
 135.000
 135.000

REFERENCE INFORMATION

SREF :50.90 SQ. IN.
 LREF :8000 IN.
 SREF :8000 IN.
 XMRP 5.7210 IN. XS
 YMRP :0000 IN. YS
 ZMRP :0000 IN. ZS
 SCALE :0055

YAWING MOMENT COEFFICIENT, C_{YM} (MISSILE AXIS SYSTEM)

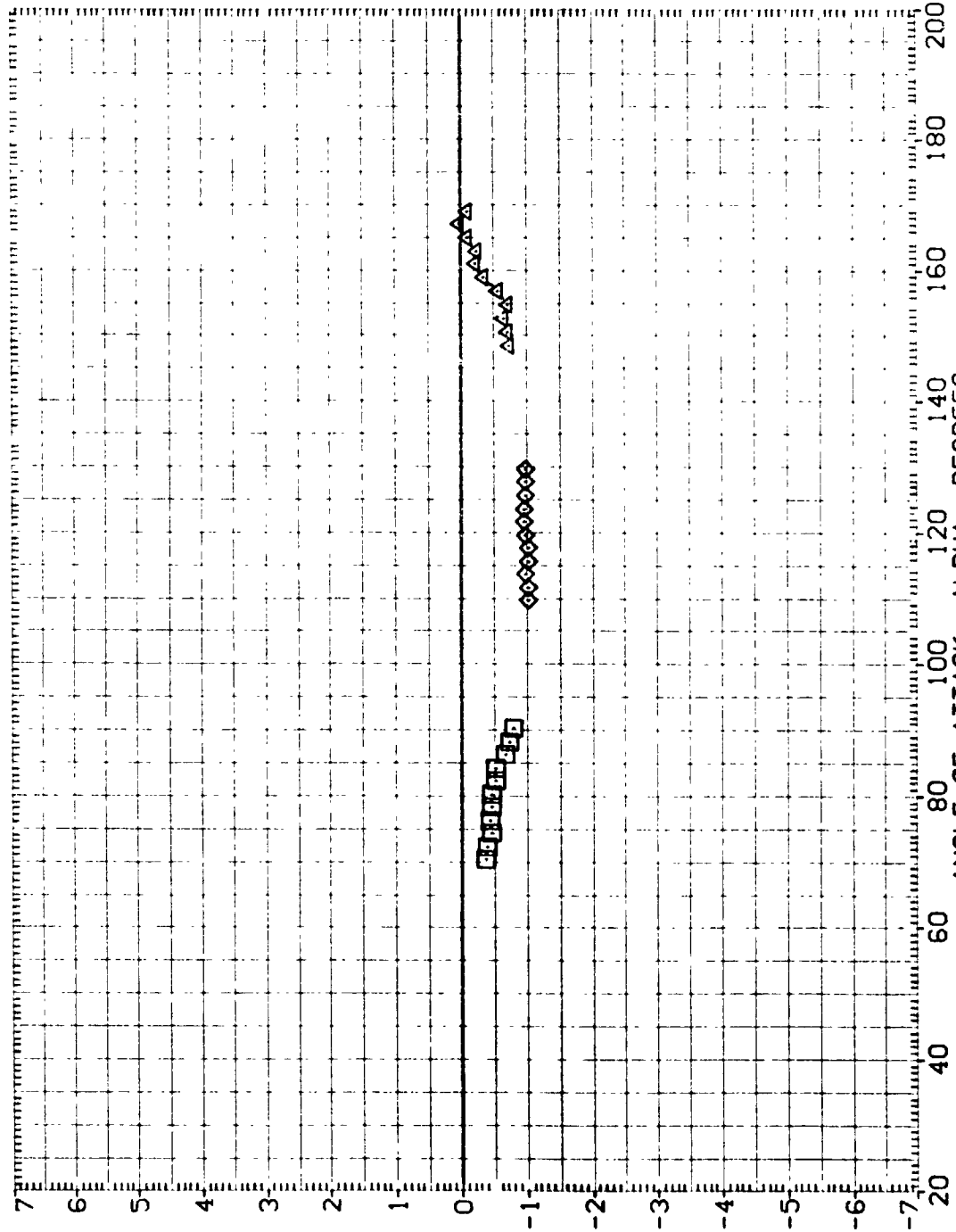


FIGURE 22. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 135)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H046) DATA NOT AVAILABLE 135.000
 (A1H048) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 135.000
 (A1H049) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 135.000
 (A1H050) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 135.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

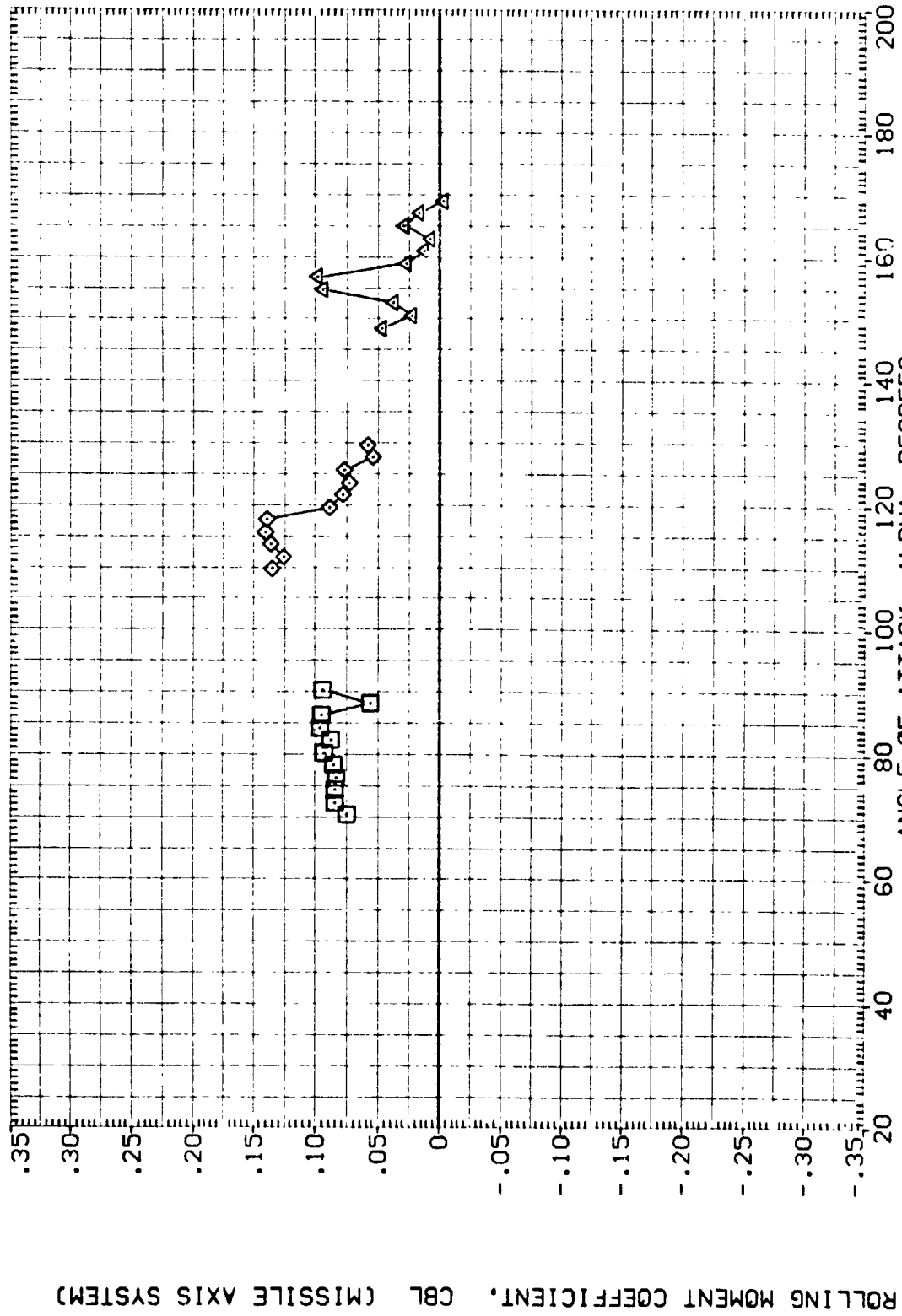


FIGURE 22. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 135)

(F)MACH = 2.74

REFERENCE INFORMATION
 SREF .5030 IN.
 LREF .8000 IN.
 BREF .8000 IN.
 YMRP 5.7210 IN. XS
 ZMRP .0000 IN. YS
 SCALE .0000 IN. ZS
 .3055

PHI
 135.000
 135.000
 135.000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H006) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H048) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H049) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H050) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

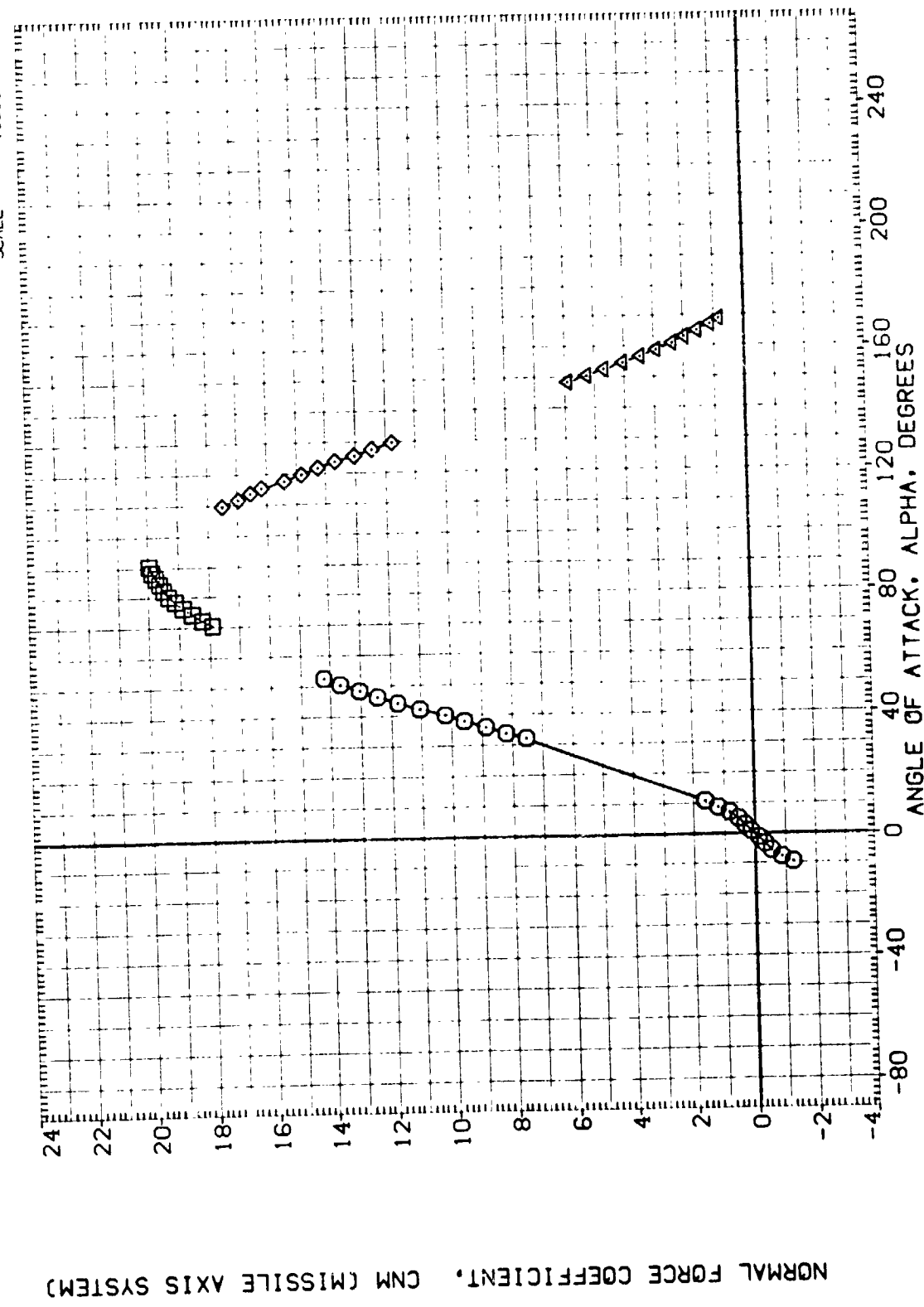


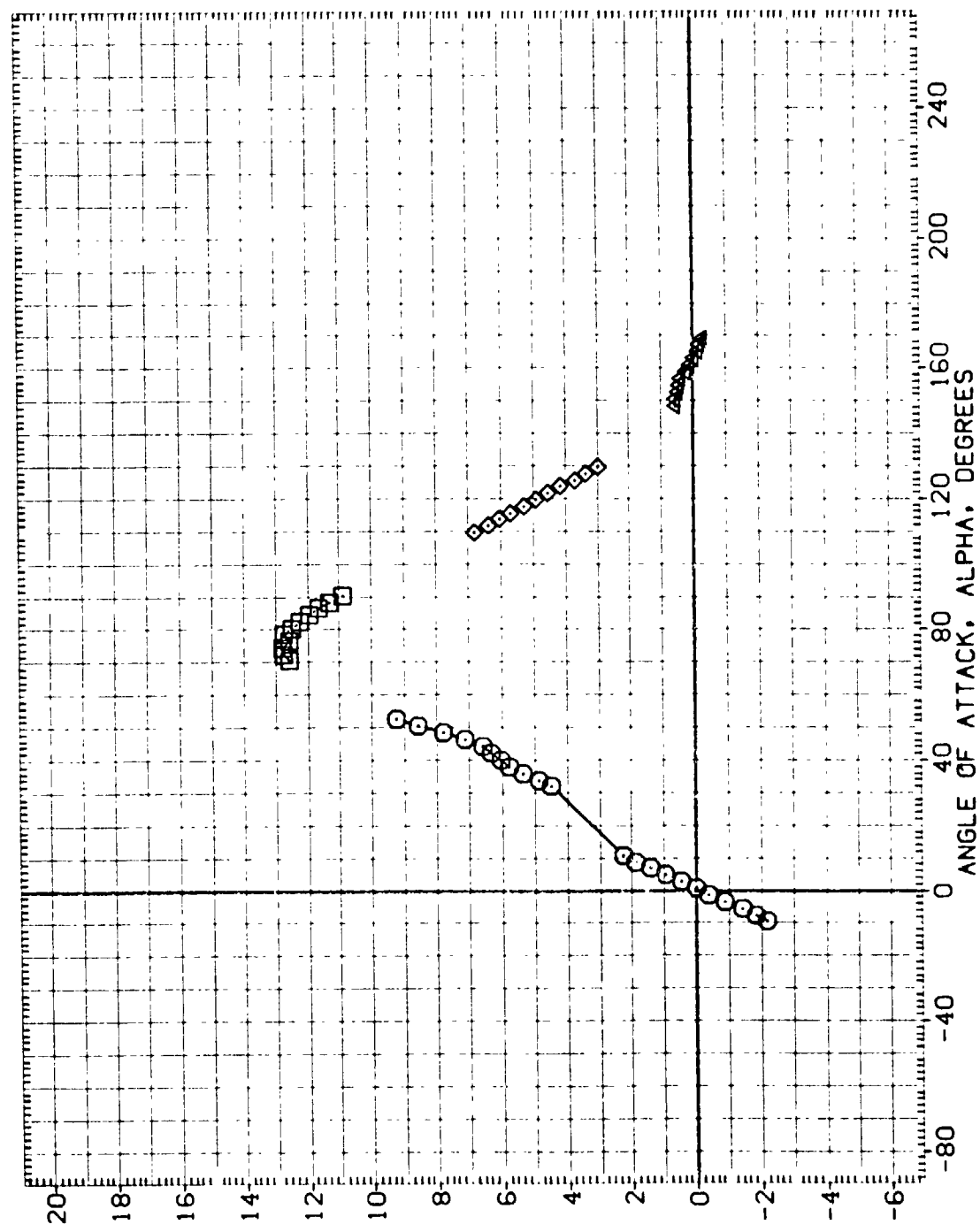
FIGURE 22. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 135)
 (A)MACH = 3.48

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 135.000
 135.000
 135.000
 135.000

CONFIGURATION DESCRIPTION
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

DATA SET SYMBOL
 (A1H048) □
 (A1H049) ○
 (A1H050) △



PITCHING MOMENT COEFFICIENT, CLMM (MISSILE AXIS SYSTEM)

FIGURE 22. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 135)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI REFERENCE INFORMATION

(A1H405)	MSFC TVT804 (SABF) SRB WITH ALL PROTUBERANCES	135.000	SREF .5000 SQ. IN.
(A1H406)	MSFC TVT804 (SABF) SRB WITH ALL PROTUBERANCES	135.000	LREF .8000 IN.
(A1H407)	MSFC TVT804 (SABF) SRB WITH ALL PROTUBERANCES	135.000	BREF .9000 IN.
(A1H408)	MSFC TVT804 (SABF) SRB WITH ALL PROTUBERANCES	135.000	XMRP 5.7210 IN. XS
(A1H409)	MSFC TVT804 (SABF) SRB WITH ALL PROTUBERANCES	135.000	YMRP .0000 IN. YS
(A1H450)	MSFC TVT804 (SABF) SRB WITH ALL PROTUBERANCES	135.000	ZMRP .0000 IN. ZS
			SCALE .0055

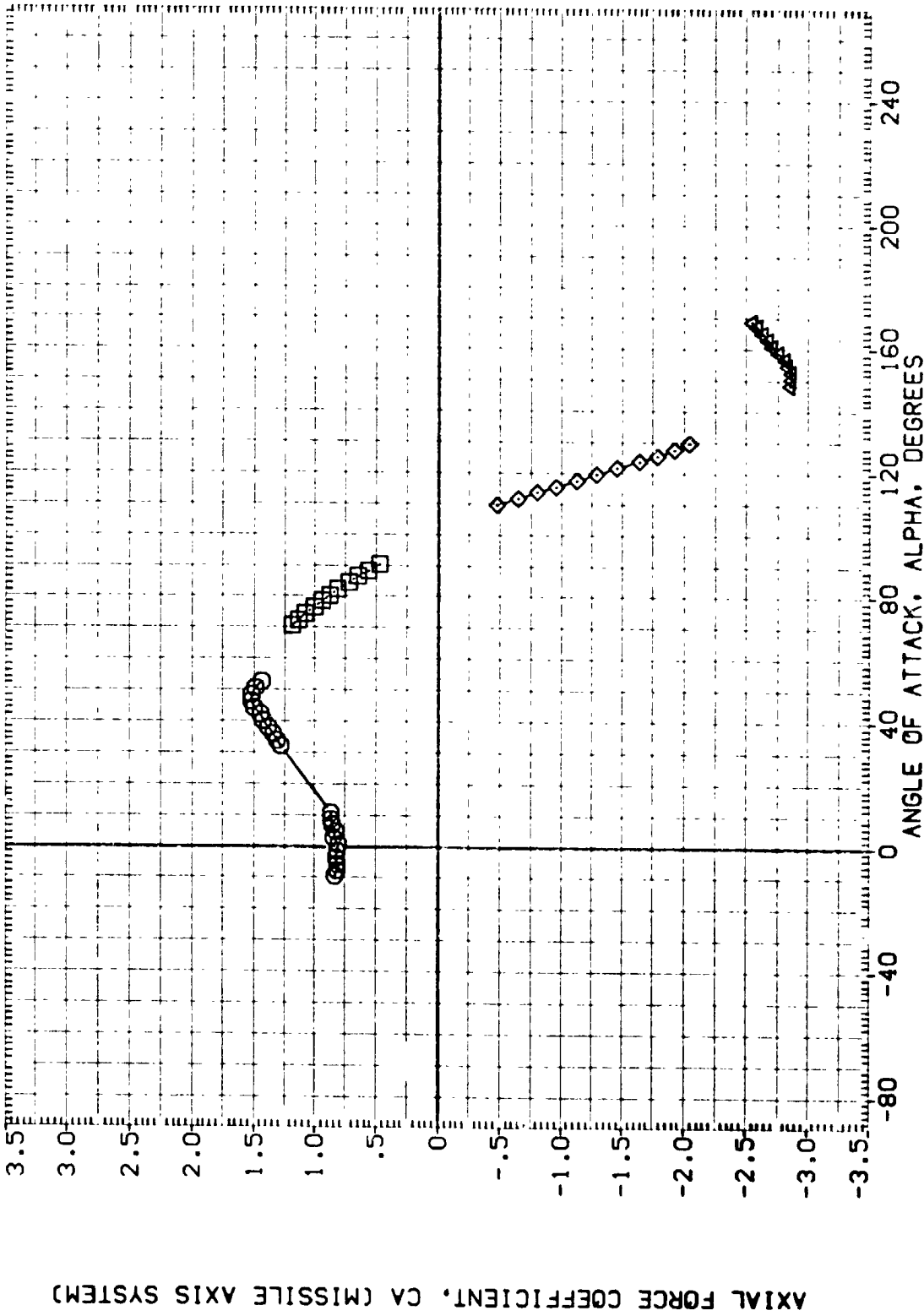


FIGURE 22. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 135)

(A)MACH = 3.48

REFERENCE INFORMATION
 SREF .5090 50. IN.
 LREF .8000 IN.
 BREF .6000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 135.000
 135.000
 135.000

ALL PROTUBERANCES
 ALL PROTUBERANCES
 ALL PROTUBERANCES

MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (AIH006) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (AIH048) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (AIH049) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (AIH050) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

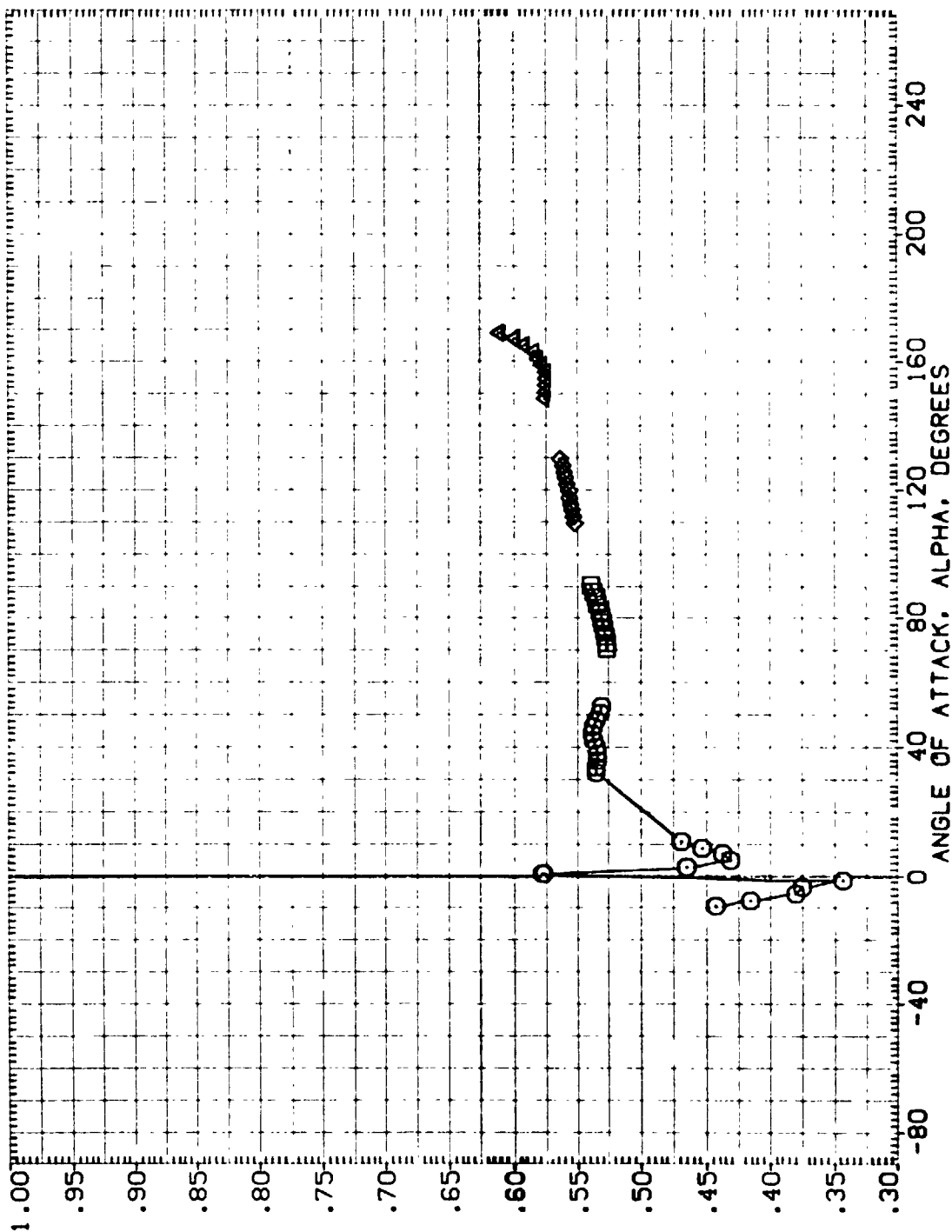


FIGURE 22. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 135)

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H06) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H08) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H09) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H00) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI
 135.000
 135.000
 135.000
 135.000

REFERENCE INFORMATION

SREF .5030 SG.IN.
 LREF .8000 IN.
 BREF .8000 IN.
 YMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

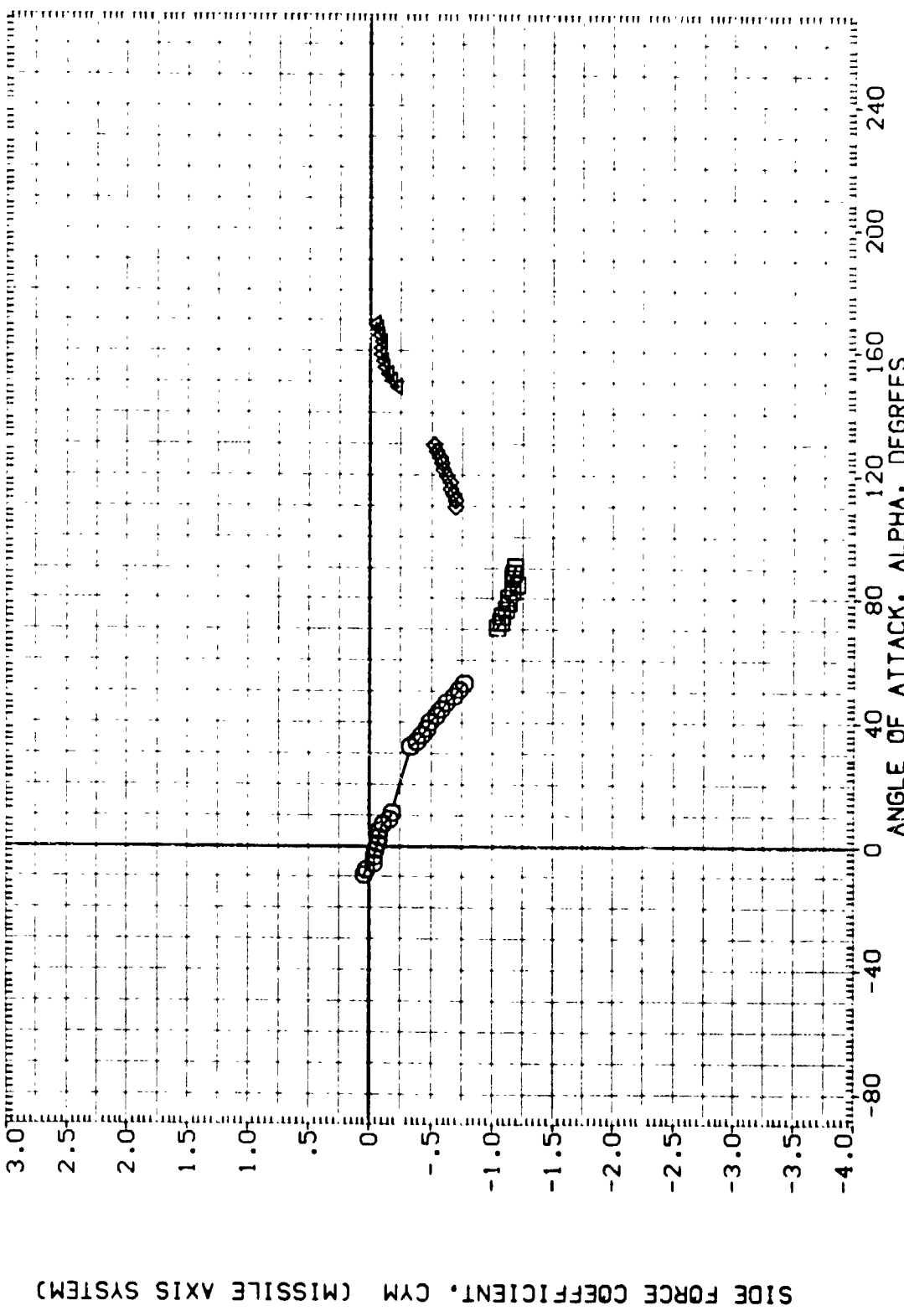


FIGURE 22. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 135)
 (A)MACH = 3.48 PAGE 292

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 135.000

(A1H048) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 135.000

(A1H049) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 135.000

(A1H050) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 135.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

YAWING MOMENT COEFFICIENT, C_{YM} (MISSILE AXIS SYSTEM)

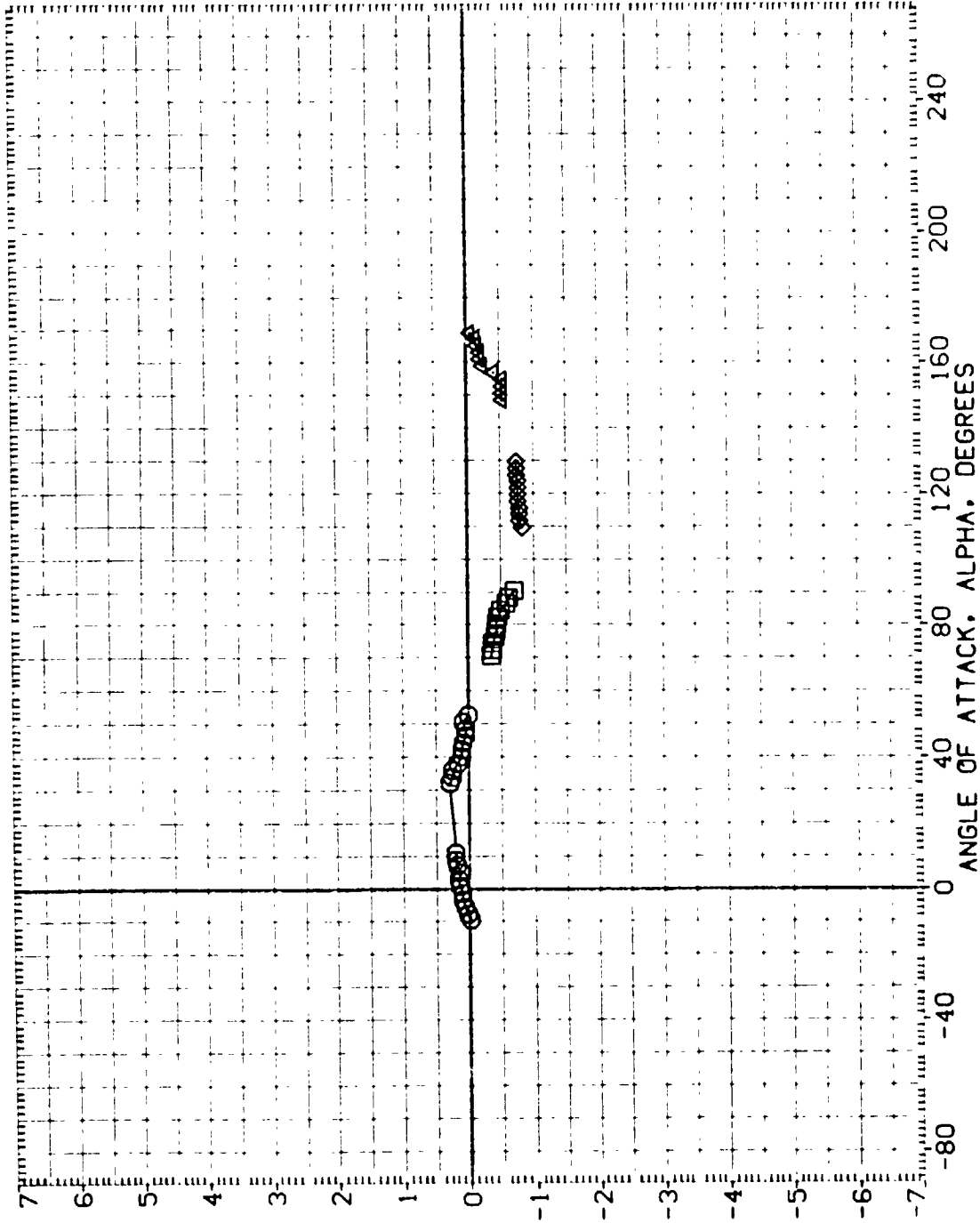


FIGURE 22. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 135)

(A) MACH = 3.48

REFERENCE INFORMATION

SREF	50.30	SG, IN.
LREF	.8000	L, I.
BREF	.8100	B, IN.
YMRP	5.7210	Y, IN.
ZMRP	.0000	Z, IN.
SCALE	.0055	SCALE

PHI

135.000
135.000
135.000
135.000

PROTUBERANCES

ALL
ALL
ALL
ALL

CONFIGURATION DESCRIPTION

MSFC TV1604 (SABF)	SRB WITH
MSFC TV1604 (SABF)	SRB WITH
MSFC TV1604 (SABF)	SRB WITH
MSFC TV1604 (SABF)	SRB WITH

DATA SET SYMBOL

(A1H006)	□
(A1H048)	○
(A1H049)	◇
(A1H050)	△

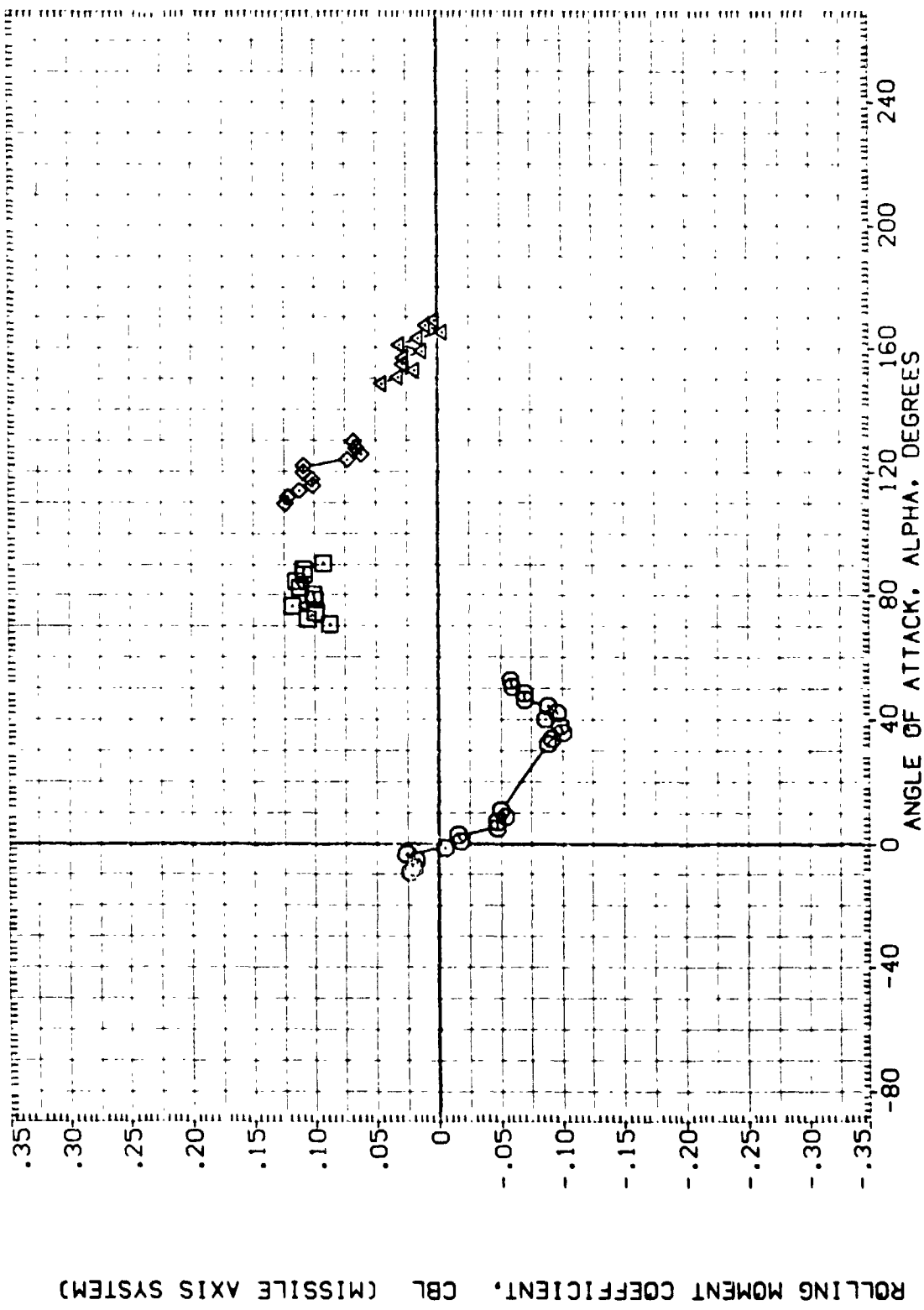


FIGURE 22. STATIC STABILITY CHARACT. OF SRB W/WALL PROTUBERANCES (PHI = 135)

(A)MACH = 3.48

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H007) DATA NOT AVAILABLE 180.000

(A1H054) MSFC TVT504 (SABF) SRB WITH ALL PROTUBERANCES 180.000

(A1H007) MSFC TVT504 (SABF) SRB WITH ALL PROTUBERANCES 180.000

(A1H007) MSFC TVT504 (SABF) SRB WITH ALL PROTUBERANCES 180.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

YMRP 5.7210 IN. XS

ZMRP .0000 IN. YS

SCALE .0055 IN. ZS

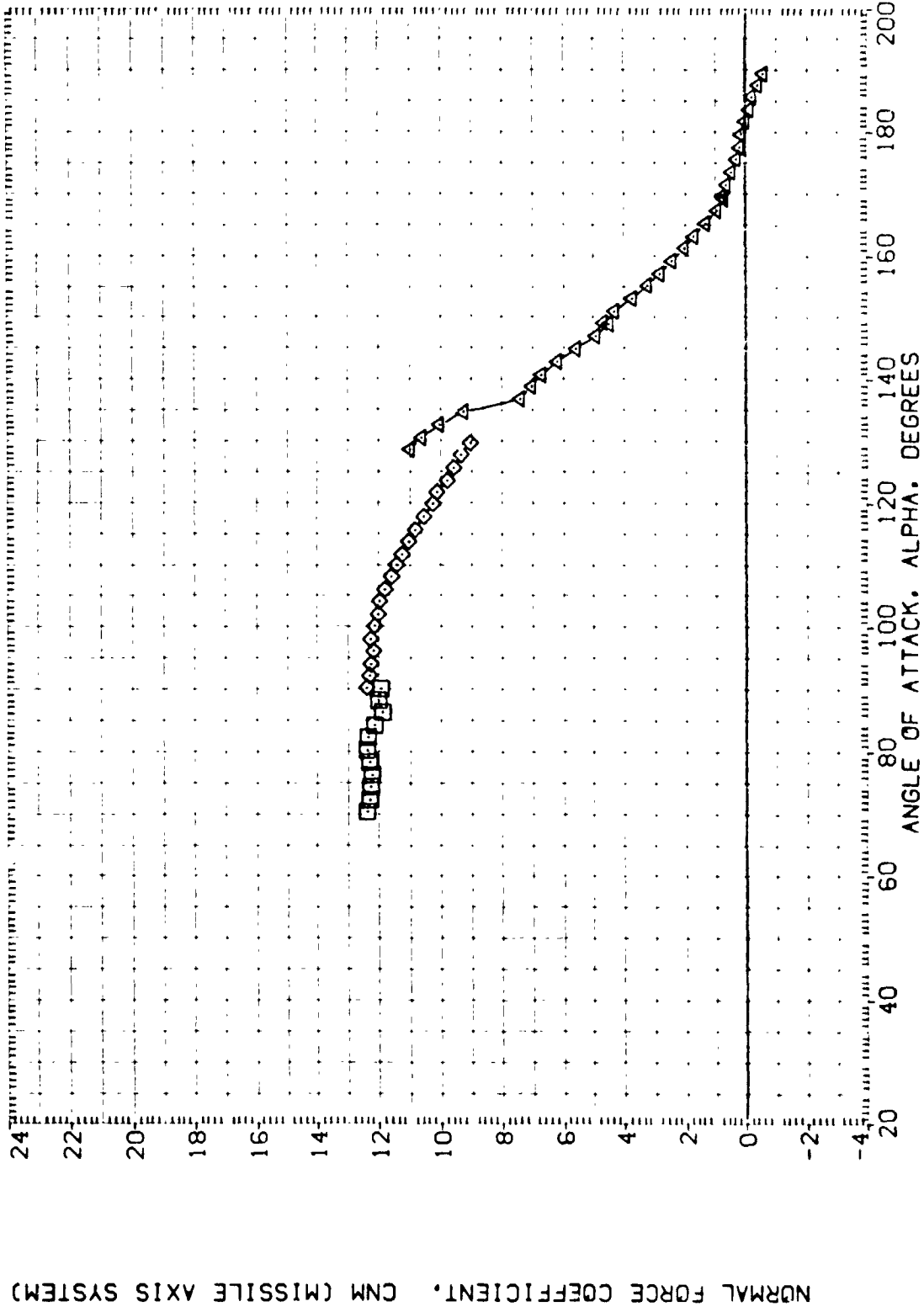


FIGURE 23. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 180)

REFERENCE INFORMATION
 SREF .5030 IN.
 LREF .8000 IN.
 BREF .8000 IN.
 YMRP 5.7210 IN. X5
 ZMRP .0000 IN. Y5
 SCALE .0055

PHI
 180.000
 180.000
 180.000
 180.000

CONFIGURATION DESCRIPTION
 DATA NOT AVAILABLE
 MSFC TV160A (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TV160A (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TV160A (SABF) SRB WITH ALL PROTUBERANCES

DATA SET SYMBOL
 (A1M07)
 (A1M054)
 (A1M007)
 (A1M007)

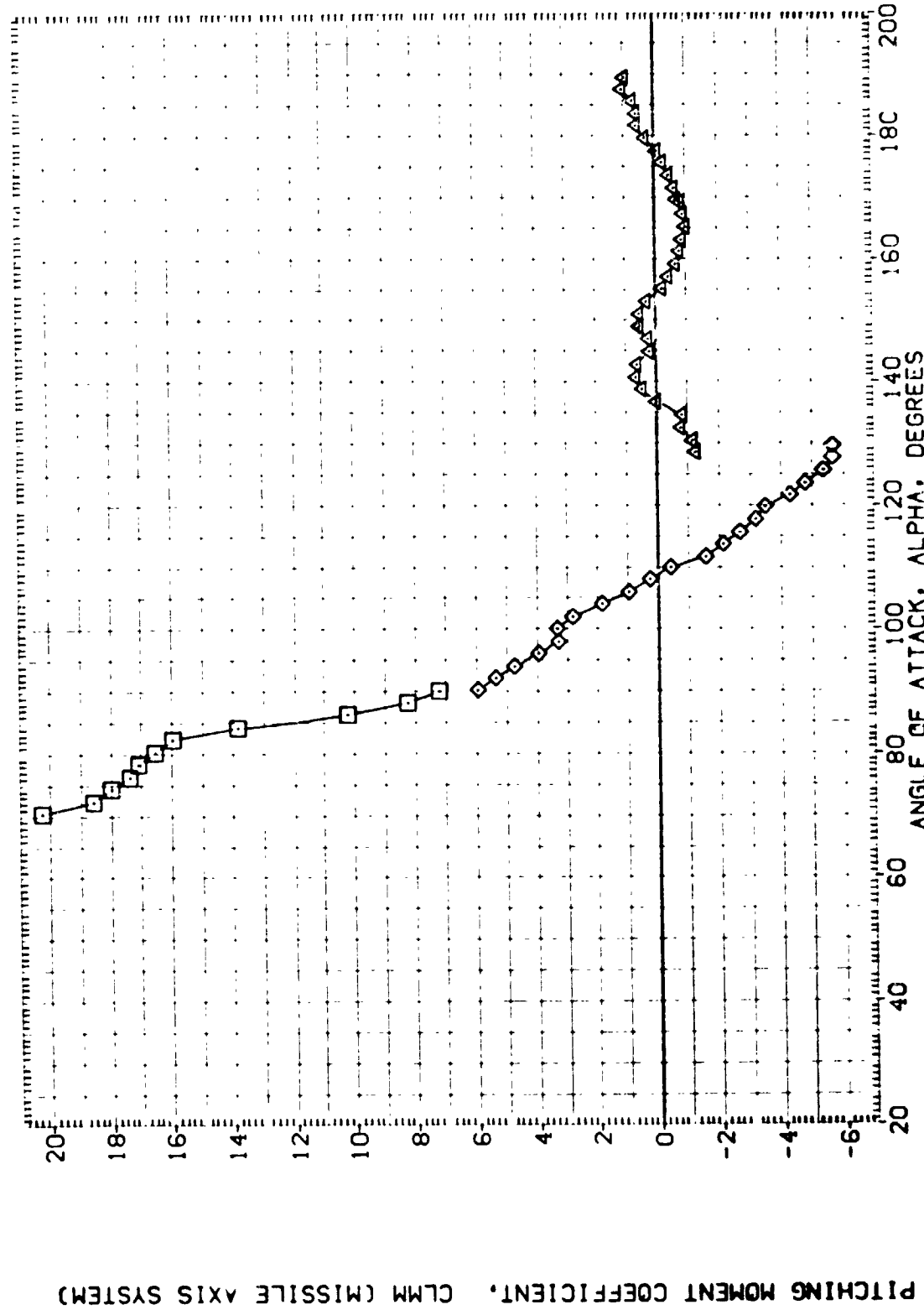
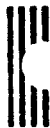


FIGURE 23. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 180)
 (A)MACH = .40



DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H007) DATA NOT AVAILABLE 180.000

(A1H034) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

(A1H037) MSFC TV-304 (SABF) SRB WITH ALL PROTUBERANCES 180.000

(A1H007) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

AXIAL FORCE COEFFICIENT, CA (MISSILE AXIS SYSTEM)

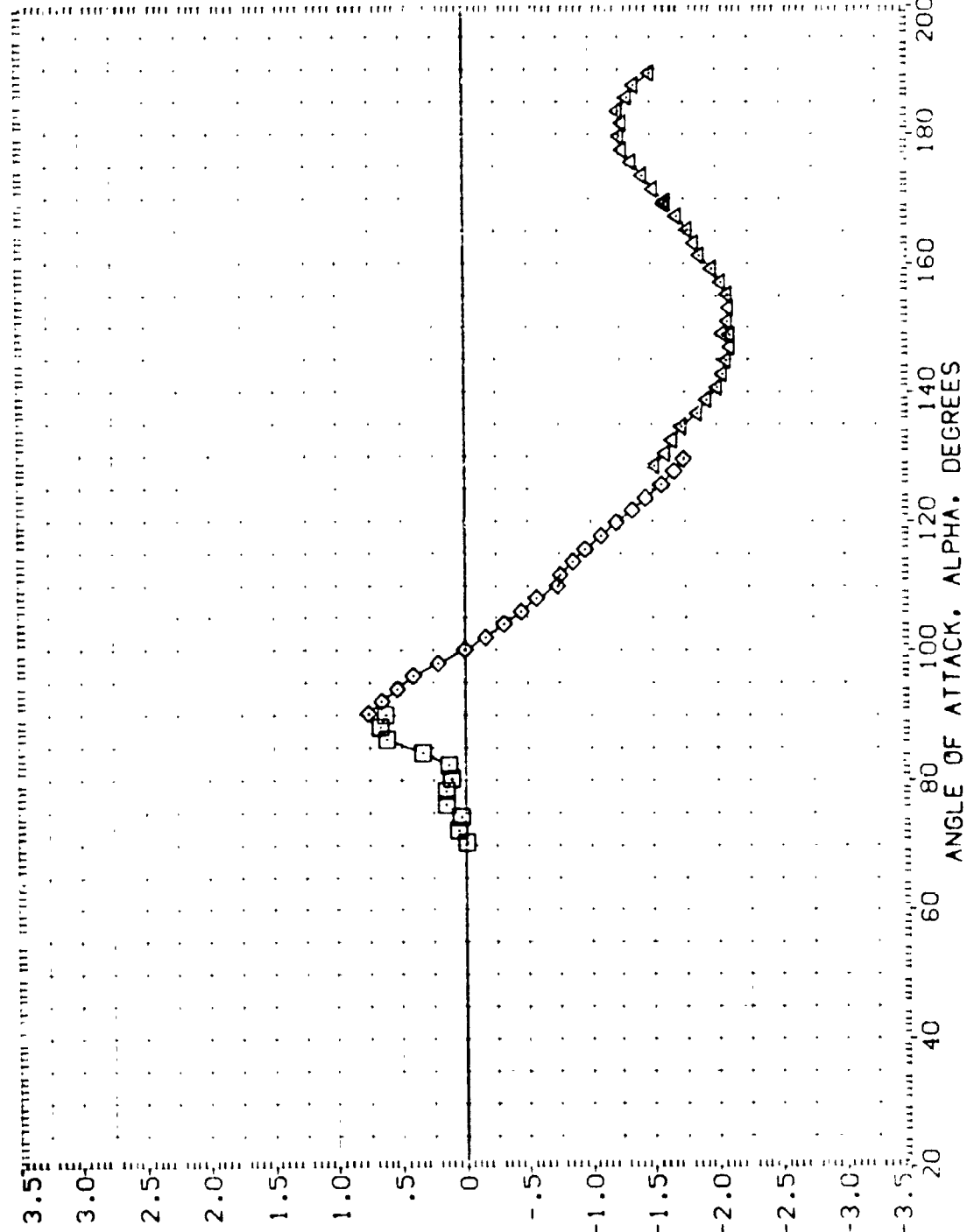


FIGURE 23. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 180)

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H007) DATA NOT AVAILABLE

(A1H054) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H107) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H007) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.1210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

PHI

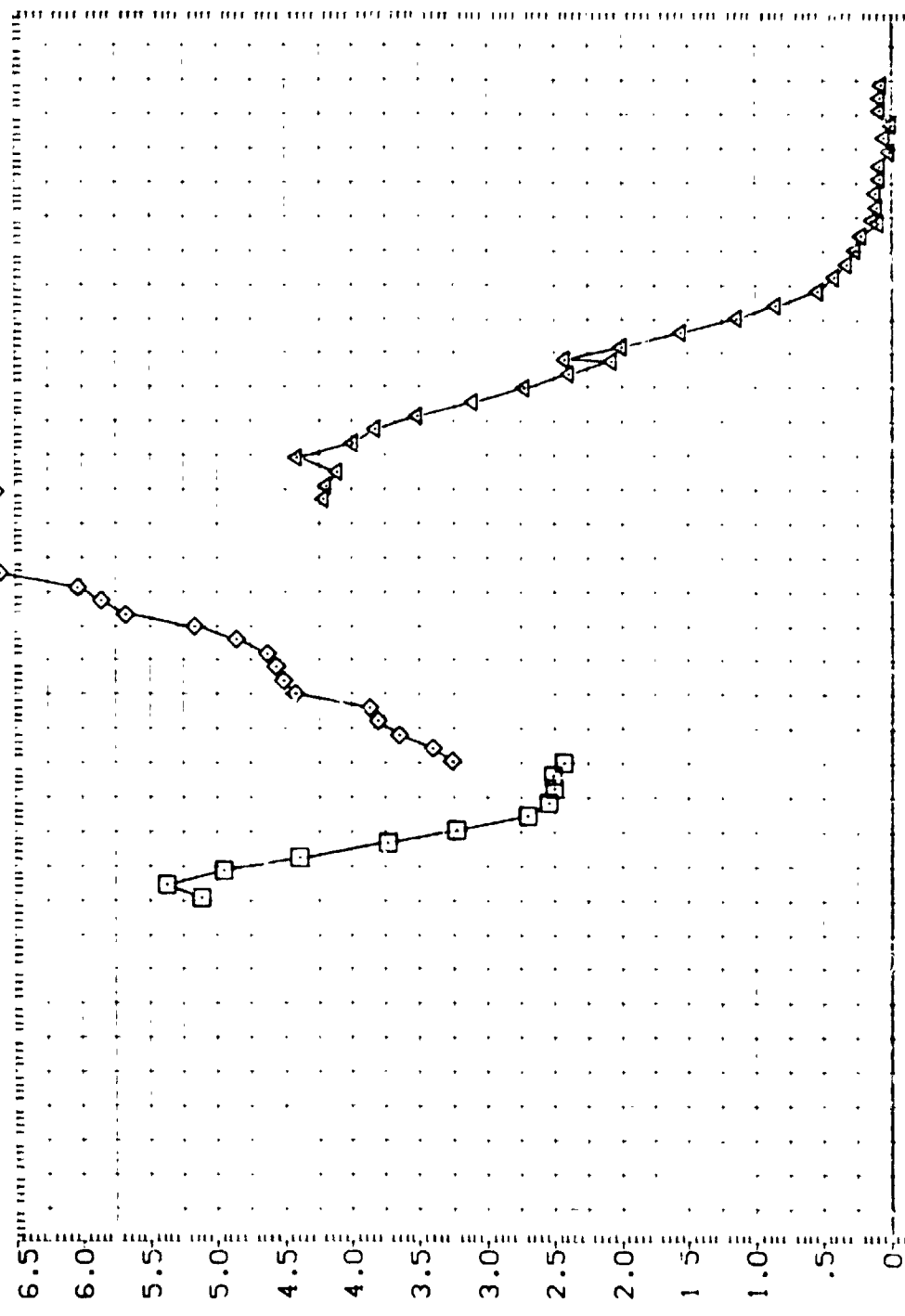
180.000

180.000

180.000

180.000

SIDE FORCE COEFFICIENT, C_{YM} (MISSILE AXIS SYSTEM)



ANGLE OF ATTACK, ALPHA, DEGREES

20 40 60 80 100 120 140 160 180 200

FIGURE 23. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 130)

(A)MACH = .40

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H07) DATA NOT AVAILABLE 180.000
 (A1H04) MSFC TW1504 (SABF) SRB WITH ALL PROTUBERANCES 180.000
 (A1H07) MSFC TW1504 (SABF) SRB WITH ALL PROTUBERANCES 180.000
 (A1H07) MSFC TW1501 (SABF) SRB WITH ALL PROTUBERANCES 180.000

REFERENCE INFORMATION

SREF 50.30 SQ. IN.
 REF 3000 IN.
 BREF 3000 IN.
 XIRP 5.710 IN. YS
 YMRP 10000 IN. ZS
 ZMRP 10000 IN. ZS
 SCALE .0055

YAWING MOMENT COEFFICIENT, C_{YM} (MISSILE AXIS SYSTEM)

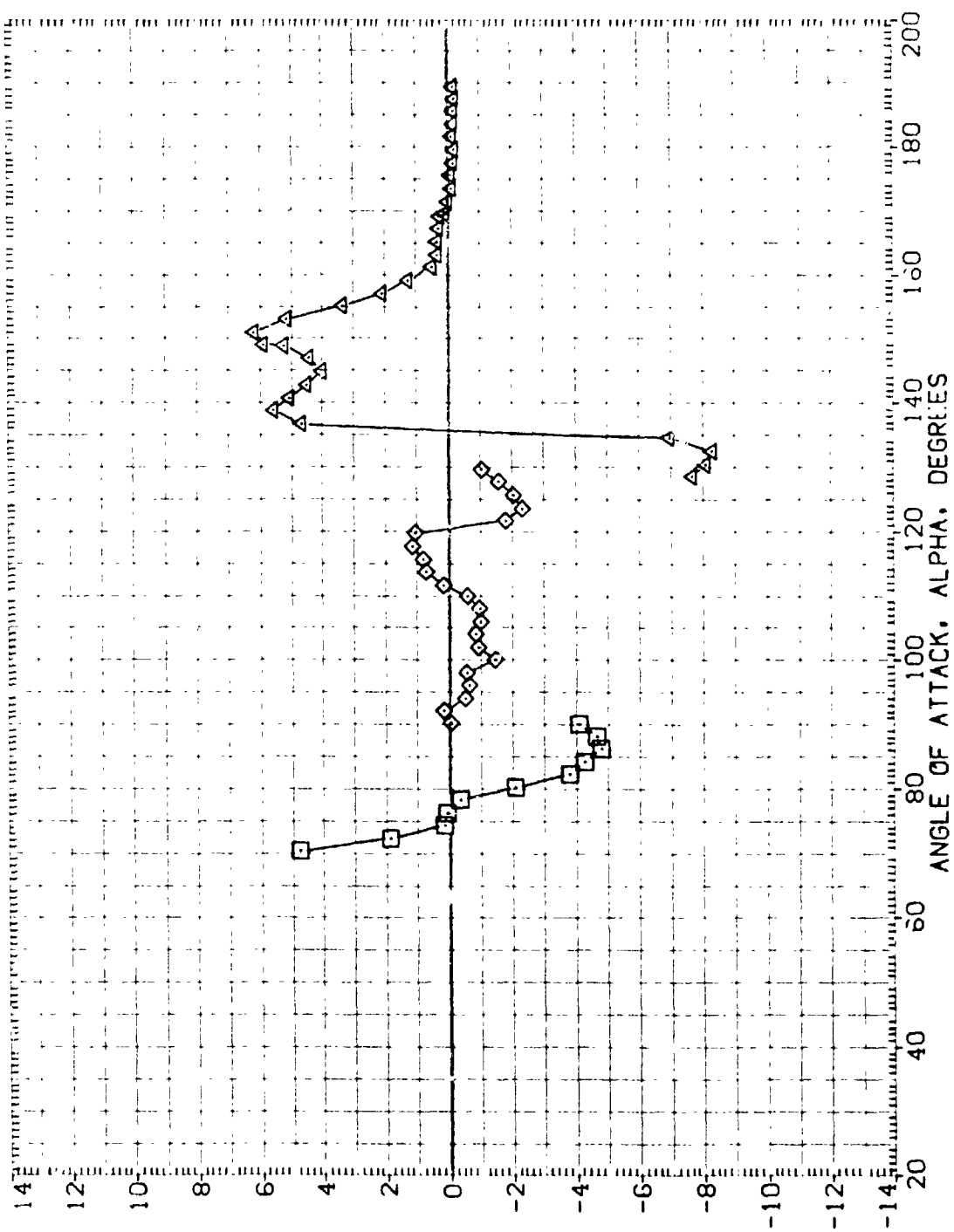


FIGURE 23. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 180)

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H07) DATA NOT AVAILABLE

(A1H054) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H007) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H007) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI

180.000

180.000

180.000

180.000

REFERENCE INFORMATION

SREF .5030 SQ.IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

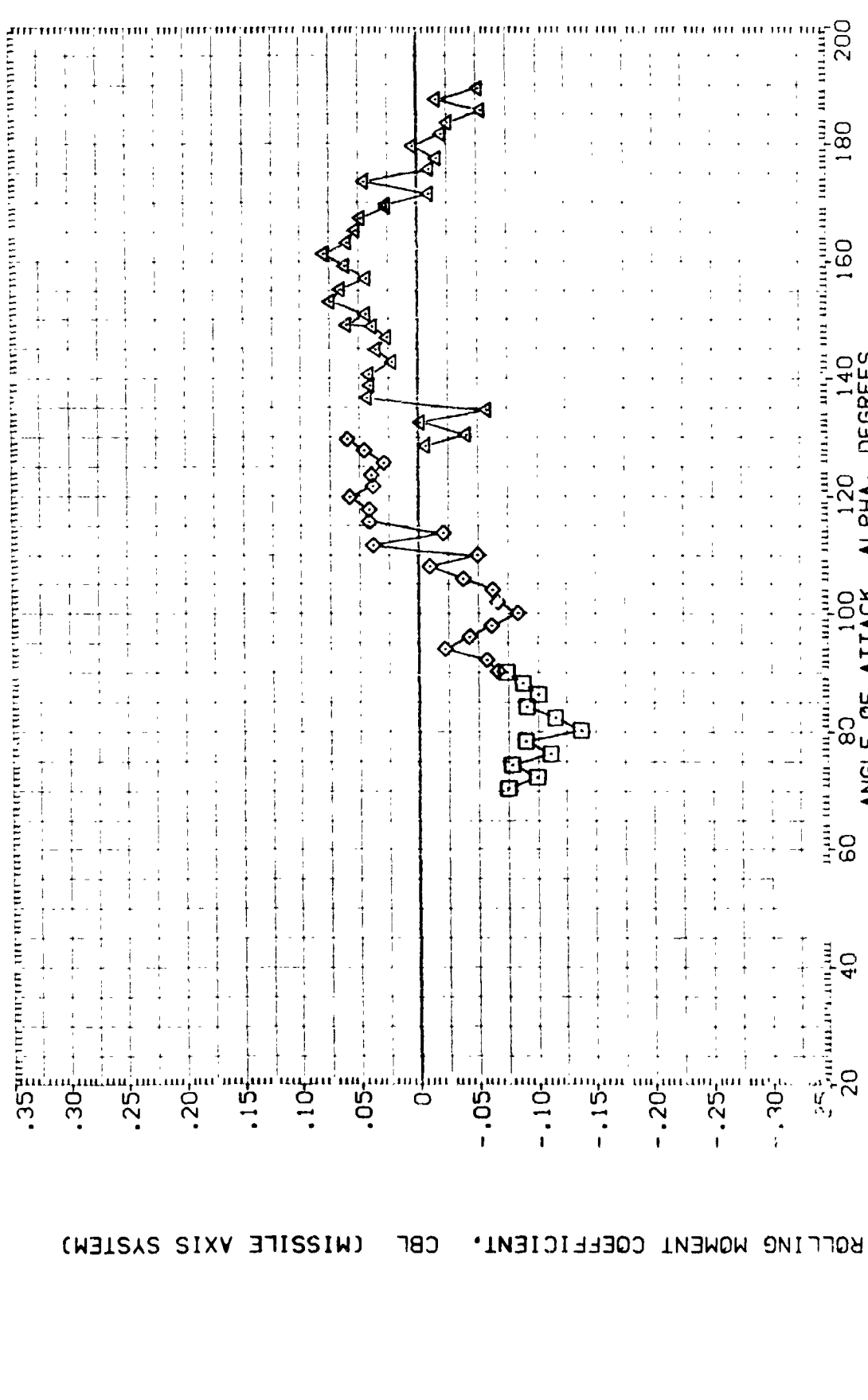


FIGURE 23. STATIC STABILITY CHARACTER OF SRB W/ALL PROTUBERANCES (PHI = 180)

REFERENCE INFORMATION

SREF	.5030	SQ. IN.
LREF	.8000	IN.
BREF	.8000	IN.
XMRP	5.7210	IN. XS
YMRP	.0000	IN. YS
ZMRP	.0000	IN. ZS
SCALE	.0055	

PHI

180.000
180.000
180.000
180.000

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(AIH007)	DATA NOT AVAILABLE
(AIH054)	MFC TVT504 (SABF) SRB WITH ALL PROTUBERANCES
(AIH007)	MFC TVT504 (SABF) SRB WITH ALL PROTUBERANCES
(AIH007)	MSFC TVT504 (SABF) SRB WITH ALL PROTUBERANCES

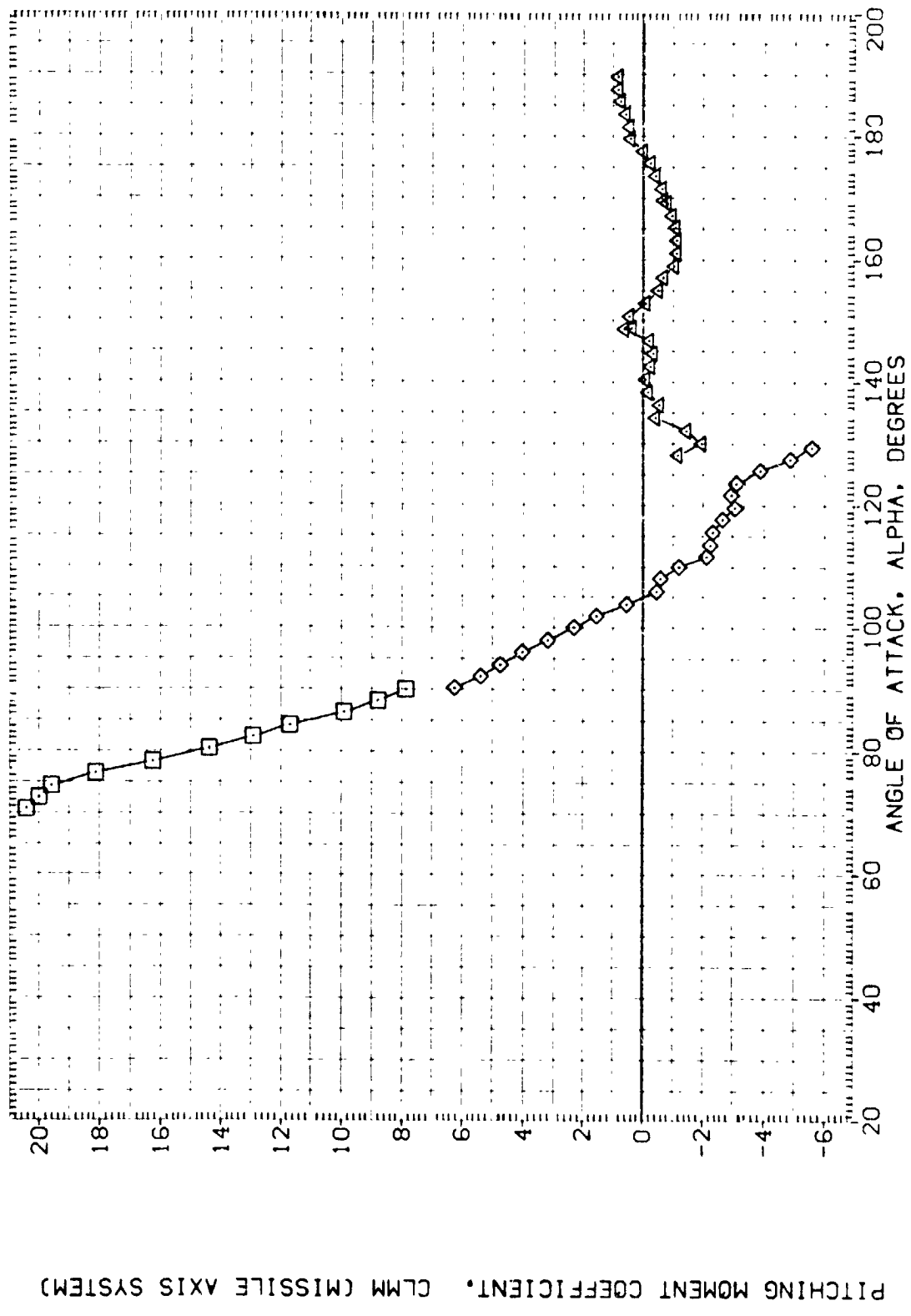


FIGURE 23. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 180)
 (B)MACH = .60

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H007) DATA NOT AVAILABLE 180.000

(A1H054) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

(A1H007) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

(A1H007) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

REFERENCE INFORMATION

SREF 50.30 SQ. IN.

LREF .8000 IN.

EREF 8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

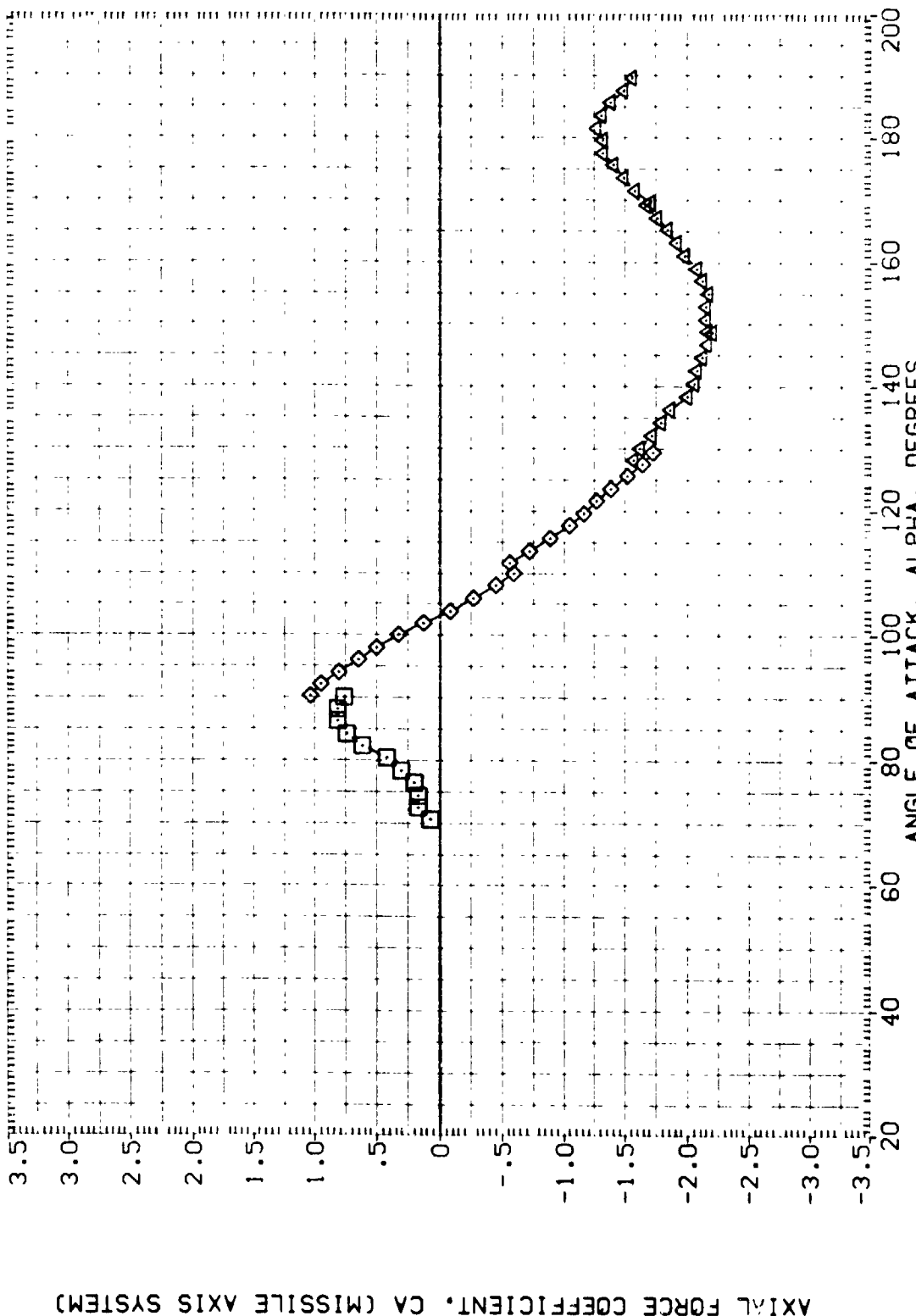


FIGURE 23. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 180)

(B)MACH = .60

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H007) DATA NOT AVAILABLE 180.000

(A1H054) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

(A1H07) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

(A1H007) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

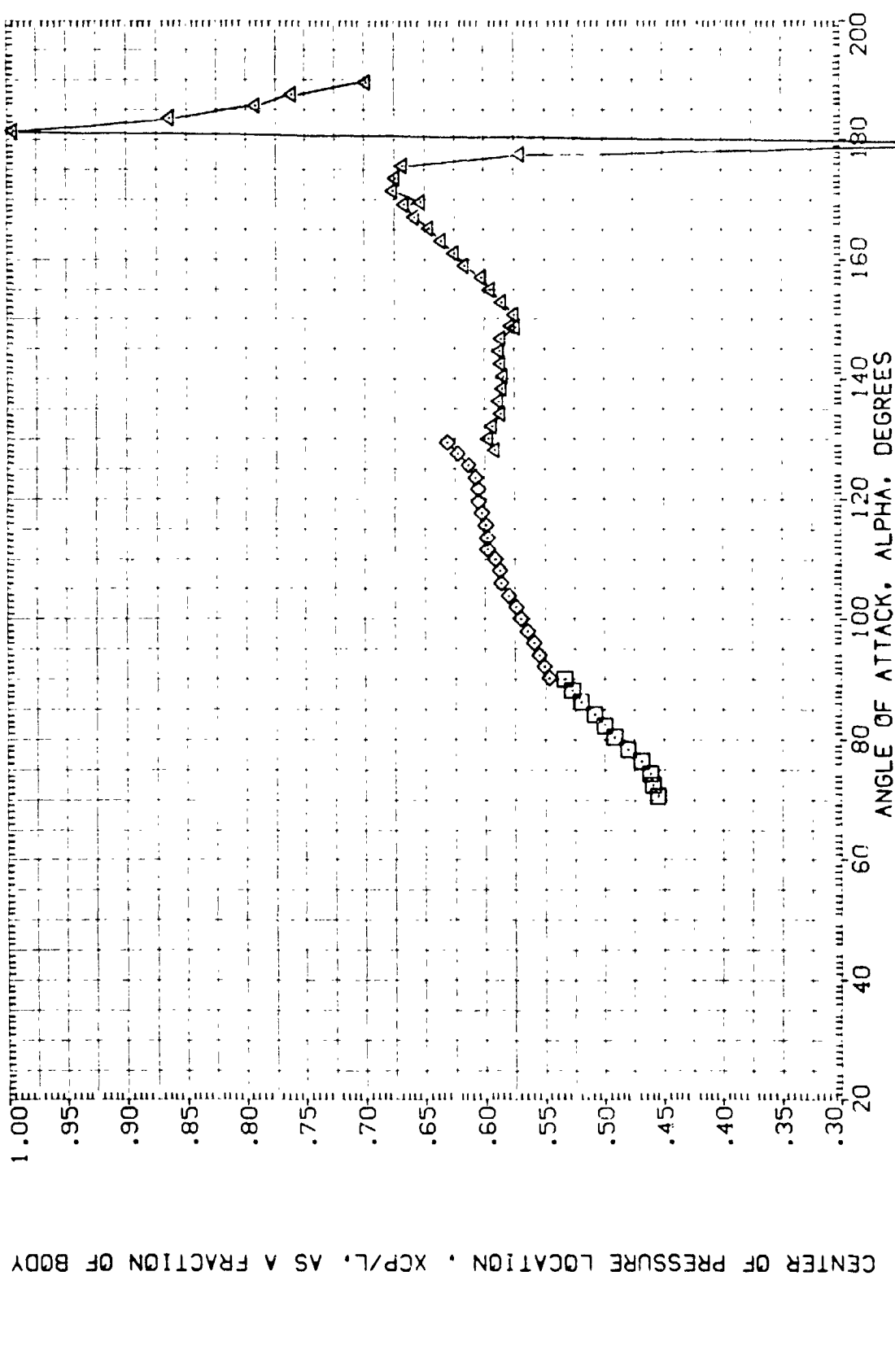


FIGURE 23. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 180)

(B)MACH = .60

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H07) DATA NOT AVAILABLE 180.000

(A1H04) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

(A1H07) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

(A1H07) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .9000 IN.

BREF .9000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

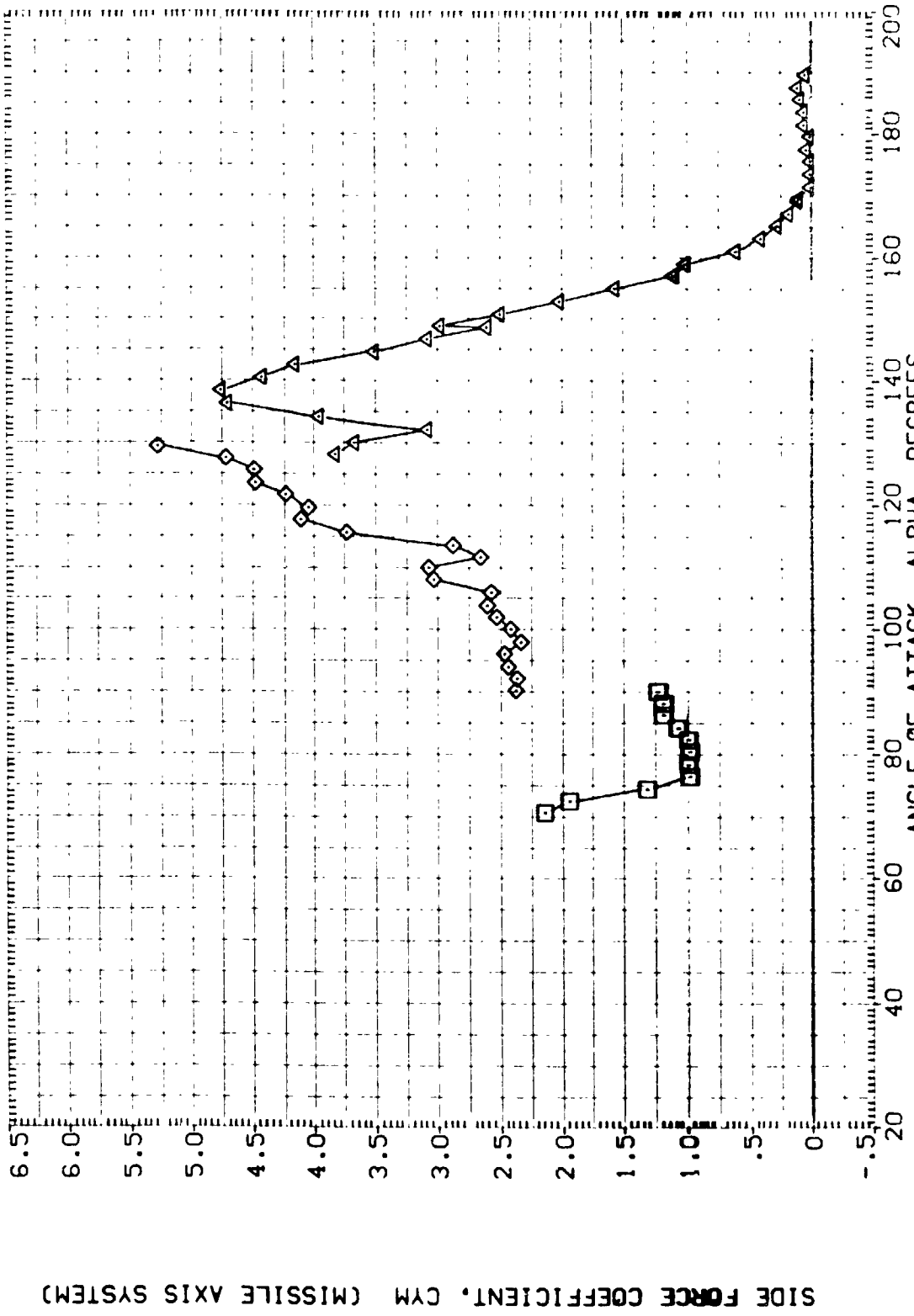


FIGURE 23. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 180)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H007) DATA NOT AVAILABLE 180.000

(A1H054) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

(A1H007) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

(A1H007) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

REFERENCE INFORMATION

SREF 5030 SQ. IN.

LREF 8000 IN.

BREF 8000 IN.

X-TRP 5.7210 IN. XS

Y-TRP .0000 IN. YS

Z-TRP .0000 IN. ZS

SCALE .0055

YAWING MOMENT COEFFICIENT, C_{YM} (MISSILE AXIS SYSTEM)

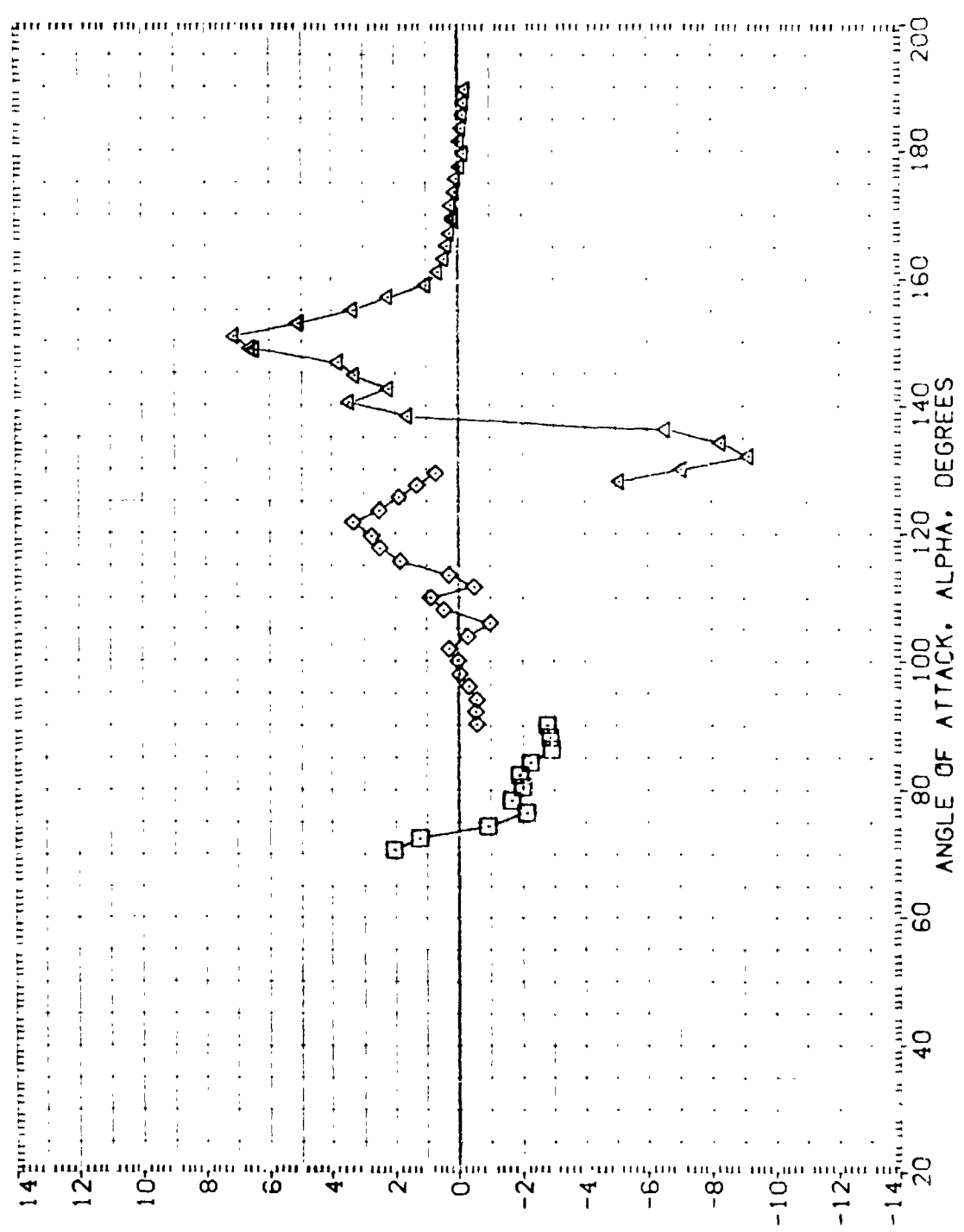


FIGURE 23. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 180)

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H007) DATA NOT AVAILABLE

(A1H054) MSFC TW1604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H07) MSFC TW1604 (CABF) SRB WITH ALL PROTUBERANCES

(A1H007) MSFC TW1604 (SABF) SRB WITH ALL PROTUBERANCES

PHI

180.000

180.000

180.000

REFERENCE INFORMATION

SREF 5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7710 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

ROLLING MOMENT COEFFICIENT, CRL (MISSILE AXIS SYSTEM)

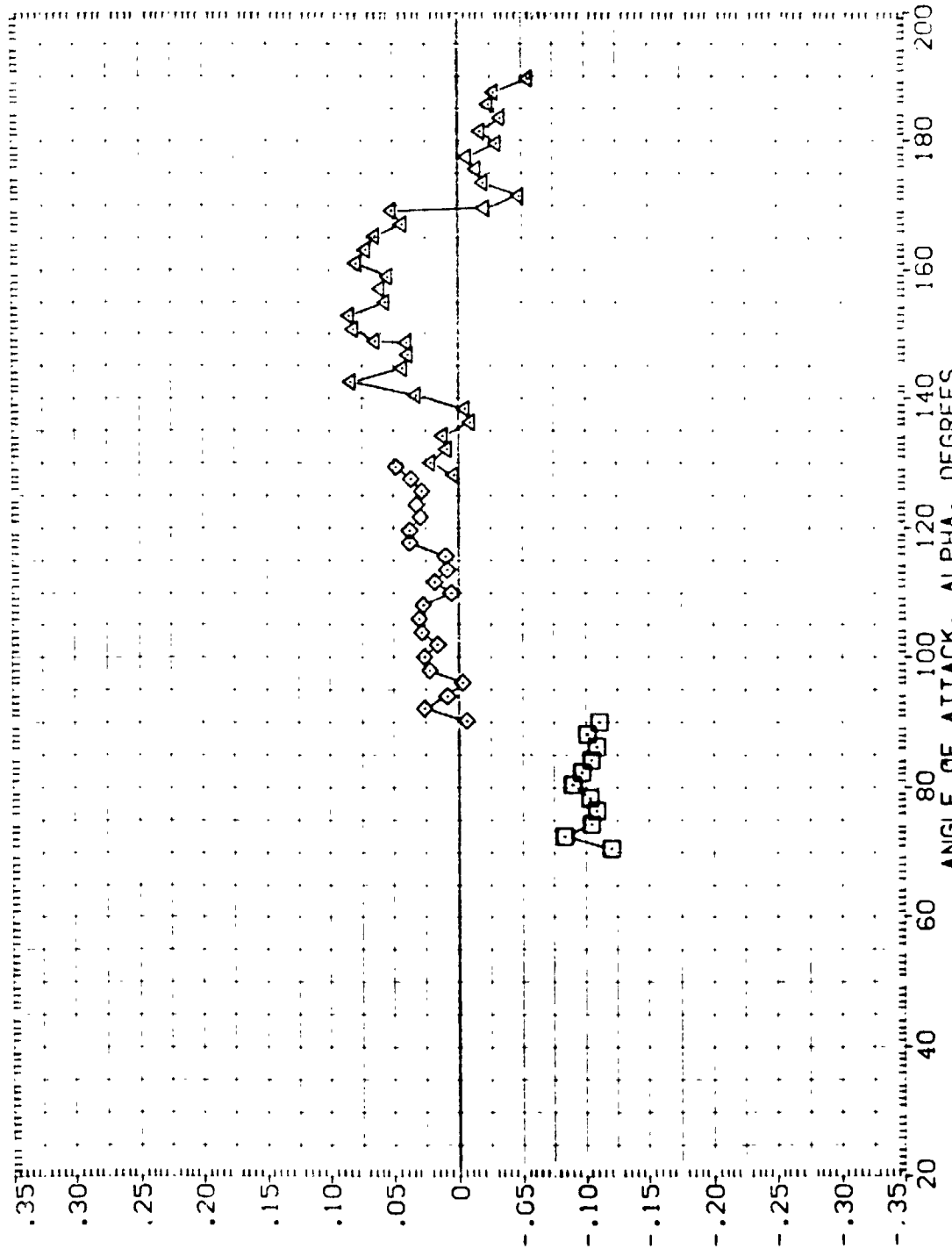


FIGURE 23. STATIC STABILITY CHARACTERISTICS OF SRB W/ALL PROTUBERANCES (PHI = 180)

(B) MACH = .60

REFERENCE INFORMATION
 SREF .5030 SQ.IN
 LREF .6000 IN.
 DREF .8000 IN.
 YMRP 5.7210 IN. XS
 ZMRP .0000 IN. YS
 SCALE .0055 IN. ZS

PHI
 180.000
 180.000
 180.000
 180.000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H07) DATA NOT AVAILABLE
 (A1H04) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H07) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H07) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES

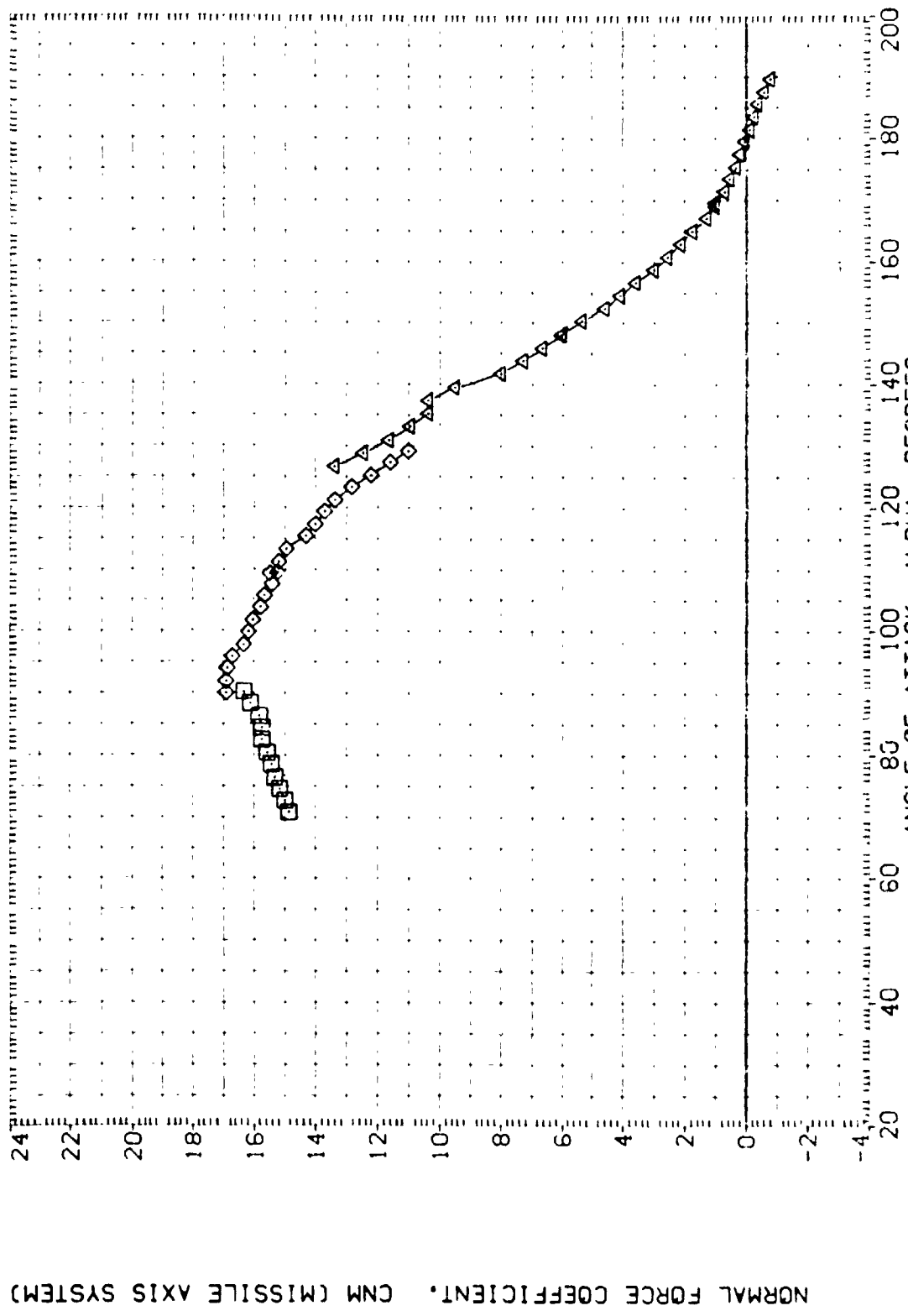


FIGURE 23. STATIC STABILITY CHARACT. OF SRB W/WALL PROTUBERANCES (PHI = 180)

(C)MACH = .90

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H007) DATA NOT AVAILABLE 180.000

(A1H054) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

(A1H007) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

(A1H007) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

REFERENCE INFORMATION

SRREF 3030 SQ. IN.

LRREF 8000 IN.

BRFF 8000 IN.

X-IMP 5.7210 IN. XS

Z-MRP .0000 IN. YS

SCALE .0055 IN.

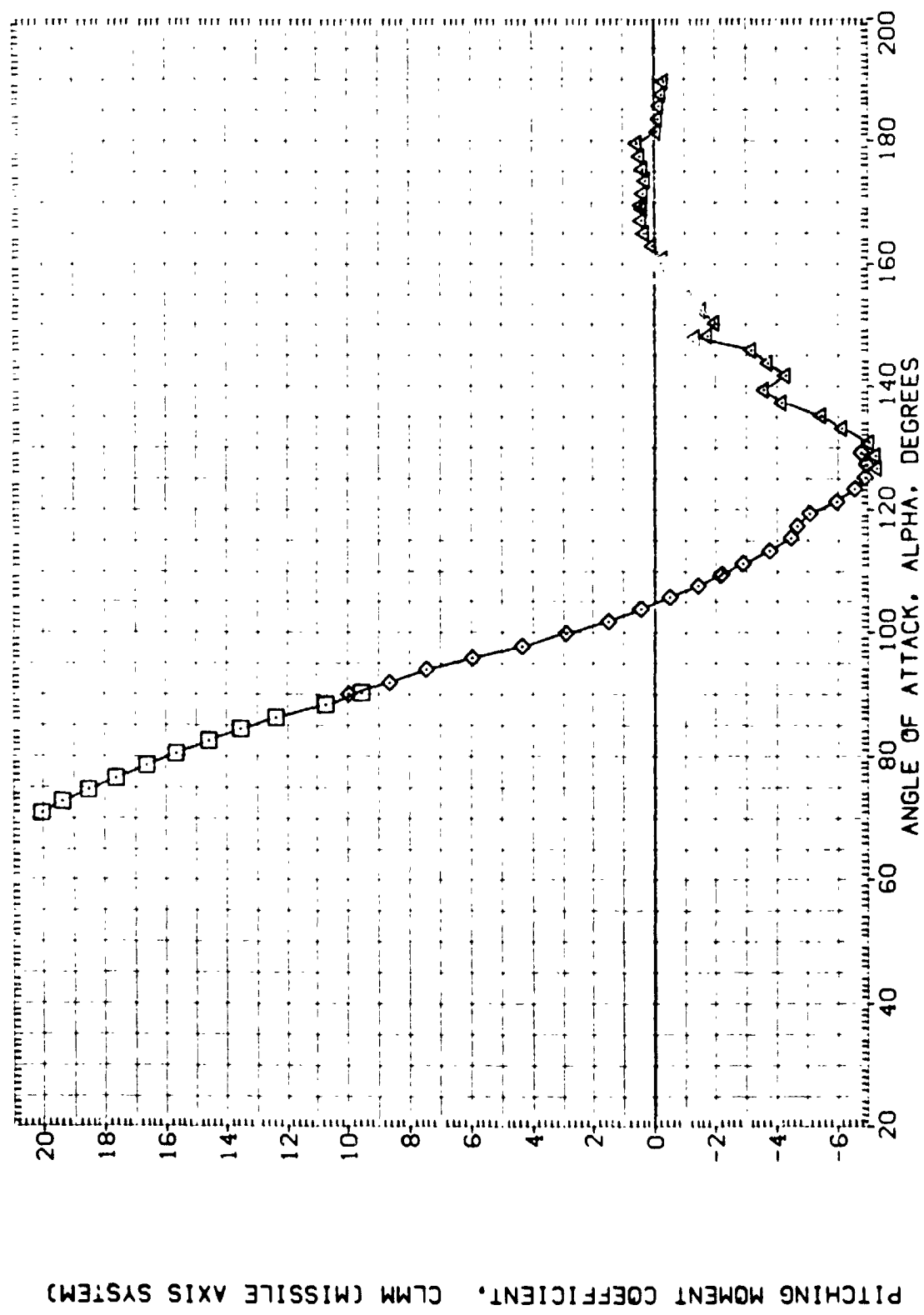


FIGURE 23. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 180)

(C)MACH = .90

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H07) DATA NOT AVAILABLE 180.000

(A1H054) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

(A1H007) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

(A1H007) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

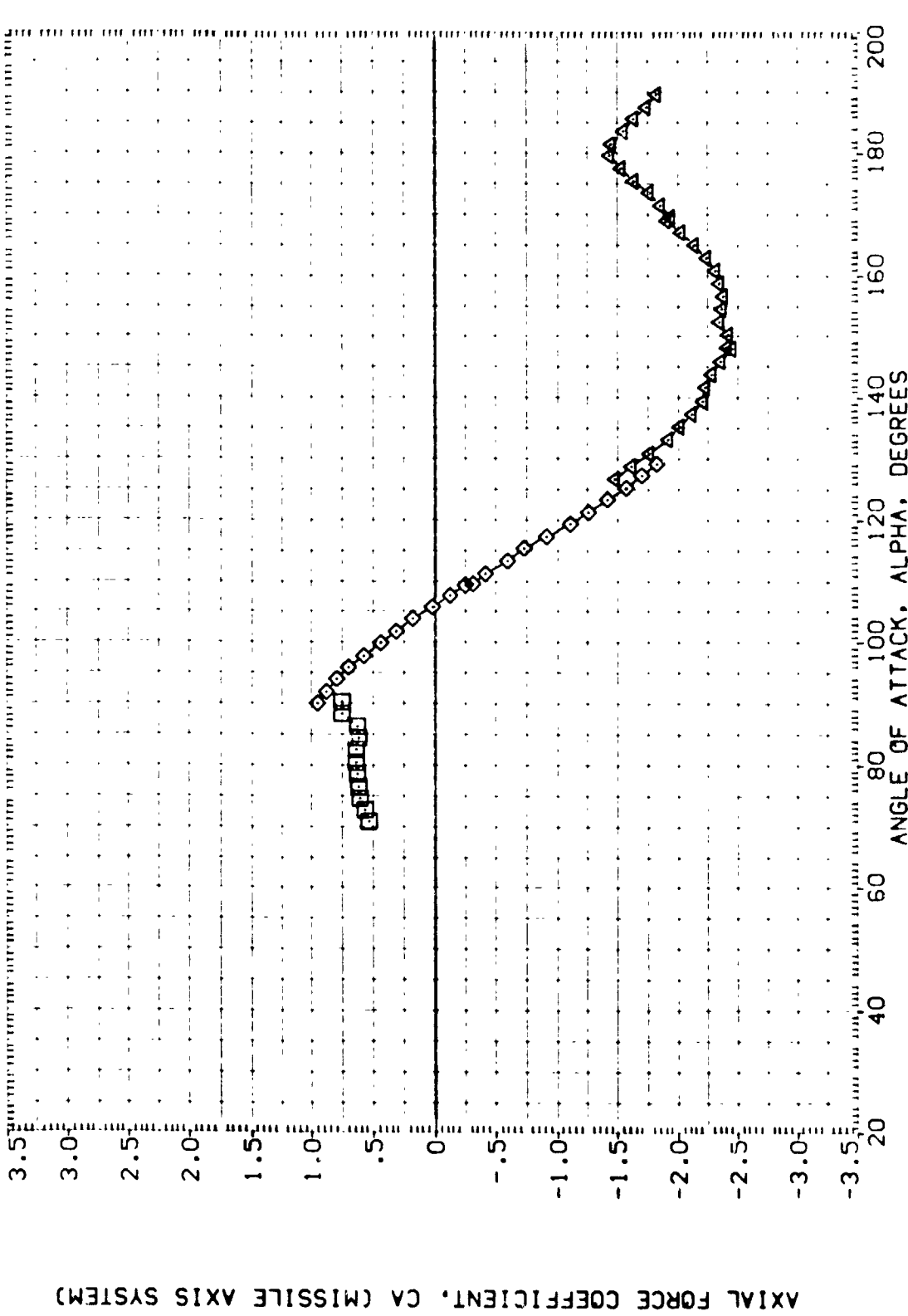


FIGURE 23. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 180)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H007) DATA NOT AVAILABLE 180.000

(A1H054) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

(A1H007) MSFC TV16L4 (SABF) SRB WITH ALL PROTUBERANCES 180.000

(A1H007) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XTRP 5.7210 IN. X5

YTRP .0000 IN. Y5

ZTRP .0000 IN. Z5

SCALE .0055

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

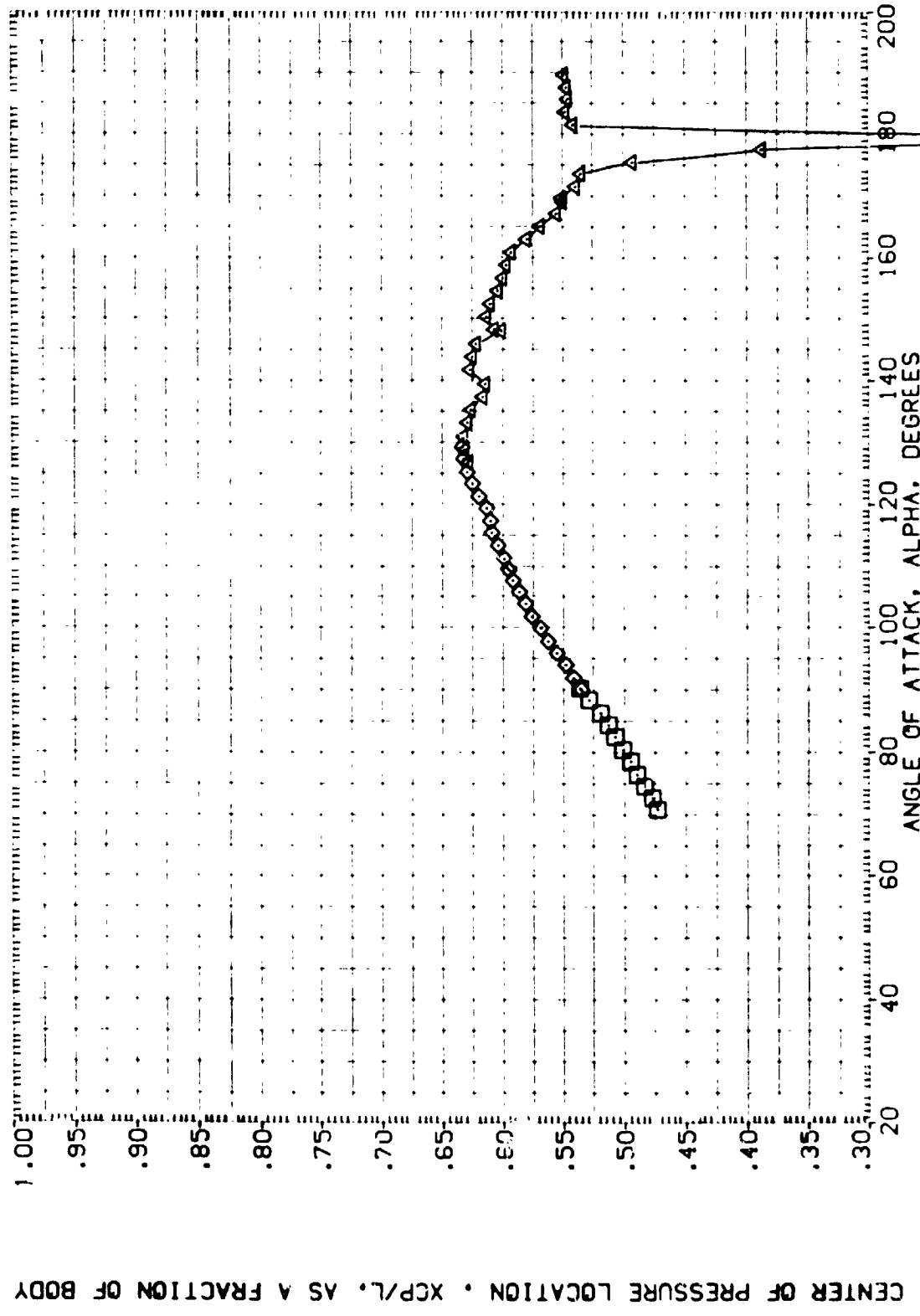


FIGURE 23. STATIC STABILITY CHARACTER OF SRB W/ALL PROTUBERANCES (PHI = 180)

(C)MACH = .90

ATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1)C07) DATA NOT AVAILABLE 180.000

(A1)C04) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

(A1)C03) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

(A1)C02) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

REFERENCE INFORMATION

SREF .5C30 SQ. IN.

LREF .8C00 IN.

BREF .8C00 IN.

XPRP 5.7210 IN. XS

YPRP .0C00 IN. YS

ZPRP .0C00 IN. ZS

SCALE .0C55

DATA NOT AVAILABLE

MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

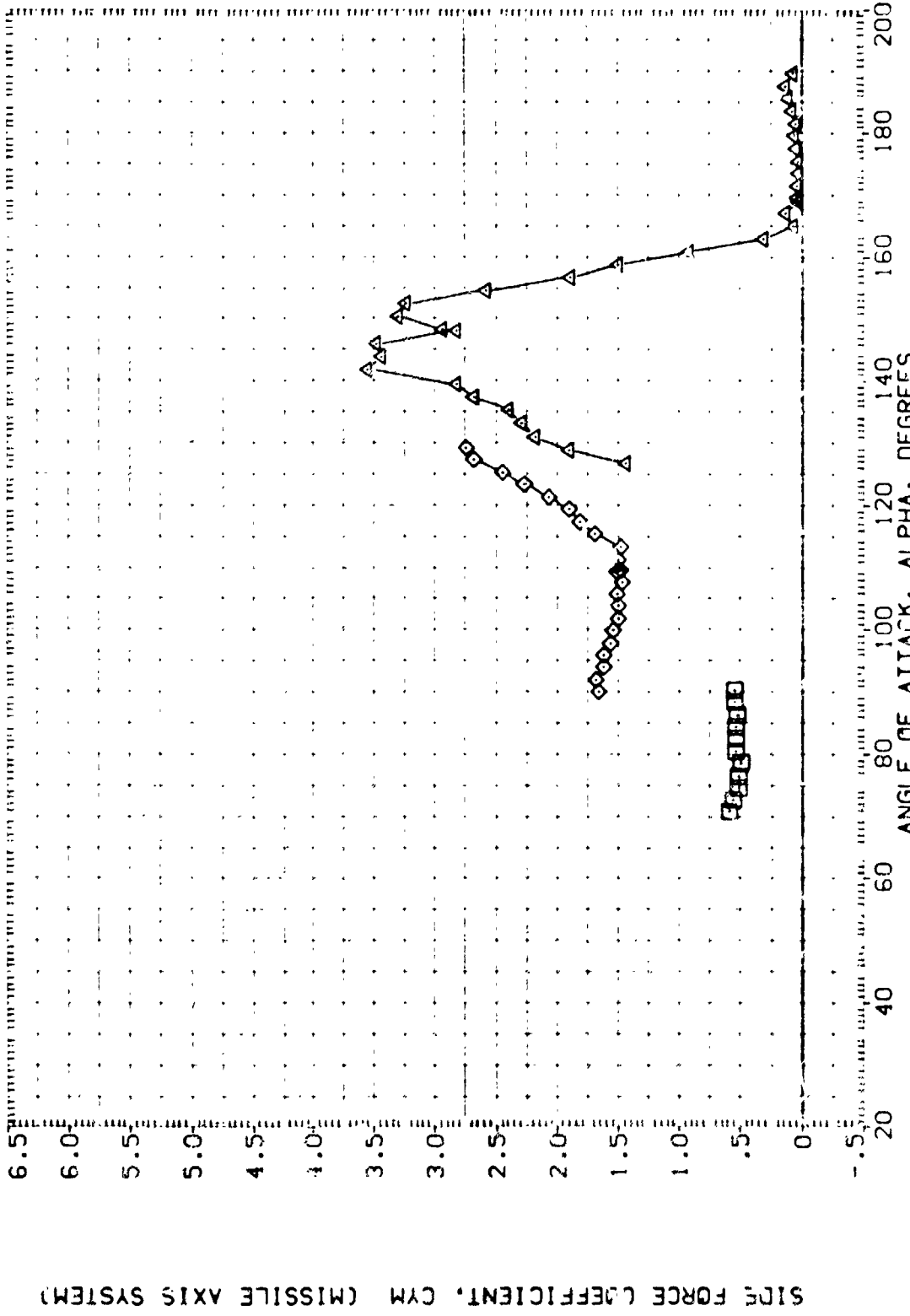


FIGURE 23. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 180)

(C)MACH = .90

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H007) DATA NOT AVAILABLE

(A1H054) MSFC TWT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H077) MSFC TWT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H007) MSFC TWT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI

180.000

180.000

180.000

180.000

REFERENCE INFORMATION

SRCF .503C SQ. IN.

LREF .800C IN.

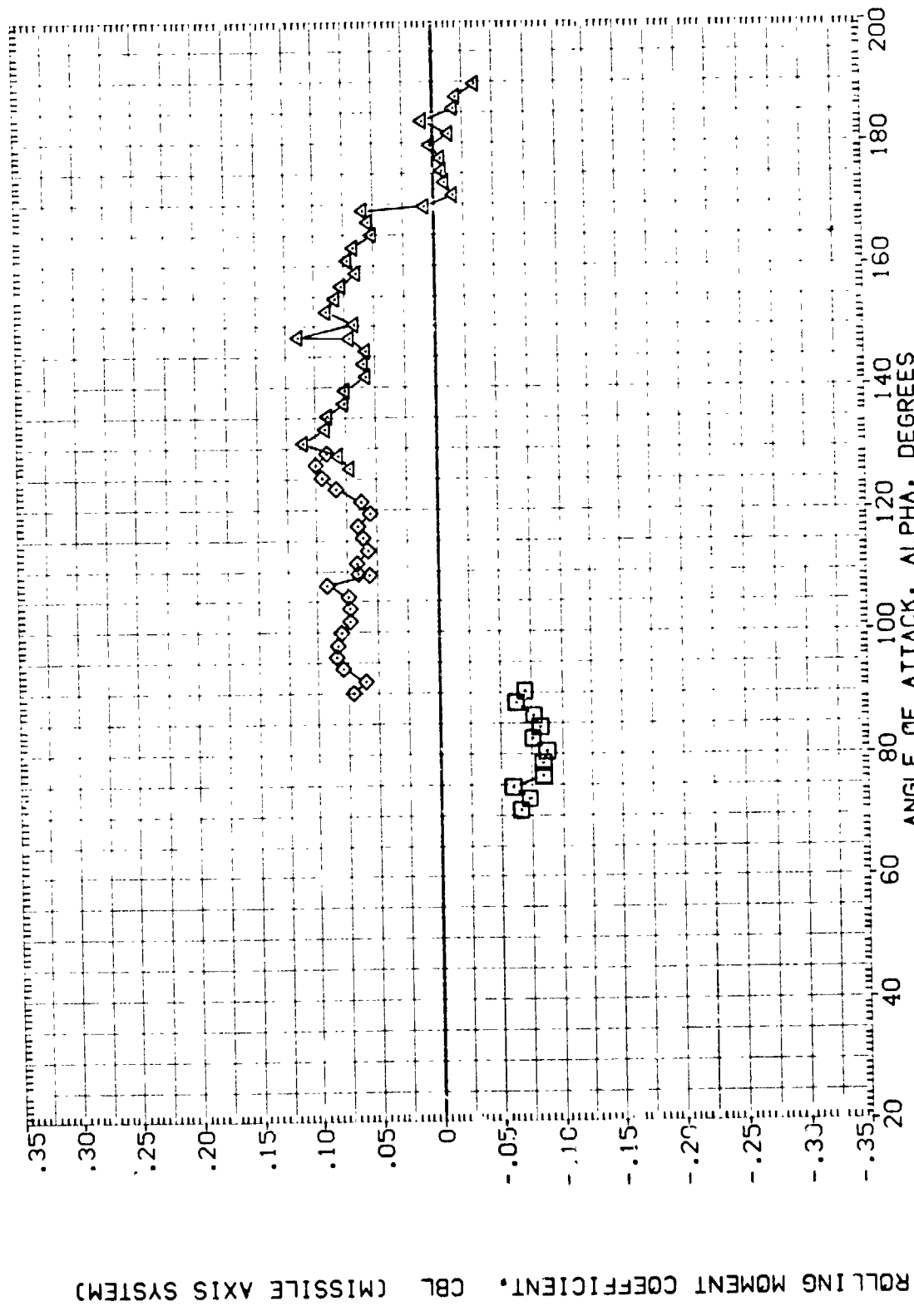
BREF .800C IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055



ROLLING MOMENT COEFFICIENT, CBL (MISSILE AXIS SYSTEM)

ANGLE OF ATTACK, ALPHA, DEGREES

FIGURE 23. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 180)

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H007) DATA NOT AVAILABLE
 (A1H054) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H007) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H007) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

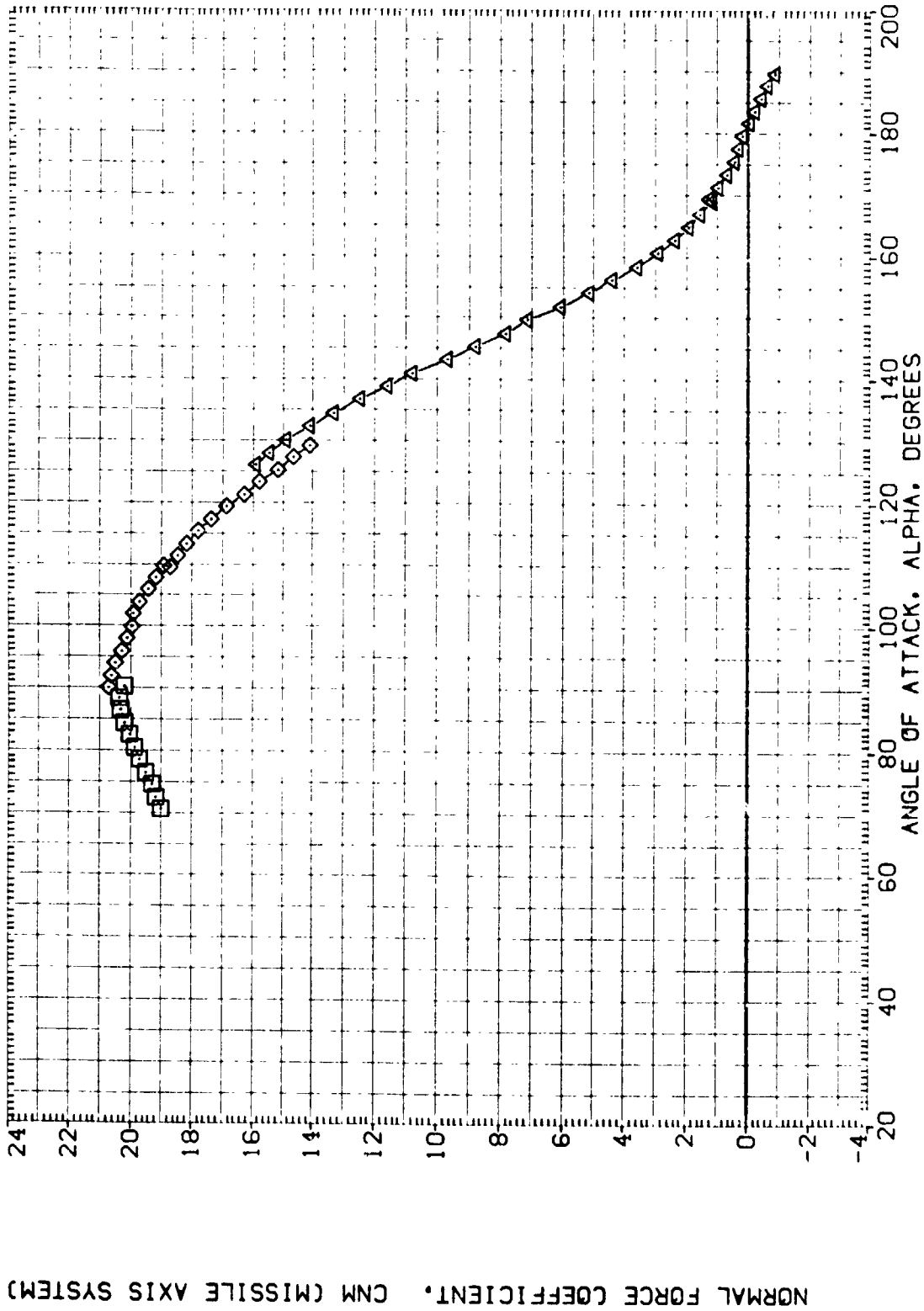


FIGURE 23. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 180)

(D)MACH = 1.20

REFERENCE INFORMATION

SREF	.5130	IN.
LREF	.8000	IN.
BREF	.9300	IN.
XMRP	5.7210	IN.
YMRP	.0000	IN.
ZMRP	.0000	IN.
SCALE	.0055	

PHI

180.000
180.000
180.000
180.000

CONFIGURATION DESCRIPTION

DATA NOT AVAILABLE	SRB WITH ALL PROTUBERANCES
MSFC TVT604 (SABF)	SRB WITH ALL PROTUBERANCES
MSFC TVT604 (SABF)	SRB WITH ALL PROTUBERANCES
MSFC TVT604 (SABF)	SRB WITH ALL PROTUBERANCES

DATA SET SYMBOL

(A1H07)	□
(A1H054)	○
(A1H07)	△
(A1H007)	×

PITCHING MOMENT COEFFICIENT, CLM (MISSILE AXIS SYSTEM)

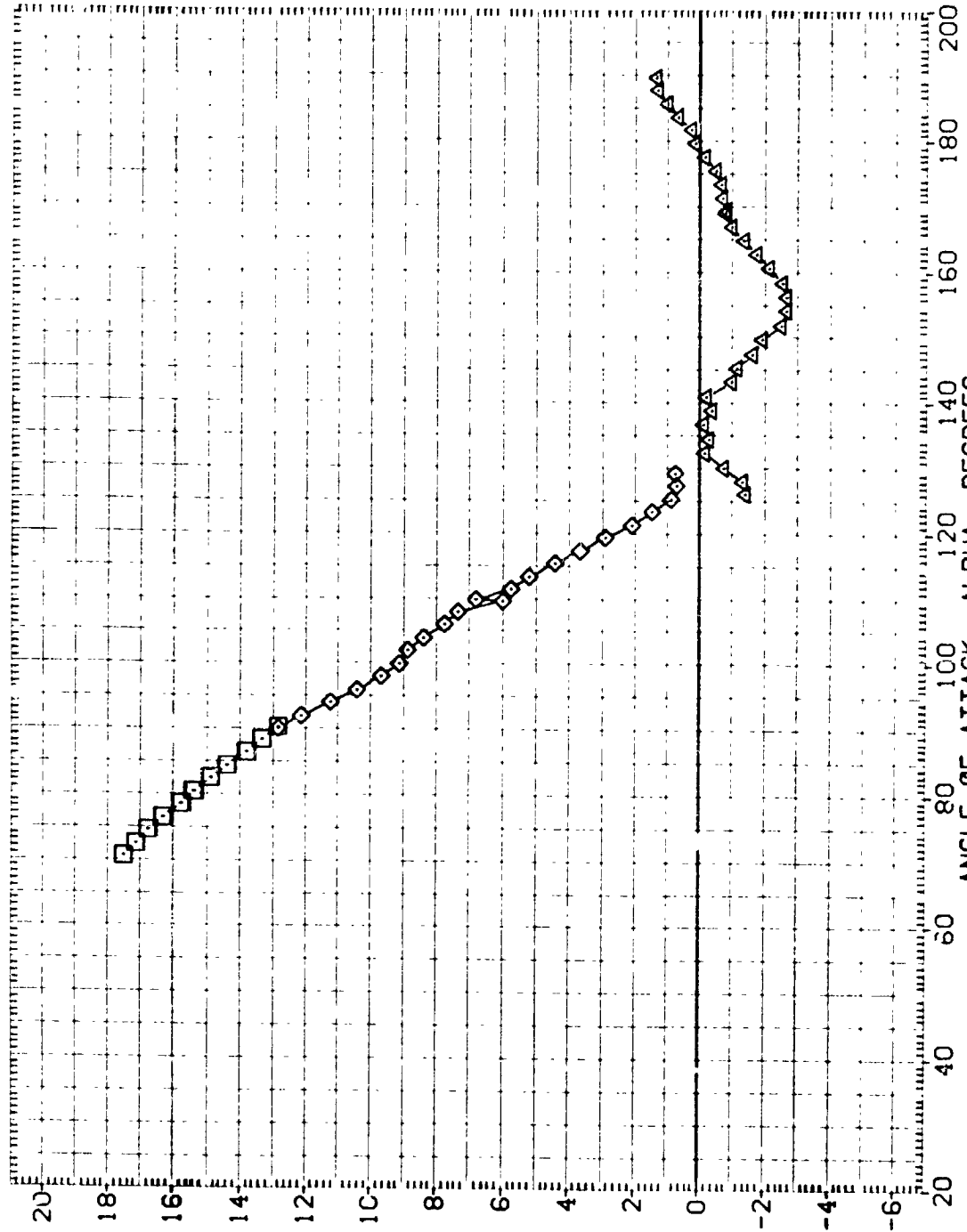


FIGURE 23. STATIC STABILITY CHARACTER OF SRB W/ALL PROTUBERANCES (PHI = 180)

(D)MACH = 1.20

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 180.000
 180.000
 180.000
 180.000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H007) DATA NOT AVAILABLE
 (A1H054) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H007) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H007) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

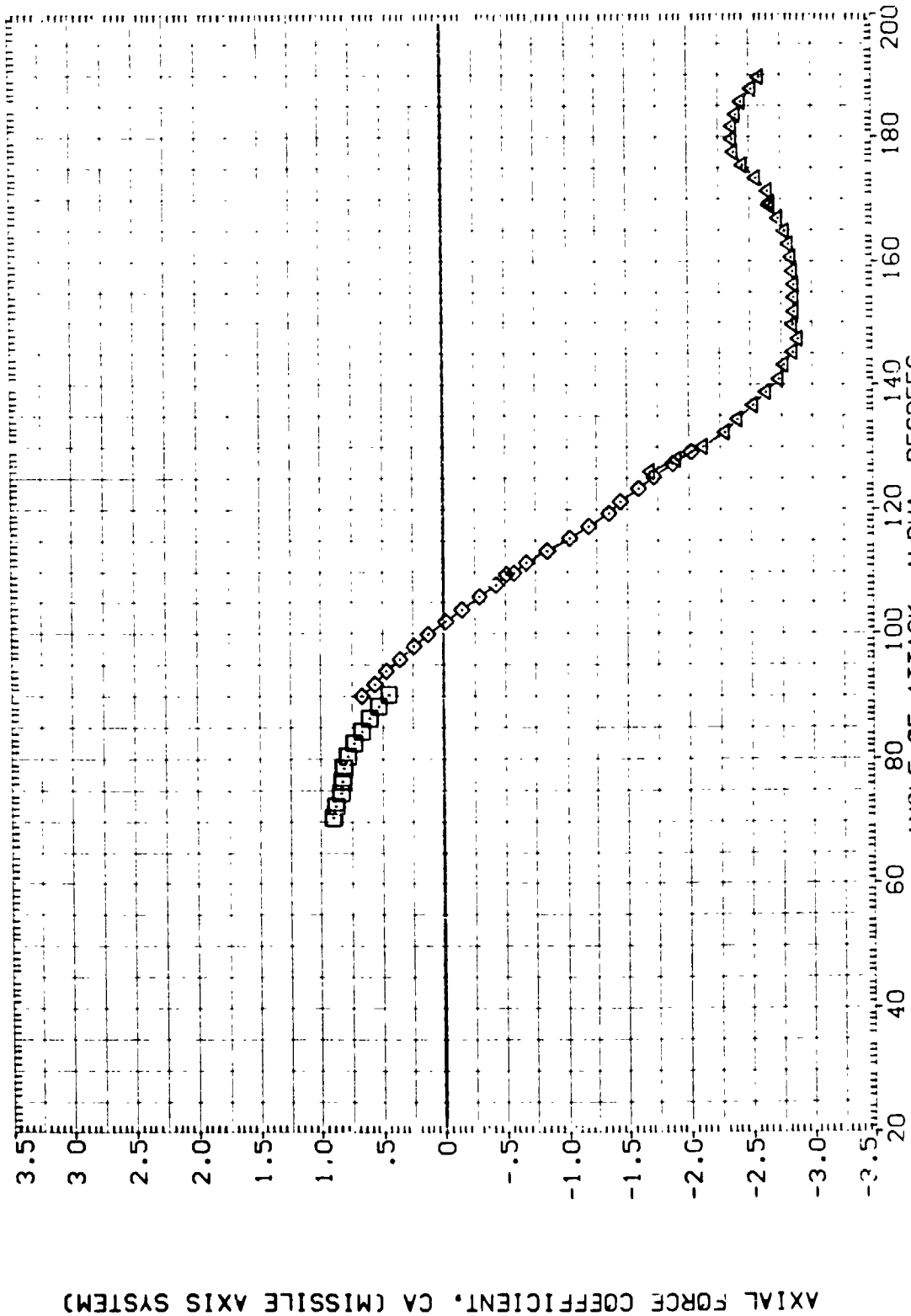


FIGURE 23. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 180)

(D)MACH = 1.20 PAGE 318

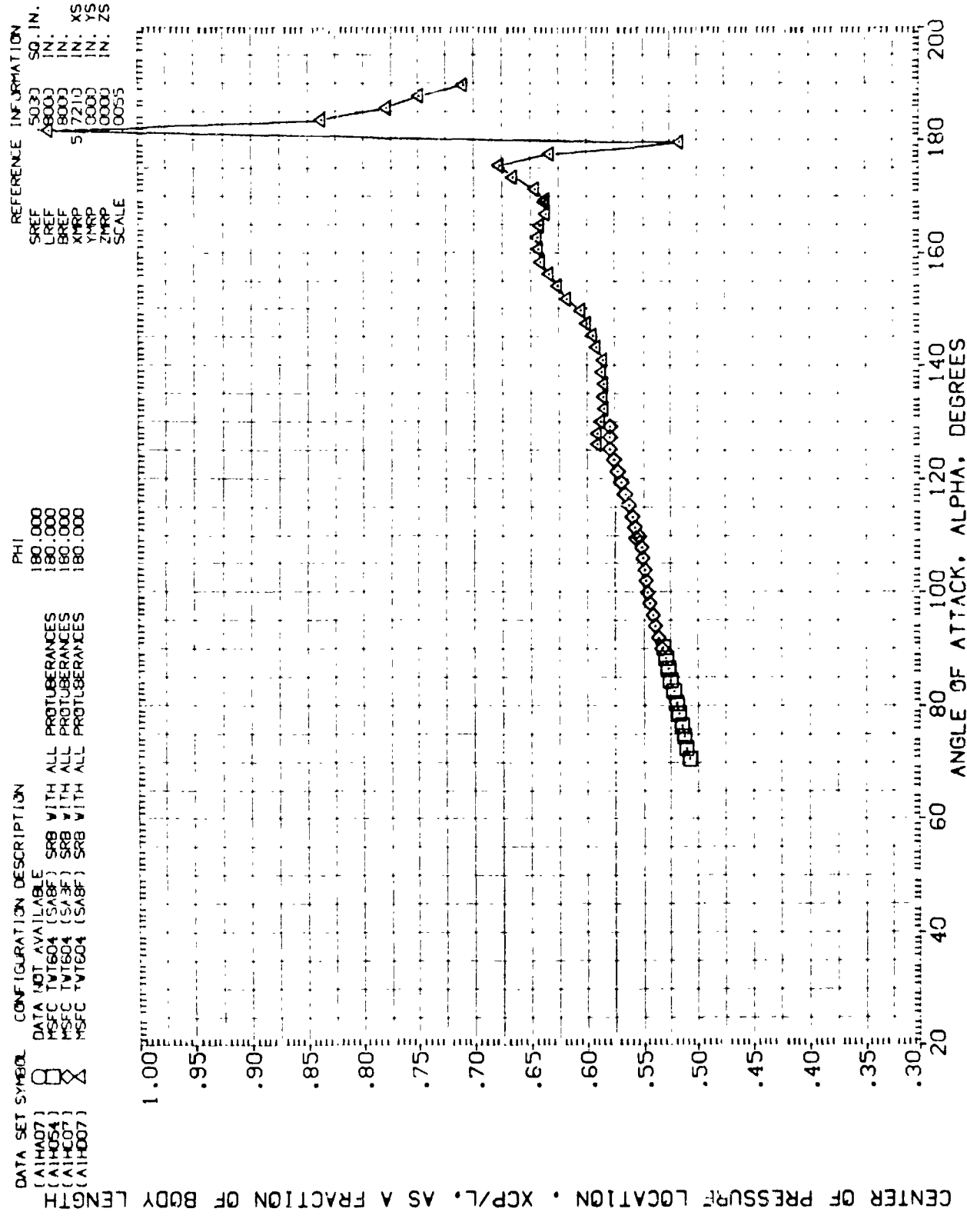


FIGURE 23. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 180)

(O)MACH = 1.20

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(A1H007)	DATA NOT AVAILABLE	180.000	SREF 5030 SQ. IN.
(A1H004)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	180.000	LREF 8000 IN.
(A1H007)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	180.000	BREF 8000 IN.
(A1H007)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	180.000	XMRP 5.7210 IN. XS
			YMRP .0000 IN. YS
			ZMRP .0000 IN. ZS
			SCALE .0055

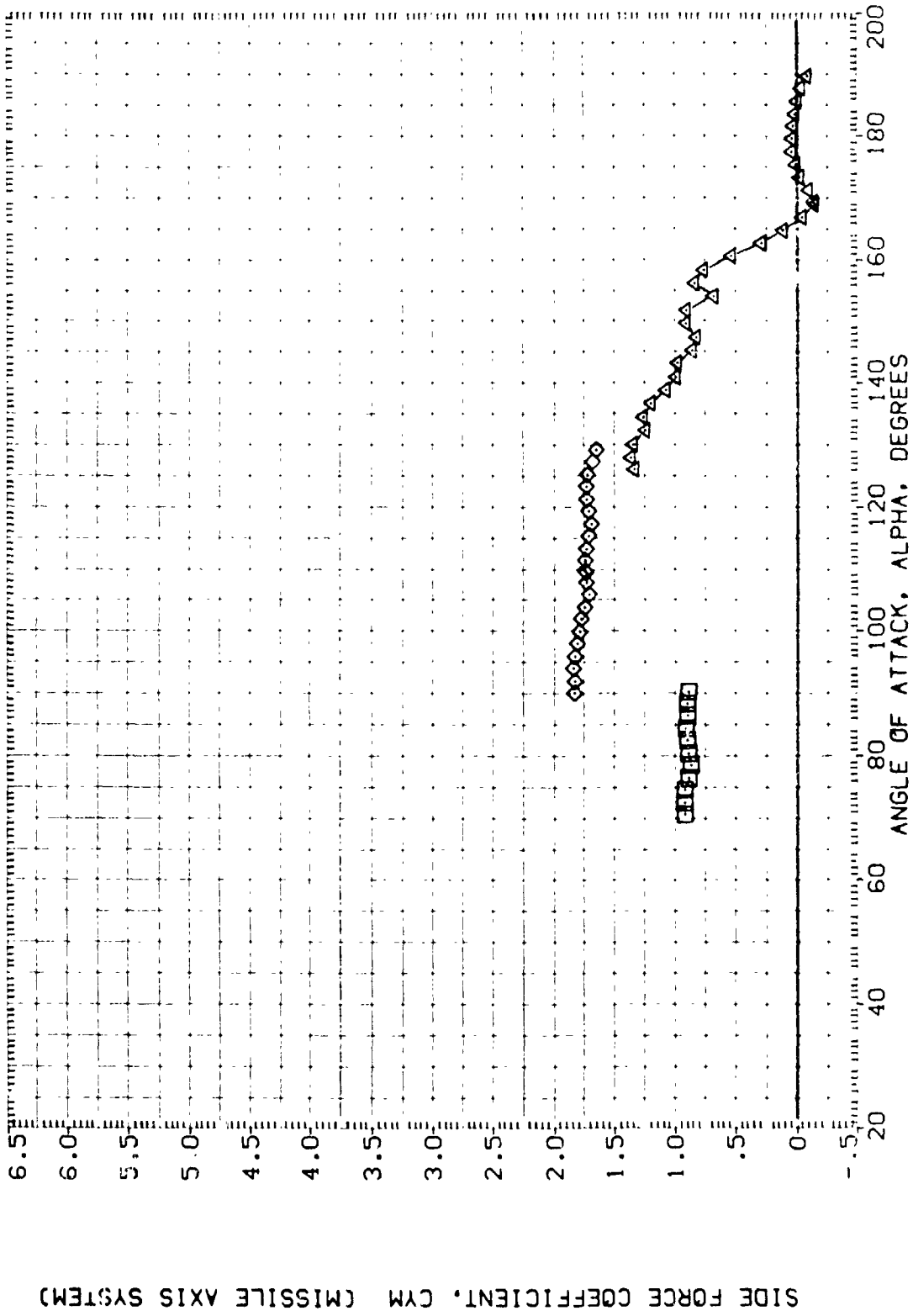


FIGURE 23. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 180)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H007) DATA NOT AVAILABLE 180.000

(A1H054) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

(A1H007) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

(A1H007) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

REFERENCE INFORMATION

SREF .5030 50. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

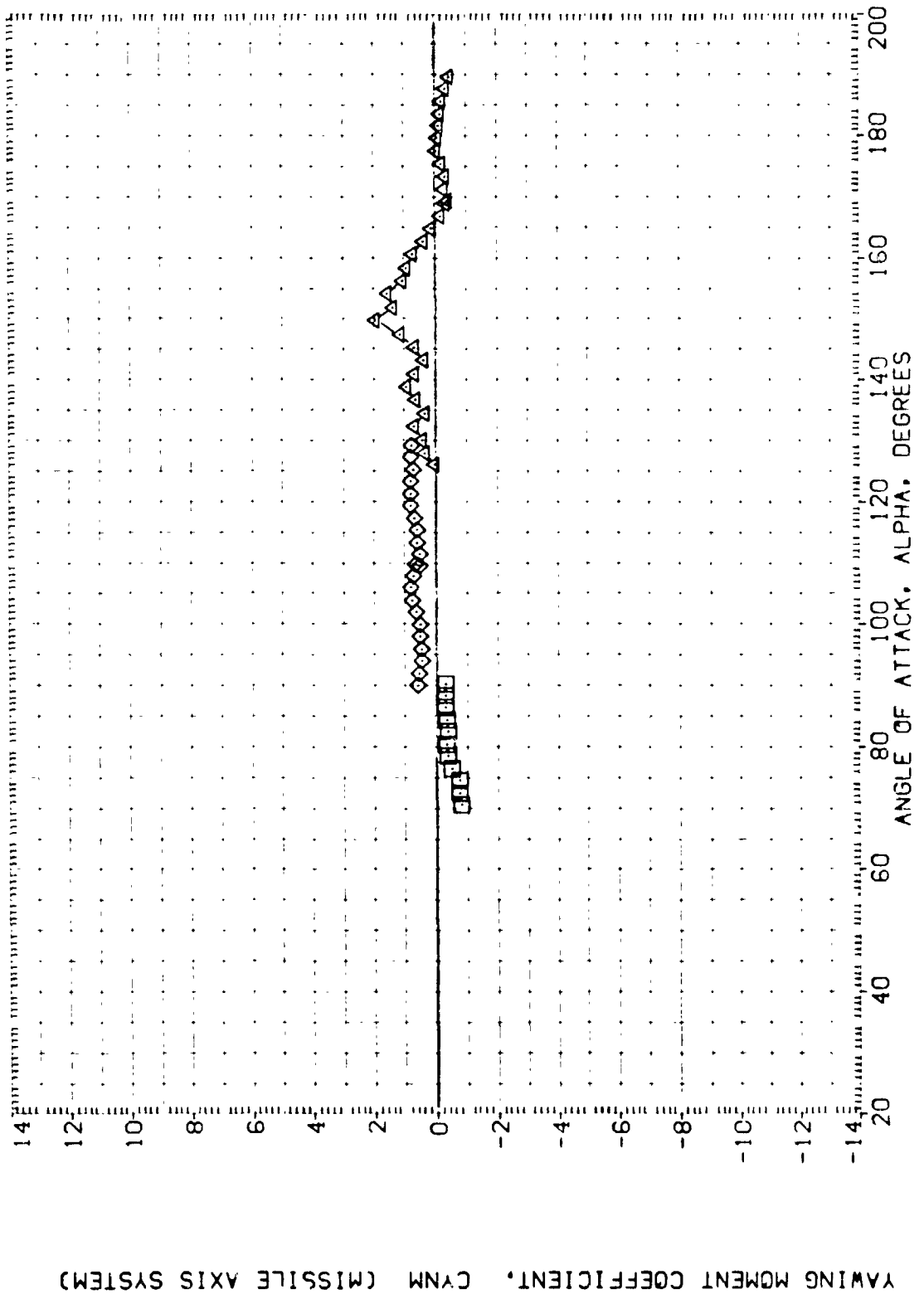


FIGURE 23. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (ϕ HI = 180)

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (AIHAD7) DATA NOT AVAILABLE
 (AIH054) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (AIHC07) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (AIHD07) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI
 180.000
 180.000
 180.000

REFERENCE INFORMATION
 SREF 50.30 SQ. IN.
 LREF 8000 IN.
 BREF 8000 IN.
 YMRP 5.7210 IN. XS
 ZMRP .0000 IN. YS
 SCALE .0055 IN. ZS

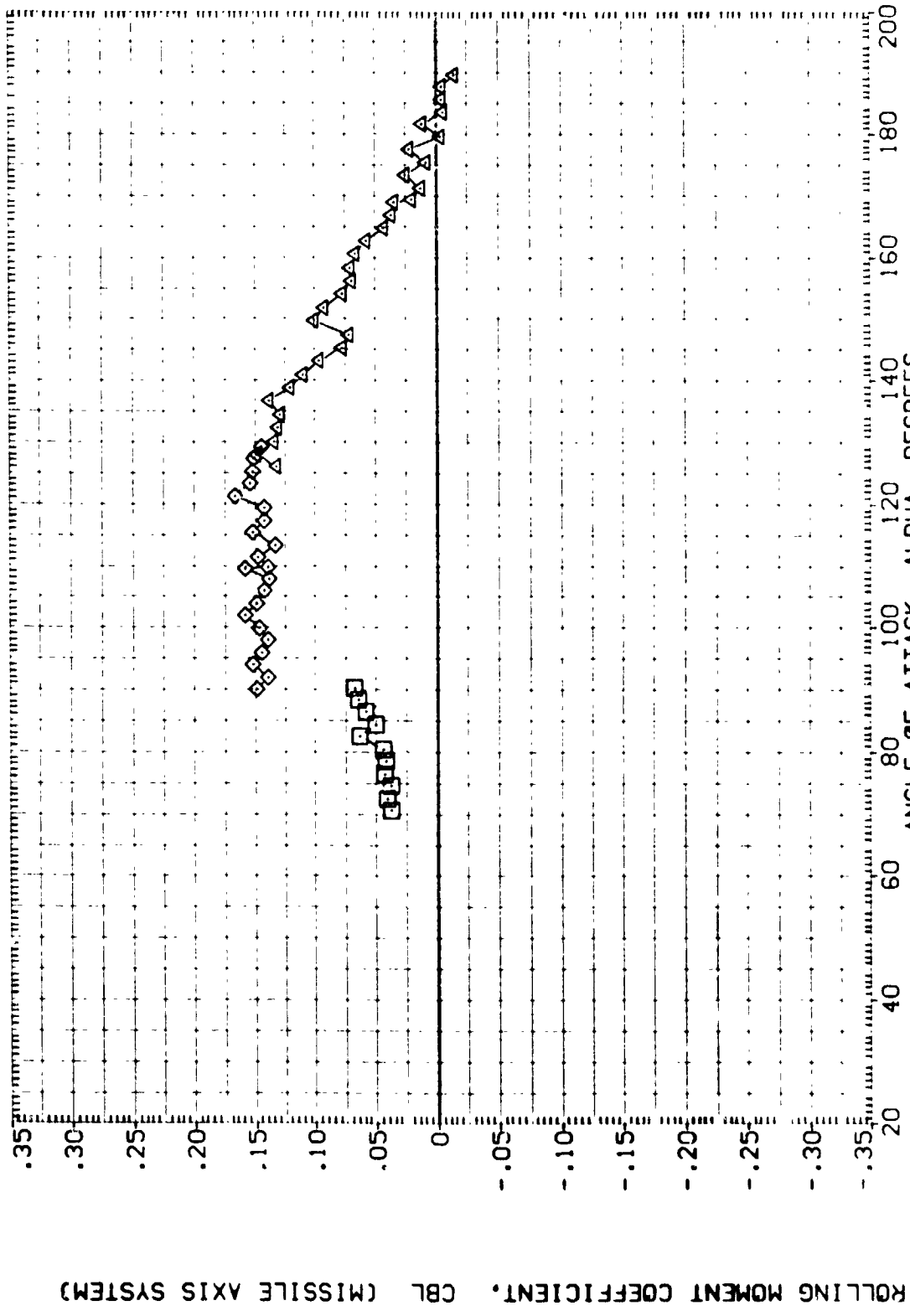


FIGURE 23. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 180)

(O)MACH = 1.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H007) DATA NOT AVAILABLE

(A1H054) DATA NOT AVAILABLE

(A1H07) MSFC TV1504 (SABF) SRB WITH ALL PROTUBERANCES

(A1H007) MSFC TV1504 (SABF) SRB WITH ALL PROTUBERANCES

PHI

180.000

180.000

180.000

180.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

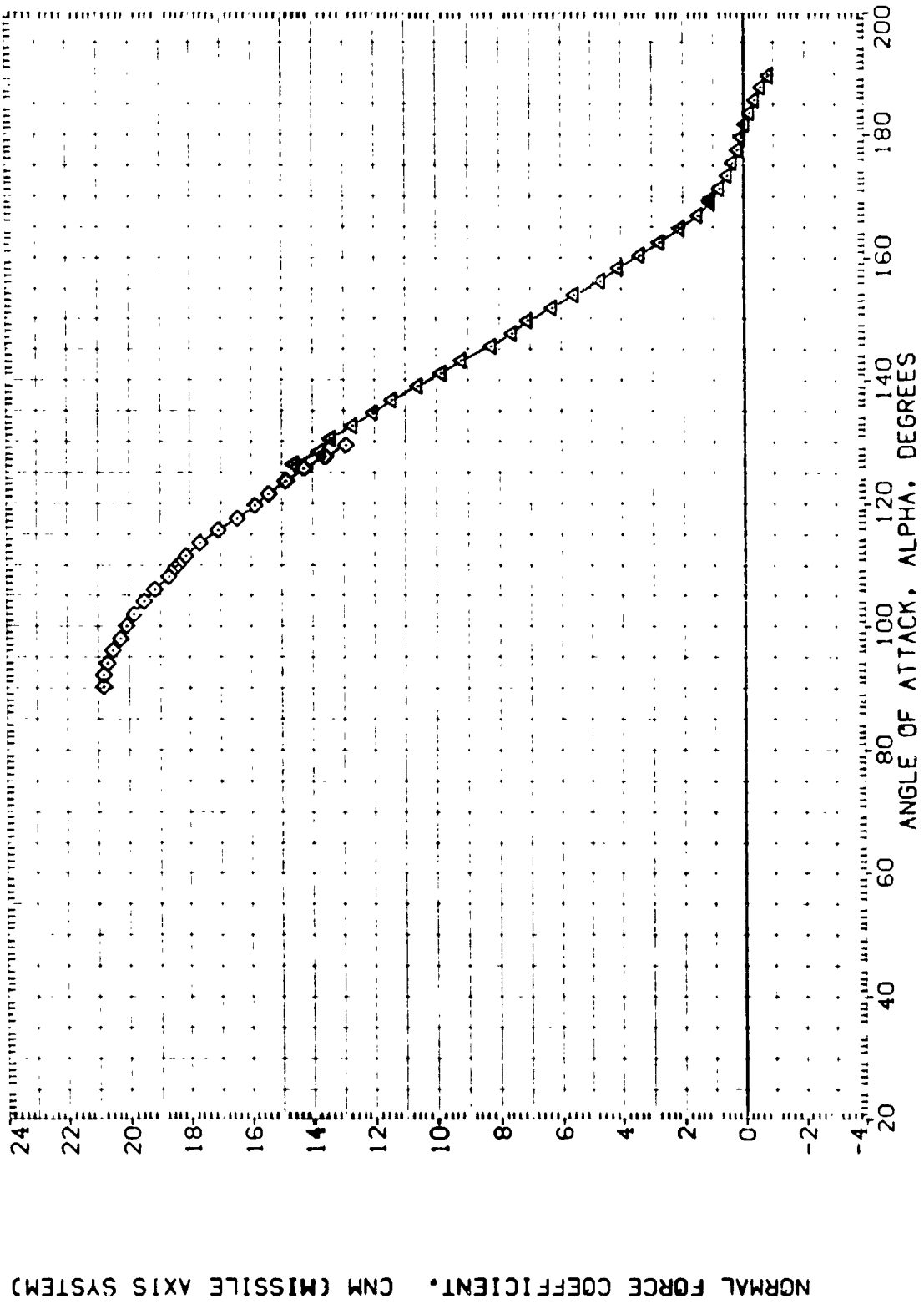


FIGURE 23. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 180)

(E)MACH = 1.96

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DATA SET SYMBOLS
 (A1H007)
 (A1H054)
 (A1H007)
 (A1H007)

CONFIGURATION DESCRIPTION
 DATA NOT AVAILABLE
 DATA NOT AVAILABLE
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI
 180.000
 180.000
 180.000
 180.000

REFERENCE INFORMATION
 SREF .5030 IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XPRP 5.7210 IN.
 YPRP .0000 IN.
 ZPRP .0000 IN.
 SCALE .0055

PITCHING MOMENT COEFFICIENT, CLMM (MISSILE AXIS SYSTEM)

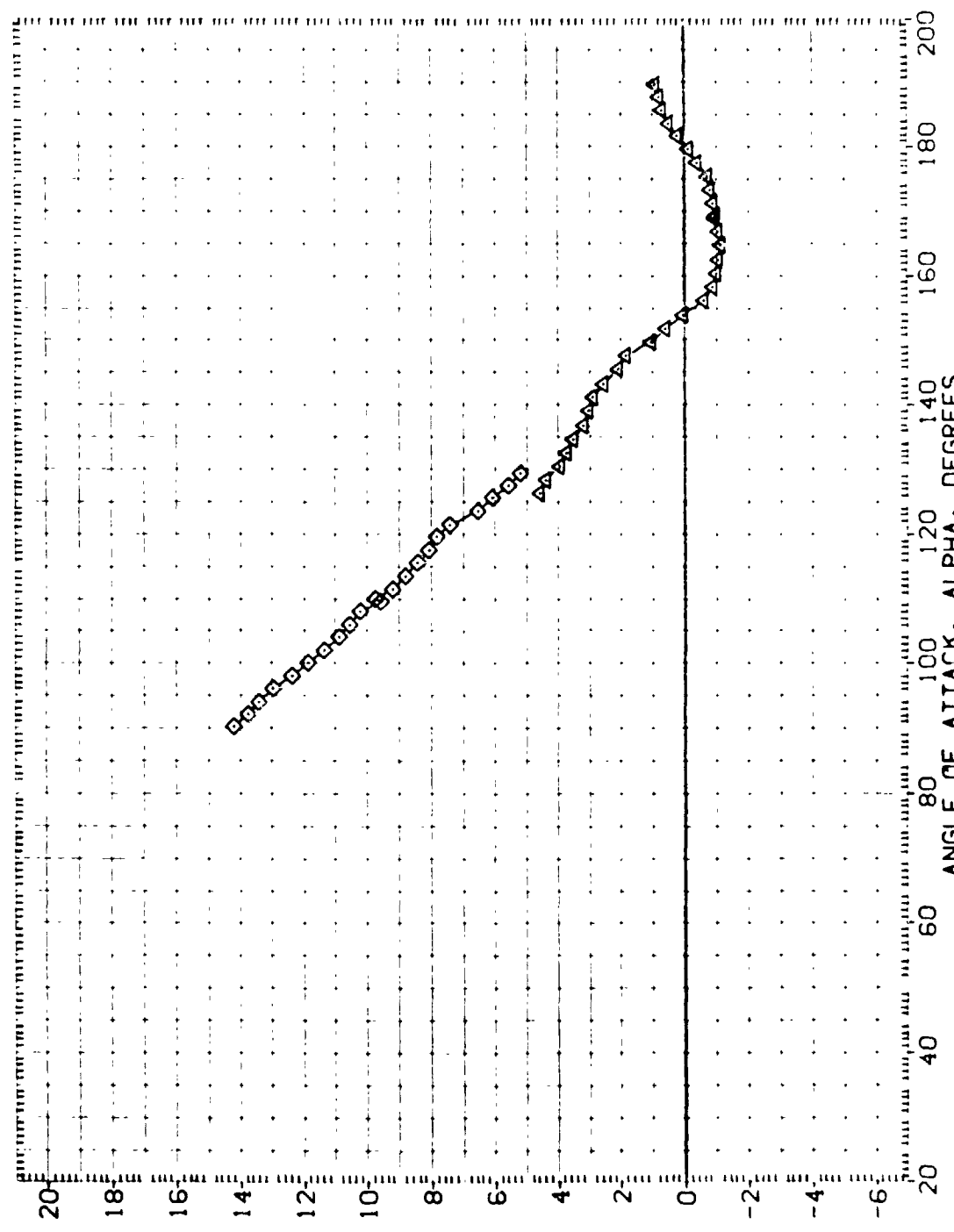


FIGURE 23. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 180)

(E)MACH = 1.96

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XREF 5.7210 IN. XS
 YREF .0000 IN. YS
 ZREF .0000 IN. ZS
 SCALE .0055

PHI
 190.000
 190.000
 190.000
 190.000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H007) DATA NOT AVAILABLE
 (A1H054) DATA NOT AVAILABLE
 (A1H007) MSFC TV7604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H007) MSFC TV7604 (SABF) SRB WITH ALL PROTUBERANCES

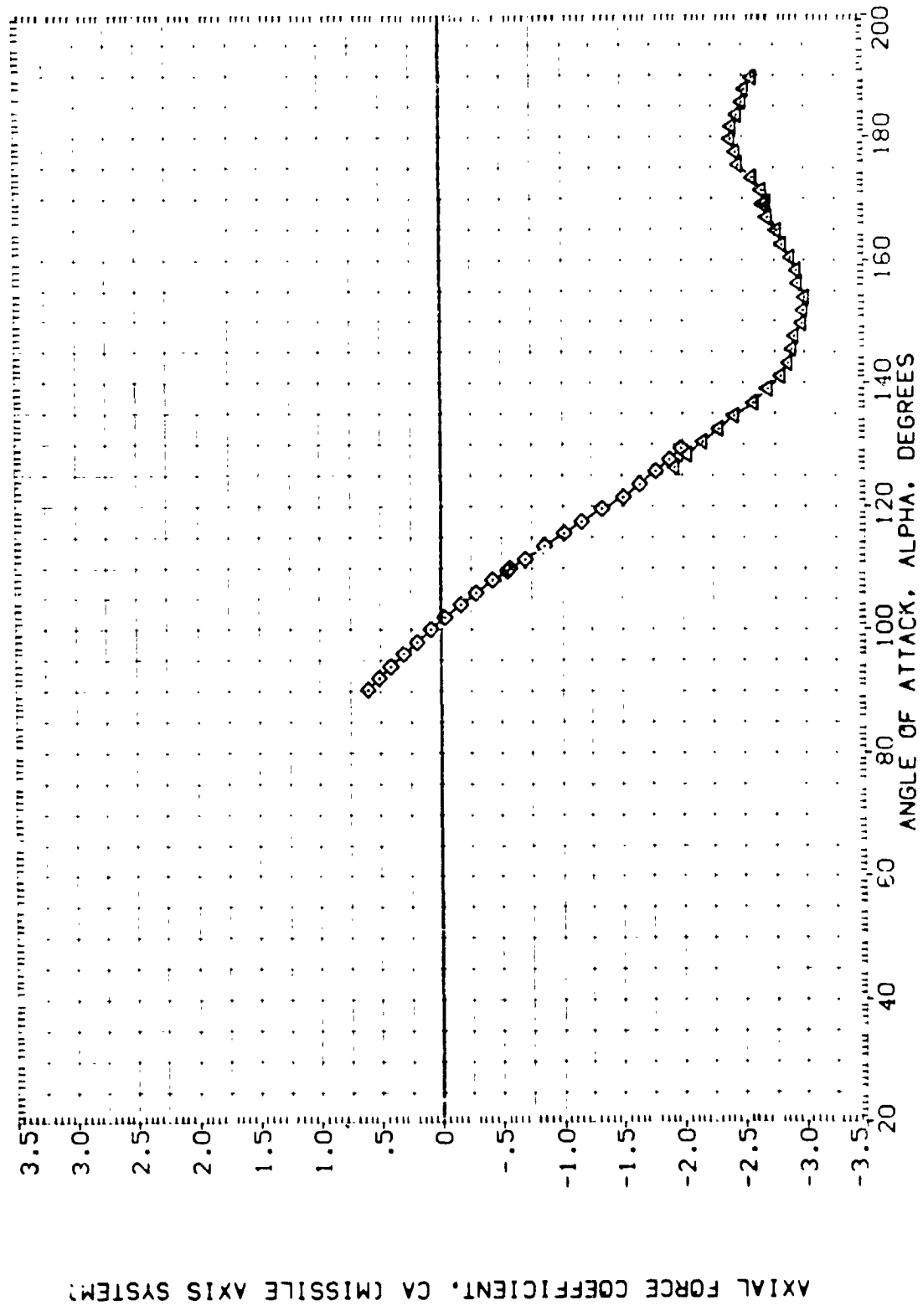


FIGURE 23. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 180)

(E)MACH = 1.96

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1-407) DATA NOT AVAILABLE

(A1-404) DATA NOT AVAILABLE

(A1-401) MSFC TV1604 (SA8F) SRB WITH ALL PROTUBERANCES

(A1-407) MSFC TV1604 (SA8F) SRB WITH ALL PROTUBERANCES

PHI

180.000

180.000

180.000

180.000

REFERENCE INFORMATION

SREF 50. IN.

LREF 50. IN.

BREF 5.721 C

XMRP .0000

YMRP .0000

ZMRP .0000

SCALE 10055

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

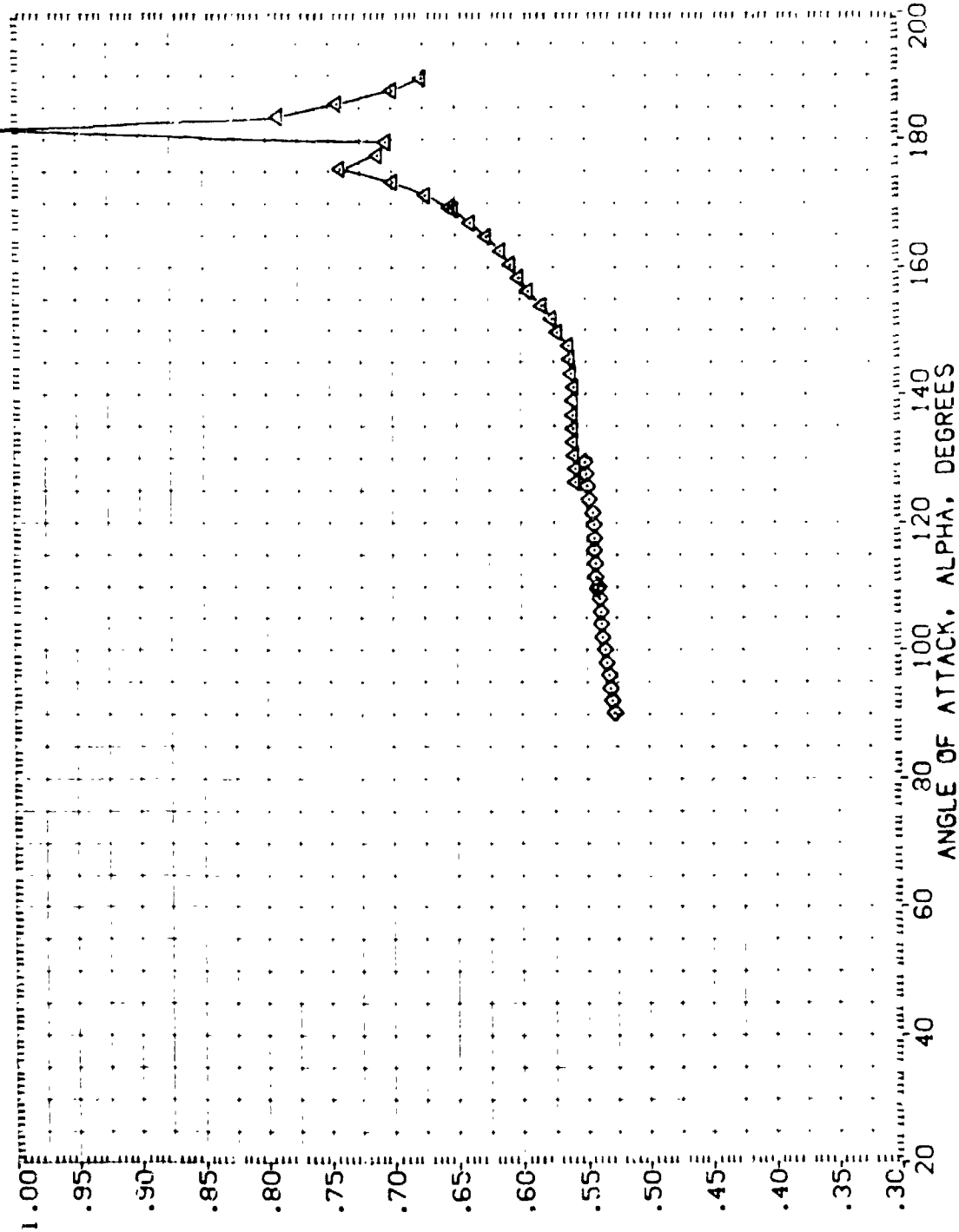


FIGURE 23. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 180)

(E)MACH = 1.96

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H007) DATA NOT AVAILABLE 180.000

(A1H024) DATA NOT AVAILABLE 180.000

(A1H007) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

(A1H007) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .6000 IN.

SRREF .8000 IN.

YMRP 5.7210 IN. XS

ZMRP .0000 IN. YS

SCALE .0055 IN. ZS

SIDE FORCE COEFFICIENT, C_{YM} (MISSILE AXIS SYSTEM)

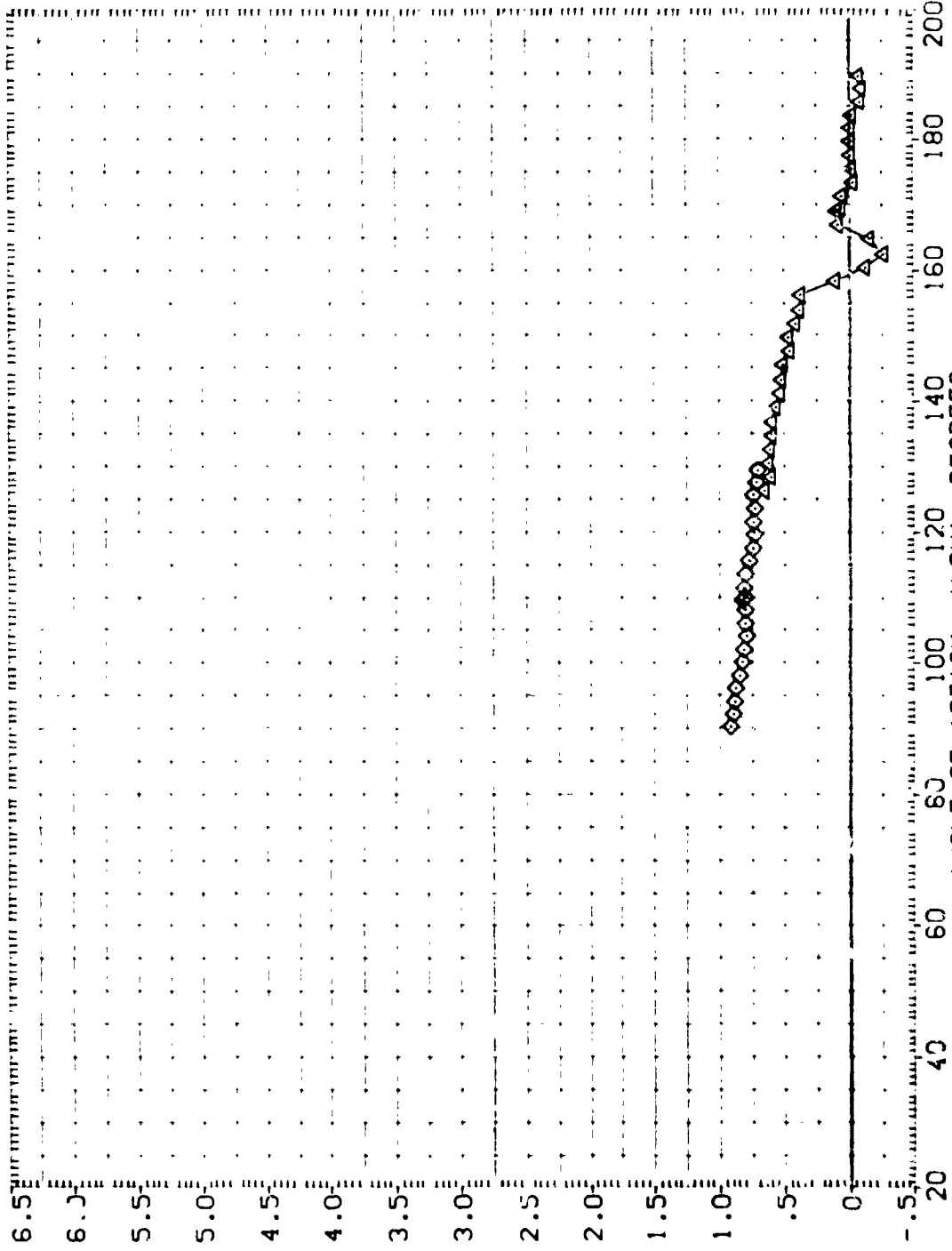


FIGURE 23. STATIC STABILITY CHARACTER OF SRB W/ALL PROTUBERANCES (PHI = 180)

(E)MACH = 1.96

REFERENCE INFORMATION
 SREF .5030 50. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 180.000
 180.000
 180.000
 180.000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H007) DATA NOT AVAILABLE
 (A1H054) DATA NOT AVAILABLE
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H007) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H007)

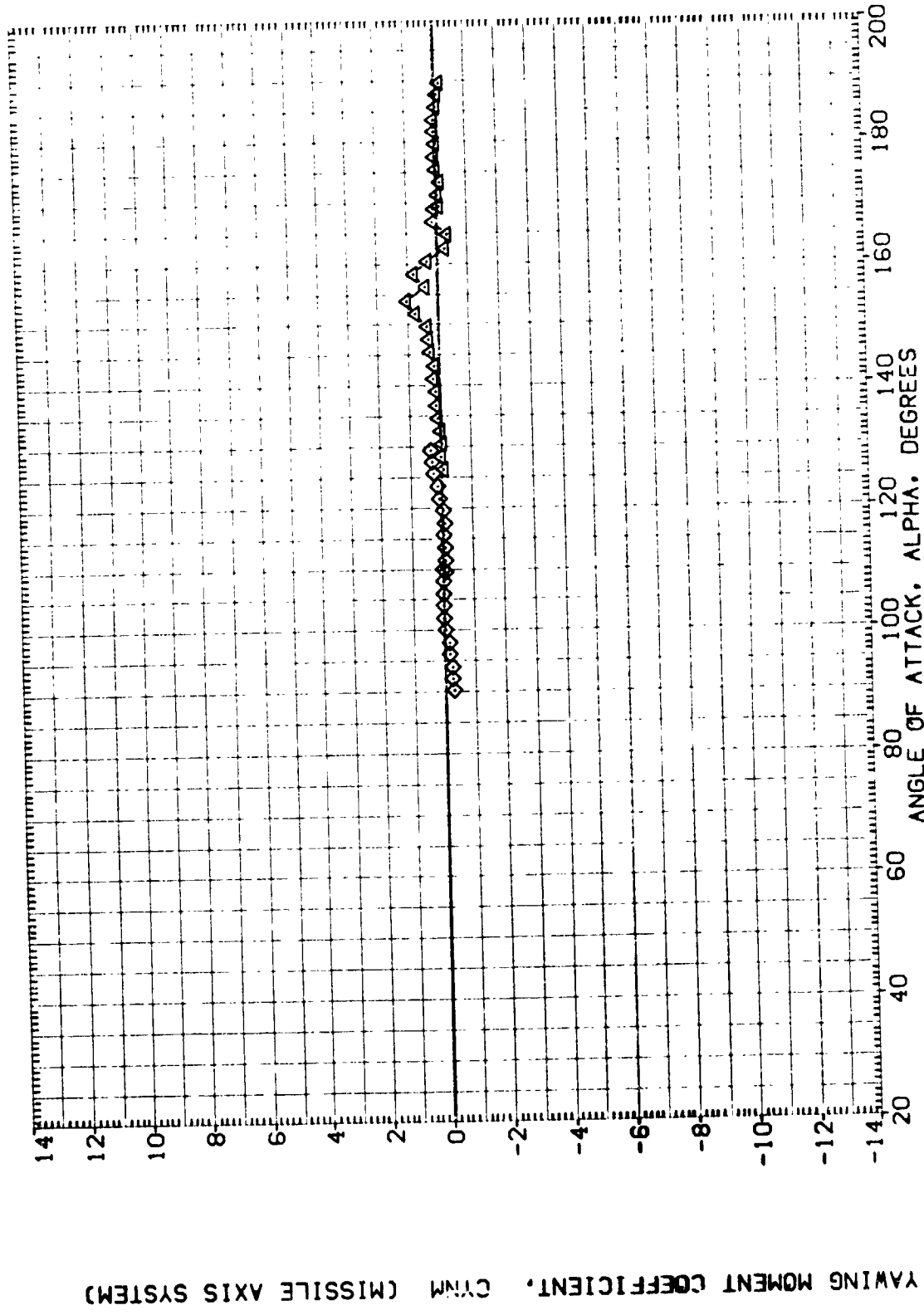


FIGURE 23. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 180)
 (E)MACH = 1.96 PAGE 328

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 180.000
 180.000
 180.000
 180.000

CONFIGURATION DESCRIPTION
 DATA NOT AVAILABLE
 DATA NOT AVAILABLE
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

ROLLING MOMENT COEFFICIENT, CBL (MISSILE AXIS SYSTEM)

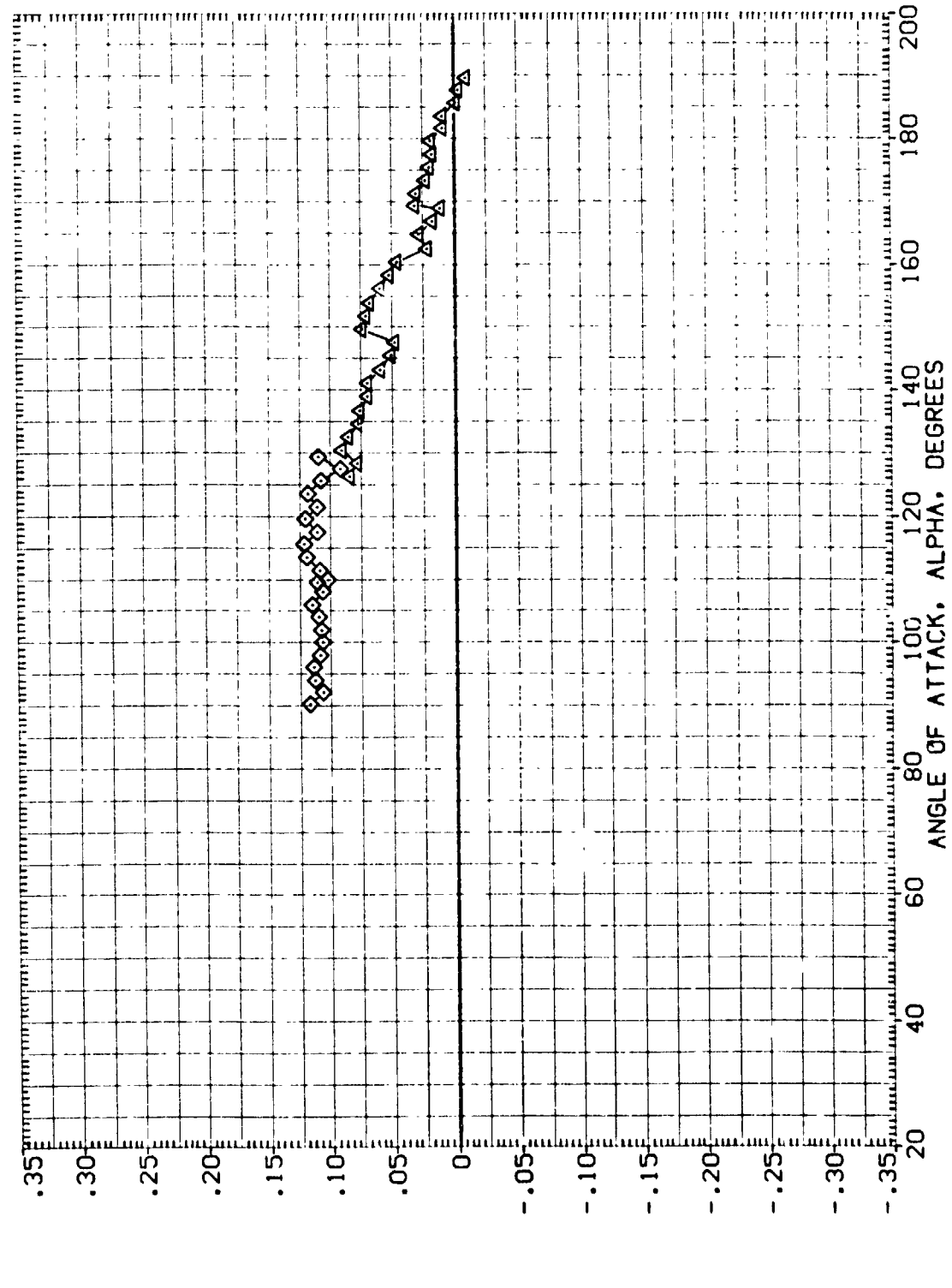


FIGURE 23. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 180)
 (E)MACH = 1.96 PAGE 329

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

190.000
190.000
190.000

SRB WITH ALL PROTUBERANCES
SRB WITH ALL PROTUBERANCES
SRB WITH ALL PROTUBERANCES

DATA NOT AVAILABLE
MSFC TVT604 (SABF)
MSFC TVT604 (SABF)
MSFC TVT604 (SABF)

(AIH007)
(AIH004)
(AIH007)
(AIH007)

REFERENCE INFORMATION

SREF .5030 SQ. IN.
LREF .8000 IN.
BREF .8000 IN. XS
XMRP 5.7210 IN. YS
YMRP .0000 IN. ZS
ZMRP .0000 IN. ZS
SCALE .0055

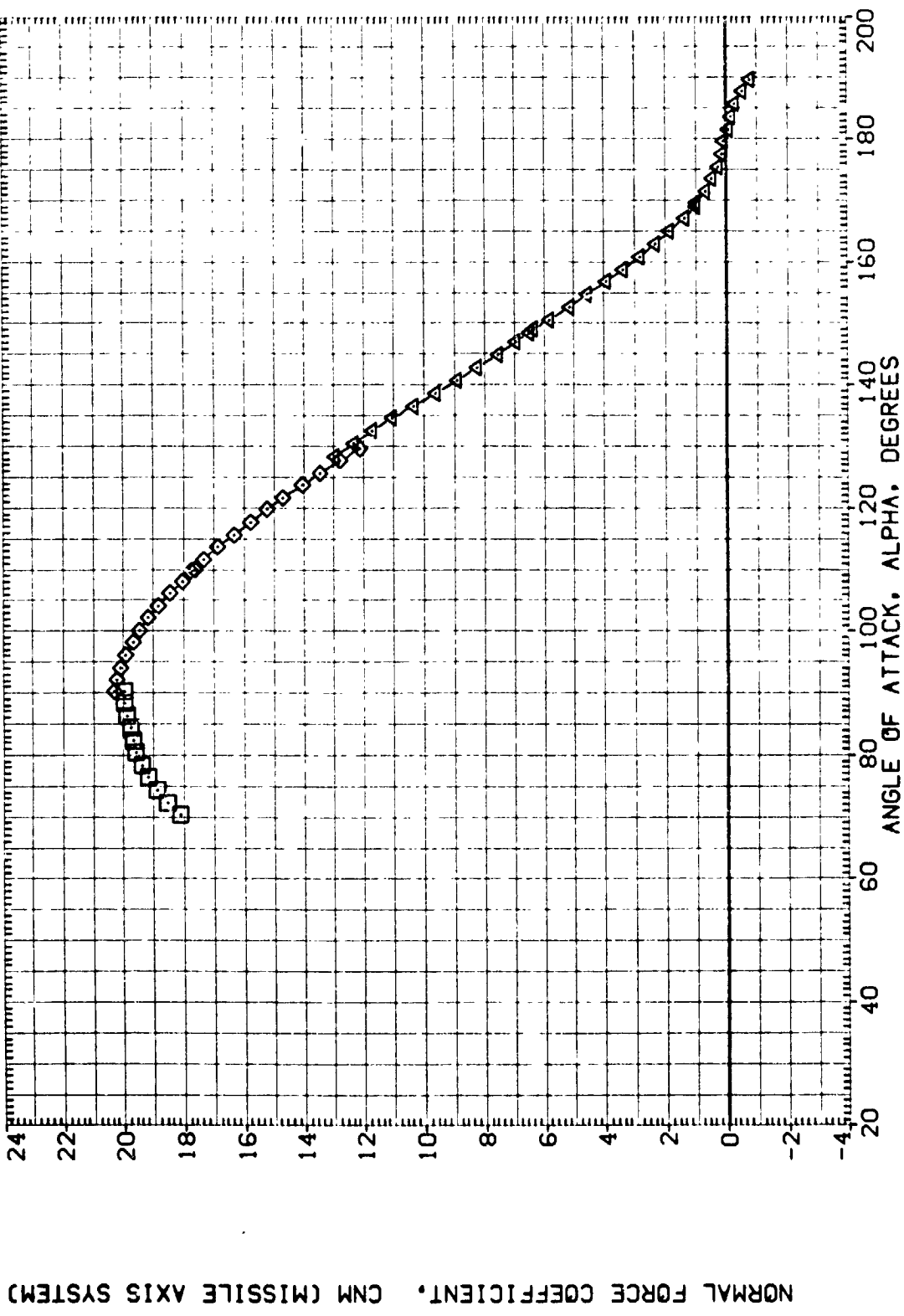


FIGURE 23. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 180)

(F)MACH = 2.74

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(A1H007)	DATA NOT AVAILABLE	180.000	SREF .5030 SQ. IN.
(A1H054)	MSFC TW1604 (SABF) SRB WITH ALL PROTUBERANCES	180.000	LREF .8000 IN.
(A1H007)	MSFC TW1604 (SABF) SRB WITH ALL PROTUBERANCES	180.000	BREF .8000 IN.
(A1H007)	MSFC TW1604 (SABF) SRB WITH ALL PROTUBERANCES	180.000	XMRP 5.7210 N. XS
			YMRP .0000 N. YS
			ZMRP .0000 N. ZS
			SCALE .0055

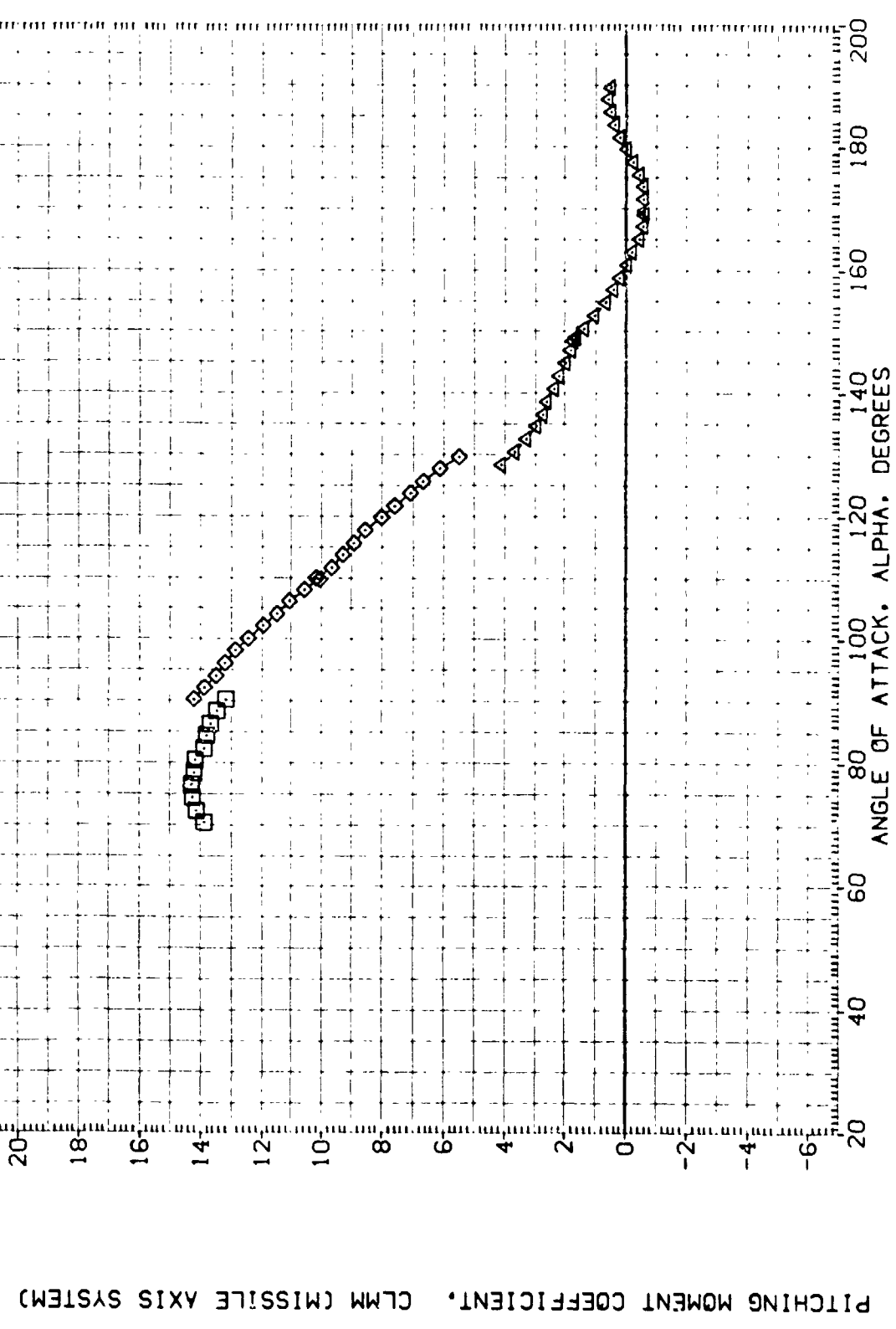
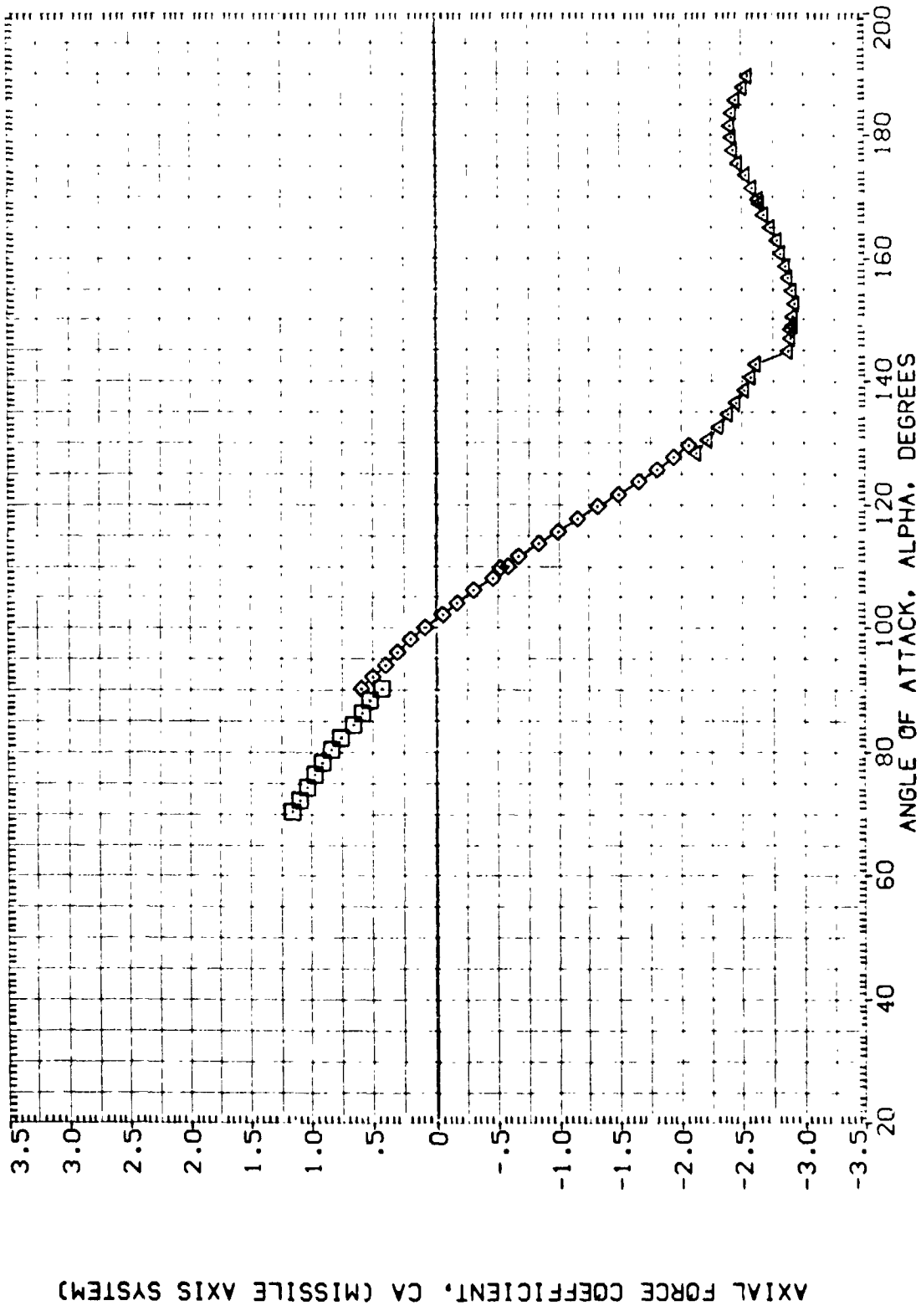


FIGURE 23. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 180)

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A11M07) □ DATA NOT AVAILABLE
 (A11H054) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A11H007) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A11H007) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055



AXIAL FORCE COEFFICIENT, CA (MISSILE AXIS SYSTEM)

FIGURE 23. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 180)
 (F)MACH = 2.74

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 180.000
 180.000
 180.000
 180.000

CONFIGURATION DESCRIPTION
 DATA NOT AVAILABLE SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

DATA SET SYMBOL
 (A1H407)
 (A1H054)
 (A1H607)
 (A1H007)

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

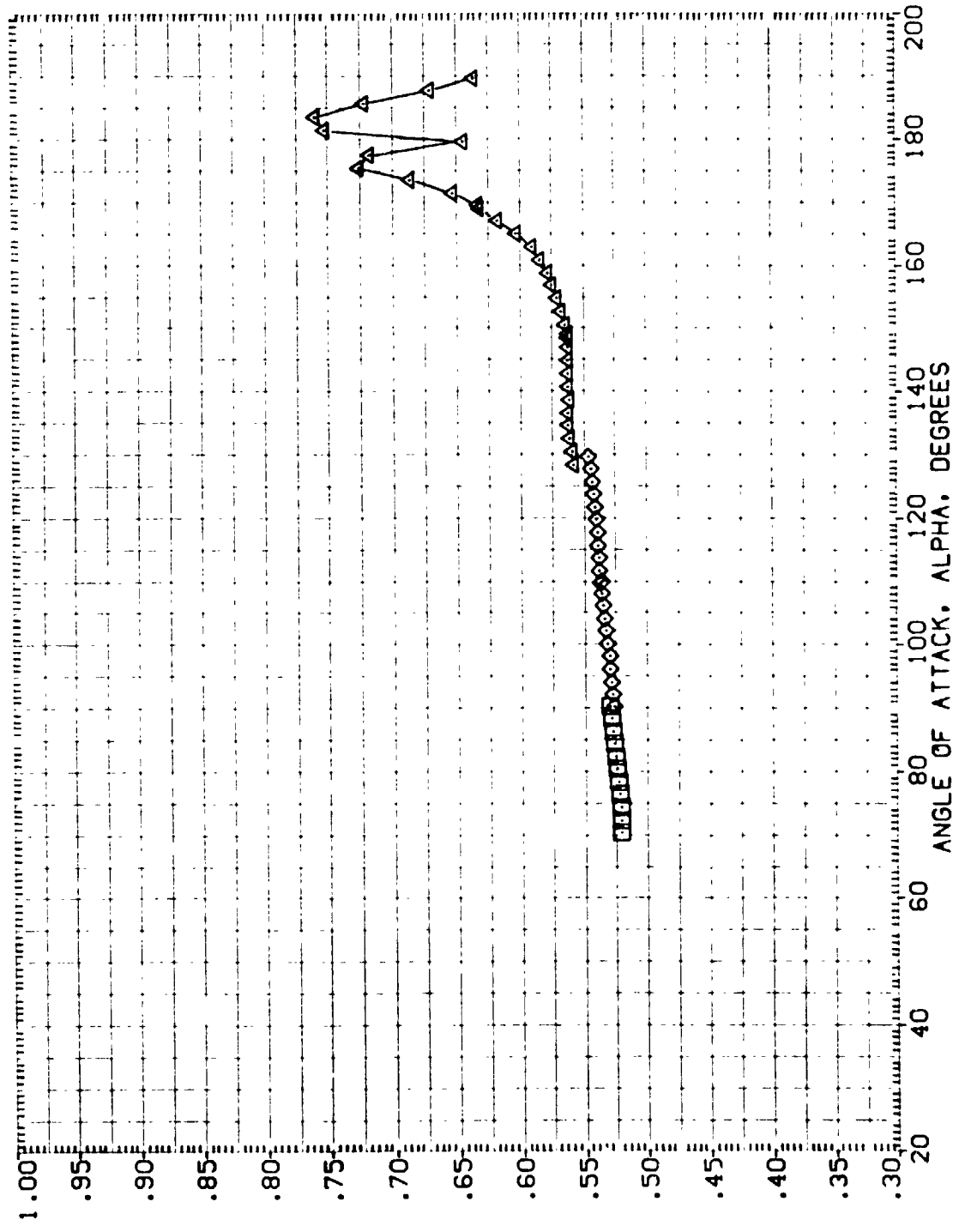


FIGURE 23. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 180)

(F)MACH = 2.74

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H007) DATA NOT AVAILABLE 180.000
 (A1H054) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 180.000
 (A1H007) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 180.000
 (A1H007) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

REFERENCE INFORMATION

SREF 5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

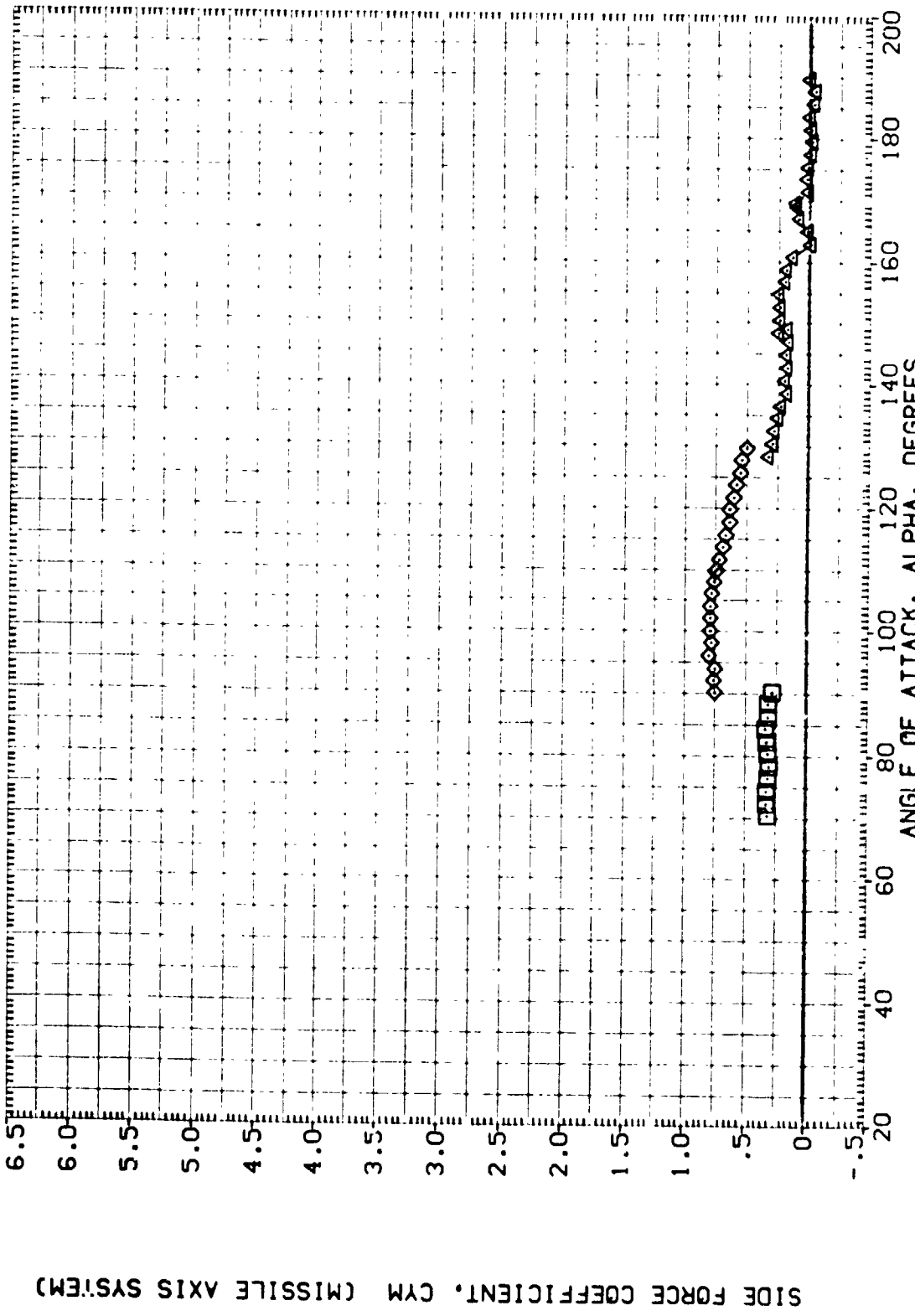


FIGURE 23. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 180)

(F)MACH = 2.74

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H007) DATA NOT AVAILABLE 180.000

(A1H054) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

(A1H007) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

(A1H007) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

REFERENCE INFORMATION

SREF .5030 50. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

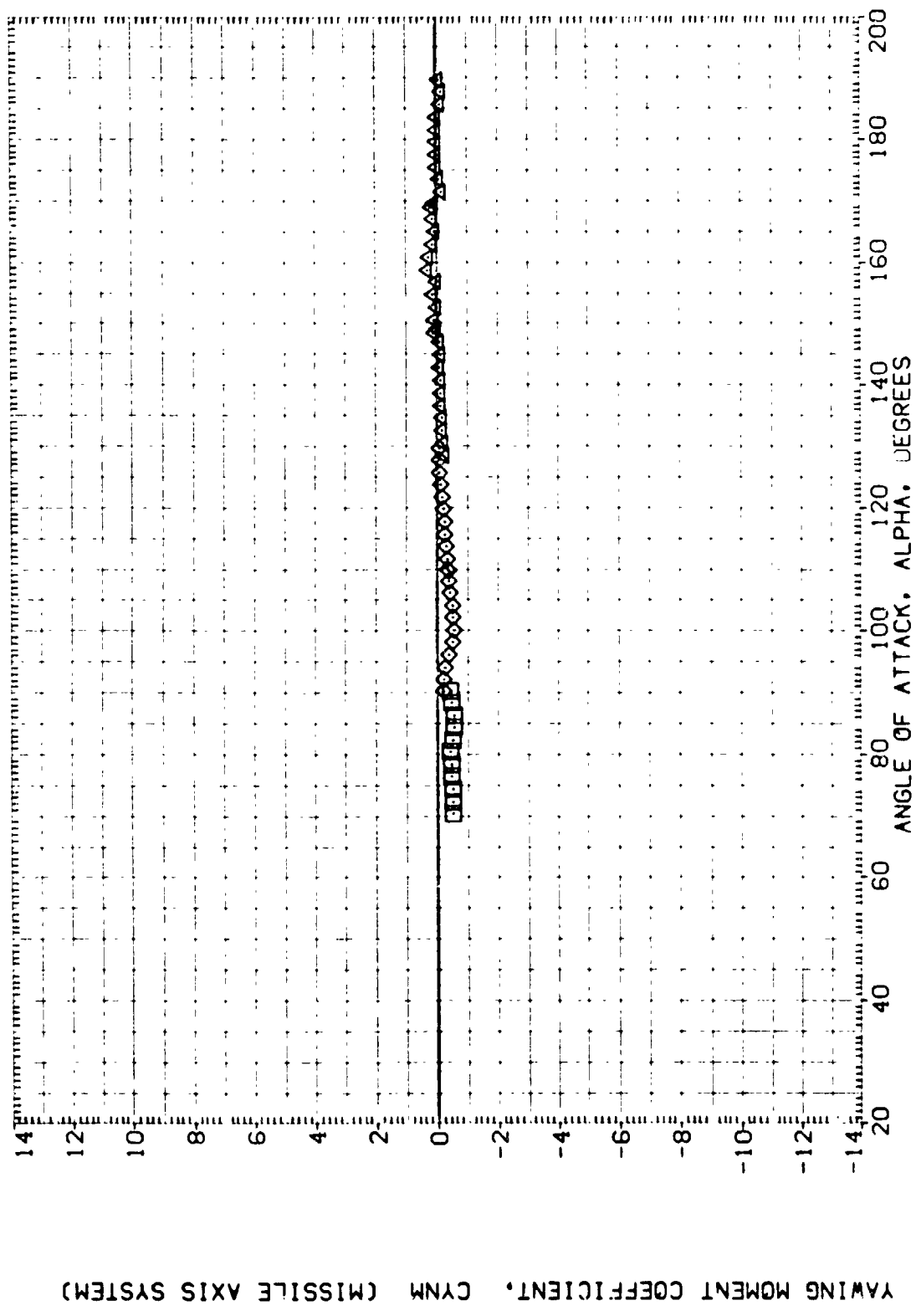


FIGURE 23. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 180)

(F)MACH = 2.74

PAGE 335

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H007) DATA NOT AVAILABLE
 (A1H054) MSFC TVT804 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H007) MSFC TVT804 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H007) MSFC TVT804 (SABF) SRB WITH ALL PROTUBERANCES

PHI
 180.000
 180.000
 180.000
 180.000

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

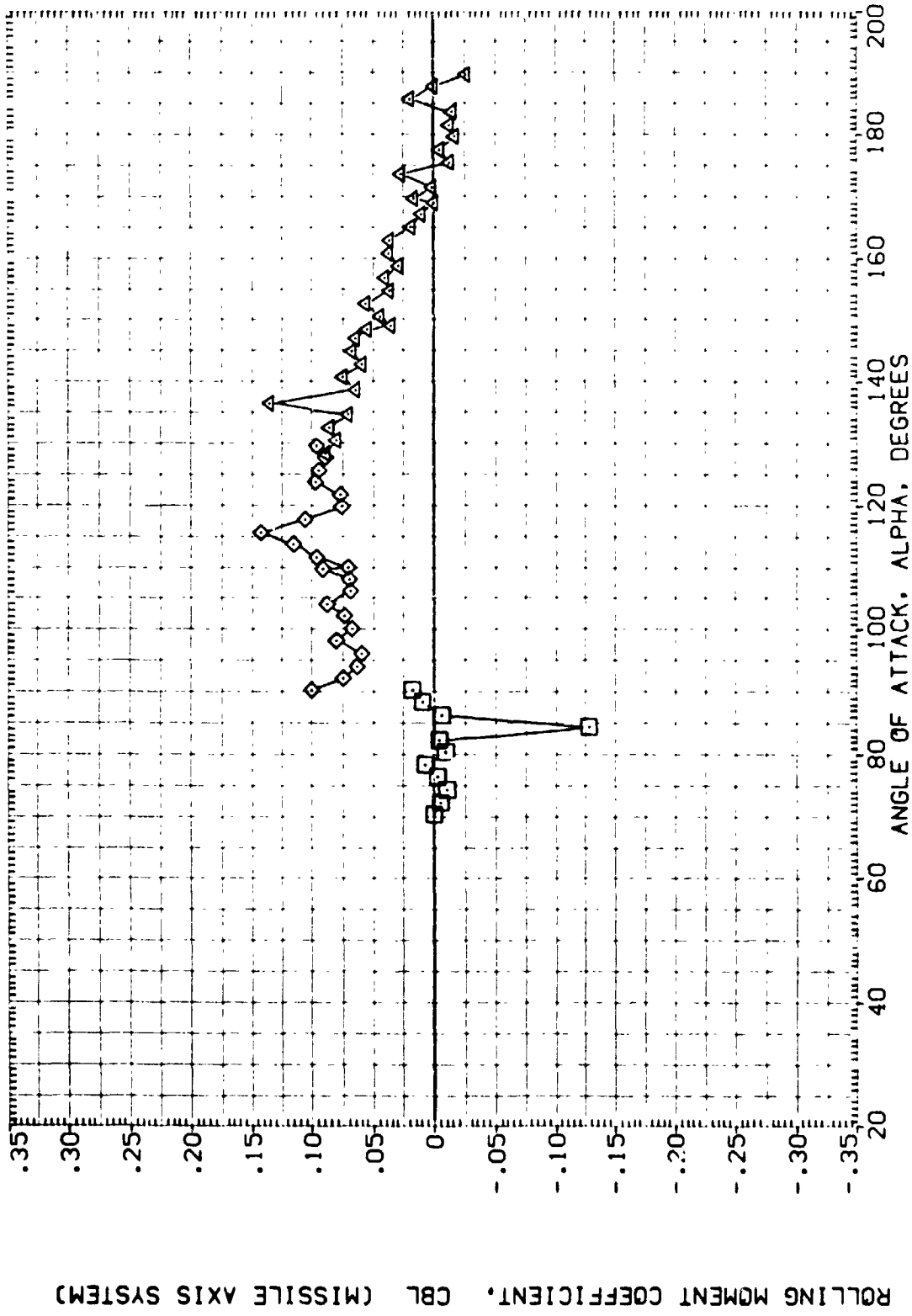


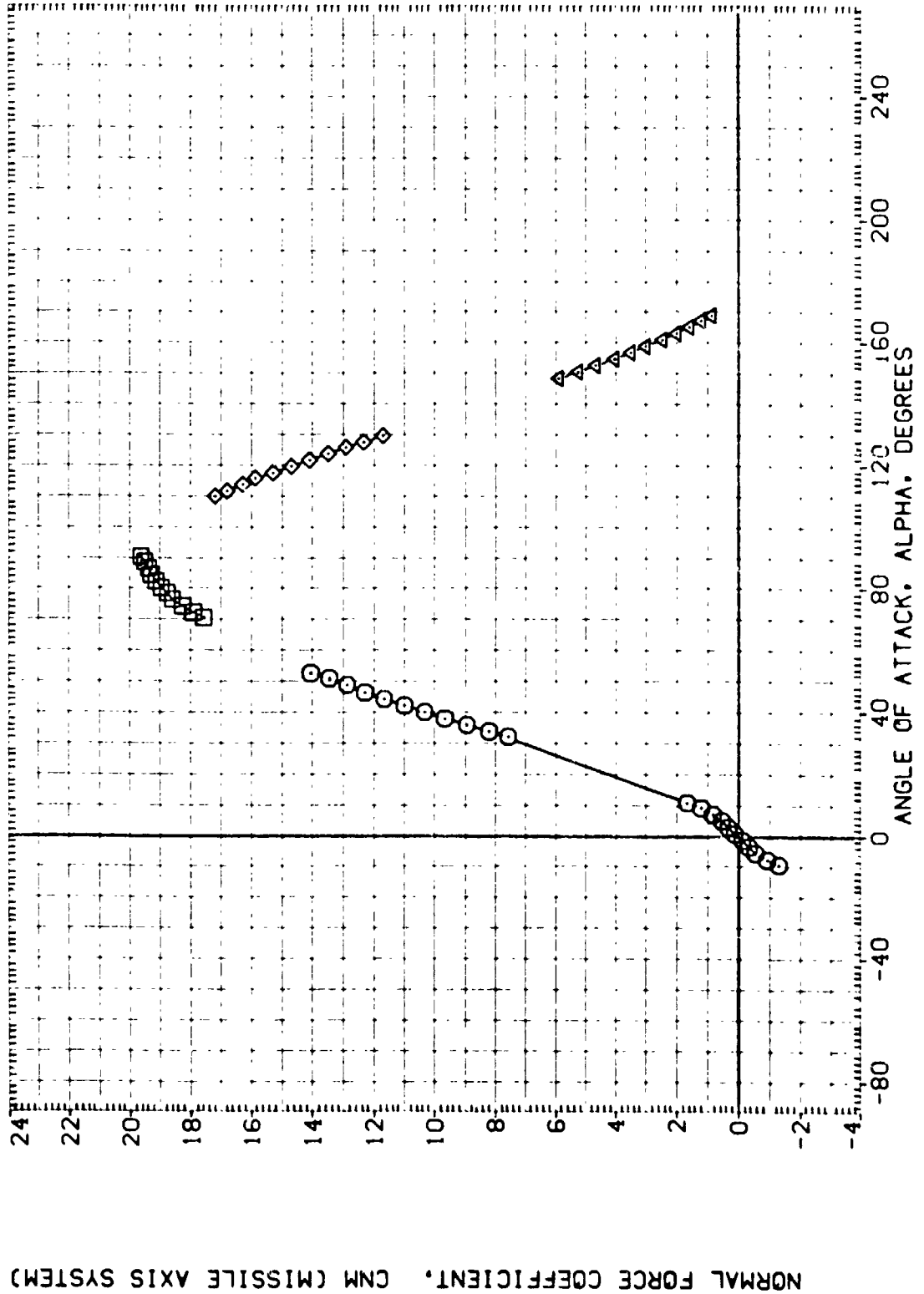
FIGURE 23. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 180)

