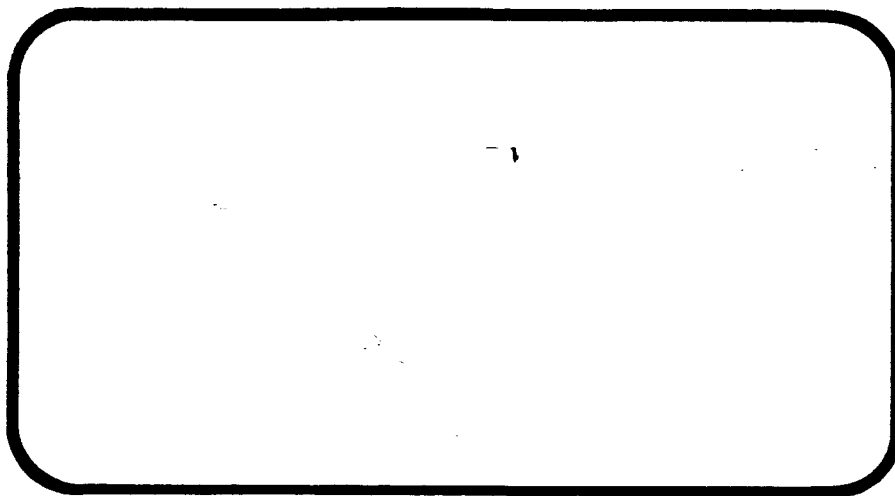




NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

NASA CR-

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(NASA-CR-141543) RESULTS OF A JET PLUME EFFECTS TEST ON ROCKWELL INTERNATIONAL INTEGRATED SPACE SHUTTLE VEHICLE USING A VEHICLE 5 CONFIGURATION 0.02-SCALE MODEL (88-OTS) IN THE 11 BY 11 FOOT LEG OF THE

N75-27047

G3/18 Unclas 28868

SPACE SHUTTLE

AEROTHERMODYNAMIC DATA REPORT



JOHNSON SPACE CENTER

HOUSTON, TEXAS

DATA Management services



June, 1975

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RESULTS OF A JET PLUME EFFECTS TEST
ON THE ROCKWELL INTERNATIONAL INTEGRATED
SPACE SHUTTLE VEHICLE USING A VEHICLE 5
CONFIGURATION 0.02-SCALE MODEL (88-OTS)
IN THE 11 x 11 FOOT LEG OF THE NASA/AMES
RESEARCH CENTER UNITARY PLAN WIND TUNNEL (IA19)
VOLUME 1 OF 3

By

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Prepared under NASA Contract Number NAS9-13247

By

Data Management Services
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for

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Johnson Space Center
National Aeronautics and Space Administration
Houston, Texas

WIND TUNNEL TEST SPECIFICS:

Test Number ARC 11-014
NASA Series Number: IA19
Model Number: 88-OTS
Test Dates: 9-16 through 9-24-74
Occupancy Hours: 120

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RESULTS OF A JET PLUME EFFECTS TEST
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IN THE 11 x 11 FOOT LEG OF THE NASA/AMES
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By

M. E. Nichols, Rockwell International Space Division

ABSTRACT

Presented in this report are results of jet plume effects Test IA19 using a Vehicle 5 configuration integrated Space Shuttle Vehicle 0.02-scale model in the NASA/Ames Research Center 11 x 11-foot leg of the Unitary Plan Wind Tunnel. Testing was conducted between 16 September and 24 September 1974.

The primary objective of this test was the determination of jet plume power effects on the integrated vehicle static pressure distribution. Secondary objectives were to determine: 1) elevon, Main Propulsion System nozzle and Solid Rocket Booster nozzle effectiveness and 2) elevon hinge moments. MPS and SRB nozzle conditions were set according to calibration data obtained at Rockwell International/Rocketdyne Division's Rocket Nozzle Test Facility.

Mach numbers tested were at 0.90, 1.10, 1.25 and 1.40. Angle of attack was varied from -8° to $+8^{\circ}$ while the angle of sideslip was varied from -4° to $+4^{\circ}$. Reynolds number was changed with Mach number, as shown in Table 1.

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107	SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF	PHI, BETA, ALPHA	G	757-776

PLOTTED COEFFICIENTS SCHEDULE:

- A) CHEI, CHEO, CABO, CABS, CABT versus ALPHA
- B) CHEI, CHEO, CABO, CABS, CABT versus BETA
- C) DCHEI, DCHEO versus ALPHA
- D) DCHEI, DCHEO versus BETA
- E) CHEI, CHEO, CABO, CABS, CABT versus MACH
- F) CP versus X/L
- G) DELCP versus X/L
- H) CP versus X/C
- I) DELCP versus X/C
- J) CP versus PHI
- K) DELCP versus PHI

INTRODUCTION

A vehicle 5 configuration 0.02-scale Integrated Space Shuttle Model was tested in the ARC Unitary Plan Wind Tunnel. The testing was conducted in the 11 x 11-foot section between 16 September and 24 September 1974. Cold flow through the Main Propulsion System (MPS) nozzle and the Solid Rocket Booster (SRB) nozzle was used to simulate jet plume effects. This test was designated IA19.

This report for the IA19 test contains a tabular listing of all source force and pressure data. Selected force plots that illustrate power setting effects on the integrated vehicle static axial pressure distribution and elevon hinge moment are included. These plots also show elevon control deflection effectiveness and the effect of gimbal control deflection. Pressure plots that illustrate power setting effects on the local pressure distribution for the Orbiter, External Tank (ET) and SRB are also included. This information is arranged in the following manner:

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The pressure data were recorded for each component. The fourth character in each dataset identifier (i.e., REUBXX, B for fuselage) represents the individual component. The following list indicates the symbol for each component.

SYMBOL	COMPONENT
B	Orbiter fuselage
E	Upper body flap surface
F	Lower body flap surface
G	Orbiter base
I	External tank base
K	SRB base
R	Upper wing surface
S	Solid Rocket Booster (SRB)
T	External tank
V	Vertical tail surface
W	Lower wing surface

NOMENCLATURE
General

<u>SYMBOL</u>	<u>SADSAC SYMBOL</u>	<u>DEFINITION</u>
a		speed of sound; m/sec, ft/sec
C _p	CP	pressure coefficient; $(p_1 - p_\infty)/q$
M	MACH	Mach number; V/a
p		pressure; N/m ² , psf
q	Q(NSM) Q(PSF)	dynamic pressure; $1/2\rho V^2$, N/m ² , psf
RN/L	RN/L	unit Reynolds number; per m, per ft
V		velocity; m/sec, ft/sec
α	ALPHA	angle of attack, degrees
β	BETA	angle of sideslip, degrees
ψ	PSI	angle of yaw, degrees
ϕ	PHI	angle of roll, degrees
ρ		mass density; kg/m ³ , slugs/ft ³

Reference & C.G. Definitions

A _b		base area; m ² , ft ²
b	BREF	wing span or reference span; m, ft
c.g.		center of gravity
$\frac{l}{c}$ _{REF}	LREF	reference length or wing mean aerodynamic chord; m, ft
S	SREF	wing area or reference area; m ² , ft ²
	MRP	moment reference point
	XMRP	moment reference point on X axis
	YMRP	moment reference point on Y axis
	ZMRP	moment reference point on Z axis

SUBSCRIPTS

b	base
l	local
s	static conditions
t	total conditions
∞	free stream

NOMENCLATURE (Continued)

Body-Axis System

<u>SYMBOL</u>	<u>SADSAC SYMBOL</u>	<u>DEFINITION</u>
C_N	CN	normal-force coefficient; $\frac{\text{normal force}}{qS}$
C_A	CA	axial-force coefficient; $\frac{\text{axial force}}{qS}$
C_Y	CY	side-force coefficient; $\frac{\text{side force}}{qS}$
C_{A_b}	CAB	base-force coefficient; $\frac{\text{base force}}{qS}$ $-A_b(P_b - P_\infty)/qS$
C_{A_f}	CAF	forebody axial force coefficient, $C_A - C_{A_b}$
C_m	CIM	pitching-moment coefficient; $\frac{\text{pitching moment}}{qS l_{REF}}$
C_n	CYN	yawing-moment coefficient; $\frac{\text{yawing moment}}{qS b}$
C_l	CBL	rolling-moment coefficient; $\frac{\text{rolling moment}}{qS b}$

Stability-Axis System

C_L	CL	lift coefficient; $\frac{\text{lift}}{qS}$
C_D	CD	drag coefficient; $\frac{\text{drag}}{qS}$
C_{D_b}	CDB	base-drag coefficient; $\frac{\text{base drag}}{qS}$
C_{D_f}	CDF	forebody drag coefficient; $C_D - C_{D_b}$
C_Y	CY	side-force coefficient; $\frac{\text{side force}}{qS}$
C_m	CIM	pitching-moment coefficient; $\frac{\text{pitching moment}}{qS l_{REF}}$
C_n	CLN	yawing-moment coefficient; $\frac{\text{yawing moment}}{qS b}$
C_l	CSL	rolling-moment coefficient; $\frac{\text{rolling moment}}{qS b}$
L/D	L/D	lift-to-drag ratio; C_L/C_D
L/D _f	L/DF	lift to forebody drag ratio; C_L/C_{D_f}

NOMENCLATURE (Continued)
Additions to Standard List

<u>Symbol</u>	<u>SADSAC Symbol</u>	<u>Definition</u>
A_i		model base area, denoted by associated tap number subscript, ft ²
C_{ABO}	CABO	Orbiter base axial force coefficient
C_{ABS}	CABS	SRB base axial force coefficient
C_{ABT}	CABT	ET base axial force coefficient
\bar{c}_E		M. A. C. of total elevon panel (inbd plus outbd), in.
CH_{EI}	CHEI	hinge moment coefficient for inboard elevon
CH_{EO}	CHEO	hinge moment coefficient for outboard elevon
CH_{ET}	CHET	total elevon hinge moment coefficient
Cp_i		model pressure coefficient, denoted by a subscript i
CPR_j	PR	ratio of prototype nozzle chamber pressure to freestream static pressure, denoted by a subscript j
EPR_j		ratio of nozzle exit pressure to freestream static pressure, denoted by a subscript j
HM_{EI}		hinge moment of inboard elevon, in-lbs
HM_{EO}		hinge moment of outboard elevon, in-lbs
Pc_j		nozzle chamber pressure, denoted by a nozzle number subscript, psia
Pe_j		nozzle exit pressure, denoted by a nozzle number subscript, psia
S_E		total elevon planform area for one wing panel, ft ²

NOMENCLATURE (Continued)

l	L	length of body, in
$b/2$	B	wing semi-span, in
b_v	BV	vertical tail span, in
x	X	distance from component nose, in
y	Y	lateral distance from centerline, in
z	Z	vertical distance measured from W. L. 500 (vertical tail reference root chord), in
c	C	local wing chord, in
c_v	CV	local vertical tail chord, in
x/l	X/L	longitudinal position/body length
x/c	X/C	local chordwise position/local wing chord length
x/c	X/CV	local chordwise position/local vertical tail chord length
n	2Y/B	local spanwise position/wing semi-span
n_v	Z/BV	local spanwise position/vertical tail span
ΔC_p	DELCP	pressure coefficient increment due to power/plume effect, power on - power off
ΔCH_{EI}	DCHEI	hinge moment coefficient increment for inboard elevon due to power/plume effect, power on-power off
ΔCH_{EO}	DCHEO	hinge moment coefficient increment for outboard elevon due to power/plume effect, power on-power off
	OFF LOW NOM HI	MPS and SRB power settings, see Tabulated Force Data for specific values of pressure ratio

NOMENCLATURE (Concluded)

$T_{T\text{MPS}}$ MPS air supply total temperature, °R

$T_{T\text{SRB}}$ SRB air supply total temperature, °R

Angles:

α_{Nj} pitch-angle of nozzle centerline in a plane parallel to the plane of symmetry, degrees

ψ_{Nj} yaw-angle of nozzle centerline in a plane parallel to a waterline plane, degrees

γ_{Nj} pitch-angle of nozzle centerline in a plane which yaws with the nozzle, degrees

Subscripts:

E	ELV	elevon
i		surface tap number
j		nozzle number
I	IB	inboard
O	OB	outboard
N		nozzle
1		top MPS nozzle
2		L. H. MPS nozzle
3		R. H. MPS nozzle
4		L. H. SRB nozzle
5		R. H. SRB nozzle
T		total condition

DATA REMARKS

Good data confidence can be attributed to Test IA19 on the basis of model and instrumentation performance throughout the test program.

Hinge-moment data, for the inboard and outboard elevons, should be good in all cases presented, as no particular anomalies occurred.

Surface pressure-tap data is also trustworthy, as very few taps consistently indicated any plugged or leaking conditions during repeated Scanivalve-system checks.

Some scatter and error, on the order of 2 percent of the maxima, is to be expected in the measured and computed SRB nozzle chamber-pressure parameters. Pressure variations during the runs account for some scatter, and a correction term had to be applied to precalibrated values when the pressure probes for the SRB nozzles failed during the test.

CONFIGURATIONS INVESTIGATED

The 88-OTS model was a 0.02-scale representation of the Launch-Configuration Space Shuttle Vehicle 5, with Solid Rocket Motor and Main Propulsion System plume-simulation capability.

Various elevon settings and nozzle gimbal angles were set during the test to determine incremental effects of control deflections, as shown in the run-schedule (collation) sheets, Table 2.

Nozzle chamber-total pressures were controllable for appropriate plume-shape simulations. The nozzles were precalibrated by Rockwell.

The model was instrumented as follows:

- 1) 362 model surface pressure taps (See Table IV) monitored by 11 scavivalve modules in 3 gangs.
- 2) 5 nozzle chamber-total pressure probes monitored by large capacity transducers.
- 3) 5 nozzle exit-static pressure taps monitored on separate transducers.
- 4) Inboard and outboard elevon hinge-moment strain gauges on the left wing.
- 5) Total-temperature thermocouple probes in the SRM and MPS air-supply systems.
- 6) Pendulum dangleometer mounted in the ET for angle-of-attack measurements.

The following nomenclature was used to designate model components:

<u>Component</u>	<u>Defintion</u>
AT ₂₈	Attach structure
AT ₃₁	Attach structure
AT ₃₂	Attach structure

CONFIGURATIONS INVESTIGATED (Continued)

B ₆₂	Body
C ₁₂	Canopy
E ₅₂	Elevon
F ₁₀	Body flap
FL ₁₀	Feedline
FL ₁₁	Feedline
FR ₁₀	Aft attach cross beam
M ₁₆	OMS pod
N ₈₇	MPS nozzles
N ₈₈	SRB nozzle
N ₈₉	OMS nozzles
PS ₁₁	SRB protuberances
PS ₁₂	SRB protuberances
PS ₁₃	SRB protuberances
PS ₁₄	SRB protuberances
PS ₁₇	SRB protuberances
PS ₁₈	SRB protuberances
PS ₁₉	SRB protuberances
PT ₁₂	ET protuberances

CONFIGURATIONS INVESTIGATED (Concluded)

PT ₂₂	ET protuberances
PT ₂₃	ET protuberances
PT ₂₄	ET protuberances
PT ₂₅	ET protuberances
PT ₂₆	ET protuberances
PT ₂₇	ET protuberances
R ₅	Rudder
S ₂₂	Solid rocket booster
T ₂₈	External tank
V ₈	Vertical tail
W ₁₂₇	Wing

TEST FACILITY DESCRIPTION

The Ames Research Center Unitary Plan 11- by 11-foot Transonic Wind Tunnel is a closed-circuit, air-medium, variable-density facility capable of attaining Mach numbers from 0.6 to 1.4 at Reynolds numbers from $1.7 \times 10^6/\text{ft}$ to $9.4 \times 10^6/\text{ft}$. The test section is 22 feet long, and models are installed on internal strain-gauge balances mounted to sting-type support systems.

Shadowgraph and Schlieren photographic equipment is available, and pressure transducer instrumentation is provided.

Tunnel operating temperature is 580°R. Extended high Reynolds number runs are restricted by power availability.

DATA REDUCTION

The data reduction procedures for Test IA19 involve calculation of: operating nozzle chamber-total and exit-static pressures and pressure ratios for the SRB and MPS nozzles, elevon (inboard and outboard) panel hinge moments and hinge-moment coefficients, and pressure coefficients for the 362 static taps on the Orbiter, External Tank, and Solid Rocket Boosters.

Equations used for reduction of data were as follows:

a) Elevon hinge moment:

$$C_{H_{EI}} = \frac{HM_{EI}}{q S_E \bar{c}_E}$$

$$C_{H_{EO}} = \frac{HM_{EO}}{q S_E \bar{c}_E}$$

$$C_{H_{ET}} = C_{H_{EI}} + C_{H_{EO}}$$

b) Nozzle pressure parameters:

$$CPR_j = \frac{P_{c_j}}{P_\infty} \quad j = 1-5$$

$$EPR_j = \frac{P_{e_j}}{P_\infty} \quad j = 1-5$$

c) Model pressure coefficients:

$$Cp_i = \frac{P_i - P_\infty}{q}$$

i = 101 - 172 Top of Rt. wing

i = 201 - 265 Bottom of Rt. wing

DATA REDUCTION (Continued)

i = 301 - 389 Orbiter fuselage

i = 401 - 439 Rt. side of vertical tail

i = 501 - 573 External tank

i = 601 - 624 Rt. SRB

d) Base pressure coefficients:

$$C_{A_{BS}} = \sum_{i=621}^{624}$$

$$\frac{C_{p_i} A_i}{S}$$

$$C_{A_{BO}} = \sum_{i=369}^{381}$$

$$\frac{C_{p_i} A_i}{S}$$

$$C_{A_{BT}} = \sum_{i=541}^{573} \frac{C_{p_i} A_i}{S}$$

The following reference dimensions and constants were used in the

reduction of data:

Base Areas
Model Scale, Ft²

Model Scale, Ft²

Model Scale, Ft²

A₃₆₉ = 0.0000

A₅₄₁ = 0.0066

A₅₅₈ = 0.0089

A₃₇₀ = 0.0095

A₅₄₂ = 0.0008

A₅₅₉ = 0.0089

A₃₇₁ = 0.0095

A₅₄₃ = 0.0008

A₅₆₀ = 0.0089

A₃₇₂ = 0.0074

A₅₄₄ = 0.0008

A₅₆₁ = 0.0089

A₃₇₃ = 0.0074

A₅₄₅ = 0.0008

A₅₆₂ = 0.0133

A₃₇₄ = 0.0081

A₅₄₆ = 0.0012

A₅₆₃ = 0.0177

A₃₇₅ = 0.0049

A₅₄₇ = 0.0016

A₅₆₄ = 0.0177

A₃₇₆ = 0.0024

A₅₄₈ = 0.0016

A₅₆₅ = 0.0177

A₃₇₇ = 0.0049

A₅₄₉ = 0.0016

A₅₆₆ = 0.0177

DATA REDUCTION (Concluded)

$$A_{378} = 0.0081$$

$$A_{379} = 0.0095$$

$$A_{380} = 0.0060$$

$$A_{381} = 0.0095$$

$$A_{621} = 0.0119$$

$$A_{622} = 0.0119$$

$$A_{623} = 0.0119$$

$$A_{624} = 0.0119$$

$$A_{550} = 0.0016$$

$$A_{551} = 0.0016$$

$$A_{552} = 0.0016$$

$$A_{553} = 0.0016$$

$$A_{554} = 0.0008$$

$$A_{555} = 0.0008$$

$$A_{556} = 0.0008$$

$$A_{557} = 0.0008$$

$$A_{567} = 0.0177$$

$$A_{568} = 0.0177$$

$$A_{569} = 0.0177$$

$$A_{570} = 0.0133$$

$$A_{571} = 0.0089$$

$$A_{572} = 0.0089$$

$$A_{573} = 0.0089$$

Reference Dimensions

\bar{c}_E

S_E

S

Full Scale

90.7 in.

210 ft²

2690 ft²

Model Scale

1.814 in.

0.0840 ft²

1.076 ft²

TABLE III MODEL DIMENSIONAL DATA

MODEL COMPONENT: ATTACH STRUCTURE - AT₂₈

GENERAL DESCRIPTION: Rear orbiter to ET attach structure (LH and RH)
(2 members)

MODEL SCALE: 0.020

DRAWING NO.: VC78-000002

DIMENSIONS:

		<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Member #1	X _O	1317.00	26.34
Attach Stations	Y _O	- 96.50 (LH)	- 1.93 (LH)
		96.50 (RH)	1.93 (RH)
	Z _O	267.50	5.35
	X _T	2058.00	41.6
	Y _T	- 125.68 (LH)	- 2.5136 (LH)
		125.68 (RH)	2.5136 (RH)
	Z _T	515.5	10.31
Member #2	X _O	1317.00	26.34
Attach Stations	Y _O	- 96.50 (LH)	- 1.93 (LH)
		96.50 (RH)	1.93 (RH)
	Z _O	267.50	5.35
	X _T	1872.00	37.44
	Y _T	- 125.68 (LH)	- 2.5136 (LH)
		125.68 (RH)	2.5136 (RH)
	Z _T	504.5	10.09
Member #1 Dia.		11.5	0.230
Member #2 Dia.		15.5	0.31

TABLE III (CONT'D)

MODEL COMPONENT: ATTACH STRUCTURE - AT₃₁

GENERAL DESCRIPTION: Rear ET to SRB attach structure (LH & RH)

(3 members)

MODEL SCALE: 0.020

DRAWING NO.: VL78-000063, VL78-000062B, VL78-000066

DIMENSIONS:

		<u>FULL SCALE</u>	<u>MODEL SCALE</u>	
Member #1	X _T	2058.00	41.16	
	Y _T	- 171.50 (LH)	- 3.43	
		171.50 (RH)	3.43	
	Z _T	457.00	9.14	
	X _S	1511.00	30.22	
	Y _S	53.24	1.0648	
	Z _S	57.00	1.14	
	Member #2	X _T	2058.00	41.16
		Y _T	- 163.85	- 3.277
Z _T		449.81	8.996	
X _S		1511.00	30.22	
Y _S		76.56	1.5312	
Z _S		15.73	0.3146	
Member #3	X _T	2058.00	41.16	
	Y _T	- 161.72	- 3.2344	
	Z _T	343.00	6.86	
	X _S	1511.00	30.22	
	Y _S	53.24	1.0648	
	Z _S	- 57.00	- 1.14	

TABLE III (CONT'D)

MODEL COMPONENT: ATTACH STRUCTURE - AT₃₂

GENERAL DESCRIPTION: Forward orbiter/ET attach structure (2 member structure)

MODEL SCALE: 0.020

DRAWING NUMBER: VC78-000002

DIMENSIONS:

		FULL SCALE	MODEL SCALE
Member #1	X _O	388.15	7.763
	Y _O	0.0	0.0
	Z _O	LWR ML	LWR ML
	X _T	1129.9	22.598
	Y _T	46.50	0.930
	Z _T	562.58	11.252
	Member #2	X _O	388.15
Y _O		0	0.00
Z _O		LWR ML	LWR ML
X _T		1129.9	22.598
Y _T		- 46.50	- 0.930
Z _T		562.58	11.252
Diameter of members (In.):			6.0

TABLE III (CONT'D)

MODEL COMPONENT: BODY - B62

GENERAL DESCRIPTION: Configuration 140C fuselage, MCR 200-B4. Similar to 140A/B except with revised aft body.

MODEL SCALE: 0.020

DRAWING NUMBER: VI.70-000140C, 00200B, -00202C, -000203, -000205A

<u>DIMENSIONS:</u>	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Length (OML: Fwd Sta $X_0 = 235$), In.	<u>1293.3</u>	<u>25.866</u>
Max. Width (@ $X_0 = 1528.3$), In.	<u>264.0</u>	<u>5.280</u>
Max. Depth (@ $X_0 = 1464$), In.	<u>250.0</u>	<u>5.000</u>
Fineness Ratio	<u>4.899</u>	<u>4.899</u>
Area - Ft ²		
Max. Cross-Sectional	<u>340.885</u>	<u>0.136354</u>
Planform	<u> </u>	<u> </u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>

TABLE III (CONT'D)

MODEL COMPONENT: CANOPY - C₁₂

GENERAL DESCRIPTION: Configuration 140C orbiter canopy used with

Body - B₆₂

MODEL SCALE: 0.020

DRAWING NUMBER VL70-000140C, -000202B, -000204

<u>DIMENSION:</u>	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Length ($X_0 = 434.643$ to $5(\delta)$), In.	<u>143.357</u>	<u>2.867</u>
Max Width (@ $X_0 = 513.127$), In.	<u>152.412</u>	<u>3.048</u>
Max Depth (@ $Z_0 = 501$ to 449.39), In.	<u>51.61</u>	<u>1.032</u>
Fineness Ratio	<u> </u>	<u> </u>
Area		
Max Cross-Sectional	<u> </u>	<u> </u>
Planform	<u> </u>	<u> </u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>

TABLE III (CONT'D)

MODEL COMPONENT ELEVON - E52

GENERAL DESCRIPTION Elevon for Configuration 140C. Hingeline
at $X_o = 1387$, elevon split line $X_s = 312.5$, 6.0" gaps, beveled edges, and
centerbodies.

MODEL SCALE: 0.020

DRAWING NUMBER VL70-000140C, -006080, -006092, SSA-01260

DIMENSIONS (Data for one side)	FULL SCALE	MODEL SCALE
Area - Ft ²	<u>210.0</u>	<u>0.0820</u>
Span (equivalent), In. ($Y_o = 119.99$), In.	<u>349.2</u>	<u>6.984</u>
Inb'd equivalent chord, In. ($Y_o = 469.19$)	<u>118.0</u>	<u>2.360</u>
Outb'd equivalent chord, In.	<u>55.19</u>	<u>1.1038</u>
Ratio movable surface chord/ total surface chord	<u> </u>	<u> </u>
At Inb'd equiv. chord	<u>0.2096</u>	<u>0.2096</u>
At Outb'd equiv. chord	<u>0.4004</u>	<u>0.4004</u>
Sweep Back Angles, degrees	<u> </u>	<u> </u>
Leading Edge	<u>0.0</u>	<u>0.0</u>
Trailing Edge	<u>- 10.056</u>	<u>- 10.056</u>
Hingeline (Product of Area & \bar{c})	<u>0.00</u>	<u>0.00</u>
Area Moment (Normal to hinge line), Ft ³	<u>1587.25</u>	<u>0.012698</u>
Mean Aerodynamic Chord, In.	<u>90.7</u>	<u>1.814</u>
Hingeline dihedral (origin at $Z_o = 261.3509$), deg.	<u>5.228986</u>	<u>5.228986</u>

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TABLE III (CONT'D)

MODEL COMPONENT: BODY FLAP - F10

GENERAL DESCRIPTION: Configuration 140C Body Flap. Hingeline located
at $X_0 = 1532$, $Z_0 = 287.00$

MODEL SCALE: 0.020

MODEL DRAWING: SS-401261

DRAWING NUMBER

VL70-000140C

DIMENSION:

	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Length ($X_0 = 1525.5$ to 1613), In.	<u>87.50</u>	<u>1.750</u>
Max Width (@ L.E. $X_0 = 1525.5$), In.	<u>256.00</u>	<u>5.120</u>
Max Depth (@ $X_0 = 1532$), In.	<u>19.798</u>	<u>0.39596</u>
Fineness Ratio	<u> </u>	<u> </u>
Area - Ft ²		
Max Cross-Sectional	<u>35.196</u>	<u>0.0140784</u>
Planform	<u>135.00</u>	<u>0.0540</u>
Wetted	<u> </u>	<u> </u>
Base ($X_0 = 1613$)	<u>4.89</u>	<u>0.001956</u>

TABLE III (CONT'D)

MODEL COMPONENT: FEEDLINE FL₁₀

GENERAL DESCRIPTION: LH₂ feedline on upper left-hand side of T₂₈

MODEL SCALE: 0.020

DRAWING NO.: VL78-000063, VL78-000062B

DIMENSIONS:

		<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Leading edge at:	X _T	2071.5	41.430
	Y _T	- 70.0	- 1.400
	Z _T	573.934	11.479
Trailing edge at:	X _T	2081.8	41.636
	Y _T	- 70.00	- 1.400
	Z _T	584.059	11.682
Diameter of line (17.0 I.D.)		18.160	0.3632

TABLE III (CONT'D)

MODEL COMPONENT: FEEDLINE - FL₁₁

GENERAL DESCRIPTION: LO₂ feedline on upper right-hand of T28.

MODEL SCALE: 0.020

DRAWING NUMBER: VL78-000063, VL78-000062B

DIMENSIONS:

		<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Leading edge at:	X _T	1000.667	20.013
	Y _T	70.00	1.400
	Z _T	150.519	3.010
Trailing edge at:	X _T	2071.5	41.43
	Y _T	70.00	1.400
	Z _T	573.934	11.479
Diameter of line (17.0 I.D.)		18.16 O.D.	0.3632

TABLE III (CONT'D)

MODEL COMPONENT: FAIRING - FR₁₀

GENERAL DESCRIPTION: Aft attach cross beam

MODEL SCALE: 0.020

DRAWING NO.: VL78-000063, VL78-000062B, Martin Marietta 82600207000

DIMENSIONS:

		<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Leading edge at	X_T	2052.0	41.04
Length		193.00	3.86
Width		15.00	0.30

TABLE III (CONT'D)

MODEL COMPONENT: OMS POD - M₁₆

GENERAL DESCRIPTION: Configuration 140C OMS Pod

MODEL SCALE: 0.020

DRAWING NUMBER VI70-008401, VI70-008410 (as of 5/16/75)

<u>DIMENSION:</u>	<u>FULL SCALE</u>	<u>MODEL SCAL</u>
Length (OMS Fwd Sta. $X_0=1310.5$), In.	<u>258.50</u>	<u>5.170</u>
Max Width (@ $X_0 = 1511$), In.	<u>136.80</u>	<u>2.736</u>
Max Depth (@ $X_0 = 1511$), In.	<u>74.70</u>	<u>1.494</u>
Fineness Ratio	<u>2.484</u>	<u>2.484</u>
Area - Ft ²		
Max Cross-Sectional	<u>58.864</u>	<u>0.02355</u>
Planform	<u> </u>	<u> </u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>

TABLE III (CONT'D)

MODEL COMPONENT: MPS NOZZLES - N₈₇

GENERAL DESCRIPTION: Flow-through MPS nozzles with gimbal capability.

There is a metric shroud around each nozzle for measuring hinge moments about the gimbal point.

MODEL SCALE: 0.020

DRAWING NUMBER: SS-A01261

DIMENSIONS:	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
MACH NO. (0.6, 0.9, 1.1, 1.25, 1.4)		
Length - In.		
Gimbal Point to Exit Plane	<u>157.0</u>	<u>2.14</u>
Throat to Exit Plane	<u>181.55</u>	<u>3.6311</u>
Diameter - In.		
Exit	<u>90.435</u>	<u>1.8087</u>
Throat	<u>23.3502</u>	<u>0.467004</u>
Inlet		
Area - ft ²		
Exit	<u>44.607</u>	<u>0.01784</u>
Throat	<u>2.974</u>	<u>0.0011895</u>
Gimbal Point (Station) - In.		
Upper Nozzle		
X _o	<u>1445</u>	<u>28.09</u>
Y _o	<u>0</u>	<u>0</u>
Z _o	<u>443</u>	<u>8.86</u>
Lower Nozzles		
X _o	<u>1468.17</u>	<u>29.3634</u>
Y _o	<u>± 53.0</u>	<u>1.06</u>
Z _o	<u>352.74</u>	<u>7.2528</u>
Null Position - Deg.		
Upper Nozzle		
Pitch	<u>10°</u>	<u>10°</u>
Yaw	<u>0°</u>	<u>0°</u>
Lower Nozzle		
Pitch	<u>10°</u>	<u>10°</u>
Yaw	<u>OUTB'D 3°30'</u>	<u>OUTB'D 3°30'</u>

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TABLE III (CONT'D)

MODEL COMPONENT: SRB NOZZLES - N₈₈

GENERAL DESCRIPTION: Flow through SRB nozzle with gimbal capability.

Simulator $\epsilon = 7.0$ prototype. There is a metric shroud around each nozzle for measuring hinge moments about the gimbal point.

MODEL SCALE: 0.020

DRAWING NUMBER: SS-A01262

DIMENSIONS:	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
MACH NO.		
Length - In.		
Gimbal Point to Exit Plane	<u>86.8</u>	<u>1.736</u>
Throat to Exit Plane	<u>112.135</u>	<u>2.2427</u>
Diameter - In.		
Exit	<u>144.290</u>	<u>2.88580</u>
Throat	<u>64.53</u>	<u>1.2906</u>
Inlet		
Area - ft ²		
Exit	<u>356.738</u>	<u>0.14269</u>
Throat	<u>22.712</u>	<u>0.090847</u>
Gimbal Point (Station) - In.		
Upper Nozzle		
X _B	<u>1902.5</u>	<u>38.052</u>
Y _B	<u>250.5</u>	<u>5.01</u>
Z _B		
Lower Nozzles		
X		
Y		
Z		
Null Position - Deg.		
Upper Nozzle		
Pitch	<u>0</u>	<u>0</u>
Yaw	<u>0</u>	<u>0</u>
Lower Nozzle		
Pitch		
Yaw		

TABLE III (CONT'D)

MODEL COMPONENT: NOZZLES - N 39

GENERAL DESCRIPTION: OMS nozzle in stowed position which is outboard 8° and down 7° from null position. Use with M₁₆.

MODEL SCALE = 0.020

DRAWING NO. SS-A01288

<u>DIMENSIONS</u>	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Mach No. _____		
Length ~ in.		
Gimbal Point to Exit Plane	<u>56.0</u>	<u>1.120</u>
Throat to Exit Plane	<u>--</u>	<u>--</u>
Diameter ~ in.		
Exit (O.D.)	<u>50.0</u>	<u>1.0</u>
Throat	<u>_____</u>	<u>_____</u>
Inlet	<u>_____</u>	<u>_____</u>
Area ~ ft ² .		
Exit	<u>_____</u>	<u>_____</u>
Throat	<u>_____</u>	<u>_____</u>
Gimbal Point (station) ~ in.		
X ₀	<u>1518.00</u>	<u>30.35</u>
Y ₀	<u>88.0</u>	<u>1.76</u>
Z ₀	<u>492.0</u>	<u>9.84</u>
Null Position ~ deg.		
Pitch	<u>15049'</u>	<u>15049'</u>
Yaw	<u>6°30'</u>	<u>6°30'</u>

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TABLE III (CONT'D)

MODEL COMPONENT: ELECTRICAL TUNNEL - PS₁₁

GENERAL DESCRIPTION: Tunnel running longitudinally on the SRB for electrical wires.

MODEL SCALE: 0.020

DRAWING NO.: VC77-000002

DIMENSIONS:

	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Width, In.	5.70	0.114
Radius, In.	5.70	0.114
Height, In.	4.70	0.094
Leading edge at Sta.	494.70	9.894
L.E. sweepback angle, degrees	30.0	30.0

TABLE III (CONT'D)

MODEL COMPONENT: CIRCUMFERENTIAL STIFFENER- PS₁₂

GENERAL DESCRIPTION: Four ring stiffeners located at the aft end of the solid rocket boosters. The stiffener is a curved I-beam.

DRAWING NO.: VC77-000002

MODEL SCALE: 0.020

DIMENSIONS:

		<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Height, In.		2.5	0.05
Length, In.		2.0	0.04
Locations:	$X_B =$	1602.00	32.04
		1644.00	32.88
		1729.00	34.58
		1771.00	35.42

TABLE III (CONT'D)

MODEL COMPONENT: CIRCUMFERENTIAL STIFFENER - PS₁₃

GENERAL DESCRIPTION: Ring stiffener located at the point where the skirt flares. The stiffener is I-beam.

MODEL SCALE: 0.020

DRAWING NO.: VC77-000002

DIMENSIONS:

		<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Height, In.		6.50	0.130
Length, In.		4.00	0.08
Location centerline	$X_B =$	1833.70	36.674

TABLE III (CONT'D)

MODEL COMPONENT: SOLID ROCKET BOOSTER - EXTERNAL TANK ATTACH - PS₁₄

GENERAL DESCRIPTION: Two-ring stiffeners located at aft end of solid rocket boosters. The stiffener is curved I-beam.

MODEL SCALE: 0.020

DRAWING NO.: VC77-000002

DIMENSIONS:

	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Height, In.	8.00	0.160
Length, In.	3.00	0.060
Location centerline	XB 1511.00	30.22

TABLE III (CONT'D)

MODEL COMPONENT: SRB PROTUBERANCE - PS₁₇

GENERAL DESCRIPTION: Electrical connecting box mounted on top of PS₁₄.

MODEL SCALE: 0.020

DRAWING NO.: NONE

DIMENSIONS:	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Width, In.	60.0	1.20
Depth, In.	17.5	0.35

Centerline of box located 15° inboard from vertical plane of symmetry.

TABLE III (CONT'D)

MODEL COMPONENT: SRB PROTUBERANCE - PS₁₈

GENERAL DESCRIPTION: Tie-down fixtures mounted on the aft skirt. Total of four mounted 30° on both sides of vertical plane of symmetry.

MODEL SCALE: 0.020

DRAWING NO.: NONE

DIMENSIONS:	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Sta. of leading edge (X_B)	1861.2	37.224
Sta. of T.E. (X_B)	1925.2	38.504
Max. width, In.	14.2	0.284
Height, in.	8.3	0.166

TABLE III (CONT'D)

MODEL COMPONENT: SRB PROTUBERANCES - PS₁₉

GENERAL DESCRIPTION: Aft separation motor pod mounted on aft skirt at 20°
inboard from top vertical plane of symmetry.

MODEL SCALE: 0.020

DRAWING NO.: NONE

DIMENSIONS:

	FULL SCALE	MODEL SCALE
Width, In.	14.0	0.28
Height, In. (at Trailing edge)	19.0	0.38
Sweepback of leading edge, deg.	15.0	15.0

TABLE III (CONT'D)

MODEL COMPONENT: ET PROTUBERANCE - PT₁₂

GENERAL DESCRIPTION: Lightning rod attached to ET nose.

MODEL SCALE: 0.020

DRAWING NO.: VL78-000068A

DIMENSIONS:

	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Length	30.90	0.618
Diameter, In.	3.20	0.074

TABLE III (CONT'D)

MODEL COMPONENT: ELECTRICAL CONDUIT PT₂₂

GENERAL DESCRIPTION: Left-hand electrical conduit line on T₂₈.

MODEL SCALE: 0.020

DRAWING NO.: VL78-000063, VL78-000062B

DIMENSIONS:

		<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Leading edge at:	X _T	1084.333	21.687
	Y _T	- 99.591	- 1.992
	Z _T	- 139.620	- 2.792
Trailing edge at:	X _T	2058.000	41.16
	Y _T	- 99.591	- 1.992
	Z _T	- 139.620	- 2.792
Conduit size:		2.0 x 6.0	0.04 x 0.12
Centerline of line located radially at $\phi = 35.5^\circ$			

TABLE III (CONT'D)

MODEL COMPONENT: LO₂ RECIRCULATION LINE - PT₂₃

GENERAL DESCRIPTION: LO₂ recirculation line on right-hand upper side of T₂₈.

MODEL SCALE: 0.020

DRAWING NO.: VL78-000063, VL78-000062B, Martin Marietta 82600207000

DIMENSIONS:		<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Leading edge at:	X _T	1040.667	20.813
	Y _T	94.169	1.883
	Z _T	540.934	10.819
Trailing edge at:	X _T	2062.920	41.258
	Y _T	70.000	1.400
	Z _T	573.934	11.479
Diameter of Line		4.0	0.08

Centerline of lines located radially at $\phi = 33^{\circ}45'$
 (Right of TDC looking forward).

TABLE III (CONT'D)

MODEL COMPONENT: LH₂ PRESSURE LINE - PT₂₄

GENERAL DESCRIPTION: LH₂ pressure line on T₂₈.

MODEL SCALE: 0.020

DRAWING NO.: VL78-000063, VL78-000062B, Martin Marietta 82600207000

DIMENSIONS:		<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Leading edge at:	X _T	1040.667	20.813
	Y _T	- 94.169	- 1.884
	Z _T	540.934	10.819
Trailing edge at:	X _T	2062.920	41.258
	Y _T	- 70.00	-1.40
	Z _T	573.934	11.479
Diameter of line		4.0	0.080
Centerline of line located radially at $\phi = 33^{\circ}45'$ (Left of TDL looking forward)			

TABLE III (CONT'D)

MODEL COMPONENT: ELECTRICAL CONDUIT PT₂₅

GENERAL DESCRIPTION: Right-hand aft electrical conduit line on T₂₈ with

LH₂ pressure sensor line and LO₂ vent valve actuator line.

MODEL SCALE: 0.020

DRAWING NO.: VL78-000063, VL78-000062B, Martin Marietta 82600207000

DIMENSIONS:		<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Leading edge at:	X _T	1084.333	21.687
	Y _T	99.591	1.992
	Z _T	139.620	2.792
Trailing edge at:	X _T	2058.00	41.160
	Y _T	99.591	1.992
	Z _T	139.620	2.792
Conduit size		2.0 x 6.0	0.4 x 0.12
Centerline of line located radially at $\phi = 35.5^\circ$			

TABLE III (CONT'D)

MODEL COMPONENT: LO₂ PRESSURE LINE - PT₂₆

GENERAL DESCRIPTION: LO₂ pressure line on the T₂₈.

MODEL SCALE: 0.020

DRAWING NO.: VL78-000063, VL78-000062B, Martin Marietta 82600207000

DIMENSIONS:

		<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Leading edge at:	X _T	360.733	7.215
	Y _T	15.145	0.3029
	Z _T	407.718	8.154
Trailing edge at:	X _T	2063.5	41.670
	Y _T	63.25	1.265
	Z _T	609.00	12.180
Centerline of line located radially at $\phi = 27^\circ$			
Line diameter		2.0	0.040

TABLE III (CONT'D)

MODEL COMPONENT: ELECTRICAL CONDUIT PT₂₇

GENERAL DESCRIPTION: Electrical conduit on the right-hand forward section of T₂₈.

MODEL SCALE: 0.020

DRAWING NO.: VL78-000062B

DIMENSIONS:

		<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Leading edge at:	X _T	360.733	7.215
	Y _T	11.549	0.2310
	Z _T	412.474	8.249
Trailing edge at:	X _T	876.273	17.525
	Y _T	226.114	4.522
	Z _T	646.774	12.935

Centerline of conduit located radiatlly at $\phi = 47.5^\circ$

Conduit size 2.0 x 6.0 0.04 x 0.12

TABLE III (CONT'D)

MODEL COMPONENT RUDDER - R₅

GENERAL DESCRIPTION Configuration 140C rudder.

MODEL SCALE: 0.020

DRAWING NUMBER VL70-000146B

DIMENSIONS	FULL SCALE	MODEL SCALE
Area - Ft ²	<u>100.15</u>	<u>0.04006</u>
Span (equivalent) , In.	<u>201.00</u>	<u>4.02</u>
Inb'd equivalent chord , In.	<u>91.585</u>	<u>1.832</u>
Outb'd equivalent chord , In.	<u>50.833</u>	<u>1.017</u>
Ratio movable surface chord/ total surface chord	<u> </u>	<u> </u>
At Inb'd equiv. chord	<u>0.400</u>	<u>0.400</u>
At Outb'd equiv. chord	<u>0.400</u>	<u>0.400</u>
Sweep Back Angles, degrees	<u> </u>	<u> </u>
Leading Edge	<u>34.83</u>	<u>34.83</u>
Trailing Edge	<u>26.25</u>	<u>26.25</u>
Hingeline (Product of area & \bar{c})	<u>34.83</u>	<u>34.83</u>
Area Moment (Normal to hingeline), Ft ³	<u>610.92</u>	<u>0.00489</u>
Mean Aerodynamic Chord, In .	73.2	1.464

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TABLE III (CONT'D)

MODEL COMPONENT : SOLID ROCKET BOOSTER - S₂₂

GENERAL DESCRIPTION : SOLID ROCKET BOOSTER - S₂₂

MODEL SCALE: 0.020

DRAWING NUMBER : VL77-000002, VC70-000002

DIMENSIONS :	FULL SCALE	MODEL SCALE
Length, In.	<u>1789.6</u>	<u>35.792</u>
Max Width (Body dia), In.	<u>146.0</u>	<u>2.92</u>
Max Depth (aft shroud dia.,)	<u>208.2</u>	<u>4.164</u>
Fineness Ratio	<u>8.596</u>	<u>8.596</u>
Area - Ft ²	<u> </u>	<u> </u>
Max. Cross-Sectional	<u>236.423</u>	<u>0.094569</u>
Planform	<u> </u>	<u> </u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>
W.P. of SRB Centerline (Z _T)	<u>400.00</u>	<u>8.0</u>
F.S. of SRB Centerline (X _T)	<u>743.0</u>	<u>14.86</u>
B.P. of SRB Centerline (Y _T)	<u>250.5</u>	<u>5.01</u>

TABLE III (CONT'D)

MODEL COMPONENT: EXTERNAL TANK - T₂₈

GENERAL DESCRIPTION: _____

DRAWING NUMBER VC70-000002, VC78-000002

<u>DIMENSION:</u>	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Length, In.	<u>1844.275</u>	<u>36.8855</u>
Max Width, Dia., In.	<u>331.00</u>	<u>6.620</u>
Max Depth	<u> </u>	<u> </u>
Fineness Ratio	<u>5.687</u>	<u>5.687</u>
Area		
Max Cross-Sectional	<u>594.678</u>	<u>0.23787</u>
Planform	<u> </u>	<u> </u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>

TABLE III (CONT'D)

MODEL COMPONENT: VERTICAL - V₈

GENERAL DESCRIPTION: Configuration 140C vertical tail.

MODEL SCALE: 0.020

DRAWING NUMBER: VL70-000146B W/O Dragchute

DIMENSIONS:	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
TOTAL DATA		
Area (Theo) - Ft ²	<u>413.253</u>	<u>0.2053</u>
Planform		
Span (Theo) - In.	<u>315.72</u>	<u>7.3144</u>
Aspect Ratio	<u>1.675</u>	<u>1.675</u>
Rate of Taper	<u>0.507</u>	<u>0.507</u>
Taper Ratio	<u>0.404</u>	<u>0.404</u>
Sweep-Back Angles, Degrees.		
Leading Edge	<u>45.000</u>	<u>45.000</u>
Trailing Edge	<u>26.25</u>	<u>26.25</u>
0.25 Element Line	<u>41.13</u>	<u>41.13</u>
Chords:		
Root (Theo) WP	<u>268.50</u>	<u>5.370</u>
Tip (Theo) WP	<u>108.47</u>	<u>2.1694</u>
MAC	<u>199.81</u>	<u>3.9962</u>
Fus. Sta. of .25 MAC	<u>1463.35</u>	<u>29.2670</u>
W.P. of .25 MAC	<u>635.52</u>	<u>12.710</u>
B.L. of .25 MAC	<u>0.0</u>	<u>0.0</u>
Airfoil Section		
Leading Wedge Angle - Deg.	<u>10.0</u>	<u>10.0</u>
Trailing Wedge Angle - Deg.	<u>14.92</u>	<u>14.92</u>
Leading Edge Radius	<u>2.0</u>	<u>0.04</u>
Void Area - Ft ²	<u>13.17</u>	<u>0.005263</u>
Blanketed Area	<u>0.0</u>	<u>0.0</u>

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TABLE III (CONL'D)

MODEL COMPONENT: WING-W₁₂₇

GENERAL DESCRIPTION: Configuration 140C orbiter wing, MCR 200-R4; similar to 140A/B wing W₁₂₆ but with refinements. Improved wing-boot-midbody fairing ($X_o = 940$ to $X_o = 1040$); elevon split line relocated from $Y_o = 281$ to $Y_o = 312.5$.

MODEL SCALE: 0.020

TEST NO.

DWG. NO. VL70-000140C, -000200B

DIMENSIONS:

TOTAL DATA

Area (theo.) Ft²
 Planform
 Span (Theo) In.
 Aspect Ratio
 Rate of Taper
 Taper Ratio
 Dihedral Angle, degrees
 Incidence Angle, degrees
 Aerodynamic Twist, degrees
 Sweep Back Angles, degrees
 Leading Edge
 Trailing Edge
 0.25 Element Line
 Chords:
 Root (Theo) B.P.O.O.
 Tip, (Theo) B.P.
 MAC
 Fus. Sta. of .25 MAC
 W.P. of .25 MAC
 B.L. of .25 MAC

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FULL-SCALE

MODEL SCALE

EXPOSED DATA

Area (theo) Ft²
 Span, (Theo) In. BP108
 Aspect Ratio
 Taper Ratio
 Chords
 Root BP108
 Tip 1.00 $\frac{b}{2}$
 MAC
 Fus. Sta. of .25 MAC
 W.P. of .25 MAC
 B.L. of .25 MAC
 Airfoil Section (Rockwell Mod NASA)
 XXXX-64

Root $\frac{b}{2} =$

Tip $\frac{b}{2} =$

Data for (1) of (2) Sides

Leading Edge Cuff
 Planform Area ft²
 Leading Edge Intersects Fus M. L. @ Sta
 Leading Edge Intersects Wing @ Sta

2690.00	1.076
936.58	18.733
2.265	2.265
1.177	1.177
0.200	0.200
3.500	3.500
0.500	0.500
3.000	3.000
45.000	45.000
- 10.056	- 10.056
35.209	35.209
689.24	13.785
137.85	2.757
474.81	9.496
1136.83	22.737
200.58	5.812
182.12	3.642
1751.50	0.7005
720.68	14.414
2.059	2.059
0.245	0.245
562.00	11.240
392.83	7.857
1185.08	23.700
294.50	5.880
251.77	5.035
0.113	0.113
0.120	0.120
113.18	0.0453
500.00	10.00
1024.00	20.480

Table IV Orbiter Fuselage Pressure Tap Numbers and Locations

ORBITER $X_0 \sim \text{IN.}$		RADIAL LOCATION $\sim \phi$, DEGREES												NO OF TAPS
FULL SCALE	MODEL SCALE	X_0/L	0	320	290	270	255	240	225	210	195	180		
880	17.60	0.500			303	302				301			3	
1080	21.60	0.653		312	311	310	309	308	307	306	305	304	8	
1180	23.60	0.730		321	320	319	318	317	316	315	314	313	8	
1245	24.90	0.781		330	329	328	327	326	325	324	323	322	10	
1300	26.00	0.823		339	338	337	336	335	334	333	332	331	10	
1375	27.50	0.882	348	347	346	345	344	343	342	341	340		9	
1430	28.60	0.923	357	356	355	354	353	352	351	350	349		9	
1480	29.60	0.963	366	365	364	363	362	361	360	359	358		9	
1530	30.60	1.002	LOCATION OFF OMS POD			368			367			LOCATION OFF OMS POD)		2
													68	

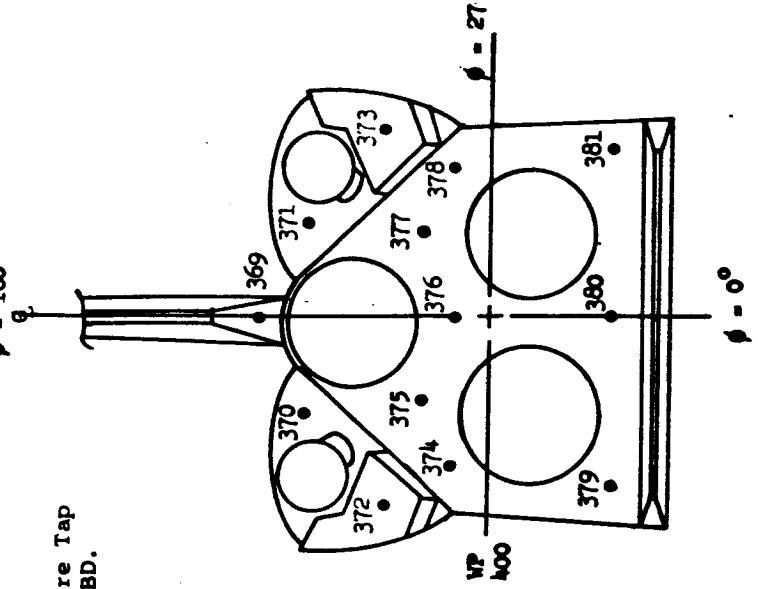
		X/C _v LOCAL CHORD										NO. TAPS
Vertical $W_L \sim Z_0$		0	0.025	0.050	0.150	0.300	0.520	0.750	0.900			
	MODEL SCALE	γ_v										
RIGHT SIDE	550	11.0	0.158	401	402	403	404	405	406	407	--	7
	600	12.0	0.316	408	409	410	411	412	413	414	415	8
	690	13.8	0.600	416	417	418	419	420	421	422	423	8
	765	15.3	0.840	424	425	426	427	428	429	430	431	8
	792	15.84	0.925	432	433	434	435	436	437	438	439	8
											TOTAL VERTICAL TAPS	39

BODY FLAP

ORBITER $\sim X_0$		$\phi \sim$ DEGREES		NO. TAPS
FULL SCALE	MODEL SCALE	UPPER	LOWER	
1555	31.1	382	383	2
1555	31.1	386	387	2
1590	31.8	384	385	2
1590	31.8	388	389	2
TOTAL BODY FLAP				8

NOTE: Base Pressure Tap Locations TBD.

$\phi = 180^\circ$



OMS FODS VERTICAL & ORBITER BASE

$\phi = 90^\circ$

WP 400

(13 TAPS TOTAL)

Table V Orbiter Base, Vertical Tail and Body Flap Pressure Tap Numbers and Locations

Table VI Orbiter Right Wing Pressure Tap
Numbers and Locations

RIGHT WING X/C LOCAL CHORD	$\eta = 0.299$ $Y_0 = 2.8$ IN M.S.	$\eta = 0.364$ $Y_0 = 3.4$ IN M.S.	$\eta = 0.427$ $Y_0 = 4.0$ IN M.S.	$\eta = 0.534$ $Y_0 = 5.0$ IN M.S.	$\eta = 0.641$ $Y_0 = 6.0$ IN M.S.	$\eta = 0.780$ $Y_0 = 7.30$ IN M.S.	$\eta = 0.887$ $Y_0 = 8.3$ IN M.S.
0*	101	112	118	131	144	155	164
0.02			119,216	132,228	145,240	156,250	165,258
0.04		113,211	120,217				
0.05	102,201			133,229	146,241	157,251	166,259
0.08				134,230			
0.081			121,218				
0.086		114,212					
0.094	103,202						
0.150				135,231	147,242	158,252	167,260
0.163		115,213					
0.177			122,219				
0.229	104,203						
0.246		116,214					
0.250				136,232	148,243	159,253	168,261
0.274			123,220				
0.362	105,204						
0.390		117,215					
0.400				137,233	149,244		169,262
0.402			124,221				
0.497	106,205						

* TAPS AT X/C = 0 ARE LOCATED ON WING LEADING EDGE

NOTE: 100 SERIES NUMBERS LOCATED ON TOP OF WING.

200 SERIES NUMBERS LOCATED ON BOTTOM OF WING.

Table VI (Continued)

RIGHT WING X/C	$\eta = .299$ $Y_o = 2.8$ IN M.S.	$\eta = 0.364$ $Y_o = 3.4$ IN M.S.	$\eta = 0.427$ $Y_o = 4.0$ IN M.S.	$\eta = 0.534$ $Y_o = 5.0$ IN M.S.	$\eta = 0.641$ $Y_o = 6.0$ IN M.S.	$\eta = 0.780$ $Y_o = 7.30$ IN M.S.	$\eta = 0.887$ $Y_o = 8.3$ IN M.S.
0.55				138,234	150,245		
0.565			125,222				
0.60							170,263
0.65						160,254	
0.70	107,206				151,246		
0.725				139,235			
0.75						161,255	171,264
0.760			126,223				
0.775				140,236	152,247		
0.808			127,224				
0.834	108,207						
0.85				141,237	153,248	162,256	
0.857			128,225				
0.865	109,208						
0.90	110,209			142,238			172,265
0.905			129,226		154,249		
0.95				143,239		163,257	
0.953			130,227				
0.965	111,210						

NOTE: 100 SERIES NUMBERS LOCATED ON TOP OF WING

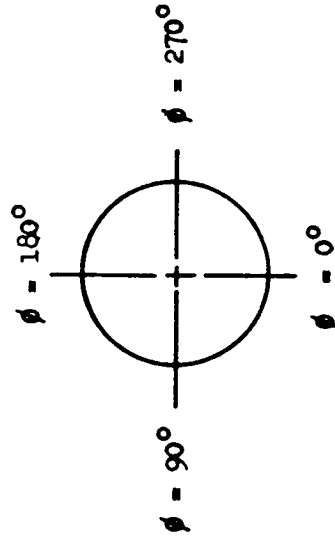
200 SERIES NUMBERS LOCATED ON BOTTOM OF WING

TOTAL NUMBER OF TAPS = 137

Table VII External Tank Pressure Tap Numbers and Locations

ET STATION ~ X_T		$\phi \sim$ DEGREES															
FULL SCALE	MODEL SCALE	0	30	60	90	120	135	150	165	180	195	210	225	240	270	300	330
1500	30.0	0.634			502										501		
1700	34.0	0.742	504	505	506	507	508	509	510						503		
1900	38.0	0.851	518	519	520	522	523	524	525	511	512	513	514	515	516	517	
2040	40.8	0.986	533	534	535	537	538	539	540	526	527	528	529	530	531	532	
TANK BASE @ ϕ										541							
TANK BASE @ 1/3 RAD		550	551	552	553	554	555	556	557	542	543	544	545	546	547	548	549
TANK BASE @ 2/3 RAD		566	567	568	569	570	571	572	573	558	559	560	561	562	563	564	565

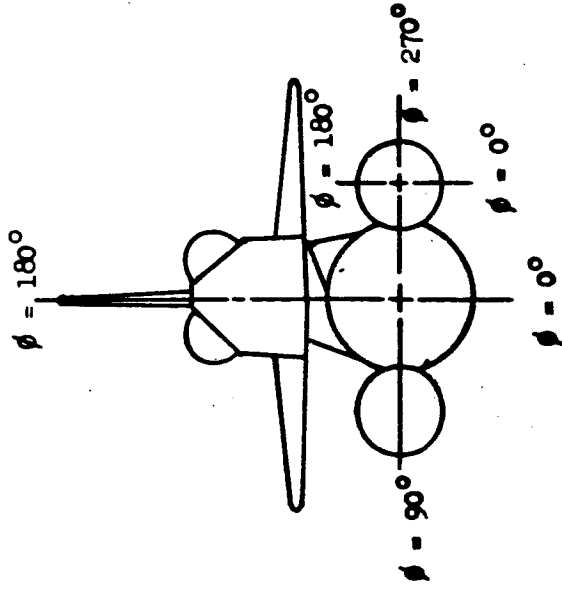
TOTAL NO. TAPS= 73



VIEW LOOKING VIEW LOOKING FORWARD

Table VIII SRB Pressure Tap Numbers and Locations

SRB STATION ~ X _B		φ ~ DEGREES				NO. TAPS	
FULL SCALE	MODEL SCALE	X _B /L _B	0	90	180		270
1450	29.0	0.700	603	604	601	602	4
1650	33.0	0.811	607	608	605	606	4
1850	37.0	0.923	611	612	609	610	4
1890	37.8	0.945	615	616	613	614	4
1930	38.6	0.968	619	620	617	618	4
SKIRT BASE			623	624	621	622	4
TOTAL NO. SRB TAPS							24



L = 1789.6 in ± 35.792 inms

ET & SRB RADIAL LOCATIONS

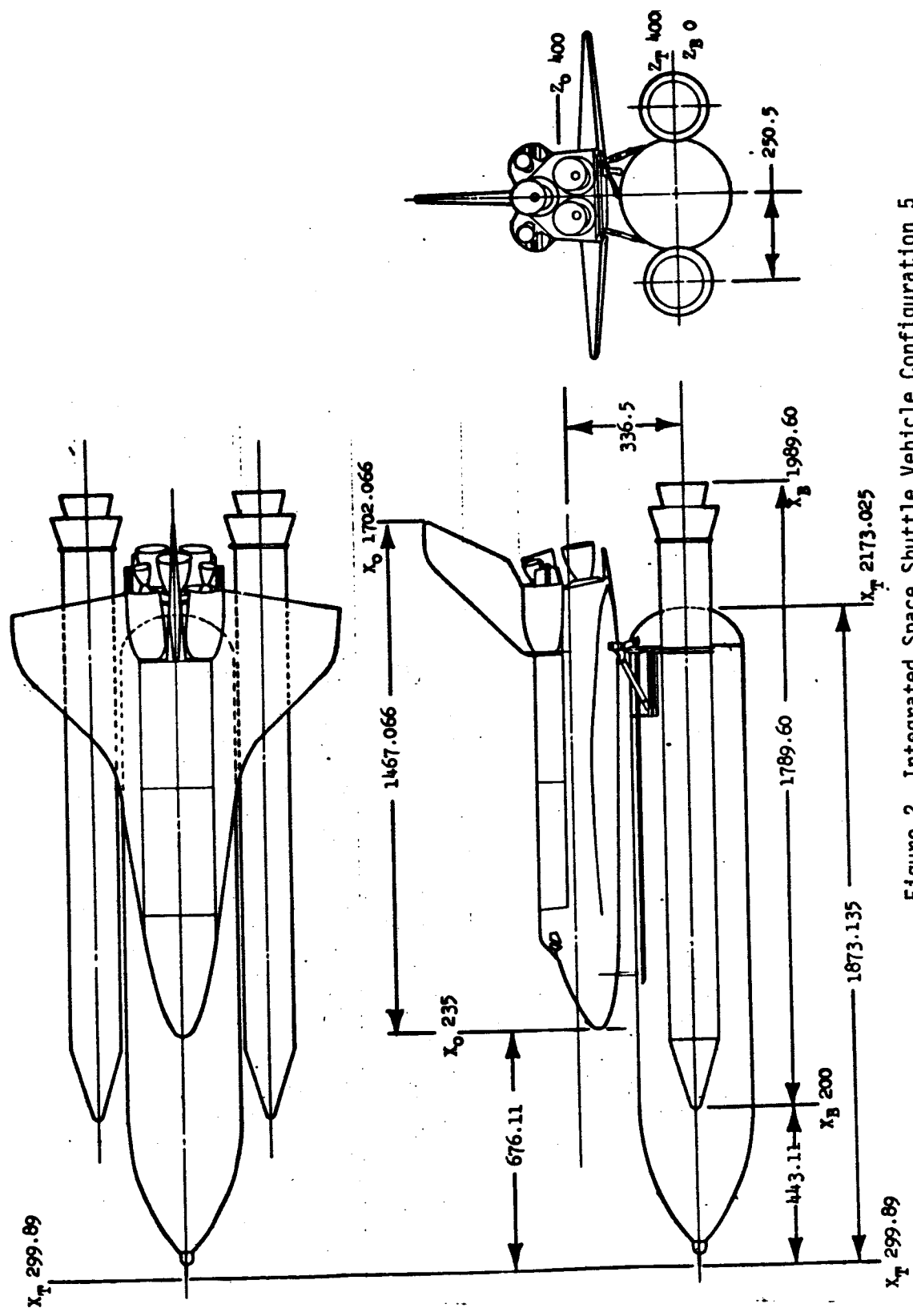
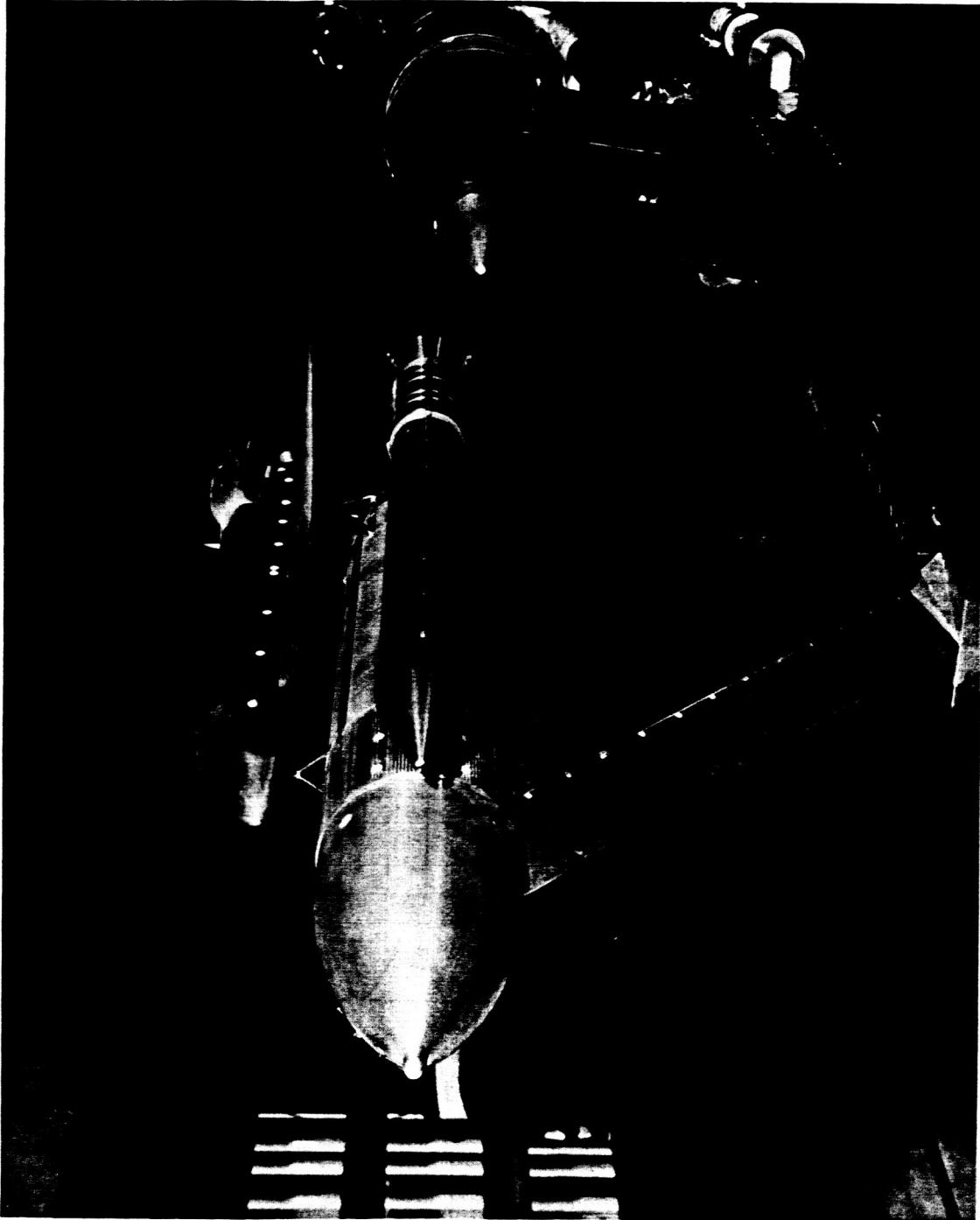
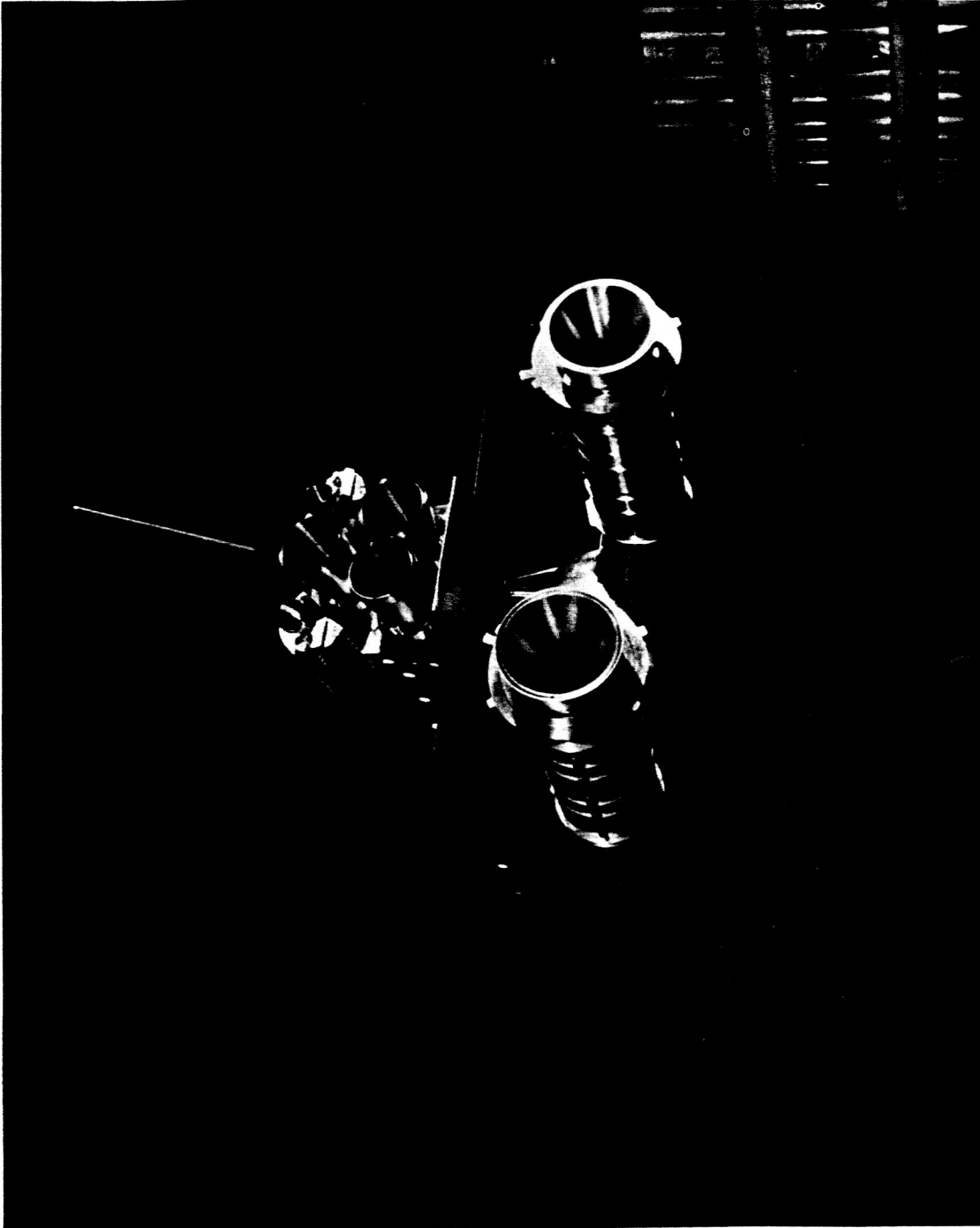


Figure 2. Integrated Space Shuttle Vehicle Configuration 5



a. Model 88-0TS Installation, Front View

Figure 3. - Model photographs.



b. Model 88-OTS Installation, Rear View

Figure 3. - Concluded.

DATA FIGURES

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DATA SET SYMBOL CONFIGURATION DESCRIPTION

{BEU001}	ARC11-0141A19	OTS+STRUT	SRB-DF	MPS-DF
{BEU005}	ARC11-0141A19	OTS+STRUT	SRB-NOM	MPS-NOM
{BEU009}	ARC11-0141A19	OTS+STRUT	SRB-LGV	MPS-NOM
{BEU013}	ARC11-0141A19	OTS+STRUT	SRB-NOM	MPS-DF
{BEU017}	ARC11-0141A19	OTS+STRUT	SRB-HI	MPS-HI

GIMBAL: 1.000
 MACH: .900
 ELV-08: 4.000
 ELV-18: 8.000

REFERENCE INFORMATION
 SREF: 2690.0000 SQ.FT.
 LREF: 1290.3000 IN.
 BREF: 1290.3000 IN.
 XMRP: 576.0000 IN.
 YMRP: 400.0000 IN.
 ZMRP: 400.0000 IN.
 SCALE: .0200

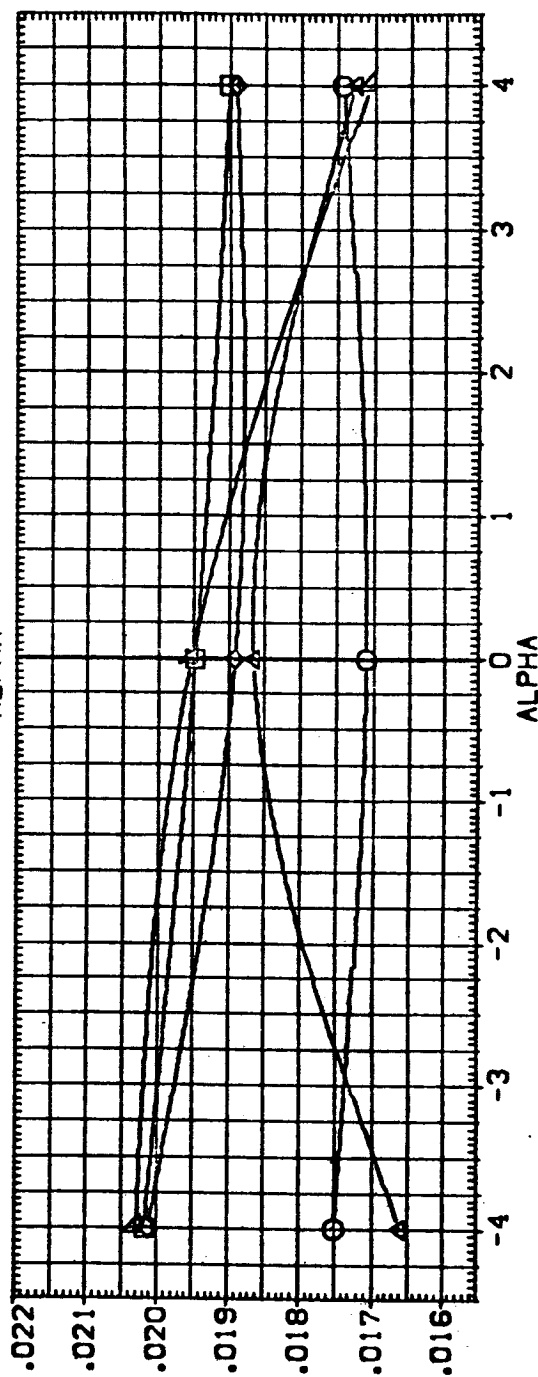
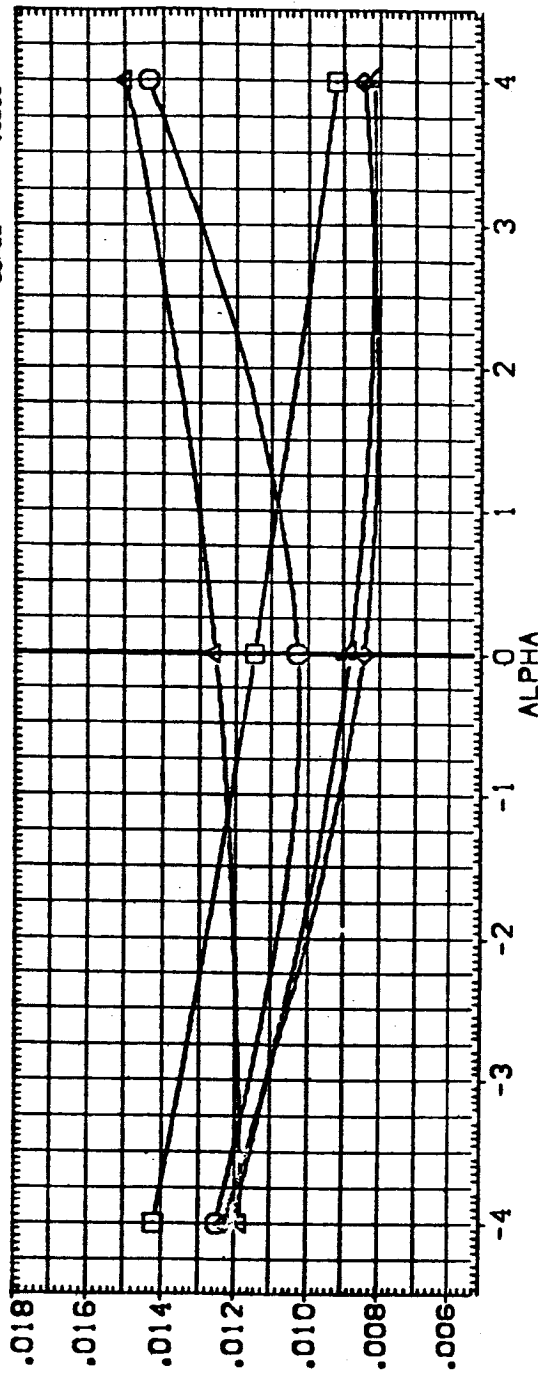


FIG. 4 EFFECT OF PLUMES - MACH=0.9 ELV-18=8.0 ELV-08=4.0 BETA=0.0
 (A) BETA = .00

DATA SET SYMBOL

(BELO01) ARC11-0141A19 OTS+STRUT SRB-0FF MPS-0FF
 (BELO05) ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM
 (BELO09) ARC11-0141A19 OTS+STRUT SRB-LDM MPS-NOM
 (BELO13) ARC11-0141A19 OTS+STRUT SRB-0FF MPS-0FF
 (BELO17) ARC11-0141A19 OTS+STRUT SRB-HI MPS-HI

CONFIGURATION DESCRIPTION

(BELO01) ARC11-0141A19 OTS+STRUT SRB-0FF MPS-0FF
 (BELO05) ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM
 (BELO09) ARC11-0141A19 OTS+STRUT SRB-LDM MPS-NOM
 (BELO13) ARC11-0141A19 OTS+STRUT SRB-0FF MPS-0FF
 (BELO17) ARC11-0141A19 OTS+STRUT SRB-HI MPS-HI

ELV-1B

8.000 4.000 8.000 4.000 8.000 4.000 8.000 4.000

ELV-0B

4.000 4.000 4.000 4.000 4.000 4.000 4.000 4.000

MACH

.900 .900 .900 .900 .900 .900 .900 .900

GIMBAL

1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000

REFERENCE INFORMATION

SREF 2690.0000 SO.FT.
 LREF 1290.3000 IN.
 BRREF 1290.3000 IN.
 XMRP 976.0000 IN.
 YMRP 400.0000 IN.
 ZMRP 400.0000 IN.
 SCALE .0200

ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

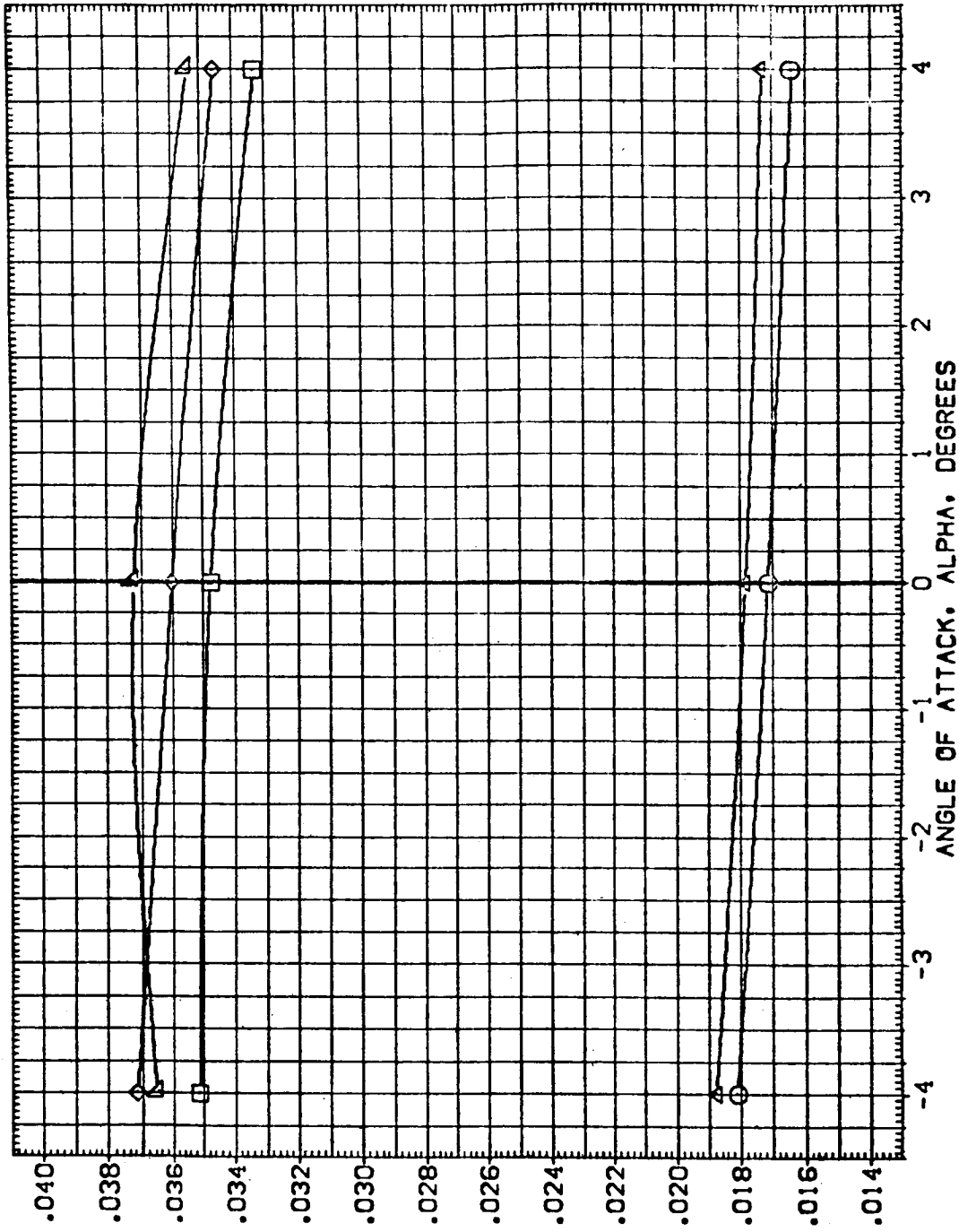


FIG. 4 EFFECT OF PLUMES - MACH=0.9 ELV-1B=8.0 ELV-0B=4.0 BETA=0.0

(A)BETA = .00

PAGE

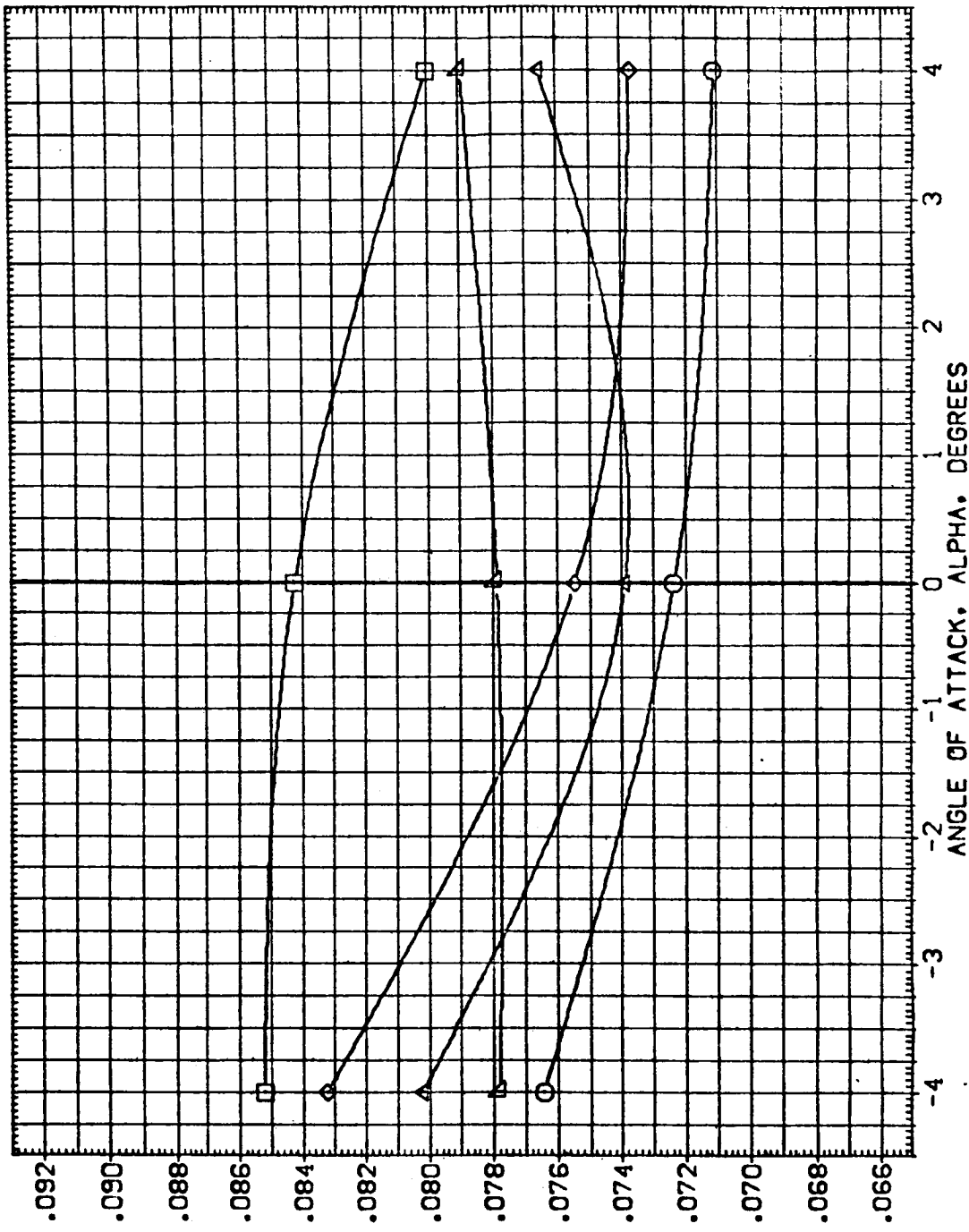
2



DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-18	ELV-08	MACH	GINBAL	REFERENCE INFORMATION
(BELO01)	ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF	8.000	4.000	.900	1.000	2690.0000 SQ.FT.
(BELO05)	ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM	8.000	4.000	.900	1.000	1290.3000 IN.
(BELO09)	ARC11-0141A19 OTS+STRUT SRB-LDV MPS-NOM	8.000	4.000	.900	1.000	1290.3000 IN. XT
(BELO13)	ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF	8.000	4.000	.900	1.000	976.0000 IN. YT
(BELO17)	ARC11-0141A19 OTS+STRUT SRB-HI MPS-HI	8.000	4.000	.900	1.000	400.0000 IN. ZT

SCALE .0200



EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

FIG. 4 EFFECT OF PLUMES - MACH=0.9 ELV-18=8.0 ELV-08=4.0 BETA=0.0

CABETA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION

{BEU002}	ARC11-0141A19	OTS+STRUT	SRB-0FF	MFS-0FF
{BEU006}	ARC11-0141A19	OTS+STRUT	SRB-NON	MFS-NON
{BEU010}	ARC11-0141A19	OTS+STRUT	SRB-LON	MFS-NON
{BEU014}	ARC11-0141A19	OTS+STRUT	SRB-NON	MFS-0FF
{BEU018}	ARC11-0141A19	OTS+STRUT	SRB-HI	MFS-HI

REFERENCE INFORMATION

SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	576.0000	IN.
YMRP	400.0000	IN.
ZMRP	400.0000	IN.
SCALE	.0200	

ELV-1B 8.000 4.000 8.000 8.000 8.000 8.000

ELV-0B 4.000 4.000 4.000 4.000 4.000 4.000

MACH 1.100 1.100 1.100 1.100 1.100 1.100

GIMBAL 1.000 1.000 1.000 1.000 1.000 1.000

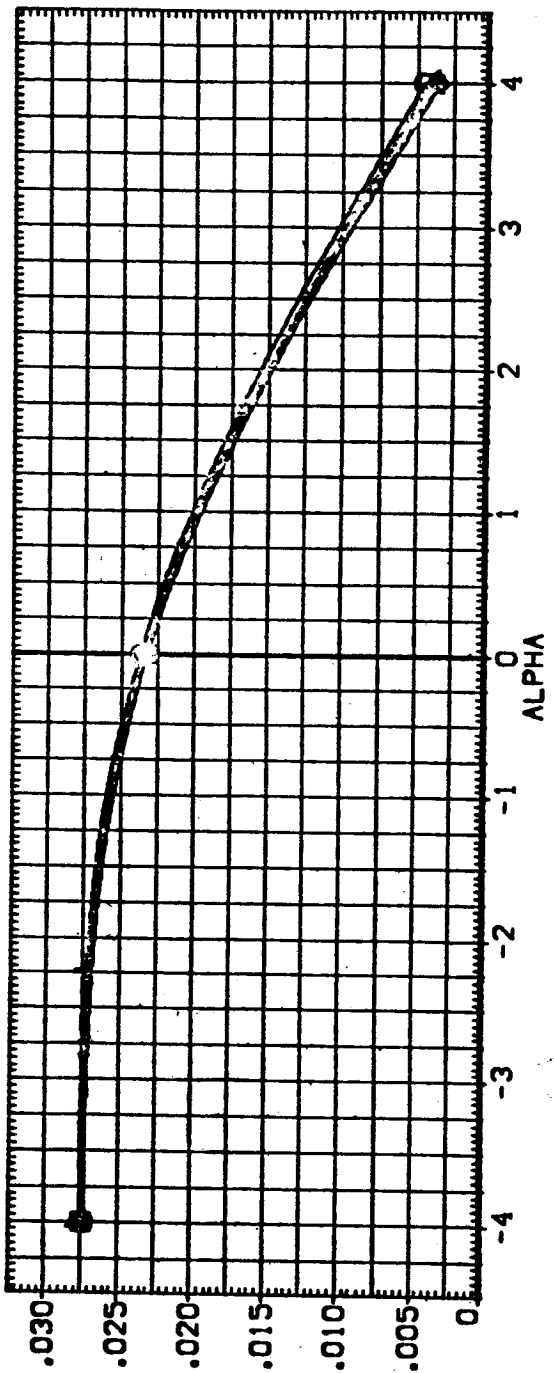
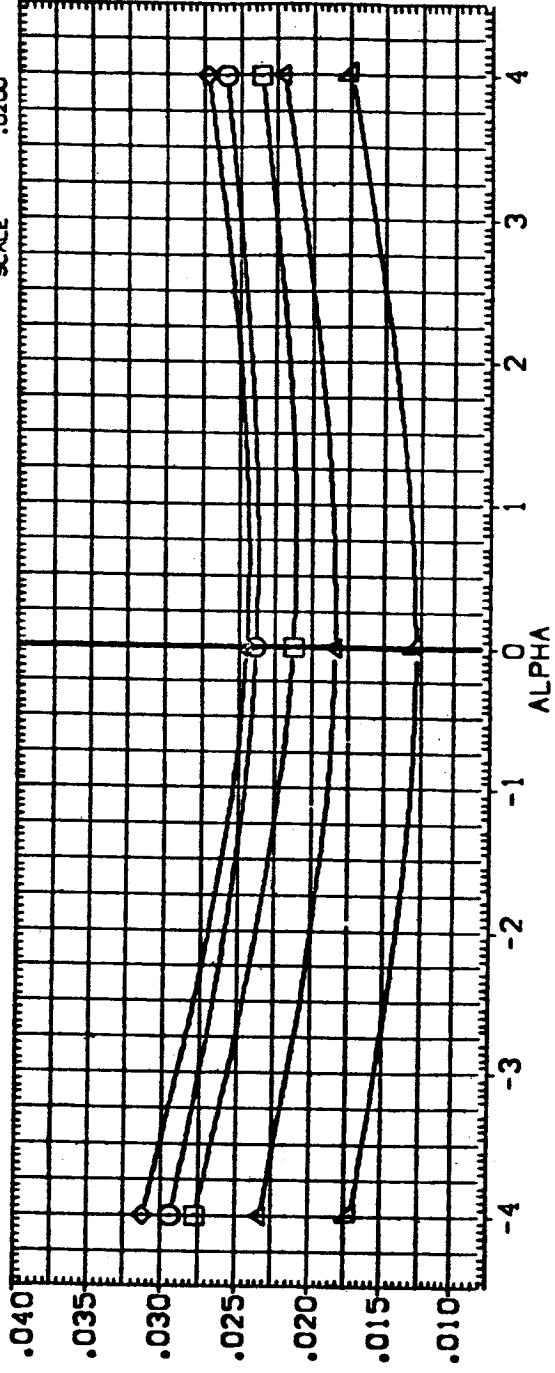


FIG. 5 EFFECT OF PLUMES - MACH=1.1 ELV-1B=8.0 ELV-0B=4.0 BETA=0.0
 (A) BETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

[BEU02] ARC||-014|A19 OTS+STRUT SRB-OFF MPS-OFF

[BEU06] ARC||-014|A19 OTS+STRUT SRB-NOM MPS-NOM

[BEU10] ARC||-014|A19 OTS+STRUT SRB-LOV MPS-NOM

[BEU14] ARC||-014|A19 OTS+STRUT SRB-NOM MPS-OFF

[BEU18] ARC||-014|A19 OTS+STRUT SRB-HI MPS-HI

ELV-1B 8.000

ELV-08 4.000

MACH 1.100

GIMBAL 1.000

REFERENCE INFORMATION

SREF 2630.0000 SQ.FT.

LREF 1290.3000 IN.

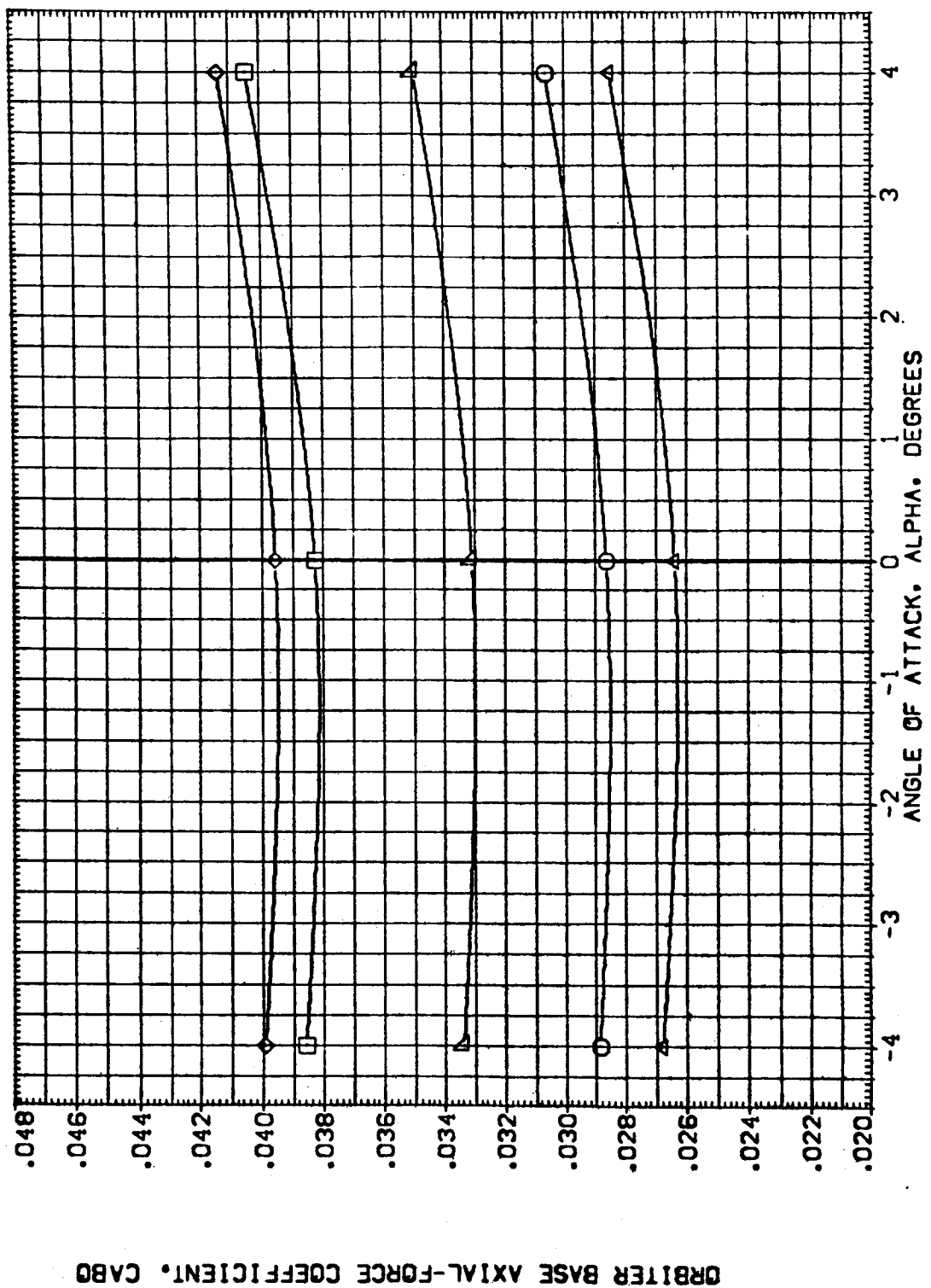
BREF 1250.3000 IN.

XMRP 976.0000 IN.

YMRP 400.0000 IN.

ZMRP 400.0000 IN.

SCALE 0.0200



ORBITER BASE AXIAL-FORCE COEFFICIENT, CAB

FIG. 5 EFFECT OF PLUMES - MACH=1.1 ELV-1B=8.0 ELV-08=4.0 BETA=0.0

CABETA = .00



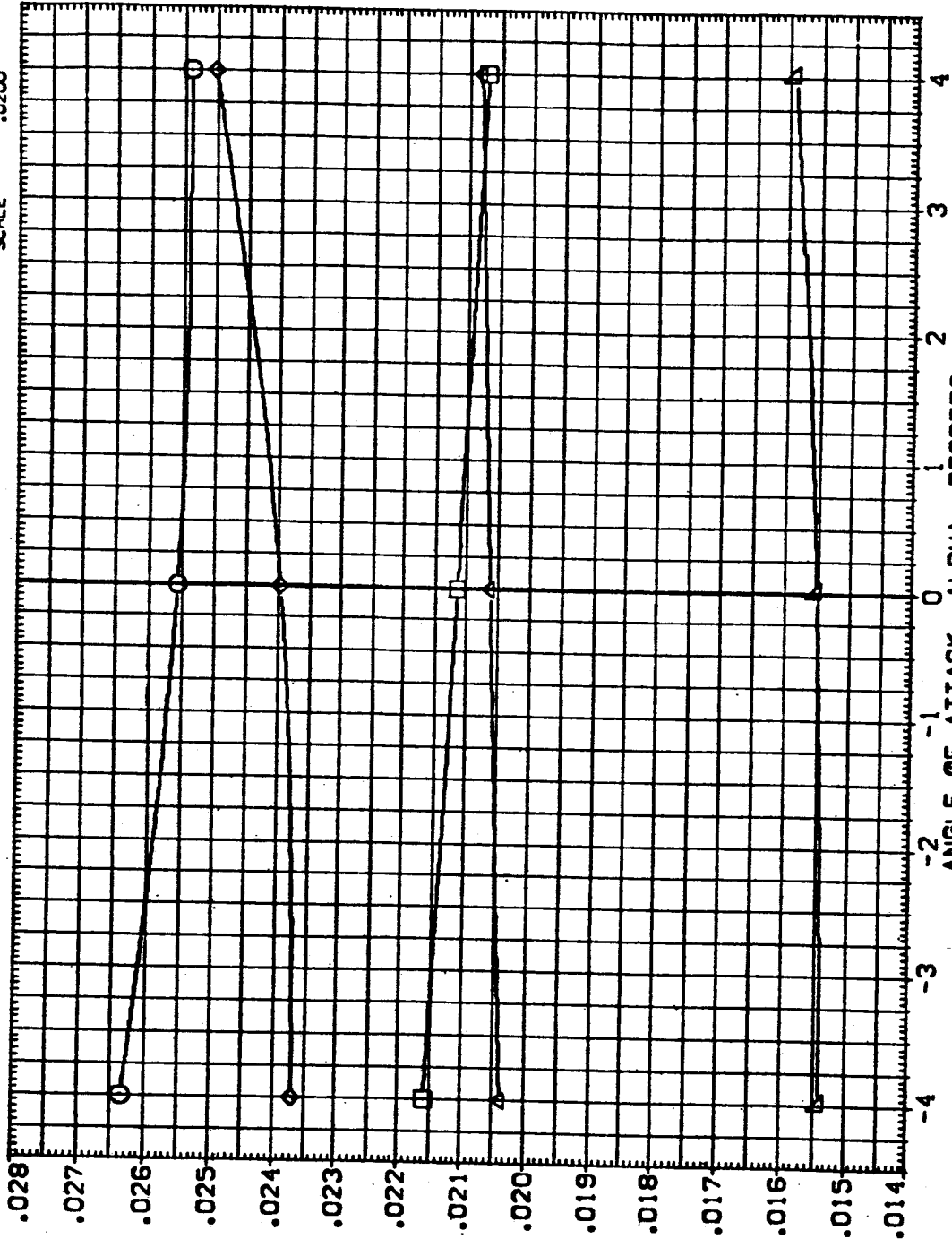
DATA SET SYMB. CONFIGURATION DESCRIPTION

{BEU002}	ARC	-0.141A19	OTS+STRUT	SRB-OFF	MPS-OFF
{BEU006}	ARC	-0.141A19	OTS+STRUT	SRB-NOM	MPS-NOM
{BEU010}	ARC	-0.141A19	OTS+STRUT	SRB-LOV	MPS-LOV
{BEU014}	ARC	-0.141A19	OTS+STRUT	SRB-NOM	MPS-OFF
{BEU018}	ARC	-0.141A19	OTS+STRUT	SRB-NOM	MPS-NOM

ELV-18 4.000
 ELV-08 4.000
 MACH 1.00
 OIMBAL 0.000

REFERENCE INFORMATION

SREF	2690.0000	90.FI.
LREF	1290.3000	N.
BREF	1290.3000	N.
XMRP	976.0000	N.
YMRP	400.0000	N.
ZMRP	400.0000	N.
SCALE	.0200	N.



SRM BASE AXIAL-FORCE COEFFICIENT, CABS

FIG. 5 EFFECT OF PLUMES - MACH=1.1 ELV-18=8.0 ELV-08=4.0 BETA=0.0

(A)BETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(BEJ002) [] ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF

(BEJ006) [] ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM

(BEJ010) [] ARC11-0141A19 OTS+STRUT SRB-LOW MPS-LOW

(BEJ014) [] ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF

(BEJ018) [] ARC11-0141A19 OTS+STRUT SRB-HI MPS-HI

ELV-18 ELV-08 MACH GIMBAL

8.000 4.000 1.100 1.000

8.000 4.000 1.100 1.000

8.000 4.000 1.100 1.000

8.000 4.000 1.100 1.000

REFERENCE INFORMATION

SREF 2690.0000 SO.FT.

LREF 1290.3000 IN.

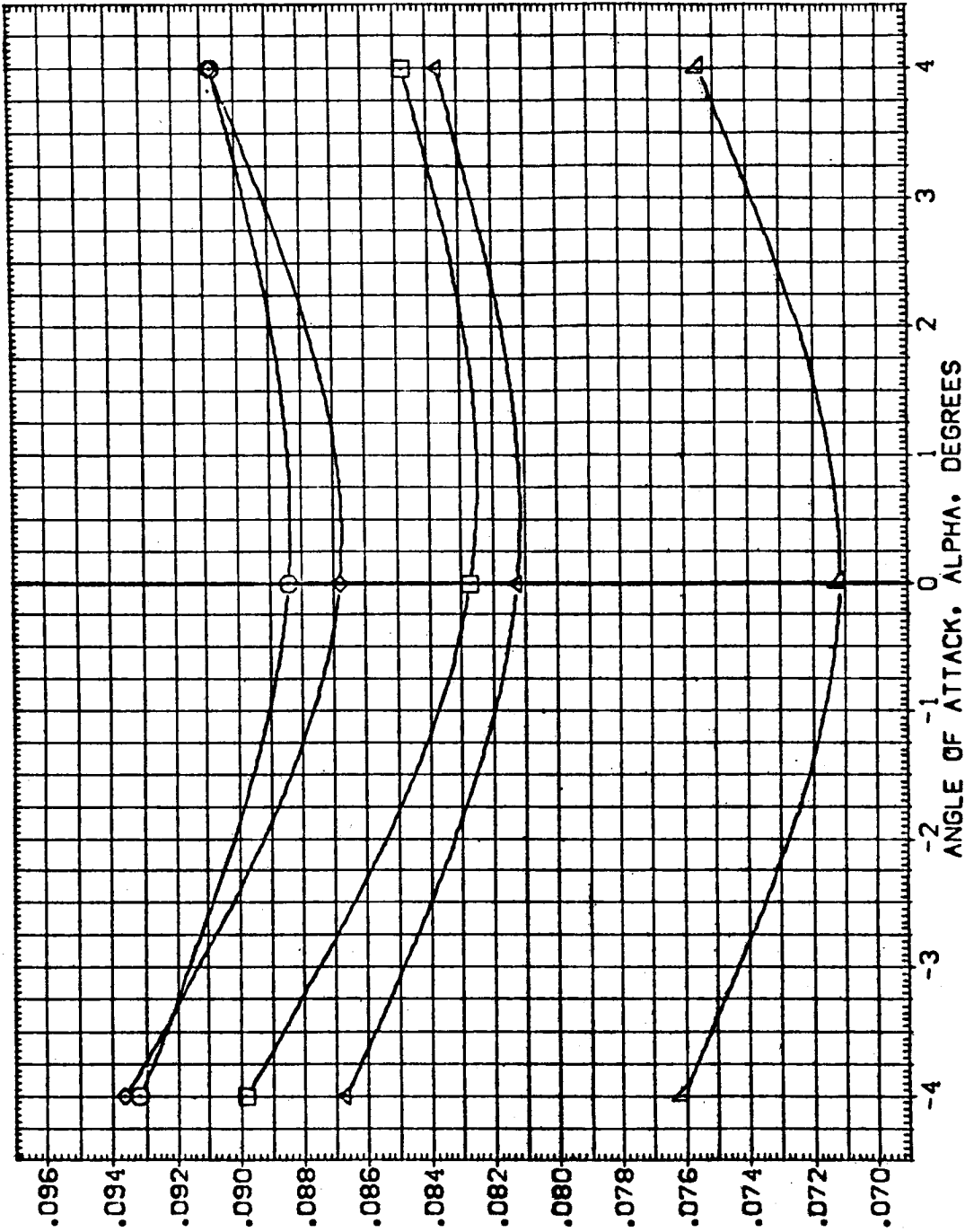
BREF 1290.3000 IN.

XMRP 976.0000 IN.

YMRP 400.0000 IN.

ZMRP 400.0000 IN.

SCALE .0200



EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

FIG. 5 EFFECT OF PLUMES - MACH=1.1 ELV-18=8.0 ELV-08=4.0 BETA=0.0

(A)BETA = .00



DATA SET SYMBOL. CONFIGURATION DESCRIPTION

{BEU003}	ARC11-0141A19	OTS+STRUT	SFG-OFF	MPS-OFF
{BEU007}	ARC11-0141A19	OTS+STRUT	SFG-NON	MPS-NON
{BEU011}	ARC11-0141A19	OTS+STRUT	SFG-LOW	MPS-NON
{BEU015}	ARC11-0141A19	OTS+STRUT	SFG-OFF	MPS-OFF
{BEU019}	ARC11-0141A19	OTS+STRUT	SFG-HI	MPS-HI

ELV-1B 8.000 4.000 8.000 8.000 8.000
 ELV-0B 4.000 4.000 4.000 4.000 4.000
 MACH 1.250 1.250 1.250 1.250 1.250
 GIMBAL 1.000 1.000 1.000 1.000 1.000

REFERENCE INFORMATION

SREF	2680.0000	SO.FT.
LREF	1250.3000	IN.
BREF	1250.3000	IN.
XMRP	976.0000	IN.
YMRP	0.0000	IN.
ZMRP	400.0000	IN.
SCALE	.0200	

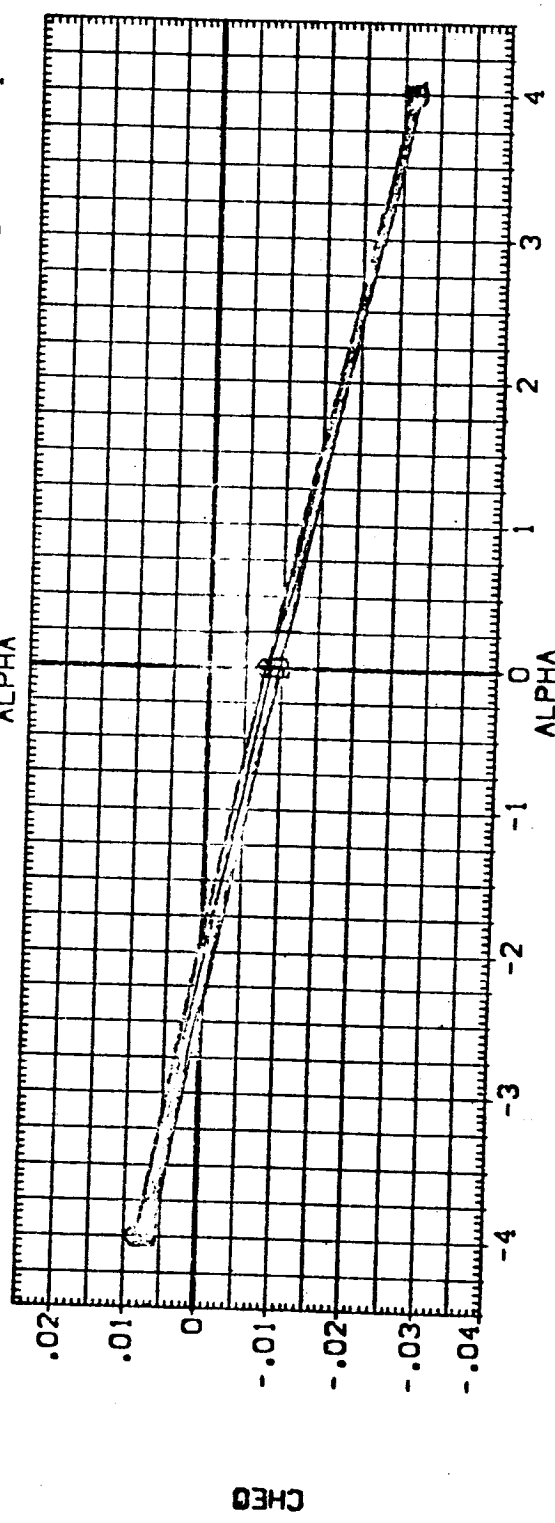
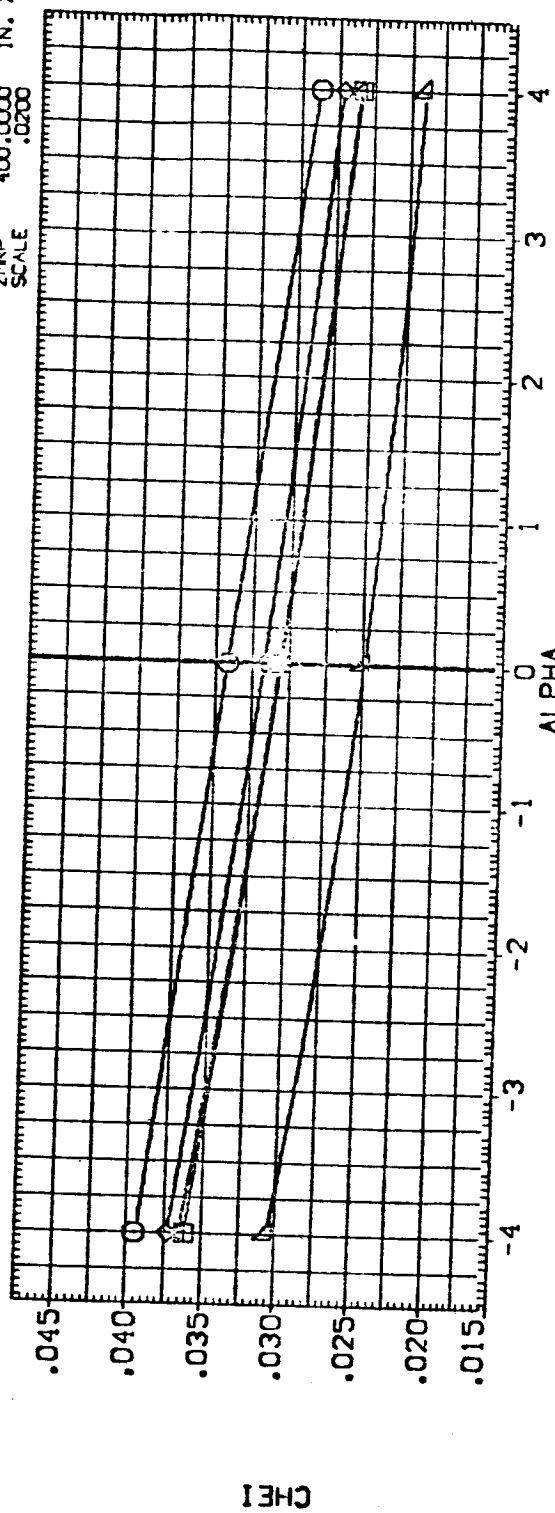


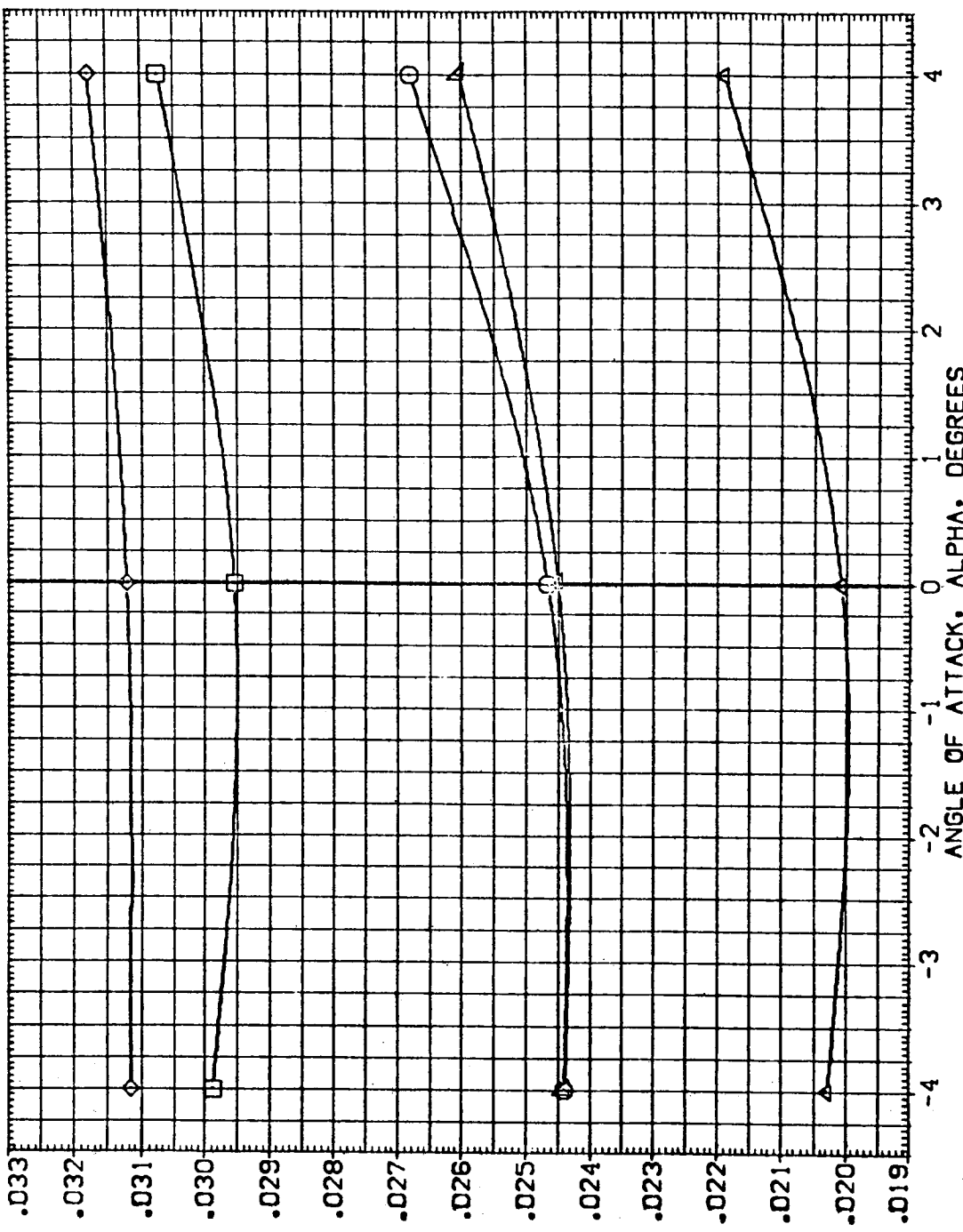
FIG. 6 EFFECT OF PLUMES - MACH=1.25 ELV-1B=8.0 ELV-0B=4.0 BETA=0.0
 (A) BETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(BEL003)	ARC11-0141A19	OTS+STRUT	S18-0FF	MPS-0FF
(BEL007)	ARC11-0141A19	OTS+STRUT	S13-N04	MPS-N04
(BEL011)	ARC11-0141A19	OTS+STRUT	S13-L0V	MPS-N04
(BEL015)	ARC11-0141A19	OTS+STRUT	S18-N0M	MPS-0FF
(BEL019)	ARC11-0141A19	OTS+STRUT	S18-H1	MPS-H1

ELV-1B ELV-0B MACH GIMBAL REFERENCE INFORMATION

8.000	4.000	1.250	1.000	SREF	2690.0000	SQ.FT.
8.000	4.000	1.250	1.000	LREF	1290.3000	IN.
8.000	4.000	1.250	1.000	BREF	1290.3000	IN.
8.000	4.000	1.250	1.000	XMRP	976.0000	IN.
8.000	4.000	1.250	1.000	YMRP	0.0000	IN.
8.000	4.000	1.250	1.000	ZMRP	400.0000	IN.
				SCALE	.0200	



ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

FIG. 6 EFFECT OF PLUMES - MACH=1.25 ELV-1B=8.0 ELV-0B=4.0 BETA=0.0

(A)BETA = .00

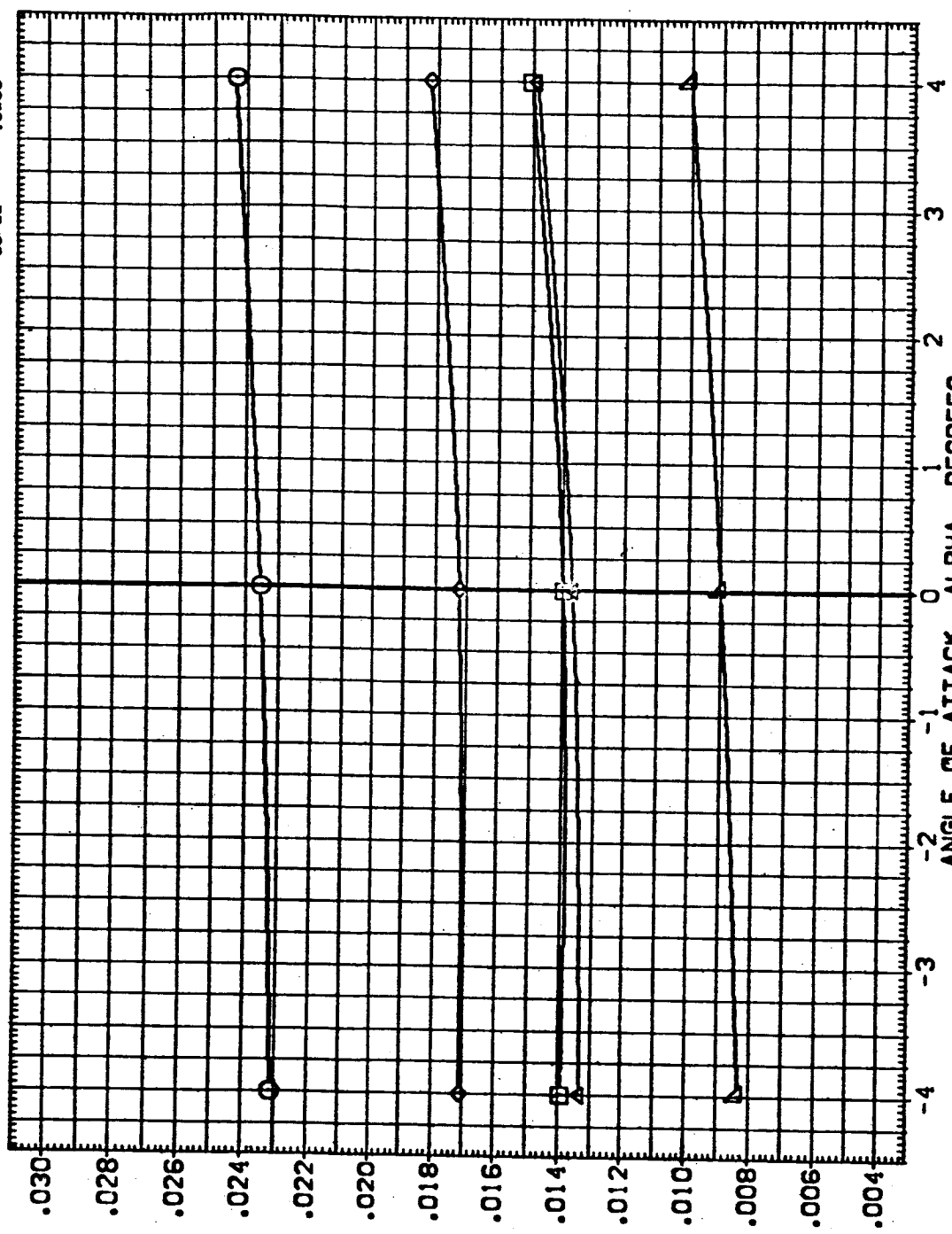
DATA SET SYMBO. CONFIGURATION DESCRIPTION

[BEU003] ARC11-0141A19 OTS*STRUT SRB-DFP MFS-DFP
 [BEU007] ARC11-0141A19 OTS*STRUT SRB-NON MFS-NON
 [BEU011] ARC11-0141A19 OTS*STRUT SRB-LON MFS-NON
 [BEU015] ARC11-0141A19 OTS*STRUT SRB-NON MFS-DFP
 [BEU019] ARC11-0141A19 OTS*STRUT SRB-HI MFS-HI

ELV-18 8.000 4.000 1.250
 8.000 4.000 1.250
 8.000 4.000 1.250
 8.000 4.000 1.250

GIMBAL .000 .000 .000 .000
 MACH 1.250 1.250 1.250 1.250
 SREF 2690.0000 2690.0000
 LREF 1290.3000 1290.3000
 BRFP 1290.3000 1290.3000
 YMRP 976.0000 976.0000
 ZMRP 400.0000 400.0000
 SCALE .0200

REFERENCE INFORMATION
 SQ.FT. IN. XT
 IN. YZ



SRM BASE AXIAL-FORCE COEFFICIENT, CABS

FIG. 6 EFFECT OF PLUMES - MACH=1.25 ELV-18=8.0 ELV-08=4.0 BETA=0.0

(A)BETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

ARC11-0141A19 OTS*STRUT SRB-OFF MPS-OFF
 ARC11-0141A19 OTS*STRUT SRB-NOM MPS-NOM
 ARC11-0141A19 OTS*STRUT SRB-LOW MPS-NOM
 ARC11-0141A19 OTS*STRUT SRB-NOM MPS-OFF
 ARC11-0141A19 OTS*STRUT SRB-HI MPS-HI

ELV-1B 8.000 8.000 8.000 8.000 8.000
 ELV-08 4.000 4.000 4.000 4.000 4.000
 MACH 1.400 1.400 1.400 1.400 1.400
 G1MBA1 1.000 1.000 1.000 1.000 1.000

REFERENCE INFORMATION

SREF 2630.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 576.0000 IN.
 YMRP 400.0000 IN.
 ZMRP 400.0000 IN.
 SCALE .0200

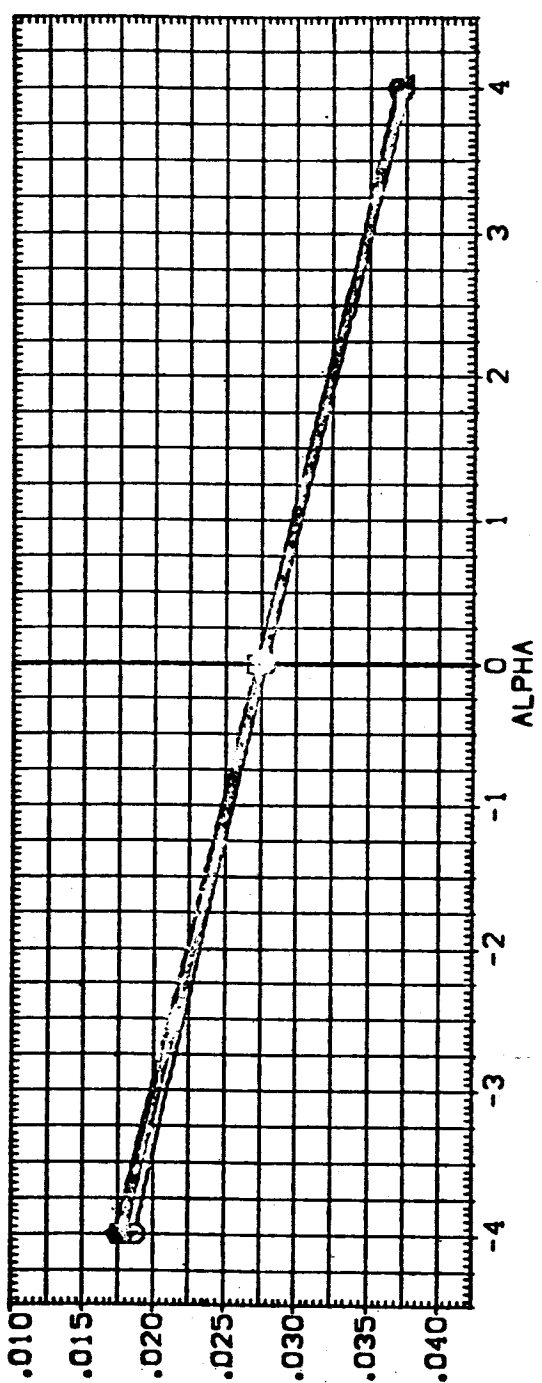
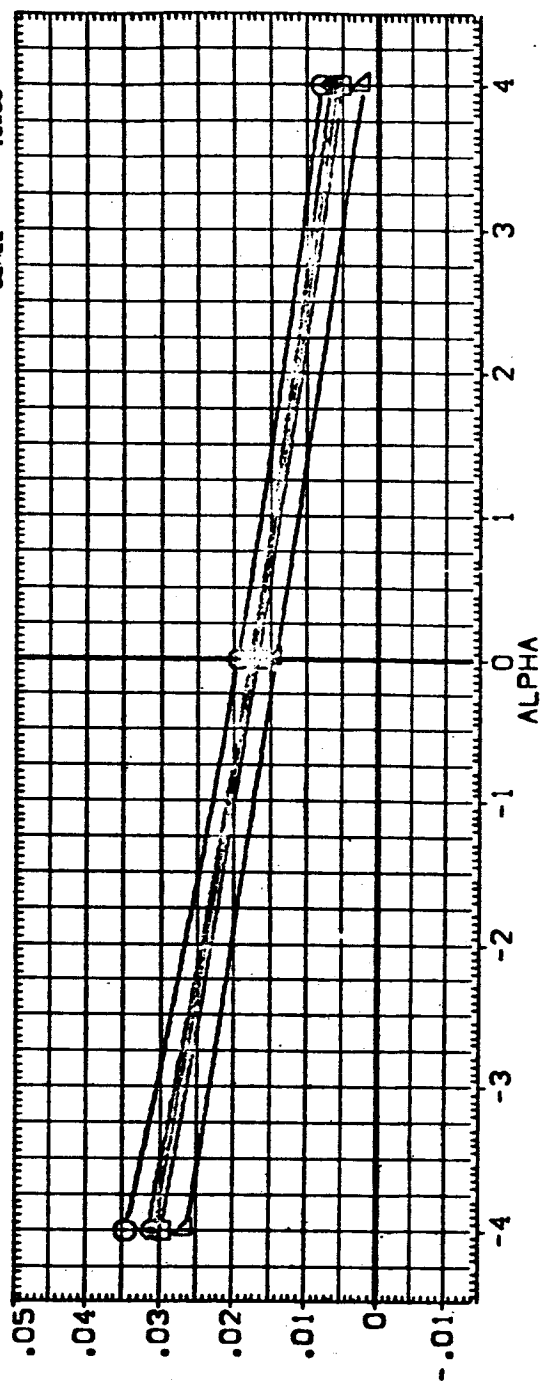


FIG. 7 EFFECT OF PLUMES - MACH=1.4 ELV-1B=8.0 ELV-08=4.0 BETA=0.0
 (A)BETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

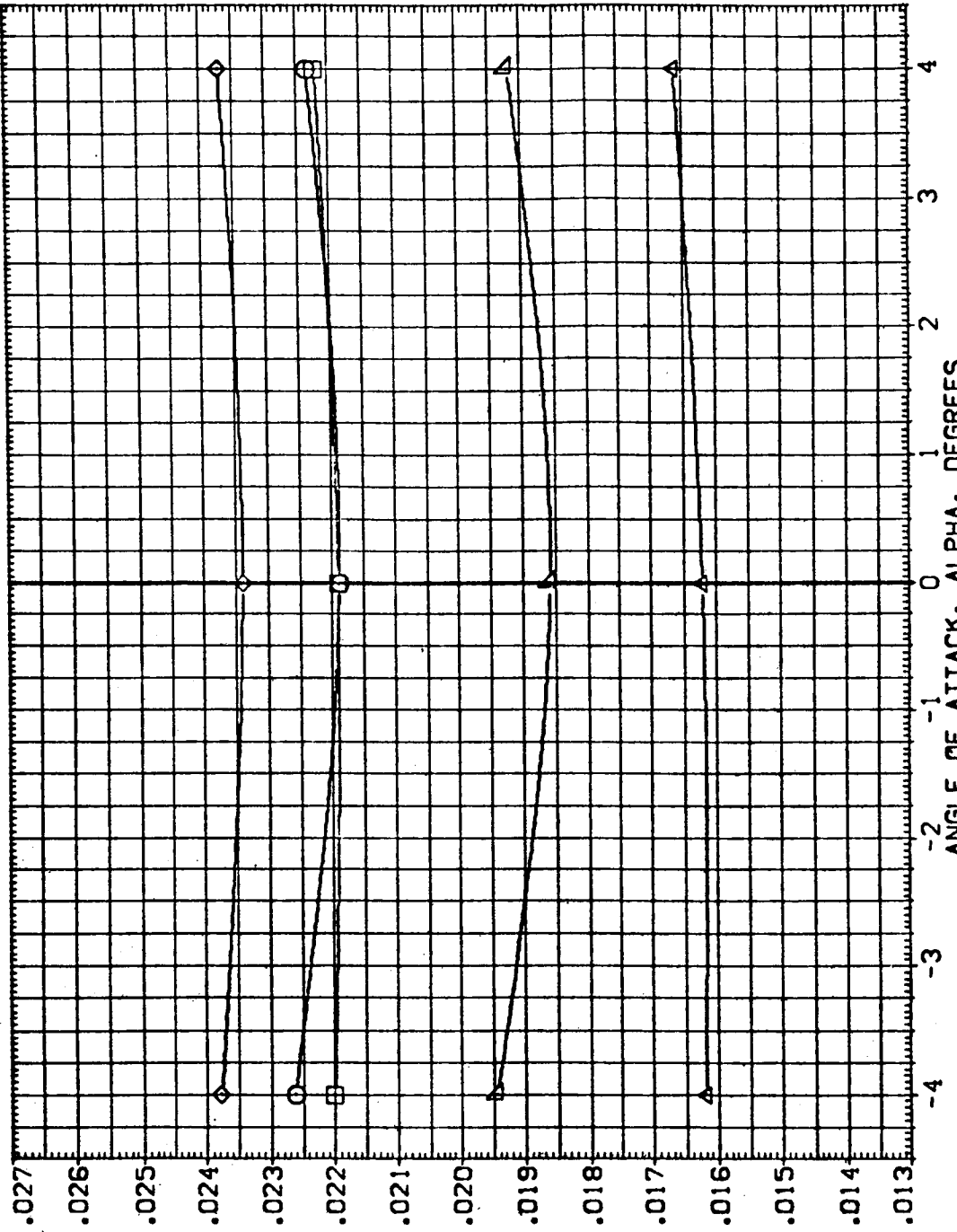
(BEJ004)	ARC11-0141A19	OTS-STRUT	SRB-OFF	MPS-OFF
(BEJ008)	ARC11-0141A19	OTS-STRUT	SRB-NOM	MPS-NOM
(BEJ012)	ARC11-0141A19	OTS-STRUT	SRB-LOW	MPS-NOM
(BEJ016)	ARC11-0141A19	OTS-STRUT	SRB-NOM	MPS-OFF
(BEJ020)	ARC11-0141A19	OTS-STRUT	SRB-HI	MPS-HI

ELV-IB ELV-OB MACH GIMBAL

8.000	4.000	1.400	1.000
8.000	4.000	1.400	1.000
8.000	4.000	1.400	1.000
8.000	4.000	1.400	1.000
8.000	4.000	1.400	1.000

REFERENCE INFORMATION

SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
X-PRP	976.0000	IN.
Y-PRP	0.0000	IN.
Z-PRP	400.0000	IN.
SCALE	0.0200	



ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

FIG. 7 EFFECT OF PLUMES - MACH=1.4 ELV-IB=8.0 ELV-OB=4.0 BETA=0.0

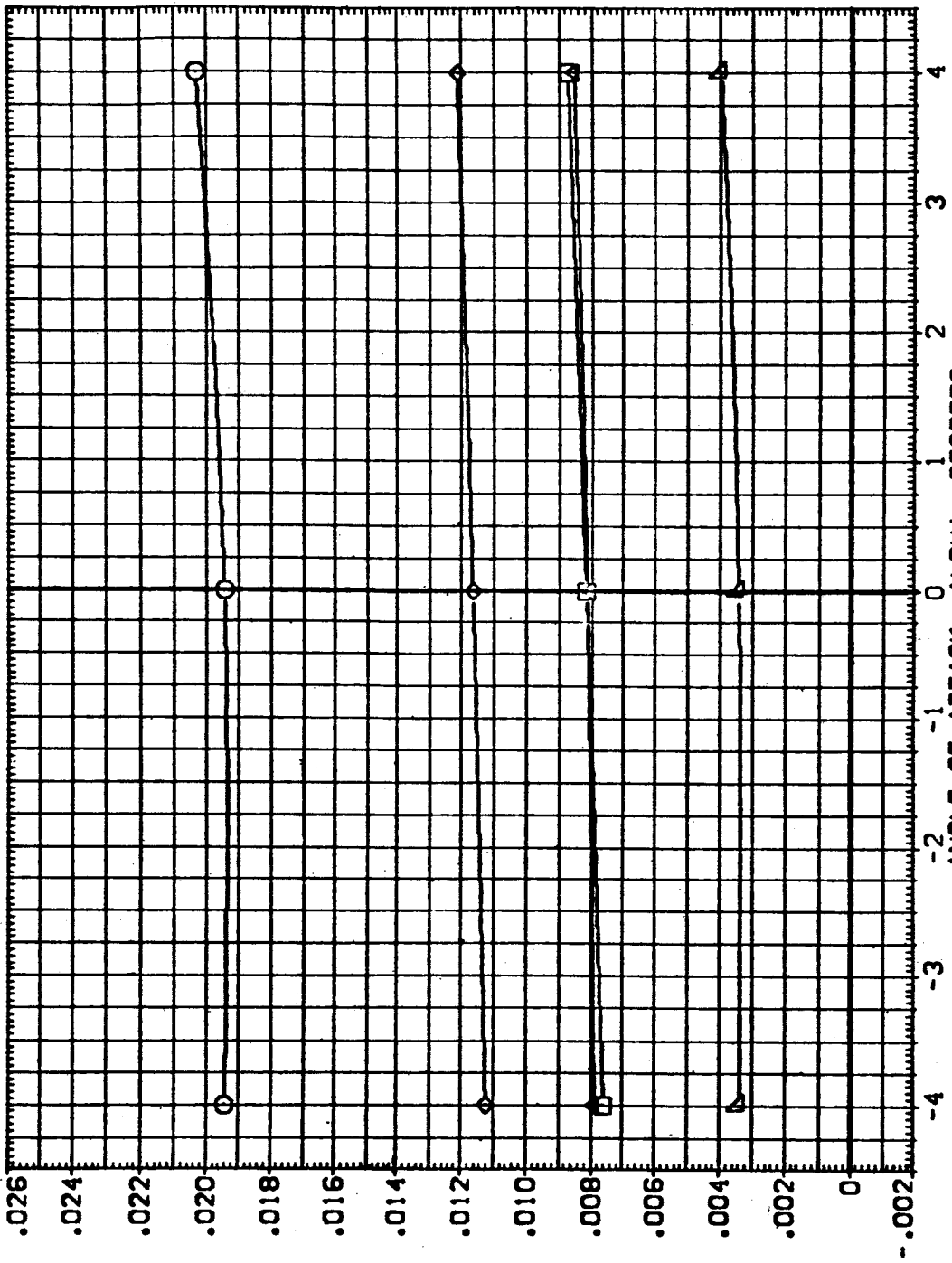
(A) BETA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION

{BEU04}	ARC -0 4 A 9	OTS+STRUT	SRB-OFF	MPS-OFF
{BEU08}	ARC -0 4 A 9	OTS+STRUT	SRB-NOM	MPS-NOM
{BEU12}	ARC -0 4 A 9	OTS+STRUT	SRB-LOW	MPS-LOW
{BEU16}	ARC -0 4 A 9	OTS+STRUT	SRB-NOM	MPS-OFF
{BEU20}	ARC -0 4 A 9	OTS+STRUT	SRB-HI	MPS-HI

ELV-IB 8.000 ELV-OB 4.000 MACH 1.400 GIMBAL 1.000 REFERENCE INFORMATION 50.F1.
 8.000 4.000 1.400 1.000 SREF 2680.0000 IN.
 8.000 4.000 1.400 1.000 LREF 1280.3000 IN.
 8.000 4.000 1.400 1.000 XMRP 976.0000 IN. XT
 8.000 4.000 1.400 1.000 YMRP 400.0000 IN. YT
 ZMRP 100.0000 IN. ZT
 SCALE .0200



SRM BASE AXIAL-FORCE COEFFICIENT, CABS

FIG. 7 EFFECT OF PLUMES - MACH=1.4 ELV-IB=8.0 ELV-OB=4.0 BETA=0.0

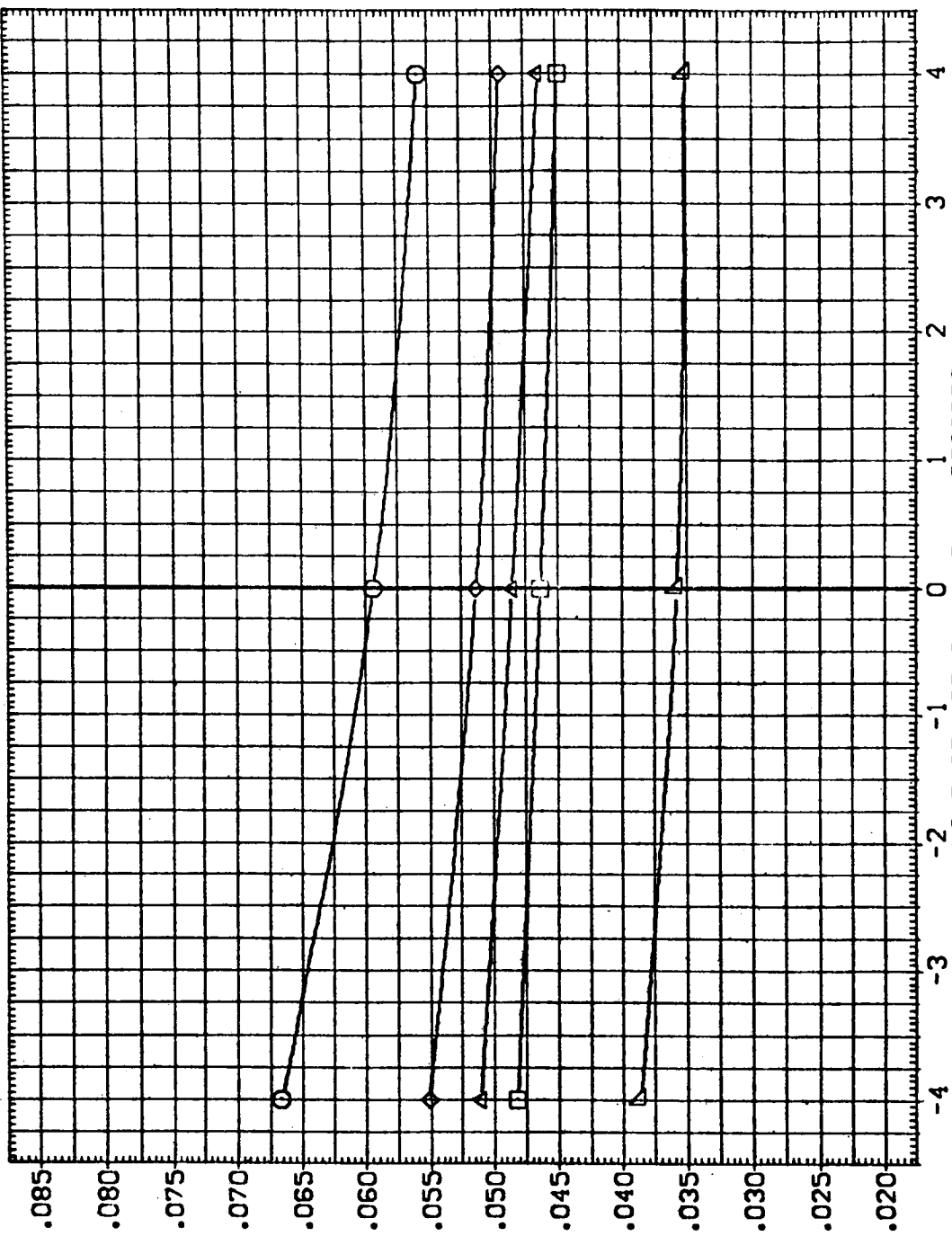
(A)BETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION ELV-1B ELV-08 MACH GIMBAL REFERENCE INFORMATION

[BEU004]	ARC11-0141A19 OTS+STRUT SRB-DF	8.000	4.000	1.400	1.000	SREF 2690.0000
[BEU008]	ARC11-0141A19 OTS+STRUT SRB-NOM	8.000	4.000	1.400	1.000	LREF 1290.3000
[BEU012]	ARC11-0141A19 OTS+STRUT SRB-LV	8.000	4.000	1.400	1.000	BREF 1290.3000
[BEU016]	ARC11-0141A19 OTS+STRUT SRB-NH	8.000	4.000	1.400	1.000	XMRP 976.0000
[BEU020]	ARC11-0141A19 OTS+STRUT SRB-H1	8.000	4.000	1.400	1.000	ZMRP 400.0000

SO.FI. IN. IN. XT IN. YI IN. ZI

SCALE .0200



EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

FIG. 7 EFFECT OF PLUMES - MACH=1.4 ELV-1B=8.0 ELV-08=4.0 BETA=0.0

(A)BETA = .00



DATA SET SYMBO. CONFIGURATION DESCRIPTION

(CELO01) ARC||-014|A19 OTS+STRUT SRB-OFF MPS-OFF
 (CELO05) ARC||-014|A19 OTS+STRUT SRB-NOM MPS-NOM
 (CELO09) ARC||-014|A19 OTS+STRUT SRB-LDV MPS-NOM
 (CELO13) ARC||-014|A19 OTS+STRUT SRB-NOM MPS-OFF
 (CELO17) ARC||-014|A19 OTS+STRUT SRB-HI MPS-HI

ELV-1B 8.000 8.000 8.000 8.000 8.000
 ELV-08 4.000 4.000 4.000 4.000 4.000
 MACH .900 .900 .900 .900 .900
 GIMBAL 1.000 1.000 1.000 1.000 1.000

REFERENCE INFORMATION

SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN.
 YMRP 400.0000 IN.
 ZMRP 400.0000 IN.
 SCALE .0200

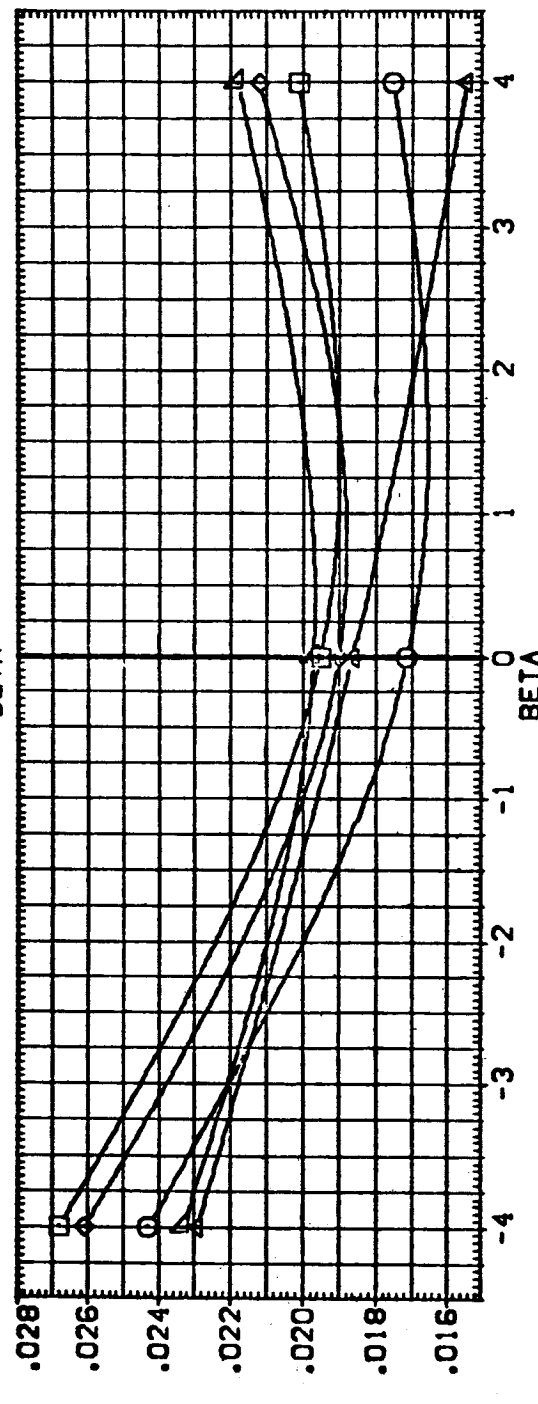
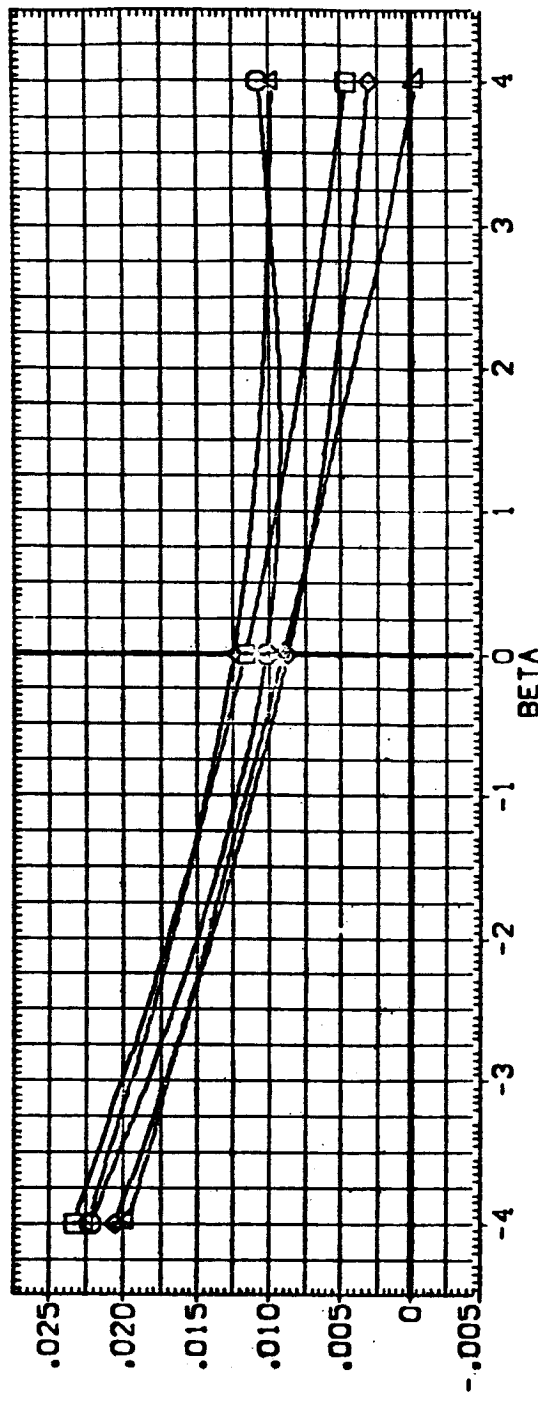


FIG. 8 EFFECT OF PLUMES - MACH=0.9 ELV-1B=8.0 ELV-08=4.0 ALPHA=0.0

(A) ALPHA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

[CELO01]	ARC11-014 A19	OTS+STRUT	SRB-OFF	MPS-OFF
[CELO05]	ARC11-014 A19	OTS+STRUT	SRB-NOM	MPS-NOM
[CELO09]	ARC11-014 A19	OTS+STRUT	SRB-LDV	MPS-NOM
[CELO13]	ARC11-014 A19	OTS+STRUT	SRB-NOM	MPS-OFF
[CELO17]	ARC11-014 A19	OTS+STRUT	SRB-HI	MPS-HI

REFERENCE INFORMATION

SREF	2630.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN.
YMRP	400.0000	IN.
ZMRP	400.0000	IN.
SCALE	.0200	

ELV-1B 8.000 ELV-0B 4.000 MACH .900 G1MBAL 1.000

ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

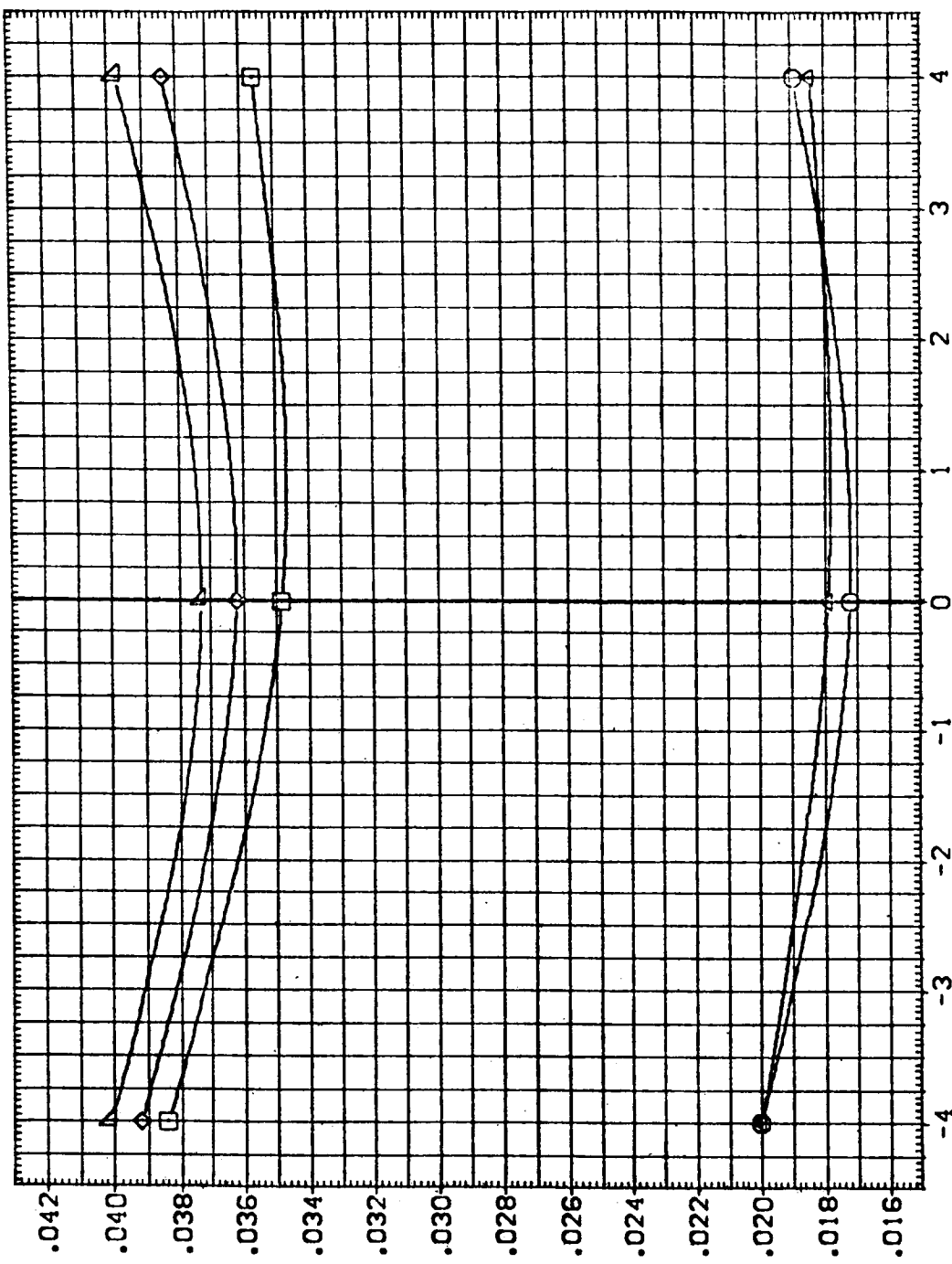


FIG. 8 EFFECT OF PLUMES - MACH=0.9 ELV-1B=8.0 ELV-0B=4.0 ALPHA=0.0

(A)ALPHA = .00



DATA SET SYMBOL

[CEU001] □
 [CEU005] △
 [CEU009] ○
 [CEU013] ⊕
 [CEU017] ◇

CONFIGURATION DESCRIPTION

ARC11-0141A19 OTS+STRUT SRB-0FF MPS-0FF
 ARC11-0141A19 OTS+STRUT SRB-NCH MPS-NCH
 ARC11-0141A19 OTS+STRUT SRB-LOV MPS-0FF
 ARC11-0141A19 OTS+STRUT SRB-HI MPS-HI

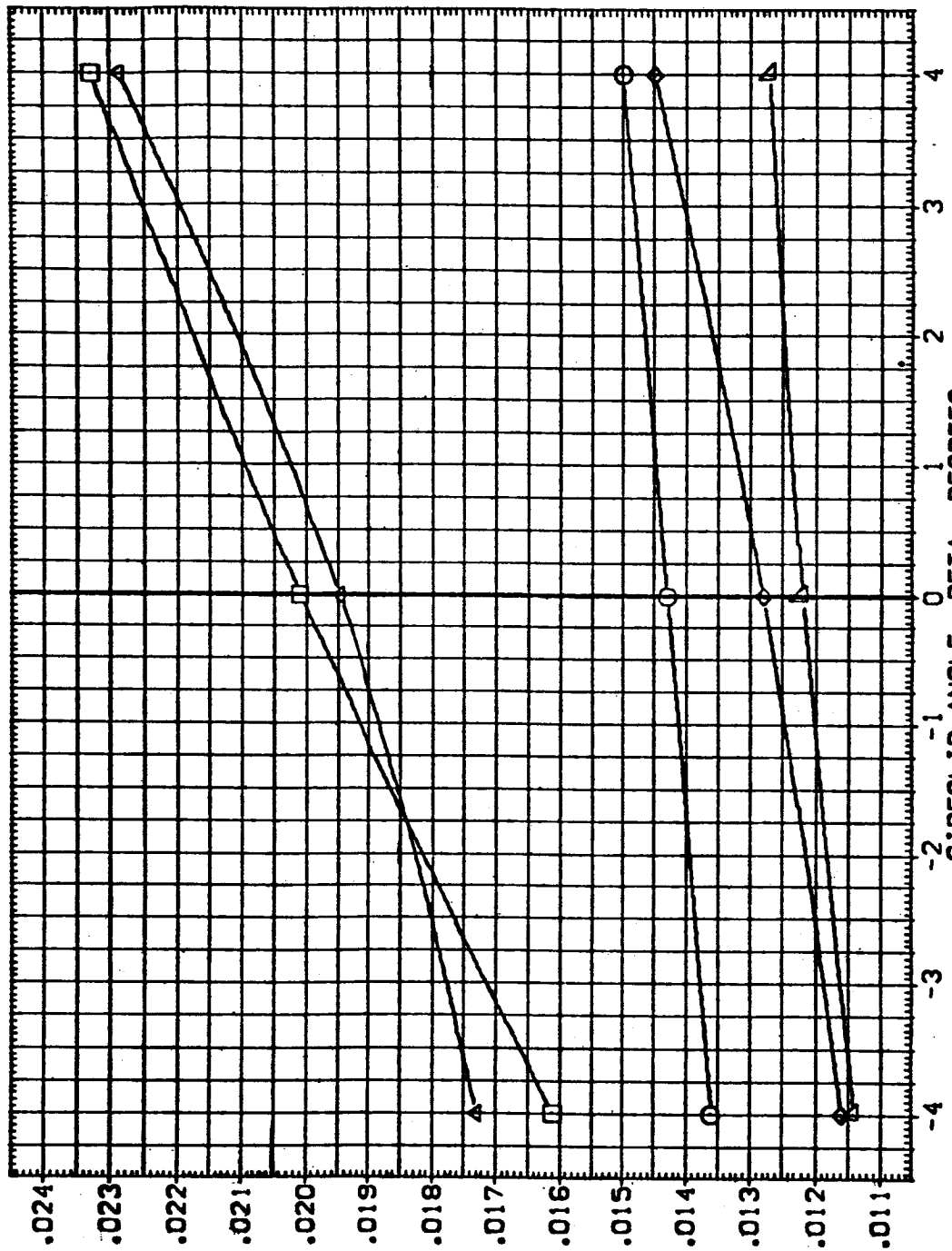
ELV-IB 8.000 4.000 8.000 8.000 8.000 8.000 8.000 8.000

MACH .500 .500 .500 .500 .500 .500 .500 .500

GIMBAL 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000

REFERENCE INFORMATION

SREF 2690.0000 50.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 576.0000 IN. XT
 YMRP 400.0000 IN. YT
 ZMRP 100.0000 IN. ZT
 SCALE .0200



SRM BASE AXIAL-FORCE COEFFICIENT, CABS

FIG. 8 EFFECT OF PLUMES - MACH=0.9 ELV-IB=8.0 ELV-OB=4.0 ALPHA=0.0

(A) ALPHA = .00

DATA SET SYMBOL

(CELO01)
 (CELO05)
 (CELO09)
 (CELO13)
 (CELO17)

CONFIGURATION DESCRIPTION

ARC11-0141A19 OTS+STRUT SRB-NOM
 ARC11-0141A19 OTS+STRUT SRB-NOM
 ARC11-0141A19 OTS+STRUT SRB-NOM
 ARC11-0141A19 OTS+STRUT SRB-NOM
 ARC11-0141A19 OTS+STRUT SRB-NOM

MPS-OFF
 MPS-NOM
 MPS-LOW
 MPS-NOM
 MPS-OFF
 MPS-HI

ELV-1B 8.000
 ELV-0B 4.000
 MACH .900
 GIMBAL 1.000

REFERENCE INFORMATION

SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 XMRP 1290.3000 IN.
 YMRP 576.0000 IN.
 ZMRP 400.0000 IN.
 SCALE 400.0000

EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

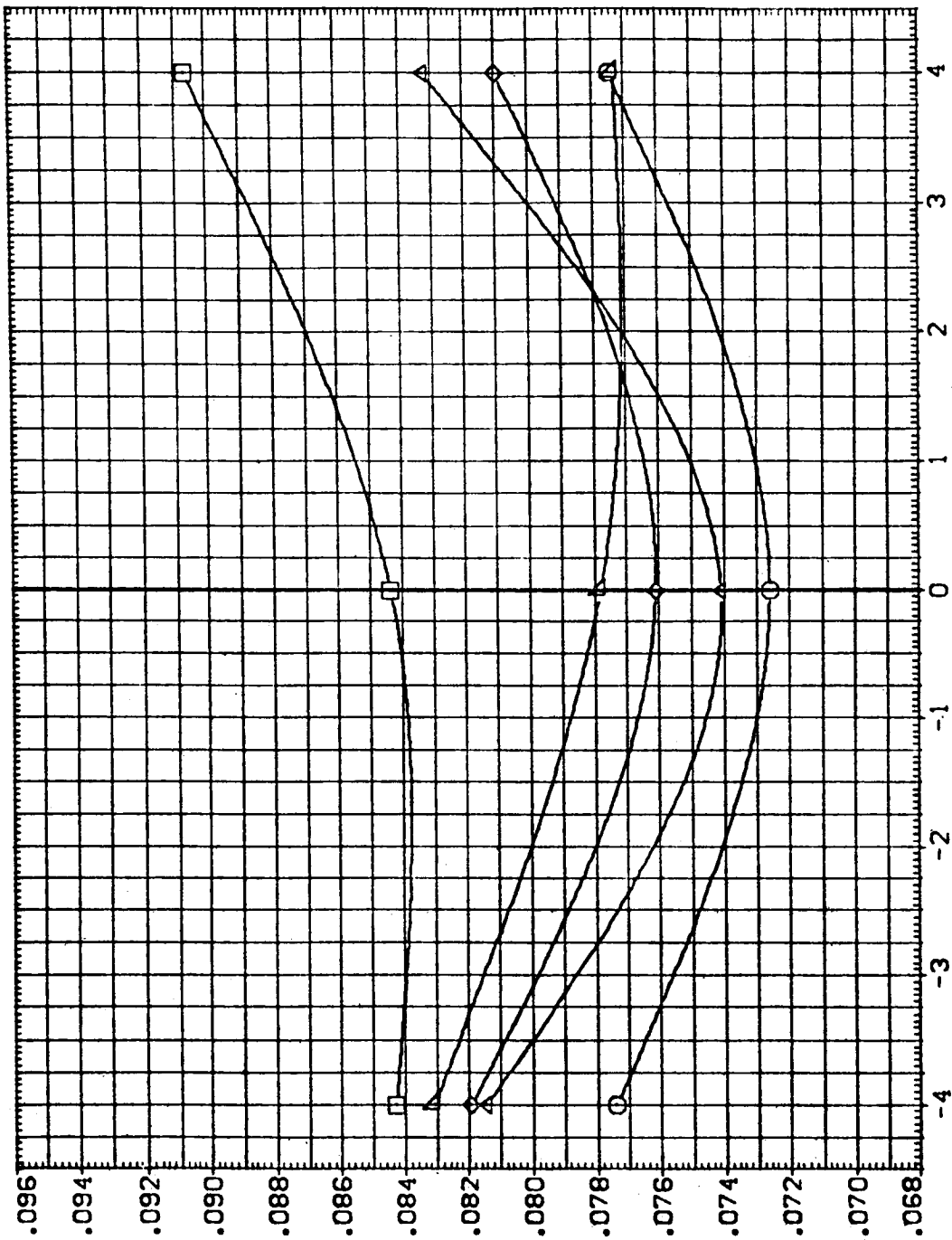


FIG. 8 EFFECT OF PLUMES - MACH=0.9 ELV-1B=8.0 ELV-0B=4.0 ALPHA=0.0

(A) ALPHA = .00



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-0B	MACH	GIMBAL	REFERENCE INFORMATION
{CELO02}	ARC -014 A 9 OTS+STRUT SRB-OF FPS-OF	8.000	4.000	1.00	.000	SREF 2690.0000 SQ.FT.
{CELO06}	ARC -014 A 9 OTS+STRUT SRB-NH FPS-NH	8.000	4.000	1.00	.000	LREF 1290.3000 IN.
{CELO10}	ARC -014 A 9 OTS+STRUT SRB-LOW FPS-NH	8.000	4.000	1.00	.000	BREF 1290.3000 IN.
{CELO14}	ARC -014 A 9 OTS+STRUT SRB-OF FPS-OF	8.000	4.000	1.00	.000	XMRP 976.0000 IN.
{CELO18}	ARC -014 A 9 OTS+STRUT SRB-HI FPS-HI	8.000	4.000	1.00	.000	YMRP 400.0000 IN.
						ZMRP 400.0000 IN.
						SCALE .0200

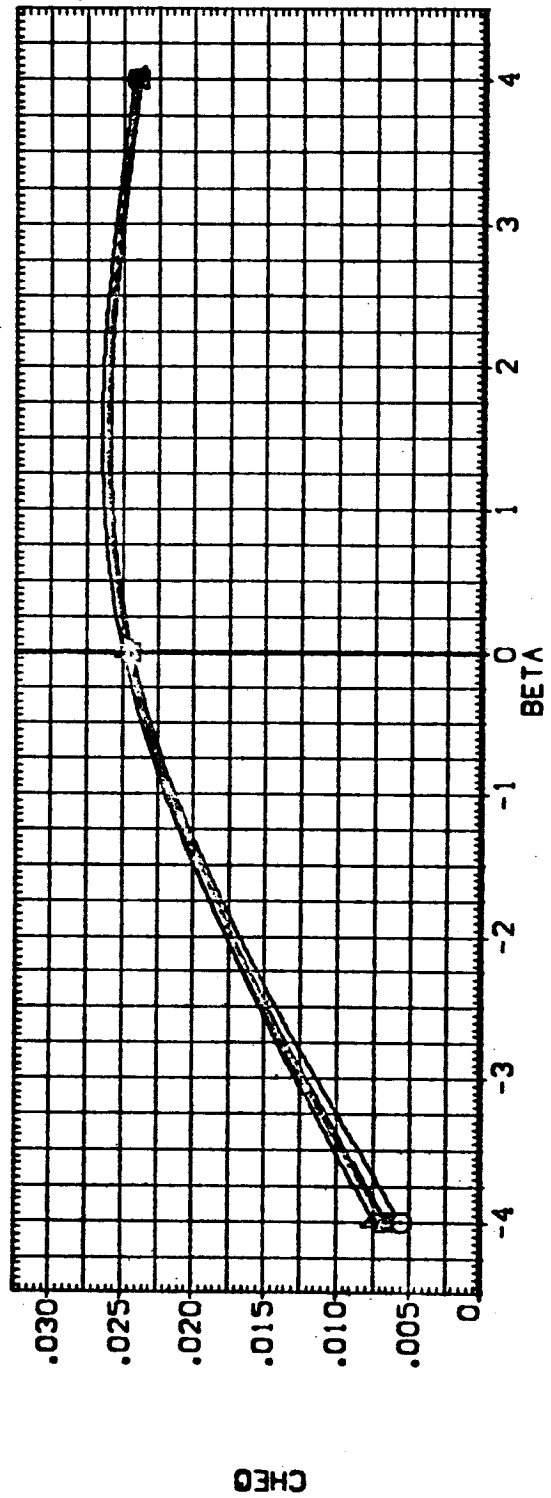
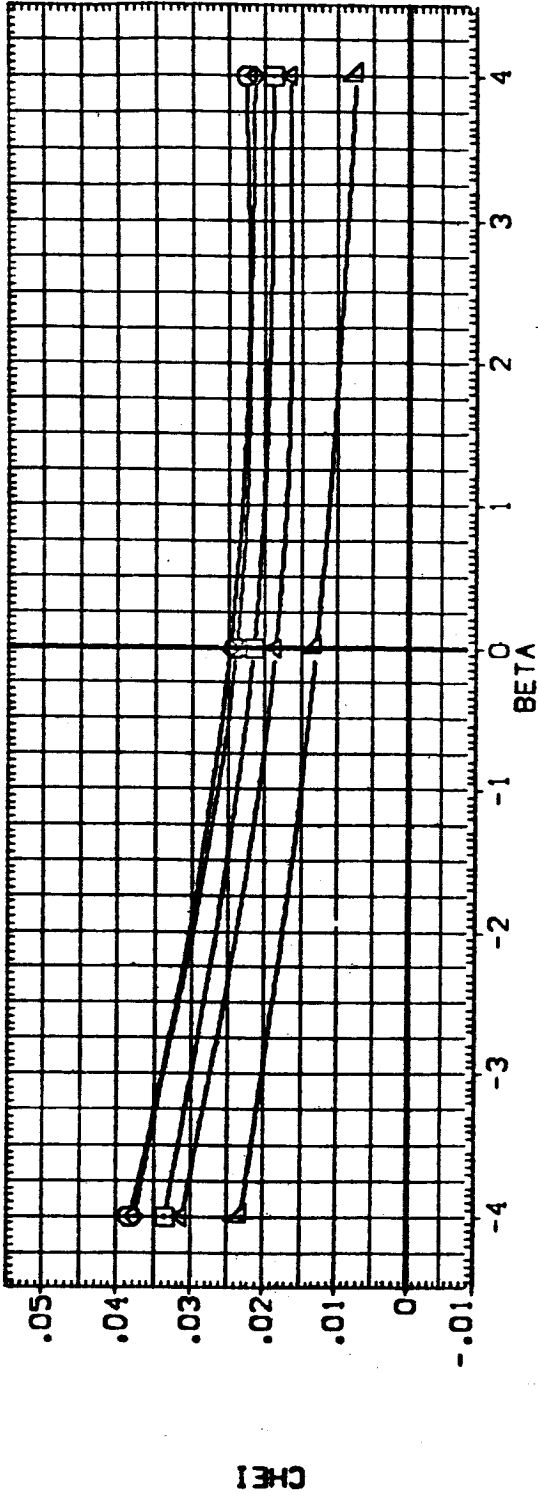
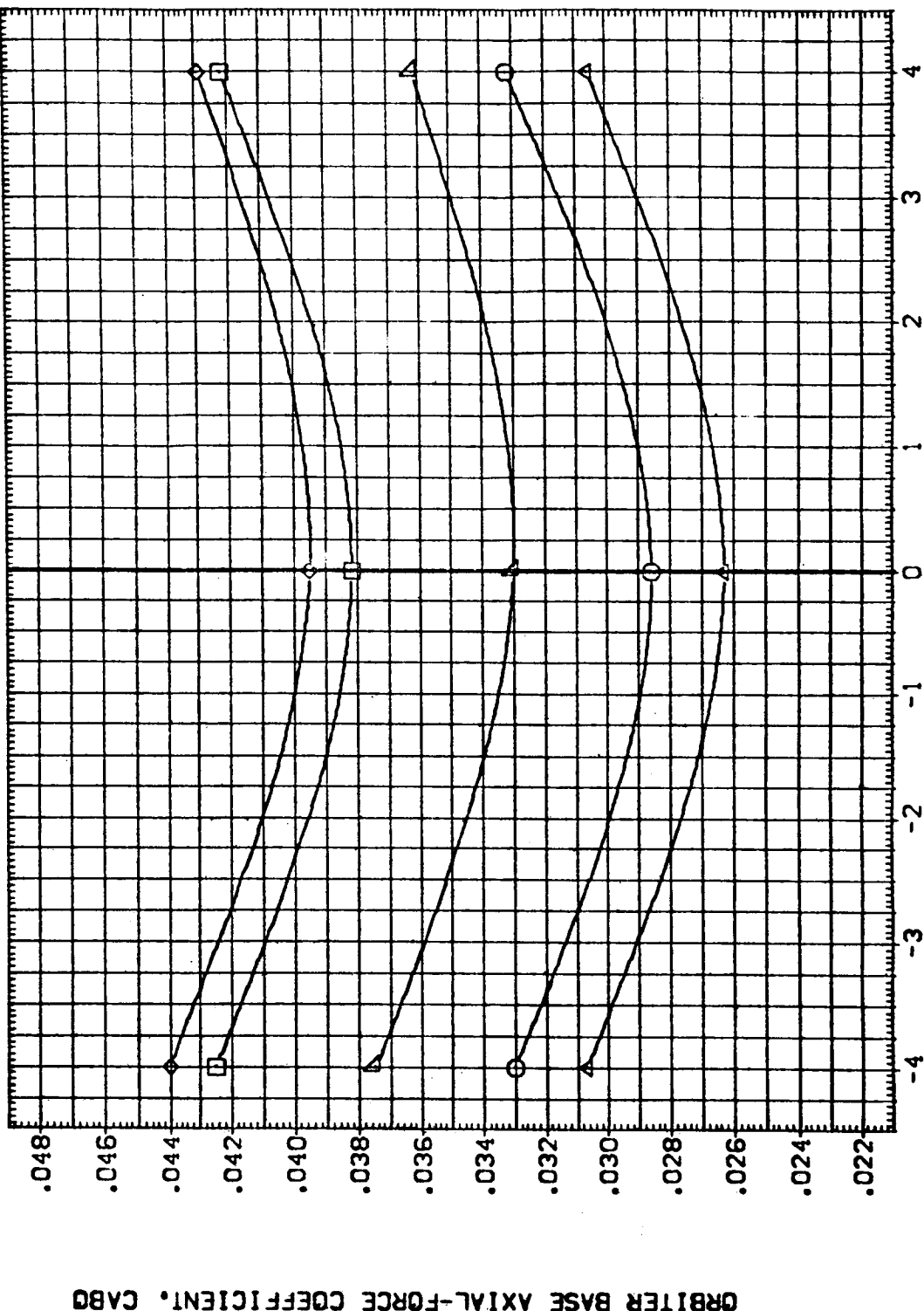


FIG. 9 EFFECT OF PLUMES - MACH=1.1 ELV-1B=8.0 ELV-0B=4.0 ALPHA=0.0
 (A) ALPHA = .00

DATA SET SYMBOL: [CELO02] [CELO05] [CELO10] [CELO14] [CELO18]

CONFIGURATION DESCRIPTION:
 ARC11-0141A19 QTS*STRUT SRB-DFP MFS-DFP
 ARC11-0141A19 QTS*STRUT SRB-NOM MFS-NOM
 ARC11-0141A19 QTS*STRUT SRB-LW MFS-NOM
 ARC11-0141A19 QTS*STRUT SRB-HI MFS-HI

ELV-IB 8.000 4.000 8.000 8.000 8.000
 ELV-OB 4.000 4.000 4.000 4.000 4.000
 MACH 1.100 1.100 1.100 1.100 1.100
 GIMBAL 1.000 1.000 1.000 1.000 1.000
 REFERENCE INFORMATION:
 SREF 2690.0000 90.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN.
 YMRP 400.0000 IN.
 ZMRP 400.0000 IN.
 SCALE .0200



ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

FIG. 9 EFFECT OF PLUMES - MACH=1.1 ELV-IB=8.0 ELV-OB=4.0 ALPHA=0.0

(A) ALPHA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

{CEJ002}	ARC -014 A 9 OTS+STRUT SRB-DF	SREF 2630.0000	SO.FT.
{CEJ006}	ARC -014 A 9 OTS+STRUT SRB-NH	LREF 1290.3000	IN.
{CEJ010}	ARC -014 A 9 OTS+STRUT SRB-LV	BREF 1290.3000	IN.
{CEJ014}	ARC -014 A 9 OTS+STRUT SRB-NH	XMRP 976.0000	IN.
{CEJ018}	ARC -014 A 9 OTS+STRUT SRB-HI	ZMRP 400.0000	IN.
		SCALE 0.0200	IN.

ELV-1B	8.000	ELV-0B	4.000	MACH	1.100	01MBAL	1.000
8.000	4.000	1.100	1.000				
8.000	4.000	1.100	1.000				
8.000	4.000	1.100	1.000				
8.000	4.000	1.100	1.000				

SRM BASE AXIAL-FORCE COEFFICIENT, CABS

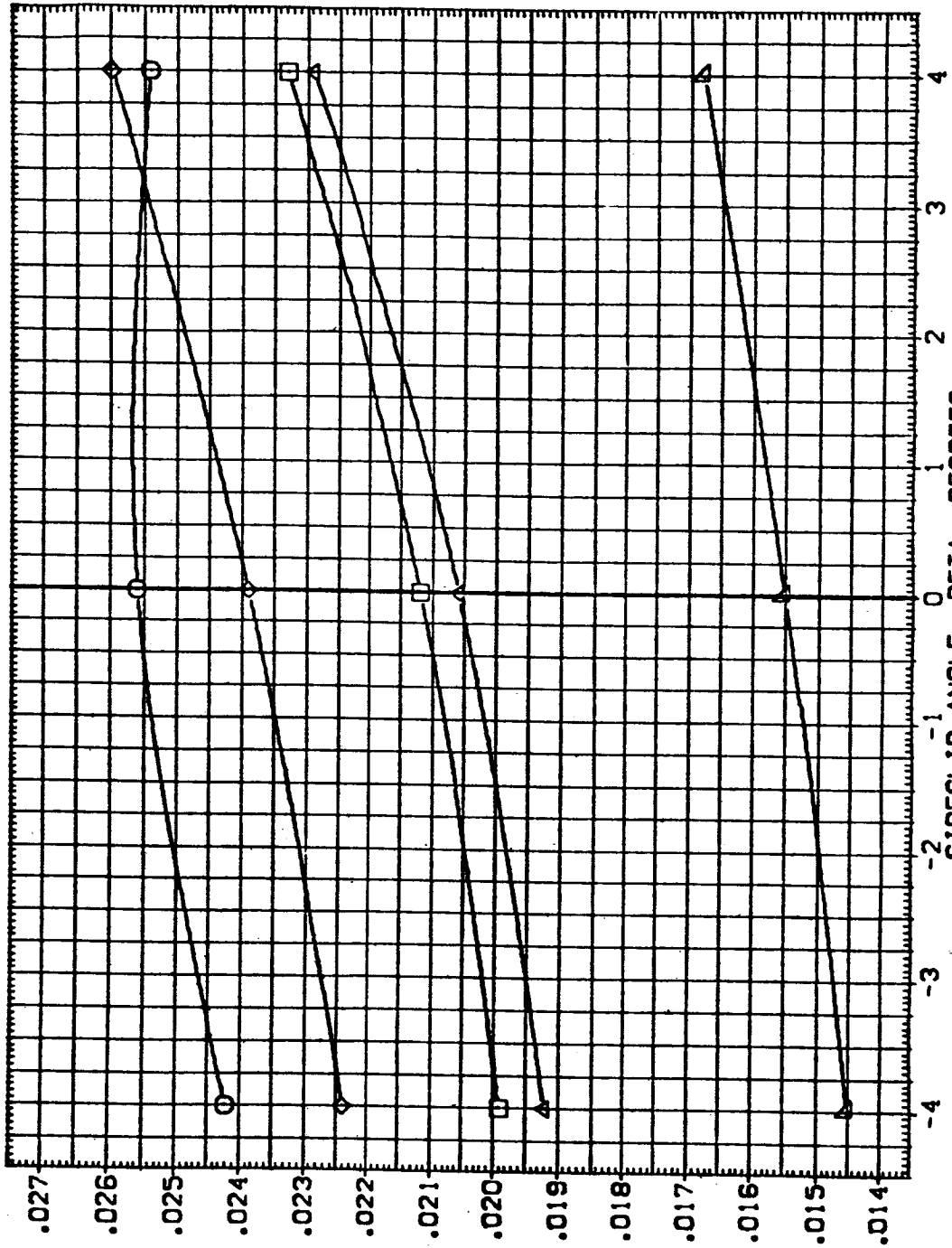


FIG. 9 EFFECT OF PLUMES - MACH=1.1 ELV-1B=8.0 ELV-0B=4.0 ALPHA=0.0
CAJALPHA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION SO. FT.

[CELU002]	ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF	SREF	2690.0000
[CELU006]	ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM	LREF	1290.3000
[CELU010]	ARC11-0141A19 OTS+STRUT SRB-LDV MPS-NOM	BREF	1290.3000
[CELU014]	ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF	XMRP	976.0000
[CELU018]	ARC11-0141A19 OTS+STRUT SRB-HI MPS-HI	ZMRP	400.0000

ELV-1B ELV-0B MACH GIMBAL SCALE

8.000	4.000	1.100	1.000	.0200
8.000	4.000	1.100	1.000	
8.000	4.000	1.100	1.000	
8.000	4.000	1.100	1.000	
8.000	4.000	1.100	1.000	

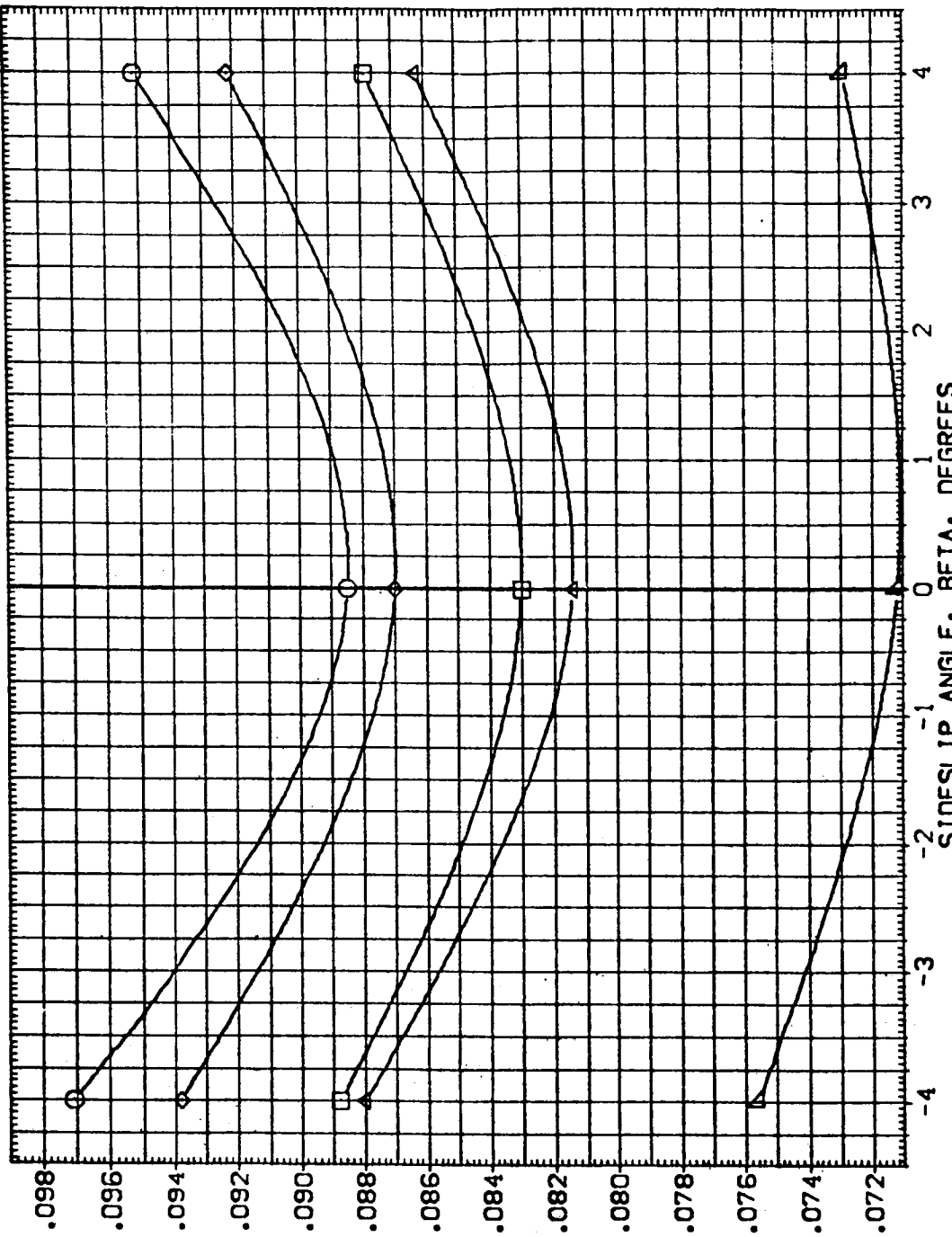


FIG. 9 EFFECT OF PLUMES - MACH=1.1 ELV-1B=8.0 ELV-0B=4.0 ALPHA=0.0

CAJALPHA = .00



DATA SET SYMBOLS: [CEU003] [CEU007] [CEU011] [CEU015] [CEU018]

CONFIGURATION DESCRIPTION: ARC11-0141A19 OTS*STRUT SR8-0FF MFS-0FF
 ARC11-0141A19 OTS*STRUT SR8-NON MFS-NON
 ARC11-0141A19 OTS*STRUT SR8-LOW MFS-NON
 ARC11-0141A19 OTS*STRUT SR8-NH1 MFS-0FF
 ARC11-0141A19 OTS*STRUT SR8-NH1 MFS-NH1

ELV-1B 8.000 8.000 8.000 8.000 8.000

ELV-0B 4.000 4.000 4.000 4.000 4.000

MACH 1.250 1.250 1.250 1.250 1.250

GIMBAL 1.000 1.000 1.000 1.000 1.000

REFERENCE INFORMATION: SRREF 2690.0000 SQ.FT.
 LRREF 1290.3000 IN.
 BRREF 1290.3000 IN.
 XMRP 976.0000 IN. XT
 YMRP 100.0000 IN. YT
 ZMRP 100.0000 IN. ZT
 SCALE 100.0000

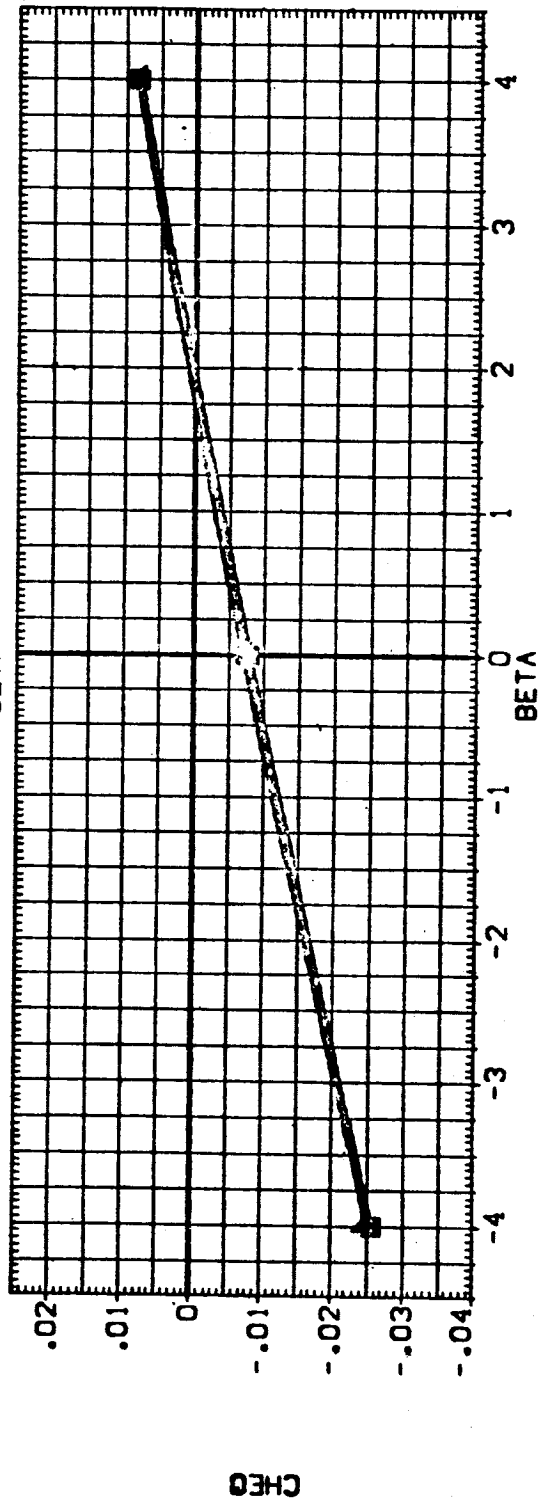
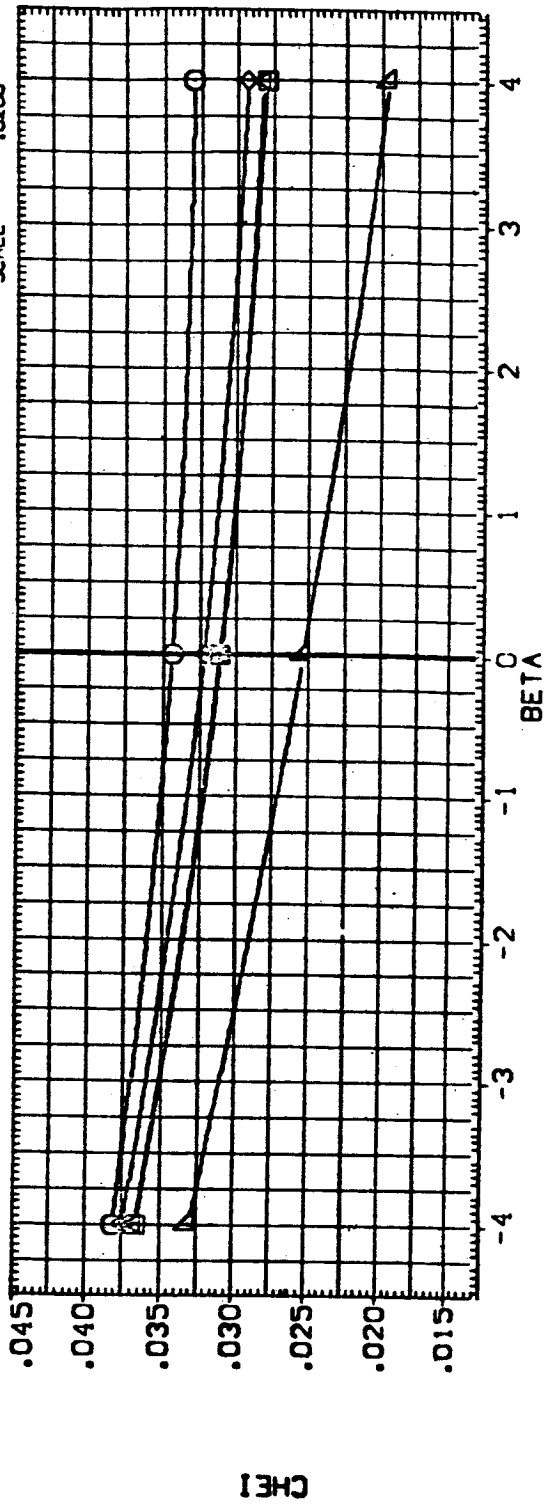


FIG. 10 EFFECT OF PLUMES - MACH=1.25 ELV-1B=8.0 ELV-0B=4.0 ALPHA=0.0

(ALPHA = .00

DATA SET SYMBOL

[CELO03] [CELO07] [CELO11] [CELO15] [CELO19]

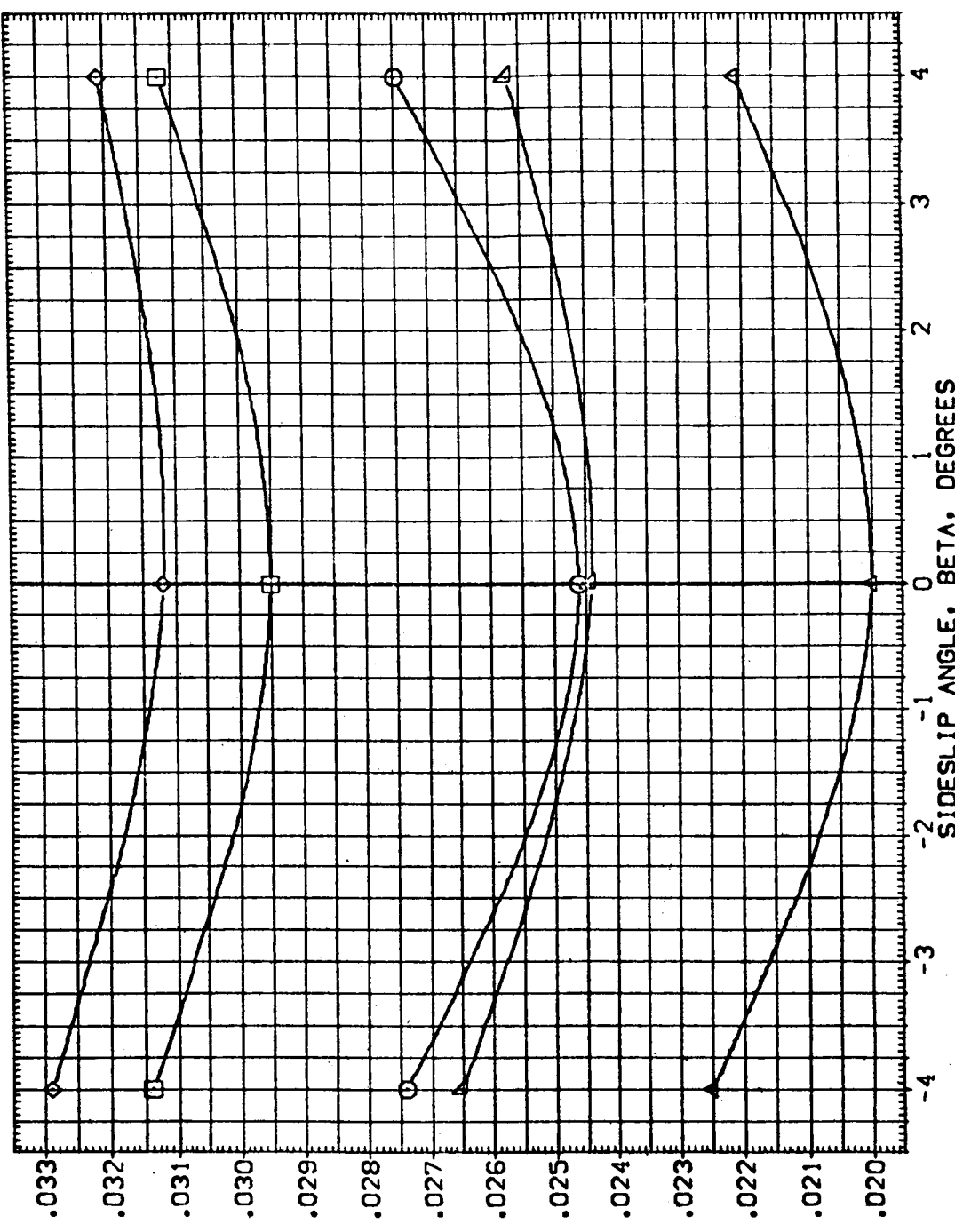
[] [X] [Y] [Z]

CONFIGURATION DESCRIPTION

ARC11-0141A19 OTS*STRUT SRB-DF FPS-DF
 ARC11-0141A19 OTS*STRUT SRB-NOM FPS-NOM
 ARC11-0141A19 OTS*STRUT SRB-LOW FPS-LOW
 ARC11-0141A19 OTS*STRUT SRB-NOM FPS-DF
 ARC11-0141A19 OTS*STRUT SRB-HI FPS-HI

ELV-IB ELV-OB MACH GIMBAL REFERENCE INFORMATION

8.000 4.000 1.250 1.000 SREF 2690.0000 SQ.FT.
 8.000 4.000 1.250 1.000 LREF 1290.3000 IN.
 8.000 4.000 1.250 1.000 BREF 1290.3000 IN.
 8.000 4.000 1.250 1.000 XMRP 976.0000 IN.
 8.000 4.000 1.250 1.000 YMRP 400.0000 IN.
 8.000 4.000 1.250 1.000 ZMRP 400.0000 IN.
 SCALE .0200



ORBITER BASE AXIAL-FORCE COEFFICIENT, CABD

FIG. 10 EFFECT OF PLUMES - MACH=1.25 ELV-IB=8.0 ELV-OB=4.0 ALPHA=0.0

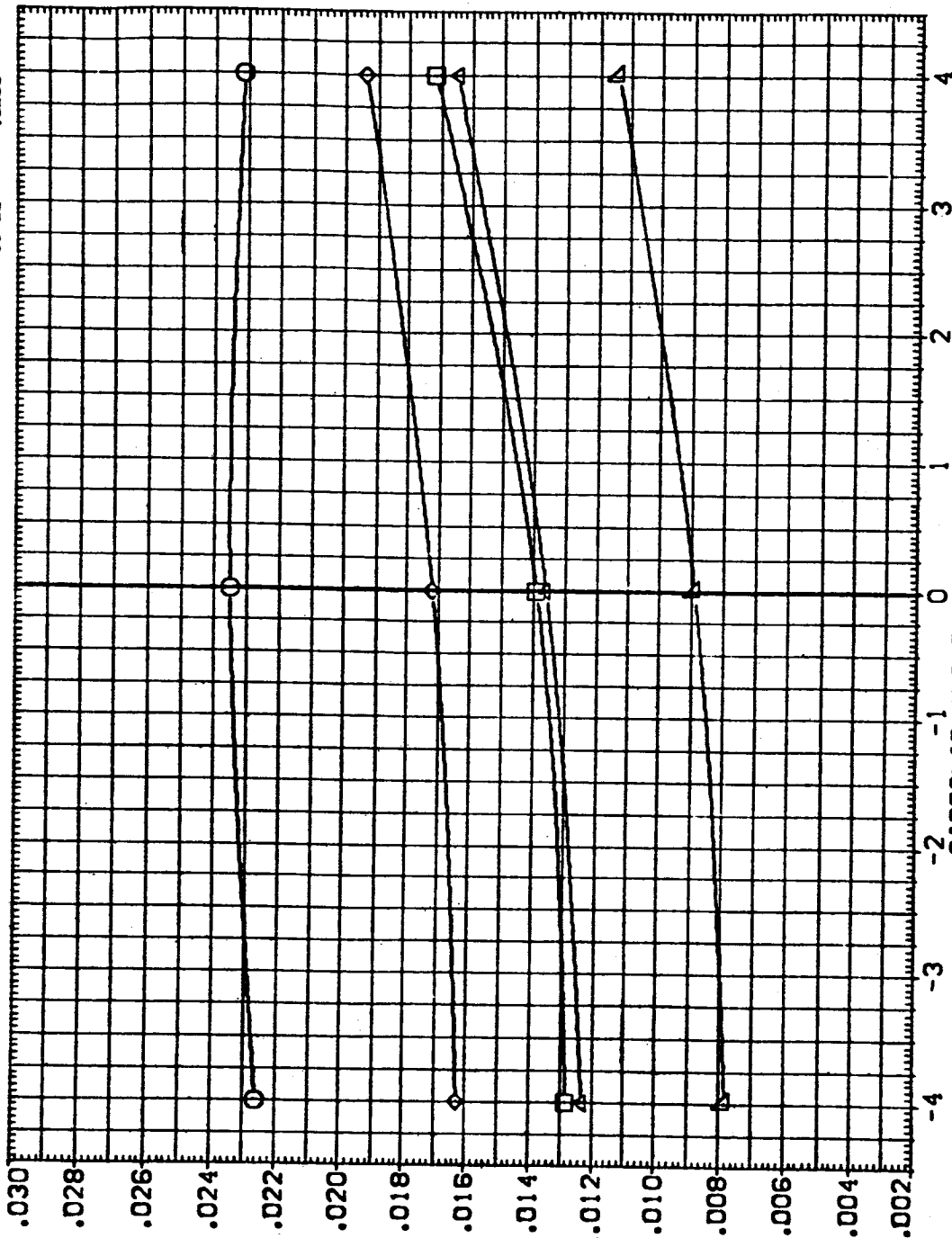
(A) ALPHA = .00



DATA SET SYMBO. CONFIGURATION DESCRIPTION

(CEU003)	ARC11-0141A19	OTS+STRUT	SRB-OF	MPS-OF
(CEU007)	ARC11-0141A19	OTS+STRUT	SRB-NOM	MPS-NOM
(CEU011)	ARC11-0141A19	OTS+STRUT	SRB-LOV	MPS-NOM
(CEU015)	ARC11-0141A19	OTS+STRUT	SRB-NOM	MPS-OF
(CEU019)	ARC11-0141A19	OTS+STRUT	SRB-HI	MPS-HI

ELV-IB 8.000 4.000 8.000 8.000 8.000
 ELV-OB 4.000 4.000 4.000 4.000 4.000
 MACH 1.250 1.250 1.250 1.250 1.250
 OMBAL 1.000 1.000 1.000 1.000 1.000
 REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN.
 YMRP 400.0000 IN.
 ZMRP 100.0000 IN.
 XT
 YT
 ZT
 SCALE .0200



SRM BASE AXIAL-FORCE COEFFICIENT, CABS

FIG. 10 EFFECT OF PLUMES - MACH=1.25 ELV-IB=8.0 ELV-OB=4.0 ALPHA=0.0
 (A) ALPHA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION ELV-IB ELV-OB MACH GIMBAL REFERENCE INFORMATION

[CEU003]	ARC11-0141A19 OTS-STRT SRB-OFF	8.000	4.000	1.250	1.000	SREF 2690.0000
[CEU007]	ARC11-0141A19 OTS-STRT SRB-NOM	8.000	4.000	1.250	1.000	LREF 1290.3000
[CEU011]	ARC11-0141A19 OTS-STRT SRB-LOV	8.000	4.000	1.250	1.000	BREF 1290.3000
[CEU015]	ARC11-0141A19 OTS-STRT SRB-OFF	8.000	4.000	1.250	1.000	XMRP 576.0000
[CEU019]	ARC11-0141A19 OTS-STRT SRB-HI	8.000	4.000	1.250	1.000	YMRP 400.0000
						ZMRP 400.0000
						SCALE .0200

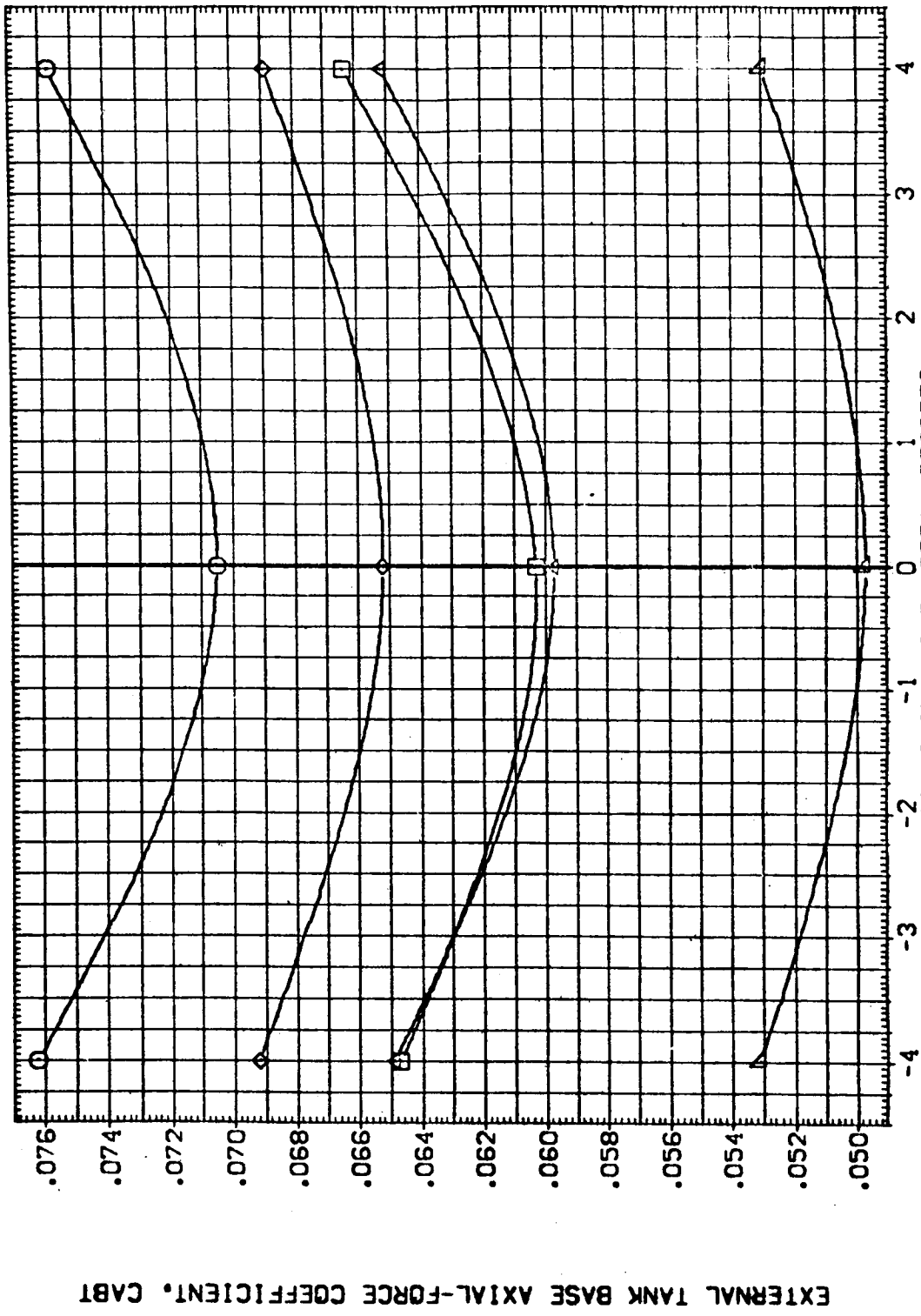


FIG. 10 EFFECT OF PLUMES - MACH=1.25 ELV-IB=8.0 ELV-OB=4.0 ALPHA=0.0

(AJ)ALPHA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(CEU004)	ARC11-0141A19	OTS+STRUT	SRB-0FF	MPS-0FF
(CEU008)	ARC11-0141A19	OTS+STRUT	SRB-NOM	MPS-NOM
(CEU012)	ARC11-0141A19	OTS+STRUT	SRB-LGV	MPS-NOM
(CEU016)	ARC11-0141A19	OTS+STRUT	SRB-NOM	MPS-0FF
(CEU020)	ARC11-0141A19	OTS+STRUT	SRB-HI	MPS-HI

ELV-1B ELV-0B MACH GIMBAL

8.000	4.000	1.400	1.000
8.000	4.000	1.400	1.000
8.000	4.000	1.400	1.000
8.000	4.000	1.400	1.000
8.000	4.000	1.400	1.000

REFERENCE INFORMATION

SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	576.0000	IN.
YMRP	400.0000	IN.
ZMRP	400.0000	IN.
SCALE	.0200	

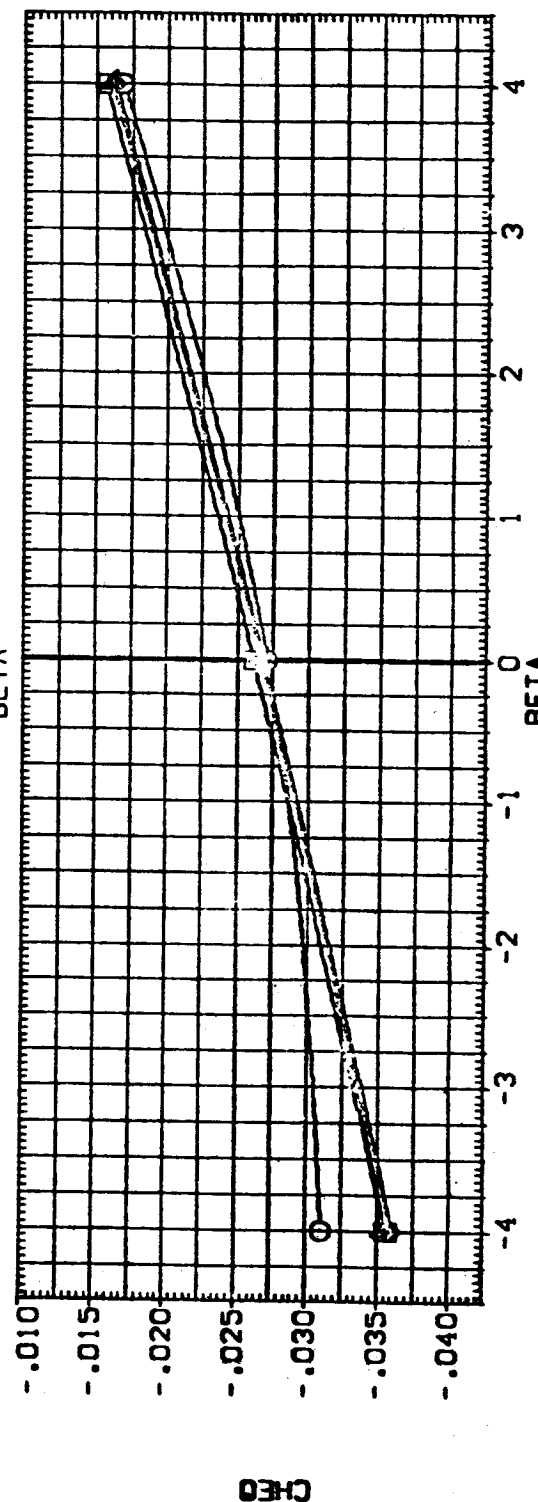
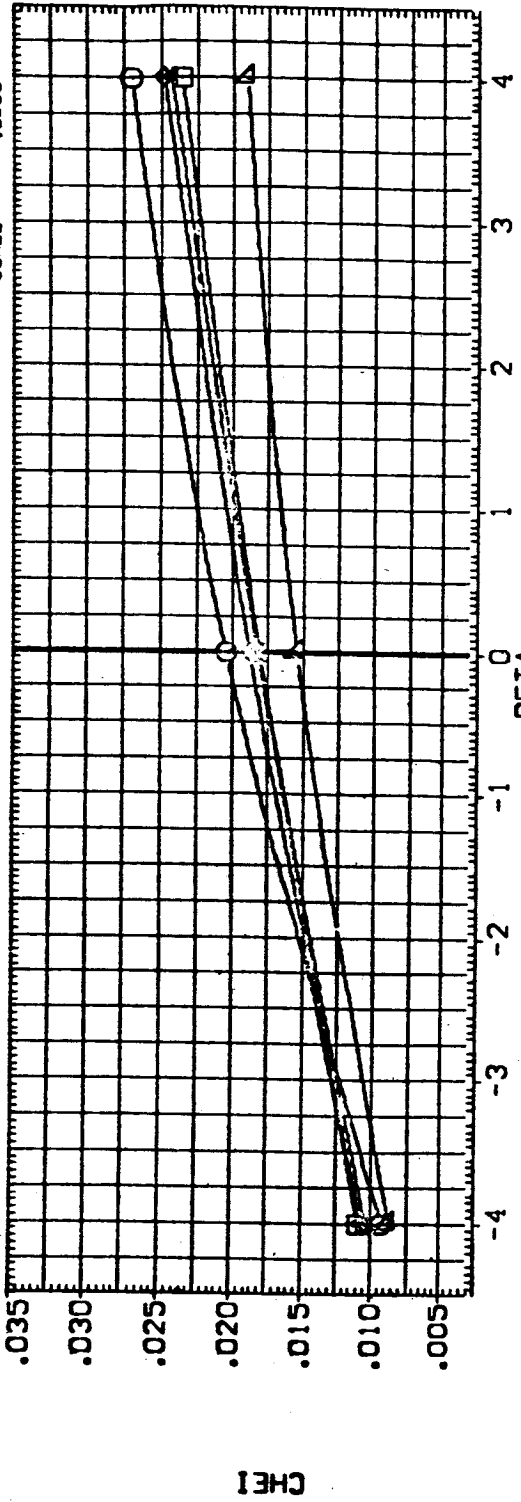


FIG. 11 EFFECT OF PLUMES - MACH=1.4 ELV-1B=8.0 ELV-0B=4.0 ALPHA=0.0
 (A) ALPHA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

[CELO04]	ARC11-0141A19	OTS+STRUT	SRB-OFF	MPS-OFF
[CELO08]	ARC11-0141A19	OTS+STRUT	SRB-NOM	MPS-NOM
[CELO12]	ARC11-0141A19	OTS+STRUT	SRB-LOW	MPS-NOM
[CELO16]	ARC11-0141A19	OTS+STRUT	SRB-NOM	MPS-OFF
[CELO20]	ARC11-0141A19	OTS+STRUT	SRB-HI	MPS-HI

SYMBOLS:

REFERENCE INFORMATION

SREF	2650.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	975.0000	IN.
YMRP	0.0000	IN.
ZMRP	400.0000	IN.
SCALE	.0200	

ELV-IB 8.000 4.000 4.000 4.000 4.000 4.000 4.000 4.000 4.000 4.000

MACH 1.400 1.400 1.400 1.400 1.400 1.400 1.400 1.400 1.400 1.400

GIMBAL 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000

ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

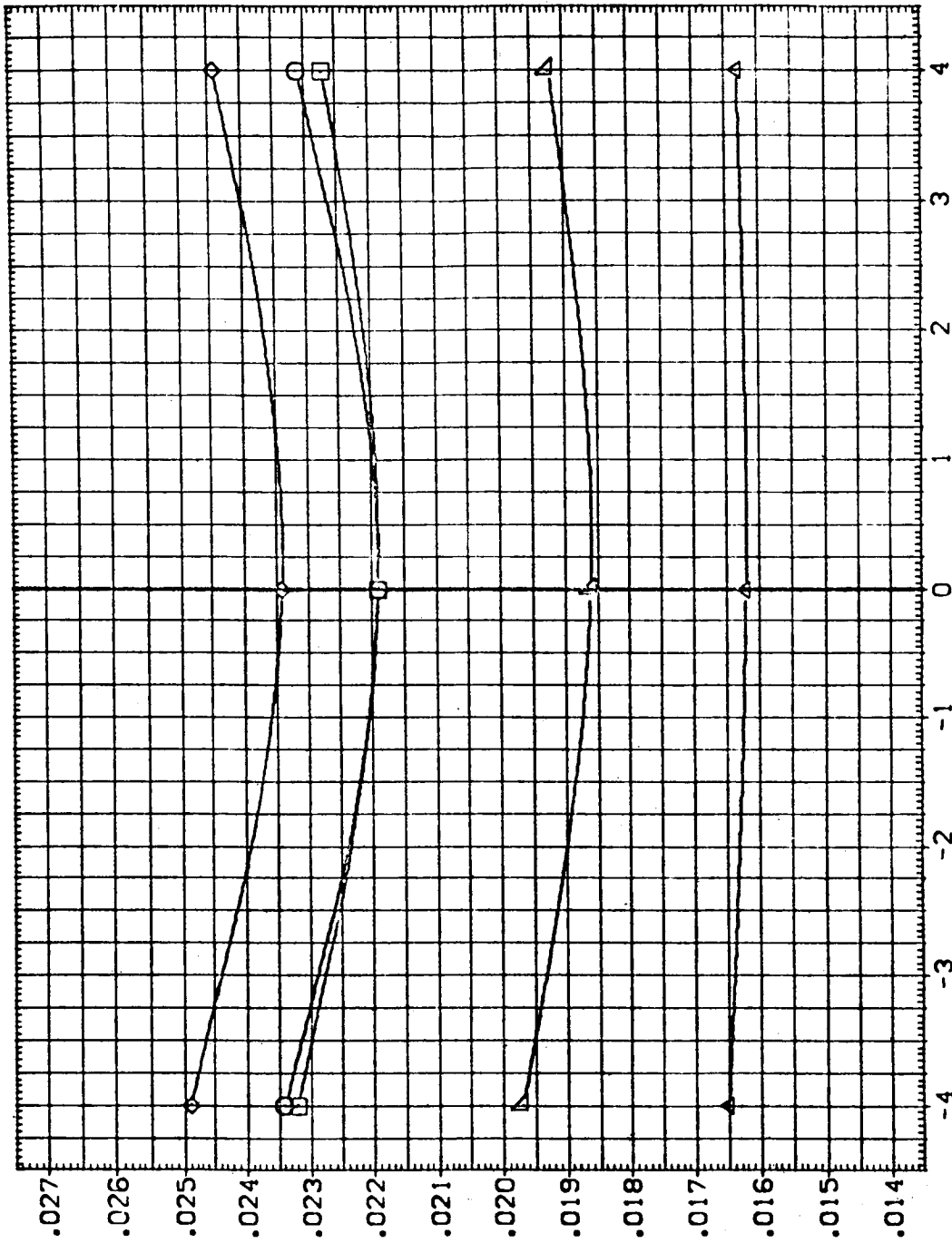


FIG. 11 EFFECT OF PLUMES - MACH=1.4 ELV-IB=8.0 ELV-OB=4.0 ALPHA=0.0

(A) ALPHA = .00



DATA SET SYMBO. CONFIGURATION DESCRIPTION

[CEU004]	ARC11-0141A19	OTS*STRUT	SRB-0FF	MPS-0FF
[CEU008]	ARC11-0141A19	OTS*STRUT	SRB-NON	MPS-NON
[CEU012]	ARC11-0141A19	OTS*STRUT	SRB-LOW	MPS-NON
[CEU016]	ARC11-0141A19	OTS*STRUT	SRB-NON	MPS-0FF
[CEU020]	ARC11-0141A19	OTS*STRUT	SRB-HI	MPS-HI

ELV-1B 8.000 ELV-08 4.000 MACH 1.400 GIMBAL 1.000 REFERENCE INFORMATION 50.FI.
 8.000 4.000 1.400 1.000 SREF 2690.0000
 8.000 4.000 1.400 1.000 LREF 1290.3000
 8.000 4.000 1.400 1.000 X*RP 975.0000
 8.000 4.000 1.400 1.000 Y*RP 400.0000
 8.000 4.000 1.400 1.000 Z*RP 100.0000
 SCALE .0200



SRM BASE AXIAL-FORCE COEFFICIENT, CABS

FIG. 11 EFFECT OF PLUMES - MACH=1.4 ELV-1B=8.0 ELV-08=4.0 ALPHA=0.0

(A) ALPHA = .00

DATA SET SYMBOL: ○
 CONFIGURATION DESCRIPTION: ARC11-0141A19 OTS+STRUT
 REFERENCE INFORMATION: 50.FT. IN.
 SREF: 2690.0000
 LREF: 1290.3000
 BREF: 1290.3000
 XMRP: 976.0000
 YMRP: 400.0000
 ZMRP: 400.0000
 SCALE: .0200

ELV-IB: 8.000
 ELV-OB: .000
 MACH: 1.400
 GIMBAL: 1.000

ARC11-0141A19 OTS+STRUT SRB-OFF
 ARC11-0141A19 OTS+STRUT SRB-NOM

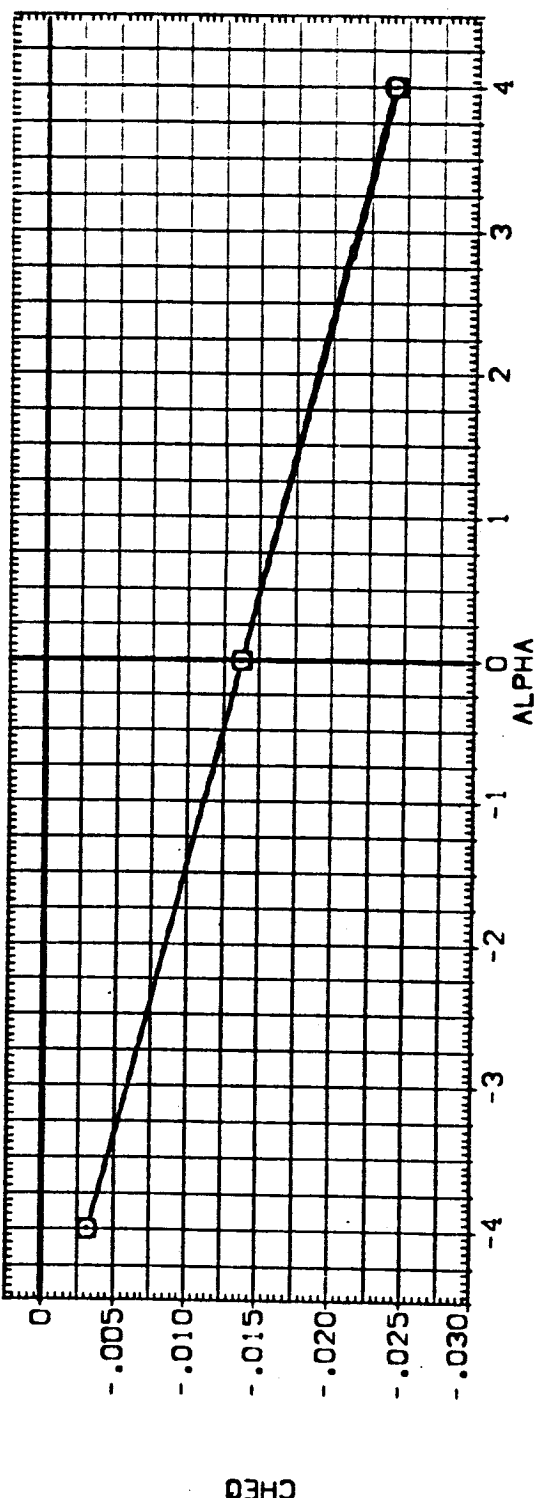
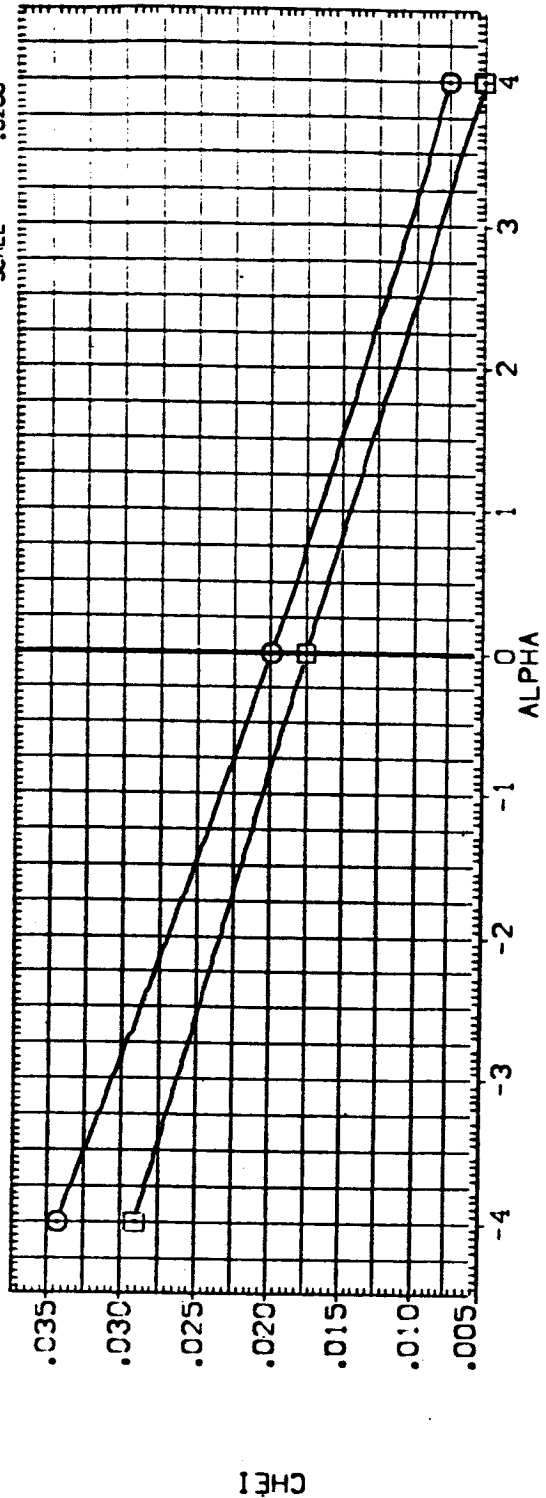


FIG. 12 EFFECT OF PLUMES - MACH=1.4 ELV-IB=8.0 ELV-OB=0.0 BETA=0.0

(A) BETA = .00

DATA SET SYMBOL: (B-332) (B-332)

CONFIGURATION DESCRIPTION: ARC11-0141A19 DTS-STRT SRB-OFF MPS-OFF
 ARC11-0141A19 DTS-STRT SRB-NOM MPS-NOM

ELV-1B 8.000
 ELV-0B .000
 MACH 1.400
 GIMBAL 1.000

REFERENCE INFORMATION: SQ.FT. 2690.0000
 SREF 1290.3000
 LREF 1290.3000
 BREF 976.0000
 XMRP .0000
 YMRP .0000
 ZMRP 400.0000
 SCALE .0200

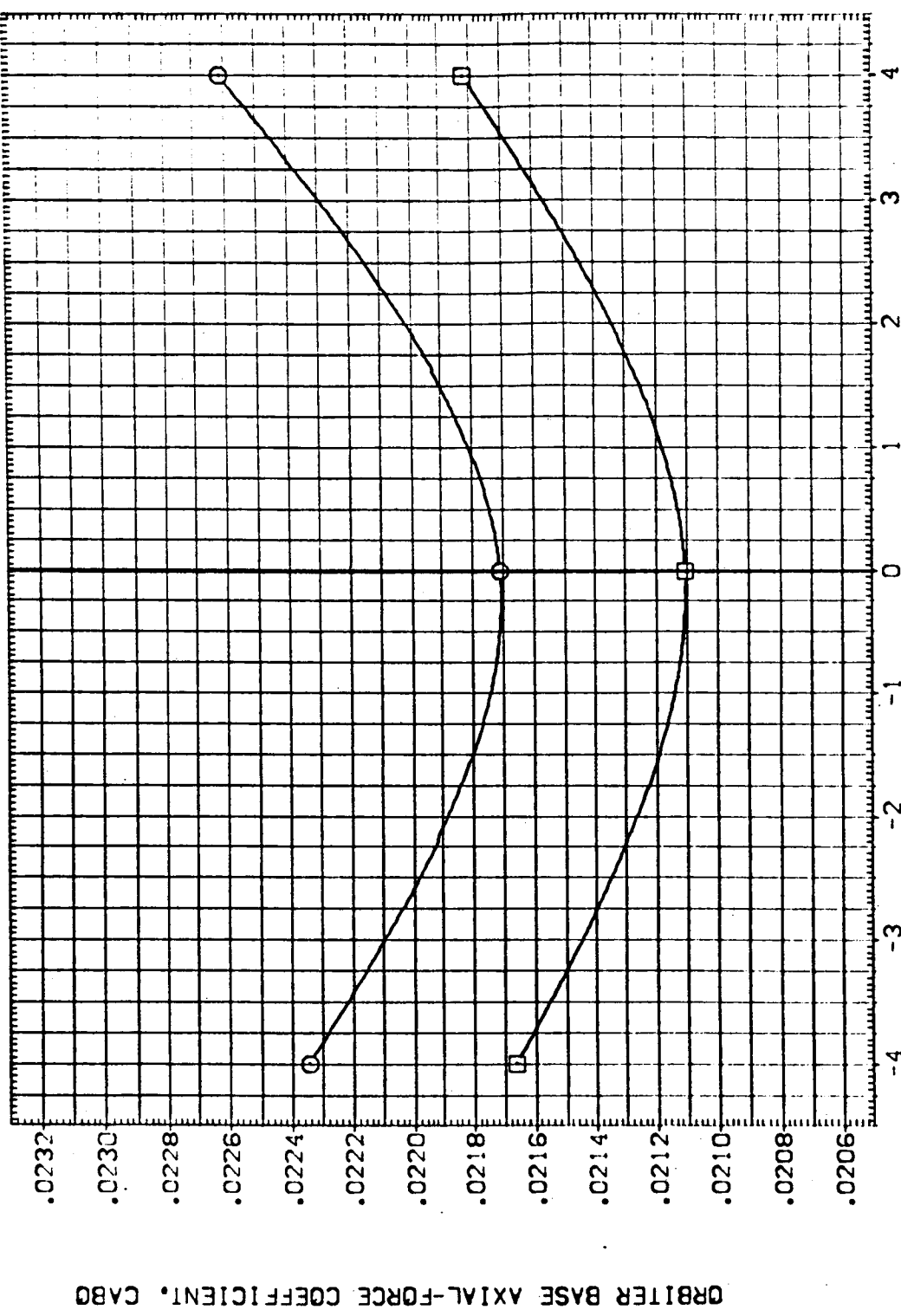


FIG. 12 EFFECT OF PLUMES - MACH=1.4 ELV-1B=8.0 ELV-0B=0.0 BETA=0.0

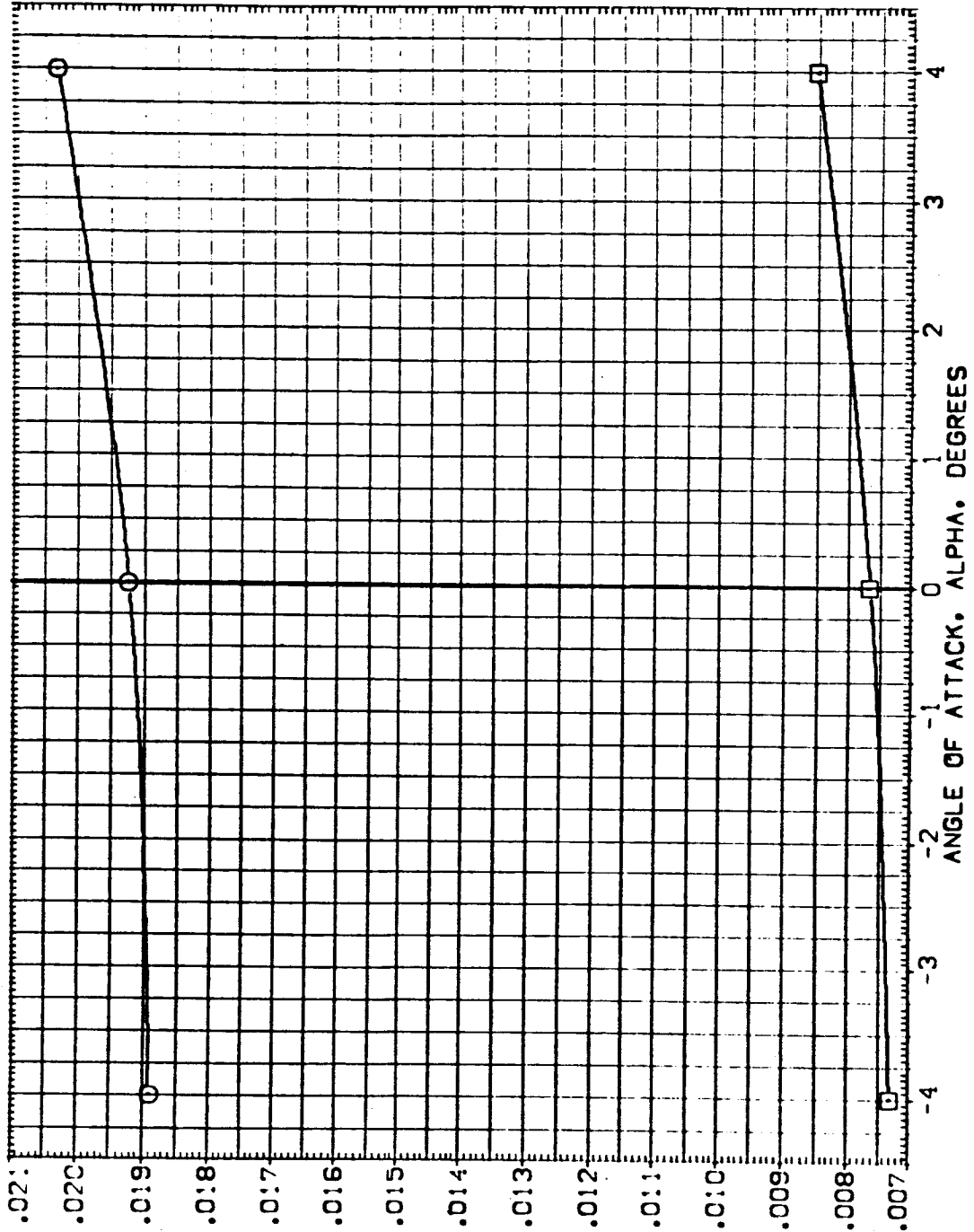
(A) BETA = .00



DATA SET SYMBOL: CONFIGURATION DESCRIPTION
 (3-001) ○ ARC11-0141A19 OYS-STRUT SRB-OFF MPS-OFF
 (3-002) ○ ARC11-0141A19 OYS-STRUT SRB-NOM MPS-NOM

ELV-IB 8.000 ELV-OB .000 MACH 1.400 GIMBAL 1.000
 8.000 .000 1.400 1.000

REFERENCE INFORMATION
 SREF 2690.0000 50.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN. XT
 YMRP .0000 IN. YT
 ZMRP 100.0000 IN. ZT
 SCALE .0200



SRM BASE AXIAL-FORCE COEFFICIENT, CABS

FIG. 12 EFFECT OF PLUMES - MACH=1.4 ELV-IB=8.0 ELV-OB=0.0 BETA=0.0

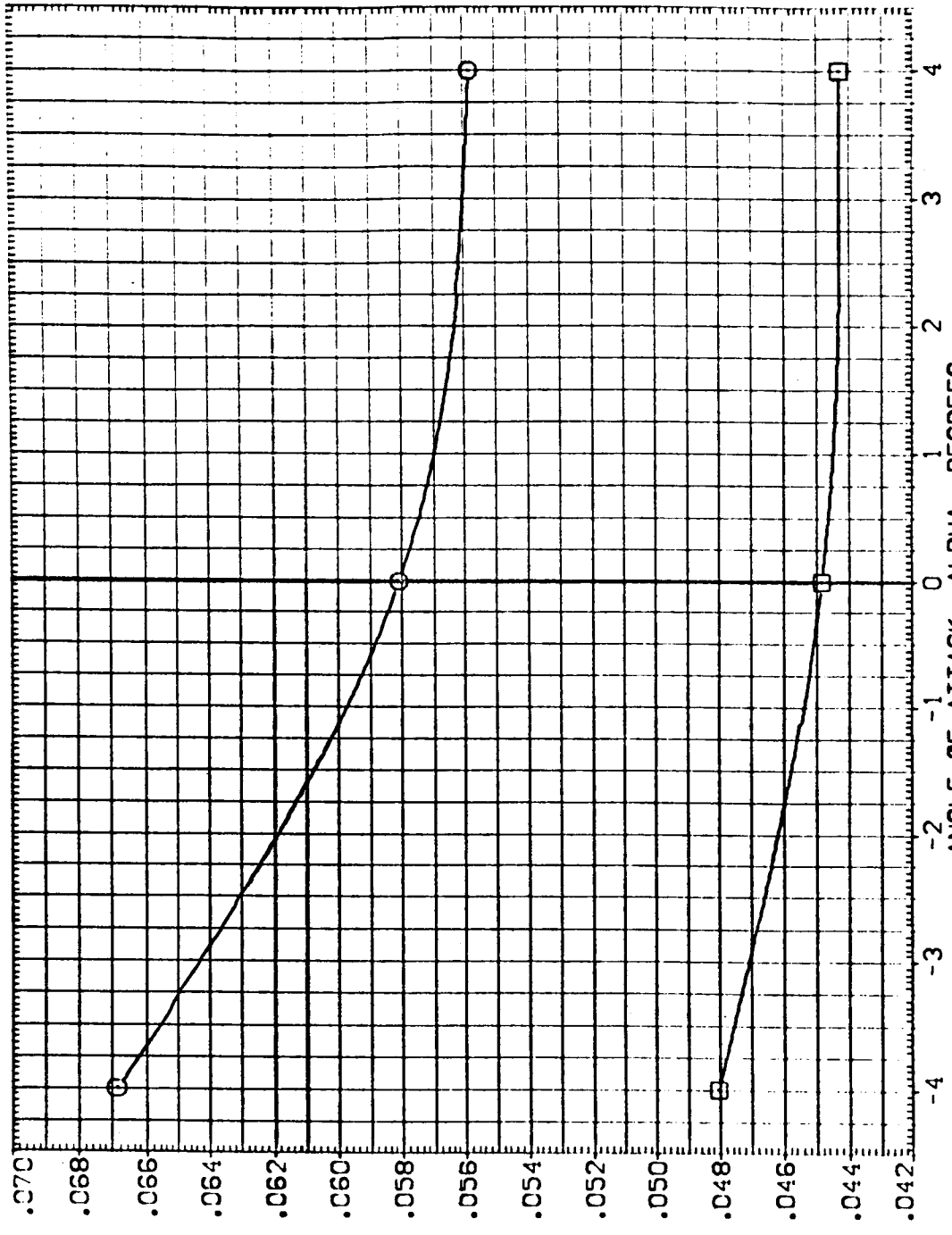
CABETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

ARC11-0141A19 OTS-STRUT SRB-OFF MPS-NOM
 ARC11-0141A19 OTS-STRUT SRB-NOM MPS-NOM

ELV-1B 8.000
 ELV-0B 8.000
 MACH 1.400
 GIMBAL 1.000

REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN.
 YMRP 400.0000 IN.
 ZMRP 400.0000 IN.
 SCALE .0200



EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

FIG. 12 EFFECT OF PLUMES - MACH=1.4 ELV-1B=8.0 ELV-0B=0.0 BETA=0.0

(A)BETA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (CEJ001) O ARC11-0141A19 015*STRUT SRB-0FF MPS-0FF
 (CEJ002) ARC11-0141A19 015*STRUT SRB-NOM MPS-NOM

ELV-1B ELV-09 MACH GIMBAL
 8.000 .000 1.400 1.000
 8.000 .000 1.400 1.000

REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN. XT
 YMRP .0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0200

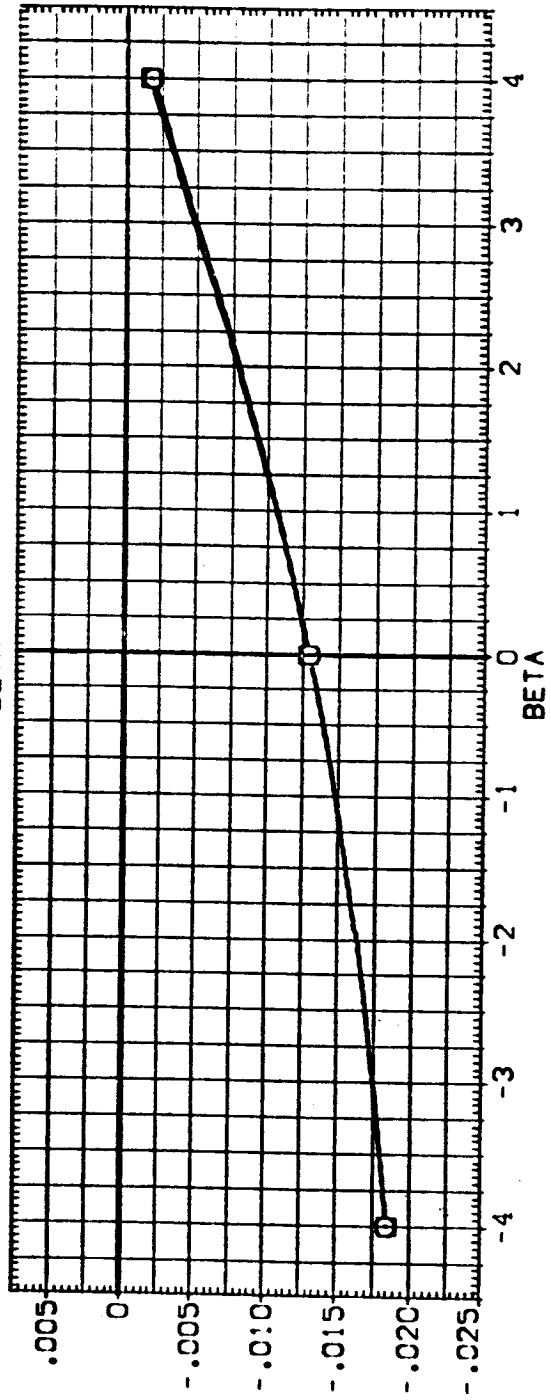
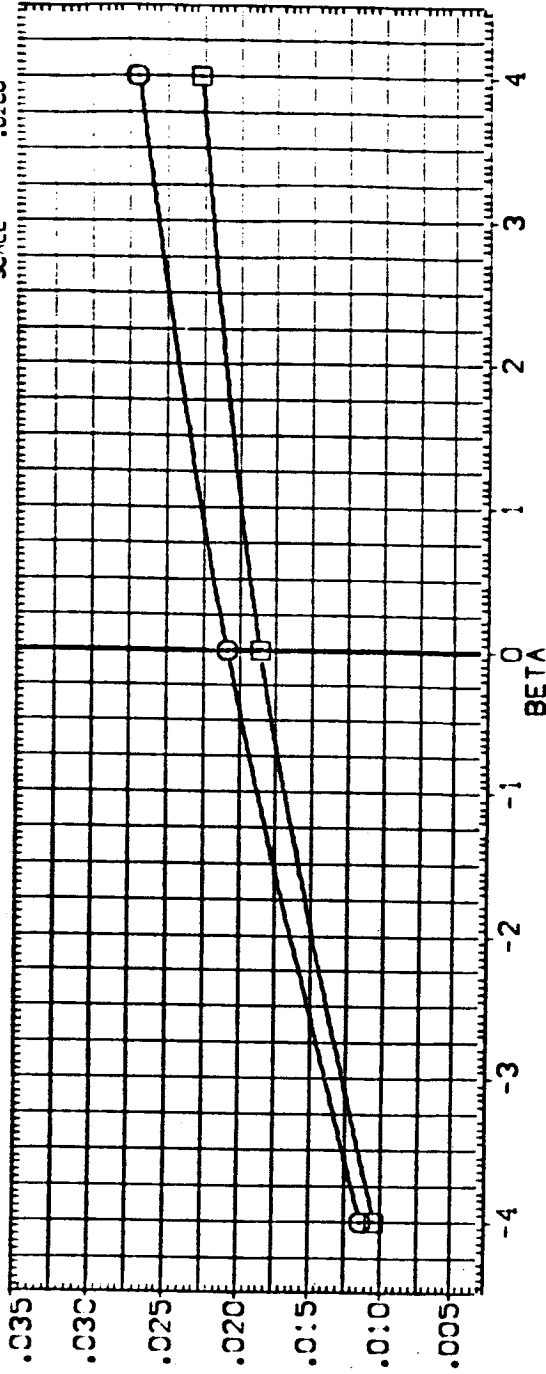


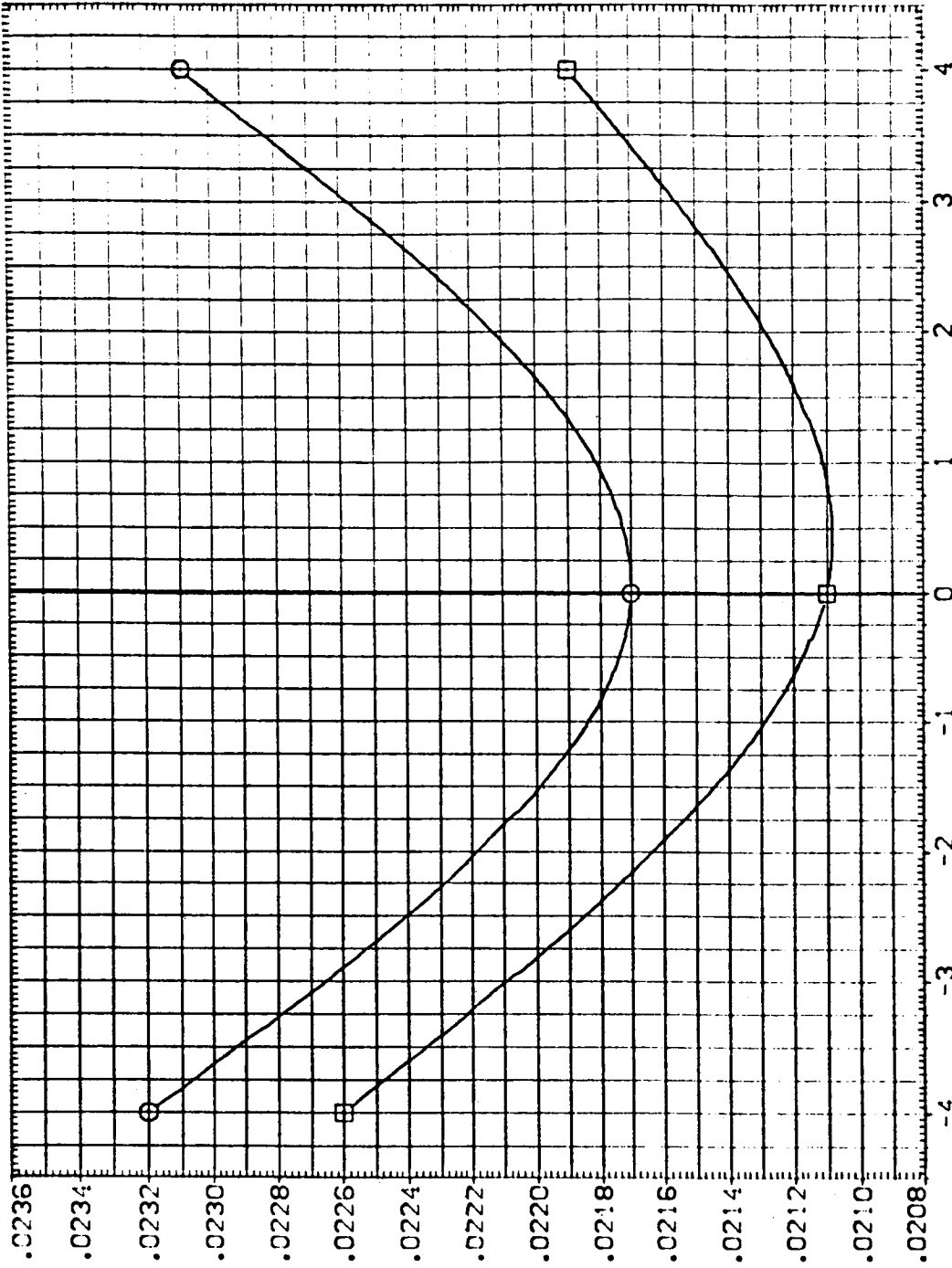
FIG. 13 EFFECT OF PLUMES - MACH=1.4 ELV-1B=8.0 ELV-0B=0.0 ALPHA=0.0

(ALPHA) = .00

REFERENCE INFORMATION
 SREF 2690.0000 SO.FT.
 LREF 1290.3000 IN.
 XTRP 976.0000 IN. XT
 YTRP 400.0000 IN. YT
 ZTRP 100.0000 IN. ZT
 SCALE .0200

GIMBAL 1.000
 MACH 1.400
 ELV-IB 8.000
 ELV-OB .000
 MACH 1.400
 GIMBAL 1.000

COMPUTATION DESCRIPTION
 ARC11-0141A19 OTS:STRJ S89-DEF MPS-DEF
 ARC11-0141A19 OTS:STRJ S89-NOM MPS-NOM



ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

FIG. 13 EFFECT OF PLUMES - MACH=1.4 ELV-IB=8.0 ELV-OB=0.0 ALPHA=0.0

CALPHA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(0EJ001) ○ ARC11-0:41A19 OTS:S'RJT SRB-OFF MPS-OFF

(0EJ002) ○ ARC11-0:41A19 OTS:S'RJT SRB-NOM MPS-NOM

ELV-1B 8.000 8.000

ELV-09 .000 .000

MACH 1.400 1.400

GIMBAL 1.000 1.000

REFERENCE INFORMATION

SREF 2690.0000 SQ.FT.