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 180.000
 180.000
 180.000

CONFIGURATION DESCRIPTION
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

DATA SET SYMBOL
 (A1H007) □
 (A1H054) ○
 (A1H007) ×



NORMAL FORCE COEFFICIENT, CNM (MISSILE AXIS SYSTEM)

FIGURE 23. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 180)

(A)MACH = 3.48

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI PROTUBERANCES

(A1H007) MSFC TVT604 (SAIF) SRB WITH ALL PROTUBERANCES 180.000

(A1H054) MSFC TVT604 (SAIF) SRB WITH ALL PROTUBERANCES 180.000

(A1H007) MSFC TVT604 (SAIF) SRB WITH ALL PROTUBERANCES 180.000

(A1H007) MSFC TVT604 (SAIF) SRB WITH ALL PROTUBERANCES 180.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

EREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

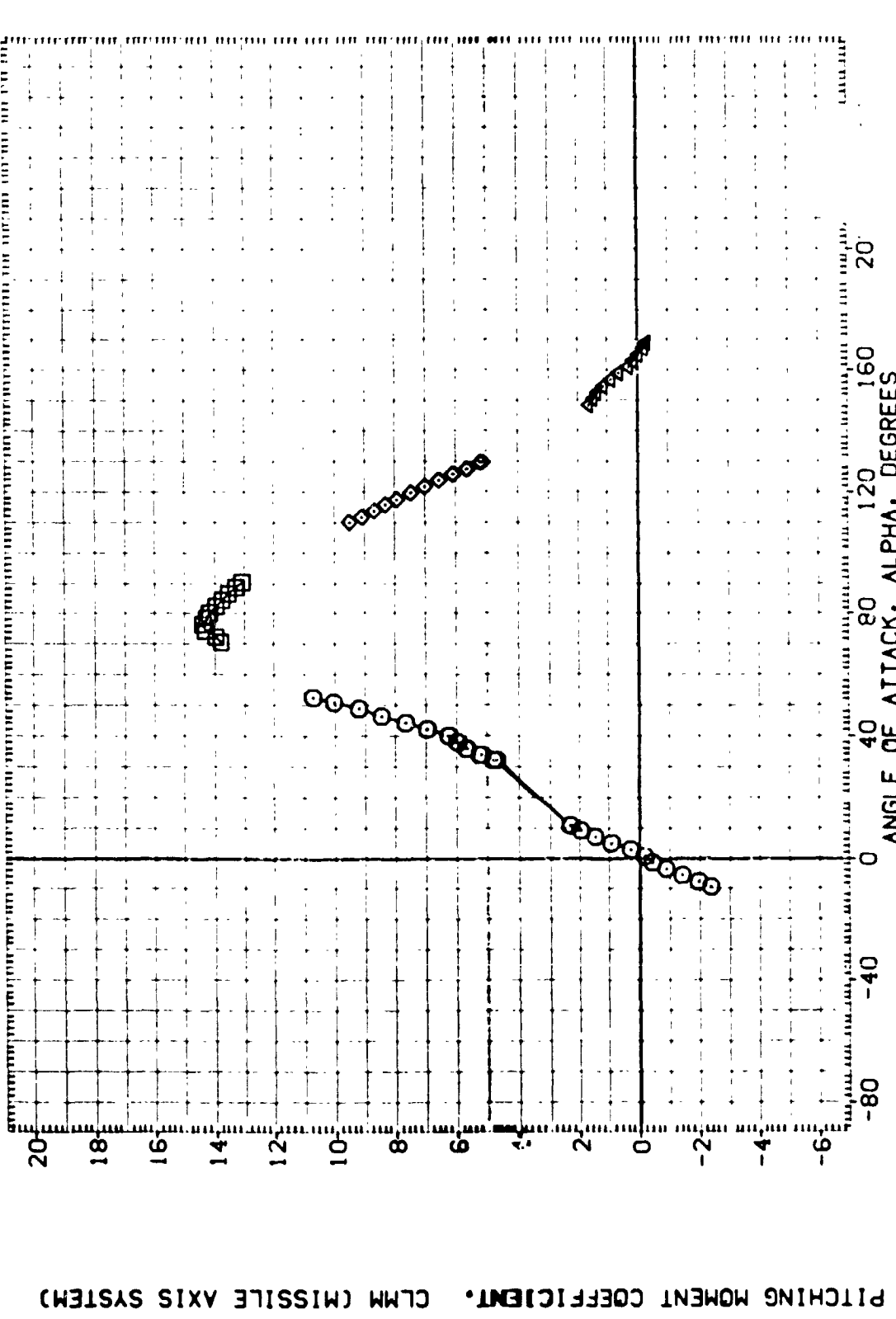



FIGURE 23. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (A1H007)

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BRFF .8000 IN.
 XP 5 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 180.000
 180.000
 180.000
 180.000

CONFIGURATION DESCRIPTION
 MSFC TVT604 (SAEF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SAEF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SAEF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SAEF) SRB WITH ALL PROTUBERANCES

DATA SET SYMBOL
 (AIHAD7) 
 (AIH054) 
 (AIH007) 

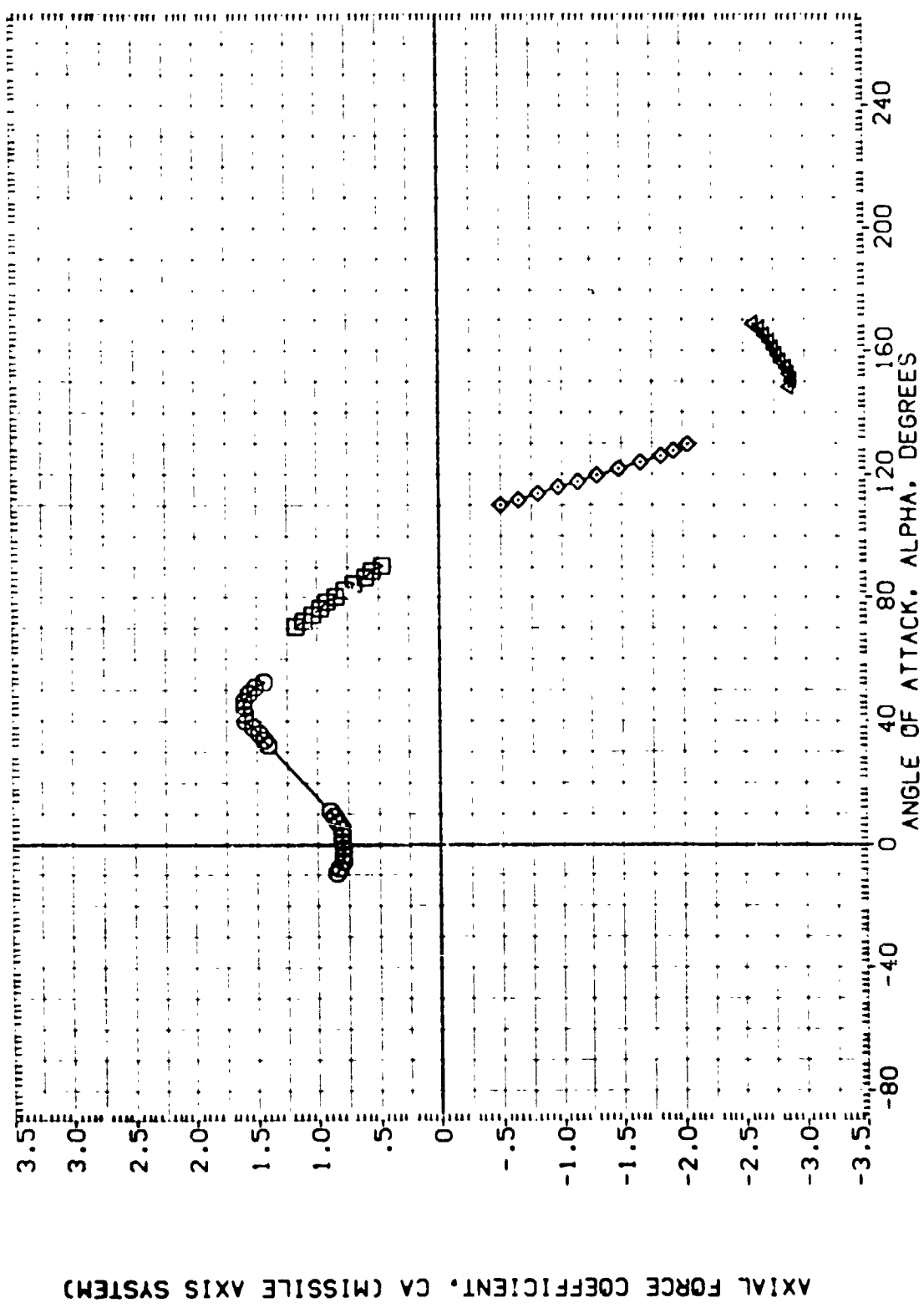


FIGURE 23. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 180)
 (A) MACH = 3.48

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BRREF .8000 IN.
 XHRP 5.7210 IN. XS
 YHRP .0000 IN. YS
 ZHRP .0000 IN. ZS
 SCALE .0055

PHI
 180.000
 180.000
 180.000

CONFIGURATION DESCRIPTION
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

DATA SET SYMBOL
 (A1H407)
 (A1H054)
 (A1H007)
 (A1H007)

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

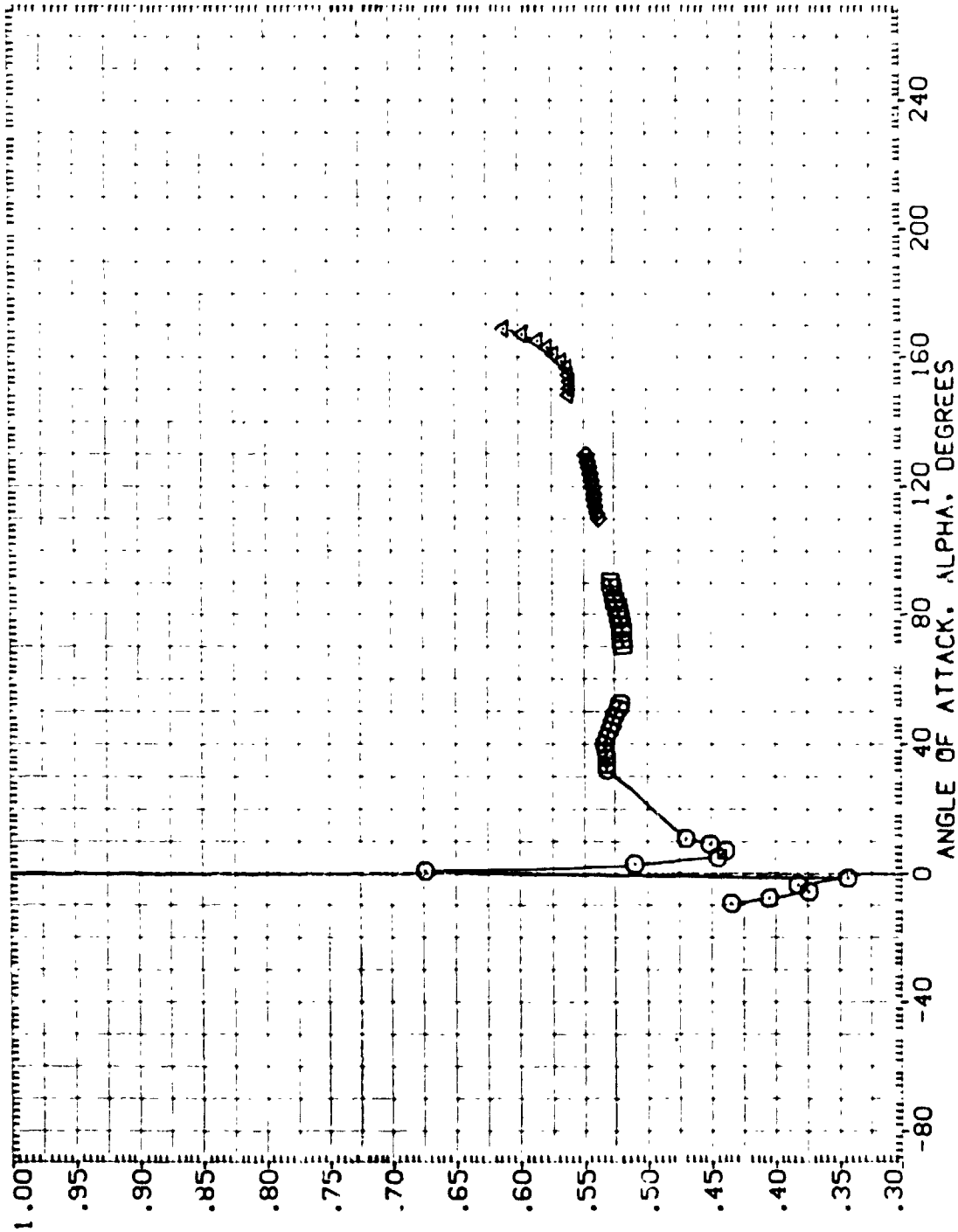


FIGURE 23. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 180)

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(A)MACH	MSFC TVT504 (SABF) SRB WITH ALL PROTUBERANCES	180.000	SREF .5030 SQ. IN.
(A)MACH	MSFC TVT504 (SABF) SRB WITH ALL PROTUBERANCES	180.000	LR F .8000 IN.
(A)MACH	MSFC TVT504 (SABF) SRB WITH ALL PROTUBERANCES	180.000	BREF .8000 IN.
(A)MACH	MFC TVT504 (SABF) SRB WITH ALL PROTUBERANCES	180.000	XMRP 5.7210 IN. XS
(A)MACH			YMRP .0000 IN. YS
			ZMRP .0000 IN. ZS
			SCALE .0055

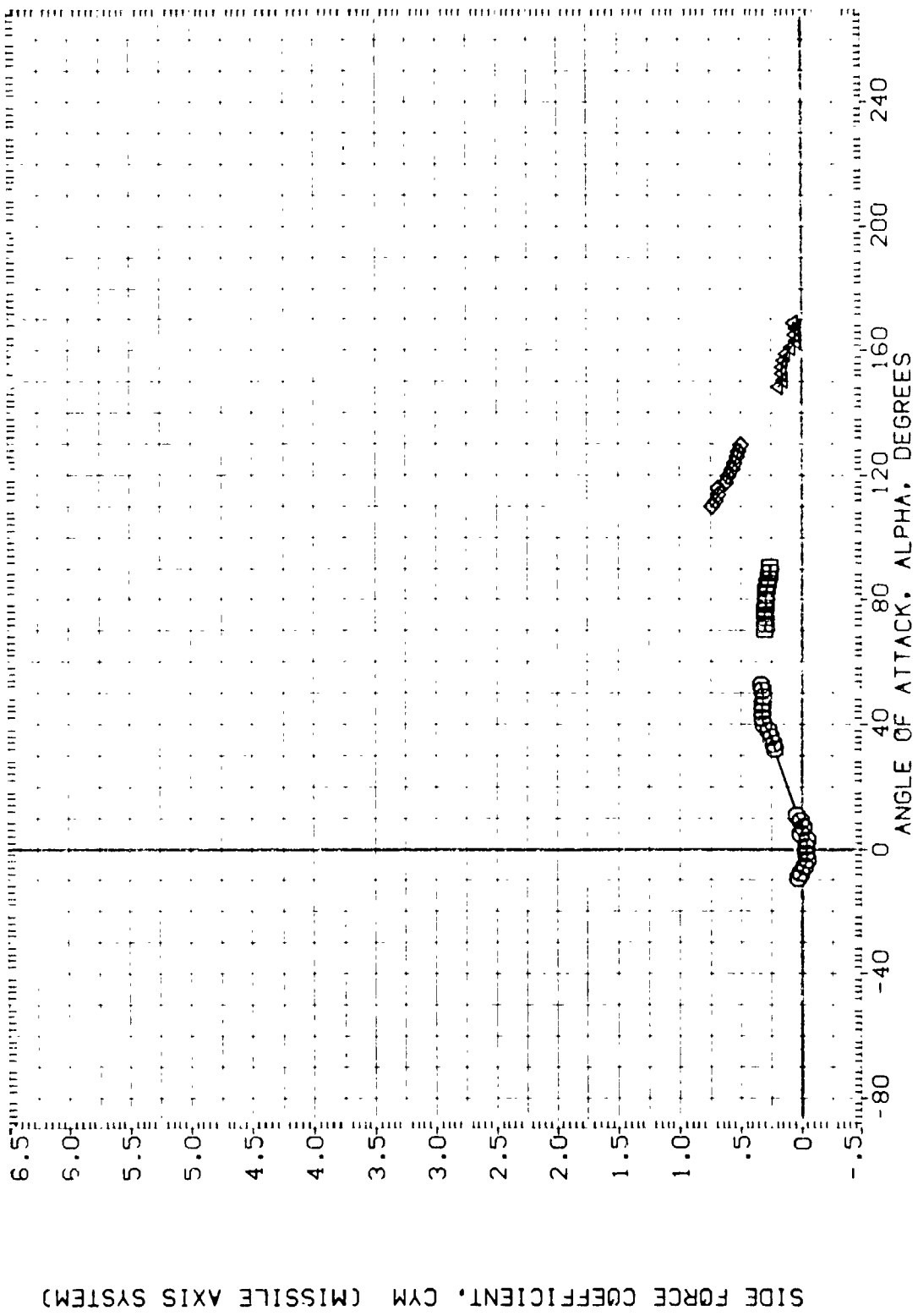


FIGURE 23. STATIC STABILITY CHARACTERISTICS OF SRB W/ALL PROTUBERANCES (PHI = 180)
 (A)MACH = 3.48 PACE 341

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H007) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 180.000
 (A1H054) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 180.000
 (A1H007) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 180.000
 (A1H007) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

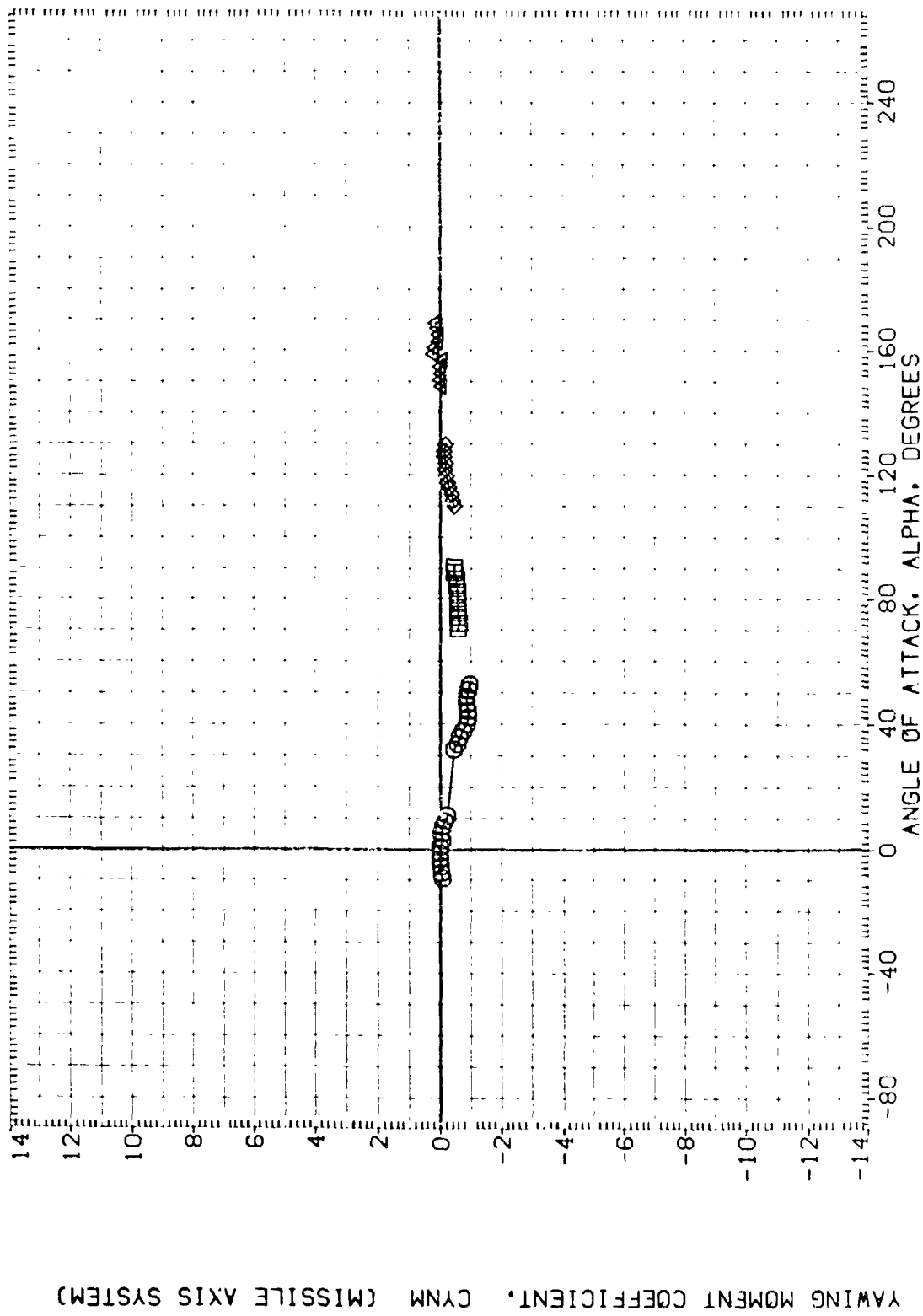


FIGURE 23. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 180)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H007) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 180.000
 (A1H054) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 180.000
 (A1H007) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 180.000
 (A1H007) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

REFERENCE INFORMATION

SREF 5030 SQ. IN.
 LREF 8000 IN.
 BRPF 8000 IN.
 YMRP 5.7210 IN. XS
 ZMRP 1.0000 IN. YS
 SCALE 1.0000 IN. ZS

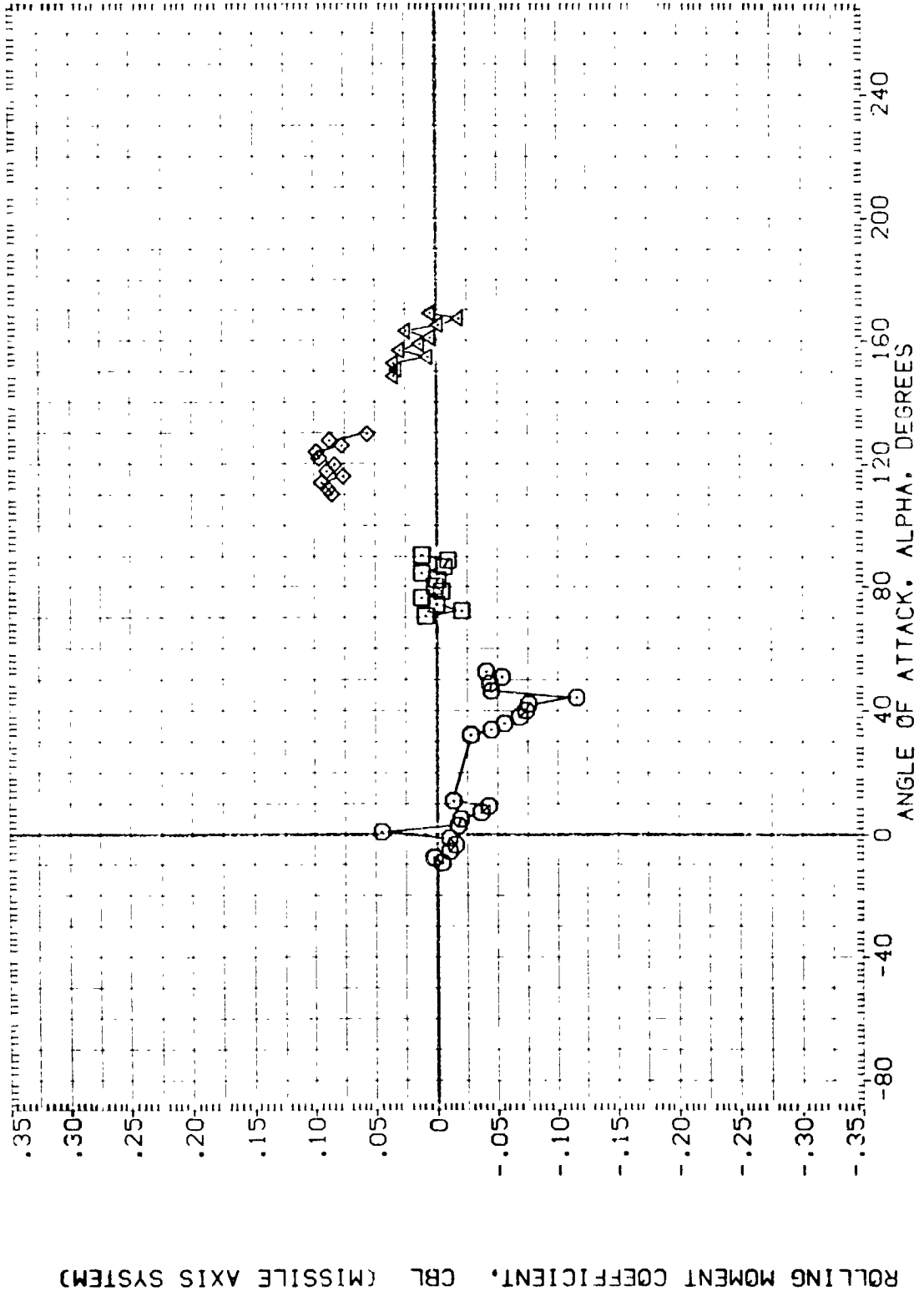


FIGURE 23. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 180)

(A)MACH = 3.48

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H07) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

(A1H07) DATA NOT AVAILABLE 180.000

(A1H07) DATA NOT AVAILABLE 180.000

(A1H07) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

NORMAL FORCE COEFFICIENT, CNM (MISSILE AXIS SYSTEM)

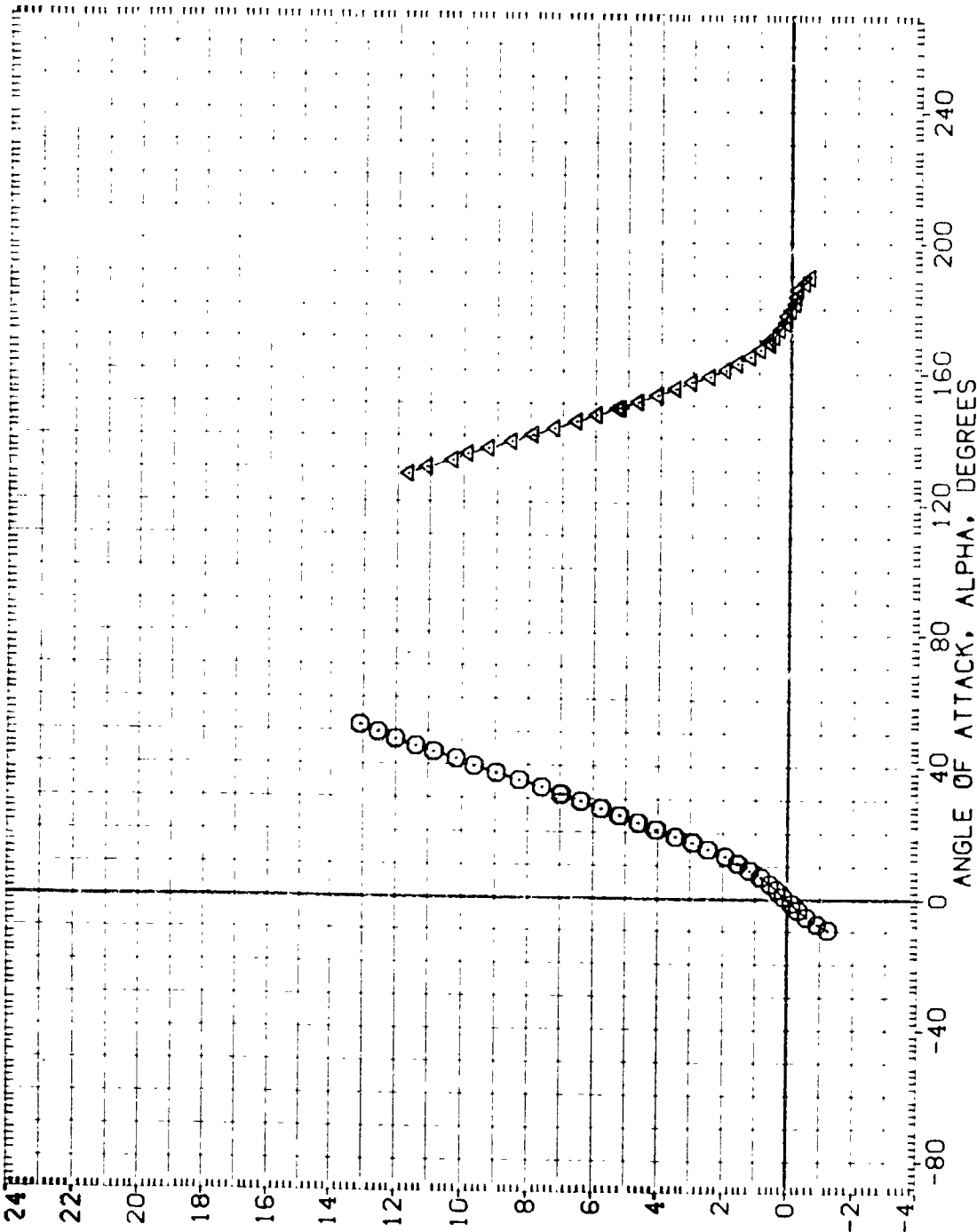


FIGURE 23. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 180)

(B) MACH = 4.45

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A11407) MSFC TVT504 (S18F) SRB WITH ALL PROTUBERANCES 180.000

(A11454) DATA NOT AVAILABLE 180.000

(A11407) DATA NOT AVAILABLE 180.000

(A11407) MSFC TVT504 (S18F) SRB WITH ALL PROTUBERANCES

PITCHING MOMENT COEFFICIENT, CLM (MISSILE AXIS SYSTEM)

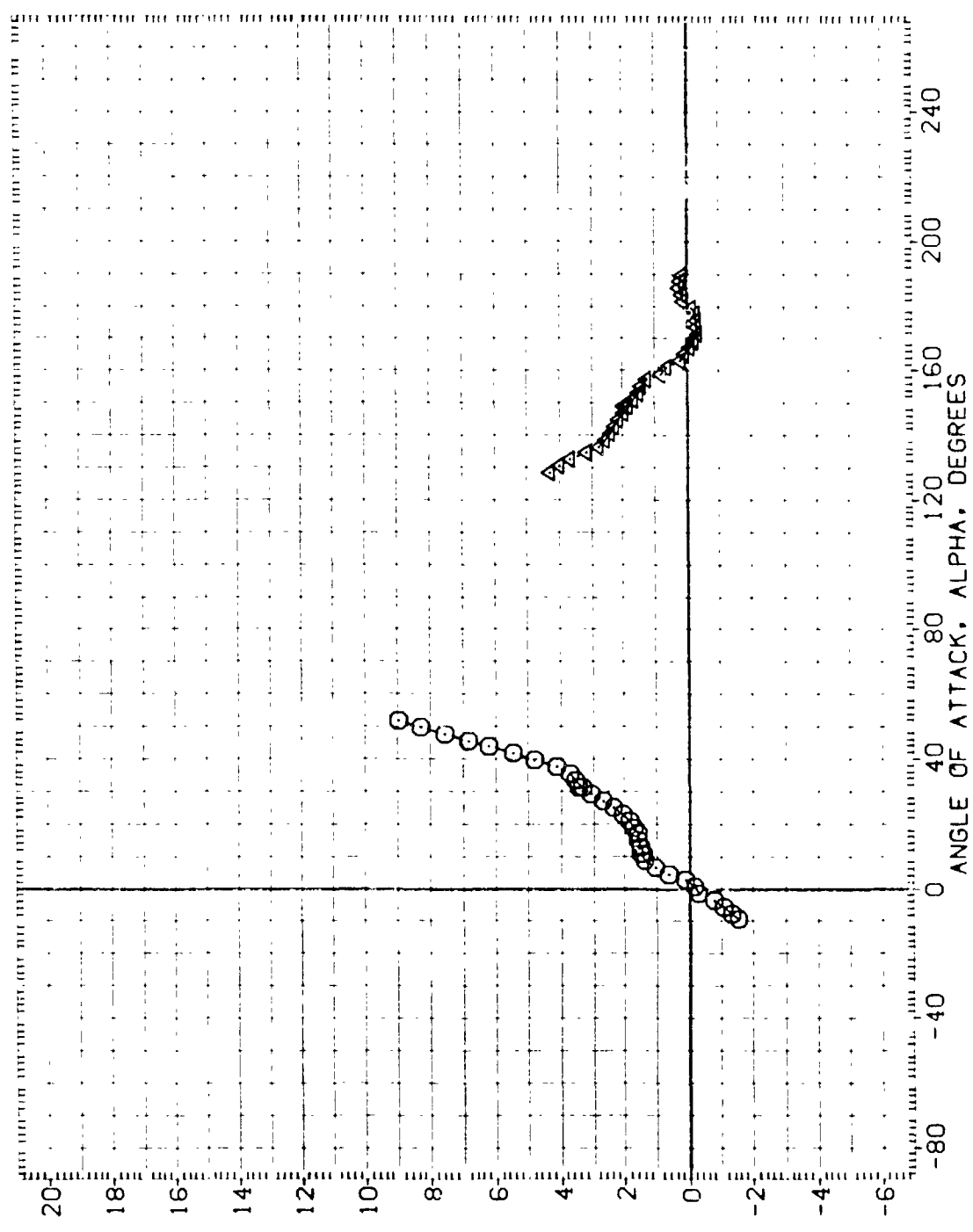


FIGURE 23. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 180)

(B)MACH = 4.45

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H07) MSFC TVT604 (SA8F) SRB WITH ALL PROTUBERANCES 180.000
 (A1H054) DATA NOT AVAILABLE 180.000
 (A1H07) DATA NOT AVAILABLE 180.000
 (A1H007) MSFC TVT604 (SA8F) SRB WITH ALL PROTUBERANCES

REFERENCE INFORMATION:
 SREF .5030 SQ. IN.
 LREF .300 IN.
 BRREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

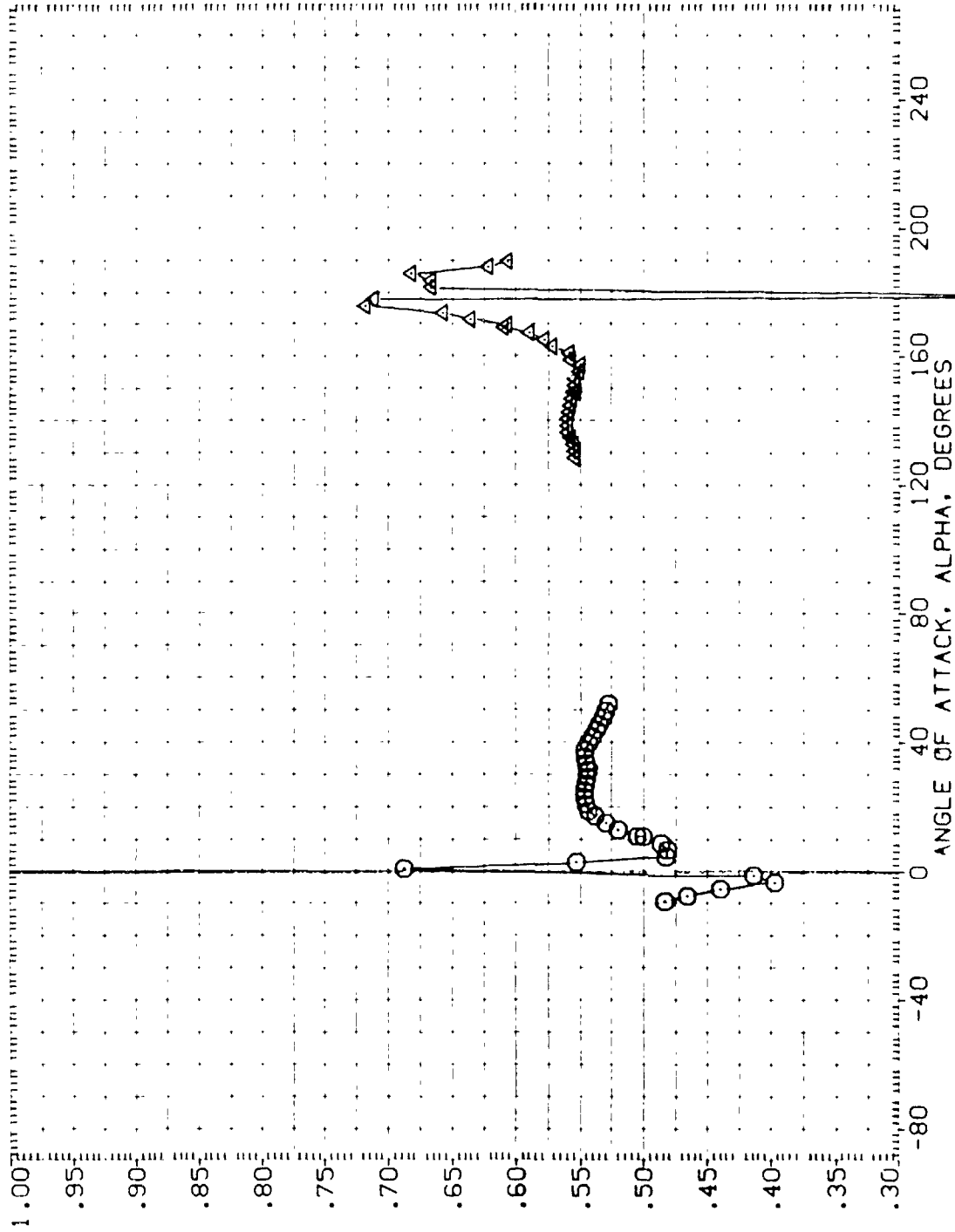


FIGURE 23. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 180)

(B)MAC = 4.45

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H07) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

(A1H054) DATA NOT AVAILABLE 180.000

(A1H07) DATA NOT AVAILABLE 180.000

(A1H07) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5 IN.

YMRP 7210 IN.

ZMRP .0000 IN.

SCALE .0055 IN.

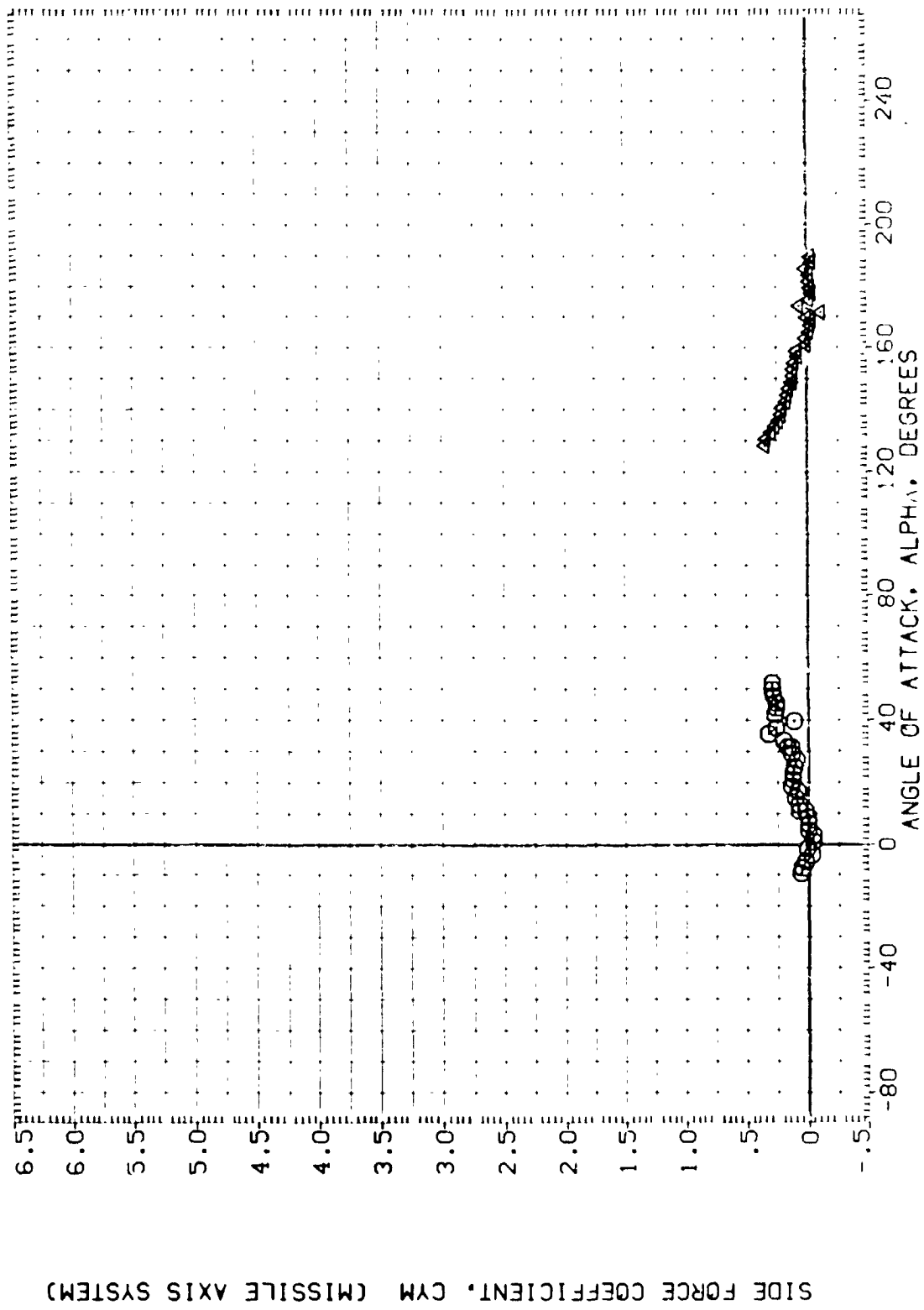


FIGURE 23. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 180)

REFERENCE INFORMATION
 SRB 5030 SQ. IN.
 LBREF 8000 N.
 BRBF 8500 N.
 XMRP 5.7210 N. XS
 YMRP .0000 N. YS
 ZMRP .0000 N. ZS
 SCALE .0055

PHI
 180.000
 180.000
 180.000

MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES
 DATA NOT AVAILABLE
 DATA NOT AVAILABLE
 MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H07) □ MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H054) □ DATA NOT AVAILABLE
 (A1H07) X DATA NOT AVAILABLE
 (A1H007) X MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES

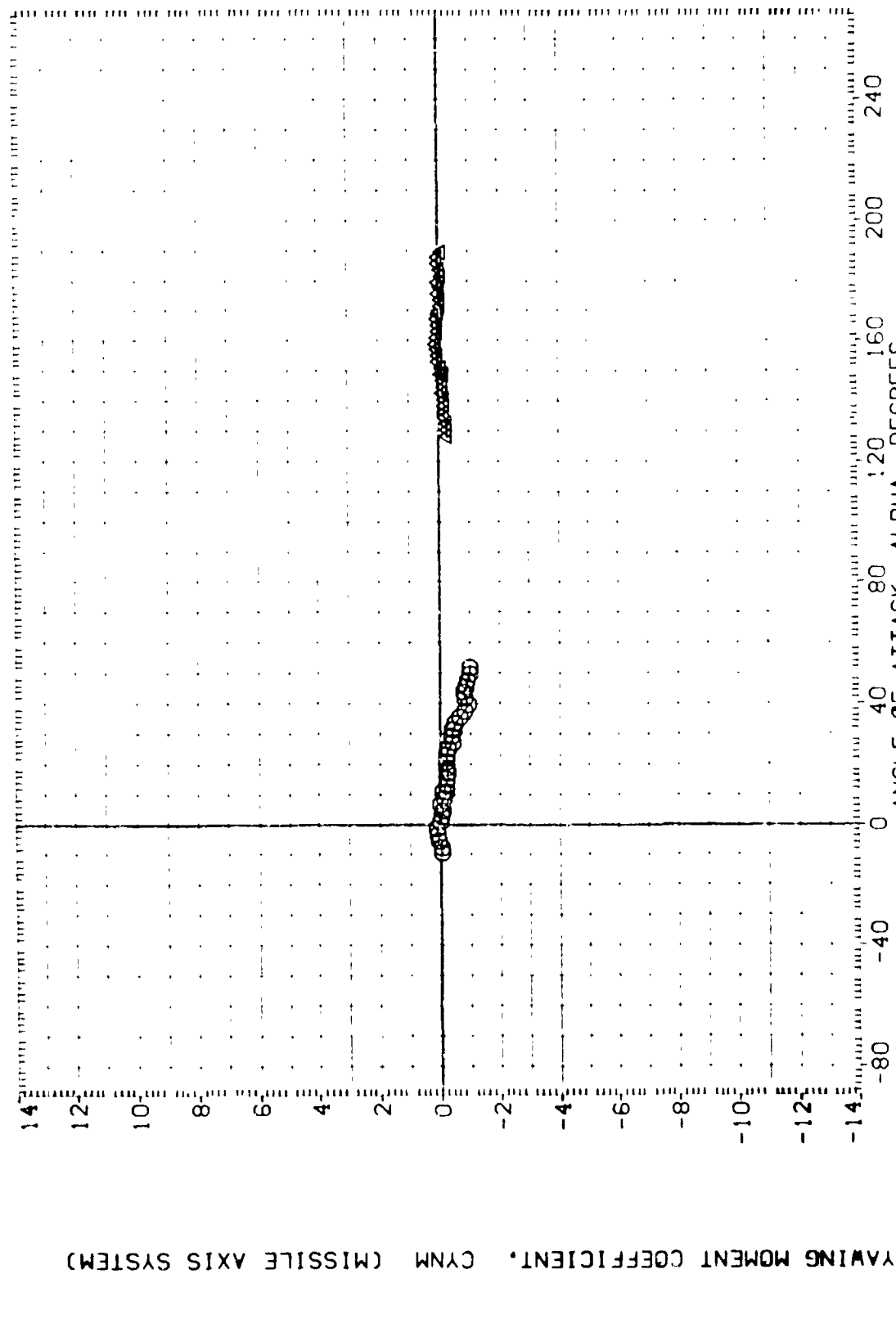


FIGURE 23. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 180)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H07) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

(A1H054) DATA NOT AVAILABLE 180.000

(A1H07) DATA NOT AVAILABLE 180.000

(A1H007) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES

REFERENCE INFORMATION

SREF 1.000 SO N

LINEF 8000 IN

BREF 5.7210 IN XS

XMRP .0000 IN YS

ZMRP .0000 IN ZS

SCALE .0055

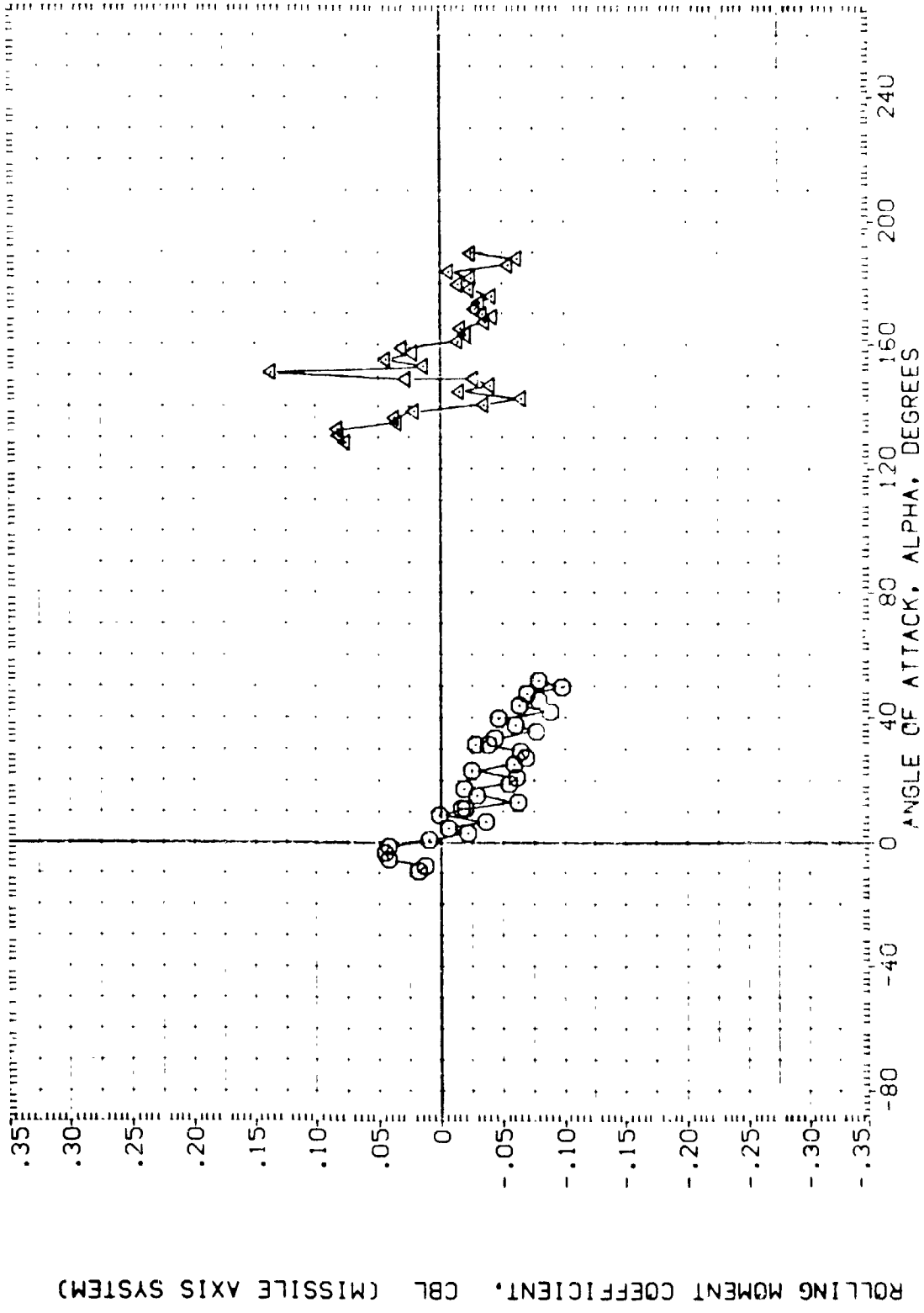


FIGURE 23. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 180)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H060) MSFC TVT604 (SAB) SRB WITH ALL PROTUBERANCES 225.000

(A1H061) MSFC TVT604 (SAB) SRB WITH ALL PROTUBERANCES 225.000

(A1H062) MSFC TVT604 (SAB) SRB WITH ALL PROTUBERANCES 225.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

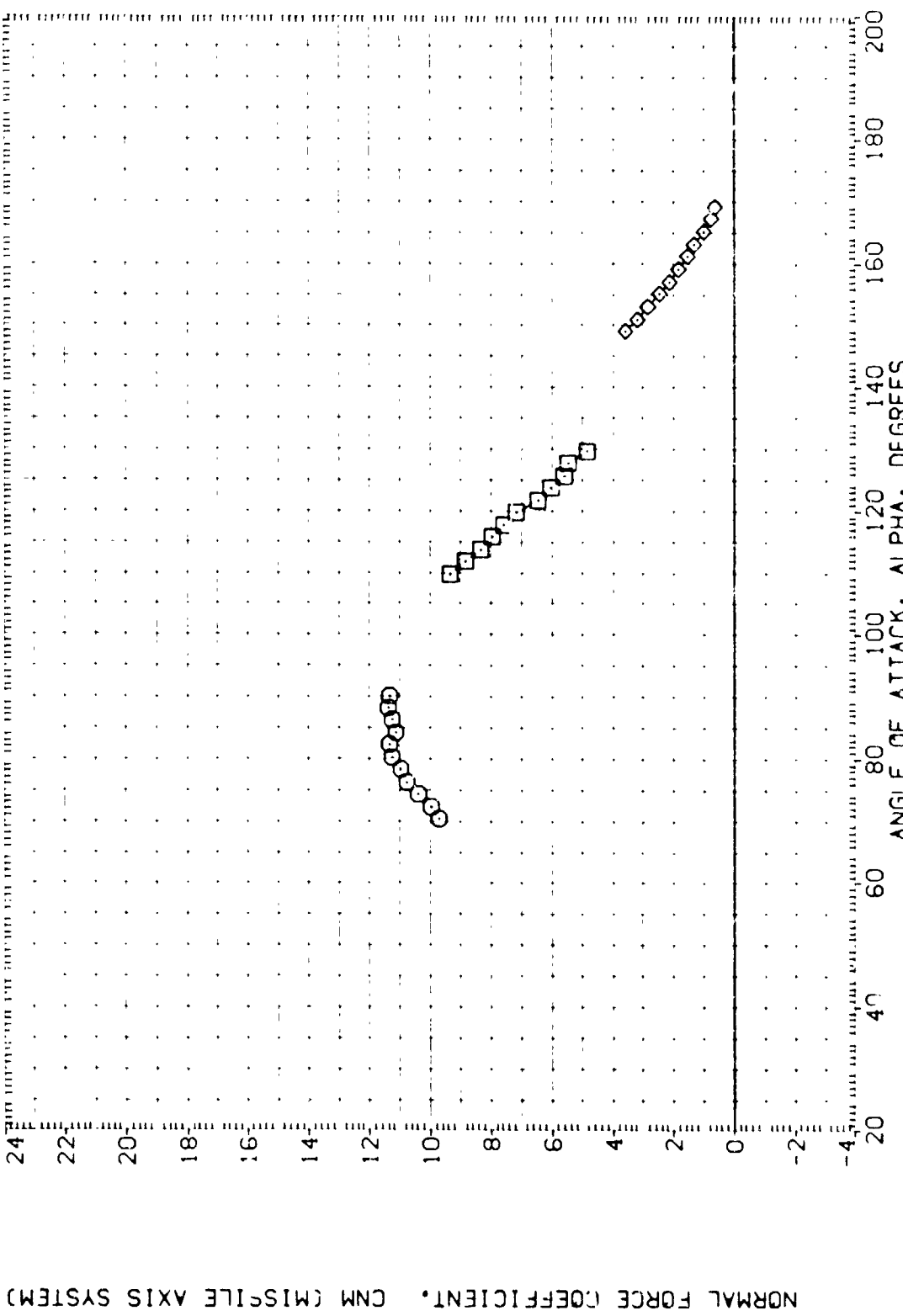


FIGURE 24. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 225)

(A) MACH = .40 PAGE 351

DATA SET SYMBOL: (H060) (A1H061) (A1H062)
 CONFIGURATION: *SFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 *SFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 *SFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 *SFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 REFERENCE: DIMENSION: 50.00 N. X
 DIMENSION: 8000 N. Y
 DIMENSION: 8000 N. Z
 DIMENSION: 5.7210 N. XS
 DIMENSION: .0000 N. YS
 DIMENSION: .0000 N. ZS
 DIMENSION: .0055 SCALE

PITCHING MOMENT COEFFICIENT, CLM (MISSILE AXIS SYSTEM)

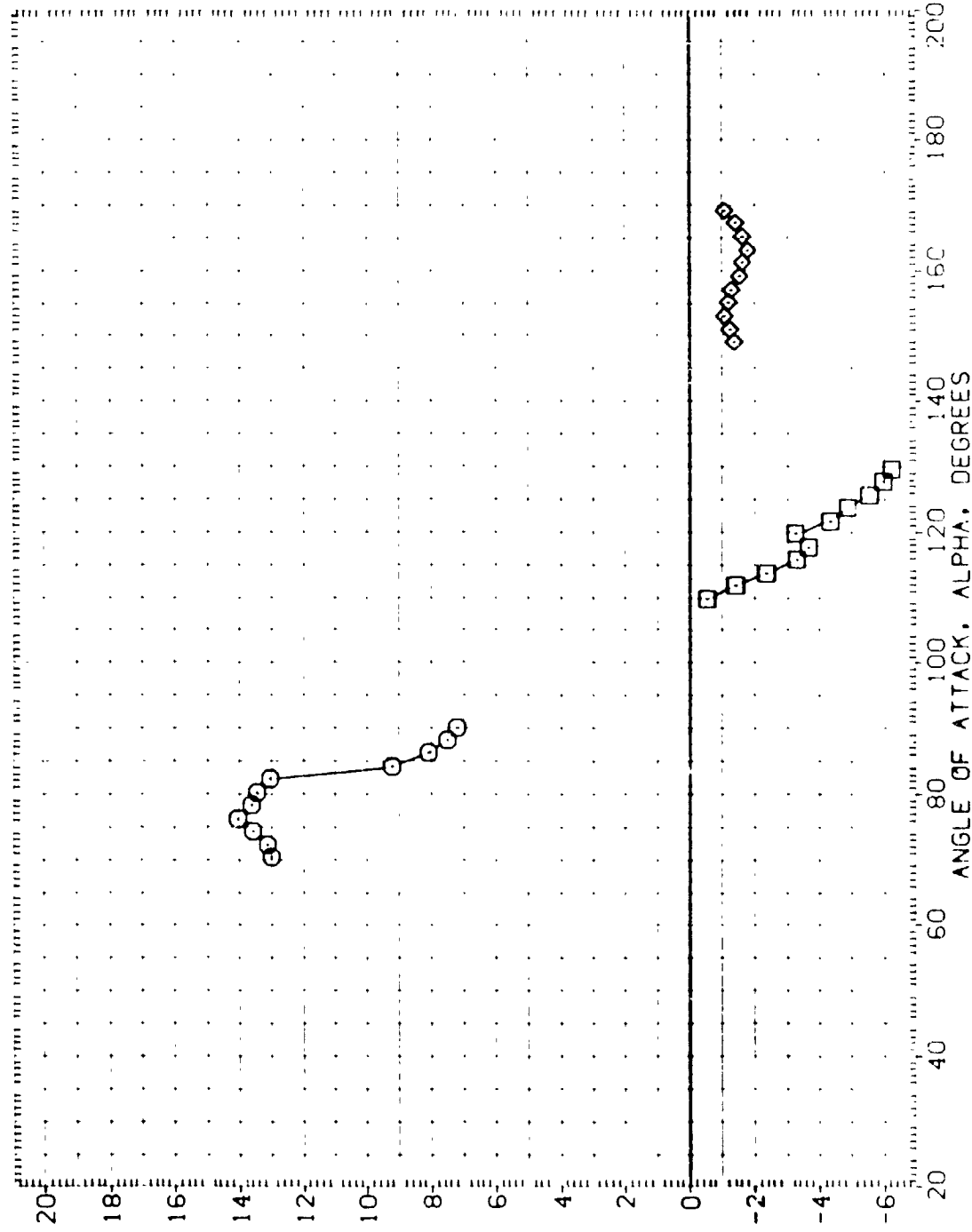


FIGURE 24. STATIC STABILITY CHARACTERISTICS OF SRB W/ALL PROTUBERANCES (PHI = 225)

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(A1H060)	MSFC TV1604 (SAB) SRB WITH ALL PROTUBERANCES	225.000	SREF .5030 SQ. IN.
(A1H061)	MSFC TV1604 (SAB) SRB WITH ALL PROTUBERANCES	225.000	LREF .8000 IN.
(A1H062)	MSFC TV1604 (SAB) SRB WITH ALL PROTUBERANCES	225.000	BREF .8000 IN.
			XMRP 5.7210 IN. XS
			YMRP .0000 IN. YS
			ZMRP .0000 IN. ZS
			SCALE .0055

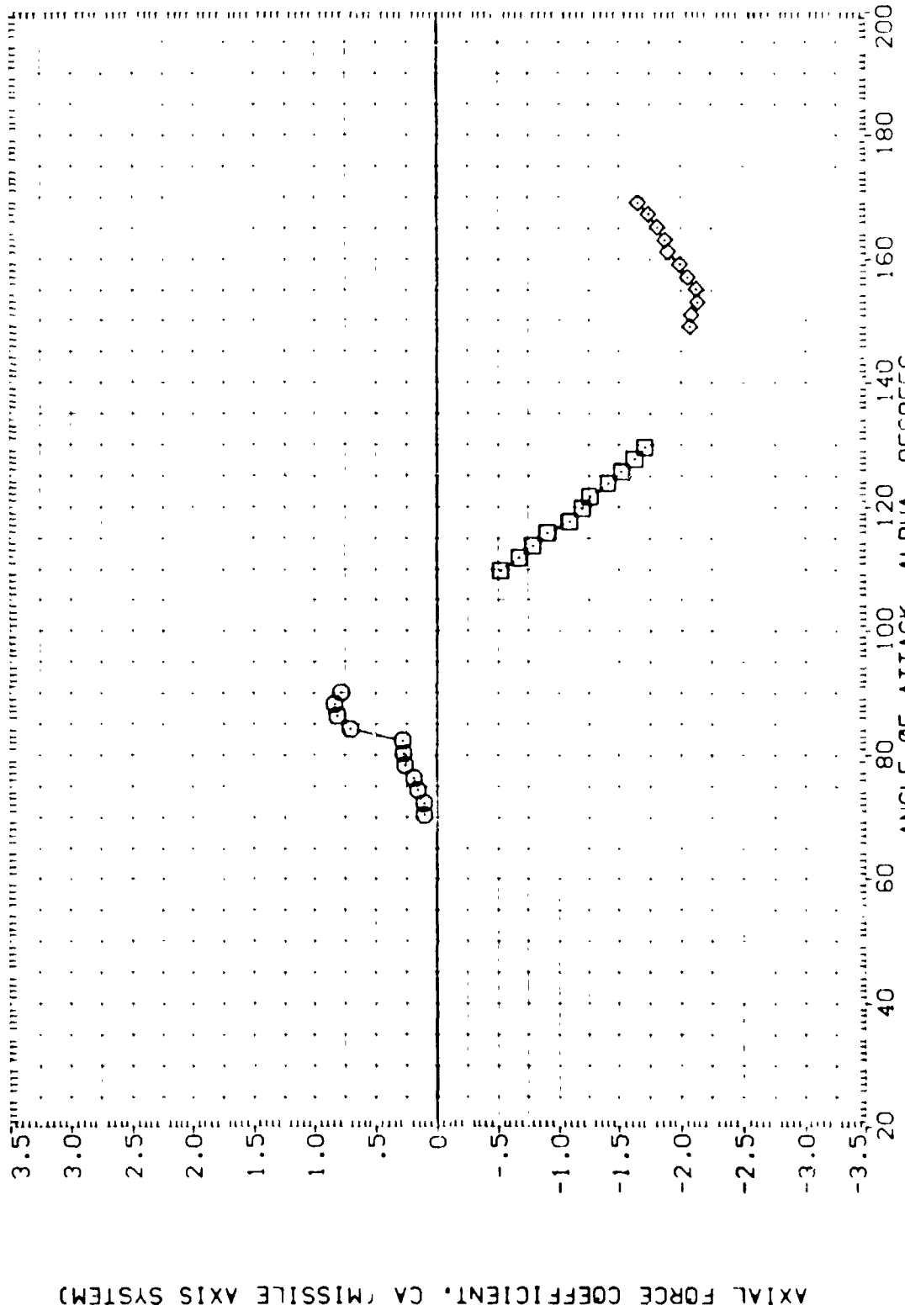


FIGURE 24. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 225)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A11-0601) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 225.000

(A11-0611) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 225.000

(A11-0621) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 225.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .6000 IN.

BREF .8000 IN.

MREF 5.0000 IN.

YMRP .0000 IN.

ZMRP .0000 IN.

SCALE .0055

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

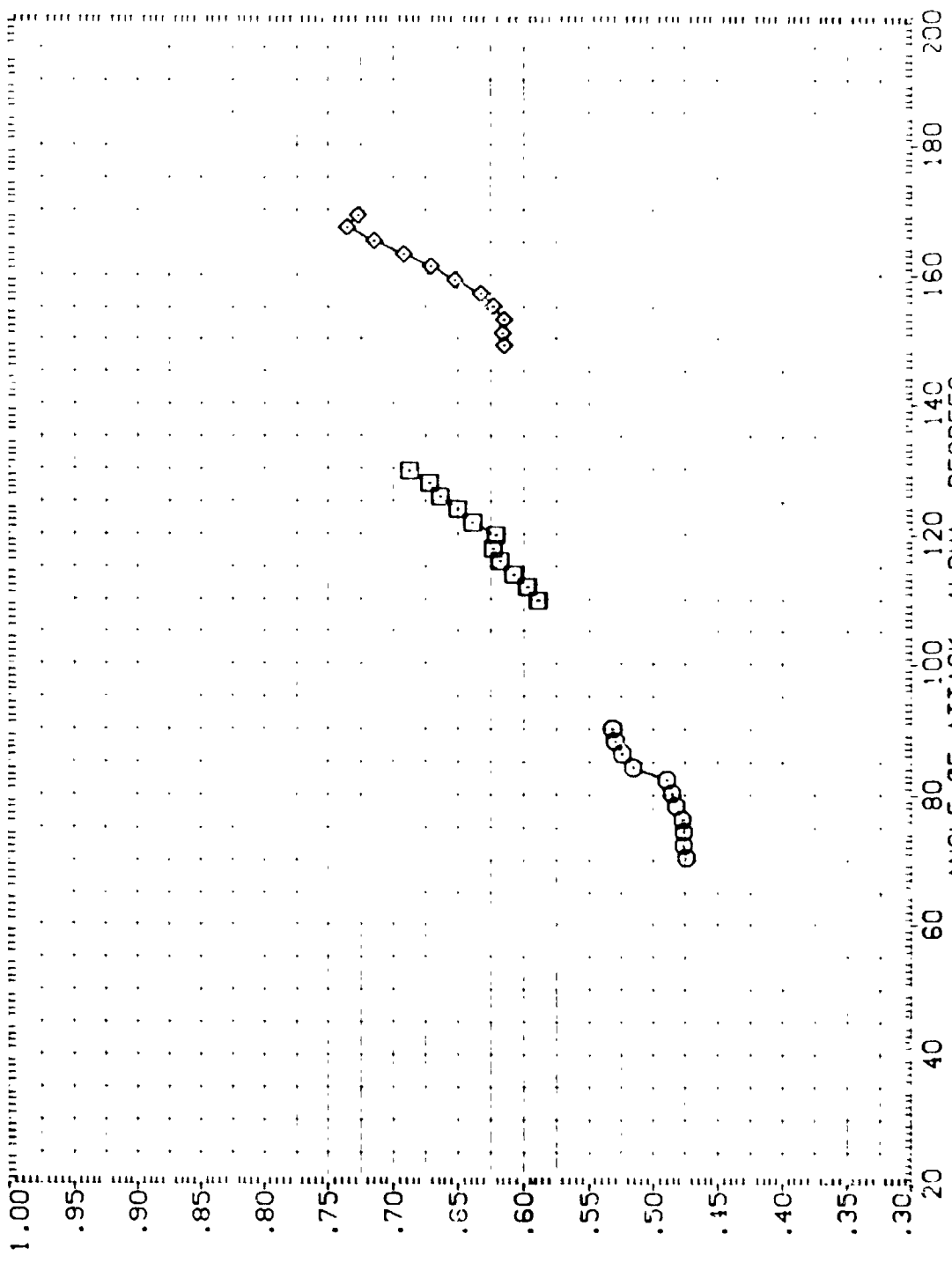


FIGURE 24. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 225)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H0601) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 225.000

(A1H0611) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 225.000

(A1H0621) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 225.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

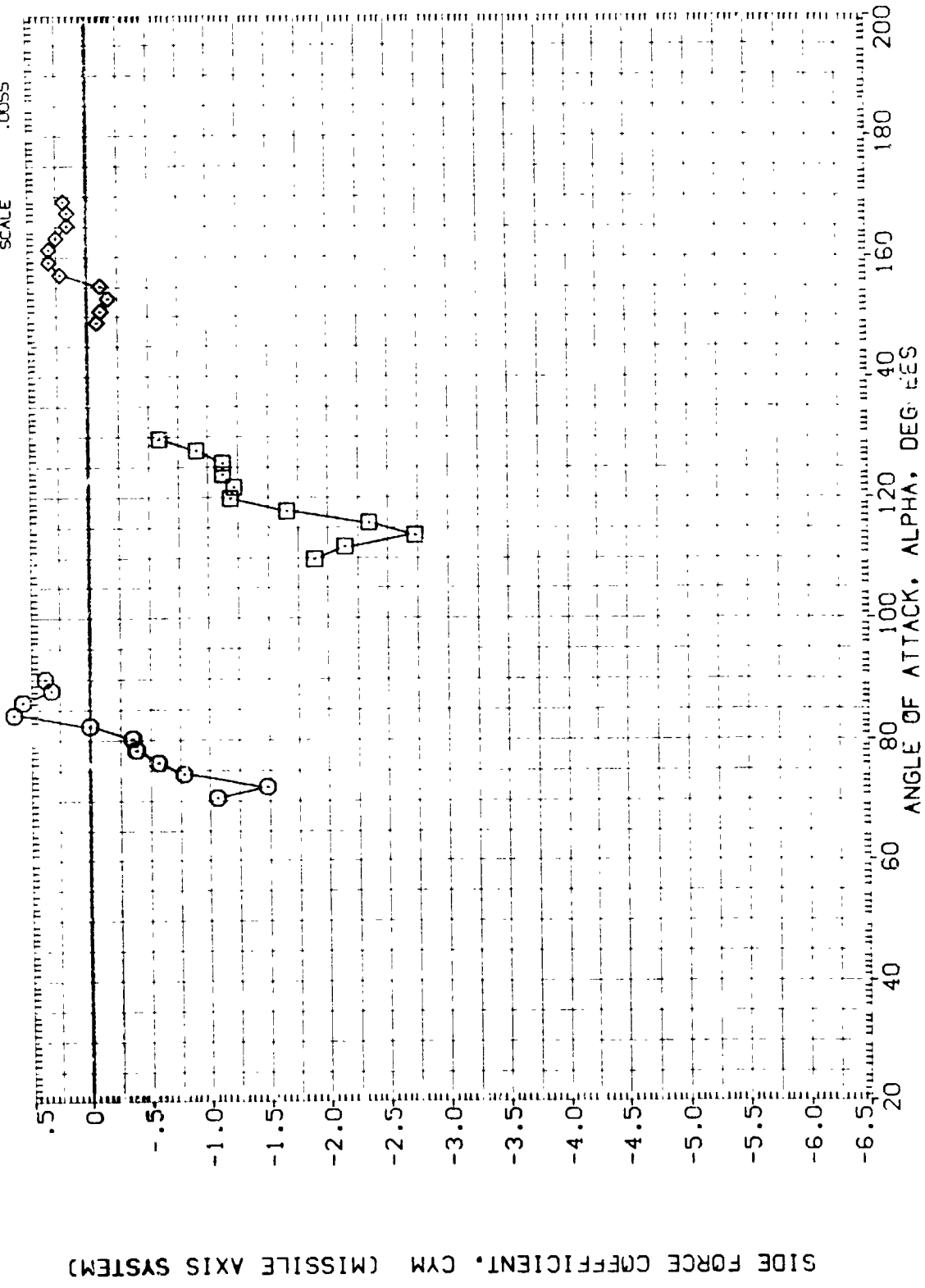


FIGURE 24. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 225)

REFERENCE INFORMATION
 SREF .5030 SO. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 YMRP 5.7210 IN. XS
 ZMRP .0000 IN. YS
 SCALE .0055 IN. ZS

PHI
 225.000
 225.000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (AIH050) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (AIH051) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (AIH052) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

YAWING MOMENT COEFFICIENT, C_{YM} (MISSILE AXIS SYSTEM)

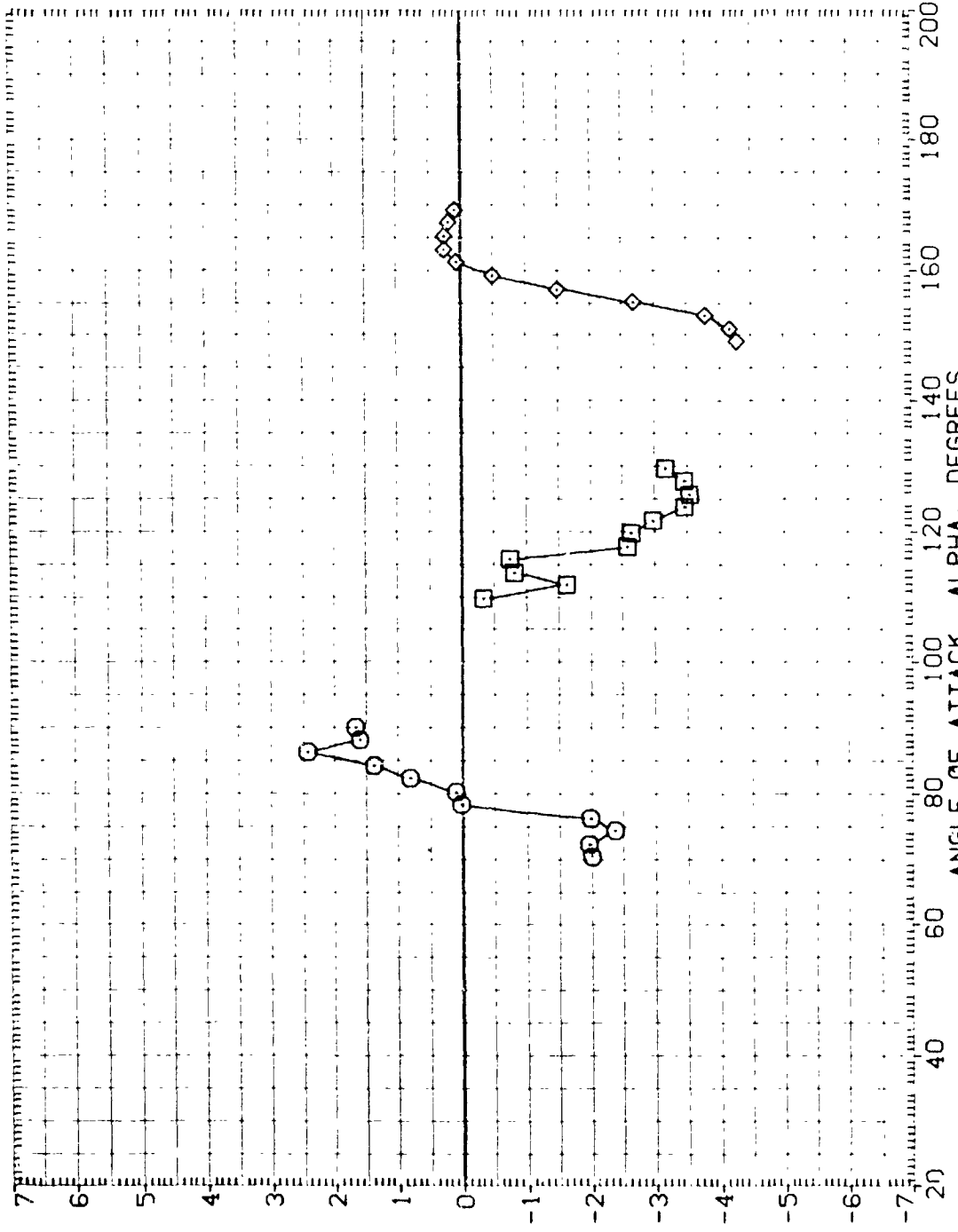


FIGURE 24. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 225)

MACH = .40 PAGE 356

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(A1H060)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	225.000	SREF .5030 SQ. IN.
(A1H061)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	225.000	LREF .8000 IN.
(A1H062)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	225.000	BREF .8000 IN.
			5.7210 IN. XS
			YMRP .0000 IN. YS
			ZMRP .0000 IN. ZS
			SCALE .0055

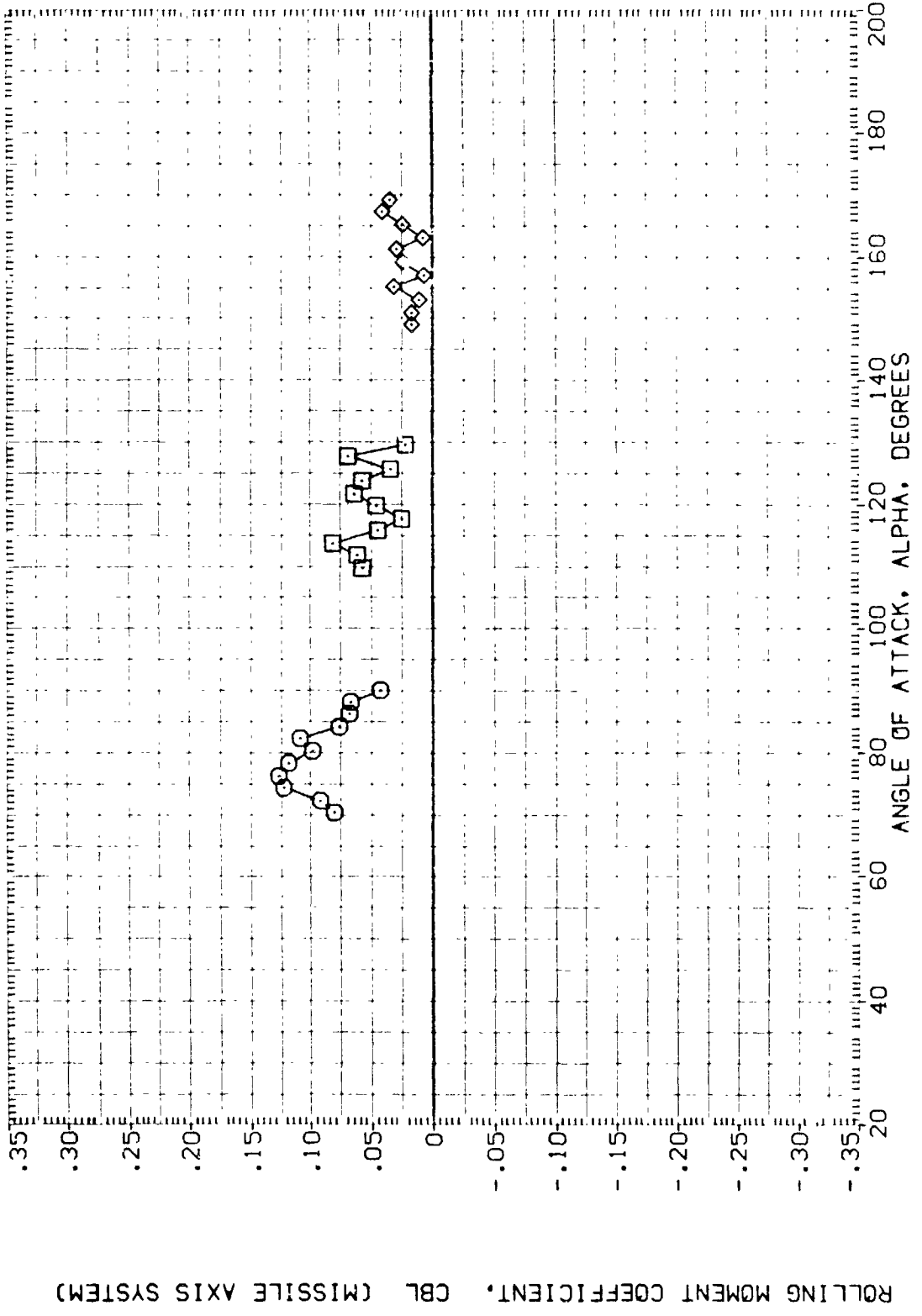


FIGURE 24. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 225)

(A) MACH = .40

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H060) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 225.000

(A1H061) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 225.000

(A1H062) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 225.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

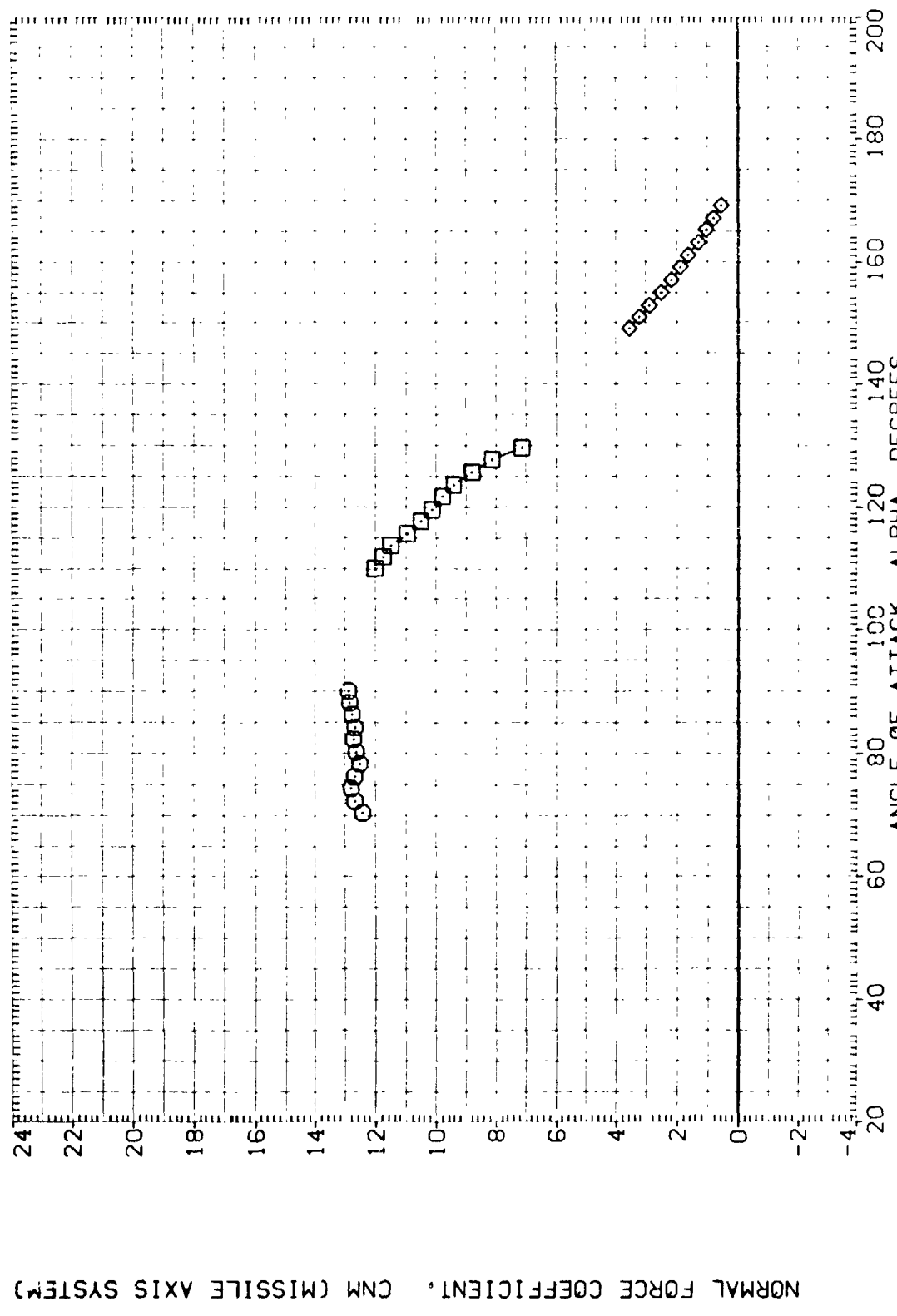


FIGURE 24. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 225)

(B)MACH = .60

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A11-060) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 225.000

(A11-061) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 225.000

(A11-062) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 225.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .9000 IN.

XMRP 5.7210 IN.

YMRP .0000 IN.

ZMRP .0000 IN.

SCALE .0055

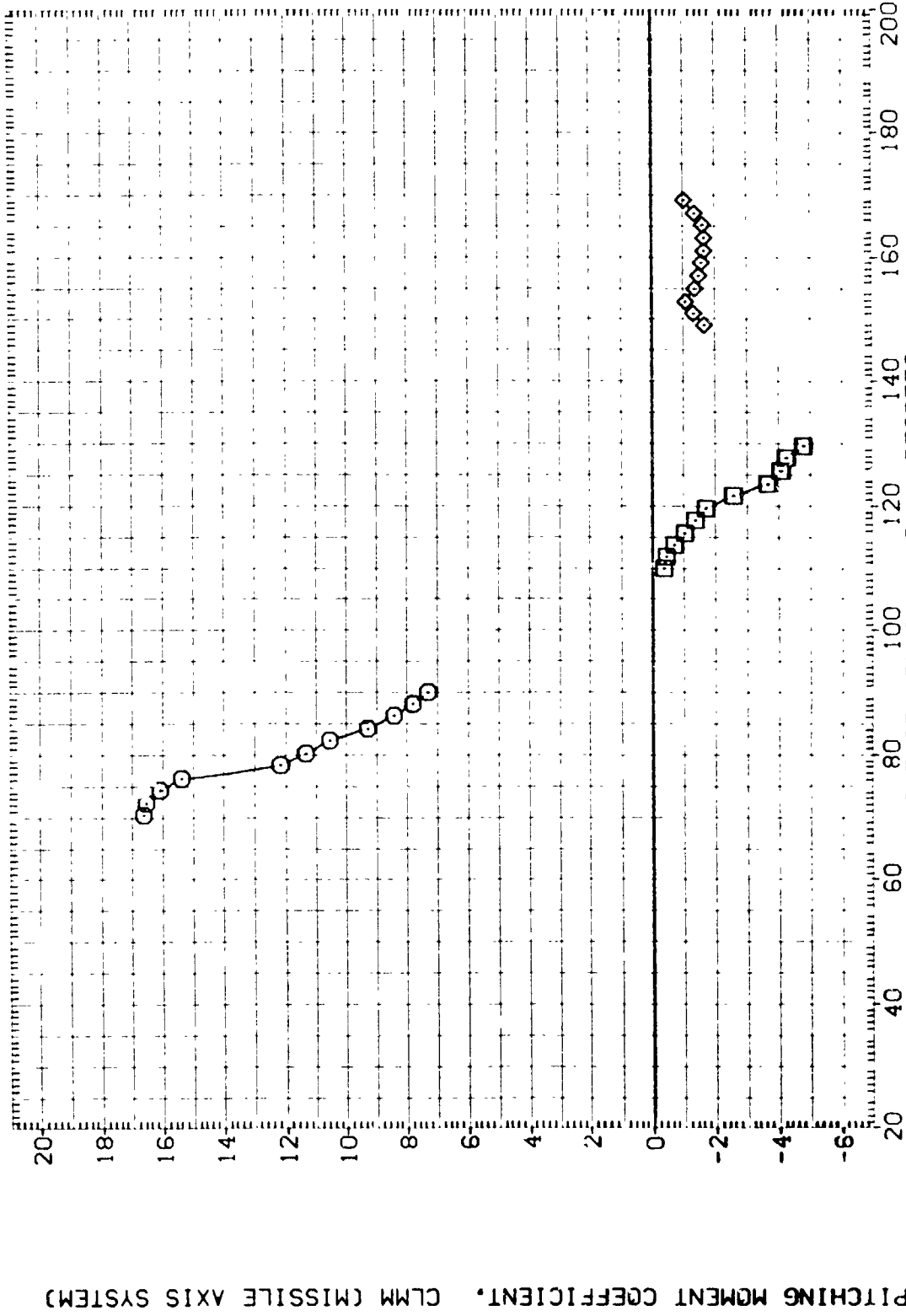


FIGURE 24. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 225)

(B) MACH = .60

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI
 (A1H060) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 225.000
 (A1H061) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 225.000
 (A1H062) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 225.000

REFERENCE INFORMATION
 SREF .503C SQ. IN.
 LREF .800C IN.
 BREF .800C IN.
 XMRP 5.721C IN. XS
 YMRP .000C IN. YS
 ZMRP .000C IN. ZS
 SCALE .005C

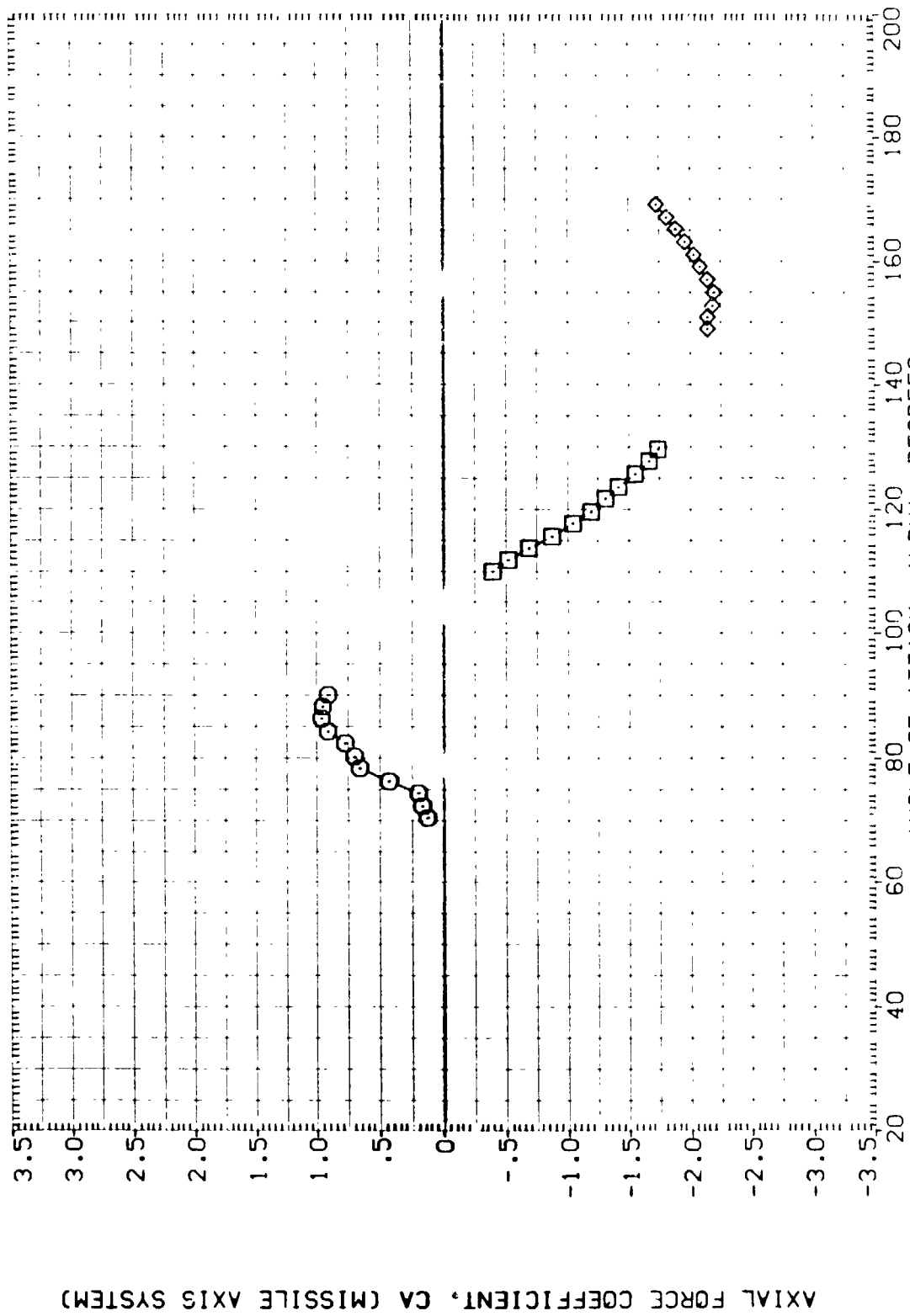


FIGURE 24. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 225)

DATA SET SYMBOL (A1H060) (A1H061) (A1H062)

CONFIGURATION DESCRIPTION: MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES; MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES; MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI: 225.000; 225.000; 225.000

REFERENCE INFORMATION: SREF: 50.00 IN.; LREF: 80.00 IN.; BREF: 80.00 IN.; XMRP: 5.7210 IN.; YMRP: .0000 IN.; ZMRP: .0000 IN.; SCALE: .0055

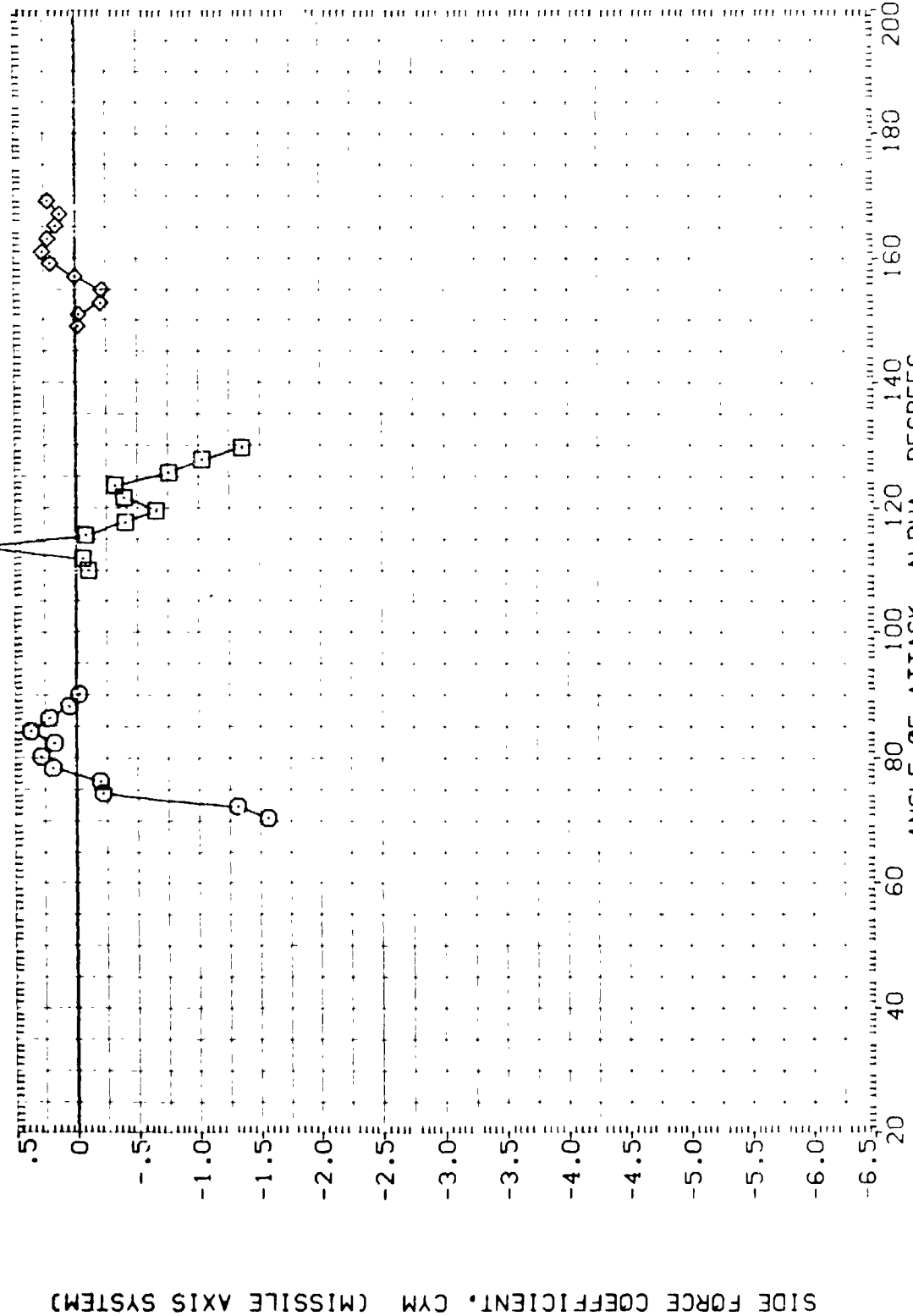


FIGURE 24. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 225)

(8) MACH = .60

PAGE 362

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H060) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 225.000

(A1H061) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 225.000

(A1H062) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 225.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

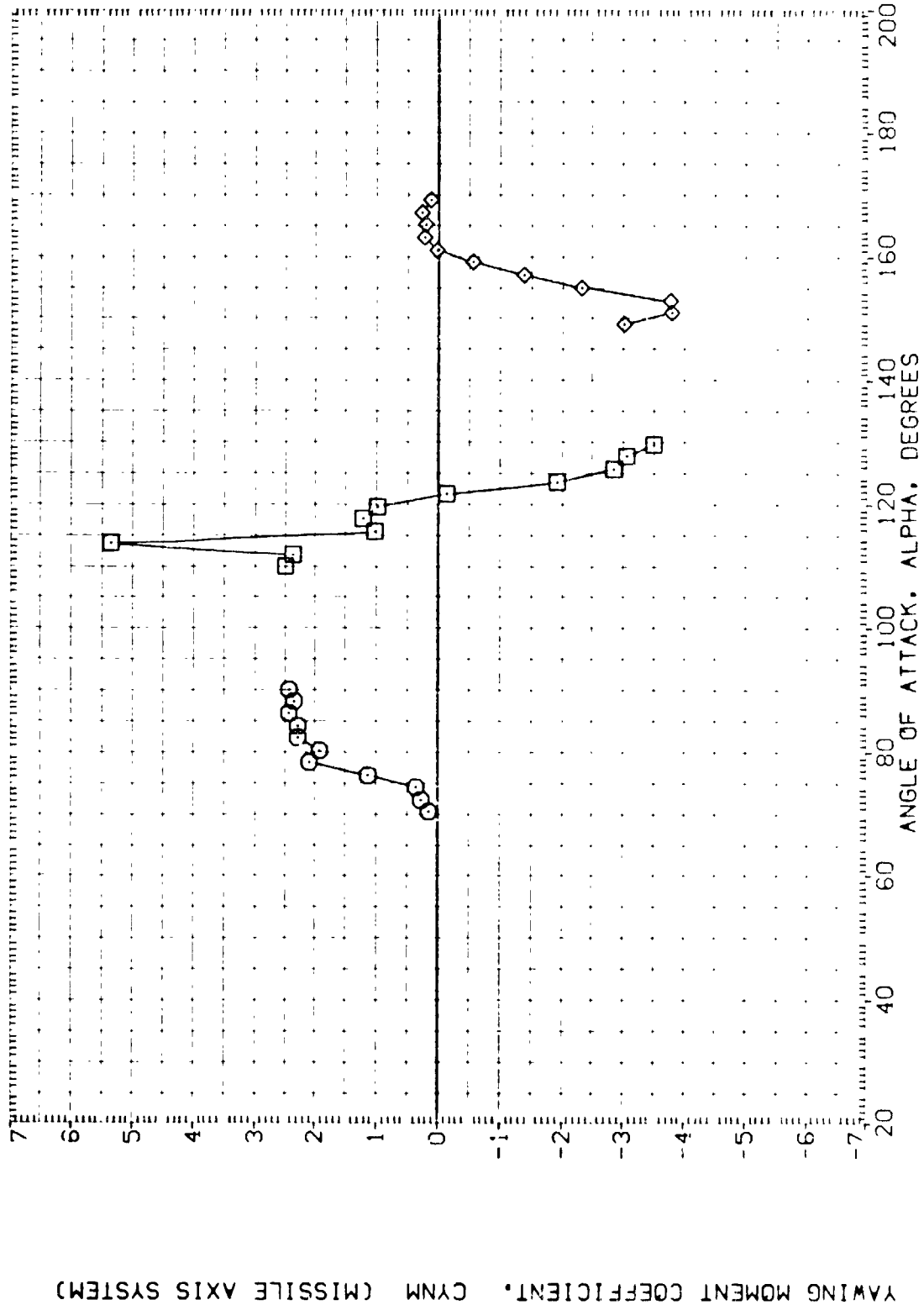


FIGURE 24. STATIC STABILITY CHARACTERISTICS OF SRB W/WALL PROTUBERANCES (PHI = 225)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H060) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 225.000

(A1H061) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 225.000

(A1H062) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 225.000

REFERENCE INFORMATION

SREF 5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

ROLLING MOMENT COEFFICIENT, CBL (MISSILE AXIS SYSTEM)

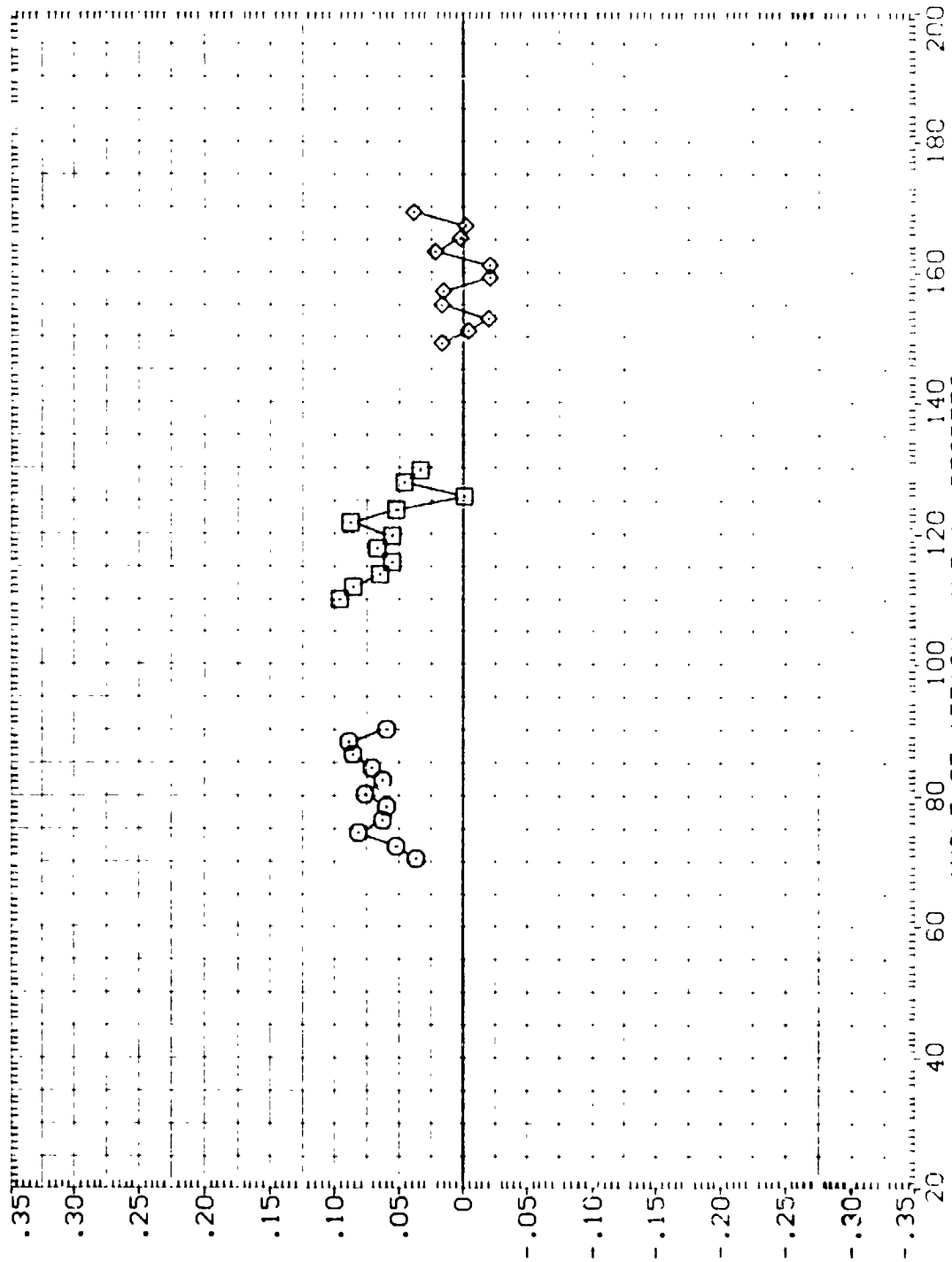


FIGURE 24. STATIC STABILITY CHARACTERISTICS OF SRB W/ALL PROTUBERANCES (PHI = 225)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H060) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 225.000

(A1H061) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 225.000

(A1H062) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 225.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7213 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

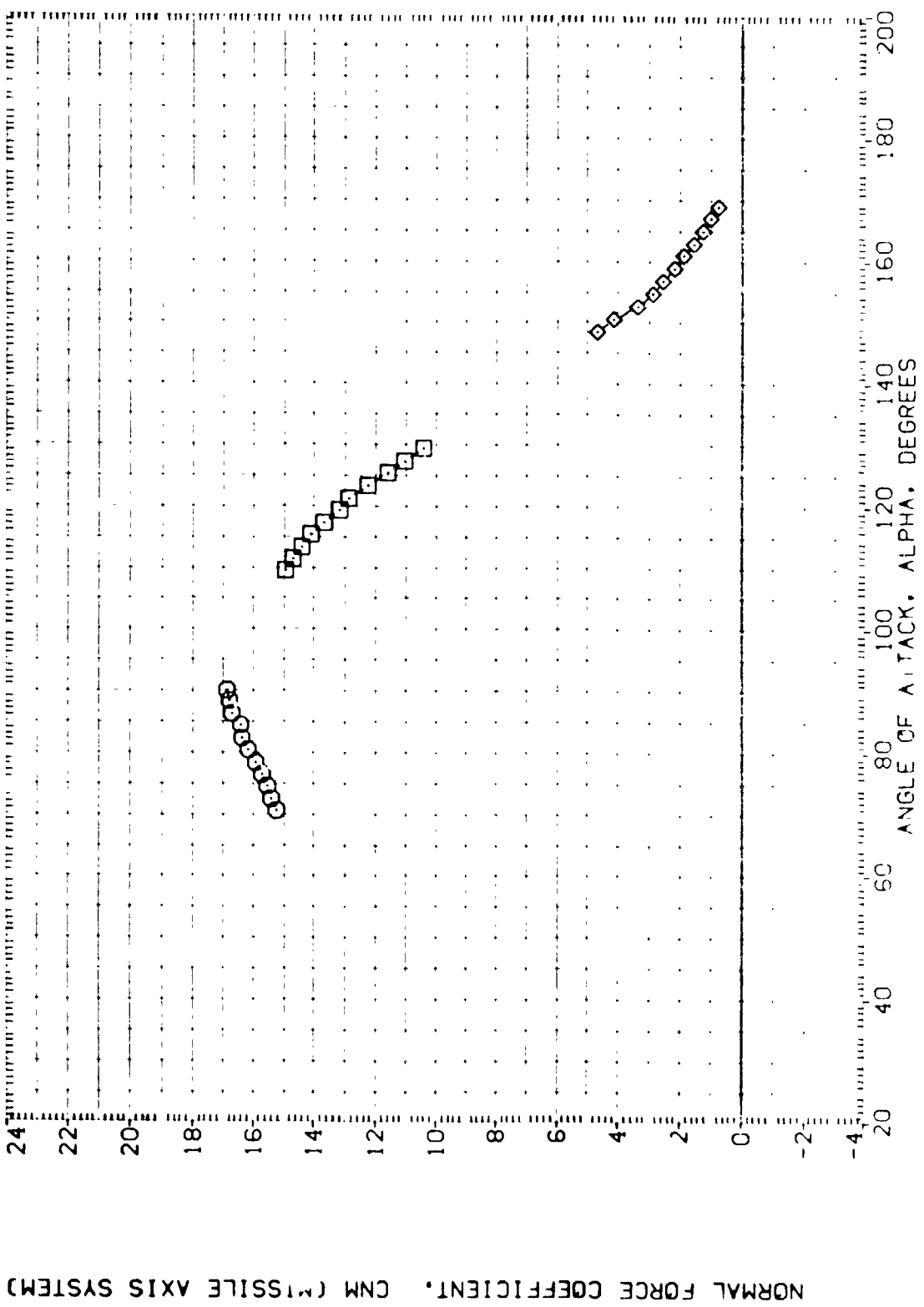


FIGURE 24. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 225)

(M)MACH = .90

DATA SET SYMBOL
 (A1H050)
 (A1H051)
 (A1H052)

PHI
 225.000
 225.000
 225.000

CONFIGURATION DESCRIPTION
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

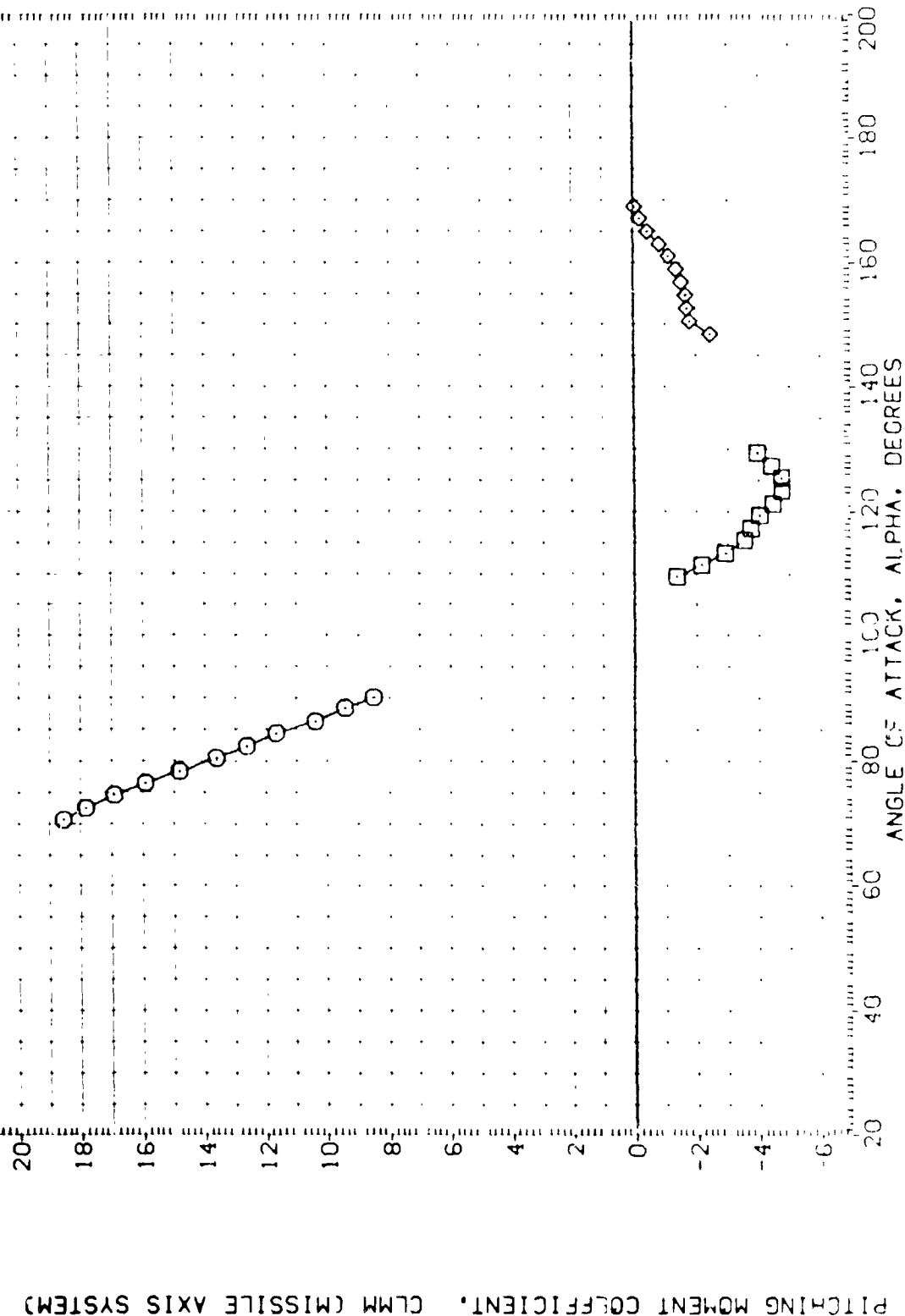


FIGURE 24. STABILITY CHARACTERISTICS OF SRB W/ALL PROTUBERANCES (PHI = 225)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H050) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 225.000

(A1H051) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 225.000

(A1H052) MSFC TVT6-4 (SABF) SRB WITH ALL PROTUBERANCES

REFERENCE INFORMATION

SREF 5030 SQ. IN.

LREF 6000 IN.

BREF 6000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

AXIAL FORCE COEFFICIENT, CA (MISSILE AXIS SYSTEM)

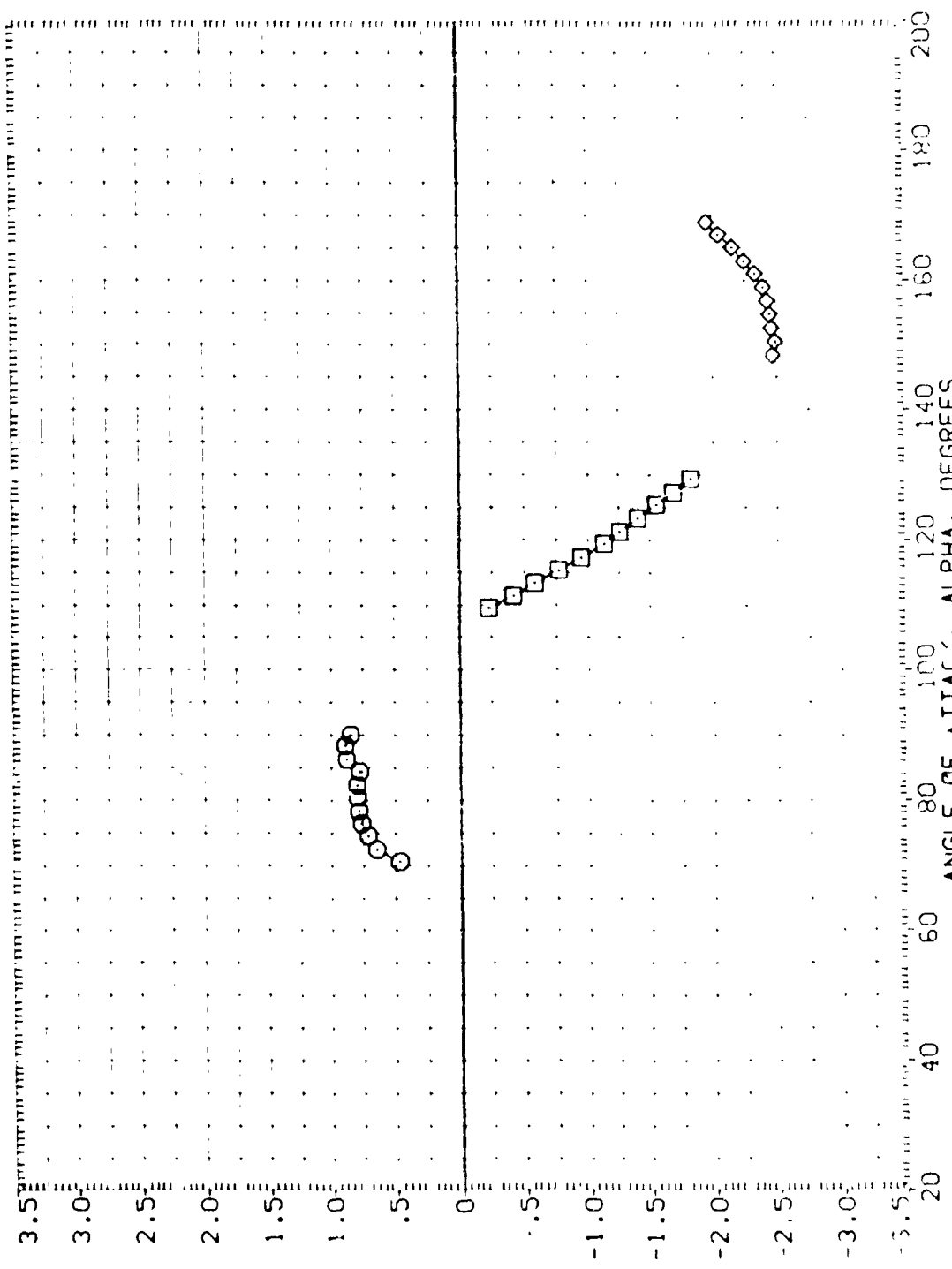


FIGURE 24. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 225)

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

DATA SET SYMBOL (A1H060) (A1H061) (A1H062)

CONFIGURATION DESCRIPTION
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI
 225.000
 225.000
 225.000

REFERENCE INFORMATION
 SREF .5C30 SQ. IN.
 LREF .8C00 IN.
 BREF .8C00 IN.
 XMRP 5.7210 IN. XS
 YMRP .0C00 IN. YS
 ZMRP .0C00 IN. ZS
 SCALE .0C55

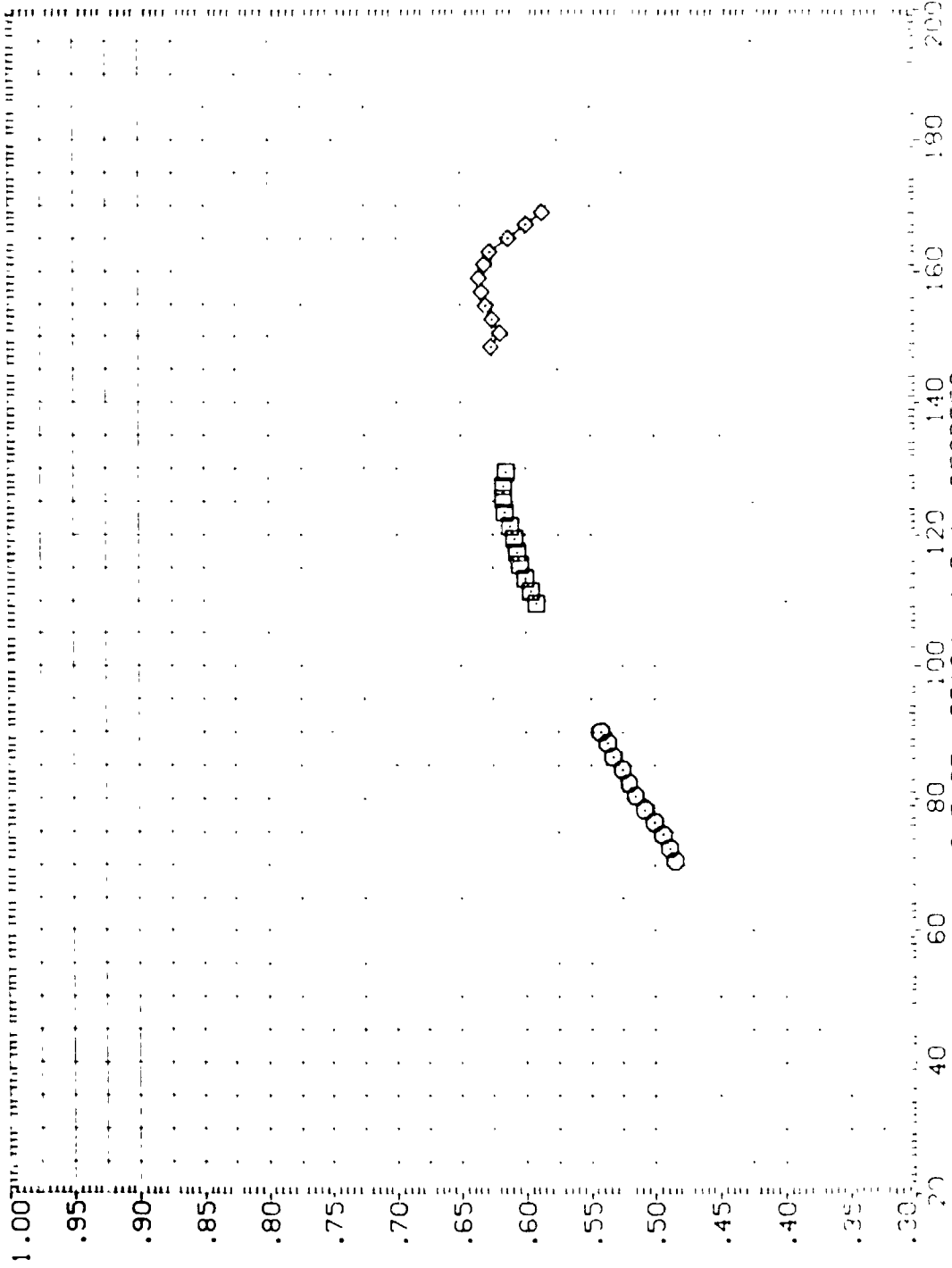


FIGURE 24. STATIC STABILITY CHARACTERISTICS OF SRB W/ALL PROTUBERANCES (PHI = 225)

(C)MACH = .90 PAUSE 348

DATA SET SYMBOL COF. FIGURATION DESCRIPTION PHI

(A1H060) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 225.000

(A1H061) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 225.000

(A1H062) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 225.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

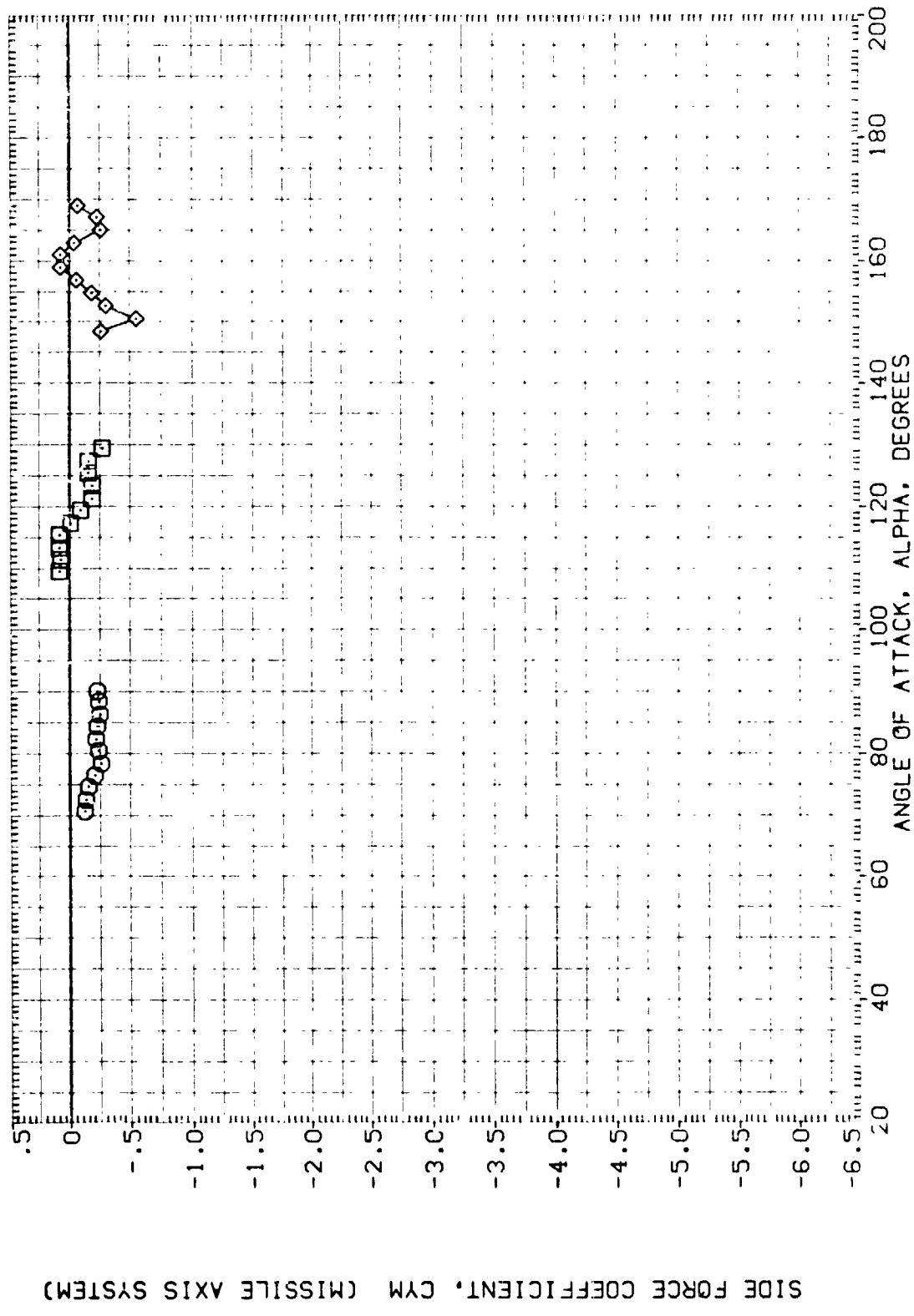


FIGURE 24. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 225)

(C)MACH = .90

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H060) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 225.000

(A1H061) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 225.000

(A1H062) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 225.000

REFERENCE INFORMATION

SREF .5730 IN. X5

LREF .8000 IN. Y5

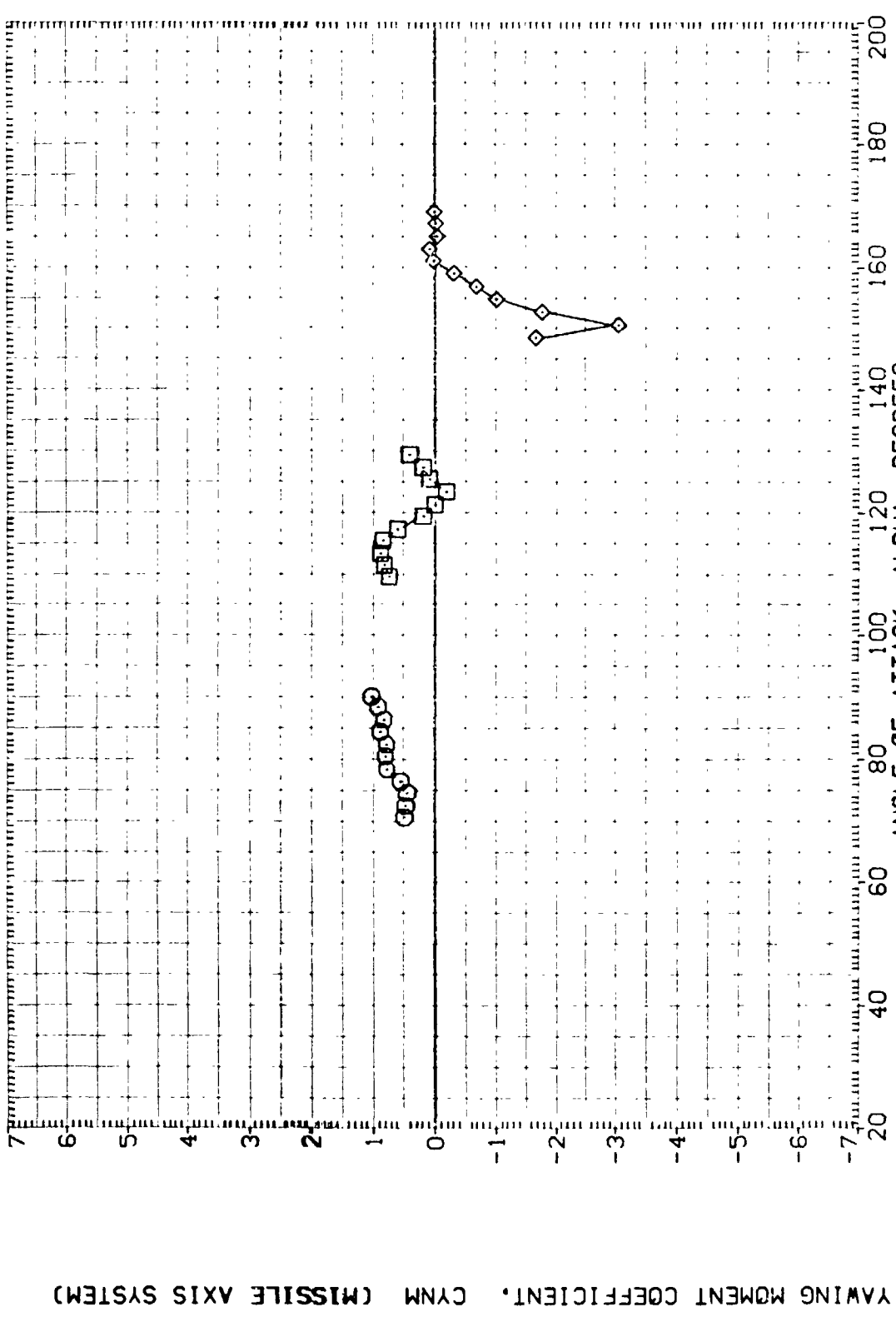
BREF .8000 IN. Z5

XMPP 5.7210 IN. X5

YMP .0000 IN. Y5

ZMP .0000 IN. Z5

SCALE .0055



YAWING MOMENT COEFFICIENT, CYNM (MISSILE AXIS SYSTEM)

FIGURE 24. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 225)

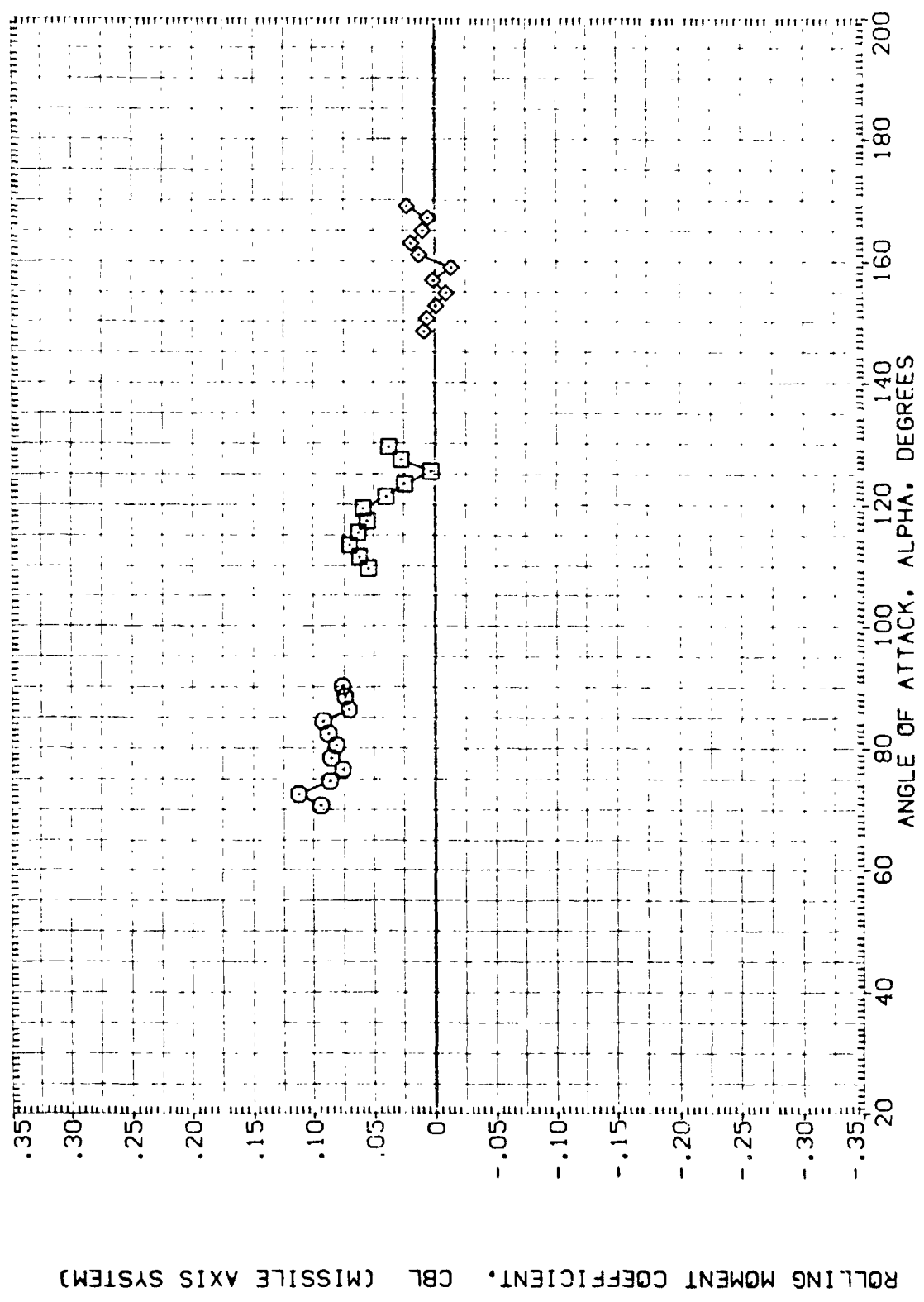
(C) MACH = .90

DATA SET SYMBOL (AIH050) (AIH051) (AIH052)

CONFIGURATION DESCRIPTION MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI 225.000 225.000 225.000

REFERENCE INFORMATION SREF .5030 SQ. IN. LREF .8000 IN. BREF .8000 IN. XMRP 5.7210 IN. XS ZMRP .0000 IN. YS SCALE .0055 IN. ZS



ROLLING MOMENT COEFFICIENT, CBL (MISSILE AXIS SYSTEM)

ANGLE OF ATTACK, ALPHA, DEGREES

FIGURE 24. STATIC STABILITY CHARACTER OF SRB W/ALL PROTUBERANCES (PHI = 225)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H060) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 225.000

(A1H061) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 225.000

(A1H062) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 225.000

REFERENCE INFORMATION

SREF .5030 IN.

LREF .8030 IN.

BREF .8030 IN.

YMRP 5.7210 IN.

ZMRP .0000 IN.

SCALE .0035 IN.

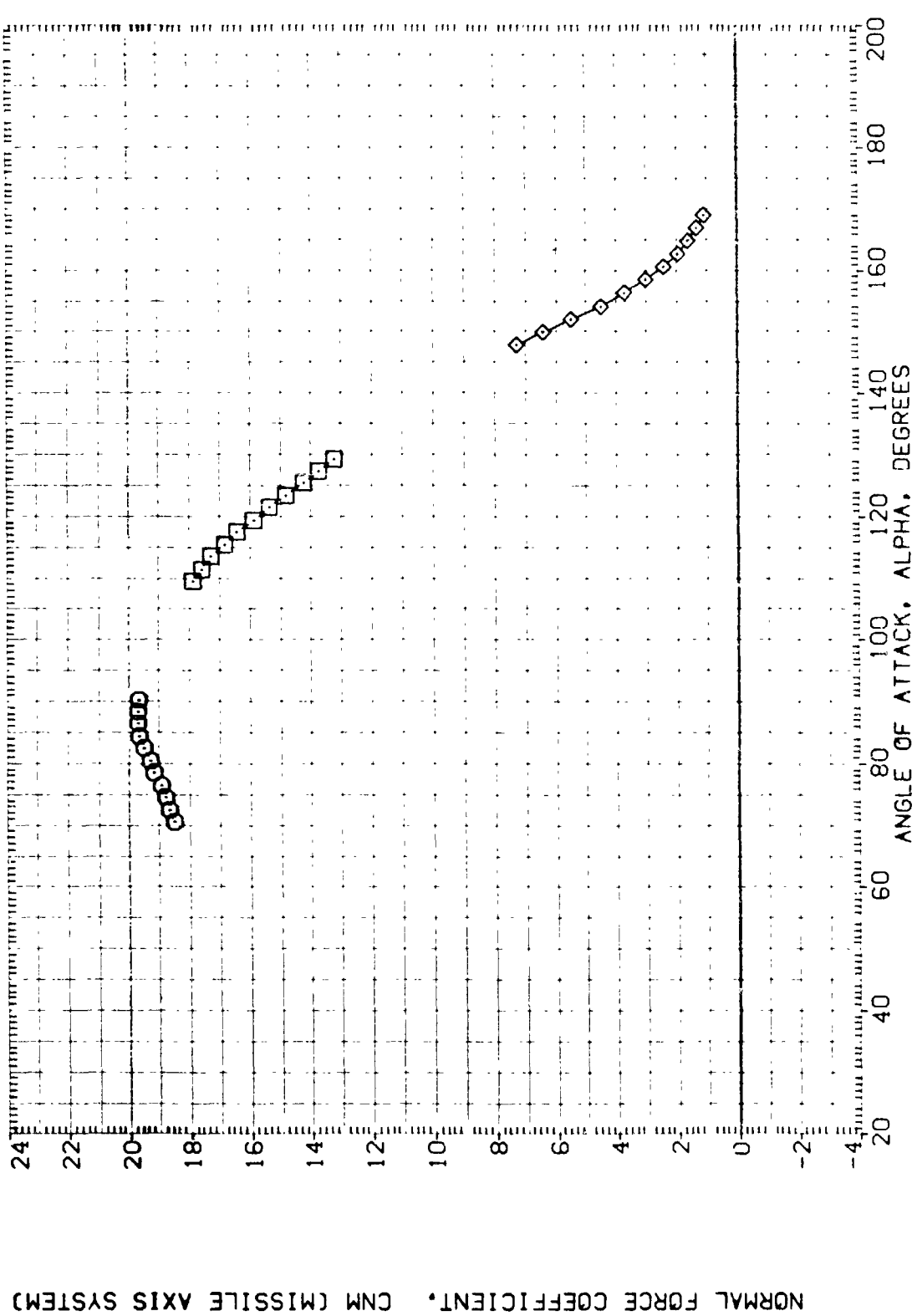





FIGURE 24. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 225)

REFERENCE INFORMATION:
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BRFP .8000 IN.
 YMRP 5.7210 IN. XS
 ZMRP .0000 IN. YS
 SCALE .0055 IN. ZS

PHI
 225.000
 225.000
 225.000

CONFIGURATION DESCRIPTION
 MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES

DATA SET SYMBOL
 (A1H060) 
 (A1H061) 
 (A1H062) 

PITCHING MOMENT COEFFICIENT, CLMM (MISSILE AXIS SYSTEM)

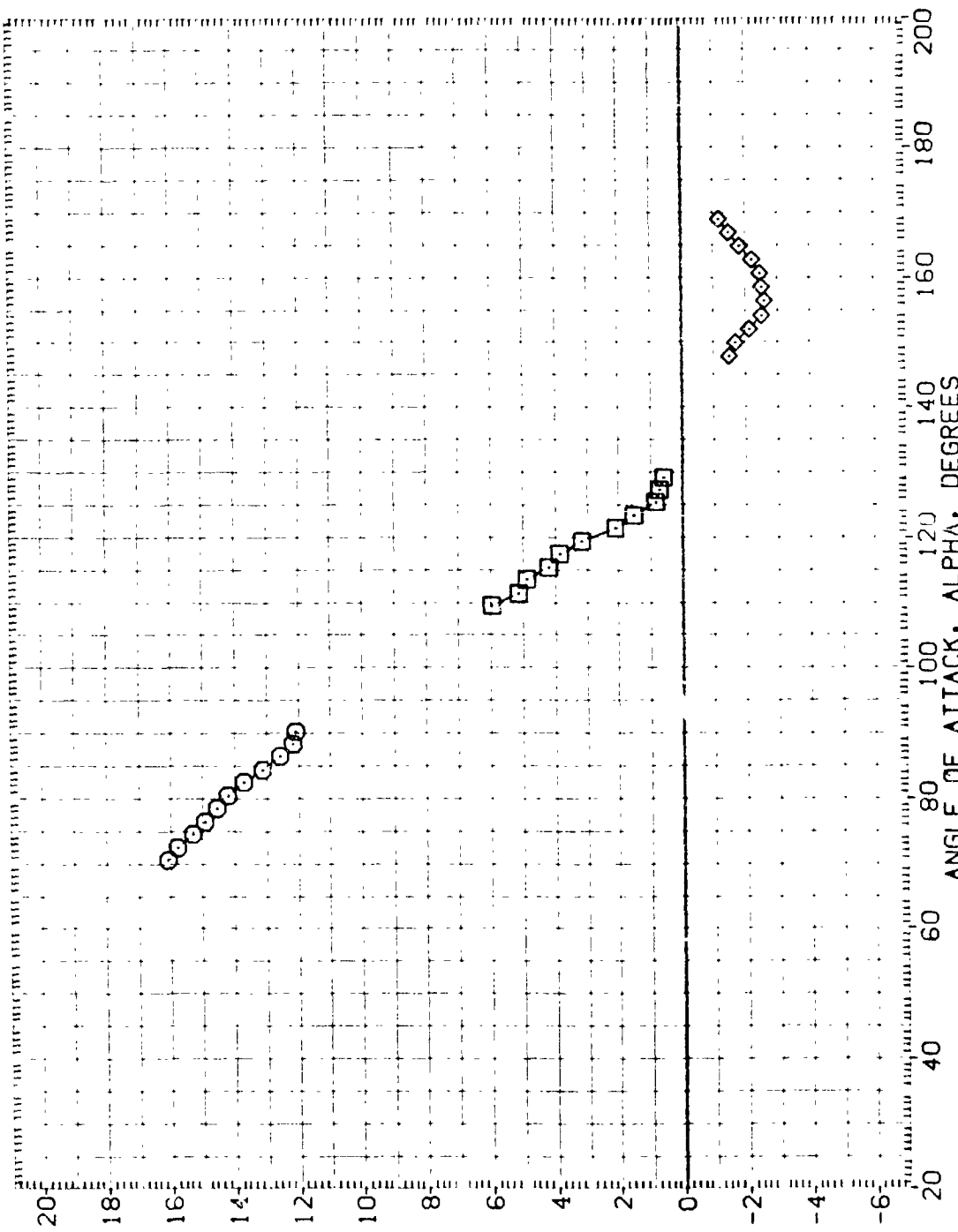


FIGURE 24. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 225)

(M)MACH = 1.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H060) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 5.000

(A1H061) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 225.000

(A1H062) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 225.000

REFERENCE IN QUANTION

SREF .5C3U SQ. IN.

LREF .8C00 IN.

BREF .8C00 IN.

XMRP 5.7210 IN. XS

YMRP .0C00 IN. YS

ZMRP .0C00 IN. ZS

SCALE .0C55

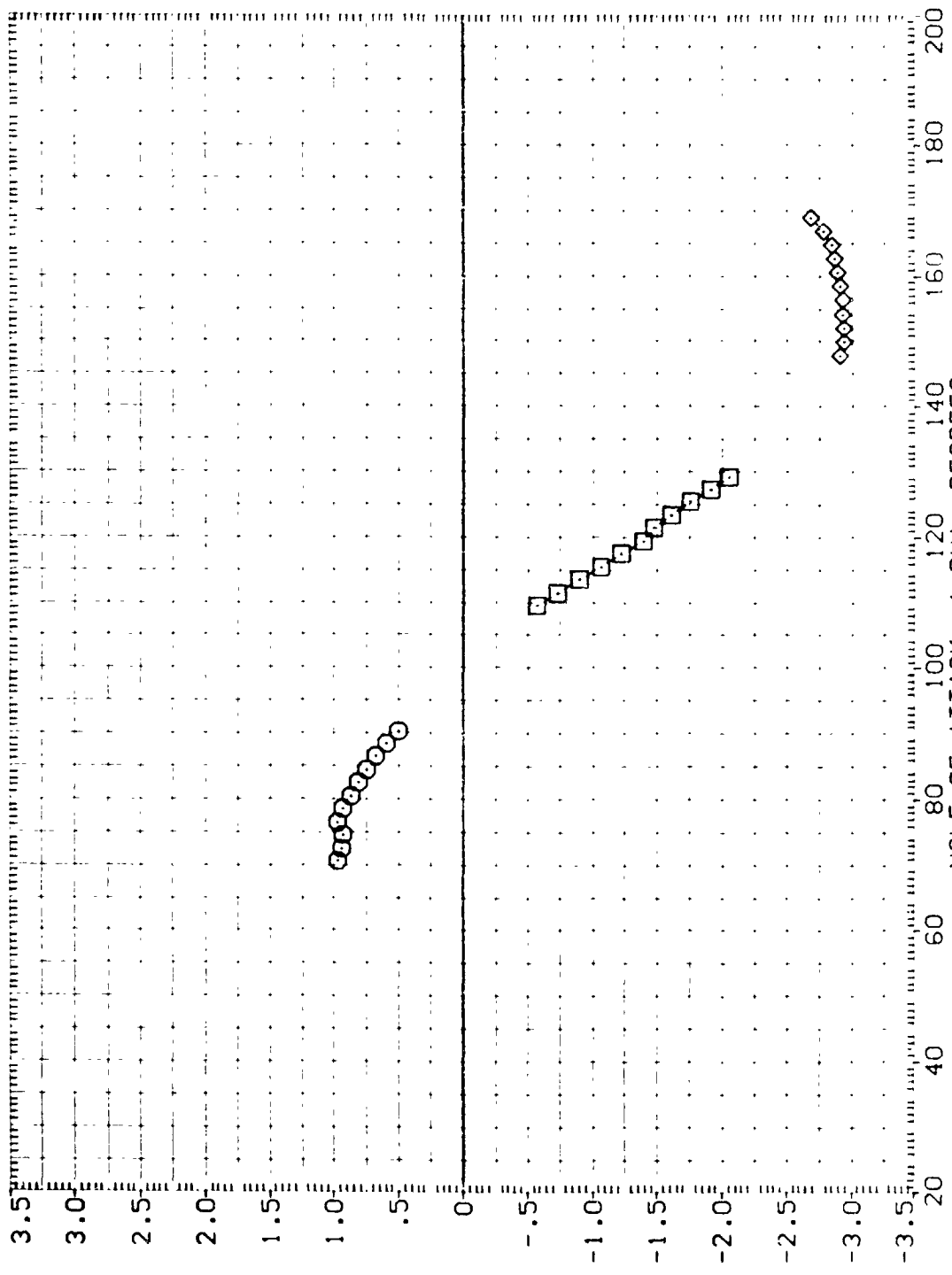


FIGURE 24. STATIC STABILITY CHARACTERISTICS OF SRB W/ALL PROTUBERANCES (PHI = 225)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(AI-H060) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 225.000
 (AI-H01) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 225.000
 (AI-H02) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 225.000

REFERENCE INFORMATION

SREF .5030 50. IN.
 LREF .8000 80. IN.
 SREF .8000 80. IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

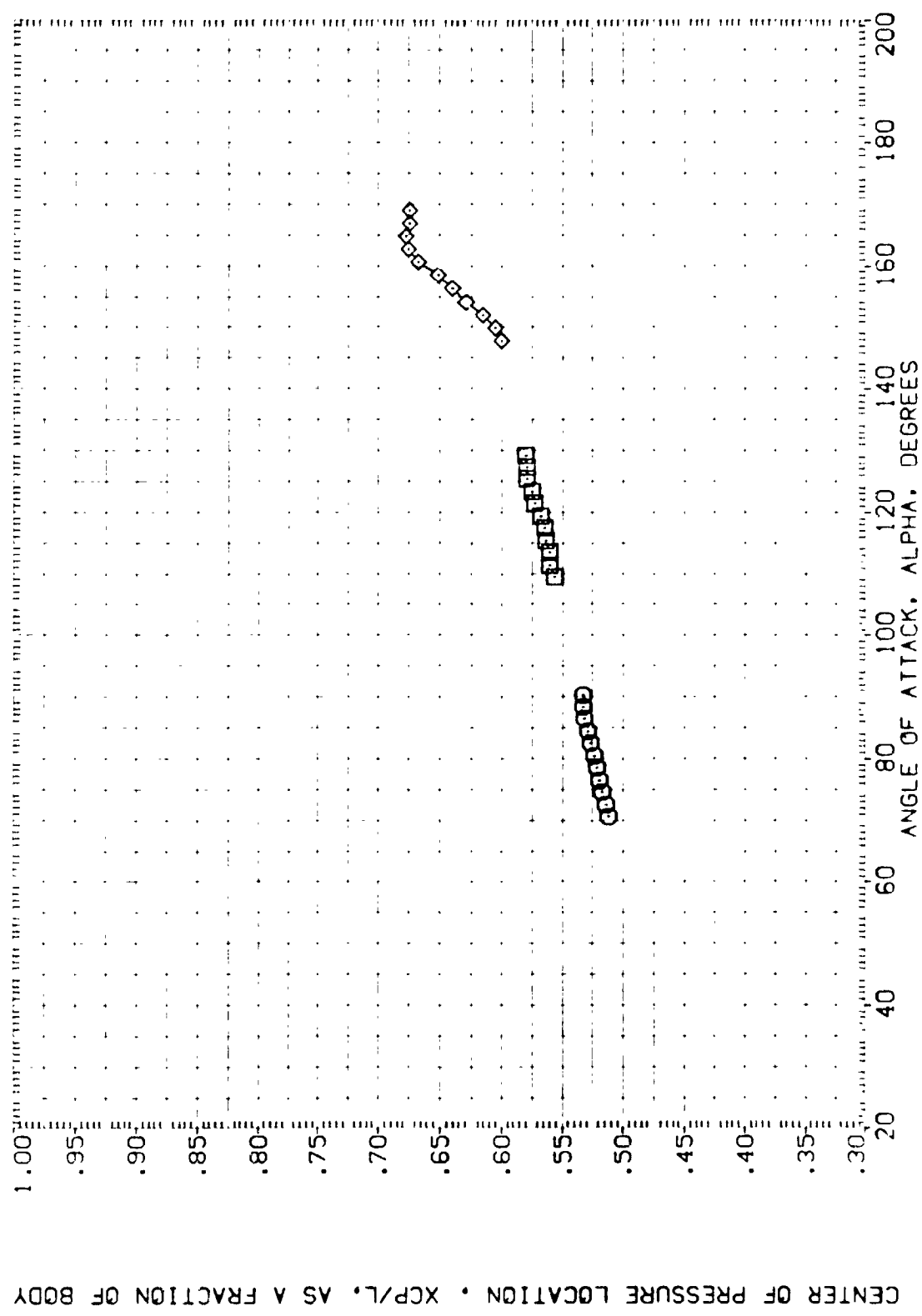


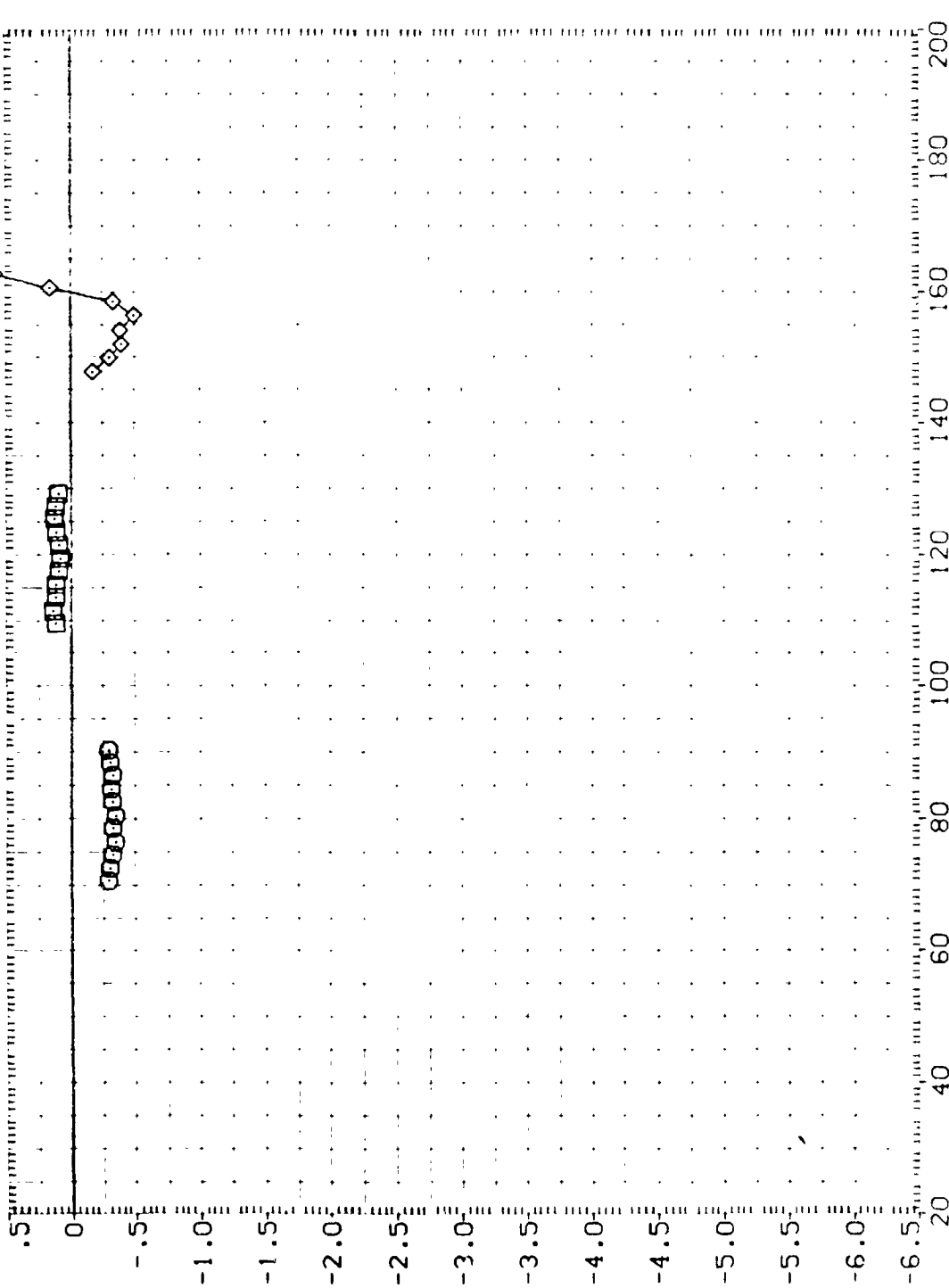
FIGURE 24. STATIC STABILITY CHARACTERISTICS OF SRB WALL PROTUBERANCES (PHI = 225)
 (D) MACH = 1.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H060) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 225.000

(A1H061) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 225.000

(A1H062) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 225.000



SIDE FORCE COEFFICIENT, C_{ym} (MISSILE AXIS SYSTEM)

FIGURE 24. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 225)

(O) MACH = 1.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A11060) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 225.000

(A11061) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 225.000

(A11062) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 225.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

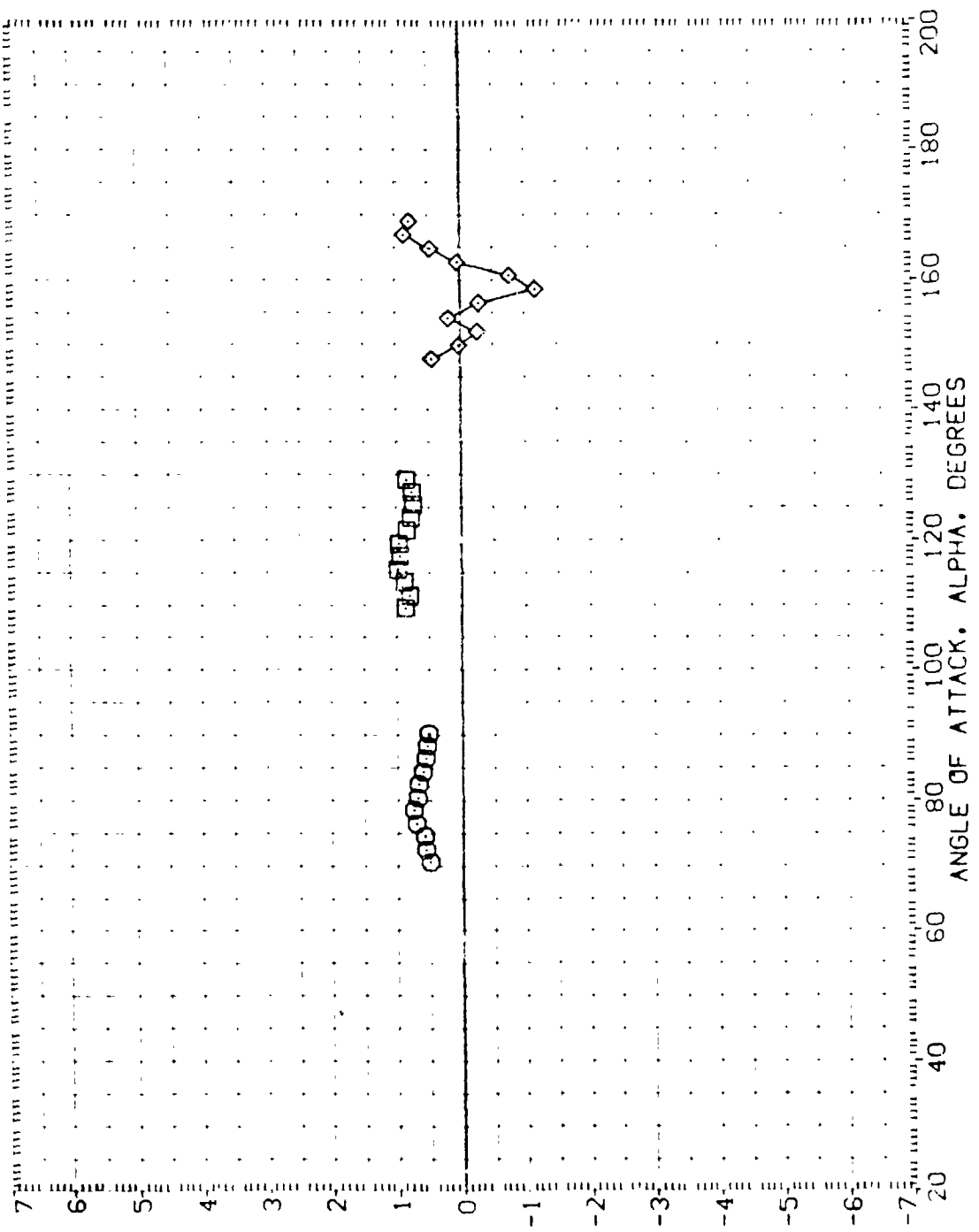
BREF .8000 IN.

XMRP 5.7410 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055



YAWING MOMENT COEFFICIENT, C_{YM} (MISSILE AXIS SYSTEM)

FIGURE 24. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 225)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H050) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 225.000
 (A1H051) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 225.000
 (A1H052) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 225.000

REFERENCE INFORMATION

SREF .5C30 SQ. IN.
 LREF .8C00 IN.
 BREF .8C00 IN.
 YMRP 5 IN. XS
 ZMRP .0C00 IN. YS
 SCALE .0C35 IN. ZS

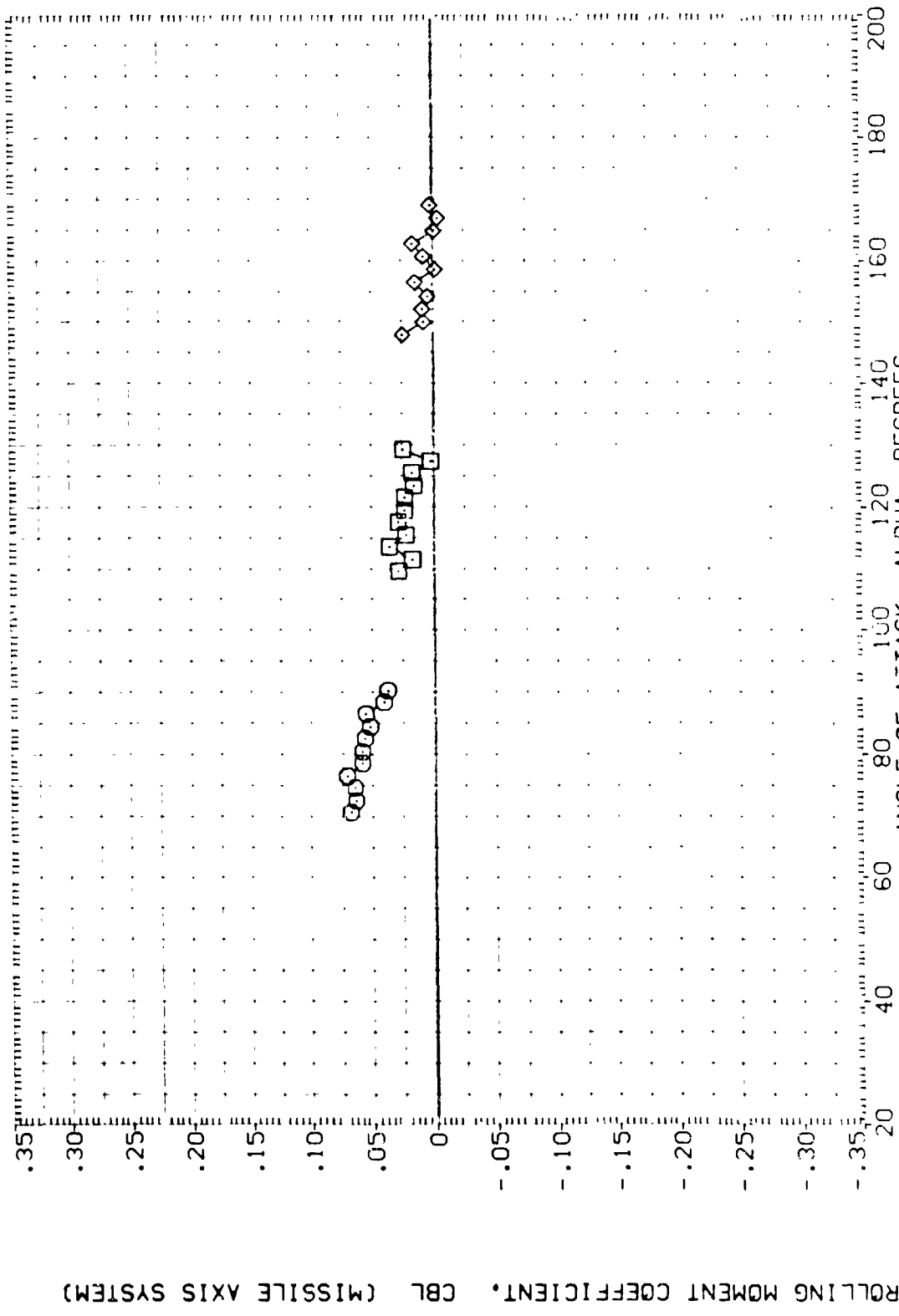


FIGURE 24. STATIC STABILITY CHARACTERISTICS OF SRB W/ALL PROTUBERANCES (PHI = 225)

(O) MACH = 1.20 PAGE 378

DATA SET SYMBOL CONFIGURATION: DESCRIPTION PHI

(A1-H008) DATA NOT AVAILABLE 270.000
 (A1-H056) M3FC 1V1604 (SABF) SRB WITH ALL PROTUBERANCES 270.000
 (A1-H008) M3FC 1V1604 (SABF) SRB WITH ALL PROTUBERANCES 270.000
 (A1-H008) M3FC 1V1604 (SABF) SRB WITH ALL PROTUBERANCES 270.000

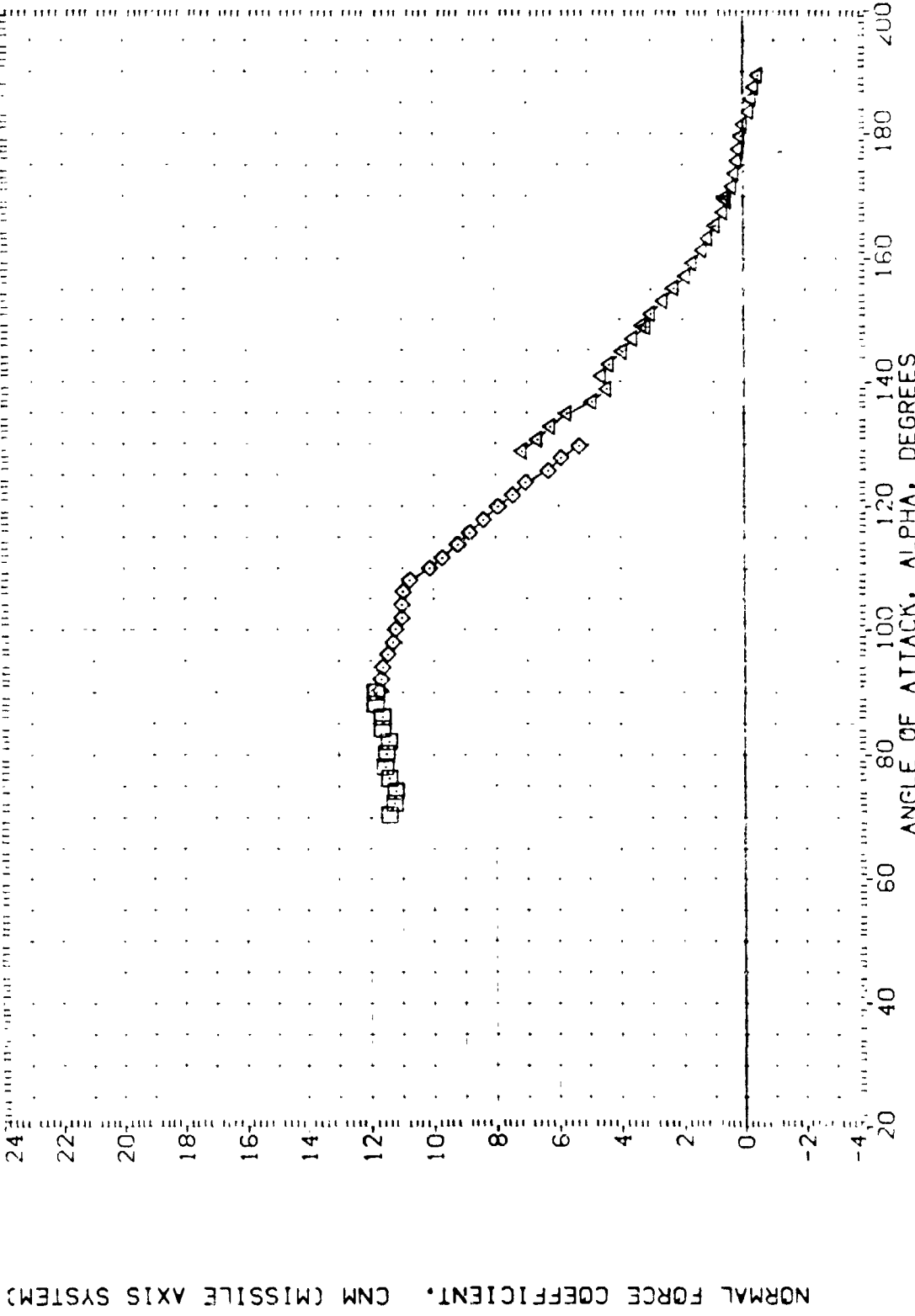


FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SRB WITH WALL PROTUBERANCES (PHI = 270)

REFERENCE IN ORIENTATION
 SIZE 50.00 IN.
 LREF 50.00 IN.
 BRFL 50.00 IN.
 XMRP 5.00 IN.
 YMRP 0.00 IN.
 ZMRP 0.00 IN.
 SCALE 0.55

PHI
 270.000
 270.000
 270.000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A)MACH DATA NOT AVAILABLE SRB WITH ALL PROTUBERANCES
 (A)H008 MSFC TVT604 (S+BF) SRB WITH ALL PROTUBERANCES
 (A)H008 MSFC TVT604 (S+BF) SRB WITH ALL PROTUBERANCES
 (A)H008 MSFC TVT604 (S+BF) SRB WITH ALL PROTUBERANCES

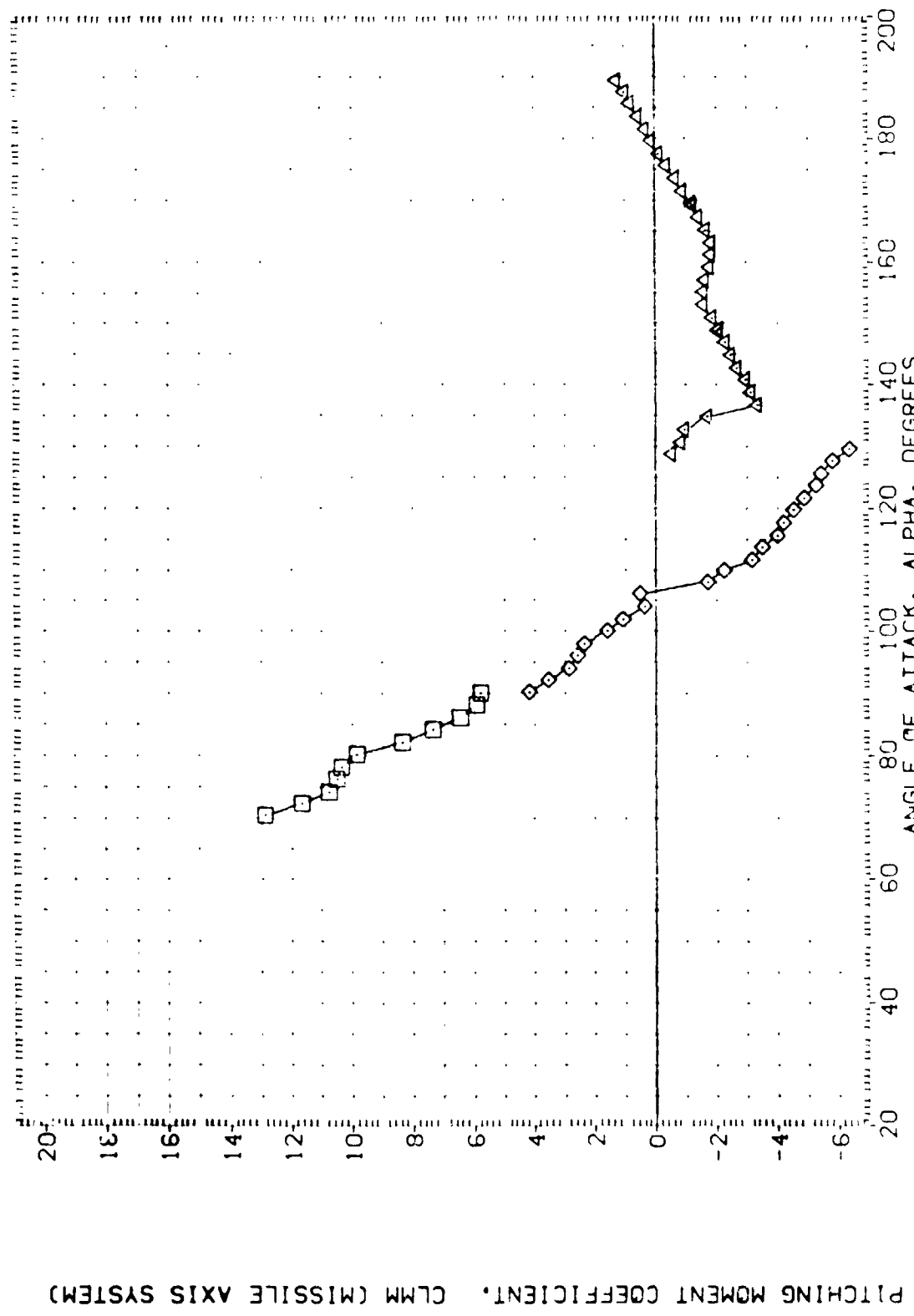


FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SRB W/ALL PROTUBERANCES (PHI = 270)

(A)MACH = .40

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A)H008) DATA NOT AVAILABLE 270.000
 (A)H055) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 270.000
 (A)H068) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 270.000
 (A)H008) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 270.000

REFERENCE INFORMATION

SREF 5030 SQ. IN.
 LREF 8030 IN.
 BREF 8030 IN.
 XMRP 5.7210 IN. XS
 YMRP .0030 IN. YS
 ZMRP .0030 IN. ZS
 SCALE .0035

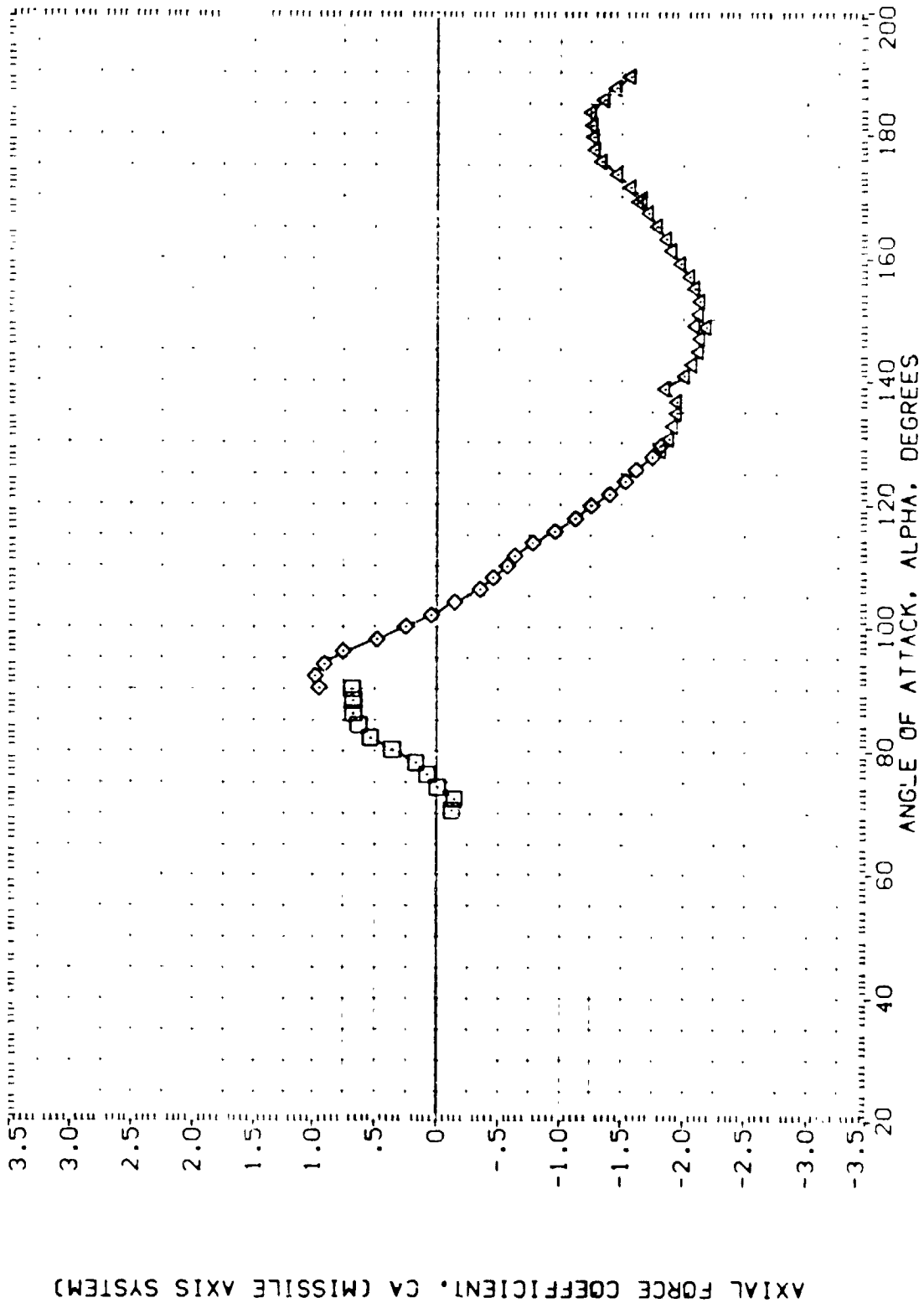


FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 270)

(A)MACH = .40

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A)H008 DATA NOT AVAILABLE 270.000
 (A)H066 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 270.000
 (A)C08 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 270.000
 (A)H008 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 270.000

REFERENCE INFORMATION

SREF 50.30 IN. SU. IN.
 LREF 21.00 IN.
 BREF 2.000 IN.
 XMRP 2.210 IN. XS
 YMRP 1.000 IN. YS
 ZMRP 1.000 IN. ZS
 SCALE 10.055

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

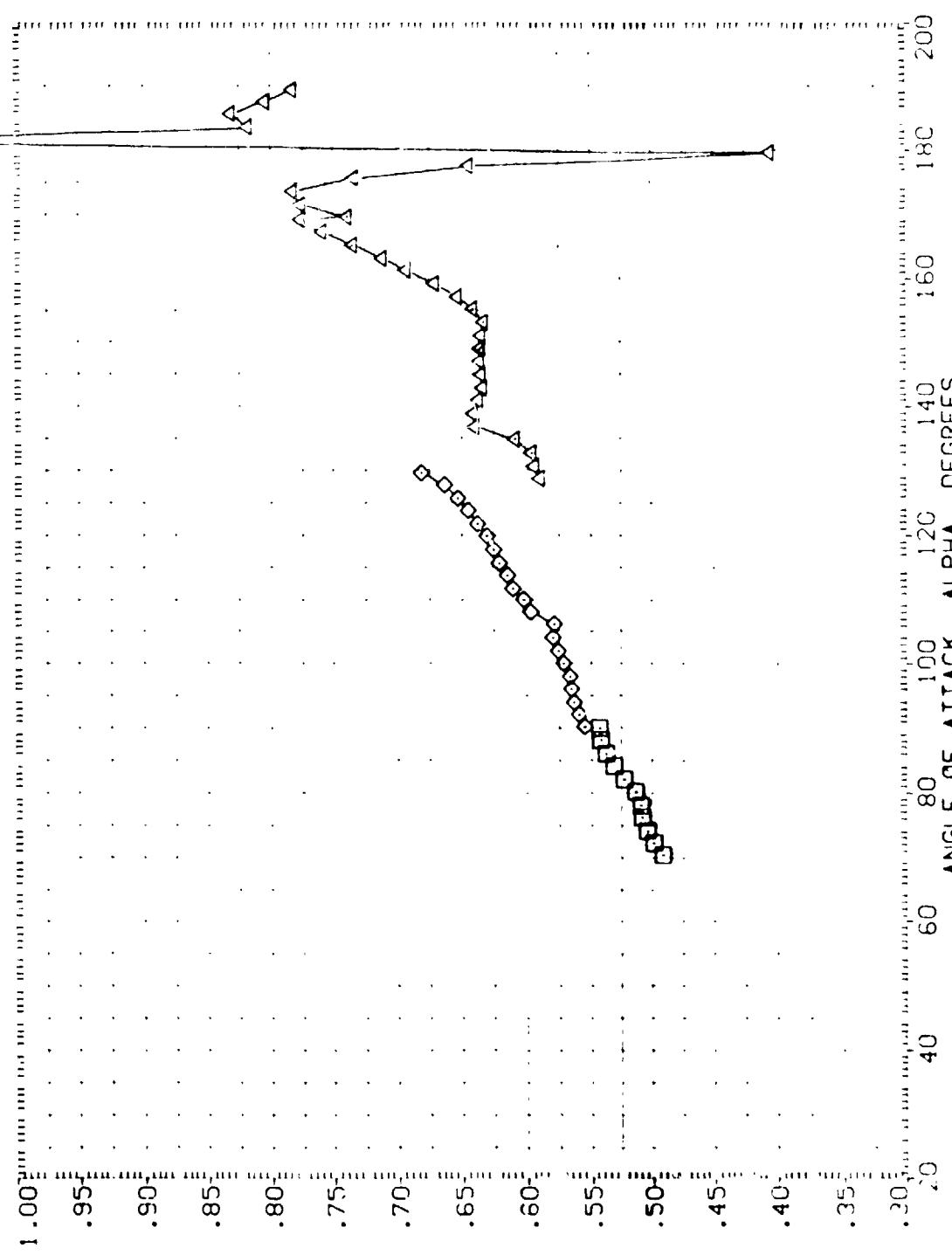


FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SRB WALL PROTUBERANCES (PHI = 270)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H008) DATA NOT AVAILABLE 270.000
 (A1H066) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 270.000
 (A1H008) MSFC TV1604 (SABF) SP3 WITH ALL PROTUBERANCES 270.000
 (A1H008) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 270.000

REFERENCE INFORMATION

SREF .3030 SQ. IN.
 LREF .3000 IN.
 BREF .3000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

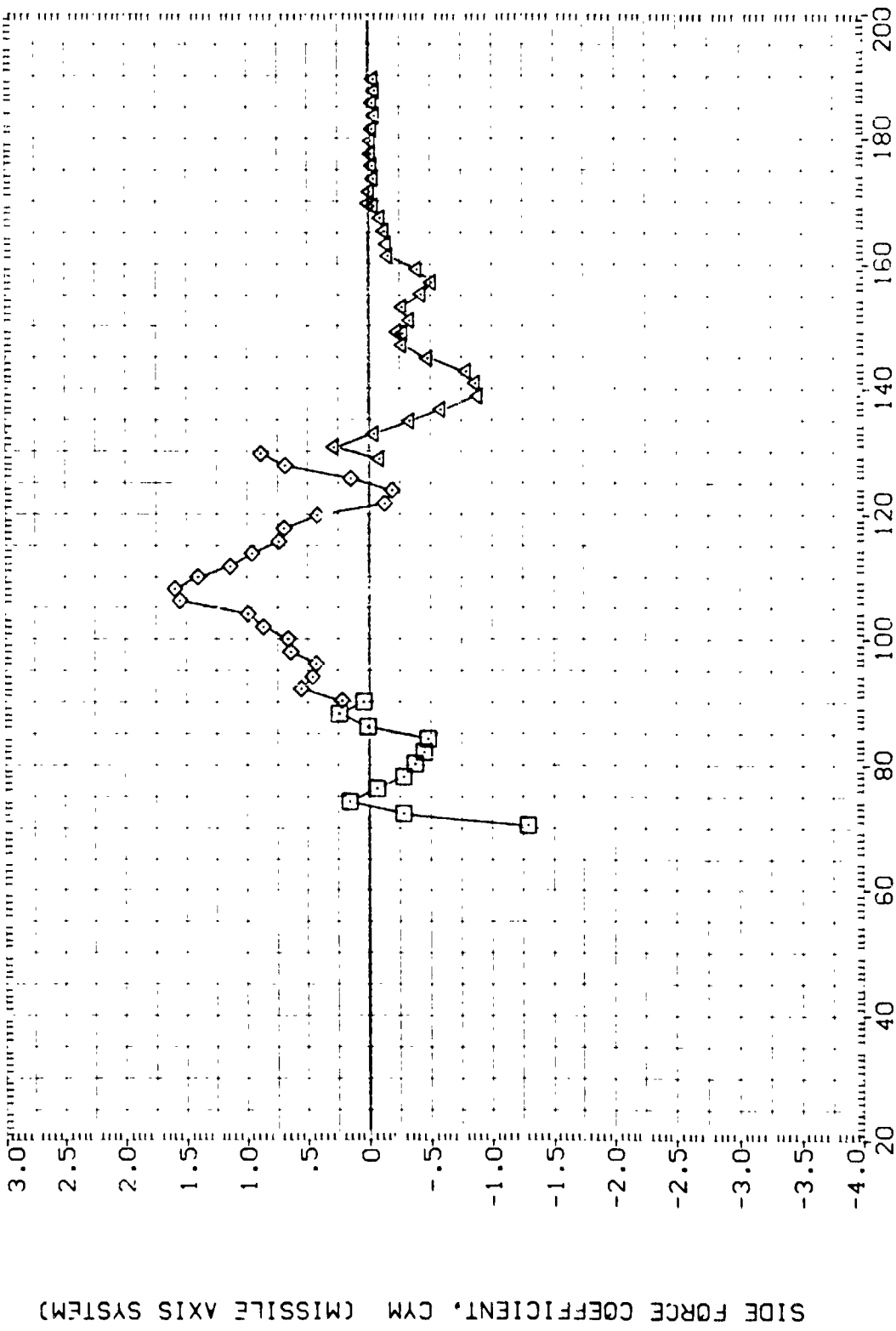


FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 270)

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7710 IN. YS
 YMRP .0000 IN. ZS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 270.000
 270.000
 270.000
 270.000

DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA NOT AVAILABLE SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SA8F) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SA8F) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SA8F) SRB WITH ALL PROTUBERANCES

(A)H08) □
 (A)H06) □
 (A)H08) □
 (A)H08) □

YAWING MOMENT COEFFICIENT, C_{YM} (MISSILE AXIS SYSTEM)

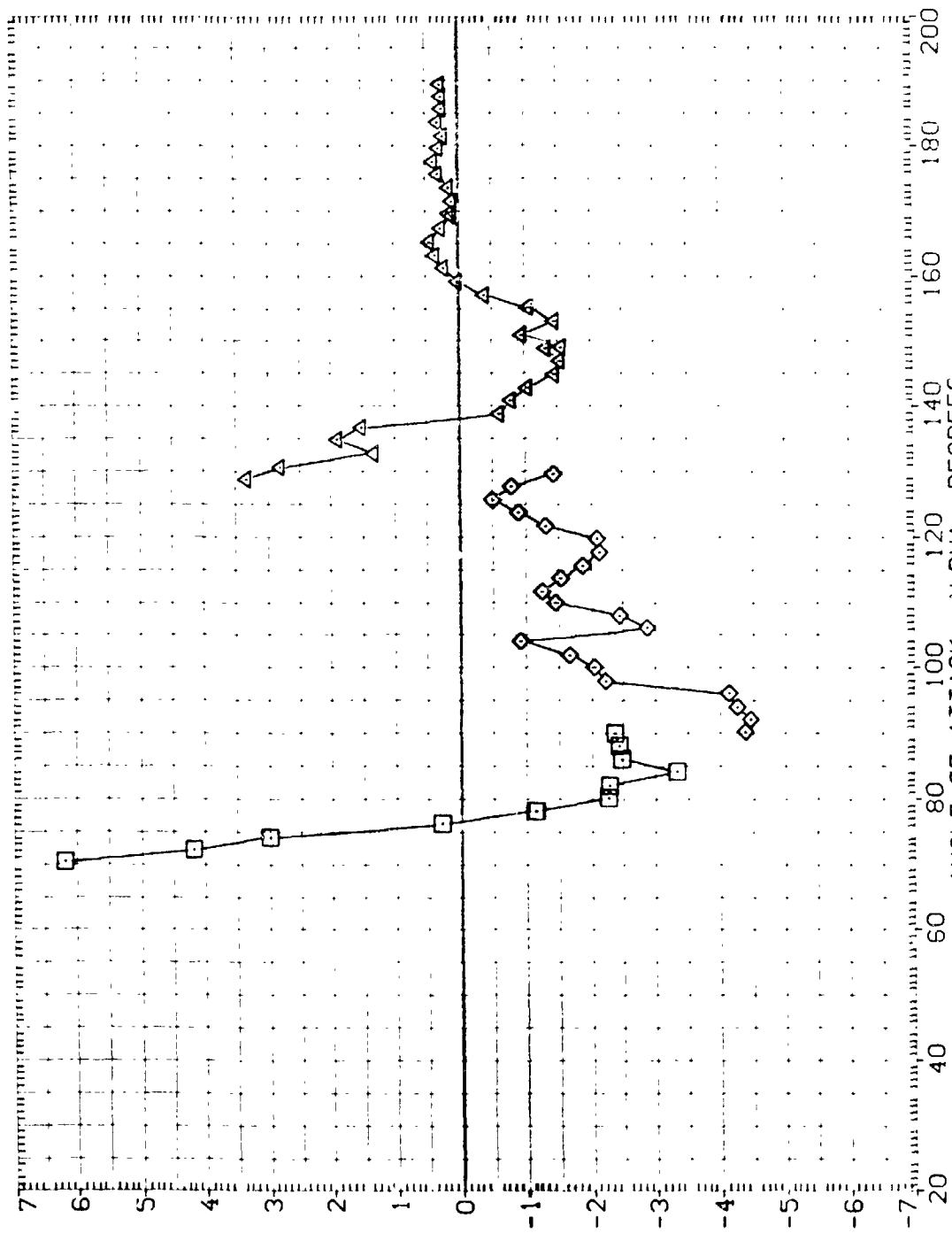


FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 270)

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A)H008) DATA NOT AVAILABLE

(A)H066) MSFC TVT604 (SA8F) SRB WITH ALL PROTUBERANCES

(A)H008) MSFC TVT604 (SA8F) SRB WITH ALL PROTUBERANCES

(A)H008) MSFC TVT604 (SA8F) SRB WITH ALL PROTUBERANCES

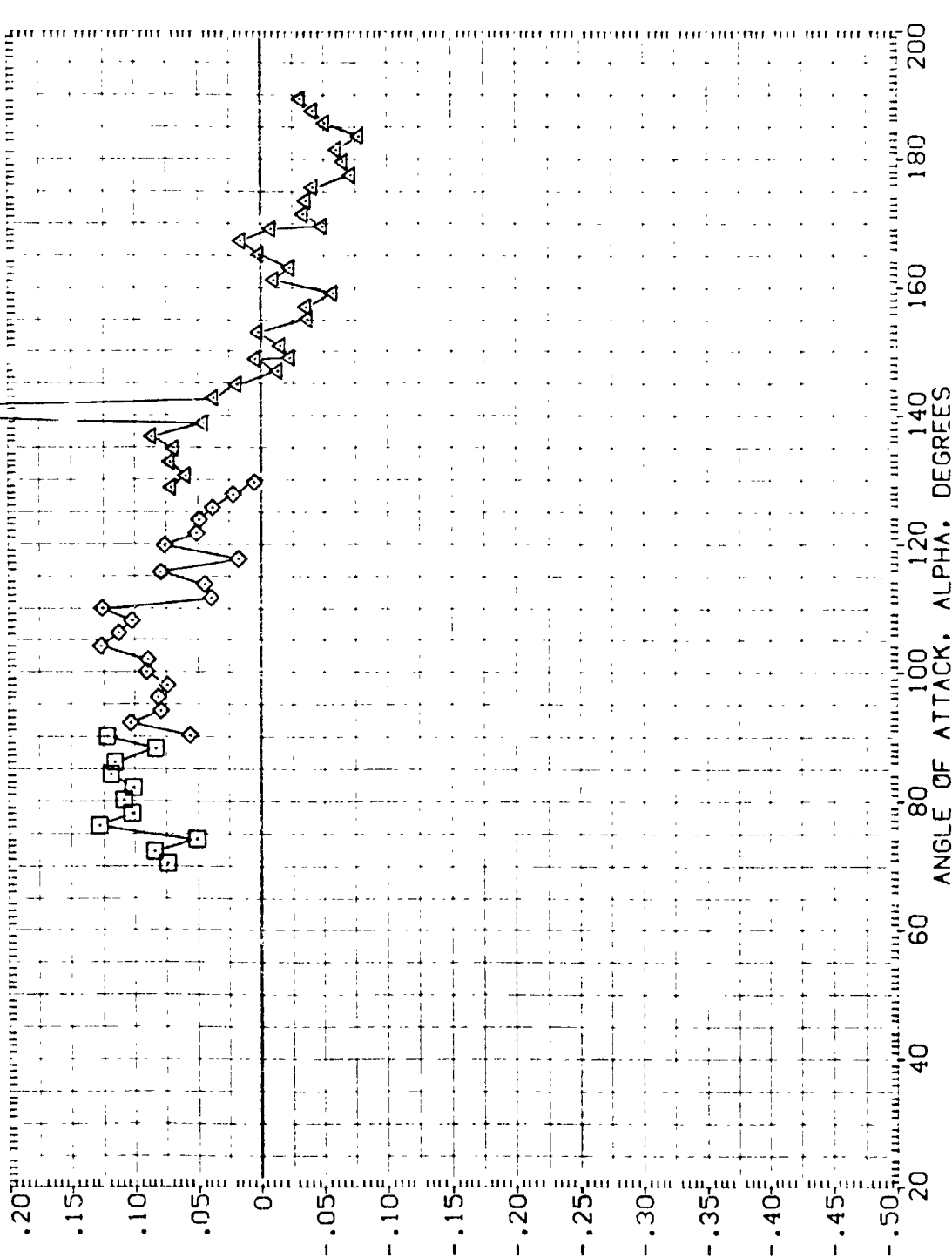
PHI

270.000

270.000

270.000

ROLLING MOMENT COEFFICIENT, CBL (MISSILE AXIS SYSTEM)



REFERENCE INFORMATION

SREF 5030 SQ. IN.

LREF 8000 IN.

BREF 8000 IN. XS

XMRP 5.7210 IN. YS

YMRP .0000 IN. ZS

ZMRP .0000 IN. ZS

SCALE .0055

FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SRB W/ALL PROTUBERANCES (PHI = 270)

(A)MACH = .40

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H008) DATA NOT AVAILABLE

(A1H066) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H008) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H008) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI

270.000

270.000

270.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRF 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

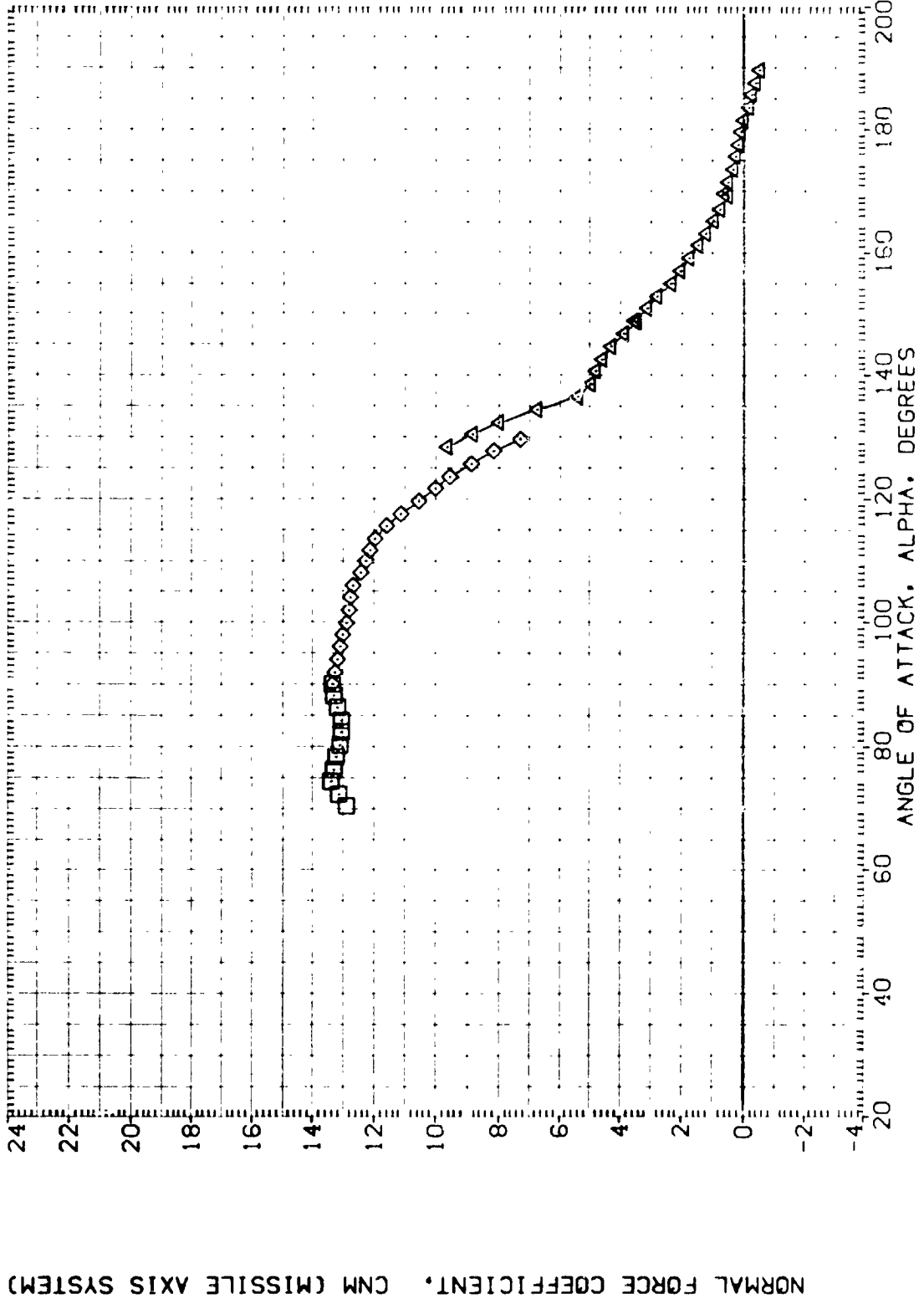


FIGURE 25. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 270)

(B)MACH = .60

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H008) DATA NOT AVAILABLE 270.000

(A1M066) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 270.000

(A1M068) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 270.000

(A1M068) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 270.000

REFERENCE INFORMATION

SREF 50.00 SQ. IN.

LREF .8000 IN.