LREF 1290.3000 IN.

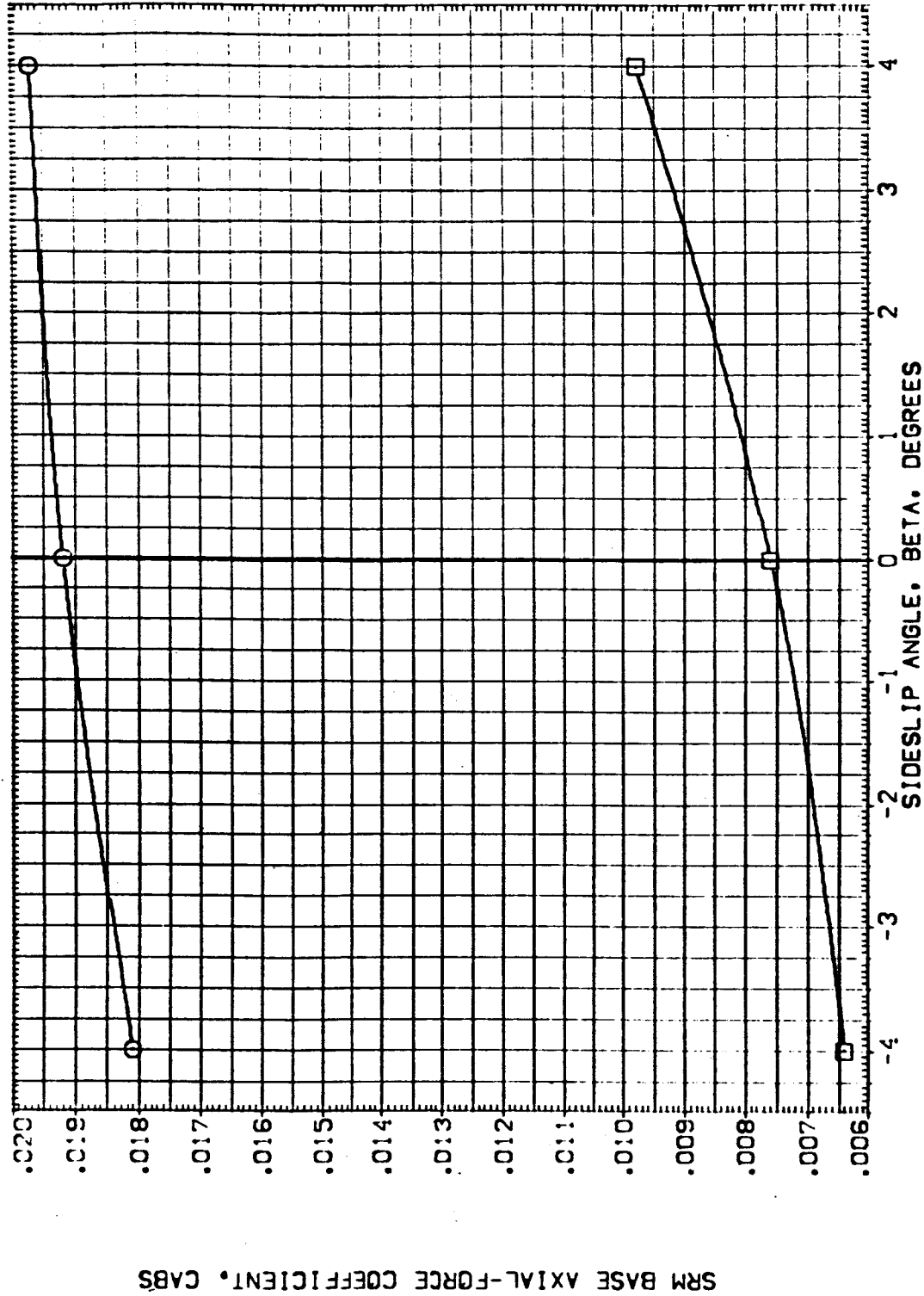
BREF 1290.3000 IN.

XMRP 976.0000 IN. XT

YMRP 400.0000 IN. YT

ZMRP 400.0000 IN. ZT

SCALE .0200



SRM BASE AXIAL-FORCE COEFFICIENT, CABS

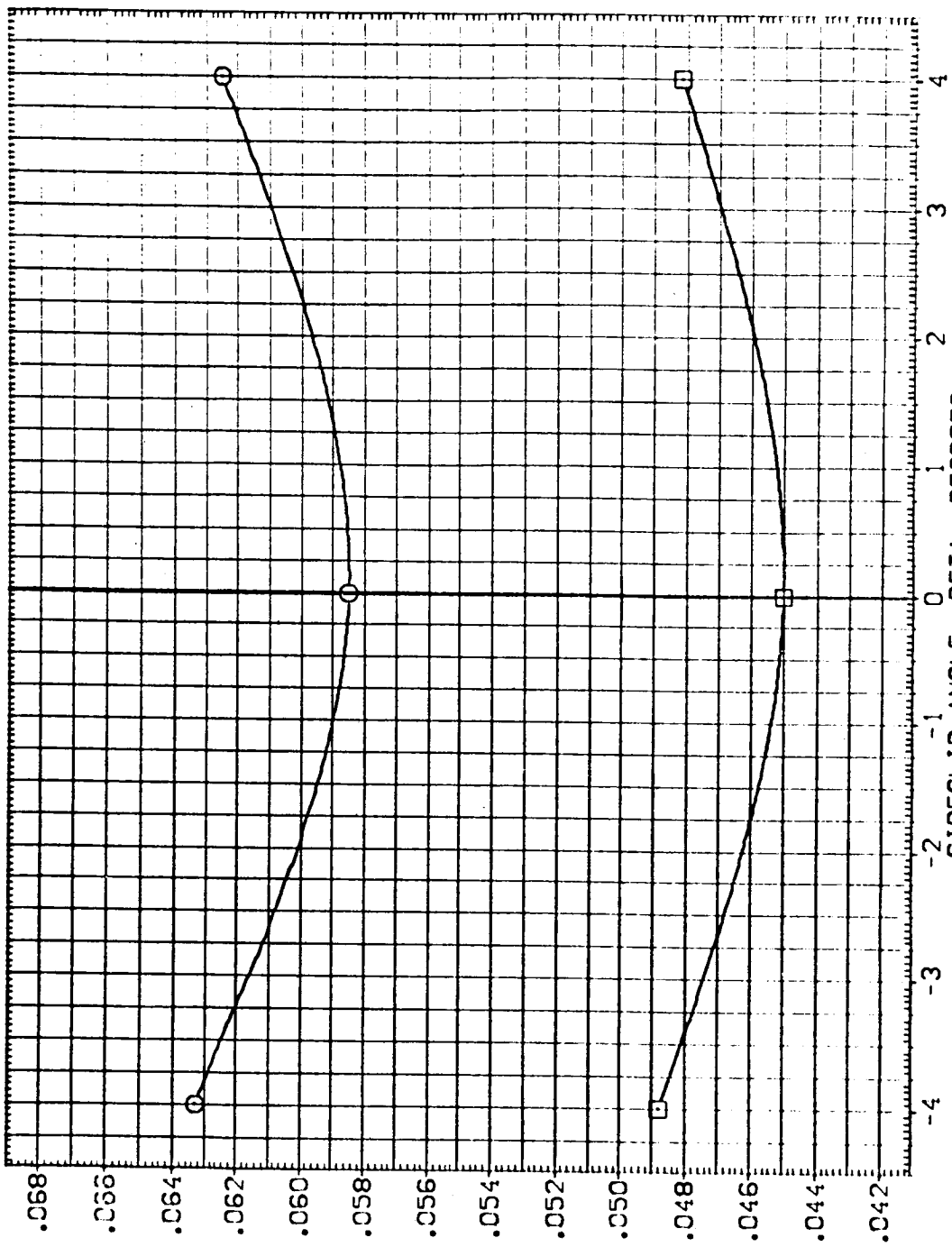
FIG. 13 EFFECT OF PLUMES - MACH=1.4 ELV-1B=8.0 ELV-0B=0.0 ALPHA=0.0

(A)ALPHA = .00

REFERENCE INFORMATION
 SREF 2690.0000 50.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN. XT
 YMRP 400.0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0200

ELV-IB 8.000
 ELV-OB .000
 MACH 1.400
 GIMBAL 1.000

DESCRIPTION
 ARC11-0141A19 OTS-STRUT SRB-OFF MPS-OFF
 ARC11-0141A19 OTS-STRUT SRB-NOM MPS-NOM



EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

FIG. 13 EFFECT OF PLUMES - MACH=1.4 ELV-IB=8.0 ELV-OB=0.0 ALPHA=0.0

CALPHA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

DATA SET	SYMBOL	CONFIGURATION	DESCRIPTION	SREF	GIMBAL	MACH	ELV-OB	ELV-IB	SO.FT.
B-023	○	ARC-014A19	0'S-STRUT SR3-OFF MPS-OFF	2690.0000	1.000	.900	.000	.000	2690.0000
B-023	○	ARC-014A19	0'S-STRUT SR3-NOM MPS-NOM	1290.3000	1.000	.900	.000	.000	1290.3000
B-031	◇	ARC-014A19	0'S-STRUT SR3-OFF MPS-OFF	1290.3000	2.000	.900	.000	.000	1290.3000
B-035	◇	ARC-014A19	0'S-STRUT SR3-NOM MPS-NOM	976.0000	2.000	.900	.000	.000	976.0000

ZMRP 400.0000 IN. ZT
SCALE .0200

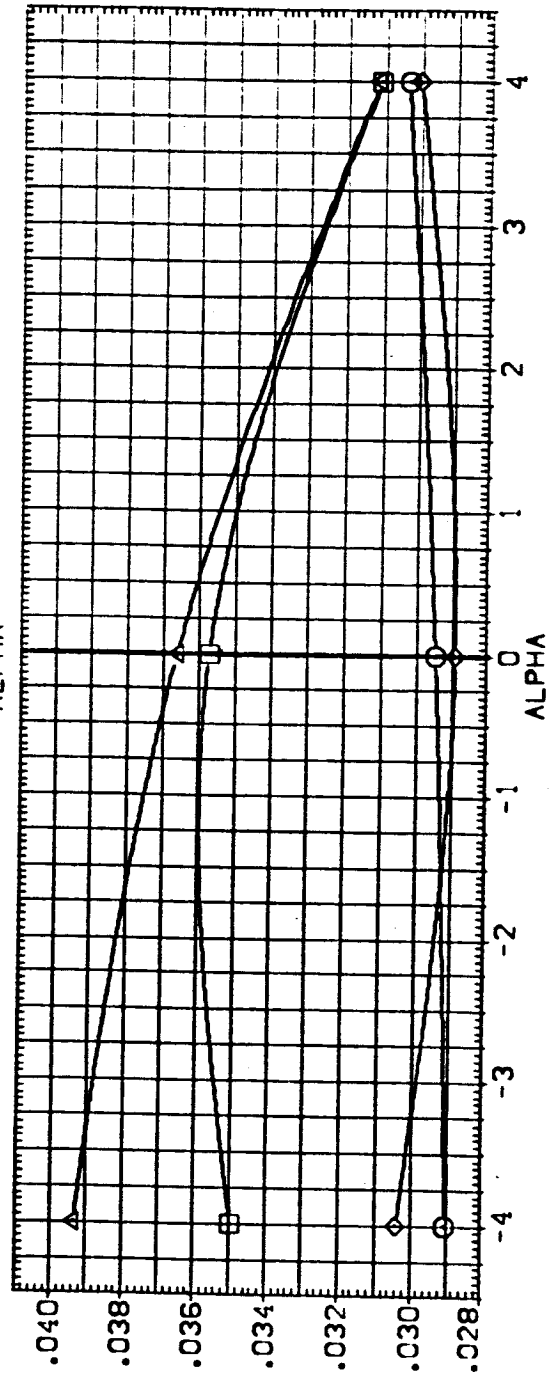
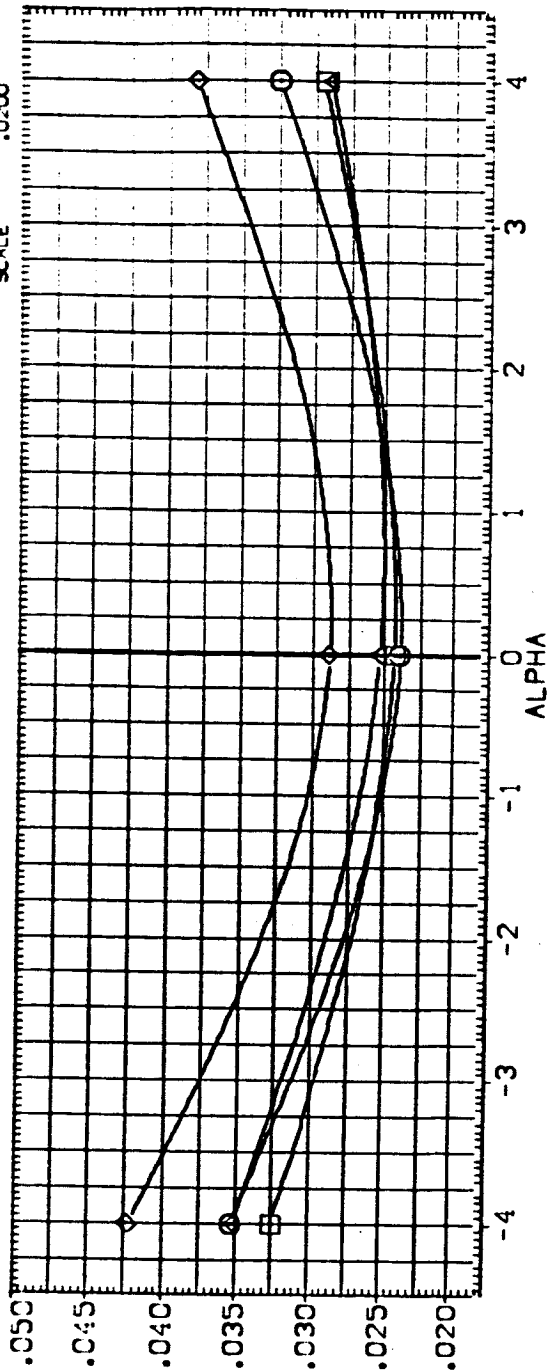


FIG. 14 EFFECT OF PLUMES - MACH=0.9 ELV-OB=0.0 ELV-IB=0.0 BETA=0.0

(A) BETA = .00

DATA SET SYMBO. CONFIGURATION DESCRIPTION

(B) (03) ARC(1)-01A1A19 01S*STRUT S98-0FF MPS-0FF

(B) (03) ARC(1)-01A1A19 01S*STRUT S98-NOM MPS-NOM

(B) (03) ARC(1)-01A1A19 01S*STRUT S98-0FF MPS-0FF

(B) (03) ARC(1)-01A1A19 01S*STRUT S98-NOM MPS-NOM

ELV-1B ELV-08 MACH GIMBAL

.000 .000 .900 1.000

.000 .000 .900 1.000

.000 .000 .900 1.000

.000 .000 .500 2.000

REFERENCE INFORMATION

SREF 2690.0000 SQ.FT.

LREF 1290.3000 IN.

BREF 1290.3000 IN.

YMRP 976.0000 IN.

ZMRP 400.0000 IN.

SCALE .0200

ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

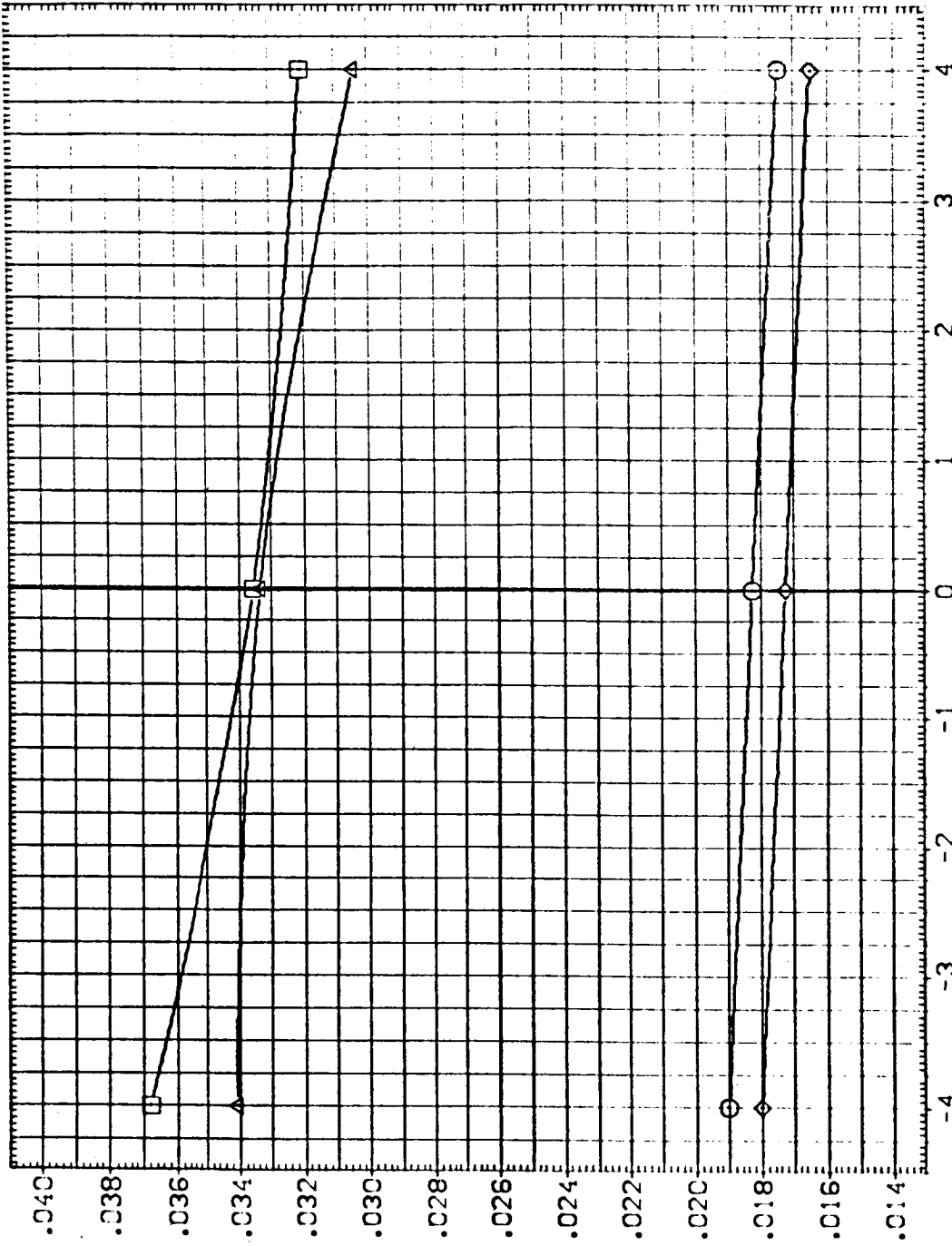


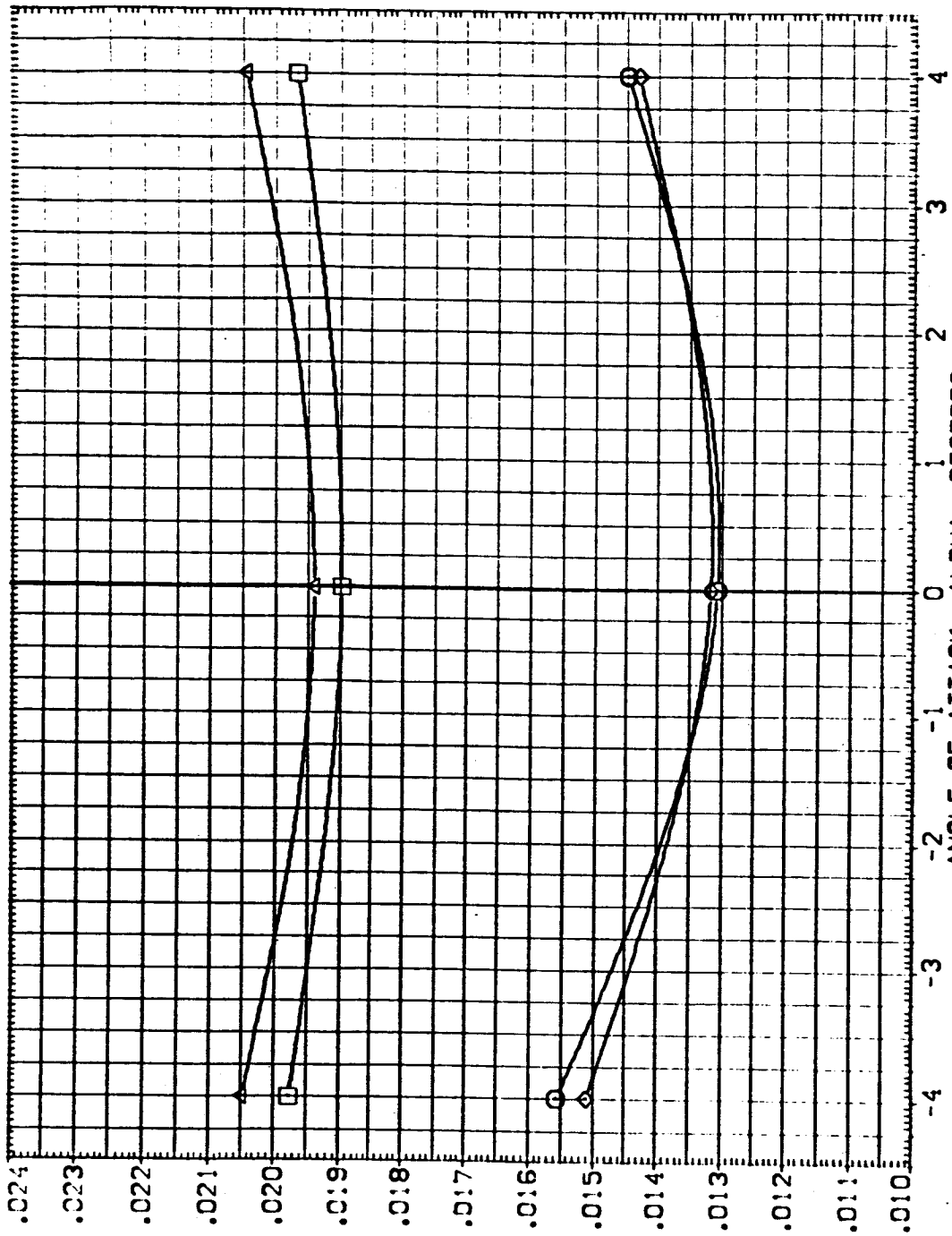
FIG. 14 EFFECT OF PLUMES - MACH=0.9 ELV-1B=0.0 ELV-08=0.0 BETA=0.0

(A) BETA = .00



DATA SET SYMBOLS: 0, 1, 2, 3

CONFIGURATION DESCRIPTION	ELV-1B	ELV-08	MACH	GIMBAL	REFERENCE INFORMATION
ARC 0141A19 0'S*STRUT S89-OFF MPS-OFF	.000	.000	.900	1.000	SREF 2690.0000 SQ.FT.
ARC 0141A19 0'S*STRUT S89-NOM MPS-NOM	.000	.000	.900	1.000	LREF 1290.3000 IN.
ARC 0141A19 0'S*STRUT S89-OFF MPS-OFF	.000	.000	.900	2.000	BREF 1290.3000 IN.
ARC 0141A19 0'S*STRUT S89-NOM MPS-NOM	.000	.000	.900	2.000	XREF 976.0000 IN.
					YREF 400.0000 IN.
					ZREF 400.0000 IN.
					SCALE .0500



SRM BASE AXIAL-FORCE COEFFICIENT, CABS

FIG. 14 EFFECT OF PLUMES - MACH=0.9 ELV-1B=0.0 ELV-08=0.0 BETA=0.0

CABETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(B-003)	ARC11-0141A19	OTS-S1RUT	SR3-OFF	MPS-OFF
(B-004)	ARC11-0141A19	OTS-S1RUT	SR3-NOM	MPS-NOM
(B-005)	ARC11-0141A19	OTS-S1RUT	SR3-OFF	MPS-OFF
(B-006)	ARC11-0141A19	OTS-S1RUT	SR3-NOM	MPS-NOM

ELV-IB LV-UB MACH

.000	.000	.900
.000	.000	.900
.000	.000	.900
.000	.000	.900

GIMBAL

1.000
1.000
2.000
2.000

REFERENCE INFORMATION

SRF	2690.0000	SO, FT.
LRF	1290.3000	IN.
BRF	1290.3000	IN.
XRFB	976.0000	IN.
YMRB	.0000	IN.
ZMRB	400.0000	IN.
SCALE	.0200	

EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

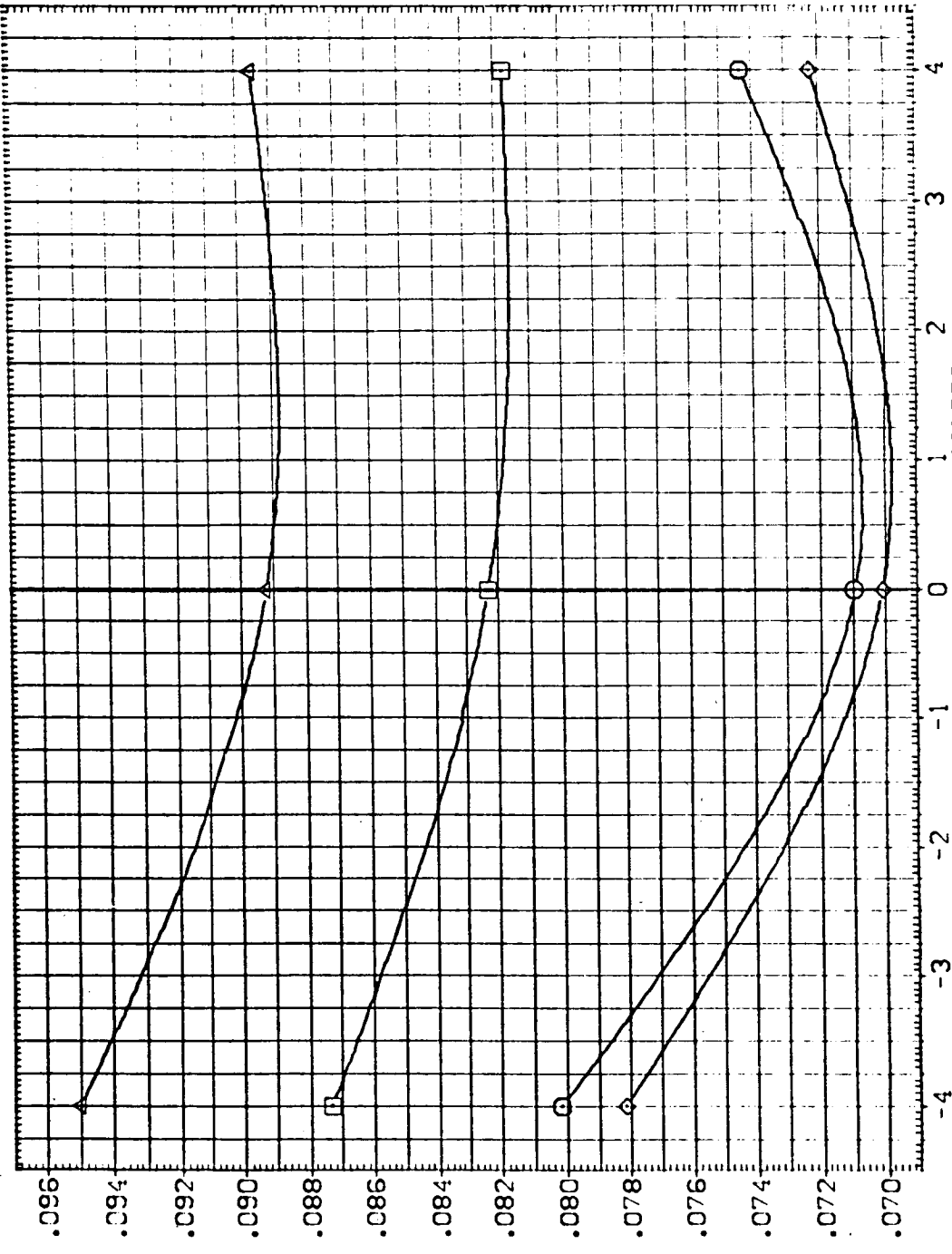


FIG. 14 EFFECT OF PLUMES - MACH=0.9 ELV-IB=0.0 ELV-OB=0.0 BETA=0.0

(A)BETA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION

{B:JC24} O ARC11-0:41A19 OTS*STRUT S98-0FF MPS-0FF
 {B:JC28} O ARC11-0:41A19 OTS*STRUT S98-NOM MPS-NOM
 {B:JC32} O ARC11-0:41A19 OTS*STRUT S98-0FF MPS-0FF
 {B:JC36} O ARC11-0:41A19 OTS*STRUT S98-NOM MPS-NOM

ELV-1B .000
 ELV-08 .000
 MACH 1.100
 GIMBAL 1.000

REFERENCE INFORMATION
 SREF 2690.0000 SO.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN.
 YMRP 400.0000 IN.
 ZMRP 400.0000 IN.
 XT
 YT
 ZT
 SCALE .0200

ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

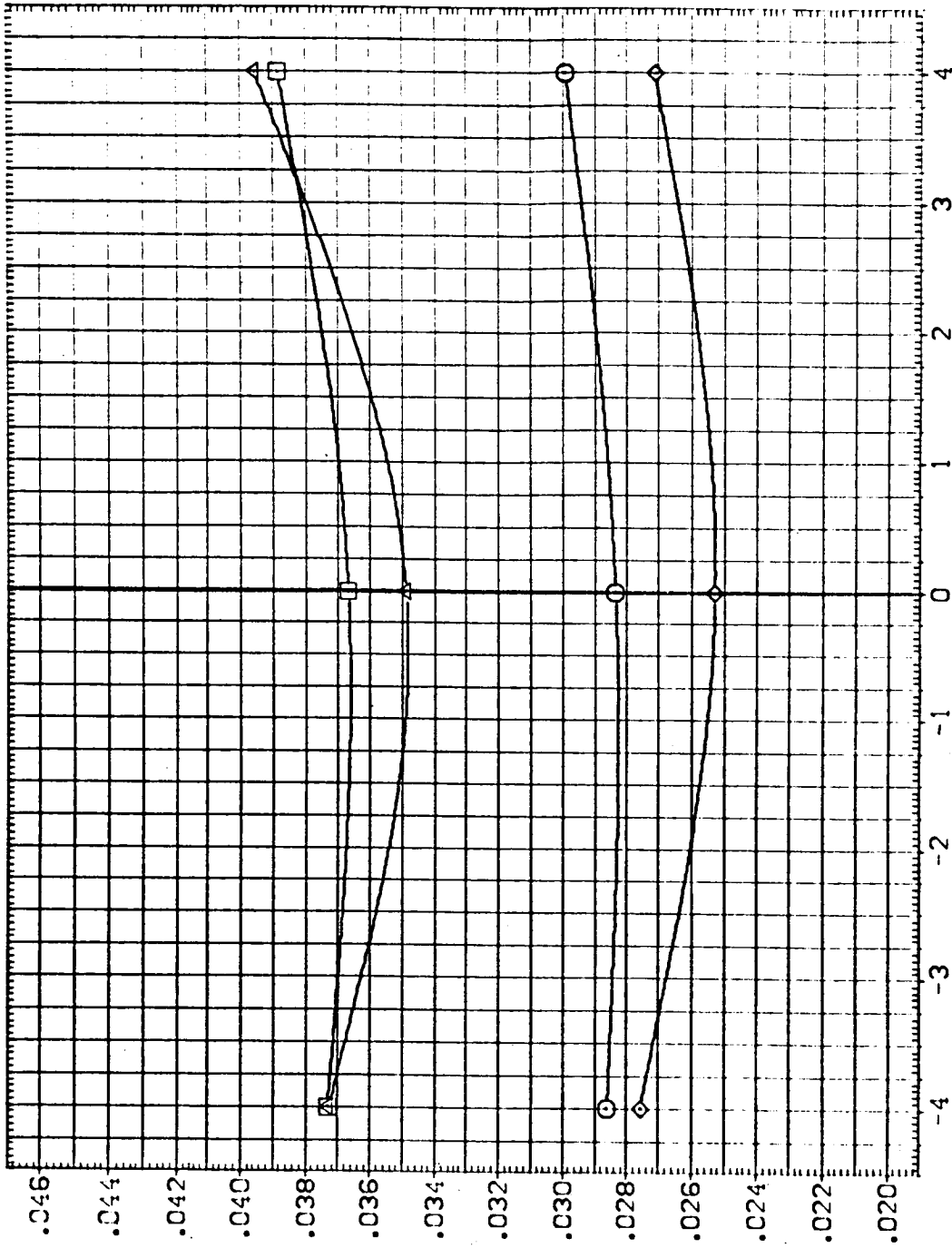


FIG. 15 EFFECT OF PLUMES - MACH=1.1 ELV-1B=0.0 ELV-08=0.0 BETA=0.0

CABETA = .00

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DATA SET SYMBOL CONFIGURATION DESCRIPTION ELV-1B ELV-08 MACH GIMBAL REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-08	MACH	GIMBAL	SREF	LREF	BREF	XMRP	YMRP	ZMRP	SCALE	SO.FT.
(3-0024)	ARC11-0141A19 D1S*STRUT SRB-OFF MPS-OFF	.000	.000	1.100	1.000	2690.0000	1.000	1.000	1.000	1.000	100.0000	.0200	2690.0000
(3-0028)	ARC11-0141A19 D1S*STRUT SRB-NOM MPS-NOM	.000	.000	1.100	1.000	2690.3000	1.000	1.000	1.000	1.000	100.0000	.0200	2690.3000
(3-0032)	ARC11-0141A19 D1S*STRUT SRB-OFF MPS-OFF	.000	.000	1.100	2.000	2690.3000	2.000	2.000	2.000	2.000	100.0000	.0200	2690.3000
(3-0036)	ARC11-0141A19 D1S*STRUT SRB-NOM MPS-NOM	.000	.000	1.100	2.000	2690.3000	2.000	2.000	2.000	2.000	100.0000	.0200	2690.3000



SRM BASE AXIAL-FORCE COEFFICIENT, CABS

FIG. 15 EFFECT OF PLUMES - MACH=1.1 ELV-1B=0.0 ELV-08=0.0 BETA=0.0

(A) BETA = .00

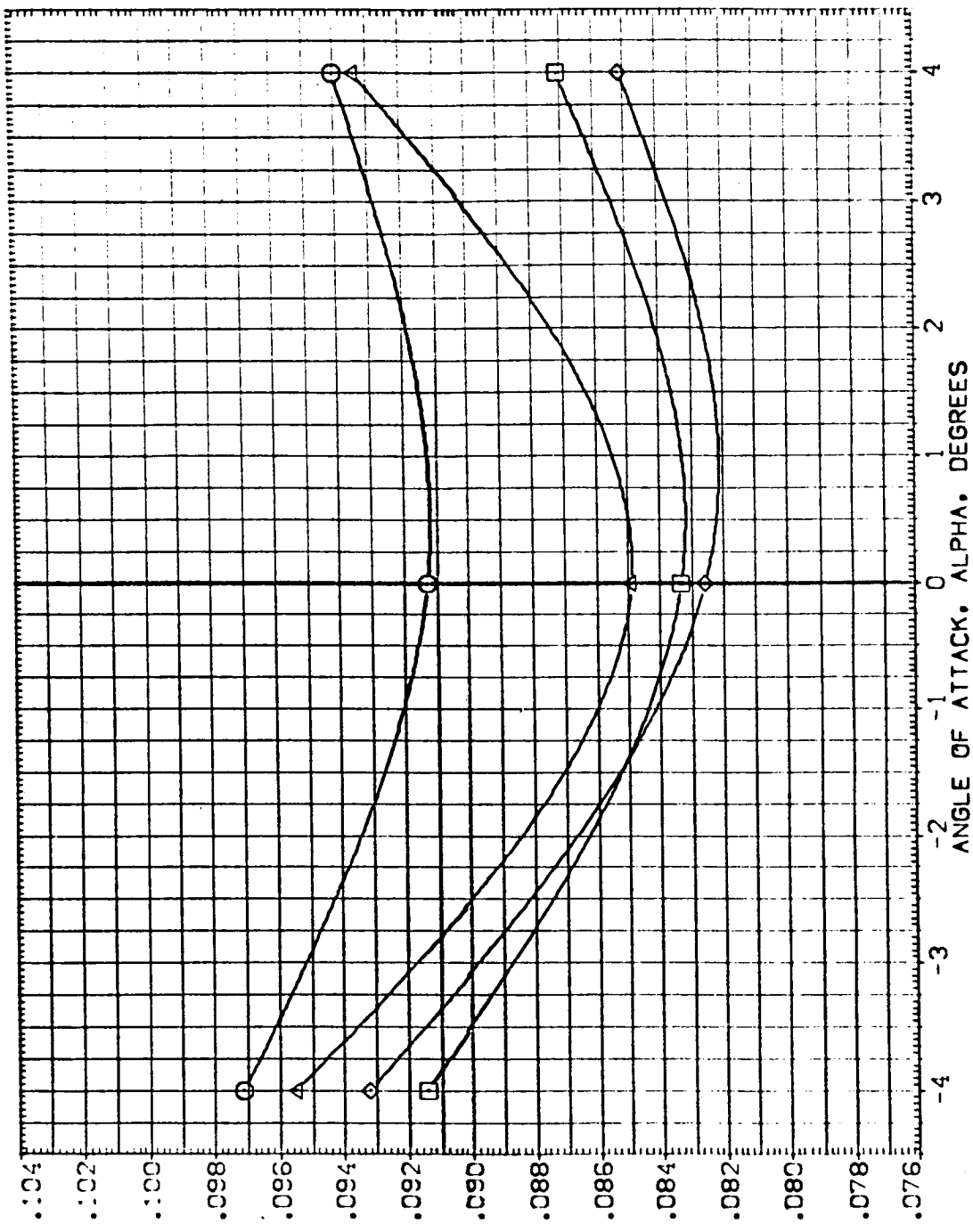
DATA SET SYMBOL: CONFIGURATION DESCRIPTION

(3-0274) C ARC:1-0:1A19 OTS*STRUT S98-DFP MPS-DFP
 (3-0278) C ARC:1-0:1A19 OTS*STRUT S98-NOM MPS-NOM
 (3-0282) C ARC:1-0:1A19 OTS*STRUT S98-DFP MPS-DFP
 (3-0286) C ARC:1-0:1A19 OTS*STRUT S98-NOM MPS-NOM

ELV-1B ELV-09 MACH GIMBAL REFERENCE INFORMATION

.000 .000 1.100 1.000 SREF 2690.0000 SO.FT.
 .000 .000 1.100 1.000 LREF 1290.3000 IN.
 .000 .000 1.100 2.000 BREF 1290.3000 IN.
 .000 .000 1.100 2.000 XMRP 576.0000 IN.
 .000 .000 1.100 2.000 YMRP 400.0000 IN.
 .000 .000 1.100 2.000 ZMRP 400.0000 IN.
 .000 .000 1.100 2.000 XT
 .000 .000 1.100 2.000 YT
 .000 .000 1.100 2.000 ZT

SCALE .0200



EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CAB1

FIG. 15 EFFECT OF PLUMES - MACH=1.1 ELV-1B=0.0 ELV-0B=0.0 BETA=0.0

(A)BETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION	DESCRIPTION	SRB OFF	MPS OFF	SRB-NOM	MPS-NOM	ELV-1B	ELV-0B	MACH	GIMBAL	REFERENCE INFORMATION
(B-0075)	ARC11-0141A19	DIS-SIRJT	SRB-OFF	MPS-OFF	SRB-NOM	MPS-NOM	.000	.000	1.250	1.000	SREF 2690.0000 SO.FT.
(B-0078)	ARC11-0141A19	DIS-SIRJT	SRB-NOM	MPS-NOM	SRB-NOM	MPS-NOM	.000	.000	1.250	1.000	LREF 1290.3000 IN.
(B-0033)	ARC11-0141A19	DIS-SIRJT	SRB-OFF	MPS-OFF	SRB-NOM	MPS-NOM	.000	.000	1.250	2.000	BREF 1290.3000 IN.
(B-0033)	ARC11-0141A19	DIS-SIRJT	SRB-NOM	MPS-NOM	SRB-NOM	MPS-NOM	.000	.000	1.250	2.000	XMRP 976.0000 IN. XT
(B-0033)	ARC11-0141A19	DIS-SIRJT	SRB-NOM	MPS-NOM	SRB-NOM	MPS-NOM	.000	.000	1.250	2.000	YMRP 400.0000 IN. YT
											ZMRP 100.0000 IN. ZT
											SCALE 0.000

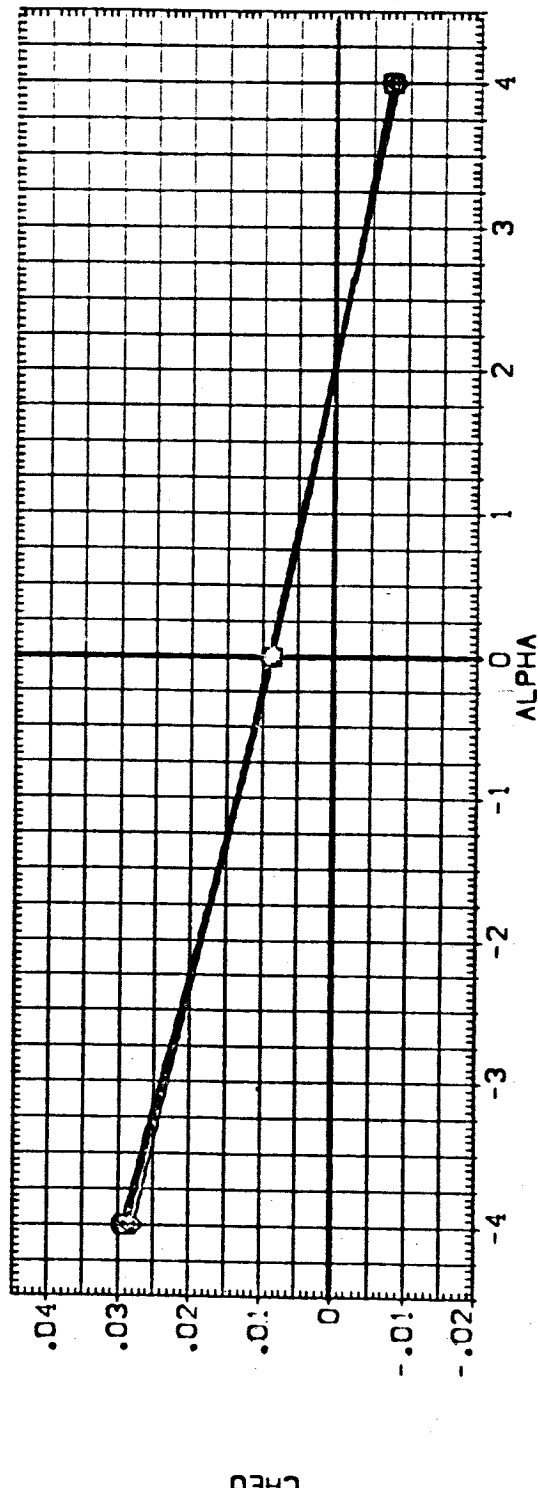
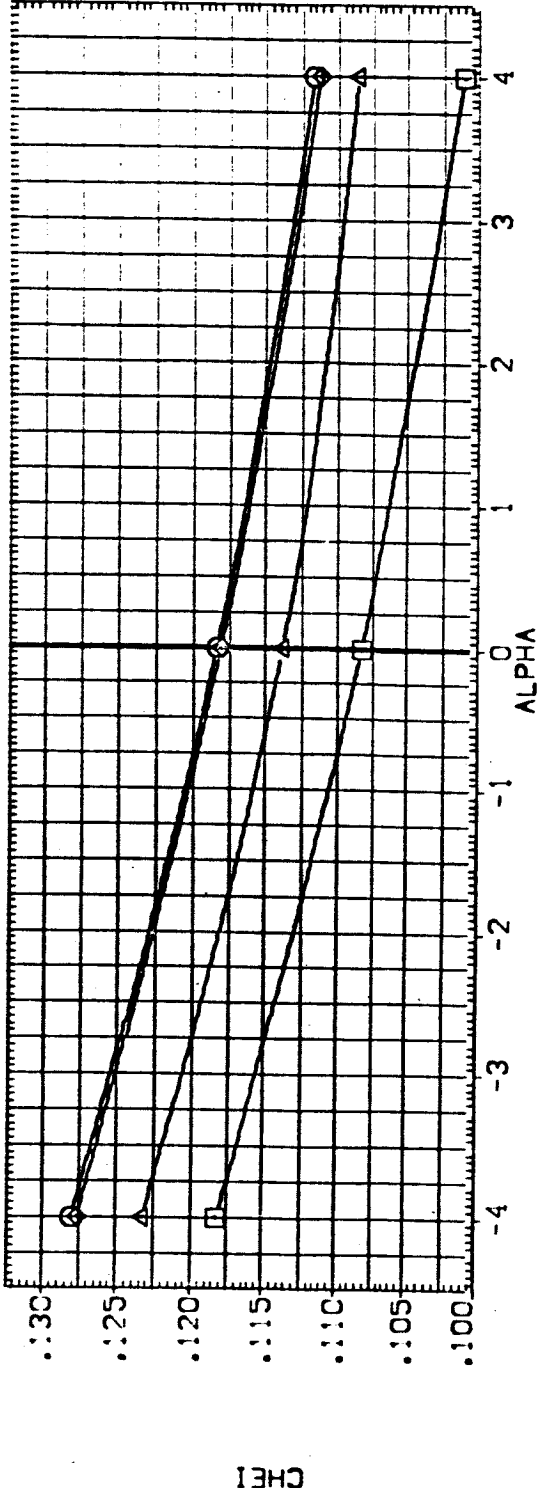


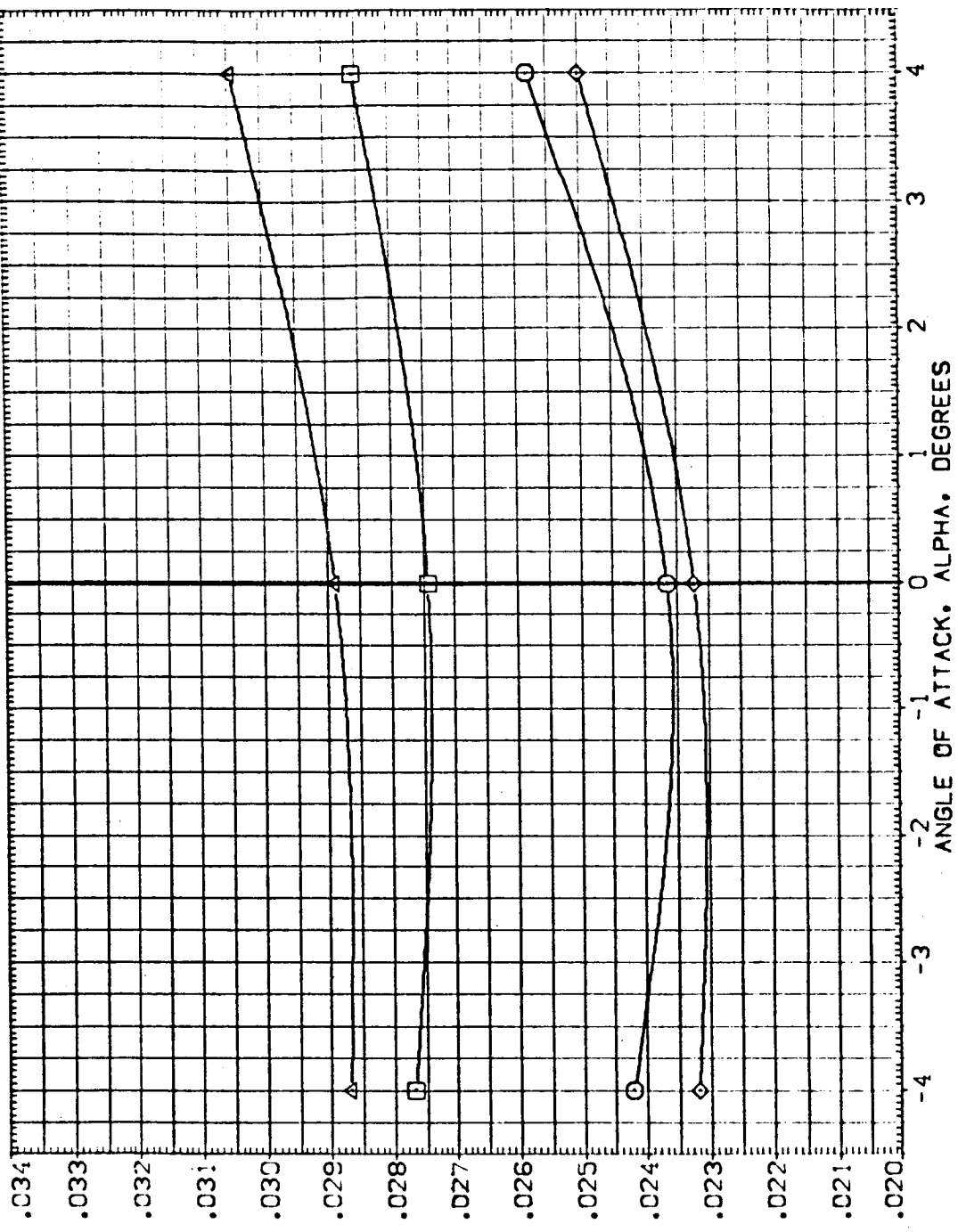
FIG. 16 EFFECT OF PLUMES - MACH=1.25 ELV-1B=0.0 ELV-0B=0.0 BETA=0.0

(A)BETA = .00

DATA SYMBOLS: (3) (3) (3) (3)
 (3) (3) (3) (3)
 (3) (3) (3) (3)
 (3) (3) (3) (3)

CONFIGURATION DESCRIPTION
 ARC11-0141A19 OTS*STRUT
 ARC11-0141A19 OTS*STRUT
 ARC11-0141A19 OTS*STRUT
 ARC11-0141A19 OTS*STRUT

ELV-1B ELV-0B MACH GIMBAL REFERENCE INFORMATION
 .000 .000 1.250 1.000 SREF 2690.0000 SQ.FT.
 .000 .000 1.250 1.000 LREF 1790.3000 IN.
 .000 .000 1.250 2.000 BREF 1290.3000 IN.
 .000 .000 1.250 2.000 XMRP 976.0000 IN.
 .000 .000 1.250 2.000 YMRP 400.0000 IN.
 .000 .000 1.250 2.000 ZMRP 400.0000 IN.
 .0200 SCALE



ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

FIG. 16 EFFECT OF PLUMES - MACH=1.25 ELV-1B=0.0 ELV-0B=0.0 BETA=0.0

CABETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

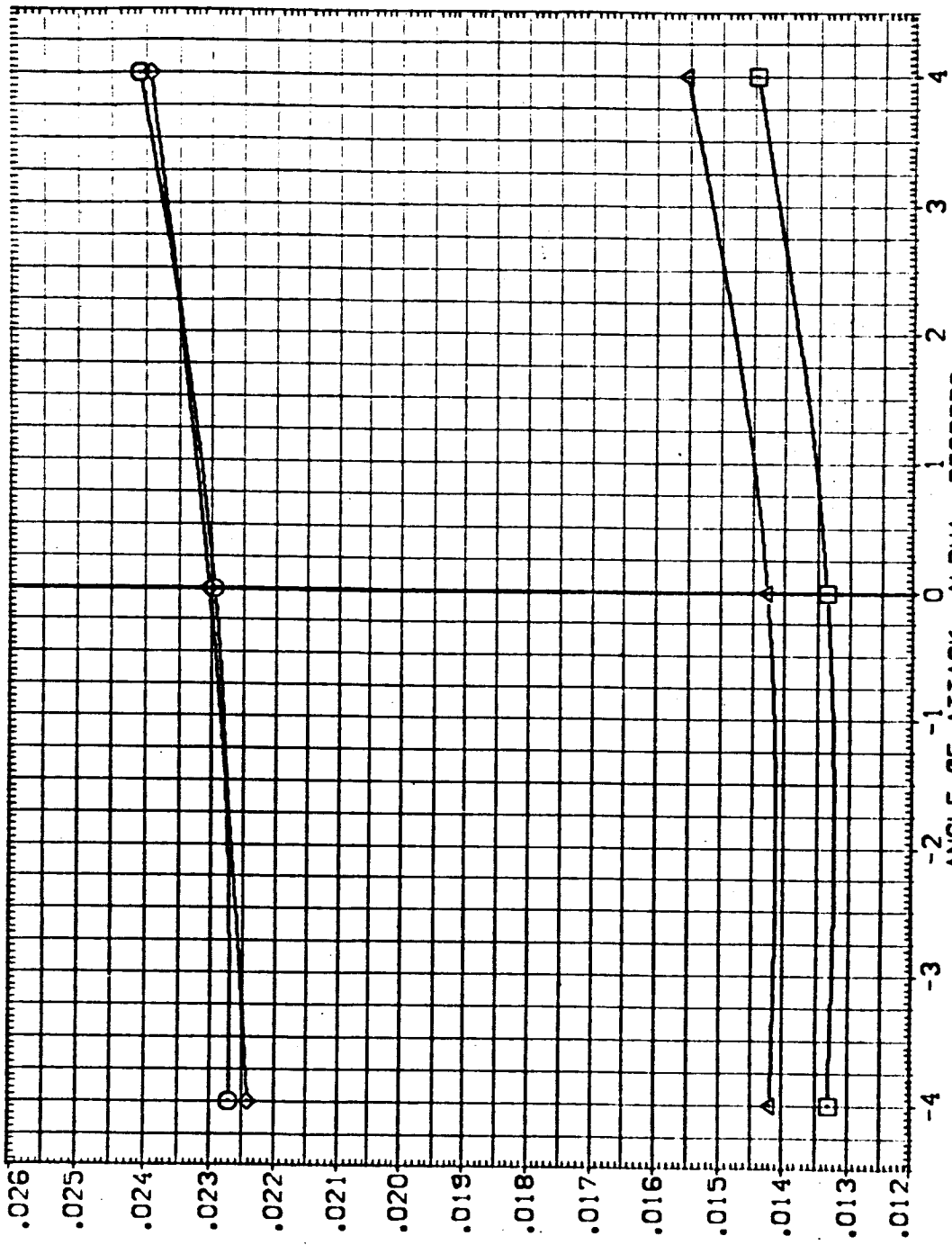
[EUC25] ○ ARC||-014|A19 D1S-S1RJT SR3-OFF MPS-OFF
 [EUC29] ◇ ARC||-014|A19 D1S-S1RJT SR3-NOM MPS-NOM
 [EUC33] ○ ARC||-014|A19 D1S-S1RJT SR3-OFF MPS-OFF
 [EUC37] ◇ ARC||-014|A19 D1S-S1RJT SR3-NOM MPS-NOM

ELV-1B ELV-0B MACH GIMBAL

.000 .000 1.250 1.000
 .000 .000 1.250 1.000
 .000 .000 1.250 2.000
 .000 .000 1.250 2.000

REFERENCE INFORMATION

SREF 2680.0000 SO.FT.
 LREF 1230.3000 IN.
 BREF 1290.3000 IN.
 XMRP 975.0000 IN.
 YMRP .0000 IN.
 ZMRP 400.0000 IN.
 SCALE .0700



SRM BASE AXIAL-FORCE COEFFICIENT, CABS

FIG. 16 EFFECT OF PLUMES - MACH=1.25 ELV-1B=0.0 ELV-0B=0.0 BETA=0.0

(A)BETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 [3] [003] ARC [1] [0] [4] [1] [9] OTS-STRUT SRB-OFF MPS-OFF
 [3] [003] ARC [1] [0] [4] [1] [9] OTS-STRUT SRB-NOM MPS-NOM
 [3] [003] ARC [1] [0] [4] [1] [9] OTS-STRUT SRB-OFF MPS-OFF
 [3] [003] ARC [1] [0] [4] [1] [9] OTS-STRUT SRB-NOM MPS-NOM

ELV-IB ELV-OB MACH GIMBAL REFERENCE INFORMATION SQ.FT.
 .000 .000 1.250 1.000 SRBF 2690.0000
 .000 .000 1.250 1.000 LRBF 1290.3000
 .000 .000 1.250 2.000 BRBF 1290.3000
 .000 .000 1.250 2.000 XMRP 976.0000
 .000 .000 1.250 2.000 YMRP 400.0000
 .000 .000 1.250 2.000 ZMRP 400.0000
 SCALE .0200

EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

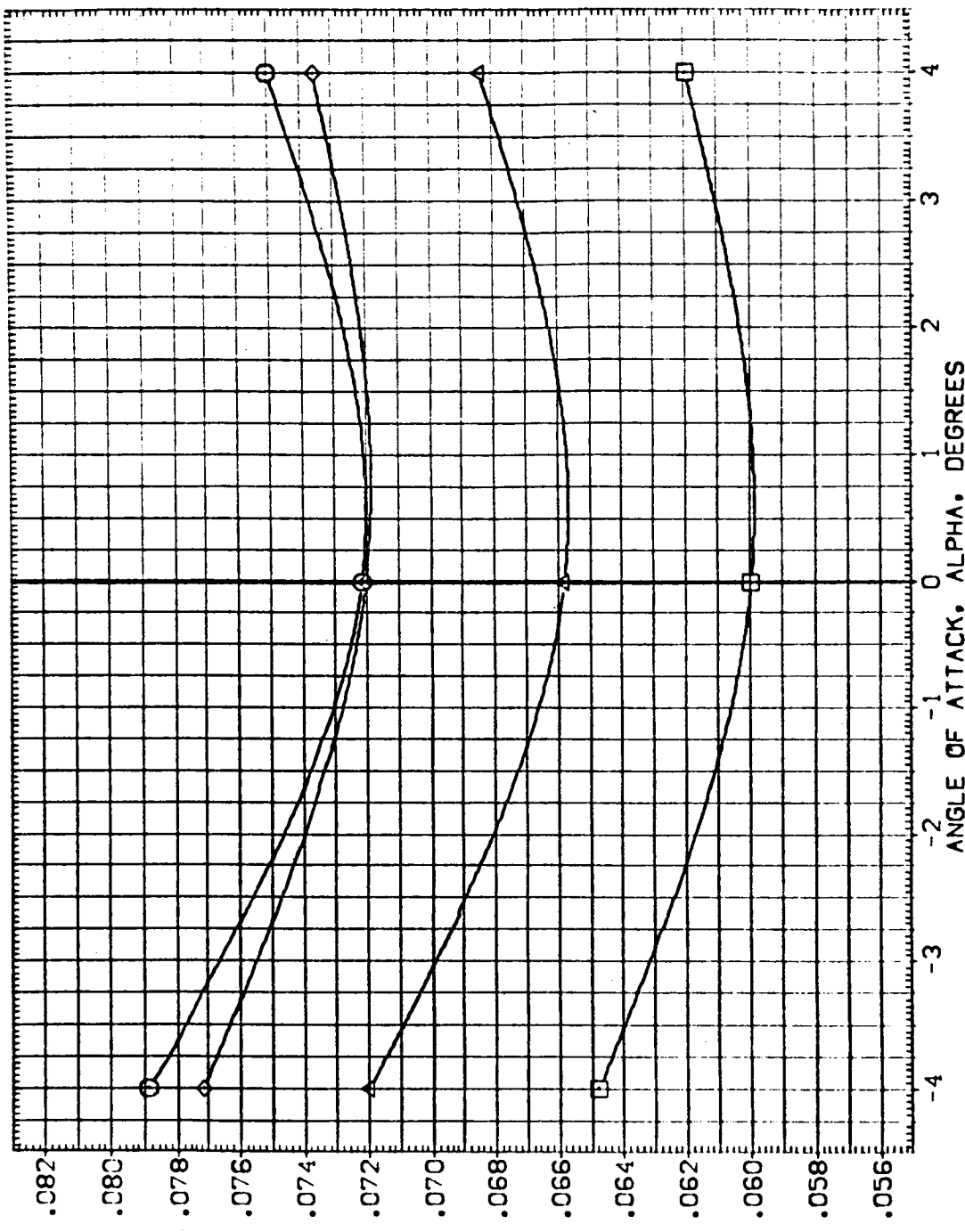


FIG. 16 EFFECT OF PLUMES - MACH=1.25 ELV-IB=0.0 ELV-OB=0.0 BETA=0.0

(A) BETA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(3EJC076) O ARC11-0141A19 OTS*STRUT SRB-OFF MPS-OFF

(3EJC030) X ARC11-0141A19 OTS*STRUT SRB-NOM MPS-NOM

(3EJC034) X ARC11-0141A19 OTS*STRUT SRB-OFF MPS-OFF

(3EJC038) X ARC11-0141A19 OTS*STRUT SRB-NOM MPS-NOM

ELV-1B ELV-08 MACH GIMBAL

.000 .000 1.400 1.000

.000 .000 1.400 1.000

.000 .000 1.400 2.000

.000 .000 1.400 2.000

REFERENCE INFORMATION

SREF 2690.0000 SQ.FT.

LREF 1290.3000 IN.

BREF 1290.3000 IN.

XMRP 976.0000 IN.

YMRP 400.0000 IN.

ZMRP 400.0000 IN.

SCALE .0200

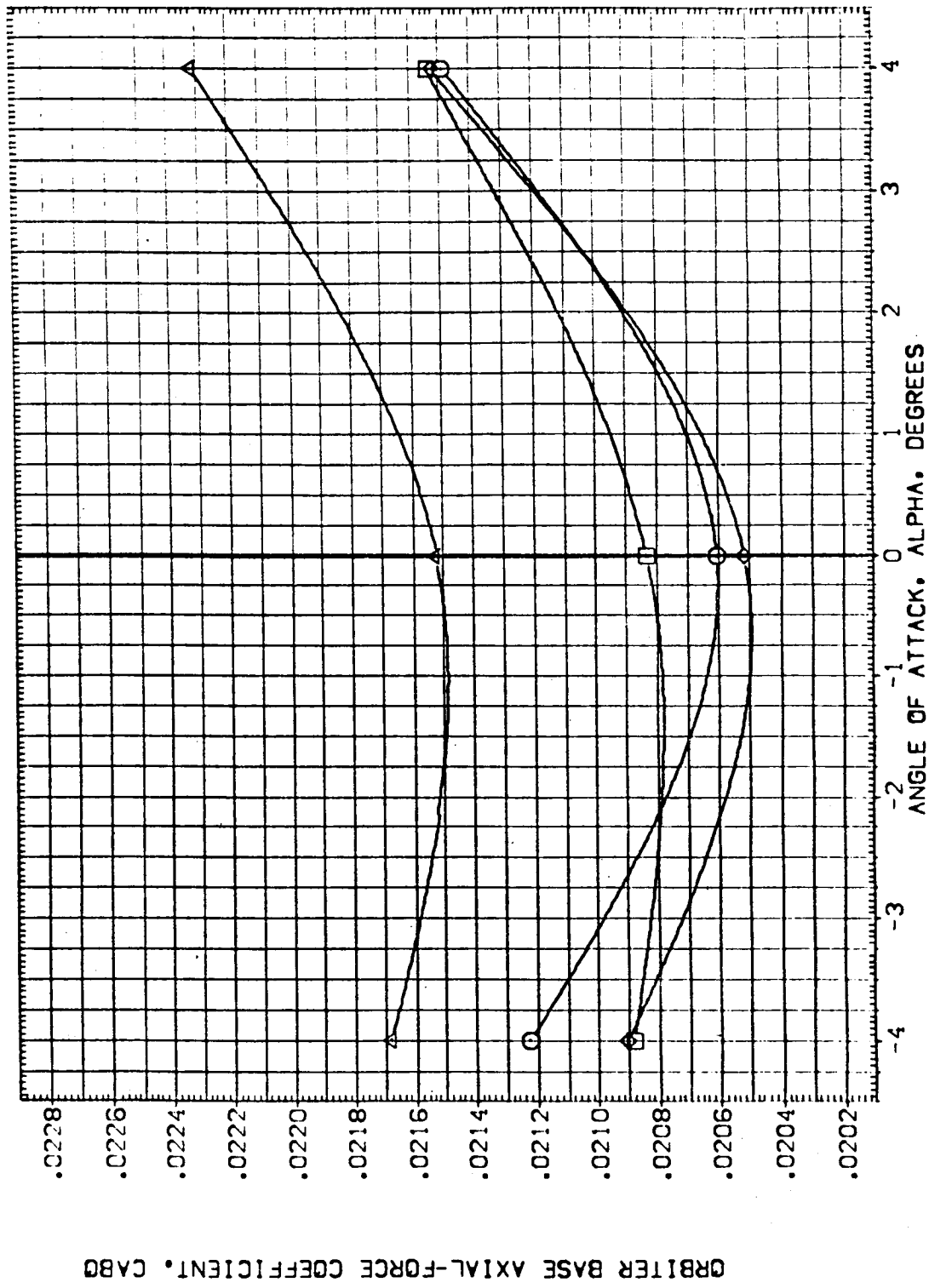


FIG. 17 EFFECT OF PLUMES - MACH=1.4 ELV-1B=0.0 ELV-0B=0.0 BETA=0.0

(A)BETA = .00



DATA SET SYMBOL: \square \diamond \triangle

CONFIGURATION DESCRIPTION	ELV-1B	ELV-08	MACH	GIMBAL	REFERENCE INFORMATION
ARC11-0141A19 O1S-STRUT S93-0FF MPS-0FF	.000	.000	1.400	1.000	SREF 2690.0000 90.FT.
ARC11-0141A19 O1S-STRUT S93-NOM MPS-NOM	.000	.000	1.400	1.000	LREF 1290.3000 IN.
ARC11-0141A19 O1S-STRUT S93-0FF MPS-0FF	.000	.000	1.400	2.000	BREF 1290.3000 IN.
ARC11-0141A19 O1S-STRUT S93-NOM MPS-NOM	.000	.000	1.400	2.000	XMRP 976.0000 IN.
					YMRP .0000 IN.
					ZMRP 400.0000 IN.
					SCALE .0200

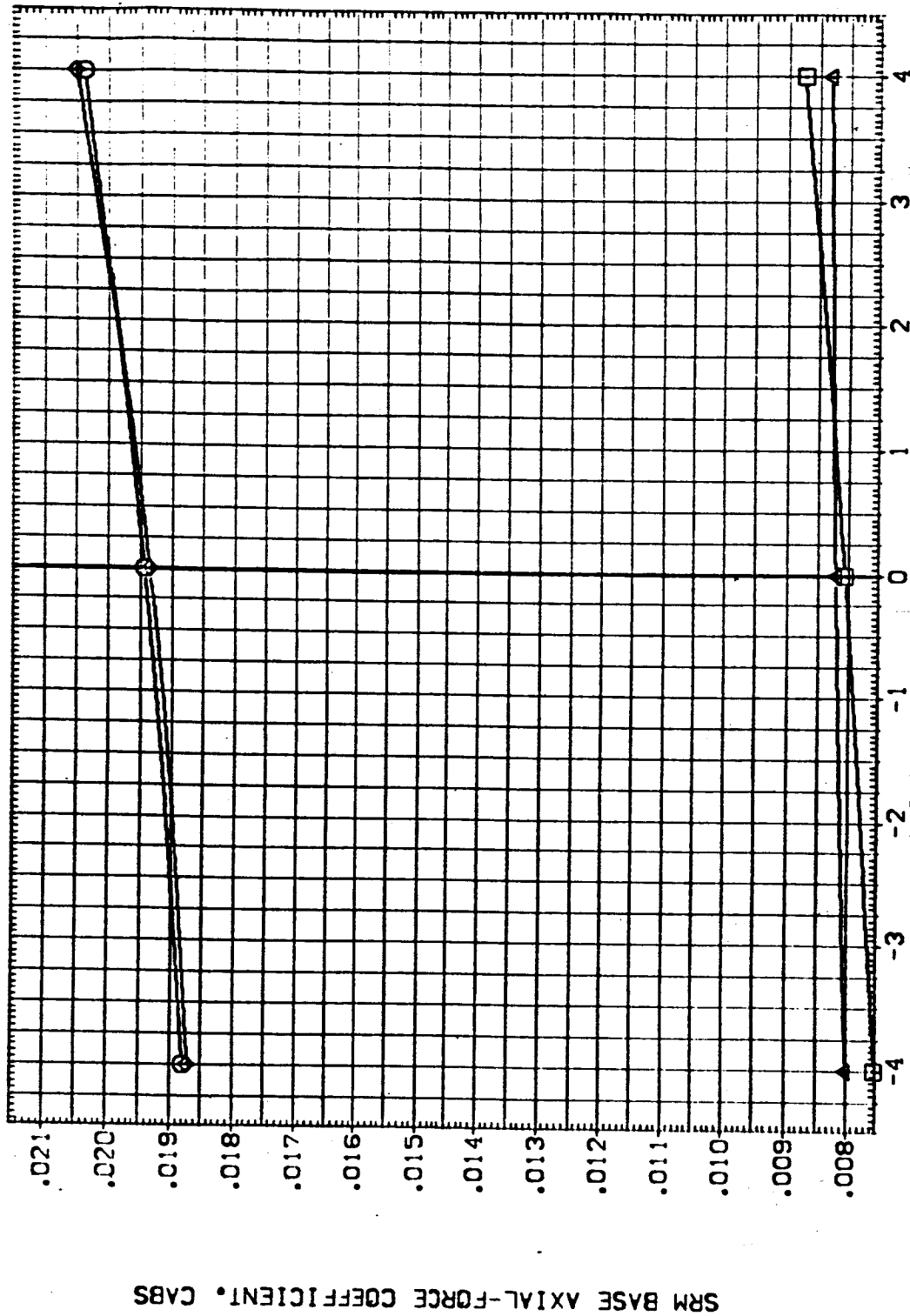


FIG. 17 EFFECT OF PLUMES - MACH=1.4 ELV-1B=0.0 ELV-08=0.0 BETA=0.0

CABETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION	DESCRIPTION	ELV-1B	ELV-0B	MACH	GIMBAL	SCALE	REFERENCE INFORMATION
(CE-023)	ARC11-0141A19	OTS-STRUT SRB-0FF MPS-0FF	.000	.000	.900	1.000	.0200	2680.0000 SO.FT.
(CE-027)	ARC11-0141A19	OTS-STRUT SRB-NOM MPS-NOM	.000	.000	.900	1.000	.0200	1290.3000 IN.
(CE-031)	ARC11-0141A19	OTS-STRUT SRB-0FF MPS-0FF	.000	.000	.900	2.000	.0200	1290.3000 IN.
(CE-035)	ARC11-0141A19	OTS-STRUT SRB-NOM MPS-NOM	.000	.000	.900	2.000	.0200	976.0000 IN.
								YMRP 0.0000 IN.
								ZMRP 0.0000 IN.

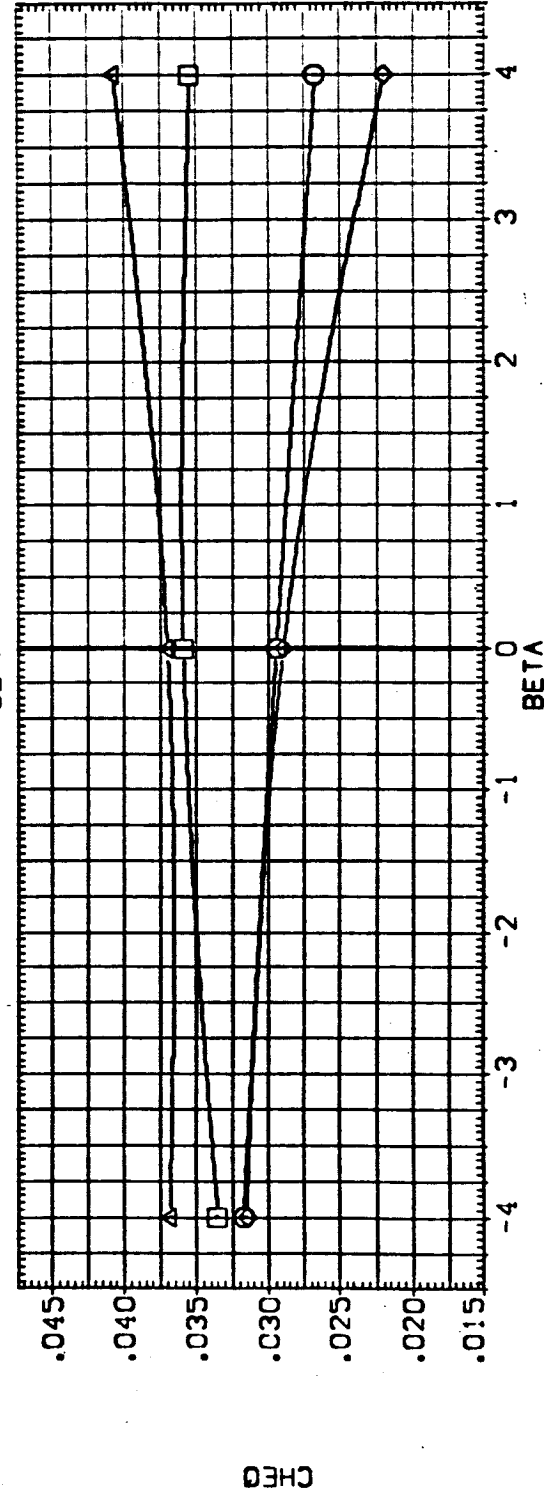
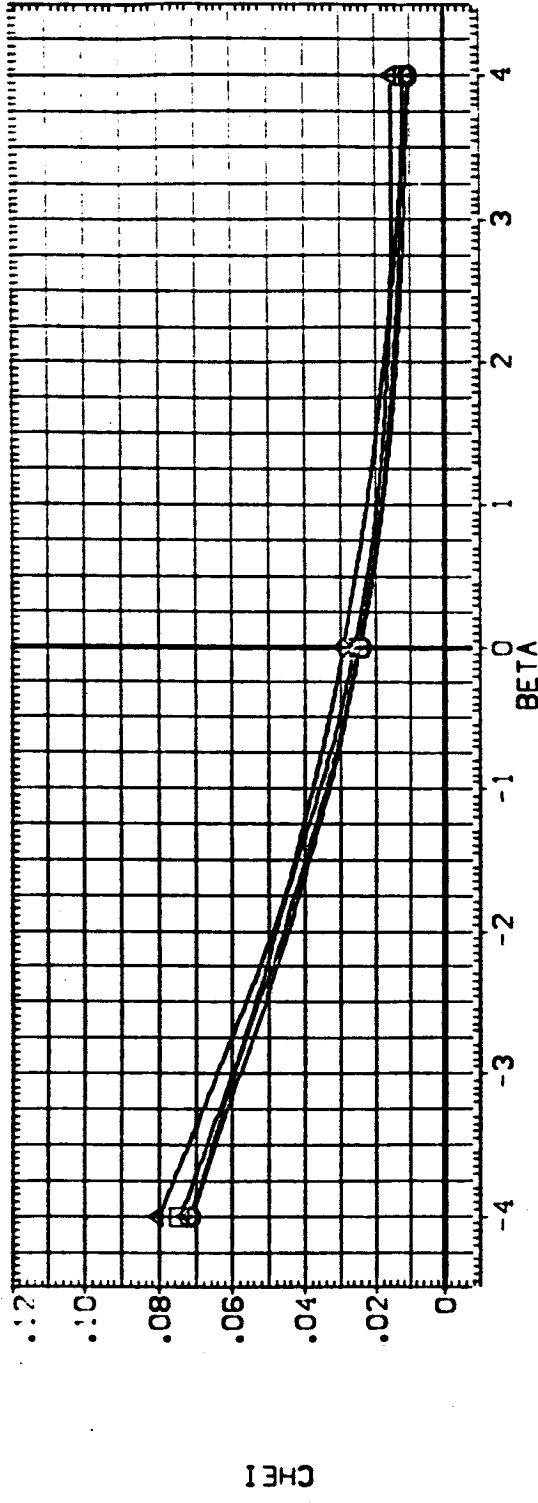


FIG. 18 EFFECT OF PLUMES - MACH=0.9 ELV-1B=0.0 ELV-0B=0.0 ALPHA=0.0
 CAJALPHA = .00 PAGE 57

DATA SET SYMBOL CONFIGURATION DESCRIPTION ELV-1B ELV-08 MACH GIMBAL REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-08	MACH	GIMBAL	SREF	LRFF	BRFF	XMRP	YMRP	ZMRP	SCALE	SQ.FT.
[SELUC23]	ARC11-01A1A19 OTS*STRUT SRS-DF	.000	.000	.900	1.000	2650.0000							IN.
[SELUC27]	ARC11-01A1A19 OTS*STRUT SRS-NOM	.000	.000	.900	1.000	1290.3000							IN.
[SELUC31]	ARC11-01A1A19 OTS*STRUT SRS-DF	.000	.000	.900	2.000	1290.3000							IN.
[SELUC35]	ARC11-01A1A19 OTS*STRUT SRS-NOM	.000	.000	.900	2.000	576.0000							IN.
													IN.
													IN.
													IN.
													IN.

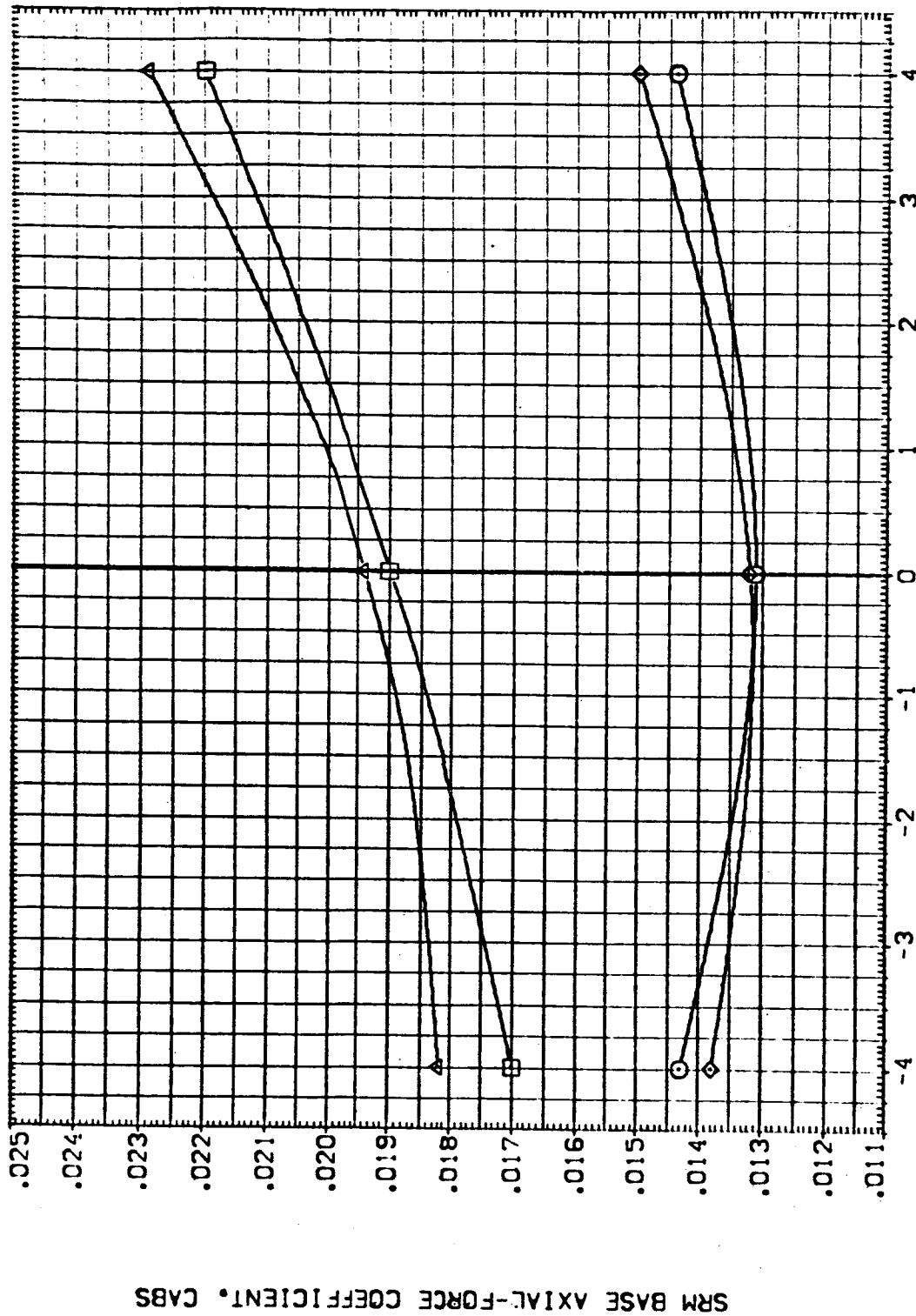


FIG. 18 EFFECT OF PLUMES - MACH=0.9 ELV-1B=0.0 ELV-08=0.0 ALPHA=0.0

CAJALPHA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(CELC23) ○ ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF
 (CELC27) ○ ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM
 (CELC31) ○ ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF
 (CELC35) ○ ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM

ELV-1B ELV-0B MACH GIMBAL REFERENCE INFORMATION SO.FT.
 .000 .000 .900 1.000 SREF 2680.0000 IN.
 .000 .000 .900 1.000 LREF 1290.3000 IN.
 .000 .000 .900 2.000 BRPF 1290.3000 IN. XT
 .000 .000 .900 2.000 YMRP 976.0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0200

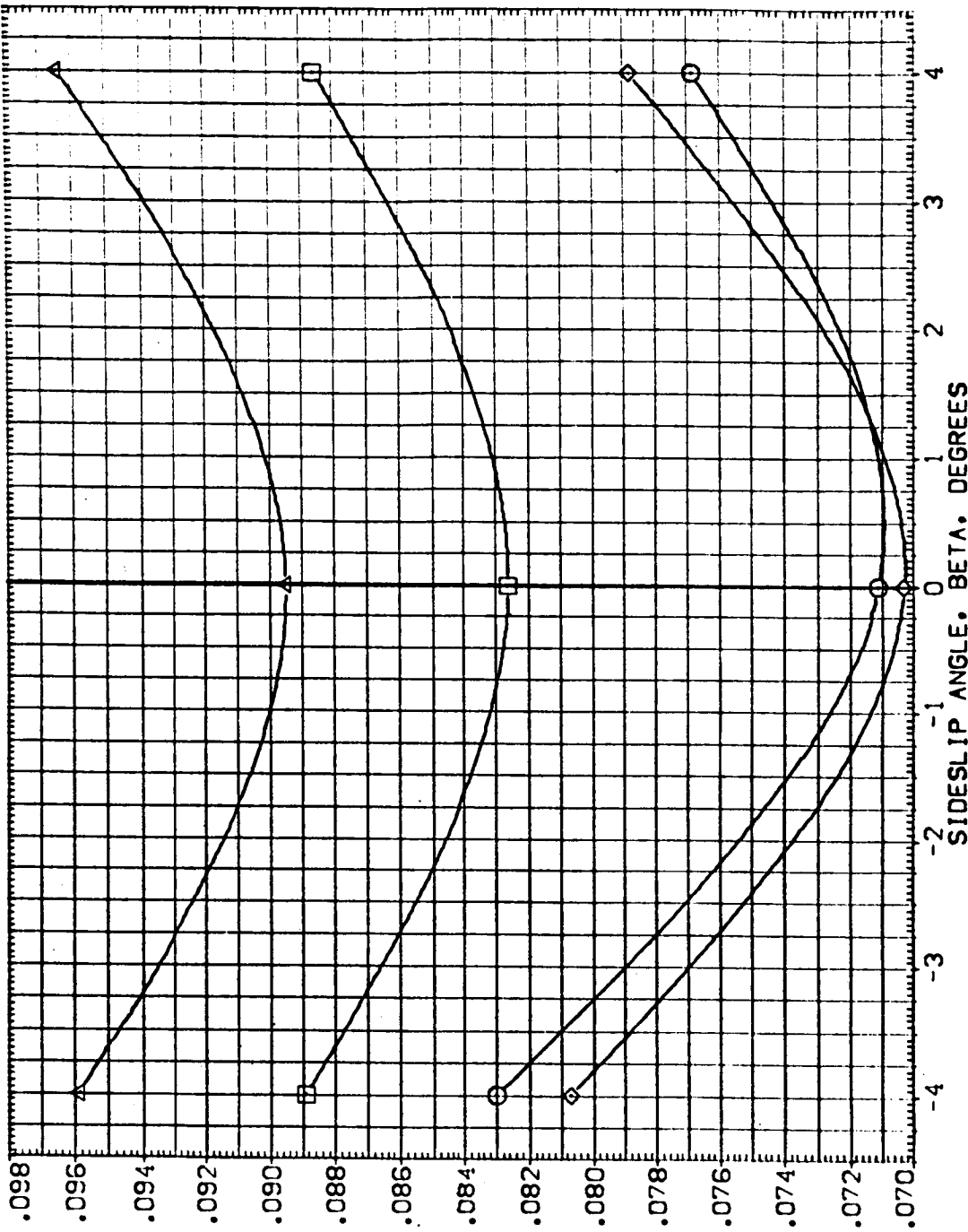


FIG. 18 EFFECT OF PLUMES - MACH=0.9 ELV-1B=0.0 ELV-0B=0.0 ALPHA=0.0

(A)ALPHA = .00

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DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION	DESCRIPTION	REF	GIBBAL	MACH	ELV-08	ELV-18	SCALE
[CEUC24]	ARC11-0141A19	OTS*STRUT S98-0FF MPS-0FF	2690.0000	1.000	1.100	.000	.000	400.0200
[CEUC25]	ARC11-0141A19	OTS*STRUT S98-NOM MPS-NOM	1290.3000	1.000	1.100	.000	.000	
[CEUC26]	ARC11-0141A19	OTS*STRUT S98-0FF MPS-0FF	1290.3000	2.000	1.100	.000	.000	
[CEUC27]	ARC11-0141A19	OTS*STRUT S98-NOM MPS-NOM	976.0000	2.000	1.100	.000	.000	

IN. XT
IN. YT
IN. ZT

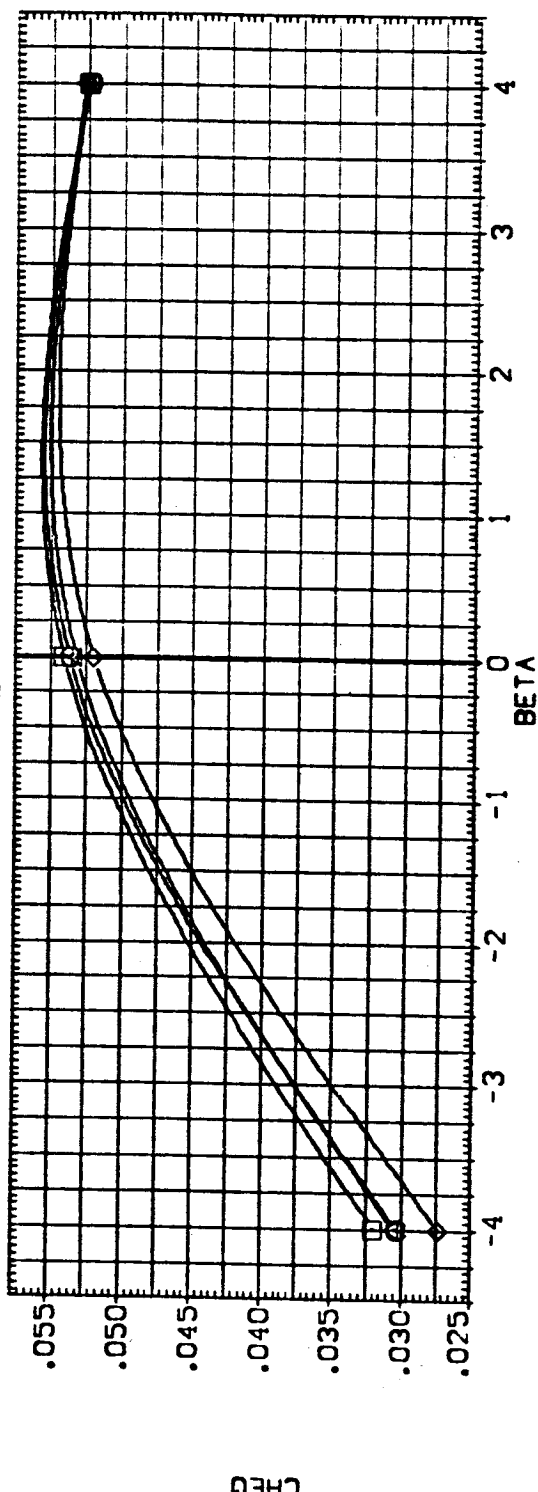
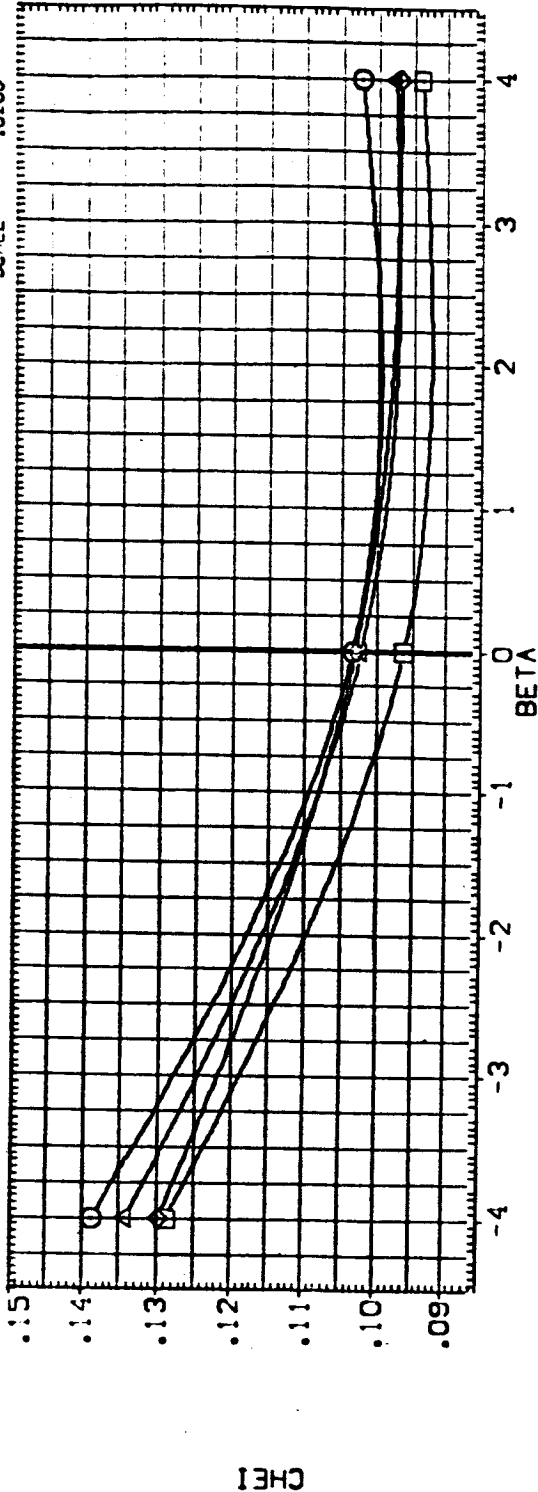


FIG. 19 EFFECT OF PLUMES - MACH=1.1 ELV-18=0.0 ELV-08=0.0 ALPHA=0.0
 CAJALPHA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(CEJ024) ○ ARC11-0:4:1A:9 OIS-STRUT SRB-OFF MPS-OFF

(CEJ028) ○ ARC11-0:4:1A:9 OIS-STRUT SRB-NOM MPS-NOM

(CEJ032) ○ ARC11-0:4:1A:9 OIS-STRUT SRB-OFF MPS-OFF

(CEJ036) ○ ARC11-0:4:1A:9 OIS-STRUT SRB-NOM MPS-NOM

ELV-1B ELV-0B MACH GIMBAL REFERENCE INFORMATION

.000 .000 1.100 1.000 2690.0000 SQ.FT.

.000 .000 1.100 1.000 1290.3000 IN.

.000 .000 1.100 1.000 1290.3000 IN.

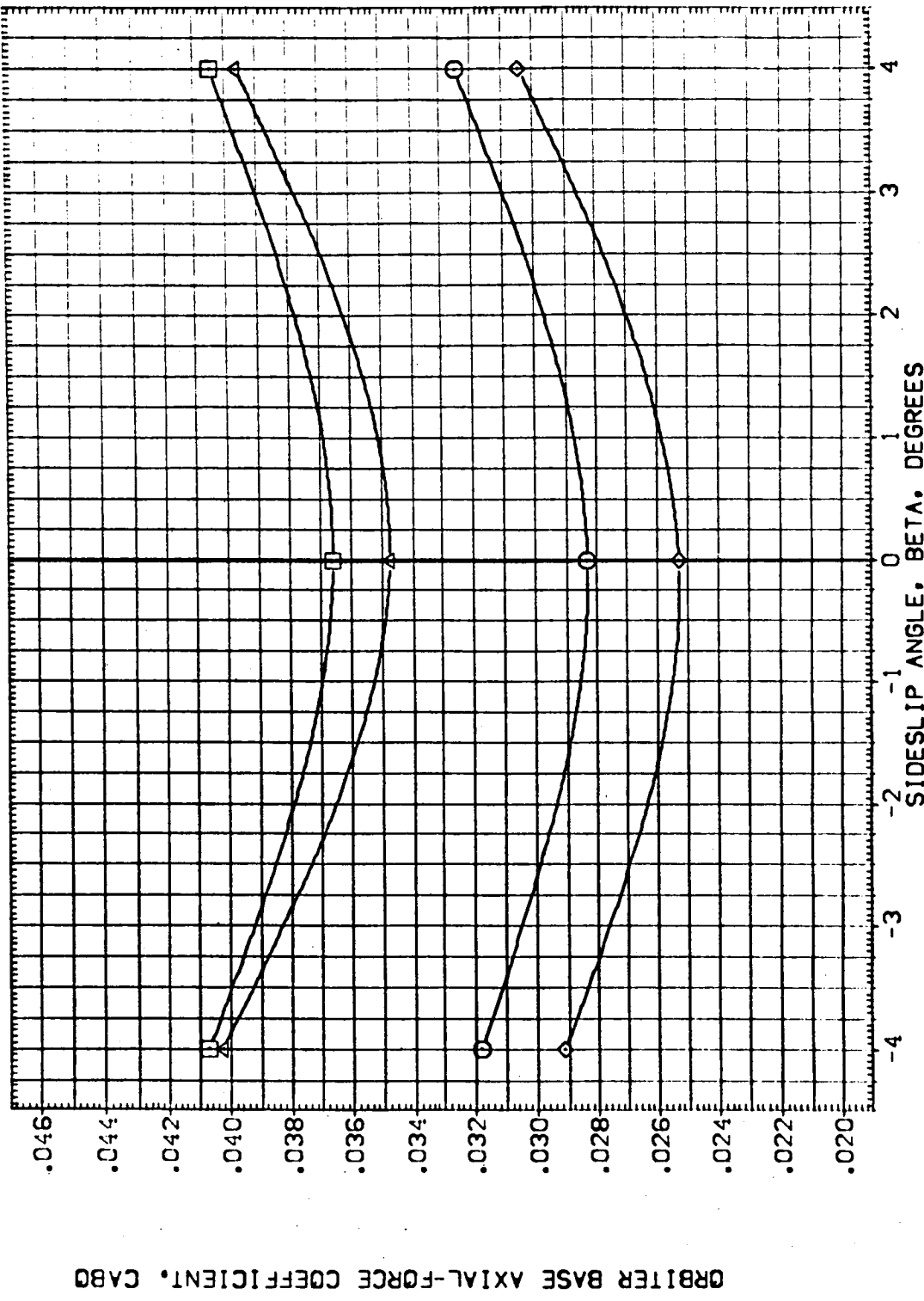
.000 .000 1.100 2.000 976.0000 IN.

.000 .000 1.100 2.000 976.0000 IN.

.000 .000 1.100 2.000 400.0000 IN.

.000 .000 1.100 2.000 400.0000 IN.

SCALE .0200



ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

FIG. 19 EFFECT OF PLUMES - MACH=1.1 ELV-1B=0.0 ELV-0B=0.0 ALPHA=0.0

(AJ)ALPHA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION

CE-024	ARC-014 A19	OTS+STRJ	SRB-OFF	MPS-OFF
CE-028	ARC-014 A19	OTS+STRJ	SRB-NOM	MPS-NOM
CE-032	ARC-014 A19	OTS+STRJ	SRB-OFF	MPS-OFF
CE-036	ARC-014 A19	OTS+STRJ	SRB-NOM	MPS-NOM

REFERENCE INFORMATION

SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	576.0000	IN.
YMRP	0.0000	IN.
ZMRP	400.0000	IN.
SCALE	0.0200	

ELV-1B ELV-08 MACH GIMBAL

ELV-1B	.000	.000	1.000	1.000
ELV-08	.000	.000	1.000	1.000
MACH	.000	.000	2.000	2.000
GIMBAL	.000	.000	1.000	1.000

SRM BASE AXIAL-FORCE COEFFICIENT, CABS

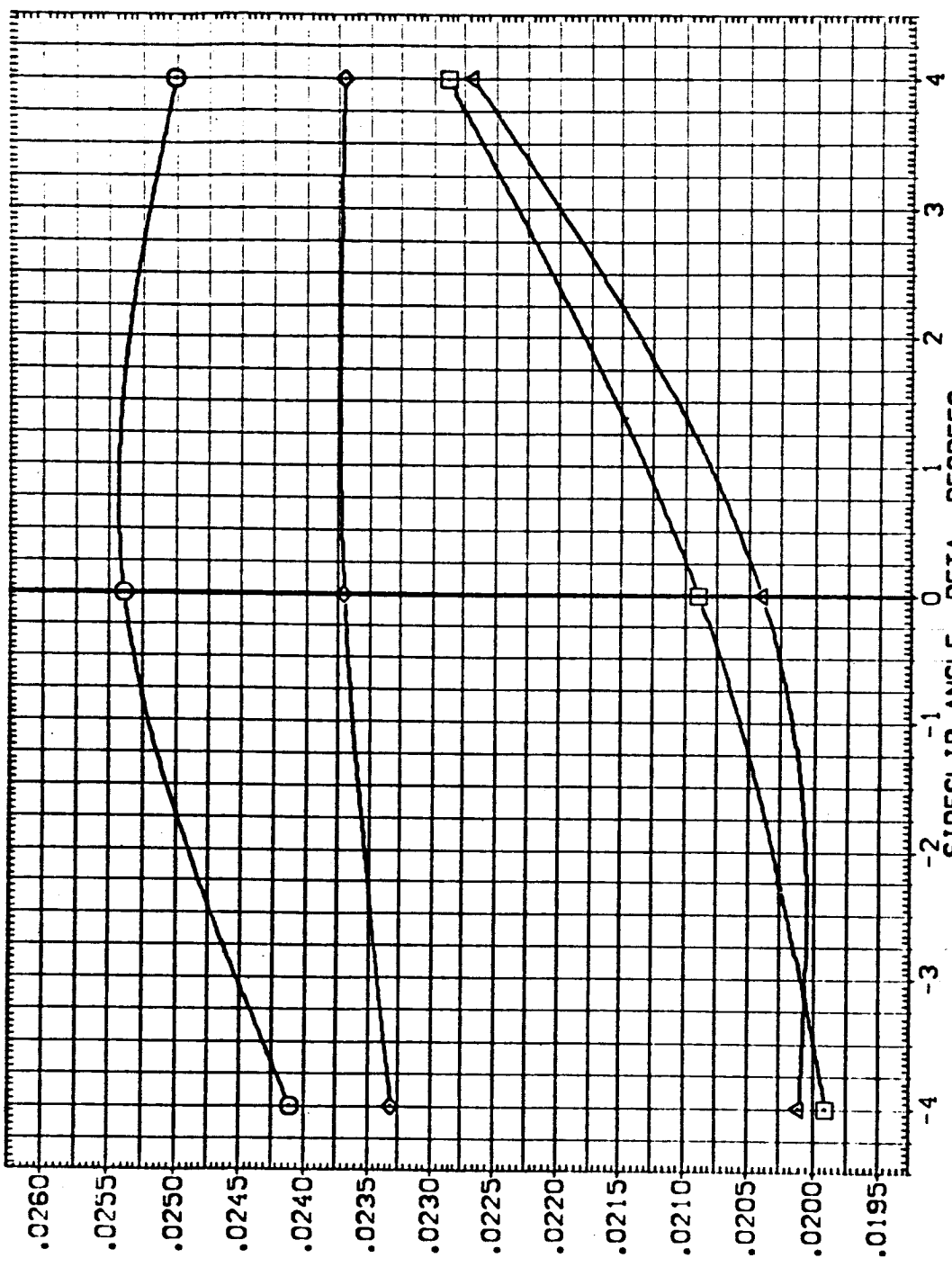


FIG. 19 EFFECT OF PLUMES - MACH=1.1 ELV-1B=0.0 ELV-08=0.0 ALPHA=0.0
 (A) ALPHA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(CELO24) □ ARC||-014|A19 01S*STRUT SRB-NOM MPS-OFF

(CELO28) □ ARC||-014|A19 01S*STRUT SRB-NOM MPS-OFF

(CELO32) □ ARC||-014|A19 01S*STRUT SRB-NOM MPS-OFF

(CELO36) □ ARC||-014|A19 01S*STRUT SRB-NOM MPS-OFF

ELV-1B ELV-08 MACH GIMBAL

.000 .000 1.100 1.000

.000 .000 1.100 1.000

.000 .000 1.100 2.000

.000 .000 1.100 2.000

REFERENCE INFORMATION

SREF 2690.0000 SO.FT.

LREF 290.3000 IN.

BREF 290.3000 IN.

XMRP 976.0000 IN.

YMRP 400.0000 IN.

ZMRP 400.0000 IN.

SCALE .0200

EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

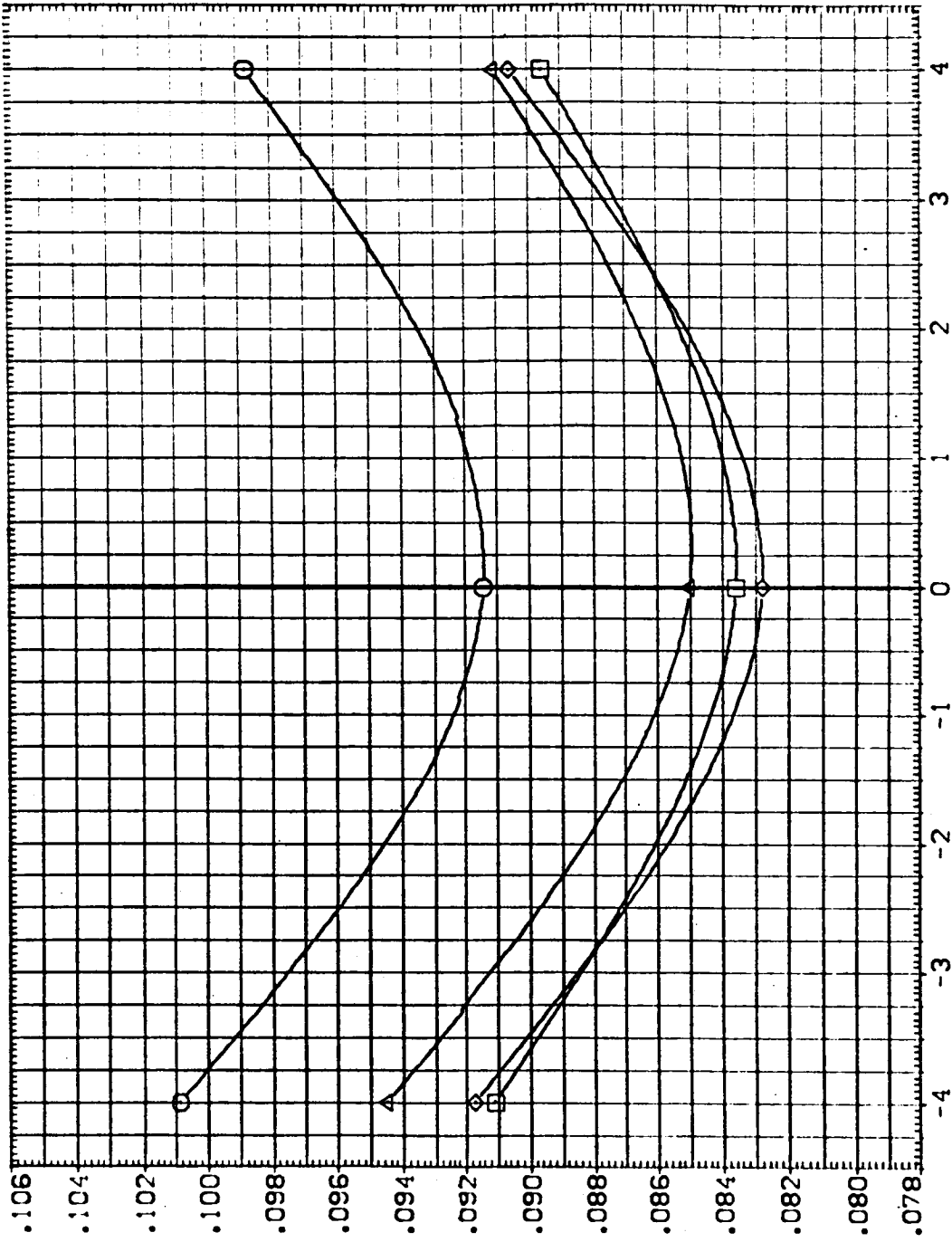


FIG. 19 EFFECT OF PLUMES - MACH=1.1 ELV-1B=0.0 ELV-08=0.0 ALPHA=0.0

CALPHA = .00

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ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-09	MACH	GIMBAL	REFERENCE INFORMATION
{CELC025}	○	ARC11-0141A19 DIS+STRUT SRB-OFF MPS-OFF	.000	.000	1.250	1.000	SREF 2690.0000 SO, FT.
{CELC029}	□	ARC11-0141A19 DIS+STRUT SRB-NOM MPS-NOM	.000	.000	1.250	1.000	LREF 1290.3000 IN.
{CELC033}	◇	ARC11-0141A19 DIS+STRUT SRB-OFF MPS-OFF	.000	.000	1.250	2.000	BREF 1290.3000 IN.
{CELC037}	△	ARC11-0141A19 DIS+STRUT SRB-NOM MPS-NOM	.000	.000	1.250	2.000	XMRP 976.0000 IN.
							YMRP 400.0000 IN.
							ZMRP 400.0000 IN.
							SCALE .0200

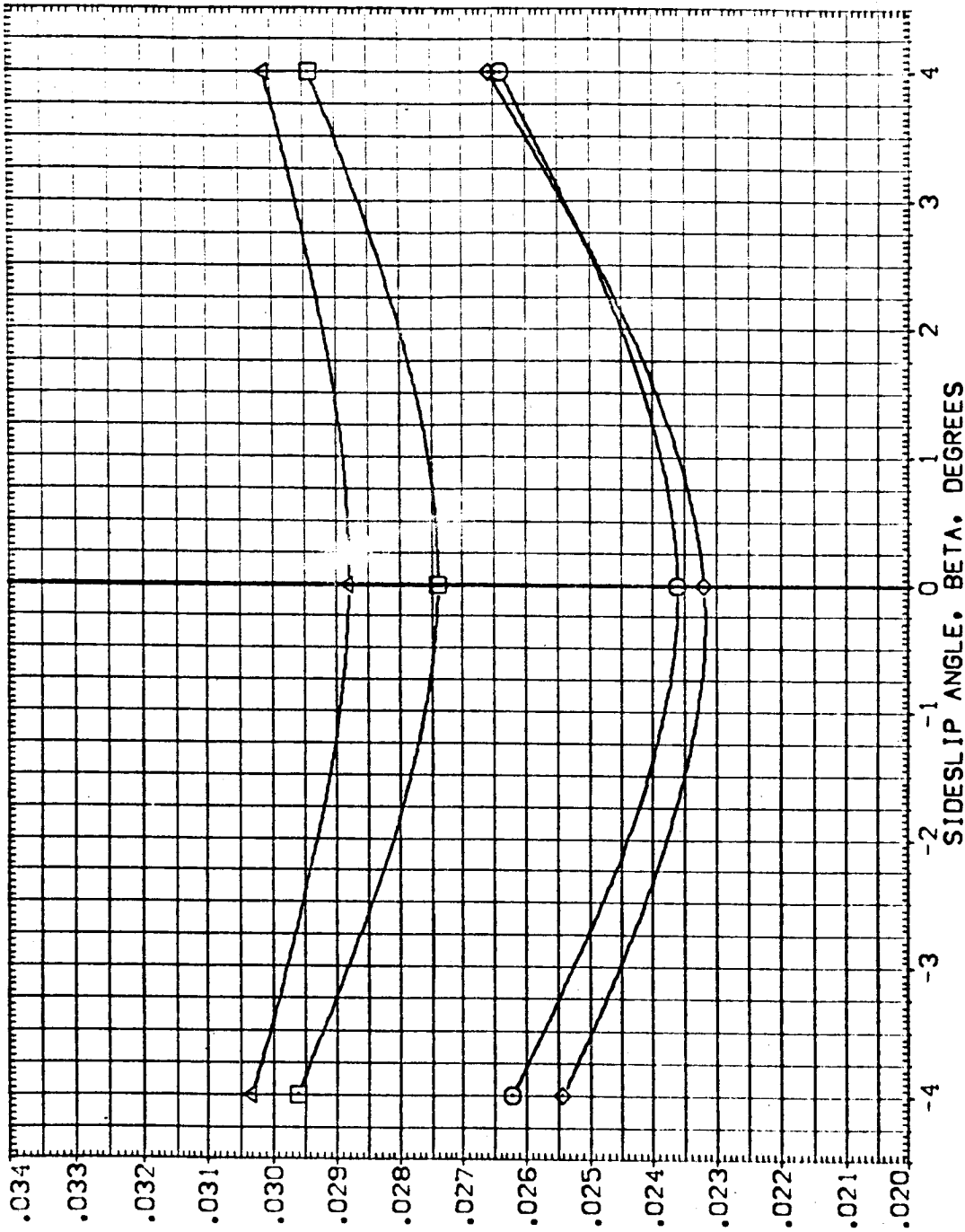


FIG. 20 EFFECT OF PLUMES - MACH=1.25 ELV-1B=0.0 ELV-0B=0.0 ALPHA=0.0

CALPHA = .00



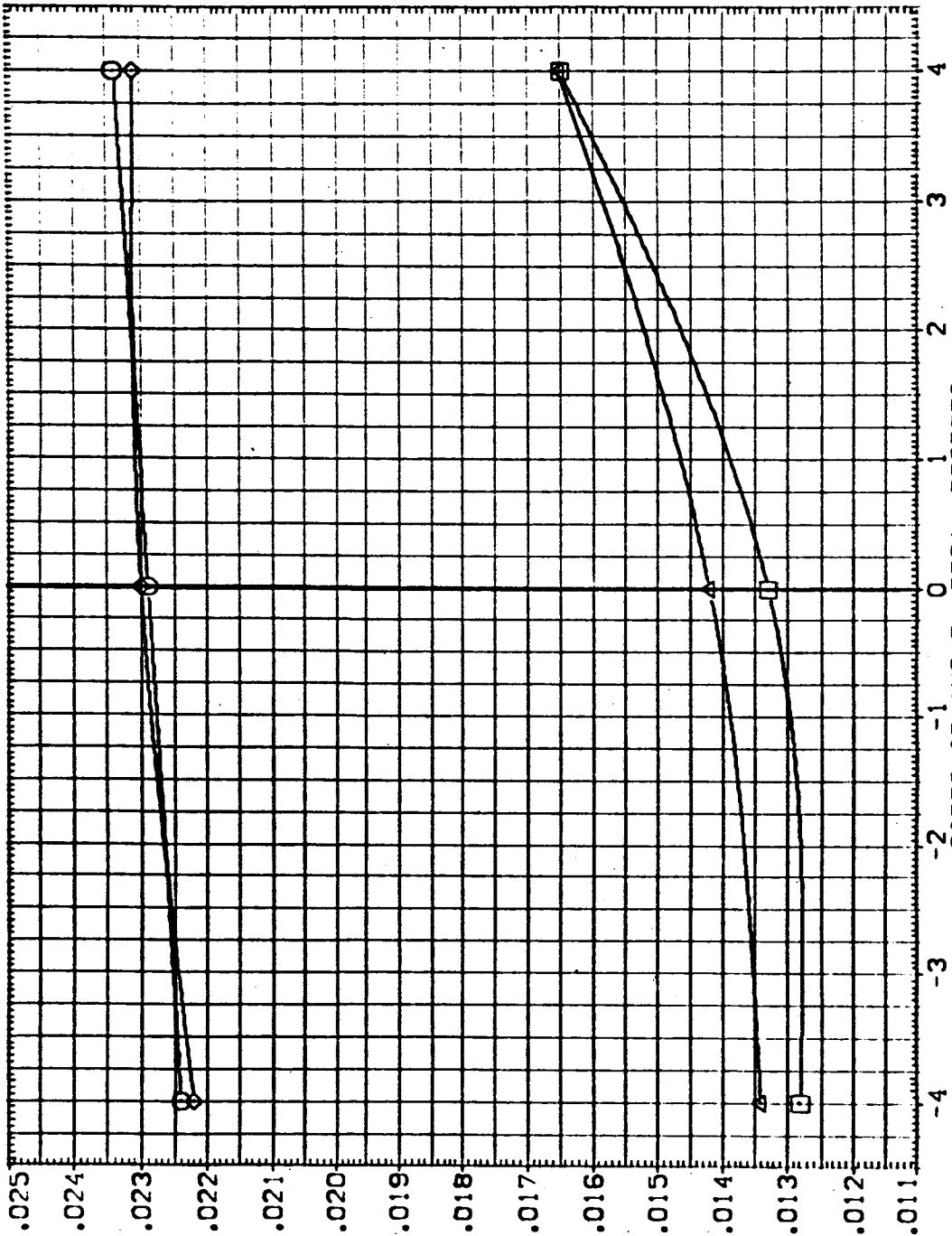
DATA SET SYMBOL CONFIGURATION DESCRIPTION

(CEJ025)	ARC11-0141A19	OTS-STRUT	S98-0FF	MPS-0FF
(CEJ029)	ARC11-0141A19	OTS-STRUT	S98-NOM	MPS-NOM
(CEJ033)	ARC11-0141A19	OTS-STRUT	S98-0FF	MPS-0FF
(CEJ037)	ARC11-0141A19	OTS-STRUT	S98-NOM	MPS-NOM

ELV-1B .000
ELV-0B .000
MACH 1.250

GIMBAL
SREF 2690.0000
LREF 1290.3000
BREF 1290.3000
XMRP 976.0000
YMRP 400.0000
ZMRP 400.0000
SCALE .0200

REFERENCE INFORMATION
SQ.FT.
IN.
IN.
IN.
IN.
IN.
IN.



SRM BASE AXIAL-FORCE COEFFICIENT, CABS

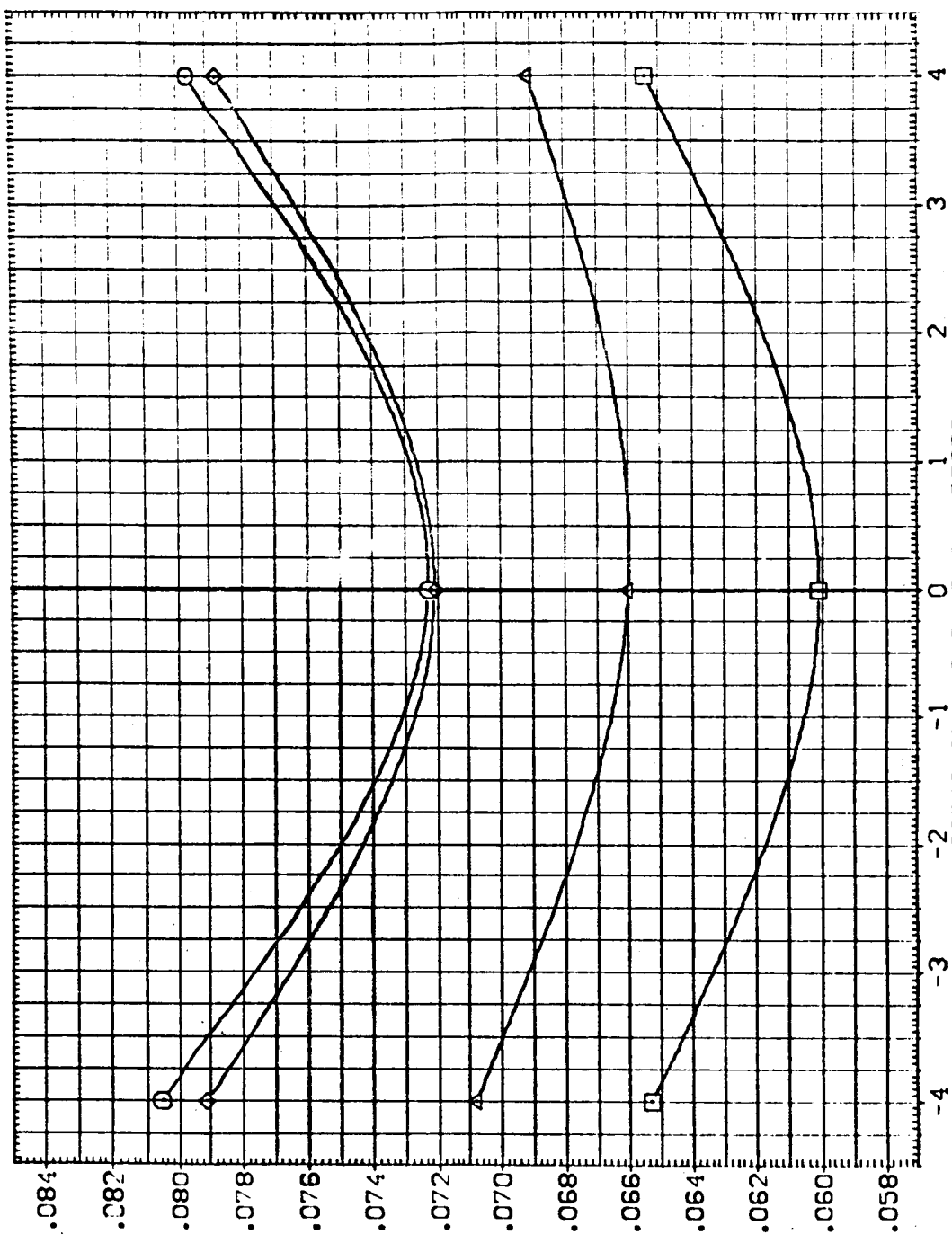
SIDESLIP ANGLE, BETA, DEGREES

FIG. 20 EFFECT OF PLUMES - MACH=1.25 ELV-1B=0.0 ELV-0B=0.0 ALPHA=0.0

CAJALPHA = .00

DATA SET SYMBOLS: (SEUC05) (SEUC09) (SEUC33) (SEUC37)

CONFIGURATION DESCRIPTION	ELV-1B	ELV-0B	MACH	GIMBAL	REFERENCE INFORMATION
ARC11-0141A19 OTS-STRUT S28-DEF MPS-DEF	.000	.000	1.250	1.000	SREF 2690.0000 SQ.FT.
ARC11-0141A19 OTS-STRUT S28-NOM MPS-NOM	.000	.000	1.250	1.000	LREF 1290.3000 IN.
ARC11-0141A19 OTS-STRUT S28-DEF MPS-DEF	.000	.000	1.250	2.000	BREF 1290.3000 IN.
ARC11-0141A19 OTS-STRUT S28-NOM MPS-NOM	.000	.000	1.250	2.000	XMRP 976.0000 IN.
					YMRP 0.0000 IN.
					ZMRP 400.0000 IN.
					SCALE .0200



EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

FIG. 20 EFFECT OF PLUMES - MACH=1.25 ELV-1B=0.0 ELV-0B=0.0 ALPHA=0.0

(A) ALPHA = .00



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-0B	MACH	GIMBAL	REFERENCE INFORMATION
(CE)026	ARC11-014 A19 OTS+STRUT SRB-OFF MPS-OFF	.000	.000	1.400	1.000	SREF 2690.0000 SQ.FT.
(CE)030	ARC11-014 A19 OTS+STRUT SRB-NOM MPS-NOM	.000	.000	1.400	1.000	LREF 1290.3000 IN.
(CE)034	ARC11-014 A19 OTS+STRUT SRB-OFF MPS-OFF	.000	.000	1.400	2.000	BREF 1290.3000 IN.
(CE)038	ARC11-014 A19 OTS+STRUT SRB-NOM MPS-NOM	.000	.000	1.400	2.000	XMRP 976.0000 IN.
						YMRP .0000 IN.
						ZMRP 400.0000 IN.
						SCALE .0200

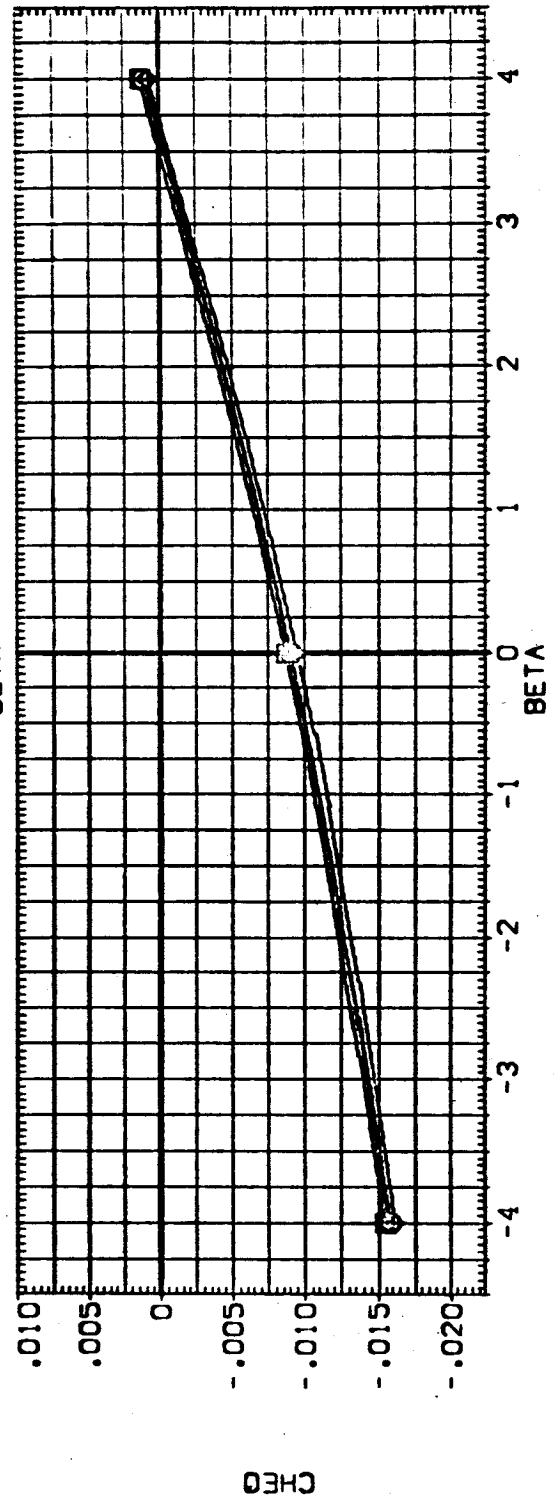
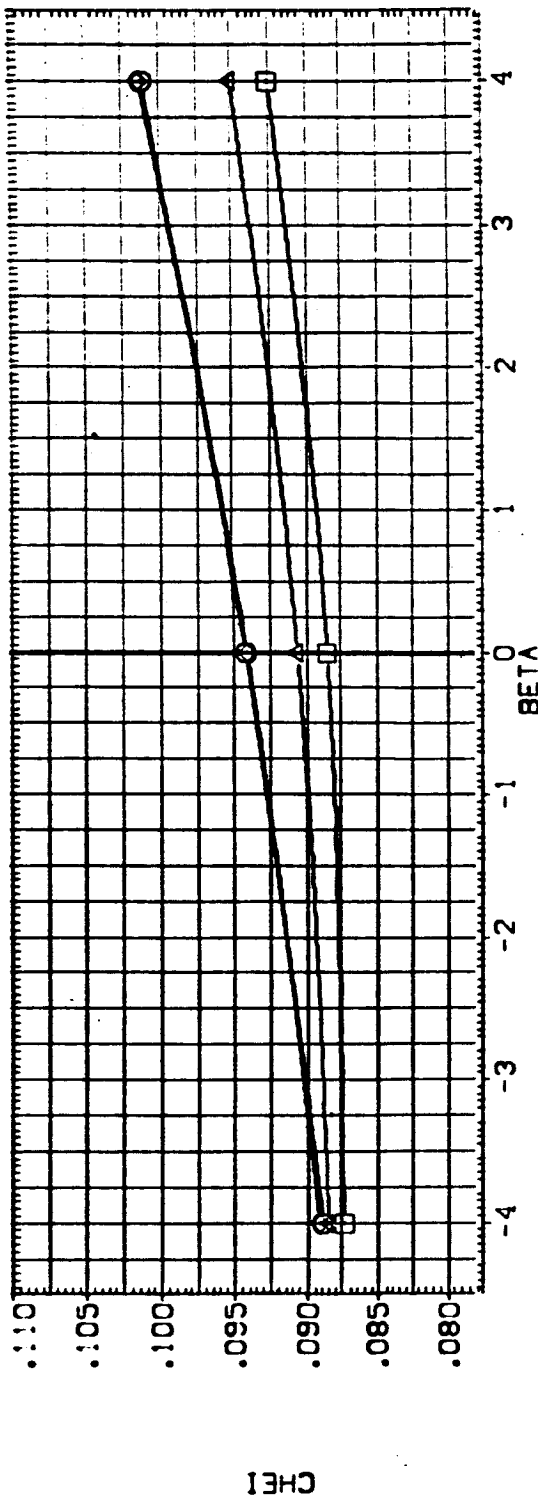
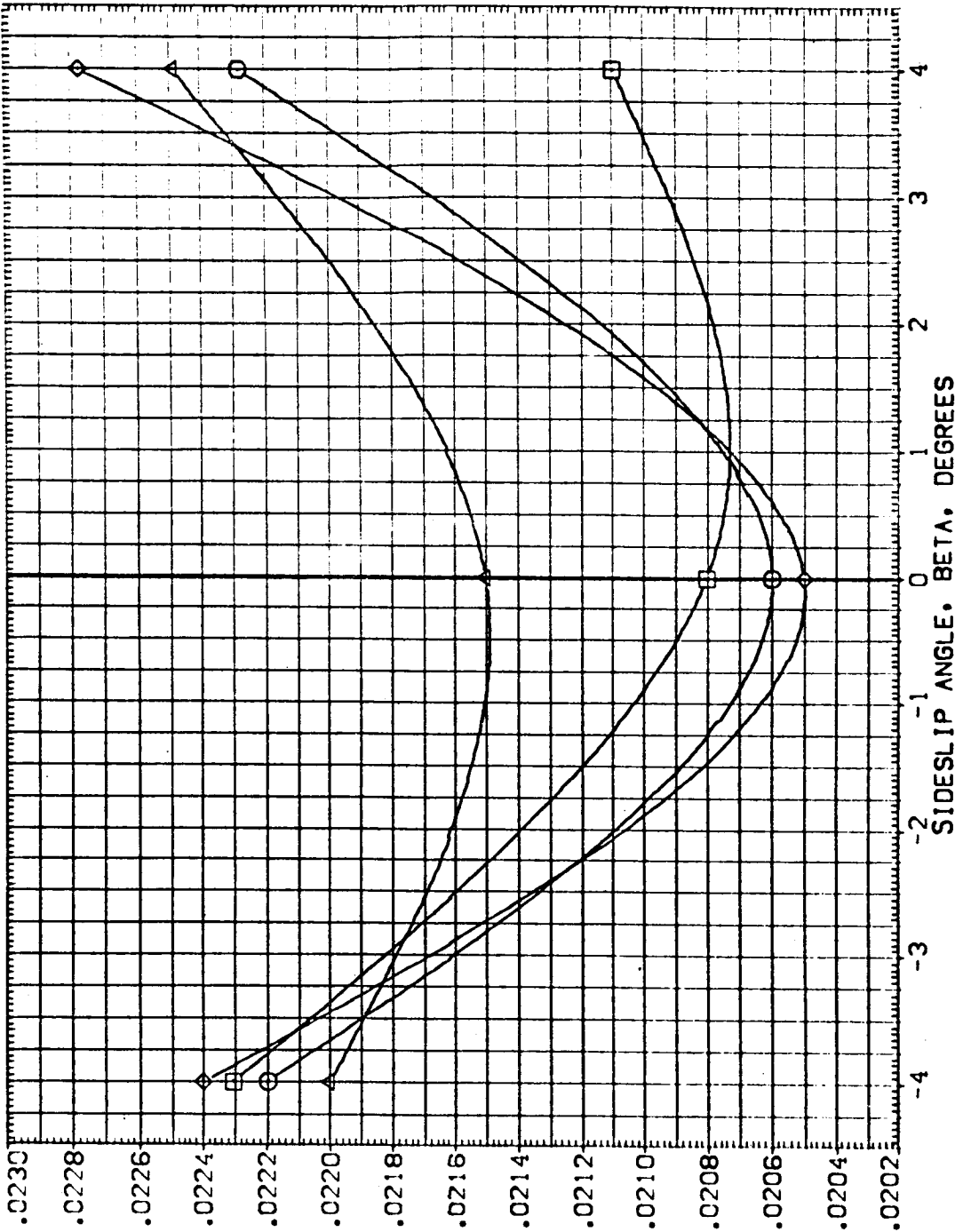


FIG. 21 EFFECT OF PLUMES - MACH=1.4 ELV-1B=0.0 ELV-0B=0.0 ALPHA=0.0

DATA SET SYMBOL: ○ ◇ □

CONFIGURATION DESCRIPTION:
 ARC11-0141A19 OIS*STRUT S98-0FF MPS-0FF
 ARC11-0141A19 OIS*STRUT S98-NOM MPS-NOM
 ARC11-0141A19 OIS*STRUT S98-0FF MPS-0FF
 ARC11-0141A19 OIS*STRUT S98-NOM MPS-NOM

ELV-1B ELV-08 MACH GIMBAL REFERENCE INFORMATION
 .000 .000 1.400 1.000 SREF 2690.0000 SQ.FT.
 .000 .000 1.400 1.000 LREF 1290.3000 IN.
 .000 .000 1.400 2.000 BREF 1290.3000 IN.
 .000 .000 1.400 2.000 X-MRP 576.0000 IN.
 Y-MRP 400.0000 IN.
 Z-MRP 400.0000 IN.
 SCALE .0200



ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

FIG. 21 EFFECT OF PLUMES - MACH=1.4 ELV-1B=0.0 ELV-0B=0.0 ALPHA=0.0

(A) ALPHA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION

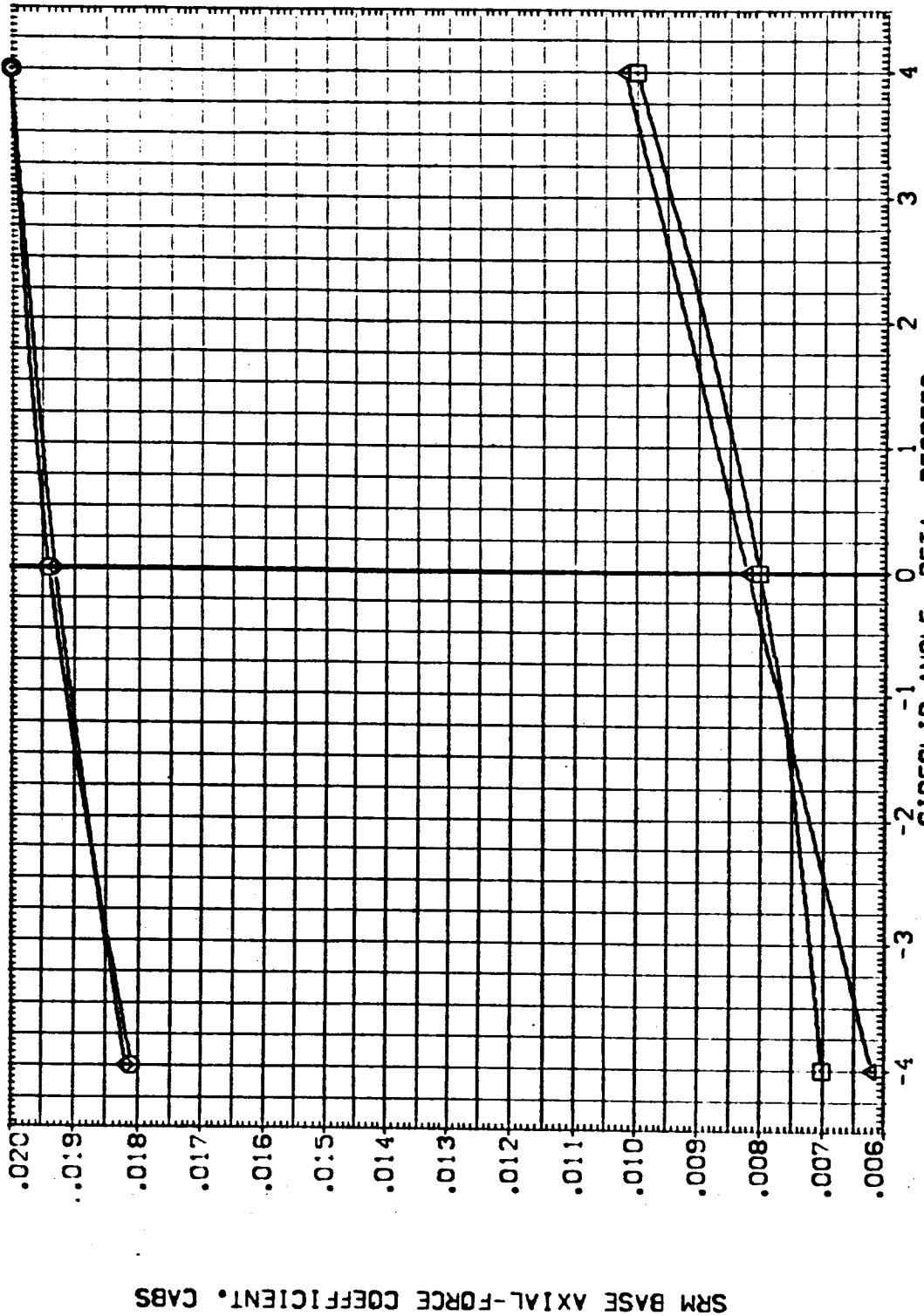
(CEUC28)	○	ARC11-0141A19	OTS-STRUT	SFB-OFF	WFS-OFF
(CEUC30)	◇	ARC11-0141A19	OTS-STRUT	SFB-NOM	WFS-NOM
(CEUC31)	◇	ARC11-0141A19	OTS-STRUT	SFB-OFF	WFS-OFF
(CEUC38)	◇	ARC11-0141A19	OTS-STRUT	SFB-NOM	WFS-NOM

ELV-1B ELV-0B MACH GIMBAL

.000	.000	1.400	1.000
.000	.000	1.400	1.000
.000	.000	1.400	2.000
.000	.000	1.400	2.000

REFERENCE INFORMATION

SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0200	



SRM BASE AXIAL-FORCE COEFFICIENT, CABS

FIG. 21 EFFECT OF PLUMES - MACH=1.4 ELV-1B=0.0 ELV-0B=0.0 ALPHA=0.0

CAJALPHA = .00

DATA SET SYMBOL: (E) (S) (L) (V) (B) (A) (I) (S) (T) (R) (U) (T) (S) (C) (A) (L) (E)

CONFIGURATION DESCRIPTION: ARC 11-0141A19 OTS STRUT SRS-NOM MS-NOM
 ARC 11-0141A19 OTS STRUT SRS-LGV MS-NOM
 ARC 11-0141A19 OTS STRUT SRS-NOM MS-DF
 ARC 11-0141A19 OTS STRUT SRS-HI MS-HI

ELV-IB 8.000 8.000 8.000 8.000
 ELV-OB 4.000 4.000 4.000 4.000
 MACH .900 .900 .900 .900
 GIMBAL .000 .000 .000 .000

REFERENCE INFORMATION: SREF 2690.0000 SO.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN.
 YMRP 0.0000 IN.
 ZMRP 400.0000 IN.
 SCALE 0.000

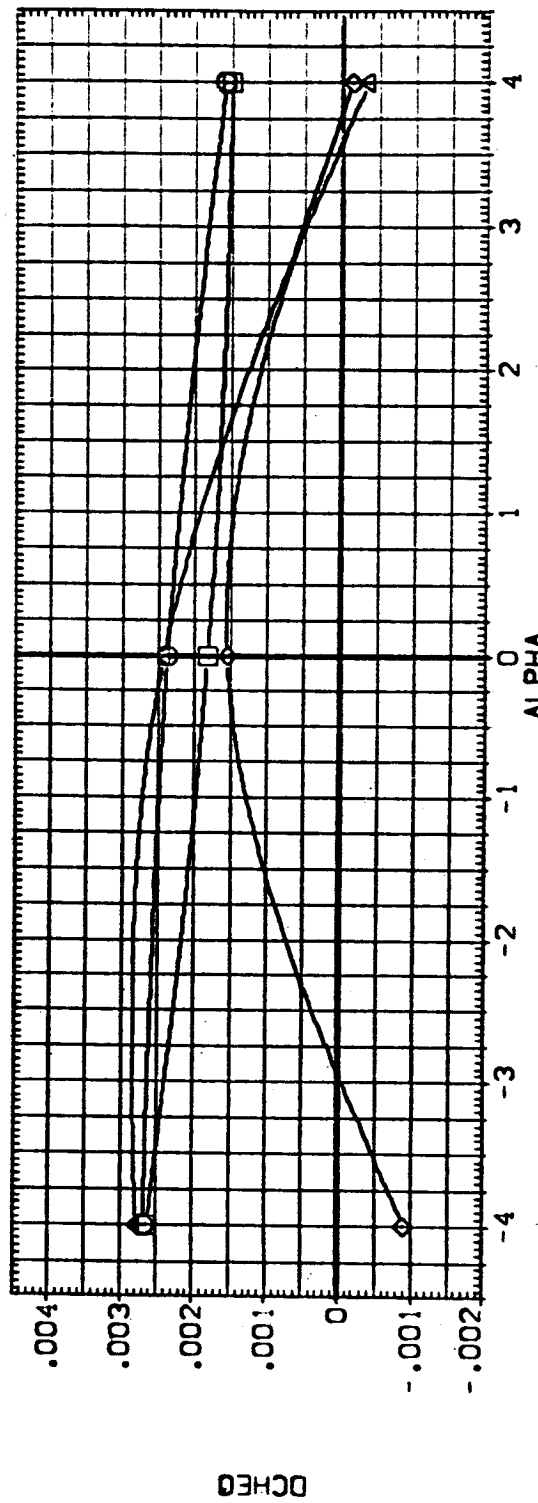
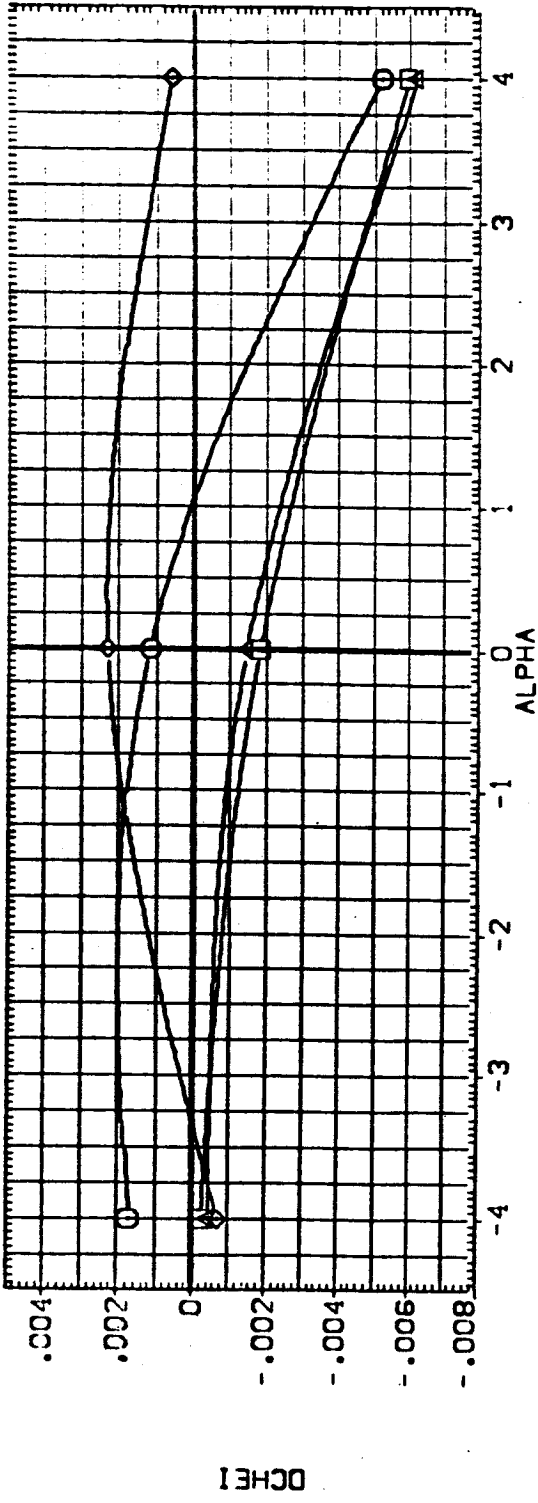


FIG. 22 INCREMENTAL EFFECT OF PLUMES - MACH=0.9 ELV-IB=8.0 ELV-OB=4.0 BETA=0.0
 (A) BETA = .00

DATA SET SYMBOL: [EEL006] [EEL007] [EEL008] [EEL009] [EEL010] [EEL011] [EEL012] [EEL013] [EEL014] [EEL015] [EEL016] [EEL017] [EEL018] [EEL019] [EEL020]

CONFIGURATION DESCRIPTION
 ARC1 - 0.1A19 OTS-STRUT S88-NOM
 ARC2 - 0.1A19 OTS-STRUT S88-LOW
 ARC3 - 0.1A19 OTS-STRUT S88-NOM
 ARC4 - 0.1A19 OTS-STRUT S88-HI

ELV-IB 8.000 8.000 8.000 8.000
 ELV-OB 4.000 4.000 4.000 4.000
 MACH 1.100 1.100 1.100 1.100
 GIMBAL 1.000 1.000 1.000 1.000

REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN.
 YMRP 100.0000 IN.
 ZMRP 100.0000 IN.
 SCALE 0.200

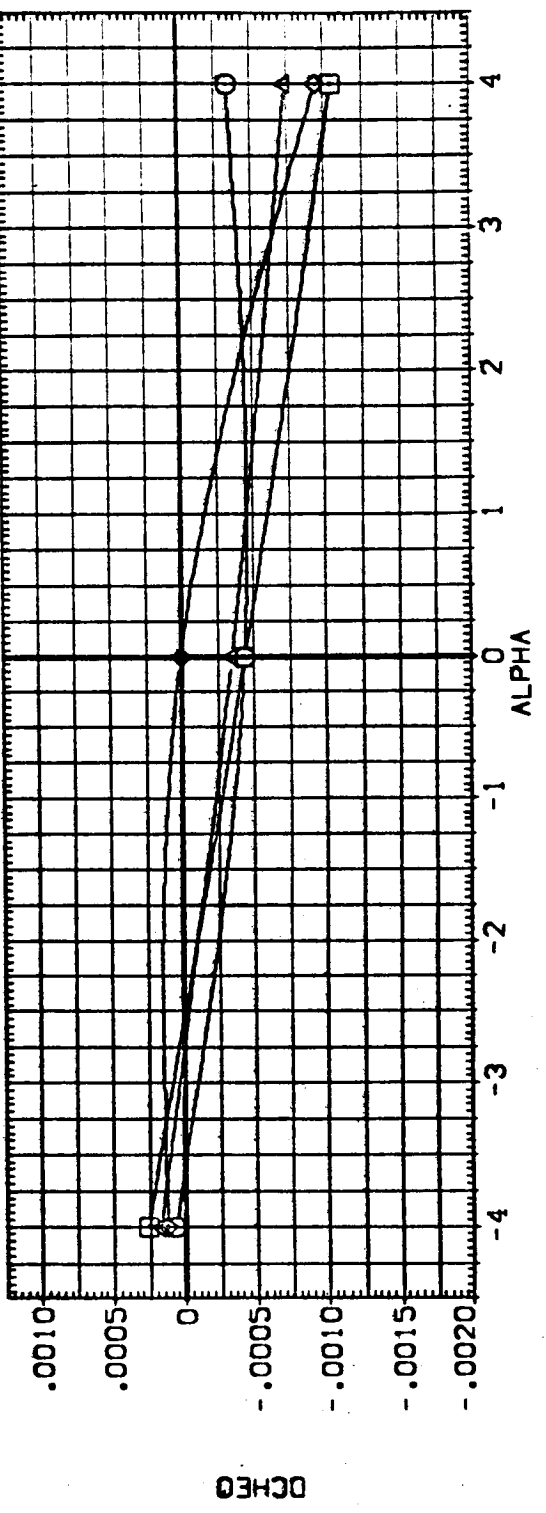
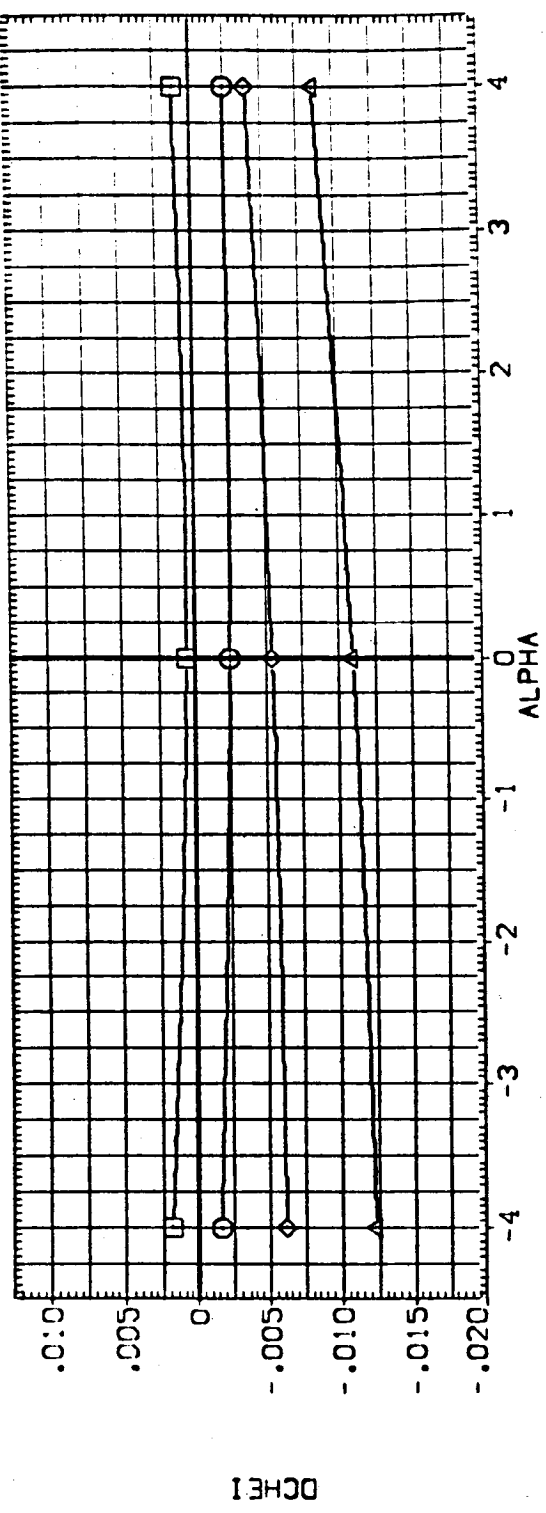


FIG. 23 INCREMENTAL EFFECT OF PLUMES - MACH=1.1 ELV-IB=8.0 ELV-OB=4.0 BETA=0.0
 (A) BETA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(EELJ07)	○	ARC11-01A1A19	OTS-STRUT	SAB-OFF	MPS-OFF
(EELJ01)	◇	ARC11-01A1A19	OTS-STRUT	SAB-LOW	MPS-NOT
(EELJ015)	△	ARC11-01A1A19	OTS-STRUT	SAB-NOT	MPS-OFF
(EELJ019)	□	ARC11-01A1A19	OTS-STRUT	SAB-HI	MPS-HI

ELV-1B ELV-0B MACH GIMBAL REFERENCE INFORMATION

8.000	4.000	1.250	1.000	SREF	2690.0000	50.FT.
8.000	4.000	1.250	1.000	LREF	1290.3000	IN.
8.000	4.000	1.250	1.000	BREF	1290.3000	IN.
8.000	4.000	1.250	1.000	XMRP	976.0000	IN.
				YMRP	0.0000	IN.
				ZMRP	400.0000	IN.
				SCALE	.0200	

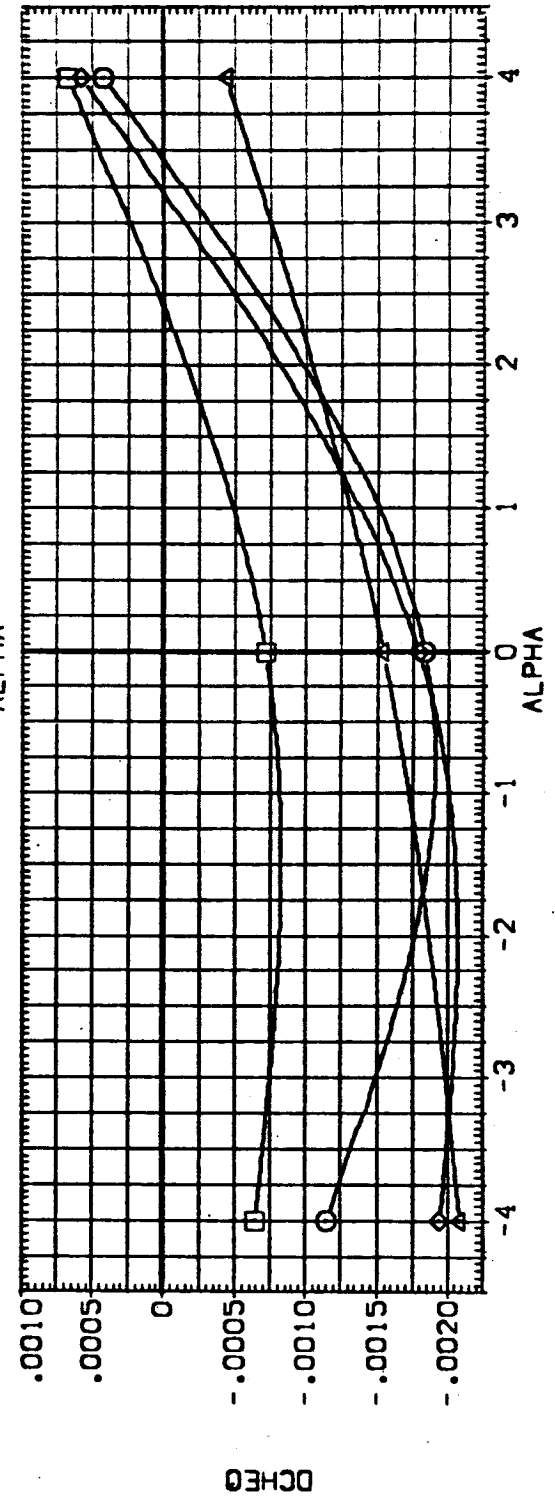
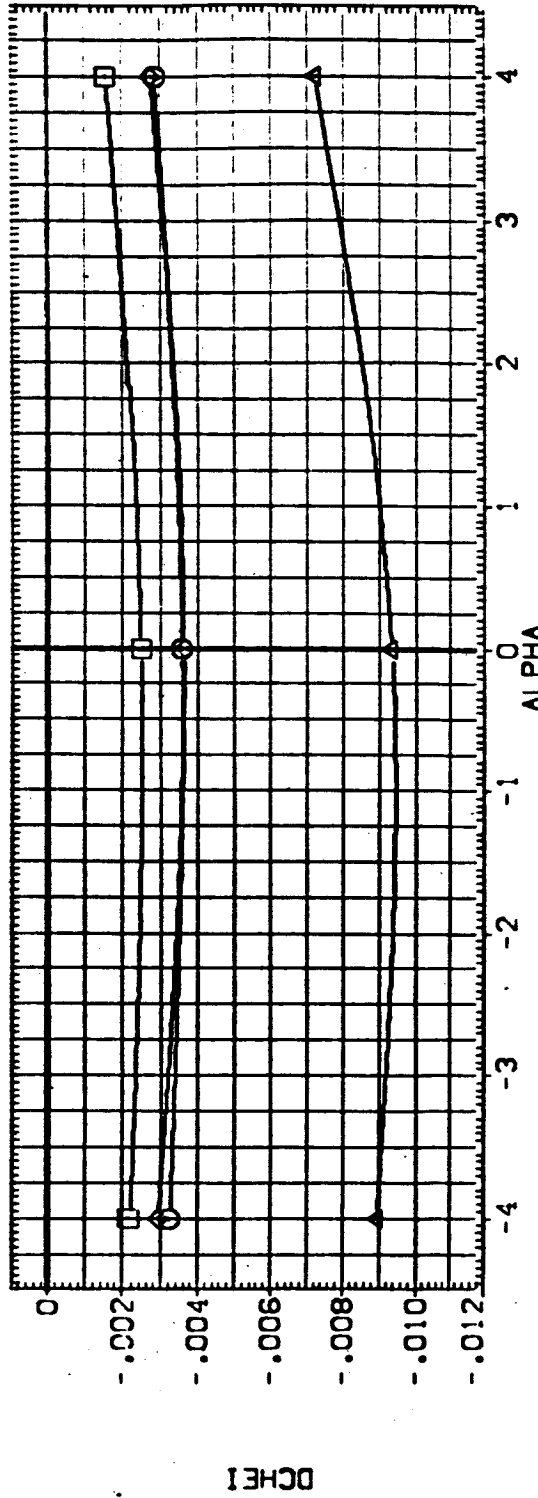


FIG. 24 INCREMENTAL EFFECT OF PLUMES - MACH=1.25 ELV-1B=8.0 ELV-0B=4.0 BETA=0.0
 (A) BETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

[EEL008] ○ ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM
 [EEL012] ◇ ARC11-0141A19 OTS+STRUT SRB-LOV MPS-NOM
 [EEL016] △ ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF
 [EEL020] □ ARC11-0141A19 OTS+STRUT SRB-HI MPS-HI

ELV-1B ELV-08 MACH GIMBAL

8.000 4.000 1.400 1.000
 8.000 4.000 1.400 1.000
 8.000 4.000 1.400 1.000

REFERENCE INFORMATION

SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 97.6.0000 IN. XT
 YMRP .0000 IN. YT
 ZMRP 400.0000 IN. ZT

SCALE .0200

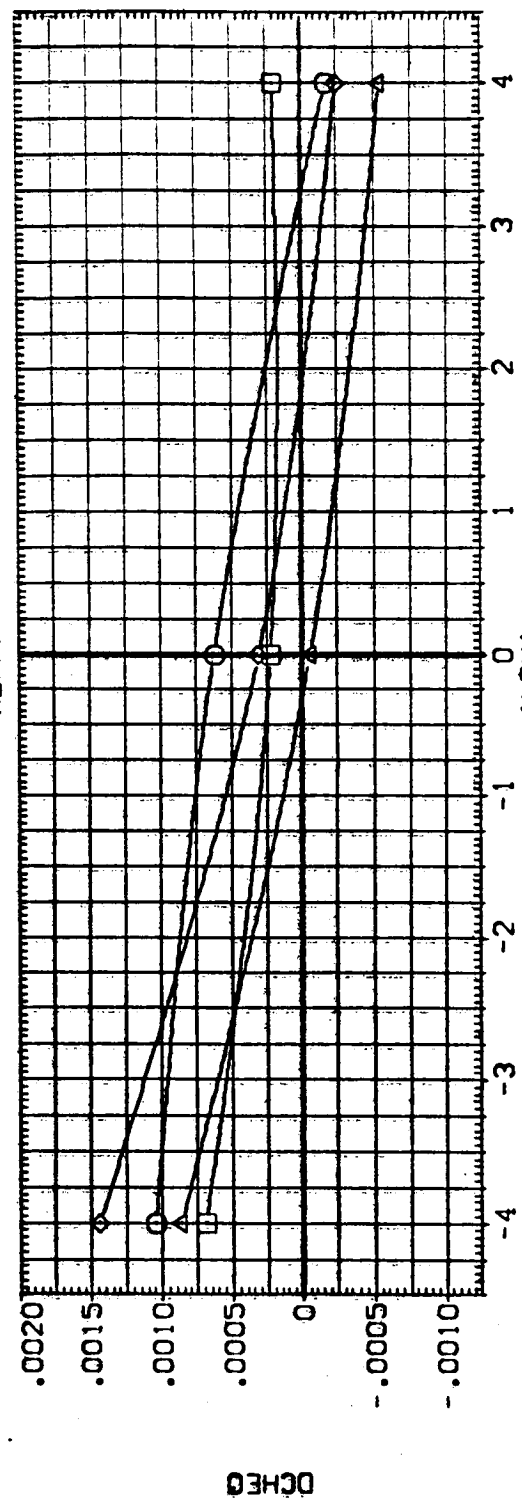
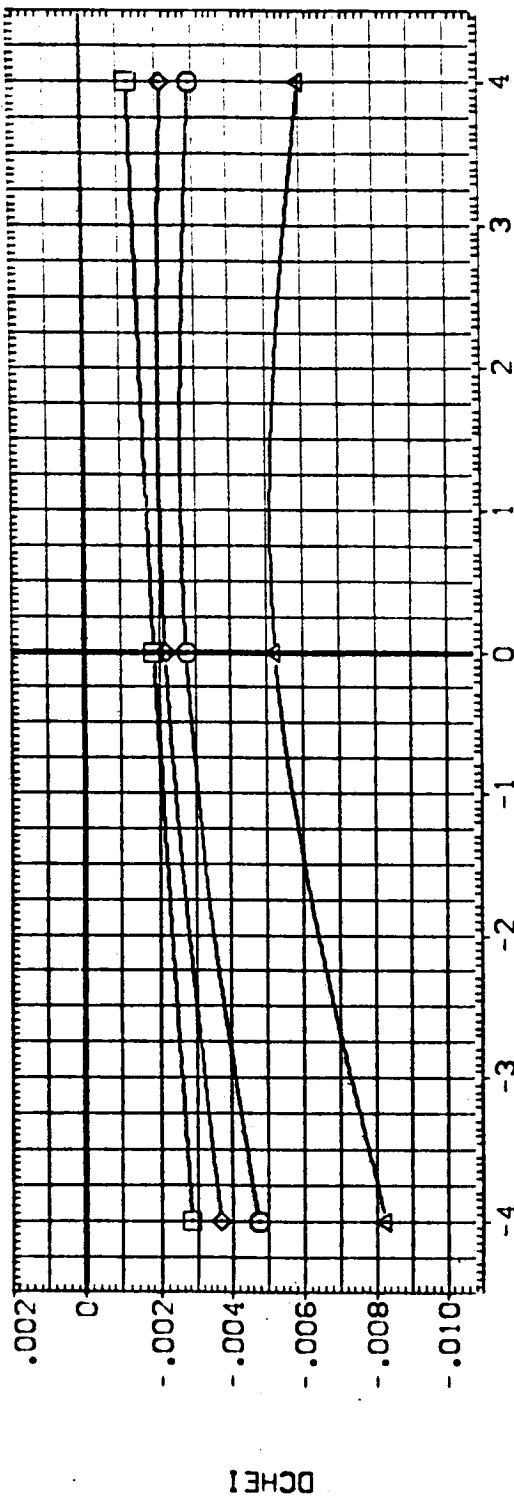


FIG. 25 INCREMENTAL EFFECT OF PLUMES - MACH=1.4 ELV-1B=8.0 ELV-0B=4.0 BETA=0.0
 (A)BETA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-09	MACH	GIMBAL	SO. FT.
[FEJ005]	ARC -0 4 A 9 O S STRUT SRB-NOM MPS-NOM	8.000	4.000	.500	1.000	2690.0000
[FEJ009]	ARC -0 4 A 9 O S STRUT SRB-LDV MPS-NOM	8.000	4.000	.500	1.000	1290.3000
[FEJ013]	ARC -0 4 A 9 O S STRUT SRB-NOM MPS-DFP	8.000	4.000	.500	1.000	1290.3000
[FEJ017]	ARC -0 4 A 9 O S STRUT SRB-HI MPS-HI	8.000	4.000	.500	1.000	976.0000
						YMRP .0000
						ZMRP .0000
						IN. Y1
						IN. Z1
						SCALE .0200

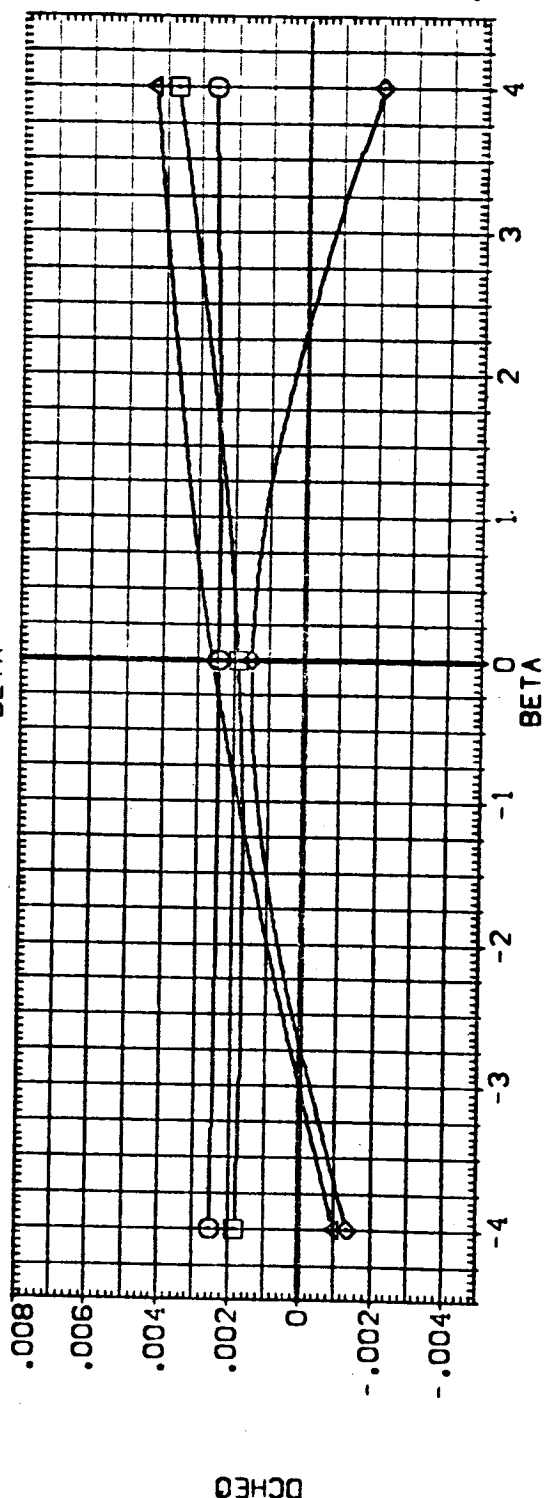
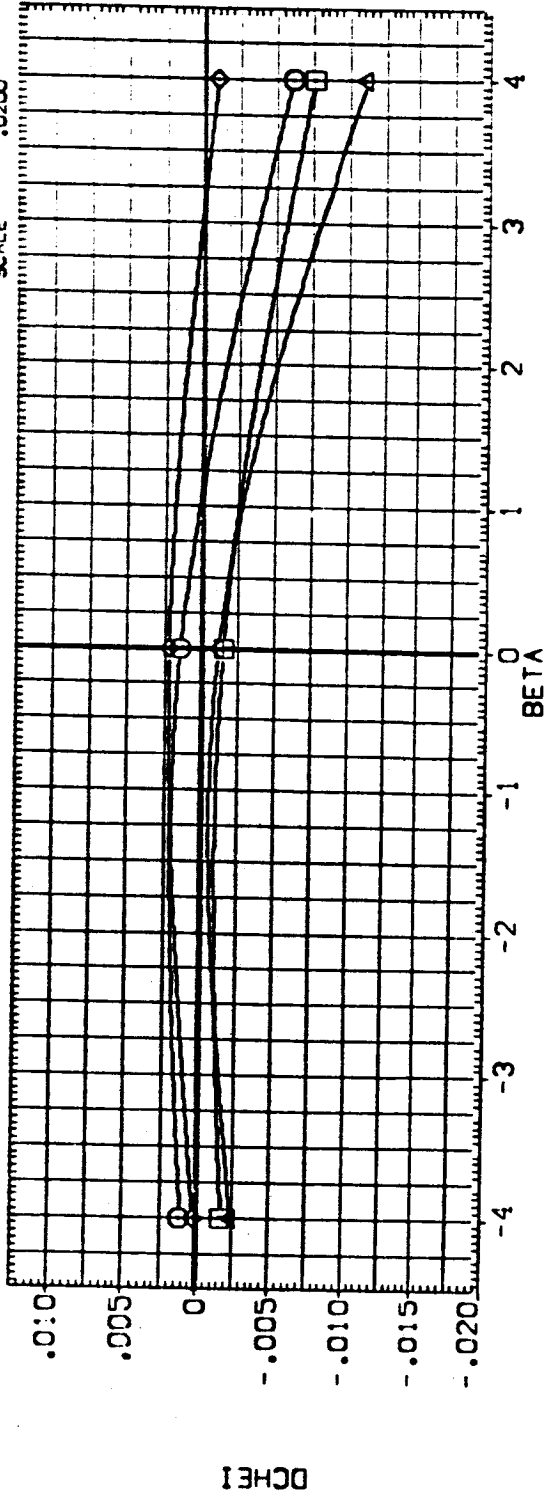


FIG. 26 INCREMENTAL EFFECT OF PLUMES - MACH=0.9 ELV-1B=8.0 ELV-09=4.0 ALPHA=0.
 (A) ALPHA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(EJCC6) O ARC11-01A1A19 OTS+STRUT S28-NOM MPS-NOM

(EJCC7) O ARC11-01A1A19 OTS+STRUT S28-LDN MPS-NOM

(EJCC8) X ARC11-01A1A19 OTS+STRUT S28-OF MPS-OF

(EJCC9) X ARC11-01A1A19 OTS+STRUT S28-HI MPS-HI

ELV-IB 8.000 4.000 4.000 4.000 4.000

MACH 1.100 1.100 1.100 1.100 1.100

GIMBAL 1.000 1.000 1.000 1.000 1.000

REFERENCE INFORMATION

SREF 2690.0000 SQ.FT.

LREF 1290.3000 IN.

BREF 1290.3000 IN.

YMRP 976.0000 IN.

ZMRP 400.0000 IN.

SCALE .0200

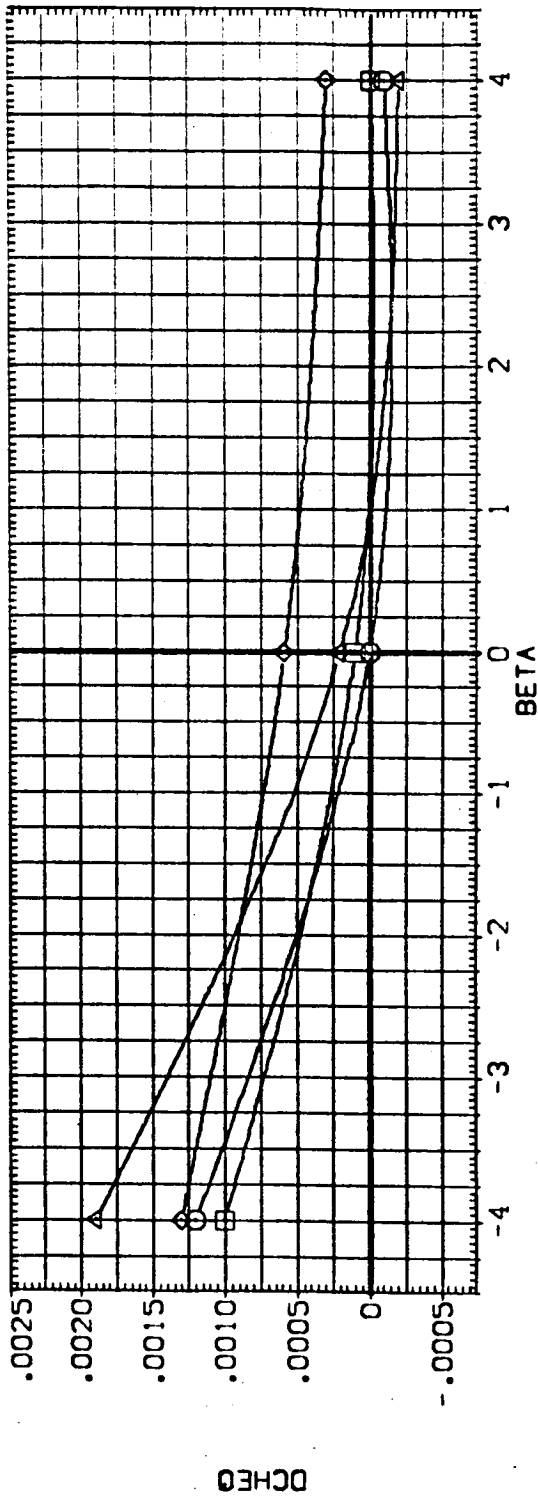
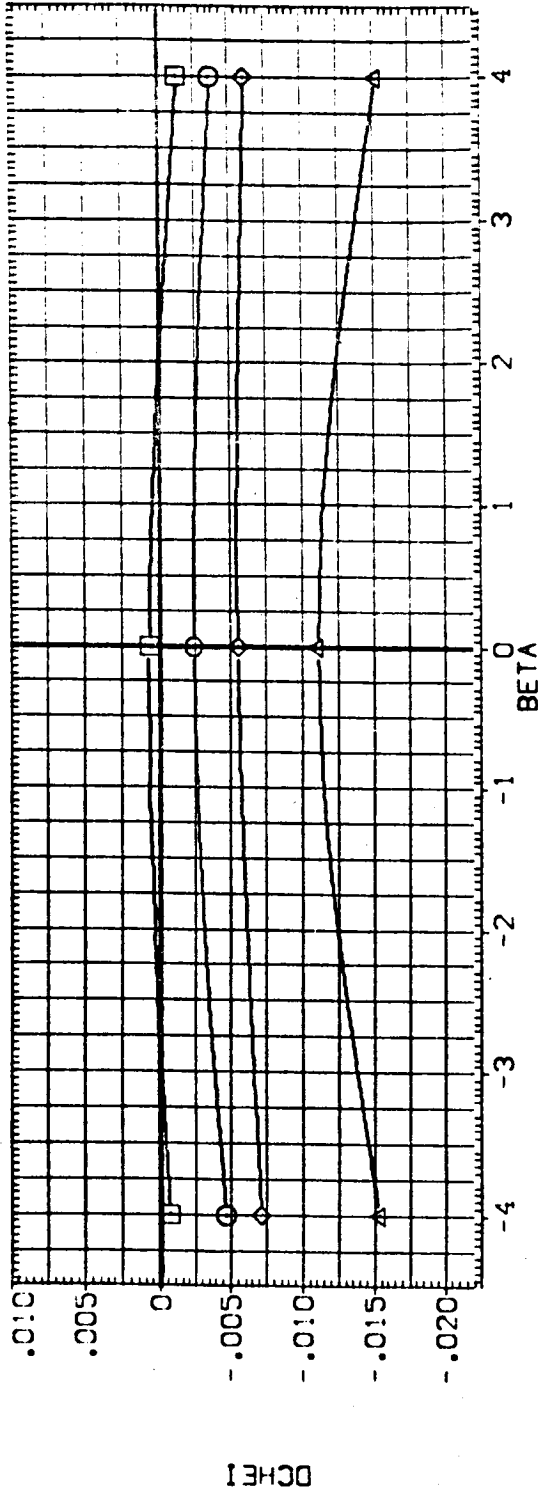


FIG. 27 INCREMENTAL EFFECT OF PLUMES - MACH=1.1 ELV-IB=8.0 ELV-08=4.0 ALPHA=0.0
 CAJALPHA = .00



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-0B	MACH	GIMBAL	REFERENCE INFORMATION
{FEJG07}	ARC11-01A1A19 OTS-STRUT S98-N04 MPS-N04	8.000	4.000	1.250	1.000	SREF 2690.0000 SO.FT.
{FEJG11}	ARC11-01A1A19 OTS-STRUT S98-L0V MPS-N04	8.000	4.000	1.250	1.000	LREF 1290.3000 IN.
{FEJG15}	ARC11-01A1A19 OTS-STRUT S98-0FF MPS-0FF	8.000	4.000	1.250	1.000	BREF 1290.3000 IN.
{FEJG19}	ARC11-01A1A19 OTS-STRUT S98-H1 MPS-H1	8.000	4.000	1.250	1.000	YMRP 976.0000 IN.
						ZMRP 400.0000 IN.
						SCALE .0200

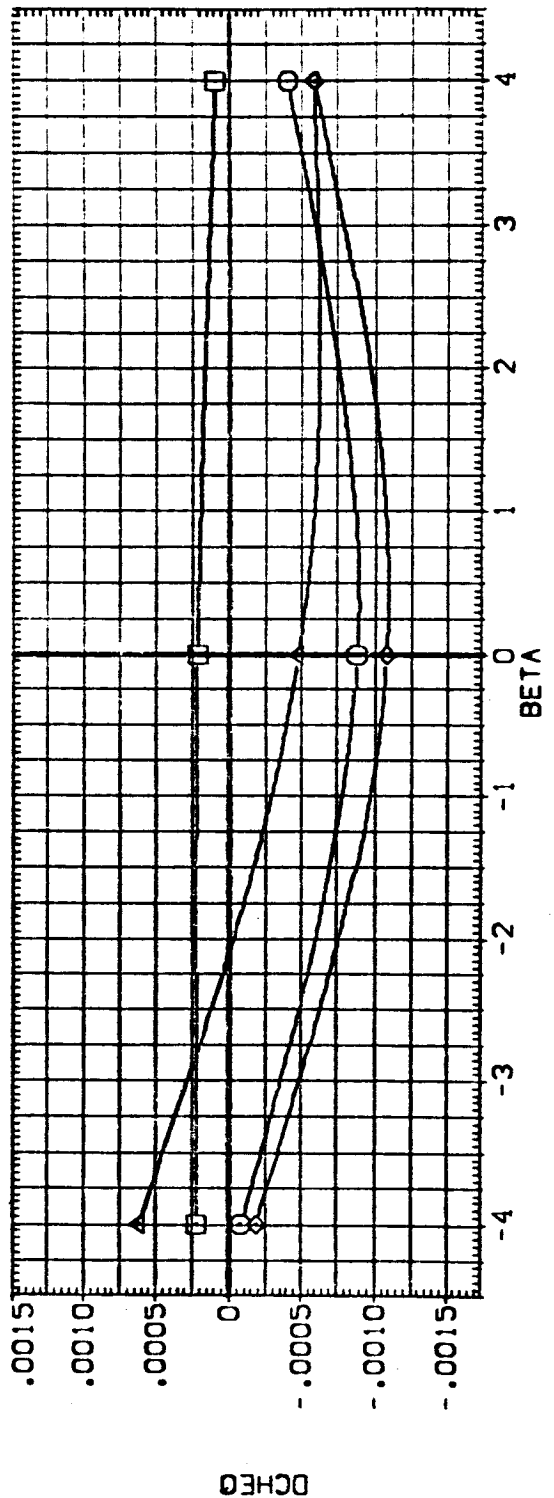
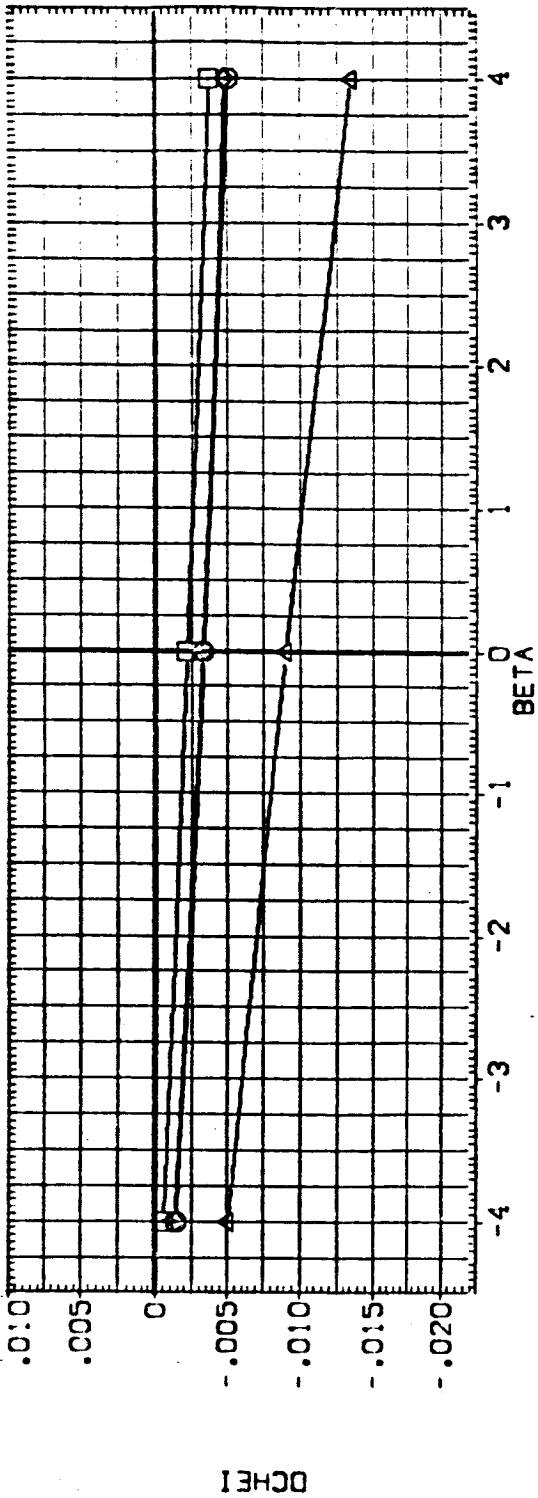


FIG. 28 INCREMENTAL EFFECT OF PLUMES - MACH=1.25 ELV-1B=8.0 ELV-0B=4.0 ALPHA=0.
 (A) ALPHA = .00 PAGE 79

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(FEUC08) ○ ARC11-0141A19 OTS-STRUT SR8-NON MFS-NON

(FEUC12) ◇ ARC11-0141A19 OTS-STRUT SR8-LOW MFS-NON

(FEUC16) ○ ARC11-0141A19 OTS-STRUT SR8-NON MFS-OFF

(FEUC20) ◇ ARC11-0141A19 OTS-STRUT SR8-HI MFS-HI

ELV-IB 8.000 4.000 4.000 4.000 8.000

ELV-OB 4.000 4.000 4.000 4.000 4.000

MACH 1.400 1.400 1.400 1.400 1.400

GIMBAL 1.000 1.000 1.000 1.000 1.000

REFERENCE INFORMATION

SREF 2690.0000 SO.FT.

LREF 1290.3000 IN.

BREF 1290.3000 IN.

XMRP 976.0000 IN.

YMRP 400.0000 IN.

ZMRP 400.0000 IN.

SCALE .0200

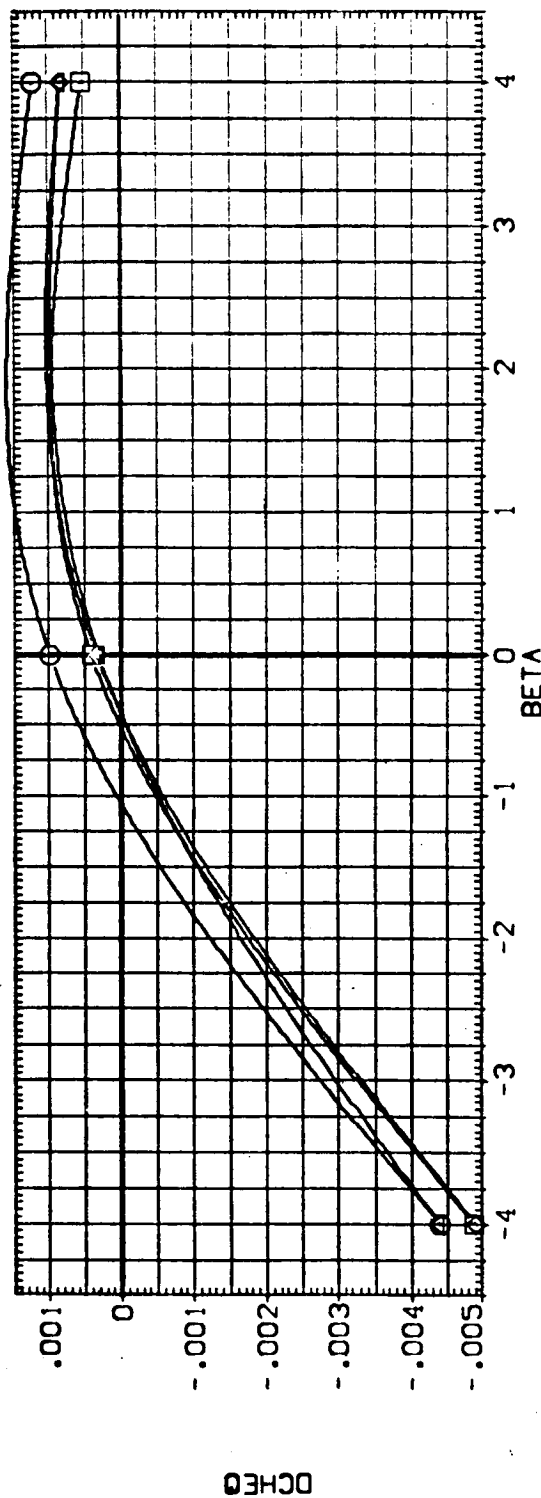
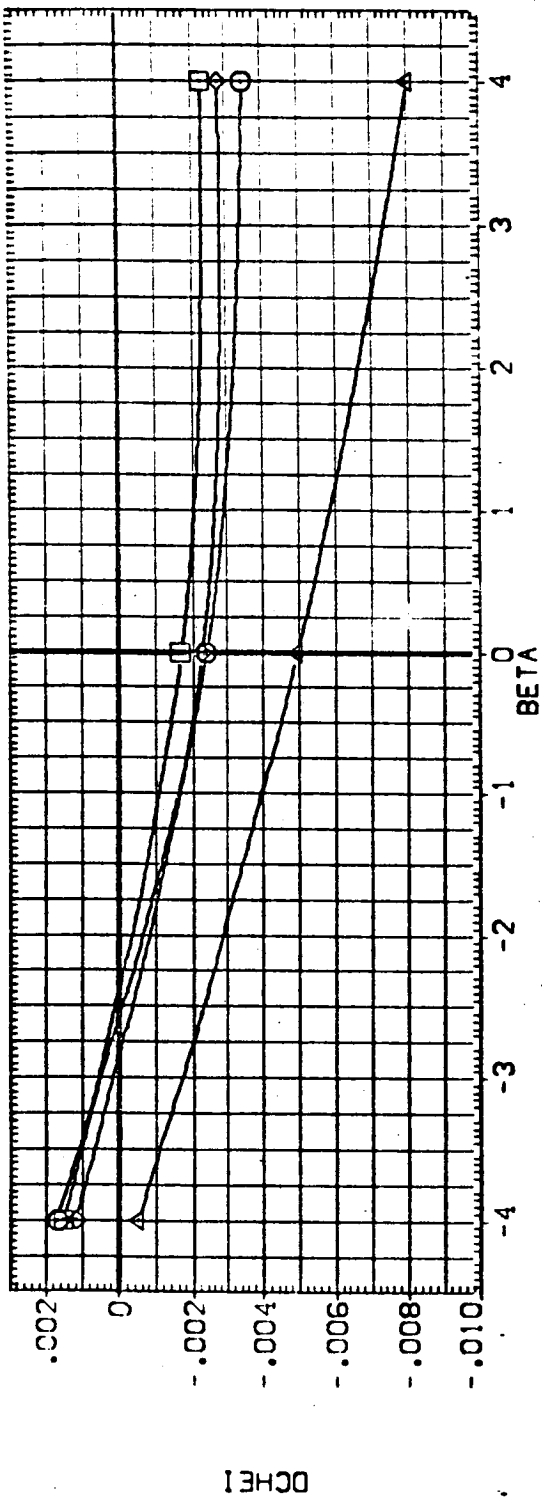


FIG. 29 INCREMENTAL EFFECT OF PLUMES - MACH=1.4 ELV-IB=8.0 ELV-OB=4.0 ALPHA=0.0

(A) ALPHA = .00



DATA SET SYMBOL: ○ CONFIGURATION DESCRIPTION: ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM

ELV-1B 9.000 MACH 1.400 GIMBAL 1.000
 ELV-0B .000
 REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 576.0000 IN. XT
 YMRP .0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0200

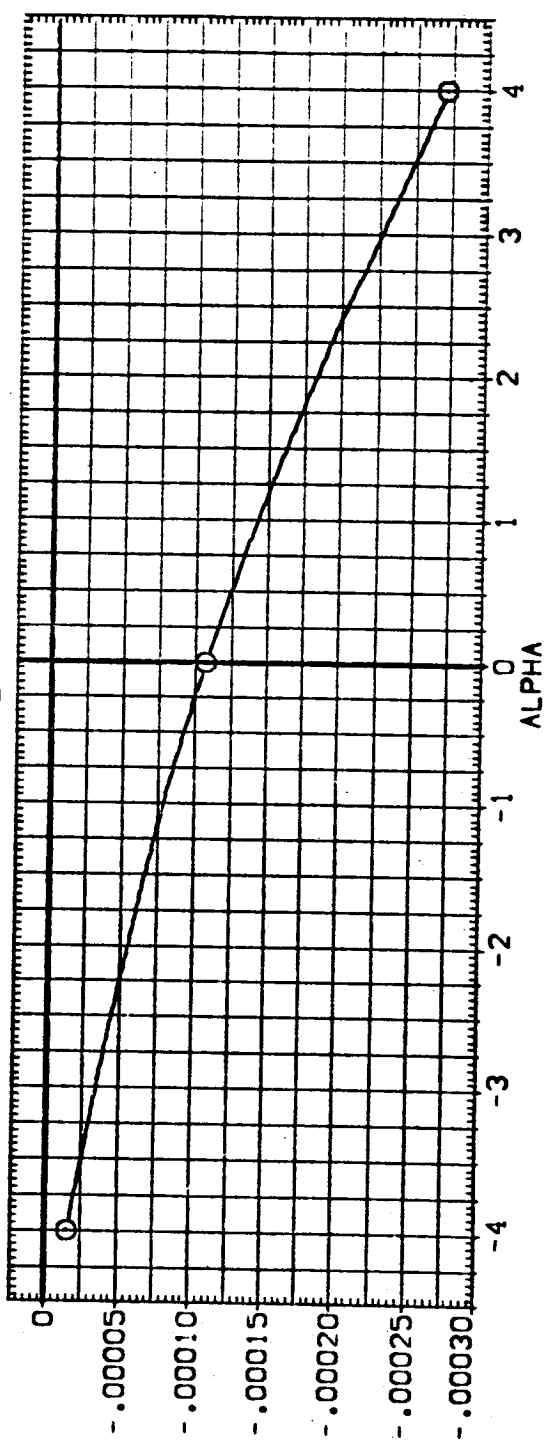
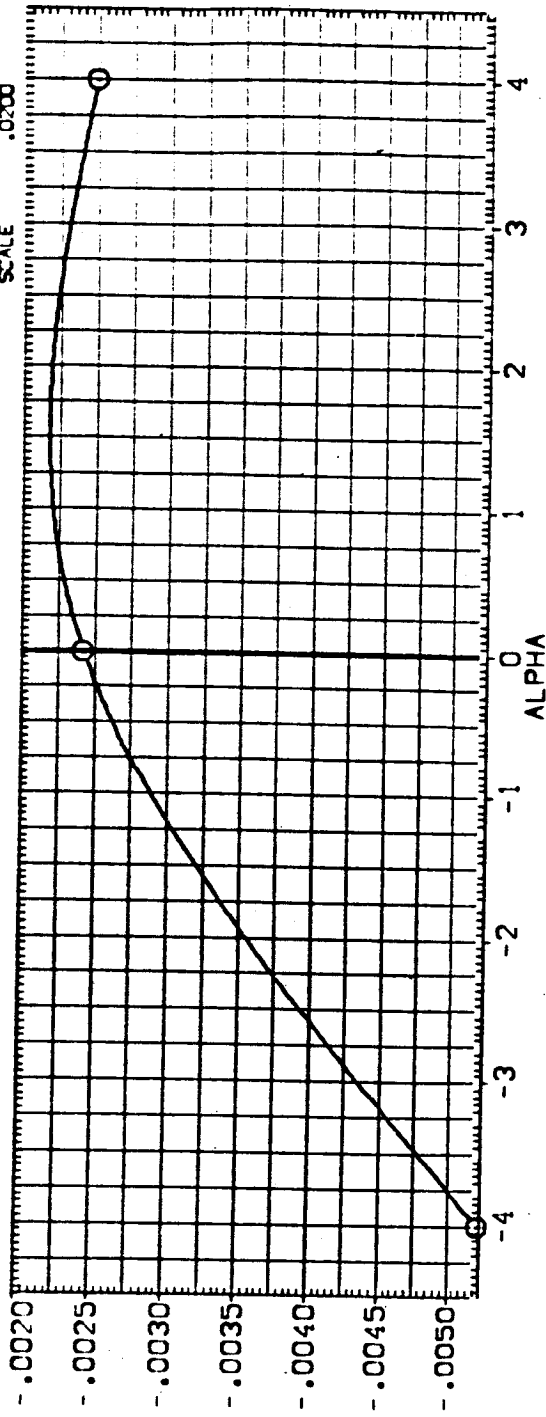


FIG. 30 INCREMENTAL EFFECT OF PLUMES - MACH=1.4 ELV-1B=8.0 ELV-0B=0.0 BETA=0.0
 (A)BETA = .00

DATA SET SYMBOL: [FEUC22] ○ CONFIGURATION DESCRIPTION: ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM

ELV-1B: 8.000 MACH: 1.400 GIMBAL: 1.000

REFERENCE INFORMATION:
 SREF: 2690.0000 SQ.FT.
 LREF: 1290.3000 IN.
 BREF: 1290.3000 IN.
 XMRP: 976.0000 IN. XT
 YMRP: 400.0000 IN. YT
 ZMRP: 400.0000 IN. ZT
 SCALE: .0200

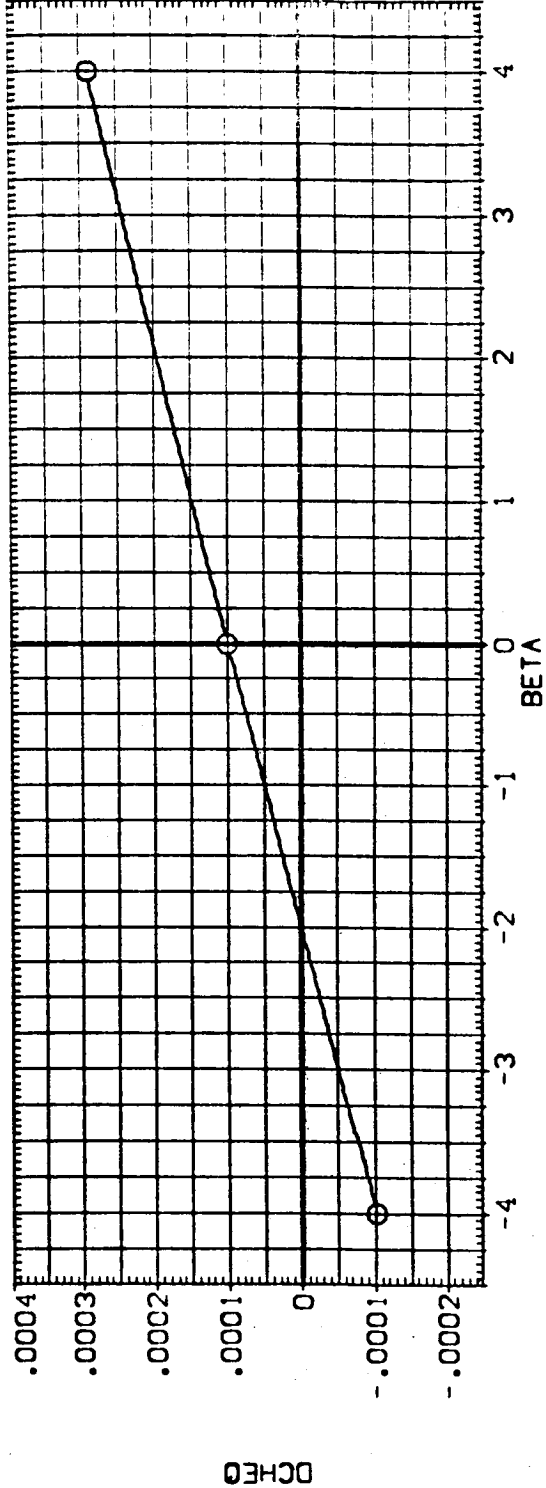
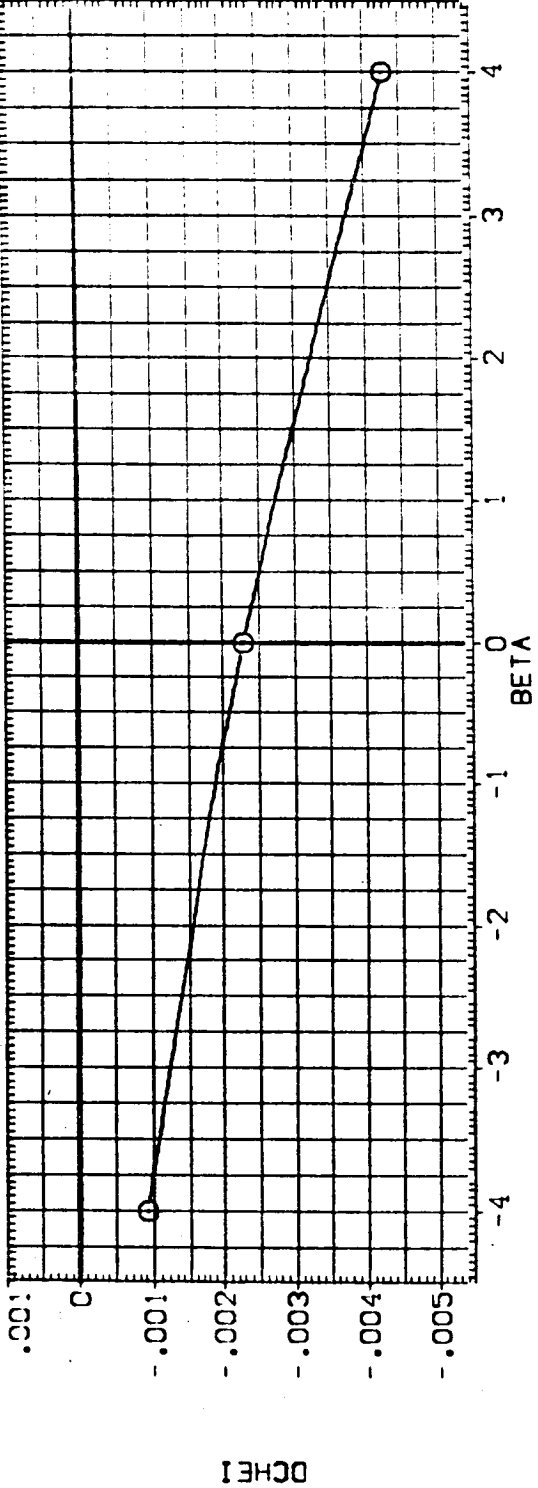


FIG. 31 INCREMENTAL EFFECT OF PLUMES - MACH=1.4 ELV-1B=8.0 ELV-0B=0.0 ALPHA=0.0
 (A) ALPHA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

(EEUC27) O ARC11-0141A19 OTS-STRT SRB-NOM MPS-NOM SQ.FT.

(EEUC35) ARC11-0141A19 OTS-STRT SRB-NOM MPS-NOM

ELV-1B ELV-0B MACH GIMBAL SREF 2690.0000

.000 .000 .900 1.000 LREF 1290.3000

.000 .000 .900 2.000 BREF 1290.3000

XMRP 978.0000 IN. XT

YMRP .0000 IN. YT

ZMRP 400.0000 IN. ZT

SCALE .0200

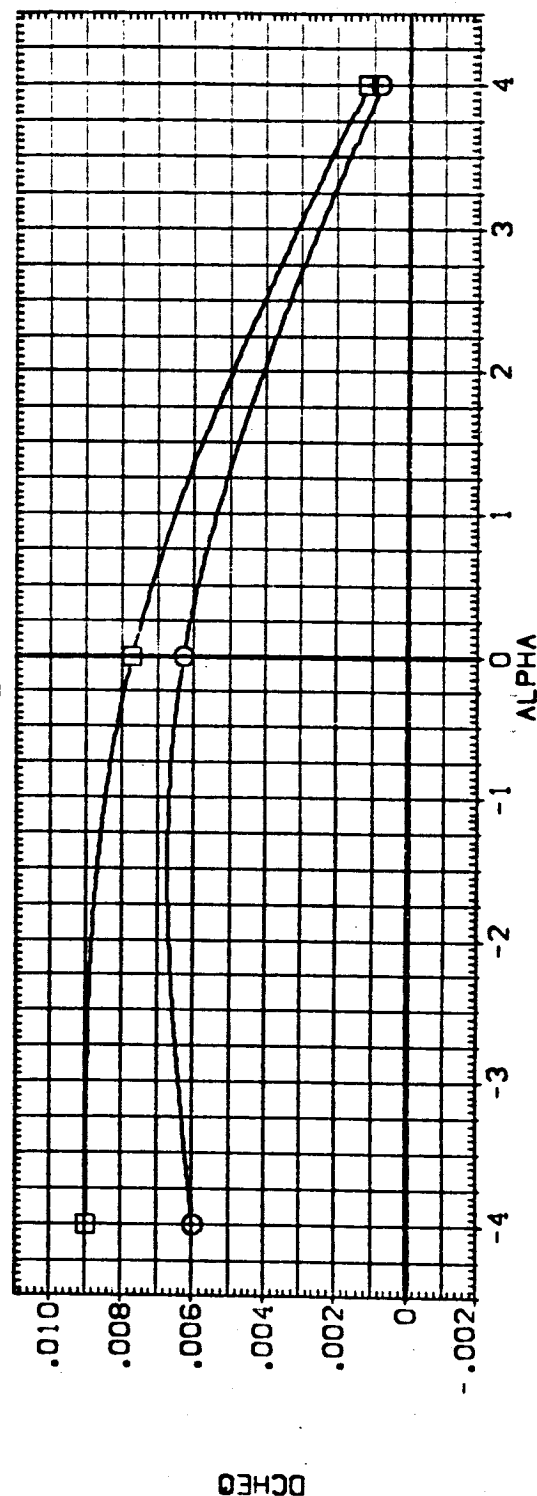
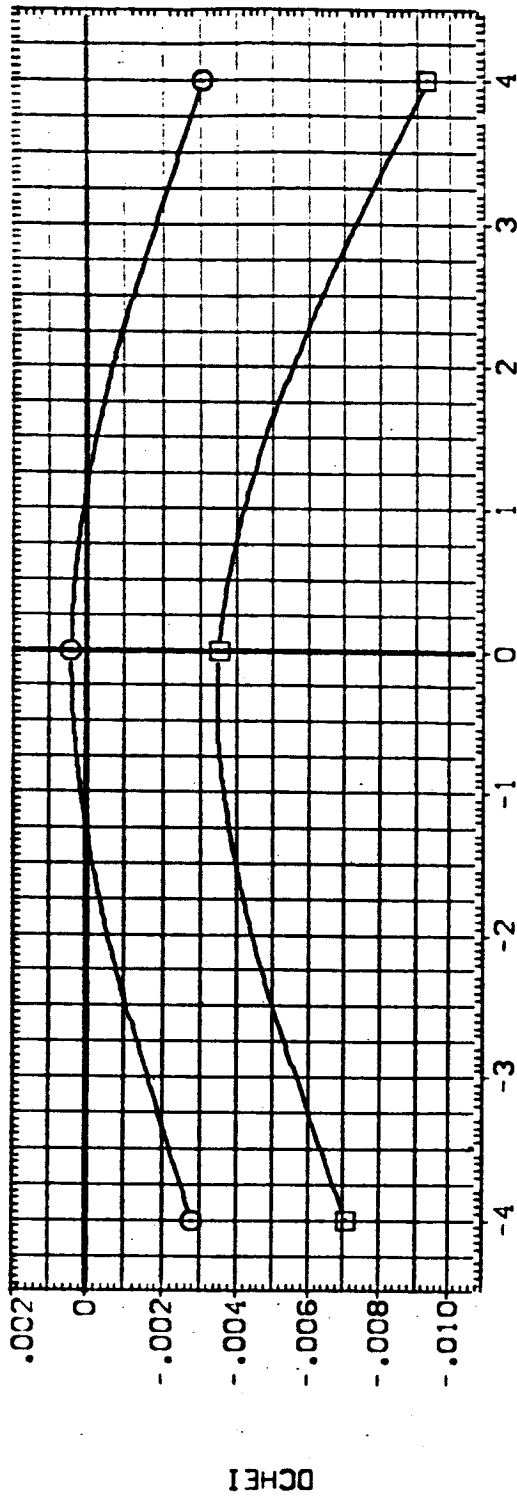


FIG. 32 INCREMENTAL EFFECT OF PLUMES - MACH=0.9 ELV-1B=0.0 ELV-0B=0.0 BETA=0.0

(A) BETA = .00

DATA SET SYMBOL: ○ CONFIGURATION DESCRIPTION: ARC11-0141A19 OTS-STRUT S98-NOM MPS-NOM
 ○ ARC11-0141A19 OTS-STRUT S98-NOM MPS-NOM

ELV-1B .000 .000
 ELV-0B .000 .000
 MACH 1.100 1.100
 GIMBAL 1.000 2.000
 REFERENCE INFORMATION:
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN. XT
 YMRP .0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0200

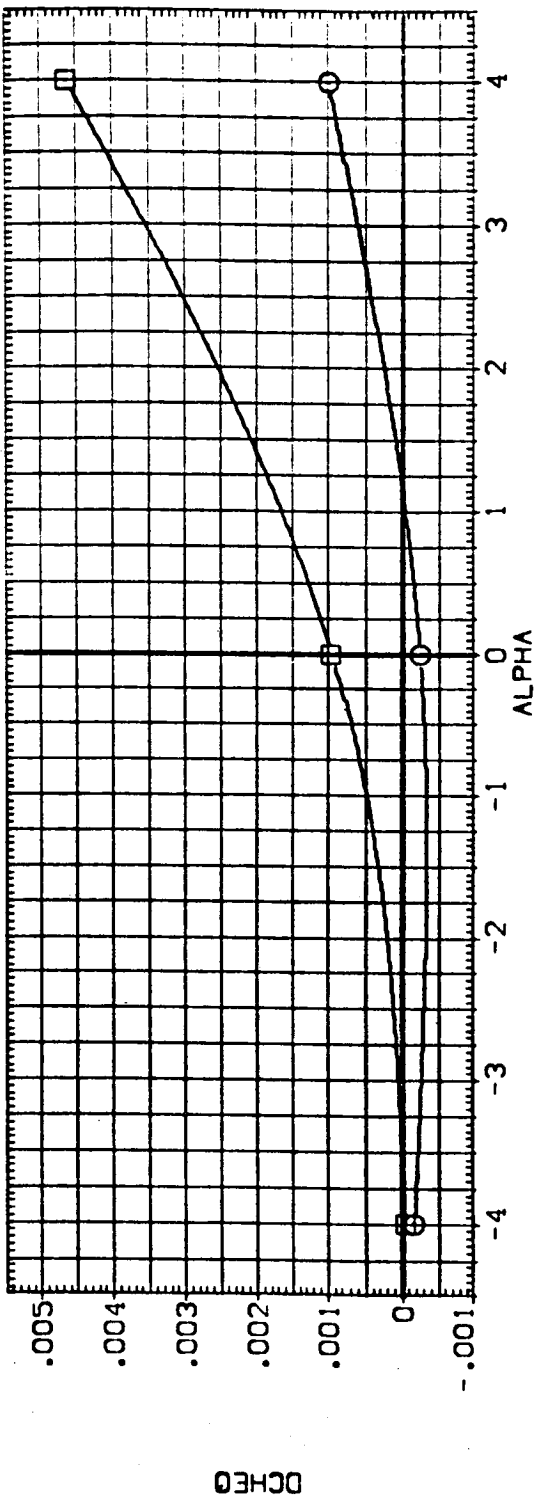
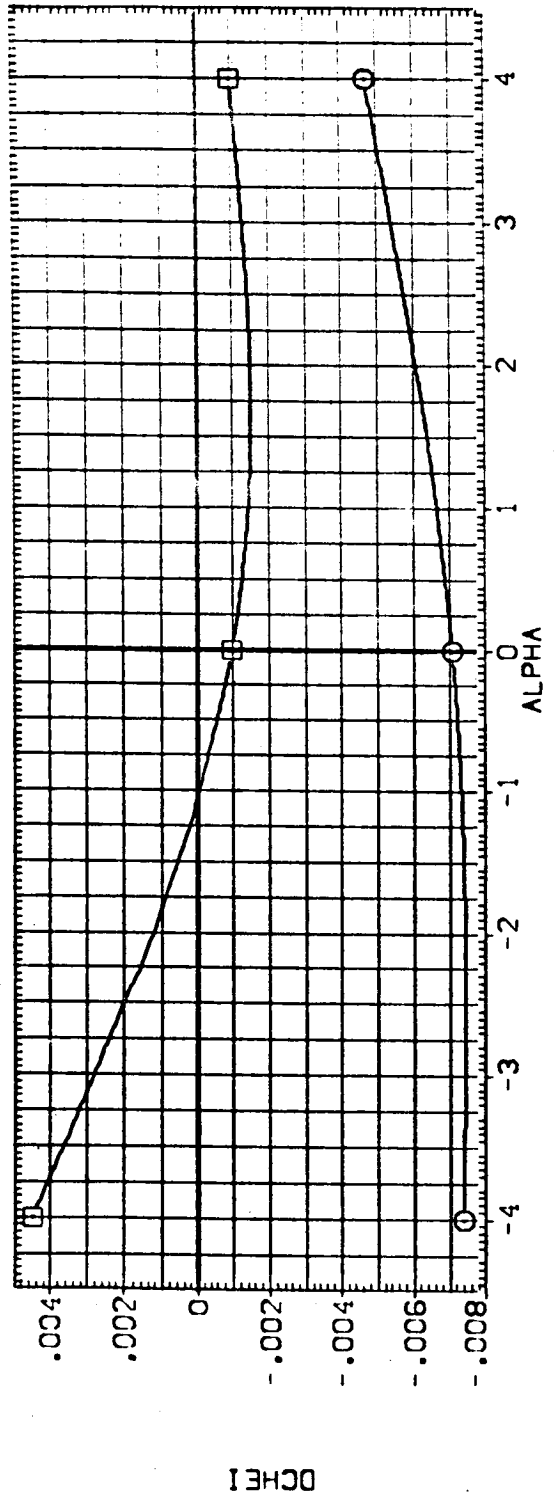


FIG. 33 INCREMENTAL EFFECT OF PLUMES - MACH=1.1 ELV-1B=0.0 ELV-0B=0.0 BETA=0.0
 (A) BETA = .00 PAGE 84



DATA SET SYMBOL: [EJ079] [EJ037]
 CONFIGURATION DESCRIPTION: ARC11-0141A19 01S-STRUT S98-NOM MPS-NOM / ARC11-0141A19 01S-STRUT S98-NOM MPS-NOM
 REFERENCE INFORMATION: SREF 2690.0000 50.FT. IN. / LREF 1290.3000 IN. / BREF 1290.3000 IN. / YMRP 976.0000 IN. / ZMRP 400.0000 IN. / SCALE 0.200

ELV-1B .000 .000
 ELV-08 .000 .000
 MACH 1.250 1.250
 GIMBAL 1.000 2.000

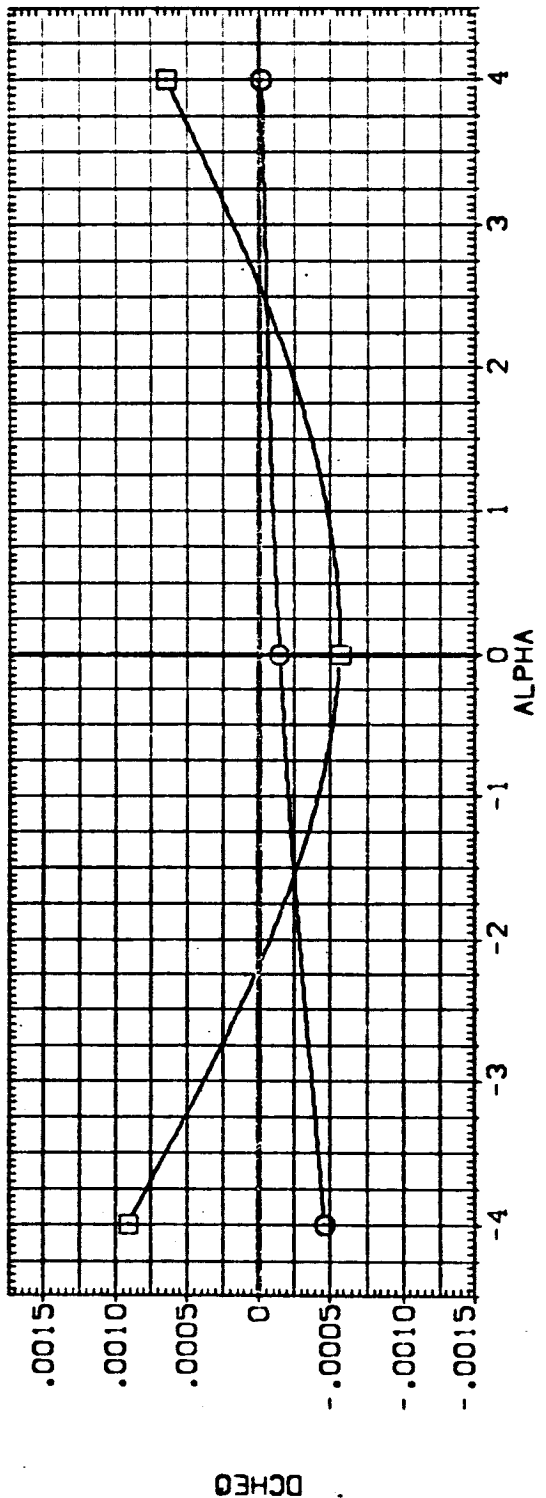
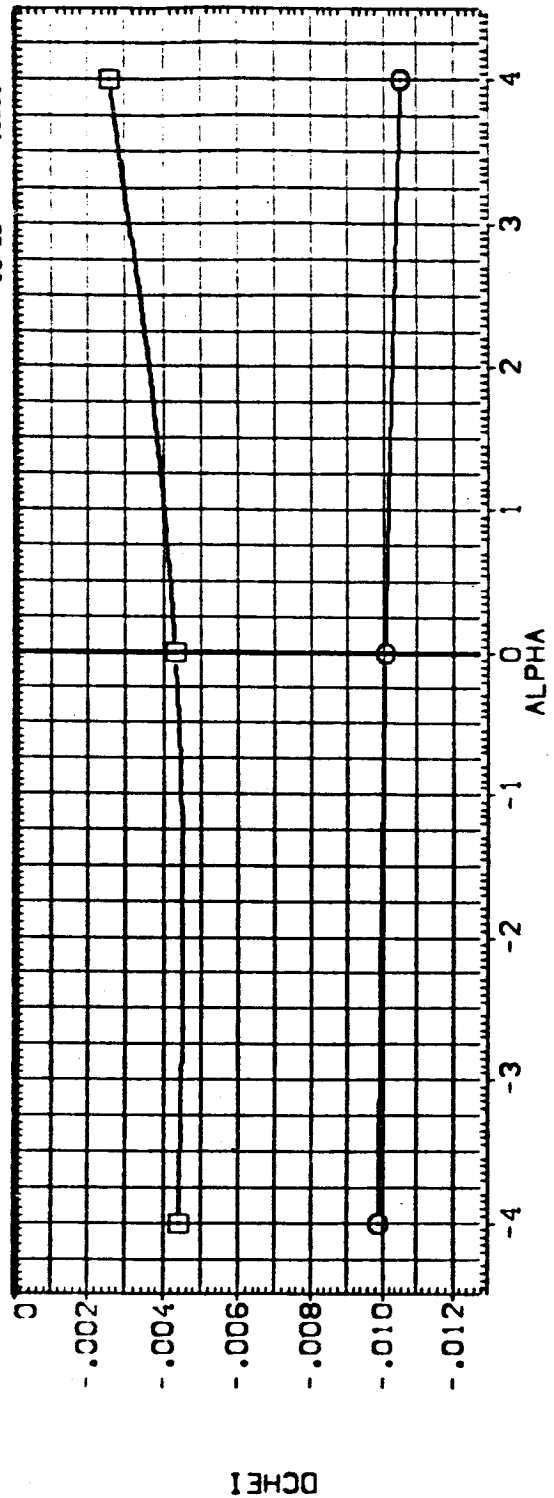


FIG. 34 INCREMENTAL EFFECT OF PLUMES - MACH=1.25 ELV-1B=0.0 ELV-08=0.0 BETA=0.0

CAI BETA = 00

PAGE 06

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(EEUC30) ○ ARC11-0141A19 OTS+STRUT SR8-NOM WPS-NOM
 (EEUC38) □ ARC11-0141A19 OTS+STRUT SR8-NOM WPS-NOM

ELV-IB ELV-OB MACH GIMBAL

REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0200

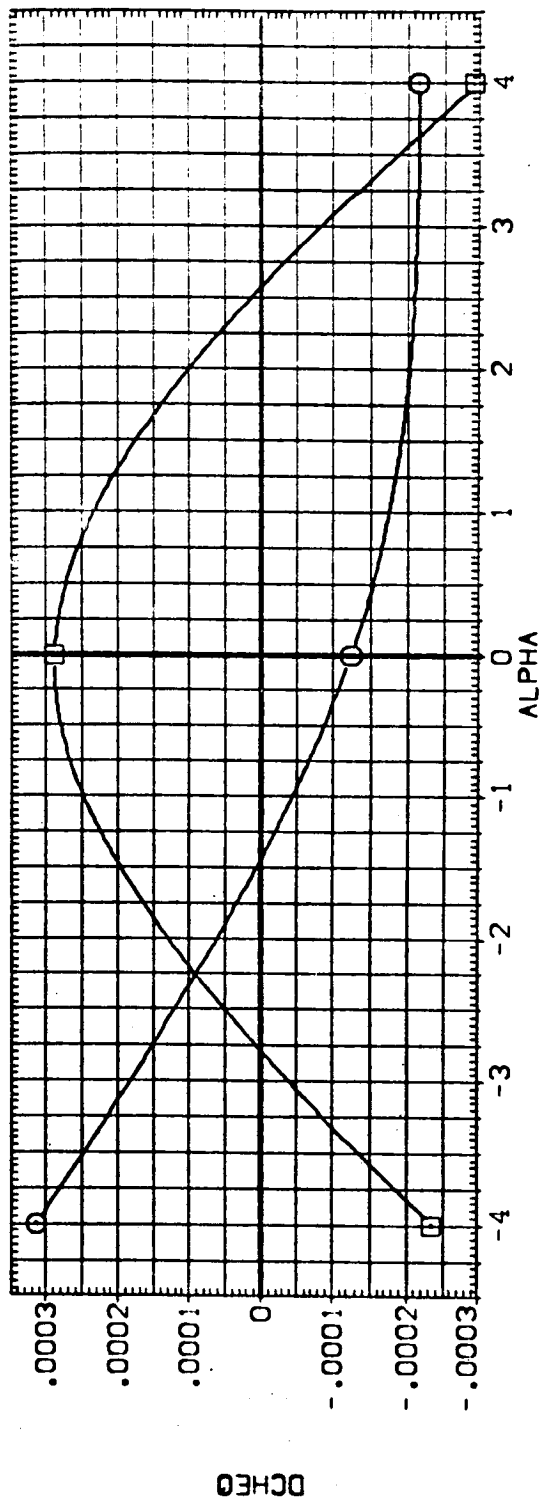
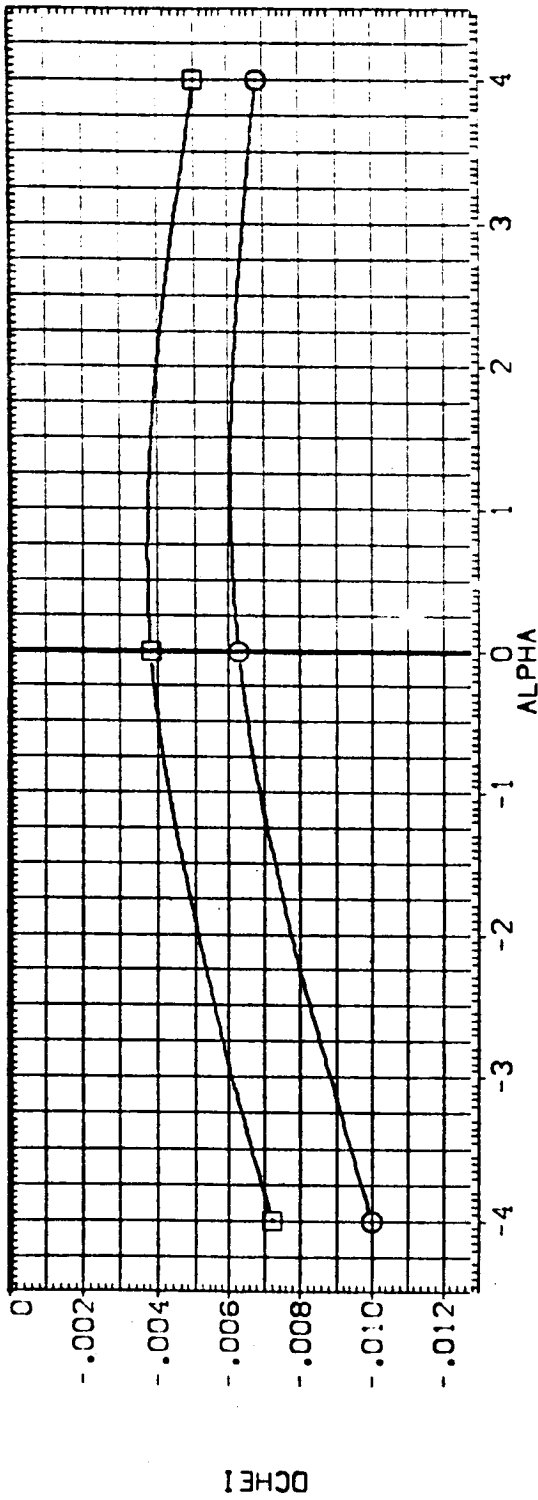


FIG. 35 INCREMENTAL EFFECT OF PLUMES - MACH=1.4 ELV-IB=0.0 ELV-OB=0.0 BETA=0.0

(A)BETA = .00



DATA SET SYMBO. CONFIGURATION DESCRIPTION
 [FEUC27] ○ ARC||-0:4|A19 OTS+STRUT SRB-NOM MPS-NOM
 [FEUC35] ○ ARC||-0:4|A19 OTS+STRUT SRB-NOM MPS-NOM

REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 576.0000 IN. XT
 YMRP .0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0200

ELV-IB .000 ELV-OB .000 MACH .900 GIMBAL 1.000
 .000 .000 .900 2.000

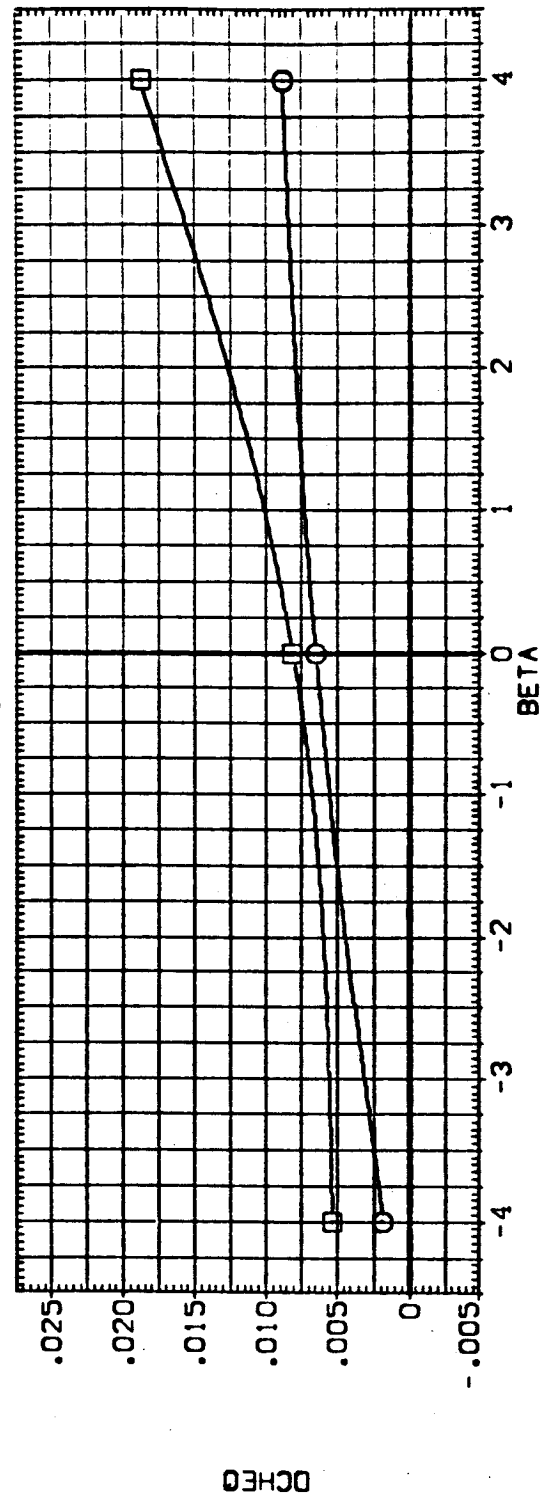
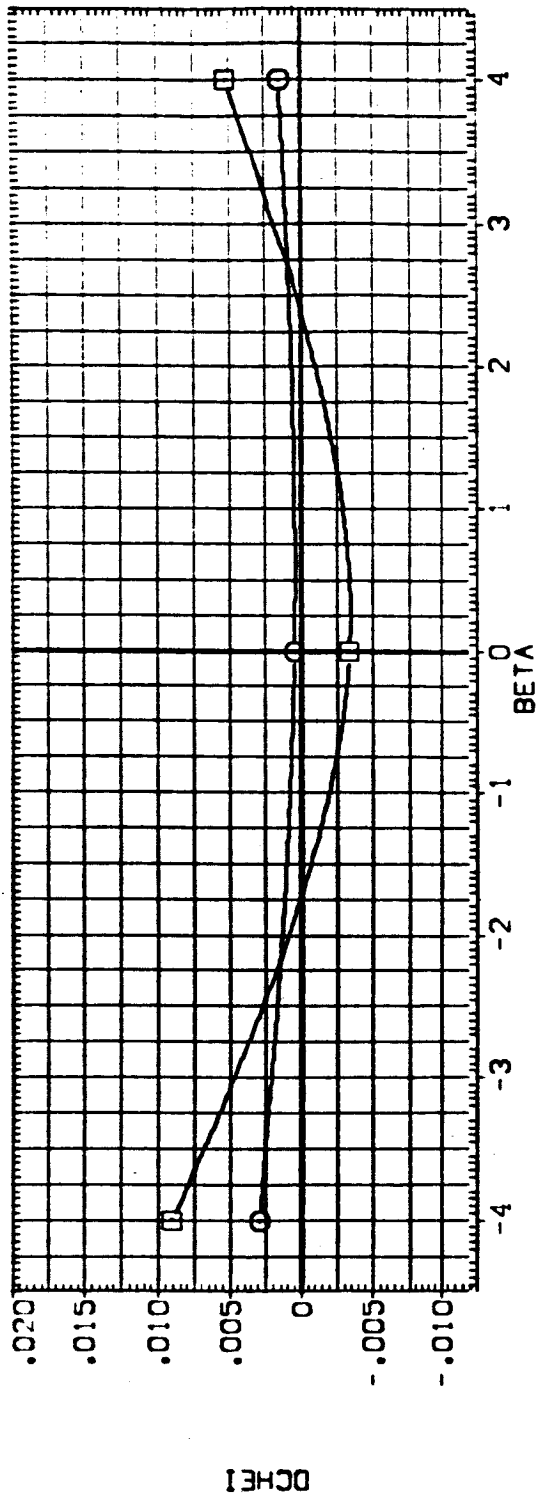


FIG. 36 INCREMENTAL EFFECT OF PLUMES - MACH=0.9 ELV-IB=0.0 ELV-OB=0.0 ALPHA=0.0
 CAJALPHA = .00 PAGE 87

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 {FEU028} ○ ARC11-0141A19 QTS-STRUT S88-N04 WPS-N04
 {FEU036} ○ ARC11-0141A19 QTS-STRUT S88-N04 WPS-N04

ELV-IB ELV-OB MACH GIMBAL REFERENCE INFORMATION
 .000 .000 1.100 1.000 SREF 2690.0000 SO.FT.
 .000 .000 1.100 2.000 LREF 1290.3000 IN.
 .000 .000 1.100 2.000 BREF 1290.3000 IN.
 .000 .000 1.100 2.000 XMRP 976.0000 IN. XT
 .000 .000 1.100 2.000 YMRP 400.0000 IN. YT
 .000 .000 1.100 2.000 ZMRP 400.0000 IN. ZT
 SCALE .0200

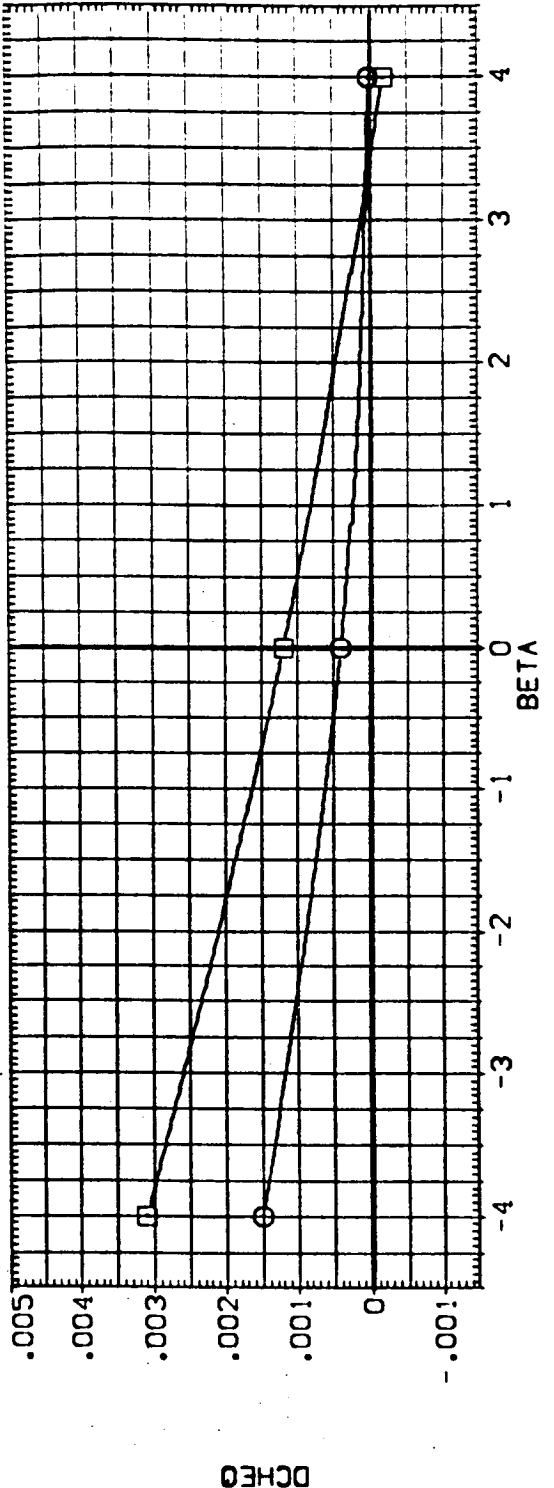
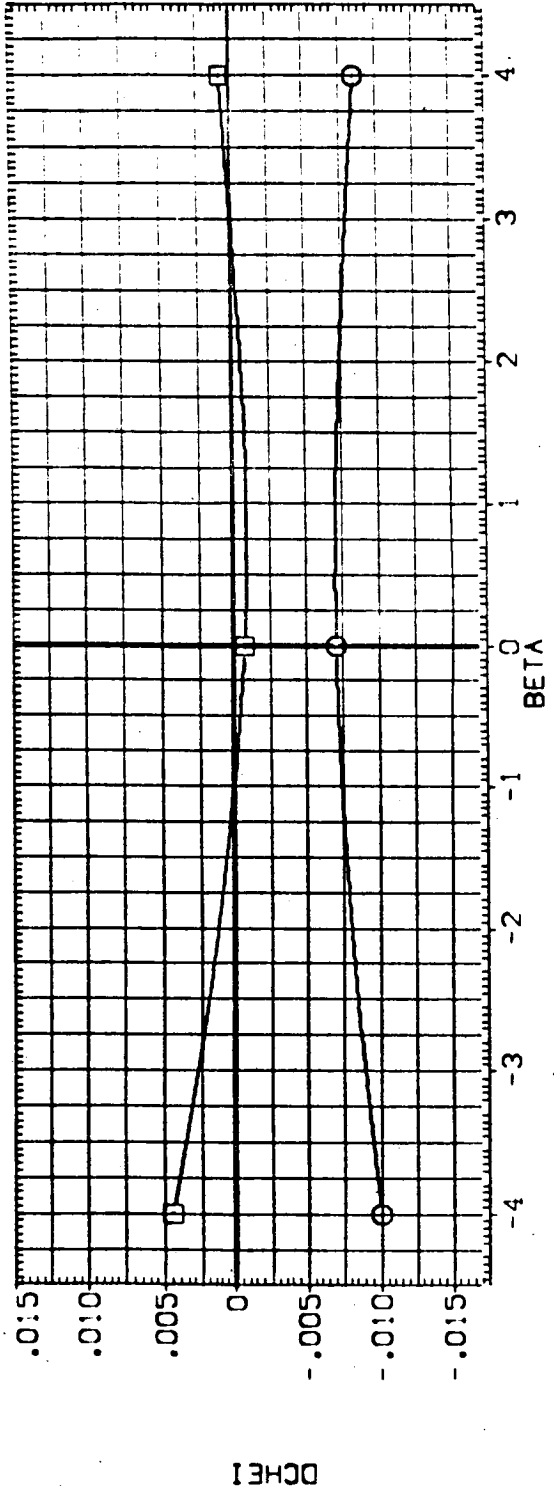


FIG. 37 INCREMENTAL EFFECT OF PLUMES - MACH=1.1 ELV-IB=0.0 ELV-OB=0.0 ALPHA=0.0

(A) ALPHA = .00



DATA SET SYMBOL: (F0009) (F0037)

CONFIGURATION DESCRIPTION: ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM
 ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM

ELV-1B: .000 .000
 ELV-08: .000 .000
 MACH: 1.250 1.250
 GIMBAL: 1.000 2.000

REFERENCE INFORMATION:
 SREF: 2690.0000 SQ.FT.
 LREF: 1290.3000 IN.
 BREF: 1290.3000 IN.
 XMRP: 976.0000 IN.
 YMRP: .0000 IN.
 ZMRP: 400.0000 IN.
 SCALE: .0200

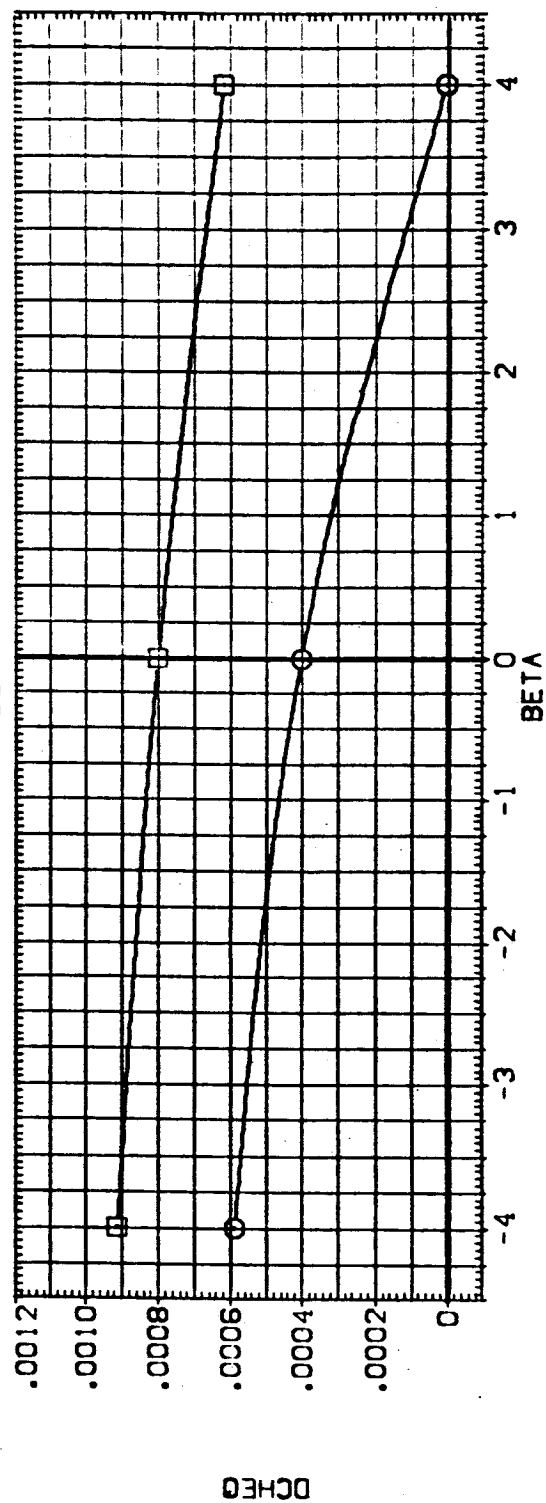
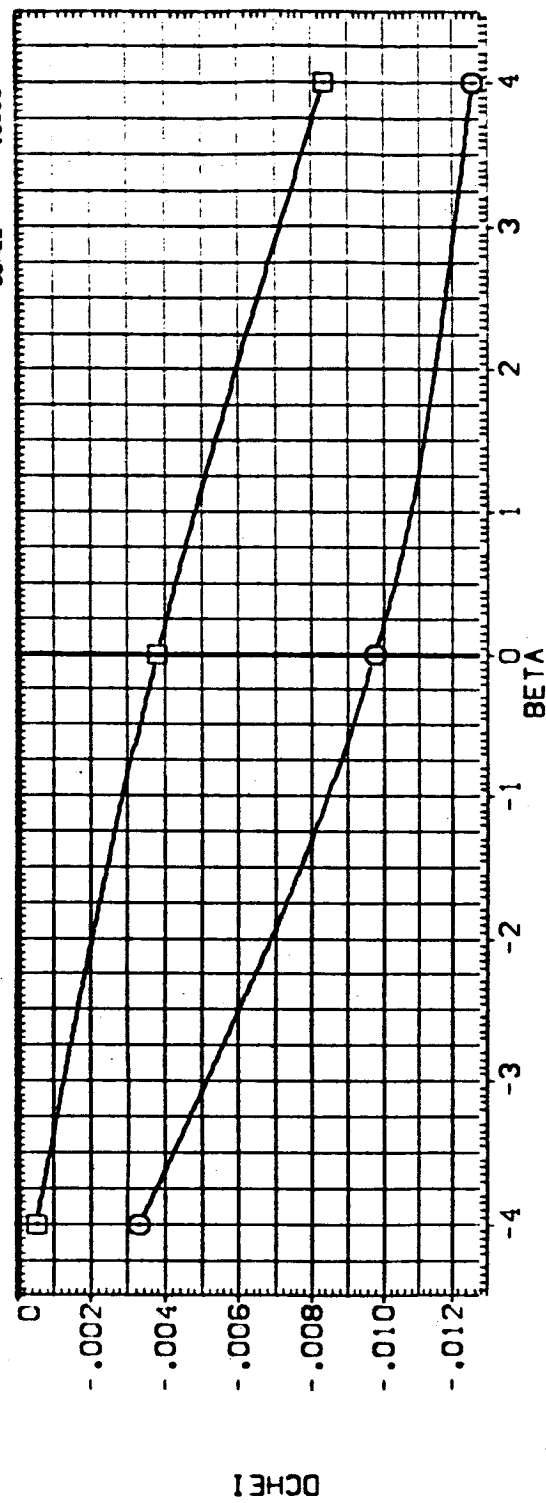


FIG. 38 INCREMENTAL EFFECT OF PLUMES - MACH=1.25 ELV-1B=0.0 ELV-08=0.0 ALPHA=0.0
 (A) ALPHA = .00

DATA SET SYMBO. CONFIGURATION DESCRIPTION
 {FELC30} O ARC11-0141A19 DTS-STRT SRB-NOM MPS-NOM
 {FELC38} ARC11-0141A19 DTS-STRT SRB-NOM MPS-NOM

ELV-IB ELV-OB MACH GIMBAL REFERENCE INFORMATION
 .000 .000 1.400 1.000 SREF 2690.0000 SQ.FT.
 .000 .000 1.400 2.000 LREF 1290.3000 IN.
 .000 .000 1.400 1.000 BREF 1290.3000 IN.
 .000 .000 1.400 1.000 XREF 975.0000 IN. XT
 .000 .000 1.400 1.000 YREF 400.0000 IN. YT
 .000 .000 1.400 1.000 ZREF 400.0000 IN. ZT
 SCALE .0200

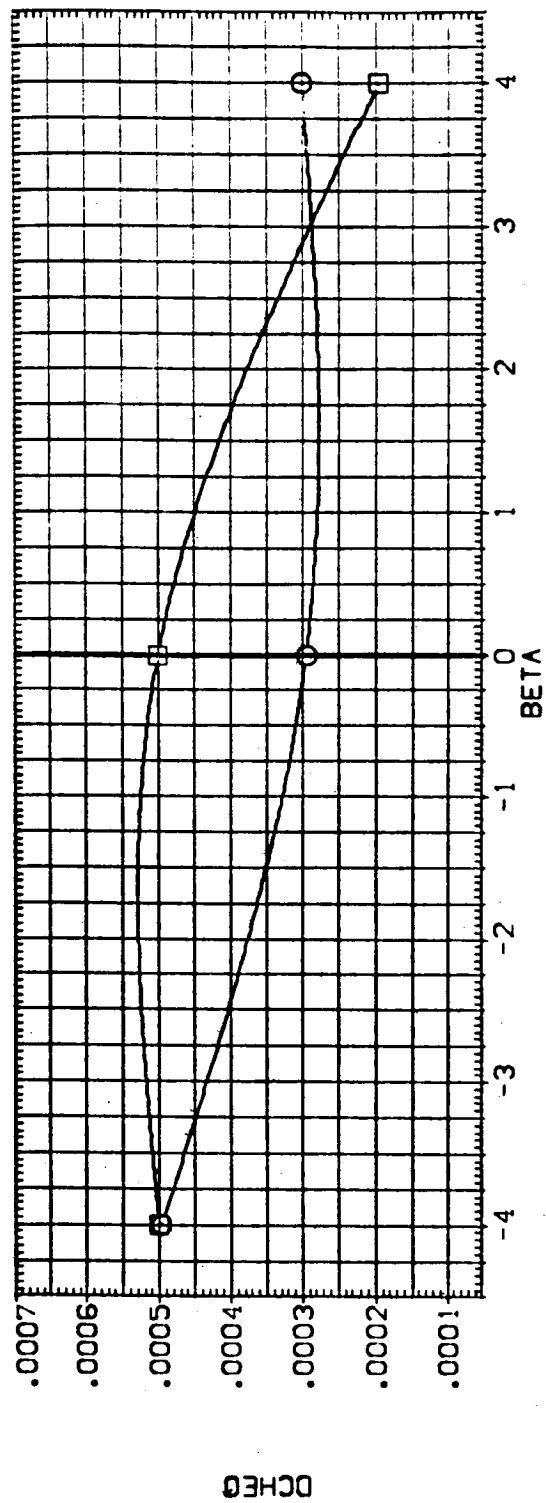
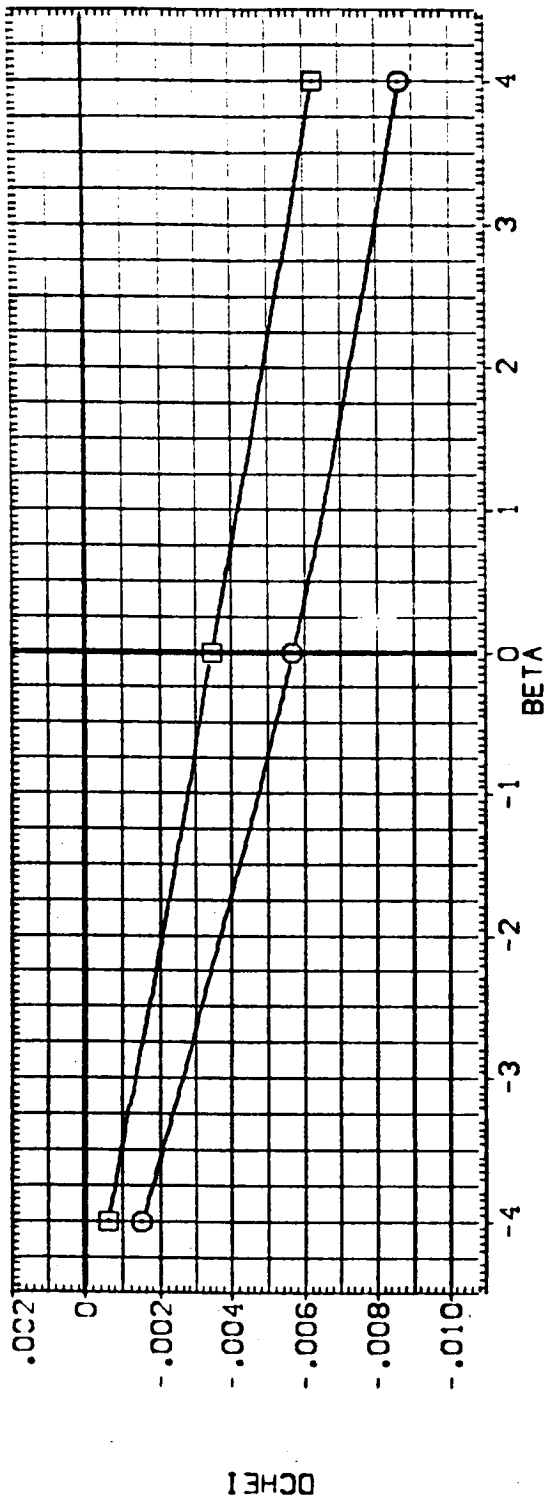


FIG. 39 INCREMENTAL EFFECT OF PLUMES - MACH=1.4 ELV-IB=0.0 ELV-OB=0.0 ALPHA=0.
 (A) ALPHA = .00



DATA SET SYMBOL: (E)U039
 (E)U043
 CONFIGURATION DESCRIPTION: ARC11-0141A19 OTS
 ARC11-0141A19 OTS
 SPR-OFF MPS-OFF
 SPR-NOM MPS-OFF

ELV-1B : .000
 ELV-08 : .000
 MACH : .900
 GIMBAL : 1.000
 1.000

REFERENCE INFORMATION:
 SREF: 2690.0000 SO.FT.
 LREF: 1290.3000 IN.
 BREF: 1290.3000 IN.
 XMRP: 976.0000 IN. XT
 YMRP: 0.0000 IN. YT
 ZMRP: 400.0000 IN. ZT
 SCALE: .0200