BREF .9000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

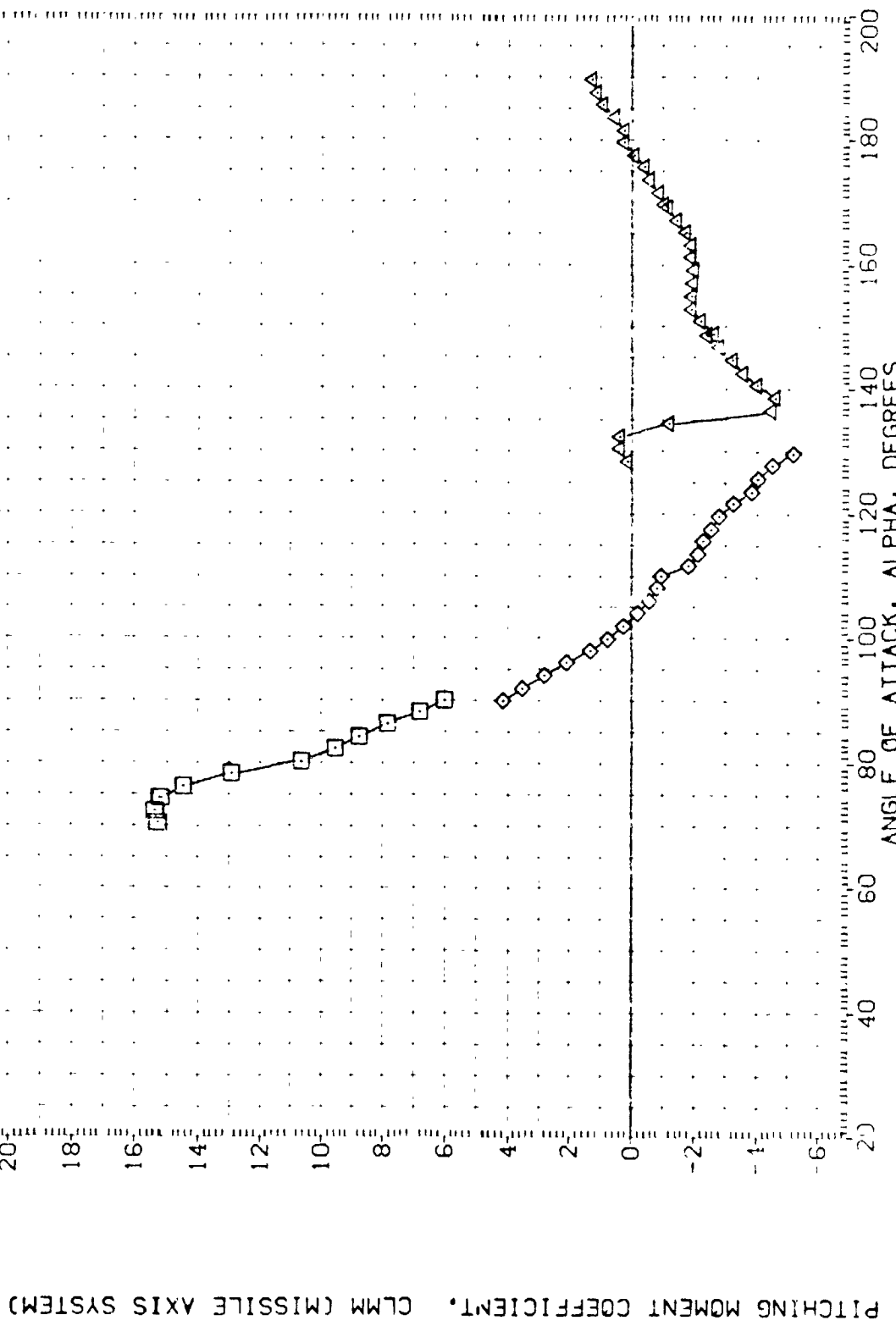


FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SRB WITH WALL PROTUBERANCES (PHI = 270)

(B) MACH = .60

DATA SET SYMBOL CONFIGURATION DESCRIPTION

PHI
270.000
270.000
270.000
270.000

REFERENCE INFORMATION
SCALE 30055
ZMRP 0000
LADP 0000
XMRP 5.7210
SREF 5000
LREF 8000
SREF 8000
SO.IN. 50.00
IN. 50.00
IN. 50.00
IN. 50.00
IN. 50.00
IN. 50.00

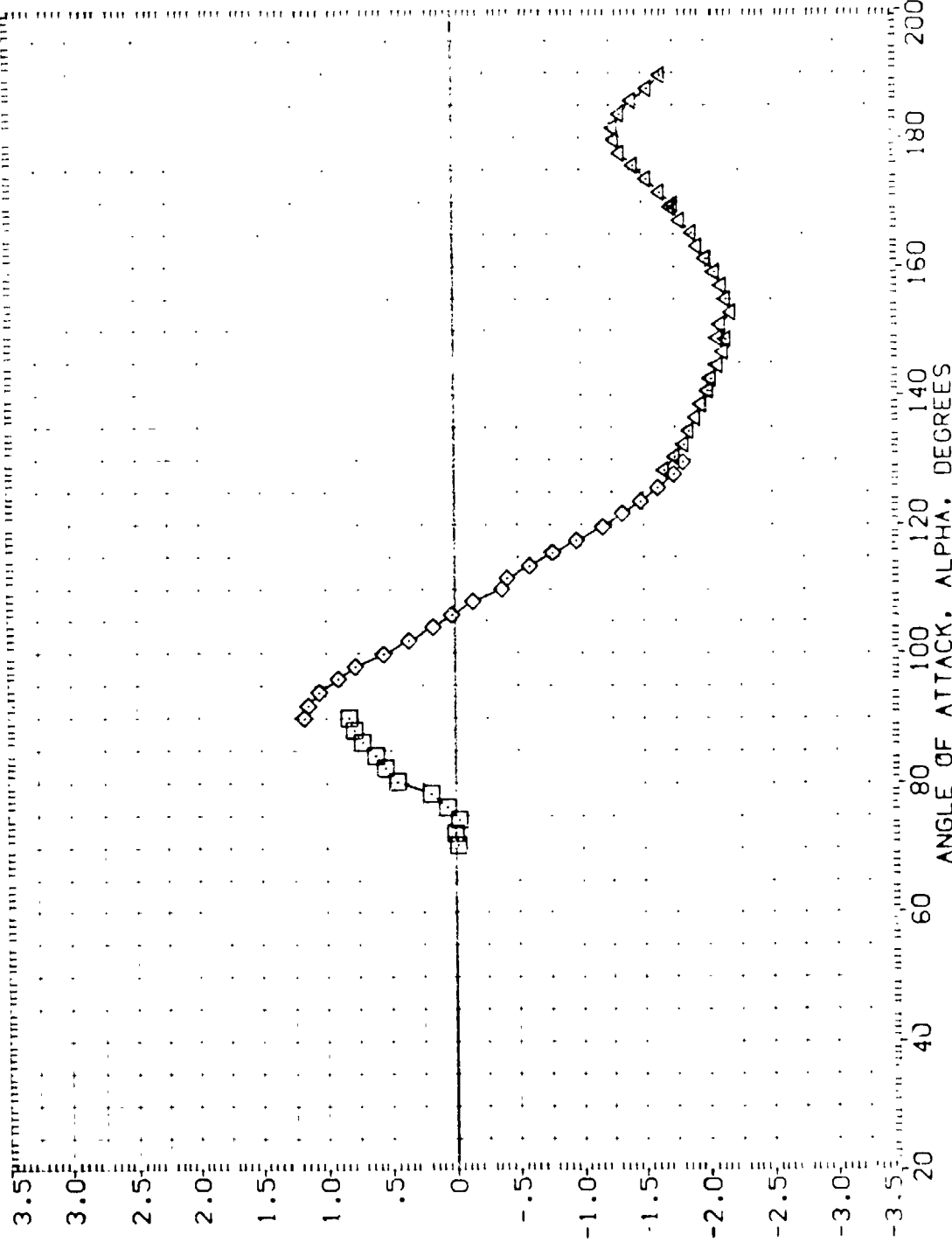


FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 270)
(B) MACH = .60

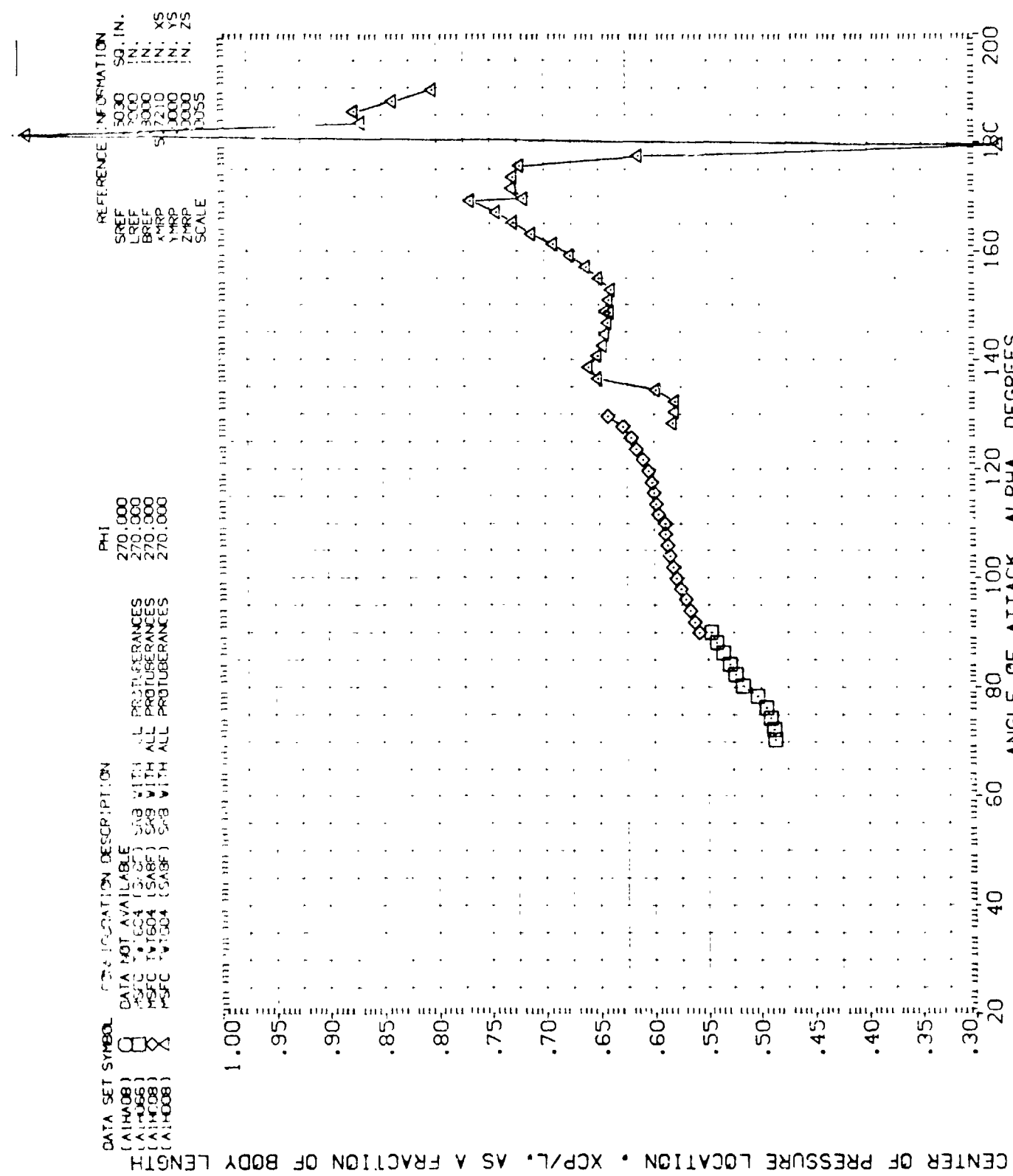


FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SRB WALL PROTUBERANCES (PHI = 270)

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H008) DATA NOT AVAILABLE
 (A1H066) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H008) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H008) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI
 270.000
 270.000
 270.000

REFERENCE INFORMATION
 SREF 5030 CO. IN.
 CASE 100 IN.
 SREF 300 IN.
 YMRP 210 IN. XS
 ZMRP 000 IN. YS
 SCALE 1000 IN. ZS

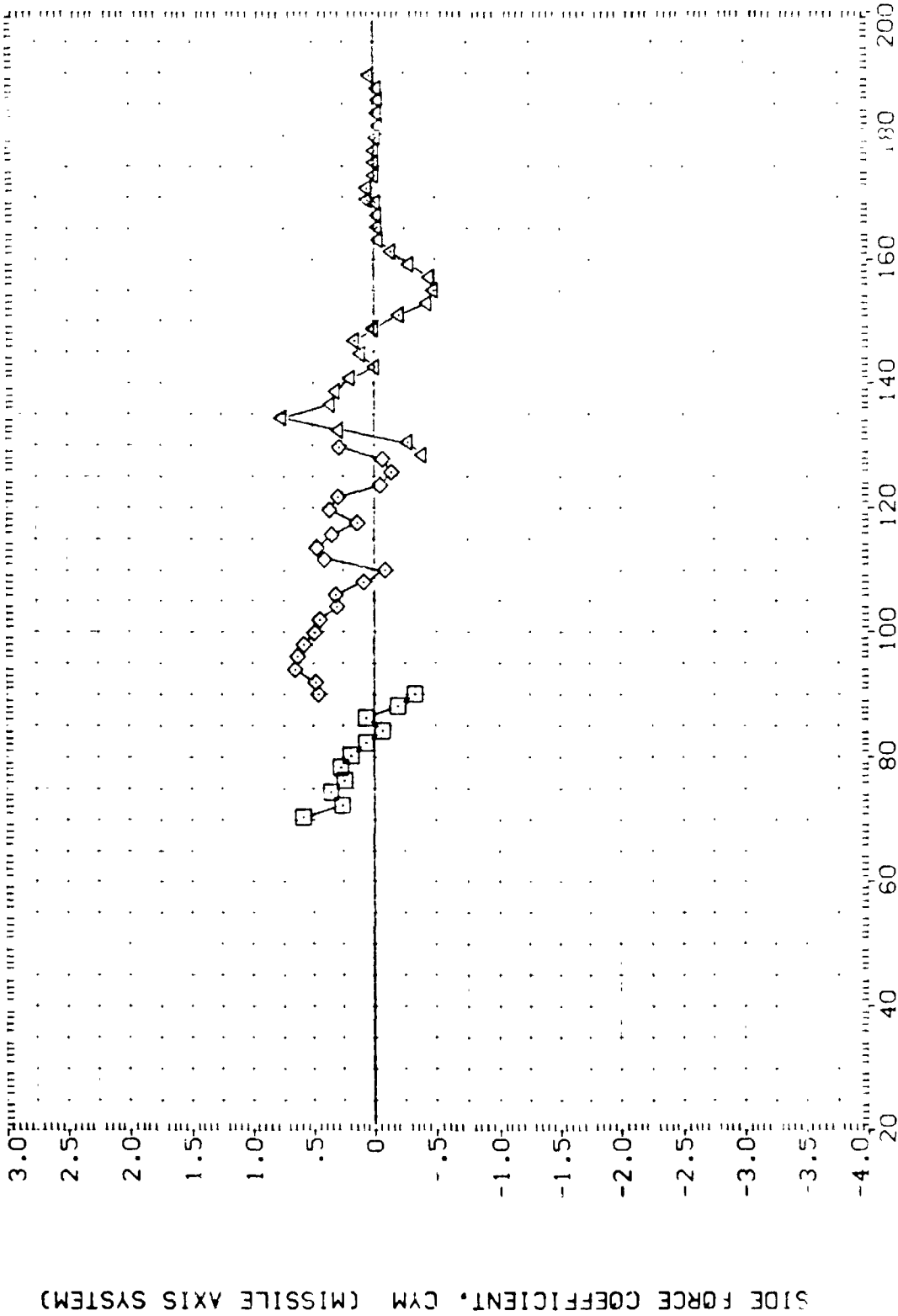


FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 270)

(B) MACH = .60

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H008) DATA NOT AVAILABLE 270.000

(A1H066) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 270.000

(A1H008) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 270.000

(A1H008) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 270.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0015

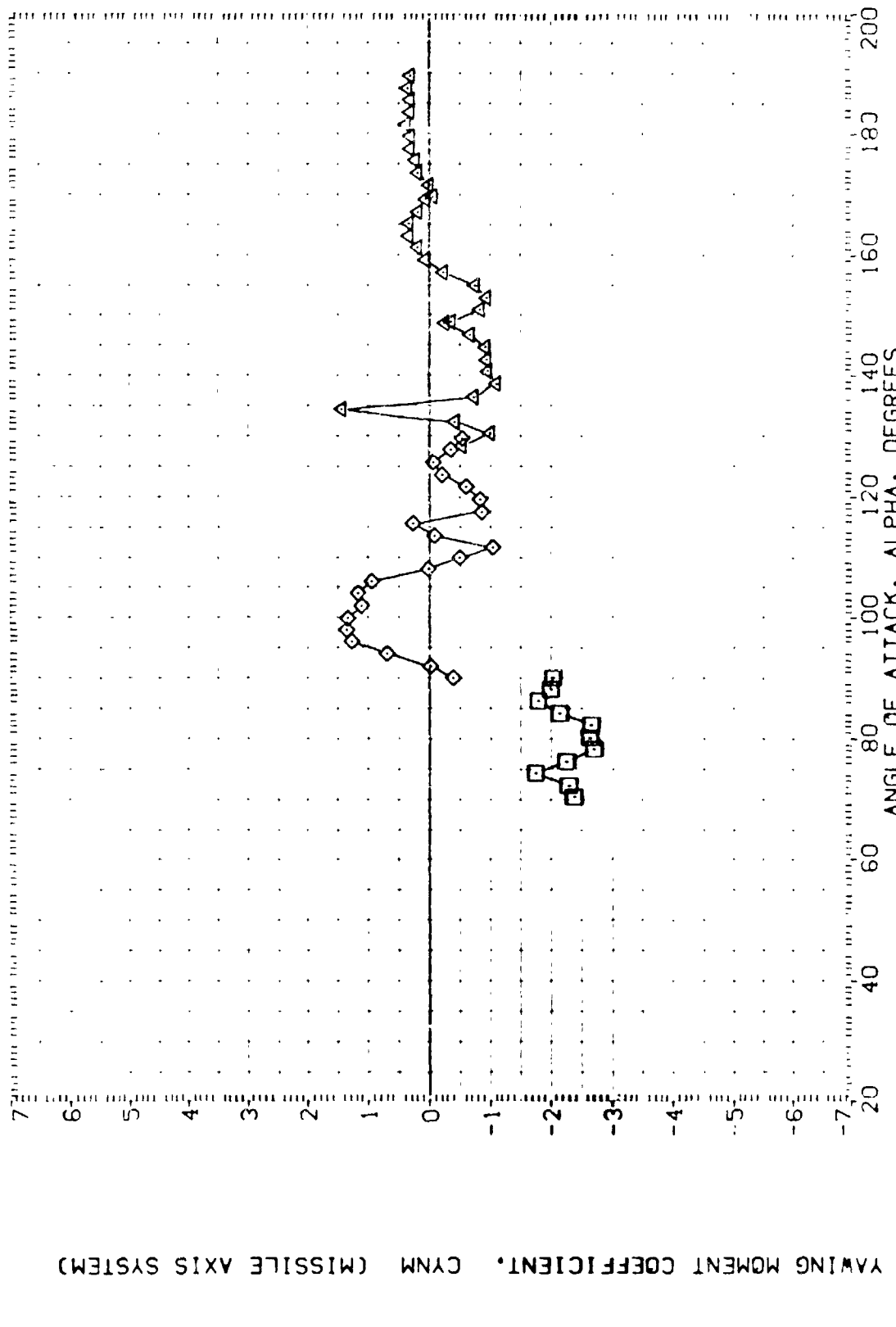


FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SRB W/ALL PROTUBERANCES ($\phi = 270^\circ$)

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H408) DATA NOT AVAILABLE PH1

(A1H066) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 270.000

(A1H008) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 270.000

(A1H008) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 270.000

REFERENCE INFORMATION

SREF 50.30 50. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

ZMRP .0000 IN. ZS

SCALE .0055

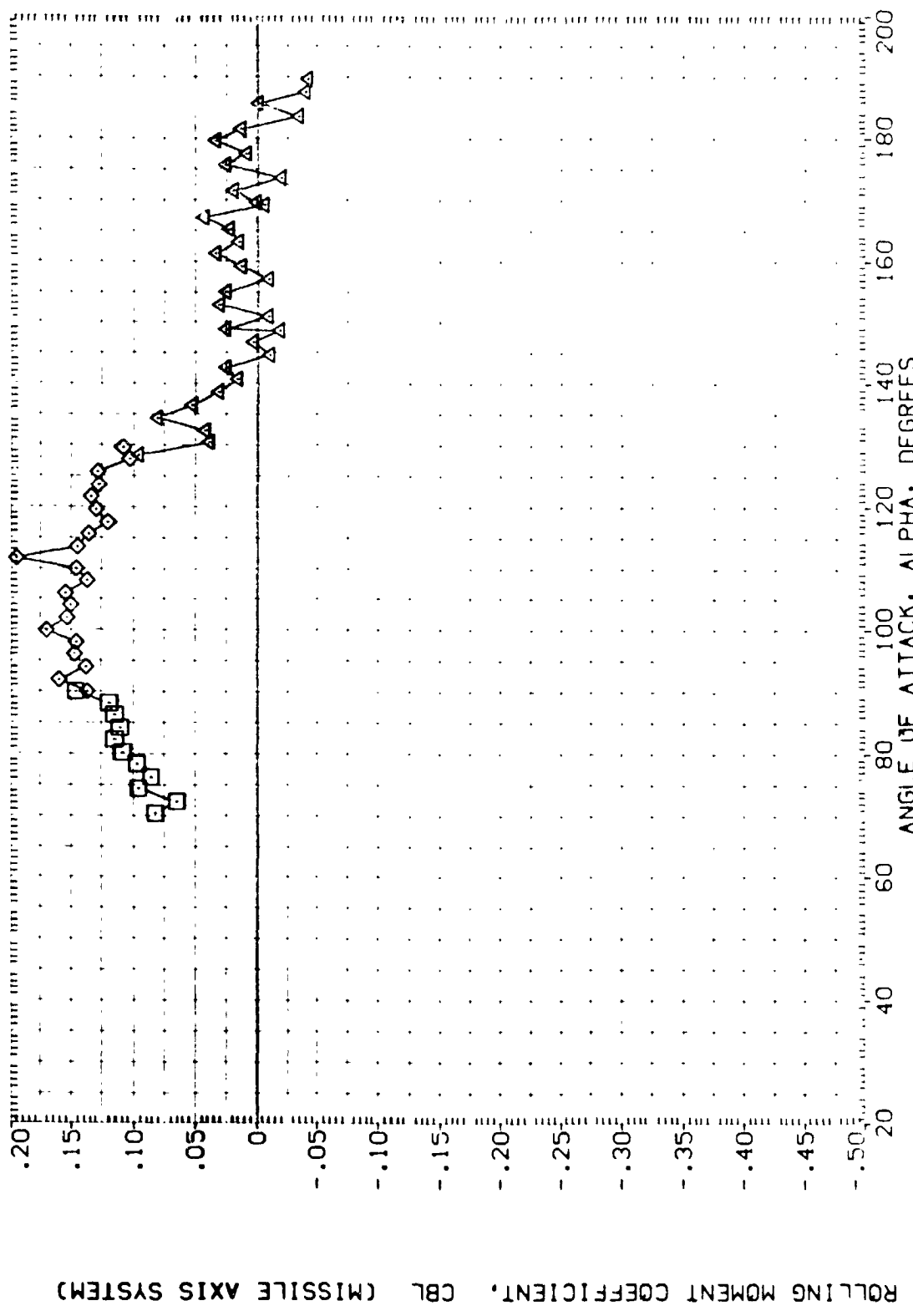


FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 270)

(B) MACH = .60 PAGE 392

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H08) DATA NOT AVAILABLE 270.000

(A1H065) MSFC T11604 (SABF) SRB WITH ALL PROTUBERANCES 270.000

(A1H08) MSFC T11604 (SABF) SRB WITH ALL PROTUBERANCES 270.000

(A1H08) MSFC T11604 (SABF) SRB WITH ALL PROTUBERANCES 270.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. YS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

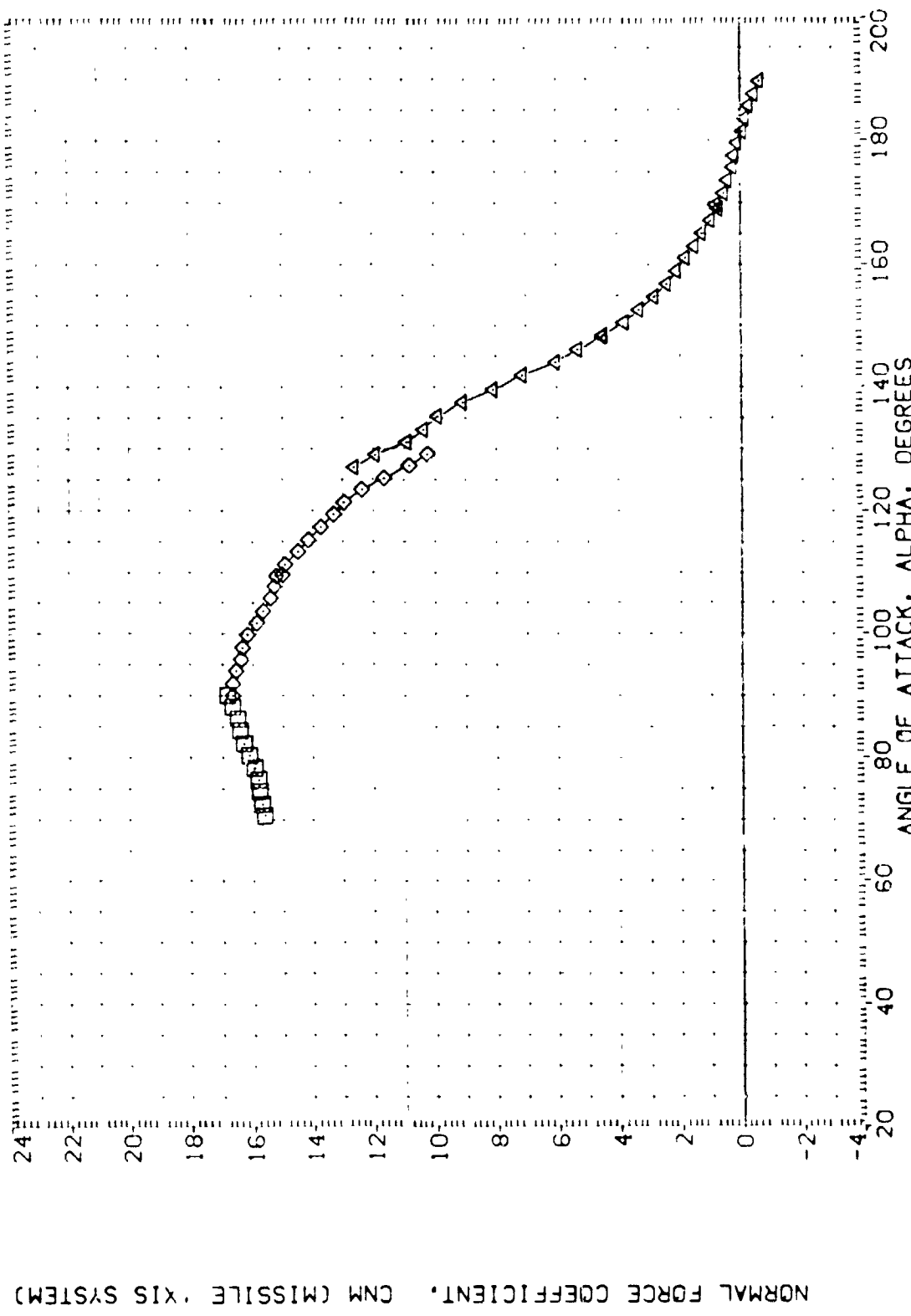


FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 270)

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H008) DATA NOT AVAILABLE
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H066) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H008) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H008) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI
 270.000
 270.000
 270.000

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .18000 IN.
 BRREF .18000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

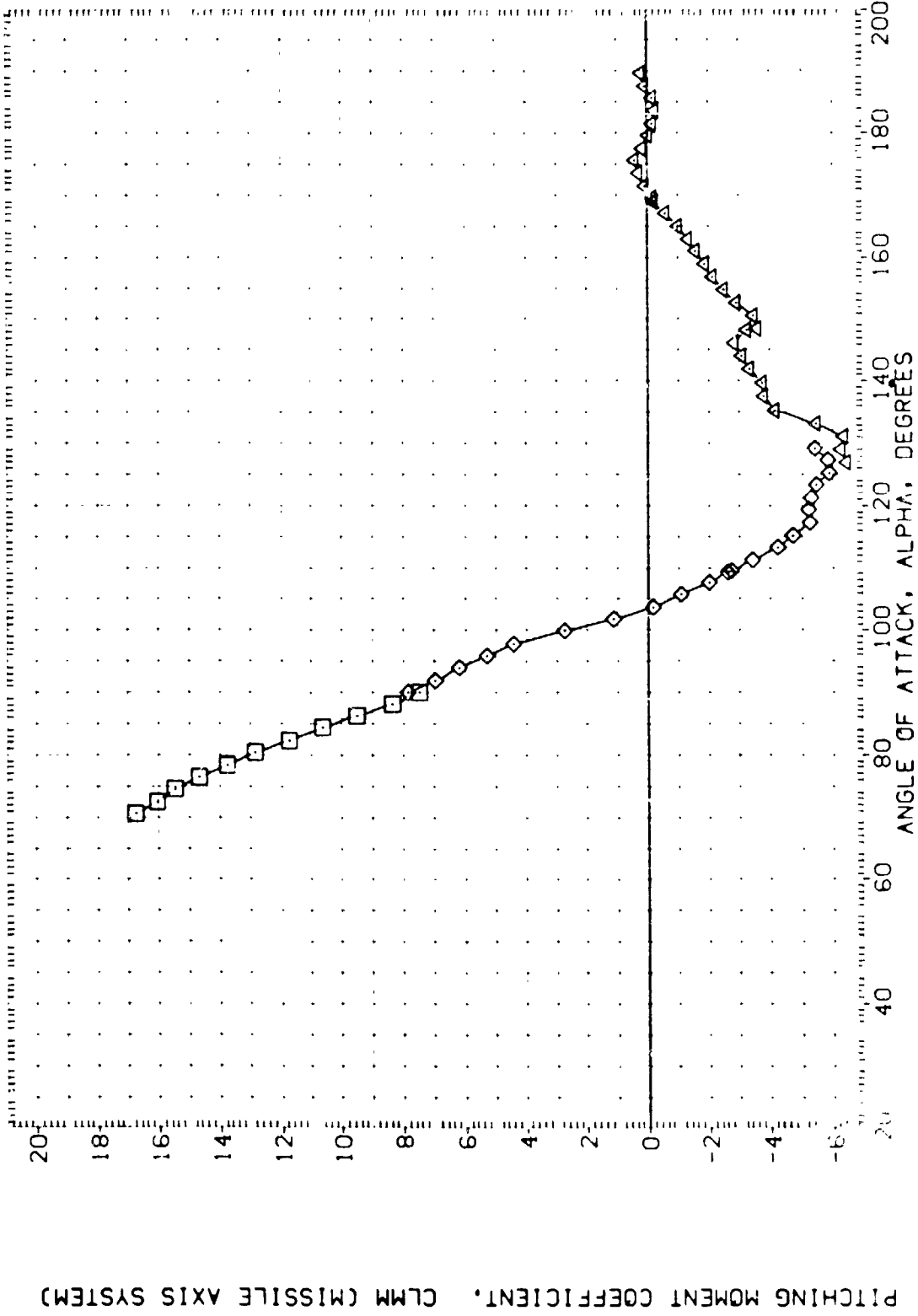


FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SRB WITH WALL PROTUBERANCES (PHI = 270)

(C)MACH = .90

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A)M008) DATA NOT AVAILABLE SRB WITH ALL PROTUBERANCES
 (A)M066) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES
 (A)M008) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES
 (A)M008) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES

PHI
 270.000
 270.000
 270.000

REFERENCE INFORMATION

SREF 5.100 SQ. IN.
 LREF 5.100 IN.
 BREF 5.100 IN.
 XTRP 5.7210 IN. XS
 YTRP 0.000 IN. YS
 ZTRP 0.000 IN. ZS
 SCALE .0055

AXIAL FORCE COEFFICIENT, CA (MISSILE AXIS SYSTEM)

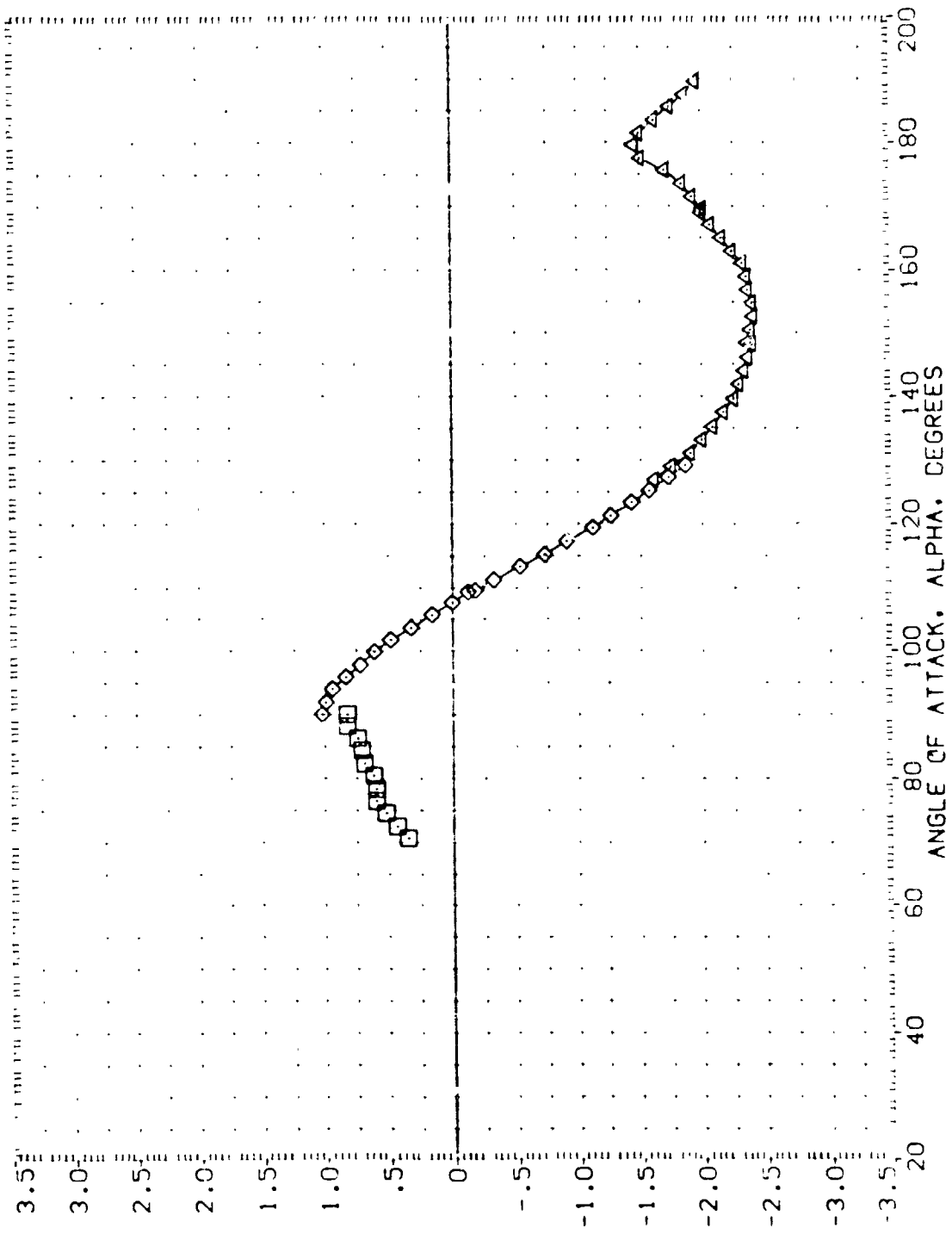


FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SRB W/ALL PROTUBERANCES (PHI = 270)

PERFORMANCE INFORMATION

SCALE	IN: 50
LRREF	IN: 1000
RRREF	IN: 1000
MMAP	IN: 5.2110
MMAP	IN: 1000
ZMAP	IN: 1000
SCALE	IN: 1000

PHI

270.000
270.000
270.000

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A)MACH	DATA NOT AVAILABLE
(A)MACH	MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES
(A)MACH	MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES
(A)MACH	MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

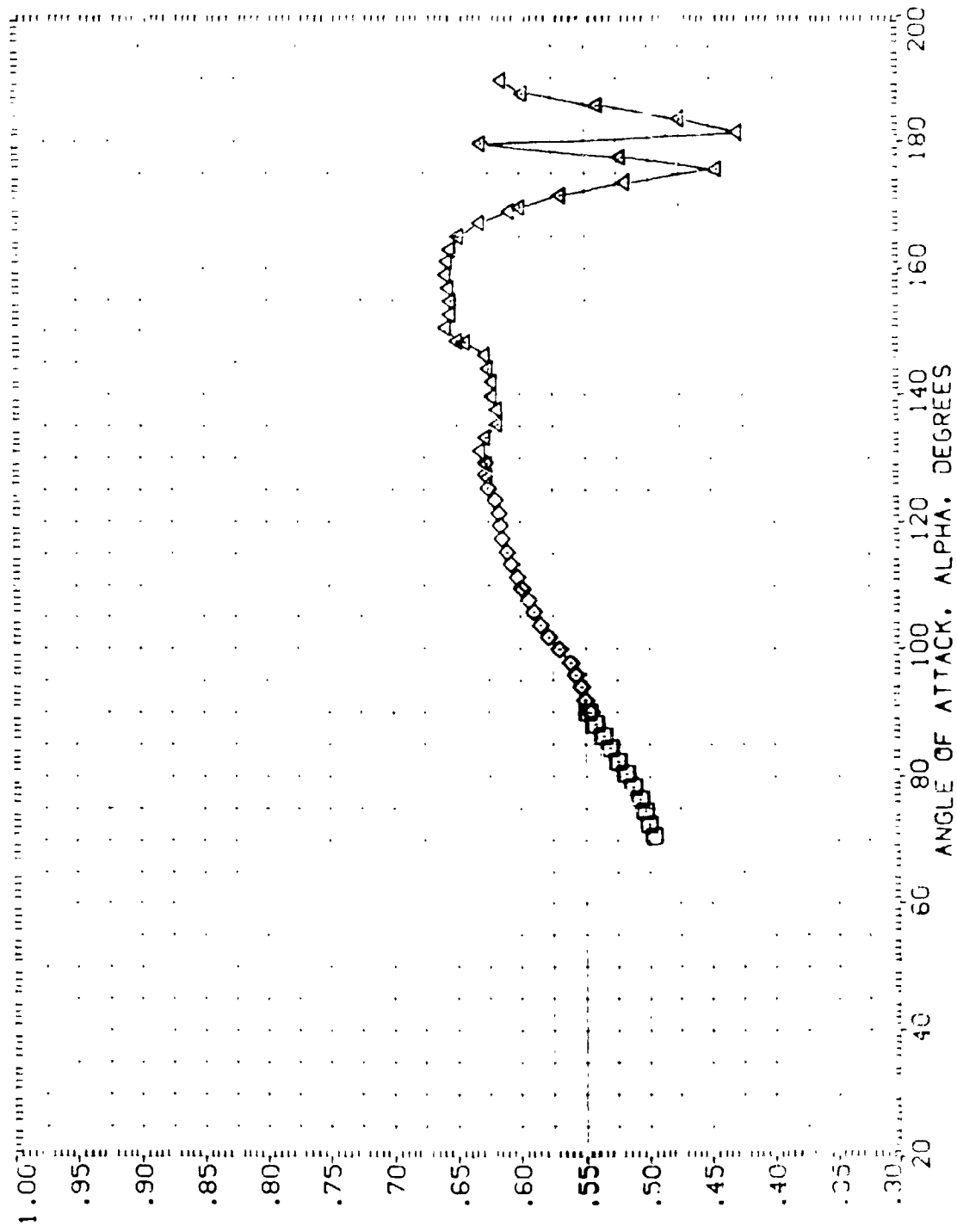


FIGURE 25. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 270)

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H008) DATA NOT AVAILABLE
 (A1H066) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H008) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H008) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI
 270.000
 270.000
 270.000

REFERENCE INFORMATION

SREF 5030 50. IN.
 LREF 3000 30. IN.
 BRCF 5000 50. IN.
 XMRP 5.7210 IN. XS
 YMRP 3000 IN. YS
 ZMRP 3000 IN. ZS
 SCALE .0035

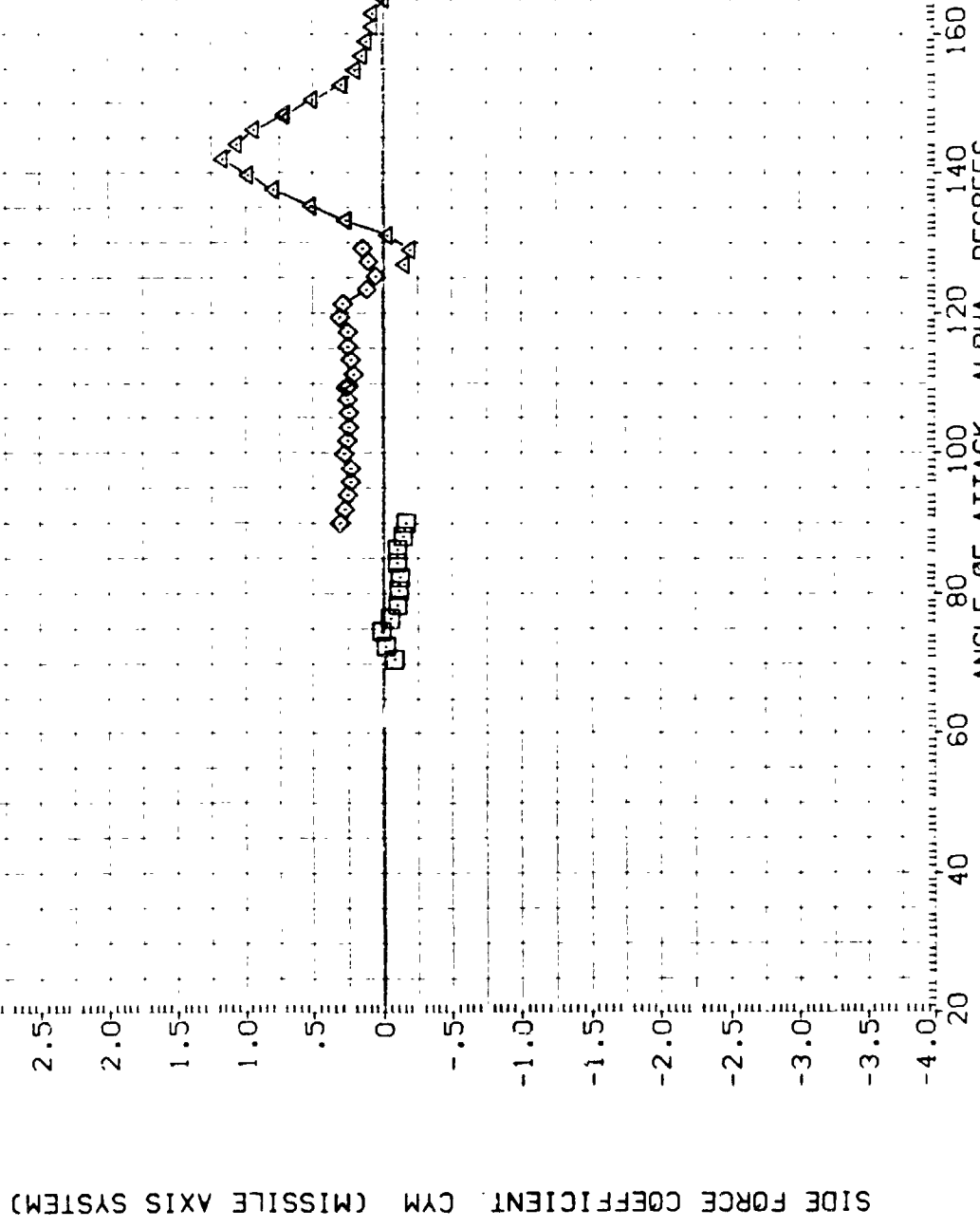


FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SRB W/ALL PROTUBERANCES (PHI = 270)

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(AIHA08) DATA NOT AVAILABLE PHI

(AIH066) MSFC TVT604 (SA8F) SRB WITH ALL PROTUBERANCES 270.000

(AIHC08) MSFC TVT604 (SA8F) SRB WITH ALL PROTUBERANCES 270.000

(AIHD08) MSFC TVT604 (SA8F) SRB WITH ALL PROTUBERANCES 270.000

REFERENCE INFORMATION

SREF 50.30 IN.

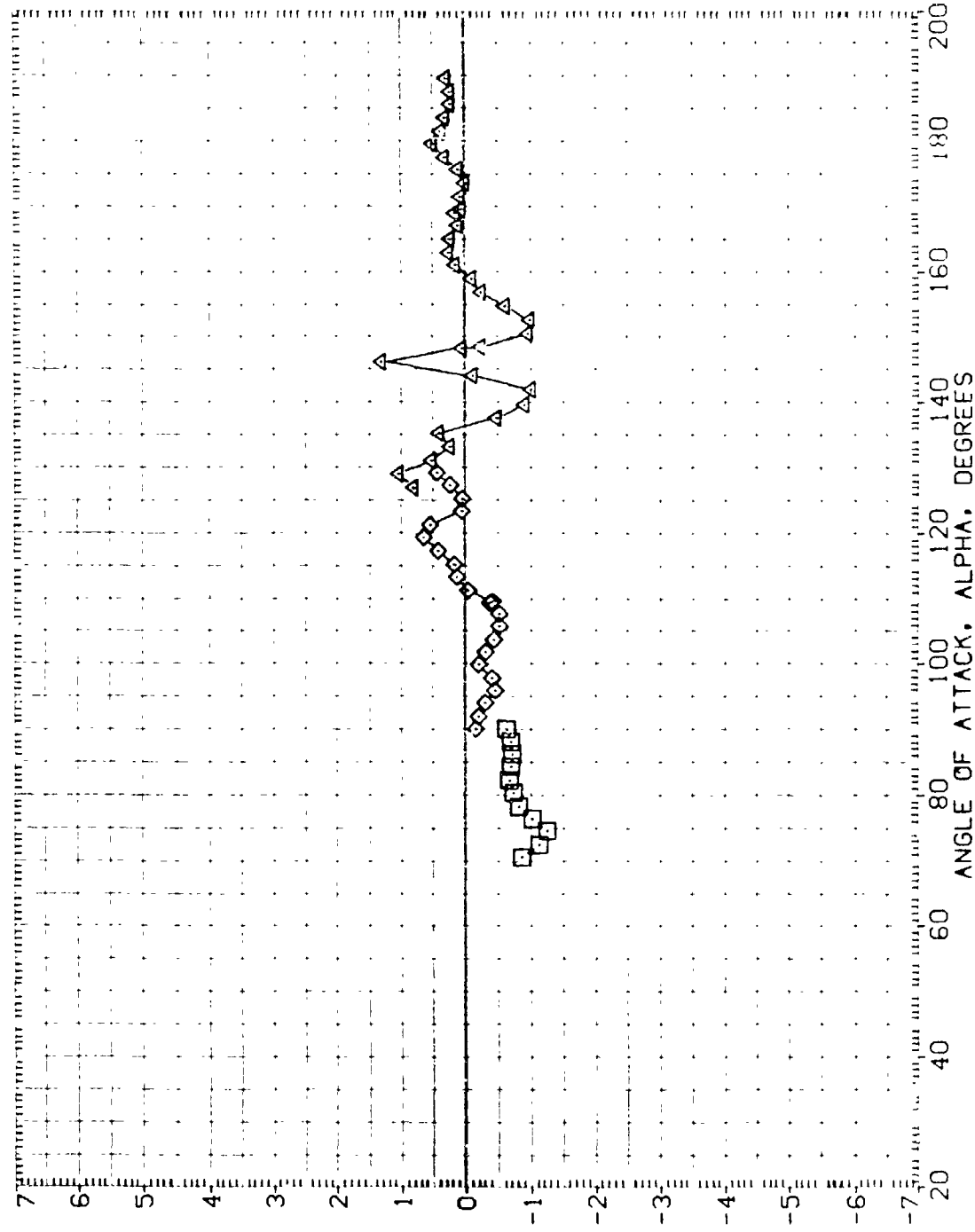
LREF 8000 IN.

RREF 8000 IN.

XMRP 5.7210 IN. XS

ZMRP .0000 IN. YS

SCALE .0055 IN. ZS



YAWING MOMENT COEFFICIENT, C_{YM} (MISSILE AXIS SYSTEM)

FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SRB W/ALL PROTUBERANCES (PHI = 270)

(C)MACH = .30

PAGE 398

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H008) DATA NOT AVAILABLE 270.000

(A1H066) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 270.000

(A1H008) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 270.000

(A1H008) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 270.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .9000 IN.

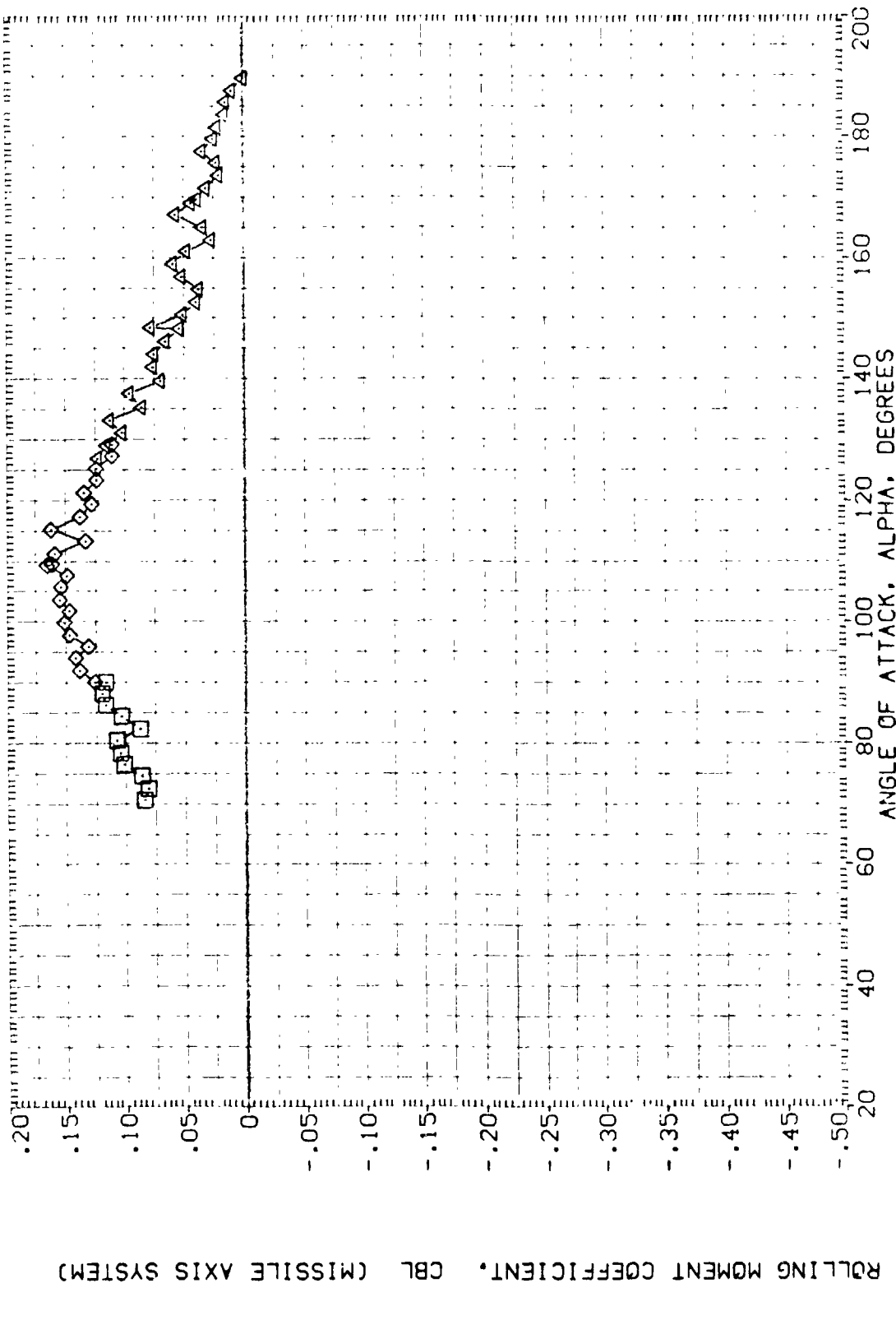
BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0155



ROLLING MOMENT COEFFICIENT, CBL (MISSILE AXIS SYSTEM)

FIGURE 25. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 270)

(C)MACH = .90

REFERENCE INFORMATION
 SREF 5030 SQ. IN.
 LREF 8000 IN.
 BREF 8000 IN.
 X-TRP 5 7210 IN. XS
 Y-TRP 0000 IN. YS
 Z-TRP 0000 IN. ZS
 SCALE 0055

PHI
 270.000
 270.000
 270.000
 270.000

DATA SET SYMBOL. CONFIGURATION DESCRIPTION
 (A1H008) DATA NOT AVAILABLE
 (A1H066) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H008) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H008) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

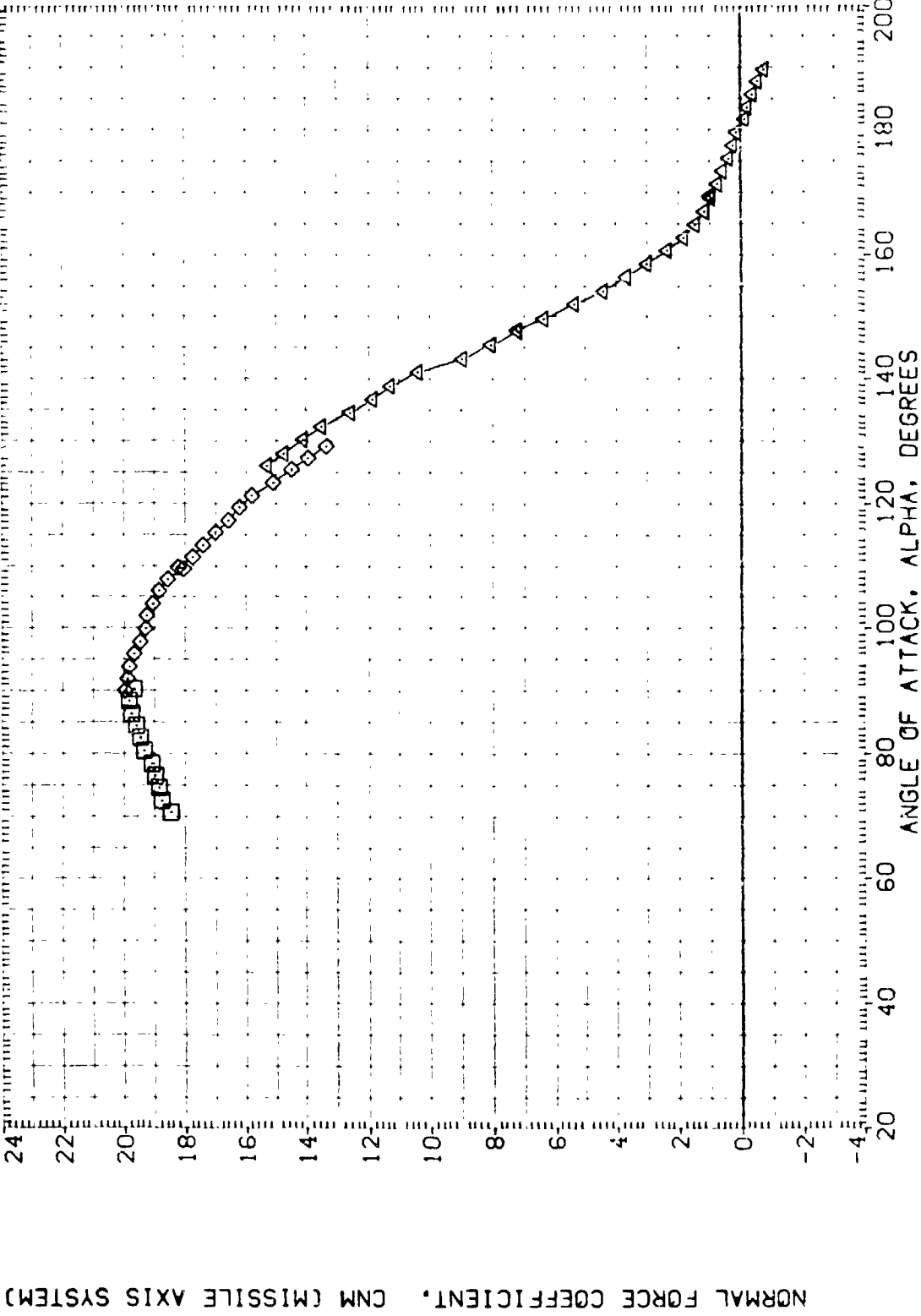


FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SRB WITH WALL PROTUBERANCES (PHI = 270)
 (D) MACH = 1.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H08) DATA NOT AVAILABLE 270.000

(A1H066) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 270.000

(A1H08) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 270.000

(A1H008) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 270.000

REFERENCE INFORMATION

SREF .5030 SQ.IN.

LREF .8000 IN.

ZREF .8000 IN.

XMRP 5.7210 IN. XE

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

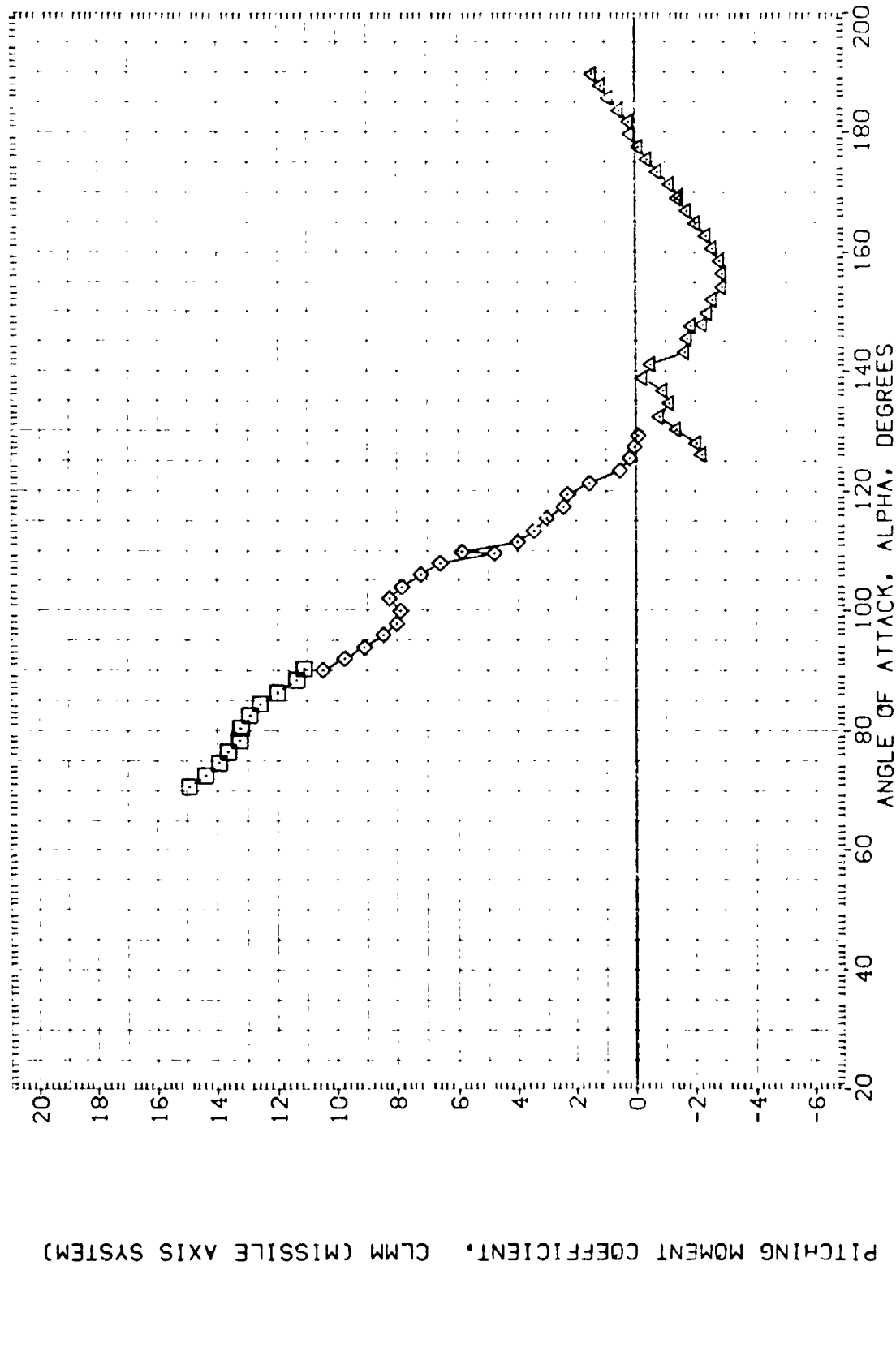


FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SRB WALL PROTUBERANCES (PHI = 270)

(M)MACH = 1.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H008) DATA NOT AVAILABLE
 (A1H065) MSFC TWT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H008) MSFC TWT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H008) MSFC TWT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI
 270.000
 270.000
 270.000

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .5120 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

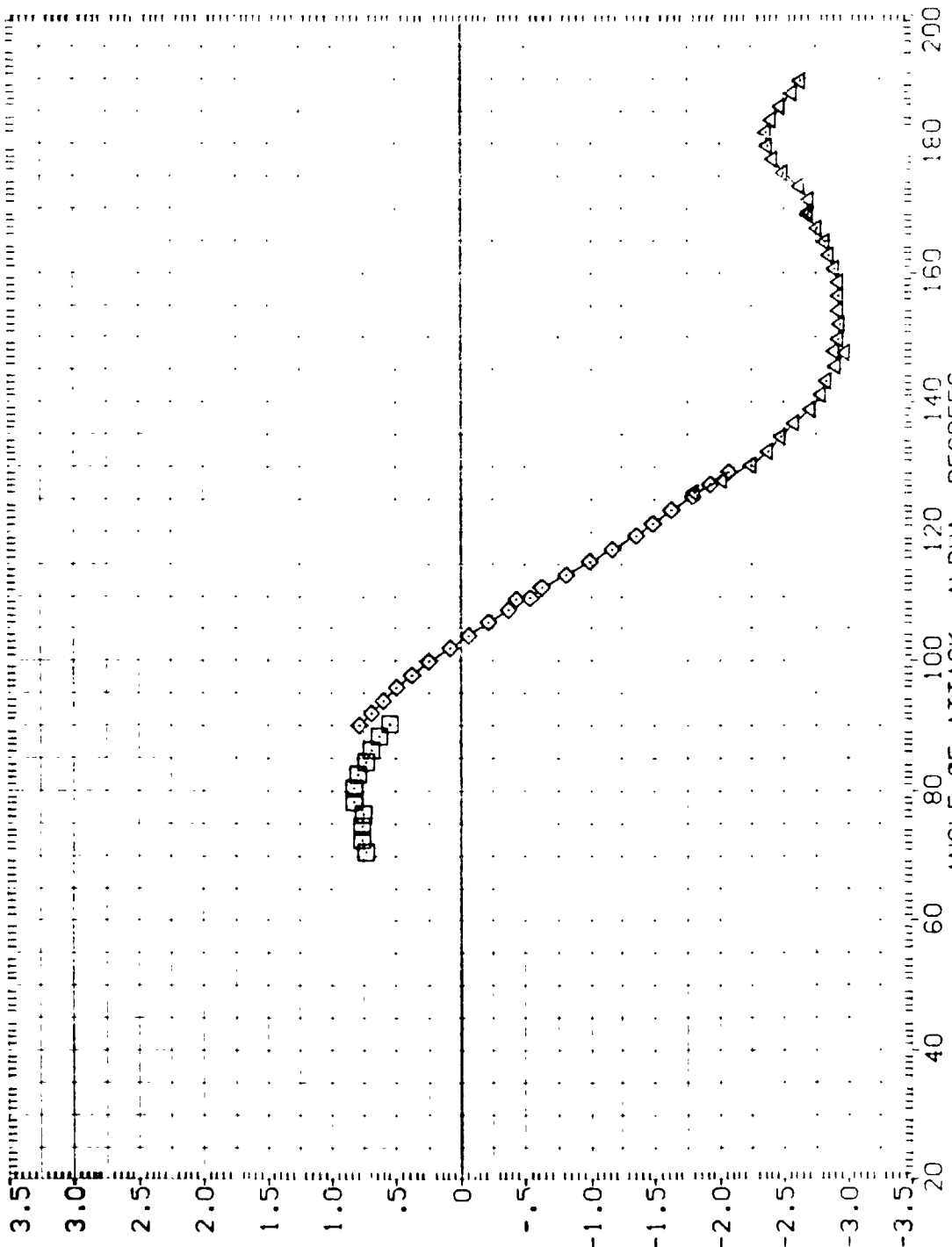


FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SRB WALL PROTUBERANCES (PHI = 270)

(0) MACH = 1.70

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H008) DATA NOT AVAILABLE 270.000

(A1H066) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 270.000

(A1H008) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 270.000

(A1H008) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 270.000

REFERENCE INFORMATION

SREF 5030 SQ. IN.

LREF 8000 IN.

BREF 8000 IN.

YMRP 5 IN. XS

ZMRP 0000 IN. YS

SCALE 0000 IN. ZS

 0055

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

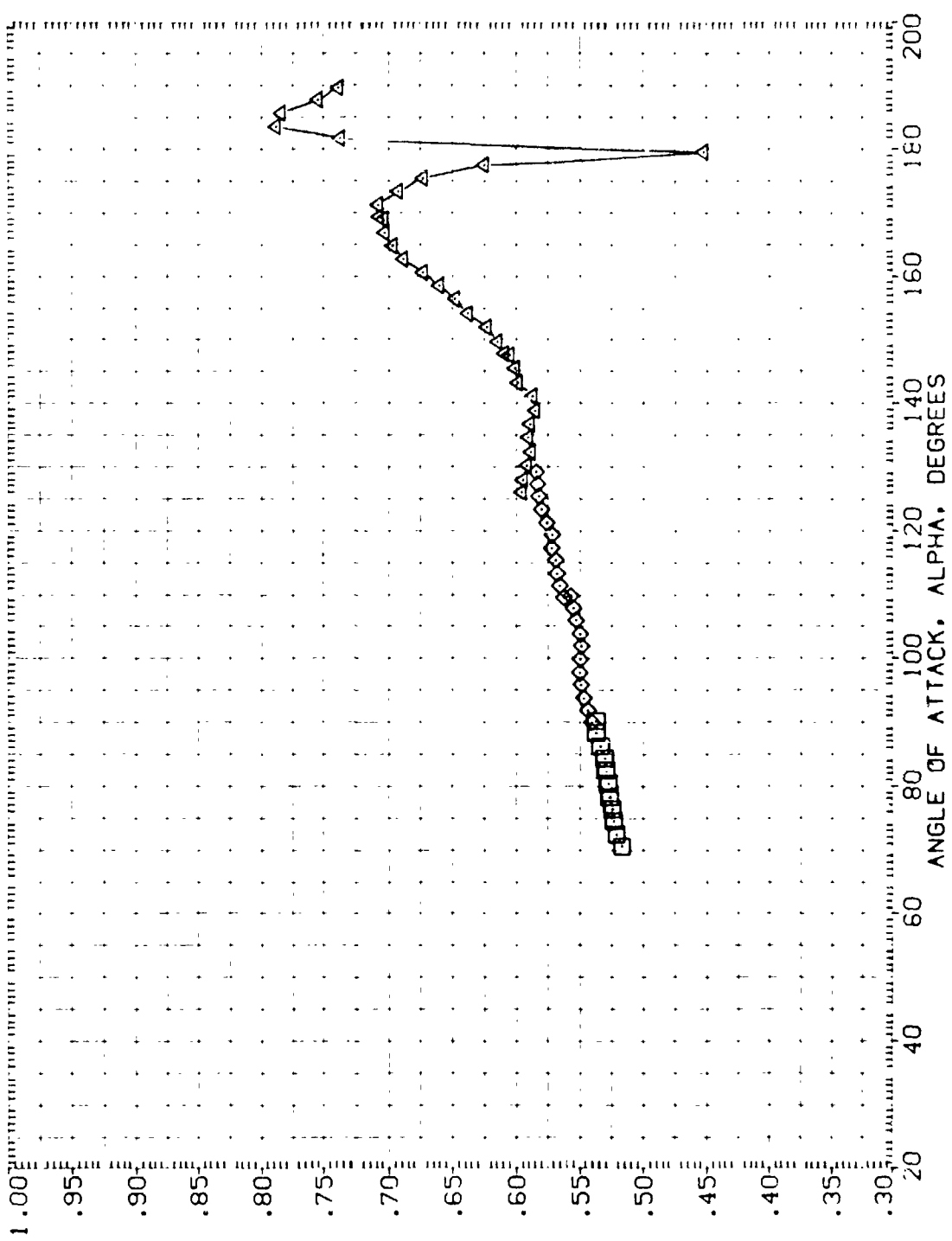


FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 270)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1HAG8) DATA NOT AVAILABLE 270.000

(A1H066) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 270.000

(A1H008) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 270.000

(A1H008) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 270.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

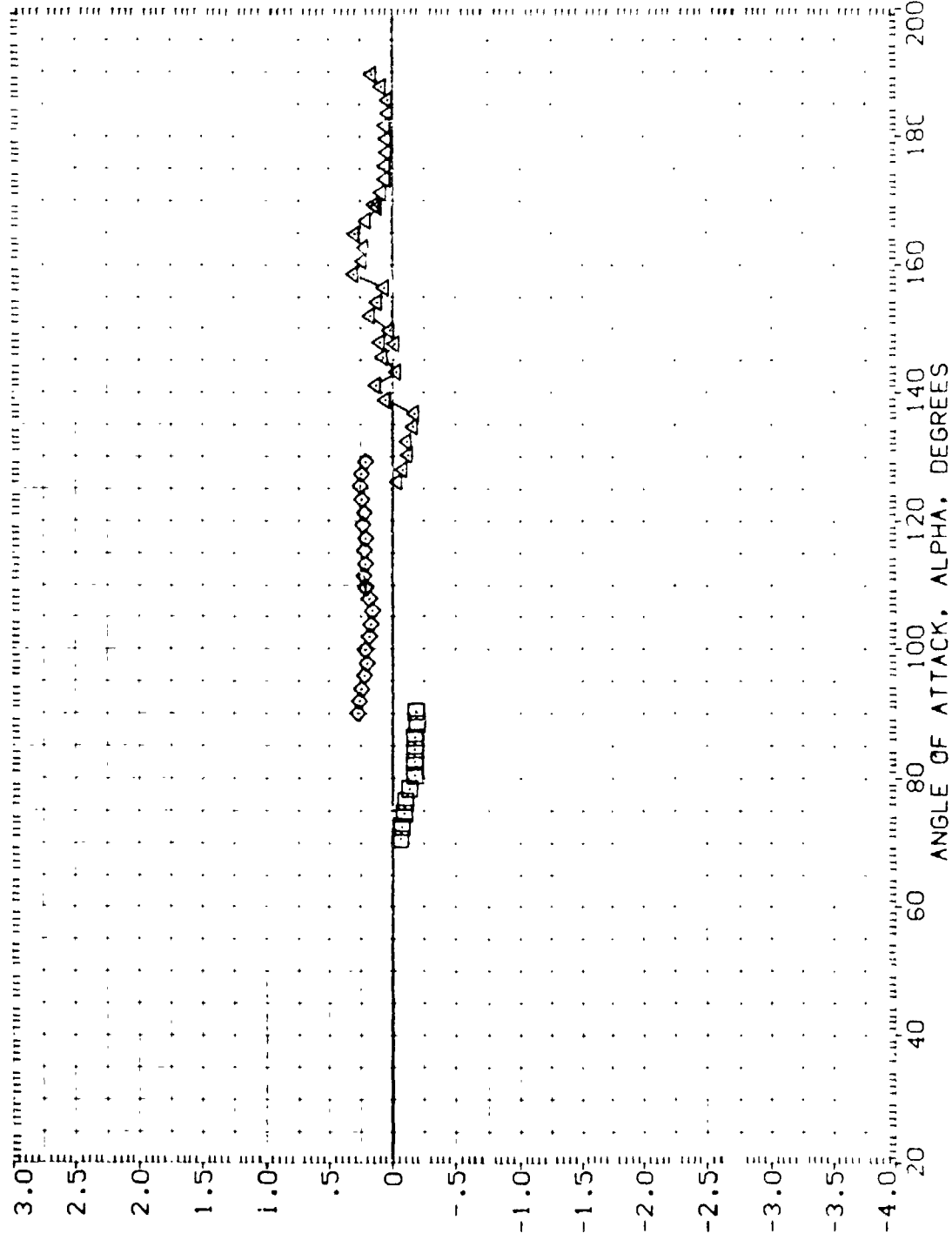


FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 270)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H008) DATA NOT AVAILABLE 270.000

(A1P066) MSFC IV'604 (SABF) 270.000

(A1H008) MSFC IV'604 (SABF) 270.000

(A1H008) MSFC IV'604 (SABF) 270.000

REFERENCE INFORMATION

SREF 5030 SQ. IN.

LREF 8000 IN.

BREF 8000 IN.

XMRP 5.7210 IN. XS

ZMRP .0000 IN. ZS

SCALE .0055 IN. ZS

YAWING MOMENT COEFFICIENT, C_{YM} (MISSILE AXIS SYSTEM)

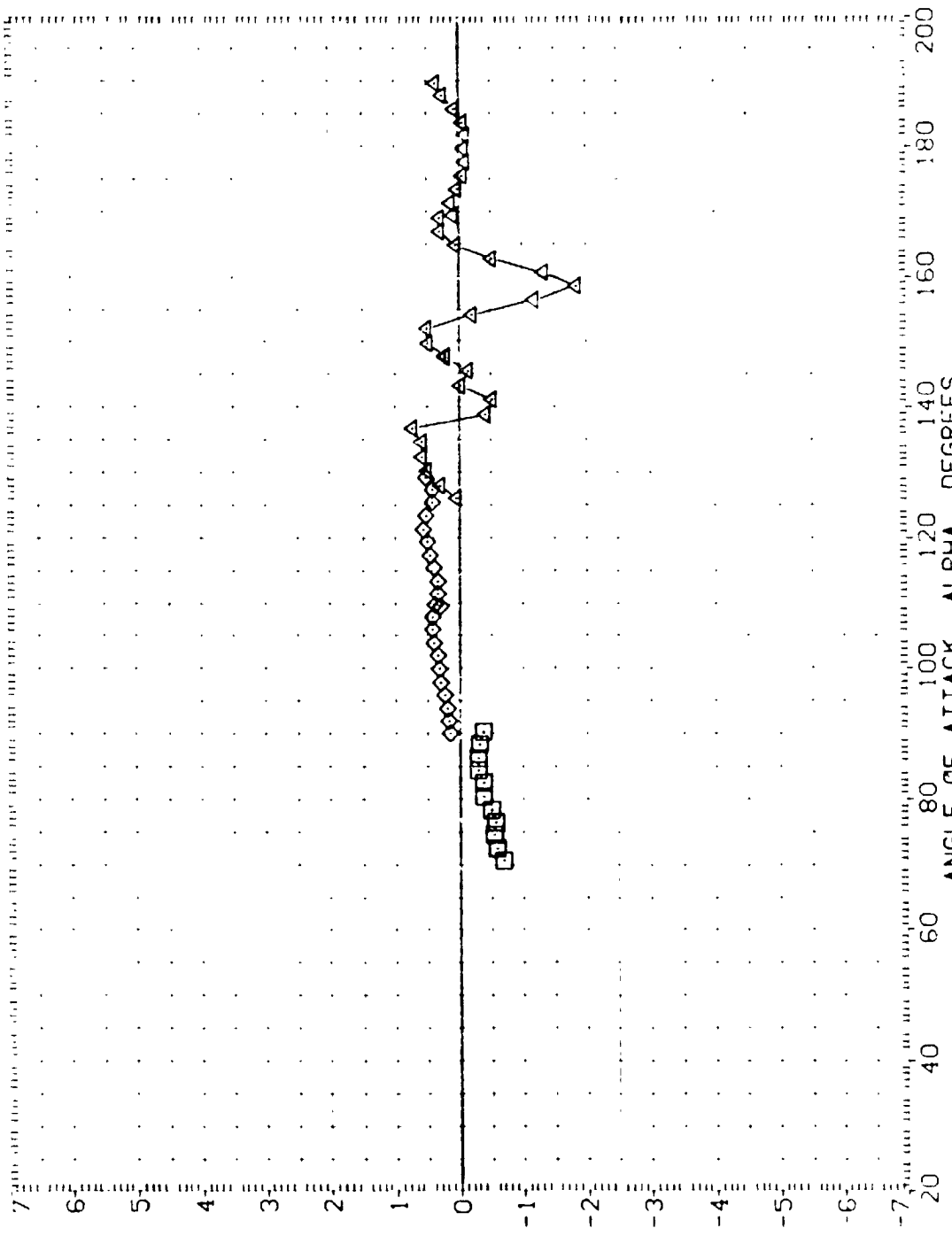


FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SRB W/ALL PROTUBERANCES (PHI = 270)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H008) DATA NOT AVAILABLE 270.000

(A1H066) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 270.000

(A1H008) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 270.000

(A1H008) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 270.000

REFERENCE INFORMATION

SREF 5030 IN.

LREF 5000 IN.

BREF 5000 IN.

XMRP 50210 IN. XS

YMRP 50000 IN. YS

ZMRP 50000 IN. ZS

SCALE 1055

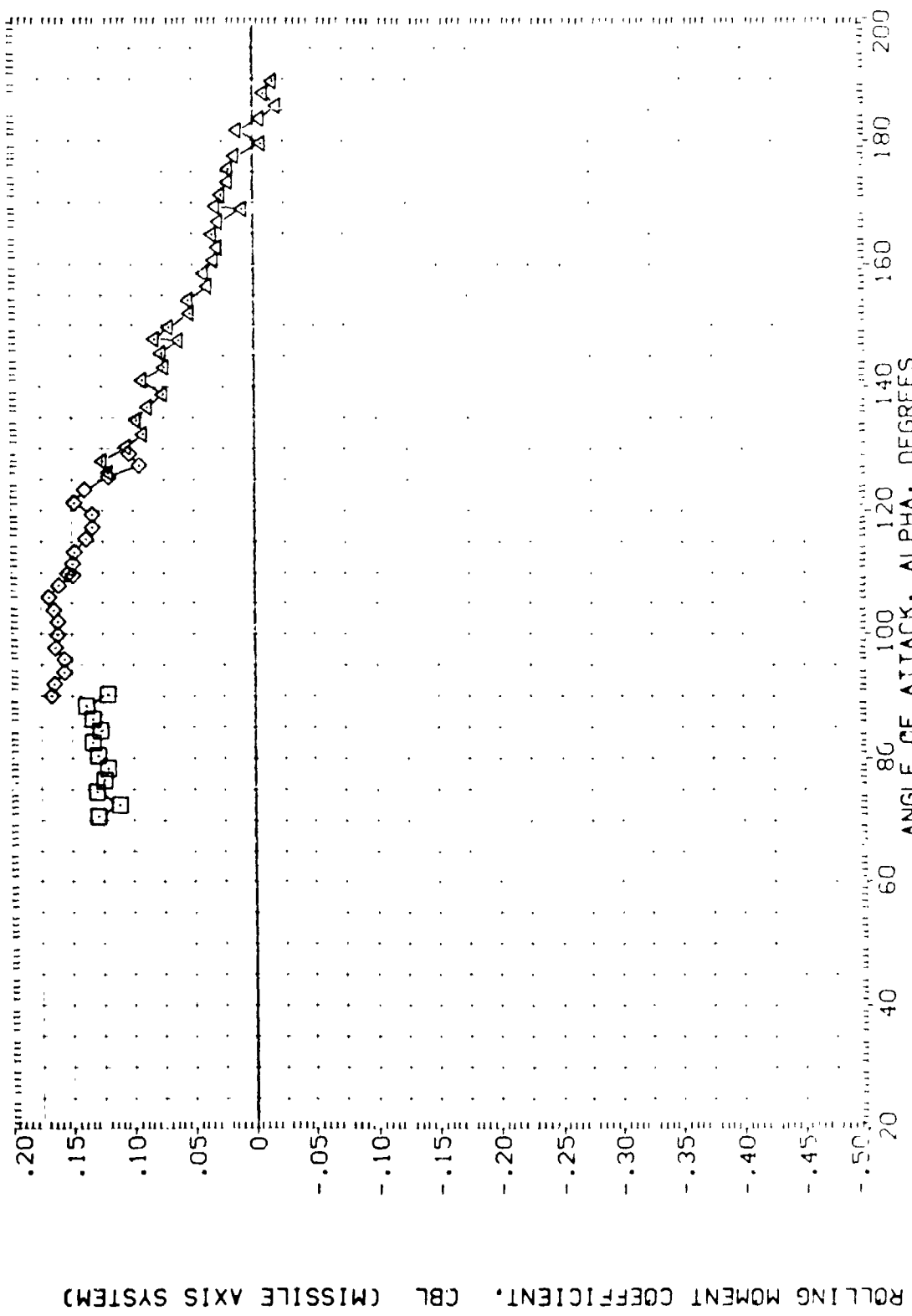


FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SRB W/ALL PROTUBERANCES (PHI = 270)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H008) DATA NOT AVAILABLE 270.000
 (A1H066) MSFC T1604 (SABF) SRB WITH ALL PROTUBERANCES 270.000
 (A1H068) MSFC T1604 (SABF) SRB WITH ALL PROTUBERANCES 270.000
 (A1H008) MSFC T1604 (SABF) SRB WITH ALL PROTUBERANCES 270.000

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF 5.000 IN.
 BREF 48.700 IN.
 XMRP 5.7110 IN. XS
 YMRP .00000 IN. YS
 ZMRP .00000 IN. ZS
 SCALE .0055

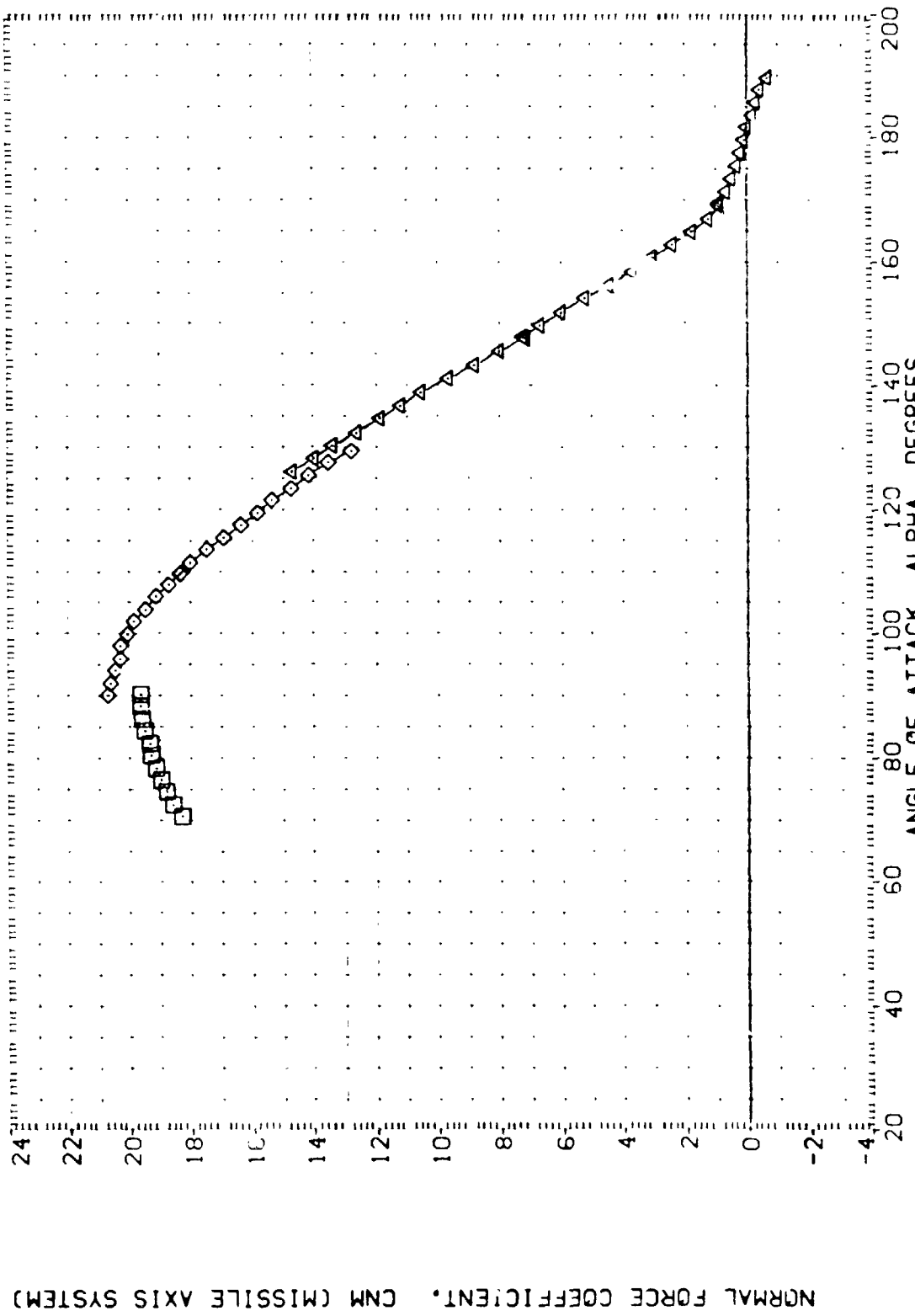


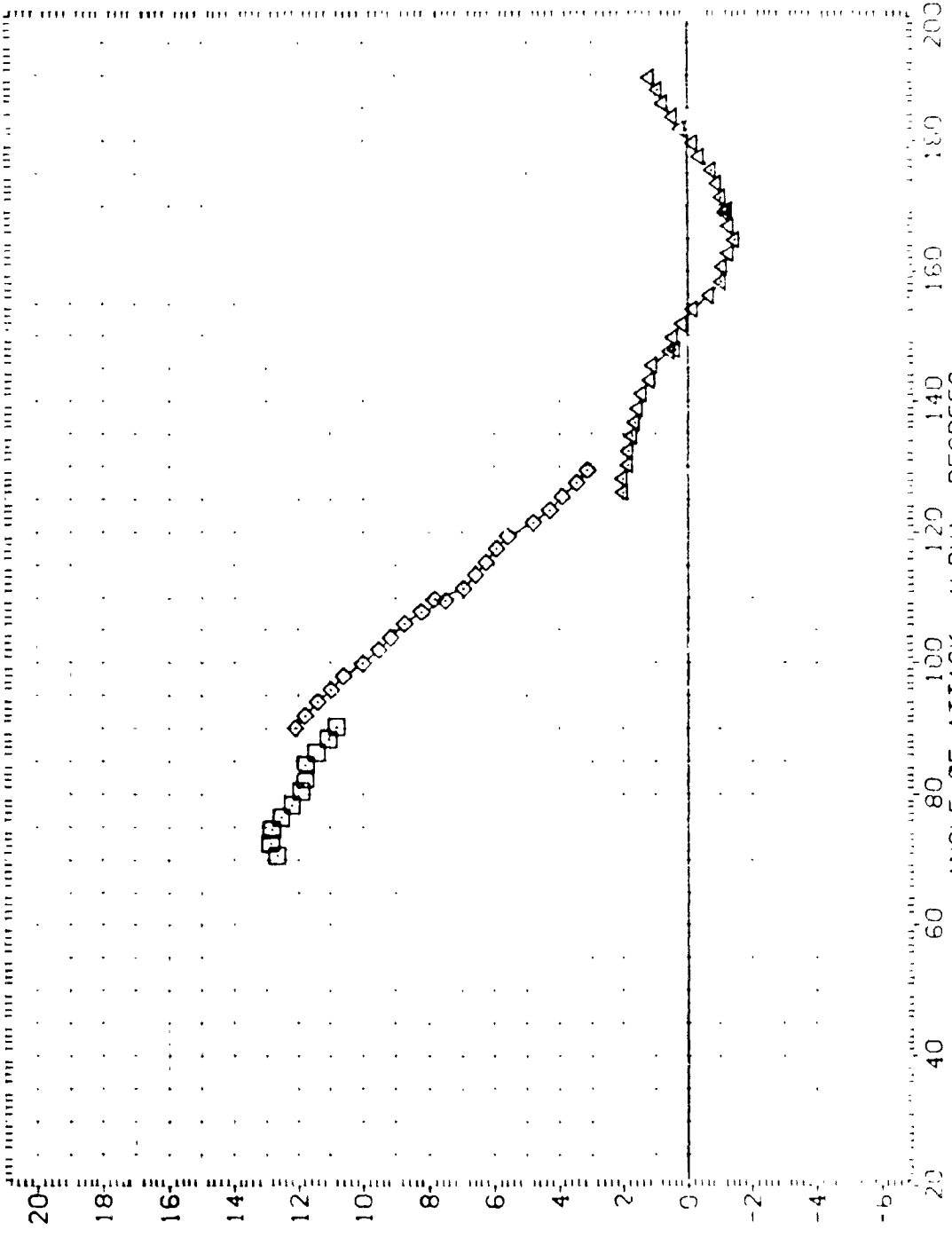
FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 270)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1M08) DATA NOT AVAILABLE 270.000
 (A1M06) MSFC 1V1604 (SAB) SRB WITH ALL PROTUBERANCES 270.000
 (A1M08) MSFC 1V1604 (SAB) SRB WITH ALL PROTUBERANCES 270.000
 (A1M08) MSFC 1V1604 (SAB) SRB WITH ALL PROTUBERANCES 270.000

REFERENCE INFORMATION

SREF 3000 IN.
 LREF 3000 IN.
 BREF 3000 IN.
 XMRP 5.7210 IN. XS
 YMRP 3000 IN. YS
 ZMRP 3000 IN. ZS
 SCALE 3055



PITCHING MOMENT COEFFICIENT, CLMM (MISSILE AXIS SYSTEM)

FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SRB WALL PROTUBERANCES (PHI = 270)

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(A1MA08)	DATA NOT AVAILABLE	270.000	SREF .5030 SQ. IN.
(A1M086)	MSFC TV1504 (SABF) SRB WITH ALL PROTUBERANCES	270.000	LREF 8.100 IN.
(A1M008)	MSFC TV1504 (SABF) SRB WITH ALL PROTUBERANCES	270.000	BREF 8.800 IN.
(A1M0L8)	MSFC TV1504 (SABF) SRB WITH ALL PROTUBERANCES	270.000	XMRP 5.7710 IN. XS
			YMRP .0100 IN. YS
			ZMRP .0300 IN. ZS
			SCALE .0055

AXIAL FORCE COEFFICIENT, CA (MISSILE AXIS SYSTEM)

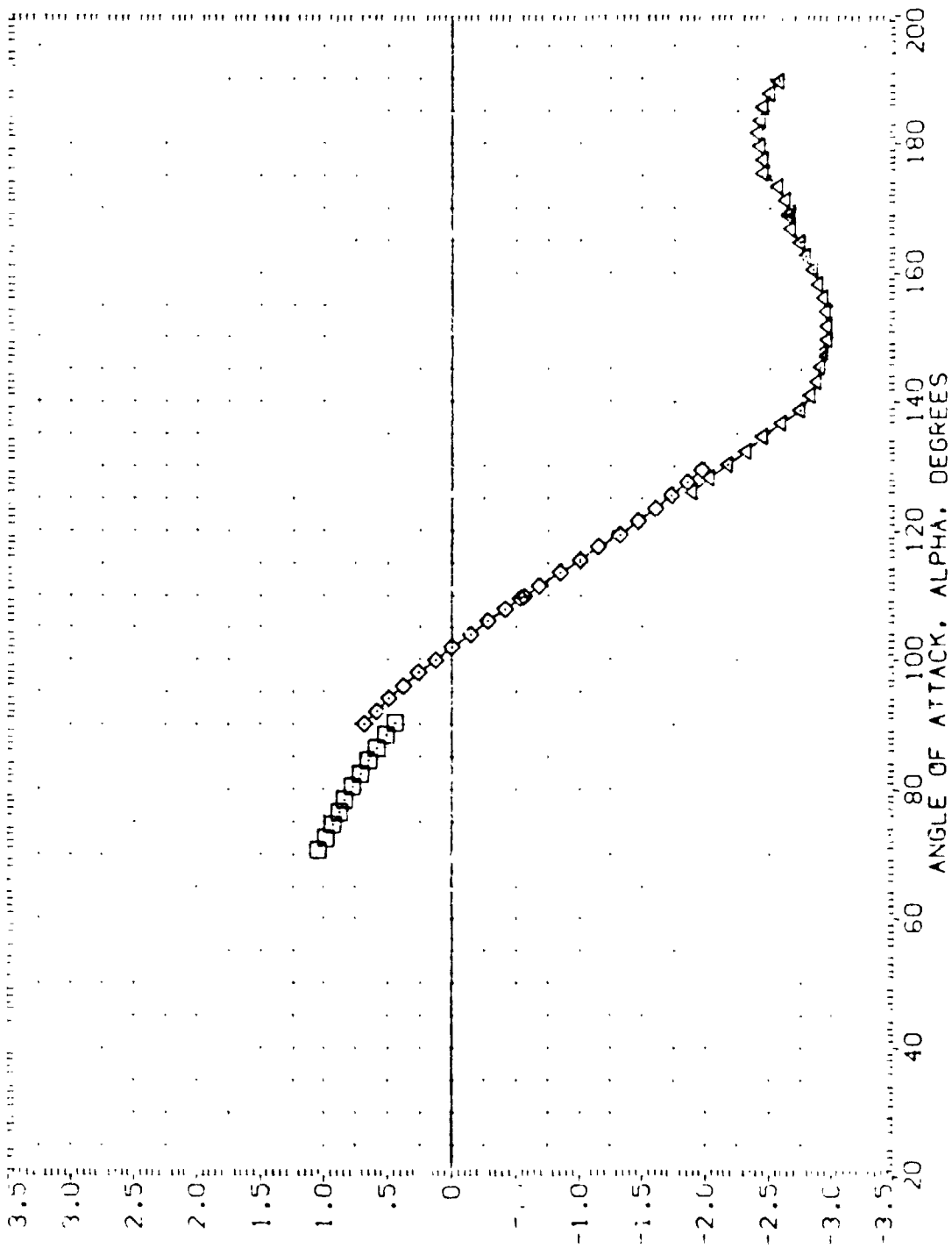


FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 270)

(MACH = 1.96)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1)M08) DATA NOT AVAILABLE 270.000

(A1)M08) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 270.000

(A1)M08) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 270.000

(A1)M08) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 270.000

REFERENCE INFORMATION

SREF 5030 2. IN.

LREF 3000 IN.

BREF 3000 IN.

MXP 5 2310 IN. XS

MXP 10000 IN. YS

MXP 10000 IN. ZS

SCALE .0055

ANGLE OF ATTACK, ALPHA, DEGREES

20 40 60 80 100 120 140 160 180 200

PHI

1.00

.95

.90

.85

.80

.75

.70

.65

.60

.55

.50

.45

.40

.35

.30

.25

.20

410

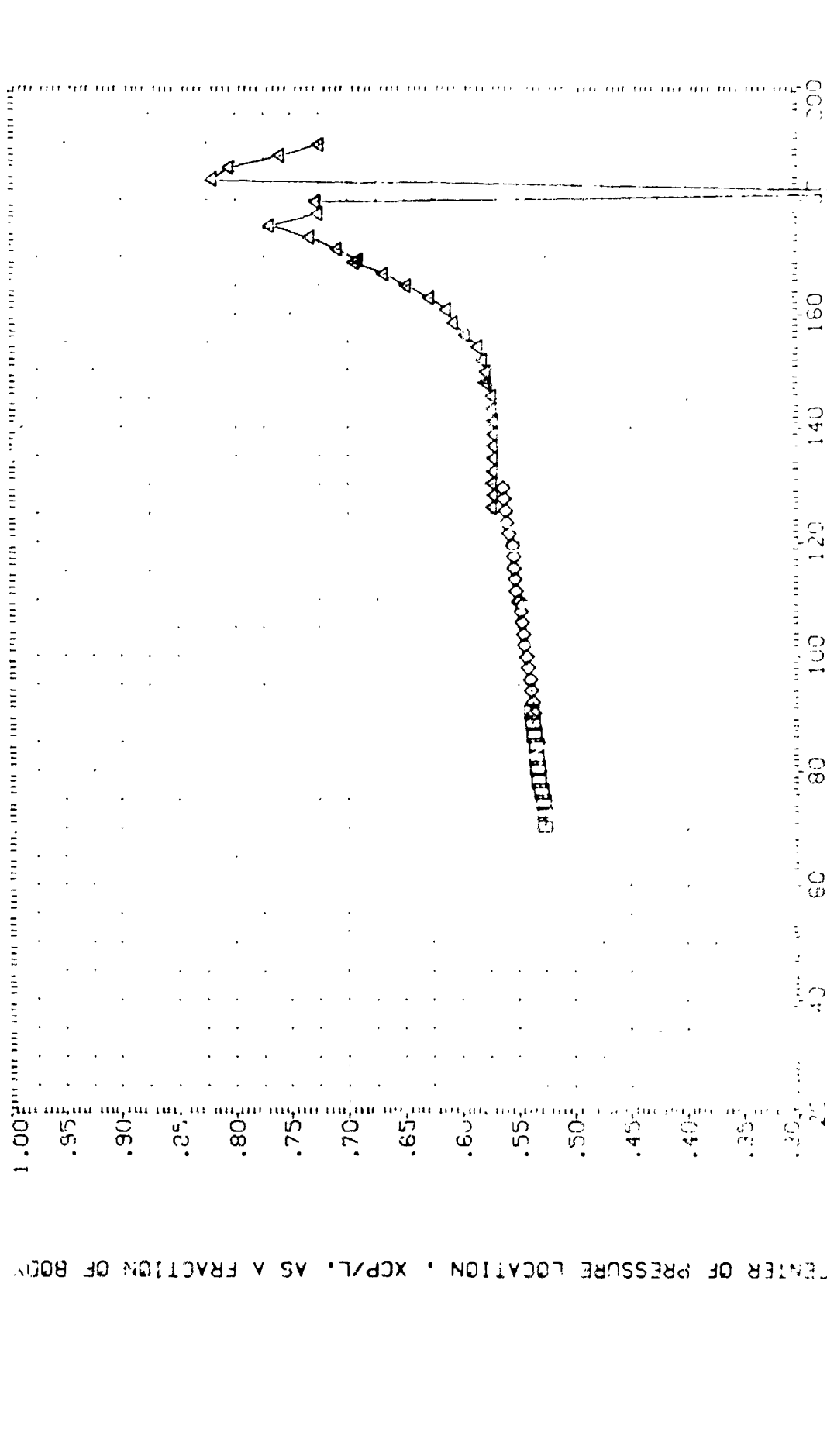
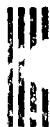


FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SRB WITH PROTUBERANCES (PHI = 270)

FORM 404



DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H008) DATA NOT AVAILABLE 270.000

(A1H066) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 270.000

(A1H08) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 270.000

(A1H008) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

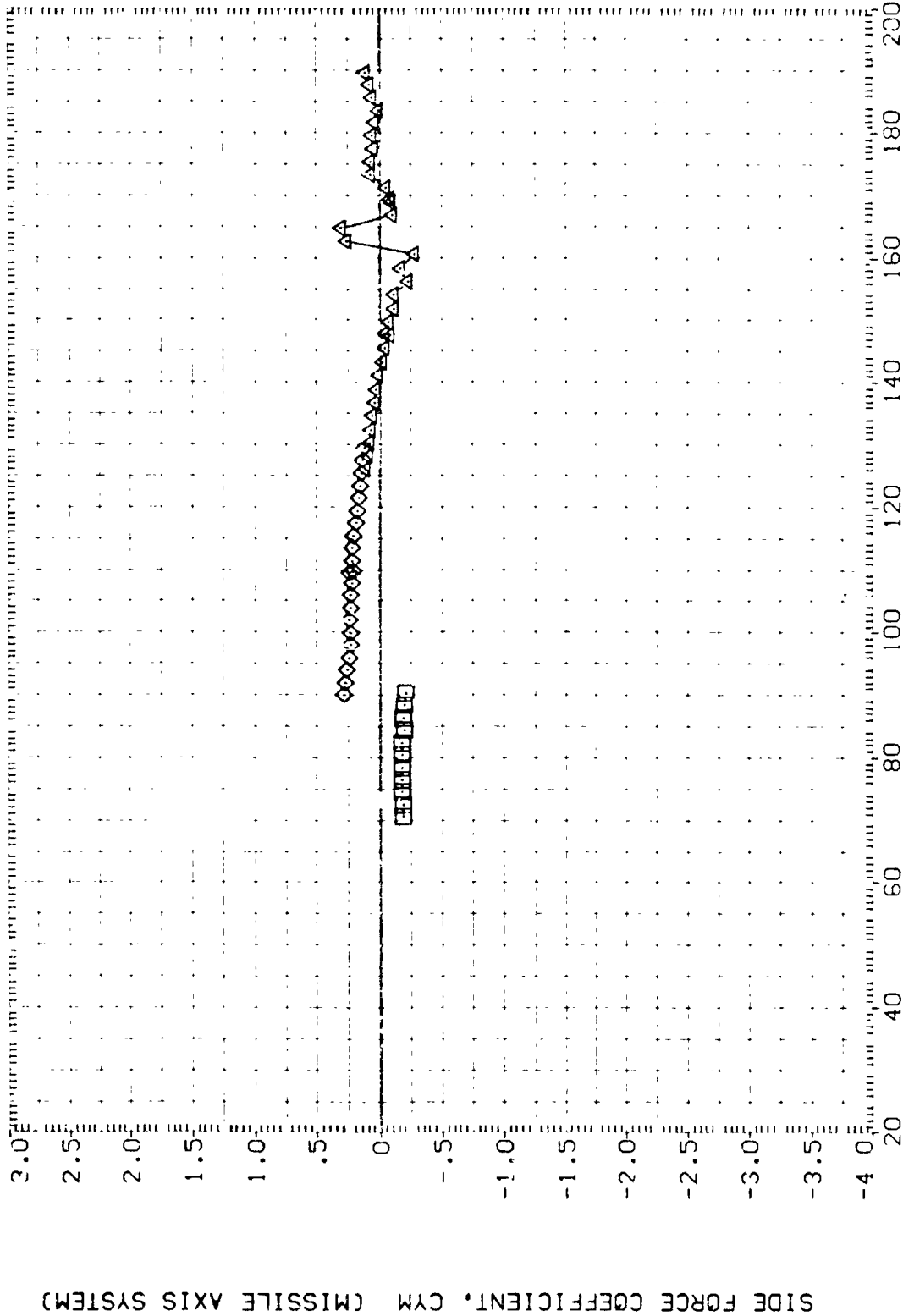


FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SRB W/ALL PROTUBERANCES (PHI = 270)

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H006) DATA NOT AVAILABLE

(A1H066) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H008) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H008) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES

PHI

270.000

270.000

270.000

REFERENCE INFORMATION

SREF .5030 SQ.IN.

LREF .8000 IN.

BREF .8000 IN.

XMRF 5.7210 IN.

YMRP .0000 IN.

ZMRP .0000 IN.

SCALE .0055

YAWING MOMENT COEFFICIENT, C_{YM} (MISSILE AXIS SYSTEM)

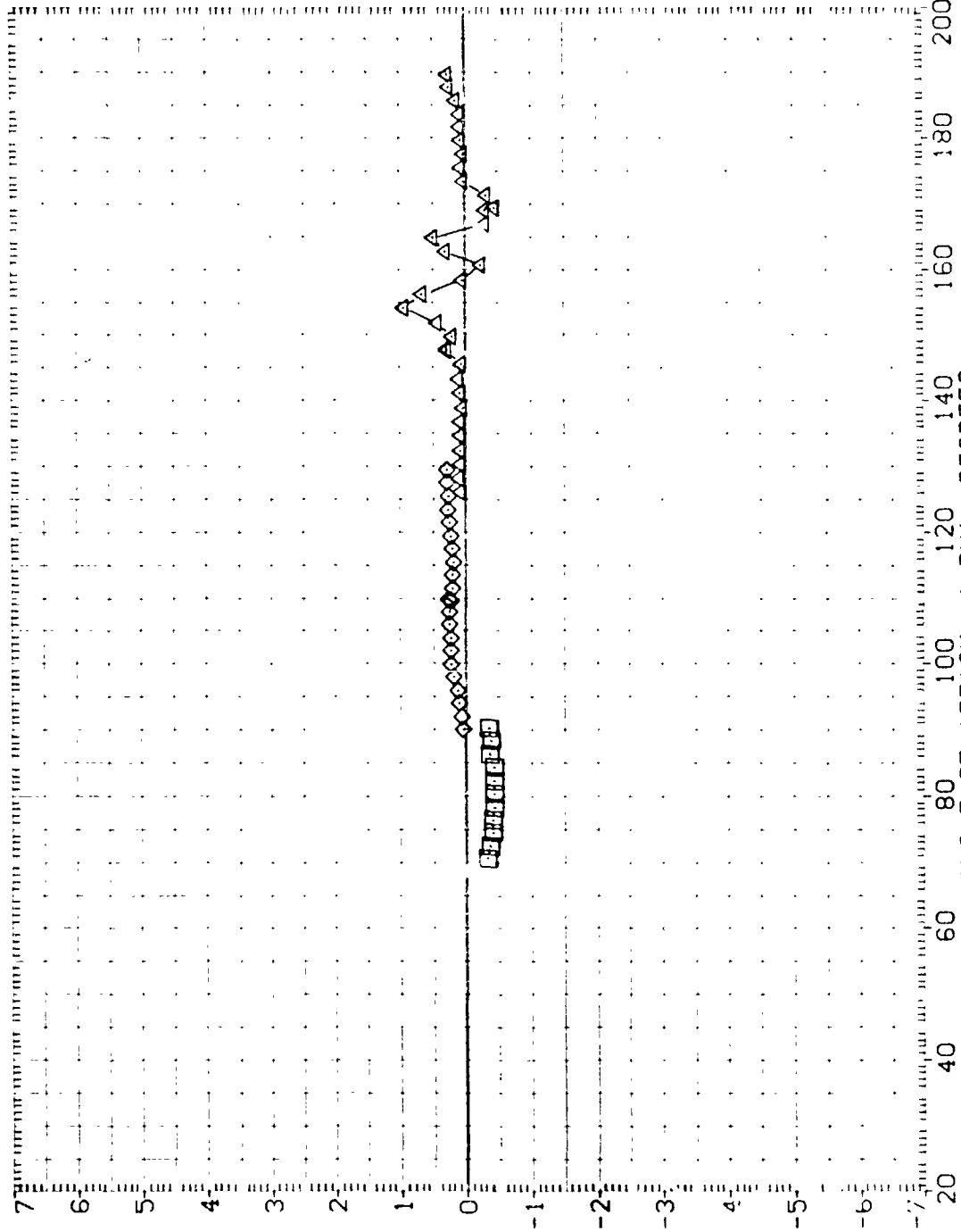


FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 270)

(C)MACH = 1.95

PA5E 412



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(A1H08)	DATA NOT AVAILABLE	270.000	SREF .5030 SQ IN.
(A1H06)	MSFC TWT804 (SABF) SRB WITH ALL PROTUBERANCES	270.000	LREF .6430 IN.
(A1H08)	MSFC TWT804 (SABF) SRB WITH ALL PROTUBERANCES	270.000	BREF .8000 IN.
(A1H08)	MSFC TWT804 (SABF) SRB WITH ALL PROTUBERANCES	270.000	VSRP 5.7210 IN. XS
(A1H08)	MSFC TWT804 (SABF) SRB WITH ALL PROTUBERANCES	270.000	ZMRP .0000 IN. YS
			SCALE .0095 IN. ZS

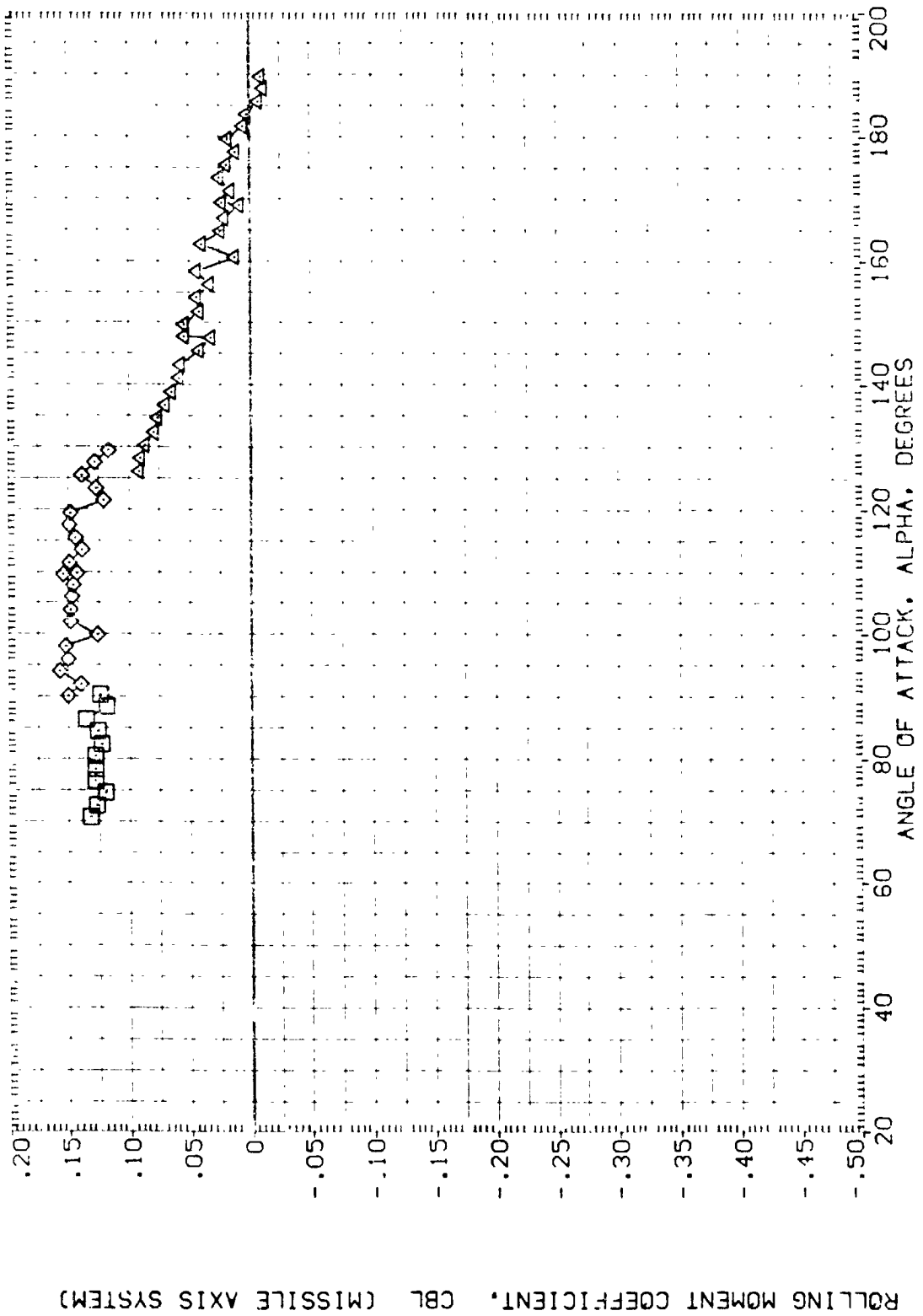


FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 270)

(MACH = 1.26)

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H008) DATA NOT AVAILABLE
 (A1H006) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H008) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H008) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI
 270.000
 270.000
 270.000
 270.000

REFERENCE INFORMATION
 SRCF .5030 SQ. IN.
 LRLE .8000 IN.
 BRLE .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

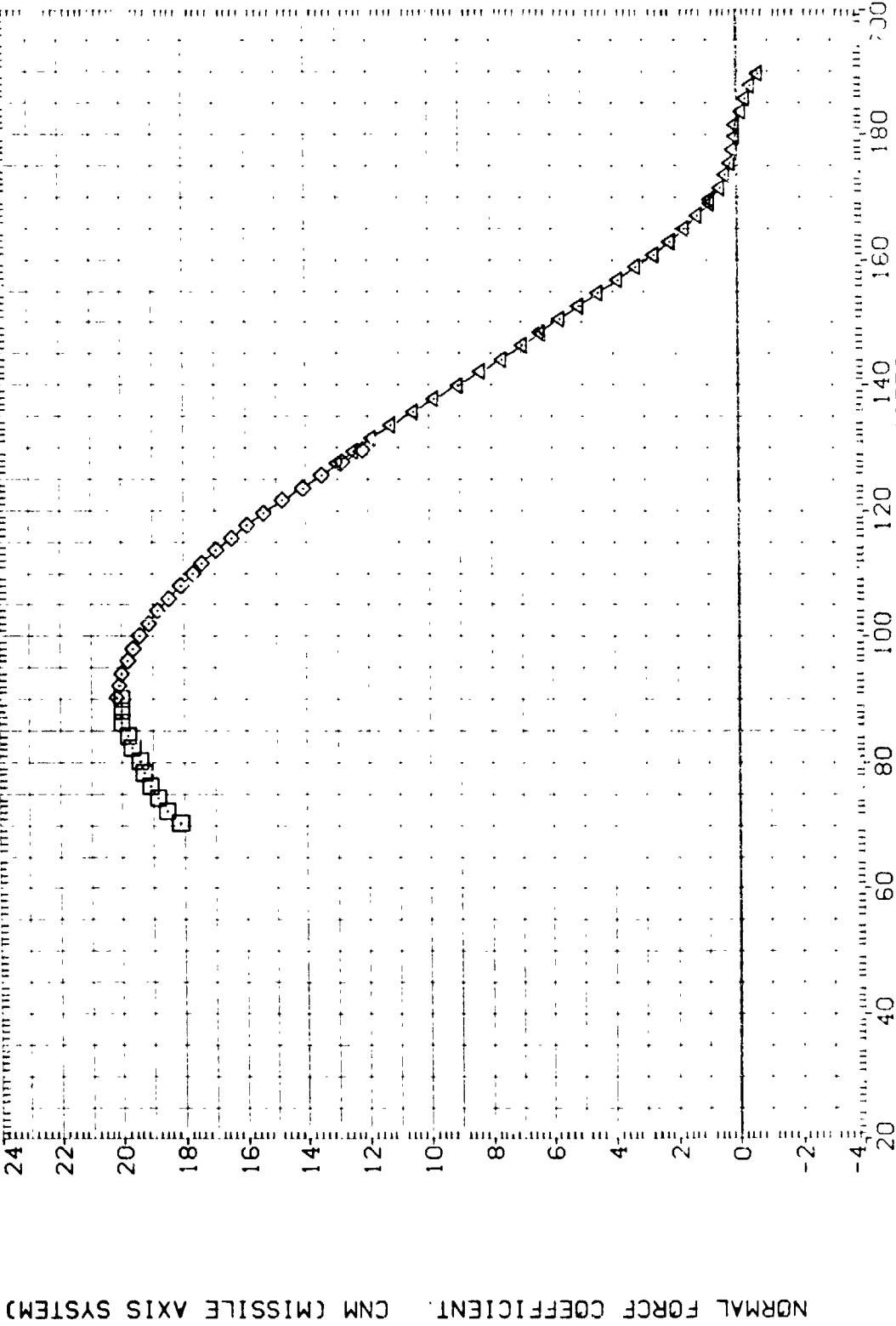


FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SRB W/ALL PROTUBERANCES (PHI = 270;
 (F)MACH = 2.74 PAGE 414

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(A1H008)	DATA NOT AVAILABLE	270.000	SREF 5030 IN.
(A1H066)	MSEC TV1504 (SABF) SRB WITH ALL PROTUBERANCES	270.000	LREF 8000 IN.
(A1H008)	MSEC TV1504 (SABF) SRB WITH ALL PROTUBERANCES	270.000	BREF 8000 IN.
(A1H008)	MSEC TV1504 (SABF) SRB WITH ALL PROTUBERANCES	270.000	XMRP 5.7210 IN. XS
			YMRP 0.0000 IN. YS
			ZMRP 0.0000 IN. ZS
			SCALE .0055

PITCHING MOMENT COEFFICIENT, CLMM (MISSILE AXIS SYSTEM)

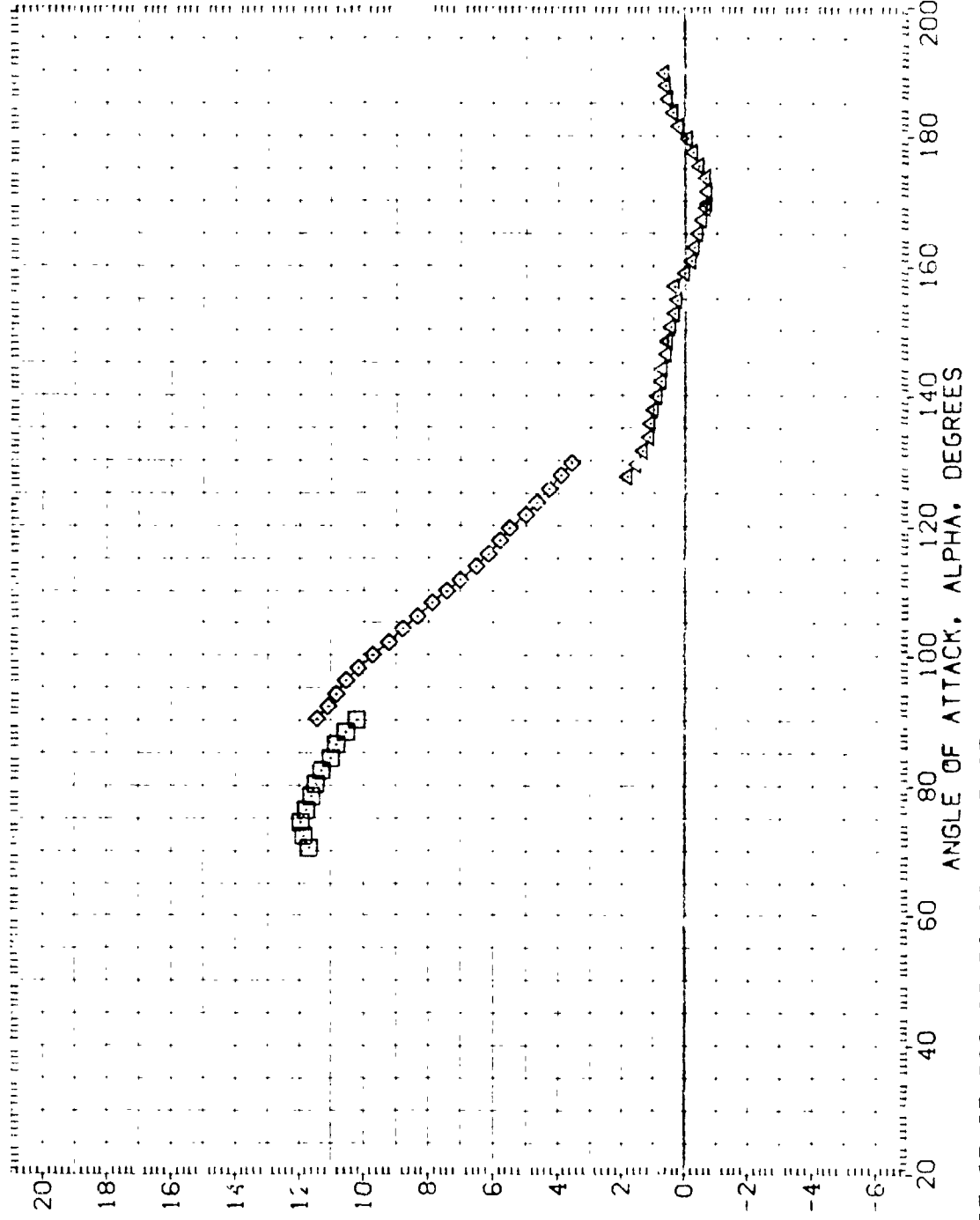


FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 270)

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1P408) DATA NOT AVAILABLE
 (A1H066) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H008) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H008) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI
 270.000
 270.000
 270.000

REFERENCE INFORMATION
 SREF 50.00 SQ. IN.
 LREF 80.00 IN.
 BREF 80.00 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .00055

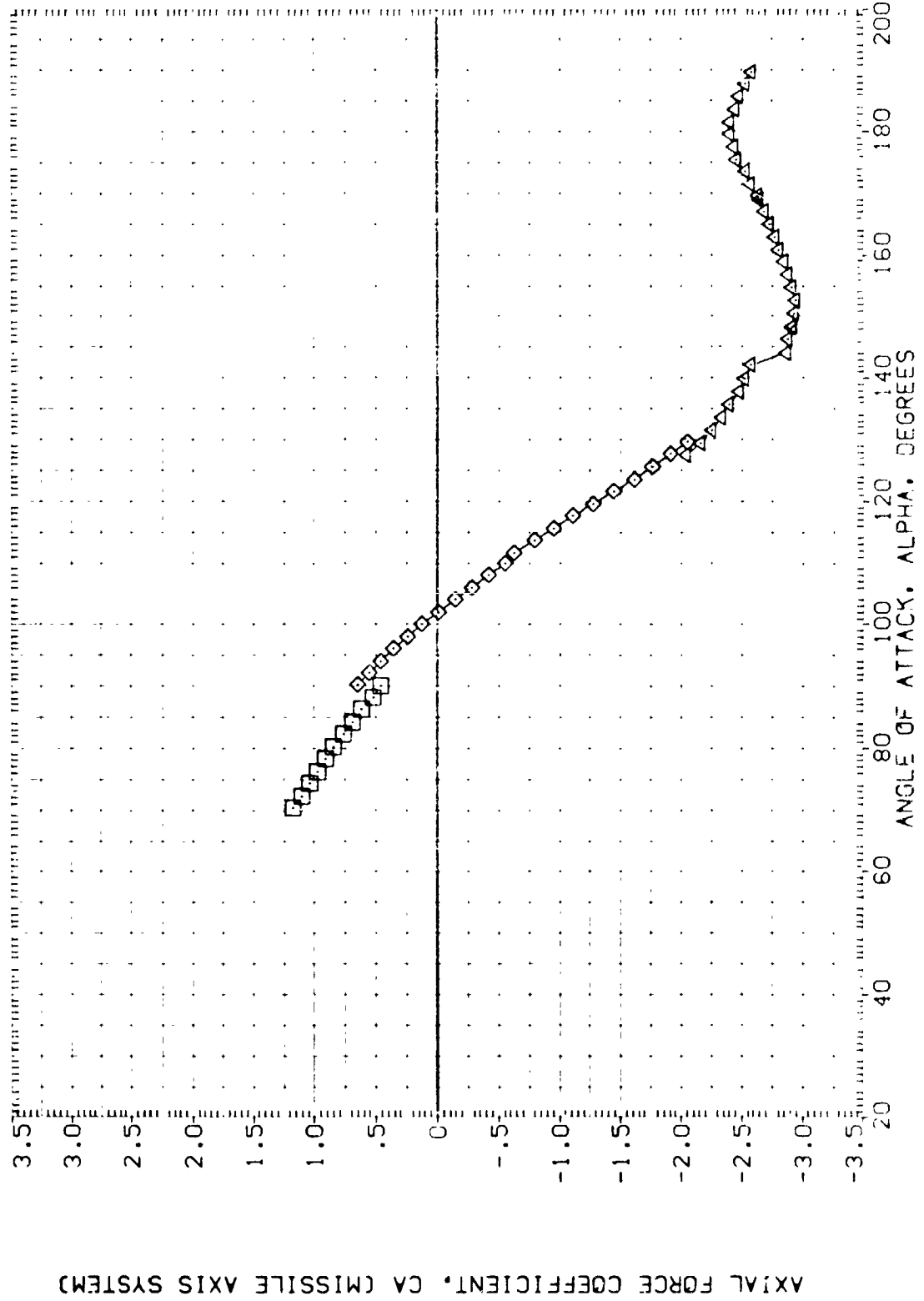


FIGURE 25. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 270)

(F)MACH = 2.74

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H408) DATA NOT AVAILABLE 270.000

(A1H066) MSFC TW604 (SABF) SRB WITH ALL PROTUBERANCES 270.000

(A1H008) MSFC TW604 (SABF) SRB WITH ALL PROTUBERANCES 270.000

(A1H008) MSFC TW604 (SABF) SRB WITH ALL PROTUBERANCES 270.000

REFERENCE INFORMATION

SREF .5030 50.30 IN.

LREF .8000 80.00 IN.

BRLF .5200 52.00 IN.

YMRP 5.7210 572.10 IN. XS

ZMRP .0000 0.00 IN. YS

SCALE .0035

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

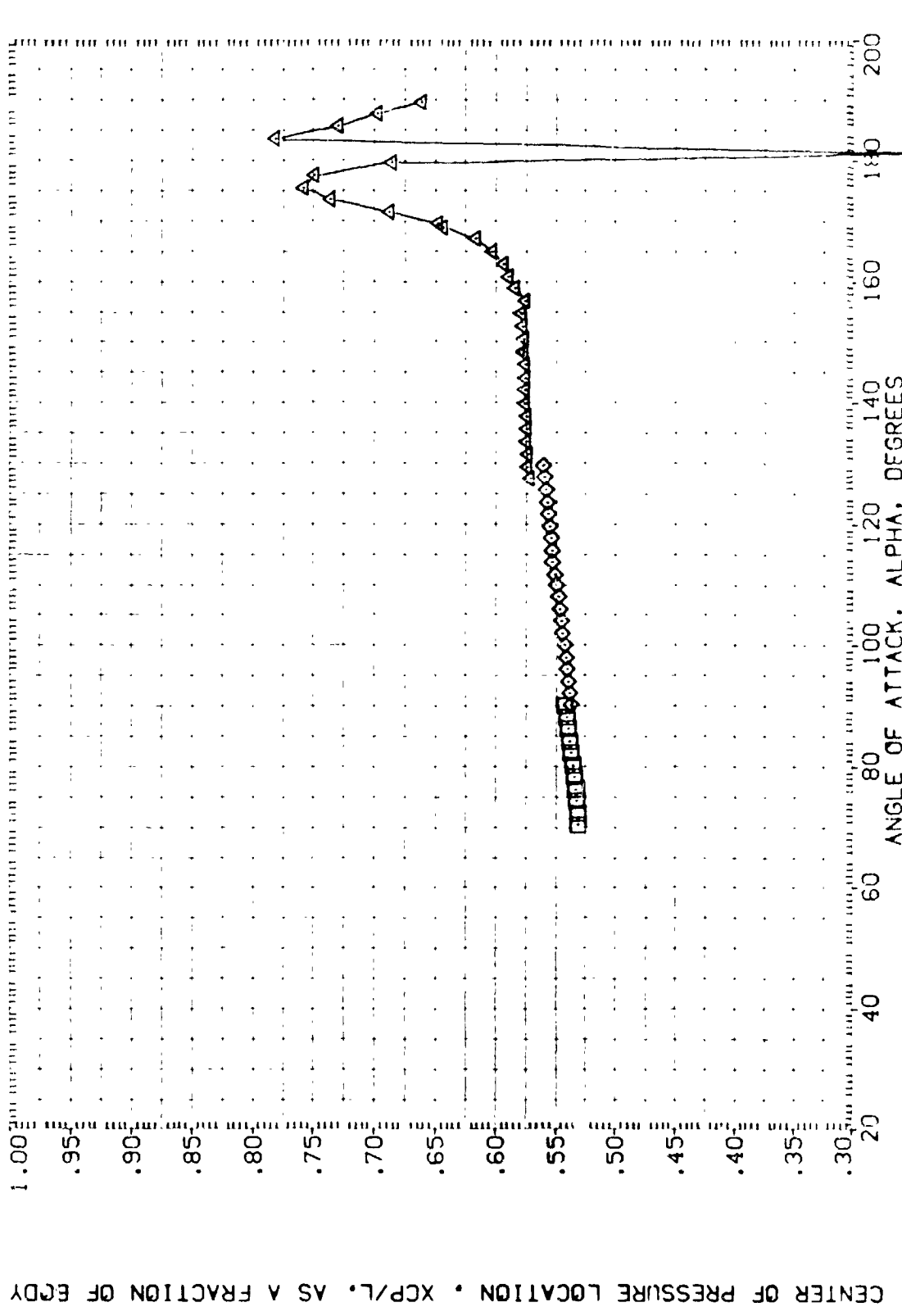


FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 270)

(F)MACH = 2.74

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H008) DATA NOT AVAILABLE
 (A1H066) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H008) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H008) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI
 270.000
 270.000
 270.000

YAWING MOMENT COEFFICIENT, C_{YM} (MISSILE AXIS SYSTEM)

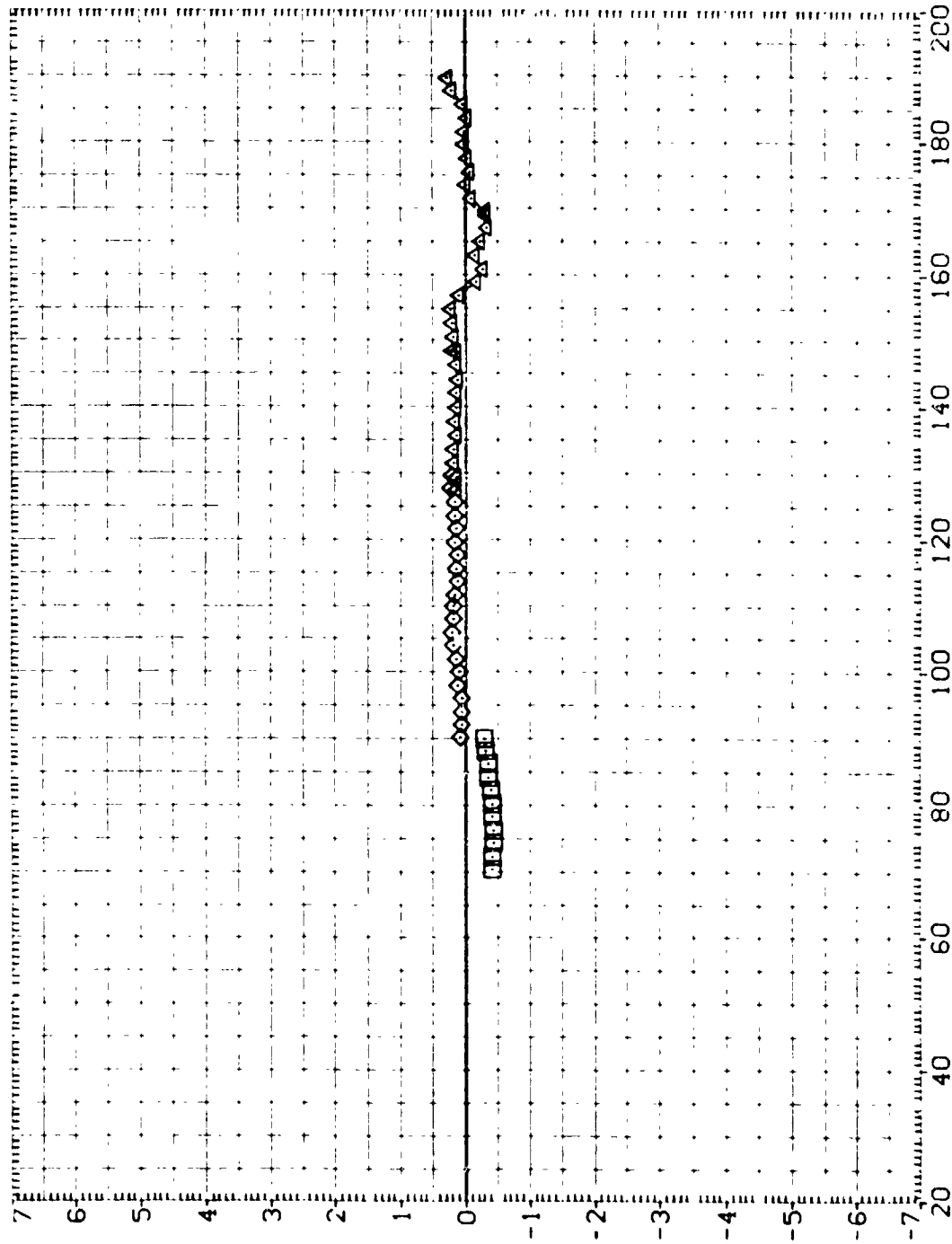


FIGURE 25. STATIC STABILITY CHARACTER OF SRB W/ALL PROTUBERANCES (PHI = 270)

(F)MACH = 2.74

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H008) DATA NOT AVAILABLE 270.000
 (A1H066) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 270.000
 (A1H008) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 270.000
 (A1H008) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 270.000

REFERENCE INFORMATION

SREF	.5030	SQ. IN.
LRLF	.8000	IN.
BREF	.8000	IN.
XMRP	5.7210	IN.
YMRP	.0000	IN.
ZMRP	.0000	IN.
SCALE	.0055	

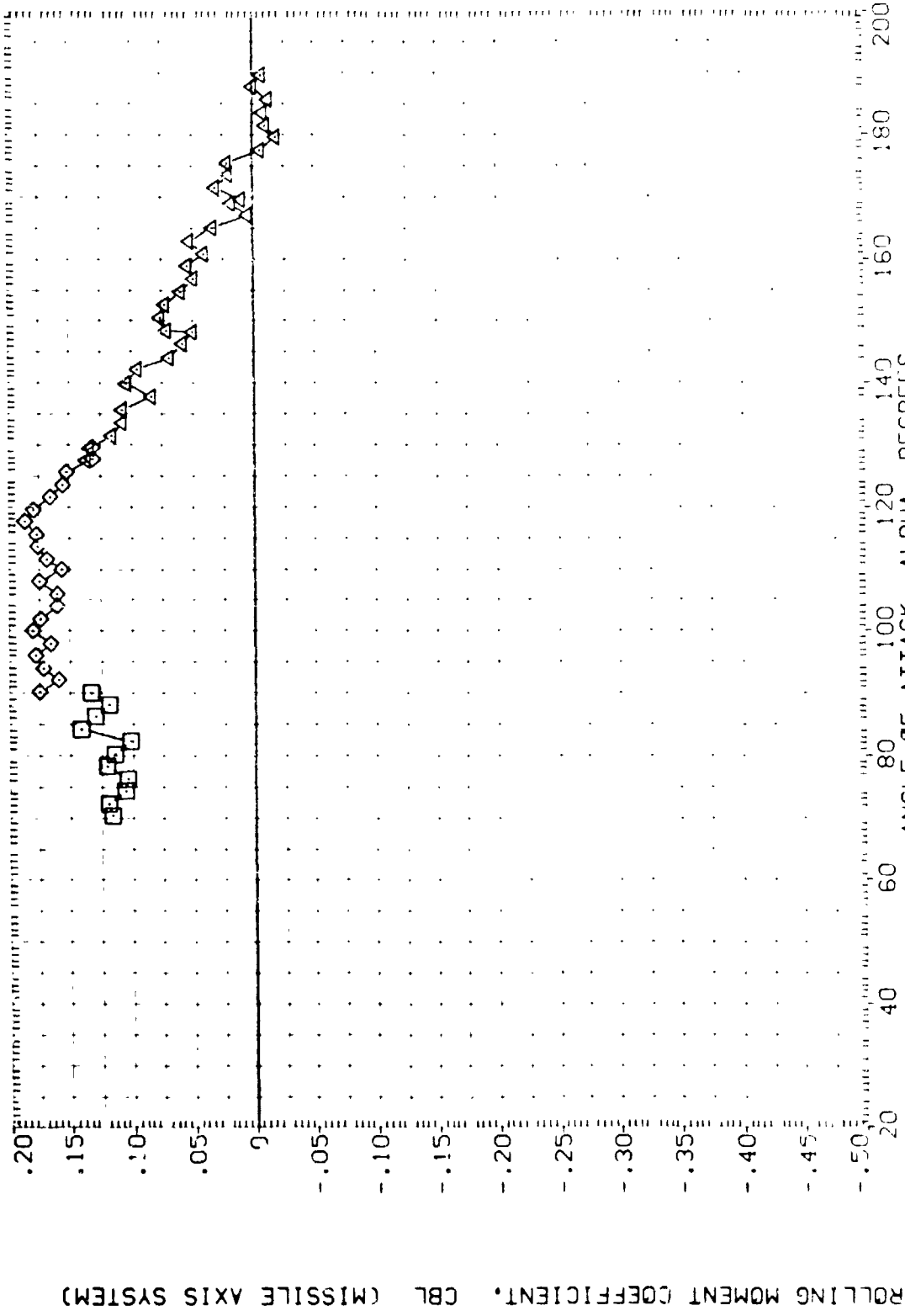


FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 270)

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(A1M-008)	MSFC TV-1504 (SABF) SRB WITH ALL PROTUBERANCES	270.000	SREF .0000 SQ. IN.
(A1H-066)	MSFC TV-1504 (SABF) SRB WITH ALL PROTUBERANCES	270.000	LREF .0000 IN.
(A1H-008)	MSFC TV-1504 (SABF) SRB WITH ALL PROTUBERANCES	270.000	BREF .0000 IN.
(A1H-008)	MSFC TV-1504 (SABF) SRB WITH ALL PROTUBERANCES	270.000	AMPB 5.7210 IN. XS
			AMPB .0000 IN. YS
			ZMRP .0000 IN. ZS
			SCALE .0055

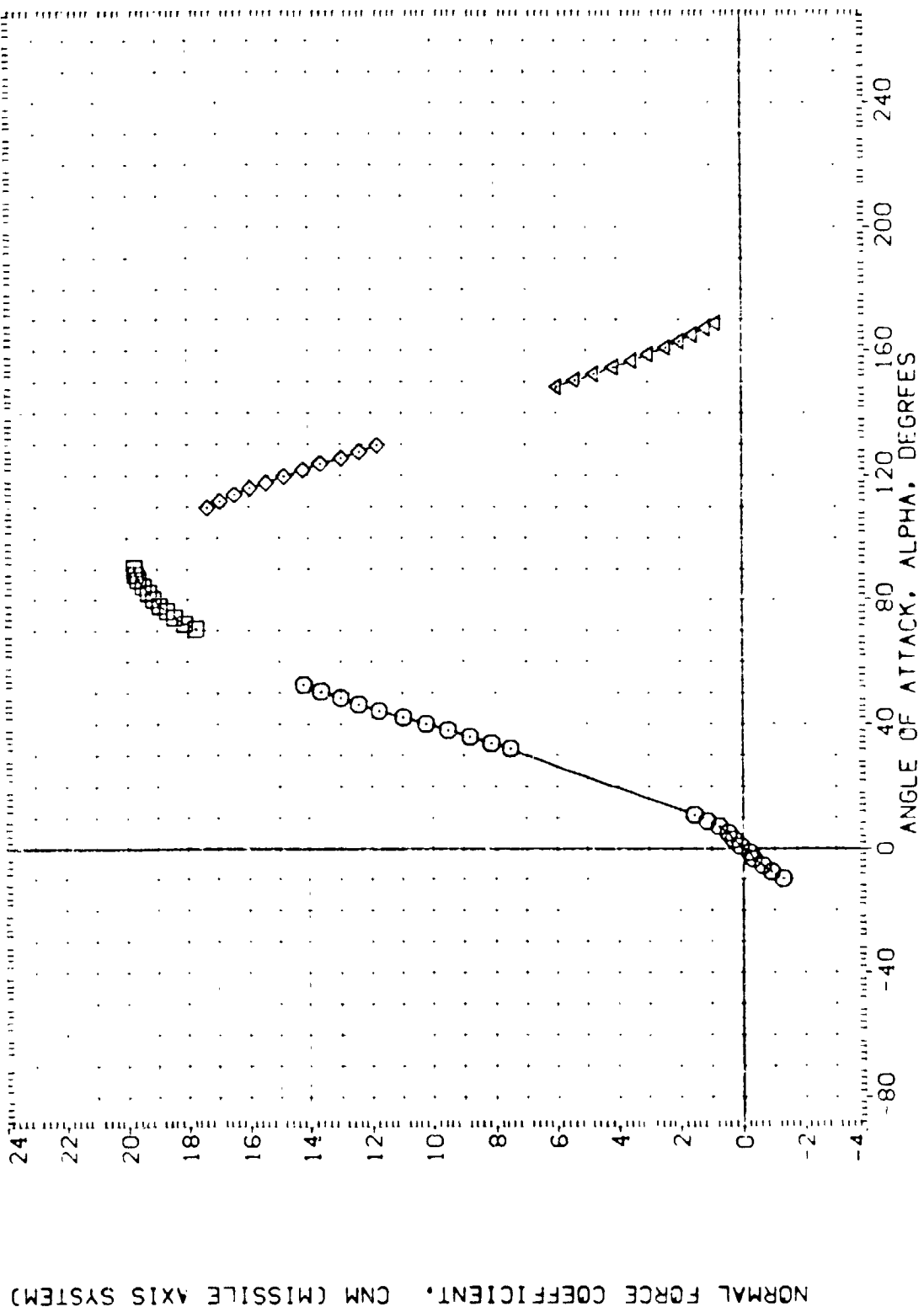


FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SRB W/ALL PROTUBERANCES (PHI = 270)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H008) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 270.000
 (A1H066) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 270.000
 (A1H008) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 270.000
 (A1H008) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 270.000

REFERENCE INFORMATION

SREF 50.00 50. IN.
 LREF 10000 IN.
 XREF 8000 IN.
 YMRP 5.7210 IN. XS
 ZMRP 10000 IN. YS
 SCALE 10000 IN. ZS

PITCHING MOMENT COEFFICIENT, CLM (MISSILE AXIS SYSTEM)

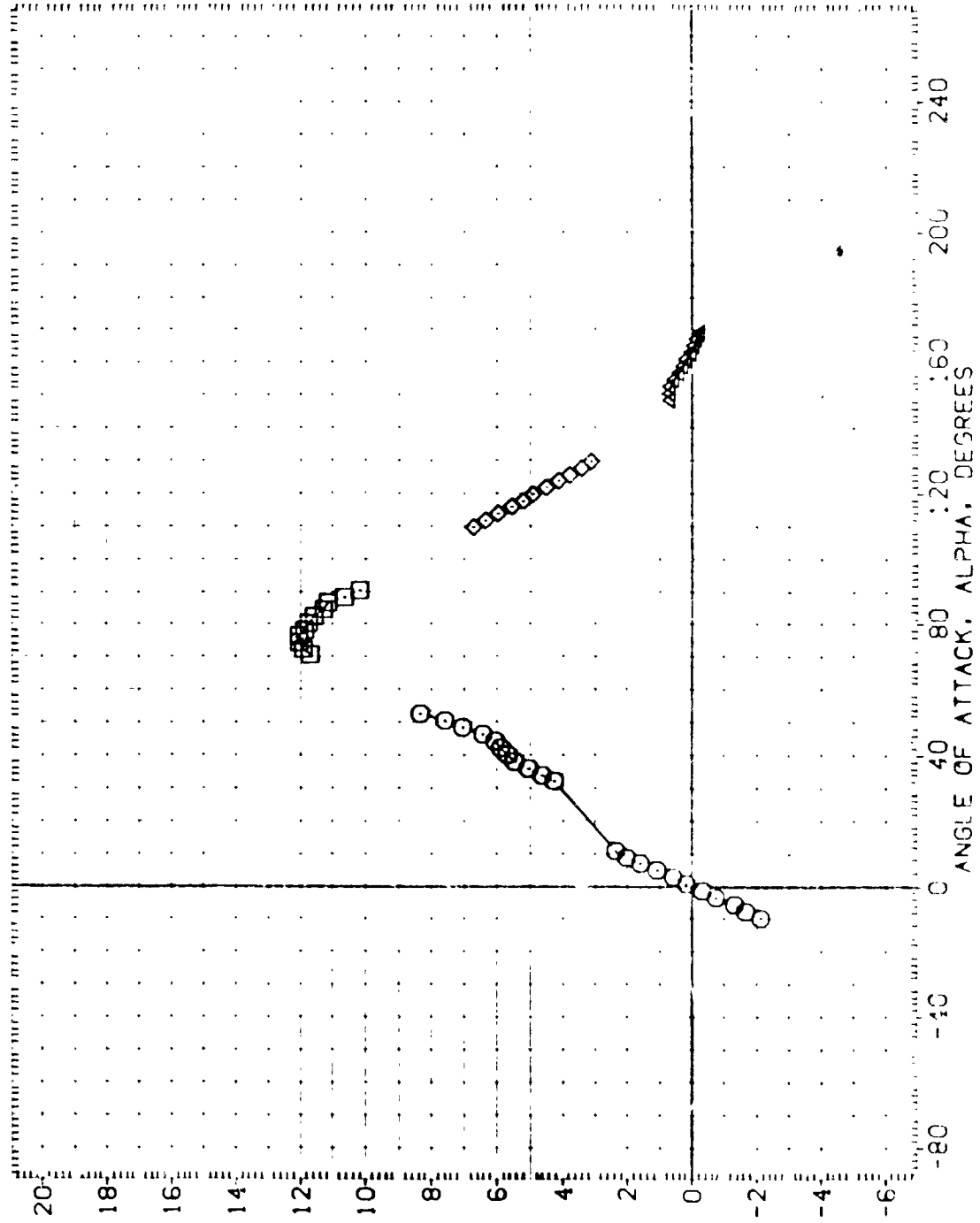


FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SRB WALL PROTUBERANCES (PHI = 270)

(A) MACH = 3.48

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


DIFFERENCE INFORMATION
 SREF 1.00 IN. SQ. IN.
 LREF 8.00 IN. IN.
 GREF 80.00 IN. IN.
 XREF 5.00 IN. IN.
 YREF 10.00 IN. IN.
 ZREF 10.00 IN. IN.
 SCALE 30000

PHI
 270.000
 270.000
 270.000

PROTUBERANCES
 ALL
 PROTUBERANCES
 ALL
 PROTUBERANCES
 ALL

DESCRIPTION
 SR3 WITH ALL
 SR3 WITH ALL
 SR3 WITH ALL

CONFIGURATION
 MSFC TWT604 (SABF)
 MSFC TWT604 (SABF)
 MSFC TWT604 (SABF)

DATA SET SYMBOL
 (A1H008) 
 (A1H066) 
 (A1H008) 
 (A1H008) 

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

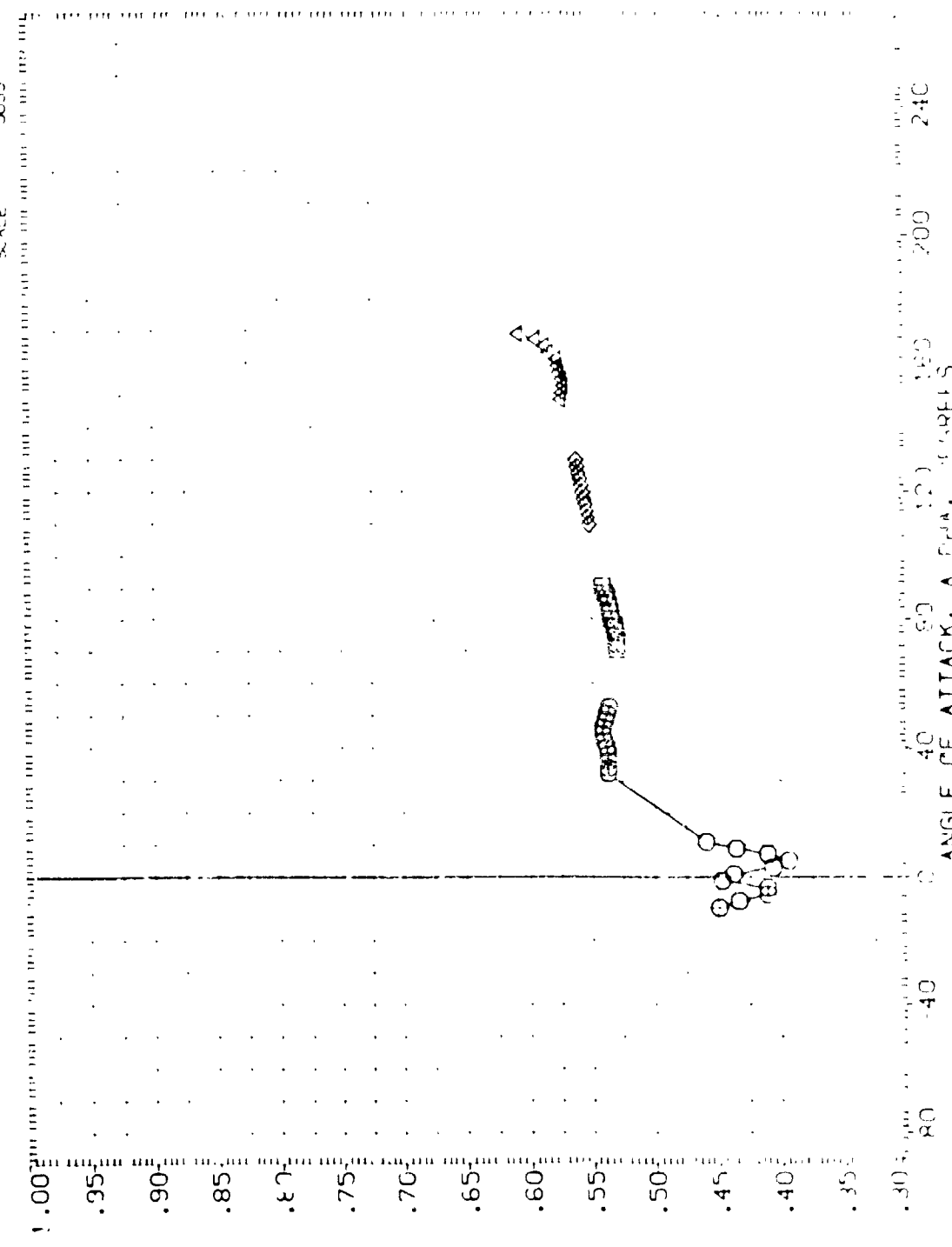


FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SR3 AT ALL PROPORTIONS (PHI = 270)

(A) MACH = 3.48 (B) MACH = 4.14



DATA SET SYMBOL	CONF (URATION DESCRIPTION)	PHI	REFERENCE INFORMATION
(A1H008)	MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES	270.000	SREF 51.30 50.IN.
(A1H066)	MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES	270.000	LREF .8000 N.
(A1H008)	MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES	270.000	BREF .0000 N.
(A1H008)	MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES	270.000	XMRP 5.7210 N. XS
			YMRP .0000 N. ZS
			SCALE .0055

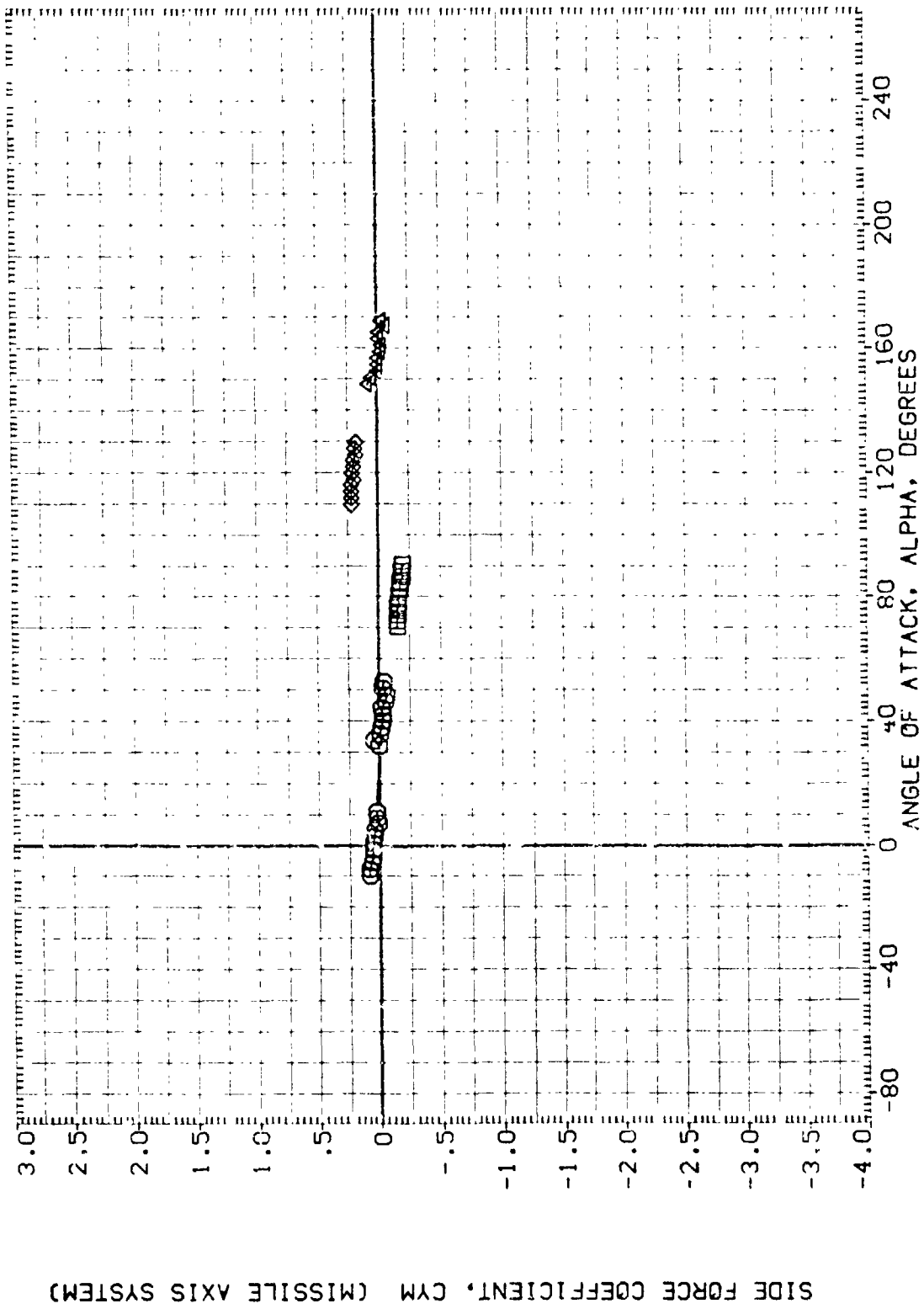


FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 270)

(A) MACH = 3.48

DATA SET SYMBOL CONFIGURATION DESCRIPTION P-41

(A1H08)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	270.000
(A1H06)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	270.000
(A1H08)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	270.000
(A1H08)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	270.000

REFERENCE INFORMATION

SREF	.5030	50. IN.
LREF	.8000	IN.
BREF	.8000	IN.
XMRP	5.7210	IN. XS
YMRP	.6500	IN. YS
ZMRP	.0000	IN. ZS
SCALE	.0055	

YAWING MOMENT COEFFICIENT, C_{ym} (MISSILE AXIS SYSTEM)

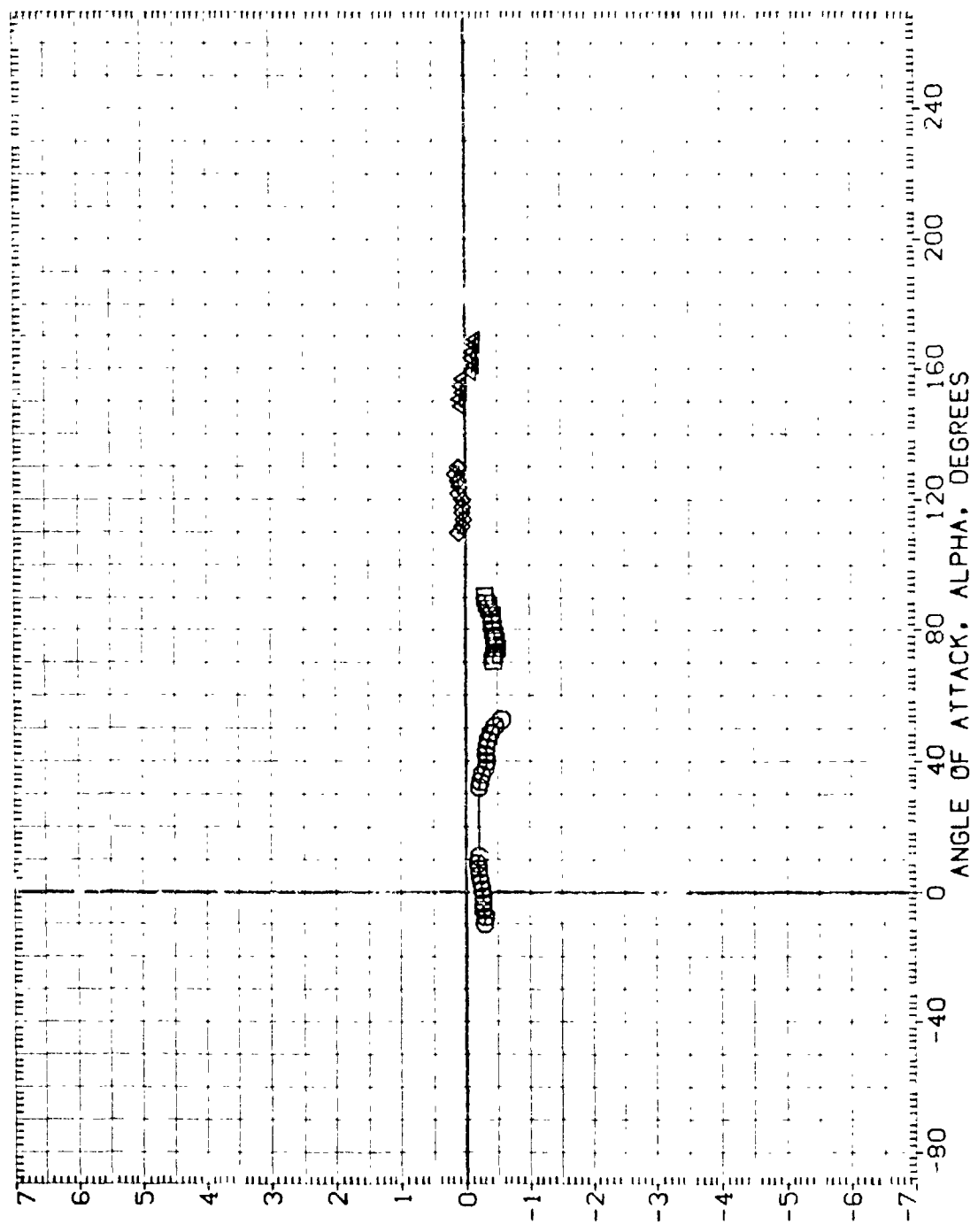


FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES ($\Phi = 270^\circ$)

(A) MACH = 3.48

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(A11A08)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	270.000	SREF .503J SQ. IN.
(A11B06)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	270.000	LREF .8000 IN.
(A11C08)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	270.000	BREF 5.7210 IN. XS
(A11D08)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	270.000	YMRP .0000 IN. YS
			ZMRP .0000 IN. ZS
			SCALE .0055

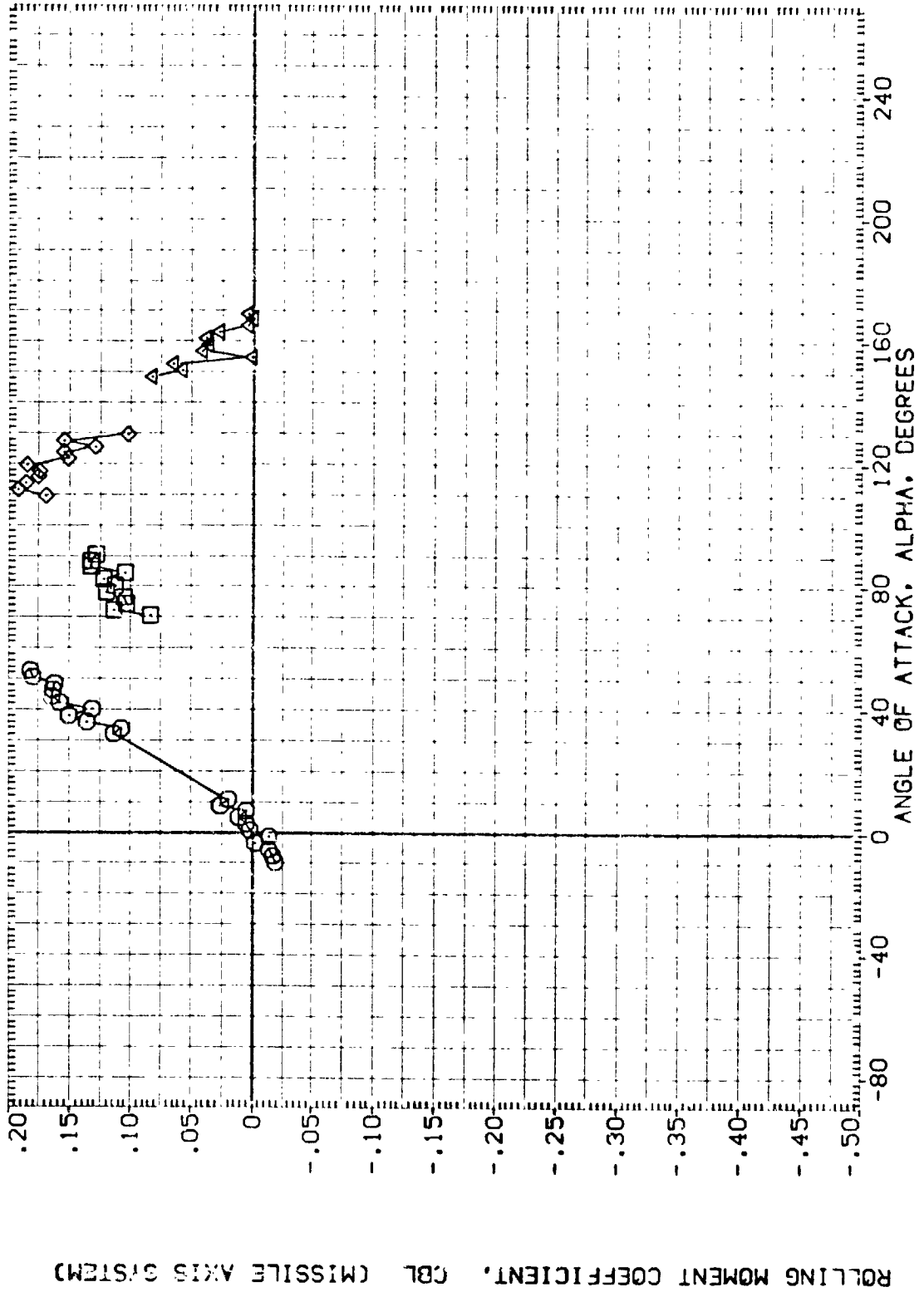


FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 270)

REFERENCE INFORMATION

SREF	.5030	SJ, IN.
LREF	.8000	IN.
BREF	.8000	IN.
XMRP	5.7210	IN. XS
YMRP	.0000	IN. YS
ZMRP	.0000	IN. ZS
SCALE	.0055	

PHI

270.000
270.000
270.000

PROTUBERANCES

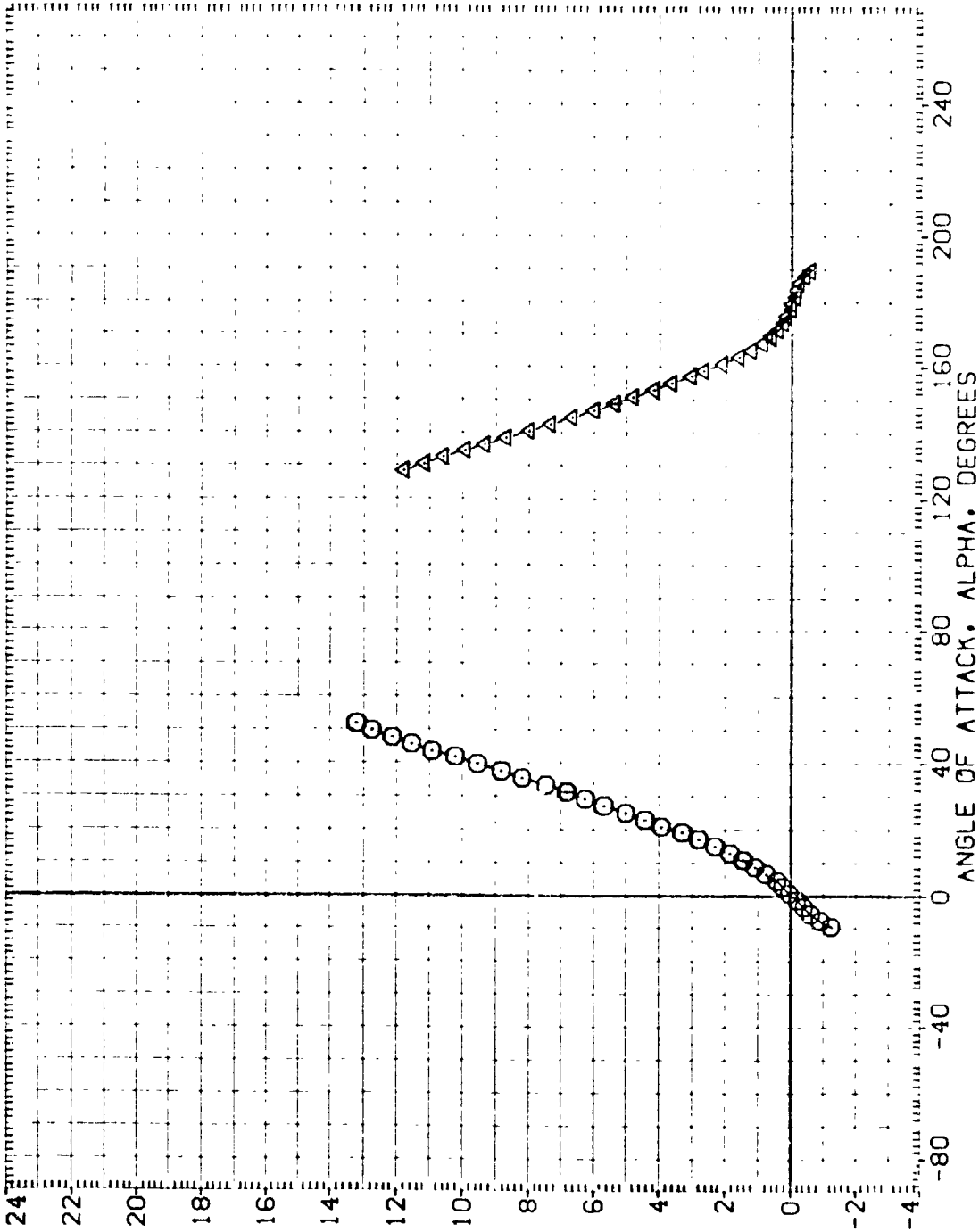
SRB WITH ALL
SRB WITH ALL
SRB WITH ALL

CONFIGURATION DESCRIPTION

MSFC TVT604 (SABF)	SRB WITH ALL
DATA NOT AVAILABLE	
MSFC TVT604 (SABF)	SRB WITH ALL

DATA SET SYMBOL

(A1H08)	□
(A1H06)	○
(A1H08)	△



NORMAL FORCE COEFFICIENT, CNM (MISSILE AXIS SYSTEM)

FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 270)

(B) MACH = 4.45

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1HA08) MSFC TVT04 (SABF) SRB WITH ALL PROTUBERANCES 270.000

(A1HC08) DATA NOT AVAILABLE 270.000

(A1HD08) MSFC TVT04 (SABF) SRB WITH ALL PROTUBERANCES 270.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8700 IN.

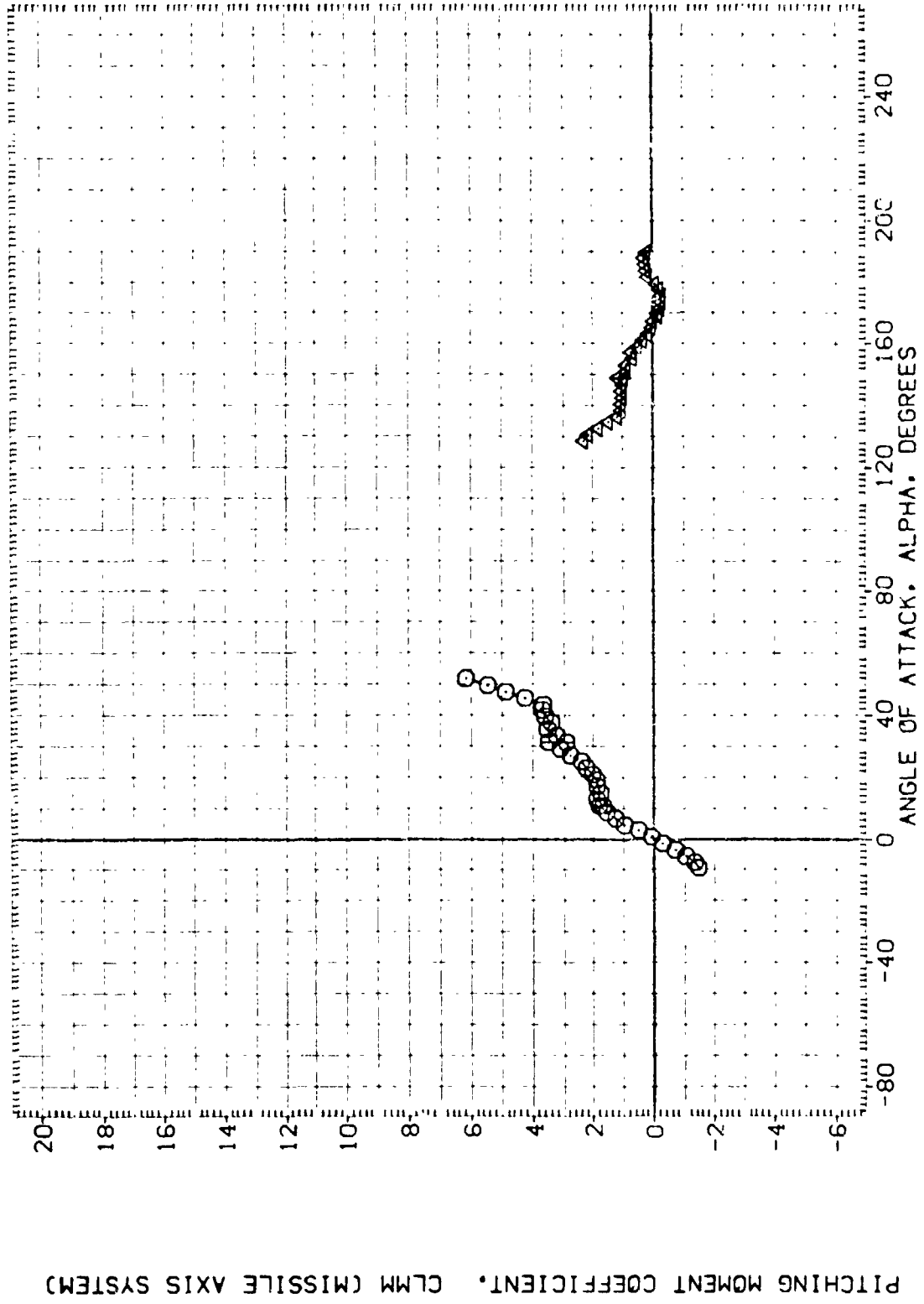
BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055



PITCHING MOMENT COEFFICIENT, CLM (MISSILE AXIS SYSTEM)

FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 270)

(B)MACH = 4.45

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI
 (AIH008) MSFC TVT504 (SABF) SRB WITH ALL PROTUBERANCES 270.000
 (AIH056) DATA NOT AVAILABLE 270.000
 (AIH008) DATA NOT AVAILABLE 270.000
 (AIH008) MSFC TVT504 (SABF) SRB WITH ALL PROTUBERANCES

REFERENCE INFORMATION
 SREF 5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

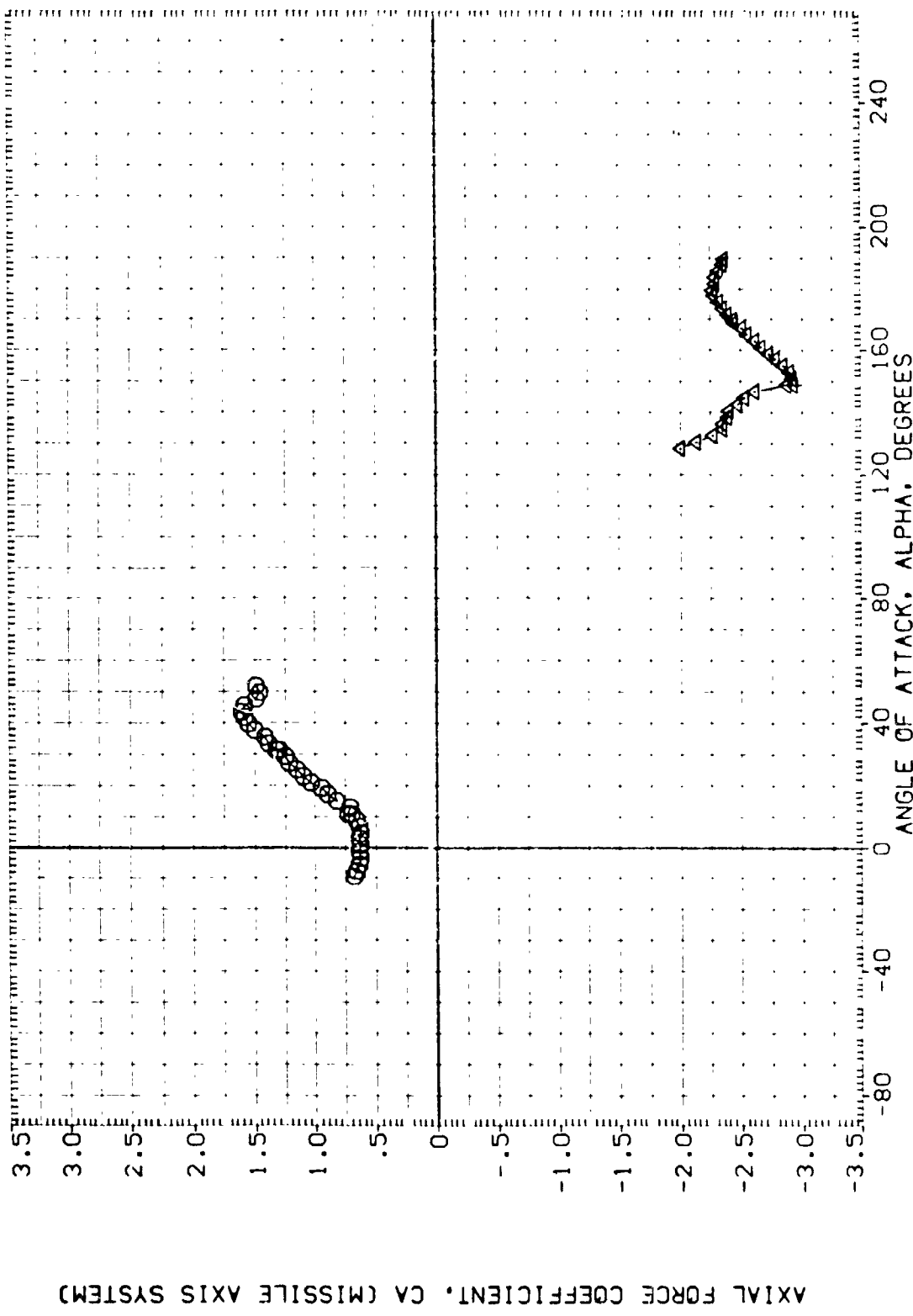


FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 270)

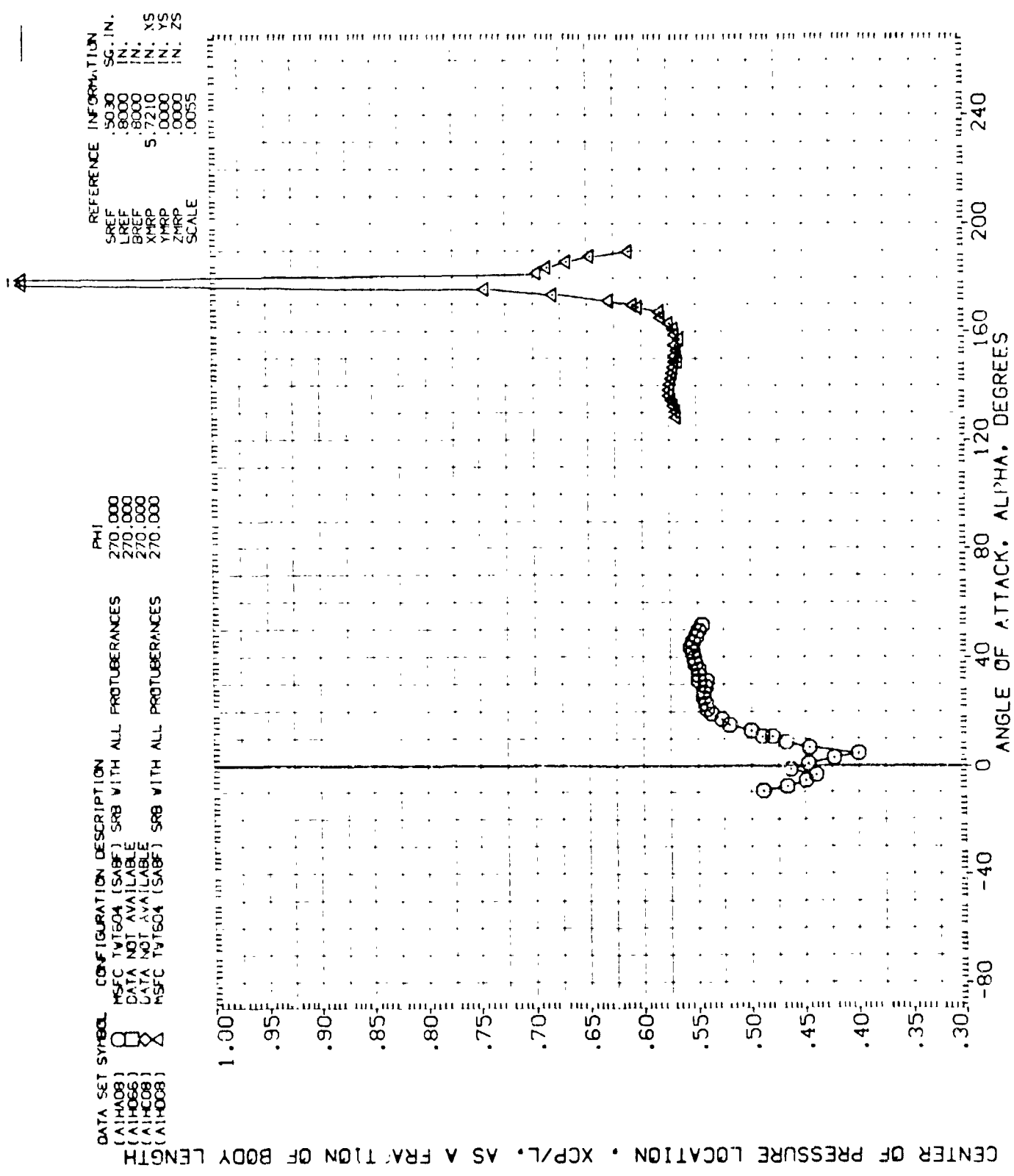


FIGURE 25. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 270)

DATA SET SYMBOL
 (A1H008)
 (A1H066)
 (A1H008)
 (A1H006)

CONFIGURATION DESCRIPTION
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 DATA NOT AVAILABLE
 DATA NOT AVAILABLE
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI
 270.000
 270.000
 270.000

REFERENCE INFORMATION
 SREF .5030 IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0055

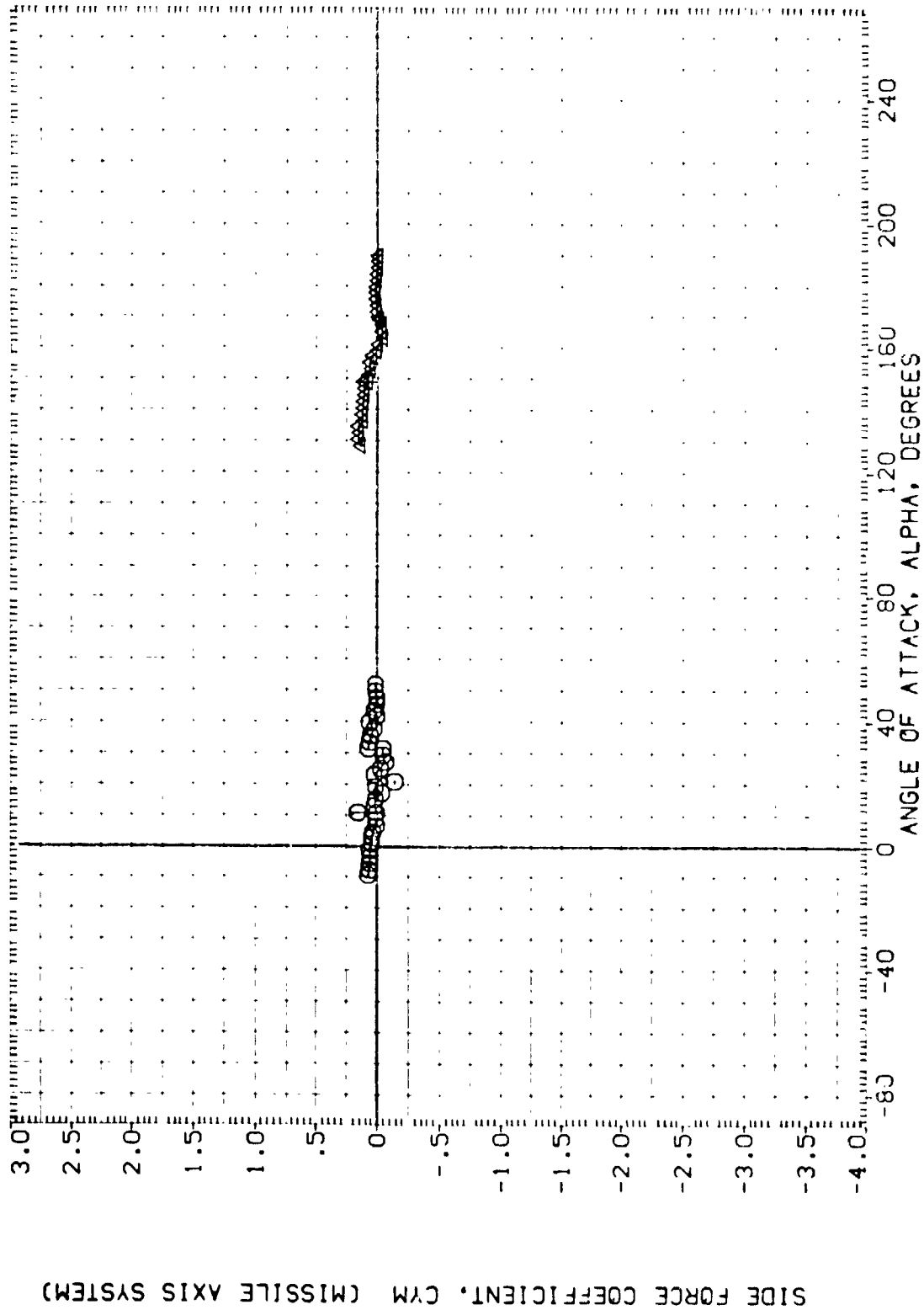


FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SRB W/ALL PROTUBERANCES (PHI = 270)

(8) MACH = 4.45

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI
 (ALH008) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 270.000
 (ALH066) DATA NOT AVAILABLE 270.000
 (ALH008) DATA NOT AVAILABLE 270.000
 (ALH008) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 270.000

YAWING MOMENT COEFFICIENT, C_{YM} (MISSILE AXIS SYSTEM)

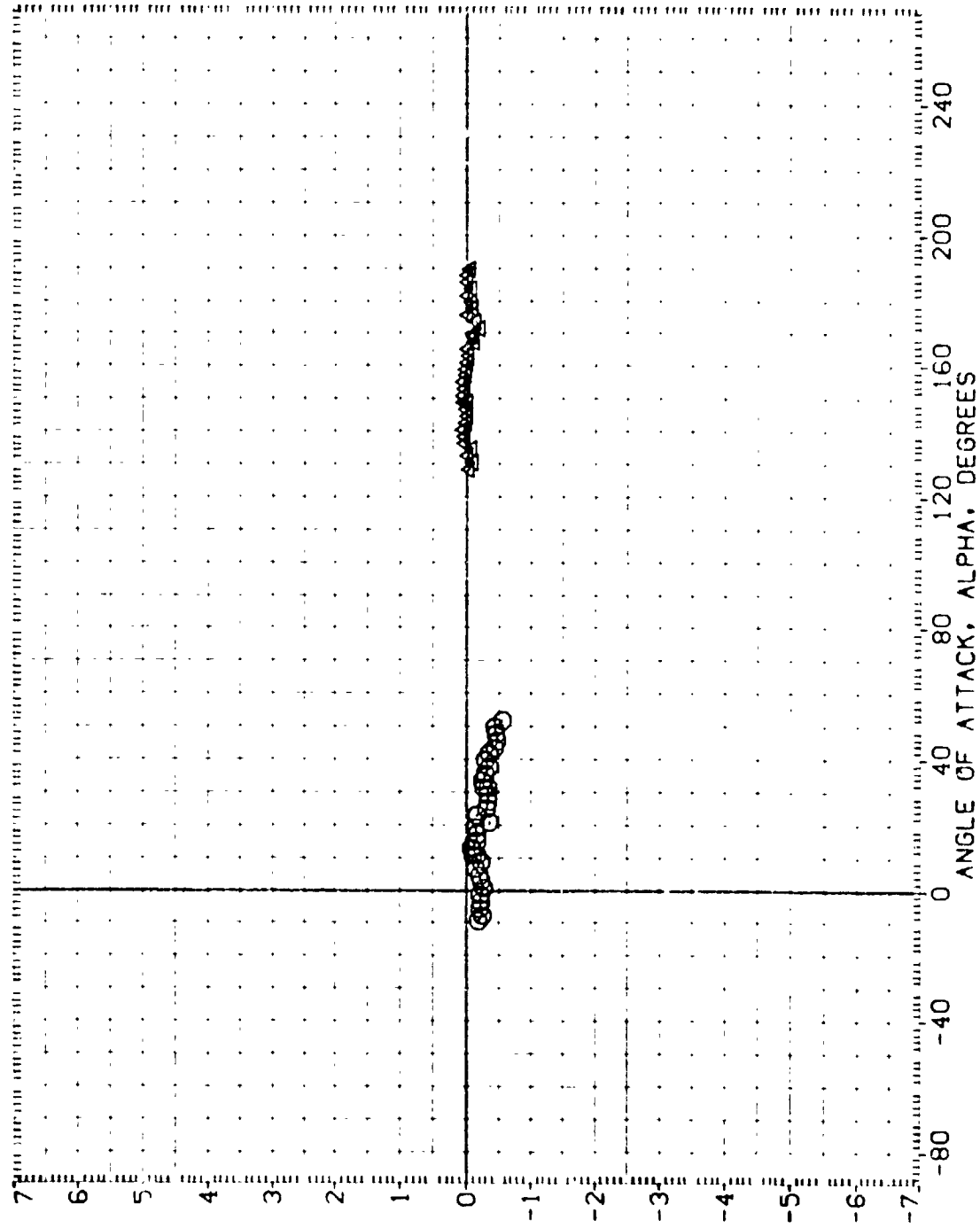


FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 270)

(B) MACH = 4.45

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H008) MSFC TWT604 (SABF) SRB WITH ALL PROTUBERANCES 270.000

(A1H055) DATA NOT AVAILABLE

(A1H008) DATA NOT AVAILABLE

(A1H008) MSFC TWT604 (SABF) SRB WITH ALL PROTUBERANCES

SCALE

SREF 5030

LREF .8000

BREF .8000

XMRP 5.7210

YMRP .0000

ZMRP .0000

SCALE .0055

IN. XS

IN. YS

IN. ZS

IN. ZS

IN. ZS

IN. ZS

IN. ZS

IN. ZS

IN. ZS

IN. ZS

IN. ZS

IN. ZS

IN. ZS

IN. ZS

IN. ZS

IN. ZS

IN. ZS

IN. ZS

IN. ZS

IN. ZS

IN. ZS

IN. ZS

IN. ZS

IN. ZS

IN. ZS

IN. ZS

IN. ZS

IN. ZS

IN. ZS

IN. ZS

IN. ZS

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IN. ZS

IN. ZS

IN. ZS

IN. ZS

IN. ZS

IN. ZS

IN. ZS

IN. ZS

IN. ZS

IN. ZS

IN. ZS

ROLLING MOMENT COEFFICIENT, CBL (MISSILE AXIS SYSTEM)

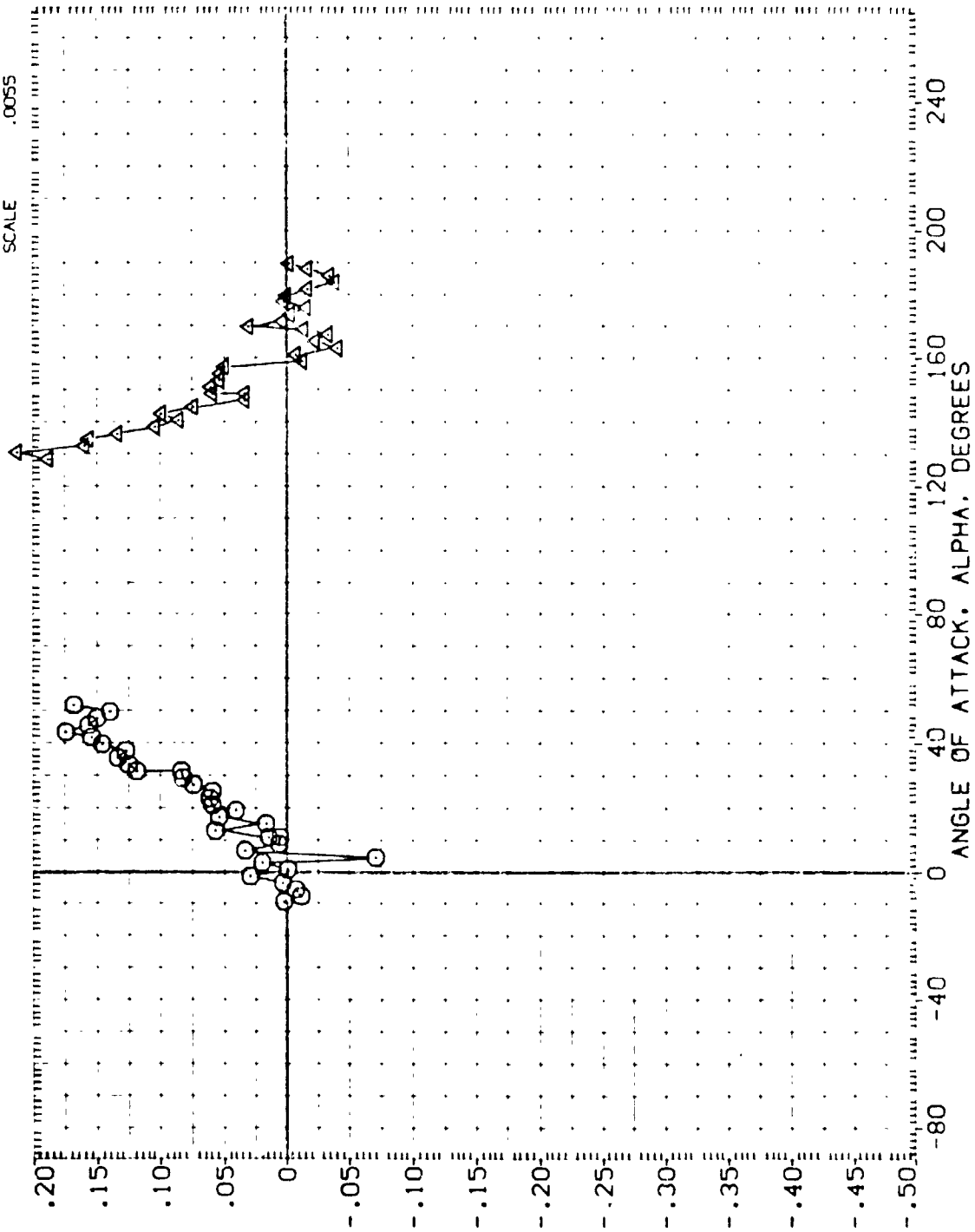


FIGURE 25. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 270)

(B) MACH = 4.45

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(A1H072)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	315.000	SREF .5030 SQ. IN.
(A1H073)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	315.000	LREF .8000 IN.
(A1H074)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	315.000	BREF .3000 IN.
			XMRP 5.7210 IN. XS
			YMRP .0000 IN. YS
			ZMRP .0000 IN. ZS
			SCALE .0055

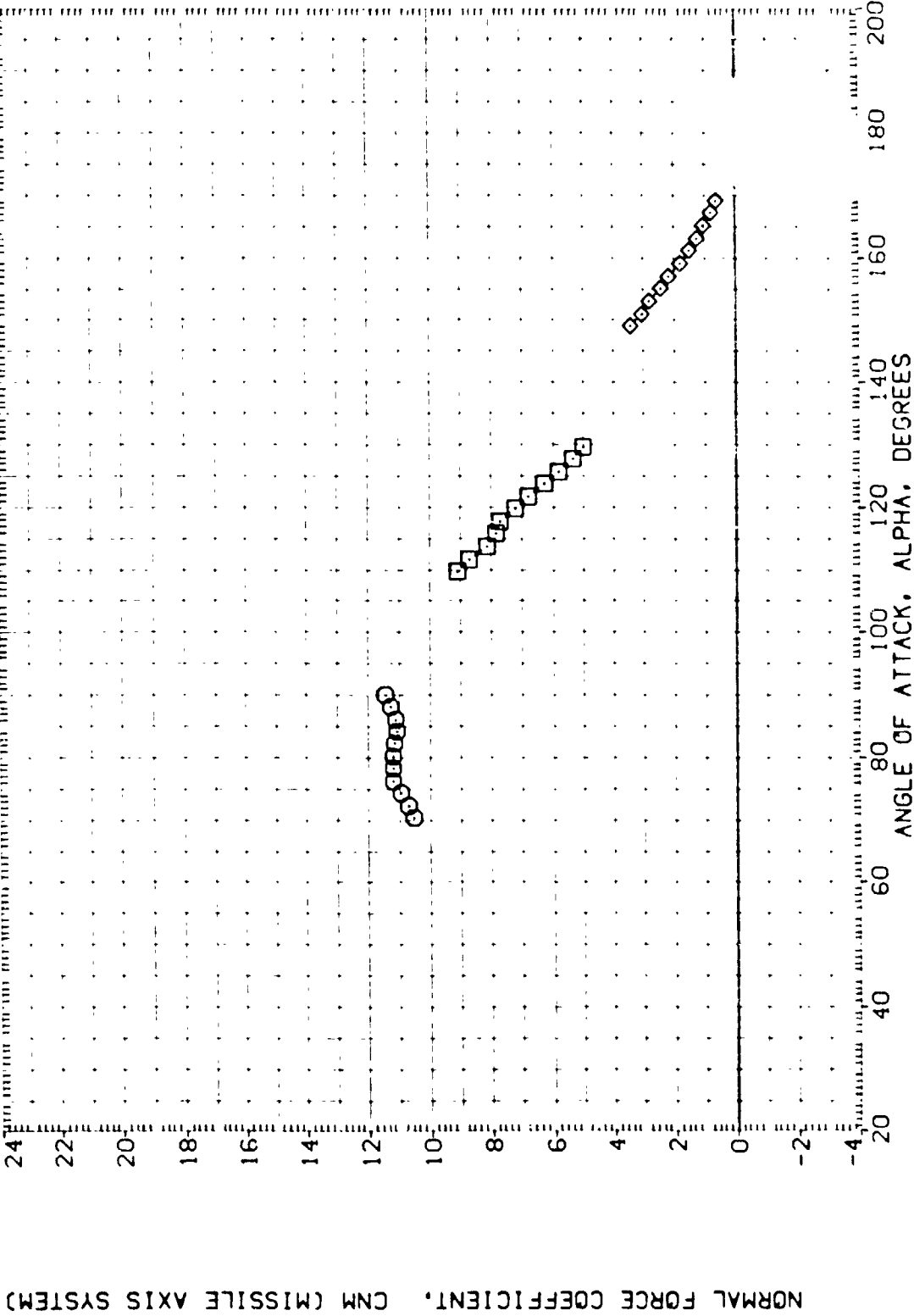


FIGURE 26. STATIC STABILITY CHARACTERISTICS OF SRB W/ALL PROTUBERANCES (PHI = 315)
 (A) MACH = .39 PAGE 435

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H072) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 315.000

(A1H073) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 315.000

(A1H074) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 315.000

REFERENCE INFORMATION

SREF 50.00 50. IN.

LREF .8000 IN.

BRREF .6000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

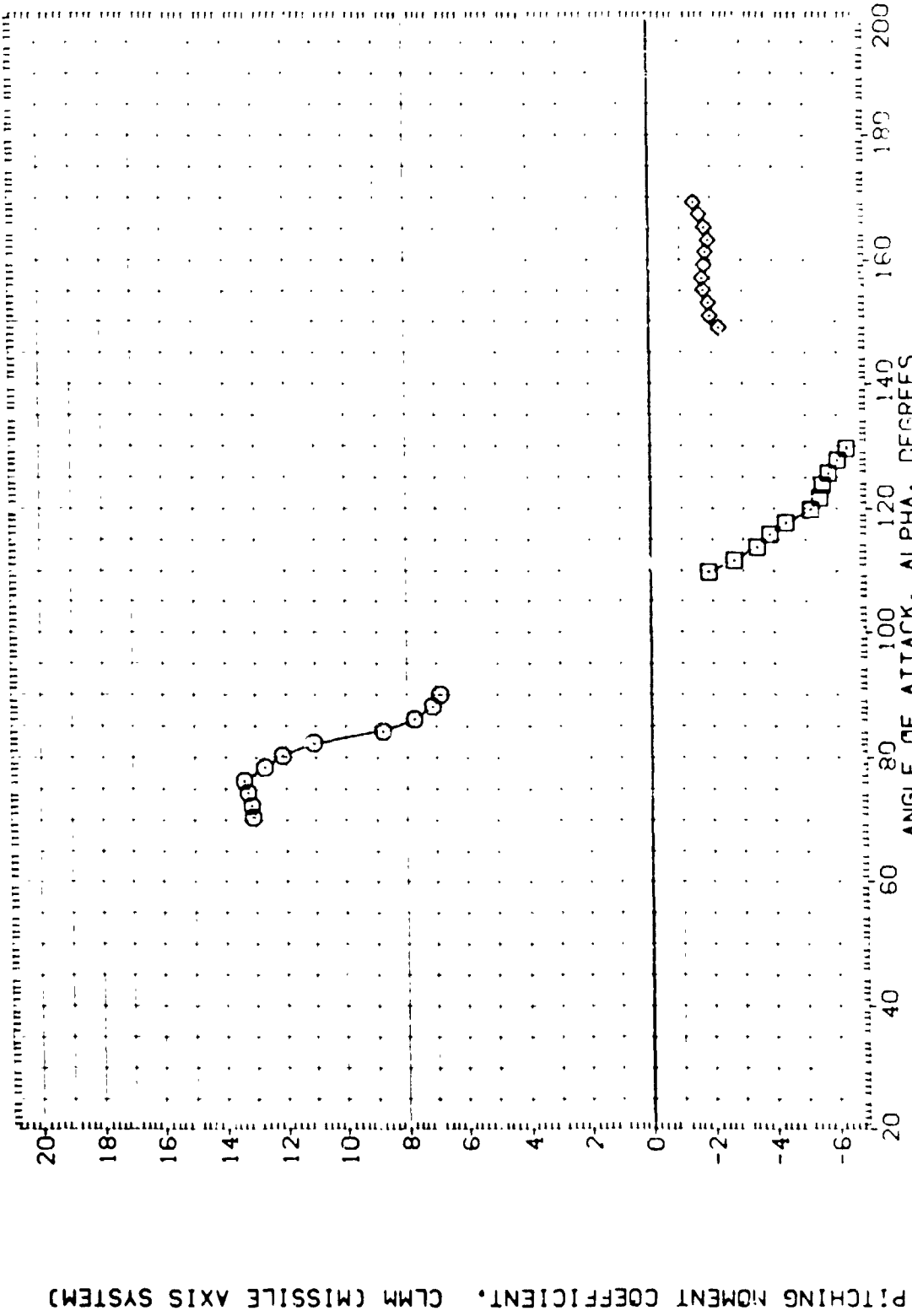


FIGURE 26. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 315)

(A) MACH = .39

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(A1M072)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	315.000	SREF .5030 SQ. IN.
(A1M073)	MSFC TVT604 (SAPF) SRB WITH ALL PROTUBERANCES	315.000	LREF .8000 IN.
(A1M074)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	315.000	BREF .8000 IN.
			XMRP 5.7210 IN. XS
			YMRP .0000 IN. YS
			ZMRP .0000 IN. ZS
			SCALE .0055

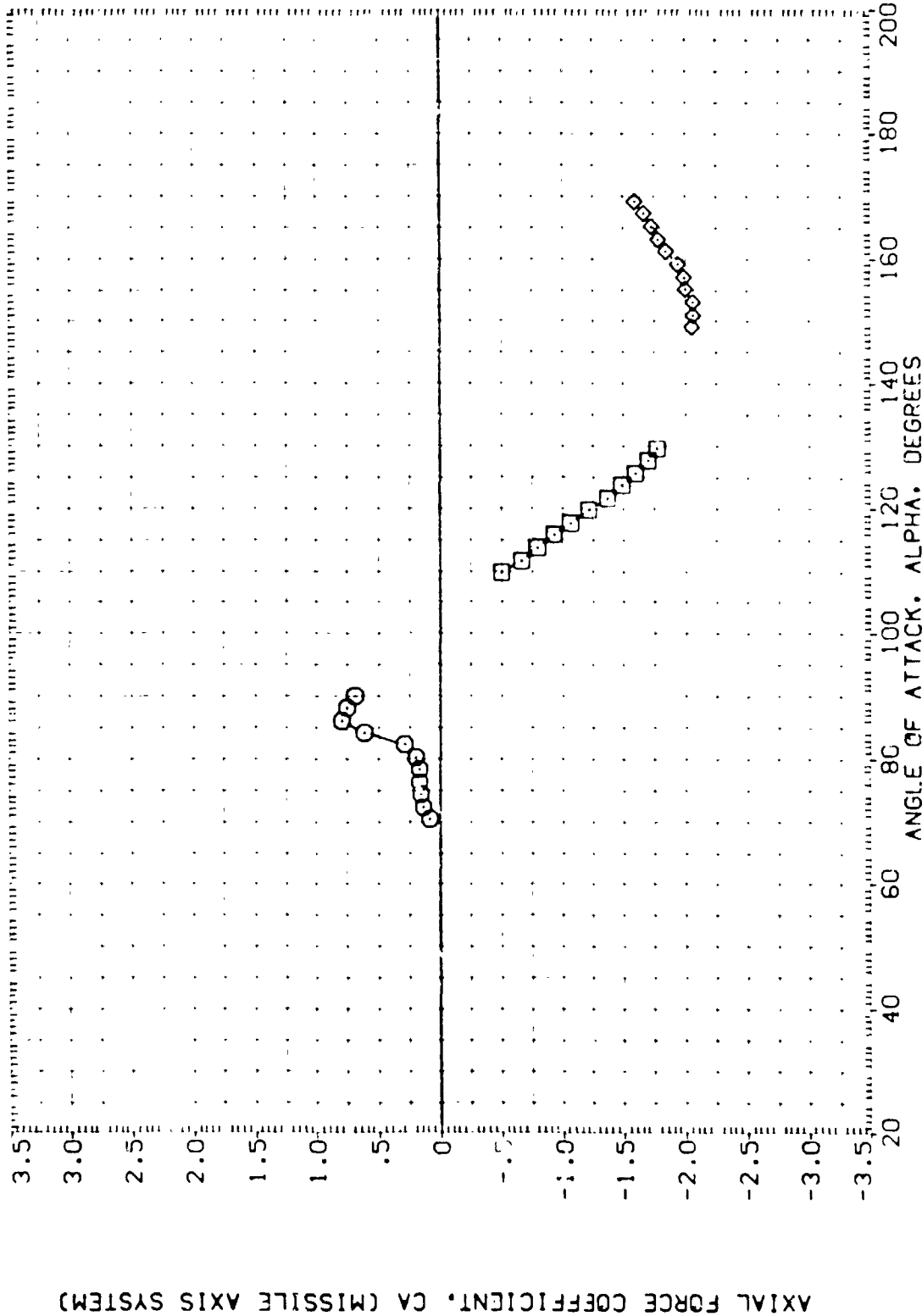


FIGURE 26. STATIC STABILITY CHARACTER OF SRB W/ALL PROTUBERANCES (PHI = 315)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI REFERENCE INFORMATION

(A1H073) MSFC TVT804 (SABF) SRB WITH ALL PROTUBERANCES 315.000 SREF .5030 SQ. IN.

(A1H074) MSFC TVT804 (SABF) SRB WITH ALL PROTUBERANCES 315.000 LREF .8000 IN.

 MSFC TVT804 (SABF) SRB WITH ALL PROTUBERANCES 315.000 BRPREF .8000 IN.

 MSFC TVT804 (SABF) SRB WITH ALL PROTUBERANCES 315.000 XMRP 5.7210 IN. XS

 MSFC TVT804 (SABF) SRB WITH ALL PROTUBERANCES 315.000 YMRP .0000 IN. YS

 MSFC TVT804 (SABF) SRB WITH ALL PROTUBERANCES 315.000 ZMRP .0000 IN. ZS

 MSFC TVT804 (SABF) SRB WITH ALL PROTUBERANCES 315.000 SCALE .0055

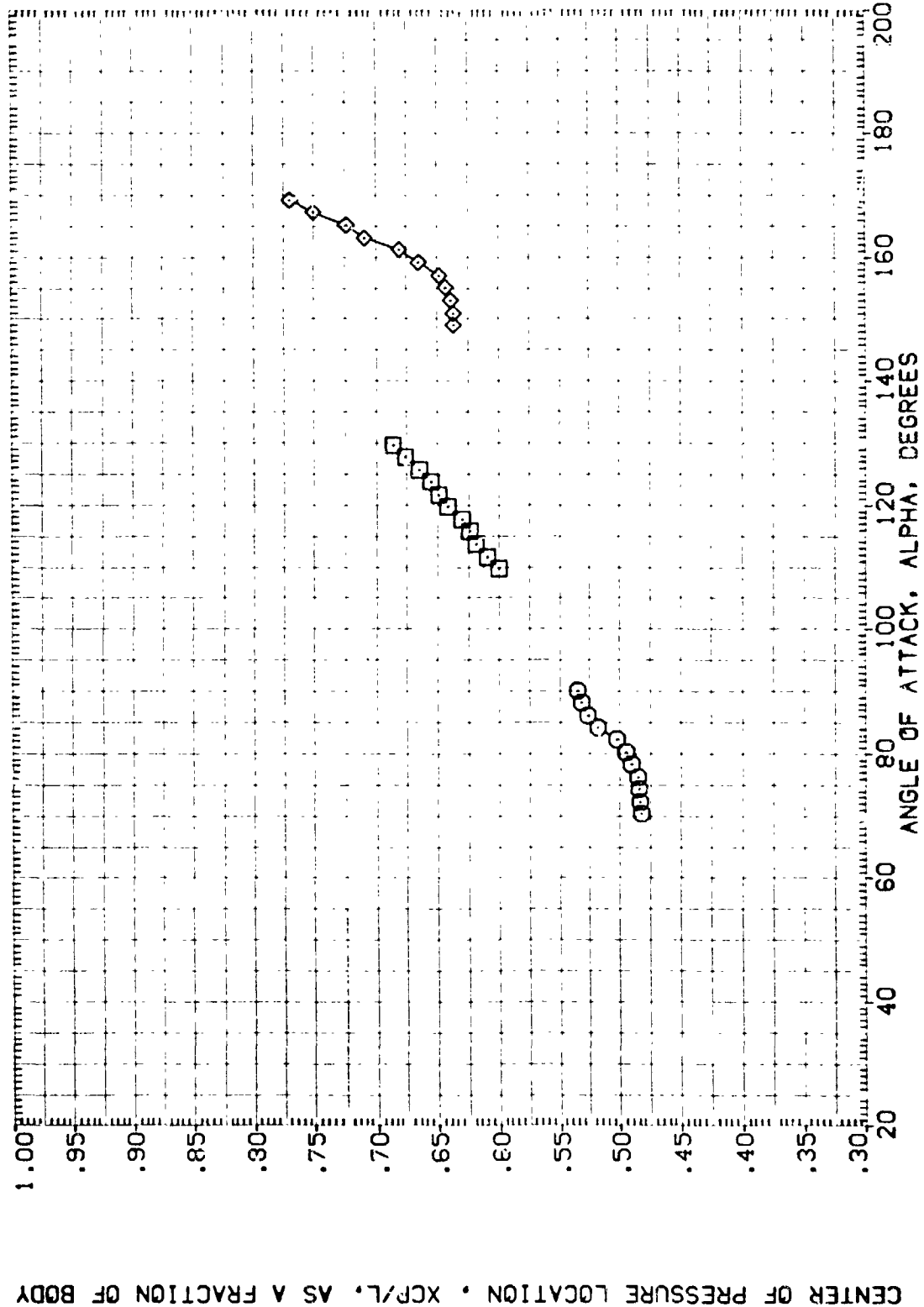


FIGURE 26. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 315)



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(A1H072)	MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES	315.000	STRE" .5030 SQ. IN.
(A1H073)	MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES	315.000	LREF .8000 IN.
(A1H074)	MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES	315.000	BREF .8000 IN.
			XMRP 5.7210 N. XS
			YMRP .0000 N. YS
			ZMRP .0000 N. ZS
			SCALE .0055

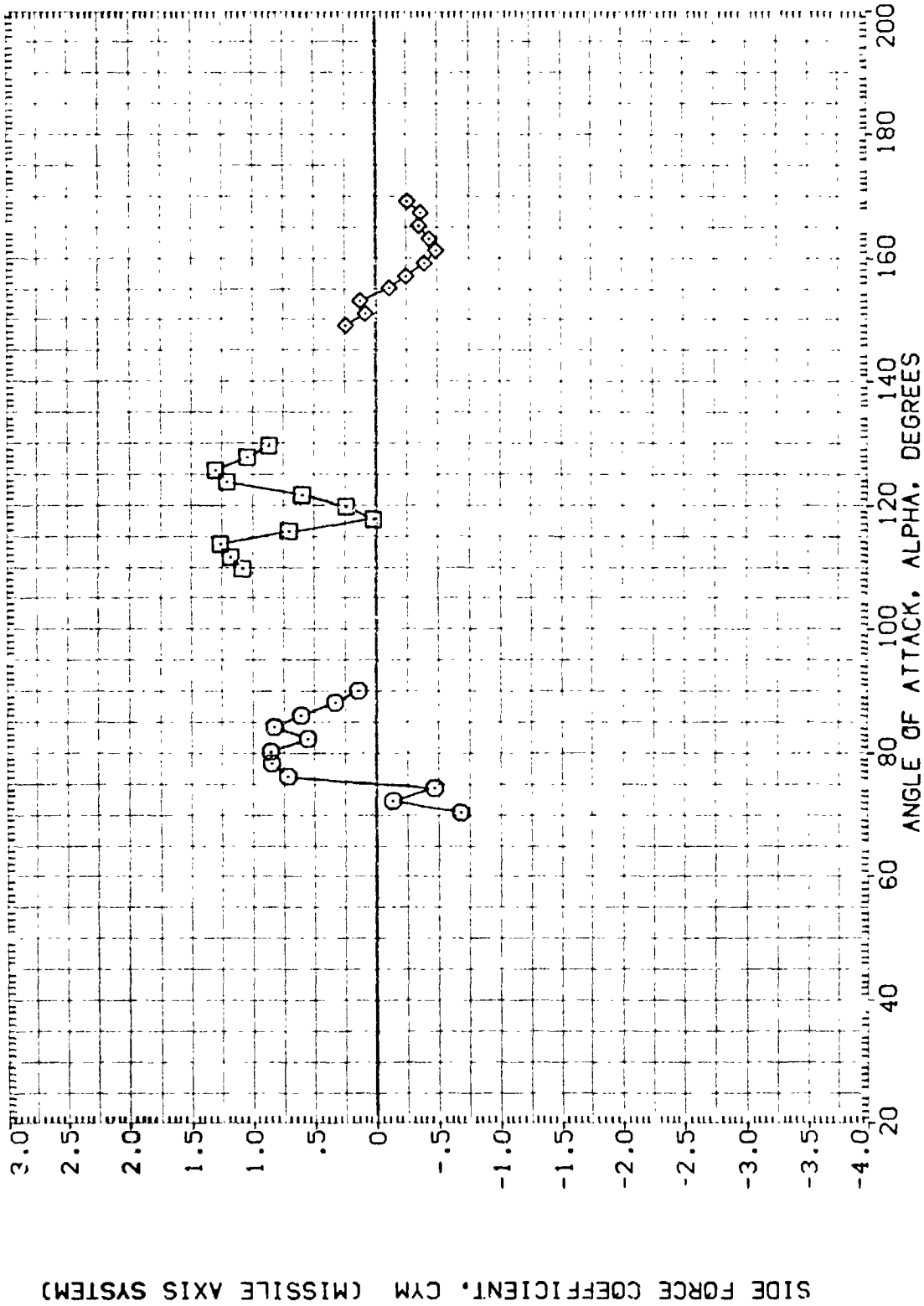


FIGURE 26. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 315)

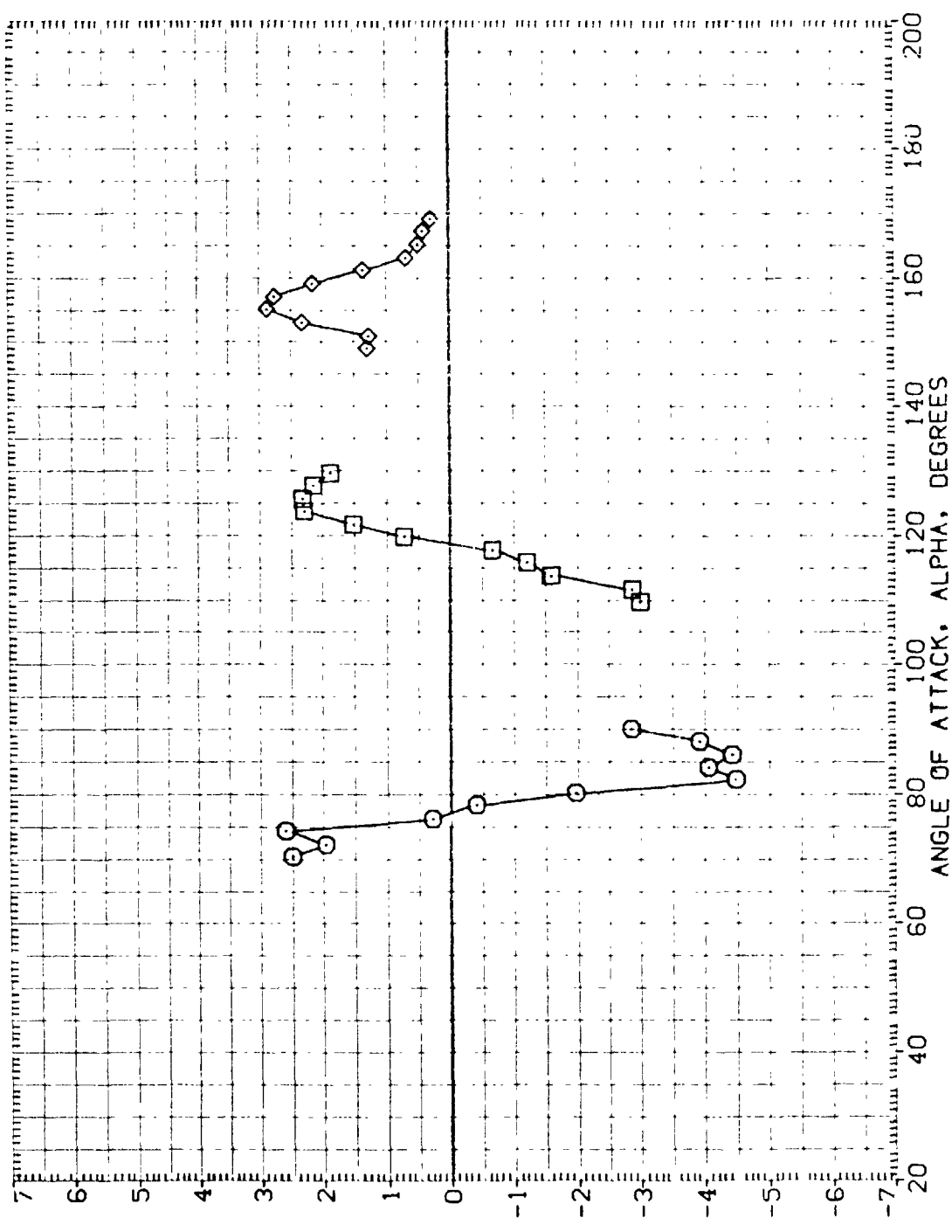
(A)MACH = .39

REFERENCE INFORMATION
 XREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 YMRP 5.7210 IN. XS
 YMRP .0000 IN. XS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 315.000
 315.000
 315.000

CONFIGURATION DESCRIPTION
 MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES

DATA SET SYMBOL
 (A1H072)
 (A1H073)
 (A1H074)



YAWING MOMENT COEFFICIENT, CYNM (MISSILE AXIS SYSTEM)

FIGURE 26. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 315)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H072) 3 MSFC TWT504 (SABF) SRB WITH ALL PROTUBERANCES 315.000

(A1H073) 3 MSFC TWT504 (SABF) SRB WITH ALL PROTUBERANCES 315.000

(A1H074) 3 MSFC TWT504 (SABF) SRB WITH ALL PROTUBERANCES 315.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP S .7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0035

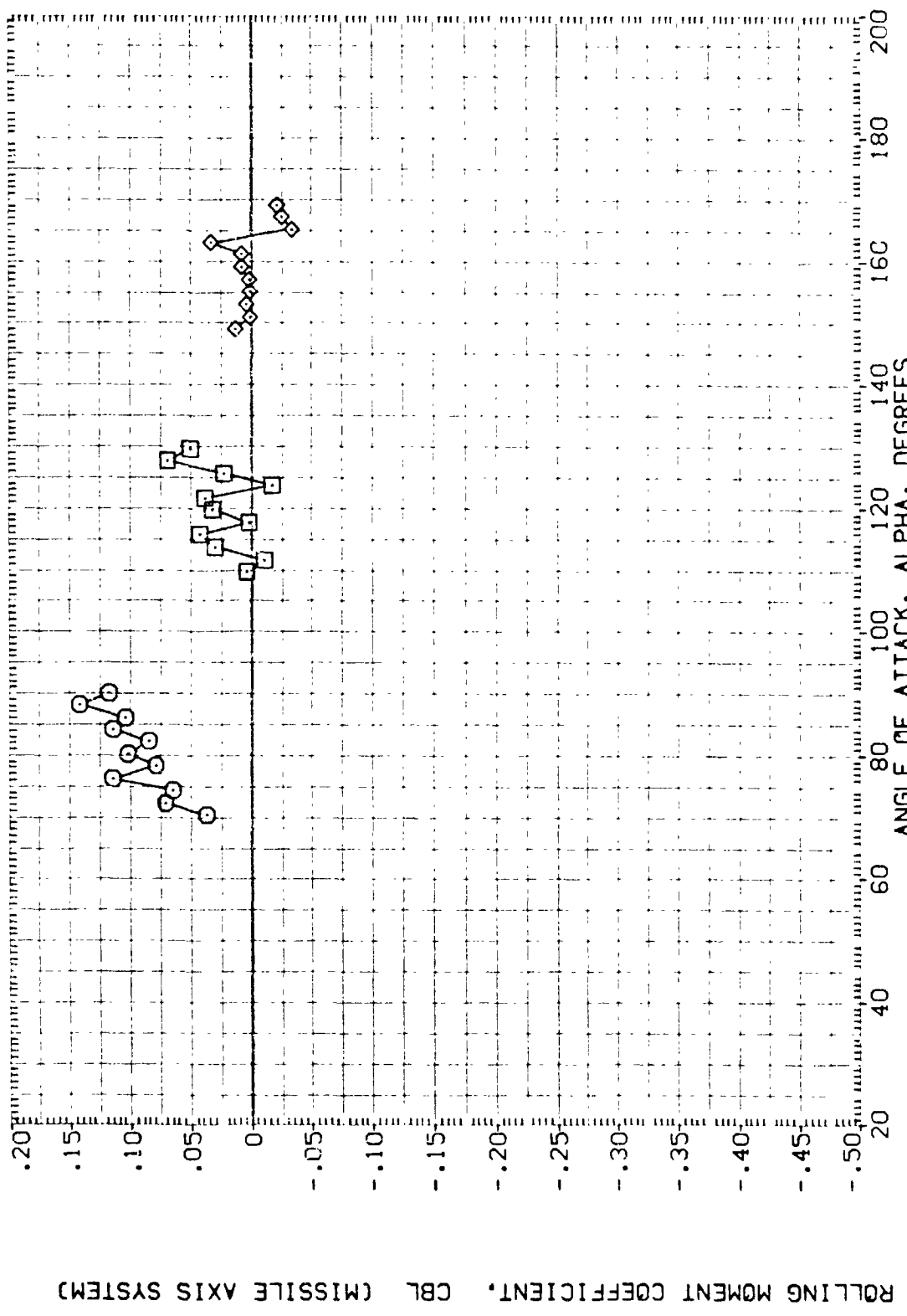


FIGURE 26. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 315)

(A)MACH = .39

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H072) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 315.000

(A1H073) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 315.000

(A1H074) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

REFERENCE INFORMATION

SREF .5030 IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

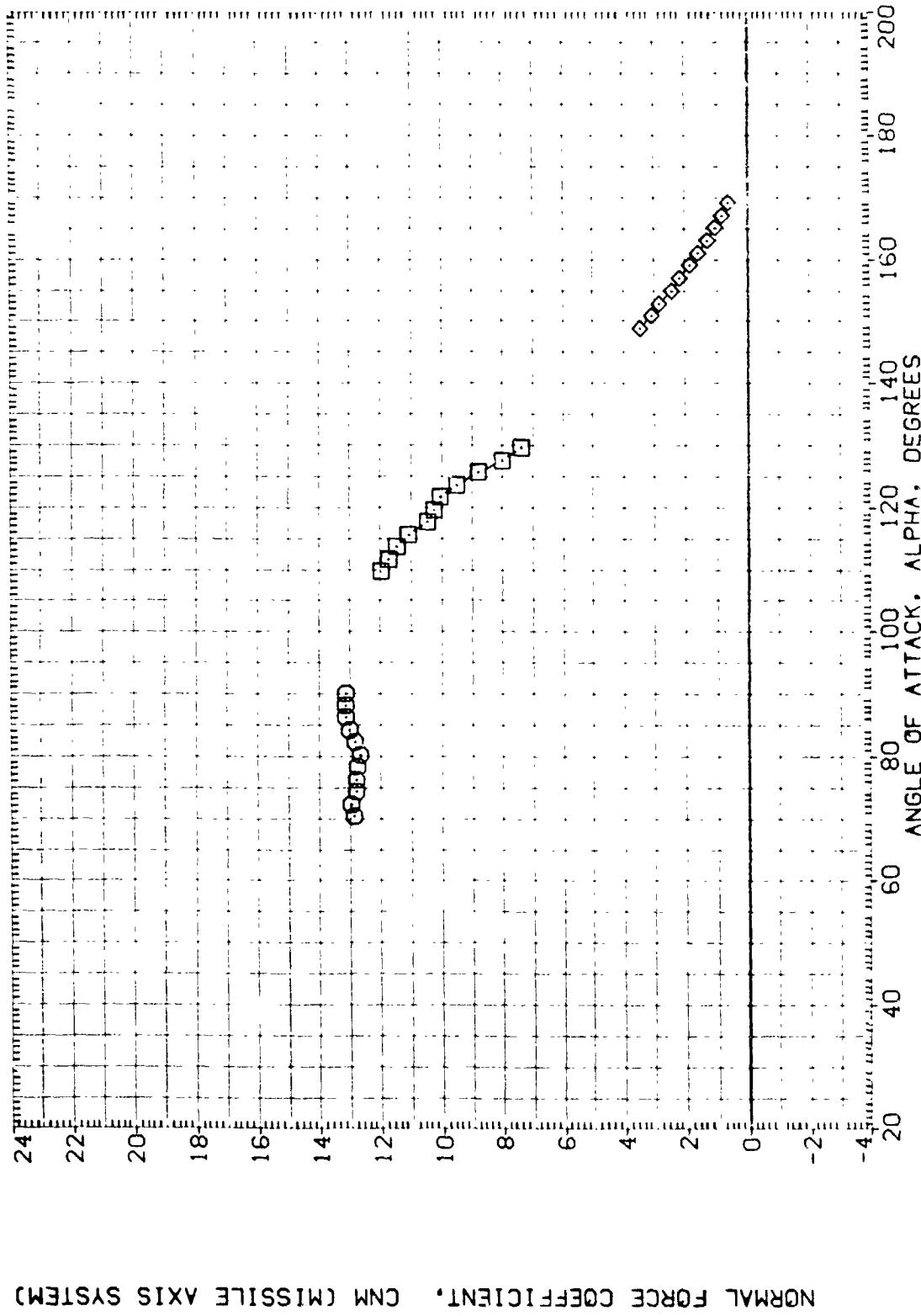


FIGURE 26. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 315)

(B)MACH = .60

REFERENCE INFORMATION

SREF	.5030	SO, IN.
LREF	.8000	IN.
BREF	.8000	IN.
XMPP	5.7210	IN. XS
YMPP	.0000	IN. YS
ZMPP	.0000	IN. ZS
SCALE	.0033	

PHI

315.000
315.000
315.000

CONFIGURATION DESCRIPTION

MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

DATA SET SYMBOL

(A1H072)
(A1H073)
(A1H074)

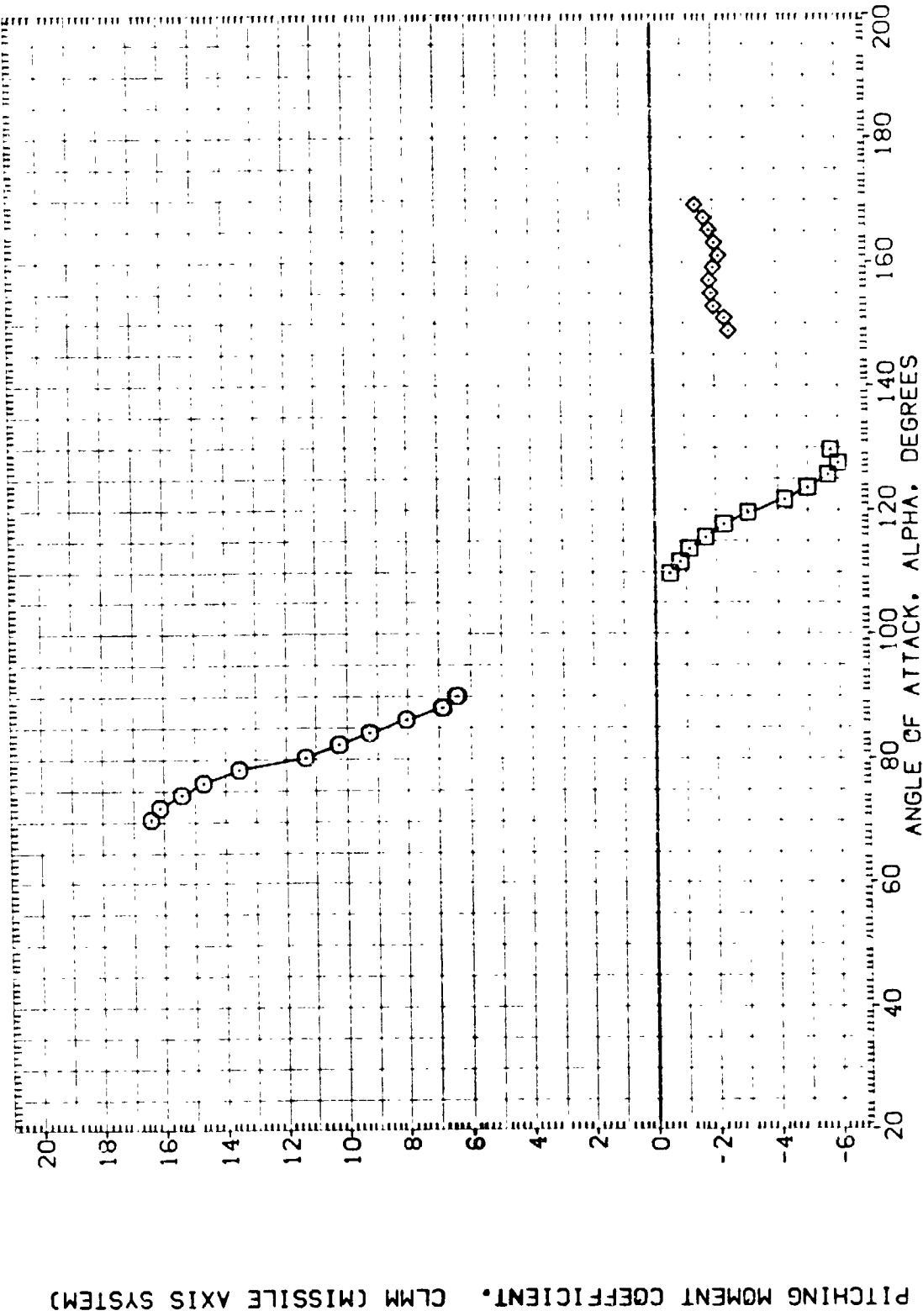


FIGURE 26. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 315)
 (B) MACH = .60

DATA SET SYMBOL (A1H072) (A1H073) (A1H074)

CONFIGURATION DESCRIPTION MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES

PHI 315.000 315.000 315.000

REFERENCE INFORMATION SREF .5030 SQ. IN. LREF 9000 IN. BREF 8000 IN. XHP 5.7210 IN. XS ZHP .0000 IN. ZS ZHP .0000 IN. ZS SCALE .0055

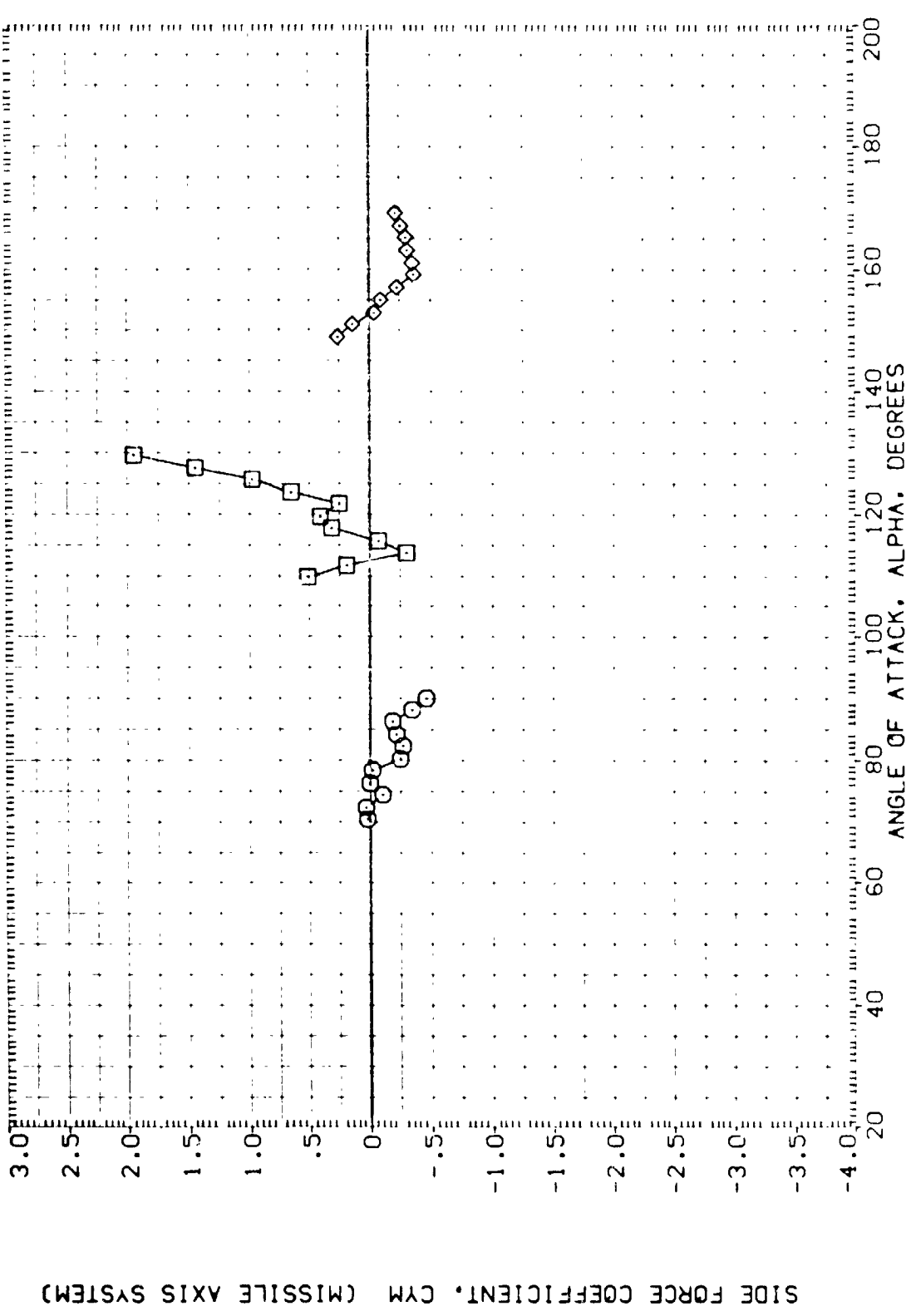
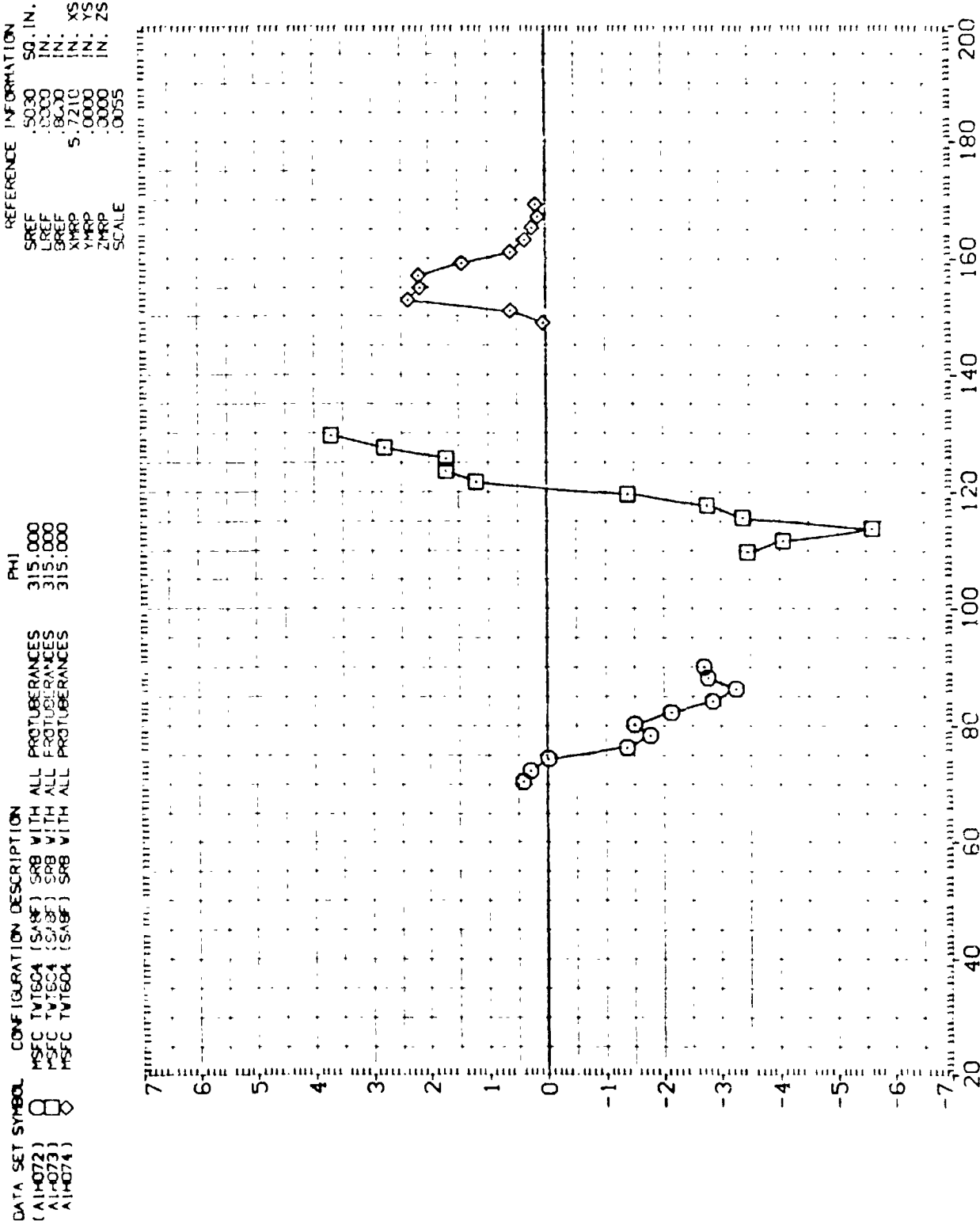


FIGURE 26. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 315)

YAWING MOMENT COEFFICIENT, C_{YM} (MISSILE AXIS SYSTEM)



REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .0000 IN.
 OREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 315.000
 315.000

CONFIGURATION DESCRIPTION
 MSFC TV1604 (SA8F) SRB WITH ALL PROTUBERANCES
 MSFC TV1604 (SA8F) SRB WITH ALL PROTUBERANCES
 MSFC TV1604 (SA8F) SRB WITH ALL PROTUBERANCES

FIGURE 26. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 315)

(B) MACH = .60

DATA SET SYMBOL
 (A1H072)
 (A1H073)
 (A1H074)

PHI
 315.000
 315.000

CONFIGURATION DESCRIPTION
 MSFC TWT604 (S/ST) SRB WITH ALL PROTUBERANCES
 MSFC TWT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TWT604 (SABF) SRB WITH ALL PROTUBERANCES

REFERENCE INFORMATION
 SREF .50 IN.
 LREF .6000 IN.
 BRFF 8000 IN.
 S 7.210 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0055

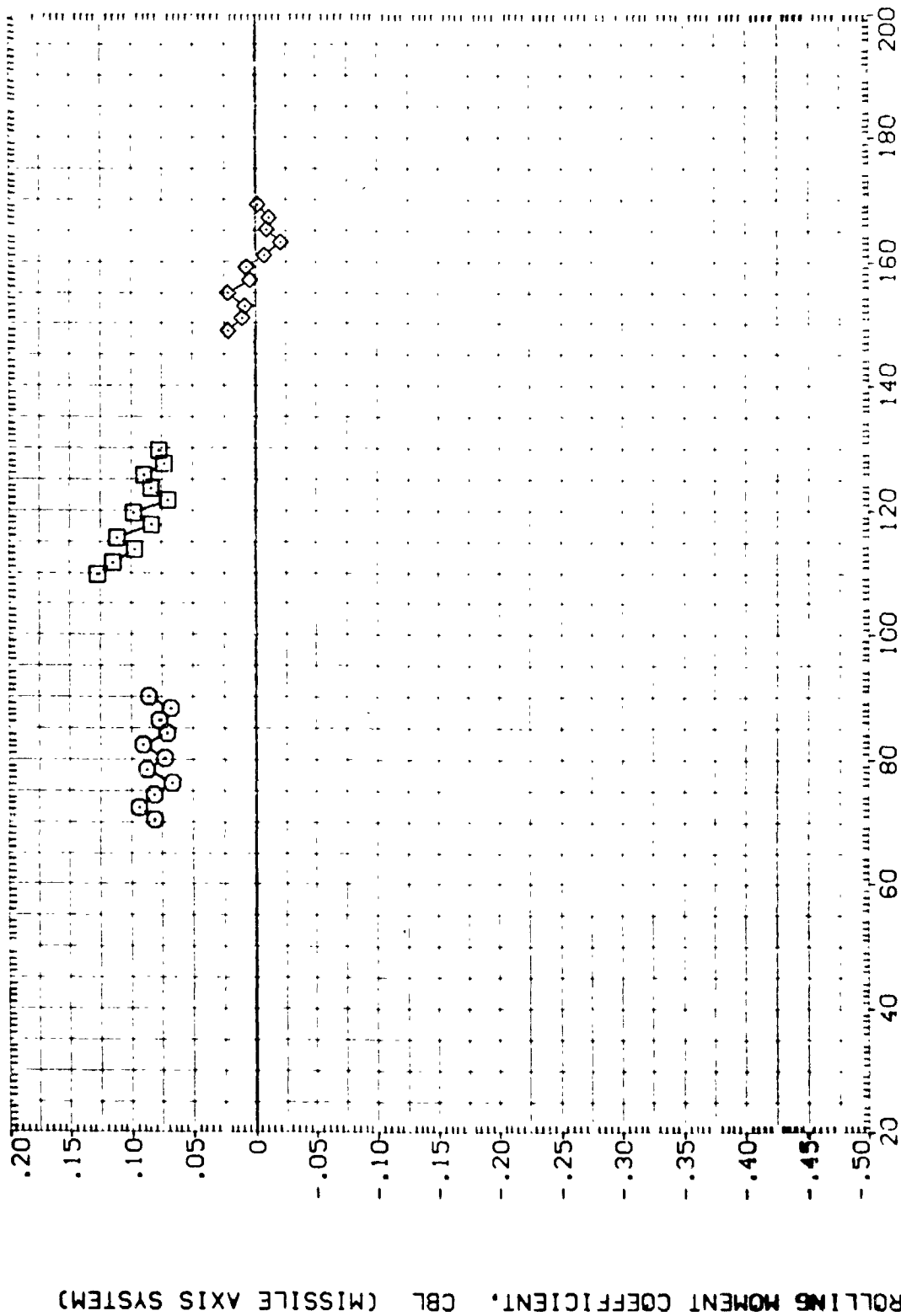


FIGURE 26. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 315)

(B)MACH = .60

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H072) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 315.000

(A1H073) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 315.000

(A1H074) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES

REFERENCE INFORMATION

SREF 5030 IN. 50. IN.

LREF 8000 IN.

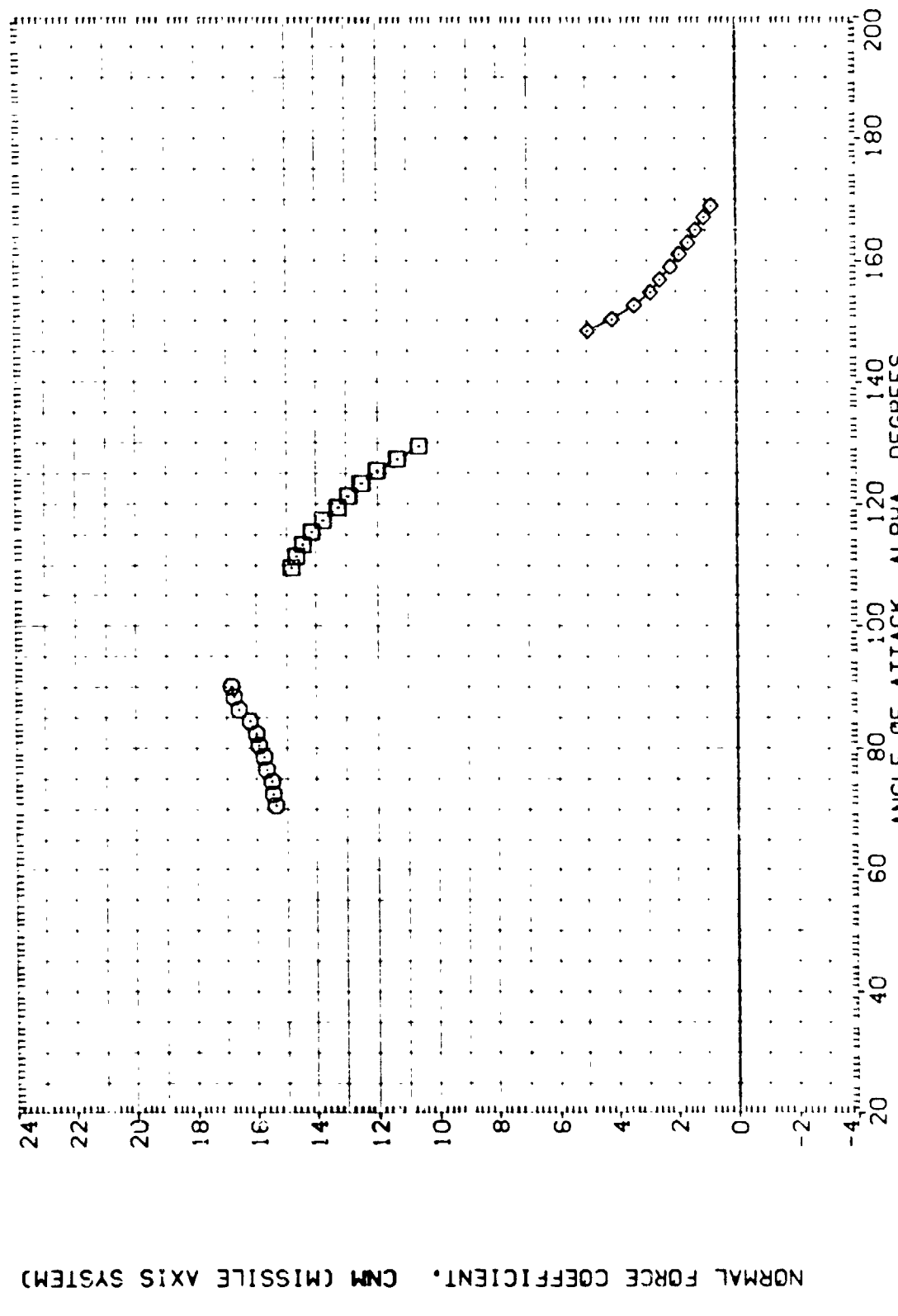
BREF 6000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055



NORMAL FORCE COEFFICIENT, CM (MISSILE AXIS SYSTEM)

FIGURE 26. STATIC STABILITY CHARACTERISTICS OF SRB W/ALL PROTUBERANCES (PHI = 315)

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(A1M072)	MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES	315.000	SREF .5030 IN.
(A1M073)	MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES	315.000	LRIF .8000 IN.
(A1M074)	MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES	315.000	SREF .6000 IN.
			XMRP 5.7210 IN. XS
			ZMRP .0000 IN. YS
			SCALE .0055

PITCHING MOMENT COEFFICIENT, CLMM (MISSILE AXIS SYSTEM)

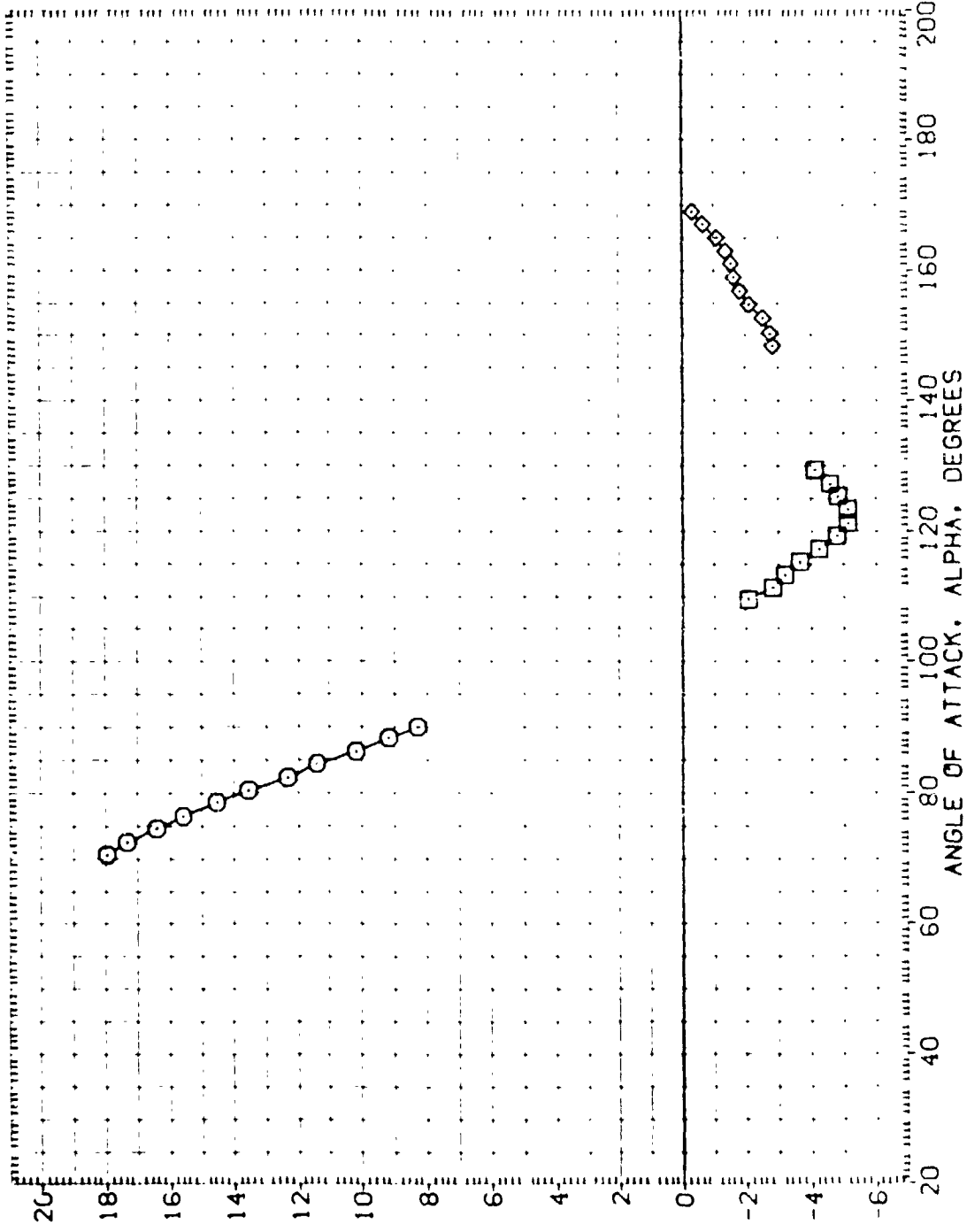


FIGURE 26. STATIC STABILITY CHARACTERISTICS OF SRB W/ALL PROTUBERANCES (PHI = 315)

DATA SET SYMBOL (A1H072) (A1H073) (A1H074)

CONFIGURATION DESCRIPTION MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI 315.000 315.000 315.000

REFERENCE INFORMATION SREF .5030 SQ. IN. LREF .8000 IN. BREF .8000 IN. XMRP 5.7210 IN. Y5 ZMRP .0000 IN. Z5 SCALE .0055

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

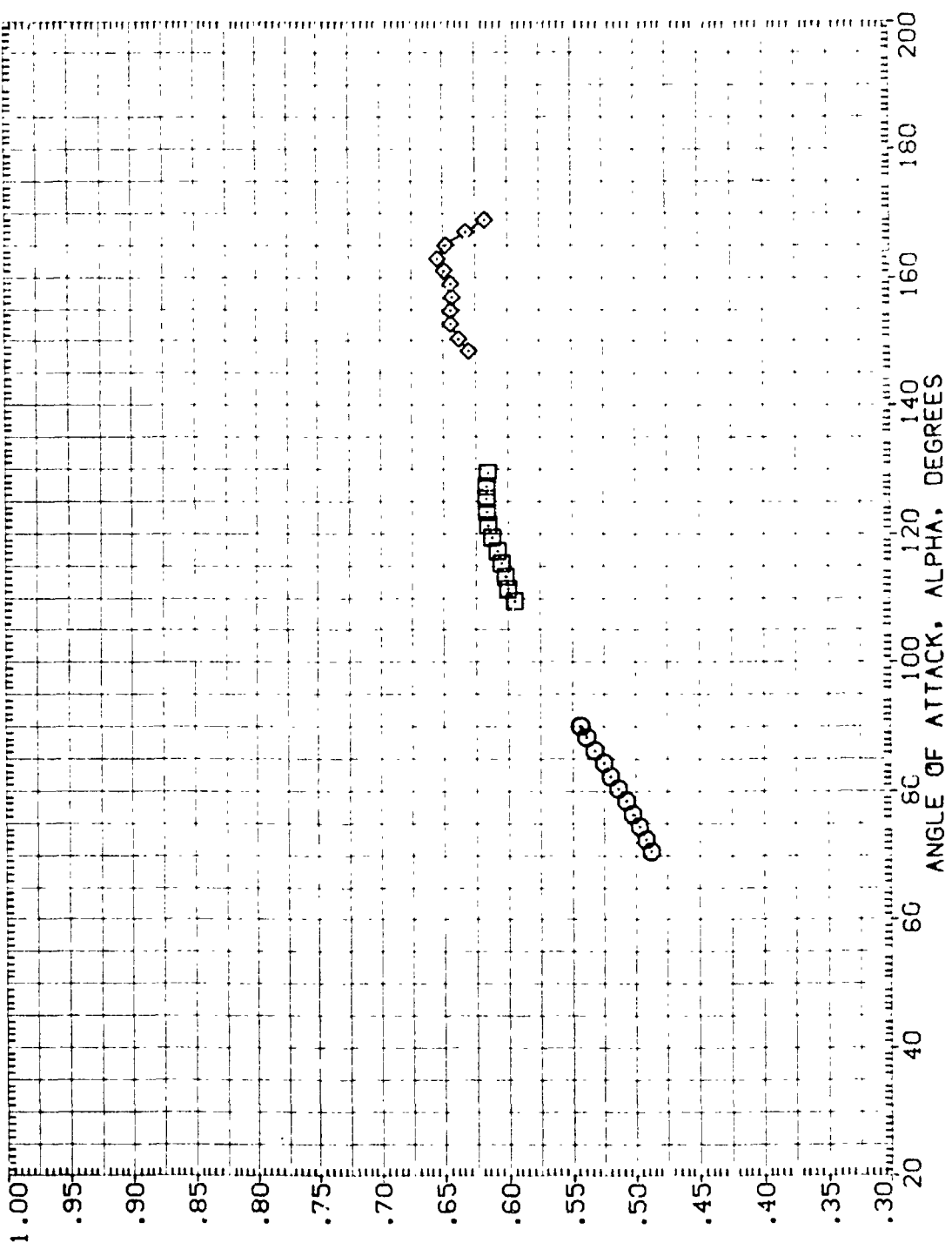


FIGURE 26. STATIC STABILITY CHARACTERISTICS OF SRB W/ALL PROTUBERANCES (PHI = 315)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H072) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 315.000

(A1H073) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 315.000

(A1H074) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .6000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

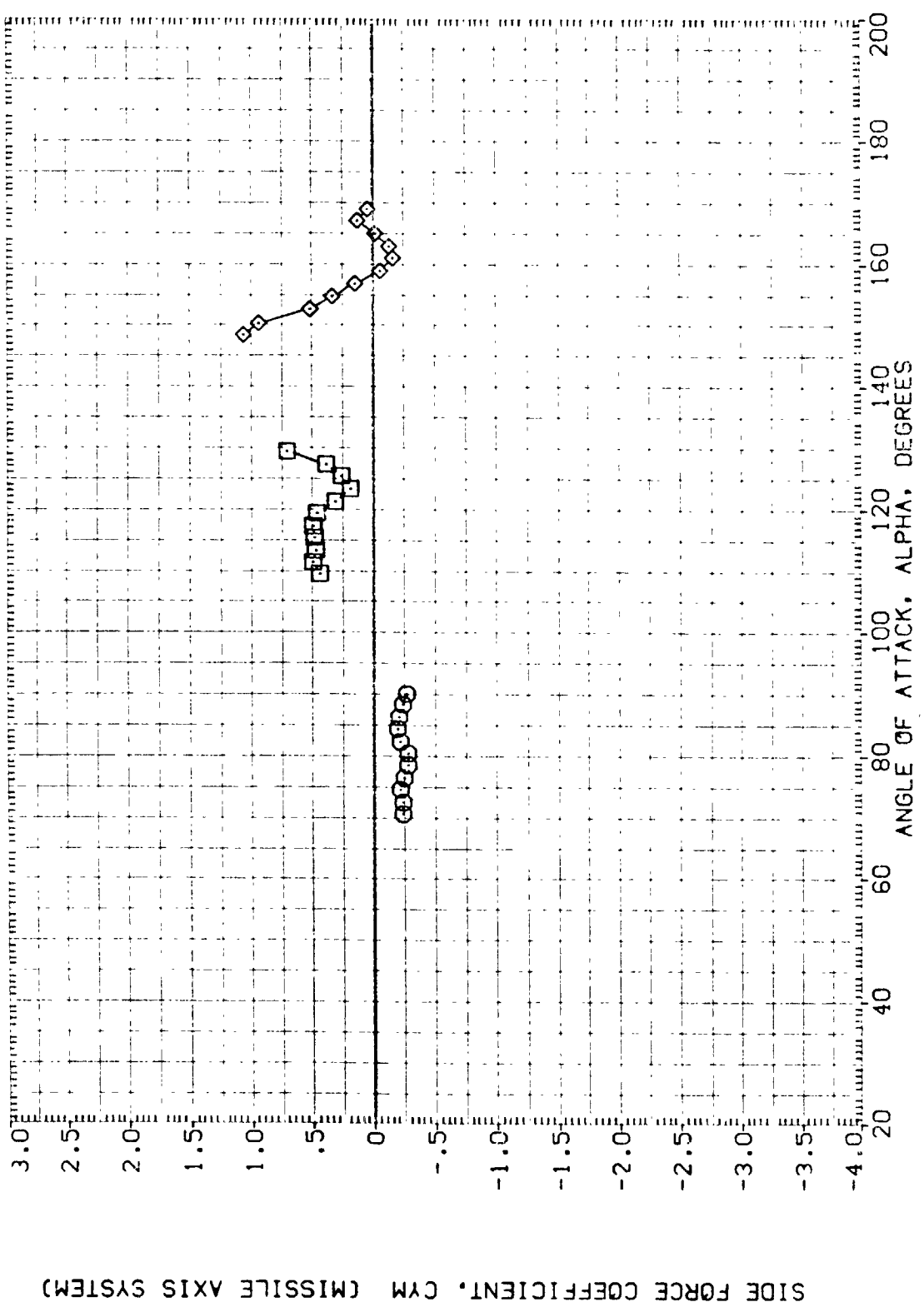


FIGURE 26. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 315)

(C)MACH = .90

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(A1H072)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	315.000	SREF .5030 SO. IN.
(A1H073)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	315.000	LREF .8000 IN.
(A1H074)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	315.000	BREF 5.7210 IN. XS
			YMRP .0000 IN. YS
			ZMRP .0000 IN. ZS
			SCALE .0055

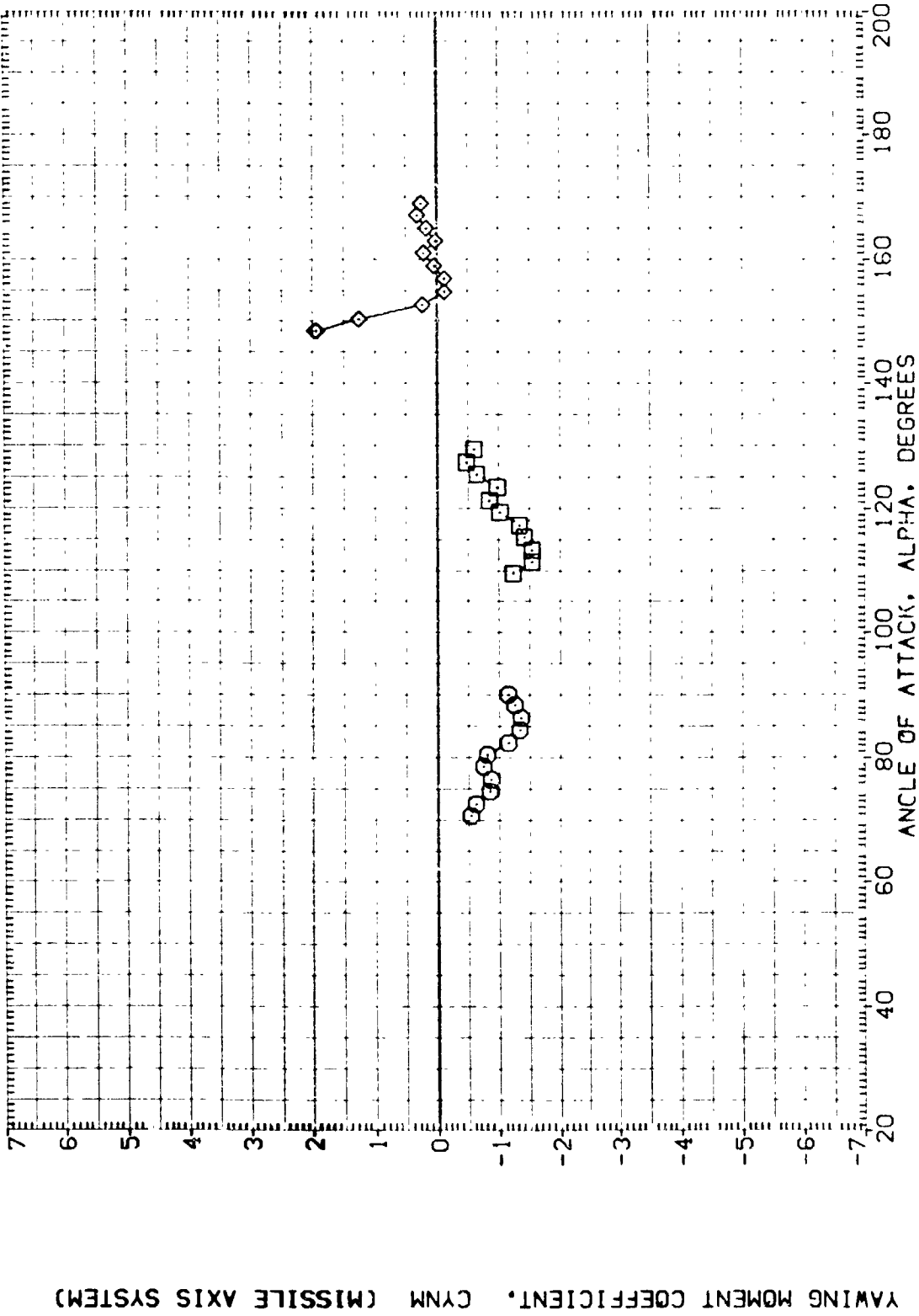


FIGURE 26. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 5)

(C)MACH = .90

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A14072) MSFC TVT804 (SABF) SRB WITH ALL PROTUBERANCES 315.000
 (A14073) MSFC TVT804 (SABF) SRB WITH ALL PROTUBERANCES 315.000
 (A14074) MSFC TVT804 (SABF) SRB WITH ALL PROTUBERANCES 315.000

REFERENCE INFORMATION

SREF 50.30 50. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

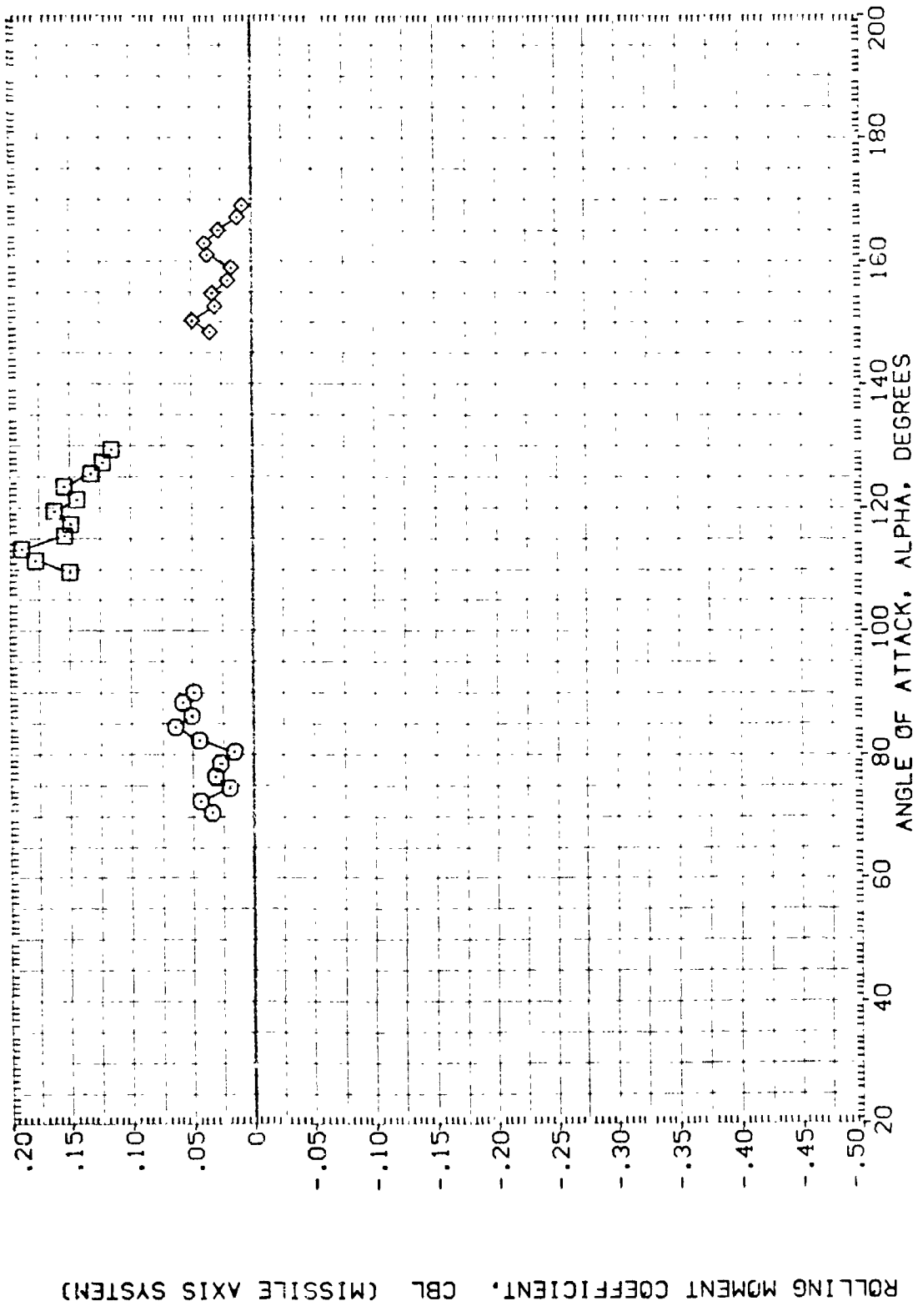


FIGURE 26. STATIC STABILITY CHARACT. OF SRB W/ALL PROTUBERANCES (PHI = 315)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H072) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 315.000

(A1H073) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 315.000

(A1H074) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

REFERENCE INFORMATION

SREF .5030 IN.

LREF .8000 IN.

BRCF .8000 IN.

XMRP 5.7210 IN. X5

YMRP .0000 IN. Y5

ZMRP .0000 IN. Z5

SCALE .0055

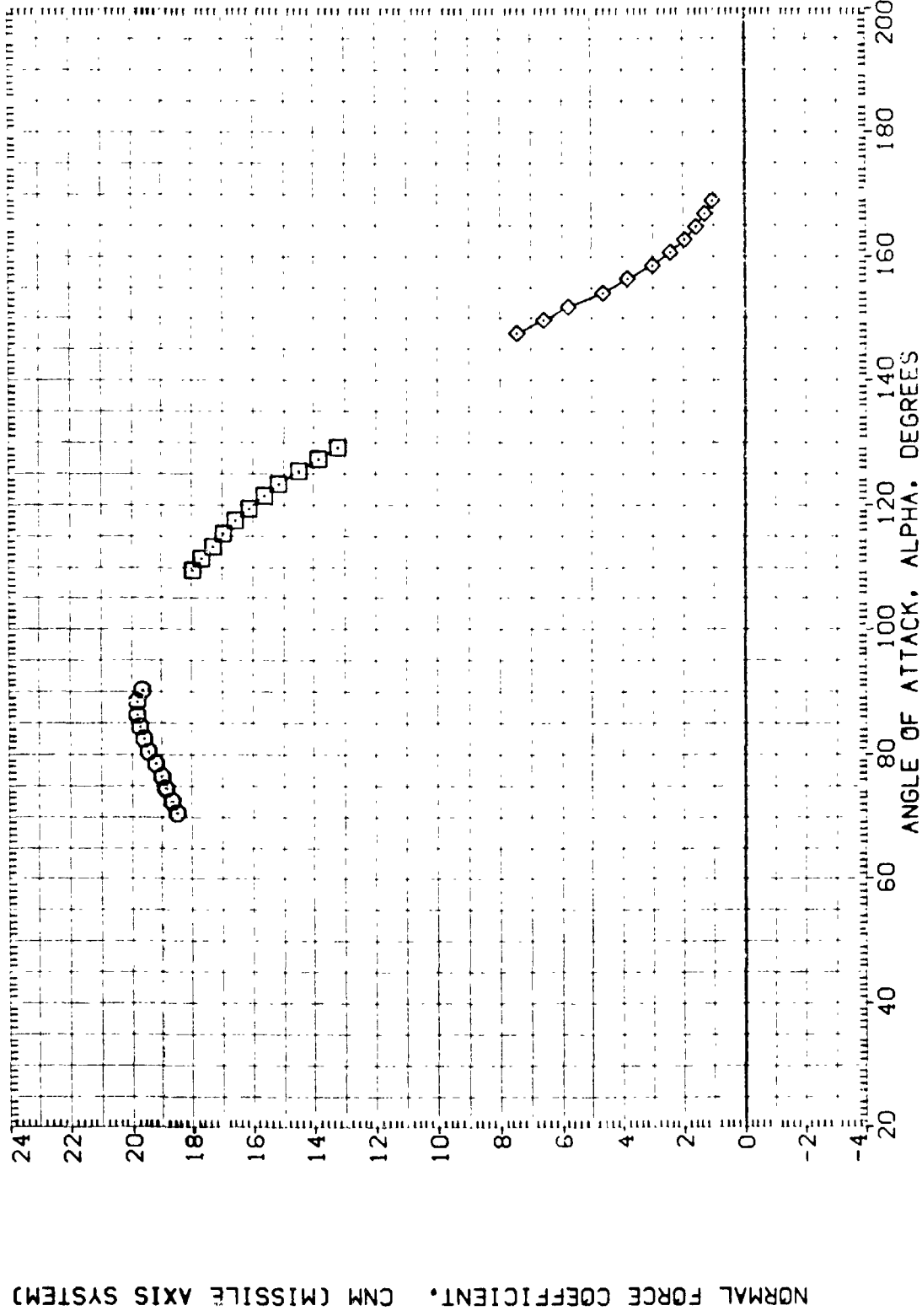


FIGURE 26. STATIC STABILITY CHARACTERISTICS OF SRB W/ALL PROTUBERANCES (PHI = 315)

DATA SET SYMBOL (A1H072) (A1H073) (A1H074)

PHI 315.000 315.000 315.000

CONFIGURATION DESCRIPTION MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

REFERENCE INFORMATION SREF .5030 IN. LREF .8000 IN. BREF .8000 IN. XMRP 5.7210 IN. YMRP .0000 IN. ZMRP .0000 IN. SCALE .0055

PITCHING MOMENT COEFFICIENT, CLMM (MISSILE AXIS SYSTEM)

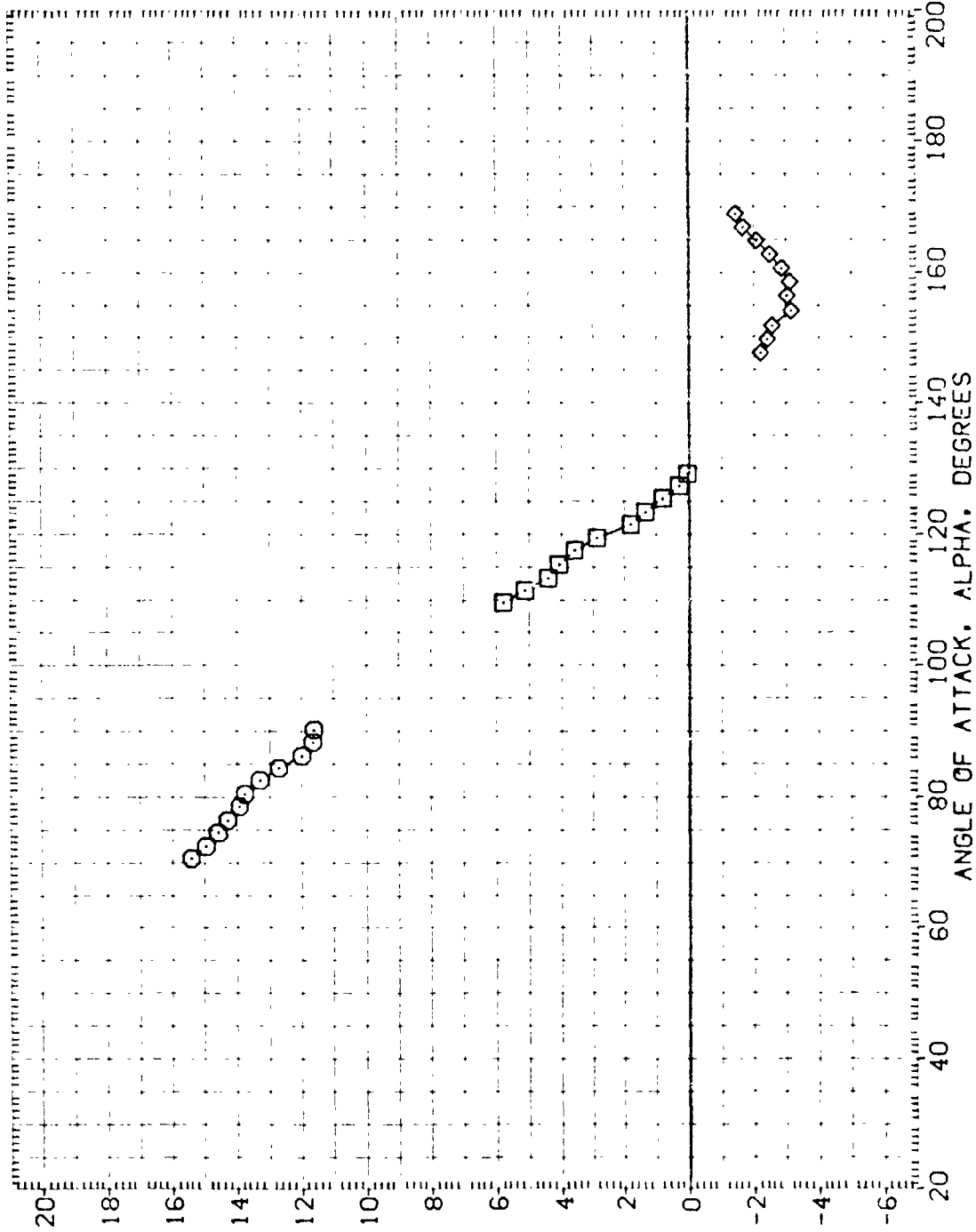


FIGURE 26. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 315)

(CO)MACH = 1.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H072)	MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES	315.000
(A1H073)	MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES	315.000
(A1H074)	MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES	315.000

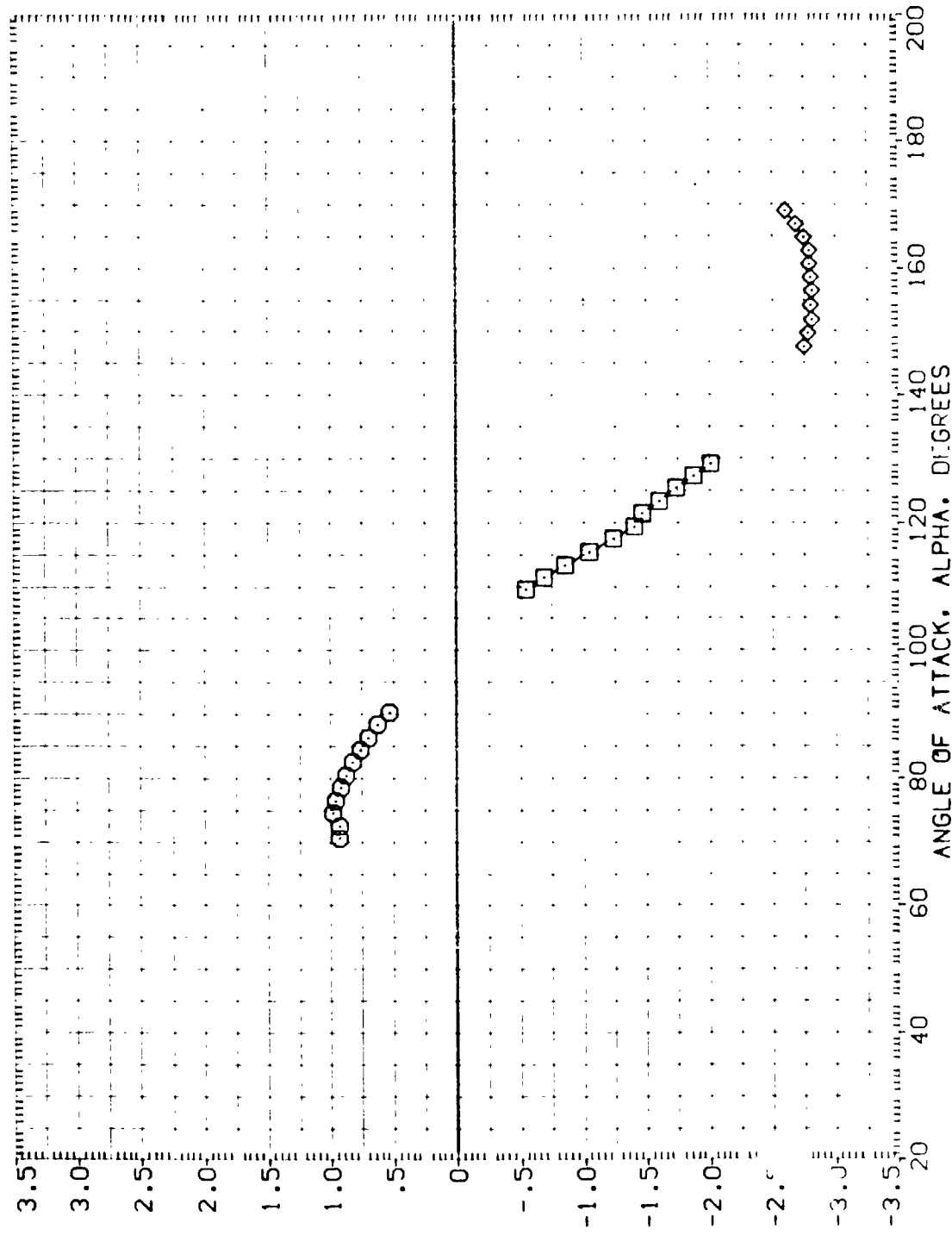
REFERENCE INFORMATION

SREF	.5030	SG. IN.
LREF	.8000	IN.
BREF	.8000	IN.
YMRP	5.7210	IN. XS
YMRP	.0000	IN. YS
ZMRP	.0000	IN. ZS
SCALE	.0055	

MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES

MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES

MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES



AXIAL FORCE COEFFICIENT, CA (MISSILE AXIS SYSTEM)

FIGURE 26. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 315)

DATA SET SYMBOL: (A1H072) (A1H073) (A1H074)

CONFIGURATION DESCRIPTION: MSFC TVT504 (SARF) SRB WITH ALL PROTUBERANCES; MSFC TVT504 (SARF) SRB WITH ALL PROTUBERANCES; MSFC TVT504 (SARF) SRB WITH ALL PROTUBERANCES

FHI: 315.000; 315.000; 315.000

REFERENCE INFORMATION: SREF .5030 SQ. IN.; LREF .8000 IN.; BREF .8000 IN.; XMRP 5.7210 IN.; YMRP .0000 IN.; ZMRP .0000 IN.; SCALE .0055

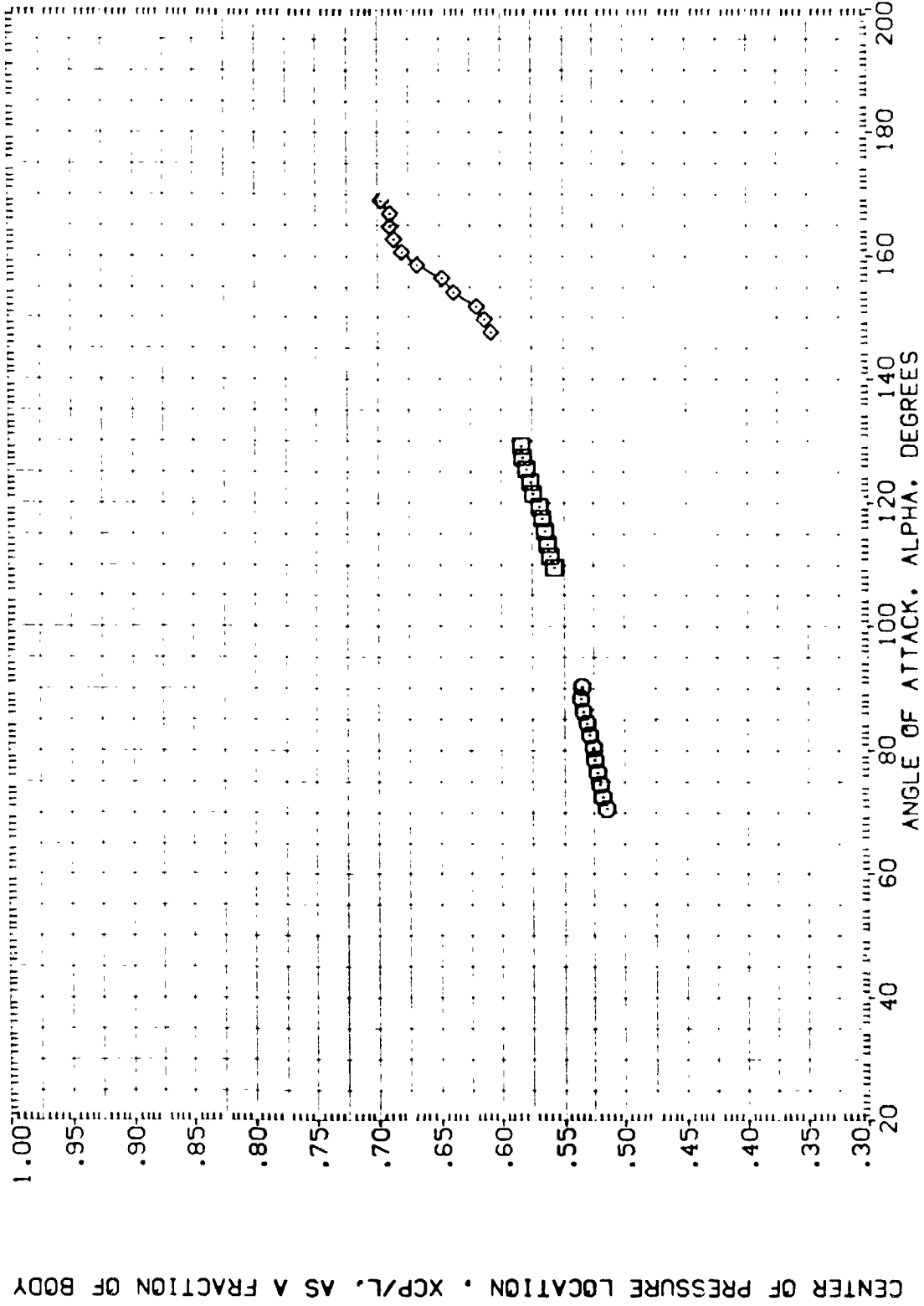
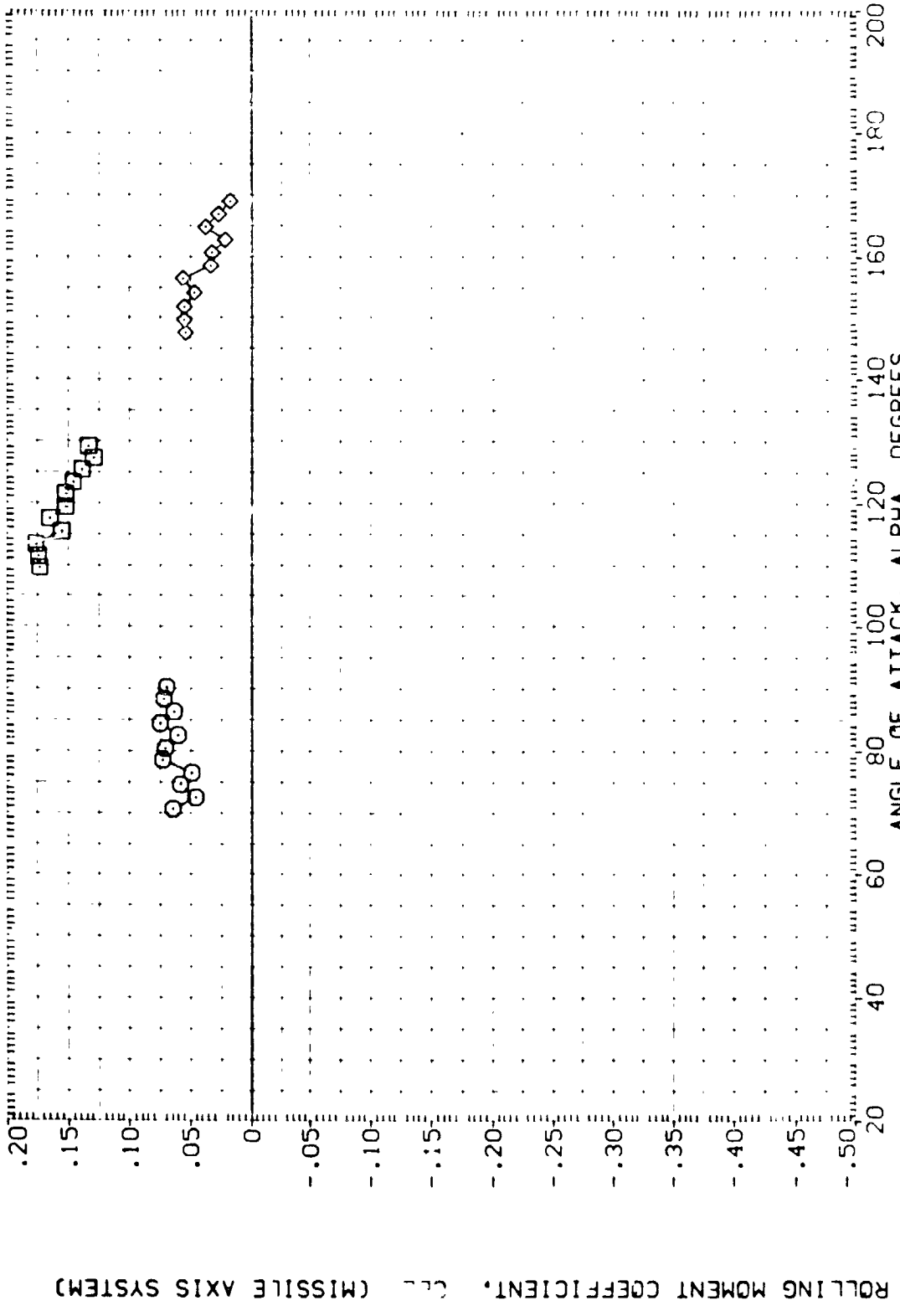


FIGURE 26. STATIC STABILITY CHARACTERISTICS OF SRB WALL PROTUBERANCES (PHI = 315)

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H072) MSFC TWT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H073) MSFC TWT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H074) MSFC TWT604 (SABF) SRB WITH ALL PROTUBERANCES

PHI
 315.000
 315.000
 315.000

REFERENCE INFORMATION
 SREF .5430 SQ. IN.
 LREF .8000 IN.
 BRREF .0070 IN.
 XMRP 5 1210 IN. XS
 YMRP .0400 IN. YS
 ZMRP .0400 IN. ZS
 SCALE .0055



ROLLING MOMENT COEFFICIENT, C_l (MISSILE AXIS SYSTEM)

FIGURE 26. STATIC STABILITY CHARACTERISTICS OF SRB WITH ALL PROTUBERANCES (PHI = 315)

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(B)H074	MSFC T4T604 (SABF) SR8 CLEAN W/TINGS
(B)H075	MSFC T4T604 (SABF) SR8 CLEAN W/TINGS
(B)H076	MSFC T4T604 (SABF) SR8 CLEAN W/TINGS
(B)H077	MSFC T4T604 (SABF) SR8 CLEAN W/TINGS
(B)H078	MSFC T4T604 (SABF) SR8 CLEAN W/TINGS

REFERENCE INFORMATION

SRF	5030	IN.
LRF	2010	IN.
SRF	2010	IN.
AMRP	5	IN.
ZMRP	210	IN.
ZMRP	2000	IN.
ZMRP	2000	IN.
SCALE	0055	IN.

RM PHI

.350	.000
.350	.000
.350	.000
.200	.000
.200	.000
.200	.000

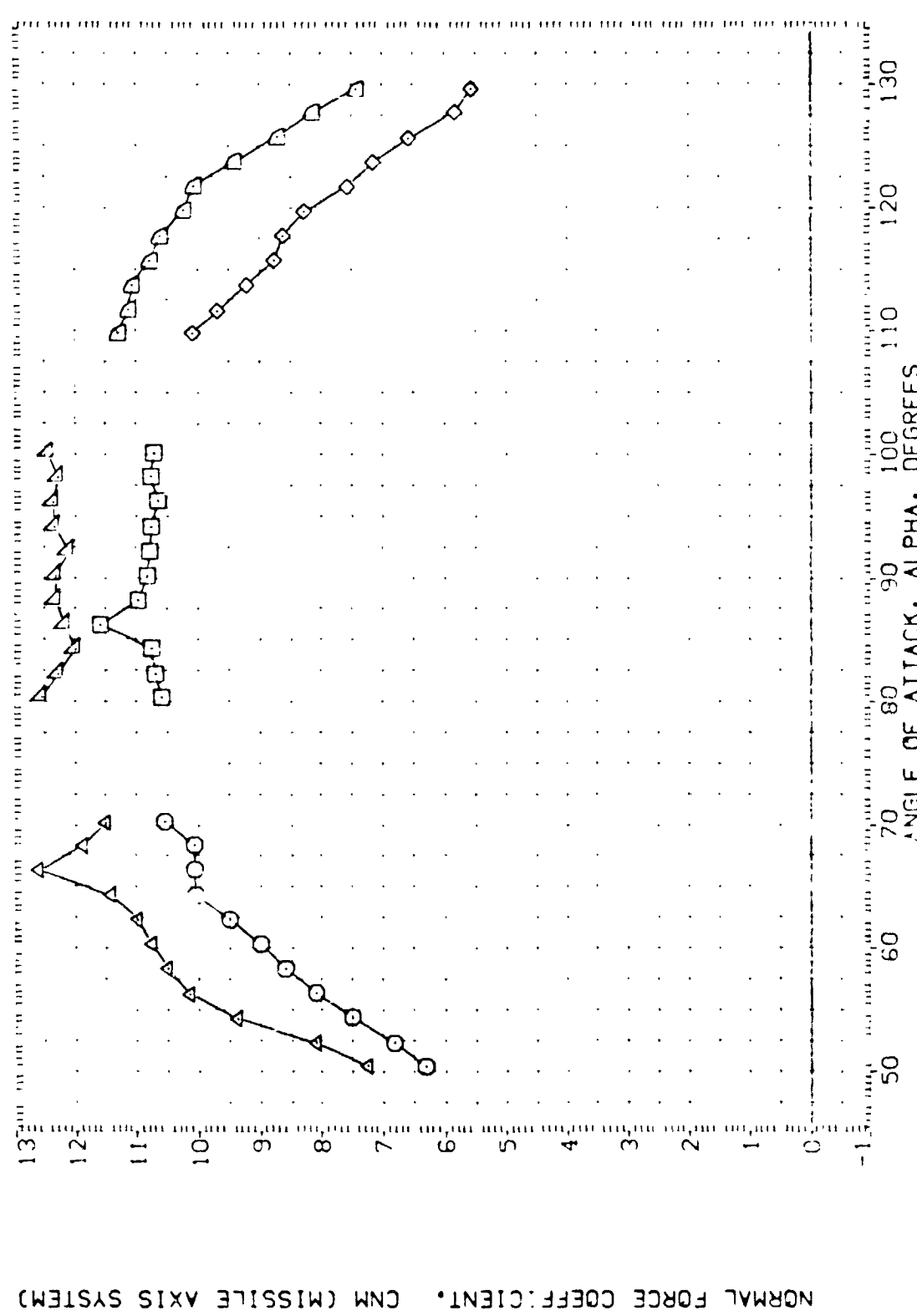


FIGURE 27. EFFECT OF REYNOLDS NUMBER ON STATIC STABILITY CHARACTERISTICS
 (MACH .40) PAGE 463

REFERENCE INFORMATION
 SREF .50 IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XREF 5.7210 IN.
 YREF .0000 IN.
 ZREF .0000 IN.
 SCALE .0055

PHI
 RN .350
 .000
 .000
 .000
 .000
 .000
 .000
 .000
 .000

CONFIGURATION DESCRIPTION
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS

DATA SET SYMBOL
 (B1H004)
 (B1H008)
 (B1H015)
 (B1H005)
 (B1H007)
 (B1H013)

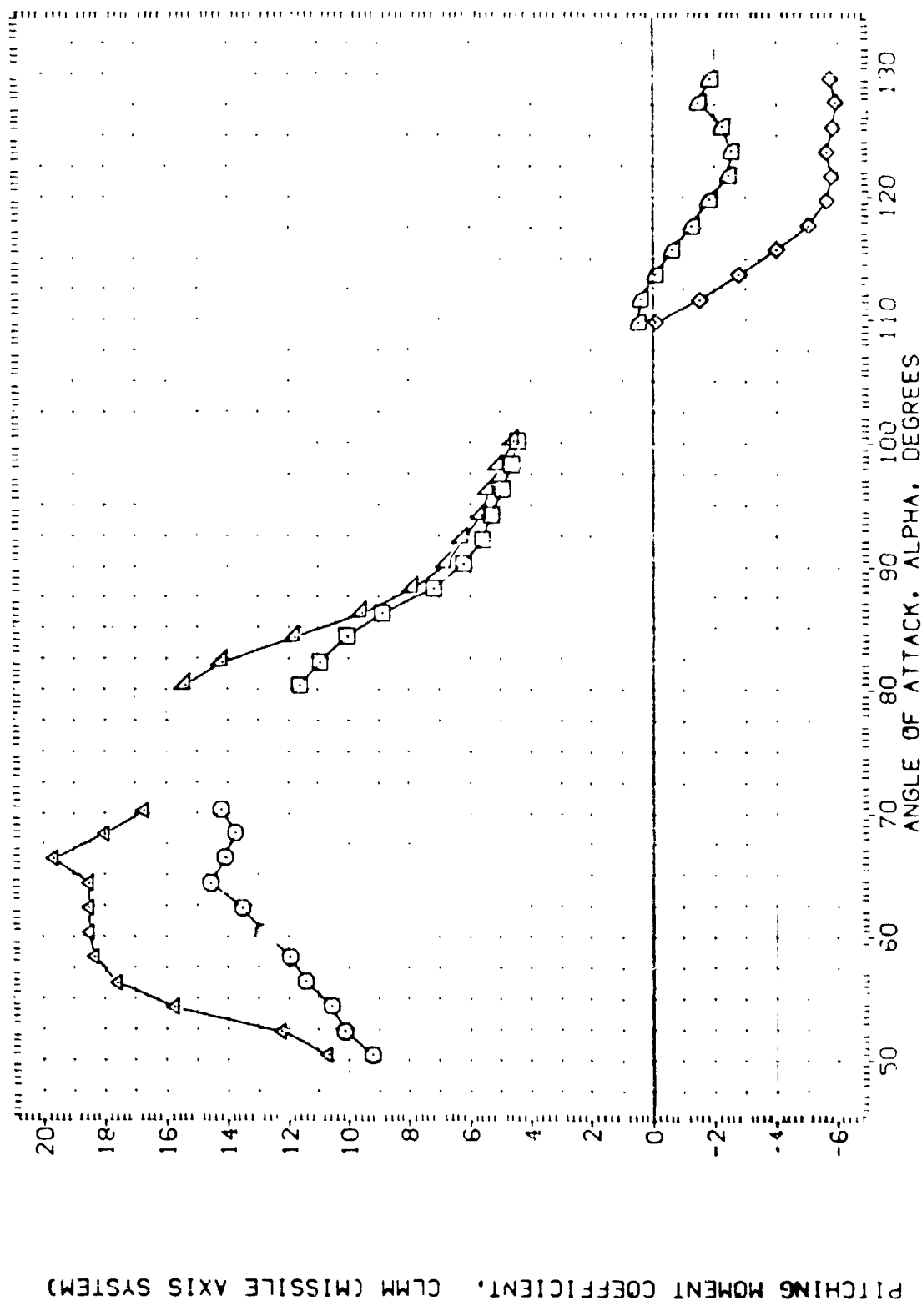


FIGURE 27. EFFECT OF REYNOLDS NUMBER ON STATIC STABILITY CHARACTERISTICS

(A)MACH = .40

REFERENCE INFORMATION
 SREF 5030 50. IN.
 LREF 1000 10. IN.
 BREF 700 7. IN.
 AMKO 5 7213 IN. XS
 MXP 1000 10. IN. YS
 SCALE 3055

PHI
 RN .350 .000
 .350 .000
 .200 .000
 .200 .010

CONFIGURATION DESCRIPTION
 TV1604 (SABF) SRB CLEAN W/RINGS
 TV1604 (SABF) SRB CLEAN W/RINGS
 TV1604 (SABF) SRB CLEAN W/RINGS
 TV1604 (SABF) SRB CLEAN W/RINGS
 TV1604 (SABF) SRB CLEAN W/RINGS
 TV1604 (SABF) SRB CLEAN W/RINGS

DATA SL / SYMBOL
 (B1H004) ○
 (B1H008) □
 (B1H012) △
 (B1H016) ◇

AXIAL FORCE COEFFICIENT, CA (MISSILE AXIS SYSTEM)

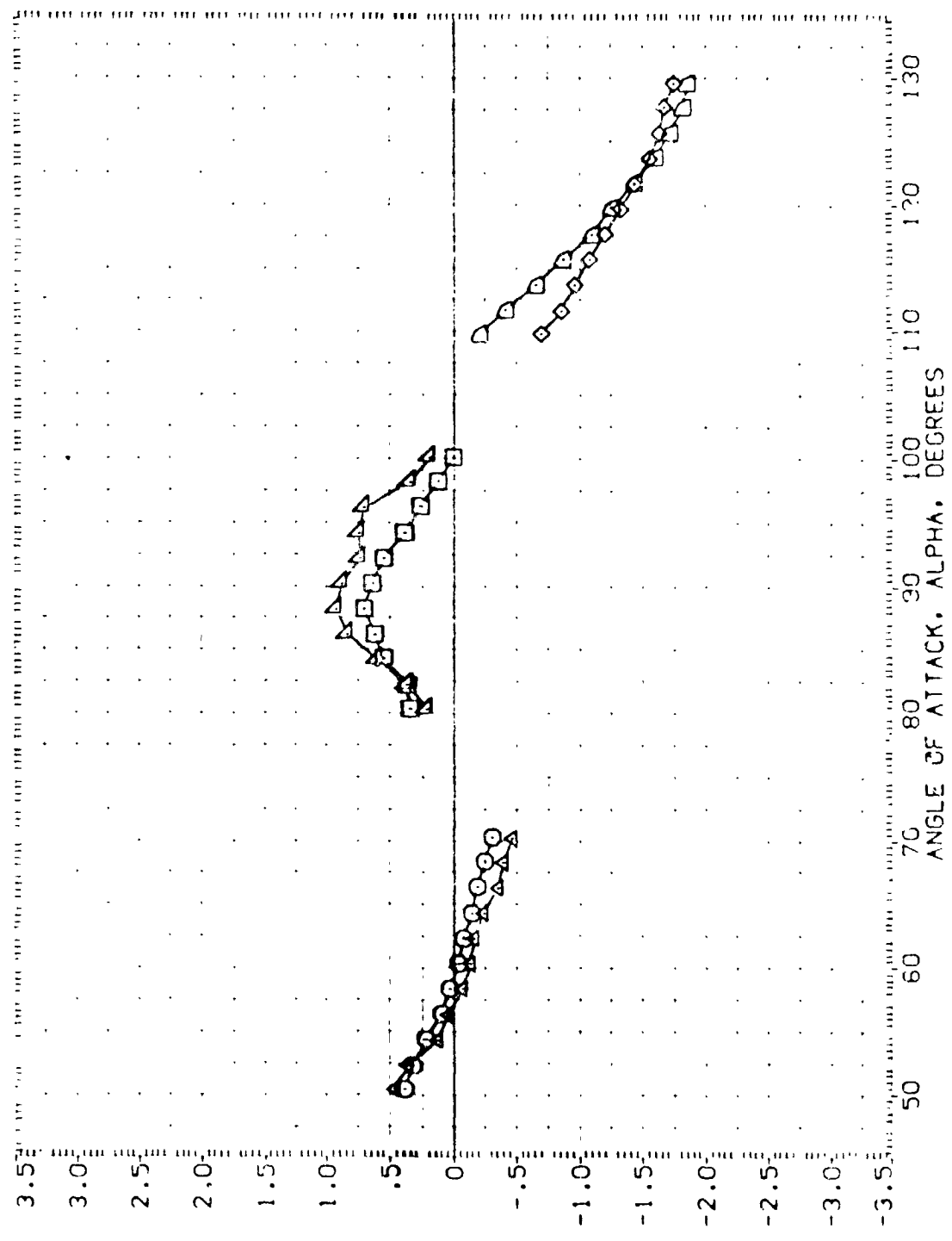


FIGURE 27. EFFECT OF REYNOLDS NUMBER ON STATIC STABILITY CHARACTERISTICS

REFERENCE INFORMATION
 SREF .5030 SU. IN.
 LREF .8000 IN.
 BRREF .8000 IN.
 XMRP S.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0255

PHI
 RN .350 .000
 .350 .000
 .200 .000
 .200 .000

CONFIGURATION DESCRIPTION
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 MSFC TVT604 (SABF) SRB CLEAN V/RINGS

DATA SET SYMBOL
 (B1H004) □
 (B1H008) ○
 (B1H015) △
 (B1H005) ◇
 (B1H013) ▽

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

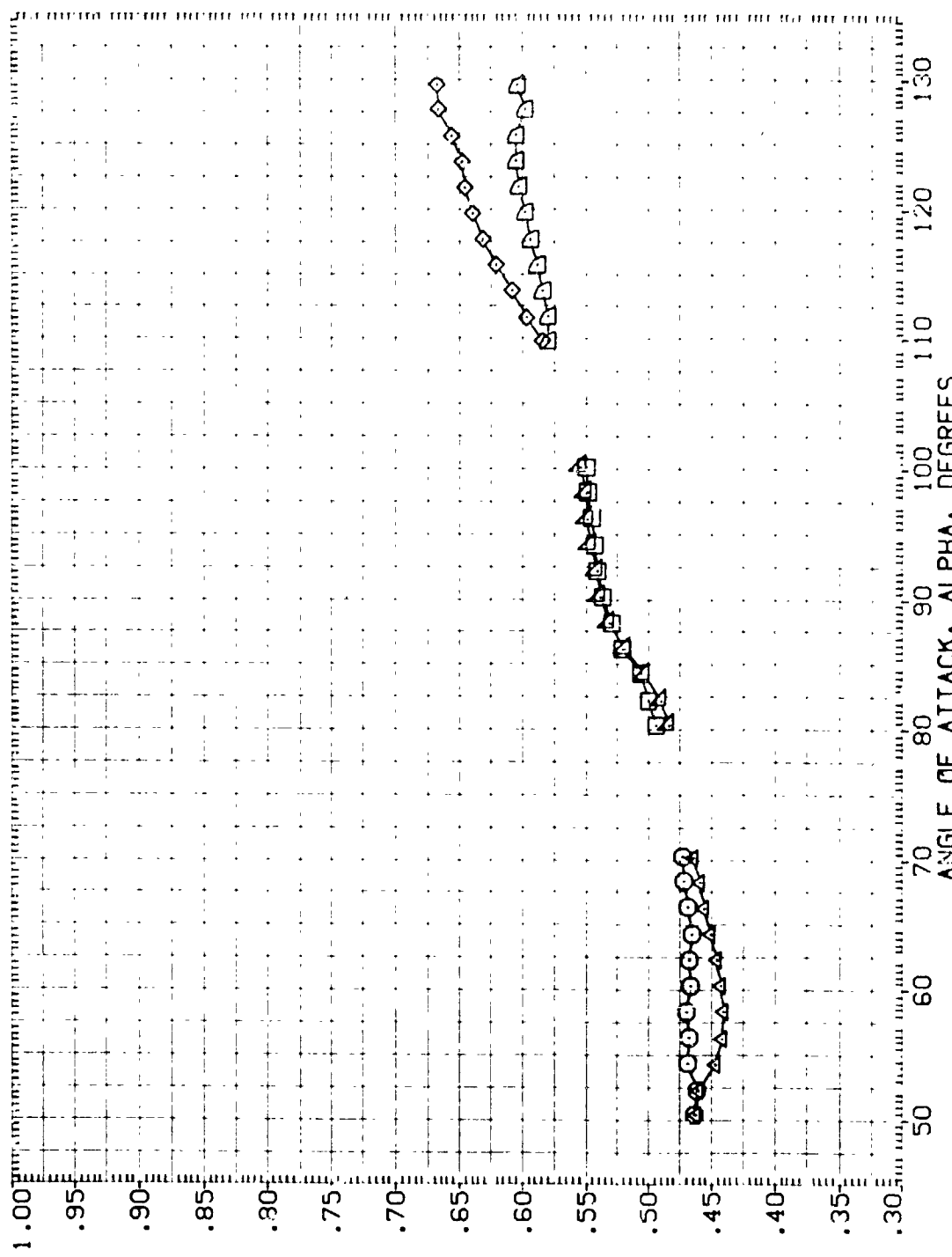


FIGURE 27. EFFECT OF REYNOLDS NUMBER ON STATIC STABILITY CHARACTERISTICS

11-58

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	RN	PHI	REFERENCE INFORMATION
(914004)	MSFC TV1604 (SABF) SRB CLEAN W/RINGS	.350	.000	SREF .5030 SQ.1
(814008)	MSFC TV1604 (SABF) SRB CLEAN W/RINGS	.350	.000	LINEF .84000 IN.
(814015)	MSFC TV1604 (SABF) SRB CLEAN W/RINGS	.200	.000	BRCLF .84000 IN.
(814005)	MSFC TV1604 (SABF) SRB CLEAN W/RINGS	.200	.000	YMRP 5.7210 IN. XS
(814007)	MSFC TV1604 (SABF) SRB CLEAN W/RINGS	.200	.000	ZMRP .0000 IN. YS
(814013)	MSFC TV1604 (SABF) SRB CLEAN W/RINGS	.200	.000	SCALE .0055 IN. ZS

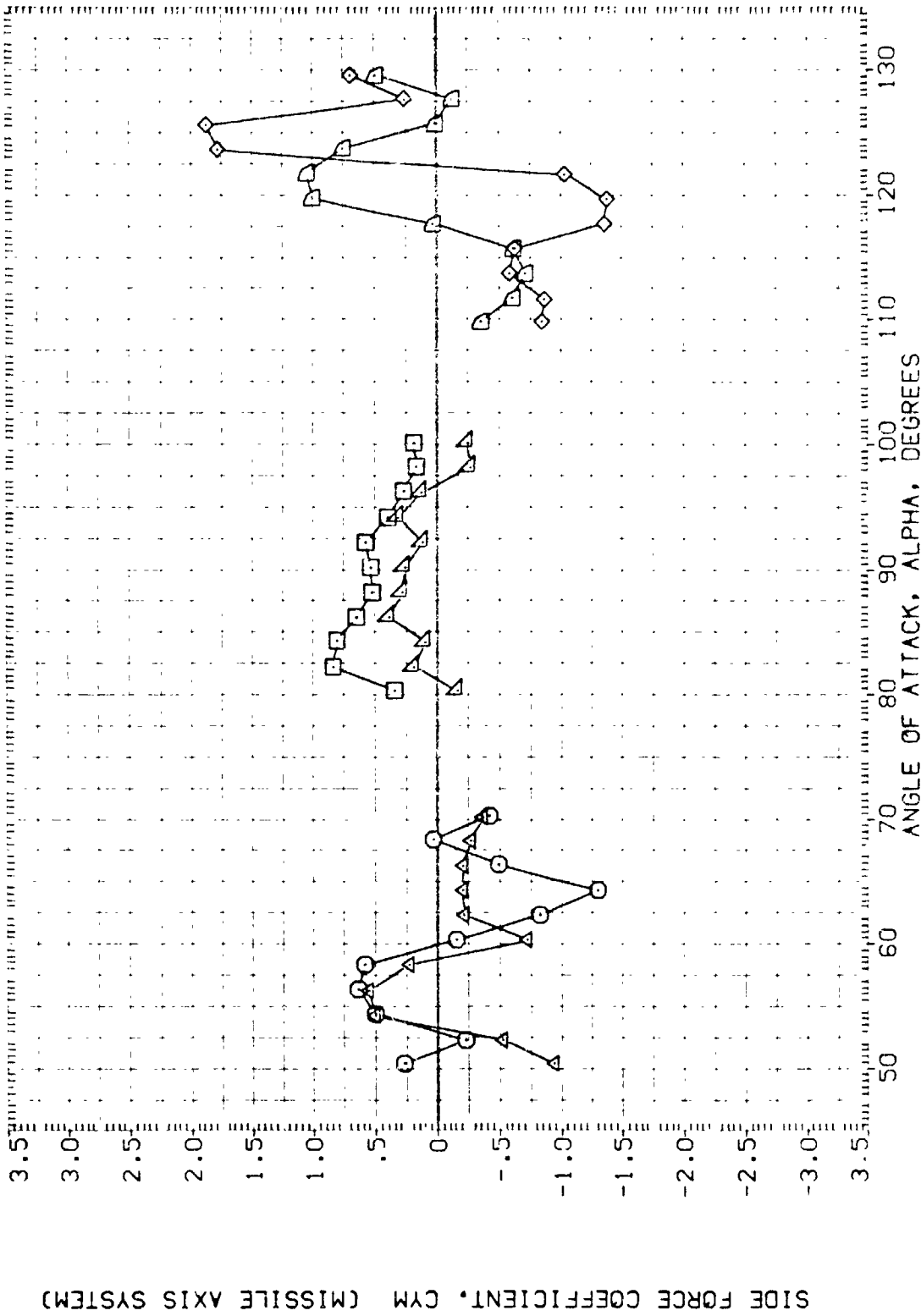


FIGURE 27. EFFECT OF REYNOLDS NUMBER ON STATIC STABILITY CHARACTERISTICS
MACH = .40 PAGE 467

DATA SET SYMBOL
 (B11H004)
 (B11H006)
 (B11H015)
 (B11H005)
 (B11H007)
 (B11H013)

CONFIGURATION DESCRIPTION
 MSFC TV1604 (SABF) SRB CLEAN V/RINGS
 MSFC TV1604 (SABF) SRB CLEAN V/RINGS
 MSFC TV1604 (SABF) SRB CLEAN V/RINGS
 MSFC TV1604 (SABF) SRB CLEAN V/RINGS
 MSFC TV1604 (SABF) SRB CLEAN V/RINGS

PHI
 .350
 .350
 .200
 .200

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .9010 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0095

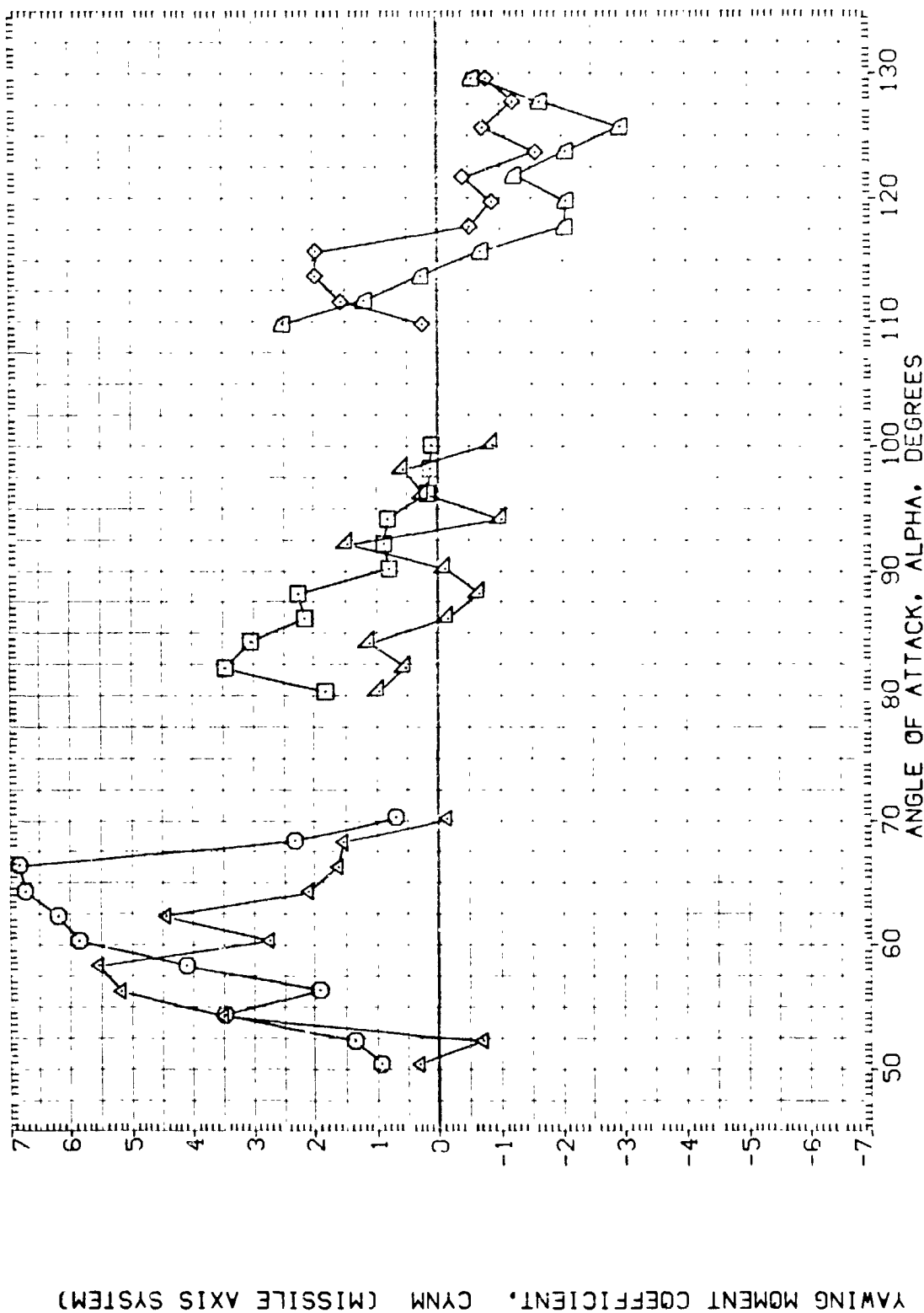


FIGURE 27. EFFECT OF REYNOLDS NUMBER ON STATIC STABILITY CHARACTERISTICS

(A)MACH = .40

DATA SET SYMBOL CONFIGURATION (DESCRIPTION) PH RN PHI REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION (DESCRIPTION)	PH	RN	PHI	REFERENCE INFORMATION
(B14004)	MFC TW1504 (S43F) SRB CLEAN V/RINGS	.350	.350	.000	SREF .0000 SQ.IN.
(B14005)	MFC TW1504 (S43F) SRB CLEAN V/RINGS	.350	.350	.010	LREF .0000 IN.
(B14006)	MFC TW1504 (S43F) SRB CLEAN V/RINGS	.350	.350	.000	BREF .0000 IN.
(B14007)	MFC TW1504 (S43F) SRB CLEAN V/RINGS	.200	.200	.000	XMRP 5.7210 IN. XS
(B14008)	MFC TW1504 (S43F) SRB CLEAN V/RINGS	.200	.200	.000	YMRP .0000 IN. YS
(B14009)	MFC TW1504 (S43F) SRB CLEAN V/RINGS	.200	.200	.000	ZMRP .0000 IN. ZS
(B14010)	MFC TW1504 (S43F) SRB CLEAN V/RINGS	.200	.200	.000	SCALE .0005

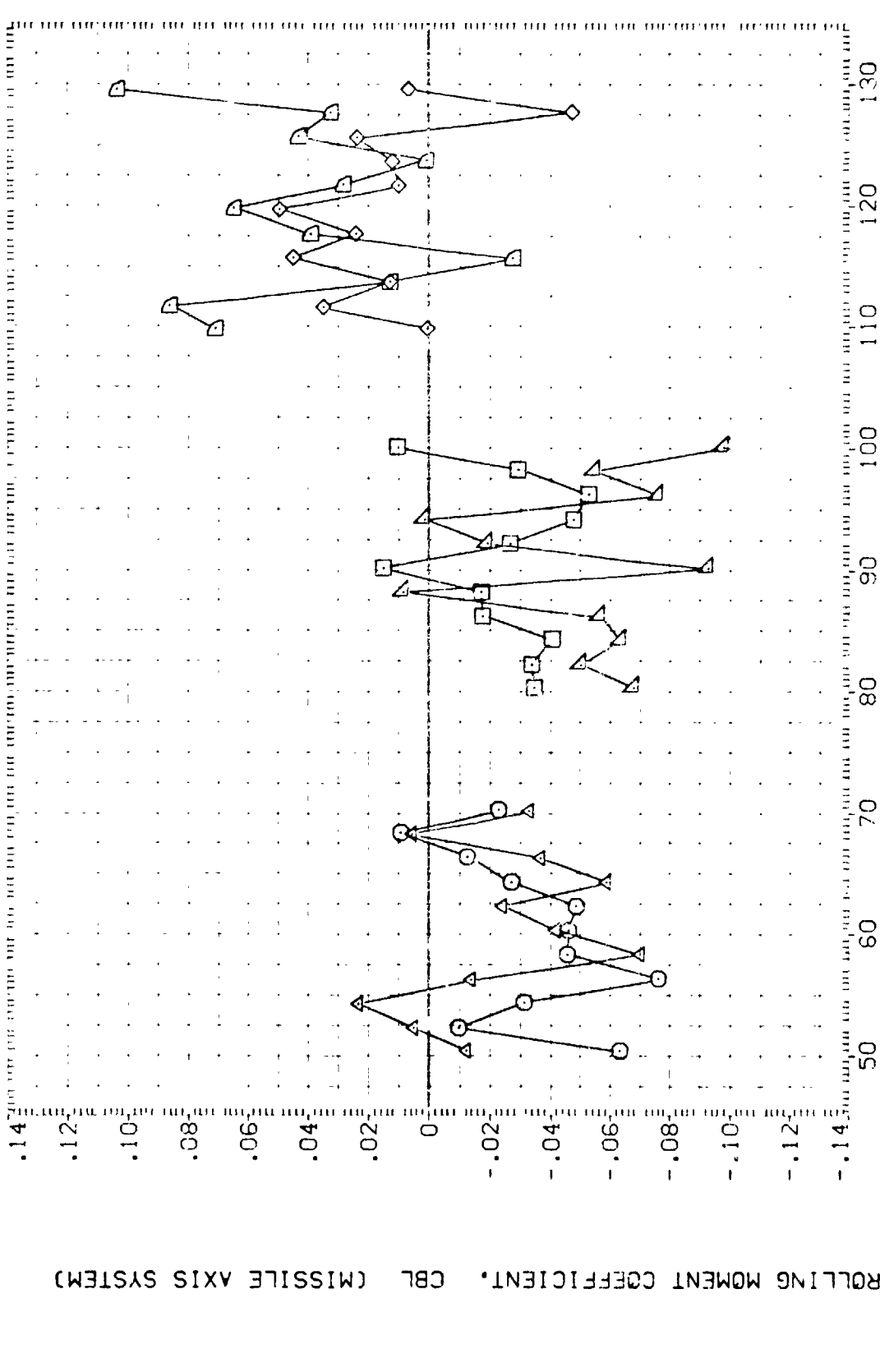


FIGURE 27. EFFECT OF REYNOLDS NUMBER ON STATIC STABILITY CHARACTERISTICS

(A) MACH = .40

DATA SET SYMBOL CONFIGURATION DESCRIPTION PH!

(A1H006) MSFC TVT604 (SABF) SR8 CLEAN V/RINGS .000

(A1H001) MSFC TVT604 (SABF) SR8 CLEAN V/RINGS .000

(A1H020) MSFC TVT604 (SABF) SR8 CLEAN V/RINGS V/O N.CAP .000

(A1H002) MSFC TVT604 (SABF) SR8 CLEAN V/RINGS V/O N.CAP .000

REFERENCE INFORMATION

SREF .5030 SQ.IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

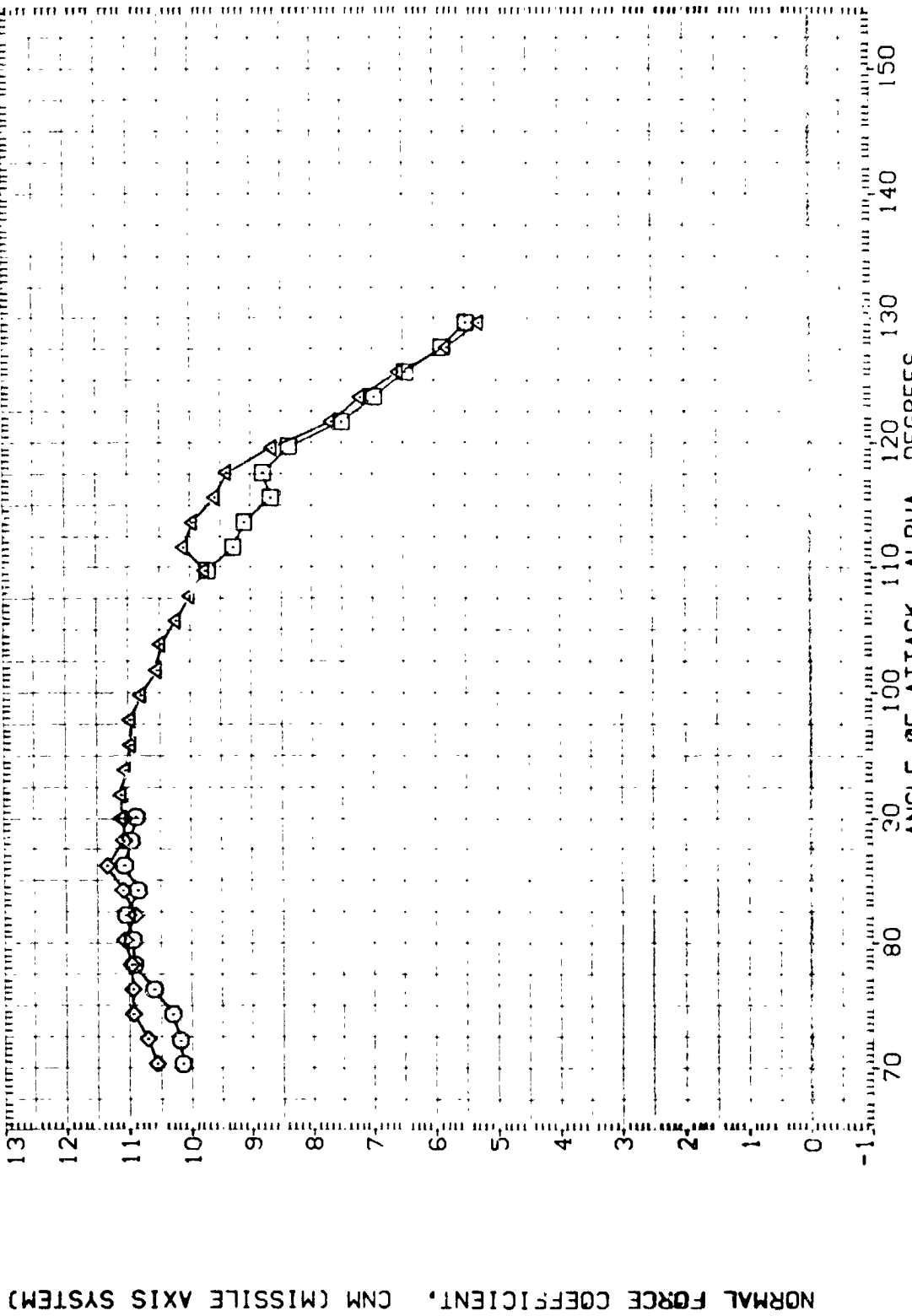


FIGURE 28. EFFECT OF NOSE CAP ON SRB STATIC STABILITY CHARACTERISTICS

(A)MACH = .40

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A110006) MSFC TW1604 (SABF) SRB CLEAN V/RINGS .000
 (A110011) MSFC TW1604 (SABF) SRB CLEAN V/RINGS .000
 (A110020) MSFC TW1604 (SABF) SRB CLEAN V/RINGS V/O N,CAP .000
 (A110022) MSFC TW1604 (SABF) SRB CLEAN V/RINGS V/O N,CAP .000

REFERENCE INFORMATION

SREF .5030 SQ. IN.
 LREF .8000 IN.
 BRREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PITCHING MOMENT COEFFICIENT, CLM (MISSILE AXIS SYSTEM)

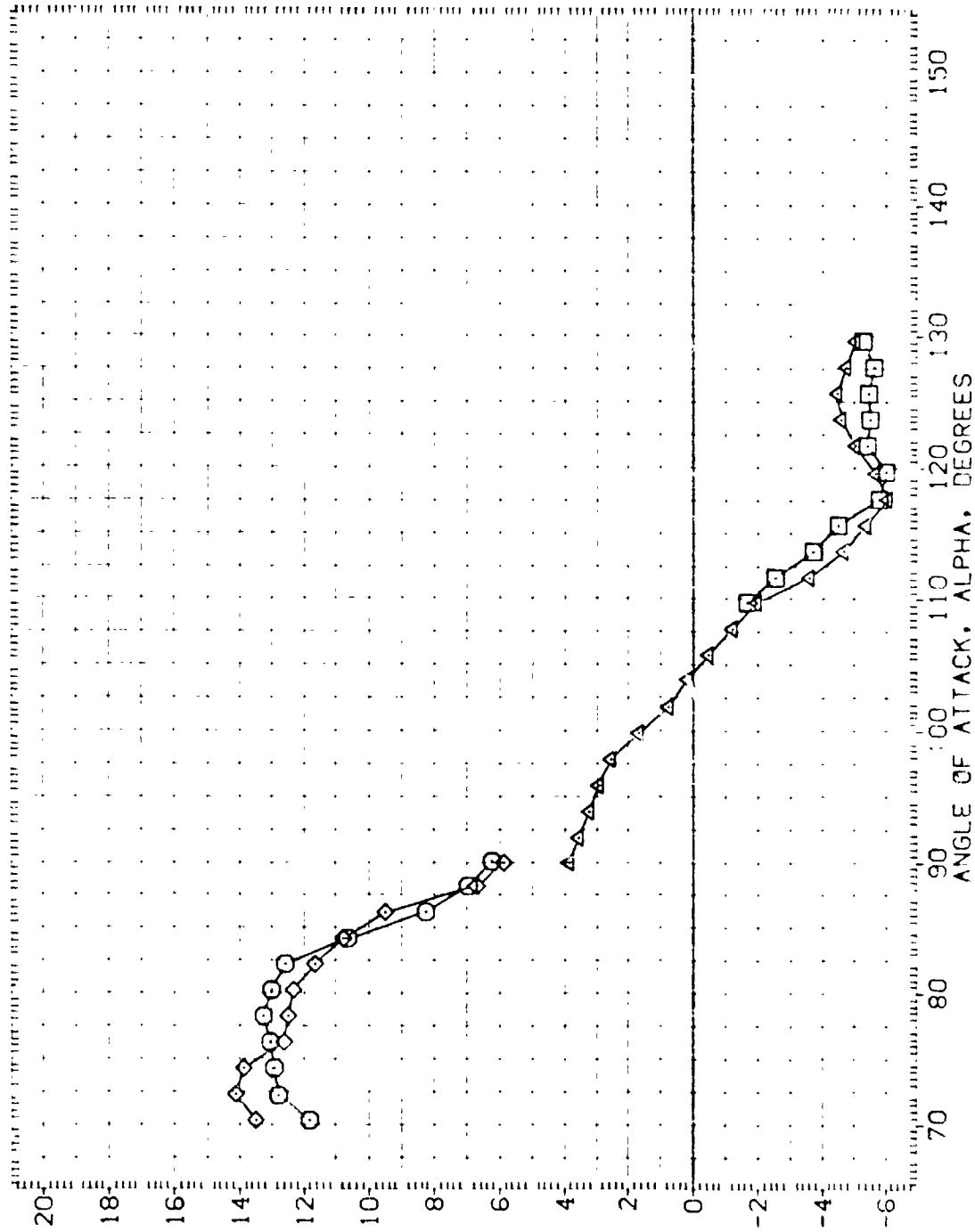


FIGURE 78. EFFECT OF NOSE CAP ON SRB STATIC STABILITY CHARACTERISTICS

(A)MACH = 0.10

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H006) MSFC TVT604 (SABF) SR8 CLEAN W/RINGS .000
 (A1H001) DATA NOT AVAILABLE .000
 (A1H020) MSFC TVT604 (SABF) SR8 CLEAN W/RINGS V/3 N.CAP .000
 (A1H002) MSFC TVT604 (SABF) SR8 CLEAN W/RINGS V/3 N.CAP .000

REFERENCE INFORMATION

SREF .5030 SQ. IN.
 LREF .8000 IN.
 BRREF .8000 IN.
 XMRP 5.72 0 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0005

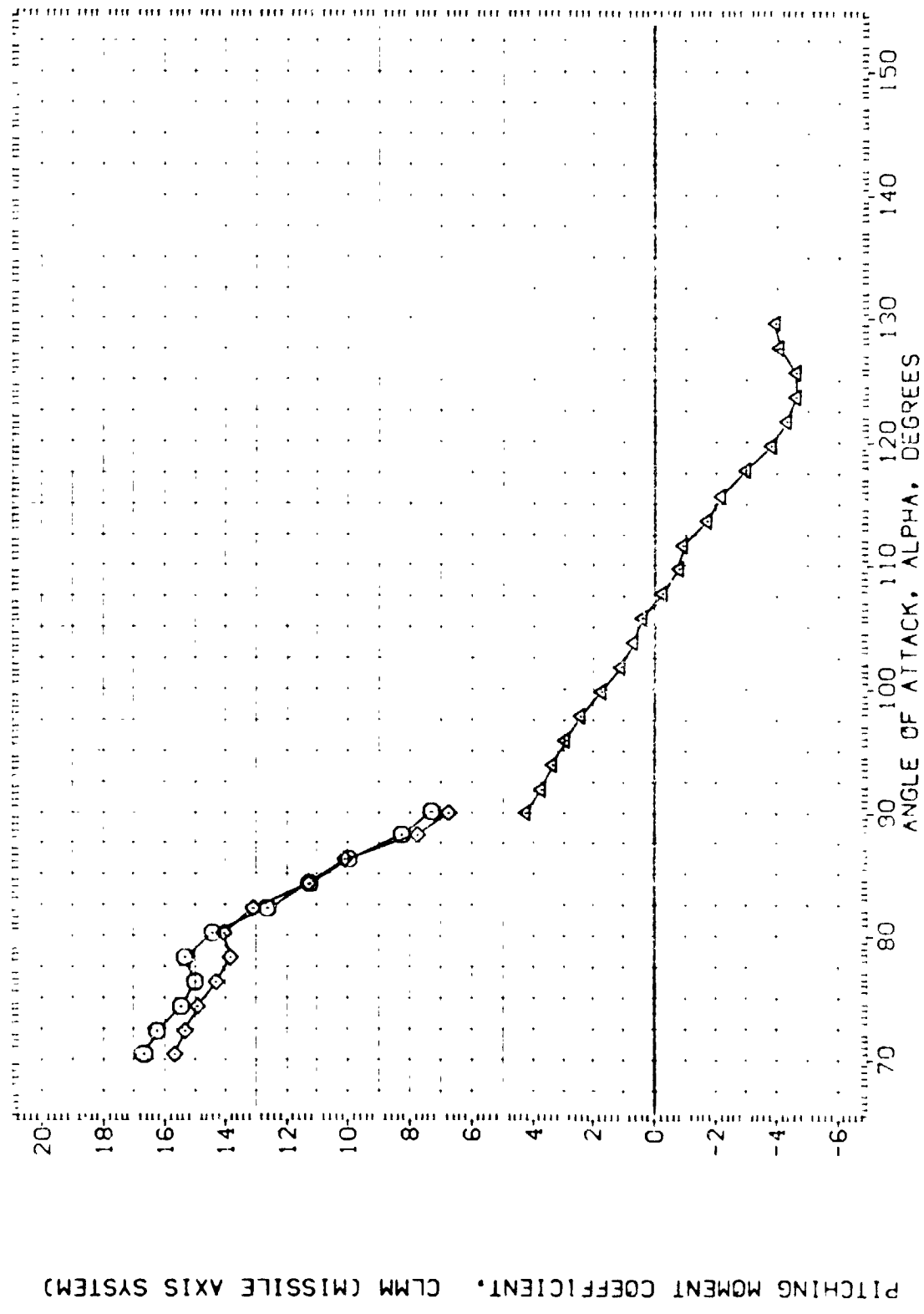


FIGURE 28. EFFECT OF NOSE CAP ON SR8 STATIC STABILITY CHARACTERISTICS

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(AIH006) MSFC TVT604 (SABF) SRB CLEAN V/RINGS .000

(AIH001) DATA NOT AVAILABLE .000

(AIH020) MSFC TVT604 (SABF) SRB CLEAN V/RINGS V/O N,CAP .000

(AIH002) MSFC TVT604 (SABF) SRB CLEAN V/RINGS V/O N,CAP .000

REFERENCE INFORMATION

SREF .030 IN.

LREF .8300 IN.

BREF .8300 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

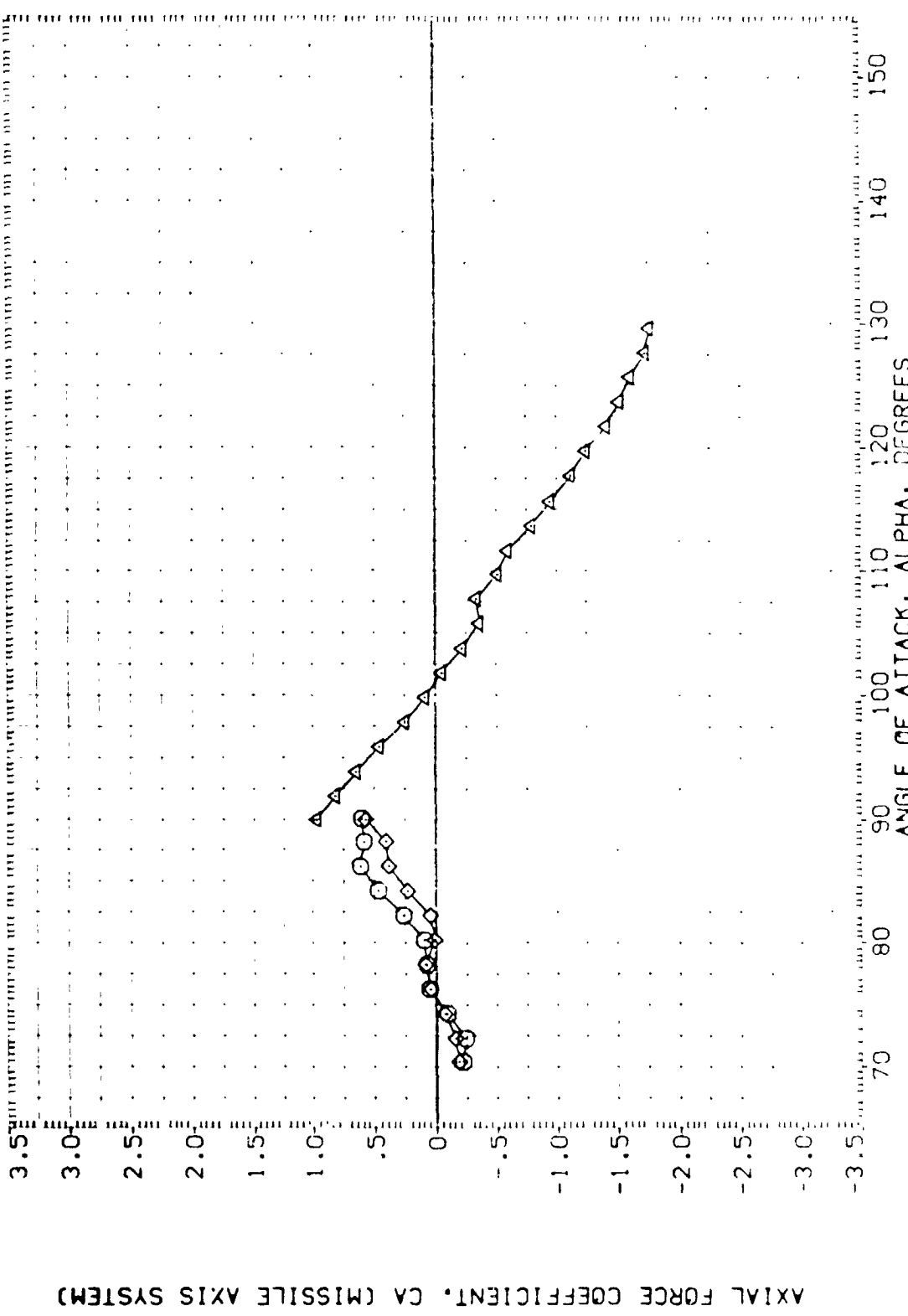


FIGURE 28. EFFECT OF NOSE CAP ON SRB STATIC STABILITY CHARACTERISTICS

(B)MACH = .50 PAGE 476

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1)H006)	MSFC TVT504 (SABF)	SRB CLEAN W/RINGS	.000
(A1)H001)	DATA NOT AVAILABLE		.000
(A1)H020)	MSFC TVT504 (SABF)	SRB CLEAN W/RINGS W/O N.CAP	.000
(A1)H002)	MSFC TVT504 (SABF)	SRB CLEAN W/RINGS W/O N.CAP	.000

REFERENCE INFORMATION

SREF	IN.	SO, IN.
LRFP	IN.	
BRFP	IN.	
XMRP	IN.	XS
YMRP	IN.	YS
ZMRP	IN.	ZS
SCALE		

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

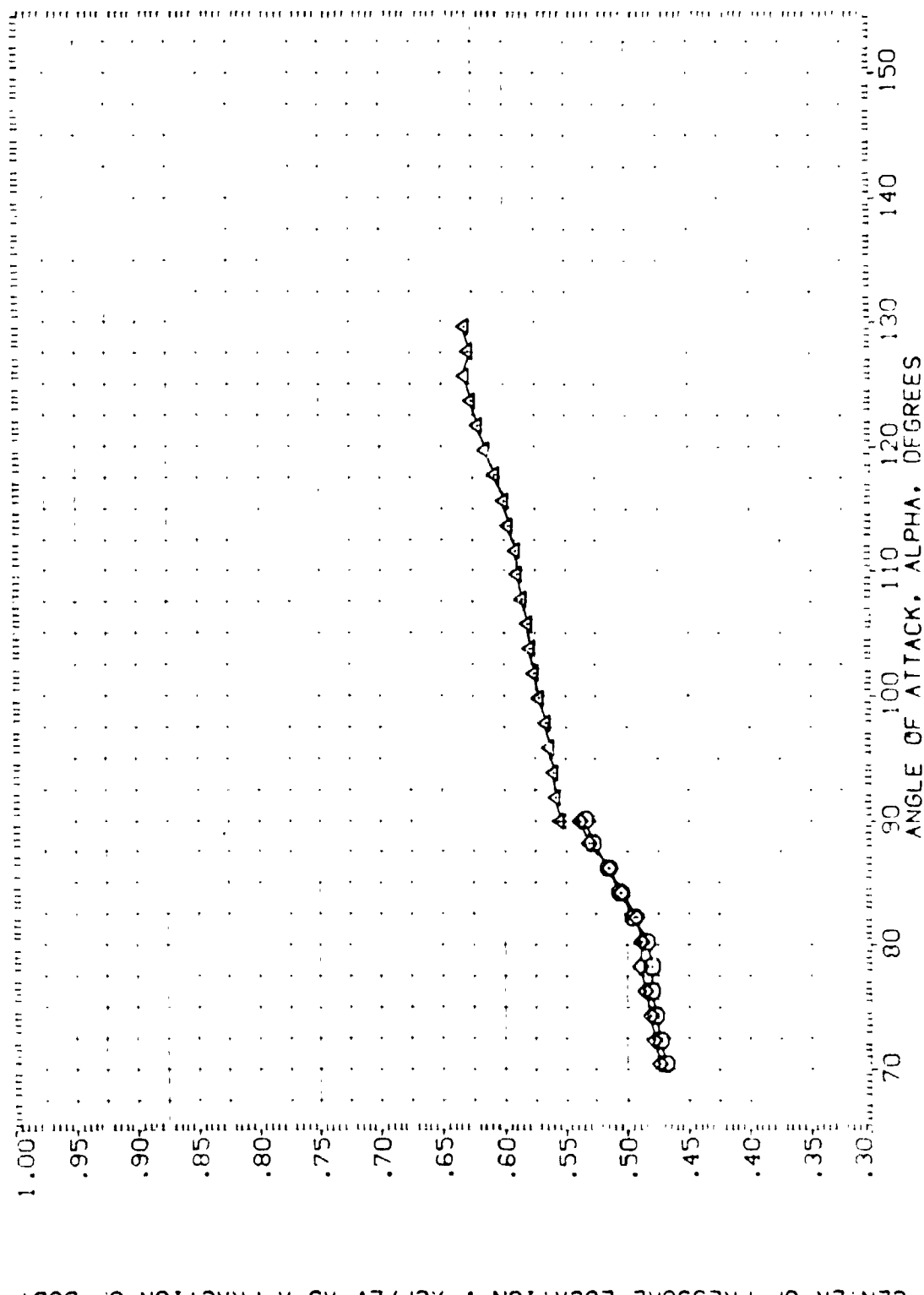


FIGURE 28. EFFECT OF NOSE CAP ON SRB STATIC STABILITY CHARACTERISTICS

REFERENCE INFORMATION:
 SREF 17070 SQ. IN.
 LREF 1800 IN.
 SREF 1800 IN.
 XMRP 5.2210 IN. YS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 .000
 .000
 .000
 .000

CONFIGURATION DESCRIPTION
 MFC 1VTC04 (SABF) SRB CLEAN V/RINGS
 MFC 1VTC04 (SABF) SRB CLEAN V/RINGS
 MFC 1VTC04 (SABF) SRB CLEAN V/RINGS
 MFC 1VTC04 (SABF) SRB CLEAN V/RINGS

PITCHING MOMENT COEFFICIENT, CLMM (MISSILE AXIS SYSTEM)

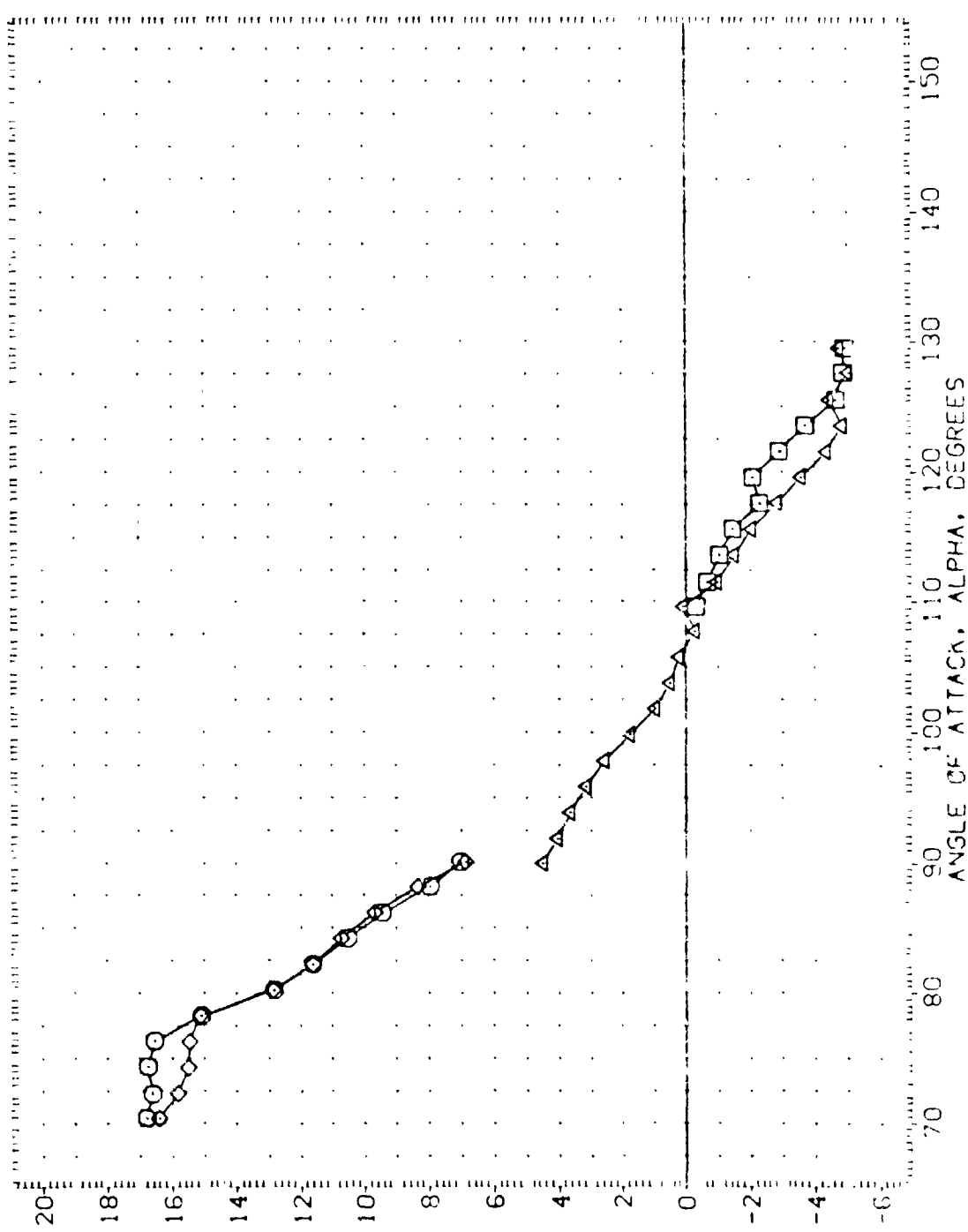
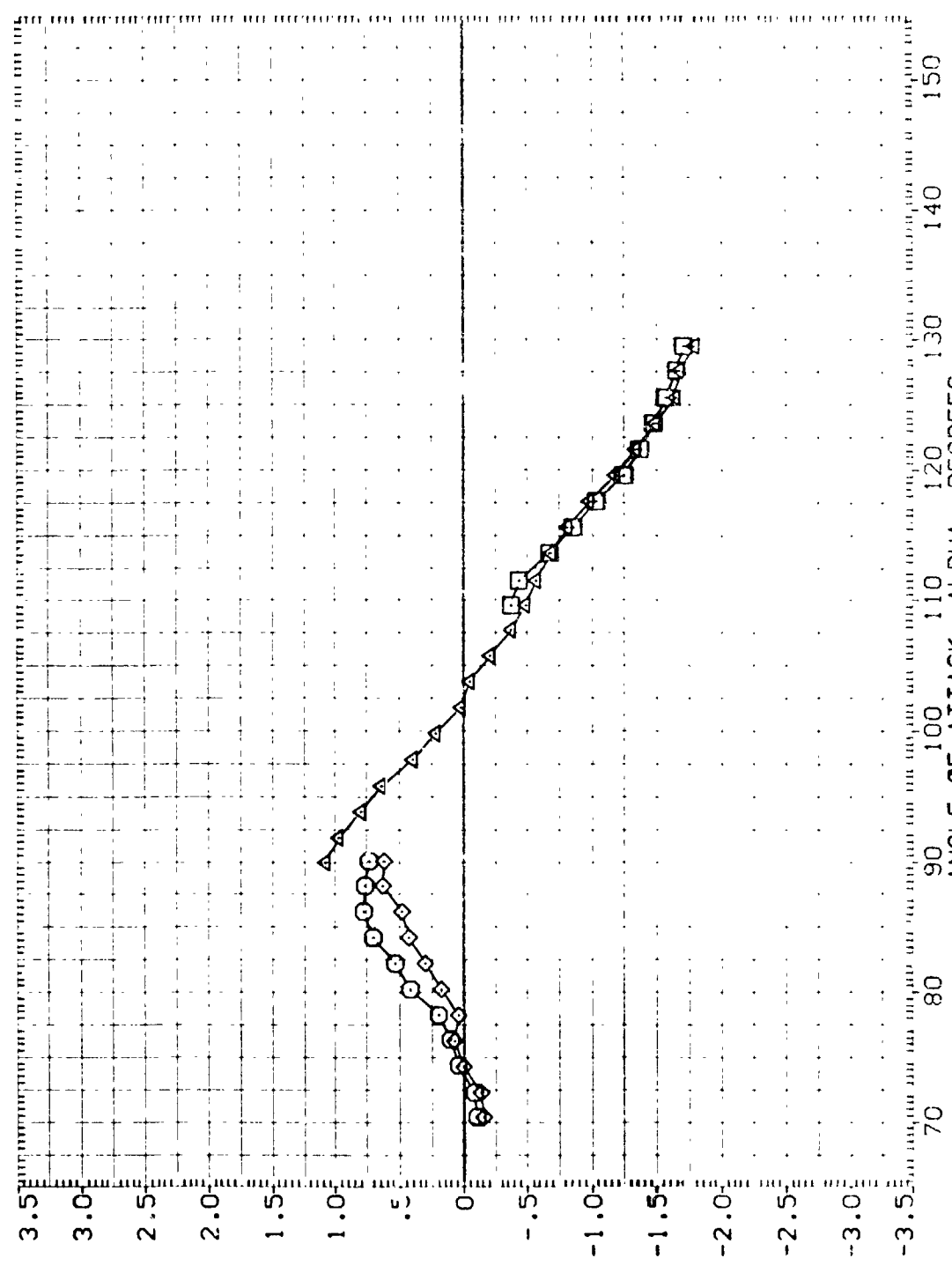


FIGURE 28. EFFECT OF NOSE CAP ON SRB STATIC STABILITY CHARACTERISTICS

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H006) □ MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 (A1H001) ○ MSFC TVT604 (SABF) SRB CLEAN V/RINGS
 (A1H020) △ MSFC TVT604 (SABF) SRB CLEAN V/RINGS V/O N.CAP
 (A1H002) ◇ MSFC TVT604 (SABF) SRB CLEAN V/RINGS V/O N.CAP

PHI
 .000
 .000
 .000

REFERENCE INFORMATION
 SREF :5000 IN.
 LREF :3000 IN.
 BREF :3000 IN.
 XMRP 5.7210 IN. XS
 YMRP :0000 IN. YS
 ZMRP :0000 IN. ZS
 SCALE :0055



AXIAL FORCE COEFFICIENT, CA (MISSILE AXIS SYSTEM)

FIGURE 28. EFFECT OF NOSE CAP ON SRB STATIC STABILITY CHARACTERISTICS

REFERENCE DIMENSION
 SREF .5030 SQ. IN.
 LREF .30 IN.
 BRFP .8000 IN.
 XTRP 5.7210 IN.
 YTRP .0000 IN.
 ZTRP .0000 IN.
 SCALE .0055

NOZZLE
 .000
 .000
 2.500
 5.000
 5.000

NOZ. GIM.
 NOZ. GIM.
 NOZ. GIM.
 NOZ. GIM.
 NOZ. GIM.

CONFIGURATION DESCRIPTION
 SRB CLEAN V/RINGS
 SRB CLEAN V/RINGS
 SRB CLEAN V/RINGS
 SRB CLEAN V/RINGS
 SRB CLEAN V/RINGS

MSFC TV1604 (SABF) SRB
 MSFC TV1604 (SABF) SRB
 MSFC TV1604 (SABF) SRB
 MSFC TV1604 (SABF) SRB
 MSFC TV1604 (SABF) SRB

DATA SET SYMBOL
 (A1H001)
 (A1H001)
 (A1H009)
 (A1H079)
 (A1H080)
 (A1H010)

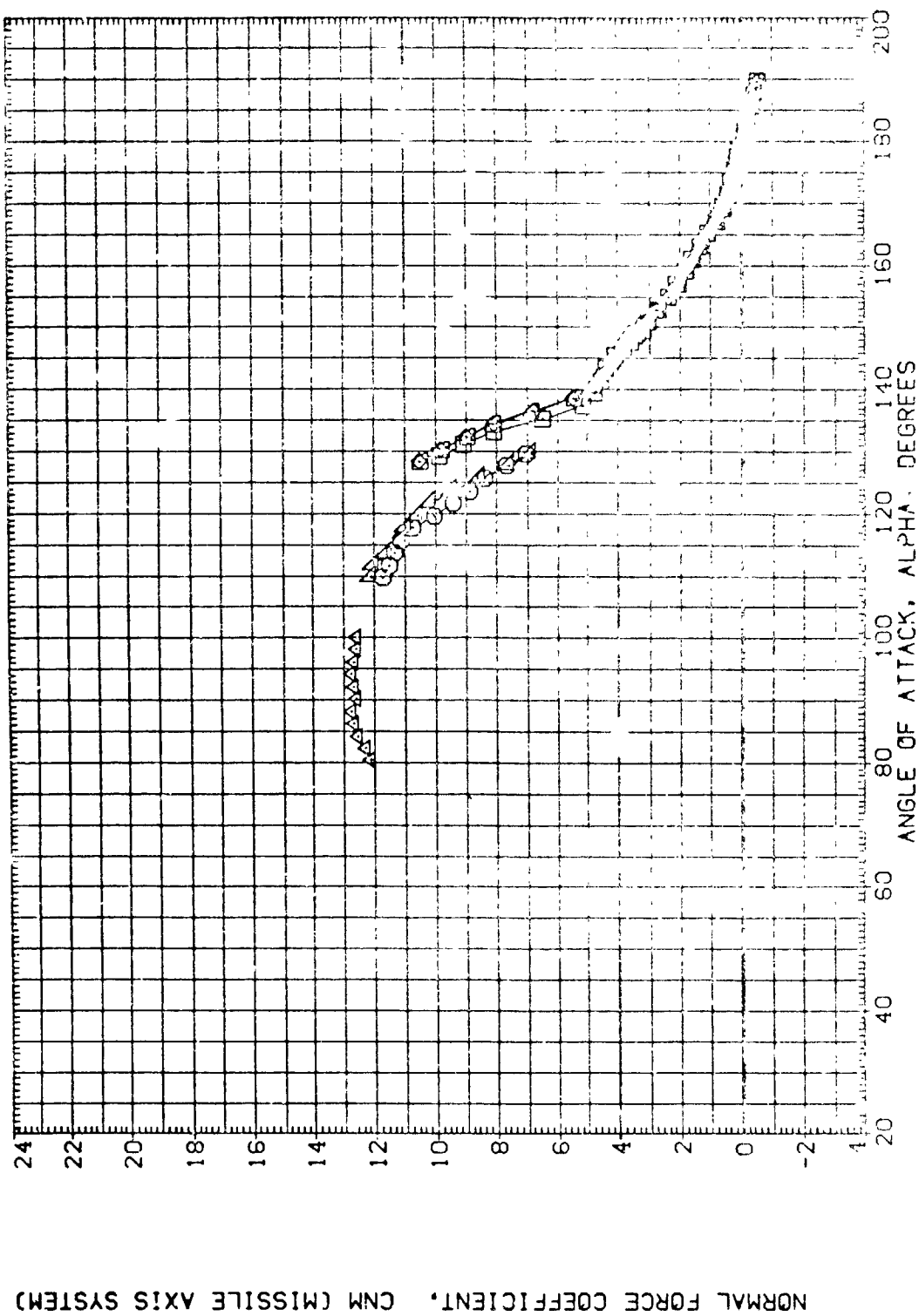


FIGURE 29. EFFECT OF NOZZLE GIMBAL ANGLE ON SRB STATIC STABILITY CHARACTERISTICS
 (A)MACH = .60

DATA SET SYMBOL CONFIGURATION DESCRIPTION NOZZLE

(A)H001	MSFC TV1604 (SABF) SRB CLEAN	VRINGS	3
(A)H002	MSFC TV1604 (SABF) SRB CLEAN	VRINGS	3
(A)H003	MSFC TV1604 (SABF) SRB CLEAN	VRINGS	3
(A)H004	MSFC TV1604 (SABF) SRB CLEAN	VRINGS	3
(A)H005	MSFC TV1604 (SABF) SRB CLEAN	VRINGS	3
(A)H006	MSFC TV1604 (SABF) SRB CLEAN	VRINGS	3
(A)H007	MSFC TV1604 (SABF) SRB CLEAN	VRINGS	3
(A)H008	MSFC TV1604 (SABF) SRB CLEAN	VRINGS	3
(A)H009	MSFC TV1604 (SABF) SRB CLEAN	VRINGS	3
(A)H010	MSFC TV1604 (SABF) SRB CLEAN	VRINGS	3

NOZZLE
 .00
 .000
 2.500
 5.000
 5.000

(NOZ. GIM.)
 (NOZ. GIM.)
 (NOZ. GIM.)
 (NOZ. GIM.)
 (NOZ. GIM.)

REFERENCE INFORMATION
 CASE 5000
 LINE 4000
 SCALE 6000
 Y-PRP 5.7210
 Z-PRP 6000
 SCALE .0055

SO IN.
 IN.
 IN.
 IN.
 IN.
 IN.
 IN.

PITCHING MOMENT COEFFICIENT, CLM (MISSILE AXIS SYSTEM)

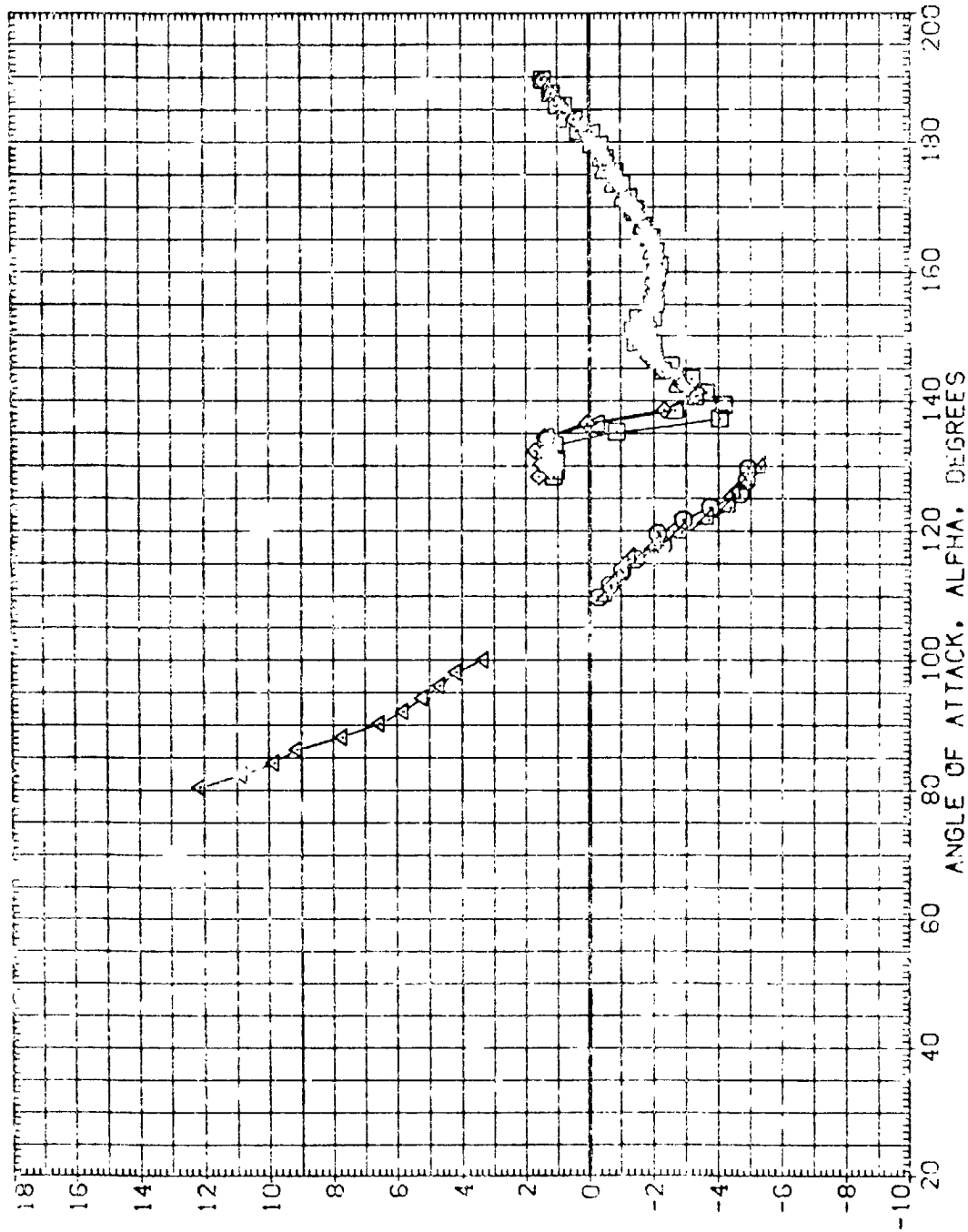


FIGURE 29. EFFECT OF NOZZLE GIMBAL ANGLE ON SRB STATIC STABILITY CHARACTERISTICS

(A)MACH = .50

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DATA SET SYMBOL	CONFIGURATION DESCRIPTION	NOZZLE	REFERENCE INFORMATION
(A1H001)	MSEC TVT604 (SABF) SRB CLEAN V/RINGS	.000	SREF 5030 SQ. IN.
(A1H001)	MSEC TVT604 (SABF) SRB CLEAN V/RINGS	.000	LREF 8000 IN.
(A1H009)	MSEC TVT604 (SABF) SRB CLEAN V/RINGS	2.500	SCALE 5.7210 IN. X5
(A1H079)	MSEC TVT604 (SABF) SRB CLEAN V/RINGS	5.000	YMRP .0000 IN. X5
(A1H090)	MSEC TVT604 (SABF) SRB CLEAN V/RINGS	5.000	ZMRP .0000 IN. X5
(A1H010)	MSEC TVT604 (SABF) SRB CLEAN V/RINGS	5.000	SCALE .0055

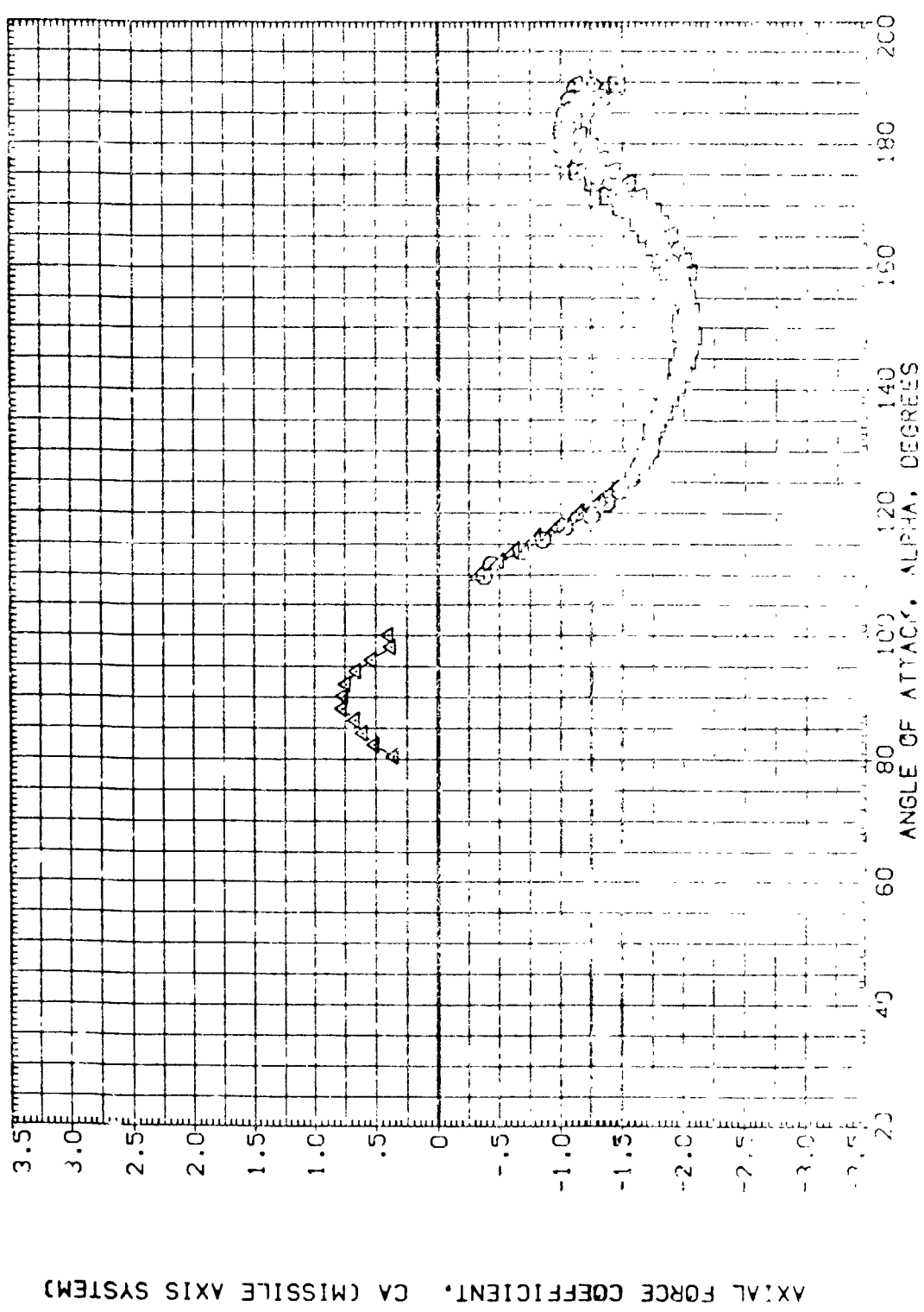


FIGURE 29. EFFECT OF NOZZLE GIMBAL ANGLE ON SRB STATIC STABILITY CHARACTERISTICS
 (A)MACH = .60 PAGE 484

DATA SET S: 50L CONFIGURATION DESCRIPTION NOZZLE REFERENCE INFORMATION

(A1H001)	MSFC TV1504 (SABF) SRB CLEAN V/RINGS	.000	SREF	50.00	IN.
(A1H002)	MSFC TV1504 (SABF) SRB CLEAN V/RINGS	.000	LREF	50.00	IN.
(A1H009)	MSFC TV1504 (SABF) SRB CLEAN V/RINGS	2.500	BREF	50.00	IN.
(A1H079)	MSFC TV1504 (SABF) SRB CLEAN V/RINGS	5.000	XPRP	.7210	IN. XS
(A1H080)	MSFC TV1504 (SABF) SRB CLEAN V/RINGS	5.000	YPRP	.0000	IN. YS
(A1H010)	MSFC TV1504 (SABF) SRB CLEAN V/RINGS	5.000	ZPRP	.0000	IN. ZS
			SCALE	.0055	

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

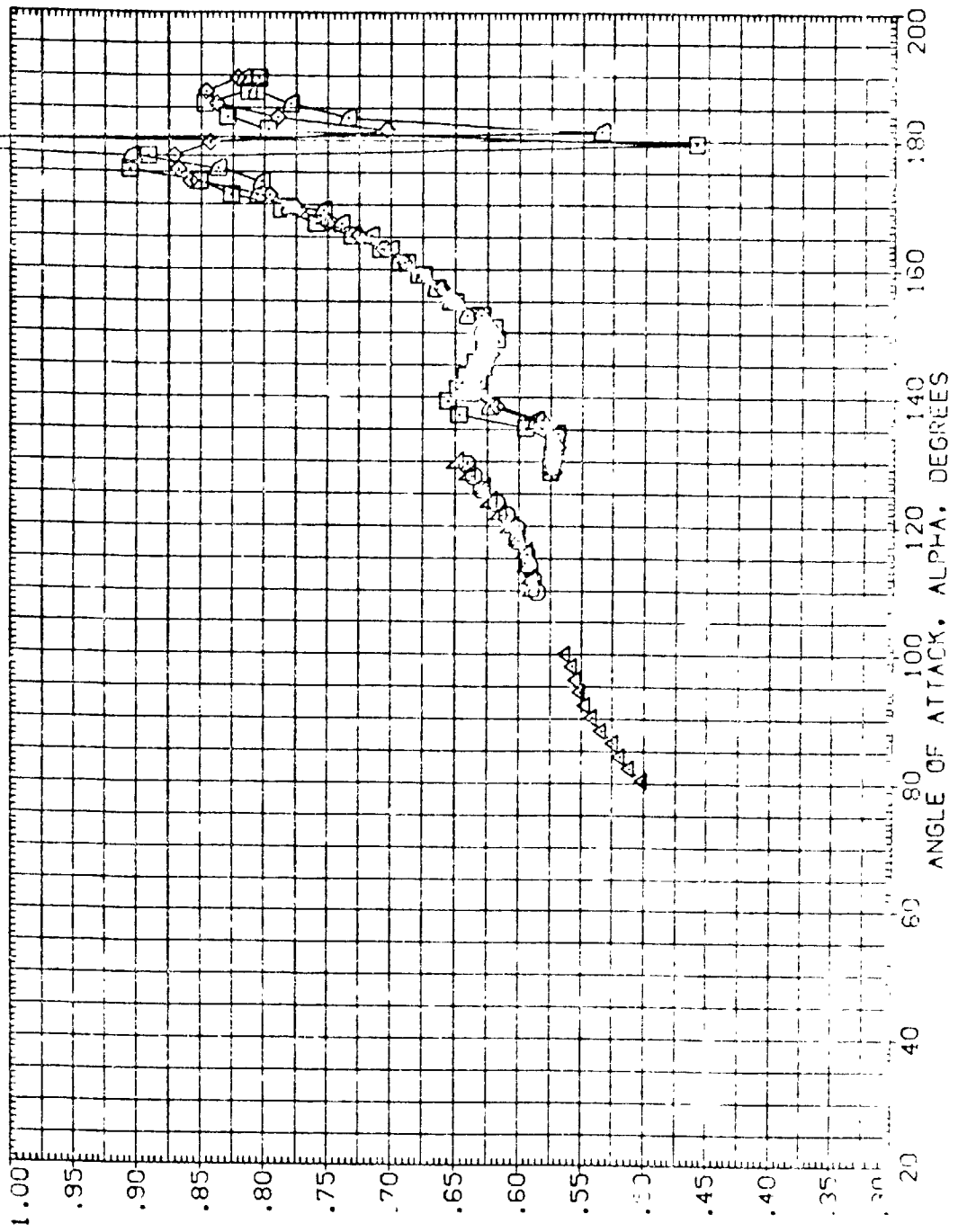


FIGURE 29. EFFECT OF NOZZLE GIMBAL ANGLE ON SRB STATIC STABILITY CHARACTERISTICS

DATA SET SYMBOL CONFIGURATION DESCRIPTION NOZZLE REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	NOZZLE	REFERENCE INFORMATION
(A1H001)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	SREF .5030 SQ. IN.
(A1H001)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000	LREF .5030 IN.
(A1H009)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	2.500	BREF .8000 IN.
(A1H079)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	5.000	XREF 5.7210 IN.
(A1H080)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	5.000	YREF .0000 IN.
(A1H010)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	5.000	ZREF .0000 IN.
			SCALE .0055

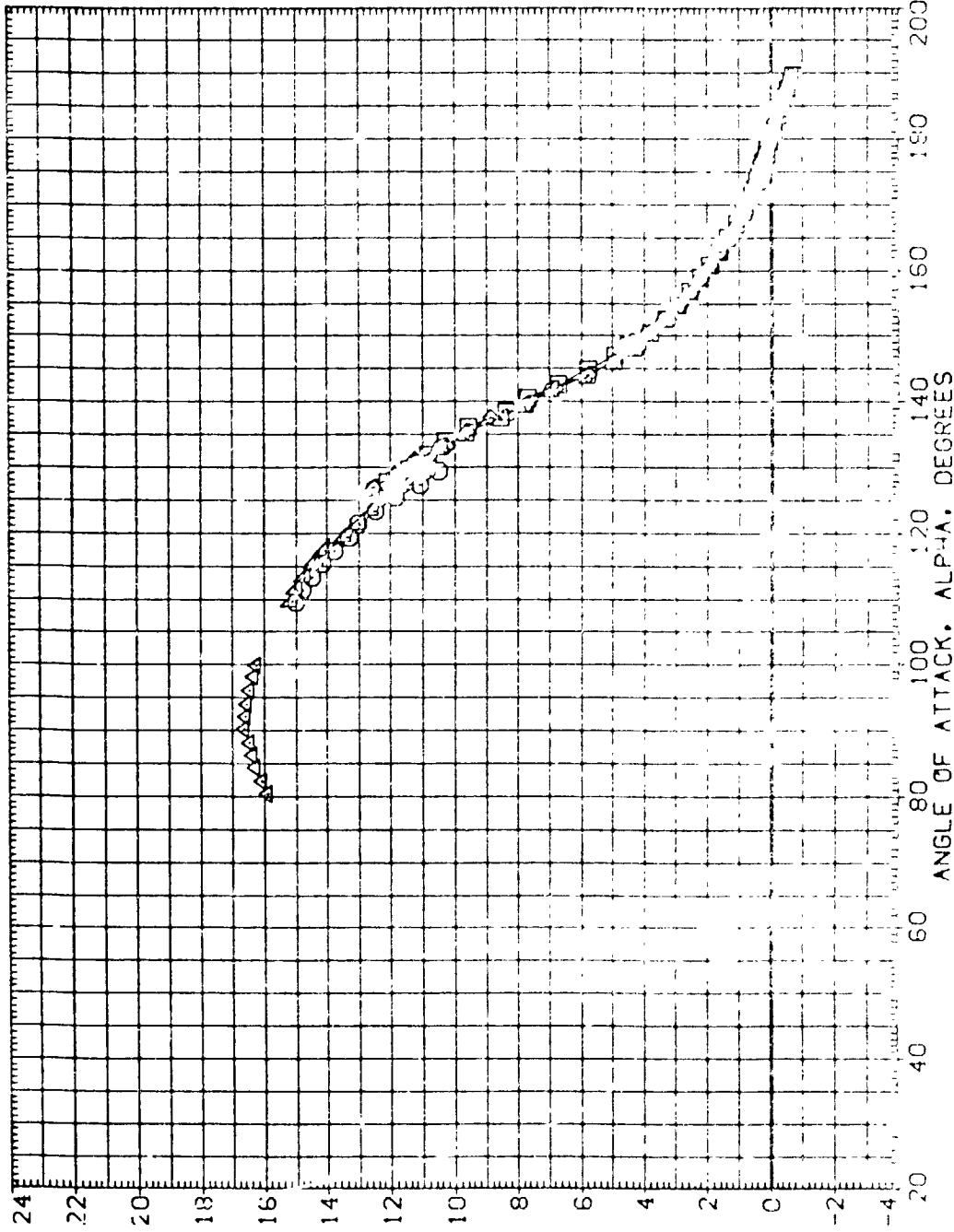


FIGURE 29. EFFECT OF NOZZLE GIMBAL ANGLE ON SRB STATIC STABILITY CHARACTERISTICS
 (B)MACH = .90

AXIAL FORCE COEFFICIENT, CA (MISSILE AXIS SYSTEM)

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	NOZZLE	REFERENCE INFORMATION
(A1H001)	MSFC TV1504 (SABF) SRB CLEAN V/RINGS	.000	SREF 7030 SQ. IN.
(A1H001)	MSFC TV1504 (SABF) SRB CLEAN V/RINGS	.000	LREF 1000 IN.
(A1H009)	MSFC TV1504 (SABF) SRB CLEAN V/RINGS (NOZ. GIM.)	2.500	URTF 1000 IN.
(A1H073)	MSFC TV1504 (SABF) SRB CLEAN V/RINGS (NOZ. GIM.)	5.000	XTRP 5.7210 IN.
(A1H060)	MSFC TV1504 (SABF) SRB CLEAN V/RINGS (NOZ. GIM.)	5.000	YTRP .0000 IN.
(A1H010)	MSFC TV1504 (SABF) SRB CLEAN V/RINGS (NOZ. GIM.)	5.000	ZTRP .0000 IN.
			SCALE .0055

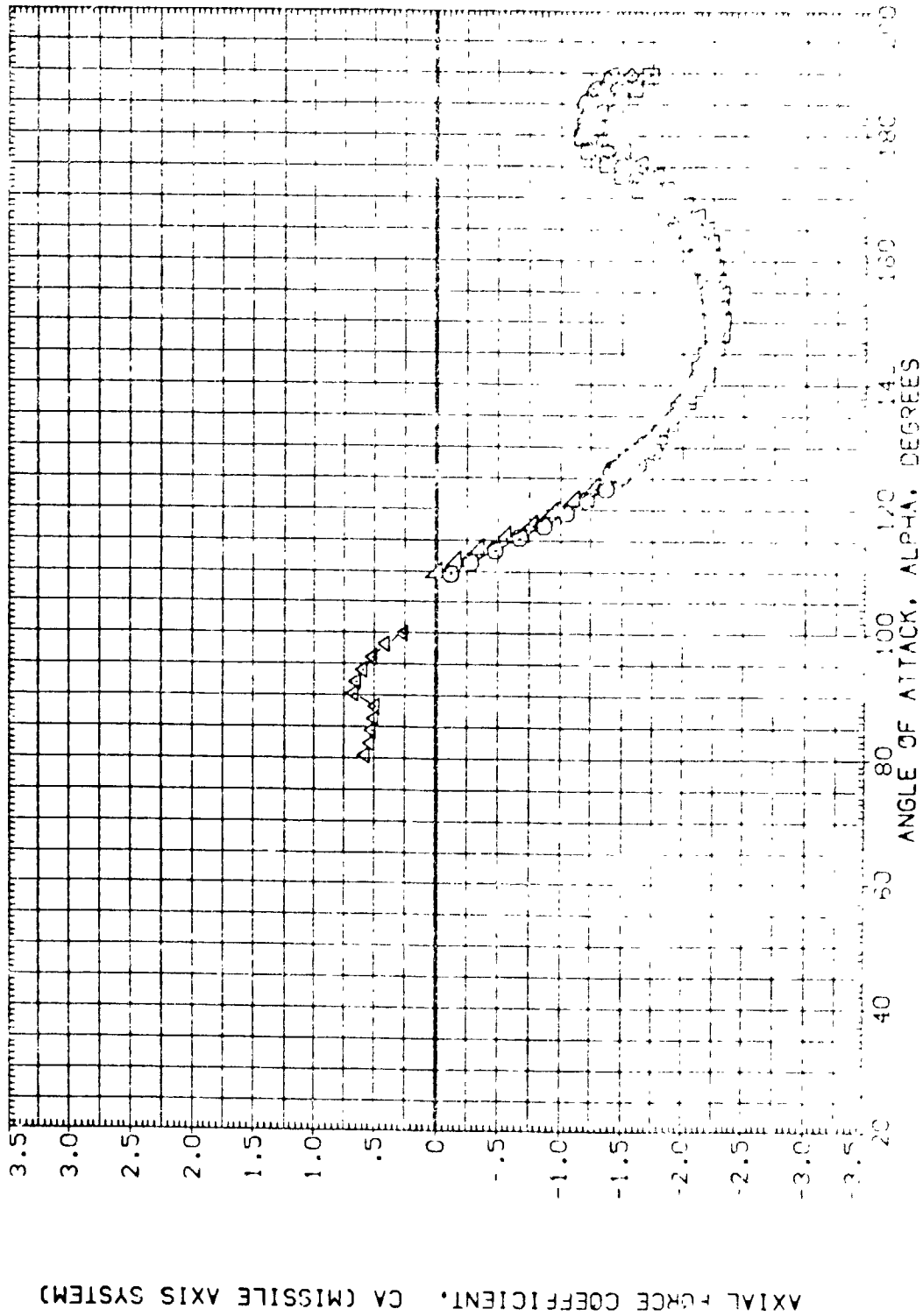


FIGURE 73. EFFECT OF NOZZLE GIMBAL ANGLE ON SRB STATIC STABILITY CHARACTERISTICS
(B) MACH = 0.30 PAISE 488

NOZZLE
 000
 200
 2,500
 5,000
 5,000
 5,000

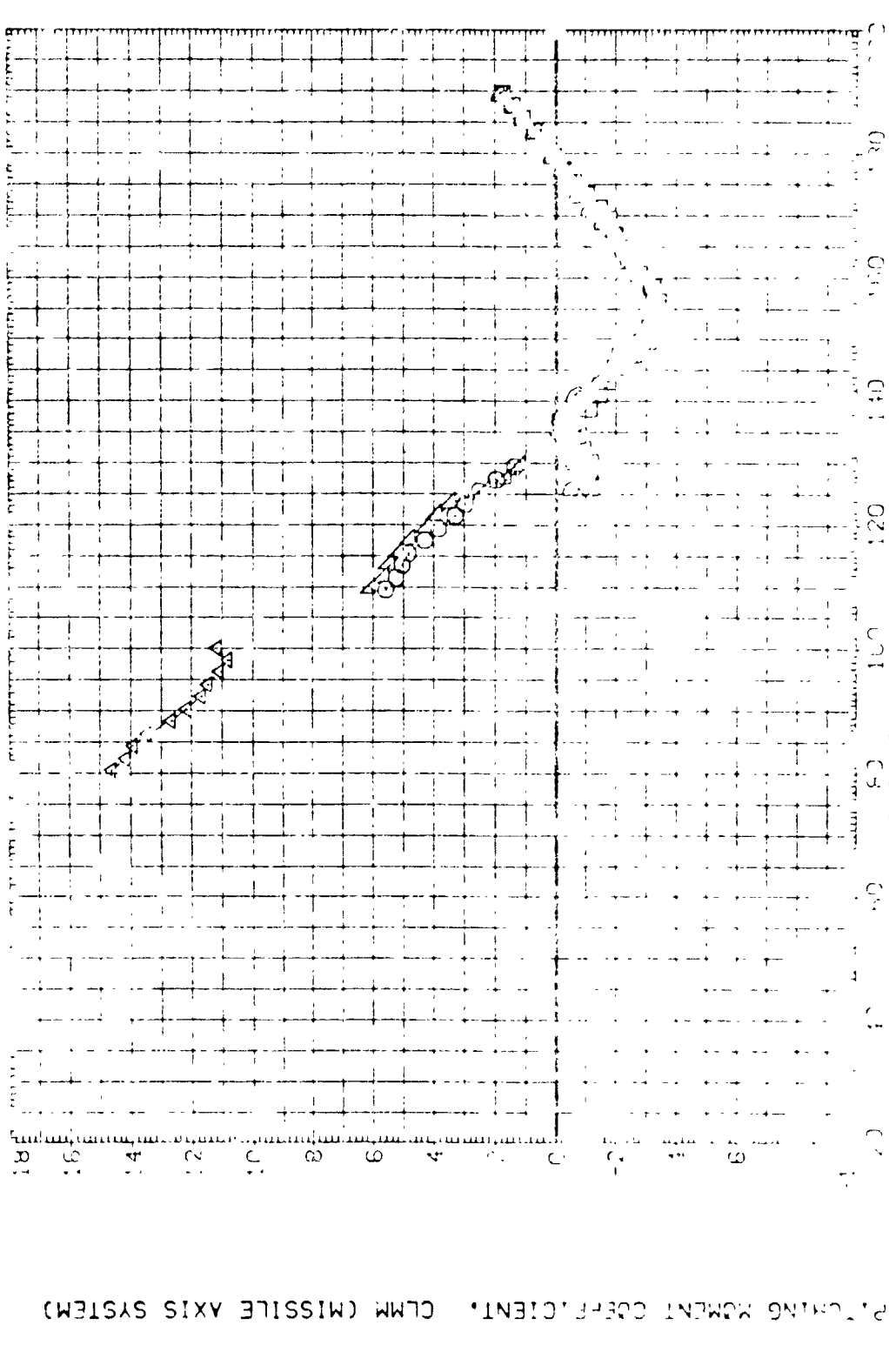
NOZZLE
 000
 200
 2,500
 5,000
 5,000
 5,000

NOZZLE
 000
 200
 2,500
 5,000
 5,000
 5,000

NOZZLE
 000
 200
 2,500
 5,000
 5,000
 5,000

NOZZLE
 000
 200
 2,500
 5,000
 5,000
 5,000

NOZZLE
 000
 200
 2,500
 5,000
 5,000
 5,000



PITCHING MOMENT COEFFICIENT, CLMM (MISSILE AXIS SYSTEM)

FIGURE 39. EFFECT OF NOZZLE SIZE ON SR2 STATIC STABILITY CHARACTERISTICS

DATA SET SYMBOL	CONF (GU)	CON DESCRIPTION	NOZZLE	REFERENCE INFORMATION
(A1H001)	MSFC TVT804 (SABF)	SRB CLEAN V/RINGS	.000	SREF 5030 IN.
(A1H002)	MSFC TVT804 (SABF)	SRB CLEAN V/RINGS	.000	LREF 8000 IN.
(A1H009)	MSFC TVT804 (SABF)	SRB CLEAN V/RINGS (NOZ. GIM.)	2.500	BREF 3000 IN.
(A1H079)	MSFC TVT804 (C-9F)	SRB CLEAN V/RINGS (NOZ. GIM.)	5.000	XMRP 1710 IN.
(A1H080)	MSFC TVT804 (SABF)	SRB CLEAN V/RINGS (NOZ. GIM.)	5.000	YMRP 0000 IN.
(A1H010)	MSFC TVT804 (SABF)	SRB CLEAN V/RINGS (NOZ. GIM.)	5.000	ZMRP 0000 IN.
				SCALE 0055

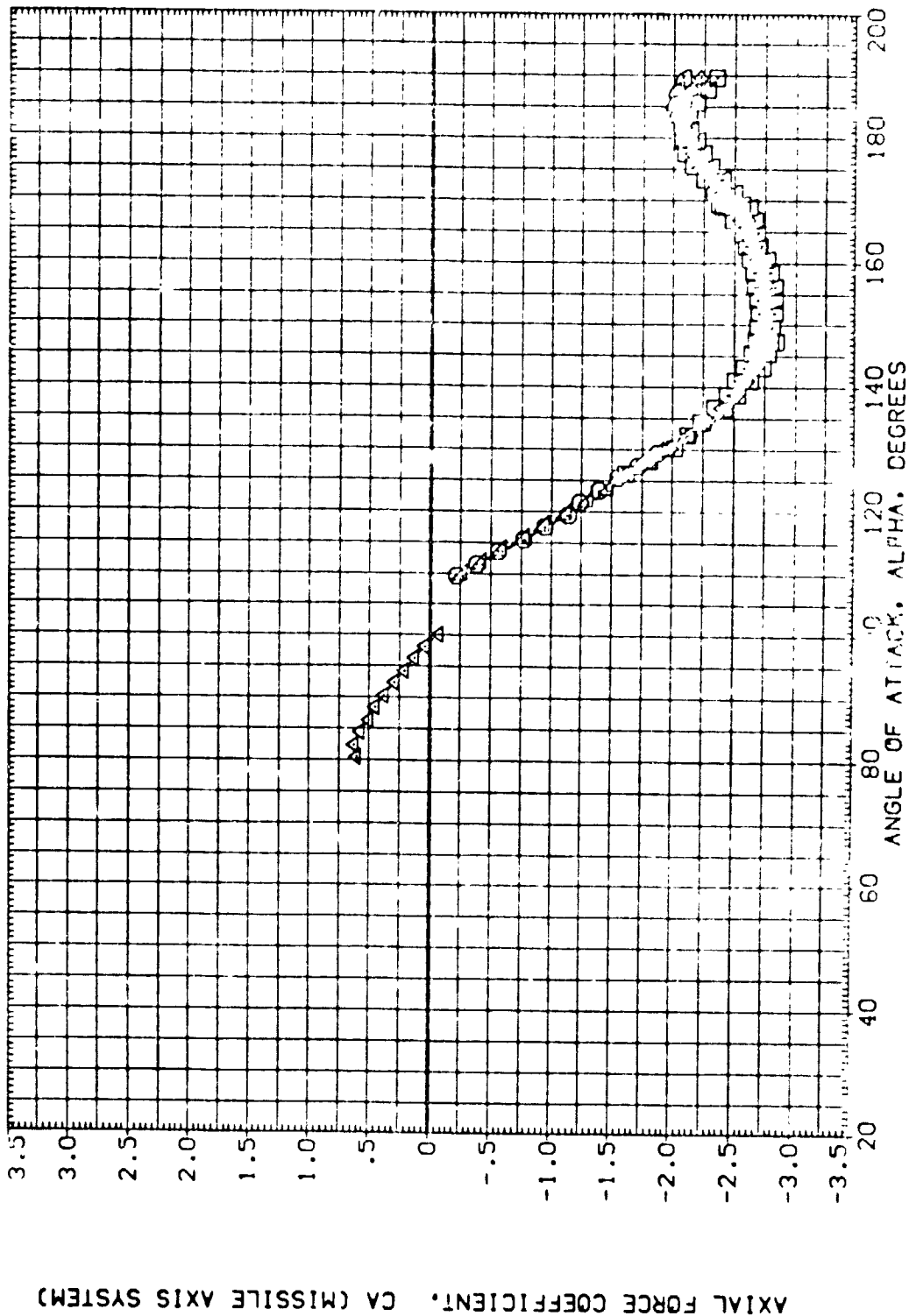


FIGURE 29. EFFECT OF NOZZLE GIMBAL ANGLE ON SRB STATIC STABILITY CHARACTERISTICS
(C)MACH = 1.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION NOZZLE

(AIH001)	MSFC (V) 1504 (SABF) SSB CLEAN W/ RINGS	.000
(AIH001)	MSFC (V) 1504 (SABF) SSB CLEAN W/ RINGS	.000
(AIH009)	MSFC (V) 1504 (SABF) SSB CLEAN W/ RINGS (NOZ. GIM.)	2.500
(AIH079)	MSFC (V) 1504 (SABF) SSB CLEAN W/ RINGS (NOZ. GIM.)	5.000
(AIH080)	MSFC (V) 1504 (SABF) SSB CLEAN W/ RINGS (NOZ. GIM.)	5.000
(AIH080)	MSFC (V) 1504 (SABF) SSB CLEAN W/ RINGS (NOZ. GIM.)	5.000

REFERENCE INFORMATION

SREF	.5030	SO, IN.
LREF	.2310	IN.
BREF	.1810	IN.
XSP	5.0000	IN. XS
YSP	.0000	IN. YS
ZSP	.0000	IN. ZS
SCALE	.0055	

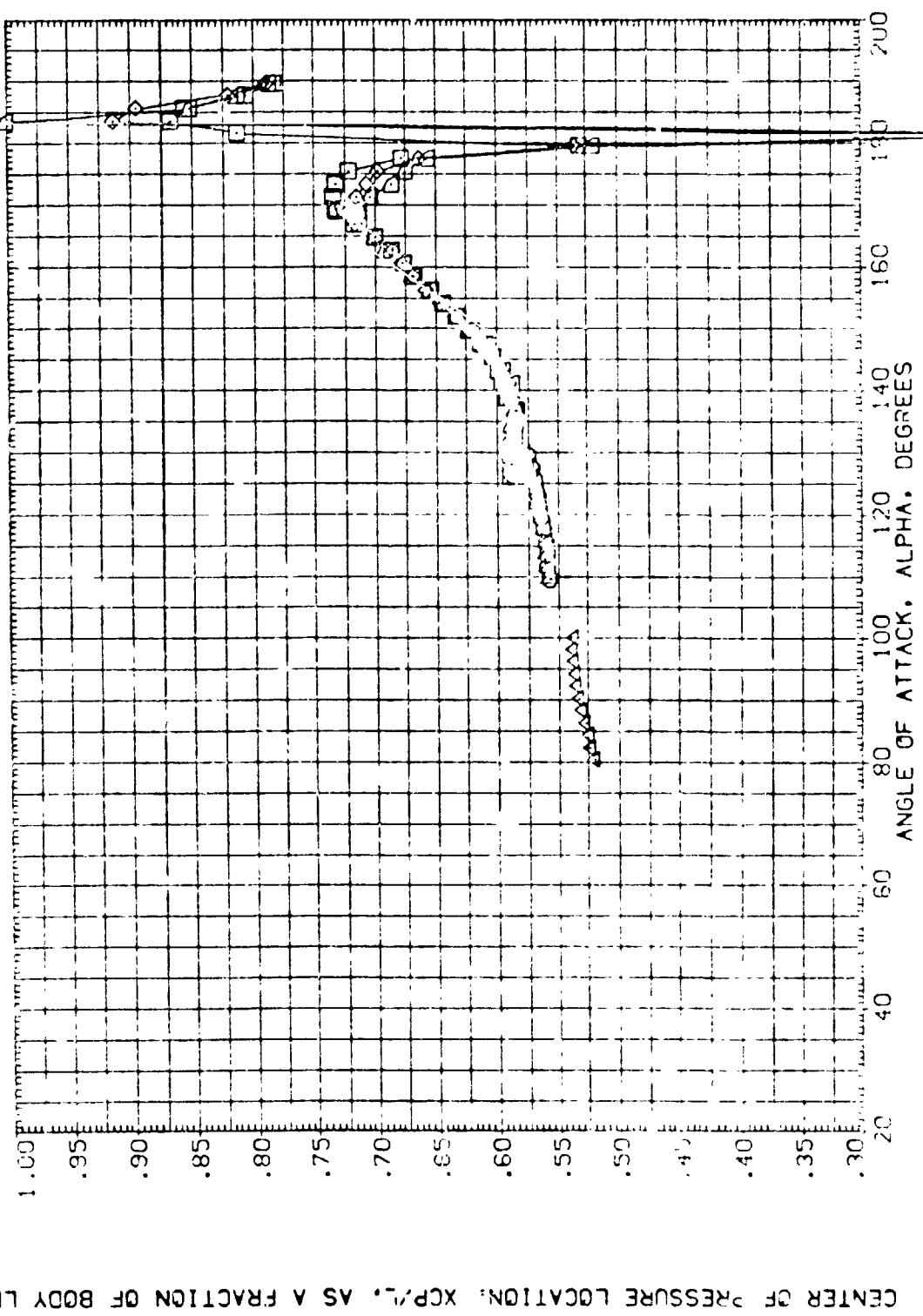


FIGURE 29. EFFECT OF NOZZLE GIMBAL ANGLE ON SRB STATIC STABILITY CHARACTERISTICS

(C)MACH = 1.20

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .6000 IN.
 SREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0355

NOZZLE
 .000
 .000
 2.500
 5.000
 5.000

(NOZ. GIM.)
 (NOZ. GIM.)
 (NOZ. GIM.)
 (NOZ. GIM.)
 (NOZ. GIM.)