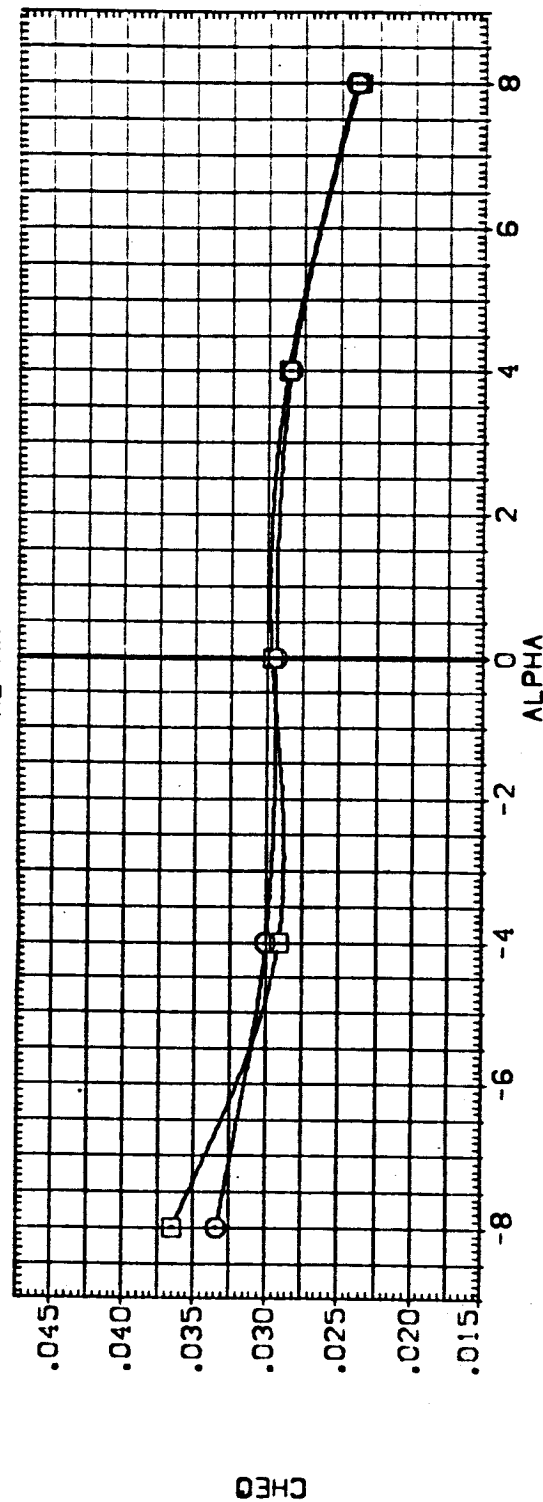
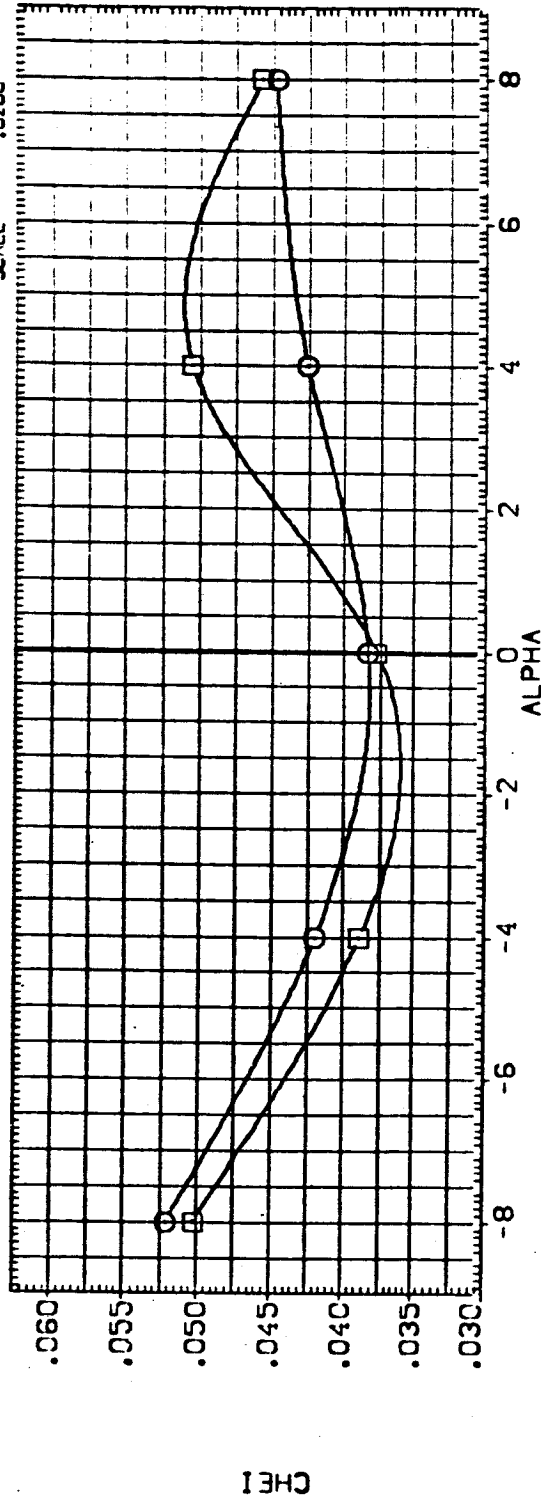


FIG. 40 EFFECT OF PLUMES - MACH=0.9 ELV-1B=0.0 ELV-08=0.0 BETA=0.0

CABETA = .00

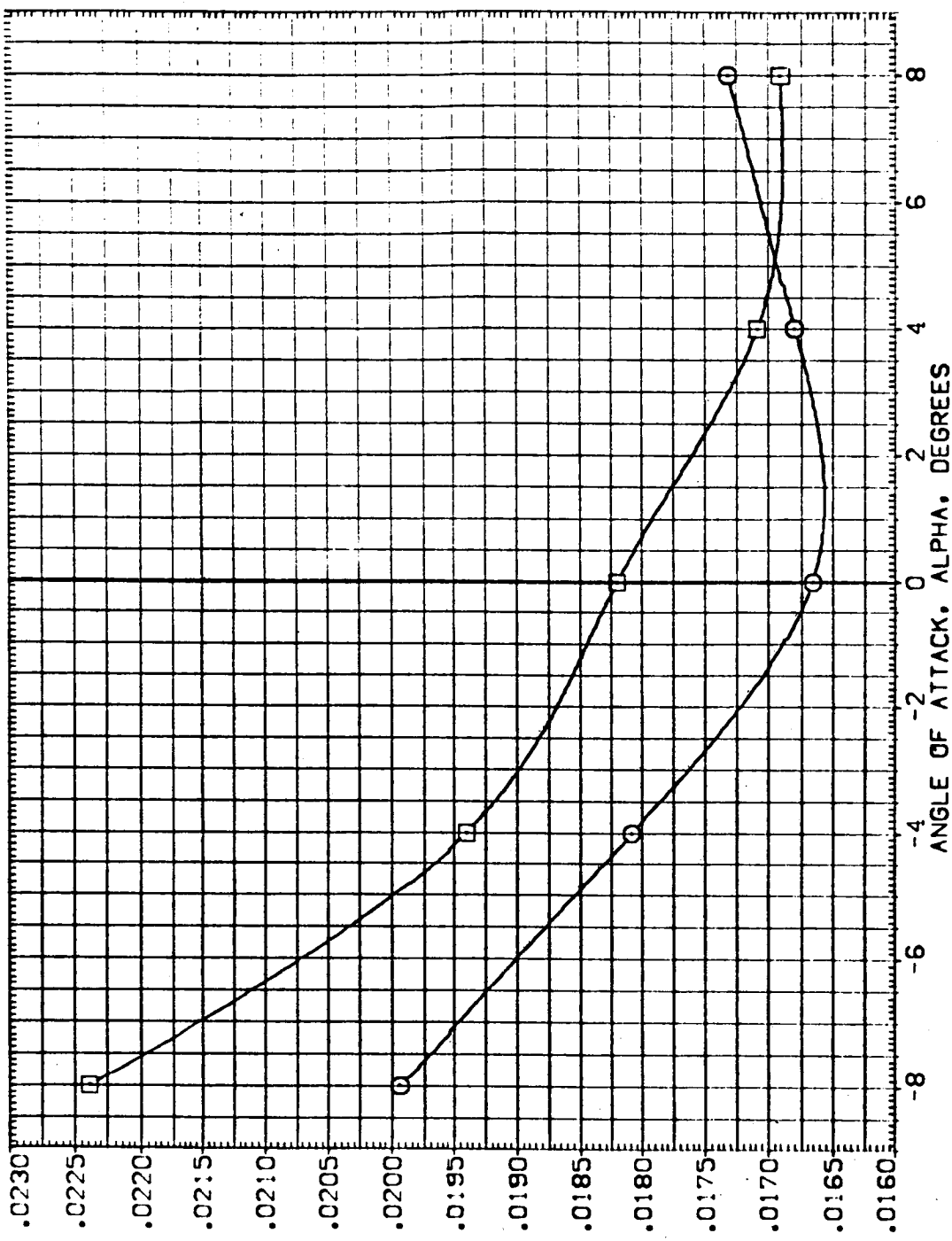
DATA SET SYMBOL: (B-039) (B-0313)

CONFIGURATION DESCRIPTION:
 ARC11-0141A19 OTS
 ARC11-0141A19 OTS

SRB-OFF MPS-OFF
 SRB-NOM MPS-OFF

ELV-1B .000 .000
 ELV-09 .000 .000
 MACH .900 .900
 GIMBAL 1.000 1.000

REFERENCE INFORMATION:
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 576.0000 IN. XT
 YMRP .0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0200



ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

FIG. 40 EFFECT OF PLUMES - MACH=0.9 ELV-1B=0.0 ELV-0B=0.0 BETA=0.0

(A) BETA = .00

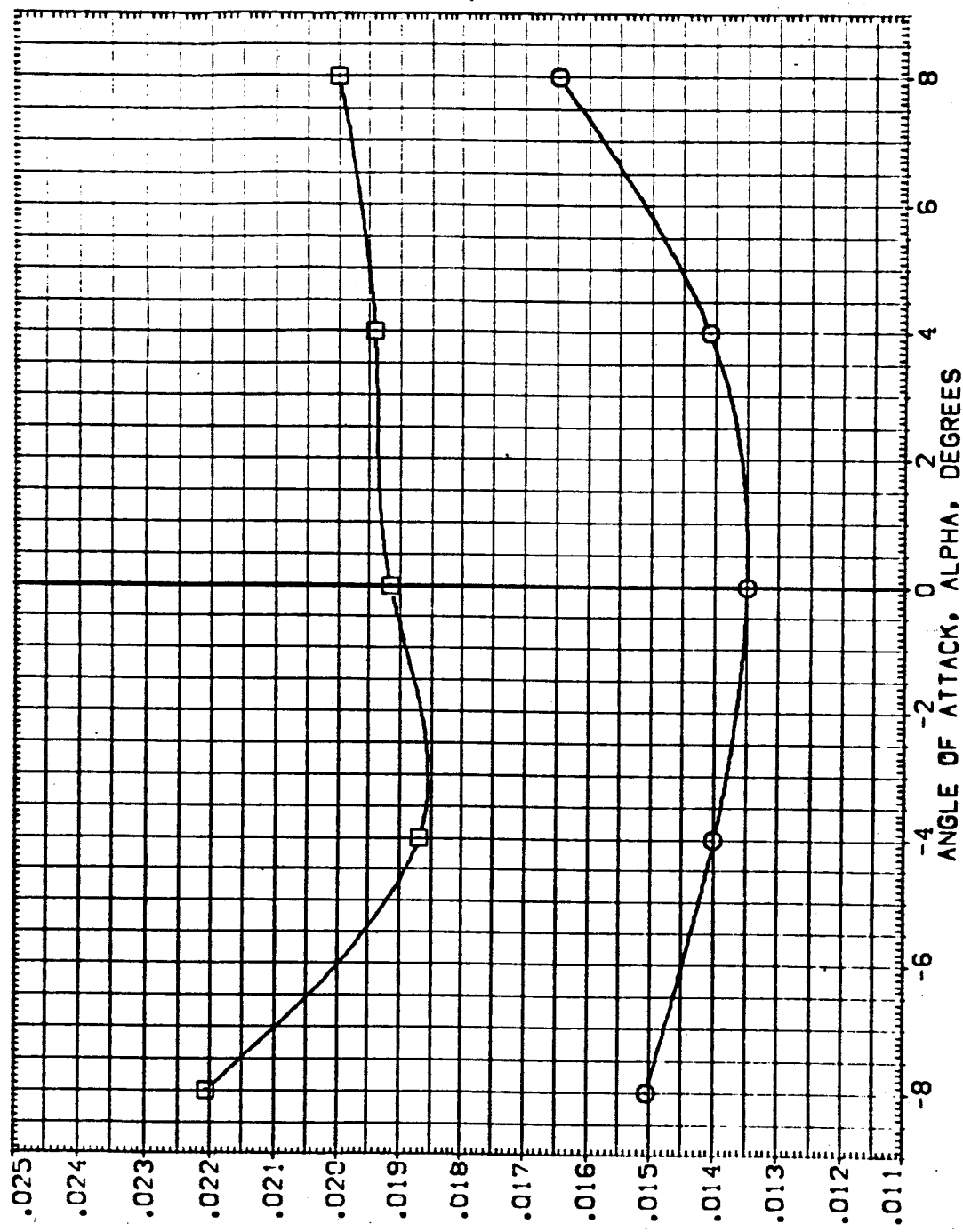


DATA SET SYMBOL CONFIGURATION DESCRIPTION

(3)LC39) ○ ARC11-0:41A:9 OTS SR9-0FF MPS-0FF
 (3)JC43) ○ ARC11-0:41A:9 OTS SR9-NOM MPS-0FF

ELV-1B ELV-0B MACH GIMBAL REFERENCE INFORMATION

.000 .000 .900 1.000 SREF 2690.0000 SQ.FT.
 .000 .000 .900 1.000 LREF 1290.3000 IN.
 .000 .000 .900 1.000 BREF 1290.3000 IN.
 XMRB 576.0000 IN. XT
 YMRB .0000 IN. YT
 ZMRB 400.0000 IN. ZT
 SCALE 100.0000



SRM BASE AXIAL-FORCE COEFFICIENT, CABS

FIG. 40 EFFECT OF PLUMES - MACH=0.9 ELV-1B=0.0 ELV-0B=0.0 BETA=0.0

(A)BETA = .00

DATA SET SYMBOL: (3E-039) (3E-043)

CONFIGURATION DESCRIPTION:
 ARC11-0:41A19 OTS
 ARC11-0:41A19 OTS

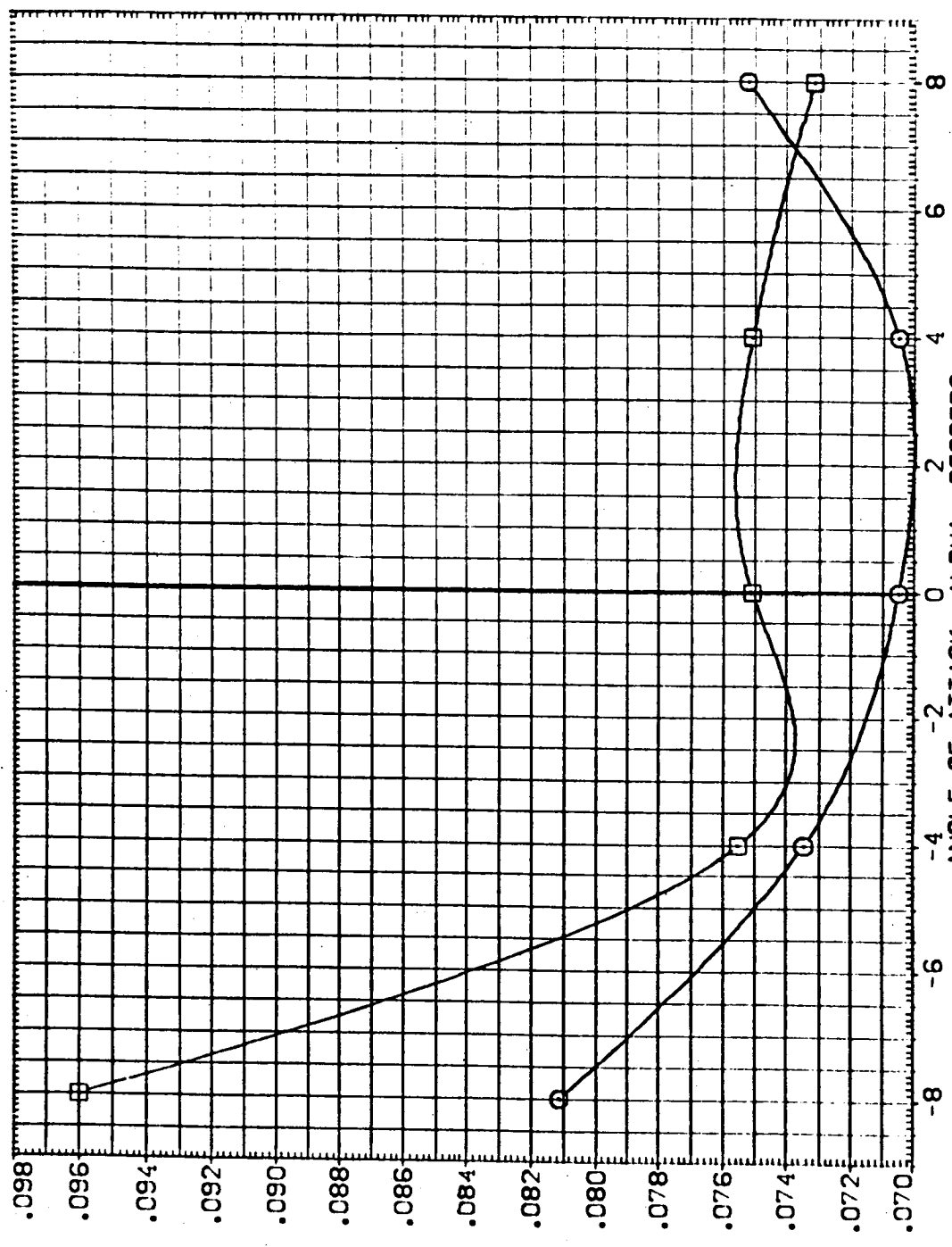
SRB-OFF MPS-OFF
 SRB-ON MPS-OFF

ELV-1B .000
 ELV-0B .000

MACH .900
 .900

GIMBAL 1.000
 1.000

REFERENCE INFORMATION:
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 576 IN. XT
 YMRP .0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0200



EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

FIG. 40 EFFECT OF PLUMES - MACH=0.9 ELV-1B=0.0 ELV-0B=0.0 BETA=0.0

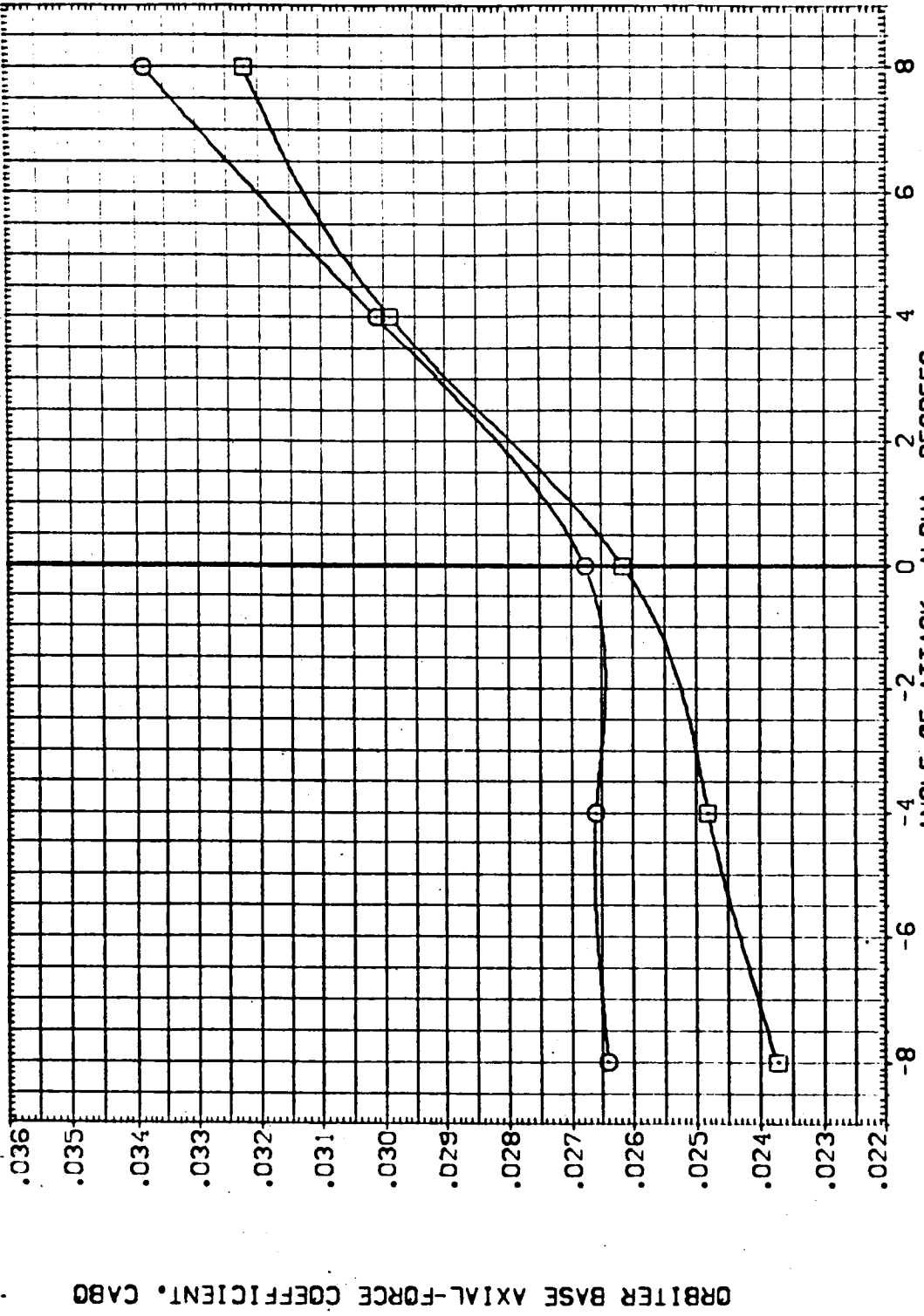
CABETA = .00



DATA SET SYMBOL: (BE010) (BE011)
 CONFIGURATION DESCRIPTION: ARC11-014 A19 01S
 SPR-OFF MPS-OFF: SPR-NOM MPS-OFF

ELV-1B: .000
 ELV-0B: .000
 MACH: 1.100
 GIMBAL: 1.000

REFERENCE INFORMATION:
 SREF: 2690.0000 SQ.FT.
 LREF: 1290.3000
 BREF: 1290.3000
 XMRP: 576.0000
 YMRP: .0000
 ZMRP: 400.0000
 SCALE: 100.0000
 IN. XT
 IN. YT
 IN. ZT

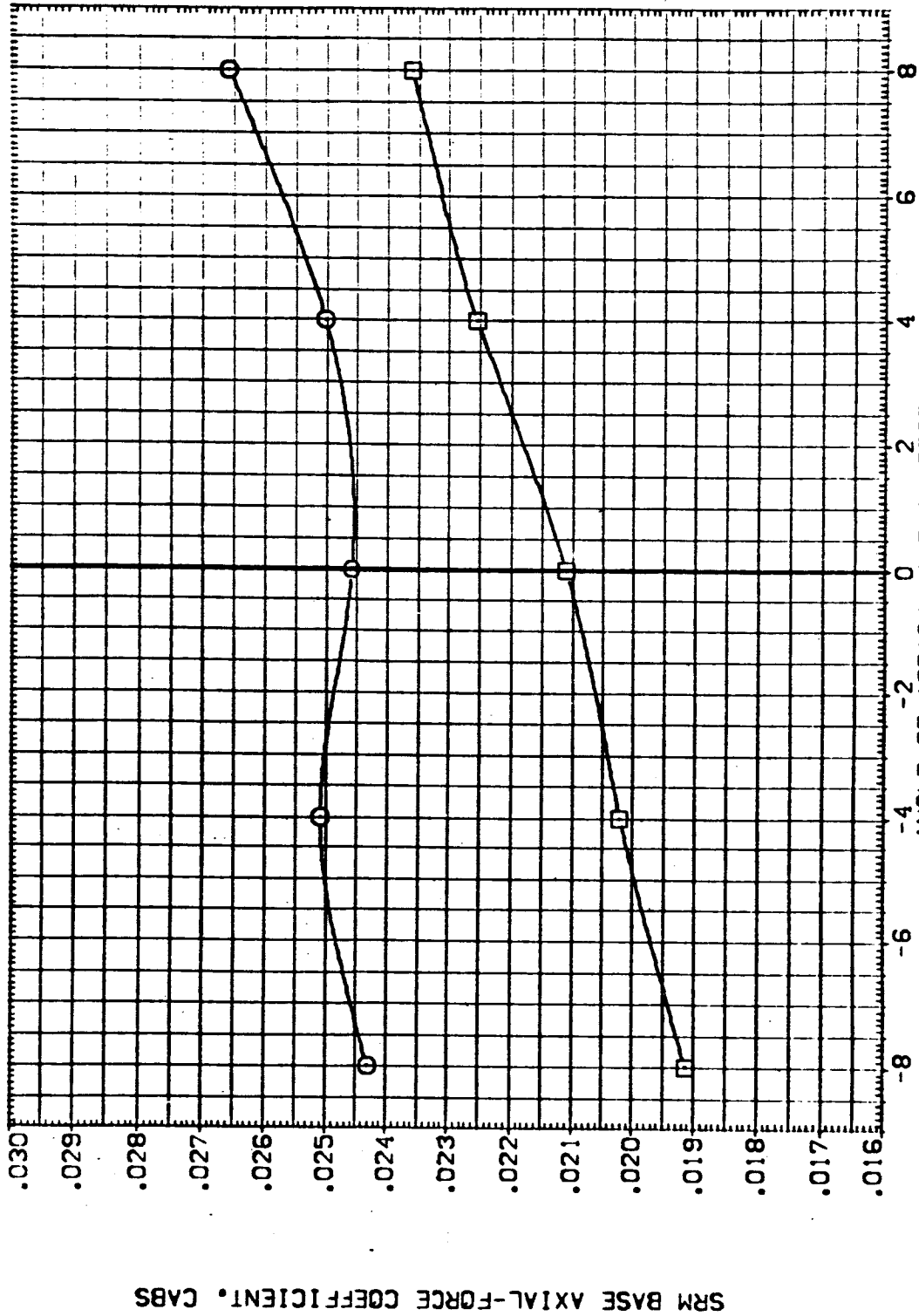


ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

FIG. 41 EFFECT OF PLUMES - MACH=1.1 ELV-1B=0.0 ELV-0B=0.0 BETA=0.0

CABETA = .00

DATA SET SYMBOL: (3J043) (3J044)
 CONFIGURATION DESCRIPTION: ARC11-0141A19 01S SR3-OFF MPS-OFF SR3-NOM MPS-OFF
 REFERENCE INFORMATION: SREF 2690.0000 SQ.FT. LREF 1290.3000 IN. BREF 1290.3000 IN. XT YMRP 976.0000 IN. YI ZMRP 400.0000 IN. ZI SCALE .0200



SRM BASE AXIAL-FORCE COEFFICIENT, CABS

FIG. 41 EFFECT OF PLUMES - MACH=1.1 ELV-IB=0.0 ELV-OB=0.0 BETA=0.0

(A) BETA = .00

DATA SET SYMBOL: (BLC40) (BLC44)

CONFIGURATION DESCRIPTION: ARC11-0141A19 01S
 ARC11-0141A19 01S

SR8-OF MPS-OF: SR8-NM MPS-OF

ELV-1B ELV-08 MACH GIMBAL REFERENCE INFORMATION

ELV-1B	ELV-08	MACH	GIMBAL	SREF	2690.0000	SO.FT.
.000	.000	1.100	1.000	LREF	1290.3000	IN.
.000	.000	1.100	1.000	BREF	1290.3000	IN.
				XMPP	976.0000	IN. XT
				YMPP	.0000	IN. YT
				ZMPP	400.0000	IN. ZT
				SCALE	.0200	

EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

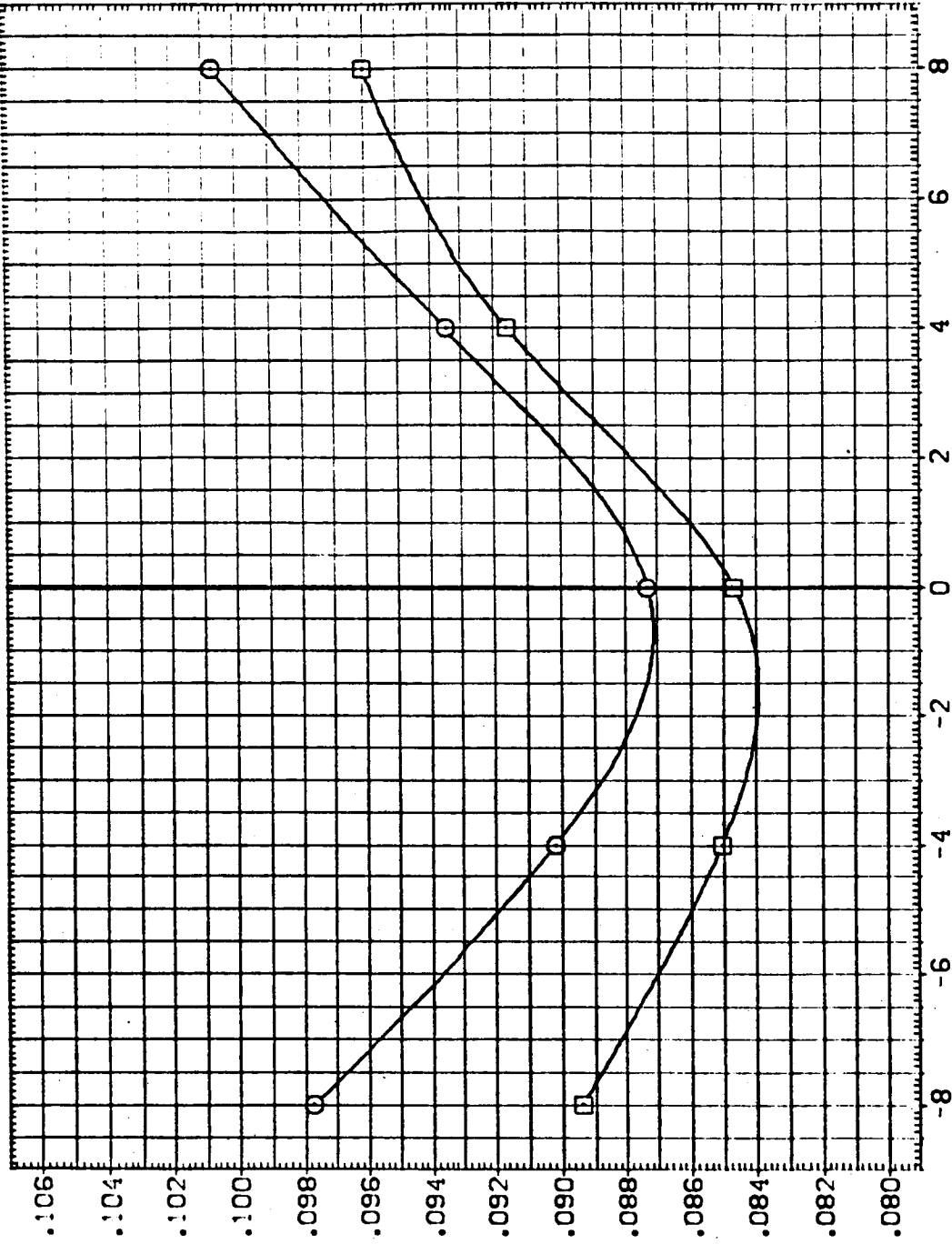
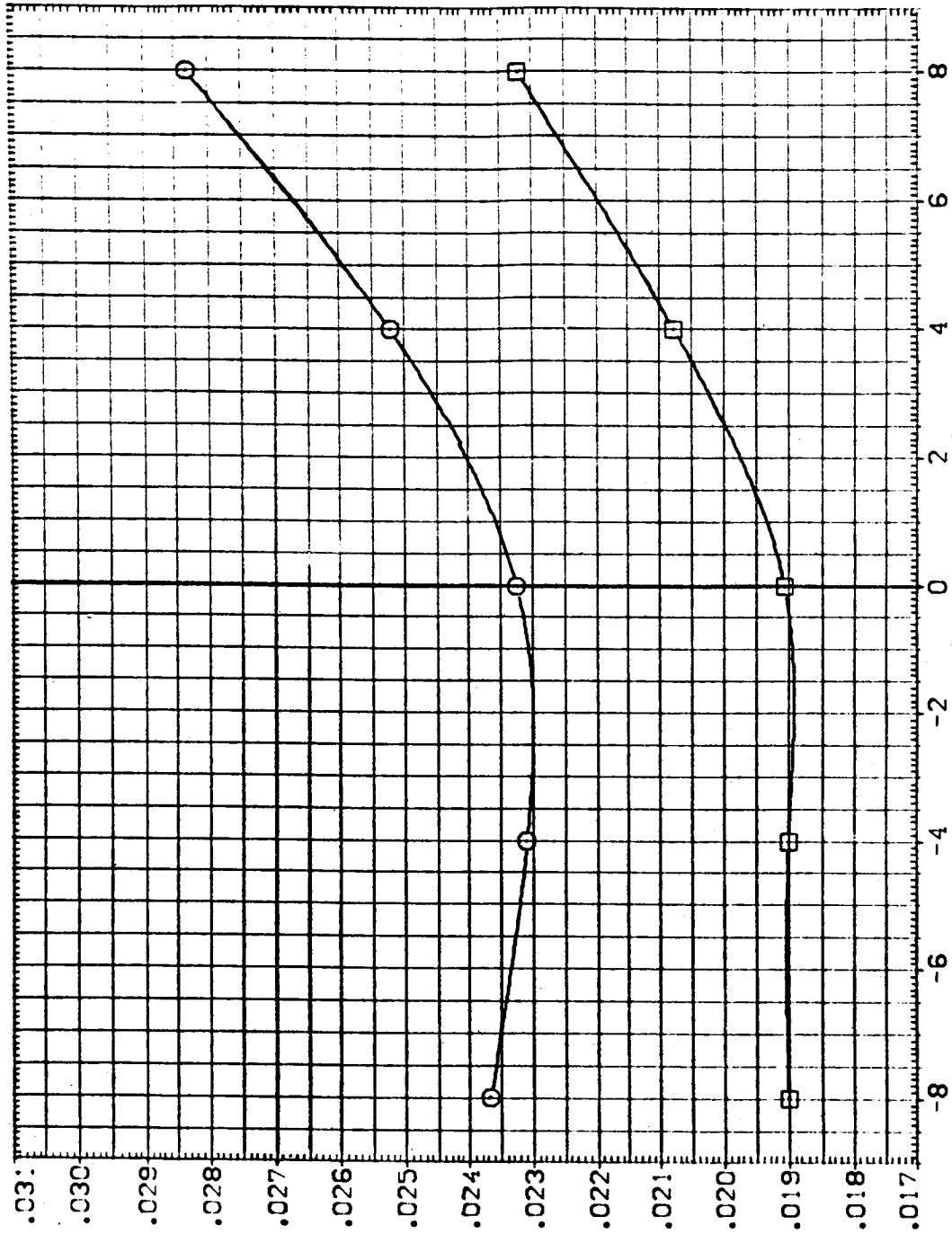


FIG. 41 EFFECT OF PLUMES - MACH=1.1 ELV-1B=0.0 ELV-08=0.0 BETA=0.0

(A)BETA = .00



DATA SET SYMBOL: **0** CONFIGURATION DESCRIPTION: **ARC11-0141A19 01S** REFERENCE INFORMATION: **SREF 2690.0000 SO.FT. 1.000**
ARC21-0141A19 01S **SREF 1290.3000 IN. 1.000**
ARC31-0141A19 01S **SREF 1290.3000 IN. 1.000**
ARC41-0141A19 01S **SREF 975.0000 IN. XT**
ARC51-0141A19 01S **SREF 400.0000 IN. YT**
ARC61-0141A19 01S **SREF 400.0000 IN. ZT**
ARC71-0141A19 01S **SREF 400.0000 IN. ZT**
ARC81-0141A19 01S **SREF 400.0000 IN. ZT**
ARC91-0141A19 01S **SREF 400.0000 IN. ZT**
ARC01-0141A19 01S **SREF 400.0000 IN. ZT**



ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

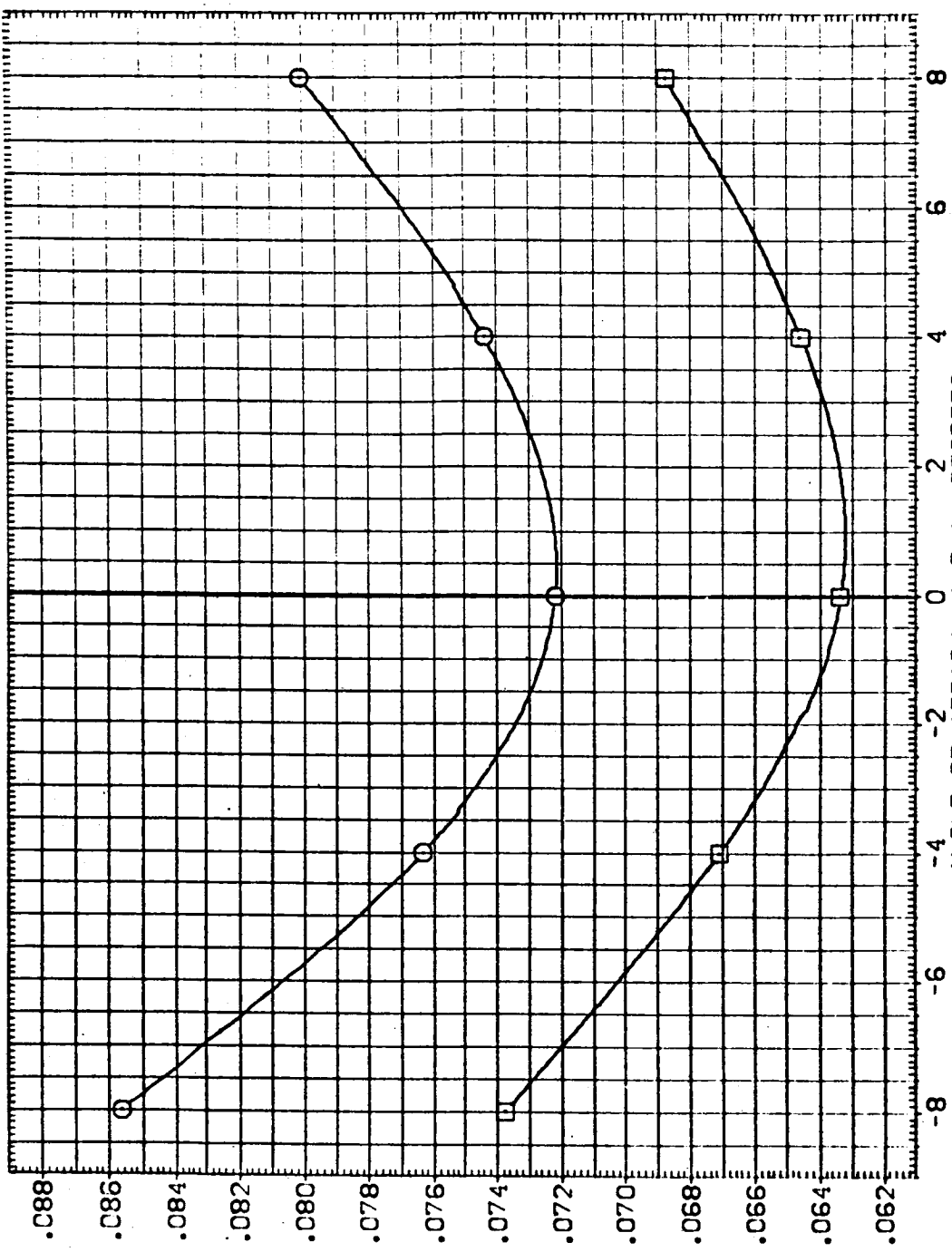
FIG. 42 EFFECT OF PLUMES - MACH=1.25 ELV-IB=0.0 ELV-OB=0.0 BETA=0.0

CABETA = .00



DATA SET SYMBOL: CONFIGURATION DESCRIPTION
 (B) (C41) O ARC11-0141A19 OTS S98-0FF MPS-0FF
 (E) (C45) ARC11-0141A19 OTS S98-NOM MPS-0FF

ELV-1B ELV-0B MACH GIMBAL REFERENCE INFORMATION
 .000 .000 1.250 1.000 SREF 2690.0000 SQ.FT.
 .000 .000 1.250 1.000 LREF 1790.3000 IN.
 .000 .000 1.250 1.000 BREF 1790.3000 IN.
 .000 .000 1.250 1.000 XMRP 976.0000 IN. XT
 .000 .000 1.250 1.000 YMRP 400.0000 IN. YT
 .000 .000 1.250 1.000 ZMRP 400.0000 IN. ZT
 SCALE .0200



EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CAB1

FIG. 42 EFFECT OF PLUMES - MACH=1.25 ELV-1B=0.0 ELV-0B=0.0 BETA=0.0

(A) BETA = .00



DATA SET SYMBOLS: CONFIGURATION DESCRIPTION
 (B-JC42) ○ ARC11-0141A19 01S SRB-OFF MPS-OFF
 (B-JC46) ○ ARC11-0141A19 01S SRB-NOM MPS-OFF

ELV-1B .000
 ELV-08 .000
 MACH 1.100
 GIMBAL 1.000

REFERENCE INFORMATION
 SREF 2690.0000 SO.FT.
 LREF 1790.3000 IN.
 BREF 1790.3000 IN.
 XMRP 976.0000 IN. XT
 YMRP .0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0200

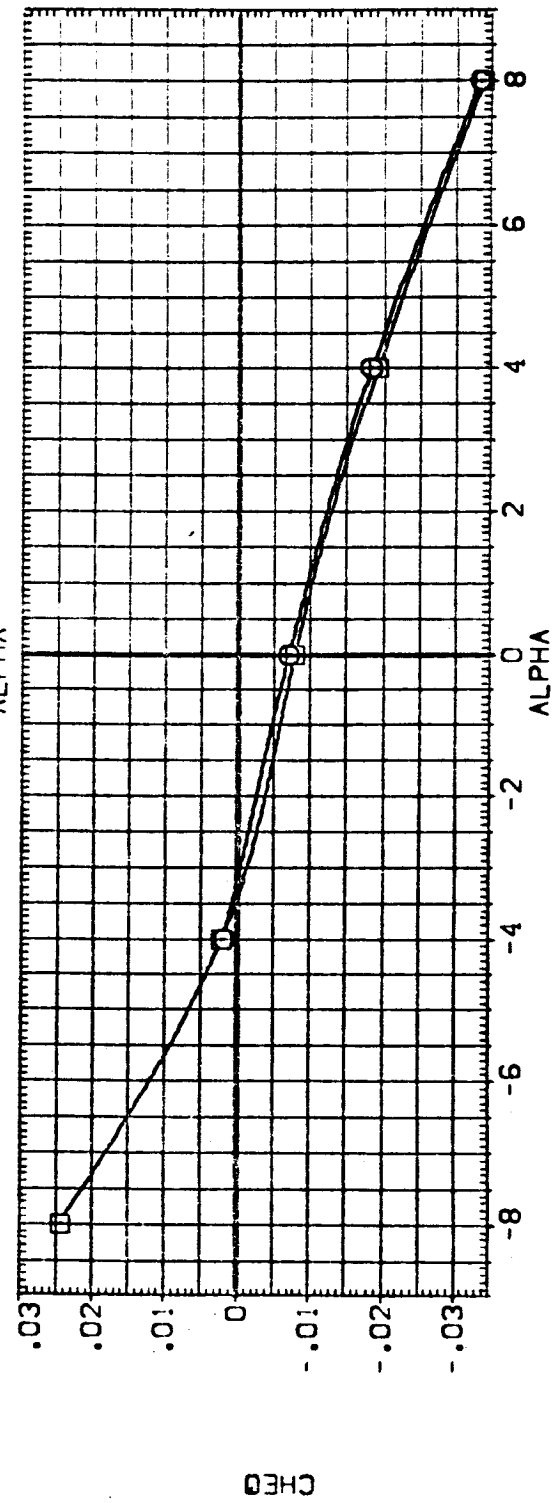
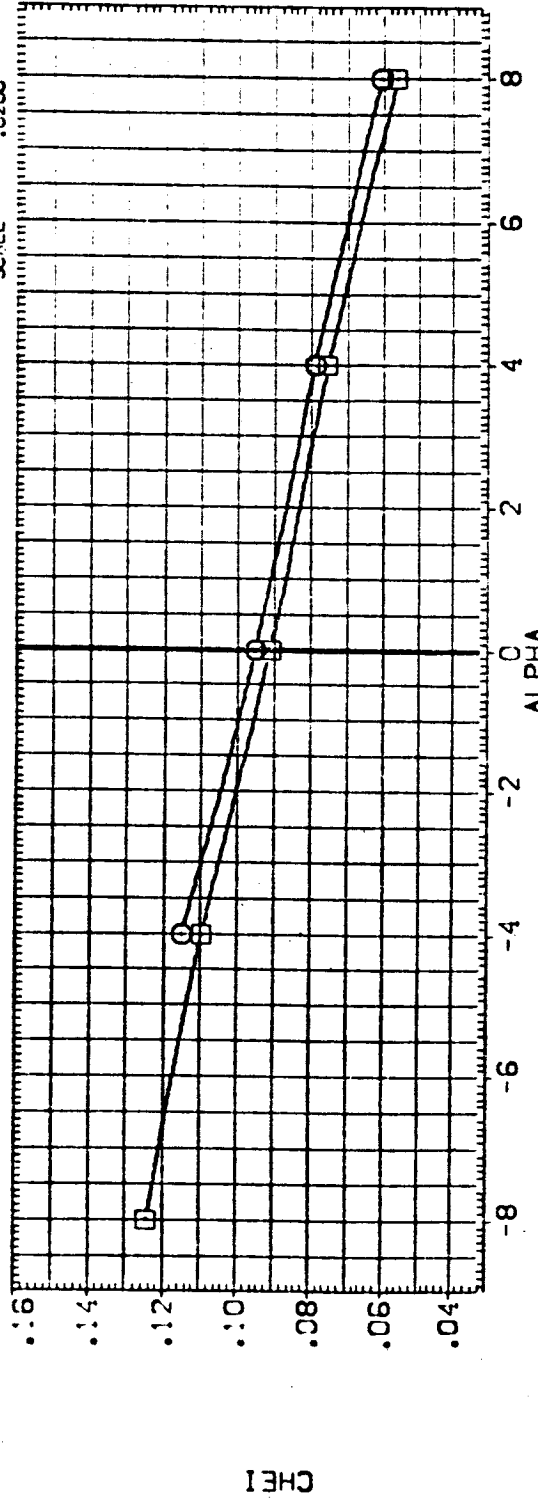


FIG. 43 EFFECT OF PLUMES - MACH=1.4 ELV-1B=0.0 ELV-08=0.0 BETA=0.0

CASBETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(3EJ012) ○ ARC11-0141A19 OTS SRB-OFF MPS-OFF

(3EJ016) ARC11-0141A19 OTS SRB-NOM MPS-OFF

ELV-1B ELV-08 MACH GIMBAL

.000 .000 1.400 1.000

.000 .000 1.400 1.000

REFERENCE INFORMATION

SREF 2690.0000 SQ.FT.

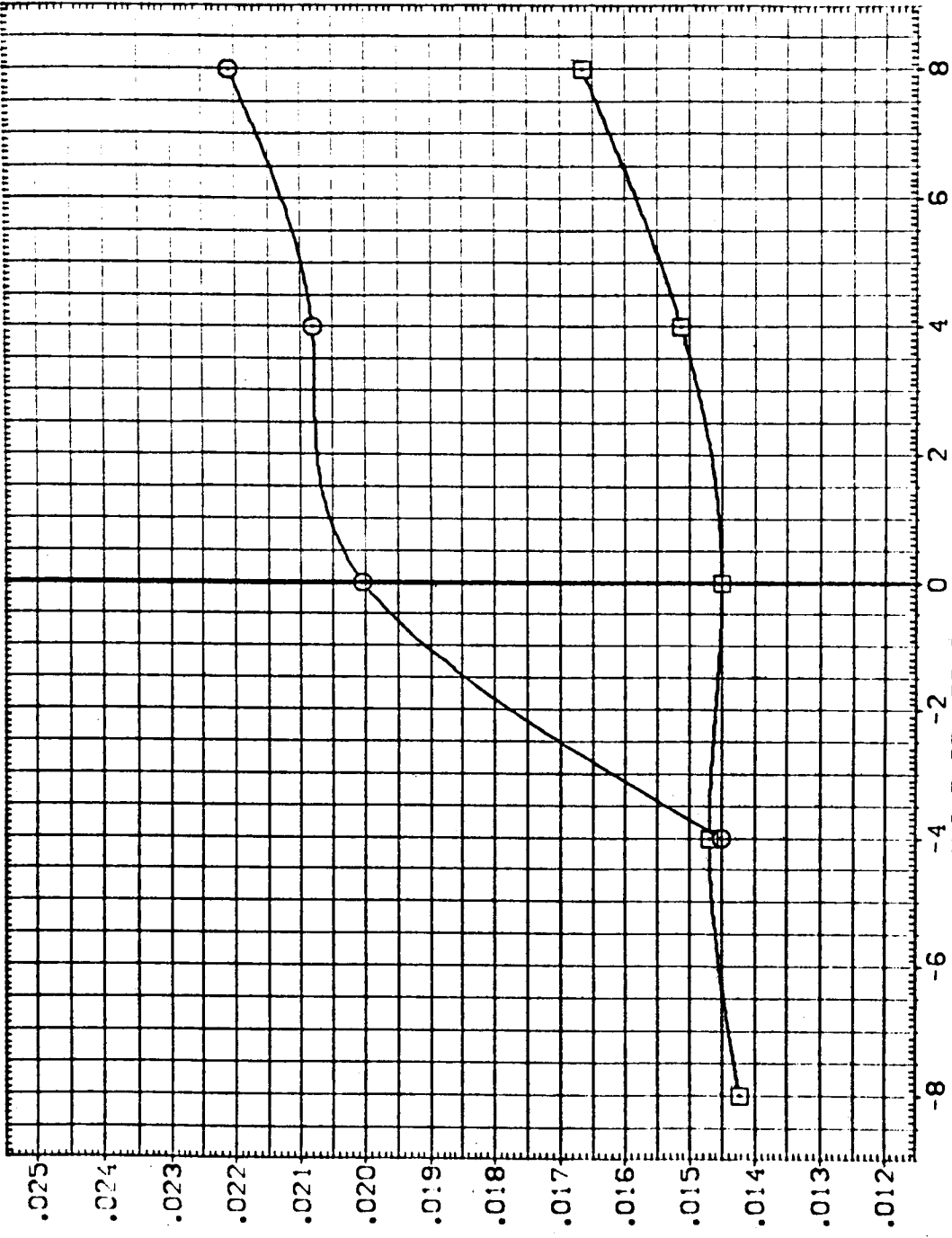
LREF 1290.3000 IN.

BREF 1290.3000 IN.

XMRP 976.0000 IN. XT

ZMRP 400.0000 IN. ZT

SCALE .0200



ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

FIG. 43 EFFECT OF PLUMES - MACH=1.4 ELV-1B=0.0 ELV-08=0.0 BETA=0.0

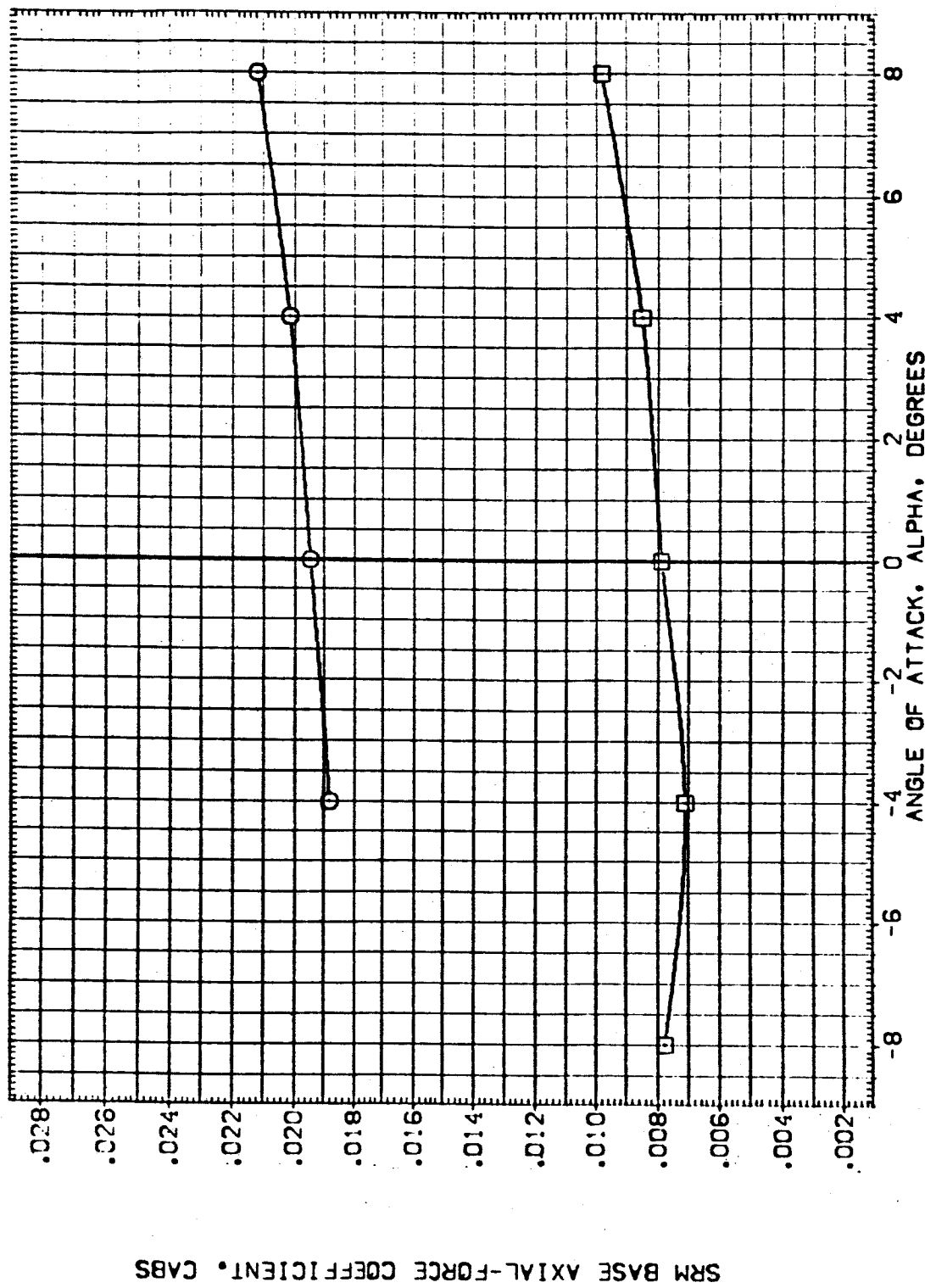
CABETA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (3E-042) ○ ARC11-0141A19 015 SRB-OFF MPS-OFF
 (3E-045) □ ARC11-0141A19 015 SRB-NOM MPS-OFF

ELV-1B ELV-09 MACH GIMBAL
 .000 .000 1.400 1.000
 .000 .000 1.400 1.000

REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 XMRP 1290.3000 IN. XT
 YMRP 976.0000 IN. YT
 ZMRP .0000 IN. ZT
 SCALE 400.0000 .0200



SRM BASE AXIAL-FORCE COEFFICIENT, CABS

FIG. 43 EFFECT OF PLUMES - MACH=1.4 ELV-1B=0.0 ELV-0B=0.0 BETA=0.0

CABETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 :E:042) O ARC11-0141A19 D1S S38-0FF MPS-0FF
 :E:046: ARC11-0141A19 D1S S38-NOM MPS-0FF

ELV-1B ELV-0B MACH GIMBAL
 .000 .000 1.400 1.000
 .000 .000 1.400 1.000

REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN. XT
 YMRP 400.0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0200

EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

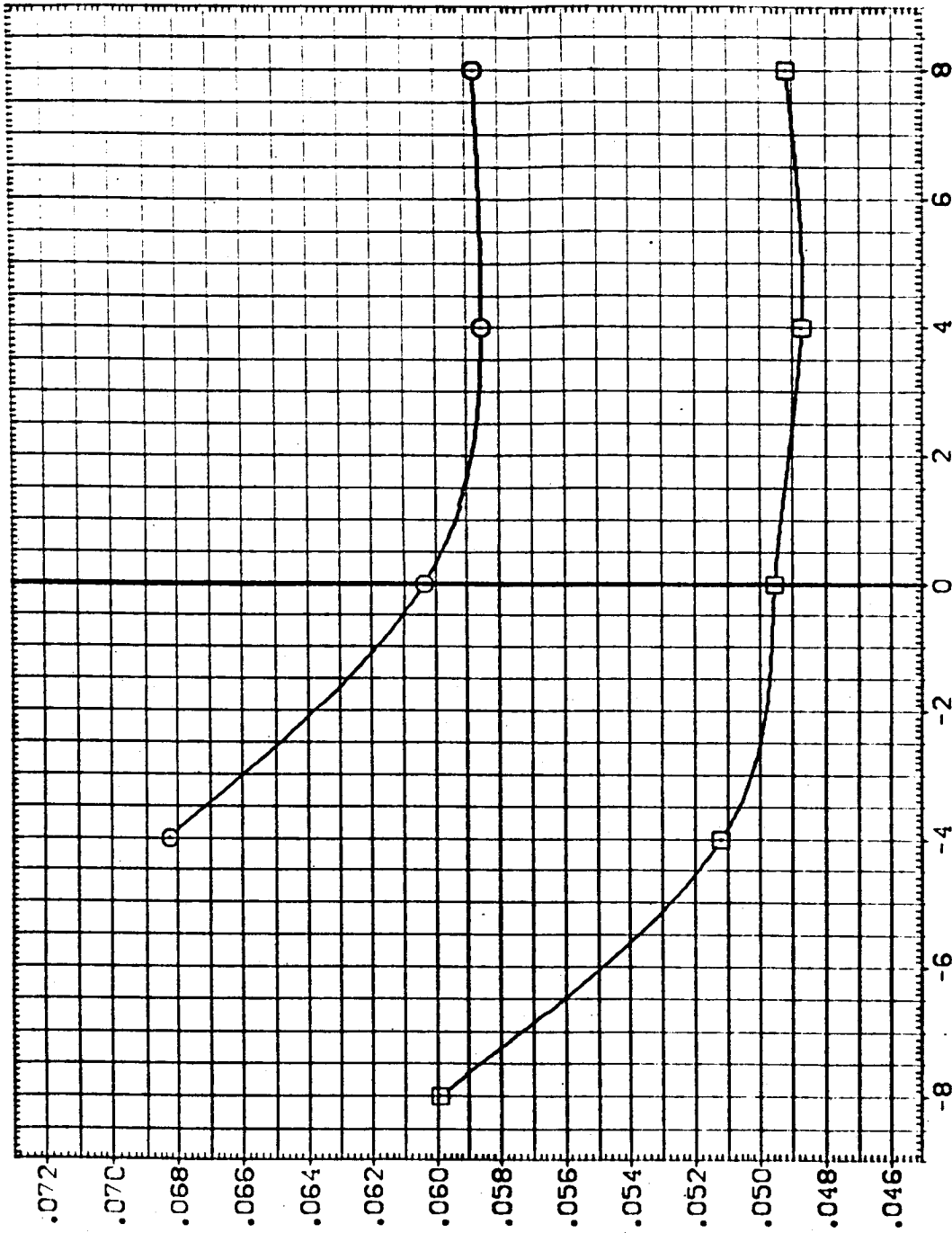


FIG. 43 EFFECT OF PLUMES - MACH=1.4 ELV-1B=0.0 ELV-0B=0.0 BETA=0.0

CABETA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (SEUC39) O ARC11-0141A19 OTS SRB-OFF MPS-OFF
 (SEUC43) O ARC11-0141A19 OTS SRB-NOM MPS-OFF

ELV-1B ELV-08 MACH GIMBAL
 .000 .000 .900 1.000
 .000 .000 .900 1.000

REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN. XT
 YMRP .0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0200

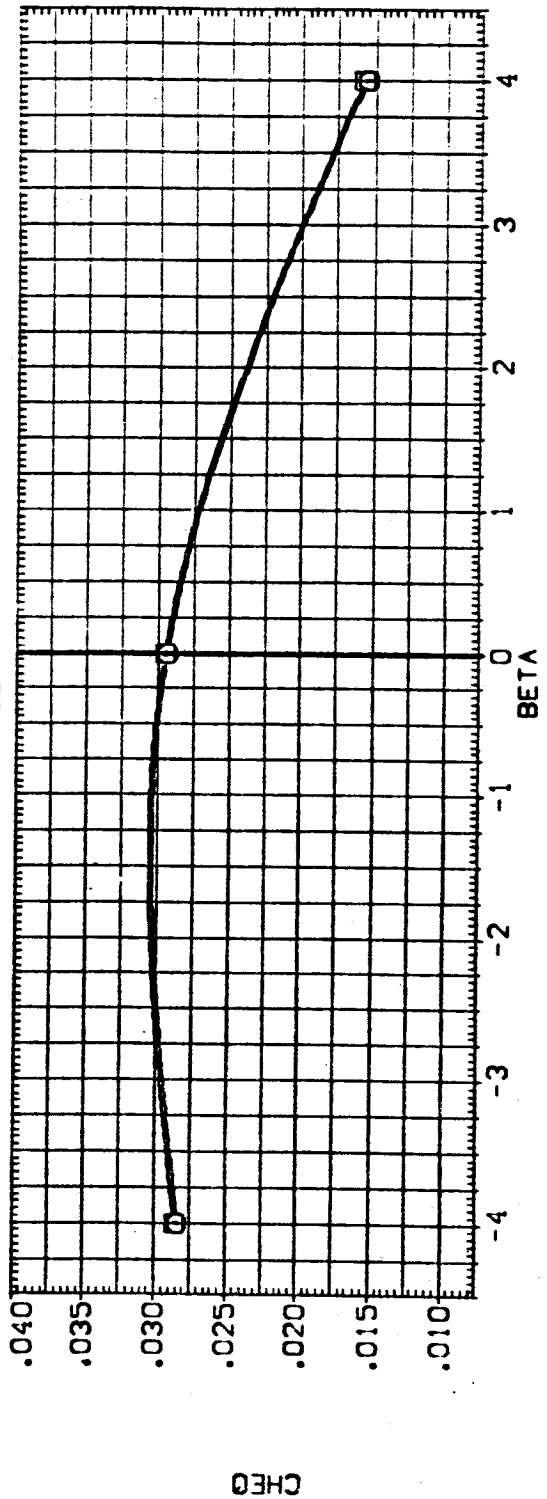
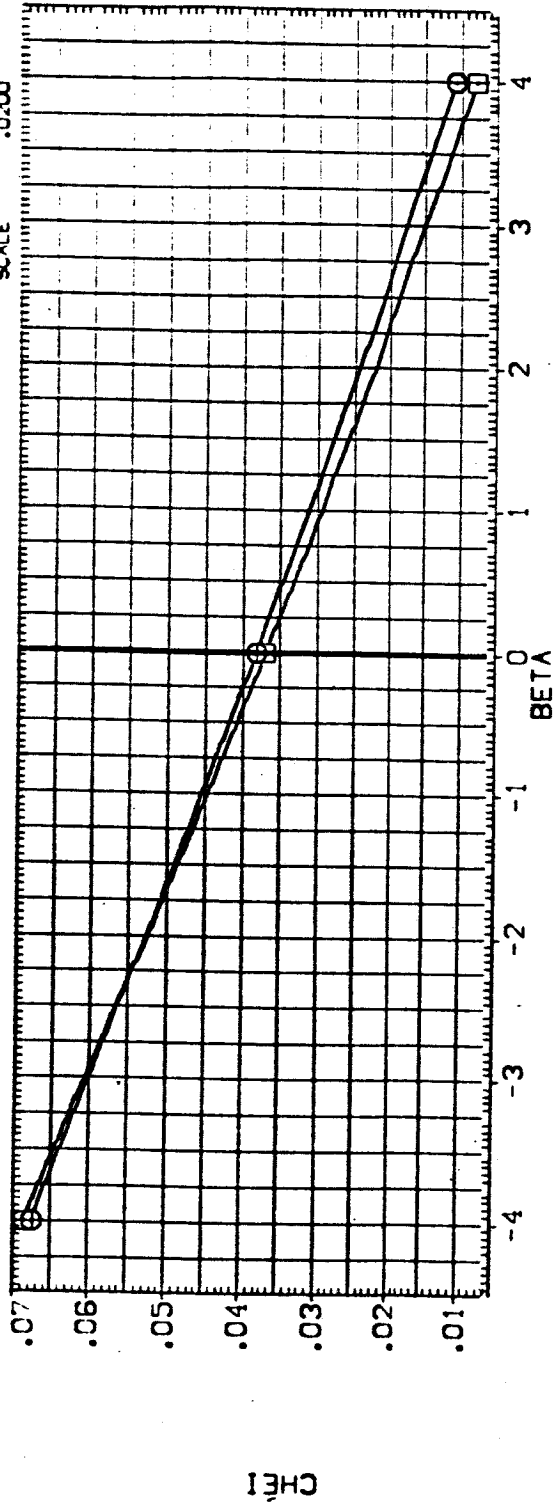


FIG. 44 EFFECT OF PLUMES - MACH=0.9 ELV-1B=0.0 ELV-08=0.0 ALPHA=0.0

CAJALPHA = .00

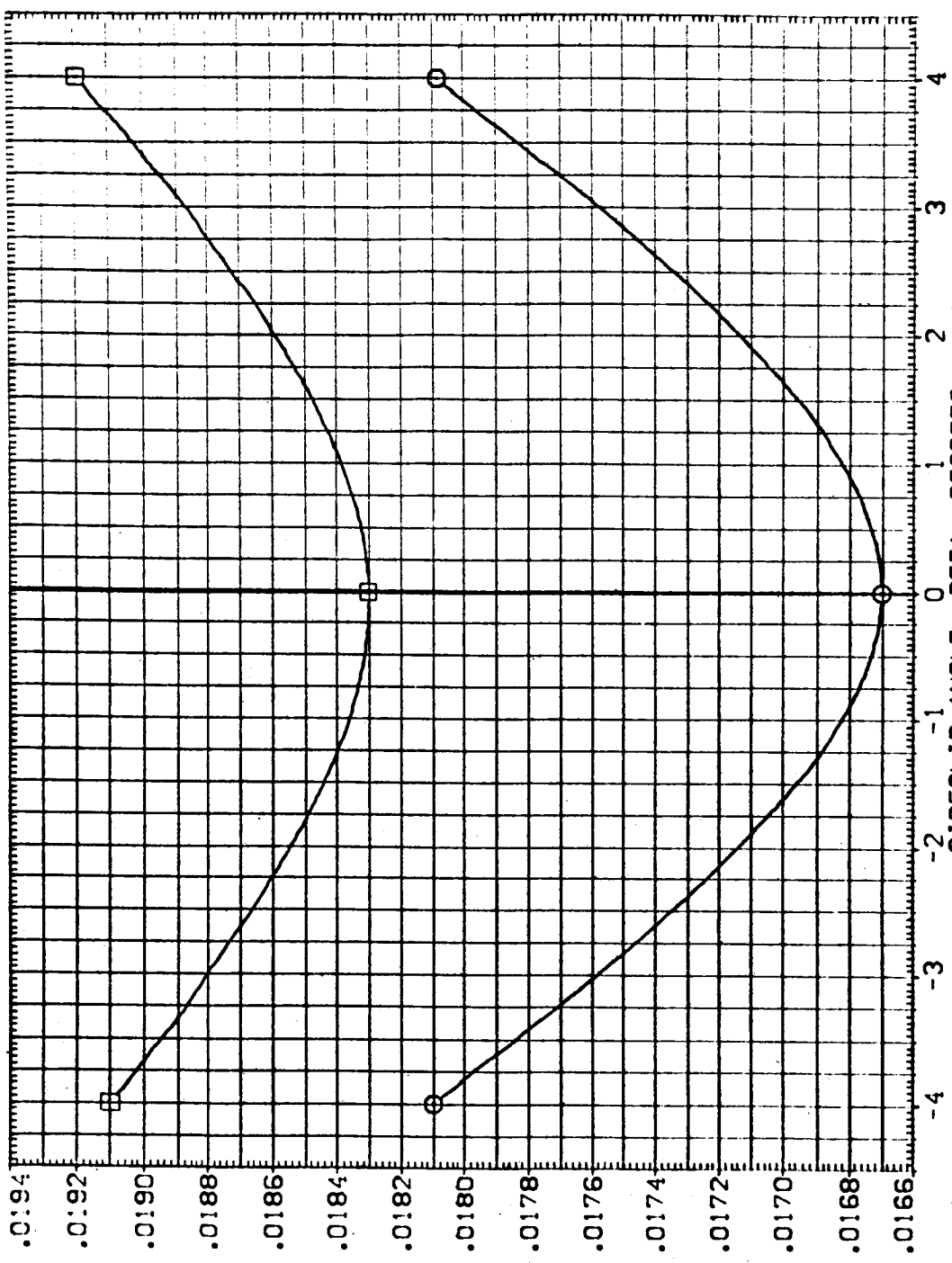
DATA SET SYMBOL: (CE-039) (CE-033)

CONFIGURATION DESCRIPTION: ARC11-0141A19 OTS
ARC11-0141A19 OTS

SRB-OFF MPS-OFF
SRB-NOM MPS-OFF

ELV-IB ELV-OB MACH GIMBAL REFERENCE INFORMATION

ELV-IB: .000 .000 .900 1.000 2690.0000 50. FT.
ELV-OB: .000 .000 .900 1.000 1290.3000 IN.
MACH: .900 .900 .900 1.000 1290.3000 IN.
GIMBAL: .000 .000 .000 .000 576.0000 IN. XT
REF. INFO: XMRP YMRP ZMRP 400.0000 IN. ZT
SCALE: .0200



ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

FIG. 44 EFFECT OF PLUMES - MACH=0.9 ELV-IB=0.0 ELV-OB=0.0 ALPHA=0.0

(A) ALPHA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION

{CE-038} ○ ARC11-0141A19 01S SRB-OFF MPS-OFF

{CE-043} ARC11-0141A19 01S SRB-NOM MPS-OFF

ELV-1B .000 ELV-08 .000 MACH .900 GIMBAL 1.000

ELV-1B .000 ELV-08 .000 MACH .900 GIMBAL 1.000

REFERENCE INFORMATION

SREF 2690.0000 SQ.FT.

LREF 1290.3000 IN.

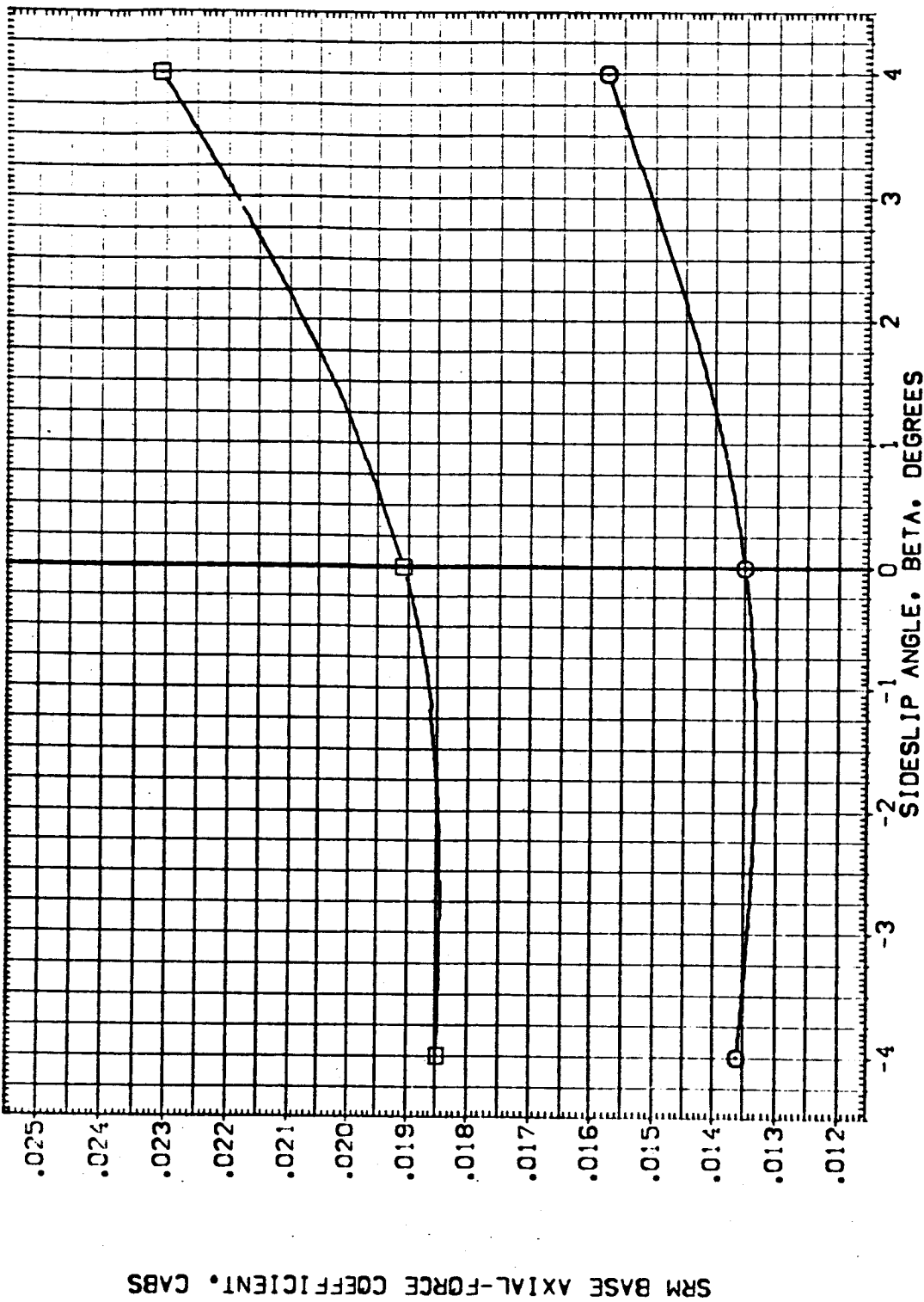
BREF 1290.3000 IN.

XMRP 976.0000 IN. XT

YMRP .0000 IN. YT

ZMRP 400.0000 IN. ZT

SCALE .0200



SRM BASE AXIAL-FORCE COEFFICIENT, CABS

FIG. 44 EFFECT OF PLUMES - MACH=0.9 ELV-1B=0.0 ELV-08=0.0 ALPHA=0.0

CALPHA = .00

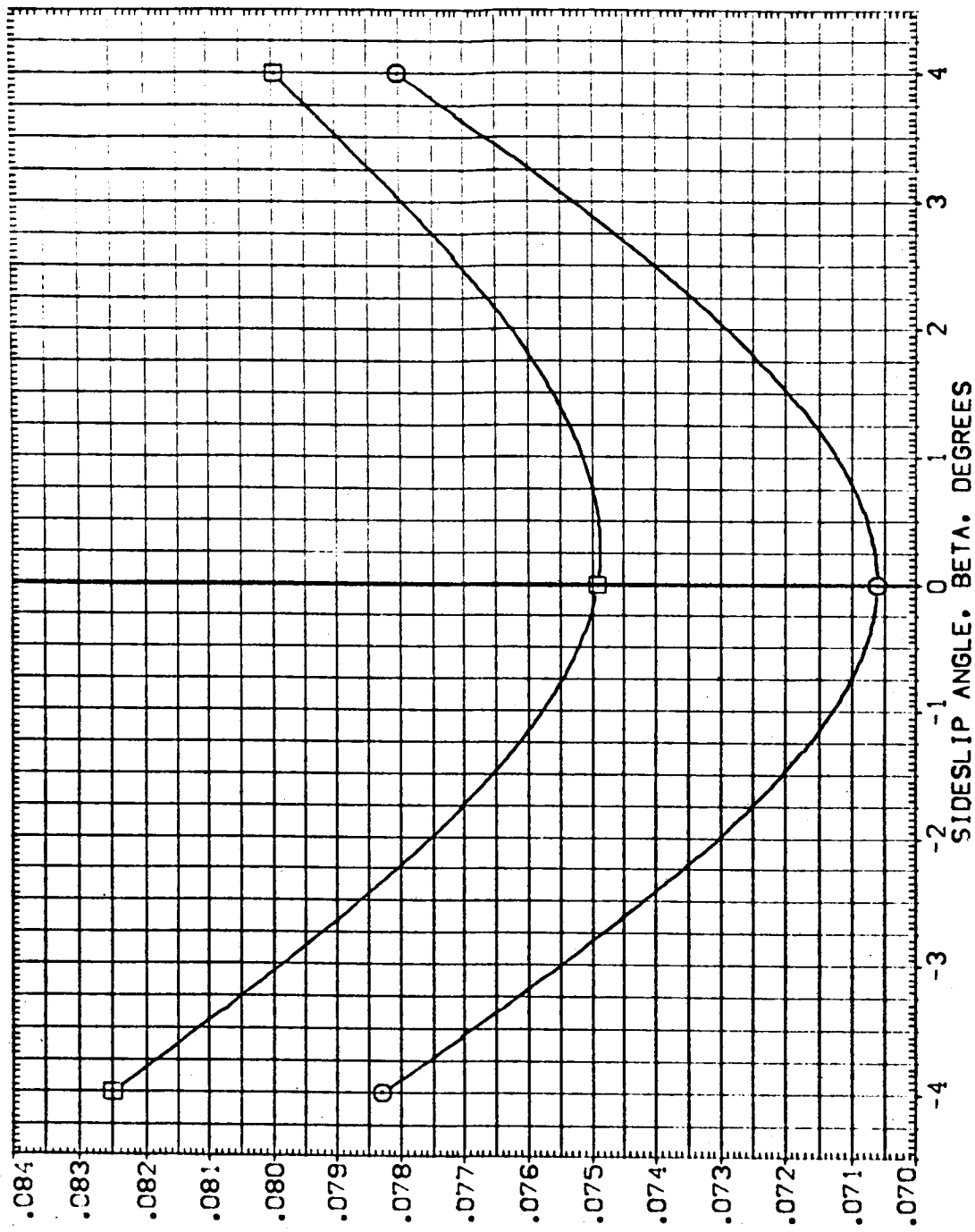
DATA SET SYMBOL: (DEUC39) (DEUC43)

CONFIGURATION DESCRIPTION: ARC11-0141A19 OTS
 ARC11-0141A19 OTS

SRB-OFF MPS-OFF: SRB-NOM MPS-OFF

ELV-1B: .000
 ELV-0B: .000
 MACH: .900
 GIMBAL: 1.000
 1.000

REFERENCE INFORMATION:
 SREF: 2690.0000 SQ.FT.
 LREF: 1290.3000 IN.
 BREF: 1290.3000 IN.
 XMRP: 976.0000 IN.
 YMRP: .0000 IN.
 ZMRP: 400.0000 IN.
 SCALE: .0200



EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

FIG. 44 EFFECT OF PLUMES - MACH=0.9 ELV-1B=0.0 ELV-0B=0.0 ALPHA=0.0
 (A) ALPHA = .00



DATA SET SYMBOL. CONFIGURATION DESCRIPTION. REFERENCE INFORMATION
 (CEJ010) ○ ARC11-0141A19 OTS SRB-OFF MPS-OFF 2690.0000 SQ.FT.
 (CJ044) □ ARC11-0141A19 OTS SRB-NON MPS-OFF 1290.3000 IN.
 1290.3000 IN.
 576.0000 IN. XT
 400.0000 IN. YT
 400.0000 IN. ZT
 SCALE .0200

ELV-1B .000
 ELV-09 .000
 MACH 1.100
 GIMBAL 1.000

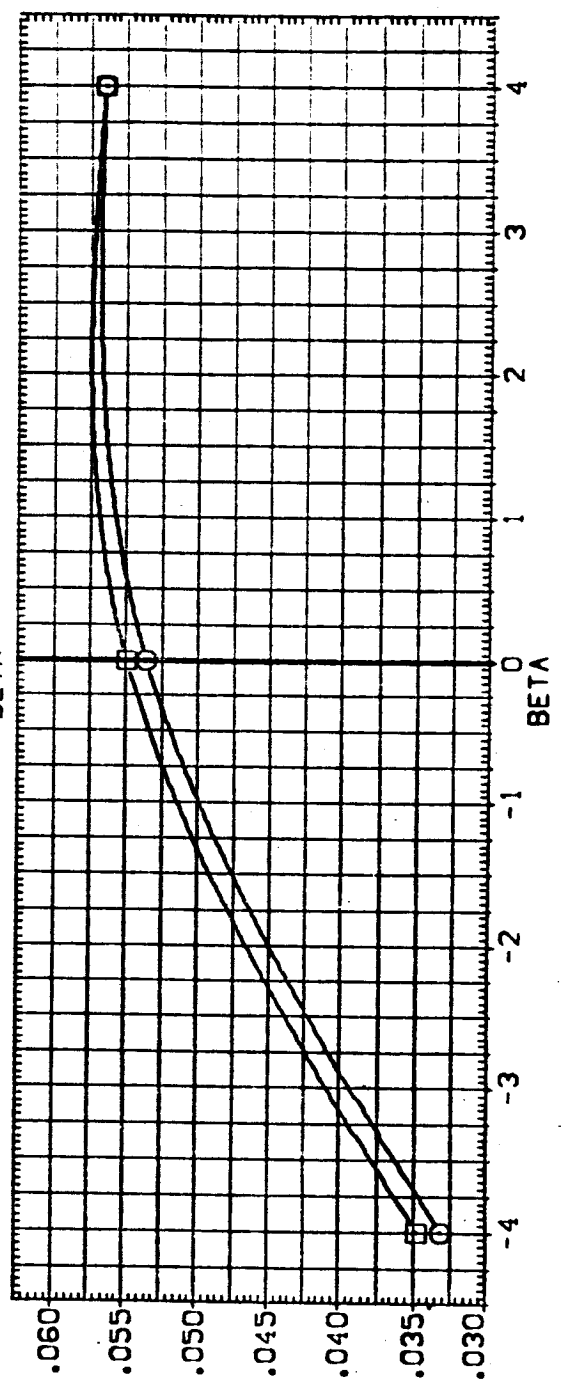
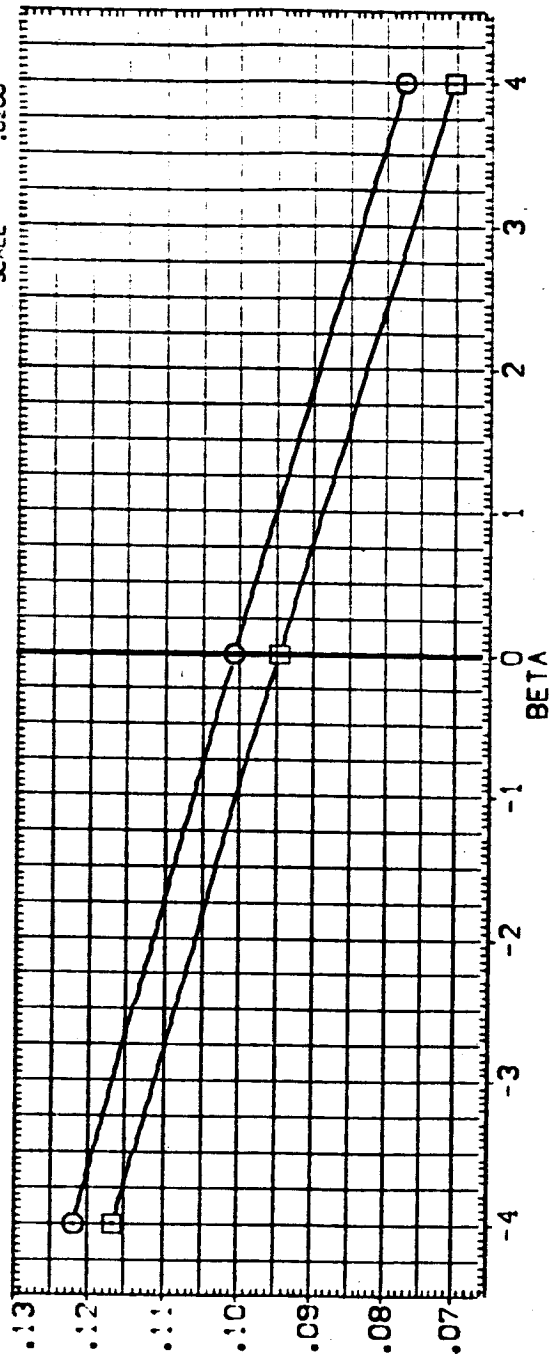


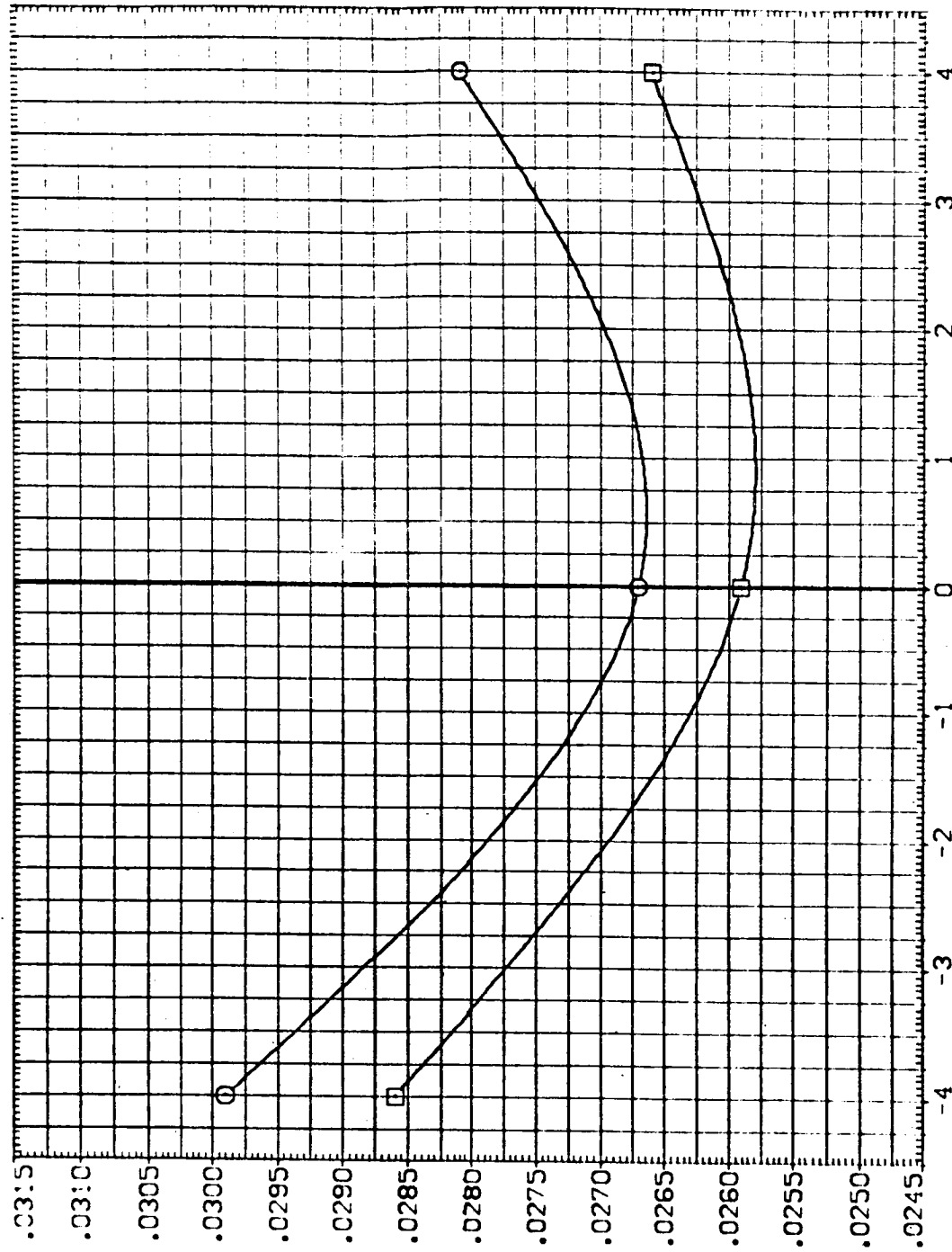
FIG. 45 EFFECT OF PLUMES - MACH=1.1 ELV-1B=0.0 ELV-09=0.0 ALPHA=0.0
 (A) ALPHA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

{CELO40} ○ ARC11-0141A19 OTS SR8-OFF MPS-OFF
 {CELO44} ARC11-0141A19 OTS SR8-NOM MPS-OFF

ELV-19 ELV-08 MACH GIMBAL
 .000 .000 1.100 1.000
 .000 .000 1.100 1.000

REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN. XT
 YMRP .0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0200



ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

FIG. 45 EFFECT OF PLUMES - MACH=1.1 ELV-1B=0.0 ELV-0B=0.0 ALPHA=0.0

(AJ)ALPHA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION

{CEJ040} O ARC11-0141A19 OTS SRB-OFF MPS-OFF

{CEJ044} ARC11-0141A19 OTS SRB-NOM MPS-OFF

ELV-1B .000 ELV-08 .000 MACH 1:100 GIMBAL 1.000

SCALE .0200

REFERENCE INFORMATION

SREF 2690.0000 SQ.FT.

LREF 1290.3000 IN.

BREF 1290.3000 IN.

XMRP 976.0000 IN.

YMRP .0000 IN.

ZMRP .0000 IN.

XT

YT

ZT

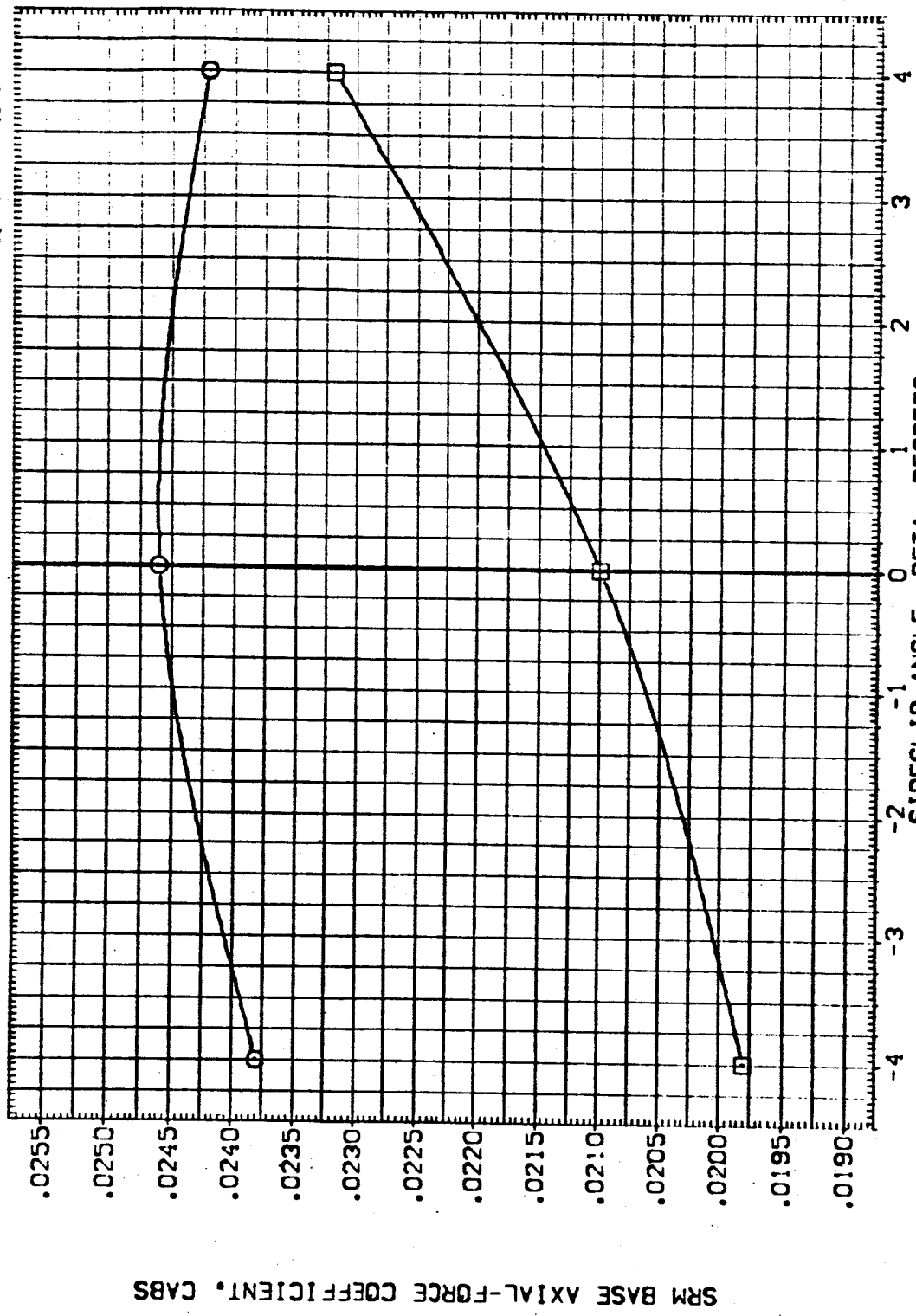
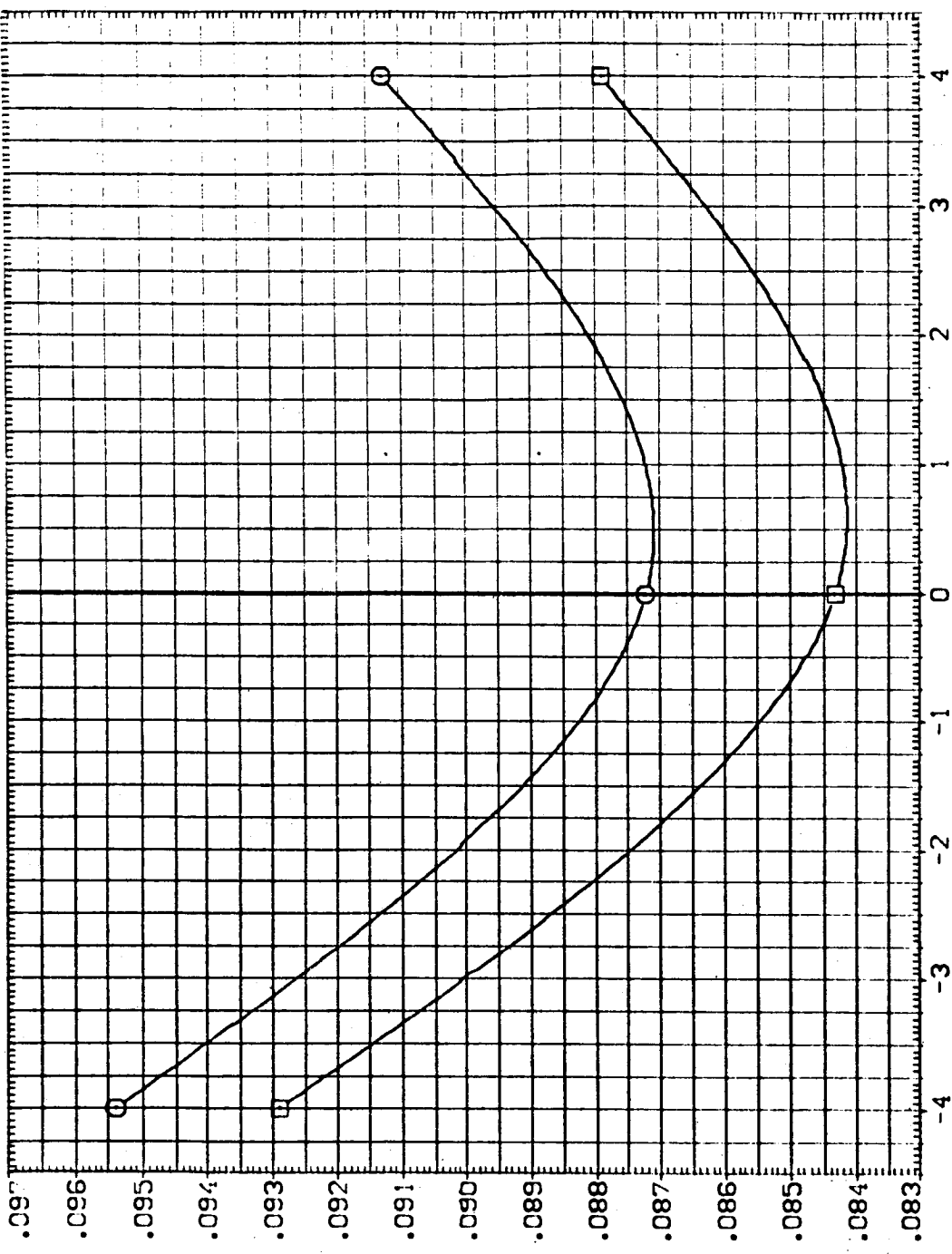


FIG. 45 EFFECT OF PLUMES - MACH=1.1 ELV-1B=0.0 ELV-08=0.0 ALPHA=0.0

- CAJALPHA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (CE040) ○ ARC11-0141A19 01S SRB-OFF MPS-OFF
 (CE034) ○ ARC11-0141A19 01S SRB-NOM MPS-OFF

ELV-1B ELV-0B MACH GIMBAL REFERENCE INFORMATION
 .000 .000 1.100 1.000 SQ.FT.
 .000 .000 1.100 1.000 IN.
 XMRP YMRP ZMRP IN. XT
 400.0000 400.0000 400.0000 IN. YT
 SCALE .0200



EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CAB1

FIG. 45 EFFECT OF PLUMES - MACH=1.1 ELV-1B=0.0 ELV-0B=0.0 ALPHA=0.0
 CAJALPHA = .00 PAGE 114



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (SEJ041) ○ ARC11-0:41A19 OTS SRB-OFF MPS-OFF
 (SEJ045) □ ARC11-0:41A19 OTS SRB-NOM MPS-OFF

ELV-19 ELV-08 MACH GIMBAL
 .000 .000 1.250 1.000
 .000 .000 1.250 1.000

REFERENCE INFORMATION
 SREF 2690.0000 50.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN. XT
 YMRP .0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0200

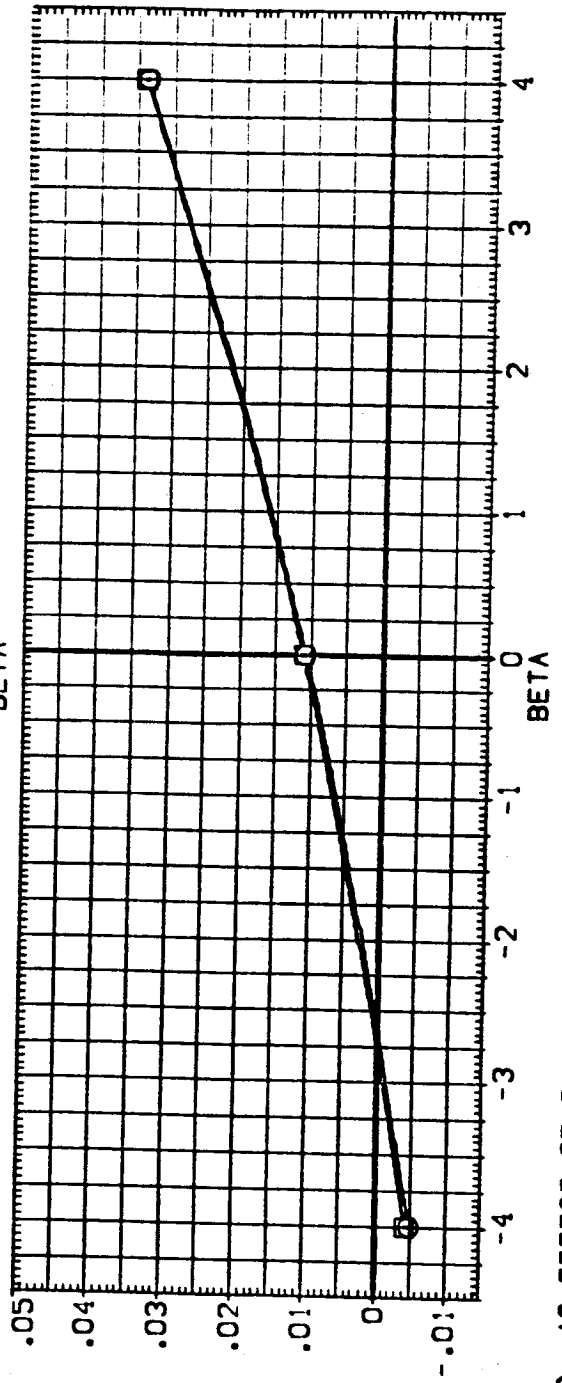
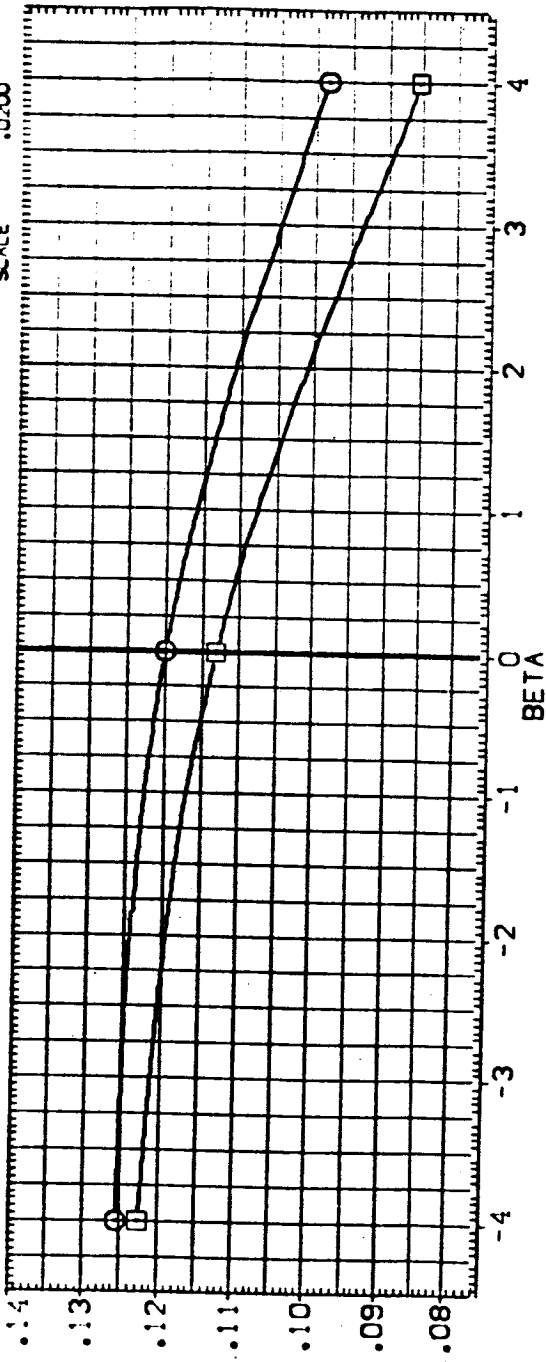


FIG. 46 EFFECT OF PLUMES - MACH=1.25 ELV-1B=0.0 ELV-0B=0.0 ALPHA=0.0

DATA SET SYMBOL: (CEJ041) (CEJ045)

CONFIGURATION DESCRIPTION: ARC11-0141A19 OTS
 ARC11-0141A19 OTS

SR8-OFF MPS-OFF: .000
 SR8-NOM MPS-OFF: .000

ELV-1B: .000
 ELV-0B: .000

MACH: 1.250
 MACH: 1.250

GIMBAL: 1.000
 GIMBAL: 1.000

REFERENCE INFORMATION: SREF 2690.0000 SO.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN. XT
 YMRP .0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0200

ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

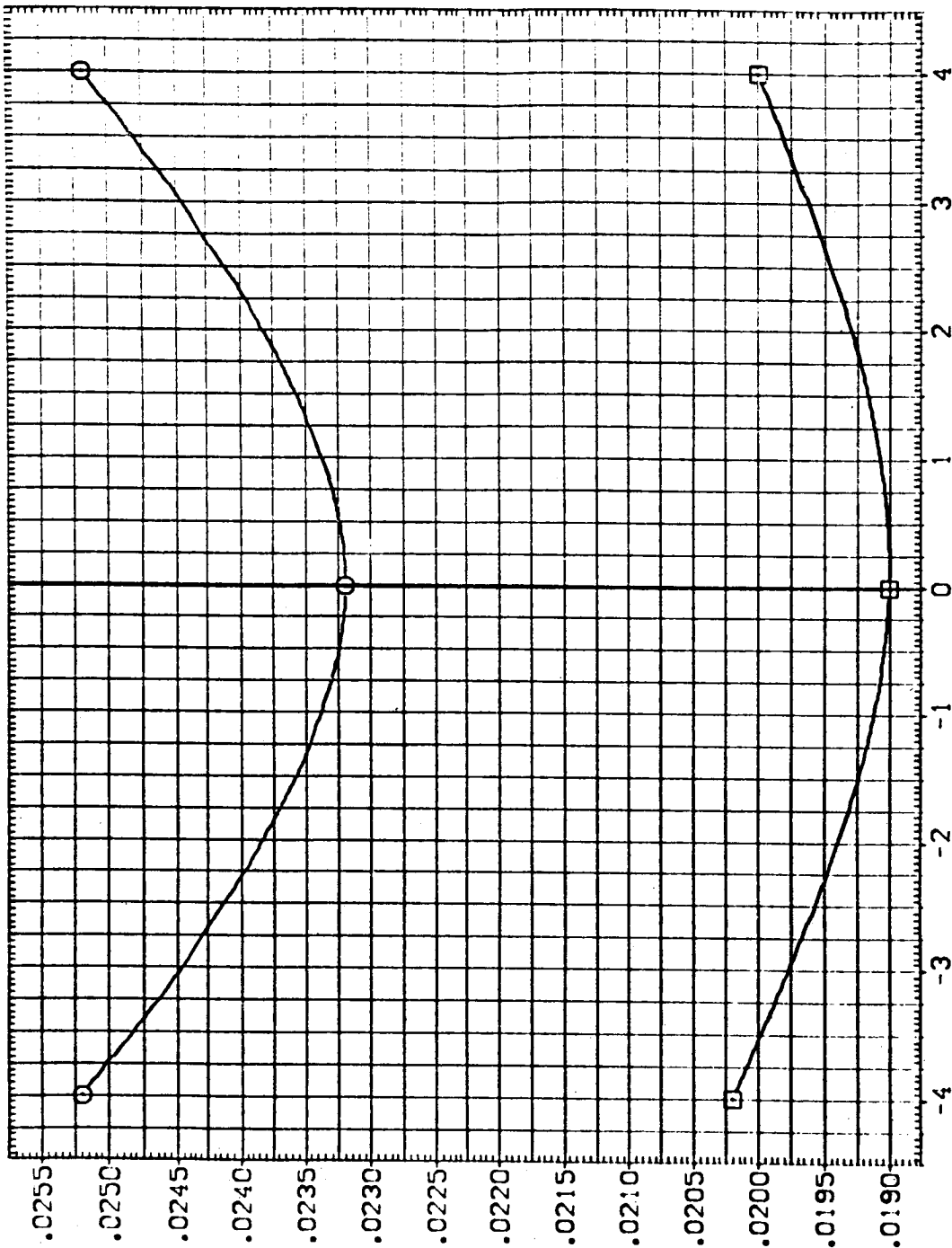


FIG. 46 EFFECT OF PLUMES - MACH=1.25 ELV-1B=0.0 ELV-0B=0.0 ALPHA=0.0

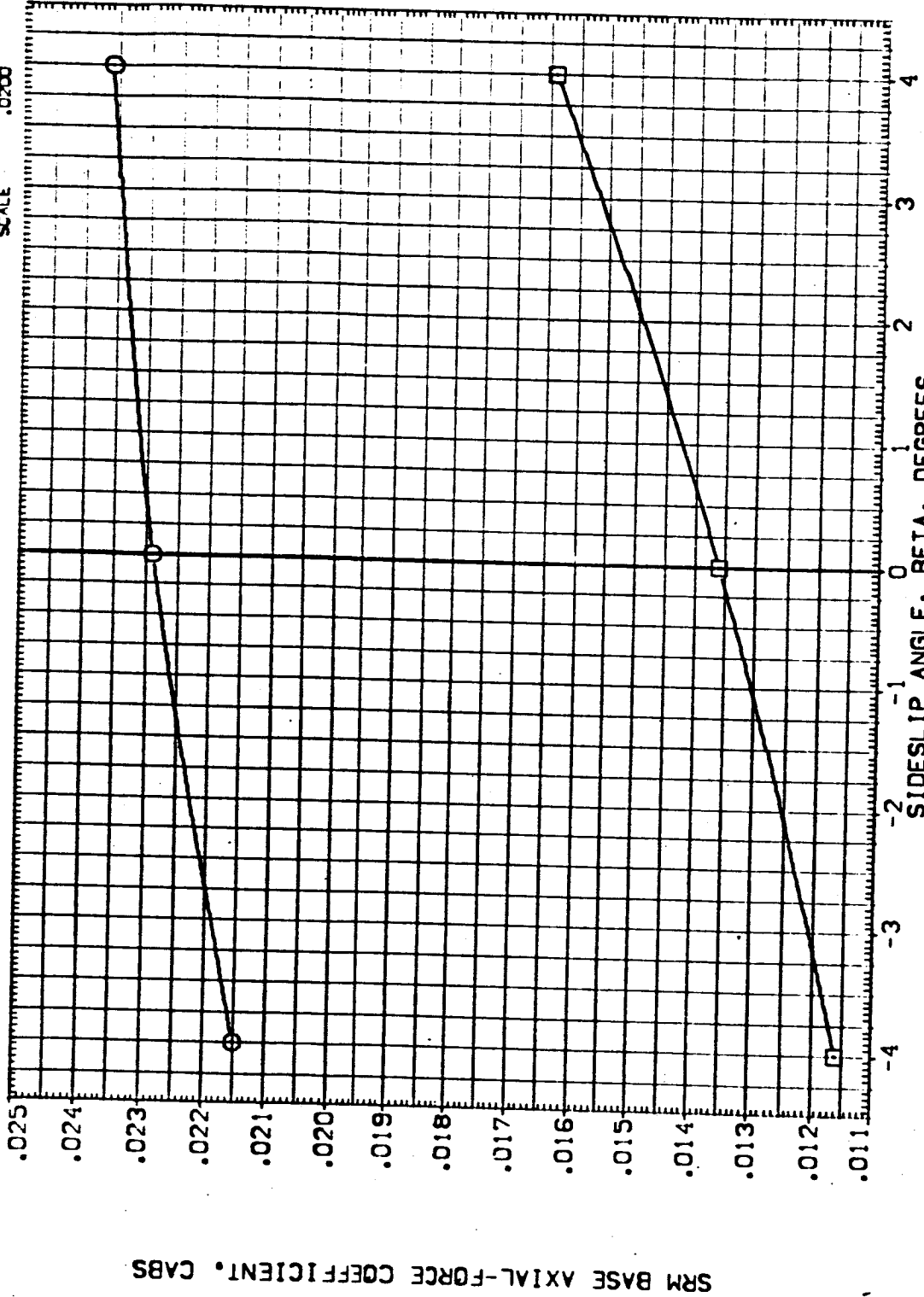
(A) ALPHA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (SEJ041) ○ ARC11-0141A19 OTS SRB-DEF MPS-DEF
 (SEJ045) ○ ARC11-0141A19 OTS SRB-NOM MPS-DEF

ELV-1B .000 .000
 ELV-0B .000 .000
 MACH 1.250 1.250
 GIMBAL 1.000 1.000

REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 576.0000 IN. XT
 YMRP .0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0200



SRM BASE AXIAL-FORCE COEFFICIENT, CABS

FIG. 46 EFFECT OF PLUMES - MACH=1.25 ELV-1B=0.0 ELV-0B=0.0 ALPHA=0.0
 CAJALPHA = .00

DATA SET SYMBO. CONFIGURATION DESCRIPTION
 [CELO42] O ARC11-0141A19 01S S88-0FF MPS-0FF
 [CEJ046] I ARC11-0141A19 01S S88-N04 MPS-0FF

ELV-19 .000 .000
 ELV-08 .000 .000
 MACH 1.400 1.400
 GIMBAL 1.000 1.000

REFERENCE INFORMATION
 SREF 2690.0000 90.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 YMRP 976.0000 IN. XT
 ZMRP 400.0000 IN. ZT
 SCALE .0200

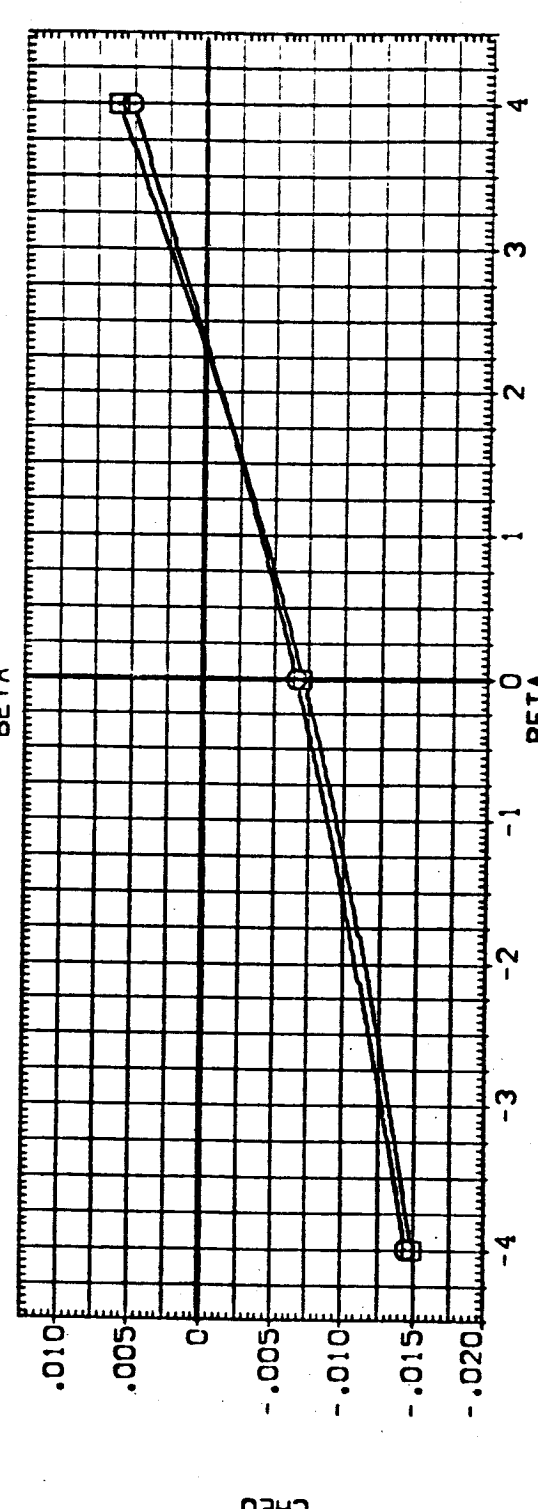
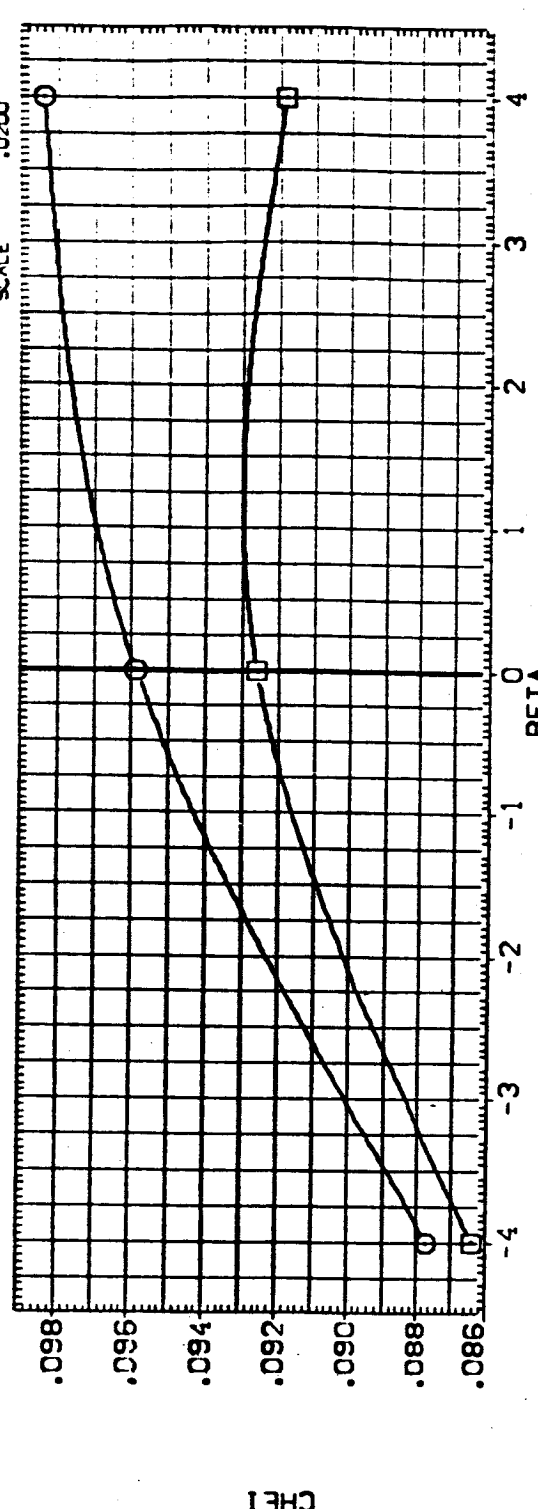


FIG. 47 EFFECT OF PLUMES - MACH=1.4 ELV-18=0.0 ELV-08=0.0 ALPHA=0.0
 (A) ALPHA = .00

DATA SET SYMBOL: [SEUC42] [SEUC46]
 CONFIGURATION DESCRIPTION: ARC11-0141A19 OTS
 SRB-OFF MPS-OFF
 SRB-NOM MPS-OFF

ELV-IB: .000
 ELV-OB: .000
 MACH: 1.400
 GIMBAL: 1.000

REFERENCE INFORMATION:
 SREF: 2690.0000
 LREF: 1290.3000
 BREF: 1290.3000
 XMRP: 976.0000
 YMRP: 400.0000
 ZMRP: 400.0000
 SCALE: .0200

ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

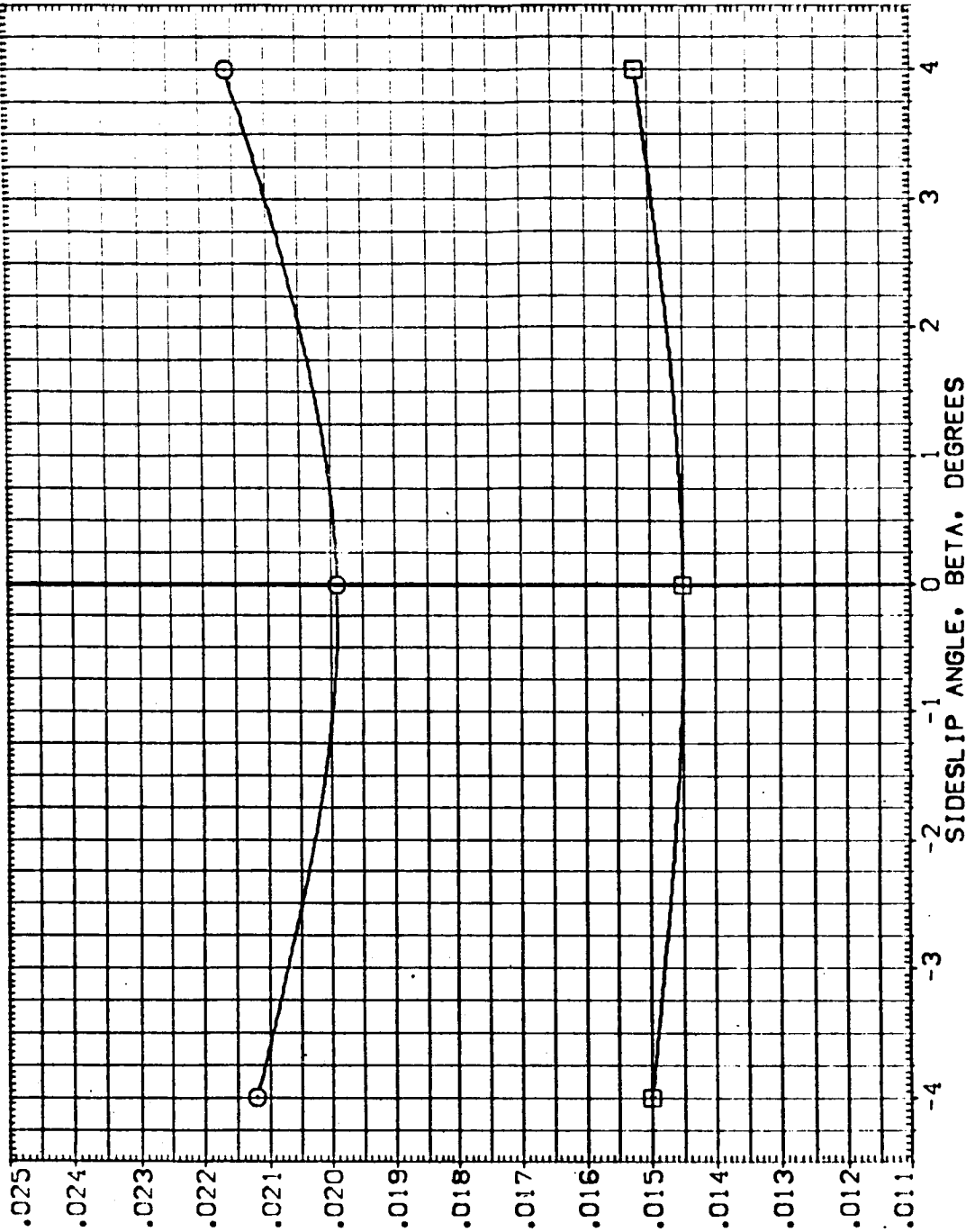


FIG. 47 EFFECT OF PLUMES - MACH=1.4 ELV-IB=0.0 ELV-OB=0.0 ALPHA=0.0

CALPHA = .00



DATA SET SYMBOL: (CEJ042) (CEJ046)

CONFIGURATION DESCRIPTION: ARC11-0141A19 OTS
 SRB-OFF MPS-OFF
 SRB-NOM MPS-OFF

ELV-1B: .000
 ELV-0B: .000
 MACH: 1.400
 GIMBAL: 1.000
 REFERENCE INFORMATION: SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN.
 YMRP .0000 IN.
 ZMRP 400.0000 IN.
 SCALE .0200

EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

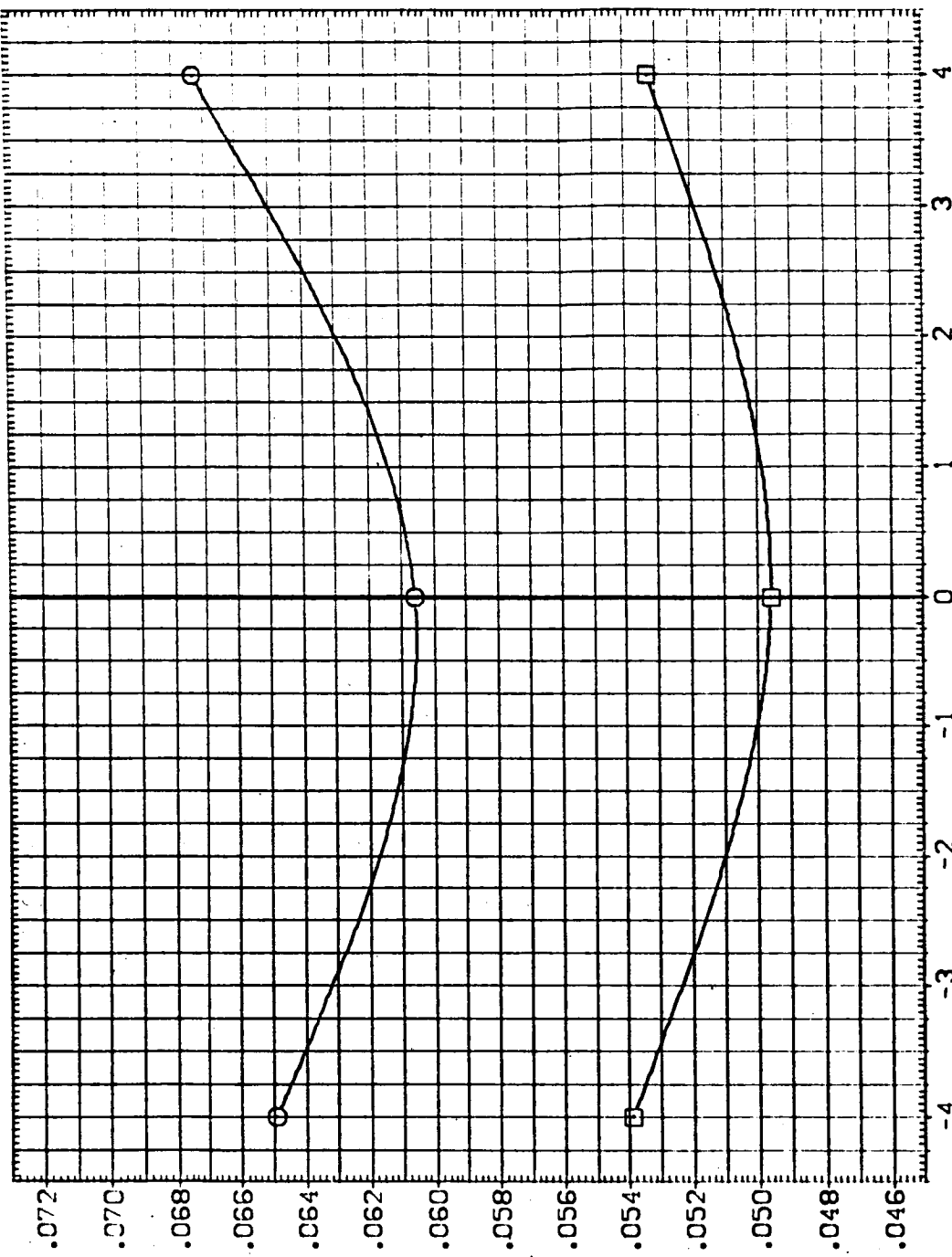


FIG. 47 EFFECT OF PLUMES - MACH=1.4 ELV-1B=0.0 ELV-0B=0.0 ALPHA=0.0
 (A) ALPHA = .00



DATA SET SYMBOL: (B-3048) CONFIGURATION DESCRIPTION: ARC11-0141A19 OTS SR8-07F MPS-07F
 (B-3048) ARC11-0141A19 OTS SR8-NOM MPS-07F

ELV-1B	ELV-08	MACH	GIMBAL	REFERENCE INFORMATION
8.000	.000	1.400	1.000	SREF 2690.0000 SQ.FT.
8.000	.000	1.400	1.000	LREF 1290.3000 IN.
				BREF 1290.3000 IN.
				XMRP 576.0000 IN. XT
				YMRP .0000 IN. YT
				ZMRP 400.0000 IN. ZT
				SCALE .0200

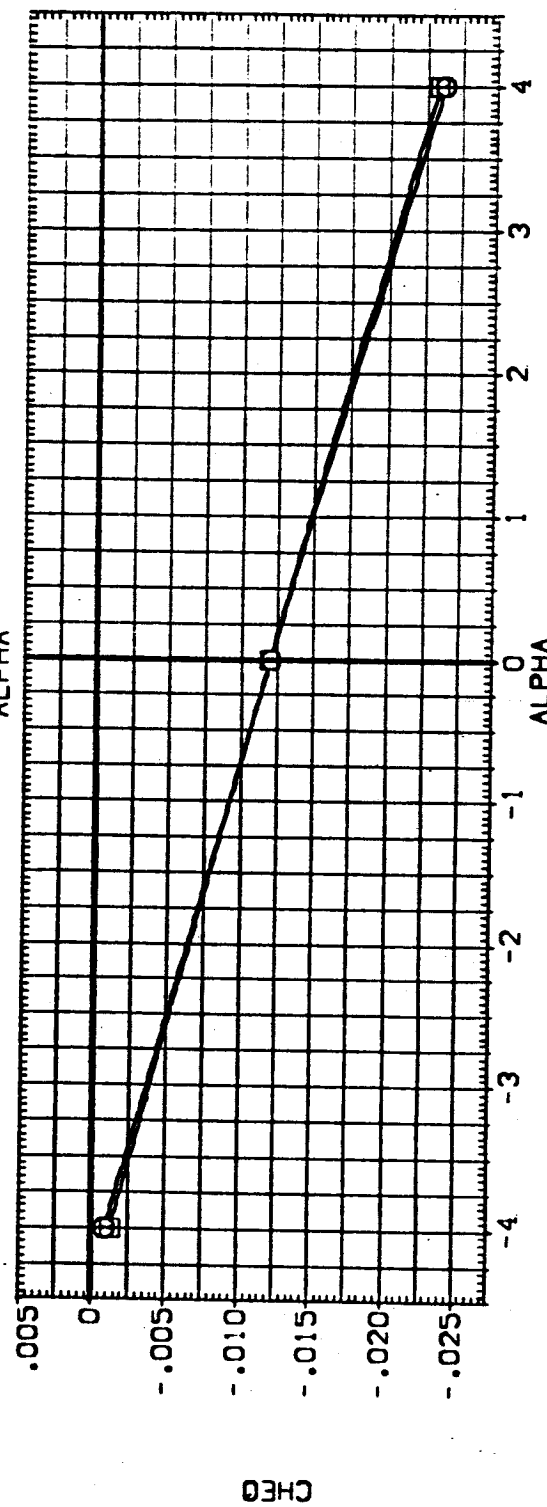
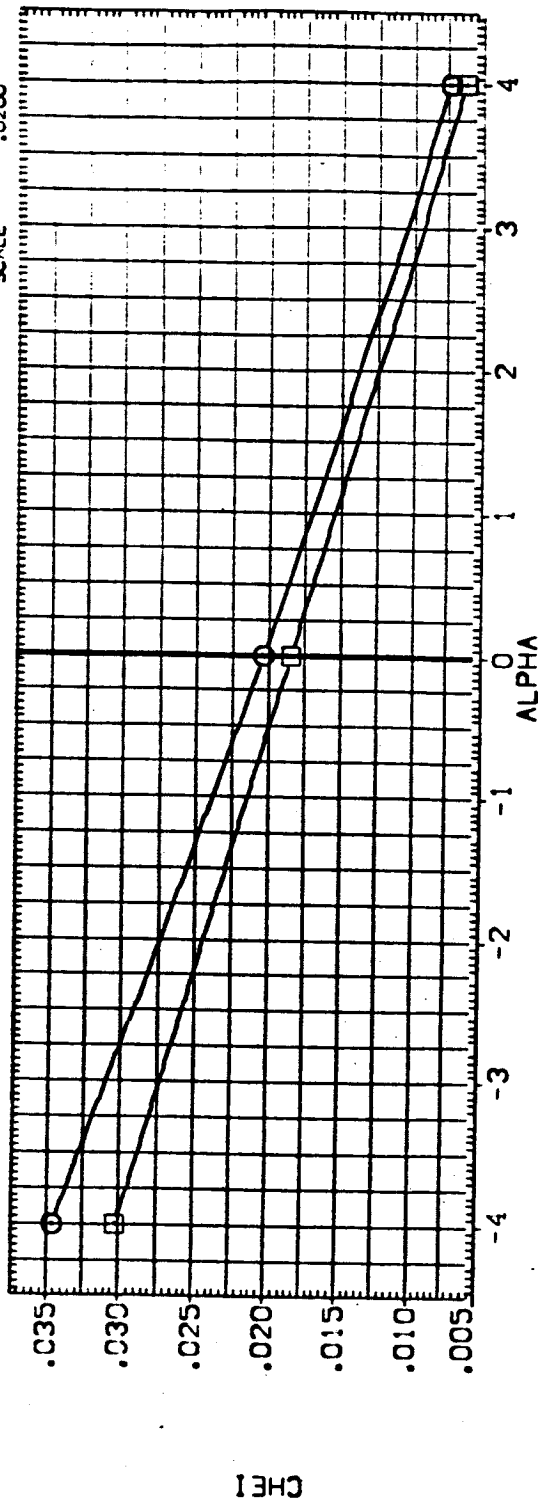


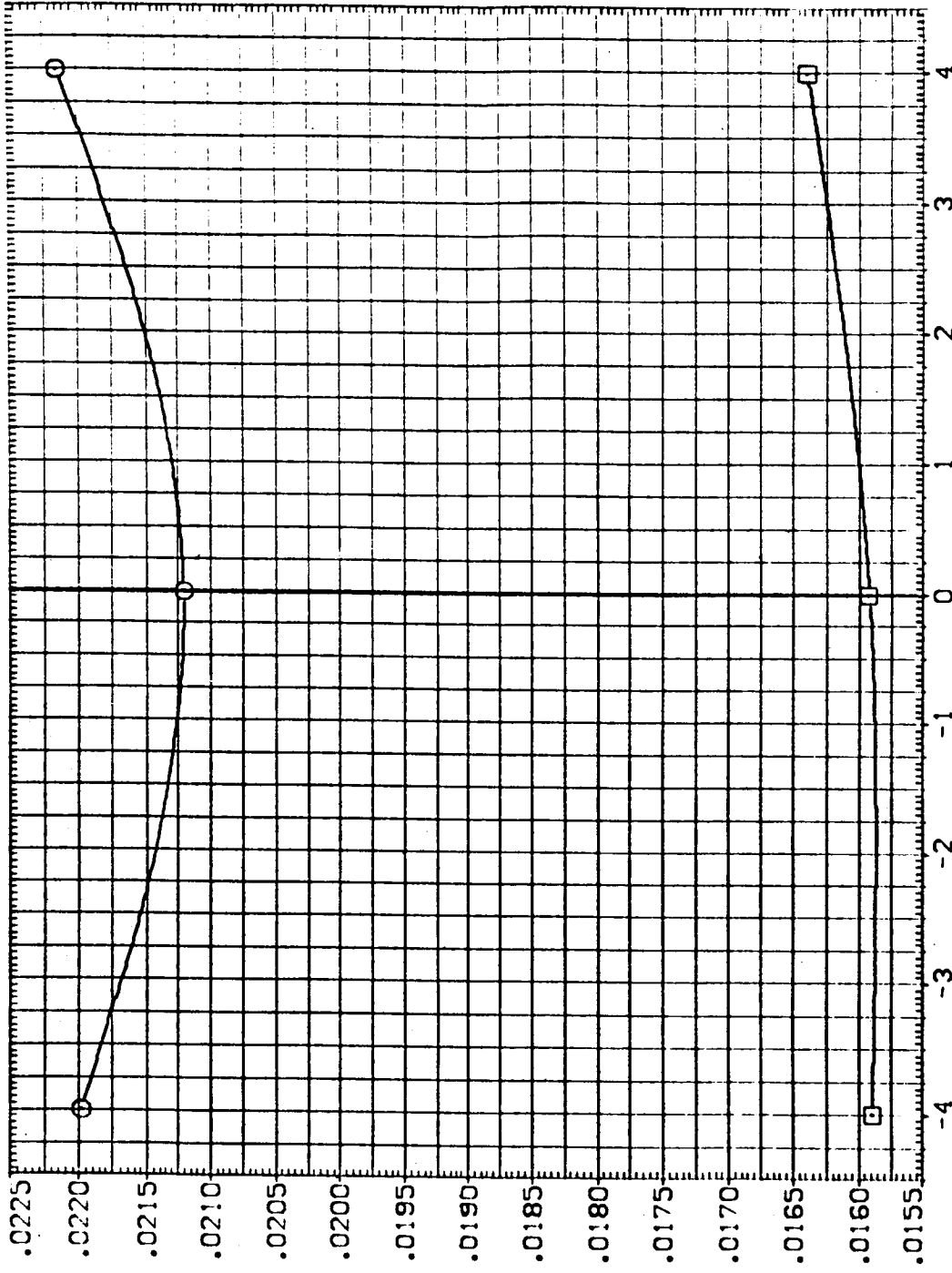
FIG. 48 EFFECT OF PLUMES - MACH=1.4 ELV-1B=8.0 ELV-08=0.0 BETA=0.0

(A) BETA = .00

DATA SET SYMBO. CONFIGURATION DESCRIPTION
 (B-LO47) ○ ARC11-0141A19 OTS SRB-0FF MPS-0FF
 (B-LO48) □ ARC11-0141A19 OTS SRB-NOM MPS-0FF

ELV-1B 8.000
 ELV-0B .000
 MACH 1.400
 GIMBAL 1.000

REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 1250.3000 IN.
 XMRP 1250.3000 IN. XT
 YMRP .0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0200



ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

FIG. 48 EFFECT OF PLUMES - MACH=1.4 ELV-1B=8.0 ELV-0B=0.0 BETA=0.0

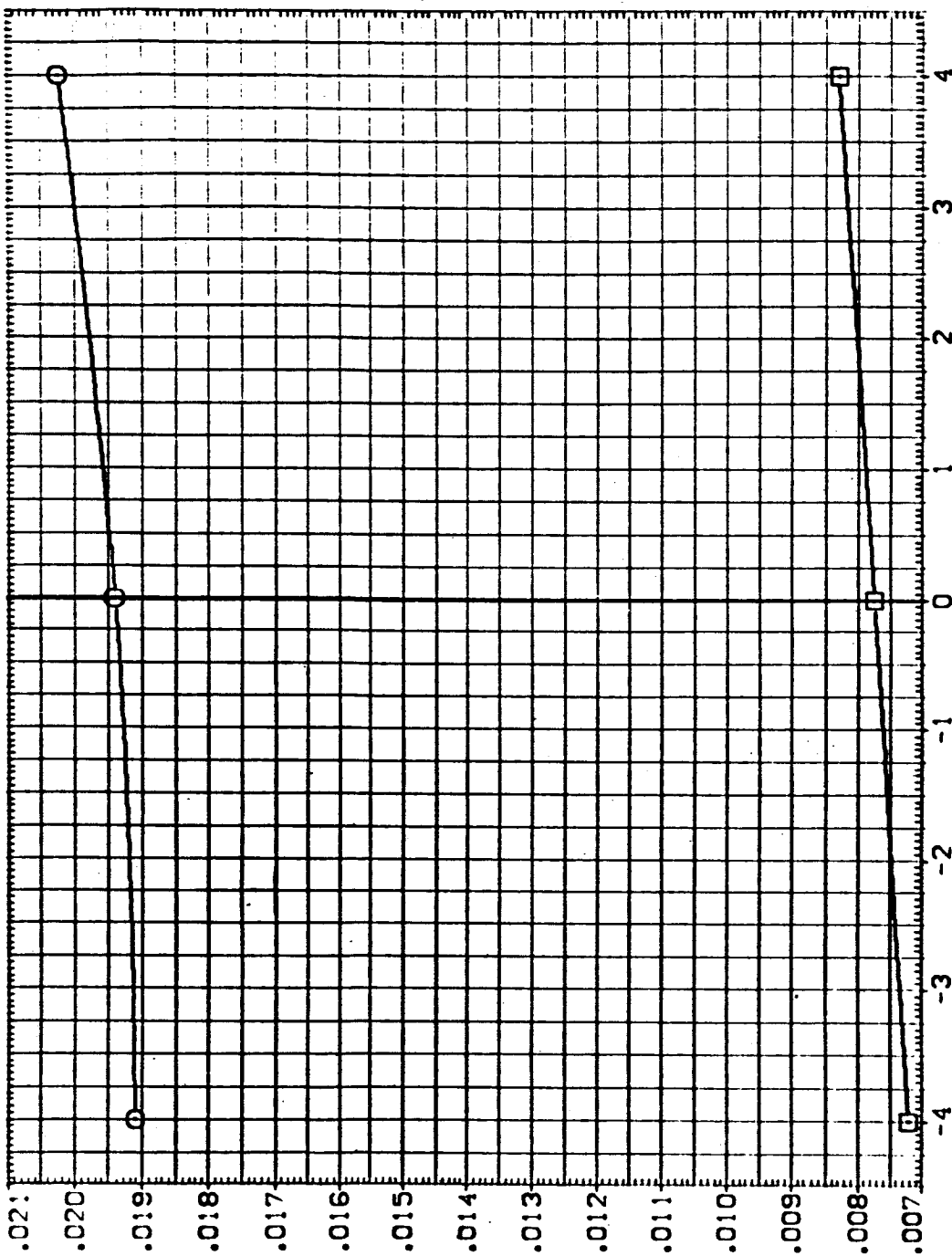
(A)BETA = .00



DATA SET: SYMBOL CONFIGURATION DESCRIPTION: REFERENCE INFORMATION
 (3)UC47) O ARC:1-0141A19 OTS SRB-OFF MPS-OFF SQ.FT.
 (3)UC48) ARC:1-0141A19 OTS SRB-NOM MPS-OFF IN.
 X-MRP 576.0000 IN. XT
 Y-MRP .0000 IN. YT
 Z-MRP 400.0000 IN. ZT
 SCALE .0200

ELV-1B 8.000 ELV-0B .000 MACH 1.100 GIMBAL 1.000
 8.000 .000 1.100 1.000

SRB-OFF MPS-OFF
 SRB-NOM MPS-OFF



SRM BASE AXIAL-FORCE COEFFICIENT, CABS

FIG. 48 EFFECT OF PLUMES - MACH=1.4 ELV-1B=8.0 ELV-0B=0.0 BETA=0.0

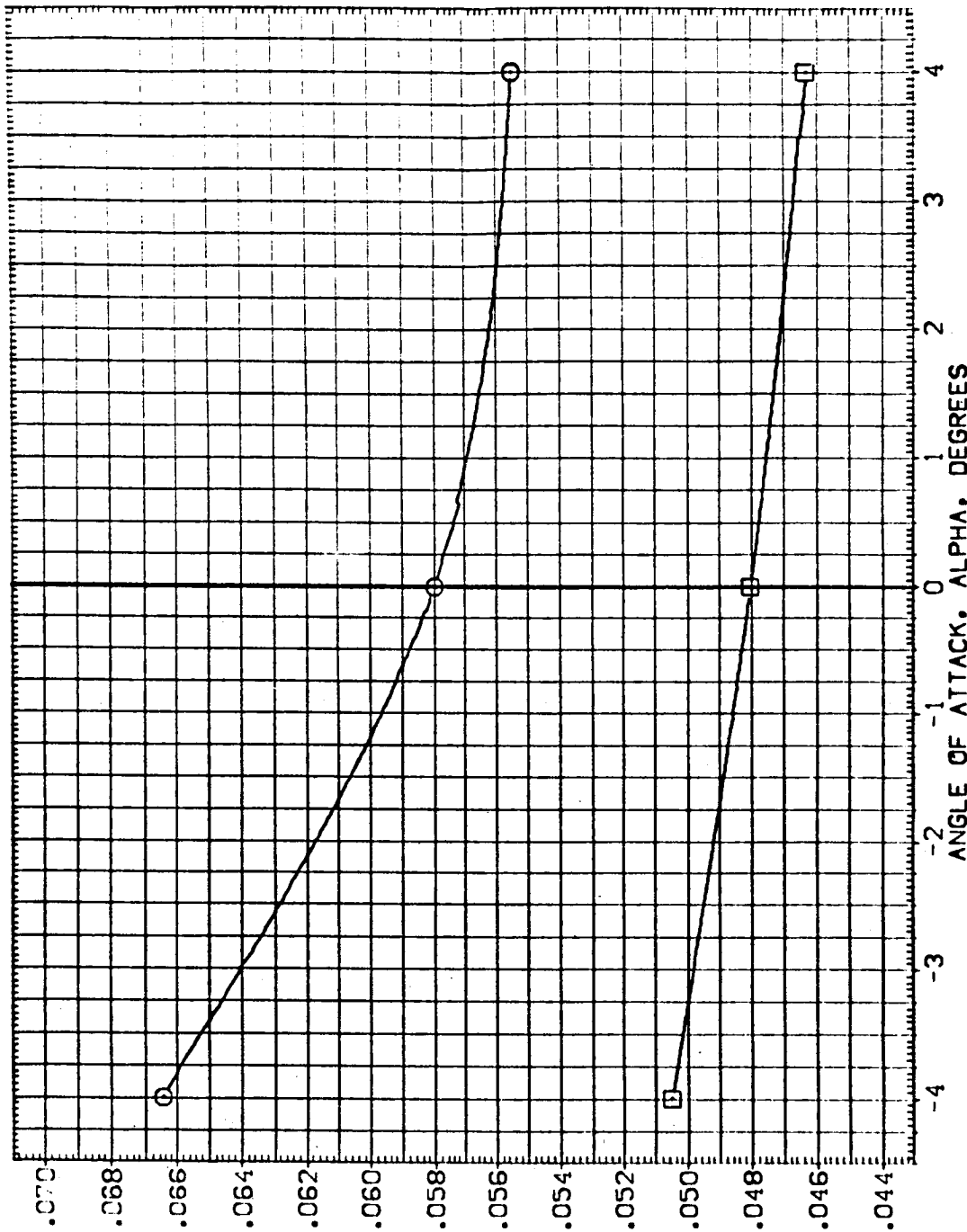
(A)BETA = .00

DATA SET SYMBOL: (3-047) (3-048)

CONFIGURATION DESCRIPTION: ARC11-0141A19 OTS SRB-DEF MPS-OFF SRB-NOM MPS-OFF

ELV-IB 8.000 ELV-OB .000 MACH 1.400 GIMBAL 1.000

REFERENCE INFORMATION: SREF 2690.0000 SQ.FT. LREF 1290.3000 IN. BREF 1290.3000 IN. XT XMRP 976.0000 IN. YI YMRP .0000 IN. ZI ZMRP 400.0000 IN. ZT SCALE .0300



EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

FIG. 48 EFFECT OF PLUMES - MACH=1.4 ELV-IB=8.0 ELV-OB=0.0 BETA=0.0

CABETA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (C50047) O ARC11-0141A19 0'S SRB-OFF MPS-OFF
 (C50048) ARC11-0141A19 0'S SRB-NOM MPS-OFF

ELV-1B 8.000
 ELV-0B .000
 MACH 1.400
 GIMBAL 1.000

REFERENCE INFORMATION
 SREF 2890.0000 SO.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN. XT
 YMRP .0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0200

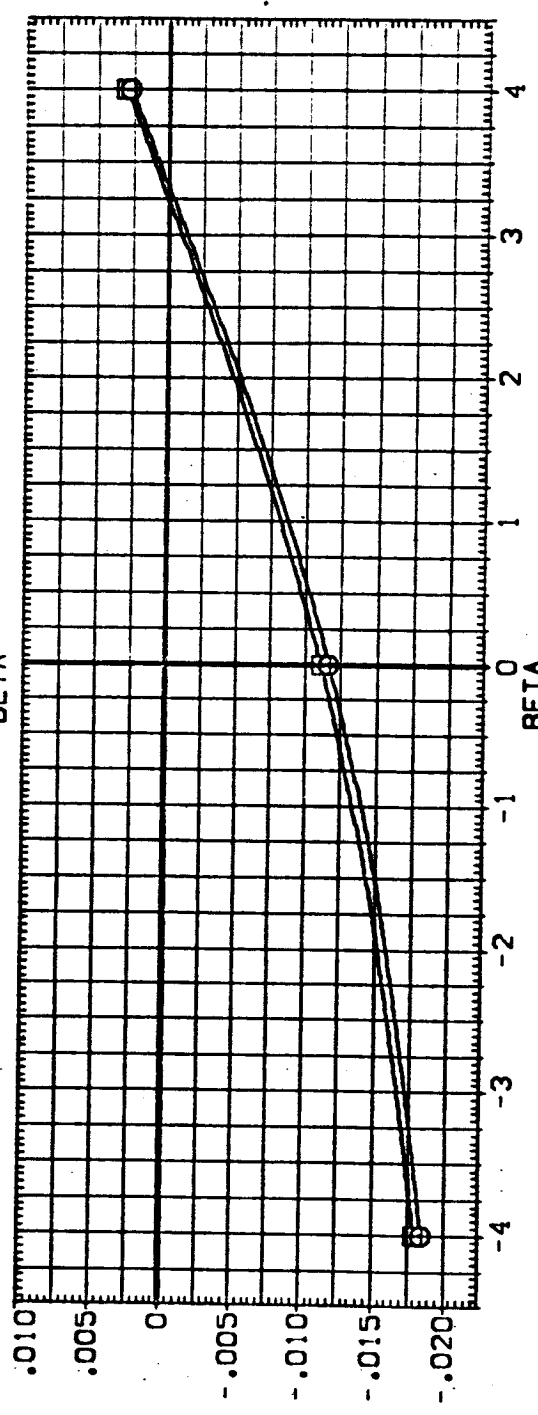
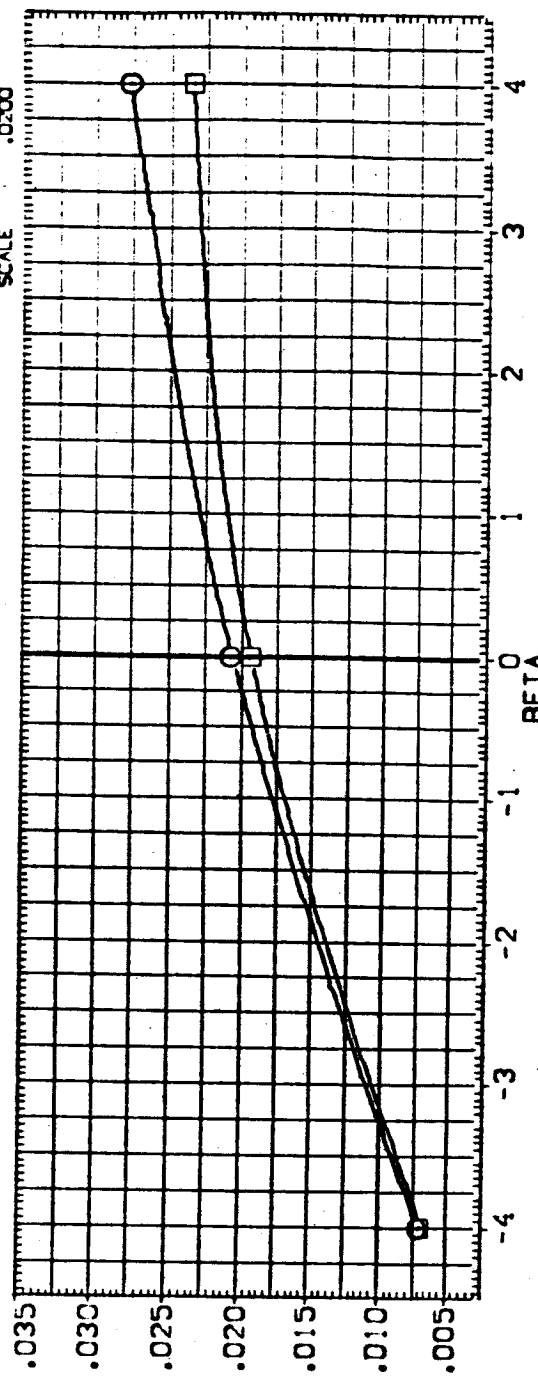


FIG. 49 EFFECT OF PLUMES - MACH=1.4 ELV-1B=8.0 ELV-0B=0.0 ALPHA=0.0

CAJALPHA = .00

DATA SET SYMBOL: (CEJ047) (CEJ048)

CONFIGURATION DESCRIPTION: ARC11-0141A19 OTS
ARC11-0141A19 OTS

SR8-OFF MPS-OFF: 8.000
SR8-NOM MPS-OFF: 8.000

ELV-1B: 8.000
ELV-0B: .000

MACH: 1.400
MACH: 1.400

GIMBAL: 1.000
GIMBAL: 1.000

REFERENCE INFORMATION:
SREF: 2690.0000 SO.FT.
LREF: 1790.3000 IN.
BREF: 1790.3000 IN.
XMRP: 976.0000 IN. XT
YMRP: .0000 IN. YT
ZMRP: 400.0000 IN. ZT
SCALE: .0200

ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

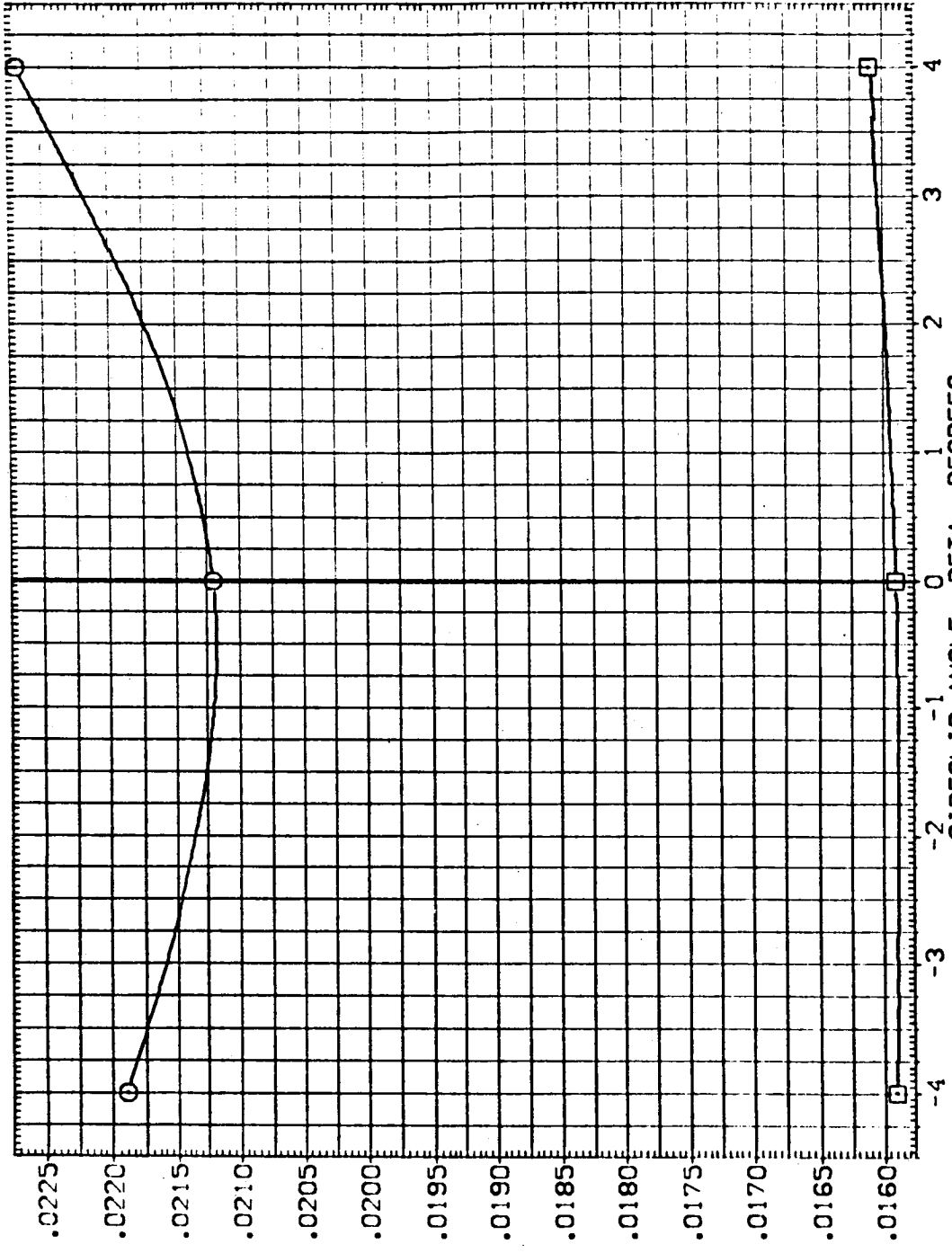


FIG. 49 EFFECT OF PLOMES - MACH=1.4 ELV-1B=8.0 ELV-0B=0.0 ALPHA=0.0

(A) ALPHA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

(CEUS47)	ARC11-0141A19 01S	SR9-01F MPS-01F	SREF	2690.0000	50. FT.
(CEUS48)	ARC11-0141A19 01S	SR9-NOM MPS-01F	LREF	1290.3000	IN.
			BREF	1290.3000	IN.
			XMRP	576.0000	IN.
			YMRP	.0000	IN.
			ZMRP	400.0000	IN.
			SCALE	.0200	

ELV-1B 8.000 ELV-0B MACH GIMBAL

8.000 .000 1.400 1.000

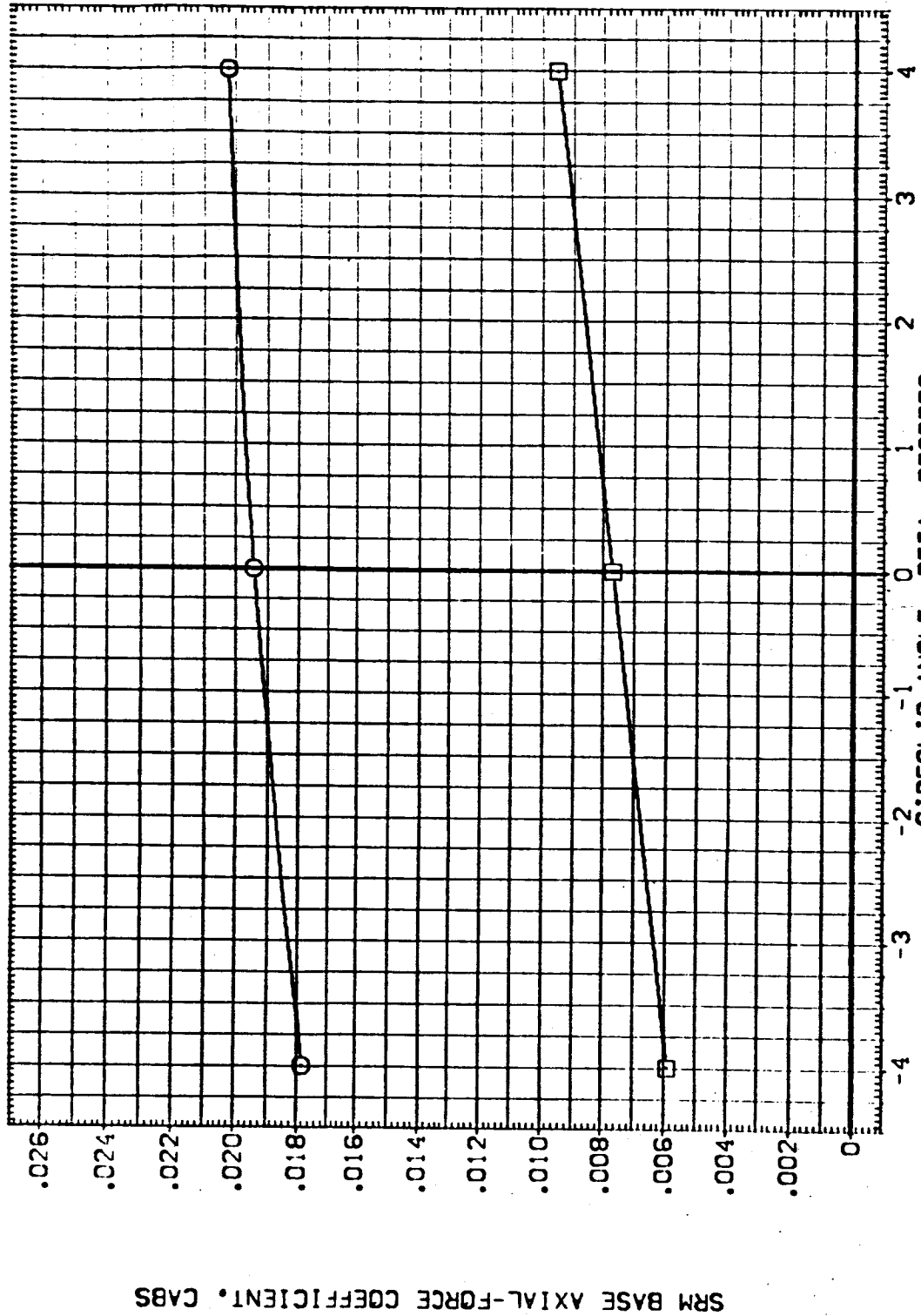


FIG. 49 EFFECT OF PLUMES - MACH=1.4 ELV-1B=8.0 ELV-0B=0.0 ALPHA=0.0

(A)A19-A = 00

DATA SET SYMBOL: (CEJ047) (CEJ048)

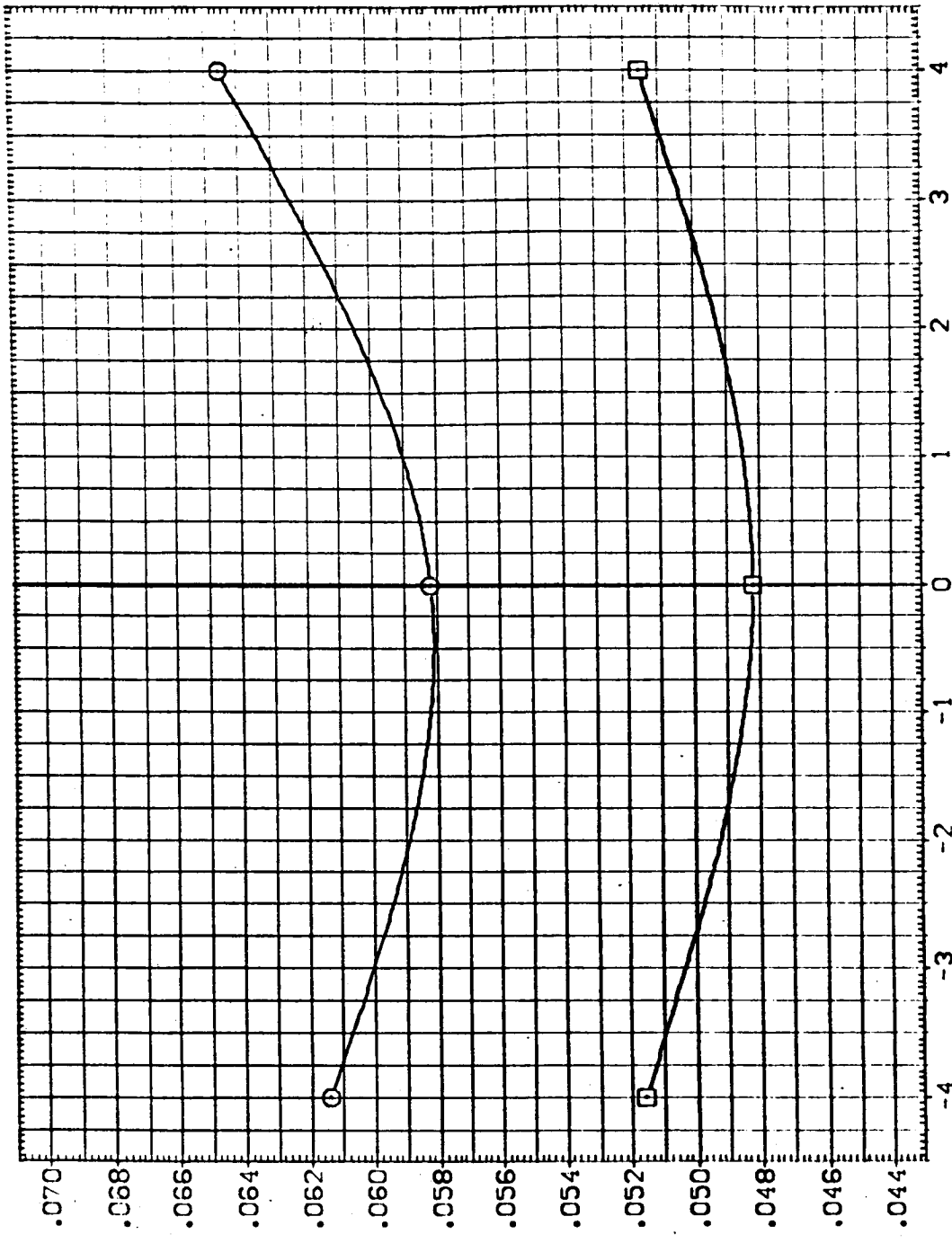
CONFIGURATION DESCRIPTION: ARC11-0141A19 DTS SRB-OFF MPS-OFF
 ARC11-0141A19 DTS SRB-NOM MPS-OFF

ELV-19: 8.000 8.000
 ELV-08: .000 .000

MACH: 1.400 1.400

GIMBAL: 1.000 1.000

REFERENCE INFORMATION:
 SREF: 2650.0000 SO.FT.
 LREF: 1290.3000 IN.
 BREF: 1290.3000 IN.
 XMRP: 976.0000 IN.
 YMRP: .0000 IN.
 ZMRP: 400.0000 IN.
 SCALE: .0200



EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

FIG. 49 EFFECT OF PLUMES - MACH=1.4 ELV-1B=8.0 ELV-0B=0.0 ALPHA=0.0

CALPHA = .00

DATA SET SYMBOL: CONFIGURATION DESCRIPTION

ARC11-0141A19 01S	SRS-OFF	MPS-OFF
ARC11-0141A19 01S	SRS-NON	MPS-OFF

ELV-1B 8.000 ELV-OB 4.000 MACH .900 GIMBAL 1.000

REFERENCE INFORMATION

SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0200	

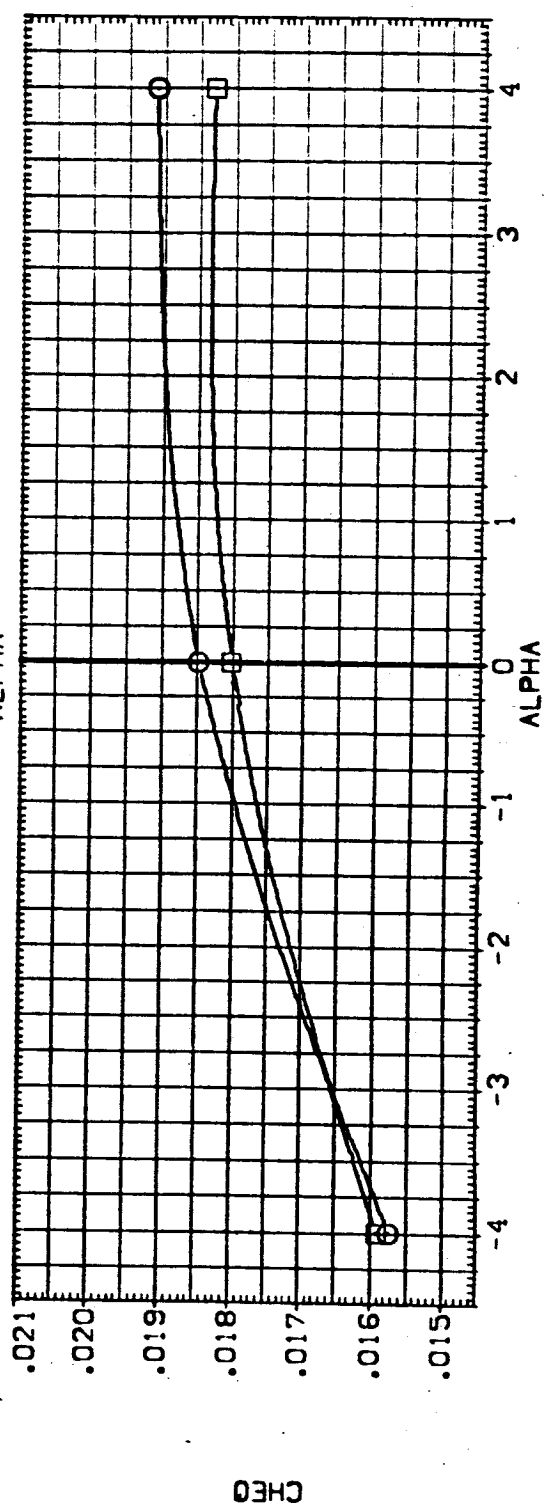
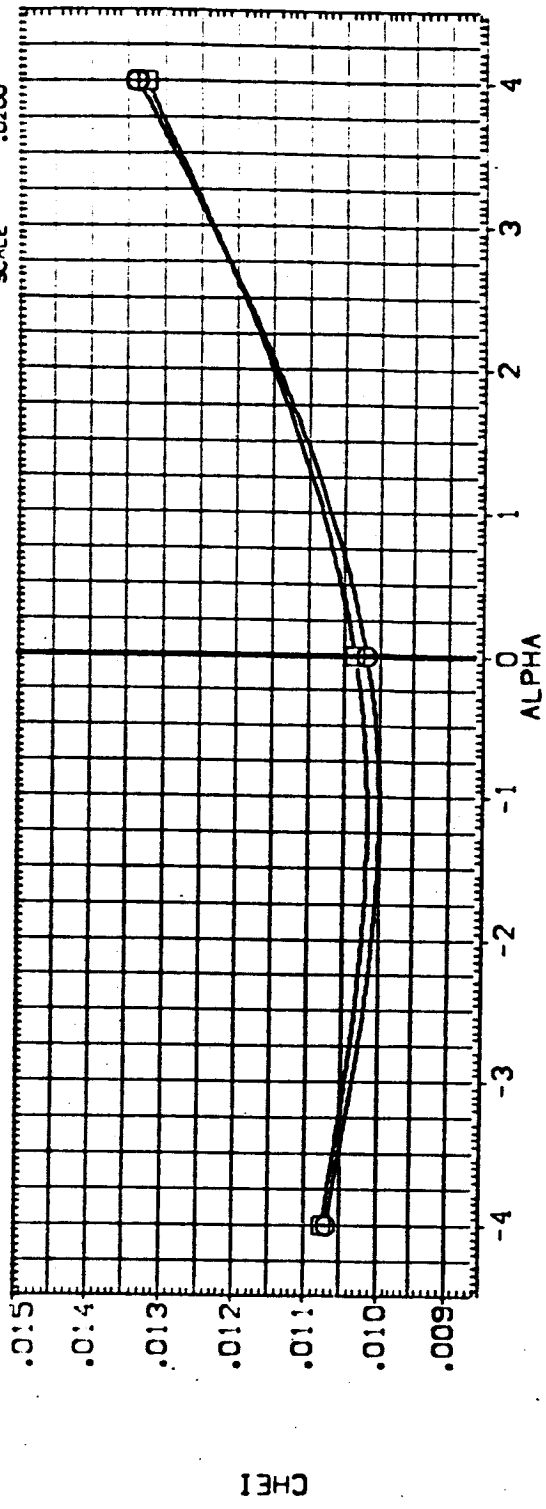


FIG. 50 EFFECT OF PLUMES - MACH=0.9 ELV-1B=8.0 ELV-OB=4.0 BETA=0.0

(A) BETA = .00

DATA SET SYMBOL: (3) (3) (3)
 CONFIGURATION DESCRIPTION: ARC11-0:4:1A:9 OTS
 SR8-DEF MPS-DEF: SR8-NOM MPS-DEF

ELV-IB: 8.000
 ELV-OB: 4.000
 MACH: .900
 GIMBAL: 1.000

REFERENCE INFORMATION:
 SREF: 2690.0000
 LREF: 1290.3000
 XMRP: 976.0000
 YMRP: 400.0000
 ZMRP: 400.0000
 SCALE: .0200

ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

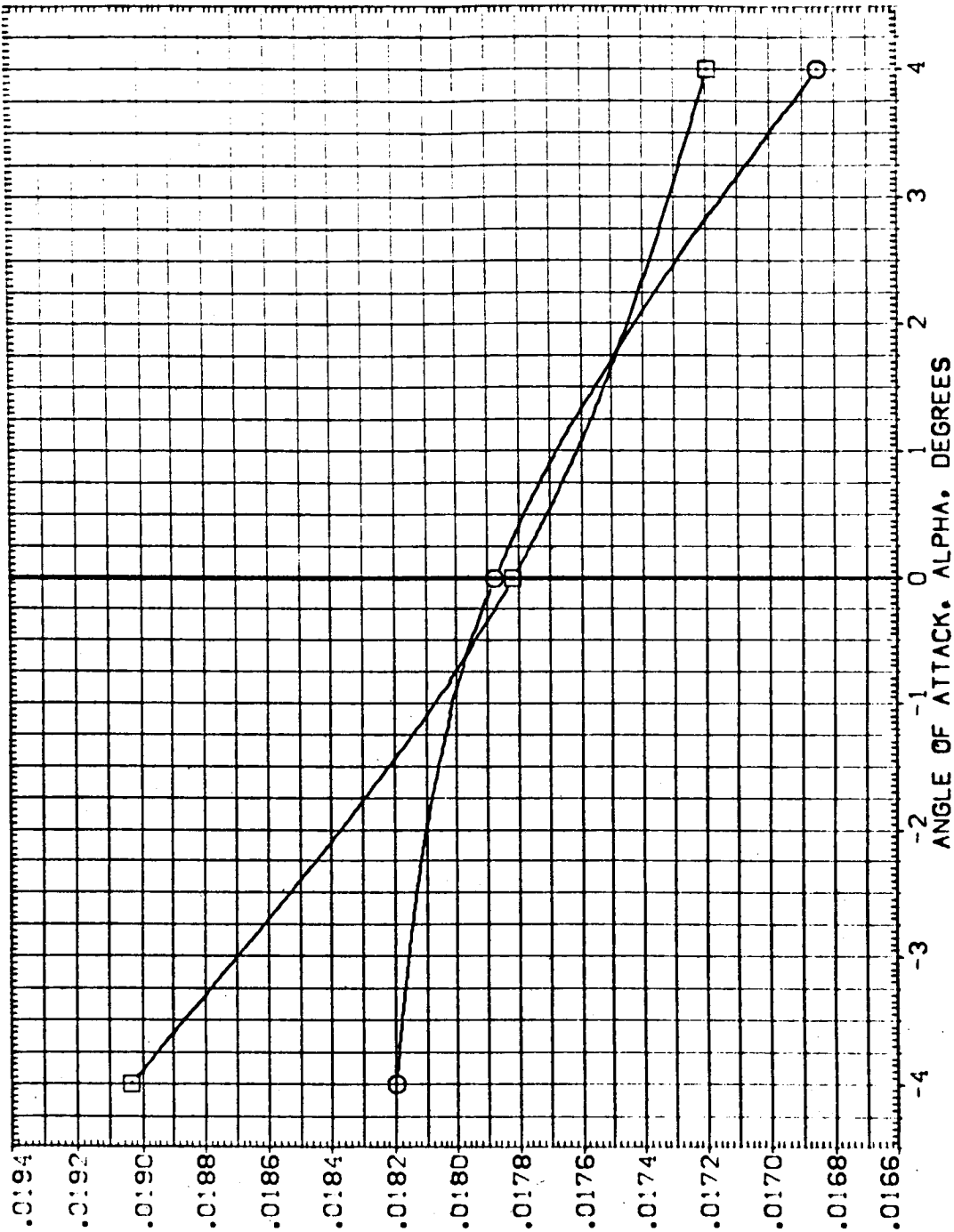


FIG. 50 EFFECT OF PLUMES - MACH=0.9 ELV-IB=8.0 ELV-OB=4.0 BETA=0.0

(A) BETA = .00

DATA SET SYMBOL: (3) JCS3

CONFIGURATION DESCRIPTION: SRB-OFF MPS-OFF
 ARC1: -0.41419 OTS
 ARC2: -0.41419 OTS

ELV-1B 8.000
 ELV-OB 4.000

MACH .900

GIMBAL 1.000

REFERENCE INFORMATION: SRF 2650.0000 SQ.FT.
 LREF 1250.3000 IN.
 BREF 1250.3000 IN.
 XMRD 576.0000 IN. X1
 YMRD .0000 IN. Y1
 ZMRD 400.0000 IN. Z1
 SCALE .0200

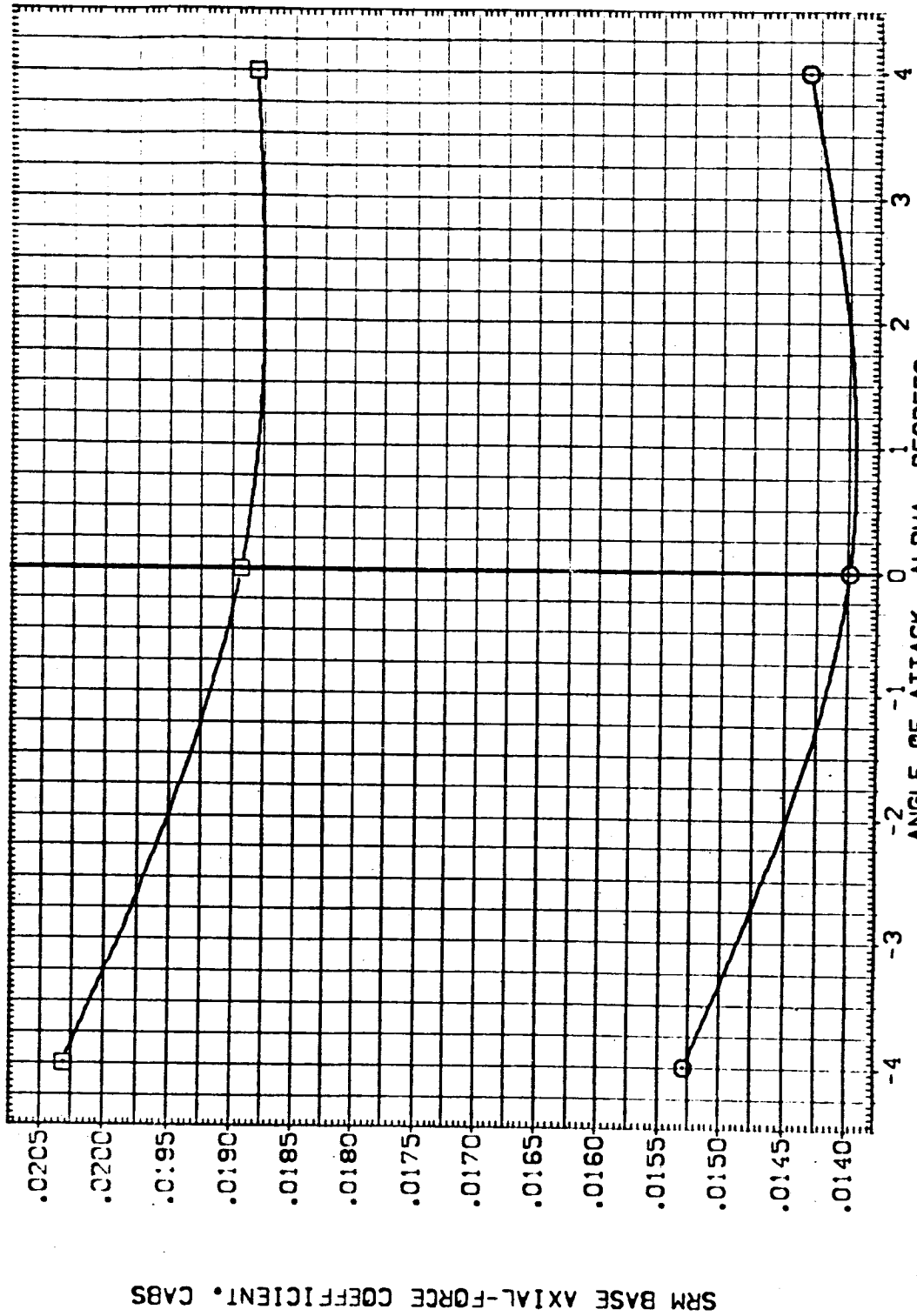


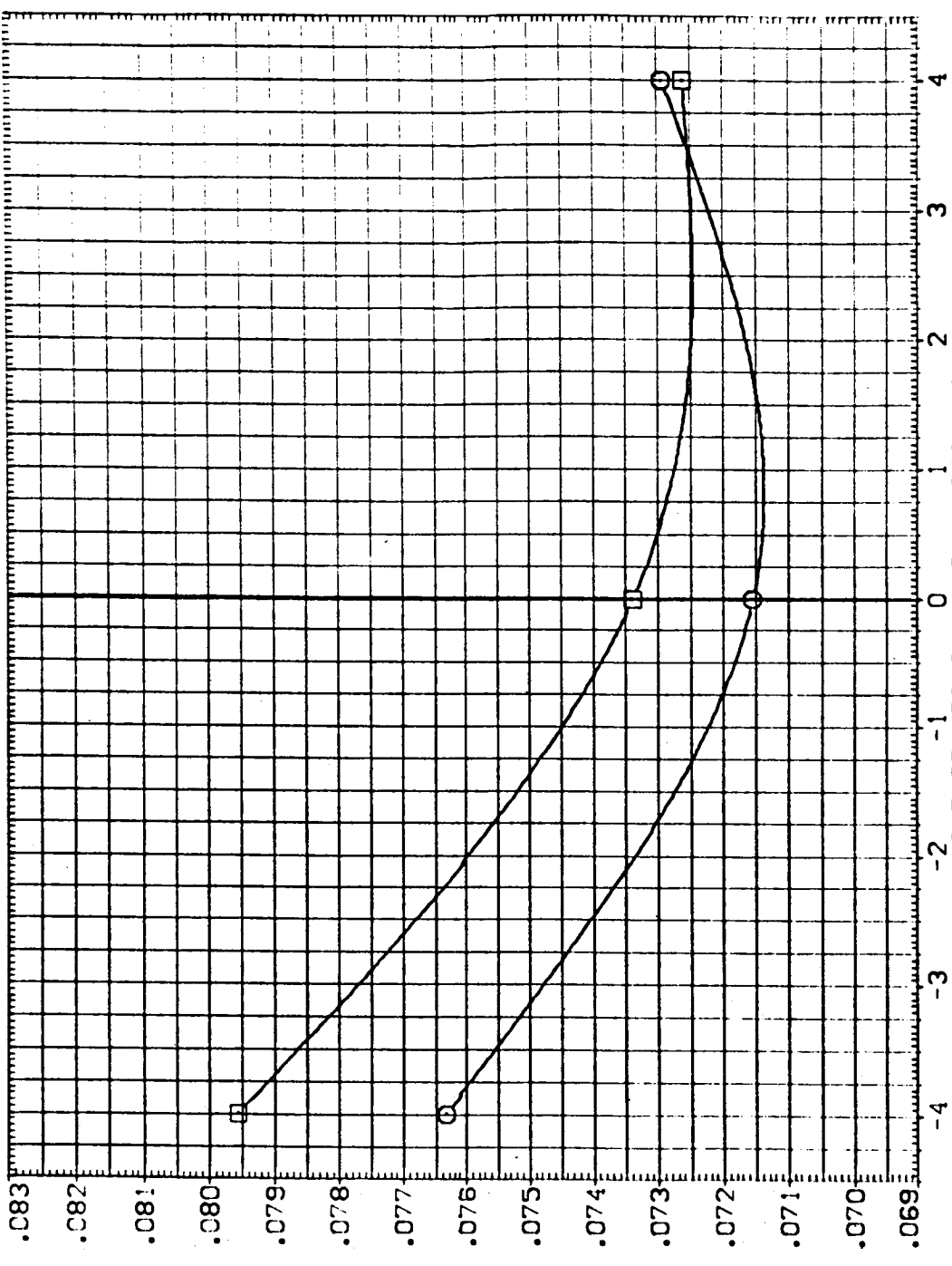
FIG. 50 EFFECT OF PLUMES - MACH=0.9 ELV-1B=8.0 ELV-OB=4.0 BETA=0.0
 CABETA = .00

DATA SET SYMBOL: 0141A19 01S
 (3E,0A9) 0141A19 01S
 (3E,0S3) 0141A19 01S

CONFIGURATION DESCRIPTION
 S99-0FF MPS-0FF
 S98-NOM MPS-0FF

ELV-1B 8.000
 ELV-0B 4.000
 MACH .900
 GIMBAL 1.000

REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 1290.0000 IN.
 BREF 1290.0000 IN.
 XMRP 976.0000 IN. XT
 YMRP .0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0200



EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

FIG. 50 EFFECT OF PLUMES - MACH=0.9 ELV-1B=8.0 ELV-0B=4.0 BETA=0.0

(A)BETA = .00



DATA SET SYMBOL: CONFIGURATION DESCRIPTION
 (37JCS0) O ARC:11-0:1A:19 OTS SRB-DEF MPS-DEF
 (37JCS1) ARC:11-0:1A:19 OTS SRB-NOM MPS-DEF

ELV-1B 8.000
 ELV-0B 4.000
 MACH 1.100
 GIMBAL 1.000

ELV-1B 8.000
 ELV-0B 4.000
 MACH 1.100
 GIMBAL 1.000

REFERENCE INFORMATION
 SREF 2650.0000 SQ.FT.
 LREF 1250.3000 IN.
 BREF 1250.3000 IN.
 XMRP 976.0000 IN. XT
 YMRP 0.0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0200

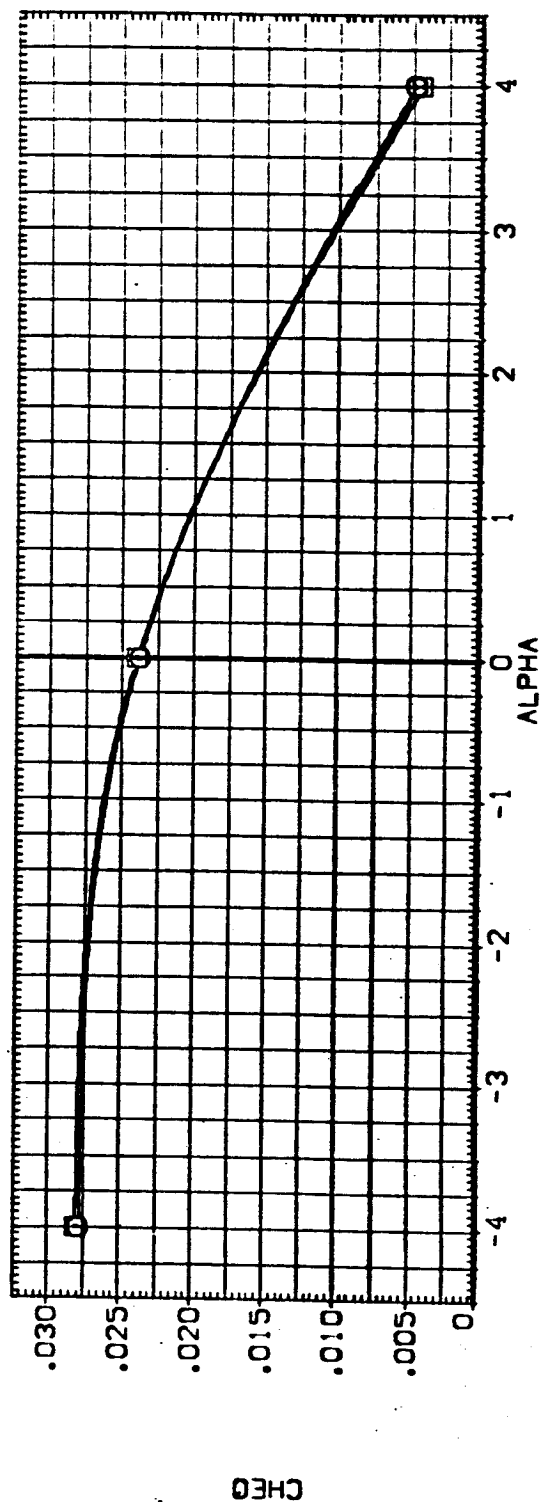
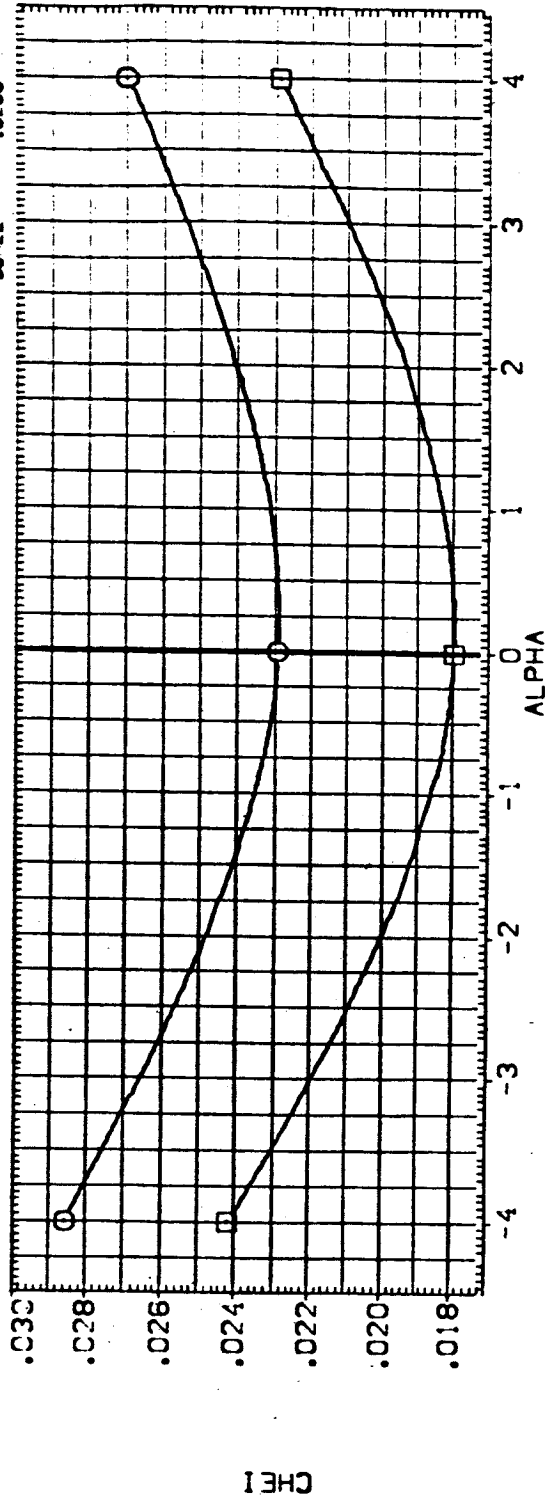


FIG. 51 EFFECT OF PLUMES - MACH=1.1 ELV-1B=8.0 ELV-0B=4.0 BETA=0.0
 (AJBETA = .00

DATA SET SYMBOL: CONFIGURATION DESCRIPTION

{B:JCS0} ○ ARC11-014(A)19 DTS SRB-OFF MPS-OFF

{B:JCS4} ARC11-014(A)19 DTS SRB-NOM MPS-OFF

REFERENCE INFORMATION

SREF 2690.0000 SO.FT.

LREF 1290.3000 IN.

BREF 1290.3000 IN.

XMRP 976.0000 IN. XT

YMRP .0000 IN. YT

ZMRP 400.0000 IN. ZT

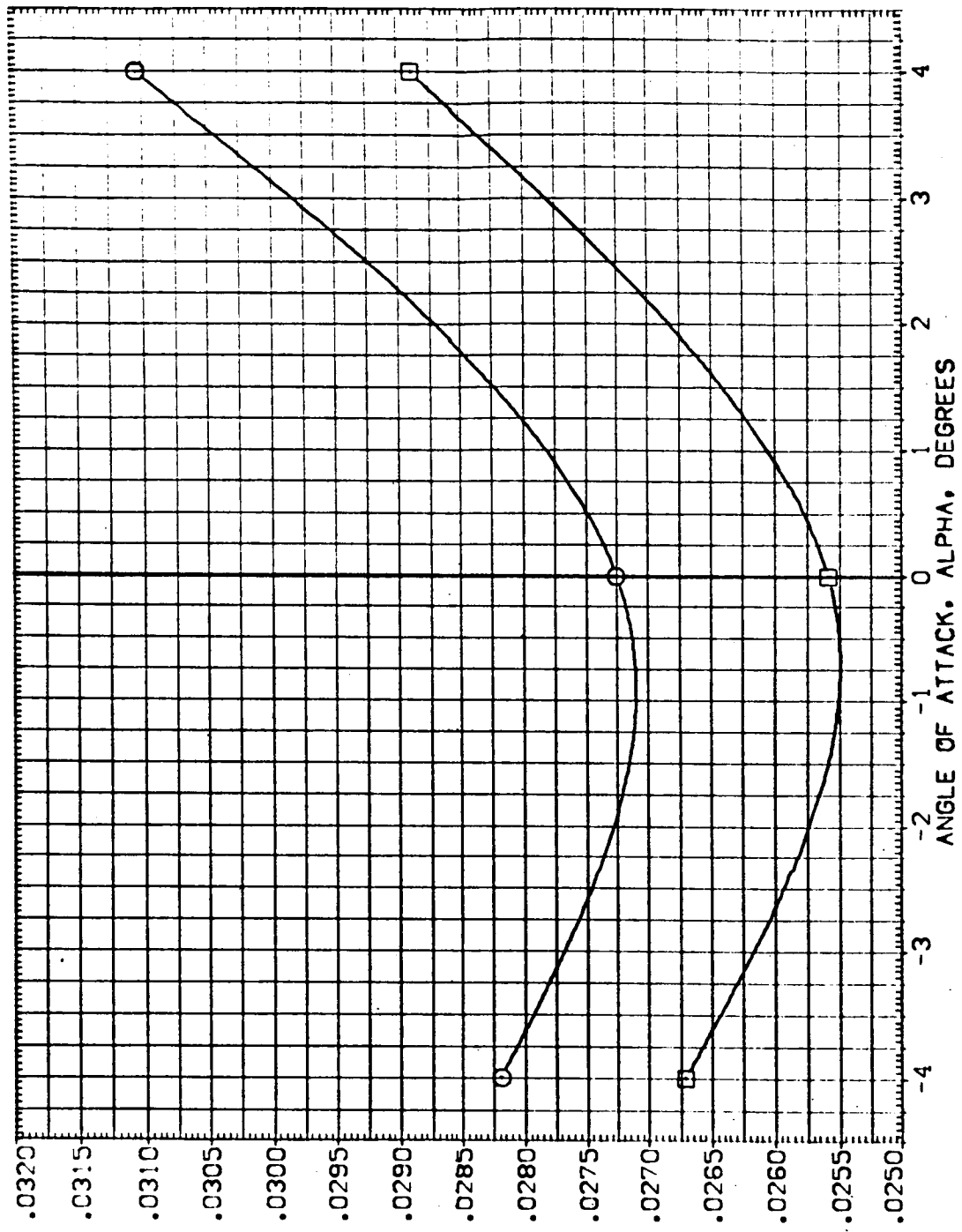
SCALE .0200

ELV-IB 8.000 8.000

ELV-OB 4.000 4.000

MACH 1.100 1.100

GIMBAL 1.000 1.000



ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

FIG. 51 EFFECT OF PLUMES - MACH=1.1 ELV-IB=8.0 ELV-OB=4.0 BETA=0.0

(A)BETA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION

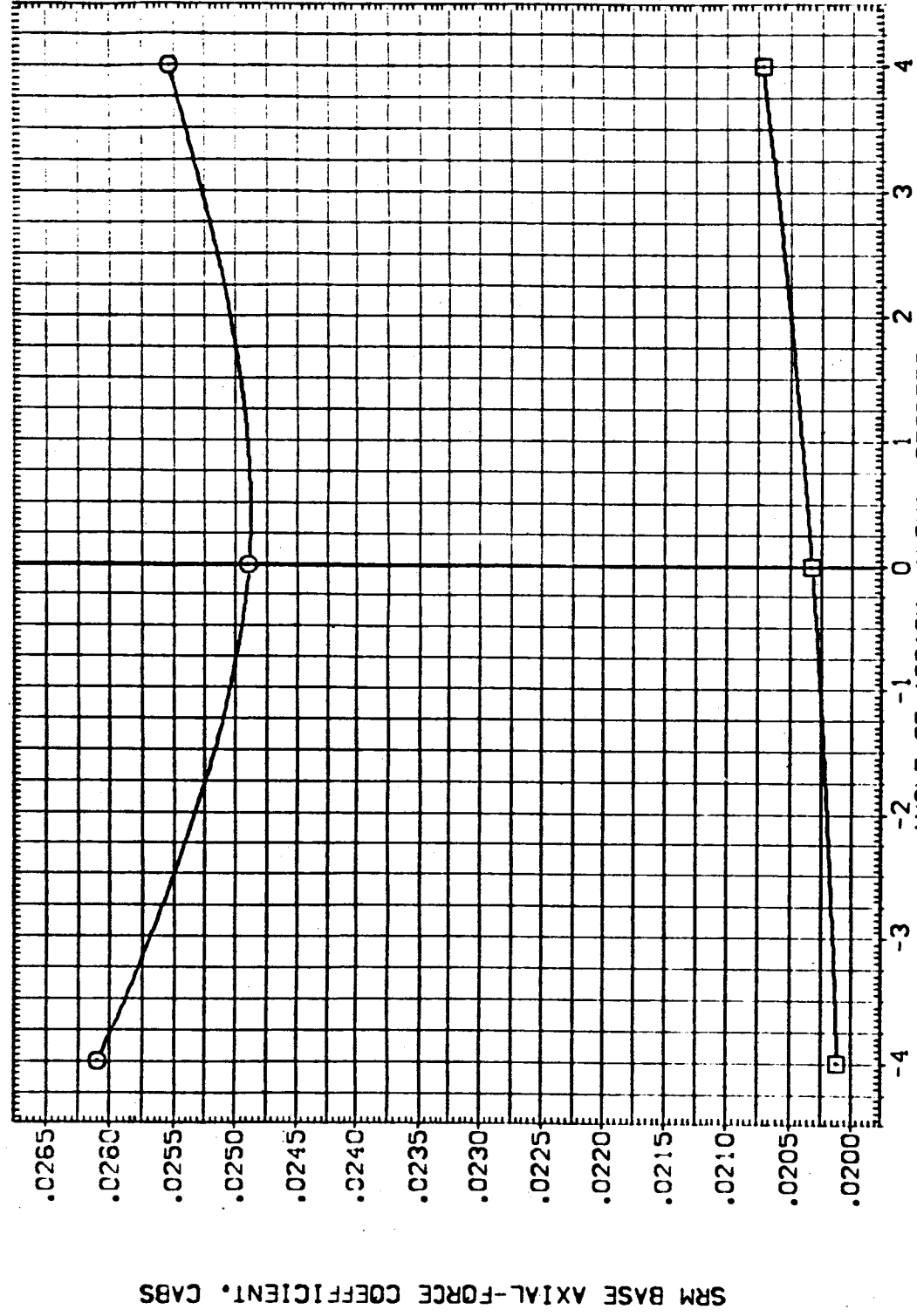
(B) JCSO) O ARC11-0141A19 QTS SRB-OFF MPS-OFF
 (B) JCS1) ARC11-0141A19 QTS SRB-NOM MPS-OFF

ELV-1B 8.000
 ELV-08 4.000
 MACH 1.100
 GIMBAL 1.000

SRB-OFF MPS-OFF
 SRB-NOM MPS-OFF

REFERENCE INFORMATION

SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 YMRP 976.0000 IN.
 ZMRP 400.0000 IN.
 XT
 YT
 ZT
 SCALE .0200



SRM BASE AXIAL-FORCE COEFFICIENT, CABS

FIG. 51 EFFECT OF PLUMES - MACH=1.1 ELV-1B=8.0 ELV-08=4.0 BETA=0.0

(A) BETA = .00

DATA SET SYMB. CONFIGURATION DESCRIPTION

[31050] ○ ARC11-0141A19 OTS SRB-DEF MPS-DEF

[31051] ○ ARC11-0141A19 OTS SRB-NOM MPS-DEF

ELV-18 8.000 8.000

ELV-08 4.000 4.000

MACH 1:100 1:100

GIMBAL 1.000 1.000

REFERENCE INFORMATION

SREF 2690.0000 SQ.FT.

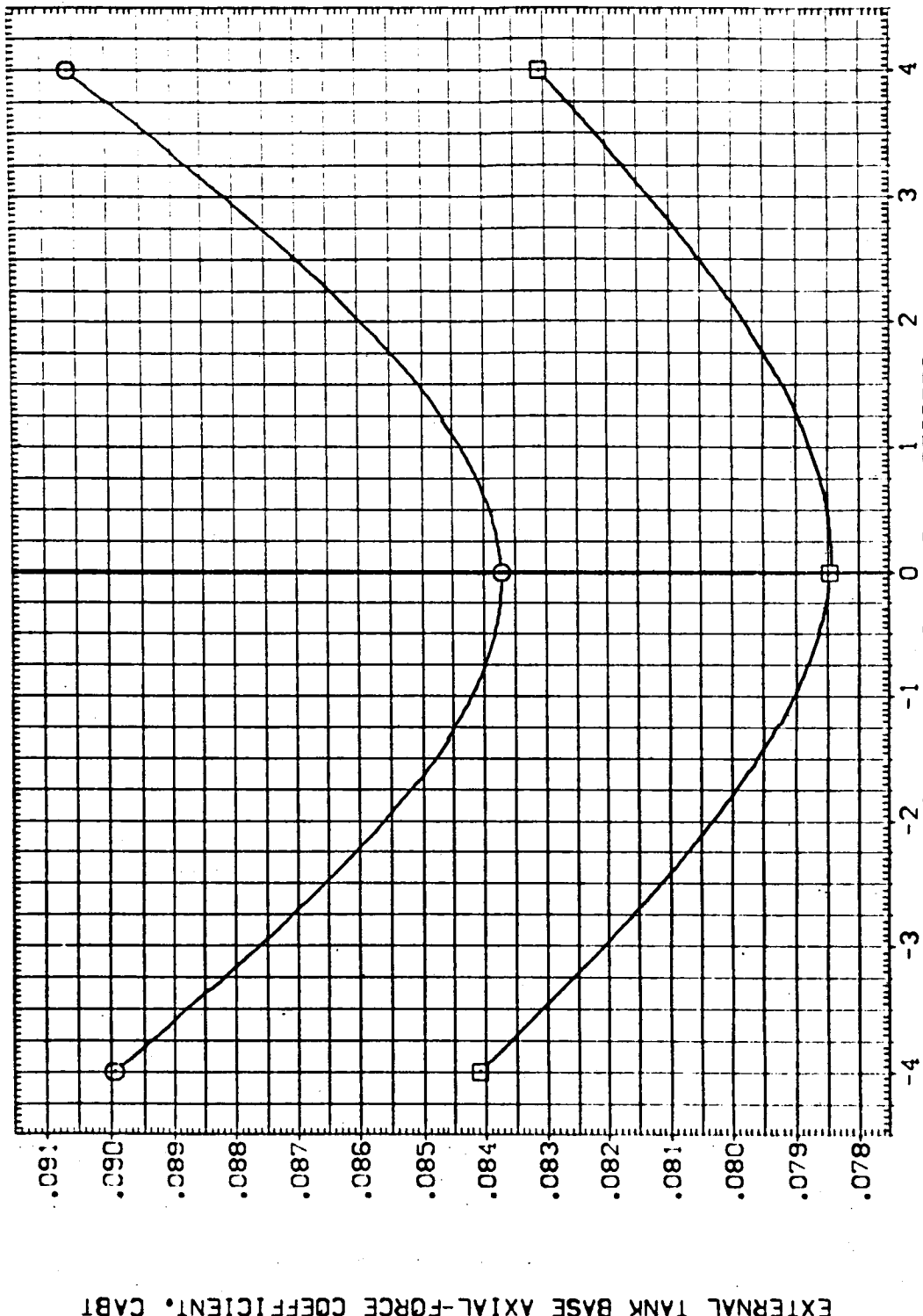
LREF 1290.3000 IN.

BREF 1290.3000 IN.

YMRP 976.0000 IN.

ZMRP 400.0000 IN.

SCALE .0100



EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

FIG. 51 EFFECT OF PLUMES - MACH=1.1 ELV-18=8.0 ELV-08=4.0 BETA=0.0

(A) BETA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

[3-UCS1]	ARC11-0141A19 OTS	SRB-OFF MPS-OFF	ELV-1B	ELV-OB	MACH	GIMBAL	SREF	2650.0000	50. FT.
[3-UCS5]	ARC11-0141A19 OTS	SRB-NOM MPS-OFF	8.000	4.000	1.250	1.000	LREF	1250.3000	
			8.000	4.000	1.250	1.000	BRF	1250.3000	
							YMRP	576.0000	
							ZMRP	400.0000	
							SCALE	100.0000	
								.0200	

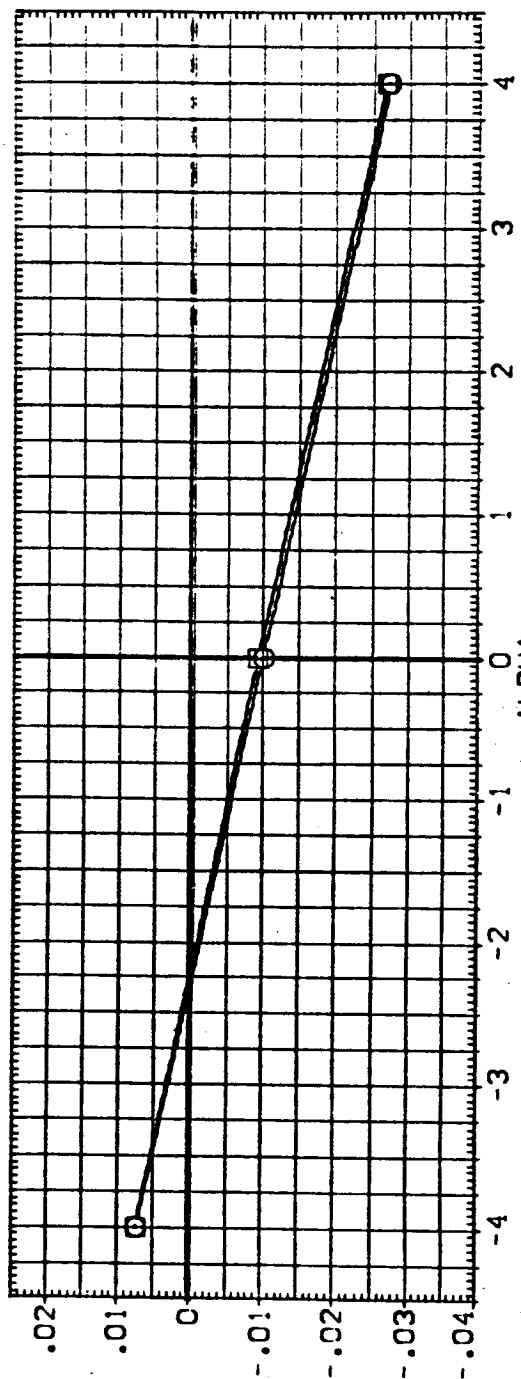
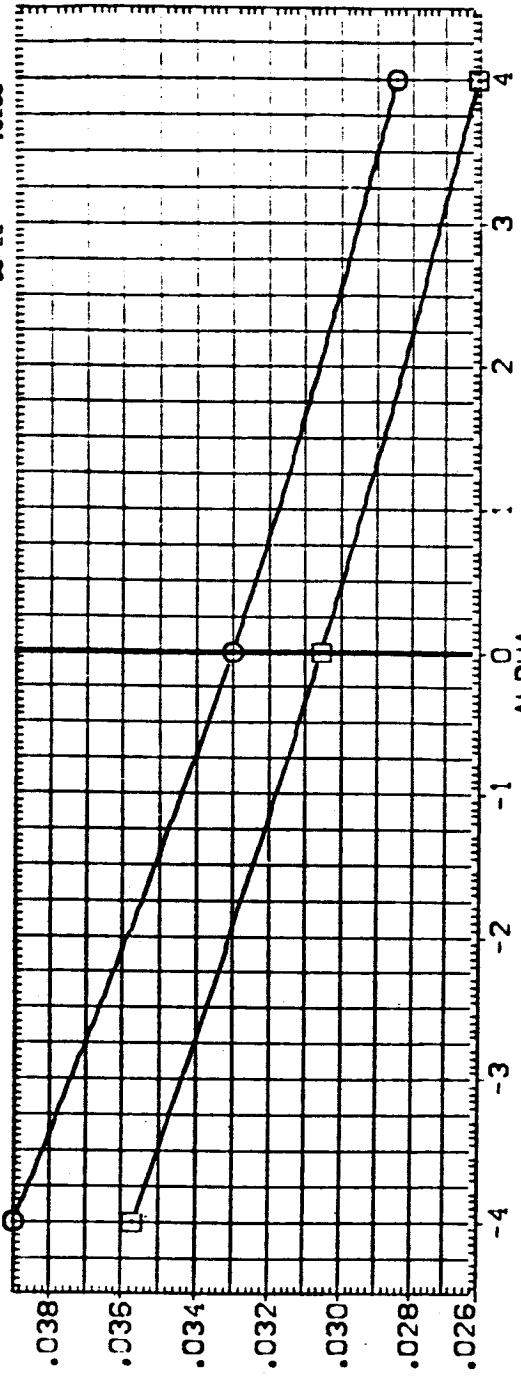
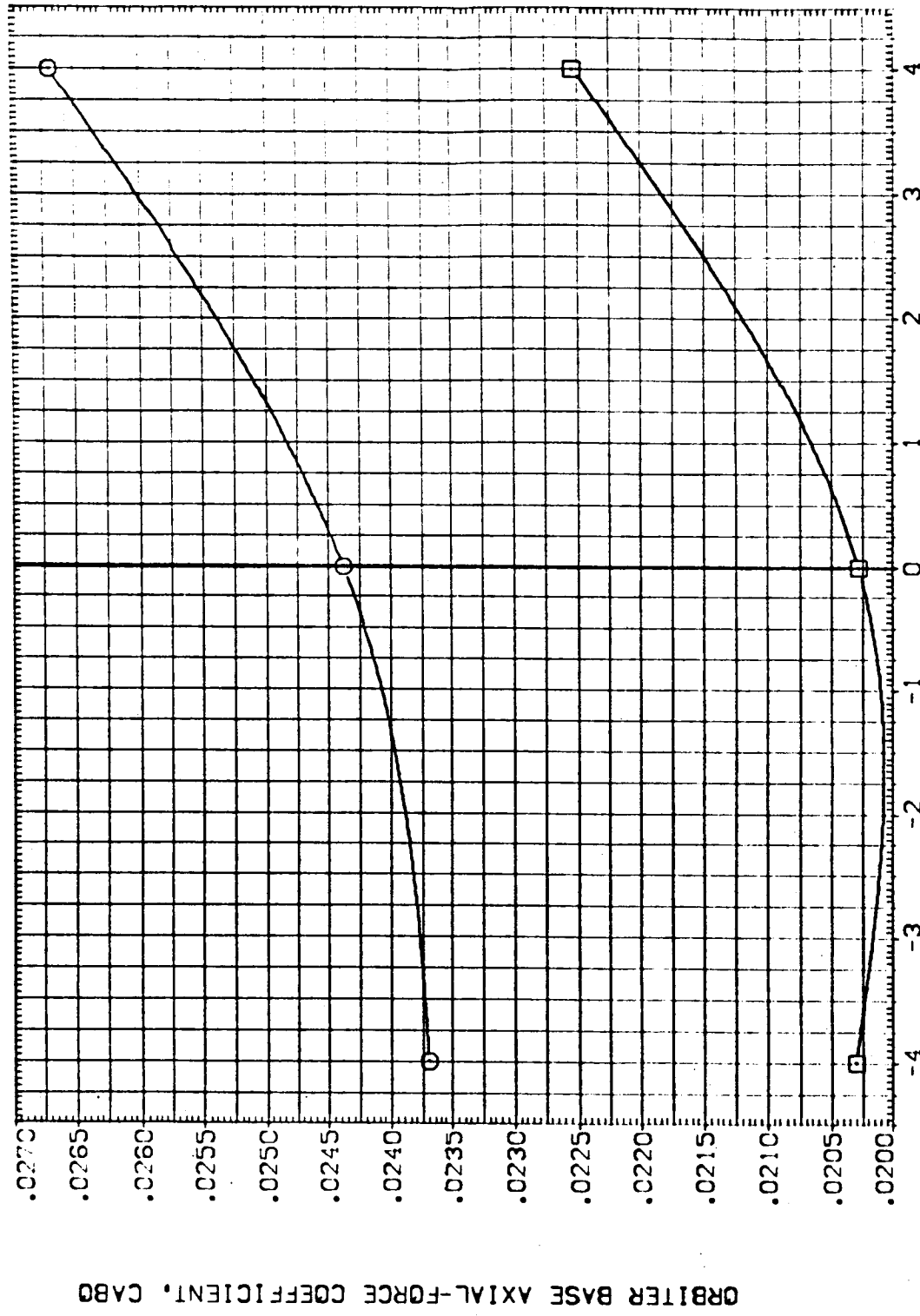


FIG. 52 EFFECT OF PLUMES - MACH=1.25 ELV-OB=8.0 ELV-OB=4.0 BETA=0.0
 CABETA = .00

DATA SET SYMBOL: (3605) (36055)
 CONFIGURATION DESCRIPTION: ARC11-01A1A19 OTS
 SRB-OFF MPS-OFF
 SRB-NOM MPS-OFF

ELV-1B 8.000 8.000
 ELV-08 4.000 4.000
 MACH 1.250 1.250
 GIMBAL 1.000 1.000

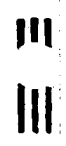
REFERENCE INFORMATION:
 SREF 2650.0000 SQ.FT.
 LREF 1250.3000 IN.
 BREF 1250.3000 IN.
 XMRP 976.0000 IN.
 YMRP 0.0000 IN.
 ZMRP 400.0000 IN.
 SCALE 100.0000



ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

FIG. 52 EFFECT OF PLUMES - MACH=1.25 ELV-1B=8.0 ELV-08=4.0 BETA=0.0

(A)BETA = .00



DATA SET SYMBOL: ○
 CONFIGURATION DESCRIPTION: ARC11-0:1A19 OTS
 SRR-OFF: 1.000
 S48-NOM: 1.250
 S48-OFF: 1.000
 REFERENCE INFORMATION:
 SREF: 2590.0000 IN.
 LREF: 1290.3000 IN.
 BREF: 1290.3000 IN.
 XMRP: 976.0000 IN.
 YMRP: 400.0000 IN.
 ZMRP: 400.0000 IN.
 SCALE: .0200

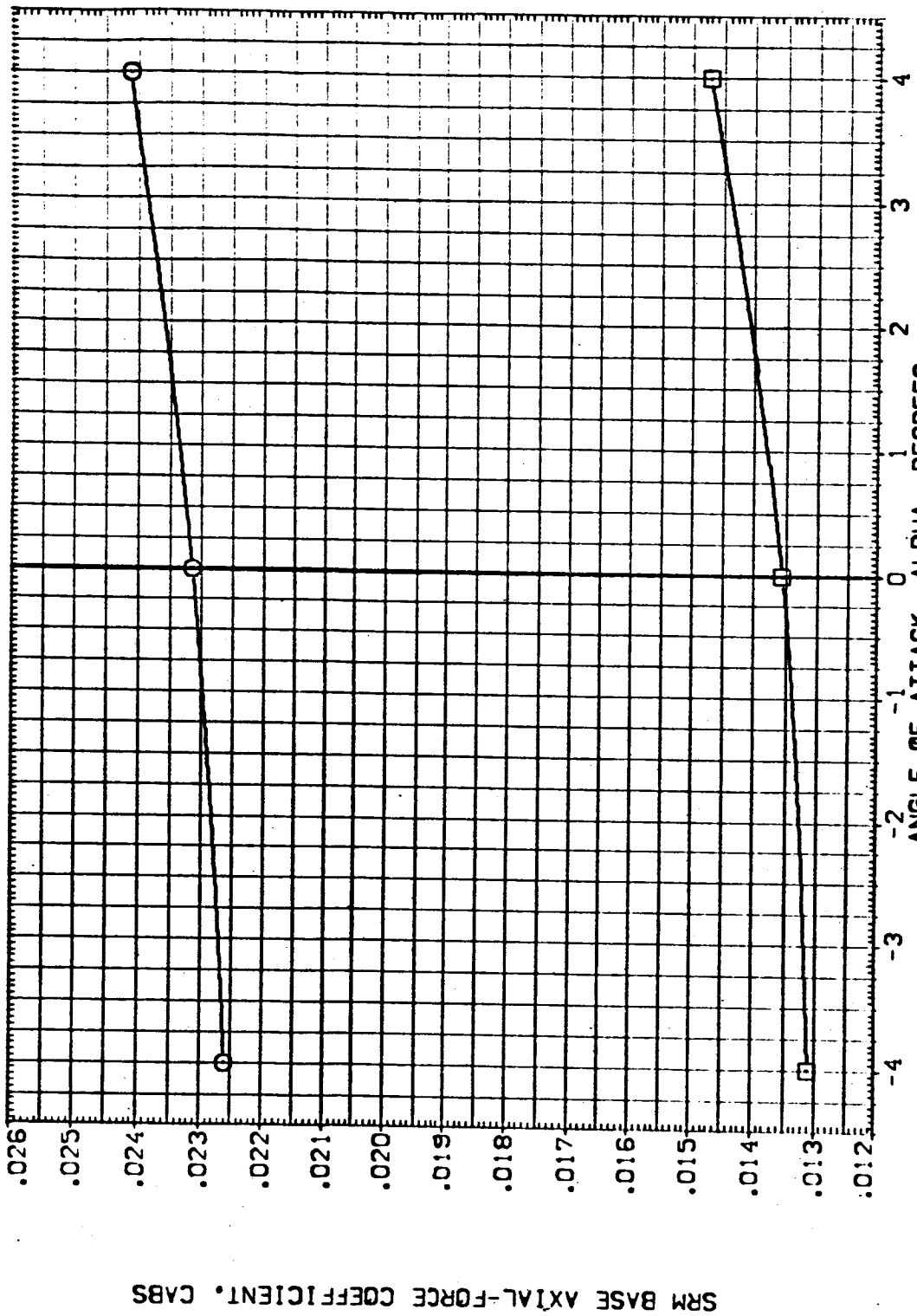


FIG. 52 EFFECT OF PLUMES - MACH=1.25 ELV-1B=8.0 ELV-0B=4.0 BETA=0.0

CABETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (B) (C) (S) O ARC11-0141A19 OTS SRB-OFF MPS-OFF
 (B) (C) (S) O ARC11-0141A19 OTS SRB-NOM MPS-OFF

ELV-1B ELV-0B MACH GIMBAL
 8.000 4.000 1.250 1.000
 8.000 4.000 1.250 1.000

REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN. XT
 YMRP .0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0250

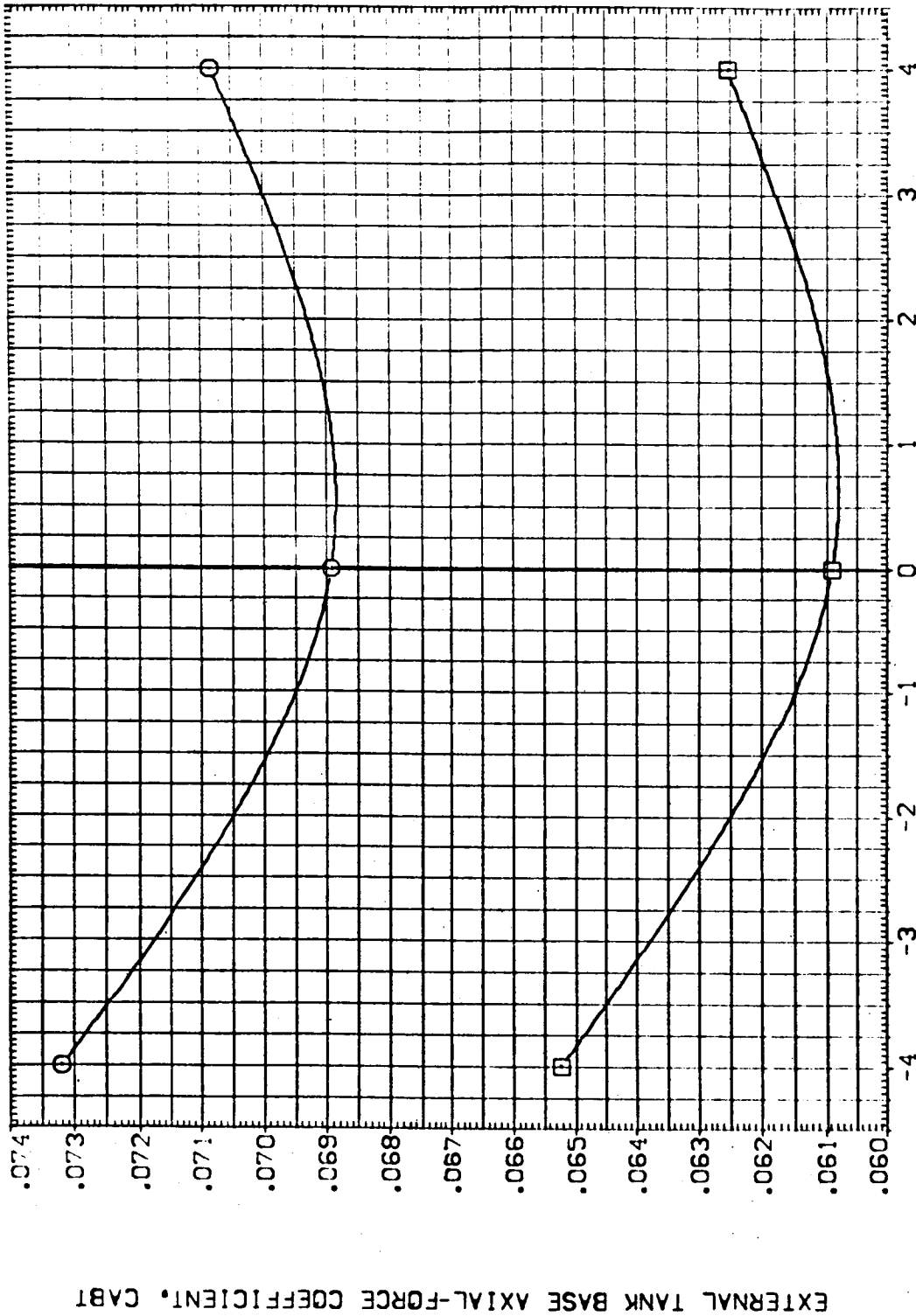


FIG. 52 EFFECT OF PLUMES - MACH=1.25 ELV-1B=8.0 ELV-0B=4.0 BETA=0.0

(A) BETA = .00



DATA SET SYMBOL: (B:J057) (E:J056)

CONFIGURATION DESCRIPTION: ARC11-0141A19 01S SRB-OFF MPS-OFF
 ARC11-0141A19 01S SRB-NOM MPS-OFF

ELV-1B 9.000 8.000
 ELV-0B 4.000 4.000
 MACH 1.100 1.100
 GIMBAL 1.000 1.000

REFERENCE INFORMATION: SREF 2690.0000 90.FT.
 LREF 1290.3000 IN.
 BRPF 1290.3000 IN.
 XMRP 976.0000 IN. XT
 YMRP 400.0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0200

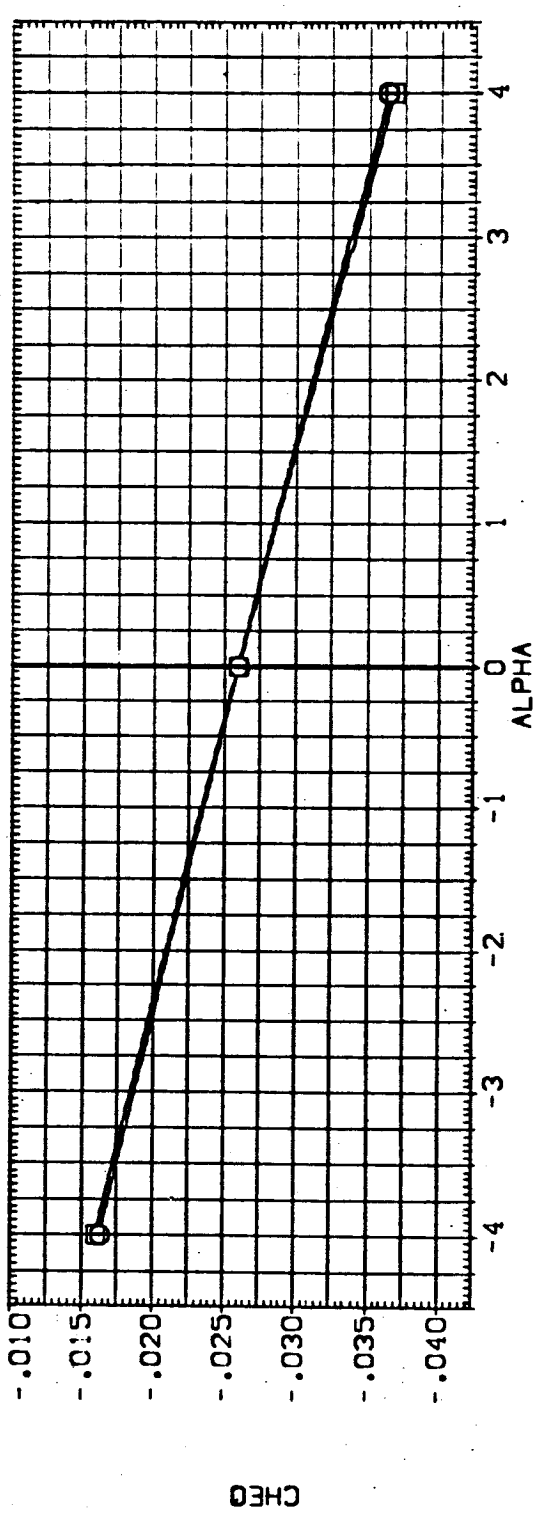
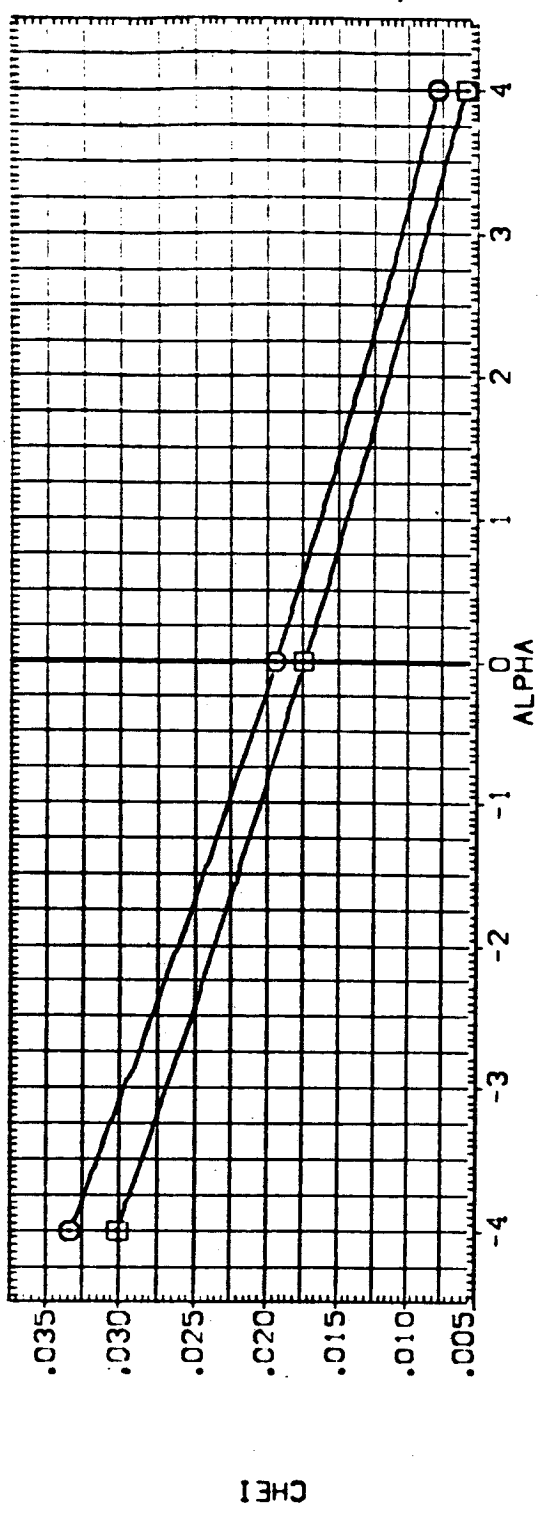


FIG. 53 EFFECT OF PLUMES - MACH=1.4 ELV-1B=8.0 ELV-0B=4.0 BETA=0.0

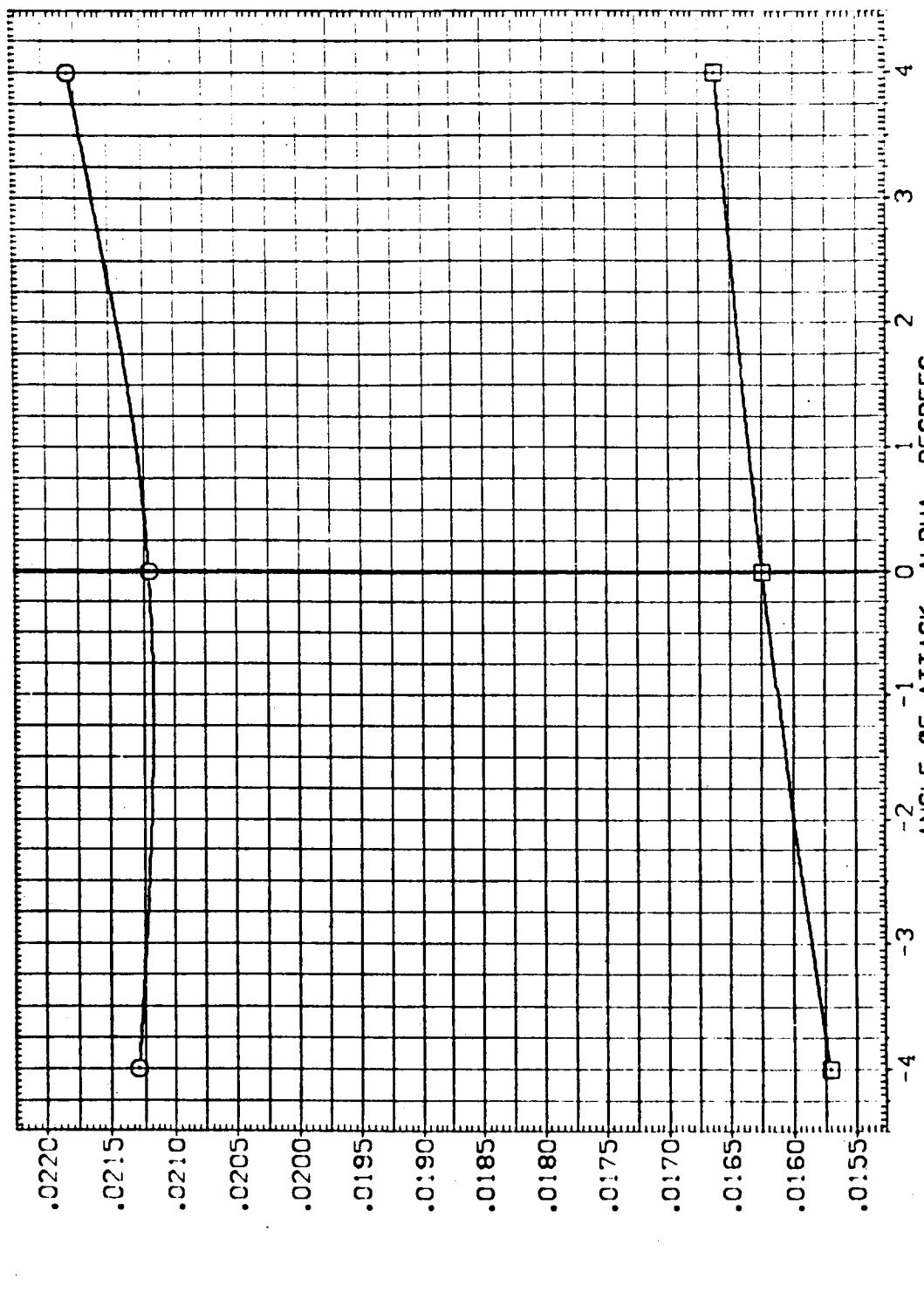
(A)BETA = .00

DATA SET SYMBOL: 0141A19 DT5
 (BELOS2) 0141A19 DT5
 (BELOS6) 0141A19 DT5

CONFIGURATION DESCRIPTION
 SRB-OFF MPS-OFF
 SRB-NOM MPS-OFF

ELV-IB 8.000
 ELV-OB 4.000
 MACH 1.400
 GIMBAL 1.000

REFERENCE INFORMATION
 SREF 2690.0000 SO.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN. XT
 YMRP 400.0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0250



ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

FIG. 53 EFFECT OF PLUMES - MACH=1.4 ELV-IB=8.0 ELV-OB=4.0 BETA=0.0

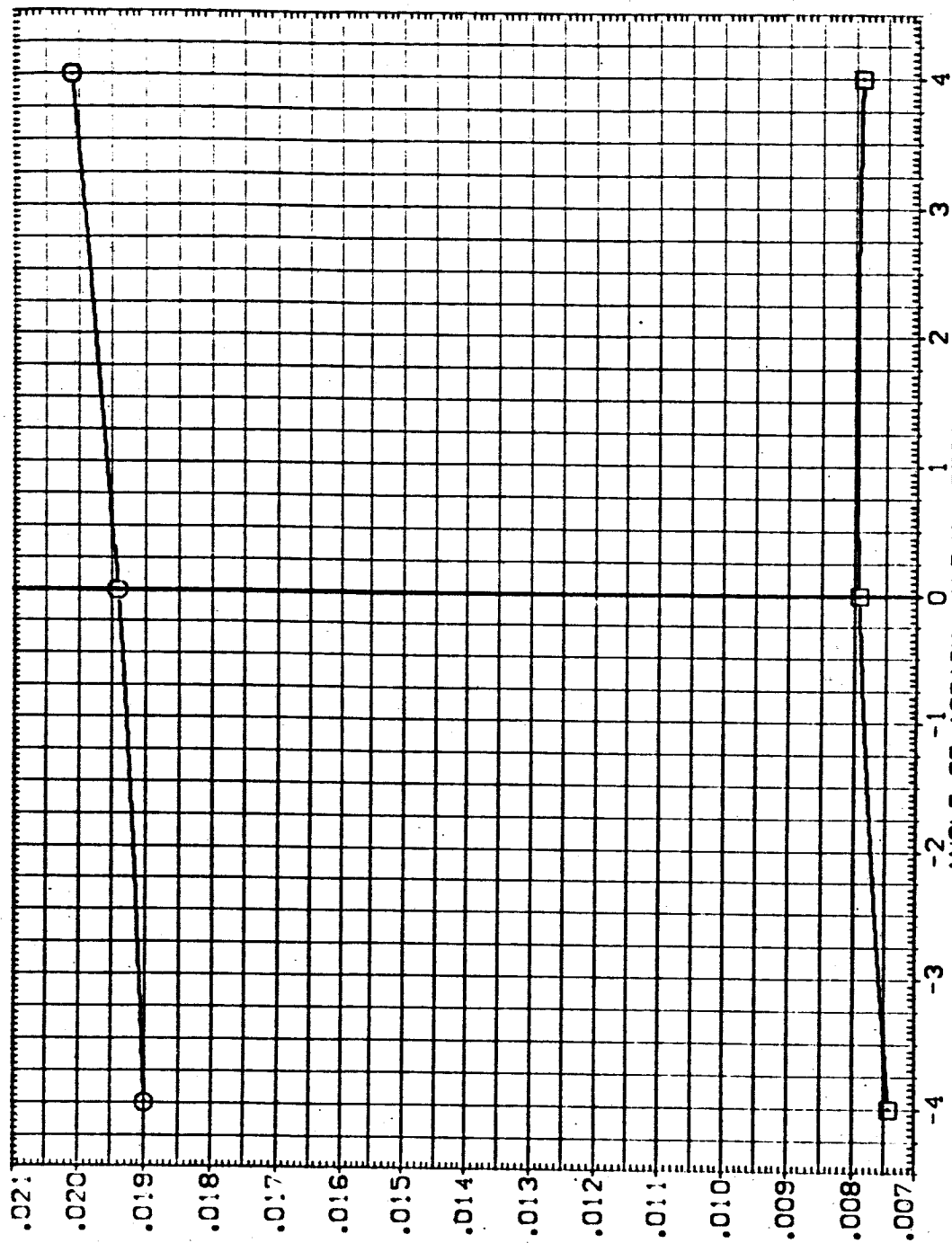
(A)BETA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (BEUC52) O ARC11-0141A19 D1S SR9-OFF MPS-OFF
 (BEUC56) ARC11-0141A19 D1S SR9-NOM MPS-OFF

ELV-1B 8.000 8.000
 ELV-0B 4.000 4.000
 MACH 1.400 1.400
 GIMBAL 1.000 1.000

REFERENCE INFORMATION
 SREF 2690.0000 50.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN. XT
 YMRP 400.0000 IN. YT
 ZMRP 100.0000 IN. ZT
 SCALE .0200



SRM BASE AXIAL-FORCE COEFFICIENT, CABS

ANGLE OF ATTACK, ALPHA, DEGREES

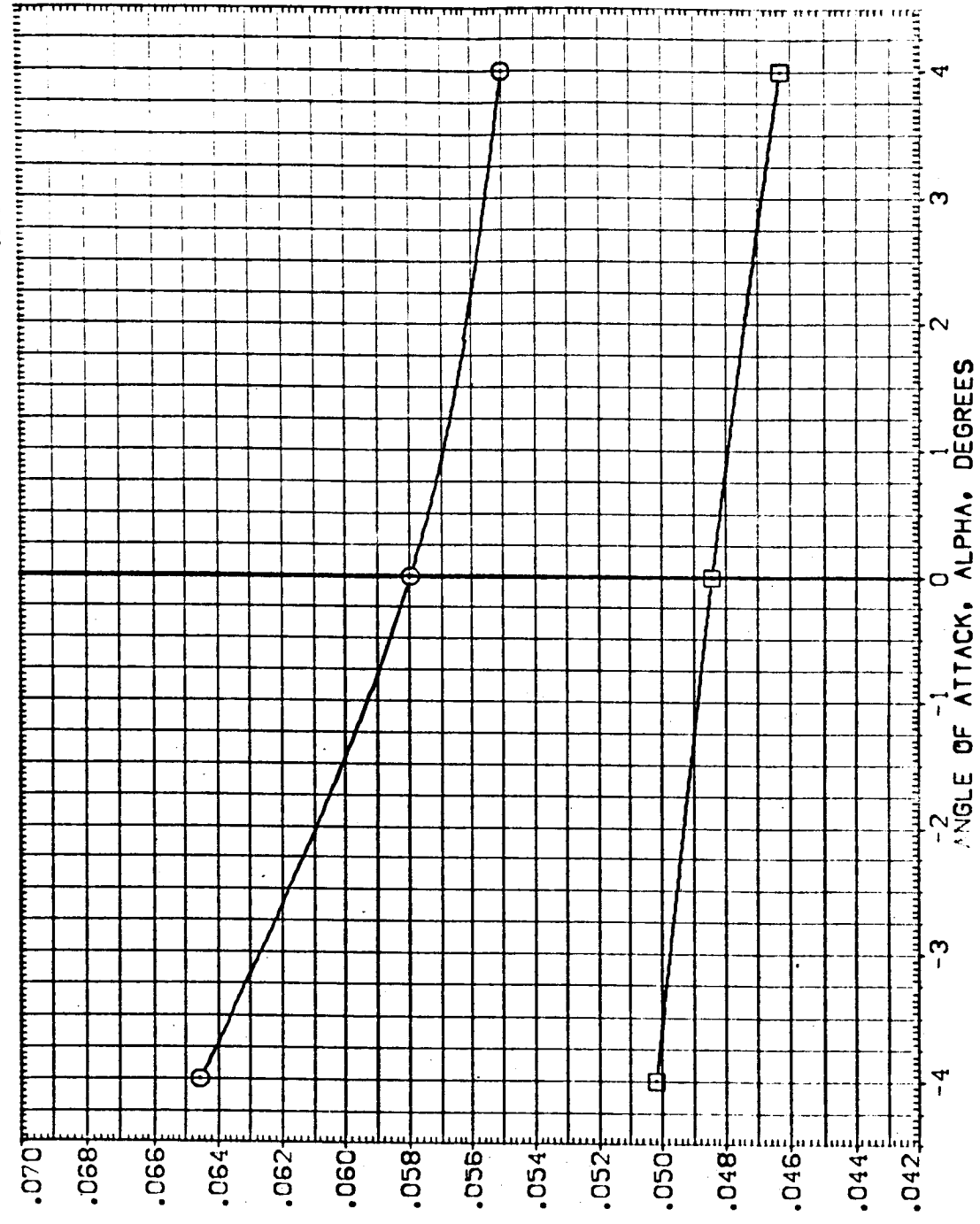
FIG. 53 EFFECT OF PLUMES - MACH=1.4 ELV-1B=8.0 ELV-0B=4.0 BETA=0.0

(A) BETA = .00

DATA SET SYMBOL: [BEUC52] [BEUC56]
 CONFIGURATION DESCRIPTION: ARC11-0141A19 OTS SRB-OFF MPS-OFF
 ARC11-0141A19 OTS SRB-NOM MPS-OFF

ELV-1B 8.000 8.000
 ELV-0B 4.000 4.000
 MACH 1.400 1.400
 GIMBAL 1.000 1.000

REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMPP 976.0000 IN.
 YMP 0.0000 IN.
 ZMP 400.0000 IN.
 SCALE 400.0000 IN.
 XT
 YT
 ZT



EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CAB1

FIG. 53 EFFECT OF PLUMES - MACH=1.4 ELV-1B=8.0 ELV-0B=4.0 BETA=0.0

(A)BETA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION

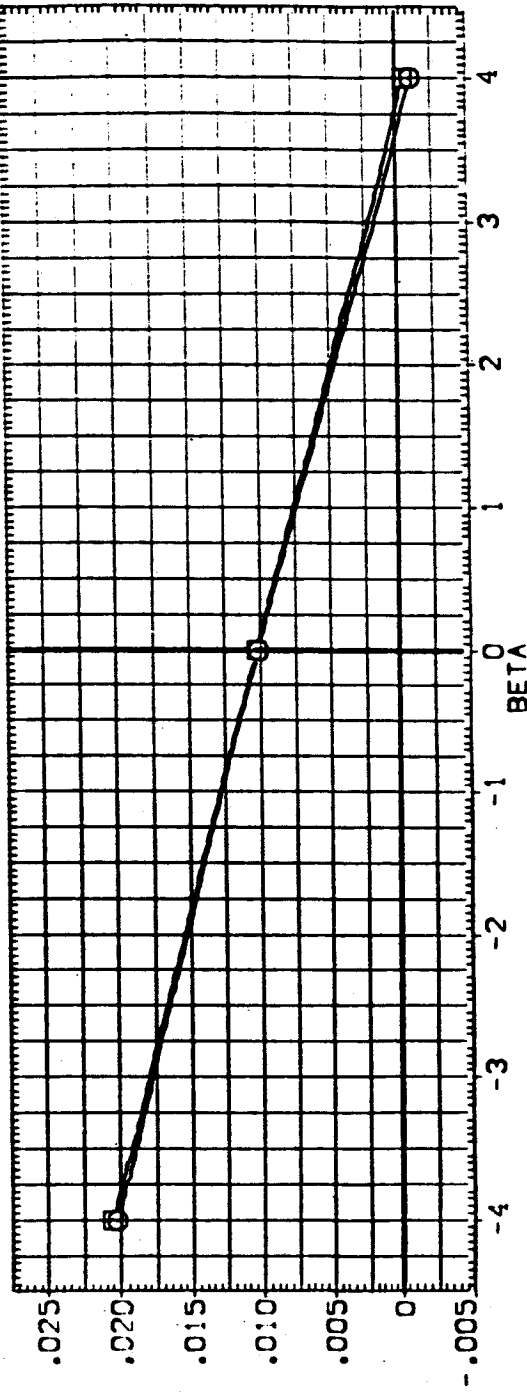
ARC11-0141A19 01S	SRB-OFF MPS-OFF
ARC11-0141A19 01S	SRB-NOM MPS-OFF

ELV-18 ELV-08 MACH GIMBAL

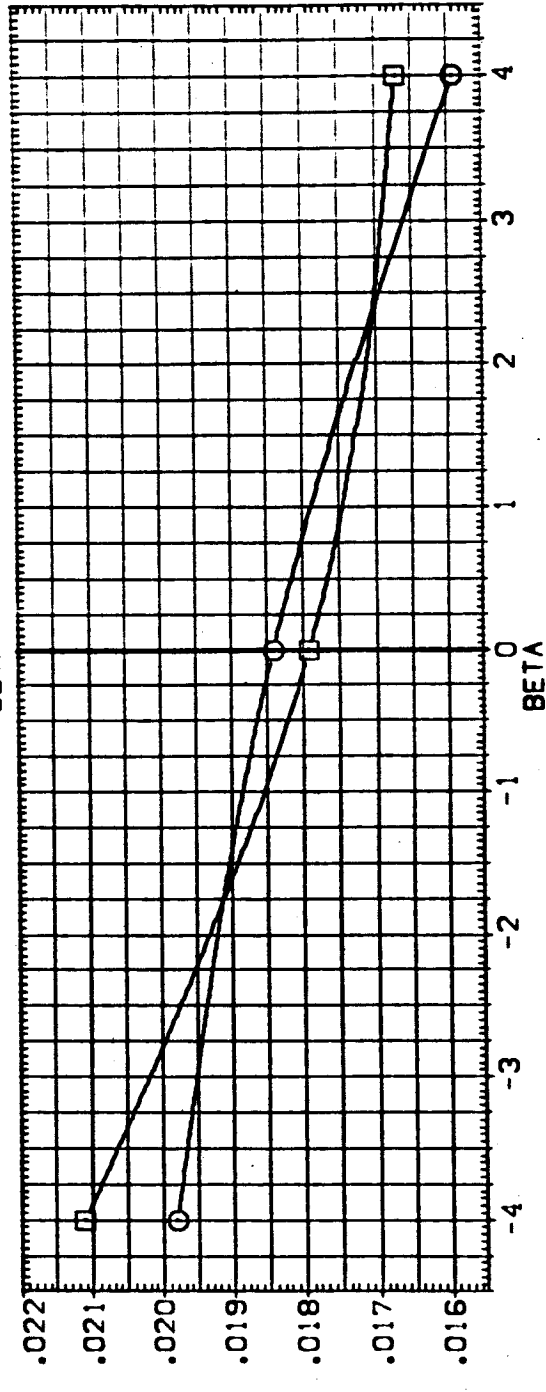
8.000	4.000	.900	1.000
8.000	4.000	.900	1.000

REFERENCE INFORMATION

SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	400.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0200	



CHEI

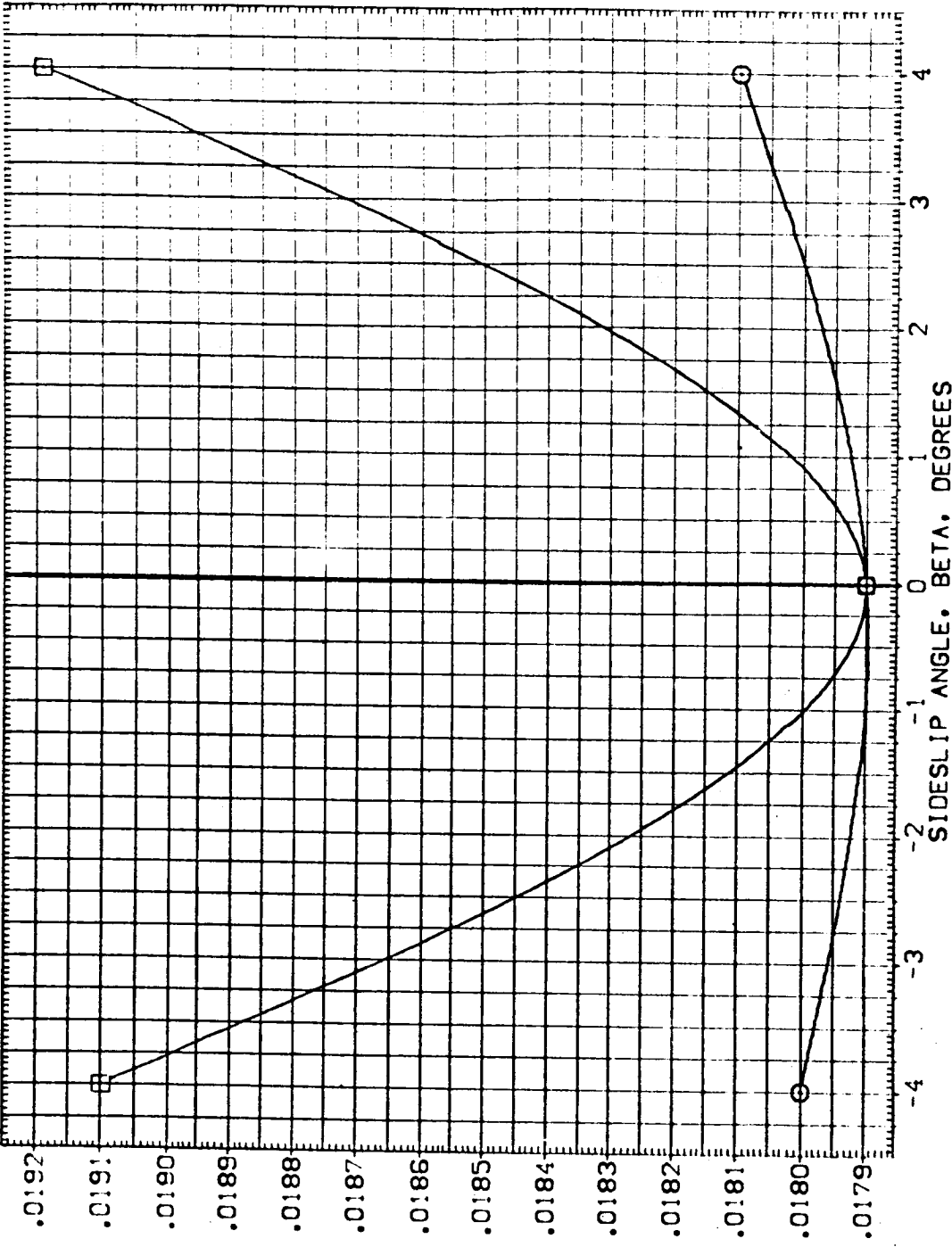


CHEQ

FIG. 54 EFFECT OF PLUMES - MACH=0.9 ELV-18=8.0 ELV-08=4.0 ALPHA=0.0
 (A) ALPHA = .00

DATA SET SYMBOL: CO-CONFIGURATION DESCRIPTION: REFERENCE INFORMATION

CE-049	ARC11-0141A19 OTS	SRB-OFF	MPS-OFF	ELV-IB	ELV-OB	MACH	GIMBAL	SREF	2690.0000	SQ.FT.
CE-053	ARC11-0141A19 OTS	SRB-NOM	MPS-OFF	8.000	4.000	.900	1.000	LREF	1730.3000	IN.
				8.000	4.000	.900	1.000	BREF	290.3000	IN.
								YMRP	576.0000	IN.
								ZMRP	400.0000	IN.
								SCALE	400.0000	IN.
									.0300	



ORBITER BASE AXIAL-FORCE COEFFICIENT, C_{AB0}

FIG. 54 EFFECT OF PLUMES - MACH=0.9 ELV-IB=8.0 ELV-OB=4.0 ALPHA=0.0
 CAJALPHA = .00



DATA SET SYMBOL: (CJL049) (CJL053)

CONFIGURATION DESCRIPTION: ARC11-0:1A19 OTS
ARC11-0:1A19 OTS

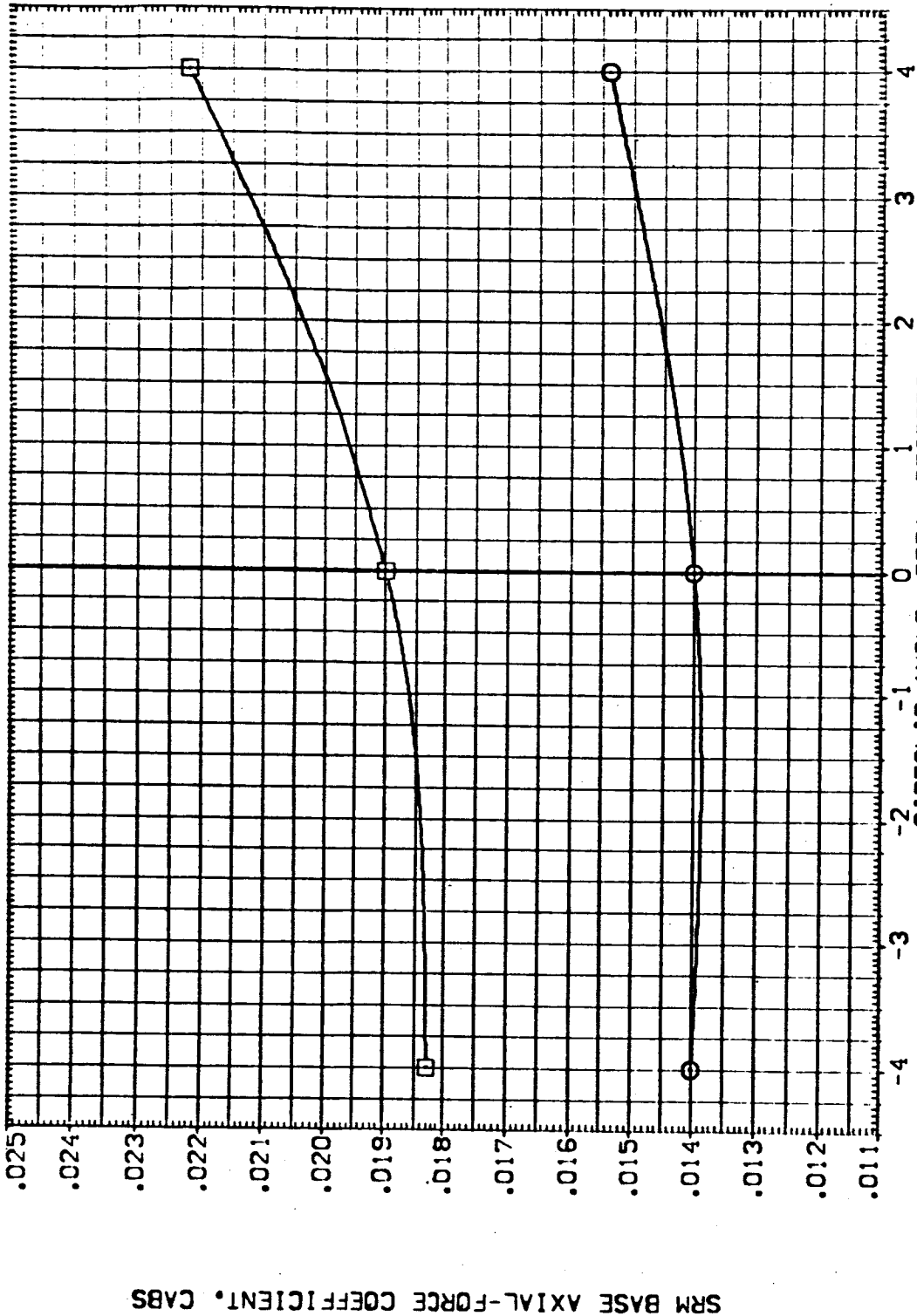
SRB-OFF MPS-OFF
SRB-NON MPS-OFF

ELV-IB 8.000 8.000
ELV-OB 4.000 4.000

MACH .900 .900

GIMBAL 1.000 1.000

REFERENCE INFORMATION: 50.FT.
SREF 2690.0000 IN.
LREF 1290.3000 IN.
BREF 1290.3000 IN.
XMRP 976.0000 IN. XT
YMRP .0000 IN. YT
ZMRP 400.0000 IN. ZT
SCALE .0200



SRM BASE AXIAL-FORCE COEFFICIENT, CABS

FIG. 54 EFFECT OF PLUMES - MACH=0.9 ELV-IB=8.0 ELV-OB=4.0 ALPHA=0.0

(AJALPHA = .00

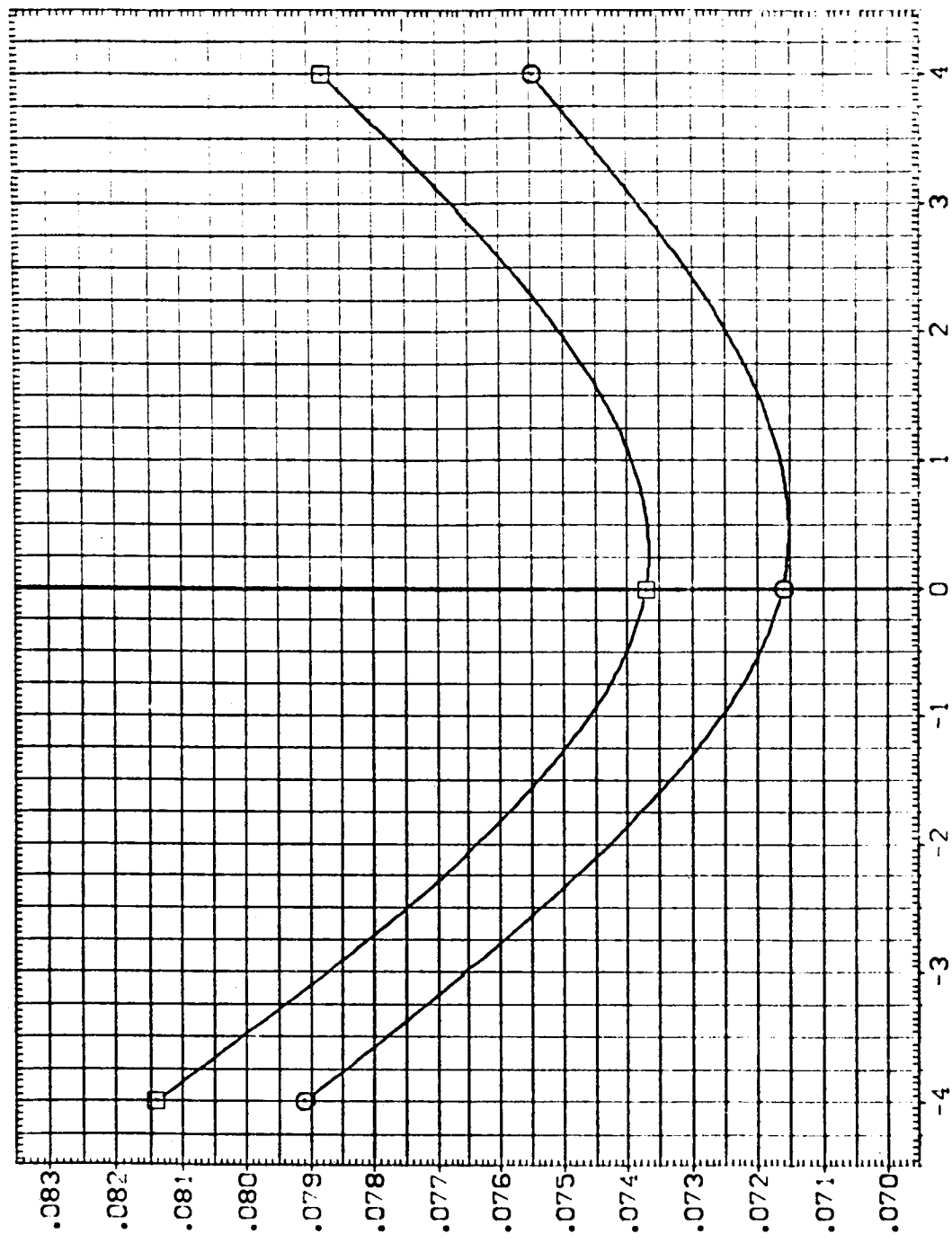
DATA SET SYMBOL: CONFIGURATION DESCRIPTION: REFERENCE INFORMATION

(S) (C) 19	ARC11-0141A19 QTS	SREF	2690.0000	SO.FT.
(S) (C) 53	ARC11-0141A19 QTS	LREF	1290.3000	IN.
		BREF	1290.3000	IN.
		XMREF	976.0000	IN. XT
		YMREF	.0000	IN. YT
		ZMREF	400.0000	IN. ZT
		SCALE	.0200	

ELV-IB ELV-OB MACH GIMBAL

8.000	4.000	.900	1.000
8.000	4.000	.900	1.000

SRS-OFF MPS-OFF SRS-NOM MPS-OFF



EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

FIG. 54 EFFECT OF PLUMES - MACH=0.9 ELV-IB=8.0 ELV-OB=4.0 ALPHA=0.0

(A) ALPHA = .00



DATA SET SYMBO. CONFIGURATION DESCRIPTION

ARC11-0141A19 OTS	SRB-OFF MPS-OFF	ELV-1B	ELV-0B	MACH	GIMBAL	REFERENCE INFORMATION
ARC11-0141A19 OTS	SRB-NOM MPS-OFF	8.000	4.000	1.100	1.000	SREF 2690.0000 50.FT.
						LREF 1290.3000 IN.
						BREF 1290.3000 IN.
						XMRP 576.0000 IN. XT
						YMRP .0000 IN. YT
						ZMRP 400.0000 IN. ZT
						SCALE .0200

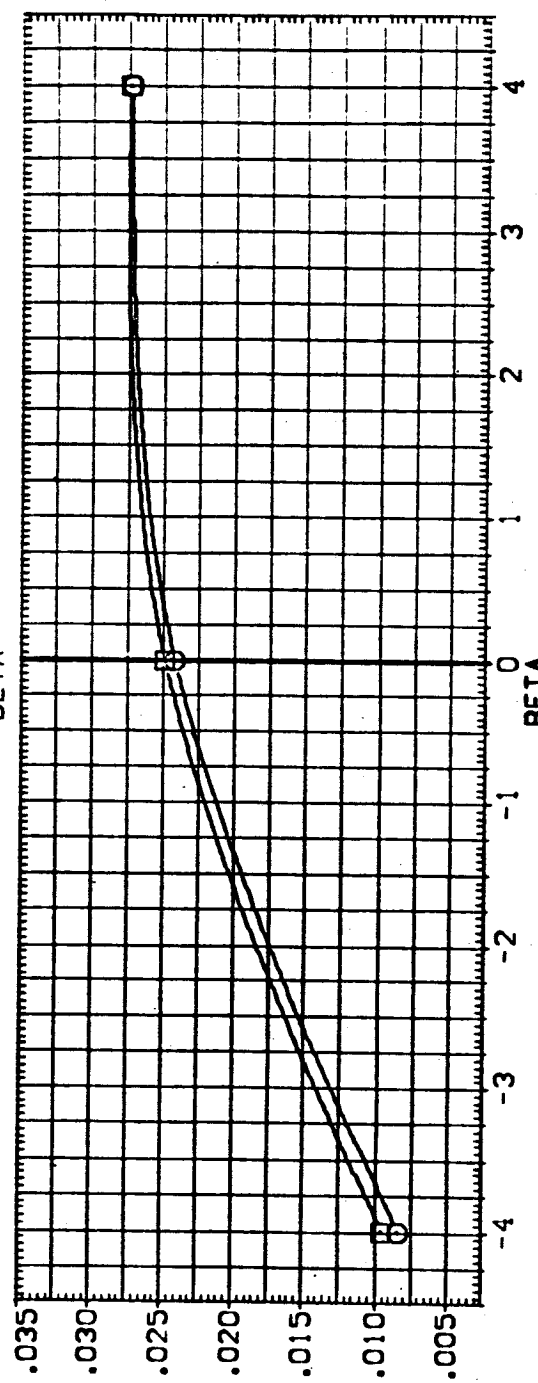
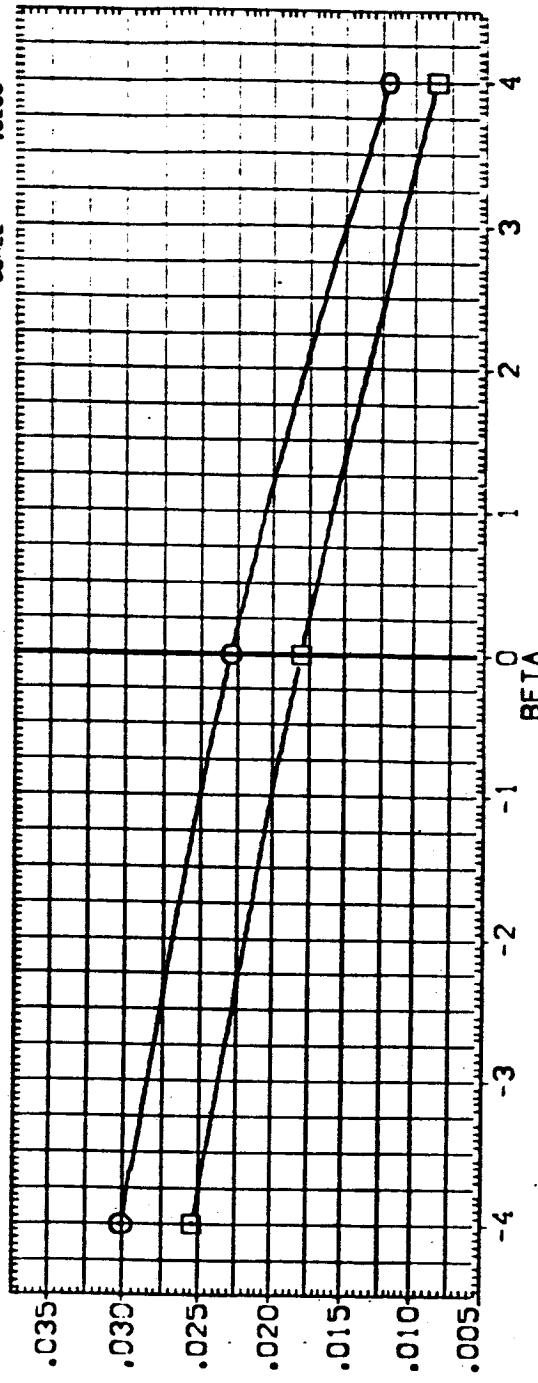


FIG. 55 EFFECT OF PLUMES - MACH=1.1 ELV-1B=8.0 ELV-0B=4.0 ALPHA=0.0
 (A) ALPHA = .00

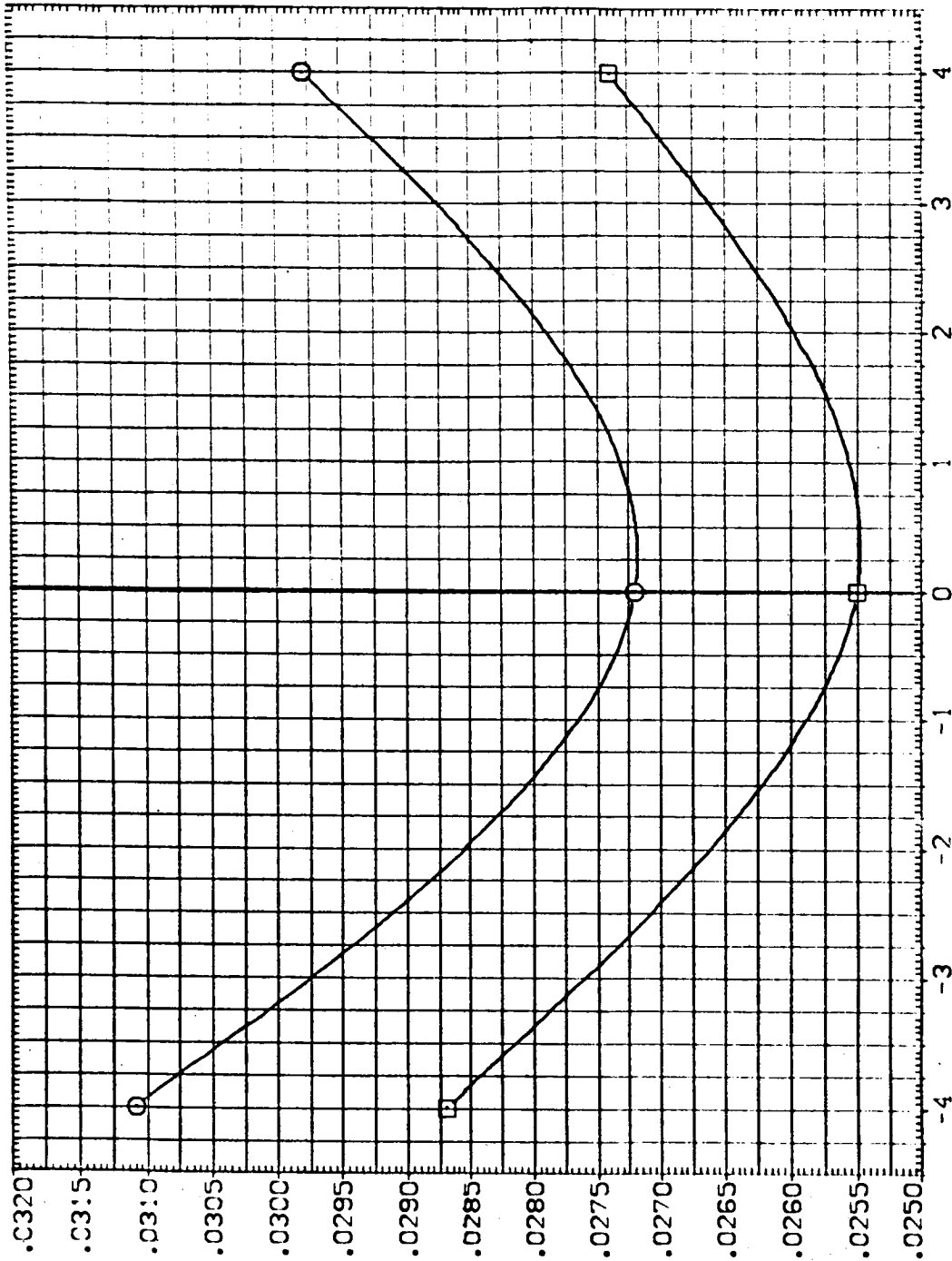
DATA SET SYMBOL: CONFIGURATION DESCRIPTION

(CEUCSO) ○ ARC11-0141A19 QTS S98-0FF MPS-0FF
 (CEUCSA) ARC11-0141A19 QTS S98-NOM MPS-0FF

ELV-IB 8.000 8.000
 ELV-OB 4.000 4.000
 MACH 1:100 1:100
 GIMBAL 1.000 1.000

REFERENCE INFORMATION

SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN. XT
 YMRP .0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0200



ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

FIG. 55 EFFECT OF PLUMES - MACH 1.1 ELV-IB=8.0 ELV-OB=4.0 ALPHA=0.0

CAJALPHA = .00

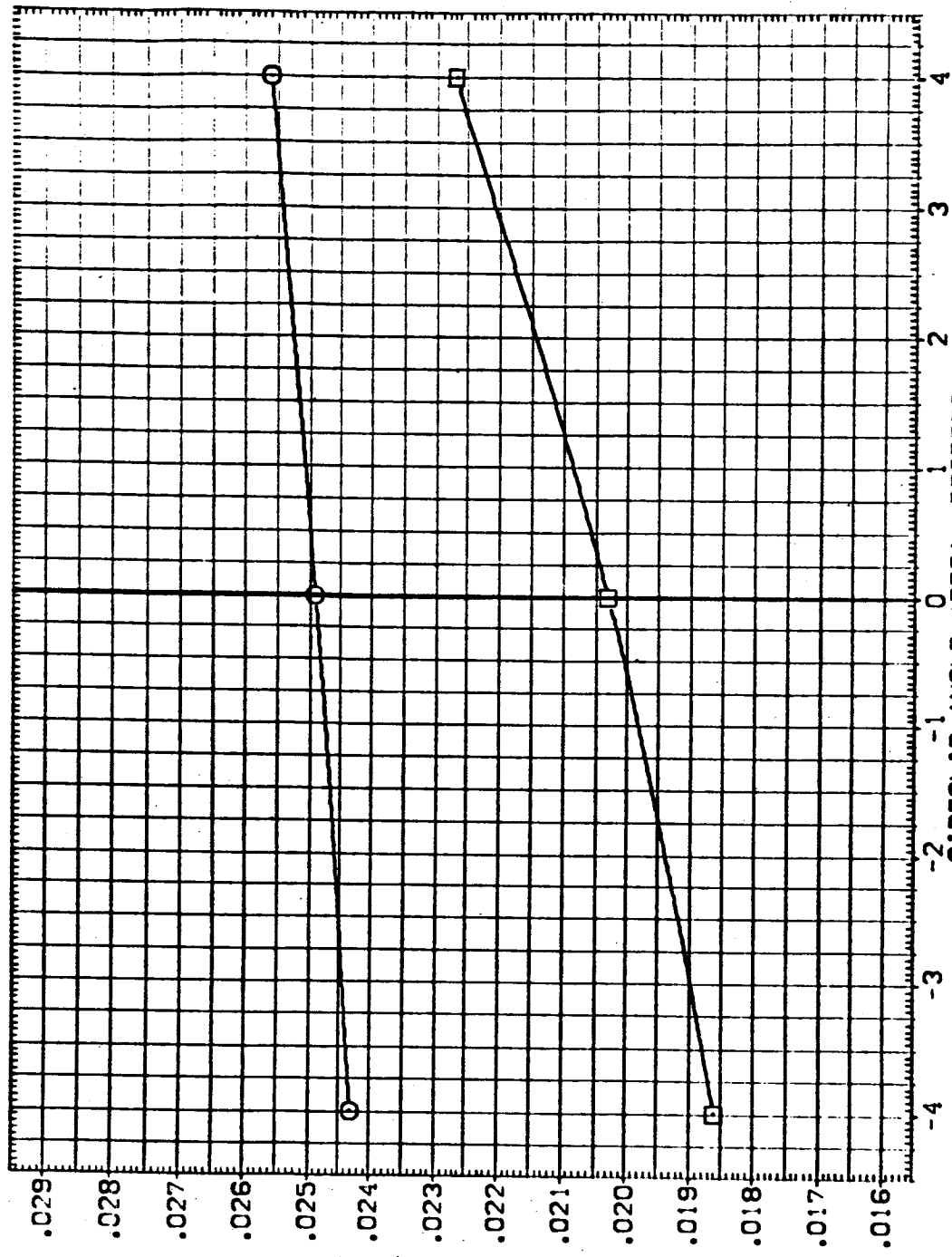
DATA SET SYMBOL CONFIGURATION DESCRIPTION

(CELOS9) O ARC11-0141A19 01S SRB-OFF MPS-OFF
 (CELOS9) O ARC11-0141A19 01S SRB-NOM MPS-OFF

ELV-18 8.000 8.000 ELV-08 4.000 4.000 MACH 1.100 1.100 GIMBAL 1.000 1.000

REFERENCE INFORMATION

SREF 2690.0000 50.FT.
 LREF 1290.3000 IN.
 BRREF 1290.3000 IN.
 XMRP 976.0000 IN. XT
 YMRP 0.0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0200



SRM BASE AXIAL-FORCE COEFFICIENT, CABS

SIDESLIP ANGLE, BETA, DEGREES

FIG. 55 EFFECT OF PLUMES - MACH=1.1 ELV-18=8.0 ELV-08=4.0 ALPHA=0.0

(ALPHA) = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

{CEUCSO} ○ ARC11-0141A19 01S SRB-OFF MPS-OFF

{CEUCS4} ARC11-0141A19 01S SRB-NOM MPS-OFF

ELV-18 ELV-09 MACH GIMBAL

8.000 4.000 1.100 1.000

8.000 4.000 1.100 1.000

REFERENCE INFORMATION

SREF 2690.0000 SQ.FT.