MSFC TVT604 (SABF) SRB CLEAN W/TINGS
 MSFC TVT604 (SABF) SRB CLEAN W/TINGS
 MSFC TVT604 (SABF) SRB CLEAN W/TINGS
 MSFC TVT604 (SABF) SRB CLEAN W/TINGS
 MSFC TVT604 (SABF) SRB CLEAN W/TINGS

DATA SET SYMBOL
 (A1H001)
 (A1H001)
 (A1H009)
 (A1H078)
 (A1H080)
 (A1H010)

CONFIGURATION DESCRIPTION

PITCHING MOMENT COEFFICIENT, CLMM (MISSILE AXIS SYSTEM)

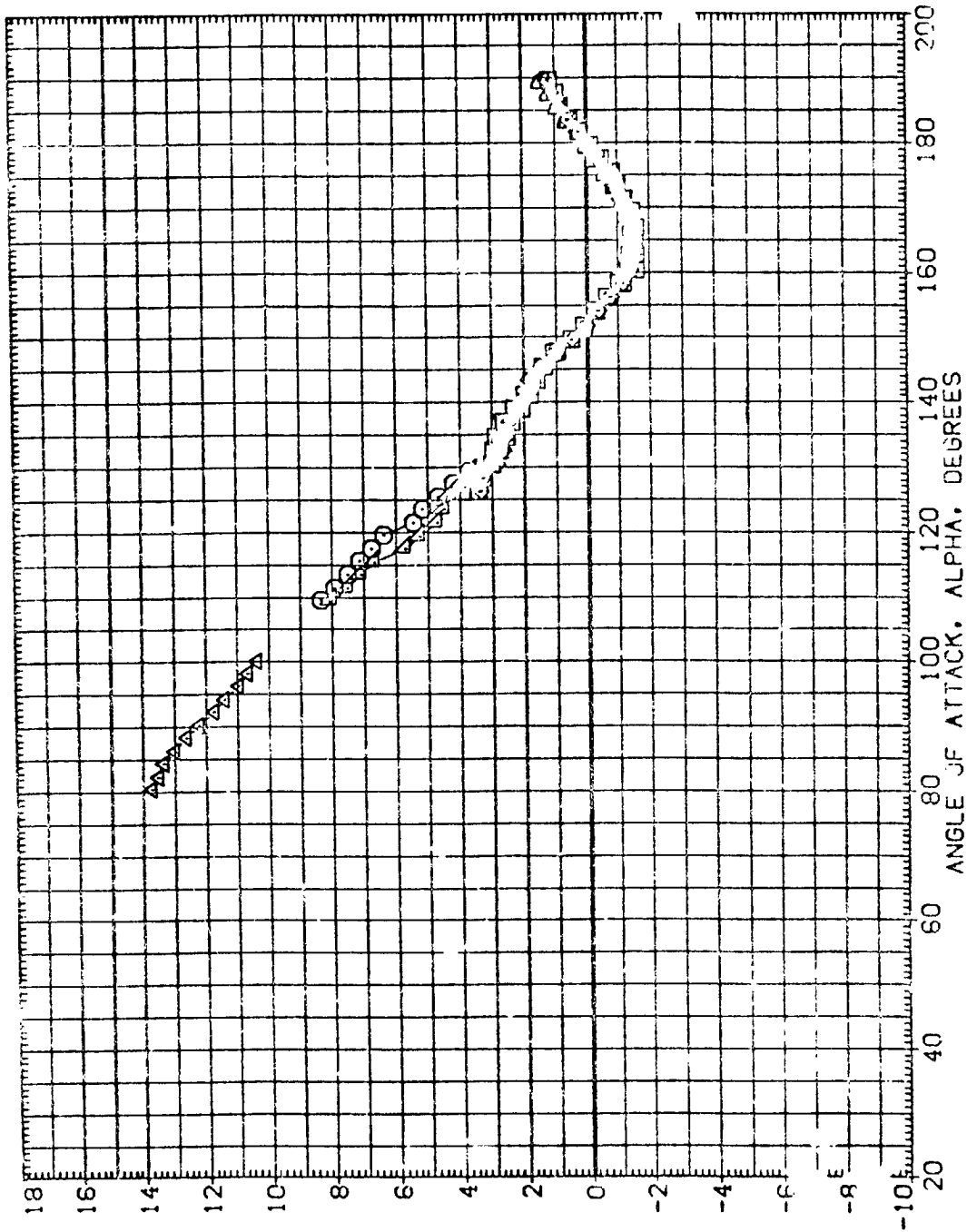


FIGURE 29. EFFECT OF NOZZLE GIMBAL ANGLE ON SRB STATIC STABILITY CHARACTERISTICS
 MACH = 1.0
 PAGE 495

DATA SET SYMBOL CONFIGURATION DESCRIPTION NOZZLE

(A1H001)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000
(A1H001)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	.000
(A1H009)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	2.500
(A1H079)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	5.000
(A1H080)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	5.000
(A1H010)	MSFC TVT604 (SABF) SRB CLEAN V/RINGS	5.000

REFERENCE INFORMATION

SREF	.5030	50. IN.
LREF	.8000	IN.
BREF	.8000	IN.
XMPP	5.7210	IN.
YMPP	.0000	IN.
ZMPP	.0000	IN.
SCALE	.0055	

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

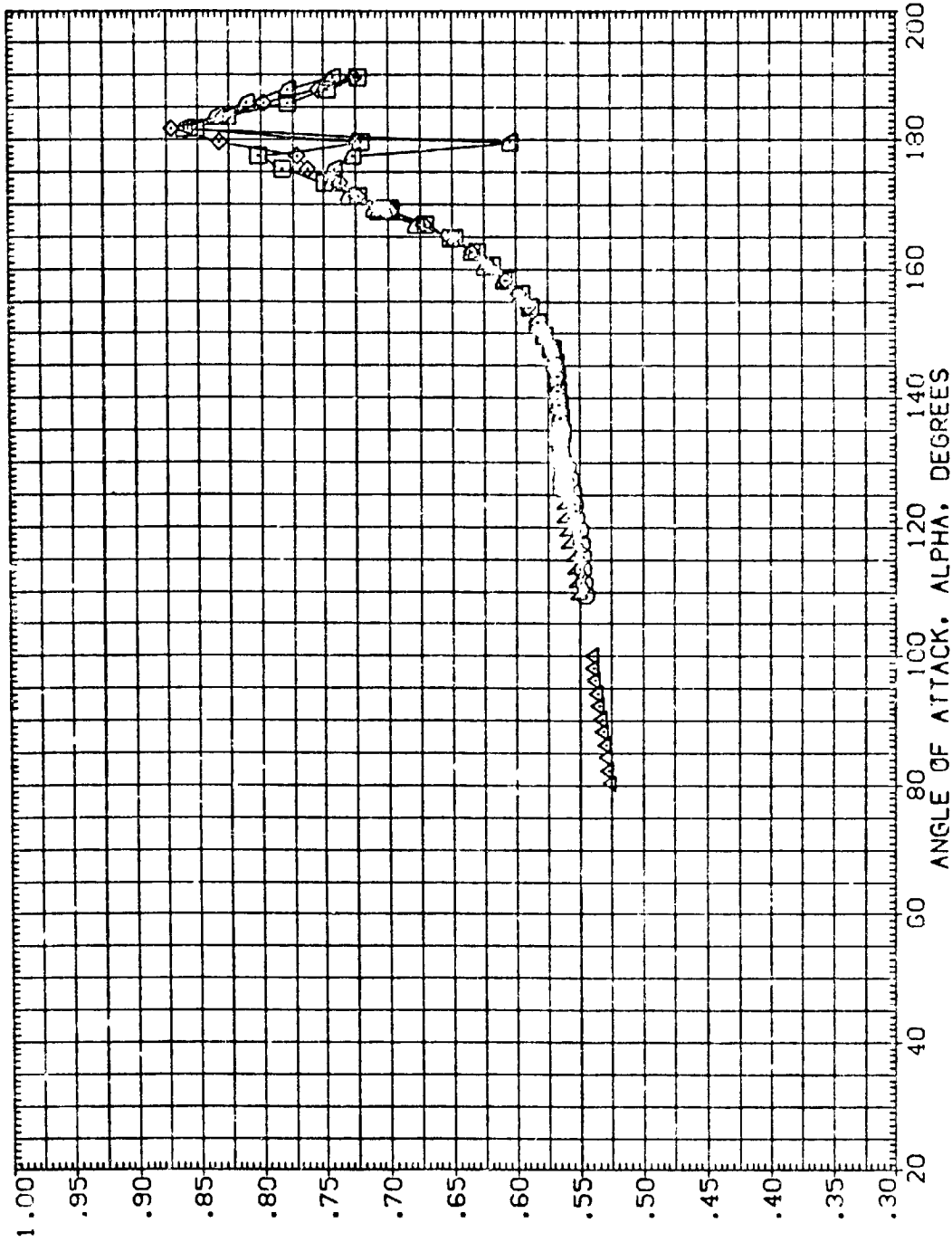


FIGURE 29. EFFECT OF NOZZLE GIMBAL ANGLE ON SRB STATIC STABILITY CHARACTERISTICS

(O)MACH = 1.96

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	NOZZLE	REFERENCE INFORMATION
(A1H001)	DATA NOT AVAILABLE	.000	SREF .5030 SQ. IN.
(A1H001)	KJFC TV1604 (SABF) SRB CLEAN V/RINGS	.000	LREF .8000 IN.
(A1H009)	DATA NOT AVAILABLE	2.500	BREF .8000 IN.
(A1H079)	MSFC TV1604 (SABF) SRB CLEAN V/RINGS (NOZ. GIM.)	5.000	XMRP 5.7210 IN.
(A1H080)	MSFC TV1604 (SABF) SRB CLEAN V/RINGS (NOZ. GIM.)	5.000	YMRP .0000 IN.
(A1H010)	MSFC TV1604 (SABF) SRB CLEAN V/RINGS (NOZ. GIM.)	5.000	ZMRP .0000 IN.
			SCALE .0055

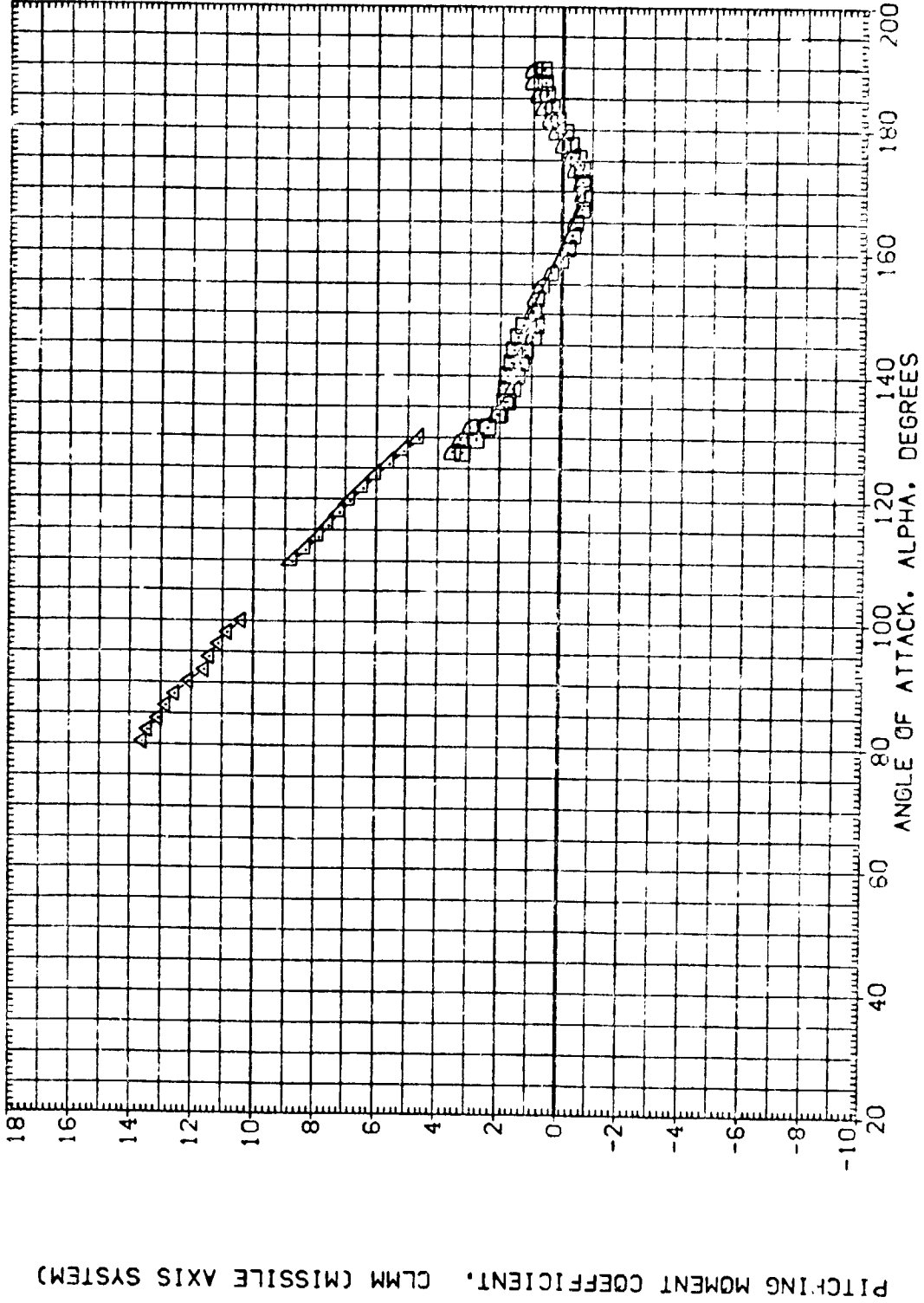


FIGURE 29. EFFECT OF NOZZLE GIMBAL ANGLE ON SRB STATIC STABILITY CHARACTERISTICS
 (CE)MACH = 2.74

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H001) DATA NOT AVAILABLE SRB CLEAN W/RINGS
 (A1H002) MSFC TV 1504 (SABF) SRB CLEAN W/RINGS (NOZ, GIM.)
 (A1H003) DATA NOT AVAILABLE SRB CLEAN W/RINGS (NOZ, GIM.)
 (A1H079) MSFC TV 1504 (SABF) SRB CLEAN W/RINGS (NOZ, GIM.)
 (A1H080) DATA NOT AVAILABLE SRB CLEAN W/RINGS (NOZ, GIM.)
 (A1H010) MSFC TV 1504 (SABF) SRB CLEAN W/RINGS (NOZ, GIM.)

NOZZLE
 000
 100
 200
 300
 400
 500

SCALE INFORMATION
 SIZE 1000
 SCALE 1000
 RANGE 1000
 XREF 1000
 XREF 1000
 XREF 1000
 XREF 1000
 XREF 1000

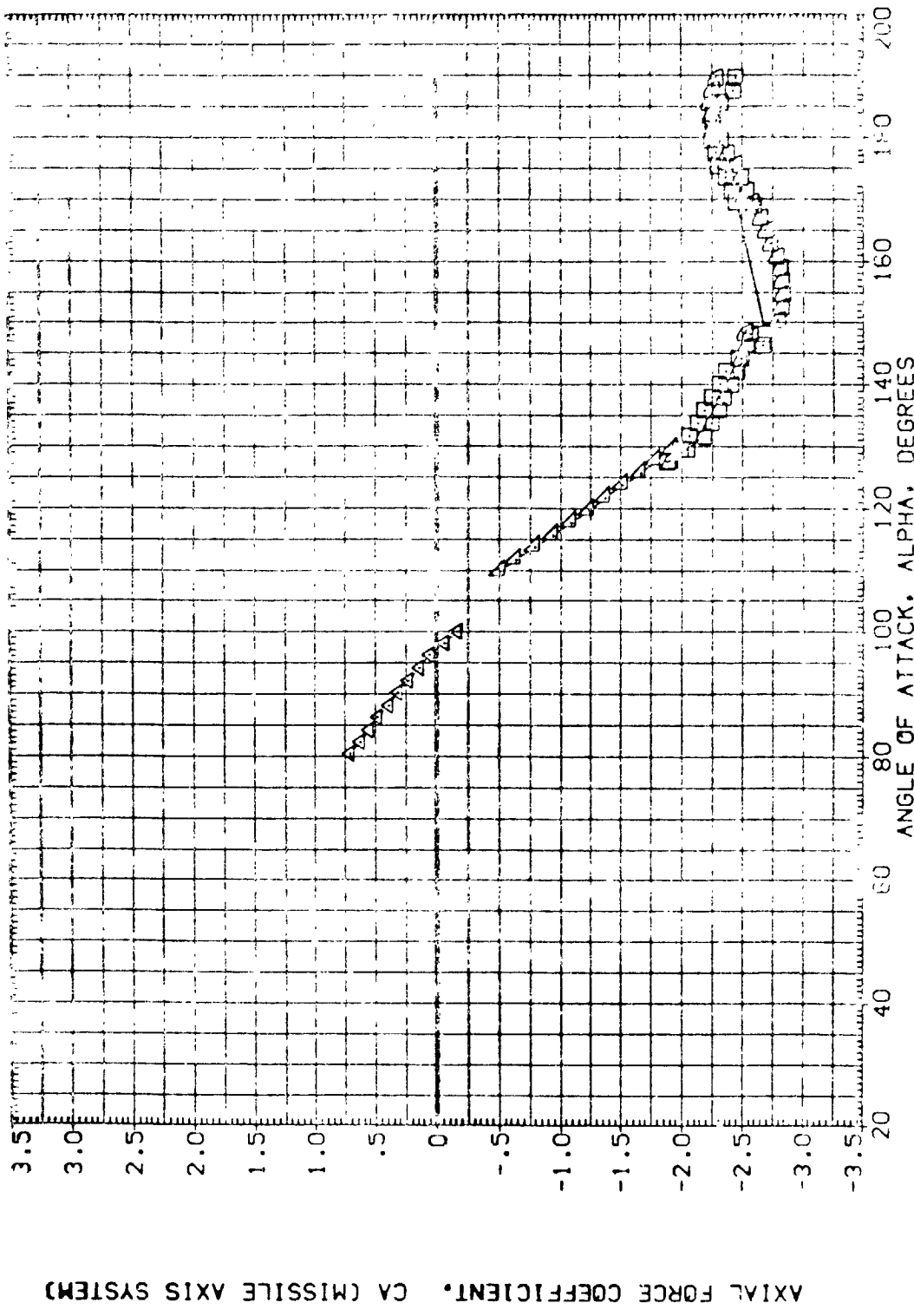


FIGURE 29. EFFECT OF NOZZLE GIMBAL ANGLE ON SRB STATIC STABILITY CHARACTERISTICS
 (E)MACH = 2.74 PAGE 500



DATA SET SYMBOL CONFIGURATION DESCRIPTION NOZZLE

(A1H001) DATA NOT AVAILABLE .000

(A1H002) MSFC TVT504 (SABF) SRB CLEAN V/RINGS .300

(A1H003) DATA NOT AVAILABLE .500

(A1H004) MSFC TVT504 (SABF) SRB CLEAN V/RINGS (NOZ. GIM.) 2.500

(A1H005) MSFC TVT504 (SABF) SRB CLEAN V/RINGS (NOZ. GIM.) 5.000

(A1H006) MSFC TVT504 (SABF) SRB CLEAN V/RINGS (NOZ. GIM.) 5.000

(A1H007) MSFC TVT504 (SABF) SRB CLEAN V/RINGS (NOZ. GIM.) 5.000

(A1H008) MSFC TVT504 (SABF) SRB CLEAN V/RINGS (NOZ. GIM.) 5.000

(A1H009) MSFC TVT504 (SABF) SRB CLEAN V/RINGS (NOZ. GIM.) 5.000

(A1H010) MSFC TVT504 (SABF) SRB CLEAN V/RINGS (NOZ. GIM.) 5.000

REFERENCE INFORMATION

SREF 5030 SQ. IN.

LREF 8000 IN.

BREF 8000 IN.

XMRP 7210 IN. XS

YMRP 7210 IN. YS

ZMRP 7210 IN. ZS

SCALE 0000 IN.

0055

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

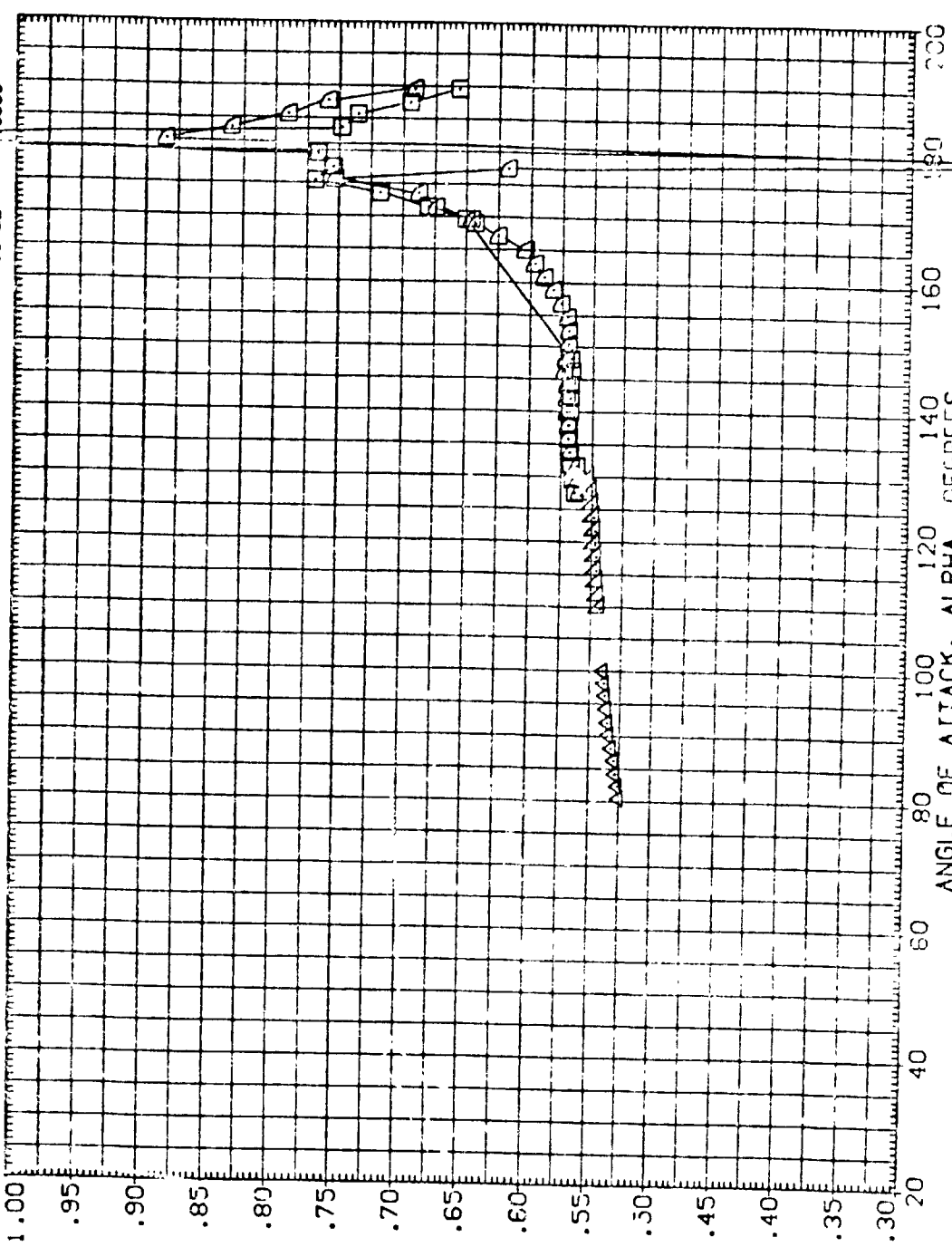


FIGURE 29. EFFECT OF NOZZLE GIMBAL ANGLE ON SRB STATIC STABILITY CHARACTERISTICS
(E)MACH = 2.74

NOZZLE INFORMATION

SCALE	1.000	SCALE	1.000
LINEF	1.000	LINEF	1.000
LINEP	1.000	LINEP	1.000
LINEV	1.000	LINEV	1.000
SCALE	1.000	SCALE	1.000

NOZZLE

NOZZLE	1.000
NOZZLE	1.000
NOZZLE	1.000
NOZZLE	1.000
NOZZLE	1.000

NOZZLE

NOZZLE	1.000
NOZZLE	1.000
NOZZLE	1.000
NOZZLE	1.000
NOZZLE	1.000

CONFIGURATION DESCRIPTION

MSFC	TVT504	(SABF)	SABF	CLEAN	Y/RINGS
MSFC	TVT504	(SABF)	SABF	CLEAN	Y/RINGS
DATA	NOT	AVAILABLE			
MSFC	TVT504	(SABF)	SABF	CLEAN	Y/RINGS
MSFC	TVT504	(SABF)	SABF	CLEAN	Y/RINGS
MSFC	TVT504	(SABF)	SABF	CLEAN	Y/RINGS

DATA SET SYMBOL

(A1H001)	H
(A1H002)	X
(A1H003)	D
(A1H004)	
(A1H005)	
(A1H006)	
(A1H010)	

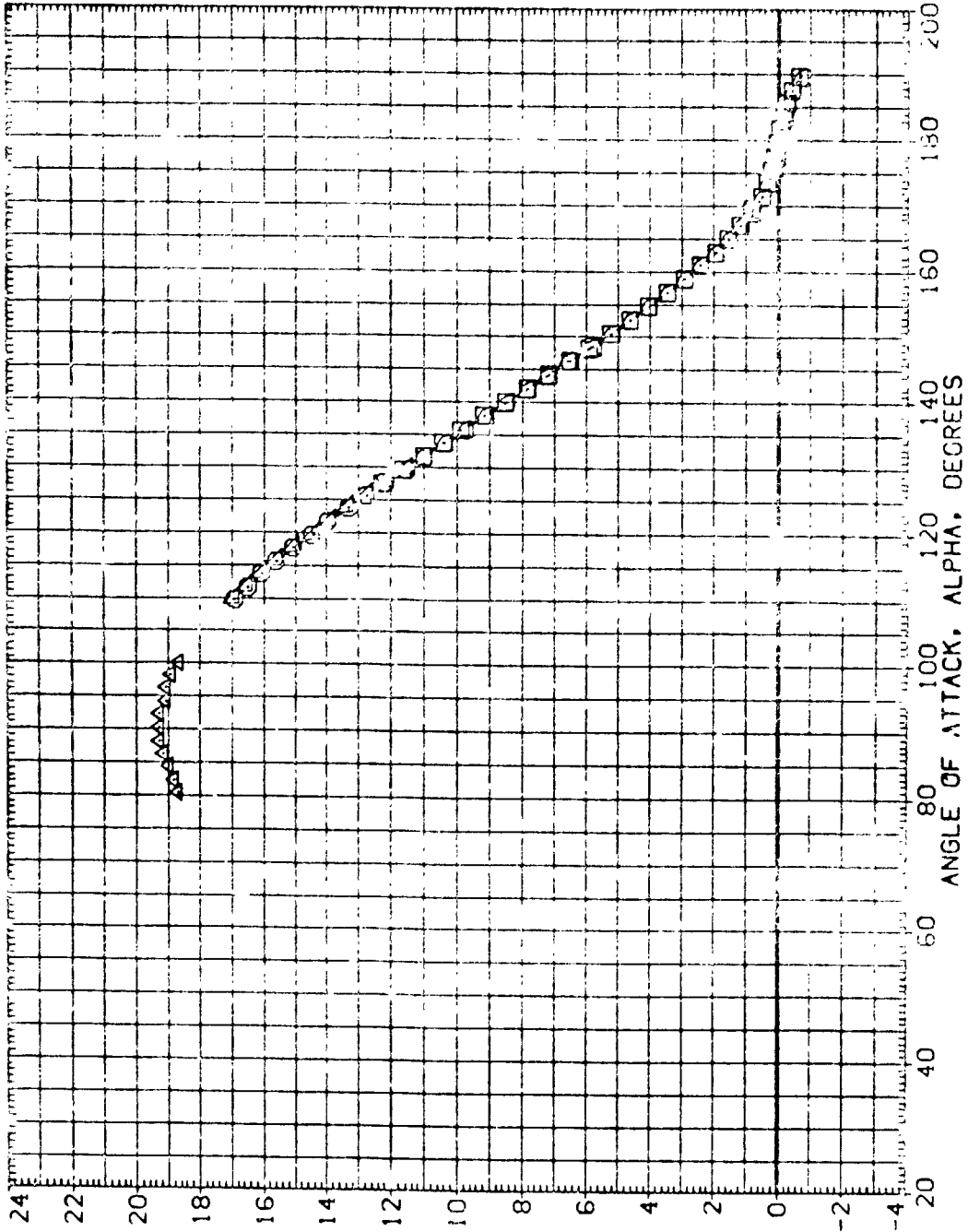


FIGURE 29. EFFECT OF NOZZLE GIMBAL ANGLE ON SRB STATIC STABILITY CHARACTERISTICS
(F)MACH = 3.48

NORMAL FORCE COEFFICIENT, CNM (MISSILE AXIS SYSTEM)



DATA SET SYMBOL CONFIGURATION DESCRIPTION NOZZLE

(AIH001)	MSFC TVT804 (SA9F)	SRB CLEAN	VRINGS	.000
(AIH001)	MSFC TVT804 (SA9F)	SRB CLEAN	VRINGS	.000
(AIH009)	DATA NOT AVAILABLE			2.500
(AIH079)	MSFC TVT804 (SA9F)	SRB CLEAN	VRINGS (NOZ. GIM.)	5.000
(AIH060)	MSFC TVT804 (SA9F)	SRB CLEAN	VRINGS (NOZ. GIM.)	5.000
(AIH010)	MSFC TVT804 (SA9F)	SRB CLEAN	VRINGS (NOZ. GIM.)	5.000

REFERENCE INFORMATION

SREF	.5030	IN.	50. IN.
REF	.8000	IN.	IN.
REF	.9000	IN.	IN.
XMRP	5.7210	IN.	IN. XS
YMRP	.0000	IN.	IN. YS
ZMRP	.0000	IN.	IN. ZS
SCALE	.0055		

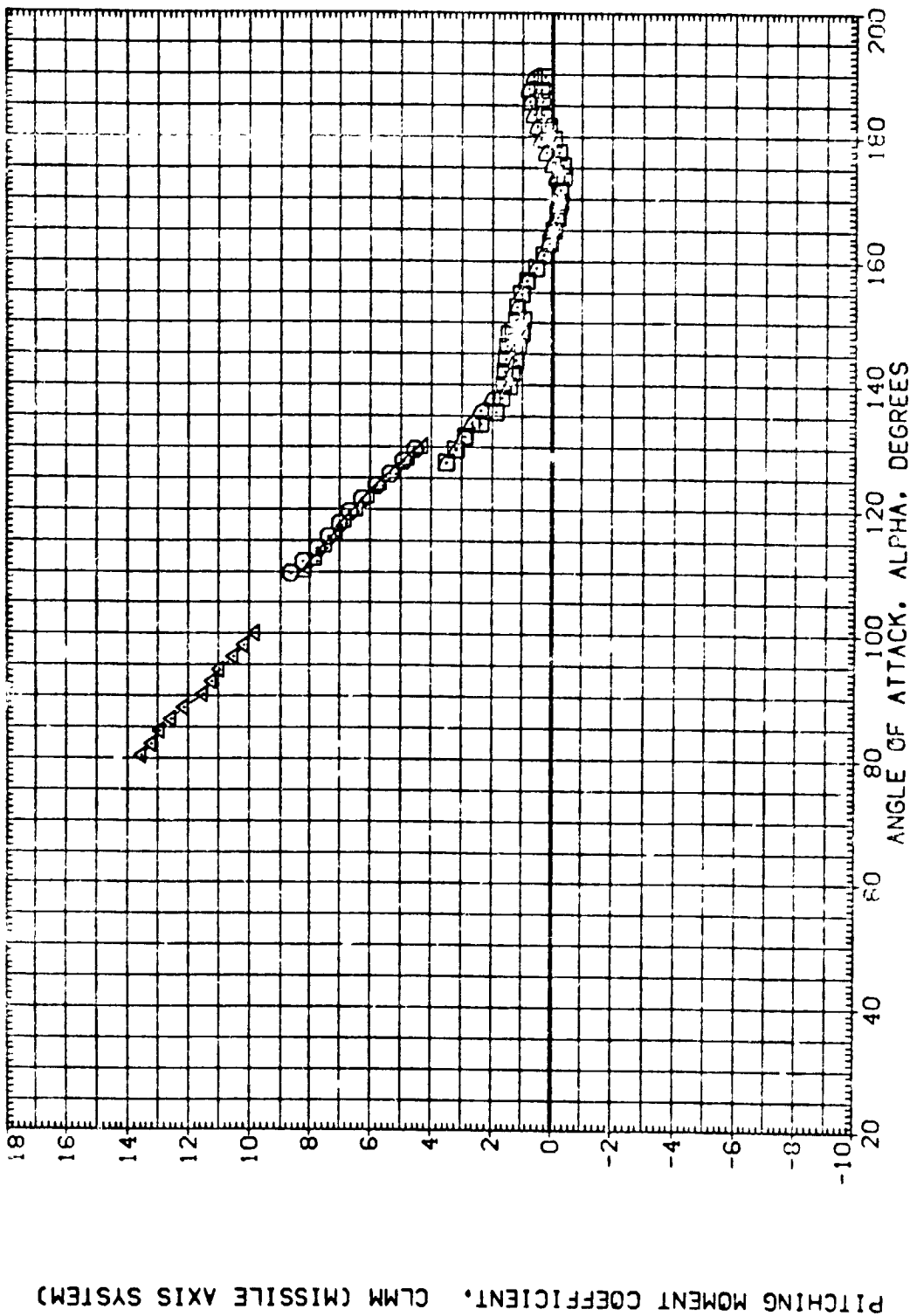


FIGURE 29. EFFECT OF NOZZLE GIMBAL ANGLE ON SRB STATIC STABILITY CHARACTERISTICS

(F)MACH = 3.48

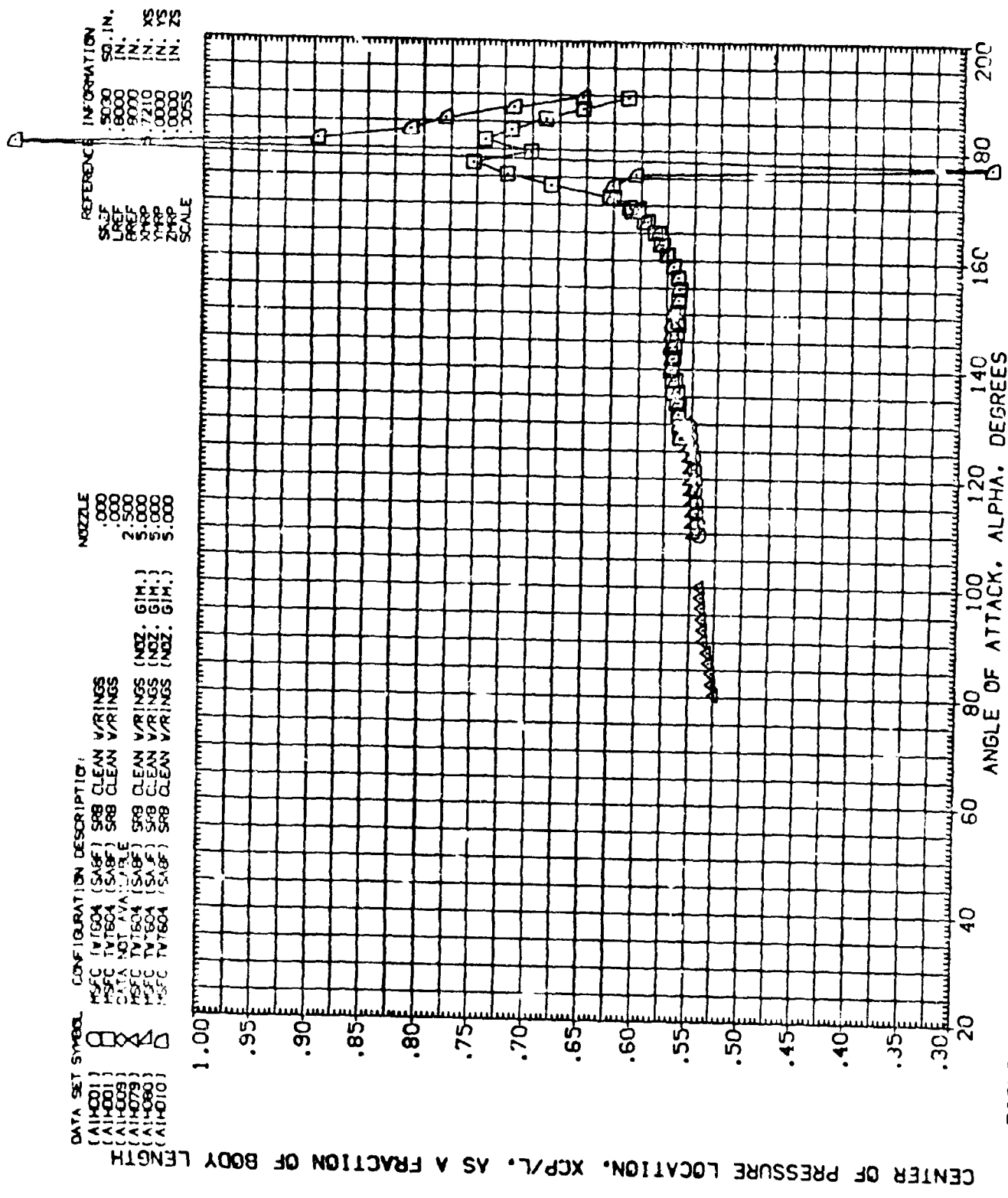


FIGURE 29. EFFECT OF NOZZLE GIMBAL ANGLE ON SRB STATIC STABILITY CHARACTERISTICS
(F)MACH = 3.48

REFERENCE INFORMATION
 SREF 5030 SQ. IN.
 LREF 8000 IN.
 BREF 5700 IN.
 XMRP 5.7210 IN. XS
 YMRP 3000 IN. YS
 ZMRP 3000 IN. ZS
 SCALE .3055

PHI
 .000
 .000
 .000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H009) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H011) DATA NOT AVAILABLE
 (A1H011) MSFC TVT604 (SABF) SRB WITH PROT. V/O HEAT SHD.

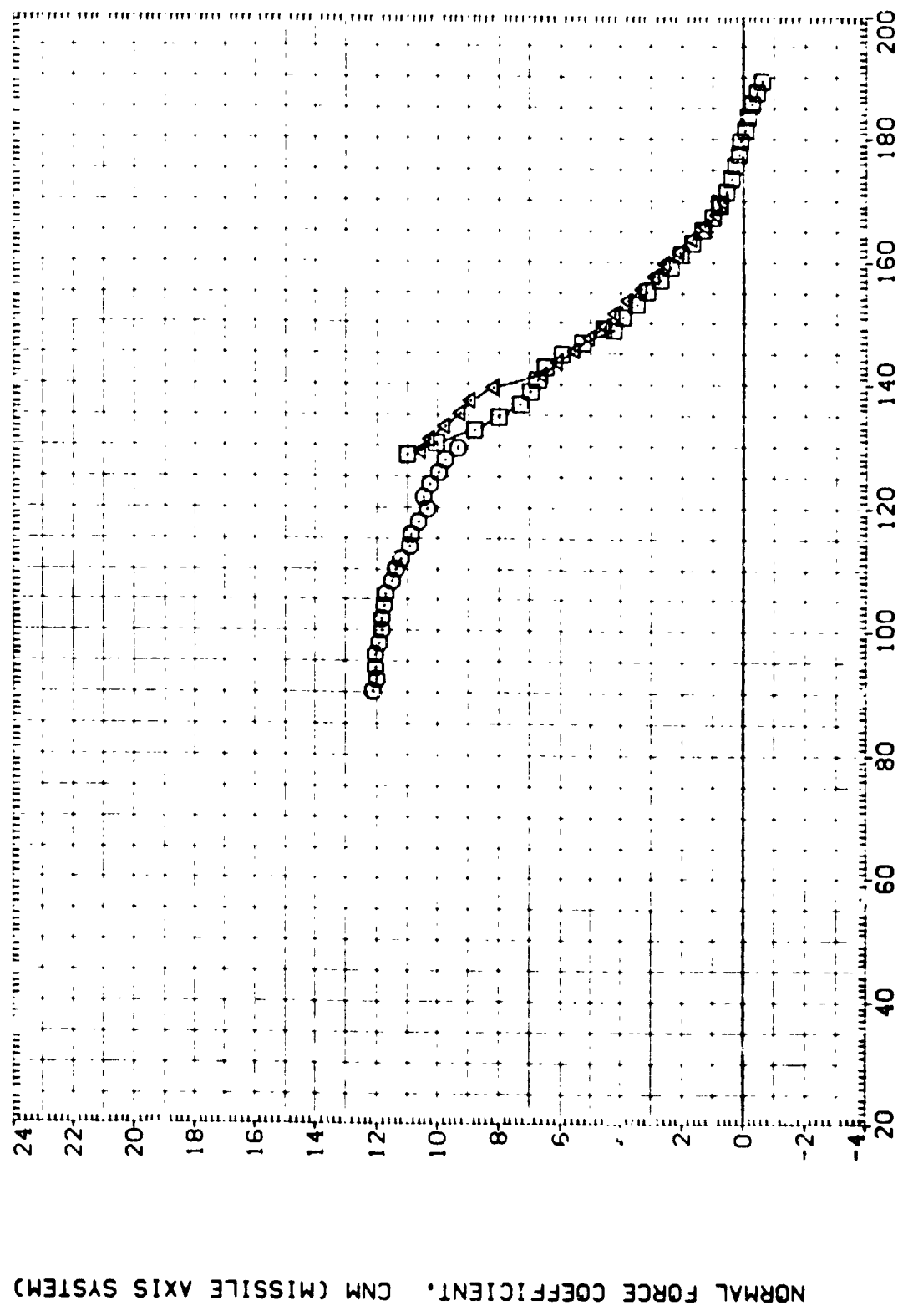


FIGURE 30. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACT. (PHI = 0)

(A)MACH = .40

DATA SET SYMBOL: (A1K03) (A1M03) (A1M11) (A1M11)

CONFIGURATION DESCRIPTION: NSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES; NSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES; DATA NOT AVAILABLE; NSFC TVT604 (SABF) SRB WITH PROT. V/G HEAT S-H.

PHI: .000; .000; .000; .000

REFERENCE INFORMATION: SREF .5030 SQ. IN.; LREF .8000 IN.; BREF .8000 IN.; XMRP 5.7210 IN.; YMRP .0000 IN.; ZMRP .0000 IN.; SCALE .0055

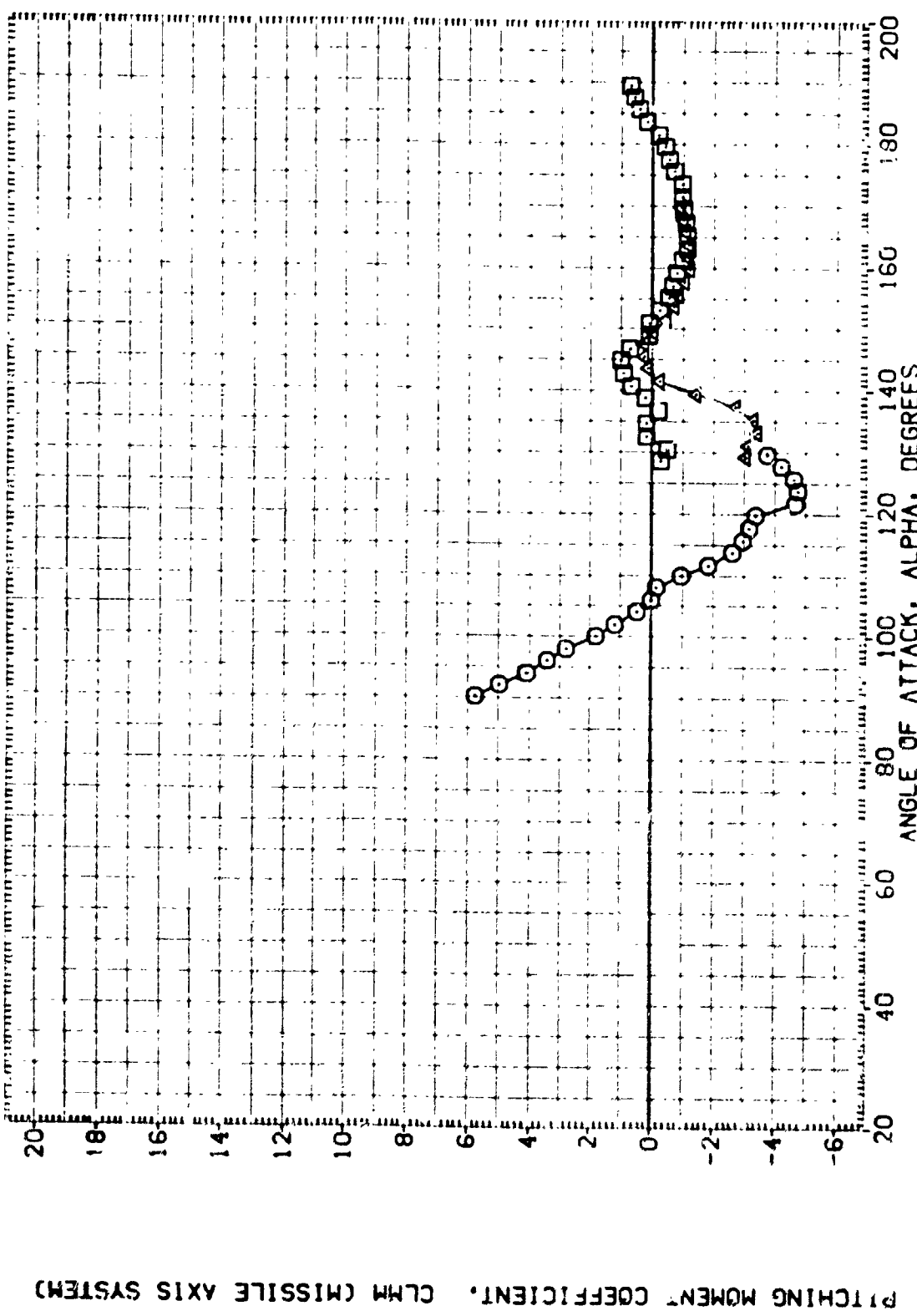
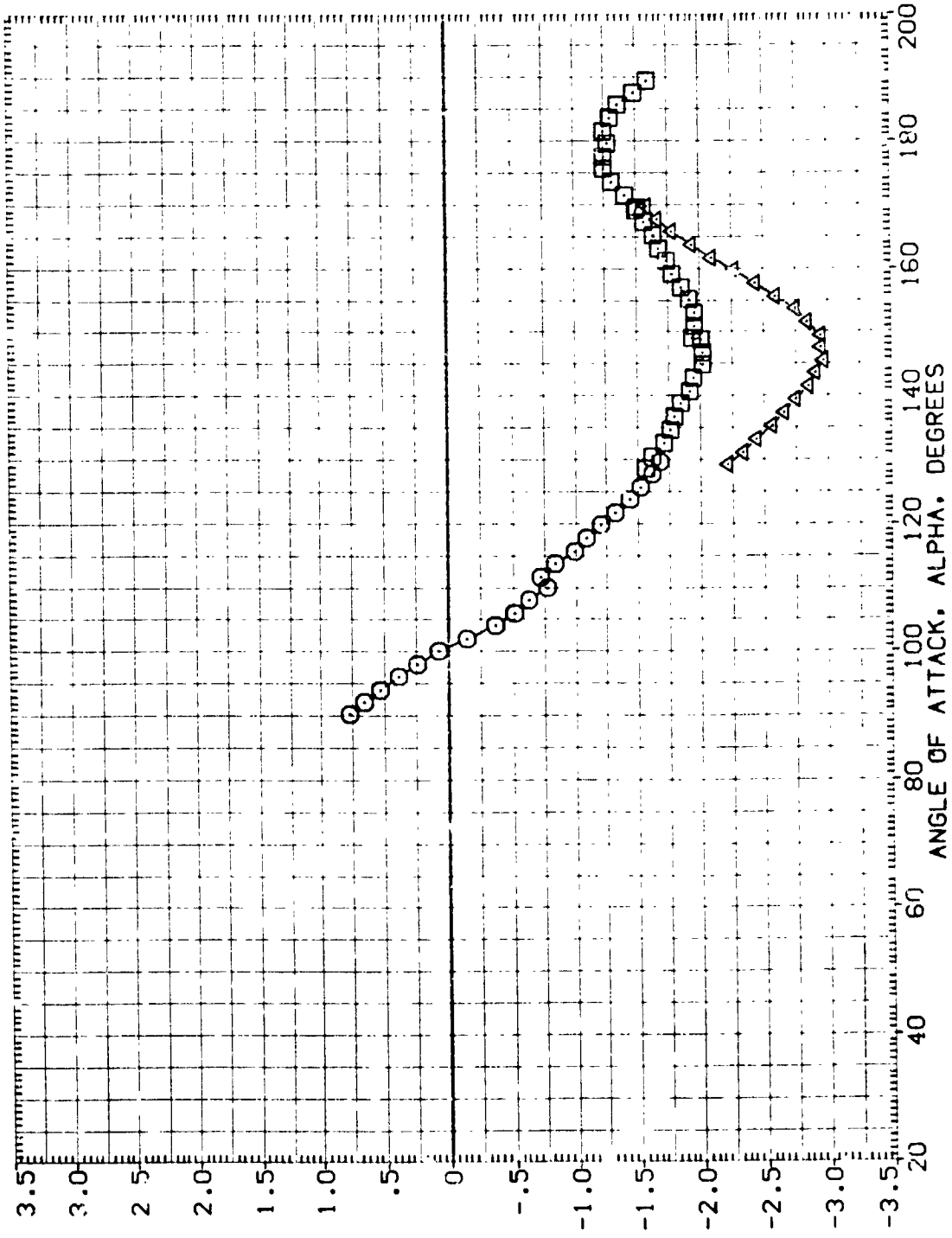


FIGURE 30. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACT. (PHI = 0)
 (ATTACH = .40) PAGE 507

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8600 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 .000
 .000
 .000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H011) DATA NOT AVAILABLE
 (A1H011) MSFC TVT604 (SABF) SRB WITH PROT. W/O HEAT SHD.



AXIAL FORCE COEFFICIENT, CA (MISSILE AXIS SYSTEM)

FIGURE 30. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACT. (PHI = 0)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(H003) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES .000

(A1H003) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES .000

(A1H011) DATA NOT AVAILABLE .000

(A1H011) MSFC TV1604 (SABF) SRB WITH PROT. W/O HEAT SHD. .000

REFERENCE INFORMATION

SREF 5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP .7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

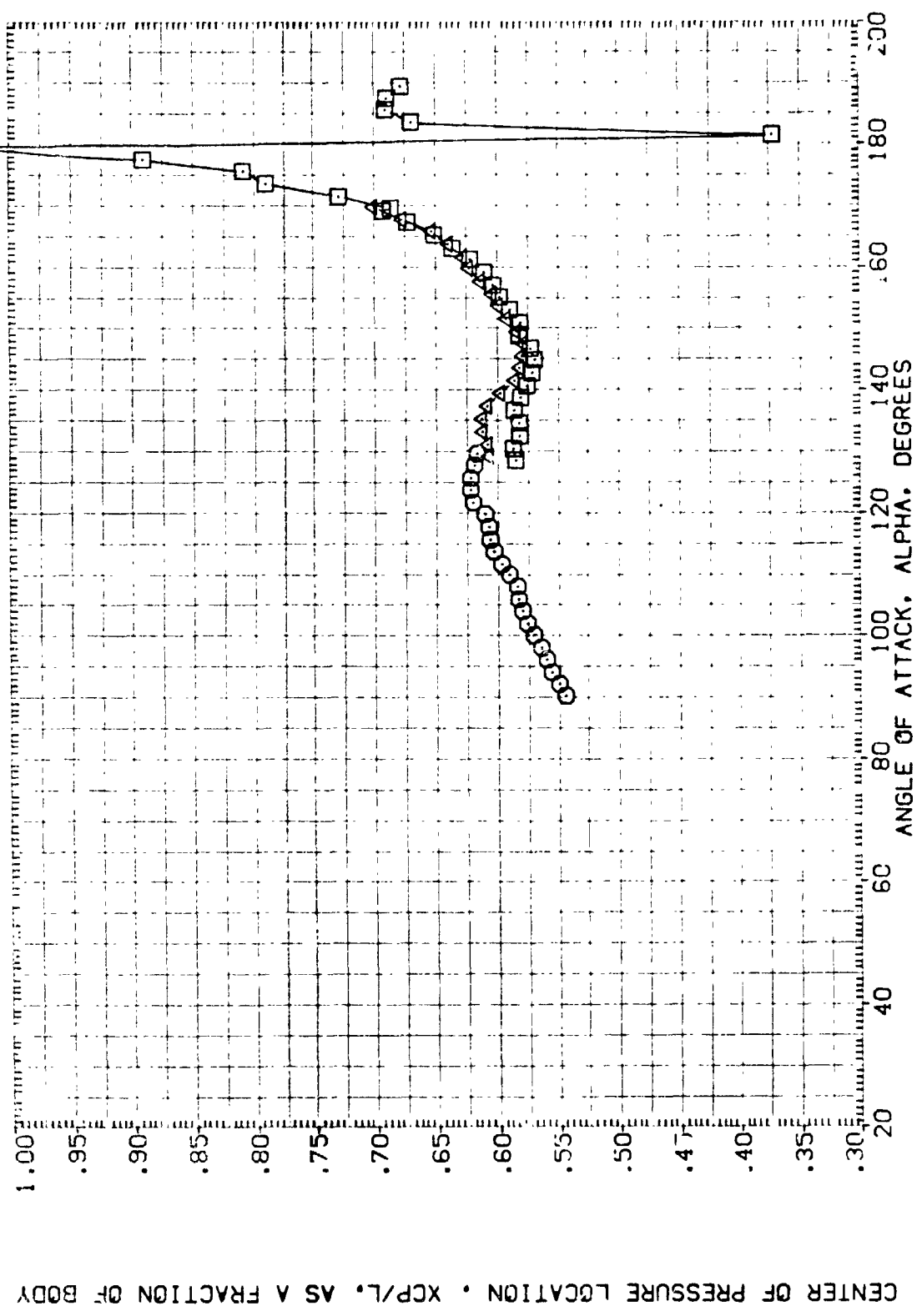


FIGURE 30. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACTER. (PHI = 0)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000

(A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000

(A1H011) DATA NOT AVAILABLE .000

(A1H011) MSFC TVT604 (SABF) SRB WITH PROT. V/O HEAT SHC. .000

REFERENCE INFORMATION

SREF .5030 IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. X5

YMRP .0000 IN. Y5

ZMRP .0000 IN. Z5

SCALE .0055

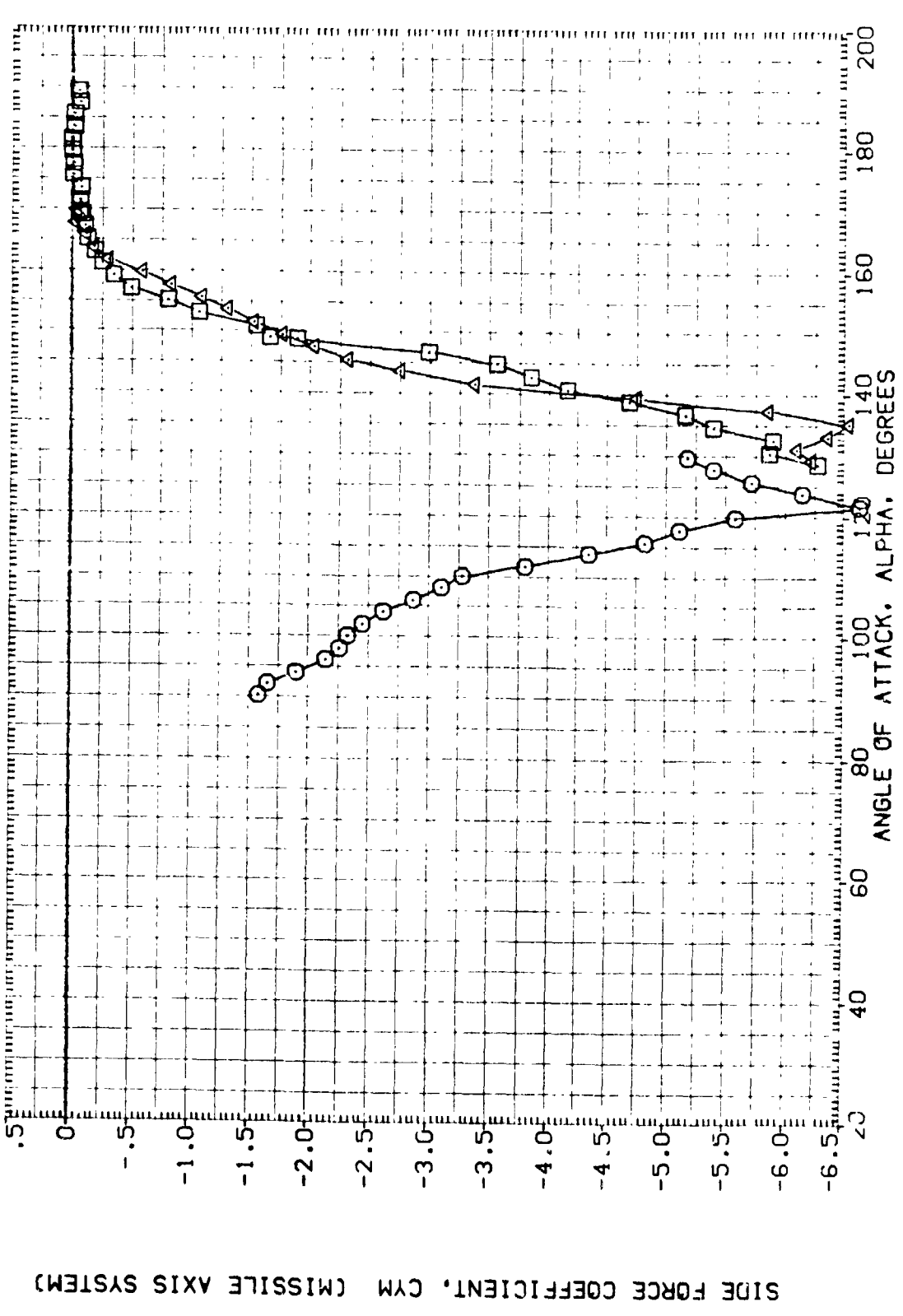


FIGURE 30. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACTER. (PHI = 0)

(A)MACH = .40



DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A)M003 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000

(A)H003 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000

(A)H011 DATA NOT AVAILABLE .000

(A)H011 MSFC TVT604 (SABF) SRB WITH PROT. V/O HEAT SHO. .000

REFERENCE INFORMATION

SREF 5030 SQ. IN.

LREF 8000 IN.

BREF 8000 IN.

XMRP 5.7210 IN. XS

ZMRP .0000 IN. ZS

SCALE .0055

YAWING MOMENT COEFFICIENT, C_{YM} (MISSILE AXIS SYSTEM)

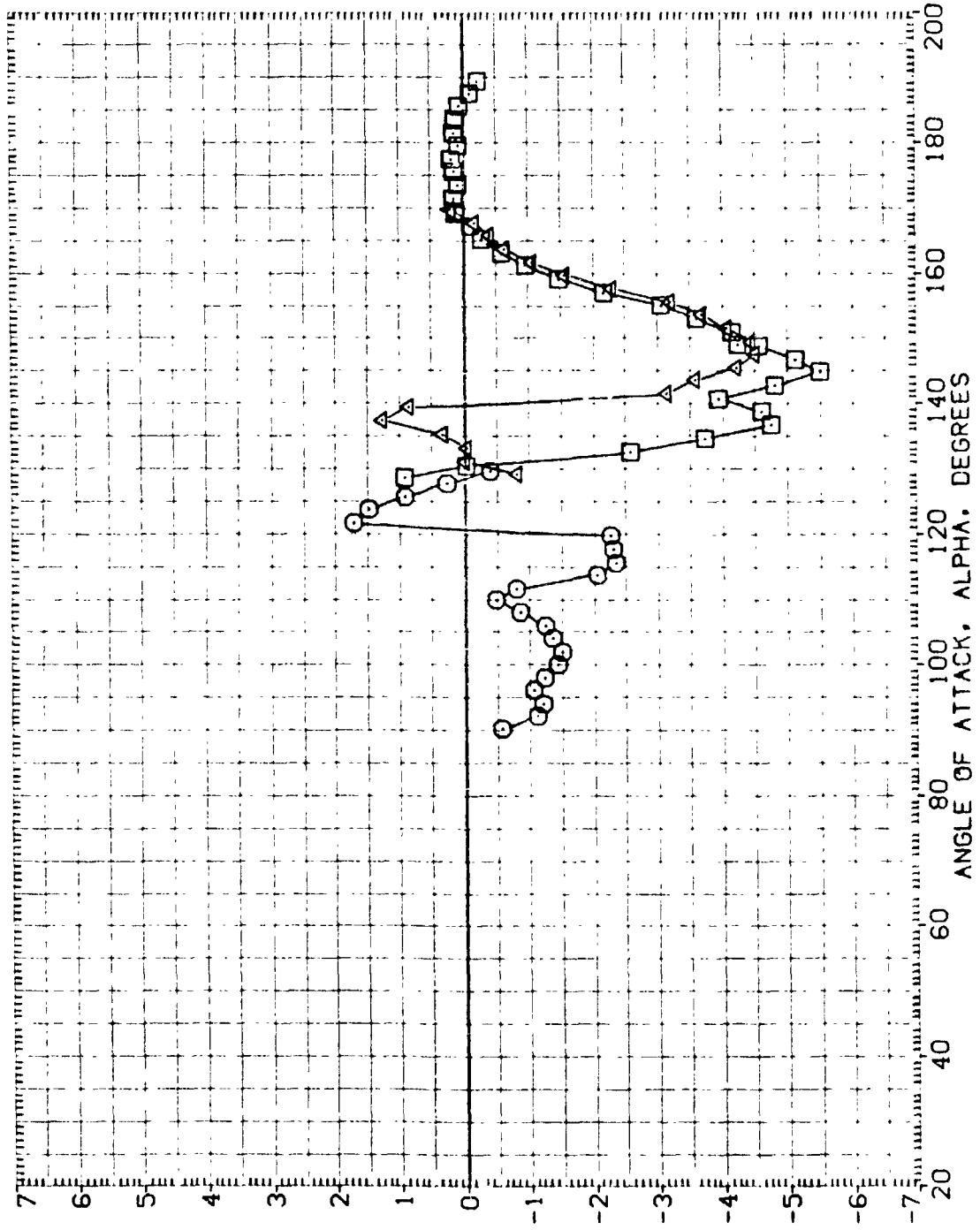


FIGURE 30. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACTER. (PHI = 0)

(A)MACH = .40

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H011) DATA NOT AVAILABLE
 (A1H011) MSFC TVT604 (SABF) SRB WITH PROT. V/O HEAT SHD.

PHI
 .000
 .000
 .000

REFERENCE INFORMATION

SREF 5030 50. IN.
 LREF 8000 IN.
 BRFP 8000 IN.
 XHRP 5.7210 IN. YS
 YHRP 0000 IN. YS
 ZHRP 0000 IN. ZS
 SCALE .0055

ROLLING MOMENT COEFFICIENT, CRL (MISSILE AXIS SYSTEM)

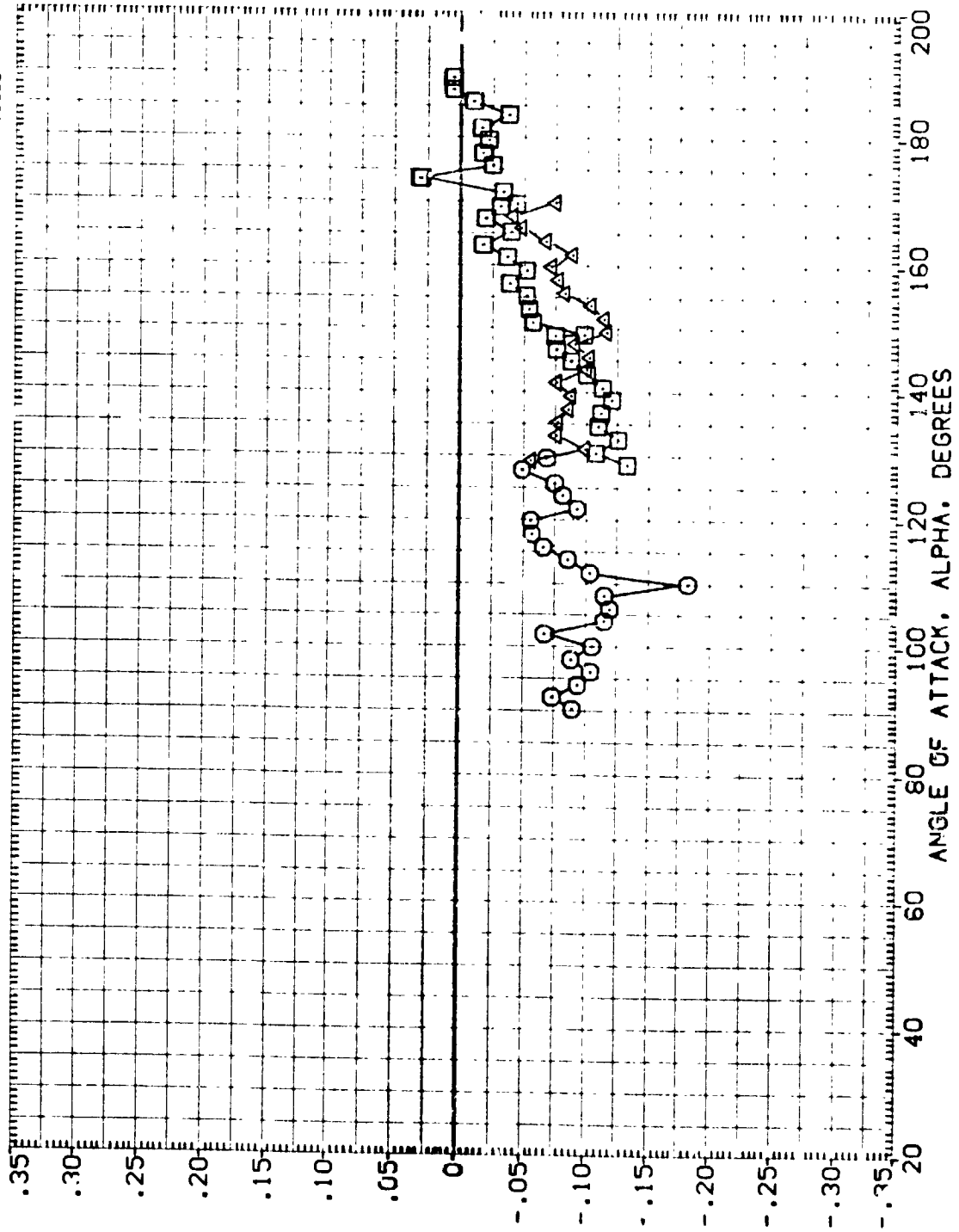


FIGURE 30. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACTER. (PHI = 0)

(A)MACH = .40

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1HC03) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000

(A1HC03) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000

(A1HC11) MSFC TVT604 (SABF) SRB WITH PROT. V/O HEAT SHD. .000

(A1H011) MSFC TVT604 (SABF) SRB WITH PROT. V/O HEAT SHD. .000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

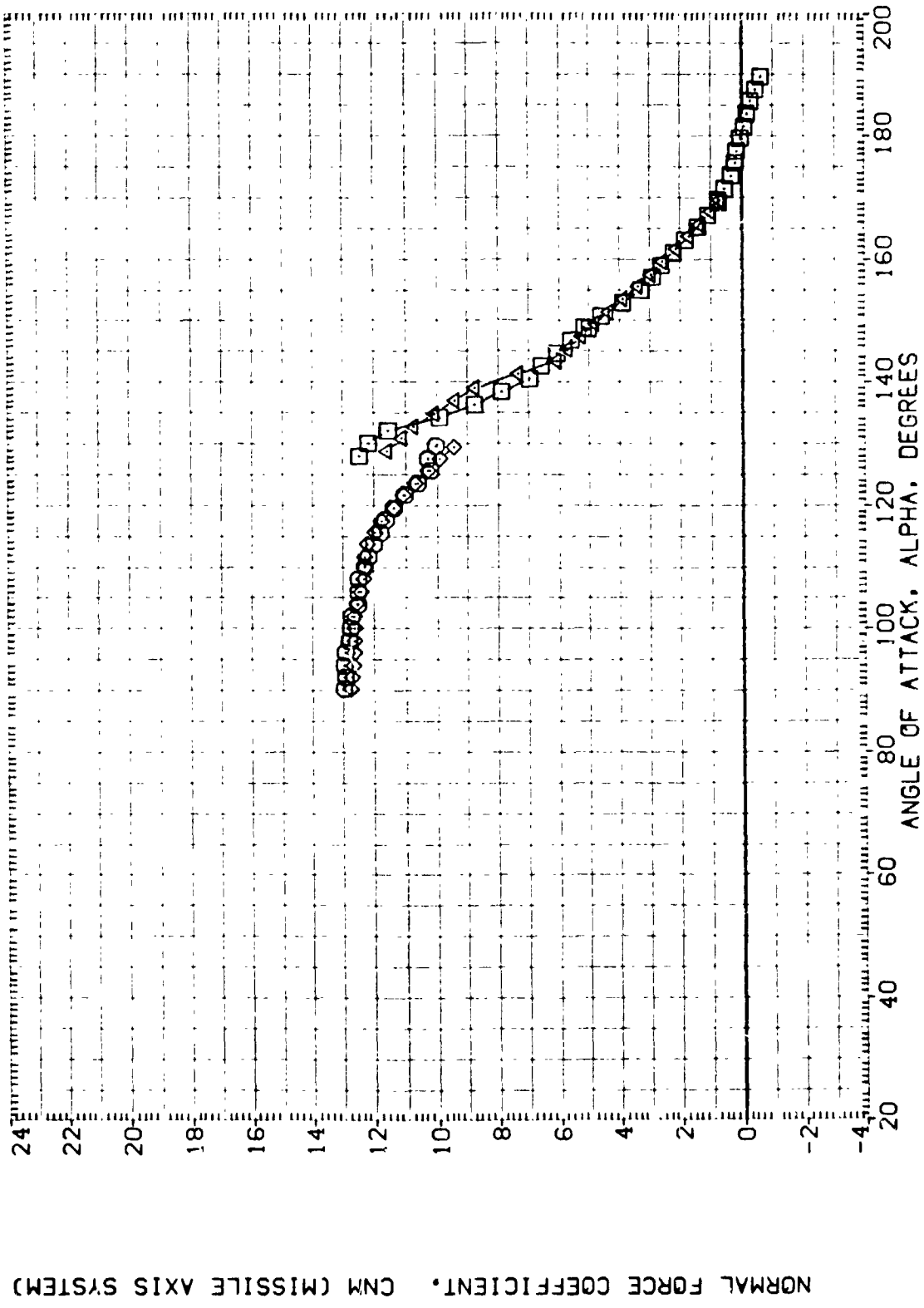


FIGURE 30. EFFECT OF HEAT SHIELD ON SR6 STATIC STABILITY CHARACTER. (PHI = 0)

(B)MACH = .60

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H003)	MSFC TVT604 (SABF) SRB WITH ALL PROTRUBERANCES
(A1H009)	MSFC TVT604 (SABF) SRB WITH ALL PROTRUBERANCES
(A1H011)	MSFC TVT604 (SABF) SRB WITH PROT. V/O HEAT SHD.
(A1H011)	MSFC TVT604 (SABF) SRB WITH PROT. V/O HEAT SHD.

PHI
 .000
 .000
 .000

REFERENCE INFORMATION

SREF	.5030	IN.
LREF	.8000	IN.
BREF	.8000	IN.
YMRP	5.7210	IN.
ZMRP	.0000	IN.
SCALE	.0055	IN.

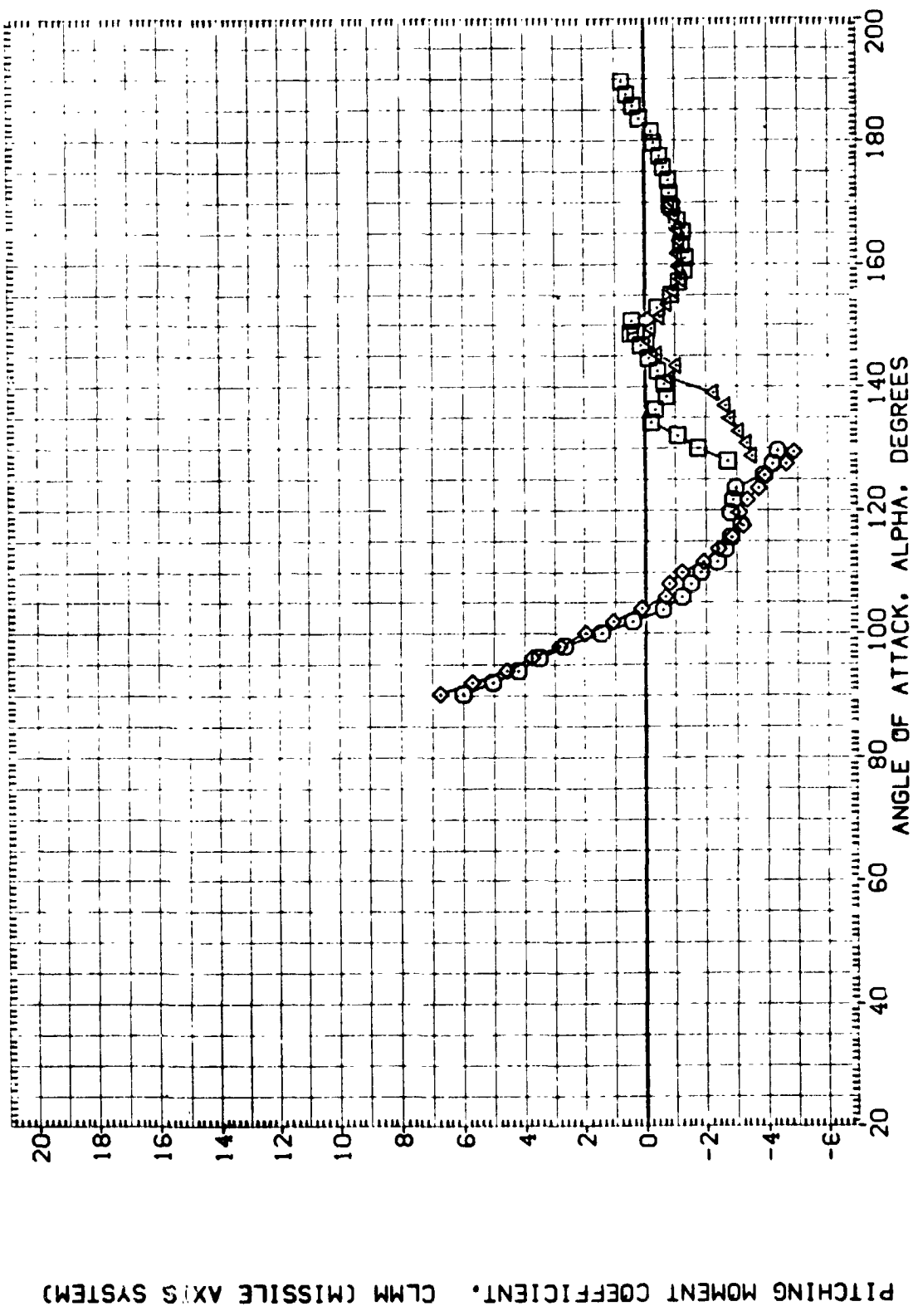


FIGURE 30. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACTER. (PHI = 0)

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H003) MSFC TV1604 (SABF) SRB WITH ALL PROTRUDANCES
 (A1H003) MSFC TV1604 (SABF) SRB WITH ALL PROTRUDANCES
 (A1H011) MSFC TV1604 (SABF) SRB WITH PROT. V/O HEAT SHD.
 (A1H011) MSFC TV1604 (SABF) SRB WITH PROT. V/O HEAT SHD.

PHI .000
 .000
 .000
 .000

REFERENCE INFORMATION

SREF .5030 SQ. IN.
 LP LF IN.
 ER EF IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

AXIAL FORCE COEFFICIENT, CA (MISSILE AXIS SYSTEM)

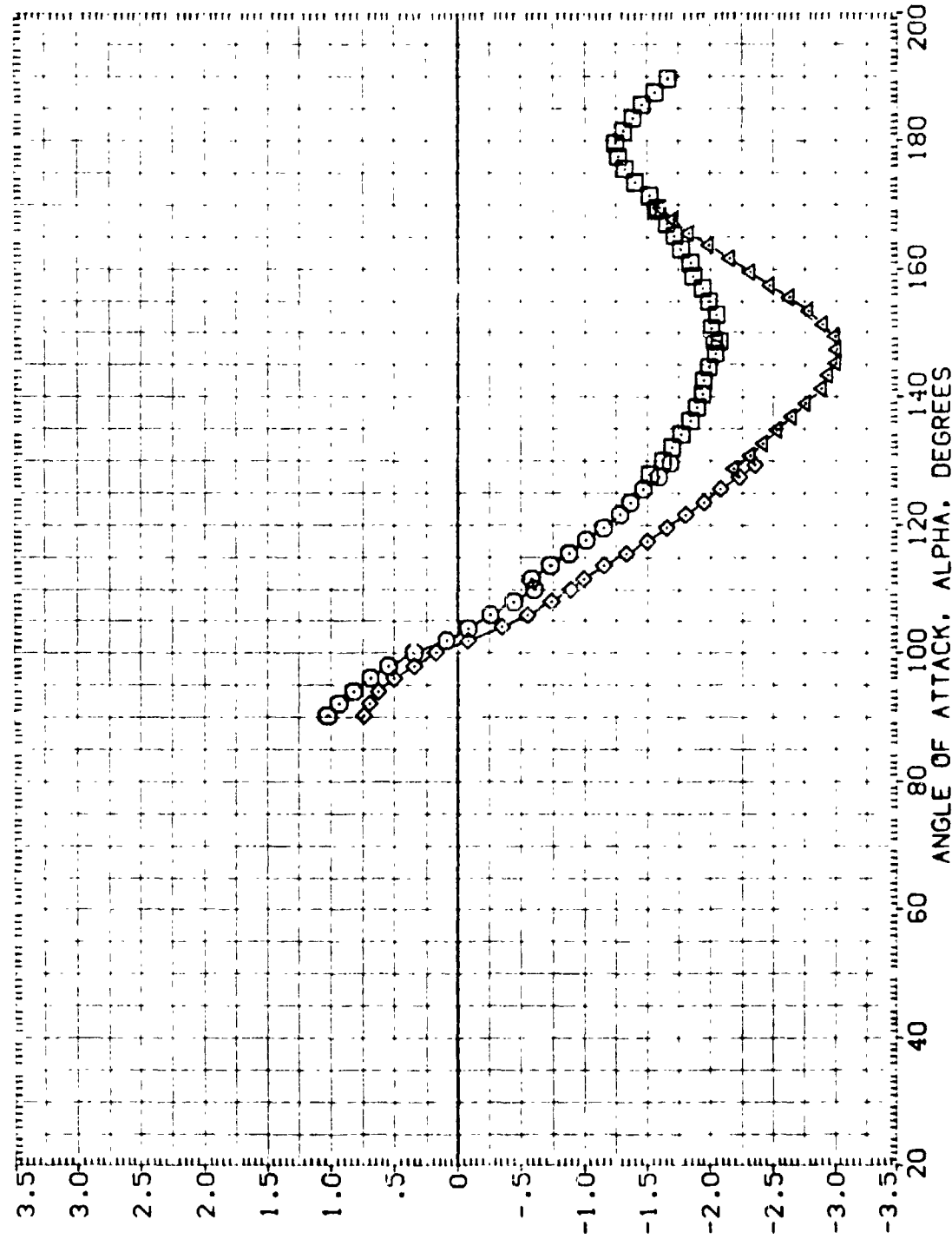


FIGURE 30. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACT. (PHI = 0)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1M003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000
 (A1M003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000
 (A1M011) MSFC TVT604 (SABF) SRB WITH PROT. 1/8 HEAT SHD. .000
 (A1M011) MSFC TVT604 (SABF) SRB WITH PROT. 1/8 HEAT SHD. .000

REFERENCE INFORMATION

SREF .5030 SQ. IN.
 LREF .8000 IN.
 BRFF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

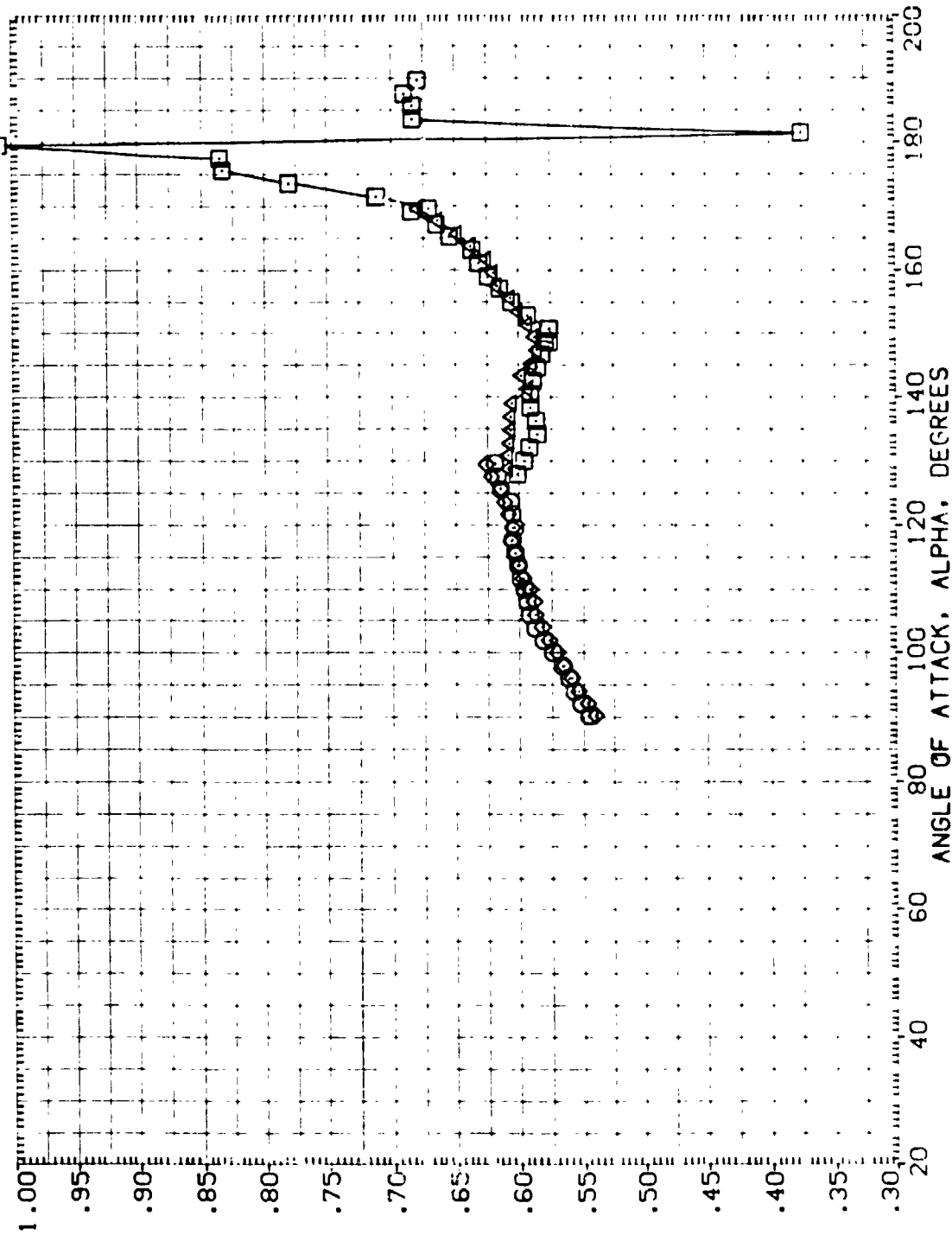


FIGURE 30. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACT. (PHI = 0)

(B)MACH = .60

DATA SET SYMBOL: (A1-H003) (A1-H011)

CONFIGURATION DESCRIPTION: MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES (A1-H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES (A1-H011) MSFC TVT604 (SABF) SRB WITH PROT. V/3 HEAT SHD. (A1-H011) MSFC TVT604 (SABF) SRB WITH PROT. V/9 HEAT SHD.

PHI: .000
.000
.000

REFERENCE INFORMATION: SREF 5030 SQ. IN.
LREF .8000 IN.
BREF .8000 IN.
XMRP 5.7210 IN. XS
YMRP .0000 IN. YS
ZMRP .0000 IN. ZS
SCALE .0055

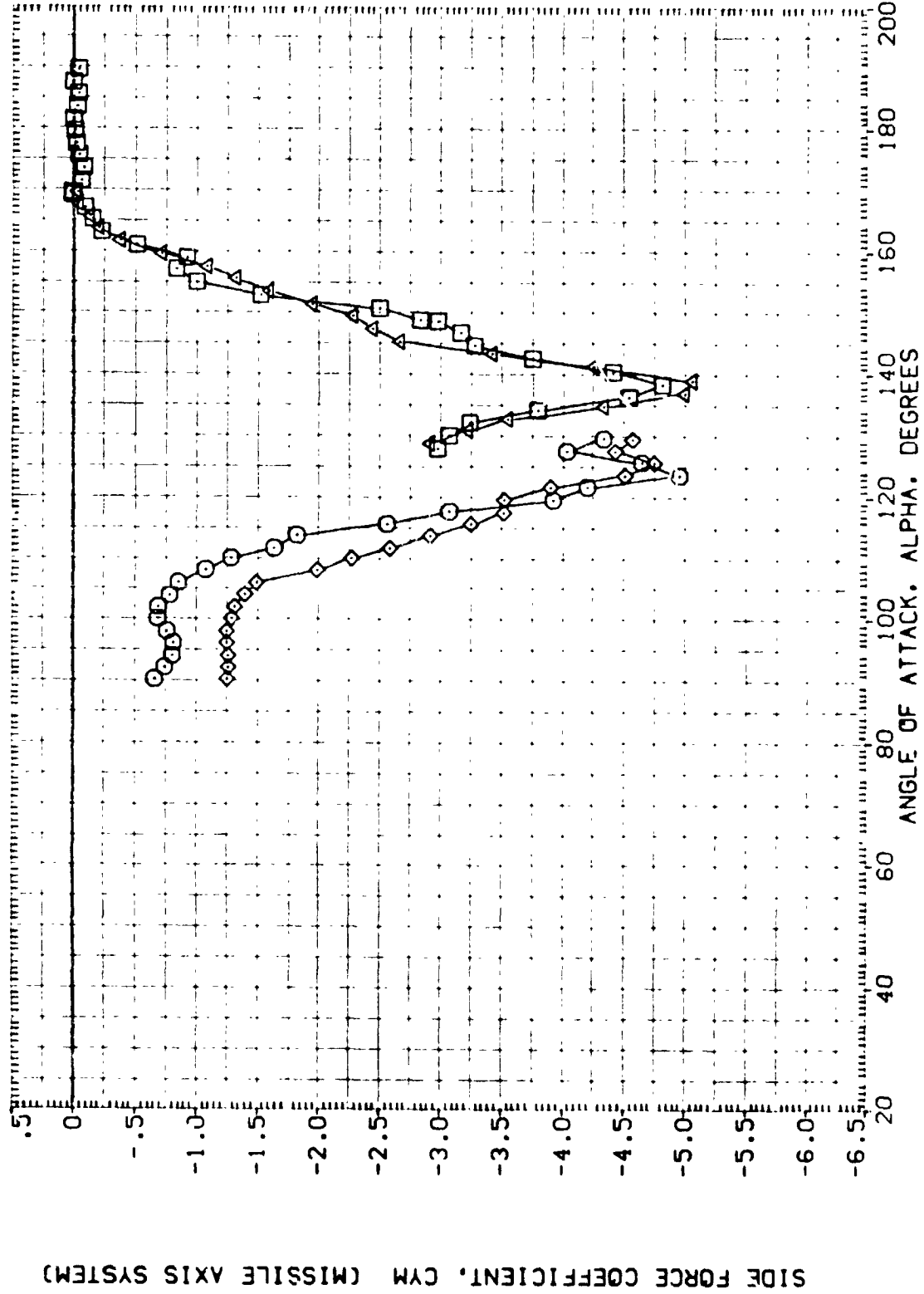


FIGURE 30. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACTER. (PHI = 0)

(B)MACH = .60

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H003) MSFC TVT804 (SABF) SRB WITH ALL PROTLBERANCES .000

(A1H003) MSFC TVT804 (SABF) SRB WITH ALL PROTLBERANCES .000

(A1H011) MSFC TVT804 (SABF) SRB WITH PROT: V/0 HEAT S/0: .000

(A1H011) MSFC TVT804 (SABF) SRB WITH PROT: V/0 HEAT S/0: .000

REFERENCE INFORMATION

SREF .5000 SQ.IN.

LREF .8000 IN.

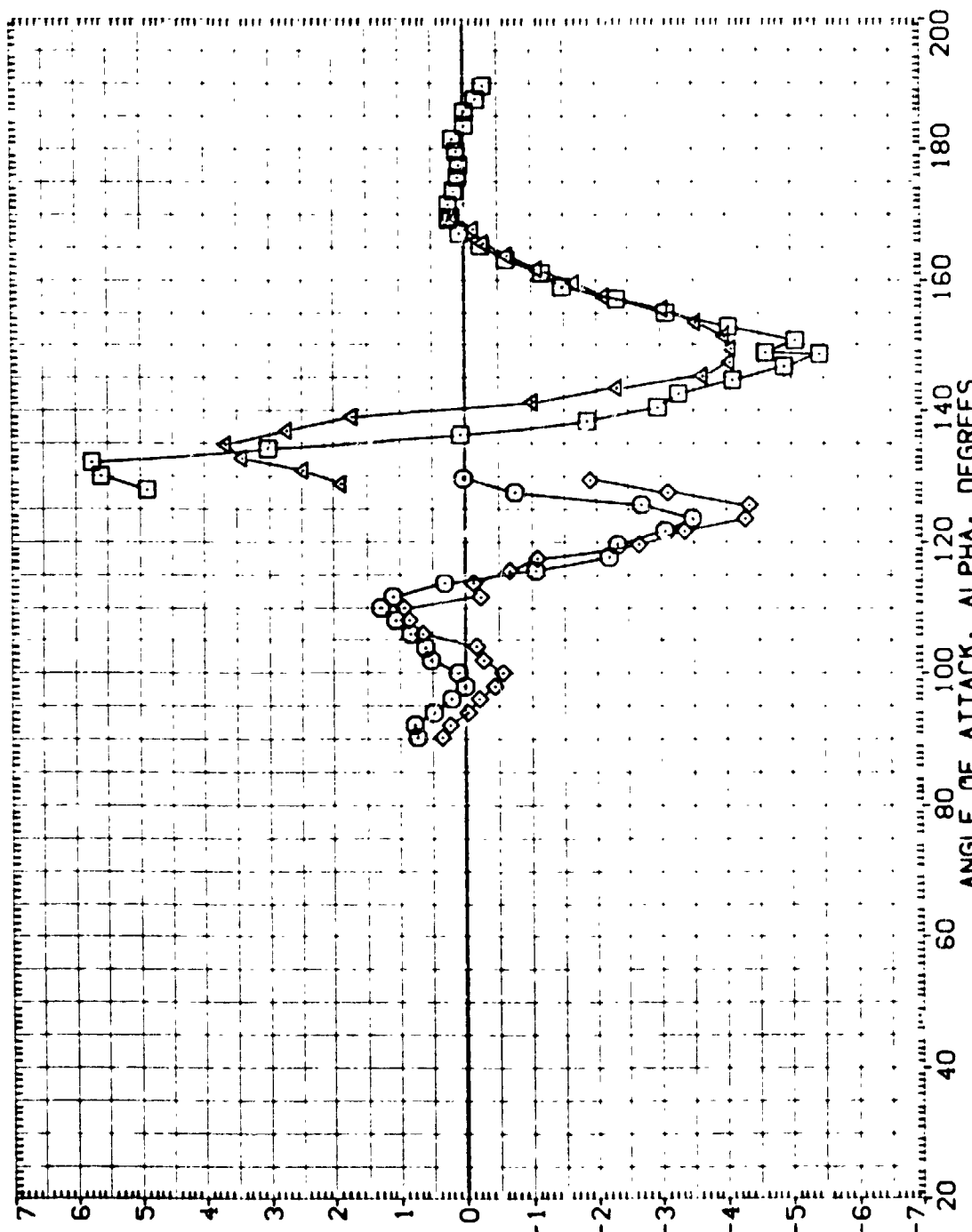
BREF .8000 IN.

XPRP 5.7210 IN.

YPRP .0000 IN.

ZPRP .0000 IN.

SCALE .0055



YAWING MOMENT COEFFICIENT, CYM (MISSILE AXIS SYSTEM)

FIGURE 30. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACT. (PHI = 0)

(8)MACH = .60

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H003) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES .000

(A1H003) MSFC TV1614 (SABF) SRB WITH ALL PROTUBERANCES .000

(A1H011) MSFC TV1604 (SABF) SRB WITH PROT. 1/8 HEAT SH. .000

(A1H011) MSFC TV1604 (SABF) SRB WITH PROT. 1/8 HEAT SH. .000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .9000 IN.

BREF .8000 IN.

XMRP 5.7210 IN.

YMRP .0000 IN.

ZMRP .0000 IN.

SCALE .0055 IN. ZS

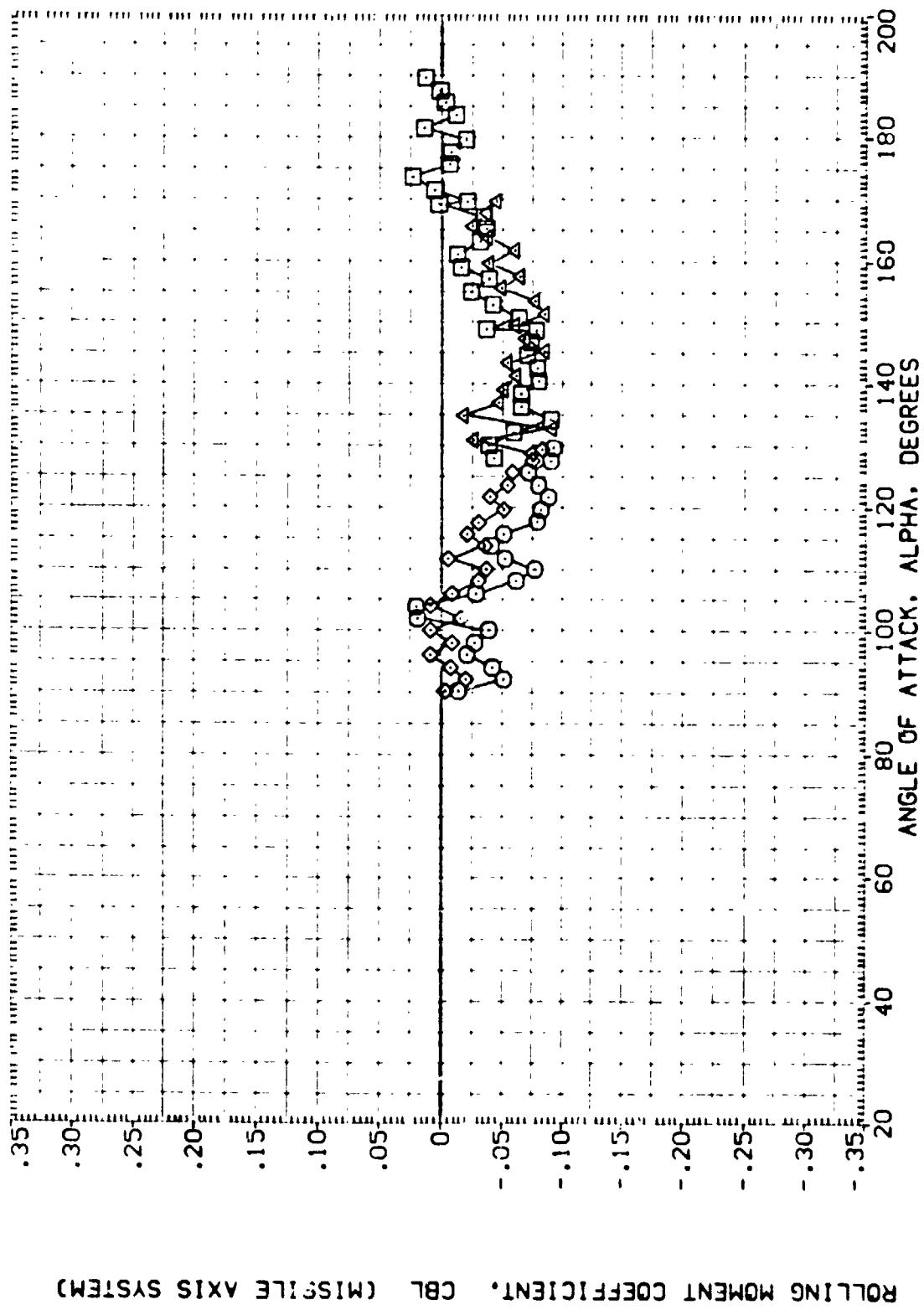


FIGURE 30. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACT. (PHI = 0)

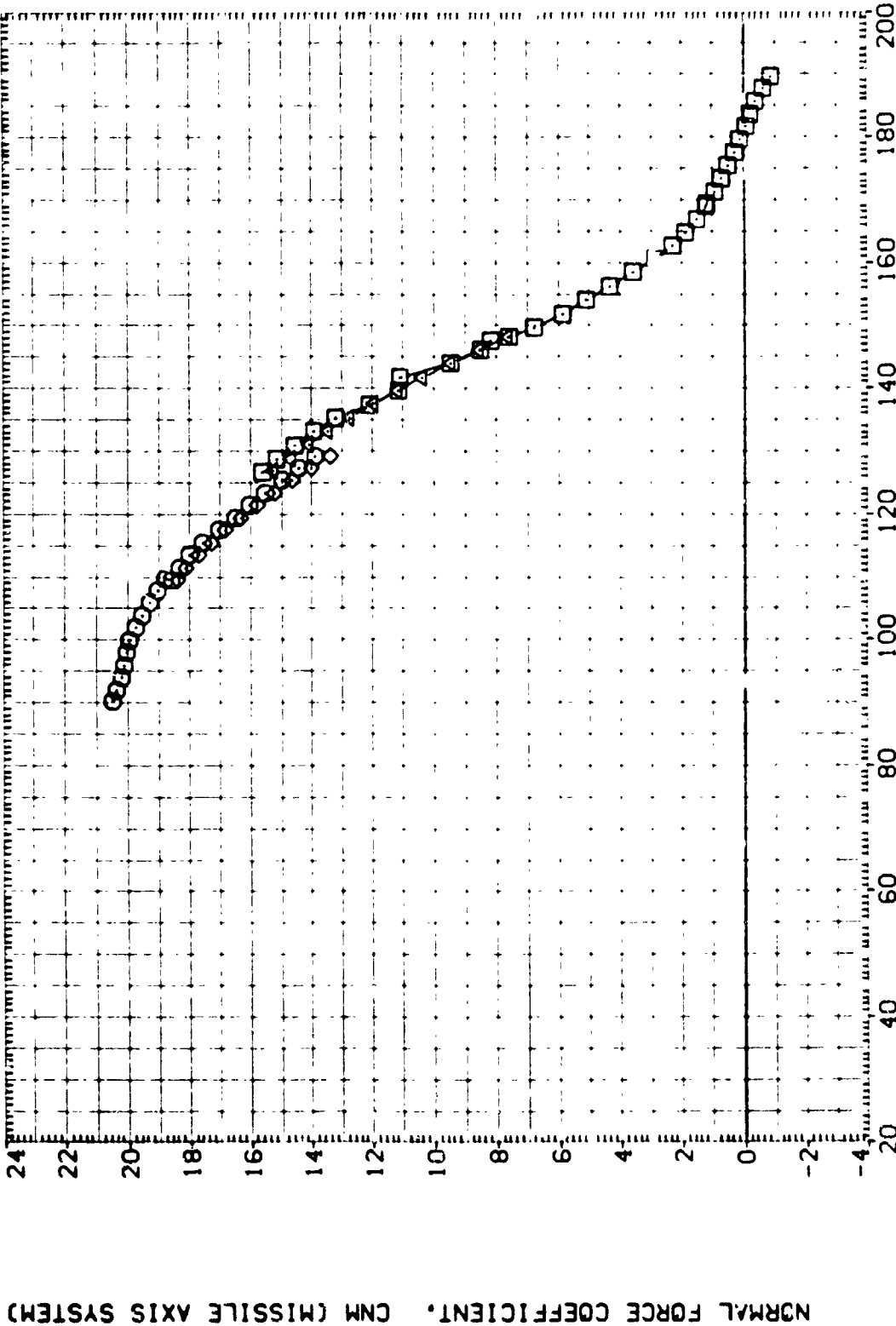
(B)MACH = .60

REFERENCE INFORMATION
 SREF .5030 IN.
 LREF .8000 IN.
 XREF .8000 IN.
 YMRP 5.7210 IN.
 ZMRP .0000 IN.
 SCALE .0055

PHI
 .000
 .000
 .000
 .000

CONFIGURATION DESCRIPTION
 MSFC TVT604 (SABF) SRB WITH ALL PROTLBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTLBERANCES
 MSFC TVT604 (SABF) SRB WITH PROT. V/O HEAT SHD.
 MSFC TVT6C4 (SABF) SRB WITH PROT. V/O HEAT SHD.

DATA SET SYMBOL
 (A1H003) □
 (A1H003) ○
 (A1H011) △
 (A1H011) ◇



NORMAL FORCE COEFFICIENT, CNM (MISSILE AXIS SYSTEM)

FIGURE 30. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACT. (PHI = 0)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI .000

(A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000

(A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000

(A1H011) MSFC TVT604 (SABF) SRB WITH PROT. V/O HEAT SHD. .000

(A1H011) MSFC TVT604 (SABF) SRB WITH PROT. V/O HEAT SHD. .000

REFERENCE INFORMATION

SREF 5030 SQ. IN.

LREF 8000 IN.

BREF 8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

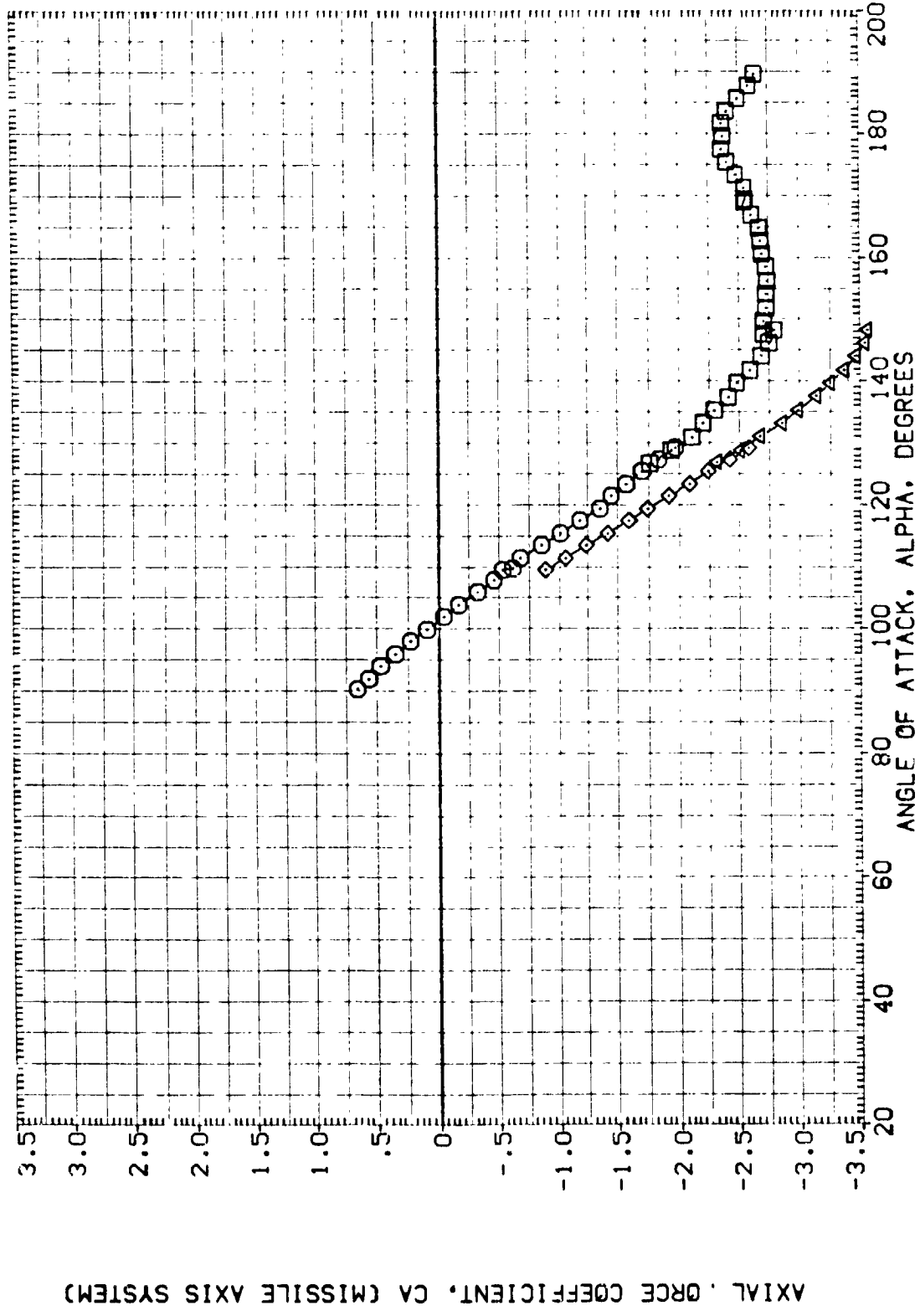


FIGURE 30. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACT. (PHI = 0)

0.7

4

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1M003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000

(A1M003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000

(A1M011) MSFC TVT604 (SABF) SRB WITH PROT. V/O HEAT SHD. .000

(A1M011) MSFC TVT604 (SABF) SRB WITH PROT. V/O HEAT SHD. .000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

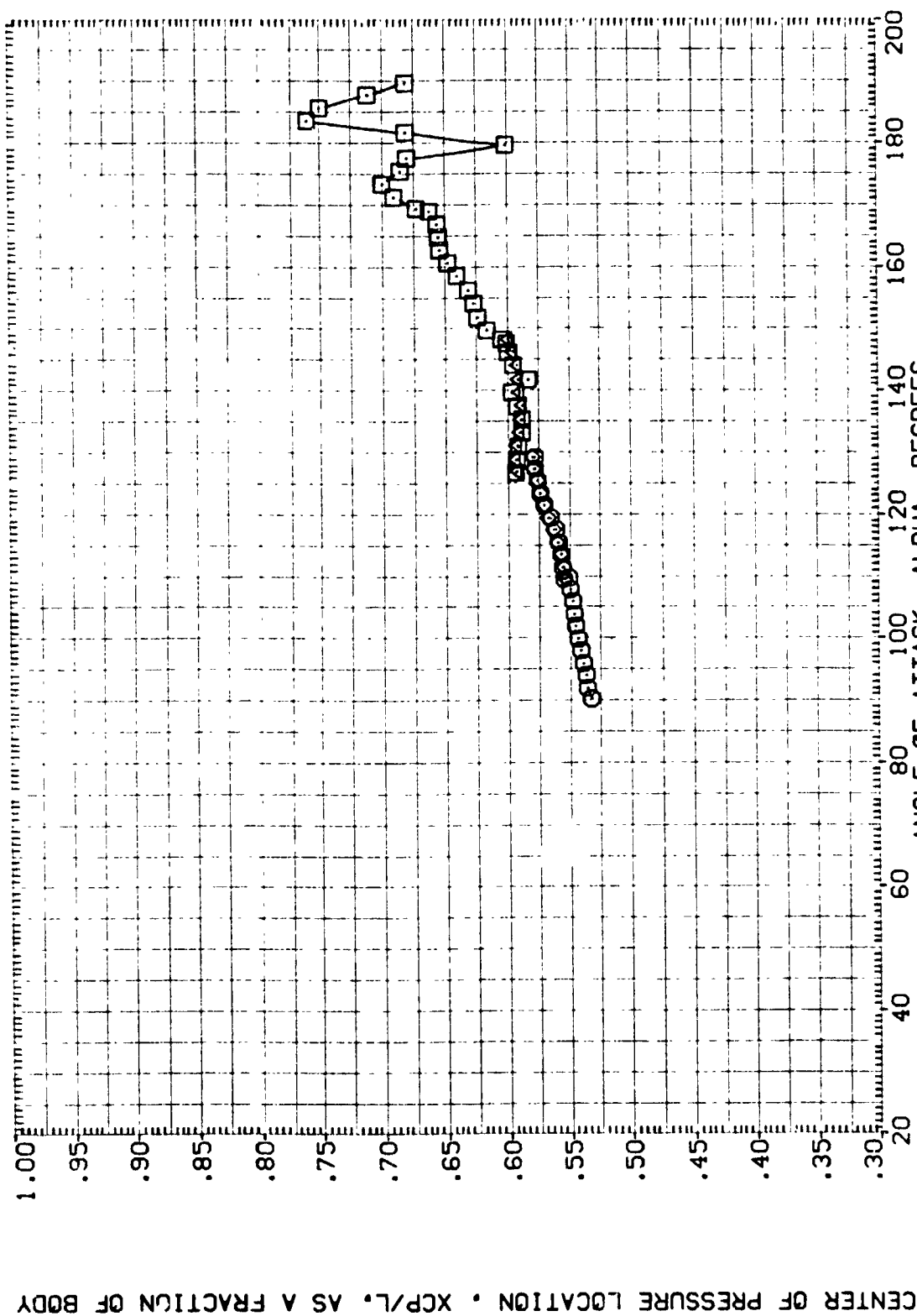


FIGURE 30. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACT. (PHI = 0)

(C)MACH = 1.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H011) MSFC TVT604 (SABF) SRB WITH PROT. V/O HEAT SHD.

(A1H011) MSFC TVT604 (SABF) SRB WITH PROT. V/O HEAT SHD.

PHI

.000

.000

.000

REFERENCE INFORMATION

SREF 5037 SQ. IN.

LREF .8600 IN.

BREF .8600 IN.

XMRP S: 7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

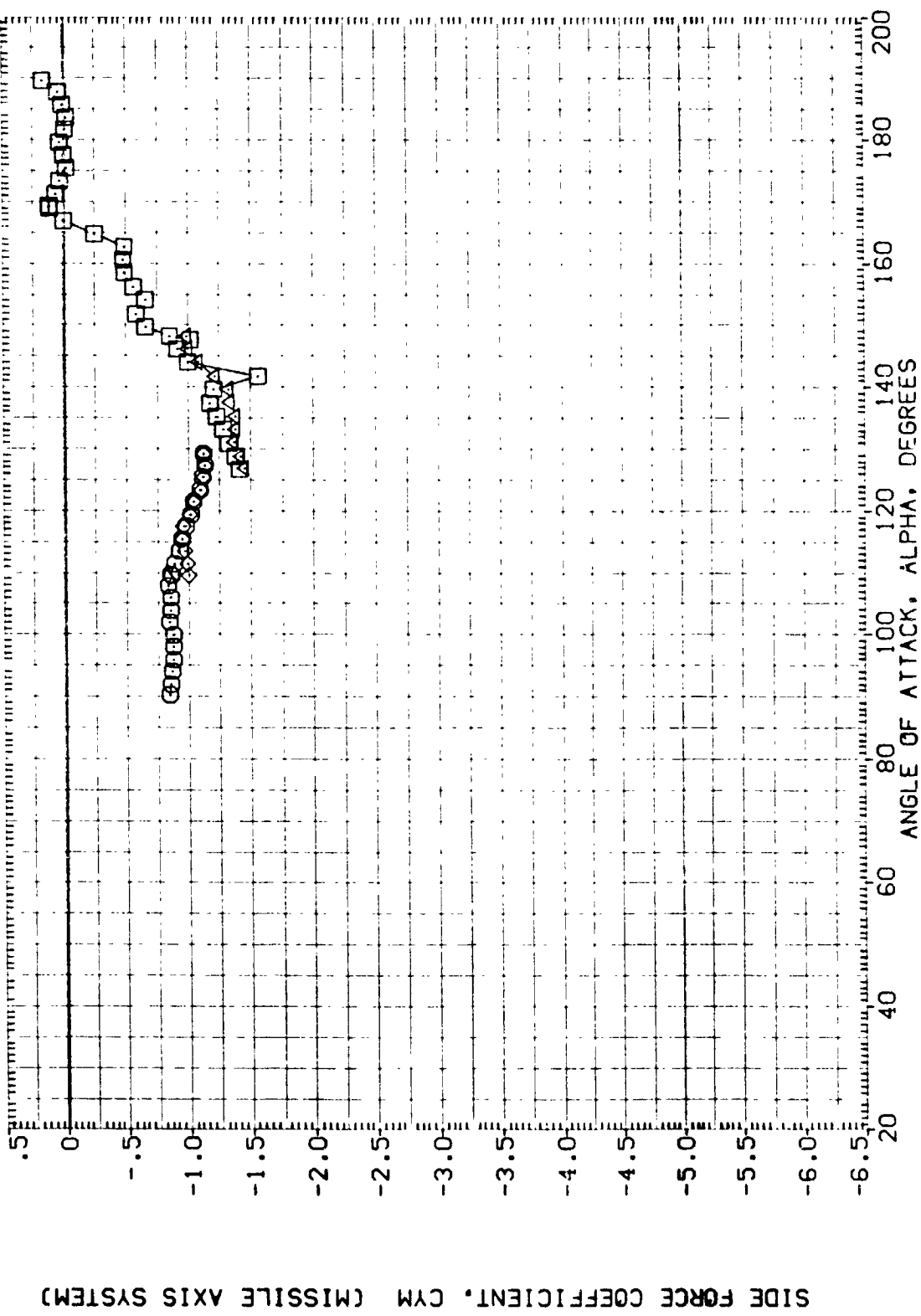


FIGURE 30. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACT. (PHI = 0)

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 ERREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 .000
 .000
 .000
 .000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1HC03) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1HD03) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1HC11) MSFC TV1604 (SABF) SRB WITH PROT. V/O HEAT SHD.
 (A1HD11) MSFC TV1604 (SABF) SRB WITH PROT. V/O HEAT SHD.

YAWING MOMENT COEFFICIENT, C_{YM} (MISSILE AXIS SYSTEM)

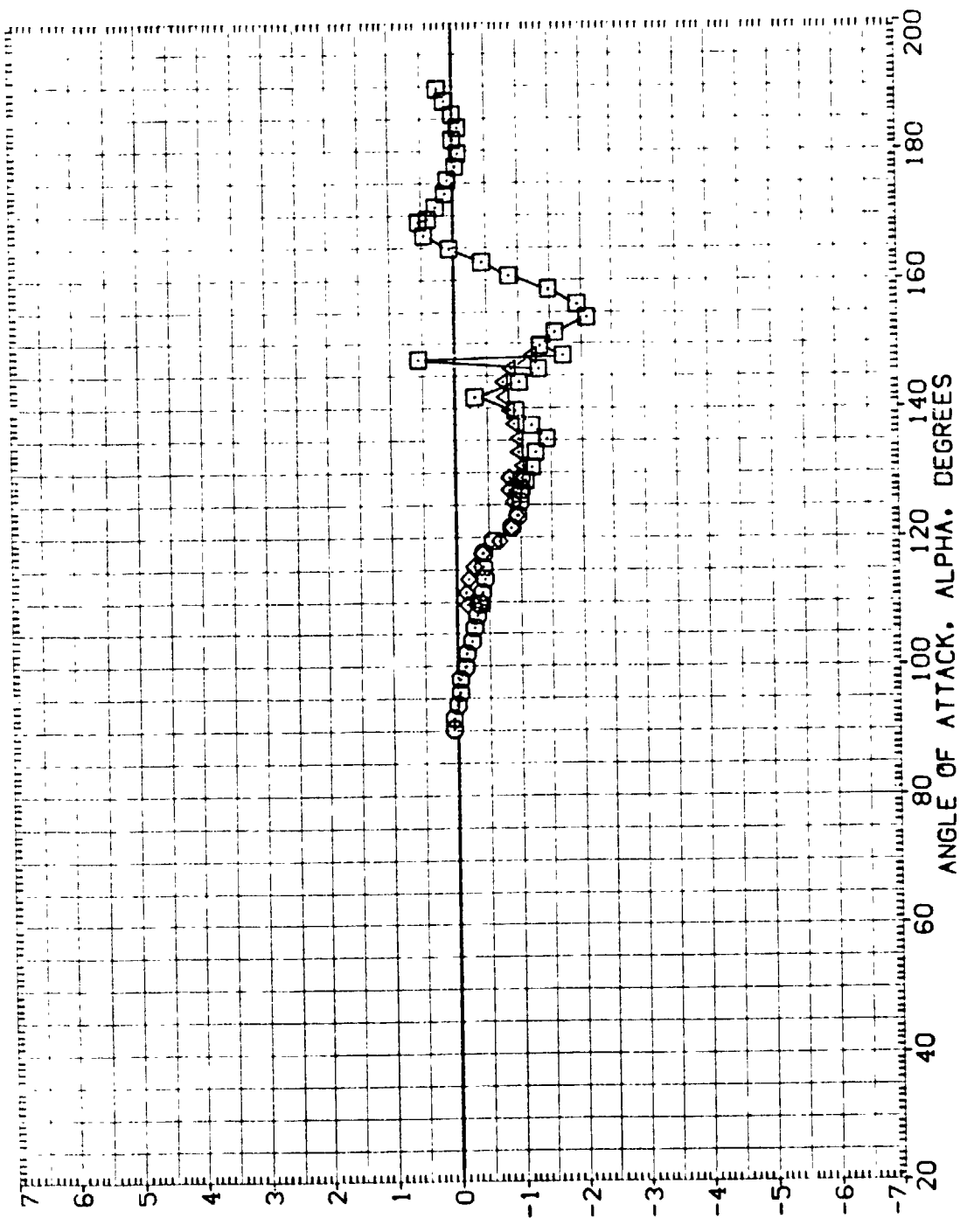


FIGURE 30. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACTER. (PHI = 0)

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(A1)C003)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	.000	SREF .5030 SQ. IN.
(A1H003)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	.000	LREF .8000 IN.
(A1H011)	MSFC TVT604 (SABF) SRB WITH PROT. V/O HEAT SH.	.000	BREF .8000 IN.
(A1H011)	MSFC TVT604 (SABF) SRB WITH PROT. V/O HEAT SH.	.000	XTRP 5.7210 IN. XS
			YTRP .0000 IN. YS
			ZTRP .0000 IN. ZS
			SCALE .0055

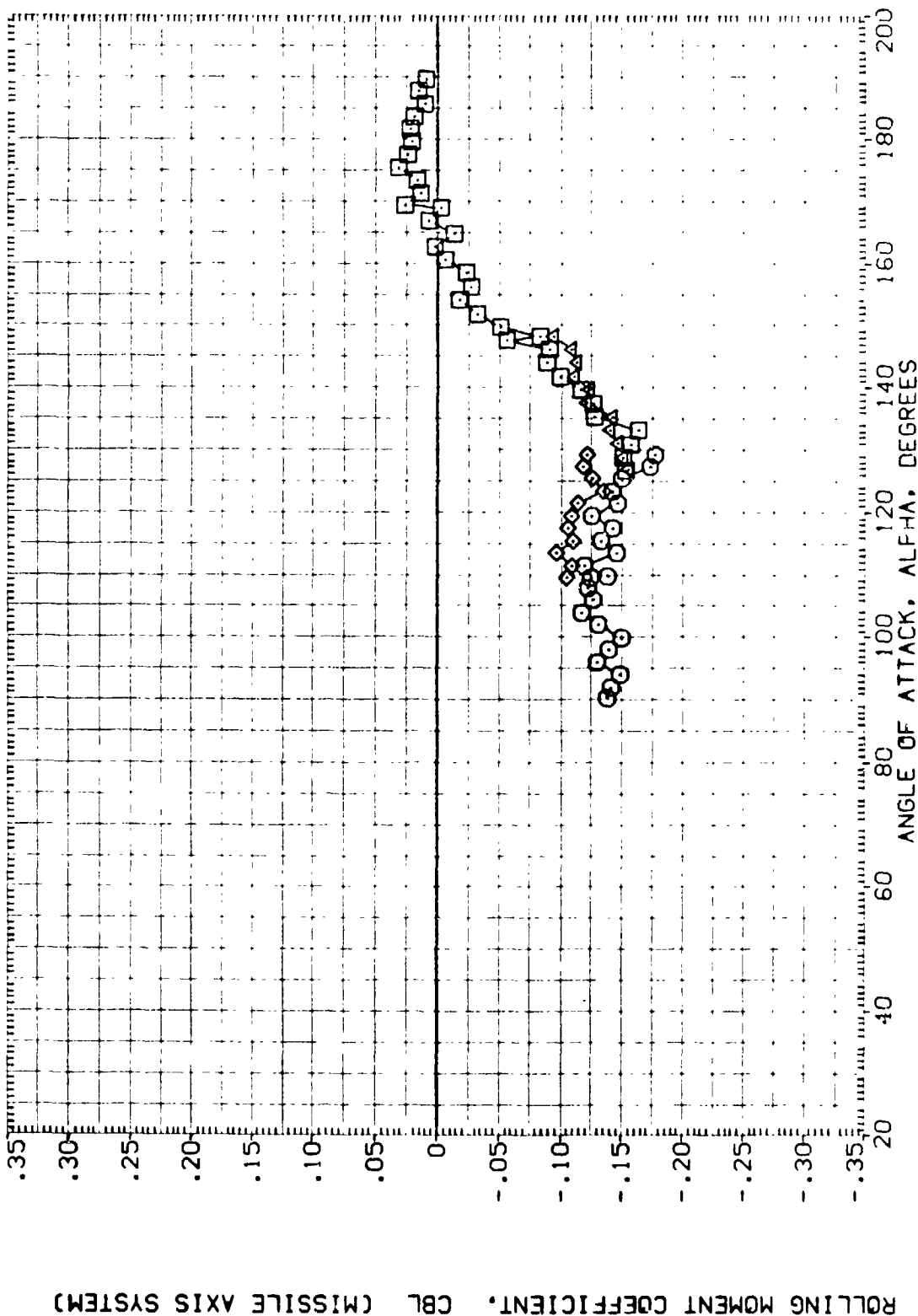


FIGURE 30. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACTER. (PHI = 0)
 (C)MACH = 1.20 PAGE 526

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1H003) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H003) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES

(A1H011) DATA NOT AVAILABLE

(A1H011) MSFC TV1604 (SABF) SRB WITH PROT. W/O HEAT SHD.

PHI

.000

.000

.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

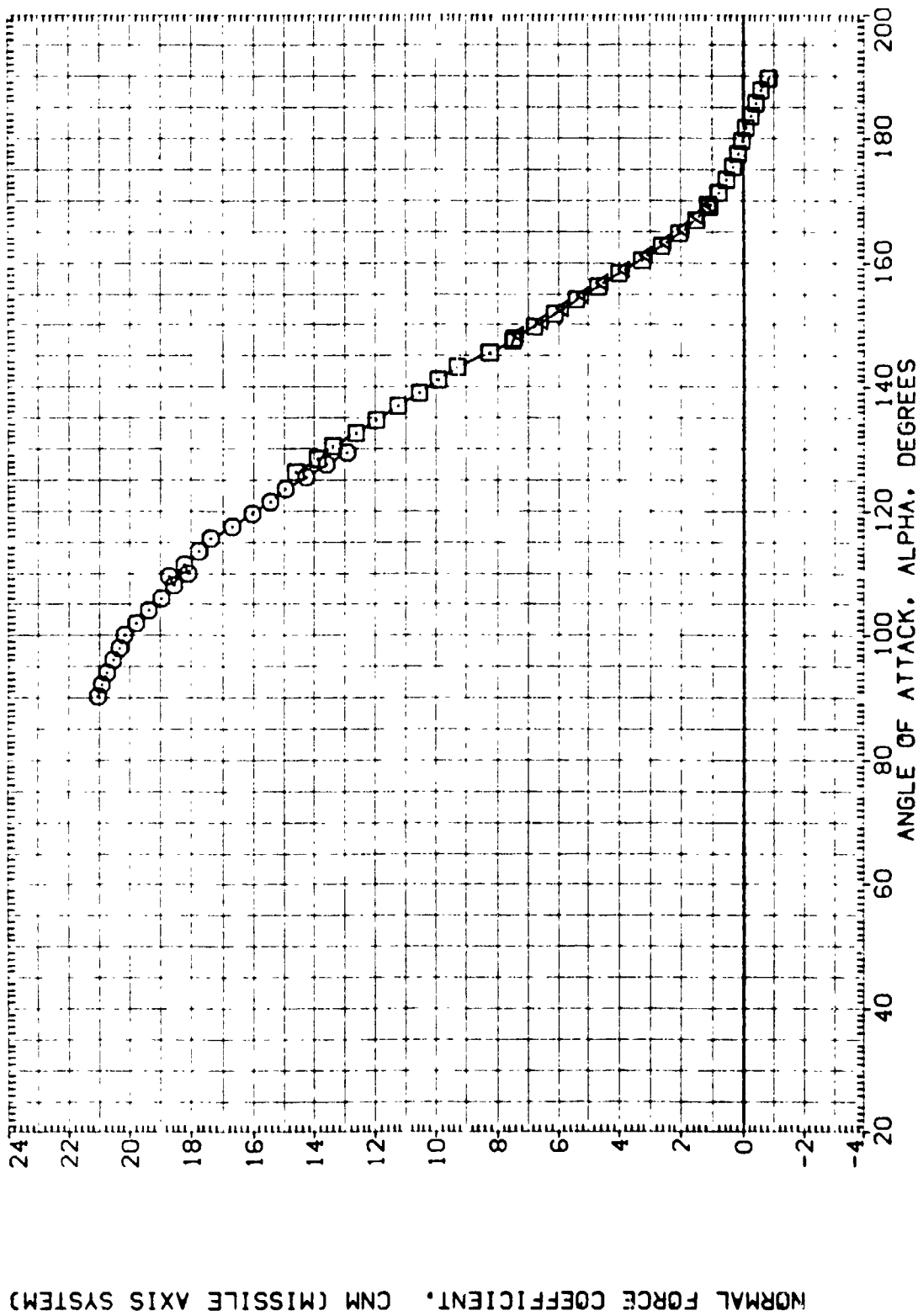


FIGURE 30. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACT. (PHI = 0)

(C)MACH = 1.96

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI
 (A1H003) □ MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000
 (A1H003) □ MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000
 (A1H011) ◊ DATA NOT AVAILABLE .000
 (A1H011) ◊ MSFC TVT604 (SABF) SRB WITH PROT. V/O HEAT S-40. .000

PITCHING MOMENT COEFFICIENT, CLMM (MISSILE AXIS SYSTEM)

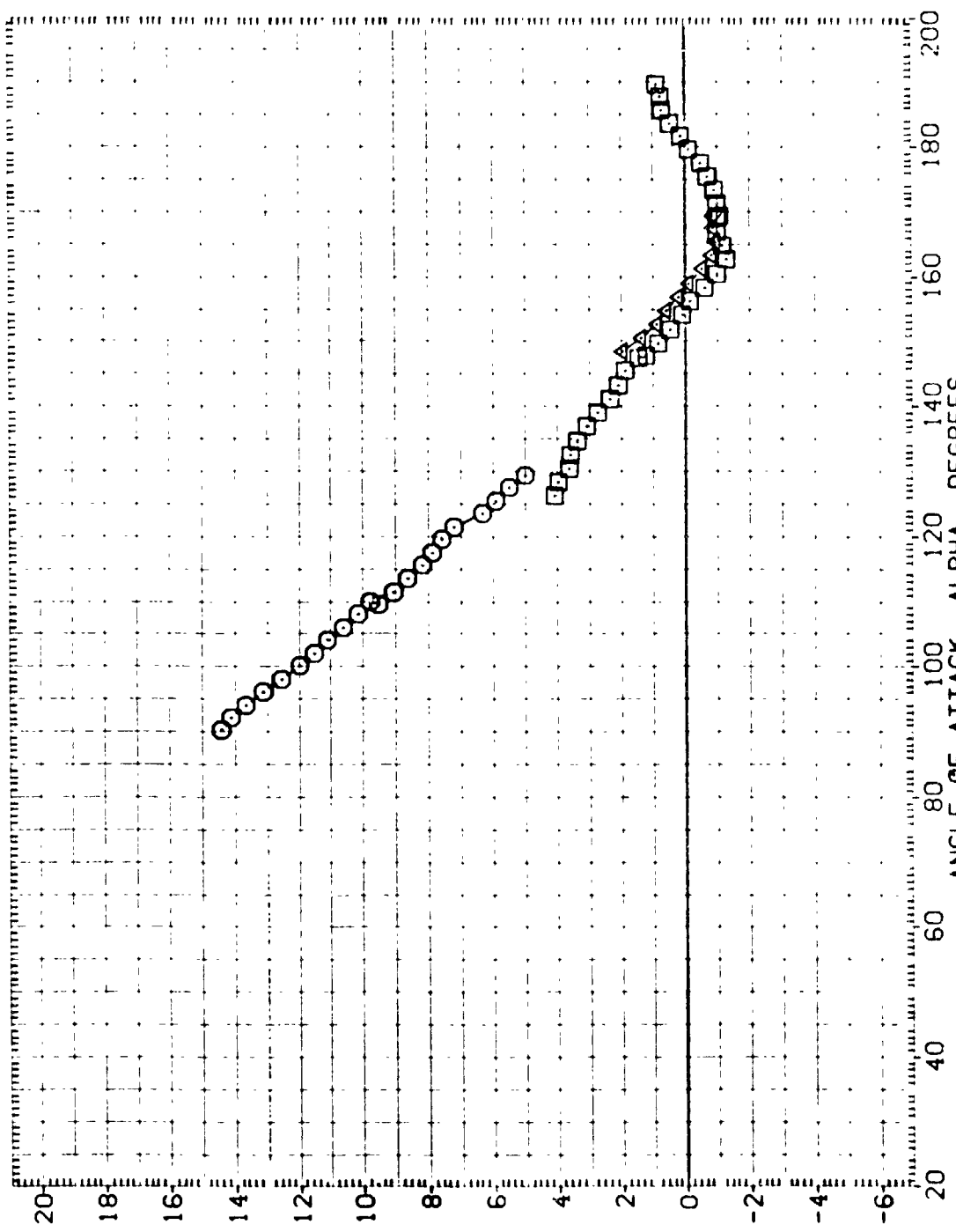


FIGURE 30. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACT. (PHI = 0)

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 .000
 .000
 .000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H011) DATA NOT AVAILABLE
 (A1H011) MSFC TVT604 (SABF) SRB WITH PROT. V/O HEAT SHD.

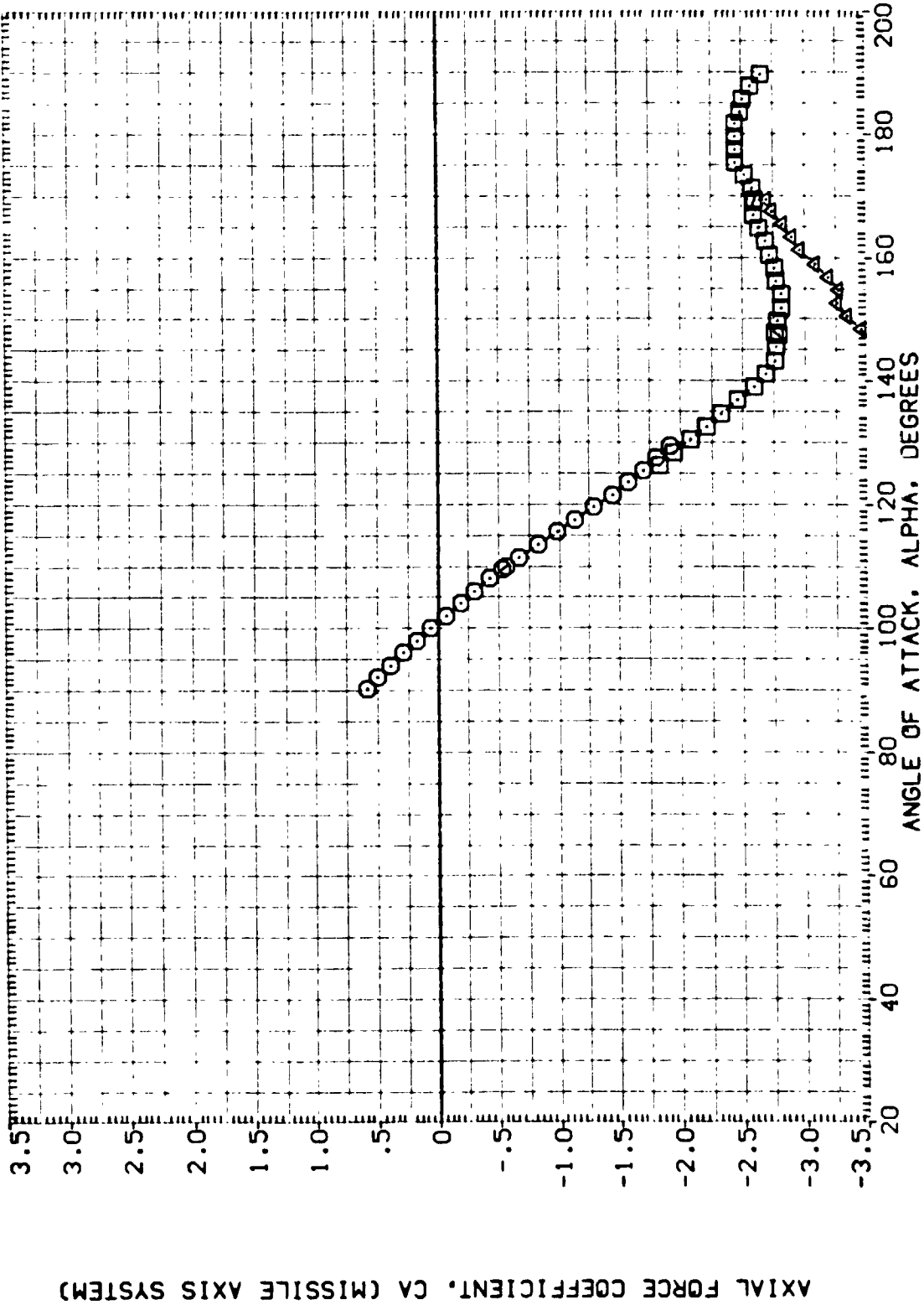


FIGURE 30. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACT. (PHI = 0)

(O)MACH = 1.96

DATA SET SYMBOLS: (AIH003) (AIH003) (AIH011) (AIH011)

CONFIGURATION DESCRIPTION
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 DATA NOT AVAILABLE
 MSFC TVT604 (SABF) SRB WITH PROT. V/O HEAT SHD.

PHI
 .000
 .000
 .000

REFERENCE INFORMATION
 SREF .5030 IN.
 LREF .8000 IN.
 BRREF .8000 IN.
 XHRP 5.7210 IN.
 YHRP .0000 IN.
 ZHRP .0000 IN.
 SCALE .0055

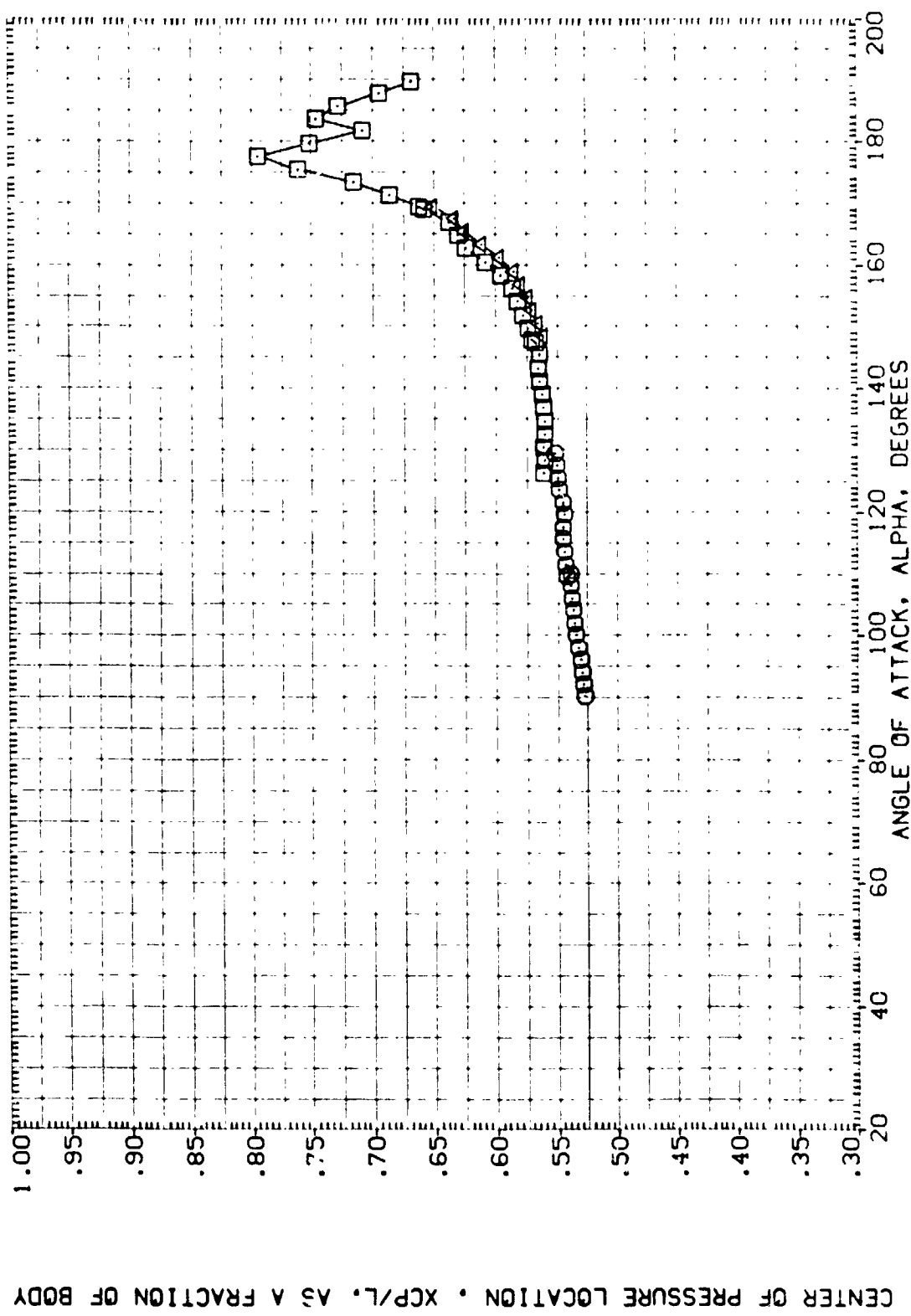


FIGURE 30. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACT. (PHI = 0)

(O)MACH = 1.96

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H003) □ MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000

(A1H003) ⊗ MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000

(A1H011) ⊗ DATA NOT AVAILABLE .000

(A1H011) ⊗ MSFC TVT604 (SABF) SRB WITH PROT. V/O HEAT S/O. .000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 N.

BREF .8000 N.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

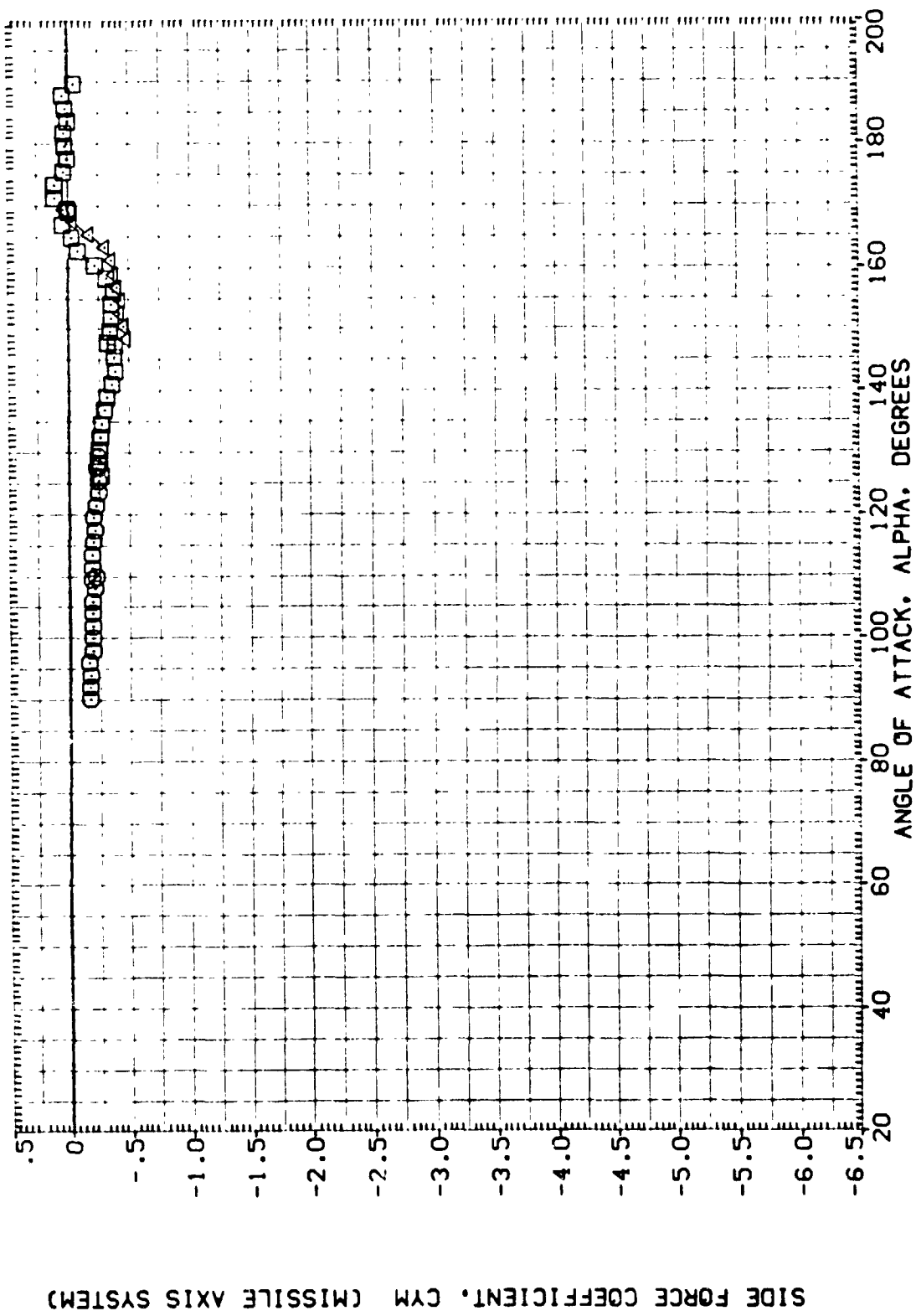


FIGURE 30. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACTER. (PHI = 0)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI
 (A1HC03) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000
 (A1HC03) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000
 (A1HC11) DATA NOT AVAILABLE .000
 (A1HD11) MSFC TVT604 (SABF) SRB WITH PROT. V/O HEAT SH. .000

YAWING MOMENT COEFFICIENT, C_{YM} (MISSILE AXIS SYSTEM)

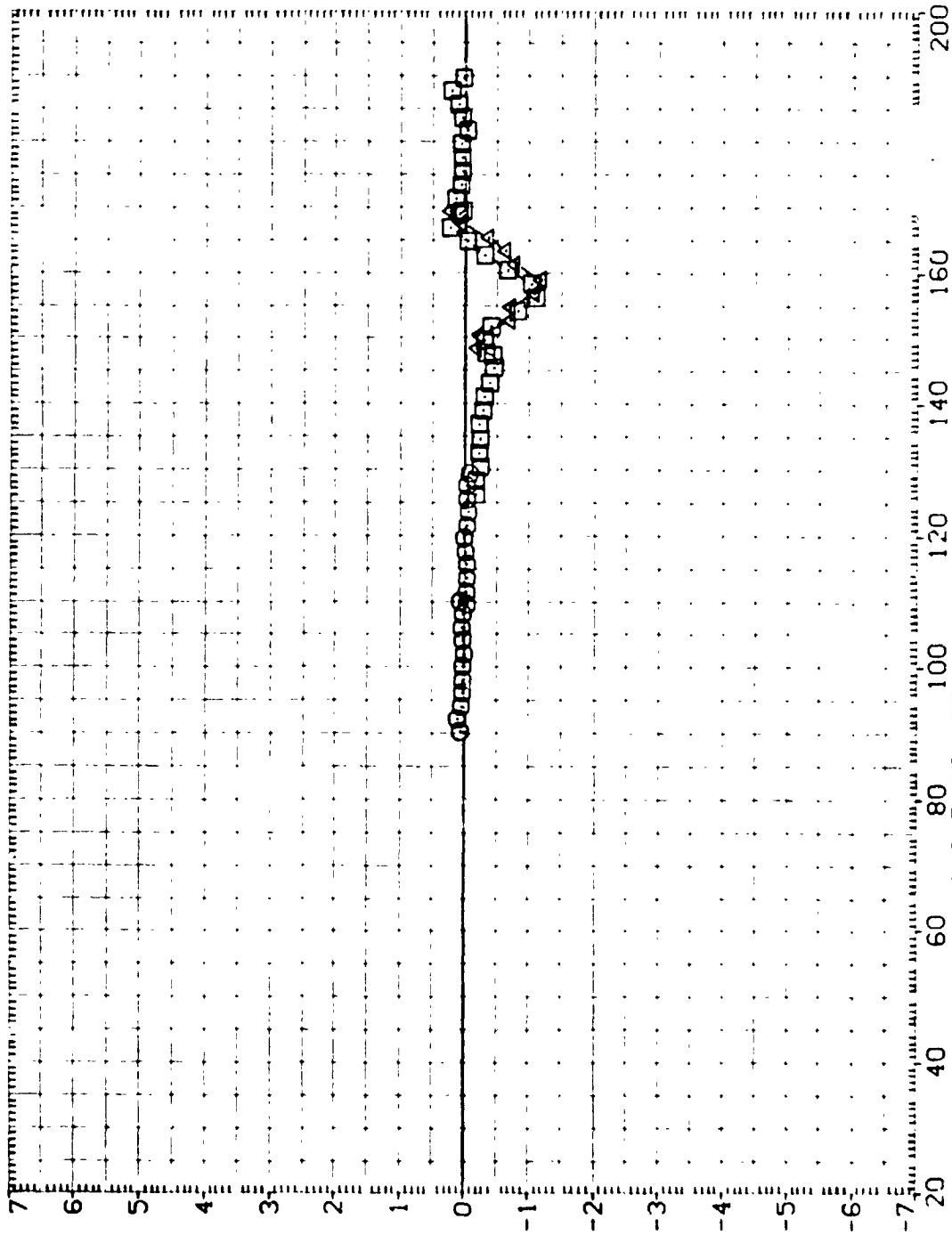


FIGURE 30. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACTERISTICS

(O)MACH = 1.96

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A11C03) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES .000

(A11C03) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES .000

(A11C11) DATA NOT AVAILABLE .000

(A11C11) MSFC TV1604 (SABF) SRB WITH PROT. V/O HEAT SHG. .000

REFERENCE INFORMATION

SREF 5030 SQ. IN.

LREF 8000 IN.

BREF 8000 IN.

XTRP S.7210 IN. XS

YTRP .0000 IN. YS

ZTRP .0000 IN. ZS

SCALE .0055

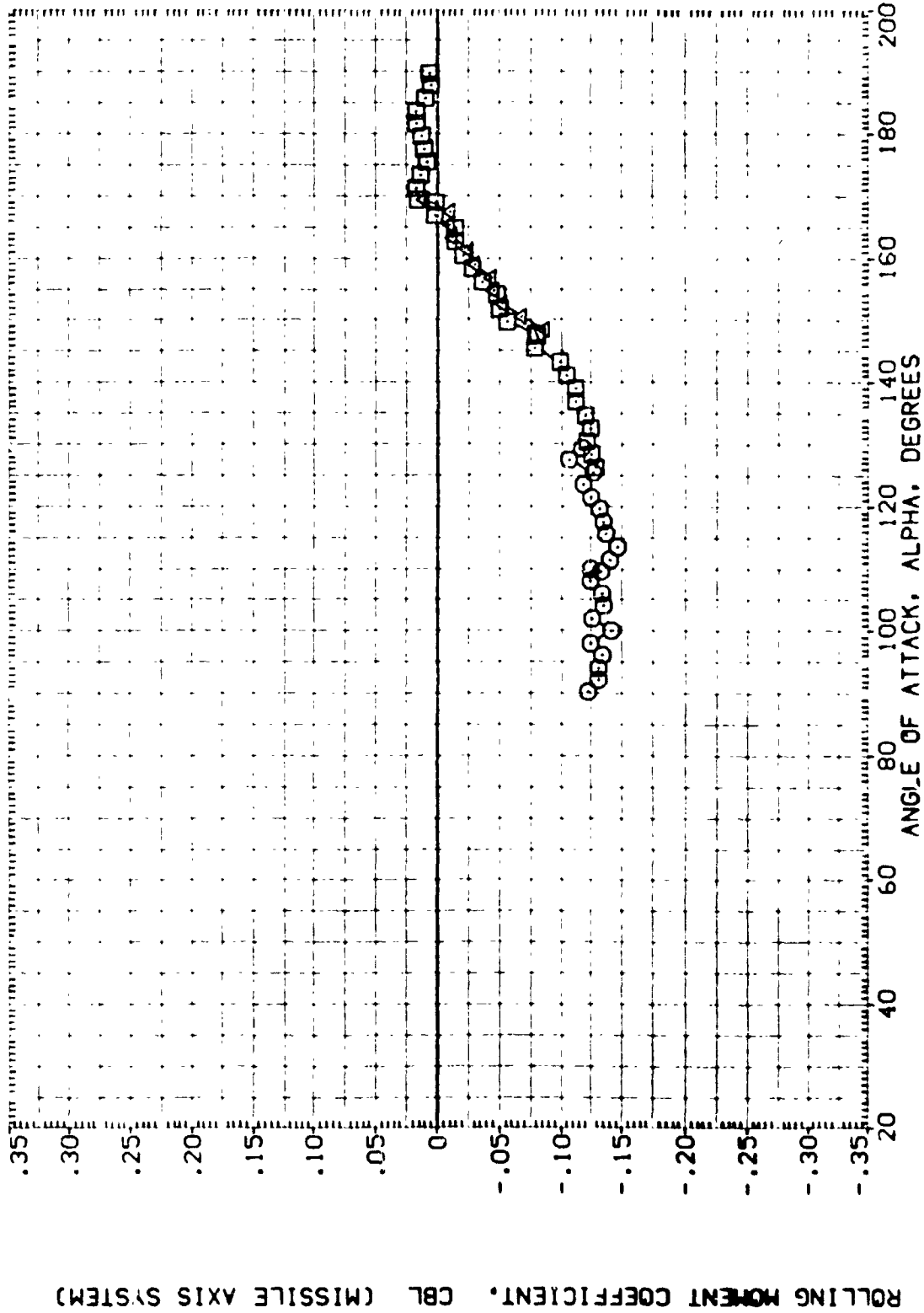


FIGURE 30. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACT. (PHI = 0)

(D)MACH = 1.96

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1K003) MSFC TVTSD4 (SABF) SRB WITH ALL PROTRUSANCES .000

(A1K003) MSFC TVTSD4 (SABF) SRB WITH ALL PROTRUSANCES .000

(A1K011) DATA NOT AVAILABLE .000

(A1K011) MSFC TVTSD4 (SABF) SRB WITH PROT. V/O HEAT SHD. .000

REFERENCE INFORMATION

SREF .5030 SO. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

ZMRP .0000 IN. ZS

SCALE .0055

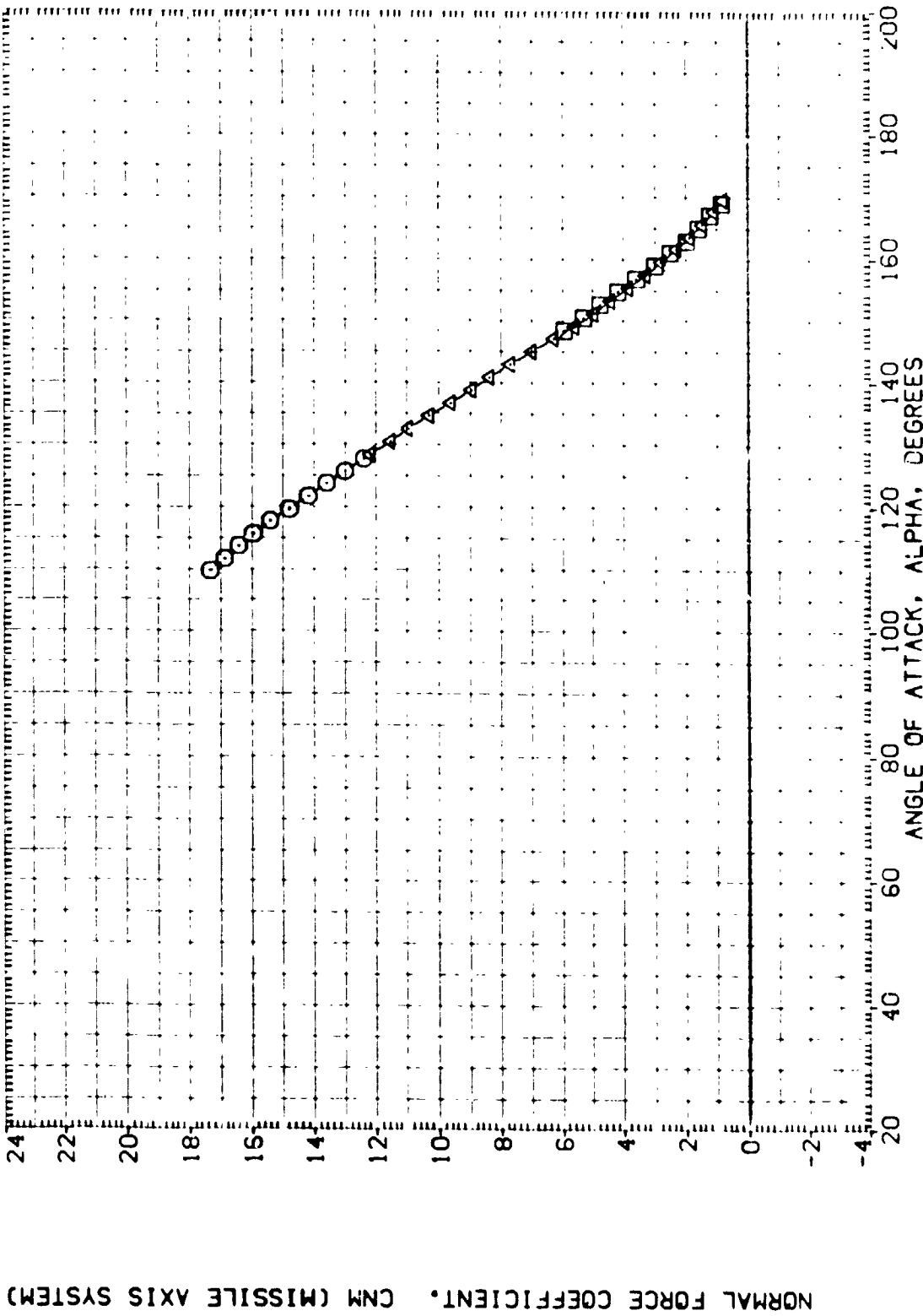


FIGURE 30. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACT. (PHI = 0)

(E)MACH = 3.48

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(AIHC03) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES
 (AIH003) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES
 (AIHC11) DATA NOT AVAILABLE
 (AIH011) MSFC TV1604 (SABF) SRB WITH PROT. V/O HEAT SHD.

PHI
 .000
 .000
 .000

REFERENCE INFORMATION

SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PITCHING MOMENT COEFFICIENT, CLMM (MISSILE AXIS SYSTEM)

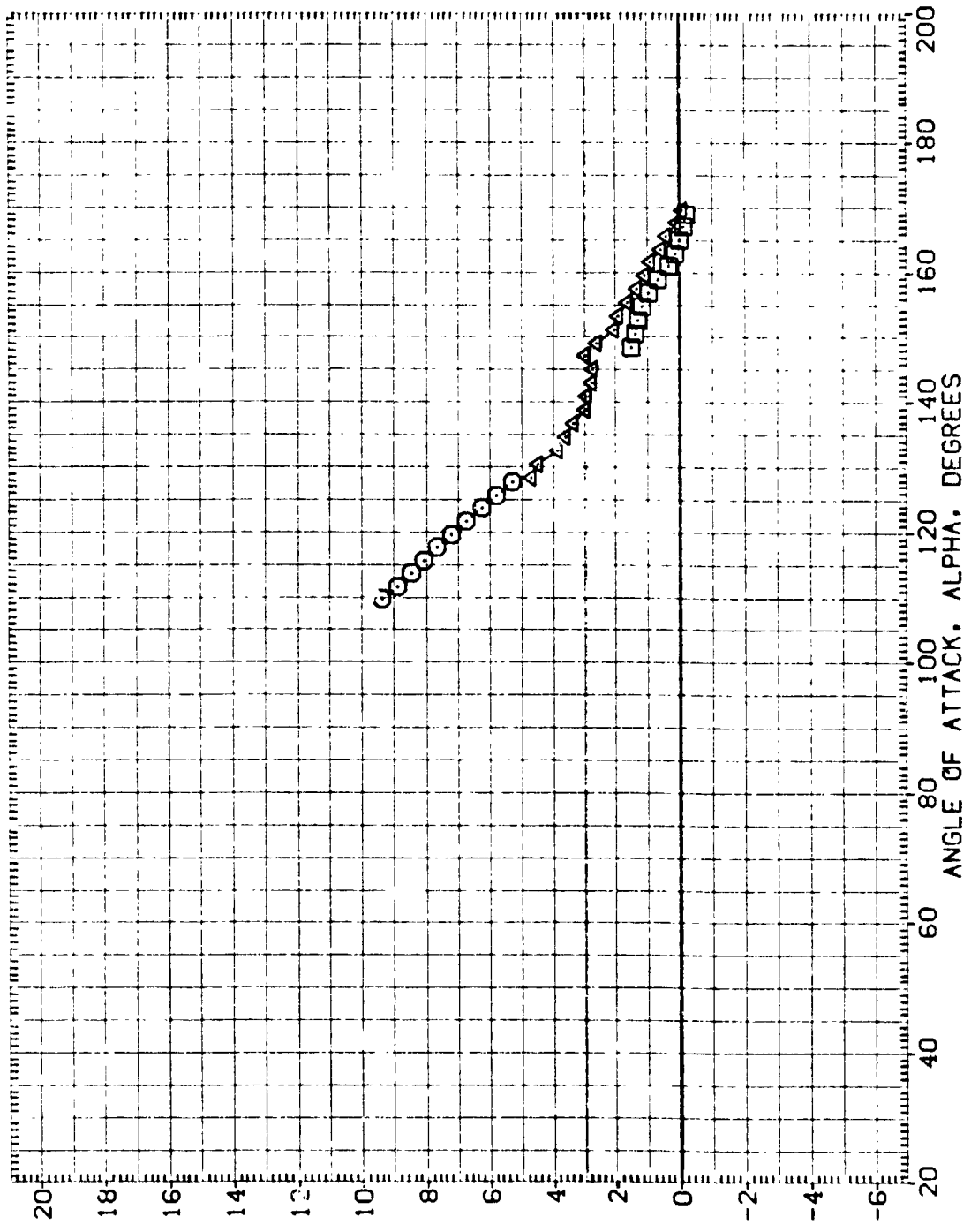


FIGURE 30. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACT. (PHI = 0)

(E)MACH = 3.48

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1HC03) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000

(A1HC03) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000

(A1HC11) DATA NOT AVAILABLE .000

(A1HC11) MSFC TVT604 (SABF) SRB WITH PROT. V/O HEAT SHD. .000

REFERENCE INFORMATION

SREF .5030 IN.

LREF .8000 IN.

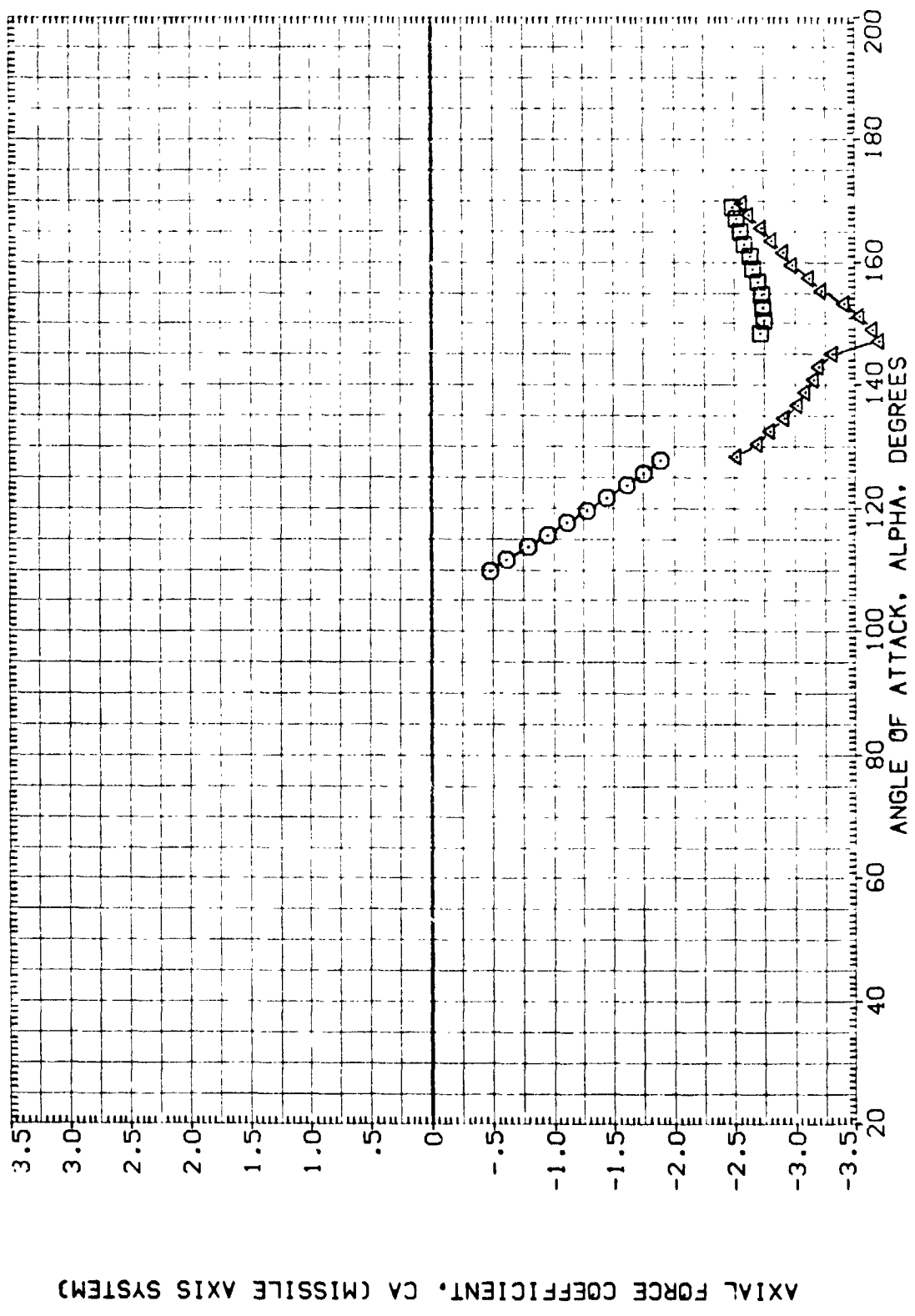
BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055



AXIAL FORCE COEFFICIENT, CA (MISSILE AXIS SYSTEM)

FIGURE 30. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACT. (PHI = 0)

(E)MACH = 3.48



DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(AIHC03) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000

(AIHD03) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000

(AIHC11) DATA NOT AVAILABLE .000

(AIHD11) MSFC TVT604 (SABF) SRB WITH PROT. 1/3 HEAT SHD. .000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

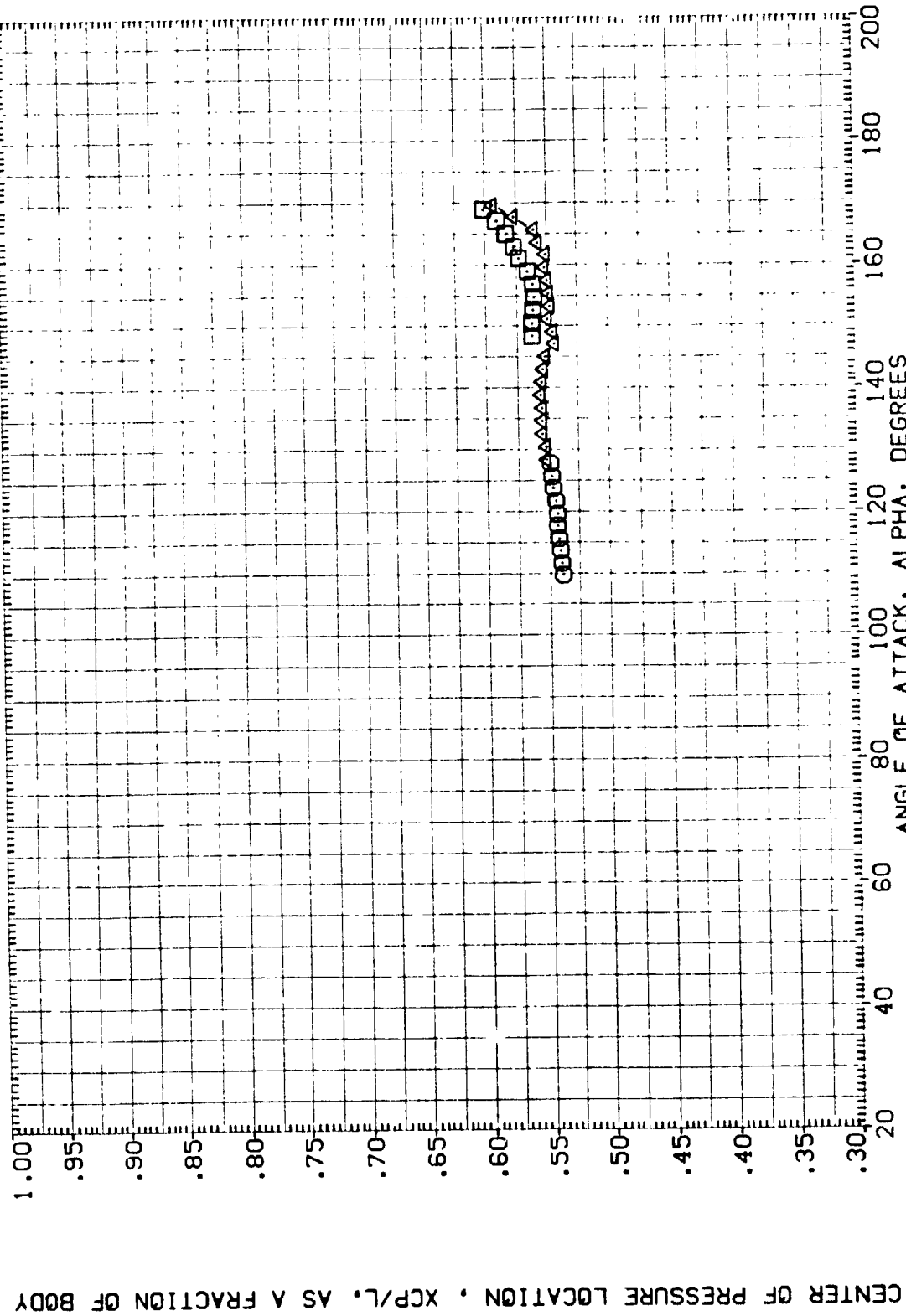


FIGURE 30. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACTER. (PHI = 0)

REFERENCE INFORMATION
 SREF 5030 SQ. IN.
 LREF 8000 IN.
 BREF 8000 IN.
 XHRP 5.7210 IN. XS
 YHRP .0000 IN. YS
 ZHRP .0000 IN. ZS
 SCALE .0055

PHI
 .000
 .000
 .000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (AIH003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (AIH003) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (AIH011) DATA NOT AVAILABLE
 (AIH011) MSFC TVT604 (SABF) SRB WITH PROT. V/O HEAT SHD.

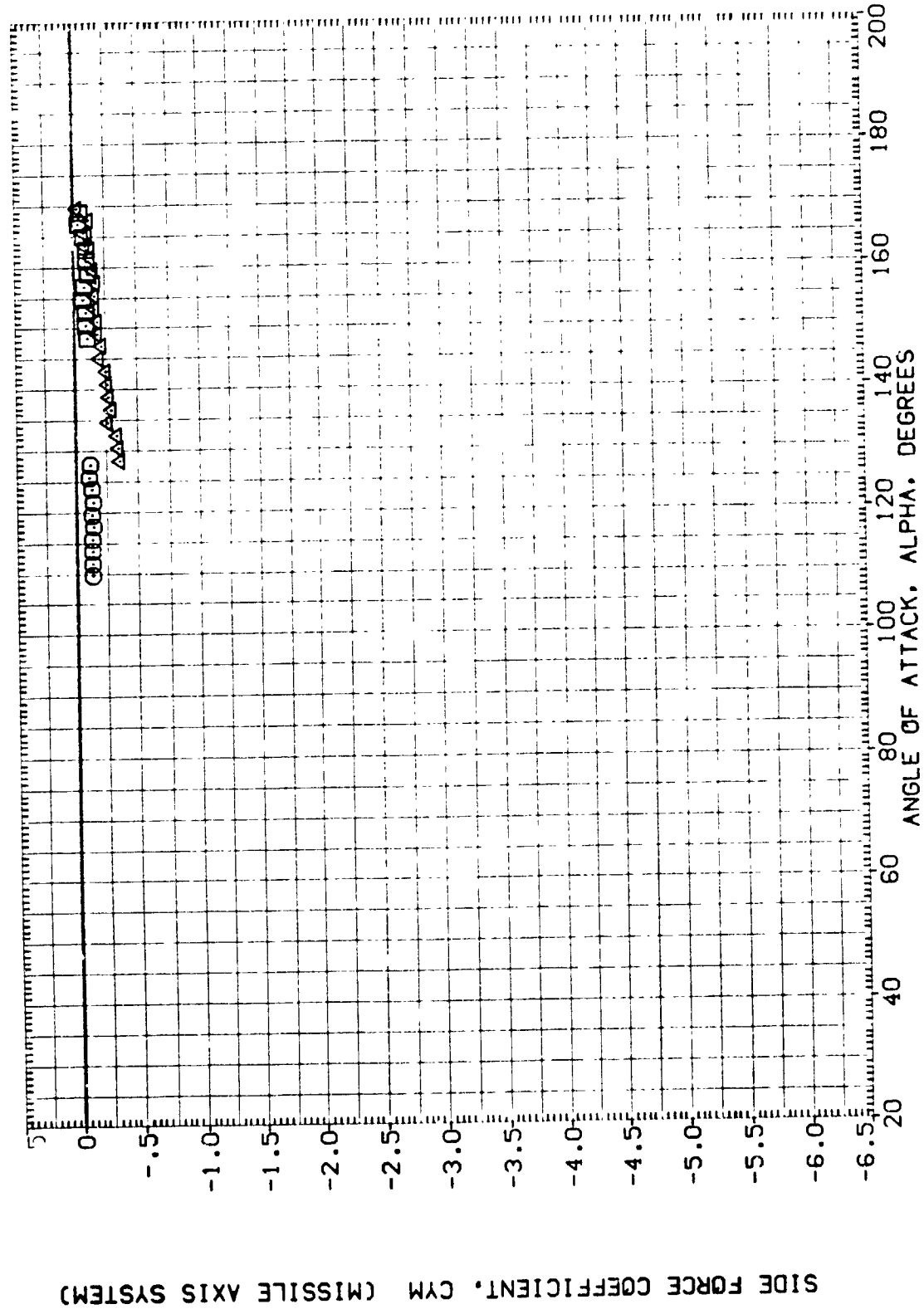


FIGURE 30. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACT. (PHI = 0)

(E)MACH = 3.48

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI .000
 .000
 .000

DATA SET SYMBOL. CONFIGURATION DESCRIPTION
 (A1H003) MSFC TWT604 (SAS9) SRB WITH ALL PROTUBERANCES
 (A1H003) MSFC TWT604 (SAS9) SRB WITH ALL PROTUBERANCES
 (A1H011) DATA NOT AVAILABLE
 (A1H011) MSFC TWT604 (SAS9) SRB WITH PROT. 1/3 HEAT SHD.

YAWING MOMENT COEFFICIENT, C_{YM} (MISSILE AXIS SYSTEM)

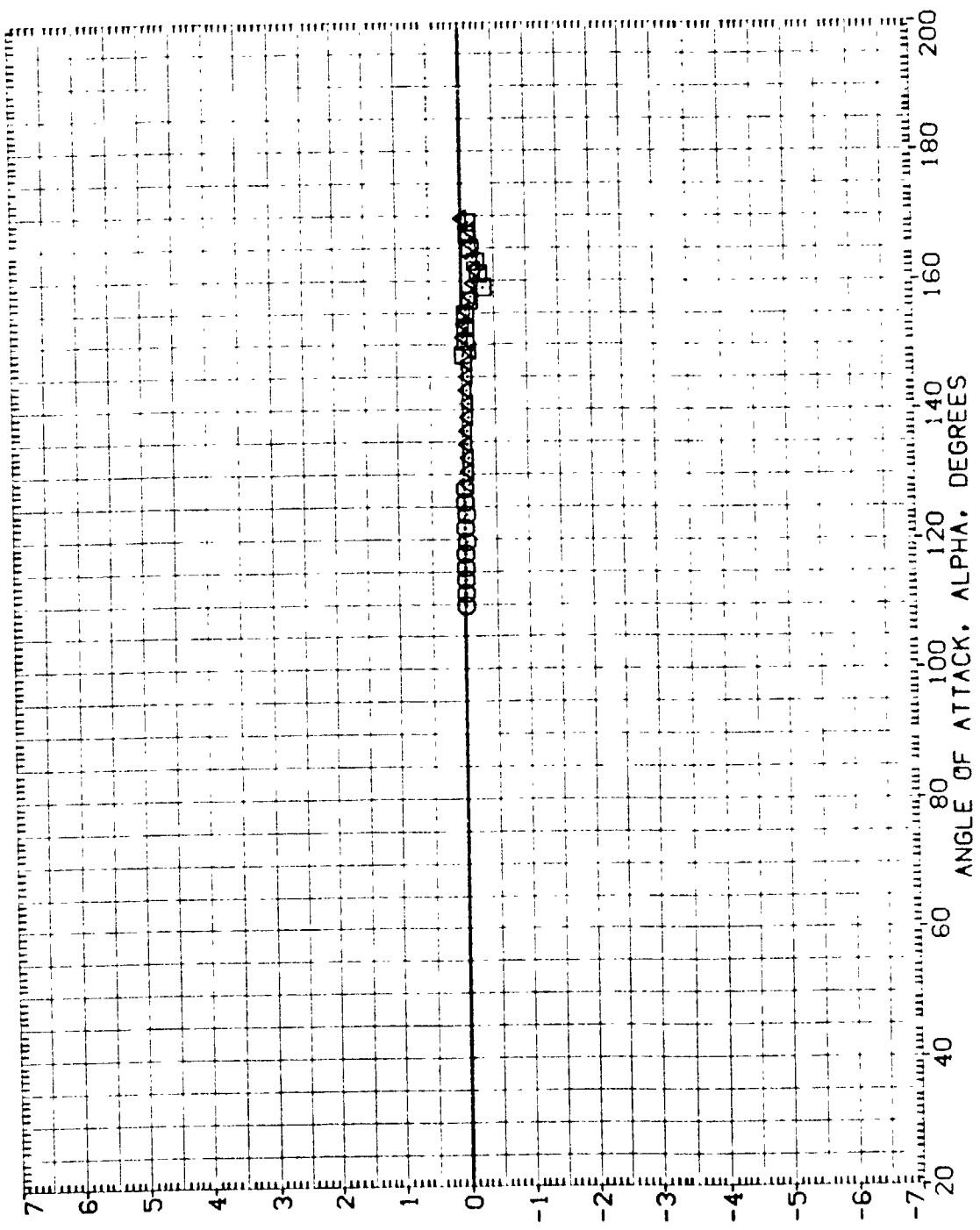


FIGURE 30. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACT. (PHI = 0)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES .000
 DATA NOT AVAILABLE .000
 MSFC TVT604 (SABF) SRB WITH PROT. V/O HEAT SHD. .000

MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 DATA NOT AVAILABLE
 MSFC TVT604 (SABF) SRB WITH PROT. V/O HEAT SHD.

MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 DATA NOT AVAILABLE
 MSFC TVT604 (SABF) SRB WITH PROT. V/O HEAT SHD.

REFERENCE INFORMATION
 SREF 5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

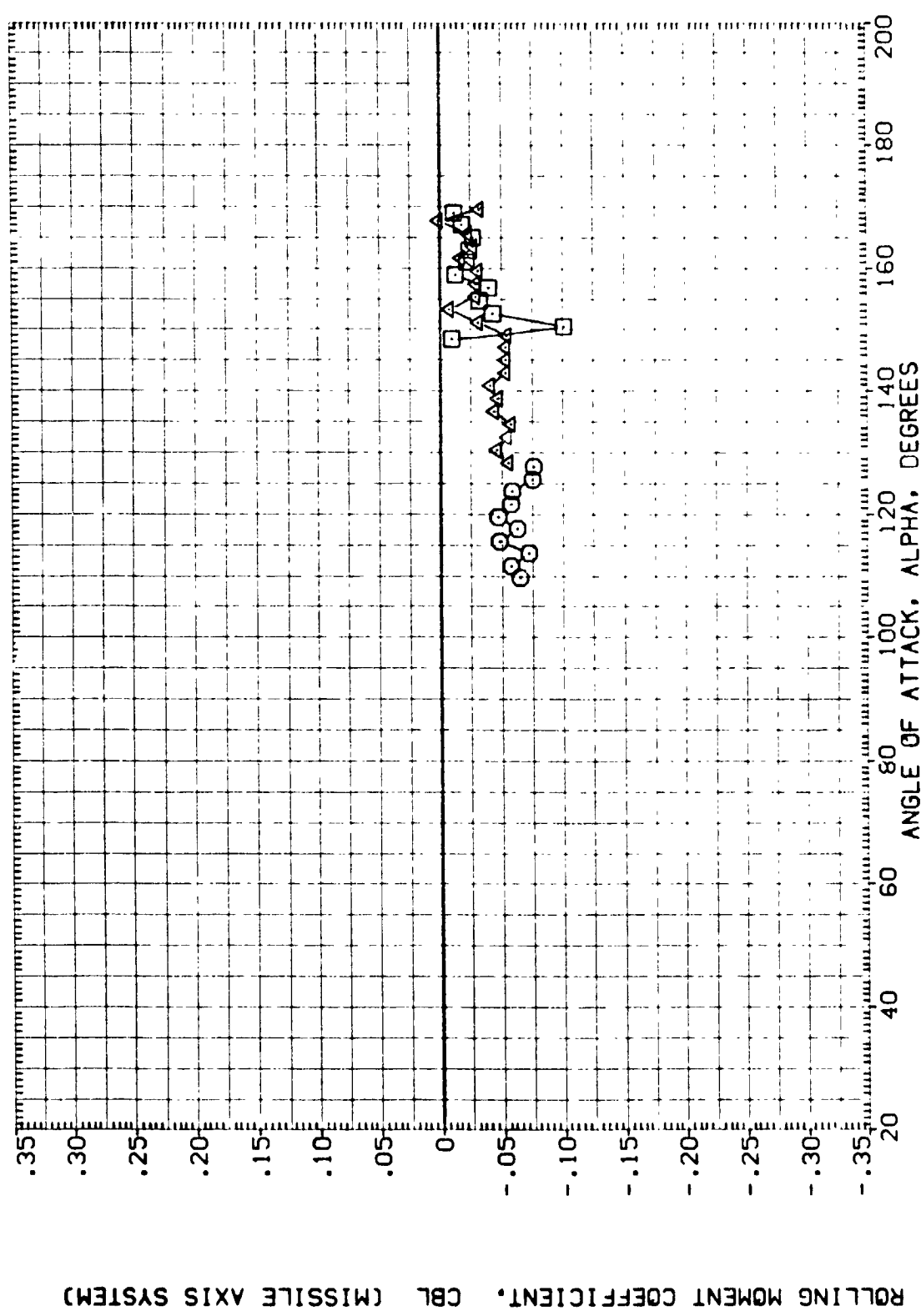


FIGURE 30. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACT. (PHI = 0)

REFERENCE INFORMATION

SREF	.5030	SQ. IN.
LREF	.8000	IN.
BREF	.8000	IN.
XMRP	5.7210	IN. XS
YMRP	.0000	IN. YS
ZMRP	.0000	IN. ZS
SCALE	.0055	

PHI
90.000
90.000
90.000

CONFIGURATION DESCRIPTION

MSFC TV1604 (SABF)	SRB WITH ALL PROTUBERANCES
MSFC TV1604 (SABF)	SRB WITH ALL PROTUBERANCES
DATA NOT AVAILABLE	
MSFC TV1604 (SABF)	SRB WITH PROT. V/O HEAT S-O.

DATA SET SYMBOL

(AIH005)	○
(AIH005)	○
(AIH12)	○
(AIH012)	○

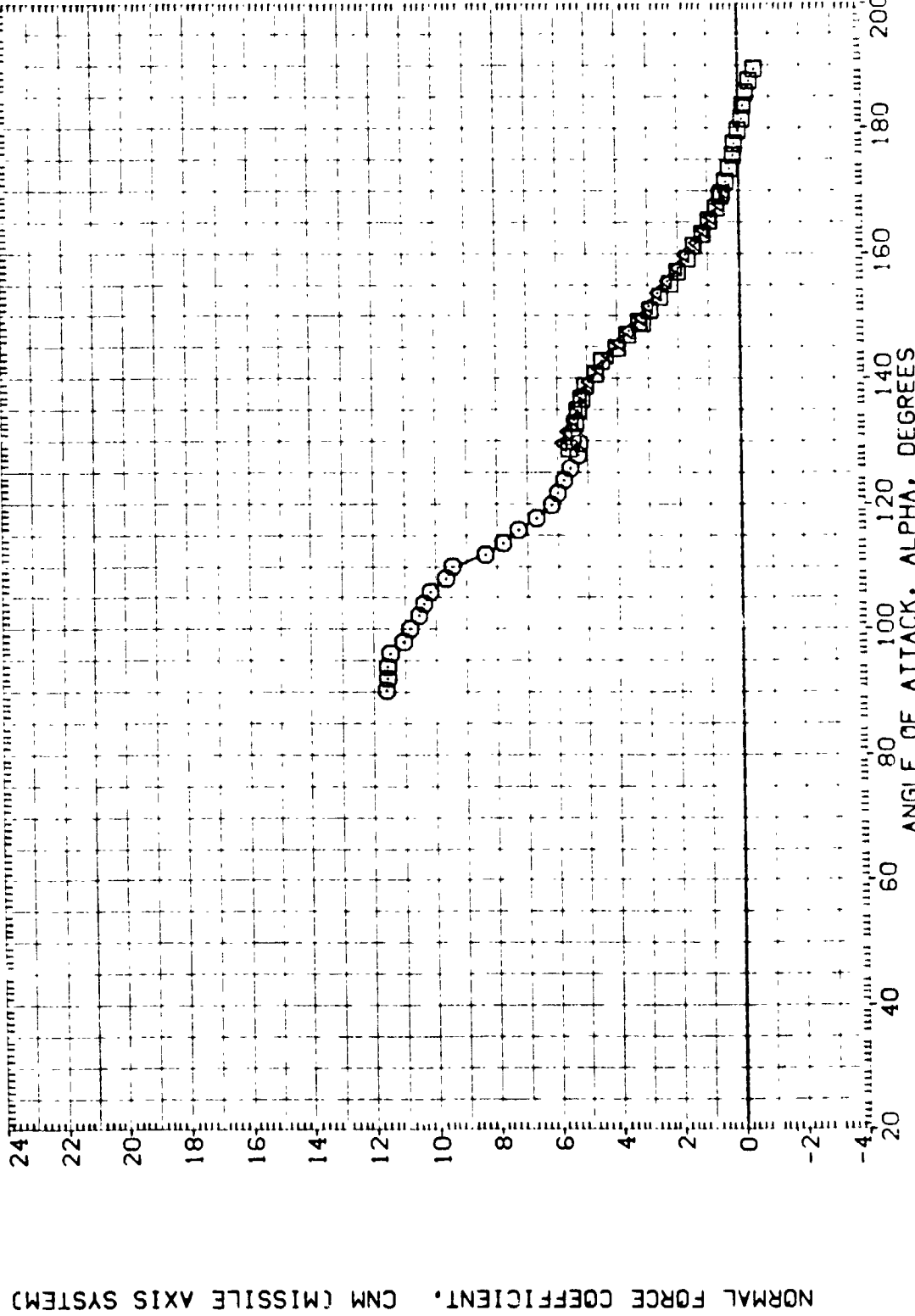


FIGURE 31. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACTER. (PHI = 90)

REFERENCE INFORMATION
 SREF 50.000 IN.
 LREF 8000 IN.
 BREF 8000 IN.
 XMRP 5.7210 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0055

PHI
 90.000
 90.000
 90.000
 90.000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 DATA NOT AVAILABLE
 MSFC TVT604 (SABF) SRB WITH PROT. W/O HEAT SHD.

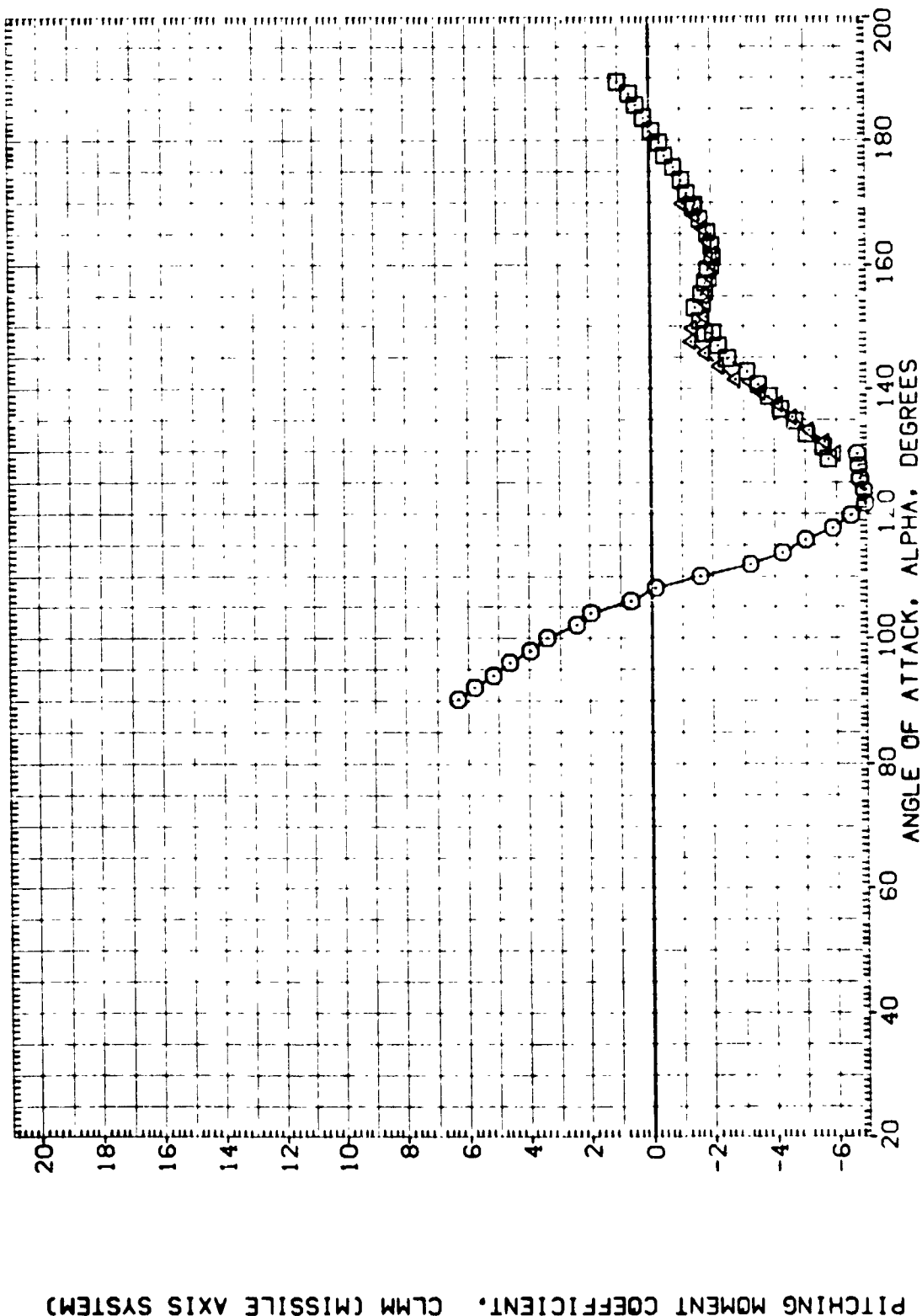


FIGURE 31. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACT. (PHI = 90)

(A)MACH = .40

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(A1H005)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	90.000	SREF .5030 SQ. IN.
(A1H006)	MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES	90.000	LREF .8000 IN.
(A1H012)	DATA NOT AVAILABLE	90.000	BREF .8000 IN.
(A1H012)	MSFC TVT604 (SABF) SRB WITH PROT. V/O HEAT SMO.	90.000	XMRP 5.7210 IN. XS
			YMRP .0000 IN. YS
			ZMRP .0000 IN. ZS
			SCALE .0055

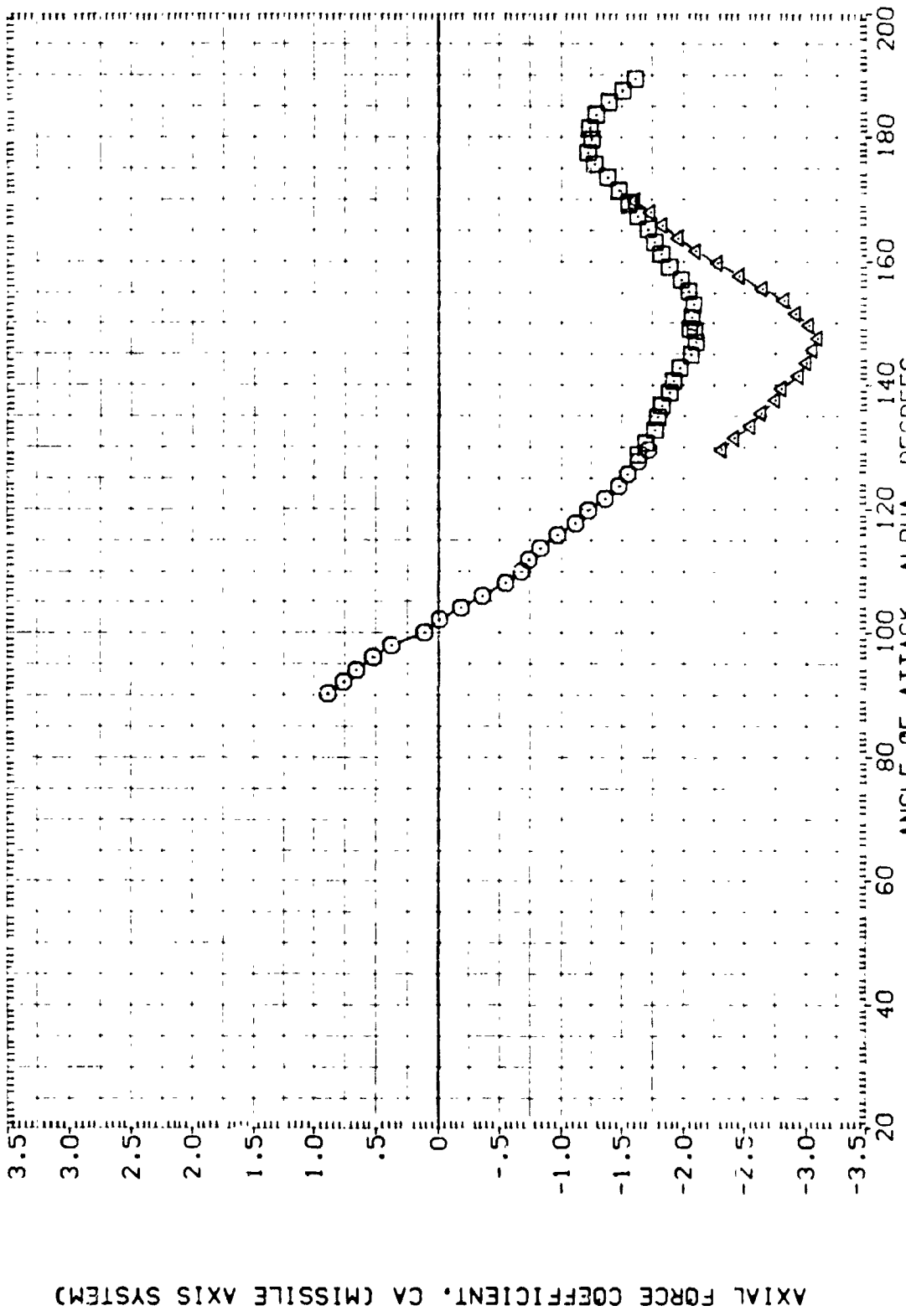


FIGURE 21. EFFECT OF HEAT PROTECTION ON AXIAL FORCE COEFFICIENT, CA (MISSILE AXIS SYSTEM)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

(A1H005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

(A1H012) DATA NOT AVAILABLE 90.000

(A1H012) MSFC TVT604 (SABF) SRB WITH PROT. V/D HEAT S-D. 90.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP .7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

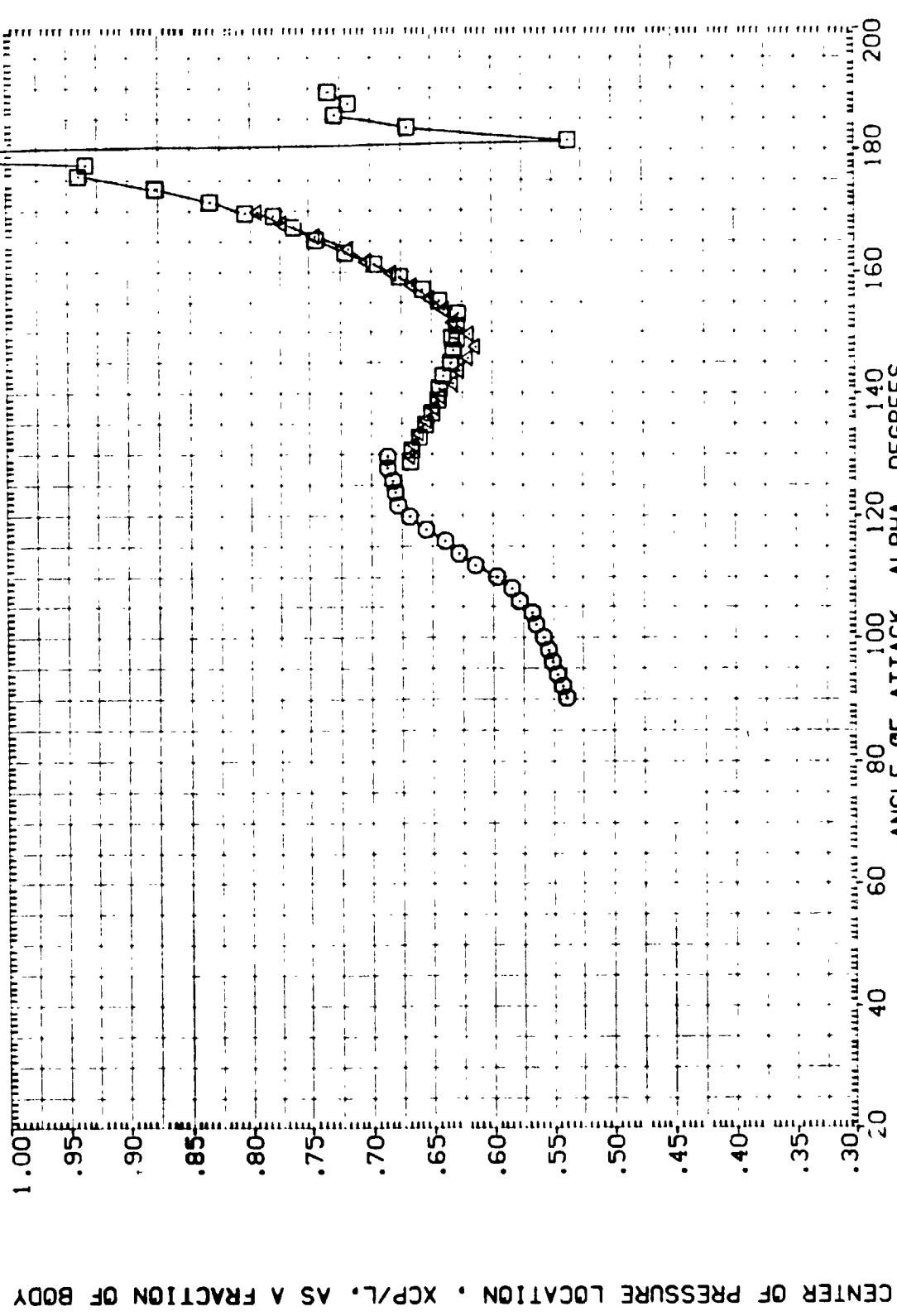


FIGURE 31. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACT. (PHI = 90)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(AIH005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

(AIH005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

(AIH012) DATA NOT AVAILABLE 90.000

(AIH012) MSFC TVT604 (SABF) SRB WITH PROT. V/D HEAT SH-D. 90.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

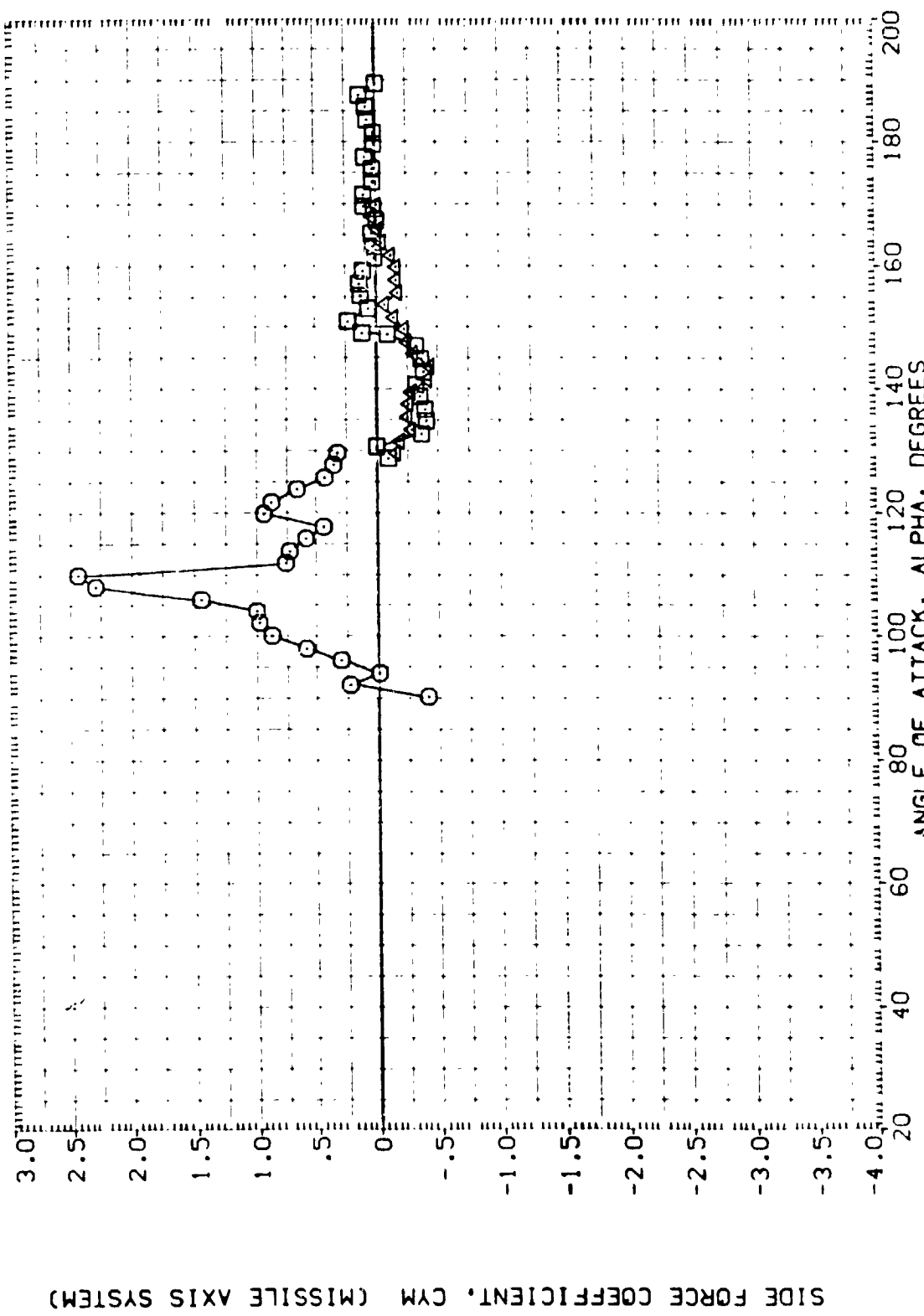


FIGURE 31. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACT. (PHI = 90)

(A)MACH = .40

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DATA SET SYMBOL: (A1)C05
 (A1)C05
 (A1)C12
 (A1)H012

CONFIGURATION DESCRIPTION
 MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES
 DATA NOT AVAILABLE
 MSFC TV1604 (SABF) SRB WITH PROT. V/O HEAT SHD.

REFERENCE INFORMATION
 SRB F: 5030 SQ. IN.
 LRAE F: 8000 IN.
 BRB F: 8000 IN.
 XMRP: 5.7210 IN. XS
 YMRP: .0000 IN. YS
 ZMRP: .0000 IN. ZS
 SCALE: .0055

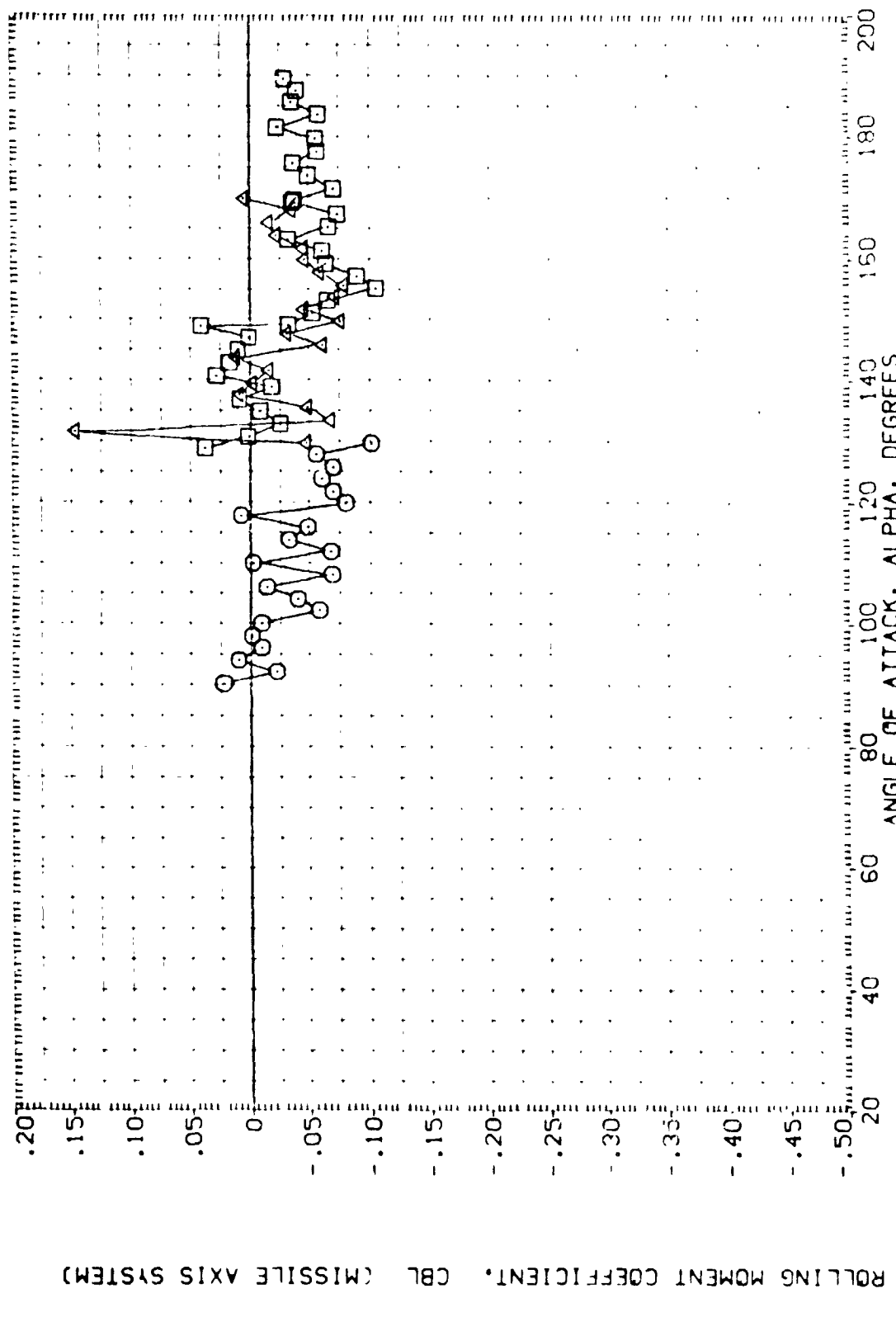


FIGURE 31. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACTER. (PHI = 90)
 (A)MACH = .40

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1K005) MSFC TV1604 (SABF) SRB WITH ALL PROTLBERANCES 90.000

(A1K005) MSFC TV1604 (SABF) SRB WITH ALL PROTLBERANCES 90.000

(A1K012) MSFC TV1604 (SABF) SRB WITH PROT. V/O HEAT SHO. 90.000

(A1K012) MSFC TV1604 (SABF) SRB WITH PROT. V/O HEAT SHO. 90.000

REFERENCE INFORMATION

SREF 50.30 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN.

YMRP .0000 IN.

ZMRP .0000 IN.

SCALE .0055 IN.

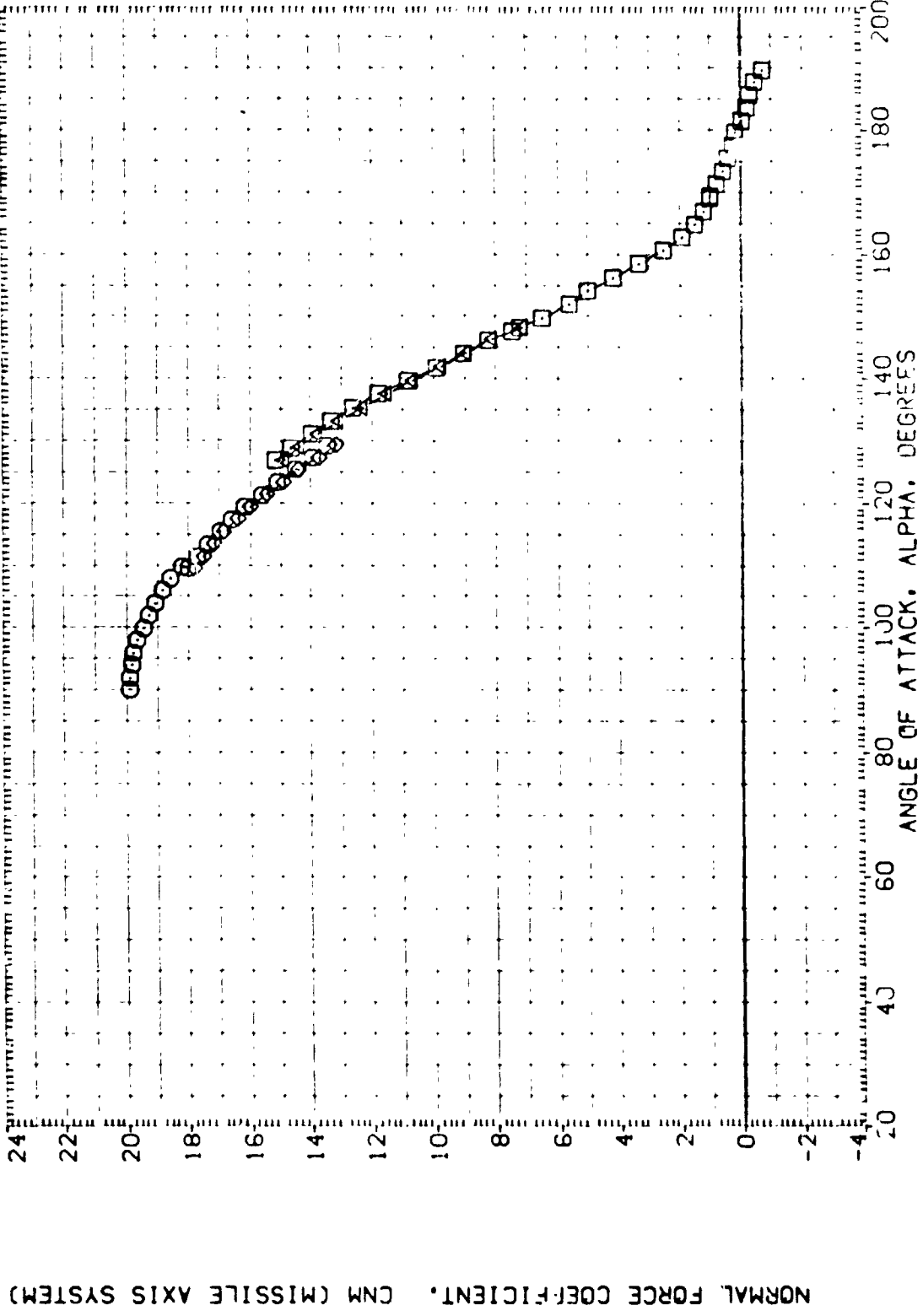


FIGURE 31. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACTER. (PHI = 90)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H005) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

(A1H006) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

(A1H012) MSFC TV1604 (SABF) SRB WITH PROT. 1/8 HEAT SHD. 90.000

(A1H012) MSFC TV1604 (SABF) SRB WITH PROT. 1/8 HEAT SHD. 90.000

REFERENCE INFORMATION

SPEF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

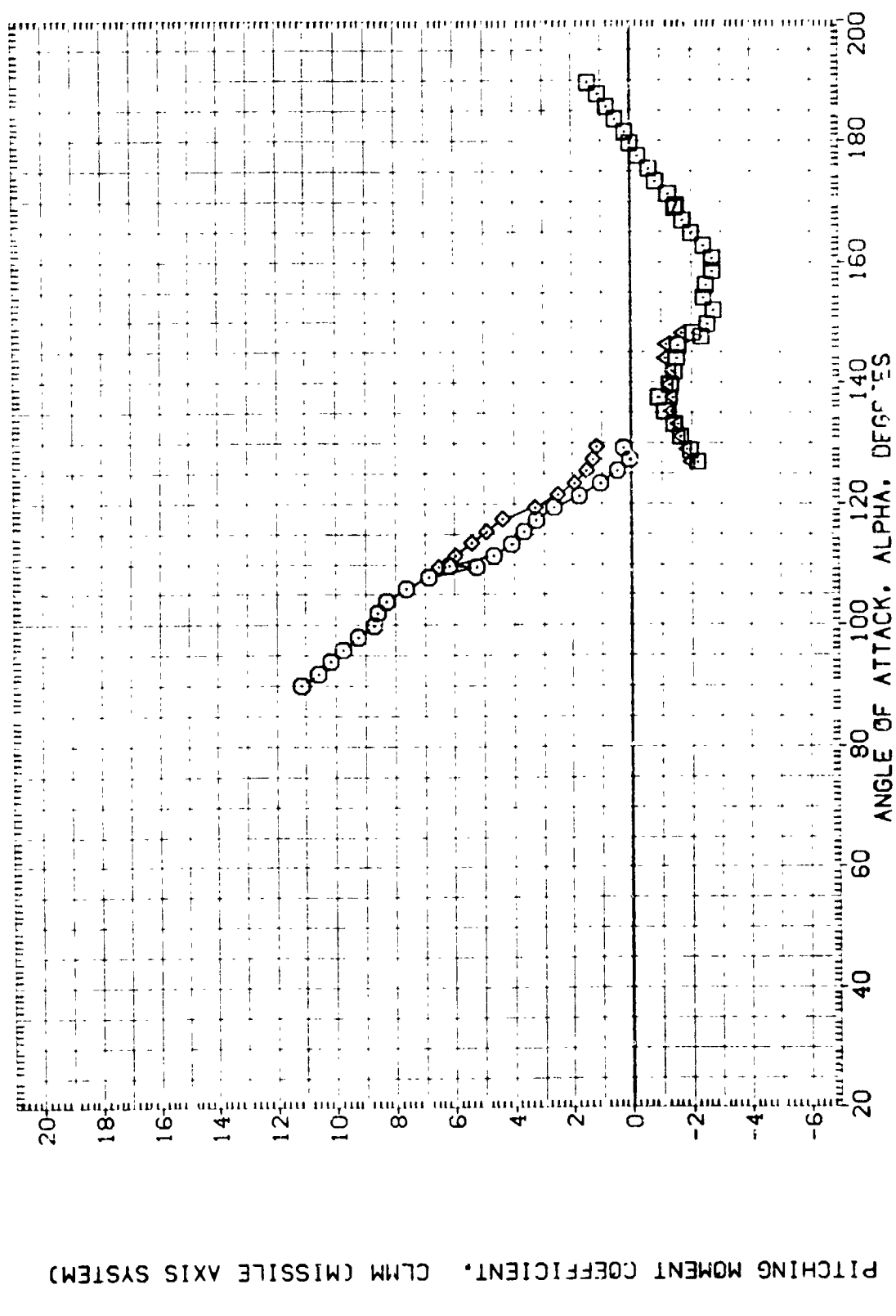


FIGURE 31. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACTER. (PHI = 90)

(B)MACH = 1.20

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DATA SET SYMBOL
 (A1HC05)
 (A1HC05)
 (A1HC12)
 (A1HC12)

PHI
 90.000
 90.000
 90.000

CONFIGURATION DESCRIPTION
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH PROT. V/O HEAT SHD.
 MSFC TVT604 (SABF) SRB WITH PROT. V/O HEAT SHD.

REFERENCE INFORMATION
 SREF 5020 SQ. IN.
 LREF 8000 IN.
 BREF 8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .C055

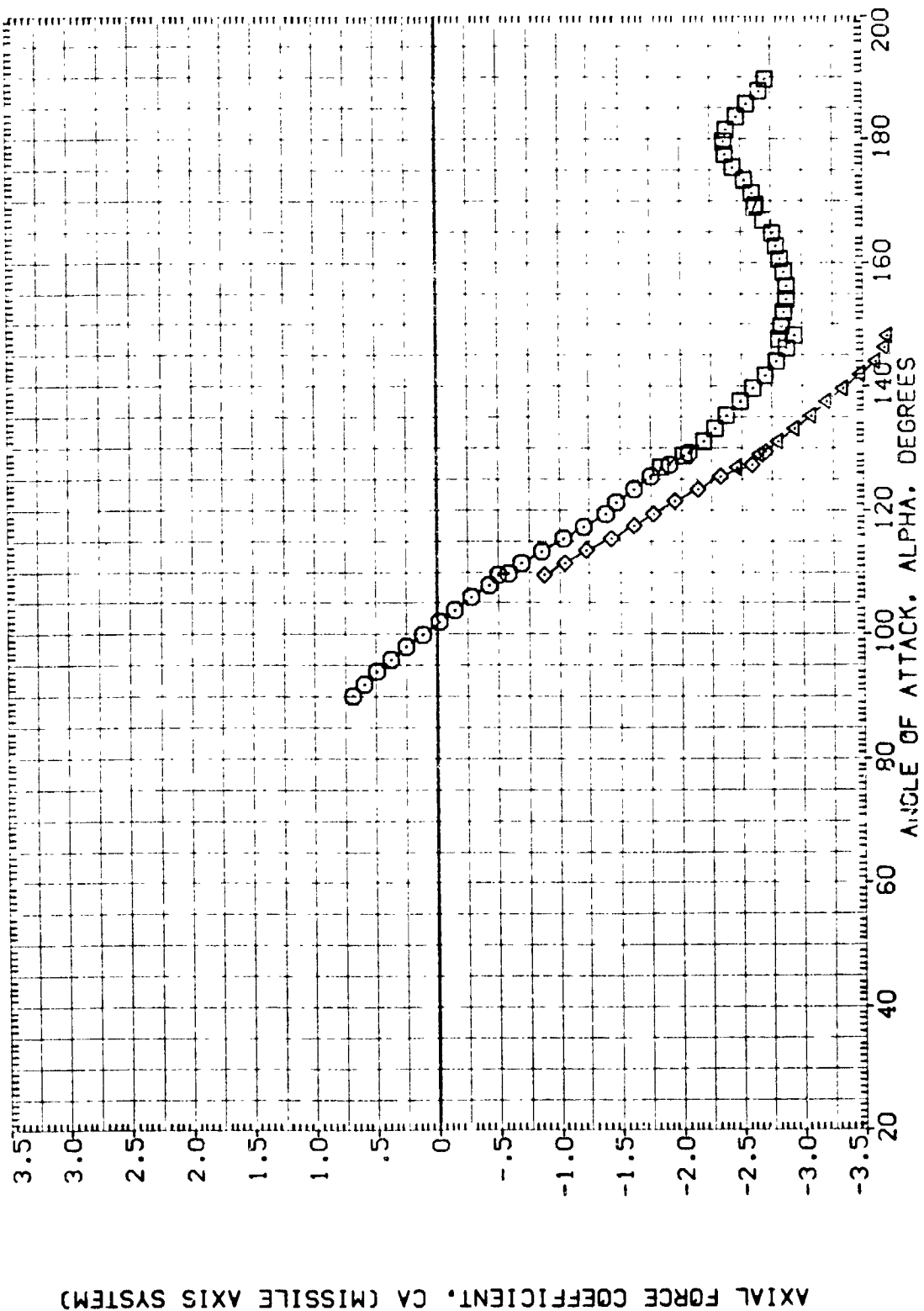


FIGURE 31. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACT. (PHI = 90)

(B)MACH = 1.20

DATA SET SYMBO... CONFIGURATION DESCRIPTION

(A1H005)	MSFC TVT604 (SABF)	SRB WITH ALL PROTUBERANCES
(A1H005)	MSFC TVT604 (SABF)	SRB WITH ALL PROTUBERANCES
(A1H012)	MSFC TVT604 (SABF)	SRB WITH PROT. W/O HEAT SHD.
(A1H012)	MSFC TVT604 (SABF)	SRB WITH PROT. W/O HEAT SHD.

PHI: 90.000
90.000
90.000
90.000

REFERENCE INFORMATION

SREF	.5030	IN.
L-REF	.8000	IN.
BREF	8000	IN.
XMRP	5.7210	IN.
YMRP	.0000	IN.
ZMRP	.0000	IN.
SCALE	.0055	

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

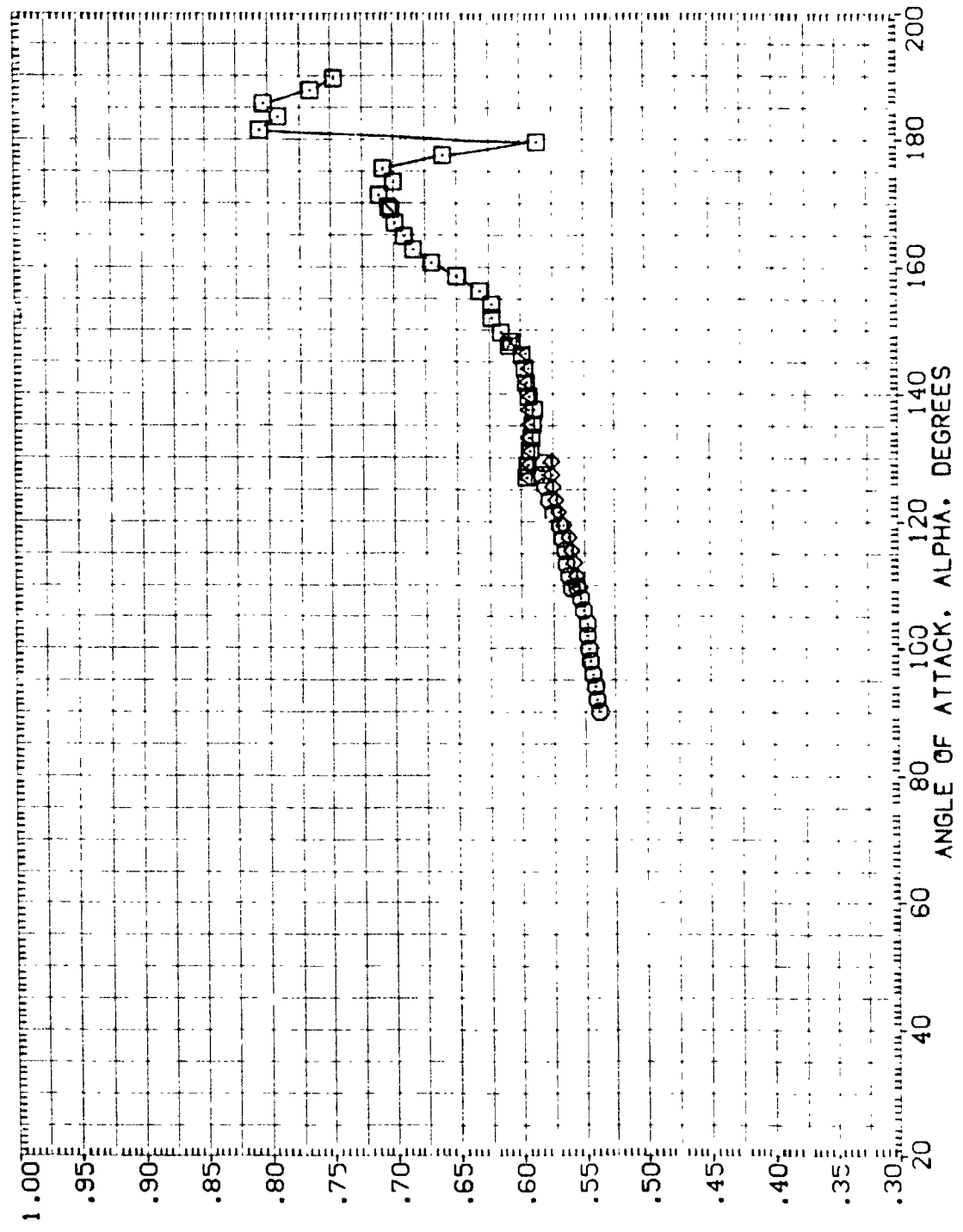


FIGURE 31. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACT. (PHI = 90)

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A1HC05) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1HC05) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1HC12) MSFC TVT604 (SABF) SRB WITH PROT. V/O HEAT S/D.
 (A1HC12) MSFC TVT604 (SABF) SRB WITH PROT. V/O HEAT S/D.

PHI
 90.000
 90.000
 90.000

REFERENCE INFORMATION

SREF .5020 IN. 50. IN.
 LREF .8000 IN.
 BRREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

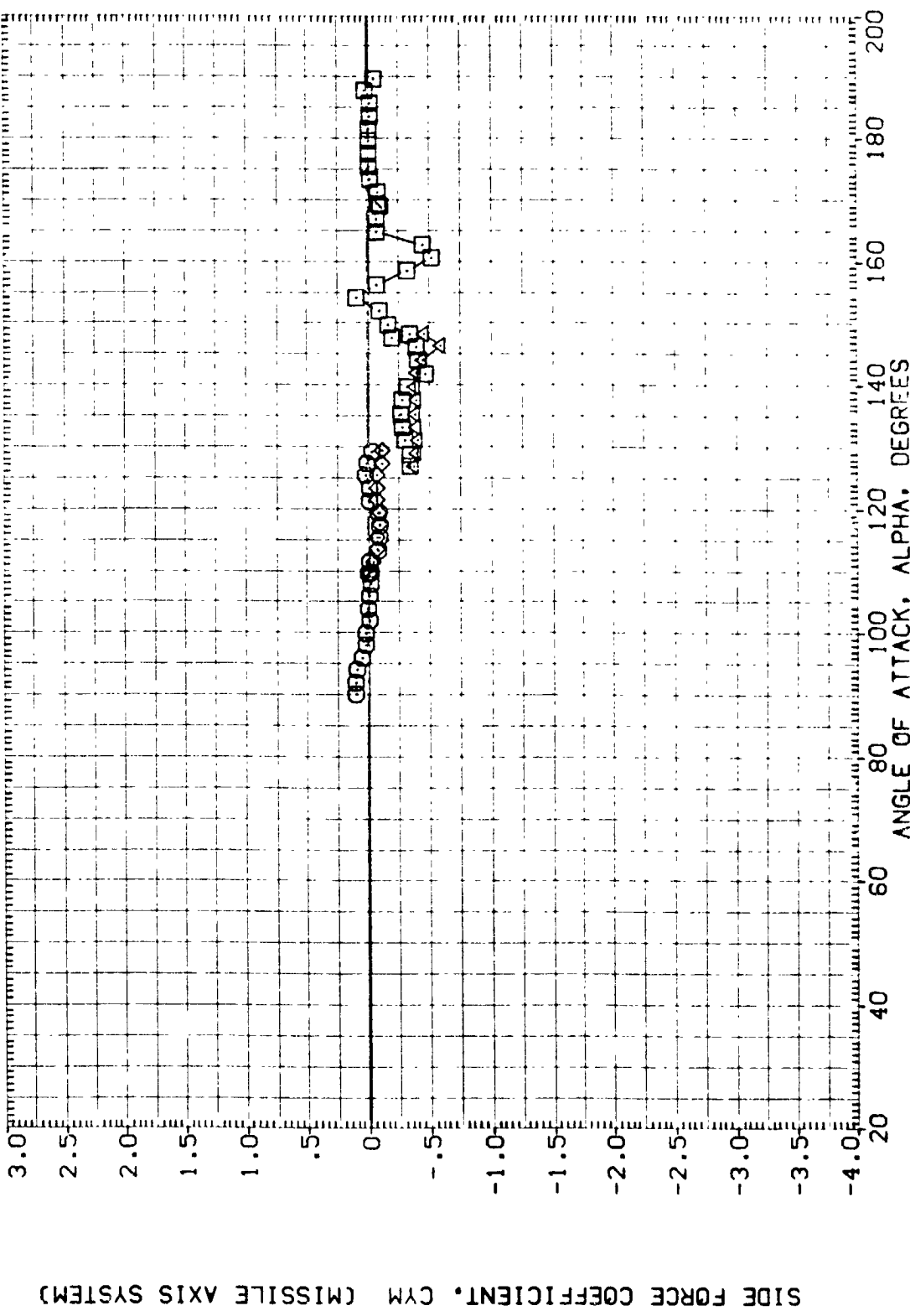


FIGURE 31. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACTER. (PHI = 90)
 (B)MACH = 1.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1HC05) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000
 (A1HC05) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000
 (A1HC12) MSFC TVT604 (SABF) SRB WITH PROT. V/O HEAT SHD. 90.000
 (A1HD12) MSFC TVT604 (SABF) SRB WITH PROT. V/O HEAT SHD. 90.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.
 LREF .8000 IN.
 SREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

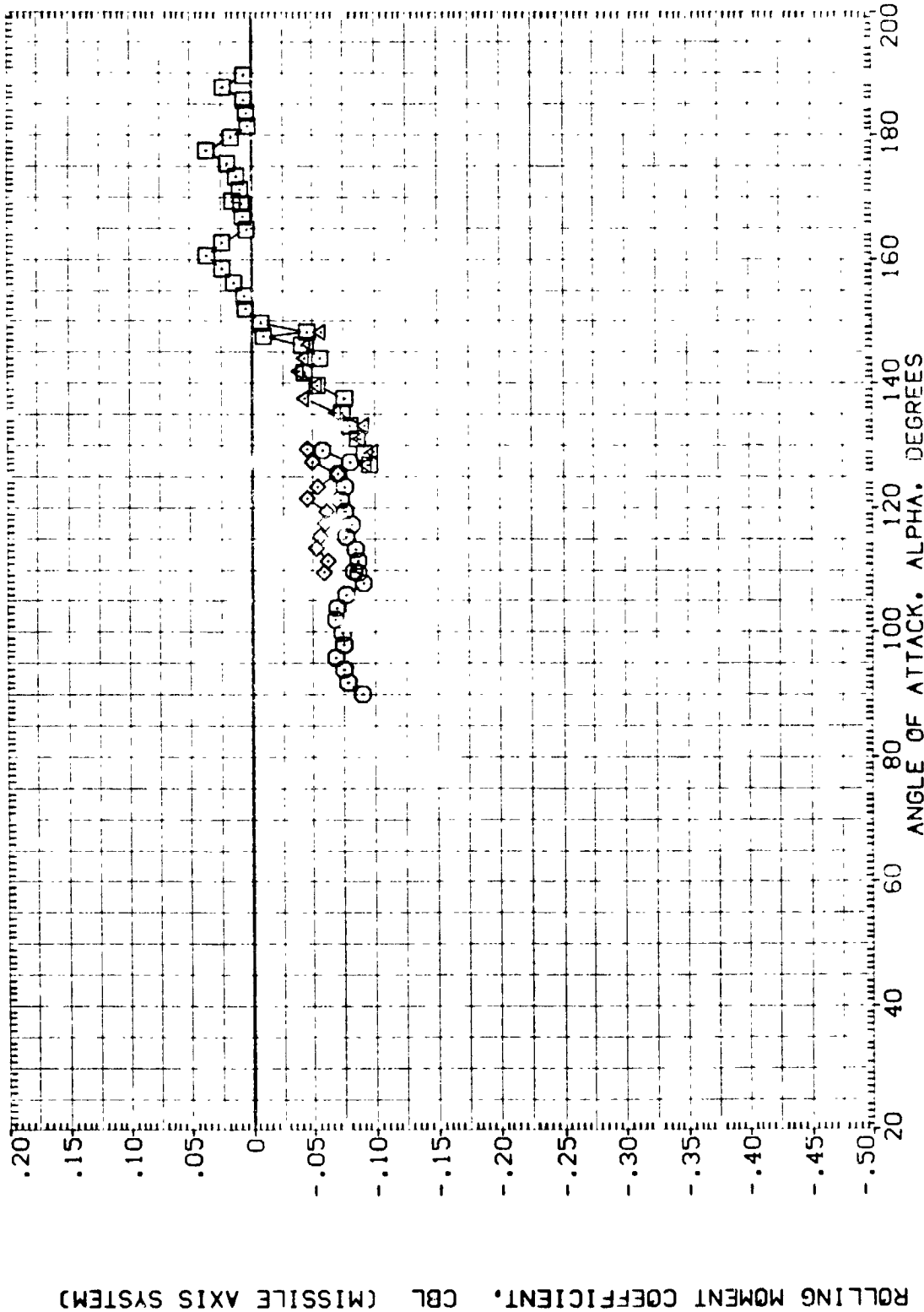


FIGURE 31. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACTER. (PHI = 90)

(B)MACH = 1.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1HC05) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

(A1HC05) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

(A1HC12) DATA NOT AVAILABLE 90.000

(A1HC12) MSFC TVT604 (SABF) SRB WITH PROT. 4/8 HEAT S40. 90.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7213 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

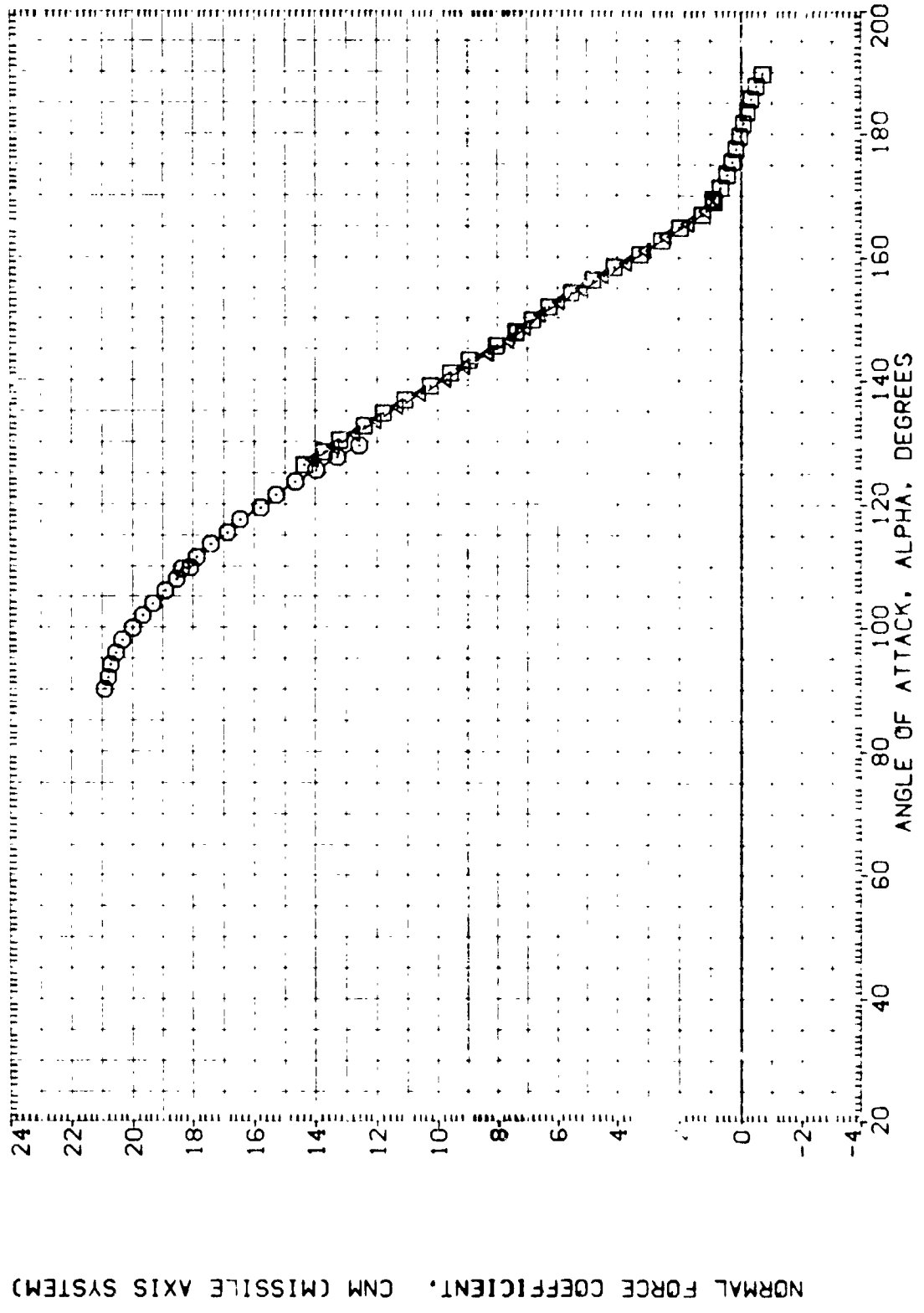


FIGURE 31. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACTER. (PHI = 90)





(C)MACH = 1.96

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REFERENCE INFORMATION
 SREF .303C 50. IN.
 LREF .800C IN.
 BREF .500C IN.
 XHRP 5.721C IN. XS
 YHRP .000C IN. YS
 ZHRP .000C IN. ZS
 SCALE .0055

PHI
 90.000
 90.000
 90.000
 90.000

CONFIGURATION DESCRIPTION
 MSFC TVT604 (SABF) SRB WITH ALL PROTRUSANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTRUSANCES
 DATA NOT AVAILABLE
 MSFC TVT604 (SABF) SRB WITH PROT. V/O HEAT SHD.

DATA SET SYMBOL
 (A1H005) 
 (A1H005) 
 (A1H012) 
 (A1H012) 

PITCHING MOMENT COEFFICIENT, CLM (MISSILE AXIS SYSTEM)

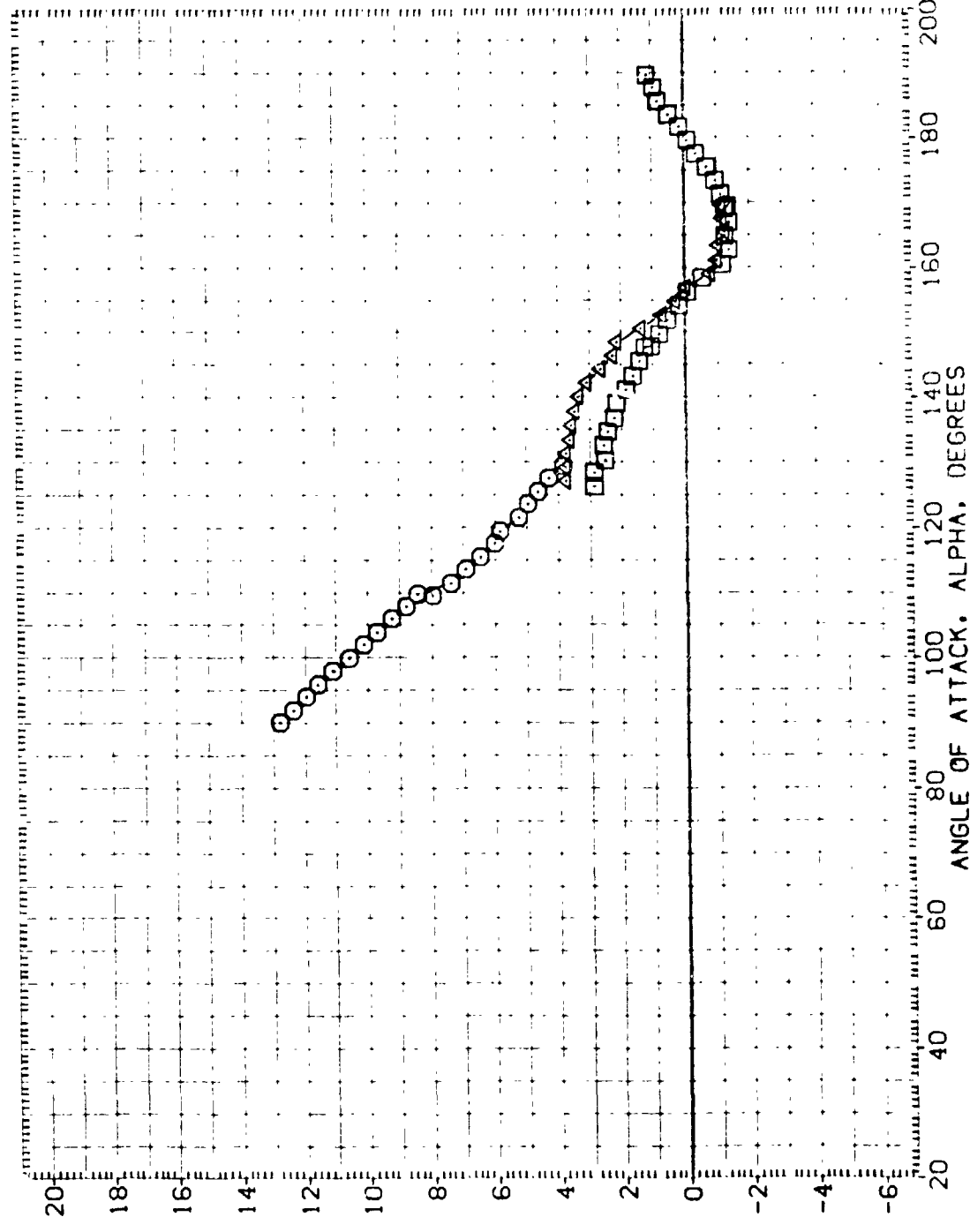






FIGURE 31. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACTER. (PHI = 90)

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BRFF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 90.000
 90.000
 90.000
 90.000

CONFIGURATION DESCRIPTION
 MSFC TW1604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TW1604 (SABF) SRB WITH ALL PROTUBERANCES
 DATA NOT AVAILABLE
 MSFC TW1604 (SABF) SRB WITH PROT. V/O HEAT SHD.

DATA SET SYMBOL
 (A1HC05) 
 (A1HC05) 
 (A1HC12) 
 (A1HC12) 

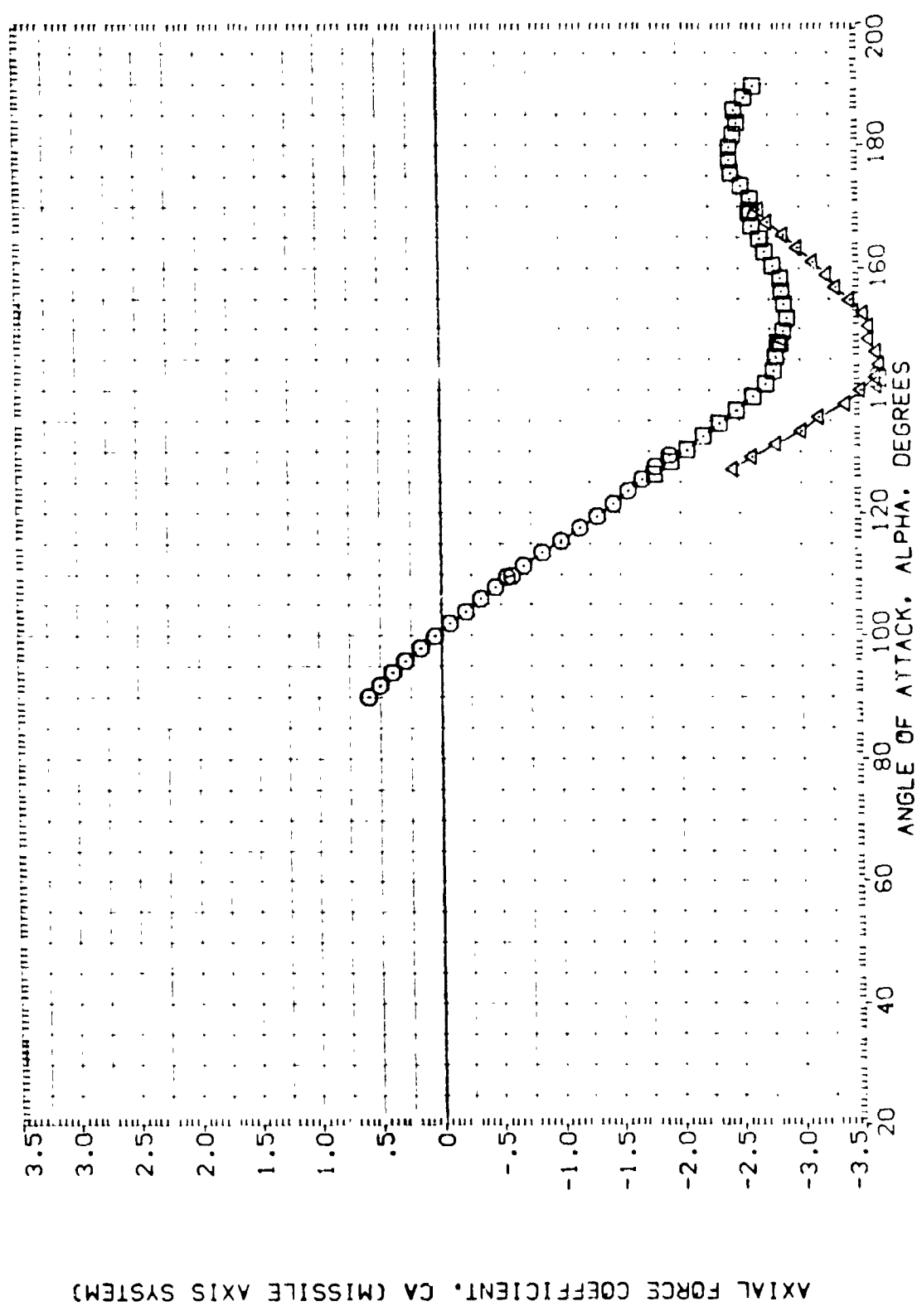


FIGURE 31. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACTER. (PHI = 90)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

(A1H005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

(A1H012) DATA NOT AVAILABLE 90.000

(A1H012) MSFC TVT604 (SABF) SRB WITH PROT. W/O HEAT SHD. 90.000

REFERENCE INFORMATION

SREF 5030 SQ. IN.

LREF 5030 IN.

BREF 8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

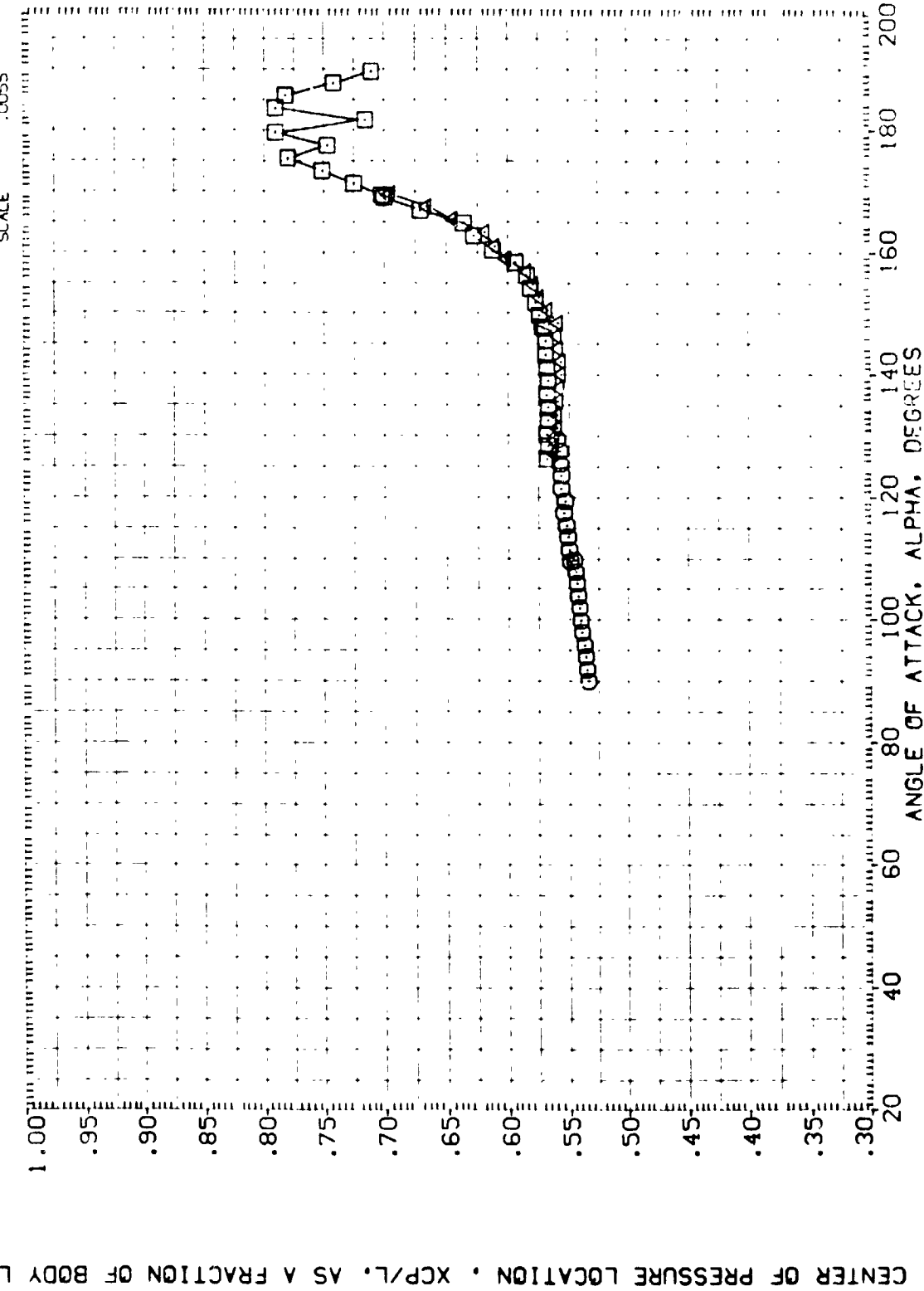


FIGURE 31. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACT. (PHI = 90)

(C)MACH = 1.96 PAGE 558

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H005) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

(A1H005) MSFC TV1604 (SAGF) SRB WITH ALL PROTUBERANCES 90.000

(A1H012) DATA NOT AVAILABLE 90.000

(A1H012) MSFC TV1604 (SABF) SRB WITH PROT. V/0 HEAT S-0. 90.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

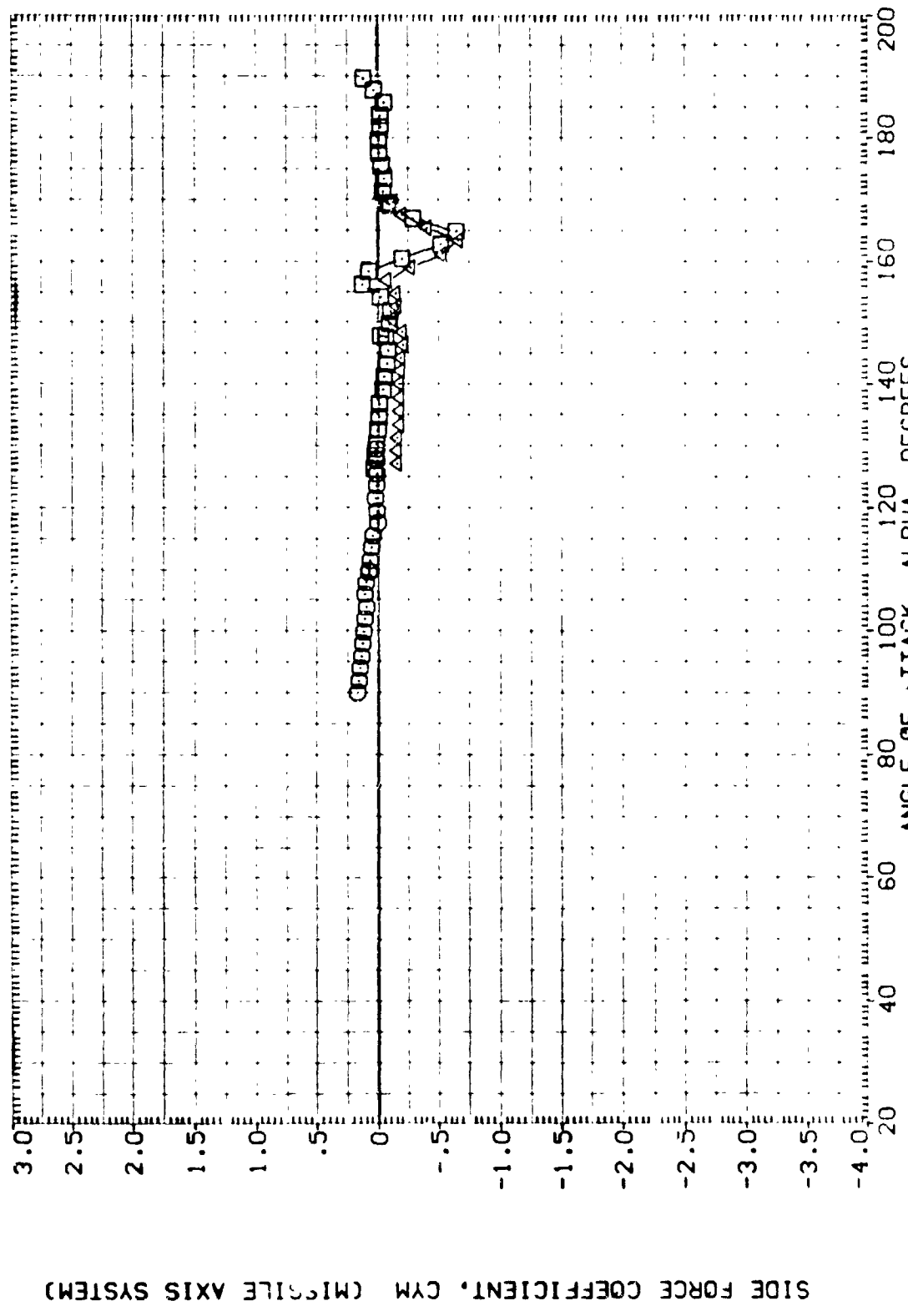


FIGURE 31. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACT. (PHI = 90)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI
 (A1HC05) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 90.000
 (A1HC06) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 90.000
 (A1HC12) DATA NOT AVAILABLE 90.000
 (A1HC12) MSFC TV1604 (SABF) SRB WITH PROT. V/3 HEAT SH. 90.000

YAWING MOMENT COEFFICIENT, C_{YM} (MISSILE AXIS SYSTEM)

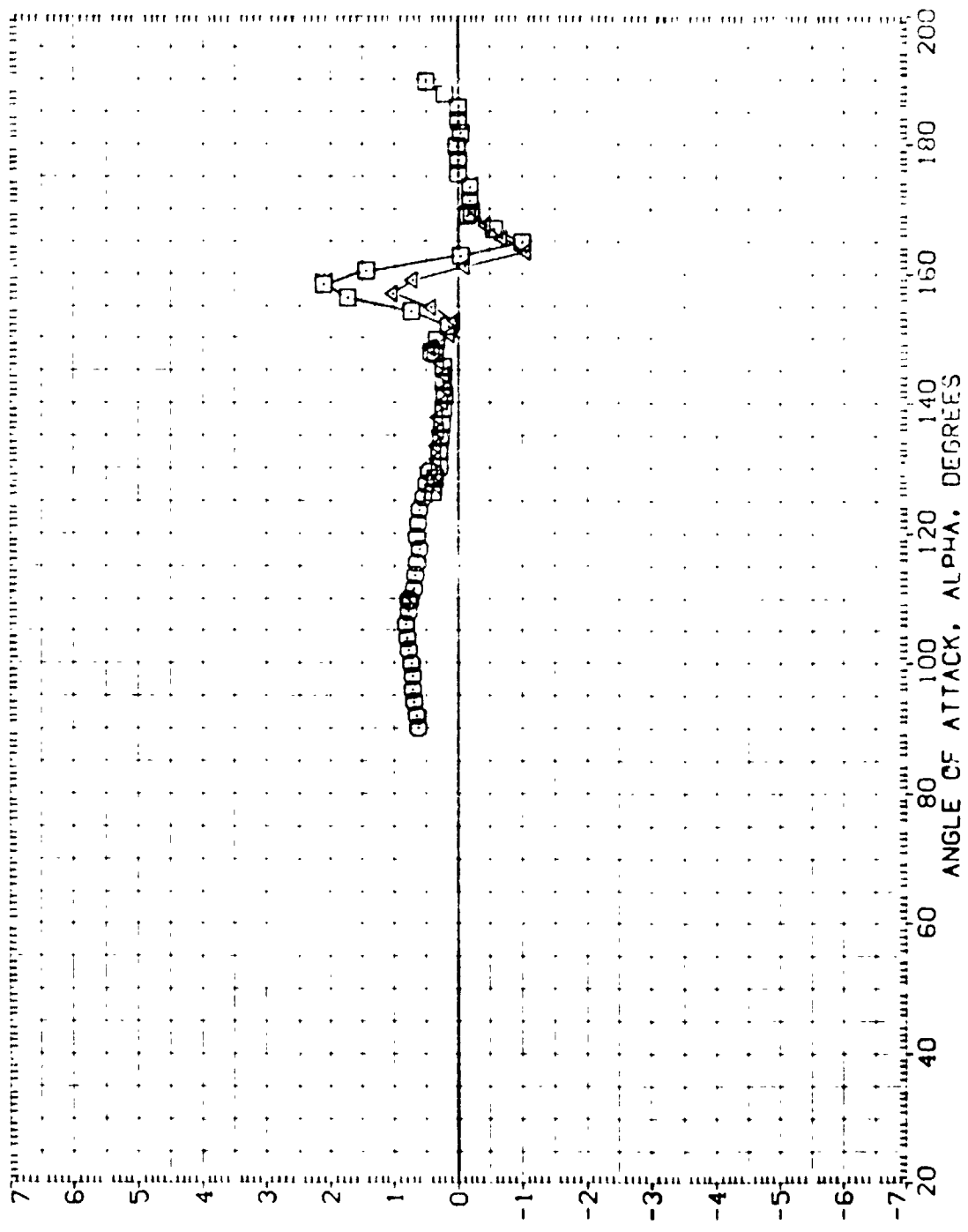


FIGURE 31. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACT. (PHI = 90)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1HC05) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

(A1HC06) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

(A1HC12) DATA NOT AVAILABLE 90.000

(A1HC12) MSFC TVT604 (SABF) SRB WITH PROT. 1/2 HEAT SHD. 90.000

REFERENCE INFORMATION

SREF 5030 SQ. IN.

LREF 8000 IN.

BREF 8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

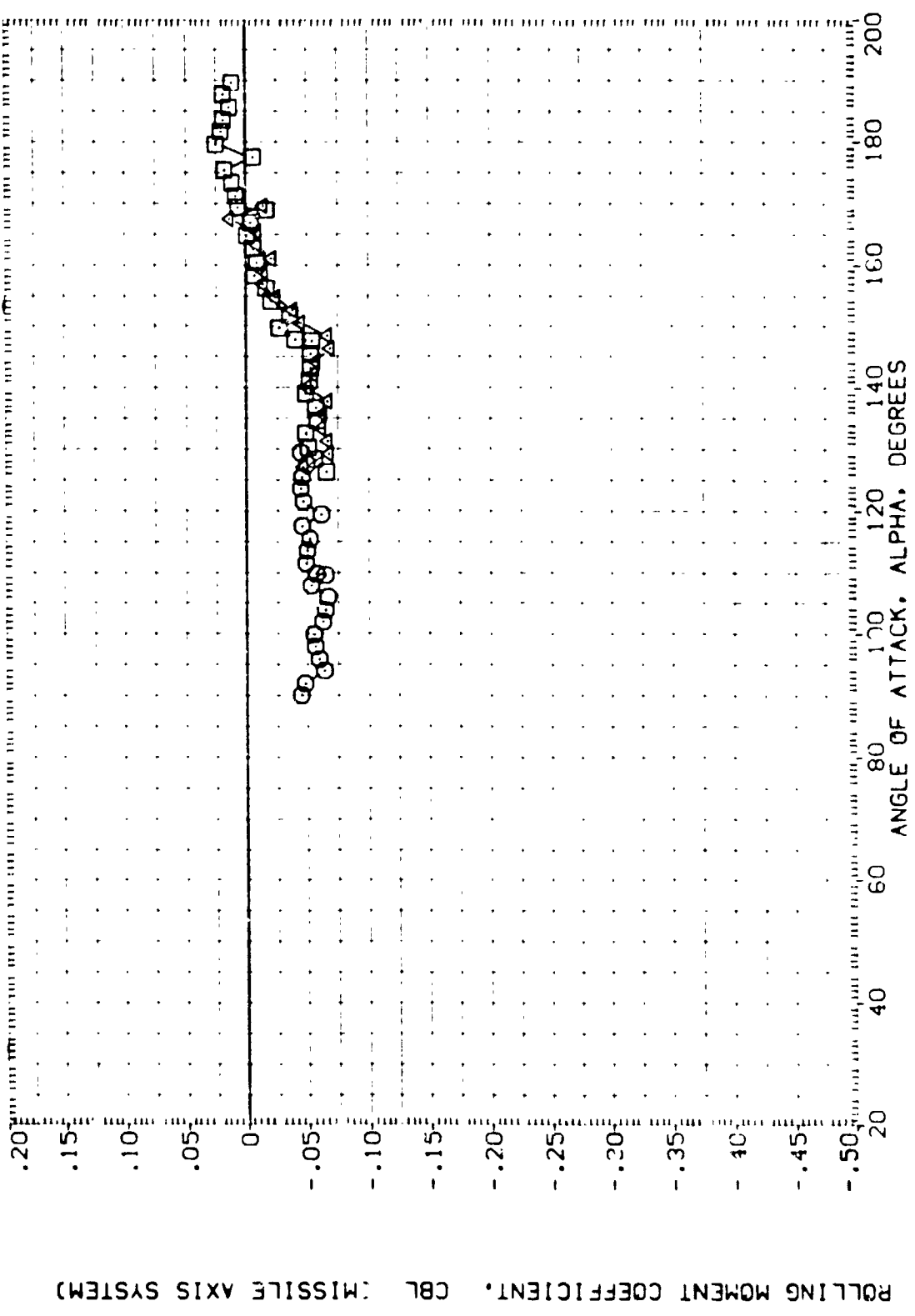


FIGURE 31. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACTER. (PHI = 90)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1M005) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 90.000
 (A1M006) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 90.000
 (A1M007) DATA NOT AVAILABLE 90.000
 (A1M012) MSFC TV1604 (SABF) SRB WITH PROT. 1/3 HEAT SHD. 90.000

NORMAL FORCE COEFFICIENT, CNM (MISSILE AXIS SYSTEM)

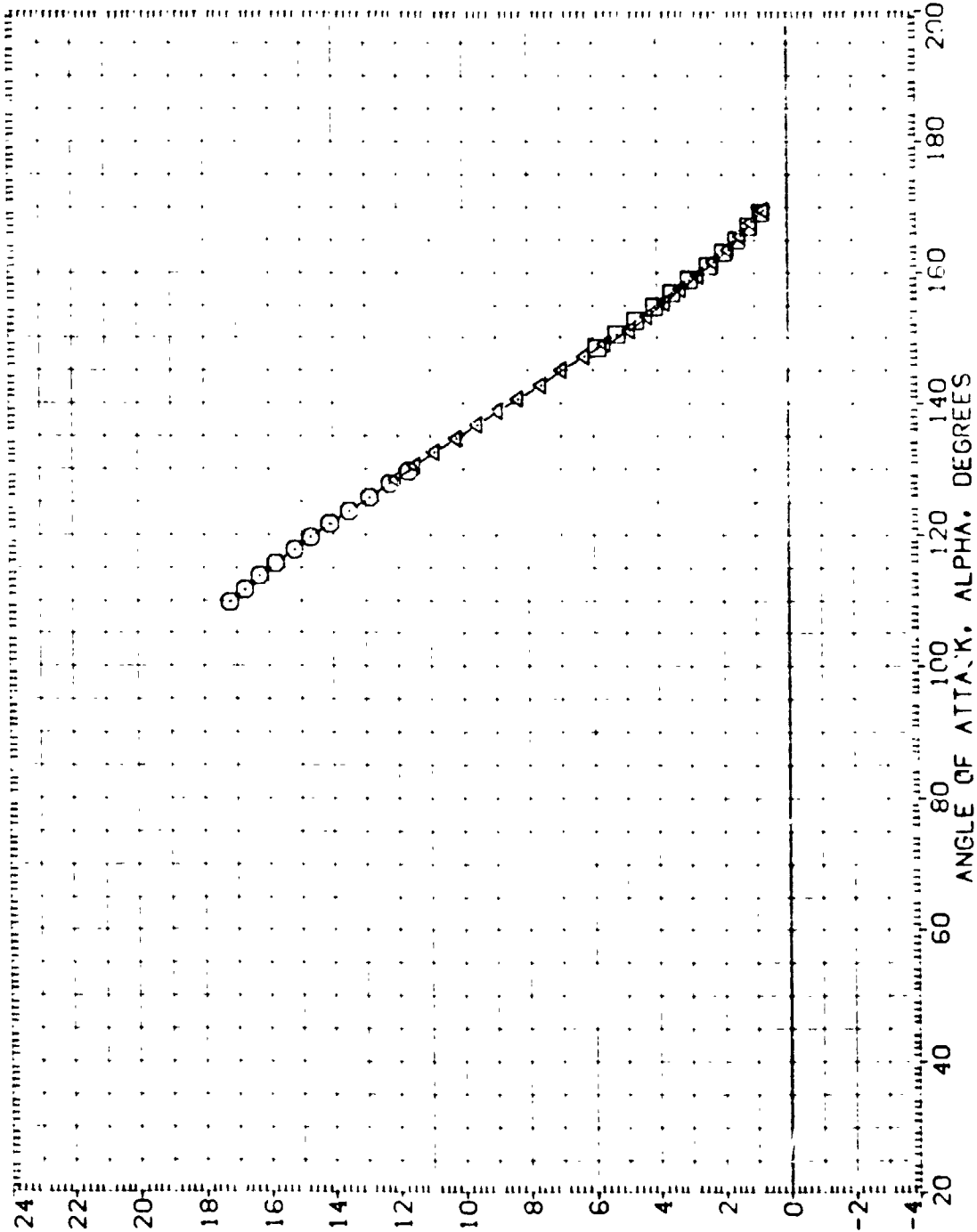


FIGURE 31. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACT. (PHI = 90)

(M)MACH = 3.48



DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1HC05) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

(A1HC06) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

(A1HC12) DATA NOT AVAILABLE 90.000

(A1HC12) MSFC TVT604 (SABF) SRB WITH PROT. V/O HEAT SHD. 90.000

PITCHING MOMENT COEFFICIENT, CLM (MISSILE AXIS SYSTEM)

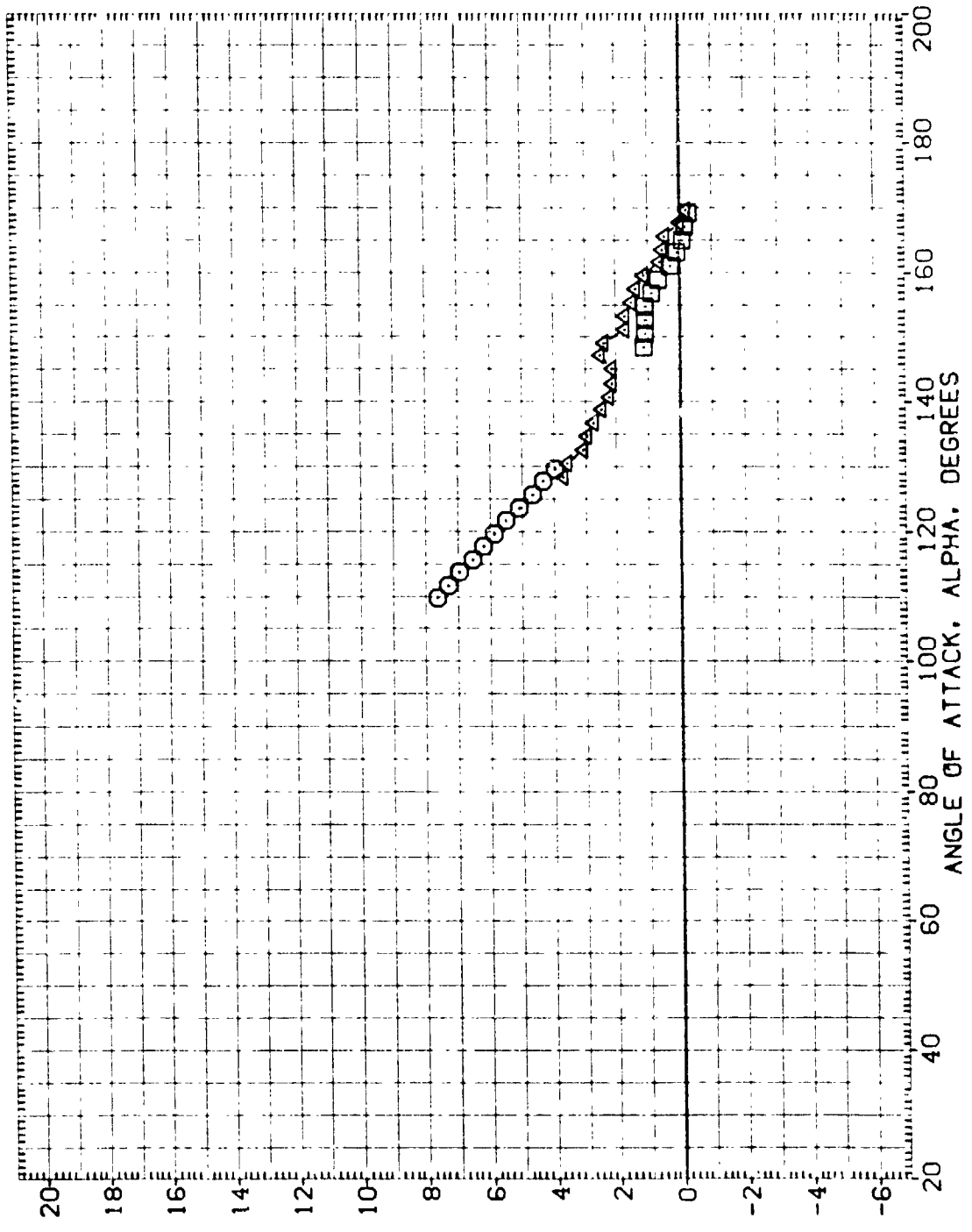


FIGURE 31. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACT. (PHI = 90)

(D)MACH = 3.48

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

(A1H005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

(A1H012) DATA NOT AVAILABLE 90.000

(A1H012) MSFC TVT604 (SABF) SRB WITH PROT. V/O HEAT SHD. 90.000

REFERENCE INFORMATION

SREF .030 50. IN.

LREF .6000 IN.

BREF .5000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. S

ZMRP .0000 IN. ZS

SCALE .0055

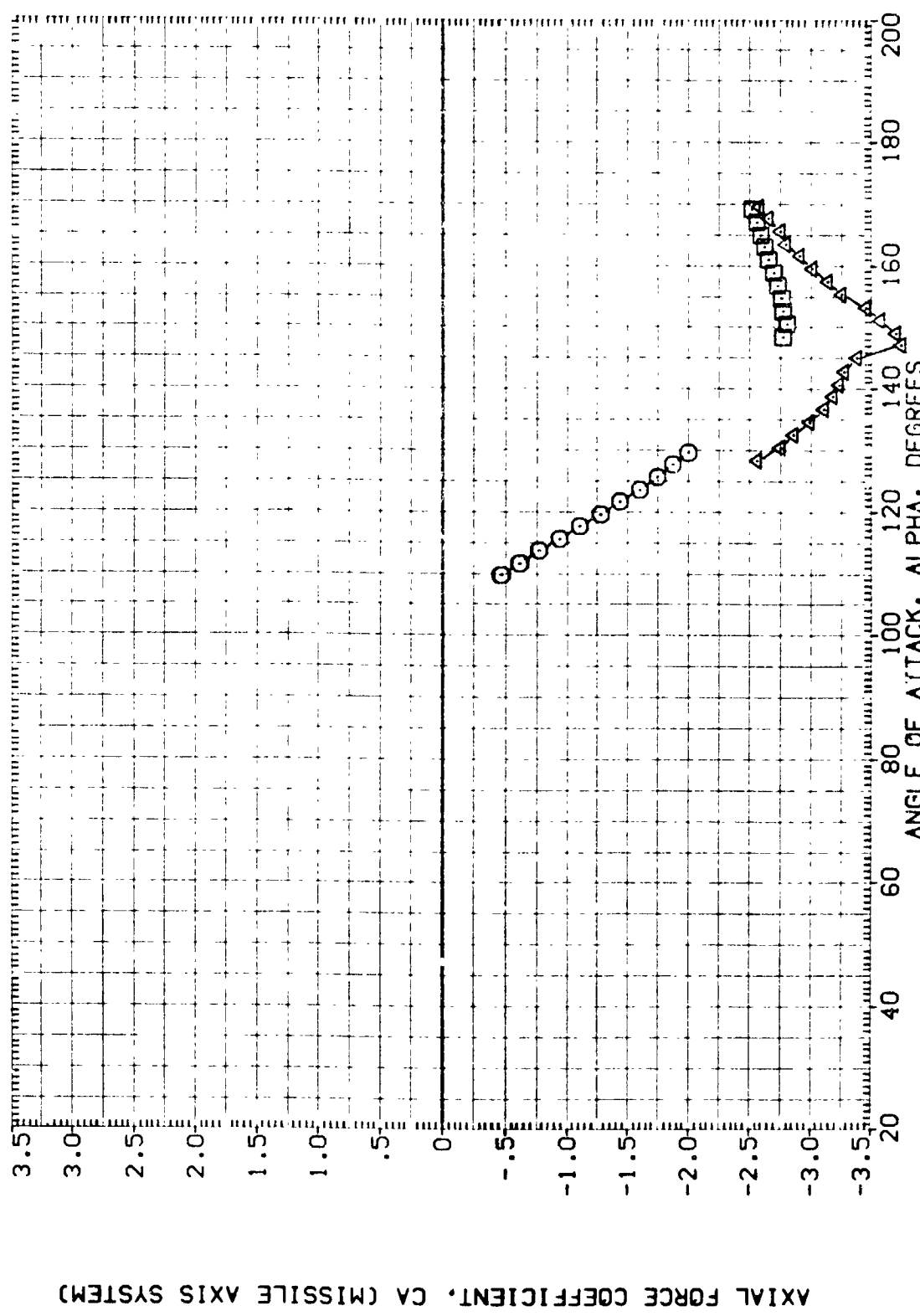


FIGURE 31. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACT. (PHI = 90)

DATA SET SYMBOL CONFIGURATION DESCRIPTION:
 (A1H005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 (A1H012) DATA NOT AVAILABLE
 (A1H012) MSFC TVT604 (SABF) SRB WITH PROT. V/O HEAT SHD.

PHI
 90.000
 90.000
 90.000

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

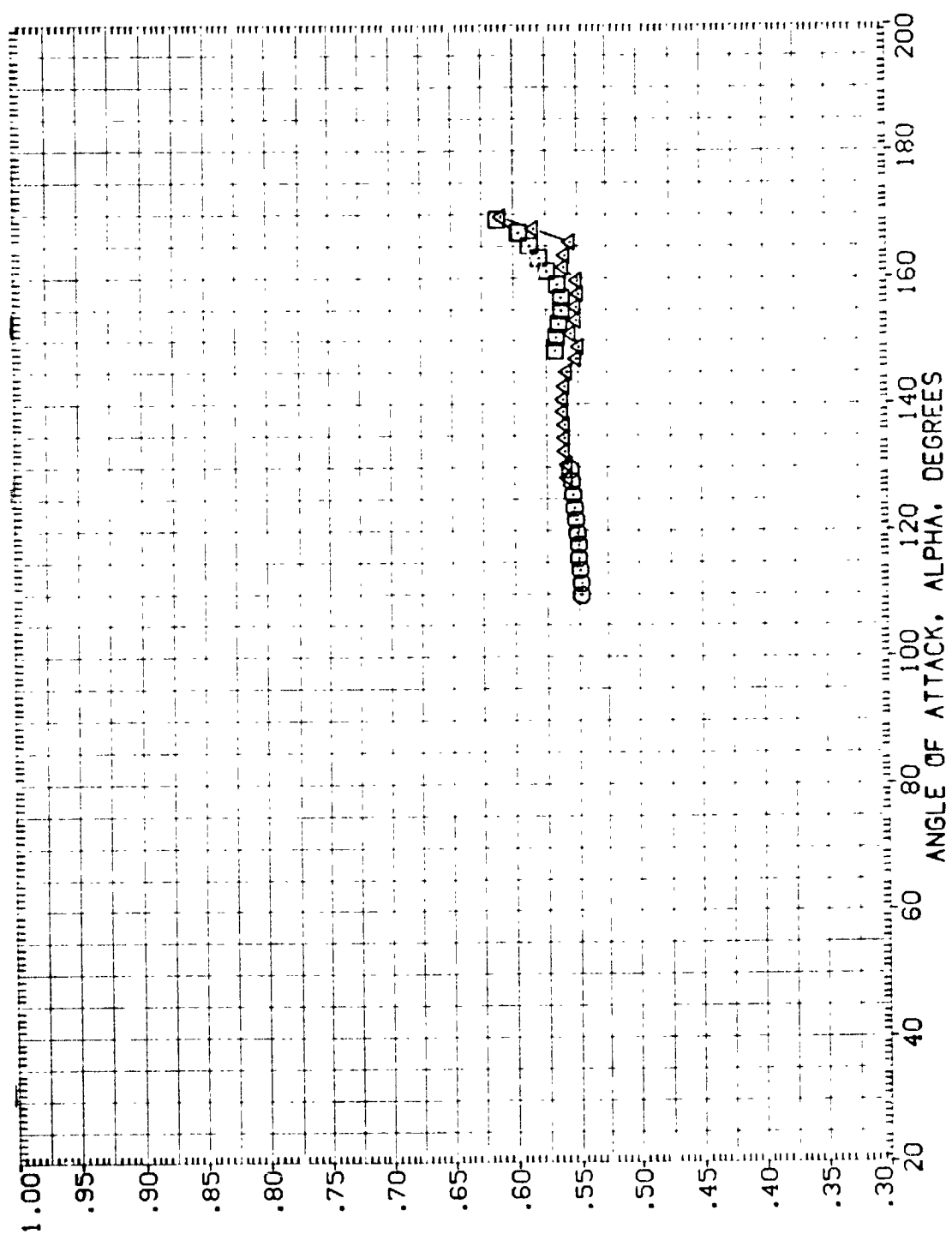


FIGURE 31. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACT. (PHI = 90)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000
 (A1H005) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 90.000
 (A1H012) DATA NOT AVAILABLE 90.000
 (A1H012) MSFC TVT604 (SABF) SRB WITH PROT. V/O HEAT SHD. 90.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.
 LREF .8000 IN.
 BRREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

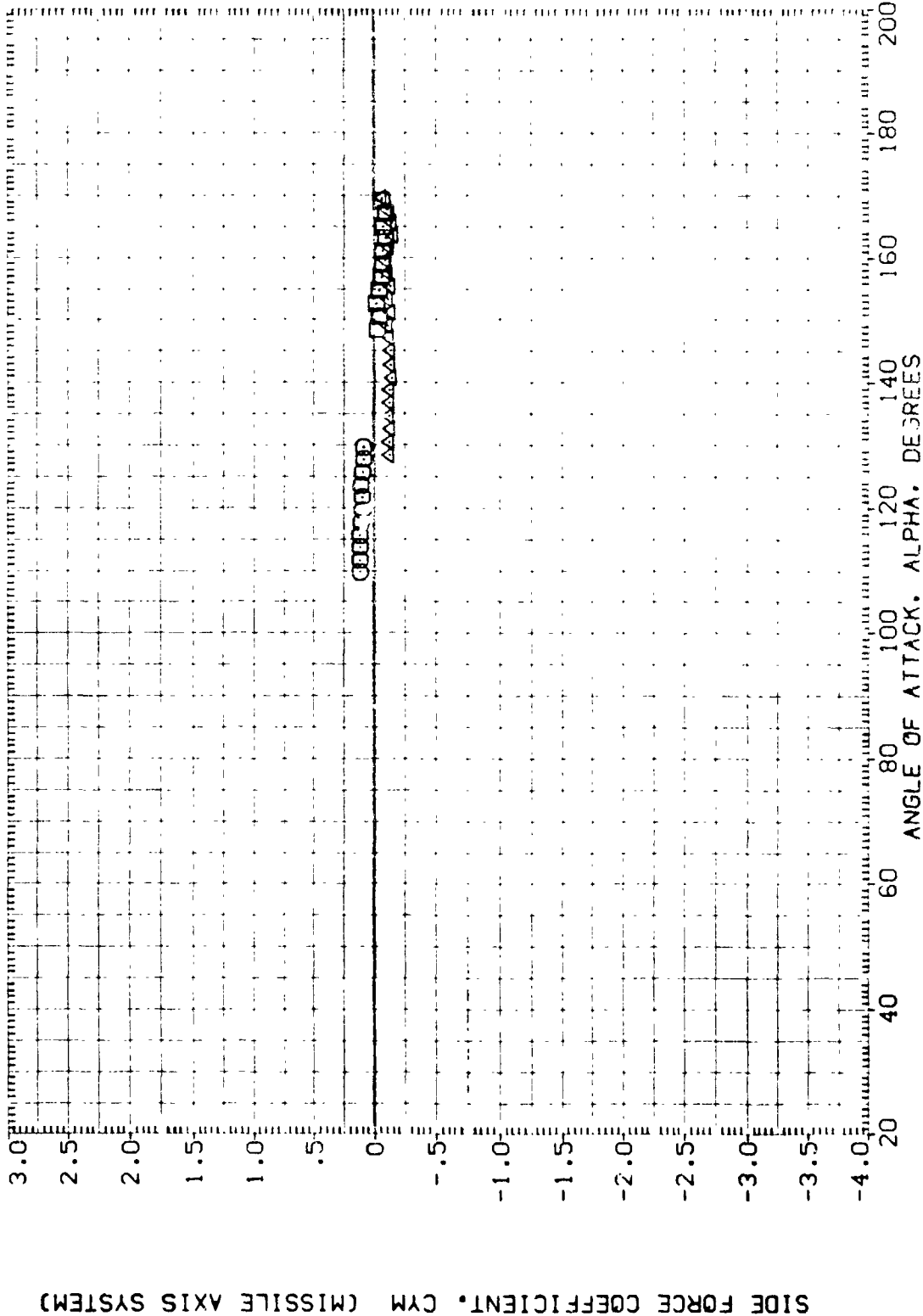


FIGURE 31. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACTER. (PHI = 90)

(D)MACH = 3.48

PAGE 566

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H005) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 0.000

(A1H005) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 90.000

(A1H012) DATA NOT AVAILABLE 90.000

(A1H012) MSFC TV1604 (SABF) SRB WITH PROT. V/O HEAT SHD. 90.000

REFERENCE INFORMATION

SREF .503 50. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

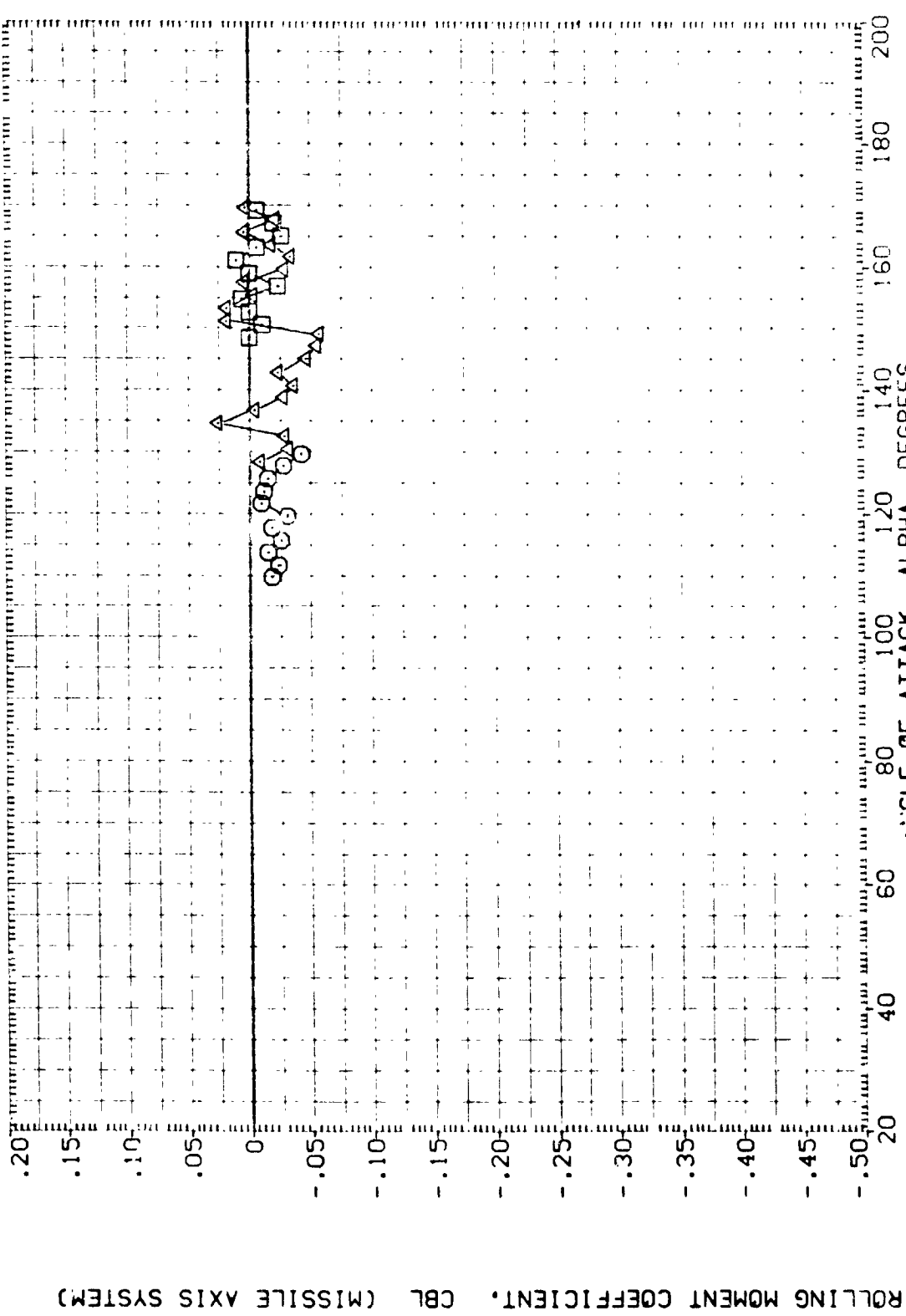


FIGURE 31. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACT. (PHI = 90)

(D)MACH = 3.48 PAGE 568

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .8000 IN.
 BREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

PHI
 180.000
 180.000
 180.000

CONFIGURATION DESCRIPTION
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TVT604 (SABF) SRB WITH PROT. V/O HEAT SHD.
 DATA NOT AVAILABLE

DATA SET SYMBOL
 (A1HC07)
 (A1HC07)
 (A1HC 3)
 (A1HC13)

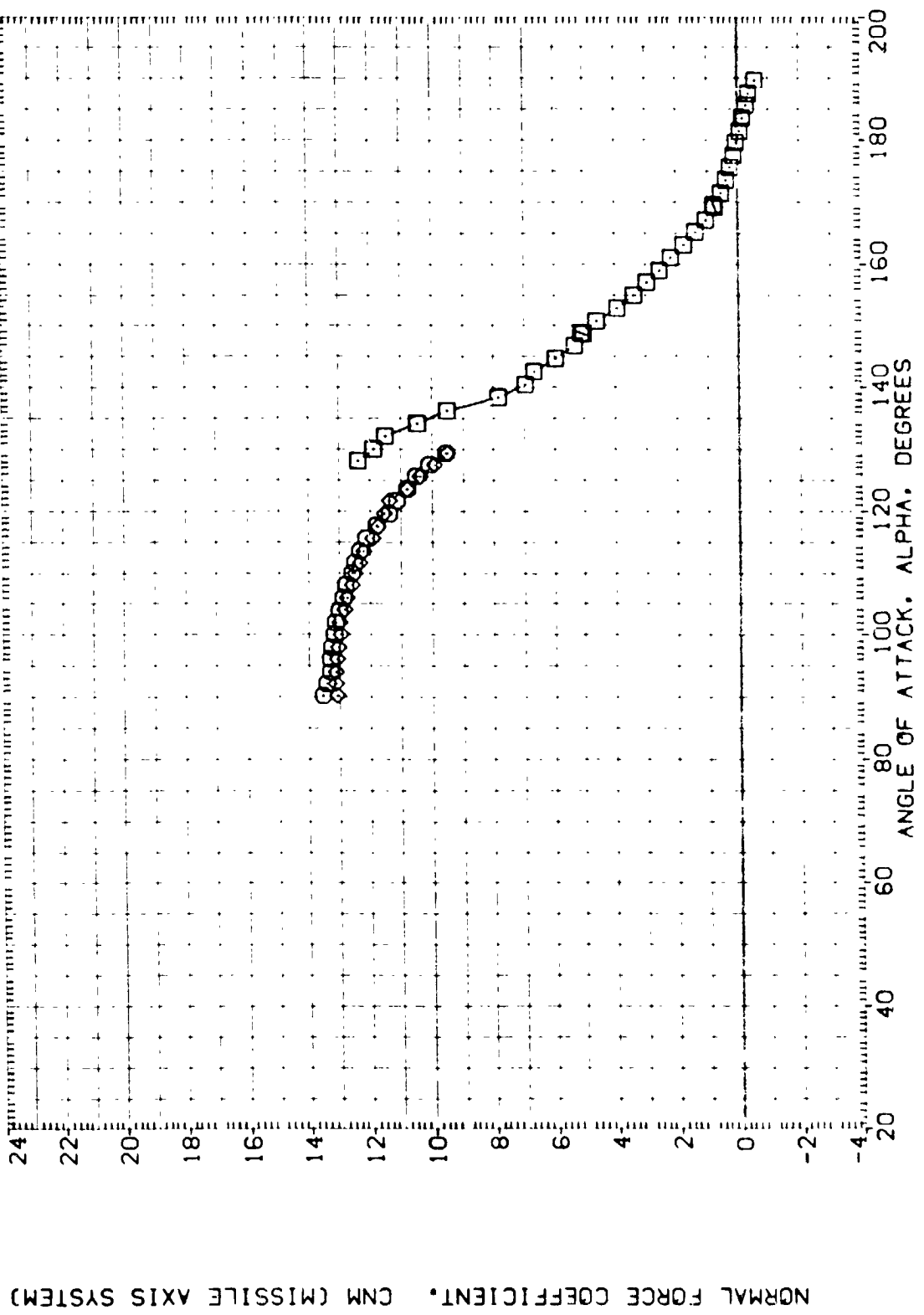


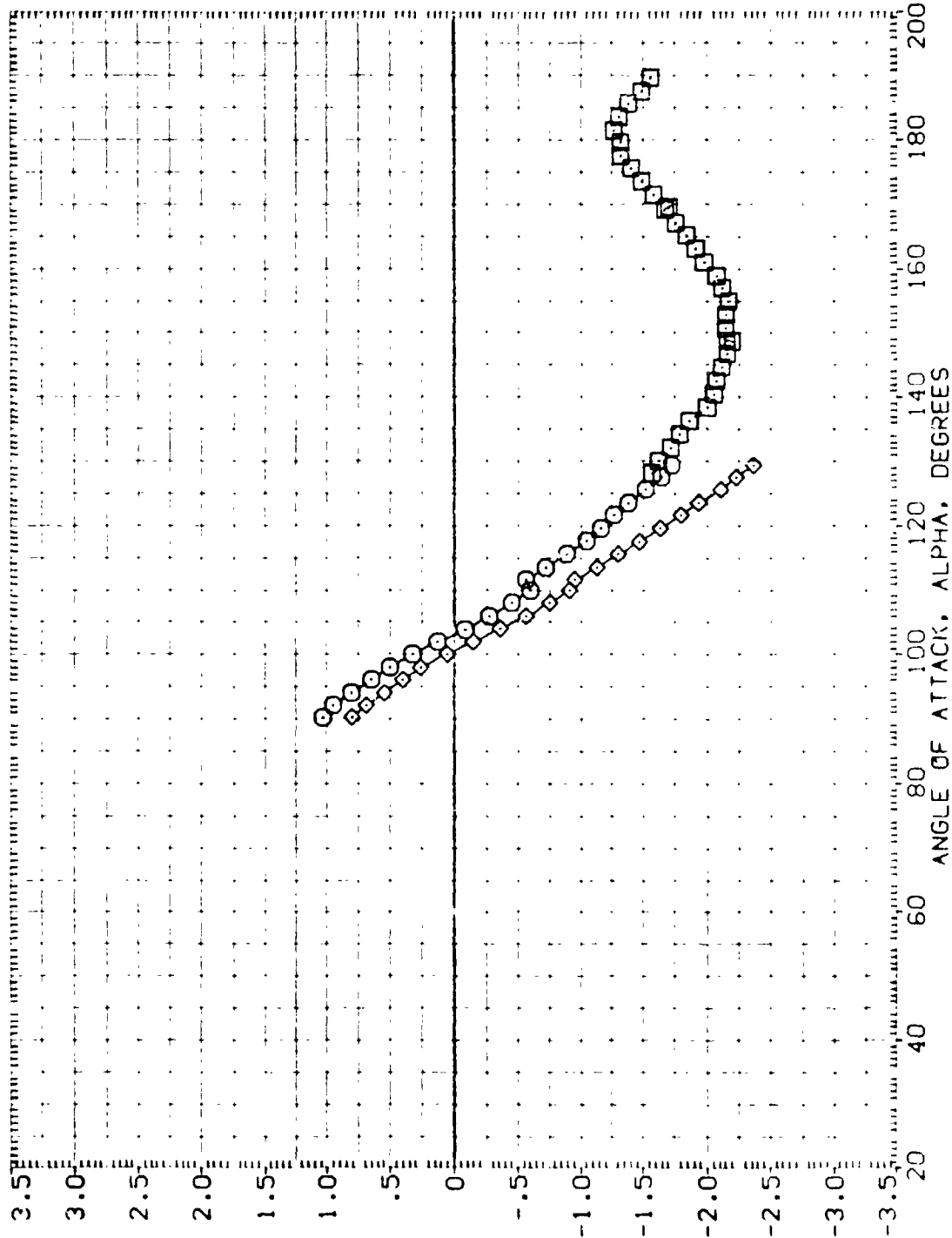
FIGURE 32. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACTER. (PHI = 180)
 (A)MACH = .60 PAGE 569

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1-H07) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 180.000
 (A1-H07) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 180.000
 (A1-H13) MSFC TV1604 (SABF) SRB WITH PROT. V/O HEAT SHO. 180.000
 (A1-H13) DATA NOT AVAILABLE

REFERENCE INFORMATION

SREF .5030 SQ. IN.
 LREF .8000 IN.
 BRREF .8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055



AXIAL FORCE COEFFICIENT, CA (MISSILE AXIS SYSTEM)

FIGURE 32. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACTER. (PHI = 180)

(A)MACH = .60

DATA SET SYMBOL: (A1H007) (A1H013)
 CONFIGURATION DESCRIPTION: SRB WITH ALL PROTUBERANCES (A1H007) SRB WITH ALL PROTUBERANCES (A1H013)
 MSFC TV1604 (SABF) SRB WITH PROT. W/O HEAT SHU. DATA NOT AVAILABLE

PHI: 180.000
 180.000
 180.000

REFERENCE INFORMATION:
 SREF: 50.00 IN.
 LREF: 80.00 IN.
 BREF: 92.00 IN.
 XMRP: 5.7210 IN. XS
 YMRP: .0000 IN. YS
 ZMRP: .0000 IN. ZS
 SCALE: .0055

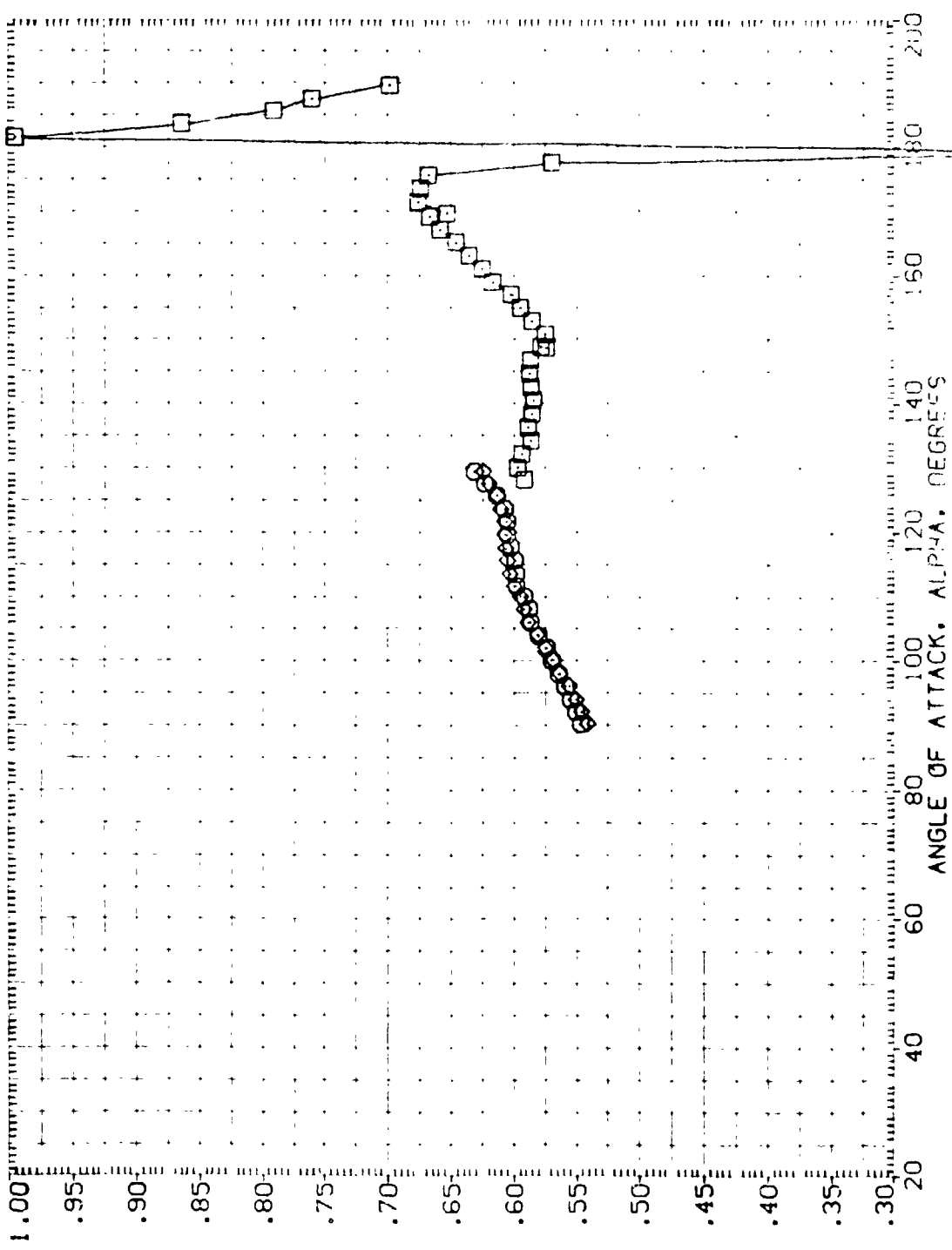


FIGURE 32. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACTER. (PHI) = 130
 (A) MACH = .60 PAGE 5/2

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A)H007 MSFC 1VT604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

(A)H007 MSFC 1VT604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

(A)H013 MSFC 1VT604 (SABF) SRB WITH PROT. V/O HEAT SHD. 180.000

(A)H013 DATA NOT AVAILABLE 180.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .9000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

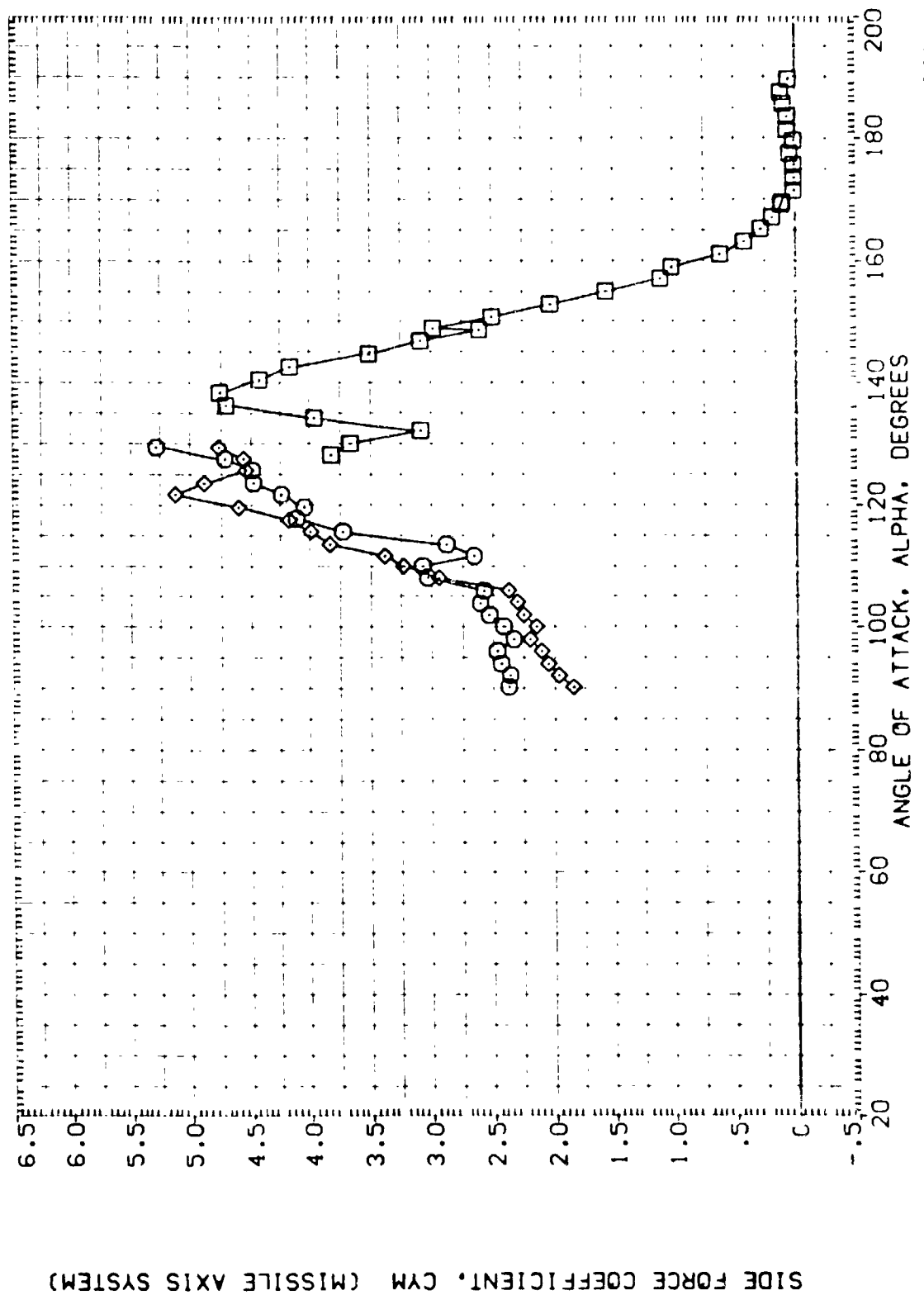


FIGURE 32. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACT. (PHI = 180)

(A)MACH = .60

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A1-007) MSFC TV1604 (SABF) SRB WITH ALL PROTRUDANCES
 (A1-007) MSFC TV1604 (SABF) SRB WITH ALL PROTRUDANCES
 (A1-013) MSFC TV1604 (SABF) SRB WITH PROT., V/6 HEAT SHD.
 (A1-013) DATA NOT AVAILABLE

PHI
 180.000
 180.000
 180.000

REFERENCE INFORMATION
 SREF : 0.0 IN.
 LREF : 0.000 IN.
 BRPF : 5.2210 IN.
 XMRP : 0.000 IN.
 YMRP : 0.000 IN.
 ZMRP : 0.000 IN.
 SCALE : 0.005

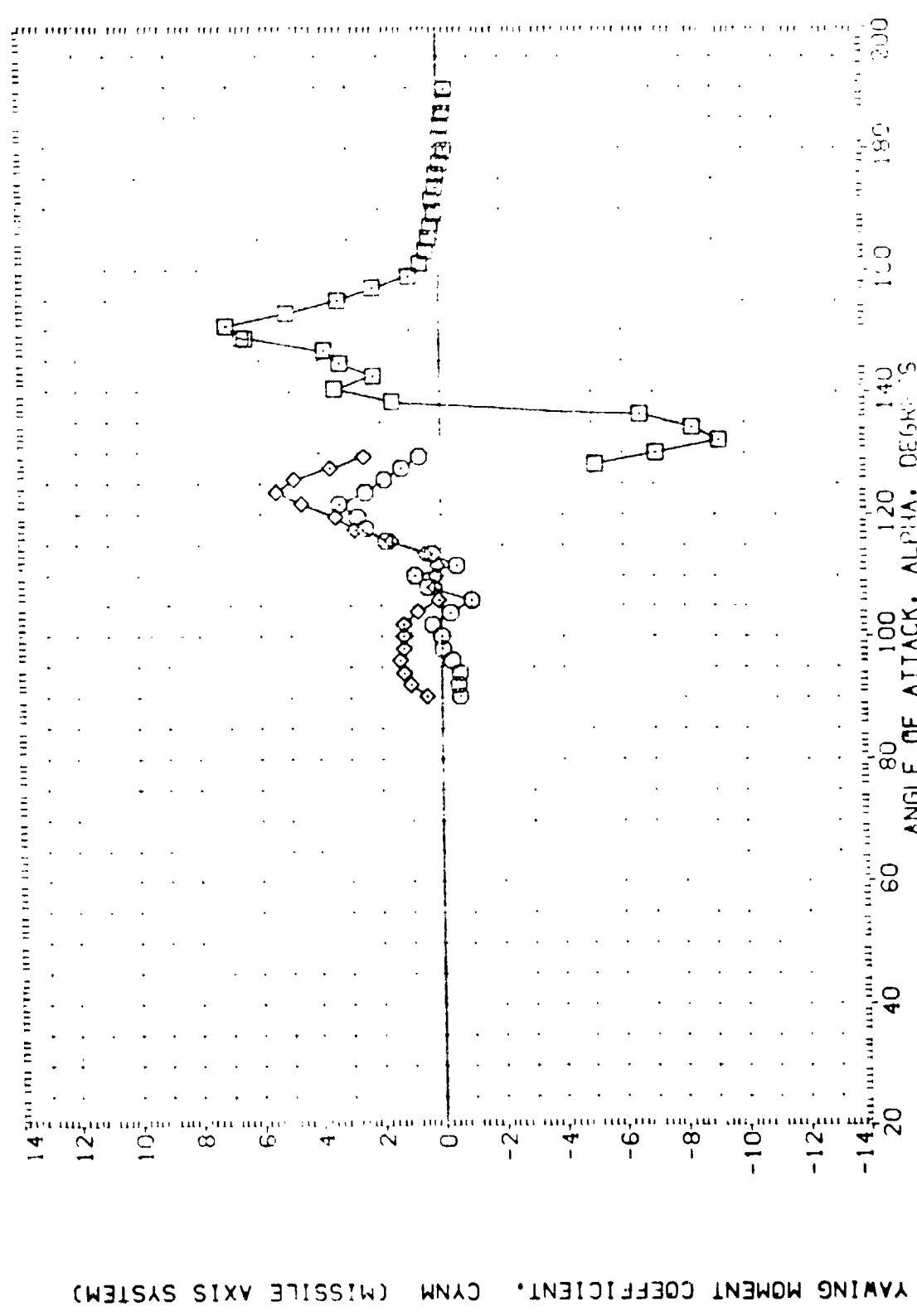


FIGURE 32. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACTERISTICS (PHI = 180)

(A)MACH = .50 PAGE 574

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1HC07) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

(A1HC07) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

(A1HC13) MSFC TVT604 (SABF) SRB WITH PROT. V/3 HEAT SH. 180.000

(A1HC13) DATA NOT AVAILABLE

REFERENCE INFORMATION

SREF 50.00 IN.

LREF 80.00 IN.

BREF 80.00 IN.

XMRP 5.7210 IN. XS

YMRP 5.0000 IN. YS

ZMRP 0.0000 IN. ZS

SCALE 0.0005

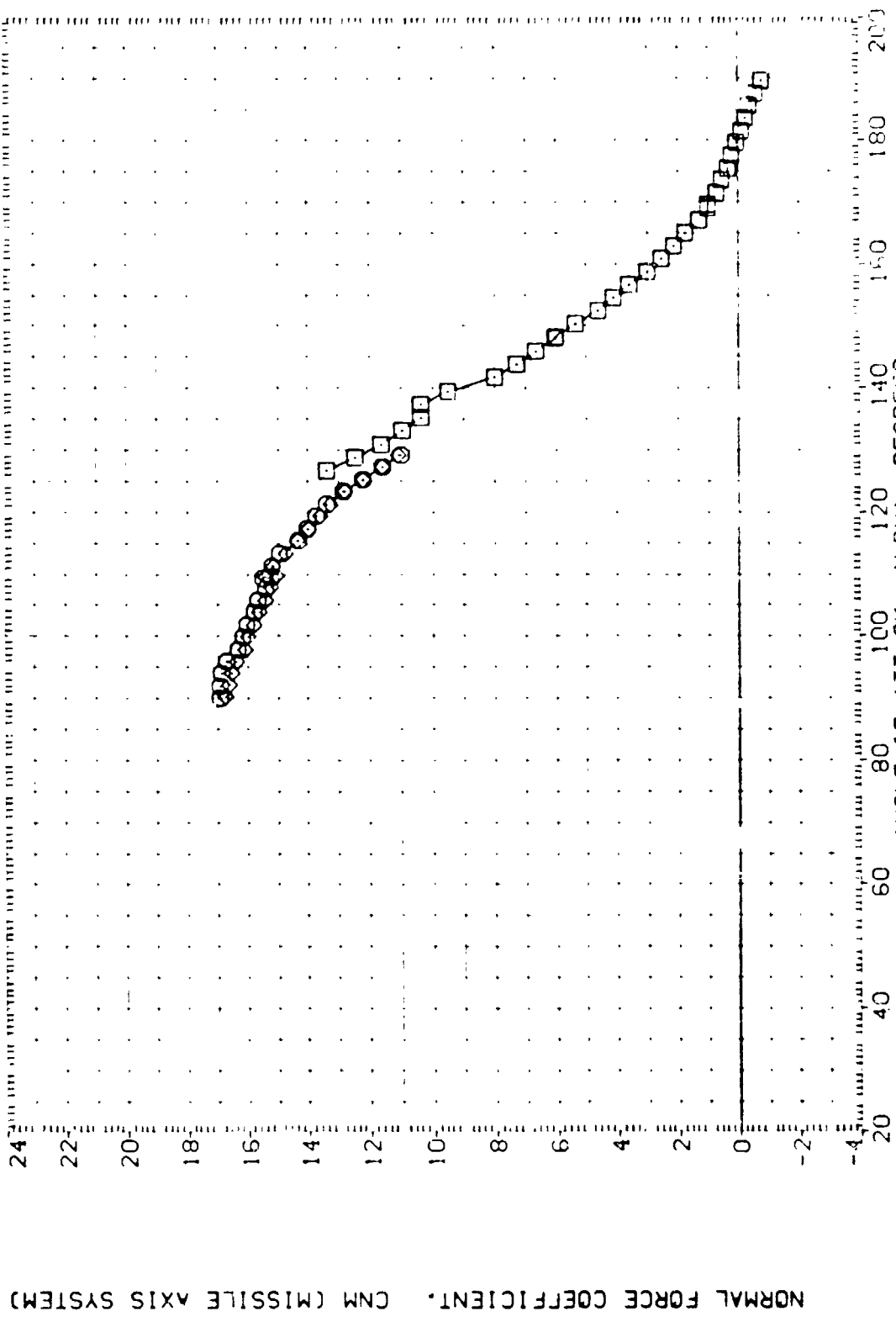


FIGURE 32. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACTERISTICS. (PHI = 180)

(B)MACH = .90 PAGE 75



DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H007) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 180.000
 (A1H007) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 180.000
 (A1H013) MSFC TVT604 (SABF) SRB WITH PRST, 1/3 HEAT SHD. 180.000
 (A1H013) DATA NOT AVAILABLE 180.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.
 LREF .8000 IN.
 BRFP .8000 IN.
 XMPP 5.7210 IN. XS
 ZMRP .0000 IN. YS
 SCALE .0055 IN. ZS

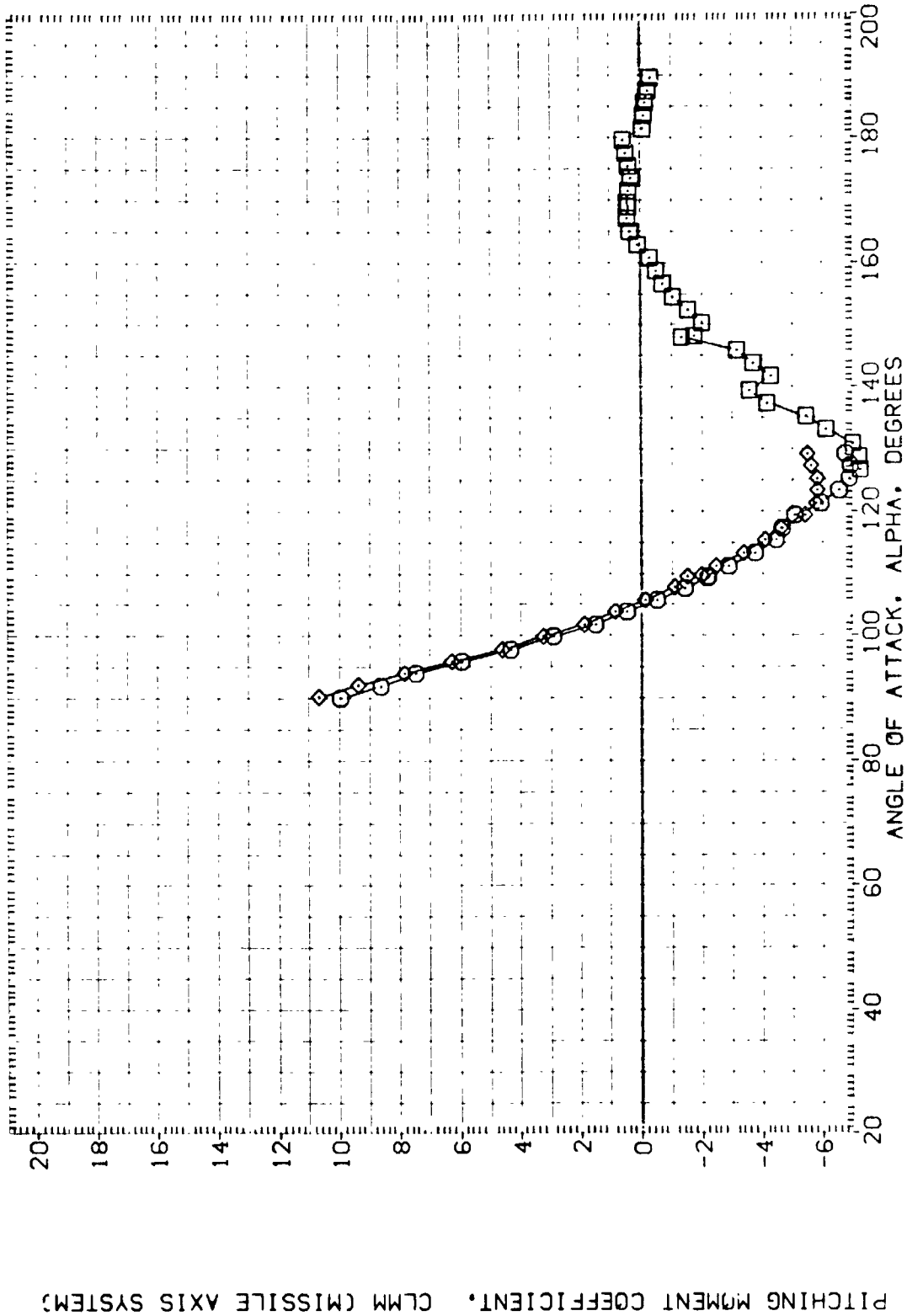


FIGURE 32. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACTER. (PHI = 180)

(B)MACH = .90

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H007) MSFC TVT604 (SABF) SRB WITH ALL PROTRUBERANCES 180.000
 (A1H007) MSFC TVT604 (SABF) SRB WITH ALL PROTRUBERANCES 180.000
 (A1H013) MSFC TVT604 (SABF) SRB WITH PROT. V/6 HEAT SHD. 180.000
 (A1H013) DATA NOT AVAILABLE

REFERENCE INFORMATION

SREF 5030 IN. 50. IN.
 LREF 8000 IN.
 BREF 8000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

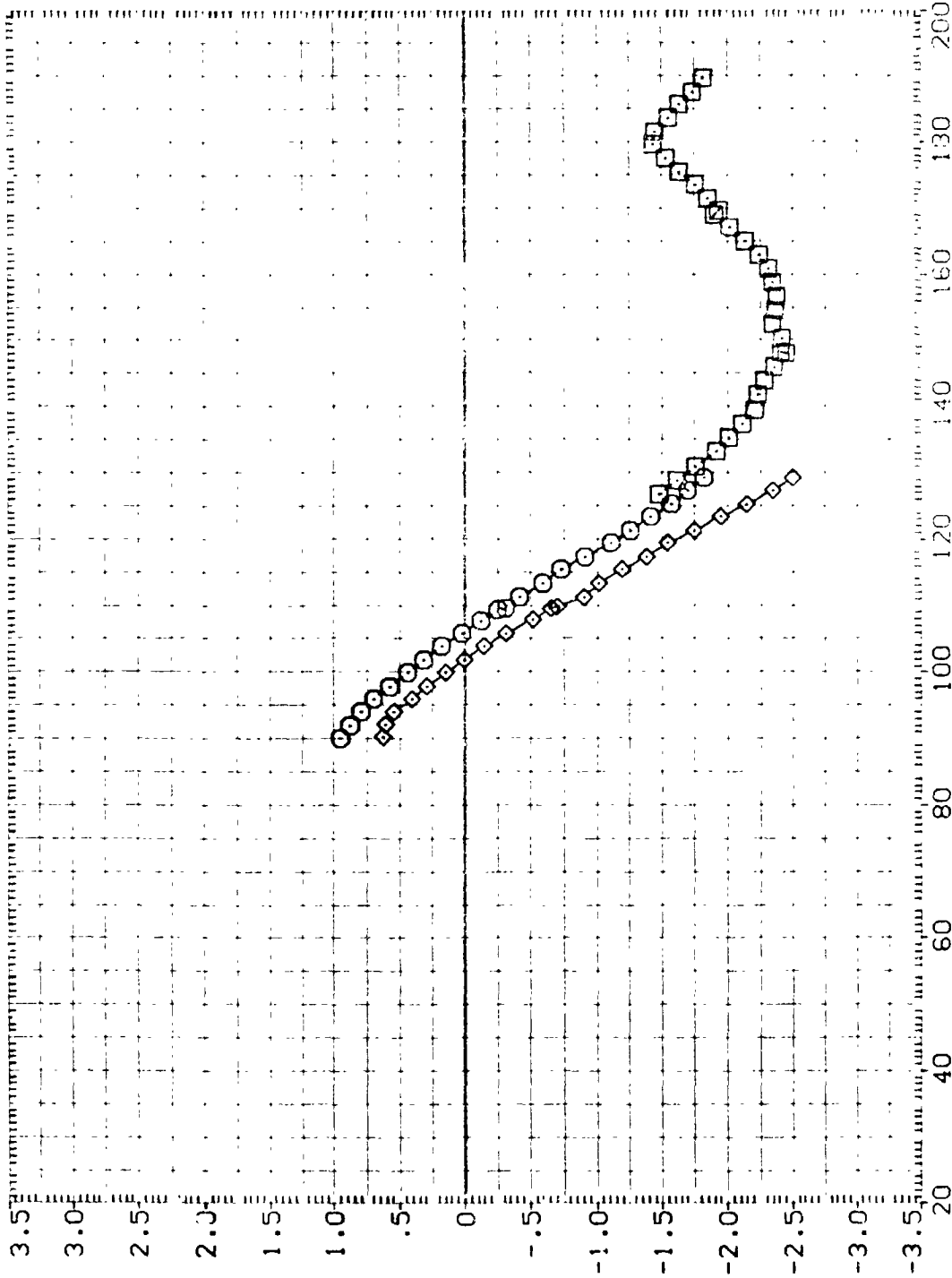


FIGURE 32. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACTER. (PHI = 180)

(B)MACH = .90

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1HC07) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

(A1HC07) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

(A1HC13) MSFC TVT604 (SABF) SRB WITH PROT. V/O HEAT SH. 180.000

(A1HC13) DATA NOT AVAILABLE 180.000

REFERENCE INFORMATION

SREF .5030 50. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

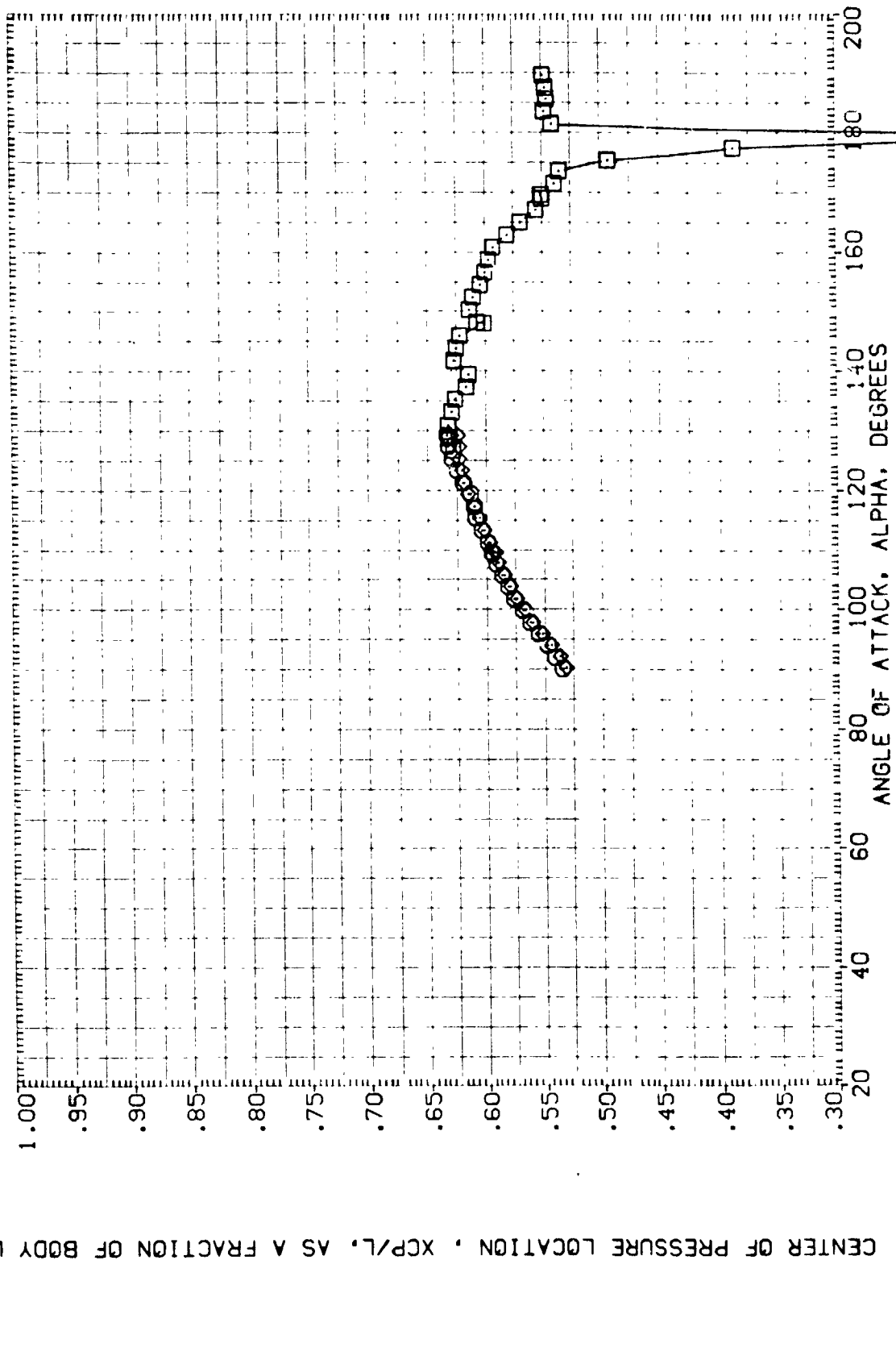


FIGURE 32. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACT. (PHI = 180)

(B)MACH = .90

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DATA SET SYMBOL
 (A1H007) □
 (A1H007) ⊗
 (A1H013) ⊗
 (A1H013) ⊗

CONFIGURATION DESCRIPTION
 MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES
 MSFC TV1604 (SABF) SRB WITH PROT. V/O HEAT SHD.
 DATA NOT AVAILABLE

PHI
 180.000
 180.000
 180.000

REFERENCE INFORMATION
 SREF .5030 SQ. IN.
 LREF .9000 IN.
 BRREF .9000 IN.
 XMRP 5.7210 IN. XS
 YMRP .0000 IN. YS
 ZMRP .0000 IN. ZS
 SCALE .0055

SIDE FORCE COEFFICIENT, C_{YM} (MISSILE AXIS SYSTEM)

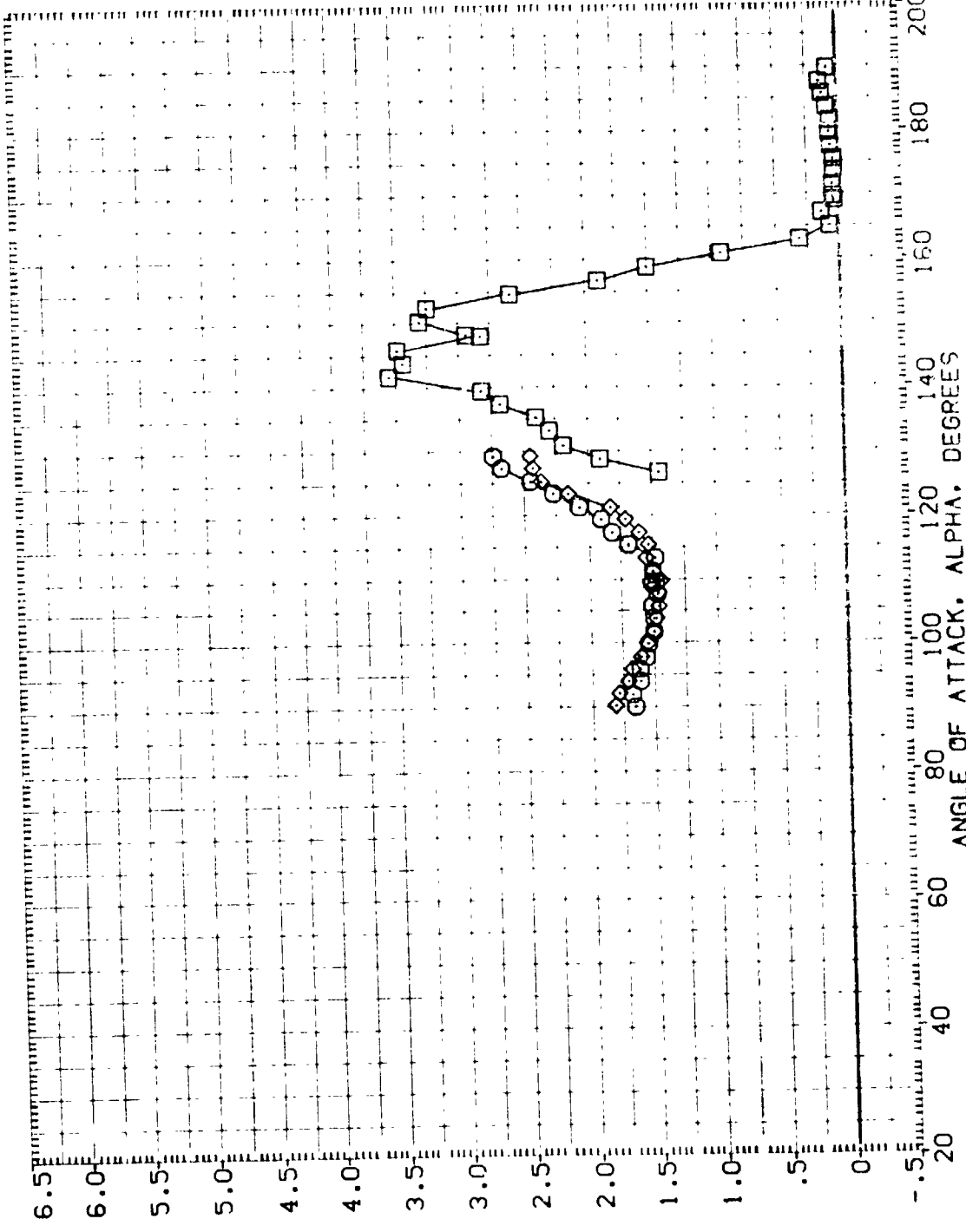


FIGURE 32. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACTER. (PHI = 180)
 (B)MACH = .90 PAGE 580

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H007) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

(A1H007) MSFC TVT604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

(A1H013) MSFC TVT604 (SABF) SRB WITH PROT. V/O HEAT SHD. 180.000

(A1H013) DATA NOT AVAILABLE

REFERENCE INFORMATION

SREF 5030 SQ. IN.

LREF 8000 IN.

BREF 8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

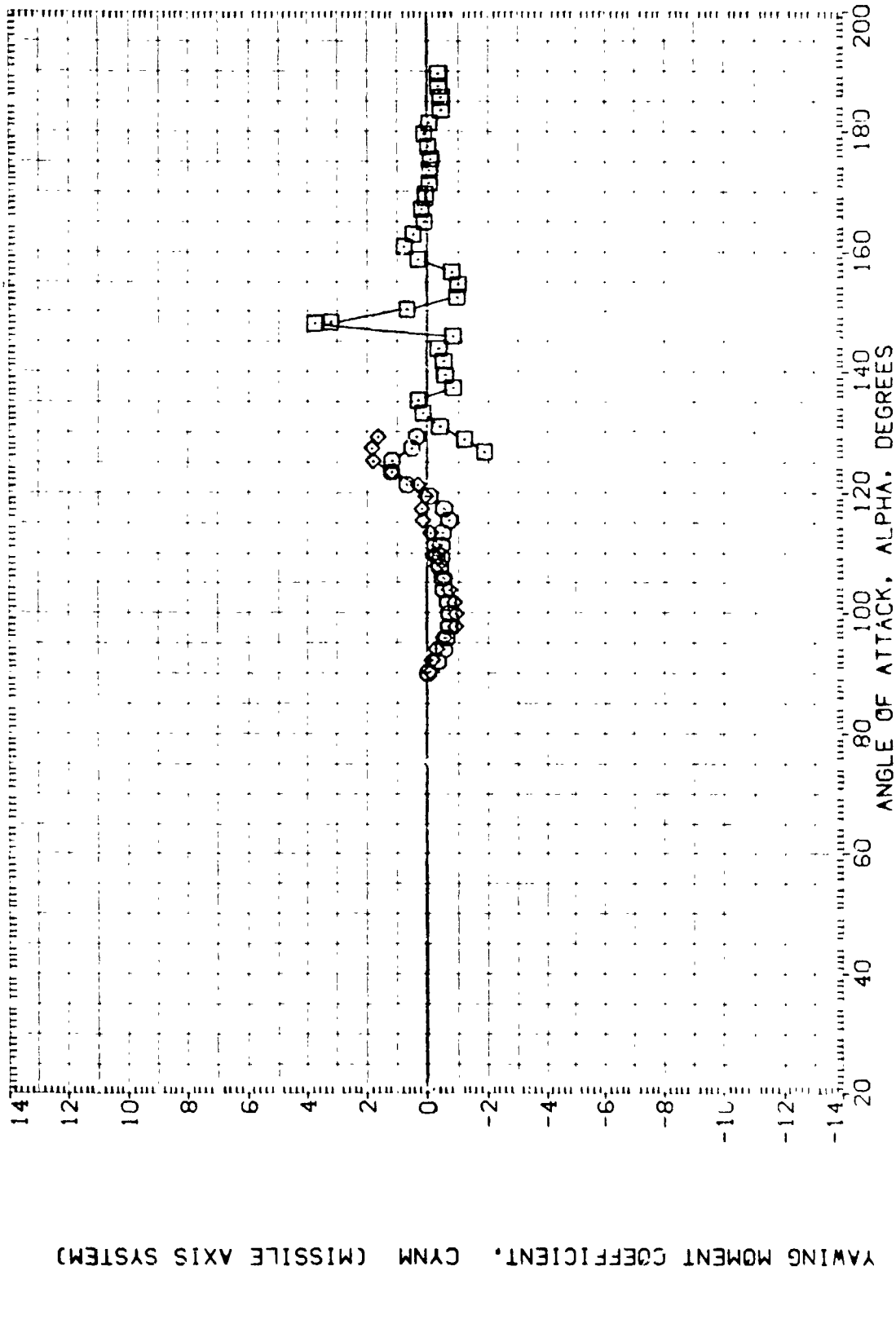


FIGURE 32. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACT. (PHI = 180)

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H007) MSFC TVT604 (SABF) SRB WITH ALL PROTRUBANCES 180.000

(A1H007) MSFC TVT604 (SABF) SRB WITH ALL PROTRUBANCES 180.000

(A1H013) MSFC TVT604 (SABF) SRB WITH PROT. V/O HEAT SHD. 180.000

(A1H013) DATA NOT AVAILABLE 180.000

REFERENCE INFORMATION

SREF .5030 50. IN.

LREF .8000 IN.

BREF 5.0000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0155

ROLLING MOMENT COEFFICIENT, CBL (MISSILE AXIS SYSTEM)

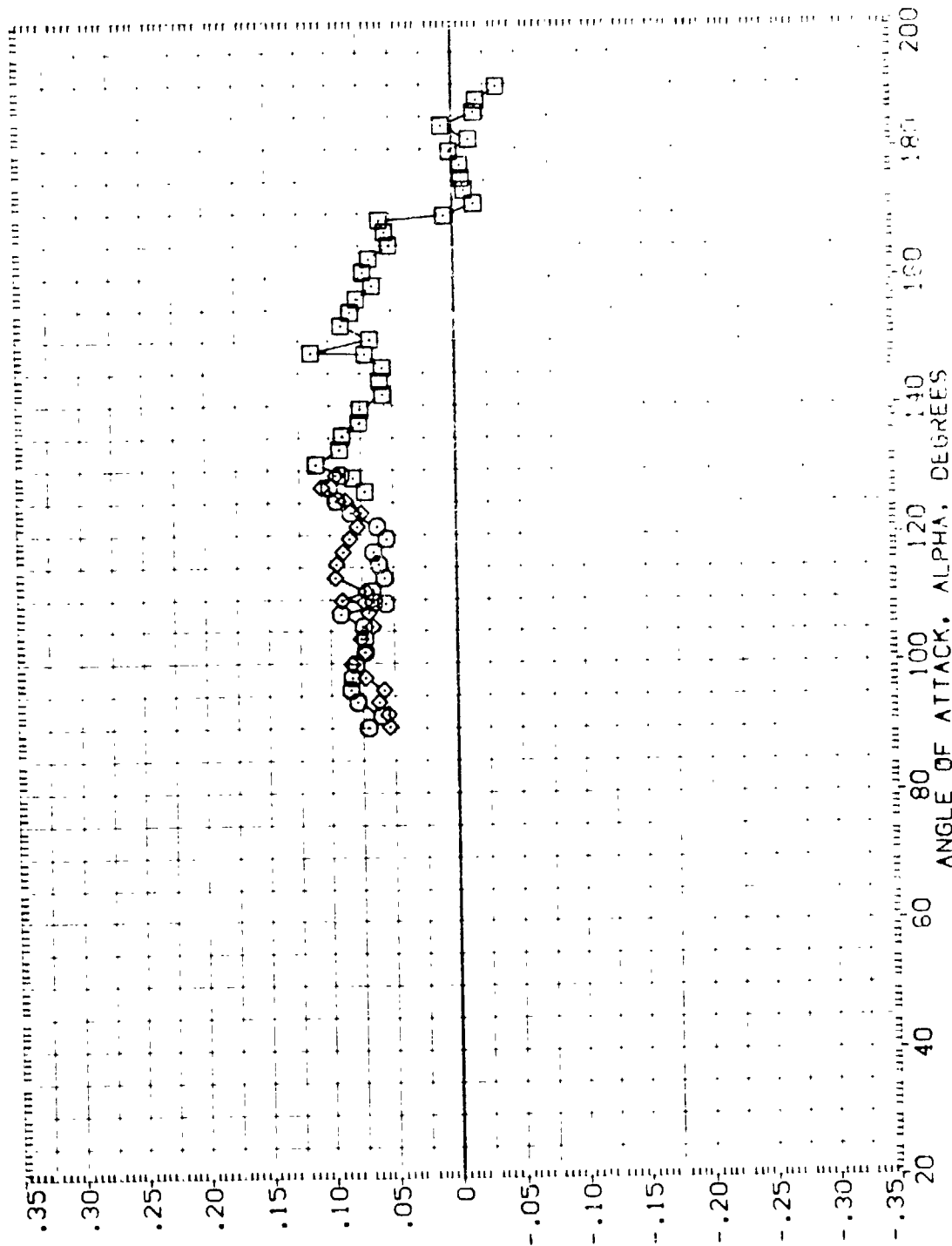


FIGURE 32. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY - HANGOFF, (PHI = 180)

(B)MACH = .90 PAUT 302

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A1H007) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

(A1H007) MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

(A1H013) MSFC TV1604 (SABF) SRB WITH PROT. V/O HEAT SHO. 180.000

(A1H013) MSFC TV1604 (SABF) SRB WITH PROT. V/O HEAT SHO. 180.000

REFERENCE INFORMATION

SREF .5030 SQ. IN.

LREF .8000 IN.

BREF .8000 IN.

XMRP 5.7210 IN. XS

YMRP .0000 IN. YS

ZMRP .0000 IN. ZS

SCALE .0055

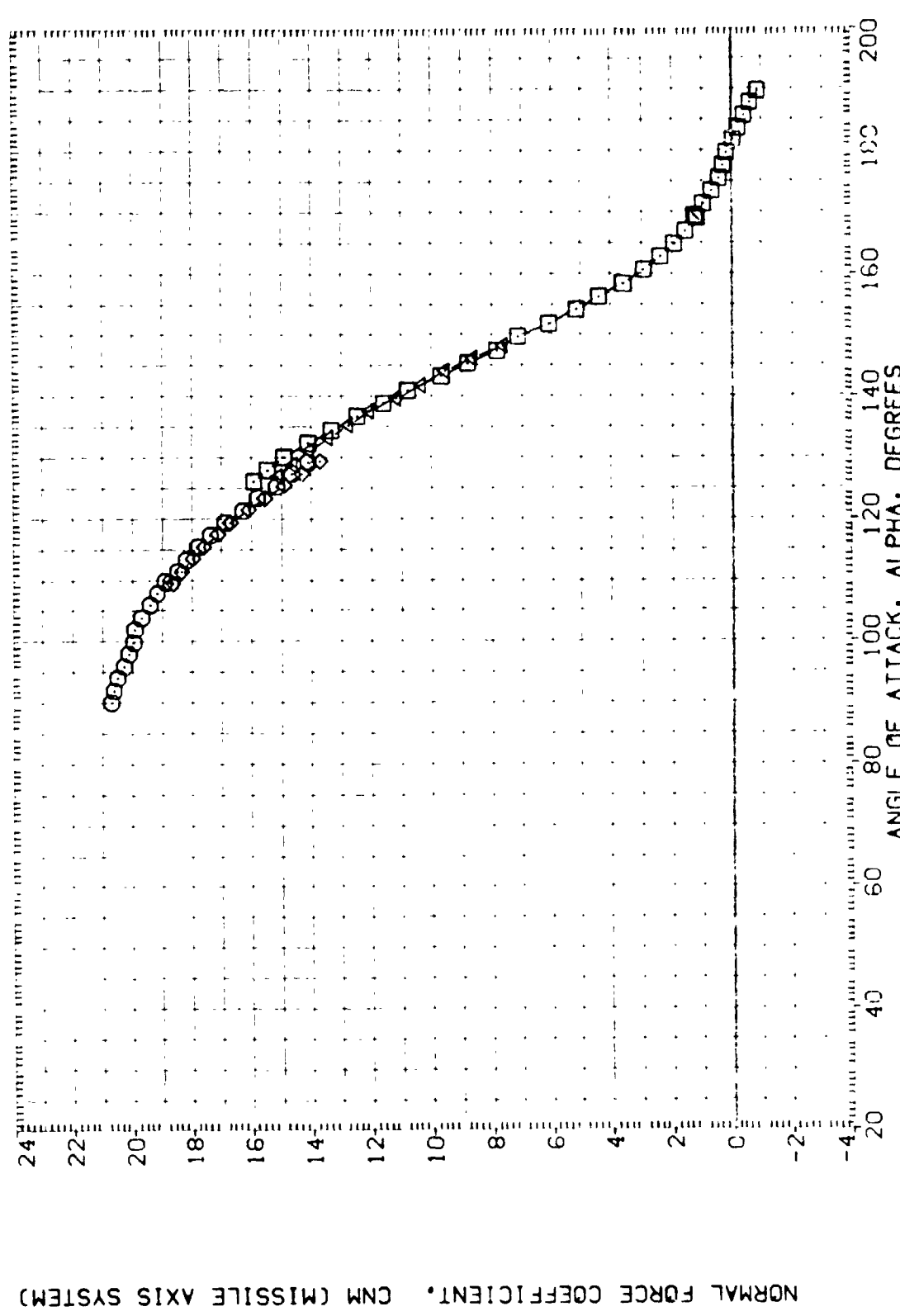


FIGURE 32. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACT. (PHI = 180)

(C)MACH = 1.20

PAGE 583

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(A1H007)	MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES	180.000	SREF .5030 SQ. IN.
(A1H007)	MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES	180.000	LREF .8000 IN.
(A1H013)	MSFC TV1604 (SABF) SRB WITH PROT. 1/3 HEAT SHD.	180.000	BREF .8000 IN.
(A1H013)	MSFC TV1604 (SABF) SRB WITH PROT. 1/3 HEAT SHD.	180.000	XMRP 5.7210 IN. XS
			YMRP .0000 IN. YS
			ZMRP .0000 IN. ZS
			SCALE .0055

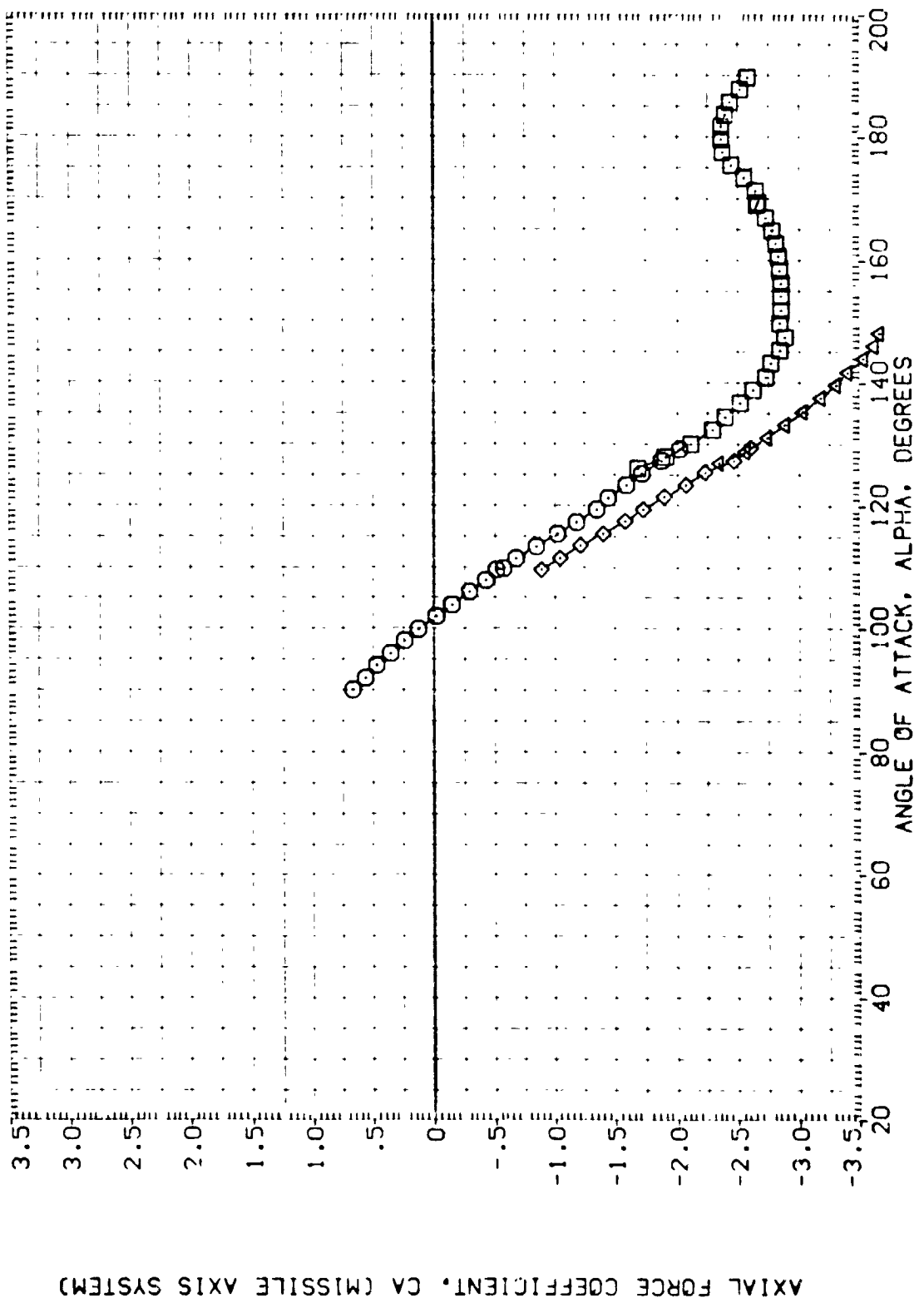


FIGURE 32. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACT. (PHI = 180)
 (C)MACH = 1.20 PAGE 585

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(A)M007 MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

(A)M007 MSFC TV1604 (SABF) SRB WITH ALL PROTUBERANCES 180.000

(A)M013 MSFC TV1604 (SABF) SRB WITH PROT. V/O HEAT SHO. 180.000

(A)M013 MSFC TV1604 (SABF) SRB WITH PROT. V/O HEAT SHO. 180.000

REFERENCE INFORMATION

SREF 50.30 SQ. IN.

LREF 18000 IN.

BREF 18000 IN.

XMRP 72.10 IN. XS

YMRP 00.00 IN. YS

ZMRP 00.00 IN. ZS

SCALE 0055

CENTER OF PRESSURE LOCATION, XCP/L, AS A FRACTION OF BODY LENGTH

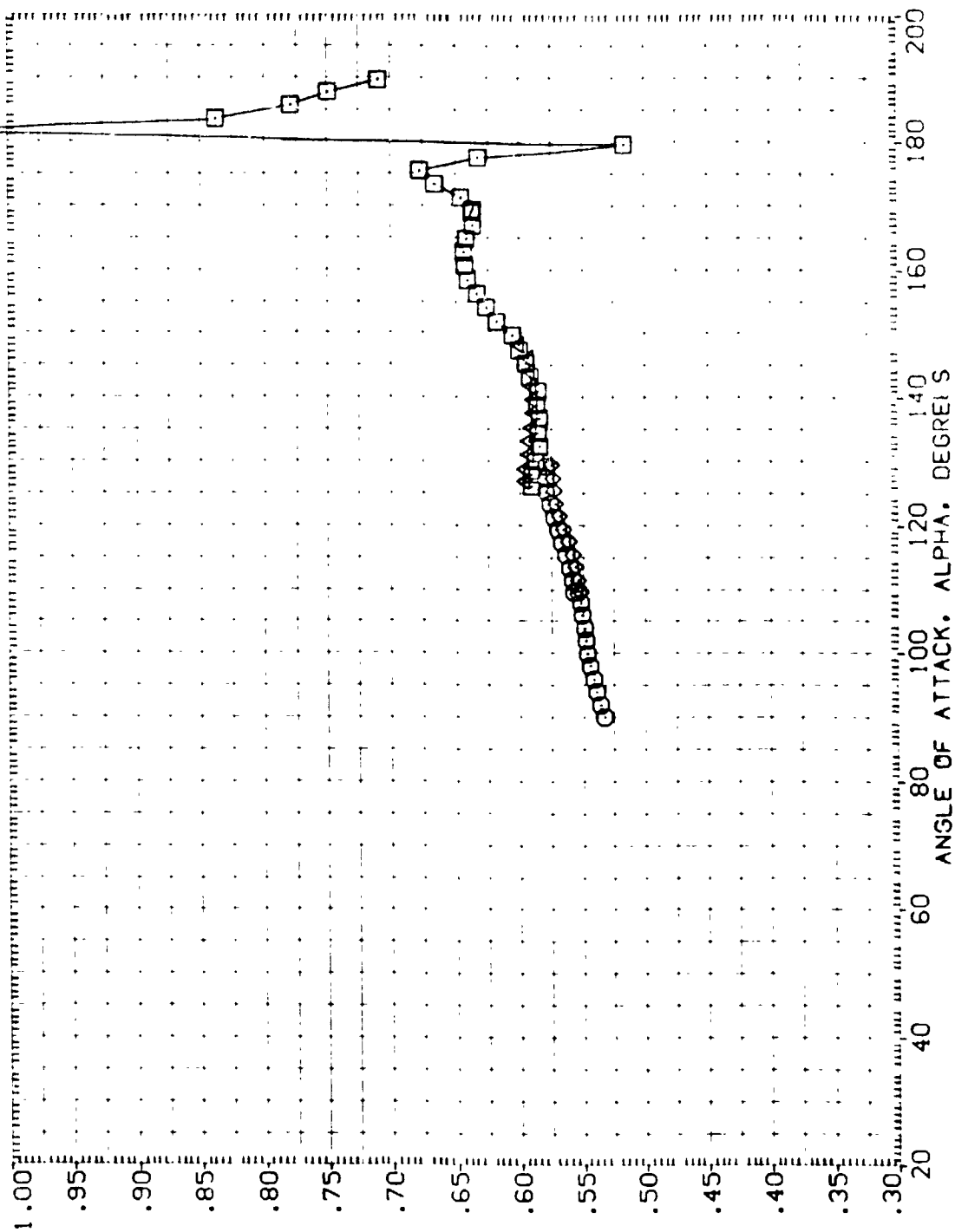


FIGURE 32. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACTER. (PHI = 180)

(C)MACH = 1.20

CASE 586

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI
 (A1M007) MSFC TVT604 (SABF) SRB WITH ALL PROTLBERANCES 180.000
 (A1M007) MSFC TVT604 (SABF) SRB WITH ALL PROTLBERANCES 180.000
 (A1M013) MSFC TVT604 (SABF) SRB WITH PROT. V/O HEAT S/O. 180.000
 (A1M013) MSFC TVT604 (SABF) SRB WITH PROT. V/O HEAT S/O. 180.000

REFERENCE DIMENSION
 SREF 1.30 SQ. IN.
 XREF 1.40 IN.
 YREF 1.40 IN.
 XMRP 5.2300 IN. XS
 YMRP 0.0000 IN. YS
 ZMRP 0.0000 IN. ZS
 SCALE .00155

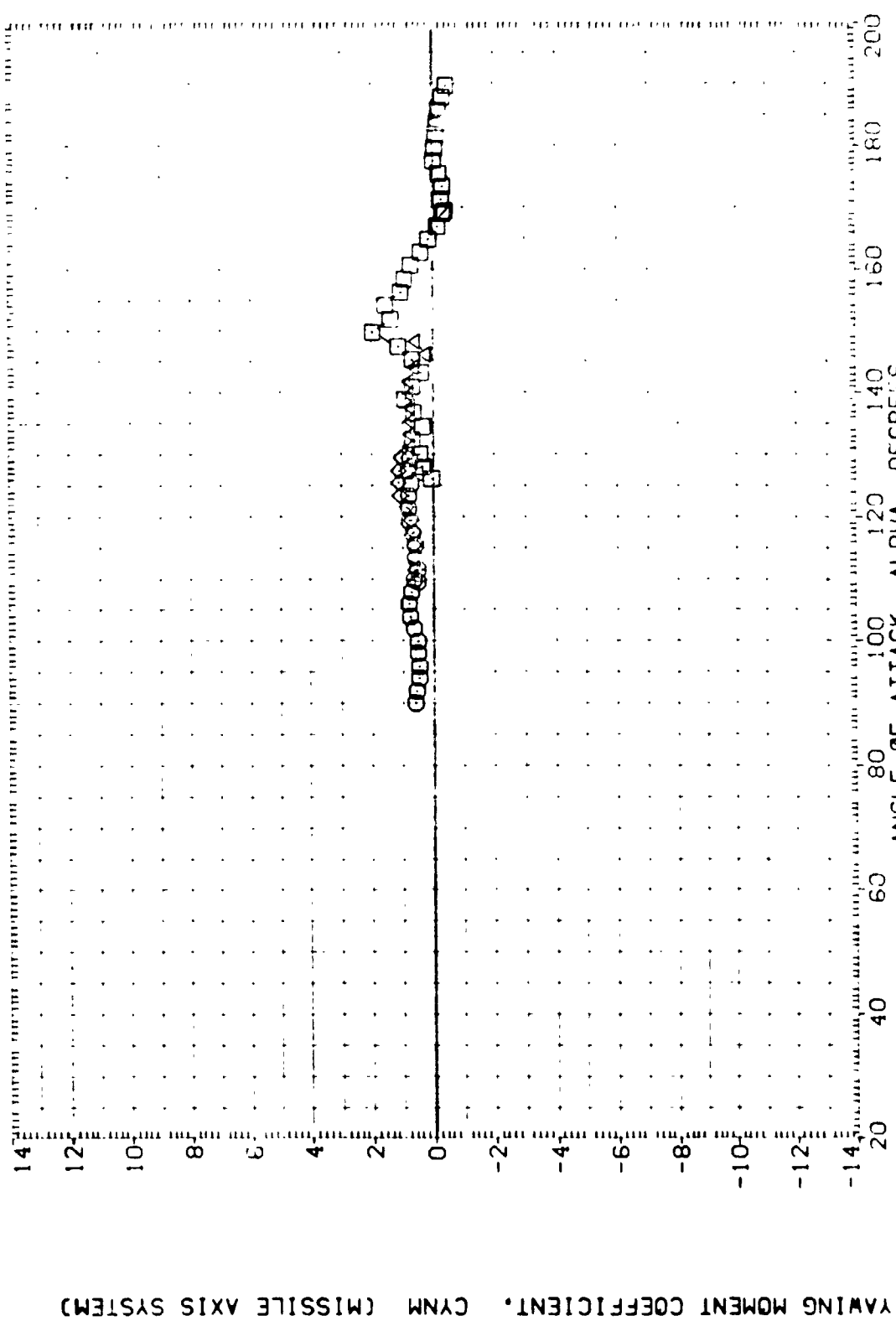


FIGURE 32. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY PARAM. (PHI = 180)

COMACH = 1.20

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(A1)(C07)	M3FC TV1604 (SABF) SRB WITH ALL PROTUBERANCES	180.000	SREF .5C 30
(A1)(C07)	M3FC TV1604 (SABF) SRB WITH ALL PROTUBERANCES	180.000	LRLE 8000
(A1)(C13)	M3FC TV1604 (SABF) SRB WITH PROT. 1/0 HEAT SHD.	180.000	SRLE 8000
(A1)(C13)	M3FC TV1604 (SABF) SRB WITH PROT. 1/0 HEAT SHD.	180.000	XMRP 5.7210
			YMRP .0000
			ZMRP .0000
			SCALE .0055

ROLLING MOMENT COEFFICIENT, CBL (MISSILE AXIS SYSTEM)

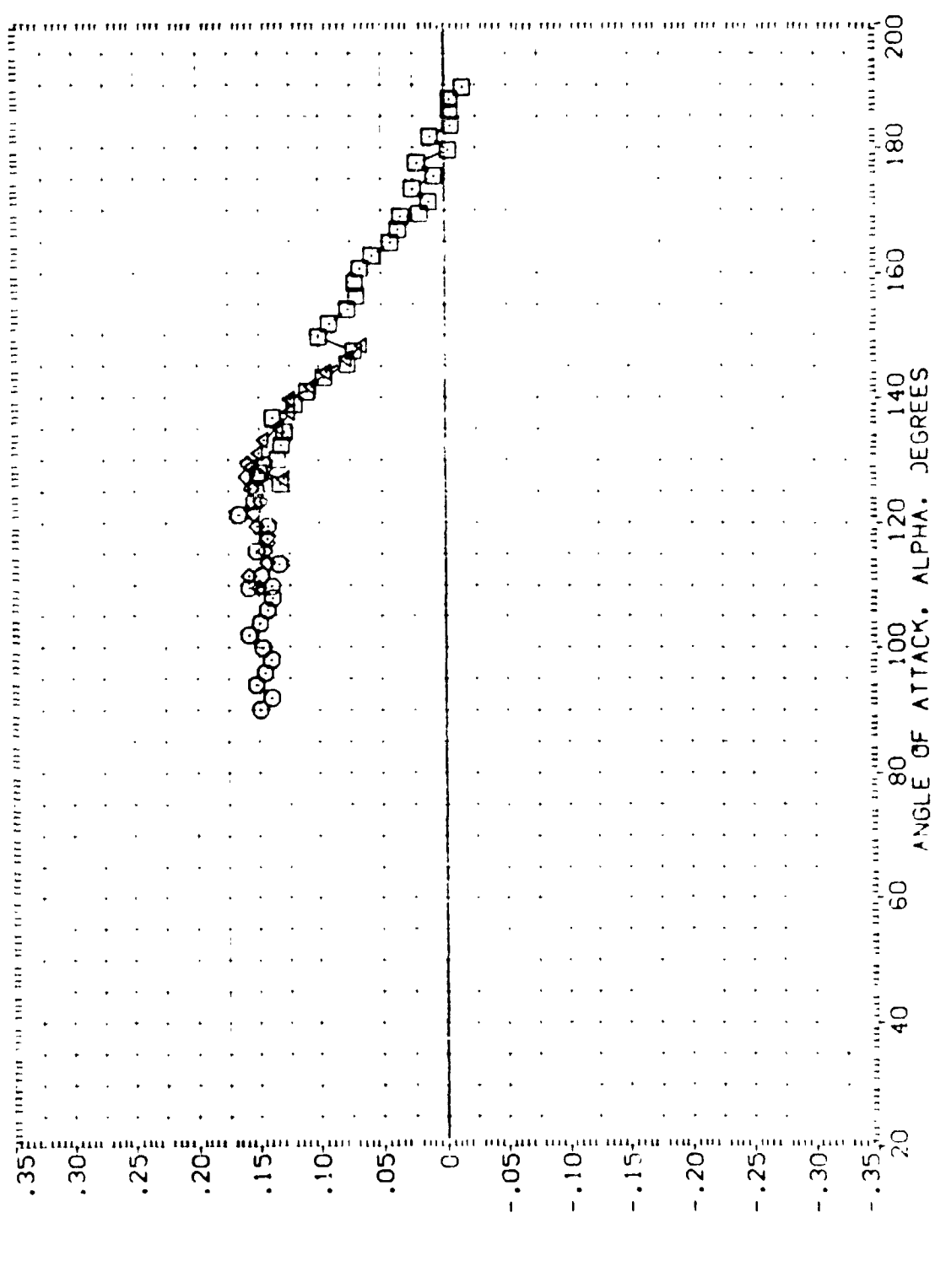


FIGURE 32. EFFECT OF HEAT SHIELD ON SRB STATIC STABILITY CHARACTER. (PHI = 180)

APPENDIX

TABULATED SOURCE DATA

Tabulations of plotted data are available
from DMS upon request.

PRECEDING PAGE BLANK NOT FILMED

DATE 10 JUL 75

TABULATED SOURCE DATA, MSFC THT 804, SA-BF

PAGE 1

(R14001) (10 JUL 75)

MSFC THTS (SABF) SR6 CLEAN W/RINGS

REFERENCE DATA

SREF = .5030 SQ IN. XMRP = 5.7210 IN. XS
 LREF = 8000 IN. YMRP = .0000 IN. YS
 BREF = .8000 IN. ZMRP = .0000 IN. ZS
 SCALE = .0055

BETA = .000 PHI = .000
 NOZZLE = .000

PARAMETRIC DATA

RUN NO. 210/ 0 RN/L = 5.33 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CM	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
.406	-9.421	-72960	-96750	92540	-.00260	-12320	-.00700	.47520	-24820	.9460	-.29110
.406	-7.510	-60420	-70240	89840	.01230	-11350	-.00910	48850	-27420	-.29010	-.27190
.406	-5.470	-43910	-48480	86830	.03020	-.03900	-.00520	49330	-.27350	-.26770	-.26650
.406	-3.470	-25710	-17800	82940	-.00540	-.08940	-.00490	52200	-.24370	-.27450	-.24140
.406	-1.460	10020	-.04090	80480	-.0410	-.06650	-.04650	50010	-.24520	-.23700	-.24050
.408	.560	13410	10300	80340	-.00010	-.05570	-.00810	51700	-.23120	-.24110	-.26690
.406	2.560	30470	12630	82550	-.04900	-.02250	-.04530	54950	-.21870	-.23860	-.29500
.405	4.560	44130	19650	85320	-.04750	-.01800	-.01970	54700	-.23870	-.24460	-.26580
.406	6.600	60570	53740	87910	-.06550	-.02200	-.02760	51100	-.25280	-.23690	-.26460
.406	8.620	77700	76140	90910	-.08350	-.01300	-.05010	50340	-.27260	-.26790	-.28900
.406	10.510	91110	99560	93930	-.06750	-.03630	-.01720	49420	-.29600	-.30190	-.30660
.406	540	11470	-.01340	83210	.00080	.03660	.00670	59150	-.24690	-.23950	-.24890
GRADIENT		03073	.04563	.00340	-.00643	01289	-.00142	00176	00182	-.00111	-.00315

RUN NO. 209/ 0 RN/L = 4.34 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CM	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
.499	-9.410	-72190	-80420	97250	02960	-.08090	-.00860	49250	-26000	-.28990	-.27550
.499	-7.500	-58160	-47920	93210	.01100	-.07640	-.00600	51620	-.25830	-.26790	-.25710
.499	-5.470	-44390	-28030	89730	.00960	-.10070	02500	53190	-.24040	-.24990	-.23680
.499	3.430	-27420	-10040	83930	-.01230	00480	03430	55350	-.22200	-.23160	-.22560
.499	-1.460	10130	04130	83600	-.00370	01230	02640	61670	-.22040	-.22760	-.22040
.499	.540	10330	08480	83500	-.00010	07850	.01020	51790	-.21240	-.22320	-.22680
.499	2.550	27030	01320	83060	.00350	.08150	-.02220	57940	-.20670	-.22330	-.22680
.499	4.560	41220	21080	87220	-.04770	06060	-.02740	54160	-.22170	-.22760	-.23830
.499	6.620	58470	51870	89710	-.08250	.06920	03400	51100	-.22800	-.23520	-.25410
.499	8.620	77240	77620	94530	-.04960	.09520	03140	50350	-.24440	-.26230	-.27310
.499	10.510	92140	96750	94130	-.05190	.00890	01240	49770	-.27550	-.28380	-.28620
.499	540	10670	-.04040	83060	-.04960	.01730	-.01290	61430	-.21890	-.22600	-.22840
GRADIENT		08674	.02957	.00290	-.00751	.00899	-.00855	-.00302	.00071	00061	-.00158

ORIGINAL PAGE IS OF POOR QUALITY

TABLATED SOURCE DATA, MSFC TMT 604, SA-6F

DATE 10 JUL 75

(IRIH001) (10 JUL 75)

MSFC TH1604 (SABF) SRB CLEAN W/RINGS

PARAMETRIC DATA

REFERENCE DATA

SREF = .5030 SQ. IN. XMRP = .7210 IN. XS
 LREF = .8000 IN. YMRP = .0000 IN. YS
 BREF = .8000 IN. ZMRP = .0000 IN. ZS
 SCALE = .0055

BETA = .000 PHI = .000
 NOZZLE = .000

RUN NO. 208/ 0 RN/L = 4.97 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMM	CLMM	CA	CYM	CYNM	CBL	XCP/L	CBP1	CBP2	CBP3
.598	-9.440	-81100	-68590	.98820	-.00750	-.10570	.06710	.49430	-.26790	-.29900	-.28480
.598	-7.520	-66600	-64200	.94110	-.00690	-.15040	.04890	.50470	-.26370	-.27360	-.25920
.598	-5.490	-48860	-33730	.90040	-.01800	-.10080	.05750	.52710	-.24870	-.25860	-.24330
.598	-3.480	-30390	-12300	.86520	-.00490	-.11090	.04940	.55030	-.23020	-.24180	-.22850
.598	-1.470	-17190	-11100	.84770	-.05590	-.11290	.04270	.53070	-.22430	-.23140	-.23050
.598	.540	.07770	-.02950	.84070	-.00060	-.08030	.04580	.61440	-.20860	-.22550	-.22640
.598	2.550	23650	-.02740	.86620	-.06090	.02100	.06570	.58290	-.19860	-.22370	-.23170
.598	4.570	39050	.16160	.88290	-.05070	.05090	.07680	.54960	-.21680	-.23020	-.24540
.598	6.630	54570	.32150	.91330	-.07430	.00890	.05020	.53530	-.23670	-.24210	-.25460
.598	8.680	69740	.63610	.95520	-.05050	.04150	.05740	.50900	-.25020	-.26360	-.27080
.598	10.530	92650	.95270	.98020	-.06610	-.05100	.05100	.49950	-.27520	-.28680	-.28850
.599	.560	.08170	.06480	.84910	-.03900	.02280	.06950	.51870	-.21090	-.23140	-.23230
GRADIENT		.08932	.03246	.00258	-.00677	.02274	.00387	.00301	.00261	.00153	-.00174

RUN NO. 207/ 0 RN/L = 6.28 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMM	CLMM	CA	CYM	CYNM	CBL	XCP/L	CBP1	CBP2	CBP3
.899	-9.510	-92590	-63770	1.18810	-.03090	-.07240	.00100	.62720	-.28820	-.29870	-.27610
.899	-7.560	-69440	-39140	1.15220	-.03160	-.11030	.00230	.53740	-.27040	-.27870	-.25580
.899	-5.510	-50270	-16010	1.10760	-.03100	-.07490	.00520	.55740	-.25180	-.25390	-.23570
.899	-3.500	-35650	-.03530	1.07460	-.03720	-.03370	-.01940	.57140	-.23840	-.24370	-.23100
.899	-1.480	-17640	.01670	1.04510	-.04160	.00770	-.00940	.59110	-.22570	-.22840	-.22310
.899	.540	.05550	-.00670	1.04270	-.05940	.04600	-.00190	.59170	-.20930	-.22660	-.22930
.899	2.560	24430	-.04320	1.05830	-.04840	.07490	-.00990	.59780	-.21780	-.22930	-.23670
.899	4.590	42810	.07000	1.07540	-.07720	.06910	-.00070	.57000	-.21540	-.23010	-.24120
.899	6.640	60330	.21950	1.12820	-.06290	.01450	-.00760	.55370	-.23630	-.23640	-.25350
.899	8.680	80510	.43910	1.16550	-.08600	.00380	.00000	.53890	-.26120	-.25910	-.27650
.899	10.620	1.02610	.72870	1.17880	-.10910	-.09510	.00490	.52940	-.28100	-.28310	-.29600
.899	.540	.06570	-.02470	1.06280	-.07330	.03820	-.01400	.51400	-.21110	-.22620	-.23130
GRADIENT		.09885	.00788	.00123	-.00429	.01349	.00182	-.00011	.00246	.00135	-.00148

PARAMETRIC DATA

REFERENCE DATA
 SREF = .5030 SQ. IN. XMRP = 5.7210 IN. XS BETA = .000 PHI = .000
 LREF = .8000 IN. YMRP = .0000 IN. YS NOZZLE = .000
 BREF = .8000 IN. ZMRP = .0000 IN. ZS
 SCALE = .0055

MACH	ALPHA	CNH	CLMH	CA	CYH	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
1.200	-9.580	-1.85660	-1.42120	1.68610	-0.2280	-0.06510	.01720	.44800	-.30840	-.32830	-.31350
1.200	-7.610	-.65020	-.89370	1.64290	-.02740	-.09370	.02480	.47120	-.29520	-.31470	-.29820
1.200	-5.570	-.50280	-.53470	1.57370	-.03520	-.07840	.01160	.49660	-.27750	-.29860	-.27880
1.200	-3.510	-.35840	-.03120	1.46510	-.03810	-.01620	.02020	.57630	-.24860	-.27820	-.25190
1.200	-1.500	-.13940	0.1380	1.41640	-.05230	-.02380	.01870	.59150	-.22120	-.24160	-.23230
1.200	.540	.05020	-.19630	1.41990	-.06370	.04520	.00050	.76260	-.20650	-.23530	-.23480
1.200	2.570	.33310	-.23700	1.49240	-.07150	.07490	.00980	.64140	-.23090	-.25880	-.27100
1.200	4.610	.45230	.08760	1.57340	-.05730	.03170	.01900	.56750	-.26120	-.28570	-.29920
1.200	6.690	.64570	.52940	1.63760	-.05470	.02380	.02120	.51650	-.27170	-.29530	-.30800
1.200	8.750	.84150	1.01830	1.68590	-.07170	-.03550	-.00220	.48470	-.28510	-.31520	-.32490
1.200	10.700	1.03560	1.51830	1.69200	-.08720	-.03570	-.00070	.46380	-.28710	-.32290	-.32670
1.200	.540	.10240	-.14320	1.41820	-.05980	.04720	-.00220	.69740	-.21240	-.24020	-.23940
	GRADIENT	.10308	-.00082	.01247	-.00283	.00722	-.00055	.00198	-.00173	-.00160	-.00657

RUN NO. 224/ 0 RN/L = 7.03 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLMH	CA	CYH	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
1.958	-9.670	-.87800	-2.31390	1.23020	-.02650	.05590	.00110	.36840	-.16070	-.21080	-.22410
1.958	-7.680	-.62030	-1.67830	1.21370	-.01540	.04860	.00430	.36270	-.15270	-.21060	-.21780
1.958	-5.610	-.45260	-.09380	1.19610	-.02610	.02480	-.01530	.36620	-.14350	-.21230	-.21350
1.958	-3.550	-.30980	-.56390	1.17040	-.03080	.03060	.01260	.43490	-.13550	-.20610	-.21100
1.958	-1.500	-.15020	-.19230	1.15120	-.00120	.04620	.00880	.47890	-.12780	-.20730	-.21150
1.958	.550	.06740	.10560	1.16190	-.02890	.02260	-.00340	.45570	-.13080	-.20540	-.21170
1.958	2.630	.24030	.40680	1.15070	-.03000	.04040	-.00910	.44520	-.13250	-.21050	-.21050
1.958	4.670	.39340	.90490	1.18260	-.04010	.02330	-.00670	.39570	-.13010	-.20190	-.20570
1.958	6.790	.57520	1.56620	1.21850	-.04600	.02220	-.01800	.36120	-.13830	-.20260	-.19990
1.958	8.870	.80170	2.16000	1.23370	-.06170	-.00650	-.01580	.36360	-.14930	-.21120	-.20180
1.958	10.840	1.12850	2.85730	1.27400	-.05750	-.01460	-.01580	.37690	-.14730	-.21790	-.20820
1.958	.560	.09880	.16040	1.11880	-.00250	.03130	-.00720	.45100	-.12790	-.20460	-.20580
	GRADIENT	.08736	.17191	.00116	-.00231	-.00099	-.00274	-.00545	.00030	.00025	.00056

MSFC TMT604 (SABF) SRB CLEAN W/RINGS

(R1H001) (10 JUL 75)

REFERENCE DATA

SREF = .5030 50. IN. XMRP = 5.7210 IN. XS
 LREF = .6000 IN. YMRP = .0000 IN. YS
 BREF = .8000 IN. ZMRP = .0000 IN. ZS
 SCALE = .0055

BETA = .000 PHI = .000
 NOZZLE = .000

PARAMETRIC DATA

RUN NO. 172/ 0 RN/L = 5.04 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMH	CLMH	CA	CM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
2.740	-9.610	-1.20340	-2.69910	.93640	.03180	-.04070	-.00010	.40040	-.10240	-.13730	-.14180
2.740	-7.630	-80180	-2.04820	.92160	.02110	-.01140	.02600	.37500	-.09080	-.13100	-.13630
2.740	-5.580	-.52260	-1.45420	.89110	.00850	-.03300	-.01490	.35640	-.08360	-.11760	-.13040
2.740	-3.530	-.33040	-.82750	.88550	.00390	.00210	.00440	.37900	-.08280	-.13210	-.13300
2.740	-1.480	-.13910	-.30540	.89260	-.00110	-.03690	.01750	.40300	-.08330	-.13210	-.13500
2.740	.540	.05230	-.02090	.88490	-.00120	-.00520	-.01390	.61610	-.08180	-.13540	-.13510
2.740	2.600	20930	.55670	.89450	.00220	.00480	.00190	.36650	-.08240	-.13510	-.13390
2.740	4.630	42000	1.18000	.88680	-.01300	-.06340	.00220	.73420	-.08050	-.13270	-.13160
2.740	6.730	66420	1.78720	.87320	-.01760	-.07000	.00110	.36390	-.08310	-.13240	-.12970
2.740	8.770	1.01100	2.41440	90990	-.01240	-.05900	-.00040	38850	-.09010	-.13530	-.12960
2.740	10.720	1.39390	3.00870	.91510	-.01530	-.08570	.00910	40730	-.09770	-.13470	-.13020
2.740	.550	.05010	12880	.87930	.03040	-.02330	-.02410	37370	-.08380	-.13530	-.13510
GRADIENT		.09059	23911	00022	-.00149	-.00438	-.00937	-.00429	00027	-.00021	00019

RUN NO. 171/ 0 RN/L = 6.88 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMH	CLMH	CA	CM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
3.480	-9.630	-1.24470	-2.31620	.76970	.02770	.04640	.02760	43160	-.07160	-.08040	-.09040
3.480	-7.650	-.90180	-1.93290	.75250	-.01400	-.03630	.02070	40850	-.06730	-.08830	-.08940
3.480	-5.590	-.57910	-1.37030	.73580	-.01580	-.00110	.01870	39040	-.05850	-.08460	-.08540
3.480	-3.540	-.36740	-.78210	.73730	-.03540	-.03910	.02900	40970	-.06010	-.08550	-.08750
3.480	-1.490	-.19060	-.31720	.72770	-.02430	-.01290	.02140	44760	-.05750	-.08480	-.08570
3.480	.550	.06810	.09380	.72160	-.03370	-.00270	.01800	47100	-.05030	-.08640	-.08590
3.480	2.610	.24340	.51740	.72940	-.00510	-.00160	.01800	40990	-.05730	-.08540	-.08710
3.480	4.640	43980	1.11350	.73320	-.03390	-.00780	.02050	37680	-.05750	-.08450	-.08460
3.480	6.740	.73090	1.67090	.73170	-.04590	-.04930	.00720	39690	-.05990	-.08400	-.08350
3.480	8.790	1.08660	2.16340	.77380	-.04750	-.04440	.02340	42090	-.06650	-.08300	-.08180
3.480	10.730	1.47350	2.52450	.75610	-.04790	-.08600	.01460	44360	-.06830	-.08040	-.08560
3.480	.550	.08390	.14710	.72610	-.02650	-.00740	.02680	44040	-.05600	-.08640	-.08590
GRADIENT		.10011	22607	-.00032	.00109	-.00403	-.00100	-.00506	00042	-.00011	00012

REFERENCE DATA

SREF = .5030 SQ. IN. XMRP = 5.7210 IN. XS BETA = .000 PHI = .000
 LREF = .8000 IN. YMRP = .0000 IN. YS MOZZLE = .000
 BRREF = .P000 IN. ZMRP = .0000 IN. ZS
 SCALE = .0055

RUN NO. 173/ 0 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYH	CYHM	CBL	XCP/L	CBP1	CBP2	CBP3
4.000	-9.540	-1.22330	-1.79950	.68920	.03700	.12030	.02900	.46340	-.05390	-.06560	-.06450	
4.000	-7.600	-.88160	-1.51700	.66370	.01800	.10370	.01770	.44300	-.05280	-.04520	-.06470	
4.000	-5.550	-.58230	-1.09780	.65260	.02720	.13290	.02510	.42960	-.04890	-.06380	-.06410	
4.000	-3.520	-.38100	-.63690	.65090	.01370	.10790	.01740	.44700	-.04680	-.06370	-.06340	
4.000	-1.480	-.19660	-.11960	.62220	-.03930	.10070	-.00220	.53380	-.04490	-.06400	-.06340	
4.000	.550	.08000	.08700	.63510	.00120	.11870	.01300	.49470	-.04240	-.06400	-.06330	
4.000	2.610	.32080	.53180	.63150	.00130	.11350	.03180	.44820	-.04470	-.06380	-.06280	
4.000	4.620	.50120	.97690	.63340	-.00600	.04760	.00590	.42440	-.04550	-.06380	-.06190	
4.000	6.700	.77960	1.35600	.63280	.01210	.03580	.00170	.44150	-.04820	-.06440	-.06210	
4.000	8.730	1.12020	1.85930	.65100	.00980	.01830	.01310	.44800	-.05190	-.06620	-.06240	
4.000	10.660	1.48010	2.10840	.66130	.01130	.01730	.01990	.46720	-.05350	-.06670	-.06330	
4.000	.550	1.00300	.15320	.63390	.00030	.10520	.01820	.45870	-.04420	-.06540	-.06400	
GRADIENT		11203	.19042	-.03126	-.00007	-.00528	.00055	-.00642	.00014	.00000	.00018	

RUN NO. 174/ 0 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYH	CYHM	CBL	XCP/L	CBP1	CBP2	CBP3
4.450	-9.480	-1.21620	-1.53930	.62260	.01630	.01850	.00220	.48010	-.04180	-.04800	-.04500	
4.450	-7.550	-.95600	-1.36010	.59930	.00340	.00860	-.03410	.46730	-.04160	-.04900	-.04600	
4.450	-5.530	-.66630	-1.01350	.57380	.00280	.00630	-.03450	.45930	-.04140	-.04910	-.04660	
4.450	-3.500	-.42900	-.56770	.56770	-.04510	.10760	.01840	.47540	-.04060	-.04930	-.04620	
4.450	-1.460	-.11660	-.01170	.52100	-.00500	.10810	-.10230	.59160	-.04180	-.05030	-.04720	
4.450	.570	.08810	.18240	.55020	.00810	.15470	-.04230	.41060	-.03930	-.05070	-.04820	
4.450	2.560	.26110	.32410	.55540	-.00340	-.06060	-.00320	.48210	-.04200	-.05090	-.04760	
4.450	4.590	.52090	.89490	.57260	.00660	-.07290	-.00700	.44320	-.04020	-.04990	-.04660	
4.450	6.650	.72460	1.20010	.57280	-.04960	-.04110	-.17500	.44830	-.04120	-.05090	-.04600	
4.450	8.670	1.04750	1.57860	.58660	-.06710	-.13460	-.03920	.46060	-.04300	-.05170	-.04560	
4.450	10.590	1.36690	1.80640	.60140	-.08120	-.18290	-.04090	.47560	-.04340	-.05190	-.04640	
4.450	.560	.02840	.10070	.53320	.00710	-.20790	-.04700	.29480	-.04180	-.05190	-.04760	
GRADIENT		11278	.16039	.00217	.00521	.00235	-.00661	-.00009	.00003	-.00009	-.00006	

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 OF POOR QUALITY

TABLATED SOURCE DATA, MSFC INT 604, SA-08

DATE 10 JUL 75

(R1H002) (10 JUL 75)

MSFC INT604 (SABF) SRB CLEAN W/RINGS

PARAMETRIC DATA

BETA = .000 PHI = .000
 NOZZLE = .000

REFERENCE DATA

SREF = .5030 SQ IN. XMRP = 5.7210 IN XS
 LREF = .8000 IN YMRP = .0000 IN. YS
 PREF = .8000 IN ZMRP = .0000 IN. ZS
 SCALE = 0055

RUN NO. 213/ 0 RN/L = 6.28 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
901	10 650	1 00190	.70840	1.17140	-.21180	-.07120	-.01620	5.2570	-.26860	-.27900	-.26520
901	12 800	1 24850	1.13000	1.16530	-.25120	-.06800	-.01530	50950	-.29320	-.30000	-.29990
901	14 840	1 49030	1.51270	1.15310	-.32980	-.12250	-.01870	50050	-.31470	-.32570	-.31100
901	16 890	1 77770	2.06520	1.13900	-.29590	-.19980	-.02180	48860	-.33230	-.34430	-.32180
901	18 950	2 05070	2 61570	1.12900	-.11610	-.20440	-.03700	47930	-.34590	-.35270	-.33330
901	21 040	2 36970	3.31530	1.11010	-.20150	-.21210	-.03520	47020	-.37240	-.38390	-.35820
901	23 120	2 74670	4.12840	1.08960	-.05830	-.14720	-.02880	46080	-.39140	-.41400	-.37520
901	25 220	3.14830	5.09790	1.05580	-.01980	-.09310	-.03690	45130	-.41300	-.42780	-.39670
901	27 370	3 83760	6.18630	1.03730	.59470	2.41870	-.02460	44190	-.43520	-.44090	-.41580
901	29 530	4 32480	7 60020	1.00640	.43580	2 39350	-.03360	44000	-.44700	-.46100	-.44000
901	31 510	4 86110	8.86520	.94860	.44790	3.20230	-.03790	43460	-.43110	-.49930	-.45160
901	21 650	2 41220	3 40470	1 11250	-.20820	-.27180	-.02950	46820	-.36990	-.38580	-.34860
901	GRADIENT	00000	00000	.00000	00000	00000	00000	00000	00000	00000	00000

RUN NO. 214/ 0 RN/L = 6.68 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
1 98	10 940	1.02180	1.56820	1.68420	-.05160	.00060	-.01120	45820	-.29050	-.32820	-.32990
1 98	12 910	1 24150	2 12140	1.68460	-.06210	-.01770	-.01240	44400	-.30340	-.33680	-.33510
1 98	14 930	1 50640	2 84340	1.67860	-.06170	-.02010	-.02610	42940	-.32690	-.35690	-.35140
1 98	17 080	1 87240	3.75710	1.66940	-.06290	-.03350	-.00930	41970	-.34150	-.36980	-.36350
1 98	19 210	2 31130	4.84910	1 65320	-.07150	-.05370	-.00760	41220	-.35640	-.38650	-.38010
1 98	21 390	2 83530	6 17660	1 63150	-.08190	-.08890	-.02430	40560	-.37820	-.40700	-.39890
1 98	23 550	3 42340	7.45530	1 61040	-.10230	-.09640	-.02600	40570	-.39340	-.42010	-.41370
1 98	25 740	4 14240	8.77570	1.57900	-.04380	-.08520	-.03780	41050	-.41620	-.43690	-.43900
1 98	27 960	4 95330	10 16040	1 54170	-.02620	-.05710	-.01180	41600	-.42610	-.45400	-.45530
1 98	30 180	5 82900	11 54480	1.50080	-.06670	-.00400	-.03000	42180	-.42310	-.47720	-.47130
1 98	32 270	6.75480	12 81990	1.47370	-.01630	.01150	-.02400	42850	-.44560	-.51060	-.49710
1 98	21 410	2 89920	6 26510	1 63710	-.00020	-.11230	-.03150	40590	-.38470	-.41300	-.40490
1 98	GRADIENT	00000	00000	00000	00000	.00000	00000	00000	00000	00000	00000

(R1M002) (10 JUL 75)

MSFC TH16C4 (SABF) SRB CLEAN W/RINOS

PARAMETRIC DATA

REFERENCE DATA

SREF = .5030 SQ. IN. XMRP = 5.7210 IN. XS
 LREF = .8000 IN. YMRP = .0000 IN. YS
 BREF = .8000 IN. ZMRP = .0000 IN. ZS
 SCALE = .0055
 BETA = .000 PHI = .000
 NOZZLE = .000

RUN NO. 175/ 0 RN/L = 6.70 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CM1	CLM1	CA	CYM	CYMH	CB1	XCP/L	CBP1	CBP2	CBP3
4.000	10.910	1.50060	2.15020	.69100	.01100	.01660	.01990	4.6650	-.05890	-.06740	-.06390
4.000	12.890	1.88130	2.31820	.71600	-.00660	-.02330	.01350	4.8280	-.05930	-.06680	-.06380
4.000	14.900	2.34460	2.55300	.74470	-.04280	-.02980	.00680	4.9450	-.06050	-.06630	-.06310
4.000	16.950	2.84410	2.72050	.79090	-.04780	-.01230	.02390	5.0530	-.06060	-.06560	-.06240
4.000	19.000	3.38280	2.89660	.83830	-.04250	-.00220	.01330	5.1350	-.06100	-.06440	-.06130
4.000	21.050	3.90190	2.98270	.86820	-.04650	-.00140	-.01690	5.2100	-.06130	-.06300	-.05890
4.000	23.110	4.52250	3.27530	.93090	-.05170	-.01410	.01980	5.2430	-.06100	-.06140	-.05780
4.000	25.170	5.08300	3.59220	.94850	-.06860	-.02510	-.01220	5.2570	-.06200	-.05980	-.05740
4.000	27.280	5.70380	3.93400	1.00730	-.08480	-.04110	-.01590	5.2710	-.06270	-.05750	-.05650
4.000	29.330	6.36380	4.38160	1.04080	-.09140	-.03730	-.02600	5.2720	-.06210	-.05500	-.05980
4.000	31.280	6.94580	4.79060	1.07150	-.11000	-.09330	-.00080	5.2710	-.06130	-.04910	-.05980
4.000	21.070	3.92230	3.04880	.87360	-.04720	-.00280	-.00400	5.2000	-.06140	-.05950	-.05920
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	0.0000	0.0000	0.0000	.00000

RUN NO. 175/ 0 RN/L = 5.49 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CM1	CLM1	CA	CYM	CYMH	CB1	XCP/L	CBP1	CBP2	CBP3
4.450	10.830	1.41960	1.77820	.62070	-.00480	.01630	.03190	4.8120	-.04540	-.05070	-.04420
4.450	12.750	1.77140	1.92640	.66760	-.06050	-.04870	.05460	4.9470	-.04700	-.05150	-.04600
4.450	14.790	2.23420	2.13230	.69900	-.07160	-.07580	.01740	5.0550	-.04740	-.05150	-.04640
4.450	16.820	2.72590	2.32660	.75400	-.06740	-.05840	-.04820	5.1370	-.04720	-.05090	-.04620
4.450	18.850	3.21620	2.37760	.80330	-.06100	-.03660	.03240	5.2310	-.04720	-.05050	-.04620
4.450	20.910	3.76640	2.55030	.84210	-.07130	-.08250	.03170	5.2810	-.04720	-.04950	-.04520
4.450	22.950	4.28740	2.80300	.87820	-.08110	-.05730	.02760	5.3000	-.04780	-.04700	-.04540
4.450	24.970	4.86370	3.10300	.95140	-.06250	-.02730	.01960	5.3130	-.04840	-.04660	-.04520
4.450	27.060	5.47340	3.53520	.98710	-.08810	-.01650	.03530	5.3070	-.04820	-.04480	-.04560
4.450	29.080	6.02250	3.95300	1.02050	-.08490	.03560	.04060	5.2980	-.04820	-.04220	-.04580
4.450	31.030	6.63090	4.31710	1.07300	-.09810	-.06590	.02540	5.3030	-.04890	-.03810	-.04580
4.450	20.910	3.79540	2.60880	.86090	-.07090	-.04770	.04420	5.2730	-.04910	-.04500	-.04680
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	0.0000	0.0000	0.0000	.00000

ORIGINAL PAGE IS OF POOR QUALITY.