LREF 1290.3000 IN.

BREF 1290.3000 IN.

XMRP 976.0000 IN. XT

YMRP .0000 IN. YT

ZMRP 400.0000 IN. ZT

SCALE .0200

EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

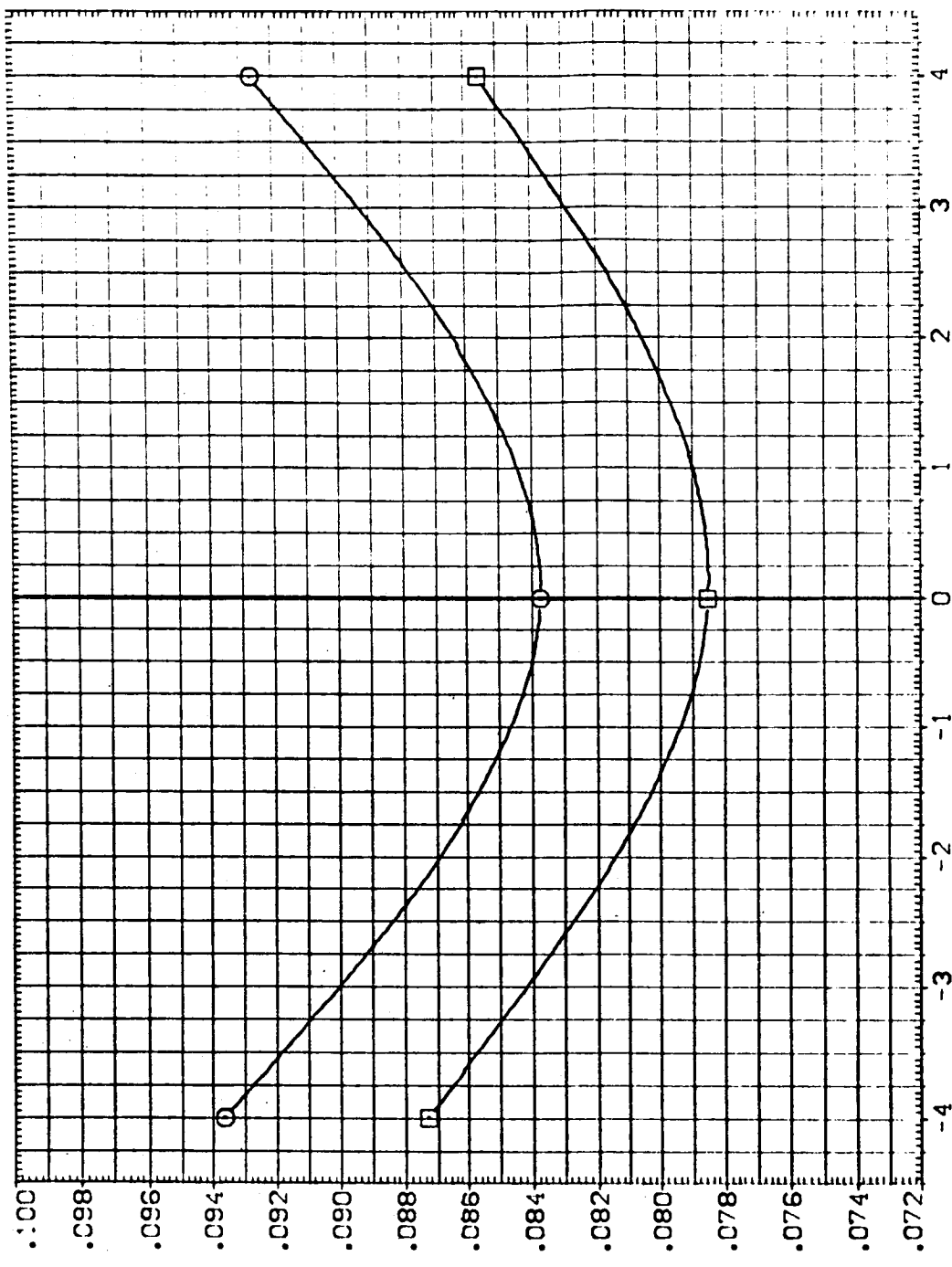


FIG. 55 EFFECT OF PLUMES - MACH=1.1 ELV-18=8.0 ELV-09=4.0 ALPHA=0.0
 (A)ALPHA = .00



DATA SET SYMBOL:
 (SEUCS1)
 (SEUCS2)

CONFIGURATION DESCRIPTION:
 ARC11-0141A19 OTS
 ARC11-0141A19 OTS

SFB-OFF MPS-OFF
 SFS-NOM MPS-OFF

ELV-1B 8.000
 ELV-0B 4.000

MACH 1.250
 1.250

GIMBAL 1.000
 1.000

REFERENCE INFORMATION:
 SREF 2690.0000 50.FT.
 LREF 1290.0000 IN.
 BREF 1290.0000 IN.
 XMRP 576.0000 IN. XT
 YMRP 400.0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0200

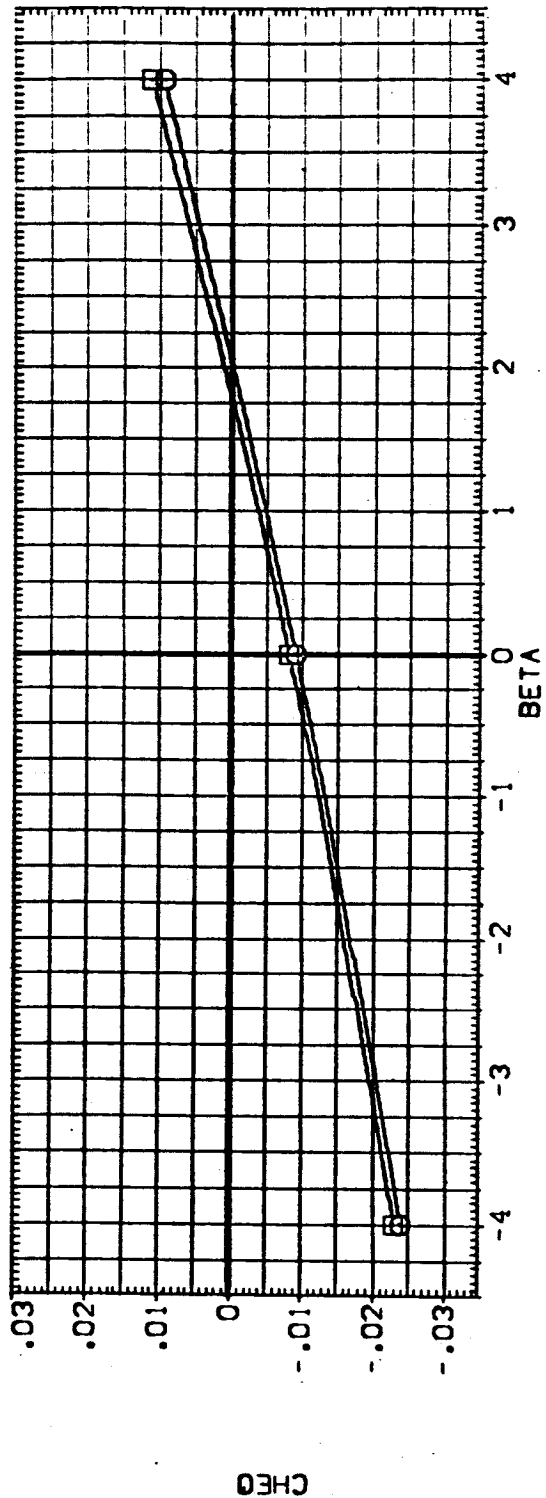
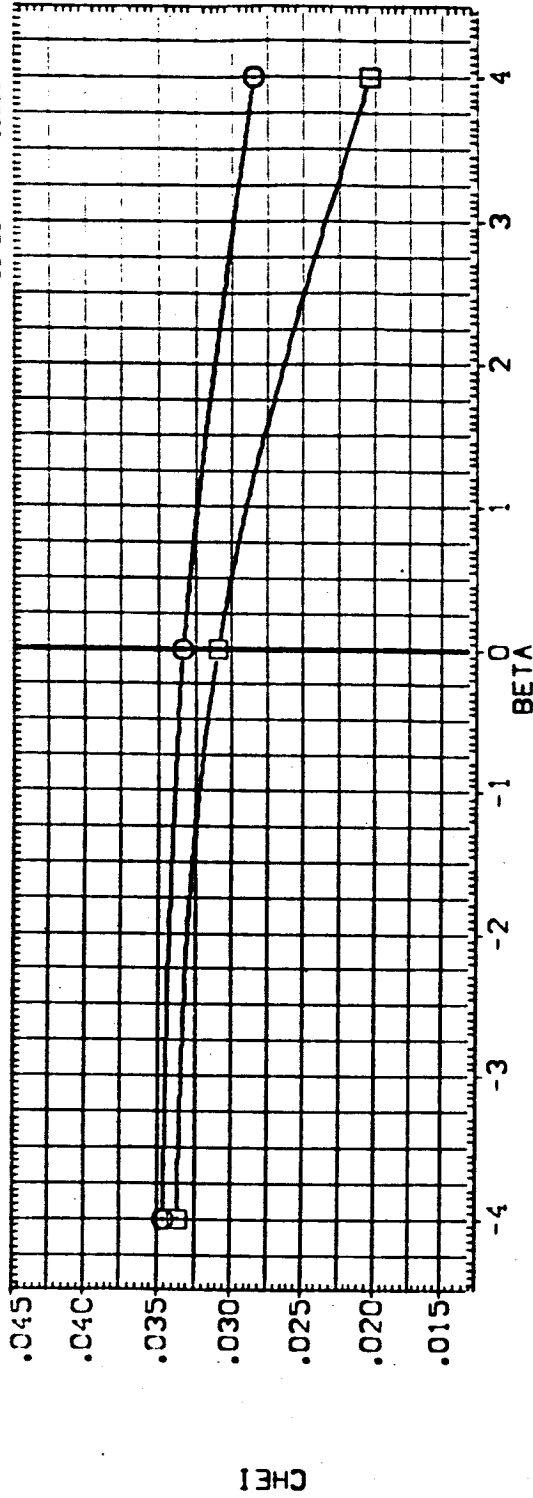


FIG. 56 EFFECT OF PLUMES - MACH=1.25 ELV-1B=8.0 ELV-0B=4.0 ALPHA=0.0
 CAJALPHA = .00

DATA SET SYMBOL: CONFIGURATION DESCRIPTION: REFERENCE INFORMATION

ELV-1B ELV-0B MACH GIMBAL

S98-0FF MPS-0FF S98-NOM MPS-0FF

SREF 2690.0000 50. FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN. XT
 YMRP .0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0200

ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

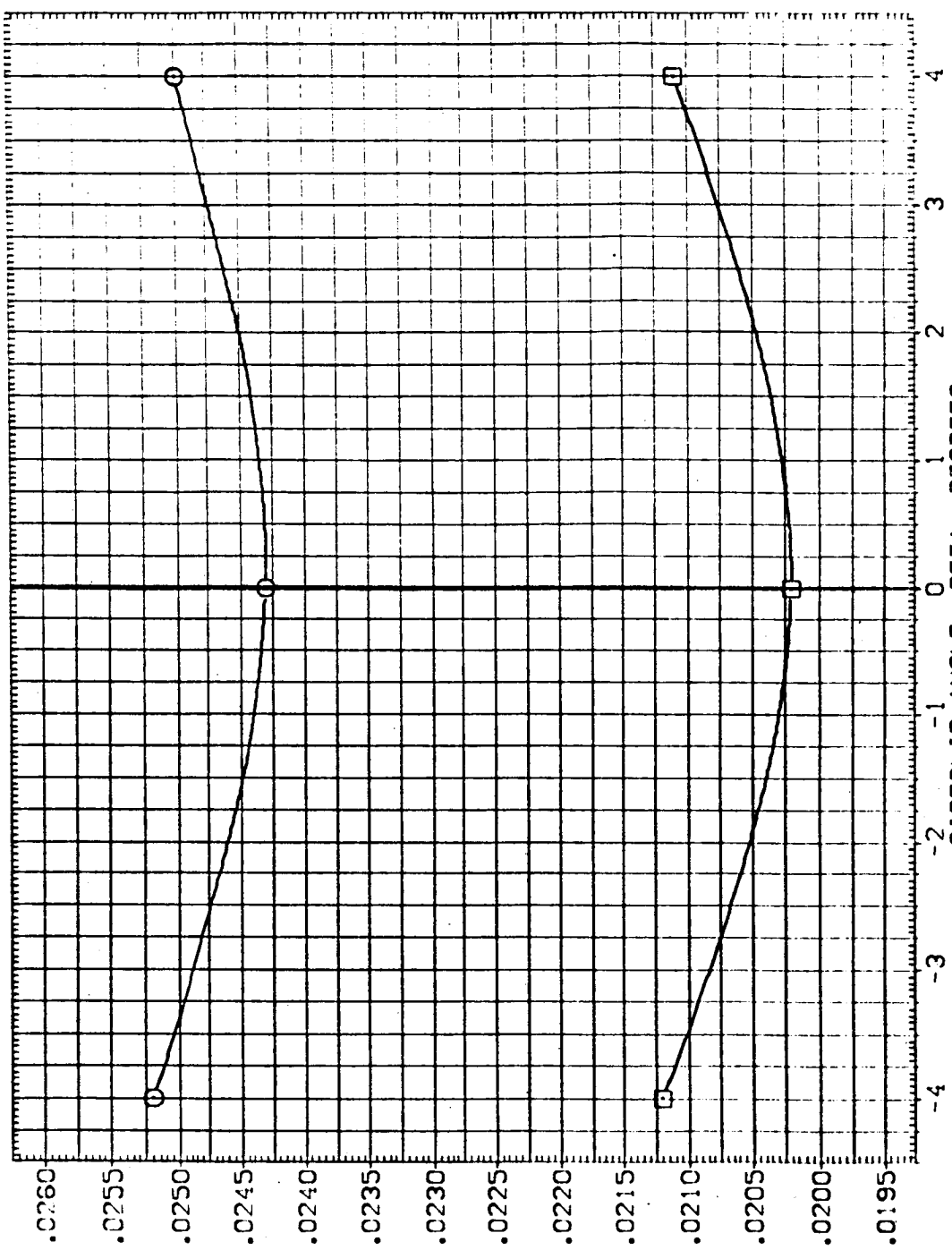


FIG. 56 EFFECT OF PLOUMES - MACH=1.25 ELV-1B=8.0 ELV-0B=4.0 ALPHA=0.0

(AJ)ALPHA = .00



DATA SET SYMBOL: (SEUCS1) (SEUCSS)

CONFIGURATION DESCRIPTION: ARC11-0:41A19 OTS SRB-OFF MPS-OFF SRB-NOM MPS-OFF

ELV-19: 8.000 ELV-08: 4.000 MACH: 1.250 GIMBAL: 1.000

REFERENCE INFORMATION: SREF: 2690.0000 SQ.FT. LREF: 1290.3000 IN. BRFF: 1290.3000 IN. XT: 576.0000 IN. YT: 400.0000 IN. ZT: 400.0000 IN. SCALE: .0200

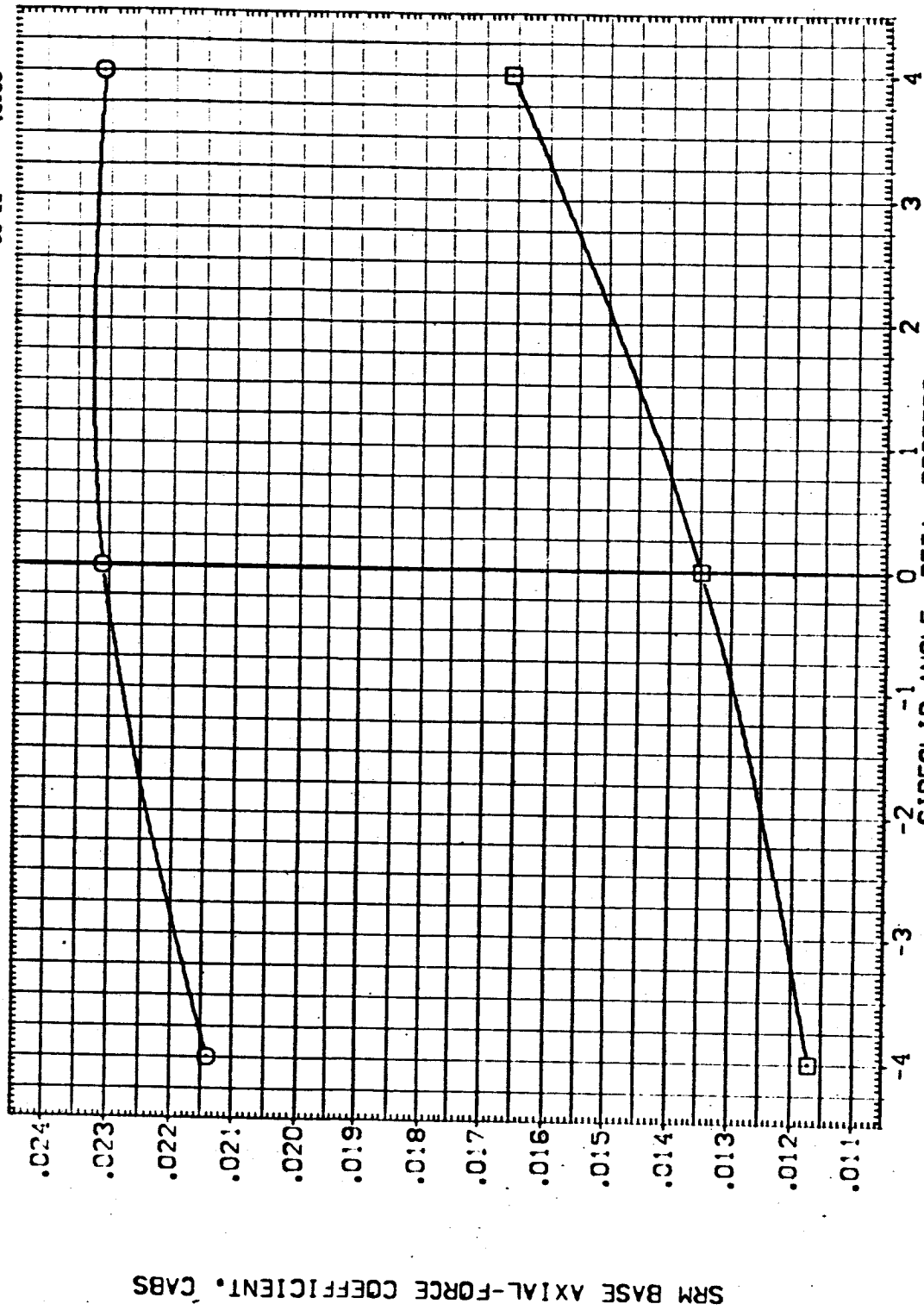


FIG. 56 EFFECT OF PLUMES - MACH=1.25 ELV-18=8.0 ELV-08=4.0 ALPHA=0.0

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (CEJCS) ○ ARC11-0141A19 OTS SRB-OFF MPS-OFF
 (CEJCS) ARC11-0141A19 OTS SRB-NOM MPS-OFF

ELV-18 ELV-08 MACH GIMBAL
 8.000 4.000 1.250 1.000
 8.000 4.000 1.250 1.000

REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 1790.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN. XI
 YMRP 400.0000 IN. YI
 ZMRP 400.0000 IN. ZI
 SCALE 400.0000

EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CAB1

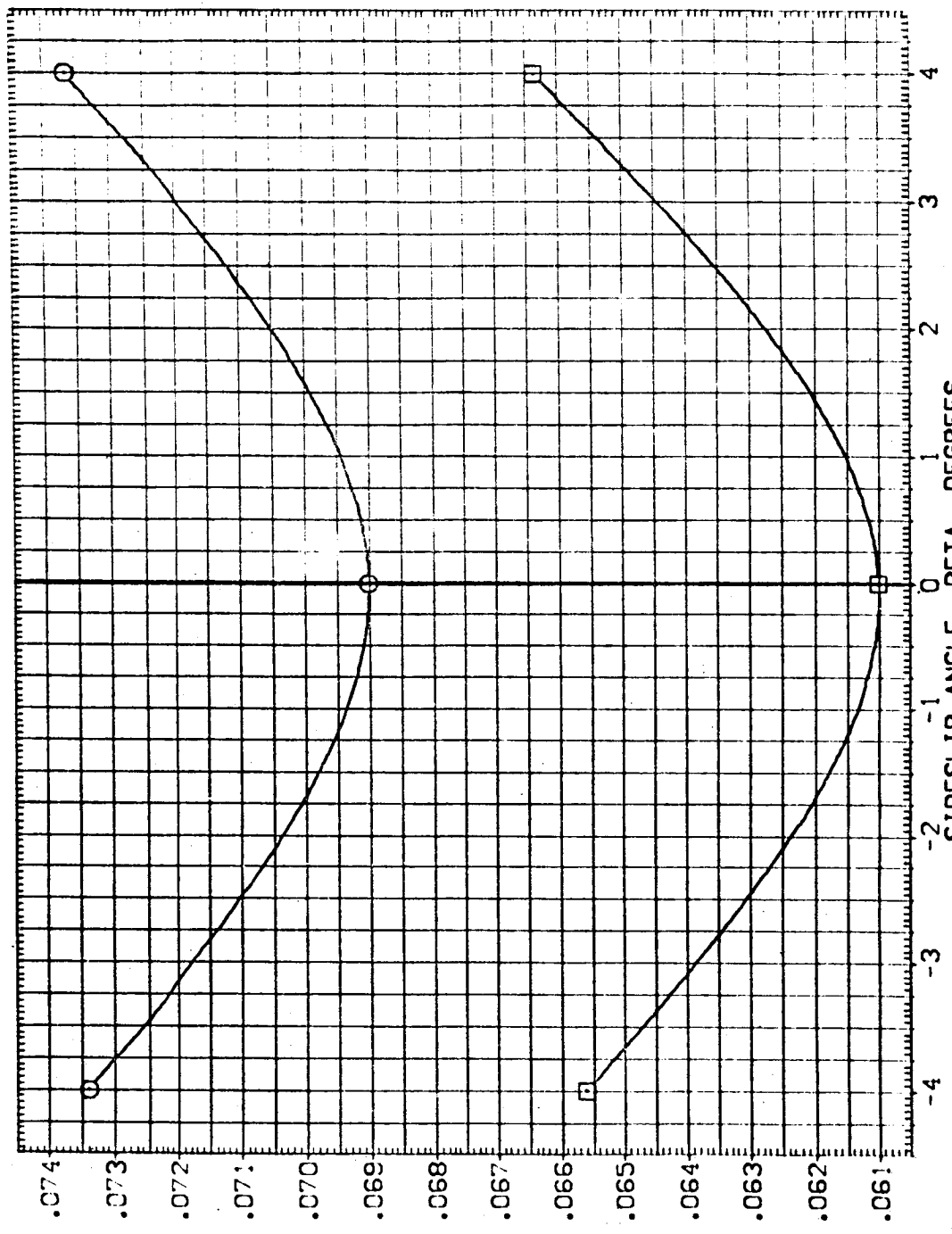


FIG. 56 EFFECT OF PLUMES - MACH=1.25 ELV-18=8.0 ELV-08=4.0 ALPHA=0.0

CALPHA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (SEJCS2) ○ ARC11-0141A19 01S S79-0FF MPS-0FF
 (SEJCS6) ○ ARC11-0141A19 01S S73-NOM MPS-0FF

ELV-1B 8.000
 ELV-0B 4.000
 MACH 1.400
 GIMBAL 1.000

REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN. XT
 YMRP .0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0200

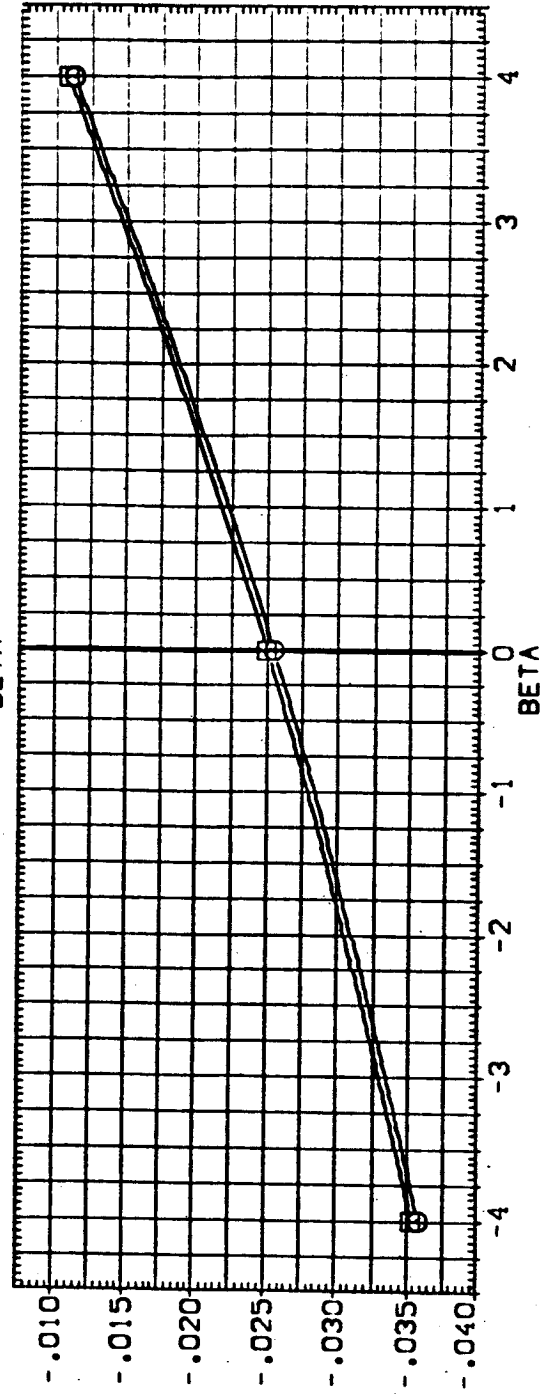
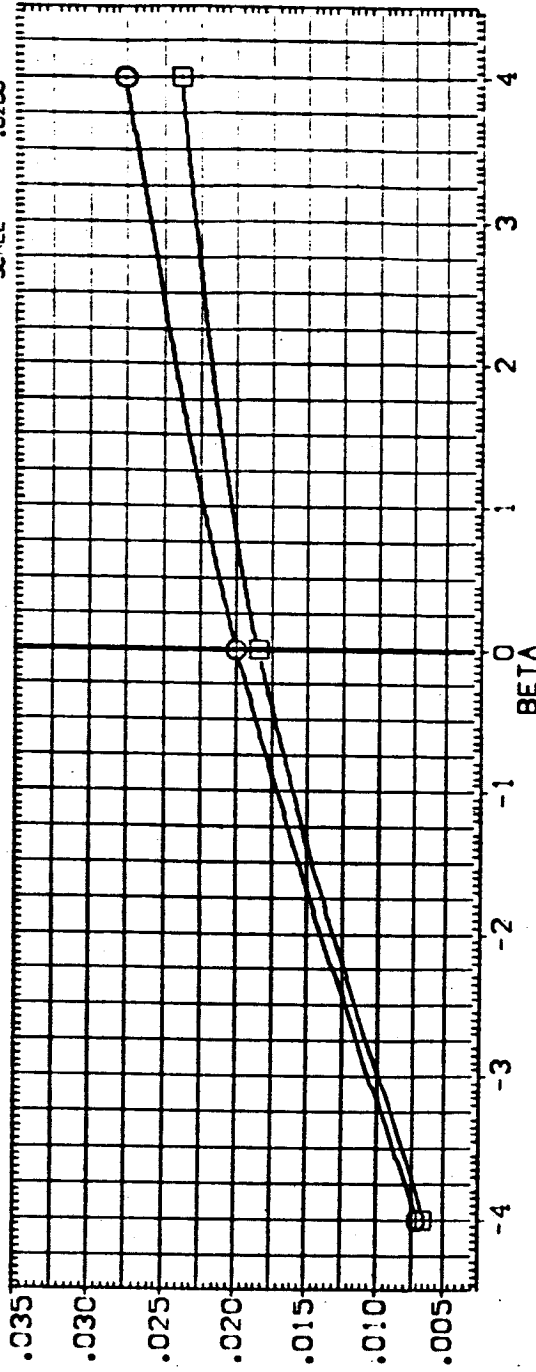


FIG. 57 EFFECT OF PLUMES - MACH=1.4 ELV-1B=8.0 ELV-0B=4.0 ALPHA=0.0

(ALPHA) = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

{CELOS2} O ARC11-0141A19 DTS SR3-OFF MPS-OFF
 {CELOS6} L ARC11-0141A19 DTS SR3-NOM MPS-OFF

ELV-1B ELV-0B MACH GIMBAL

8.000 4.000 1.400 1.000
 8.000 4.000 1.400 1.000

REFERENCE INFORMATION

SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN. XI
 XMRP 976.0000 IN. YI
 YMRP .0000 IN. ZI
 ZMRP 400.0000 IN. ZI
 SCALE .0300

ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

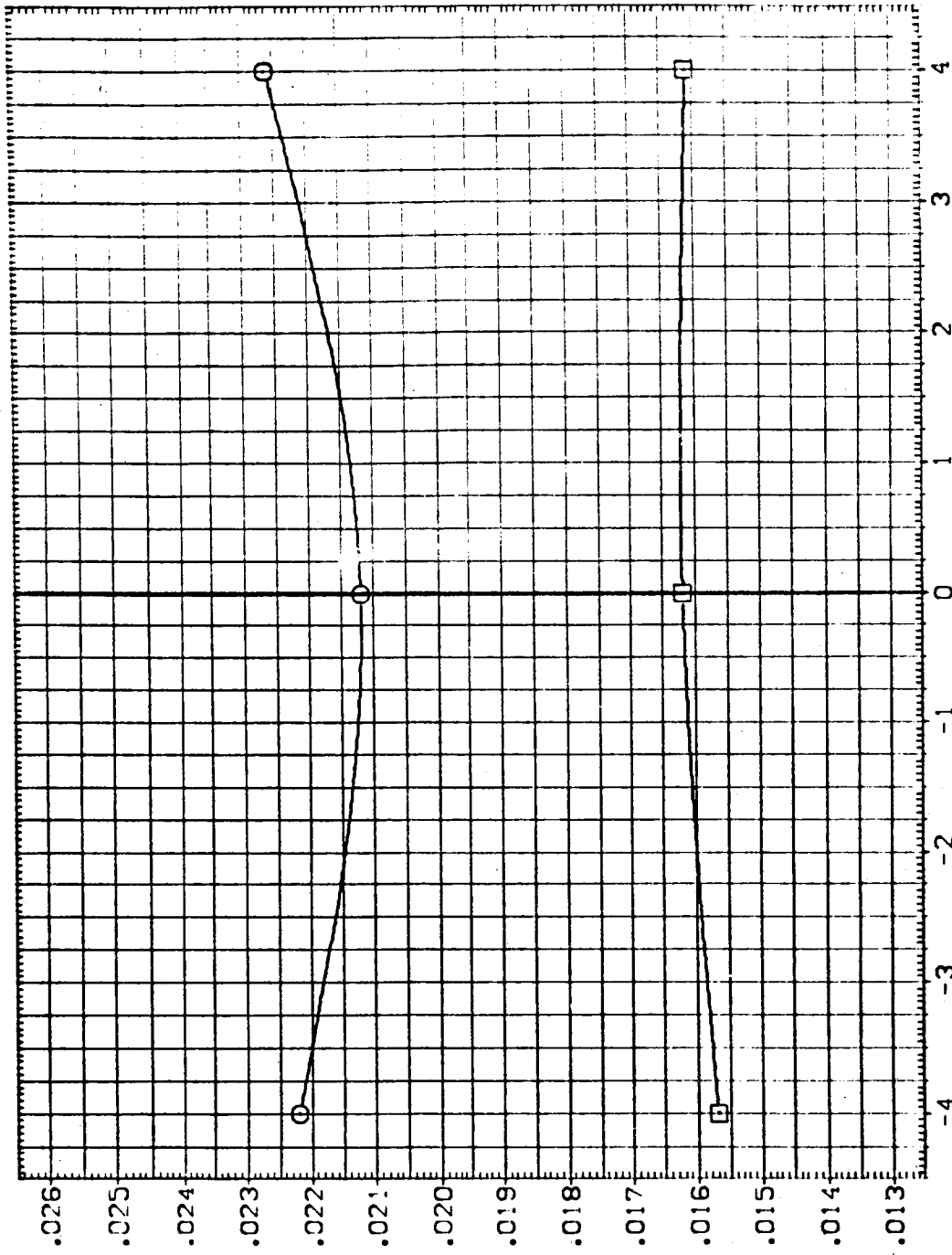


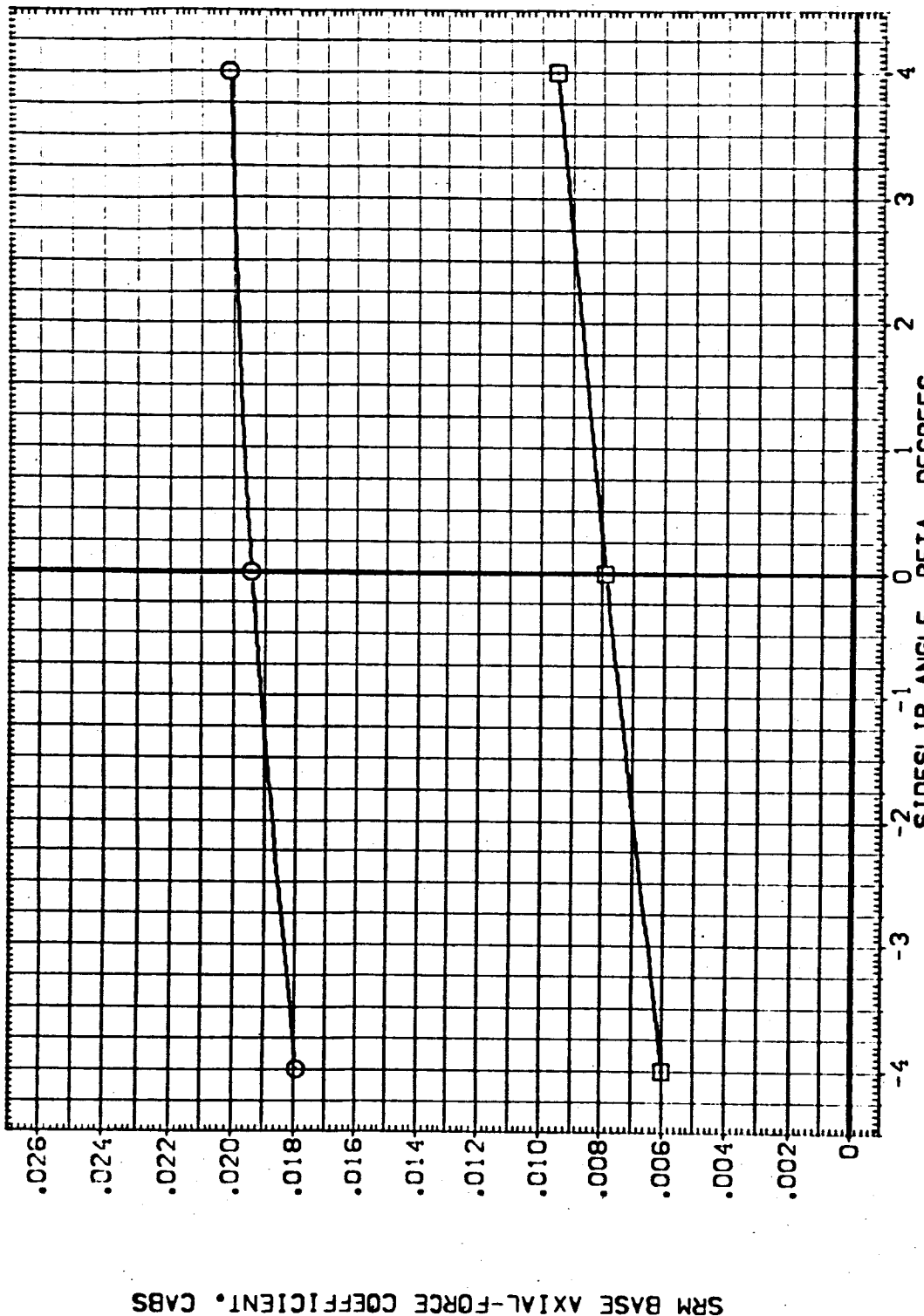
FIG. 57 EFFECT OF PLUMES - MACH=1.4 ELV-1B=8.0 ELV-0B=4.0 ALPHA=0.0

(A) ALPHA = .00



DATA SET SYMBOL: CONFIGURATION DESCRIPTION: REFERENCE INFORMATION

SRB-OF	MPS-OF	SRB-NOM	MPS-OF	ELV-IB	ELV-OB	MACH	GIMBAL	SREF	2690.0000	SG.FT.
ARC11-0141A19	015	ARC11-0141A19	015	8.000	4.000	1.400	1.000	LREF	1290.3000	IN.
ARC11-0141A19	015			8.000	4.000			BREF	1290.3000	IN.
								XMRP	576.0000	IN.
								YMRP	.0000	IN.
								ZMRP	400.0000	IN.
								SCALE	.0200	



SRM BASE AXIAL-FORCE COEFFICIENT, CABS

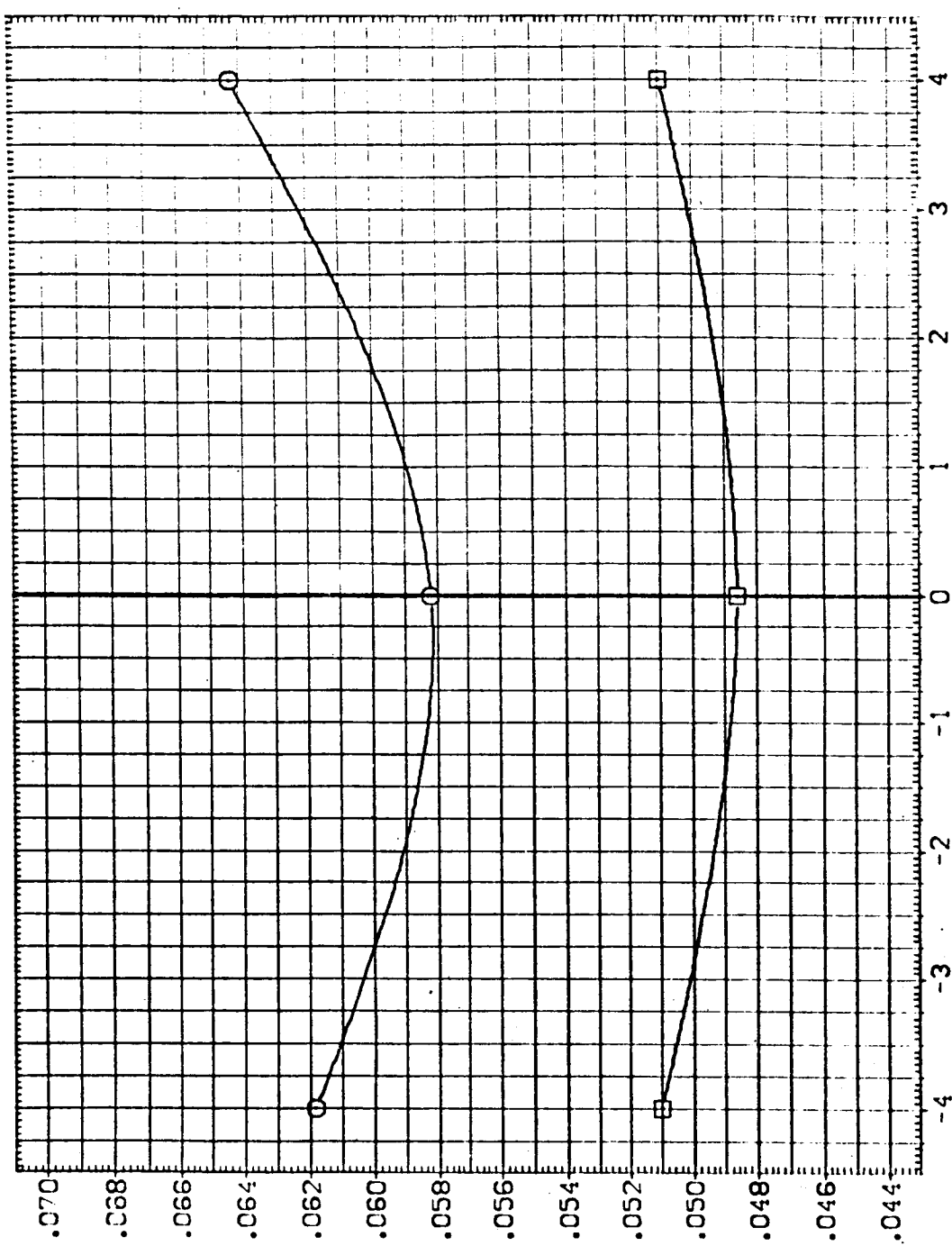
FIG. 57 EFFECT OF PLUMES - MACH=1.4 ELV-IB=8.0 ELV-OB=4.0 ALPHA=0.0

(A)ALPHA = .00

DATA SET SYMBOL: [05052] [05055]
 CONFIGURATION DESCRIPTION: ARC11-0141A19 OTS
 SRB-OFF MPS-OFF: SRB-NOM MPS-OFF

ELV-1B: 8.000 8.000
 ELV-0B: 4.000 4.000
 MACH: 1.400 1.400
 GIMBAL: 1.000 1.000

REFERENCE INFORMATION:
 SREF: 2890.0000
 LREF: 1290.3000
 BREF: 1290.3000
 XMRP: 976.0000
 YMRP: 400.0000
 ZMRP: 400.0000
 SCALE: .0200



EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

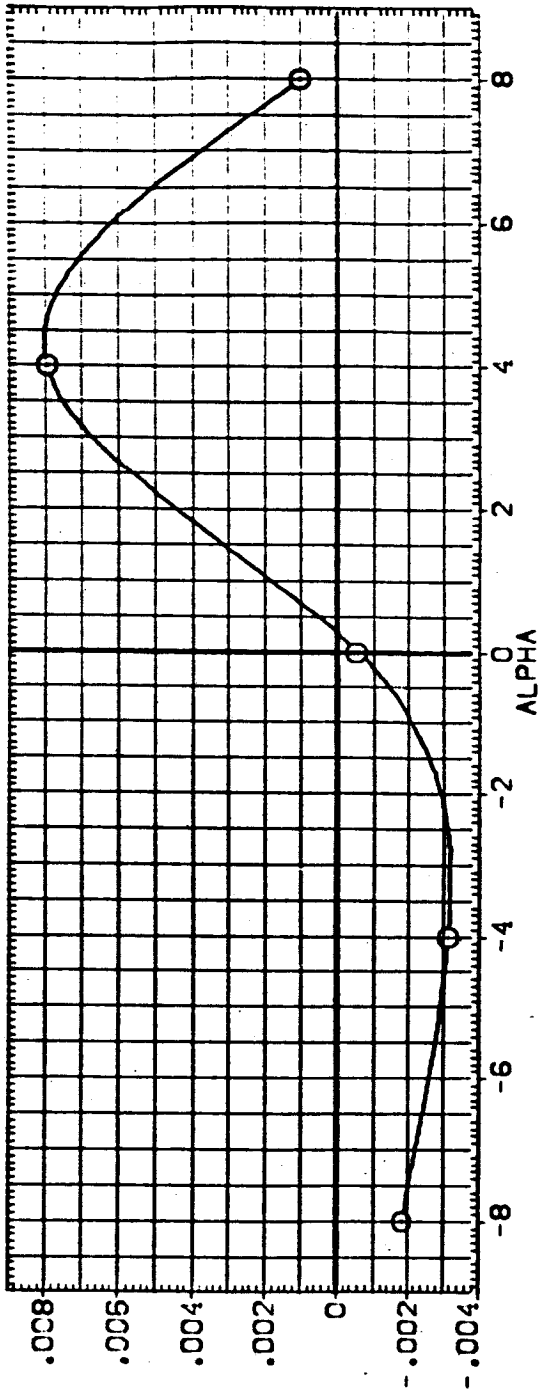
FIG. 57 EFFECT OF PLUMES - MACH=1.4 ELV-1B=8.0 ELV-0B=4.0 ALPHA=0.0
 CAJALPHA = .00



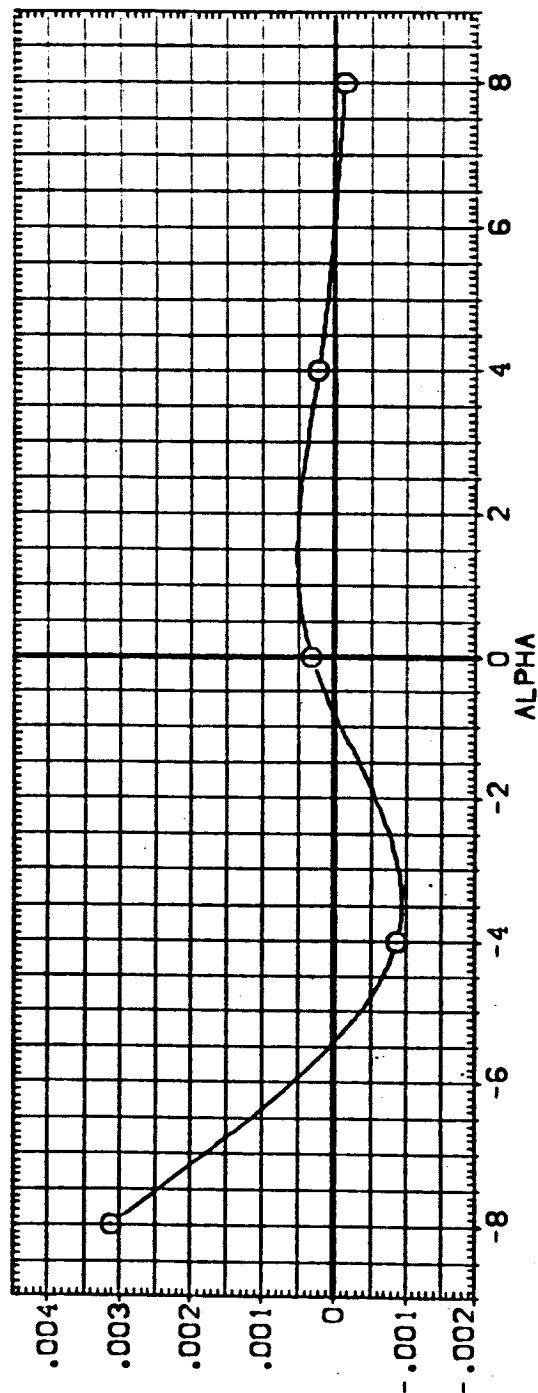
DATA SET SYMB. CONFIGURATION DESCRIPTION
 (EEL-013) ○ ARC11-0141A19 015 S49-N04 MPS-0FF

ELV-1B ELV-08 MACH GIMBAL
 .000 .000 .900 1.000

REFERENCE INFORMATION
 SREF 2690.0000 50.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN. XT
 YMRP 400.0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0200



DCHFI



DCHFO

FIG. 58 INCREMENTAL EFFECT OF PLUMES - MACH=0.9 ELV-1B=0.0 ELV-08=0.0 BETA=0.0
 CABETA = .00

DATA SET SYMBOL: CONFIGURATION DESCRIPTION
 (EEL044) O ARC11-0141A19 OTS SFS-NOM MPS-OFF

ELV-1B ELV-08 MACH GIMBAL
 .000 .000 1.100 1.000

REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN.
 YMRP 0.0000 IN.
 ZMRP 400.0000 IN.
 SCALE 0.200

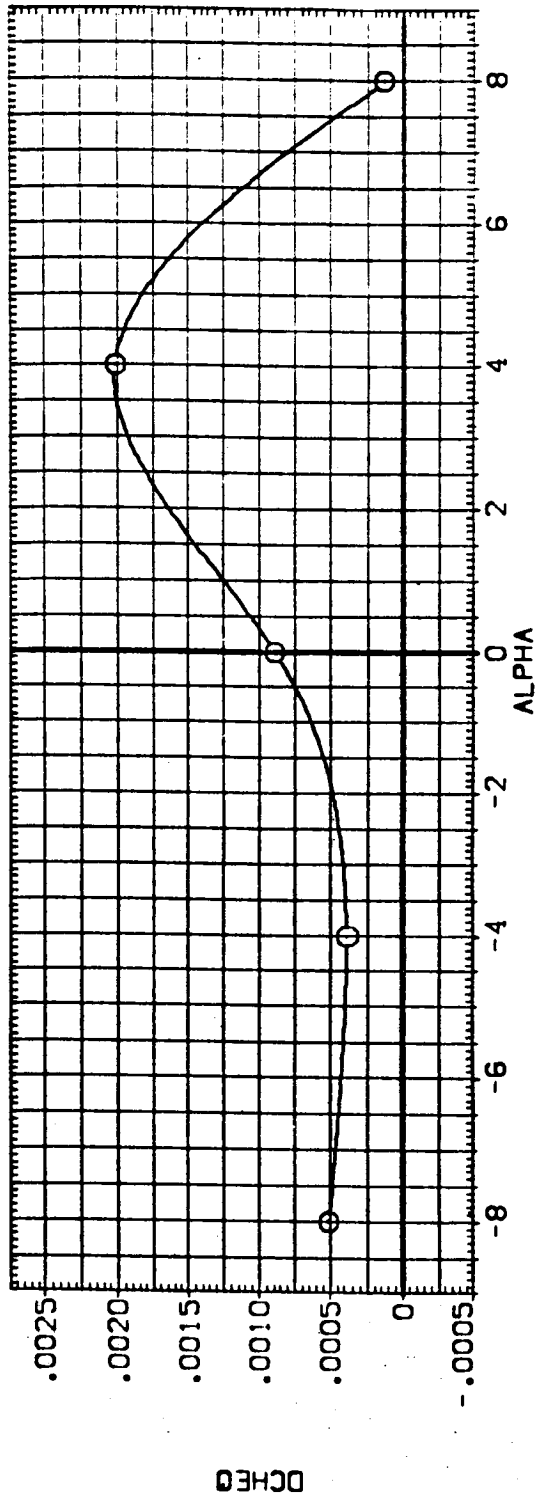
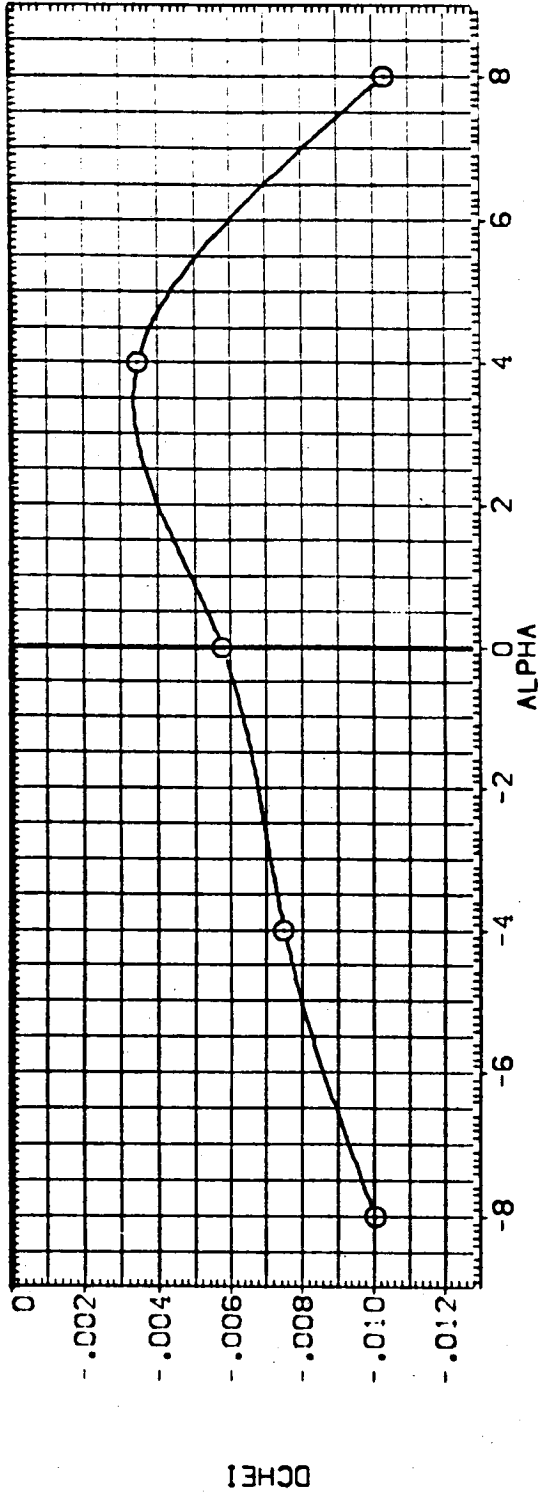


FIG. 59 INCREMENTAL EFFECT OF PLUMES - MACH=1.1 ELV-1B=0.0 ELV-08=0.0 BETA=0.0
 CABETA = .00 PAGE 164



DATA SET SYMBOL: (FEUC45) ○ CONFIGURATION DESCRIPTION: ARC11-0141A19 01S SRB-NOM MPS-OFF

ELV-1B: .000 ELV-08: .000 MACH: 1.250 GIMBAL: 1.000

REFERENCE INFORMATION:
 SREF: 2690.0000 SQ.FT.
 LREF: 1290.3000 IN.
 BREF: 1290.3000 IN.
 XMRP: 576.0000 IN.
 YMRP: .0000 IN.
 ZMRP: 400.0000 IN.
 SCALE: .0200

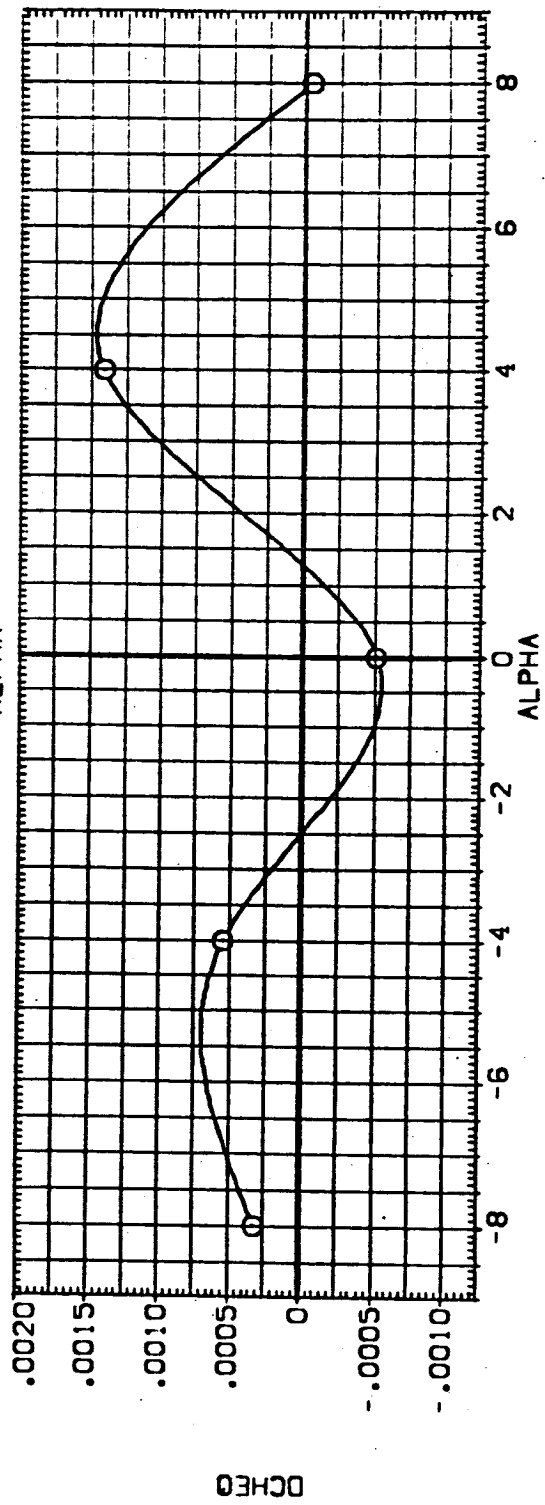
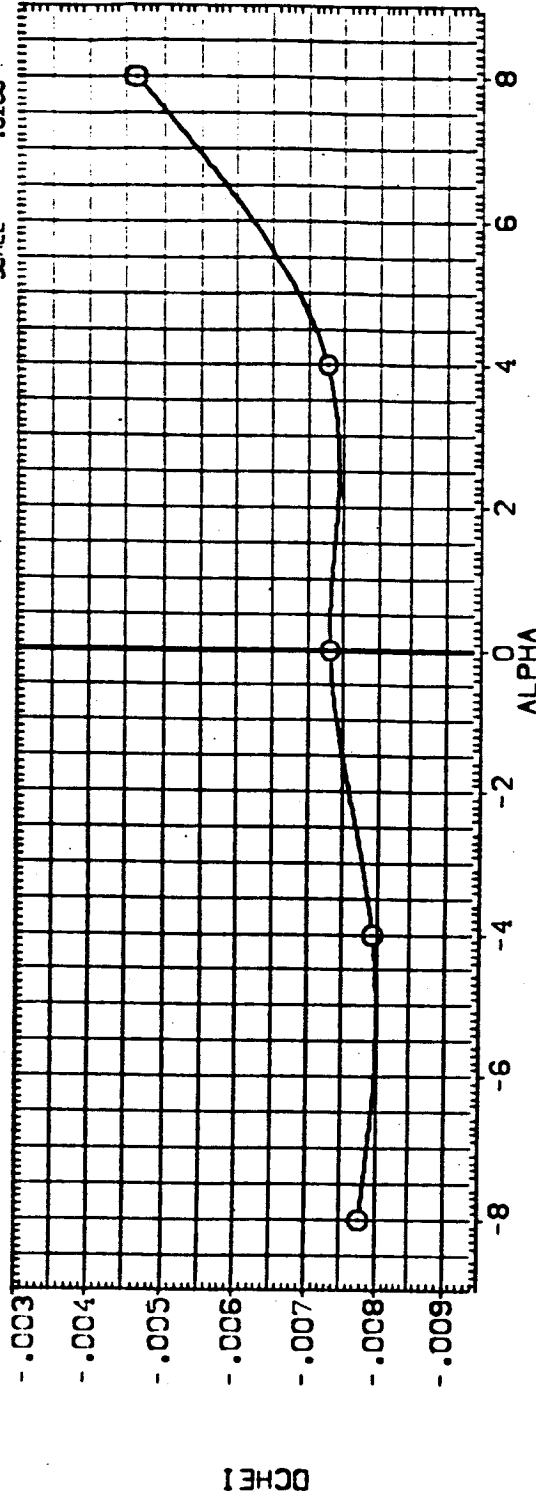


FIG. 60 INCREMENTAL EFFECT OF PLUMES - MACH=1.25 ELV-1B=0.0 ELV-08=0.0 BETA=0.0
 CAJBETA = .00 PAGE 165

DATA SET SYMBOL: CONFIGURATION DESCRIPTION
 (EEJC46) O ARC:1-0141A19 QTS SRB-NOM MPS-OFF

ELV-IB: ELV-OB MACH GIMBAL
 .000 .000 1.400 1.000

REFERENCE INFORMATION
 SREF 2690.0000 SO.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN. XT
 YMRP 400.0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0200

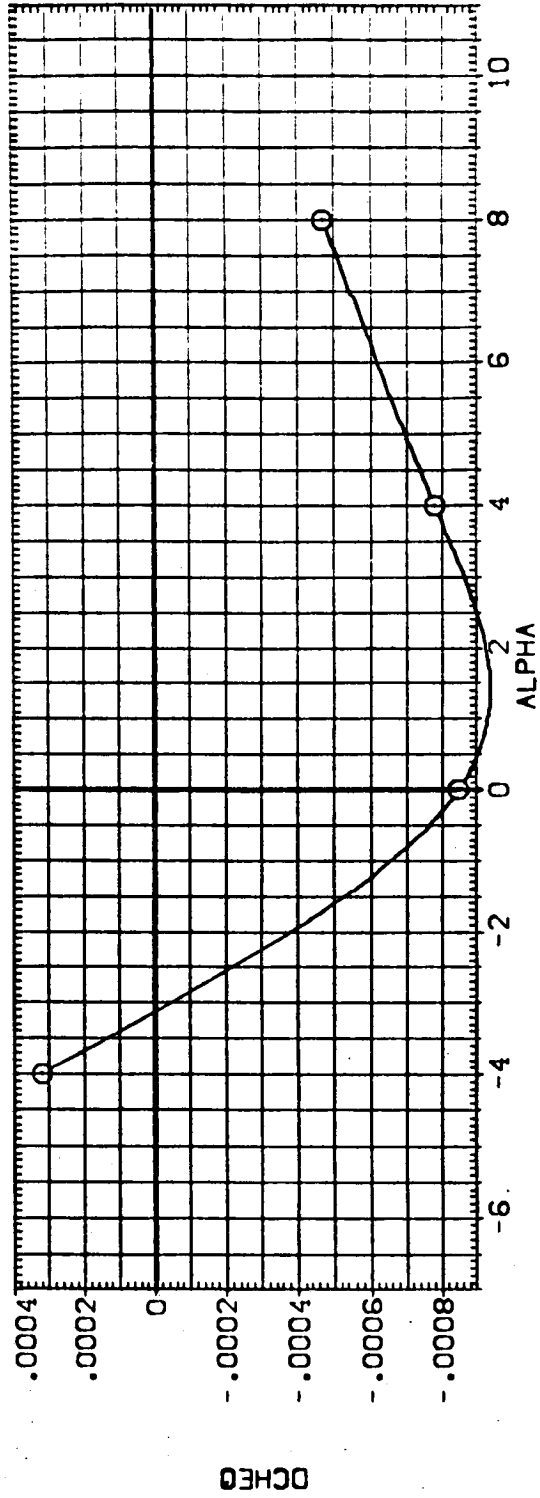
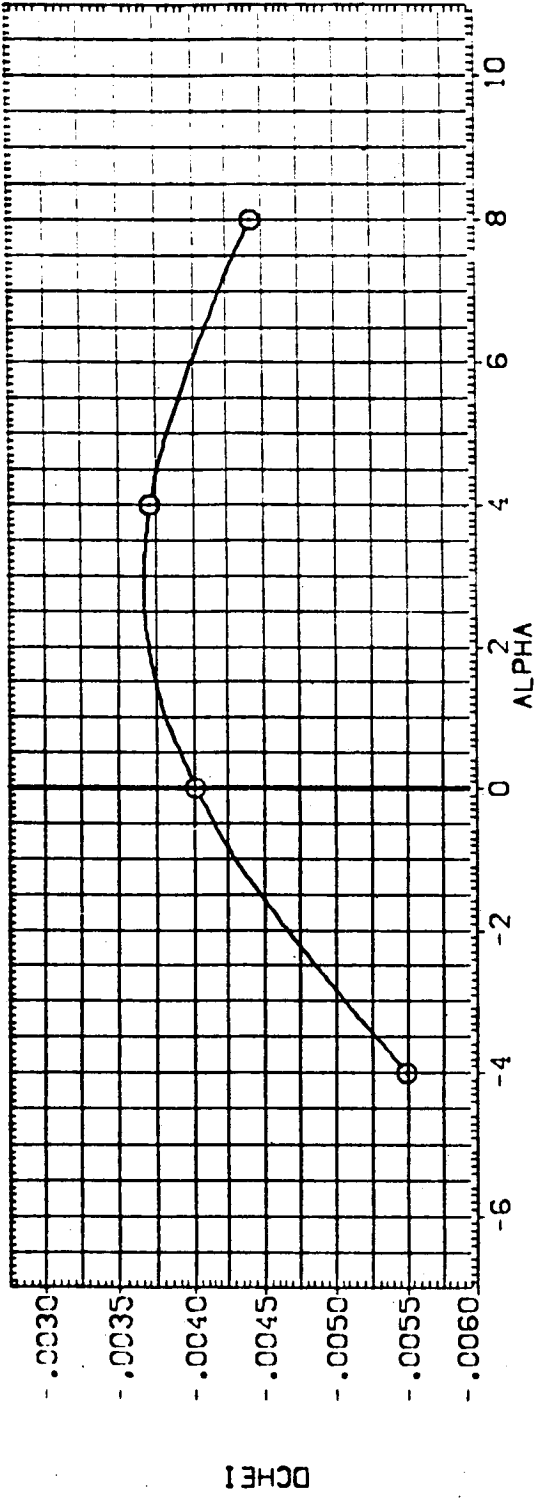


FIG. 61 INCREMENTAL EFFECT OF PLUMES - MACH=1.4 ELV-IB=0.0 ELV-OB=0.0 BETA=0.0

(A) BETA = .00



DATA SET SYMBOL: CONFIGURATION DESCRIPTION
 (FEJ043) ○ ARC11-01A1A19 QTS SRB-NOM MPS-OFF

ELV-1B ELV-08 MACH GIMBAL
 .000 .000 .500 1.000

REFERENCE INFORMATION
 SREF 2690.0000 50.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN. XT
 YMRP .0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0200

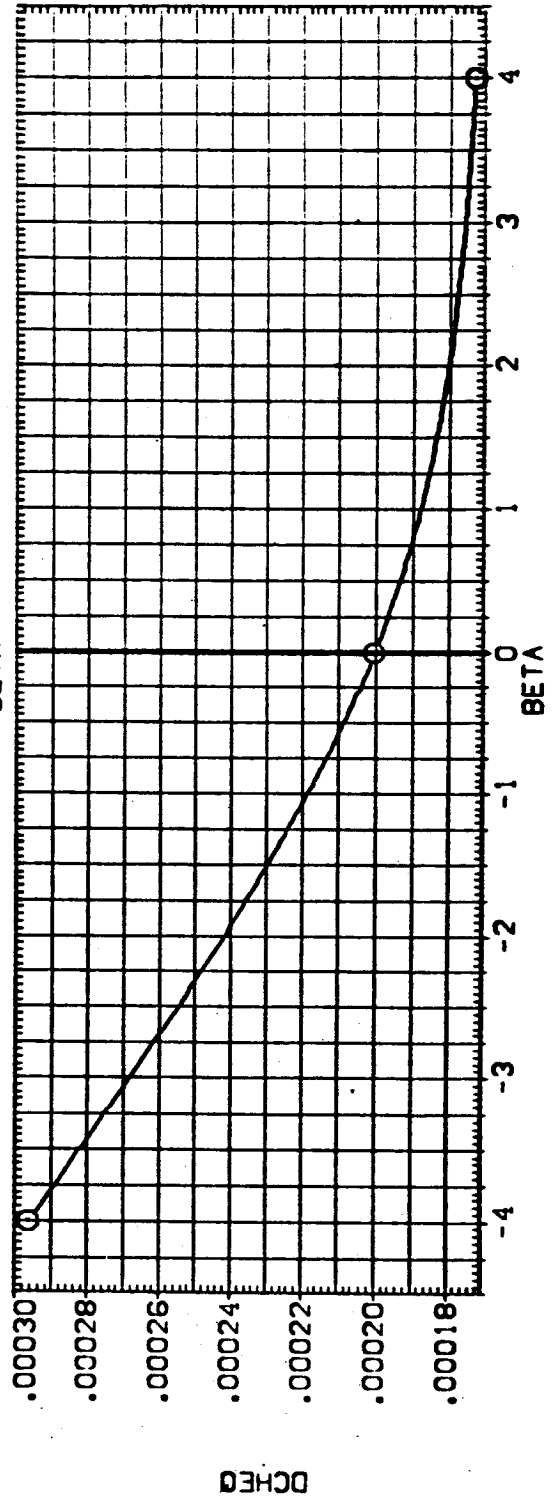
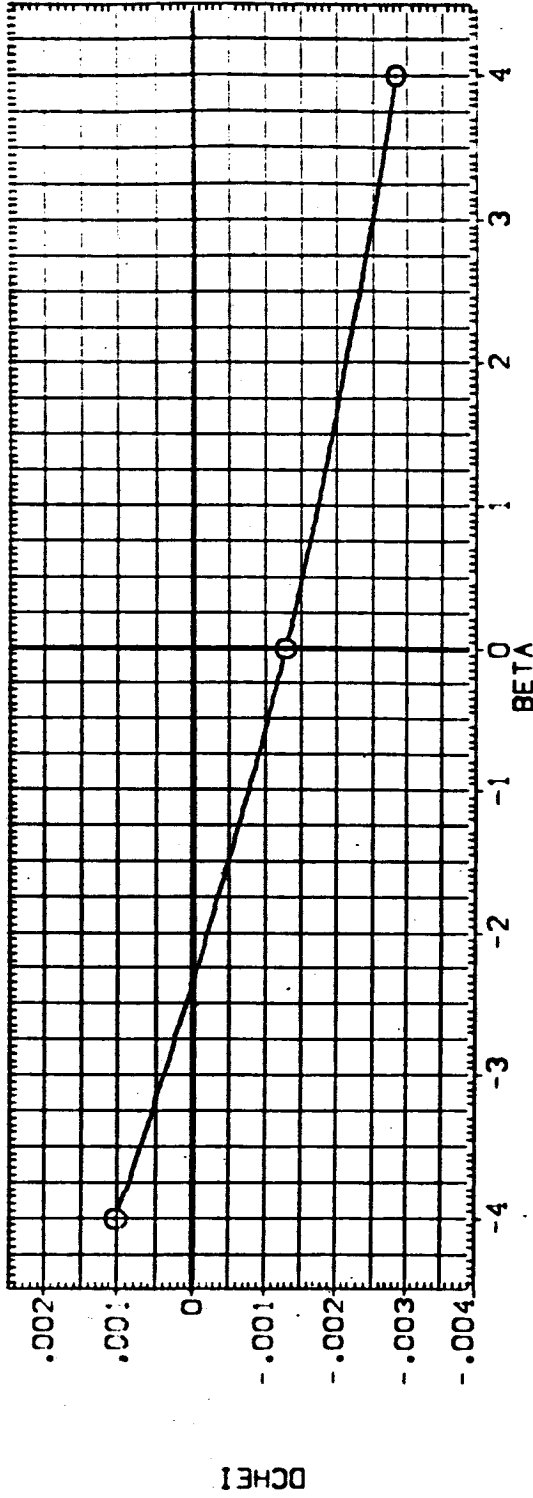


FIG. 62 INCREMENTAL EFFECT OF PLUMES - MACH=0.9 ELV-1B=0.0 ELV-08=0.0 ALPHA=0.
 CAJALPHA = .00

DATA SET SYMBOL: (FEUC44) \odot CONFIGURATION DESCRIPTION: SRB-NOM MPS-OFF

ELV-IB: .000 MACH: 1.100 GIMBAL: 1.000

REFERENCE INFORMATION:
 SREF: 2690.0000 SQ.FT.
 LREF: 1290.3000 IN.
 BREF: 1290.3000 IN. XT
 X-MPP: 976.0000 IN. YT
 Y-MPP: 400.0000 IN. ZT
 Z-MPP: 400.0000 IN. ZT
 SCALE: .0200

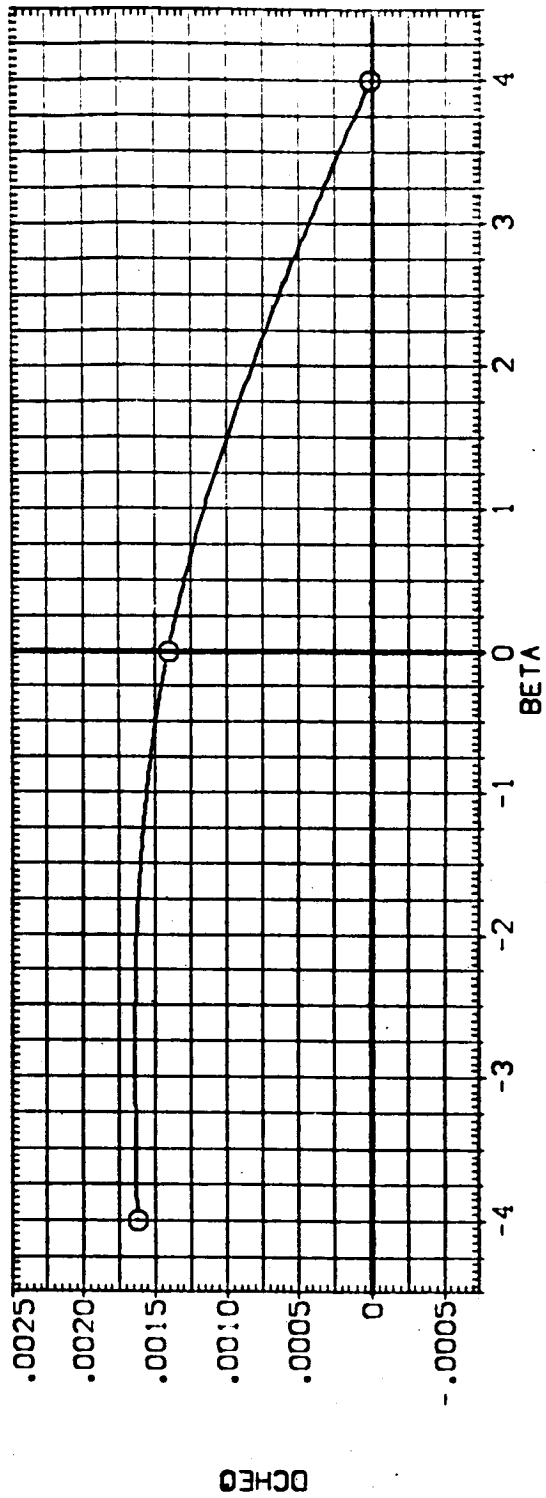
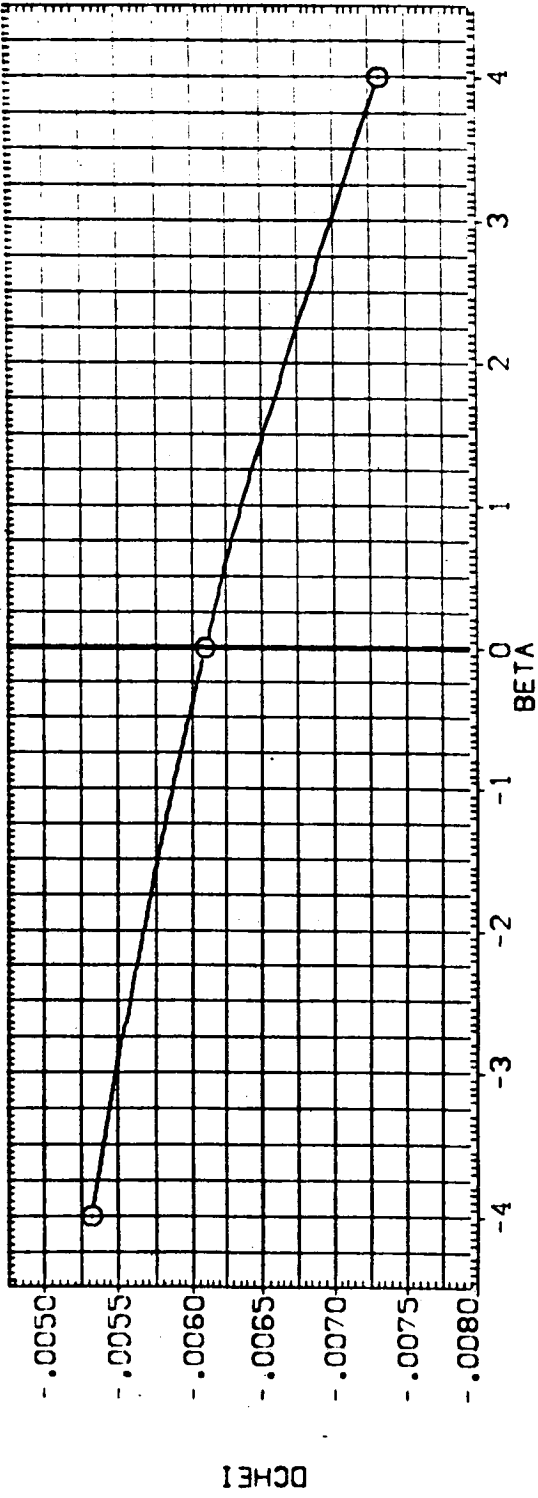


FIG. 63 INCREMENTAL EFFECT OF PLUMES - MACH=1.1 ELV-IB=0.0 ELV-OB=0.0 ALPHA=0.0
 (AJ)ALPHA = .00



DATA SET SYMBOL: ○ CONFIGURATION DESCRIPTION: SR9-NOM MPS-OFF

ELV-1B .000 ELV-08 .000 MACH 1.250 GIMBAL 1.000

REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN. XT
 YMRP .0000 IN. YT
 ZMRP 100.0000 IN. ZT
 SCALE .0200

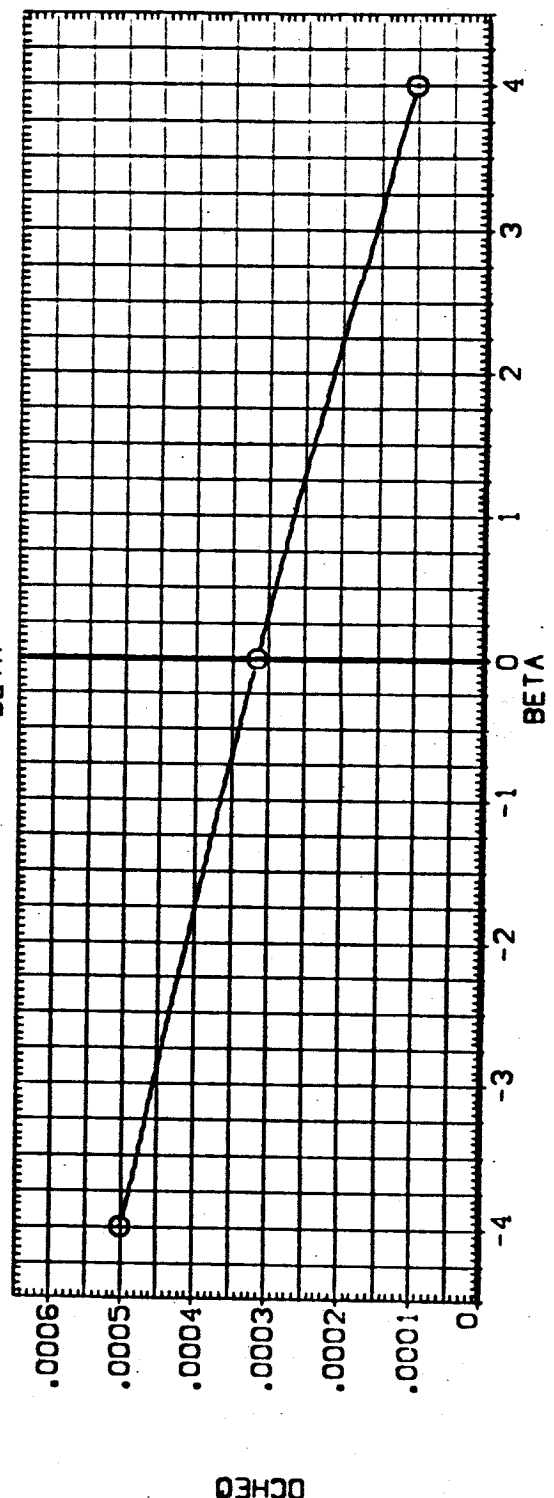
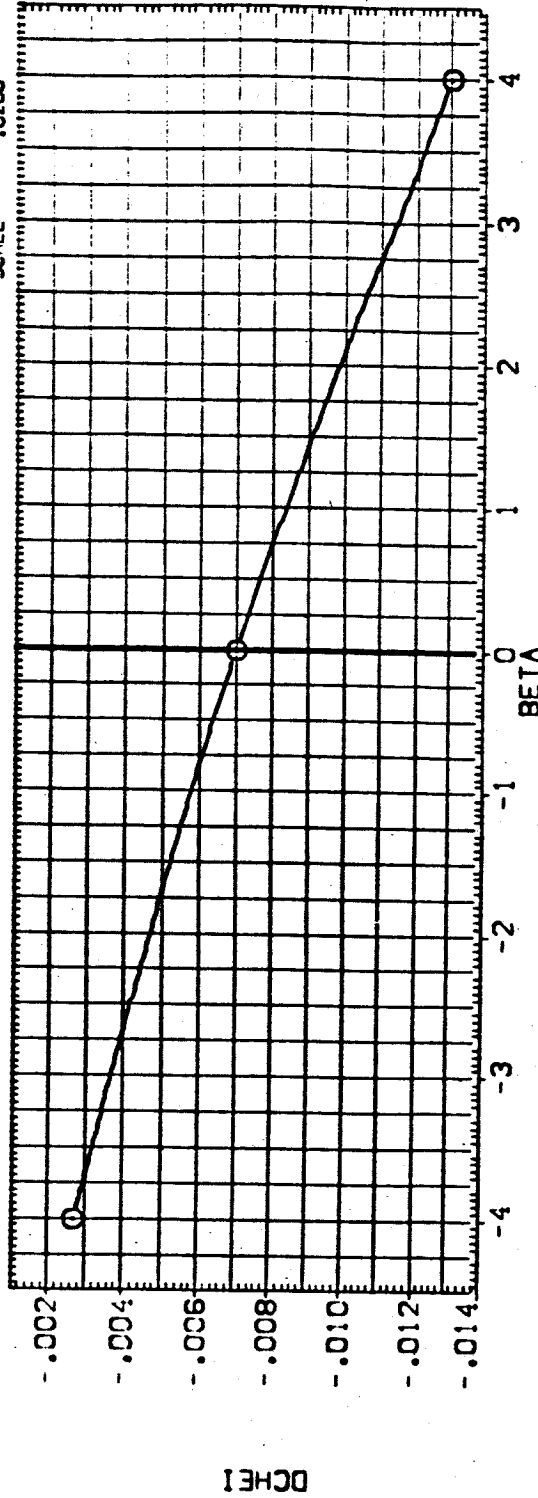
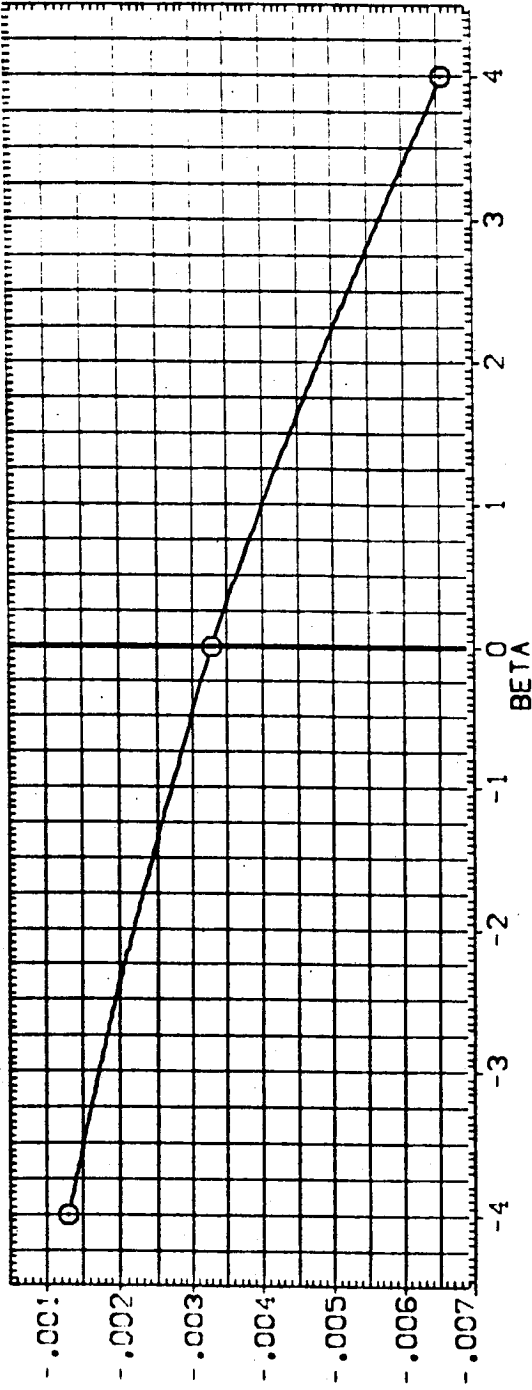


FIG. 64 INCREMENTAL EFFECT OF PLUMES - MACH=1.25 ELV-1B=0.0 ELV-08=0.0 ALPHA=0.0
 CAJALPHA = .00

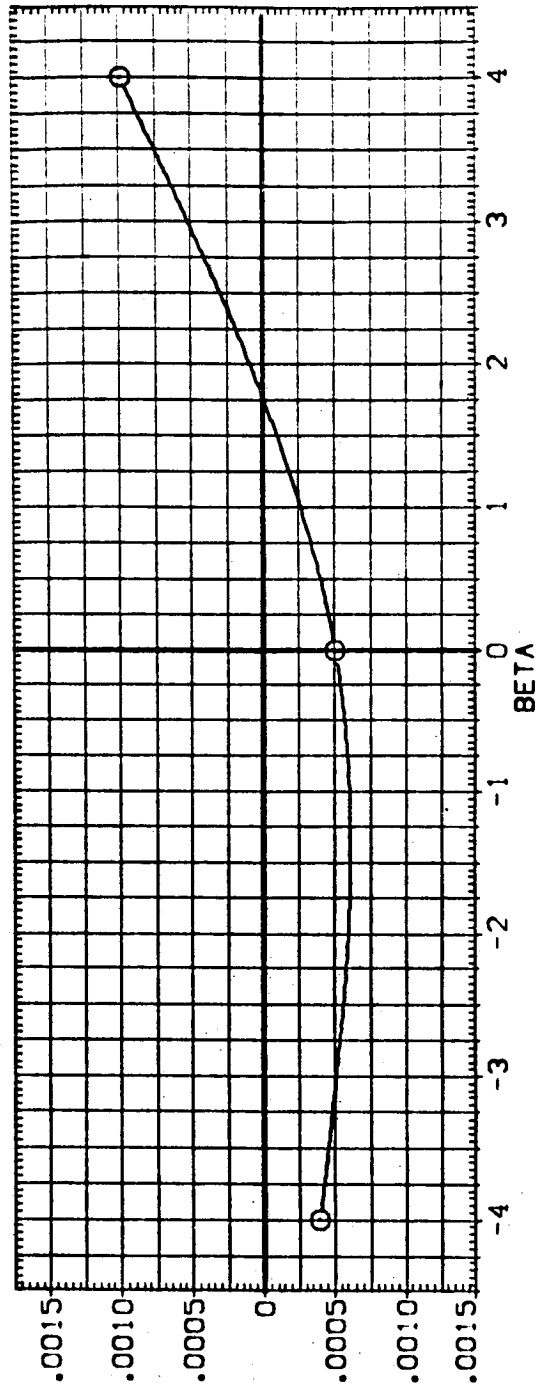
DATA SET SYMBOL: ○ CONFIGURATION DESCRIPTION: S99-NOM MPS-OFF

ELV-1B .000 MACH 1.400 GIMBAL 1.000

REFERENCE INFORMATION
 SREF 2630.0000 SQ.FT.
 LREF 1230.3000 IN.
 BREF 1230.3000 IN.
 XMRP 976.0000 IN. XT
 YMRP .0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0200



DCHC1



DCHC0

FIG. 65 INCREMENTAL EFFECT OF PLUMES - MACH=1.4 ELV-0B=0.0 ELV-1B=0.0 ALPHA=0.0

CAJALPHA = .00



DATA SET SYMBOL: (EELQ18) \circ CONFIGURATION DESCRIPTION: ARC11-0141A19 OTS SRB-NOM MPS-OFF
 ELV-1B: 8.000 ELV-08: .000 MACH: 1.400 GIMBAL: 1.000
 REFERENCE INFORMATION:
 SREF: 2880.0000 SO.FT.
 LREF: 1290.3000 IN.
 BREF: 1290.3000 IN.
 XMRP: 976.0000 IN. XT
 YMRP: .0000 IN. YT
 ZMRP: 400.0000 IN. ZT
 SCALE: .0200

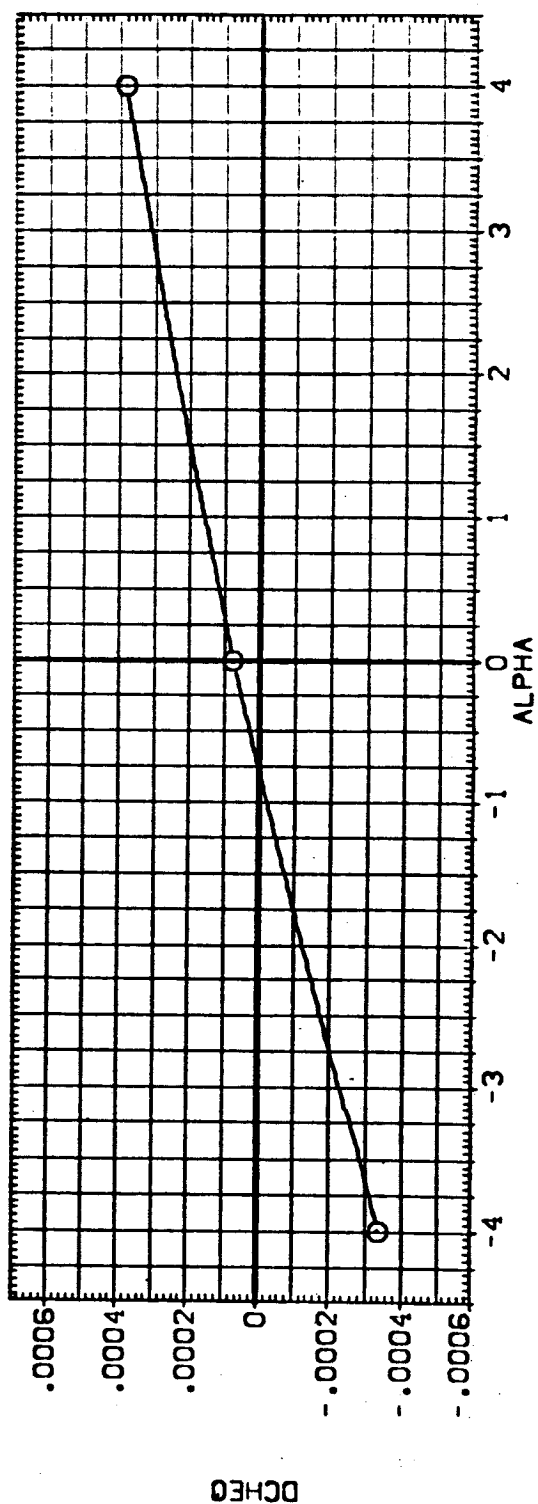
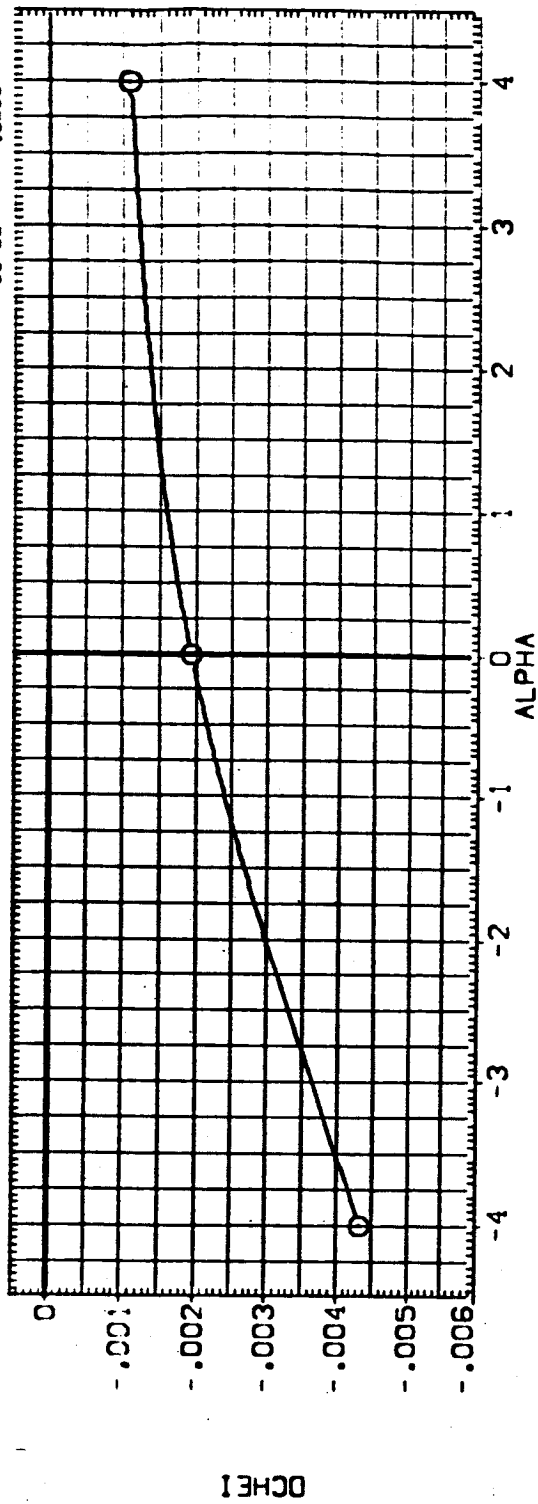


FIG. 66 INCREMENTAL EFFECT OF PLUMES - MACH=1.4 ELV-1B=8.0 ELV-08=0.0 BETA=0.0
 (A) BETA = .00 PAGE 171

DATA SET SYMBOL: (FE-048) \bigcirc CONFIGURATION DESCRIPTION: SRB-NOM MPS-OFF

ELV-IB: 8.000 MACH: 1.400 GIMBAL: 1.000

REFERENCE INFORMATION:
 SREF: 2690.0000 SO.FT.
 LREF: 1290.3000 IN.
 BREF: 1290.3000 IN. XT
 XMRP: 976.0000 IN. YT
 YMRP: .0000 IN. ZT
 ZMRP: 400.0000 IN. ZT
 SCALE: .0200

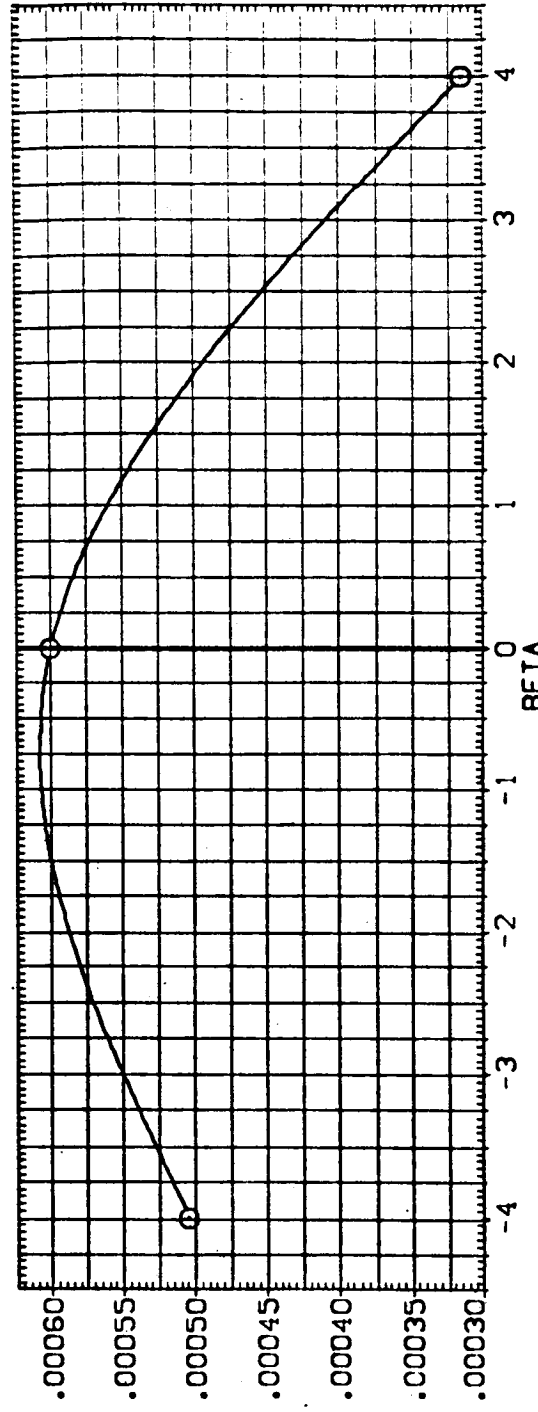
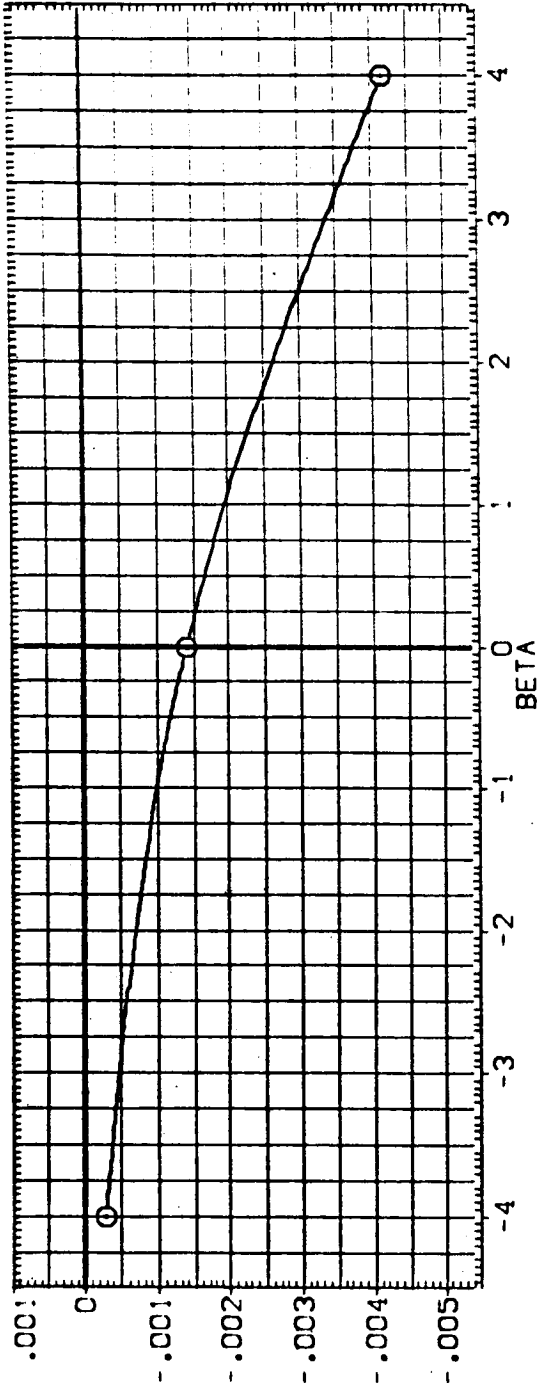


FIG. 67 INCREMENTAL EFFECT OF PLUMES - MACH=1.4 ELV-IB=8.0 ELV-OB=0.0 ALPHA=0.0
 CAJALPHA = .00



DATA SET SYMBOL: (EEUC53) \odot ARC11-01A1A19 OTS

CONFIGURATION DESCRIPTION: S98-NOM MPS-OFF

ELV-IB: 6.000 ELV-OB: 4.000 MACH: .900 GIMBAL: 1.000

REFERENCE INFORMATION:
 SREF: 2690.0000 IN. 90.FT.
 LREF: 1290.3000 IN.
 BREF: 1290.3000 IN.
 YMRP: 976.0000 IN. XT
 ZMRP: 100.0000 IN. YT
 SCALE: .0200 IN. ZT

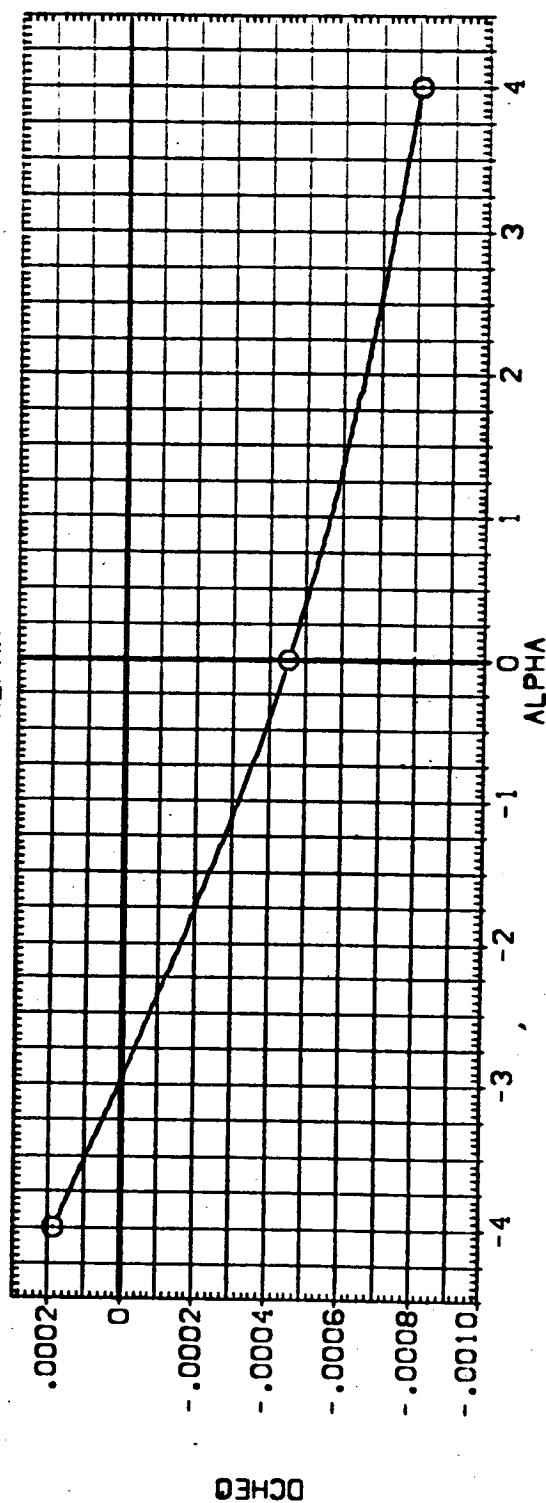
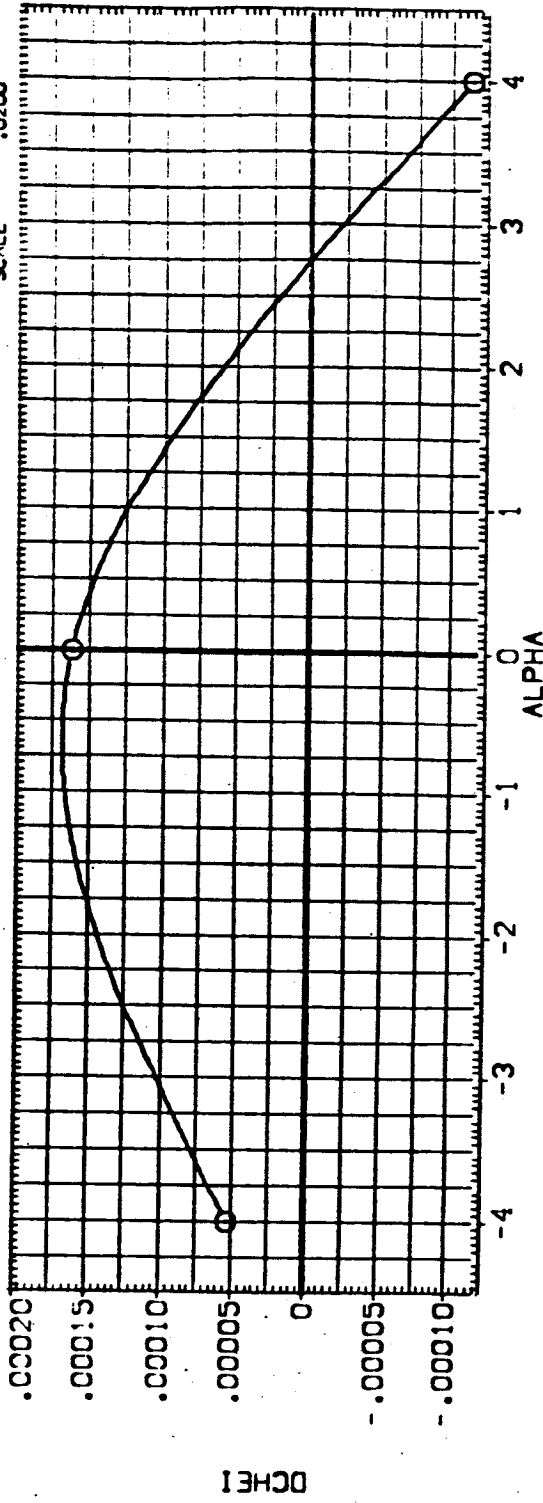
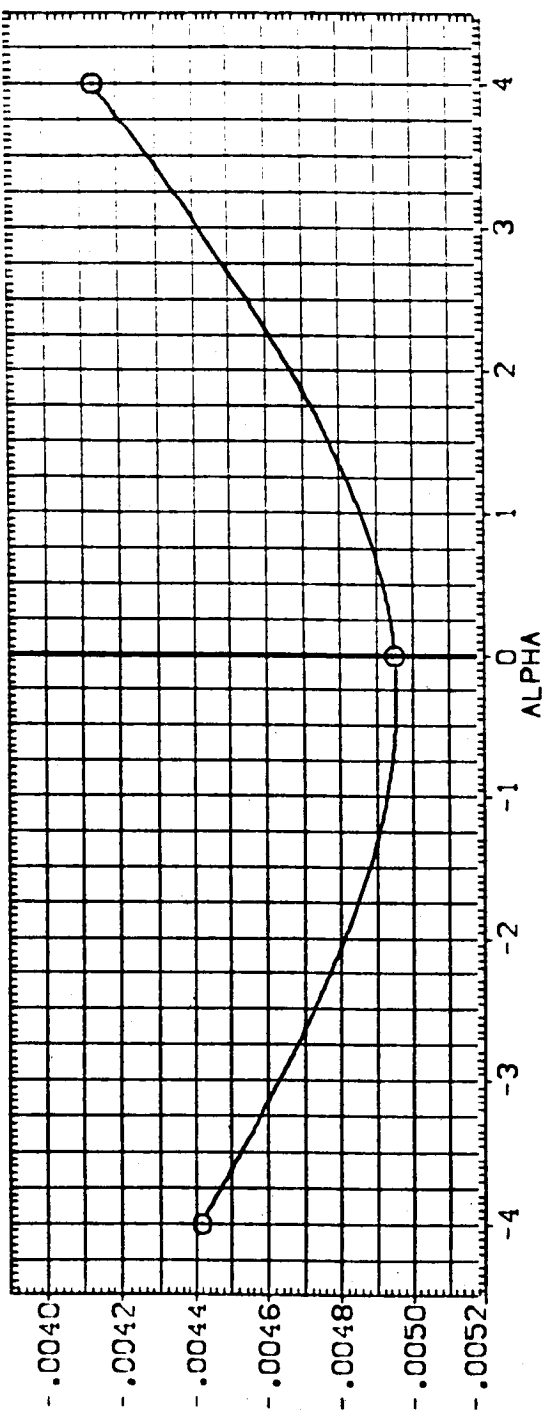


FIG. 68 INCREMENTAL EFFECT OF PLUMES - MACH=0.9 ELV-IB=8.0 ELV-OB=4.0 BETA=0.0
 (A)BETA = .00

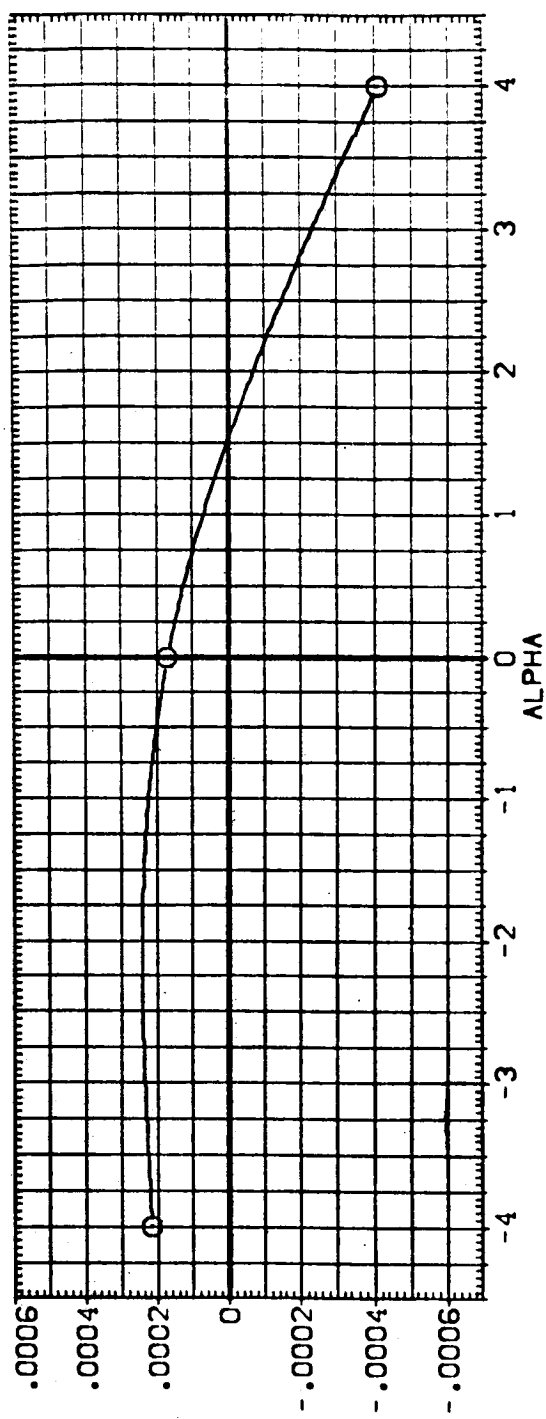
DATA SET SYMBOL: O
 CONFIGURATION DESCRIPTION: ARC11-0141A19 OTS SRB-NOM MPS-OF

ELV-1B: 8.000
 ELV-0B: 4.000
 MACH: 1.100
 GIMBAL: 1.000

REFERENCE INFORMATION
 SREF: 2690.0000 SQ.FT.
 LREF: 1290.3000 IN.
 BREF: 1290.3000 IN.
 XMRP: 976.0000 IN.
 YMRP: 0.0000 IN.
 ZMRP: 400.0000 IN.
 SCALE: .0200



DCHEI



DCHEO

FIG. 69 INCREMENTAL EFFECT OF PLUMES - MACH=1.1 ELV-1B=8.0 ELV-0B=4.0 BETA=0.0
 CAJBETA = .00

DATA SET SYMBOL: ○ CONFIGURATION DESCRIPTION: ARC11-0141A19 015 SR8-NOM MPS-OFF

ELV-1B: 8.000 ELV-0B: 4.000 MACH: 1.250 GIMBAL: 1.000

REFERENCE INFORMATION
 SREF: 2690.0000 SQ.FT.
 LREF: 1290.3000 IN.
 BREF: 1290.3000 IN.
 XMRP: 976.0000 IN. XT
 YMRP: 0.0000 IN. YT
 ZMRP: 400.0000 IN. ZT
 SCALE: .0200

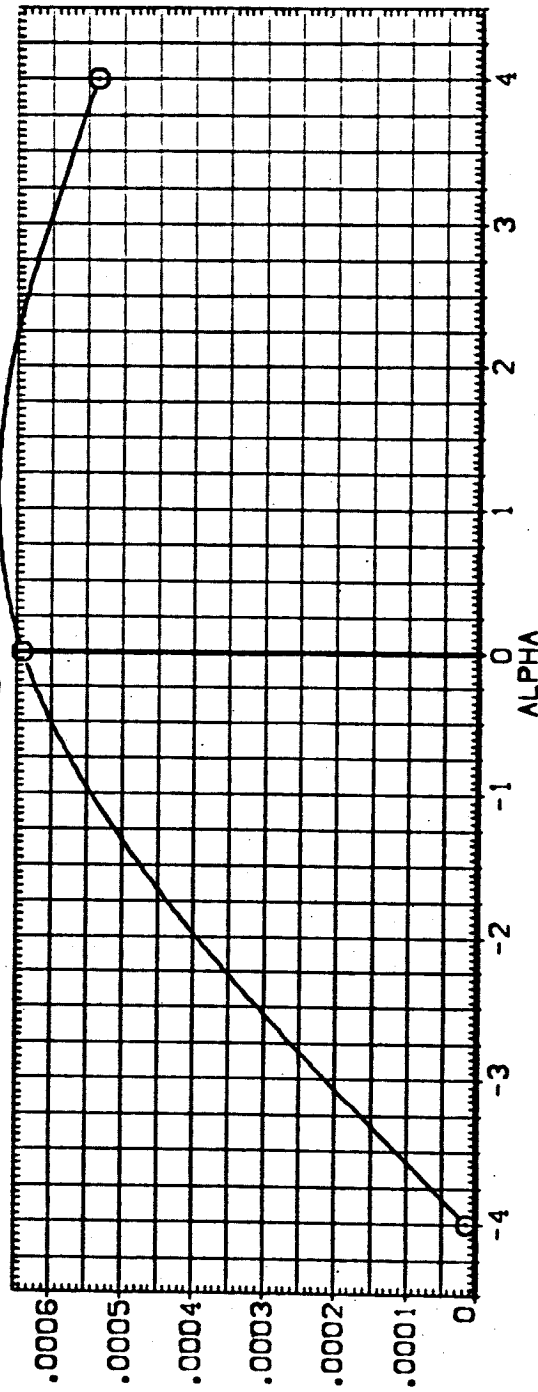
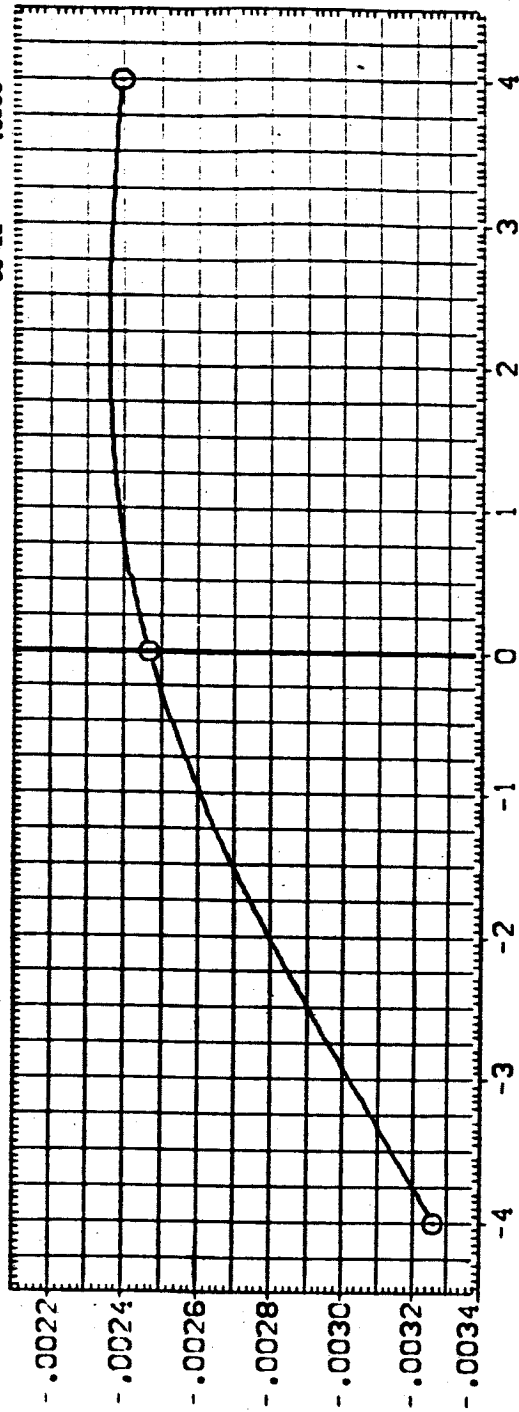
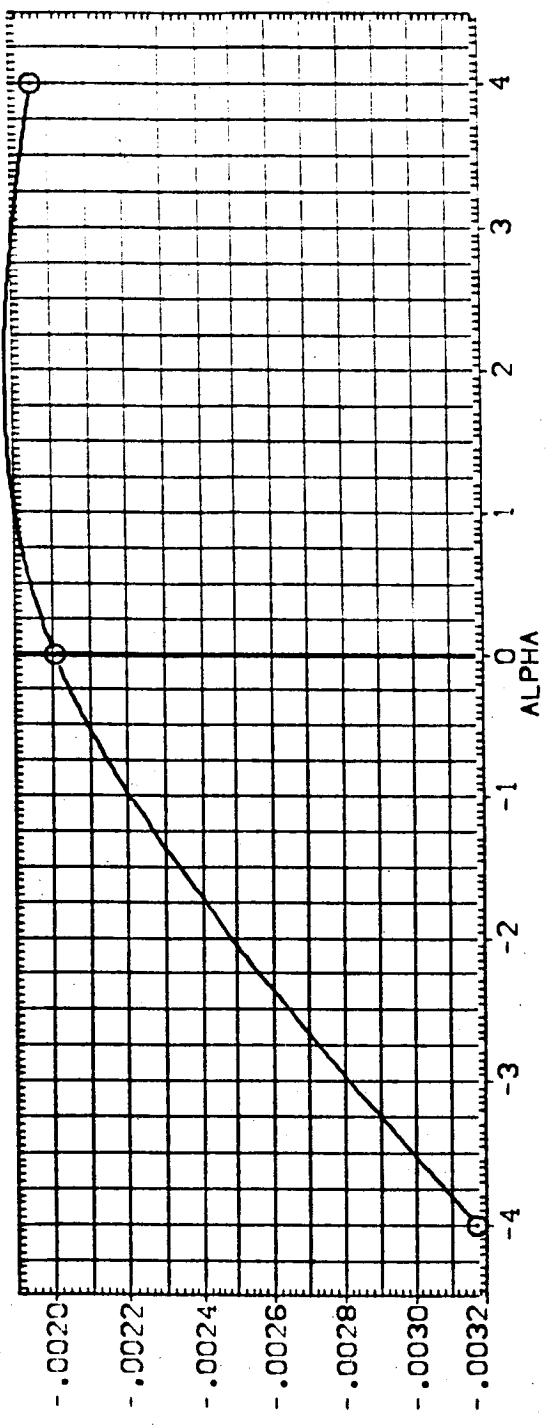


FIG. 70 INCREMENTAL EFFECT OF PLUMES - MACH=1.25 ELV-1B=8.0 ELV-0B=4.0 BETA=0.0
 (A) BETA = .00

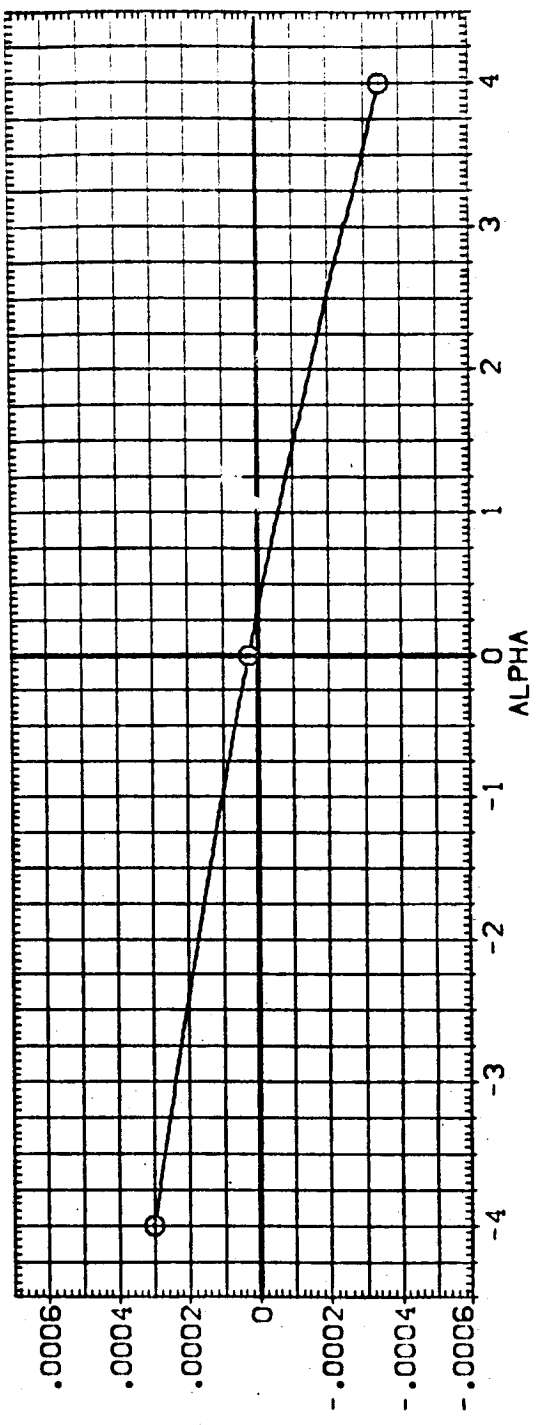
DATA SET SYMBOL: ○
 CONFIGURATION DESCRIPTION: ARC11-0141A19 OTS
 SRB-NOM MPS-OFF

ELV-IB: 8.000
 ELV-OB: 4.000
 MACH: 1.400
 GIMBAL: 1.000

REFERENCE INFORMATION
 SQ.FT. IN. IN. XT IN. YT IN. ZT
 SREF: 2690.0000
 LREF: 1290.3000
 BREF: 1290.3000
 XMRP: 976.0000
 YMRP: .0000
 ZMRP: 400.0000
 SCALE: .0200



DCHEI



DCHEQ

FIG. 71 INCREMENTAL EFFECT OF PLUMES - MACH=1.4 ELV-IB=8.0 ELV-OB=4.0 BETA=0.0
 CAJBETA = .00



DATA SET SYMBOL: (FEJ053) ○
 CONFIGURATION DESCRIPTION: ARC11-01A1A19 OTS
 SUB-NOM MPS-OFF: 988-NOM MPS-OFF

ELV-1B: 8.000
 ELV-0B: 4.000
 MACH: .900
 GIMBAL: 1.000

REFERENCE INFORMATION:
 SREF: 2690.0000 SQ.FT.
 LREF: 1290.3000 IN.
 BREF: 1290.3000 IN.
 XMRP: 576.0000 IN. XT
 YMRP: 400.0000 IN. YT
 ZMRP: 400.0000 IN. ZT
 SCALE: .0200

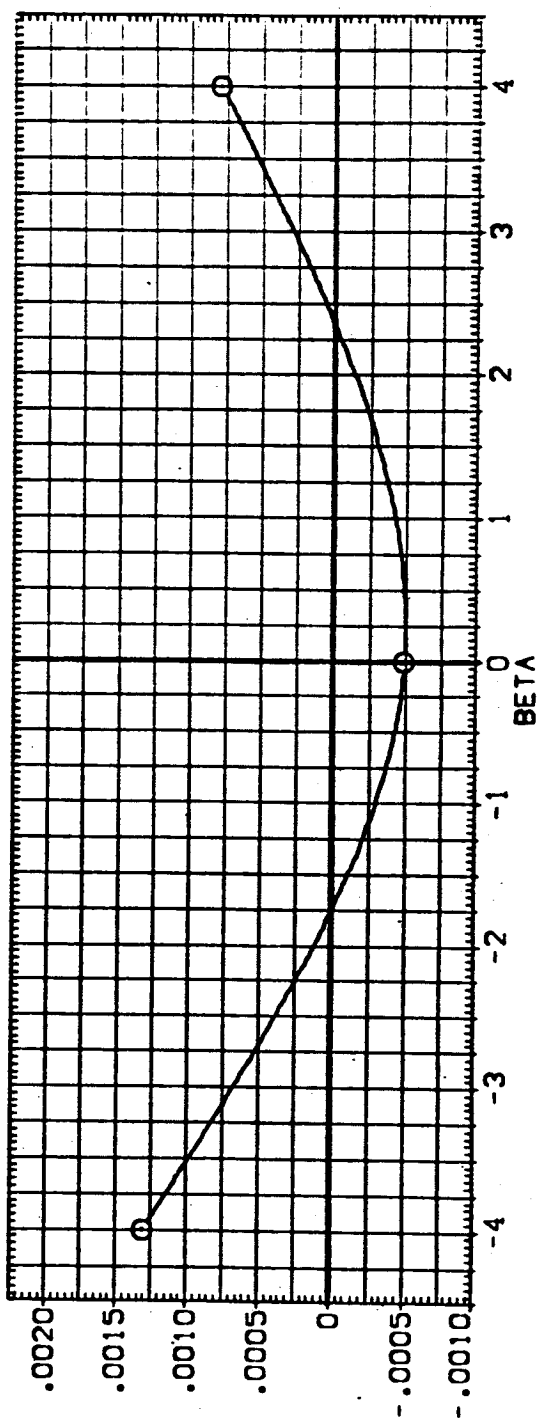
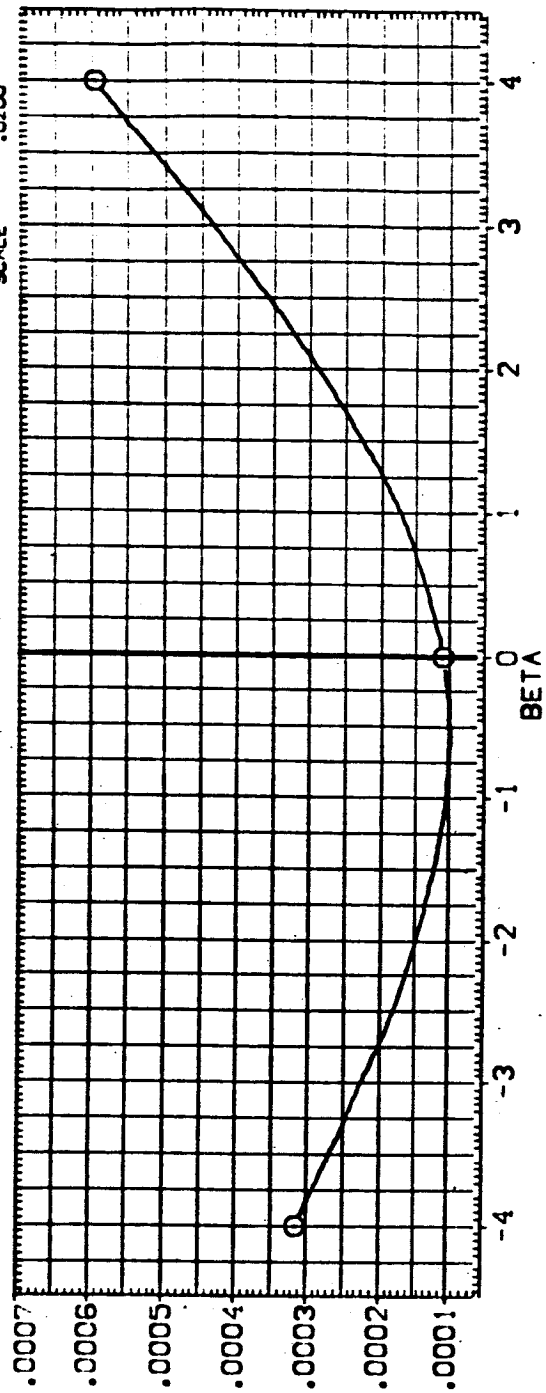


FIG. 72 INCREMENTAL EFFECT OF PLUMES - MACH=0.9 ELV-1B=8.0 ELV-0B=4.0 ALPHA=0.0
 (A) ALPHA = .00

DATA SET SYMBO. CONFIGURATION DESCRIPTION
 (FEUC54) ○ ARC11-0141A19 OTS

SRB-NOM MPS-OFF

ELV-IB 8.000 ELV-OB 4.000 MACH 1.100 GIMBAL 1.000

REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BRREF 1290.3000 IN.
 XMRP 976.0000 IN. XT
 YMRP .0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0200

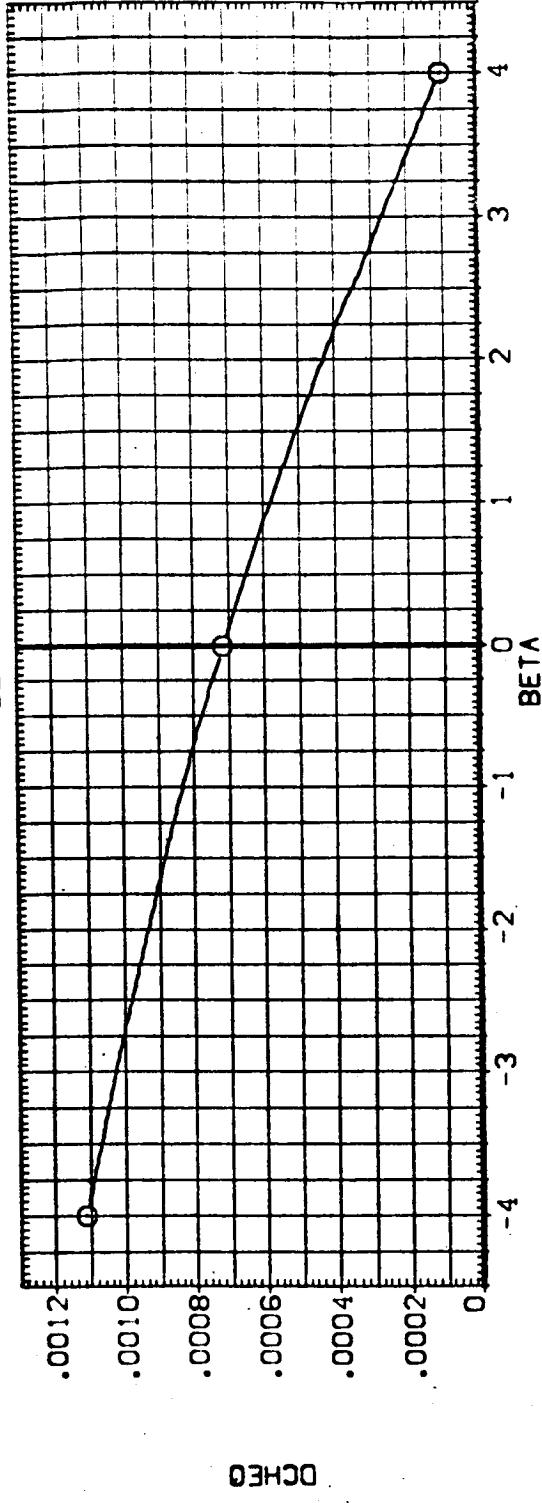
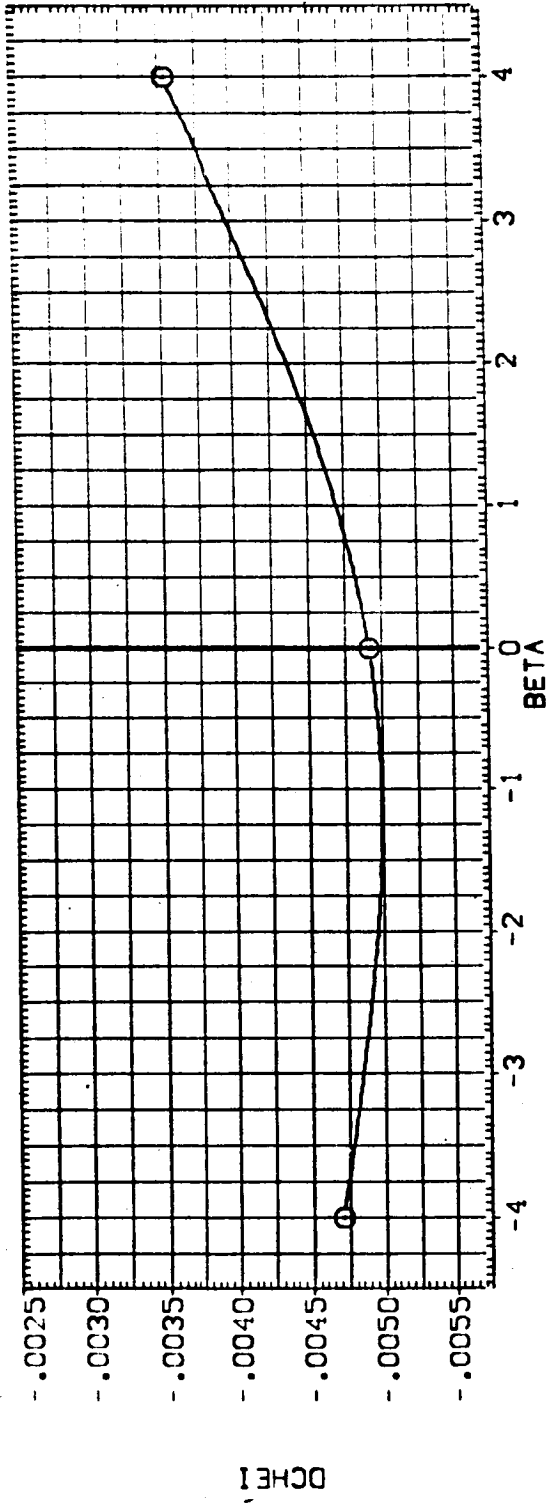


FIG. 73 INCREMENTAL EFFECT OF PLUMES - MACH=1.1 ELV-IB=8.0 ELV-OB=4.0 ALPHA=0.

(A) ALPHA = .00



DATA SET SYMBOL: ○ CONFIGURATION DESCRIPTION: SRB-NOM MPS-OFF

ELV-1B: 8.000 ELV-0B: 4.000 MACH: 1.250 GIMBAL: 1.000

REFERENCE INFORMATION:

SREF	2690.0000	IN.	50.0000
LREF	1290.3000	IN.	
BREF	1290.3000	IN.	
XMRP	976.0000	IN.	XT
YMRP	.0000	IN.	YT
ZMRP	400.0000	IN.	ZT
SCALE	.0200		

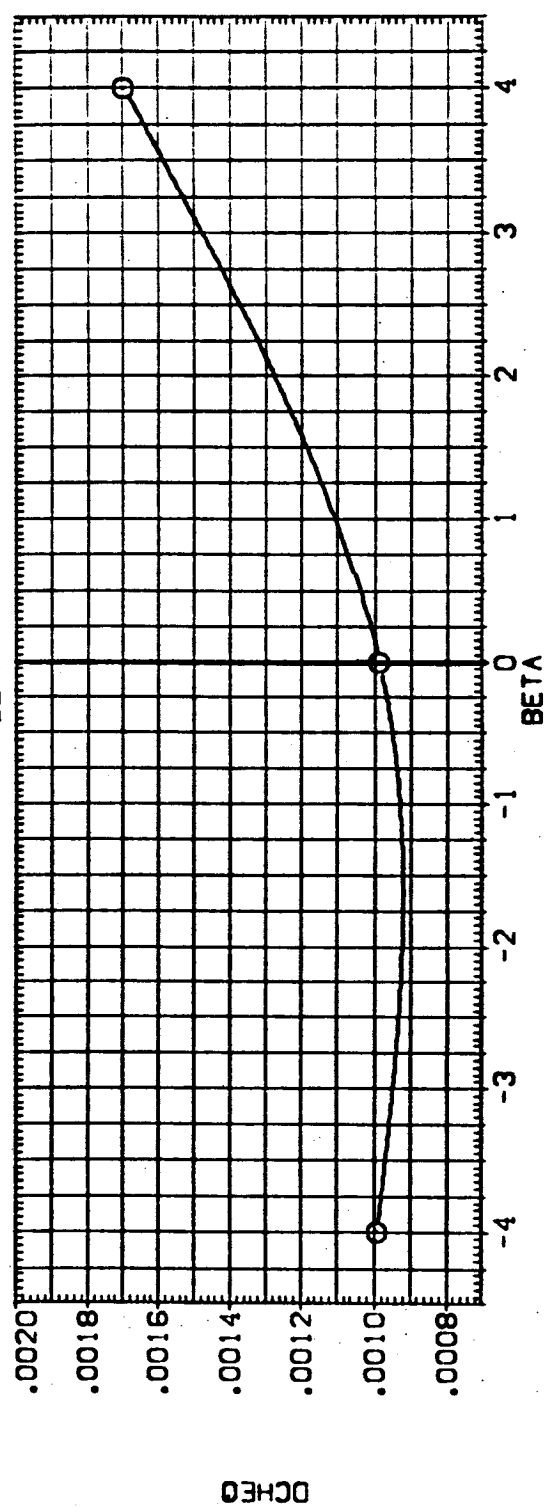
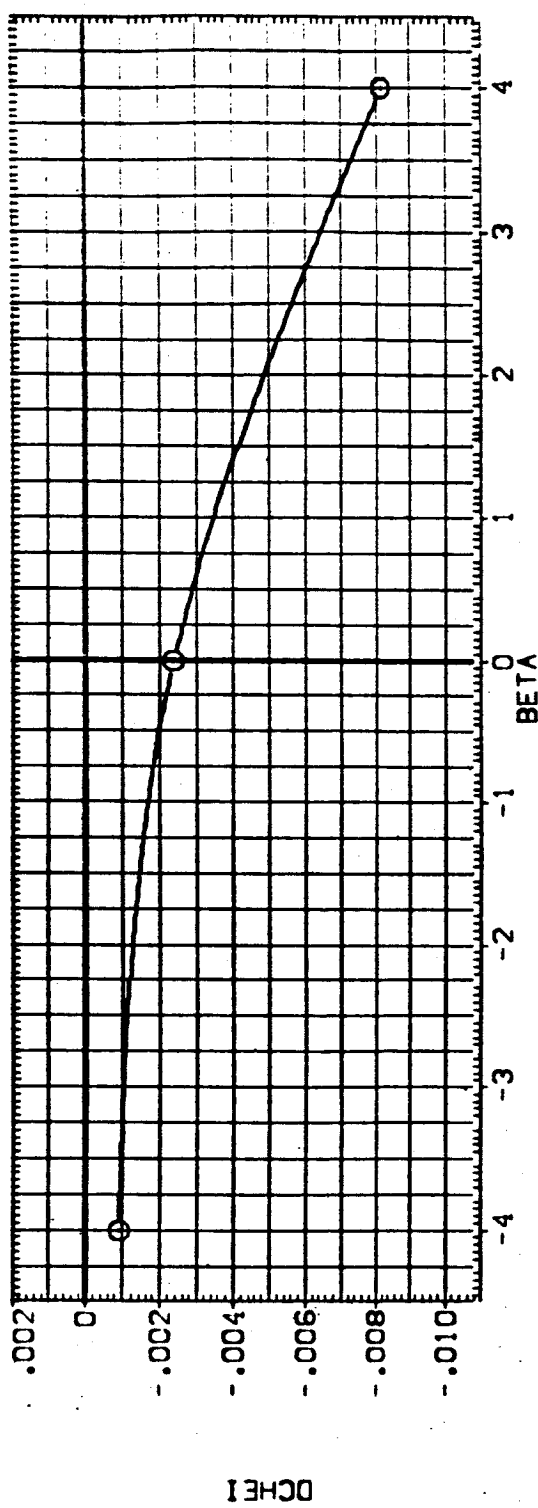


FIG. 74 INCREMENTAL EFFECT OF PLUMES - MACH=1.25 ELV-1B=8.0 ELV-0B=4.0 ALPHA=0.0

DATA SET SYMBOL: ○ CONFIGURATION DESCRIPTION: ARC11-0141A19 DTS SRB-NOM MPS-OFF

ELV-IB: 8.000 ELV-OB: 4.000 MACH: 1.400 GIMBAL: 1.000

REFERENCE INFORMATION:
 SREF: 2690.0000 SQ.FT.
 LREF: 1290.3000 IN.
 BREF: 1290.3000 IN. AT
 XMRP: 976.0000 IN. YI
 YMRP: .0000 IN. ZI
 ZMRP: 400.0000 IN. ZI
 SCALE: .0200

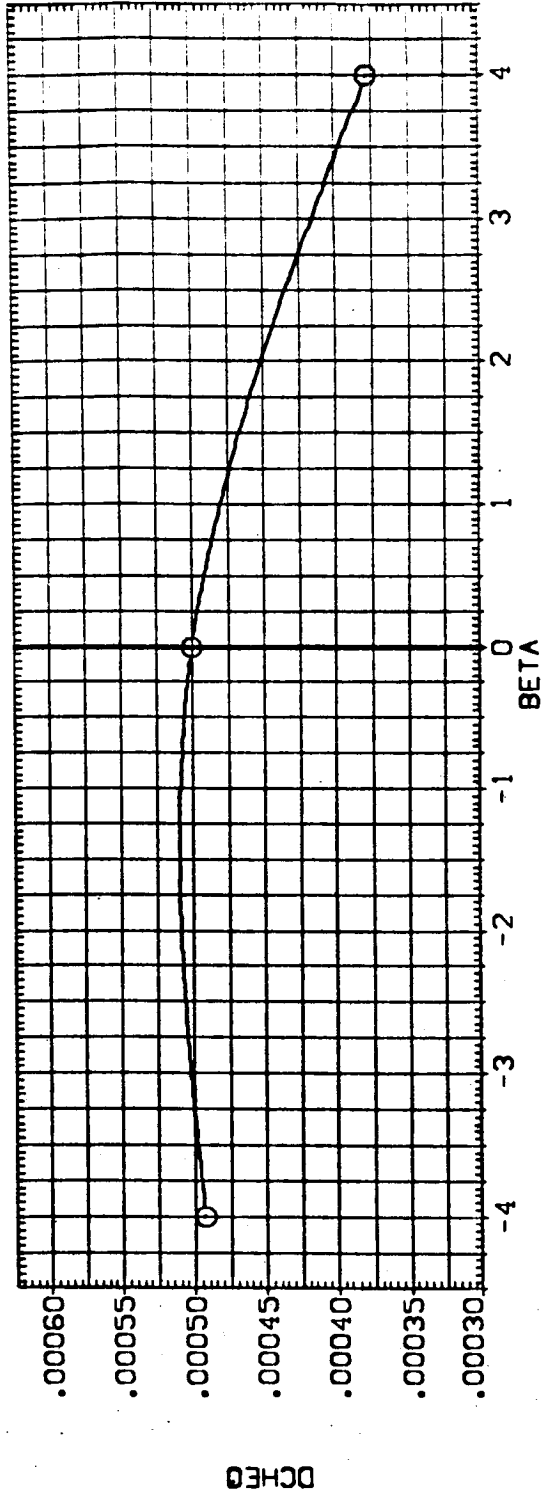
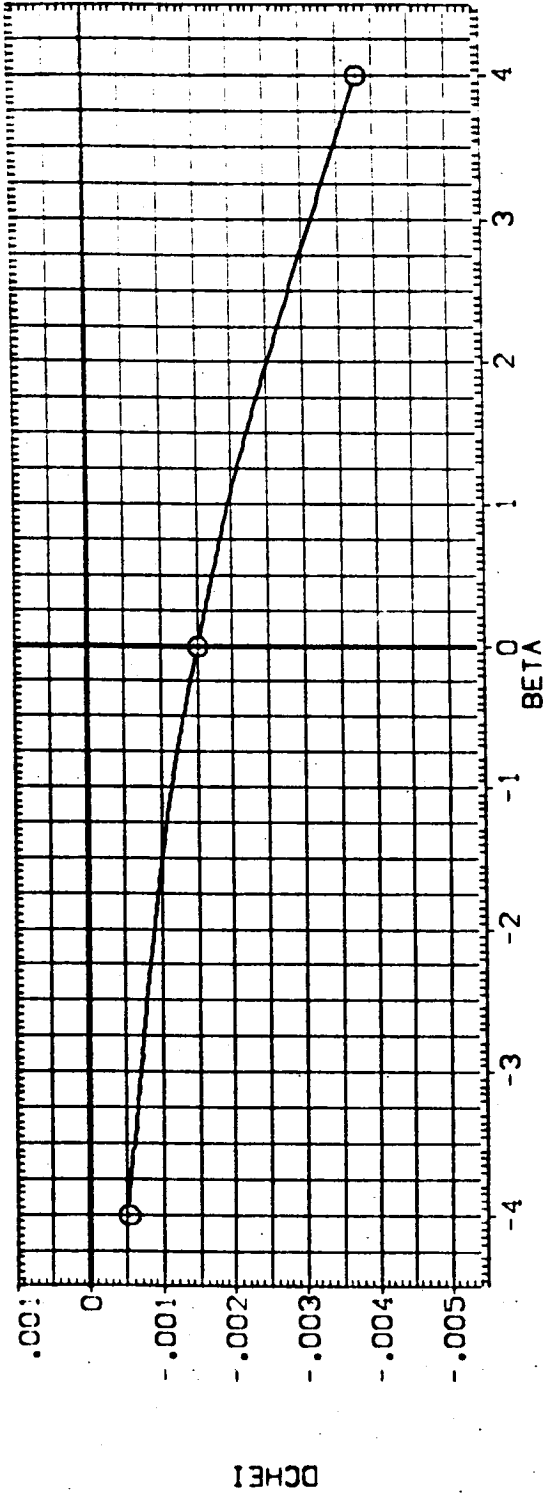


FIG. 75 INCREMENTAL EFFECT OF PLUMES - MACH=1.4 ELV-IB=8.0 ELV-OB=4.0 ALPHA=0.0
 (A) ALPHA = .00



DATA SET SYMBOL: [1] [2] [3] [4] [5] [6] [7]

CONFIGURATION DESCRIPTION: ARC: -0:1A:9 OTS:STRUT SRB-OFF MFS-OFF
 ARC: -0:1A:9 OTS:STRUT SRB-NON MFS-NON
 ARC: -0:1A:9 OTS:STRUT SRB-LOW MFS-NON
 ARC: -0:1A:9 OTS:STRUT SRB-HI MFS-HI

ELV-IB: 8.000 8.000 8.000 8.000
 ELV-OB: 4.000 4.000 4.000 4.000
 ALPHA: -4.000 -4.000 -4.000 -4.000
 GIMBAL: 1.000 1.000 1.000 1.000

REFERENCE INFORMATION: SREF: 2690.0000 SQ.FT.
 LREF: 1290.3000 IN.
 BREF: 1290.3000 IN.
 XMRP: 976.0000 IN.
 YMRP: 0.0000 IN.
 ZMRP: 400.0000 IN.
 SCALE: 0.700

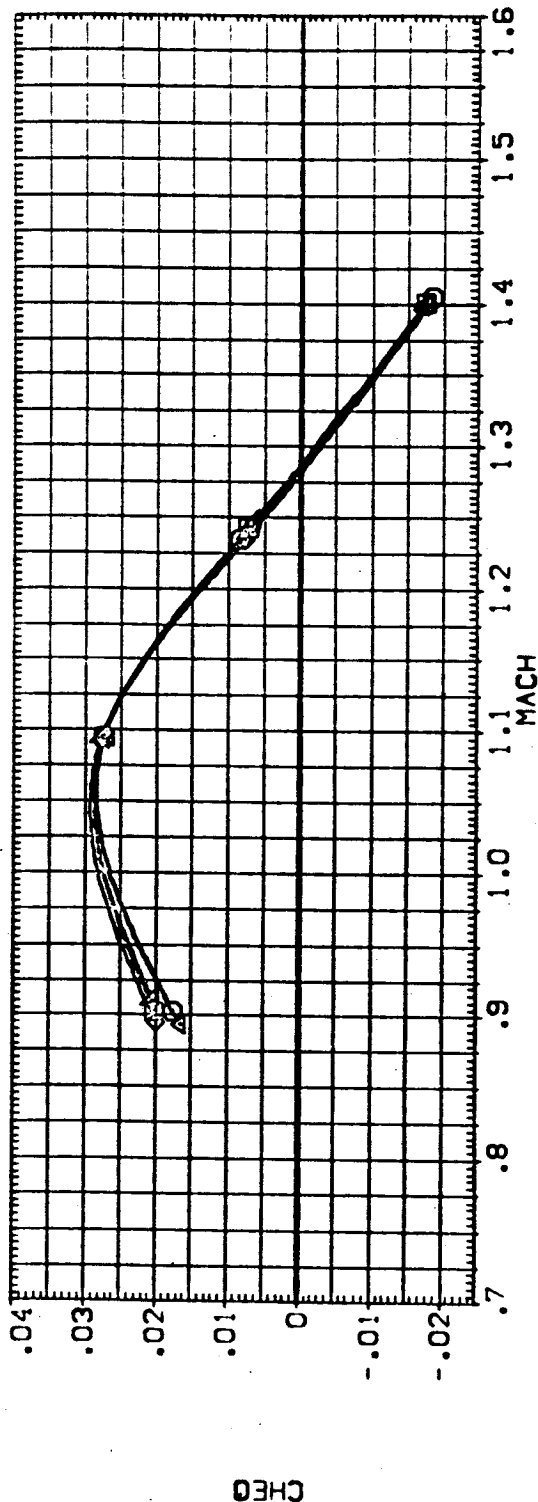
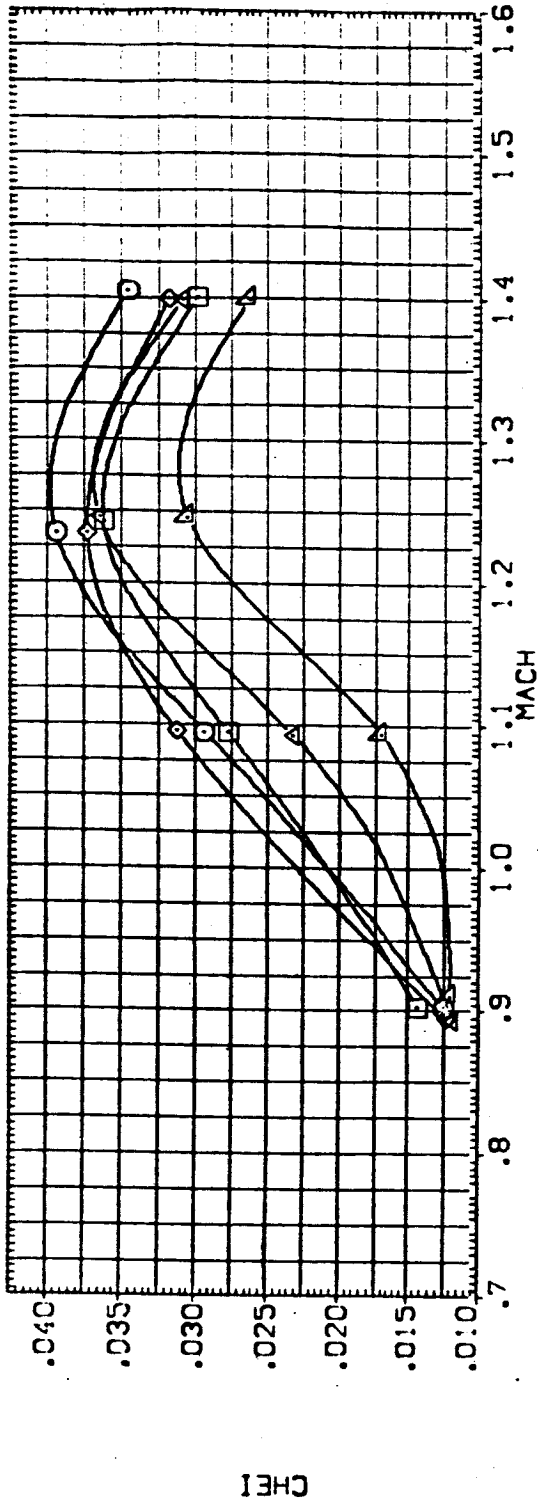
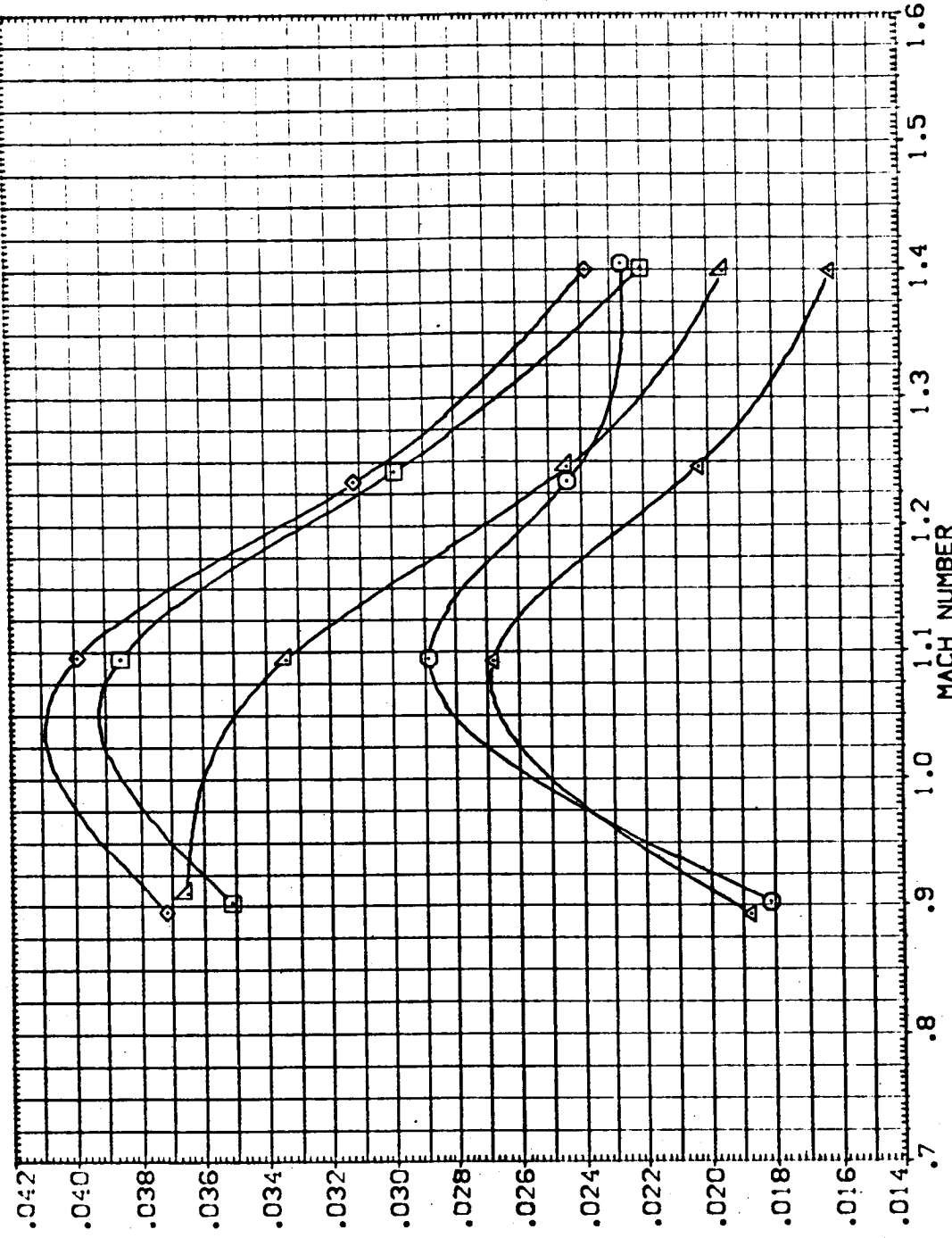


FIG. 76 SUMMARY - EFFECT OF PLUMES - ELV-IB=8.0 ELV-OB=4.0 ALPHA=-4.0
 (A)BETA = .00

DATA SET SYMBOL: [EJ10], [EJ05], [EJ03], [EJ13], [EJ11]
 CONFIGURATION DESCRIPTION: ARC11-0141A19 DIS-STRUT SR8-OFF MPS-OFF, ARC11-0141A19 DIS-STRUT SR8-NOM MPS-NOM, ARC11-0141A19 DIS-STRUT SR8-LOW MPS-LOW, ARC11-0141A19 DIS-STRUT SR8-NOM MPS-OFF, ARC11-0141A19 DIS-STRUT SR8-HI MPS-HI

ELV-1B: 8.000, 8.000, 8.000, 8.000, 8.000
 ELV-08: 4.000, 4.000, 4.000, 4.000, 4.000
 ALPHA: -4.000, -4.000, -4.000, -4.000, -4.000
 GIMBAL: 1.000, 1.000, 1.000, 1.000, 1.000

REFERENCE INFORMATION: SREF 2690.0000 SQ.FT., LREF 1290.3000 IN., BREF 1290.3000 IN., XMRP 976.0000 IN., YMRP 400.0000 IN., ZMRP 400.0000 IN., SCALE .0700



ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

FIG. 76 SUMMARY - EFFECT OF PLUMES - ELV-1B=8.0 ELV-08=4.0 ALPHA=-4.0

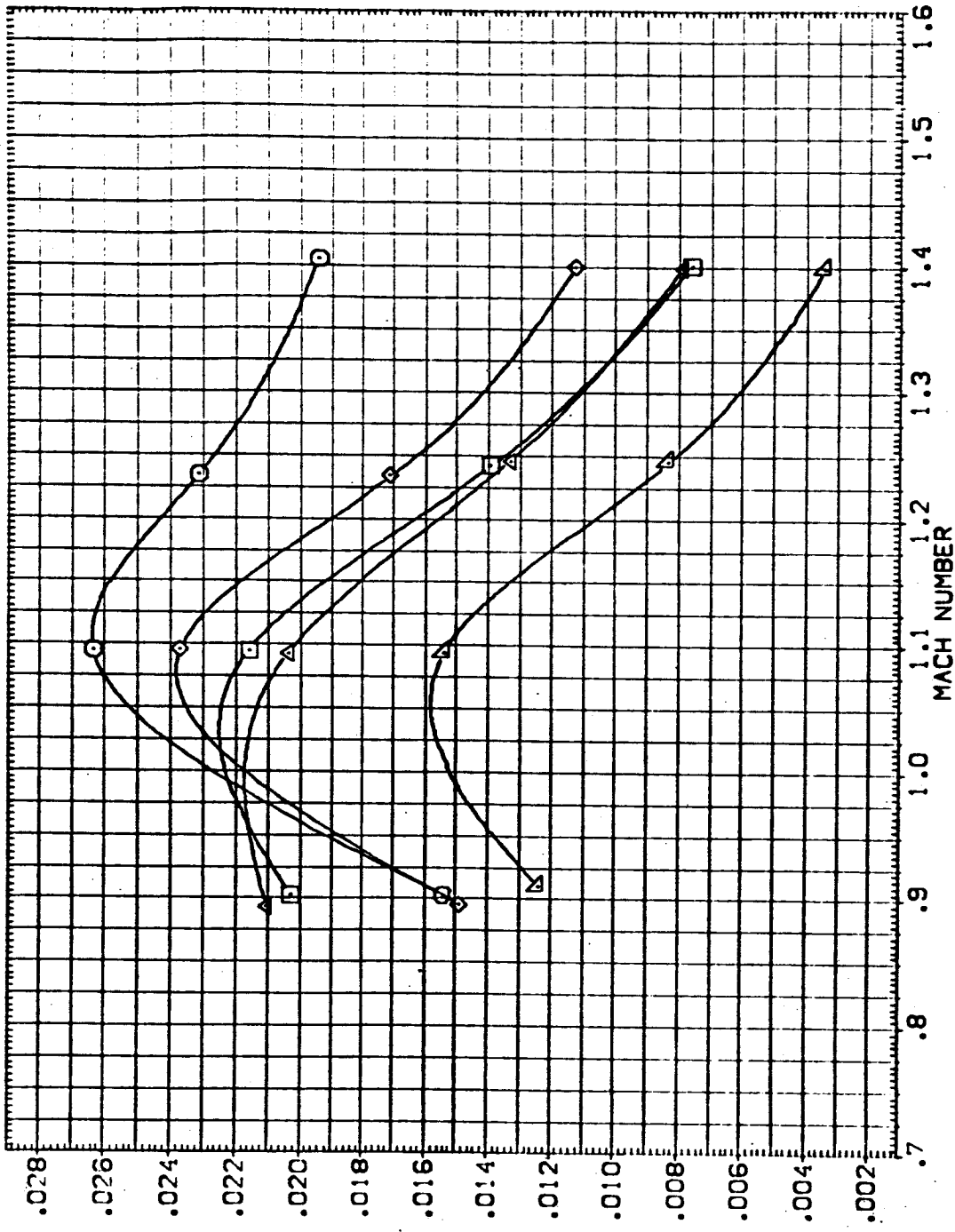
CABETA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-0B	ALPHA	GIMBAL	SREF	SO.FT.
[HEU01]	ARC1-0141A19 01S*STRUT SRB-OFF MPS-OFF	8.000	4.000	-4.000	.000	2690.0000	1790.000
[HEU02]	ARC1-0141A19 01S*STRUT SRB-NOM MPS-NOM	8.000	4.000	-4.000	.000	2690.0000	1790.000
[HEU03]	ARC1-0141A19 01S*STRUT SRB-LDV MPS-NOM	8.000	4.000	-4.000	.000	2690.0000	1790.000
[HEU04]	ARC1-0141A19 01S*STRUT SRB-NOM MPS-OFF	8.000	4.000	-4.000	.000	2690.0000	1790.000
[HEU05]	ARC1-0141A19 01S*STRUT SRB-HI MPS-HI	8.000	4.000	-4.000	.000	2690.0000	1790.000

SCALE .0200



SRM BASE AXIAL-FORCE COEFFICIENT, CABS

FIG. 76 SUMMARY - EFFECT OF PLUMES - ELV-1B=8.0 ELV-0B=4.0 ALPHA=-4.0

CABETA = .00

EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-0B	ALPHA	GIMBAL	REFERENCE INFORMATION
[E-3101]	ARC11-014 A19 OTS+STRUT SRB-OFF MPS-OFF	8.000	4.000	-4.000	1.000	2690.0000 SQ.FT.
[E-3105]	ARC11-014 A19 OTS+STRUT SRB-NOM MPS-NOM	8.000	4.000	-4.000	1.000	1290.3000 IN.
[E-3109]	ARC11-014 A19 OTS+STRUT SRB-LOW MPS-NOM	8.000	4.000	-4.000	1.000	1290.3000 IN.
[E-3113]	ARC11-014 A19 OTS+STRUT SRB-NOM MPS-OFF	8.000	4.000	-4.000	1.000	576.0000 IN.
[E-3117]	ARC11-014 A19 OTS+STRUT SRB-HI MPS-HI	8.000	4.000	-4.000	1.000	400.0000 IN.
						ZMRP SCALE .0200

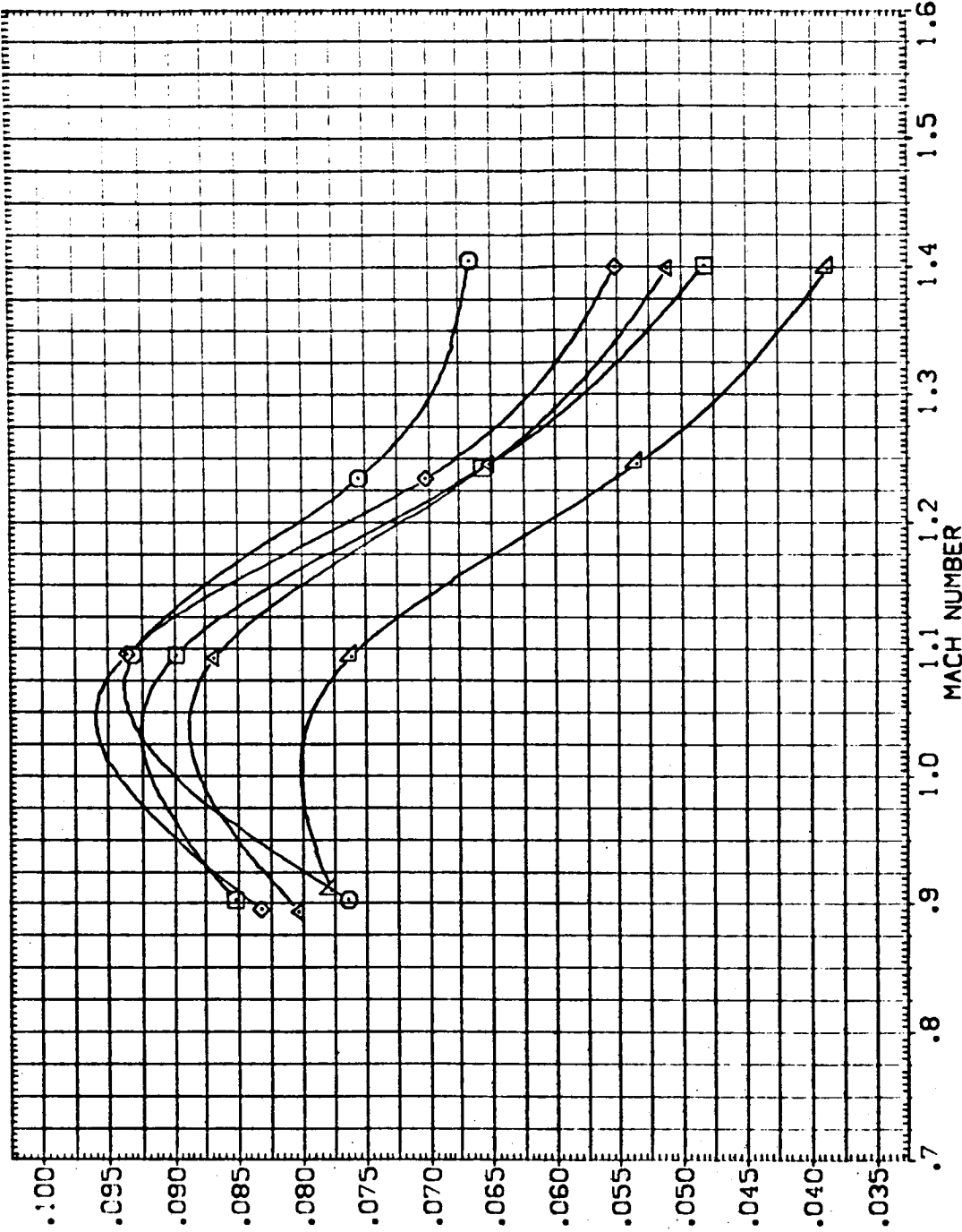


FIG. 76 SUMMARY - EFFECT OF PLUMES - ELV-1B=8.0 ELV-0B=4.0 ALPHA=-4.0

CABETA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION SQ.FT.
 [-E0201] O ARC11-01A1A19 OTS*STRUT SRS-OFF MPS-OFF 2690.0000 IN.
 [-E0202] X ARC11-01A1A19 OTS*STRUT SRS-NON MPS-NON 1290.3000 IN.
 [-E0203] X ARC11-01A1A19 OTS*STRUT SRS-LOV MPS-OFF 1290.3000 IN.
 [-E0204] X ARC11-01A1A19 OTS*STRUT SRS-NON MPS-OFF 976.0000 IN.
 [-E0205] X ARC11-01A1A19 OTS*STRUT SRS-HI MPS-HI 400.0000 IN.
 [-E0206] X

ELV-1B 8.000 ELV-08 4.000 ALPHA .000 GIMBAL 1.000
 8.000 4.000 .000 .000
 8.000 4.000 .000 .000
 8.000 4.000 .000 .000
 8.000 4.000 .000 .000
 8.000 4.000 .000 .000

SREF 2690.0000
 LREF 1290.3000
 BREF 1290.3000
 XMRP 976.0000
 YMRP 400.0000
 ZMRP 400.0000
 SCALE .0200

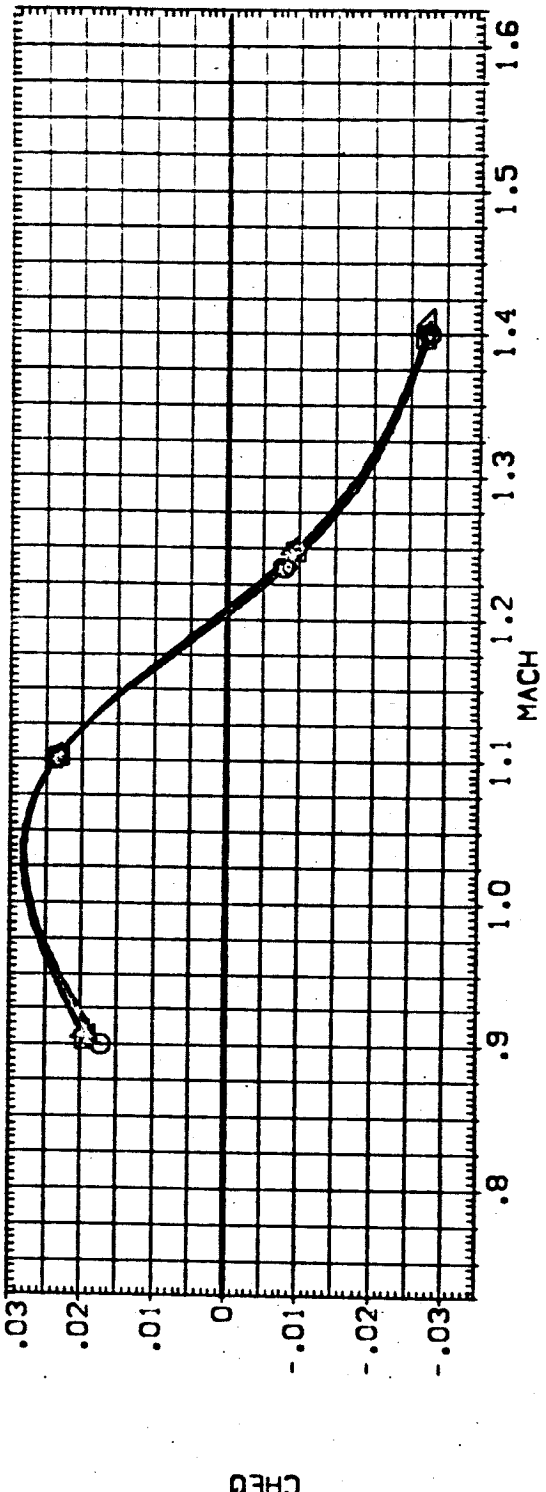
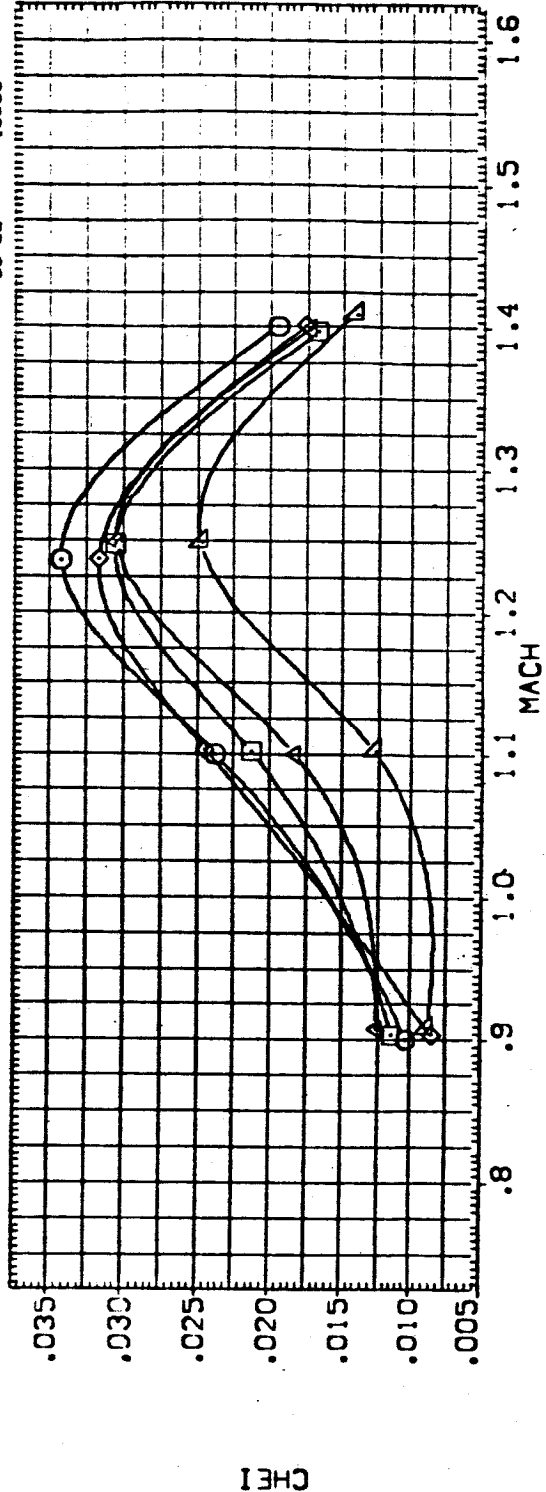


FIG. 77 SUMMARY - EFFECT OF PLUMES - ELV-1B=8.0 ELV-08=4.0 ALPHA=0.0

CABETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

HEUCO1	ARC11-0141A19	DIS+STRUT	SRB-OFF	MPS-OFF
HEUCO2	ARC11-0141A19	DIS+STRUT	SRB-NOM	MPS-NOM
HEUCO3	ARC11-0141A19	DIS+STRUT	SRB-LOW	MPS-NOM
HEUCO4	ARC11-0141A19	DIS+STRUT	SRB-NOM	MPS-OFF
HEUCO5	ARC11-0141A19	DIS+STRUT	SRB-HI	MPS-HI

ELV-1B ELV-0B ALPHA GIMBAL REFERENCE INFORMATION

8.000	4.000	.000	1.000	SREF	2690.0000	50.FT.
8.000	4.000	.000	1.000	LREF	1290.3000	IN.
8.000	4.000	.000	1.000	BREF	1290.3000	IN.
8.000	4.000	.000	1.000	XMRP	976.0000	IN.
8.000	4.000	.000	1.000	YMRP	400.0000	IN.
8.000	4.000	.000	1.000	ZMRP	400.0000	IN.
				SCALE	.0200	

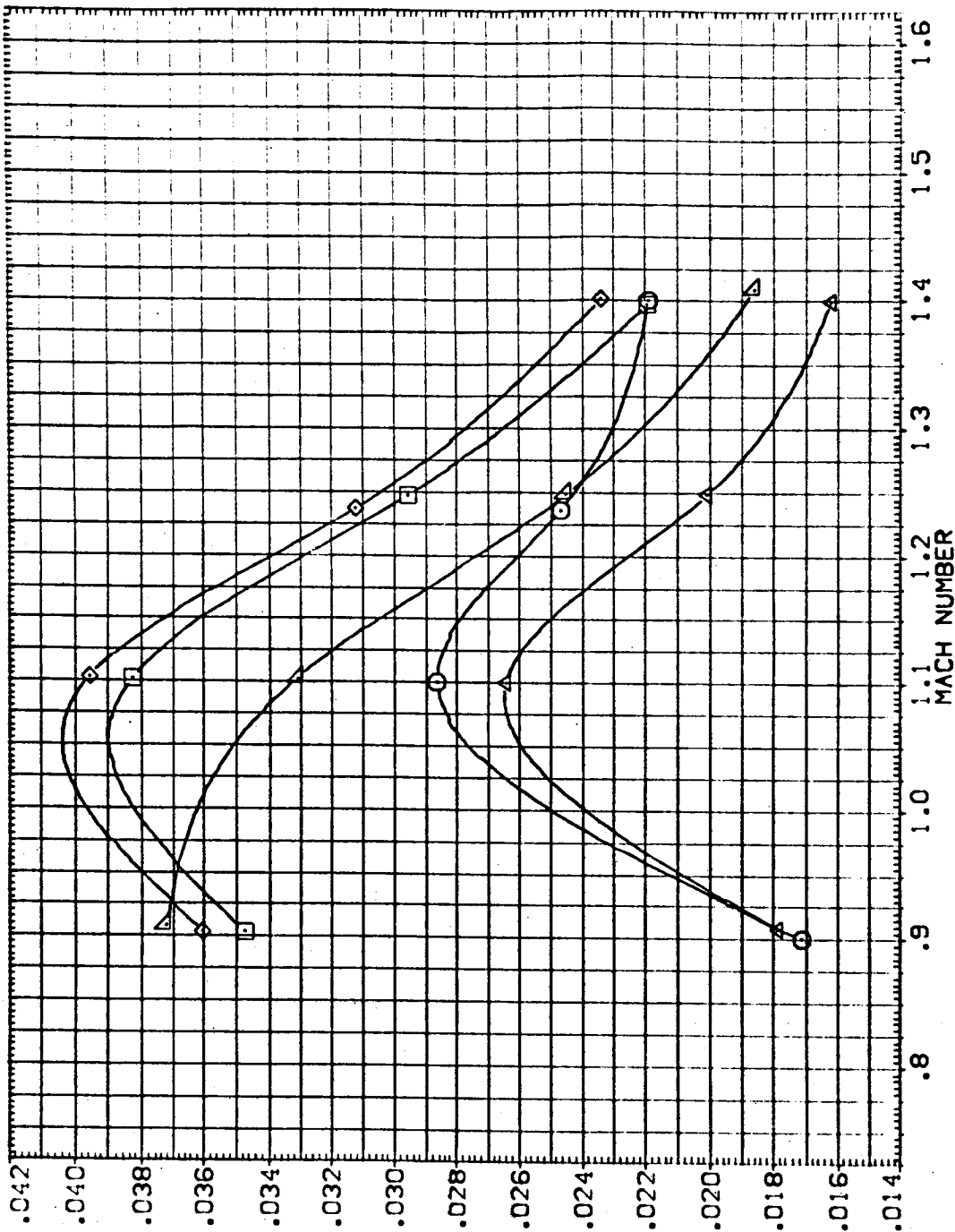


FIG. 77 SUMMARY - EFFECT OF PLUMES - ELV-1B=8.0 ELV-0B=4.0 ALPHA=0.0

CABETA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION

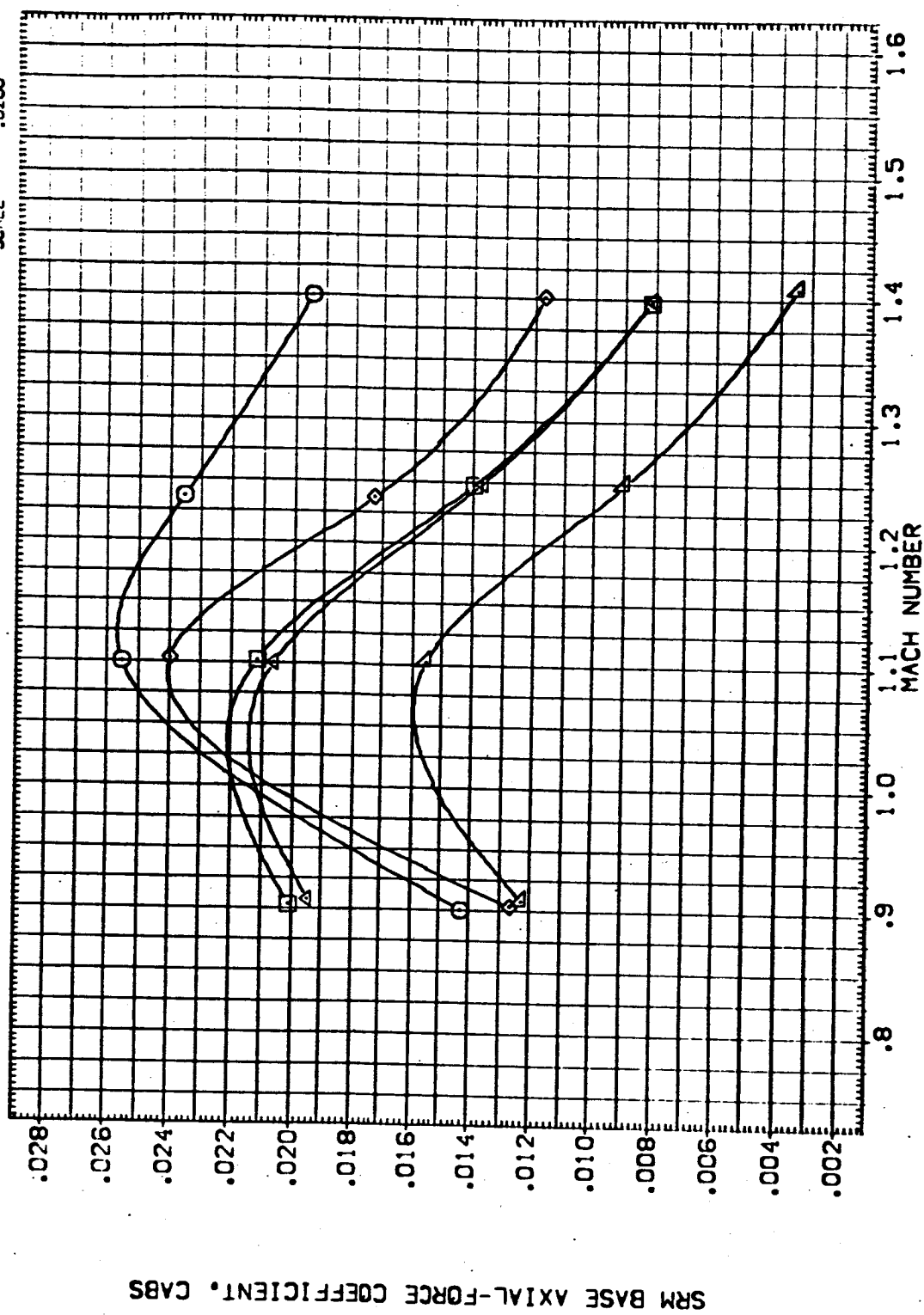
ARC1	-0.41A19	OTS	STRUT	SAB	OFF	MPS	OFF
ARC2	-0.41A19	OTS	STRUT	SAB	LOV	MPS	NOV
ARC3	-0.41A19	OTS	STRUT	SAB	LOV	MPS	OFF
ARC4	-0.41A19	OTS	STRUT	SAB	H1	MPS	H1

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1790.3000	IN.
BREF	1290.3000	IN.
XMRP	576.0000	IN.
YMRP	400.0000	IN.
ZMRP	100.0000	IN.
SCALE	.0200	

ELV-1B ELV-08 ALPHA GIMBAL

8.000	4.000	.000	1.000
8.000	4.000	.000	1.000
8.000	4.000	.000	1.000
8.000	4.000	.000	1.000



SRM BASE AXIAL-FORCE COEFFICIENT, CABS

FIG. 77 SUMMARY - EFFECT OF PLUMES - ELV-1B=8.0 ELV-08=4.0 ALPHA=0.0

CABETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

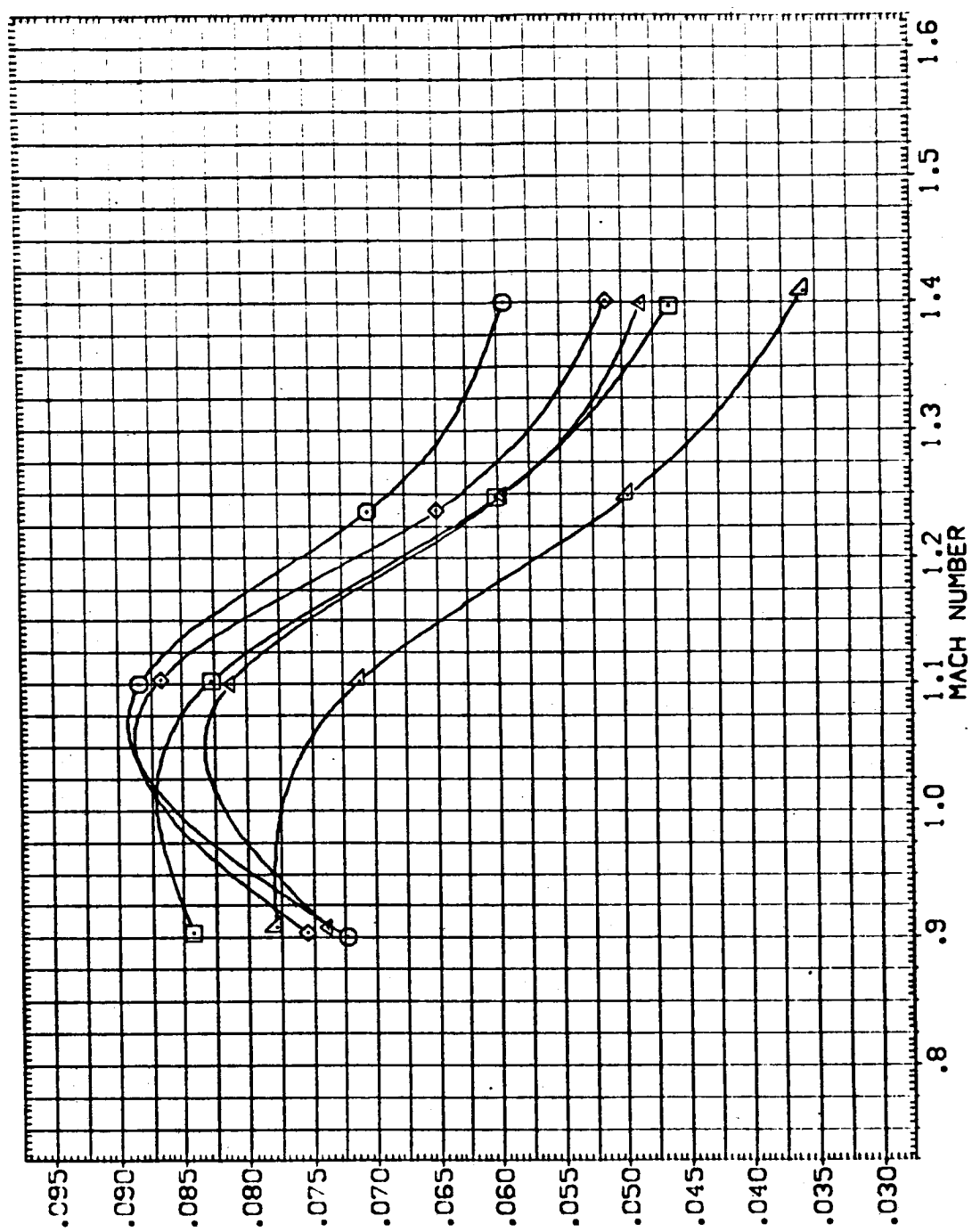
ARC11-0141A19	OTS+STRUT	SRB-OFF	MPS-OFF
ARC11-0141A19	OTS+STRUT	SRB-NOM	MPS-NOM
ARC11-0141A19	OTS+STRUT	SRB-LDV	MPS-NOM
ARC11-0141A19	OTS+STRUT	SRB-NOM	MPS-OFF
ARC11-0141A19	OTS+STRUT	SRB-HI	MPS-HI

ELV-1B ELV-08 ALPHA GIMBAL

8.000	4.000	.000	1.000
8.000	4.000	.000	1.000
8.000	4.000	.000	1.000
8.000	4.000	.000	1.000
8.000	4.000	.000	1.000

REFERENCE INFORMATION

SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN.
YMRP	400.0000	IN.
ZMRP	400.0000	IN.
SCALE	.0200	



EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

FIG. 77 SUMMARY - EFFECT OF PLUMES - ELV-1B=8.0 ELV-08=4.0 ALPHA=0.0

(A)BETA = .00



DATA SET SYMBOL. CONFIGURATION DESCRIPTION REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-0B	ALPHA	GIMBAL	SREF	SG.F.T.
[EJ301]	ARC-01A1A9 OTS-STRUT S9B-OFF MPS-OFF	8.000	4.000	4.000	1.000	2650.0000	50.000
[EJ321]	ARC-01A1A9 OTS-STRUT S9B-LOW MPS-LOW	8.000	4.000	4.000	1.000	1290.3000	50.000
[EJ331]	ARC-01A1A9 OTS-STRUT S9B-NOM MPS-NOM	8.000	4.000	4.000	1.000	1290.3000	50.000
[EJ341]	ARC-01A1A9 OTS-STRUT S9B-NOM MPS-OFF	8.000	4.000	4.000	1.000	976.0000	50.000
[EJ351]	ARC-01A1A9 OTS-STRUT S9B-NOM MPS-NOM	8.000	4.000	4.000	1.000	400.0000	50.000

ZMRP SCALE .0200

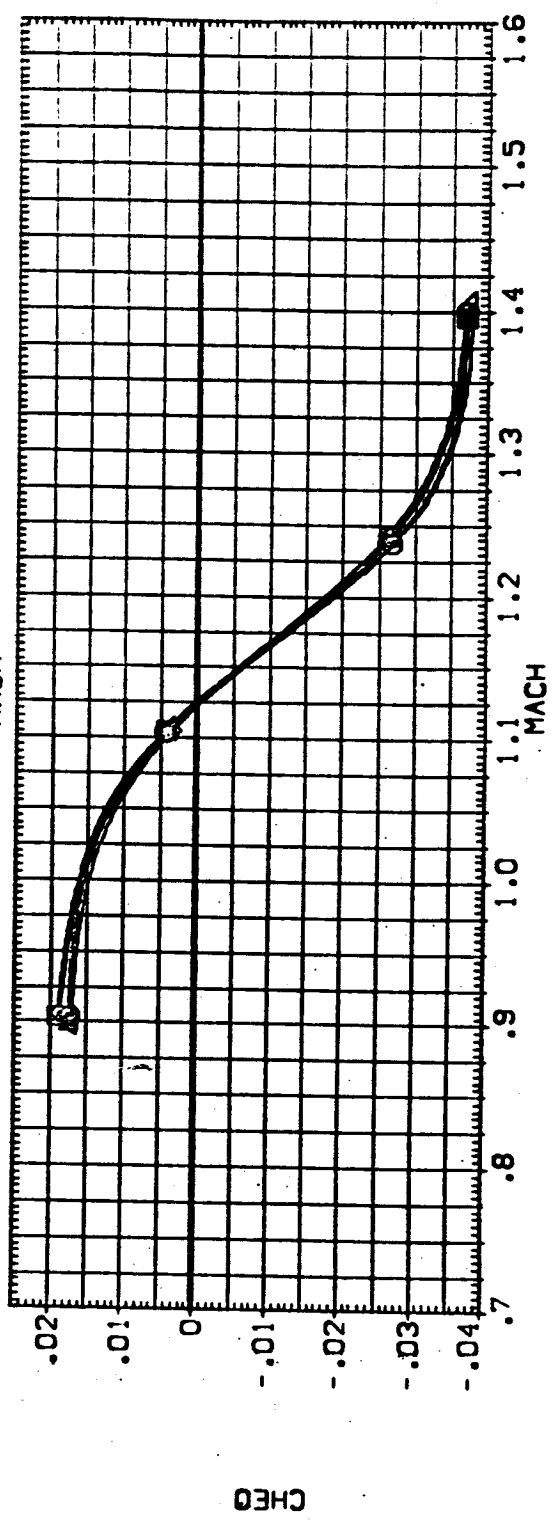
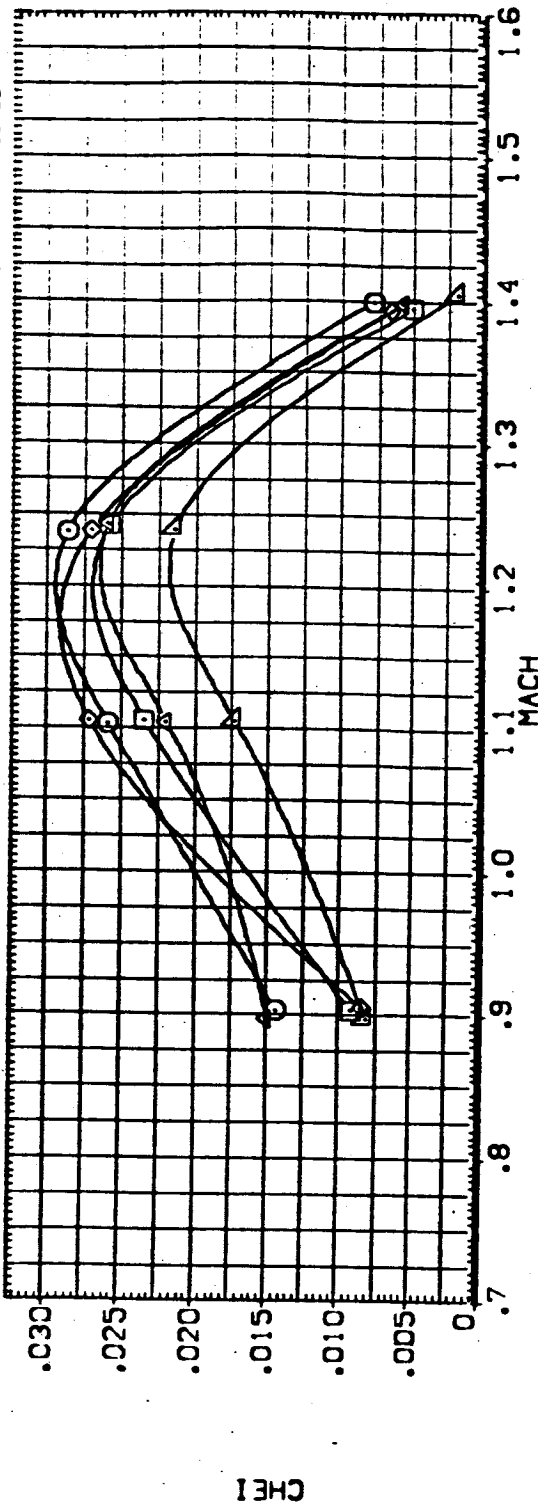


FIG. 78 SUMMARY - EFFECT OF PLUMES - ELV-1B=8.0 ELV-0B=4.0 ALPHA=4.0

(A) BETA = .00

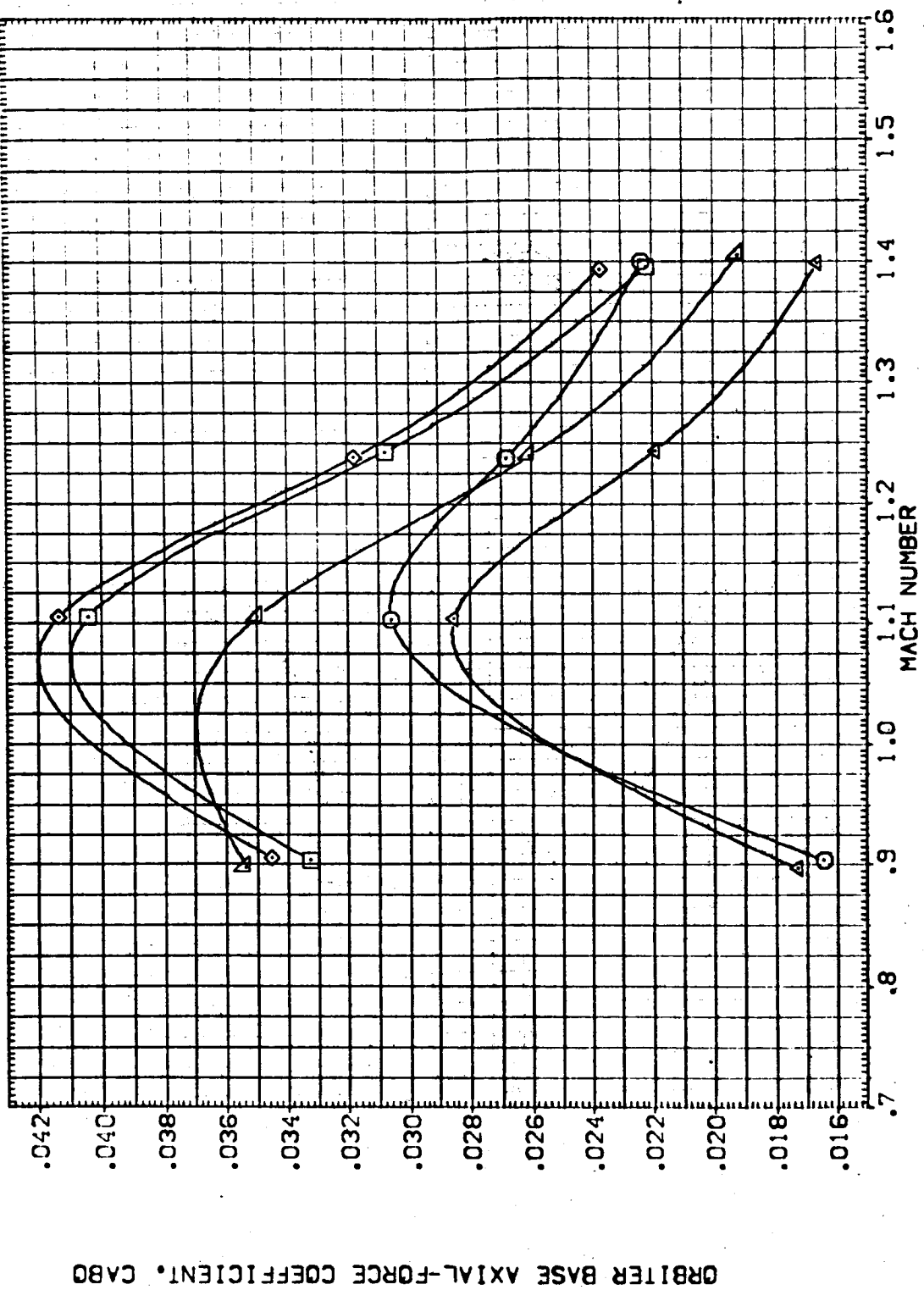
DATA SET SYMBOL CONFIGURATION DESCRIPTION

○ ARC11-0141A19 OTS-STRUT SRB-OFF MPS-OFF
 □ ARC11-0141A19 OTS-STRUT SRB-NOM MPS-NOM
 △ ARC11-0141A19 OTS-STRUT SRB-LGV MPS-OFF
 ⊙ ARC11-0141A19 OTS-STRUT SRB-NOM MPS-OFF
 ⊙ ARC11-0141A19 OTS-STRUT SRB-NOM MPS-HI

ELV-IB 8.000
 ELV-OB 4.000
 ALPHA 4.000
 GIMBAL 1.000

REFERENCE INFORMATION

SREF 2650.0000 SQ.FT.
 LREF 1250.3000 IN.
 BRP 1250.3000 IN.
 XMRP 976.0000 IN.
 YMRP 400.0000 IN.
 ZMRP 400.0000 IN.
 SCALE .0200



ORBITER BASE AXIAL FORCE COEFFICIENT, CABO

FIG. 78 SUMMARY - EFFECT OF PLUMES - ELV-IB=8.0 ELV-OB=4.0 ALPHA=4.0

CABETA = .00



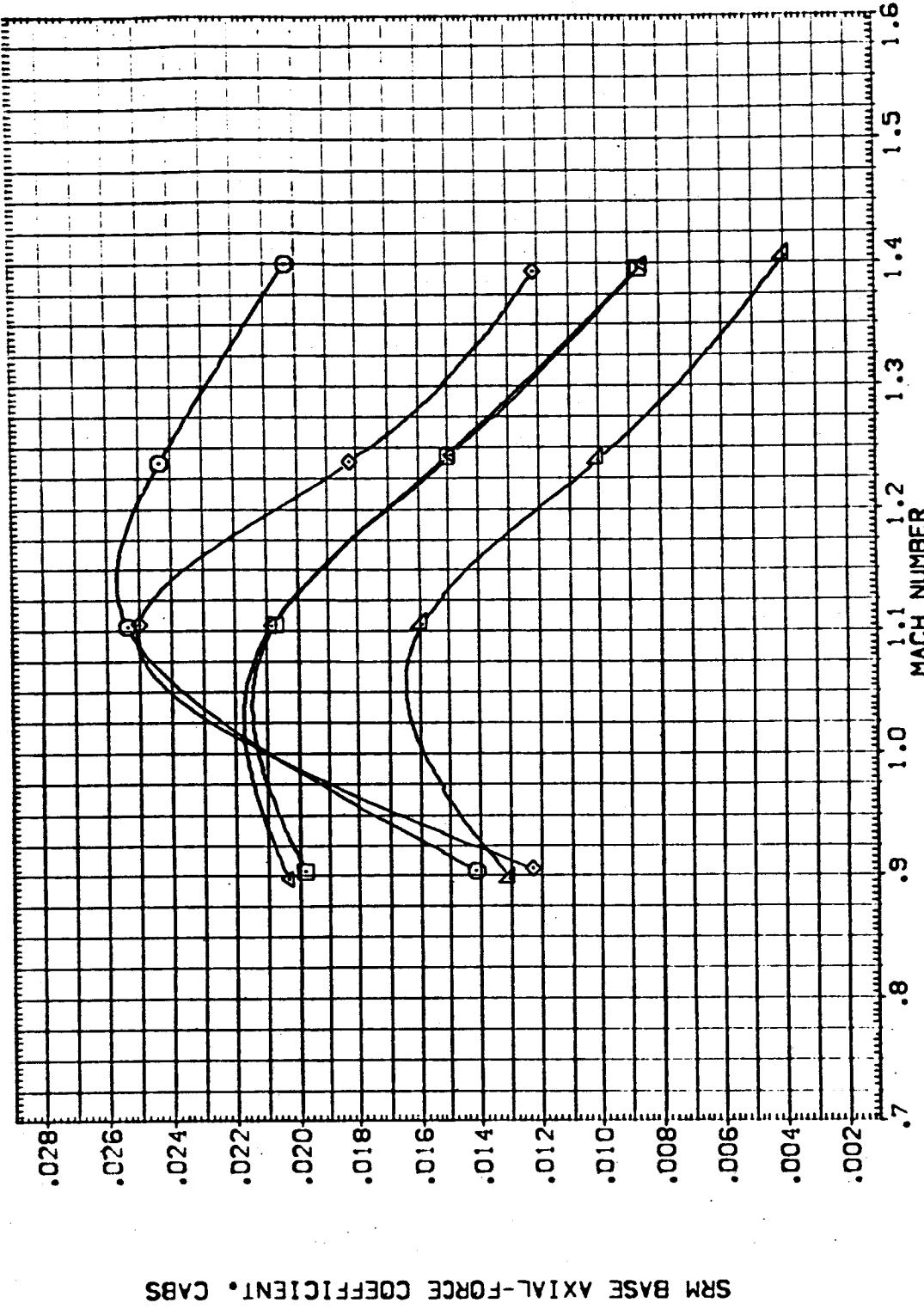
DATA SET SYMBOL CONFIGURATION DESCRIPTION

0	ARC11-0141A19	OTS-STRUT	SRB-DF	MPS-DF
1	ARC11-0141A19	OTS-STRUT	SRB-NCH	MPS-NCH
2	ARC11-0141A19	OTS-STRUT	SRB-LCH	MPS-NCH
3	ARC11-0141A19	OTS-STRUT	SRB-NCH	MPS-DF
4	ARC11-0141A19	OTS-STRUT	SRB-HI	MPS-HI

REFERENCE INFORMATION

SREF	2690.0000	SG.F.T.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN.
YMRP	400.0000	IN.
ZMRP	400.0000	IN.
SCALE	0.0200	

ELV-18	8.000
ELV-08	4.000
ALPHA	4.000
GIMBAL	1.000



SRM BASE AXIAL-FORCE COEFFICIENT, CABS

FIG. 78 SUMMARY - EFFECT OF PLUMES - ELV-18=8.0 ELV-08=4.0 ALPHA=4.0

(A)BETA = .00

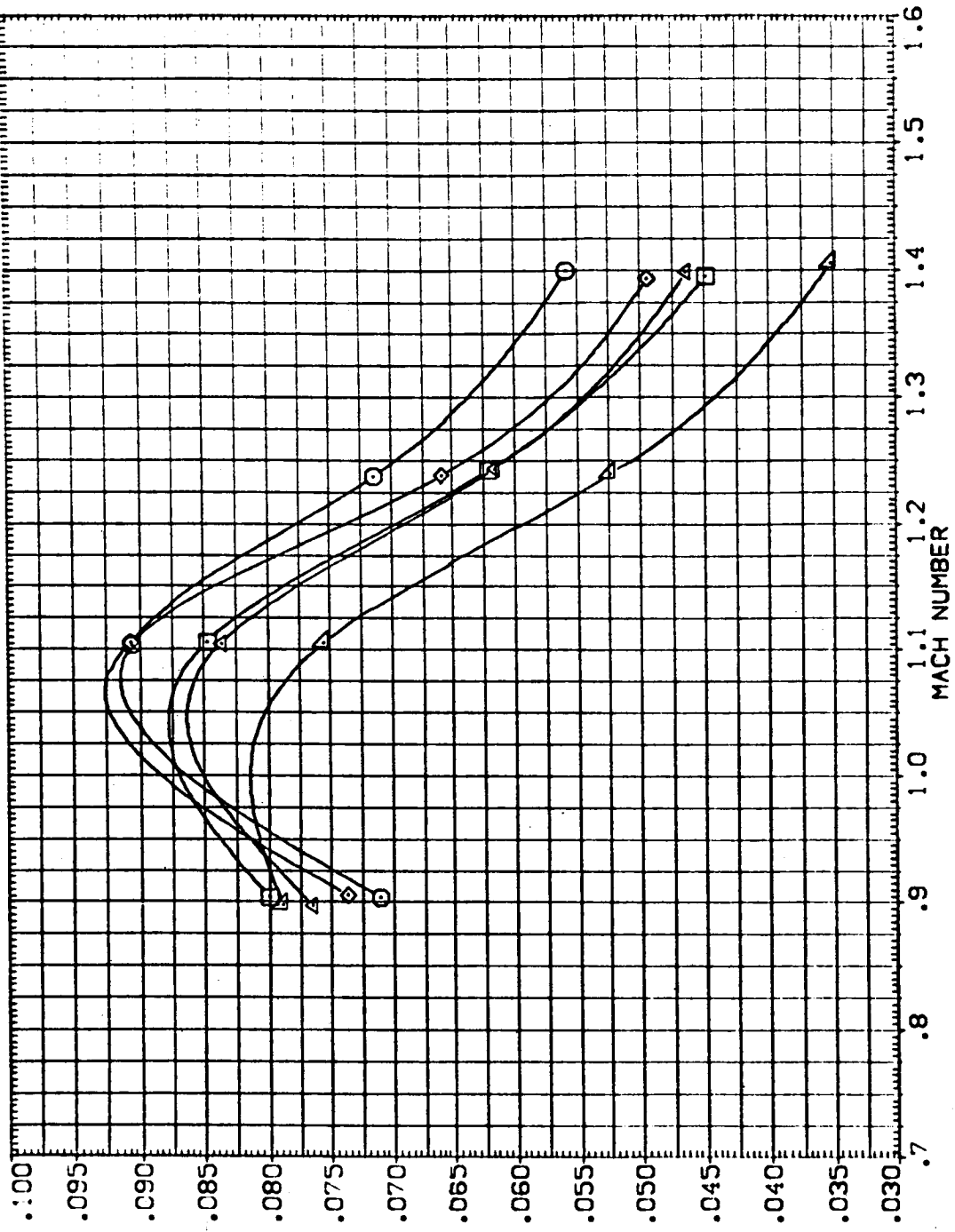
DATA SET SYMBOL CONFIGURATION DESCRIPTION

ARC11-0141A19	OTS*STRUT	S98-0FF	MPS-0FF
ARC11-0141A19	OTS*STRUT	S98-N0H	MPS-N0H
ARC11-0141A19	OTS*STRUT	S98-LOV	MPS-LOV
ARC11-0141A19	OTS*STRUT	S98-N0H	MPS-0FF
ARC11-0141A19	OTS*STRUT	S98-H1	MPS-H1

ELV-1B 8.000
 ELV-0B 4.000
 ALPHA 4.000
 GIMBAL 1.000

REFERENCE INFORMATION

SREF	2690.0000	SO.FT.
LREF	1290.0000	IN.
BREF	1290.0000	IN.
XMRP	576.0000	IN.
YMRP	400.0000	IN.
ZMRP	400.0000	IN.
SCALE	100.0000	IN.



EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

FIG. 78 SUMMARY - EFFECT OF PLUMES - ELV-1B=8.0 ELV-0B=4.0 ALPHA=4.0

CABETA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-OB	ALPHA	GIMBAL	REF	SQ.FT.
(HEU)23]	ARC11-0141A19 DIS*STRUT SRB-DF MPS-DF	.000	-4.000	1.000	2690.0000	90.0000
(HEU)24]	ARC11-0141A19 DIS*STRUT SRB-NOM MPS-NOM	.000	-4.000	1.000	1290.3000	45.0000
(HEU)25]	ARC11-0141A19 DIS*STRUT SRB-DF MPS-DF	.000	-4.000	2.000	1290.3000	45.0000
(HEU)26]	ARC11-0141A19 DIS*STRUT SRB-NOM MPS-NOM	.000	-4.000	2.000	576.0000	22.5000

XREF 400.0000 IN. XT
 ZREF 400.0000 IN. ZT
 SCALE .0200

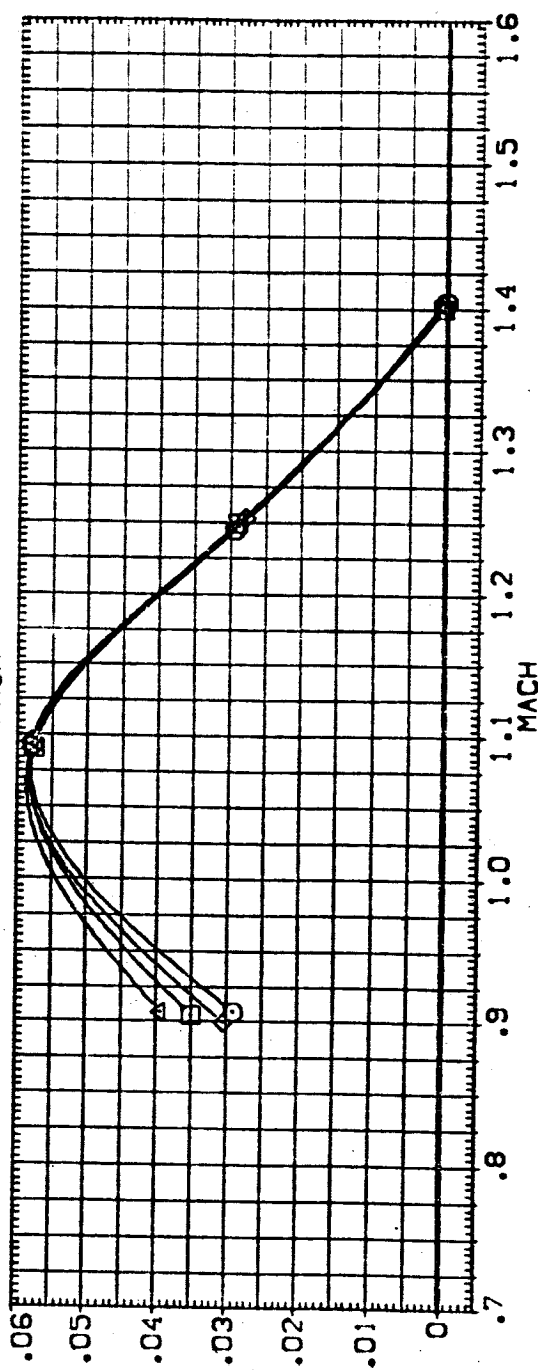
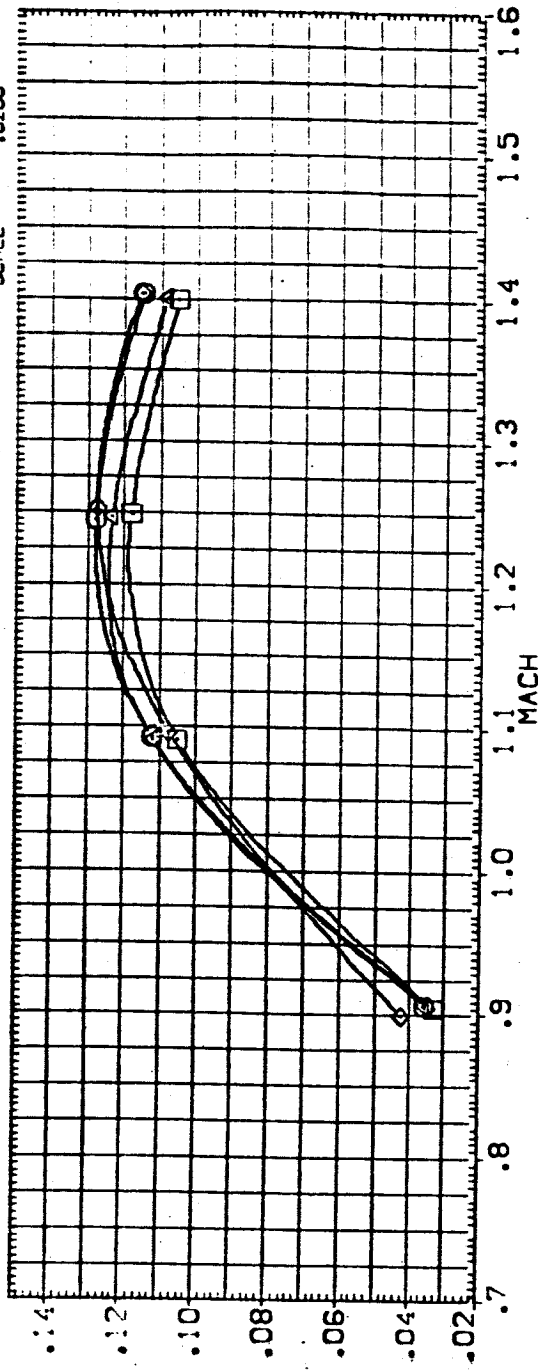


FIG. 79 SUMMARY - EFFECT OF PLUMES - ELV-OB=0.0 ELV-OB=0.0 ALPHA=-4.0

(A)BETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

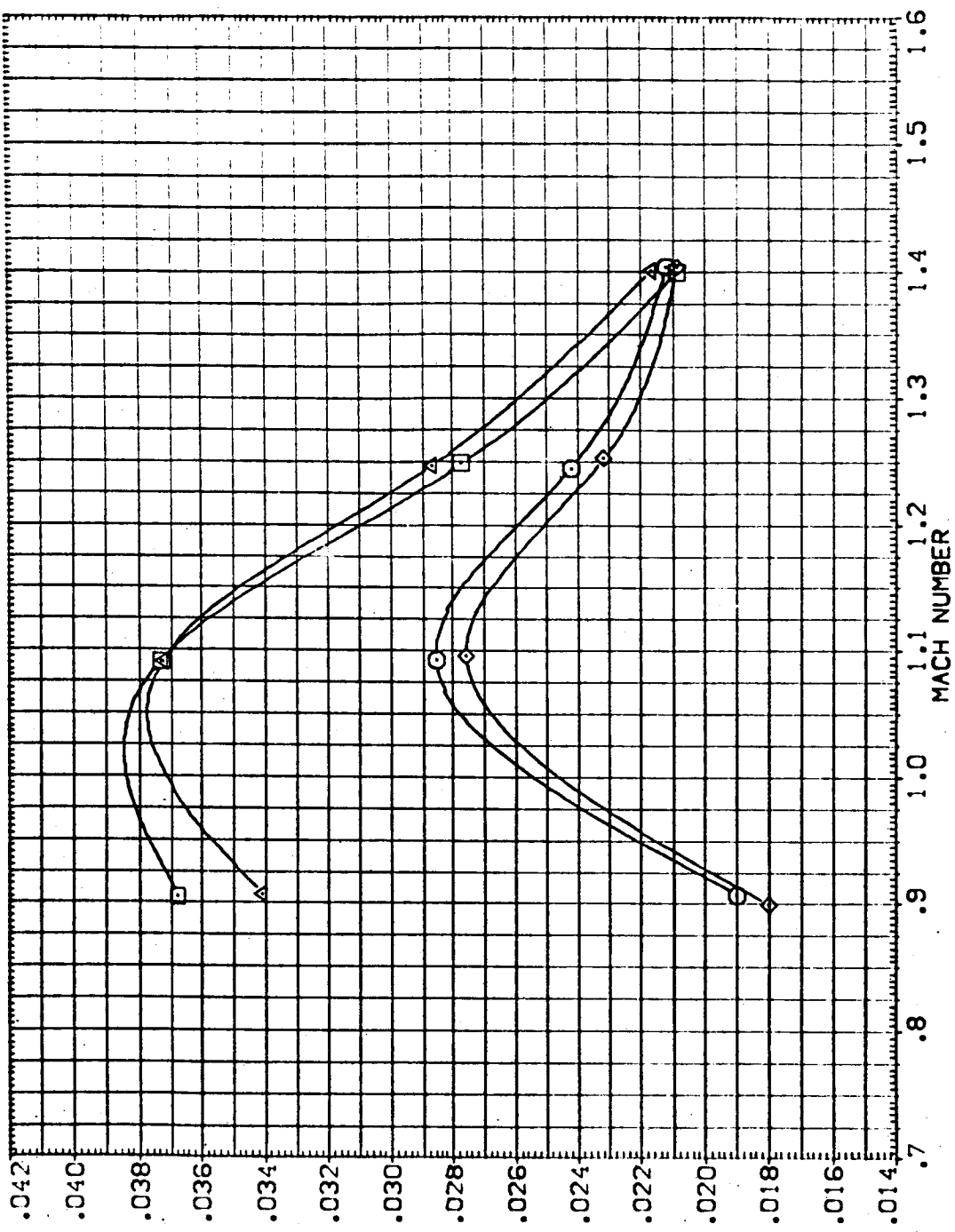
[EJ]23	ARC	-0.4	1.19	OTS	STRUT	SAB	OFF	MPS	OFF
[EJ]27	ARC	-0.4	1.19	OTS	STRUT	SAB	NON	MPS	NON
[EJ]31	ARC	-0.4	1.19	OTS	STRUT	SAB	OFF	MPS	OFF
[EJ]35	ARC	-0.4	1.19	OTS	STRUT	SAB	NON	MPS	NON

ELV-1B ELV-08 ALPHA GIMBAL

.000	.000	-4.000	1.000
.000	.000	-4.000	1.000
.000	.000	-4.000	2.000
.000	.000	-4.000	2.000

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	576.0000	IN.
YMRP	.0000	IN.
ZMRP	400.0000	IN.
SCALE	.0200	



ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

FIG. 79 SUMMARY - EFFECT OF PLUMES - ELV-1B=0.0 ELV-08=0.0 ALPHA=-4.0

CABETA = .00



DATA SET SYMBOL. CONFIGURATION DESCRIPTION

HEJ123	ARC11-0141A19	01S-STRJ	SRB-OFF	MPS-OFF
HEJ127	ARC11-0141A19	01S-STRJ	SRB-NOM	MPS-NOM
HEJ131	ARC11-0141A19	01S-STRJ	SRB-OFF	MPS-OFF
HEJ135	ARC11-0141A19	01S-STRJ	SRB-NOM	MPS-NOM

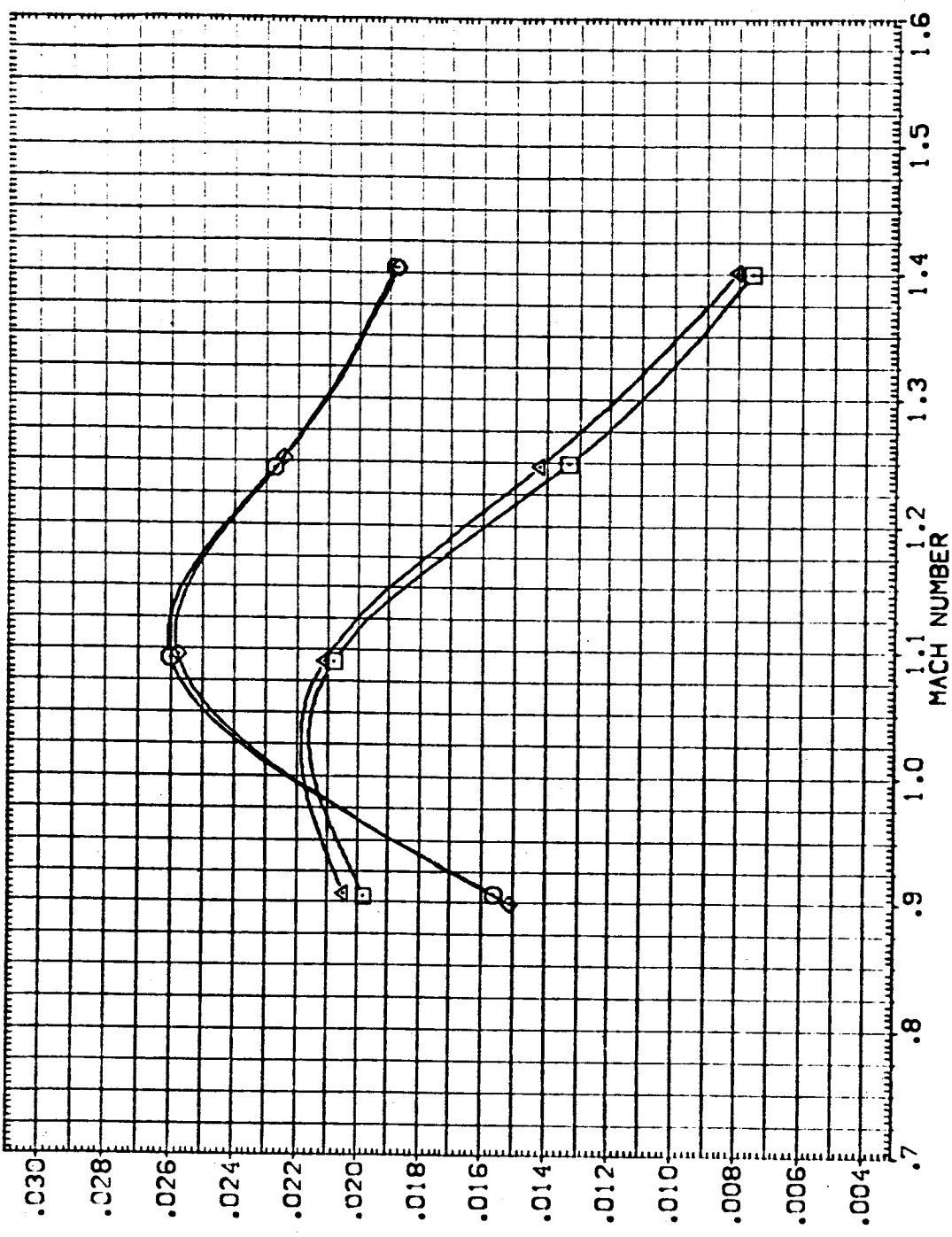
ELV-1B ELV-08 ALPHA GIMBAL

.000	.000	-4.000	1.000
.000	.000	-4.000	1.000
.000	.000	-4.000	2.000
.000	.000	-4.000	2.000

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT

SCALE .0200



SRM BASE AXIAL-FORCE COEFFICIENT, CABS

FIG. 79 SUMMARY - EFFECT OF PLUMES - ELV-1B=0.0 ELV-08=0.0 ALPHA=-4.0

CABETA = .00

EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

DATA SET SYMBO.	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	ALPHA	GIMBAL	REFERENCE INFORMATION
[REJ129]	ARC11-014 A19 DT5+STRUT SRB-DEF MPS-DEF	.000	.000	-4.000	1.000	SREF 2690.0000 SQ.FT.
[REJ127]	ARC11-014 A19 DT5+STRUT SRB-NOM MPS-NOM	.000	.000	-4.000	1.000	LREF 1290.3000 IN.
[REJ131]	ARC11-014 A19 DT5+STRUT SRB-DEF MPS-DEF	.000	.000	-4.000	2.000	BREF 1290.3000 IN.
[REJ135]	ARC11-014 A19 DT5+STRUT SRB-NOM MPS-NOM	.000	.000	-4.000	2.000	XMRP 976.0000 IN.
						YMRP 400.0000 IN.
						ZMRP 400.0000 IN.
						SCALE .0500

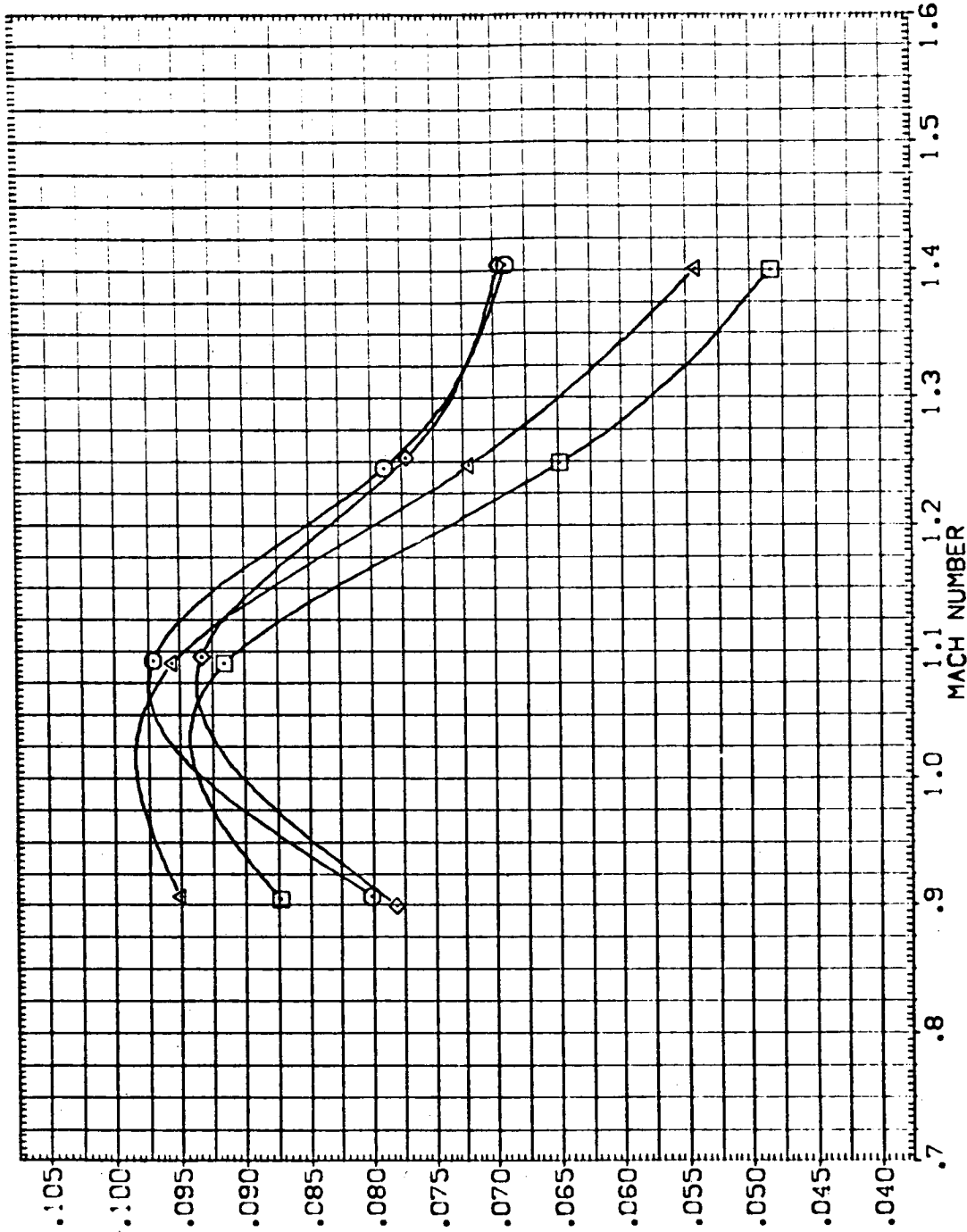


FIG. 79 SUMMARY - EFFECT OF PITCHES - ELV-IB=0.0 ELV-OB=0.0 ALPHA=-4.0

(A)BETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

[E023]	ARC11-01A1A19 OTS*STRUT SRB-OFF MPS-OFF	SREF 2690.0000 SQ.FT.
[E027]	ARC11-01A1A19 OTS*STRUT SRB-NON MPS-NON	LREF 1290.3000 IN.
[E031]	ARC11-01A1A19 OTS*STRUT SRB-OFF MPS-OFF	BREF 1290.3000 IN.
[E035]	ARC11-01A1A19 OTS*STRUT SRB-NON MPS-NON	XMRB 976.0000 IN.
		YMRB .0000 IN.
		ZMRB .0000 IN.
		SCALE .0700 IN.

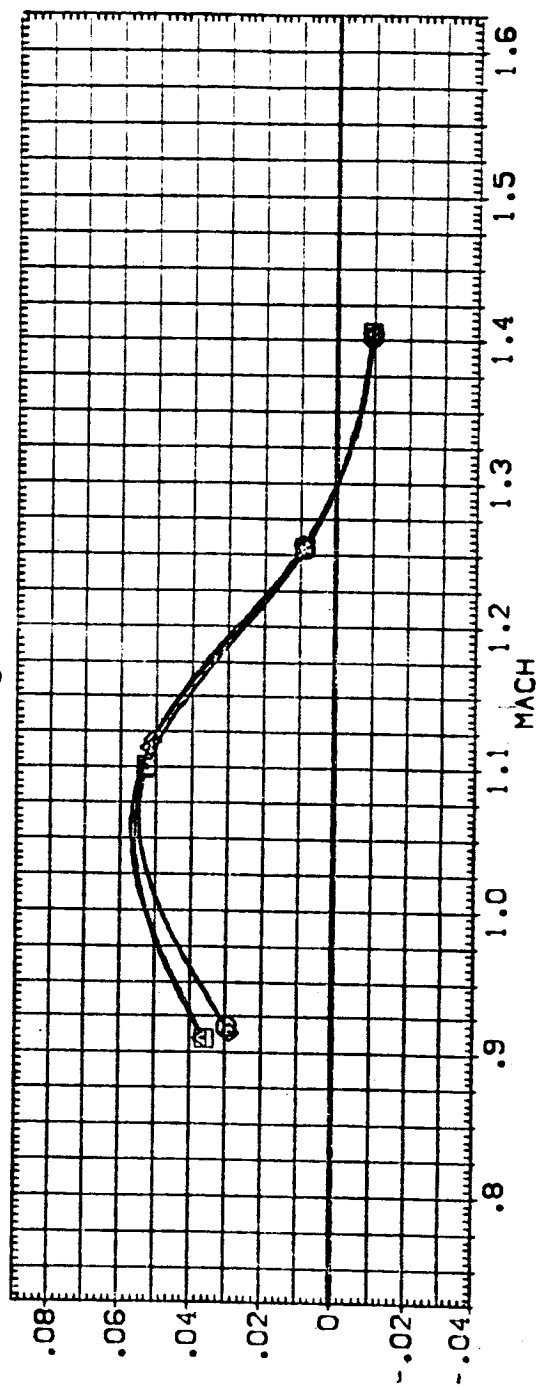
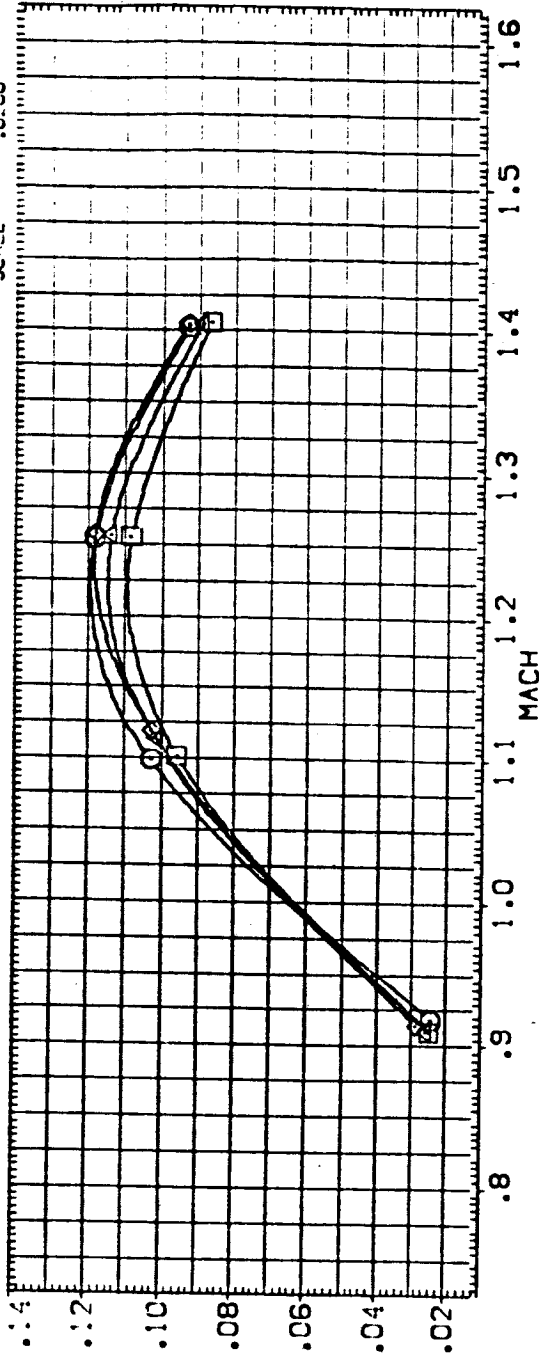


FIG. 80 SUMMARY - EFFECT OF PLUMES - ELV-IB=0.0 ELV-OB=0.0 ALPHA=0.0

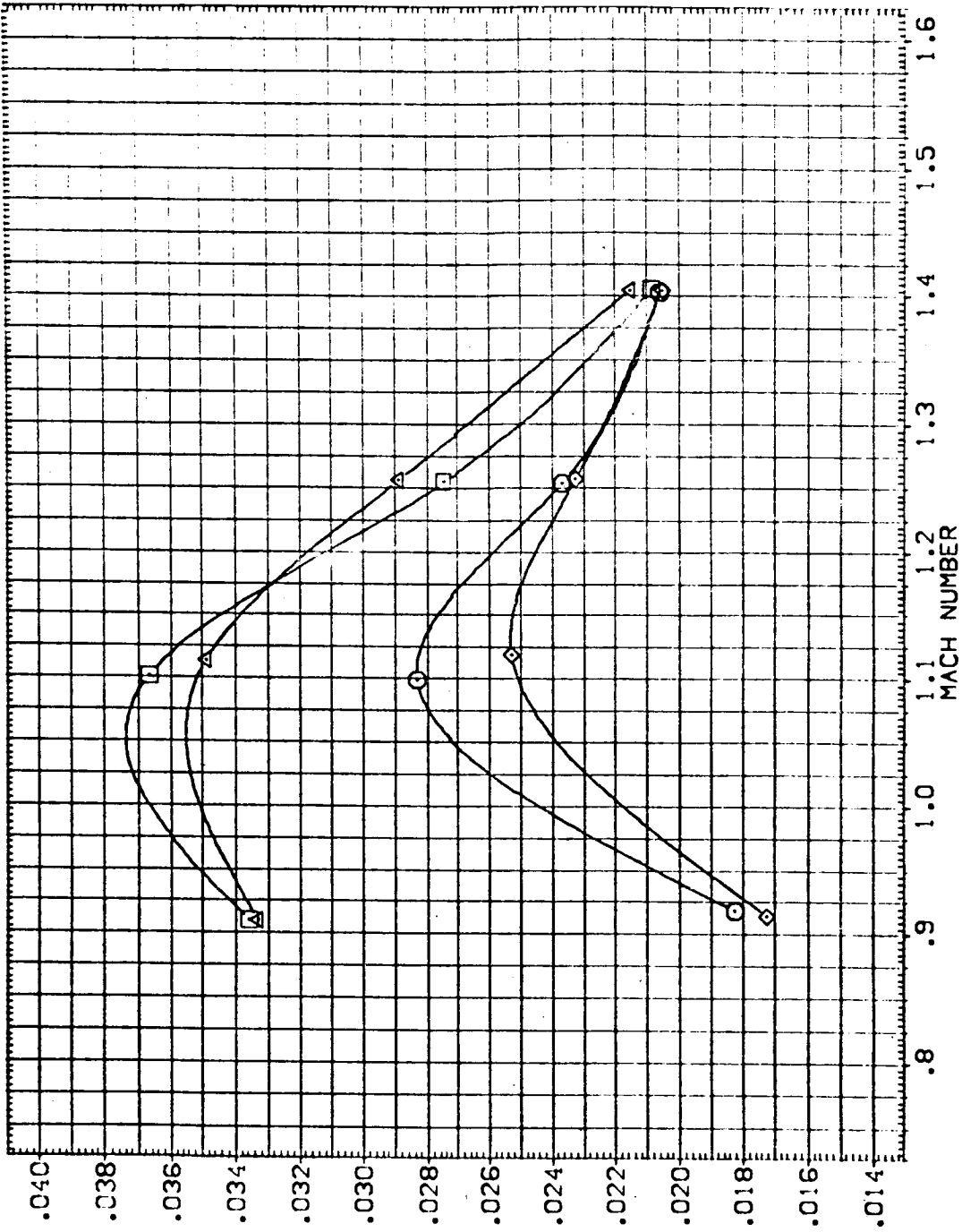
(A)BETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

(-EL223)	ARC11-0141A19	DIS*STRUT	SRS-OFF	MPS-NOM	SREF	2690.0000	50. FT.
(-EL227)	ARC11-0141A19	DIS*STRUT	SRS-NOM	MPS-NOM	LREF	1290.3000	IN.
(-EL231)	ARC11-0141A19	DIS*STRUT	SRS-OFF	MPS-OFF	BREF	1290.3000	IN.
(-EL235)	ARC11-0141A19	DIS*STRUT	SRS-NOM	MPS-NOM	YREF	976.0000	IN.
					Z-REF	400.0000	IN.
					SCALE	.0200	

ELV-1B ELV-08 ALPHA GIMBAL REFERENCE INFORMATION

.000	.000	.000	1.000	SREF	2690.0000	50. FT.
.000	.000	.000	1.000	LREF	1290.3000	IN.
.000	.000	.000	2.000	BREF	1290.3000	IN.
.000	.000	.000	2.000	YREF	976.0000	IN.
				Z-REF	400.0000	IN.
				SCALE	.0200	



ORBITER BASE AXIAL-FORCE COEFFICIENT, CABD

FIG. 80 SUMMARY - EFFECT OF PLUMES - ELV-1B=0.0 ELV-08=0.0 ALPHA=0.0

CABETA = .00



DATA SET SYMBOL

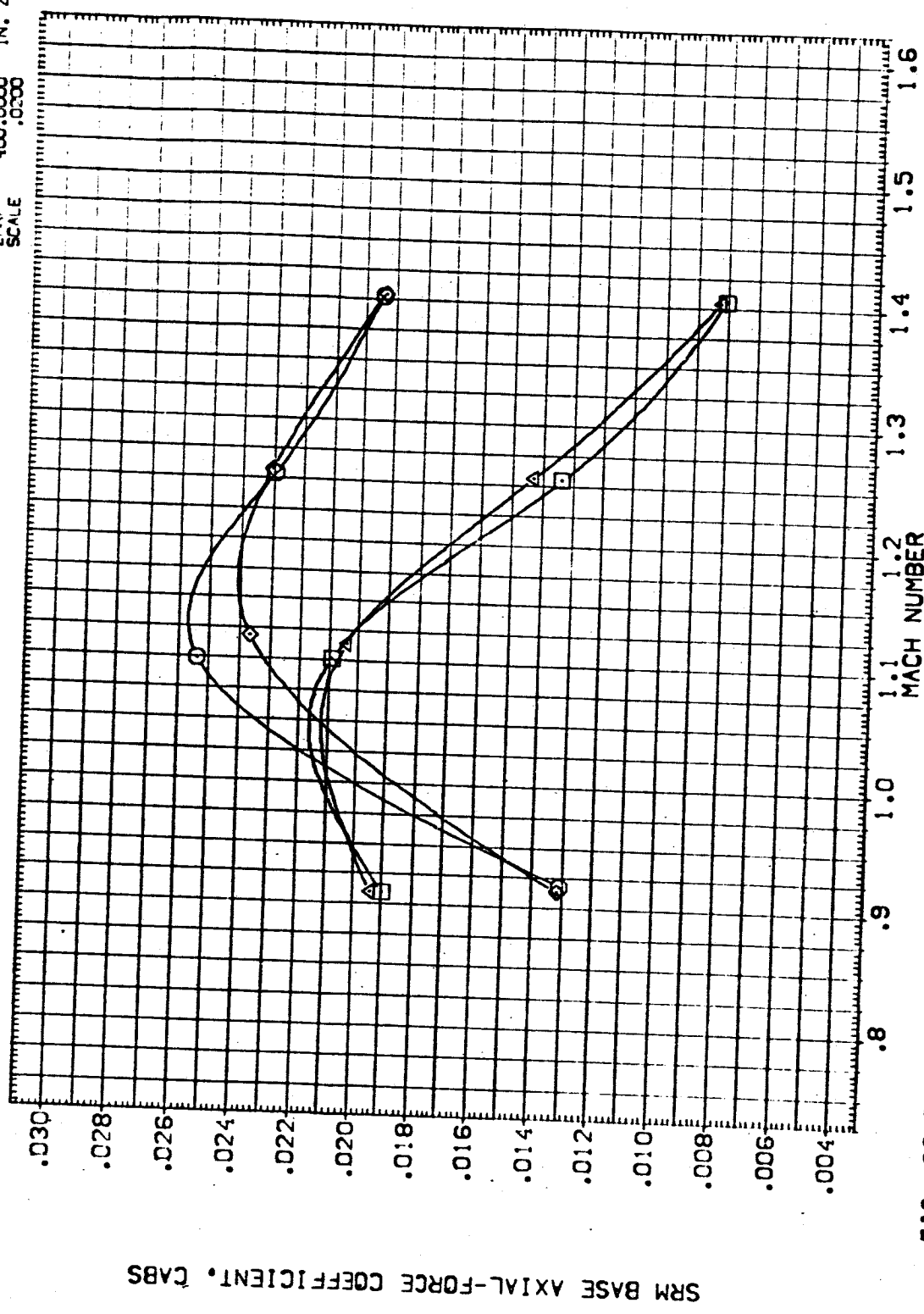
Symbol	Configuration Description
○	ARC11-0141A19 OTS-STRUT SR8-OFF MPS-OFF
○	ARC11-0141A19 OTS-STRUT SR8-NOM MPS-NOM
⊗	ARC11-0141A19 OTS-STRUT SR8-OFF MPS-OFF
⊗	ARC11-0141A19 OTS-STRUT SR8-NOM MPS-NOM

CONFIGURATION DESCRIPTION

ELV-1B	ELV-08	ALPHA	GIMBAL
.000	.000	.000	1.000
.000	.000	.000	1.000
.000	.000	.000	2.000
.000	.000	.000	2.000

REFERENCE INFORMATION	SO.FT.
SREF	2690.0000
LREF	1290.0000
BREF	1290.0000
XMRP	576.0000
YMRP	0.0000
ZMRP	400.0000
SCALE	.0300

IN. XT
IN. YT
IN. ZT



SRM BASE AXIAL-FORCE COEFFICIENT, CABS

FIG. 80 SUMMARY - EFFECT OF PLUMES - ELV-1B=0.0 ELV-08=0.0 ALPHA=0.0
CABETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

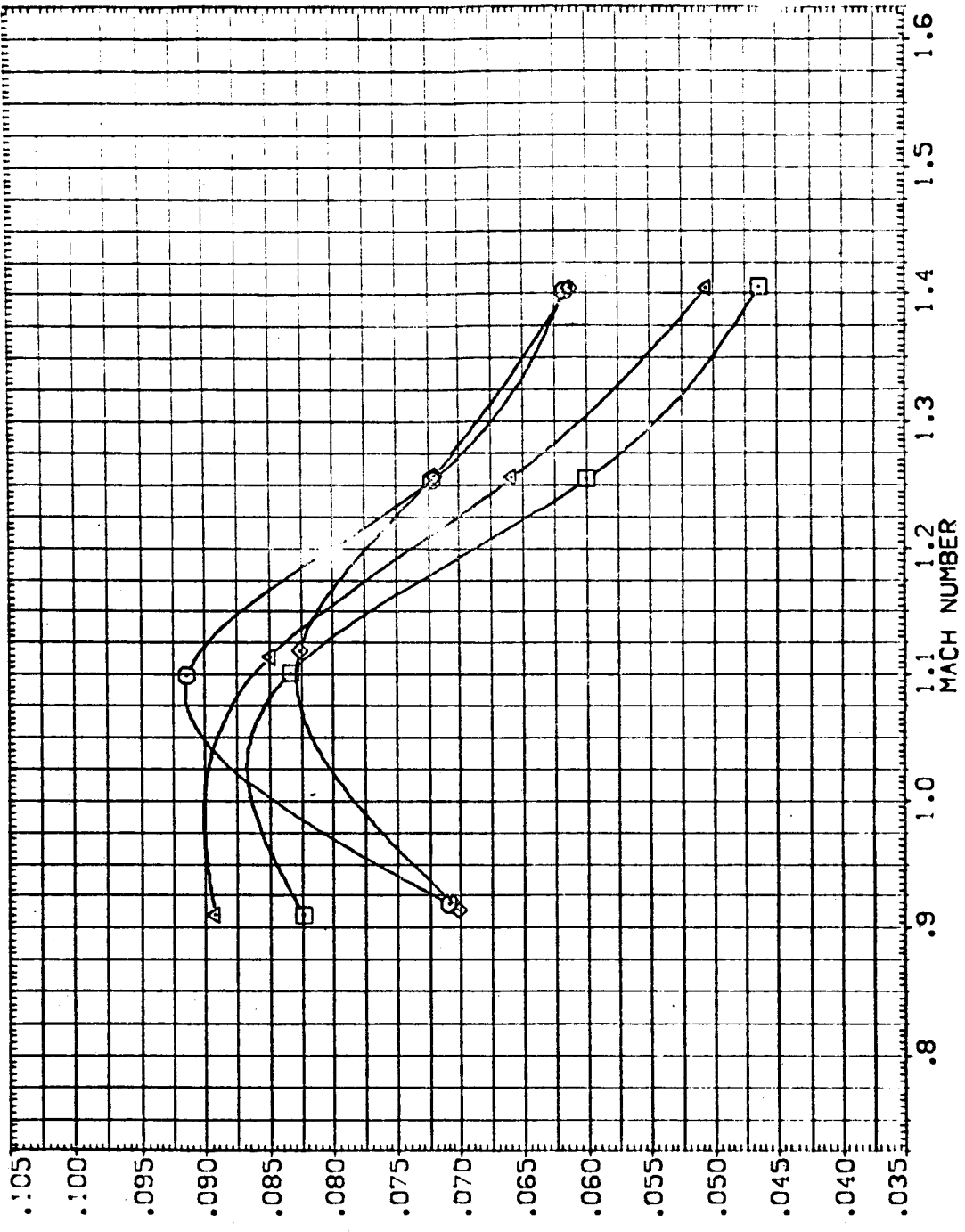
[HE023] O ARC11-0141A19 DTS+STRUT SRB-OFF MPS-OFF
 [HE027] X ARC11-0141A19 DTS+STRUT SRB-NOM MPS-NOM
 [HE031] X ARC11-0141A19 DTS+STRUT SRB-OFF MPS-OFF
 [HE035] X ARC11-0141A19 DTS+STRUT SRB-NOM MPS-NOM

ELV-18 ELV-08 ALPHA GIMBAL

.000 .000 .000 1.000
 .000 .000 .000 1.000
 .000 .000 .000 2.000
 .000 .000 .000 2.000

REFERENCE INFORMATION

SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN.
 YMRP .0000 IN.
 ZMRP 400.0000 IN.
 SCALE 0.000 IN.



EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

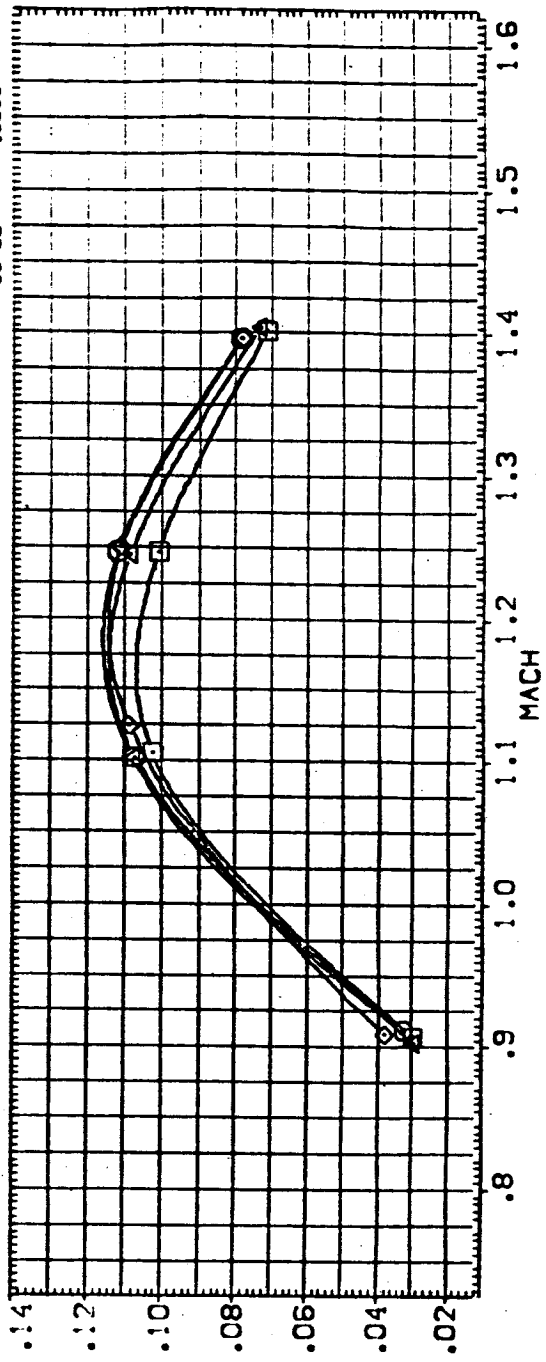
FIG. 80 SUMMARY - EFFECT OF PLUMES - ELV-18=0.0 ELV-08=0.0 ALPHA=0.0

CABETA = .00

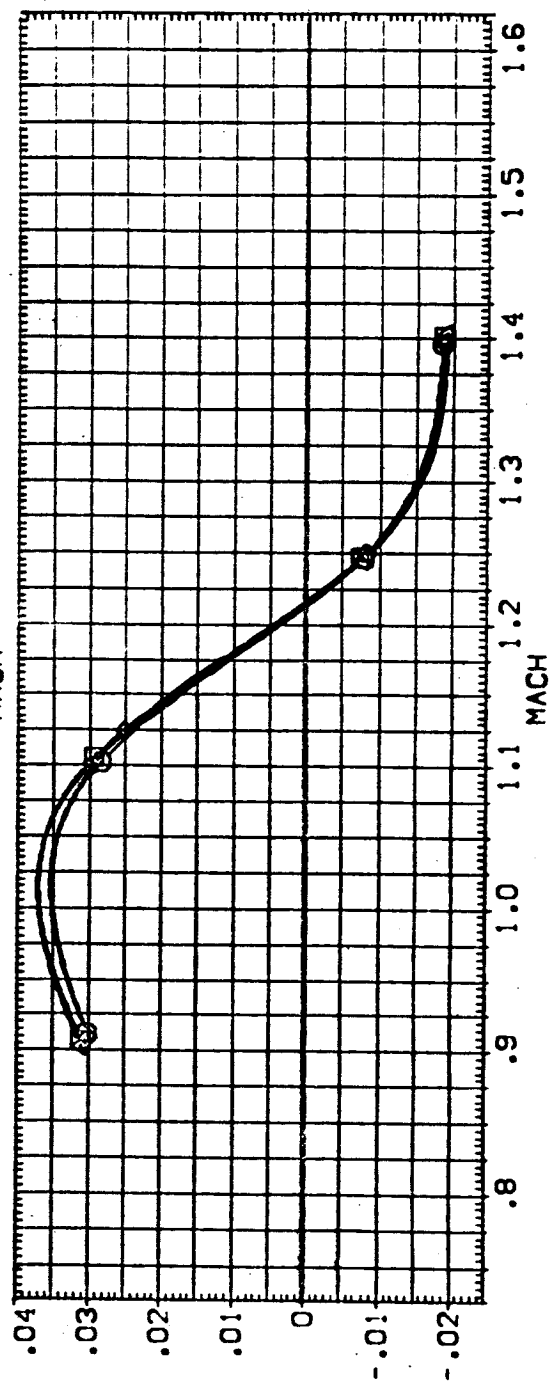


DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-0B	ALPHA	GIMBAL	SREF	LREF	BREF	XMRP	ZMRP	SCALE
[HEU323]	ARC11-0141A19 OIS*STRUT SRS-OFF MPS-OFF	.000	.000	4.000	1.000	2690.0000	1290.3000	1290.3000	576.0000	400.0000	.0200
[HEU327]	ARC11-0141A19 OIS*STRUT SRS-NOM MPS-NOM	.000	.000	4.000	1.000	2690.0000	1290.3000	1290.3000	576.0000	400.0000	.0200
[HEU331]	ARC11-0141A19 OIS*STRUT SRS-OFF MPS-OFF	.000	.000	4.000	2.000	2690.0000	1290.3000	1290.3000	576.0000	400.0000	.0200
[HEU335]	ARC11-0141A19 OIS*STRUT SRS-NOM MPS-NOM	.000	.000	4.000	2.000	2690.0000	1290.3000	1290.3000	576.0000	400.0000	.0200



CHEI



CHEQ

FIG. 81 SUMMARY - EFFECT OF PLUMES - ELV-1B=0.0 ELV-0B=0.0 ALPHA=4.0

(A)BETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

[EUC323]	ARC11-0141A19 OTS-STRUT SRB-OFF	MPS-OFF
[EUC327]	ARC11-0141A19 OTS-STRUT SRB-NOM	MPS-NOM
[EUC331]	ARC11-0141A19 OTS-STRUT SRB-OFF	MPS-OFF
[EUC335]	ARC11-0141A19 OTS-STRUT SRB-NOM	MPS-NOM

ELV-1B ELV-08 ALPHA GIMBAL

.000	.000	4.000	1.000
.000	.000	4.000	1.000
.000	.000	4.000	2.000
.000	.000	4.000	2.000

REFERENCE INFORMATION

SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN.
YMRP	400.0000	IN.
ZMRP	400.0000	IN.
SCALE	.0200	

ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

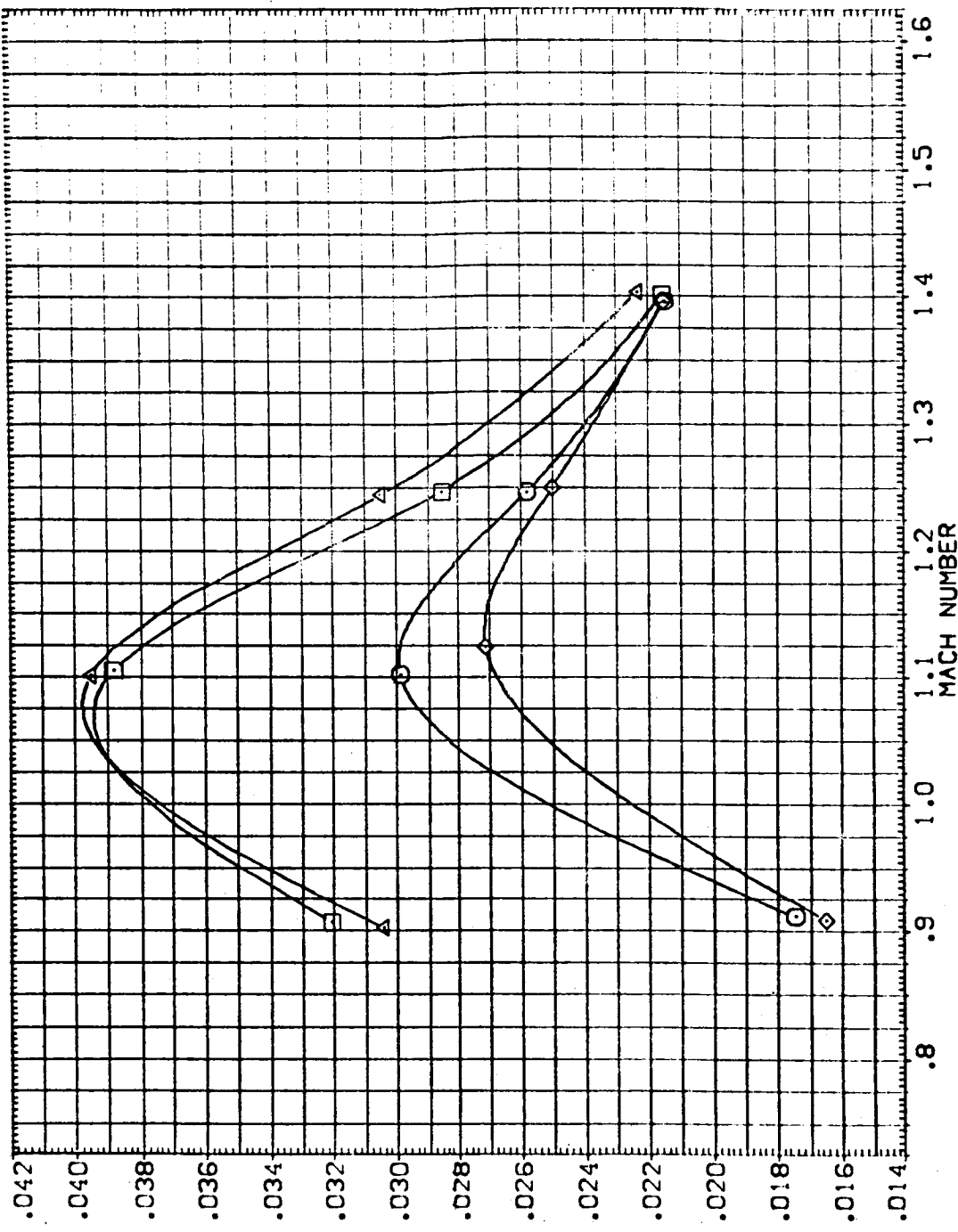


FIG. 81 SUMMARY - EFFECT OF PLUMES - ELV-1B=0.0 ELV-08=0.0 ALPHA=4.0

CABETA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION

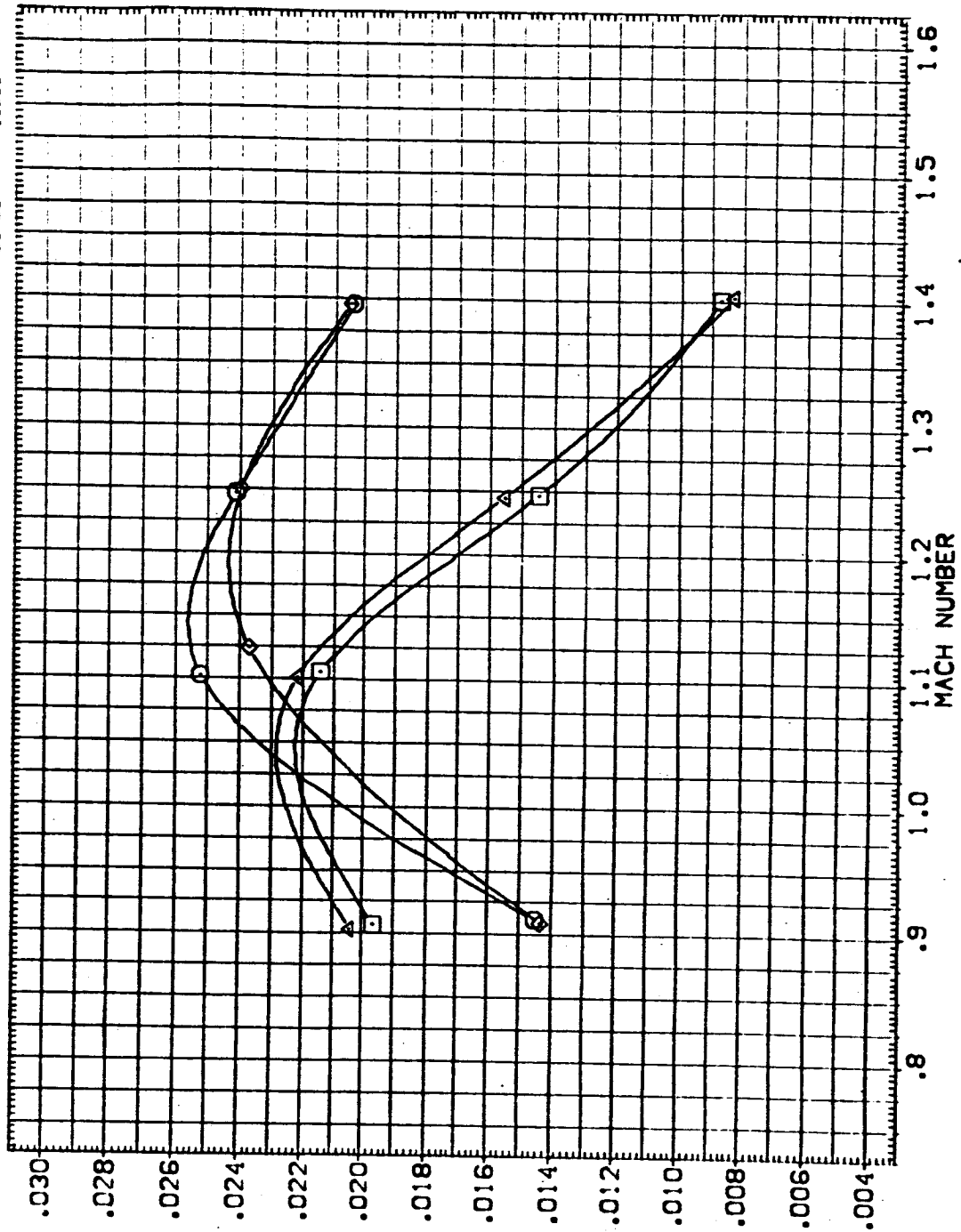
(-EJ323)	ARC11-0141A19	OTS+STRUT	SRB-OFF	MPS-OFF
(-EJ327)	ARC11-0141A19	OTS+STRUT	SRB-NOM	MPS-NOM
(-EJ331)	ARC11-0141A19	OTS+STRUT	SRB-OFF	MPS-NOM
(-EJ335)	ARC11-0141A19	OTS+STRUT	SRB-NOM	MPS-NOM

ELV-IB ELV-OB ALPHA GINGAL

.000	.000	4.000	1.000
.000	.000	4.000	1.000
.000	.000	4.000	2.000
.000	.000	4.000	2.000

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN.
YMRP	.0000	IN.
ZMRP	400.0000	IN.
SCALE	.0000	



SRM BASE AXIAL-FORCE COEFFICIENT, CABS

FIG. 81 SUMMARY - EFFECT OF PLUMES - ELV-IB=0.0 ELV-OB=0.0 ALPHA=4.0

(A)BETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

[HEU323] ○ ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF

[HEU327] ○ ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM

[HEU331] ○ ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF

[HEU335] ○ ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM

ELV-1B ELV-08 ALPHA GIMBAL

.000 .000 4.000 1.000

.000 .000 4.000 1.000

.000 .000 4.000 2.000

.000 .000 4.000 2.000

REFERENCE INFORMATION

SREF 2690.0000 50.FT.

LREF 1290.3000 IN.

BREF 1290.3000 IN.

XMRP 976.0000 IN.

YMRP 400.0000 IN.

ZMRP 400.0000 IN.

SCALE .0200

EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

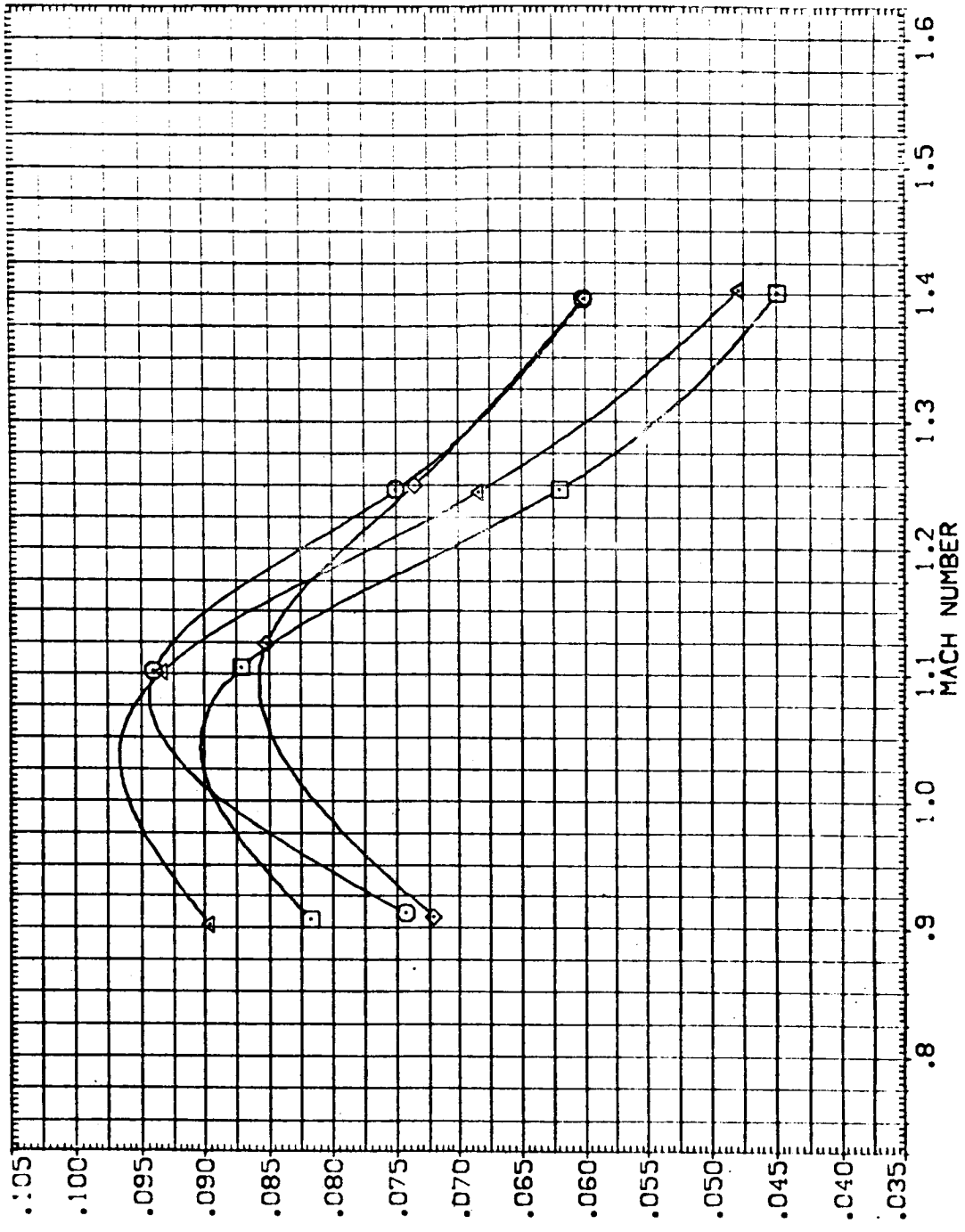


FIG. 81 SUMMARY - EFFECT OF PLUMES - ELV-1B=0.0 ELV-08=0.0 ALPHA=4.0

CABETA = .00



DATA SET SYMBOL: [EJ13] O

CONFIGURATION DESCRIPTION: ARC11-0141A19 01S SRB-OFF MPS-OFF

ELV-18: .000

ELV-08: .000

ALPHA: -8.000

GIMBAL: 1.000

REFERENCE INFORMATION:

SREF: 2690.0000 50.FT.

LREF: 1290.3000 IN.

BREF: 1290.3000 IN.

XMRP: 976.0000 IN. XT

YMRP: .0000 IN. YT

ZMRP: 400.0000 IN. ZT

SCALE: .0200

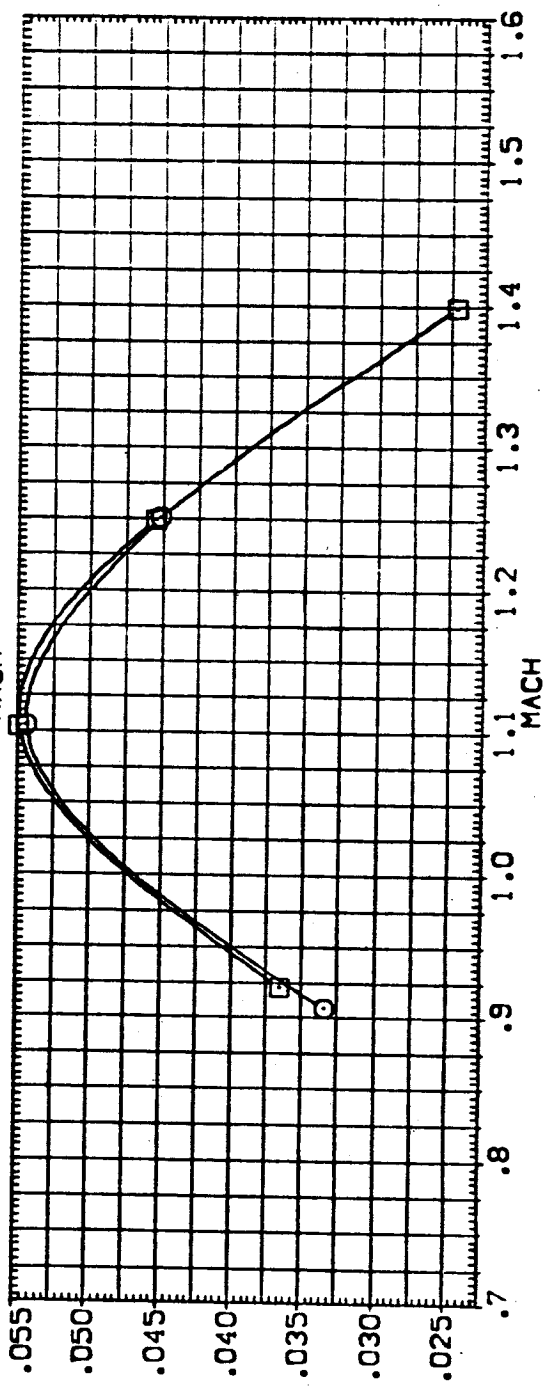
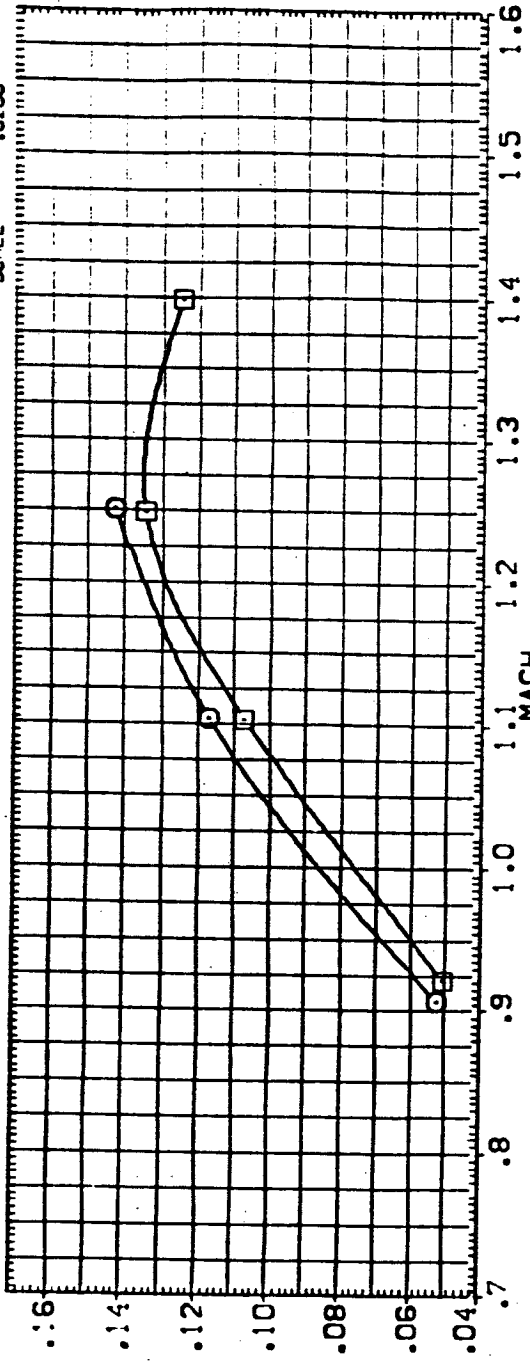
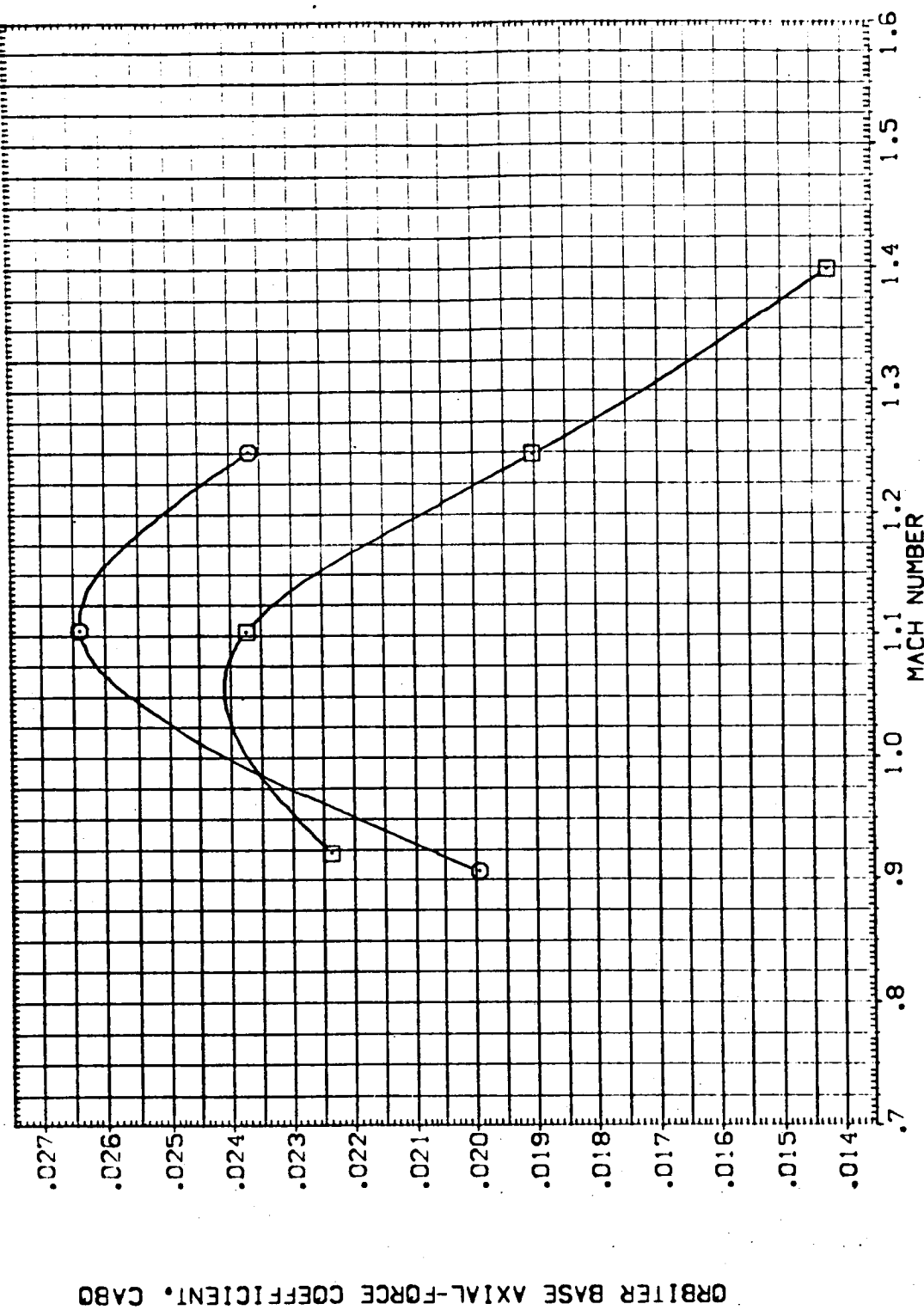


FIG. 82 SUMMARY - EFFECT OF PLUMES - ELV-18=0.0 ELV-08=0.0 ALPHA=-8.0
 (A)BETA = .00

DATA SET SYMBOL: (EJ139) (EJ143)
 CONFIGURATION DESCRIPTION: ARC11-0141A19 OTS
 SRB-OFF MPS-OFF
 SRB-NOM MPS-OFF

ELV-1B: .000
 ELV-0B: .000
 ALPHA: -8.000
 GIMBAL: 1.000

REFERENCE INFORMATION:
 SREF: 2690.0000 SO.FT.
 LREF: 1290.3000 IN.
 BREF: 1290.3000 IN.
 XMRP: 576.0000 IN.
 YMRP: .0000 IN.
 ZMRP: 400.0000 IN.
 SCALE: .0200



ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

FIG. 82 SUMMARY - EFFECT OF PLUMES - ELV-1B=0.0 ELV-0B=0.0 ALPHA=-8.0

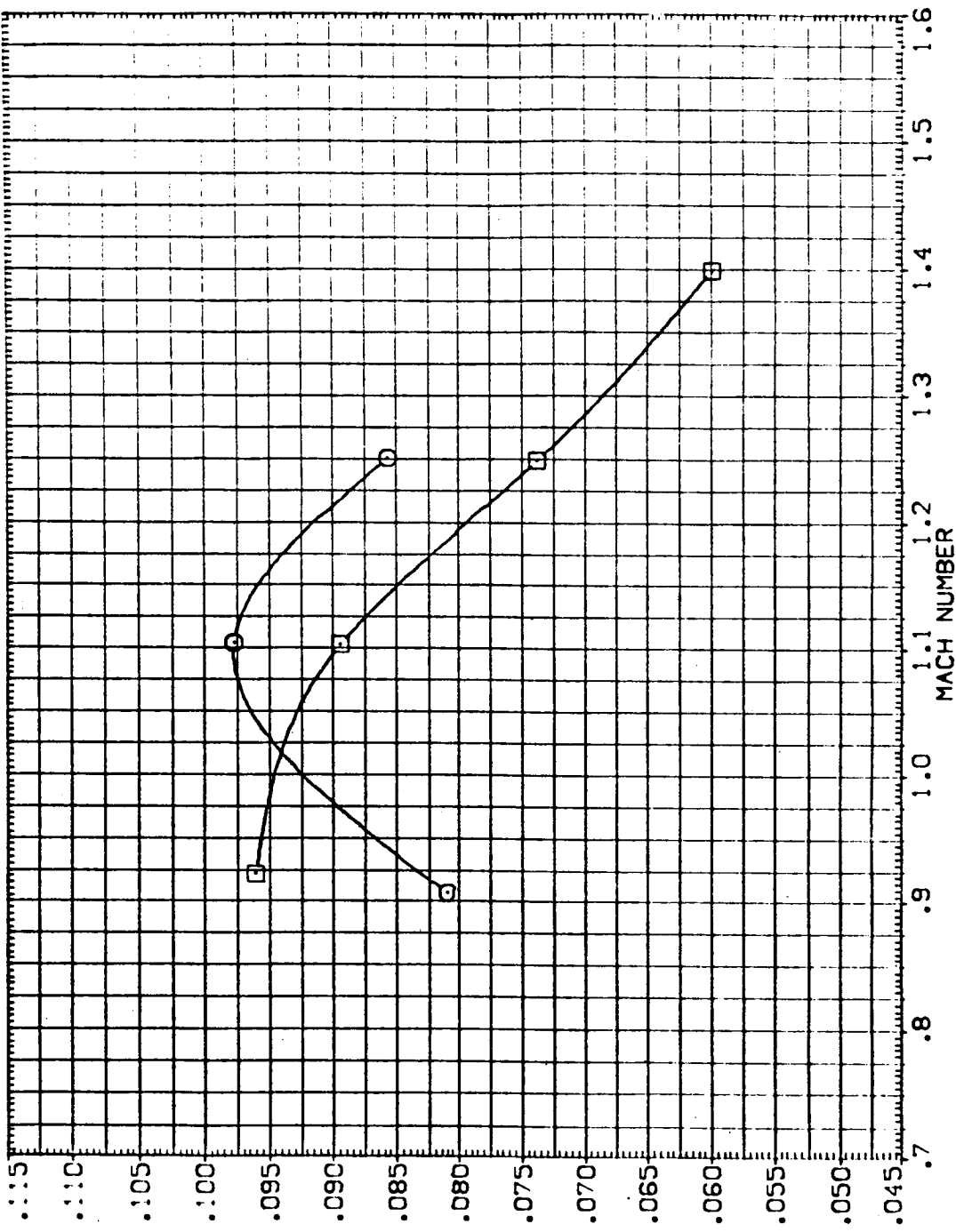
CABETA = .00



DATA SET SYMBOL: ARC11-0141A19 01S
 CONFIGURATION DESCRIPTION: SRS-OFF MPS-OFF
 SRS-NOM MPS-OFF

ELV-1B .000
 ELV-0B .000
 ALPHA -8.000
 GIMBAL 1.000

REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN. XT
 YMRP .0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0200



EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

FIG. 82 SUMMARY - EFFECT OF PLUMES - ELV-1B=0.0 ELV-0B=0.0 ALPHA=-8.0

CABETA = .00

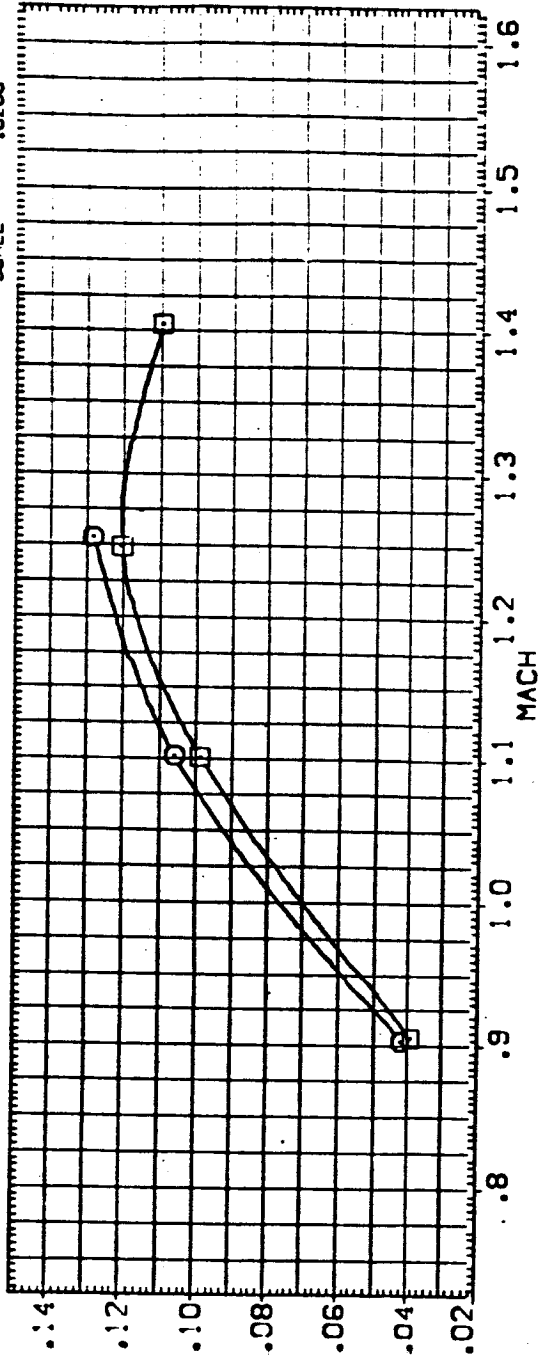


DATA SET SYMBOL: (H-0239) (H-0243)

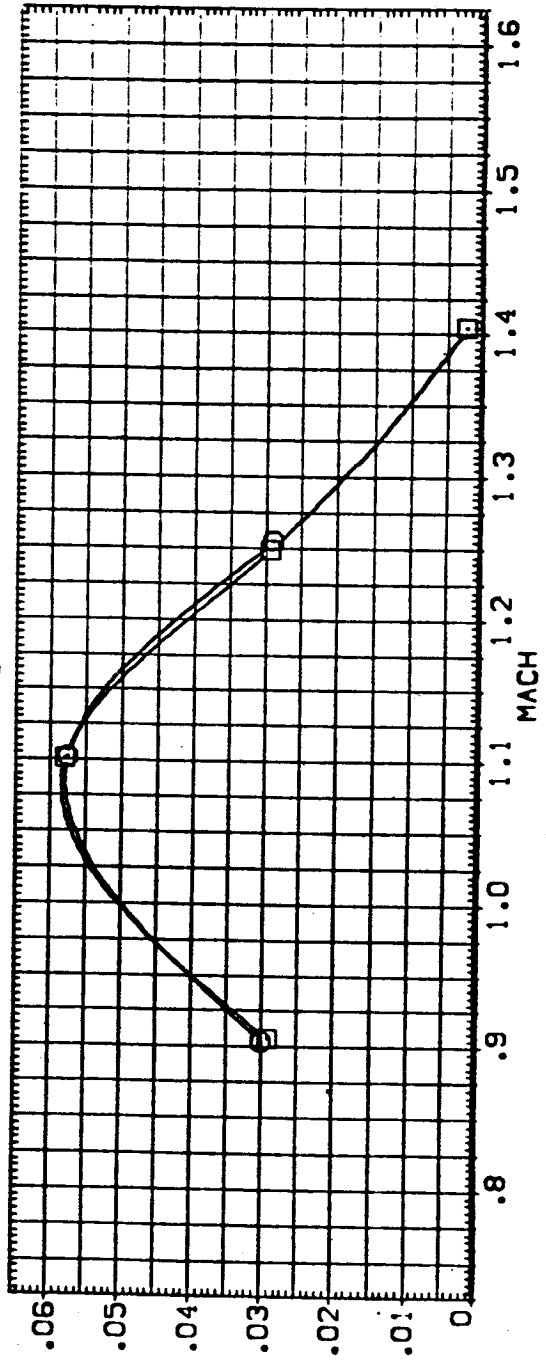
CONFIGURATION DESCRIPTION: ARC-11-0141A19 OTS SRB-0FF MPS-0FF ARC-11-0141A19 OTS SRB-NON MPS-0FF

ELV-1B: .000
ELV-0B: .000
ALPHA: -4.000
GIMBAL: 1.000

REFERENCE INFORMATION:
SRF: 2690.0000 SO.FT.
LREF: 1290.3000 IN.
BREF: 1290.3000 IN.
XMRP: 976.0000 IN. XT
YMRP: .0000 IN. YT
ZMRP: 400.0000 IN. ZT
SCALE: .0700



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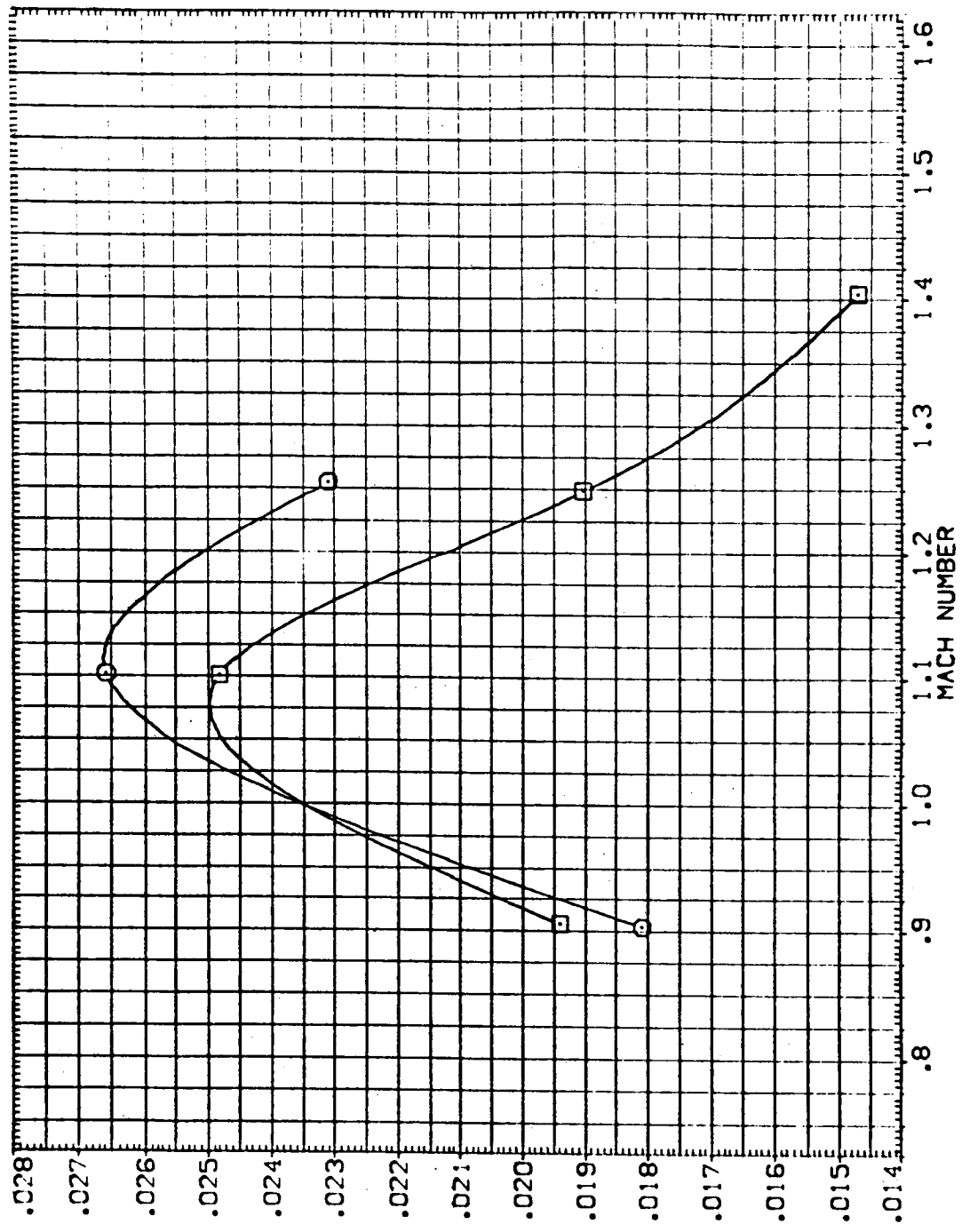


CHEO

FIG. 83 SUMMARY - EFFECT OF PLUMES - ELV-1B=0.0 ELV-0B=0.0 ALPHA=-4.0
GIMBAL = .00

DATA SET SYMBOL: (HEU239) (HEU243)
 CONFIGURATION DESCRIPTION: ARC11-0141A19 OTS, SRB-OFF MPS-OFF, SRB-NOM MPS-OFF
 REFERENCE INFORMATION: SREF 2690.0000 SO.FT., LREF 1290.3000 IN., BREF 1290.3000 IN., XT 976.0000 IN., YT 400.0000 IN., ZT 400.0000 IN., ZT SCALE 0.0200

ELV-1B .000, ELV-0B .000, ALPHA -4.000, GIMBAL 1.000



ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

FIG. 83 SUMMARY - EFFECT OF PLUMES - ELV-1B=0.0 ELV-0B=0.0 ALPHA=-4.0

CABETA = .00

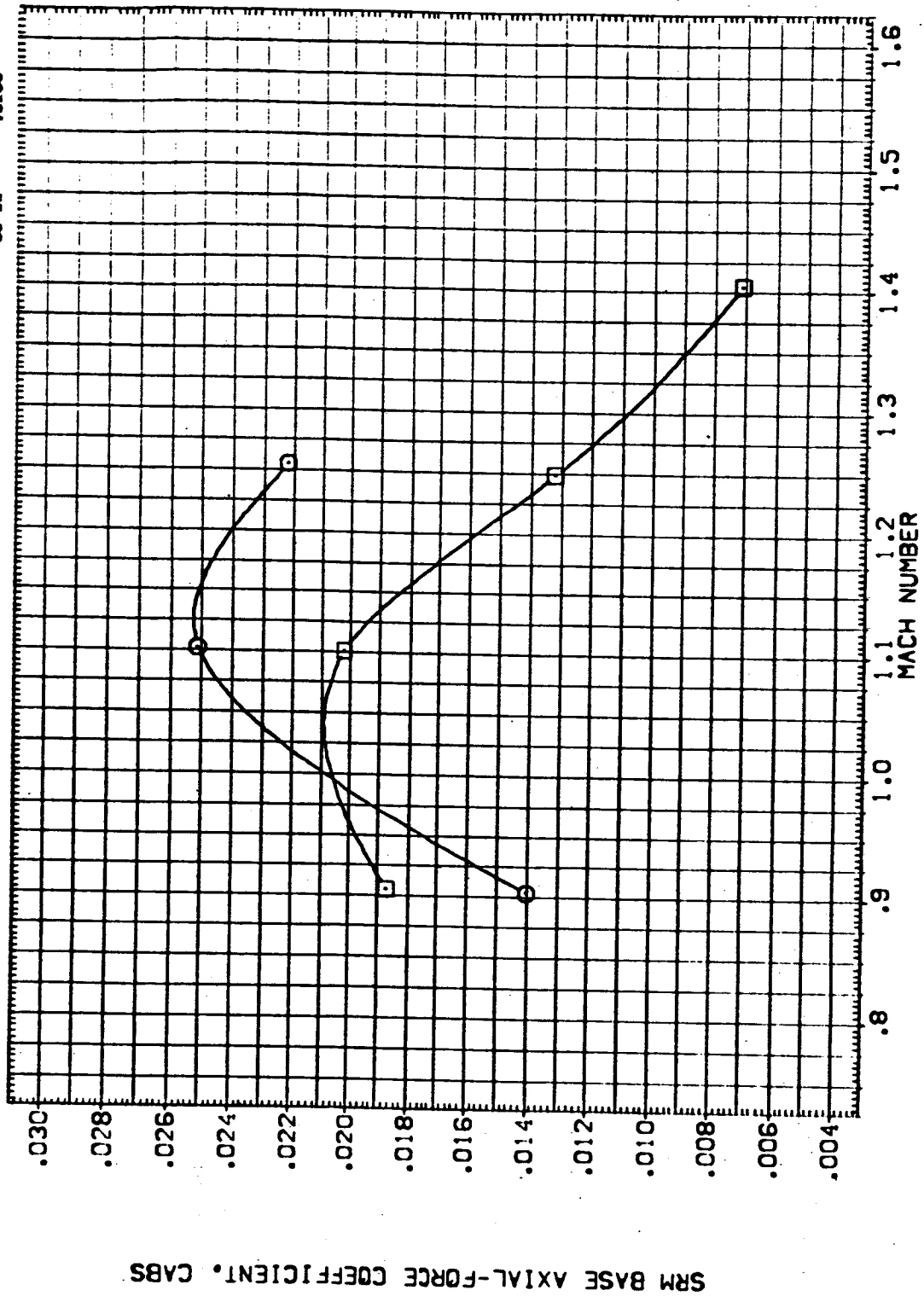


DATA SET SYMBOL: C
 CONFIGURATION DESCRIPTION: SRB-OFF MPS-OFF
 SRB-NON MPS-OFF

ELV-1B .000
 ELV-0B .000
 ALPHA -4.000
 GIMBAL 1.000

SRB-OFF MPS-OFF
 SRB-NON MPS-OFF

REFERENCE INFORMATION
 SREF 2590.0000 50.FT.
 LREF 1290.3000 IN.
 XMRP 1290.3000 IN. XT
 YMRP 976.0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0200



SRM BASE AXIAL-FORCE COEFFICIENT, CABS

FIG. 83 SUMMARY - EFFECT OF PLUMES - ELV-1B=0.0 ELV-0B=0.0 ALPHA=-4.0
 CABETA = .00

C-4

DATA SET SYMBOL: [E-239] [E-243]
 CONFIGURATION DESCRIPTION: ARC11-0141A19 OTS SFB-0FF MPS-0FF
 ARC11-0141A19 OTS SFB-NOM MPS-0FF

ELV-1B ELV-0B ALPHA GIMBAL
 .000 .000 -4.000 1.000
 .000 .000 -4.000 1.000

REFERENCE INFORMATION
 SREF 2680.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN. XT
 YMRP .0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0200

EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CAB1

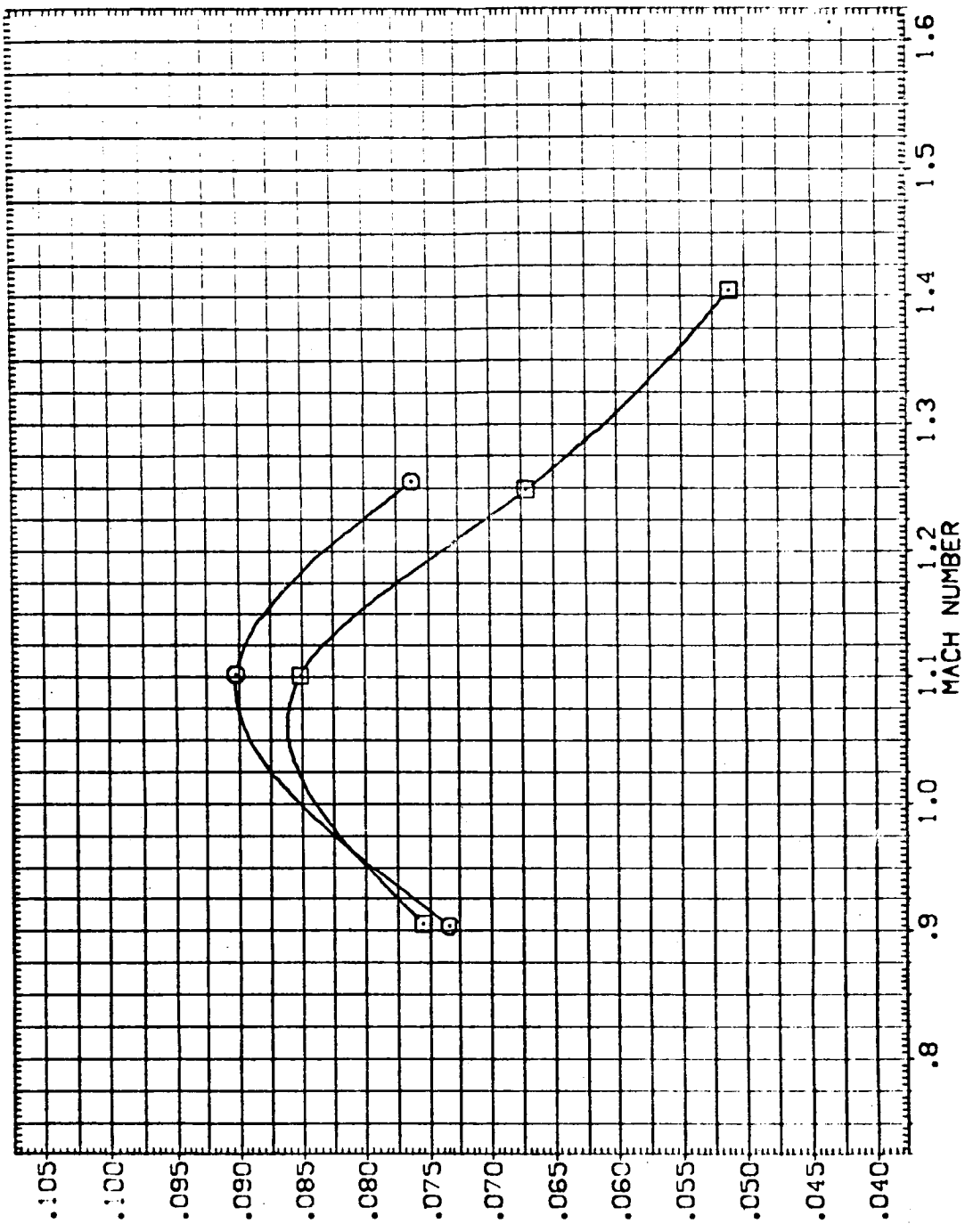


FIG. 83 SUMMARY - EFFECT OF PLUMES - ELV-1B=0.0 ELV-0B=0.0 ALPHA=-4.0

CABETA = .00

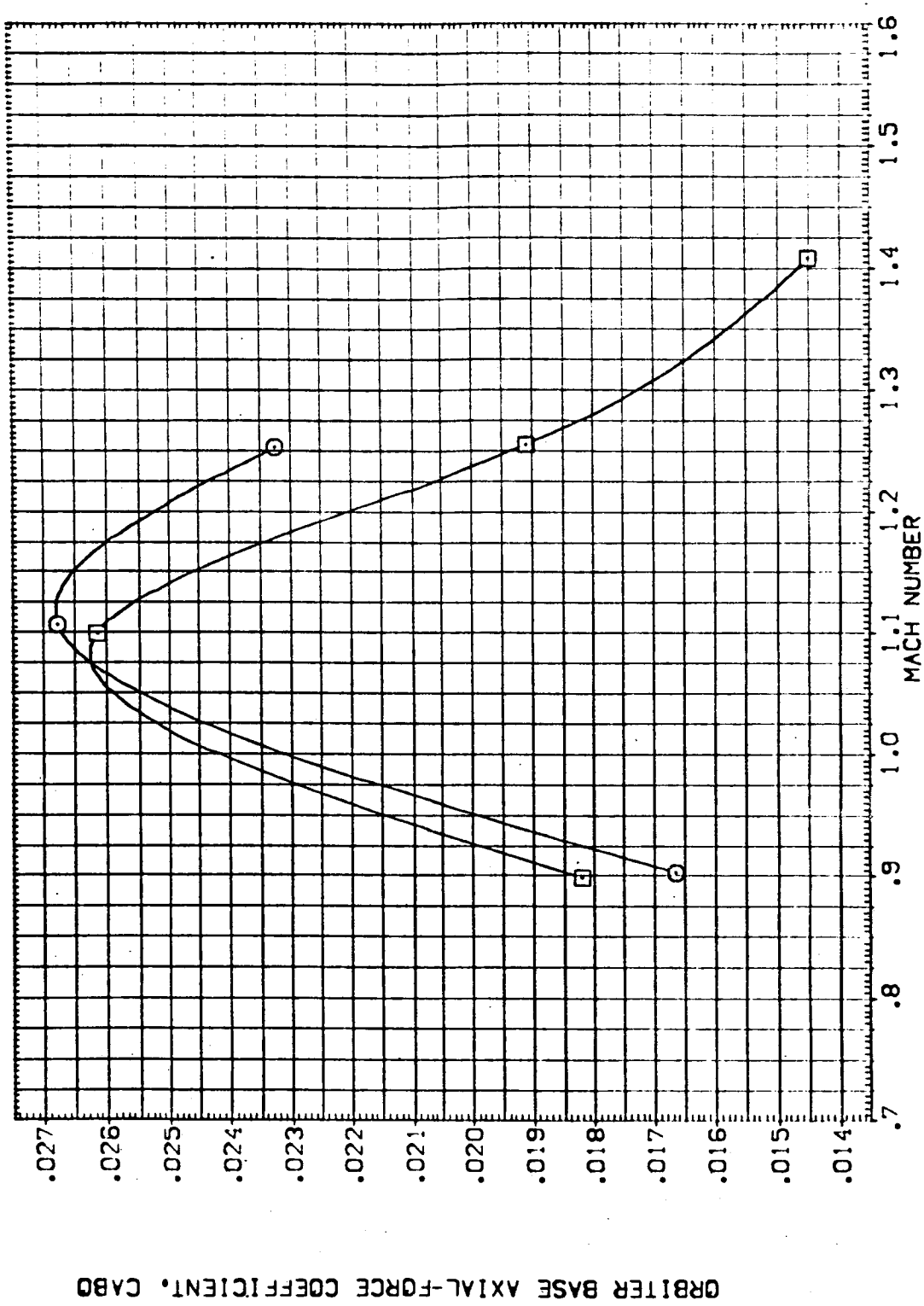


DATA SET SYMBOL: (-EU339) (-EJ343)

CONFIGURATION DESCRIPTION: ARC11-0141A19 OTS SRB-OFF MPS-OFF
 ARC11-0141A19 OTS SRB-NOM MPS-OFF

ELV-1B: .000
 ELV-0B: .000
 ALPHA: .000
 GIMBAL: 1.000

REFERENCE INFORMATION: SREF: 2690.0000 SO.FT.:
 LREF: 1290.3000 IN.
 BREF: 1290.3000 IN.
 XMRP: 576.0000 IN. XT
 YMRP: .0000 IN. YT
 ZMRP: 400.0000 IN. ZT
 SCALE: .0200



ORBITER BASE AXIAL-FORCE COEFFICIENT, CABD

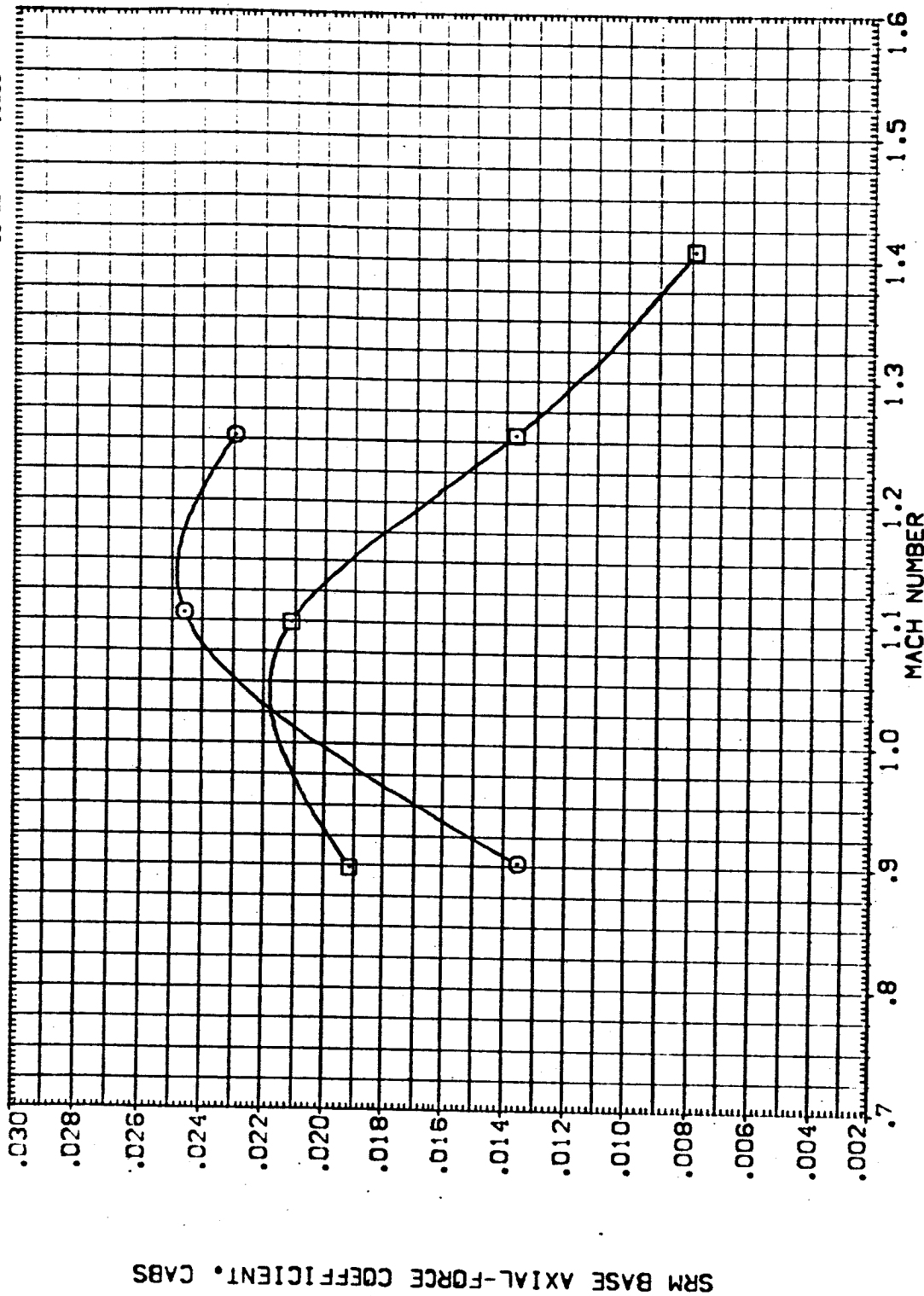
FIG. 84 SUMMARY - EFFECT OF PLUMES - ELV-1B=0.0 ELV-0B=0.0 ALPHA=0.0

CABETA = .00



DATA SET SYMBOL: CONFIGURATION DESCRIPTION REFERENCE INFORMATION

[HEU329]	ARC11-0141A19 OTS	SRS-0FF MPS-0FF	ELV-1B	ELV-0B	ALPHA	GIMBAL	SREF	2690.0000	50.FT.
[HEU313]	ARC11-0141A19 OTS	SRS-NON MPS-0FF	.000	.000	.000	.000	LREF	1290.3000	IN.
			.000	.000	.000	.000	BREF	1290.3000	IN.
							XMRP	976.0000	IN. XT
							YMRP	.0000	IN. YT
							ZMRP	400.0000	IN. ZT
							SCALE	.0200	



SRM BASE AXIAL-FORCE COEFFICIENT, CABS

FIG. 84 SUMMARY - EFFECT OF PLUMES - ELV-1B=0.0 ELV-0B=0.0 ALPHA=0.0
 CABETA = .00

DATA SET SYMBOL: [P-339] [P-339] [P-339]
 CONFIGURATION DESCRIPTION: ARC11-0141A19 01S SRB-OFF MPS-OFF
 SRB-NOM MPS-OFF

ELV-1B .000
 ELV-08 .000
 ALPHA .000
 GIMBAL 1.000
 SREF 2690.0000
 LREF 1290.3000
 BREF 1290.3000
 XMRP 576.0000
 YMRP .0000
 ZMRP 400.0000
 SCALE .0200

REFERENCE INFORMATION
 SQ.FT. 50.000
 IN. 12.000
 IN. 12.000
 IN. XT 12.000
 IN. YT 12.000
 IN. ZT 12.000

EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CAB1

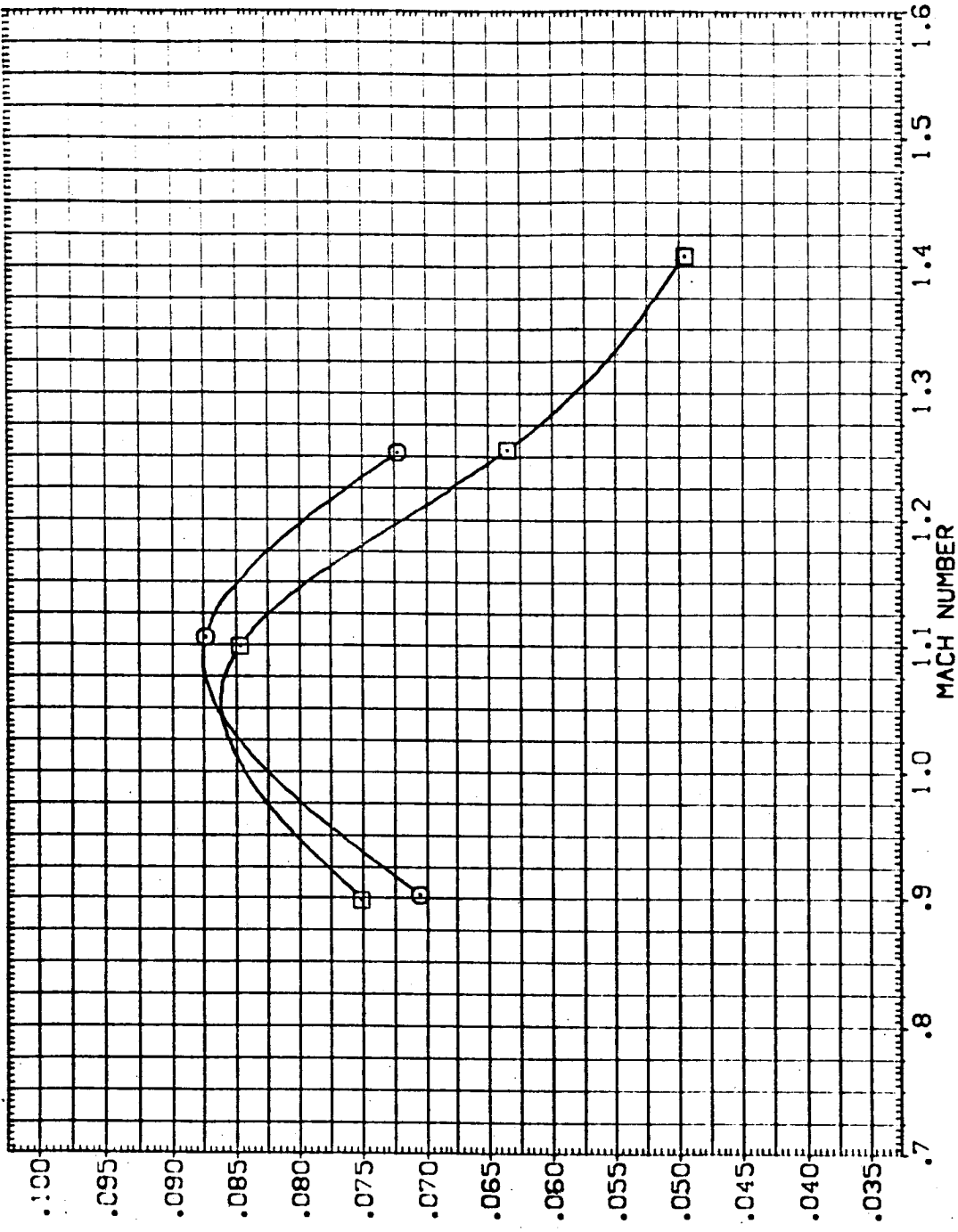


FIG. 84 SUMMARY - EFFECT OF PLUMES - ELV-1B=0.0 ELV-08=0.0 ALPHA=0.0
 (A)BETA = .00



DATA SET SYMBOL: CONFIGURATION DESCRIPTION
 (-EU439) O ARC11-0141A19 DTS SR3-OFF MPS-OFF
 (-EU443) O ARC11-0141A19 DTS SR3-NOM MPS-OFF

ELV-1B ELV-08 ALPHA GIMBAL
 .000 .000 4.000 1.000
 .000 .000 4.000 1.000

REFERENCE INFORMATION
 SREF 2690.0000 50.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN. XT
 YMRP .0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0200

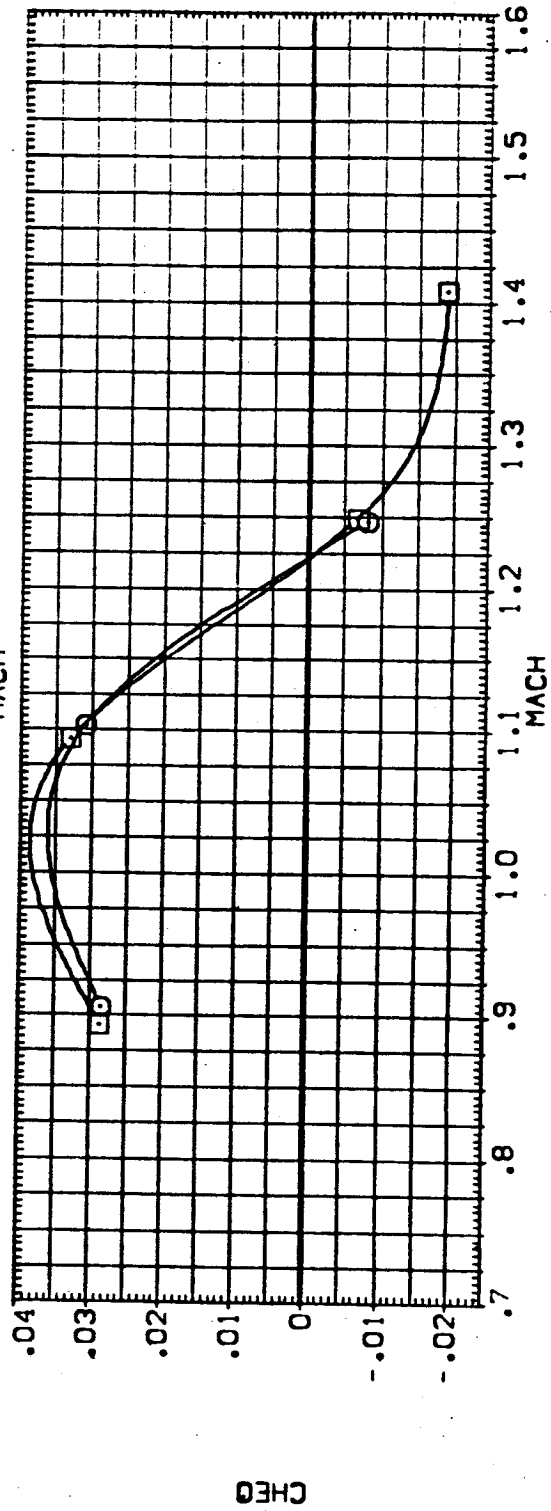
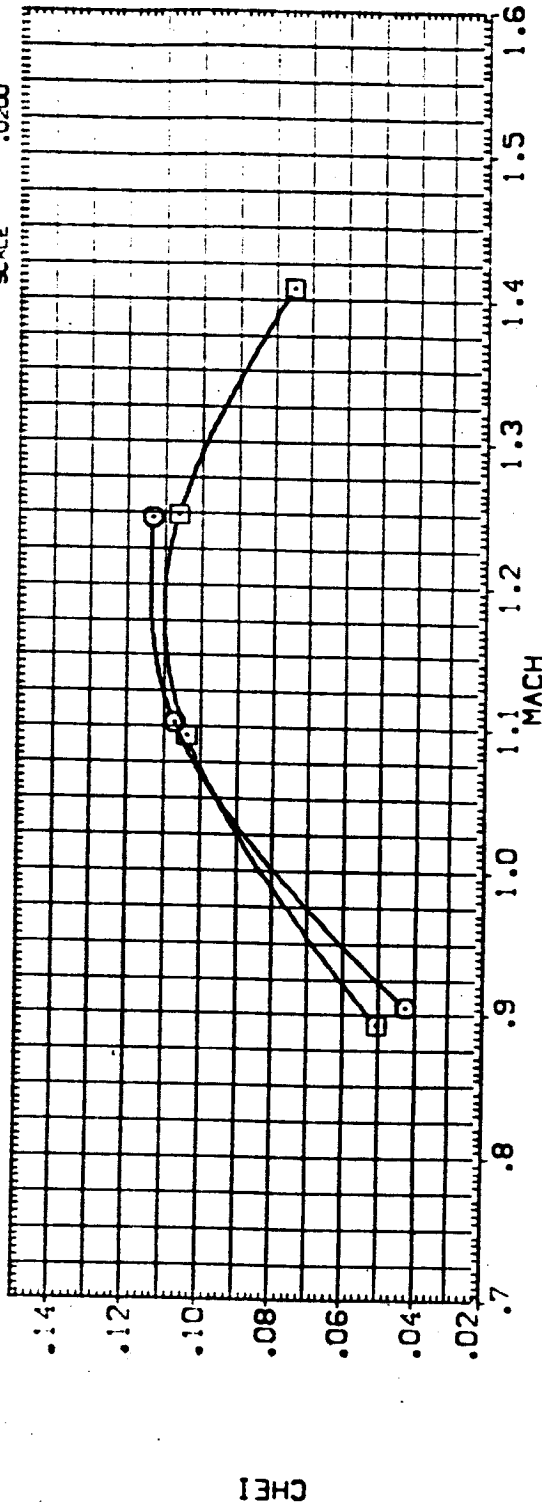


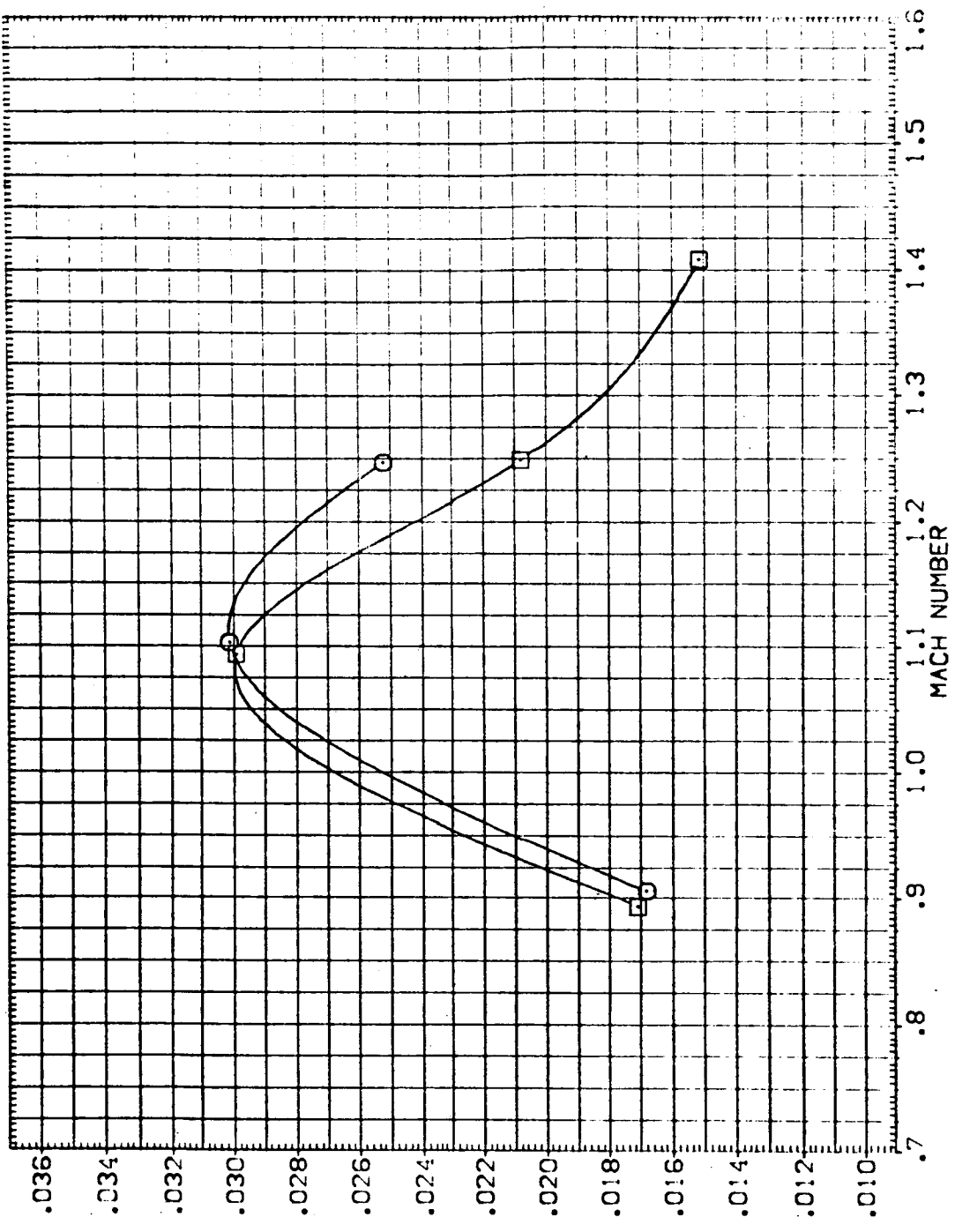
FIG. 85 SUMMARY - EFFECT OF PLUMES - ELV-1B=0.0 ELV-08=0.0 ALPHA=4.0

CARBETA = .00

DATA SET SYMBOL: [HEJ439] [HEJ443]
 CONFIGURATION DESCRIPTION: ARC11-0141A19 01'S SRB-OFF MPS-OFF
 ARC11-0141A19 01'S SRB-NOM MPS-OFF

ELV-1B: .000
 ELV-08: .000
 ALPHA: 4.000
 GIMBAL: 1.000

REFERENCE INFORMATION:
 SREF: 2690.0000 SQ.FT.
 LREF: 290.3000 IN.
 BREF: 290.3000 IN.
 YMRP: 976.0000 IN.
 ZMRP: 400.0000 IN.
 SCALE: .0200



ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

FIG. 85 SUMMARY - EFFECT OF PLUMES - ELV-1B=0.0 ELV-08=0.0 ALPHA=4.0

CABETA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION

ARC11-0141A19 01S
 ARC11-0141A19 01S

SFB-OFF MPS-OFF
 SFB-NOM MPS-OFF

ELV-1B .000
 ELV-0B .000

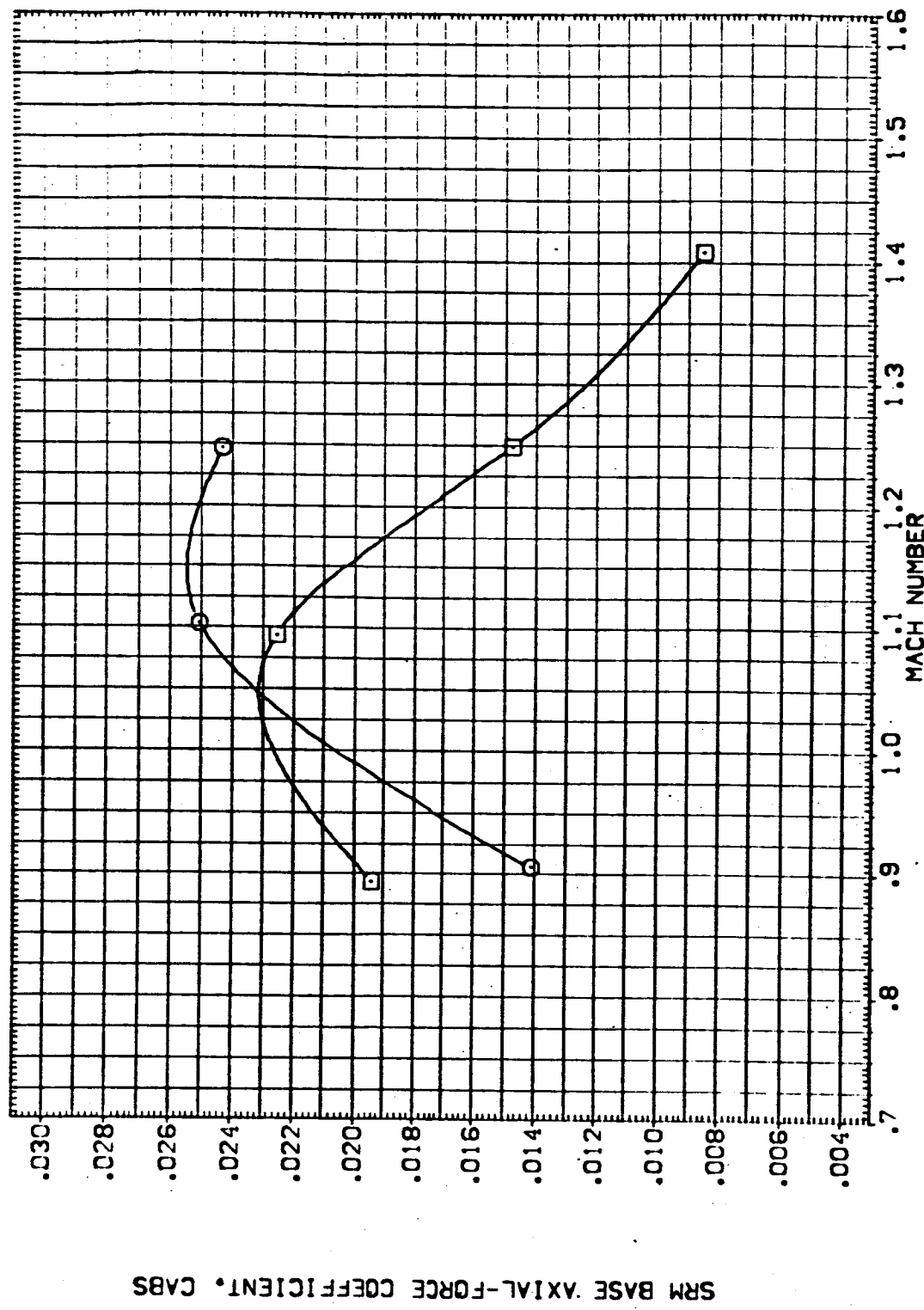
ALPHA 4.000
 ALPHA 4.000

GIMBAL 1.000
 GIMBAL 1.000

REFERENCE INFORMATION

SREF 2690.0000 SO.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRD 976.0000 IN. XT
 YMRD 400.0000 IN. YT
 ZMRD 400.0000 IN. ZT

SCALE .0200



SRM BASE AXIAL-FORCE COEFFICIENT, CABS

FIG. 85 SUMMARY - EFFECT OF PLUMES - ELV-1B=0.0 ELV-0B=0.0 ALPHA=4.0

CABETA = .00

DATA SET SYMBOL: 0141A19 OTS
 CONFIGURATION DESCRIPTION: SRB-OFF MPS-OFF
 SRB-NOM MPS-OFF

ELV-1B: .000
 ELV-08: .000
 ALPHA: 4.000
 GIMBAL: 1.000

REFERENCE INFORMATION:
 SREF: 2690.0000 SQ.FT.
 LREF: 1790.3000 IN.
 BREF: 1290.3000 IN.
 XMRP: 976.0000 IN.
 YMRP: .0000 IN.
 ZMRP: 400.0000 IN.
 SCALE: .0000

EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

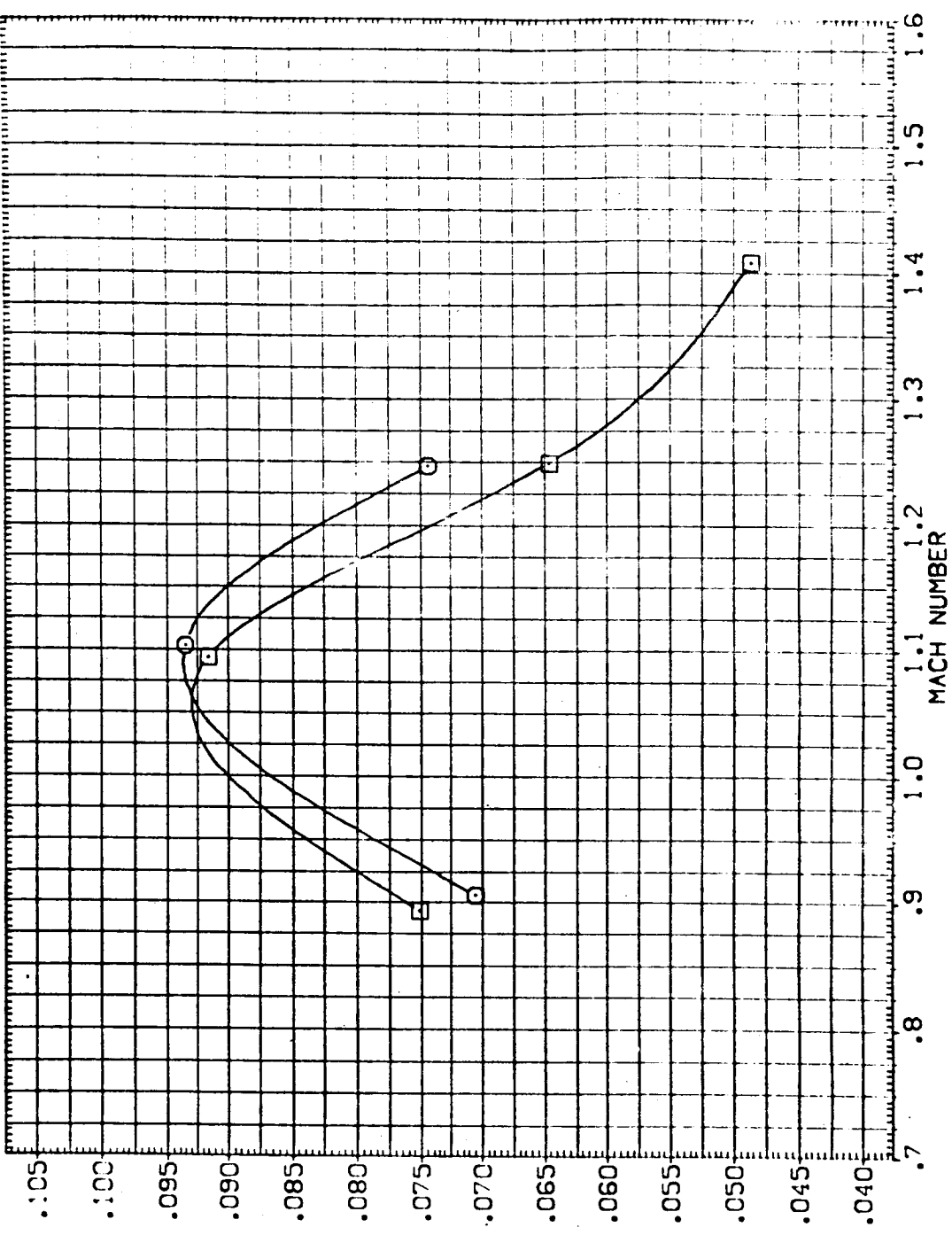


FIG. 85 SUMMARY - EFFECT OF PLUMES - ELV-1B=0.0 ELV-08=0.0 ALPHA=4.0

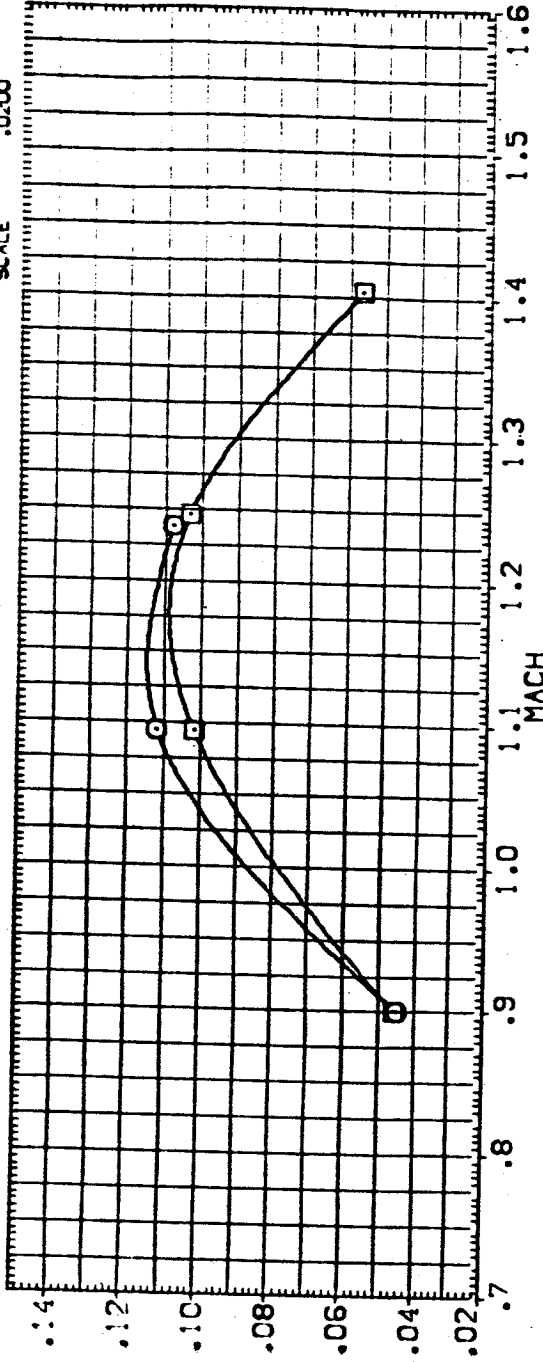
CABETA = .00



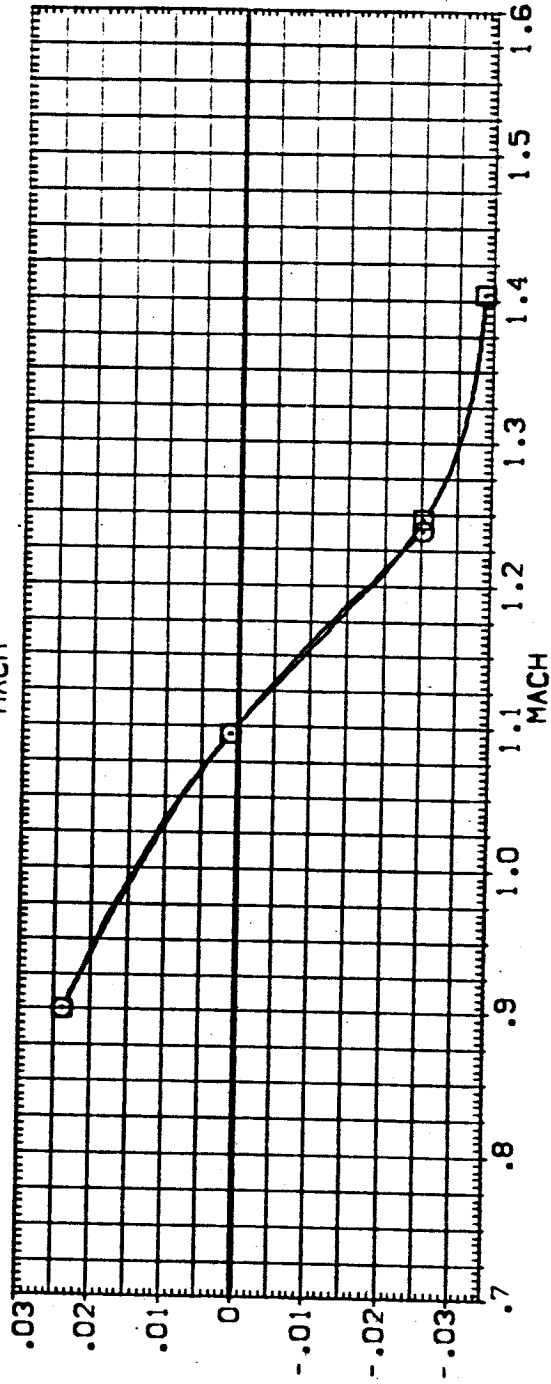
DATA SET SYMBO. CONFIGURATION DESCRIPTION
 (HE528) ○ ARC11-0141A19 OTS SRS-OFF MPS-OFF
 (HE543) ○ ARC11-0141A19 OTS SRS-NON MPS-OFF

ELV-IB ELV-OB ALPHA GIMBAL
 .000 .000 8.000 1.000
 .000 .000 8.000 1.000

REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN. XT
 YMRP .0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0200



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FIG. 86 SUMMARY - EFFECT OF PLUMES - ELV-OB=0.0 ELV-IB=0.0 ALPHA=8.0

(A)BETA = .00

DATA SET SYMBO. CONFIGURATION DESCRIPTION

[HEUS99] O ARC11-0141A19 OTS S98-OFF MPS-OFF

[HEUS13] ARC11-0141A19 OTS S98-NOM MPS-OFF

ELV-1B ELV-0B ALPHA G1M-BAL

.000 .000 8.000 1.000

.000 .000 8.000 1.000

REFERENCE INFORMATION

SREF 2690.0000 SQ.FT.

LREF 1290.3000 IN.

BREF 1290.3000 IN.

X-MRP 976.0000 IN.

Y-MRP .0000 IN.

Z-MRP 400.0000 IN.

SCALE .0200

ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

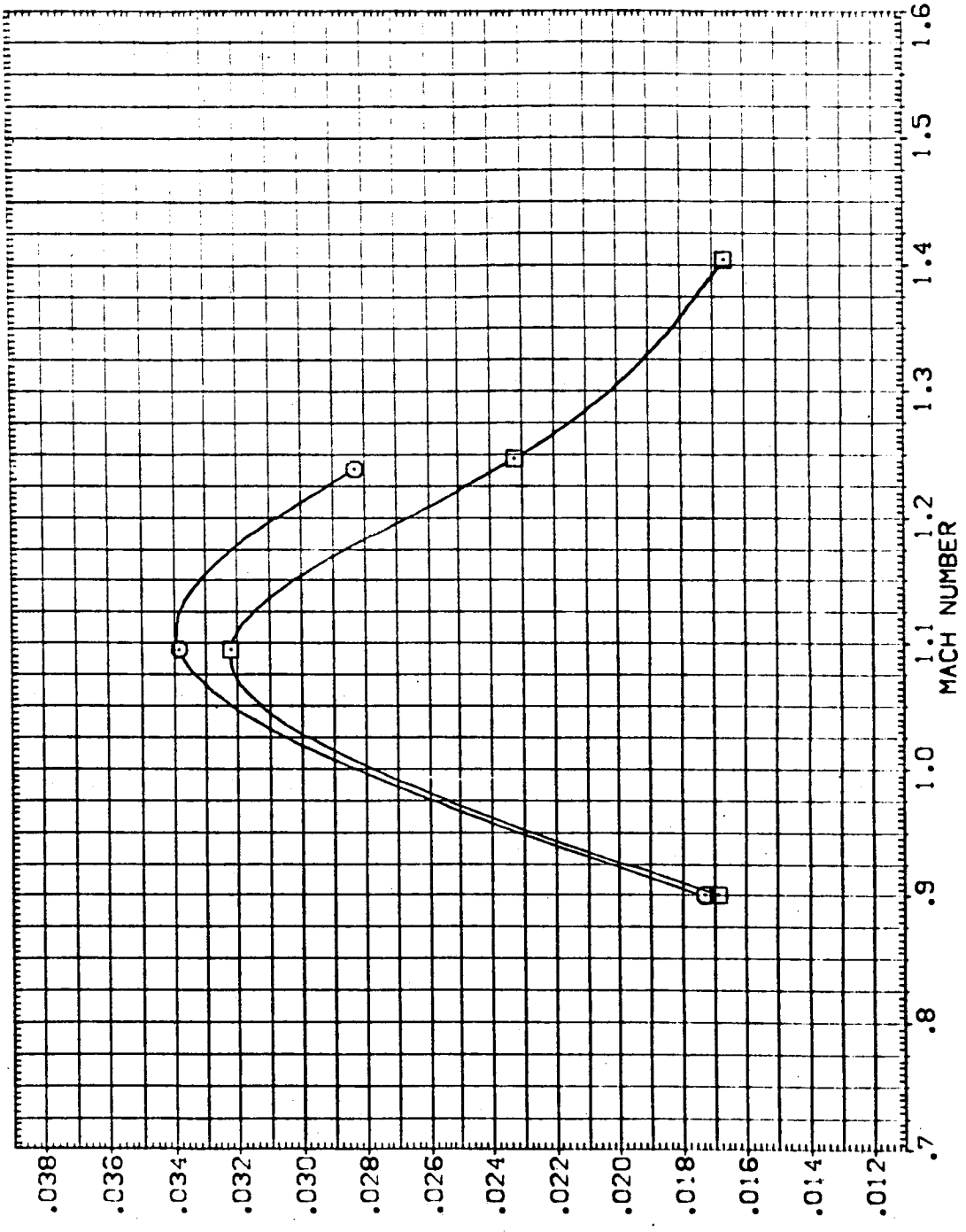


FIG. 86 SUMMARY - EFFECT OF PLUMES - ELV-1B=0.0 ELV-0B=0.0 ALPHA=8.0

(A)BETA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION

[1-539] O ARC11-0141A19 01S SR9-OFF MPS-OFF

[1-543] O ARC11-0141A19 01S SR9-NOM MPS-OFF

ELV-1B .000

ELV-08 .000

ALPHA 8.000

GIMBAL 1.000

SR9-OFF MPS-OFF

SR9-NOM MPS-OFF

SR9-OFF MPS-OFF

SR9-NOM MPS-OFF

SR9-OFF MPS-OFF

SR9-NOM MPS-OFF

REFERENCE INFORMATION

SREF 2690.0000 SO.FT.

LREF 1290.3000 IN.

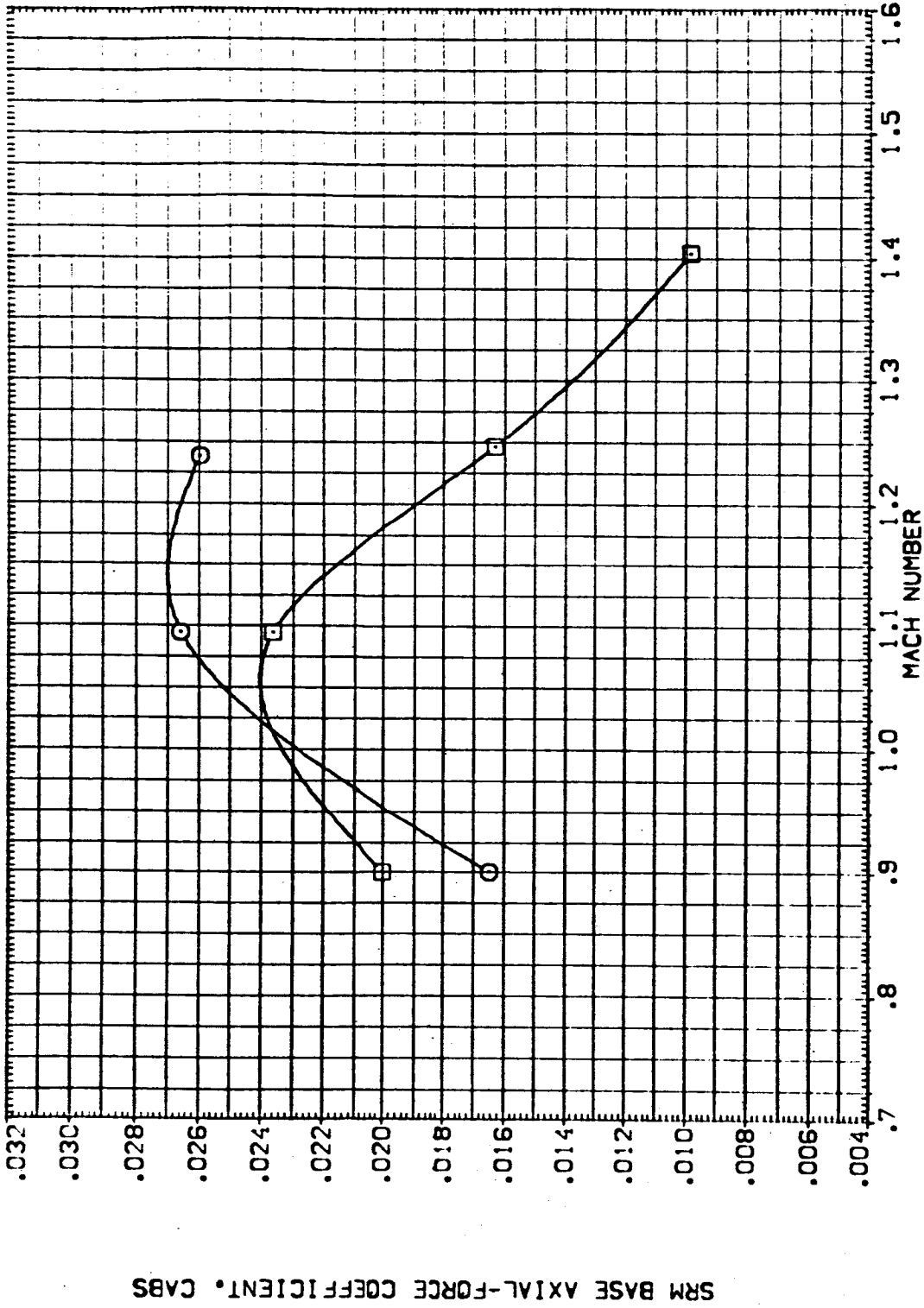
BREF 1290.3000 IN.

XMRP 976.0000 IN. XT

YMRP .0000 IN. YT

ZMRP 400.0000 IN. ZT

SCALE .0500



SRM BASE AXIAL-FORCE COEFFICIENT, CABS

FIG. 86 SUMMARY - EFFECT OF PLUMES - ELV-1B=0.0 ELV-08=0.0 ALPHA=8.0

(A)BETA = .00

EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

DATA SET SYMBOL: [P-553] [P-553] CONFIGURATION DESCRIPTION: ARC11-0141A19 01S SRB-OFF MPS-OFF SRB-ON MPS-OFF

ELV-1B: .000 ELV-0B: .000 ALPHA: 8.000 GIMBAL: 1.000 REFERENCE INFORMATION: SREF: 2690.0000 SO.FT.: 50.0000

ELV-1B: .000 ELV-0B: .000 ALPHA: 8.000 GIMBAL: 1.000 REFERENCE INFORMATION: LREF: 1290.3000 IN.: 1290.3000

ELV-1B: .000 ELV-0B: .000 ALPHA: 8.000 GIMBAL: 1.000 REFERENCE INFORMATION: XMRP: 976.0000 IN.: 976.0000

ELV-1B: .000 ELV-0B: .000 ALPHA: 8.000 GIMBAL: 1.000 REFERENCE INFORMATION: YMRP: 400.0000 IN.: 400.0000

ELV-1B: .000 ELV-0B: .000 ALPHA: 8.000 GIMBAL: 1.000 REFERENCE INFORMATION: ZMRP: 400.0000 IN.: 400.0000

ELV-1B: .000 ELV-0B: .000 ALPHA: 8.000 GIMBAL: 1.000 REFERENCE INFORMATION: SCALE: .0700

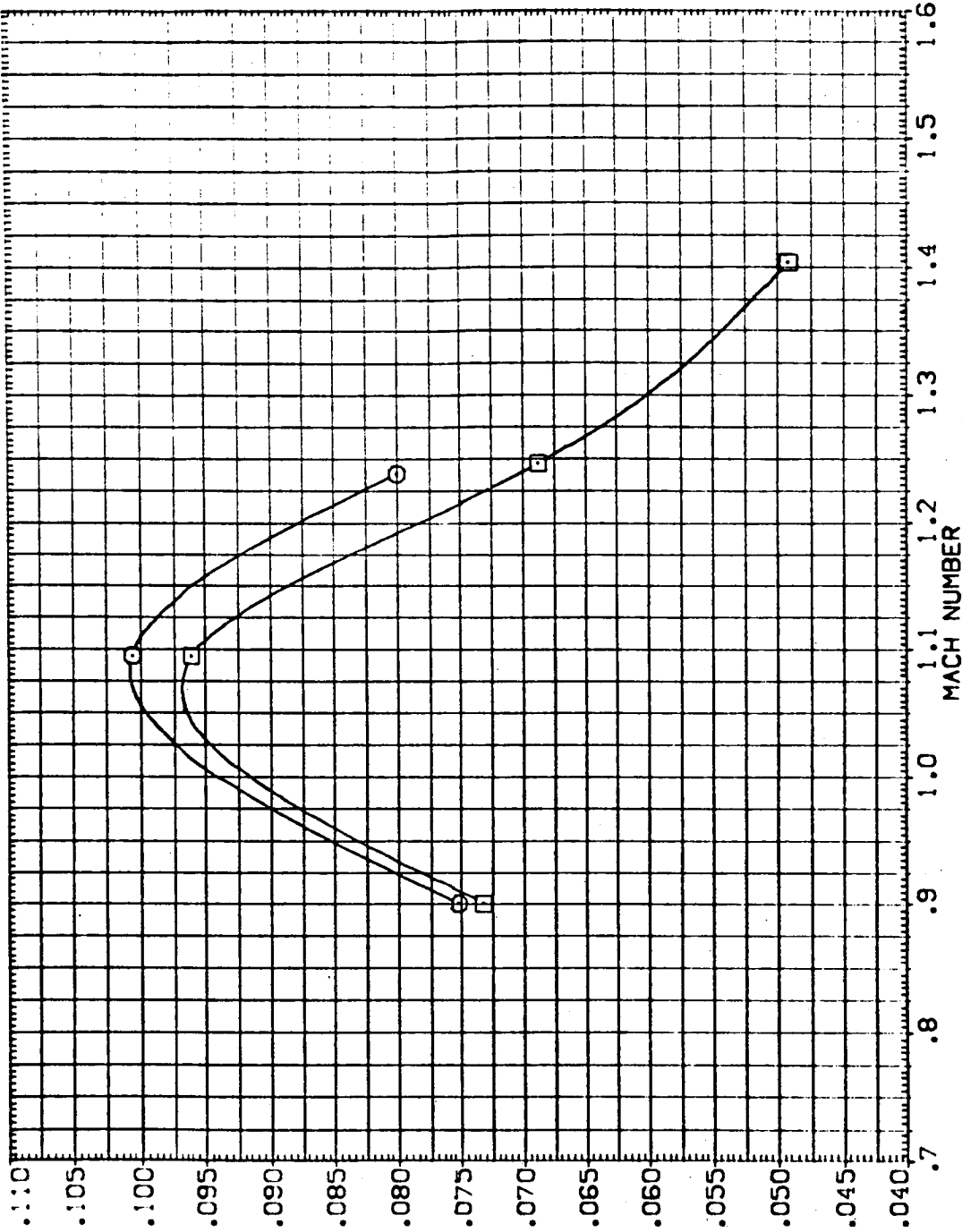


FIG. 86 SUMMARY - EFFECT OF PLUMES - ELV-1B=0.0 ELV-0B=0.0 ALPHA=8.0

(A)BETA = .00



DATA SET SYMBOL: CONFIGURATION DESCRIPTION
 (M-159) ○ ARC11-0141A19 OTS SRB-OFF MPS-OFF
 (M-159) □ ARC11-0141A19 OTS SRB-NON MPS-OFF

ELV-1B 8.000
 ELV-08 4.000
 ALPHA -4.000
 GIMBAL 1.000

REFERENCE INFORMATION
 SREF 2690.0000 50.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN. XT
 YMRP .0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0200

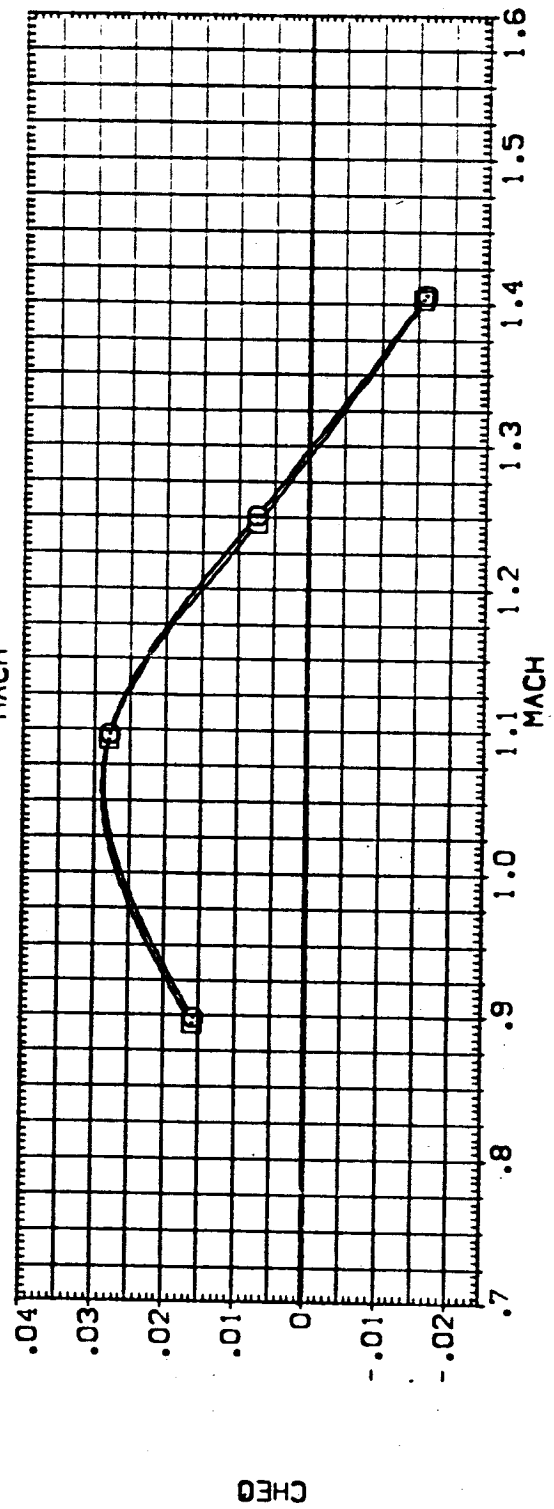
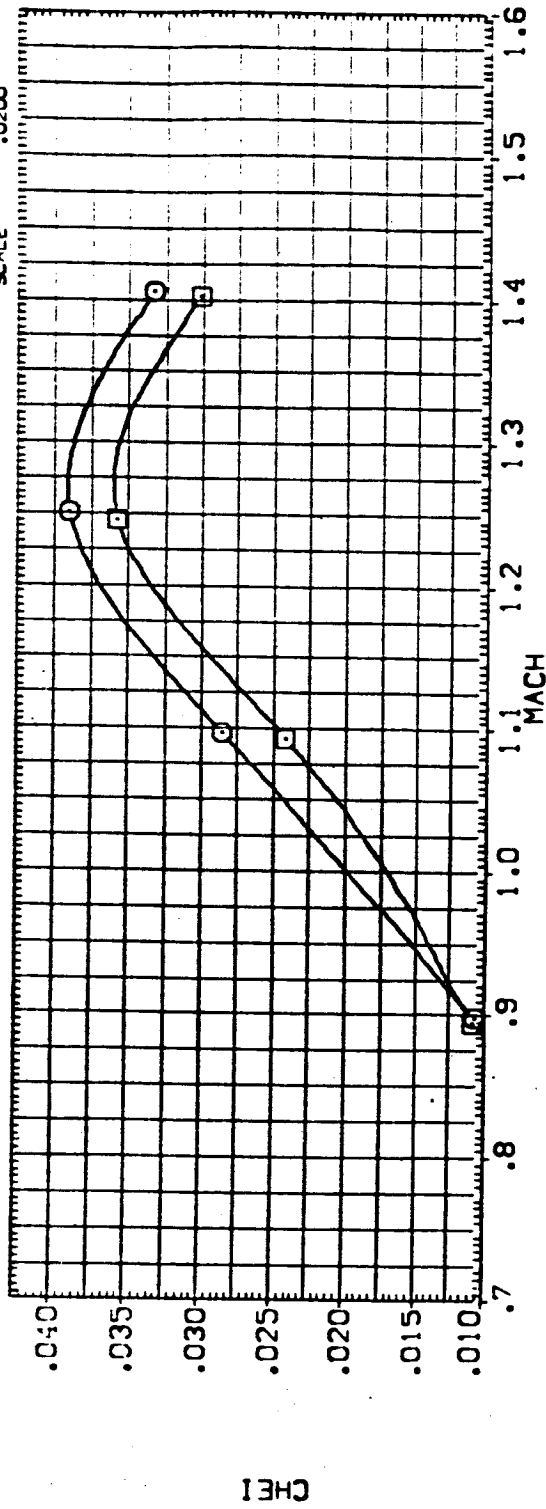
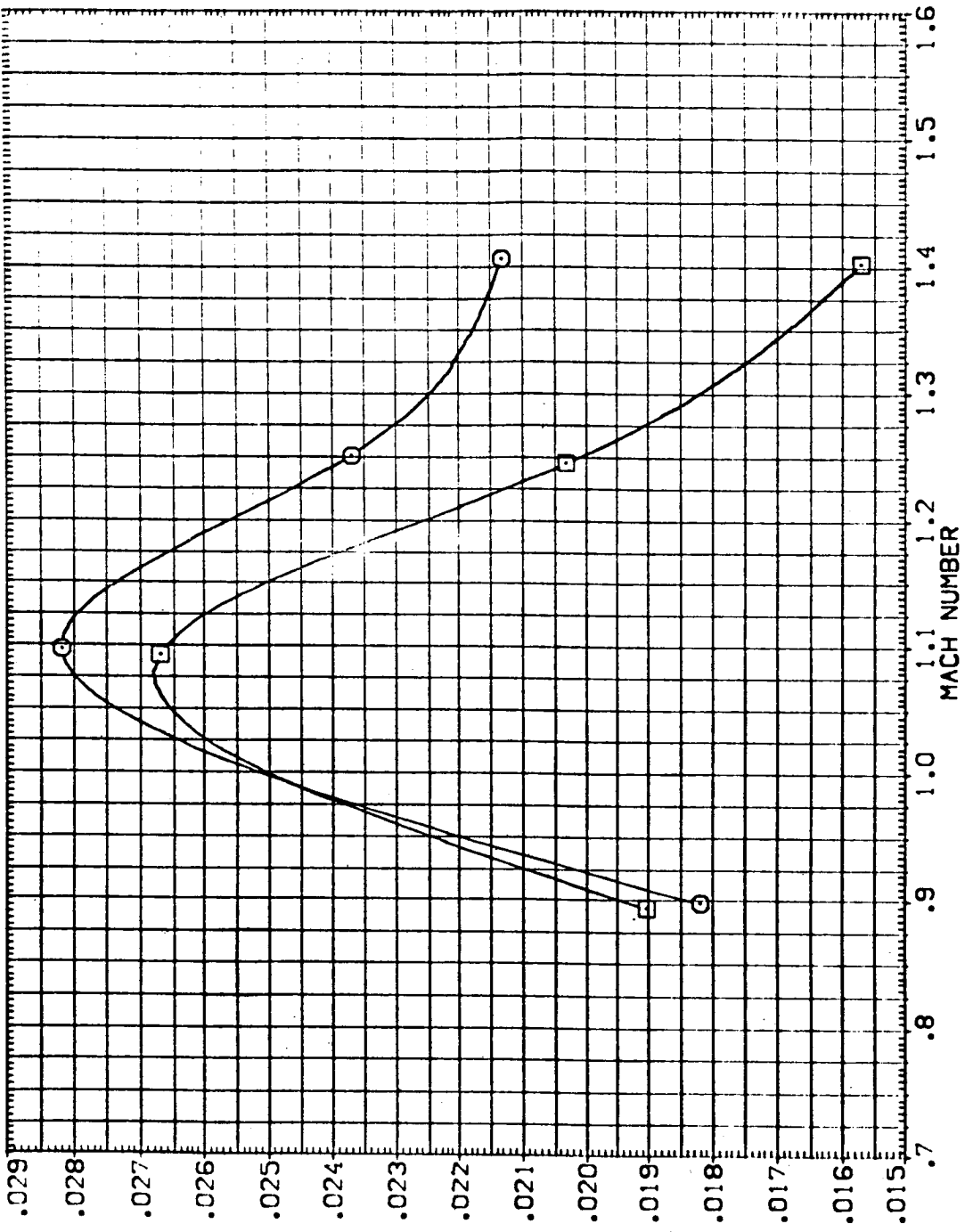


FIG. 87 SUMMARY - EFFECT OF PLUMES - ELV-1B=8.0 ELV-08=4.0 ALPHA=-4.0
 (A)BETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 [REU:49] ○ ARC11-0141A19 OTS SR9-OFF MPS-OFF
 [REU:53] ○ ARC11-0141A19 OTS SR9-NOM MPS-OFF

ELV-1B 8.000 8.000
 ELV-0B 4.000 4.000
 ALPHA -4.000 -4.000
 GIMBAL 1.000 1.000

REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN. XT
 YMRP .0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0200



ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

FIG. 87 SUMMARY - EFFECT OF PLUMES - ELV-1B=8.0 ELV-0B=4.0 ALPHA=-4.0

CABETA = .00

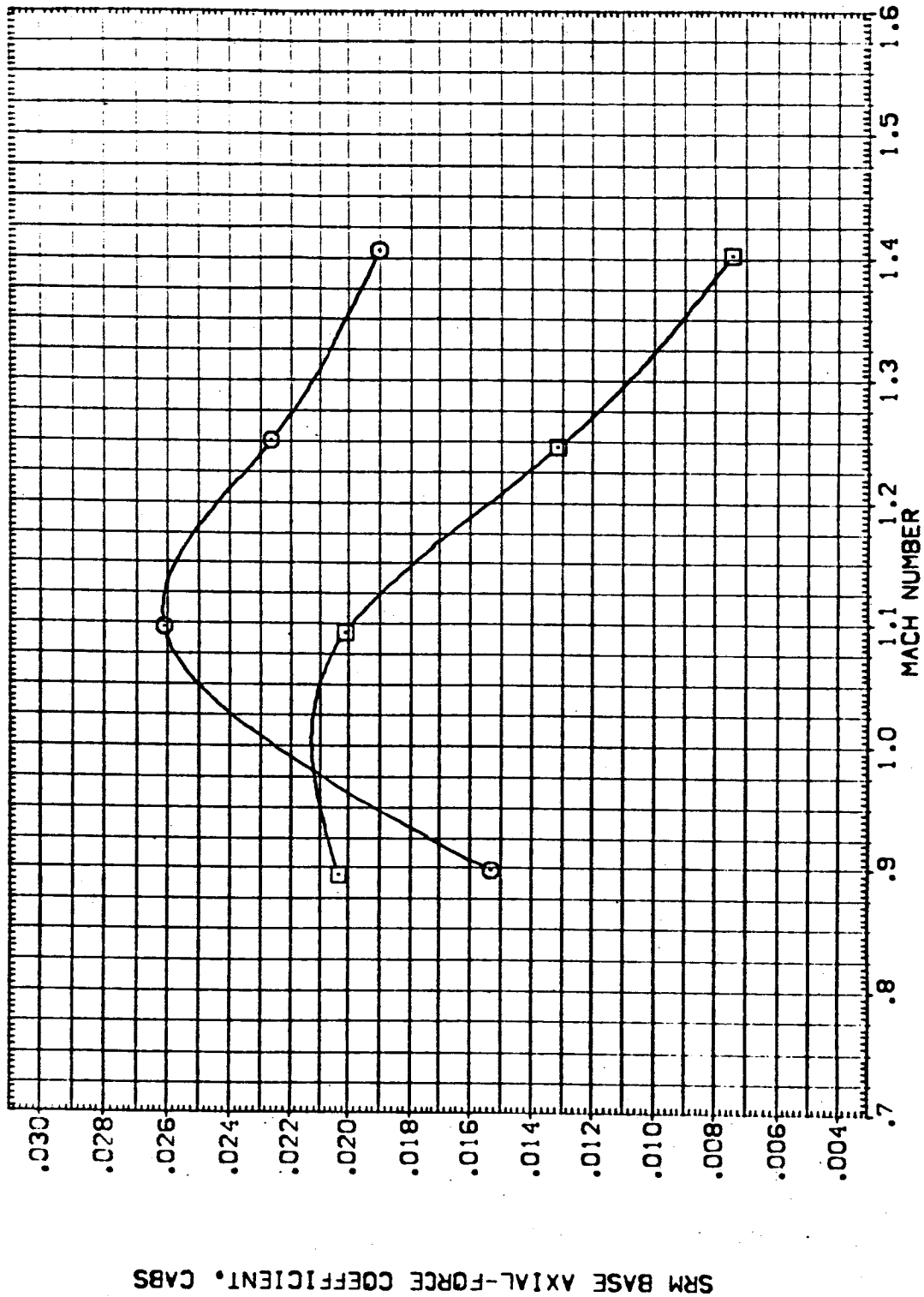


DATA SET SYMBOL: [HEU]49) [ARC]11-0141A19 OTS
 [HEU]53) [ARC]11-0141A19 OTS

CONFIGURATION DESCRIPTION: SR3-OFF MPS-OFF
 SR3-NOM MPS-OFF

ELV-1B: 8.000
 ELV-08: 4.000
 ALPHA: -4.000
 GIMBAL: 1.000

REFERENCE INFORMATION:
 SREF: 2690.0000 SO.FT.
 LREF: 1290.3000 IN.
 BREF: 1290.3000 IN.
 XMRP: 576.0000 IN. XT
 YMRP: .0000 IN. YT
 ZMRP: 400.0000 IN. ZT
 SCALE: .0200



SRM BASE AXIAL-FORCE COEFFICIENT, CABS

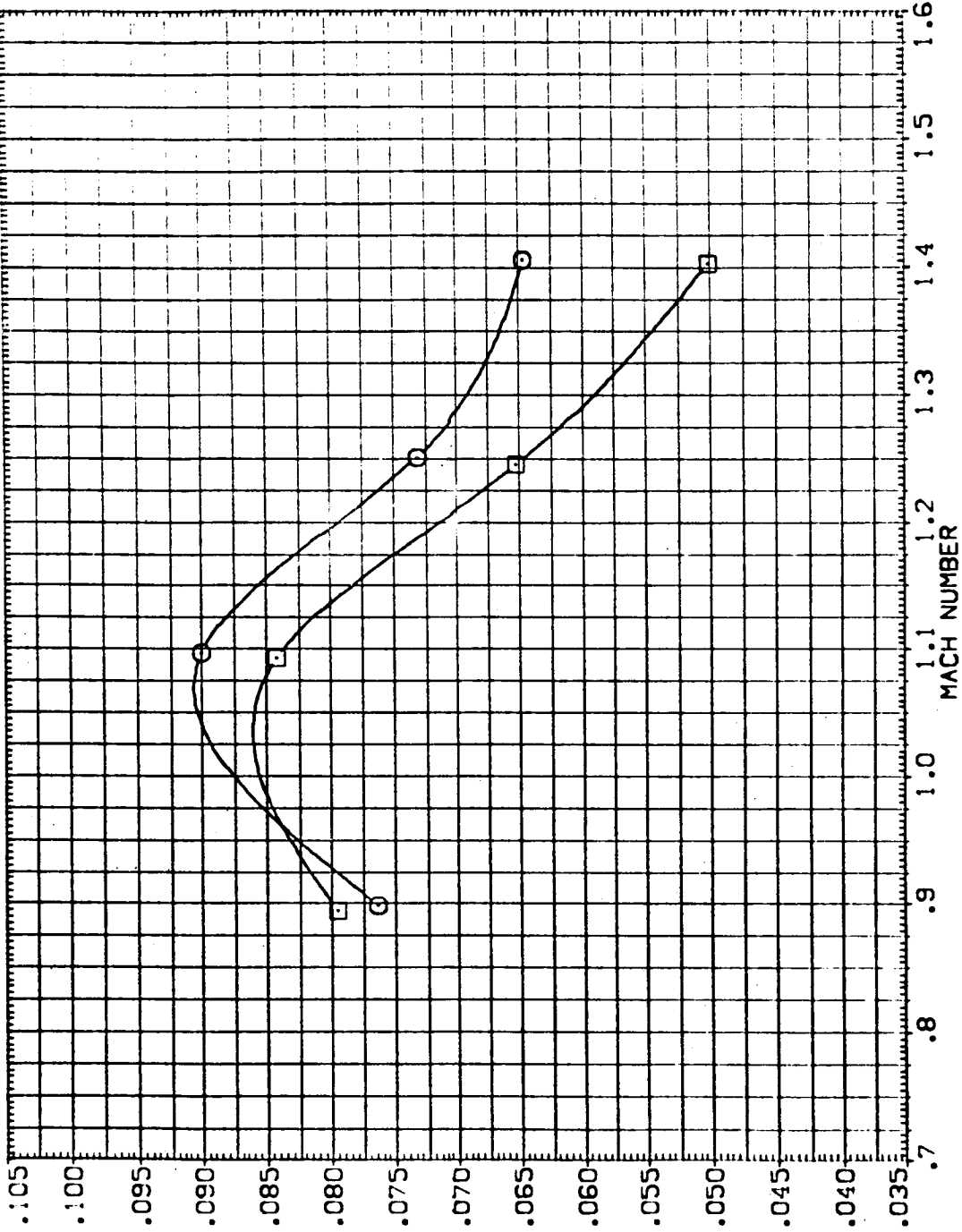
FIG. 87 SUMMARY - EFFECT OF PLUMES - ELV-1B=8.0 ELV-08=4.0 ALPHA=-4.0

CABETA = .00

DATA SET SYMBOL. CU. DESCRIPTION
 (FEU149) O ARC11-0141A19 OTS SRB-OFF MPS-OFF
 (FEU153) ARC11-0141A19 OTS SRB-NOM MPS-OFF

ELV-1B 8.000 8.000
 ELV-0B 4.000 4.000
 ALPHA -4.000 -4.000
 GIMBAL 1.000 1.000

REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 576.0000 IN. XT
 YMRP .0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0700



EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

FIG. 87 SUMMARY - EFFECT OF PLUMES - ELV-1B=8.0 ELV-0B=4.0 ALPHA=-4.0

(A) BETA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION

[140249] ○ ARC11-0141A19 DT5 SRB-OFF MPS-OFF

[140253] ○ ARC11-0141A19 DT5 SRB-NOM MPS-OFF

ELV-1B 8.000 8.000

ELV-0B 4.000 4.000

ALPHA .000 .000

GIMBAL 1.000 1.000

REFERENCE INFORMATION

SREF 2690.0000 SO.FT.

LREF 1290.3000 IN.

BREF 1290.3000 IN.

XMRP 976.0000 IN. XT

YMRP .0000 IN. YT

ZMRP 400.0000 IN. ZT

SCALE .0200

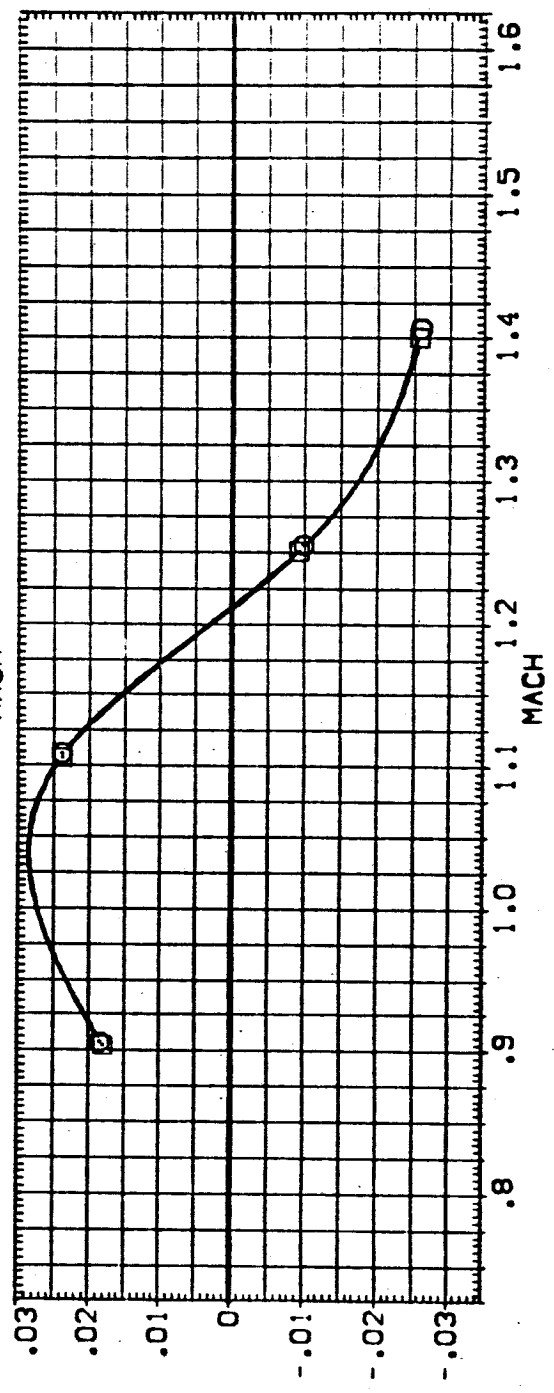
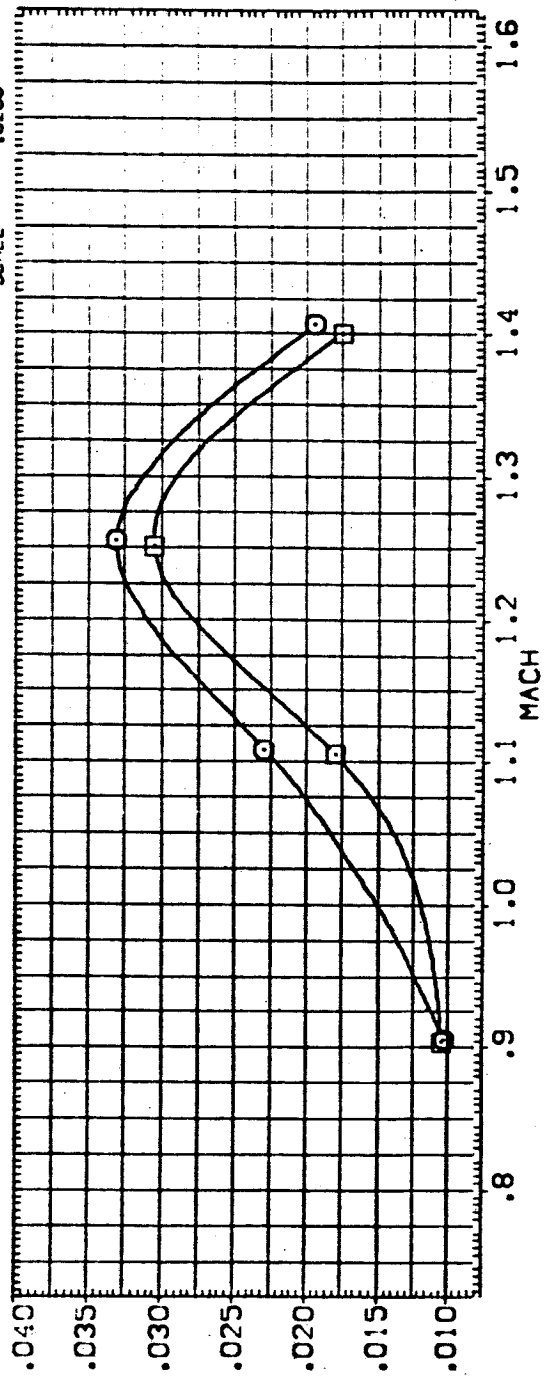


FIG. 88 SUMMARY - EFFECT OF PLUMES - ELV-1B=8.0 ELV-0B=4.0 ALPHA=0.0

CABETA = .00

ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (HEU249) O ARC11-0141A19 OTS SRB-OFF MPS-OFF
 (HEU253) ARC11-0141A19 OTS SRB-NOM MPS-OFF

ELV-1B ELV-OB ALPHA GIMBAL
 8.000 4.000 .000 1.000
 8.000 4.000 1.000

REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN. XT
 YMRP .0000 IN. YT
 ZMRP .0000 IN. ZT
 SCALE 400.0000

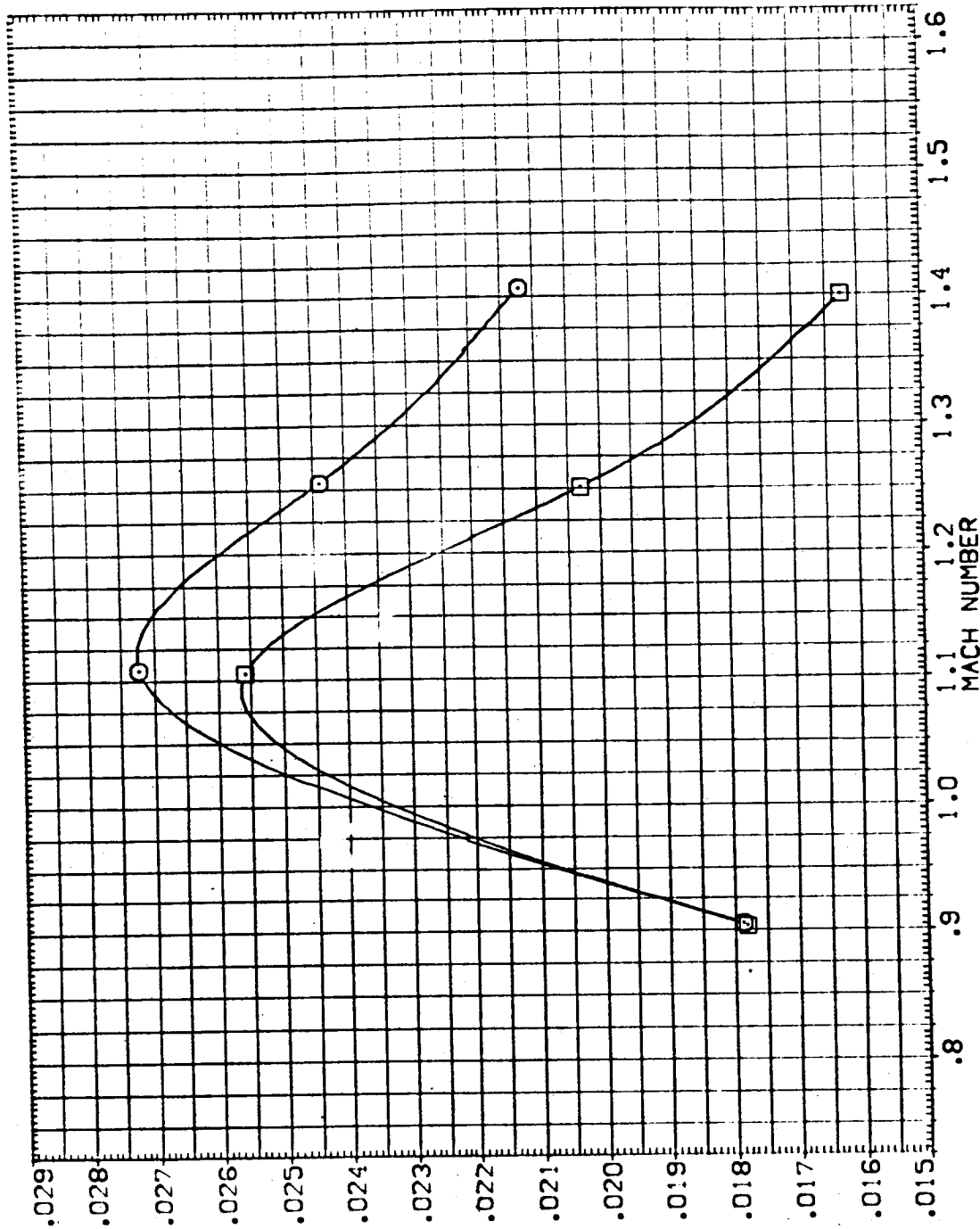


FIG. 88 SUMMARY - EFFECT OF PLUMES - ELV-1B=8.0 ELV-OB=4.0 ALPHA=0.0

CABETA = .00.

DATA SET SYMBOL: CONFIGURATION DESCRIPTION

(1-2-34) O ARC11-0141A19 015 SRS-OFF MPS-OFF

(1-2-35) I ARC11-0141A19 015 SRS-NON MPS-OFF

ELV-1B 8.000 8.000

ELV-0B 4.000 4.000

ALPHA .000 .000

GIMBAL 1.000 1.000

REFERENCE INFORMATION

SREF 2690.0000 SO.FT.

LREF 1290.3000 IN.

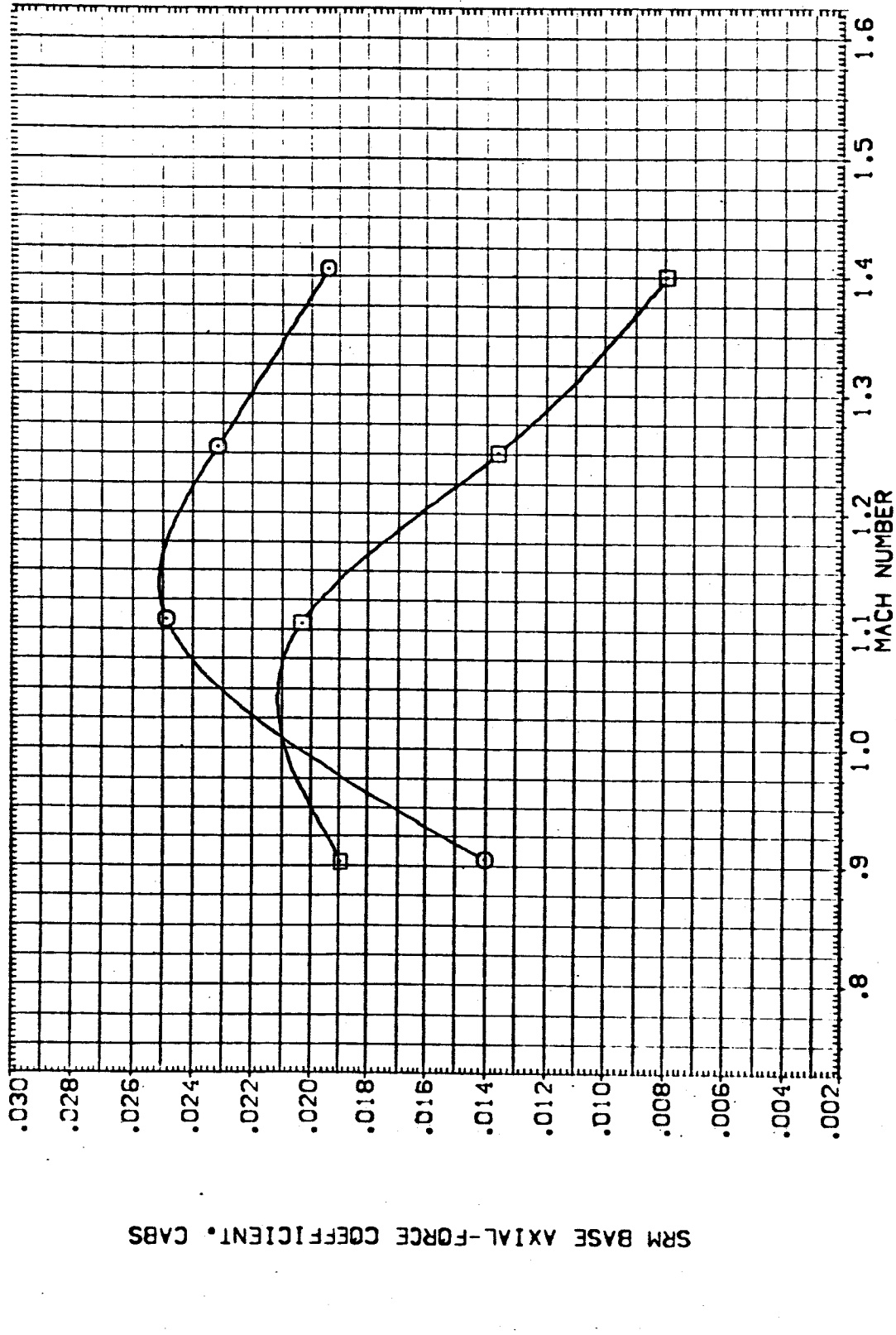
BREF 1290.3000 IN.

YMRP 976.0000 IN. XT

ZMRP .0000 IN. YT

SCALE 400.0000 IN. ZT

.0200



SRM BASE AXIAL-FORCE COEFFICIENT, CABS

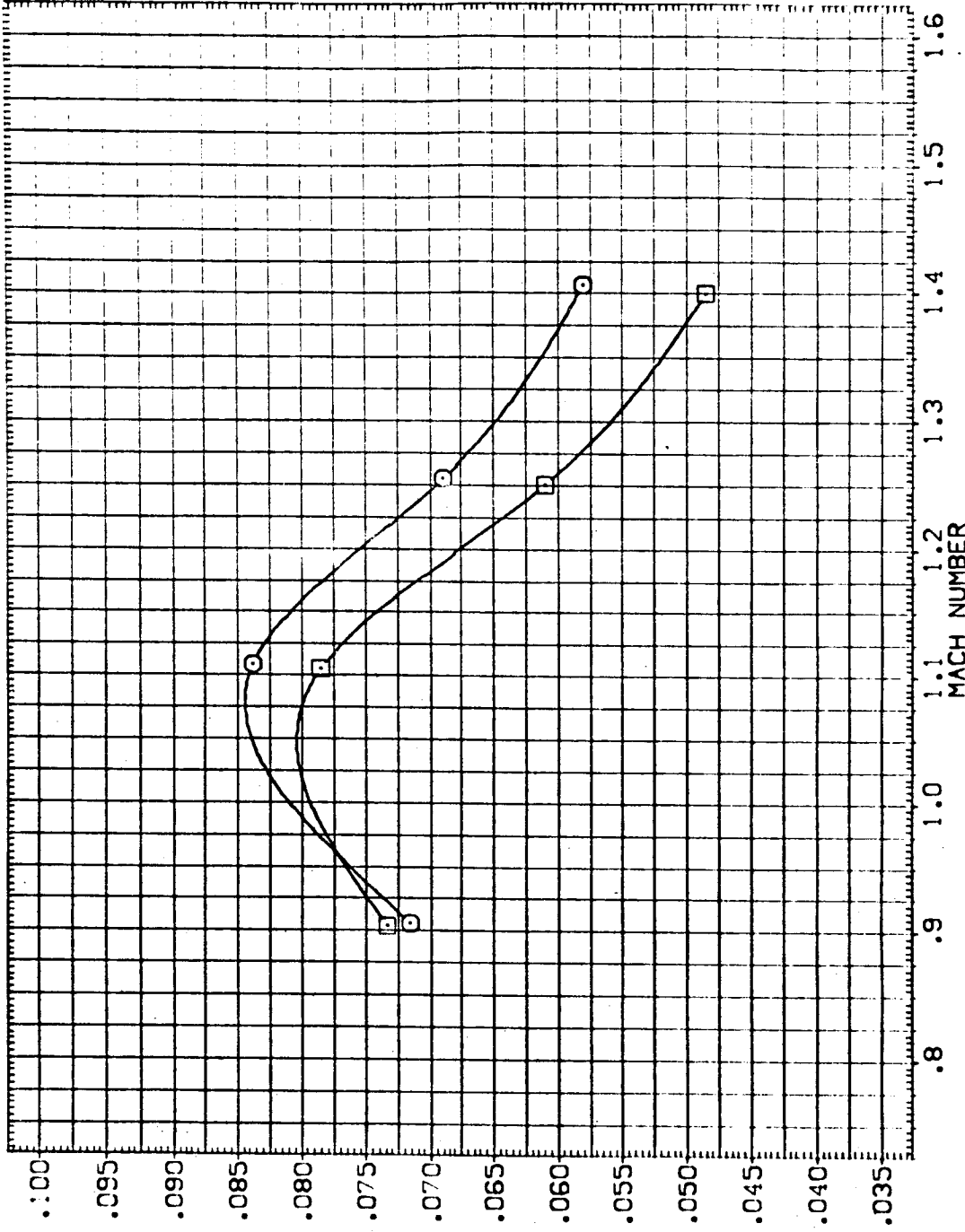
FIG. 88 SUMMARY - EFFECT OF PLUMES - ELV-1B=8.0 ELV-0B=4.0 ALPHA=0.0

(A)BETA = .00

DATA SET SYMBOL: 0141A19 OTS
 CONFIGURATION DESCRIPTION: SRB-OFF MPS-OFF
 SRB-NOM MPS-OFF

ELV-1B 8.000
 ELV-0B 4.000
 ALPHA .000
 GIMBAL 1.000

REFERENCE INFORMATION
 SRFB 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BRFB 1290.3000 IN.
 XMRP 976.0000 IN.
 YMRP 400.0000 IN.
 ZMRP 400.0000 IN.
 SCALE .0200



EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

FIG. 88 SUMMARY - EFFECT OF PLUMES - ELV-1B=8.0 ELV-0B=4.0 ALPHA=0.0

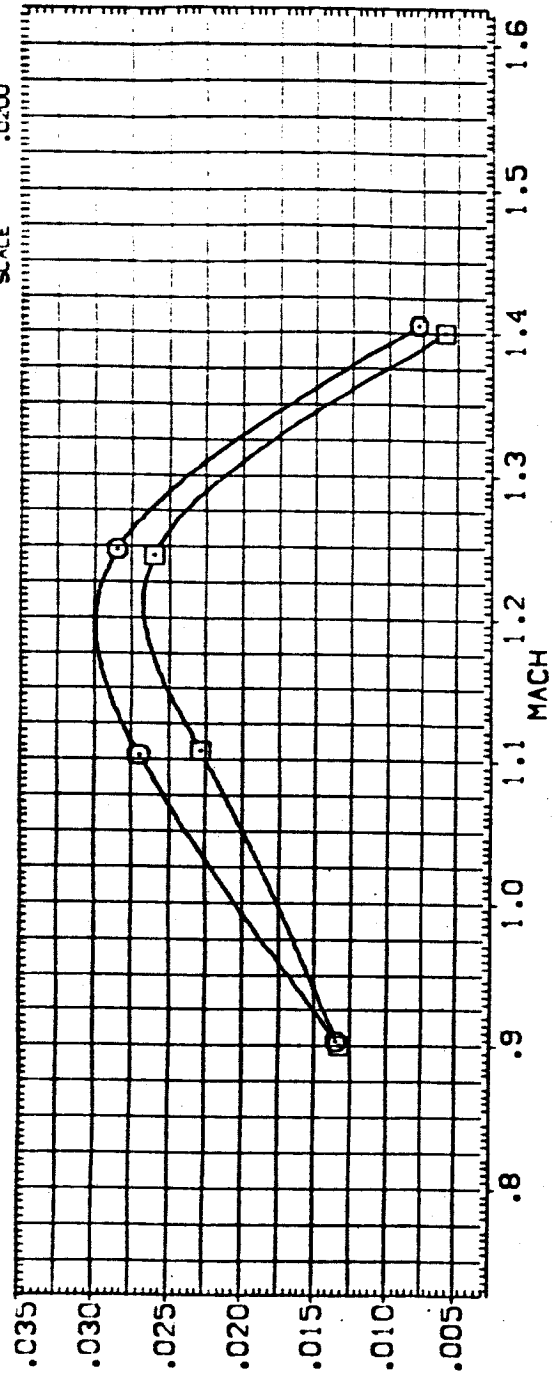
CABETA = .00



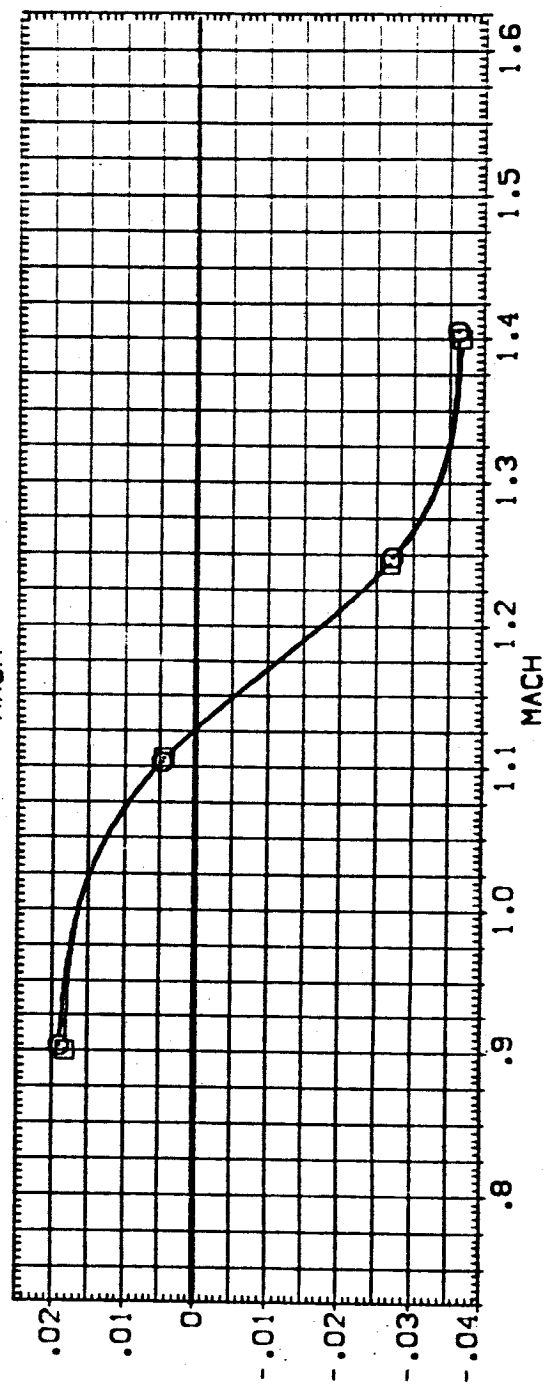
DATA SET SYMBOL: [M-319] [M-353]
 CONFIGURATION DESCRIPTION: ARC-0141A19 OTS SRB-OFF MPS-OFF
 ARC-0141A19 OTS SRB-NOM MPS-OFF

ELV-IB 8.000 8.000
 ELV-OB 4.000 4.000
 ALPHA 4.000 4.000
 DIMBAL 0.000 1.000

REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN. XT
 YMRP .0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0200



CHEI



CHEO

FIG. 89 SUMMARY - EFFECT OF PLUMES - ELV-IB=8.0 ELV-OB=4.0 ALPHA=4.0

CABETA = .00

DATA SET SYMBO. CONFIGURATION DESCRIPTION
 {#C349} O ARC11-0141A19 OTS
 {#C353} ARC11-0141A19 OTS

SFB-OFF MPS-OFF
 SFB-NOM MPS-OFF

ELV-19 8.000
 8.000
 ELV-08 4.000
 4.000
 ALPHA 4.000
 4.000
 GIMBAL 1.000
 1.000

REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XT 976.0000 IN.
 YMRD .0000 IN.
 ZMRD 400.0000 IN.
 SCALE .0200

ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

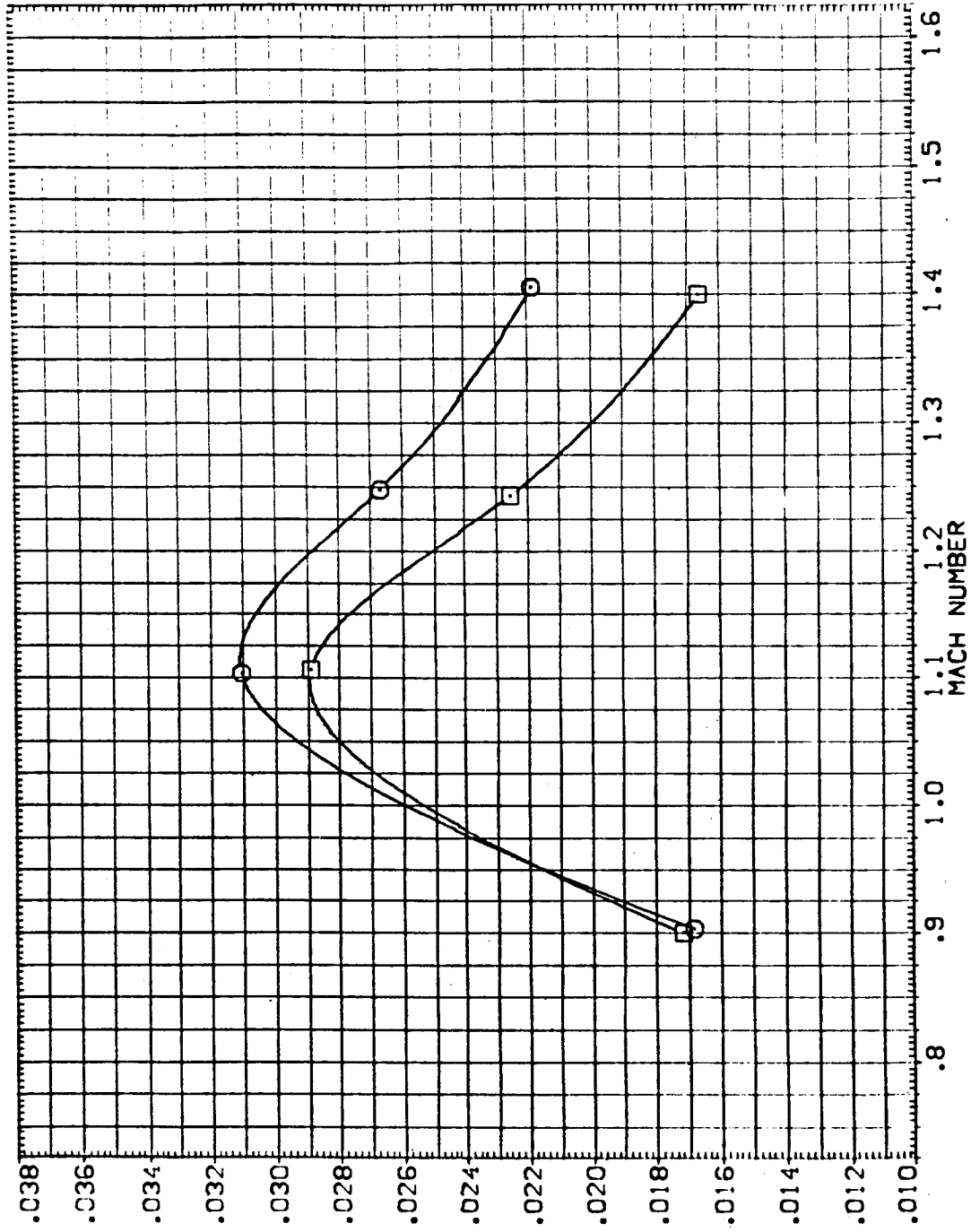


FIG. 89 SUMMARY - EFFECT OF PLUMES - ELV-1B=8.0 ELV-0B=4.0 ALPHA=4.0

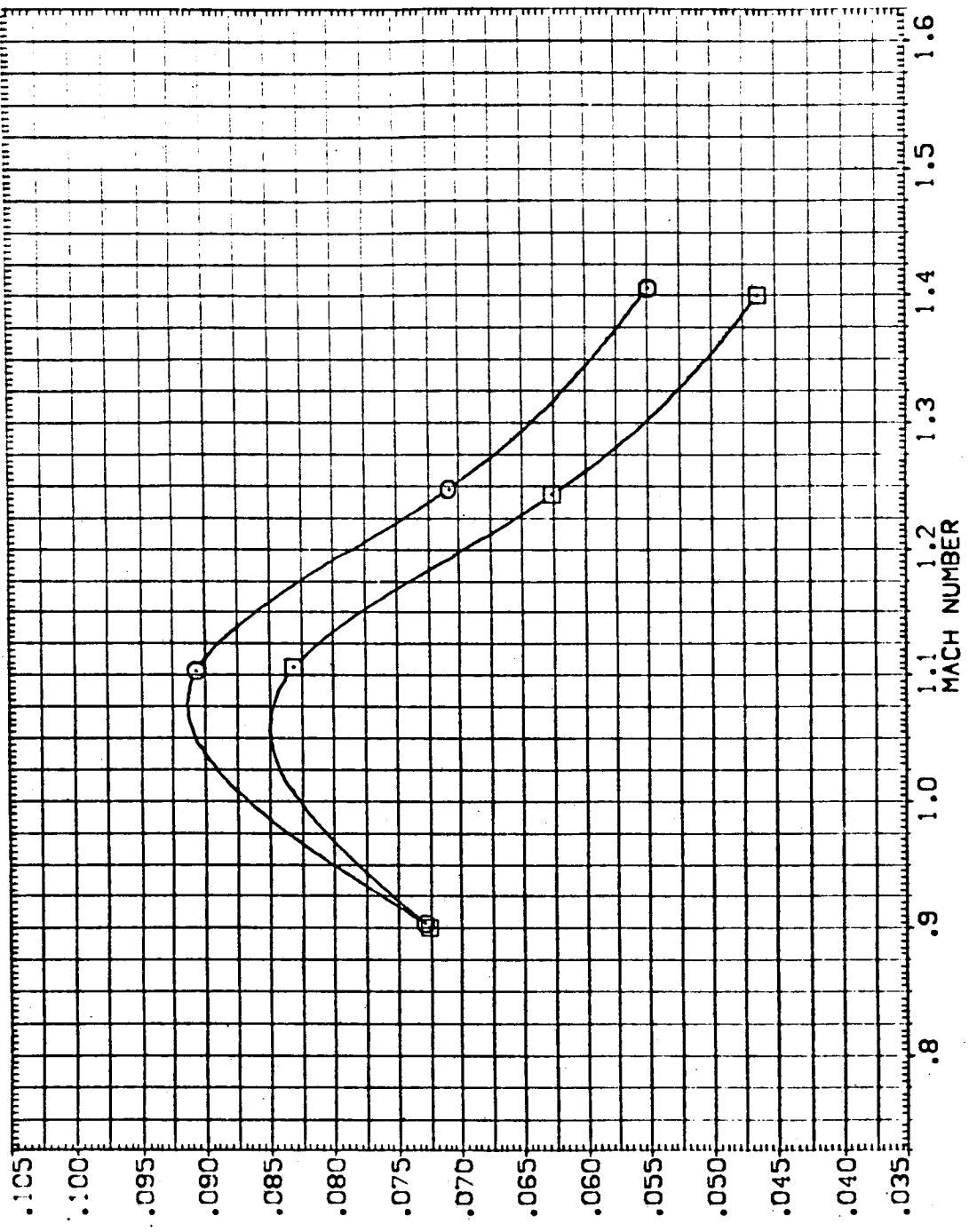
(A)BETA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 [HE319] [] ARC11-0141A19 OTS SRB-OFF MPS-OFF
 [HE353] [] ARC11-0141A19 OTS SRB-NOM MPS-OFF

ELV-1B ELV-08 ALPHA GIMBAL
 8.000 4.000 4.000 1.000
 8.000 4.000 4.000 1.000

REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN. XT
 YMRP .0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0200



EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

FIG. 89 SUMMARY - EFFECT OF PLUMES - ELV-1B=8.0 ELV-08=4.0 ALPHA=4.0

CABETA = .00



ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (BEUB01)

PHI	BETA	ALPHA	ELV-18	ELV-08
180.000	.000	-4.000	RUDER	MACH
195.000			GIMBAL	
210.000				
225.000				
240.000				

PARAMETRIC VALUES	8.000	4.000
	.000	.500
	1.000	

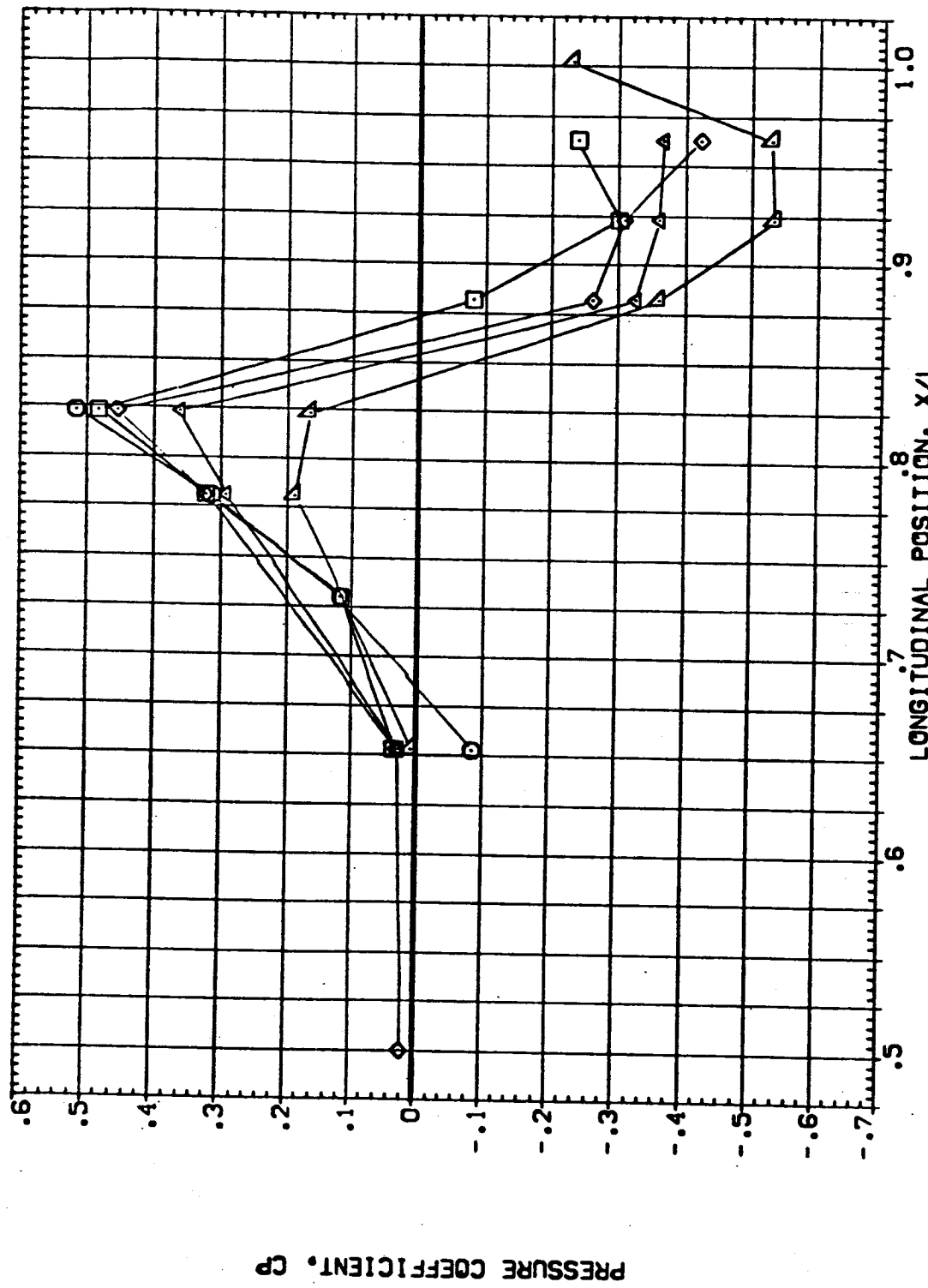


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC... UTILITY OTS+STRUT SRB-OFF MPS-OFF UKIS BODY (BEUB01)

PHI	BETA	ALPHA	ELV-18	ELV-08
255.000	.000	-4.000	RUDER	4.000
270.000			GIMBAL	.900
290.000				1.000
320.000				
360.000				

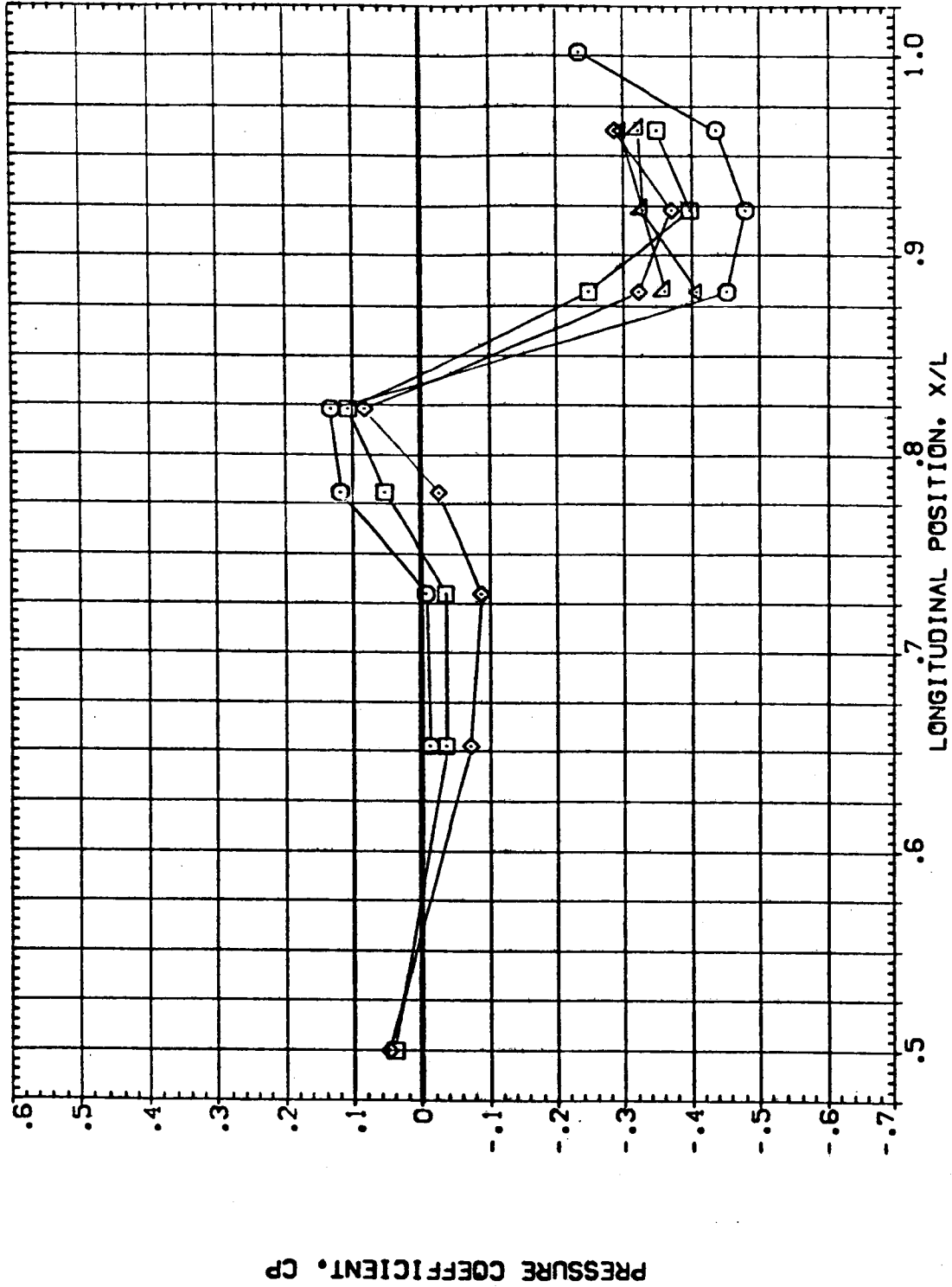


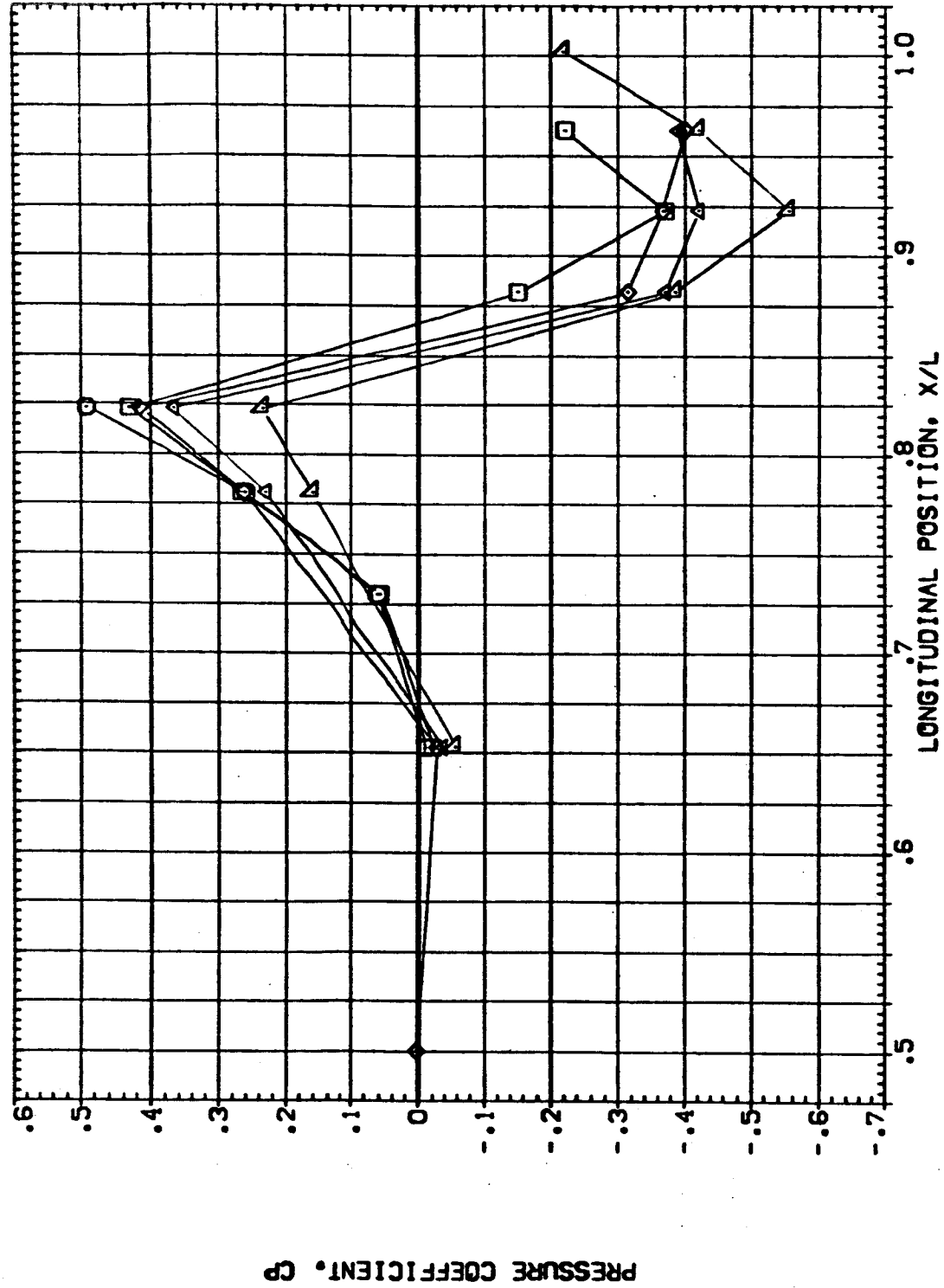
FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY(8EUB01)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

PHI 180.000
 BETA .000 ALPHA .000
 195.000
 210.000
 225.000
 240.000

SYMBOL
 ○ □ ◇ △



PRESSURE COEFFICIENT, CP

LONGITUDINAL POSITION, X/L

FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (BEUB01)

PHI	BETA	ALPHA	ELV-1B	ELV-0B
255.000	.000	.000	8.000	1.000
270.000			RUDER	MACH
290.000			1.000	.900
320.000			GIMBAL	
360.000				

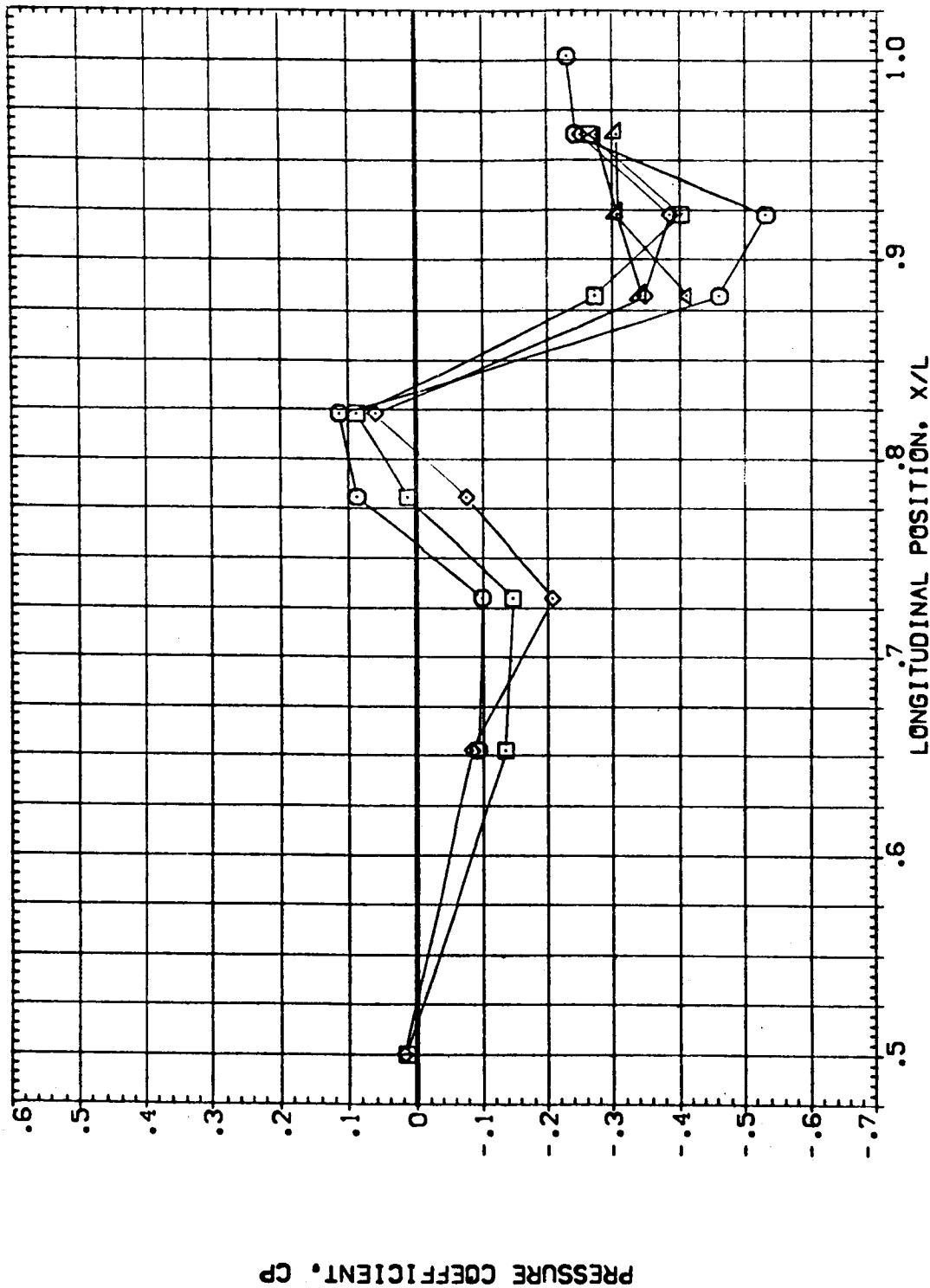


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF



ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (BEUB01)

SYMBOL
 ○ □ ◇ △ ▽

PHI
 180,000
 195,000
 210,000
 225,000
 240,000

BETA
 .000
 1,000

PARAMETRIC VALUES
 ELV-18 6,000
 RUDDER .000
 GIMBAL 1,000
 ELV-08 4,000
 MACH .900

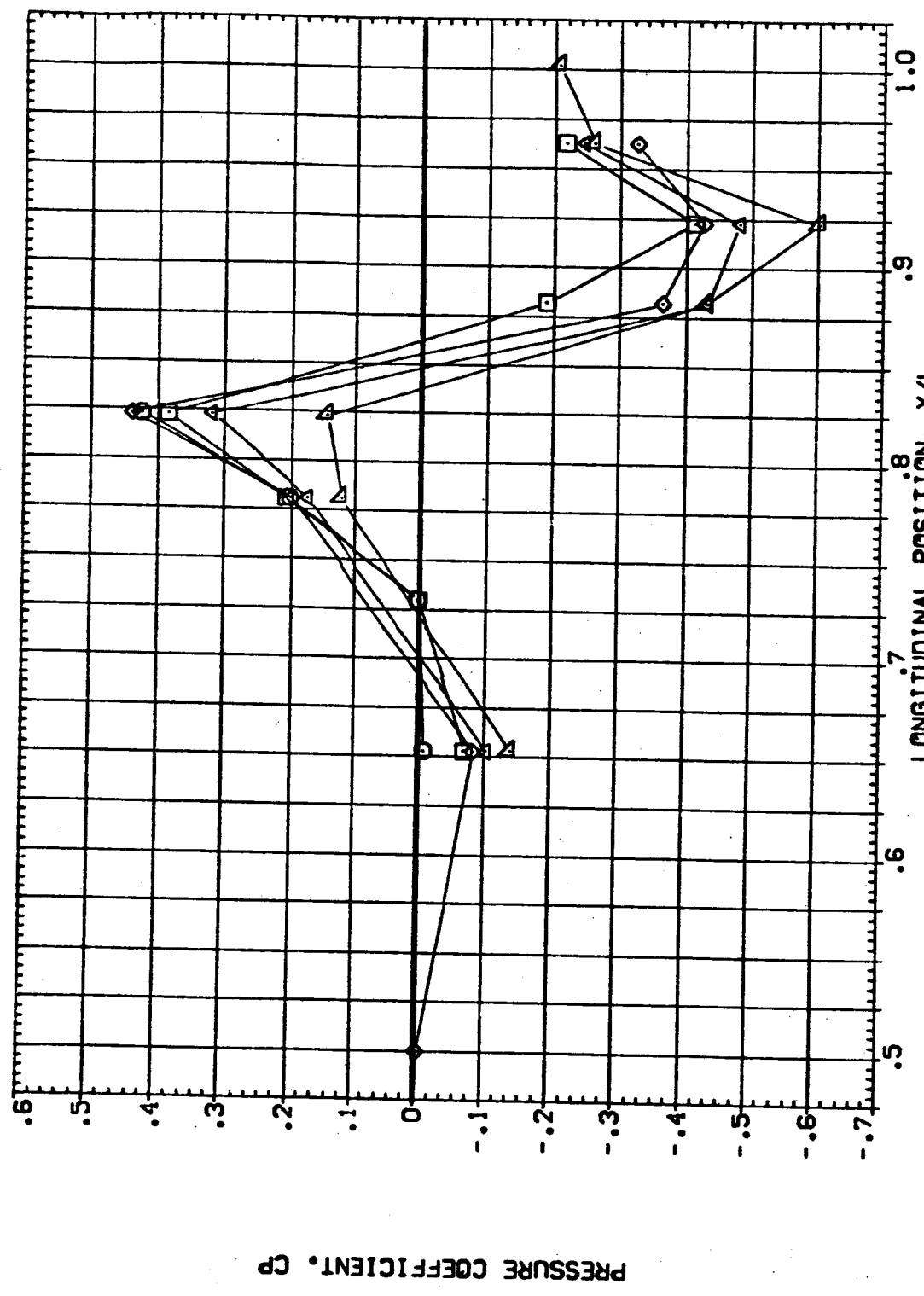


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (BEUB01)

PHI		BETA		ALPHA		PARAMETRIC VALUES			
255.000	.000	.000	.000	1.000	1.000	ELV-1B	ELV-08	ELV-08	4.000
270.000						RUDER		MACH	.900
290.000						GIMBAL			
320.000									
360.000									

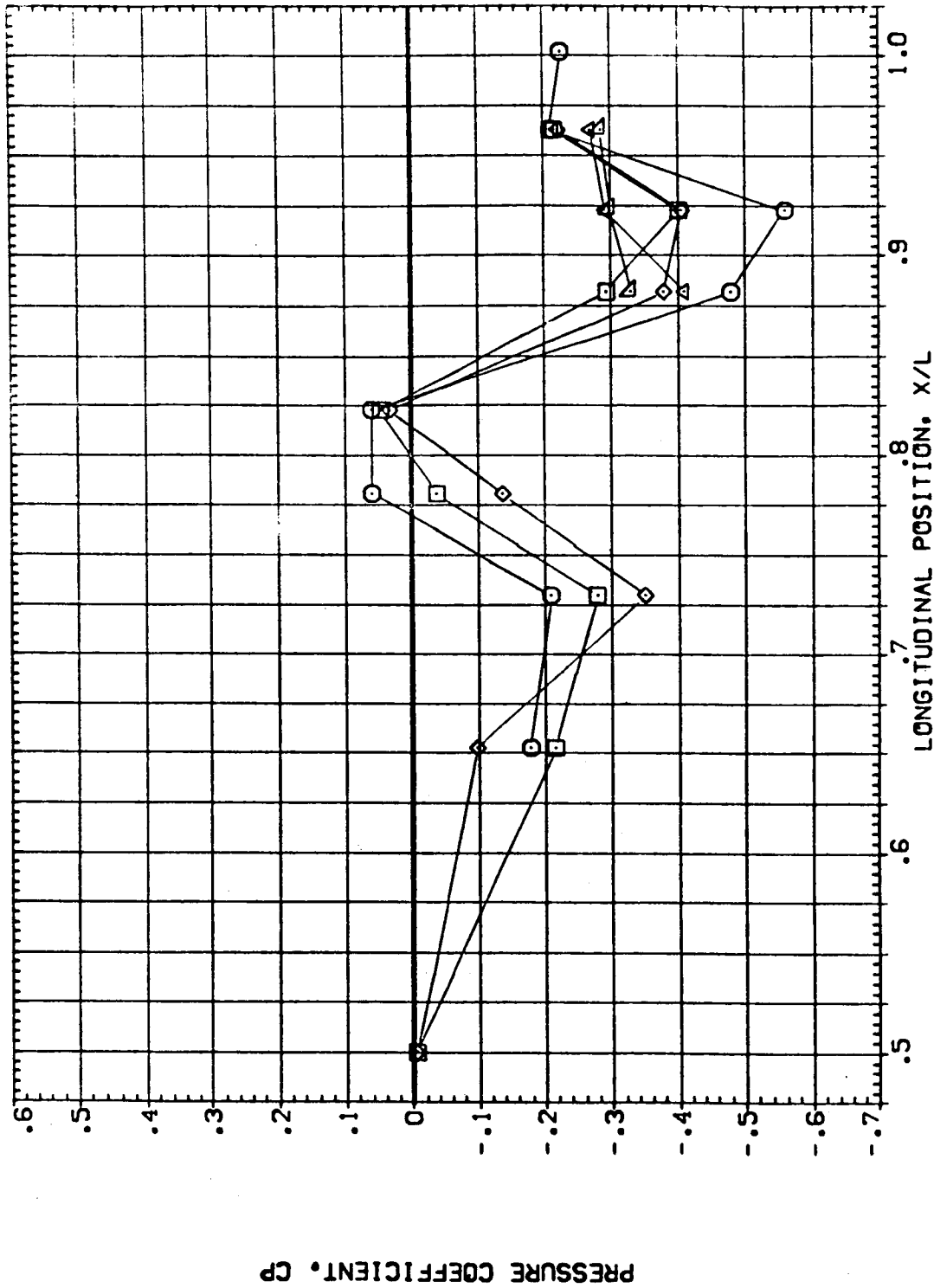


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF



ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (CEUB01)

PHI	BETA	ALPHA	ELV-18	ELV-08
180.000	-4.000	.000	RUDER	MACH
195.000			GIMBAL	
210.000				4.000
225.000				.900
240.000				

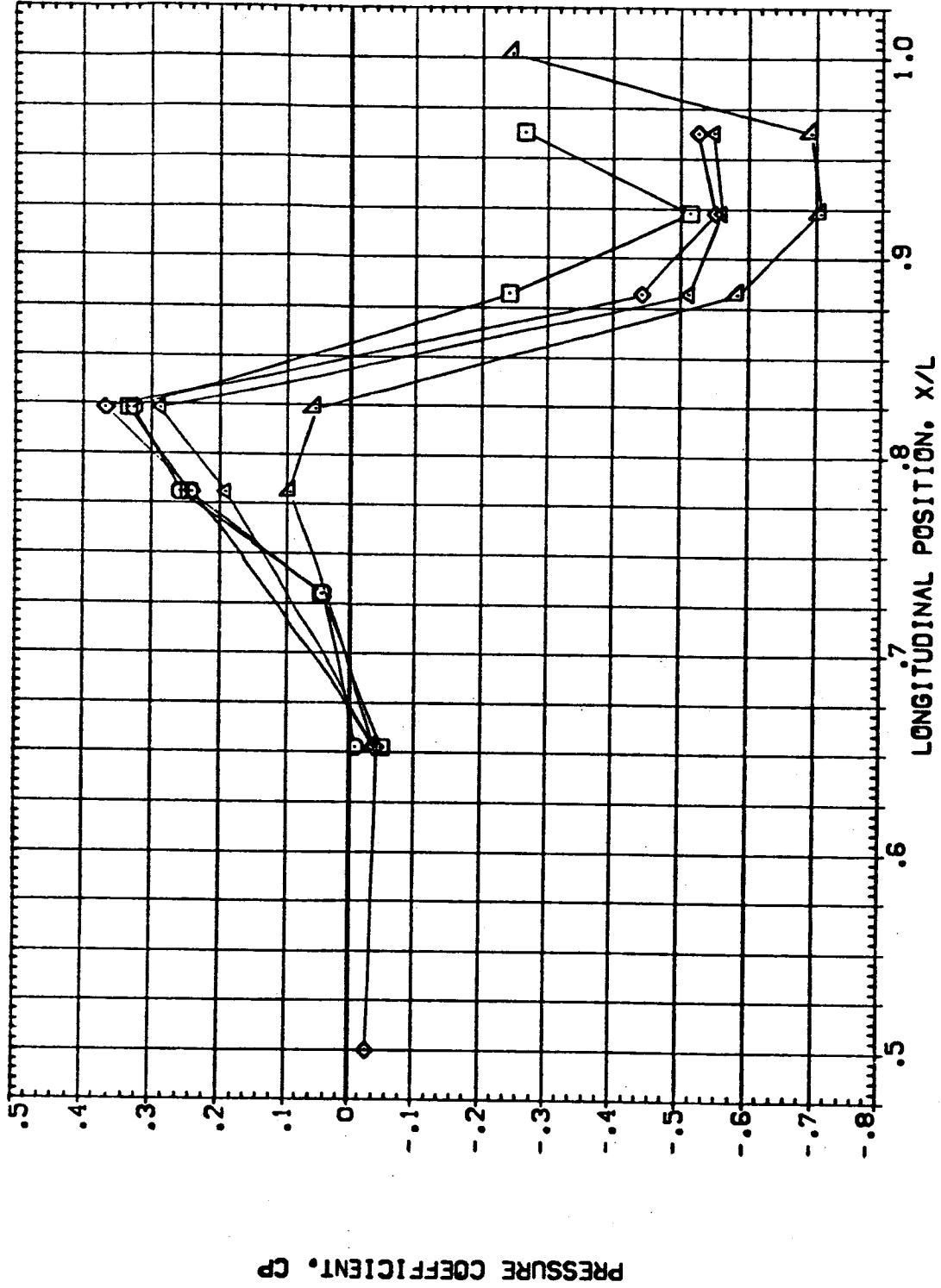


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY(CEUB01)

PHI
 255,000
 270,000
 290,000
 320,000
 360,000

BETA ALPHA
 -4,000 .000

ELV-18 ELV-08
 RUDDER MACH
 GIMBAL 1,000 4,000
 .000 .900

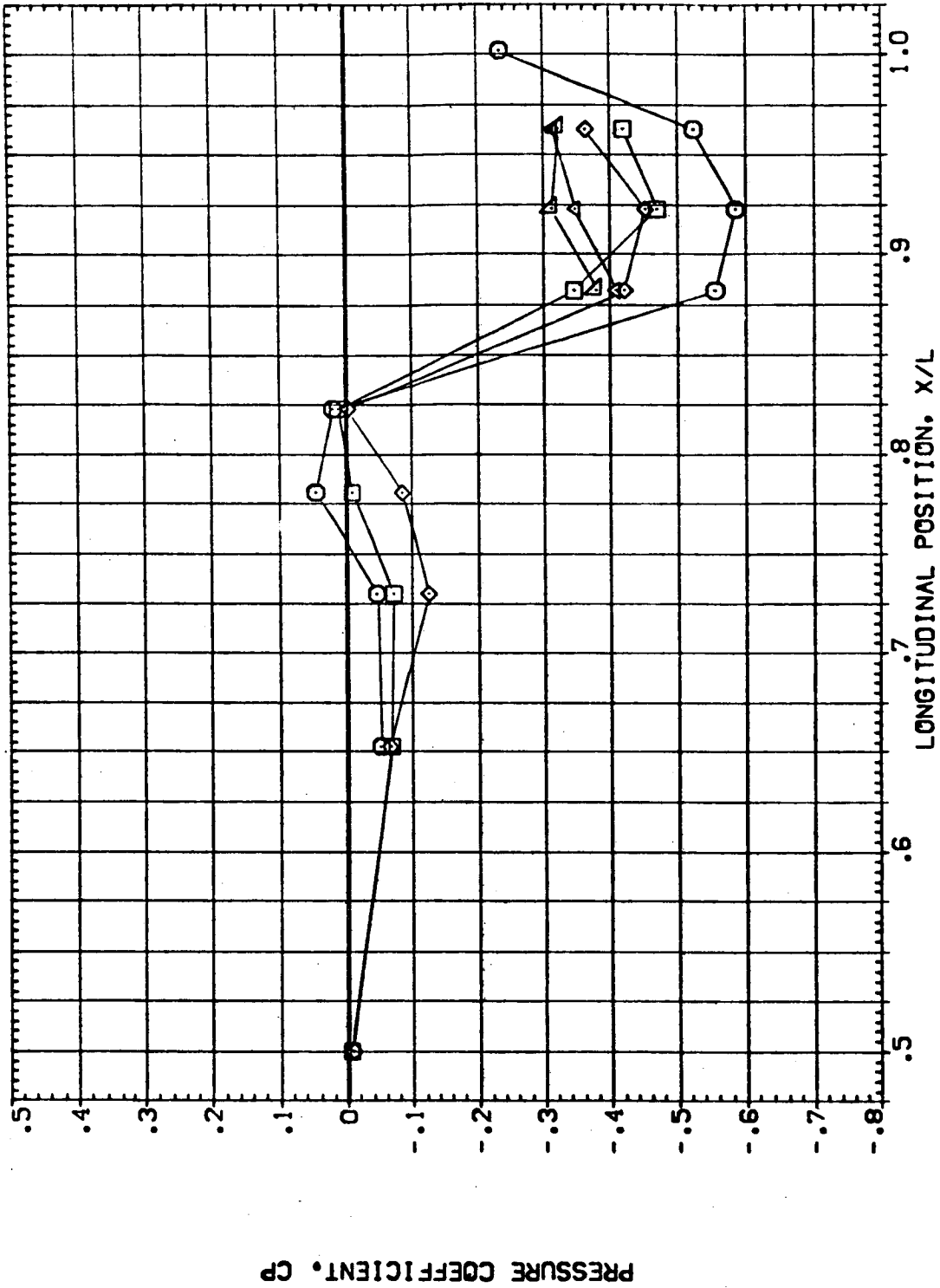


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (CEUB01)

PHI	BETA	ALPHA	PARAMETRIC VALUES	
180.000	4.000	.000	ELV-18	ELV-09
195.000			RUDDER	MACH
210.000			GIMBAL	1.000
225.000				4.000
240.000				.900

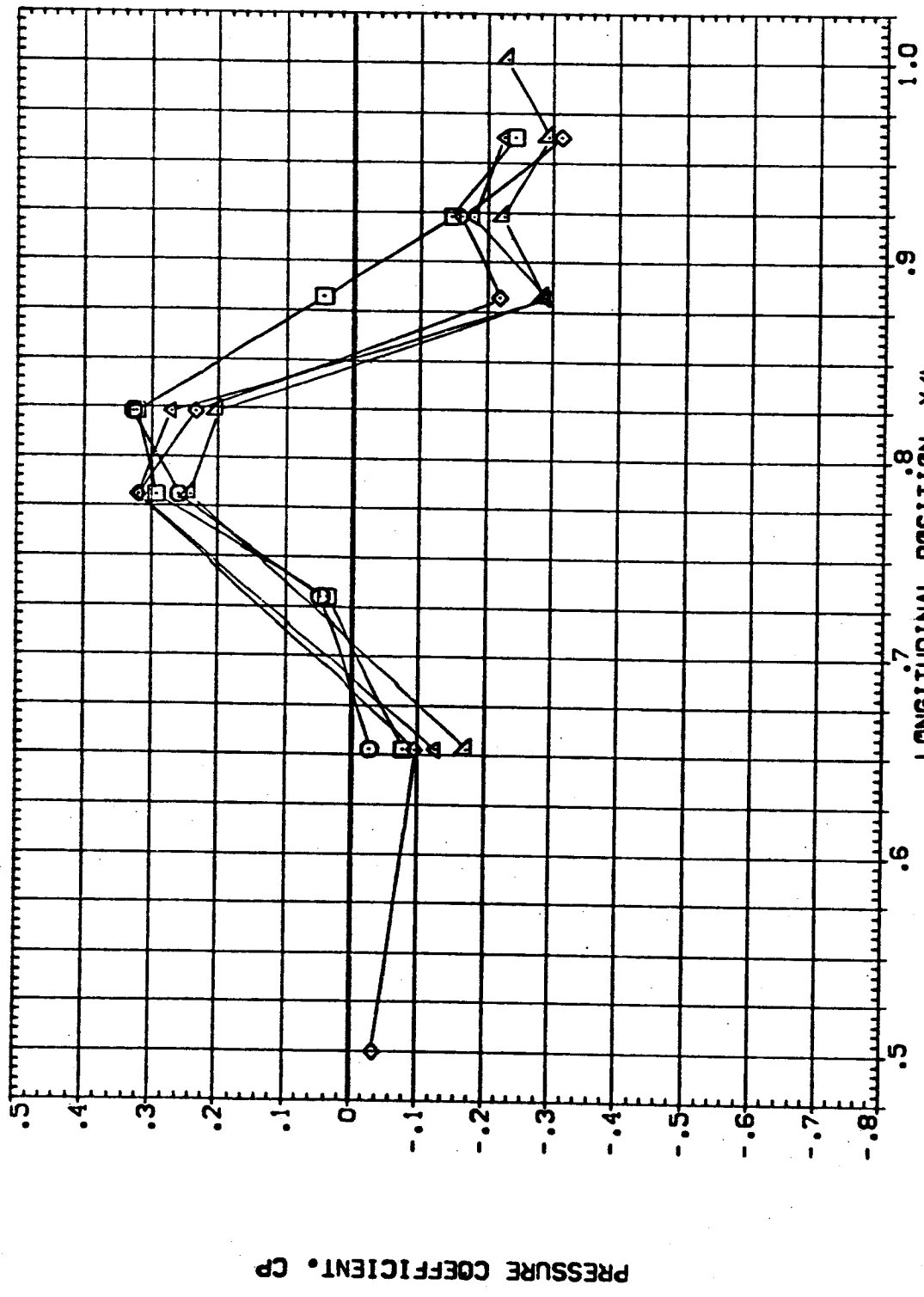


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (CEUB01)

PHI 255.000
 270.000
 290.000
 320.000
 360.000

BETA 4.000

ALPHA .000

ELV-18
 RUDDER
 GIMBAL

PARAMETRIC VALUES
 8.000 ELV-08
 .000 MACH
 1.000

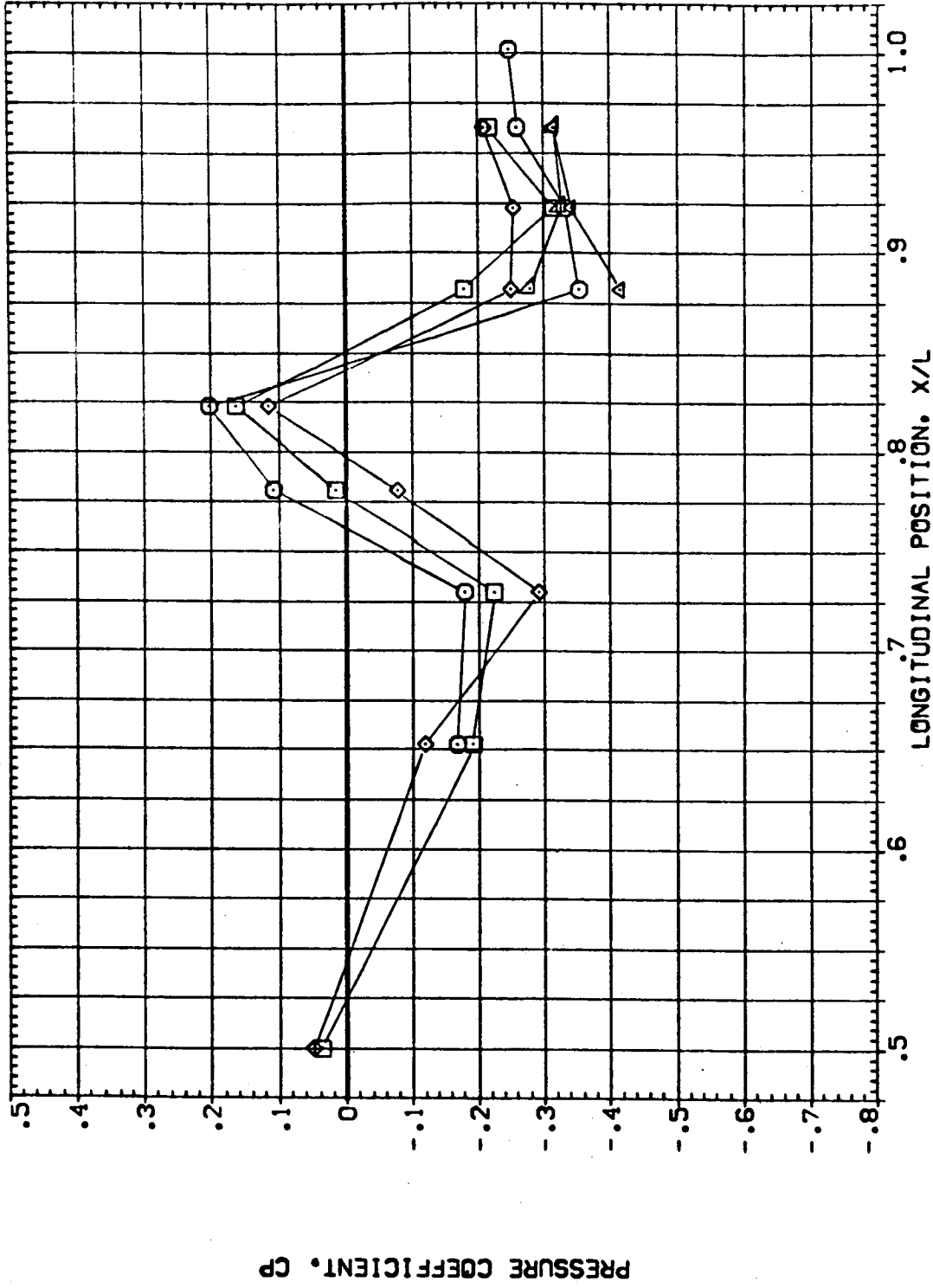


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF



ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (BEUB02)

PHI	BETA	ALPHA	ELV-18	RUDDER	GIMBAL	ELV-OB	MACH
180.000	.000	-1.000	8.000	.000	1.000	8.000	1.000
195.000							
210.000							
225.000							
240.000							

SYMBOL
□
◇
△

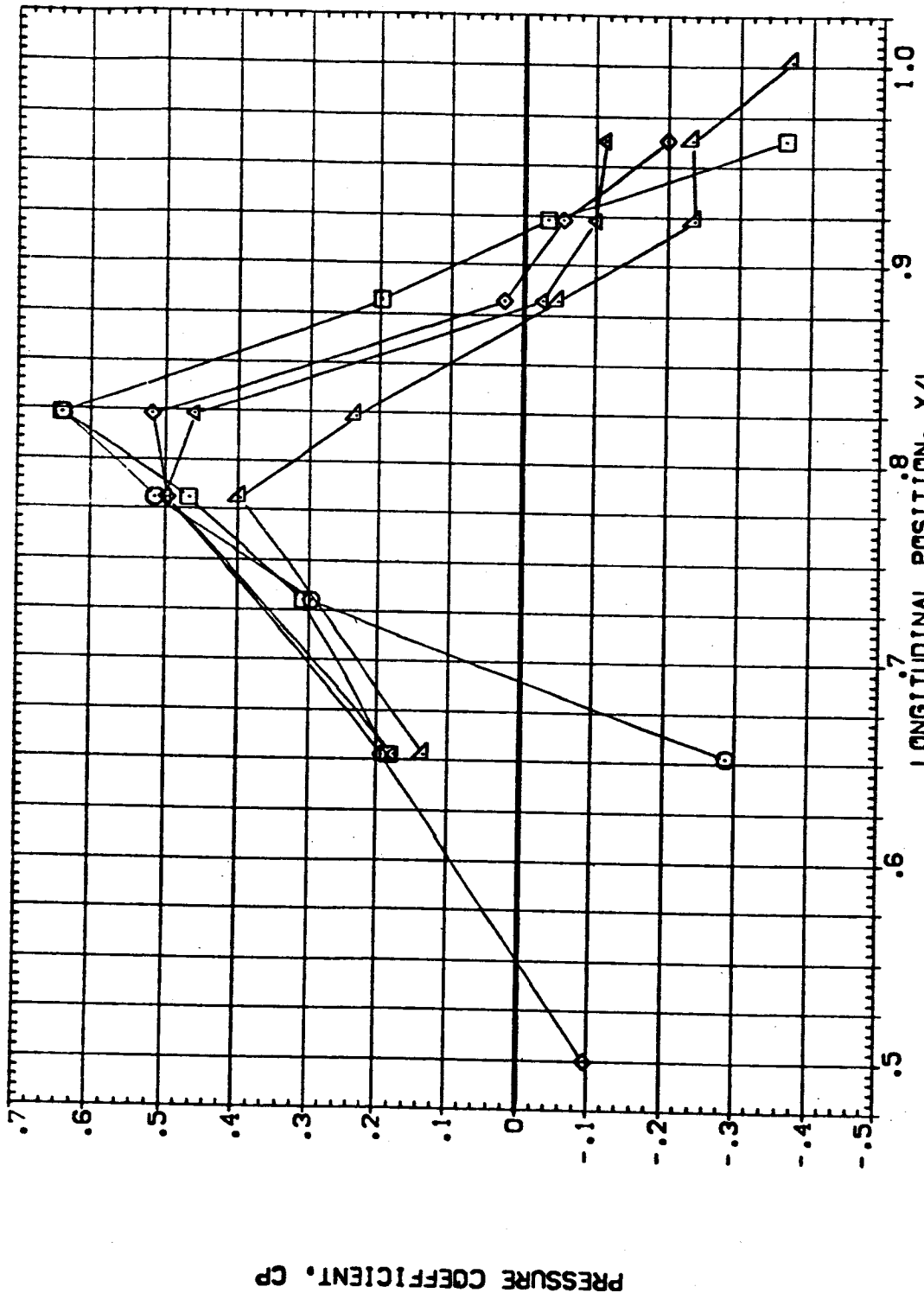


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

AKJ110141A19 QTS+STRUT SRB-OFF MPS-OFF ORB BODY (BEUB02)

PHI	BETA	ALPHA	ELV-08	PARAMETRIC VALUES
255.000	.000	-4.000	RUDDER	8.000
270.000			GIMBAL	.000
290.000				1.000
320.000				4.000
360.000				1.100

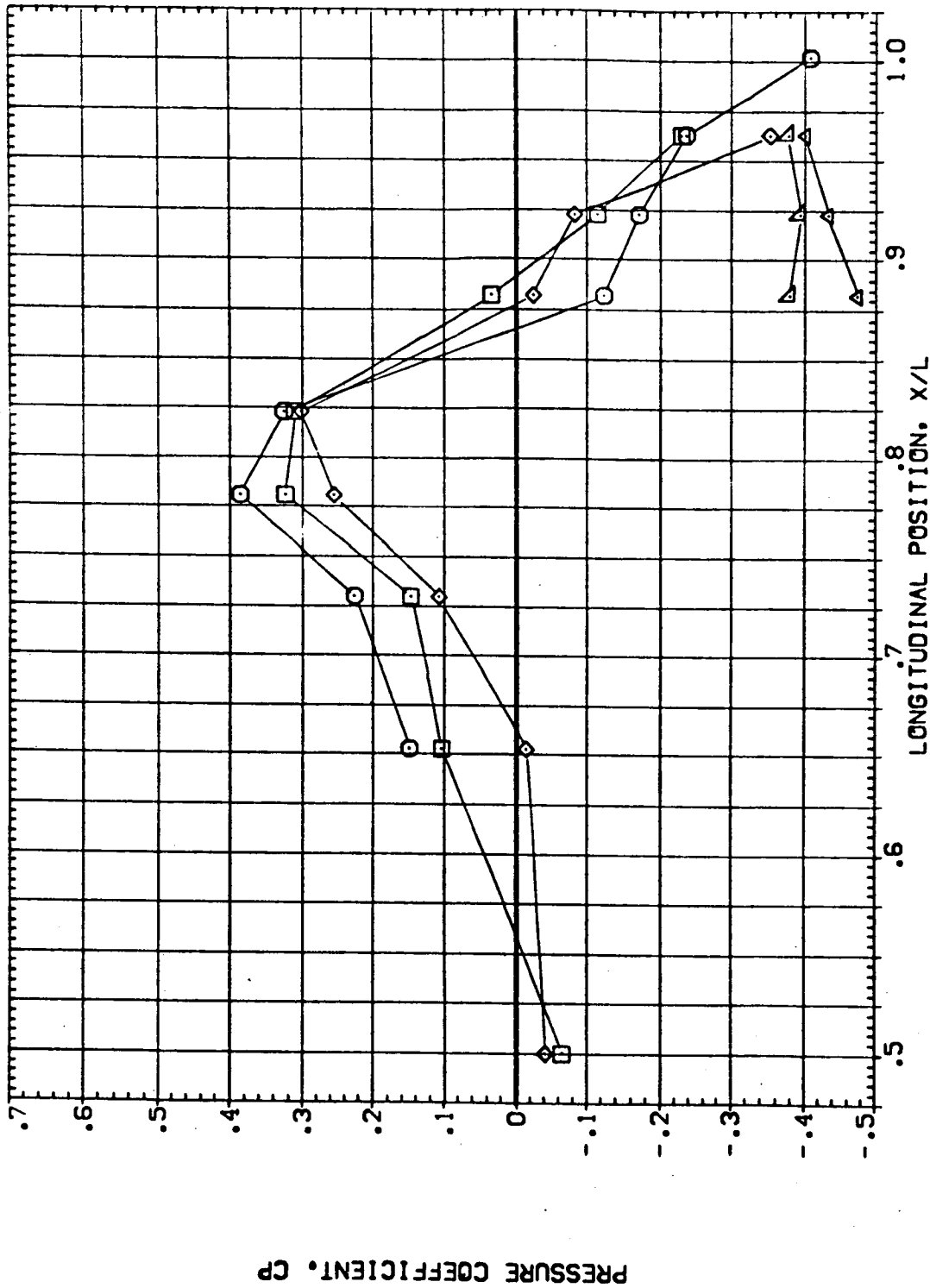


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF



ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (BEUB02)

SYMBOL PHI BETA ALPHA
 ○ 180.000 .000 .000
 □ 185.000
 ◇ 210.000
 △ 225.000
 ▽ 240.000

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

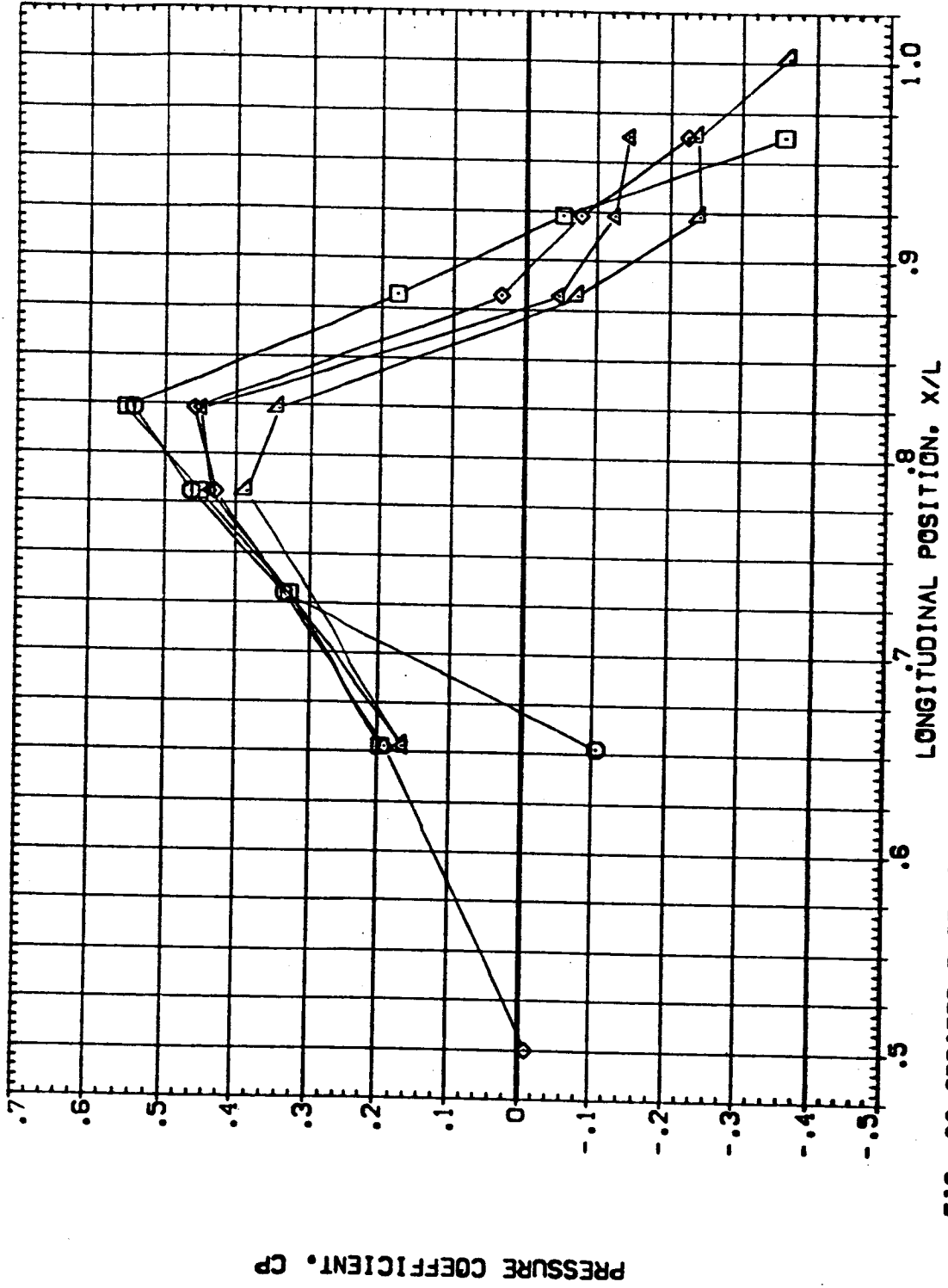


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 DIS+STRUT SRB-OFF MPS-OFF ORB BODY (BEUB02)

PHI	BETA	ALPHA	ELV-18	ELV-09
255.000	.000	.000	RUDDER	MACH
270.000			GIMBAL	
290.000				
320.000				
360.000				

PARAMETRIC VALUES	8.000	4.000
	.000	1.100
	1.000	

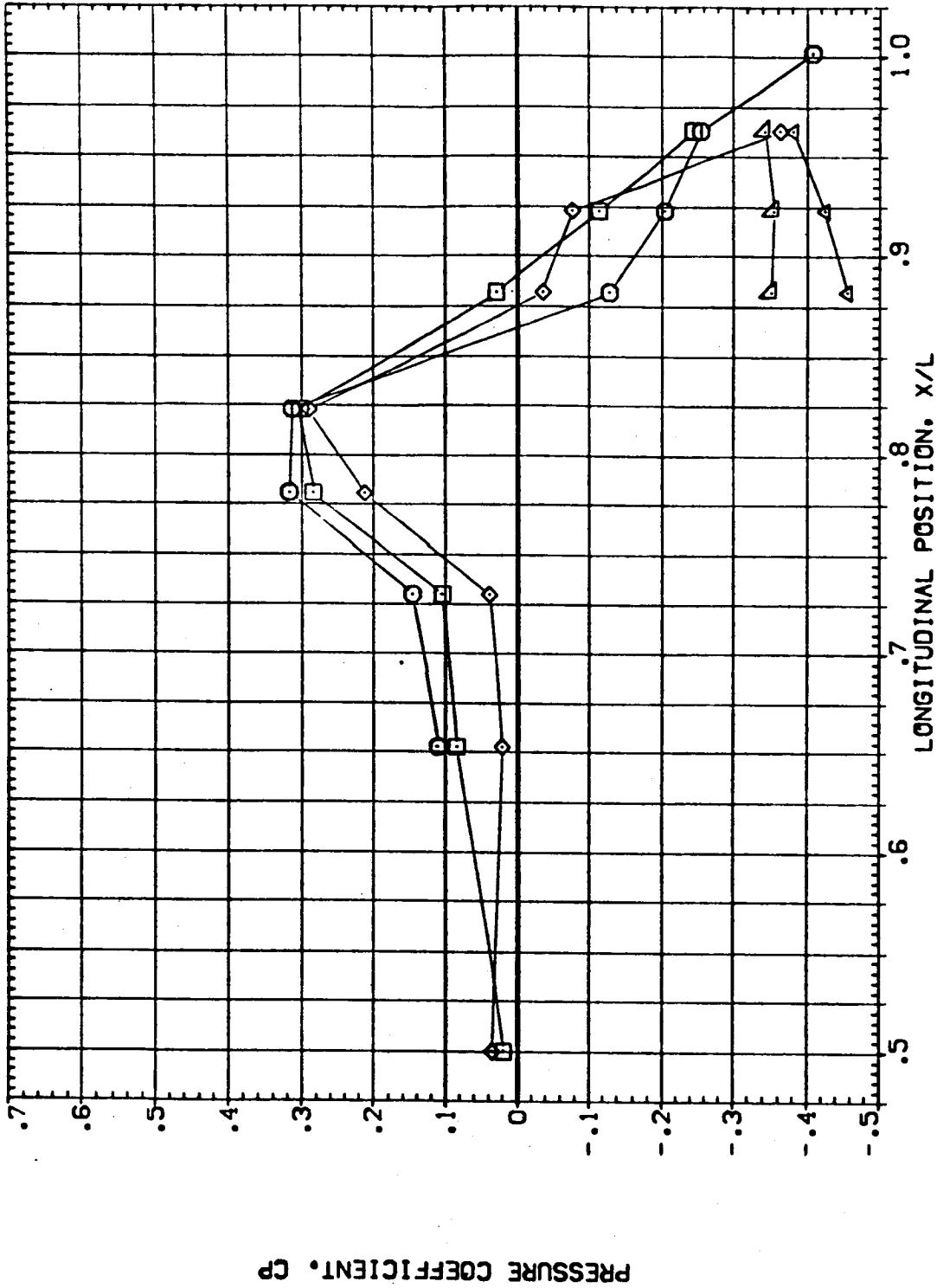


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (BEUB02)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES
○	180.000	.000	4.000	ELV-18 8.000 ELV-08 4.000
□	195.000			RUDER .000 MACH 1.100
◇	210.000			
△	225.000			
	240.000			

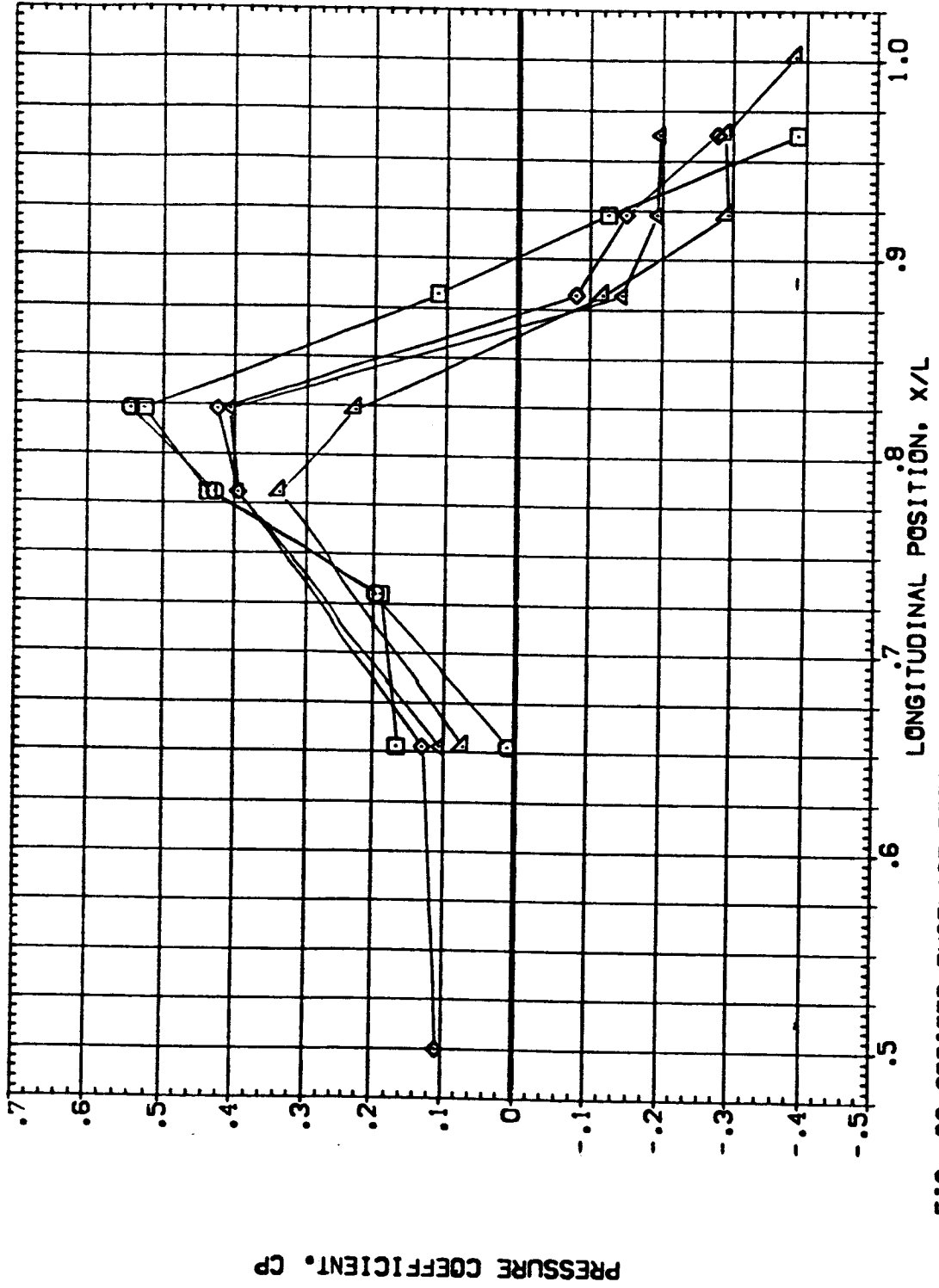


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (BEUB02)

PHI		BETA		ALPHA		PARAMETRIC VALUES			
○	255.000	□	.000	□	4.000	ELV-19	8.000	ELV-08	4.000
◇	270.000	◇		◇		RUDDER	.000	MACH	1.100
△	290.000	△		△		GIMBAL	1.000		
	320.000								
	360.000								

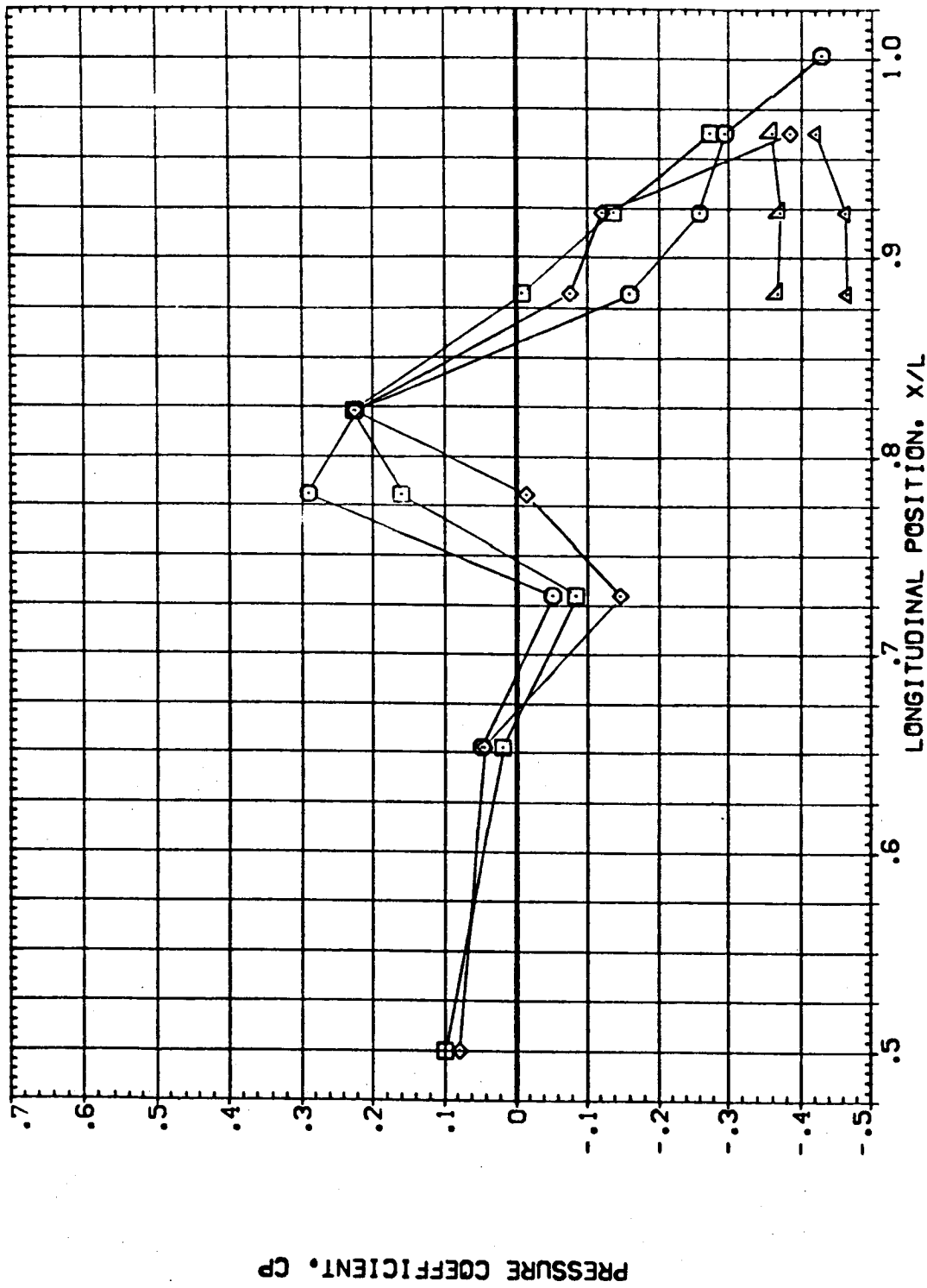


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF



ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (CEUB02)

PHI	BETA	ALPHA	ELV-19	ELV-08
180.000	-4.000	.000	RUDDER	MACH
195.000			GIMBAL	
210.000				
225.000				
240.000				

PARAMETRIC VALUES
 8.000 ELV-08 4.000
 .000 MACH 1.100
 1.000

SYMBOL
 ○ □ ◇ △ ▽

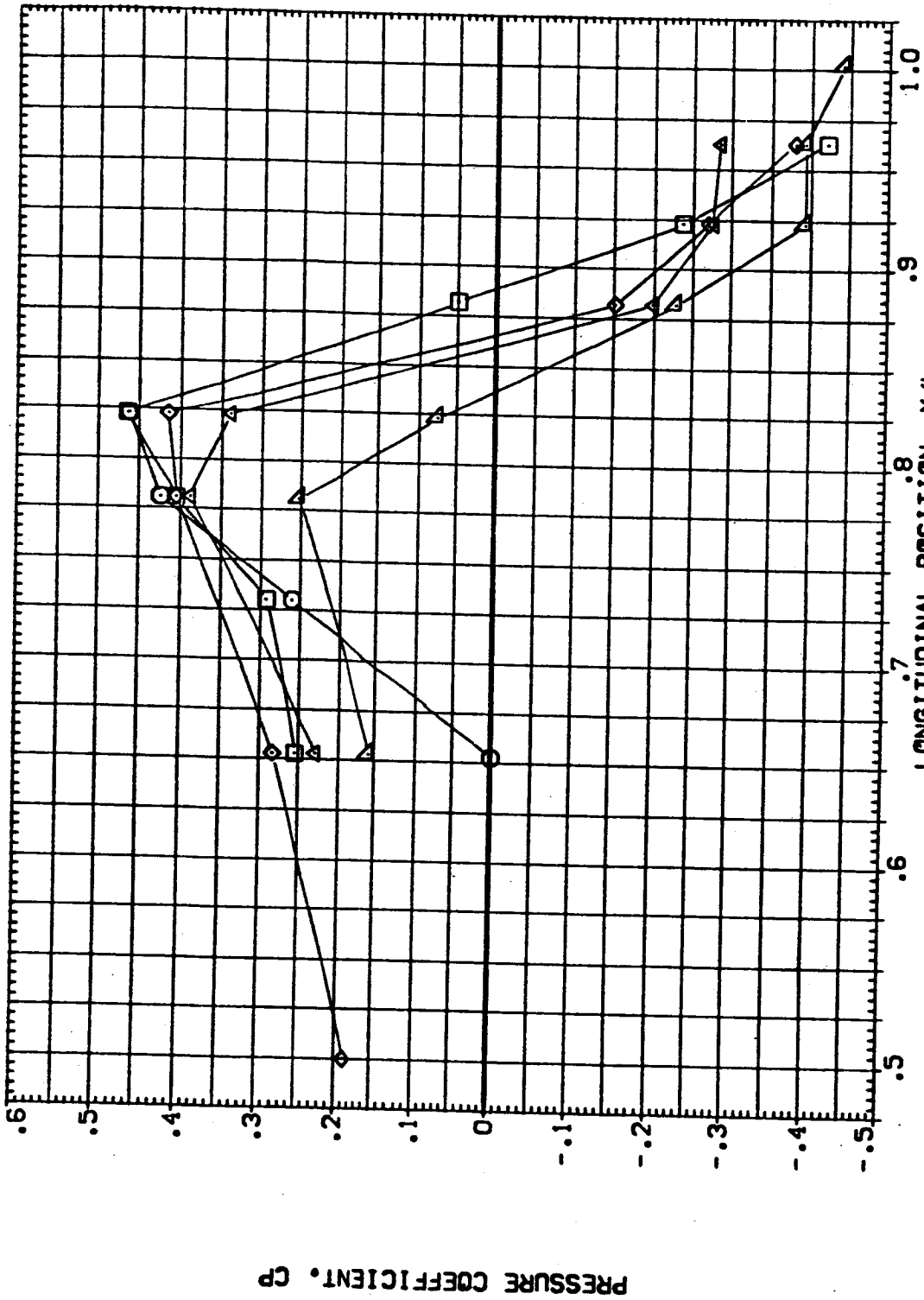


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (CEUB02)

SYMBOL	PHI	BETA	ALPHA	ELV-18	ELV-09	PARAMETRIC VALUES
○	255.000	-4.000	.000	RUDER	MACH	8.000
□	270.000			GIMBAL		1.100
◇	290.000					
△	320.000					
▽	360.000					

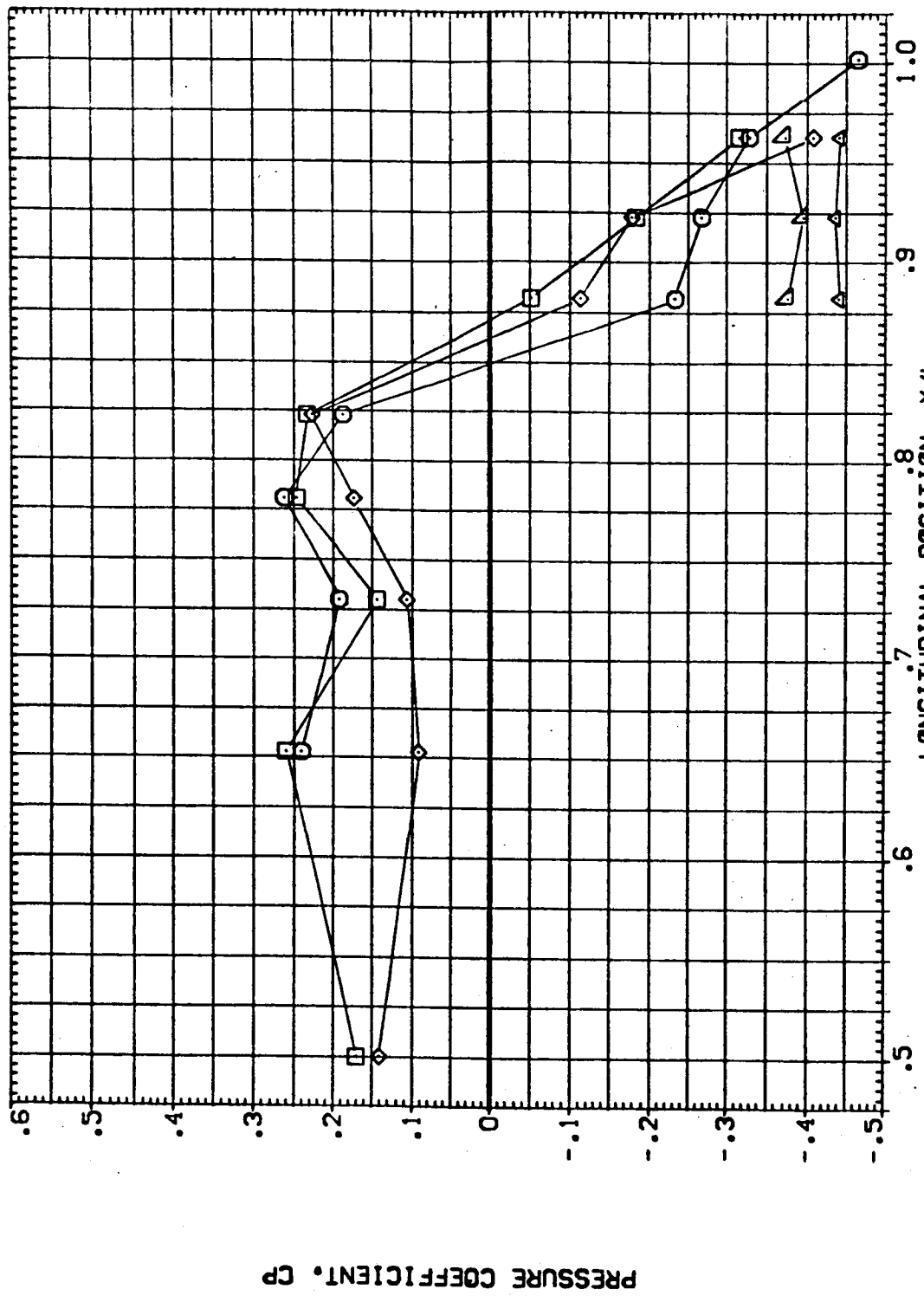


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (CEUB02)

PHI	BETA	ALPHA	ELV-08	ELV-09
180.000	4.000	.000	9.000	4.000
195.000			.000	1.100
210.000			RUDER	
225.000			GIMBAL	
240.000				

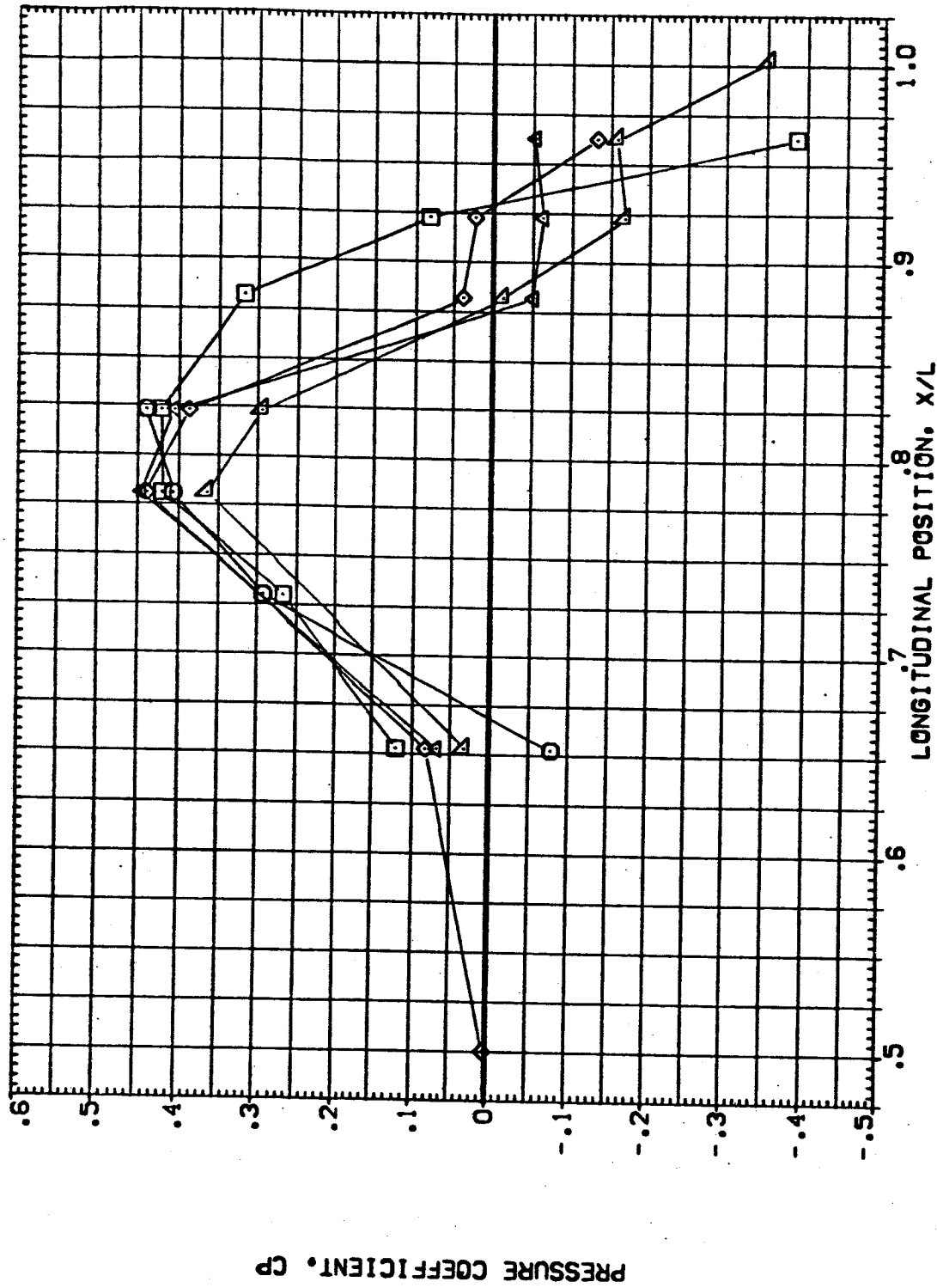


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (CEUB02)

PHI	BETA	ALPHA	ELV-18	ELV-08
255.000	1.000	.000	RUDER	MACH
270.000			GIMBAL	
290.000				
320.000				
360.000				

PARAMETRIC VALUES	4.000
	1.100

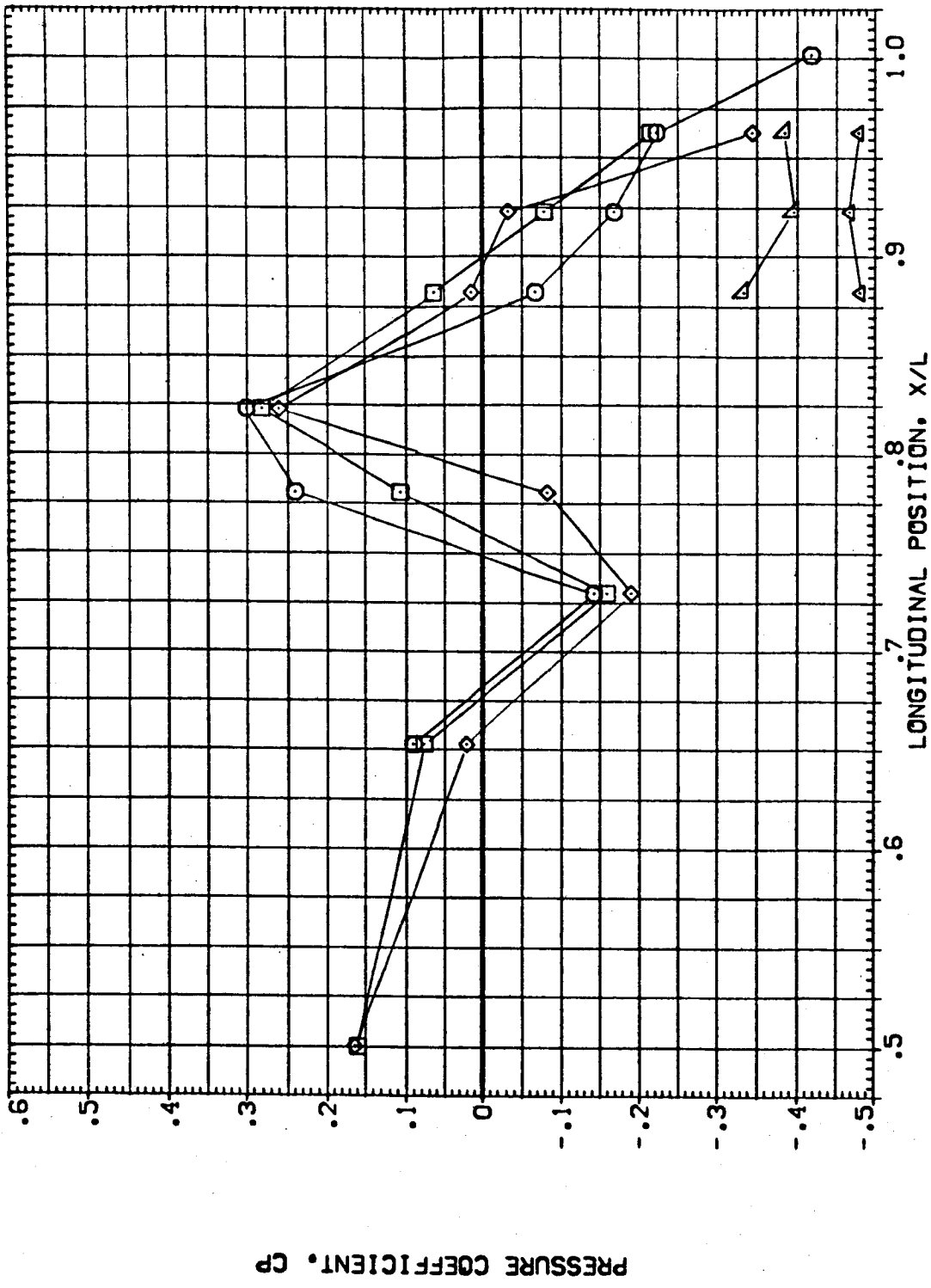


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (BEUB03)

SYMBOL	PHI	BETA	ALPHA	ELV-18	ELV-08
○	190.000	.000	-4.000	RUDDER	MACH
□	195.000			GIMBAL	
◇	210.000				
△	225.000				
▽	240.000				

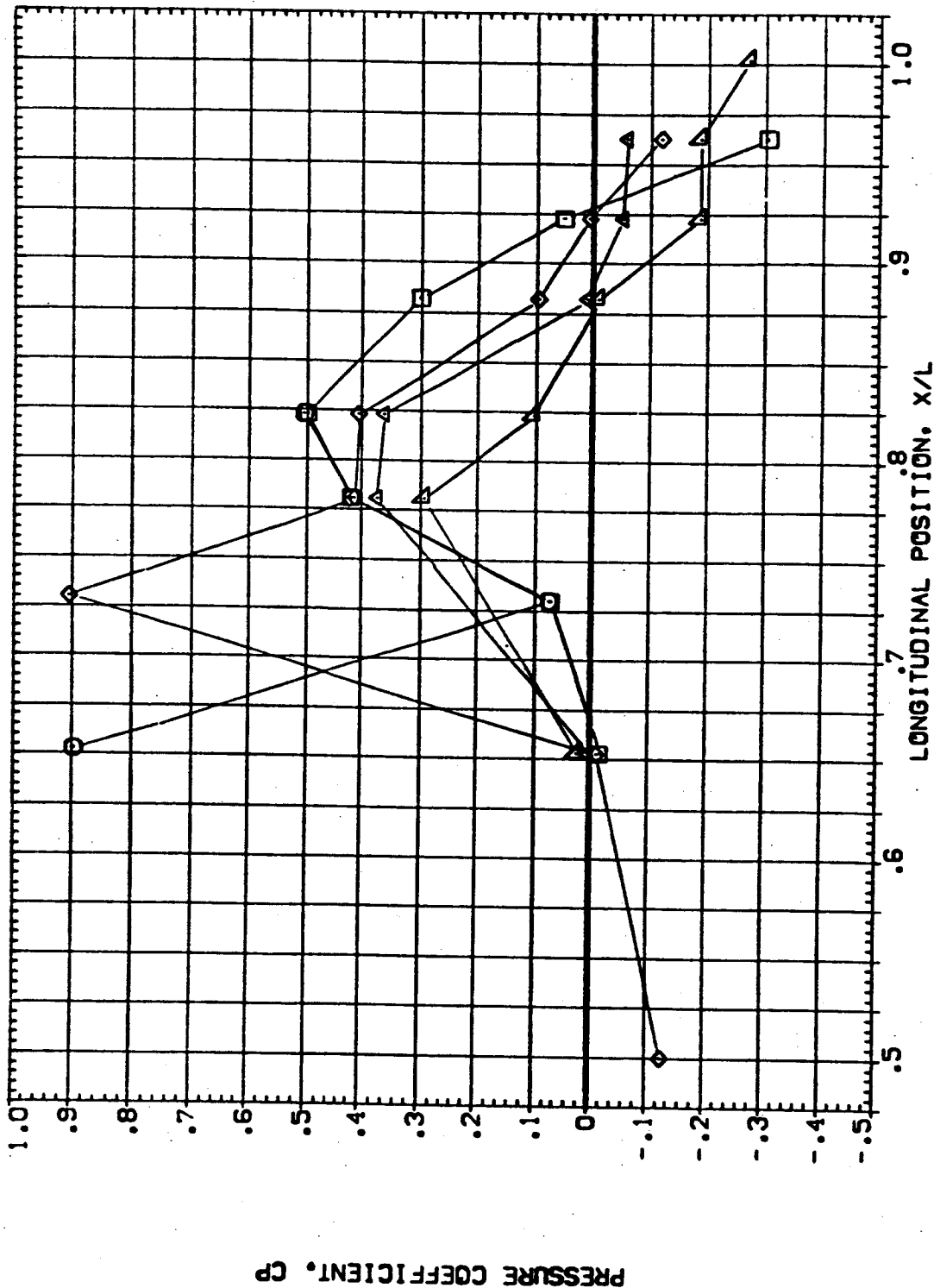


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (BEUB03)

PHI	BETA	ALPHA	ELV-18	ELV-08
255.000	.000	-4.000	RUDER	8.000
270.000			GIMBAL	.000
290.000				1.000
320.000				4.000
360.000				1.250

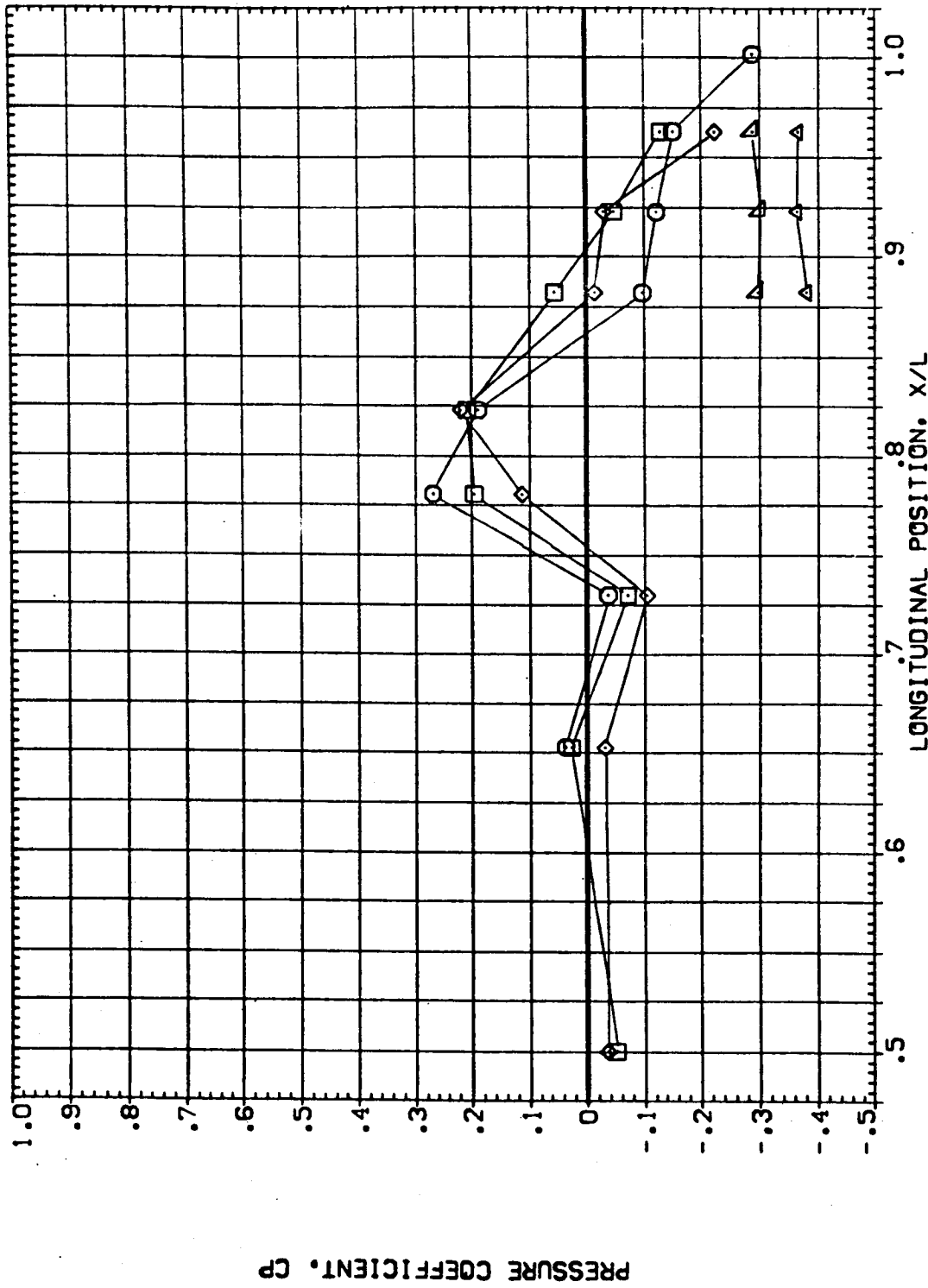


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF



ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (BEUB03)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES
○	180.000	.000	.000	8.000 ELV-OB 4.000
□	195.000			.000 RUDDER 1.250
◇	210.000			1.000 GIMBAL
△	225.000			
▽	240.000			

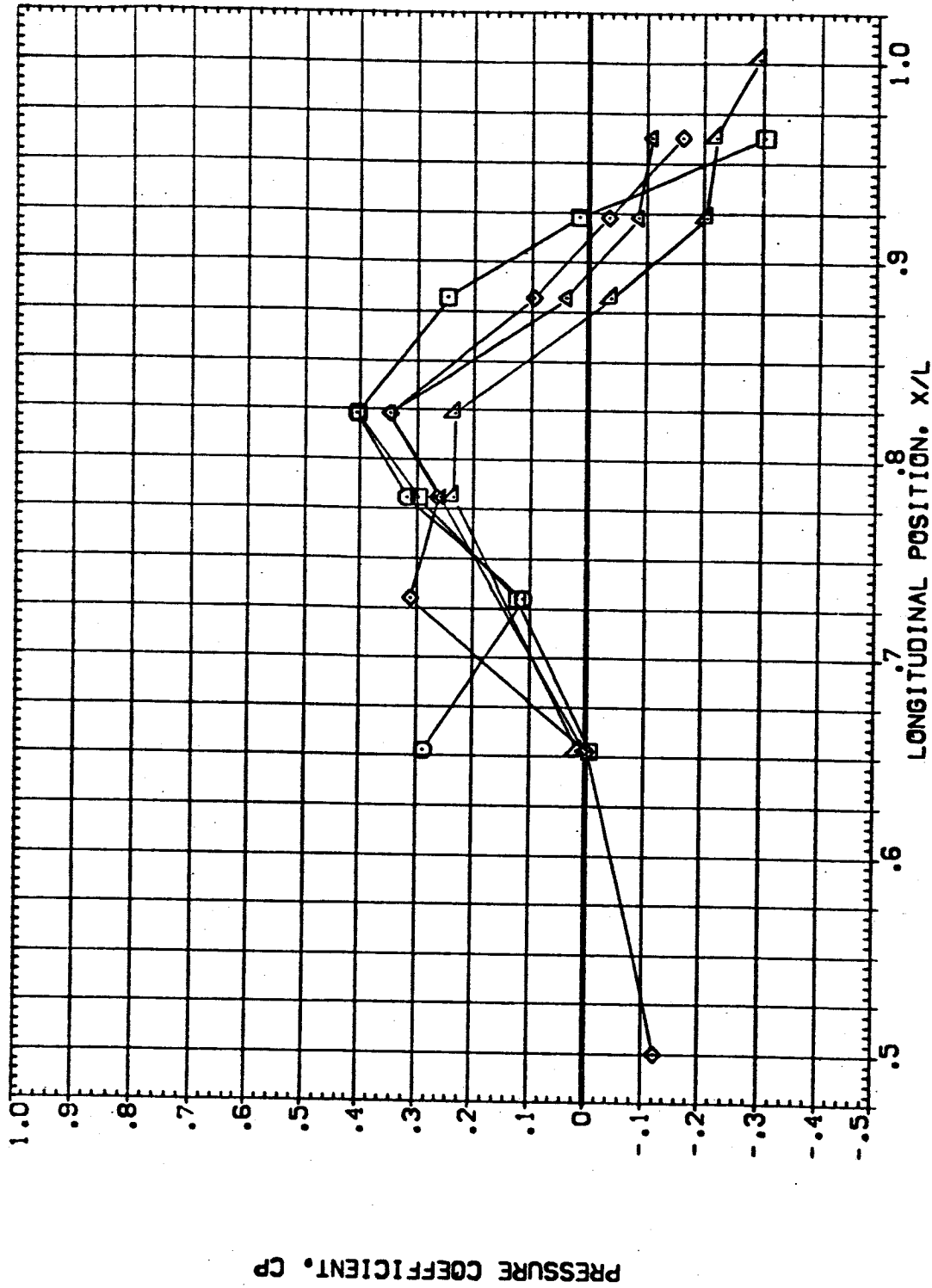


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (BEUB03)

PHI	BETA	ALPHA	ELV-18	PARAMETRIC VALUES
255,000	.000	.000	RUDDER	8,000
270,000			GIMBAL	.000
290,000				1,000
320,000				4,000
360,000				1,250

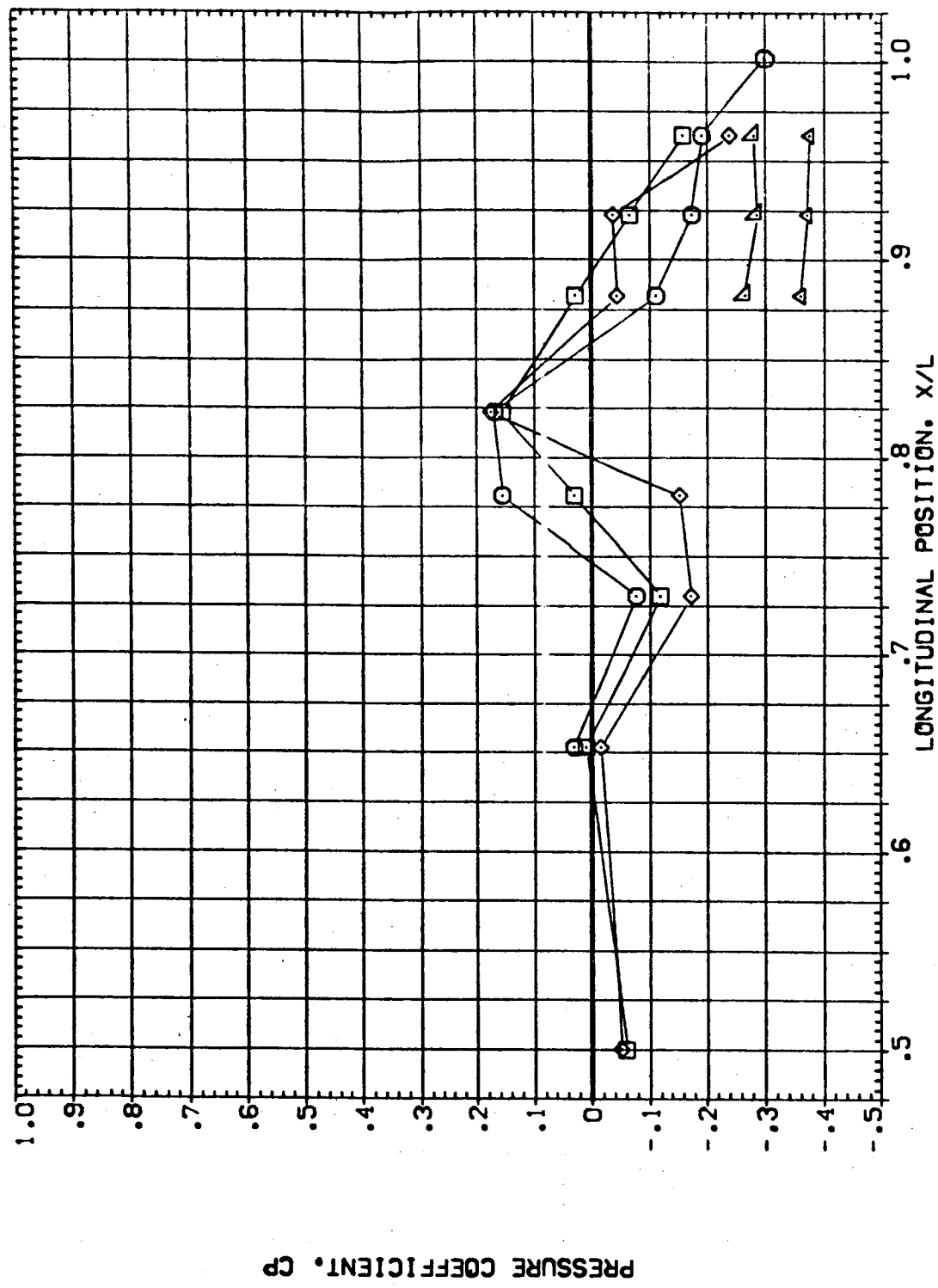


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (BEUB03)

PHI	BETA	ALPHA	PARAMETRIC VALUES	
180,000	.000	4,000	ELV-18	9,000
193,000			ELV-09	4,000
210,000			RUDER	.000
225,000			MACH	1.250
240,000			GIMBAL	1,000

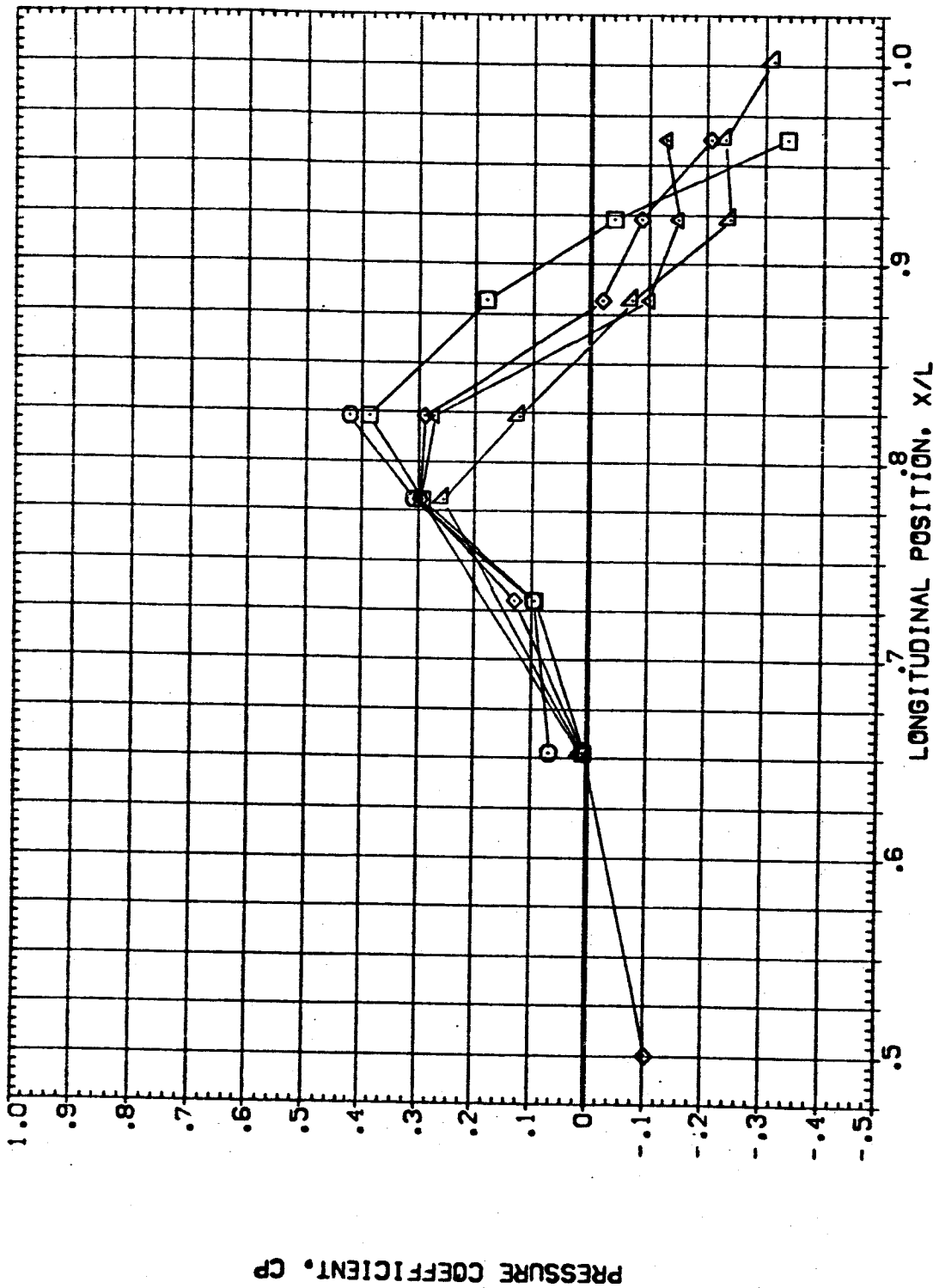


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (BEUB03)

PHI	BETA	ALPHA	ELV-IB	ELV-OB
255,000	.000	4,000	8,000	4,000
270,000			.000	MACH
290,000			1,000	
320,000				
360,000				

PARAMETRIC VALUES	ELV-IB	ELV-OB
ROUER	8,000	4,000
GIMBAL	.000	MACH
	1,000	

SYMBOL	PHI
○	255,000
□	270,000
◇	290,000
△	320,000
▽	360,000

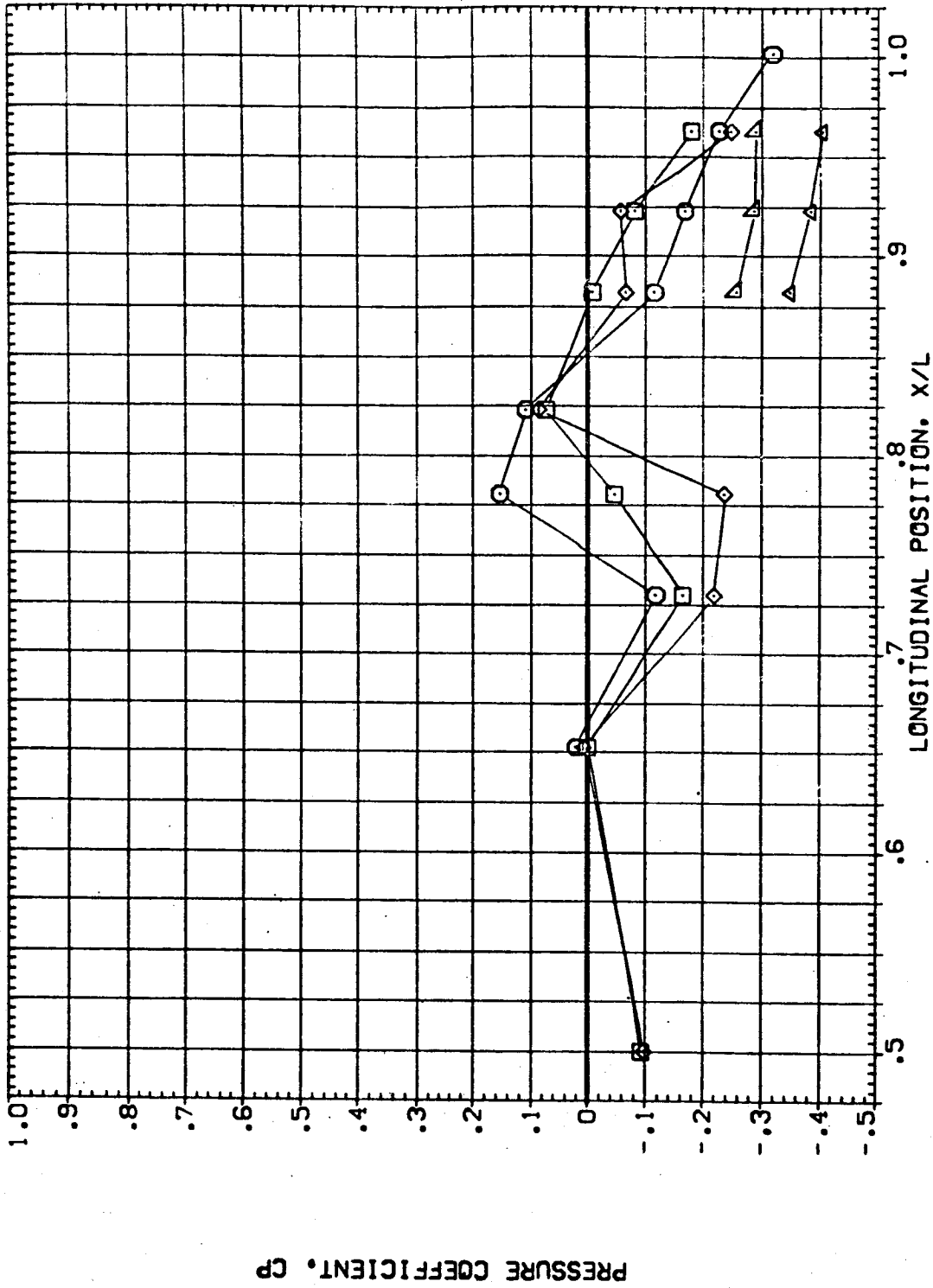


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY(CEUB03)

PHI	BETA	ALPHA	ELV-18	ELV-08
180.000	-4.000	.000	8.000	4.000
195.000			.000	1.250
210.000				
225.000				
240.000				

ELV-18	ELV-08
RUDDER	MACH
GIMBAL	1.000

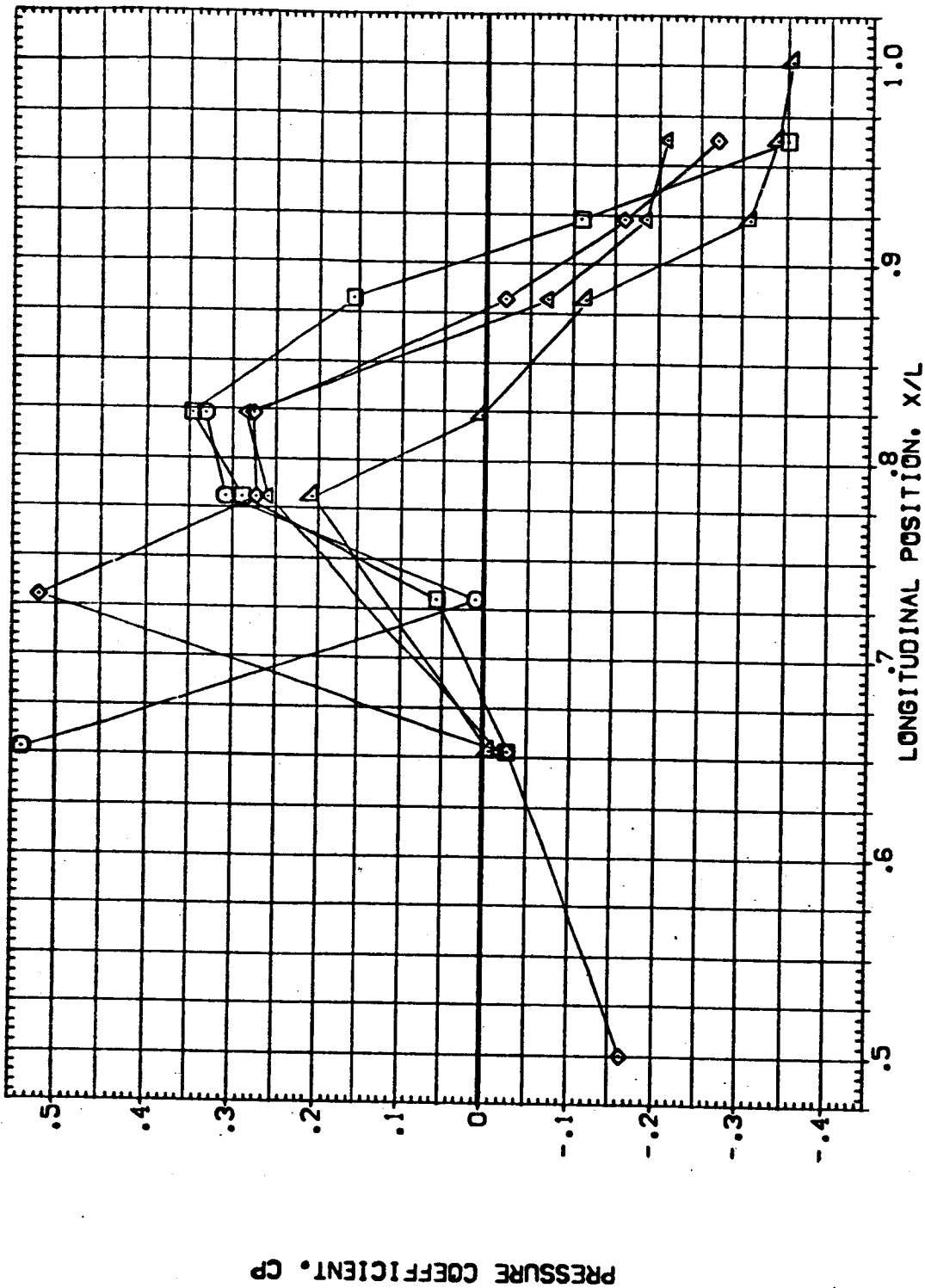


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (CEUB03)

PARAMETRIC VALUES
 ELY-19 8.000 ELY-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

PHI 255.000 BETA -4.000 ALPHA .000
 270.000
 290.000
 320.000
 360.000

SYMBOL
 ○ □ ◇ △

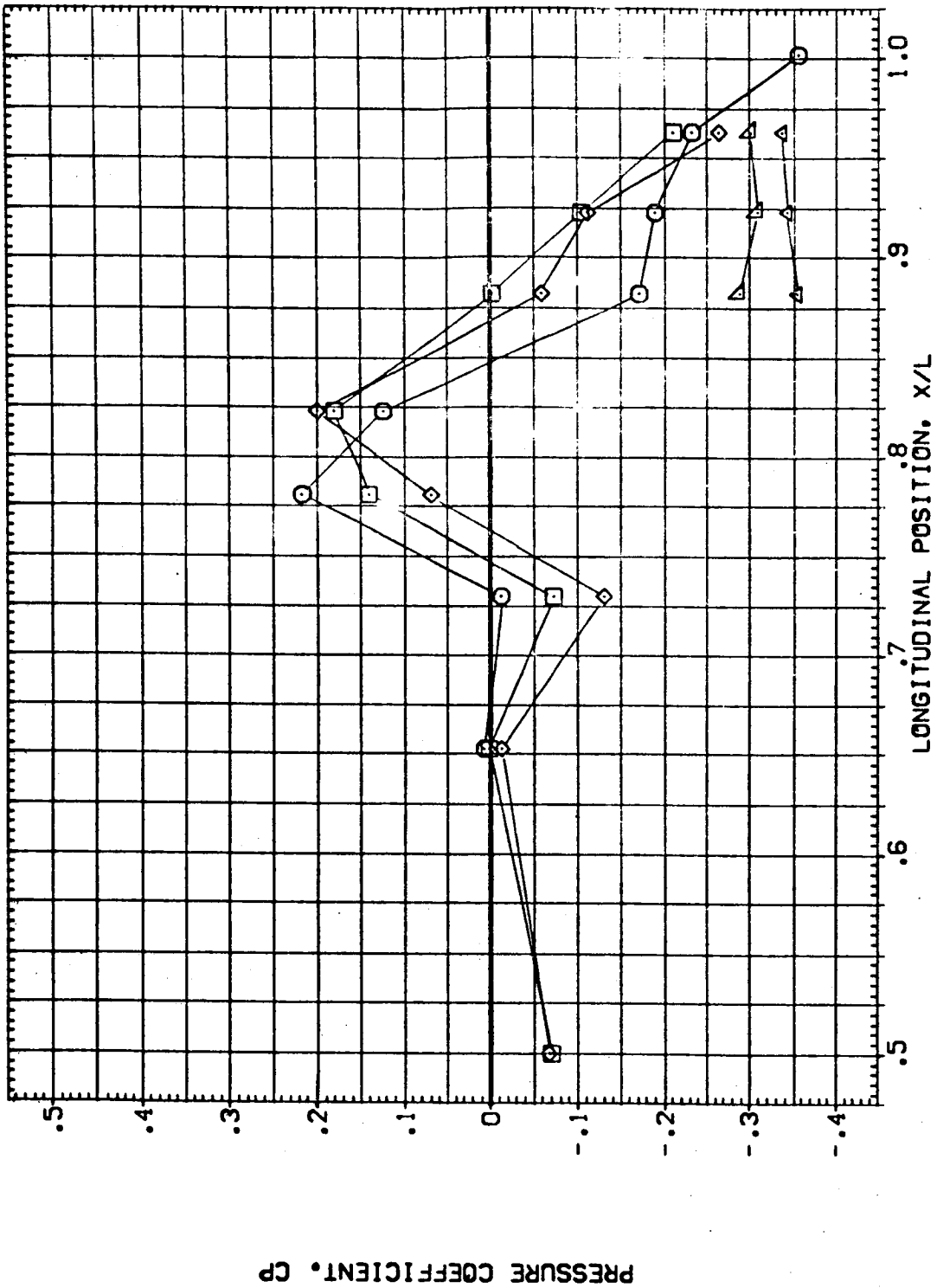


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (CEUB03)

SYMBOL
 ○
 □
 ◇
 △

PHI
 180.000
 195.000
 210.000
 225.000
 240.000

BETA 4.000
 ALPHA .000
 ELV-18
 RUDDER
 GIMBAL

PARAMETRIC VALUES
 8.000 ELV-08
 .000 MACH
 1.000
 4.000
 1.250

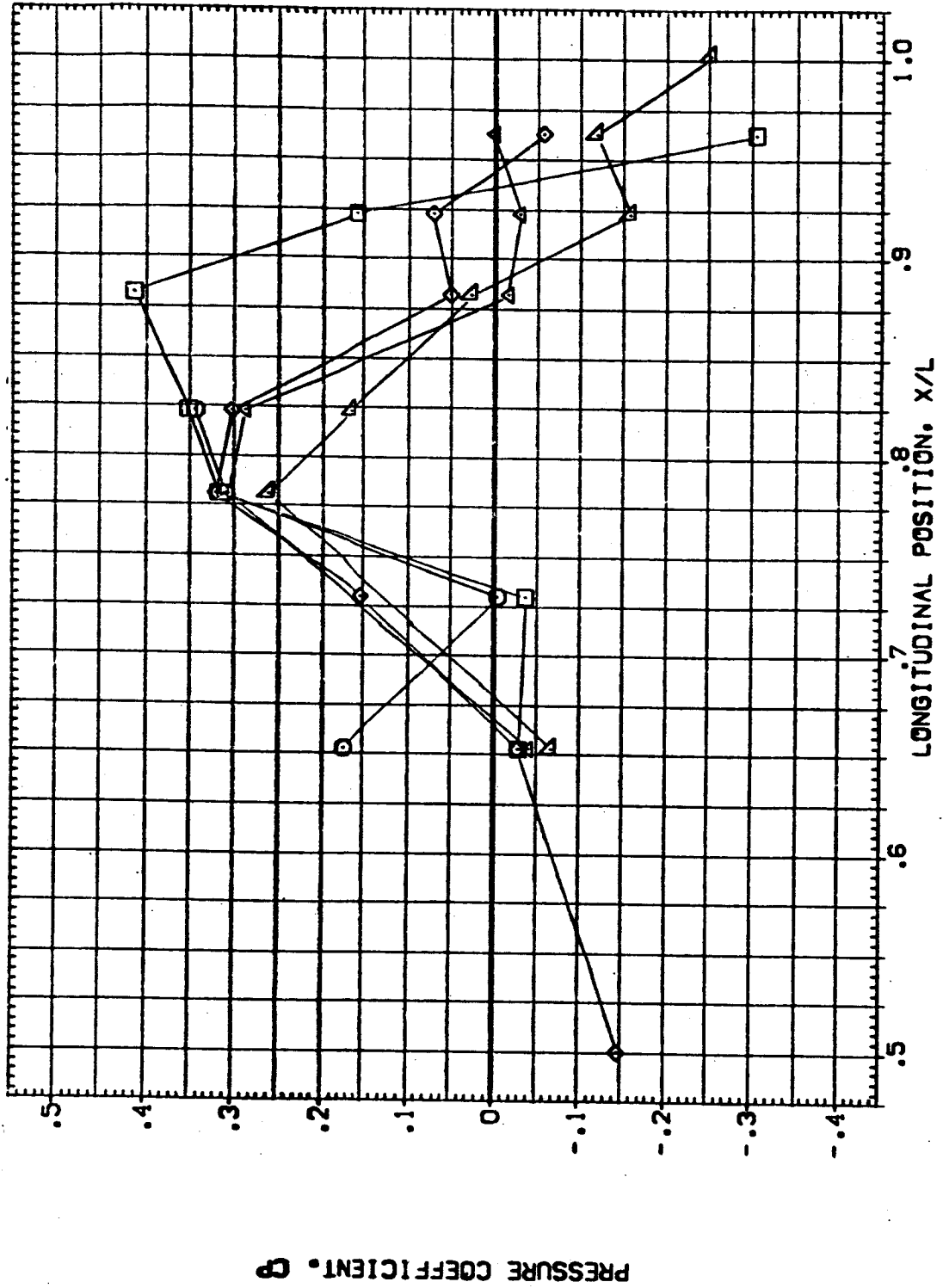


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (CEUB03)

PHI	BETA	ALPHA	ELV-OB	MACH
255.000	4.000	.000	8.000	1.250
270.000				
290.000				
320.000				
360.000				

ELV-OB	8.000
RUDER	.000
GIMBAL	1.000

SYMBL	PHI
○	255.000
□	270.000
◇	290.000
△	320.000
▽	360.000

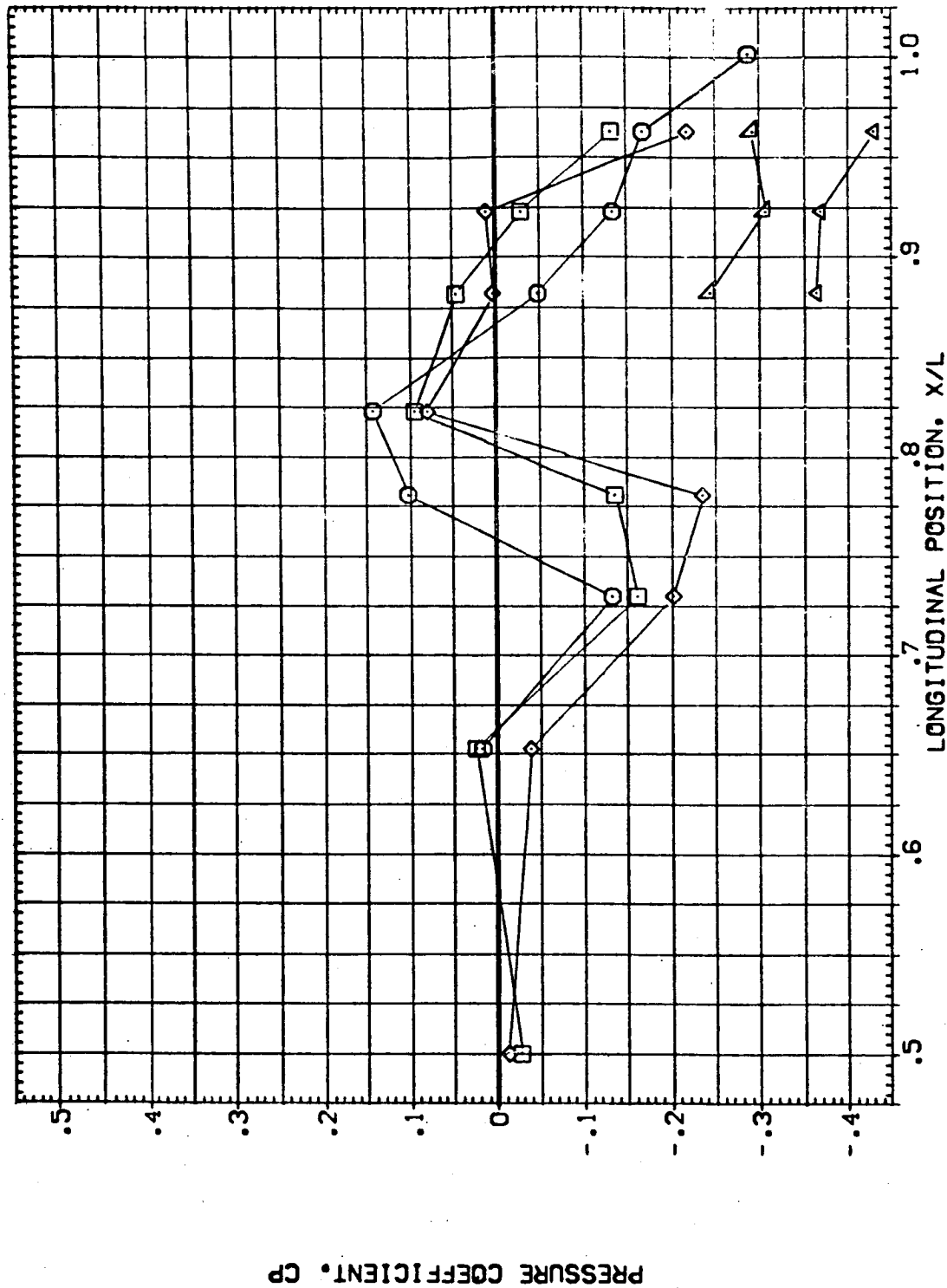


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (BEUB04)

SYMBOL
 ○
 □
 ◇
 △

PHI 180.000
 195.000
 210.000
 225.000
 240.000

BETA .000

ALPHA -1.000

PARAMETRIC VALUES
 ELY-18 8.000
 RUDDER .000
 GIMBAL 1.000

ELV-OB 4.000
 MACH 1.400

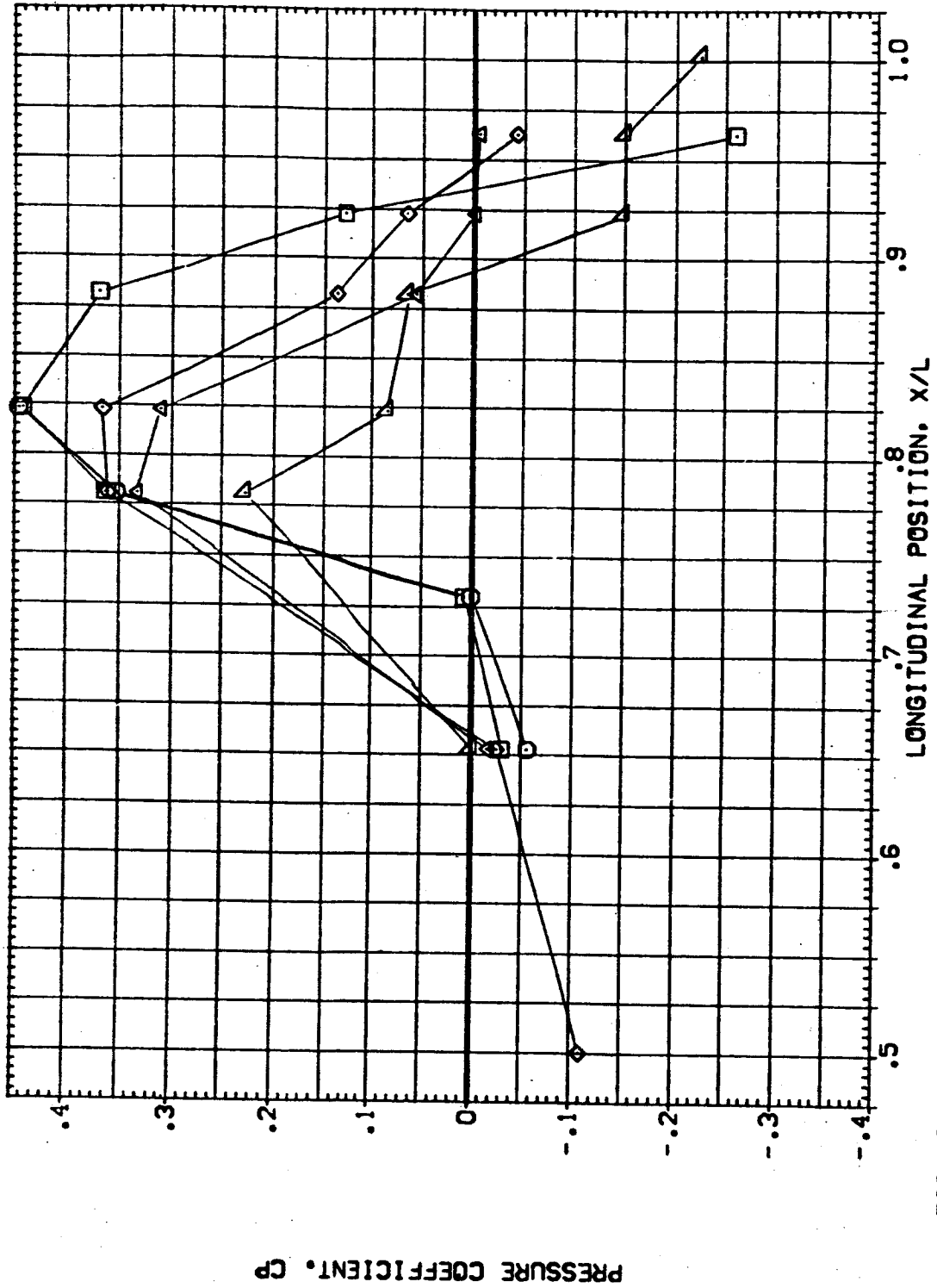


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (BEUB04)

SYMBOL PHI BETA ALPHA
 ○ 255.000
 □ 270.000
 ◇ 290.000
 △ 320.000
 ▽ 360.000

PARAMETRIC VALUES
 ELV-19 8.000 ELV-09 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

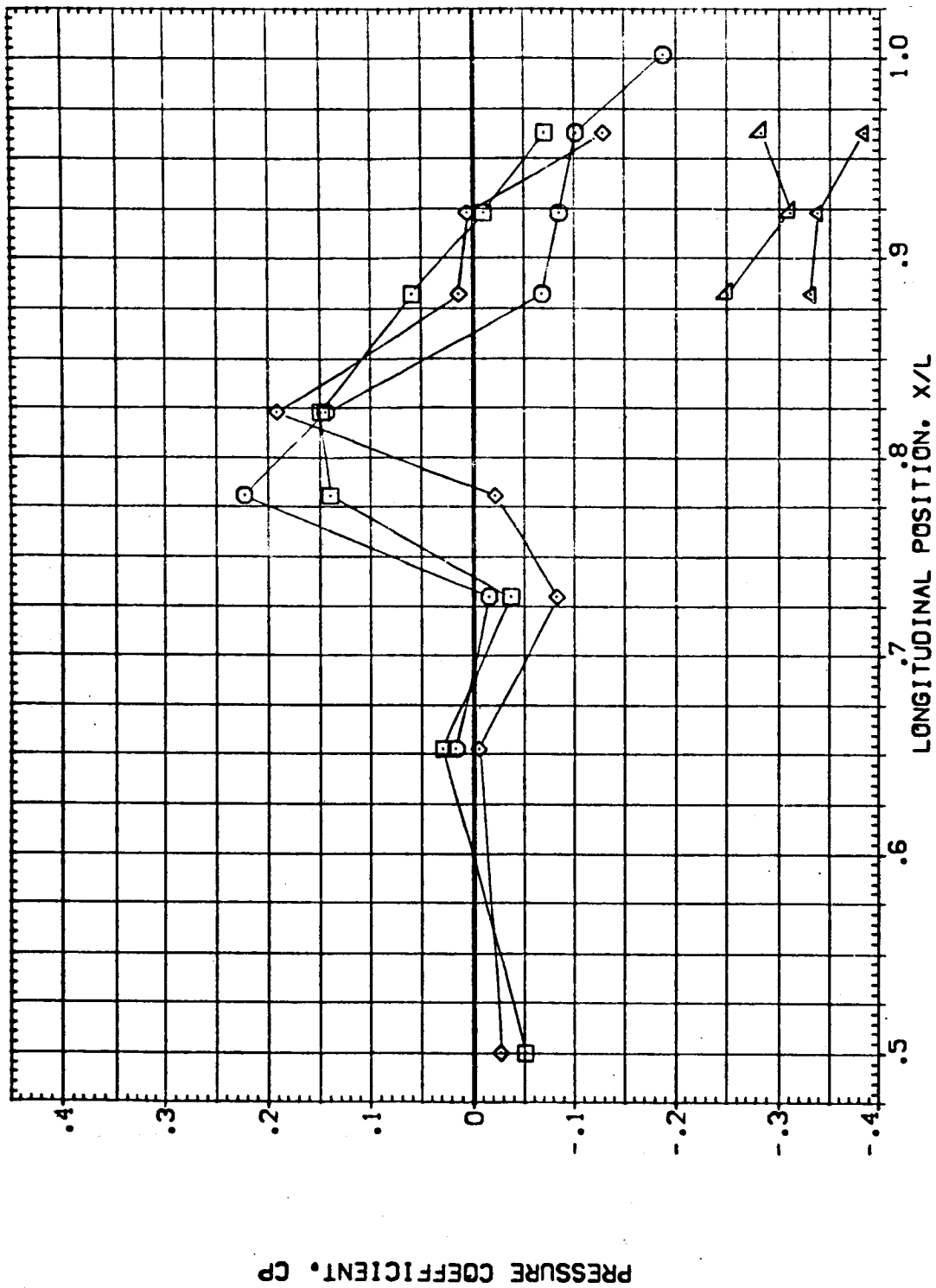


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (BEUB04)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
○	180.000	.000	.000	ELV-19	8.000	ELV-09	4.000
□	195.000			RUDER	.000	MACH	1.400
◇	210.000			GIMBAL	1.000		
△	225.000						
▽	240.000						

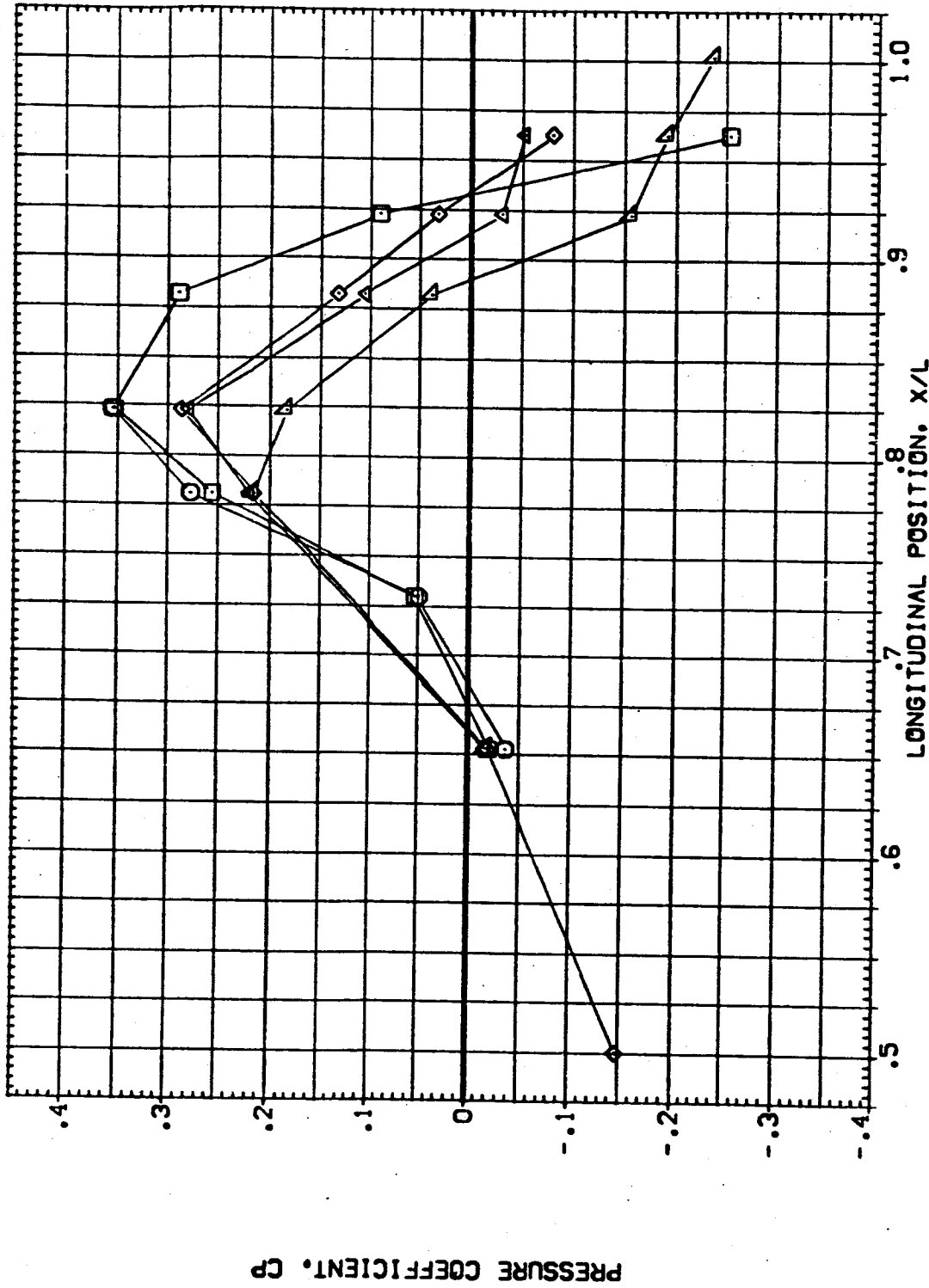


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (BEUB04)

SYMBOL	PHI	BETA	ALPHA	ELV-18	ELV-08
○	255.000	.000	.000	8.000	8.000
□	270.000			.000	.000
◇	290.000			1.000	1.000
△	320.000				
▽	360.000				

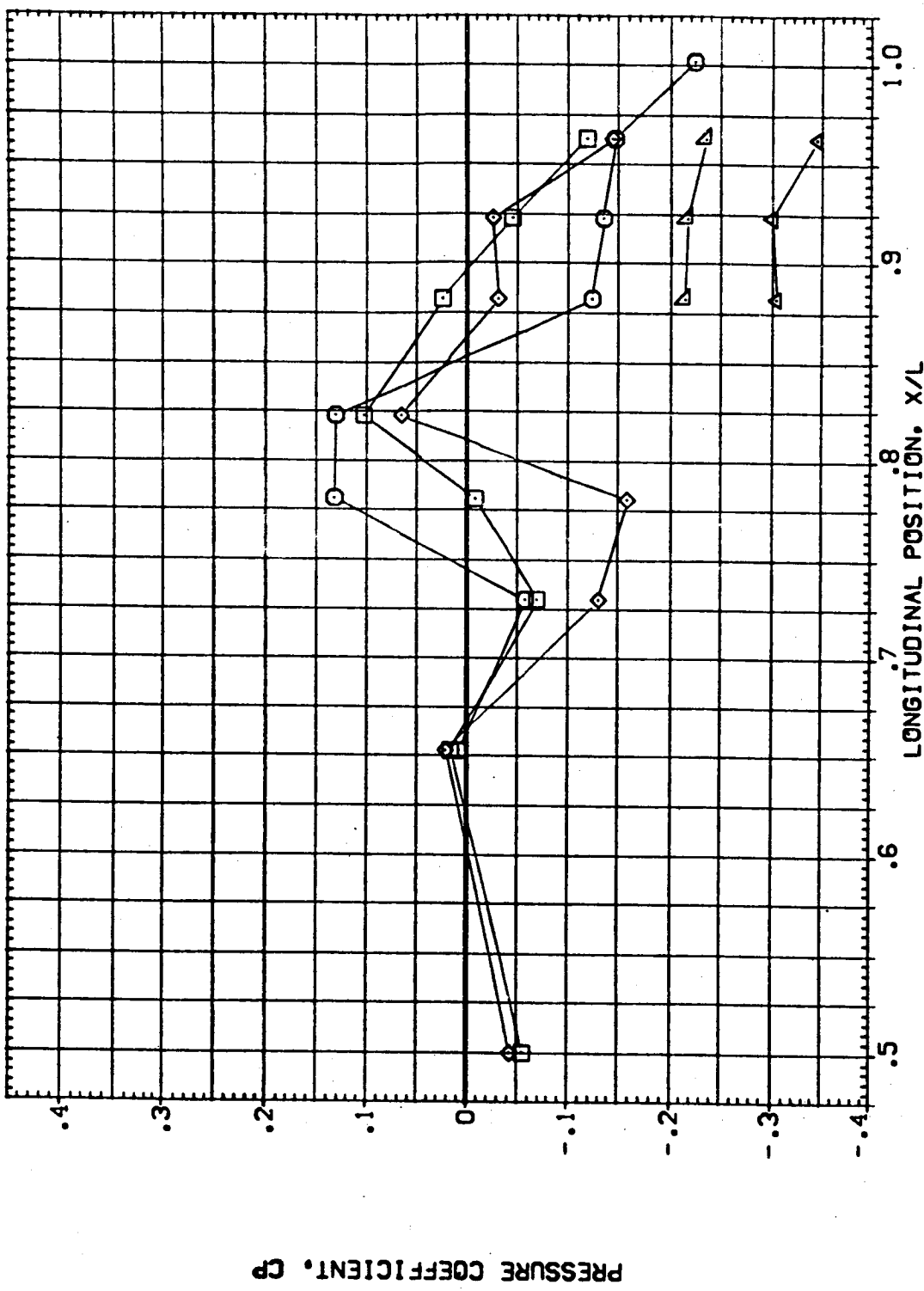


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF



ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (BEUB04)

SYMBOL PHI BETA ALPHA
 ○ 180.000 .000 4.000
 □ 195.000
 ◇ 210.000
 △ 225.000
 ▽ 240.000

PARAMETRIC VALUES
 ELY-18 8.000 ELY-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

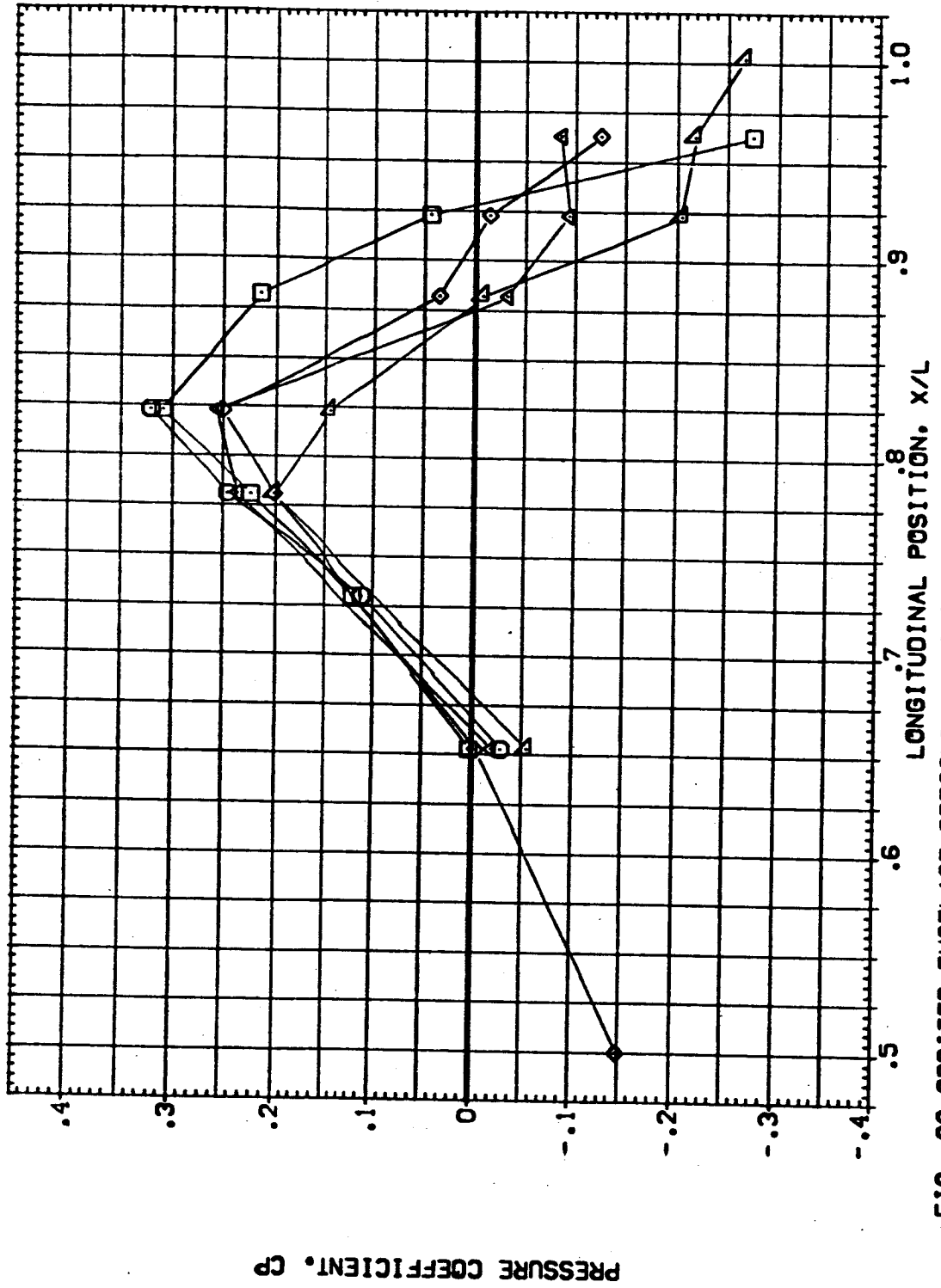


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (BEUB04)

PHI	BETA	ALPHA	ELV-18	PARAMETRIC VALUES
255.000	.000	4.000	RUDER	8.000
270.000			GIMBAL	.000
290.000				1.000
320.000				4.000
360.000				1.400

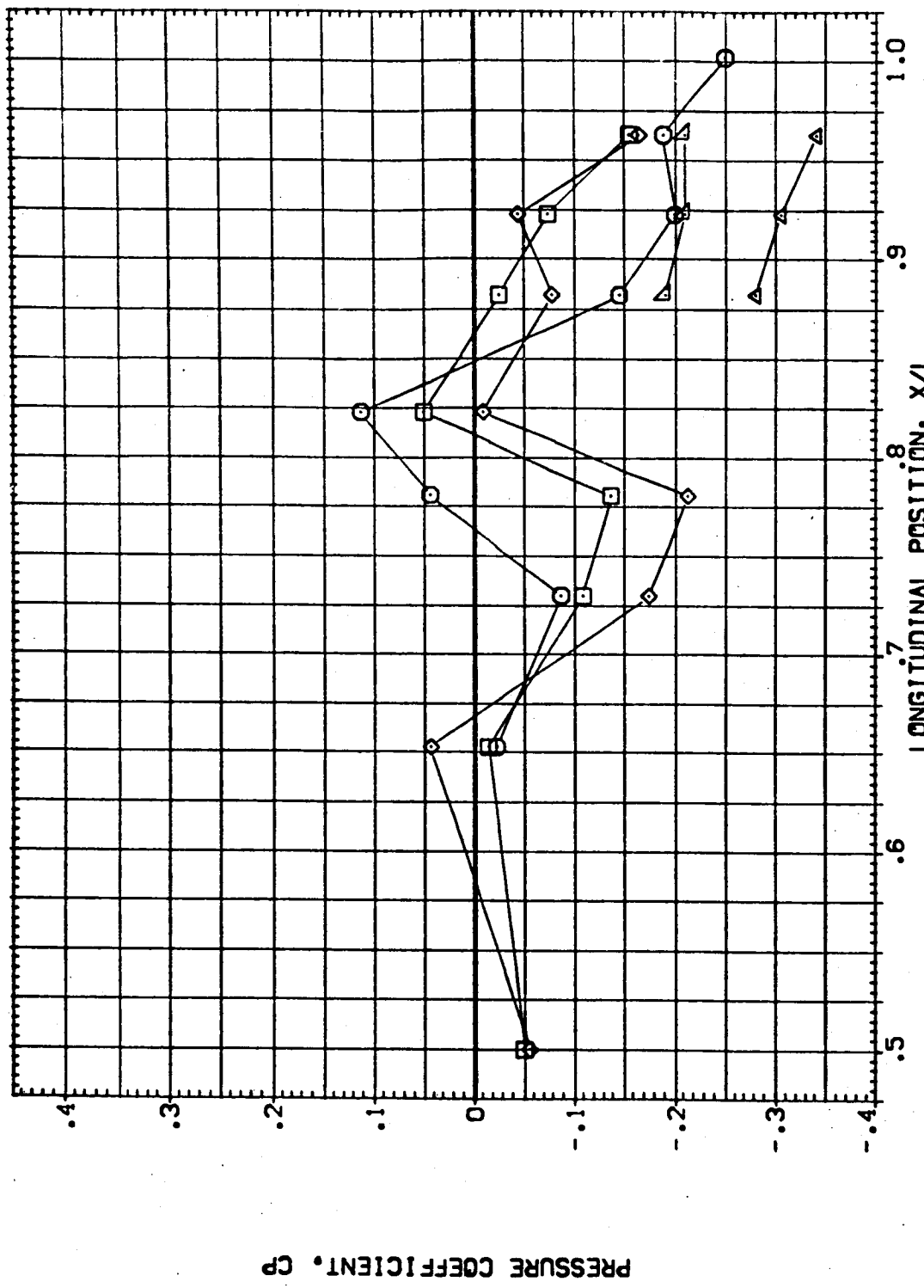


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (CEUB04)

SYMBOL PHI BETA ALPHA

○	180.000	-1.000	.000
□	195.000		
◇	210.000		
△	225.000		
▽	240.000		

PARAMETRIC VALUES

ELV-18	6.000	ELV-08	4.000
RUDDER	.000	MACH	1.400
GIMBAL	1.000		

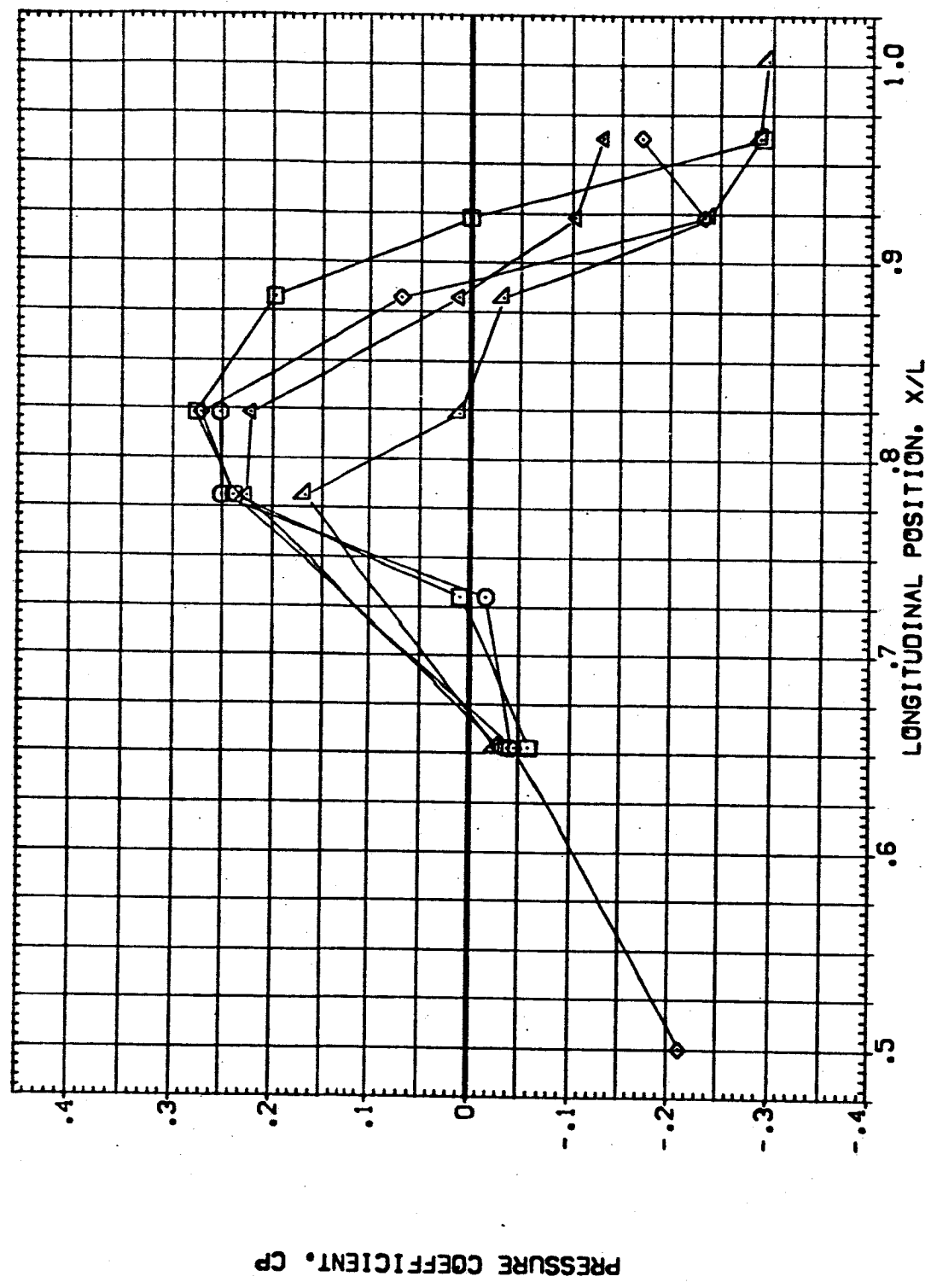


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (CEUB04)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES
○	255.000	-4.000	.000	ELV-18 8.000 ELV-08 4.000
□	270.000			RUDER .000 MACH 1.400
◇	290.000			GIMBAL 1.000
△	320.000			
▽	360.000			

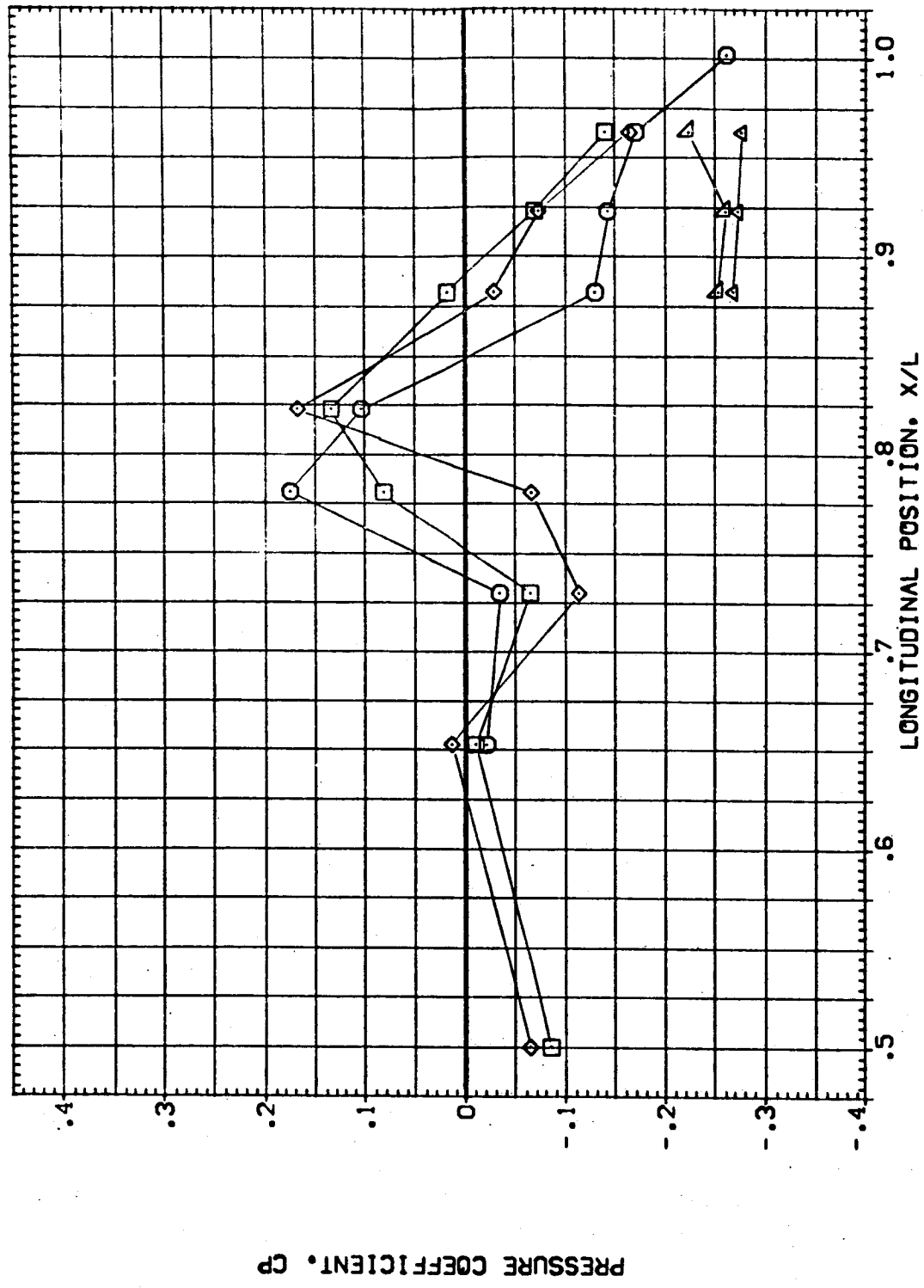


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF



ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (CEUB04)

SYMBO: \square \diamond \triangle
 PHI 180.000
 195.000
 210.000
 225.000
 240.000
 BETA 1.000
 ALPHA .000

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

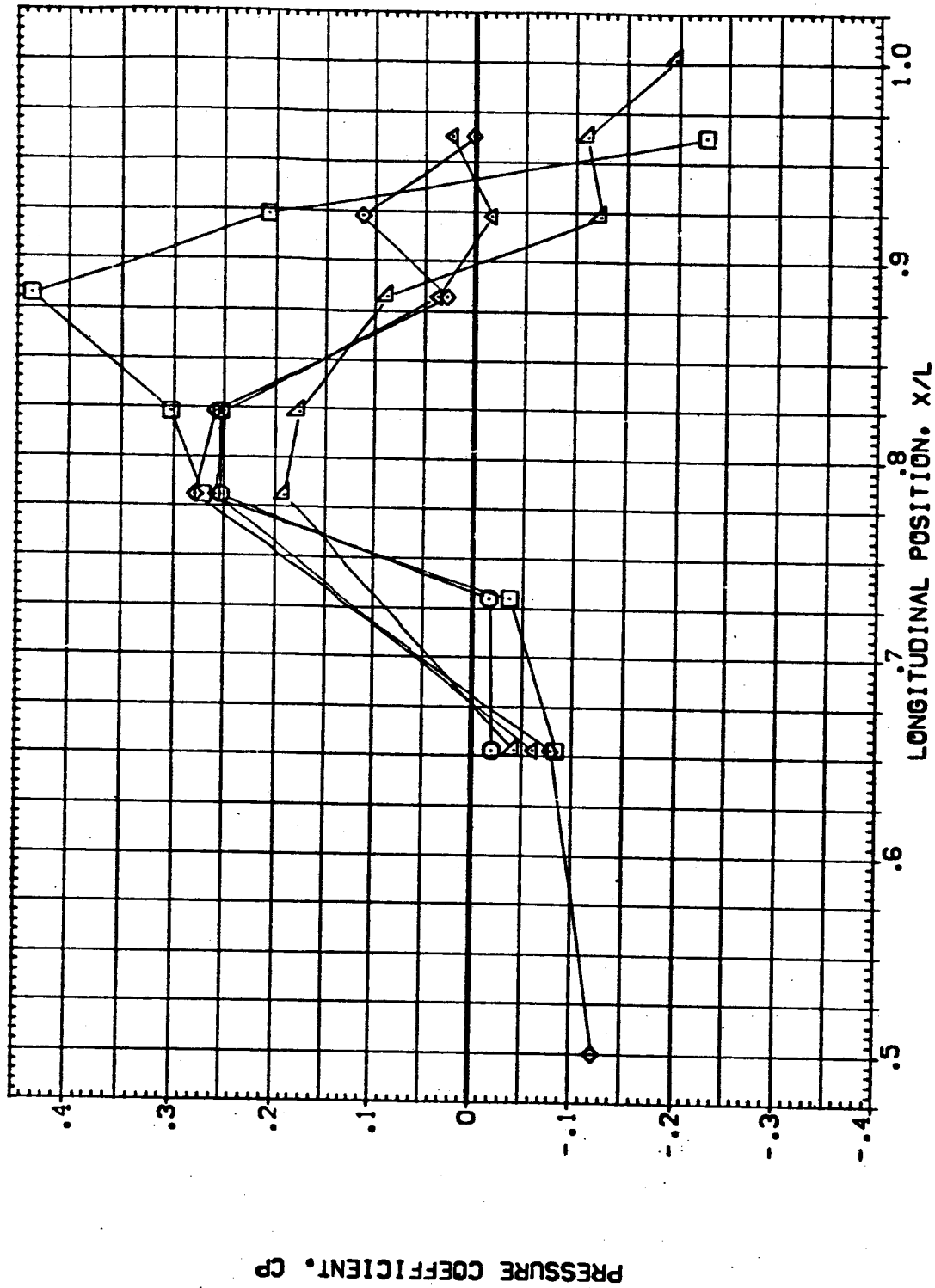


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (CEUB04)

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-0B 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

BETA 4.000 ALPHA .000

PHI
 255.000
 270.000
 290.000
 320.000
 360.000

SYMBOL
 ○
 □
 ◇
 △

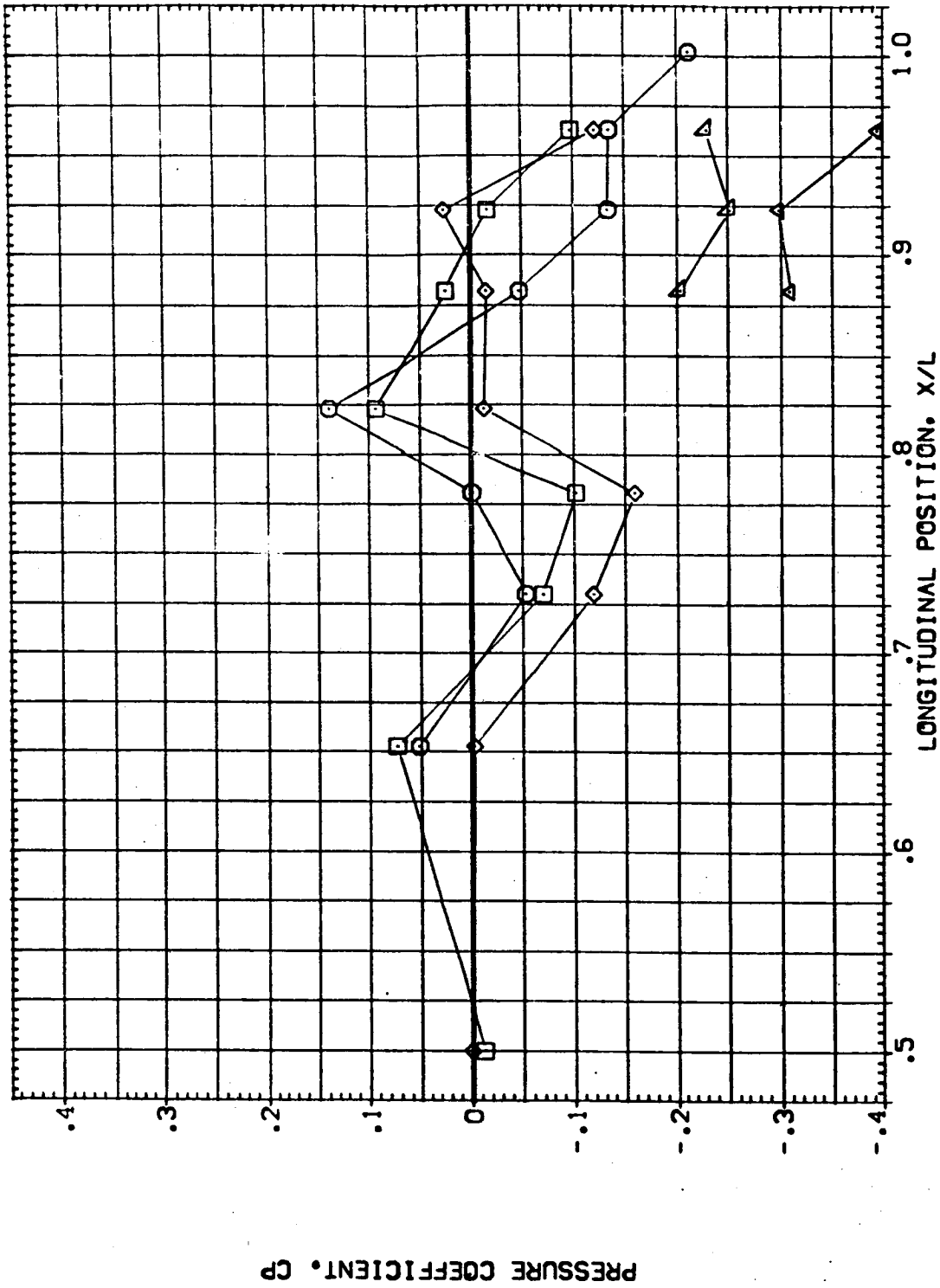


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (EEUB05)

PHI	BETA	ALPHA	ELV-18	ELV-08
180.000	.000	-1.000	RUDER	MACH
195.000			GIMBAL	
210.000				
225.000				
240.000				

PARAMETRIC VALUES
 8.000 4.000
 .000 .900
 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

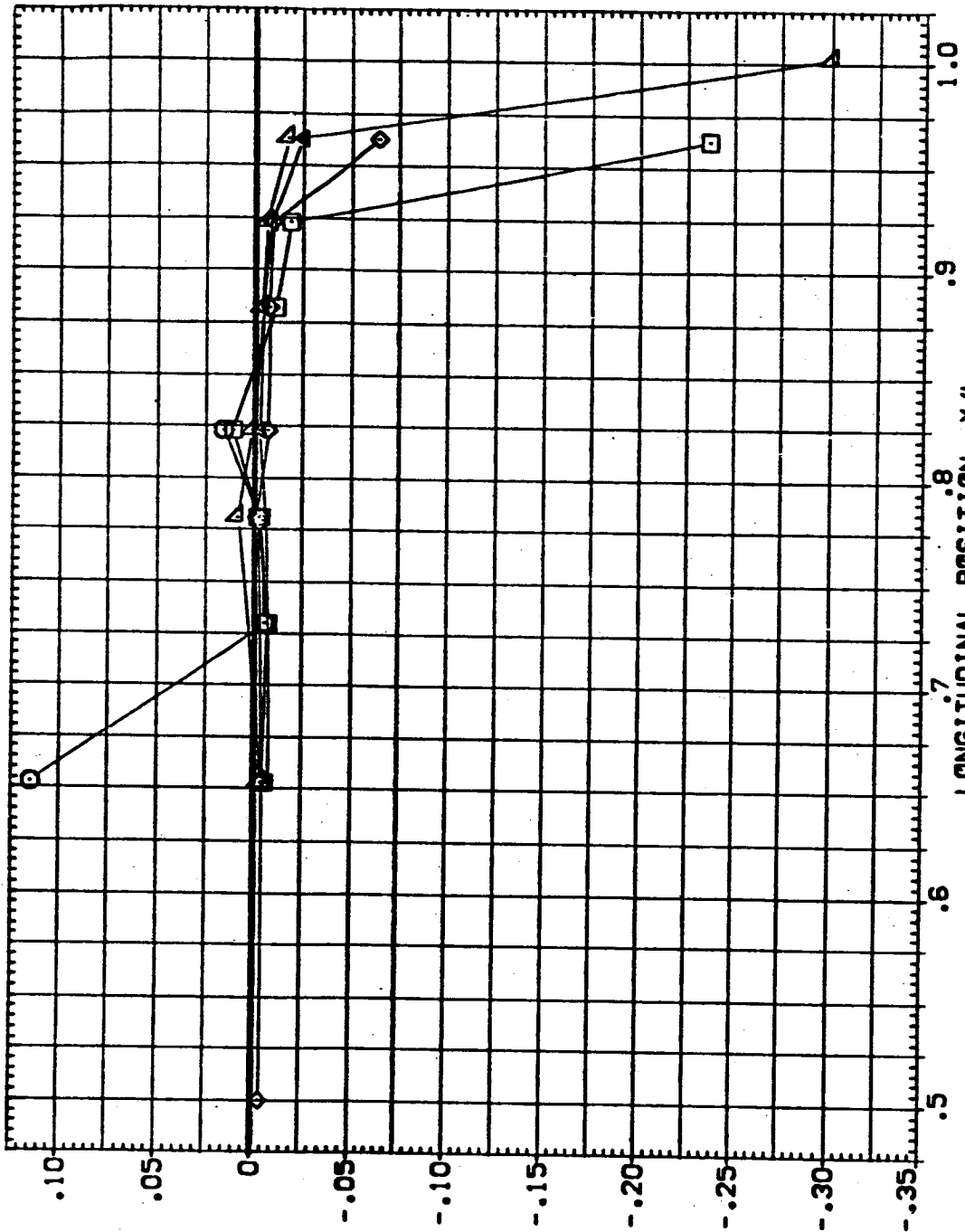


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-014IA19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (EEUB05)

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-08 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

PHI BETA ALPHA
 255.000 .000 -4.000
 270.000
 290.000
 320.000
 360.000

SYMBOL
 ○ □ ◇ △

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

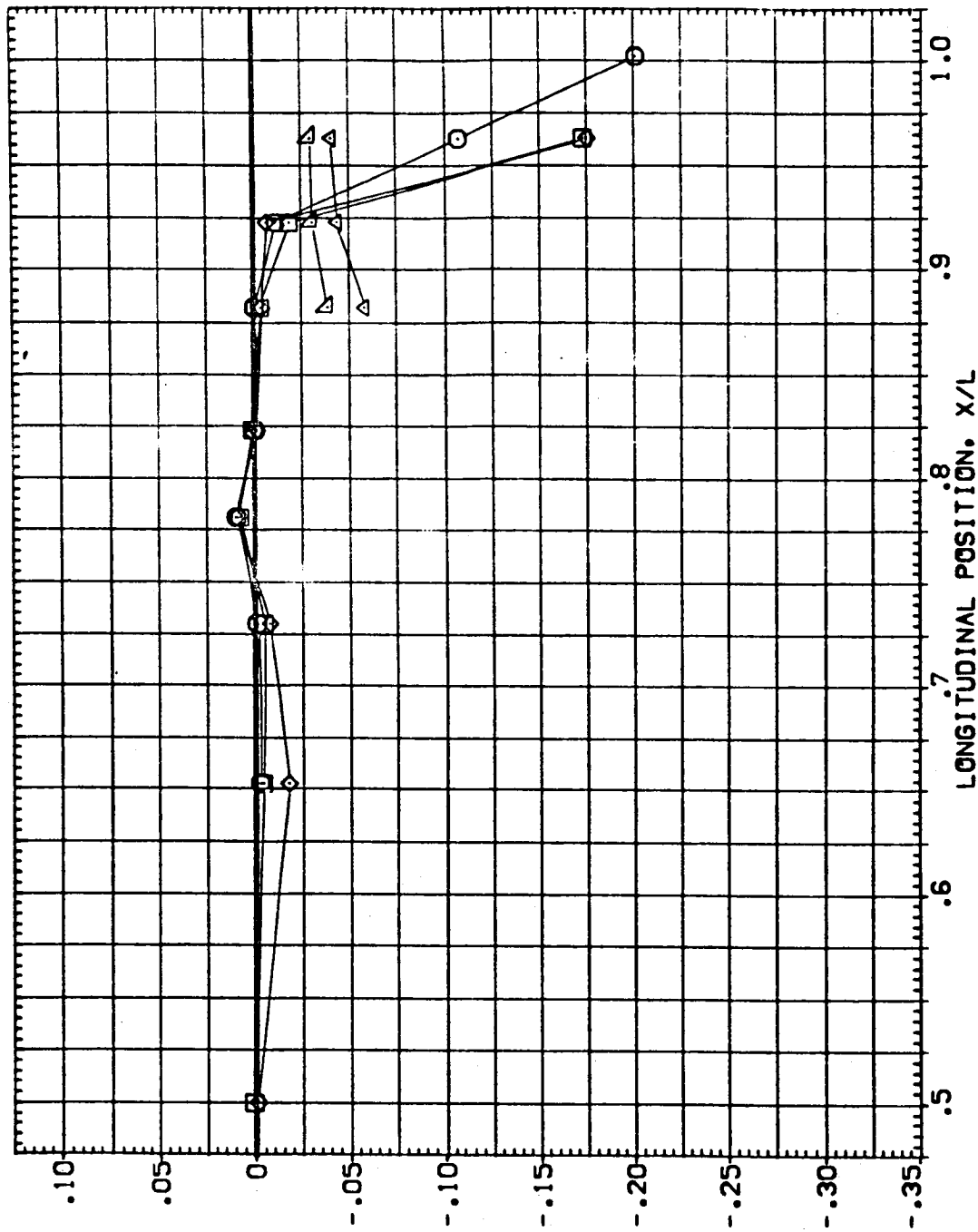


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (EEUB05)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-09 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

SYMBOL PHI BETA ALPHA
 ○ 180.000 .000
 □ 195.000 .000
 ◇ 210.000 .000
 △ 225.000 .000
 ▽ 240.000 .000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

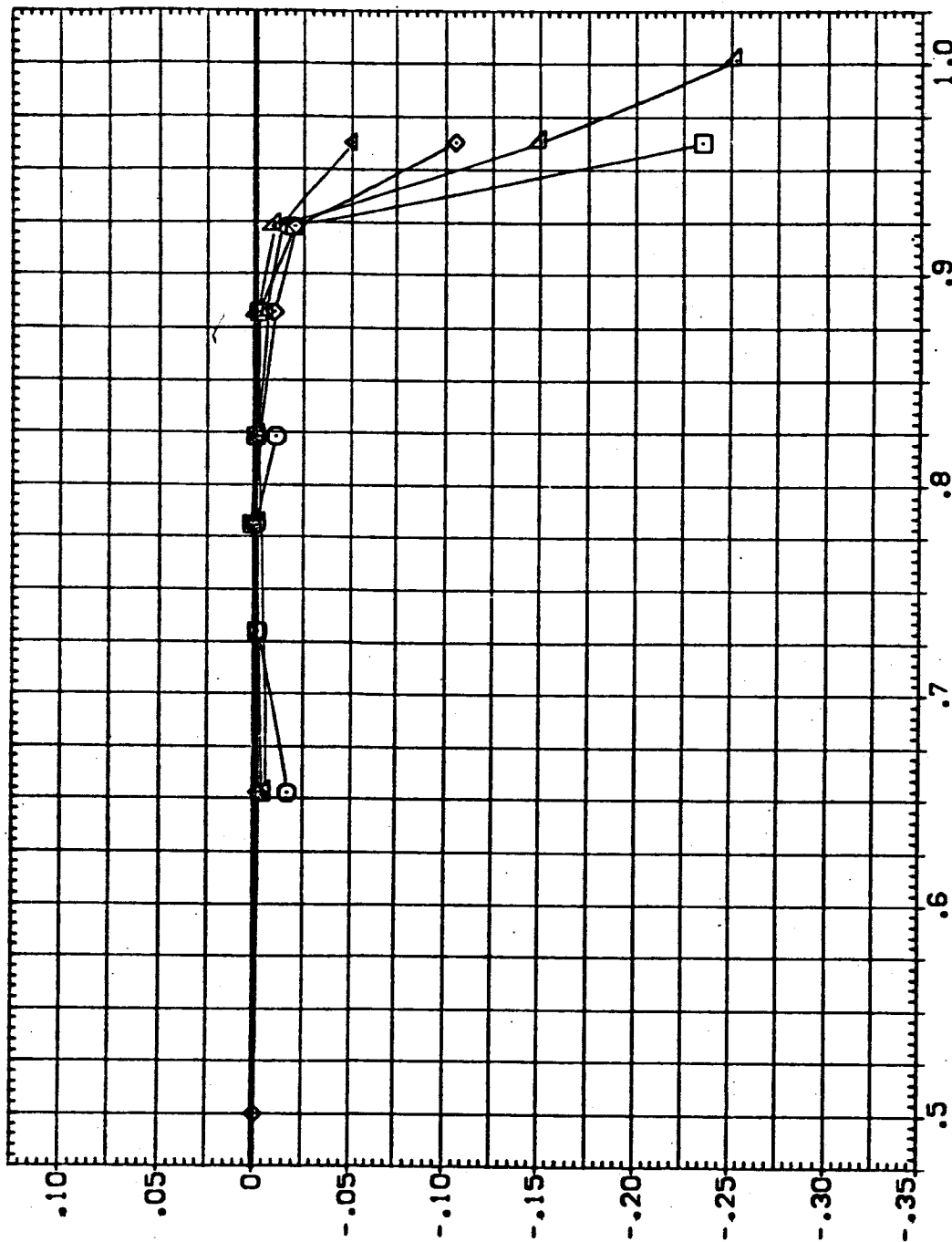


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

AKU11-UI41A1Y U1S+S1RUT SRB-NOM MPS-NOM ORB BODY (EEUB05)

SYMBOL	PHI	BETA	ALPHA	ELV-1B	ELV-OB
○	255.000	.000	.000	9.000	4.000
□	270.000			.000	.900
◇	290.000			1.000	
△	320.000				
▽	360.000				

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

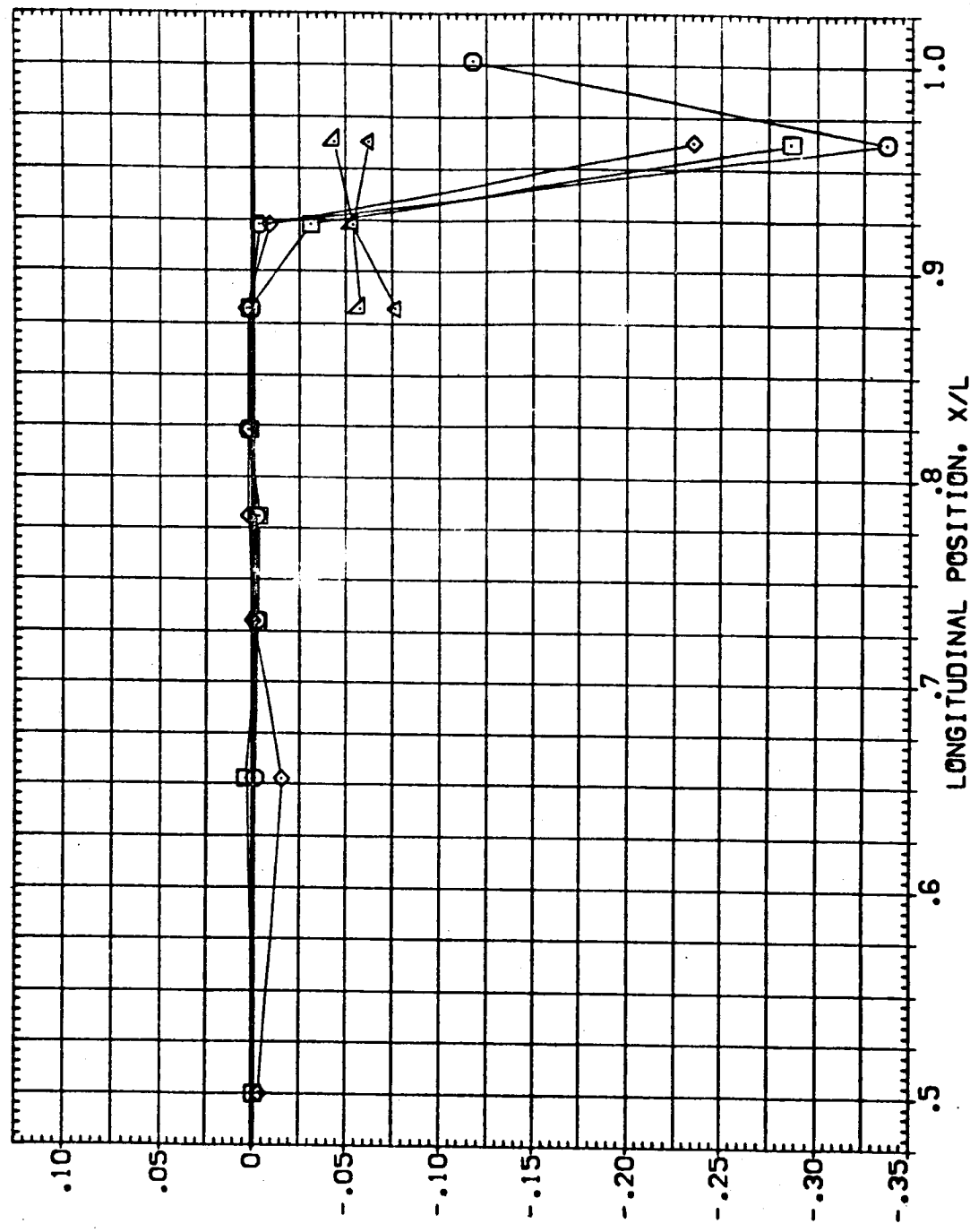


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (EEUB05)

PHI 180.000
 195.000
 210.000
 225.000
 240.000

BETA .000
 ALPHA 4.000

ELV-18
 RUDDER
 GIMBAL

PARAMETRIC VALUES
 8.000 ELV-OB
 .000 MACH
 1.000
 4.000
 .900

SYMBOL
 ○
 ◇
 △
 ▽

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

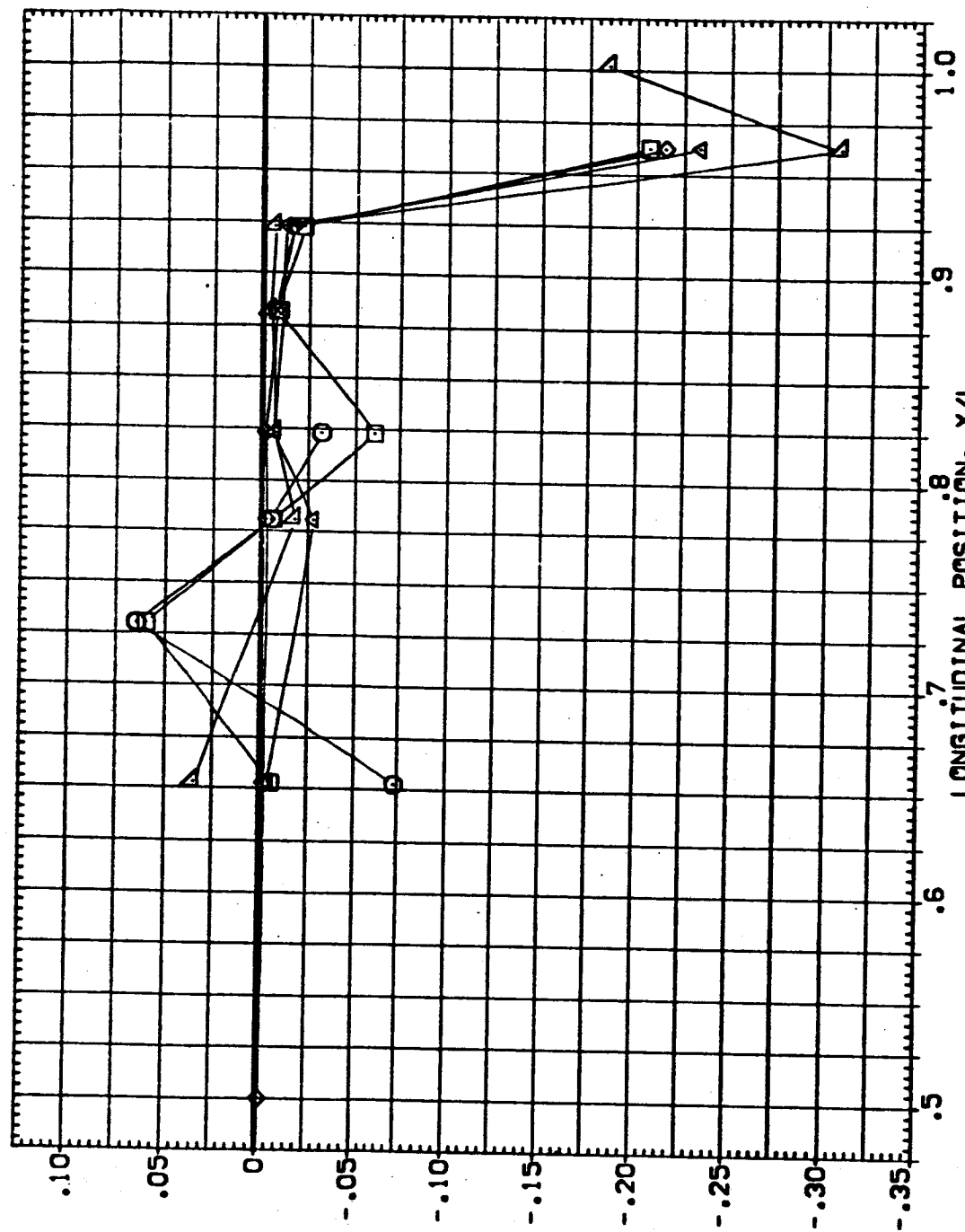


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (EUB05)

PHI	BETA	ALPHA	ELV-IB	PARAMETRIC VALUES
255.000	.000	4.000	RUDDER	8.000
270.000			SIMBAL	.000
290.000				1.000
320.000				4.000
360.000				.900

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

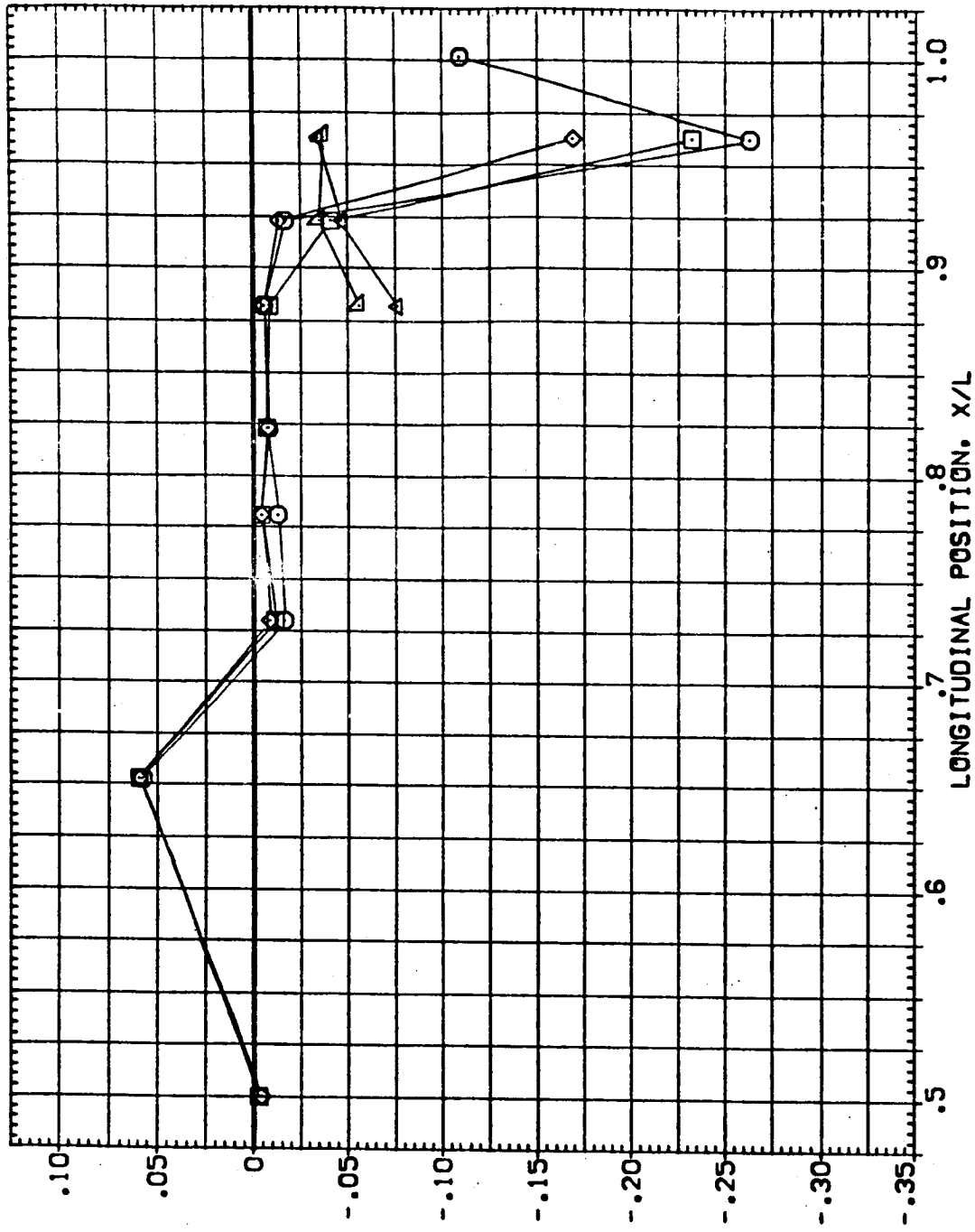
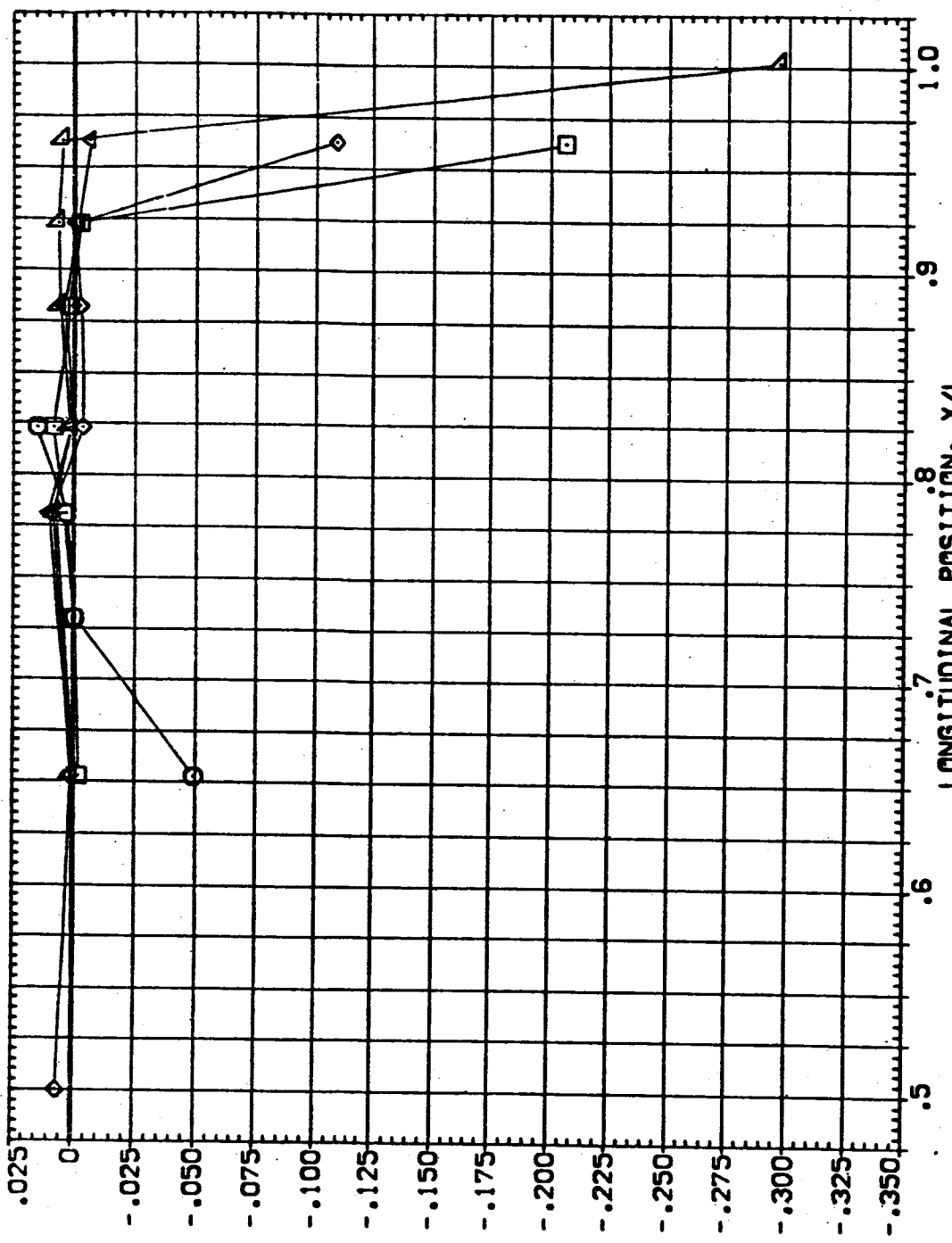


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (FEUB05)

SYMBOL	PHI	BETA	ALPHA	ELV-1B	ELV-0B	PARAMETRIC VALUES
○	180.000	-1.000	.000	RUDER	MACH	4.000
□	195.000			GIMBAL		.900
◇	210.000					
△	225.000					
▽	240.000					

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP



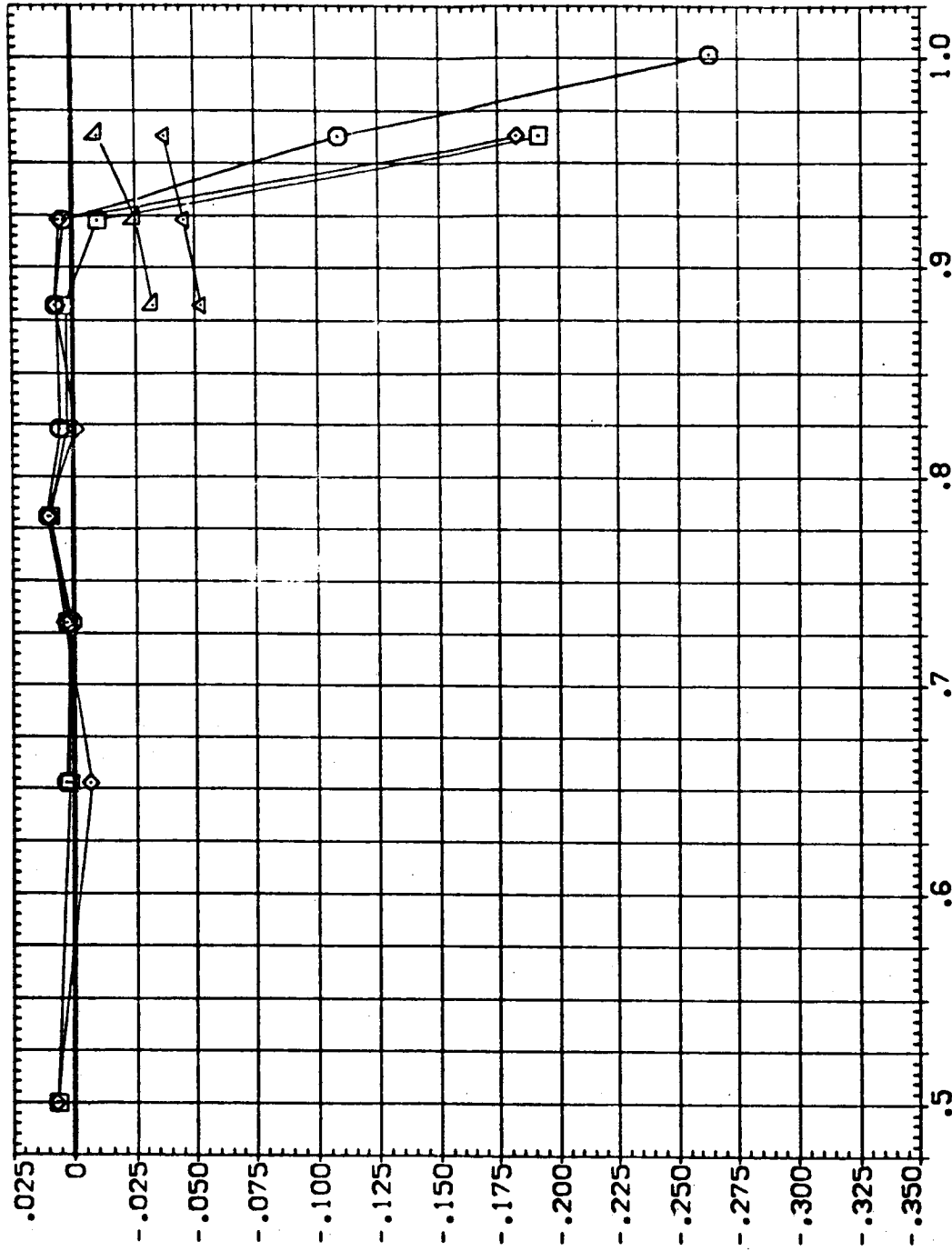
LONGITUDINAL POSITION, X/L

FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (FEUB05)

PHI	BETA	ALPHA	ELV-18	ELV-09	PARAMETRIC VALUES
256.000	-4.000	.000	RUDER	.000	MACH
270.000			GIMBAL	1.000	.900
290.000					1.000
320.000					
360.000					

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP



LONGITUDINAL POSITION, X/L

FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (FEUB05)

SYMBOL PHI BETA ALPHA

□ 180.000 4.000 .000

◇ 195.000

△ 210.000

▽ 225.000

▽ 240.000

PARAMETRIC VALUES

ELV-1B 8.000 ELV-08 4.000

RUDDER .000 MACH .900

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

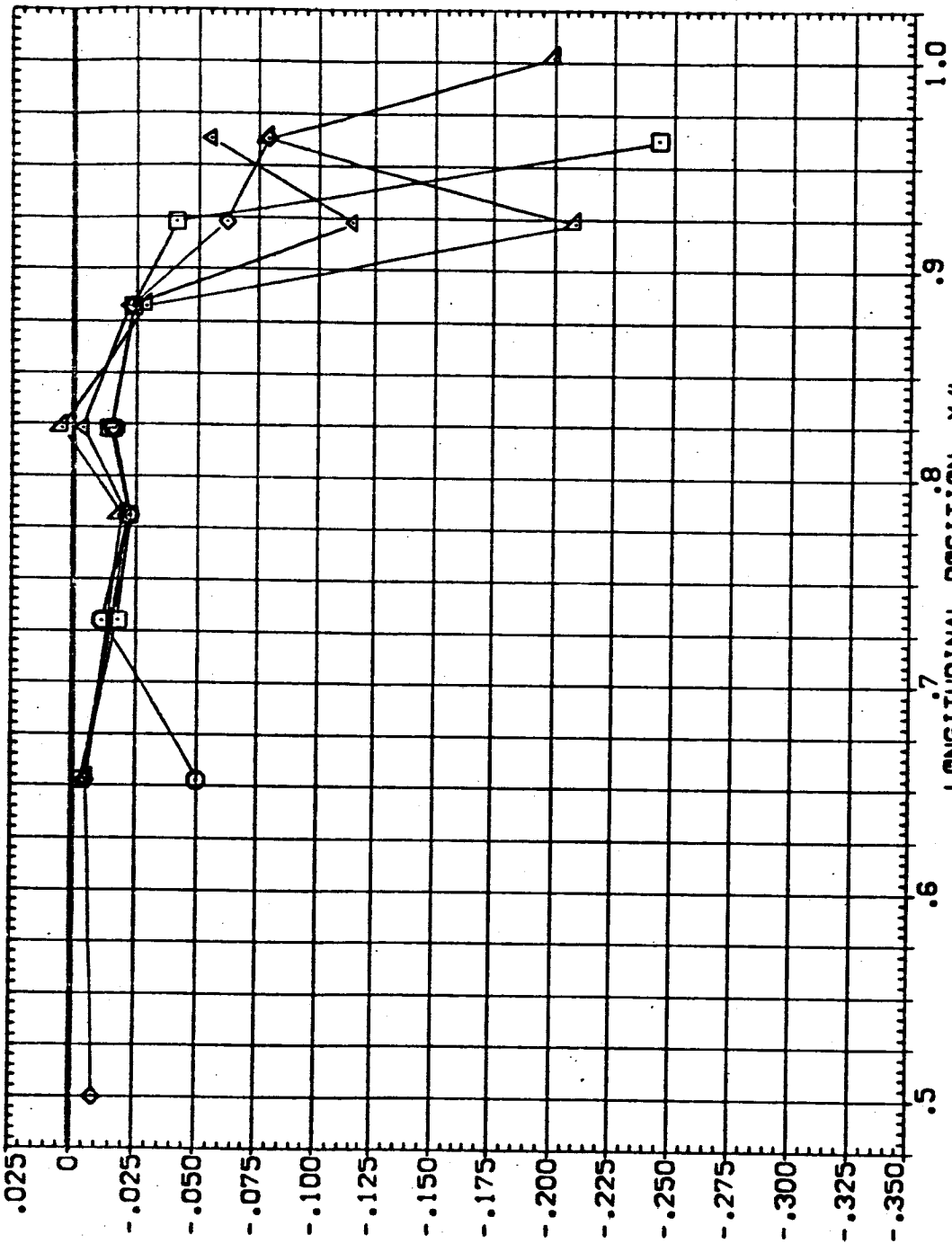


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (FEUB05)

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-09 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

PHI BETA ALPHA
 255.000 4.000 .000
 270.000
 290.000
 320.000
 360.000

SYMBOL
 ○ □ ◇ △

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

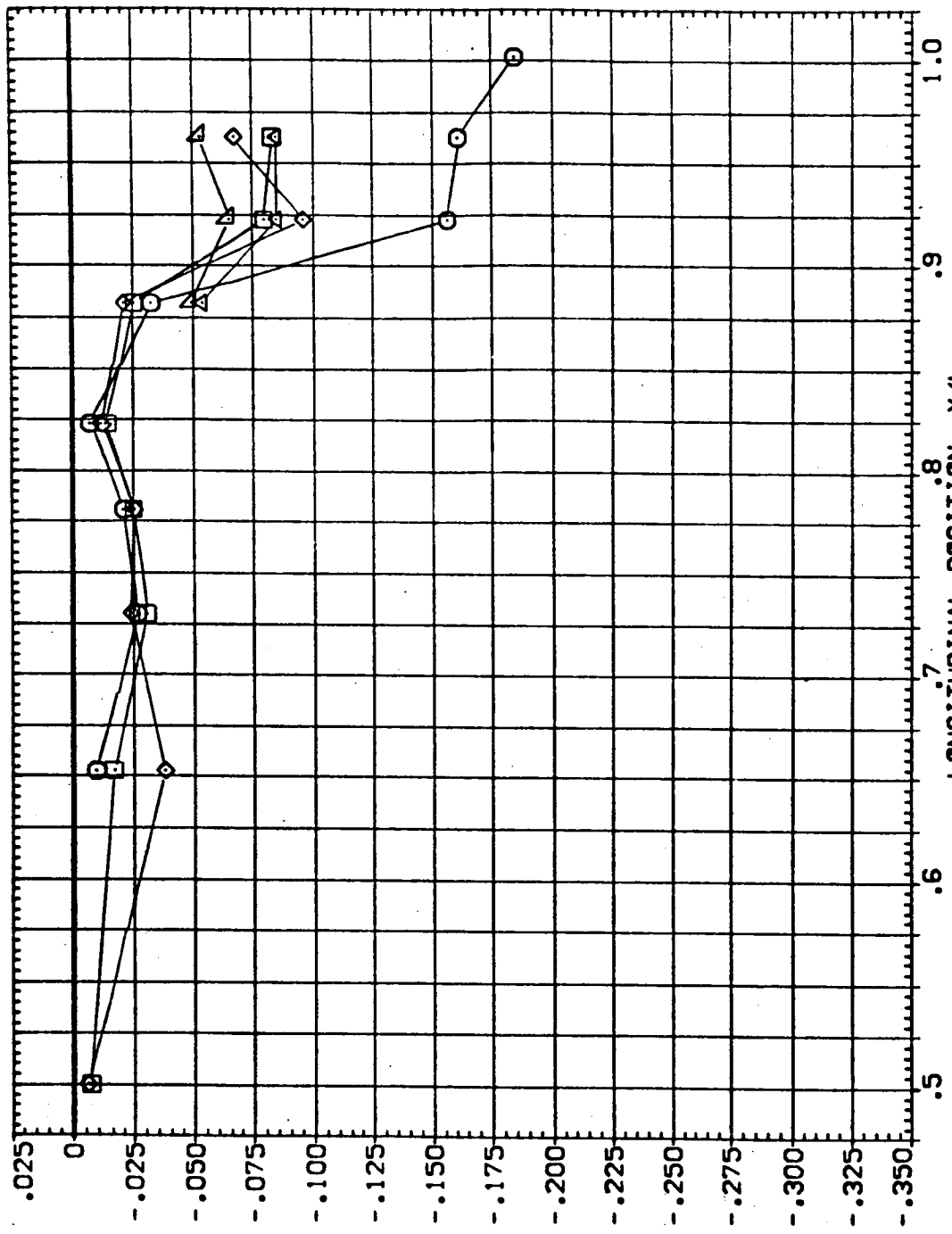


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (EEUB06)

SYMBO. RH1 BETA ALPHA
 ▽ 180.000 .000 -4.000
 ◊ 195.000
 □ 210.000
 ○ 225.000
 240.000

PARAMETRIC VALUES
 ELY-18 8.000 ELY-08 4.000
 RUDDER .000 MACH 1.100
 31MBAL 1.000

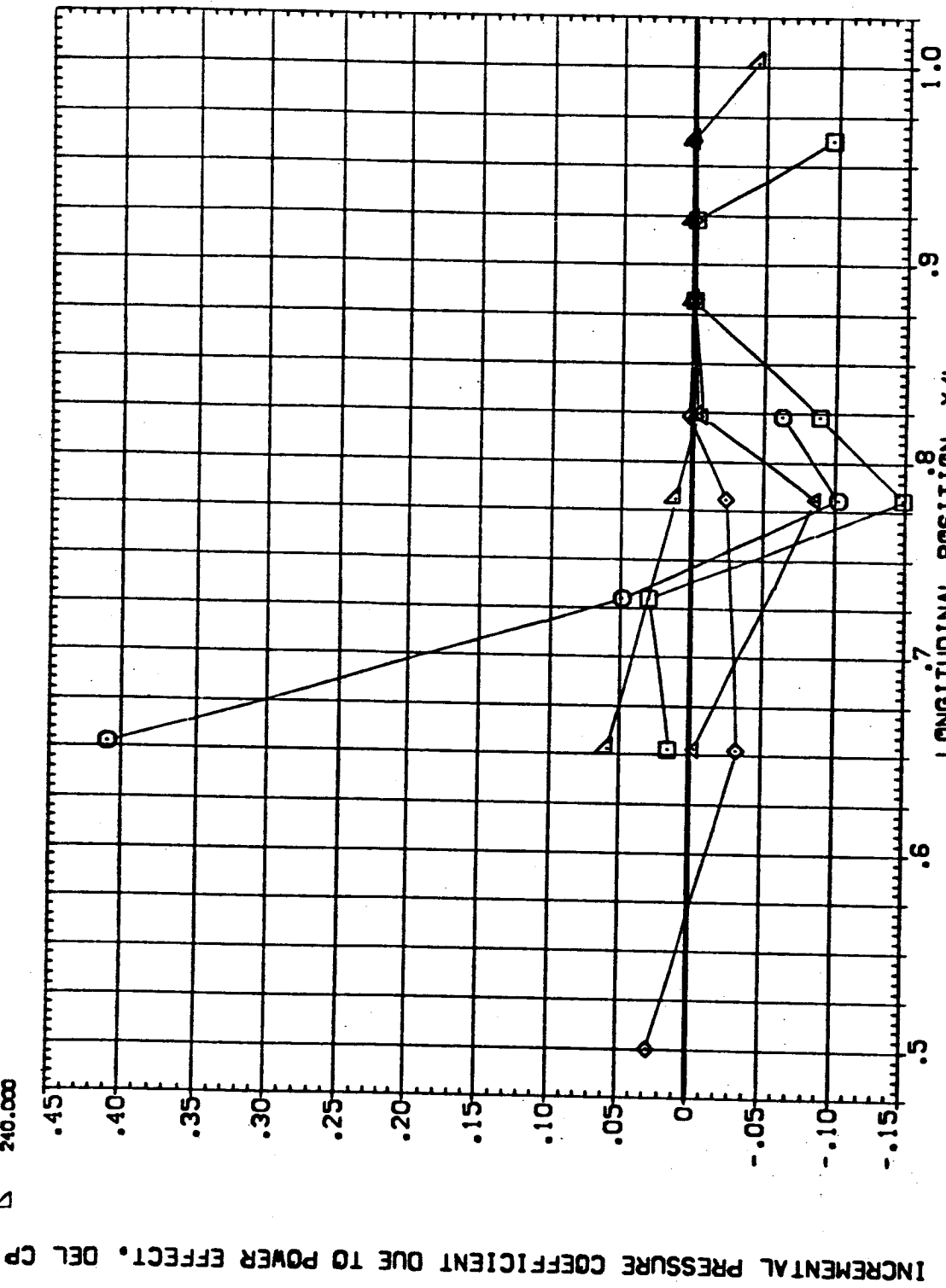


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (EEUB06)

PHI	BETA	ALPHA	ELV-18	ELV-08
255.000	.000	-1.000	RUDER	MACH
270.000			GIMBAL	
290.000				4.000
320.000				1.100
360.000				

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

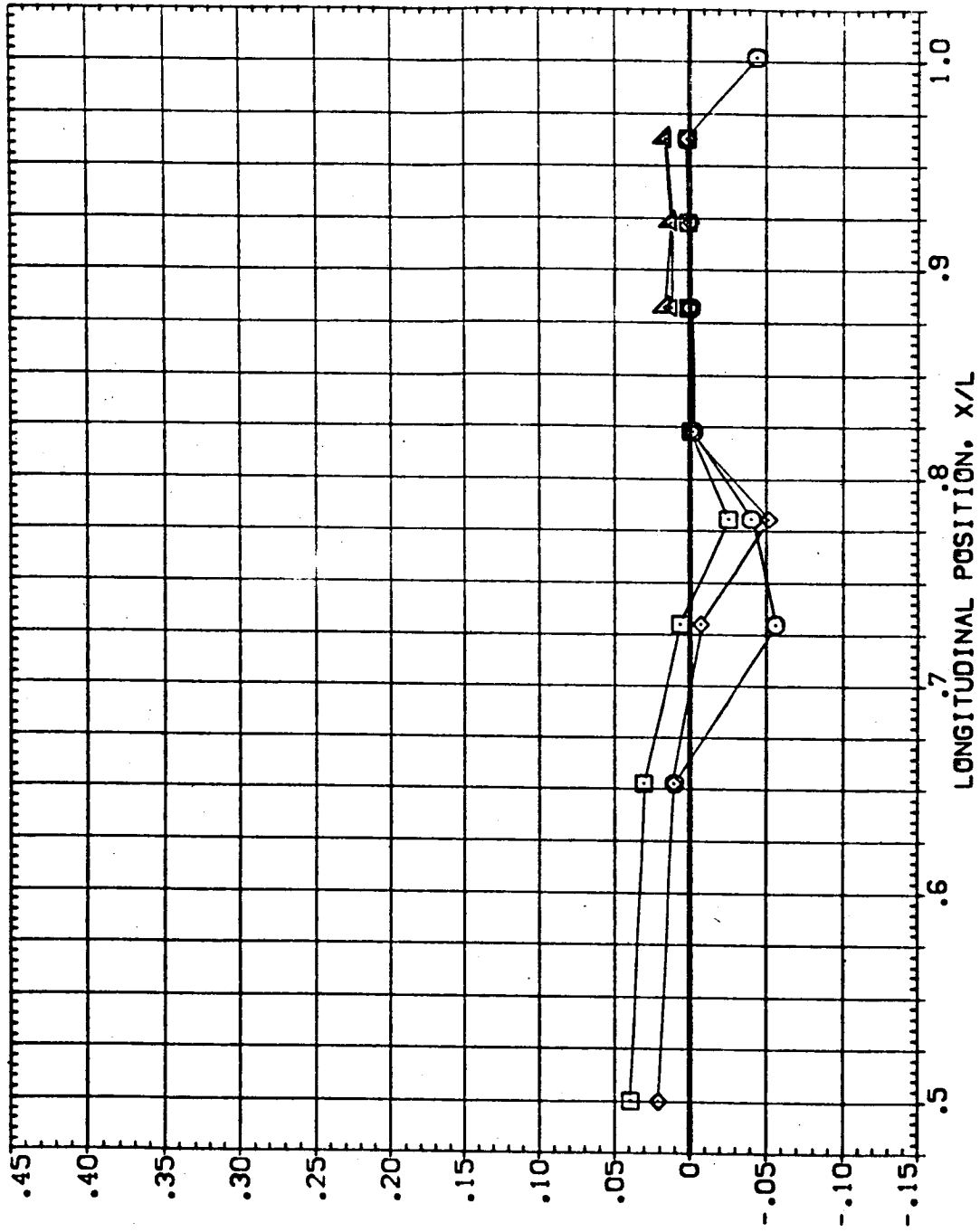


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (EEUB06)

PHI	BETA	ALPHA	ELV-18	ELV-08
160,000	.000	.000	RUDER	4,000
195,000			GIMBAL	1,100
210,000				
225,000				
240,000				

PARAMETRIC VALUES

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

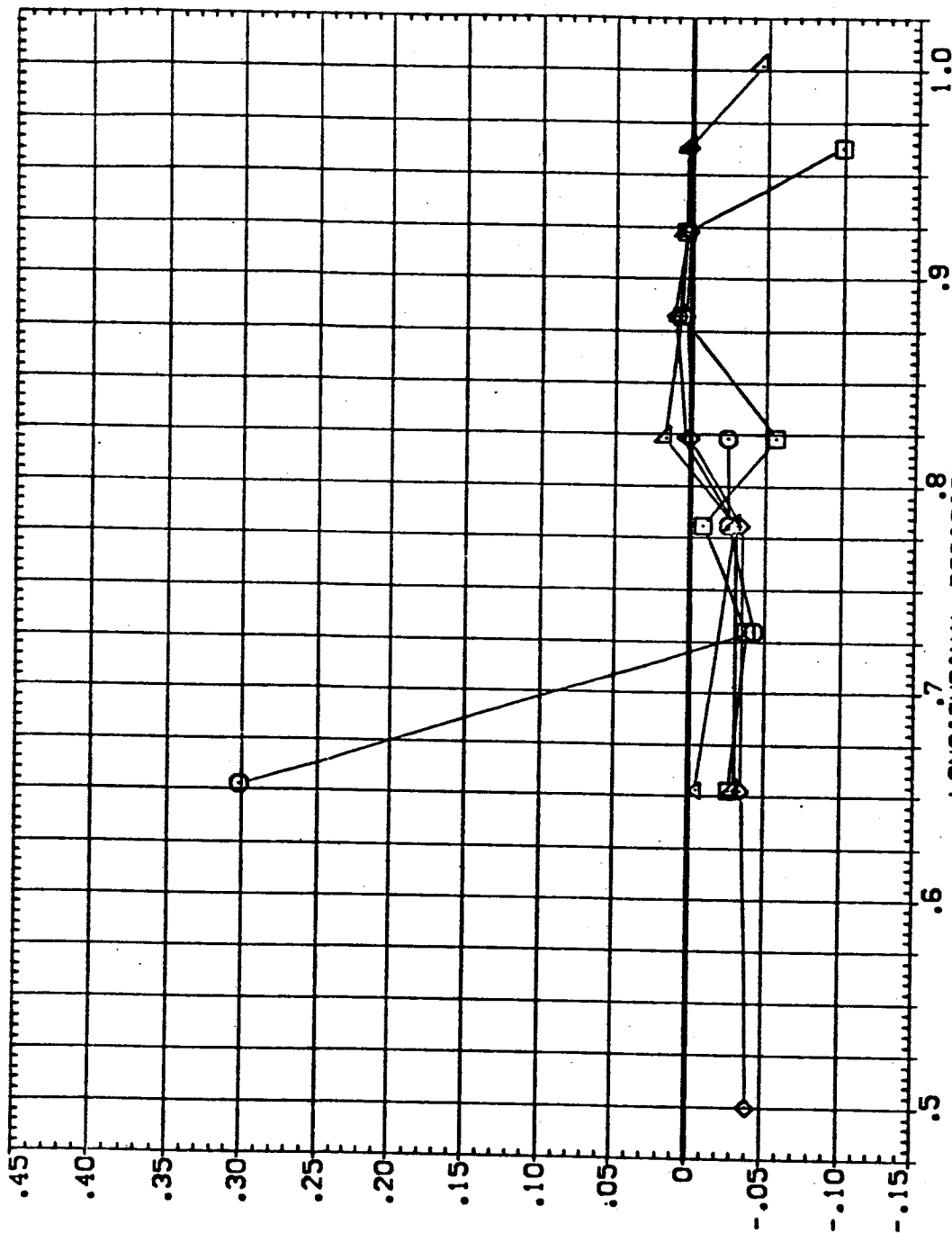


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (EEUB06)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

PHI BETA ALPHA
 255.000 .000 .000
 270.000
 290.000
 320.000
 360.000

SYMBOL
 ◻ ◊ ◀ ▶

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

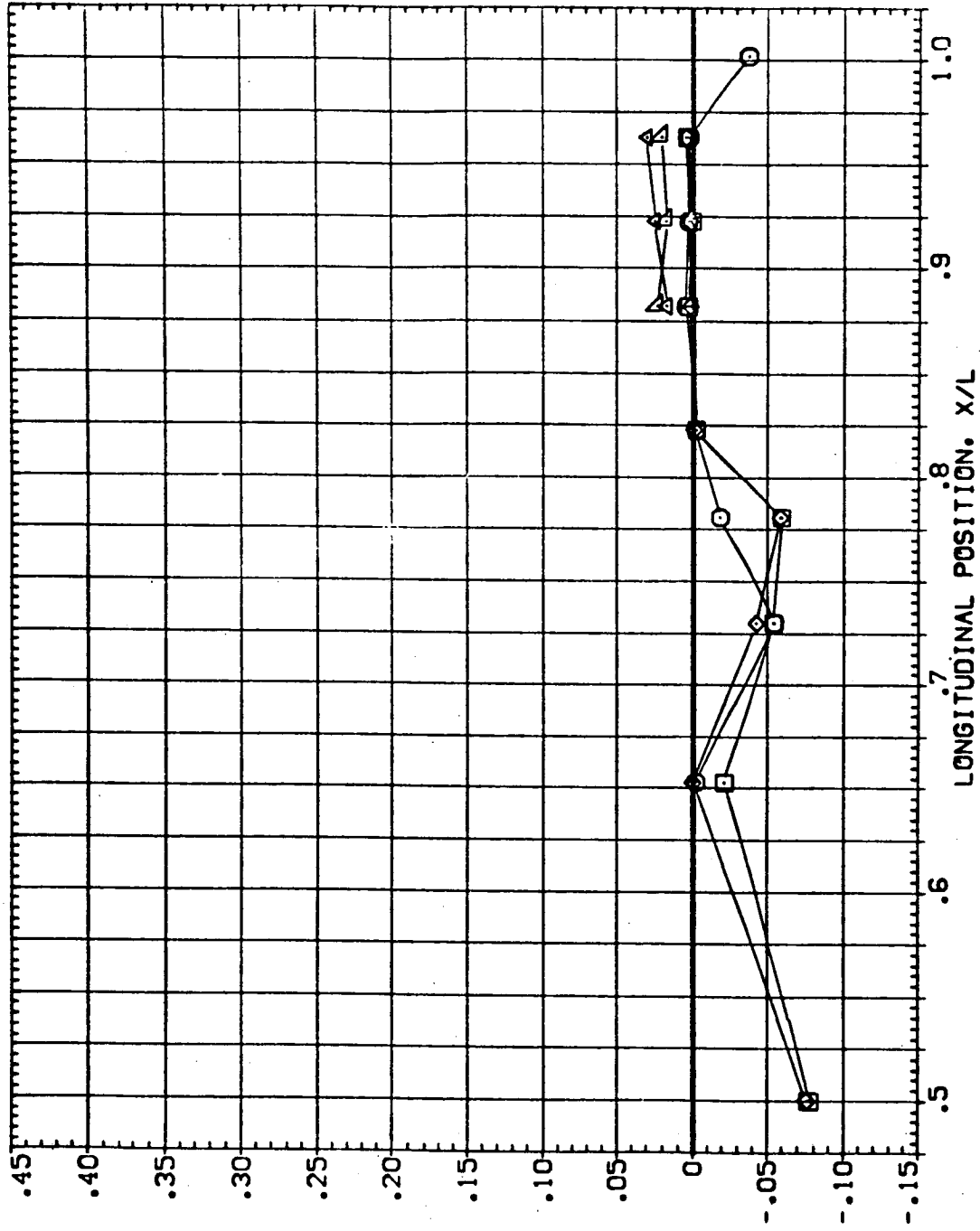


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (EEUB06)

PHI	BETA	ALPHA	ELV-1B	ELV-0B
180.000	.000	4.000	RUDER	MACH
195.000			GIMBAL	
210.000				
225.000				
240.000				

PARAMETRIC VALUES
 8.000 4.000
 .000 1.100
 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

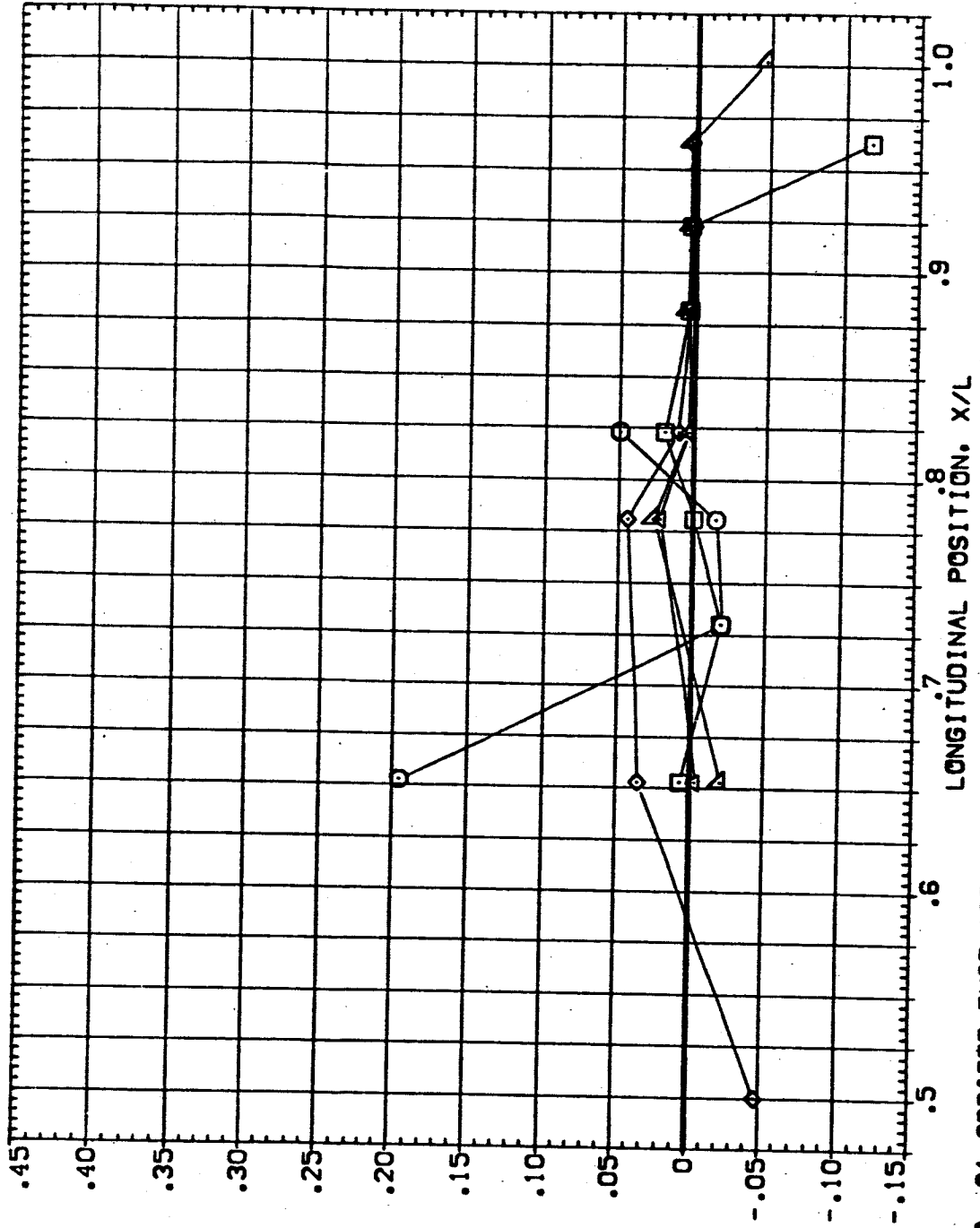


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (EUB06)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

PHI BETA ALPHA
 255.000 .000 4.000
 270.000
 290.000
 320.000
 360.000

SYMBOL
 ▽ ◊ □ ○ △

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

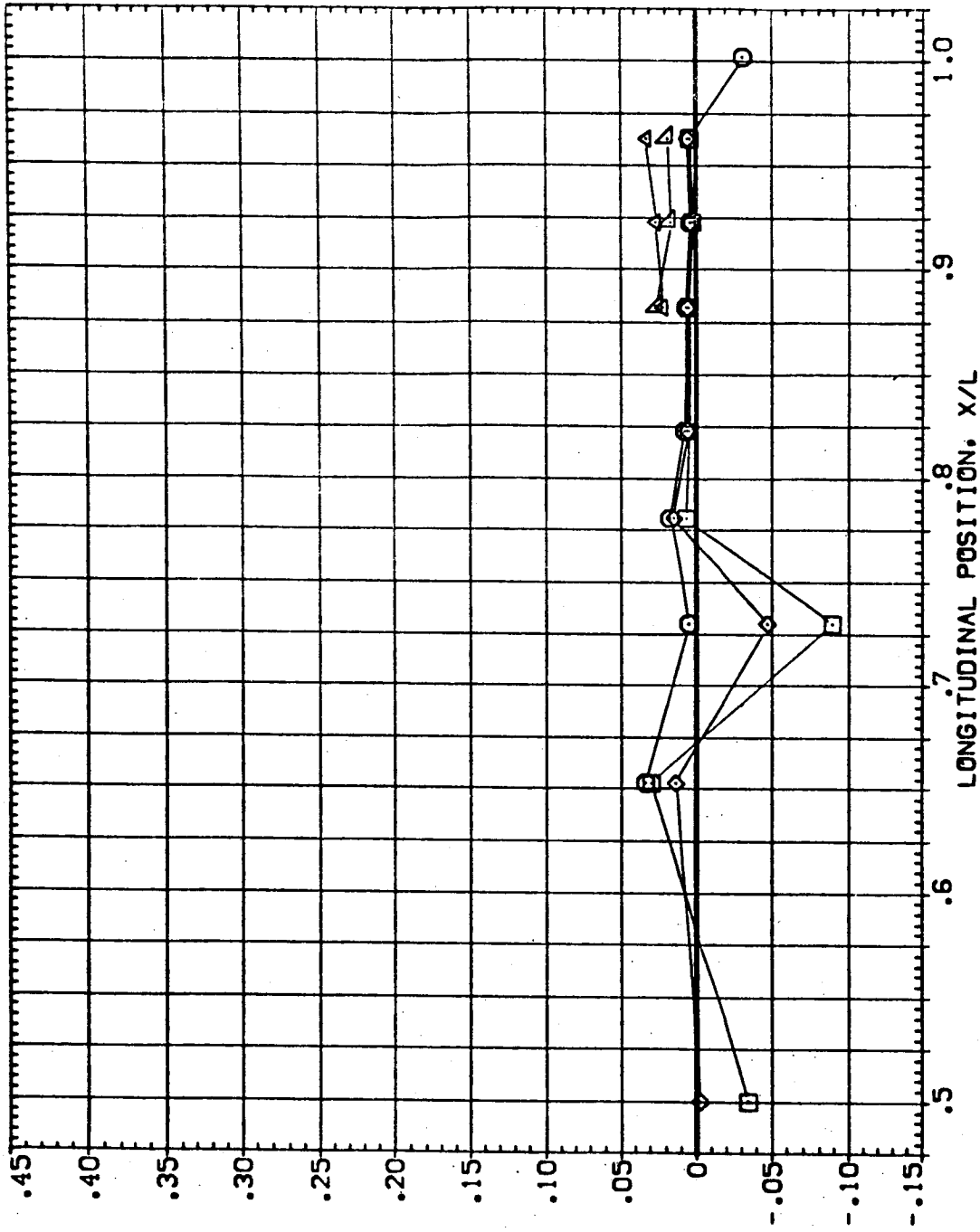


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (FEUB06)

PHI 180.000
 195.000
 210.000
 225.000
 240.000

BETA -1.000

ALPHA .000

ELV-18
 RLOOR
 GIMBAL

8.000
 .000
 1.000

ELV-08
 MACH

4.000
 1.100

Symbol
 ◊
 ◻
 ◃

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

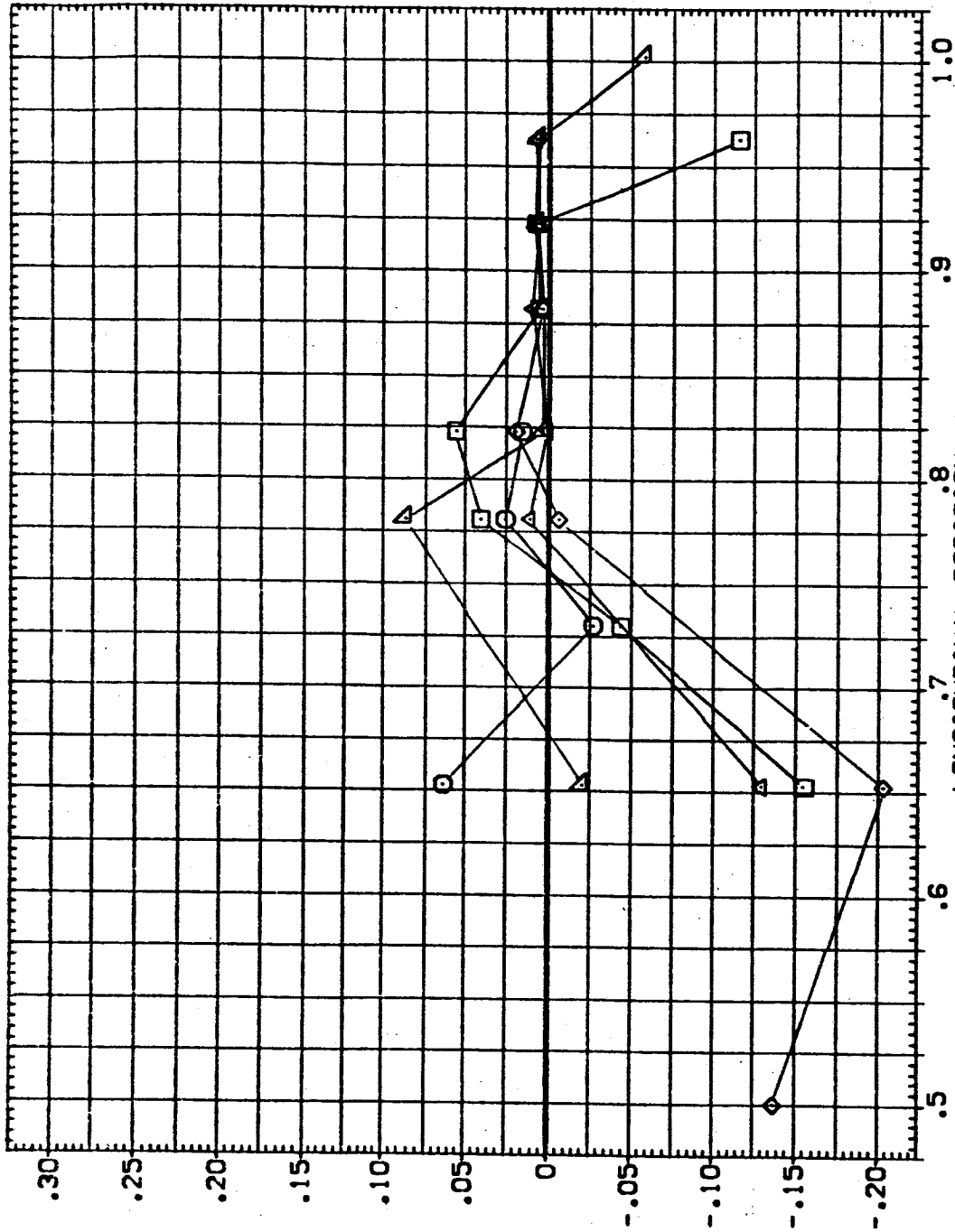


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (FEUB06)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

BETA -4.000 ALPHA .000

PHI
 255.000
 270.000
 290.000
 320.000
 360.000

SYMBOL
 ○ □ ◇ △ ▽

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

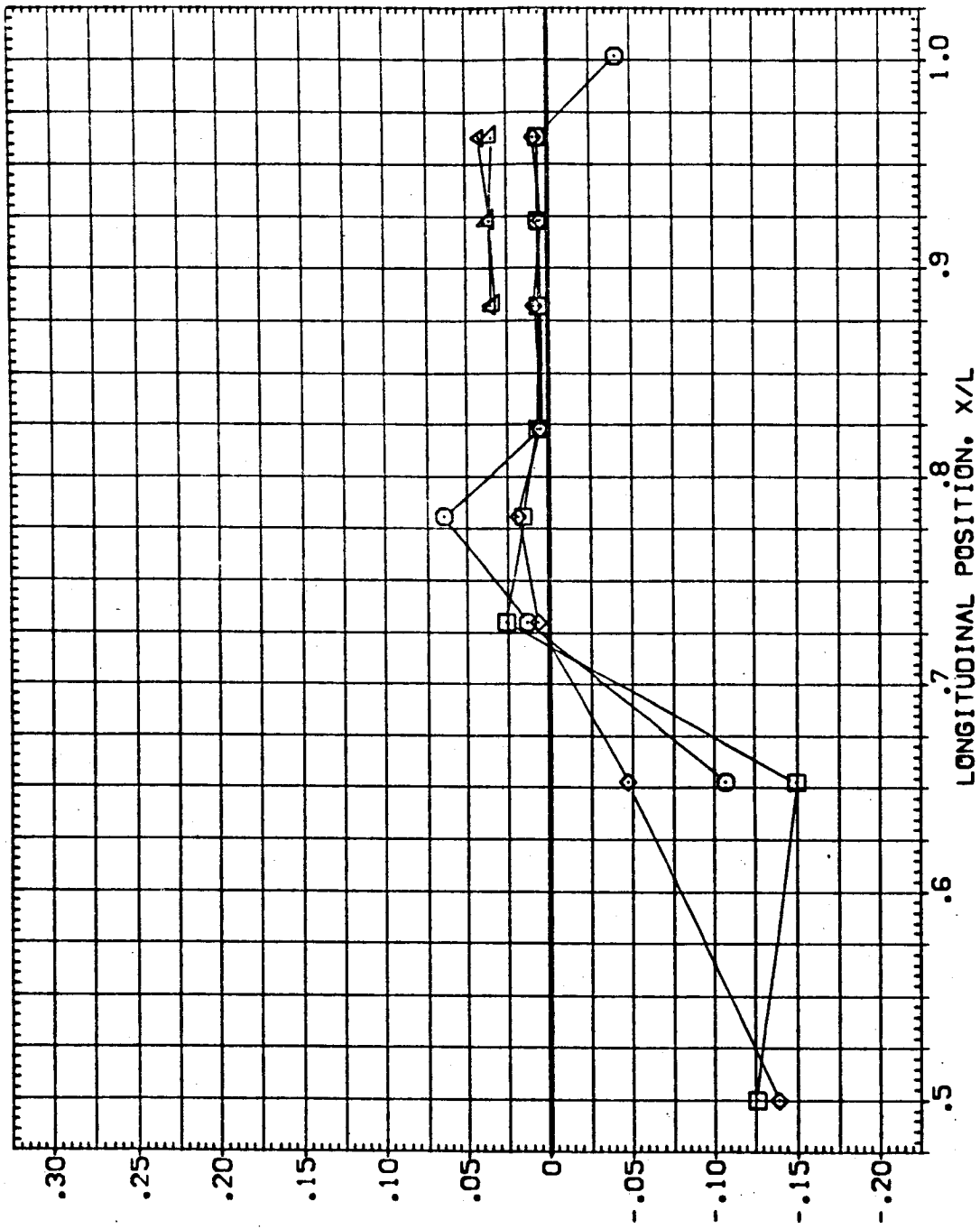


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 QTS+STRUT SRB-NOM MPS-NOM ORB BODY (FEUB06)

SYMBOL	PHI	BETA	ALPHA	ELV-19	PARAMETRIC VALUES
○	190.000	4.000	.000	RUDER	8.000 ELV-09
□	195.000			GIMBAL	.000 MACH
◇	210.000				1.000
△	225.000				
▽	240.000				

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

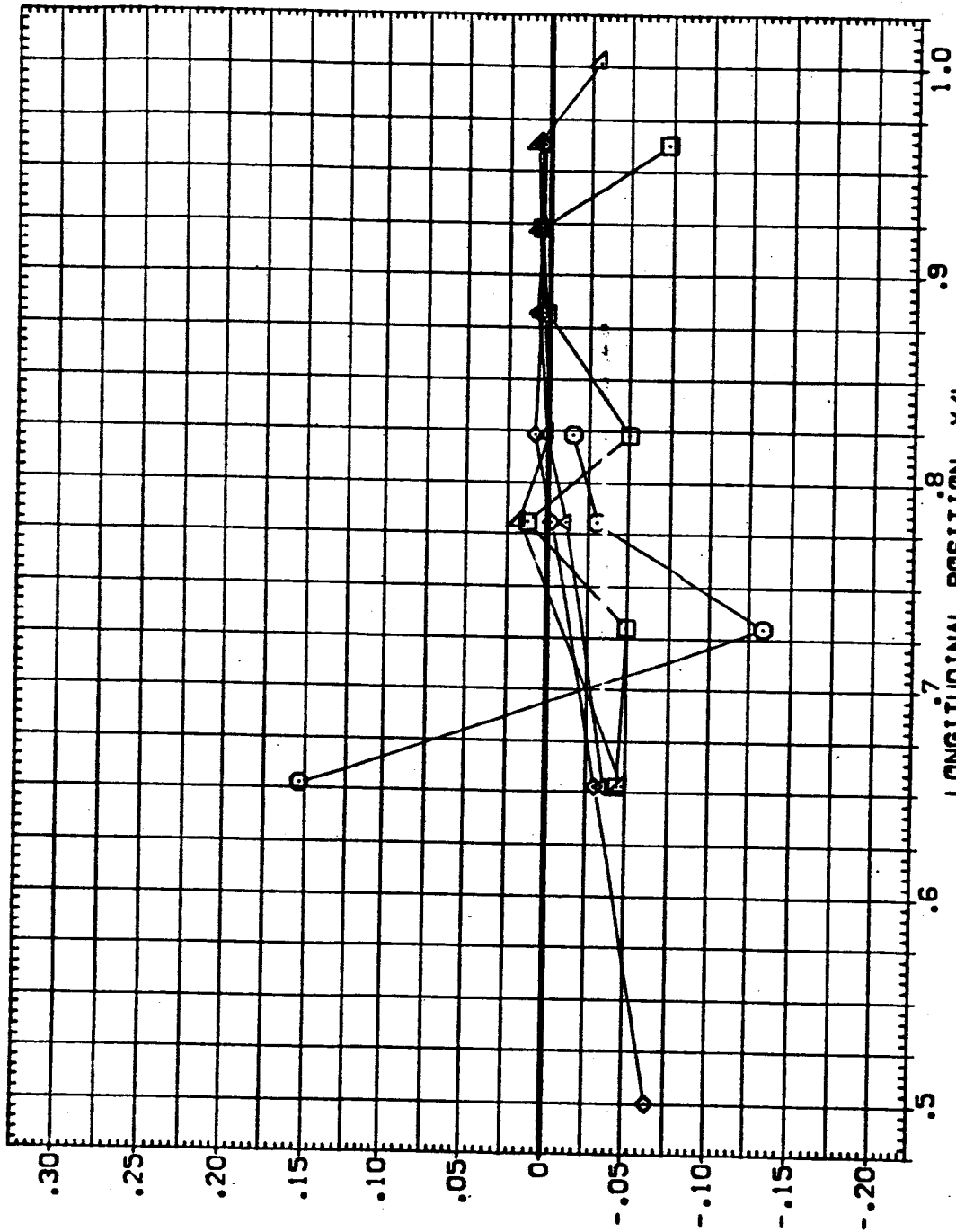


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (FEUB06)

PHI 255.000
 270.000
 290.000
 320.000
 360.000

BETA 4.000
 ALPHA .000

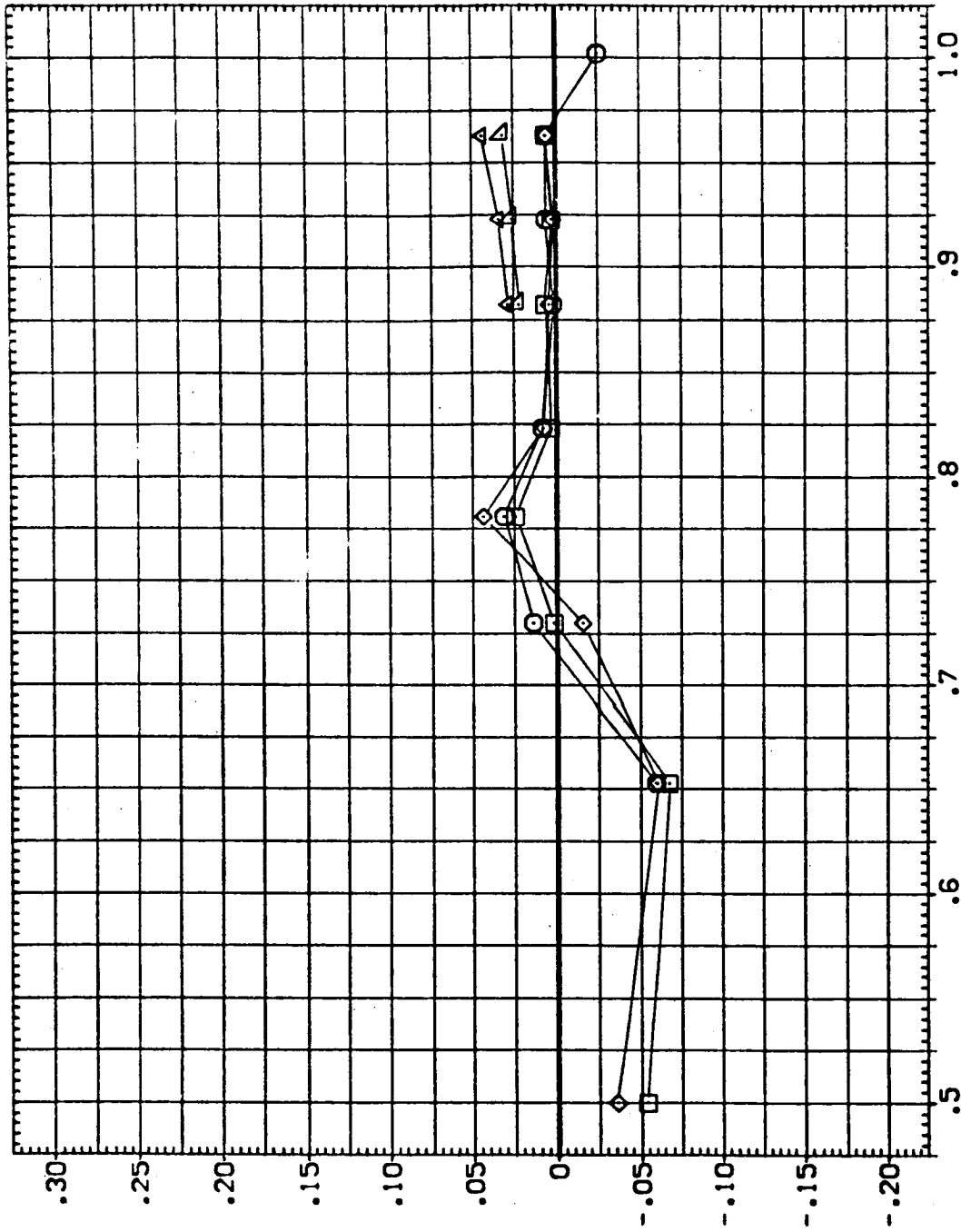
ELV-18
 RUDDER
 GIMBAL

8.000
 .000
 1.000

ELV-08
 MACH

4.000
 1.100

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP



LONGITUDINAL POSITION, X/L

FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (EEUB07)

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

PHI 180.000 BETA .000 ALPHA -4.000
 195.000
 210.000
 225.000
 240.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

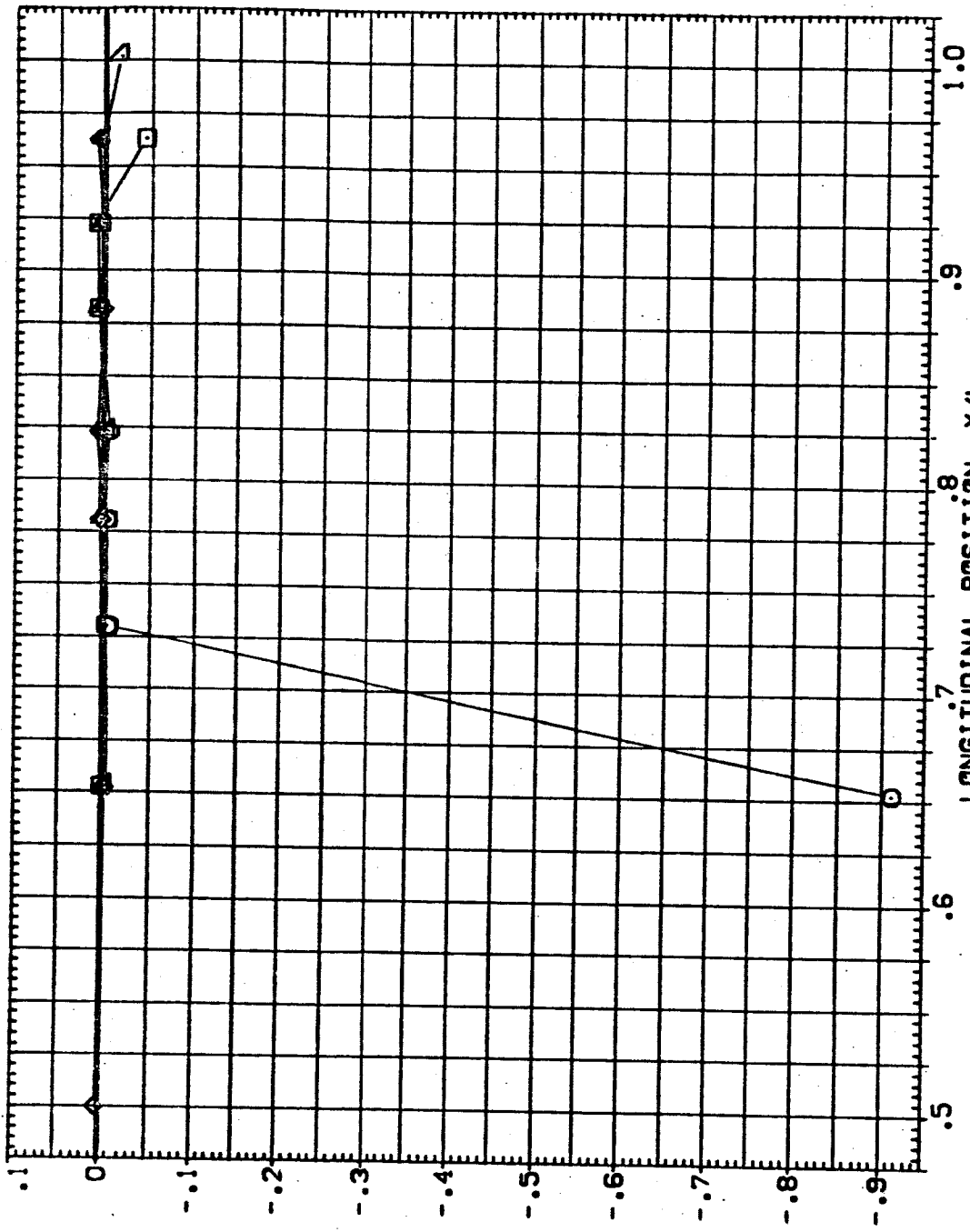


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (EEUB07)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

BETA .000 ALPHA -4.000

PHI
 255.000
 270.000
 290.000
 320.000
 360.000

SYMBOL
 ○ □ ◇ △

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

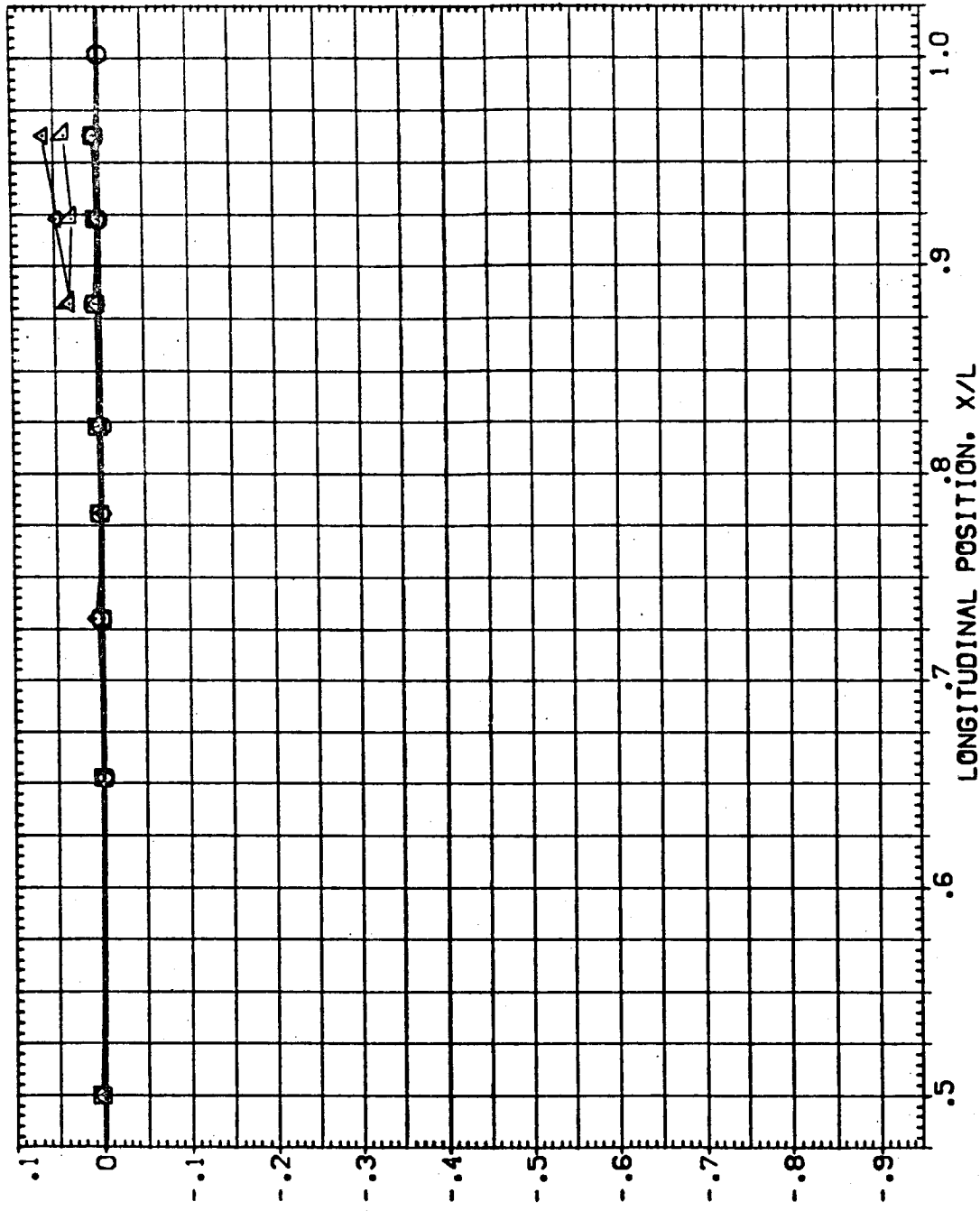


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (EEUB07)

PARAMETRIC VALUES	
PHI	180.000
BETA	.000
ALPHA	.000
ELV-1B	8.000
RUDDER	.000
GIMBAL	1.000
ELV-OB	4.000
MACH	1.250

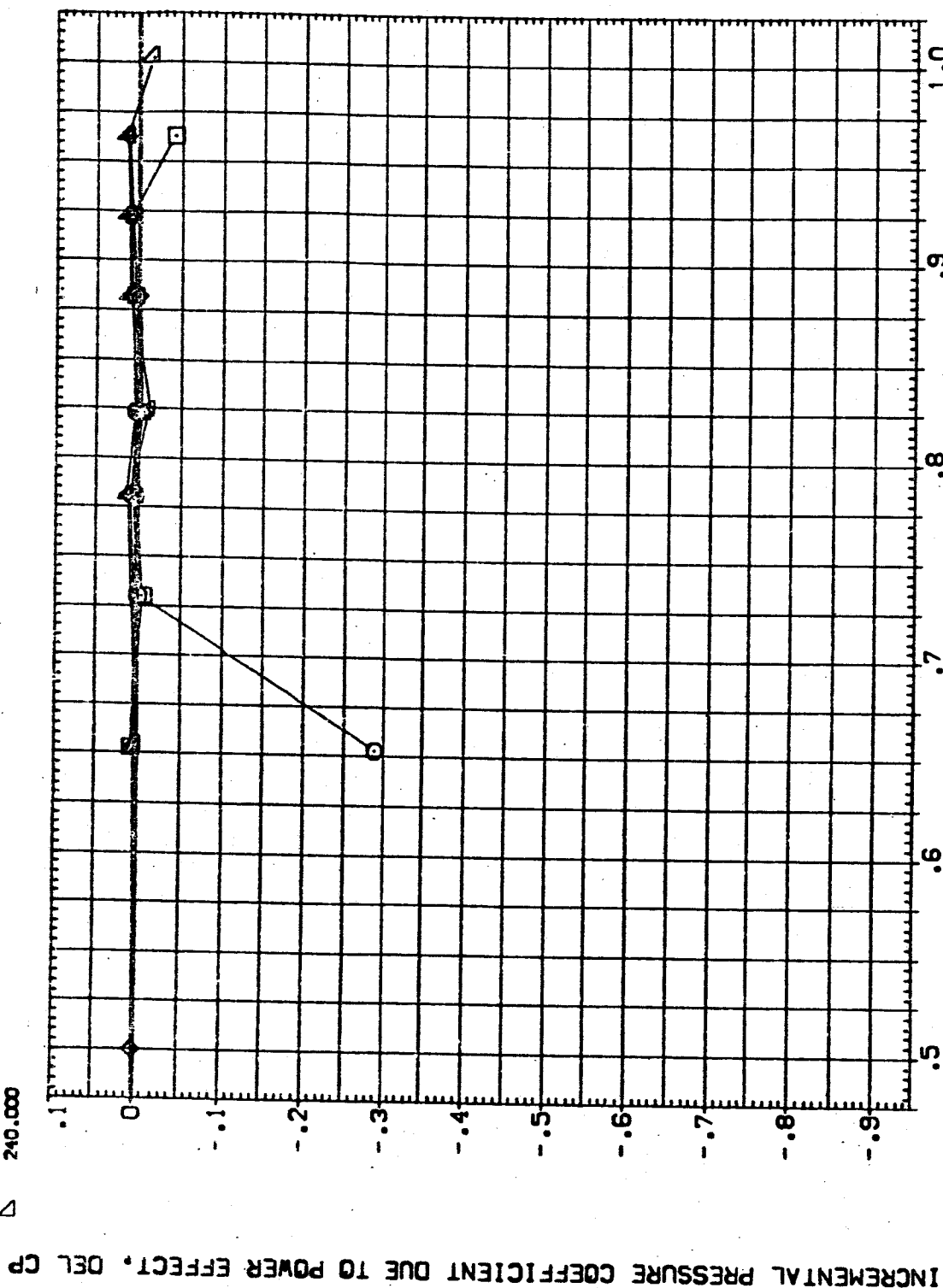


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (EEUB07)

PARAMETRIC VALUES
 ELV-18 8,000 ELV-09 1,000
 RUDDER .000 MACH 1.250
 GIMBAL 1,000

BETA .000 ALPHA .000

PHI
 255,000
 270,000
 290,000
 320,000
 360,000

SYMBOL
 □
 ◇
 △

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

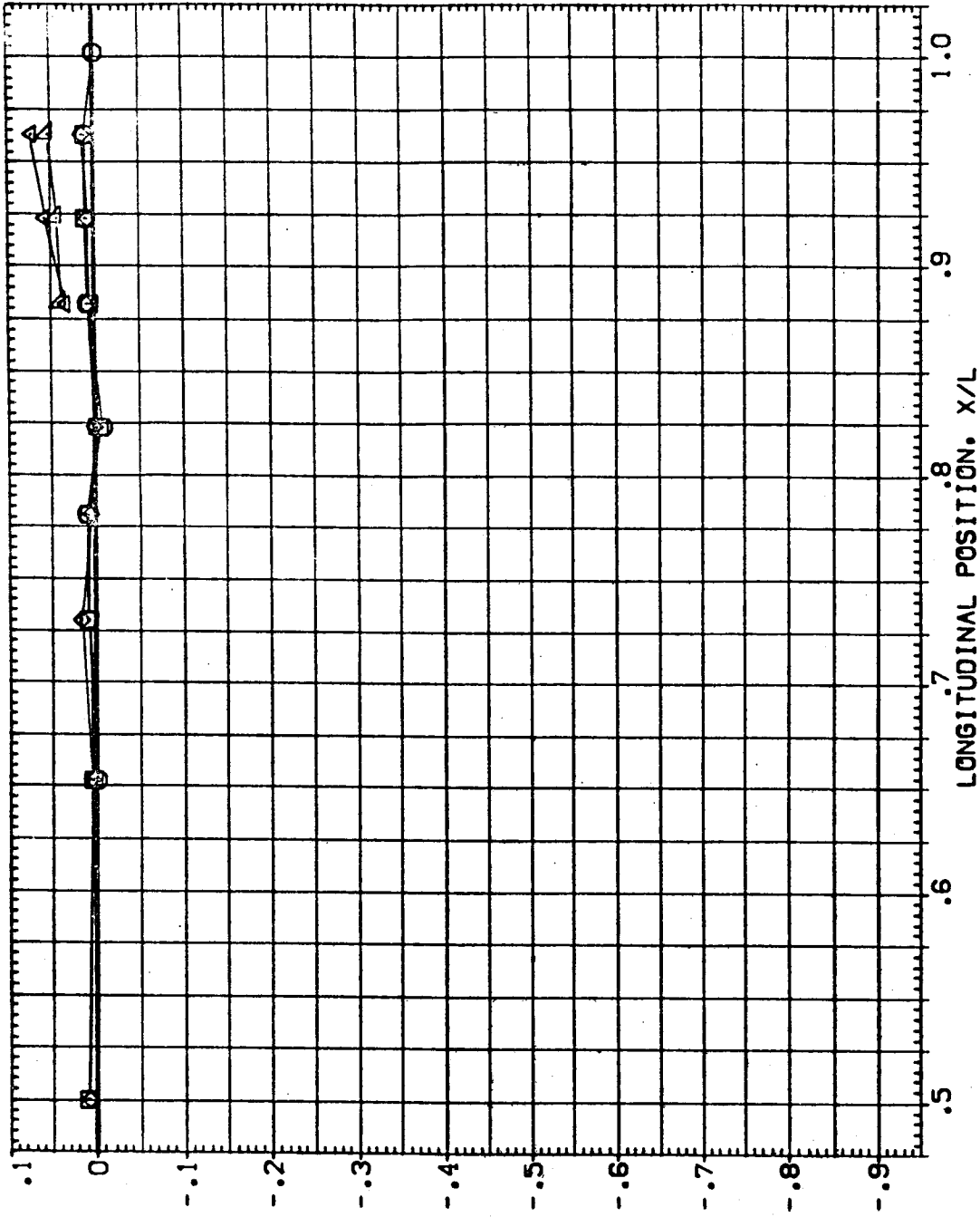


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM GRB BODY (EEUB07)

SYMBOL PHI BETA ALPHA
 ▽ 180.000
 ◇ 195.000
 □ 210.000
 ◊ 225.000
 △ 240.000

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

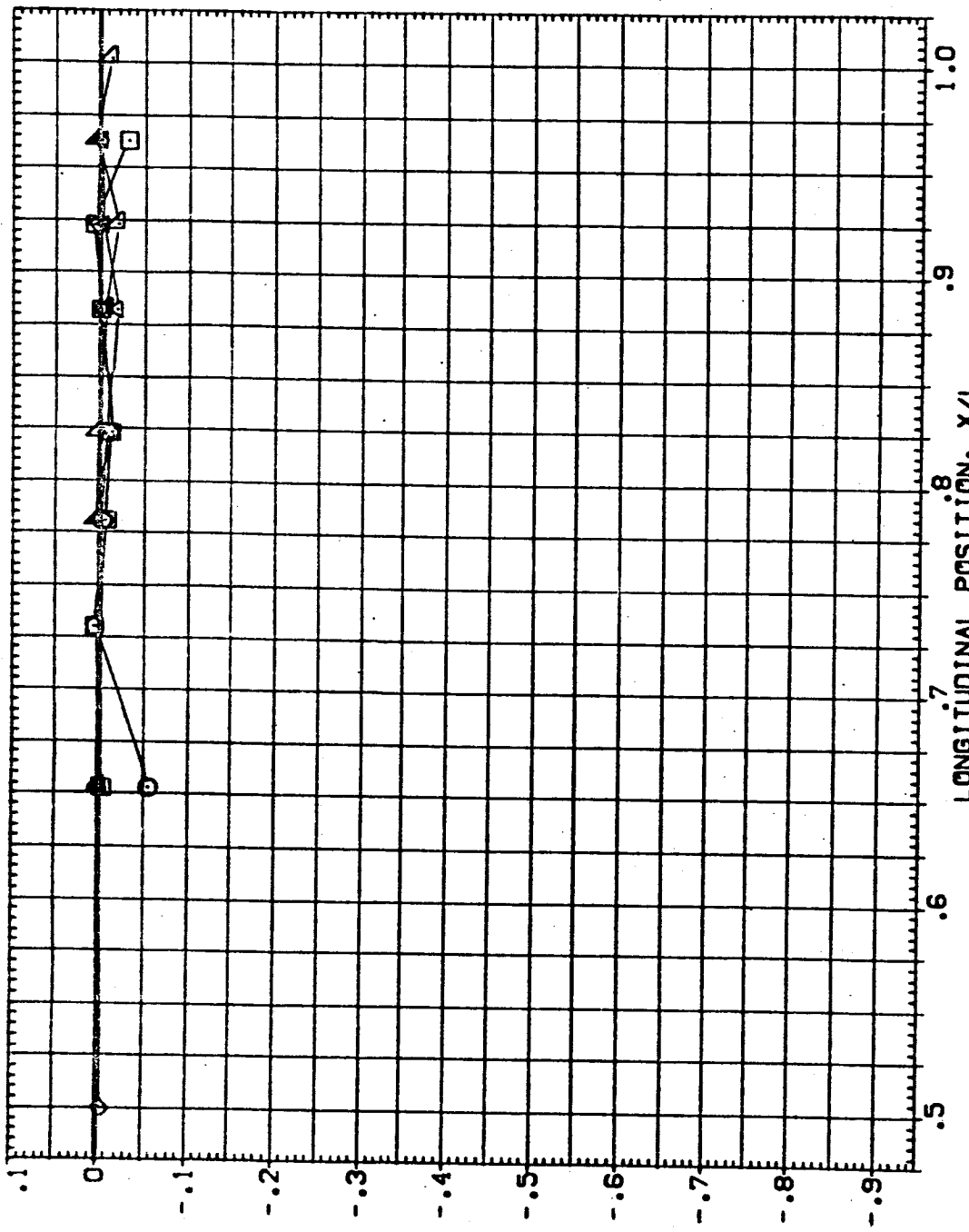


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (EEUB07)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

BETA .000 ALPHA 4.000

PHI 255.000
 270.000
 290.000
 320.000
 360.000

SYMBOL
 ○
 □
 ◇
 △

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

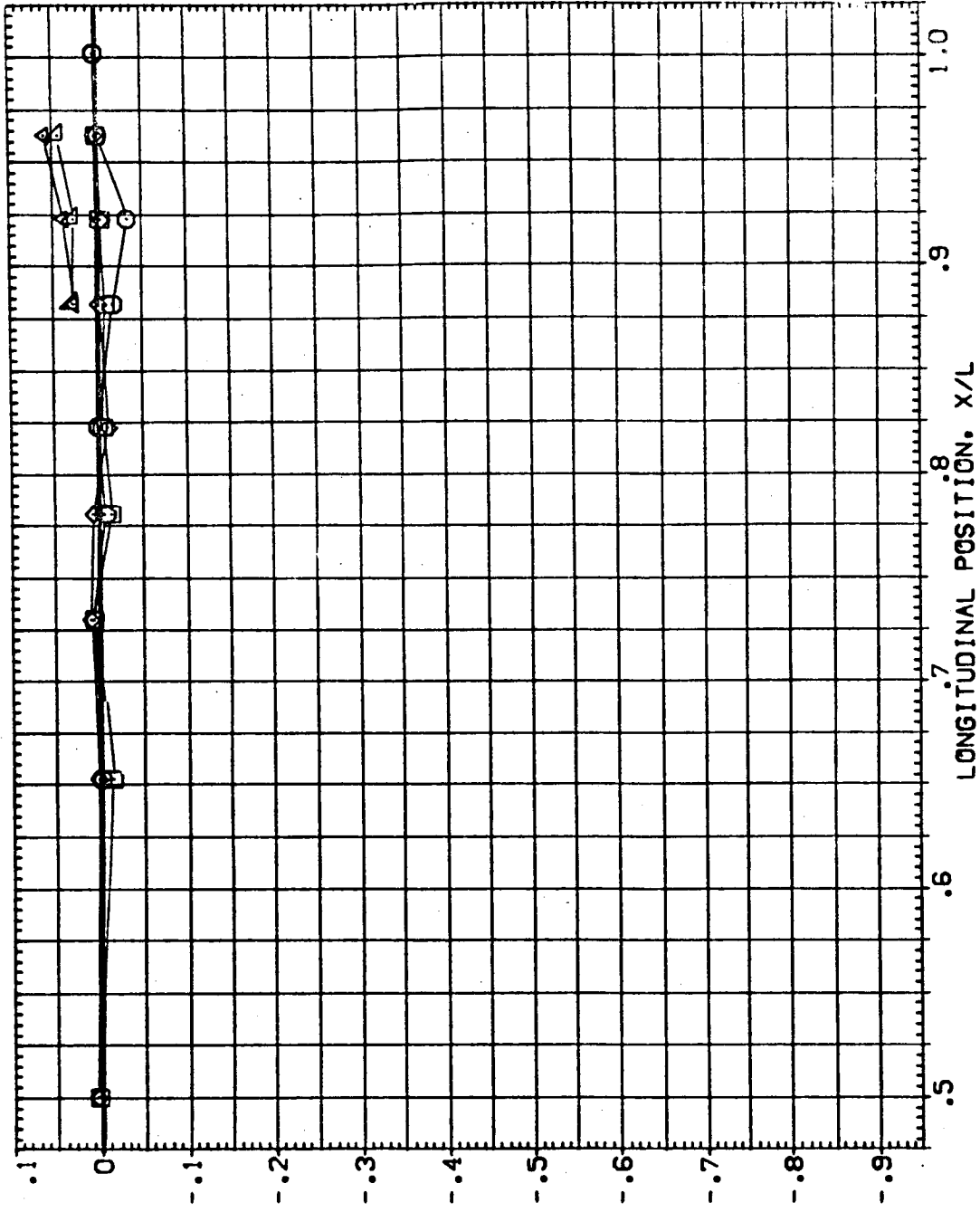


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (FEUB07)

PARAMETRIC VALUES
 ELV-19 8.000 ELV-OB 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

SYMBOL PHI BETA ALPHA
 ▽ 180.000 -4.000 .000
 ◊ 195.000
 ◻ 210.000
 ◊ 225.000
 ▽ 240.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

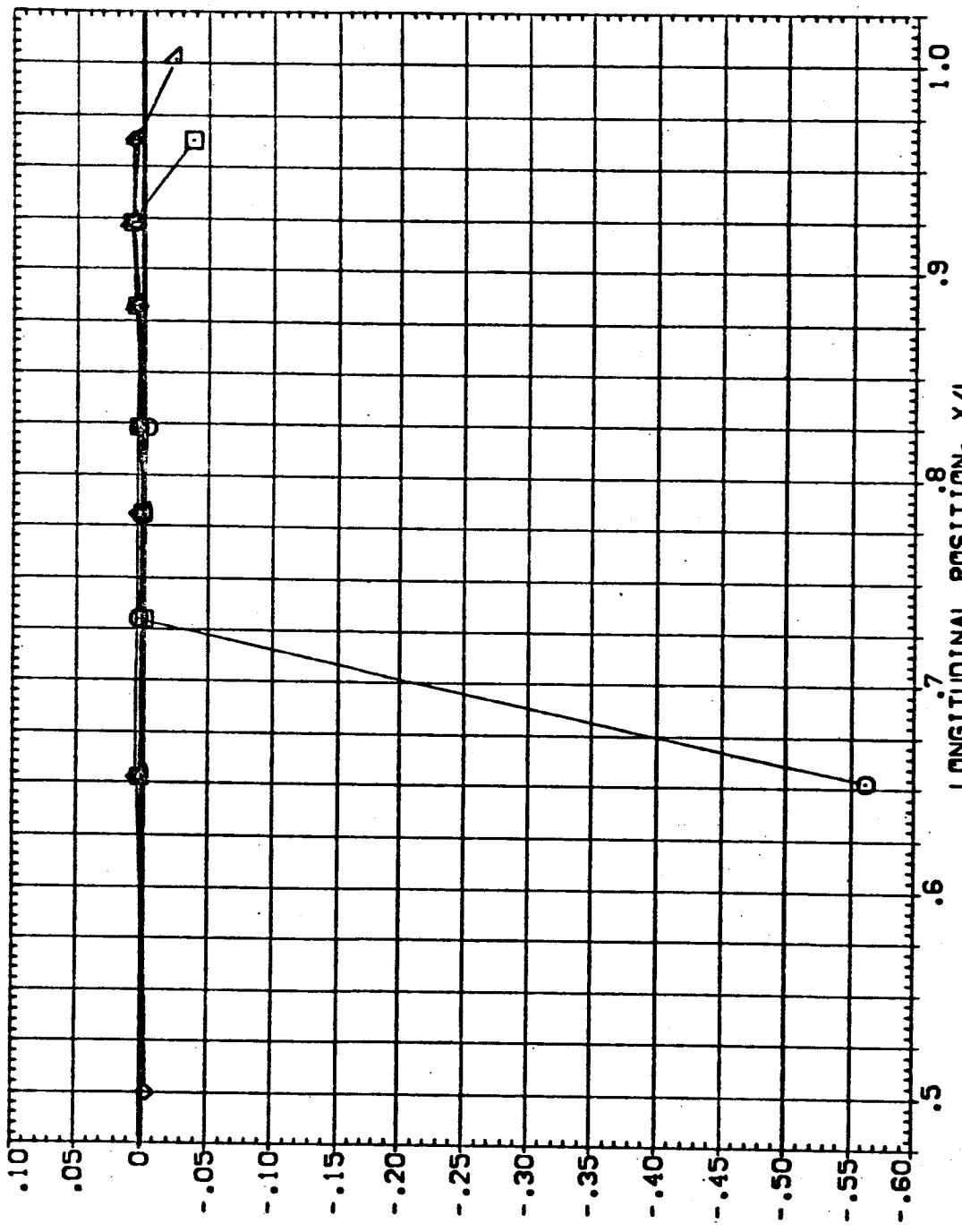


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (FEUB07)

PHI
256.000
270.000
290.000
320.000
360.000

BETA
-4.000

ALPHA
.000

ELV-18
RUDDER
GIMBAL

8.000
.000
1.000

ELV-09
MACH
4.000
1.250

Symbol
○
□
◇
△

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

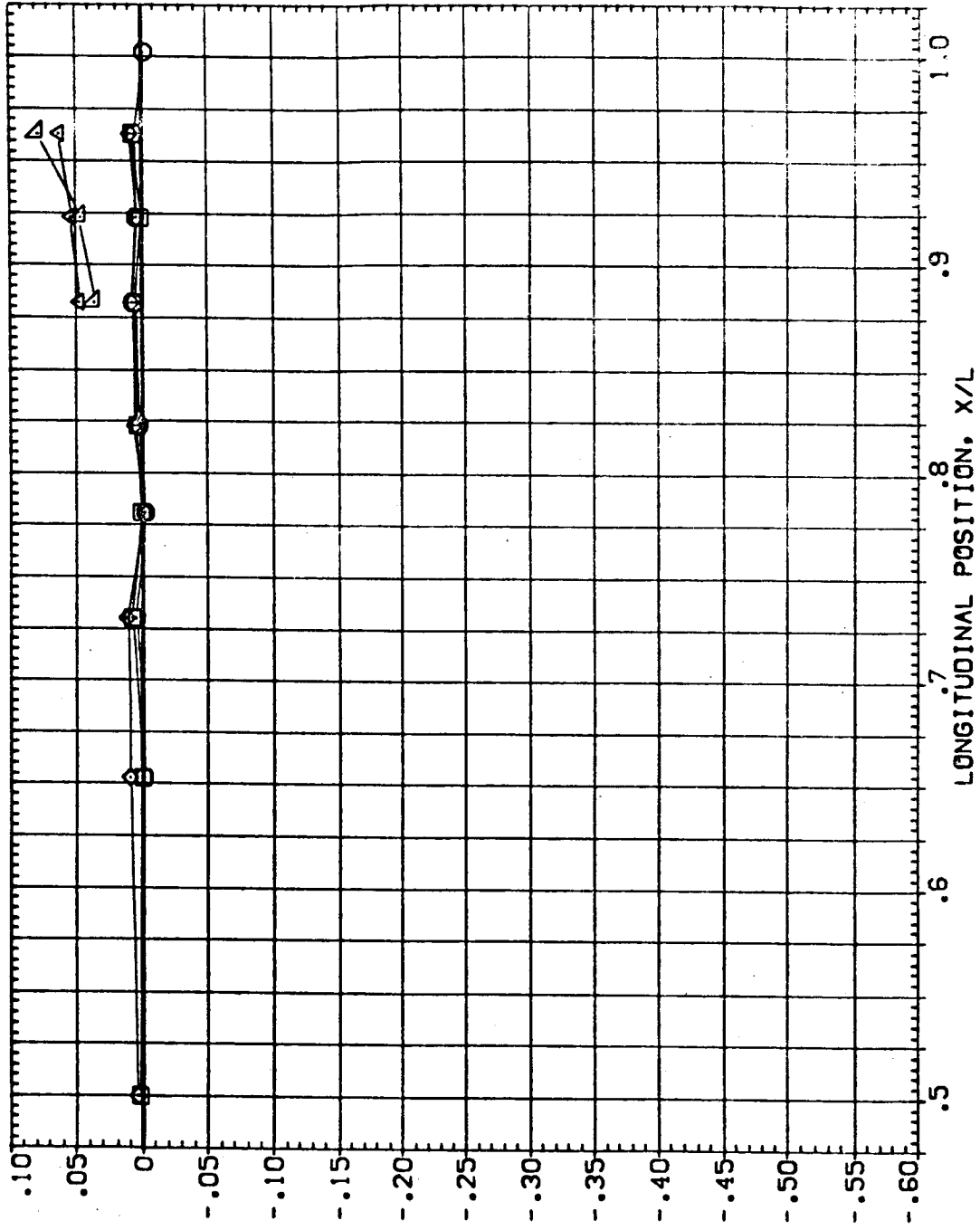


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (FEUB07)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

PHI BETA ALPHA
 180.000 4.000 .000
 195.000
 210.000
 225.000
 240.000

SYMBOL
 ▽ ◊ ◻ ◻ ◻ ◻

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

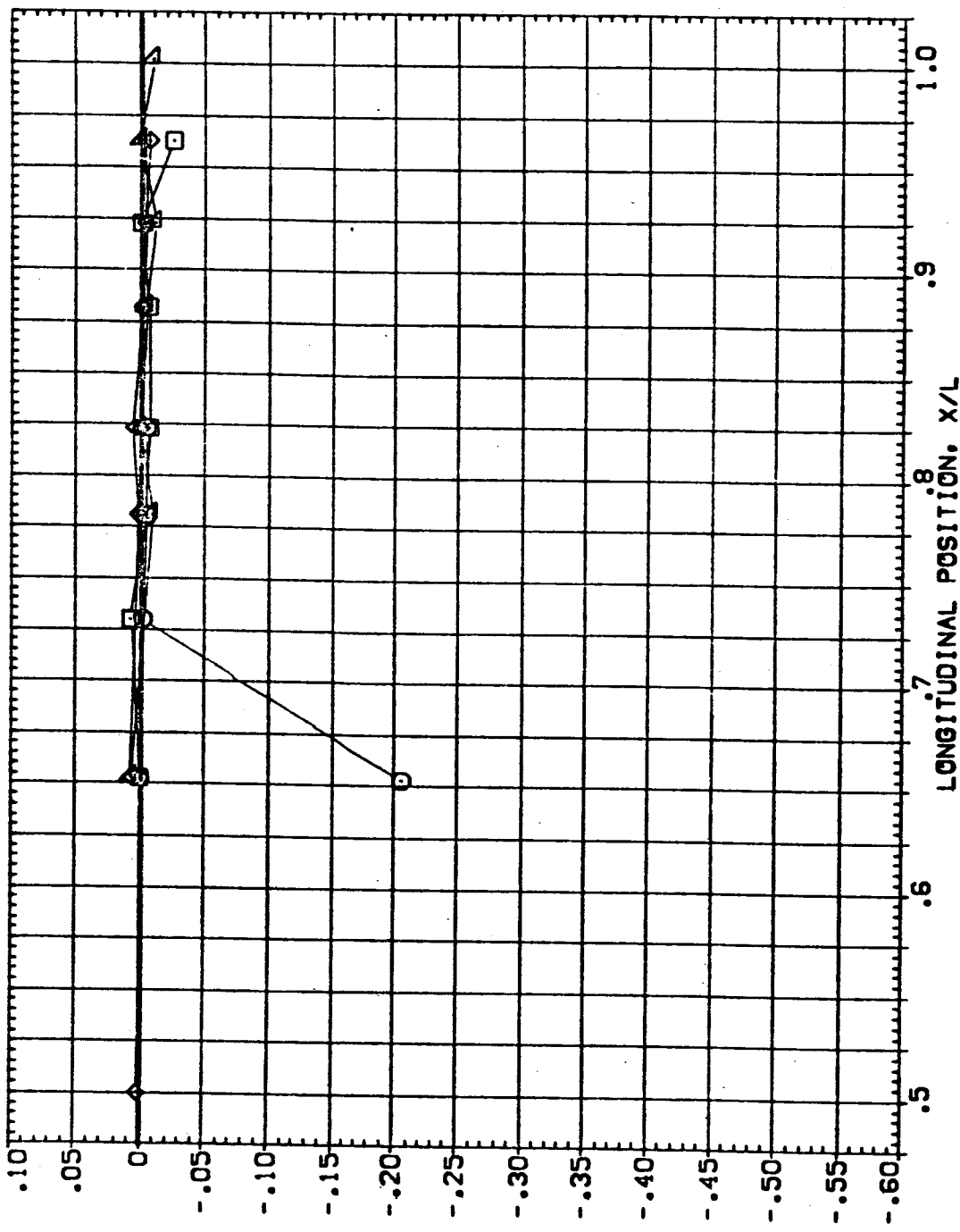


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (FEUB07)

SYMBOL		PARAMETRIC VALUES	
PHI	BETA	ELV-18	ELV-08
255,000	4,000	RUDDER	MACH
270,000	.000	GIMBAL	1,250
290,000			
320,000			
360,000			

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

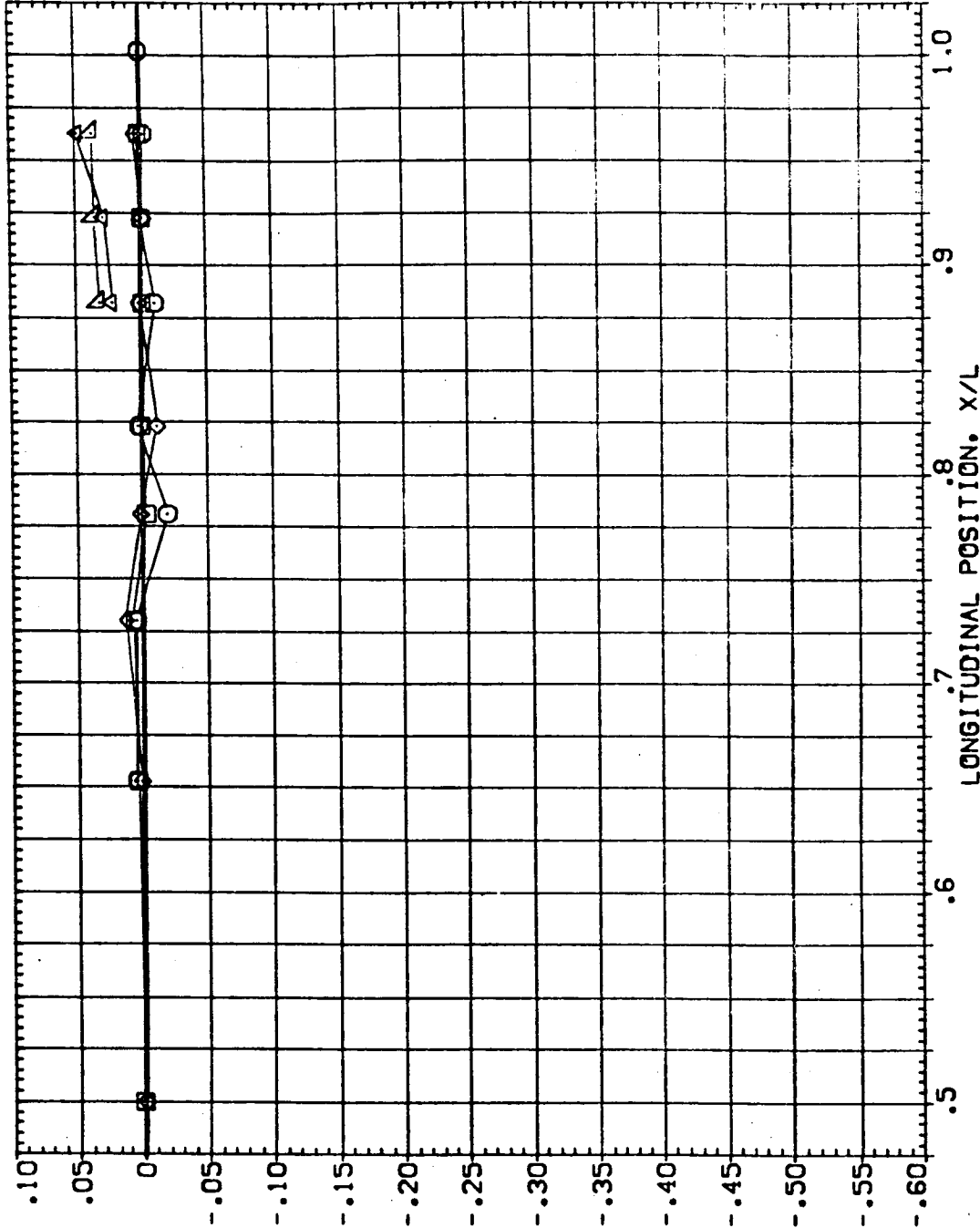


FIG. 91 ORBITER FUSELAGE DEL TA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (EEUB08)

PHI 180.000
 195.000
 210.000
 225.000
 240.000

BETA .000

ALPHA -1.000

ELV-18
 RUDDER
 GIMBAL

PARAMETRIC VALUES
 8.000 ELV-08
 .000 MACH
 1.000
 4.000
 1.400

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

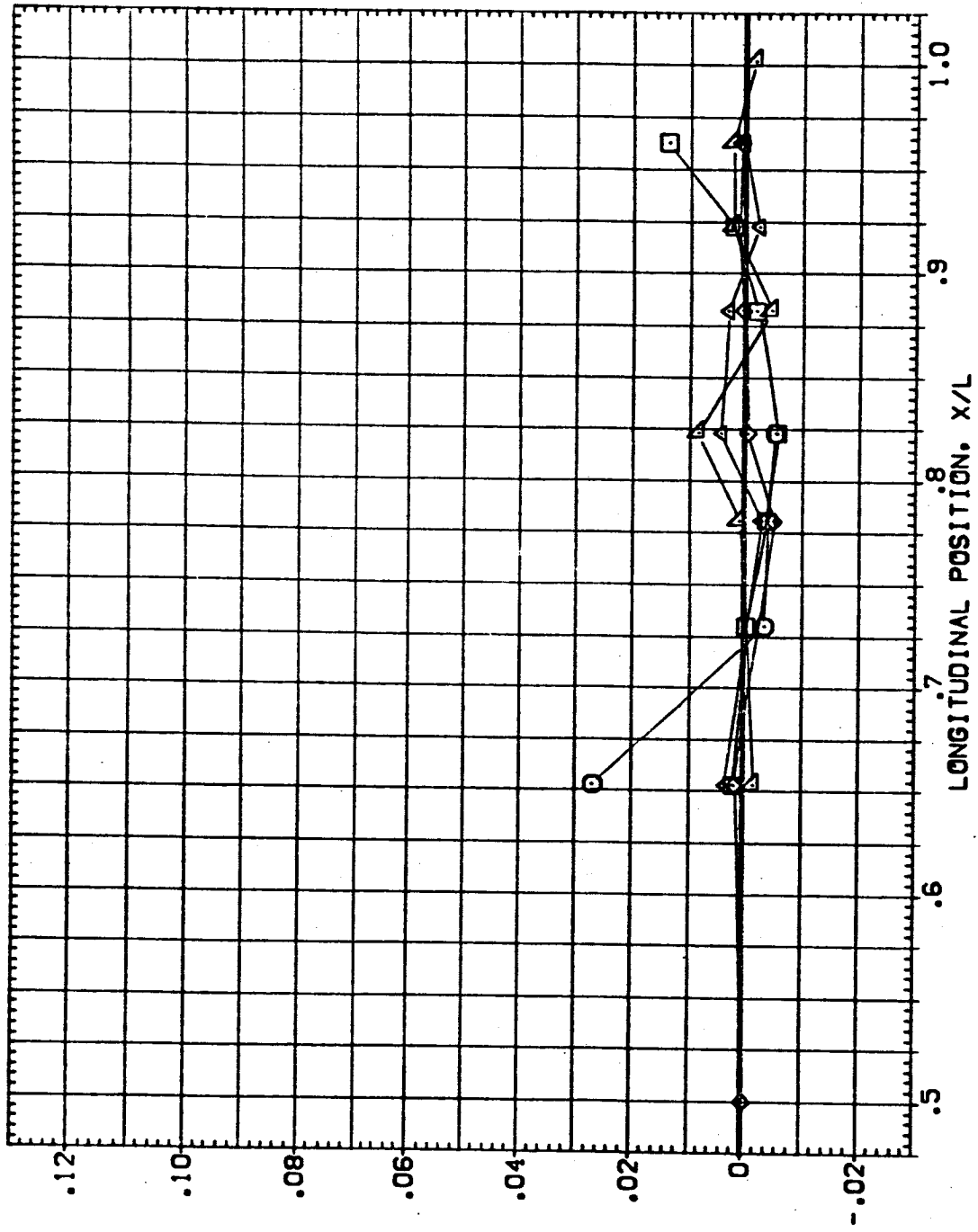


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (EEUB08)

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-OB 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

BETA .000 ALPHA -4.000

PHI 255.000
 270.000
 290.000
 320.000
 360.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

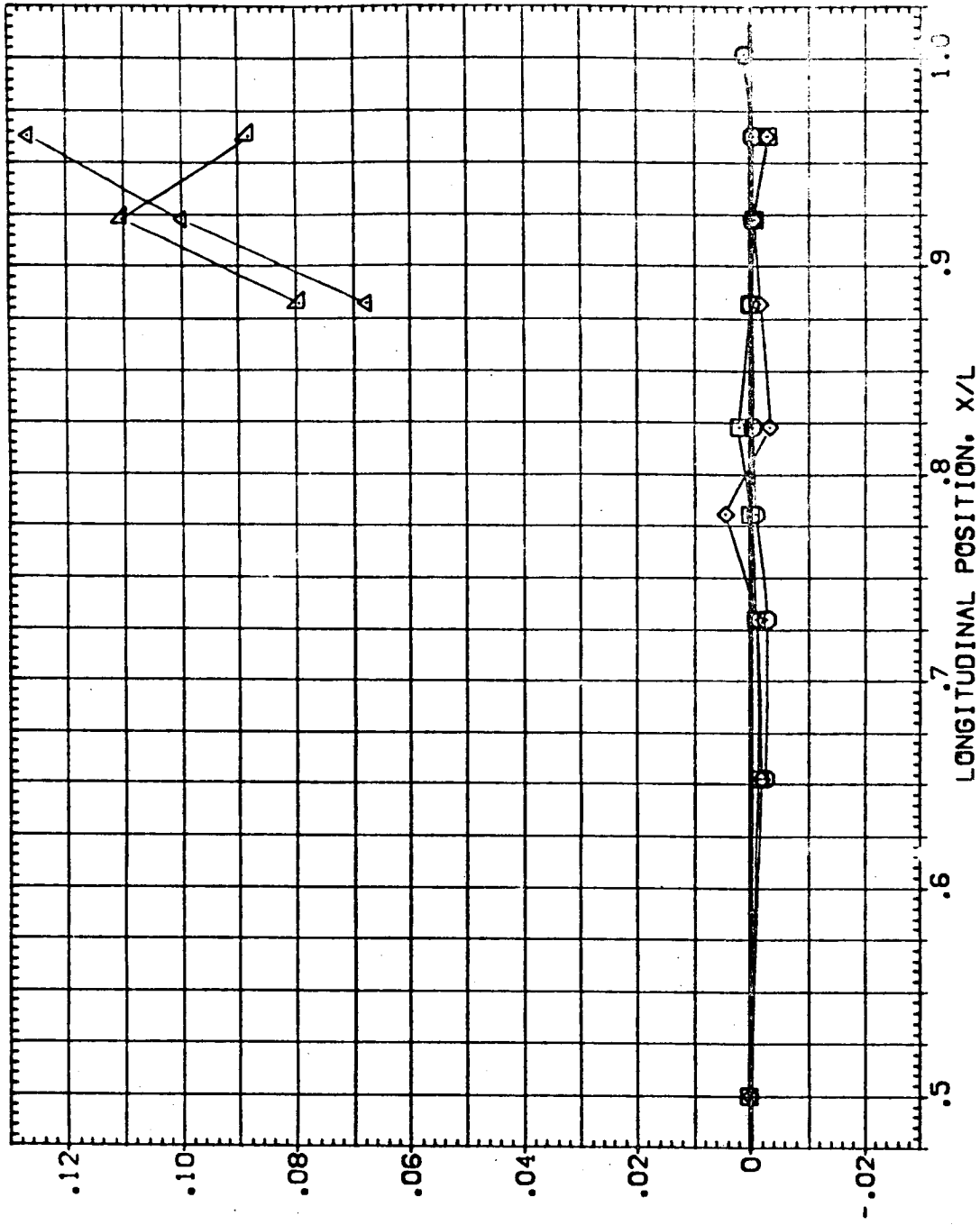


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (EEUB08)

SYMBOL PHI BETA ALPHA

▽ 180.000 .000 .000

◇ 195.000

□ 210.000

△ 225.000

 240.000

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000

RUDDER .000 MACH 1.400

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

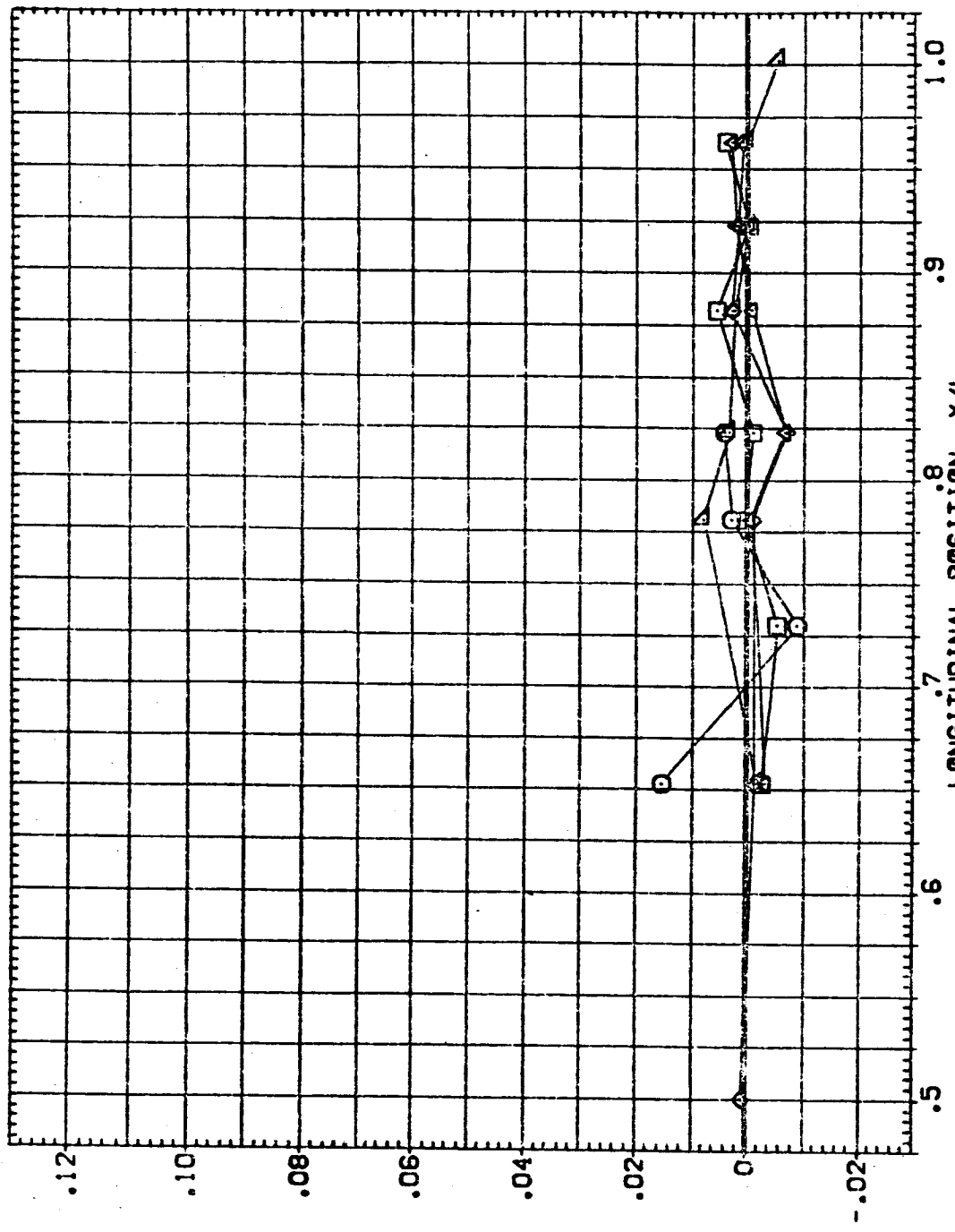


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (EEUB08)

SYMBOL
 ▽ 255.000
 ○ 270.000
 □ 290.000
 ◇ 320.000
 △ 360.000

BETA .000
 ALPHA .000

ELV-18
 RUDDER
 GIMBAL

PARAMETRIC VALUES
 8.000 ELV-08 4.000
 .000 MACH 1.400
 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

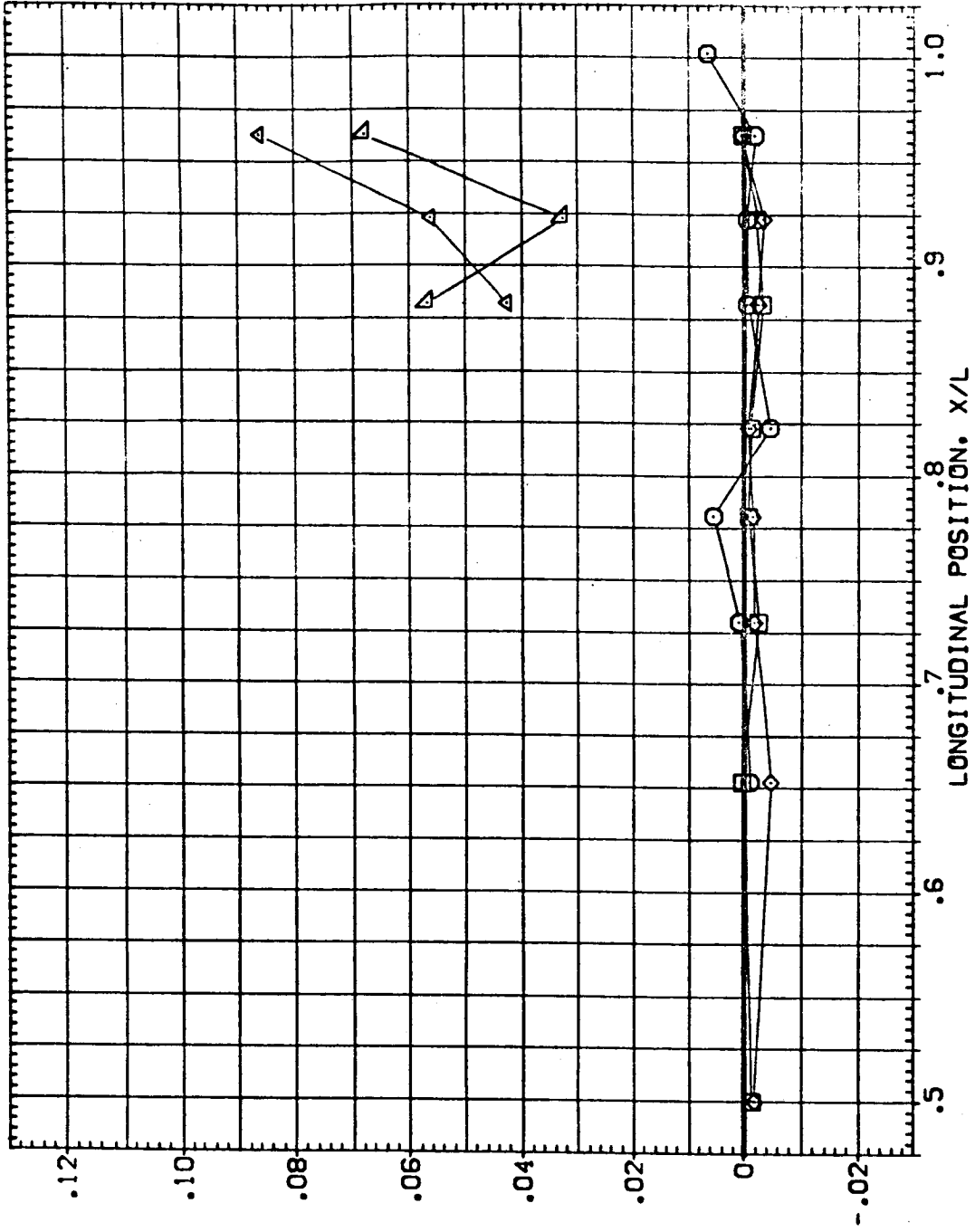


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (EEUB08)

PARAMETRIC VALUES
 ELV-18 9.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

SYMBOL PHI BETA ALPHA
 180.000 .000 4.000
 195.000
 210.000
 225.000
 240.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

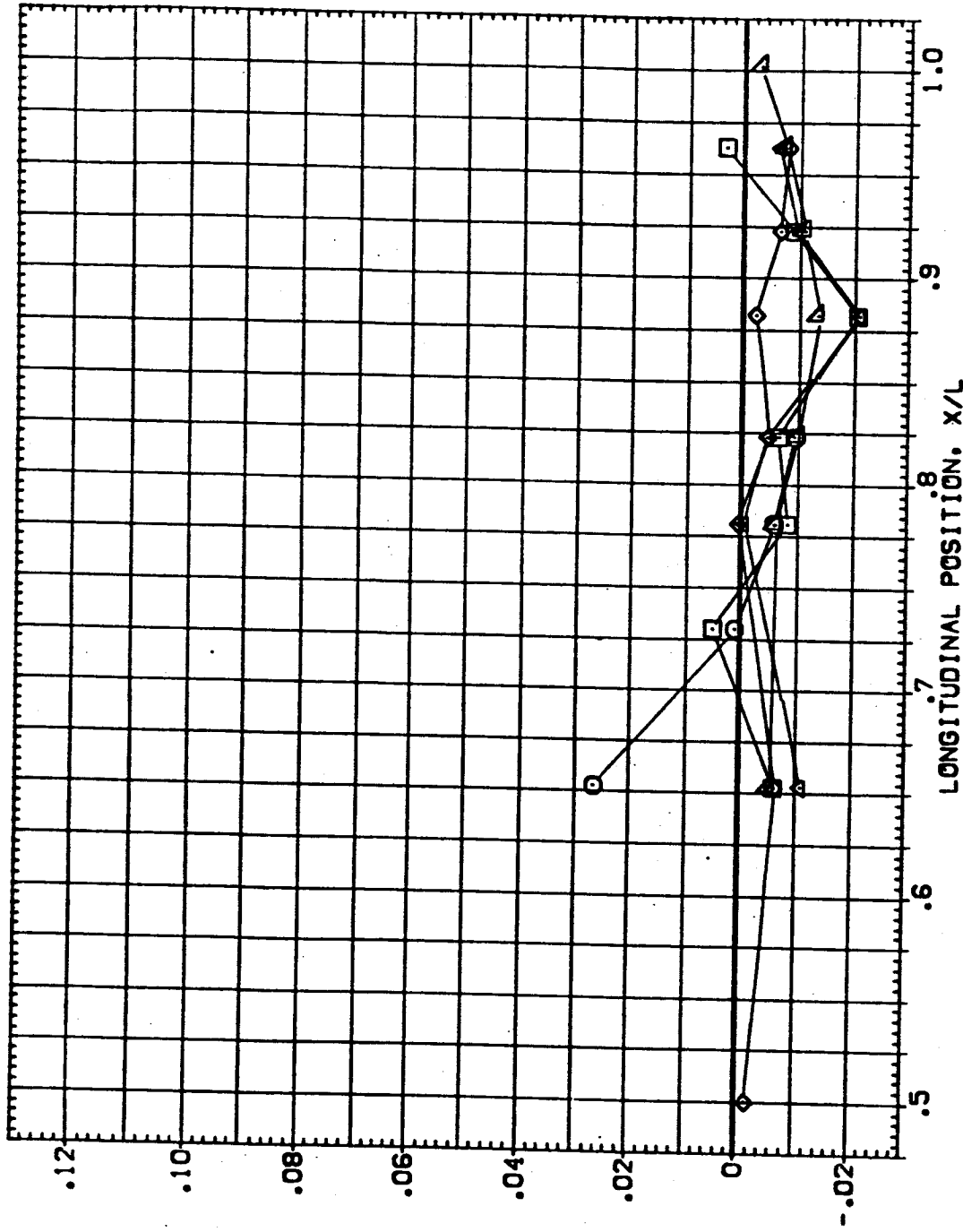


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (EEUB08)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

BETA .000 ALPHA 4.000

PHI 255.000
 270.000
 290.000
 320.000
 360.000

SYMBOL
 ○ □ ◇ △ ▽

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

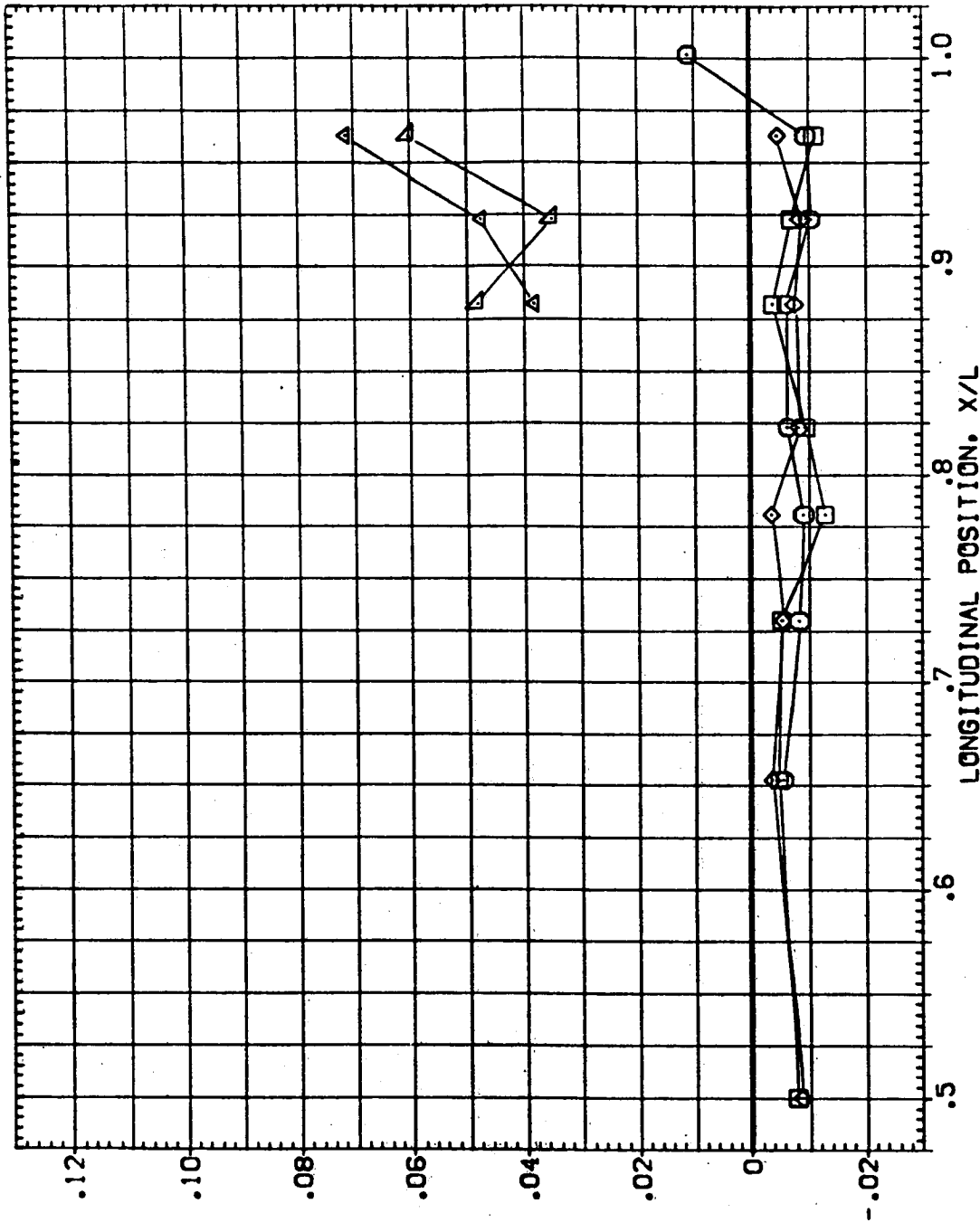


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (FEUB08)