PARAMETRIC DATA

REFERENCE DATA
 SREF = .5030 SQ IN. XMRP = 5 7210 IN. XS
 LREF = .8000 IN. YMRP = .0000 IN. YS
 BREF = .8000 IN. ZMRP = .0000 IN. ZS
 SCALE = .0055

BETA = .000 PHI = .000
 NOZZLE = .000

RUN NO. 218/ 1 RN/L = 4.88 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMH	CLMH	CA	CYM	CYMH	CEB	XCP/L	CBP1	CBP2	CBP3
.598	31.240	3.49580	5.80980	.88980	.67770	.24130	-.01160	.44780	.00000	.00000	.00000
.598	33.190	3.97860	6.41730	.83980	.73060	1.10480	.03230	.48170	.00000	.00000	.00000
.598	35.880	4.40030	7.04460	.77370	.68400	1.83410	.00290	.45280	.00000	.00000	.00000
.598	37.290	4.70310	7.48480	.69390	.50820	1.71500	-.02630	.45350	.00000	.00000	.00000
.598	39.320	4.81820	8.01850	.62370	.32150	.93040	-.01370	.44770	.00000	.00000	.00000
.598	41.340	5.03250	8.26410	.52050	.23590	.50120	.00130	.44940	.00000	.00000	.00000
.598	43.350	5.15650	8.28210	.43310	.28300	.31970	.01650	.45240	.00000	.00000	.00000
.598	45.410	5.60450	9.50730	.33990	-.33670	-2.14910	.01040	.44500	.00000	.00000	.00000
.598	47.520	6.92610	10.14880	.34980	.78860	3.32970	-.00900	.46380	.00000	.00000	.00000
.598	49.630	8.26740	11.12020	.22520	.71830	-.22820	.02030	.47360	.00000	.00000	.00000
.598	51.640	9.44120	12.06470	.20770	.38140	-.80370	-.00270	.47910	.00000	.00000	.00000
.598	41.330	4.97420	8.24510	.52870	.22150	-.08920	.02400	.44810	.00000	.00000	.00000
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 218/ 0 RN/L = 5.93 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMH	CLMH	CA	CYM	CYMH	CEB	XCP/L	CBP1	CBP2	CBP3
.799	31.590	4.12480	7.32000	.89550	-.64400	-.97990	-.01170	.43860	-.35530	-.49260	-.43250
.799	33.570	4.47530	8.31420	.79180	-.53630	-1.17660	.00560	.43180	-.45440	-.53620	-.45020
.799	35.670	4.82570	9.67660	.70930	-.04100	-.25120	-.01300	.41980	-.51500	-.54530	-.47330
.799	37.740	5.24430	10.86710	.62390	-.04660	-.39500	-.02060	.41430	-.49140	-.55880	-.50690
.799	39.830	5.68010	12.04310	.52620	.13420	-.94130	-.00900	.41040	-.49752	-.56590	-.52810
.799	41.950	6.17637	13.16230	.46380	.27170	-1.52840	-.01430	.40950	-.51470	-.58420	-.56130
.799	44.080	6.90690	14.41500	.40210	.28250	-1.59380	-.01730	.413	-.54510	-.61050	-.58760
.799	46.220	7.85170	15.60670	.31440	.28860	-1.53150	-.01600	.4214	-.58590	-.64170	-.59540
.799	48.420	9.02170	16.86990	.22740	.24400	-2.63560	-.01830	.43080	-.61440	-.67010	-.61500
.799	50.580	9.91850	18.65110	.13310	.19050	-1.70870	-.02090	.43000	-.63770	-.73030	-.68300
.799	52.650	11.11440	19.67420	.06920	-.29140	-.53450	-.00810	.43900	-.74770	-.86490	-.83750
.799	42.000	6.34600	13.52710	.46690	.26680	-1.51790	-.03690	.41000	-.51520	-.48240	-.55560
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

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DATE 10 JUL 73

TABLATED SOURCE DATA, MSFC THT 65%, SA-BF

PAGE 14

MSFC THT64 (SABF) 598 CLEAN W/RINGS

(R1M003) (10 JUL 73)

REFERENCE DATA

SREF = 5030 SQ IN. XPRP = 5.7210 IN. XS
 LREF = 8000 IN. YPRP = .0000 IN. YS
 BRZF = 8000 IN. ZPRP = .0000 IN. ZS
 SCALE = 0055

WETA = .000 PHI = .000
 NOZZLE = .000

PARAMETRIC DATA

RUN NO. 178/ 0 RM/L = 4 87 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMR	CLMR	CA	CVM	CYVM	COL	XCP/L	CBP1	CBP2	CBP3
2.740	31.170	7.40760	6.52640	1.12600	-0.02930	-0.09330	-0.0610	51140	-11530	-12520	-11610
2.740	33.850	8.09000	6.97140	1.15300	-0.3410	-0.04100	-0.0330	51310	-11820	-12510	-11750
2.740	35.940	8.80230	7.32660	1.18660	-0.04870	-0.01980	-0.0010	51550	-11940	-12280	-11990
2.740	39.010	9.52240	7.94800	1.19810	-0.01170	-0.01800	-0.02540	51680	-12200	-11640	-12200
2.740	40.110	10.17460	8.05300	1.20390	-0.05540	-0.03140	-0.05960	51760	-12350	-110780	-12480
2.740	42.210	10.93140	8.76670	1.25320	-0.07890	-0.05200	-0.11600	51740	-11820	-0.09200	-11720
2.740	44.290	11.60770	9.19900	1.26590	-0.07470	-0.07400	-0.18580	51850	-12600	-0.08700	-11490
2.740	46.340	12.25900	9.68310	1.33370	-0.08260	-0.09740	-0.23540	51900	-13460	-0.08700	-11990
2.740	48.490	12.97360	10.20980	1.26940	-0.09778	-0.07260	-0.08900	51890	-12400	-0.07640	-11990
2.740	50.600	13.60740	10.74970	1.21130	-0.09600	-0.08640	-0.03710	51990	-12540	-0.07540	-11760
2.740	52.540	14.17150	11.30630	1.21680	-0.11510	-0.13740	-0.06200	51780	-14530	-0.0740	-11400
2.740	52.200	10.64710	8.33970	1.24580	-0.08010	-0.03830	-0.04320	51790	-11610	-10760	-11920
2.740	GRADIENT	00000	00000	00000	00450	00000	00000	00000	00000	00000	00000

RUN NO 178/ 0 RM/L = 5 36 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMR	CLMR	CA	CVM	CYVM	COL	XCP/L	CBP1	CBP2	CBP3
3.480	31.670	7.17300	5.36270	1.07690	0.3030	-0.00110	0.2600	52200	-0.7240	-0.7680	-0.7610
3.480	33.870	7.80120	5.76500	1.12320	-0.03590	-0.04710	-0.0180	52310	-0.7170	-0.7470	-0.7720
3.480	35.940	8.47630	6.30370	1.15340	-0.04990	-0.05380	-0.02750	52270	-0.7020	-0.6540	-0.7600
3.480	38.040	9.14010	6.77240	1.19570	-0.05430	-0.03040	-0.0590	52290	-0.7050	-0.6310	-0.7510
3.480	40.120	9.91520	7.21550	1.26040	-0.07420	-0.06940	-0.0990	52400	-0.7380	-0.6350	-0.7490
3.480	42.220	10.54100	7.41840	1.29140	-0.04440	-0.04010	-0.0960	52600	-0.8010	-0.4490	-0.320
3.480	44.310	11.24520	7.79450	1.33400	-0.07200	-0.05610	-0.0520	52640	-0.7900	-0.5040	-0.6960
3.480	46.400	11.98090	8.30890	1.34810	-0.08660	-0.03600	-0.0340	52630	-0.7610	-0.5450	-0.7230
3.480	48.530	12.47440	8.87810	1.24550	-0.10840	-0.06190	-0.0180	52630	-0.5620	-0.5450	-0.7230
3.480	50.670	13.09030	9.48480	1.22280	-0.10300	-0.0800	-0.0430	52410	-0.7020	-0.5360	-0.7240
3.480	52.570	13.66450	10.24800	1.22530	-0.10520	-0.12710	-0.0250	52170	-0.7130	-0.4310	-0.7560
3.480	GRADIENT	00000	00000	00000	00690	00000	00330	00450	-0.7340	-0.4740	-0.7490

PARAMETRIC DATA

XREF = .5032 SQ. IN. XMRP = 5.7210 IN. XS BETA = .000 PHI = .000
 LREF = .8000 IN. YMRP = .0000 IN. YS NOZLC = .000
 BREF = .8000 IN. ZMRP = .0000 IN. ZS
 SCALE = .0055

RUN NO. 180. 0 RN/L = 6.18 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLMH	CA	CYM	CYH	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
4.000	31.630	7.02710	4.73490	1.09800	-0.04720	.00550	.00550	.00550	5.440	-0.3320	-0.04670	-0.05510
4.000	33.600	7.66160	5.21060	1.14190	-0.06440	.00060	.00060	.00370	5.2790	-0.53370	-0.04160	-0.05490
4.000	35.670	8.28140	5.74350	1.18510	-0.08120	.00150	.00150	.00480	5.6870	-0.53370	-0.03580	-0.05400
4.000	37.750	8.99990	5.94970	1.24570	-0.07560	.00070	.00070	.00500	5.2940	-0.5420	-0.03240	-0.05300
4.000	39.820	9.69950	6.23580	1.28870	-0.07070	.00290	.00290	.01800	5.3090	-0.5680	-0.02300	-0.05290
4.000	41.930	10.38150	6.60330	1.32160	-0.06440	.00530	.00530	.00750	5.3150	-0.6020	-0.02680	-0.05030
4.000	43.960	11.08260	6.96310	1.34910	-0.11230	.00120	.00120	.00000	5.3210	-0.5910	-0.03370	-0.05230
4.000	46.040	11.68160	7.58220	1.3700	-0.10220	.00890	.00890	.00040	5.3040	-0.5680	-0.03390	-0.05080
4.000	48.140	12.30890	8.34410	1.1260	-0.10140	.00150	.00150	.00660	5.2810	-0.5680	-0.02920	-0.03930
4.000	50.230	12.84210	9.07480	1.22910	-0.10550	.00980	.00980	.00480	5.2600	-0.4440	-0.01840	-0.03940
4.000	52.160	13.34420	9.71950	1.22740	-0.12760	.00140	.00140	.00640	5.2390	-0.5230	-0.01720	-0.04090
4.000	41.890	6.36250	6.61090	1.31120	-0.09580	.00310	.00310	.04220	5.3130	-0.5440	-0.02700	-0.04830
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 181/ 0 RN/L = 5.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLMH	CA	CYM	CYH	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
4.450	31.350	6.57200	4.12920	1.09280	-0.05460	.00440	.00440	.04570	5.3210	-0.04180	-0.03550	-0.03910
4.450	33.290	7.17650	4.45250	1.15000	-0.05030	.00640	.00640	.04840	5.3280	-0.04220	-0.03170	-0.04000
4.450	35.340	7.84230	4.82560	1.18950	-0.06110	.00960	.00960	.03980	5.3320	-0.04240	-0.02560	-0.04060
4.450	37.390	8.53570	5.15410	1.23160	-0.05730	.00850	.00850	.02700	5.3410	-0.04400	-0.02050	-0.03970
4.450	39.420	9.15890	5.42330	1.28280	-0.05110	.00360	.00360	.03320	5.3510	-0.04420	-0.01350	-0.03960
4.450	41.490	9.83850	5.91070	1.32190	-0.07690	.00070	.00070	.03810	5.3440	-0.04680	-0.01650	-0.03970
4.450	43.560	10.50380	6.25120	1.34430	-0.07430	.00130	.00130	.05190	5.3480	-0.04380	-0.02520	-0.03910
4.450	45.590	11.12000	6.90010	1.32250	-0.08760	.00150	.00150	.06740	5.3270	-0.04380	-0.02620	-0.03810
4.450	47.660	11.63320	7.47090	1.24620	-0.06940	.00290	.00290	.04200	5.3100	-0.04500	-0.02260	-0.03510
4.450	49.710	12.21350	8.20020	1.20700	-0.10590	.00480	.00480	.05080	5.2850	-0.04440	-0.01060	-0.03250
4.450	51.660	12.76430	8.86960	1.19490	-0.12150	.00630	.00630	.03300	5.2670	-0.04300	-0.00700	-0.03330
4.450	41.500	9.78270	5.83140	1.30150	-0.09340	.00240	.00240	.05020	5.3470	-0.04660	-0.01630	-0.03630
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

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(RIH004) (10 JUL 75)

MSFC INT604 (SABF) SRB CLEAN W/RINGS

PARAMETRIC DATA

BETA = .000
NOZZLE = .000
PHI = .000

REFERENCE DATA

SREF = .5030 SQ IN. XMRP = 5.7210 IN. XS
LREF = .8000 IN. YMRP = .0000 IN. YS
BREF = .8000 IN. ZMRP = .0000 IN. ZS
SCALE = .0055

RUN NO. 2577 0 RVL = 5.19 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMH	CLMH	CA	CYM	CYNH	CBL	XCP/L	CBP1	CBP2	CBP3
.368	50 390	6.30520	9.22190	.29210	.27460	.94400	-.06300	.46410	.00000	.00000	.00000
.368	52 300	6.80910	10.14960	.32010	-.23420	1.36090	-.00960	.46180	.00000	.00000	.00000
.368	54 320	7.51550	10.54300	21470	.50580	3.47860	-.03130	.46890	.00000	.00000	.00000
.368	56 310	8.09960	11.45300	.08940	.64210	1.91890	-.07620	.46790	.00000	.00000	.00000
.368	58 300	8.60180	11.94120	.03090	.58780	4.10490	-.04590	47010	.00000	.00000	.00000
.368	50 330	8.99620	12.80570	-.04310	-.15180	5.86130	-.04610	.46720	.00000	.00000	.00000
.368	62 340	9.48600	13.47370	-.08160	-.82480	6.18720	-.04870	.46750	.00000	.00000	.00000
.368	64 350	10.04190	14.51960	-.14180	-.129420	6.73980	-.02730	.46540	.00000	.00000	.00000
.368	66 360	10.05750	14.06280	-.19350	-.49330	6.85100	-.01250	.46930	.00000	.00000	.00000
.368	68 360	10.05420	13.75460	-.24600	.03480	2.32470	.00930	47180	.00000	.00000	.00000
.368	70 240	10.53650	14.21450	-.31330	-.41920	69210	-.02310	47330	.00000	.00000	.00000
.368	60 330	8.82970	12.48740	-.06760	.02610	5.49690	-.03750	47430	.00000	.00000	.00000
GRADIENT		00000	00000	.00000	.00000	00000	00000	00000	00000	00000	00000

RUN NO. 2567 1 RVL = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMH	CLMH	CA	CYM	CYNH	CBL	XCP/L	CBP1	CBP2	CBP3
.599	50 480	6.97200	11.44050	32460	.82250	-1.69460	-.01700	.44350	.00000	.00000	.00000
.599	52 390	7.86170	12.43850	.23710	1.27770	-1.2040	-.02430	.45430	.00000	.00000	.00000
.599	54 460	8.61420	14.90000	09960	1.40960	-1.78950	-.02420	.44230	.00000	.00000	.00000
.599	56 430	9.41850	15.65980	02850	1.74010	-.90590	-.01670	.44770	.00000	.00000	.00000
.599	58 460	10.01630	16.00740	-.04800	1.62790	-.73850	-.01470	.45300	.00000	.00000	.00000
.599	60 490	10.41180	16.34510	-.11820	1.56560	-.82500	01030	.45530	.00000	.00000	.00000
.599	62 490	10.92480	16.52150	-.17720	1.41640	-1.24090	01330	.45000	.00000	.00000	.00000
.599	64 470	11.28330	16.50930	-.22630	1.14230	-1.45300	-.02650	.46390	.00000	.00000	.00000
.599	66 520	11.93970	17.47410	-.24150	63760	-.69920	-.01330	.46400	.00000	.00000	.00000
.599	68 500	12.03500	17.43240	-.24290	20190	-.50830	-.03440	.46520	.00000	.00000	.00000
.599	70 390	12.06230	16.95450	-.25070	-.26730	-.50830	-.03630	47020	.00000	.00000	.00000
.599	60 490	10.46480	16.38600	-.14400	1.54290	-.93210	-.02120	.45560	.00000	.00000	.00000
GRADIENT		00000	00000	.00000	.00000	00000	.00000	00000	.00000	.00000	.00000

(R1H004) (10 JUL 75)

MSFC TWT 604 (SARF) SRB CLEAN W/RINGS

REFERENCE DATA

SREF = 5030 SQ. IN XMRP = 5.7210 IN. XS
 LREF = 8000 IN YMRP = .0000 IN. YS
 BRREF = 8000 IN. ZMRP = .0000 IN. ZS
 SCALE = 0055

PARAMETRIC DATA

BETA = 000 PHI = 000
 NO. ZLE = 000

RUN NO. 259/ 0 RN/L = 6.39 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
905	50 880	11 15340	19.44880	47980	- 35330	-1 12280	-0.02710	.44120	.00000	.00000	.00000
905	52 810	11 84290	20.46920	38550	- 21220	- .86990	- .03110	.44240	.00000	.00000	.00000
905	54 870	12.50530	21.60860	31220	- 14610	- 69330	-0.04490	.44350	.00000	.00000	.00000
905	56 900	13.36590	23.07920	27650	09920	-1 16800	0.31300	.44250	.00000	.00000	.00000
905	58 880	13.91730	23.38440	23110	04260	- 82650	- 0.2300	.44630	.00000	.00000	.00000
905	60 910	14.38500	23.68990	15920	- .18030	- 50290	- .05390	.44900	.00000	.00000	.00000
905	62 920	14.72230	23.85950	14280	- .23600	- 21210	- .05550	.45120	.00000	.00000	.00000
905	64 870	14.72740	22.41530	11590	- .24430	- 39600	- .06040	.45920	.00000	.00000	.00000
905	66 840	14.89470	20.78950	11790	- .22970	- 45110	- .05160	.46950	.00000	.00000	.00000
905	68 790	14.96580	19.21520	12600	- .22430	- 43330	- .05960	.47860	.00000	.00000	.00000
905	70 620	15.09250	18.14990	14530	- .20310	- 47810	- .04270	.48530	.00000	.00000	.00000
905	60 910	14.36150	23.68400	15050	- 17300	- 49790	- .03030	.44890	.00000	.00000	.00000
GRADIENT		00000	00000	00000	00000	00000	00000	00000	00000	00000	00000

RUN NO 260/ 0 RN/L = 6.78 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
196	50 970	13.76370	18.29570	1 04070	- 20760	- .31100	- 0.00550	.47490	.00000	.00000	.00000
196	52 870	14.38760	18.38030	93190	- 19990	- 30610	- .00690	.47920	.00000	.00000	.00000
196	54 880	14.97400	18.61830	81320	- 19630	- 36410	- 0.1030	.48190	.00000	.00000	.00000
196	56 870	15.62200	18.58630	77340	- 15560	- 52490	- 0.2350	.48630	.00000	.00000	.00000
196	58 870	16.25150	18.53020	73510	- 23520	- 47200	- 0.2180	.49000	.00000	.00000	.00000
195	60 950	16.71630	18.26900	59840	- .22100	- 06660	- 0.3000	.49420	.00000	.00000	.00000
196	62 880	17.01930	18.42690	62550	- .20650	- 31610	- 0.2610	.49500	.00000	.00000	.00000
196	64 860	17.34450	18.55410	55510	- 23120	- 20350	- 0.1840	.49610	.00000	.00000	.00000
196	66 860	17.68840	18.11340	46020	- 26120	- 18900	- 0.3210	.49880	.00000	.00000	.00000
196	68 830	17.95010	17.30180	44710	- 27020	- 16540	- 0.1570	.50470	.00000	.00000	.00000
196	70 690	18.14920	16.56360	54760	- 26030	- 20100	- 0.1230	.50850	.00000	.00000	.00000
196	60 950	16.65380	19.5650	69840	- 27200	- 23310	- 0.2450	.49450	.00000	.00000	.00000
GRADIENT		00000	00000	00000	00000	00000	00000	00000	00000	00000	00000

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 OF POOR QUALITY

(RTH005) (10 JUL 75)

MSFC TH7604 (SABF) SRB CLEAN W/RINGS

PARAMETRIC DATA

REFERENCE DATA

MACH = .395
 SREF = .5030 SQ. IN. XMRP = 5.7210 IN. X5
 LREF = .8000 IN. YMRP = .0000 IN. Y5
 BREF = .8000 IN. ZMRP = .0000 IN. Z5
 SCALE = .0055

BETA = .500
 NOZZLE = .000

RUN NO. 258/ 0 RN/L = 2.95 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYMM	CBL	XCP/L	CBP1	CBP2	CBP3
.395	50.350	7.24860	10.69310	.46290	- .94030	.32200	-.01200	.46300	.00000	.00000	.00000
.395	52.260	8.09340	12.21270	.36640	-.51990	-.71150	.00520	.46030	.00000	.00000	.00000
.395	54.200	9.37900	15.72950	1.2520	-.49710	3.50010	.02360	.44650	.00000	.00000	.00000
.395	56.300	10.14720	17.58320	.04290	.55480	5.19680	-.01370	.44200	.00000	.00000	.00000
.395	58.310	10.50310	18.33910	-.07480	.22520	5.55540	-.06970	.44090	.00000	.00000	.00000
.395	60.310	10.74550	18.52010	-.13950	-.72040	2.73250	-.04190	.44280	.00000	.00000	.00000
.395	62.310	10.98630	18.50620	-.17050	-.22220	4.43280	-.02430	.44590	.00000	.00000	.00000
.395	64.300	11.40990	18.50810	-.23600	-.21340	2.09680	-.05880	.45100	.00000	.00000	.00000
.395	66.320	12.62220	19.66990	-.35790	-.20600	1.64030	-.03570	.45620	.00000	.00000	.00000
.395	68.320	11.88450	18.01970	-.39320	-.27580	1.55500	-.00540	.45970	.00000	.00000	.00000
.395	70.190	11.50990	16.71540	-.47540	-.36480	-.15210	-.03300	.46430	.00000	.00000	.00000
.395	60.330	10.73950	18.51950	-.09470	-.18700	6.05710	-.00550	.44350	.00000	.00000	.00000
GRADIENT		0.0000	00.0000	00.0000	00.0000	00.0000	00.0000	00.0000	.00000	.00000	.00000

(R1H006) (10 JUL 75)

MSFC TWT604 (SABF) SRB CLEAN W/RINGS

REFERENCE DATA
 SREF = 5030 SQ. IN. YMRP = 5.7210 IN. XS BETA = .000 PHI = .300
 LREF = 800 IN. YMRP = 000.0 IN. YS NOZZLE = .000
 BREF = 8000 IN. ZMRP = .0000 IN. ZS
 SCALE = 0055

PARAMETRIC DATA

RUN NO. 257/ 1 RN/L = 5.40 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
401	70 300	10.14020	11.81910	-1.8530	2.85900	-1.16770	0.1350	.48830	00000	00000	00000
401	72 210	10.17800	12.79380	-1.4790	3.58910	1.05730	-0.2400	.48080	00000	00000	00000
401	74 230	10.31990	12.91100	-1.2530	1.10200	1.49820	-0.0520	.48130	00000	00000	00000
401	76 210	10.60120	13.01750	0.9070	6.93940	1.33510	-0.6570	.320	00000	00000	00000
401	78 210	10.91230	13.24710	1.0250	4.3300	1.42670	-0.8330	.48430	00000	00000	00000
401	80 210	10.53830	12.98610	1.15900	2.4210	1.75350	-1.05520	.48650	00000	00000	00000
401	82 200	11.03930	12.15000	1.17150	5.3450	1.71840	-0.4670	.49050	00000	00000	00000
401	84 180	10.85790	10.62280	3.7490	6.9330	1.9700	-0.6290	.50360	00000	00000	00000
401	86 160	11.05460	8.25790	1.57910	1.3960	1.26790	-0.5300	.52240	00000	00000	00000
401	88 160	10.50090	6.94090	7.0570	1.0460	1.5050	-0.1480	.5110	00000	00000	00000
401	90 230	10.47130	5.26550	5.9040	3.0200	1.74630	-0.2510	.5254	00000	00000	00000
401	80 210	10.95750	13.01540	1.5580	2.9150	1.6420	-0.2310	.49000	00000	00000	00000
401	GRAZIENT	.00000	00000	00000	00000	00000	00000	.00000	00000	00000	00000

RUN NO. 266/ 0 RN/L = 4.32 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
493	70 360	11.83370	16.67540	-2.2190	-3.8220	-2.2730	-0.1920	.48900	00000	00000	00000
493	72 250	12.00560	16.23810	-2.4160	-3.7850	-3.4720	-0.6130	.47300	00000	00000	00000
493	74 250	11.90730	15.46550	-0.9320	-1.45440	-2.7890	-0.2970	.47740	00000	00000	00000
493	76 230	11.93430	14.99500	0.540	-2.6550	-4.8370	-0.4170	.48093	00000	00000	00000
493	78 240	12.11000	15.31320	0.6960	-0.3980	4.5970	-0.340	.48000	00000	00000	00000
493	80 220	11.93740	14.40330	0.920	-6.5700	-8.4350	-0.200	.48490	00000	00000	00000
493	82 220	11.66880	12.62270	2.6150	-5.3510	-6.9560	-0.430	.49510	00000	00000	00000
493	84 180	11.71150	11.23290	4.7350	-2.5810	-1.3030	0.100	.510	00000	00000	00000
493	86 200	11.69670	9.97860	6.1500	-3.4630	-1.4170	0.270	.50500	00000	00000	00000
493	88 150	12.07890	8.24590	6.6580	-4.9530	-1.5970	0.120	.50000	00000	00000	00000
493	90 240	12.02270	7.29540	6.1130	-4.7550	-1.2740	-0.030	.50000	00000	00000	00000
493	80 170	11.94580	14.50800	0.5450	-6.270	-8.790	-0.370	.50000	00000	00000	00000
493	GRAZIENT	00000	00000	00000	00000	00000	00000	.00000	00000	00000	00000

(R1H006) (10 JUL 75)

MSFC THT604 (SABF) SRB CLEAN W/RINGS

PARAMETRIC DATA

REFERENCE DATA

SREF = 5030 SQ IN AMRP = 5.7210 IN. XS BETA = .000 PHI = .000
 LREF = 8000 IN ZMRP = .0000 IN. YS NOZZLE = .000
 BREF = 8000 IN ZMRP = .0000 IN. ZS
 SCALE = 0055

RUN NO. 265/ 1 RN/L = 5.12 GRADIENT INTERVAL = -5.70/ 5.00

MACH	ALPHA	CLMH	CLMM	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
595	70 430	12 14680	16 78180	- 10860	- 104750	- 37910	- 02760	47070	00000	00000	00000
599	72 320	12 36960	16 63520	- 08300	.10930	.72900	-.05620	47370	00000	00000	00000
599	74 340	12 46480	16 73100	03900	24110	2 00850	- 08340	47390	00000	00000	00000
599	76 320	12 44100	16 54510	09960	- 20270	.15300	- 07580	47490	00000	00000	00000
599	78 290	12 45080	15 06750	20040	- 06530	92240	- 06190	48460	00000	00000	00000
599	80 250	12 27050	12 83830	42190	.10290	64700	- 05600	48900	00000	00000	00000
599	82 220	12 37370	11 61940	53730	21930	63020	- 06160	50680	00000	00000	00000
599	84 200	12 56080	10 50580	69710	14500	1 01110	- 06730	51510	00000	00000	00000
599	86 220	12 71620	9 44530	77760	10770	90620	- 06610	52280	00000	00000	00000
599	88 190	12 68320	7 97460	76110	17010	1 17930	- 04530	53210	00000	00000	00000
599	90 230	12 64950	7 04160	73510	24610	1 26010	- 05320	53400	00000	00000	00000
599	80 240	12 17580	12 75800	40080	10160	59540	- 08510	49790	00000	00000	00000
GRADIENT		00000	00000	00000	00000	00000	00000	00000	00000	00000	00000

RUN NO 264/ 0 RN/L = 6.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLMH	CLMM	CA	CYM	CYMH	CRL	XCP/L	CBP1	CBP2	CBP3
799	70 590	14 13430	18 37410	.03660	- 25900	- 55190	01760	47730	00000	00000	00000
799	72 440	14 13420	16 81060	.13820	- 19950	- 63410	01240	48630	00000	00000	00000
799	74 430	14 22860	15 82160	24010	- 17880	- 69750	01350	49270	00000	00000	00000
799	76 380	14 24800	14 81780	.38960	- 11870	- 77500	02370	49950	00000	00000	00000
799	8 340	14 30750	14 08710	48280	- 14530	- 54480	03590	50300	00000	00000	00000
799	80 330	14 31940	13 14230	53840	- 17120	- 42370	- 00610	50850	00000	00000	00000
799	82 330	14 43670	12 55000	.53150	- 19560	- 39110	02570	51250	00000	00000	00000
799	84 290	14 49260	11 74910	53040	- 23100	- 19610	00790	51720	00000	00000	00000
799	86 300	14 65800	10 74160	54970	- 25130	- 19840	.00980	52360	00000	00000	00000
799	88 240	14 86800	9 52500	65330	- 29770	- 03130	01600	53110	00000	00000	00000
799	90 090	14 95480	8 31290	67460	- 30630	- 05610	02340	53800	00000	00000	00000
799	80 350	14 38930	13 28010	53630	- 16670	- 33400	02660	52910	00000	00000	00000
GRADIENT		00000	00000	00000	00000	00000	00000	00000	00000	00000	00000

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DATE 10 JUL 75

TABULATED SOURCE DATA, MSFC THT 604, SA-BF

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MSFC THT604 (SABF) SRB CLEAN W/RINGS

(RTH006) (10 JUL 75)

REFERENCE DATA

SREF = 5030 SQ IN. XMRP = 5.7210 IN. XS
 LREF = 8000 IN. YMRP = .0080 IN. YS
 BRP = 8200 IN. ZMRP = 0000 IN. ZS
 SCAL = 0055

PARAMETRIC DATA

BETA = .000
 PHI = .000
 UCC = .000
 NOZZLE = .000

RUN NO 287 0 RN/L = 5 24 GRADIENT INTERVAL = -5 00 5 00

MACH	ALPHA	CMA	CLM	CA	CYM	CYMH	LBL	XCP/L	CBP1	CBP2	CBP3
2 740	70 410	17 73790	13 58900	94980	-25730	-17960	-01870	52090	00000	00000	00000
2 740	72 320	18 10250	13 76210	89100	-26230	-15320	-01400	52140	00000	00000	00000
2 740	74 320	18 45750	13 95810	71530	-26880	-17060	-00760	52170	00000	00000	00000
2 740	76 310	18 69150	13 84620	74180	-25510	-14900	-00620	52290	00000	00000	00000
2 740	78 290	18 92070	13 74060	65340	-26790	-16940	-01070	52420	00000	00000	00000
2 740	80 310	19 22950	13 73580	58020	-28020	-13730	-00370	52510	00000	00000	00000
2 740	82 320	19 43670	13 61100	49450	-26740	-14820	-00070	52620	00000	00000	00000
2 740	84 290	19 54260	13 38150	42290	-27950	-14640	-00140	52750	00000	00000	00000
2 740	86 330	19 62900	13 15640	34230	-28430	-16940	-02470	52870	00000	00000	00000
2 740	88 300	19 69740	12 76450	26230	-28730	-18100	-01810	53050	00000	00000	00000
2 740	90 340	19 71330	12 34220	18130	-27260	-13640	-00730	53210	00000	00000	00000
2 740	92 370	19 21700	13 65780	58090	-27980	-15740	-01400	5340	00000	00000	00000
2 740	GRADIENT	50070	00000	00000	00000	00000	00000	00000	00000	00000	00000

RUN NO 286 0 RN/L = 7 15 GRADIENT INTERVAL = 15 00 5 00

MACH	ALPHA	CMA	CLM	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
3 480	70 440	17 25270	13 6 350	96120	-25010	-119240	-00080	51900	00000	00000	00000
3 480	72 340	17 66620	13 93950	90610	-24610	-18020	-01290	51900	00000	00000	00000
3 480	74 350	17 97130	13 94560	83390	-26000	-18310	-00680	52070	00000	00000	00000
3 480	76 360	18 24510	13 84610	76570	-26450	-20680	-00700	52100	00000	00000	00000
3 480	78 340	18 58340	13 36830	69740	-26710	-17060	-01030	52210	00000	00000	00000
3 480	80 330	18 70230	13 79300	62900	-27050	-19160	-00570	52340	00000	00000	00000
3 480	82 340	18 90150	13 61100	54790	-25810	-21160	-00350	52470	00000	00000	00000
3 480	84 320	19 09620	13 47790	45730	-24890	-16390	-01580	52580	00000	00000	00000
3 480	86 410	19 15510	13 34230	40470	-24480	-13140	-01210	52700	00000	00000	00000
3 480	88 410	19 26540	12 70940	34400	-23450	-14720	-00730	52850	00000	00000	00000
3 480	90 440	19 30700	12 40330	24480	-21830	-14530	-00600	53000	00000	00000	00000
3 480	GRADIENT	18 42590	13 37190	53370	-26290	-18100	-01400	53170	00000	00000	00000

TABLATED SOURCE DATA, MSFC TWT 604, SA:BF

DATE 16 JUL 75

(RIH007) (10 JUL 75)

MSFC TWT604 (SABF) SRB CLEAN W/RIINGS

PARAMETRIC DATA

REFERENCE DATA

SREF = 5030 SQ IN XMRP = 5 7210 IN XS BETA = 000 PHI = 000
 LREF = 8000 IN YMRP = 0000 IN YS NOZZLE = 010
 BREF = 4000 IN ZMRP = 0000 IN ZS
 SCALE = 0055

RUN NO. 431/ 0 RM/L = 3 08 GRADIENT INTERVAL = -5 00/ 5 00

MACH	ALPHA	CMR	CLMR	CA	CYM	CYMR	CBL	XCP/L	CBP1	CBP2	CBP3
421	80 150	12 45610	15 36900	21190	- 16540	95280	- .06780	48350	00000	00000	00000
421	82 140	12 28350	14 14070	36830	18320	52790	- 05020	48940	00000	00000	00000
421	84 240	11 93750	11 75470	59230	09200	1 09880	- 06360	50340	00000	00000	00000
421	86 200	12 16800	9 53820	84090	38050	- 16510	- 05660	51940	00000	00000	00000
421	88 140	12 31440	7 85600	92330	28740	- 67630	00840	51130	00000	00000	00000
421	90 190	12 31050	6 75680	87330	26180	- 11730	- 09300	51850	00000	00000	00000
421	92 190	12 11220	6 19400	72790	11690	1 46460	- 01910	54110	00000	00000	00000
421	94 170	12 33280	5 62730	74060	31720	-1.02410	.00130	54610	00000	00000	00000
421	96 160	12 3720	5 36540	70490	12900	.22060	- 07630	54800	00000	00000	00000
421	98 180	12 27430	5 02420	34910	- 27050	56230	- 05470	55000	00000	00000	00000
421	100 000	12 44990	4 53500	18820	- 25310	- 87730	- 09810	54370	00000	00000	00000
421	90 170	12 14490	6 47790	91030	29790	- 16800	- 10610	53390	00000	00000	00000
421	GRADIENT	00000	00000	00000	00000	07000	00000	00000	00000	00000	00000

DATE 10 JUL 75

TABULATED SOURCE DATA, MSFC TWT 604, SA-8F

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MSFC TWT604 (SABF) SRB CLEAN W/RINGS

(RIM008) (10 JUL 75)

REFERENCE DATA

SREF = 5030 SQ IN XMRP = 5 7210 IN XS
 MRP = 8000 IN YMRP = 6000 IN YS
 ZMRP = 9000 IN ZMRP = 8000 IN ZS
 SCALE = 3055

PARAMETRIC DATA

BETA = 0.00 PHI = 0.00
 NOZZLE = 0.00

RUN NO 279/ 0 RN/L = 5 39 GRADIENT INTERVAL = -5 00/ 5 00

MACH	ALPHA	CMH	CA	CTH	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
403	1) 840	11 80070	34770	34670	1 81080	- 03480	49400	00000	00000	00000
403	2) 850	10 93840	37010	83330	3 44980	- 03370	49990	00000	00000	00000
403	3) 860	10 74990	54170	80520	3 03850	- 04060	50710	00000	00000	00000
403	4) 870	11 52960	67430	64710	2 14430	0 740	4 290	00000	00000	00000
403	5) 880	10 95090	63720	52670	2 26210	- 0710	53020	00000	00000	00000
403	6) 890	10 83340	54920	53530	34230	01520	58810	00000	00000	00000
403	7) 900	12 14450	54850	47970	6 3340	0 950	4710	00000	00000	00000
403	8) 910	12 24430	43490	33780	11 310	- 04740	43540	00000	00000	00000
403	9) 920	13 14430	26510	25700	16 790	- 05290	54570	00000	00000	00000
403	10) 930	14 24140	12870	17180	15440	- 02920	54930	00000	00000	00000
403	11) 940	14 34670	43430	19000	10680	0 000	54310	00000	00000	00000
403	12) 950	15 14430	43400	50510	89380	- 0 000	47440	00000	00000	00000
403	13) 960	16 0000	45000	50000	97000	0 000	47000	00000	00000	00000

RUN NO 277/ 0 RN/L = 4 09 GRADIENT INTERVAL = 5 00/ 5 00

MACH	ALPHA	CMH	CA	CTH	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
406	1) 840	12 3410	47590	5850	6 840	- 05390	44000	00000	00000	00000
406	2) 850	11 8340	44000	54200	43000	- 04220	51500	00000	00000	00000
406	3) 860	10 9340	44000	41000	3 000	- 03000	47000	00000	00000	00000
406	4) 870	9 8500	44000	34000	2 000	- 02000	43000	00000	00000	00000
406	5) 880	8 8500	44000	26500	1 000	- 01000	40000	00000	00000	00000
406	6) 890	7 8500	44000	18500	0 000	- 00000	37000	00000	00000	00000
406	7) 900	6 8500	44000	10000	0 000	- 00000	34000	00000	00000	00000
406	8) 910	5 8500	44000	0 000	0 000	- 00000	31000	00000	00000	00000
406	9) 920	4 8500	44000	0 000	0 000	- 00000	28000	00000	00000	00000
406	10) 930	3 8500	44000	0 000	0 000	- 00000	25000	00000	00000	00000
406	11) 940	2 8500	44000	0 000	0 000	- 00000	22000	00000	00000	00000
406	12) 950	1 8500	44000	0 000	0 000	- 00000	19000	00000	00000	00000
406	13) 960	0 8500	44000	0 000	0 000	- 00000	16000	00000	00000	00000

(R14008) (10 JUL 75)

MSFC TWT604 (SABF) SRB CLEAN W/RTINGS

PARAMETRIC DATA

REFERENCE DATA

SREF = 5030 50 IN XMRP = 5 7210 IN X5
 LWF = 8000 14 YMRP = 0000 14 Y5
 BWF = 8000 14 ZMRP = 0000 14 Z5
 SCALE = 0.05

BETA = 000 PHI = 000
 NOZZLE = 000

MACH	ALPHA	CMM	CLMM	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
902	80 450	15 72390	13 73550	56056	- 14930	- 28680	- 02110	51270	00000	00000	00000
902	82 320	15 53360	13 04360	53540	- 18810	- 27930	- 01520	51660	00000	00000	00000
902	84 310	16 03950	12 15490	52680	- 20630	- 29980	- 02530	52150	00000	00000	00000
902	86 240	16 14920	11 02300	59160	- 21070	- 22730	- 00780	52770	00000	00000	00000
902	88 250	16 35450	9 57040	59990	- 23220	- 20400	- 00940	53560	00000	00000	00000
902	90 170	16 50760	8 62780	68770	- 23330	- 21070	- 01530	54070	00000	00000	00000
902	92 140	16 47750	7 77730	63340	- 22980	- 19600	- 00190	54490	00000	00000	00000
902	94 110	16 45130	6 92650	56330	- 24210	- 19230	- 01670	54930	00000	00000	00000
902	96 90	16 27170	6 01180	45420	- 24730	- 18450	- 01160	55320	00000	00000	00000
902	98 100	16 20510	5 28620	30120	- 24220	- 19630	- 03310	55780	00000	00000	00000
902	100 000	16 14140	4 70550	14520	- 23550	- 14900	- 01780	56450	00000	00000	00000
902	GRAZIENT	16 54270	8 61170	67030	- 21480	- 24160	- 02430	54110	00000	00000	00000
		16 50000	00000	00000	00000	00000	00000	00000	00000	00000	00000

MACH	ALPHA	CMM	CLMM	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
997	80 490	17 87420	15 48710	58120	- 17830	- 20000	00550	51270	00000	00000	00000
997	82 360	18 25430	14 86840	59300	- 20730	- 04750	00230	51700	00000	00000	00000
997	84 340	19 04160	15 00990	60120	- 22620	- 03380	00310	51910	00000	00000	00000
997	86 240	19 47650	14 13290	56630	- 19760	- 10660	00680	52420	00000	00000	00000
997	88 250	19 72510	13 33270	50150	- 18660	- 08100	00290	52820	00000	00000	00000
997	90 240	19 16450	12 31750	41710	- 19250	- 05110	00310	53270	00000	00000	00000
997	92 210	19 36300	11 34230	32590	- 20890	- 07120	01680	53560	00000	00000	00000
997	94 180	19 24910	10 56490	21150	- 21180	- 07090	01370	53860	00000	00000	00000
997	96 170	18 98490	9 52810	10650	- 23010	- 04650	02430	54240	00000	00000	00000
997	98 160	18 64930	8 59250	00950	- 25490	00640	00710	54580	00000	00000	00000
997	100 000	18 39910	7 77630	- 13450	- 27280	08040	00420	54890	00000	00000	00000
997	GRAZIENT	19 59210	12 31460	42880	- 18690	- 07350	00480	53210	00000	00000	00000
		19 50000	00000	00000	00000	00000	00000	00000	00000	00000	00000

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MSFC INT604 (SABF) SRB CLEAN W/RIKOS

(10 JUL 75)

REFERENCE DATA

SHRF • 5.030 50 IN XMRP • 5 1/210 IN XS
 LMR • 8000 IN YMRP • 0000 IN YS
 ZMRP • 8000 IN ZMRP • 0000 IN ZS
 SCALE • 0055

PARAMETRIC DATA

BETA • 000
 NOZZLE • 000

RUN NO. 275/ 0 RVL = 6 % GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	C M	CLMM	CA	CYM	CYMM	CBL	XCP/L	(BP)	CBP2	CBP3
1.98	12 470	12 89320	14 91820	64610	-26320	7410	01550	51900	00000	00000	00000
1.98	12 360	13 06940	14 75460	62700	-25810	4530	01830	54030	00000	00000	00000
1.98	12 250	13 24970	14 52750	57410	-25130	-15180	01920	52280	00000	00000	00000
1.98	12 140	13 42970	13 89030	50970	-25430	-17100	02850	52530	00000	00000	00000
1.98	12 030	13 60970	13 08350	43900	-25730	-07430	01840	52900	00000	00000	00000
1.98	11 920	13 78970	12 59300	35100	-24230	-0470	01570	53090	00000	00000	00000
1.98	11 810	13 96970	12 38740	25390	-27290	-1160	00750	53180	00000	00000	00000
1.98	11 700	14 14970	11 89720	16060	-31170	-0490	01950	53180	00000	00000	00000
1.98	11 590	14 32970	11 68490	65790	-33270	-1030	01030	52950	00000	00000	00000
1.98	11 480	14 50970	11 47260	04200	-34350	-0970	01170	52720	00000	00000	00000
1.98	11 370	14 68970	11 26030	-17230	-34900	-06730	01240	52490	00000	00000	00000
1.98	11 260	14 86970	11 04800	36350	-35120	-04600	01340	52260	00000	00000	00000
1.98	11 150	15 04970	10 83570	00000	-35340	-02470	01440	52030	00000	00000	00000

RUN NO. 280/ 0 RVL = 7 % GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	C M	CLMM	CA	CYM	CYMM	CB	XCP/L	(BP)	CBP2	CBP3
1.98	12 470	12 89320	14 91820	49040	-24450	2450	00470	52810	00000	00000	00000
1.98	12 360	13 06940	14 75460	43120	-23940	2130	00750	52720	00000	00000	00000
1.98	12 250	13 24970	14 52750	3640	-23430	1810	01030	52630	00000	00000	00000
1.98	12 140	13 42970	13 89030	00000	-22920	1490	01310	52540	00000	00000	00000
1.98	12 030	13 60970	13 30300	00000	-22410	1170	01590	52450	00000	00000	00000
1.98	11 920	13 78970	12 91570	00000	-21900	850	01870	52360	00000	00000	00000
1.98	11 810	13 96970	12 52840	00000	-21390	530	02150	52270	00000	00000	00000
1.98	11 700	14 14970	12 14110	00000	-20880	210	02430	52180	00000	00000	00000
1.98	11 590	14 32970	11 75380	00000	-20370	000	02710	52090	00000	00000	00000
1.98	11 480	14 50970	11 36650	00000	-19860	000	02990	52000	00000	00000	00000
1.98	11 370	14 68970	10 97920	00000	-19350	000	03270	51910	00000	00000	00000
1.98	11 260	14 86970	10 59190	00000	-18840	000	03550	51820	00000	00000	00000
1.98	11 150	15 04970	10 20460	00000	-18330	000	03830	51730	00000	00000	00000
1.98	11 040	15 22970	9 81730	00000	-17820	000	04110	51640	00000	00000	00000
1.98	10 930	15 40970	9 43000	00000	-17310	000	04390	51550	00000	00000	00000
1.98	10 820	15 58970	9 04270	00000	-16800	000	04670	51460	00000	00000	00000
1.98	10 710	15 76970	8 65540	00000	-16290	000	04950	51370	00000	00000	00000
1.98	10 600	15 94970	8 26810	00000	-15780	000	05230	51280	00000	00000	00000
1.98	10 490	16 12970	7 88080	00000	-15270	000	05510	51190	00000	00000	00000
1.98	10 380	16 30970	7 49350	00000	-14760	000	05790	51100	00000	00000	00000
1.98	10 270	16 48970	7 10620	00000	-14250	000	06070	51010	00000	00000	00000
1.98	10 160	16 66970	6 71890	00000	-13740	000	06350	50920	00000	00000	00000
1.98	10 050	16 84970	6 33160	00000	-13230	000	06630	50830	00000	00000	00000
1.98	9 940	17 02970	5 94430	00000	-12720	000	06910	50740	00000	00000	00000
1.98	9 830	17 20970	5 55700	00000	-12210	000	07190	50650	00000	00000	00000
1.98	9 720	17 38970	5 16970	00000	-11700	000	07470	50560	00000	00000	00000
1.98	9 610	17 56970	4 78240	00000	-11190	000	07750	50470	00000	00000	00000
1.98	9 500	17 74970	4 39510	00000	-10680	000	08030	50380	00000	00000	00000
1.98	9 390	17 92970	4 00780	00000	-10170	000	08310	50290	00000	00000	00000
1.98	9 280	18 10970	3 62050	00000	-9660	000	08590	50200	00000	00000	00000
1.98	9 170	18 28970	3 23320	00000	-9150	000	08870	50110	00000	00000	00000
1.98	9 060	18 46970	2 84590	00000	-8640	000	09150	50020	00000	00000	00000
1.98	8 950	18 64970	2 45860	00000	-8130	000	09430	49930	00000	00000	00000
1.98	8 840	18 82970	2 07130	00000	-7620	000	09710	49840	00000	00000	00000
1.98	8 730	19 00970	1 68400	00000	-7110	000	09990	49750	00000	00000	00000
1.98	8 620	19 18970	1 29670	00000	-6600	000	10270	49660	00000	00000	00000
1.98	8 510	19 36970	9 0900	00000	-6090	000	10550	49570	00000	00000	00000
1.98	8 400	19 54970	0 70270	00000	-5580	000	10830	49480	00000	00000	00000
1.98	8 290	19 72970	0 31540	00000	-5070	000	11110	49390	00000	00000	00000
1.98	8 180	19 90970	0 92810	00000	-4560	000	11390	49300	00000	00000	00000
1.98	8 070	20 08970	0 54080	00000	-4050	000	11670	49210	00000	00000	00000
1.98	7 960	20 26970	0 15350	00000	-3540	000	11950	49120	00000	00000	00000
1.98	7 850	20 44970	0 76620	00000	-3030	000	12230	49030	00000	00000	00000
1.98	7 740	20 62970	1 37890	00000	-2520	000	12510	48940	00000	00000	00000
1.98	7 630	20 80970	1 99160	00000	-2010	000	12790	48850	00000	00000	00000
1.98	7 520	20 98970	2 60430	00000	-1500	000	13070	48760	00000	00000	00000
1.98	7 410	21 16970	3 21700	00000	-990	000	13350	48670	00000	00000	00000
1.98	7 300	21 34970	3 82970	00000	000	000	13630	48580	00000	00000	00000
1.98	7 190	21 52970	4 44240	00000	000	000	13910	48490	00000	00000	00000
1.98	7 080	21 70970	5 05510	00000	000	000	14190	48400	00000	00000	00000
1.98	6 970	21 88970	5 66780	00000	000	000	14470	48310	00000	00000	00000
1.98	6 860	22 06970	6 28050	00000	000	000	14750	48220	00000	00000	00000
1.98	6 750	22 24970	6 89320	00000	000	000	15030	48130	00000	00000	00000
1.98	6 640	22 42970	7 50590	00000	000	000	15310	48040	00000	00000	00000
1.98	6 530	22 60970	8 11860	00000	000	000	15590	47950	00000	00000	00000
1.98	6 420	22 78970	8 73130	00000	000	000	15870	47860	00000	00000	00000
1.98	6 310	22 96970	9 34400	00000	000	000	16150	47770	00000	00000	00000
1.98	6 200	23 14970	9 95670	00000	000	000	16430	47680	00000	00000	00000
1.98	6 090	23 32970	10 56940	00000	000	000	16710	47590	00000	00000	00000
1.98	5 980	23 50970	11 18210	00000	000	000	16990	47500	00000	00000	00000
1.98	5 870	23 68970	11 79480	00000	000	000	17270	47410	00000	00000	00000
1.98	5 760	23 86970	12 40750	00000	000	000	17550	47320	00000	00000	00000
1.98	5 650	24 04970	13 02020	00000	000	000	17830	47230	00000	00000	00000
1.98	5 540	24 22970	13 63290	00000	000	000	18110	47140	00000	00000	00000
1.98	5 430	24 40970	14 24560	00000	000	000	18390	47050	00000	00000	00000
1.98	5 320	24 58970	14 85830	00000	000	000	18670	46960	00000	00000	00000
1.98	5 210	24 76970	15 47100	00000	000	000	18950	46870	00000	00000	00000
1.98	5 100	24 94970	16 08370	00000	000	000	19230	46780	00000	00000	00000
1.98	4 990	25 12970	16 69640	00000	000	000	19510	46690	00000	00000	00000
1.98	4 880	25 30970	17 30910	00000	000	000	19790	46600	00000	00000	00000
1.98	4 770	25 48970	17 92180	00000	000	000	20070	46510	00000	00000	00000
1.98	4 660	25 66970	18 53450	00000	000	000	20350	46420	00000	00000	00000
1.98	4 550	25 84970	19 14720	00000	000	000	20630	46330	00000	00000	00000
1.98	4 440	26 02970	19 75990	00000	000	000	20910	46240	00000	00000	00000
1.98	4 330	26 20970	20 37260	00000	000	000	21190	46150	00000	00000	00000
1.98	4 220	26 38970	20 98530	00000	000	000	21470	46060	00000	00000	00000
1.98	4 110	26 56970	21 59800	00000	000	000	21750	45970	00000	00000	00000

(RIH009) (10 JUL 75)

MSFC TWT604 (SABF) SRB CLEAN H/RINGS

PARAMETRIC DATA

BETA = .000 PHI = .000
NOZZLE = .000

REFERENCE DATA

SREF = .5030 SQ. IN. XMRP = 5.7210 IN. XS
LREF = .8000 IN. YMRP = .0000 IN. YS
BREF = .8000 IN. ZMRP = .0000 IN. ZS
SCALE = 0055

RUN NO. 271/ 0 RN/L = 5.31 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYMM	CBL	XCP/L	CBP1	CBP2	CBP3
.400	90.370	11.32560	13.79050	.21040	-.29320	-.63280	.00970	.48400	.00000	.00000	.00000
.400	82.280	11.38630	13.56080	.28420	-.17870	-.92150	.03280	.48620	.00000	.00000	.00000
.400	84.270	11.22410	12.54890	.31480	-.56080	-1.91330	.01890	.49220	.00000	.00000	.00000
.400	86.210	11.15120	9.80330	.55210	-.19100	-.47570	.04500	.51170	.00000	.00000	.00000
.400	88.180	11.21370	7.69220	.66120	-.42990	-.38670	.05460	.52740	.00000	.00000	.00000
.400	90.180	11.32540	6.59630	.68340	-.49360	-.72860	.03770	.53590	.00000	.00000	.00000
.400	92.180	11.21500	6.16540	.63430	-.40840	-.23650	.03710	.53850	.00000	.00000	.00000
.400	94.160	11.09700	5.14380	.47120	-.26350	.45990	-.02050	.54560	.00000	.00000	.00000
.400	96.180	11.10600	4.77720	.33680	-.16180	.17790	.02910	.54830	.00000	.00000	.00000
.400	98.180	11.17810	4.66540	.15120	-.20870	.20520	.01670	.54930	.00000	.00000	.00000
.400	100.040	11.26240	3.90850	.02560	-.07850	-.40460	.05490	.55510	.00000	.00000	.00000
.400	90.180	11.12070	6.59700	.63020	-.59300	-.63690	.01580	.53500	.00000	.00000	.00000
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

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(RIH012) (10 JUL 75)

MSFC TWT604 (SABF) SRB CLEAN W/RINOS

PARAMETRIC DATA

REFERENCE DATA

SREF = .5030 SQ. IN. XMRP = 5.7210 IN. XS BETA = .000 PHI = .000
 LREF = .8000 IN. YMRP = .0000 IN. YS NOZZLE = .000
 BREF = .8000 IN. ZMRP = .0000 IN. ZS
 SCALE = .0055

RUN NO. 239 / 1 RN/L = 5.49 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMH	CLMH	CA	CYM	CYNH	CSL	XCP/L	CBP1	CBP2	CBP3
.396	129.580	5.47290	-5.28740	-1.75130	1.06910	.49350	-.01040	.66220	.00000	.00000	.00000
.396	127.670	5.87070	-5.63700	-1.68490	-.09770	.59450	-.00140	.66170	.00000	.00000	.00000
.396	125.640	6.45540	-5.48300	-1.59890	1.58220	.95060	.00840	.65270	.00000	.00000	.00000
.396	123.650	6.95690	-5.51390	-1.51990	.03520	1.49590	.02030	.64800	.00000	.00000	.00000
.396	121.650	7.50340	-5.41710	-1.41390	1.31020	-.10360	.00840	.64230	.00000	.00000	.00000
.396	119.630	8.36120	-6.00950	-1.29740	.09660	1.37070	-.00430	.64200	.00000	.00000	.00000
.396	117.610	8.79250	-5.81080	-1.21170	-.10910	2.45600	-.00130	.63730	.00000	.00000	.00000
.396	115.650	8.65440	-4.50320	-1.05670	-.62700	2.07190	.00550	.62580	.00000	.00000	.00000
.396	113.610	9.09120	-3.69420	-.91550	-.30240	.50070	-.05540	.61650	.00000	.00000	.00000
.396	111.620	9.29860	-2.55280	-.77200	-.09560	.24500	-.01410	.60580	.00000	.00000	.00000
.396	109.750	9.70100	-1.65960	-.66780	-.19520	.86850	.01090	.59730	.00000	.00000	.00000
.396	119.630	8.30990	-6.02610	-1.30120	22340	1.22960	.00080	.64250	.00000	.00000	.00000
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 241 / 1 RN/L = 5.25 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMH	CLMH	CA	CYM	CYNH	CSL	XCP/L	CBP1	CBP2	CBP3
.603	129.500	7.02580	-4.91430	-1.71000	1.77440	2.46740	.01200	.64040	.00000	.00000	.00000
.603	127.590	7.65600	-4.89710	-1.65630	1.44020	1.47630	.01100	.63540	.00000	.00000	.00000
.603	125.560	8.36090	-4.67610	-1.56940	.81760	1.15250	.00590	.62900	.00000	.00000	.00000
.603	123.590	8.85830	-3.73260	-1.47990	.46830	.41140	.01030	.61770	.00000	.00000	.00000
.603	121.590	9.39370	-2.92480	-1.37240	.73650	.45780	.01090	.60880	.00000	.00000	.00000
.603	119.600	10.02990	-2.09200	-1.24130	.51340	-.16380	.01330	.60040	.00000	.00000	.00000
.603	117.560	10.73480	-2.27070	-1.03620	.35610	.58530	.02870	.60060	.00000	.00000	.00000
.603	115.590	11.12890	-1.45340	-.85830	.09110	.41670	-.02130	.59400	.00000	.00000	.00000
.603	113.580	11.33300	-1.04230	-.67900	-.26930	1.07860	-.01460	.59090	.00000	.00000	.00000
.603	111.560	11.49180	-.65150	-.44440	-.09600	1.52190	.02320	.58800	.00000	.00000	.00000
.603	109.600	11.75330	-.32030	-.37510	.32360	.30360	.01770	.58560	.00000	.00000	.00000
.603	119.600	9.98860	-2.08760	-1.23170	.66710	1.09950	.00120	.60040	.00000	.00000	.00000
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

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TABULATED SOURCE DATA. MSFC TWT 604. SA-BF

DATE 10 JUL 75

(RIH014) (10 JUL 75)

MSFC TWT604 (SABF) SRB CLEAN W/RINGS

REFERENCE DATA

SREF = 5030 SQ. IN. XMRP = 5.7210 IN. XS
 LRREF = 8000 IN. YMRP = .0000 IN. YS
 BRREF = 8000 IN. ZMRP = .0000 IN. ZS
 SCALE = .0055
 BETA = .000 PHI = .000
 NOZZLE = .000

PARAMETRIC DATA

RUN NO. 435/ 0 RV/L = 3.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMR	CLMR	CA	CYM	CYMM	CEL	XCP/L	CBP1	CBP2	CBP3
.407	129.650	7.91900	-1.92080	-1.87870	-.02190	-.40300	-.09840	60320	00000	60000	00000
.407	127.740	8.36260	-2.14380	-1.79650	-.87310	-2.97140	.00130	60430	.00000	.00000	00000
.407	125.740	8.85890	-2.37450	-1.69710	-.87810	-3.95690	0.3500	60520	.00000	.00000	00000
.407	123.730	9.47530	-2.46400	-1.60120	-.35620	-4.55670	0.0140	60460	00000	10000	00000
.407	121.720	10.07160	-2.84100	-1.41650	-.26630	-3.33660	-.04050	60640	00000	.00000	00000
.407	119.720	10.65540	-1.99430	-1.25780	-.12850	1.37600	.01510	59860	00000	.00000	00000
.407	117.710	11.20600	-1.12000	-1.18100	-.30610	3.19890	0.6970	59150	00000	.00000	00000
.407	115.730	11.24160	-.40110	-.93130	-.25290	4.30880	-.00320	58630	00000	.00000	00000
.407	113.730	11.54410	-.03540	-.74240	-.50330	3.30360	0.1020	5360	.00000	.00000	00000
.407	111.740	11.69440	.27240	-.43530	-.36760	2.52350	-.02410	58150	.00000	.00000	.00000
.407	109.840	11.79610	.50430	-.24540	-.33300	2.20330	.04110	57990	00000	.00000	00000
.407	119.720	10.54430	-2.15720	-1.27240	-.06650	1.35830	.01400	59950	00000	.00000	.00000
GRADIENT		00000	00000	.00000	.00000	.00000	.00000	.00000	00000	.00000	.00000

MSFC TWT604 (SABF) SRB CLEAN W/RIINGS

(RIH015) (10 JUL 75)

REFERENCE DATA

SREF = 5030 SQ IN. XMRP = 5.7210 IN. XS
 LREF = 8000 IN. YMRP = 0000 IN. YS
 BREF = 8000 IN. ZMRP = .0000 IN. ZS
 SCALE = 0055

BETA = .000 PHI = .000
 NOZZLE = .000

PARAMETRIC DATA

RUN NO. 436/ 0 RN/L = 5.13 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMI	CLMM	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
346	129 600	5 56940	-5.76200	-1 75220	.69220	-1.79860	00670	66810	.00000	.00000	.00000
346	127 690	5 82450	-5.92700	-1.67210	.26010	-1 22320	- 04730	66640	.00000	.00000	.00000
346	125 660	6 56720	-5.82390	-1.63070	1 86800	- 73060	02390	65580	.00000	.00000	.00000
346	123 660	7 15020	-5.65350	-1 55790	1.77610	-1.58610	01210	64790	.00000	.00000	.00000
346	121 650	7 56000	-5 80740	-1 43500	-1 03410	- 42190	01000	64600	.00000	.00000	.00000
346	119 640	8 28280	-5 66020	-1 32430	-1.37770	- 88230	04930	63910	.00000	.00000	.00000
346	117 630	8 62400	-5 05210	-1 20270	-1 36040	- 52030	.02440	63120	.00000	.00000	.00000
346	115 660	8 77090	-3 99370	-1 07670	- 62680	1.96760	.04480	62050	.00000	.00000	.00000
346	113 670	9 20810	-2.77500	- 96720	- 58720	1 97570	01290	60900	.00000	.00000	.00000
346	111 660	9 68450	-1 52330	- 86830	- 86610	1 57290	03530	60200	.00000	.00000	.00000
346	109 730	10 06950	- 07500	- 70560	- 84930	24110	00330	60500	.00000	.00000	.00000
346	119 640	8 13650	-5.12760	-1 34020	-1 26630	- 75820	00600	64040	.00000	.00000	.00000
GRADIENT		00000	00000	00000	00000	00000	00000	00000	.00000	.00000	.00000

(RIM016) (10 JUL 75)

MSFC TWT604 (SABF) SRB CLEAN W/RINGS

PARAMETRIC DATA

BETA = .000 PHI = .000
NOZZLE = .000

REFERENCE DATA

SARF = 5030 50 IN XMRP = 5 7210 IN XS
LREF = 8000 IN YMRP = 0000 IN. YS
BREF = 8000 IN ZMRP = 0000 IN. ZS
SCALE = 0025

RUN NO. 151/ 1 RM/L = 6 28 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMM	CLMM	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
899	148 970	4 24430	-2 93180	-2 27570	32090	.17270	.02720	63970	.00000	.00000	.00000
899	146 950	4 95360	-3 03590	-2 23960	32100	-0.7770	.03090	63340	.00000	.00000	.00000
899	144 820	5 78450	-3 03620	-2 18440	.20620	-28030	.04190	62620	.00000	.00000	.00000
899	142 640	6 71070	-3.55500	-2 13840	-.01520	-.20660	.04080	62660	.00000	.00000	.00000
899	140 460	7 64330	-4 08830	-2 11540	-0.2150	-.29880	.03100	62700	.00000	.00000	.00000
899	138 320	8 37430	-4 61070	-2 04180	.10970	.43950	.02430	62830	.00000	.00000	.00000
899	136 120	9 58480	-4 50760	-1.95690	.00930	.11980	.03920	.62170	.00000	.00000	.00000
899	133 950	10 29360	-5 61730	-1.84100	-0.0870	-.08680	.03780	62790	.00000	.00000	.00000
899	131 810	10 82290	-6 88400	-1 80240	.00620	-0.6300	.04390	.63530	.00000	.00000	.00000
899	129 650	11 42150	-7 63430	-1 65340	.02780	-.23810	.05090	63790	.00000	.00000	.00000
899	127 530	12 0520	-7 96180	-1 52850	-0.1740	-.08750	.04530	63710	.00000	.00000	.00000
899	138 690	8 43190	-4 84060	-2.03460	.02880	.46700	.04710	63020	.00000	.00000	.00000
GRADIENT		00000	00000	00000	00000	00000	00000	.00000	.00000	.00000	.00000

RUN NO. 152/ 0 RM/L = 6 39 GRADIENT INTERVAL = -5.00/ 5 00

MACH	ALPHA	CMM	CLMM	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
1 001	147 730	5 83030	-4 87390	-2 50510	-0.2510	-.10970	.01910	65160	-32170	-28190	-15220
1 001	145 650	6 70100	-5 36740	-2 46460	-0.4350	-.01760	.01090	64870	-33620	-29770	-17770
1 001	143 450	7 54260	-6 02090	-2 37790	-.13160	28110	.02600	64860	-31550	-29040	-16890
1 001	141 240	8 81340	-5 56370	-2 34360	.00070	-89900	.01700	63480	-30570	-34780	-20450
1 001	139 060	9 86360	-5 89070	-2 25250	-0.1570	-1.20310	.02360	63210	-28950	-33320	-21500
1 001	136 870	10 64410	-6 73750	-2 14150	.04680	.78680	.02920	63500	-30330	-29930	-23290
1 001	134 640	11 53530	-7 35360	-2 05460	.06610	-22120	.01050	63540	-30330	-30190	-25580
1 001	132 480	12 76790	-6 37250	-1 98400	.18590	-64690	.01850	62410	-37210	-33800	-30240
1 001	130 350	13 52670	-6 36850	-1 87140	22740	-66340	.01150	62180	-44640	-38480	-27360
1 001	128 180	14 39560	-5 91750	-1 68680	.04060	50760	.01370	61690	-51360	-44820	-24820
1 001	126 190	15 05180	-5 66830	-1 52370	.14050	-64910	.02410	61410	-69640	-43370	-31070
1 001	136 860	10 57910	-6 73730	-2 12030	.03400	.76110	.01850	63530	-29970	-23660	-23660
GRADIENT		00000	00000	00000	00000	00000	00000	.00000	.00000	.00000	.00000

ORIGINAL PAGE IS OF POOR QUALITY

MSFC THT604 (SABF, SRB CLEAN W/RINGS)

(RTH016) (10 JUL 75)

REFERENCE DATA

SREF = .5030 SQ. IN. XMRP = 5.7210 IN. XS
 LREF = .8000 IN. YMRP = .0000 IN. YS
 BREF = .8000 IN. ZMRP = .0000 IN. ZS
 SCALE = .0055

PARAMETRIC DATA

BETA = .000 PHI = .000
 NOZZLE = .000

RUN NO. 156/ 0 RN/L = 6.71 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYH	CYH	CYH	CYH	CYH	CBL	XCP/L	CBP1	CBP2	CBP3
4.000	148.420	5.69100	1.58320	-2.68670	.03360	-0.1440	-0.1940	.56070	-0.4990	-0.4140	-0.4720				
4.000	146.440	6.33160	1.57700	-2.40060	.03210	.00710	-.02080	.56310	-0.4910	-0.3630	-0.4640				
4.070	144.370	6.96950	1.64400	-2.32280	.03060	.00430	-.00140	.56410	-0.4750	-0.2930	-0.4330				
4.000	142.290	7.65310	1.69580	-2.27810	.03920	.01520	.01580	.56530	-0.4710	-0.2050	-0.4110				
4.000	140.210	8.29180	1.73600	-2.22980	.04870	-.01020	.02990	.530	-0.5160	-0.0730	-0.4020				
4.000	138.130	8.97630	1.81460	-2.19360	.05690	.01160	.01390	.56690	-0.5750	.01250	-0.3930				
4.000	136.040	9.59400	2.09830	-2.15930	.06360	-.02570	.03430	.56550	-0.06200	.04160	-0.3440				
4.000	134.000	10.23760	2.56060	-2.18410	.06710	-0.1490	.04350	.56300	-0.06430	.07930	-0.2550				
4.000	131.900	10.85470	3.04150	-2.09240	.06980	.00760	.02590	.56050	-0.06500	.12610	-0.1360				
4.000	129.840	11.47590	3.42350	-1.95810	.08510	-.02680	.04580	.55900	-0.06600	.17330	.00250				
4.000	127.900	12.04070	3.69830	-1.84600	.09100	-.02760	.04410	.55830	-0.06660	.22080	.02100				
4.000	138.100	9.01260	1.79550	-2.18640	.04760	-0.1490	.02300	.56710	-0.06410	.03050	-0.3510				
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000				

RUN NO. 157 0 RN/L = 5.53 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYH	CYH	CYH	CYH	CYH	CBL	XCP/L	CBP1	CBP2	CBP3
4.450	148.670	5.23160	1.80540	-2.58210	.05350	-0.1710	-0.11430	.55520	-0.3620	-0.2930	-0.3270				
4.450	146.710	5.84690	1.81690	-2.29010	.18080	.04610	-.03350	.55800	-0.3520	-0.2610	-0.3150				
4.450	144.660	6.46840	1.85420	-2.23180	.03540	.01410	.00650	.56000	-0.3520	-0.2000	-0.3050				
4.450	142.610	7.10510	1.93530	-2.18590	.04810	.02950	-.02450	.56110	-0.3520	-0.1050	-0.2910				
4.450	140.560	7.73900	2.01510	-2.15370	.04690	.01020	.02370	.56210	-0.3940	.00470	-0.2850				
4.450	138.500	8.37250	2.13020	-2.11700	.03020	.02090	.03300	.56260	-0.4240	.02770	-0.2730				
4.450	136.440	9.03360	2.42630	-2.08330	.04150	-.03110	.05370	.56150	-0.4410	.05430	-0.2650				
4.450	134.420	9.64190	2.85720	-2.11710	.07880	-.02480	.07670	.55920	-0.4510	.08740	-0.1720				
4.450	132.360	10.21870	3.21030	-2.03600	.07310	.00590	.04430	.55770	-0.4570	.12820	-0.0670				
4.450	130.240	10.83570	3.68160	-1.92090	.21120	.01570	.05140	.55570	-0.4650	.17170	.00350				
4.450	128.370	11.43370	3.92700	-1.79350	.07670	.02070	.04910	.55540	-0.4750	.23350	.02950				
4.450	138.500	8.40150	2.17030	-2.10640	.04500	-.02610	.08280	.55230	-0.4690	.04250	-0.1180				
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000				

REFERENCE DATA PARAMETRIC DATA
 SREF = .5030 SQ. IN. XMRP = 5.7210 IN. XS BETA = .000 PHI = .000
 LREF = .8000 IN. YMRP = .0000 IN. YS NOZZLE = .000
 BREF = .8000 IN. ZMRP = .0000 IN. ZS
 SCALE = .0055

MACH	ALPHA	CMH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
.397	169.070	.56580	-1.53800	-1.44480	-.01310	.04350	-.02560	80510	.04630	.06360	.06730
.397	167.160	.70770	-1.73430	-1.52590	-.02710	-.00480	-.03140	78330	03420	.05890	.05520
.397	165.120	.84400	-1.88600	-1.59170	-.04300	03190	-.03310	.74640	.02590	.04180	.04790
.397	163.110	1.21520	-2.07410	-1.66320	-.04250	.13390	-.05330	72260	.01840	.04270	.04370
.397	161.090	1.49510	-2.07340	-1.72020	-.05840	.06480	-.05770	.69850	-.01420	.02100	.03190
.397	159.080	1.71040	-2.03330	-1.78960	-.00880	.15900	-.05870	68040	-.04360	.00390	.02330
.397	157.040	1.98350	-1.71660	-1.85950	.02020	.22770	-.04570	65400	-.09800	-.03850	.00510
.397	155.050	2.20840	-1.50180	-1.91630	.15410	.36020	-.07900	63890	-.12490	-.05070	.00270
.397	152.990	2.53590	-1.34920	-1.96080	.22950	.78450	-.02150	62680	-.15590	-.11560	-.01660
.397	150.990	2.90630	-1.18640	-1.96450	.28060	.68200	-.02780	61670	-.19150	-.15020	-.03490
.397	149.060	3.25790	-1.37050	-1.92830	.31140	.94050	-.04170	61770	-.26320	-.17450	-.06030
.397	159.060	1.72360	-2.04710	-1.81100	.00970	.12050	-.06810	68030	-.04610	-.01300	.01880
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

MACH	ALPHA	CMH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
.599	169.040	.58740	-1.45710	-1.53920	-.01400	-.08240	.00840	78570	.04490	.01190	.06180
.599	167.120	.79180	-1.70090	-1.61810	-.01070	-.08440	.00900	75860	.02890	.02440	.03380
.599	165.060	1.07080	-1.92600	-1.68290	-.00950	-.00950	.00250	73010	.02430	.01280	.04490
.599	163.050	1.35210	-2.06710	-1.74650	-.02120	.00290	.04390	70810	.01190	.00740	.01950
.599	161.020	1.62830	-2.19550	-1.80410	-.02080	.06190	.03020	.69340	.00110	-.00150	.03670
.599	159.000	1.83480	-2.12490	-1.86200	-.01600	.08390	.03350	.67790	-.02020	-.01130	.02870
.599	156.970	2.11830	-2.07910	-1.92280	.01650	.03610	.04580	.66340	-.03430	-.02630	.02530
.599	154.890	2.70020	-1.93010	-1.99100	.09930	.23750	.01260	.64950	-.06540	-.05200	.01650
.599	152.890	3.05240	-1.51910	-2.01550	.22840	.49910	.02840	.62930	-.11630	-.09040	-.03120
.599	150.890	3.05240	-1.36920	-1.96610	.27830	.52530	.00590	.62000	-.16260	-.14010	-.02530
.599	148.940	3.44900	-1.44070	-1.97150	.24570	.79650	.01620	.61740	-.23020	-.16040	-.03430
.599	158.980	1.86020	-2.17980	-1.83690	.02860	.11720	.02990	.67900	-.01110	-.00750	.03590
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ORIGINAL PAGE IS
OF POOR QUALITY

DATE 10 JUL 75

TADUATED SOURCE DATA, MSFC TMT 604, SA-8F

PAGE 47

(R14018) (10 JUL 75)

REFERENCE DATA

SREF = .5030 SQ IN. XMRP = 5.7210 IN. XS
 LREF = .8000 IN. YMRP = .0000 IN. YS
 BREF = .8000 IN. ZMRP = .0000 IN. ZS
 SCALE = .0055

PARAMETRIC DATA

BETA = .000 PHI = .000
 NOZZLE = .000

RUN NO. 112/ 0 RN/L = 7.08 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
1.955	168.840	91180	-1.28310	-2.46450	.03640	.07620	.00750	.69820	-.10930	-.10860	-.11650
1.955	166.850	1.29940	-1.35280	-2.49010	-0.1380	-.02930	0.1370	.67080	-124.10	-.12300	-.13240
1.955	164.700	1.81530	1.51670	-2.52450	-.06260	-.18950	.00000	.65150	-.14150	-.14000	-.15020
1.955	162.580	2.42940	-1.37590	-2.59370	-.25240	-.41490	.01440	.62960	-.15670	-.15410	-.16380
1.955	160.460	3.03980	-1.33310	-2.64920	-.04730	-.02140	.02000	.61910	-.16340	-.16080	-.16860
1.955	158.310	3.68630	-1.00570	-2.65750	-.01690	.08030	.01320	.60560	-.17200	-.17120	-.17650
1.955	156.160	4.38780	-.65360	-2.68550	.00320	.15440	.02120	.59550	-.18020	-.18020	-.18200
1.955	154.030	5.09580	-.30690	-2.70340	.02540	.15510	.02090	.58830	-.19330	-.19230	-.19450
1.955	151.860	5.80970	1.1470	-2.70960	.02560	.12540	.01410	.58180	-.20180	-.20180	-.20220
1.955	149.720	6.59870	.46580	-2.72630	.03920	.03960	.01880	.57760	-.20950	-.20950	-.20540
1.955	147.740	7.48220	.94510	-2.66950	.05340	.06690	.01280	.57260	-.24530	-.21670	-.21220
1.955	158.320	3.70160	-.76910	-2.62450	-.03040	.02750	.01940	.60030	-.17560	-.17480	-.17900
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 162/ 0 RN/L = 6.94 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
3.480	169.010	82450	-.24550	-2.40990	-.01500	-.02310	-.01520	.60770	-.06890	-.06890	-.06880
3.480	167.060	1.16260	-.18280	-2.45160	-.01630	-.00610	-.02250	.59620	-.07010	-.07060	-.07100
3.480	165.000	1.53320	-.05550	-2.48200	-.01800	-.00810	-.01240	.58630	-.07330	-.07270	-.07370
3.480	162.950	1.93850	.05960	-2.51890	.00410	-.01340	-.02180	.58090	-.07680	-.07460	-.07550
3.480	160.880	2.40900	.26330	-2.54700	.03540	-.06070	-.00760	.57450	-.07890	-.07520	-.07620
3.480	158.810	2.94010	.51970	-2.58300	.02300	-.02680	-.01660	.56890	-.08240	-.07630	-.07730
3.480	156.720	3.47250	.81630	-2.61300	.03470	-.01570	.01150	.56420	-.08410	-.07600	-.07720
3.480	154.670	4.03670	1.03930	-2.65340	.03100	-.00990	.00800	.56240	-.08520	-.07430	-.07570
3.480	152.540	4.63530	1.16940	-2.67460	.05340	.00190	.02200	.56280	-.08520	-.06990	-.07050
3.480	150.450	5.21400	1.19710	-2.67380	.05190	.03690	.00780	.56460	-.09000	-.06320	-.06430
3.480	148.510	5.78140	1.32100	-2.64740	.05810	.03510	.00660	.56470	-.09290	-.05280	-.05370
3.480	158.810	2.95620	.48090	-2.57400	.02520	-.10420	.01160	.57010	-.08330	-.07070	-.07250
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ORIGINAL PAGE IS OF FOUR COPIES

REFERENCE DATA

SREF * 5030 SQ. IN. XMRP * 5.7210 IN. XS
 LREF * 8000 IN. YMRP * .0000 IN. YS
 BREF * 8000 IN. ZMRP * .0000 IN. ZS
 SCALE * 0055

PARAMETRIC DATA

BETA = .000 PHI = .000
 NOZZLE = .000

RUN NO. 165/ 0 RN/L = 6 75 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
4.000	189 530	-49910	.15450	-2.36820	-00560	-01080	-00740	.60860	-.04440	-.04520	-.04410
4.000	187 620	-39920	.24620	-2.31650	-00690	-01120	-01390	.63370	-.04240	-.04210	-.04190
4.000	185 580	-24020	.25110	-2.27640	-01770	00980	-02170	.66870	-.03850	-.03830	-.03860
4.000	183 580	-15810	.21550	-2.24030	00430	00880	-00990	.69460	-.03560	-.03510	-.03540
4.000	181 560	00120	.09850	-2.20930	-00540	-01390	-02600	-.59070	-.03360	-.03330	-.03370
4.000	179 550	02140	-.06860	-2.19840	00640	-01010	-01910	.84400	-.03360	-.03390	-.03330
4.000	177 510	10150	-17650	-2.22010	-00250	00980	-01440	.72530	-.03490	-.03490	-.03400
4.000	175 520	18190	-28530	-2.25820	-00040	-01510	-01190	.71130	-.03740	-.03780	-.03620
4.000	173 460	32190	-33290	-2.29970	-00010	-00330	-00650	.66770	-.04100	-.04140	-.04030
4.000	171 460	50150	-12980	-2.33040	-00150	-05350	-00270	.60450	-.04490	-.04580	-.04420
4.000	169 550	74260	-13320	-2.36620	00740	-00560	-02750	.59800	-.04800	-.04860	-.04680
4.000	179 540	06070	-11090	-2.20490	-00300	-01250	02010	.73240	-.03460	-.03460	-.03510
GRADIENT		.00000	00000	00000	00000	00000	00000	00000	.00000	.00000	00000

RUN NO 165/ 0 RN/L = 5.54 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
4.450	189 510	-75010	.07680	-2.23400	-02370	-01480	-03340	.59480	-.03300	-.03470	-.03160
4.450	187 600	-40420	.13780	-2.20540	-00900	-06440	-01130	.61120	-.03130	-.03290	-.03060
4.450	185 560	-26080	.19970	-2.18680	-01020	-06300	03590	.64590	-.02940	-.03040	-.02900
4.450	183 570	-17260	.14580	-2.17820	-01040	-01390	-03450	.65230	-.02840	-.02840	-.02800
4.450	181 580	-11560	-.05700	-2.15140	-02230	-01730	03250	.54310	-.02760	-.02860	-.02720
4.450	179 550	00180	-.14360	-2.12620	-00510	-08520	-02700	6.93340	-.02760	-.02840	-.02630
4.450	177 520	08950	-16050	-2.15200	00770	-01240	-02320	.72970	-.02760	-.02860	-.02760
4.450	175 530	14520	-32760	-2.17960	-01970	-01560	-03490	.76740	-.02780	-.02920	-.02760
4.450	173 480	26230	-.34180	-2.22970	-00450	00000	03460	.68970	-.03000	-.03100	-.02980
4.450	171 490	43620	-27730	-2.25270	01160	-11800	04090	.63520	-.03270	-.03390	-.03100
4.450	169 570	66590	-19800	-2.28990	-02080	-00610	04330	60760	-.03550	-.03690	-.03390
4.450	179 550	03060	-20720	-2.14440	-02600	-01540	-03320	1.13500	-.03130	-.03130	-.02980
GRADIENT		.00000	00000	00000	00000	00000	00000	00000	00000	.00000	00000

ORIGINAL PAGE
 OF POOR QUALITY

TABULATED SOURCE DATA, MSFC INT 604, SA-BF

MSFC INT 604 (SABF) SRB CLEAN W/RINGS W/O N CAP

IRIN-220, (10 JUL 75)

REFERENCE DATA

SREF = 5030 SQ IN XMRP = 5 7210 IN. XS
 LREF = 8000 IN YMRP = .0000 IN. YS
 BRP = 8000 IN ZMRP = 0000 IN. ZS
 SCALE = 0055

PARAMETRIC DATA

BETA = 000 PHI = .000
 NOZZLE = 000

RUN NO. 270/ 0 RN/L = 5 04 GRADIENT INTERVAL = -5.00/ 5 00

MACH	ALPHA	CMR	CLMR	CA	CYM	CYMR	CBL	XCP/L	CBP1	CBP2	CBP3
601	70 400	12 47920	16 41710	-116180	-14600	.28460	.00260	47600	00000	00000	00000
601	72 310	12 64320	15 83090	-113090	-128290	.42860	-00100	48120	00000	00000	00000
601	74 300	12 61600	15 51300	.00510	-128030	.91180	01980	48310	00000	00000	00000
601	76 280	12 61650	15 43880	0 20	-119170	.91620	02370	48350	00000	00000	00000
601	78 270	12 64830	15 11760	04420	-25220	.29650	00200	48590	00000	00000	00000
601	80 250	12 41160	12 86380	.17930	-31370	.30210	.02820	49680	00000	00000	00000
601	82 230	12 32720	1 60960	30820	-31190	.30850	.02490	50650	00000	00000	00000
601	84 210	12 32430	10 7490	42490	-113010	.30730	.02730	51250	00000	00000	00000
601	86 210	12 42220	9 6 50	48300	-105270	.30070	.03540	51980	00000	00000	00000
601	88 180	12 73430	8 35200	63120	-115350	.32150	-00800	52990	00000	00000	00000
601	90 030	12 76550	6 87380	61290	-118990	.59240	.00340	53940	00000	00000	00000
601	80 250	12 41820	12 85620	17620	-371000	.45720	.01040	49890	00000	00000	00000
601	GRADIENT	00000	.00000	00000	.00000	00000	.00000	.00000	00000	00000	00000

MSFC TH1604 (SABF) SRB WITH ALL PROTRUBERANCES

(R1H023) (10 JUL 75)

REFERENCE DATA

SREF = .5030 SQ IN. XHRP = 5.7210 IN. XS
 LREF = .8000 IN. YHRP = .0000 IN. YS
 BREF = .8000 IN. ZHRP = .0000 IN. ZS
 SCALE = .0055

PARAMETRIC DATA

BETA = .000 PHI = .000
 NOZZLE = .000

RUN NO. 197/ 0 RN/L = 7.06 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLMM	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
3 480	-9 530	-1 34960	-1 93730	.89560	-.06230	.17340	-.01120	.46630	-.07020	-.08800	-.08750
3 480	-7 650	-.98240	-1 56800	.84040	-.02580	.03390	-.03520	.45320	-.06680	-.08620	-.08690
3 480	-5 590	-.66830	-1 06680	.82440	.07650	1.1270	-.01840	.45320	-.06210	-.08350	-.08490
3 480	-3 550	-.43200	-.49600	.80680	-.03500	-.08740	-.02590	.48970	-.06590	-.08230	-.08370
3 480	-1 500	-.22550	.07310	.81330	.00780	-.08630	-.00750	.60980	-.06100	-.08140	-.08210
3 480	500	.01650	.37250	.79850	.00700	-.09830	-.00870	1.24740	-.05480	-.08130	-.08 00
3 480	2 600	.24270	.65940	.79470	.00580	-.12110	-.00020	.36180	-.05440	-.08473	-.08 90
3 480	4 640	.43683	1 14390	.77970	-.00560	-.10190	-.02430	.36040	-.05750	-.08330	-.08450
3 480	6 730	7 70	1 78500	.81030	-.01640	-.08340	-.04280	.39780	-.06010	-.08400	-.08470
3 480	8 820	1 11830	2 36630	.83870	-.05770	-.05020	-.05480	.46930	-.06710	-.08540	-.08440
3 480	10 750	1 55510	2 70480	.84280	-.08640	-.06680	-.05480	.44150	-.07070	-.08450	-.08470
3 480	550	.01590	.37160	.79720	.00720	-.09690	-.04490	1 31240	-.04540	-.08670	-.08320
GRADIENT	10771	19365	-.00355	.00278	-.00312	.07052	-.02482	-.00119	-.00249	-.00113	-.00113

RUN NO. 196/ 0 RN/L = 5.65 GRADIENT INTERVAL = -5.00/ 5 00

MACH	ALPHA	CNH	CLMM	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
4 450	-9 500	-1 38970	-1 36860	.71470	.00040	.13060	-.03310	.50300	-.04360	-.04960	-.04360
4 450	-7 550	-1 04210	-1 11290	.66930	.01430	.06700	.01570	.49630	-.04360	-.04950	-.04560
4 450	-5 520	-.72410	-.81440	.62950	.01520	.08370	.01710	.49160	-.04160	-.04330	-.04520
4 450	-3 520	-.51350	-.35820	.63510	-.00530	-.05790	-.03300	.52710	-.04120	-.04340	-.04440
4 450	-1 470	-.29070	1 1860	.53530	.03310	-.10070	.00490	.61670	-.03950	-.04780	-.04480
4 450	540	-.00180	.28810	.61400	.03400	-.13600	-.00740	.44140	-.03690	-.04780	-.04460
4 450	2 580	.40460	.66040	.61150	.01970	-.16830	.00150	.45020	-.03650	-.04990	-.04400
4 450	4 590	.43460	.93070	.61840	.00400	-.11040	-.01040	.40870	-.03890	-.05030	-.04480
4 450	6 540	.78150	1 35350	.61480	-.00610	.07440	-.02360	.44210	-.04080	-.05450	-.04620
4 450	8 670	1 07670	1 53130	.62850	-.06350	.04220	.01440	.45980	-.04220	-.05430	-.04620
4 450	10 540	1 45350	1 83620	.66320	-.09740	.00420	-.05000	.48030	-.04490	-.05440	-.04620
4 450	550	.02710	.38140	.62730	.03410	-.10130	-.03440	.56630	-.04600	-.05050	-.04800
GRADIENT	12848	15395	-.07282	.00027	-.01852	-.00089	-.02112	-.00249	-.00249	-.00249	-.00249

(R1H024) (10 JUL 75)

MSFC TWT604 (SABF) SRB WITH ALL PROTUBERANCES

PARAMETRIC DATA

REFERENCE DATA

SREF = 5030 SQ IN XMP = 5.7210 IN. XS BETA = .000 PHI = .000
 LREF = 8000 IN. YMP = .0000 IN. YS NOZZLE = .000
 BREF = 8000 IN. ZMP = .0000 IN. ZS
 SCALE = 0055

RUN NO. 195/ 0 RN/L = 5 64 GPADIENT INTERVAL -5 00/ 5.00

MACH	ALPHA	CMH	CLMH	CA	CYN	CYNP	CBL	XCP/L	CBP1	CBP2	CBP3
4.450	10 830	1.45050	1.69090	.70480	-.05770	107050	-.03610	+8830	-.04620	-.04970	-.04460
4.450	12 760	1.91570	1.82640	.73470	-.08150	11140	-.00170	50560	-.04660	-.05050	-.04620
4.450	14 790	2.34830	1.93690	.77690	-.07750	.09600	-.03010	51610	-.04680	-.05070	-.04700
4.450	16 790	2.78180	1.90470	.82530	-.08520	.10990	0510	52750	-.04760	-.05050	-.04720
4.450	18 830	3.36210	2.06440	.87350	-.10770	12410	-.0340	53330	-.04740	-.05030	-.04700
4.450	20 890	3.91280	2.13330	.930	-.11850	00670	-.02590	53890	-.04780	-.04970	-.04640
4.450	22 930	4.47500	2.35620	.9520	.06000	.16540	-.03720	54040	.4870	-.04870	-.04660
4.450	24 970	5.06960	2.66740	1.04620	-.12210	-.07470	-.04730	54040	970	-.04720	-.04620
4.450	27 040	5.64840	3.14360	1.07930	-.13270	.00210	-.05650	.53800	-.04990	-.04550	-.04600
4.450	29 080	6.17110	3.46800	1.14890	-.16210	01390	-.05000	.53750	-.04950	-.04160	-.04580
4.450	31 000	6.80770	3.81730	1.18840	-.17250	.00310	-.06650	53760	-.04950	-.03910	-.04520
4.450	20 890	3.91230	2.13220	.94510	-.11790	02560	-.04270	53230	-.04990	-.04560	-.04780
GRADIENT		00000	.00000	.00000	00000	00000	.00000	00000	00000	00000	00000

MSFC TMT604 (SABF) SRB WITH ALL PROTUBERANCES

R1H025) (10 JUL 75)

REFERENCE DATA

SREF = .5030 SQ. IN. XMRP = 5 7210 IN. XS
 LREF = 8000 IN. YMRP = .0000 IN. YS
 BREF = 8000 IN. ZMRP = .0000 IN. ZS
 SCALE = .0055

BETA = .000 PHI = .000
 NOZZLE = 000

PARAMETRIC DATA

MACH	ALPHA	CNH	CLHM	CA	CYM	CYMH	CBH	XCP/L	CBP1	CBP2	CBP3
3.480	31.890	7.41530	5.35350	1.23210	-17590	.05110	-.02860	52450	-.07820	-.07940	-.07580
3.480	33.880	8.09090	5.83260	1.27400	-19690	.04050	-.03500	52460	-.07820	-.07610	-.07310
3.480	35.380	8.78330	6.20690	1.29620	-23240	.01820	-.02920	52570	-.07770	-.07200	-.07200
3.480	38.070	9.52550	6.64170	1.33440	-.25160	.01940	-.04480	52650	-.07870	-.06720	-.07020
3.480	40.160	10.22040	6.89970	1.38510	-.26150	.03460	-.02940	52830	-.08250	-.06860	-.06970
3.480	42.250	10.94540	7.25870	1.43360	-.28680	.07360	-.04950	52930	-.08140	-.06240	-.07060
3.480	44.350	11.61230	7.74950	1.46260	-.30010	.07820	-.02950	52890	-.08100	-.05740	-.07510
3.480	46.450	12.28070	8.38030	1.44930	-.33170	.04020	-.05310	52770	-.08470	-.06100	-.07620
3.480	48.570	12.90150	9.09310	1.41520	-.35660	.00560	-.04630	52590	-.07470	-.05730	-.07570
3.480	50.660	13.47280	9.80190	1.38500	-.37380	.00160	-.04290	52400	-.07120	-.06650	-.07410
3.480	52.630	14.01820	10.46830	1.34940	-.41360	-.03190	-.06070	5240	-.07430	-.05460	-.07600
3.480	42.250	10.95110	7.26350	1.42900	-.29580	.03630	-.03030	52930	-.08070	-.06240	-.07130
GRADIENT		00000	00000	00000	00000	00000	00000	00000	00000	00000	00000

RUN NO. 183/ 0 RN/L = 6 69 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLHM	CA	CYM	CYMH	CBH	XCP/L	CBP1	CBP2	CBP3
4.450	31.360	6.83600	3.84460	1.17140	-.14570	-.04920	-.00010	53750	-.04300	-.03470	-.03890
4.450	33.300	7.44610	4.13430	1.22240	-.15450	-.00500	-.00230	53810	-.04380	-.03160	-.04870
4.450	35.350	8.13970	4.43560	1.26470	-.17880	-.02900	.00130	53830	-.04420	-.02860	-.03610
4.450	37.400	8.83350	4.74930	1.32150	-.19550	.03370	-.06810	53950	-.04560	-.02540	-.03850
4.450	39.430	9.50160	5.24900	1.38850	-.21190	.04530	-.01830	53940	-.04710	-.02280	-.03750
4.450	41.500	10.25930	5.28850	1.45750	-.23090	-.02800	-.01070	54130	-.04730	-.02300	-.03910
4.450	43.550	10.89290	6.02690	1.45650	-.26290	-.03290	-.03290	53820	-.04890	-.01600	-.04000
4.450	45.600	11.44460	6.72740	1.43860	-.27710	-.03790	-.01450	53540	-.04740	-.01820	-.03910
4.450	47.680	12.02540	7.38770	1.40870	-.30730	-.10000	-.01450	53330	-.04320	-.02500	-.03710
4.450	49.730	12.63340	8.11540	1.35220	-.30930	-.10610	-.20550	53120	-.04570	-.01760	-.03450
4.450	51.660	13.12780	8.79690	1.30330	-.33940	-.13330	-.01210	52830	-.04090	-.00780	-.03440
4.450	41.490	10.22730	5.25420	1.45730	-.24830	-.11230	01220	54140	-.04040	-.02110	-.03910
GRADIENT		00000	00000	00000	00000	.00000	00000	00000	00000	00000	00000

RUN NO. 182/ 0 RN/L = 5 14 GRADIENT INTERVAL = 5.00/ 5.00

TABLATED SOURCE DATA, MSFC THT 604, SA-BF

DATE 10 JUL 75

(RIH026) (10 JUL 75)

MSFC THT604 (SABF) SRB WITH ALL PROTUBERANCES

PARAMETRIC DATA

REFERENCE DATA

SREF = .5030 SQ IN. XMRP = 5.7210 IN. XS BETA = .000 PHI = .000
 LREF = 8000 IN. YMRP = .0000 IN. YS NOZZLE = .000
 BREF = 8000 IN. ZMRP = .0000 IN. ZS
 SCALE = .0055

RUN NO. 383/ 0 RN/L = 5.43 GRADIENT INTERVAL = -5.00/ 5 00

MACH	ALPHA	CMH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
401	70 370	12 38960	18.75610	-.07380	-6.14850	-4.24390	-.05870	.45990	.00000	.00000	.00000
401	72 250	12 10540	17.61520	-.00030	-4.97820	-3.58810	-.09600	.46470	.00000	.00000	.00000
401	74 250	12 17920	17.27000	.04810	-4.45090	-4.85380	-.06360	.46770	.00000	.00000	.00000
401	76 250	12.45860	17.15200	.06200	-4.29840	-3.63200	-.05970	.47110	.00000	.00000	.00000
401	78 240	12.62550	16.87820	.04460	-3.90300	-1.88560	-.03960	.47430	.00000	.00000	.00000
401	80 250	12.58030	16.32510	.05110	-3.42820	-.66220	-.03220	.47750	.00000	.00000	.00000
401	82.240	12.33040	15.59770	.11720	-3.07010	1.17030	-.03960	.48020	.00000	.00000	.00000
401	84 210	12.05590	13.16100	.41440	-3.03350	1.05420	-.03740	.49430	.00000	.00000	.00000
401	86 150	12.15330	9.87430	.70140	-3.00550	.78470	-.08460	51710	.00000	.00000	.00000
401	88 150	12.26220	8.82810	.66980	-3.18080	.47910	-.10280	52460	.00000	.00000	.00000
401	90 030	12.18770	7.86330	.57000	-3.18590	.02690	-.04320	53070	.00000	.00000	.00000
401	80 250	12.36680	16.00360	.04380	-3.46020	-.56030	-.02400	47780	.00000	.00000	.00000
GRADIENT		00000	00000	.00000	.00000	.00000	.00000	00000	.00000	.00000	.00000

RUN NO 382/ 0 RN/L = 5 10 GRADIENT INTERVAL = -5 00/ 5 00

MACH	ALPHA	CMH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
596	70 480	13.13230	20.82740	.01210	-3.44800	-2.67370	-.05680	.45400	.00000	.00000	.00000
596	72 370	13.25640	20.60050	.05200	-2.80360	-2.22060	-.09850	.45660	.00000	.00000	.00000
596	74 350	13.14730	19.48530	.07690	-2.40210	-1.47410	-.07970	.46280	.00000	.00000	.00000
596	76 340	13.11380	17.63930	.20280	-2.03500	-.61110	-.05100	.47360	.00000	.00000	.00000
596	78 300	12.99410	15.78640	.31390	-1.89460	-.23950	-.06600	.48430	.00000	.00000	.00000
596	80 270	13.02380	14.02550	.45070	-2.09030	1.08590	-.07280	.49550	.00000	.00000	.00000
596	82 240	13.04490	12.71380	.60720	-2.18830	.44170	-.07170	50390	.00000	.00000	.00000
596	84 220	13.09940	11.42920	.75010	-2.29420	.17650	-.03830	51220	.00000	.00000	.00000
596	86 190	13.22790	9.86750	84830	-2.25970	.09210	-.04650	52250	.00000	.00000	.00000
596	88 150	13.39490	8.45660	84610	-2.18750	-.04340	-.05580	53190	.00000	.00000	.00000
596	90 040	13.40580	7.28010	83490	-2.08310	-.05630	-.04030	52910	.00000	.00000	.00000
596	80 270	13.32890	14.00830	.45910	-2.02440	1.1820	-.05610	49570	.00000	.00000	.00000
GRADIENT		00000	00000	.00000	.00000	.00000	.00000	00000	.00000	.00000	.00000

MSFC TWT60 (SABF) SRB WITH ALL PROUBERANCES
 REFERENCE DATA
 5030 SQ. IN. XMRP = 5 7210 IN XS BETA = .000
 8000 IN YMRP = 0000 IN YS NOZZLE = 000
 8000 IN ZMRP = .0000 IN. ZS
 C055

PARAMETRIC DATA

RUN NO. 385/ 0 RN/L = 7 25 GRADIENT INTERVAL = -5.00/ 5 00

MACH	ALPHA	CMH	CLMH	CA	CYH	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
1.964	70.580	18.83380	14.65500	1.07880	-80390	-29460	-18730	51980	00000	00000	00000
1.964	72.460	19.24700	14.86430	1.02120	-83450	23690	-18920	52040	00000	00000	00000
1.964	74.500	19.51120	14.76800	96080	-85000	18990	-20210	52160	00000	00000	00000
1.964	76.460	19.74710	14.63880	89540	-83990	17620	-18770	52290	00000	00000	00000
1.964	78.480	19.90800	14.52430	-83360	-85010	10620	-15640	52410	00000	00000	00000
1.964	80.470	20.13640	14.29670	76090	-84990	05950	-20170	52540	00000	00000	00000
1.964	82.460	20.23540	14.06030	69910	-82550	-.05410	-19460	00000	00000	00000	00000
1.964	84.440	20.29910	13.80730	61750	-83610	-02780	-20850	00000	00000	00000	00000
1.964	86.430	20.36470	13.52070	54360	-82040	-06470	-19370	00000	00000	00000	00000
1.964	88.410	20.33030	13.15610	46170	-81900	-10660	-19790	00000	00000	00000	00000
1.964	90.390	20.32840	12.96770	38240	-81410	-11700	-19100	00000	00000	00000	00000
1.964	90.460	20.06690	14.25170	75640	-83000	06180	-20460	00000	00000	00000	00000
1.964	GRADIENT	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000

RUN NO. 386/ 0 RN/L = 5 33 GRADIENT INTERVAL = -5.00/ 5 00

MACH	ALPHA	CMH	CLMH	CA	CYH	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
2.740	70.420	18.26740	13.92900	1.11720	-66930	-06870	-17940	52120	00000	00000	00000
2.740	72.300	18.53970	14.05550	1.06460	-66540	-04730	-14800	52170	00000	00000	00000
2.740	74.300	18.94730	14.17320	1.00530	-67120	-07400	-15370	52230	00000	00000	00000
2.740	76.320	19.21110	14.11800	93930	-67610	-11400	-07540	52340	00000	00000	00000
2.740	78.310	19.43470	14.00300	87820	-68320	-13130	-14720	52460	00000	00000	00000
2.740	80.310	19.62540	13.84400	80750	-68600	-19210	-14610	00000	00000	00000	00000
2.740	82.320	19.76150	13.74000	70630	-69110	-20560	-16260	00000	00000	00000	00000
2.740	84.300	19.89610	13.57260	64180	-69680	-24160	-15820	00000	00000	00000	00000
2.740	86.290	20.00640	13.46140	55980	-69560	-26360	-16680	00000	00000	00000	00000
2.740	88.310	20.04470	13.27740	48190	-68200	-23890	-15880	00000	00000	00000	00000
2.740	90.390	20.03370	12.98180	39910	-67060	-28180	-15240	00000	00000	00000	00000
2.740	90.460	20.00000	13.62750	90710	-68480	-14740	-17360	00000	00000	00000	00000
2.740	GRADIENT	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000

ORIGINAL PAGE IS
 OF POOR QUALITY

MSFC TWT604 (SABF) SRB WITH ALL PROTOBERANKLES

(R1H027) (10 JUL 75)

REFERENCE DATA

SHEL = 5030 SG IN XMRP = 5.7210 IN :S
 SHEL = 5000 IN YMRP = 0000 IN :YS
 SHEL = 5000 IN ZMRP = 0000 IN :ZS
 SCALE = 0.755

BETA = 000 PHI = 000
 NOZZLE = 000

PARAMETRIC DATA

RUN NO. 2947 0 RML/L * 6 34 GRADIENT INTERVAL = -5 00/ 5 00

MACH	ALPHA	CMH	CLMH	CA	CYM	CYMH	CBL	XCP L	CBP1	CBP2	CBP3
900	09 600	14 87460	-2 14270	-30790	-41610	-48650	-04910	59540	00000	00000	00000
910	107 100	4 49660	-1 60570	-14180	-37840	-72030	-04000	59270	00000	00000	00000
920	124 100	15 21220	-76480	-60230	-36810	-93360	-01390	56750	00000	00000	00000
930	137 100	15 44620	33400	14310	-37410	-93500	-12900	49160	00000	00000	00000
940	150 100	16 61100	1 10130	31150	-47080	-85070	-14470	47460	00000	00000	00000
950	163 100	17 77600	3 17240	-43530	-40980	-83180	-01180	47100	00000	00000	00000
960	176 100	18 94100	4 24300	-41400	-40140	-81500	-01400	46740	00000	00000	00000
970	189 100	19 10600	5 31400	-39270	-39300	-79820	-01620	46380	00000	00000	00000
980	202 100	19 17100	6 38500	-37140	-38460	-78140	-01840	46020	00000	00000	00000
990	215 100	19 23600	7 45600	-35010	-37620	-76460	-02060	45660	00000	00000	00000
1000	228 100	19 30100	8 52700	-32880	-36800	-74780	-02280	45300	00000	00000	00000
1010	241 100	19 36600	9 59800	-30750	-35980	-73100	-02500	44940	00000	00000	00000
1020	254 100	19 43100	10 66900	-28620	-35160	-71420	-02720	44580	00000	00000	00000
1030	267 100	19 49600	11 74000	-26490	-34340	-69740	-02940	44220	00000	00000	00000
1040	280 100	19 56100	12 81100	-24360	-33520	-68060	-03160	43860	00000	00000	00000
1050	293 100	19 62600	13 88200	-22230	-32700	-66380	-03380	43500	00000	00000	00000
1060	306 100	19 69100	14 95300	-20100	-31880	-64700	-03600	43140	00000	00000	00000
1070	319 100	19 75600	15 102400	-17970	-31060	-63020	-03820	42780	00000	00000	00000
1080	332 100	19 82100	16 111500	-15840	-30240	-61340	-04040	42420	00000	00000	00000
1090	345 100	19 88600	17 120600	-13710	-29420	-59660	-04260	42060	00000	00000	00000
1100	358 100	19 95100	18 129700	-11580	-28600	-57980	-04480	41700	00000	00000	00000
1110	371 100	19 101600	19 138800	-9450	-27780	-56300	-04700	41340	00000	00000	00000
1120	384 100	19 110700	20 147900	-7320	-26960	-54620	-04920	40980	00000	00000	00000
1130	397 100	19 119800	21 157000	-5190	-26140	-52940	-05140	40620	00000	00000	00000
1140	410 100	19 128900	22 166100	-3060	-25320	-51260	-05360	40260	00000	00000	00000
1150	423 100	19 138000	23 175200	-930	-24500	-49580	-05580	39900	00000	00000	00000
1160	436 100	19 147100	24 184300	1180	-23680	-47900	-05800	39540	00000	00000	00000
1170	449 100	19 156200	25 193400	3050	-22860	-46220	-06020	39180	00000	00000	00000
1180	462 100	19 165300	26 202500	4920	-22040	-44540	-06240	38820	00000	00000	00000
1190	475 100	19 174400	27 211600	6790	-21220	-42860	-06460	38460	00000	00000	00000
1200	488 100	19 183500	28 220700	8660	-20400	-41180	-06680	38100	00000	00000	00000
1210	501 100	19 192600	29 229800	10530	-19580	-39500	-06900	37740	00000	00000	00000
1220	514 100	19 201700	30 238900	12400	-18760	-37820	-07120	37380	00000	00000	00000
1230	527 100	19 210800	31 248000	14270	-17940	-36140	-07340	37020	00000	00000	00000
1240	540 100	19 219900	32 257100	16140	-17120	-34460	-07560	36660	00000	00000	00000
1250	553 100	19 229000	33 266200	18010	-16300	-32780	-07780	36300	00000	00000	00000
1260	566 100	19 238100	34 275300	19880	-15480	-31100	-08000	35940	00000	00000	00000
1270	579 100	19 247200	35 284400	21750	-14660	-29420	-08220	35580	00000	00000	00000
1280	592 100	19 256300	36 293500	23620	-13840	-27740	-08440	35220	00000	00000	00000
1290	605 100	19 265400	37 302600	25490	-13020	-26060	-08660	34860	00000	00000	00000
1300	618 100	19 274500	38 311700	27360	-12200	-24380	-08880	34500	00000	00000	00000
1310	631 100	19 283600	39 320800	29230	-11380	-22700	-09100	34140	00000	00000	00000
1320	644 100	19 292700	40 329900	31100	-10560	-21020	-09320	33780	00000	00000	00000
1330	657 100	19 301800	41 339000	32970	-9740	-19340	-09540	33420	00000	00000	00000
1340	670 100	19 310900	42 348100	34840	-8920	-17660	-09760	33060	00000	00000	00000
1350	683 100	19 320000	43 357200	36710	-8100	-15980	-09980	32700	00000	00000	00000
1360	696 100	19 329100	44 366300	38580	-7280	-14300	-10200	32340	00000	00000	00000
1370	709 100	19 338200	45 375400	40450	-6460	-12620	-10420	31980	00000	00000	00000
1380	722 100	19 347300	46 384500	42320	-5640	-10940	-10640	31620	00000	00000	00000
1390	735 100	19 356400	47 393600	44190	-4820	-9260	-10860	31260	00000	00000	00000
1400	748 100	19 365500	48 402700	46060	-4000	-7580	-11080	30900	00000	00000	00000
1410	761 100	19 374600	49 411800	47930	-3180	-5900	-11300	30540	00000	00000	00000
1420	774 100	19 383700	50 420900	49800	-2360	-4220	-11520	30180	00000	00000	00000
1430	787 100	19 392800	51 430000	51670	-1540	-2540	-11740	29820	00000	00000	00000
1440	800 100	19 401900	52 439100	53540	-720	-860	-11960	29460	00000	00000	00000
1450	813 100	19 411000	53 448200	55410	100	720	-12180	29100	00000	00000	00000
1460	826 100	19 420100	54 457300	57280	880	1540	-12400	28740	00000	00000	00000
1470	839 100	19 429200	55 466400	59150	1760	2360	-12620	28380	00000	00000	00000
1480	852 100	19 438300	56 475500	61020	2540	3180	-12840	28020	00000	00000	00000
1490	865 100	19 447400	57 484600	62890	3320	4000	-13060	27660	00000	00000	00000
1500	878 100	19 456500	58 493700	64760	4100	4820	-13280	27300	00000	00000	00000
1510	891 100	19 465600	59 502800	66630	4880	5640	-13500	26940	00000	00000	00000
1520	904 100	19 474700	60 511900	68500	5660	6460	-13720	26580	00000	00000	00000
1530	917 100	19 483800	61 521000	70370	6440	7280	-13940	26220	00000	00000	00000
1540	930 100	19 492900	62 530100	72240	7220	8100	-14160	25860	00000	00000	00000
1550	943 100	19 502000	63 539200	74110	8000	8920	-14380	25500	00000	00000	00000
1560	956 100	19 511100	64 548300	75980	8780	9740	-14600	25140	00000	00000	00000
1570	969 100	19 520200	65 557400	77850	9560	10560	-14820	24780	00000	00000	00000
1580	982 100	19 529300	66 566500	79720	10340	11380	-15040	24420	00000	00000	00000
1590	995 100	19 538400	67 575600	81590	11120	12200	-15260	24060	00000	00000	00000
1600	1008 100	19 547500	68 584700	83460	11900	13020	-15480	23700	00000	00000	00000
1610	1021 100	19 556600	69 593800	85330	12680	13840	-15700	23340	00000	00000	00000
1620	1034 100	19 565700	70 602900	87200	13460	14660	-15920	22980	00000	00000	00000
1630	1047 100	19 574800	71 612000	89070	14240	15480	-16140	22620	00000	00000	00000
1640	1060 100	19 583900	72 621100	90940	15020	16300	-16360	22260	00000	00000	00000
1650	1073 100	19 593000	73 630200	92810	15800	17120	-16580	21900	00000	00000	00000
1660	1086 100	19 602100	74 639300	94680	16580	17940	-16800	21540	00000	00000	00000
1670	1099 100	19 611200	75 648400	96550	17360	18760	-17020	21180	00000	00000	00000
1680	1112 100	19 620300	76 657500	98420	18140	19580	-17240	20820	00000	00000	00000
1690	1125 100	19 629400	77 666600	100290	18920	20400	-17460	20460	00000	00000	00000
1700	1138 100	19 638500	78 675700	102160	19700	21220	-17680	20100	00000	00000	00000
1710	1151 100	19 647600	79 684800	104030	20480	22040	-17900	19740	00000	00000	00000
1720	1164 100	19 656700	80 693900	105900	21260	22860	-18120	19380	00000	00000	00000
1730	1177 100	19 665800	81 703000	107770	22040	23680	-18340	19020	00000	00000	00000
1740	1190 100	19 674900	82 712100	109640	22820	24500	-18560	18660	00000	00000	00000
1750	1203 100	19 684000	83 721200	111510	23600	25320	-18780	18300	00000	00000	00000
1760	1216 100	19 693100	84 730300	113380	24380	26140	-19000	17940	00000	00000	00000
1770	1229 100	19 702200	85 739400	115250	25160	26960	-19220				

TABLATED SOURCE DATA. MSFC INT 604. SA-3F
 MSFC INT604 (SABF) SRB WITH ALL PROTOXERANKES

IR: P0271 1 10 JUL 75

PARAMETRIC DATA

MACH	ALPHA	CM	CLMM	CA	CYM	CYM	CBL	XCP/	CBP1	CBP2	CBP3
1.949	109.070	18.09710	9.75980	-56170	-21520	.06020	-1.2500	53940	.00000	.00000	.00000
1.949	107.950	18.54950	10.12920	-42970	-20850	02680	-12480	53880	.00000	.00000	.00000
1.949	105.500	18.57630	10.59280	-30110	-18840	04360	-1.3400	53780	.00000	.00000	.00000
1.949	103.960	19.39380	11.10390	-18620	-18410	02400	-1.3540	53670	.00000	.00000	.00000
1.949	101.970	19.81430	11.53220	-06560	-18430	00370	-1.2580	53590	.00000	.00000	.00000
1.949	99.980	20.9110	11.97720	05780	-18040	.02970	-1.4170	53500	.00000	.00000	.00000
1.949	98.000	20.34460	12.55290	17870	-18920	.01740	-1.2490	53300	.00000	.00000	.00000
1.949	96.020	20.53750	13.12170	29170	-15850	02500	-1.13350	53120	.00000	.00000	.00000
1.949	94.040	20.78420	13.65600	39960	-11550	05860	-1.3390	52970	.00000	.00000	.00000
1.949	92.060	20.74140	14.10000	50840	-15970	10350	-1.3080	52840	.00000	.00000	.00000
1.949	90.160	21.04730	14.39020	58810	-15670	07200	-1.2220	52760	.00000	.00000	.00000
1.949	88.420	19.44650	12.10080	05370	-17550	02140	-1.1910	52390	.00000	.00000	.00000
GRADIENT		00000	00000	00000	00000	00000	00000	00000	00000	00000	00000

REFERENCE DATA

5030 SAJ IN XMRP = 5 7210 IN XS
 8000 IN YMRP = 0000 IN YS
 4100 IN ZMRP = 0000 IN ZS
 SCALE = 0055

RUN NO 301/ 0 RN/L = 7 18 GRADIENT INTERVAL = -5.00/ 5.00

RUN NO. 302/ 0 RN/L = 5.26 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CM	CLMM	CA	CYM	CYM	CBL	XCP/	CBP1	CBP2	CBP3
2.740	109.950	17.57260	9.92750	52210	-16960	-02450	-0.7830	53730	.00000	.00000	.00000
2.740	108.030	18.04170	10.36010	-42650	-16680	02620	-0.9480	53650	.00000	.00000	.00000
2.740	106.040	18.43340	10.86130	-27580	-17300	-0.1580	-0.320	53530	.00000	.00000	.00000
2.740	104.040	18.82120	11.29710	-15320	-17950	00250	-0.1930	53440	.00000	.00000	.00000
2.740	102.040	19.15740	11.69530	-03310	-18550	02180	-0.0820	53360	.00000	.00000	.00000
2.740	100.040	19.44020	12.05400	08320	-18370	02250	-0.4020	53270	.00000	.00000	.00000
2.740	98.040	19.67510	12.39010	18160	-17230	-0.0540	-0.7950	53140	.00000	.00000	.00000
2.740	96.040	19.91700	12.70990	28990	-14390	00230	-0.6900	52940	.00000	.00000	.00000
2.740	94.040	20.12380	13.04530	38960	-13080	00290	-1.4260	52850	.00000	.00000	.00000
2.740	92.040	20.28300	13.36150	47240	-13630	03610	-0.9000	52780	.00000	.00000	.00000
2.740	90.040	20.28340	14.04790	55630	-14980	02450	-0.7800	52640	.00000	.00000	.00000
2.740	100.040	19.42850	12.15880	09310	-17420	00500	-0.6100	52630	.00000	.00000	.00000
GRADIENT		00000	00000	00000	00000	00000	00000	00000	00000	00000	00000

PARAMETRIC DATA

BETA = 000 PHI = 000
 NOZZLE = 000

MSFC THT604 (SABF) SRB WITH ALL PROTUBERANCES

PARAMETRIC DATA

REFERENCE DATA

SREF = 5030 SQ. IN. XMRP = 5.7210 IN. XS BETA = .000 PHI = .000
 LREF = 8000 IN. YMRP = .0000 IN. YS NOZZLE = .000
 BREF = .8000 IN. ZMRP = .0000 IN. ZS
 SCALE = .0055

RUN NO. 297/ 0 RN/L = 6.42 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
.900	129.200	10.97980	-6.24760	-1.77240	-1.93530	-1.24610	-1.12170	.62980	.00000	.00000	.00000
.900	127.270	11.59670	-6.44480	-1.65750	-1.77130	-1.35400	-1.14220	.52870	.00000	.00000	.00000
.900	125.230	12.16510	-6.50690	-1.53150	-1.70510	-1.36660	-1.10180	.62700	.00000	.00000	.00000
.900	123.220	12.71750	-6.43290	-1.37780	-1.45860	-1.26100	-.09930	.62460	.00000	.00000	.00000
.900	121.220	13.12370	-5.93230	-1.22400	-1.25820	-1.18860	-.08670	.62020	.00000	.00000	.00000
.900	119.230	13.44240	-5.41230	-1.10530	-.99940	-.62370	-.06890	.61620	.00000	.00000	.00000
.900	117.250	13.87650	-4.93110	-.93250	-.86720	-.26420	-.07360	.61270	.00000	.00000	.00000
.900	115.270	14.14880	-4.21360	-.63970	-.63970	-.20130	-.06740	.60770	.00000	.00000	.00000
.900	113.260	14.59140	-3.45130	-.58420	-.51570	.05510	-.06300	.60270	.00000	.00000	.00000
.900	111.290	14.81320	-2.90830	-.41000	-.44720	.25780	-.05790	.59940	.00000	.00000	.00000
.900	109.390	15.04810	-2.26990	-.23350	-.42340	.39590	-.05490	.59570	.00000	.00000	.00000
.900	110.220	13.54520	-5.37570	-1.11870	-.93670	-.65830	-.08410	.61570	.00000	.00000	.00000
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 296/ 0 RN/L = 6.80 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
1.199	129.250	13.88910	-.95470	-1.96660	-1.12280	-1.02320	-1.17670	.57780	.00000	.00000	.00000
1.199	127.310	14.42960	1.00440	-1.83070	-1.13390	-1.02680	-1.7220	.57770	.00000	.00000	.00000
1.199	125.300	14.97920	1.33640	-1.69270	-1.12090	-1.00200	-1.4990	.57610	.00000	.00000	.00000
1.199	123.300	15.50470	1.79550	-1.57260	-1.09300	-.96750	-1.4200	.57390	.00000	.00000	.00000
1.199	121.310	16.02500	2.46370	-1.44070	-1.04630	-.86240	-1.4680	.57080	.00000	.00000	.00000
1.199	119.340	16.50420	3.63770	-1.34830	-1.02130	-.57260	-1.12540	.56540	.00000	.00000	.00000
1.199	117.360	17.03190	4.64990	-1.18070	-.98230	-.42240	-.14230	.56110	.00000	.00000	.00000
1.199	115.370	17.57870	5.26510	-1.01780	-.94420	-.42140	-.13270	.55890	.00000	.00000	.00000
1.199	113.370	17.97520	5.82890	-.85560	-.92630	-.44720	-.14590	.54690	.00000	.00000	.00000
1.199	111.380	18.32450	6.26820	-.68340	-.89490	-.40680	-.11880	.55550	.00000	.00000	.00000
1.199	109.480	18.59470	6.54710	-.53010	-.86660	-.37330	-.12460	.55460	.00000	.00000	.00000
1.199	119.350	16.37790	3.70050	-1.33250	-.98680	-.54830	-.14040	.56490	.00000	.00000	.00000
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ORIGINAL PAGE IS OF POOR QUALITY

(RIH028) (10 JUL 75)

MSFC TWT604 (SABF) SRB WITH ALL PROTRUSANCES

REFERENCE DATA

SREF = .5030 SQ. IN. XMRP = 5.7210 IN. XS BETA = .000 PHI = .003
 LREF = 8000 IN. YMRP = .0000 IN. YS NOZZLE = .000
 BREF = 8000 IN. ZMRP = .0000 IN. ZS
 SCALE = 0055

RUN NO. 300/ 0 RN/L = 7.17 GRADIENT INTERVAL = -5.00/ 5 00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYNM	CBL	XCP/L	CBP1	CBP2	CBP3
1.953	129.400	12.94420	4.98200	-1.91380	-2.3530	-1.08090	-1.11690	.55200	.00000	.00000	.00000
1.953	127.500	13.58440	5.51300	-1.80410	-2.2320	-1.04580	-1.10670	.55030	.00000	.00000	.00000
1.953	125.480	14.27780	5.93260	-1.69080	-2.3410	-1.04510	-1.12670	.54950	.00000	.00000	.00000
1.953	123.470	14.92870	6.31410	-1.57060	-2.3350	-1.05370	-1.14800	.54890	.00000	.00000	.00000
1.953	121.490	15.42940	7.13400	-1.44660	-2.1890	-1.03690	-1.17430	.54530	.00000	.00000	.00000
1.953	119.490	16.03110	7.58450	-1.28960	-1.9780	-1.00830	-1.13140	.54480	.00000	.00000	.00000
1.953	117.470	16.70640	7.86700	-1.17340	-2.0690	-1.02630	-1.13570	.54500	.00000	.00000	.00000
1.953	115.450	17.36040	8.18170	-1.08580	-2.0020	-1.04700	-1.14700	.54430	.00000	.00000	.00000
1.953	113.430	17.75570	8.61810	-1.02100	-1.9020	-1.04550	-1.170	.54380	.00000	.00000	.00000
1.953	111.450	18.22110	9.04960	-0.97040	-1.8040	-1.04350	-1.13980	.54290	.00000	.00000	.00000
1.953	109.550	18.69860	9.51410	-0.93270	-1.8730	-1.03260	-1.14290	.54150	.00000	.00000	.00000
1.953	119.500	15.70260	7.66230	-1.28110	-1.18410	.00440	-1.17060	.54410	.00000	.00000	.00000
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 303/ 0 RN/L = 5.25 GRADIENT INTERVAL = -5.00/ 5 00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYNM	CBL	XCP/L	CBP1	CBP2	CBP3
2.740	129.550	12.23110	5.26290	-2.00170	-1.13610	-1.04140	-0.9380	.54830	.00000	.00000	.00000
2.740	127.650	12.85480	5.83390	-1.88380	-1.4480	-1.0260	-0.9300	.54630	.00000	.00000	.00000
2.740	125.650	13.53180	6.37280	-1.74830	-1.13540	-1.0050	-1.0910	.54490	.00000	.00000	.00000
2.740	123.650	14.03250	6.85320	-1.60070	-1.5930	-1.01840	-1.0510	.54350	.00000	.00000	.00000
2.740	121.640	14.69270	7.36580	-1.45000	-1.15770	-1.01870	-1.07650	.54250	.00000	.00000	.00000
2.740	119.640	15.28200	7.80050	-1.28290	-1.16430	-1.01050	-1.06770	.54170	.00000	.00000	.00000
2.740	117.640	15.87500	8.23190	-1.12070	-1.15280	-1.02020	-1.0540	.54100	.00000	.00000	.00000
2.740	115.630	16.43020	8.60030	-1.07330	-1.14120	-1.01130	-1.09100	.54070	.00000	.00000	.00000
2.740	113.630	16.93170	9.07360	-1.00970	-1.15600	-1.03360	-1.07270	.53960	.00000	.00000	.00000
2.740	111.630	17.40030	9.46000	-0.94920	-1.16150	-1.03620	-1.04540	.53900	.00000	.00000	.00000
2.740	109.730	17.93340	9.85070	-0.90320	-1.16780	-1.00600	-1.07830	.53830	.00000	.00000	.00000
2.740	119.640	15.26550	7.75270	-1.29040	-1.16200	-1.07460	-1.08440	.54190	.00000	.00000	.00000
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

PARAMETRIC DATA

(R1)H028) (10 JUL 75)

MSFC TWT604 (SABF) SRB WITH ALL PROTUBERANCES

PARAMETRIC DATA

REFERENCE DATA

SREF = 5030 SQ. IN. XMRP = 5.7210 IN. XS BETA = .000 PHI = .000
 LREF = 8000 IN. YMRP = .0000 IN. YS NOZZLE = .000
 BREF = 8000 IN. ZMRP = .0000 IN. ZS
 SCALE = .0055

RUN NO. 304/ 0 RN/L = 7.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
3.480	127.630	12.40570	5.29790	-1.88200	-1.10810	-0.02920	-0.07670	.54850	.00000	.00000	.00000
3.480	125.630	13.00320	5.76840	-1.74930	-0.09900	-0.01870	-0.07540	.54710	.00000	.00000	.00000
3.480	123.630	13.60760	6.24090	-1.61110	-0.12140	-0.03440	-0.05910	.54600	.00000	.00000	.00000
3.480	121.630	14.17630	6.76920	-1.44240	-0.12940	-0.01720	-0.05740	.54440	.00000	.00000	.00000
3.480	119.620	14.72260	7.22130	-1.27460	-0.12730	-0.03730	-0.04750	.54350	.00000	.00000	.00000
3.480	117.620	15.38470	7.65770	-1.11430	-0.13420	-0.01140	-0.06230	.54280	.00000	.00000	.00000
3.480	115.620	15.92660	8.09700	-0.94960	-0.12400	-0.02930	-0.04780	.54190	.00000	.00000	.00000
3.480	113.610	16.39450	8.48430	-0.79820	-0.12160	-0.02070	-0.07180	.54120	.00000	.00000	.00000
3.480	111.610	16.84550	8.88730	-0.62030	-0.11320	-0.02990	-0.05720	.54030	.00000	.00000	.00000
3.480	109.720	17.31210	9.39270	-0.48320	-0.12650	-0.02250	-0.06520	.53910	.00000	.00000	.00000
3.480	119.620	14.78030	7.20630	-1.28000	-0.04680	-0.00090	-0.07690	.54360	.00000	.00000	.00000
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

(R1)H029) (10 JUL 75)

MSFC TWT604 (SABF) SRB WITH ALL PROTUBERANCES

PARAMETRIC DATA

REFERENCE DATA

SREF = 5030 SQ. IN. XMRP = 5.7210 IN. XS BETA = .000 PHI = .000
 LREF = 8000 IN. YMRP = .0000 IN. YS NOZZLE = .000
 BREF = 8000 IN. ZMRP = .0000 IN. ZS
 SCALE = .0055

RUN NO. 45/ 0 RN/L = 5.16 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
3.90	148.800	4.23560	.09160	-2.00660	-1.88620	-4.56570	-0.07560	.58160	-.16440	-.09910	-.05270
3.90	146.820	5.26950	.71540	-2.01520	-2.99090	-5.12150	-0.07600	.57230	-.32630	-.14750	-.10340
3.90	144.780	5.94070	1.02990	-2.01560	-3.56970	-5.50940	-0.08740	.56920	-.42960	-.18400	-.15380
3.90	142.760	6.46930	.91870	-1.94740	-3.84740	-4.80900	-0.10050	.57180	-.40910	-.21340	-.15910
3.90	140.740	6.71610	.67770	-1.91000	-4.16450	-3.92440	-0.11270	.57520	-.49030	-.24700	-.15620
3.90	138.690	6.36190	.23850	-1.84320	-4.68520	-4.60960	-0.12000	.58060	-.42480	-.26840	-.21680
3.90	136.660	7.28780	.20730	-1.79130	-5.15080	-4.75660	-0.11150	.58570	-.41360	-.26980	-.23820
3.90	134.640	7.98270	.15480	-1.75820	-5.39940	-3.72960	-0.10960	.58170	-.50570	-.33790	-.23820
3.90	132.550	8.40010	1.5750	-1.70060	-5.89980	-2.58150	-0.12580	.58190	-.55490	-.35680	-.23570
3.90	130.450	10.05530	-4.7760	-1.61100	-5.87020	-0.10740	-0.10740	.58720	-.60200	-.41150	-.24760
3.90	128.510	10.99740	-28260	-1.55450	-6.27930	.93090	-0.13330	.54550	-.78110	-.50000	-.27330
3.90	139.690	7.03370	.20090	-1.86810	-4.78780	-4.56480	-0.12310	.58100	-.48690	-.27630	-.21040
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

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MSFC TH1604 (SA8F) SRB WITH ALL PROTCBERANCES

R1HQ29) (10 JUL 75 :

REFERENCE DATA

SREF = 5030 SQ IN XMRP = 5 7210 IN XS
 LREF = 8000 IN YMRP = 0000 IN. YS
 BRUF = 8000 IN ZMRP = 0000 IN. ZS
 SCALE = 0.055

PARAMETRIC DATA

BETA = 000
 NOZZLE = 000
 PHI = 000

RUN NO. 25/ 1 RN/L = 5 16 GRADIENT INTERVAL = 5 00/ 5.00

MACH	ALPHA	CLM1	CLM2	CA	CYM	CYH	CYH1	CBL	YCP/L	CBP1	CBP2	CBP3
2 740	149 030	1 30580	-2 75310	-2 75310	-25700	-03210	00000	06720	56630	00000	00000	00000
2 740	147 030	1 52790	-2 74650	-2 74650	-27740	-03930	00000	06090	56920	00000	00000	00000
2 740	144 030	1 66810	-2 71960	-2 71960	-27080	-05200	00000	06140	56530	00000	00000	00000
2 740	142 030	1 85130	-2 44260	-2 44260	-29080	-07920	00000	06240	56490	00000	00000	00000
2 740	140 030	2 30750	-2 39700	-2 39700	-31180	-04540	00000	06430	56500	00000	00000	00000
2 740	138 030	2 19200	-2 24430	-2 24430	-32280	-07110	00000	06420	56490	00000	00000	00000
2 740	136 030	2 24840	-2 30840	-2 30840	-33320	-04990	00000	06790	56550	00000	00000	00000
2 740	134 030	2 44120	-2 23670	-2 23670	-34430	-07290	00000	06990	56920	00000	00000	00000
2 740	132 030	2 73420	-2 19750	-2 19750	-35710	-07930	00000	07240	56920	00000	00000	00000
2 740	130 030	3 13390	-2 11000	-2 11000	-37170	-07430	00000	07430	56960	00000	00000	00000
2 740	128 030	3 53320	-2 11000	-2 11000	-38770	-04100	00000	07430	56960	00000	00000	00000
2 740	126 030	4 03290	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	124 030	4 63260	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	122 030	5 33230	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	120 030	6 13200	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	118 030	7 03170	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	116 030	8 03140	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	114 030	9 13110	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	112 030	10 33080	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	110 030	11 63050	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	108 030	13 03020	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	106 030	14 63000	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	104 030	16 42980	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	102 030	18 42960	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	100 030	20 62940	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	98 030	23 22920	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	96 030	26 22900	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	94 030	29 62880	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	92 030	33 42860	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	90 030	37 62840	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	88 030	42 22820	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	86 030	47 22800	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	84 030	52 62780	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	82 030	58 42760	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	80 030	64 62740	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	78 030	71 22720	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	76 030	78 22700	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	74 030	85 62680	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	72 030	93 42660	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	70 030	101 62640	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	68 030	110 22620	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	66 030	119 22600	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	64 030	128 62580	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	62 030	138 42560	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	60 030	148 62540	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	58 030	159 22520	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	56 030	170 22500	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	54 030	181 62480	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	52 030	193 42460	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	50 030	205 62440	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	48 030	218 22420	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	46 030	231 62400	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	44 030	245 42380	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	42 030	259 62360	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	40 030	274 22340	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	38 030	289 22320	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	36 030	304 62300	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	34 030	320 22280	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	32 030	336 22260	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	30 030	352 62240	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	28 030	369 22220	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	26 030	386 22200	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	24 030	403 62180	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	22 030	421 22160	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	20 030	439 22140	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	18 030	457 62120	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	16 030	476 22100	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	14 030	495 22080	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	12 030	514 22060	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	10 030	533 62040	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	8 030	552 22020	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	6 030	571 62000	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	4 030	590 21980	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000
2 740	2 030	609 21960	-2 11000	-2 11000	-38060	-04100	00000	07430	56960	00000	00000	00000

RUN NO. 57/ 0 RN/L = 5 70 GRADIENT INTERVAL = 5 00/ 5.00

MACH	ALPHA	CLM1	CLM2	CA	CYM	CYH	CYH1	CBL	YCP/L	CBP1	CBP2	CBP3
4 450	148 040	1 84440	-2 67400	-2 67400	-10680	-04740	00000	07600	56950	00000	00000	00000
4 450	146 040	1 84440	-2 49750	-2 49750	-10670	-06870	00000	06240	56940	00000	00000	00000
4 450	144 040	1 97580	-2 31530	-2 31530	-10370	-07190	00000	07330	56930	00000	00000	00000
4 450	142 040	2 16100	-2 11000	-2 11000	-12530	-07580	00000	07430	56920	00000	00000	00000
4 450	140 040	2 25740	-2 07480	-2 07480	-12700	-06870	00000	07430	56920	00000	00000	00000
4 450	138 040	2 34630	-2 21190	-2 211								

(IR14030) (10 JUL 75)

MSFC THT60% (SABF) SRB WITH ALL PROTOBERANCES

PARAMETRIC DATA

REFERENCE DATA

SREF = 5030 SQ IN. XMRP = 5 7210 IN. XS BETA = .000 PHI = .000
 LREF = 8000 IN. YMRP = .0000 IN. YS NOZZLE = .000
 BRREF = 8000 IN. ZMRP = .0000 IN. ZS
 SCALE = 0055

MACH	ALPHA	CNM	CLMM	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
394	189 070	73950	-99310	-1 50010	-0 7560	.11790	-0 3090	.69290	04400	.08960	08990
394	167 150	98430	-1 08470	-1 55530	-10420	-1 10640	-0 1970	67330	04160	06110	07930
394	145 110	134300	-1 11660	-1 63610	-11800	-2 26530	-0 3930	65120	02800	06782	05540
394	163 100	1 68330	-1 10140	-1 67600	-18060	-58090	-0 1760	63670	02640	07600	04020
394	161 090	2 04010	-1 96860	-1 73620	-24460	-1 96760	-0 3670	.62210	03410	-0 3420	04650
394	159 060	2 37580	-78970	-1 77920	-33880	-1 48110	-0 5250	61050	01800	-0 1030	02780
394	157 040	2 2990	-66990	-1 85460	-48490	-2 16920	-0 3930	60340	-0 1020	03550	-0 3090
394	155 010	3 12360	-54470	-1 91790	-80030	-3 05480	-0 5250	59760	-0 4110	00450	-0 3410
394	152 970	3 47450	-24200	-1 95670	-1 06950	-3 59480	-0 5430	58910	-0 5440	-0 0910	-0 34650
394	150 950	3 94760	.11290	-1 95770	-1 54610	-4 14590	-0 5720	58100	-1 3780	-0 6730	-0 34510
394	149 020	4 16770	.09000	-1 93380	-1 66540	-4 23590	-0 9820	58180	-2 2520	-1 0670	-0 34660
394	149 050	2 5470	-1 75130	-1 19350	-1 35560	-1 55190	-0 1170	60910	-0 1170	-0 3150	-0 31170
	GRADIENT	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000

RUN NO. 93/ 0 RN/L = 5.19 GRADIENT INTERVAL = -5 00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
596	169 340	74650	-92680	-1 56560	00980	.22100	00180	68460	01460	08880	09330
596	167 110	1 07300	-1 06390	-1 65010	-08700	05460	-0 3500	66430	01270	08960	09410
596	165 050	1 42780	-1 23070	-1 71310	-15470	-24540	-0 3620	65370	01460	08240	09050
596	163 030	1 93830	-1 20480	-1 77030	-22360	-62490	-0 3030	63680	04210	07540	06730
596	160 390	2 23570	-1 32170	-1 84040	-50780	-1 17880	-0 1240	63160	01800	06580	04140
596	158 950	2 62230	-1 29340	-1 86590	-92270	-1 48120	-0 1590	62360	-0 0270	05290	03840
596	156 930	2 94510	-1 10850	-1 98980	-82920	-2 31840	-0 3870	61430	-0 0270	04950	00180
596	154 900	3 31090	-87210	-1 98980	-1 02290	-3 08500	-0 2370	60490	-0 1790	02320	-0 0270
596	152 840	3 64370	-41000	-2 04920	-1 52640	-4 04320	-0 4200	59200	-0 7120	-0 3410	-0 2690
596	150 790	4 61640	42440	-2 01300	-2 50190	-5 05400	-0 6420	57590	-1 8620	-0 7910	-0 34400
596	149 000	5 14190	31450	-2 03500	-2 83600	-4 60400	-0 3710	57840	-2 3050	-1 0280	-0 04030
596	147 050	2 62220	-1 37370	-1 88280	-94110	-1 44580	-0 2460	62600	-0 0970	03980	02630
	GRADIENT	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000

RUN NO. 94/ 0 RN/L = 4.94 GRADIENT INTERVAL = -5 00/ 5.00

ORIGINAL PAGE IS
OF POOR QUALITY

(RIH030) (10 JUL 75)

MSFC TWT604 (SABF) SRB WITH ALL PROTRUDANCES

PARAMETRIC DATA

REFERENCE DATA

SREF = 5030 SQ IN XMR = 5 7210 IN. Z
 LREF = 8000 IN YMRP = .0000 IN. YS
 BREF = 8000 IN ZMRP = .0000 IN. Z
 SCALF = 0055

BETA = .000 PHI = .000
NOZZLE =

GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
1 963	168 830	1 07460	-2 59170	-0.00540	08680	00060	65790	-09560	-10660	-10020
1 963	168 830	1 50460	-2 59580	04550	.22120	.00250	63720	-11040	-11570	-11610
1 963	164 870	2 03390	-2 63960	-02760	-03810	-01470	62990	-12270	-12420	-13100
1 963	162 920	2 61610	-2 69190	-07840	-31010	-01440	62350	-13070	-13110	-14280
1 963	160 930	3 27690	-2 71780	-22010	-66030	-02050	60820	-14490	-14600	-16150
1 963	158 970	3 99790	-2 76720	-30850	-1 04000	-02800	59570	-16400	-16660	-18020
1 963	156 130	4 70390	-2 77200	-37330	-1 11830	-03700	58590	-18980	-18030	-18520
1 963	154 000	5 39340	-2 81470	-35570	-83890	-04790	58170	-21220	-18770	-19220
1 963	149 710	6 75930	-2 78390	-34650	-30820	-05630	57340	-20010	-20870	-21060
1 963	151 810	6 10260	-2 81210	-35350	-41800	-05010	57730	-21510	-20190	-20270
1 963	147 700	7 43420	-2 76390	-32430	-33390	-07930	57000	-21950	-21420	-21650
1 963	154 310	3 96510	-2 72760	-32180	-1 06430	-03490	59170	-16120	-16580	-17730
GRADIENT		00000	00000	00000	00000	00000	00000	00000	00000	00000

GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLMH	CA	CYM	CYMH	CBL	XCP L	CBP1	CBP2	CBP3
2 740	168 980	1 98840	-2 53250	-04490	-11730	-01600	63030	-07260	-07850	-08060
2 740	167 020	1 70860	-2 56670	-06370	-18910	-02510	61580	-07870	-08690	-08320
2 740	164 970	1 78400	-2 59630	-08020	-16180	-02190	60480	-08740	-09420	-09050
2 740	162 920	2 30130	-2 63870	-12300	-17060	-02530	59350	-09590	-09930	-09630
2 740	160 850	2 82070	-2 67410	-14040	-33270	-02710	58670	-10740	-10440	-10610
2 740	158 760	3 39170	-2 71260	-16530	-61310	-02950	57870	-12240	-11240	-11460
2 740	156 640	3 99710	-2 74170	-17480	-4 530	-02620	57270	-13180	-1182	-12240
2 740	154 610	4 63350	-2 75390	-16780	-14110	-01950	56970	-12990	-11580	-12090
2 740	152 520	5 15830	-2 76390	-117330	-3380	-04120	56720	-12690	-11210	-12000
2 740	150 440	5 78410	-2 75310	-15880	-11860	-03840	56730	-12840	-10760	-11720
2 740	148 440	6 39330	-2 73130	-13590	-20660	-04340	56630	-12920	-10290	-11430
2 740	148 440	3 42540	-2 71270	-7420	-53380	-02430	57360	-12010	-11140	-11180
GRADIENT		00000	00000	00000	00000	00000	00000	00000	00000	00000

ORIGINAL PAGE IS OF POOR QUALITY

MSFC THT604 (SABF) SRB WITH ALL PROJEGRANCES

MSFC THT604 (SABF) SRB WITH ALL PROJEGRANCES

MSFC THT604 (SABF) SRB WITH ALL PROJEGRANCES

PARAMETRIC DATA

PARAMETRIC DATA

PARAMETRIC DATA

CREF = 5030 SQ IN XMRP = 5.7210 IN XS BETA = 000 PHI = 000
 LREF = 8000 IN YMRP = 0000 IN YS NOZZLE = 000
 BREF = 8000 IN ZMRP = 0000 IN ZS
 SCALE = 0055

RUN NO. 19/ 0 RN/L = 7 11 GRADIENT INTERVAL = -5.00/ 5 00

MACH	ALPHA	CM	CLMM	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
3 480	159 030	095480	- 18340	-2 49100	- 04610	- 09890	- 01200	60090	00000	00000	00000
3 480	157 270	1 20770	- 09860	2 51910	- 03890	- 10960	- 01730	59000	10000	00000	00000
3 480	155 510	1 50560	00460	-2 54020	- 07980	- 15030	52730	46530	00000	00000	00000
3 480	152 980	1 97770	15560	2 58560	- 10410	- 23630	- 02400	51110	00000	00000	00000
3 480	150 450	2 44310	32740	-2 63540	- 09740	- 27720	- 02170	50000	00000	00000	00000
3 480	147 920	2 91140	47450	2 67080	- 10890	- 33050	- 01250	48700	00000	00000	00000
3 480	145 390	3 38270	60840	2 70420	- 08540	- 39250	- 01930	47130	00000	00000	00000
3 480	142 860	3 85700	73470	-2 73110	- 07440	- 05400	- 02200	45310	00000	00000	00000
3 480	140 330	4 33430	84460	2 74900	- 09200	- 08700	- 02700	43200	00000	00000	00000
3 480	137 800	4 81460	93860	-2 76400	- 09350	- 05740	- 03300	40800	00000	00000	00000
3 480	135 270	5 29790	1 01660	2 77400	- 08900	- 06900	- 03900	38100	00000	00000	00000
3 480	132 740	5 78420	1 07860	-2 77800	- 10400	- 08900	- 04600	35100	00000	00000	00000
3 480	130 210	6 27350	1 12460	2 77700	- 10800	- 11100	- 05300	31800	00000	00000	00000
3 480	127 680	6 76580	1 15500	-2 76500	- 10800	- 08000	- 06000	28200	00000	00000	00000
3 480	125 150	7 26110	1 17000	2 74300	- 09500	- 05000	- 06700	24300	00000	00000	00000
3 480	122 620	7 75940	1 17000	-2 71100	- 08000	- 02000	- 07400	20100	00000	00000	00000
3 480	120 090	8 26070	1 15500	2 66900	- 06500	- 00000	- 08100	15600	00000	00000	00000
3 480	117 560	8 76500	1 12460	-2 61700	- 05000	- 00000	- 08800	10800	00000	00000	00000
3 480	115 030	9 27330	93860	2 56500	- 03500	- 00000	- 09500	6000	00000	00000	00000
3 480	112 500	9 78460	60840	-2 50300	- 02000	- 00000	- 10200	0000	00000	00000	00000
3 480	110 000	10 29890	24460	2 43100	- 00500	- 00000	- 10900	0000	00000	00000	00000
3 480	107 500	10 81620	00000	-2 34900	- 00000	- 00000	- 11600	0000	00000	00000	00000
3 480	105 000	11 33650	00000	2 25700	- 00000	- 00000	- 12300	0000	00000	00000	00000
3 480	102 500	11 85980	00000	-2 15500	- 00000	- 00000	- 13000	0000	00000	00000	00000
3 480	100 000	12 38610	00000	2 05300	- 00000	- 00000	- 13700	0000	00000	00000	00000
3 480	97 500	12 91540	00000	-1 95100	- 00000	- 00000	- 14400	0000	00000	00000	00000
3 480	95 000	13 44770	00000	1 84900	- 00000	- 00000	- 15100	0000	00000	00000	00000
3 480	92 500	13 98300	00000	-1 74700	- 00000	- 00000	- 15800	0000	00000	00000	00000
3 480	90 000	14 52130	00000	1 64500	- 00000	- 00000	- 16500	0000	00000	00000	00000
3 480	87 500	15 06260	00000	-1 54300	- 00000	- 00000	- 17200	0000	00000	00000	00000
3 480	85 000	15 60690	00000	1 44100	- 00000	- 00000	- 17900	0000	00000	00000	00000
3 480	82 500	16 15420	00000	-1 33900	- 00000	- 00000	- 18600	0000	00000	00000	00000
3 480	80 000	16 70450	00000	1 23700	- 00000	- 00000	- 19300	0000	00000	00000	00000
3 480	77 500	17 25780	00000	-1 13500	- 00000	- 00000	- 20000	0000	00000	00000	00000
3 480	75 000	17 81410	00000	1 03300	- 00000	- 00000	- 20700	0000	00000	00000	00000
3 480	72 500	18 37340	00000	-93100	- 00000	- 00000	- 21400	0000	00000	00000	00000
3 480	70 000	18 93570	00000	82900	- 00000	- 00000	- 22100	0000	00000	00000	00000
3 480	67 500	19 50100	00000	-72700	- 00000	- 00000	- 22800	0000	00000	00000	00000
3 480	65 000	20 06930	00000	62500	- 00000	- 00000	- 23500	0000	00000	00000	00000
3 480	62 500	20 64060	00000	-52300	- 00000	- 00000	- 24200	0000	00000	00000	00000
3 480	60 000	21 21490	00000	42100	- 00000	- 00000	- 24900	0000	00000	00000	00000
3 480	57 500	21 79220	00000	-31900	- 00000	- 00000	- 25600	0000	00000	00000	00000
3 480	55 000	22 37250	00000	21700	- 00000	- 00000	- 26300	0000	00000	00000	00000
3 480	52 500	22 95580	00000	-11500	- 00000	- 00000	- 27000	0000	00000	00000	00000
3 480	50 000	23 54210	00000	1100	- 00000	- 00000	- 27700	0000	00000	00000	00000
3 480	47 500	24 13140	00000	-10000	- 00000	- 00000	- 28400	0000	00000	00000	00000
3 480	45 000	24 72370	00000	19800	- 00000	- 00000	- 29100	0000	00000	00000	00000
3 480	42 500	25 31900	00000	-9000	- 00000	- 00000	- 29800	0000	00000	00000	00000
3 480	40 000	25 91730	00000	9000	- 00000	- 00000	- 30500	0000	00000	00000	00000
3 480	37 500	26 51860	00000	-18000	- 00000	- 00000	- 31200	0000	00000	00000	00000
3 480	35 000	27 12290	00000	27800	- 00000	- 00000	- 31900	0000	00000	00000	00000
3 480	32 500	27 73020	00000	-17600	- 00000	- 00000	- 32600	0000	00000	00000	00000
3 480	30 000	28 34050	00000	27400	- 00000	- 00000	- 33300	0000	00000	00000	00000
3 480	27 500	28 95380	00000	-17200	- 00000	- 00000	- 34000	0000	00000	00000	00000
3 480	25 000	29 57010	00000	26800	- 00000	- 00000	- 34700	0000	00000	00000	00000
3 480	22 500	30 18940	00000	-16800	- 00000	- 00000	- 35400	0000	00000	00000	00000
3 480	20 000	30 81170	00000	26400	- 00000	- 00000	- 36100	0000	00000	00000	00000
3 480	17 500	31 43700	00000	-16400	- 00000	- 00000	- 36800	0000	00000	00000	00000
3 480	15 000	32 06530	00000	25900	- 00000	- 00000	- 37500	0000	00000	00000	00000
3 480	12 500	32 69660	00000	-16000	- 00000	- 00000	- 38200	0000	00000	00000	00000
3 480	10 000	33 33090	00000	25500	- 00000	- 00000	- 38900	0000	00000	00000	00000
3 480	7 500	33 96820	00000	-15600	- 00000	- 00000	- 39600	0000	00000	00000	00000
3 480	5 000	34 60850	00000	25000	- 00000	- 00000	- 40300	0000	00000	00000	00000
3 480	2 500	35 25180	00000	-15200	- 00000	- 00000	- 41000	0000	00000	00000	00000
3 480	0 000	35 89810	00000	24500	- 00000	- 00000	- 41700	0000	00000	00000	00000

RUN NO. 20/ 0 RN/L = 5 69 GRADIENT INTERVAL = -5.00/ 5 00

MACH	ALPHA	CM	CLMM	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
4 450	159 030	095480	- 18340	-2 37160	- 03340	- 10420	- 03700	50700	00000	00000	00000
4 450	157 160	1 20770	- 09860	2 40980	- 03460	- 11400	- 03600	49000	10000	00000	00000
4 450	155 290	1 50560	00460	-2 45050	- 03580	- 12400	- 03500	47300	20000	00000	00000
4 450	153 420	1 80770	01400	-2 49220	- 03700	- 13400	- 03400	45600	30000	00000	00000
4 450	151 550	2 11430	02300	-2 53470	- 03820	- 14400	- 03300	43900	40000	00000	00000
4 450	149 680	2 42640	03200	2 57750	- 03940	- 15400	- 03200	42200	50000	00000	00000
4 450	147 810	2 74410	04100	-2 62020	- 04060	- 16400	- 03100	40500	60000	00000	00000
4 450	145 940	3 06740	05000	2 66270	- 04180	- 17400	- 03000	38800	70000	00000	00000
4 450	144 070	3 39630	05900	-2 70500	- 04300	- 18400	- 02900	37100	80000	00000	00000
4 450	142 200	3 73080	06800	2 74700	- 04420	- 19400	- 02800	35400	90000	00000	00000
4 450	140 330	4 07090	07700	-2 78800	- 04540	- 20400	- 02700	33700	100000	00000	00000
4 450	138 460	4 41660	08600	2 82900	- 04660	- 21400	- 02600	32000	110000	00000	00000
4 450	136 590	4 76790	09500	-2 87000	- 04780	- 22400	- 02500	30300	120000	00000	00000
4 450	134 720	5 12480	01000	2 91000	- 04900	- 23400	- 02400	28600	130000	00000	00000
4 450	132 850	5 48730	01900	-2 95000	- 05020	- 24400	- 02300	26900	140000	00000	00000
4 450	130 980	5 85540	02800	2 98900	- 05140	- 25400	- 02200	25200	150000	00000	00000
4 450	129 110	6 22910	03700	-3 02800	- 05260	- 26400	- 02100	23500	160000	00000	00000
4 450	127 240	6 60840	04600	3 06600	- 05380	- 27400	- 02000	21800	170000	00000	00000
4 450	125 370	6 99330	05500	-3 10400	- 05500	- 28400	- 01900	20100	180000	00000	00000
4 450	123 500	7 38380	06400	3 14100	- 05620	- 29400	- 01800	18400	190000	00000	00000
4 450	121 630	7 77990	07300	-3 17800	- 05740	- 30400	- 01700	16700	200000	00000	

(R1H031) (10 JUL '75)

PARAMETRIC DATA

BETA = .000 PHI = .000
NOZZLE = .000

REFERENCE DATA

SREF = 5030 50 IN. XMRP = 5 7210 IN. XS
LREF = 8000 IN. YMRP = .0000 IN. YS
BREF = 8000 IN. ZMRP = .0000 IN. ZS
SCALE = 0055

RUN NO. 107/ 0 RN/L = 6.98 GRADIENT INTERVAL = -5 00/ 5 00

MACH	ALPHA	CMP	CLMP	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
1.950	189 730	-84630	89090	-2.65320	-0.4830	.01750	.06550	.66920	-10120	-10050	-10050
1.950	187 750	-57110	78130	-2.56980	.04580	.20120	.09550	69500	-08360	-06580	-06810
1.950	185 710	-40720	72280	-2.50870	.02690	.09640	.09950	72820	-07230	-07230	-07300
1.950	183 650	-23630	47240	-2.48560	-.00100	.04270	.01710	.74670	-06730	-06060	-06170
1.950	181 610	-98220	14200	-2.44540	.03730	-.03640	.0 630	.70890	-06060	-.05680	-.05910
1.950	179 530	.05690	-11700	-2.45010	.02740	.05750	.01260	.75120	-05210	-05320	-05470
1.950	177 470	16510	-47840	-2.44400	.00580	.03140	.0 090	.79420	-05450	-05450	-05260
1.950	175 420	.32740	-71360	-2.45040	.03530	.04870	.00820	.76110	-05320	-.05470	-.05470
1.950	173 310	55720	-90200	-2.52160	.01740	.05460	.01380	.71540	-.05510	-.05470	-.05990
1.950	171 270	.78000	-98750	-2.58200	.10630	.13720	.06660	68660	-06840	-07470	-07550
1.950	169 300	1.11520	-1.07870	-2.60970	.00280	.02830	.01610	66230	-11680	-12540	-12390
1.950	179.520	06940	-.22600	-2.37010	.03050	-.00040	.01550	84880	-.06180	-06180	-.06520
1.950	GRADIENT	00000	.00000	.00000	.00000	.00000	.00000	00000	.00000	.00000	.00000

RUN NO. 2/ 0 RN/L = 4.97 GRADIENT INTERVAL = -5 00/ 5 00

MACH	ALPHA	CMP	CLMP	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
2.740	189 630	-85370	50870	-2.62750	-0.5270	-.01780	-.00620	.64150	-08730	-08230	-09020
2.740	187 670	-55550	58150	-2.56120	-0.1130	.06410	.01200	.66880	-07800	-08210	-08110
2.740	185 630	-35060	53270	-2.51000	-.04440	.01270	-.00900	70730	-06770	-.07160	-07030
2.740	183 620	-17350	39700	-2.45510	-.00920	.06100	-.01510	76990	-06390	-05960	-06130
2.740	181 580	-11760	17000	-2.40720	.03150	-.06830	.01220	70130	-05370	-05250	-.05420
2.740	179 550	.03600	-07680	-2.40070	-.00250	.02790	-.01050	75720	-05060	-05080	-05470
2.740	177 520	12160	-33950	-2.40010	.01580	-.00700	.01710	81100	-05500	-05400	-05800
2.740	175 500	24480	-48610	-2.42940	-.00610	.03470	-.00950	74540	-05200	-05990	-06150
2.740	173 440	42290	55650	-2.46790	.07480	.06830	.01740	67070	-05990	-07110	-.0670
2.740	171 410	66310	-60030	-2.51460	.01230	.04660	.01080	65720	-08070	-09160	-06670
2.740	169 480	97170	-55090	-2.55070	-.04500	-12730	-.00380	62960	-08790	-09040	07260
2.740	179 550	01800	-03850	-2.39360	-.00210	-.01250	.02700	75790	-05950	-05060	-.05420
2.740	GRADIENT	00000	00000	.00000	.00000	.00000	.00000	00000	.00000	.00000	.00000

(R1H032) (10 JUL 75)

MSFC TMT604 (SABF) SRB WITH ALL PROTUBERANCES

REFERENCE DATA

SREF = .5030 SQ. IN. XMRP = 5.7210 IN. XS
 LREF = .8000 IN. YMRP = .0000 IN. YS
 BRFF = .8000 IN. ZMRP = .0000 IN. ZS
 SCALE = 0055

PARAMETRIC DATA

BETA = .000 PHI = .45.000
 NOZZLE = .000

RUN NO. 198/ 0 RN/L = 7 08 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYMM	CBL	XCP/L	CBP1	CBP2	CBP3
3.480	-9.610	-1.33720	-2.06590	.88330	-.02710	.25090	.00140	.45730	-.07500	-.08660	-.08590
3.480	-7.630	-.94900	-1.70340	.86500	-.03580	.19240	-.00240	.43700	-.07020	-.08560	-.08470
3.480	-5.590	-.62500	-1.19630	.84820	-.04750	.12070	.00780	.42720	-.06330	-.08340	-.08220
3.480	-3.550	-.39970	-.61510	.82930	-.04330	.14190	-.00790	.45790	-.06000	-.08040	-.08090
3.480	-1.480	-.20580	-.05940	.81890	-.04790	.13630	-.01960	.55980	-.05970	-.07950	-.08030
3.480	.550	.01910	.36630	.79850	-.03560	.08490	-.02180	-.97570	-.05720	-.08210	-.07970
3.480	2.600	-.21120	.76590	.79810	-.00790	.03490	.00520	.28760	-.05570	-.08540	-.08140
3.480	4.640	.42120	1.25910	.79370	-.00560	-.05390	-.00430	.33950	-.05830	-.08580	-.08240
3.480	6.730	.70970	1.83810	.81030	.02050	-.13420	-.01150	.37210	-.06270	-.08630	-.08240
3.480	8.790	1.07810	2.30380	.82220	.05000	-.17290	.00100	.40900	-.06720	-.08730	-.08290
3.480	10.740	1.49570	2.75050	.82440	.07360	-.17657	-.00280	.43340	-.07010	-.08820	-.08500
3.480	.560	.03540	.38020	.80420	-.03590	.07460	-.01740	-.29150	-.05790	-.08370	-.08060
GRADIENT		10062	.22357	-.00450	.00564	-.02408	.00156	-.02477	.00036	-.00082	-.00021

ORIGINAL PAGE IS OF POOR QUALITY

MSFC TWT604 (SABF) SR9 WITH ALL PROTUBERANCES

(RIH033) (10 JUL 75)

REFERENCE DATA

SREF = .5000 SQ. IN. XMRP = 5.7210 IN. XS
 LREF = .8000 IN. YMRP = .0000 IN. YS
 BREF = .8000 IN. ZMRP = .0000 IN. ZS
 SCALE = .0055

PARAMETRIC DATA

BETA = .000 PHI = 45.000
 NOZZLE = .000

RUN NO. 1847 0 RN/L = 6.94 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYH	CBL	XCP/L	CBP1	CBP2	CBP3
3.480	31.890	7.24490	5.64000	1.16200	.28130	-.08400	-.06790	51990	-.06960	-.06960	.08420
3.480	33.040	7.88820	6.11490	1.18690	.29900	-.11270	-.07190	52010	-.07130	-.06270	-.08440
3.480	35.990	8.57450	6.60550	1.21400	.33370	-.09010	-.07950	52050	-.07330	-.05910	-.08380
3.480	38.060	9.24450	7.02420	1.25240	.40140	-.06560	-.11140	52140	-.07740	-.05390	-.08170
3.480	40.150	9.93870	7.39920	1.31530	.36230	-.05500	-.11020	52260	-.07900	-.05010	-.07680
3.480	42.250	10.63350	7.80690	1.34050	.40340	-.04080	-.13060	52380	-.08470	-.04330	-.07760
3.480	44.340	11.33920	8.19550	1.35880	.43930	-.04510	-.12900	52470	-.08100	-.03910	-.08300
3.480	46.440	12.05720	8.66280	1.36070	.46560	-.05540	-.14290	52480	-.06820	-.03770	-.08550
3.480	48.570	12.68330	9.25920	1.34230	.48390	-.00500	-.17040	52380	-.06050	-.04000	-.06760
3.480	50.660	13.25100	9.92550	1.30420	.50090	.07440	-.18130	52230	-.05440	-.04580	-.06650
3.480	52.630	13.81400	10.19230	1.27460	.52250	-.02840	-.17310	52040	-.06720	-.04510	-.07560
3.480	54.260	10.59730	7.86090	1.34290	.41060	-.03520	-.13680	52320	-.08310	-.04350	-.07840
GRADIENT		.00000	.00000	.00000	.00000	.00000	.0000	.00000	.00000	.00000	.00000

(RIH034) (10 JUL 75)

MSFC TWT804 (SABF) SRB WITH ALL PROTRUBERANCES

PARAMETRIC DATA

REFERENCE DATA

SREF = .5030 SQ. IN. XMRP = 5.7210 IN. XS BETA = .000 PHI = +5.000
 LREF = .8000 IN. YMRP = .0000 IN. YS NOZZLE = .000
 BREF = 8000 IN. ZMRP = .0000 IN. ZS
 SCALE = .0055

RUN NO. 390/ 0 RN/L = 7.16 GRADIENT INTERVAL = -5.00/ 5.00
 RUN NO. 389/ 0 RN/L = 5.26 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
1.952	70.620	18.35860	14.84070	1.08530	.93620	.14170	-.25730	51740	.00000	.00000	.00000
1.952	72.490	18.56440	14.62840	1.03030	.95280	.15900	-.26090	51910	.00000	.00000	.00000
1.952	74.490	18.82480	14.49720	.97300	.96280	.22380	-.24800	52050	.00000	.00000	.00000
1.952	76.480	17.97300	14.12010	.91620	.98020	.21350	-.27040	52270	.00000	.00000	.00000
1.952	78.460	19.20840	13.92000	.86310	.99120	.20950	-.27370	52430	.00000	.00000	.00000
1.952	80.450	19.36570	13.65670	.79800	1.00760	.24350	-.27450	52510	.00000	.00000	.00000
1.952	82.460	19.54510	13.51690	.72360	1.01780	.29170	-.27340	52700	.00000	.00000	.00000
1.952	84.430	19.62110	13.25830	.65900	1.01420	.32870	-.27500	52820	.00000	.00000	.00000
1.952	85.410	19.69160	12.96190	.58160	1.00500	.44830	-.27880	52970	.00000	.00000	.00000
1.952	88.400	19.67420	12.55580	.49920	.99240	.49890	-.28220	53130	.00000	.00000	.00000
1.952	90.300	19.72280	12.27230	.41970	.98110	.57020	-.27570	53260	.00000	.00000	.00000
1.952	80.440	19.23250	13.50240	.78790	.99890	.26760	-.28010	52610	.00000	.00000	.00000
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

MACH	ALPHA	CNM	CLMM	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
2.740	70.410	17.90170	13.62500	1.14430	.80720	.12840	-.26930	52130	.00000	.00000	.00000
2.740	72.310	18.30990	13.78950	1.09020	.83030	.15470	-.26360	52190	.00000	.00000	.00000
2.740	74.310	18.52410	13.67250	1.02450	.82410	.14100	-.27880	52320	.00000	.00000	.00000
2.740	76.310	18.81590	13.63760	.95740	.85550	.19740	-.27680	52420	.00000	.00000	.00000
2.740	78.300	19.07980	13.48280	.89250	.86990	.23040	-.27430	52560	.00000	.00000	.00000
2.740	80.290	19.21210	13.22190	.81510	.87590	.23650	-.28420	52720	.00000	.00000	.00000
2.740	82.300	19.27800	12.95520	.74350	.89940	.29800	-.26990	52850	.00000	.00000	.00000
2.740	84.280	19.53880	12.85280	.66220	.89690	.36060	-.28440	52970	.00000	.00000	.00000
2.740	86.270	19.2520	12.58300	.58640	.89440	.41280	-.28360	53110	.00000	.00000	.00000
2.740	88.290	19.67900	12.21890	.49730	.86030	.52570	-.29470	53270	.00000	.00000	.00000
2.740	90.150	19.78160	12.01670	.41650	.85150	.64670	-.28720	53380	.00000	.00000	.00000
2.740	80.270	19.22890	13.25650	.83740	.88470	.26390	-.27170	52710	.00000	.00000	.00000
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ORIGINAL PAGE IS OF POOR QUALITY

MSFC THT604 (SABF) SRB WITH ALL PROTUBERANCES (R1M034) (10 JUL 75)

REFERENCE DATA

SREF = 5030 SQ. IN. XMRP = 5.7210 IN. AS
 LREF = .8000 IN. YMRP = .0000 IN. YS
 RREF = .8000 IN. ZMRP = .0000 IN. ZS
 SCALE = .0055

BETA = .000 PHI = .45.000
 NOZZLE = .000

PARAMETRIC DATA

RUN NO. 368/ 0 RN/L = 7.18 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYN	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
3.480	70.440	17.52430	13.65110	1.13950	.74080	.09580	-.25420	.51980	00000	00000	00000
3.480	72.340	17.89350	13.78580	1.08020	.75980	.12010	-.25870	.52040	00000	00000	00000
3.480	74.340	18.19030	13.82740	1.02460	.77230	.13960	-.26770	.52140	00000	00000	00000
3.480	76.330	18.31740	13.85670	.95730	.78460	.15100	-.28840	.52250	00000	00000	00000
3.480	78.330	18.67180	13.61300	.90220	.78280	.17830	-.28330	.52390	00000	00000	00000
3.480	80.330	18.89420	13.64100	.82540	.79420	.20670	-.28140	.52450	00000	00000	00000
3.480	82.330	19.08650	13.32290	.76590	.81920	.30660	-.28440	.52640	00000	00000	00000
3.480	84.310	19.23190	13.10660	.68360	.80900	.33870	-.28370	.52780	00000	00000	00000
3.480	86.300	19.37740	12.78940	.62090	.79340	.41620	-.28790	.52950	00000	00000	00000
3.480	88.280	19.45790	12.36170	.52660	.78500	.44130	-.29820	.53150	00000	00000	00000
3.480	90.190	19.48900	11.93350	.44660	.77040	.52980	-.23180	.53340	00000	00000	00000
3.480	80.320	18.89570	13.50260	.83460	.79550	.18910	-.29320	.52510	00000	00000	00000
GRADIENT		00000	.00000	.00000	.00000	.00000	00000	.00000	00000	00000	00000

(R1H035) (10 JUL 75)

PARAMETRIC DATA

BETA = 000 PHI = 45.000
NOZZLE = 000

REFERENCE DATA

SREF = 5030 SQ IN. XMRP = 5.7210 IN. XS
LREF = 8000 IN. YMRP = .0000 IN. YS
BREF = 8000 IN. ZMRP = .0000 IN. ZS
SCALE = 0055

RUN NO. 365/ 0 RN/L = 5.41 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMH	CLMH	CA	CYH	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
.402	129 560	5 72200	-6.12200	-1.63200	-3.48040	-2.73040	-.23470	.67070	.00000	.00000	.00000
.402	127 570	6 27880	-6.05710	-1.54510	-3.51010	-1.96900	-.22460	.66210	.00000	.00000	.00000
.402	125 540	6 83630	-6.09640	-1.48130	-3.46840	-1.12180	-.26430	.65610	.00000	.00000	.00000
.402	123 540	7 05210	-5.87070	-1.36960	-3.54330	-1.42640	-.24580	.65130	.00000	.00000	.00000
.402	121 650	7 26060	-5.49460	-1.24380	-3.49680	-1.47720	-.23400	.64510	.00000	.00000	.00000
.402	119 630	7 93370	-5.63430	-1.13670	-2.94040	-.60600	-.31340	.64130	.00000	.00000	.00000
.402	117 620	8 23090	-5.03300	-1.01230	-2.59220	-.17340	-.33470	.63330	.00000	.00000	.00000
.402	115 630	8 35800	-3.98510	-.92240	-2.28620	.08760	-.32590	.62230	.00000	.00000	.00000
.402	113 650	8 58000	-3.91250	-.78960	-1.79630	-1.42860	-.27020	.62060	.00000	.00000	.00000
.402	111 630	8 95490	-3.38590	-.60480	-1.24700	-1.01310	-.29940	.61420	.00000	.00000	.00000
.402	109 650	9 44750	-2.09730	-.41330	-.71820	-.62720	-.34450	.60150	.00000	.00000	.00000
.402	119 630	7 77130	-5.80110	-1.12040	-3.00980	-1.51470	-.25610	.64430	.00000	.00000	.00000
GRADIENT		00000	00000	00000	.00000	.00000	00000	00000	.00000	.00000	.00000

RUN NO. 364/ 0 RN/L = 5.09 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMH	CLMH	CA	CYH	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
.599	129 490	7 44600	-5.25870	-1.70760	-1.59340	-.24440	-.27670	.64100	.00000	.00000	.00000
.599	127 590	8 02260	-4.70460	-1.60050	-1.14800	-.22380	-.27410	.63120	.00000	.00000	.00000
.599	125 590	8 38250	-4.35560	-1.47070	-1.18950	-.33000	-.26210	.62580	.00000	.00000	.00000
.599	123 580	8 79110	-4.05520	-1.36370	-1.63750	-1.06530	-.28970	.62100	.00000	.00000	.00000
.599	121 580	9 25040	-4.05950	-1.26250	-1.26570	-.44220	-.29840	.61920	.00000	.00000	.00000
.599	119 570	9 63670	-3.92110	-1.12890	-.80340	-.63620	-.30200	.61660	.00000	.00000	.00000
.599	117 540	10 16380	-4.08960	-.98940	-.43670	-1.91370	-.35400	.61620	.00000	.00000	.00000
.599	115 560	10 41740	-3.73990	-.83580	1.01850	-1.30930	-.35450	.61270	.00000	.00000	.00000
.599	113 570	10 72650	-3.18600	-.66430	1.24350	1.0050	-.35910	.60760	.00000	.00000	.00000
.599	111 570	11 05310	-2.87690	-.55450	1.40410	1.37240	-.36360	.60460	.00000	.00000	.00000
.599	109 670	11 29210	-2.52000	-.36490	1.73500	.64920	-.35150	.60160	.00000	.00000	.00000
.599	119 570	9 53720	-3.87520	-1.13180	-.82850	-.56070	-.34630	.61620	.00000	.00000	.00000
GRADIENT		00000	00000	.00000	.00000	.00000	00000	00000	.00000	.00000	.00000

MSFC THT804 (SABF) SR8 WITH ALL PROTUBERANCES (R1H035) (10 JUL 75)

PARAMETRIC DATA

BETA = .000 PHI = .000
NOZZLE = .000

REFERENCE DATA

SREF = .5030 SQ IN. XMRP = 5.7210 IN. XS
LREF = .8000 IN. YMRP = .0000 IN. YS
BREF = .8000 IN. ZMRP = .0000 IN. ZS
SCALE = .0055

RUN NO. 361/ 0 RN/L = 7.21 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CM1	CLM1	CA	CYM	CYMM	CBL	XCP/L	CBP1	CBP2	CBP3
1.955	129 360	12.39260	3.60310	-1.69980	.96070	.95560	-.18940	.55970	.00000	.00000	.00000
1.955	127 440	13.09330	3.97690	-1.79940	1.00520	.97300	-.19670	.55960	.00000	.00000	.00000
1.955	125 430	13.77840	4.33250	-1.68550	1.04770	.91930	-.19720	.55770	.00000	.00000	.00000
1.955	123 430	14.35220	4.81440	-1.54840	1.06470	.94040	-.20310	.55600	.00000	.00000	.00000
1.955	121 420	14.87780	5.20320	-1.41590	1.11400	.96590	-.21130	.55480	.00000	.00000	.00000
1.955	119 430	15.32900	5.65410	-1.27260	1.15530	.98480	-.19880	.55220	.00000	.00000	.00000
1.955	117 400	15.88990	6.19310	-1.12550	1.18870	1.04650	-.22920	.55160	.00000	.00000	.00000
1.955	115 420	16.38930	6.50090	-.97540	1.22630	1.06250	-.23540	.55100	.00000	.00000	.00000
1.955	113 420	16.86260	7.02020	-.82540	1.25130	1.12530	-.22810	.54940	.00000	.00000	.00000
1.955	111 400	17.31910	7.33150	-.67170	1.29920	1.15430	-.22890	.54880	.00000	.00000	.00000
1.955	109 520	17.65240	7.76310	-.53390	1.32360	1.19140	-.24330	.54750	.00000	.00000	.00000
1.955	119 450	15.17280	5.84930	-1.26510	1.14180	1.03020	-.21810	.55140	.00000	.00000	.00000
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 360/ 0 RN/L = 5.29 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CM1	CLM1	CA	CYM	CYMM	CBL	XCP/L	CBP1	CBP2	CBP3
2.740	129 520	11.91760	4.11860	-1.99540	.72100	.81620	-.17470	.55520	.00000	.00000	.00000
2.740	127 540	12.56840	4.63650	-1.85670	.86100	.86570	-.17560	.55330	.00000	.00000	.00000
2.740	125 620	13.22870	5.17310	-1.72160	.90520	.86830	-.06790	.55150	.00000	.00000	.00000
2.740	123 620	13.85550	5.68050	-1.57430	.93260	.88320	-.07920	.54990	.00000	.00000	.00000
2.740	121 620	14.44300	6.26660	-1.43300	.95860	.92660	-.16700	.54800	.00000	.00000	.00000
2.740	119 610	15.00900	6.48330	-1.26270	1.00770	.92400	-.19380	.54810	.00000	.00000	.00000
2.740	117 590	15.58470	6.89520	-1.10520	1.04490	.94130	-.19990	.54730	.00000	.00000	.00000
2.740	115 600	16.14190	7.09050	-.94870	1.07610	.95820	-.17070	.54750	.00000	.00000	.00000
2.740	113 590	16.64890	7.51020	-.80270	1.11300	.99530	-.21830	.54660	.00000	.00000	.00000
2.740	111 590	17.10250	7.83270	-.64330	1.14320	.99070	-.21570	.54600	.00000	.00000	.00000
2.740	109 650	17.55010	8.26610	-.50670	1.16310	1.02060	-.12550	.54490	.00000	.00000	.00000
2.740	119 670	14.99170	6.45960	-1.27230	1.00780	.93450	-.19470	.54820	.00000	.00000	.00000
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ORIGINAL PAGE IS
OF POOR QUALITY

MSFC TWT604 (SABF) SRB WITH ALL PROTCORRANCES

(R14036) (10 JUL 75)

REFERENCE DATA

SREF = 5030 SQ IN XMRP = 5 7210 IN. XS
 LMRP = 8000 IN YMRP = .0000 IN. YS
 BRP = 8000 IN. ZMRP = .0000 IN. ZS
 SCALE = 755

PARAMETRIC DATA

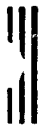
BETA = .000 PHI = .45 000
 NOZZLE = .000

RUN NO. 90/ 0 RN/L = 6.28 GRADIENT INTERVAL = -6.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYMM	CEL	XCP/L	CBP1	CBP2	CBP3
904	169 000	76540	-26310	-1 82600	03140	-06340	01270	61140	-04220	02710	-01300
904	157 050	1 04250	-43570	-1 89000	-06400	-05840	01860	61750	-06470	01420	-02600
904	164 980	1 35060	-69750	-1 96450	-115580	-115530	-00480	62550	-08670	-00090	-04490
904	162 930	1 62060	-94230	-2 04880	-11580	-14090	00150	63060	-09890	-01130	-05630
904	156 870	1 89250	-115450	-2 15100	-01470	-13200	-01500	63310	-11200	-03860	-02230
904	158 750	2 19810	-1 29670	-2 23730	-01740	-23560	-03420	63150	-11590	-04850	-10090
904	146 50	2 53020	-1 36940	-2 27920	-11080	-66060	-04760	62750	-11580	-07300	-12720
904	154 670	3 01290	-1 31010	-2 29490	-26840	-2 34370	-05760	61890	-12750	-09760	-14060
904	142 540	3 66360	-1 30900	-2 33580	-44280	-3 89450	-06920	61250	-17050	-13770	-17260
904	150 420	4 19550	-1 92180	-2 31240	-35670	-3 51390	-08540	62070	-16530	-15740	-17680
904	148 430	4 63080	-2 69800	-2 27390	-21280	-2 26270	-10010	63080	-19670	-17100	-18150
904	158 790	2 25180	-1 33470	-2 25210	00560	-24040	-04460	63170	-11060	-06050	-11680
GRADIENT		00000	.00000	.00000	.00000	.00000	00000	00000	.00000	00000	.00000

RUN NO. 89/ 0 RN/L = 6.68 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYMM	CEL	XCP/L	CBP1	CBP2	CBP3
1 198	168 640	97310	-1 56810	-2 55230	14830	-02540	-01840	71480	-11420	-11580	-13370
1 198	166 610	1 20690	-1 76170	-2 61380	35050	23580	-01960	70240	-12810	-11630	-14420
1 198	164 810	1 48160	-1 97870	-2 67800	30330	29720	-01790	69230	-15070	-12740	-15530
1 198	162 740	1 86540	-2 18560	-2 70260	-05910	-64020	-02980	67900	-16800	-13630	-16380
1 198	160 590	2 35730	-2 58140	-2 71170	00910	-50530	-02970	67270	-19110	-15030	-17820
1 198	158 440	2 95640	-2 98890	-2 71150	-18570	-28500	-03650	66580	-20680	-16920	-19710
1 198	156 280	3 67400	-3 28310	-2 73250	-14930	31660	-06260	65630	-25440	-21580	-23740
1 198	154 130	4 40070	-3 22080	-2 74050	09440	-20870	-07000	64310	-28190	-24850	-27430
1 198	151 940	5 26620	-3 08200	-2 73760	15730	-26740	-08460	63110	-31650	-28130	-31140
1 198	149 770	6 14070	-2 92980	-2 73170	36490	-24540	-07900	62230	-33390	-30850	-34070
1 198	147 720	7 05110	-2 59840	-2 71030	48840	-03890	-10860	61340	-34580	-33820	-37100
1 198	158 440	2 97570	-3 03760	-2 71640	-17880	-27610	-03740	66660	-21460	-17400	-20150
GRADIENT		00000	00000	00000	.00000	.00000	00000	00000	00000	00000	00000



REFERENCE DATA

SREF = 5030 SQ IN. XMRP = 5.7210 IN XS
LREF = 8000 IN YMRP = .0000 IN. YS
BREF = 8000 IN ZMRP = 0000 IN. ZS
SCALE = 0055

PARAMETRIC DATA

SFTA = .000 PSI = 45.000
NOZZLE = 000

RUN NO. 96/ 0 RN/L = 7.08 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMM	CLMM	CA	CYM	CYMM	CBL	XCP/L	CBP1	CBP2	CBP3
1.947	168 850	89210	-1.26740	-2.58030	-10.300	-40.710	-0.1350	.69930	-11.250	-1.0570	-1.1480
1.947	166 850	1.26470	-1.32210	-2.60320	-1.1850	-4.3700	-0.1320	.66730	-1.3550	-1.1690	-1.2940
1.947	164 710	1.78420	-1.50050	-2.63790	.06880	-0.1170	-0.2880	.65200	-1.4340	-1.2790	-1.4040
1.947	162 570	2.36530	-1.84910	-2.71380	.20130	.33220	-0.2950	.64020	-1.5280	-1.3600	-1.4870
1.947	160 420	3.04680	-1.49340	-2.77010	.21430	.54400	-0.3160	.62340	-1.6650	-1.5380	-1.6690
1.947	158 270	3.84960	-1.98010	-2.81260	.18630	1.38160	-0.3700	.60410	-1.9370	-1.8470	-1.9290
1.947	156 110	4.58510	-4.7810	-2.82750	.25470	1.38140	-0.4400	.59190	-2.0440	-1.9660	-2.0030
1.947	153 990	5.32460	-1.5080	-2.83370	.27360	.92180	-0.5680	.58570	-2.1290	-2.0350	-2.2300
1.947	151 780	6.01410	-1.3500	-2.85790	.30040	.39500	-0.7750	.58520	-2.1440	-2.1370	-2.1560
1.947	149 710	6.53290	.16770	-2.79660	.40800	.53720	-0.7110	.58130	-2.1160	-2.1160	-2.1430
1.947	147 660	7.21970	4.0560	-2.77430	.46660	.56980	-0.8350	.57880	-2.1750	-2.1900	-2.1900
1.947	158 330	3.80800	-52.130	-2.73270	.16830	1.39320	-0.4280	.59450	-1.9490	-1.8770	-1.9300
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 22/ 0 RN/L = 5.21 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMM	CLMM	CA	CYM	CYMM	CBL	XCP/L	CBP1	CBP2	CBP3
2.740	168 990	87000	-7.1630	-2.50280	-0.1720	-0.9170	-0.3660	.65050	-1.0670	-1.0360	-1.0510
2.740	167 040	1.23530	-6.6550	-2.59170	-0.0450	.6770	-0.5260	.62730	-1.093	-1.0810	-1.0560
2.740	164 980	1.4590	-5.1130	-2.62630	.00700	.21560	-0.6800	.60780	-1.1280	-1.1270	-1.1270
2.740	162 920	2.12830	-4.0540	-2.64210	.10720	.32100	-0.8240	.59890	-1.1690	-1.1720	-1.1690
2.740	160 850	2.68330	-1.9300	-2.67710	.10060	.47400	-0.9570	.58320	-1.2010	-1.1990	-1.1990
2.740	158 780	3.19090	-0.3570	-2.69600	.15150	.43960	-0.6110	.56430	-1.2160	-1.2160	-1.2180
2.740	156 710	3.75010	.08430	-2.71780	.18840	.28480	-0.6140	.56150	-1.2140	-1.2100	-1.2030
2.740	154 630	4.32710	.25440	-2.73380	.23910	.24950	-0.5690	.57860	-1.2220	-1.2140	-1.2000
2.740	152 530	4.95370	.43890	-2.74560	.29410	.35870	-0.5280	.57610	-1.2340	-1.2150	-1.1870
2.740	150 450	5.58540	.61970	-2.74920	.34390	.38120	-0.7260	.57430	-1.3050	-1.2120	-1.1770
2.740	148 480	6.23160	.73940	-2.72620	.36530	.33560	-1.0030	.57370	-1.3560	-1.1860	-1.1440
2.740	158 770	3.22670	-0.9360	-2.69820	.16170	.40950	-0.5680	.58570	-1.1990	-1.1940	-1.1580
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ORIGINAL PAGE IS
OF POOR QUALITY

(RIH037) (10 JUL 75)

MSFC TWT604 (SABF) SRB WITH ALL PROTRUDANCES

PARAMETRIC DATA

REFERENCE DATA

SREF = .5030 SO. IN. XMRP = 5.7210 IN. XS
 LREF = .8000 IN. YMRP = .0000 IN. YS
 BREF = .8000 IN. ZMRP = .0000 IN. ZS
 SCALF = .0055

BETA = .000 PHI = 90.000
 NOZZLE = .000

MACH	ALPHA	CNM	CLMM	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
3.480	-9.630	-1.31800	-2.04650	.87200	-.04660	.10530	.03830	.45670	-.07E10	-.08550	-.08560
3.480	-7.640	-.94640	-1.58110	.84140	-.05540	.10550	.03930	.44710	-.0E630	-.08460	-.08570
3.480	-5.590	-.60900	-1.28170	.82320	-.04650	.11150	.02290	.41170	-.05040	-.08310	-.08470
3.480	-3.540	-.39920	-.75310	.82420	-.04960	.13710	-.00160	.42950	-.05680	-.08260	-.08260
3.480	-1.510	-.19000	-.24500	.82750	-.04430	.17840	-.00500	.47820	-.05810	-.08220	-.08200
3.480	.550	.03790	.23840	.80260	-.07090	.18490	-.01170	.70730	-.05770	-.08240	-.08050
3.480	2.610	.23120	.59760	.81280	-.06590	.14780	-.01650	.37250	-.08950	-.08290	-.07950
3.480	4.650	.47390	1.15280	.80550	-.07700	.16600	-.02460	.38490	-.05910	-.08390	-.08130
3.480	6.740	.74920	1.65500	.81750	-.09440	.20910	-.03440	.40320	-.06230	-.08500	-.08280
3.480	8.790	1.12200	2.08120	.82220	-.11850	.20780	-.05180	.43210	-.06730	-.08690	-.08450
3.480	10.730	1.52540	2.45550	.84560	-.11850	.18510	-.04300	.45200	-.07710	-.08740	-.08410
3.480	.550	.05310	.25110	.80790	-.06280	.19160	-.01760	.49790	-.05810	-.08320	-.08100
GRADIENT		.10572	.22702	-.00254	-.00373	.00131	-.00281	-.00951	-.00026	-.00016	-.00026

MACH	ALPHA	CNM	CLMM	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
4.450	-9.480	-1.28780	-1.55440	.70600	-.04200	.19570	.05410	.48330	-.04180	-.04740	-.04320
4.450	-7.550	-.95010	-1.38420	.67210	-.04840	.22780	.06060	.46620	-.04180	-.04820	-.04540
4.450	-5.520	-.60960	-1.04170	.63830	-.02230	.19560	.02770	.44400	-.03970	-.04800	-.04600
4.450	-3.500	-.40200	-.76690	.55540	-.03500	.20060	.03700	.42780	-.03890	-.04800	-.04580
4.450	-1.470	-.17520	-.29330	.64840	-.01970	.24250	.03140	.44680	-.03690	-.04800	-.04600
4.450	.550	.12170	.19620	.62730	-.06790	.22270	-.03320	.45180	-.03610	-.04820	-.04520
4.450	2.570	.26550	.49170	.63740	-.06910	.24000	-.01260	.43230	-.03690	-.04910	-.04420
4.450	4.590	.46930	.83970	.62910	-.08730	.13680	-.04810	.43740	-.03730	-.04950	-.04420
4.450	6.640	.78940	1.31480	.63050	-.10160	.20950	-.01130	.44750	-.03870	-.04950	-.04420
4.450	8.670	1.10710	1.54400	.65220	-.10150	.15570	-.03460	.46960	-.04100	-.05030	-.04500
4.450	10.730	1.45810	1.69370	.69570	-.11410	.13780	-.09890	.48860	-.04220	-.05110	-.04540
GRADIENT		.09060	.17210	.61400	-.05450	.18300	-.01980	.42840	-.03890	-.04990	-.04620
GRADIENT		.10798	.19775	-.00315	-.00956	-.00643	-.01059	.00024	-.00016	-.00020	-.00025

MSFC TWT604 (SABF) SRB WITH ALL PROTUBERANCES (RIM040) (10 JUL 75)

PARAMETRIC DATA

SREF = 5030 SQ. IN XMRP = 5.7210 IN. XS BETA = .070 PHI = 90.000
 LREF = 8000 IN. YMRP = 0000 IN. YS NOZZLE = .009
 BREF = 8000 IN. ZMRP = .0000 IN. ZS
 SCALE = .0055

RUN NO. 397/ 0 RN/L = 6.53 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
.899	70 620	15.45410	17.93710	.32180	-.31370	-.00840	-.09900	.48870	.00000	.00000	.00000
.899	72 470	15.50220	17.23210	.45910	-.33290	-.09880	-.09830	.49270	.00000	.00000	.00000
.899	74 470	15.61920	16.46040	.58970	-.35340	-.04980	-.11580	.49740	.00000	.00000	.00000
.899	76 430	15.78710	15.47250	.64150	-.30000	-.13430	-.10240	.50340	.00000	.00000	.00000
.899	78 400	15.94520	14.46920	.66800	-.22320	-.31760	-.12170	.50930	.00000	.00000	.00000
.899	80 360	16.08520	13.50810	.70170	-.23400	-.13880	-.13800	.51490	.00000	.00000	.00000
.899	82 330	16.19610	12.48460	.70550	-.26670	-.05890	-.12500	.52050	.00000	.00000	.00000
.899	84 300	16.31330	11.64900	.70410	-.26040	.16940	-.12260	.52510	.00000	.00000	.00000
.899	86.260	16.43910	10.55240	.77320	-.28790	.27250	-.12400	.53100	.00000	.00000	.00000
.899	88.220	16.74730	9.20240	.86110	-.32110	.27910	-.11770	.53850	.00000	.00000	.00000
.899	90 090	16.75220	8.21050	.82990	-.33730	.27010	-.12670	.54350	.00000	.00000	.00000
.899	80.370	16.26010	13.57490	.71820	-.24310	-.09510	-.10980	.51530	.00000	.00000	.00000
GRADIENT		.00000	00000	.00000	.00000	00000	.00000	00000	.00000	.00000	.00000

RUN NO. 398/ 0 RN/L = 6.98 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
1.196	70 580	18.59980	15.74850	.89480	-.32460	.36870	-.12790	.51430	.00000	.00000	.00000
1.196	72 460	18.83070	15.29930	.90600	-.32060	.40110	-.11780	.51710	.00000	.00000	.00000
1.196	74 460	19.03790	14.93470	.92900	-.32550	.39120	-.12710	.51940	.00000	.00000	.00000
1.196	76 440	19.10850	14.50610	.91410	-.31410	.34190	-.12720	.52140	.00000	.00000	.00000
1.196	78 430	19.24740	14.08610	.89020	-.32010	.30090	-.10800	.52370	.00000	.00000	.00000
1.196	80 410	19.46220	13.75650	.83860	-.32400	.33680	-.12530	.52570	.00000	.00000	.00000
1.196	82 420	19.66150	13.50240	.79170	-.34050	.39100	-.12350	.52730	.00000	.00000	.00000
1.196	84 370	19.80830	12.88240	.74980	-.37500	.48220	-.11760	.53030	.00000	.00000	.00000
1.196	86.340	19.90290	12.19680	.68260	-.38690	.56570	-.13300	.53340	.00000	.00000	.00000
1.196	88 350	19.97630	11.87390	.59330	-.36750	.64810	-.11890	.53490	.00000	.00000	.00000
1.196	90 230	19.90620	11.47520	.52000	-.39960	.61700	-.11600	.53630	.00000	.00000	.00000
1.196	80 410	19.41000	13.70400	.83570	-.32990	.30180	-.13510	.52580	.00000	.00000	.00000
GRADIENT		00000	00000	.00000	00000	00000	.00000	00000	.00000	.00000	.00000

ORIGINAL PAGE IS OF POOR QUALITY.

(RIH040) (10 JUL 75)

MSFC THT604 (SABF) SRB WITH ALL PROTUBERANCES

PARAMETRIC DATA

BETA = .000 PHI = 90.000
NOZZLE = .000

REFERENCE DATA

SREF = .5030 SQ. IN. XMRP = 5.7210 IN. XS
LMRF = 6000 IN. YMRP = .0000 IN. YS
BRMF = .8000 IN. ZMRP = .0000 IN. ZS
SCALE = .0055

RUN NO. 4017 0 RN/L = 7 42 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLPM	CA	CYN	CYM	CBL	XCP/L	CBP1	CBP2	CBP3
3.480	70 400	17.61030	12.44750	1.14770	-.28220	.29220	-.09650	.52570	.00000	.00000	.00000
3.480	72 280	17.93600	12.62230	1.08570	-.28780	.26550	-.09130	.52600	.00000	.00000	.00000
3.480	74 300	18.28130	12.72990	1.02740	-.28500	.24780	-.10240	.52660	.00000	.00000	.00000
3.480	76 300	18.54730	12.71510	.95920	-.28140	.22990	-.09250	.52740	.00000	.00000	.00000
3.480	78 300	18.82910	12.71090	.89120	-.28600	.20660	-.09770	.52830	.00000	.00000	.00000
3.480	80 290	19.03800	12.56840	.82400	-.28140	.20060	-.09730	.52950	.00000	.00000	.00000
3.480	82 280	19.21450	12.40010	.74490	-.27730	.17520	-.10410	.53070	.00000	.00000	.00000
3.480	84 280	19.34480	12.15270	.67570	-.29670	.14090	-.10790	.53210	.00000	.00000	.00000
3.480	86 270	19.41680	11.83960	.61180	-.29140	.14550	-.09100	.53360	.00000	.00000	.00000
3.480	88 270	19.48943	11.48450	.53320	-.29430	.12480	-.08580	.53530	.00000	.00000	.00000
3.480	90 150	19.53553	11.18160	.45120	-.29710	.16310	-.07560	.53660	.00000	.00000	.00000
3.480	80 290	19.02190	12.57530	.83170	-.28220	.18060	-.10440	.52940	.00000	.00000	.00000
GRADIENT		00000	00000	00000	.00000	00000	.00000	00000	00000	00000	.00000

MSFC TWT604 (SABF) SRB WITH ALL PROTUBERANCES

(R11041) (10 JUL 75)

REFERENCE DATA

SREF = 5030 SQ IN. XMRP = 5.7210 IN. XS
 LREF = 8000 IN. YMRP = .0000 IN. YS
 BREF = 8000 IN. ZMRP = .0000 IN. ZS
 SCALE = 0055

BETA = .000 PHI = 90 000
 NOZZLE = .000

RUN NO. 317/ 0 RN/L = 5.39 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
402	109 900	3 45550	-1 59370	- 67620	2 43640	.64420	-.00210	59710	00000	00000	00000
402	108 020	9 64600	- 11990	- 55420	2 29640	1.02980	-.06830	58440	00000	00000	00000
402	106 000	10 17640	69430	- 35350	1 44520	63470	-.01390	57780	00000	00000	00000
402	104 020	10 37560	1 99750	- 18750	99440	1 40870	- 03990	56770	00000	00000	00000
402	102 050	10 54430	2 44080	- 01180	.97540	1.23380	-.05740	55730	00000	00000	00000
402	100 060	10 82020	3 39290	11840	87180	2 06980	- 00950	55730	00000	00000	00000
402	98 050	11 06000	3 56830	37600	56940	2 88850	-.00150	55420	00000	00000	00000
402	96 070	11 46100	4 63130	51930	.30070	1 83230	- 00950	55040	00000	00000	00000
402	94 350	11 52990	5 15820	66250	- 00840	1 44750	00970	54690	00000	00000	00000
402	92 380	11 56910	5 78680	76470	22930	1 24980	-.02230	54260	00000	00000	00000
402	90 190	11 67690	6 33410	88570	- 40650	2 39470	02230	53890	00000	00000	00000
402	101 050	10 96180	3 78070	03000	.47530	21500	- 05970	53520	00000	00000	00000
	GRADIENT	.00000	00000	00000	00000	00000	00000	00000	00000	00000	00000

RUN NO. 316/ 0 RN/L = 5.06 GRADIENT INTERVAL = 5.00/ 5.00

MACH	ALPHA	CMH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
599	109 850	12 09890	14710	- 41270	.93910	1.06260	- 04310	58240	00000	00000	00000
599	107 950	12 31840	43510	- 26390	83350	1 03820	- 06850	58350	00000	00000	00000
599	105 930	12 48950	58900	- 09110	98940	93530	- 07570	57950	00000	00000	00000
599	103 940	12 50400	.71790	07050	.72780	53100	- 13110	57870	00000	00000	00000
599	99 970	12 68920	1 18660	25340	45950	22560	- 08720	57570	00000	00000	00000
599	97 980	12 86640	1 72490	54090	47200	43300	- 08350	57240	00000	00000	00000
599	95 990	12 98900	2 34450	73810	17150	85630	- 04850	56360	00000	00000	00000
599	93 980	13 00350	2 74730	92510	12980	78350	- 04730	56610	00000	00000	00000
599	92 420	13 22950	3 25950	1 07460	- 08340	83610	- 01510	56300	00000	00000	00000
599	90 140	13 15740	4 49120	1 16480	.08410	17230	- 06890	55570	00000	00000	00000
599	99 970	12 91250	1 70170	51960	49930	24180	-.01560	55060	00000	00000	00000
	GRADIENT	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000

PARAMETRIC DATA

TABULATED SOURCE DATA, MSFC THT 604, SA-8F

DATE 10 JUL 75

(R1H041) (10 JUL 75)

MSFC THT604 (SABF) SRB WITH ALL PROTUBERANCES

PARAMETRIC DATA

BETA = 000
NOZZLE = 000
PHI = 90.000

REFERENCE DATA

SREF = 5030 SQ IN
LREF = 8000 IN
BREF = 8000 IN
SCALE = 0055
XMRP = 5.7210 IN.
YMRP = 0000 IN.
ZMRP = 0000 IN.