PHI 180.000
 195.000
 210.000
 225.000
 240.000

BETA -1.000

ALPHA .000

ELV-18
 RUDDER
 GIMBAL

PARAMETRIC VALUES
 8.000
 .000
 1.000

ELV-08
 MACH
 4.000
 1.400

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

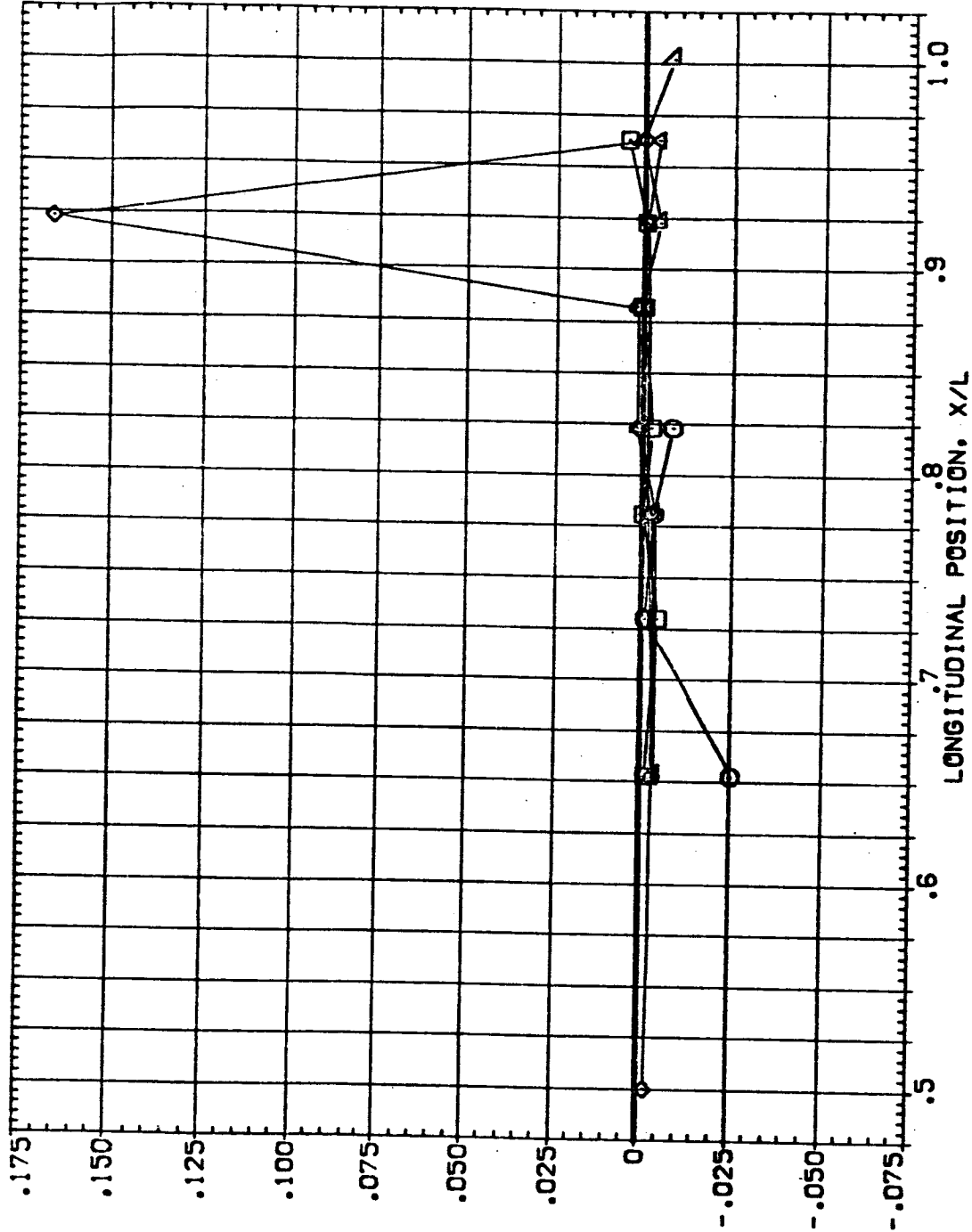


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (FEUB08)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

PHI BETA ALPHA
 255.000 -4.000 .000
 270.000
 290.000
 320.000
 360.000

SYMBOL
 ○ □ ◇ △ ▽

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

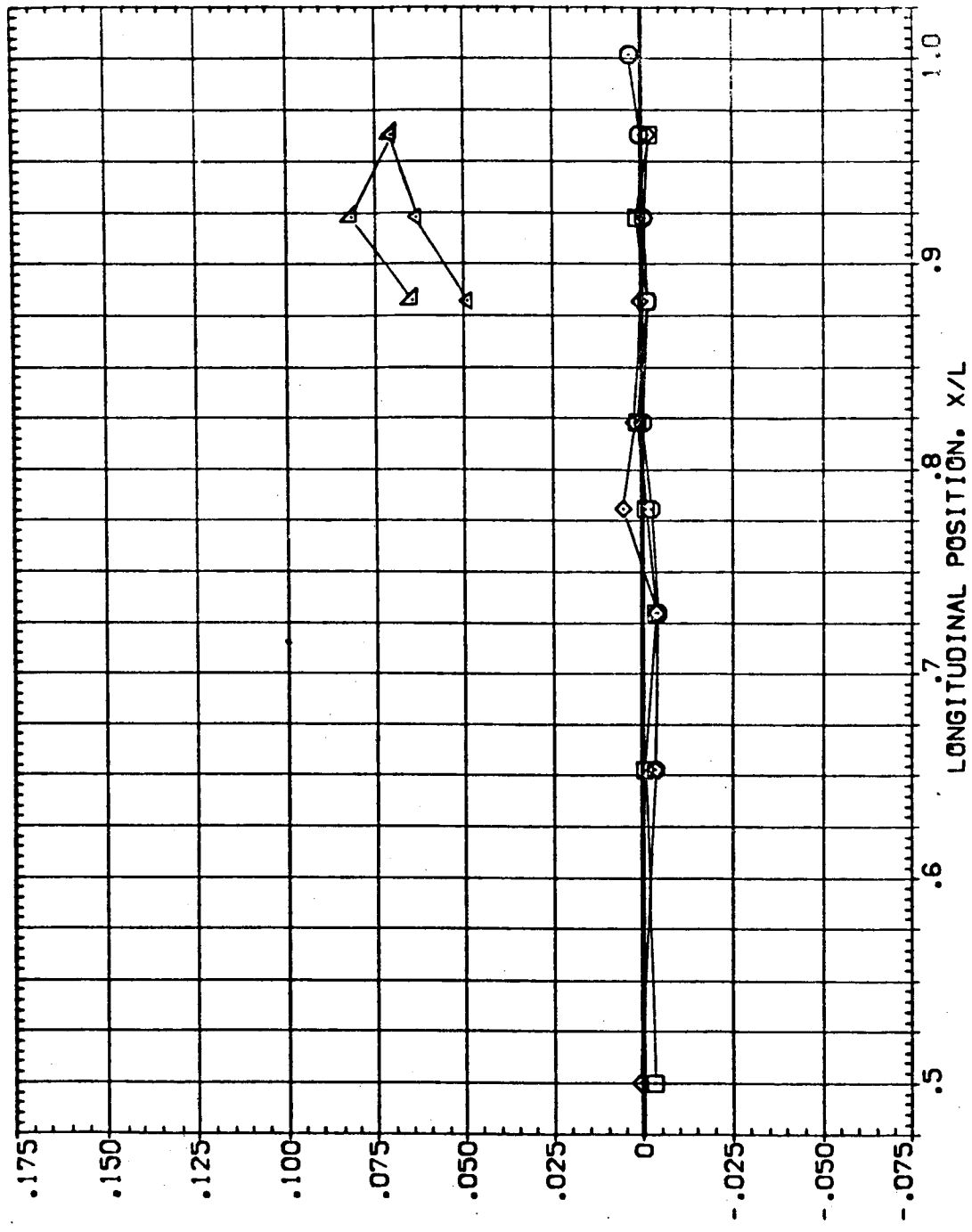
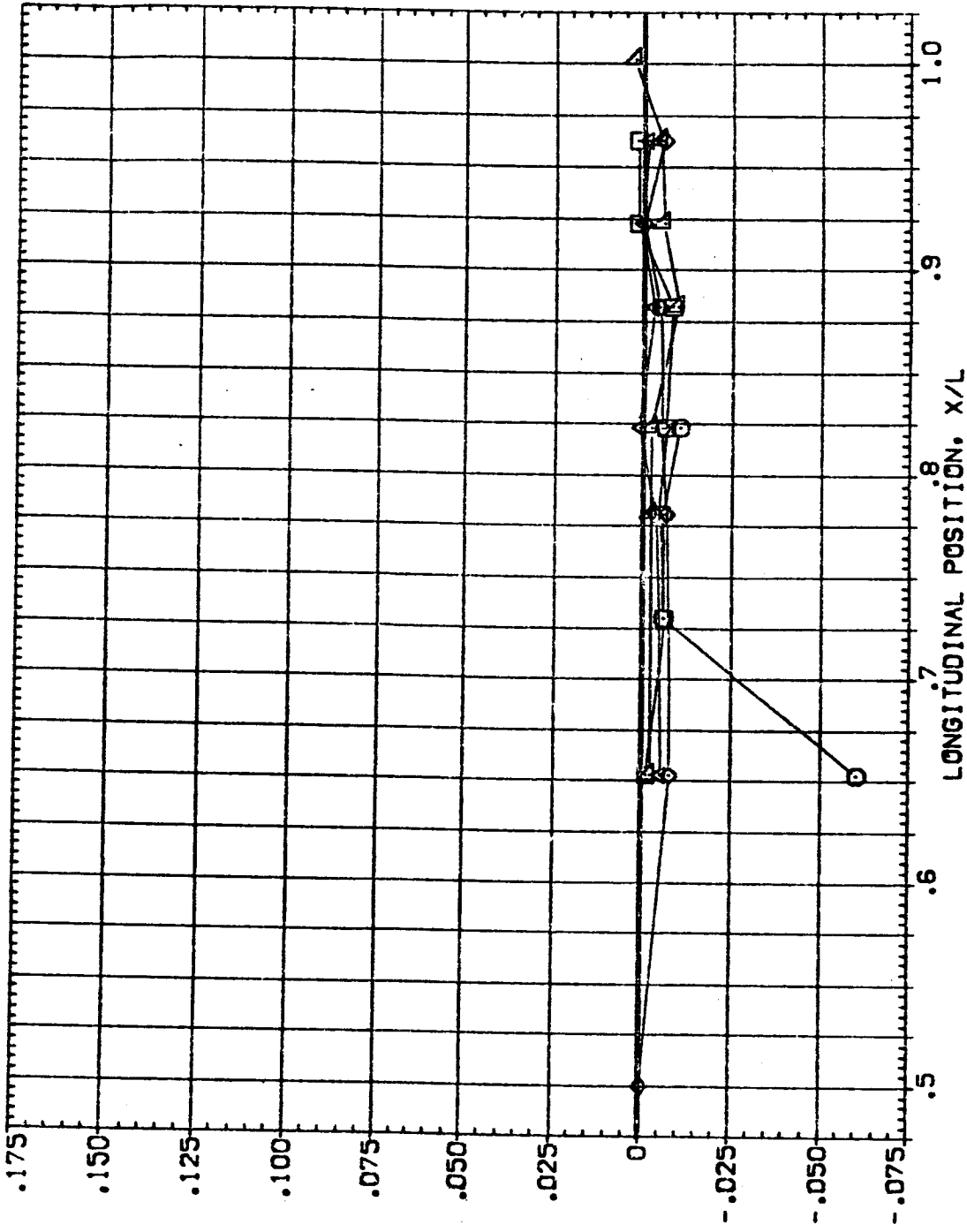


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (FEUB08)

SYMBOL	PMI	BETA	ALPHA	ELV-18	PARAMETRIC VALUES
▽	180.000	1.000	.000	RUDER	8.000
◇	195.000			GIMBAL	.000
□	210.000				1.000
○	225.000				4.000
	240.000				1.400



INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (FEUB08)

PHI 255,000
 270,000
 290,000
 320,000
 360,000

BETA 4,000

ALPHA .000

ELV-18
 RUDDER
 GIMBAL

8,000
 .000
 1,000

ELV-08
 MACH
 4,000
 1,400

SYMBOL
 □
 ○
 ◇
 △

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

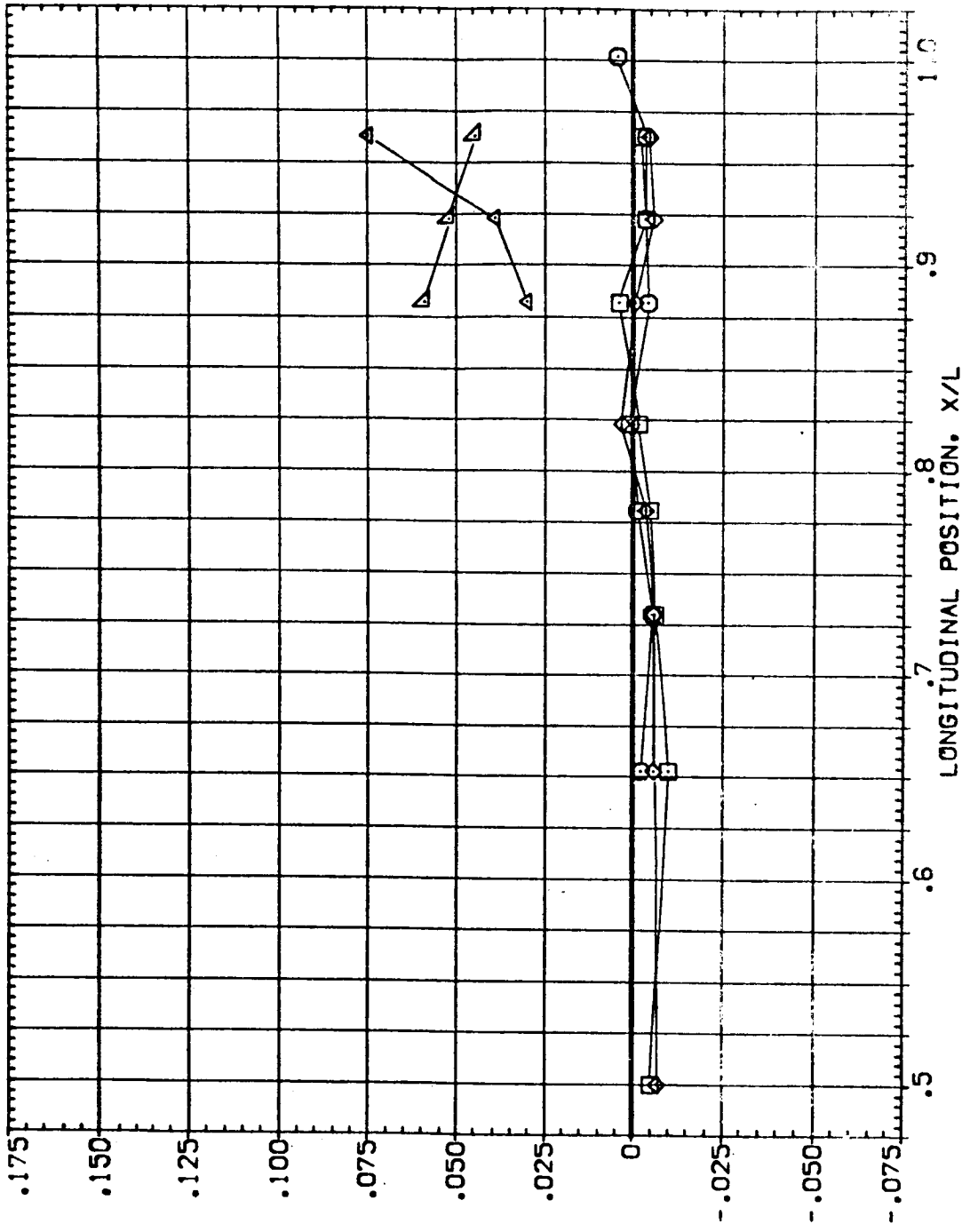


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (EEUB13)

PARAMETRIC VALUES
 ELV-18 9.000 ELV-08 1.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

PHI 180.000 BETA .000 ALPHA -4.000

195.000
 210.000
 225.000
 240.000

SYMBOL
 ○ □ △ ◇ ▽

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

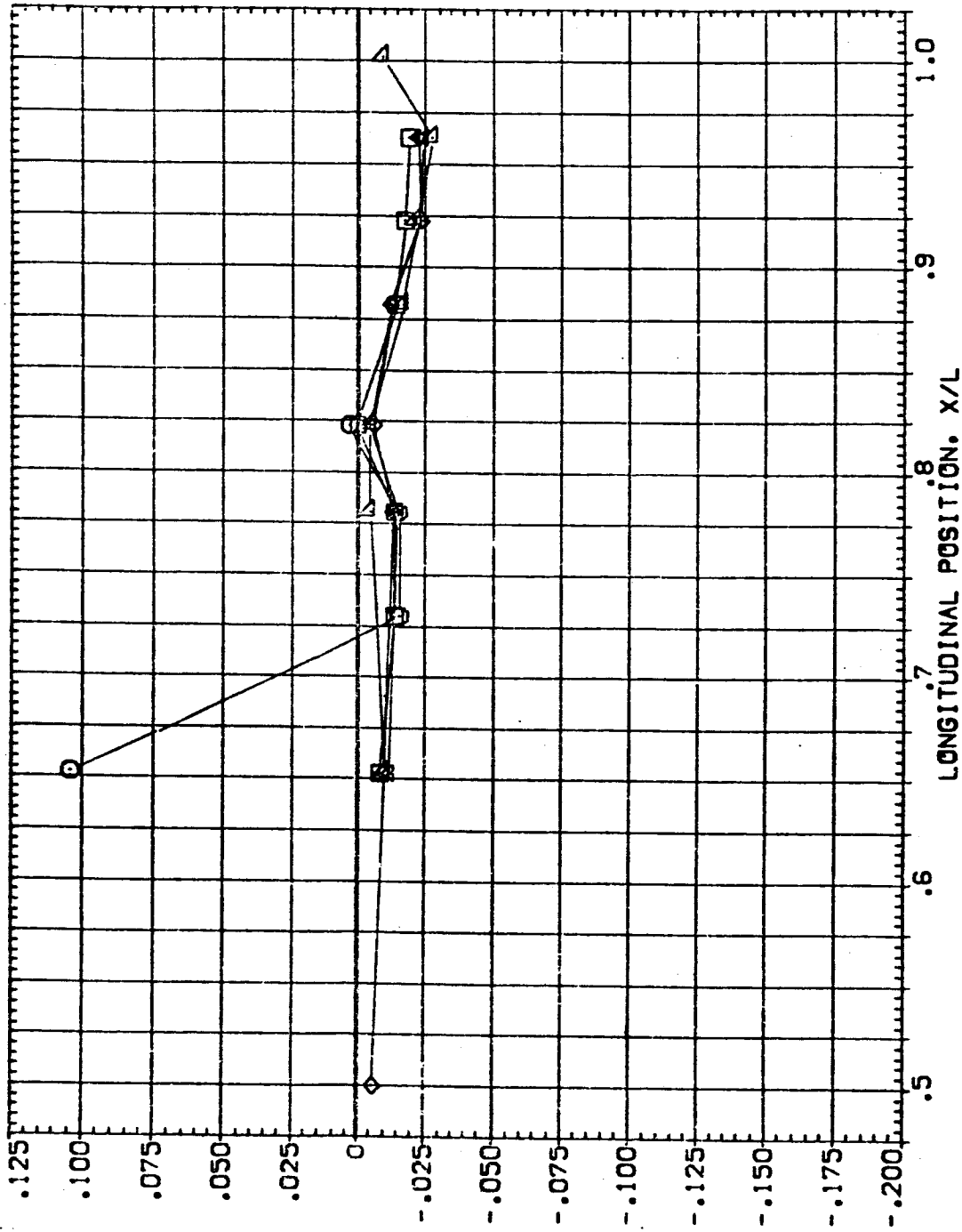


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (EEUB13)

PHI 255.000
 270.000
 290.000
 320.000
 360.000

BETA .000

ALPHA -4.000

ELV-19
 RUDDER
 GIMBAL

8.000
 .000
 1.000

PARAMETRIC VALUES
 ELV-08 4.000
 MACH .900

SYMBOL
 ○
 □
 ◇
 △
 ▽

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

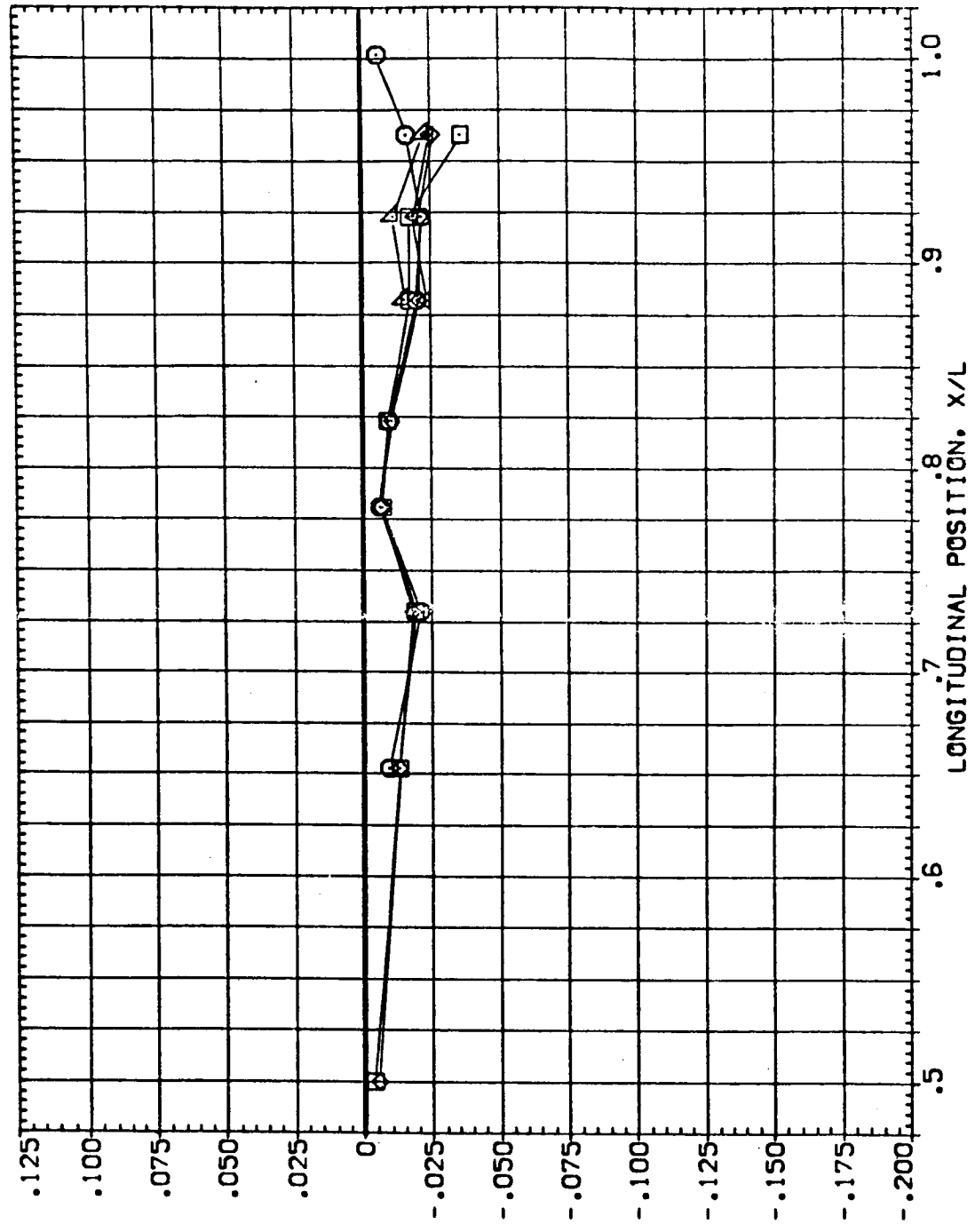


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (EEUB13)

PHI	BETA	ALPHA	ELV-OB	ELV-OB
180.000	.000	.000	0.000	4.000
195.000			.000	.900
210.000			1.000	
225.000				
240.000				

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

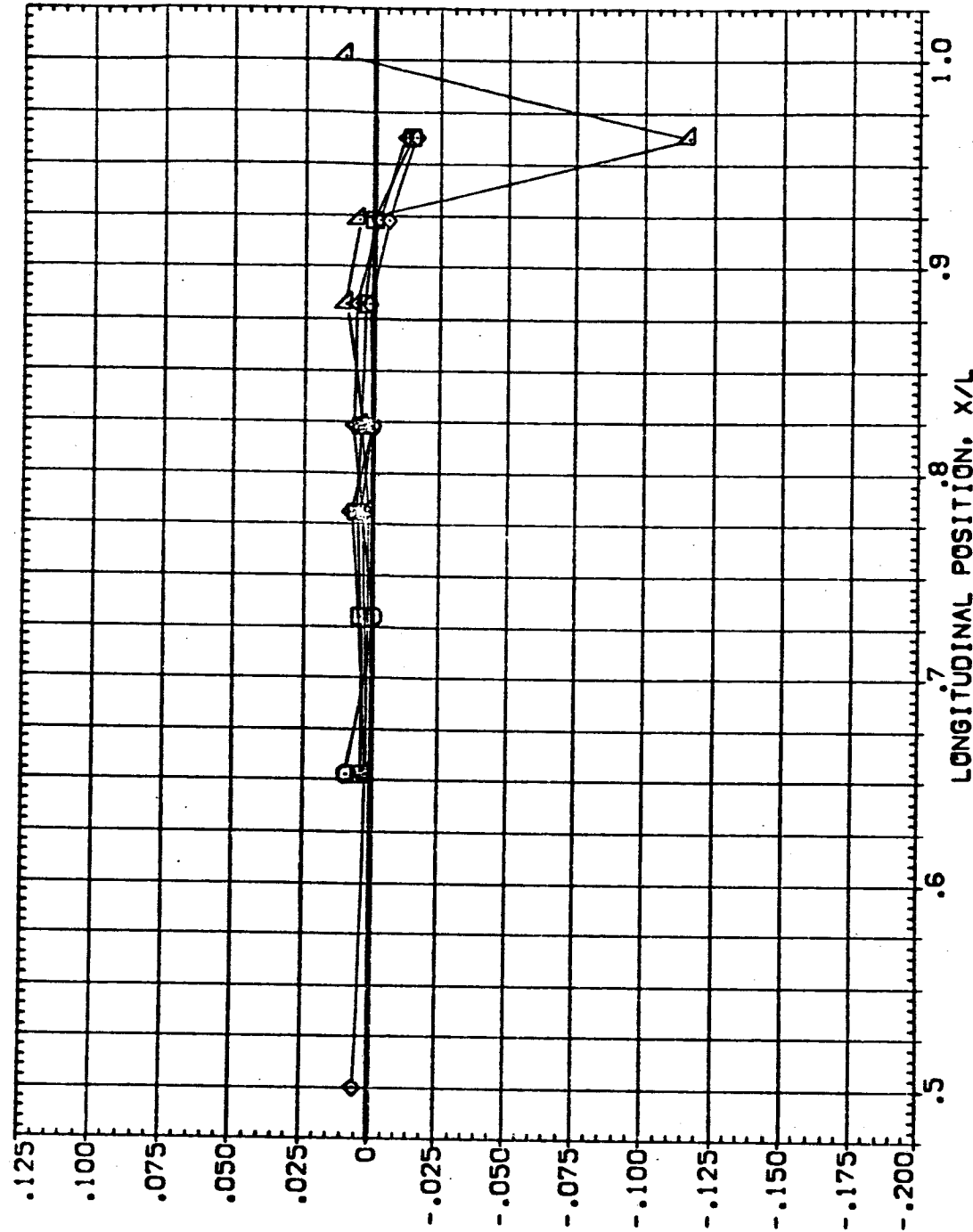


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

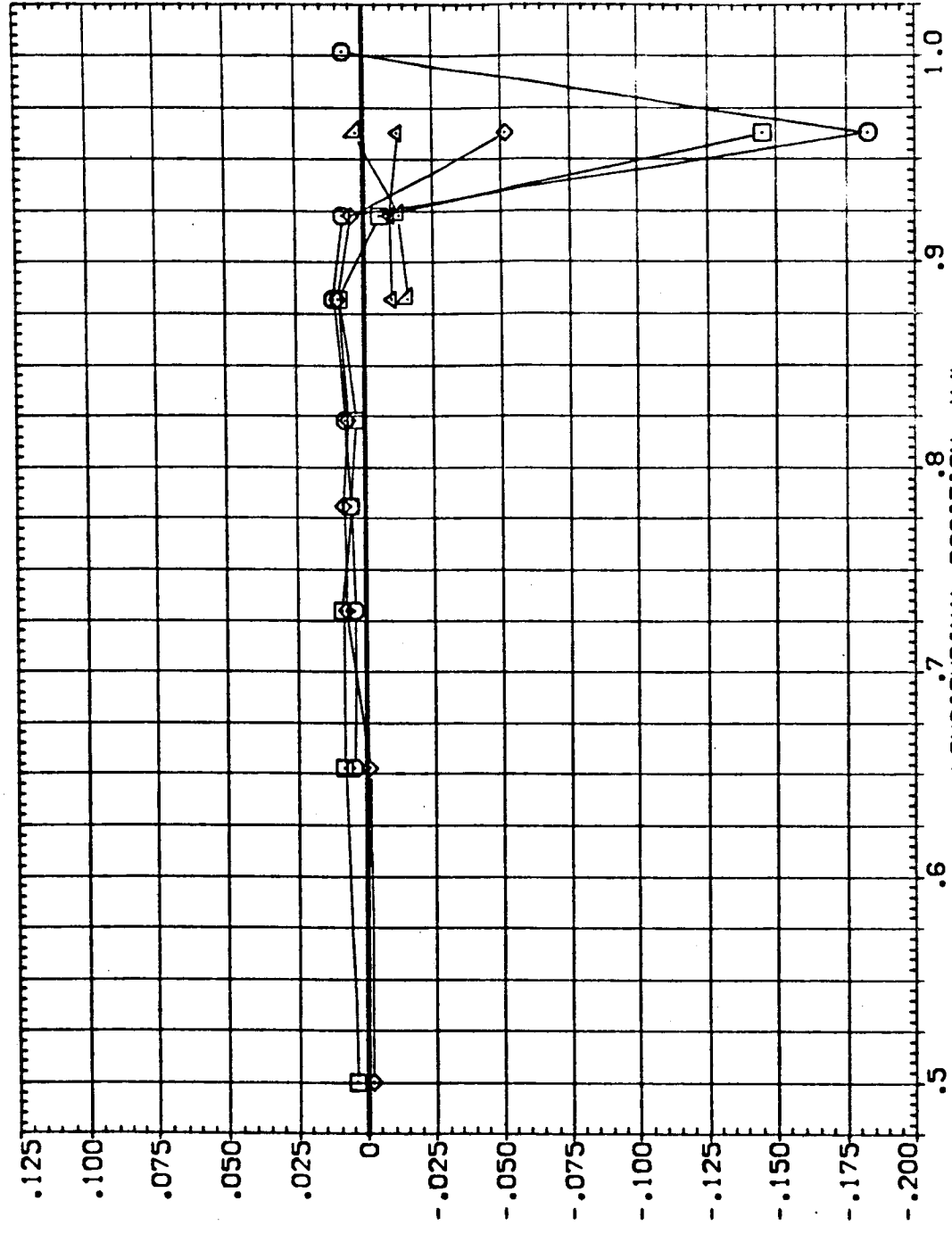
ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (EEUB13)

PARAMETRIC VALUES
 ELV-18 9.000 ELV-08 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

PHI .000 ALPHA .000
 255.000
 270.000
 290.000
 320.000
 360.000

SYMBOL
 ○
 □
 ◇
 △

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP



LONGITUDINAL POSITION, X/L

FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (EEUB13)

SYMBOL PHI BETA ALPHA

□ 180.000 .000 4.000

◇ 195.000

△ 210.000

○ 225.000

▽ 240.000

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000

RUDDER .000 MACH

GIMBAL 1.000

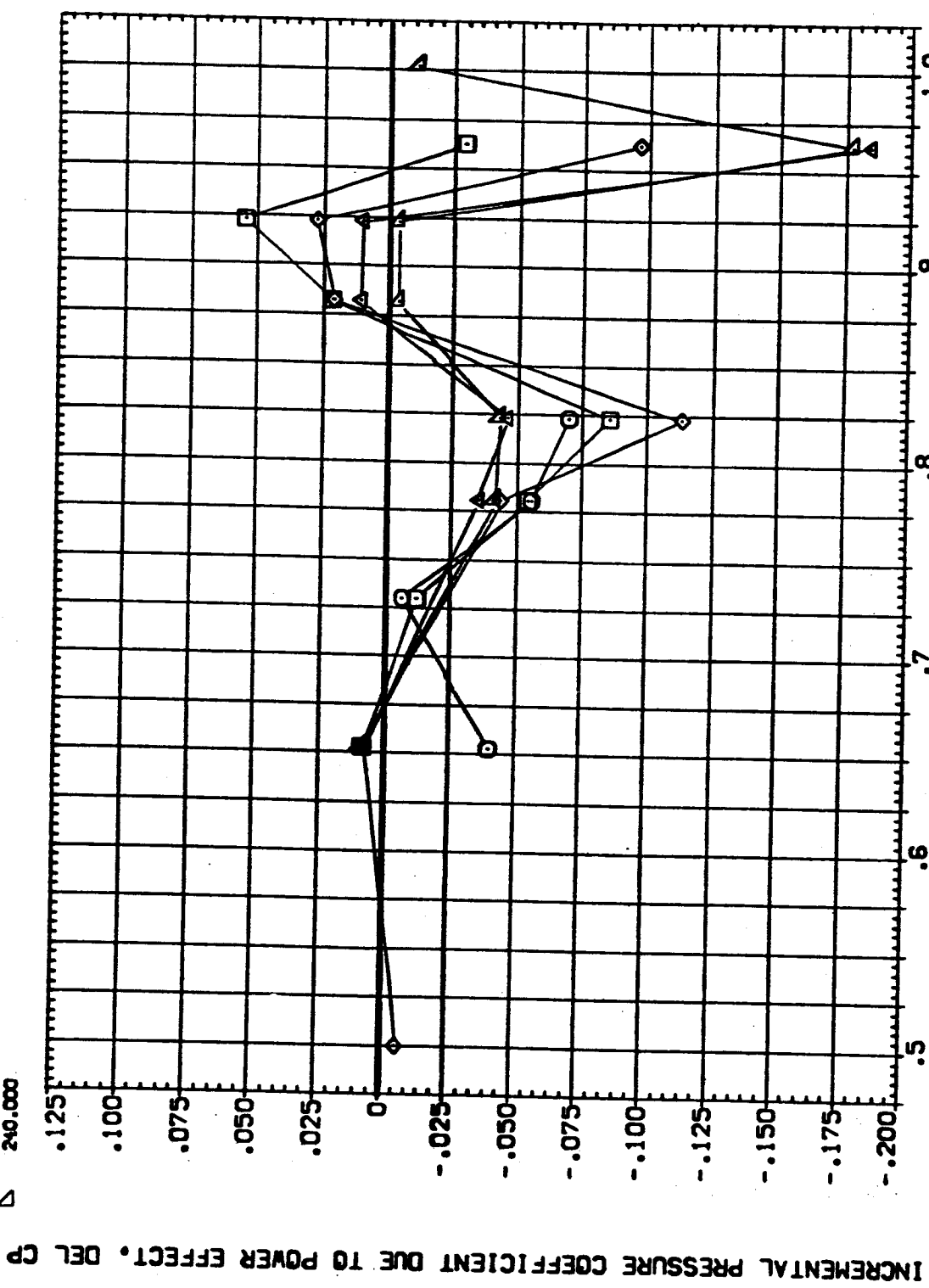


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ANALYSIS OF ORBITER BODY (EEUB13)

PHI	BETA	ALPHA	ELV-18	ELV-09
255,000	.000	4.000	8,000	4,000
270,000			RUDER	MACH
290,000			618AL	1.000
320,000				
360,000				

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

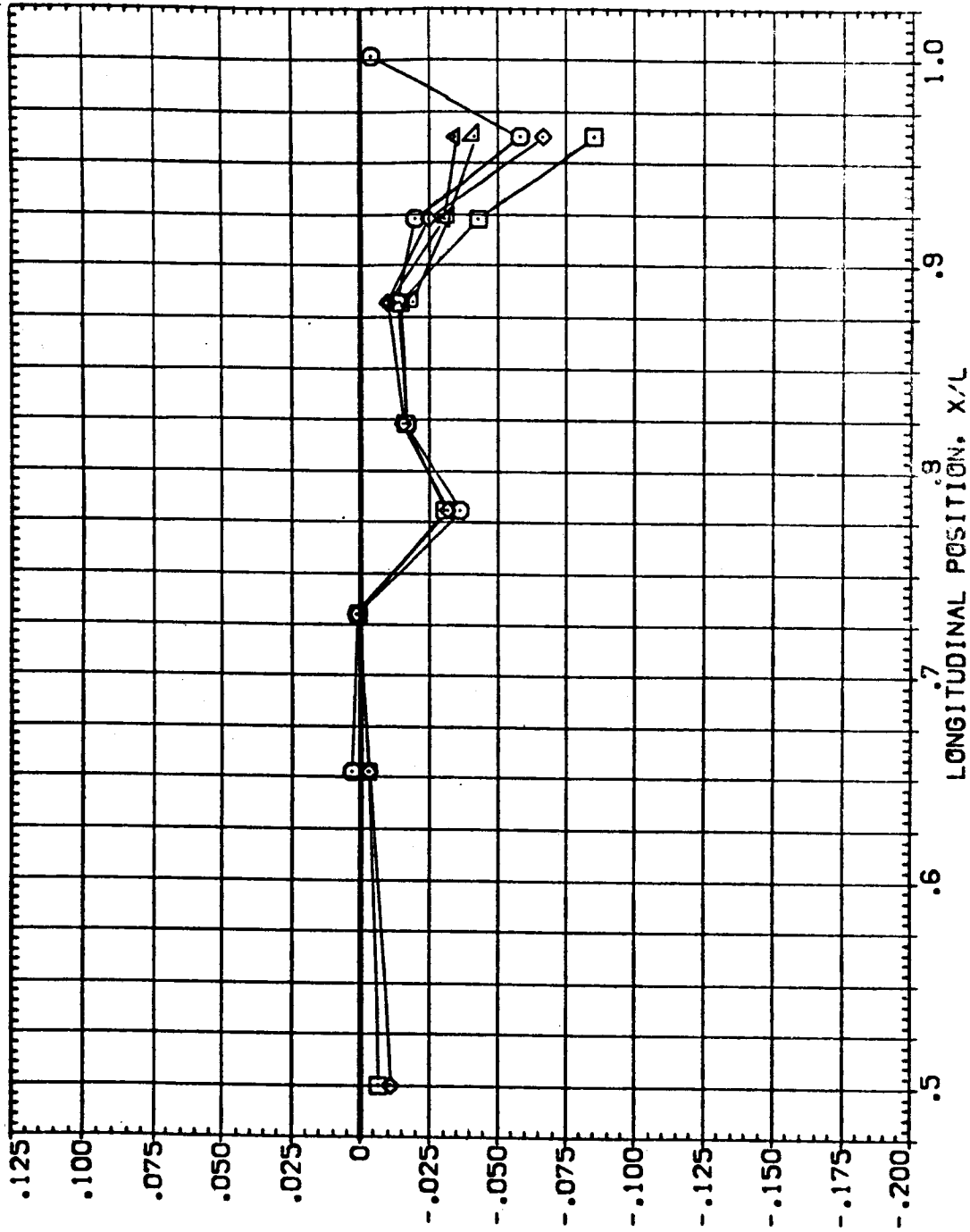
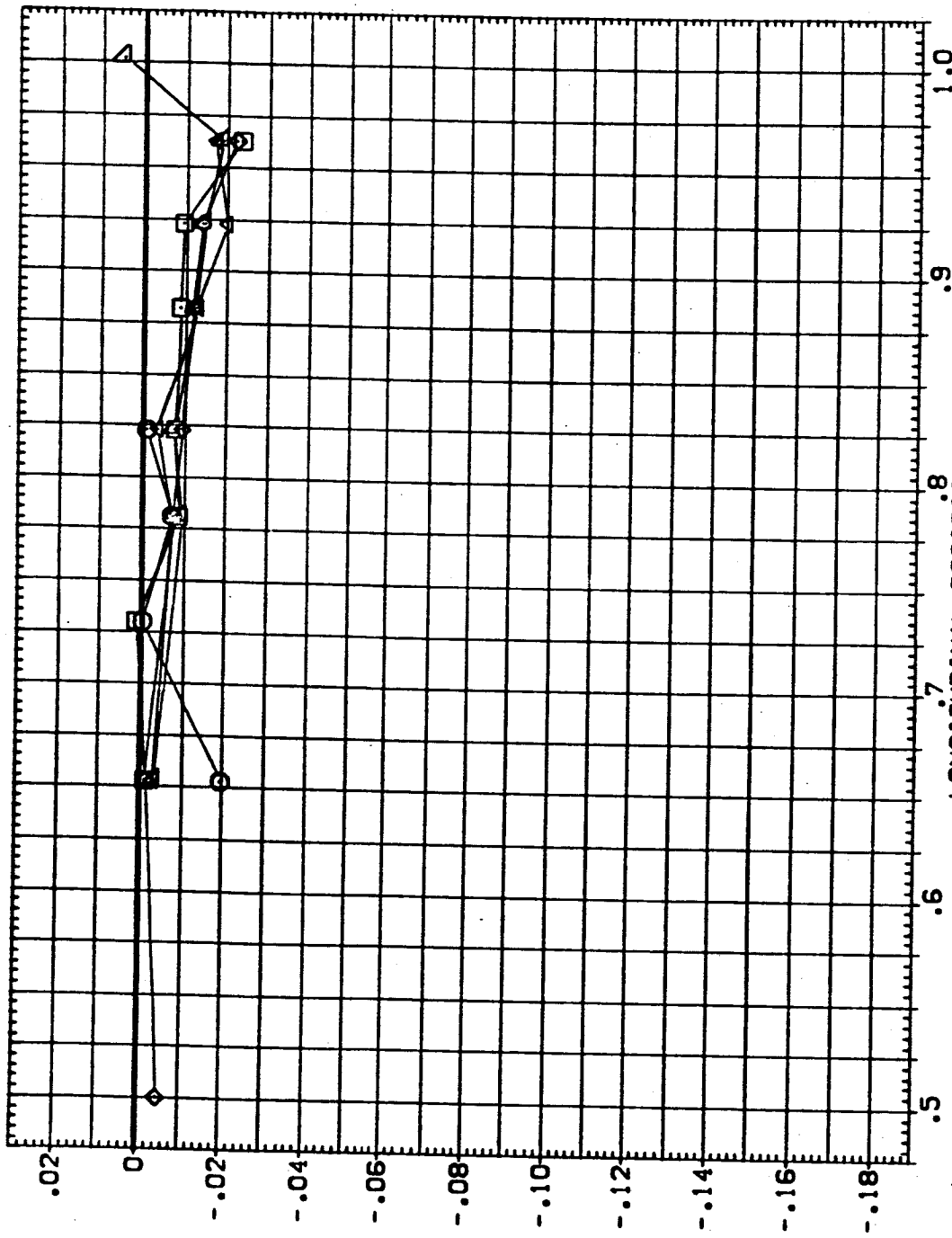


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (FEUB13)

SYMBOL	PHI	BETA	ALPHA	ELV-18	ELV-08
○	160,000	-4,000	.000	RUDER	MACH
□	195,000			GIMBAL	
◇	210,000				
△	225,000				
▽	240,000				



INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (FEUB13)

PHI	BETA	ALPHA	ELV-1B	ELV-0B
255.000	-4.000	.000	RUDDER	MACH
270.000			GIMBAL	
290.000				
320.000				
360.000				

PARAMETRIC VALUES
 8.000 1.000 4.000
 .000 .900

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

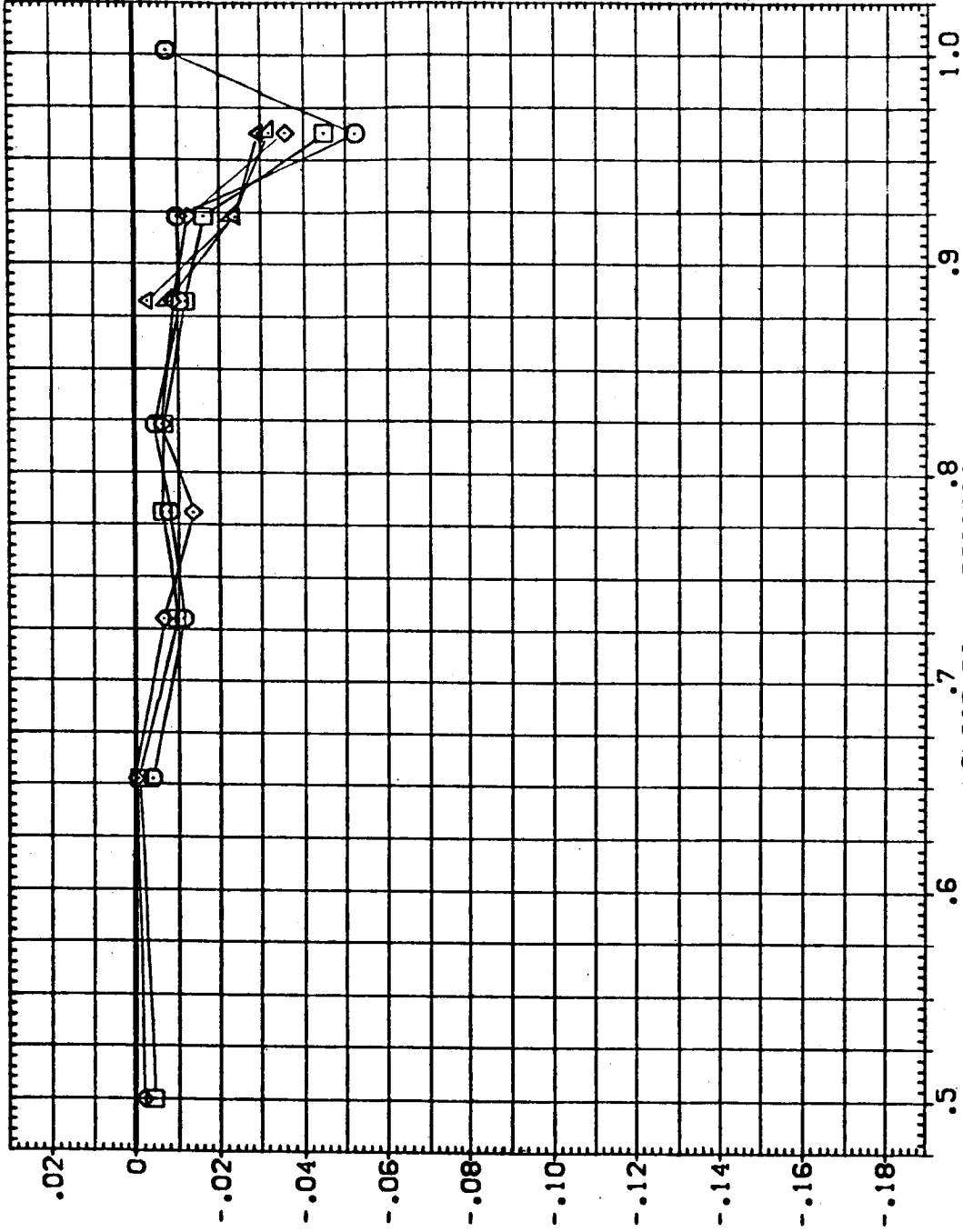


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY(FEUB13)

SYMBOL PHI BETA ALPHA
 ○ 180.000 4.000 .000
 □ 195.000
 ◇ 210.000
 △ 225.000
 ▽ 240.000

PARAMETRIC VALUES
 ELV-18 8.000 ELV-09 4.000
 RUDDER .000 MACH
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

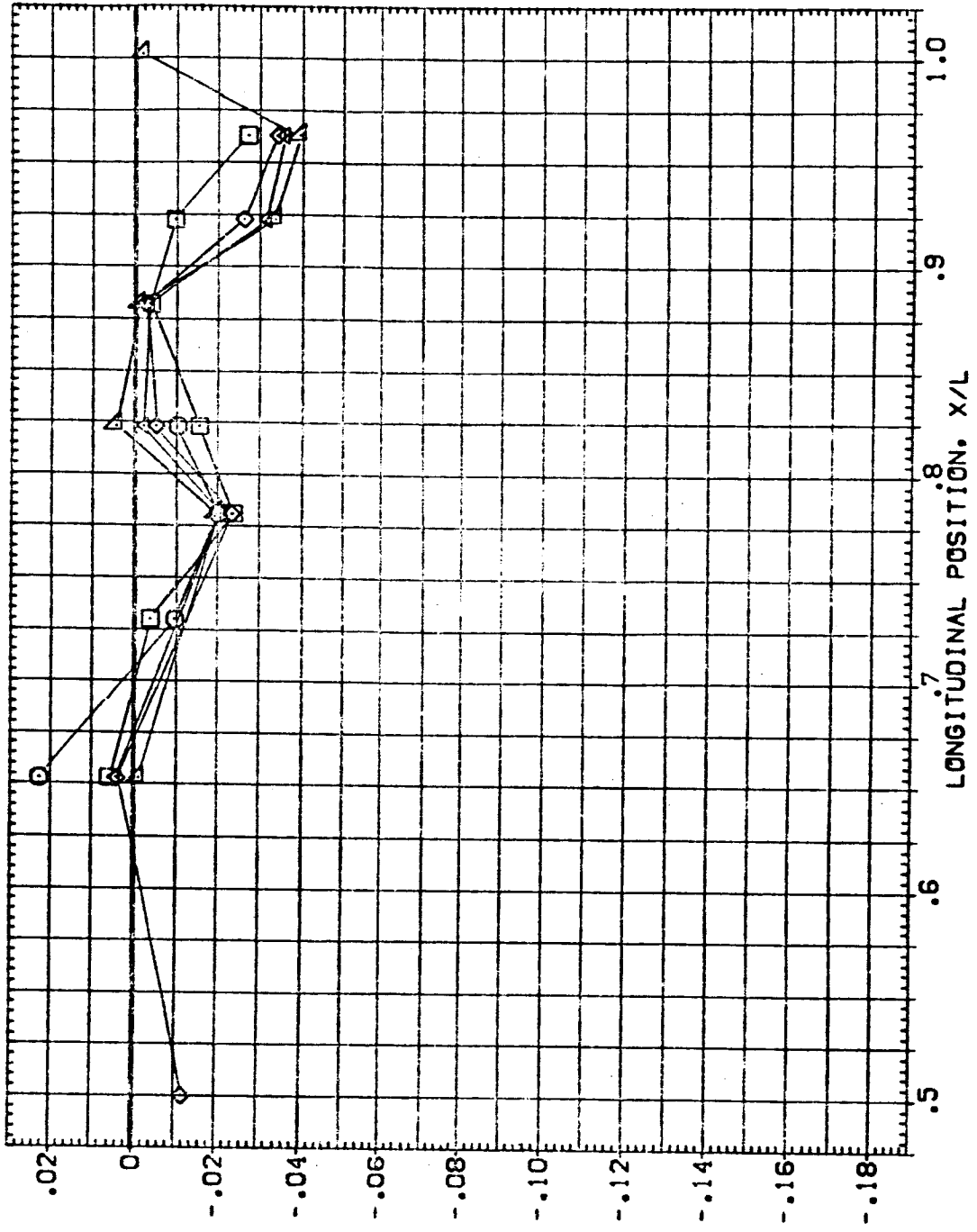


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (FEUB13)

PHI BETA ALPHA
 255,000 4,000 .000
 270,000
 290,000
 320,000
 360,000

PARAMETRIC VALUES
 ELV-1B ELV-92 1,000
 RUDDER MACH .900
 GIMBAL 1,000

SYMBOL
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 ◇
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INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

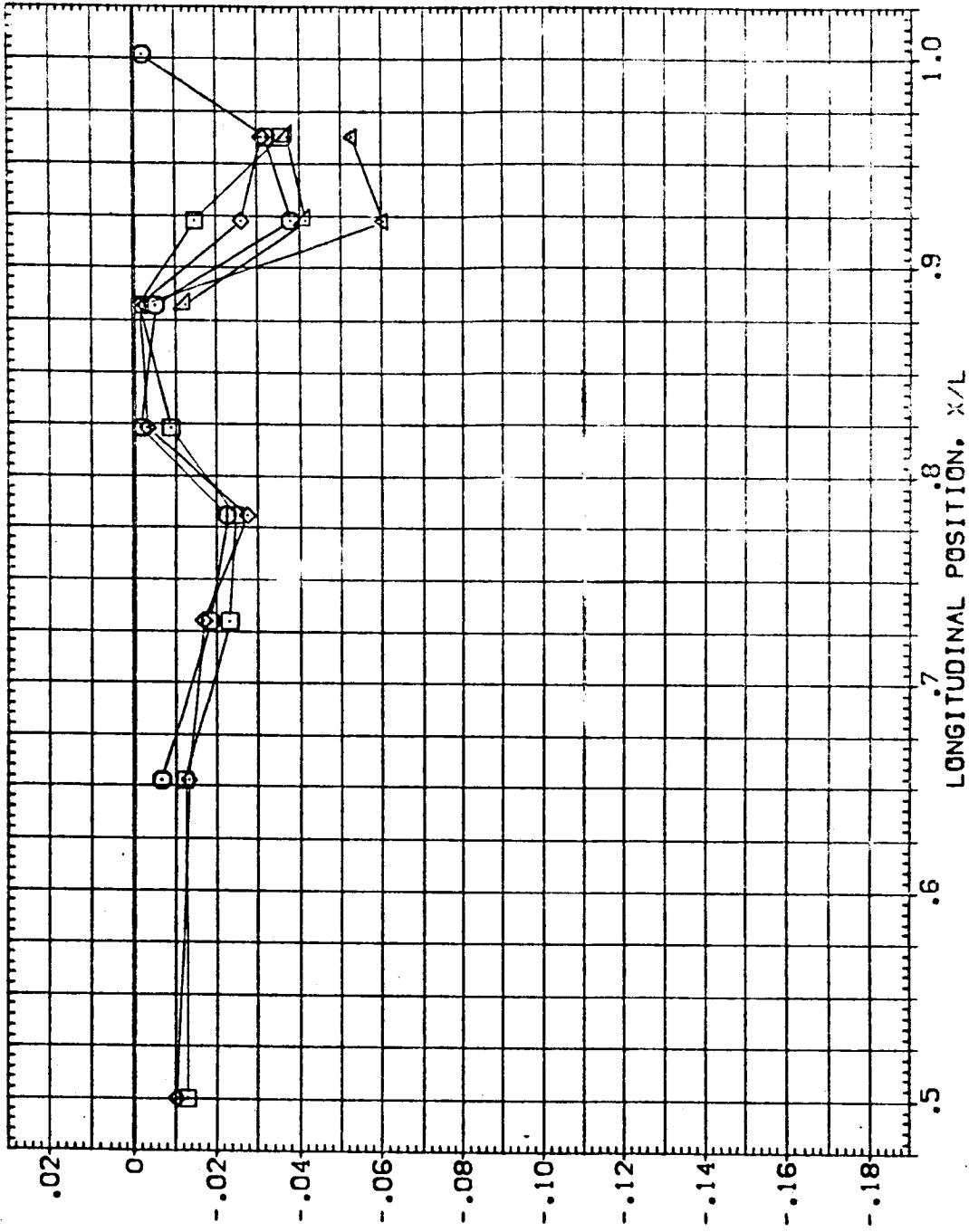


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (EEUB14)

PHI	BETA	ALPHA	ELV-OB	ELV-OB
180.000	.000	-4.000	8.000	1.000
195.000			.000	MACH
210.000			1.000	
225.000				
240.000				

ELV-OB	ELV-OB
RUDER	MACH
GIMBAL	

SYMBOL
 ○ □ ◇ △

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

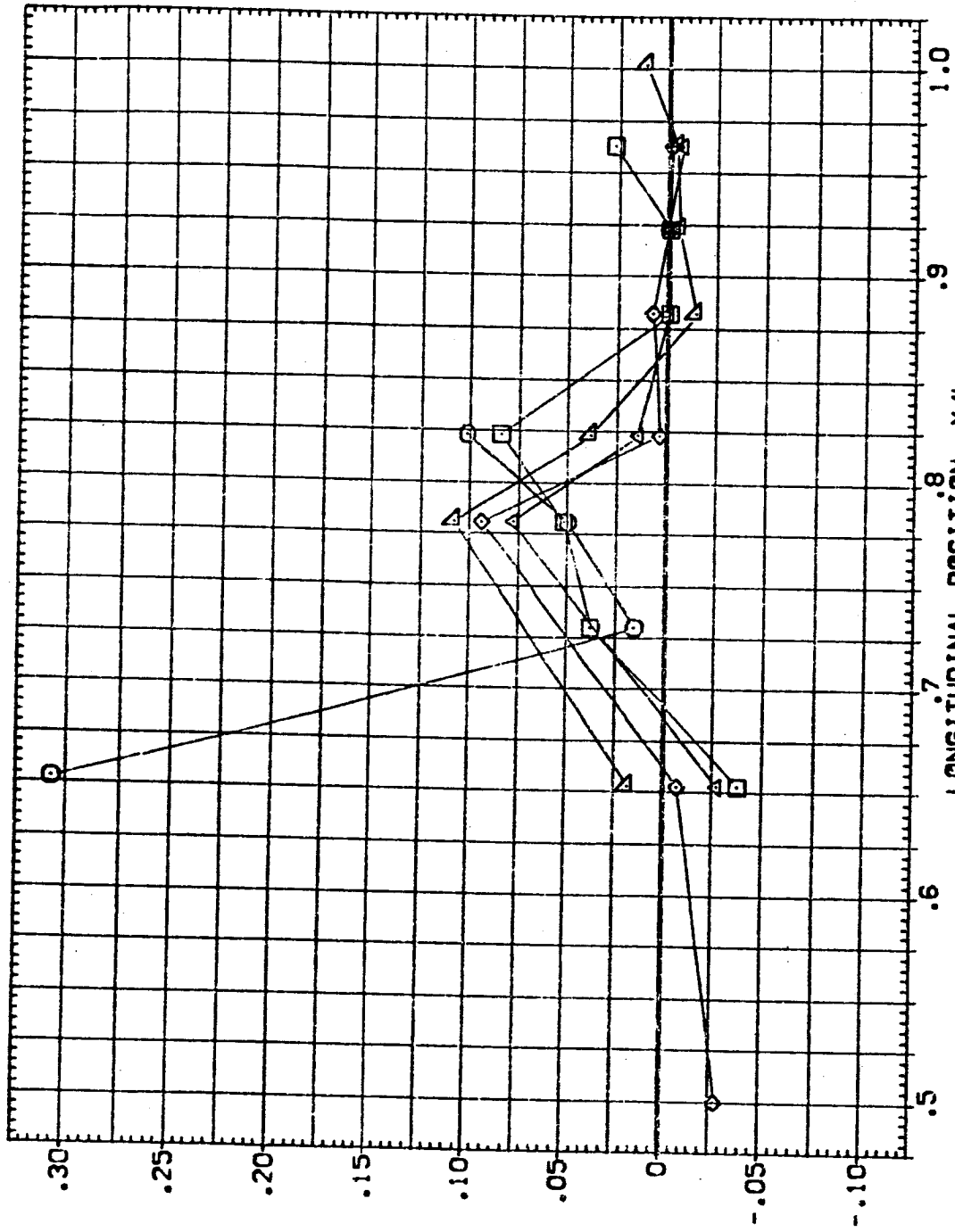


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (EEUB14)

SYMBOL PHI BETA ALPHA

○	255.000	.000	-4.000
□	270.000		
◇	290.000		
△	320.000		
▽	360.000		

PARAMETRIC VALUES

ELV-18	9.000	ELV-08	4.000
RUDER	.000	MACH	1.100
GIMBAL	1.000		

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

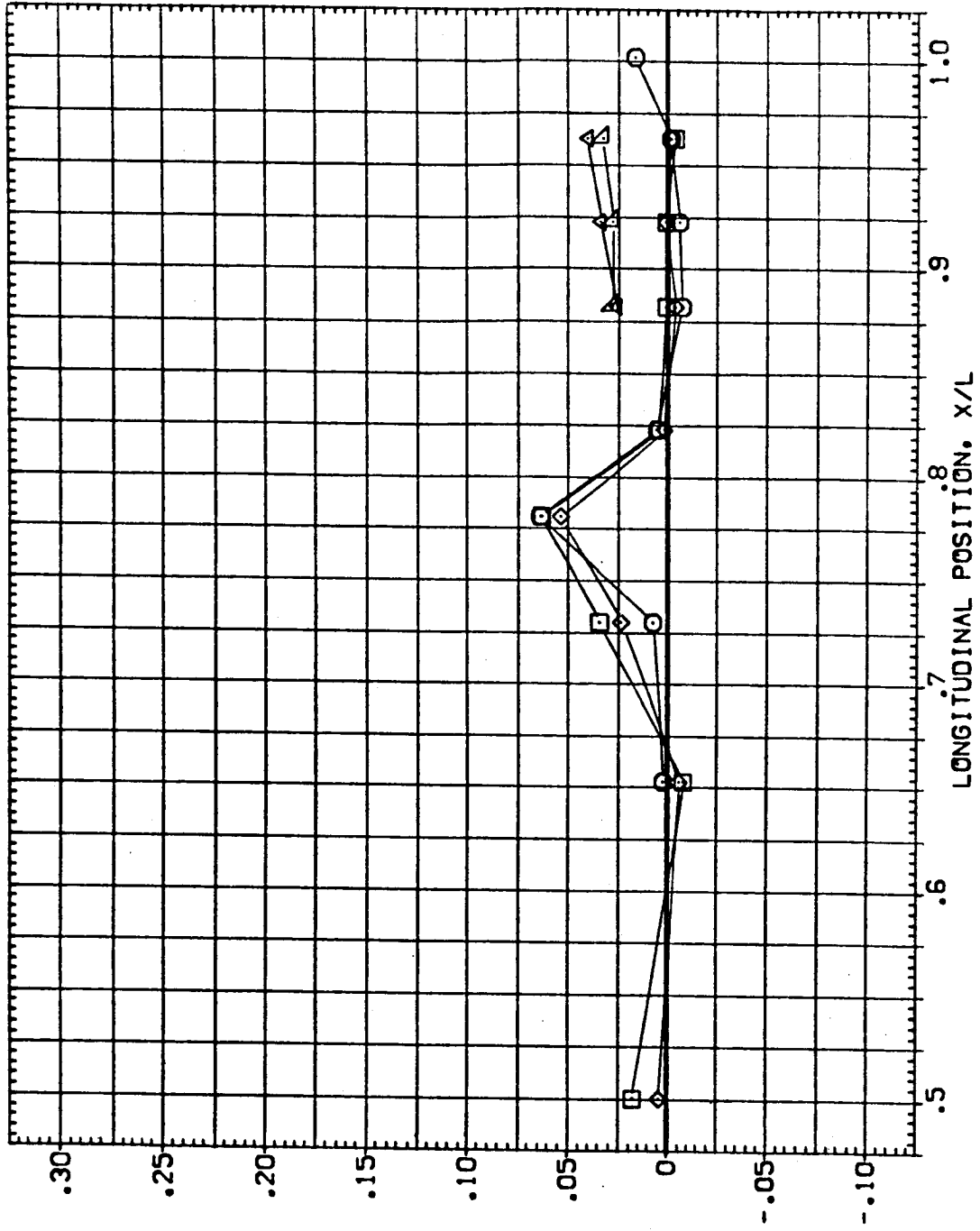


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (EEUB14)

PHI	BETA	ALPHA	ELV-18	PARAMETRIC VALUES
180.000	.000	.000	RUDER	8.000
195.000			GIMBAL	.000
210.000				1.000
225.000				4.000
240.000				1.100

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

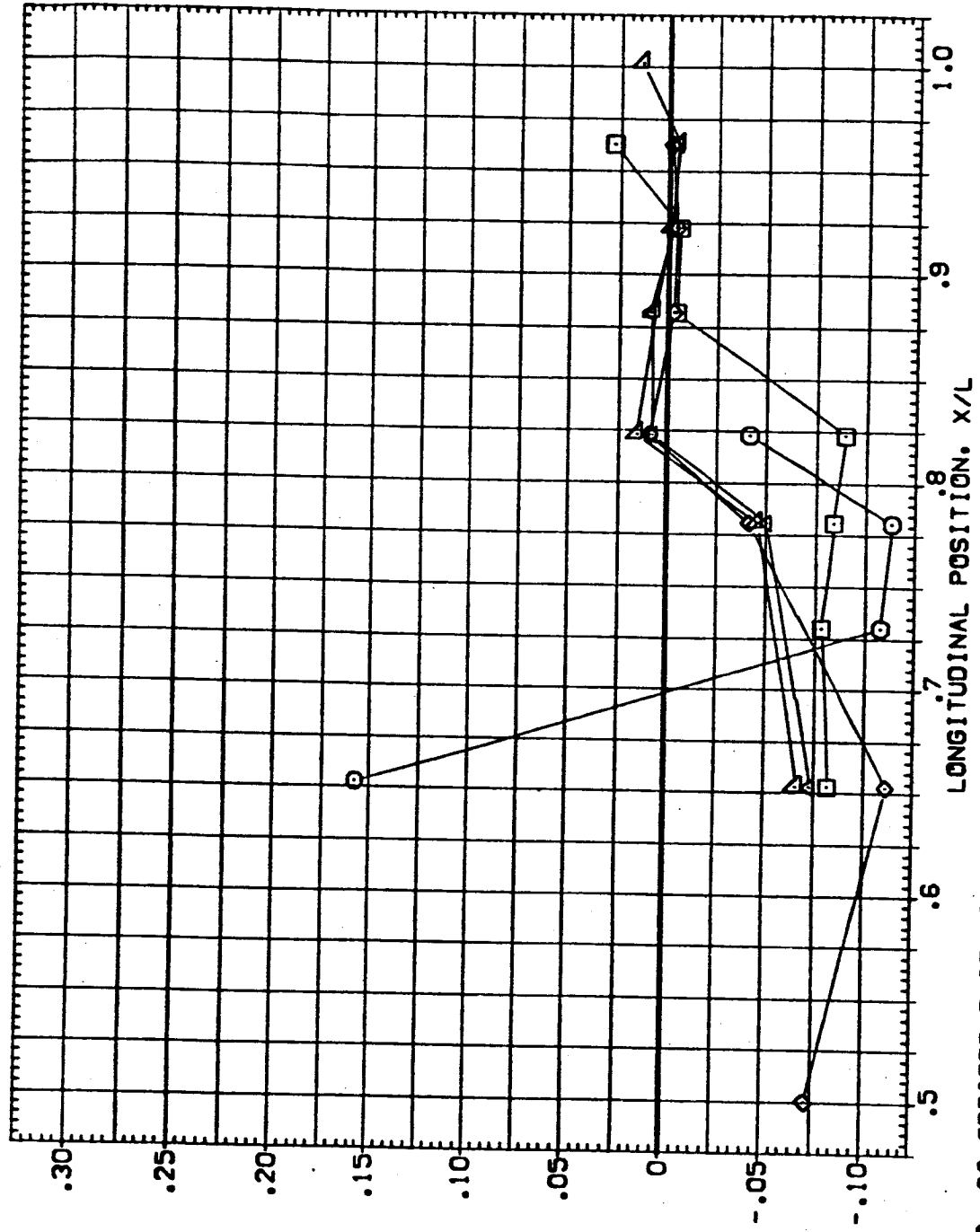


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (EEUB14)

PARAMETRIC VALUES
 ELV-19 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

PHI .000 ALPHA .000
 255.000
 270.000
 290.000
 320.000
 360.000

SYMBOL
 ○ □ ◇ △ ▽

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

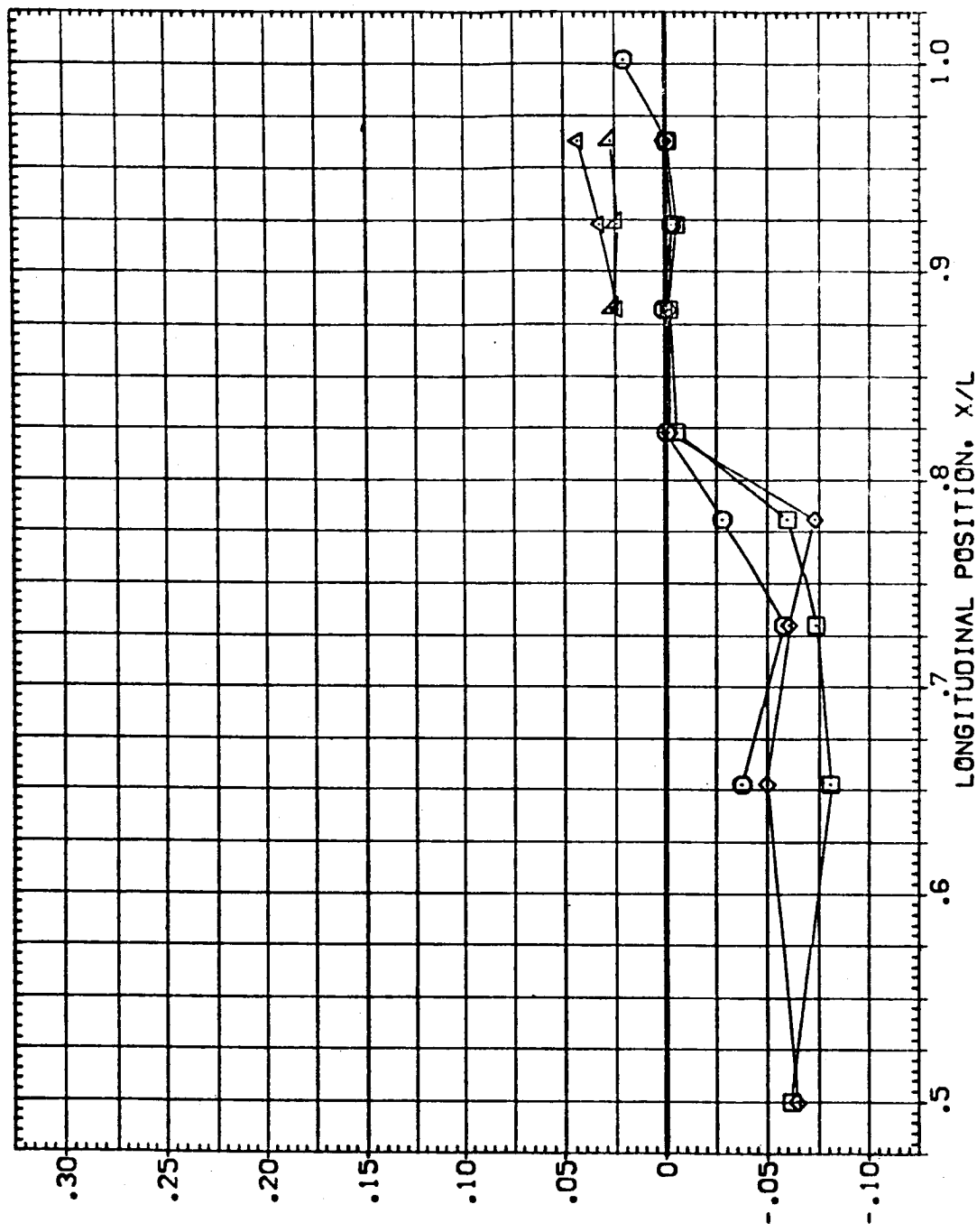


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (EEUB14)

SYMBOL PHI BETA ALPHA

□ 180.000 .000 4.000

◇ 195.000

△ 210.000

▽ 225.000

 240.000

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000

RLOOR .000 MACH 1.100

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

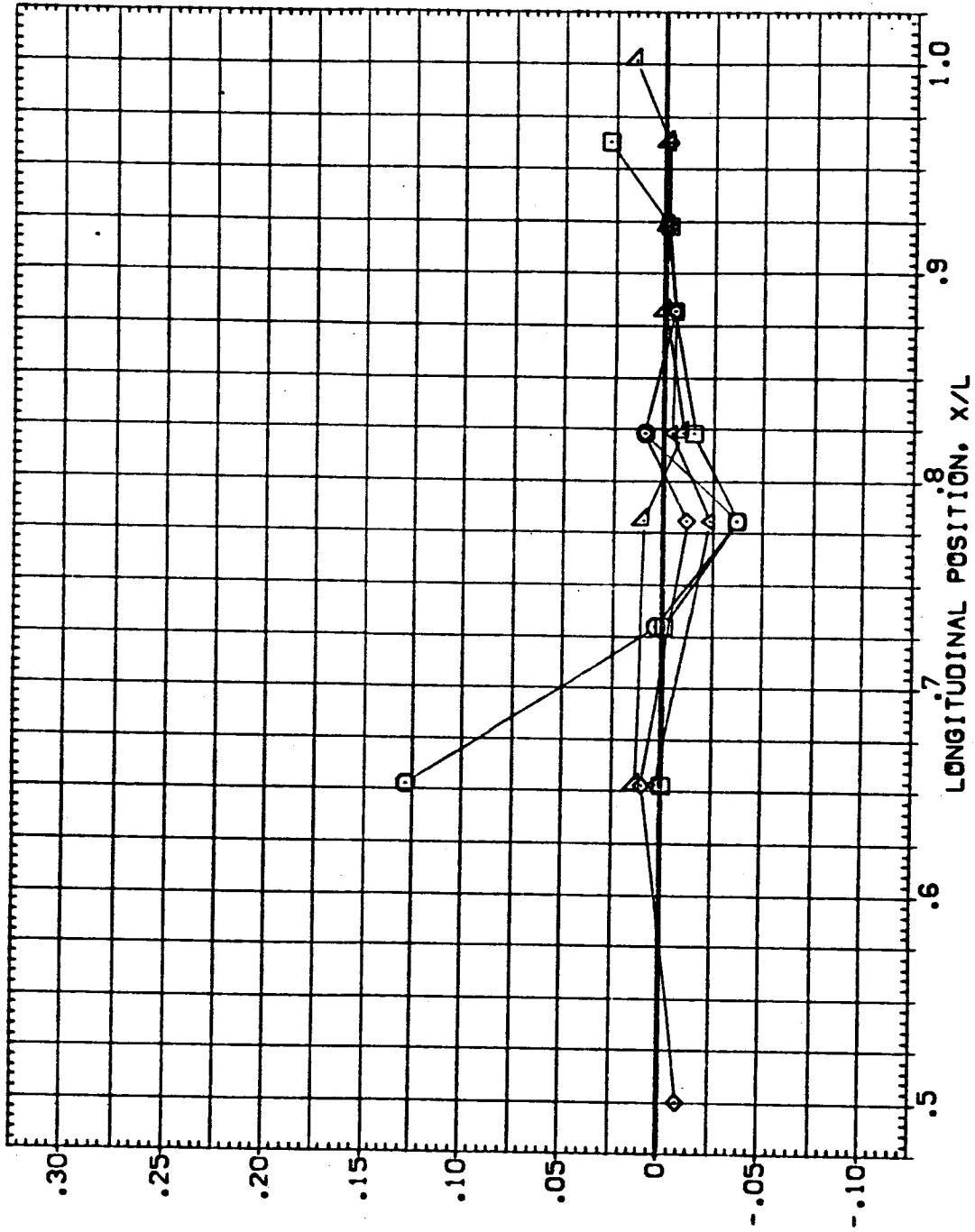


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (EEUB14)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

PHI BETA ALPHA
 255.000 .000 1.000
 270.000
 290.000
 320.000
 360.000

SYMBOL
 ○
 □
 ◇
 △
 ▽

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

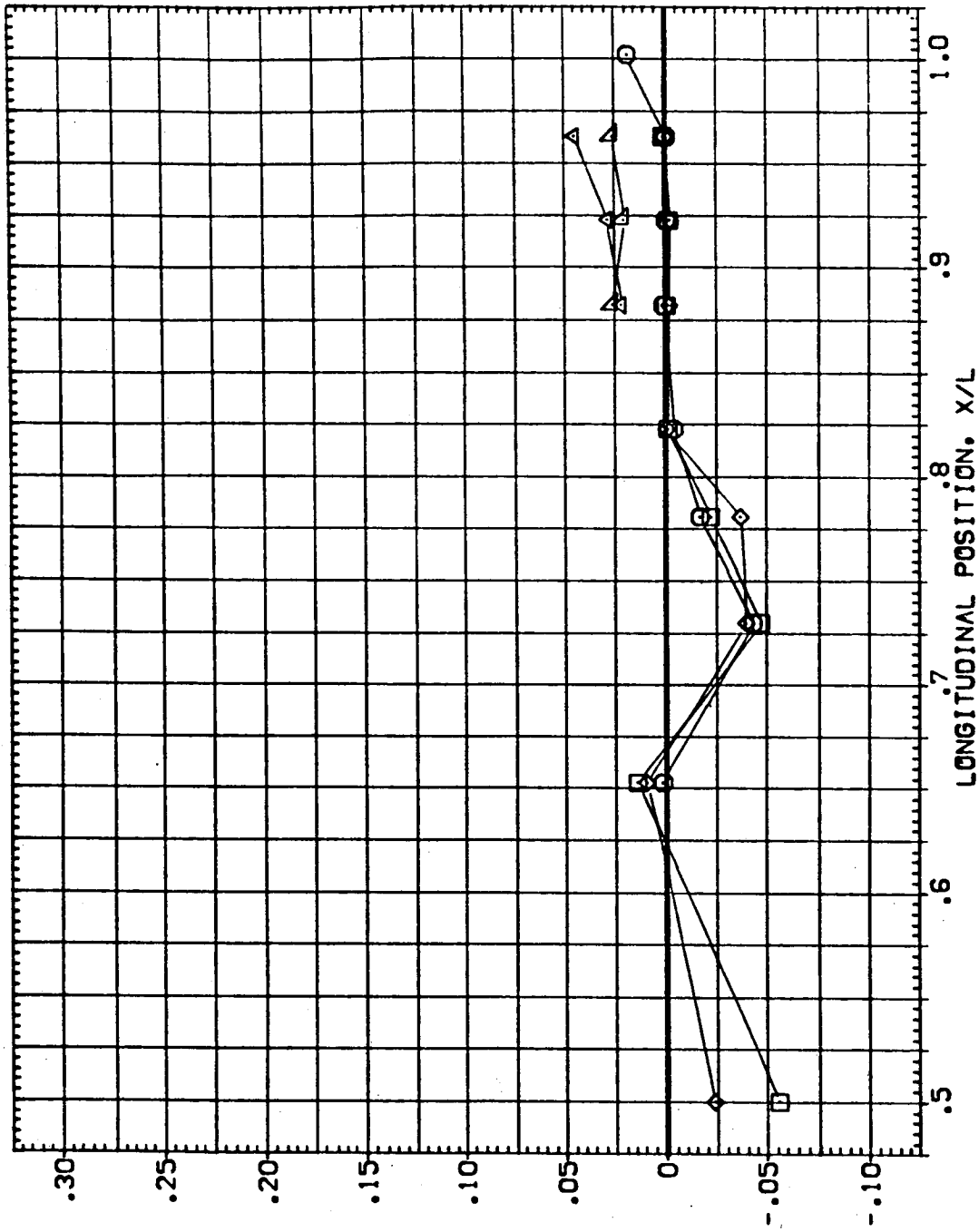


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (FEUB14)

PHI	BETA	ALPHA	PARAMETRIC VALUES			
180.000	-4.000	.000	ELV-18	8.000	ELV-08	4.000
195.000			RUDER	.000	MACH	1.100
210.000			GIMBAL	1.000		
225.000						
240.000						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

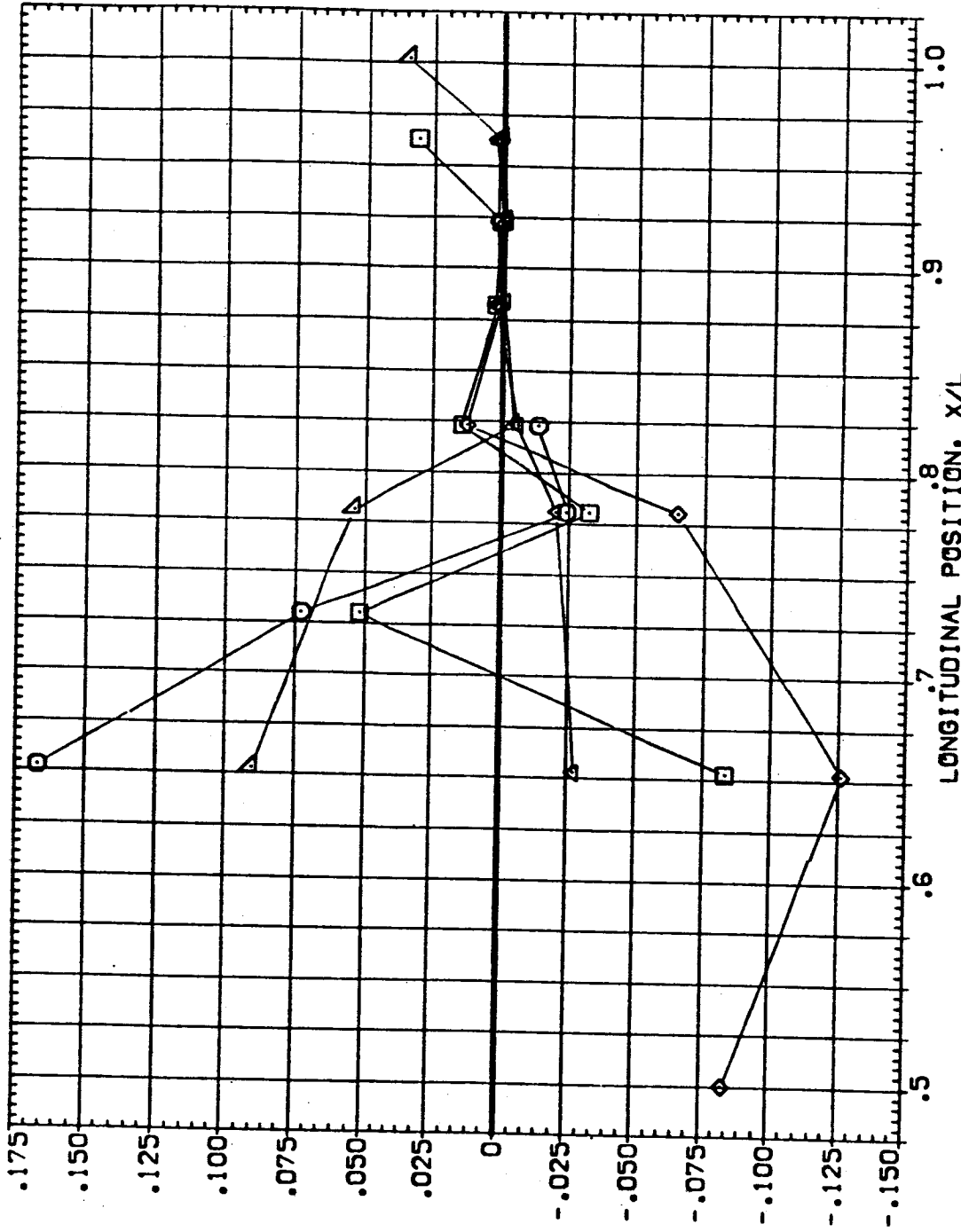


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (FEUB14)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

PHI ALPHA .000
 BETA -4.000
 255.000
 270.000
 290.000
 320.000
 360.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

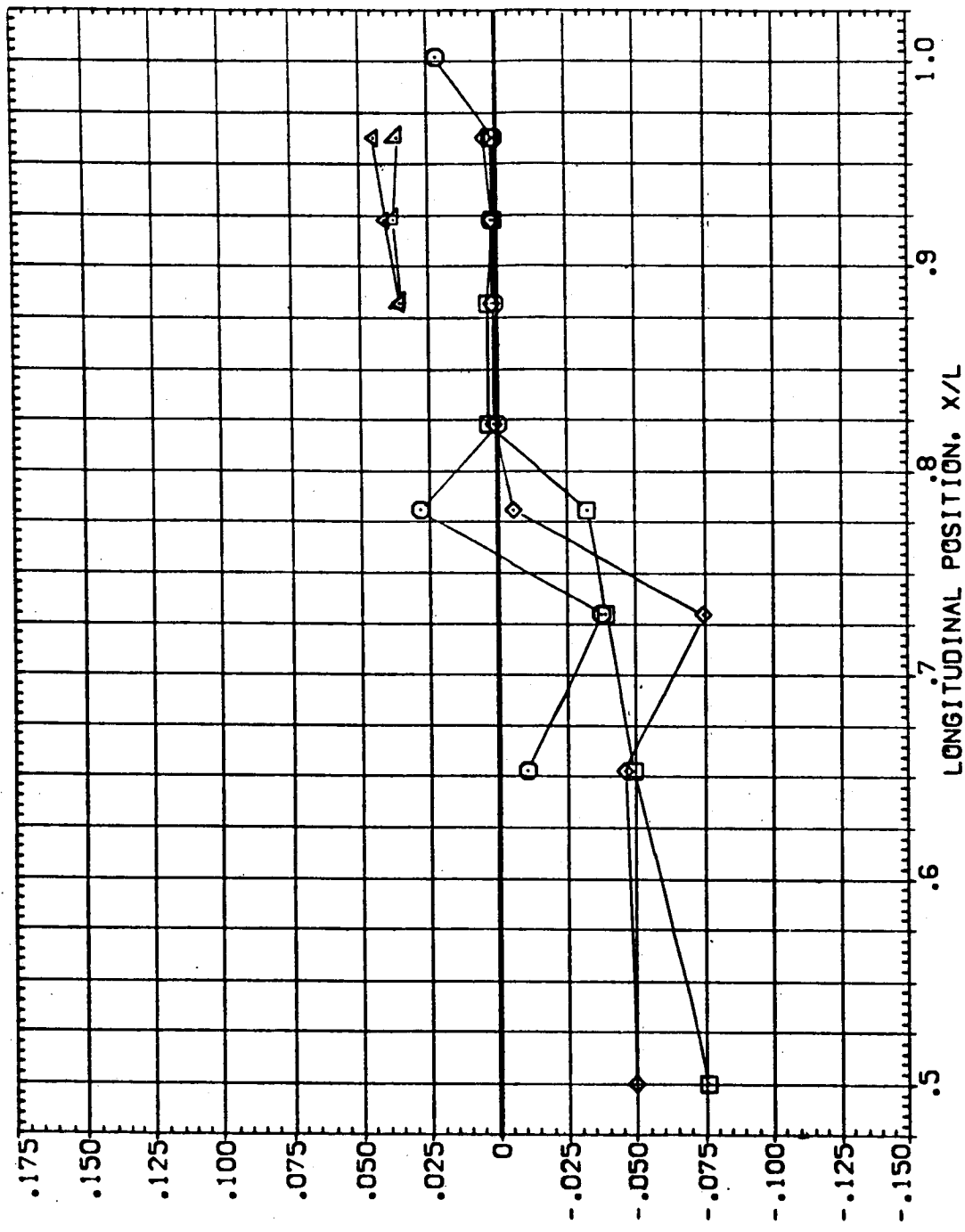


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (FEUB14)

PHI	BETA	ALPHA	PARAMETRIC VALUES	
180.000	1.000	.000	ELV-18	ELV-08
195.000			RUDDER	MACH
210.000			GIMBAL	1.000
225.000				4.000
240.000				1.100

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

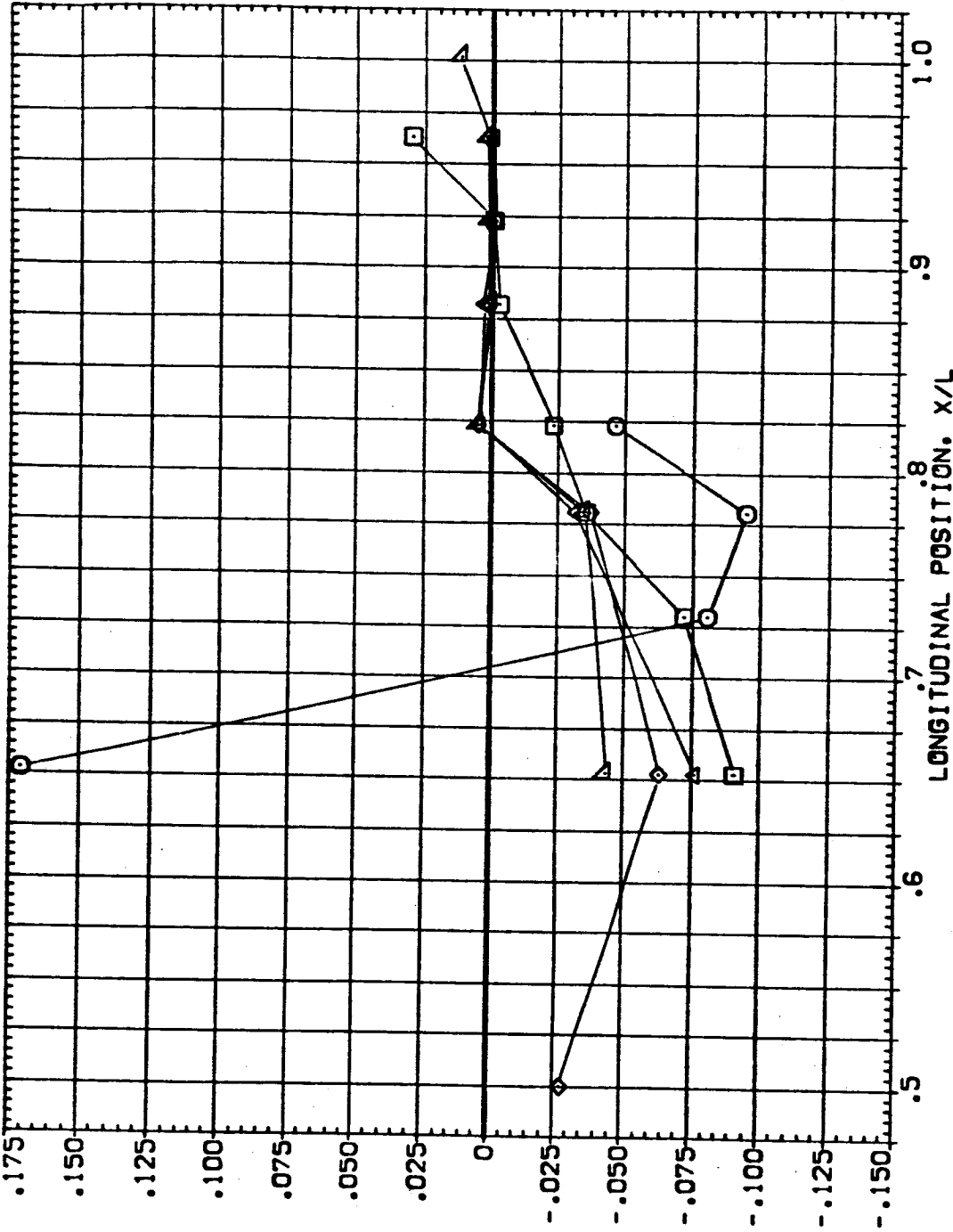


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (FEUB14)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-09 4.000
 RUDDER .000 MACH 1.100
 S1MBAL 1.000

PHI BETA ALPHA
 255.000 4.000 .000
 270.000
 290.000
 320.000
 360.000

SYMBOL
 ▽ ◊ □ ○ △

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

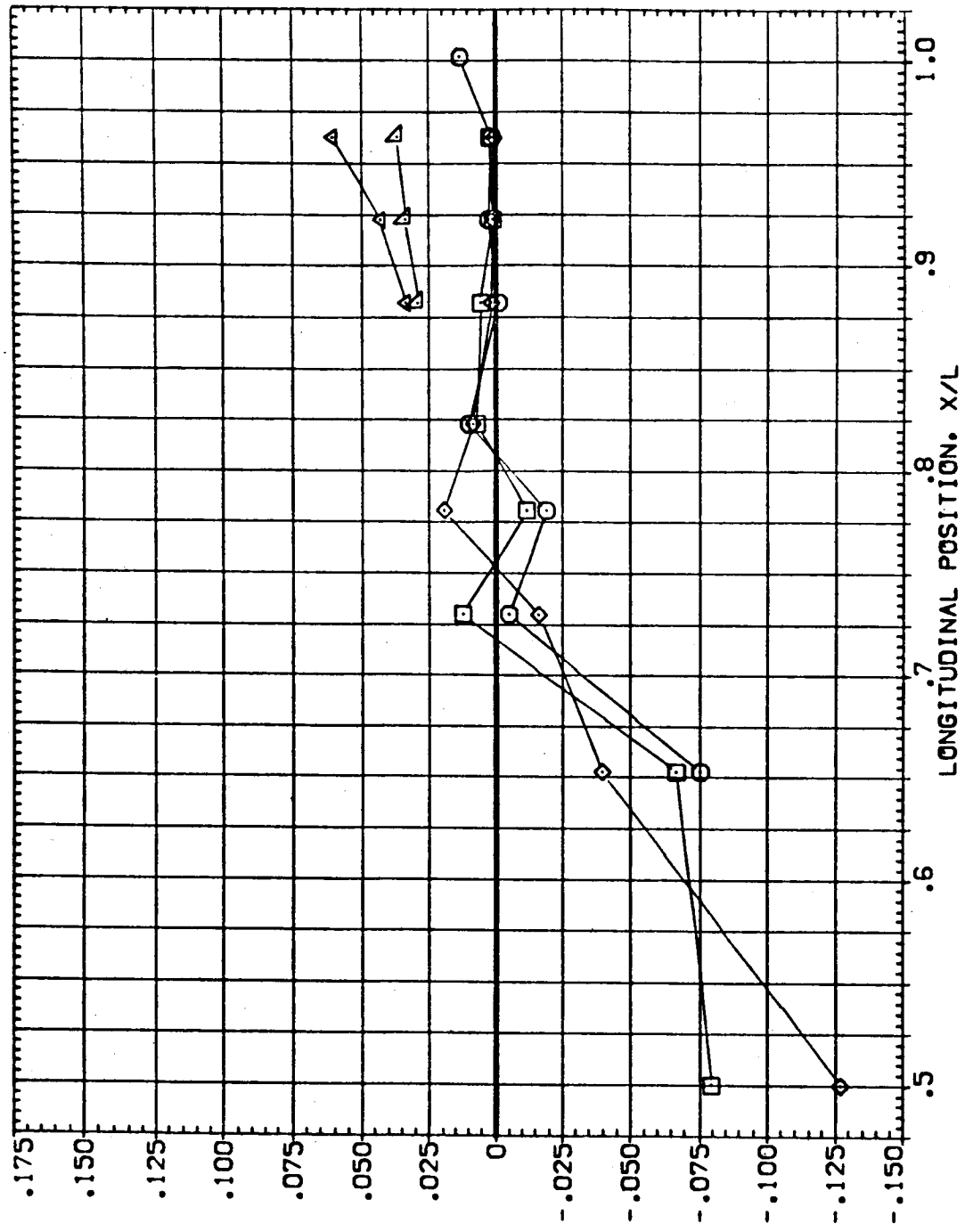


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (EEUB15)

PHI 180.000
 195.000
 210.000
 225.000
 240.000

BETA .000

ALPHA -4.000

ELV-18
 RUDDER
 GIMBAL

PARAMETRIC VALUES
 8.000 ELV-08
 .000 MACH
 1.000

SYMBOL
 ▽
 ◇
 □
 ○

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

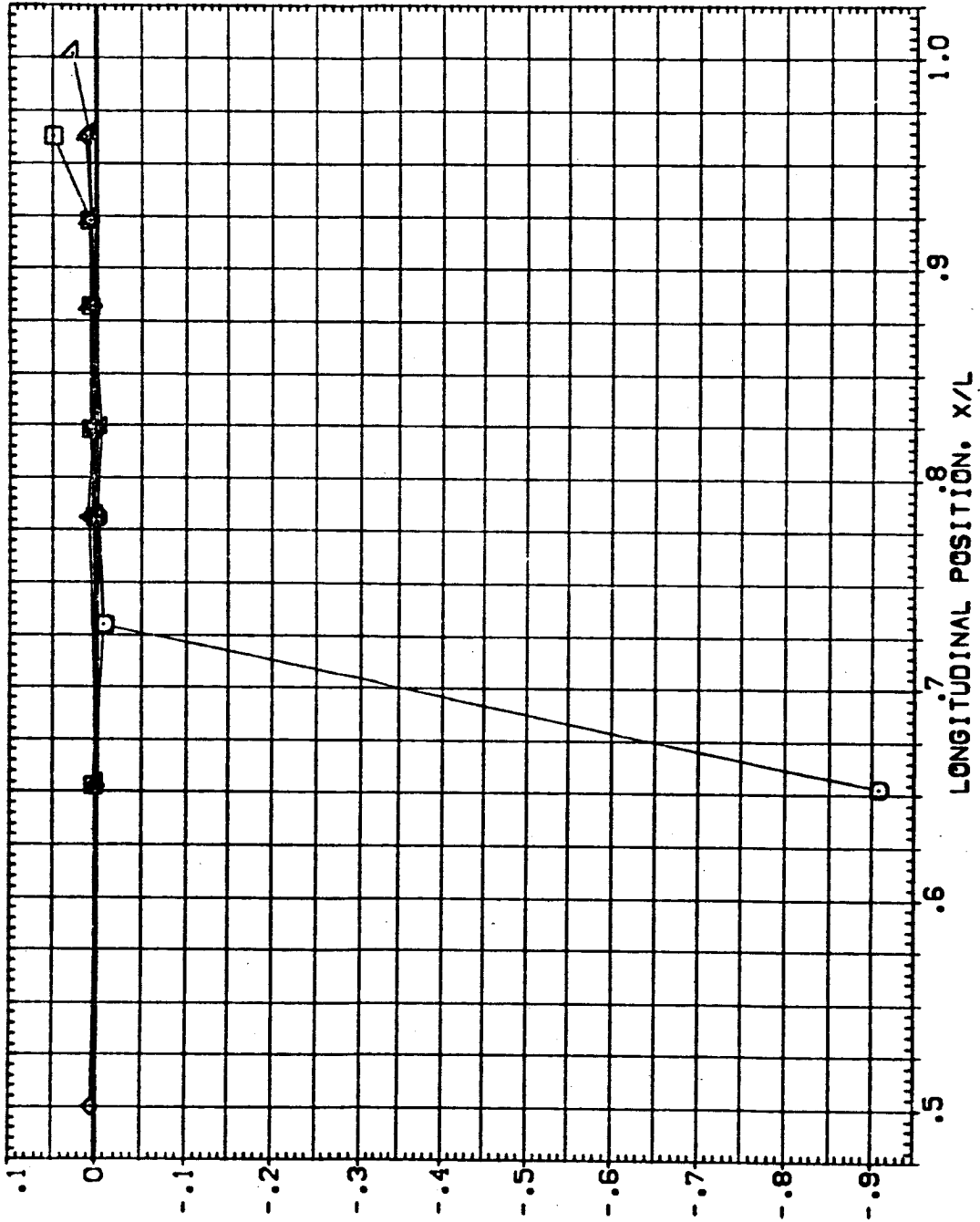


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (EEUB15)

PHI	BETA	ALPHA	ELV-18	ELV-08
255.000	.000	-4.000	RUDER	.000
270.000			GIMBAL	1.000
290.000				
320.000				
360.000				

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

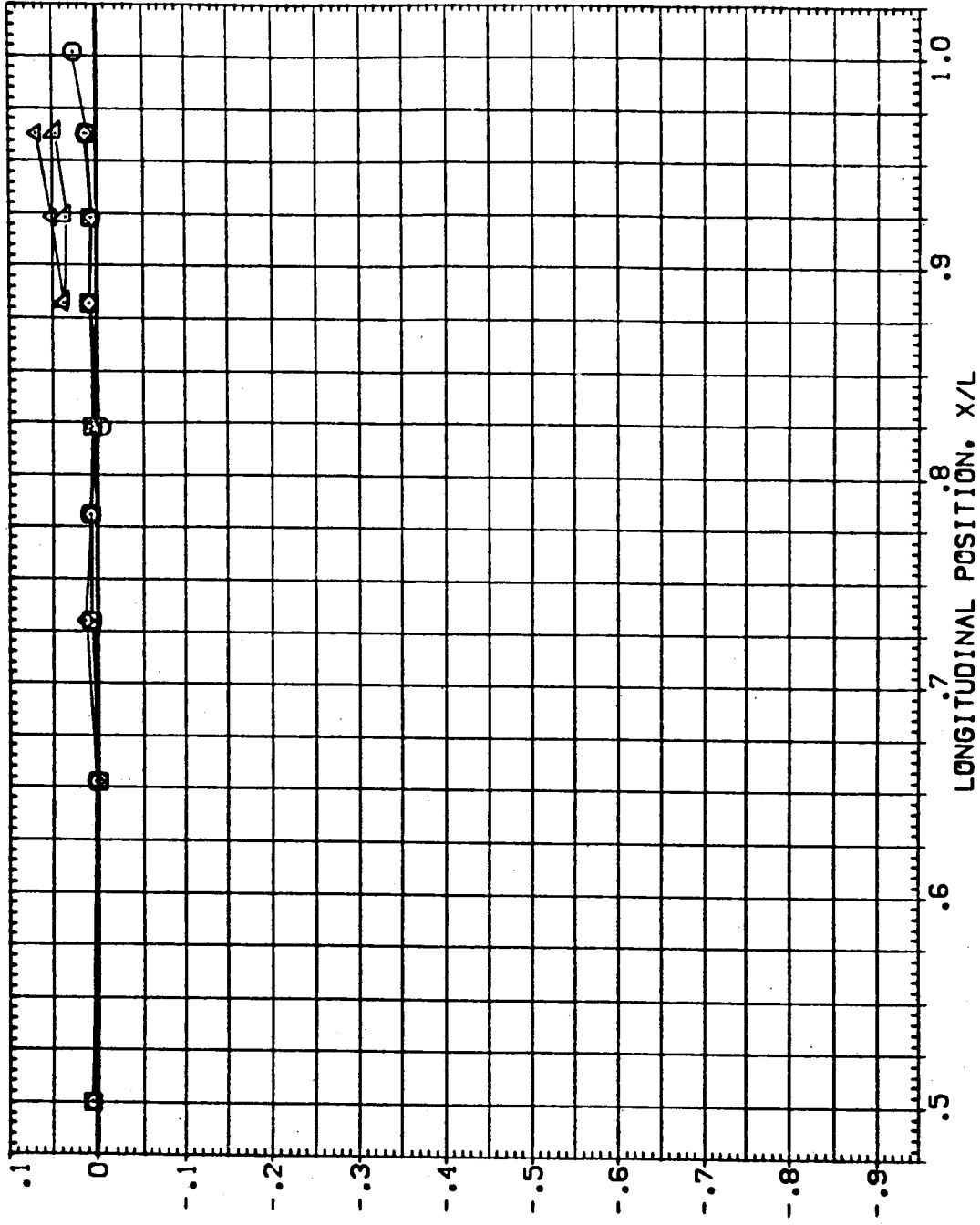


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

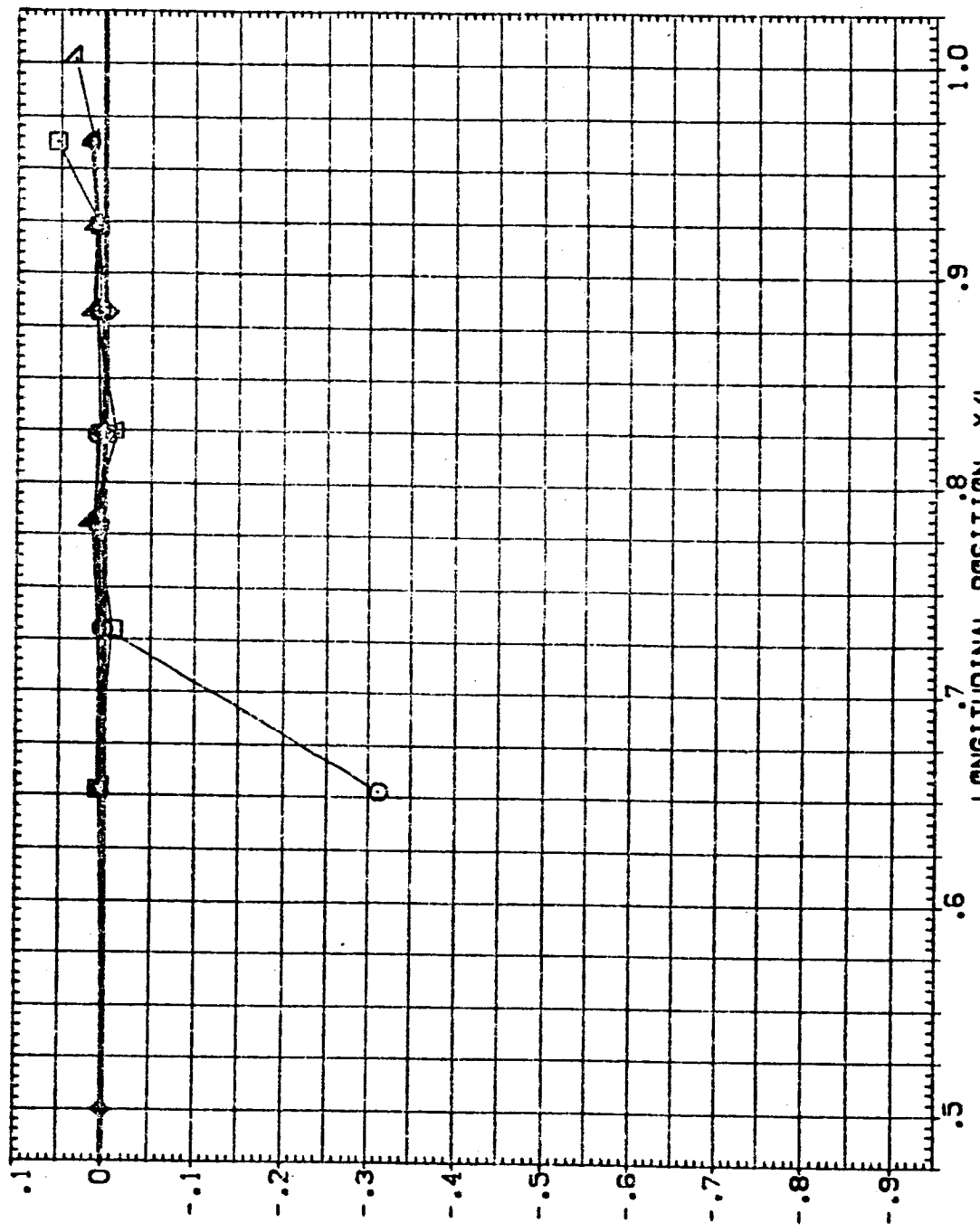


ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (EEUB15)

SYMBOL PHI BETA ALPHA
 ○ 180.000 .000 .000
 □ 195.000
 ◇ 210.000
 △ 225.000
 ▽ 240.000

PARAMETRIC VALUES
 ELV-18 0.000 ELV-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP



LONGITUDINAL POSITION, X/L

FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (EEUB15)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

BETA .000 ALPHA .000

PHI
 255.000
 270.000
 290.000
 320.000
 360.000

Symbol
 ◻ ◊ ◴ ◵

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

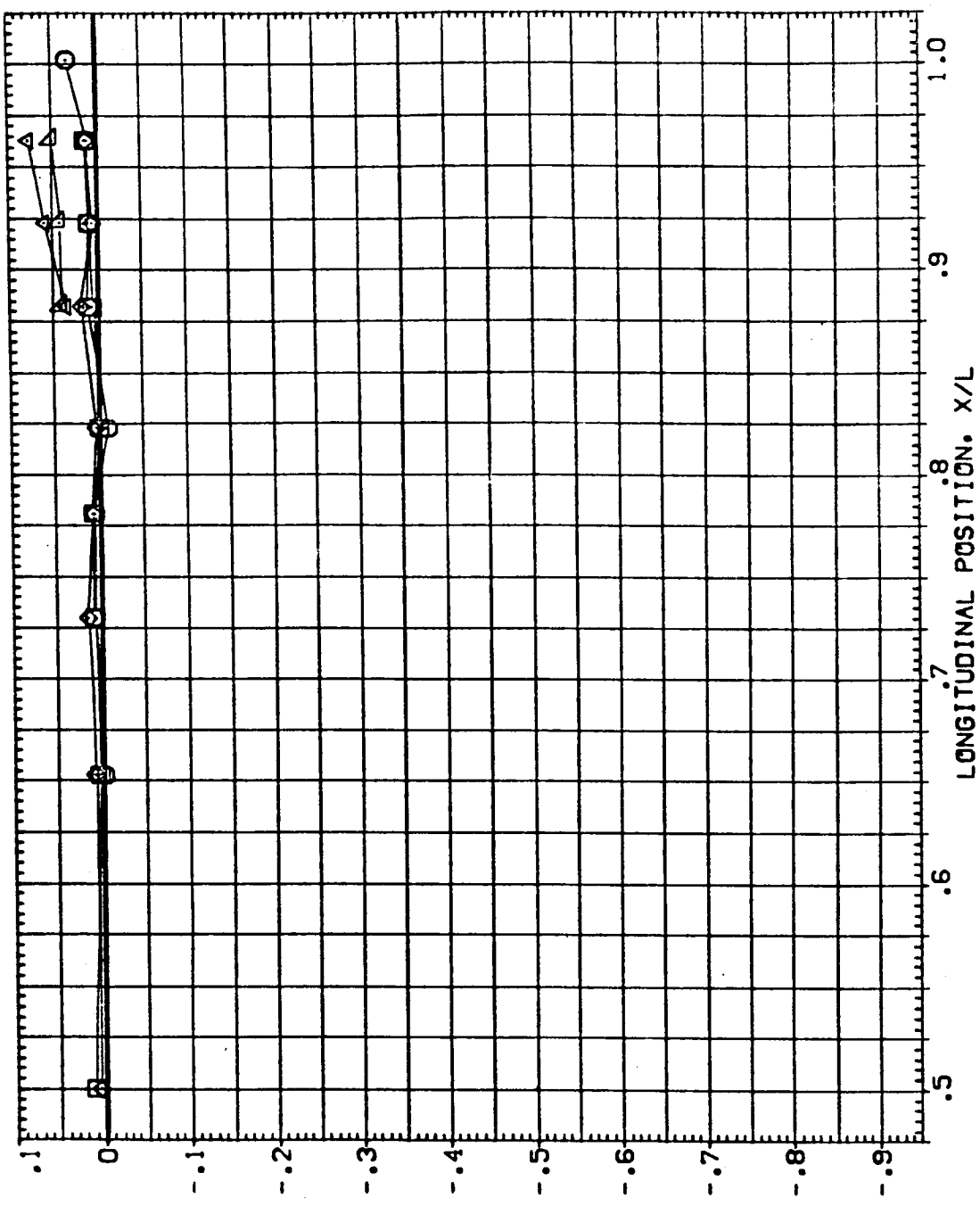


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (EEUB15)

PHI 180.000
 195.000
 210.000
 225.000
 240.000

SYMBOL
 ◻ ◊ ◻ ◻ ◻ ◻

BETA .000 ALPHA 4.000

ELV-18
 RUDDER
 GIMBAL

PARAMETRIC VALUES
 8.000 ELV-08
 .000 MACH
 1.000 1.250

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

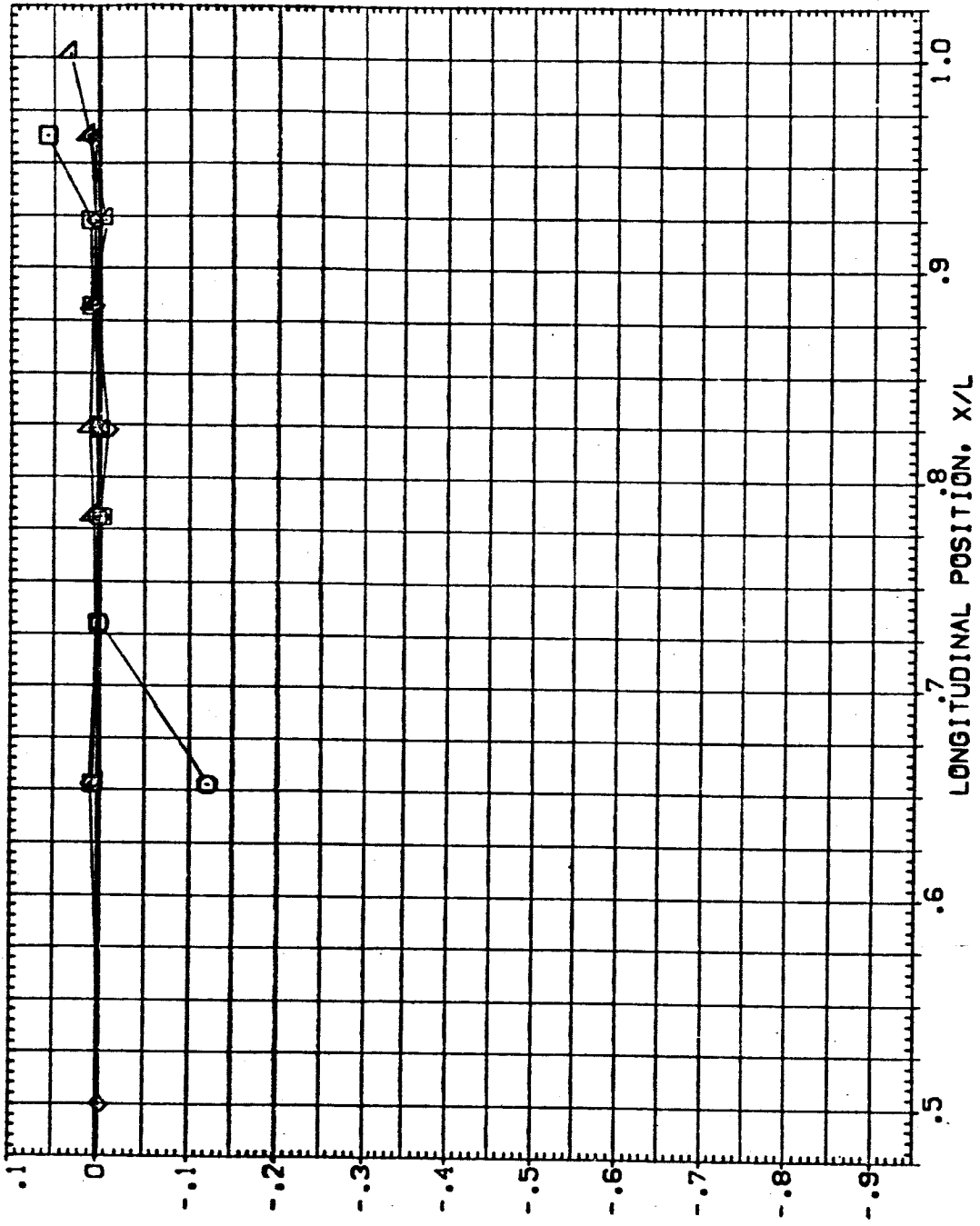


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY(EU815)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES
○	255.000	.000	4.000	ELV-18 8.000 ELV-08 4.000
□	270.000			RUDER .000 MACH 1.250
◇	290.000			GIMBAL 1.000
△	320.000			
▽	360.000			

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

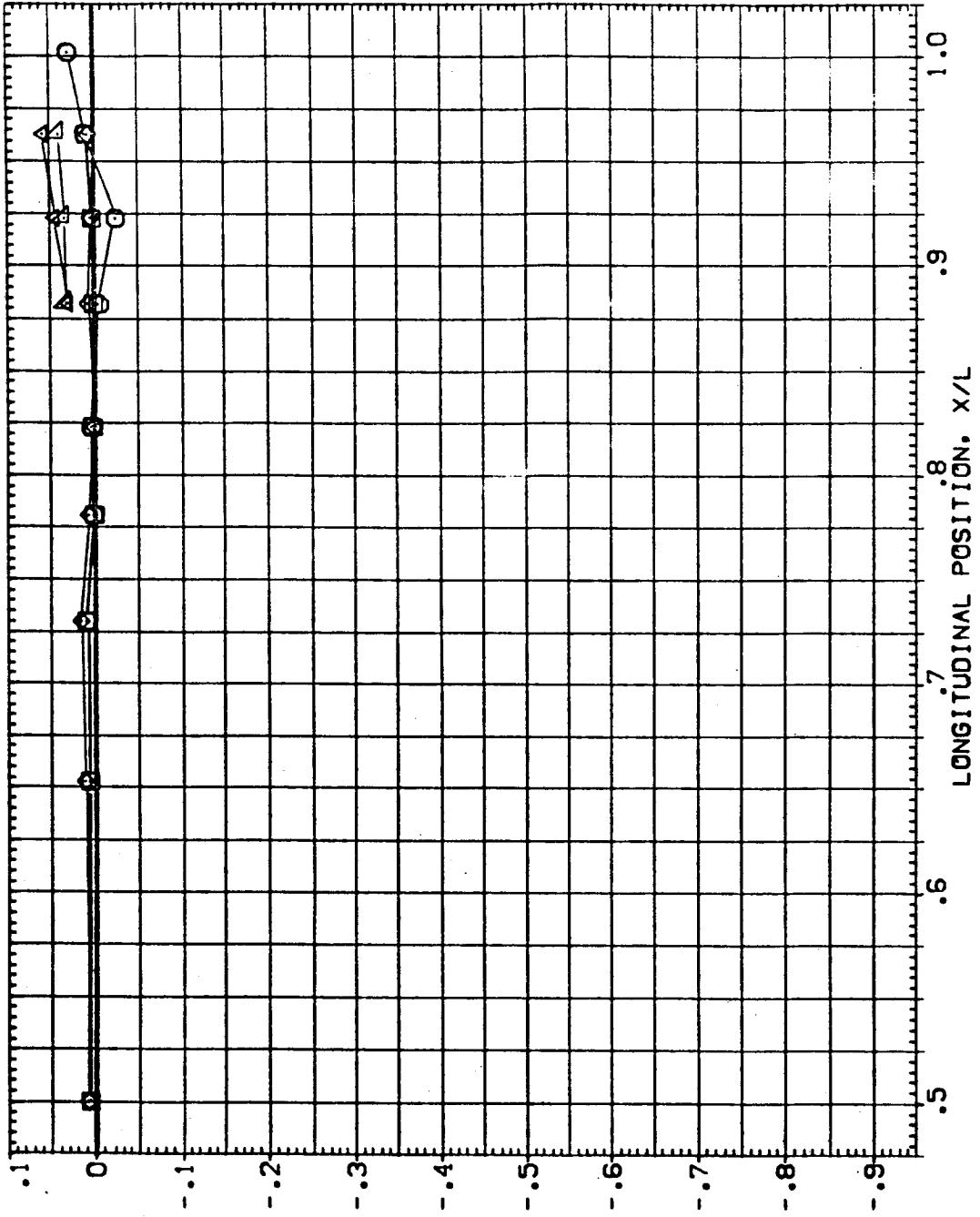


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (FEUB15)

SYMBOL PHI BETA ALPHA
 ○ 180.000 -4.000 .000
 □ 195.000
 ◇ 210.000
 △ 225.000
 240.000

PARAMETRIC VALUES
 ELV-19 8.000 ELV-09 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

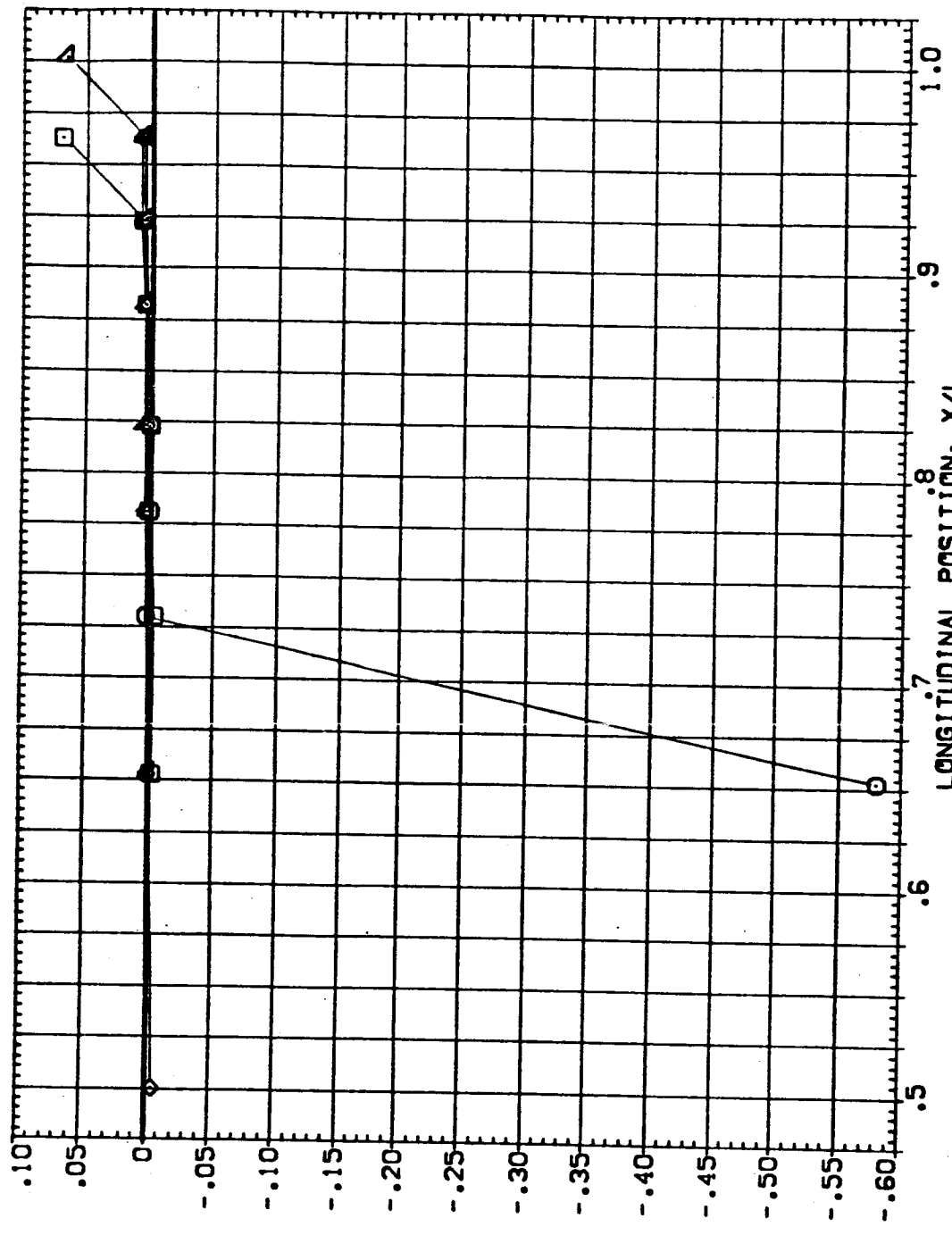


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY(FEUB15)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

PHI BETA ALPHA
 255.000 -4.000 .000
 270.000
 290.000
 320.000
 360.000

SYMBOL
 ○ □ ◇ △

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

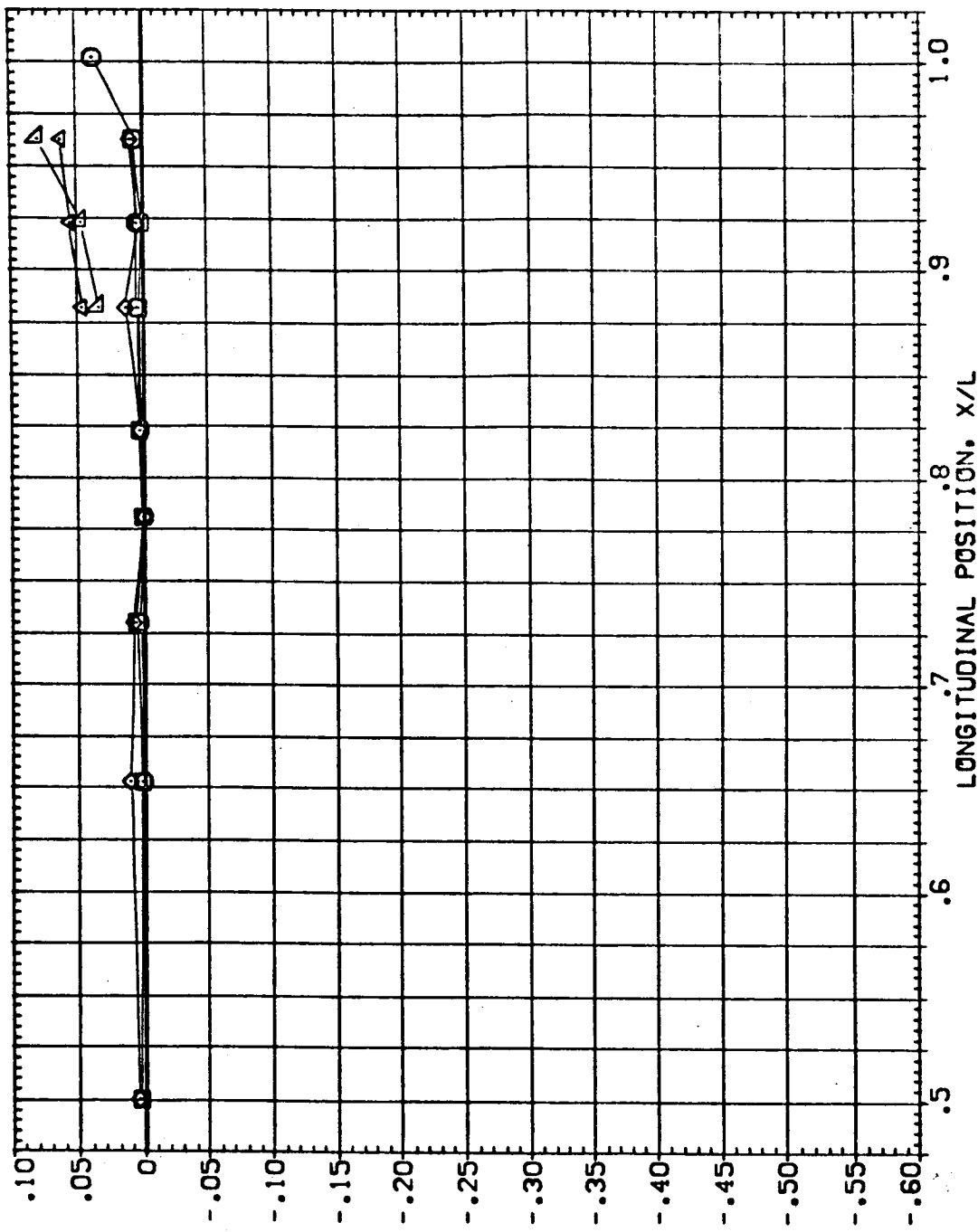


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (FEUBIS)

SYMBOL		PHI	BETA	ALPHA	PARAMETRIC VALUES		
□	◇	180.000	4.000	.000	ELV-18	ELV-08	4.000
◇	△	195.000			RUDER	MACH	1.250
△	▽	210.000			GIMBAL		1.000
▽		225.000					
		240.000					

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

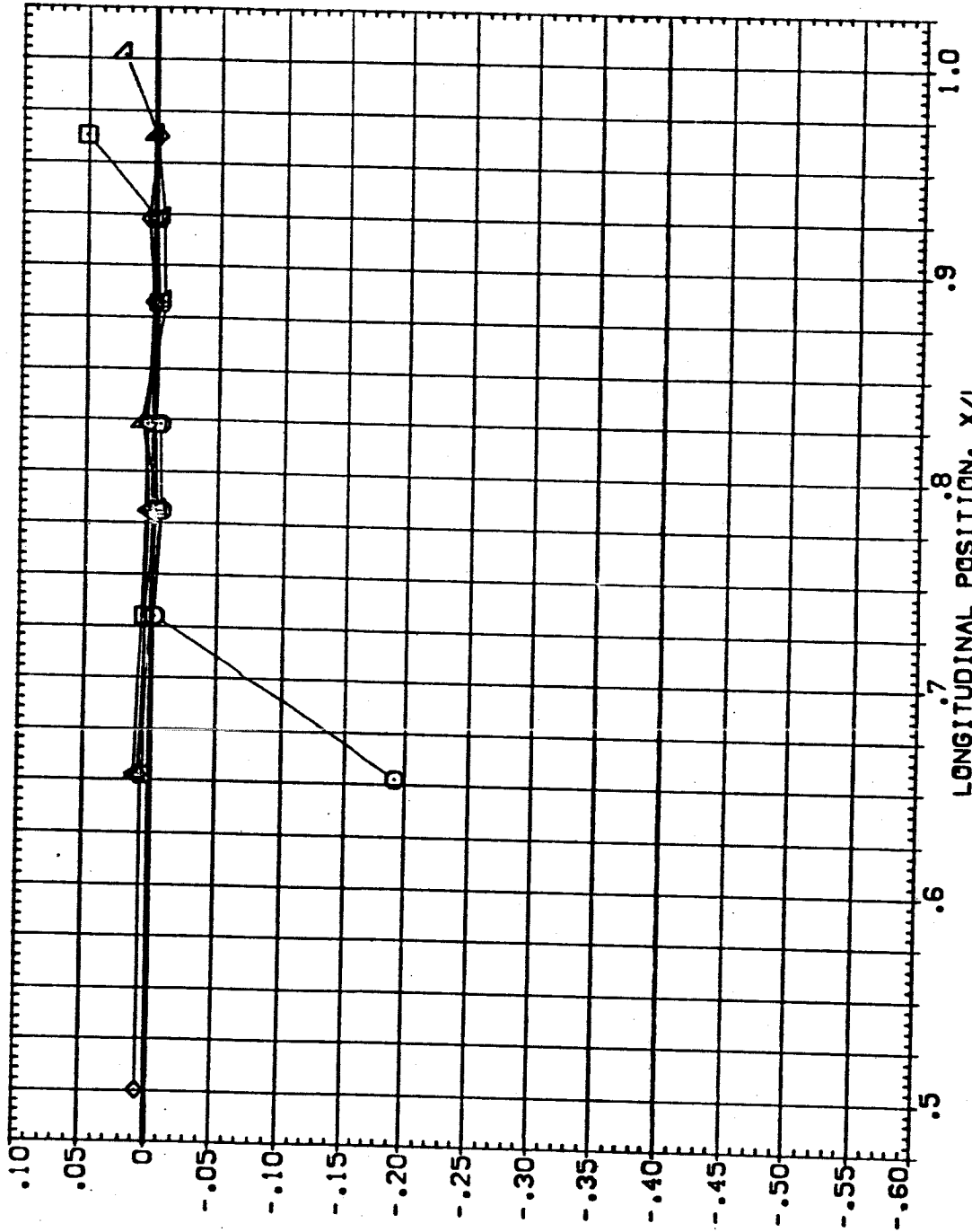


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (FEUB15)

PHI	BETA	ALPHA	ELV-18	ELV-OB
255.000	4.000	.000	8.000	8.000
270.000			RUDDER	MACH
290.000			1.000	1.250
320.000			GIMBAL	
360.000				

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

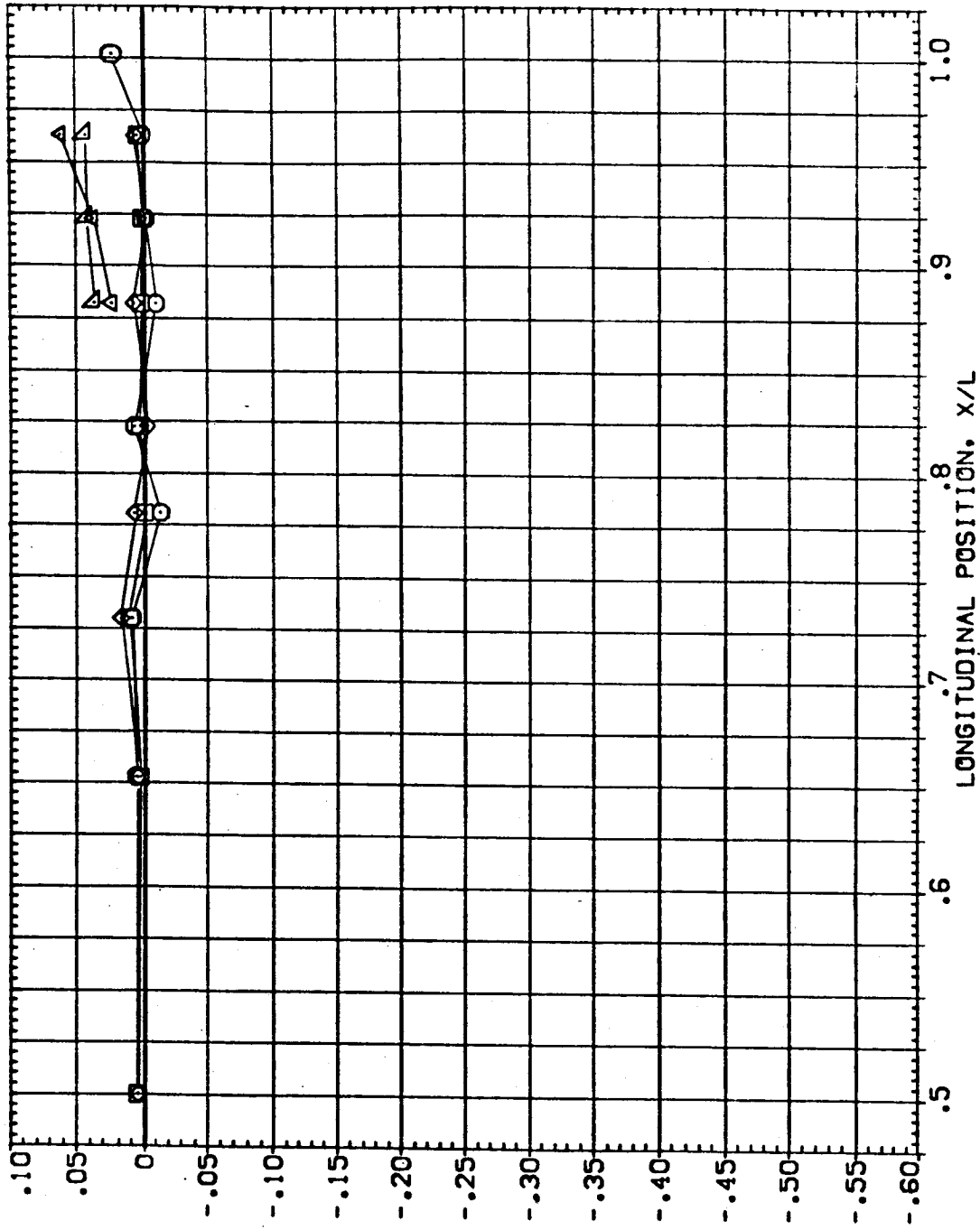


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (EEUB16)

PHI	BETA	ALPHA	ELV-18	ELV-09
180.000	.000	-4.000	RUDER	MACH
195.000			GIMBAL	
210.000				1.000
225.000				1.400
240.000				

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

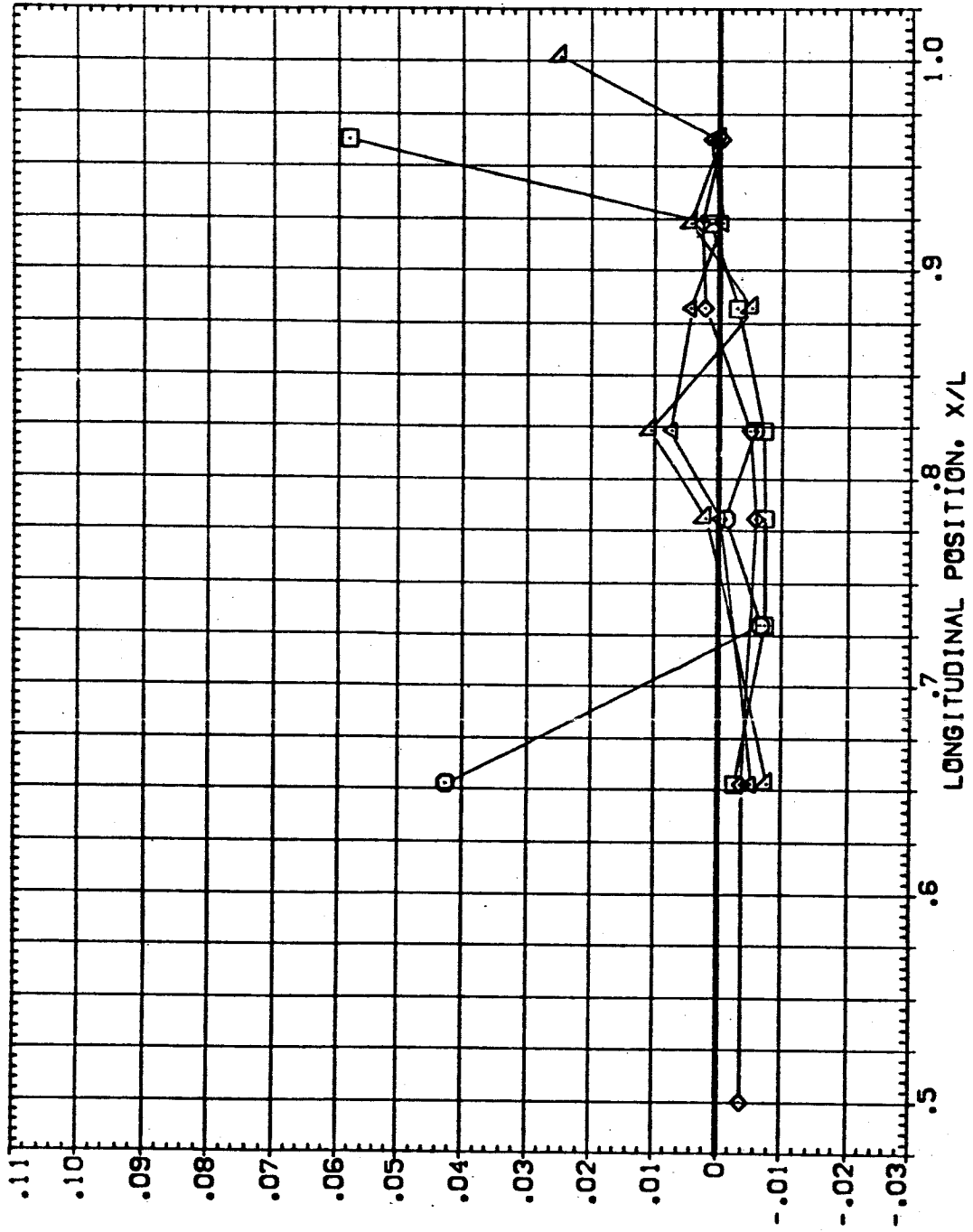


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (EEUB16)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

PHI BETA ALPHA
 255.000 .000 -4.000
 270.000
 290.000
 320.000
 360.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

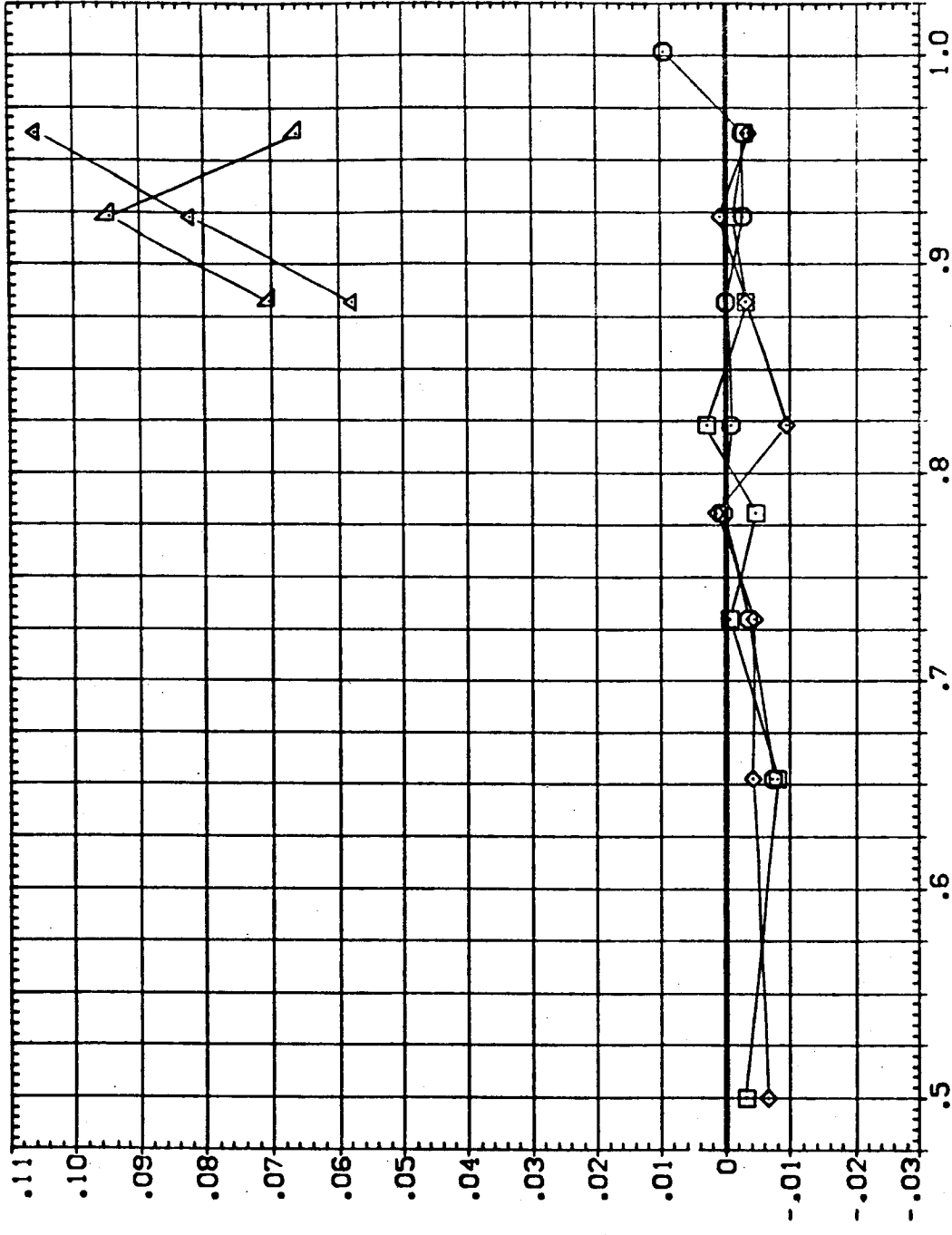


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (EEUB16)

PHI	BETA	ALPHA	ELV-18	ELV-08
180.000	.000	.000	RUDER	4.000
195.000			GIMBAL	1.400
210.000				
225.000				
240.000				

SYMBOL
 ○
 □
 ◇
 △

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

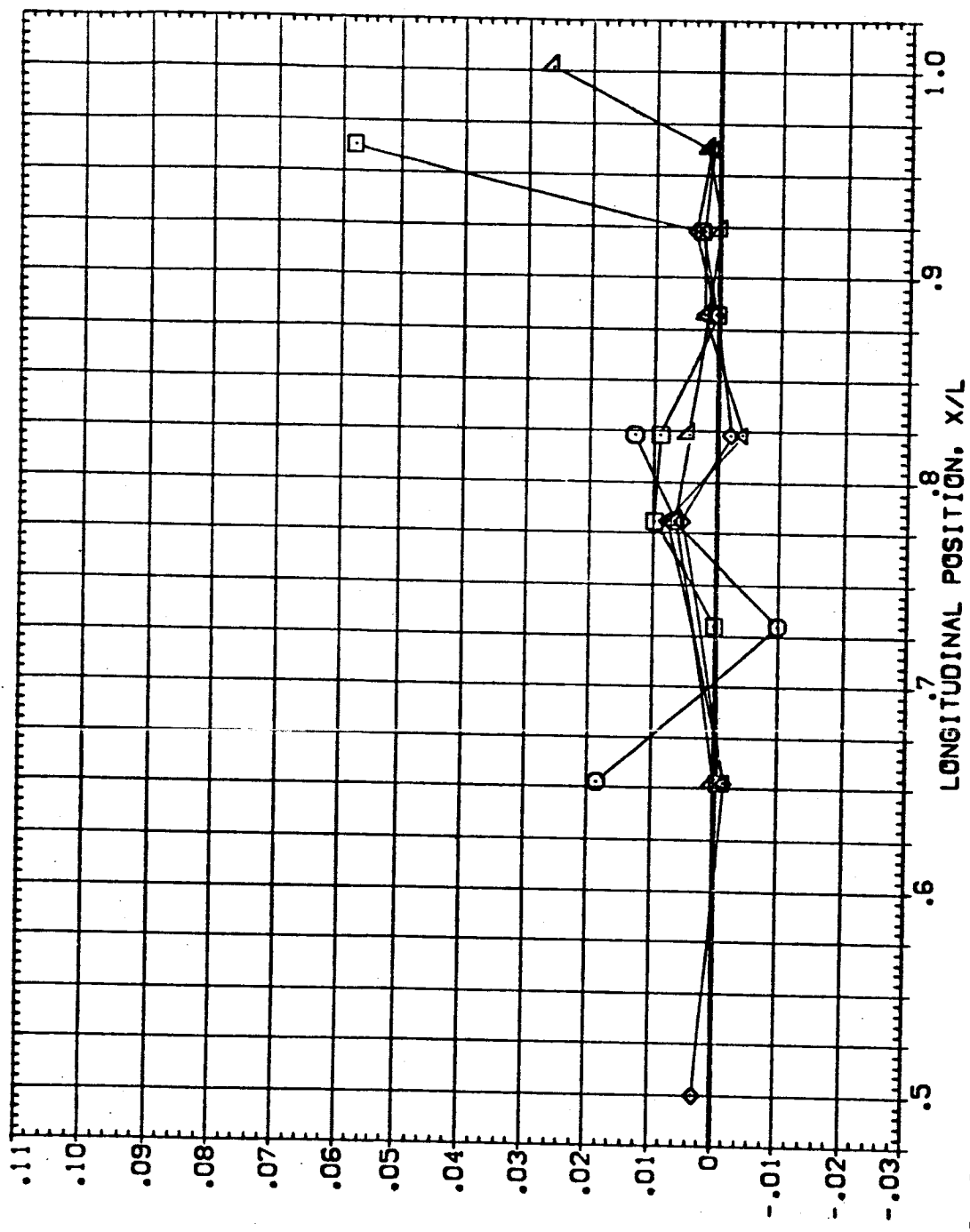


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

PARAMETRIC VALUES
 ELV-18 8.000 ELV-09 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

PHI BETA ALPHA
 255.000 .000 .000
 270.000
 290.000
 320.000
 360.000

SYMBOL
 ○
 □
 ◇
 △

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

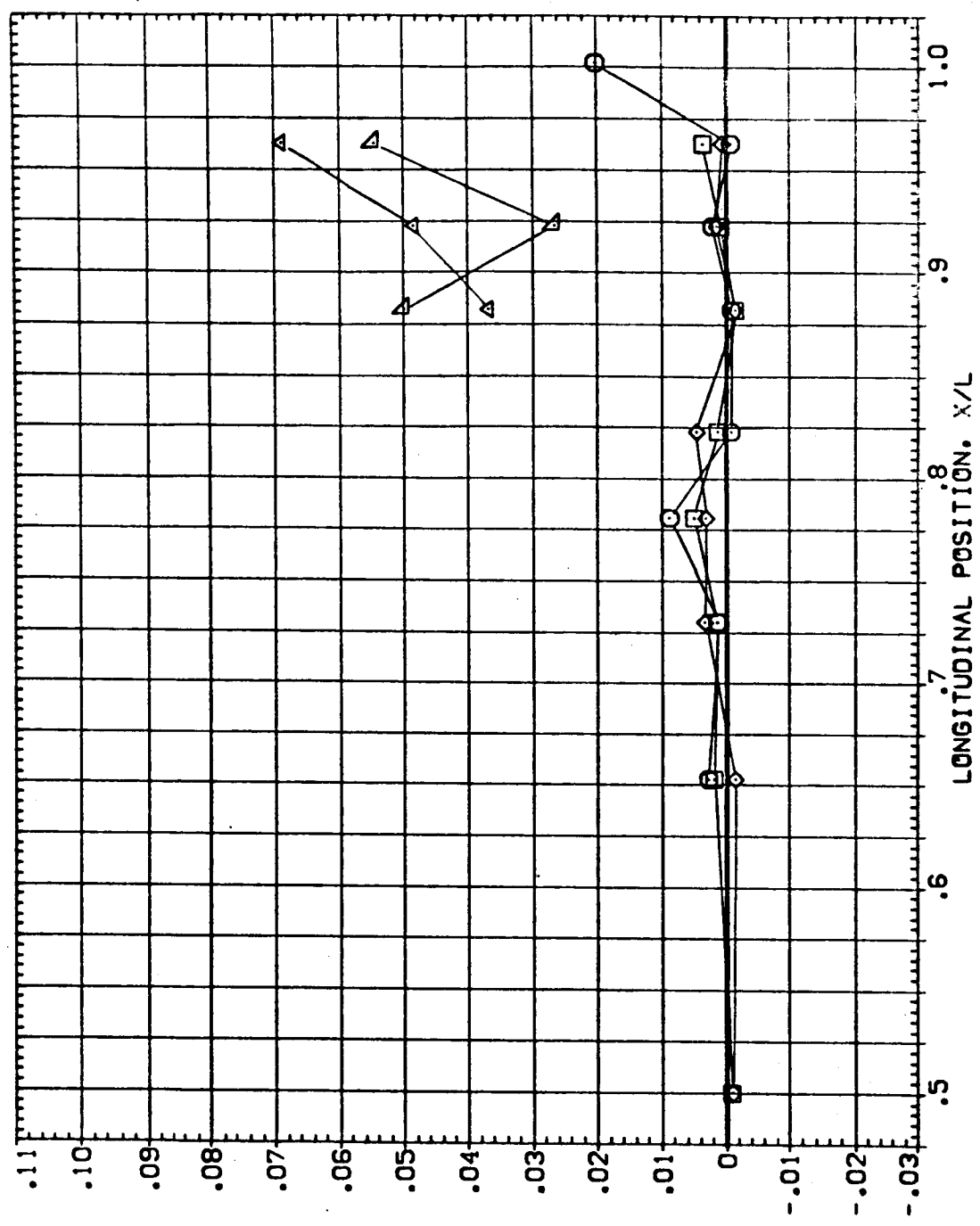


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (EEUB16)

PARAMETRIC VALUES
 ELV-19 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

PHI BETA ALPHA
 180.000 .000 4.000
 195.000
 210.000
 225.000
 240.000

SYMBOL
 □
 ◇
 △
 ○

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

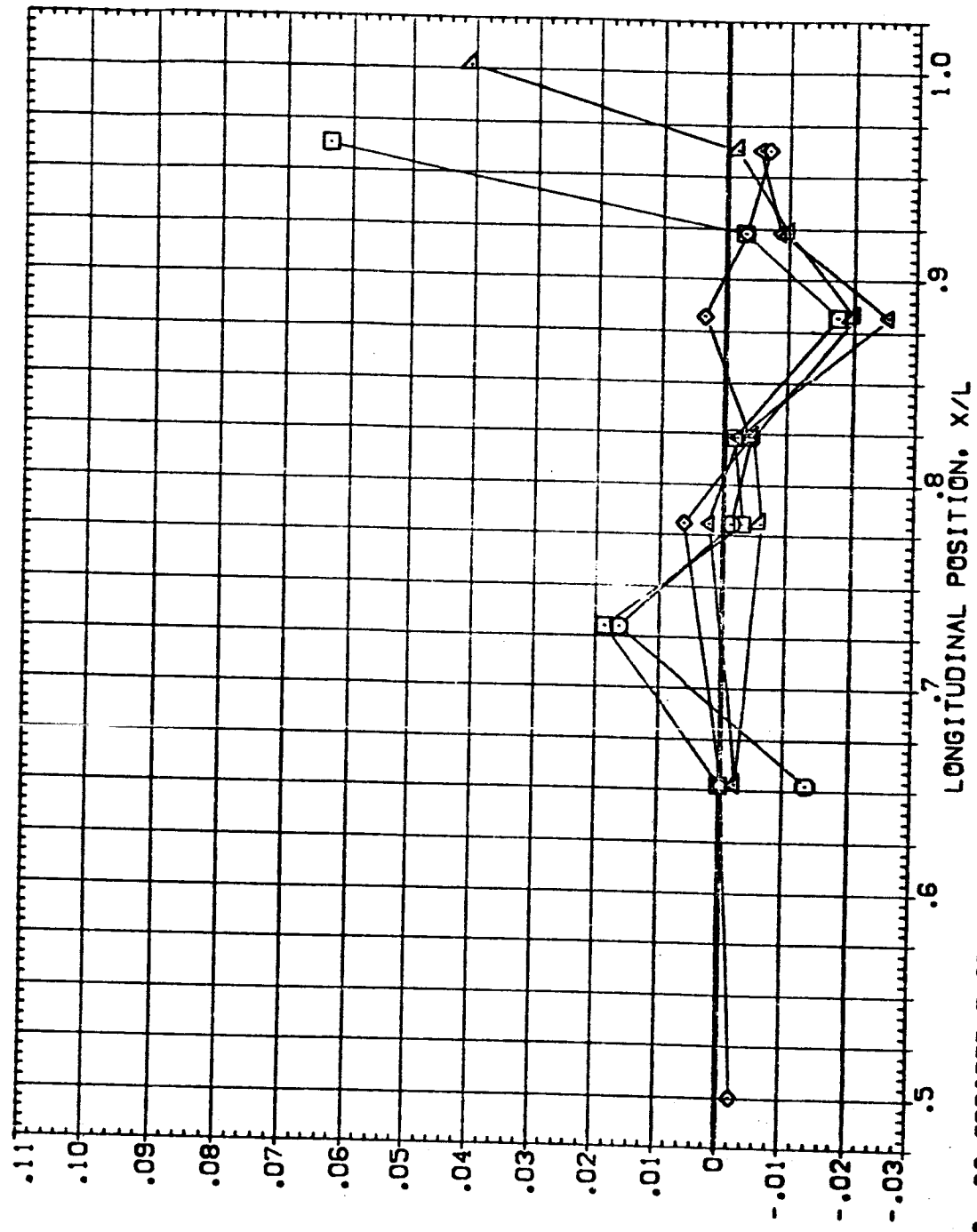


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (EEUB16)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

PHI BETA ALPHA
 255.000 .000 4.000
 270.000
 290.000
 320.000
 360.000

SYMBOL
 ▽ ◊ □ ▽

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

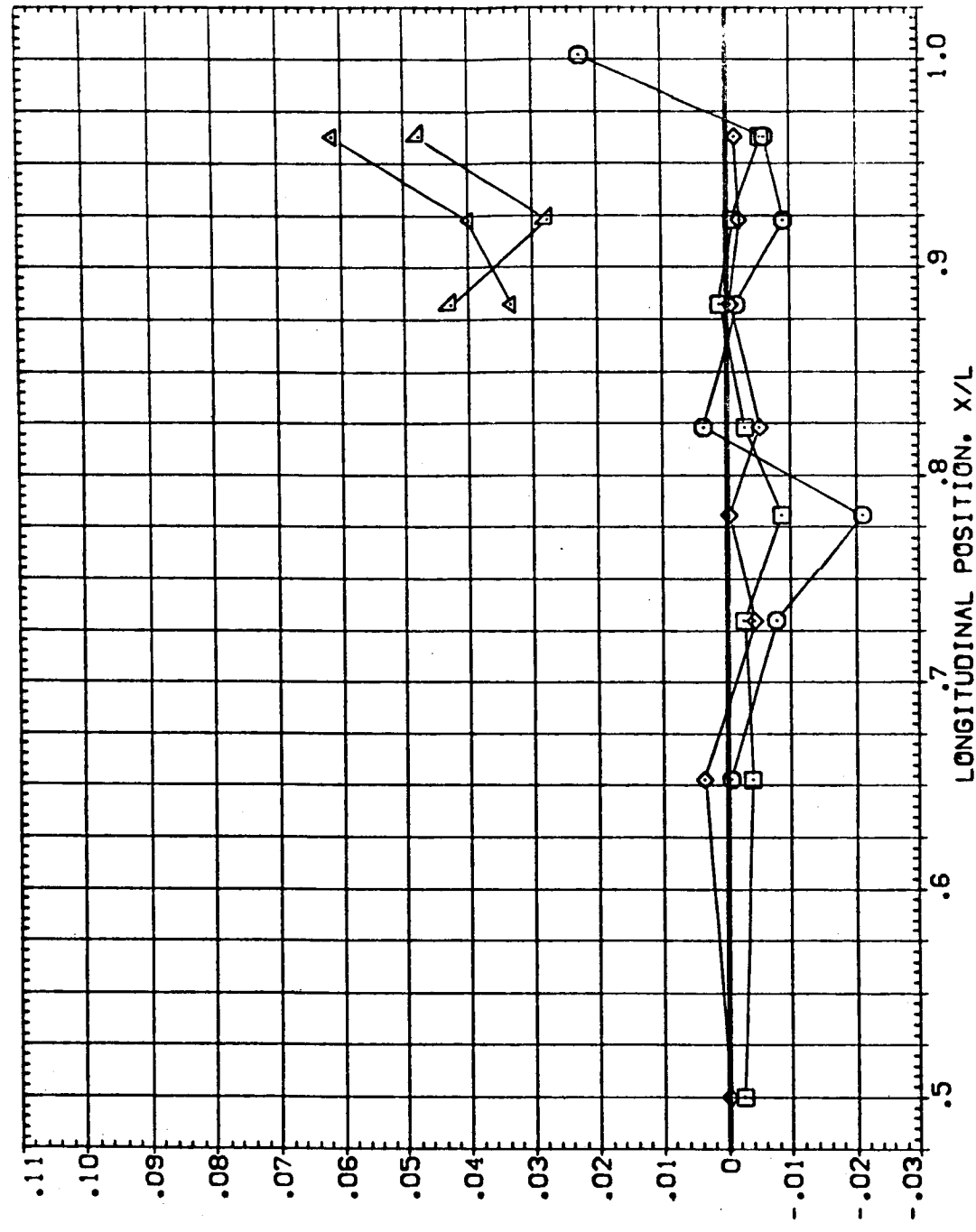


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (FEUB16)

SYMBOL PHI BETA ALPHA

○ 180.000 -1.000 .000

□ 195.000

◇ 210.000

△ 225.000

▽ 240.000

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000

RUDER .000 MACH 1.400

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

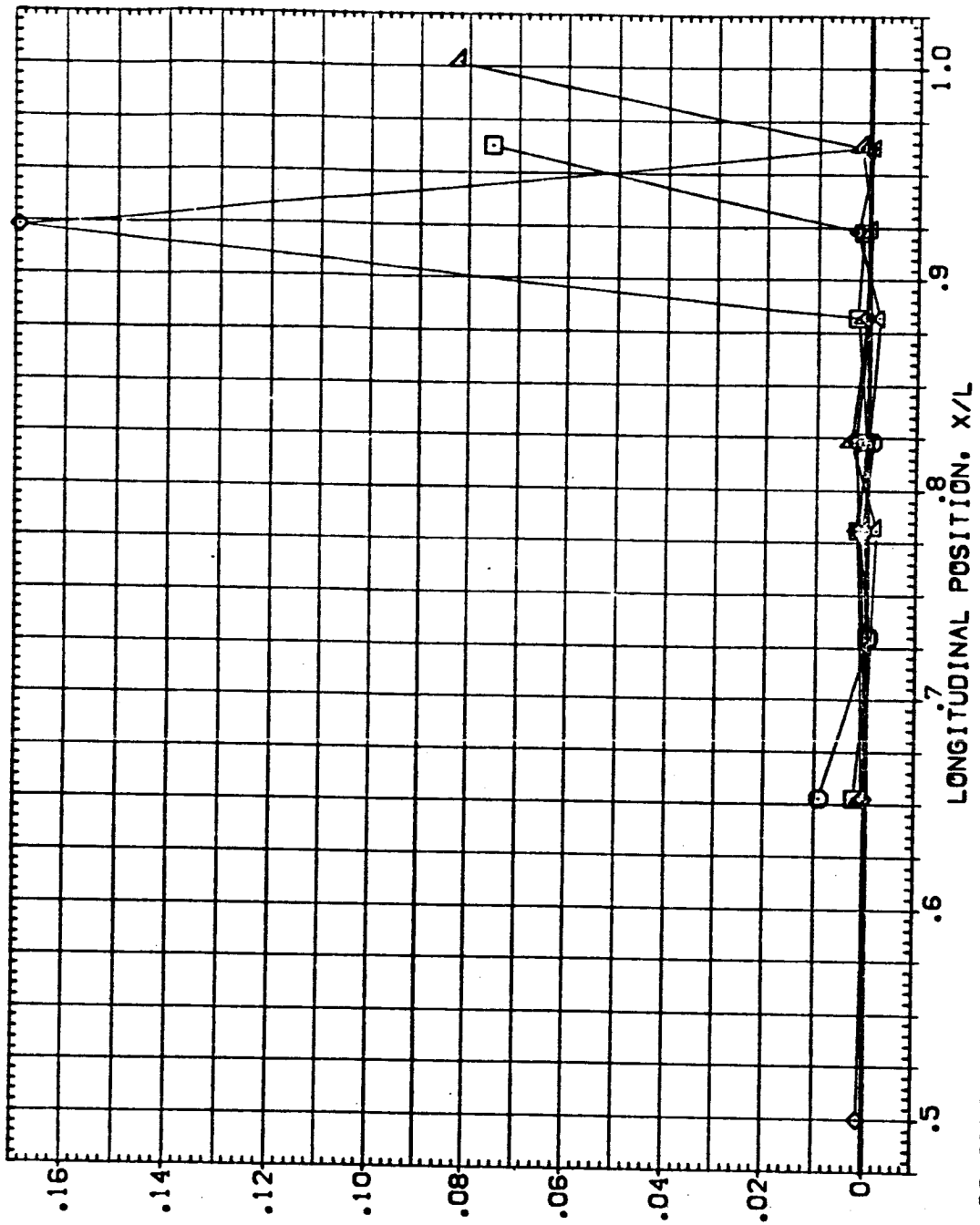


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (FEUB16)

PHI 255.000
 270.000
 290.000
 320.000
 360.000

BETA -4.000

ALPHA .000

ELV-18
 RUDDER
 GIMBAL

8.000
 .000
 1.000

ELV-08
 MACH
 4.000
 1.400

SYMBOL
 ○
 □
 ◇
 △

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

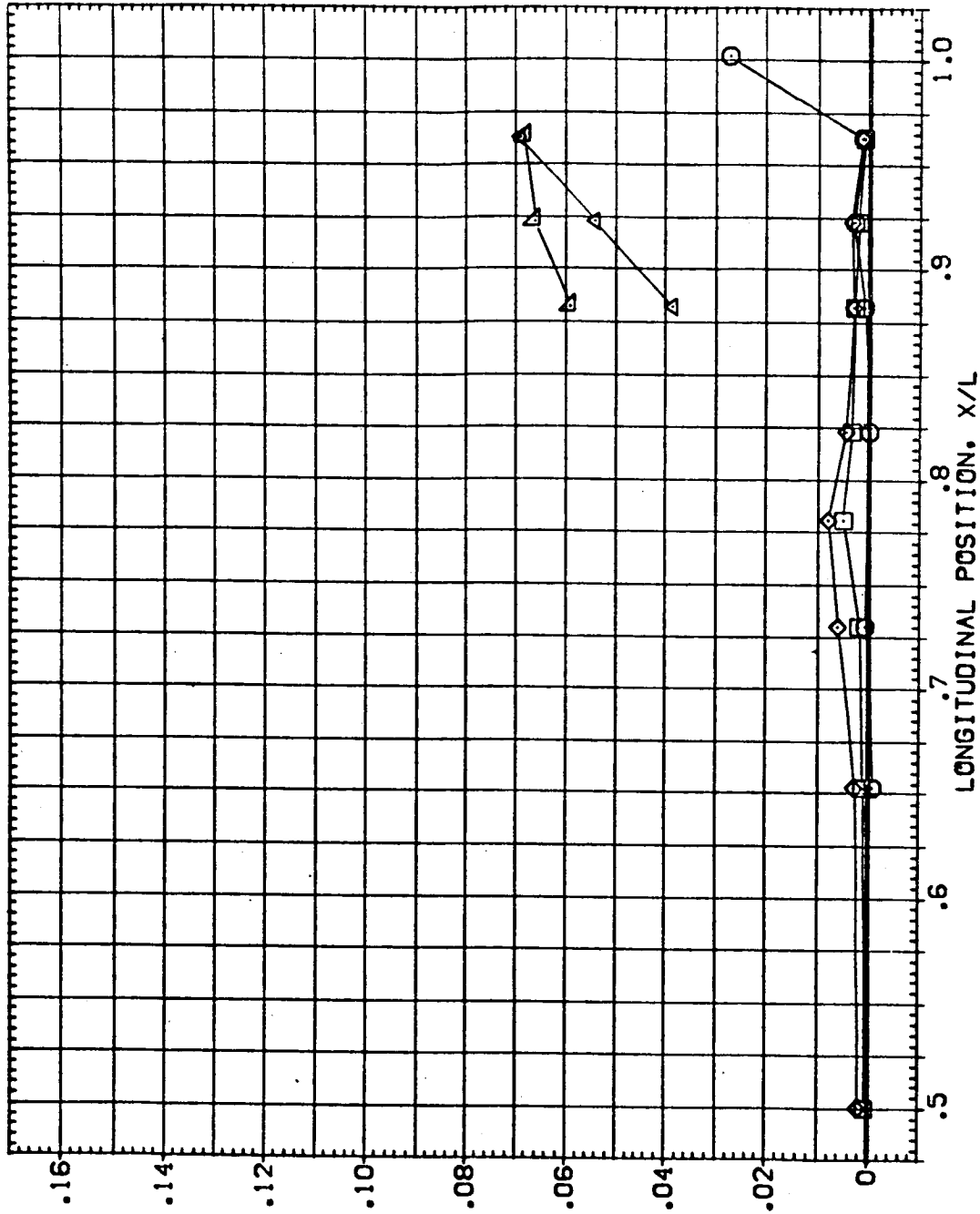


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (FEUB16)

PHI	BETA	ALPHA	ELV-18	ELV-08
180.000	4.000	.000	8.000	4.000
195.000			RUDER	MACH
210.000			1.000	1.400
225.000			GIMBAL	
240.000				

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

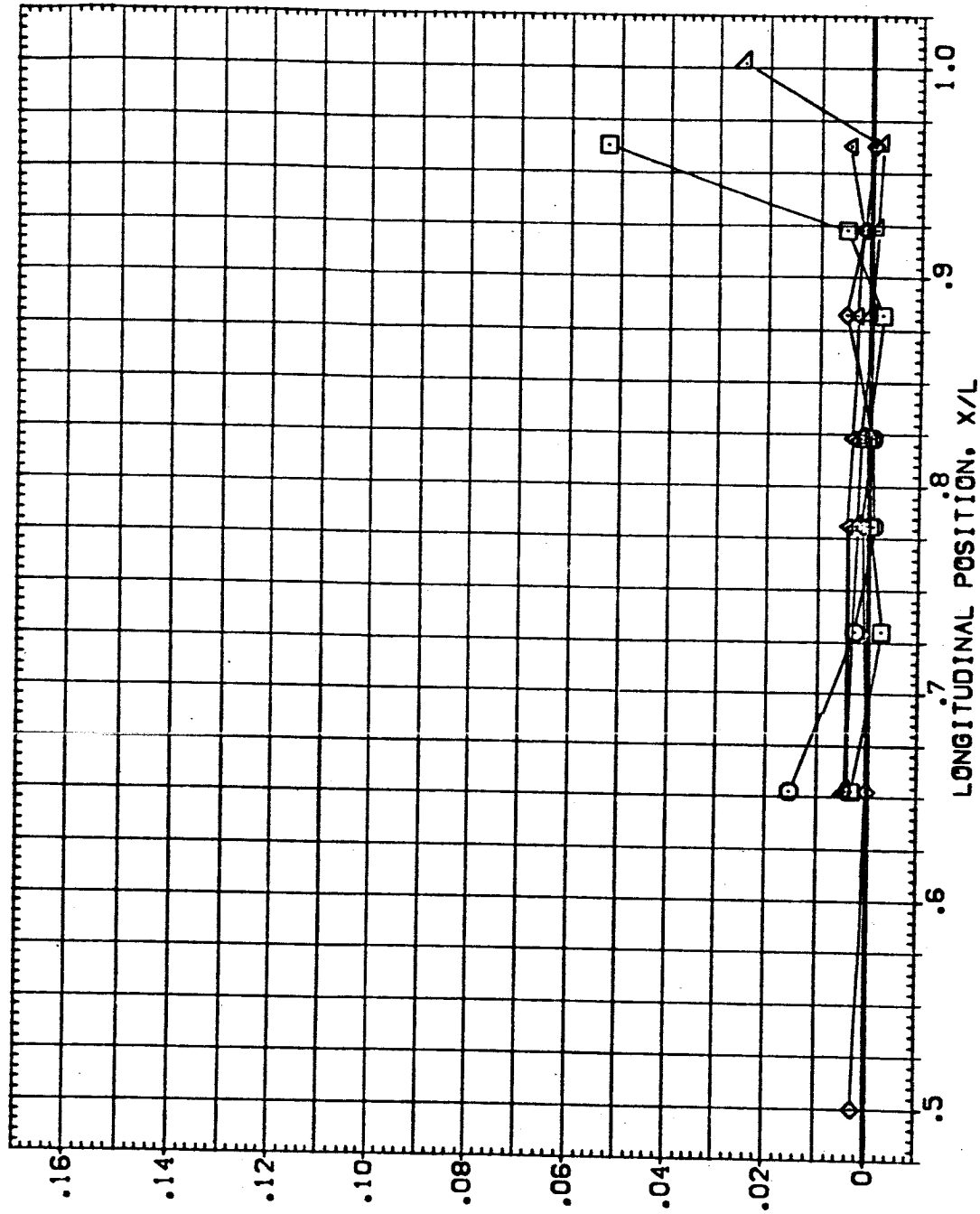


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (FEUB16)

PHI 255.000
 270.000
 290.000
 320.000
 360.000

BETA 4.000
 ALPHA .000

ELV-18
 RUDDER
 GIMBAL

PARAMETRIC VALUES
 8.000 ELV-08
 .000 MACH
 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

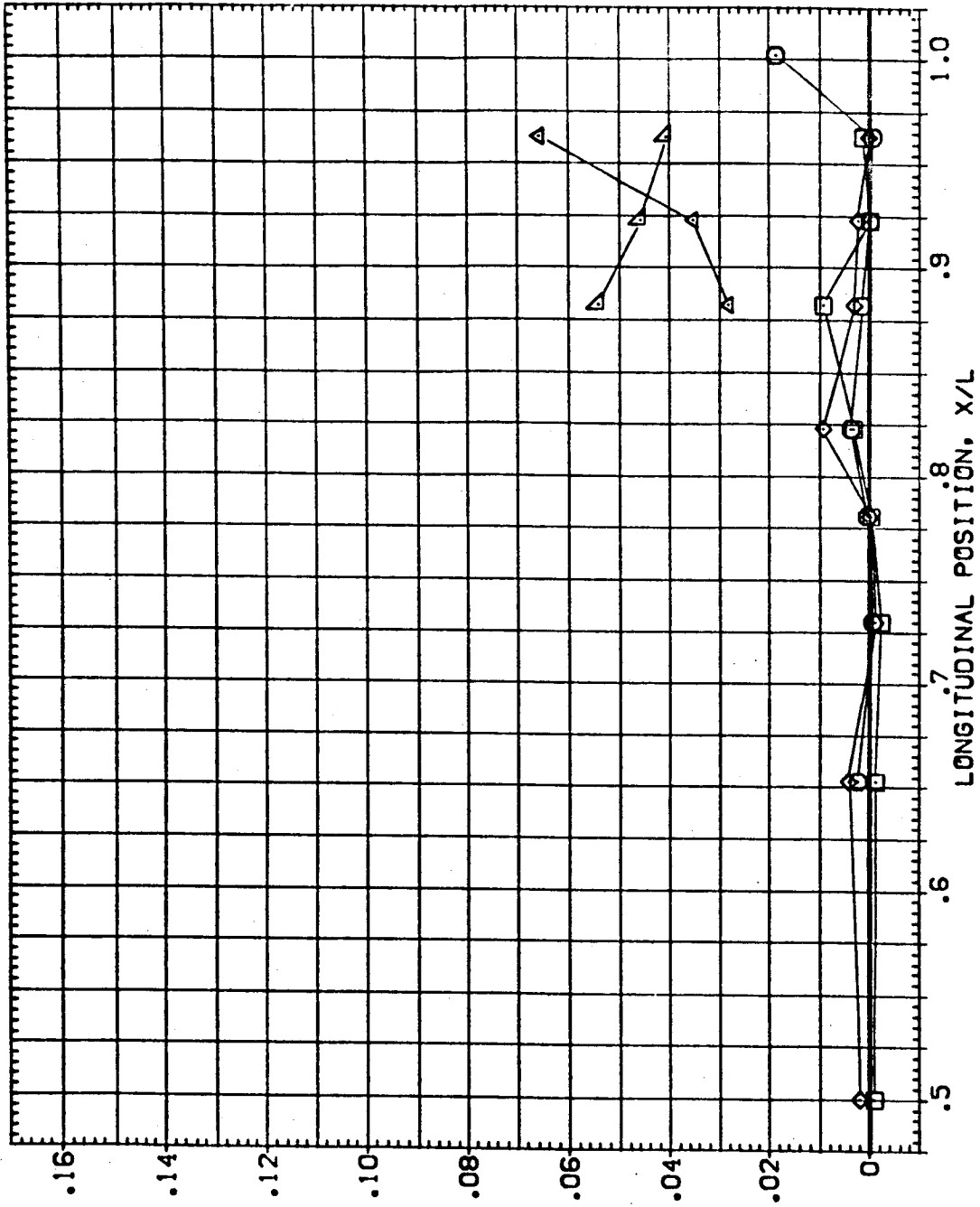


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING(BEURO1)

SYMBOL 21/8 BETA ALPHA

○	.299	.000	-4.000
□	.364		
◇	.427		
△	.534		

PARAMETRIC VALUES

ELV-18	8.000	ELV-08	4.000
RUDDER	.000	MACH	.900
GIMBAL	1.000		

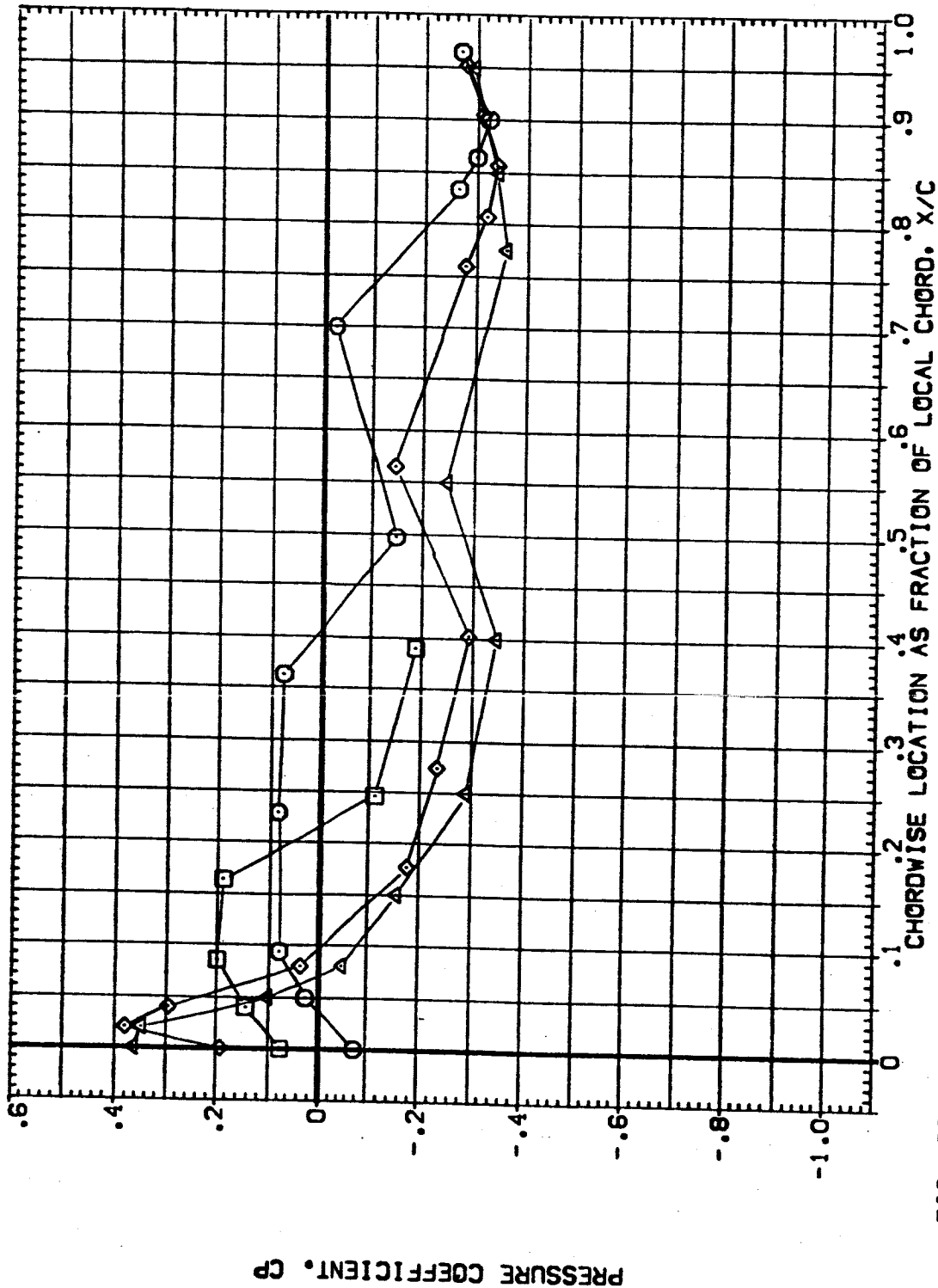


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING (BEURO1)

SYMBOL	2V/B	BETA	ALPHA	ELV-1B	ELV-09
○	.289	.000	.000	RUDER	MACH
□	.364			GIMBAL	
◇	.427				
△	.534				

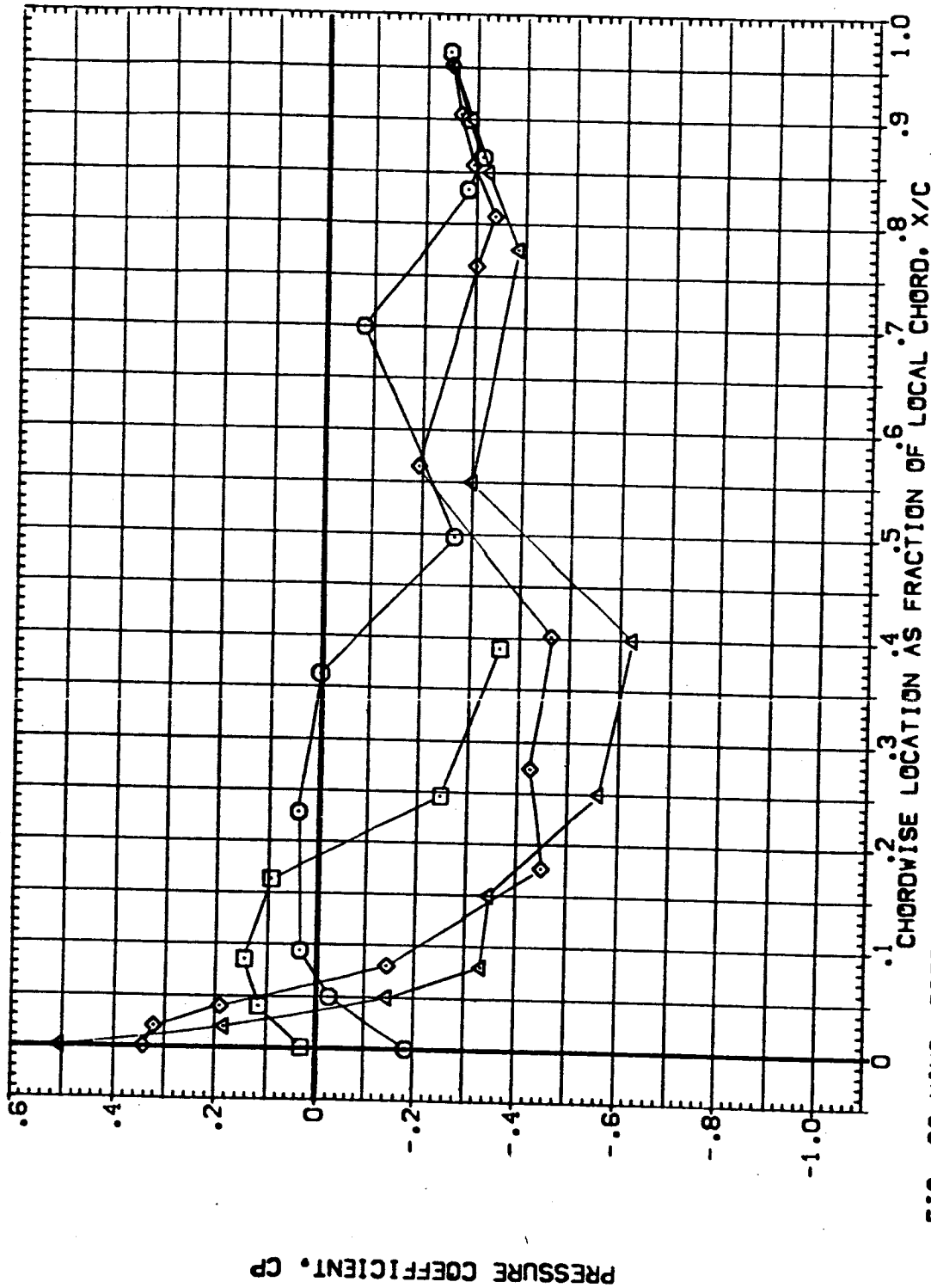


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

SYMBOL ZY/B BETA ALPHA

○ .641 .000 .000

□ .780 .000 .000

◇ .887 .000 .000

PARAMETRIC VALUES

ELV-18 8.000 ELV-09 4.000

RUDDER .000 MACH .900

GIMBAL 1.000

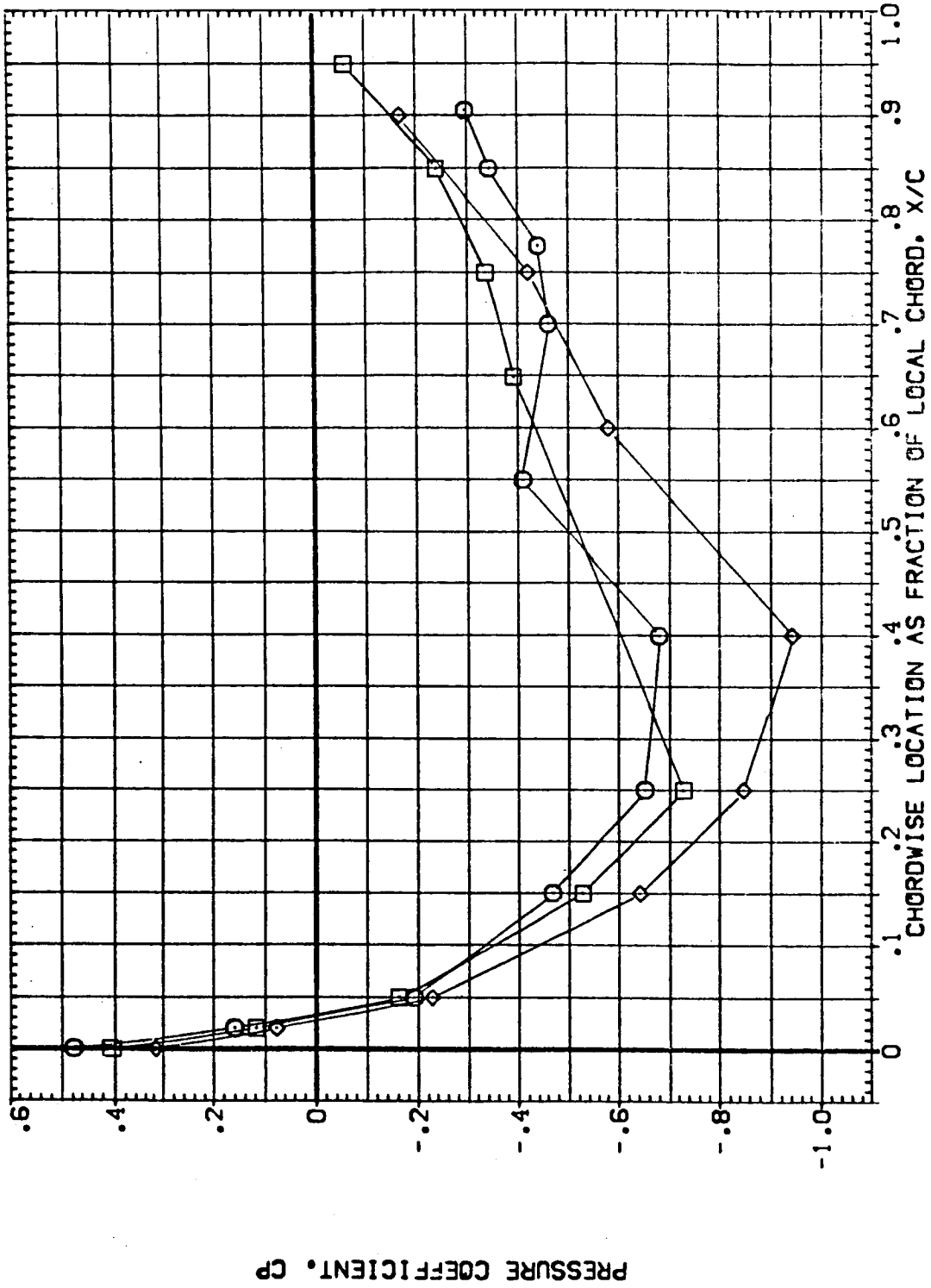


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF



ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING(BEURO1)

SYMBOL	2N/B	BETA	ALPHA	PARAMETRIC VALUES
○	.239	.000	4.000	ELV-18 8.000
□	.364			ELV-08 .000
◇	.427			RUDDER 1.000
△	.534			GIMBAL .900

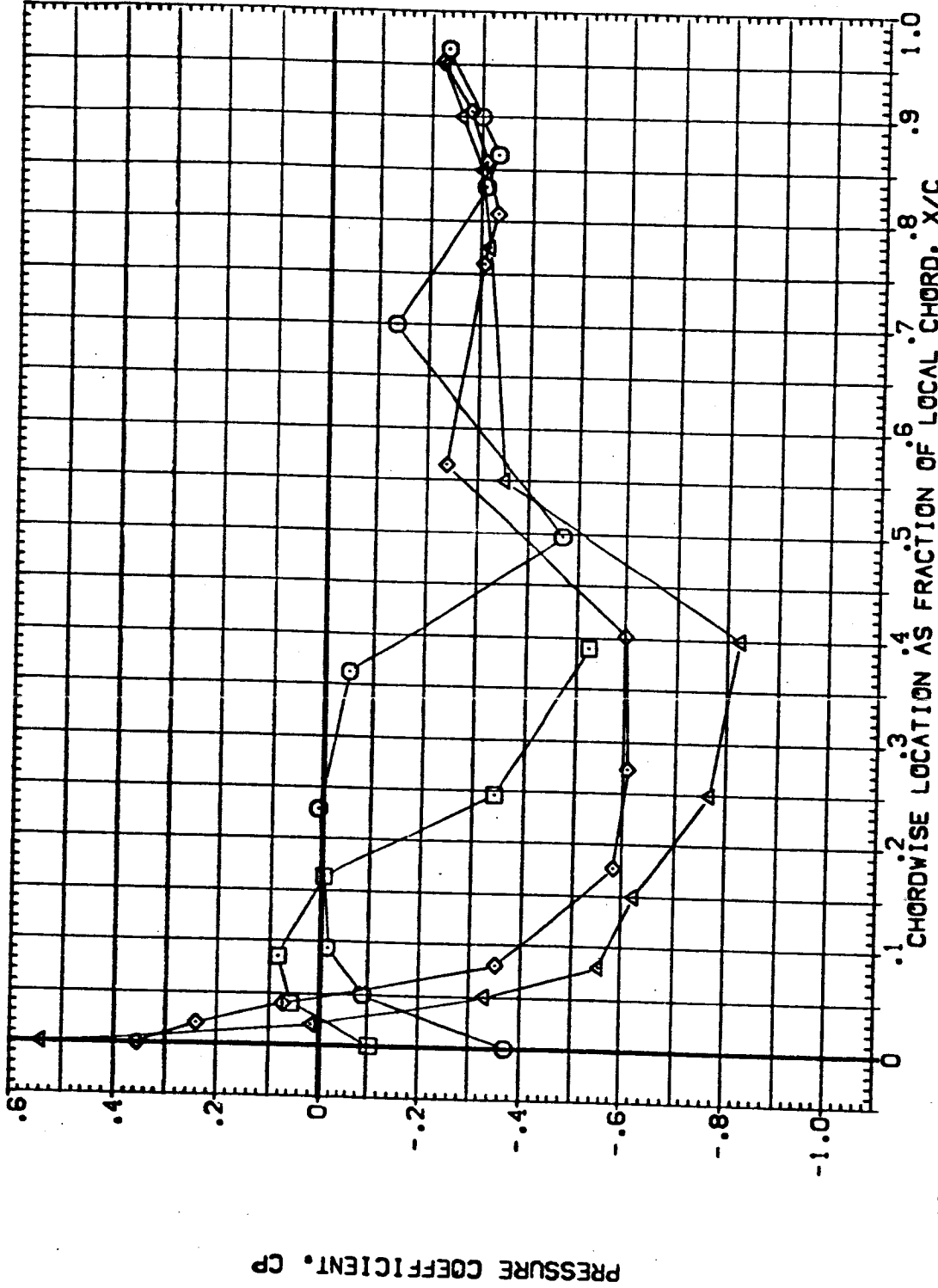


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING(BEUR01)

SYMBOL 2Y/B BETA ALPHA
 ○ .641 .000 4.000
 □ .780 .000 4.000
 ◇ .887 .000 4.000

PARAMETRIC VALUES
 ELV-19 9.000 ELV-08 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

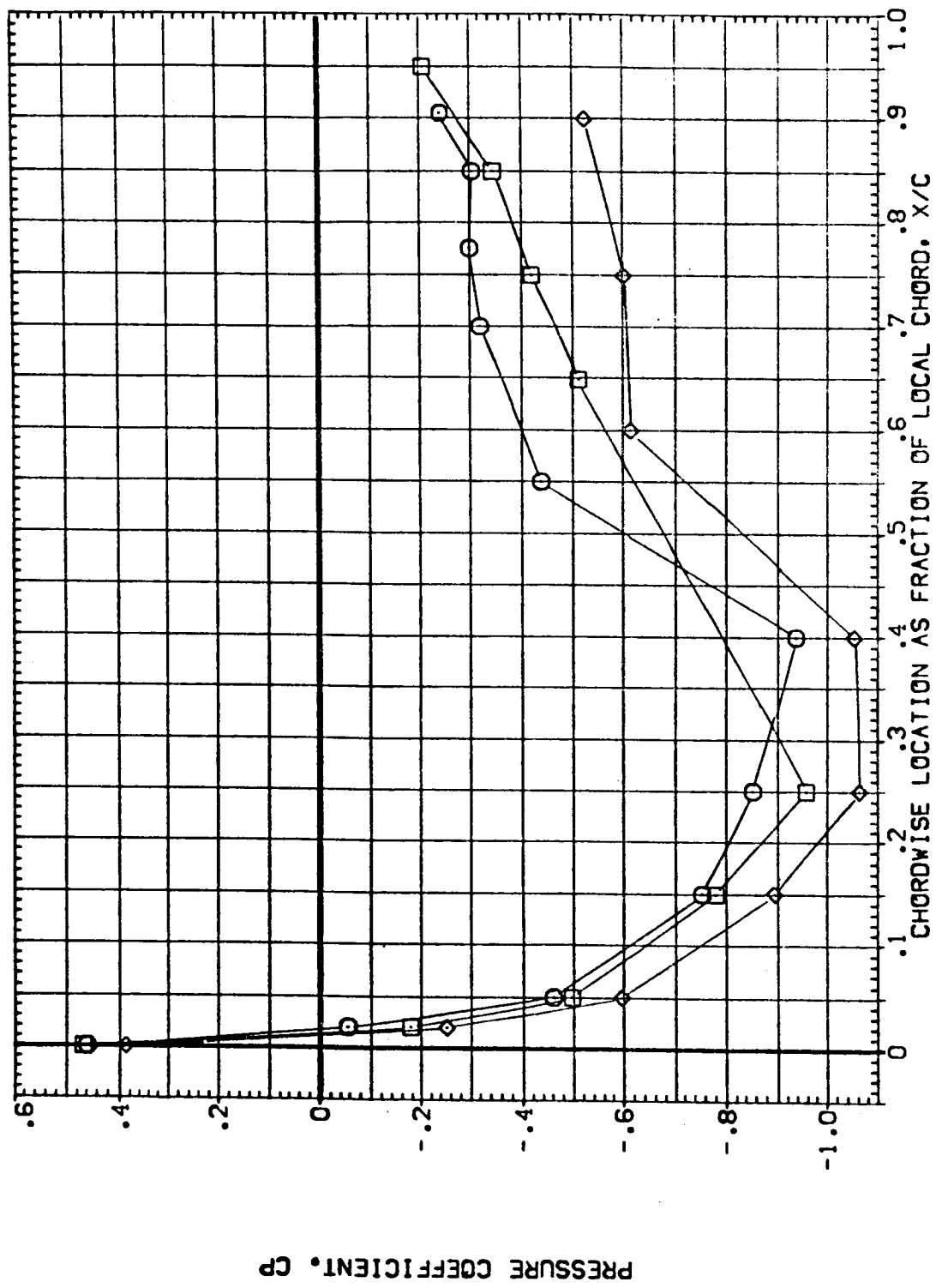


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING(CEURO1)

SYMBOL		BETA		ALPHA		PARAMETRIC VALUES	
○	◇	21/8	-1.000	8.000	ELV-08	4.000	ELV-08
□	◇	.299		.000	RUDDER	.000	MACH
◇	◇	.361			GIMBAL	1.000	
▽	◇	.427					
	◇	.531					

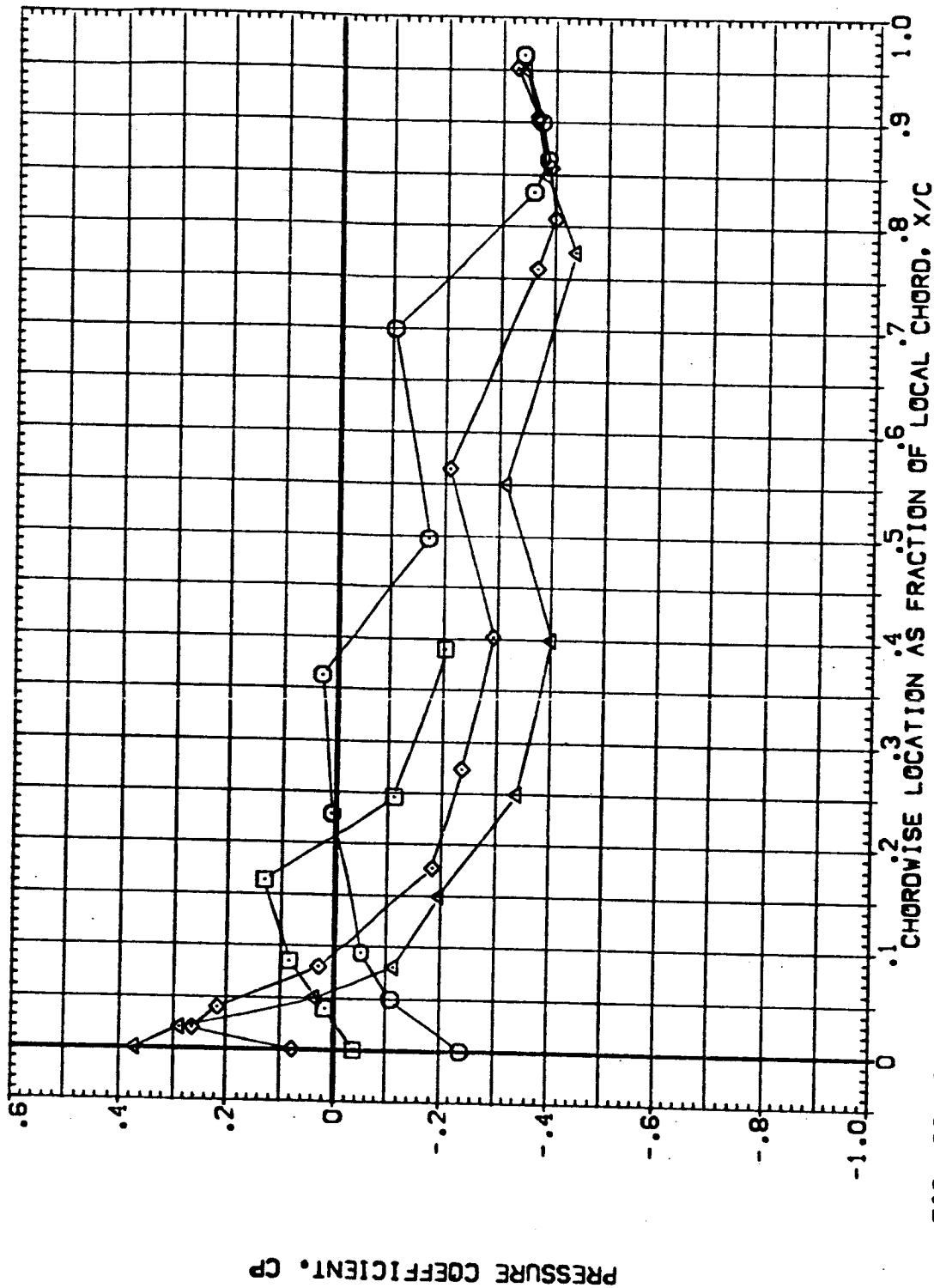


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING(CEURO1)

SYMBOL	Z ₁ /B	BETA	ALPHA	PARAMETRIC VALUES
○	.641	-4.000	.000	ELV-1B 8.000 ELV-08 4.000
□	.780			RUDER .000 MACH .900
◇	.887			GIMBAL 1.000

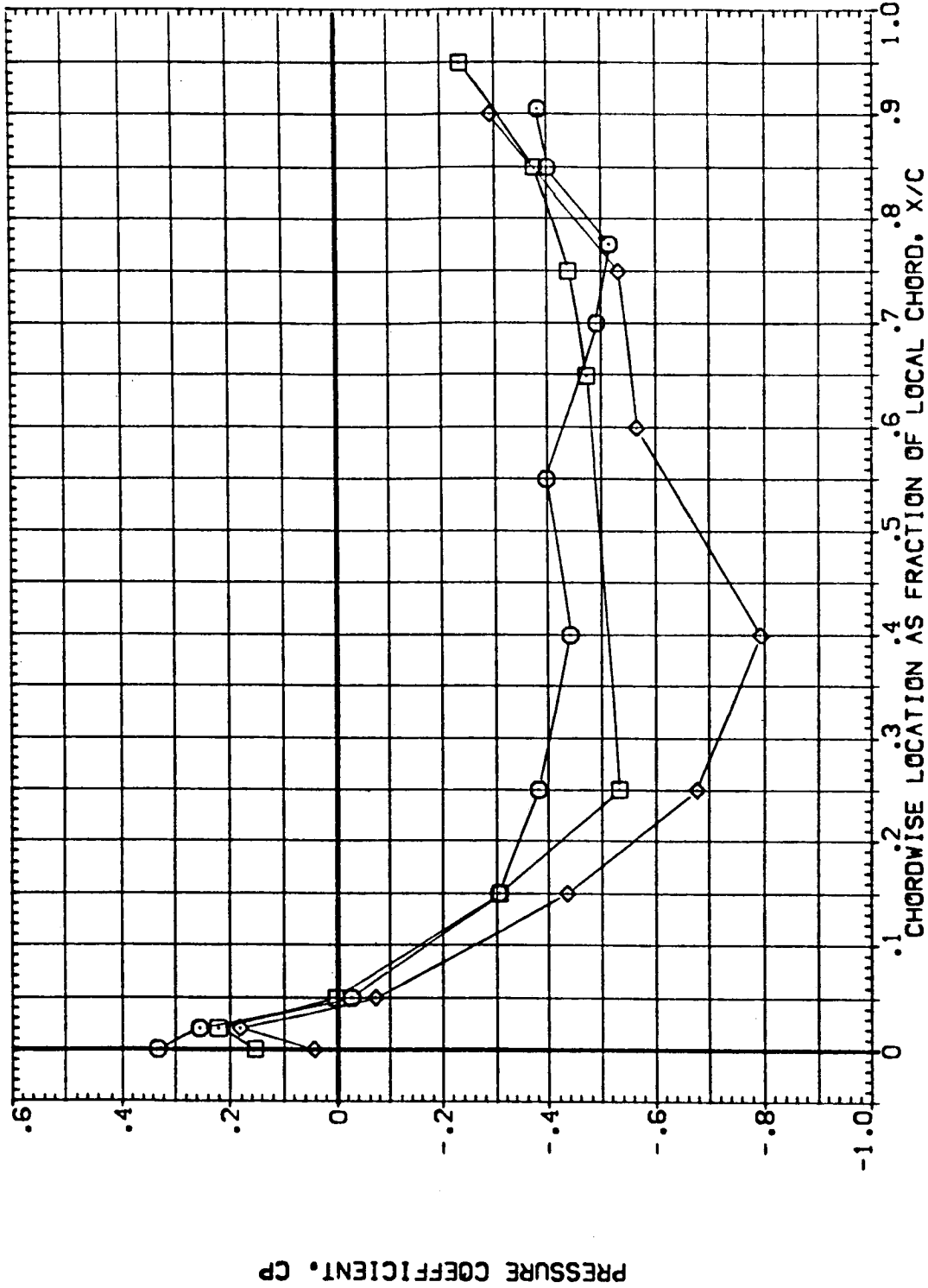


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING (CEURO1)

SYMBOL		BETA		ALPHA		PARAMETRIC VALUES	
○	□	.299	4.000	.000	8.000	ELV-09	4.000
◇	△	.364			.000	RUDER	MACH
		.427			1.000	GIMBAL	1.000
		.534					

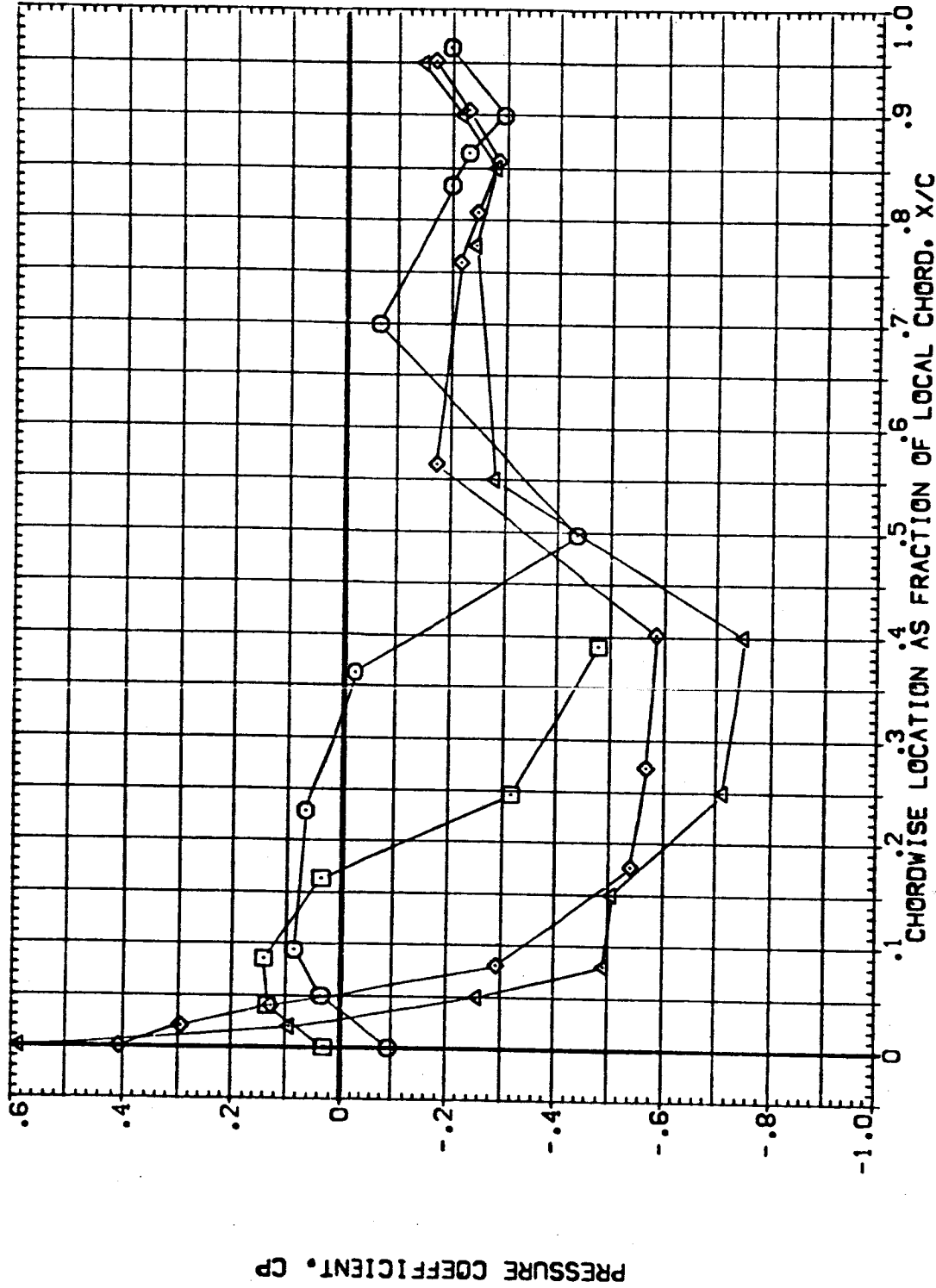


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING(CEURO1)

SYMBOL	Z ₁ /B	BETA	ALPHA	ELV-1B	ELV-0B	PARAMETRIC VALUES
○	.641	1.000	.000	RUDDER	.000	8.000
□	.780			GIMBAL	1.000	4.000
◇	.887					.900

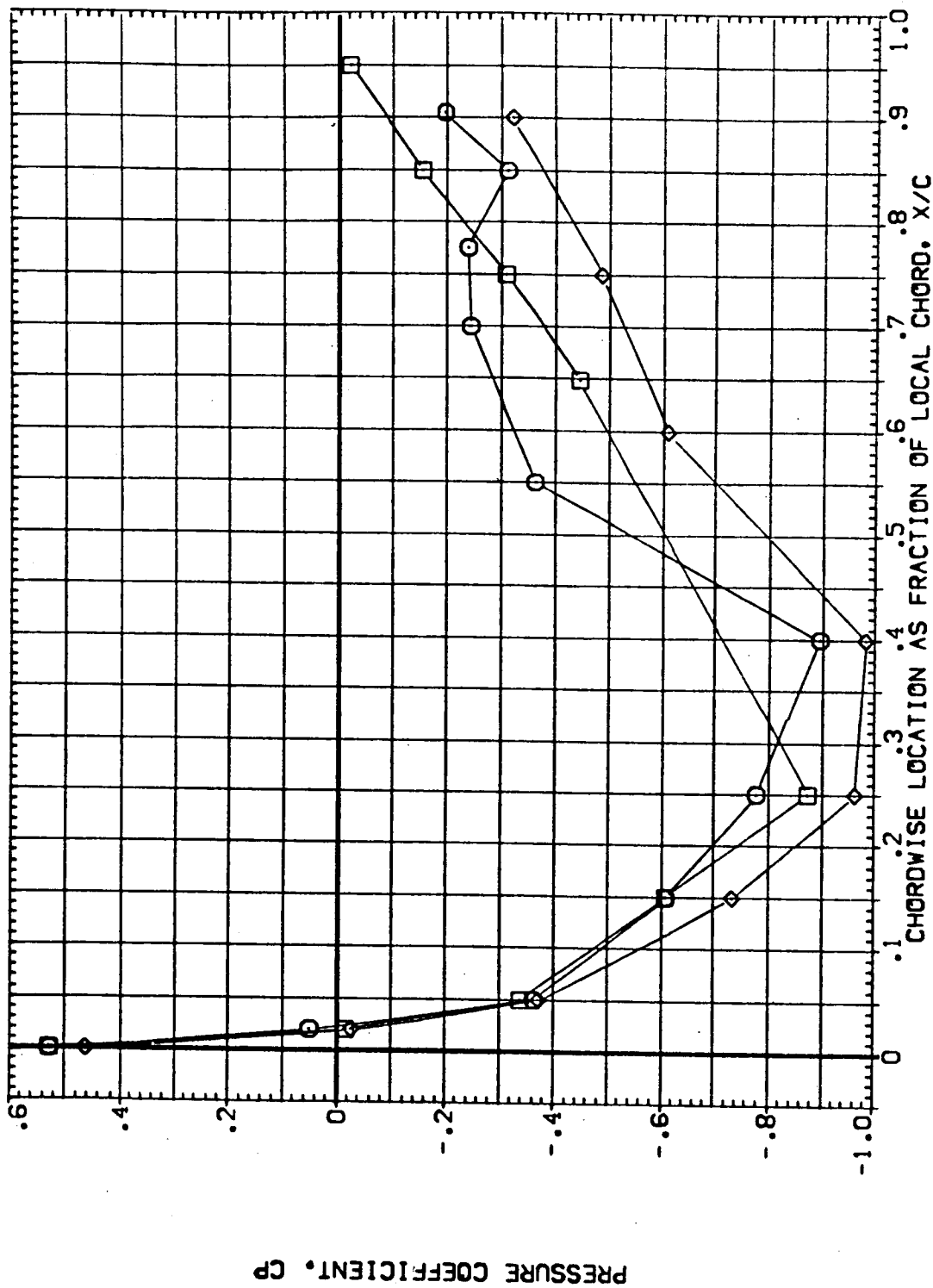


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SR3-OFF MPS-OFF TOP WING (BEURO2)

SYMBOL	2 γ /8	BETA	ALPHA	ELV-1B	PARAMETRIC VALUES
○	.299	.000	-1.000	RUDDER	8.000 ELV-08
□	.364			GIMBAL	.000 MACH
◇	.427				1.000
△	.534				

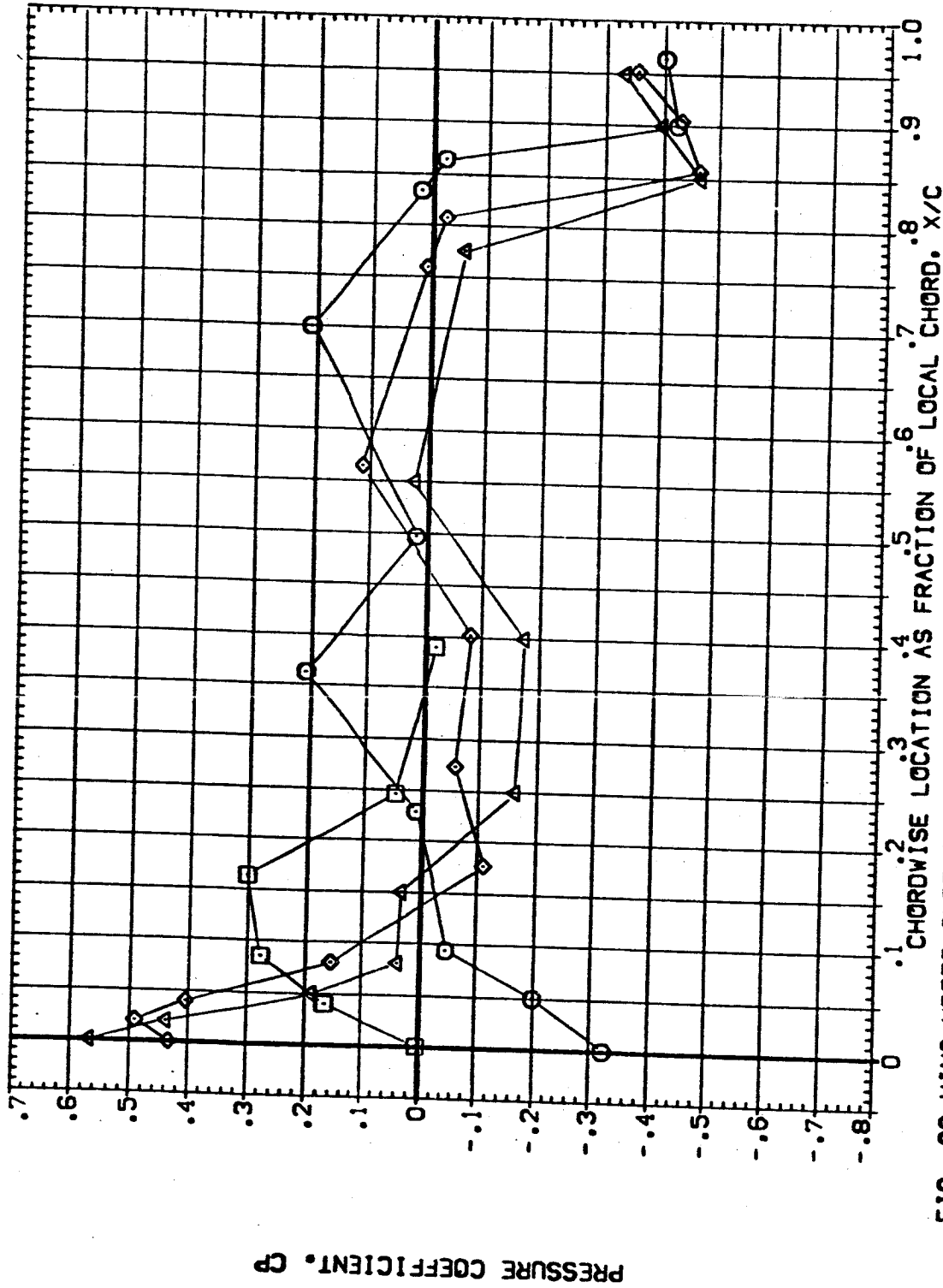


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

AKU11-U141A19 U1S+STRUT SRB-OFF MPS-OFF TOP WING(BEURO2)

PARAMETRIC VALUES
 8.000 ELV-08 4.000
 .000 MACH 1.100

ELV-18
 RUDDER
 GIMBAL

BETA .000 ALPHA -4.000

ZY/B .841
 .780
 .887

SYMBOL
 ○ □ ◇

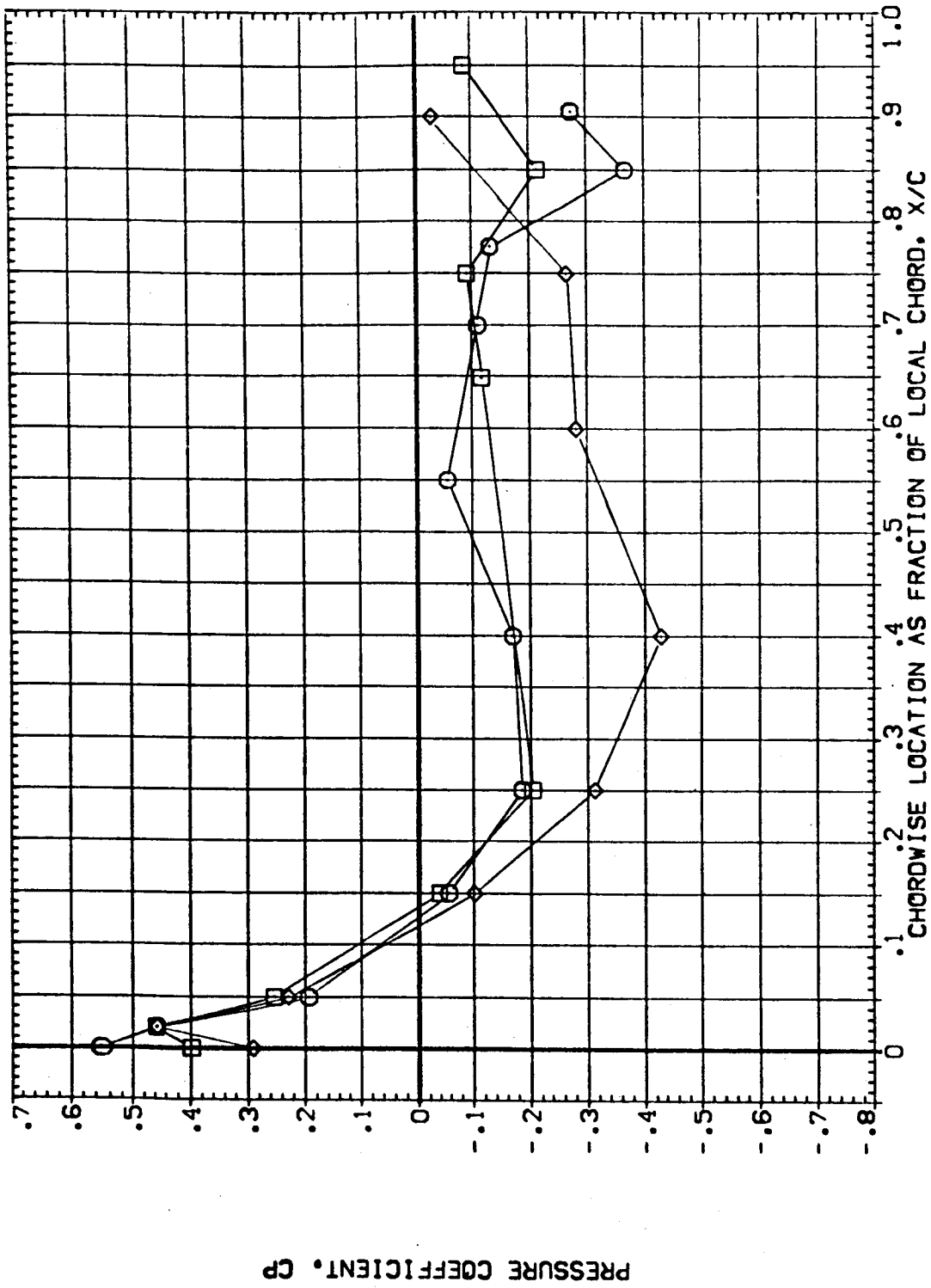


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF



ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING(BEUR02)

SYMBOL	2 γ /8	BETA	ALPHA	PARAMETRIC VALUES
○	.299	.000	.000	ELV-18 8.000 ELV-08 4.000
□	.364	.000	.000	RUDER .000 MACH 1.100
◇	.427			
△	.534			

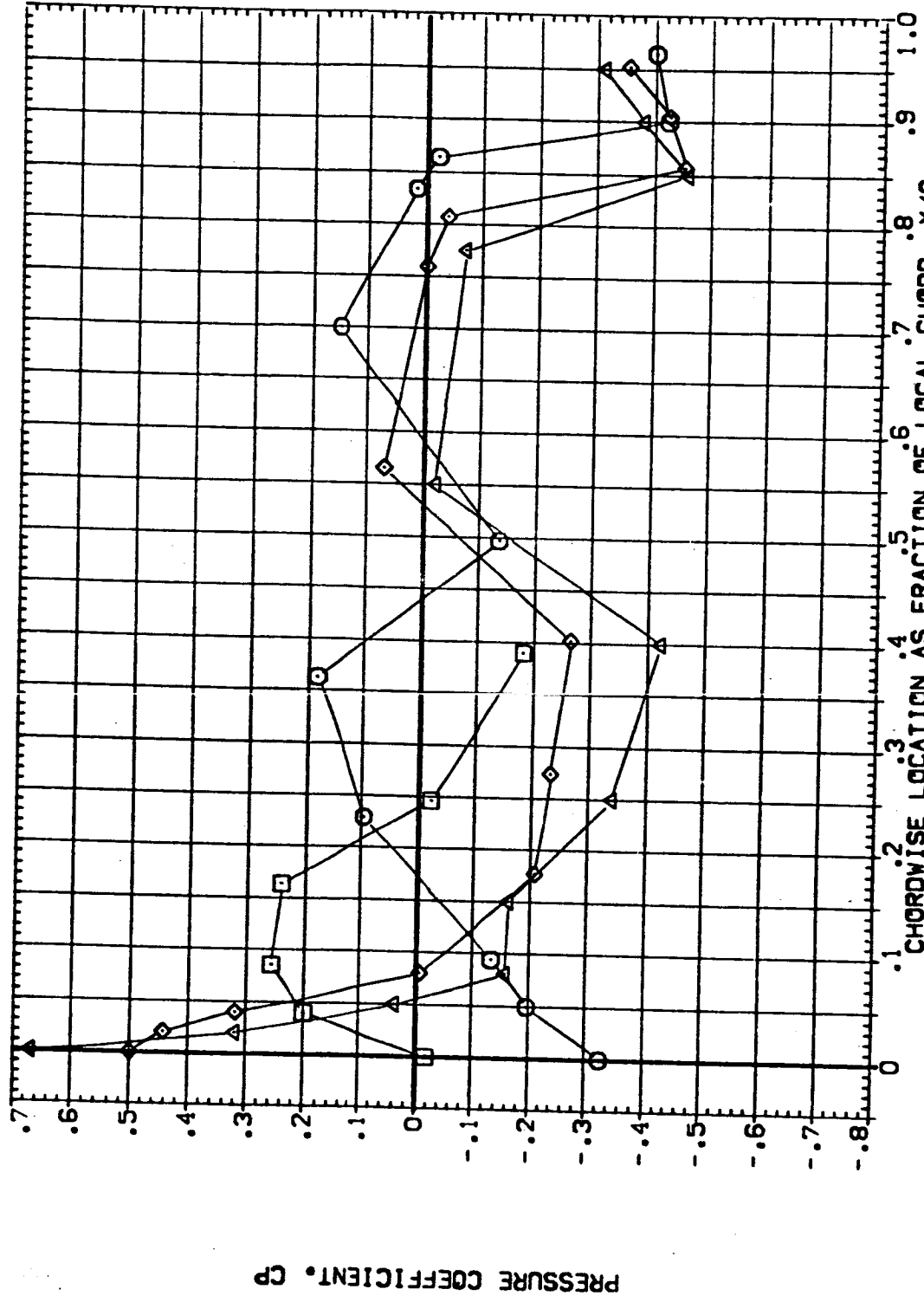


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF.