RUN NO. 315/ 0 RNL = 6.38 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLMH	CA	CYM	CYH	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
896	109 610	15 34850	-1.22000	-30200	-12370	1.51530	-07430	.58990	.00000	.00000	.00000	.00000
896	107 720	15 53950	-66590	-14080	-11520	1.47130	-.06800	.58690	.00000	.00000	.00000	.00000
896	105 720	15 70280	.08620	03520	-.04480	1.24690	-.04420	.58290	.00000	.00000	.00000	.00000
896	103 740	15 78410	.82590	19040	02710	99170	-06170	.57910	.00000	.00000	.00000	.00000
896	101 790	15 94230	1.77010	32390	.02480	87770	-04940	.57430	.00000	.00000	.00000	.00000
896	99 830	16 11650	3.00110	47910	.06390	75960	-04570	.56820	.00000	.00000	.00000	.00000
896	97 870	16 29740	4.39520	.63380	.06500	.58250	-.02940	.56140	.00000	.00000	.00000	.00000
896	95 910	16 33350	5.55430	.77240	.11350	.48090	-02670	.55560	.00000	.00000	.00000	.00000
896	93 920	16 50670	6.77570	.86280	.14390	.39620	-.03080	.54990	.00000	.00000	.00000	.00000
896	91 960	16 55410	7.53900	.93360	.15760	.39490	-.03390	.54620	.00000	.00000	.00000	.00000
896	90 090	16 64950	8.34320	98070	.16110	.45300	-06230	.54250	.00000	.00000	.00000	.00000
896	99 820	16 14920	3.04600	.45200	.07010	76510	-.05220	.56800	.00000	.00000	.00000	.00000
GRADIENT		00000	00000	00000	.00000	00000	00000	00000	.00000	.00000	.00000	.00000

RUN NO. 314/ 0 RNL = 6.82 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLMH	CA	CYM	CYH	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
1 196	109 720	18 22310	6.17290	-58420	-02040	1.07400	-08330	.55570	.00000	.00000	.00000	.00000
1 196	107 840	18 56950	6.89340	-43260	-.01910	1.11190	-09020	.55310	.00000	.00000	.00000	.00000
1 196	105 840	18 84400	7.64410	-.28600	-.00580	1.13910	-07700	.55030	.00000	.00000	.00000	.00000
1 196	103 860	19 09150	8.29030	-14860	-.00100	1.06580	-06960	.54790	.00000	.00000	.00000	.00000
1 196	101 860	19 26980	8.60890	-.01930	-.00480	1.03620	-.06800	.54700	.00000	.00000	.00000	.00000
1 196	99 880	19 45170	8.69530	.11900	.02420	1.02710	-07340	.54690	.00000	.00000	.00000	.00000
1 196	97 900	19 65380	9.24370	25630	.02440	97100	-.07420	.54500	.00000	.00000	.00000	.00000
1 196	95 920	19 79840	9.75020	37470	.05460	95110	-06820	.54320	.00000	.00000	.00000	.00000
1 196	93 910	19 83310	10.19900	.49300	.09190	89160	-07470	.54140	.00000	.00000	.00000	.00000
1 196	91 950	19 91710	10.58800	.59290	.11080	.89750	-07780	.54000	.00000	.00000	.00000	.00000
1 196	90 070	19 93230	11.14140	.68710	.10840	91940	-08960	.53780	.00000	.00000	.00000	.00000
1 196	99 890	19 38530	8.75160	.11490	.03490	1.02590	-06650	.54650	.00000	.00000	.00000	.00000
GRADIENT		00000	00000	00000	.00000	00000	00000	00000	.00000	.00000	.00000	.00000

ORIGINAL PAGE IS
OF POOR QUALITY

(RIMON) (10 JUL 75)

MSFC INT604 (SABF) SRB WITH ALL PROTUBERANCES

PARAMETRIC DATA

BETA = .000 PHI = 90.000
NOZZLE = .000

REFERENCE DATA

SREF = 5030 SQ IN XMRP = 5.7210 IN. XS
LREF = 8000 IN YMRP = 0000 IN. YS
BREF = 8000 IN ZMRP = 0000 IN. ZS
SCALE = 0055

RUN NO. 308/ 0 RN/L = 7 17 GRADIENT INTERVAL = -5 00/ 5 00

MACH	ALPHA	CNH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
1.948	109.790	18.38360	8.41220	-.58870	.07840	78160	-.05650	-.54540	00000	00000	00000
1.948	107.890	18.52390	8.80560	-.46180	.09370	77460	-.05280	-.54460	00000	00000	00000
1.948	105.680	18.92380	9.26780	-.33010	.10260	80820	-.06630	-.54340	00000	00000	00000
1.948	103.900	19.32870	9.72360	-.20920	.10120	79180	-.06440	-.54230	00000	00000	00000
1.948	101.910	19.66350	10.15880	-.07800	.11130	77310	-.06240	-.54120	00000	00000	00000
1.948	99.920	20.00400	10.60160	04860	.11610	73320	-.05490	-.54010	00000	00000	00000
1.948	97.930	20.32370	11.06090	17100	.12510	70620	-.05620	-.53890	00000	00000	00000
1.948	95.950	20.62050	11.54930	.29490	.13470	70260	-.05860	-.53750	00000	00000	00000
1.948	93.940	20.70200	11.95770	40220	.14540	68580	-.06310	-.53620	00000	00000	00000
1.948	91.970	20.82220	12.37170	50510	.15710	63870	-.04710	-.53490	00000	00000	00000
1.948	90.030	20.92550	12.77060	59450	.17400	61830	-.04430	-.53360	00000	00000	00000
GRADIENT		00000	00000	00000	00000	00000	00000	00000	00000	00000	00000

RUN NO. 307/ 1 RN/L = 5.23 GRADIENT INTERVAL = -5 00/ 5 00

MACH	ALPHA	CNH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
2.740	109.890	17.60800	8.32430	-.57690	.08210	57340	-.04000	-.54480	00000	00000	00000
2.740	107.990	17.99390	8.80010	-.43800	.10130	58340	-.03250	-.54350	00000	00000	00000
2.740	105.970	18.40820	9.24780	-.31460	.10330	60560	-.02540	-.54240	00000	00000	00000
2.740	104.000	18.73940	9.71150	-.18070	.09610	62460	-.03450	-.54110	00000	00000	00000
2.740	102.040	19.06860	10.11520	-.05400	.09050	62320	-.03590	-.54010	00000	00000	00000
2.740	100.010	19.34570	10.51840	06870	.10180	61660	-.02660	-.53880	00000	00000	00000
2.740	98.020	19.57180	11.06790	18020	.10460	58660	-.03160	-.53720	00000	00000	00000
2.740	96.030	19.74600	11.44170	29280	.11690	57990	-.01060	-.53610	00000	00000	00000
2.740	94.020	19.86870	11.79810	39510	.12090	56000	-.01040	-.53490	00000	00000	00000
2.740	92.040	20.00740	12.05890	48330	.11650	59050	-.03100	-.53420	00000	00000	00000
2.740	90.150	20.16050	12.36600	57850	.14790	54920	04920	-.53310	00000	00000	00000
2.740	100.010	19.32920	10.57530	.05900	.11080	60810	-.02630	-.53870	00000	00000	00000
GRADIENT		00000	.00000	.00000	.00000	.00000	.00000	.00000	.000	.00000	.00000

IR1M042) (10 JUL 75)

MSFC INT604 (SABF) SRB WITH ALL PROTUBERANCES

PARAMETRIC DATA

BETA = 000 PHI = 90.000
NOZZLE = 000

REFERENCE DATA

SREF = 5030 SQ IN XMRP = 5 7210 IN. XS
LREF = 8000 IN YMRP = 0000 IN. YS
BREF = 8000 IN ZMRP = 0000 IN. ZS
SCALE = 0055

RUN NO. 310/ 0 RN/L = 5.36 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
398	129 580	5 26120	-6 67510	-1.71490	.32610	-1.76480	-.10090	68690	00000	.00000	.00000
398	127 680	5 32460	6 72370	-1.63290	.35520	-1.63660	-.05590	68640	00000	.00000	.00000
398	125 650	5 55100	-6 76240	-1.54810	.42630	-.92900	-.06960	68280	00000	.00000	.00000
398	123 650	5 78750	-6 91150	-1.47250	.66030	-.33050	-.06050	68040	00000	.00000	.00000
398	121 650	5 98420	-6 92540	-1.36370	.86920	-.24240	-.06990	67780	00000	.00000	.00000
398	119 650	6 18620	-6 46380	-1.22870	.93810	-.30420	-.08040	66860	00000	.00000	.00000
398	117 670	6 70870	-5 89160	-1.12180	.43770	1.62160	.00820	.65500	00000	.00000	.00000
398	115 670	7 29570	-5 02270	-.97610	.59080	1.96840	-.04810	.63950	00000	.00000	.00000
398	113 660	7 76400	-4 27290	-.83920	.72140	1.80190	-.03230	.62830	00000	.00000	.00000
398	111 690	8 36560	-3 19820	-.74020	.75580	2 11620	-.06730	61460	00000	.00000	.00000
398	109 780	8 96420	-1 65460	-.63060	.96250	2 89340	-.07800	.59840	00000	.00000	.00000
398	119 650	6 15160	-6 48280	-1 25190	.83740	.43070	-.07460	.66930	00000	.00000	.00000
GRADIENT		00000	.00000	00000	.00000	.00000	00000	00000	00000	.00000	.00000

RUN NO. 311/ 0 RN/L = 5.06 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
597	129 490	5 59620	-7 82790	-1 75180	.25910	-2.06900	-.02940	69750	00000	.00000	.00000
597	127 570	6 12980	-7 57080	-1 65750	.26020	-1 24050	-.02360	68410	00000	.00000	.00000
597	125 530	7 55690	-7 92690	-1 56160	.32530	-1 06920	-.02680	66890	00000	.00000	.00000
597	123 540	8 41620	-6 72620	-1 45340	.33730	-.23100	-.04220	64860	00000	.00000	.00000
597	121 550	9 24010	-5 22360	-1 35060	.54170	.50110	-.03740	62950	00000	.00000	.00000
597	119 580	9 94530	-4 05970	-1 21430	.64640	.88740	-.01740	61670	00000	.00000	.00000
597	117 590	10 79110	-2 98040	-1 04340	1.02110	.37800	-.02290	.60590	00000	.00000	.00000
597	115 580	11 20700	-2 20130	-.86390	.86860	.28120	-.03240	.59940	00000	.00000	.00000
597	113 590	11 56880	-1 40160	-71740	.87670	.56570	-.04540	.59330	00000	.00000	.00000
597	111 620	11 77890	-.43860	53550	.99320	1.25660	-.06070	.58640	00000	.00000	.00000
597	109 710	12 10190	-04270	33520	.82280	1 17370	-.07690	.58370	00000	.00000	.00000
597	119 560	10 06610	-4 08020	-1 02850	.53950	1.13020	-.04130	.61640	00000	.00000	.00000
GRADIENT		00000	.00000	00000	.00000	.00000	00000	00000	00000	.00000	.00000

(R1H0+2) (10 JUL 75)

MSFC THT604 (SABF) SRB WITH ALL PROTOBERANCES

PAR-METRIC DATA

REFERENCE DATA

SREF = 5030 SQ IN XMRP = 5.7210 IN. XS
 LREF = 8000 IN YMRP = .0000 IN. YS
 BREF = .8000 IN ZMRP = .0000 IN. ZS
 SCALE = .0055

BC*A
 MU/ZLE *

000 PHI = 90.000
 000

RUN NO. 309/ 0 RN/L = 7 19 GRADIENT INTERVAL = -5.00/ 5 00

MACH	ALPHA	CNM	CLNM	CA	CYN	CYMM	CB	XCP/L	CBP1	CBP2	CBP3
1 944	129 360	12 60190	3 22420	-1.91010	01510	46730	-0.4390	55050	00000	.00000	.00000
1 944	127 450	13 29060	4 68180	-1.79640	11350	96000	-0.4940	55720	00000	.00000	.00000
1 944	125 440	13 92700	5 15460	-1.68080	01270	53860	-0.4550	55650	00000	.00000	.00000
1 944	123 420	14 65110	6 62300	-1.56800	.01620	59920	-0.4430	55570	00000	.00000	.00000
1 944	121 400	15 26560	8 13690	-1.45910	.02180	62860	-0.4650	55540	00000	.00000	.00000
1 944	119 410	15 76910	9 65510	-1.35560	00750	64260	-0.6090	55710	00000	.00000	.00000
1 944	117 380	16 45340	11 10270	-1.25660	00580	59860	-0.4530	55370	00000	.00000	.00000
1 944	115 390	16 96500	12 60190	-1.16300	04120	65560	-0.5140	55210	00000	.00000	.00000
1 944	113 370	17 39320	14 09700	-1.07400	05330	66770	-0.4980	55100	00000	.00000	.00000
1 944	111 390	17 87670	15 62300	-0.98900	.06930	69910	-0.4810	54980	00000	.00000	.00000
1 944	109 410	18 36050	17 19700	-0.90900	.07640	74540	-0.4640	54800	00000	.00000	.00000
1 944	107 440	18 84820	18 83200	-0.83400	.08340	78030	-0.4470	54620	00000	.00000	.00000
GRADIENT		00000	00000	00000	00000	00000	00000	00000	00000	.00000	.00000

RUN NO. 306/ 0 RN/L = 5 22 GRADIENT INTERVAL = -5 00/ 5 00

MACH	ALPHA	CNM	CLNM	CA	CYN	CYMM	CB	XCP/L	CBP1	CBP2	CBP3
2 740	129 360	12 05590	4 22420	-2.01090	06740	36650	-0.0970	55480	00000	.00000	.00000
2 740	127 620	12 74360	5 68180	-1.85500	.06940	38670	-0.1400	55340	00000	.00000	.00000
2 740	125 610	13 40440	7 15460	-1.73690	07910	42330	-0.2100	55200	00000	.00000	.00000
2 740	123 610	13 99470	8 62300	-1.66810	06070	45020	-0.0820	55070	00000	.00000	.00000
2 740	121 600	14 61870	10 13690	-1.63670	06520	50840	-0.1460	55010	00000	.00000	.00000
2 740	119 600	15 19660	11 65510	-1.61690	.06900	50710	-0.2790	54940	00000	.00000	.00000
2 740	117 640	15 73670	13 10270	-1.60270	09000	50240	-0.0210	54890	00000	.00000	.00000
2 740	115 740	16 30710	14 56240	-1.59240	10260	51230	-0.1140	54850	00000	.00000	.00000
2 740	113 690	16 81010	16 09700	-1.59790	09610	57320	-0.1850	54790	00000	.00000	.00000
2 740	111 680	17 26220	17 70320	-1.64710	.09910	58340	-0.2720	54700	00000	.00000	.00000
2 740	109 680	17 71500	19 13220	-1.69170	11070	57430	-0.3490	54590	00000	.00000	.00000
2 740	107 680	18 17670	20 58950	-1.74670	08710	47970	-0.4260	54340	00000	.00000	.00000
GRADIENT		00000	00000	00000	00000	00000	00000	00000	00000	.00000	.00000

ORIGINAL PAGE IS OF POOR QUALITY

MSFC TMT604 (SABF) SRB WITH ALL PROLIFERANCES
 PAPERMETRIC DATA

SREF = .5030 SQ. IN. XMRP = 5.7210 IN. XS BETA = .000 PHI = 90.000
 LREF = .8000 IN. YMRP = .0000 IN. YS NOZZLE = .000
 BREF = .8000 IN. ZMRP = .0000 IN. ZS
 SCALE = .0055

MACH	ALPHA	CMH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
.392	149.810	3.19630	-1.79100	-2.09360	-.08790	.99100	.04010	.62910	-.34600	-.08440	-.07690
.392	146.870	3.67370	-2.21820	-2.09820	-.31740	.96810	.00080	.63260	-.41200	-.11410	-.10280
.392	144.830	4.02380	-2.50920	-2.06160	-.36280	.77870	.01050	.63420	-.47280	-.13770	-.10640
.392	142.790	4.50350	-3.14220	-1.96880	-.37980	1.11630	.01760	.64030	-.54460	-.19470	-.13650
.392	140.750	4.73460	-3.50680	-1.91170	-.31880	.97640	.02820	.64380	-.61580	-.23640	-.16000
.392	138.740	5.04980	-3.82970	-1.89450	-.35380	1.01470	-.01830	.64520	-.74330	-.29990	-.19030
.392	136.700	5.19540	-4.22240	-1.81750	-.39430	.75760	.00940	.64970	-.93140	-.36160	-.23270
.392	134.700	5.32440	-4.66840	-1.78910	-.40110	.47050	-.00860	.65490	-.115230	-.44600	-.28880
.392	132.650	5.37630	-5.06990	-1.76370	-.35910	.51780	-.02580	.66030	-.139130	-.45910	-.33020
.392	130.650	5.48890	-5.50980	-1.69280	-.00310	-.76540	.00160	.66670	-.157750	-.52190	-.37170
.392	128.760	5.58820	-5.77940	-1.63330	-.09530	-1.07000	.03690	.66770	-.176030	-.55070	-.40670
.392	138.750	4.88250	-3.75330	-1.89260	-.28900	.62970	.01260	.64610	-.73230	-.31410	-.19390
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 44/ 0 RN/L = 5.17 GRADIENT INTERVAL = .00/ 5.00

MACH	ALPHA	CMH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
.599	148.670	3.48500	-2.01650	-2.12200	-.56110	2.63030	-.02550	.63060	-.24270	-.08770	-.07170
.599	146.720	3.90860	-2.25780	-2.08430	-.80690	3.42560	.00820	.63050	-.29550	-.11770	-.09730
.599	144.660	4.31250	-2.73700	-2.02280	-1.20040	2.04770	-.01980	.63510	-.39060	-.13730	-.11770
.599	142.600	4.73770	-3.45020	-1.94950	-1.02500	1.51920	-.02920	.64280	-.46790	-.16220	-.11950
.599	140.580	4.75750	-4.10610	-1.94420	-.55150	1.24590	-.02340	.65360	-.48680	-.18040	-.12070
.599	138.540	4.94200	-4.79090	-1.90440	-.44770	.59010	-.04980	.66250	-.60050	-.23300	-.15480
.599	136.500	5.16770	-5.36290	-1.85190	-.40280	.55170	-.05540	.66800	-.76470	-.29170	-.2880
.599	134.470	5.34660	-5.99590	-1.78730	-.46090	.60070	-.03710	.67480	-.98790	-.37500	-.23770
.599	132.390	5.63900	-6.28750	-1.76500	-.44780	.61950	-.05560	.67750	-.121850	-.47840	-.28100
.599	130.360	6.28190	-5.99750	-1.70190	-.05540	-.28870	-.03990	.66130	-.140320	-.55210	-.29950
.599	128.440	7.06440	-4.83110	-1.64980	-.03080	-.36280	-.03960	.63920	-.151510	-.58880	.5190
.55	138.550	4.54320	-4.72710	-1.91530	-.43780	.56590	-.03260	.66140	-.63120	-.23940	6r J
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 43/ 0 RN/L = 5.00 GRADIENT INTERVAL = .50/ 5.00

ORIGINAL PAGE IS
 OF POOR QUALITY

(IR1M044) (10 JUL 75)

MSFC TWT604 (SABF) SRB WITH ALL PROTUBERANCES

BETA = .000 PH: = 90.000

PARAMETRIC DATA

NOZZLE = .000

REFERENCE DATA

SREF = .5030 50. IN. XMRP = 5.7210 IN. XC
LREF = .8000 IN. YMRP = .0000 IN. YS
BREF = .8000 IN. ZMRP = .0000 IN. ZS
SCALE = 0055

MACH	ALPHA	CLM	CLMM	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
.399	169.070	.59360	-1.42620	-1.56400	.01050	-.22890	-.03620	.77940	.06660	.10530	.10040
.399	167.160	.72730	-1.60310	-1.63500	-.00540	-.17140	-.07350	.76320	.06370	.09860	.09860
.399	165.140	.93920	-1.86230	-1.71370	.03180	-.14530	-.06660	.74510	.04100	.09160	.08560
.399	163.140	1.18360	-1.99850	-1.75510	.01870	-.25520	-.03310	.72110	.02900	.08350	.07500
.399	161.110	1.45460	-2.02250	-1.82370	.01780	-.13450	-.06110	.69680	-.01570	.05890	.05770
.399	159.080	1.66180	-1.88910	-1.88100	.10300	-.21930	-.05470	.67610	-.02140	.04810	.04570
.399	157.060	1.99210	-1.80910	-1.97380	.14110	-.36490	-.08900	.65750	-.05440	.02420	.02420
.399	155.060	2.26650	-1.66170	-2.04480	1.2880	-.05370	-.10530	.64320	-.08340	.00850	.00970
.399	153.010	2.60250	-1.43920	-2.08630	.06090	1.24790	-.06550	.62850	-.15360	-.02400	-.01310
.399	150.980	2.91220	-1.61660	-2.07020	2.3280	1.35880	-.05280	.62870	-.17770	-.05160	-.06370
.399	149.060	3.29190	-2.02100	-2.05160	1.1386	1.48400	-.03240	.63350	-.27910	-.07360	-.07480
.399	159.080	1.65190	-1.92980	-1.88640	.03430	-.21170	-.04950	.67870	-.01750	.04790	.34190
GRADIENT		00000	00000	00000	00000	00000	00000	00000	00000	00000	00000

RUN NO. 86/ 0 RN/L = 5.25 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CLMM	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
.598	169.040	54260	-1.33230	-1.65240	.00320	-.31450	-.00540	.75250	.06290	.07890	.08070
.598	167.110	84460	-1.57250	-1.72250	-.00770	-.25690	-.01770	.73530	.05130	.06460	.06670
.598	165.090	1.07290	-1.80970	-1.79040	-.00410	-.27370	-.00740	.72100	.03690	.05560	.05740
.598	163.080	1.29620	-1.95540	-1.83910	-.05250	-.30130	-.00970	.70640	.02790	.04920	.04920
.598	161.040	1.60320	-2.09350	-1.91220	-.07600	-.32510	-.00590	.68990	.01910	.04400	.04490
.598	159.000	1.83190	-2.03190	-1.99210	-.12270	-.54000	-.00870	.67390	-.00750	.02720	.03340
.598	156.970	2.16590	-2.07030	-2.06330	-.11860	-.68340	-.02930	.66130	-.03660	.00850	.02020
.598	154.940	2.49270	-1.99800	-2.10430	-.15650	-.23970	-.01020	.64680	-.10020	-.03060	.00320
.598	152.890	2.81210	-1.83300	-2.16190	-.05600	2.6370	-.02250	.63650	-.14160	-.06740	-.01550
.598	150.870	3.05600	-1.91070	-2.10510	-.04260	1.28520	-.00870	.63370	-.17850	-.09690	-.04040
.598	148.930	3.66240	-2.04390	-2.07650	-.26690	3.08000	-.00980	.62890	-.21280	-.13200	-.08720
.598	159.010	1.80730	-1.97700	-1.97630	-.12160	-.61720	-.00180	.67260	-.00050	.02910	.03180
GRADIENT		00000	00000	00000	00000	00000	00000	00000	00000	00000	00000

RUN NO. 86/ 0 RN/L = 4.97 GRADIENT INTERVAL = -5.00/ 5.00

ORIGINAL PAGE IS OF POOR QUALITY

REFERENCE DATA

SREF = .5030 SQ IN XMRP = 5.7210 IN. XS BETA = 000 PHI = 90 000
 LREF = 0000 IN YMRP = 0000 IN. YS NOZZLE = 000
 BRP = 8000 IN. ZMRP = 0000 IN. ZS
 SCALE = 0055

PARAMETRIC DATA

RUN NO. 99/ 0 RN/L = 7.06 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
1.955	168 860	86340	-1.23190	-2.59060	-.05960	-.14530	-.01670	.69980	-.09620	-.09320	- 10000
1.955	166 860	1 26730	-1.35800	-2 61250	-.29130	-.56220	-.00500	.67080	-.11420	-.11220	- 12020
1.955	164 690	1.94490	-1.26000	-2 68120	-.64110	-1.00810	-.00190	.63620	-.14190	-.13890	- 14720
1.955	162 580	2 53790	-1 37620	-2 72260	-.52320	-.04650	-.00650	.62760	-.15670	-.15450	- 16350
1.955	160 400	3 25710	-1 15240	-2 78650	-.19430	1.44990	-.00960	.61270	-.18210	-.18020	- 19230
1.955	158 250	4 09580	-.52800	-2.84480	.07140	2.11000	-.00790	.59390	-.19750	-.19600	- 19980
1.955	156 110	4 82740	-.05280	-2.85710	1.2880	1.73340	-.01710	.58430	-.20450	-.19590	- 20040
1.955	153 960	5 53240	1.7630	-2.87770	-.01630	.72470	-.02170	.58080	-.22110	-.21320	- 22630
1.955	151.770	6 27570	.54300	-2 89970	-.10380	.15220	-.03550	.57630	-.24010	-.21910	- 21800
1.955	149 690	6 81110	.81800	-2 86220	-.09120	.34360	-.02770	.57360	-.25860	-.22630	- 22560
1.955	147 700	7 37810	1 05740	-2 82890	-.02100	.47510	-.04510	.57170	-.23850	-.22230	- 21890
1.955	158 300	4 04320	- 20130	-2 78560	11910	2.08050	-.01260	.58740	-.19830	-.19680	- 19910
GRADIENT		00000	00000	00000	00000	00000	00000	00000	00000	00000	00000

RUN NO. 17/ 0 RN/L = 5.22 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
2.740	168 990	89310	-.68470	-2.57570	-.15600	-.48070	-.03150	.64590	-.03210	-.08890	- 08390
2.740	167 030	1 35200	-.50570	-2 62130	-.28350	-.71220	-.03700	.61390	-.10170	-.10530	- 09990
2.740	164 970	1 80530	-.37670	-2 64590	-.25260	-.63330	-.02440	.60040	-.10970	-.10900	- 10800
2.740	162 930	2 20830	-.25250	-2 67780	-.19830	-.43320	-.02450	.59270	-.11050	-.11050	- 10850
2.740	160 860	2 76270	-.08250	-2 70890	-.16860	-.36700	-.01280	.58580	-.11180	-.11290	- 11220
2.740	158 760	3 44970	.39400	-2 74860	-.04030	.57080	-.02320	.57410	-.12570	-.12430	- 12500
2.740	156 690	4 03650	.65710	-2 76560	-.09460	.44240	-.01700	.57010	-.13140	-.12100	- 12800
2.740	154 620	4 57930	.79940	-2 79790	-.07920	.16870	-.15040	.56910	-.14440	-.11540	- 13220
2.740	152 520	5 16930	93290	-2 80050	-.03990	.23200	-.03520	.56860	-.14440	-.10240	- 12680
2.740	150 440	5 74000	1 01520	-2 79410	-.05830	.21430	-.03320	.56790	-.14770	-.08910	- 12220
2.740	148 470	6 36570	1 06650	-2 77380	-.05100	.23280	-.04740	.56970	-.15120	-.07340	- 11860
2.740	154 760	3 46560	37400	-2 73170	-.05700	.23570	-.01880	.57450	-.12450	-.12340	- 12510
GRADIENT		00000	00000	00000	00000	00000	00000	00000	00000	00000	00000

ORIGINAL PAGE IS
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(IR14045) (10 JUL 75)

MSFC TMT604 (SABF) SRB WITH ALL PROTUBERANCES

PARAMETRIC DATA

REFERENCE DATA

BETA = .000 PHI = 90.000
NOZZLE = .000

SREF = 5030 SQ IN. XMRP = 5.7210 IN. XS
LREF = 8000 IN. YMRP = .0000 IN. YS
BREF = 8000 IN. ZMRP = .0000 IN. ZS
SCALE = .0055

RUN NO. 108/ 0 RN/L = 7.02 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMH	CLMH	CA	CYH	CYNH	CDL	XCP/L	CBP1	CBP2	CBP3
1.951	189.720	-72450	1.12820	-2.63330	11490	49300	.01090	71040	-10910	-11210	-10610
1.951	187.740	-48520	94140	-2.56860	03240	.21190	01880	74160	-09510	-09280	-08980
1.951	185.670	-32910	60120	-2.47480	-05280	-00550	01340	78190	-08740	-07830	-07310
1.951	183.640	-19360	48970	-2.50370	-01620	.00000	.01630	78970	-07520	-06810	-06440
1.951	181.610	-08650	14050	-2.47250	-02140	-04850	02100	71590	-06660	-05990	-05920
1.951	179.540	04280	-10840	-2.43300	-00960	03100	02450	78990	-05310	-04230	-06050
1.951	177.490	17400	-35060	-2.44310	-00580	00240	-00710	74770	-07090	-06470	-06260
1.951	175.430	29020	-69900	-2.45090	-02830	-00320	.01110	77390	-01970	-06470	-06730
1.951	173.330	46050	-94760	-2.53160	-04720	-18050	01070	75130	-08760	-07630	-06310
1.951	171.290	65290	-113340	-2.60140	-04440	-18850	00820	72500	-09780	-09070	-09670
1.951	169.310	91630	-133370	-2.60880	-07880	-21110	00610	70210	-10780	-10360	-11140
1.951	179.500	08650	-2.350	-2.36740	-02390	-01830	02060	79560	-05620	-05510	-05470
1.951	FRACENT	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000

RUN NO. 3/ 0 RN/L = 4.97 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMH	CLMH	CA	CYH	CYNH	CDL	XCP/L	CBP1	CBP2	CBP3
2.740	189.590	-70870	66540	-2.62780	04690	14170	02330	65000	-09040	-09190	-08470
2.740	187.650	-5470	64140	-2.56530	-03660	-20500	01410	69840	-07790	-07790	-07450
2.740	185.620	-31307	34840	-2.50420	-01570	20710	-00960	67420	-07010	-06670	-06420
2.740	183.620	-19140	34930	-2.45690	-01590	00660	-00940	73720	-06240	-05910	-05450
2.740	181.640	-10530	11240	-2.41490	-02200	-01570	01440	71690	-05730	-05180	-04410
2.740	179.550	-00950	08580	-2.40420	-0230	-01980	-01480	00000	-05070	-05070	-04260
2.740	177.530	07140	-26340	-2.40190	00090	-01460	00610	88130	-05170	-05350	-04510
2.740	175.510	19310	-45580	-2.43720	-00410	-05990	-00670	77590	-06100	-05740	-04180
2.740	173.450	36560	-69890	-2.49180	-02590	-16160	00430	71700	-06880	-06680	-05250
2.740	171.420	53750	-72240	-2.53630	-05470	-33960	00020	69300	-08250	-07990	-06590
2.740	169.450	84480	-57700	-2.58870	-10530	-48080	-02400	65370	-09310	-09190	-07860
2.740	167.420	-30030	-02340	-2.44230	-02670	-07250	-01680	00010	-05250	-04080	-02930
2.740	FRACENT	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000

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MSFC INT604 (SABF) SRB WITH ALL PROTUBERANCES (11046) (10 JUL 75)

PARAMETRIC DATA

BETA = 000
NOZZLE = 000
PHI = 000
PMI = 135 000

REFERENCE DATA

SREF = 5030 IN
LREF = 8000 IN
BREF = 8000 IN
SCALE = 0095

MAPP = 5.7210 IN, XS
YAPP = .0000 IN, YS
ZAPP = 0000 IN, ZS

RUN NO 201/0 RNV/L = 7 09 ORA' EN INTERVAL = -5.00/ 5 00

MACH	ALPHA	U/M	C/M	CA	CVM	CVMH	CBL	XCP/L	CBP1	CBP2	CBP3
3 480	9 610	-1 26320	-2 17110	83630	04760	-01520	02340	44320	-07190	-08670	-08600
3 480	11 150	-1 40860	-1 82380	81510	02950	02470	02010	41610	-06480	-08480	-08550
3 480	15 540	-1 42180	-1 39940	81410	-03750	07000	01820	38020	-06110	-08210	-08420
3 480	13 540	-1 33540	-1 85730	81290	-04660	10400	02400	37490	-05880	-08090	-08250
3 480	11 470	-1 24920	-1 35720	81420	-05150	10400	-02480	34470	-05650	-08120	-08110
3 480	150	11450	00930	80460	-07560	15250	-01800	54430	-05560	-08050	-07880
3 480	2 600	32060	47890	84320	-07820	17730	-01610	48450	-05640	-08230	-07970
3 480	4 640	52330	57620	82780	04880	13330	-04690	42091	-05940	-08390	-08130
3 480	6 720	81550	1 45280	85300	-11510	19370	-04720	43890	-06500	-08500	-08300
3 480	8 790	1 19040	1 84820	86790	-13270	27230	-05390	45330	-07460	-08630	-08550
3 480	10 730	1 61790	2 25550	87340	-18280	21115	-05020	46870	-07530	-08850	-08790
3 480	550	11800	09770	80270	-06810	17770	-01190	52270	-05580	-08080	-08050
GRADIENT		10406	22269	00420	00643	02645	-00768	01138	-00125	-00035	00019

MSFC TMT604 (SABF) SRB WITH ALL PROTRUBERANCES

REFERENCE DATA PARAMETRIC DATA
 SREF = .5030 SQ. IN. XMRP = 5.7210 IN. XS BETA = .000 PHI = 135.000
 LREF = .8000 IN. YMRP = .0000 IN. YS NOZZLE = .000
 BREF = .8000 IN. ZMRP = .0000 IN. ZS
 SCALE = .0055

RUN NO. 408/ 0 RN/L = 5.48 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM1	CLM2	CA	CYM	CYNH	CBL	XCP/L	CBP1	CBP2	CBP3
.401	70.280	10.06210	10.49890	.07050	2.42900	3.49260	.23170	49820	00000	.00000	.00000
.401	72.180	10.51610	10.54360	.05620	2.21100	4.20870	.26100	50160	00000	.00000	.00000
.401	74.170	10.60580	10.44120	.04090	1.54580	.38140	.22480	50310	00000	.00000	.00000
.401	76.180	10.60750	10.70800	.09620	.70790	1.11730	.23510	50250	.00000	.00000	.00000
.401	78.170	10.97950	10.61760	.12860	.47840	-.09610	.22690	50450	.00000	.00000	.00000
.401	80.170	11.10080	10.37470	.18880	.32990	-1.53800	.24190	50710	.00000	.00000	.00000
.401	82.170	11.04510	8.89810	.38370	-.02180	-3.57100	.24850	51760	.00000	.00000	.00000
.401	84.130	10.94750	7.33610	.70740	.06950	-4.81810	.25580	54070	.00000	.00000	.00000
.401	86.100	10.69140	5.69980	.85750	.26900	-3.67030	.20330	55210	.00000	.00000	.00000
.401	88.080	10.95160	4.20310	.83100	.34130	-3.20300	.22860	56690	.00000	.00000	.00000
.401	89.990	11.05080	3.58130	.83100	.33070	-1.51680	.23270	50710	.00000	.00000	.00000
.401	90.170	11.07330	10.35210	.16700	.00000	.00000	.00000	.00000	.00000	.00000	.00000
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 407/ 0 RN/L = 5.14 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM1	CLM2	CA	CYM	CYNH	CBL	XCP/L	CBP1	CBP2	CBP3
.597	70.370	12.26640	13.83720	.06520	-.32820	-.06200	.25760	49090	.00000	.00000	.00000
.597	72.250	12.52360	13.77750	.09970	-.57720	-.68260	.25840	49360	.00000	.00000	.00000
.597	74.260	12.63070	13.44400	.13130	-.89650	-1.68720	.25940	49560	.00000	.00000	.00000
.597	76.240	12.66580	12.70440	.20720	-1.07120	-2.51440	.25580	50150	.00000	.00000	.00000
.597	78.210	12.58130	10.86350	.45270	-1.03550	-3.06850	.23060	51290	.00000	.00000	.00000
.597	80.180	12.69480	9.48890	.61240	-1.23690	-2.66990	.23990	52240	.00000	.00000	.00000
.597	82.190	12.72340	8.70080	.66270	-1.13540	-2.58450	.23480	52760	.00000	.00000	.00000
.597	84.150	12.82550	7.84090	.71170	-1.07620	-2.60170	.24520	53350	.00000	.00000	.00000
.597	86.130	12.93780	6.65160	.78690	-.97970	-2.86870	.23620	54140	.00000	.00000	.00000
.597	88.130	13.00440	5.61180	.83360	-.80200	-2.85090	.25640	54820	.00000	.00000	.00000
.597	89.990	13.04410	4.77740	.86170	-.63590	-2.59390	.25570	55350	.00000	.00000	.00000
.597	80.180	12.56370	9.38400	.60120	-1.22680	-2.55720	.23010	52240	.00000	.00000	.00000
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

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PARAMETRIC DATA

SREF = .5030 SQ. IN. X*PP = 5.7210 IN. XS BETA = .000 PHI = 135.000
 LREF = .8000 IN. Y*PP = .0000 IN. YS NOZZLE = .000
 BREF = .8000 IN. Z*PP = .0000 IN. ZS
 SCALE = .0055

RUN NO. 352/ 0 RN/L = 5.35 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLMH	CA	CYH	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
.398	129.580	7.90940	-6.25610	-1.72580	2.68880	1.42930	.14720	.66970	.00000	.00000	.00000
.398	127.670	7.38300	-6.38340	-1.62110	2.55510	1.25840	.12190	.65500	.00000	.00000	.00000
.398	125.640	6.75100	-6.49750	-1.50330	2.35410	1.07320	.11960	.66190	.00000	.00000	.00000
.398	123.640	7.11640	-6.28770	-1.37680	2.23590	1.49220	.15550	.65540	.00000	.00000	.00000
.398	121.640	7.47930	-6.05830	-1.24180	1.91510	1.76160	.18470	.64390	.00000	.00000	.00000
.398	119.640	7.84670	-5.84790	-1.14360	1.87760	2.23410	.17980	.64210	.00000	.00000	.00000
.398	117.620	7.92390	-5.27940	-1.01050	1.61600	2.46740	.17820	.63770	.00000	.00000	.00000
.398	115.640	8.19330	-5.19840	-.90320	1.34970	2.31630	.21210	.63510	.00000	.00000	.00000
.398	113.640	8.54350	-5.12120	-.76680	.95320	3.10090	.22070	.63230	.00000	.00000	.00000
.398	111.620	9.15750	-4.72630	-.67330	-.11910	3.99590	.21090	.62550	.00000	.00000	.00000
.398	109.640	9.58320	-3.82470	-.52570	-.65750	4.23480	.17160	.61590	.00000	.00000	.00000
.398	119.640	7.81610	-5.83320	-1.15400	1.70480	1.92900	.22790	.64430	.00000	.00000	.00000
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 353/ 0 RN/L = 5.11 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLMH	CA	CYH	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
.602	129.480	7.17060	-5.85850	-1.77170	2.15280	2.63800	.19280	.65000	.00000	.00000	.00000
.602	127.600	7.73590	-5.31780	-1.66070	2.05330	2.28100	.19510	.63950	.00000	.00000	.00000
.602	125.570	8.24110	-5.05740	-1.52420	1.94520	1.88830	.22240	.63340	.00000	.00000	.00000
.602	123.570	8.76860	-4.48270	-1.38770	1.88480	1.28180	.21580	.62520	.00000	.00000	.00000
.602	121.560	9.28480	-4.31140	-1.27520	1.38010	1.18430	.24890	.62130	.00000	.00000	.00000
.602	119.560	9.80500	-4.34380	-1.14320	.27160	1.98370	.24780	.61950	.00000	.00000	.00000
.602	117.550	10.15070	-4.50460	-.97470	-.54210	2.82570	.25930	.61860	.00000	.00000	.00000
.602	115.540	10.53870	-4.55160	-.85340	-1.02790	2.10950	.25720	.61860	.00000	.00000	.00000
.602	113.550	10.72810	-4.15820	-.68490	-1.36240	1.19420	.27790	.61500	.00000	.00000	.00000
.602	111.550	10.98450	-3.75190	-.53100	-1.84940	-.13360	.27380	.61120	.00000	.00000	.00000
.602	109.650	11.23480	-3.54240	-.35200	-2.11880	-.103190	.29900	.60910	.00000	.00000	.00000
.602	119.560	9.77730	-4.33400	-1.13600	.24850	1.84890	.24780	.61960	.00000	.00000	.00000
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

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PARAMETRIC DATA

SREF = 5030 SQ. IN XMRP = 5.7210 IN. XS BETA = .000 PHI = 135.060
 LREF = 8000 IN YMRP = 0000 IN. YS MOZZLE = 000
 BREF = 8000 IN ZMRP = 0000 IN. ZS
 SCALE = 0055

RUN NO. 356/ 0 RV/L = 7.28 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
1.954	129 340	12 56030	3 01380	-1.97140	-61290	-1.22230	08040	52380	00000	.00000	.00000
1.954	127 430	13 24800	3 36020	-1.86640	-62720	-1.21840	.08890	56270	00000	00000	.00000
1.954	125 420	13 95000	3 72130	-1.76470	-65820	-1.23980	.08990	55160	00000	00000	.00000
1.954	123 400	14 65840	4 05110	-1.64440	-68030	-1.26120	.09040	56080	00000	00000	.00000
1.954	121 400	15 25530	4 76560	-1.52310	-70860	-1.29050	.09430	55790	00000	.00000	.00000
1.954	119 370	15 86440	5 06160	-1.36270	-73250	-1.30200	.09090	55730	00000	.00000	.00000
1.954	117 370	16 33350	5 53350	-1.19780	-76060	-1.26270	.09870	.55570	00000	.00000	.00000
1.954	115 360	16 92500	5 80340	-1.04380	-79150	-1.25400	.10700	.55540	00000	.00000	.00000
1.954	113 380	17 13420	6 29440	-87130	-79320	-1.22240	.11900	.55340	00000	.00000	.00000
1.954	111 350	17 54300	6 58720	-71150	-80610	-1.22290	.12480	.55270	00000	.00000	.00000
1.954	109 420	17 91660	7 02020	-55720	-81380	-1.21320	.12210	.55140	00000	00000	.00000
1.954	119 430	15 52920	5 39350	-1.34270	-70030	-1.25700	.09530	.55500	00000	00000	.00000
GRADIENT		00000	00000	00000	.00000	00000	.00000	.00000	00000	00000	.00000

RUN NO 357/ 0 RV/L = 5.33 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
2.740	129 520	12 12220	3 37080	-2 06290	-53410	-98130	05910	56070	00000	00000	00000
2.740	127 610	12 77880	3 77620	-1.92890	-57480	-96210	.05390	59930	00000	00000	.00000
2.740	125 610	13 50780	4 25820	-1.78710	-64260	-97650	.07770	55770	00000	00000	.00000
2.740	123 580	14 11620	4 67690	-1.64130	-63170	-95460	.07260	.55630	00000	00000	.00000
2.740	121 600	14 68760	5 06480	-1 48190	-64570	-96950	.07880	.55520	00000	00000	.00000
2.740	119 570	15 31080	5 48450	-1.31460	-66050	-97400	.06930	.55410	00000	00000	.00000
2.740	117 570	15 87990	5 89160	-1 14300	-69170	-1.02250	.13900	.55310	00000	00000	.00000
2.740	115 560	16 48400	6 22110	-98880	-73120	-1 03320	.14050	.55260	00000	00000	.00000
2.740	113 560	16 95940	6 48690	-83520	-73620	-99340	.13560	.55220	00000	00000	.00000
2.740	111 560	17 36930	6 88270	-68770	-73230	-1 02520	.12510	.55100	00000	00000	.00000
2.740	109 650	17 80230	7 30700	-53210	-73840	-1 02660	.13490	.54930	00000	00000	.00000
2.740	119 570	15 24470	5 44710	-1 31390	-66760	-1 00480	.12680	.55420	00000	00000	.00000
GRADIENT		00000	00000	00000	.00000	00000	.00000	.00000	00000	00000	.00000

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(R1H050) (10 JUL 75)

PARAMETRIC DATA

SREF = .5030 SQ IN. XMRP = 5.7210 IN. X5
 LREF = .8000 IN. YMRP = .0000 IN. Y5
 BREF = .8000 IN. ZMRP = .0000 IN. Z5
 SCALE = .0055
 BETA = .000 PHI = 135.000
 NOZZLE = .700

RUN NO. 100/0 RN/L = 7.08 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYH	CYHM	CBL	XCP/L	CBP1	CBP2	CBP3
1.995	168.880	1.86600	-1.17330	-2.65280	-0.08010	-0.11100	-0.0140	.69380	-1.0840	-1.10780	-1.11480	
1.995	166.870	1.24710	-1.31450	-2.67700	0.1190	.22160	0.0480	.66940	-1.1980	-1.11820	-1.12780	
1.995	164.740	1.74930	-1.48360	-2.72500	-1.2640	-2.5560	0.0230	.65260	-1.3280	-1.3050	-1.13960	
1.995	162.620	2.34310	-1.39450	-2.77540	-2.8640	-1.6020	0.1910	.63190	-1.4530	-1.4190	-1.15320	
1.995	160.470	2.96320	-1.25600	-2.83160	-1.3210	-1.55240	0.2460	.61970	-1.5870	-1.5570	-1.16550	
1.995	158.310	3.69900	-1.98380	-2.88830	0.4220	-1.19370	0.2540	.60510	-1.7640	-1.7380	-1.18620	
1.995	156.150	4.4560	-3.6770	-2.91170	-0.3110	-1.60290	0.3340	.59010	-2.0530	-1.9860	-1.20230	
1.995	153.990	5.30010	-1.12290	-2.98380	-0.3130	-1.29640	0.3800	.58530	-2.3650	-2.2260	-1.22340	
1.995	151.810	6.02640	1.68820	-2.99530	-1.3710	-1.80680	0.2930	.58110	-2.3300	-2.210	-1.21930	
1.995	149.730	6.53720	4.1350	-2.92830	-1.1020	-1.84620	0.3960	.57820	-2.3260	-2.2120	-1.21820	
1.995	147.690	7.19080	3.9620	-2.91150	-1.9170	-1.02330	0.4340	.57890	-2.3410	-2.1880	-1.21580	
1.995	158.330	3.68050	-1.74730	-2.84400	0.3430	1.22590	0.2700	.59990	-1.7900	-1.7670	-1.18770	
GRADIENT		00500	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	

RUN NO. 23/0 RN/L = 5.22 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYH	CYHM	CBL	XCP/L	CBP1	CBP2	CBP3
2.740	168.990	1.84660	-1.70110	-2.62580	-0.07320	-1.10250	-0.0360	.65090	-1.0780	-1.10300	-1.10410	
2.740	167.030	1.24500	-1.68350	-2.66280	-0.4690	0.1690	0.1670	.62750	-1.0680	-1.0700	-1.10340	
2.740	164.980	1.69600	-1.56660	-2.70350	-0.8030	-1.10680	0.2970	.61060	-1.1130	-1.1120	-1.11200	
2.740	162.910	2.17700	-1.44250	-2.74200	-1.4810	-2.5220	0.0690	.60000	-1.1460	-1.1420	-1.11540	
2.740	160.870	2.64970	-1.31120	-2.77110	-0.9810	-2.3360	0.1250	.59300	-1.1810	-1.1550	-1.11730	
2.740	158.770	3.20670	-1.16970	-2.81510	-0.7970	-3.5970	0.2760	.58770	-1.2140	-1.1760	-1.11960	
2.740	156.700	3.81190	0.1580	-2.83680	-0.9480	-5.7530	0.9830	.58290	-1.2820	-1.2120	-1.2150	
2.740	154.610	4.41780	0.8370	-2.86510	-1.1830	-7.0110	0.9370	.58180	-1.3280	-1.2140	-1.12040	
2.740	152.510	5.10900	4.2360	-2.90170	-1.15970	-8.4120	0.3780	.57650	-1.4090	-1.2650	-1.12310	
2.740	150.420	5.77150	5.6300	-2.90120	-1.18620	-7.71540	0.2250	.57540	-1.4560	-1.2240	-1.11970	
2.740	148.430	6.40490	6.9950	-2.87470	-2.2300	-7.2480	0.4740	.57450	-1.4920	-1.1940	-1.11530	
2.740	158.770	3.22550	-2.1050	-2.81260	-0.6880	-4.2170	0.2150	.58870	-1.2200	-1.1750	-1.11940	
GRADIENT		00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	

ORIGINAL PAGE IS OF POOR QUALITY

MSFC TMT604 (SABF) SRB WITH ALL PROTUBERANCES (R1H050) (10 JUL 75)

REFERENCE DATA

SREF = 5030 SQ. IN. XPRP = 5.7210 IN. XS
 LREF = 8000 IN. YPRP = .0000 IN. YS
 BRP = 8000 IN. ZPRP = .0000 IN. ZS
 SCALE = 0055

PARAMETRIC DATA

BETA = .000
 NOZZLE = .000
 PHI = .000
 135.000

RUN NO. 24/ 0 RN/L = 7.13 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLPM	CA	CYM	CYLN	CEL	XCP/L	CBP1	CBP2	CBP3
3.480	169.020	.81990	-.26800	-2.55280	-.05370	-.07070	.6170	.61000	-.06610	-.06630	-.06650
3.480	167.060	1.12470	-.21460	-2.59160	-.06890	-.14450	.00910	.59990	-.06620	-.06670	-.06700
3.480	165.000	1.52660	-.14200	-2.63170	-.08560	-.16100	-.00460	.59100	-.06680	-.06570	-.06760
3.480	162.940	1.94390	-.02750	-2.68140	-.10240	-.20560	.01550	.58450	-.06390	-.06200	-.06500
3.480	160.880	2.39550	.07530	-2.71280	-.09590	-.20620	.02010	.58080	-.06080	-.05580	-.05740
3.480	158.820	2.92870	.21120	-2.76720	-.08830	-.25800	.01240	.57750	-.07520	-.06820	-.06890
3.480	156.760	3.49110	.36850	-2.80990	-.11110	-.41320	.02700	.57480	-.07870	-.06570	-.06720
3.480	154.700	4.05460	.42810	-2.83580	-.12510	-.53800	.02820	.57480	-.06300	-.05420	-.05650
3.480	152.640	4.68130	.48300	-2.87190	-.15040	-.53780	.01850	.57500	-.06250	-.05170	-.05320
3.480	150.580	5.27460	.55110	-2.87210	-.18380	-.54770	.03130	.57430	-.06440	-.04920	-.05030
3.480	148.520	5.91490	.56820	-2.89300	-.23300	-.55140	.04470	.57550	-.06590	-.04690	-.04730
3.480	146.460	6.54480	.15360	-2.76100	-.08740	-.28710	.02030	.57800	-.07630	-.06780	-.06810
GRADIENT		00000	00000	.00000	.00000	.00000	.00000	00000	00000	00000	00000

(R1 051) (10 JUL 75)

REFERENCE DATA

SREF = .5030 SQ. IN. XMRP = 5.7210 IN. XS
 LREF = .8000 IN. YMRP = .0000 IN. YS
 BRREF = .8000 IN. ZMRP = .0000 IN. ZS
 SCALE = .0055

PARAMETRIC DATA

BETA = .000 PHI = 180.000
 NOZZLE = .000

RUN NO. 202/ 0 RN/L = 7.08 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLMM	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
3.480	-9.620	-1.30910	-2.38580	.64740	.02450	-.08090	-.00460	.43470	-.07220	-.08790	-.08810
3.480	-7.660	-.90430	-1.97330	.82170	.01000	-.03600	.00170	.40540	-.06520	-.08710	-.08770
3.480	-5.590	-.54700	-1.40270	.79600	-.02410	-.04610	-.01030	.37420	-.06180	-.08370	-.08560
3.480	-3.540	-.35150	-.86730	.79740	-.04300	-.00430	-.01520	.38210	-.05700	-.08360	-.08540
3.480	-1.490	-.14200	-.41710	.79240	-.03770	.00720	-.01050	.34390	-.05620	-.07940	-.08190
3.480	.540	.13340	-.14940	.80880	-.03840	-.01730	-.04520	.67410	-.05520	-.08020	-.08120
3.480	2.590	.34240	.30240	.80890	-.04220	-.06910	-.01760	.51130	-.05650	-.08200	-.08100
3.480	4.640	.54790	.92950	.80640	.00820	-.05100	-.02020	.44530	-.05840	-.08280	-.08100
3.480	6.730	.84000	1.48750	.84050	-.01130	-.07890	-.03620	.43890	-.06480	-.08570	-.08310
3.480	8.800	1.22570	1.98880	.86530	.00870	-.17400	-.04310	.45100	-.03960	-.08780	-.08620
3.480	10.740	1.67470	2.32540	.89630	.03960	-.26160	-.01320	.47010	-.07380	-.08890	-.08660
3.480	.570	.14730	-.13840	.80590	-.02970	.02180	-.01580	.63790	-.05570	-.08130	-.08270
GRADIENT		.11169	.21106	.00165	.00479	-.00830	-.00084	.01428	-.00015	-.00005	.00047

RUN NO. 203/ 0 RN/L = 5.67 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLMM	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
4.450	-9.480	-1.24860	-1.52620	.67210	.05630	-.05660	.01730	.48370	-.04360	-.04900	-.04400
4.450	-7.550	-.92900	-1.33350	.66280	.04450	-.03180	.01250	.46630	-.04380	-.04990	-.04560
4.450	-5.520	-.60830	-1.07120	.62700	.01870	.03290	.04160	.43970	-.04180	-.04930	-.04660
4.450	-3.500	-.34330	-.78510	.62980	-.03700	.07480	.04480	.39680	-.04100	-.04950	-.04680
4.450	-1.470	-.14420	-.30030	.62120	.00310	.12260	.04180	.41350	-.03830	-.04830	-.04660
4.450	.540	-.11930	-.15190	.63190	-.04050	-.00070	.00960	.68720	-.03610	-.04780	-.04600
4.450	2.590	.32140	.12260	.63660	-.04200	-.03740	-.02200	.55220	-.03690	-.04830	-.04540
4.450	4.640	.52160	.64720	.65120	-.00520	-.09960	-.00640	.48210	-.03730	-.04890	-.04560
4.450	6.640	.83870	1.04880	.66130	-.00370	-.01100	-.03630	.48140	-.04060	-.05010	-.04600
4.450	8.670	1.18720	1.41200	.69900	-.00670	-.12380	.00100	.48630	-.04320	-.05030	-.04620
4.450	10.580	1.50250	1.53550	.74180	.02210	-.20730	-.01960	.50000	-.04600	-.05150	-.04620
4.450	.560	.14890	-.12750	.63090	-.05510	-.02900	-.01890	.65320	-.04040	.04930	-.04720
GRADIENT		.10862	.16272	.00288	.00093	-.02516	-.00822	.01527	.00044	.00006	.00018

MSFC TWT604 (SABF) SRB WITH ALL PROTUBERANCES (RIH053) (10 JUL 75)

PARAMETRIC DATA

SREF = .5030 IN. XHRP = 5.7210 IN. XS BETA = .000 PHI = 180.000
 LREF = .8000 IN. YHRP = .0000 IN. YS NOZZLE = .000
 BREF = .8000 IN. ZHRP = .0000 IN. ZS
 SCALE = .0055

RUN NO. 188/ 0 RN/L = 6.98 GRADIENT INTERVAL = -5.00/ 5.00
 RUN NO. 189/ 0 RN/L = 5.54 GRADIENT INTERVAL = -5.00/ 5.00

REFERENCE DATA

MACH	ALPHA	CNH	CLMH	CA	CYH	CYNH	CBH	XCP/L	CBP1	CBP2	CBP3
3.480	31.880	7.56090	4.74040	1.40450	.21610	-.45290	-.02800	.53220	-.08210	-.08320	-.07870
3.480	33.870	8.21730	5.20950	1.43230	.23180	-.57120	-.04510	.53170	-.08400	-.07380	-.08070
3.480	35.970	8.94090	5.67240	1.47150	.24990	-.62900	-.05640	.53160	-.08330	-.06650	-.07880
3.480	38.050	9.64850	5.96620	1.52380	.26810	-.76520	-.06910	.53290	-.08440	-.06810	-.07230
3.480	40.120	10.33390	6.24350	1.58930	.30990	-.89200	-.07410	.53410	-.08400	-.06810	-.07240
3.480	42.250	11.01020	6.96220	1.59450	.31720	-.91030	-.07590	.53180	-.08060	-.05660	-.07310
3.480	44.350	11.67010	7.68560	1.60180	.31720	-.90300	-.11640	.52980	-.08490	-.06810	-.07500
3.480	46.450	12.30040	8.44420	1.59610	.31620	-.88190	-.04530	.52740	-.08550	-.06100	-.07100
3.480	48.570	12.88630	9.22510	1.55910	.31440	-.87820	-.04440	.52500	-.07700	-.05660	-.07420
3.480	50.670	13.48270	10.03730	1.50450	.31890	-.92760	-.05480	.52260	-.07670	-.05580	-.07520
3.480	52.660	14.04650	10.72480	1.42880	.33230	-.98030	-.04030	.52110	-.07090	-.05130	-.07610
3.480	42.250	11.03200	7.01930	1.58920	.30830	-.93830	-.06670	.53150	-.07960	-.06830	-.07380
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

MACH	ALPHA	CNH	CLMH	CA	CYH	CYNH	CBH	XCP/L	CBP1	CBP2	CBP3
4.450	31.350	6.98380	3.32360	1.40490	.18380	-.47210	-.02790	.54450	-.04340	-.03930	-.04080
4.450	33.290	7.58530	3.50840	1.47300	.19660	-.51830	-.04440	.54570	-.04480	-.03650	-.04140
4.450	35.770	8.23890	3.70530	1.52120	.20690	-.60090	-.07750	.54670	-.04500	-.02980	-.04120
4.450	37.390	8.97130	4.09860	1.58950	.25600	-.84830	-.06080	.54610	-.04700	-.03210	-.04140
4.450	39.450	9.61740	4.77100	1.61770	.11170	-.95090	-.04690	.54290	-.04740	-.03210	-.04060
4.450	41.500	10.18120	5.45590	1.60610	.26970	-.82640	-.08860	.53970	-.04640	-.02760	-.03960
4.450	43.550	10.81900	6.19500	1.60810	.25550	-.79030	-.06380	.53670	-.04640	-.03070	-.03970
4.450	45.600	11.39750	6.81810	1.57940	.25360	-.86550	-.07960	.53460	-.04480	-.02880	-.03950
4.450	47.680	12.00310	7.53580	1.54140	.27950	-.91990	-.06970	.53220	-.04240	-.02740	-.03940
4.450	49.730	12.55160	8.27690	1.47930	.29000	-.1.00260	-.09820	.52960	-.04240	-.02340	-.03940
4.450	51.660	13.10610	8.98420	1.42390	.28840	-.1.00890	-.07970	.52740	-.04260	-.01810	-.04100
4.450	41.490	10.12560	5.40950	1.61170	.26990	-.82410	-.13570	.53980	-.04520	-.02500	-.04080
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ORIGINAL PAGE IS OF POOR QUALITY

REFERENCE DATA

SREF = .5030 SQ. IN. XMRP = 5.7210 IN. XS
 LREF = .8000 IN. YMRP = .0000 IN. YS
 BREF = .8000 IN. ZMRP = .0000 IN. ZS
 SCALE = .0055

BETA = .000 P:11 = 180.000
 NOZZLE = .000

RUN NO. 411/ 0 R1/L = 6.42 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
.886	70.690	14.83520	20.06690	.53600	.57920	-.96670	-.06550	.47300	.00000	.00000	.00000
.886	72.540	14.96900	19.38560	.56770	.55620	-.86450	-.07350	.47770	.00000	.00000	.00000
.886	74.530	15.14020	18.57020	.60740	.50460	-.74610	-.05010	.48330	.00000	.00000	.00000
.886	76.500	15.30380	17.61850	.61690	.51030	-.84190	-.08500	.48950	.00000	.00000	.00000
.886	78.450	15.44850	16.61710	.62750	.48510	-.93280	-.08480	.49560	.00000	.00000	.00000
.886	80.430	15.55340	15.64990	.64280	.53410	-.104100	-.08810	.50130	.00000	.00000	.00000
.886	82.400	15.71320	14.58980	.63670	.52850	-.102710	-.07590	.50760	.00000	.00000	.00000
.886	84.360	15.72750	13.52040	.61680	.53380	-.113410	-.08240	.51320	.00000	.00000	.00000
.886	86.320	15.62410	12.34240	.62290	.52000	-.116200	-.07770	.51970	.00000	.00000	.00000
.886	88.270	16.09210	10.71690	.75510	.54140	-.116190	-.06310	.52900	.00000	.00000	.00000
.886	90.130	16.30240	9.55580	.75600	.53790	-.114480	-.07010	.53560	.00000	.00000	.00000
.886	80.420	15.68520	15.69820	.65010	.53960	-.98100	-.06840	.50170	.00000	.00000	.00000
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 412/ 0 R1/L = 6.90 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
1.197	70.650	18.99580	17.51760	.90330	.91430	-.77970	.03740	.50810	.00000	.00000	.00000
1.197	72.530	19.15110	17.11170	.87730	.91560	-.74210	.04130	.51050	.00000	.00000	.00000
1.197	74.540	19.29650	16.74240	.83380	.91600	-.73670	.03780	.51260	.00000	.00000	.00000
1.197	76.510	19.50140	16.31220	.82200	.88510	-.51320	.04320	.51510	.00000	.00000	.00000
1.197	78.470	19.71650	15.72820	.82100	.86310	-.39650	.04150	.51830	.00000	.00000	.00000
1.197	80.470	19.89030	15.35480	.78410	.88800	-.35220	.04410	.52040	.00000	.00000	.00000
1.197	82.450	20.04080	14.68700	.73760	.89640	-.36800	.06390	.52280	.00000	.00000	.00000
1.197	84.430	20.20320	14.37870	.67460	.90220	-.32610	.05030	.52530	.00000	.00000	.00000
1.197	86.400	20.34870	13.79310	.60650	.89690	-.28640	.05810	.52810	.00000	.00000	.00000
1.197	88.380	20.36600	13.30140	.52860	.89200	-.28130	.06510	.53010	.00000	.00000	.00000
1.197	90.260	20.19600	12.79930	.44560	.88860	-.30230	.06780	.53170	.00000	.00000	.00000
1.197	80.450	19.94020	15.40650	.79050	.88510	-.32860	.05520	.52030	.00000	.00000	.00000
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

PARAMETRIC DATA

MSFC THT604 (SABF) SRB WITH ALL PROTRUSANCES

IRIH054 (10 JUL 75)

REFERENCE DATA

SREF = 5030 SQ IN. XMRP = 5.7210 IN. XS
 LREF = 8000 IN. YMRP = .0000 IN. YS
 BREF = 8000 IN. ZMRP = 0000 IN. ZS
 SCALE = .0095

BETA = .000
 NOZZLE = .000

PHI = 180.000

PARAMETRIC DATA

RUN NO. 415/ 0 RN/L = 7.22 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
3.480	70.440	17.56120	13.79690	1.16840	.30210	-.60320	.00790	.51930	.00000	.30000	.00100
3.480	72.320	17.90030	13.95810	1.11240	.28880	-.61370	-.02120	51980	.00000	.00000	.00300
3.480	74.350	18.24730	14.26580	1.03830	.29780	-.59900	.00050	.51960	.00000	.00000	.00300
3.480	76.350	18.57730	14.38070	.97510	.30090	-.59830	.01200	52020	.00000	.00000	.00300
3.480	78.350	18.76320	14.25700	.92040	.28980	-.57630	-.00370	52140	.00000	.00000	.00300
3.480	80.340	18.94080	14.14800	.84960	.28530	-.59960	.01300	52240	.00000	.00000	.00300
3.480	82.350	19.11720	13.93820	.77830	.29110	-.57450	-.00080	.52390	.00000	.00300	.00300
3.480	84.330	19.29510	13.74820	.70280	.28130	-.53300	.01140	.52520	.00000	.00000	.00300
3.480	86.320	19.39200	13.51240	.60630	.27010	-.53010	-.00640	.52650	.00000	.00000	.00300
3.480	88.330	19.50510	13.26810	.55770	.26040	-.47780	-.00900	52790	.00000	.00000	.00300
3.480	90.200	19.63420	13.05850	.47040	.25790	-.44030	.01180	.52910	.00000	.00000	.00300
3.480	80.340	18.99510	14.21220	.85680	.30990	-.56120	.00640	52230	.00000	.00000	.00300
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ORIGINAL PAGE IS OF POOR QUALITY

(F 1055) 10 JUL 75

MSFC TWBOM (SABF) SRB WITH ALL PROTLBERANCES

PARAMETRIC DATA

BETA = .000 PHI = 190.000
NOZZLE = .000

REFERENCE DATA

SREF = 5030 SQ IN XMRP = 5.7210 IN XS
LREF = 3000 IN YMRP = 0.000 IN YS
BREF = .8000 IN ZMRP = .0000 IN ZS
SCALE = 0055

RUN NO. 320/0 RM/L = 6.39 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
901	105 570	15.23510	-2.19590	- 31130	1.48250	- 31930	.06630	.59510	.00000	.00000	.00000
901	107 680	15.38250	-1.41980	- 12820	1.47390	- 40870	.09200	.59090	.00000	.00000	.00000
901	105 700	15.64090	-.50280	01880	1.51330	- 49190	07460	.58630	.00000	.00000	.00000
901	103 730	15.75970	.49050	17500	1.50170	- 56440	07360	.58080	.00000	.00000	.00000
901	101 760	15.02700	1.52860	30880	1.50030	- 65540	07340	.57560	.00000	.00000	.00000
901	99 820	16.15630	2.91500	44090	1.55020	- 71210	08020	.56870	.00000	.00000	.00000
901	97 860	16.33510	4.33140	57060	1.56420	- 70600	08350	.56170	.00000	.00000	.00000
901	95 910	16.69040	5.94500	70420	1.62280	- 63380	08450	.55430	.00000	.00000	.00000
901	93 930	16.84670	7.45520	79850	1.61460	- 53500	07970	.54730	.00000	.00000	.00000
901	91 990	16.90220	8.65190	87540	1.67950	- 34220	.06940	.160	.00000	.00000	.00000
901	90 110	16.92410	9.96560	94730	1.65580	- 03000	07130	.530	.00000	.00000	.00000
901	99 820	16.29290	3.16560	41860	1.53330	- 59390	08620	.56750	.00000	.00000	.00000
901	GRADIENT	00000	00000	00000	00000	00000	00000	00000	.00000	.00000	.00000

RUN NO. 321/0 RM/L = 6.81 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
1.94	109 720	18.91117	6.78910	- 57300	1.74750	.61790	.13950	.55410	.00000	.00000	.00000
1.94	107 820	19.18100	7.34800	- 43250	1.73820	.69830	.13810	.56210	.00000	.00000	.00000
1.94	105 830	19.42120	7.74630	- 28900	1.71620	.77510	.14200	.55080	.00000	.00000	.00000
1.94	103 840	19.69130	8.36380	- 15050	1.74620	.74650	.14810	.54870	.00000	.00000	.00000
1.94	101 860	19.91120	8.86840	- 02190	1.77450	.64350	.15810	.54700	.00000	.00000	.00000
1.94	99 890	19.97830	9.13450	12140	1.78920	.49940	.14660	.54610	.00000	.00000	.00000
1.94	97 900	20.12930	9.69230	24420	1.80400	.50380	.13870	.54410	.00000	.00000	.00000
1.94	95 930	20.26020	10.41520	35940	1.82610	.46620	.14470	.54150	.00000	.00000	.00000
1.94	93 930	20.49320	11.21170	47140	1.83740	.47870	.15220	.53870	.00000	.00000	.00000
1.94	91 980	20.64870	12.08840	56890	1.82400	.54440	.13950	.53560	.00000	.00000	.00000
1.94	90 090	20.72430	12.80720	66720	1.82690	.58520	.14900	.53300	.00000	.00000	.00000
1.94	99 890	19.86600	9.10380	10670	1.78750	.49810	.14420	.54600	.00000	.00000	.00000
1.94	GRADIENT	00000	00000	00000	00000	.00000	00000	.00000	.00000	.00000	.00000

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(R14055) 10 JUL 75

PARAMETRIC DATA

BETA = 000 PHI = 180.000
NOZZLE = 000

REFERENCE DATA

SREF = 5.330 SQ IN AMPP = 5.7210 IN. XS
LREF = 1466 IN YMRP = 0000 IN. YS
BREF = 0000 IN ZMRP = 0000 IN. ZS
SCALE = 0.055

RUN NO. 325/ C RNV/L = 5.37 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLMH	CA	CYH	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
400	129 520	9 01870	-5 67440	-1 73880	6 64010	-1 04230	06040	63470	00000	00000	00000
400	127 620	9 34710	-5 69510	-1 66090	6 74490	-1 59070	04590	63310	00000	00000	00000
400	125 600	9 57630	-5 37470	-1 57420	7 16370	-2 07980	02960	62920	00000	00000	00000
400	121 600	9 80950	-4 78270	-1 44870	7 35790	-2 35730	04000	62310	00000	00000	00000
400	121 610	10 11570	-4 28320	-1 34350	7 47010	-1 81060	03840	60300	00000	00000	00000
400	119 640	10 26920	-3 51670	-1 20960	6 86300	1 03940	05840	61130	00000	00000	00000
400	117 640	10 54270	-3 18330	-1 08470	6 61050	1 14980	04170	60800	00000	00000	00000
400	115 640	10 82210	-2 68370	-96500	6 03230	78920	04200	60360	00000	00000	00000
400	113 600	11 06050	-2 12670	-87060	5 85900	70740	02080	59910	00000	00000	00000
400	111 650	11 25720	-1 52360	-76260	5 67420	16590	03880	59440	00000	00000	00000
400	109 650	11 51120	-76860	-64660	5 07280	-1 02060	01780	58980	00000	00000	00000
400	119 640	10 17250	-3 56930	-1 20950	6 94490	1 24750	05670	61200	00000	00000	00000
400	GRADIENT	00100	00000	00000	00000	00000	00000	00000	00000	00000	00000

RUN NO 324/ 0 RNV/L = 5.07 GRADIENT INTERVAL = 5.00/ 5.00

MACH	ALPHA	CMH	CLMH	CA	CYH	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
599	129 440	6 54200	-5 61030	-1 72430	5 27690	72520	04780	63130	00000	00000	00000
599	127 530	10 07000	-4 89830	-1 64010	4 71620	1 29700	03690	62280	00000	00000	00000
599	125 540	10 50770	-3 90110	-1 52150	4 48640	1 86840	02830	61370	00000	00000	00000
599	123 550	10 79300	-3 14500	-1 36270	4 47700	2 52280	03260	60710	00000	00000	00000
599	121 540	11 13350	-2 95980	-1 26150	4 23220	3 33590	02480	60500	00000	00000	00000
599	119 560	11 38950	-3 09460	-1 16240	4 04760	2 76650	03120	60550	00000	00000	00000
599	117 560	11 78190	-2 68230	-1 04340	4 11370	2 51710	03810	60190	00000	00000	00000
599	115 560	12 13190	-2 32300	-89010	3 73230	1 84290	00890	59900	00000	00000	00000
599	113 540	12 34290	-2 22950	-72710	2 87100	2 27310	00820	59810	00000	00000	00000
599	111 560	12 50910	-2 14430	-56640	2 65070	48190	01730	59740	00000	00000	00000
599	109 640	12 76800	-2 03810	-40900	2 50970	484710	00670	59650	00000	00000	00000
599	119 560	11 36630	-3 14690	-1 17130	4 00830	2 77880	04040	60600	00000	00000	00000
400	GRADIENT	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000

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(R14057) (10 JUL 75)

MSFC TWT604 (SABF) SRB WITH ALL PROTUBERANCES

MSFC TWT604 (SABF) SRB WITH ALL PROTUBERANCES

PARAMETRIC DATA

REFERENCE DATA

SREF = 5030 SQ IN XMRP = 5.7210 IN. XS BETA = .000 PHI = 180.000
 LREF = 8000 IN YMRP = .0000 IN. YS NOZZLE = .000
 BREF = 8000 IN ZMRP = .0000 IN. ZS
 SCALE = 0055

MACH	ALPHA	CNM	CLPM	CA	CYH	CYHM	CBL	XCP/L	CBP1	CBP2	CBP3
.389	148.770	4.45980	.54370	-2.11850	2.06510	5.24280	.03870	.57340	-.06350	-.06180	-.08100
.389	146.840	4.34350	.24880	-2.11760	2.38490	4.44470	.02620	5.7930	-.15230	-.07630	-.06600
.389	144.730	5.54230	.23550	-2.08720	2.71590	3.99820	.03550	5.7890	-.18050	-.10580	-.11980
.389	142.760	6.17890	.64140	-2.04830	3.10950	4.51290	.02230	5.7490	-.25230	-.15450	-.15700
.389	140.720	6.78600	.67460	-2.00440	3.50970	5.07770	.04170	5.7520	-.29660	-.20350	-.22140
.389	138.630	7.03730	.45550	-1.92340	3.82690	5.56210	.04060	5.7810	-.36700	-.22560	-.18650
.389	136.590	7.50390	.00900	-1.84870	3.99640	4.70310	.04290	5.8330	-.44320	-.23660	-.28730
.389	134.510	9.25740	-.81680	-1.72840	4.40830	-6.94300	-.05830	5.9060	-.61300	-.20260	-.20140
.389	132.420	10.02980	-.80010	-1.65400	4.11020	-8.30260	-.00190	5.6930	-.70470	-.24130	-.19570
.389	130.400	10.63390	-1.17530	-1.60520	4.19070	-8.06890	-.04060	5.9240	-.87000	-.27220	-.18840
.389	128.480	11.01890	-1.25450	-1.51860	4.21450	-7.66460	-.00590	5.9270	-1.04250	-.31520	-.25090
.389	126.590	7.03730	4.0760	-1.94090	3.90430	5.53600	.01880	5.7860	-.38810	-.23070	-.17230
GRADIENT		00000	.00000	.00000	.00000	.00000	.00000	00000	.00000	.00000	.00000

RUN NO. 37/ 0 RN/L = 3.14 GRADIENT INTERVAL = -5.00/ 5.00
 RUN NO. 38/ 0 RN/L = 4.58 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLPM	CA	CYH	CYHM	CBL	XCP/L	CBP1	CBP2	CBP3
.597	148.600	5.00120	.62410	-2.19750	2.60150	6.45200	.03980	.57320	-.08330	-.08060	-.06100
.597	146.650	5.31100	-.20080	-2.15330	3.08830	3.81620	.03850	5.8650	-.14840	-.09510	-.07260
.597	144.580	5.93160	-.30950	-2.11570	3.50910	3.28850	.04290	5.8760	-.19370	-.11880	-.10270
.597	142.520	6.65430	-.26050	-2.06920	4.10540	2.22740	.08350	5.8660	-.24270	-.16750	-.15320
.597	140.490	6.95190	-.05560	-2.05420	4.42520	3.48280	.03290	5.8410	-.31340	-.19440	-.13090
.597	138.400	7.83320	-1.13740	-1.95720	4.55700	1.57040	-.00530	5.8480	-.43120	-.23770	-.20820
.597	136.230	9.51190	-.53310	-1.86380	4.70090	-6.55370	-.00920	5.8750	-.73940	-.20630	-.19730
.597	134.150	10.44370	-.41620	-1.79120	3.96020	-8.28710	.01180	5.8660	-.85210	-.24660	-.16020
.597	131.990	11.51770	-1.46810	-1.71930	3.08710	-9.14680	.00850	5.9380	-.80930	-.26970	-.15820
.597	129.950	11.89890	-1.96560	-1.62250	3.67400	-7.00020	.02140	5.9690	-.80220	-.30220	-.17860
.597	128.040	12.37230	-1.17640	-1.57200	3.83070	-5.09620	.00330	5.9110	-1.05730	-.35230	-.21170
.597	126.390	7.97050	-.26420	-1.99150	4.74070	7.7070	.01180	5.8610	-.64020	-.18050	-.27780
GRADIENT		00000	.00000	.00000	.00000	.00000	.00000	00000	.00000	.00000	.00000

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TABLATED SOURCE DATA, MSFC TWT 604, SA-8F

DATE 10 JUL 75

(RIH057) (10 JUL 75)

MSFC TWT604 (SABF) SRB WITH ALL PROTUBERANCES

PARAMETRIC DATA

BETA = .000 PHI = 180.000
NOZZLE = .000

REFERENCE DATA

SREF = .5030 SQ. IN. XMRP = 5.7210 IN. XS
LREF = .8000 IN. YMRP = .0000 IN. YS
BREF = .8000 IN. ZMRP = .0000 IN. ZS
SCALE = .0055

MACH	ALPHA	CNM	CLMM	CA	CYM	CYMM	CBL	XCP/L	CBP1	CBP2	CBP3
.901	148.000	6.01100	-1.32220	-2.44630	2.81830	3.77760	.07160	.60130	-1.1660	-1.1710	-1.10880
.901	145.910	6.65670	-3.15930	-2.35780	3.47630	-8.3190	.05750	62210	-1.08480	-0.8950	-15.100
.901	143.790	7.27180	-3.73030	-2.28000	3.44230	-3.8660	.06010	62520	-1.1030	-0.9710	-15.990
.901	141.620	7.98020	-4.31320	-2.22420	3.55760	-5.5750	.05730	62750	-1.19050	-1.0900	-16.590
.901	139.420	9.51820	-3.58870	-2.20290	2.82050	-5.8620	.07500	61410	-1.36650	-1.15600	-19.960
.901	137.230	10.36830	-4.17730	-2.11680	2.68040	-8.3220	.07660	61620	-1.40980	-1.6230	-4.360
.901	135.160	10.39670	-5.46840	-2.01030	2.39540	-2.7980	.09020	62630	-1.44350	-1.17440	-3.680
.901	133.040	10.96950	-6.15550	-1.91950	2.29040	-1.0950	.09180	62910	-1.52250	-2.0840	-12.110
.901	130.860	11.62350	-7.01170	-1.75390	2.17990	-4.1060	.11130	63250	-1.60110	-2.5620	-12.240
.901	128.720	12.45070	-7.24770	-1.61440	1.89920	-1.22960	.08200	63090	-1.67490	-2.9380	-14.770
.901	126.680	13.37600	-7.28310	-1.47950	1.44340	-1.87040	.07200	62760	-1.71440	-3.2690	-16.500
.901	137.230	10.43920	-4.23270	-2.11560	2.75010	-1.95840	.09090	61640	-1.4160	-1.7360	-13.100
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 39/ 0 RN/L = 6.30 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYMM	CBL	XCP/L	CBP1	CBP2	CBP3
1.199	147.370	7.82250	-1.61670	-2.88650	.82130	1.12440	.07270	.60020	-1.30490	-3.0830	-33.400
1.199	145.300	8.78220	-1.16040	-2.84440	.85770	.67020	.07790	.59410	-1.32220	-3.2680	-35.310
1.199	143.130	9.67250	-1.00490	-2.77050	.98510	.35970	.09660	59180	-2.9730	-3.1000	-33.380
1.199	140.950	10.78420	-2.0560	-2.72610	.98820	.65720	.10980	58490	-3.2560	-3.4000	-37.590
1.199	138.780	11.57370	-3.5250	-2.62710	1.07620	.91930	.12010	58590	-3.1840	-3.3290	-36.540
1.199	136.610	12.46510	-1.1440	-2.51790	1.20410	.64510	.13790	58410	-3.2260	-3.3400	-39.910
1.199	134.420	13.35980	-2.29020	-2.39490	1.25810	.31780	.12850	58510	-3.4830	-3.3810	-33.130
1.199	132.270	14.10140	-1.15420	-2.29390	1.23850	.65720	.13120	58430	-4.0130	-3.3420	-31.730
1.199	130.060	14.90370	-1.75370	-2.11530	1.34180	.40030	.13440	58750	-5.0460	-3.3130	-29.570
1.199	127.920	15.44620	-1.31760	-1.90460	1.36980	.33600	.14220	59030	-6.3840	-2.7810	-21.960
1.199	125.930	15.89560	-1.41690	-1.68630	1.33800	.05960	.13150	59060	-7.1080	-1.19590	-1.950
1.199	136.610	12.39570	-0.4990	-2.51230	1.16840	.76720	.13080	58370	-3.2860	-3.3570	-33.950
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 40/ 0 RN/L = 6.71 GRADIENT INTERVAL = -5.00/ 5.00

PARAMETRIC DATA

BETA = .000 PHI = 180.000
 NOZZLE = 000

REFERENCE DATA

SREF = 5030 SQ IN. XMRP = 5.7210 IN. XS
 LREF = .8000 IN. YMRP = .0000 IN. YS
 BREF = .8000 IN. ZMRP = .0000 IN. ZS
 SCALE = .0055

RUN NO. 104/ 0 RN/L = 7.07 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
1.952	147.470	7.55280	1.85800	-2.92240	.45950	.34560	.04820	.56330	-.27590	-.22740	-.22520
1.952	145.440	8.22850	2.11530	-2.89390	.51140	.29370	.05110	.56240	-.26190	-.22440	-.21610
1.952	143.220	8.20270	2.54500	-2.86980	.51650	.17620	.05970	.56080	-.29890	-.23760	-.22670
1.952	141.130	9.83080	2.89260	-2.80860	.53140	.19150	.07010	.55940	-.30090	-.22760	-.21440
1.952	138.960	10.56800	3.03350	-2.69610	.56460	.13510	.07050	.55000	-.29630	-.22080	-.20920
1.952	136.760	11.40450	3.21130	-2.58110	.59390	.10470	.07600	.56040	-.29720	-.21350	-.20370
1.952	134.630	12.05000	3.52550	-2.43140	.59510	.07030	.07700	.55950	-.30050	-.20740	-.19660
1.952	132.490	12.72990	3.72450	-2.30190	.61480	.01290	.08580	.55950	-.30650	-.19360	-.18350
1.952	130.320	13.43790	3.95770	-2.16960	.62360	-.03370	.09090	.55930	-.31280	-.17110	-.16320
1.952	128.330	13.77740	4.35760	-2.04190	.60770	.01390	.07840	.55760	-.30110	-.07320	-.14410
1.952	126.260	14.58940	4.58050	-1.93410	.65670	-.09160	.08450	.55780	-.32350	-.12130	-.11490
1.952	125.880	11.03290	3.37400	-2.52240	.52150	.10050	.07750	.55840	-.28610	-.18790	-.20280
GRADIENT		00000	00000	.00000	00000	00000	00000	00000	00000	.00000	.00000

RUN NO 30/ 1 RN/L = 5.16 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
2.740	149.020	6.34230	1.63890	-2.92240	.17400	.00890	.03550	.56230	.00000	.00000	.00000
2.740	147.020	6.92610	1.82820	-2.89420	.16410	-.06910	.06480	.56180	.00000	.00000	.00000
2.740	144.940	7.54180	1.98300	-2.87650	.18060	-.12200	.06750	.56190	.00000	.00000	.00000
2.740	142.850	8.25390	2.19760	-2.61880	.17640	-.10430	.05970	.56160	.00000	.00000	.00000
2.740	140.760	9.91620	2.35150	-2.57420	.20040	-.12320	.07560	.56180	.00000	.00000	.00000
2.740	138.670	9.61820	2.59470	-2.51800	.17050	-.12250	.06440	.56140	.00000	.00000	.00000
2.740	136.550	10.35130	2.72990	-2.44500	.22940	-.14270	.13490	.56190	.00000	.00000	.00000
2.740	134.490	11.03210	2.93880	-2.38490	.25320	-.16510	.07150	.56160	.00000	.00000	.00000
2.740	132.400	11.72880	3.27920	-2.31080	.28350	-.19220	.08600	.56060	.00000	.00000	.00000
2.740	130.330	12.36450	3.67190	-2.22340	.28770	-.21570	.08100	.55910	.00000	.00000	.00000
2.740	128.360	12.97550	4.12470	-2.12520	.32520	-.23060	.08890	.55740	.00000	.00000	.00000
2.740	128.670	9.65740	2.58130	-2.52150	.22370	-.15350	.08090	.56160	.00000	.00000	.00000
GRADIENT		00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

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MSFC THT604 (SABF) SRB WITH ALL PROTOBERANCES (RIH058) (10 JUL 75)

REFERENCE DATA

SREF = .5030 SQ. IN. XMRP = 5.7210 IN. XS
 LREF = .8000 IN. YMRP = .0000 IN. YS
 BREF = .8000 IN. ZMRP = .0000 IN. ZS
 SCALE = .0055

PARAMETRIC DATA

BETA = .000 PHI = 180.000
 NOZZLE = .000

RUN NO. 77/ 0 RN/L = 5.24 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
.396	169.080	70100	-83760	-1.60510	.09520	.23760	.02570	68080	06690	.11650	.10200
.396	167.160	96320	-92320	-1.69360	21890	.28570	.04800	66160	05310	.11310	.09720
.396	165.110	135360	-98090	-1.77480	25410	.33350	.05290	64250	04500	.10240	.08760
.396	163.100	170430	-86680	-1.82860	32220	.32370	.05970	62490	05660	.10060	.09080
.396	161.080	204530	-78850	-1.87510	41830	.51070	.09000	61480	04210	.09180	.07090
.396	159.050	248550	-64750	-1.96820	54120	1.23940	.05170	60460	05910	.07490	.04930
.396	157.010	293600	-42430	-2.03640	85420	2.07900	.04370	59560	05090	.05820	.03900
.396	155.010	324530	-21780	-2.08920	1.13770	3.36380	.06630	58890	01650	.03000	.02020
.396	152.940	374940	.28860	-2.10110	1.55420	5.16750	.07330	.57710	.00870	.00560	.04220
.396	150.930	430080	.55910	-2.08760	1.99480	6.21310	.04390	.57280	.03180	.02510	.05460
.396	149.020	467980	.55010	-2.04760	2.41760	5.89970	.06050	.57380	.01270	.04450	.03360
.396	159.040	244790	-.62540	-1.97750	58470	1.17570	.05570	60420	05090	.07350	.05130
GRADIENT		00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 78/ 0 RN/L = 4.88 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
.599	169.050	76920	-78240	-1.67400	.11190	.13260	.05170	66630	08340	.11080	.11080
.599	167.110	102780	-94500	-1.75740	.18680	.26870	.04270	65840	06640	.10280	.10280
.599	165.060	139710	-1.06670	-1.84550	.27110	.33330	.06460	64570	06870	.10250	.10600
.599	163.040	176560	-1.11800	-1.91170	.41610	.42220	.07230	63500	05900	.09280	.09730
.599	161.020	219230	-1.12320	-1.97760	.61570	.64860	.07990	62520	06270	.08590	.09120
.599	158.960	255780	-1.03450	-2.06700	1.01950	.99330	.05470	61640	04760	.06270	.06810
.599	156.910	292250	-.67070	-2.11750	1.11000	2.19910	.06660	60180	.06840	.04770	.04060
.599	154.900	338720	-.48260	-2.16630	1.26390	3.34970	.05670	.59500	.03790	.02190	.00580
.599	152.820	381270	-.07300	-2.14360	2.01860	5.06170	.08520	.58490	.00760	.01100	.03250
.598	150.790	420600	.47480	-2.14790	2.48780	7.07480	.08160	.57500	.08450	.06270	.09490
.599	148.850	511220	.37680	-2.16060	2.97770	6.57000	.08520	.57740	.013780	.10210	.07890
.499	158.940	262800	-.95780	-2.06450	1.01360	.92890	.06000	61310	04570	.04210	.03500
GRADIENT		00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ORIGINAL PAGE IS OF POOR QUALITY

(R1H058) (10 JUL 75)

MSFC TWT604 (SABF) SRB WITH ALL PROTUBERANCES

REFERENCE DATA

SREF = 5030 SQ IN. XMRP = 5.7210 IN. XS
 LREF = .8000 IN. YMRP = .0000 IN. YS
 BREF = .8000 IN. ZMRP = .0000 IN. ZS
 SCALE = .0055

BETA = .000 PHI = 180.000
 NOZZLE = .000

PARAMETRIC DATA

RUN NO. 101/ 0 RN/L = 7.05 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
1.953	168 830	1.09290	-.90860	-2.66800	08600	.09290	.01130	.65120	-09680	-.09830	-.10090
1.953	166 830	1.51140	-1.02270	-2.69790	08090	.14260	.01800	.63660	-11260	-.11030	-.11640
1.953	164.660	2.10080	-1.10110	-2.77070	-15640	-.34200	.02800	62610	-12590	-.12470	-.13030
1.953	162 530	2.73920	-1.04350	-2.81980	-.26720	-.24960	.02220	51490	-14440	-.14210	-14850
1.953	160 400	3.39490	-.97430	-2.88580	-.12550	.32920	.04620	60680	-15350	-.15170	-16440
1.953	158 220	4.09880	-.85360	-2.93870	.09750	.80090	.05280	60040	-16330	-.16110	-.17530
1.953	156 090	4.69540	-.55530	-2.95490	.37840	.40090	.06810	59300	-16480	-16330	-.16970
1.953	153 950	5.56250	.04660	-3.00180	.39070	1.02610	.06810	58270	-19730	-.19170	-.19810
1.953	151 770	6.29320	5.920	-2.98910	.41640	.73420	.07160	57550	-22980	-.21490	-.21970
1.953	149 640	7.07900	1.24500	-2.98430	46680	38400	.07390	57130	-25270	-.21860	-.21750
1.953	147 650	7.76000	1.67130	-2.97640	.51420	.38570	.06150	56580	-26710	-.22670	-.22710
1.953	146 230	8.00140	-.55370	-2.86840	24580	49330	.04670	59420	-16170	-15940	-16940
GRADIENT		00000	.00000	00000	00000	00000	00000	00000	00000	00000	.00000

RUN NO. 127/ 0 RN/L = 5.21 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
2.740	168 970	1.00050	-.59660	-2.64420	.09700	15660	.00020	63200	-09670	-08730	-08640
2.740	167 040	1.37990	-.57050	-2.68100	0.7990	.11900	.01010	61710	-09040	-09420	-09030
2.740	164 960	1.86120	-.44420	-2.72790	00980	.05980	.01920	60280	-09480	-09930	-09290
2.740	162 920	2.34470	-.20500	-2.77850	-.01240	.11700	.03670	59050	-10110	-10310	-09780
2.740	160 850	2.84300	-.04180	-2.81600	.13050	.23970	.03780	58460	-10570	-10980	-10040
2.740	158 760	3.40350	23430	-2.85340	18680	.28020	.02890	57780	-10850	-11730	-09980
2.740	156 700	3.92630	42870	-2.87900	19960	.00430	.04110	57450	-10760	-11810	-07490
2.740	154 640	4.55490	69830	-2.90970	24520	.12740	.03650	57050	-.0880	-11490	-07650
2.740	152 530	5.16150	1.04050	-2.93090	.23440	.01710	.05690	.56690	-11250	-.10460	-08050
2.740	150 470	5.82130	1.39750	-2.92230	-.23690	.06730	.04450	.56380	-11720	-.07830	-08910
2.740	148 490	6.48160	1.73300	-2.89600	24870	.09940	.05590	.56160	-12430	-05110	-08700
2.740	148 760	3.42750	-.17540	-2.84560	.17960	.24710	.04400	57920	-11060	-11580	-09890
GRADIENT		00000	00000	00000	.00000	.00000	.00000	.00000	00000	00000	.00000

TABLATED SOURCE DATA, MSFC TWT 604, SA-BF

DATE 10 JUL 75

(R1HC59) (10 JUL 75)

MSFC TWT604 (SABF) SRB WITH ALL PROTOBERANCES

PARAMETRIC DATA

BETA = 000 PHI = 180 000
NOZZLE = 000

REFERENCE DATA

SREF = 5030 SQ IN XMRP = 5.7210 IN. XS
LREF = 8000 IN YMRP = 0000 IN. YS
BREF = 8000 IN ZMRP = .0000 IN. ZS
SCALE = 0.255

RUN NO. 109/ 0 RN/L = 7.04 GRADIENT INTERVAL = -5 00/ 5.00

MACH	ALPHA	CMX	CLMM	CA	CYM	CYMP	CBL	XCP/L	CBP1	CBP2	CBP3
1 953	189 730	- 83*50	95130	-2 58550	- 07150	-117210	- 00950	67620	- 03460	- 09730	- 09160
1 953	187 750	- 57.10	80750	-2 52490	- 09390	- 09970	- 00360	69870	- 08500	- 08650	- 07820
1 953	185 580	- 35160	70870	-2 49700	- 08220	- 05870	- 00060	74330	- 06460	- 06360	- 05900
1 953	183 640	- 19570	49250	-2 45390	- 02260	03130	00910	78940	- 05730	- 05390	- 04940
1 953	181 600	- 04310	23110	-2 41210	- 00870	03250	00920	1 02070	- 02720	- 05430	- 05250
1 953	179 520	03610	-12760	-2 41010	- 00910	01760	01890	70420	- 04980	- 05060	- 05580
1 953	177 450	22680	- 35440	-2 44910	- 01770	04050	01830	71380	- 05180	- 05180	- 05990
1 953	175 420	34570	- 68780	-2 47760	- 02330	02400	01950	74110	- 05810	- 05510	- 06330
1 953	173 340	55650	- 79630	-2 56600	- 02950	- 11110	02340	69470	- 08930	- 09730	- 09790
1 953	171 270	80240	- 98000	-2 65620	05090	- 06930	03010	67260	- 12420	- 1 180	- 11190
1 953	169 190	11140	- 95790	-2 68610	05330	- 06930	03120	05410	- 11870	- 12290	- 12400
1 953	167 100	16120	- 16220	-2 78510	- 01400	01000	03170	73480	- 04780	- 04450	- 07060
1 953	165 000	23000	00000	00000	00000	00000	00000	77200	00000	00000	00000

RUN NO 6 0 RN/L = 4 99 GRADIENT INTERVAL = -5 00/ 5 00

MACH	ALPHA	CMX	CLMM	CA	CYM	CYMP	CBL	XCP/L	CBP1	CBP2	CBP3
2 740	189 620	- 81480	53130	-2 54880	00200	- 08180	- 02600	63660	- 08650	- 03130	- 08980
2 740	187 670	- 55620	59620	-2 51560	- 04090	- 15460	00030	67950	- 07680	- 08020	- 09220
2 740	185 630	- 31360	53340	-2 45350	- 03250	- 12110	01960	72210	- 06370	- 06680	- 06490
2 740	183 620	- 17240	37400	-2 42050	00150	- 01100	- 21460	76230	- 05400	- 05160	- 05370
2 740	181 580	- 10400	21530	-2 40150	- 01380	- 01500	- 1250	75220	- 04890	- 05220	- 04720
2 740	179 540	02880	- 05150	-2 41270	- 02800	- 00970	- 11690	64440	- 04920	- 05080	- 03110
2 740	177 520	13920	- 23010	-2 42410	- 01860	- 01680	- 04480	71820	- 04280	- 05190	- 04540
2 740	175 480	28400	- 48800	-2 47210	01800	- 00430	- 0 300	78810	- 05820	- 05100	- 05740
2 740	173 420	45450	- 57730	-2 50240	01480	- 08750	02670	60700	- 08900	- 11210	- 07230
2 740	171 400	68060	- 58160	-2 58320	00870	- 15670	00110	65310	- 07890	- 0 270	- 08150
2 740	169 480	98390	- 60040	-2 63420	01600	- 08700	01680	63320	- 08630	- 08660	- 08360
2 740	167 540	106500	- 105030	-2 70150	- 01990	01350	- 30820	64280	- 04950	- 05120	- 04850
GRADIENT		00000	00000	00000	00000	00000	00000	00000	00000	00000	00000

ORIGINAL PAGE IS OF POOR QUALITY

DATE 10 JUL 75

TABULATED SOURCE DATA: MSFC INT 504 SA 84

MSFC INT604 (SABF) SRB WITH ALL PROJECTIONS

(R1M053) (10 00 75)

REFERENCE DATA

XREF = 5030 SQ. IN. XMRP = 5 7210 IN. XS
 YREF = 8000 IN. YMRP = 0000 IN. YS
 ZREF = 8000 IN. ZMRP = 0000 IN. ZS
 SCALE = 0055

PARAMETRIC DATA

BETA = 000 PHI = 180 000
 NOZZLE = 000

MACH	ALPHA	CMX	CLMM	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
4.450	189 540	-60860	.16930	-2.33810	-0.3690	-1.0550	-0.2480	.60810	-0.3570	-0.3630	-0.37490
4.450	187 600	-43500	.20380	-2.32610	-0.3980	-0.0260	-0.06260	.62160	-0.3290	-0.3410	-0.3190
4.450	185 580	-22890	.27780	-2.31020	.0270	-0.1200	-0.0530	.68240	-0.3060	-0.3190	-0.3060
4.450	183 600	-17390	.17820	-2.28230	-0.2300	-0.1020	-0.0690	.66690	-0.2840	-0.3060	-0.2860
4.450	181 590	-11550	.11770	-2.26030	-0.2210	-0.10540	-0.02550	.66650	-0.2740	-0.2860	-0.2700
4.450	179 550	-00140	-0.10690	-2.27090	-0.3640	-0.0330	-0.01430	-5.26600	-0.2760	-0.2800	-0.2640
4.450	177 540	.14290	-0.22570	-2.28190	-0.04710	-0.09590	-0.02360	.71220	-0.2780	-0.2820	-0.2680
4.450	175 530	.50	-0.28790	-2.33140	-0.01890	-0.02070	-0.04170	.71790	-0.3000	-0.3040	-0.2560
4.450	173 480	32570	-0.25530	-2.37130	.05510	-0.07680	-0.03200	.65730	-0.3080	-0.3190	.00450
4.450	171 480	48400	-0.30750	-2.41690	-0.11850	-0.09650	-0.02660	.63520	-0.3350	-0.3410	.01820
4.450	169 590	69620	-0.19230	-2.47570	-0.00560	-0.02130	-0.03410	.60590	-0.3590	-0.3610	.03120
4.450	179 550	05620	-0.02600	-2.26570	-0.03710	-0.02110	-0.01290	.62120	-0.2700	-0.2840	-0.2460
GRADIENT		00000	.00000	00000	.00000	.00000	.00000	.00000	00000	00000	.00000

RUN NO. 5/ 0 RN/L = 5.43 GRADIENT INTERVAL = -5.00/ 5.00

REFERENCE DATA

SREF = .5030 SQ. IN. XMRP = 5.7210 IN. XS
 LREF = .8000 IN. YMRP = .0000 IN. YS
 BREF = .8000 IN. ZMRP = .0000 IN. ZS
 SCALE = .0055

PARAMETRIC DATA

BETA = .000 PHI = 225.000
 NOZZLE = .000

RUN NO. 351/ 0 RN/L = 5.43 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMH	CLMH	CA	CYH	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
.403	129 570	4.86800	-6.24110	-1.70810	-1.58980	-3.15180	.02210	.68800	.00000	.00000	.00000
.403	127 680	5.47800	-5.96130	-1.61730	-1.91010	-3.44840	.06890	67210	.00000	.00000	.00000
.403	125 670	5.61280	-5.55050	-1.51350	-1.13180	-3.53120	.03480	66400	.00000	.00000	.00000
.403	123 670	6.03080	-4.89610	-1.40010	-1.12850	-3.45370	.05750	64960	.00000	.00000	.00000
.403	121 670	6.43500	-4.33710	-1.25920	-1.22120	-2.97030	.06390	63840	.00000	.00000	.00000
.403	119 680	7.16080	-3.24670	-1.18810	-1.19170	-2.64290	.04610	62040	.00000	.00000	.00000
.403	117 650	7.58950	-3.67240	-1.09270	-1.66380	-2.58300	.02480	62290	.00000	.00000	.00000
.403	115 670	7.95340	-3.28440	-1.91380	-2.33660	-1.75720	.04500	61710	.00000	.00000	.00000
.403	113 680	8.32190	-2.36380	-1.79210	-2.25930	-1.82180	.08180	60670	.00000	.00000	.00000
.403	111 680	8.60840	-1.40330	-1.67580	-2.14230	-1.62330	.06140	59640	.00000	.00000	.00000
.403	109 790	9.34710	-1.53860	-1.52470	-1.89230	-1.34280	.05720	58810	.00000	.00000	.00000
.403	119 670	7.01680	-3.68390	-1.19560	-1.28810	-3.06820	.05030	62620	.00000	.00000	.00000
GRADIENT		.00700	.00000	.00000	.00000	.00000	.00000	60000	.00000	.00000	.00000

RUN NO. 350/ 0 RN/L = 5.08 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMH	CLMH	CA	CYH	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
.598	129 500	7.13140	-4.78810	-1.73430	-1.35840	-3.49270	.03400	.63810	.00000	.00000	.00000
.598	127 590	8.10300	-4.26310	-1.66160	-1.03150	-3.06530	.04620	62630	.00000	.00000	.00000
.598	125 580	8.80170	-4.08740	-1.55350	-1.75920	-2.84180	.00100	62130	.00000	.00000	.00000
.598	123 580	9.39930	-3.66520	-1.40980	-1.32600	-1.92740	.05450	61520	.00000	.00000	.00000
.598	121 600	9.78800	-2.57870	-1.30710	-1.39920	-1.14950	.08810	60490	.00000	.00000	.00000
.598	119 610	10.14620	-1.70930	-1.19280	-1.58900	.98160	.05510	59710	.00000	.00000	.00000
.598	117 690	10.51050	-1.35280	-1.05050	-1.40130	1.21670	.06670	59390	.00000	.00000	.00000
.598	115 590	10.96940	-1.03750	-1.87740	-1.07840	1.02030	.05510	59110	.00000	.00000	.00000
.598	113 620	11.48710	-1.71220	-1.69500	1.260	5.36190	.06530	53840	.00000	.00000	.00000
.598	111 700	11.76830	-1.45680	-1.52690	-1.05680	2.37200	.08560	58650	.00000	.00000	.00000
.598	109 840	11.98930	-1.35960	-1.39480	-1.10000	2.48210	.09590	58580	.00000	.00000	.00000
.598	110 610	10.15750	-1.76520	-1.20650	-1.63940	1.23720	.04720	59750	.00000	.00000	.00000
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	00000	.00000	.00000	.00000

PARAMETRIC DATA

SREF = 5030 SQ. IN. XMRP = 5.7210 IN. XS BETA = 000 PHI = 225.000
 LREF = 8000 IN. YMRP = .0000 IN. YS NOZZLE = .000
 BREF = .8000 IN. ZMRP = .0000 IN. ZS
 SCALE = .0055

RUN NO. 76/ 0 RN/L = 5.21 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYMH	CBL	XCF/L	CBP1	CBP2	CBP3
.394	169.080	.61500	-1.08480	-1.65560	.19170	.08900	.07480	.72720	.08510	.10350	.10110
.394	187.160	.73350	-1.40380	-1.73480	.15840	.18720	.44030	.73540	.08620	.07970	.08220
.394	163.120	1.01080	-1.63280	-1.81330	.16140	.25140	.02380	.71820	.08430	.07170	.07300
.394	163.110	1.33420	-1.78180	-1.86790	.25190	.24410	.00720	.68230	.04750	.06400	.04420
.394	161.120	1.53080	-1.63430	-1.89160	.32110	.05340	.02940	.67050	.03500	.05820	.01790
.394	159.080	1.82750	-1.52840	-1.98590	.31890	-.49890	.02380	.65160	.01800	.04760	-.00900
.394	157.040	2.14880	-1.29520	-2.04690	.21800	-1.49800	.00600	.63250	-.02370	.02320	-.03360
.394	155.040	2.48300	-1.19670	-2.11890	-.10940	-2.67030	.02050	.62270	-.09430	-.00630	-.04350
.394	152.980	2.83450	-1.08120	-2.13010	-.17170	-3.79490	.01070	.61450	-.22440	-.02630	-.05100
.394	150.970	3.19790	-1.24270	-2.08680	-.10770	-4.15520	.01710	.61510	-.23060	-.05740	-.09430
.394	149.060	3.60720	-1.37820	-2.07350	-.08460	-4.26180	.01630	.61450	-.25680	-.07680	-.17420
.394	159.060	1.83760	-1.52980	-1.97510	.33780	-.53830	.02630	.65150	.00830	.04410	.50760
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 75/ 0 RN/L = 4.98 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYMH	CBL	XCF/L	CBP1	CBP2	CBP3
.597	169.060	.55660	-1.01520	-1.73020	.21900	.12440	.03870	.73210	.07160	.08530	.09690
.597	167.130	.77660	-1.37480	-1.91350	.13000	.27170	-.00160	.72780	.06540	.08230	.09120
.597	165.090	1.06220	-1.60880	-1.88100	.16040	.21340	.00240	.70590	.07090	.04410	.07800
.597	163.090	1.25300	-1.65980	-1.95280	.22510	.22600	.02200	.68760	.05320	.03980	.05030
.597	161.060	1.61280	-1.67240	-2.03230	.26920	.02750	-.02110	.66800	.04160	.03350	.02190
.597	159.020	1.85600	-1.58450	-2.08690	.20600	-.56630	-.02130	.65260	.02020	.03900	-.01190
.597	156.990	2.18860	-1.49790	-2.14280	.00640	-1.37850	.01950	.63930	-.00390	.01760	-.02270
.597	154.960	2.52190	-1.37160	-2.19280	-.21500	-2.32800	.31710	.62770	-.07540	-.00930	-.02270
.597	152.890	2.89830	-1.07200	-2.19050	-.20980	-3.76790	-.01970	.61350	-.21460	-.03520	-.07980
.597	150.870	3.22260	-1.32250	-2.14290	-.02620	-3.77890	-.00440	.61190	-.23340	-.05950	-.08540
.597	148.950	3.56410	-1.65170	-2.14550	-.01590	-3.01840	.01690	.62120	-.35550	-.07830	-.09990
.597	159.010	1.89110	-1.54840	-2.08020	.20540	-.56570	-.00470	.65020	.01750	.03900	-.01010
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ORIGINAL PAGE IS
 OF POOR QUALITY

(RIH053) (10 JUL 75)

MSFC TWT604 (SABF) SRB W.I.H A.I.L. PROTUBERANCES

REFERENCE DATA

SREF = 5030 SQ IN. XMRP = 5.7210 IN. XS
 LREF = 8000 IN. YMRP = 0000 IN. YS
 BREF = 8000 IN. ZMRP = 0000 IN. ZS
 SCALE = 0055

BETA = .000 PHI = 270.000
 NOZZLE = 000

PARAMETRIC DATA

RUN NO. 205/ 0 RN/L = 7.08 GRADIENT INTERVAL = -5.00/ 5 00

MACH	ALPHA	CNH	CLMY	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
3.480	-9 630	-1.29970	-2.13230	.84930	.08770	-28780	-.01870	.44950	-0.7240	-.08780	-.08840
3.480	-7 640	-.91000	-1.66850	.82740	.08610	-.32080	-.01660	.43380	-.06580	-.08510	-.08700
3.480	-5 590	-61750	-1.31020	.81630	.06290	-.27230	-.01400	.41030	-.05990	-.08350	-.08530
3.480	-3 530	-35800	-.76000	.82100	.05160	-.26490	-.00200	.41020	-.05730	-.08190	-.07440
3.480	-1 490	-19720	-.33030	.79840	.05650	-.26260	-.01110	.44680	-.05790	-.08070	-.08400
3.480	2 620	.09390	.16760	.81160	.05400	-.25810	.00180	.43760	-.05670	-.08220	-.08210
3.480	4 640	.27220	.59060	.81960	.04380	-.22890	.00520	.40640	-.05510	-.08210	-.08000
3.480	6 720	.46660	1.08740	.91840	.04050	-.21460	.01130	.39330	-.05570	-.08400	-.08080
3.480	8 780	.75920	1.60480	82040	.01430	-.20840	.00470	.41090	-.06010	-.08550	-.08210
3.480	10 750	1.11390	2.01740	.84050	.02180	-.19600	.02370	.43560	-.07240	-.08640	-.08330
3.480	10 750	1.54910	2.35830	.86170	.02300	-.20720	.01990	.45920	-.07790	-.08720	-.08470
3.480	10 750	1.93000	2.61200	.79820	.05310	-.28730	-.01670	.36900	-.05730	-.08300	-.08250
GRADIENT		10360	.22369	.00059	-.00171	.00657	.00224	-.00363	.00029	-.00027	.00055

RUN NO. 204/ 0 RN/L = 5.66 GRADIENT INTERVAL = -5.00/ 5 00

MACH	ALPHA	CNH	CLMY	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
4.450	-9 480	-1.27860	-1.47460	.68190	.08060	-17810	.00190	.48930	-0.4320	-.04950	-.04440
4.450	-7 550	-.93020	-1.32610	.65520	.06730	-.26010	-.01220	.46710	-0.4300	-.04990	-.04680
4.450	-5 530	-64160	-1.05320	.63350	.06900	-.20760	-.00760	.44950	-0.4080	-.04910	-.04680
4.450	-3 500	-40830	-.71840	.63130	.05330	-.22240	.00260	.43980	-0.3940	-.04870	-.04700
4.450	-1 500	-20610	-.30200	.63460	.04990	-.21640	.02890	.46380	-0.3750	-.04740	-.04720
4.450	2 570	.25930	.09190	.62950	.04820	-.26590	-.00170	.44740	-0.3650	-.04740	-.04700
4.450	4 590	.43140	.96750	.63330	.02970	-.23510	.01950	.42310	-0.3670	-.04780	-.04620
4.450	6 640	.75400	1.26780	.62910	.02070	-.21110	-.07100	.40040	-0.3630	-.04830	-.04560
4.450	8 670	1.09970	1.55710	.65980	.01600	-.22970	.00550	.44620	-0.3930	-.04950	-.04560
4.450	10 590	1.43340	1.80240	.70450	.16220	-.09680	.03480	.46790	-0.4260	-.05050	-.04580
4.450	10 590	1.93000	2.06170	.62420	.06210	-.23670	.00780	.48080	-0.4420	-.05110	-.04580
GRADIENT		10587	.20648	-.00028	-.00325	.00019	-.00774	-.00591	-.04020	-.04920	-.04720
									.00035	.00002	-.00019

(R1M056) (10 JUL 75)

PARAMETRIC DATA

REFERENCE DATA

BETA = .000 PHI = 270 000
NOZZLE = 000

SREF = .5030 SQ. IN. XMRP = 5.7210 IN. XS
LREF = 8000 IN. YMRP = .0000 IN. YS
BREF = 8000 IN. ZMRP = .0000 IN. ZS
SCALE = 0055

RUN NO. 420/ 0 RN/L = 6.38 GRADIENT INTERVAL = -5.00/ 5 00

MACH	ALPHA	CNH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
900	70 560	15 59260	16 74810	.35620	-.08560	-.85050	.08390	.49570	00000	00000	.00000
900	72 440	15 68380	16 03040	.43530	-.02380	-1.12640	.08130	50000	00000	00000	.00000
900	74 430	15 77800	15 44440	.52690	.01040	-1.26440	.08600	50350	00000	00000	.00000
900	76 410	15 83410	14 64210	.59870	-.04610	-1.02740	.10140	50790	00000	00000	.00000
900	78 380	15 92650	13 75580	.59200	-.10150	-.81280	.10450	51290	00000	00000	.00000
900	80 340	16 10410	12 83570	.62050	-.10770	-.73400	.10790	51830	00000	00000	.00000
900	82 310	15 27230	11 72000	.69120	-.12660	-.67230	.08800	52460	00000	00000	.00000
900	84 270	16 38390	10 62500	.71510	-.10490	-.68180	.10370	53050	00000	00000	.00000
900	86 230	16 49860	9 52880	.74780	-.10530	-.70830	.11630	53630	00000	00000	.00000
900	88 210	16 67140	8 35680	.82970	-.14680	-.69190	.12030	54250	00000	00000	.00000
900	90 060	16 80140	7 47760	.82920	-.16220	-.63690	.11720	54710	00000	00000	.00000
900	90 340	16 13480	12 5910	.61910	-.12170	-.76240	.08840	51880	00000	00000	.00000
GRADIENT		00000	00000	00000	00000	00000	.00000	00000	00000	00000	00000

RUN NO 419/ 0 RN/L = 6.82 GRADIENT INTERVAL = -5.00/ 5 00

MACH	ALPHA	CNH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
1 195	70 570	18 44350	14 91640	.73720	-.05730	-.68340	.12930	51740	00000	00000	.00000
1 195	72 420	18 73370	4 36740	.76480	-.06790	-.59440	.11200	52080	00000	00000	.00000
1 195	74 420	18 81360	13 89910	.76720	-.08890	-.53650	.13080	52310	00000	00000	.00000
1 195	76 410	18 93700	13 59950	.75160	-.10210	-.56860	.12410	52480	00000	00000	.00000
1 195	78 370	19 07840	13 23790	.82430	-.12950	-.50120	.12150	52680	00000	00000	.00000
1 195	80 390	19 31470	13 18580	.82270	-.17640	-.38460	.12980	52770	00000	00000	.00000
1 195	82 380	19 46190	12 89980	.79140	-.17560	-.36830	.13310	52930	00000	00000	.00000
1 195	84 360	19 60240	12 55450	.73320	-.17930	-.29610	.12680	53110	00000	00000	.00000
1 195	86 340	19 75980	11 98200	.69080	-.17600	-.29210	.13380	53390	00000	00000	.00000
1 195	88 310	19 81680	11 36370	.53200	-.19710	-.30680	.13630	53660	00000	00000	.00000
1 195	90 200	19 67730	11 04060	.54400	-.18450	-.38260	.12110	53740	00000	00000	.00000
1 195	80 390	19 27120	13 23870	.79990	-.17300	-.48400	.11930	52730	00000	00000	.00000
GRADIENT		00000	00000	00000	00000	.00000	.00000	00000	00000	00000	00000

ORIGINAL PAGE IS
OF POOR QUALITY

(R1H087) (10 JUL 75)

REFERENCE DATA

SREF = .5030 SQ IN. XMRP = 5.7210 IN. KE
 LREF = 8000 IN. YMRP = .0000 IN. YS
 BRFL = 8000 IN. ZMRP = .0000 IN. ZS
 SCALE = .0095

BETA = .000 PHI = 270 000
 NOZZLE = .000

RUN NO. 341/ 0 RN/L = 6.35 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMH	CLMH	CA	CYN	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
.897	108.560	14.98370	-2.74810	-1.8180	.24410	-4.2930	.16230	.59830	.00000	.00000	.00000
.897	107.680	15.28520	-1.98870	-1.00190	.25170	-5.2700	.14880	.59400	.00000	.00000	.00000
.897	105.690	15.41770	-1.08320	.15950	.24700	-5.1810	.15490	.59910	.00000	.00000	.00000
.897	103.710	15.64250	-1.16520	.31960	.24090	-4.4250	.15530	.59420	.00000	.00000	.00000
.897	101.770	15.87500	1.15700	.47830	.23770	-3.1520	.14730	.57740	.00000	.00000	.00000
.897	99.820	16.13320	2.73970	.60590	.27230	-2.1540	.15090	.56950	.00000	.00000	.00000
.897	97.850	16.31550	4.41320	.71870	.23350	-4.2290	.14700	.56130	.00000	.00000	.00000
.897	95.890	16.35960	5.29580	.84040	.23630	-4.6330	.13180	.55700	.00000	.00000	.00000
.897	93.900	16.54250	6.19620	.94020	.25740	-3.0800	.14180	.55280	.00000	.00000	.00000
.897	91.920	16.64400	6.97000	.99770	.27620	-2.0140	.13840	.54920	.00000	.00000	.00000
.897	90.050	16.66050	7.85000	1.02350	.30260	-1.7480	.12650	.54490	.00000	.00000	.00000
.897	99.820	16.25160	2.95060	.57600	.28180	-2.1150	.15680	.56850	.00000	.00000	.00000
GRADIENT		0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

RUN NO. 340/ 0 RN/L = 6.75 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMH	CLMH	CA	CYN	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
1.197	109.710	18.20210	5.85240	-1.54000	.21270	3.7830	.15330	.55710	.00000	.00000	.00000
1.197	107.830	16.53260	6.59690	-38.160	.17720	4.0890	.16110	.55430	.00000	.00000	.00000
1.197	105.820	18.82420	7.19310	-22.330	.16210	4.2890	.16930	.55220	.00000	.00000	.00000
1.197	103.840	19.04890	7.83930	-0.62200	.16650	4.0240	.16540	.54980	.00000	.00000	.00000
1.197	101.870	19.25160	8.24470	.06670	.18080	3.3210	.16130	.54840	.00000	.00000	.00000
1.197	99.860	19.38770	7.89740	.24710	.21580	3.1720	.16230	.55000	.00000	.00000	.00000
1.197	97.810	19.46570	8.01920	.37820	.20140	2.9850	.16360	.54980	.00000	.00000	.00000
1.197	95.850	19.64650	8.46180	.48850	.22230	2.2310	.15620	.54820	.00000	.00000	.00000
1.197	93.870	19.85060	9.07400	.59870	.24630	1.7840	.15690	.54610	.00000	.00000	.00000
1.197	91.870	19.89190	9.74710	.69580	.26600	1.6250	.16510	.54340	.00000	.00000	.00000
1.197	90.020	19.96680	10.47220	.78880	.27470	.15220	.16680	.54060	.00000	.00000	.00000
1.197	99.850	18.25800	7.79620	.22850	.22080	3.3860	.16280	.55330	.00000	.00000	.00000
GRADIENT		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

ORIGINAL PAGE IS OF POOR QUALITY

REFERENCE DATA

SREF = .5030 SQ. IN. XMRP = 5.7210 IN. XS
LREF = .8000 IN. YMRP = .0000 IN. YS
BREF = .8000 IN. ZMRP = .0000 IN. ZS
SCALE = .0055

BETA = .000
NOZZLE = .000
PHI = 270.000

PARAMETRIC DATA

RUN NO. 339/ 0 RN/L = 5 33 GRADIENT INTERVAL = -5.00/ 5 00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYNH	CBL	XCF/L	CBP1	CBP2	CBP3
.401	129.560	5.30460	-6.36840	-1.82200	.87980	-1.44340	.00440	.68130	.00000	.00000	.00000
.401	127.560	5.88750	-5.80070	-1.75070	.68550	-.79820	.02180	.66370	.00000	.00000	.00000
.401	125.640	6.30310	-5.42240	-1.61350	.15300	-.51110	.03880	.65360	.00000	.00000	.00000
.401	123.630	7.00870	-5.26340	-1.53200	-.18470	-.89780	.04930	.64460	.00000	.00000	.00000
.401	121.630	7.45880	-4.90090	-1.40490	-.12630	-1.31420	.05040	.63700	.00000	.00000	.00000
.401	119.650	7.90290	-4.55680	-1.25380	.42030	-2.08660	.07550	.63040	.00000	.00000	.00000
.401	117.610	8.34820	-4.23720	-1.12800	.69010	-2.12790	.07110	.62480	.00000	.00000	.00000
.401	115.630	8.83910	-4.01700	-.96650	.73740	-1.88400	.07940	.62040	.00000	.00000	.00000
.401	113.630	9.22510	-3.49980	-.78880	.95610	-1.54810	.04460	.61430	.00000	.00000	.00000
.401	111.630	9.71650	-3.15650	-.63670	1.13620	-1.26390	.03920	.60990	.00000	.00000	.00000
.401	109.720	10.33860	-2.78230	-.45820	1.07700	-2.10060	.08570	.60570	.00000	.00000	.00000
.401	119.650	7.75590	-4.62150	-1.27300	.42590	-1.65810	.05850	.63000	.00000	.00000	.00000
GRADIENT		00000	.00000	.00000	00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 338/ 0 RN/L = 4.98 GRADIENT INTERVAL = -5.00/ 5 00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYNH	CBL	XCF/L	CBP1	CBP2	CBP3
.594	129.490	7.28030	-5.17300	-1.81530	.28950	-.54220	10880	.64130	.00000	.00000	.00000
.594	127.530	8.16560	-4.48960	-1.73260	-.07420	-.35830	.10320	.62820	.00000	.00000	.00000
.594	125.570	8.85660	-4.05260	-1.60960	-.14070	-.05880	12880	.62070	.00000	.00000	.00000
.594	123.560	9.52340	-3.84590	-1.47740	-.04960	-.19980	12700	.61630	.00000	.00000	.00000
.594	121.580	10.01710	-3.27210	-1.33000	.29170	-.61490	13330	.61000	.00000	.00000	.00000
.594	119.580	10.55940	-2.77980	-1.17490	.36580	-.83050	.12920	.60480	.00000	.00000	.00000
.594	117.530	11.12000	-2.54600	-.95870	.14310	-.86590	.12040	.60200	.00000	.00000	.00000
.594	115.550	11.60020	-2.27540	-.77600	.34420	-.28110	.13600	.59940	.00000	.00000	.00000
.594	113.550	11.95640	-2.13150	-.60120	.46900	-.08650	.14550	.59790	.00000	.00000	.00000
.594	111.550	12.14310	-1.83450	-.42000	.40980	-1.04610	.19480	.59570	.00000	.00000	.00000
.594	109.650	12.29480	-1.58070	-.23200	.67560	-.43240	.15420	.59390	.00000	.00000	.00000
.594	119.580	10.54140	-2.87740	-1.18240	.31930	-.99790	.11430	.60560	.00000	.00000	.00000
GRADIENT		00000	00000	00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ORIGINAL PAGE IS
OF POOR QUALITY

PARAMETRIC DATA

REFERENCE DATA
 SREF = 5030 SQ IN XMRP = 5.7210 IN. XS BETA = 000 PHI = 270 000
 LREF = .8000 IN. YMRP = .0000 IN. YS NOZZLE = 000
 BRREF = 8000 IN. ZMRP = 0000 IN. ZS
 SCALE = 0055

MACH	ALPHA	CNH	CLMH	CA	CYM	CYH	CYNH	CBL	XCP/L	CBP1	CBP2	CBP3
1.942	147.470	7.14140	.54260	-2.91570	-.08220	.30220	.03250	.57720	-.23280	-21350	-21200	
1.942	145.420	7.99130	1.10530	-2.90470	-.03500	.05760	.04140	57210	-27710	-22830	-22300	
1.942	143.180	8.84900	1.16470	-2.87610	-.02140	.11360	.05730	57260	-28540	-23040	-22600	
1.942	141.050	9.68390	1.42380	-2.82770	.01280	.08390	.06870	57140	-29810	-22900	-22340	
1.942	138.850	10.53460	1.54140	-2.74570	.03810	.05190	.06480	57140	-29580	-22530	-21940	
1.942	136.690	11.19860	1.62400	-2.59750	.04600	.08990	.06990	57150	-29730	-21830	-21200	
1.942	134.540	11.87510	1.71990	-2.44740	.06050	.07720	.0580	57160	-29100	-20780	-20410	
1.942	132.370	12.54710	1.84700	-2.31910	.07950	.08440	.07910	57150	-29950	-19620	-18330	
1.942	130.160	13.37250	1.83610	-2.17270	.08920	.06970	.06670	57220	-30310	-18460	-17110	
1.942	128.040	13.98410	1.99980	-2.02950	.09680	.09470	.09060	57170	-31310	-17160	-14890	
1.942	126.010	14.69050	2.00900	-1.89400	.11770	.08920	.09190	57220	-32450	-15180	-12830	
1.942	136.780	10.95920	1.78600	-2.54980	.03860	.11210	.06630	57010	-28300	-21140	-20880	
GRADIENT		00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	

MACH	ALPHA	CNH	CLMH	CA	CYM	CYH	CYNH	CBL	XCP/L	CBP1	CBP2	CBP3
2.740	148.190	6.29920	.54320	-2.91110	-.00740	.14850	.04970	57630	-14510	-09840	-10000	
2.740	146.210	6.92750	6.1670	-2.87880	.03480	.14350	.05800	57610	-14950	-09210	-09320	
2.740	144.110	7.62280	.72300	-2.86520	.05070	.13270	.06820	57560	-15220	-08720	-08490	
2.740	142.030	8.31840	74340	-2.57710	.07530	.13630	.09470	57610	-15330	-07910	-07410	
2.740	139.930	9.05650	90730	-2.52300	.07240	.14280	.10410	57530	-15290	-06880	-06150	
2.740	137.810	9.81190	1.30	-2.47830	.08750	.16220	.08320	57490	-15240	-04280	-04650	
2.740	135.720	10.51410	1.6140	-2.39760	.08650	.13790	.10700	57500	-15270	-04280	-03180	
2.740	133.620	11.23550	1.5000	-2.32880	.10150	.17980	.10690	57500	-14990	-00970	-01320	
2.740	131.510	11.97340	1.35270	-2.24900	.11570	.18020	.11570	57410	-15070	00440	00200	
2.740	129.440	12.47540	1.54620	-2.15460	.12190	.14780	.13380	57330	-15080	00670	02200	
2.740	127.500	13.00790	1.85520	-2.04050	.14380	.14040	.13720	57170	-14840	02350	03890	
2.740	137.810	9.82760	99770	-2.47710	.07080	.13800	.07990	57510	-15840	-06080	-05130	
GRADIENT		00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	

ORIGINAL PAGE IS
 OF POOR QUALITY

(RI14070) (10 JUL 75)

MSFC TWT604 (SABF) SRB WITH ALL PROTLBERANCES

PARAMETRIC DATA

SREF = 5030 SQ IN. XMRP = 5 7210 IN. XS
 LREF = .8000 IN. YMRP = .0000 IN. YS
 BREF = .8000 IN. ZMRP = .0000 IN. ZS
 SCALE = .0055
 BETA = .000 PHI = 270 000
 NOZZLE = .000

RUN NO. 68/ 0 RN/L = 5.24 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMI	CLMM	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
.396	169 080	.52420	-1.23280	-1.62780	-.03560	.10380	- 00850	.77520	.05800	.09970	.09480
.396	167 170	.65720	-1.41630	-1.71670	-.08970	.26230	01480	.75920	03460	09330	08720
.396	165 140	.89850	-1.66790	-1.78920	-.12600	.44370	00100	.73480	02730	08470	.07500
.396	163 140	1 15300	-1.81400	-1 86470	- 14060	.35490	- 02380	71170	00070	07100	06110
.396	161 130	1 35460	-1.81130	-1 90180	- 15390	.22010	- 01070	69250	- 01040	06050	.04950
.396	159 090	1 68290	-1 80490	-1 97710	- 39430	01520	- 05660	67090	- 01290	04340	.03360
.396	157 070	1 89730	-1 62450	-2 05300	- 51330	- 39670	- 03550	65320	- 06710	02640	02400
.396	155 050	2 24010	-1.56300	-2 09640	- 42250	-1 06130	- 03650	64030	- 12990	00190	- 00170
.396	153 010	2.58530	-1 56400	-2 13120	- 27450	-1 46740	00160	63270	- 18130	- 02030	- 02150
.396	150 970	3 00700	-1.86650	-2 12320	- 33700	- 97080	- 01650	63400	- 25800	- 05110	- 04490
.396	149 060	3 31180	-2 1670	-2 09780	- 22900	-1.56530	- 02390	63430	- 36490	- 07390	- 07270
.396	159 090	1 60860	-1 73070	-1 96280	- 37130	- 19040	- 00490	67110	- 03240	04810	03710
GRADIENT		00000	00000	00000	00000	00000	00000	00000	00000	00000	00000

RUN NO. 70/ 0 RN/L = 4.99 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMI	CLMM	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
.597	169 060	.51080	-1.15640	-1.72700	-.02120	.07180	- 00710	.76810	.06120	.08800	.09070
.597	167 130	.73830	-1.45580	-1.79780	-.03310	.17800	04290	.74420	.05140	08530	08980
.597	165 100	.97260	-1.73010	-1 88940	- 03340	.33170	02120	.72850	03900	07930	.08380
.597	163 090	1 22480	-1 92960	-1 93410	- 04330	.32560	01440	71190	02200	06670	07300
.597	161 070	1 44760	-1 92930	-1 99780	- 14300	.19470	03270	69210	00320	06140	06580
.597	159 020	1 74490	-1 98090	-2 05700	- 29370	06620	01230	67600	- 02350	05250	05700
.597	156 990	2 04270	-1 94350	-2 11570	- 45480	- 22130	- 00970	66100	- 06480	03470	.04640
.597	154 960	2 35170	-1 90760	-2 14880	- 49470	- 74890	02430	64950	- 12500	00700	.02490
.597	152 930	2 74810	-1 89700	-2 18440	- 43910	- 94560	.03000	63870	- 17910	- 01990	- 00190
.597	150 850	3 12830	-2.20590	-2 10760	- 20530	- 83660	- 01030	64090	- 23040	- 03420	- 01180
.597	148 820	3 55290	-2.60880	-2 08230	00700	- 35960	02510	64330	- 27230	- 06290	- 036 0
.597	153 220	1.72010	-1 92400	-2 04340	- 28910	.05080	.00530	67480	- 02520	.04820	.05540
GRADIENT		00000	00000	00000	00000	00000	00000	00000	.00000	00000	00000

(R1H070) (10 JUL 75)

MSFC TWT604 (SABF) SRB WITH ALL PROTUBERANCES

PARAMETRIC DATA

REFERENCE DATA

SREF = 5030 SQ. IN. XMRP = 5.7210 IN. XS
 LREF = 8000 IN. YMRP = .0000 IN. YS
 BREF = 8000 IN. ZMRP = .0000 IN. ZS
 SCALE = 0055

BETA = .000
 PH1 = 270.000
 MOZZLE = .000

RUN NO. 1027 0 RN/L = 7 05 GRADIENT INTERVAL = -5.00, 5.00

MACH	ALPHA	CNM	CLMH	CA	CYM	CYMH	CBL	ACP/L	CBP1	CBP2	CBP3
1 955	168 860	87490	-1.18090	-2.64940	-0.0960	-31490	.008F0	69350	-10560	-10300	-11020
1 955	166 860	1 25870	-1.30320	-2.66750	-1.0050	-32050	.0205	66780	-12030	-11840	-12830
1 955	164 710	1 80350	-1.43490	-2.73890	-3.1040	50400	02380	54830	-13900	-13410	-14320
1 955	162 590	2 40830	-1.29800	-2.78630	-2.6340	31170	.03960	62730	-15390	-14900	-15730
1 955	160 460	3 04390	-1.07650	-2.84510	-2.27680	-25390	.01250	61220	-16420	-16200	-16910
1 955	158 300	3 70040	-1.02676	-2.88920	-1.6560	04210	04350	60600	-17600	-17380	-18200
1 955	156 150	4 41930	-66020	-2.93070	-2.3060	-67640	03260	59560	-18830	-18640	-19050
1 955	154 010	5 21500	-14120	-2.95230	-1.1140	93760	04320	58560	-20470	-20290	-20890
1 955	151 810	6.00020	-17730	-2.9F30	-1.1110	43360	.05420	58100	-22700	-21510	-21620
1 955	149 690	6 69410	49140	-2.95890	-0.7300	21240	.05420	57740	-23940	-22180	-21880
1 955	147 680	7 24850	36970	-2.93080	-0.4180	30170	05450	57920	-22950	-21300	-21070
1 955	158 350	3 65710	-77480	-2.84410	-1.2730	-01330	.03210	60070	-17590	-17400	-18170
	GRADIENT	00000	00000	00000	00000	.00000	.00000	00000	.00000	00000	00000

RUN NO. 117 0 RN/L = 5.01 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMH	CA	CYM	CYMH	CBL	ACP/L	CBP1	CBP2	CBP3
2 740	168 990	86090	-64040	-2.64970	-0.0960	-31790	.01730	64400	-09750	-09650	-10010
2 740	167 040	1 29330	-52160	-2.69370	-1.3570	-33970	00360	61630	-10480	-10270	-10800
2 740	164 980	1 71680	-41670	-2.72630	-0.4410	-23680	.03300	60320	-10910	-1120	-07910
2 740	162 920	2 17970	-28480	-2.77050	05650	-15410	.05210	59400	-11300	-11370	-07800
2 740	160 850	2 69060	-19730	-2.80710	-0.4640	-27480	04080	58940	-11380	-11550	-08010
2 740	158 790	3 24270	-00820	-2.84350	-0.7800	-16290	05430	58360	-11400	-11640	-10000
2 740	156 720	3 85130	34670	-2.88050	-0.5470	10060	.05940	57600	-11740	-12140	-10400
2 740	154 610	4 43040	25260	-2.91160	-0.4820	22570	.05940	57880	-11720	-1210	-10040
2 740	152 510	5 08860	34220	-2.94250	-0.4910	20110	07210	57790	-11770	-11990	-10850
2 740	150 420	5 69490	45480	-2.92930	-0.0690	18520	07560	57690	-11870	-11700	-10400
2 740	148 440	6 34140	55340	-2.91570	02570	20940	07030	57630	-12010	-11680	-08640
2 740	148 170	3 24930	-06870	-2.83220	-0.8680	-13720	05240	56510	-11150	-11680	-10930
	GRADIENT	00000	00000	00000	.00000	.00000	.01000	00000	.00000	00000	00000

ORIGINAL PAGE IS OF POOR QUALITY



MSFC THT 604 (SABF) SRB WITH ALL PROTUBERANCES (R14071) (10 JUL 75)

PARAMETRIC DATA

SREF = .5030 SQ. IN. XMRP = 5.7210 IN. XS
 LREF = .8000 IN. YMRP = .0000 IN. YS
 BREF = .8000 IN. ZMRP = .0000 IN. ZS
 SCALE = .0055

BETA = .000 PHI = 270.000
 NOZZLE = .000

RUN NO. 110/ 0 RN/L = 7.07 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
1.954	189.700	-.67300	1.16380	-2.57890	.11530	.26970	-.01030	.72440	-.08530	-.08340	-.08300
1.954	187.730	-.43970	.94460	-2.50300	.08080	.24850	-.01200	.75860	-.07300	-.06730	-.06800
1.954	185.660	-.28600	.77540	-2.45360	.06300	.14270	-.00750	.80450	-.06720	-.05740	-.05740
1.954	183.630	-.15990	.46310	-2.43020	.01410	.08460	.00200	.81960	-.07310	-.05040	-.05110
1.954	181.590	.00390	.20320	-2.41140	.03890	.09140	.00520	-.3.58760	-.05930	-.05070	-.05100
1.954	179.520	.09210	-.16240	-2.42410	.06010	.06450	.01720	.72720	-.04940	-.04900	-.05050
1.954	177.480	.21130	-.36800	-2.45160	.05320	.02850	.01130	.72550	-.05300	-.05140	-.05210
1.954	175.420	.31940	-.72390	-2.4330	.07280	.06350	.01840	.76870	-.05460	-.05240	-.05350
1.954	173.340	.50280	-.91750	-2.56510	.07630	.02920	.02520	.73220	-.08130	-.07760	-.08170
1.954	171.290	.68670	-1.05740	-2.62250	-.05270	-.33500	.01490	.70890	-.10160	-.09710	-.10570
1.954	169.330	.93240	-1.2270	-2.66920	-.07970	-.46770	.02220	.59080	-.11820	-.11560	-.12610
1.954	179.510	1.2440	-.22450	-2.40140	.05050	.06260	.01500	.73060	-.06100	-.06020	-.06440
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 7/ 0 RN/L = 5.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
2.740	189.600	-.72320	.68930	-2.58460	.07820	.27470	-.00790	.66110	-.09080	-.09310	-.09290
2.740	187.660	-.46390	.64900	-2.53250	.06260	.20660	-.00330	.69750	-.08050	-.07880	-.08290
2.740	185.630	-.31430	.56160	-2.47880	-.02830	.04780	-.01330	.72920	-.06950	-.06410	-.07330
2.740	183.600	-.15500	.37690	-2.44520	.00150	.01100	-.00900	.78170	-.05770	-.05340	-.05810
2.740	181.560	.05340	.22430	-2.41160	.00250	.01920	-.01120	.24100	-.05430	-.05220	-.05260
2.740	179.540	.05740	-.07170	-2.40950	.04110	.02580	-.01880	.68530	-.04880	-.04860	-.05010
2.740	177.520	.12420	-.25120	-2.43330	.00950	-.01330	-.00690	.74960	-.05200	-.05000	-.05030
2.740	175.500	.21130	-.45150	-2.46080	.01330	-.06580	.02090	.75770	-.05960	-.05850	-.05730
2.740	173.430	.35380	-.65620	-2.52800	.04060	.00140	.01910	.73530	-.06800	-.06800	-.06890
2.740	171.420	.53880	-.86110	-2.57170	-.01780	-.08600	.03080	.68800	-.07930	-.07880	-.08080
2.740	169.490	.66570	-.08830	-2.63230	-.06490	-.31180	.00900	.64770	-.09100	-.08390	-.08250
2.740	179.540	.07400	-.08870	-2.41370	.04110	.01680	.01590	.65910	-.04850	-.04850	-.04940
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ORIGINAL PAGE IS OF POOR QUALITY

MSFC THT604 (SABF) SRB WITH ALL PROTUBERANCES

(RIH071) (10 JUL 75)

REFERENCE DATA

SREF = .5030 SG. IN. XMRP = 5.7210 IN. XS BETA = .000 PHI = 270.000
 LREF = .8000 IN. YMRP = .0000 IN. YS NOZZLE = .000
 BREF = .8000 IN. ZMRP = .0000 IN. ZS

SCALE = .0055

PARAMETRIC DATA

GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN*	CLM*	CA	CYN	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
4.450	189.520	-.60750	.20760	-2.36790	-.00940	-.06340	-.70240	.61120	-.03690	-.03750	-.03630
4.450	187.600	-.40470	.31660	-2.35460	-.01220	-.01230	-.01680	.64720	-.03490	-.03590	-.03410
4.450	185.590	-.25960	.27190	-2.32630	-.01160	-.01400	-.03540	.66880	-.03080	-.03230	-.03080
4.450	183.580	-.17090	.21540	-2.29380	.00520	-.08210	-.03930	.68620	-.02980	-.03020	-.02920
4.450	181.570	-.11380	.15720	-2.26870	.00400	-.01110	-.01720	.69670	-.02840	-.02920	-.02760
4.450	179.550	.00240	-.07180	-2.24690	.00850	-.08160	-.00060	2.97650	-.02760	-.02780	-.02620
4.450	177.550	.00280	-.21400	-2.22870	.01080	-.09940	.00120	6.65630	-.02860	-.02800	-.02640
4.450	175.530	.14750	-.29160	-2.32040	.00980	-.01330	-.01590	.74450	-.02960	-.02980	-.02880
4.450	173.510	.23350	-.28000	-2.35910	-.00170	-.13980	-.00360	.68120	-.03210	-.03290	-.03080
4.450	171.490	.43630	-.24520	-2.39400	-.00040	-.21140	.00250	.62950	-.03630	-.03690	-.03450
4.450	169.590	.60840	-.17490	-2.44280	-.00410	-.10580	.03020	.60690	-.03890	-.03890	-.01520
4.450	179.550	.03130	-.10000	-2.28000	.00720	-.01220	-.01640	.84340	-.02760	-.02860	-.02540
4.450	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00030	.00000	.00000	.00000

(R1H073) (10 JUL 75)

MSFC THT604 (SABF) SR8 WITH ALL PROTRUBERANCES

PARAMETRIC DATA

BETA = .000 PHI = 315.000
NOZZLE = .000

REFERENCE DATA

SREF = .5030 SO. IN. XMRP = 5.7210 IN. XS
LREF = .8000 IN. YMRP = .0000 IN. YS
BREF = .8000 IN. ZMRP = .0000 IN. ZS
SCALE = .0055

RUN NO. 344/ 0 RN/L = 5.41 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
.398	129 590	5.01230	-6.34040	-1.76630	.85970	1.87400	.04980	.68660	.00000	.00000	.00000
.398	127 690	5.35080	-6.06190	-1.69090	1.04200	2.15370	.06890	.57580	.00000	.00000	.00000
.398	125 680	5.81600	-5.77330	-1.58900	1.30380	2.32020	.02220	.66440	.00000	.00000	.00000
.398	123 660	6.27420	-5.53870	-1.48480	1.21050	2.31090	-.01760	.55540	.00000	.00000	.00000
.398	121 680	6.77640	-5.47010	-1.37030	.59360	1.53470	.03860	.64920	.00000	.00000	.00000
.398	119 650	7.20970	-5.18170	-1.21710	.24120	.72680	.03190	.64200	.00000	.00000	.00000
.398	117 660	7.68130	-4.37180	-1.07230	.02100	-.66140	.00120	.62980	.00000	.00000	.00000
.398	115 660	7.83530	-3.86330	-.93230	70730	-1.22370	.04260	.62360	.00000	.00000	.00000
.398	113 670	8.12190	-3.48140	-.79420	1.25560	-.02990	.61830	.60880	.00000	.00000	.00000
.398	111 670	8.69170	-2.71110	-.66570	1.17860	-2.86660	-.01060	.60880	.00000	.00000	.00000
.398	109 780	9.06890	-1.85790	-.50400	1.07830	-2.98240	.00410	.60010	.00000	.00000	.00000
.398	119 660	7.24840	-4.84290	-1.22420	.05950	.13620	.07370	.63790	.00000	.00000	.00000
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 345/ 0 RN/L = 5.13 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
598	129 480	7.36620	-5.76990	-1.77000	1.94620	3.69910	.07730	.64730	.00000	.00000	.00000
598	127 580	8.00570	-6.01080	-1.68240	1.44520	2.77400	.07330	.64460	.00000	.00000	.00000
598	125 570	8.78460	-5.66190	-1.56060	97650	1.72540	.08910	.63600	.00000	.00000	.00000
598	123 550	9.48180	-5.03270	-1.44350	65110	1.71980	.08370	.62670	.00000	.00000	.00000
598	121 560	10.06120	-4.25620	-1.30330	25540	1.20800	.06940	.61790	.00000	.00000	.00000
598	119 580	10.26160	-3.04050	-1.15230	40750	1.40950	.09750	.60750	.00000	.00000	.00000
598	117 590	10.47300	-2.25440	-.98400	.31470	-2.75320	.08340	.60190	.00000	.00000	.00000
598	115 590	11.10870	-1.66900	-.86030	-.07600	-3.36540	.11150	.59560	.00000	.00000	.00000
598	113 600	11.46730	-1.11330	-.68430	-.29780	-5.61210	.09700	.59130	.00000	.00000	.00000
598	111 580	11.73050	-.83590	-.46770	.18610	-4.05070	.11460	.58920	.00000	.00000	.00000
598	109 700	11.97250	-.50550	-.30500	51680	-3.44580	.12730	.58680	.00000	.00000	.00000
598	119 580	10.22690	-3.02690	-1.15030	.43750	-1.56240	.06800	.60750	.00000	.00000	.00000
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ORIGINAL PAGE IS OF POOR QUALITY

MSFC TMT604 (SAB) SRB WITH ALL PROTOBERANCES

(R11074) (10 JUL 75)

REFERENCE DATA

SREF = 5030 SQ IN XHRP = 5.7210 IN XS
 LREF = 8000 IN. YHRP = 0000 IN. YS
 BRP = 8000 IN ZHRP = .0000 IN. ZS
 SCALE = 0055

BETA = 000 PHI = 315 000
 NOZZLE = 000

PARAMETRIC DATA

RUN NO. 66/ 0 RN/L = 6.30 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN1	CL1M	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
.899	168 990	81300	-1.33720	-1.91600	04740	24980	.00720	61720	01070	.03320	00440
.899	167 040	1 06270	-1.63860	-1.99410	12520	31890	01140	.63240	-00010	02650	-00640
.899	164 970	1 33820	-1.05930	-2 07170	-01820	15800	02680	64790	-00220	02450	-00950
.899	162 930	1 60010	-1.38900	-2 14230	-13700	01970	03640	65420	00150	02310	-01950
.899	160 870	1 88900	-1 52460	-2 23360	-16180	21280	.03670	64920	-00030	02110	-02650
.899	158 790	2 19370	-1.81330	-2.32110	-09610	.03820	.01670	64340	-02500	00310	-04270
.899	156 720	2 54470	-1.84410	-2.33280	.15160	-1.13130	.01950	64250	-05740	-02610	-07050
.899	154 670	2 89900	-2.13050	-2.33350	.33600	-1.12350	.03230	.64330	-08090	-04680	-08230
.899	152 530	3 41850	-2.53940	-2 33420	51670	22230	.02970	64400	-1.1610	-06700	-09020
.899	150 390	4.17180	-2.75330	-2.33330	.93300	1 25650	04860	63720	-1.3540	-09500	-11070
.899	148.370	4 98930	-2 83560	-2 32860	1.05910	1 95490	03420	62970	-16110	-14280	-14360
.899	149 790	2.20230	-1.70980	-2.31810	-05070	07660	.02290	64670	-03840	-01270	-04570
GRADIENT		00000	00000	00000	.00000	00000	00000	00000	00000	00000	00000

RUN NO. 65/ 0 RN/L = 6.71 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN1	CL1M	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
1.194	168 840	1 04390	-1 45850	-2 60560	-56570	-48440	01770	69710	-08840	-08800	-11290
1.194	166 870	1 29070	-1 68100	-2 68960	-66750	-41910	02650	.68960	-10320	-10230	-13290
1.194	164 780	1 61170	-2 09560	-2.75520	-70820	-27530	03680	.69010	-11040	-10870	-14090
1.194	162 680	1 93280	-2 48010	-2.79160	-51440	-78830	02150	62680	-11810	-11640	-15150
1.194	160 590	2 41110	-2 86440	-2 79250	-14740	-93150	03210	68030	-14350	-13170	-17030
1.194	158 420	3 02930	-3 11880	-2.80270	.21760	-1 02450	03350	66740	-17110	-14350	-18340
1.194	156 260	3 83560	-3 04800	-2 80980	36850	-1 04650	05660	64820	-20710	-1740	-21430
1.194	154 090	4 65440	-3.16550	-2.80530	.44750	.97460	.04650	.63890	-21940	-20150	-23250
1.194	151 850	5 77050	-2 59640	-2 81160	.42540	1 02330	05560	62010	-23970	-23930	-26660
1.15	149 710	6 58120	-2.40750	-2.78670	.46730	20450	05560	61320	-26650	-25910	-30250
1.194	147 660	7 45040	-2 21810	-2 75370	.47790	-1.36770	.05450	60770	-26880	-21280	-32180
1.194	148 400	3 05430	-3.12810	-2.77460	.22790	-97390	03630	66690	-17470	-13910	-17680
GRADIENT		.00000	.00000	00000	.00000	00000	00000	.00000	.00000	.00000	00000

MSFC TWT604 (SABF) SRB CLEAN W/RINGS (NOZ. OIM.) (R1H075) (10 JUL 75)

REFERENCE DATA

SREF = 5030 SQ IN. XMRP = 5.7210 IN. XS BETA = .000 PHI = .000
 LREF = 8000 IN. YMRP = .0000 IN. YS NOZZLE = 2.500
 BREF = 8000 IN. ZMRP = .0000 IN. ZS
 SCALE = 0055

RUN NO 146/ 0 RN/L = 4.89 GRADIENT INTERVAL = .5.00/ 5.00

MACH	ALPHA	CNH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
.596	148 680	3 45730	-1.62210	-2.04840	.51630	.93150	-.00450	.62160	-19040	-.15900	-.06030
.596	146 740	3 87650	-1.80990	-2.02720	.53980	.62090	.00660	.62150	-.25710	-.18610	-.07830
.596	144 670	4 25570	-2.25220	-1.99200	.55630	.13240	.00180	.62650	-.31920	-.23670	-.10230
.596	142 650	4 49120	-2.85790	-1.97390	.45450	-.08000	.02200	.63530	-.46380	-.26070	-.10610
.596	140 630	4 76970	-3.27830	-1.92730	.14250	.21270	.00810	.63940	-.60750	-.28760	-.12140
.596	138 550	5 46510	-2.30910	-1.85170	.07910	.16660	-.02090	.61780	-.76840	-.33120	-.16200
.596	136 500	6 75810	.06950	-1.79050	-.02050	-.00200	-.00200	.58250	-.90230	-.32660	-.20480
.596	134 430	8 06080	1.42520	-1.78070	-.57440	.12150	-.00750	.56890	-1.17260	-.40920	-.24000
.596	132 310	8 98220	1.70530	-1.75430	-1.18980	-.76390	.00290	.56790	-1.37780	-.45510	-.27650
.596	130 220	9 84440	1.50760	-1.71180	-1.44260	-.80650	-.00170	.57090	-1.47890	-.43030	-.32720
.596	128 260	10 55840	1.55280	-1.65180	-1.35270	-.54080	.01690	.57140	-1.52060	-.37800	-.35640
.596	138 540	5 38190	-2.69960	-1.85690	.03320	1.3880	-.01390	.62430	-.76030	-.32820	-.14830
GRADIENT		00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 145/ 0 RN/L = 6.17 GRADIENT INTERVAL = .5.00/ 5.00

MACH	ALPHA	CNH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
.894	148 180	4 39660	-3.17960	-2.26670	-.03320	-.20330	.04200	.64240	-17600	-.16460	-.06210
.894	146 180	4 96210	-3.21540	-2.21170	-.07800	-.50950	.02420	.63620	-.19070	-.18490	-.08460
.894	144 020	5 78420	-3.49040	-2.16630	-.12660	-.28920	.02190	.63260	-.19780	-.21310	-.10690
.894	141 860	6 78560	-3.75900	-2.12310	-.05690	.05030	.04010	.62860	-.22260	-.24310	-.13050
.894	139 690	7.64270	-4.49630	-2.07140	.05470	.17700	.04290	.63140	-.26720	-.25980	-.13850
.894	137 480	8 88230	-4.19540	-1.98190	.07990	-.11030	.03580	.62190	-.35700	-.31160	-.16900
.894	135 340	9 62460	-4.87800	-1.91680	.06300	-.31540	.04790	.62470	-.41010	-.32250	-.18490
.894	133 220	10 25850	-5.54560	-1.81790	.05590	-.31480	.03030	.62750	-.47960	-.34540	-.18790
.894	130 960	11 26350	-6.50890	-1.71570	.06690	-.28250	.04870	.63050	-.54700	-.34740	-.20340
.894	128 840	11.87150	-6.87240	-1.57070	.08890	-.38420	.03770	.63060	-.58870	-.33650	-.22500
.894	126 870	12 49660	-6.86280	-1.44290	.09030	-.47180	.03010	.62820	-.71980	-.35870	-.25050
.894	137 470	8 94220	-4.20920	-2.00820	-.06310	-.06310	.04070	.62180	-.38440	-.32120	-.18350
GRADIENT		00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

PARAMETRIC DATA

DATE 10 JUL 75

TABULATED SOURCE DATA, MSFC TH 604, SA-8F

PAGE 204

MSFC TH604 (SABF) SRB CLEAN W/RINGS (MOZ. OIM.)

(R1H075) (10 JUL 75)

REFERENCE DATA

SREF = .5030 SQ. IN. XMRP = 5.7210 IN. X5
 LREF = .8000 IN. YMRP = .0000 IN. Y5
 BRFF = .8000 IN. ZMRP = .0000 IN. Z5
 SCALE = .0055

PARAMETRIC DATA

BETA = .000 PHI = .000
 NOZZLE = 2.500

RUN NO. 144/ 0 RN/L = 6.57 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLMP	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
1.196	147.450	7.20450	-2.36130	-2.78890	-.02390	-1.2610	00500	61010	-38130	-36140	-40070
1.196	145.380	8.14140	-1.98880	-2.72900	06250	-.16320	02100	60330	-36830	-36370	-39590
1.196	143.160	9.26200	-1.48970	-2.68370	.00360	-.04030	01370	59650	-41340	-39180	-40920
1.196	141.000	10.33180	-.88580	-2.60250	-.08880	-.09300	02060	59040	-40490	-39720	-41250
1.196	138.840	11.15260	-.76690	-2.51900	-.03800	-.38270	00180	58900	-38710	-38750	-40230
1.196	136.640	12.24950	-.10130	-2.40460	-.05370	-.46240	02390	58400	-40370	-42400	-40370
1.196	134.490	12.39950	-.06940	-2.28760	07040	-.16090	02060	58380	-39730	-38800	-37740
1.196	132.350	13.22420	-.36970	-2.14030	08500	-.12560	02030	58050	-40380	-37280	-37120
1.196	130.170	14.37110	-.44000	-1.99320	08960	-.05190	00920	58590	-46990	-39430	-33100
1.196	128.050	14.92030	-.52610	-1.80900	10280	-.11520	01040	58840	-56280	-37300	-28730
1.196	126.030	15.45500	-.90000	-1.61180	10540	-.22110	00360	58850	-63900	-30100	-20700
1.196	136.640	12.25470	-.03420	-2.39550	-.05320	41590	01180	58360	-40860	-42840	-40100
GRADIENT		00000	00000	00000	.00000	00.000	00000	00000	00000	00000	00000

RUN NO 114/ 0 RN/L = 7.01 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLMP	CA	CYM	CYMH	UBL	XCP/L	CBP1	CBP2	CBP3
1.950	147.510	7.15020	1.08020	-2.77530	01040	00570	01010	57100	-24270	-22560	-22410
1.950	145.480	7.83980	1.48640	-2.74850	02140	-.01480	00860	56790	-25680	-22930	-22850
1.950	143.300	8.68100	1.82530	-2.71090	02710	-.02430	00970	56520	-26250	-23290	-23550
1.950	141.110	9.47530	1.90540	-2.60890	03000	00430	00170	56700	-22850	-20570	-20460
1.950	138.970	10.17510	2.16260	-2.45500	04810	-.03340	01250	56600	-24380	-21140	-22290
1.950	136.840	10.85510	2.44610	-2.33440	07090	-.03100	01590	56500	-24250	-20270	-21770
1.950	134.640	11.62510	2.53100	-2.22340	07010	-.08100	01310	56560	-24200	-19720	-21140
1.950	132.520	12.28400	2.61360	-2.12310	08900	-.03520	00120	56600	-25290	-19040	-20160
1.950	130.320	12.95190	2.82000	-2.01160	10200	-.05480	01370	56570	-26660	-17950	-18740
1.950	128.330	13.33080	3.25960	-1.90110	11250	-.00020	01020	56340	-27920	-15160	-16260
1.950	126.220	14.17220	3.35050	-1.76910	12050	-.02960	00100	56410	-30780	-15230	-15350
1.950	136.890	10.68730	2.51330	-2.31580	05440	-.00670	00490	56420	-24040	-14600	-21500
GRADIENT		00000	00000	00000	.00000	00000	00000	00000	00000	.00000	00000

(R1H076) (10 JUL 75)

MSFC TWT60N (SABF) SRB CLEAN W/RINGS (NOZ. 01M.)

PARAMETRIC DATA

REFERENCE DATA

SREF = .5030 50. IN. XMRP = 5.7210 IN. XS
 LREF = .8000 IN. YMRP = .0000 IN. YS
 BRP = .8000 IN. ZMRP = .0000 IN. ZS
 SCALE = .0055

BETA = .000
 NOZZLE = 2.500
 PH1 = .000
 PH2 = .000

MACH	ALPHA	CNH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
597	169 040	63950	-1.48260	-1.63700	-0.1410	-0.06650	0.04000	.77250	.06030	.03710	.07280
597	167 110	.84080	-1.72070	-1.69840	-0.2540	.00590	0.2630	.75030	0.4940	.03060	.06360
597	165 060	1 12450	-1.95650	-1.77930	-0.3620	.04630	-.00110	.72530	.03630	.02650	.04970
597	163 050	1 33200	-2.01380	-1.84140	-0.1010	.05140	.03000	.70670	0.2560	0.1840	0.4440
597	161 050	1 56160	-2.03090	-1.90370	.08210	.08350	.03430	.68950	0.1310	.00590	0.3720
597	159 010	1 82360	-2.02080	-1.95880	.01480	.08450	.03310	.67380	-.00550	-.00190	0.3120
597	156 960	2 10770	-1.99300	-P.00780	.07690	.15780	0.3030	.66050	-.02610	-.02430	0.2300
597	154 950	2 39410	-1.93800	-1.99910	.12620	.21190	-.00320	.64940	-.05300	-.04310	0.1320
597	152 880	2 79260	-1.60610	-2.00200	.20090	.66810	0.1550	.63030	-.08910	-.06840	-.00010
597	150 860	3 10740	-1.48270	-2.04130	.27600	.69730	.00720	.62230	-.14840	-.12320	-.01720
597	148 920	3 63220	-1.77690	-2.03510	.27100	.55190	.00530	.62330	-.24150	-.15950	-.03780
597	158 990	1.79150	-2.01580	-1.95030	.02720	.10200	0.2220	.67520	-.00470	-.00650	.03000
597	GRADIENT	00000	00000	.00000	00000	00000	00000	00000	00000	00000	00000

MACH	ALPHA	CNH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
902	168 590	.86100	-2.2390	-1.87850	-0.1620	.02730	0.04090	.60460	-.07970	-.04540	.04650
902	167 040	1.08340	-3.6720	-1.98290	-0.3600	.00220	.03490	.61100	-.08860	-.05530	.04290
902	164 960	1 37210	-6.8010	-2.09360	-0.1810	0.4760	0.2950	.62380	-.09720	-.06430	.05030
902	162 950	1 59640	-9.2950	-2.16740	.00750	.05090	.03870	.63090	-.10690	-.07620	.04720
902	160 850	1 92730	-1.32750	-2.19310	-.00380	.10810	0.2570	.63960	-.12890	-.09190	.04270
902	158 800	2 17450	-1.54550	-2.23840	-.00100	.10660	0.2630	.64140	-.13140	-.09470	.03620
902	156 750	2 47450	-1.74330	-2.24950	.00160	.08740	.03860	.64080	-.13970	-.09960	.02680
902	154 670	2 82400	-2.04780	-2.25190	.03250	.06530	.02900	.64	-.14170	-.12000	.01390
902	152 540	3 21170	-2.52430	-2.29560	.02920	.09240	0.3500	.64730	-.15820	-.14660	.00120
902	150 420	3 65750	-3 14980	-2.29560	0.4510	.33310	0.0610	.6520	-.20720	-.18240	-.00410
902	148 410	4 52900	-3 23740	-2.29250	0.2280	-.01980	0.2160	.61170	-.23880	-.20460	-.05010
902	158 760	2 26290	-1 60900	-2 26230	-.02970	.10620	-.01070	.64140	-.13390	-.09700	.03460
902	GRADIENT	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000

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DATE 10 JUL 75

TABULATED SOURCE DATA, MSFC TMT 604, SA-8F

PAGE 206

MSFC TMT604 (SABF) SRB CLEAN W/RINGS (NOZ. QIM.)

(R1M078) (10 JUL 75)

REFERENCE DATA

SREF = 5030 50 IN. XMRP = 5.7210 IN. XS
 LREF = .8000 IN. YMRP = .0000 IN. YS
 BRP = 8000 IN. ZMRP = .0000 IN. ZS
 SCALE = 0055

PARAMETRIC DATA

BETA = .000 PHI = .000
 NOZZLE = 2.500

RUN NO. 137/ 0 RN/L = 6.58 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMF	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
1.198	168 850	1.02460	-1.57300	-2.53220	.04330	.04160	-.01770	.72220	-.14650	-1.3720	-15950
1.198	166 890	1.13060	-1.08500	-2.80110	-.01160	-.03130	-.01080	71700	-.18560	-.19420	-11700
1.198	164 790	1.46880	-2.11050	-2.84180	-.02940	-.17130	-.00760	.70070	-.17820	-.19560	-118800
1.198	162 700	1.88580	-2.34800	-2.88330	-.03480	-.08820	-.01120	.88800	-.19540	-.18380	-120430
1.198	160 600	2.38310	-2.75740	-2.89080	-.04460	-.14260	-.00840	.87780	-.21940	-.19470	-21900
1.198	158 430	3.00570	-3.14320	-2.73020	-.02730	-.02720	-.01770	.66870	-.25460	-.22490	-24310
1.198	156 290	3.69040	-3.37350	-2.74680	-.05940	-.06410	-.01700	.65790	-.27440	-.24410	-36140
1.198	154 130	4.38410	-3.38890	-2.74890	.04430	-.32170	-.01630	.64640	-.29610	-.26550	-28590
1.198	151 910	5.25900	-3.27190	-2.76590	.01650	-.01350	-.02060	.63410	-.31570	-.28940	-32120
1.198	149 780	6.17880	-2.96630	-2.75140	.02250	.05010	-.01330	.62250	-.33890	-.31520	-34820
1.198	147 680	7.18000	-2.54820	-2.72700	.05480	-.02170	-.01160	.61230	-.36070	-.34030	-37550
1.198	158 390	3.05360	-3.13770	-2.72160	-.25030	-.04650	-.01040	.65720	-.24650	-.21860	-23670
GRADIENT		00000	00000	00000	00000	00000	00000	00000	0.000	00000	00000

RUN NO. 115/ 0 RN/L = 6.98 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMF	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
1.982	168 850	88210	-1.24250	-2.52470	.02070	.04550	.02060	.69830	-12430	-12200	-13110
1.982	166 890	1.30040	-1.49970	-2.56400	.04440	.05390	-.01910	.67180	-13620	-13510	-14650
1.982	164 720	1.82100	-1.52000	-2.61980	.01630	-.08150	-.00480	.65150	-15230	-15000	-16030
1.982	162 580	2.40930	-1.50220	-2.67680	-.11450	-.24970	.00090	.63420	-16450	-16230	-17210
1.982	160 430	3.04550	-1.41180	-2.75020	.05580	-.00780	.00860	.62120	-17170	-16980	-1810
1.982	158 300	3.71270	-1.12830	-2.75860	.05300	-.05770	.00460	.60820	-18470	-18320	-19240
1.982	156 140	4.39000	-.75960	-2.78250	.05640	-.17260	-.01150	.59750	-19660	-19540	-19880
1.982	154 010	5.13940	-.41190	-2.81300	.07030	-.28400	-.00440	.58930	-21510	-21430	-21710
1.982	151 820	5.89010	.00100	-2.82390	.07410	-.03080	.00070	.58340	-22760	-21420	-22440
1.982	149 720	6.59750	.47250	-2.80240	.04990	.04030	.00350	.57760	-24440	-24590	-24940
1.982	147 700	7.26190	.79210	-2.79190	.05000	.06960	-.00480	.57450	-26460	-23450	-23960
1.982	158 340	3.69100	-.84790	-2.72960	.00130	-.08160	-.00830	.60210	-18720	-18540	-19150
GRADIENT		00000	00000	00000	00000	.00010	00000	00000	00000	00000	00000

REFERENCE DATA

SREF = 5030 SQ IN XMRP = 5 7210 IN XS
 LREF = 8000 IN YMRP = .0000 IN YS
 BREF = 8000 IN ZMRP = .0000 IN ZS
 SCALE = 0055

PARAMETRIC DATA

BETA = .000 PHI = .000
 NOZZLE = 2.500

RUN NO 125/ 0 RN/L = 4 91 GRADIENT INTERVAL = -3 0/ 5 00

MACH	ALPHA	CNH	CLMH	CA	CYH	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
598	189 550	- 50520	1 46860	-1 27650	.04960	- 05050	- .00840	82050	06540	07520	- 07610
598	187 630	- 37660	1 20910	-1 16550	05430	- 11380	- 02640	84520	08230	08850	09120
598	187 610	- 27610	85800	-1 07260	04290	06610	- 04350	83680	09840	10730	10730
598	1 4 540	- 19550	49300	-1 01230	07520	- 12800	- 03160	78910	11510	12480	11590
598	31 530	- 09540	14030	-1 00550	05210	.00350	- 06590	70330	11530	11890	11260
598	179 540	08420	- 26740	-1 05560	.05950	- 07530	- 04960	84220	.490	11490	11310
598	177 500	16070	- 56620	-1 15210	05050	- 06430	- 06590	87080	11260	10930	11630
598	175 510	21360	- 74580	-1 26440	06550	- 04670	- 05170	86810	11440	10630	11970
598	173 480	20390	- 88860	-1 38750	06550	- 03040	- 04190	85810	09780	13590	10950
596	171 450	44020	-1 14600	-1 50340	00580	- 07150	- 06820	74570	07850	09560	09110
598	169 510	52560	-1 40050	-1 60360	02440	- 01940	- 05070	77520	06690	08390	08030
599	179 450	22640	- 24840	-1 04960	04470	- 00060	- 07230	3 73620	12020	11930	12020
		00000	00000	00000	00000	00000	00000	00000	00000	00000	00000

RUN NO. 124/ 0 RN/L = 6 18 GRADIENT INTERVAL = -5 00/ 5 00

MACH	ALPHA	CNH	CLMH	CA	CYH	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
900	189 580	- 62720	27360	-1 56830	04720	- 04910	- 00480	61900	- 05330	- 07800	- 02120
900	187 640	- 47400	07780	-1 45590	03460	- 07070	- 00580	59680	- 04120	- 06000	- 00990
900	185 630	- 33000	- 08110	-1 30260	- 00060	- 10540	02520	56330	- 01700	- 03120	00060
900	183 640	- 22310	- 17230	-1 21630	00820	- 11430	03150	42040	02230	00600	03590
900	181 640	- 09590	- 21720	-1 19080	05730	04330	02660	40070	04070	03490	04290
900	179 630	11140	- 13990	-1 24820	07010	10830	00610	68530	04720	04820	05400
900	177 630	25920	- 04100	-1 38430	04770	04570	- 01200	59630	02910	04270	06260
900	175 630	36480	- 05990	-1 50750	04160	01580	- 00930	59680	00690	03050	07190
900	173 630	52070	- 01640	-1 61220	04870	01690	00910	58600	- 01280	02860	08010
900	171 630	66300	- 09790	-1 72230	04330	- 03110	02840	50540	- 03350	00520	07320
900	169 630	88180	- 25970	-1 82440	00820	- 04120	02190	60740	- 03770	- 00530	37650
900	179 510	09470	- 12520	-1 24840	05540	06890	02520	69110	04780	04880	05250
		00000	00000	00000	00000	00000	00000	00000	00000	00000	00000

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PARAMETRIC DATA

MACH	ALPHA	CMH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
1.196	80.460	18.96300	14.63470	.61170	-.25750	-.12220	.02780	52040	00000	00000	00000
1.196	82.340	19.17840	14.17600	.63250	-.23710	-.12760	.03540	52310	00000	00000	00000
1.196	84.320	19.35750	13.91130	.57130	-.24300	-.13830	.01780	52470	00000	00000	00000
1.196	86.300	19.57410	13.44930	.50160	-.22520	-.15050	.02030	52730	00000	00000	00000
1.196	88.240	19.63320	12.67940	.44750	-.23410	-.16770	.02490	53070	00000	00000	00000
1.196	90.240	19.65660	12.16780	.37480	-.20007	-.16420	.02430	53290	00000	00000	00000
1.196	92.220	19.66540	11.67290	.29420	-.26890	-.17560	.01710	53490	00000	00000	00000
1.196	94.210	19.65870	11.43140	.20780	-.23010	-.17340	.02760	53590	00000	00000	00000
1.196	96.220	19.61260	11.08900	.12150	-.26840	-.17910	.02660	53840	00000	00000	00000
1.196	98.210	19.55850	10.78840	.04690	-.29380	-.17320	.02660	53690	00000	00000	00000
1.196	100.100	19.59320	11.15040	-.07080	-.35080	-.14010	.00950	53340	00000	00000	00000
1.196	90.240	19.68160	12.05950	.37360	-.20390	-.16580	.01740	53340	00000	00000	00000
GRADIENT		00000	00000	00000	00000	00000	00000	00000	00000	00000	00000

PARAMETRIC DATA

MACH	ALPHA	CMH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
1.973	80.400	19.45360	13.70470	.73980	-.24410	-.09370	-.02630	52590	00000	00000	00000
1.976	82.290	19.58970	13.50150	.66620	-.24980	-.09790	-.02400	52710	00000	00000	00000
1.976	84.280	19.59750	13.31330	.59510	-.24120	-.13000	-.03060	52820	00000	00000	00000
1.976	86.280	19.79570	13.01430	.51760	-.23180	-.14130	-.02130	52970	00000	00000	00000
1.976	88.240	19.87580	12.61830	.44500	-.23180	-.15220	-.03510	53160	00000	00000	00000
1.976	90.240	19.87020	12.18710	.36980	-.23670	-.14780	-.02930	53330	00000	00000	00000
1.976	92.250	19.80570	11.74390	.29130	-.23680	-.16610	-.02940	53500	00000	00000	00000
1.976	94.210	19.75490	11.40240	.21040	-.23580	-.12470	-.01730	53630	00000	00000	00000
1.976	96.200	19.61290	10.96820	.11430	-.23210	-.13860	-.03320	53770	00000	00000	00000
1.976	98.200	19.46740	10.64740	.01480	-.24200	-.15760	-.02350	53880	00000	00000	00000
1.976	100.070	19.28630	10.34240	-.09210	-.24040	-.16700	-.01340	53950	00000	00000	00000
1.976	90.240	19.93340	12.18670	.37160	-.24090	-.13810	-.02590	53350	00000	00000	00000
GRADIENT		00000	00000	00000	00000	00000	00000	00000	00000	00000	00000

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OF POOR QUALITY

MSFC THT604 (SABF) SRS CLEAN W/RINGS (NOZ 01H)

(RIH079) (10 JUL 75)

REFERENCE DATA

SREF = 5030 SQ. IN. XMRP = 5 7210 IN XS
 LREF = .8000 IN. YMRP = .0000 IN. YS
 BREF = 9000 IN. ZMRP = .0000 IN. ZS
 SCALE = 0.055

BETA = 000 PHI = 000
 NOZZLE = 5 000

RUN NO. 281/ 0 RN/L = 5.25 GRADIENT INTERVAL = -5.00/ 5 00

MACH	ALPHA	CNM	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
2.740	80 570	19.21000	13.59050	.70840	-.26140	-12170	-.02140	52570	00000	00000	00000
2.740	82 250	19.41720	13.41930	.63180	-.26490	-11330	-.01850	52700	.00000	00000	00000
2.740	84 250	19.45180	13.09030	.55350	-.26150	-12300	-.00980	52850	00000	00000	00000
2.740	86 240	19.64300	12.82210	.47790	-.26190	-10670	-.02090	53010	00000	00000	00000
2.740	88 210	19.72860	12.53220	.38490	-.25670	-10250	-.03690	53150	00000	00000	00000
2.740	90 220	19.77990	12.08570	.31810	-.24970	-08520	-.02320	53350	00000	00000	00000
2.740	92 200	19.69080	11.58970	.22610	-.22790	-10780	-.02210	53540	.00000	00000	00000
2.740	94 200	19.60320	11.39280	.13300	-.24430	-115080	-.03500	53600	00000	00000	00000
2.740	96 210	19.50080	11.11600	.05450	-.24170	-13690	-.02250	53690	00000	00000	00000
2.740	98 230	19.34480	10.80110	-.06140	-.24910	-16140	-.03540	53770	00000	00000	00000
2.740	100 080	19.08240	10.34940	-.16390	-.22890	-15300	-.03230	53910	00000	00000	00000
2.740	90 240	19.79730	12.18630	.32440	-.25187	-12910	-.03960	53320	00000	00000	00000
GRADIENT		00000	00000	00000	00000	00000	00000	00000	00000	00000	00000

RUN NO. 282/ 0 RN/L = 7.21 GRADIENT INTERVAL = -5.00/ 5 00

MACH	ALPHA	CNM	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
3.460	80 380	18.71000	13.53670	.66310	-.26020	-16330	-.02550	52430	00000	00000	00000
3.480	82 270	18.84840	13.22580	.59260	-.26120	-18260	-.03360	52610	00000	00000	00000
3.480	84 260	19.00020	12.93280	.52140	-.26440	-20330	-.01370	52780	00000	00000	00000
3.480	86 220	19.45110	12.51750	.44320	-.27100	-12870	-.00350	53050	00000	00000	00000
3.480	88 210	19.27420	12.11130	.36090	-.27980	-13410	-.02580	53210	00000	00000	00000
3.480	90 210	19.30500	11.50620	.26480	-.27110	-12450	-.00940	53470	00000	00000	00000
3.480	92 220	19.28670	11.19600	.19440	-.25050	-08580	-.00930	53600	00000	00000	00000
3.480	94 200	19.08030	10.94720	.11770	-.28270	-13080	-.00240	53660	00000	00000	00000
3.480	96 200	19.07830	10.49500	.03200	-.26190	-17130	-.00200	53850	00000	00000	00000
3.480	98 200	18.90080	10.15250	-.06820	-.25960	-16740	-.00710	53950	00000	00000	00000
3.480	100 090	18.64360	9.78300	-.18170	-.26560	-15040	-.01950	54080	00000	00000	00000
3.480	90 230	19.32940	11.58460	.26720	-.27270	-15550	-.01220	53450	00000	00000	00000
GRADIENT		00000	00000	00000	00000	00000	00000	00000	00000	00000	00000

PARAMETRIC DATA

'R1H0801 (10 JUL 75)

MSFC TH1604 (SABF) SRB CLEAN W/RINGS (NOZ 01M)

PARAMETRIC DATA

BETA = .000 PHI = .000
NOZZLE = 5.000

REFERENCE DATA

SREF = .5030 SQ. IN. XMRP = 5.7210 IN. XS
LREF = .8000 IN. YMRP = .0000 IN. YS
BREF = 8000 IN. ZMRP = .0000 IN. ZS
SCALE = .0055

RUN NO. 250/ 0 RN/L = 5.03 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMH	CA	CYM	CYMH	CYMM	CBL	XCP/L	CBP1	CBP2	CBP3
.598	129 500	6.65620	-5.33560	-1.76060	.66040	.55900	.55900	- .00740	.64690	.00000	.00000	.00000
.598	127 590	7.58370	-5.00660	-1.67900	.46660	.32340	.32340	- .00030	63720	.00000	.00000	.00000
.598	125 580	8.54460	-4.50030	-1.58390	.54980	.08100	.08100	01310	62630	.00000	.00000	.00000
.598	123 590	9.45580	-4.35580	-1.43450	.00770	.58210	.58210	- 01550	62100	.00000	.00000	.00000
.598	121 590	10.14920	-3.68650	-1.31380	-.52900	-.53400	-.53400	- 02270	61300	.00000	.00000	.00000
.598	119 580	10.56770	-2.86450	-1.14810	- .42560	-1.00980	-1.00980	- 02980	60550	.00000	.00000	.00000
.598	117 580	10.98110	-2.08220	-.98290	- 10550	-1.92010	-1.92010	01020	59880	.00000	.00000	.00000
.598	115 600	11.11350	-1.26820	-.80380	-.03800	-.46470	-.46470	00660	59270	.00000	.00000	.00000
.598	113 550	11.59430	-1.06370	-.62320	.40840	2.62550	2.62550	.00970	.59090	.00000	.00000	.00000
.598	111 570	12.02850	-.71850	-.50190	31520	60090	60090	- 04050	58820	.00000	.00000	.00000
.598	109 690	12.10070	-.56010	-.34670	.15520	1.14540	1.14540	01900	59710	.00000	.00000	.00000
.598	119 580	10.45750	-3.06020	-1.98550	60980	2.85610	2.85610	03290	60720	.00000	.00000	.00000
GRADIENT		00000	00000	00000	00000	00000	00000	.00000	00000	00000	00000	00000

RUN NO. 251/ 0 RN/L = 6.32 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMH	CA	CYM	CYMH	CYMM	CBL	XCP/L	CBP1	CBP2	CBP3
902	129 270	10.76430	-3.58040	-1.73630	-.02820	-.26160	-.26160	- 00090	61050	.00000	.00000	.00000
902	127 340	11.43040	-3.79260	-1.61250	12030	-.42480	-.42480	- 00480	61040	.00000	.00000	.00000
902	125 310	11.97340	-3.69620	-1.44480	19010	-.58490	-.58490	00470	60860	.00000	.00000	.00000
902	123 310	12.49630	-3.80000	-1.28250	21390	-.29020	-.29020	01010	60820	.00000	.00000	.00000
902	121 290	12.96450	-3.85740	-1.12000	19130	02370	02370	02160	60760	.00000	.00000	.00000
902	119 290	13.40420	-3.66630	-.95170	17220	36610	36610	.0970	60570	.00000	.00000	.00000
902	117 280	14.05020	-3.06370	-.78210	15590	34130	34130	02420	60120	.00000	.00000	.00000
902	115 300	14.34380	-2.42300	-.57170	18410	36120	36120	01770	59710	.00000	.00000	.00000
902	113 280	14.58010	-2.07690	-.35530	26980	05940	05940	02530	59490	.00000	.00000	.00000
902	111 290	14.96250	-1.57940	-.17080	24210	00850	00850	02520	59200	.00000	.00000	.00000
902	109 420	15.38710	-.98340	-.01150	24060	03790	03790	02540	58870	.00000	.00000	.00000
902	119 280	13.63140	-3.65560	-.96120	13140	15260	15260	02120	60520	.00000	.00000	.00000
GRADIENT		00000	00000	00000	00000	00000	00000	.00000	00000	00000	00000	00000

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PARAMETRIC DATA

REFERENCE DATA
 SREF = 5030 SQ. IN XMRP = 5 7210 IN. XS BETA = .000 PHI = .000
 LREF = 6000 IN YMRP = 0000 IN. YS NOZZLE = 5 000
 BREF = .8000 IN. ZMRP = .0010 IN. ZS
 SCALE = .0055

MACH	ALPHA	CMM	CLMM	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
2.740	129.560	11.83930	4.63560	-1.92460	12170	04500	05510	55140	00000	.00000	00000
2.740	127.660	12.50500	5.13250	-1.79340	17730	-0.0730	06540	54990	00000	00000	00000
2.740	125.630	13.12290	5.57840	-1.66720	17780	07620	06680	54870	00000	00000	00000
2.740	123.630	13.73060	6.01750	-1.52210	10000	08560	06360	54760	00000	00000	00000
2.740	121.630	14.28600	6.44640	-1.37000	18210	10620	06520	54660	00000	00000	00000
2.740	119.620	14.88210	6.83850	-1.23430	19260	14870	05260	54590	00000	00000	00000
2.740	117.600	15.46690	7.16840	-1.08440	18830	13570	05800	54560	00000	.00000	00000
2.740	115.610	16.00610	7.55110	-.94110	19990	14740	05420	54490	00000	.00000	00000
2.740	113.610	16.49250	7.90220	-.79400	21180	16080	07870	54430	00000	00000	00000
2.740	111.590	16.94260	8.29160	-.63330	22370	16180	05900	54350	00000	00000	00000
2.740	109.630	17.37320	8.73300	-.40890	22640	16250	07370	54250	00000	00000	00000
2.740	107.620	17.84150	9.16660	-.123780	18520	09440	06380	54590	00000	00000	00000
GRADIENT		00000	00000	00000	00000	00000	00000	00000	00000	00000	00000

MACH	ALPHA	CMM	CLMM	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
3.480	129.520	11.51520	4.23720	-1.91000	14700	03530	04880	55340	00000	00000	00000
3.480	127.640	12.13170	4.71540	-1.79460	15540	07530	05270	55170	00000	00000	00000
3.480	125.620	12.72720	5.16310	-1.66180	14930	06240	05190	55020	00000	00000	00000
3.480	123.610	13.30470	5.59950	-1.52070	16720	08250	00050	54900	00000	00000	00000
3.480	121.630	13.84970	6.01930	-1.36720	16900	07550	07180	54790	00000	00000	00000
3.480	119.610	14.43800	6.39730	-1.22110	17160	07450	07480	54720	00000	00000	00000
3.480	117.570	15.07210	6.74830	-1.07220	17390	10280	00400	54570	00000	00000	00000
3.480	115.540	15.56410	7.06920	-.92330	17750	09250	08460	54530	00000	00000	00000
3.480	113.530	16.00160	7.41440	-.76410	18820	10370	08110	54560	00000	00000	00000
3.480	111.430	16.48340	7.76170	-.61590	18320	11040	05800	54500	00000	00000	00000
3.480	109.430	16.93390	8.09300	-.47790	22700	05600	07570	54430	00000	00000	00000
3.480	107.420	17.38210	8.28320	-.32230	17270	09340	06780	54700	00000	00000	00000
GRADIENT		00000	00000	00000	00000	00000	00000	00000	00000	00000	00000

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OF POOR QUALITY

REFERENCE DATA

SREF = 5030 50. IN XMRP = 5 7210 IN. XS
 LREF = 8000 IN YMRP = .0000 IN YS
 BREF = 8000 IN ZMRP = 0000 IN. ZS
 SCALE = 0055

BETA = 000 PHI = 000
 NOZZLE = 5 000

RUN NO. 140/ 0 RN/L = 4.90 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNN	CLNN	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
596	169 030	69630	-1.45310	-1.74970	-0.1570	-0.2100	03570	75360	05310	03230	06750
596	167 110	87580	-1.66800	-1.81190	-0.1330	-0.0690	-00010	73870	04300	03050	05830
596	165 060	1 13580	-1.84040	-1.88690	01470	00960	-01020	71560	03500	02780	05020
596	163 050	1 13540	-1.94630	-1.94170	00570	-08780	00780	70030	01690	00880	03660
596	161 030	1 59940	-2.04280	-2.02270	00490	-01190	00040	68760	00610	00700	03400
596	158 990	1 80370	-2.00180	-2.04130	01730	-01080	-00030	67390	-00820	-00640	02760
596	156 910	2 03200	-2.0710	-1.98430	02940	02130	-01220	66440	-02300	-02570	02050
596	154 950	2 38230	-2.05080	-2.03150	14440	07680	04210	65360	-04230	04230	01960
596	152 870	2 80500	-1.96580	-0.95940	21560	-74420	01650	64050	-11280	-08690	00380
596	150 850	3 25580	-1.83080	-2.06340	25610	02520	02520	62930	-15800	-12660	02150
596	148 910	3 67810	-1.96830	-2.03780	24460	58960	03730	62700	-21110	-17000	04480
596	158 990	1 76880	-1.94800	-2.02580	06900	-06190	00040	62200	-03840	-03420	02610
GRADIENT		00000	00000	00000	00000	00000	00000	00000	04000	00000	00000

RUN NO 139/ 0 RN/L = 6.18 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNN	CLNN	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
895	168 990	88080	-0.7590	-2.01860	-00210	-00620	04230	59040	01280	03960	04540
895	167 050	1 08670	-2.1150	-2.0870	-02840	-05990	02900	60150	-08450	-04990	04580
895	164 970	1 37150	-2.18800	-2.18800	00720	-10270	03250	61900	-03580	-06320	04860
895	162 320	1 65480	-1.05380	-2.22470	01960	-06670	04490	63630	-11200	-07700	05370
895	160 850	1 93690	-1.39100	-2.24330	-02350	00470	05200	64190	-11890	-08070	05370
895	158 770	2 24310	-1.64200	-2.26800	00760	10080	05170	64320	-10770	-03350	04140
895	156 700	2 57420	-1.91540	-2.29330	09350	-16610	05130	64360	-13920	-10440	02760
895	154 640	3 07060	-2.27770	-2.32000	03990	-26210	04550	64590	-14310	-12560	01000
895	152 500	3 42200	-2.65830	-2.31200	-03140	-51960	00700	64660	-14300	-14950	00170
895	150 410	3 76780	-3.14180	-2.11200	-05310	-35510	02790	64810	-19160	-17050	-00410
895	148 430	4 47800	-3.22770	-2.30790	03140	-07230	04580	64220	-22750	-18980	-03700
895	158 750	2 32760	-1.72230	-2.29300	00110	10600	04140	64370	-13550	-09300	03800
GRADIENT		00000	00000	00000	00000	00000	00000	00000	04000	00000	00000

PARAMETRIC DATA

TABLATED SOURCE DATA, MSFC THT 60N, SA-BF

DATE 10 JUL 75

MSFC THT60N (SABF) SRB WITH PROT. W/O HEAT SHO. (R1H08N) (10 JUL 75)

PARAMETRIC DATA

BETA = .000 PHI = .000
NOZZLE = .000

REFERENCE DATA

SRF = .5030 50. IN. XMRP = 5.7210 IN. XS
LRF = .8000 IN. YMRP = .0000 IN. YS
BRF = .8000 IN. ZMRP = .0000 IN. ZS
SCALE = .C-55

RUN NO. 570/ 0 RN/L = 5.19 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMH	CLMH	CA	CYH	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
.596	109 840	12.30460	-1.18740	-.89420	-2.26850	.93980	-.03610	.59120	.00000	.00000	.00000
.596	107 950	12.33770	-.78710	-.74000	-1.98140	.86050	-.03070	.58860	.00000	.00000	.00000
.596	105 50	12.44690	-.65610	-.55570	-1.45840	.64470	-.00830	.58770	.00000	.00000	.00000
.596	103 970	12.54940	.14650	-.35690	-1.40380	-.16220	.00860	.58240	.00000	.00000	.00000
.596	101 980	12.63930	1.10020	-.07970	-1.31740	-.26390	-.01560	.57630	.00000	.00000	.00000
.596	99 980	12.64820	1.97250	.17730	-1.23390	-.56780	.00870	.57060	.00000	.00000	.00000
.596	98 000	12.51950	2.82000	.34270	-1.25410	-.42960	-.00880	.56510	.00000	.00000	.00000
.596	96 010	12.64890	3.74580	.50620	-1.24950	-.20390	.00860	.55920	.00000	.00000	.00000
.596	94 030	12.65920	4.56760	.62370	-1.26310	-.04730	-.00760	.55390	.00000	.00000	.00000
.596	92 050	12.70910	5.68580	.70440	-1.25890	.22410	-.02020	.54690	.00000	.00000	.00000
.596	90 170	12.77550	6.75460	.74800	-1.25440	.35740	-.00330	.54020	.00000	.00000	.00000
.596	100 000	12.66110	1.97700	.15080	-1.29370	-.52130	-.00390	.57060	.00000	.00000	.00000
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 369/ 0 RN/L = 6.57 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMH	CLMH	CA	CYH	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
.898	109 620	14.74300	-1.74000	-.72670	-.54950	.51960	-.07120	.59300	.00000	.00000	.00000
.898	107 740	14.96610	-.88110	-.55820	-.51830	.62920	-.06690	.58820	.00000	.00000	.00000
.898	105 770	15.18870	.09640	-.33770	-.55090	.66760	-.05710	.58290	.00000	.00000	.00000
.898	103 800	15.43020	1.22090	-.16230	-.55860	.74810	-.06830	.57690	.00000	.00000	.00000
.898	101 830	15.56710	2.22120	.00680	-.51280	.77280	-.03290	.57170	.00000	.00000	.00000
.898	99 850	15.74480	3.55810	.16590	-.52990	.73700	-.02850	.56490	.00000	.00000	.00000
.898	97 900	16.01140	5.12410	.31120	-.56250	.75520	-.04340	.55730	.00000	.00000	.00000
.898	95 940	16.03450	6.52340	.44750	-.57230	.68140	-.03110	.55020	.00000	.00000	.00000
.898	93 980	16.07800	7.73390	.55180	-.59510	.64370	-.03540	.54410	.00000	.00000	.00000
.898	92 000	16.29100	9.05370	.60890	-.60100	.65760	-.04330	.63800	.00000	.00000	.00000
.898	90 150	16.38310	10.06790	.60830	-.64940	.45900	-.08540	.53310	.00000	.00000	.00000
.898	99 870	15.88460	3.80220	.14400	-.54760	.76310	-.02040	.56480	.00000	.00000	.00000
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ORIGINAL PAGE IS OF POOR QUALITY

(R1H085) (10 JUL 75)

MSFC TNT604 (SA8F) SRB WITH PROT. W/O HEAT SHD.

PARAMETRIC DATA

REFERENCE DATA

SREF = .5030 SQ IN XMRP = 5.7210 IN. XS BETA = .000 PHI = .000
 LREF = .6000 IN. YMRP = 0000 IN. YS NOZZLE = .000
 BREF = .6000 IN. ZMRP = .0000 IN. ZS
 SCALE = .0055

RUN NO. 368/ 0 RN/L = 6.78 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLMM	CA	CYM	CYMM	CBL	XCP/L	CBP1	CBP2	CBP3
1.191	129.230	13.39690	-2.58970	-1.12430	-.84440	-.12090	.58040	.00000	.00000	.00000
1.191	127.320	14.02140	-2.41520	-1.14100	-.83500	-.11860	.57920	.00000	.00000	.00000
1.191	125.310	14.64730	-2.23950	-1.12930	-.82360	-.12510	.57620	.00000	.00000	.00000
1.191	123.320	15.24930	-2.08690	-1.10260	-.81450	-.13470	.57320	.00000	.00000	.00000
1.191	121.320	15.77930	-1.91590	-1.04760	-.80840	-.11380	.57070	.00000	.00000	.00000
1.191	119.330	16.31440	-1.73710	-1.01390	-.66260	-.10900	.56770	.00000	.00000	.00000
1.191	117.330	16.83470	-1.59130	-.96190	-.39690	-.10610	.56310	.00000	.00000	.00000
1.191	115.360	17.27180	-1.41300	-.95070	-.26750	-.11020	.56030	.00000	.00000	.00000
1.191	113.380	17.68300	-1.23010	-.96490	-.19420	-.09620	.55690	.00000	.00000	.00000
1.191	111.360	18.10210	-1.06110	-.99450	-.15600	-.10930	.55430	.00000	.00000	.00000
1.191	109.480	18.35240	-.89250	-.99870	-.17120	-.10510	.55330	.00000	.00000	.00000
1.191	119.350	16.18770	-1.77840	-1.00820	-.67220	-.09310	.56580	.00000	.00000	.00000
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ORIGINAL PAGE IS OF POOR QUALITY

MSFC TNT604 (SABF) SRB WITH PROT. W/O HEAT SHD.

(R1H088) (10 JUL 75)

REFERENCE DATA

SREF * .5030 SQ IN. XMRP * 5.7210 IN. XS
 LREF * .8000 IN. YMRP * .0000 IN. YS
 BRER * .8000 IN. ZMRP * .0000 IN. ZS
 SCALE * 0035

BEA * .000 PHI * .000
 NOZZLE * .000

PARAMETRIC DATA

RUN NO. 450/ 0 RN/L * 7.07 GRADIENT INTERVAL * -5.00/ 5 00

MACH	ALPHA	CM1	CLM1	CA	CYM	CYMH	CEL	XCP/L	CBP1	CBP2	CS23
3.480	149.090	5.62400	2.60920	-3.63850	-.18630	-.13660	-.05410	.54550	.00000	.00000	.00000
3.480	147.130	6.26780	2.96680	-3.68900	-.21680	-.08680	-.05370	.54480	.00000	.00000	.00000
3.480	144.990	6.97620	2.73860	-3.31610	-.19890	-.08640	-.05350	.55130	.00000	.00000	.00000
3.480	142.880	7.68070	2.78750	-3.19760	-.24940	-.06120	-.05320	.55380	.00000	.00000	.00000
3.480	140.780	8.35980	2.95110	-3.16030	-.25960	-.08600	-.04110	.55460	.00000	.00000	.00000
3.480	138.700	8.93570	2.99630	-3.09060	-.26880	-.08150	-.04680	.55600	.00000	.00000	.00000
3.480	136.590	9.48220	3.34320	-3.02670	-.29060	-.05920	-.04430	.55510	.00000	.00000	.00000
3.480	134.520	10.30540	3.62270	-2.92410	-.26230	-.06840	-.05770	.55470	.00000	.00000	.00000
3.480	132.430	10.97580	3.88100	-2.80700	-.33090	-.07340	-.05430	.55450	.00000	.00000	.00000
3.480	130.370	11.53800	4.45110	-2.70370	-.33950	-.07560	-.04590	.55160	.00000	.00000	.00000
3.480	128.380	12.16550	4.70830	-2.52450	-.35070	-.09050	-.05560	.55180	.00000	.00000	.00000
3.480	138.690	9.02280	3.13240	-3.11350	-.23810	-.08540	-.05440	.55500	.00000	.00000	.00000
GRADIENT		00000	.00000	.00000	00000	00000	.00000	.00000	.00000	.00000	.00000

MSFC TWT604 (SABF) SRB WITH PROT W/O HEAT SHD.

(RIM087) (10 JUL 75)

REFERENCE DATA

SREF = .5030 SQ IN. XMRP = 5.7210 IN. XS
 LREF = .8000 IN. YMRP = .0000 IN. YS
 BREF = .8000 IN. ZMRP = .0000 IN. ZS
 SCALE = .0055

BETA = .000
 NOZZLE = .000
 PHI = .000

PARAMETRIC DATA

RUN NO. 454/ 0 RN/L = 5.25 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
.399	169 660	.62210	-.90010	-1.57500	-.04170	.20480	-.07500	.70140	.00000	.00000	.00000
.399	167 760	.86310	-.99060	-1.66190	-.03090	-.17430	-.04050	.67700	.00000	.00000	.00000
.399	165 710	1.27310	-1.09650	-1.77710	-.11040	-.40640	-.04800	.65360	.00000	.00000	.00000
.399	163 680	1.68720	-1.16030	-1.93840	-.17340	-.63680	-.06850	.63950	.00000	.00000	.00000
.399	161 650	2.10570	-1.15250	-2.09570	-.30330	-1.07640	-.08920	.62800	.00000	.00000	.00000
.399	159 620	2.53120	-1.22360	-2.26760	-.58650	-1.56250	-.07170	.62280	.00000	.00000	.00000
.399	157 570	2.87840	-1.05360	-2.43910	-.82650	-2.30520	-.07790	.61320	.00000	.00000	.00000
.399	155 570	3.31320	-.84140	-2.59630	-1.08640	-3.19140	-.08300	.60410	.00000	.00000	.00000
.399	153 540	3.74910	-.69940	-2.74870	-1.30250	-3.68770	-.10400	.59860	.00000	.00000	.00000
.399	151 510	4.18750	-.46890	-2.84570	-1.52470	-4.06030	-.11420	.53250	.00000	.00000	.00000
.399	149 590	4.60560	-.22430	-2.81030	-1.58360	-4.24150	-.08030	.58730	.00000	.00000	.00000
.399	159 620	2.49430	-1.16130	-2.22180	-.54320	-1.55120	-.06050	.62140	.00000	.00000	.00000
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 455/ 0 RN/L = 4.98 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
.598	169 630	71160	-.83320	-1.59820	-.02660	.11590	-.04480	.67890	.00000	.00000	.00000
.598	167 720	98790	-.97490	-1.70220	-.04370	-.13850	-.03650	.66390	.00000	.00000	.00000
.598	165 660	1.36690	-1.07400	-1.83260	-.12800	-.29970	-.02500	.64750	.00000	.00000	.00000
.598	163 620	1.72470	-1.15220	-1.96330	-.20840	-.64960	-.03810	.63790	.00000	.00000	.00000
.598	161 580	2.14950	-1.09600	-2.15080	-.37750	-1.11280	-.06070	.62500	.00000	.00000	.00000
.598	159 540	2.58770	-1.13990	-2.31560	-.71130	-1.67350	-.03870	.61930	.00000	.00000	.00000
.598	157 480	2.98710	-1.21410	-2.47420	-1.08260	-2.12860	-.06470	.61650	.00000	.00000	.00000
.598	155 460	3.38990	-.95000	-2.62430	-1.32770	-3.03170	-.04920	.60620	.00000	.00000	.00000
.598	153 420	3.87820	-.75940	-2.78780	-1.59870	-3.54500	-.07750	.59930	.00000	.00000	.00000
.598	151 380	4.37010	-.47620	-2.90180	-1.94220	-3.97130	-.03580	.59230	.00000	.00000	.00000
.598	149 440	4.91310	-.14460	-2.96470	-.232160	-4.14090	-.07440	.58580	.00000	.00000	.00000
.598	159 540	2.57080	-1.19500	-2.30840	-.71940	-1.63560	-.05660	.62130	.00000	.00000	.00000
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ORIGINAL PAGE IS OF POOR QUALITY

MSFC THT60N (SABF) SRB WITH PROT. W/O HEAT SHD.

(IRIH087) / 10 JUL 75

REFERENCE DATA

SREF = 5030 SU IN. XMRP = 5.7210 IN XS BETA = .000
 LREF = 8000 IN YMRP = .0000 IN YS NOZZLE = .000
 BREF = 8000 IN ZMRP = .0000 IN ZS
 SCALE = 0035

PARAMETRIC DATA

RUN NO. 440/ 0 RN/L = 7 12 GRADIENT INTERVAL = -5 00/ 5 00

MACH	ALPHA	CNH	CLMH	CA	CYM	CYMH	CEL	XCP/L	CBP1	CBP2	CBP3
1 958	169 440	1 02630	-1.85660	-2 70210	.03800	.24030	01070	.65150	.00000	.00000	.00000
1 958	167 450	1 42700	-0.87650	-2 33730	-0.38650	04340	-01020	63750	.00000	.00000	.00000
1 958	165 310	1 87830	-1.96780	-2.82980	-1.17810	-37240	-01050	62540	.00000	.00000	.00000
1 958	163 190	2 45380	-1.84200	-2.90300	-3.02270	-61830	-01240	51140	.00000	.00000	.00000
1 958	161 050	3 07880	-1.51360	-2.75690	-3.74820	-77950	-02510	59700	.00000	.00000	.00000
1 958	158 930	3 82260	-0.84800	-3 08280	-3.74900	-1.18940	-03110	58540	.00000	.00000	.00000
1 958	156 790	4 51350	.22170	-3 39610	-4.08100	-1.08080	-04360	57940	.00000	.00000	.00000
1 958	154 670	5 15620	.61490	-3 27580	-4.39800	-71660	-04650	57360	.00000	.00000	.00000
1 958	152 540	5 80300	.90870	-3 26070	-4.28400	-71840	-05270	57060	.00000	.00000	.00000
1 958	150 420	6 49210	1.40750	-3 35030	-4.58400	-22580	-06770	56570	.00000	.00000	.00000
1 958	148 370	7 28690	1.96550	-3 46490	-4.75600	-18420	-08700	56140	.00000	.00000	.00000
1 958	158 940	3 84120	04700	-3 08360	-3.83800	-1.25230	-02550	58240	.00000	.00000	.00000
GRADIENT		00000	00000	.00000	00000	00000	00000	00000	.00000	.00000	.00000

RUN NO. 449/ 0 RN/L = 7 05 GRADIENT INTERVAL = -5 00/ 5 00

MACH	ALPHA	CNH	CLMH	CA	CYM	CYMH	CEL	XCP/L	CBP1	CBP2	CBP3
3 480	169 620	76990	-09290	-2 57300	-1.02470	-01610	-03210	59300	.00000	.00000	.00000
3 480	167 680	1 08710	.09350	-2 62590	-12120	-14470	00070	57630	.00000	.00000	.00000
3 480	165 620	1 44580	.41690	-2 72670	-07610	-16760	-02280	55980	.00000	.00000	.00000
3 480	163 560	1 86380	1.1160	-2 81540	-08640	-18420	-02730	55660	.00000	.00000	.00000
3 480	161 530	2 31000	1.8430	-2 90830	-1.13810	-22430	-01660	55060	.00000	.00000	.00000
3 480	159 440	2 80900	1 16000	-2 98160	-15760	-18270	-03090	55140	.00000	.00000	.00000
3 480	157 350	3 30700	1 34990	-3 11390	-17780	-15030	-02910	55000	.00000	.00000	.00000
3 480	155 310	3 83900	1 62920	-3 22040	-15920	-10700	-02900	54870	.00000	.00000	.00000
3 480	153 230	4 41680	1 93500	-3 41110	-16380	-04440	-07700	54760	.00000	.00000	.00000
3 480	151 130	5 06340	2 05600	-3 53280	-18220	-01360	-03110	54500	.00000	.00000	.00000
3 480	149 170	5 82710	2 21860	-3 59000	-16490	-03670	-02490	54510	.00000	.00000	.00000
3 480	158 450	2 79100	1 21430	-3 00650	-1.58200	-2.2050	-03160	54730	.00000	.00000	.00000
GRADIENT		00000	00000	.00000	00000	00000	00000	00000	.00000	.00000	.00000

(R1H088) (10 JUL 75)

MSFC TWTCY (SABF) SRB WITH PROT. W/O HEAT SHD.

PARAMETRIC DATA

BETA = 000 PHI = 000
NOZZLE = 000

REFERENCE DATA

SREF = 5030 SQ IN. XMRP = 5.7210 IN. XS
LREF = 6000 IN. YMRP = .0000 IN. YS
BREF = 9000 IN. ZMRP = .0000 IN. ZS
SCALE = .0055

GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMM	CLMM	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
598	109 840	11.91840	-1.36530	-1.85660	45770	2.26140	-0.2320	.58590	.00000	.00000	.00000
598	107 970	12.08470	-1.04800	-1.69530	37200	1.32520	-0.0750	.58270	.00000	.00000	.00000
598	105 960	12.30880	.86510	-1.55990	37150	1.51800	-0.04410	.57760	.00000	.00000	.00000
598	103 970	12.35340	1.21740	-1.35480	31750	1.36380	-0.1930	.57530	.00000	.00000	.00000
598	101 980	12.51720	1.88890	-1.29000	31840	2.01060	-0.00570	.57110	.00000	.00000	.00000
598	99 990	12.58360	2.20600	0.93400	30460	1.65310	-0.04250	.56910	.00000	.00000	.00000
598	98 000	12.76520	2.98920	2.62200	0.04880	1.92670	.00770	.56430	.00000	.00000	.00000
598	96 000	12.70580	3.21090	4.78100	2.19900	2.19500	-0.01010	.56280	.00000	.00000	.00000
598	94 020	12.96530	4.32440	5.91800	-2.17200	1.56330	-0.04000	.55610	.00000	.00000	.00000
598	92 030	12.94650	4.97310	7.22600	-2.25030	4.93100	0.19500	.55200	.00000	.00000	.00000
598	90 150	13.28440	6.03930	7.06900	-2.25530	1.15280	-0.11800	.54580	.00000	.00000	.00000
598	99 980	12.57170	2.19900	0.96900	1.48140	1.48790	-0.02620	.54910	.00000	.00000	.00000
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMM	CLMM	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
900	109 850	15.16080	-5.06220	-7.42800	-1.44220	1.40910	-0.4760	.58610	.00000	.00000	.00000
900	107 780	15.33430	4.10900	-5.67800	-0.86900	1.31810	-0.5080	.58120	.00000	.00000	.00000
900	105 740	15.45060	1.23920	-3.69500	0.19800	1.18970	-0.3610	.57680	.00000	.00000	.00000
900	103 810	15.61580	2.09040	-1.31800	0.33400	1.00340	-0.4940	.57240	.00000	.00000	.00000
900	101 850	15.78100	3.02050	0.46300	0.75200	94540	-0.3010	.56780	.00000	.00000	.00000
900	99 860	16.06510	4.09540	2.29200	1.36000	94500	-0.2310	.56250	.00000	.00000	.00000
900	97 920	16.07340	5.13480	3.77700	1.69800	83710	-0.1400	.55730	.00000	.00000	.00000
900	95 930	16.17690	6.01040	5.20500	1.00000	63090	-0.1630	.55310	.00000	.00000	.00000
900	93 450	16.33430	7.06030	6.26800	1.86900	58840	-0.0930	.54810	.00000	.00000	.00000
900	91 460	16.55620	7.99470	6.97800	16740	60770	-0.1280	.54350	.00000	.00000	.00000
900	90 640	16.45070	8.82210	7.04700	16390	65620	-0.3070	.53960	.00000	.00000	.00000
900	93 870	16.16690	4.26170	20560	1.38100	96970	-0.02780	.56170	.00000	.00000	.00000
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ORIGINAL PAGE 53
OF POOR QUALITY

MSFC TWT604 (SABF) SRB WITH PROT. W/O HEAT SHD. (RTH689) (10 JUL 75)

REFERENCE DATA

SREF = .5030 SQ. IN. XMRP = 5.7210 IN. XS
LREF = .8000 IN. YMRP = .0000 IN. YS
BREF = .8000 IN. ZMRP = .0000 IN. ZS
SCALE = .0055

PARAMETRIC DATA

BETA = .000 PHI = 90.000
NOZZLE = .000

RUN NO. 374/ 0 RN/L = 5.16 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMH	CLM	CA	CYM	CYMH	CBL	XCP/L	CBF1	CBF2	CBF3
.597	129 470	5.64560	-7.84400	-2.41180	.27350	-58960	-00010	69670	.00000	.00000	.00000
.597	127 560	6.29070	-7.86460	-2.27180	.27510	-36150	-.02470	.68540	.00000	.00000	.00000
.597	125 540	7.40880	-7.56450	-2.13890	1.53390	-58880	.02560	66670	.00000	.00000	.00000
.597	123 550	8.36130	-6.50150	-2.00110	1.67500	.13410	.00780	64680	.00000	.00000	.00000
.597	121 570	9.20740	-5.40090	-1.84910	1.59460	.38530	-.00760	63120	.00000	.00000	.00000
.597	119 560	10.01880	-4.38940	-1.68310	1.52240	.00060	.06990	.61910	.00000	.00000	.00000
.597	117 550	10.64780	-3.49470	-1.51740	1.29640	-.35340	-01320	.61010	.00000	.00000	.00000
.597	115 570	11.08010	-2.73370	-1.31420	.96860	-.09040	.01330	60350	.00000	.00000	.00000
.597	113 580	11.49740	-1.94820	-1.14020	.75770	.74570	-.01120	.59720	.00000	.00000	.00000
.597	111 570	11.72950	-1.03370	-.88970	.68270	2 51550	-.00290	59050	.00000	.00000	.00000
.597	109 680	11.76980	-.67570	-.72650	50960	1.40490	-01160	58910	.00000	.00000	.00000
.597	119 550	10.00880	-4.46020	-1.67550	1.41940	-00080	-00230	61370	.00000	.00000	.00000
GRADIENT		00000	00000	.00000	.00000	.00000	.00000	00000	.00000	.00000	.00000

RUN NO. 373/ 0 RN/L = 6.57 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMH	CLM	CA	CYM	CYMH	CBL	XCP/L	CBF1	CBF2	CBF3
.900	129 250	10 40060	-4 27370	-2 51010	-1.1230	1 02970	-03980	62030	.00000	.00000	.00000
.900	127 350	11 04420	-4 70520	-2 37910	-.06670	.99400	-02500	61820	.00000	.00000	.00000
.900	125 300	11 72480	-4 94330	-2 19120	-05160	1 07260	-03740	61750	.00000	.00000	.00000
.900	123 280	12 27260	-4 82610	-1 99790	-00910	1 12470	-04620	61550	.00000	.00000	.00000
.900	121 270	12 88980	-4 64450	-1 82030	00090	1 19790	-.05430	61280	.00000	.00000	.00000
.900	119 260	13 43170	-4 22110	-1 62280	-.00710	1 29750	-04560	60920	.00000	.00000	.00000
.900	117 250	13 87260	-3 35580	-1 47610	-.04140	1 27530	-05470	60310	.00000	.00000	.00000
.900	115 290	14 31600	-2 65330	-1 28110	-.02870	1 28420	-04010	59850	.00000	.00000	.00000
.900	113 300	14 73850	-1 88770	-1 08540	-.09430	1 37320	-05700	59380	.00000	.00000	.00000
.900	111 300	15 02050	-1 23270	-.88580	-01310	1 44380	-06420	58910	.00000	.00000	.00000
.900	109 420	15 16290	-6 07930	-69910	-11310	1 39110	-05140	58440	.00000	.00000	.00000
.900	119 240	13 38500	-3 98750	-1 67340	-02310	1 21320	-05330	60770	.00000	.00000	.00000
GRADIENT		00000	00000	00000	.00000	.00000	.00000	00000	.00000	.00000	.00000

LAUNZA TO SOURCE DATA, MSFC TWT 604, SA-BF

DATE 10 JUL 75

(R1H089) (10 JUL 75

MSFC TWT604 (SABF) SRB WITH PROT. W/O HEAT SHD

PARAMETRIC DATA

REFERENCE DATA

SREF = .5030 SQ IN. XMRP = 5.7210 IN. XS BETA = .000 PHI = .90 000
 LREF = .8000 IN. YMRP = .0000 IN. YS NOZZLE = .000
 BREF = .8000 IN. ZMRP = .0000 IN. ZS
 SCALE = .0055

RUN NO. 375/ 0 RN/L = 6.99 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMH	CLMH	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
1.196	129 270	13.16860	1 9150	-2.69550	-1.1730	1.00460	-.04530	.57600	.00000	.00000	.00000
1.196	127 350	13.72260	1 2000	-2 59360	-1.0900	1.07660	-.05000	.57550	.00000	.00000	.00000
1.196	125 340	14.37800	1 31940	-2 32090	-.07390	1.00080	-.07040	.57470	.00000	.00000	.00000
1.196	123 330	14.89980	1.93340	-2.13110	-.07320	.97040	-.05410	.57280	.00000	.00000	.00000
1.196	121 340	15.46150	2.51800	-1.94360	-.07570	.97840	-.04580	.57010	.00000	.00000	.00000
1.196	119 350	15.99230	3.26200	-1.75730	-.08720	1.02810	-.06120	.56670	.00000	.00000	.00000
1.196	117 360	16.36130	4.35740	-1 61440	-.09040	1 04820	-.06000	.56160	.00000	.00000	.00000
1.196	115 380	16.81220	4.92550	-1 42760	-.06910	1.09400	-.05610	.55950	.00000	.00000	.00000
1.196	113 390	17.16320	5.40520	-1 22620	-.06960	1.07800	-.05300	.55770	.00000	.00000	.00000
1.196	111 400	17 50510	5.93330	-1 04680	-.04070	1.08560	-.06180	.55570	.00000	.00000	.00000
1.196	109 410	17.79930	6 53310	-.88230	-.01270	1.09310	-.05890	.55340	.00000	.00000	.00000
1.196	119 350	15 81940	3.59550	-1 80980	-.09820	1.05750	-.05080	.56480	.00000	.00000	.00000
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

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(R1H090) (10 JUL 75)

MSFC TW1504 (SAB) SRB WITH PROT. W/O HEAT SHO.

PARAMETRIC DATA

REFERENCE DATA

SREF = .5030 SQ. IN. XMRP = 5.7210 IN. XS BETA = .000 PHI = 90.000
 LREF = .8000 IN. YMRP = .0000 IN. YS NOZZLE = .000
 BREF = .8000 IN. ZMRP = .0000 IN. ZS
 SCALE = .0055

RUN NO. 4427 0 RN/L = 7.10 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
1.961	148.370	7.00980	2.15640	-3.57630	-1.9660	.44140	-.06590	.55830	.00000	.00000	.00000
1.961	146.380	7.57500	2.28520	-3.64230	-2.1160	.30340	-.06800	.55880	.00000	.00000	.00000
1.961	144.240	8.26920	2.63660	-3.66180	-1.8130	.20730	-.05650	.55740	.00000	.00000	.00000
1.961	142.070	9.06290	3.05250	-3.63460	-1.9810	.19810	-.05510	.55590	.00000	.00000	.00000
1.961	139.960	9.72680	3.31040	-3.50680	-1.7060	.22510	-.04960	.55560	.00000	.00000	.00000
1.961	137.750	10.53760	3.43720	-3.37540	-1.1790	.31490	-.06610	.55680	.00000	.00000	.00000
1.961	135.590	11.27730	3.55820	-3.15620	-1.17080	.28780	-.06200	.55760	.00000	.00000	.00000
1.961	133.470	11.99220	3.61080	-3.01490	-1.17910	.34200	-.06090	.55880	.00000	.00000	.00000
1.961	131.280	12.71300	3.72840	-2.80520	-1.1360	.32990	-.06810	.55940	.00000	.00000	.00000
1.961	129.100	13.44070	3.74770	-2.60930	-1.1520	.32740	-.06740	.56060	.00000	.00000	.00000
1.961	127.070	14.05850	3.75590	-2.44440	-1.15000	.30570	-.04600	.56160	.00000	.00000	.00000
1.961	137.820	10.43190	3.40420	-3.34700	-1.14490	.19450	-.06390	.55670	.00000	.00000	.00000
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 4477 0 RN/L = 7.07 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
3.480	149.080	5.59490	2.39520	-3.68910	-1.11720	.13300	-.06650	.54840	.00000	.00000	.00000
3.480	147.090	6.21720	2.53200	-3.73800	-1.1860	.09980	-.05470	.55010	.00000	.00000	.00000
3.480	144.960	6.92820	2.16330	-3.38430	-1.3090	.09330	-.04620	.55790	.00000	.00000	.00000
3.480	142.860	7.59130	2.12620	-3.27480	-1.3060	.07100	-.02330	.56050	.00000	.00000	.00000
3.480	140.760	8.26360	2.24920	-3.23540	-1.14100	.08430	-.03560	.56120	.00000	.00000	.00000
3.480	138.540	8.91200	2.46750	-3.18490	-1.2830	.08430	-.02740	.56080	.00000	.00000	.00000
3.480	136.590	9.55600	2.74240	-3.10400	-1.2340	.04430	-.00470	.56000	.00000	.00000	.00000
3.480	134.570	10.22030	2.92330	-2.99240	-1.1830	.03400	.02610	.56000	.00000	.00000	.00000
3.480	132.400	10.89250	3.08460	-2.85810	-1.2340	.05570	-.02890	.56030	.00000	.00000	.00000
3.480	130.300	11.47180	3.58530	-2.75840	-1.2830	.05450	-.03130	.55790	.00000	.00000	.00000
3.480	128.350	12.05130	3.71070	-2.56730	-1.2350	.08390	-.00890	.55830	.00000	.00000	.00000
3.480	139.670	8.92840	2.44930	-3.18320	-1.2680	.03540	-.02290	.56100	.00000	.00000	.00000
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

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PARAMETRIC DATA

BETA = .000 PHI = 90.000
NOZZLE = .000

REFERENCE DATA

SREF = .5030 SQ IN. XMRP = 5 7210 IN. XS
LREF = .8000 IN. YMRP = .0000 IN. YS
BREF = 8000 IN. ZMRP = .0000 IN. ZS
SCALE = 0055

RUN NO. 448/ 0 RN/L = 7.04 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMH	CLMH	CA	CYH	CYMH	CBH	XCP/L	CBP1	CBP2	CBP3
3.480	169.610	69060	-2.1780	-2.58900	-0.05780	-0.24820	.00230	60910	.00000	.00000	.00000
3.480	167.660	1.07350	-0.00910	-2.65570	-1.10210	-0.20140	-.02130	58410	00000	00000	00000
3.480	165.630	1.40760	.48450	-2.75550	-1.13980	-0.24830	.00410	.55530	00000	00000	00000
3.480	163.570	1.80930	.54250	-2.78940	-1.15200	-0.11640	-.01830	55890	.00000	.00000	.00000
3.480	161.510	2.24690	.63160	-2.90760	-1.27110	-.14130	-.03420	.56040	00000	00000	00000
3.480	159.450	2.73230	1.13940	-3.00970	-0.94900	20570	-.02900	54930	00000	00000	00000
3.480	157.360	3.26070	1.39220	-3.13860	-1.11260	13120	00350	54850	.00000	.00000	.00000
3.480	155.310	3.77470	1.52670	-3.24900	-1.13110	15320	-.00380	55040	00000	00000	00000
3.480	153.230	4.32360	1.71010	-3.45490	-1.11060	01890	01890	55110	00000	00000	00000
3.480	151.150	4.85360	1.72680	-3.56980	-1.13390	16550	.01870	55430	.00000	.00000	.00000
3.480	149.150	5.40220	1.90740	-3.62820	-1.28850	17300	.01100	.55460	00000	00000	00000
3.480	153.450	2.77680	1.14630	-3.02560	-1.10500	16610	.04910	.54970	.00000	.00000	.00000
	GRADIENT	00000	00000	.00000	00000	.00000	00000	00000	00000	00000	00000

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OF POOR QUALITY

REFERENCE DATA PARAMETRIC DATA
 SREF = .5030 50. IN. XMRP = 5.7210 IN. XS BETA = .000 PHI = 180.000
 LREF = .8000 IN. YMRP = .0000 IN. YS NOZZLE = .000
 BRP = .8000 IN. ZMRP = .0000 IN. ZS
 SCALE = 0055

RUN NO. 378/ 0 RN/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLMH	CA	CYH	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
.600	129 460	9 49760	-4.75480	-2.36140	4 76720	2.53230	.08850	.62420	.00000	.00000	.00000
.600	127 560	9 61410	-4.37170	-2.22880	4 58090	3.83260	.07350	.61830	.00000	.00000	.00000
.600	125 560	10 36730	-3.87820	-2.10300	4 53840	4.88740	.08020	.61390	.00000	.00000	.00000
.600	123 560	10 78110	-3 53690	-1.93970	4 87830	5 42380	.0863	.61010	.00000	.00000	.00000
.600	121 550	11 38250	-3 35250	-1.79550	5 12140	4 60960	.0554	.60740	.00000	.00000	.00000
.600	119 550	11 56310	-3 30190	-1.63550	4 59640	3 46160	.045	.60670	.00000	.00000	.00000
.600	117 530	11 76360	-3 21690	-1 47010	4 17510	2 82830	.05730	.60570	.00000	.00000	.00000
.600	115 550	11 91450	-3 09740	-1 27670	3 99290	1 61510	.03890	.60460	.00000	.00000	.00000
.600	113 550	12 22140	2 91830	-1 13140	3 83200	.54840	.03250	.60280	.00000	.00000	.00000
.600	111 550	12 32930	-2 52010	-1.95640	3 38320	.12240	.02200	.60000	.00000	.00000	.00000
.600	109 560	12 46350	-2 15050	-82560	3 09070	.18820	.03550	.59740	.00000	.00000	.00000
.600	118 550	11 55670	-3 30630	-1 63120	4 57290	3 30060	.06120	.60670	.00000	.00000	.00000
GRADIENT		00000	00000	00000	00000	00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 377/ 0 RN/L = 6 56 GRADIENT INTERVAL = -5.00/ 5 00

MACH	ALPHA	CNH	CLMH	CA	CYH	CYMH	CBL	XCP/L	CBP1	CBP2	CBP3
.901	129 200	11 08400	-5 52430	-2 50400	2 44050	1 64510	.09510	.62400	.00000	.00000	.00000
.901	127 280	11 58520	-5 65790	-2 34600	2 41940	1 86070	.10700	.62320	.00000	.00000	.00000
.901	125 250	12 20020	-5 85930	-2 14170	2 36230	1 80190	.08830	.62250	.00000	.00000	.00000
.901	123 240	12 79940	-5 86350	-1 94880	2 14840	1 19230	.07530	.62070	.00000	.00000	.00000
.901	121 220	13 27540	-5 81420	-1 74740	1 83140	30030	.07850	.61910	.00000	.00000	.00000
.901	119 220	13 50490	-5 42030	-1 54020	1 70980	03540	.08450	.61590	.00000	.00000	.00000
.901	117 220	14 35210	-4 07440	-1 38210	1 61000	.17920	.08950	.61060	.00000	.00000	.00000
.901	115 240	14 35210	-4 07440	-1 19490	1 53620	.13640	.09510	.60650	.00000	.00000	.00000
.901	113 250	14 71960	-3 39080	-1 0260	1 55350	-1.1610	.09680	.60220	.00000	.00000	.00000
.901	111 250	15 13840	-2 44000	-89670	1 50760	-1.15070	.07190	.59650	.00000	.00000	.00000
.901	109 240	15 38910	-1 50710	-66110	1 52130	-2.0920	.07350	.59140	.00000	.00000	.00000
.901	114 240	13 69160	-5 11250	-1.60000	1 70540	-1.0940	.08060	.61380	.00000	.00000	.00000
GRADIENT		00000	00000	00000	00000	00000	.00000	.00000	.00000	.00000	.00000