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING(BEUR02)

PARAMETRIC VALUES
 ELV-1B 6.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

SYMBOL 21/8 BETA ALPHA
 .611 .000
 .780 .000
 .887 .000

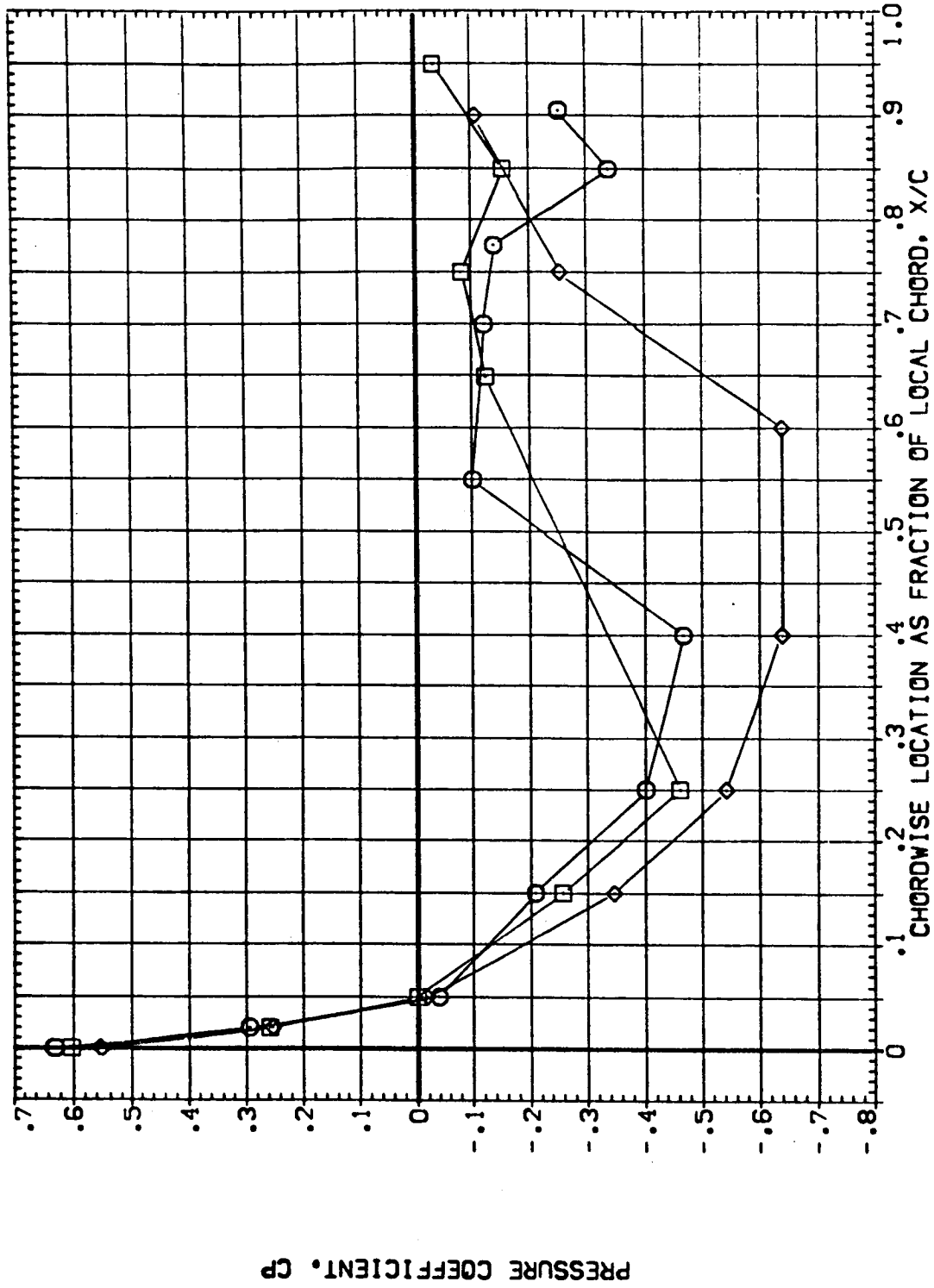


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF



ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING (BEUR02)

SYMBOL	Z1/B	BETA	ALPHA	ELV-1B	PARAMETRIC VALUES
○	.299	.000	1.000	8.000	ELV-08 4.000
□	.364			.000	RUDER MACH 1.100
◇	.427			1.000	
▽	.534				

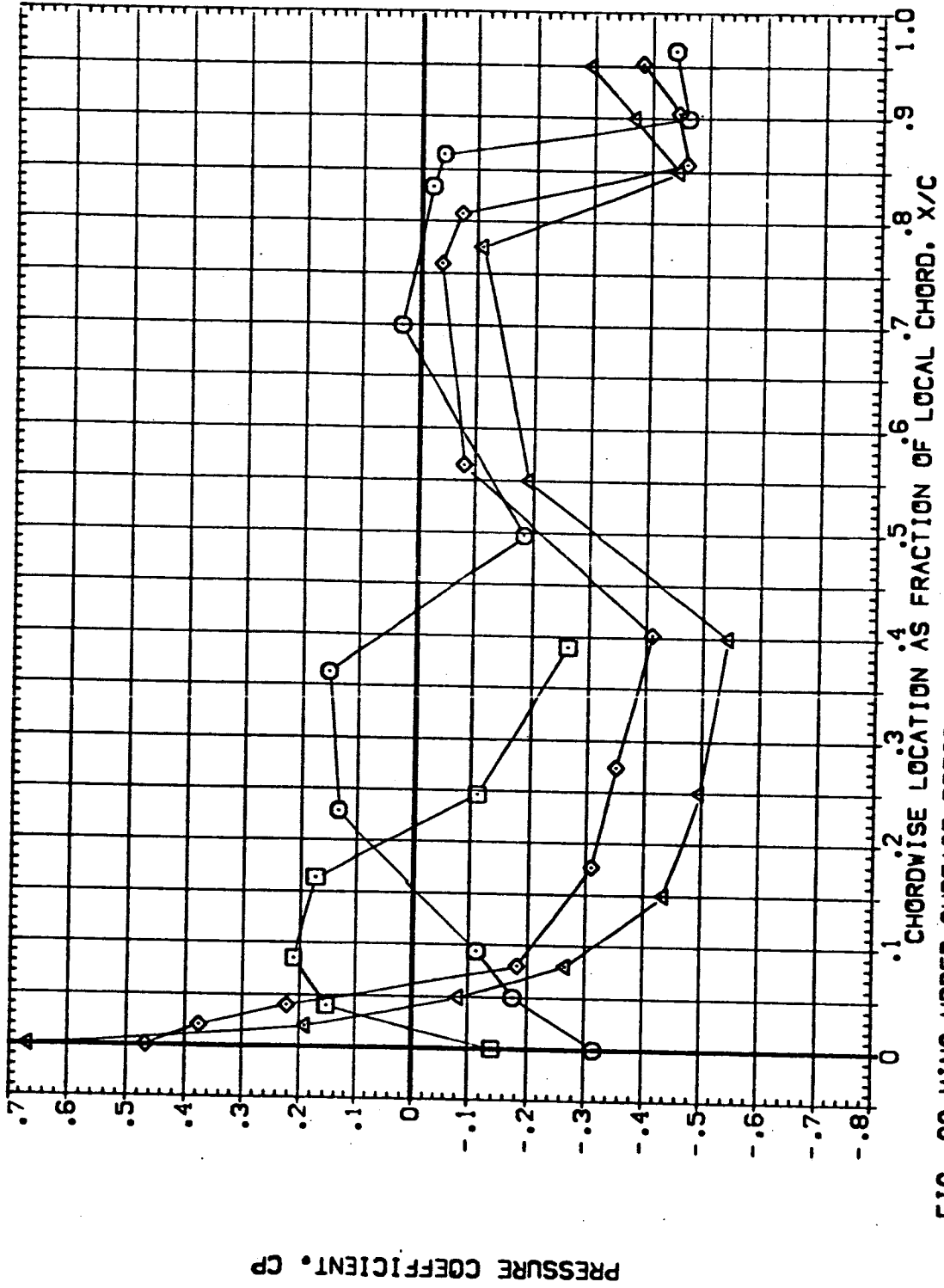


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING (BEUR02)

SYMBOL Z₁/B BETA ALPHA

○ .641 .000 4.000

□ .780 .000 4.000

◇ .887 .000 4.000

PARAMETRIC VALUES

ELEV-OB ELEV-OB 4.000

RUDDER MACH 1.100

GIMBAL 1.000

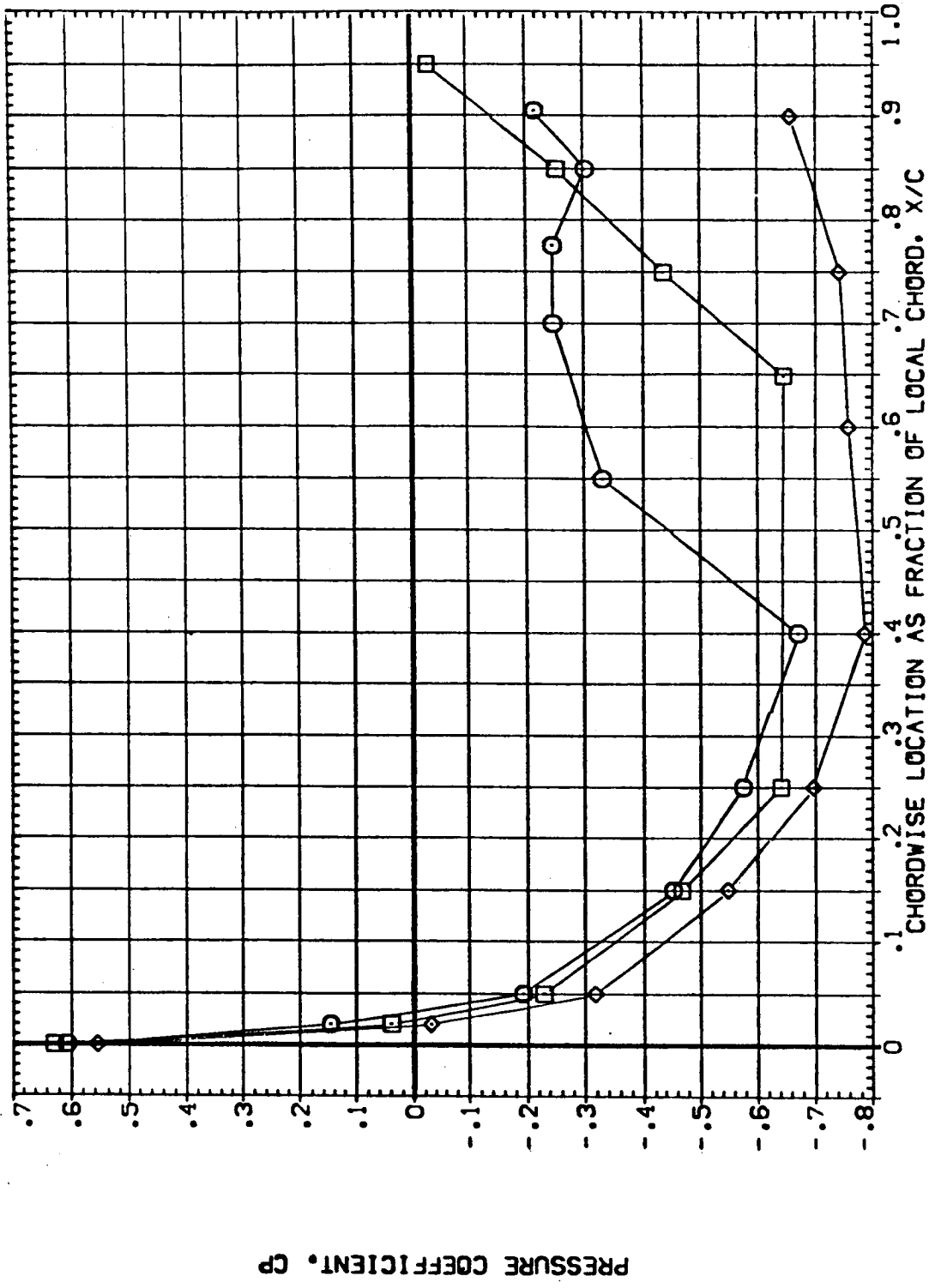


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING(CEURO2)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-09 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

BETA -4.000 ALPHA .000
 Z1/B .299
 .364
 .427
 .534

SYMBOL
 ○ □ ◇ ▽

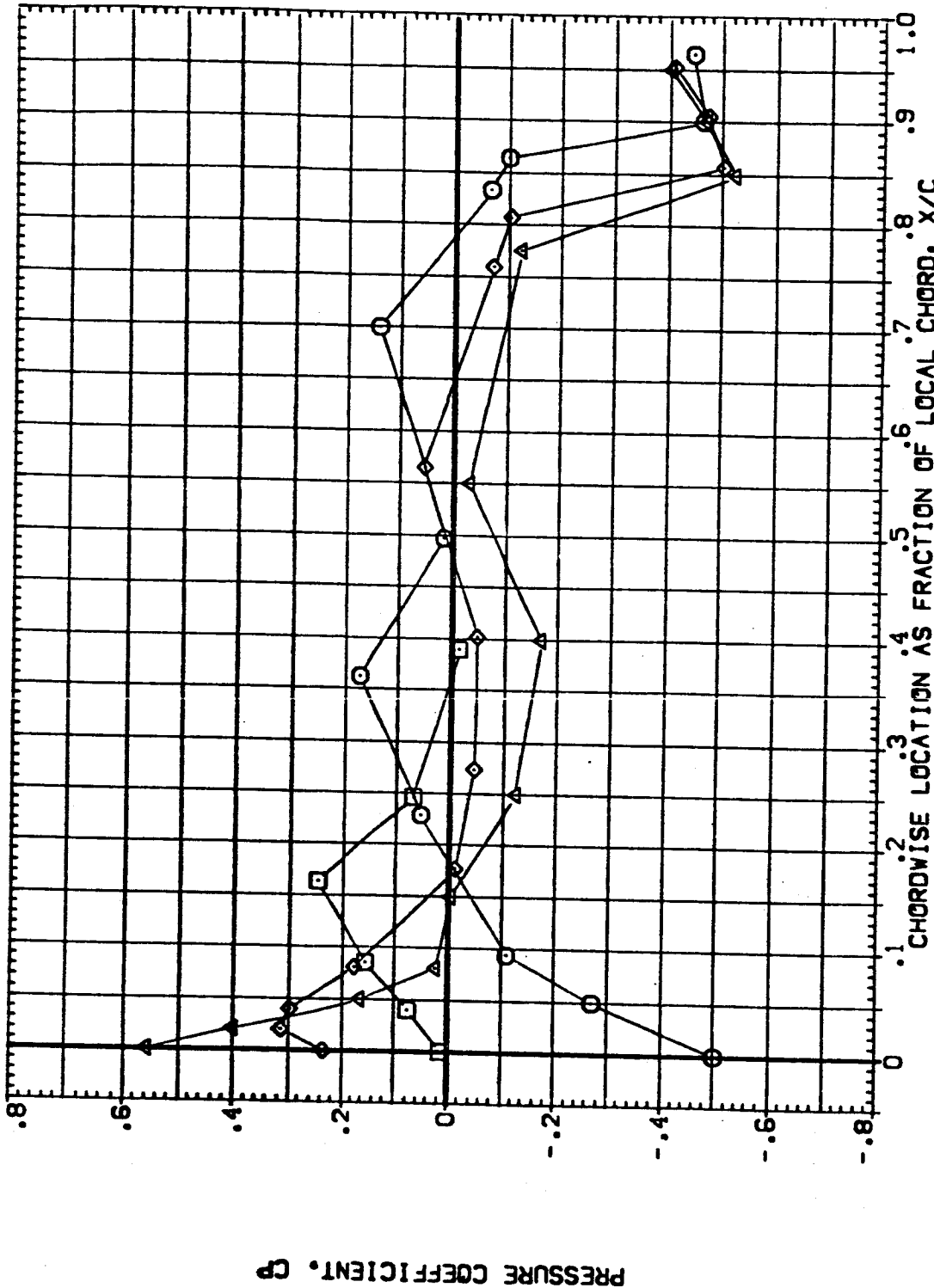


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING(CEURO2)

SYMBOL Z₁/B BETA ALPHA

PARAMETRIC VALUES
 ELV-18 ELV-08
 RUDDER .000 MACH
 GIMBAL 1.000 4.000
 1.100

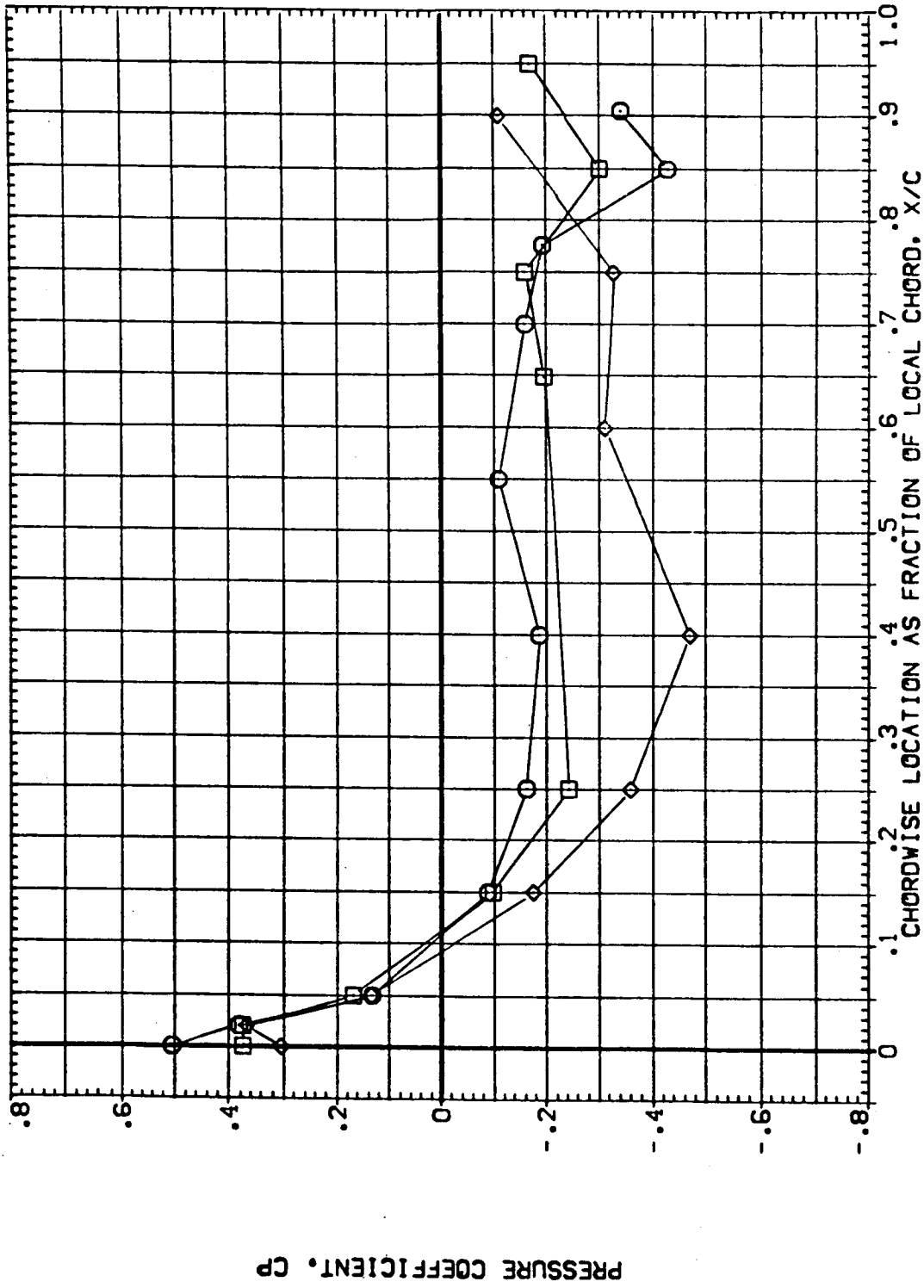


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING(CEURO2)

SYMBOL	Z1/B	BETA	ALPHA	ELV-1B	ELV-08
○	.298	4.000	.000	RUDDER	MACH
□	.364			GIMBAL	
◇	.427				
△	.534				

PARAMETRIC VALUES
 8.000 4.000
 .000 1.100
 1.000

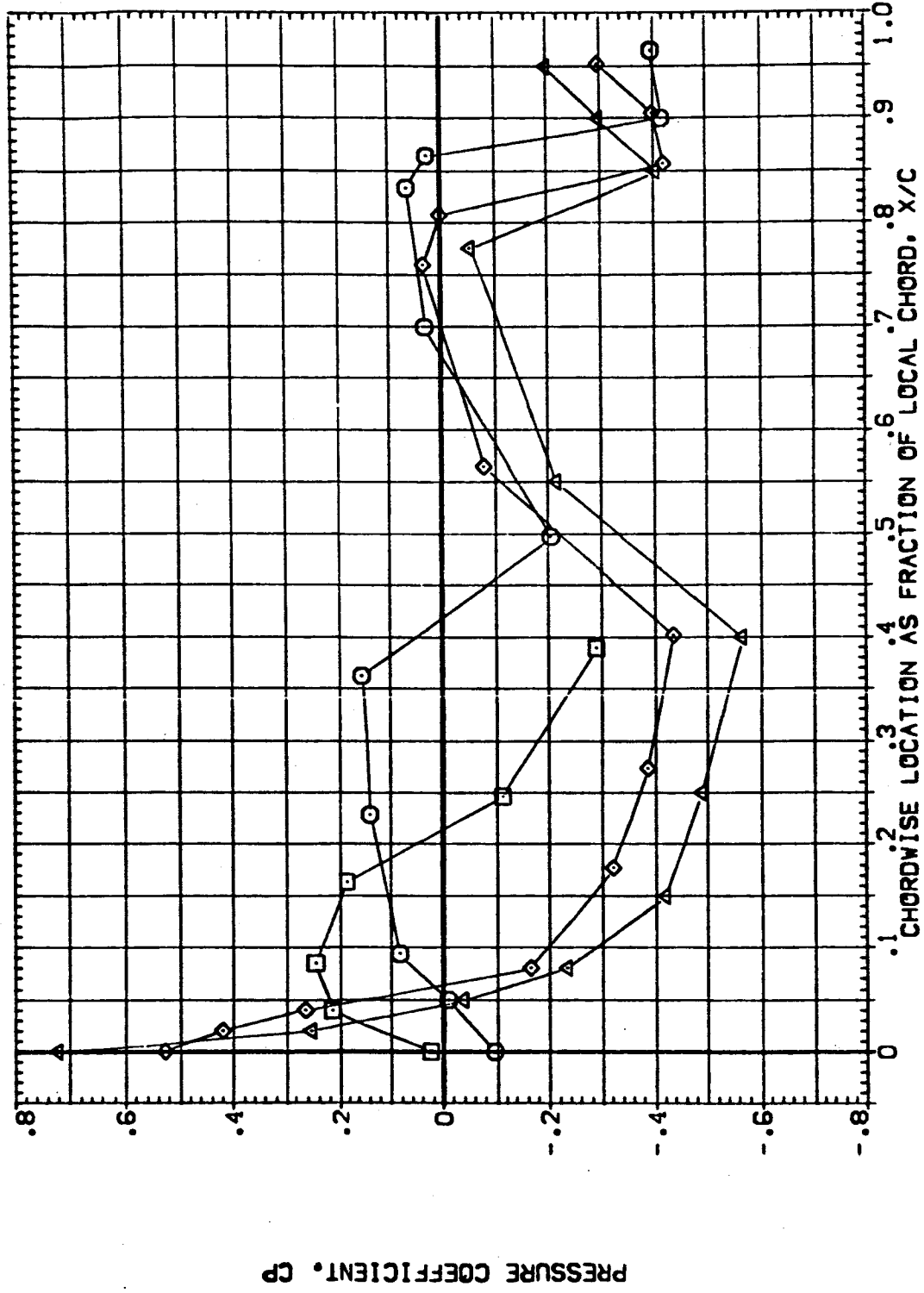


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING(CEURO2)

SYMBOL	2Y/B	BETA	ALPHA	ELV-1B	PARAMETRIC VALUES
○	.641	4.000	.000	RUDER	8.000
□	.780			GIMBAL	.000
◇	.887				1.000
					4.000
					1.100

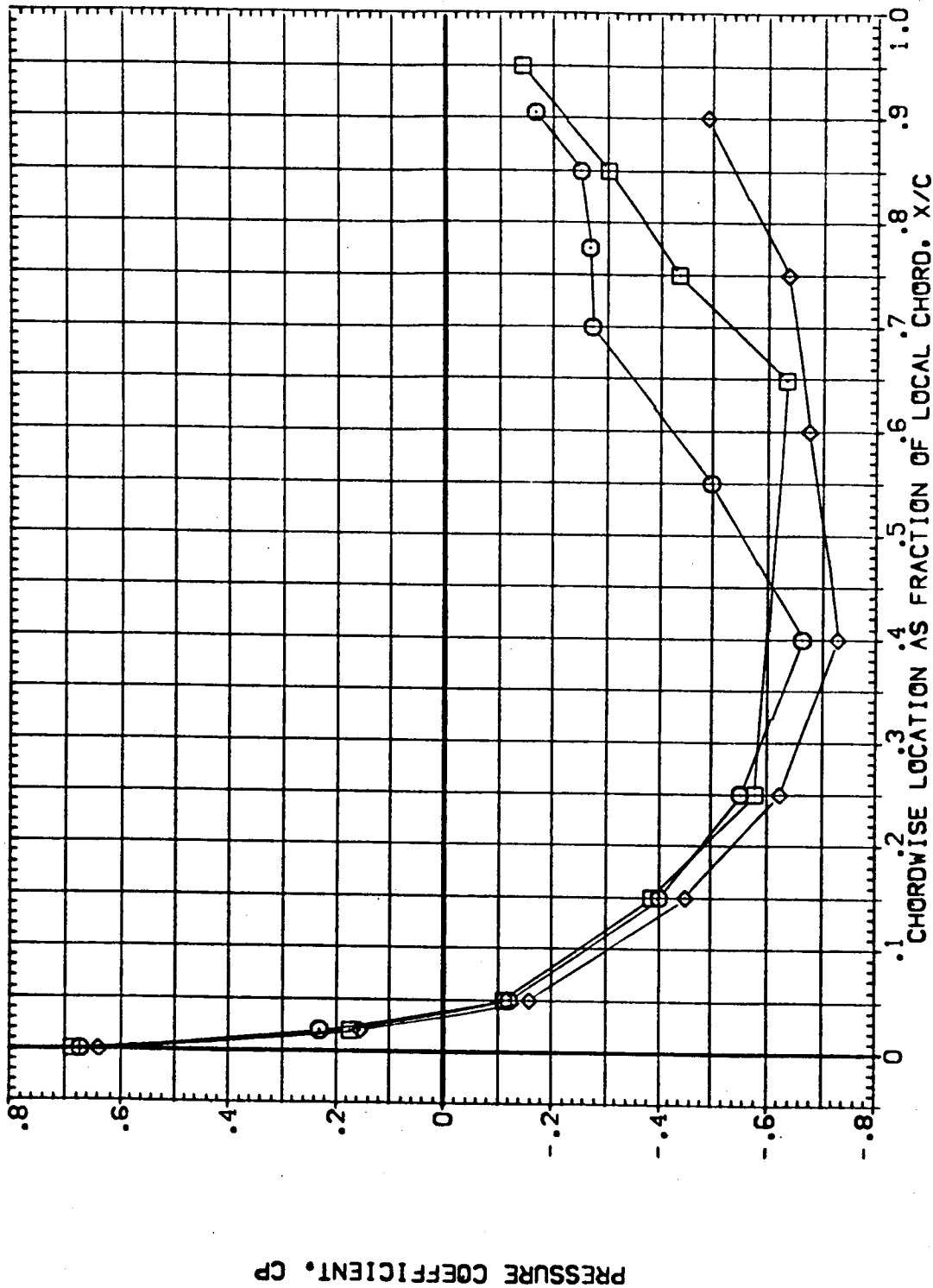


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING (BEUR03)

SYMBOL	ZY/B	BETA	ALPHA	PARAMETRIC VALUES
○	.295	.000	-1.000	ELV-18 8.000 ELV-08 4.000
□	.364			RUDER .000 MACH 1.250
◇	.427			GIMBAL 1.000
△	.534			

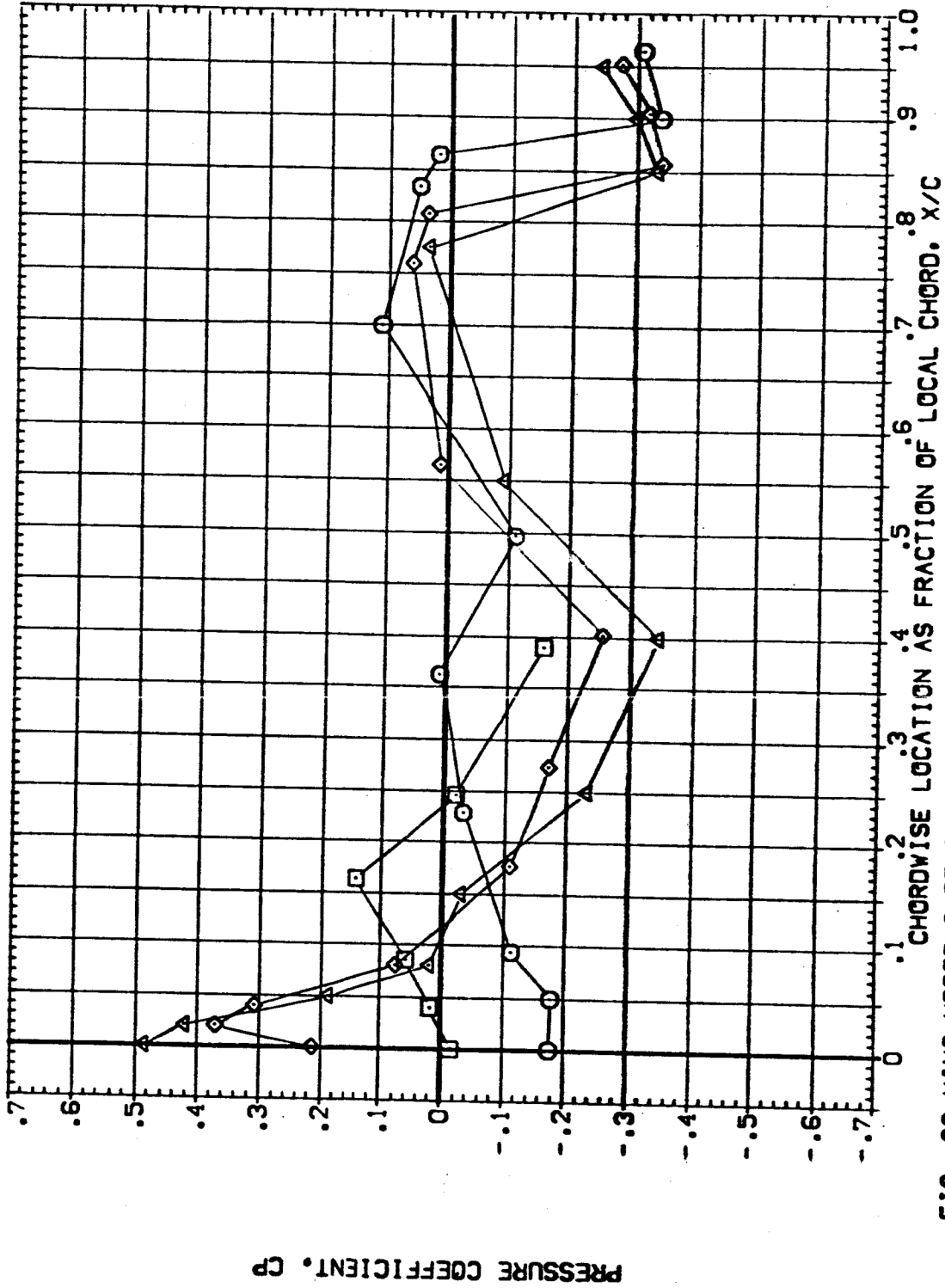


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-014IA19 OTS+STRUT SRB-OFF MPS-OFF TOP WING (BEURO3)

SYMBOL	Z1/B	BETA	ALPHA	ELV-1B	PARAMETRIC VALUES
○	.641	.000	-4.000	RUDER	8.000 ELV-08
□	.780			GIMBAL	.000 MACH
◇	.887				1.000

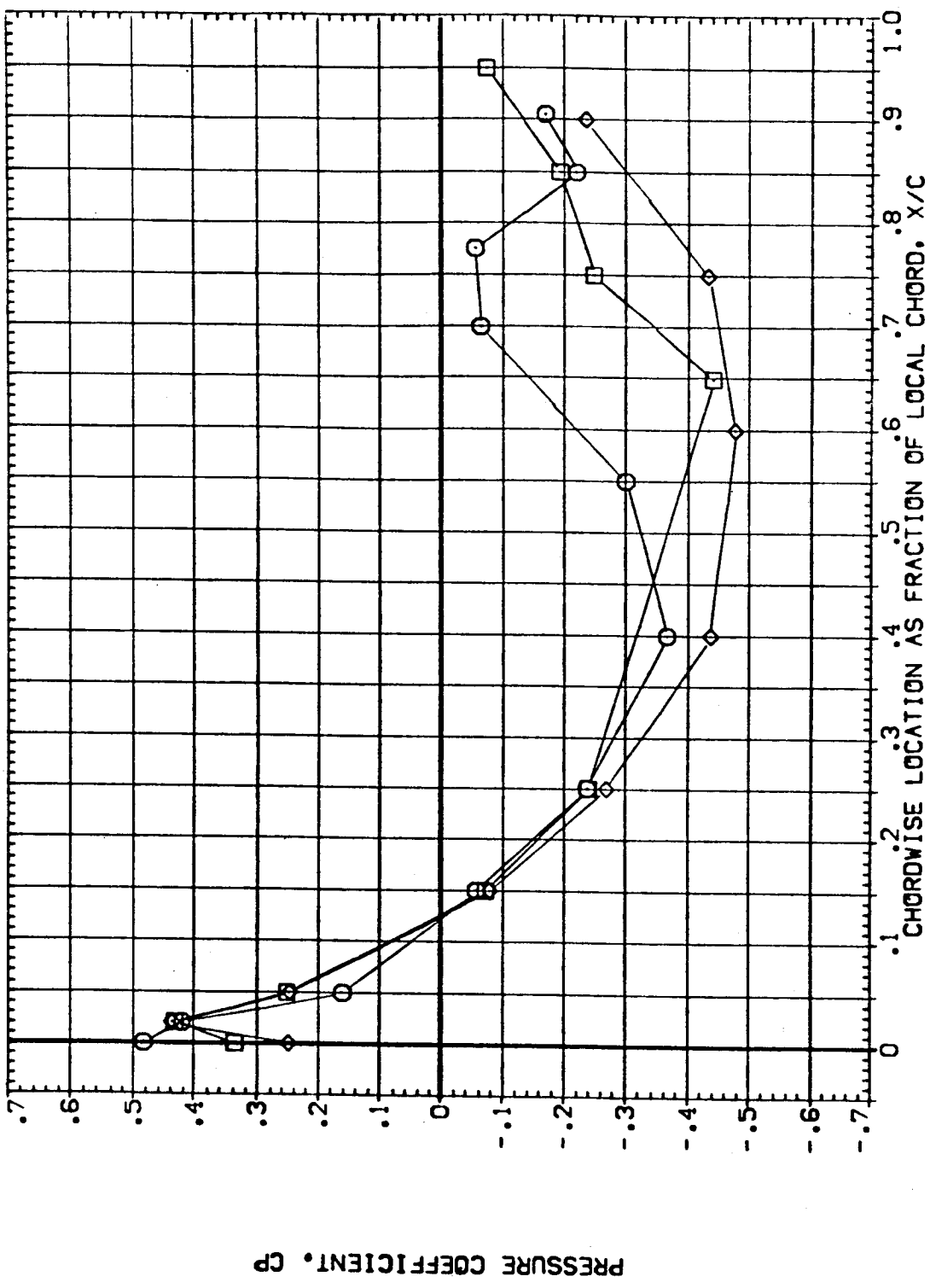


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING (BEURO3)

SYMBOL	Z ₁ /B	BETA	ALPHA	PARAMETRIC VALUES
○	.299	.000	.000	ELV-18 8.000
□	.364	.000	.000	ELV-09 4.000
◇	.427	.000	.000	RUDER .000
△	.534	.000	.000	MACH 1.250
				GIMBAL 1.000

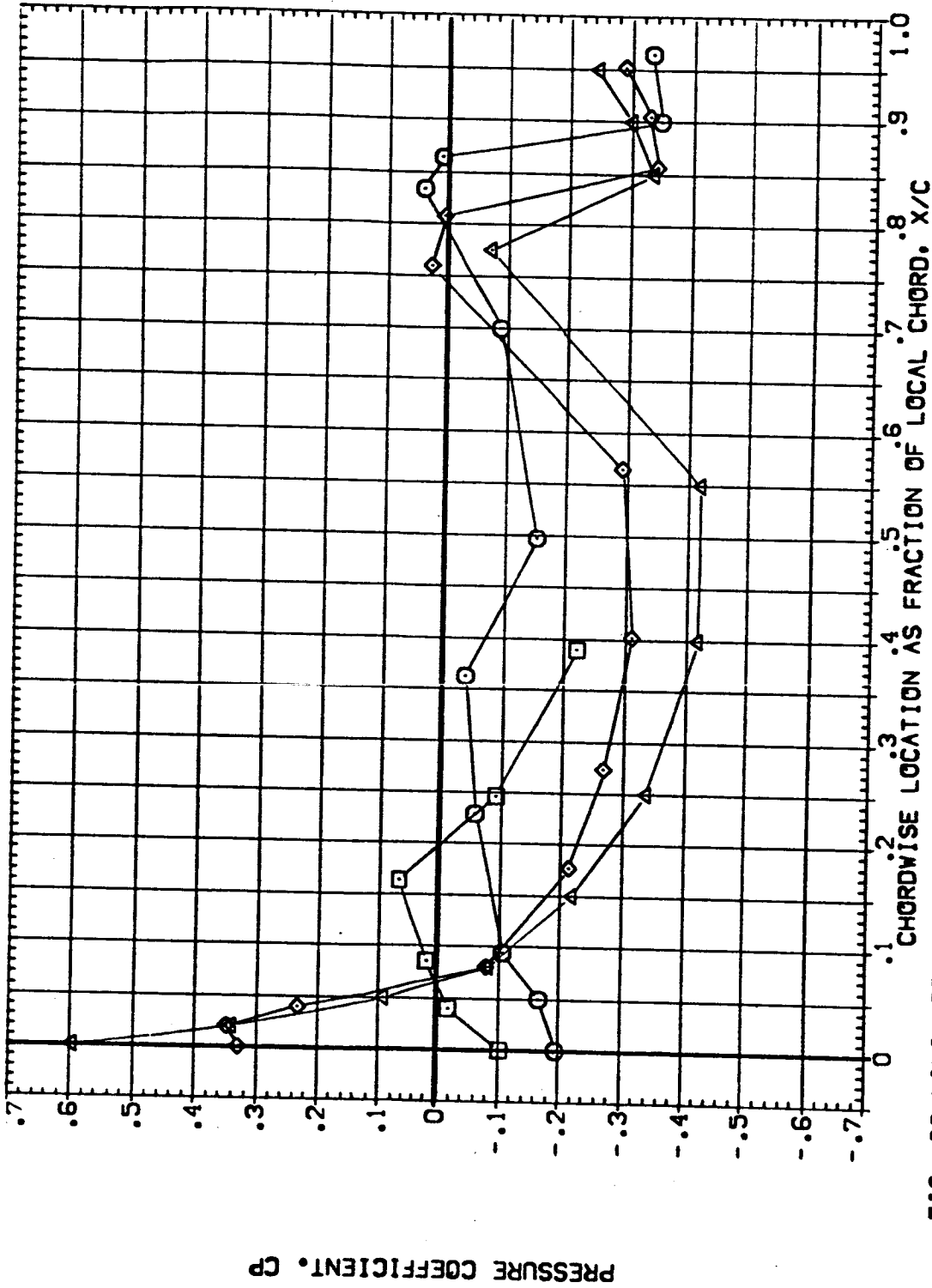


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 DIS+SIRUI SRB-OFF MPS-OFF TOP WING(BEURO3)

SYMBOL	2Y/B	BETA	ALPHA	PARAMETRIC VALUES
○	.641	.000	.000	ELV-OB 8.000
□	.780	.000	.000	ELV-OB .000
◇	.687	.000	.000	MACH 1.250
				GIMBAL 1.000

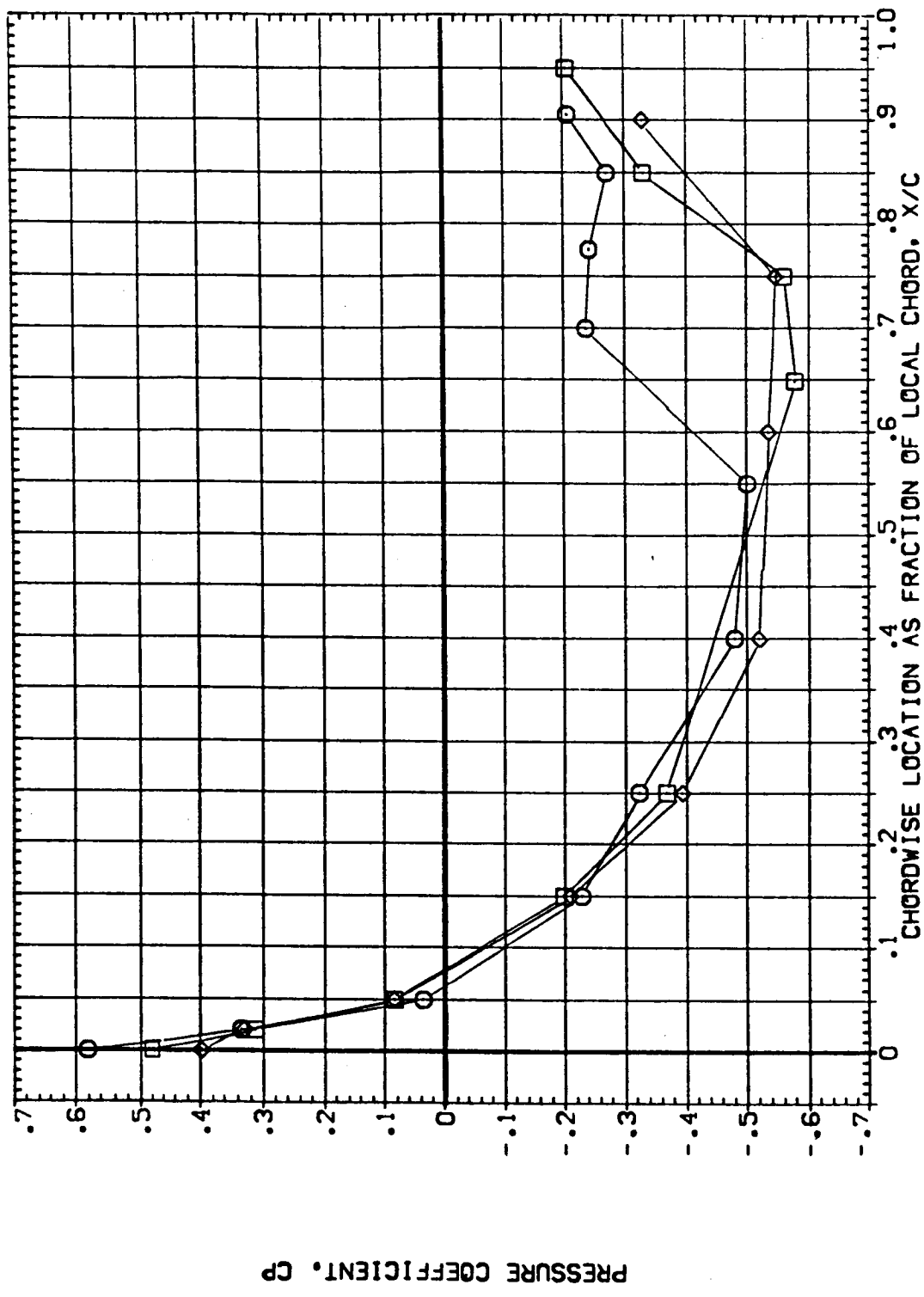


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING(BEURO3)

SYMBOL 2 γ / β BETA ALPHA

○	.299	.000	1.000
□	.364	.000	1.000
◇	.427	.000	1.000
△	.534	.000	1.000

PARAMETRIC VALUES

ELV-18	8.000	ELV-08	4.000
RUDDER	.000	MACH	1.250
GIMBAL	1.000		

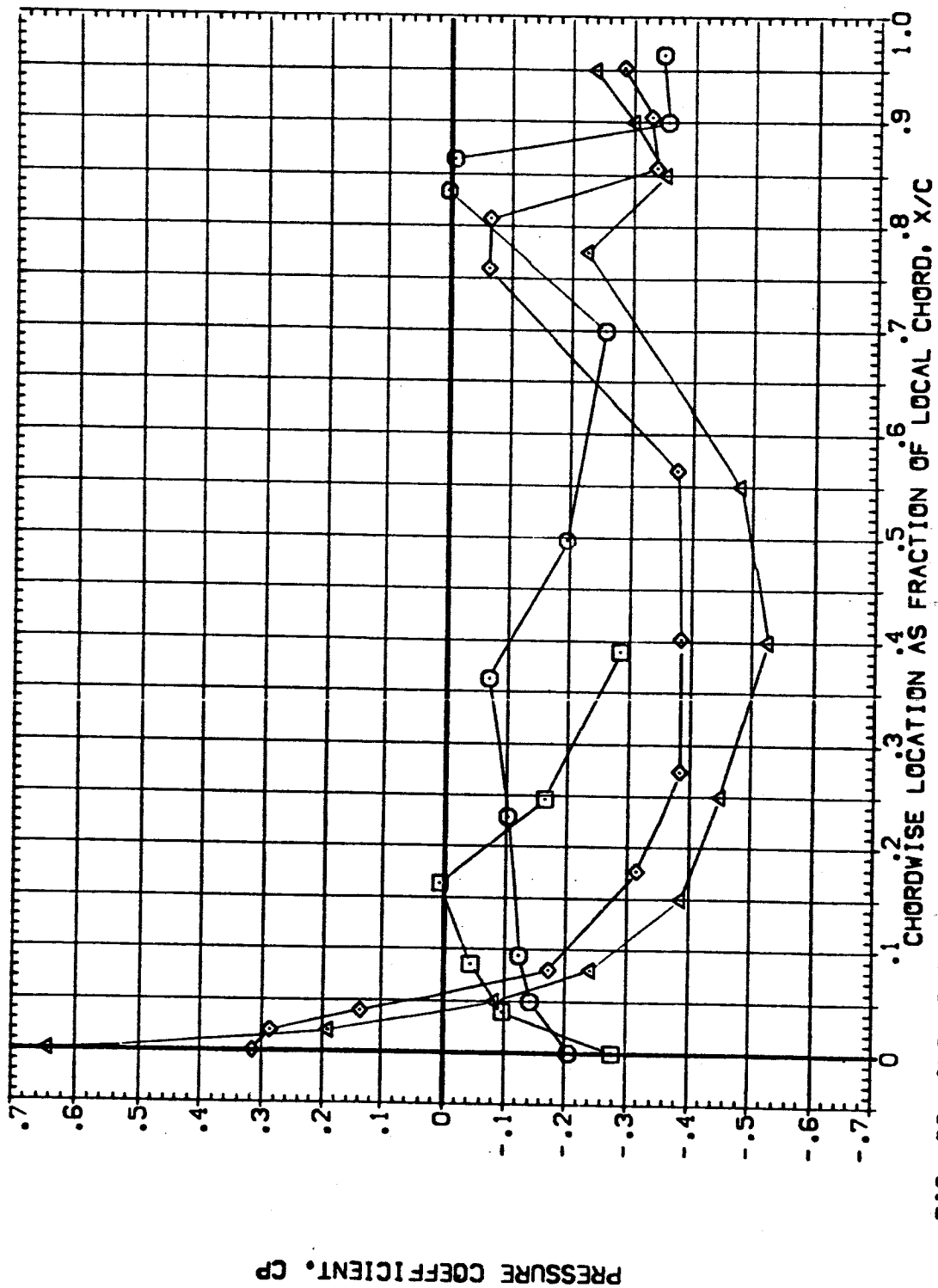


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING(BEUR03)

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

SYMBOL 2Y/B BETA ALPHA
 ○ .641 .000 4.000
 □ .780 .000 4.000
 ◇ .887 .000 4.000

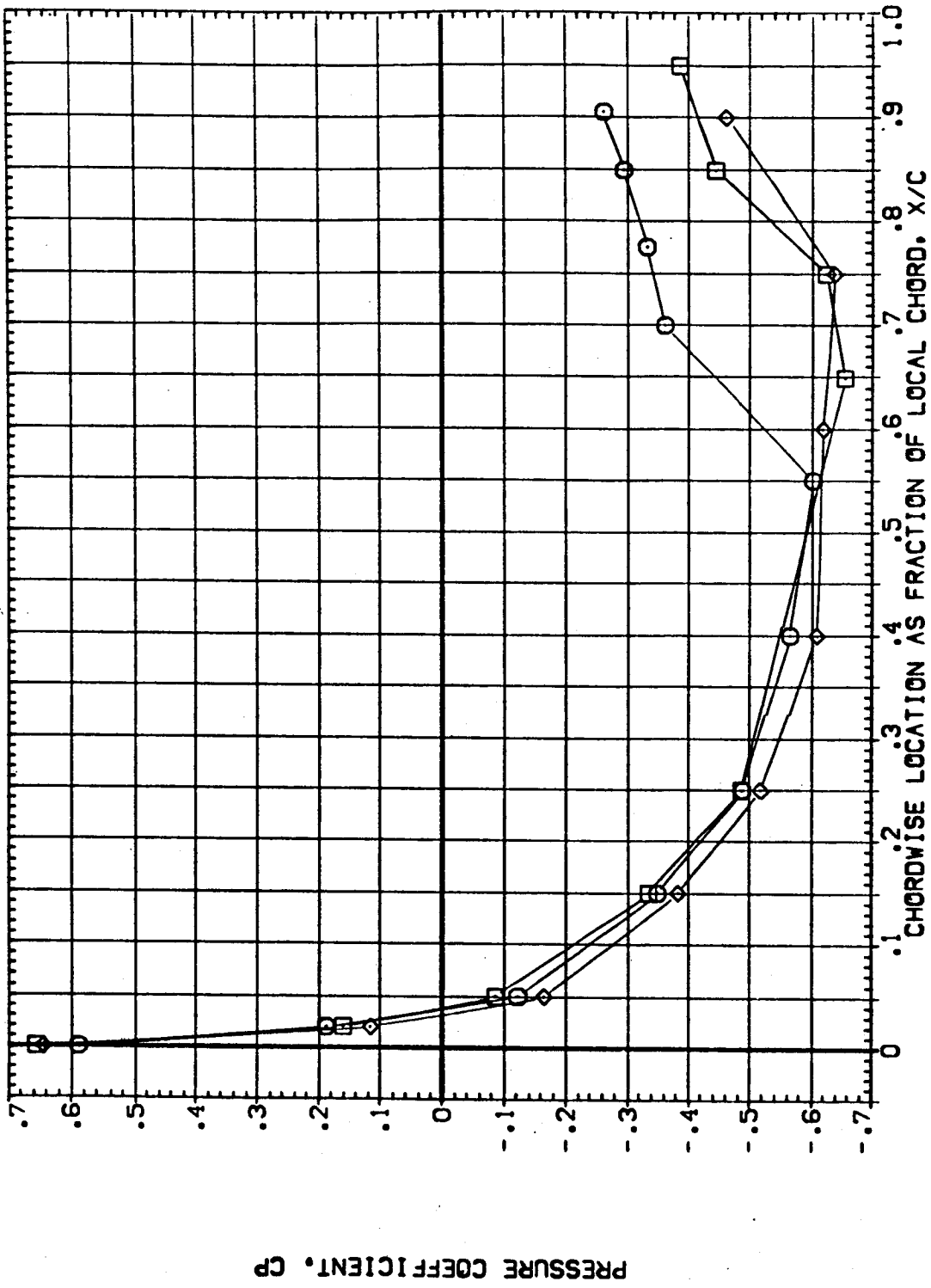


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

AKL11-0141A19 DIS+STRUT SRB-OFF MPS-OFF TOP WING(CEURO3)

SYMBOL	21/8	BETA	ALPHA	PARAMETRIC VALUES
○	.641	-1.000	.000	ELV-18
□	.780			ELV-08
◇	.887			MACH
				1.000
				1.250
				4.000

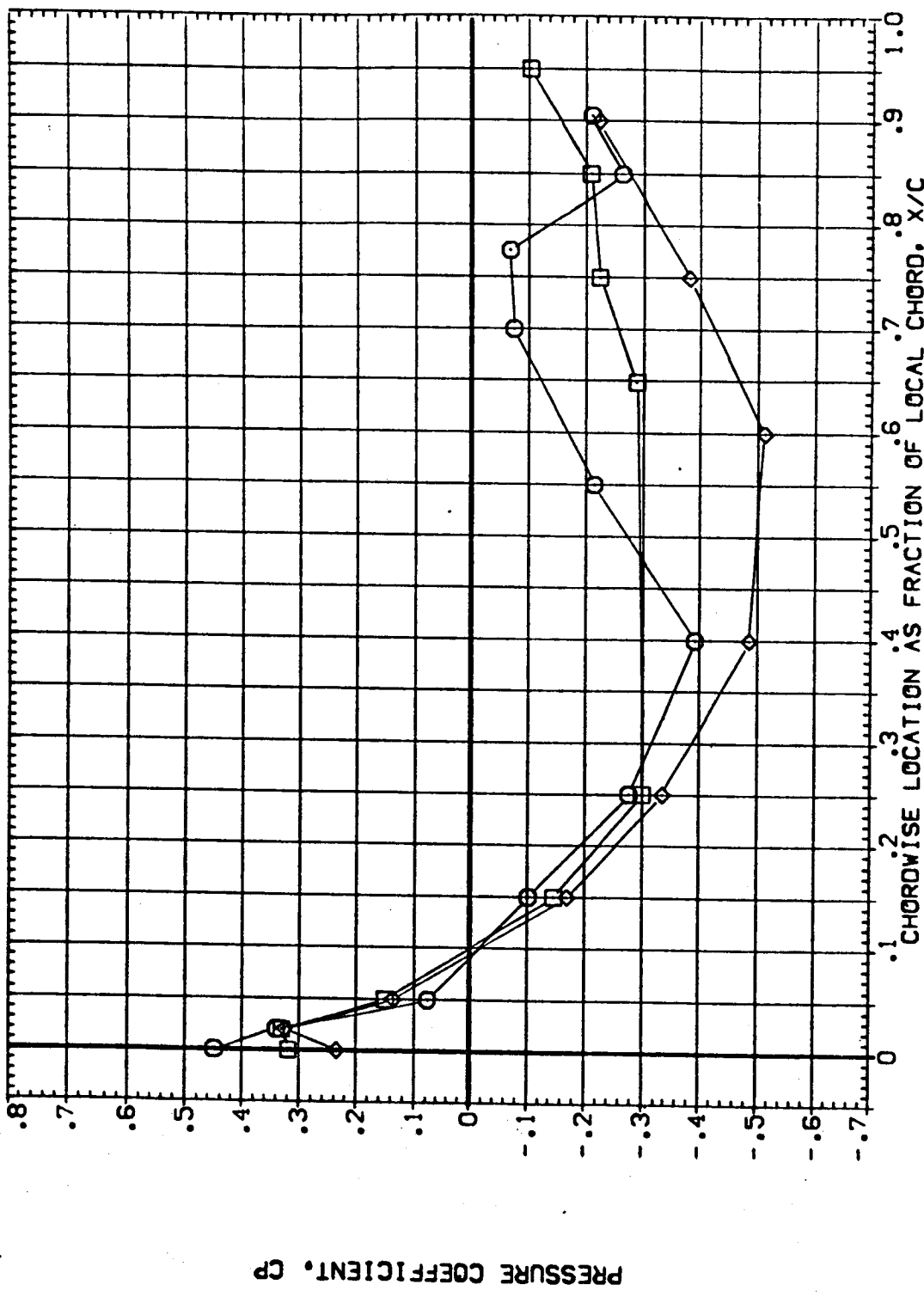


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF



ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING(CEURO3)

SYMBOL	2 γ / β	BETA	ALPHA	PARAMETRIC VALUES
○	.259	4.000	.000	ELV-1B 8.000 ELV-08 4.000
□	.364			RUDER .000 MACH 1.250
◇	.427			GIMBAL 1.000
△	.534			

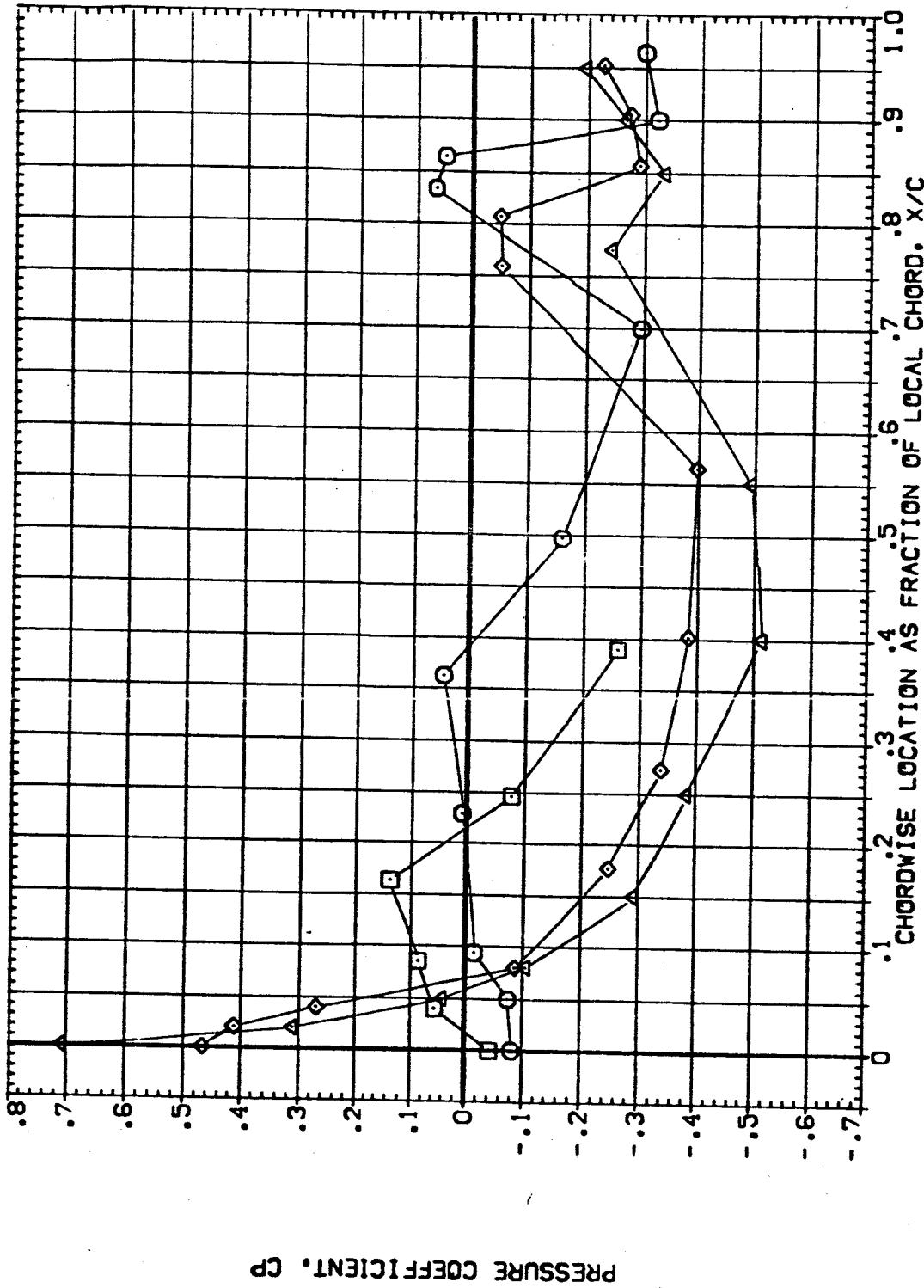


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING(CEURO3)

PARAMETRIC VALUES
 ELV-18 6.000 ELV-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

SYMBOL 2Y/B BETA ALPHA
 ○ .641 4.000 .000
 □ .780 .000 .000
 ◇ .887 .000 .000

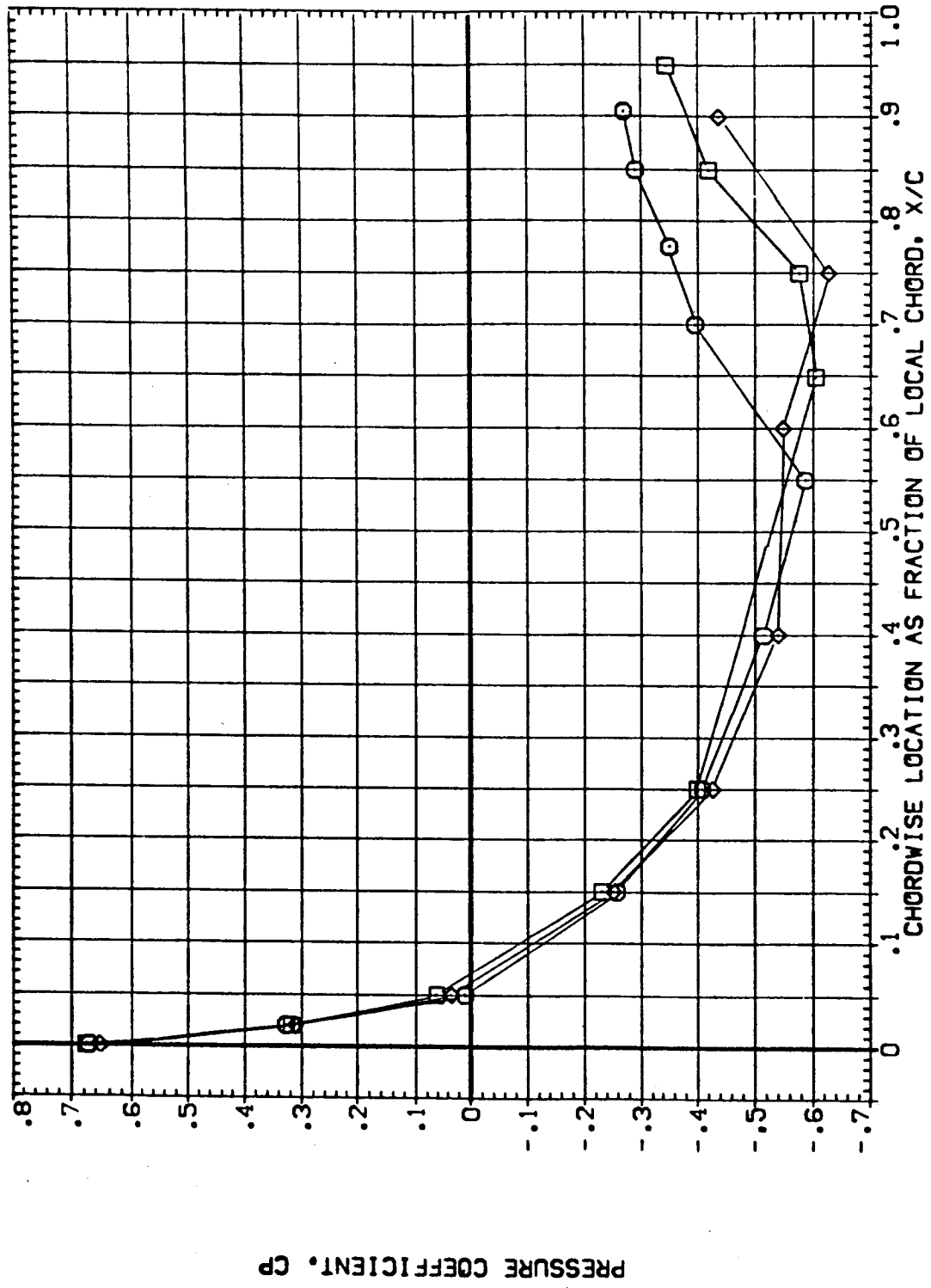


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF



ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING(BEUR04)

SYMBOL Z1/B BETA ALPHA

○ .299 .000 -4.000

□ .364 .000 .000

◇ .427 .000 .000

△ .534 .000 .000

PARAMETRIC VALUES

ELV-19 8.000 ELV-09 4.000

RUDER .000 MACH 1.400

GIMBAL 1.000

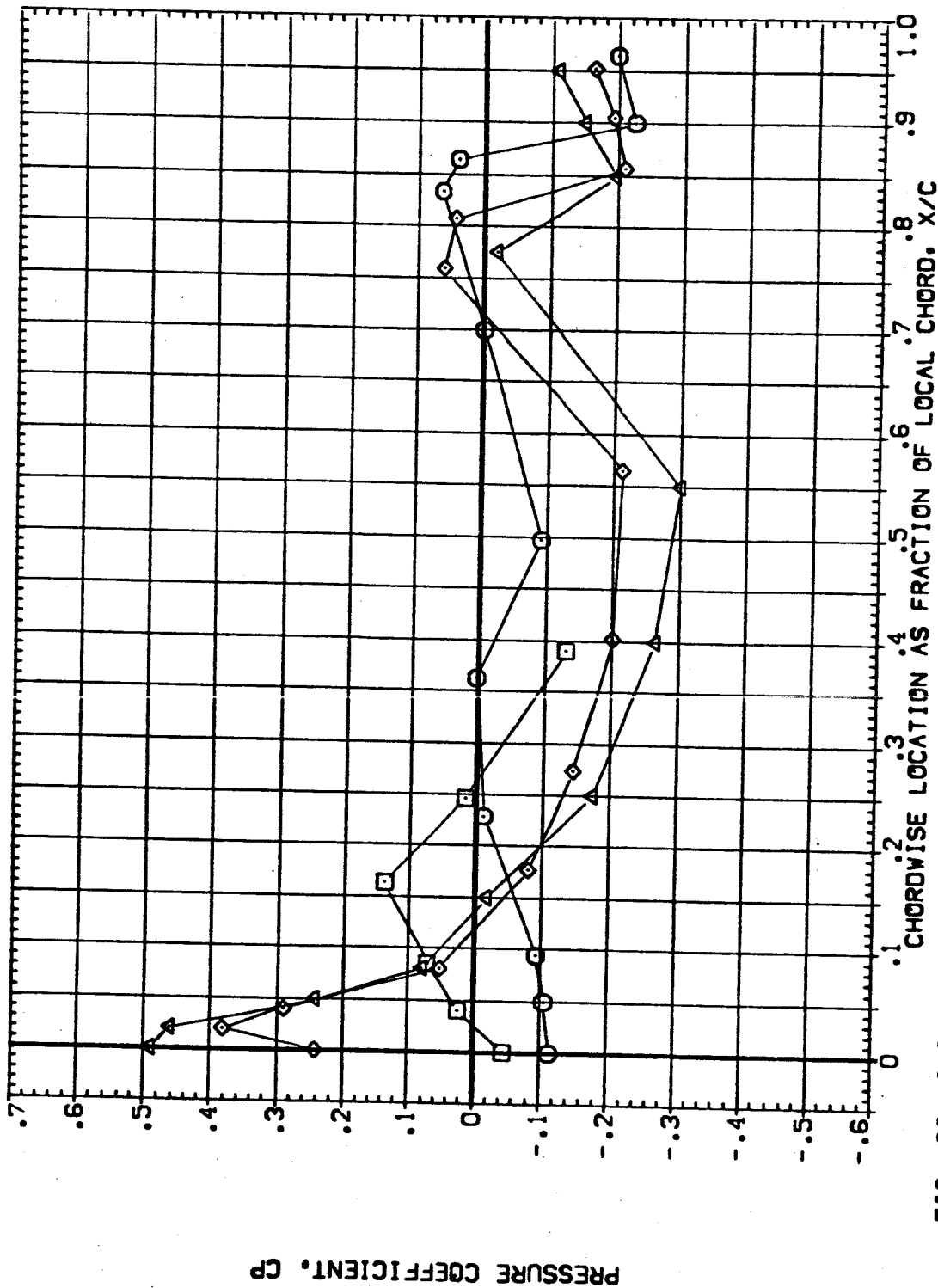


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING (BEURO4)

PARAMETRIC VALUES
 ELV-19 8.000 ELV-09 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

SYMBOL 2 γ /B BETA ALPHA
 ○ .641 .000 -1.000
 □ .780 .000 -1.000
 ◇ .687 .000 -1.000

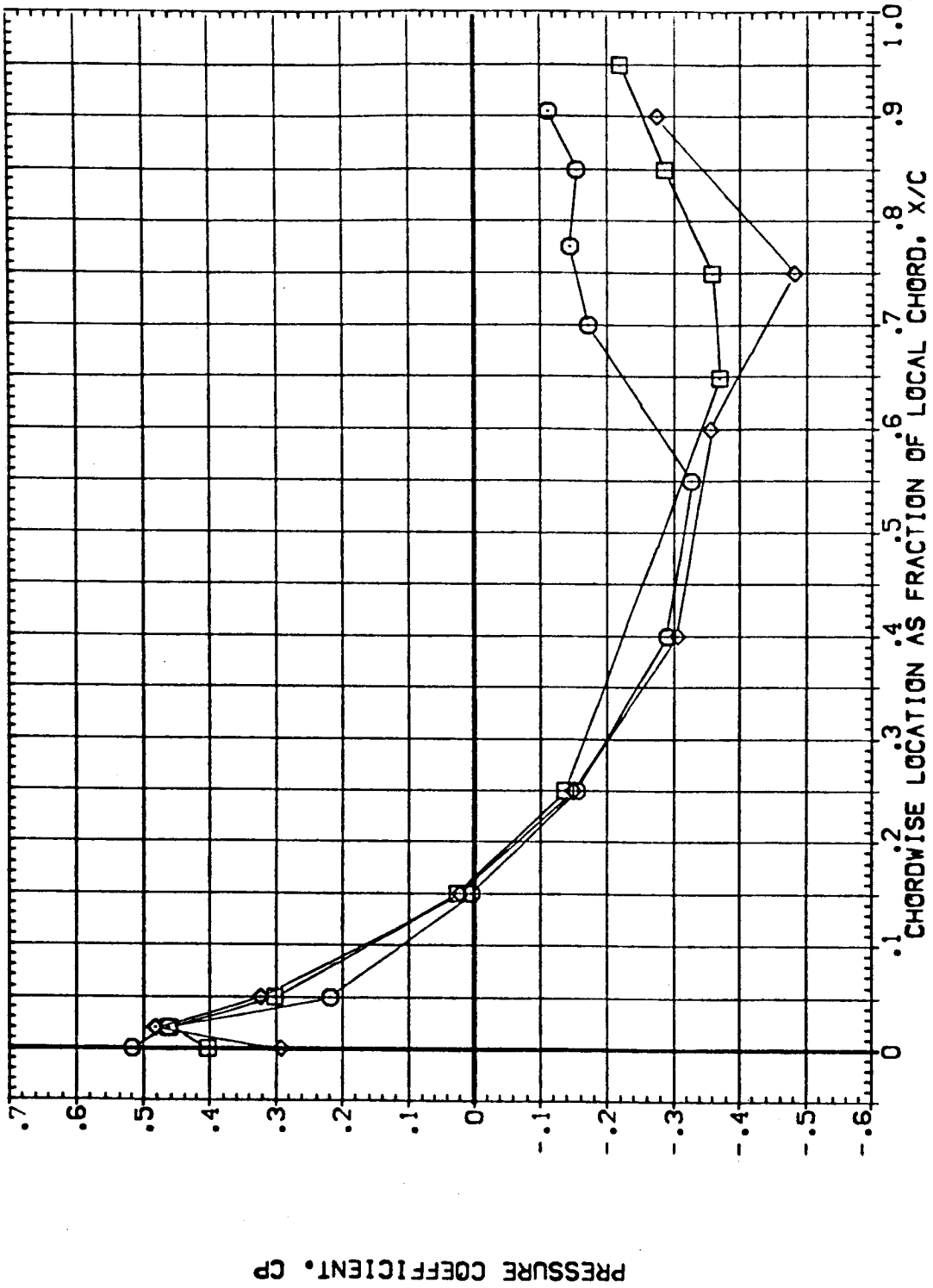


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING(BEURO4)

SYMBOL	21/8	BETA	ALPHA	ELV-19	ELV-08
	.299	.000	.000	RUDER	MACH
	.364			GIMBAL	
	.427				1.000
	.534				1.400

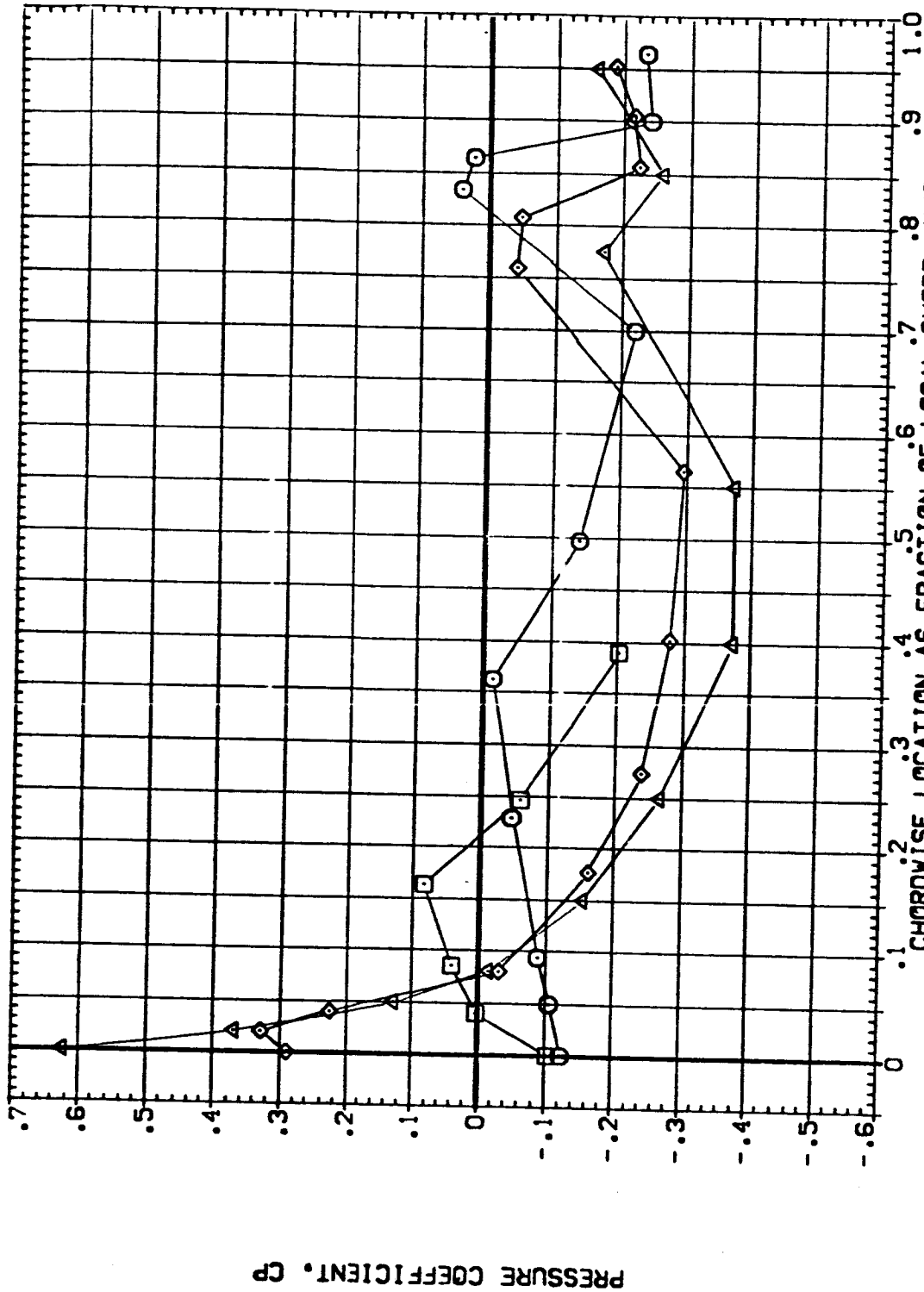


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

... ..

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

SYMBOL 2 γ /B BETA ALPHA
 ◊ .641 .000
 ◻ .780 .000
 ◊ .887 .000

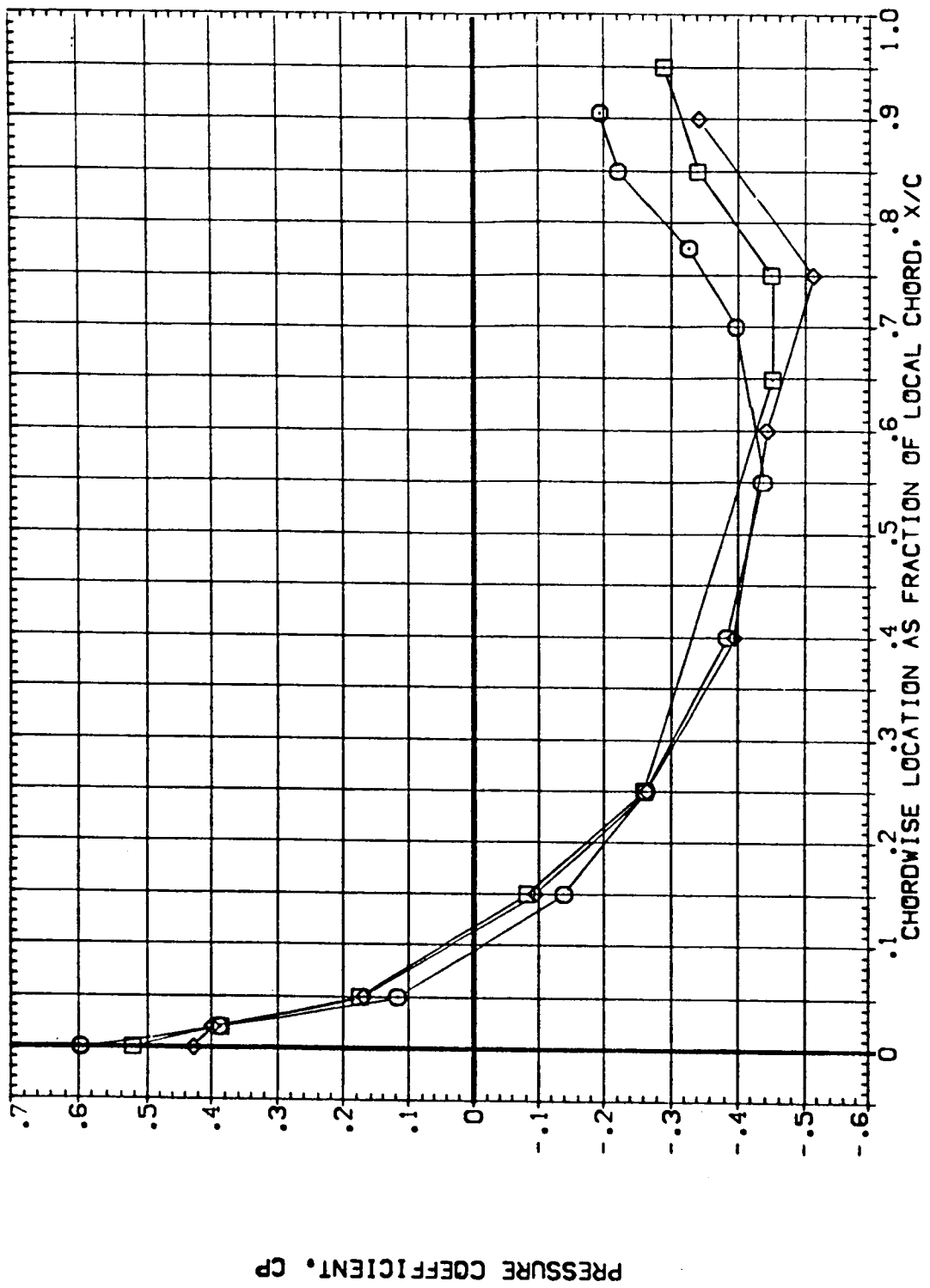


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF



ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING (BEURO4)

SYMBOL		BETA		ALPHA		PARAMETRIC VALUES	
○	.299	.000	1.000	8.000	ELV-08	4.000	
□	.364			.000	RUDER	MACH	1.100
◇	.427			1.000	GIMBAL		
△	.534						

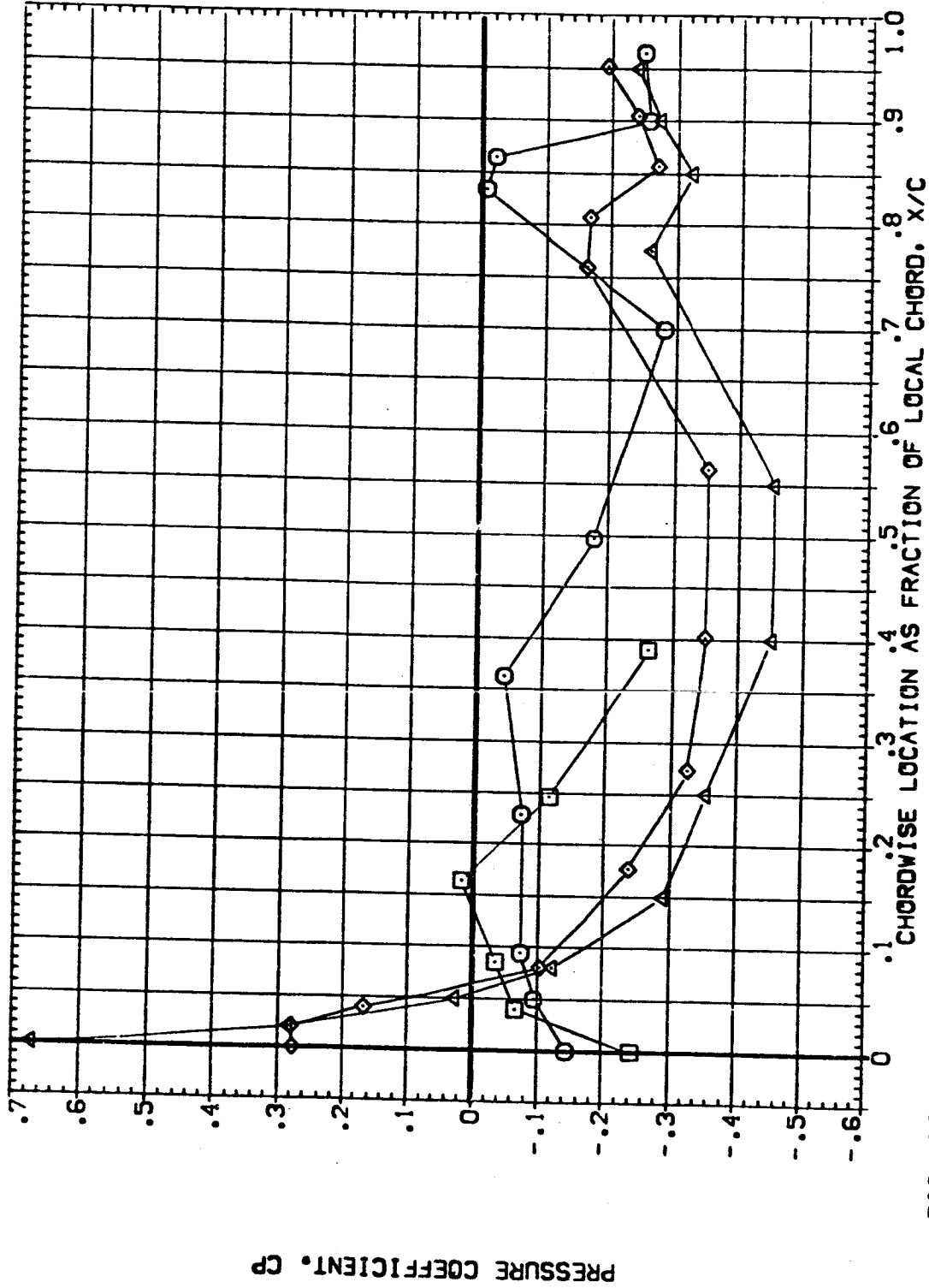


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING(CEURO4)

SYMBOL	ZY/B	BETA	ALPHA	ELV-19	PARAMETRIC VALUES
□	.299	-1.000	.000	RUDER	8.000 ELV-09
◇	.364			GIMBAL	.000 MACH
△	.427				1.000
	.534				

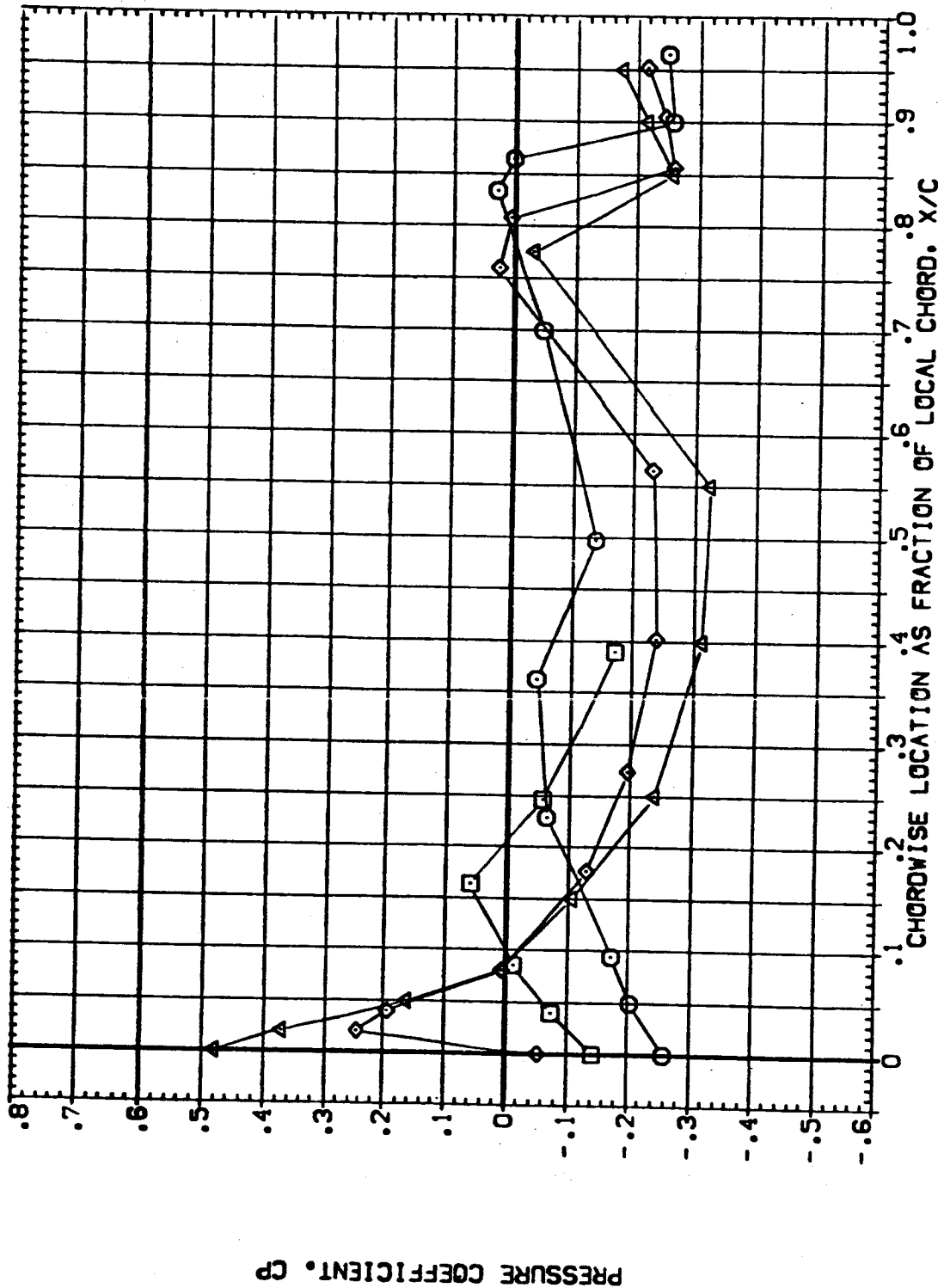


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING(CEUR04)

SYMBOL ZI/B BETA ALPHA
 ○ .641 -4.000 .000
 □ .760
 ◇ .887

PARAMETRIC VALUES
 ELV-18 8.000 ELV-09 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

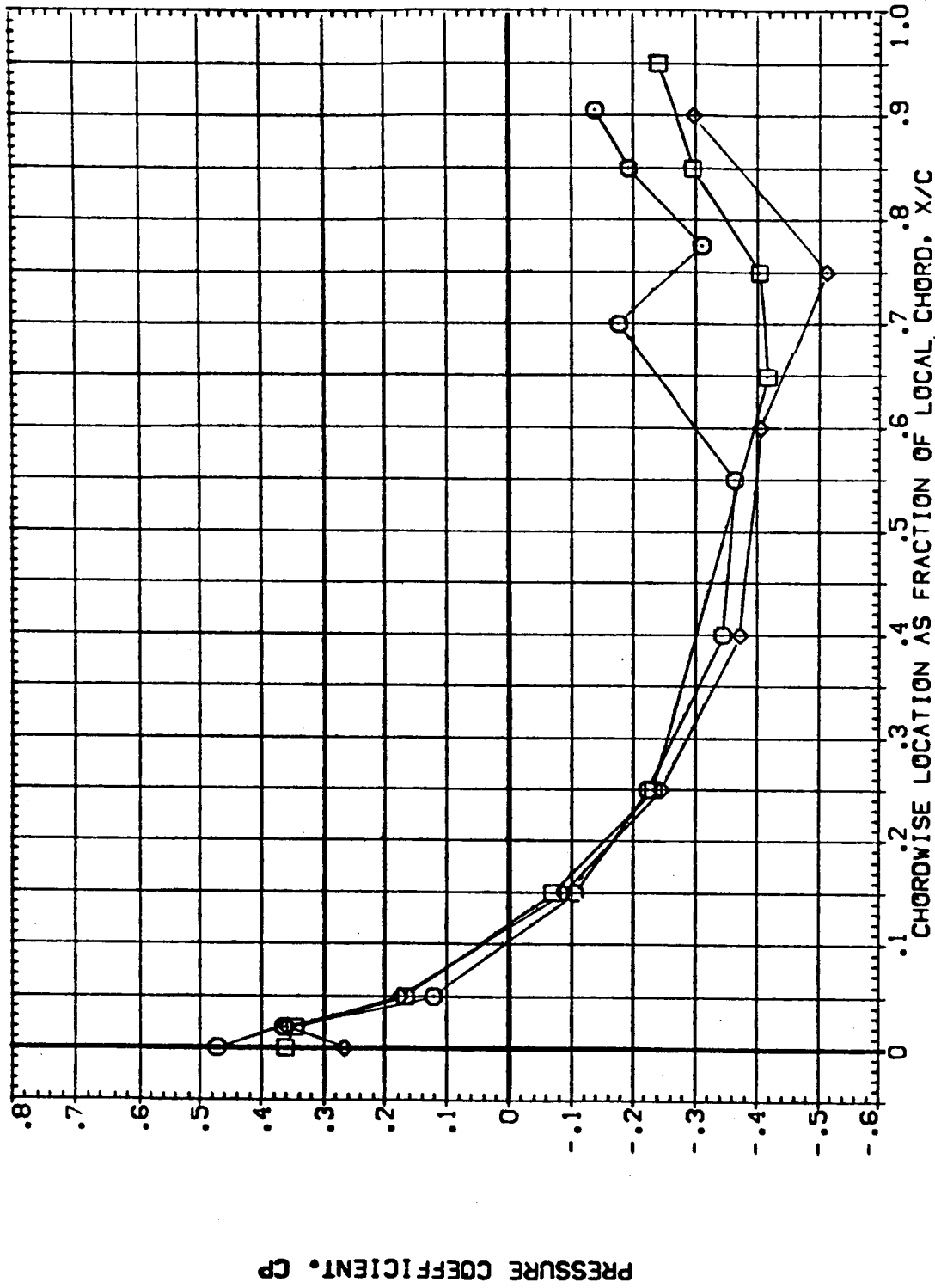


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF



ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING(CEUR04)

SYMBOL Z1/B BETA ALPHA

◇	.299	4.000	.000
□	.364		
◇	.427		
▽	.534		

PARAMETRIC VALUES

8.000	ELV-08	4.000
.000	MACH	1.400
1.000	RUDER	
1.000	GIMBAL	

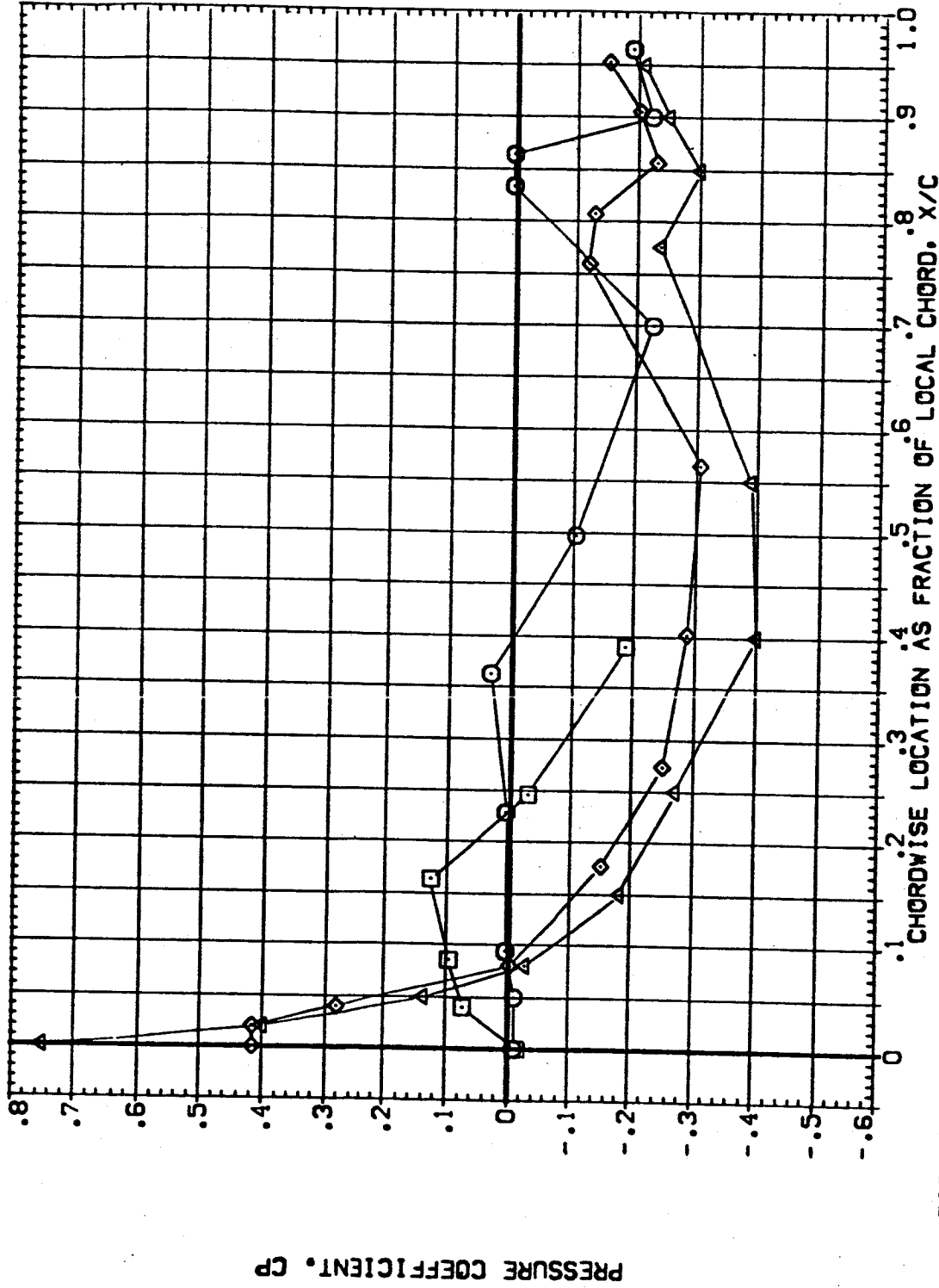


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING(CEURO4)

SYMBOL Z1/B BETA ALPHA

ELV-18 ELV-08
RUDDER .000 ELV-08
GIMBAL 1.000 MACH

PARAMETRIC VALUES
8.000 1.000
.000 1.400

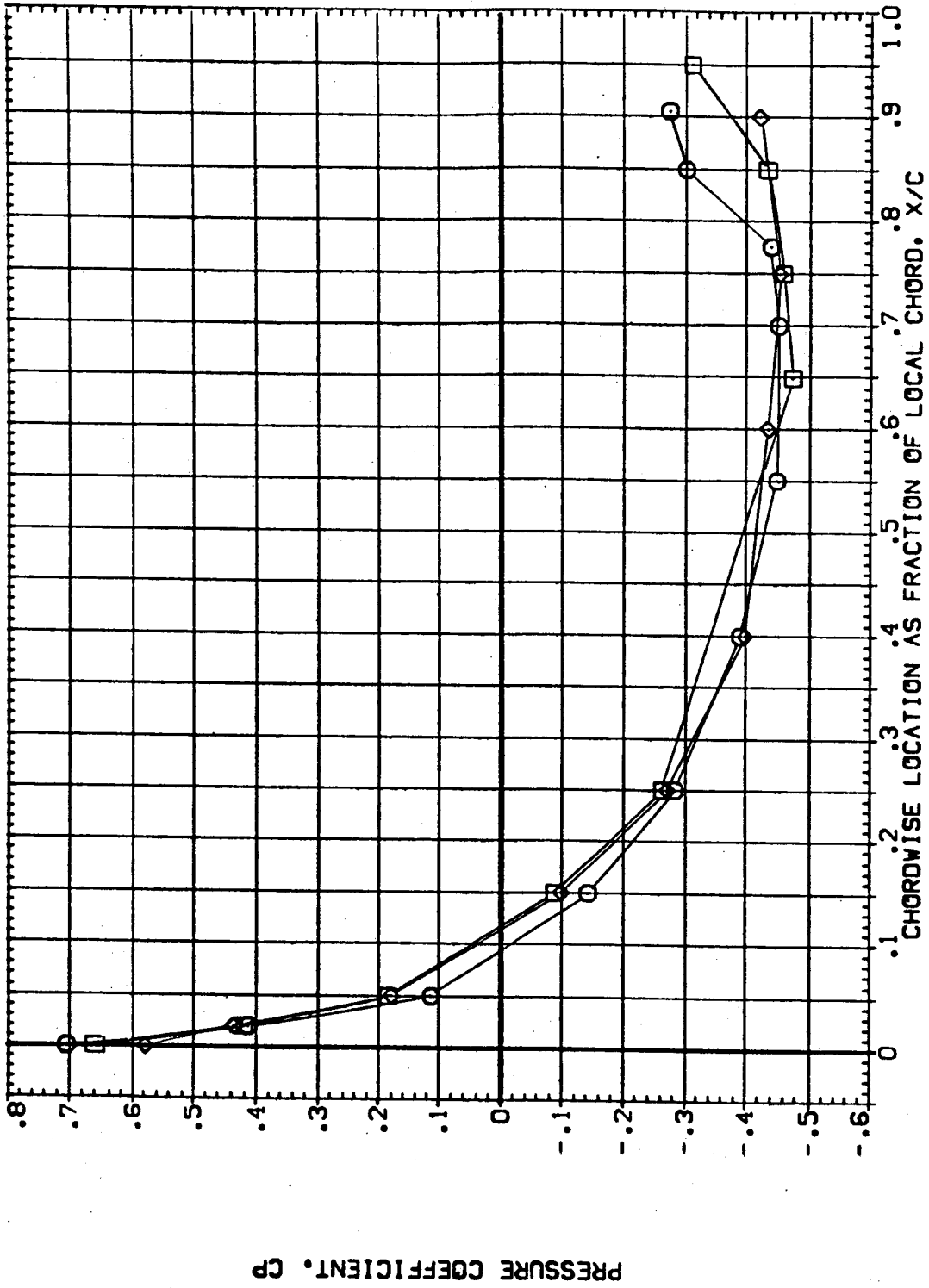


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING (EEURO5)

SYMBOL 21/8 BETA ALPHA

○	.299	.000	-1.000
□	.364		
◇	.427		
△	.534		

PARAMETRIC VALUES

ELV-18	8.000	ELV-08	4.000
RUDDER	.000	MACH	.900
GIMBAL	1.000		

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

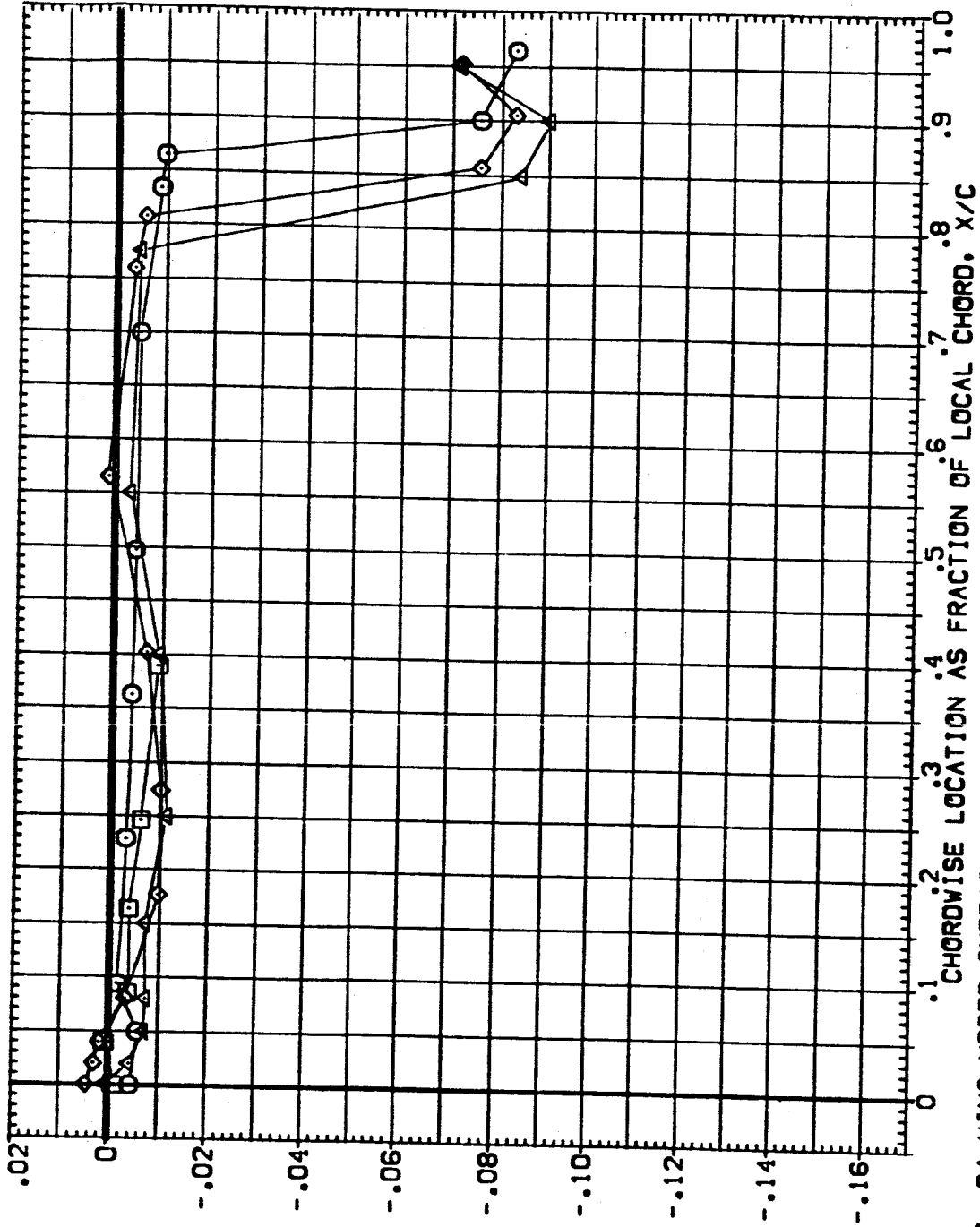


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 QTS+STRUT SRB-NOM MPS-NOM TOP WING (EEURO5)

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-09 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

2Y/B .641 ALPHA -1.000
 .780
 .687

SYMBOL
 ○ □ ◇

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

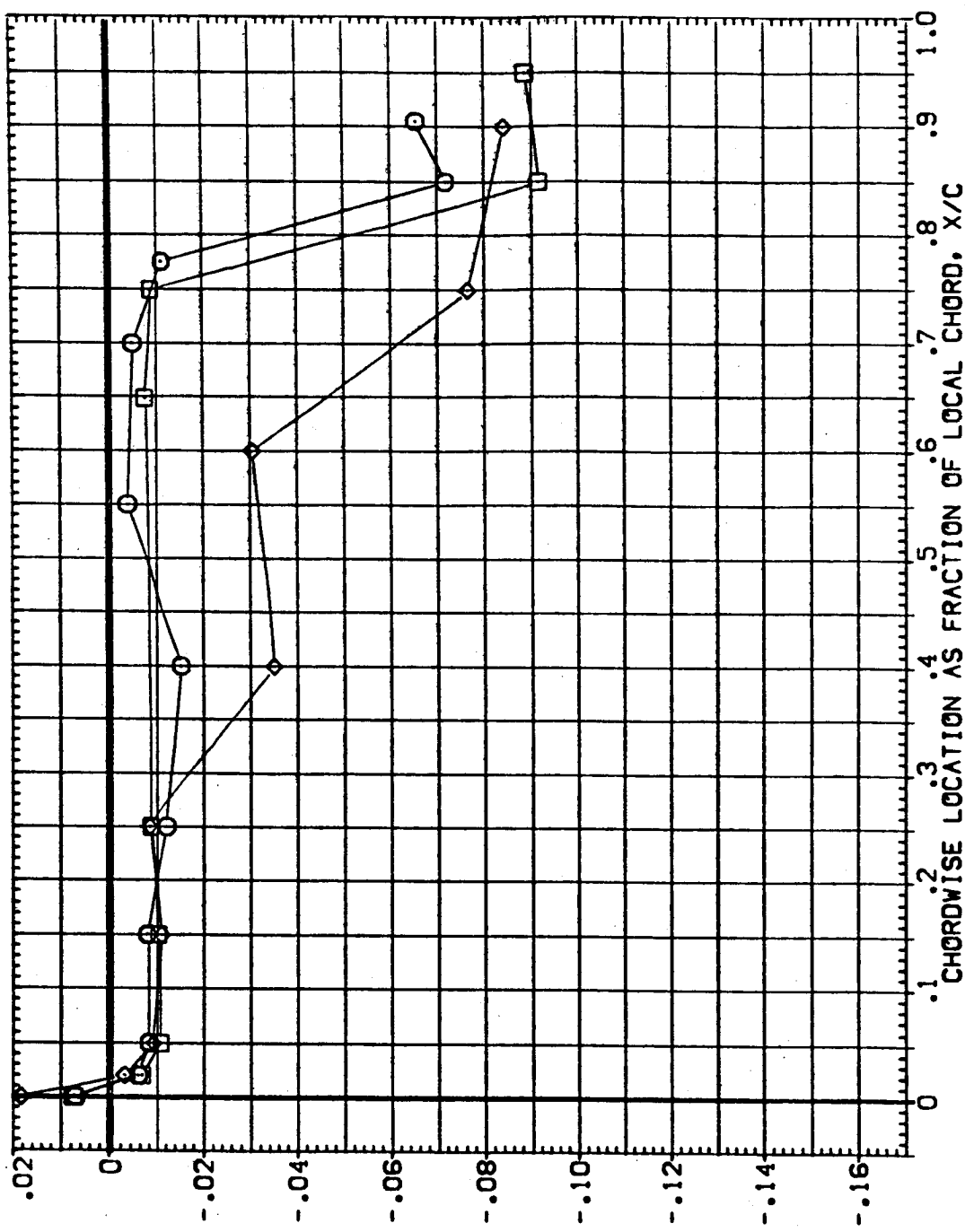


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING (EEURO5)

SYMBL.	Z/Y/B		BETA		ALPHA		PARAMETRIC VALUES			
	.299	.364	.000	.000	.000	.000	ELV-1B	ELV-0B	RUDER	MACH
○	.427	.534					8.000	1.000	.000	4.000
◇							9.000	1.000	.000	.900

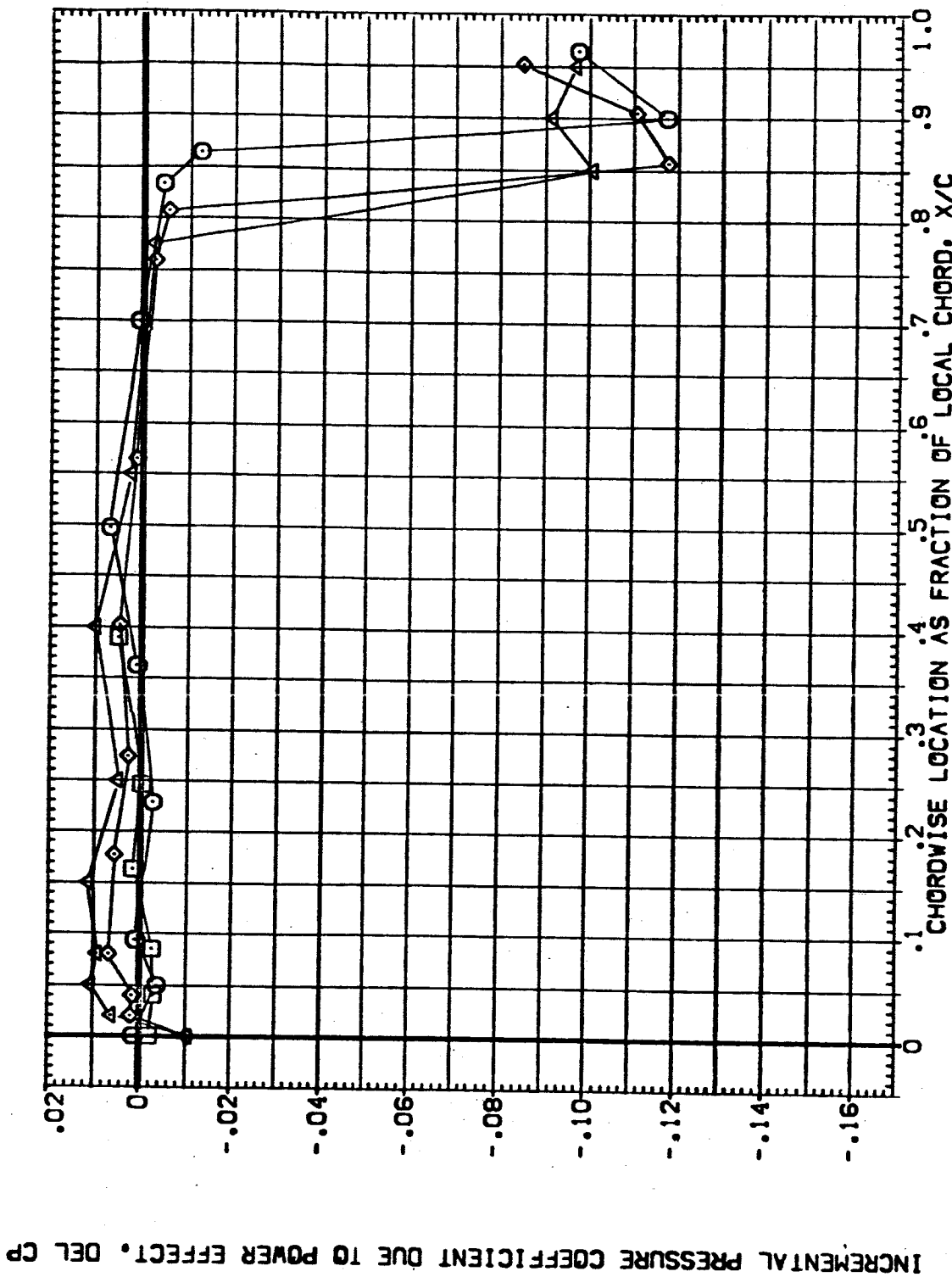


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING (EEURO5)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-09 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

SYMBOL 27/B BETA ALPHA
 ◊ .641 .000
 ◻ .780 .000
 ◊ .887

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

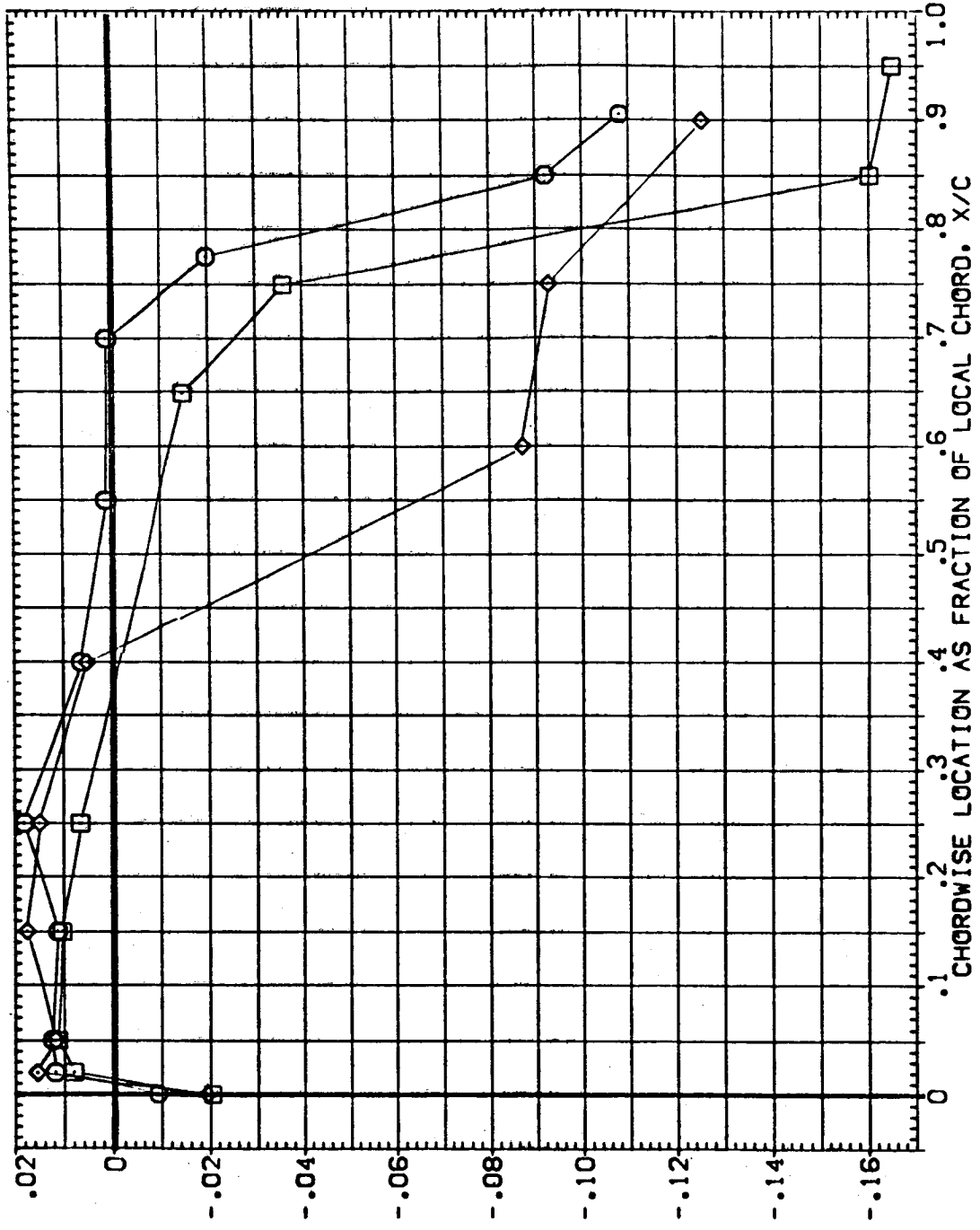


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(EURO5)

SYMBOL	Z1/B	BETA	ALPHA	ELV-1B	PARAMETRIC VALUES
○	.299	.000	4.000	RUDDER	8.000 ELV-09
□	.364			GIMBAL	.000 MACH
◇	.427				1.000
△	.534				

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

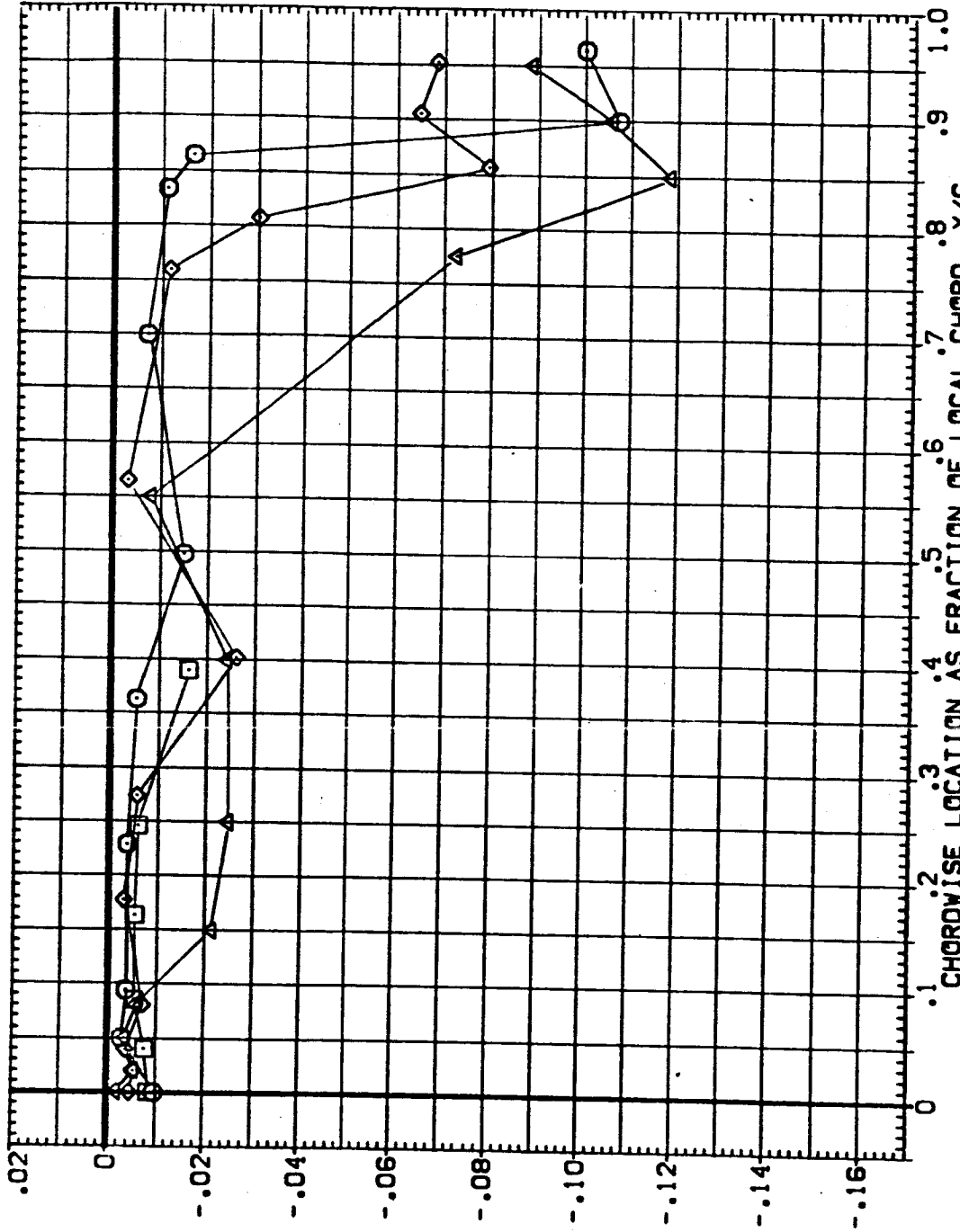


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(EEURO5)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

SYMBOL 2Y/B BETA ALPHA
 ○ .541 .000 4.000
 □ .780 .000 4.000
 ◇ .887 .000 4.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

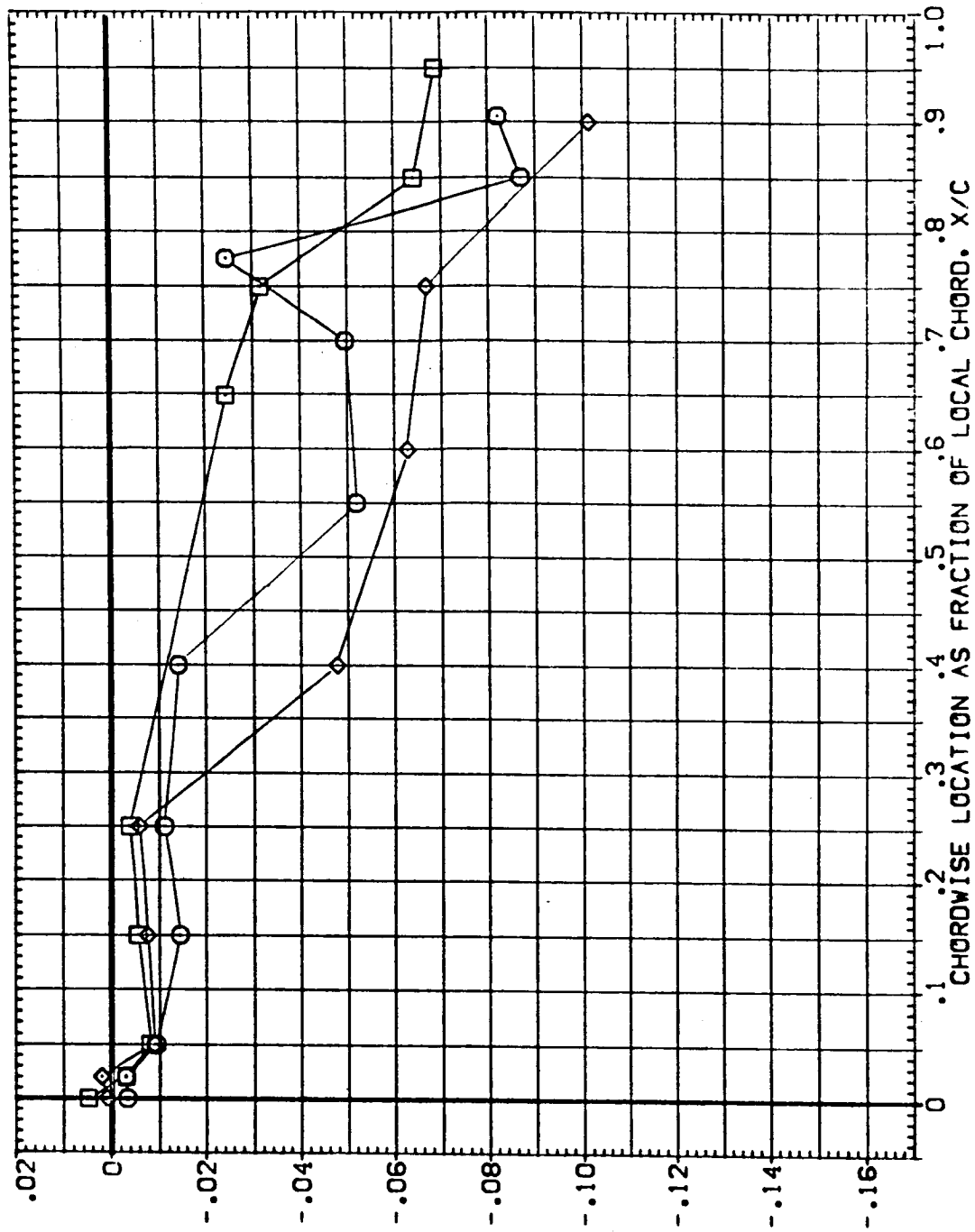


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(FEURO5)

SYMBOL	Z1/B	BETA	ALPHA	ELV-1B	ELV-0B	PARAMETRIC VALUES
○	.299	-1.000	.000	RUDER	.000	MACH
◇	.364			GIMBAL	1.000	4.000
△	.427					.900
▽	.534					

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

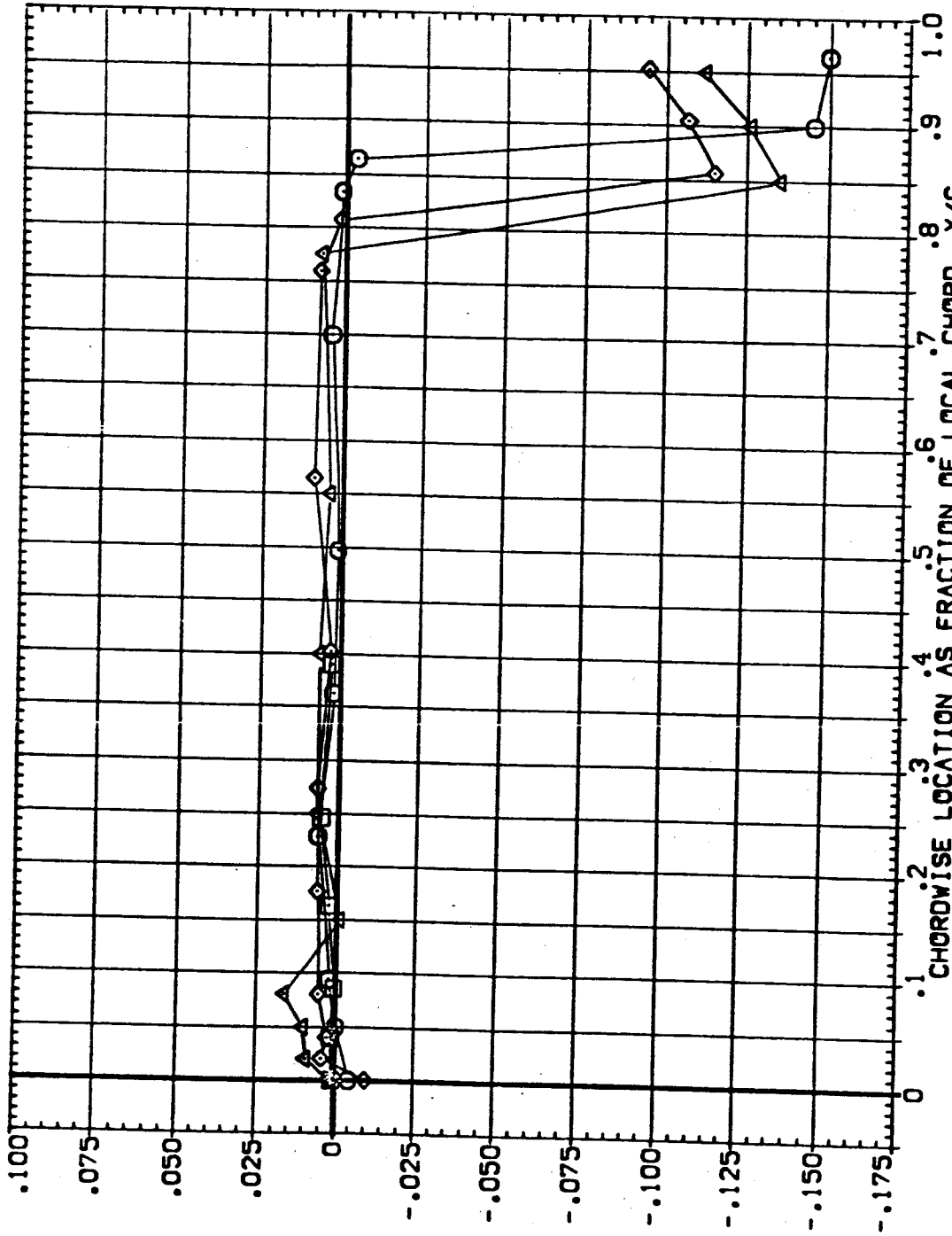


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SR8-NOM MPS-NOM TOP WING(FEURO5)

SYMBOL
 ○ □ ◇

ZI/B .541
 .780
 .887

BETA -1.000

ALPHA .000

ELV-18
 RUDDER
 GIMBAL

PARAMETRIC VALUES
 8.000 ELV-08
 .000 MACH
 1.000

4.000
 .900

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

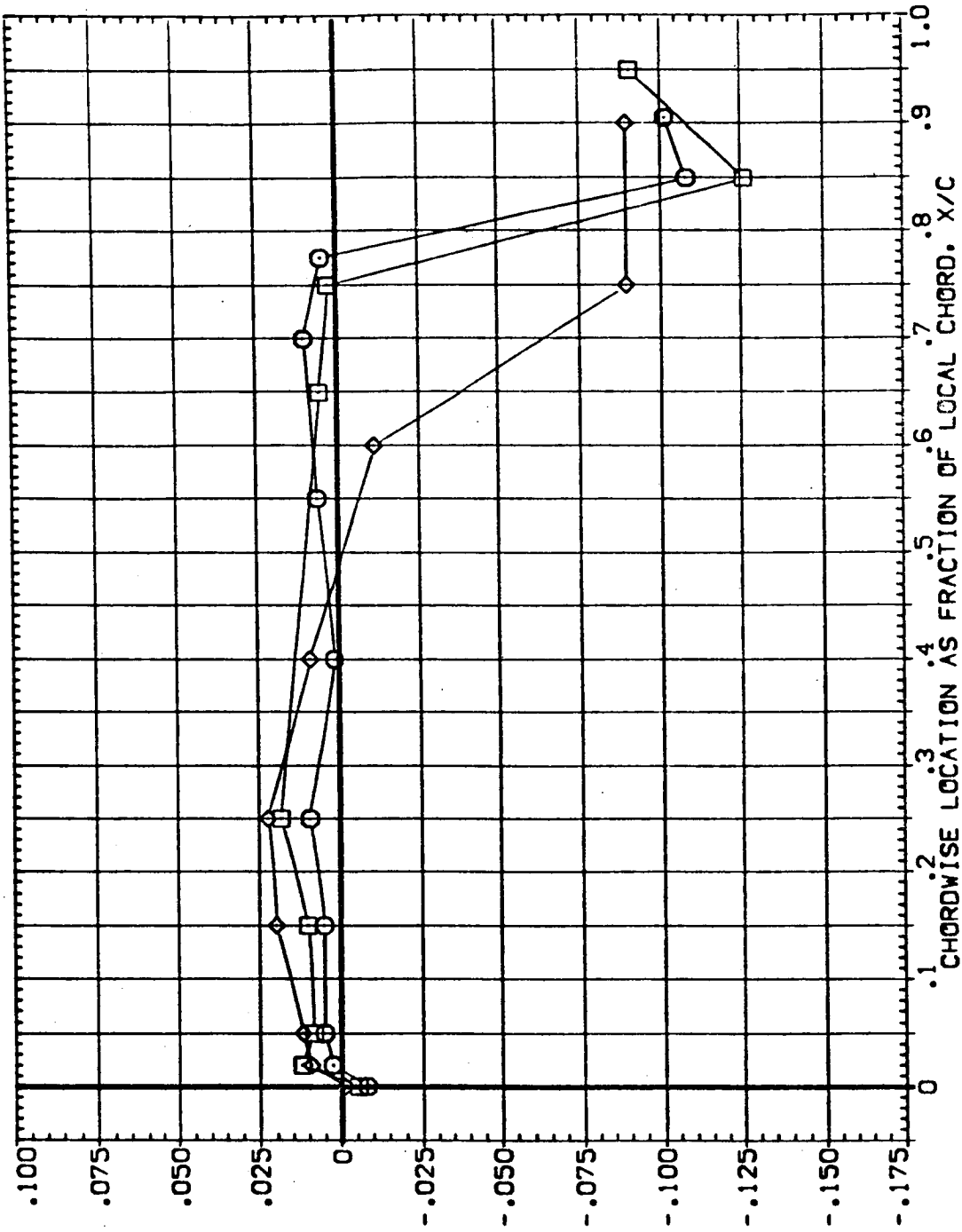


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(FEUROS)

SYMBOL 27/8 BETA ALPHA

○ .299 1.000 .000

□ .364 .000

◇ .427 .000

△ .534 .000

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000

RUDDER .000 MACH .900

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

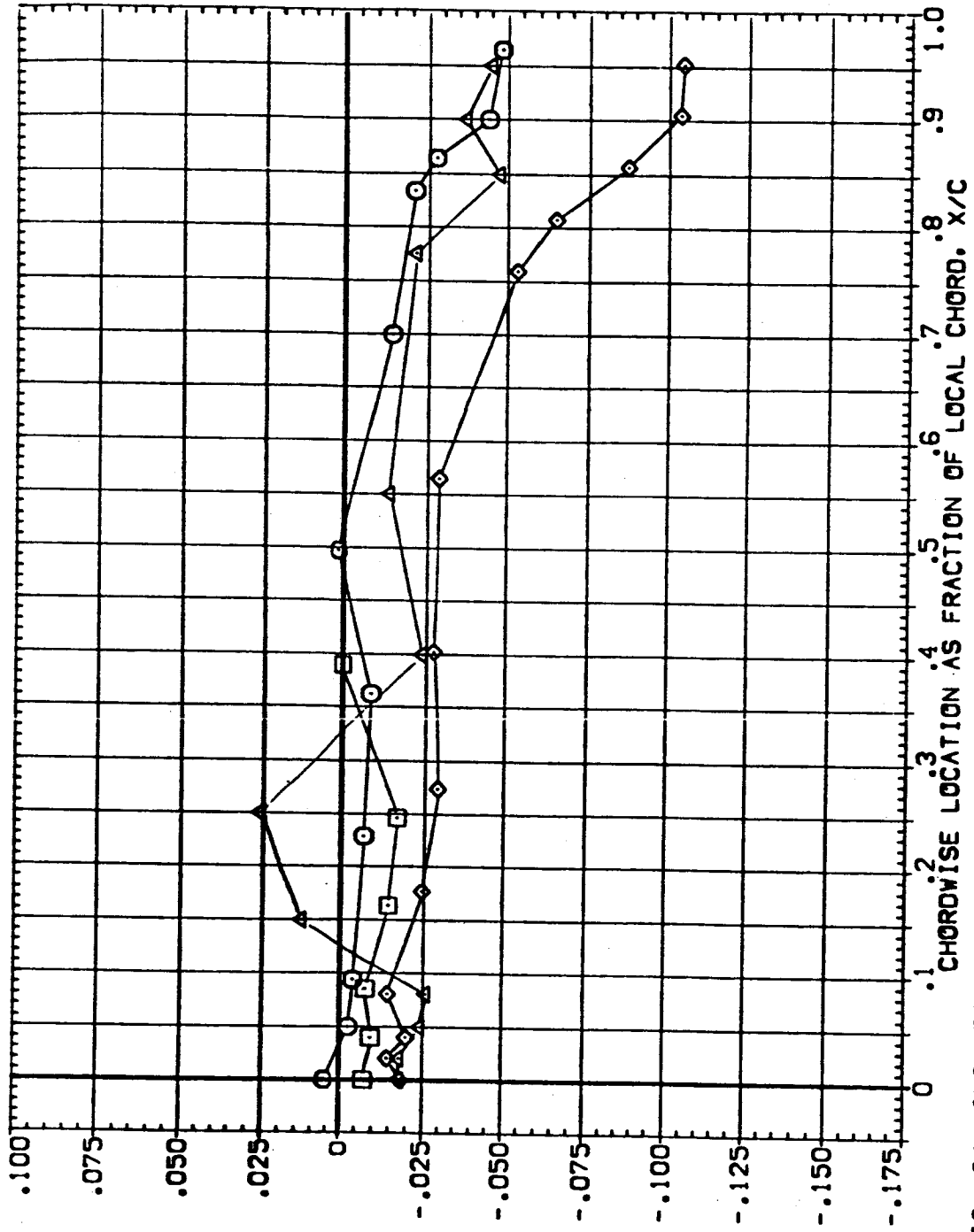


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(FEUR05)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

SYMBOL 2Y/B BETA ALPHA
 ○ .641 4.000 .000
 □ .780
 ◇ .887

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

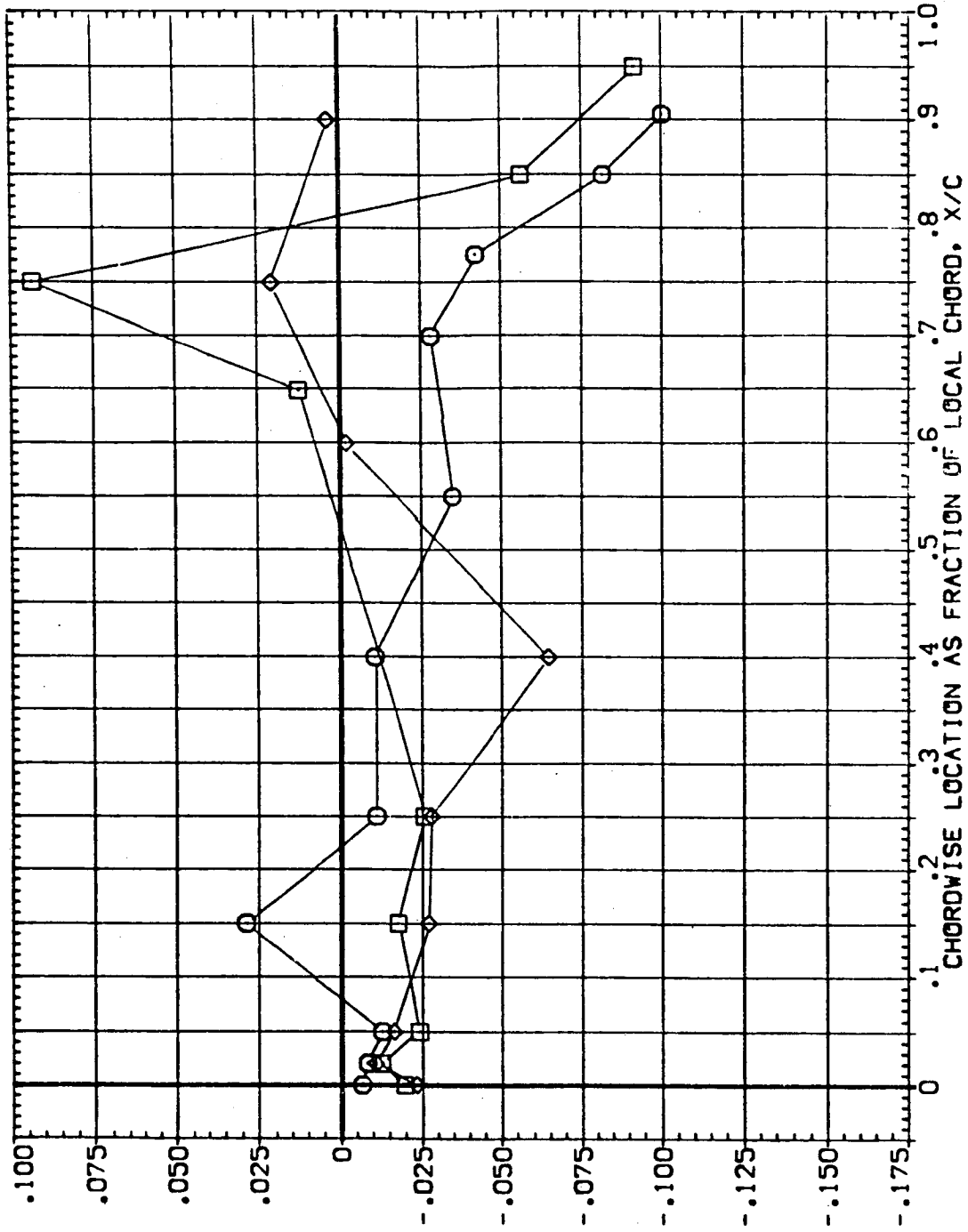


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING (EEURO6)

SYMBOL	21/8	BETA	ALPHA	ELV-18	ELV-09
○	.299	.000	-1.000	RUDDER	MACH
□	.364			GIMBAL	
◇	.427				
△	.534				

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

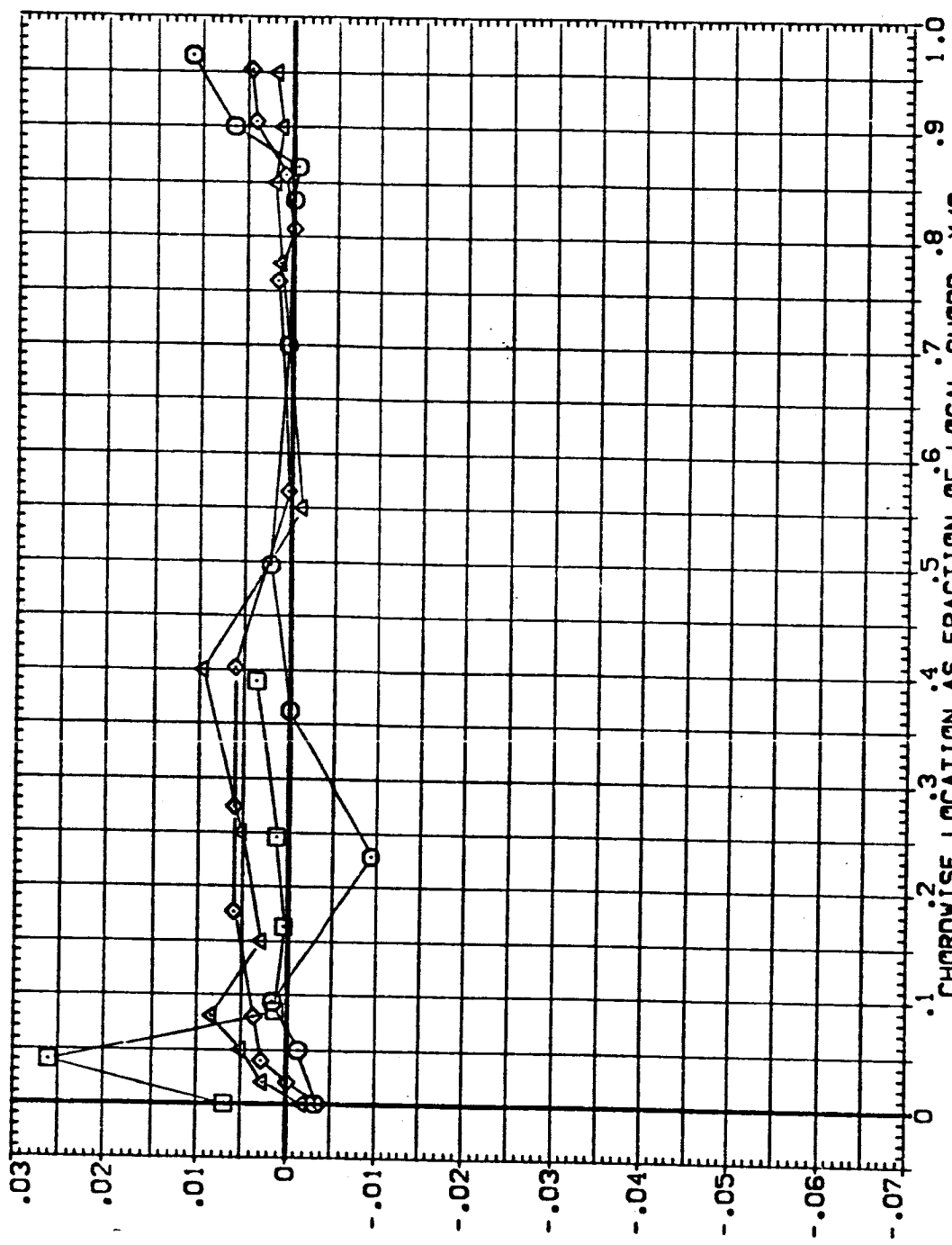


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

WING SURFACE DISTRIBUTION OF MINIMUM PRESSURE FOR WING (EQUIDISTANT)

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-09 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

SYMBOL 2Y/B BETA ALPHA
 ○ .641 .000 -4.000
 □ .780 .000 -4.000
 ◇ .687 .000 -4.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

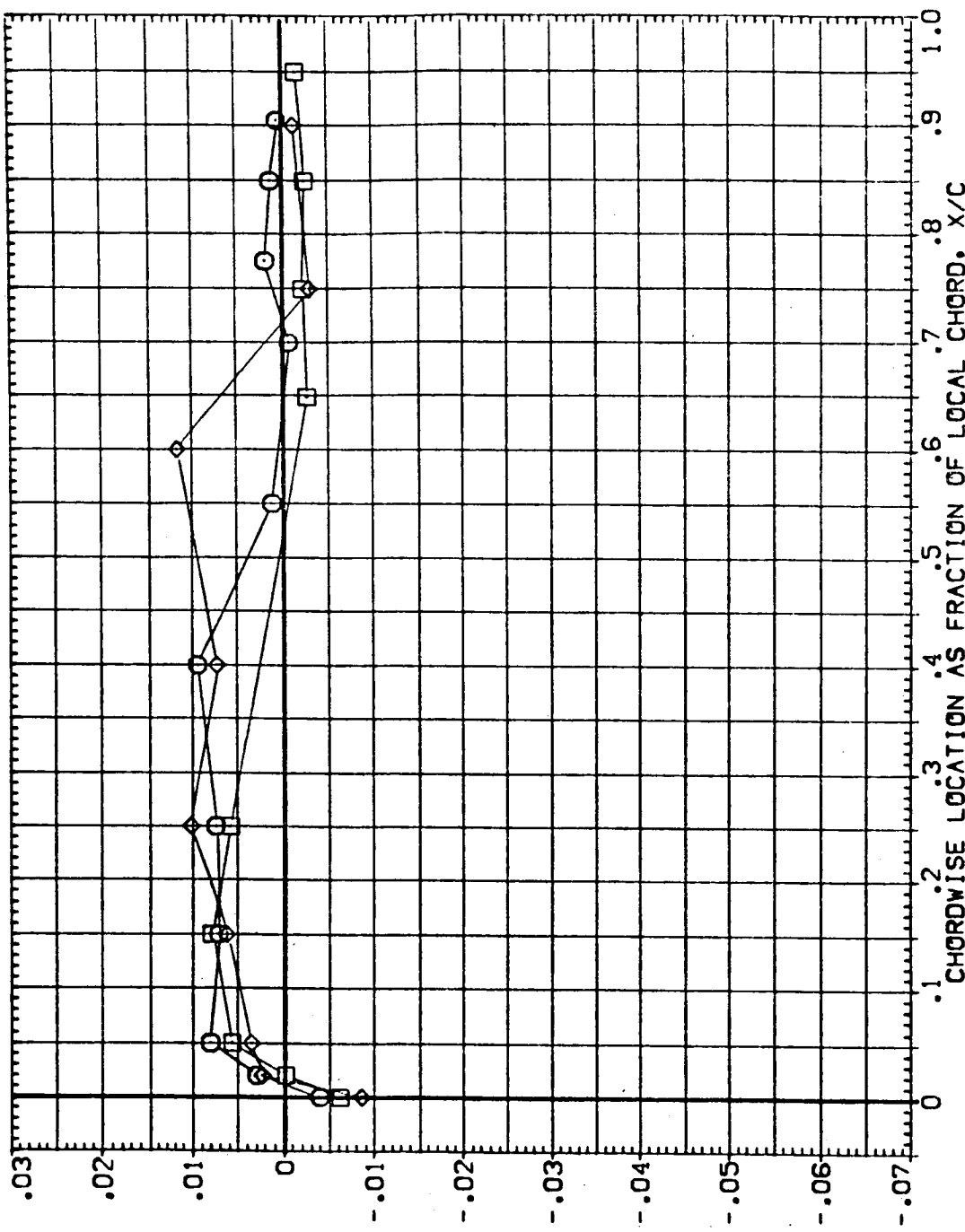


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(EEURO6)

SYMBOL ZI/B BETA ALPHA

◇ .299 .000 .000

□ .364 .000 .000

○ .427 .000 .000

△ .531 .000 .000

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000

RUDER .000 MACH 1.100

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

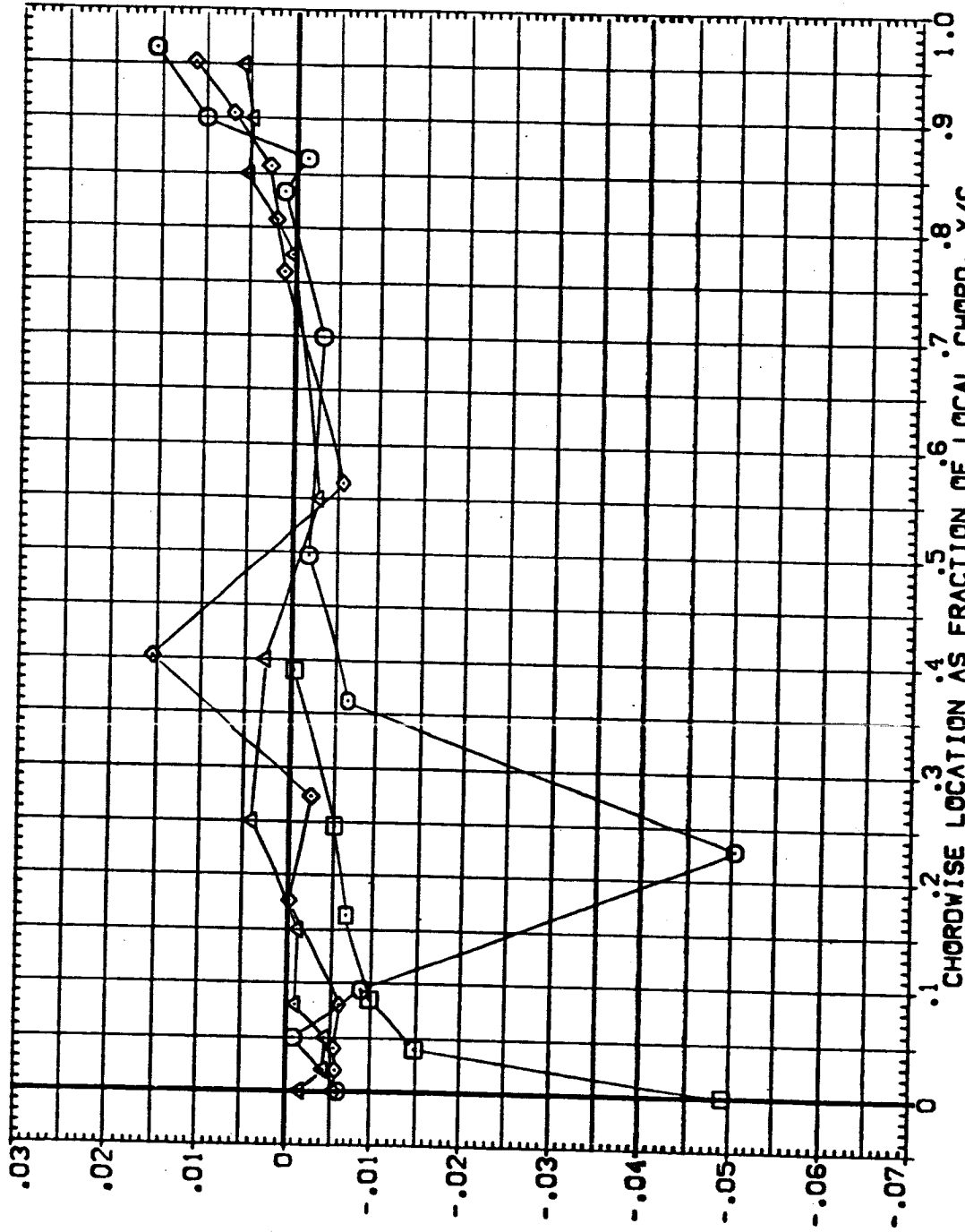


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(EURO6)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-09 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

SYMBOL ZY/B BETA ALPHA
 ○ .641 .000
 □ .780 .000
 ◇ .687 .000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

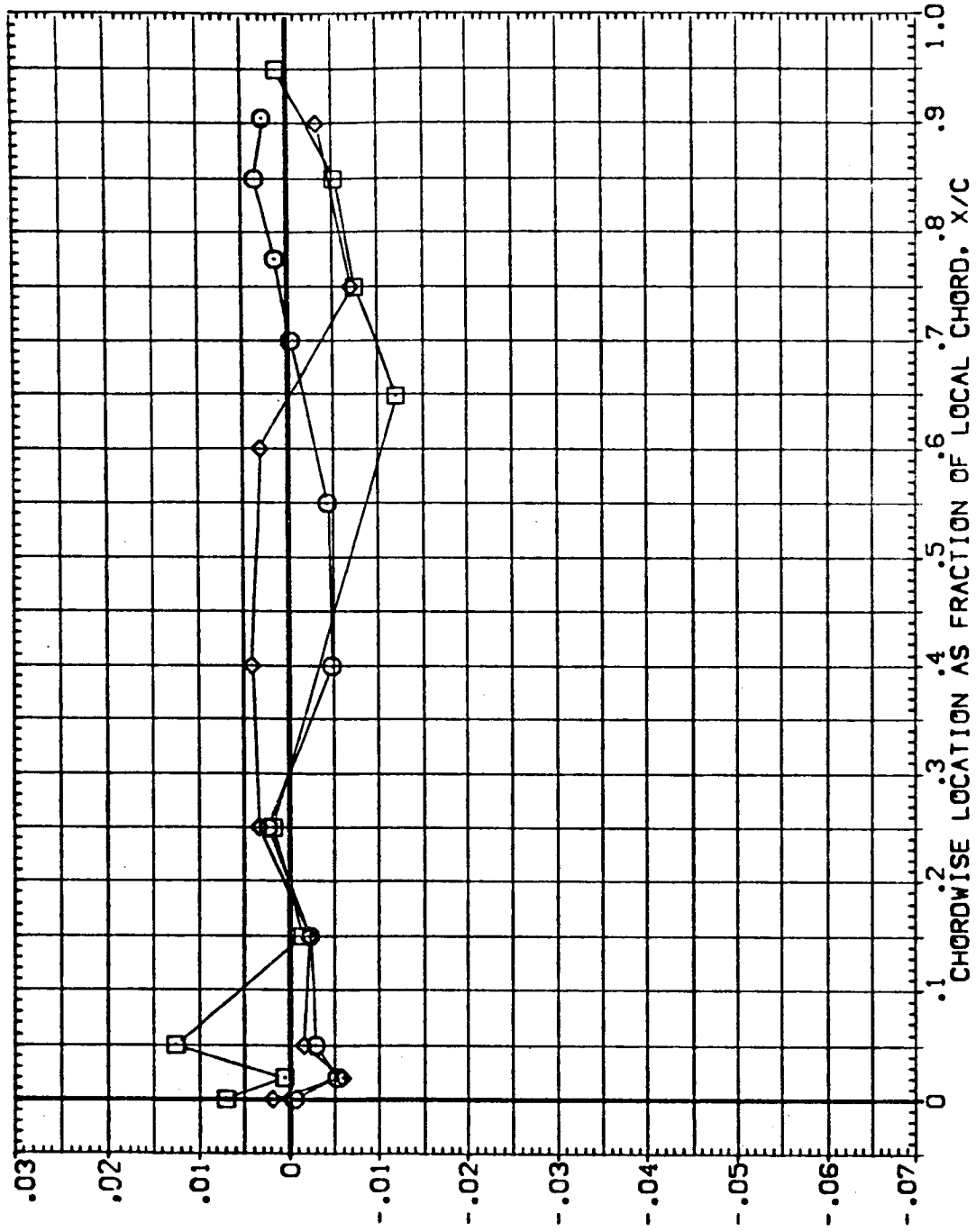


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(EEURO6)

SYMBOL		PARAMETRIC VALUES	
○	2 γ /8	8.000	ELV-OB
□	BETA	.000	ELV-OB
◇	ALPHA	1.000	MACH
△			

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

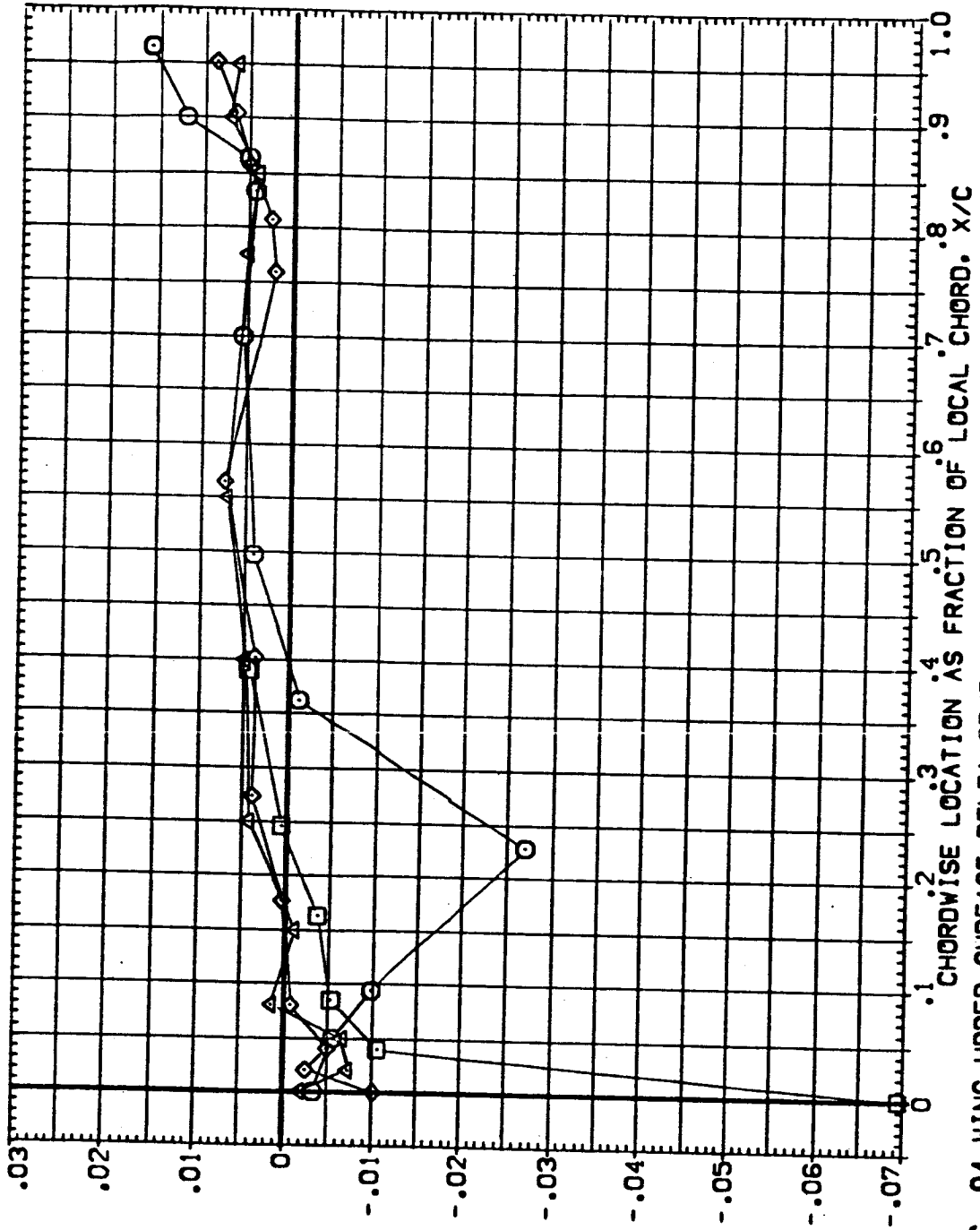


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(FEJRO6)

SYMBOL Z1/B BETA ALPHA

○ .299 -1.000 .000

□ .364

◇ .477

△ .534

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 1.000

RUDDER .000 MACH 1.100

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

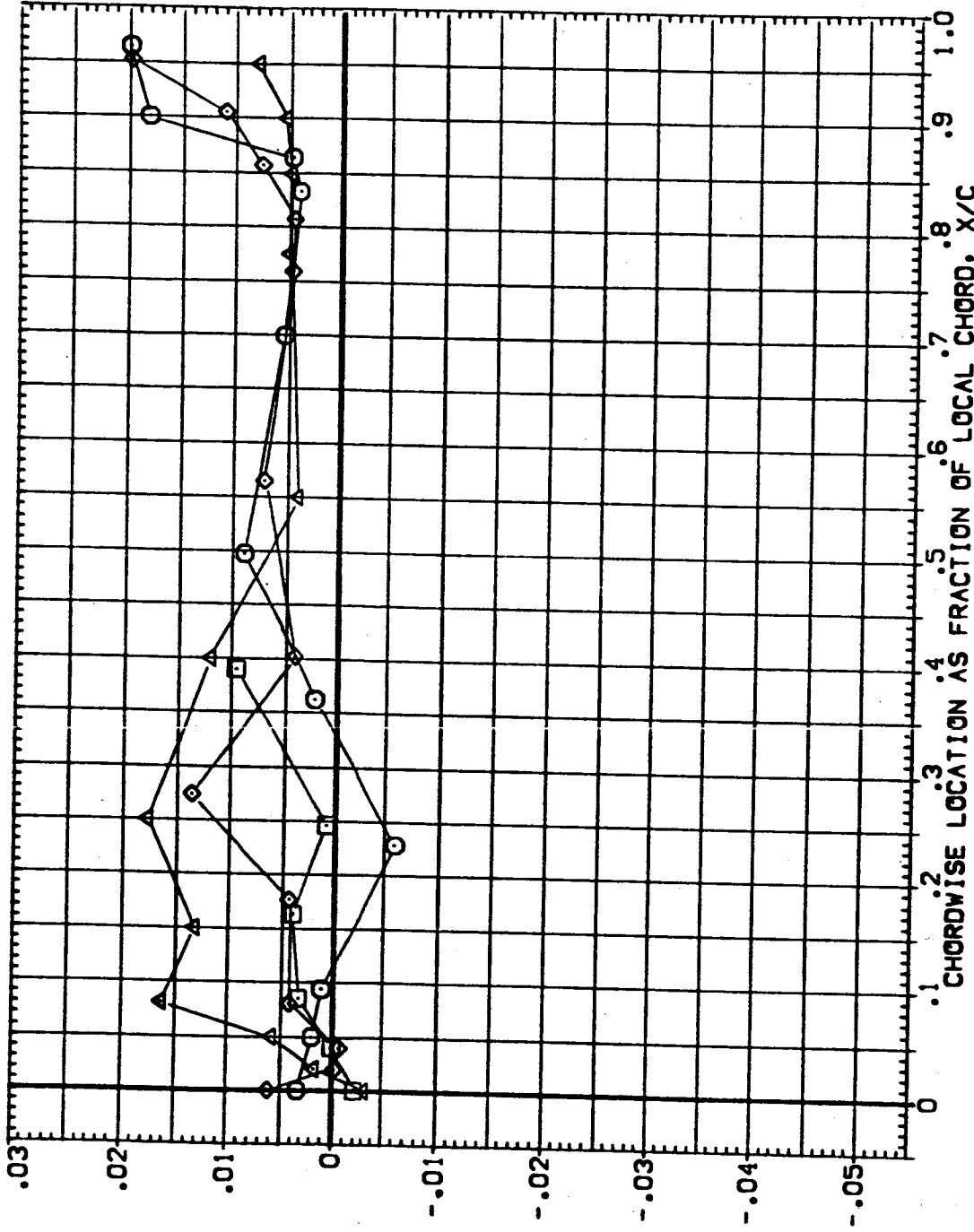


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

SYMBOL ZY/B BETA ALPHA

○ .641
 □ .780
 ◇ .887

BETA ALPHA
 -4.000 .000

ELV-18
 RUDDER
 GIMBAL

PARAMETRIC VALUES
 8.000 ELV-08
 .000 MACH
 1.000

4.000
 1.100

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

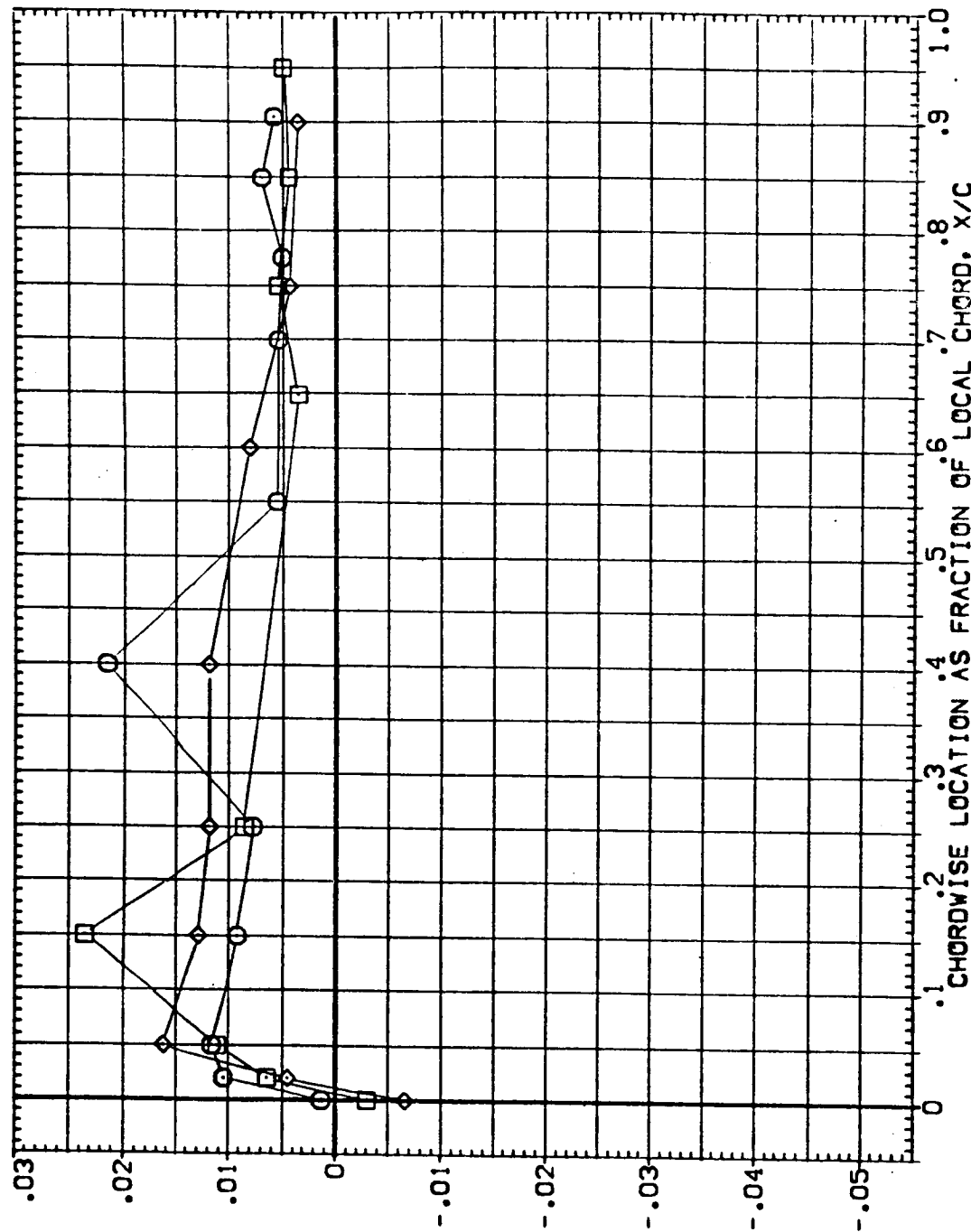


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(FEURO6)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

SYMBOL Z1/B BETA ALPHA
 ◊ .259 1.000 .000
 □ .364
 ◻ .427
 △ .534

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

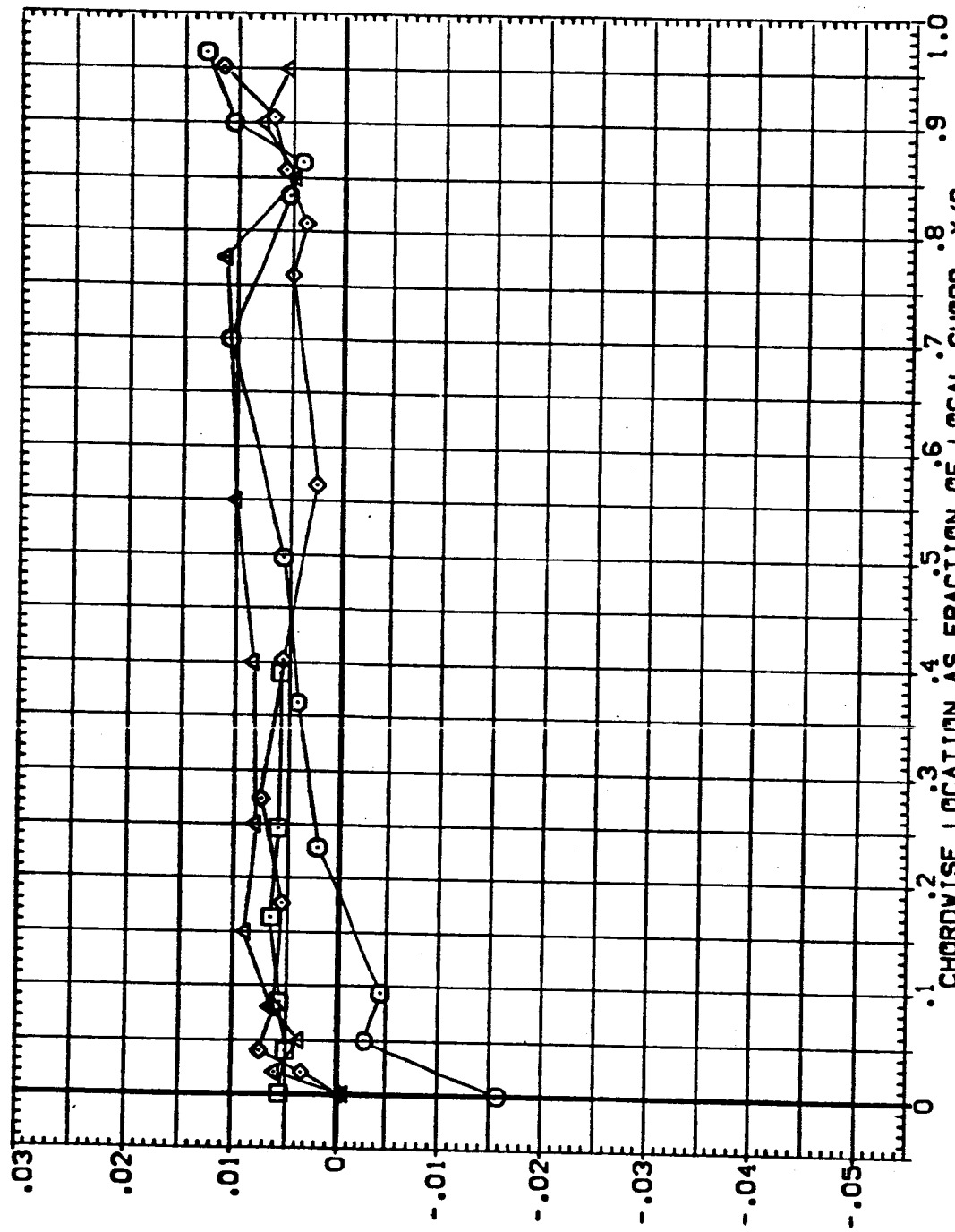


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ANGLE OF ATTACK DISTRIKUI SRB-NUM PFS-NUM TUP WING(FEUKUBJ)

PARAMETRIC VALUES
 8.000 ELV-08 4.000
 .000 MACH 1.100
 ELV-18
 RUDDER
 GIMBAL

SYMBOL
 ◊ ◻ ◊
 ZY/B BETA ALPHA
 .641 4.000 .000
 .780
 .887

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

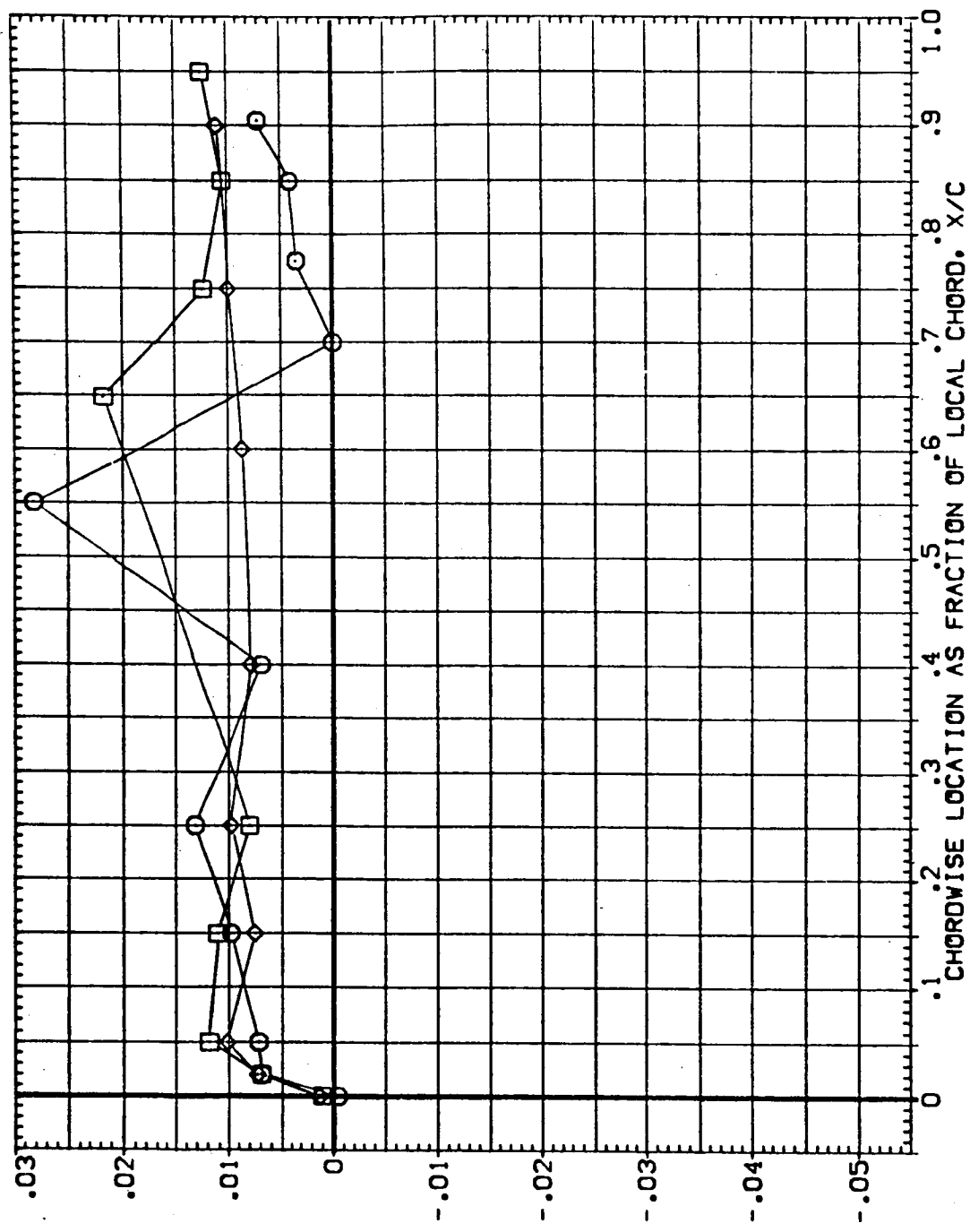


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(EURO7)

SYMBOL: \diamond \square \triangle \circ

ZY/B BETA ALPHA

.299 .000 -4.000

.364

.127

.534

PARAMETRIC VALUES

ELV-1B ELV-08 4.000

RUDDER .000 MACH 1.250

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

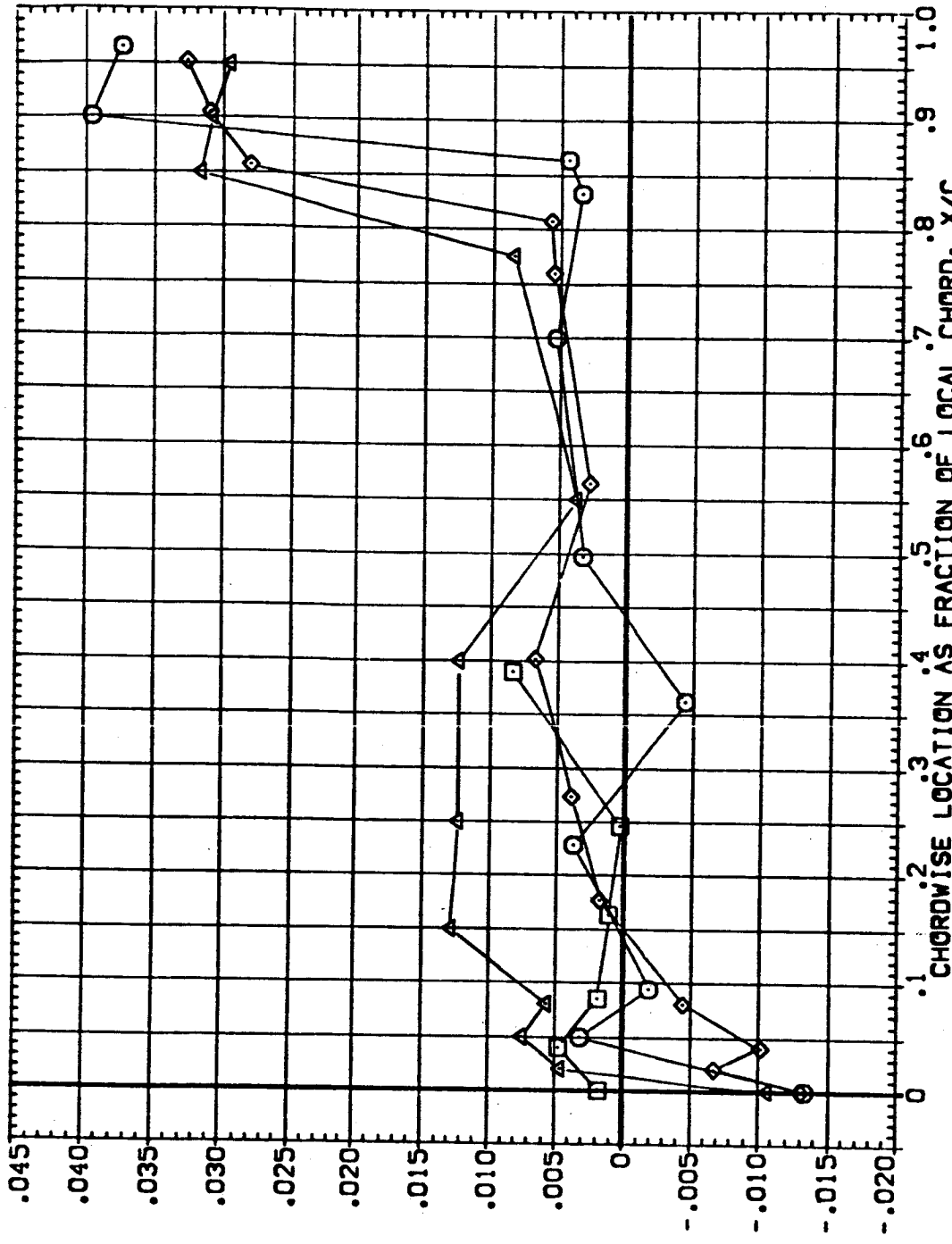


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-UI41A19 UIS+S1KUI SKB-NOM MPS-NOM TOP WING(EURO7)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-09 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

ELV-18 8.000
 RUDDER .000
 GIMBAL 1.000

BETA .000 ALPHA -1.000

ZY/B .641
 .780
 .687

SYMBOL
 ○ □ ◇

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

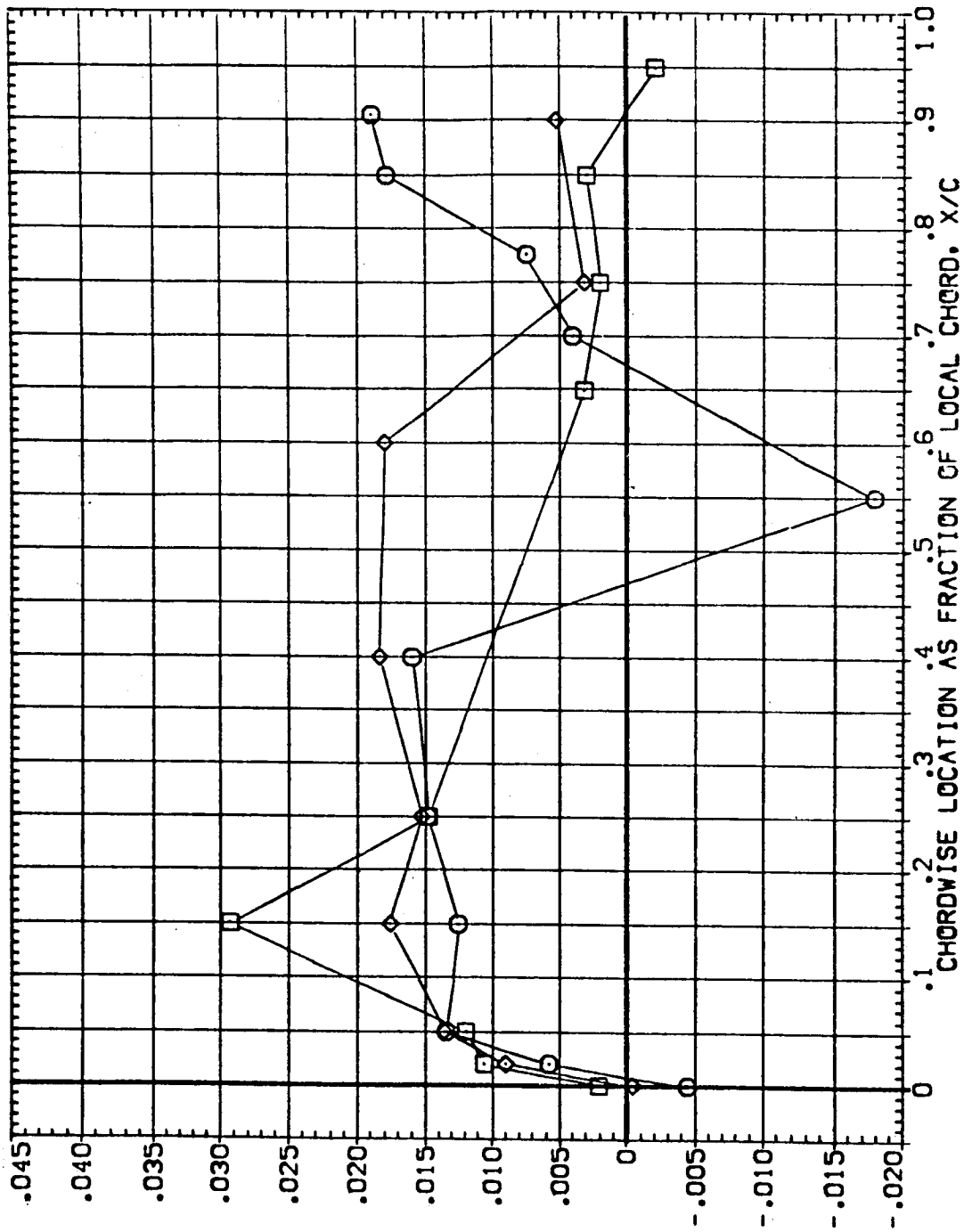


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS



ARC11-0141A19 OTS+STRUT SR3-NOM MPS-NOM TOP WING(EEUR07)

SYMBOL	21/8	BETA	ALPHA	ELV-18	PARAMETRIC VALUES
○	.299	.000	.000	RUDDER	8.000 ELV-08
□	.364	.000	.000	GIMBAL	.000 MACH
◇	.427	.000	.000		1.000
△	.534	.000	.000		4.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

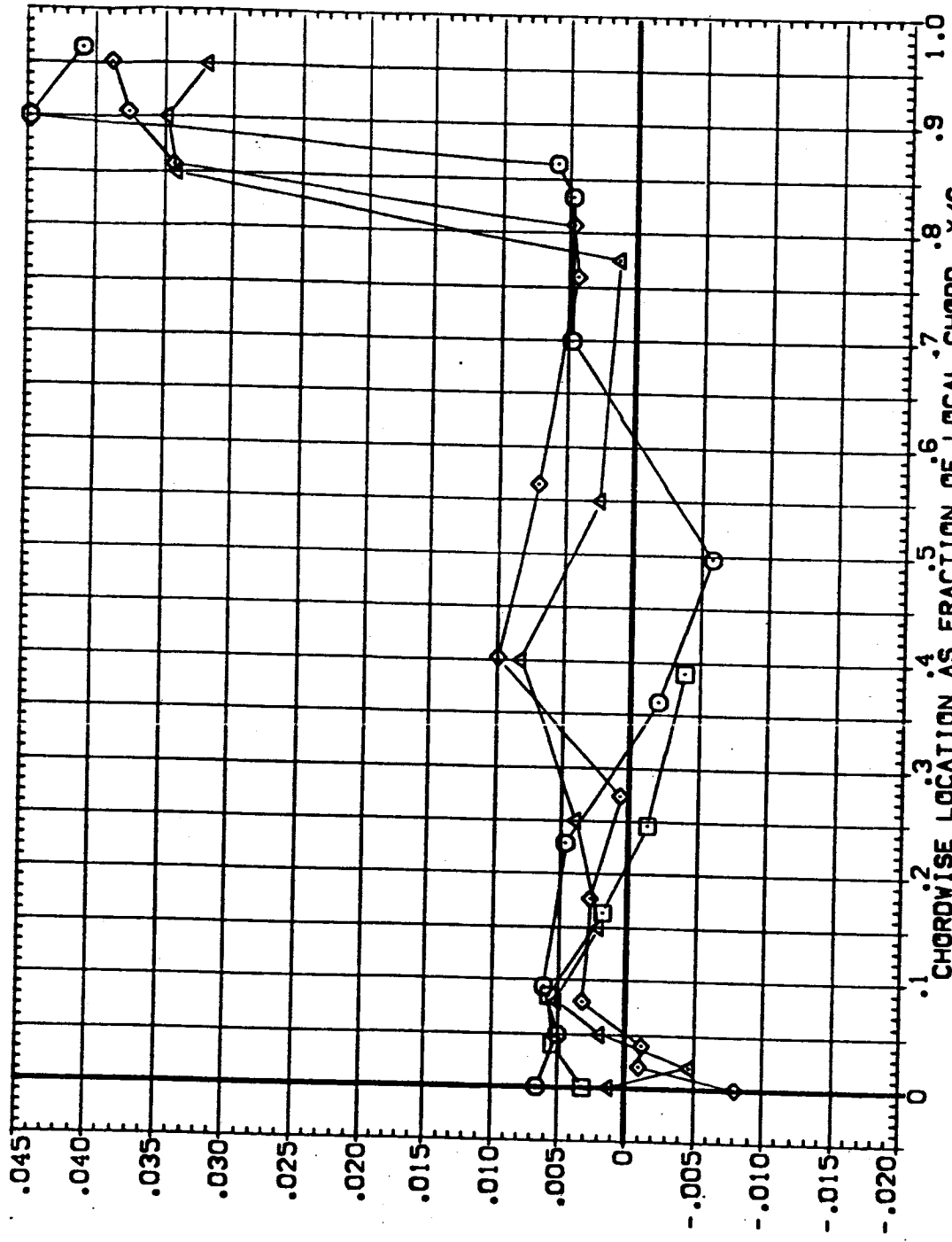


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

SYMBOL 2 γ / β .BETA ALPHA

○ .641 .000 .000

□ .780

◇ .887

PARAMETRIC VALUES

ELV-1 β 9.000 ELV-0 β 4.000

RUDDER .000 MACH 1.250

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

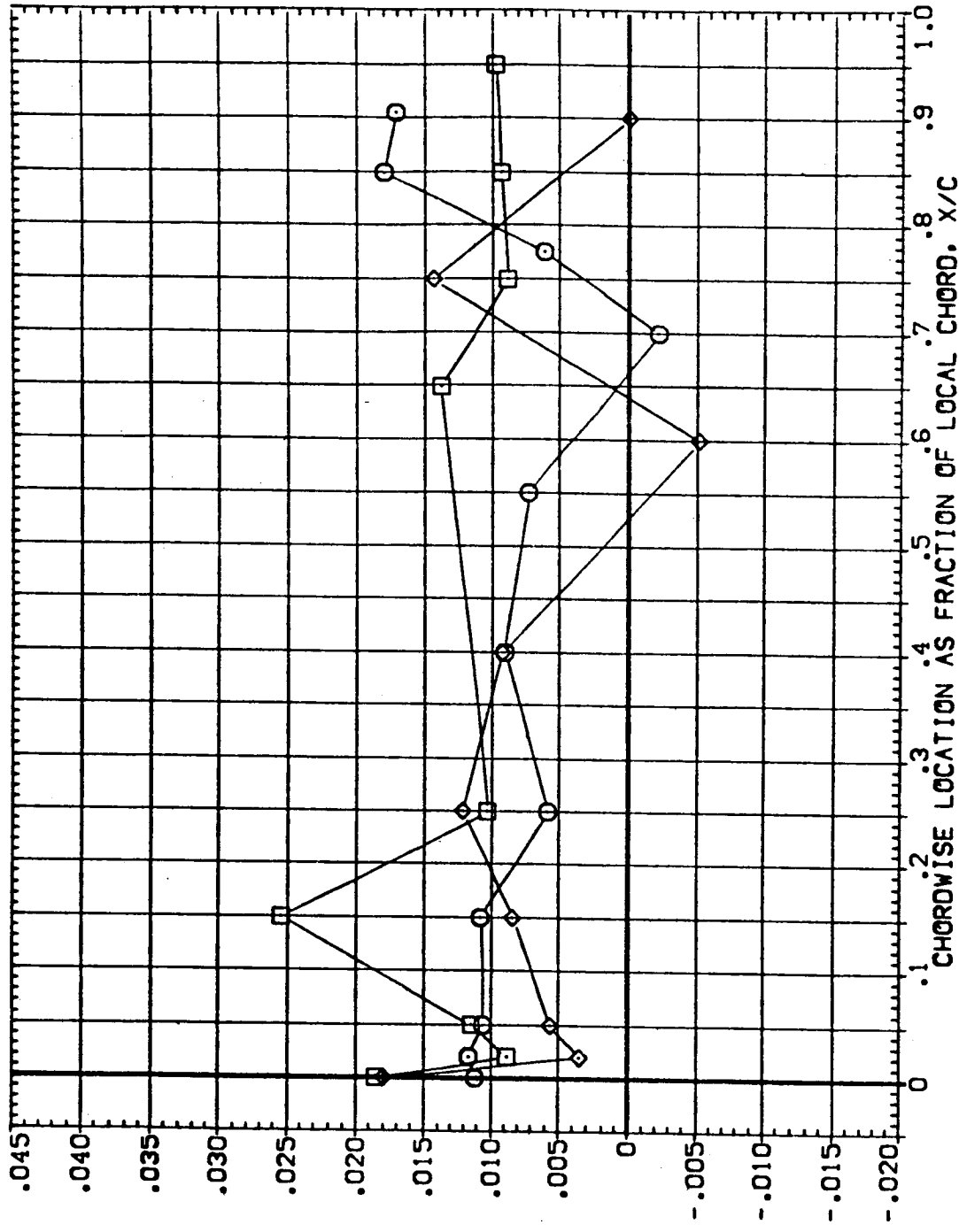


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(EEURO7)

SYMBOL 21/8 BETA ALPHA

□ .259 .000 1.000

◇ .364 .000 1.000

△ .427 .000 1.000

○ .534 .000 1.000

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000

RUDER .000 MACH 1.250

GIMBAL 1.000

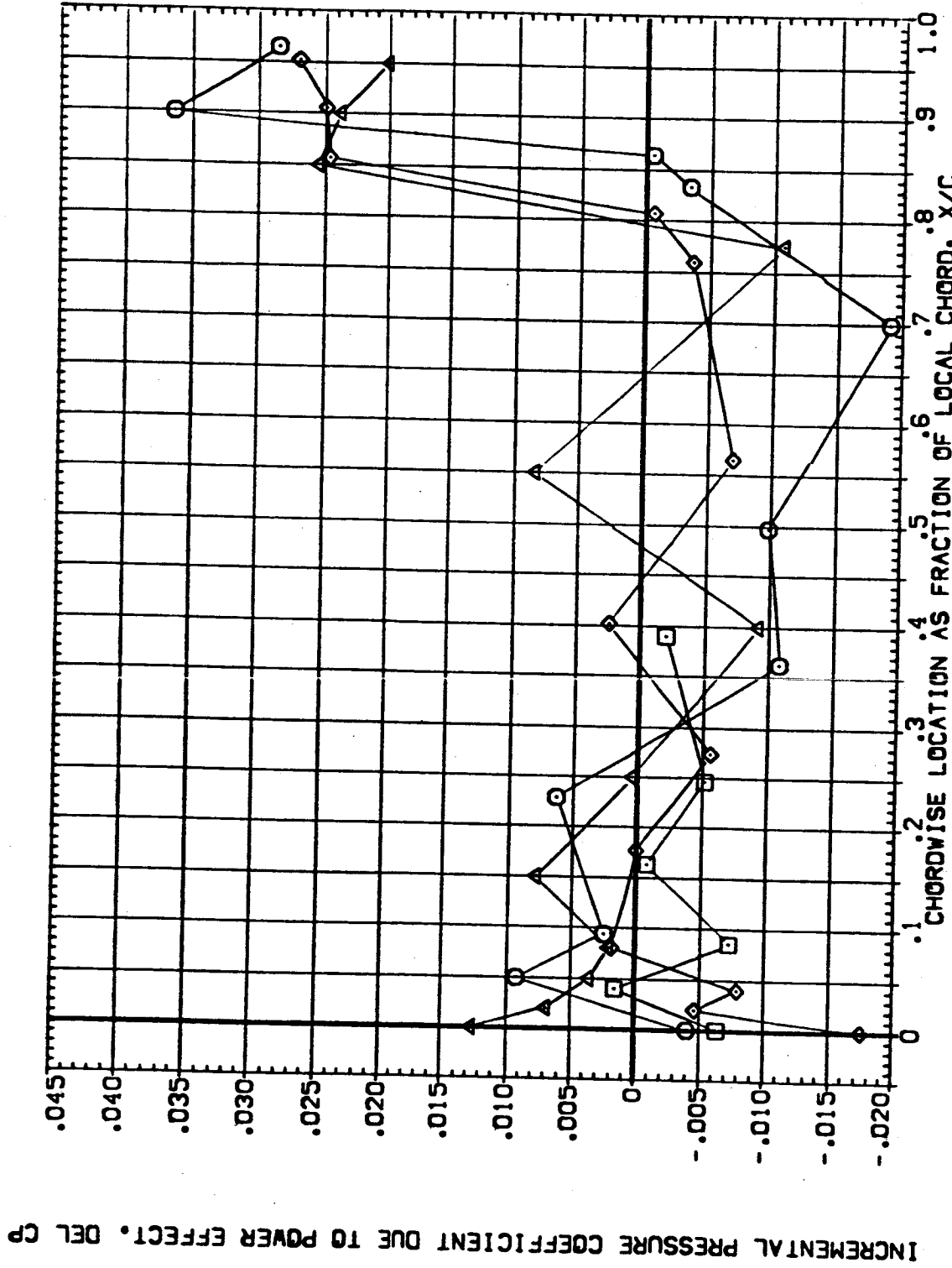


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

MULTI-VARIABLE DISTRIKUI SRB-NOM MPS-NOM TOP WING(EURO7)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

SYMBOL
 ○ □ ◇
 Z1/B .641 ALPHA 4.000
 BETA .000
 .780
 .887

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

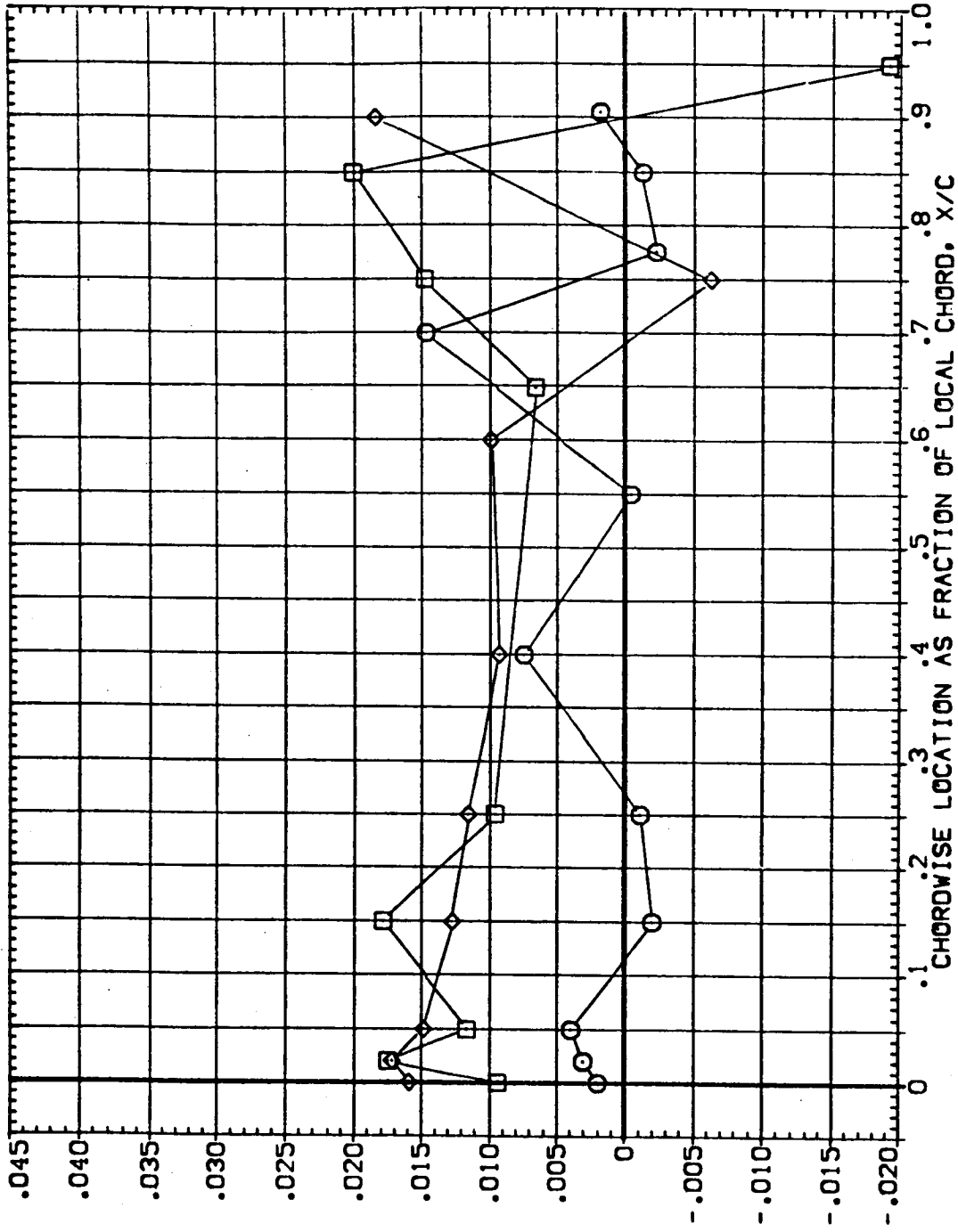


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(FEUR07)

SYMBOL: \square \diamond \triangle \circ

Z1/B: .259
 .364
 .427
 .534

BETA: -1.000

ALPHA: .000

PARAMETRIC VALUES

ELV-1B: 8.000
 ELV-09: 4.000

RUDER: .000
 MACH: 1.250

GIMBAL: 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

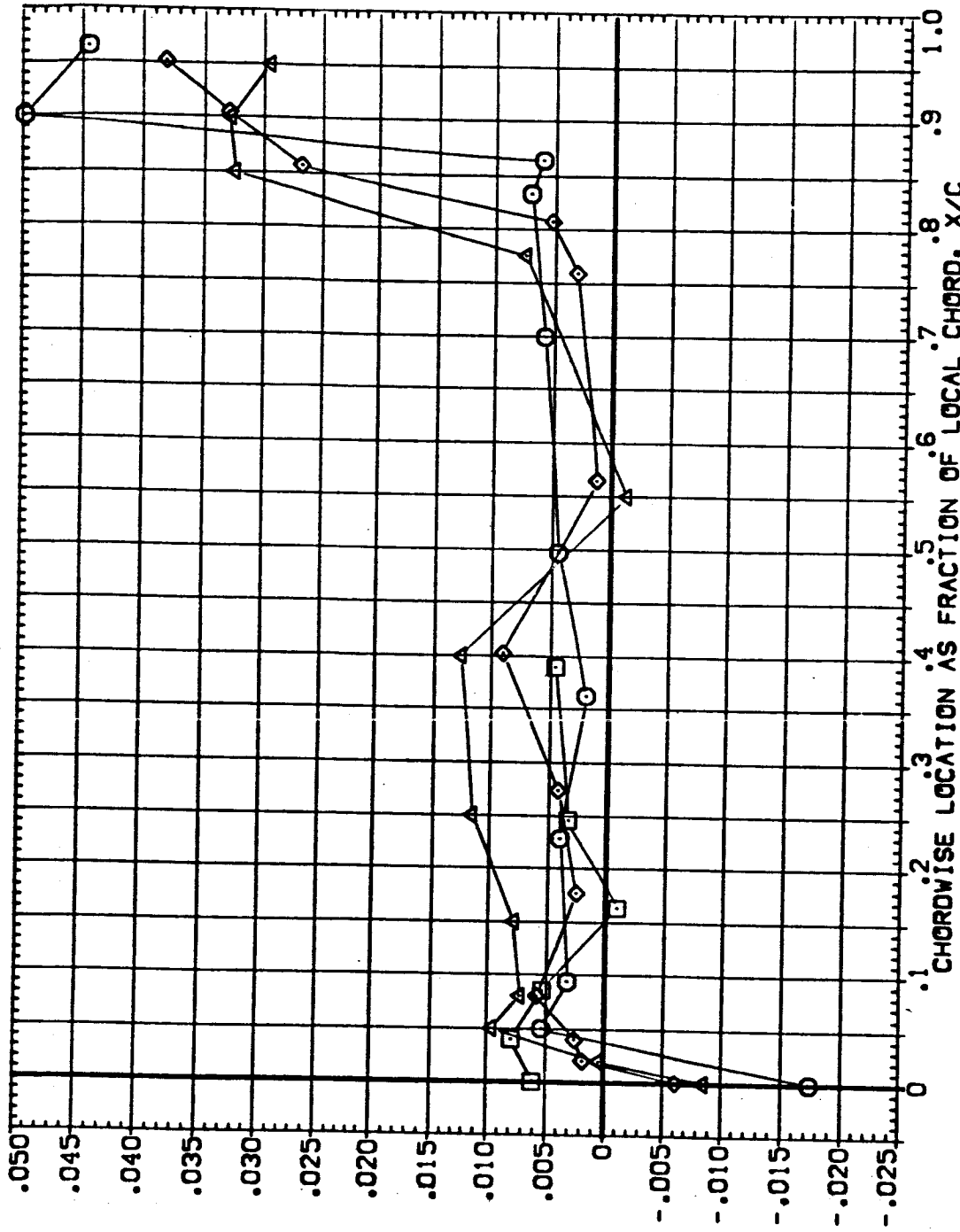


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(FEU07)

SYMBOL	21/8	BETA	ALPHA	PARAMETRIC VALUES
□	.641	-4.000	.000	8.000 ELV-OB
○	.780			.000 MACH
◇	.887			1.000 ELV-OB
				1.250 MACH

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

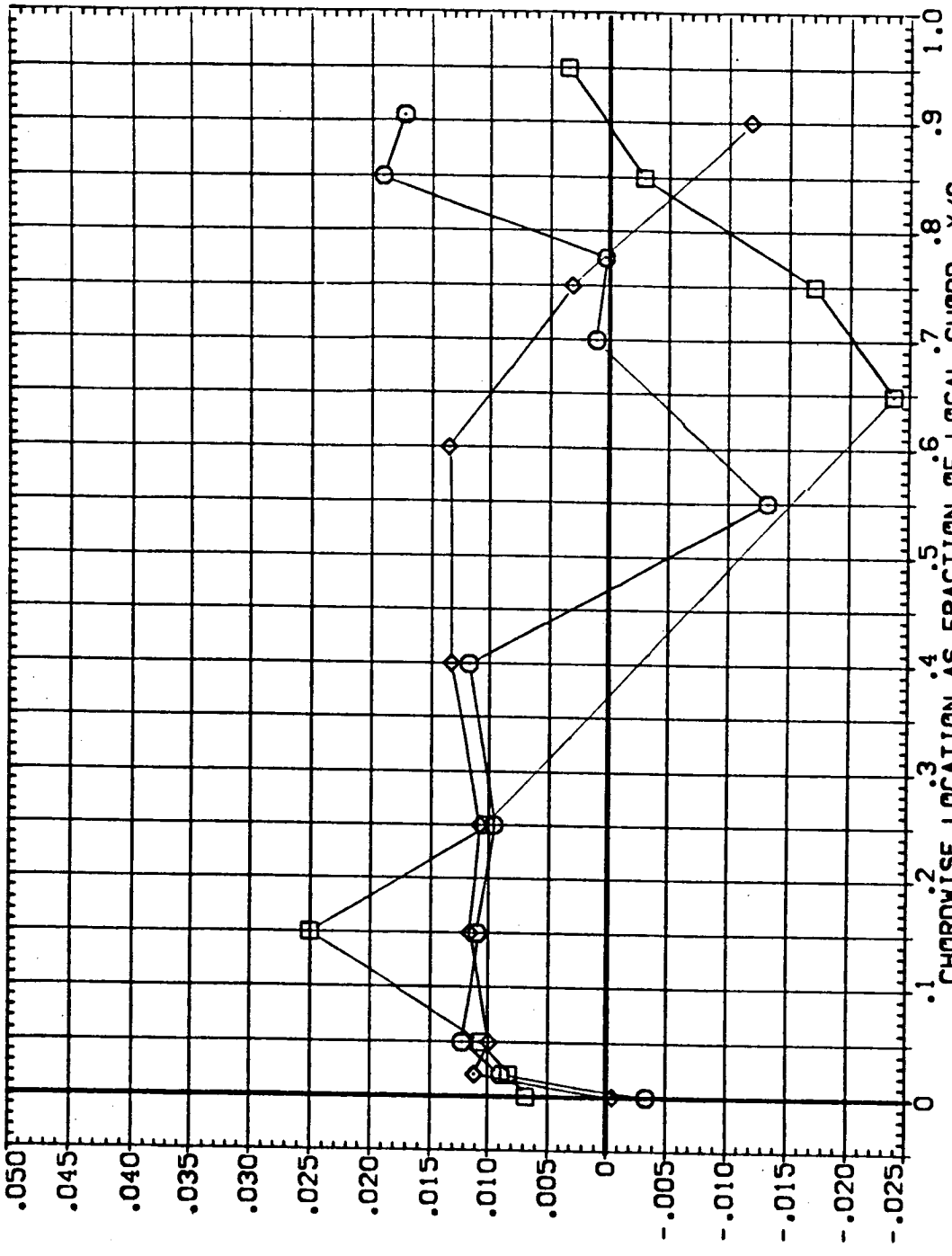


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(FEUR07)

SYMBOL	Z/Y/B	BETA	ALPHA	ELV-1B	ELV-0B
○	.299	4.000	.000	8.000	4.000
□	.364			.000	1.250
◇	.427			RUDER	MACH
△	.534			GIMBAL	

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

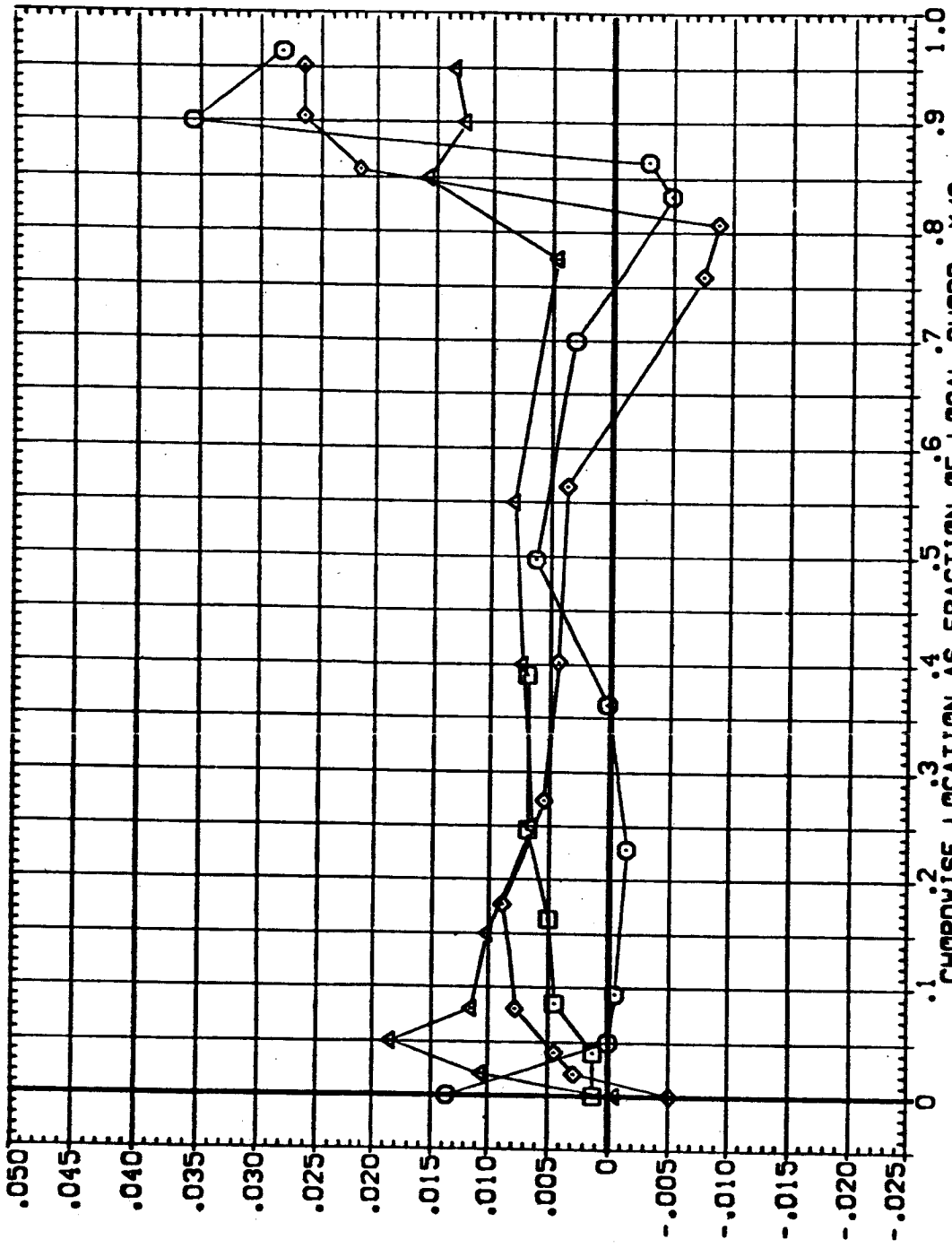


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

AKC11-0141A1B DIS+SIRUT SRB-NOM MPS-NOM TOP WING (FEU07)

PARAMETRIC VALUES
 ELV-1B 9.000 ELV-09 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

SYMBOL 2Y/B BETA ALPHA
 ○ .641 1.000 .000
 □ .780
 ◇ .887

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

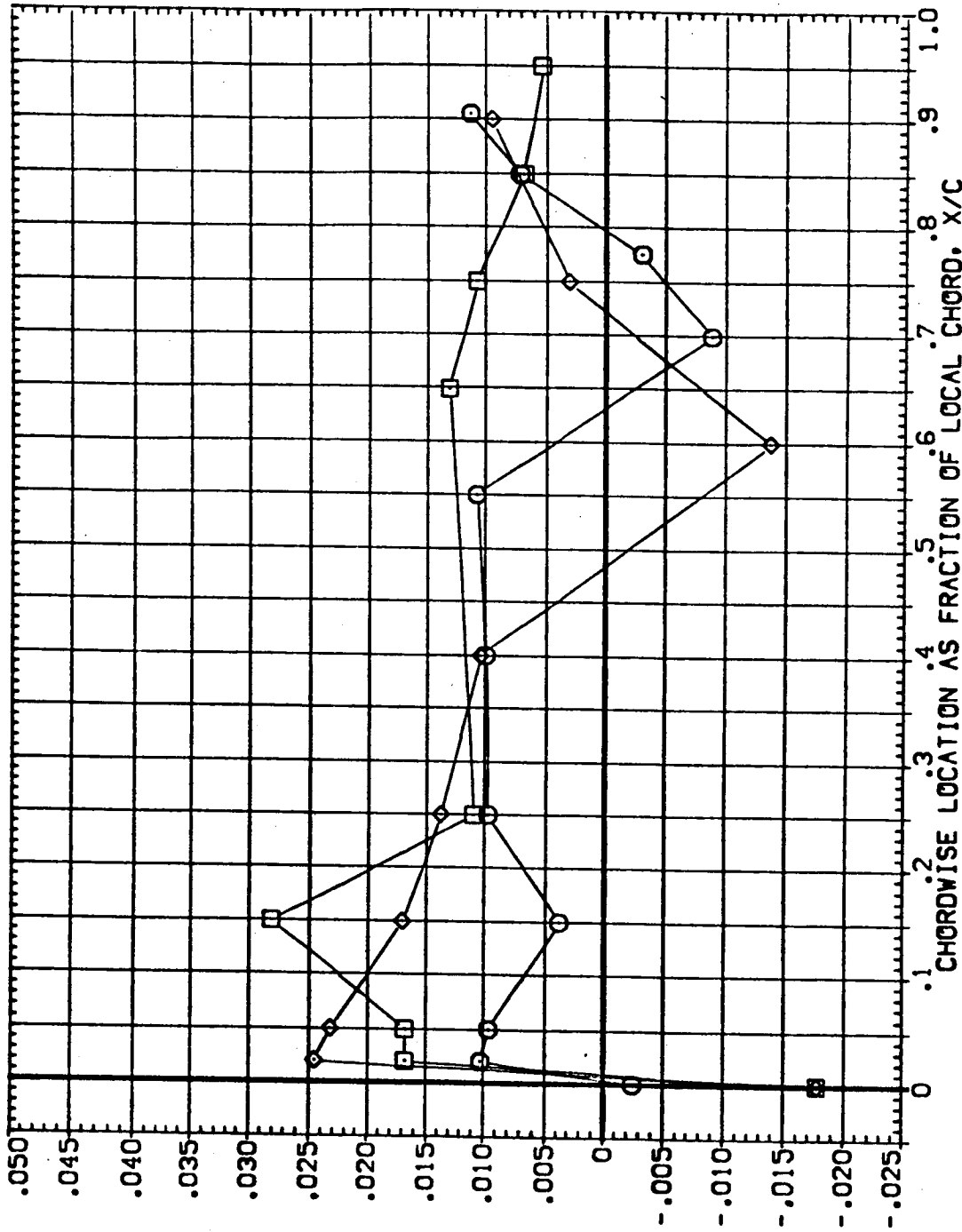


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(EURO8)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

SYMBOL 2Y/8 BETA ALPHA
 ◻ .299 .000 -1.000
 ◻ .364 .000 -1.000
 ◻ .427 .000 -1.000
 ◻ .534 .000 -1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

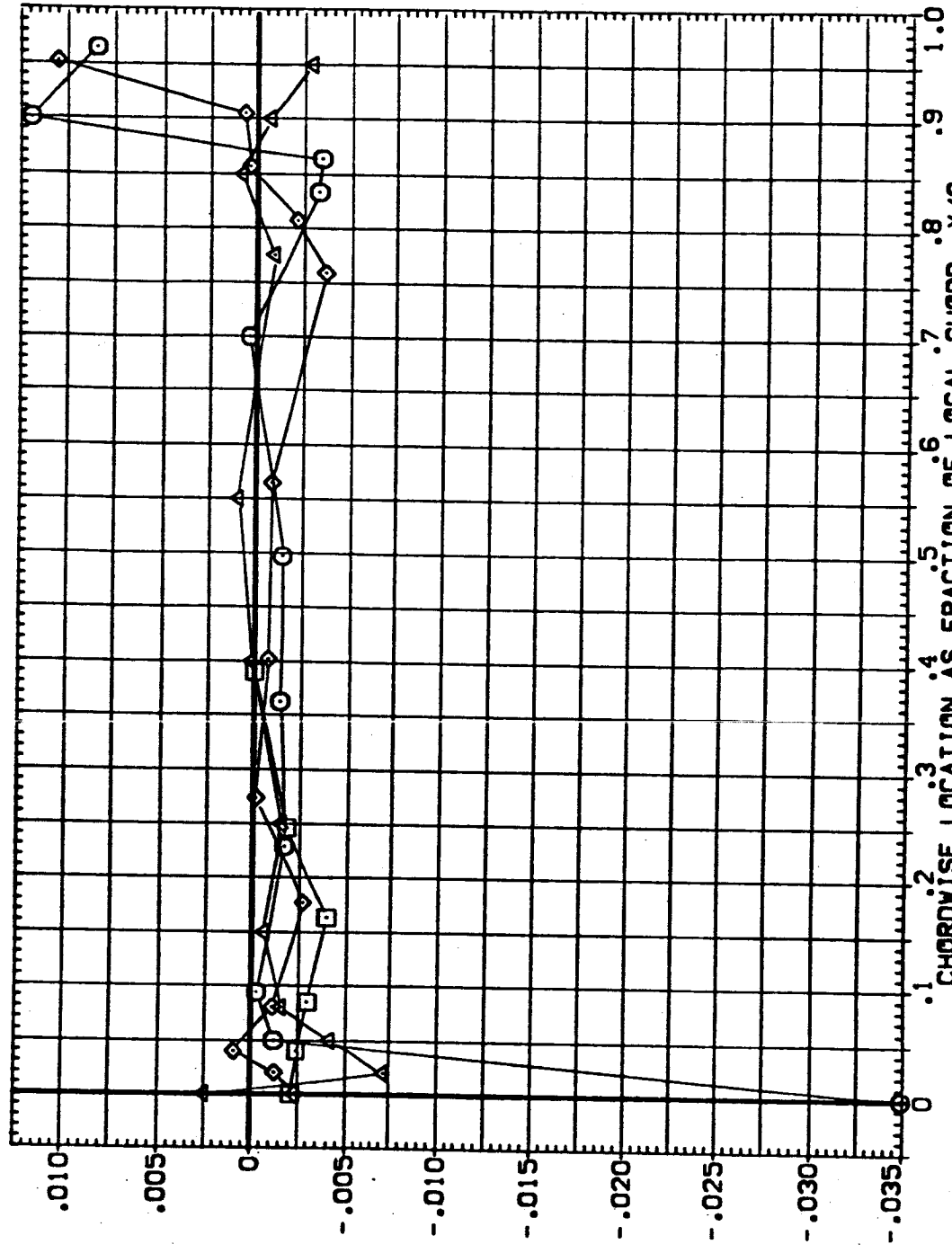


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

DIS+STRUT SRB-NOM MFS-NOM TOP WING(EURO8)

PARAMETRIC VALUES
 ELV-IB 8.000 ELV-OB 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

SYMBOL 21/8 BETA ALPHA
 ○ .641 .000 -4.000
 □ .780
 ◇ .887

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

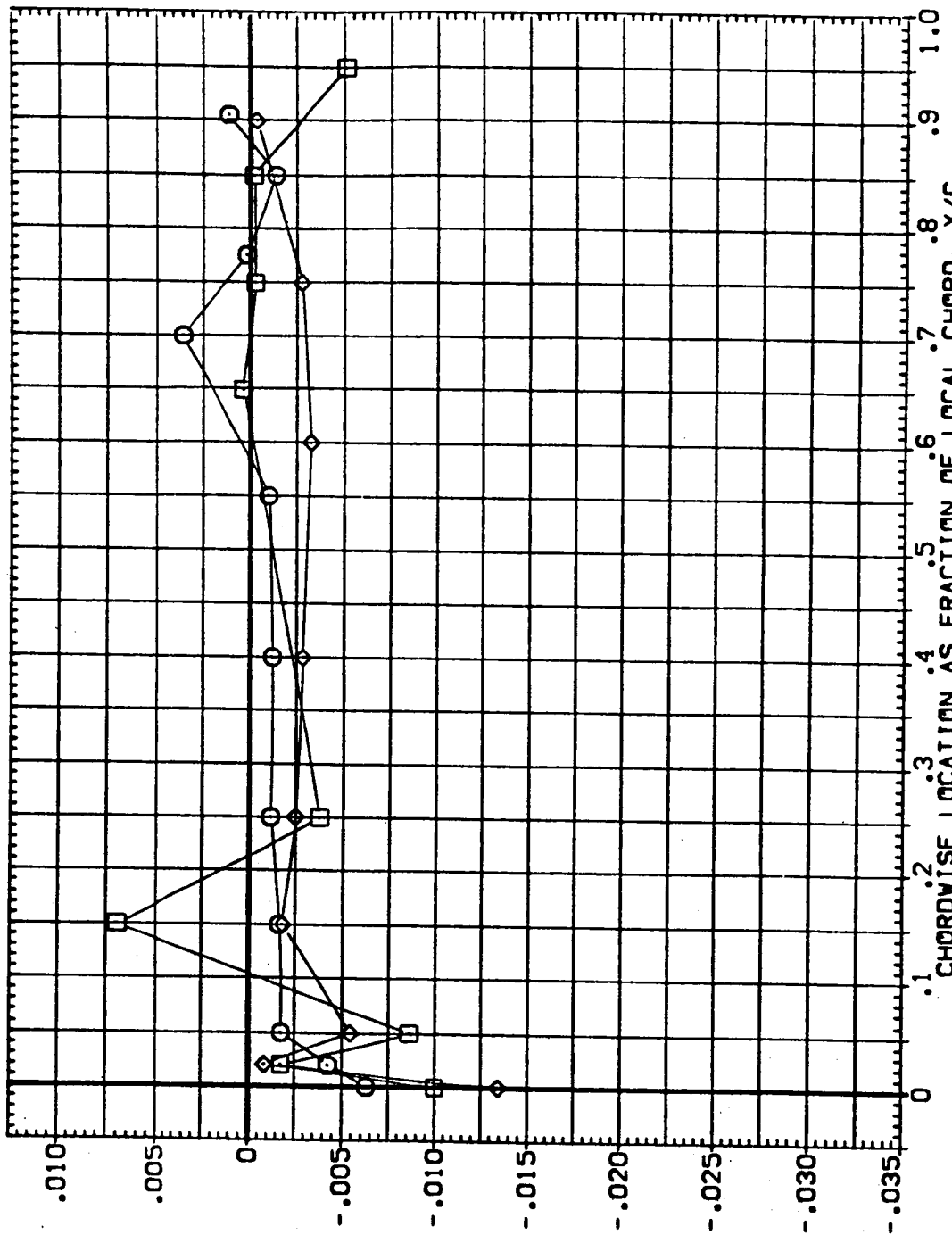


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(EURO8)

SYMBOL	ZI/B	BETA	ALPHA	ELV-18 RUDDER GIMBAL	PARAMETRIC VALUES ELV-08 MACH
○	.259	.000	.000	1.000	1.000
□	.361	.000	.000	.000	.000
◇	.427	.000	.000	1.000	1.000
△	.534	.000	.000	1.000	1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

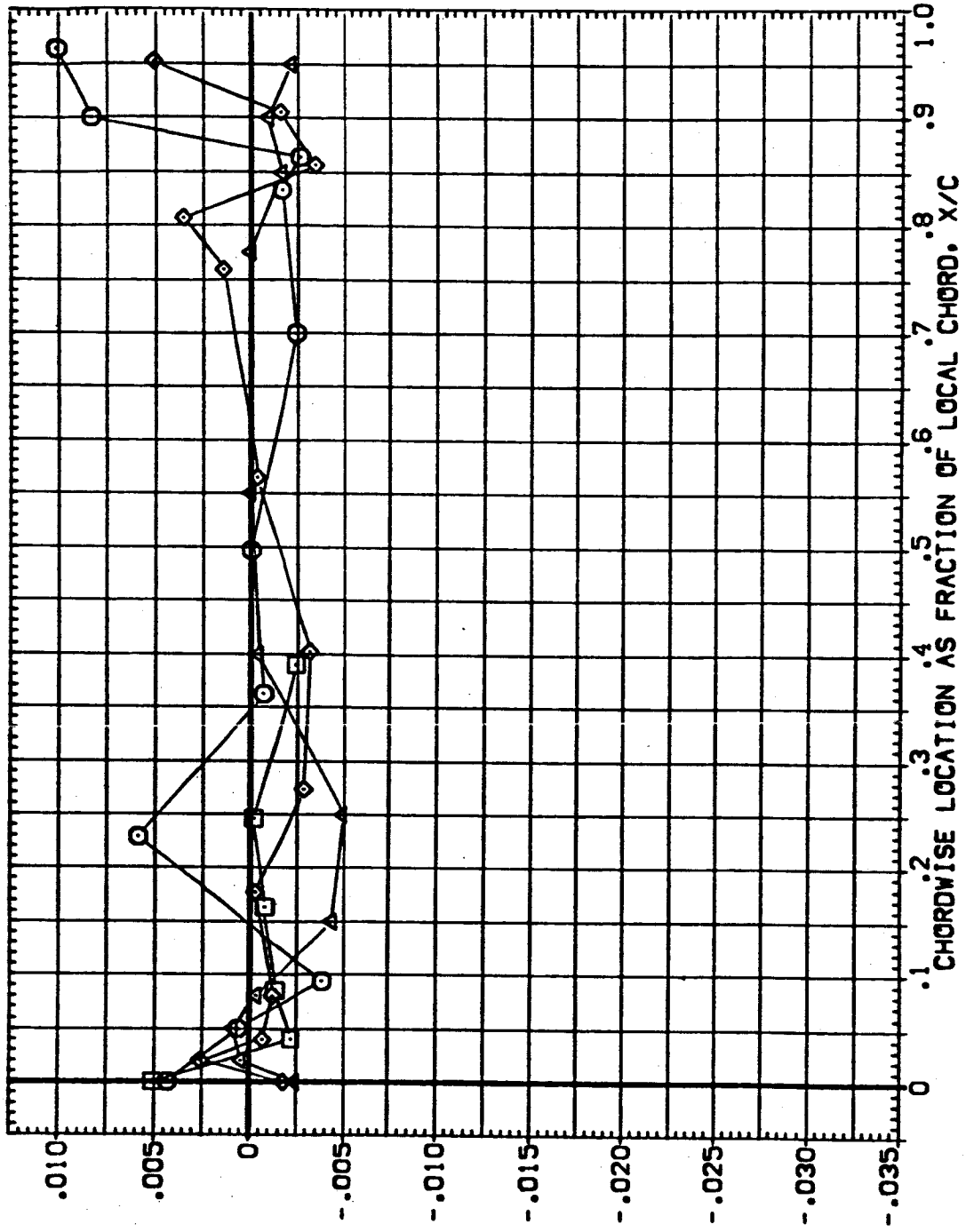


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

AKUJ1-UI41A1S U1S+3IKUI SKB-NUM MPS-NUM IOP WING(EEUR08)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-09 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

SYMBOL Z1/B BETA ALPHA
 □ .641 .000
 ○ .780 .000
 ◇ .887 .000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

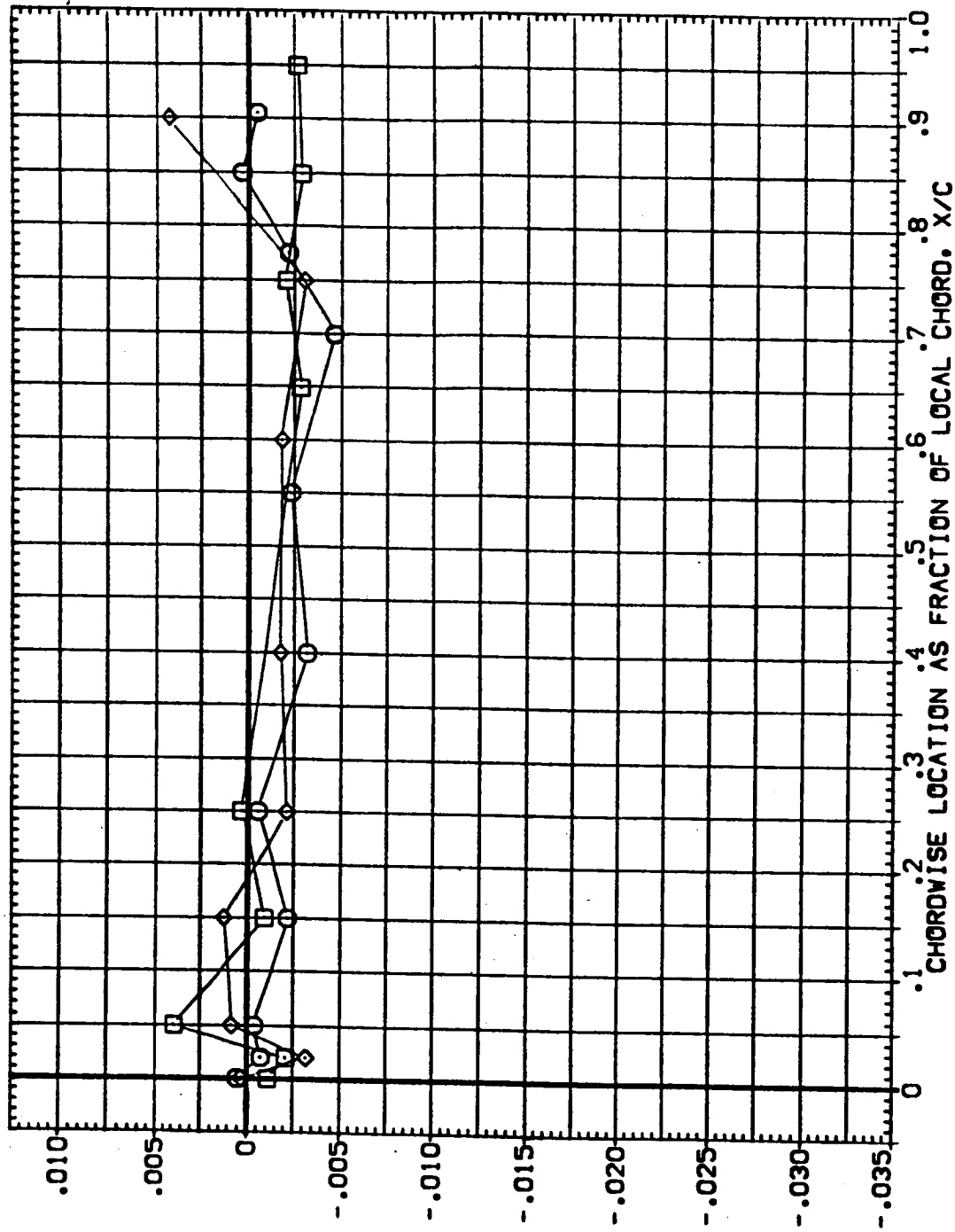


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(EEURO8)

SYMBOL 21/8 BETA ALPHA

○ .298 .000 4.000

□ .364 .000 4.000

◇ .427 .000 4.000

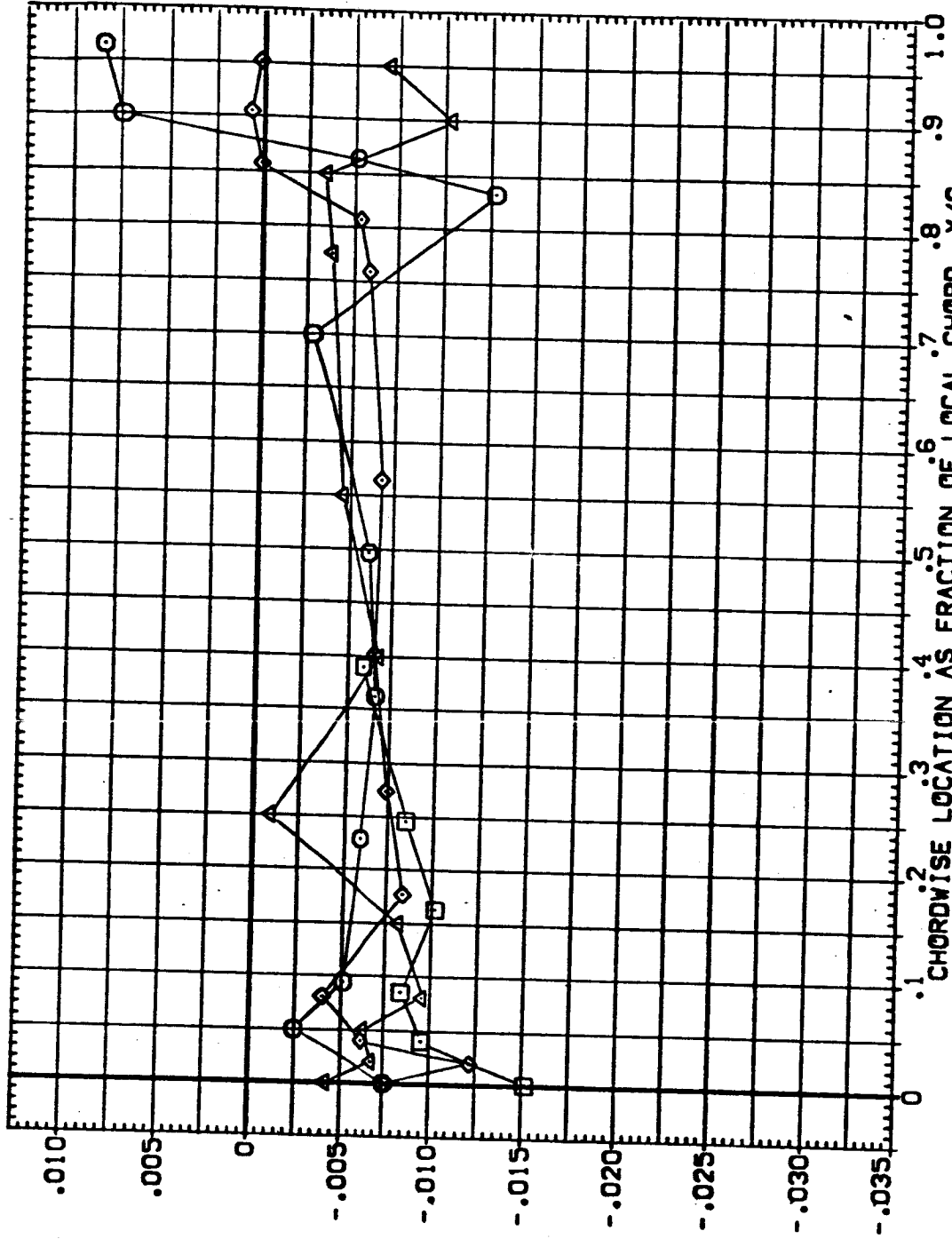
△ .534 .000 4.000

PARAMETRIC VALUES

ELV-18 6.000 ELV-08 4.000

RUDDER .000 MACH 1.400

GIMBAL 1.000



INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(EEUR08)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 1.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

SYMBOL 2Y/B BETA ALPHA
 ○ .641 .000 1.000
 □ .780 .000 1.000
 ◇ .887 .000 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

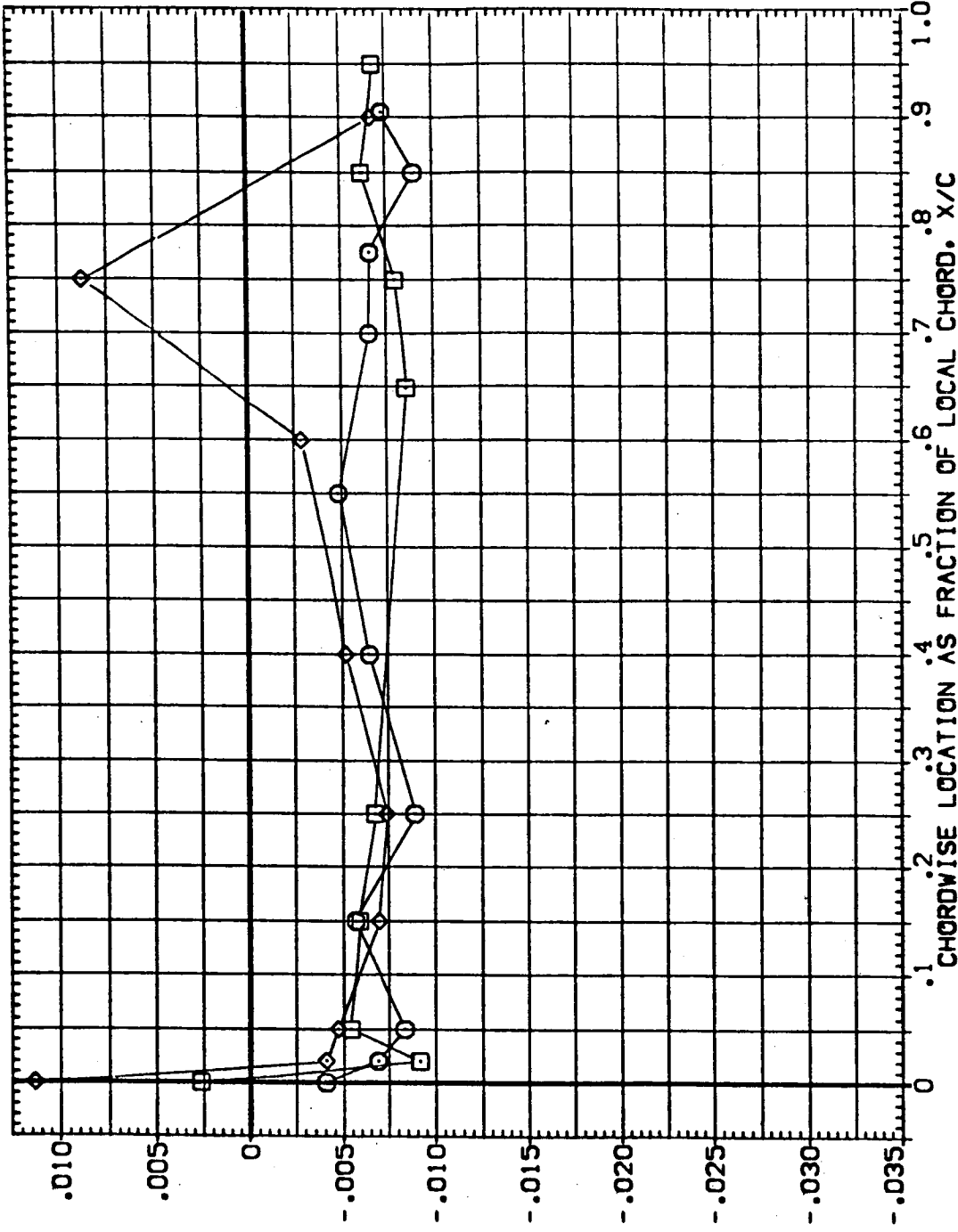


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(FEUR08)

PARAMETRIC VALUES
 ELV-18 6.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

SYMBOL 21/B BETA ALPHA
 ○ .259 -4.000 .000
 □ .364
 ◇ .427
 △ .534

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

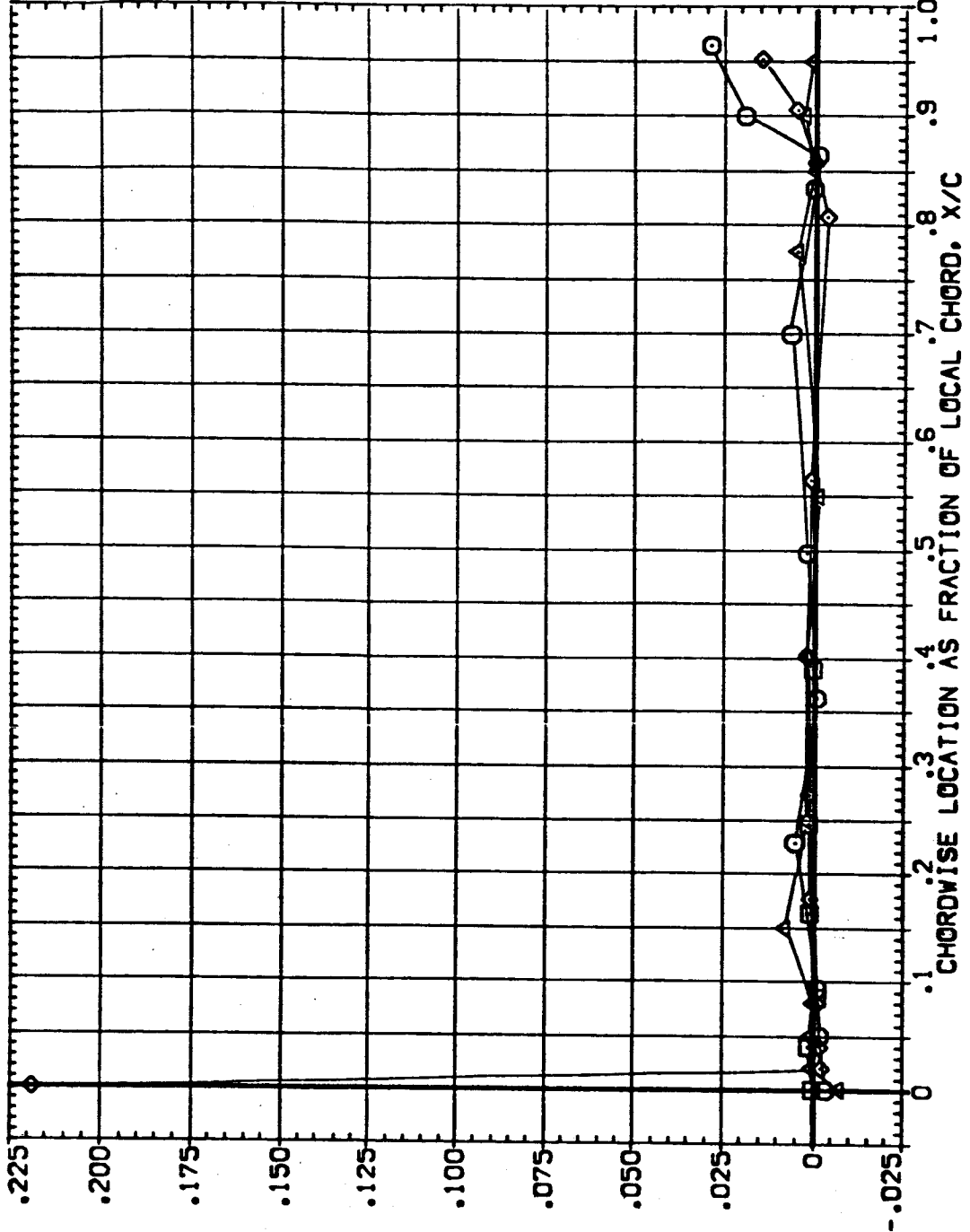


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(FEURO8)

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

SYMBOL 2V/B BETA ALPHA
 ○ .641 -1.000 .000
 □ .780
 ◇ .887

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

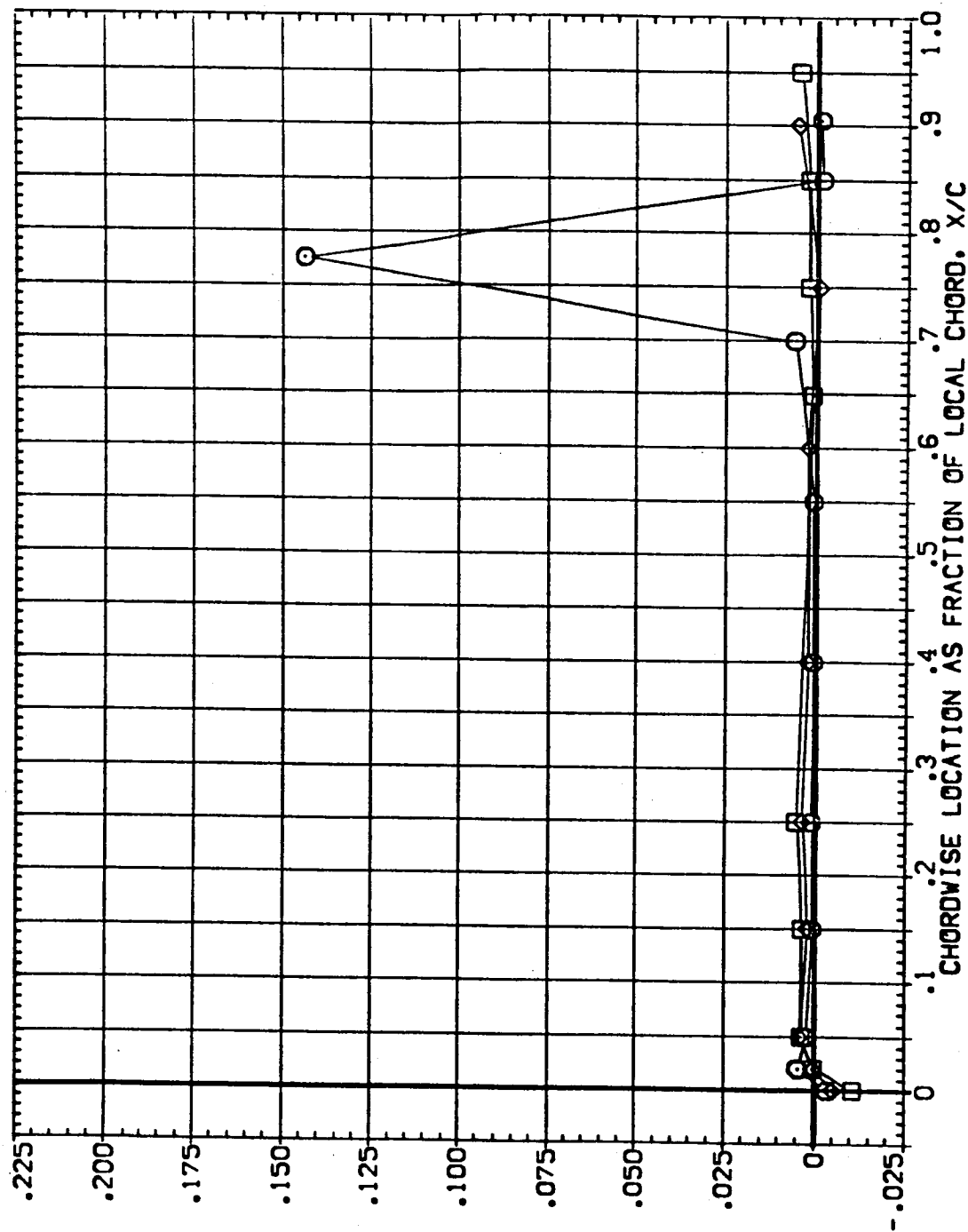


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(FEUR08)

SYMBOL 27/B BETA ALPHA
 ○ .259 1.000 .000
 □ .361
 ◇ .427
 △ .534

PARAMETRIC VALUES
 ELV-18 9.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

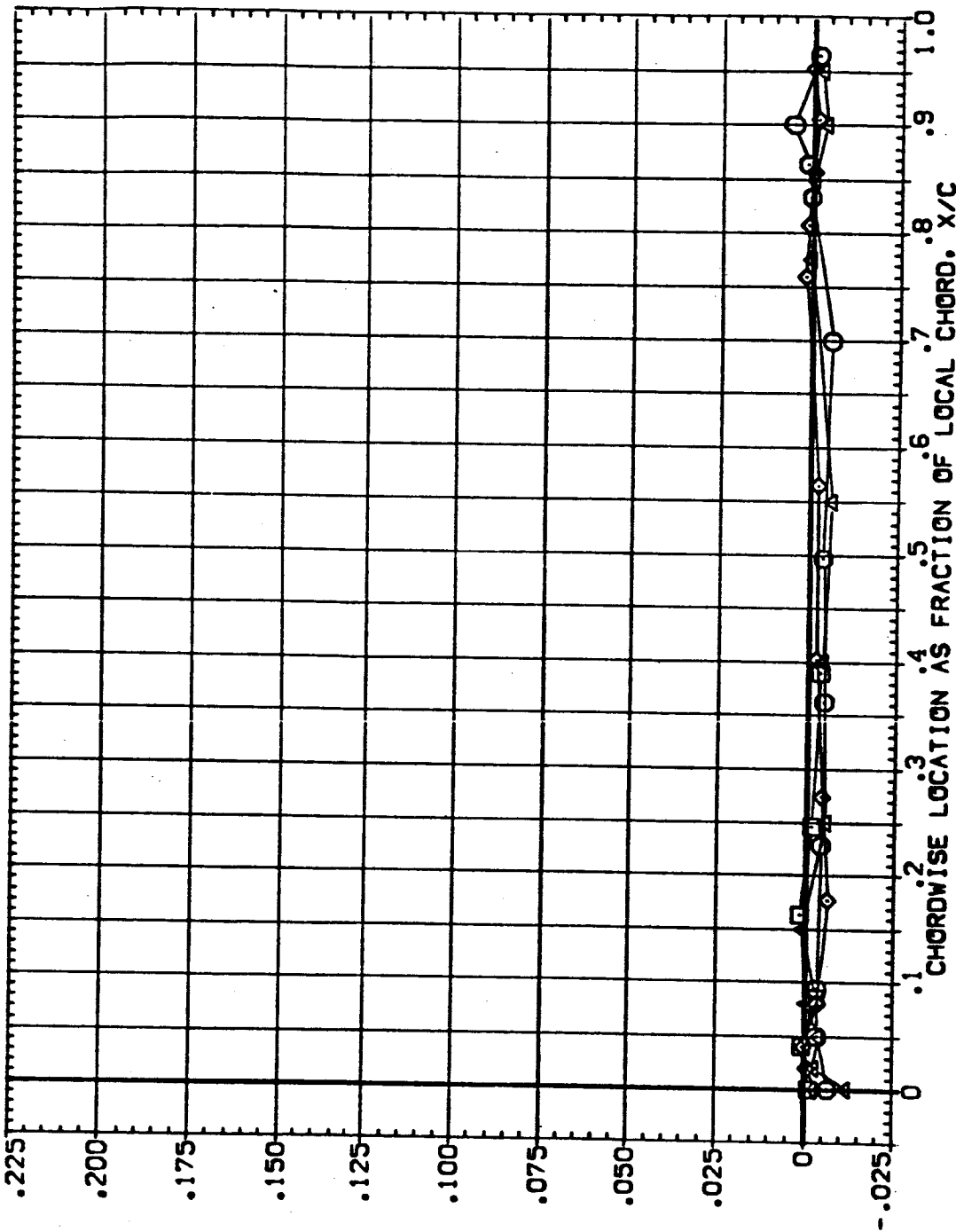


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(FEUR08)

SYMBL 2V/B BETA ALPHA
 O .641 1.000 .000
 □ .780
 ◇ .087

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

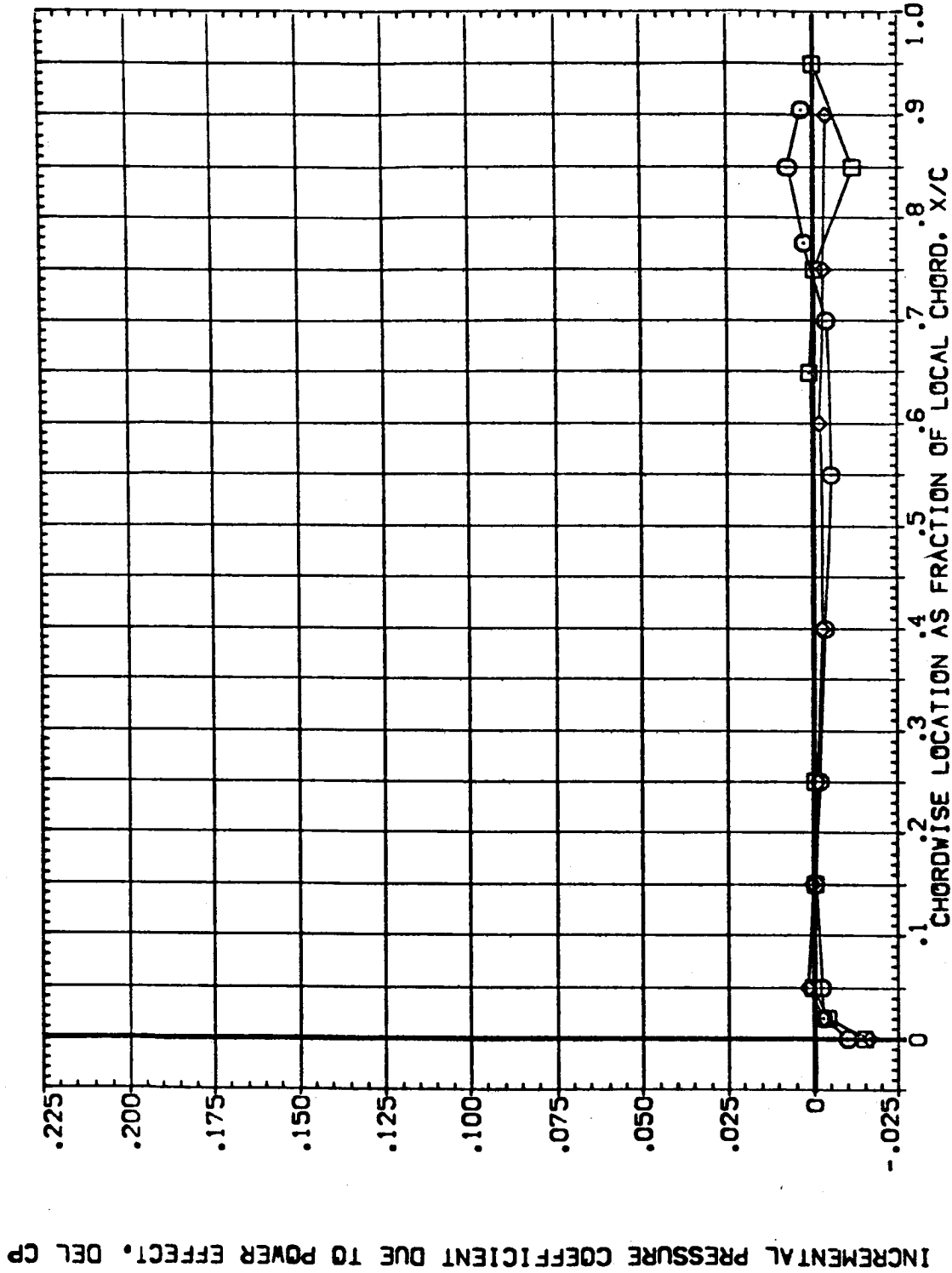


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(EEUR13)

SYMBOL: \square \diamond \triangle

Z1/B BETA ALPHA
 .289 .000 -4.000
 .364
 .427
 .534

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

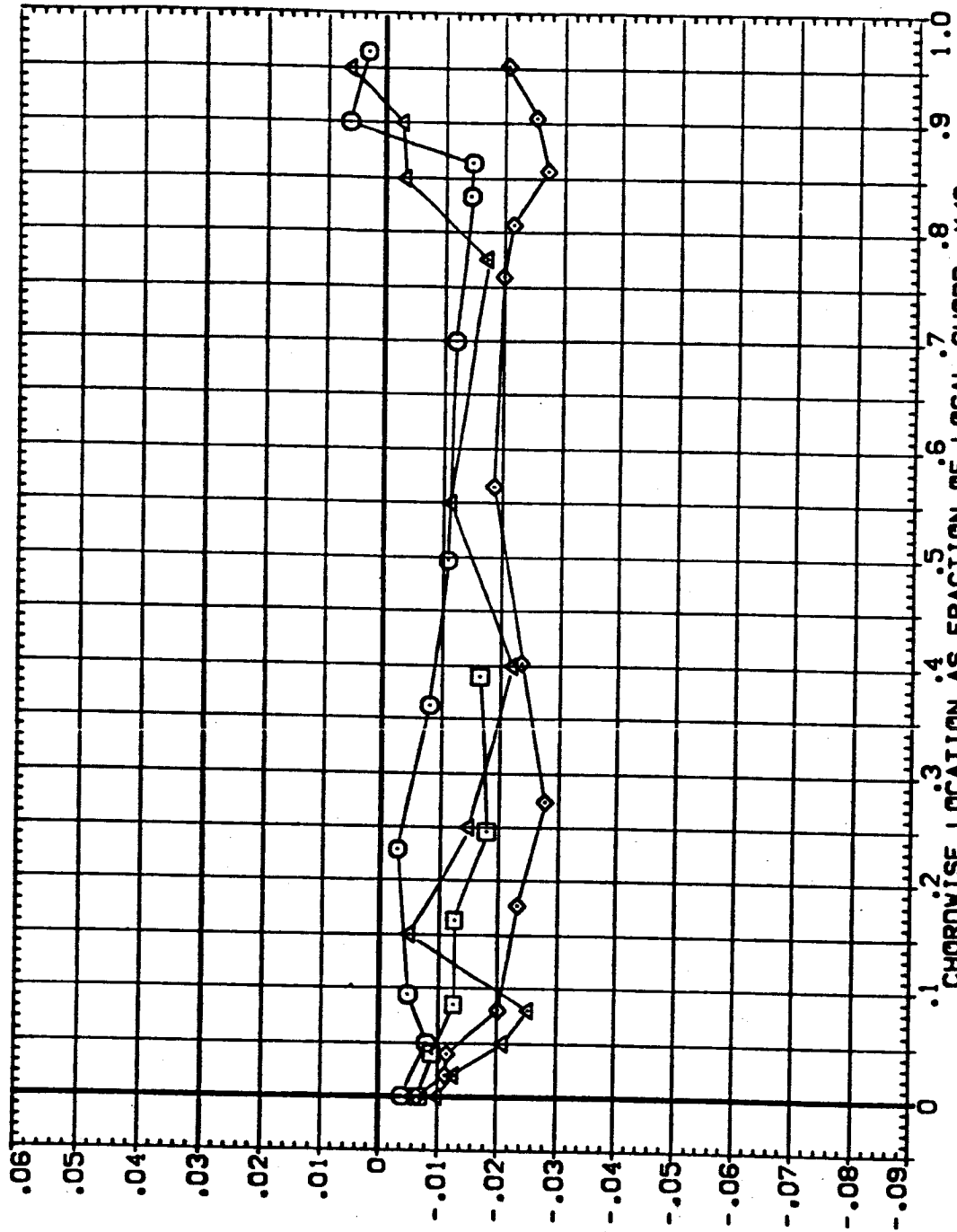


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(EEUR13)

SYMBOL	27/8	BETA	ALPHA	ELV-18	PARAMETRIC VALUES
○	.299	.000	.000	RUDDER	8.000
◇	.361			GIMBAL	.000
△	.427				1.000
	.594				4.000
					.500

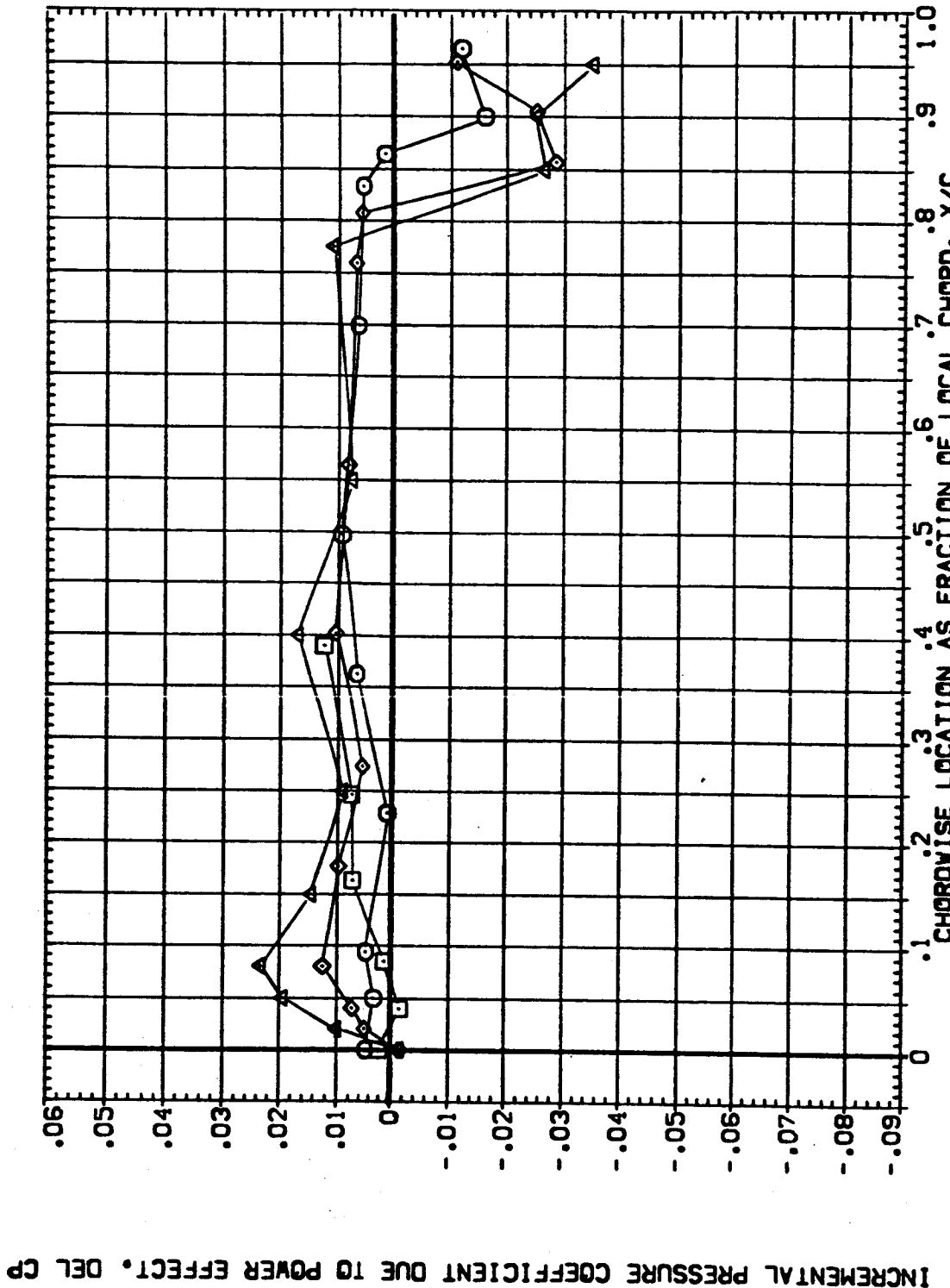


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(EEUR13)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

SYMBOL Z1/8 BETA ALPHA
 ○ .641 .000
 □ .780 .000
 ◇ .887 .000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

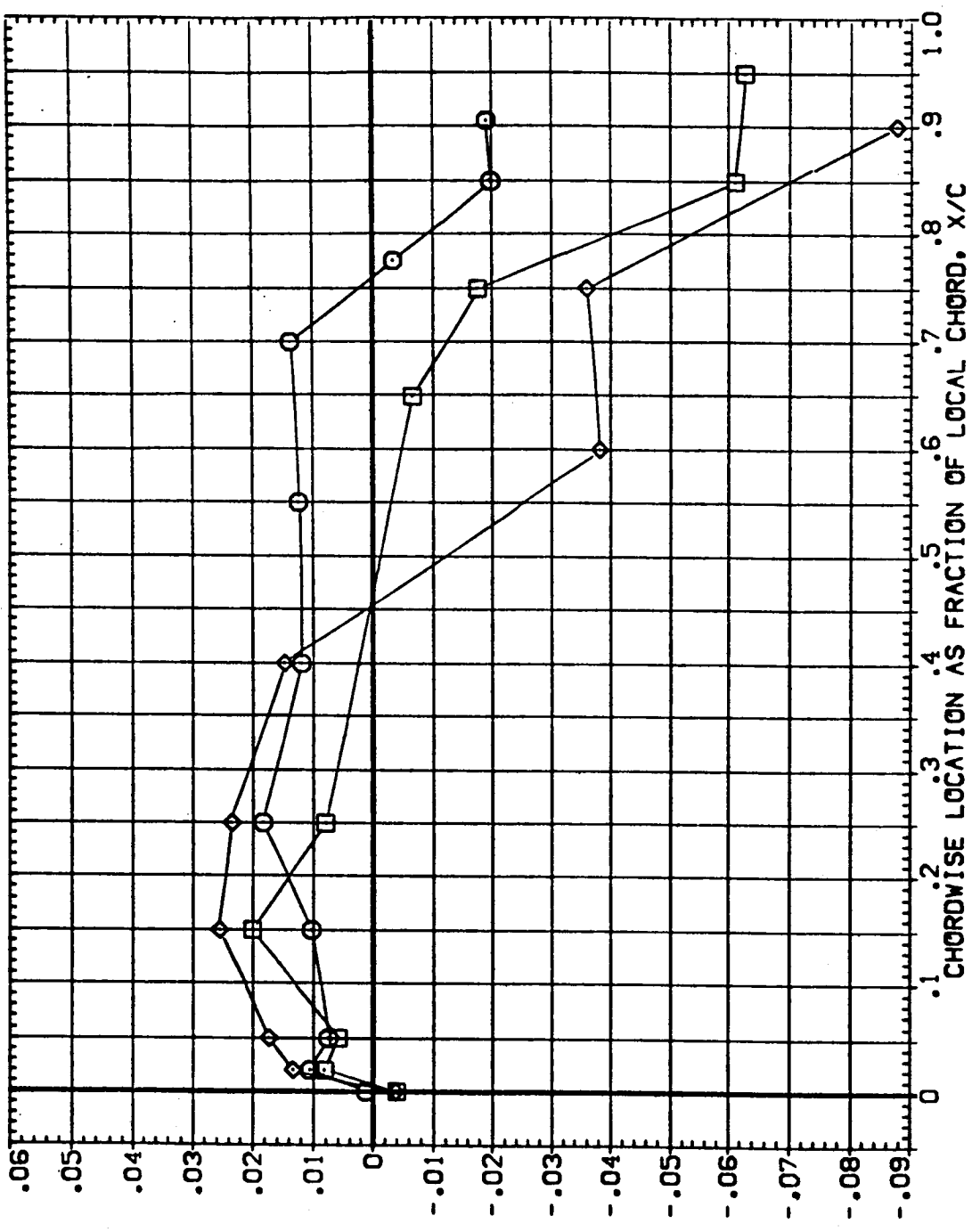


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(EEUR13)

SYMBOL: \square \diamond \triangle
 Z/Y/B: .258 .364 .427 .594
 BETA: .000
 ALPHA: 4.000
 ELV-18: 9.000
 RUDDER: .000
 GIMBAL: 1.000
 PARAMETRIC VALUES: ELV-08: 4.000 MACH: .900

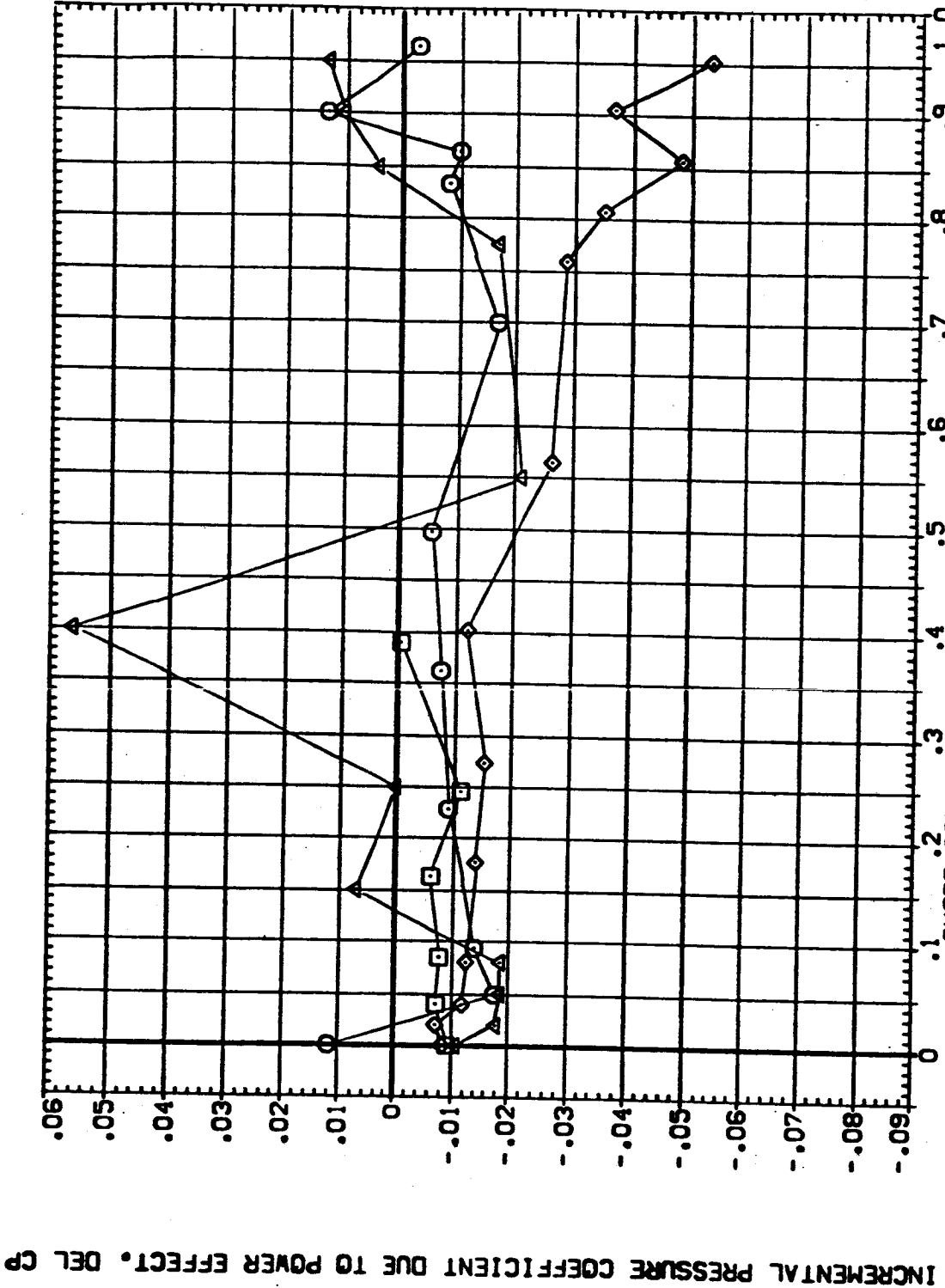


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(EEUR13)

SYMBOL 21/8 BETA ALPHA ELV-18 ELV-08 PARAMETRIC VALUES
 ○ .611 .000 4.000 RUDDER MACH 4.000
 □ .700 .000 1.000 GIMBAL 1.000
 ◇ .867

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

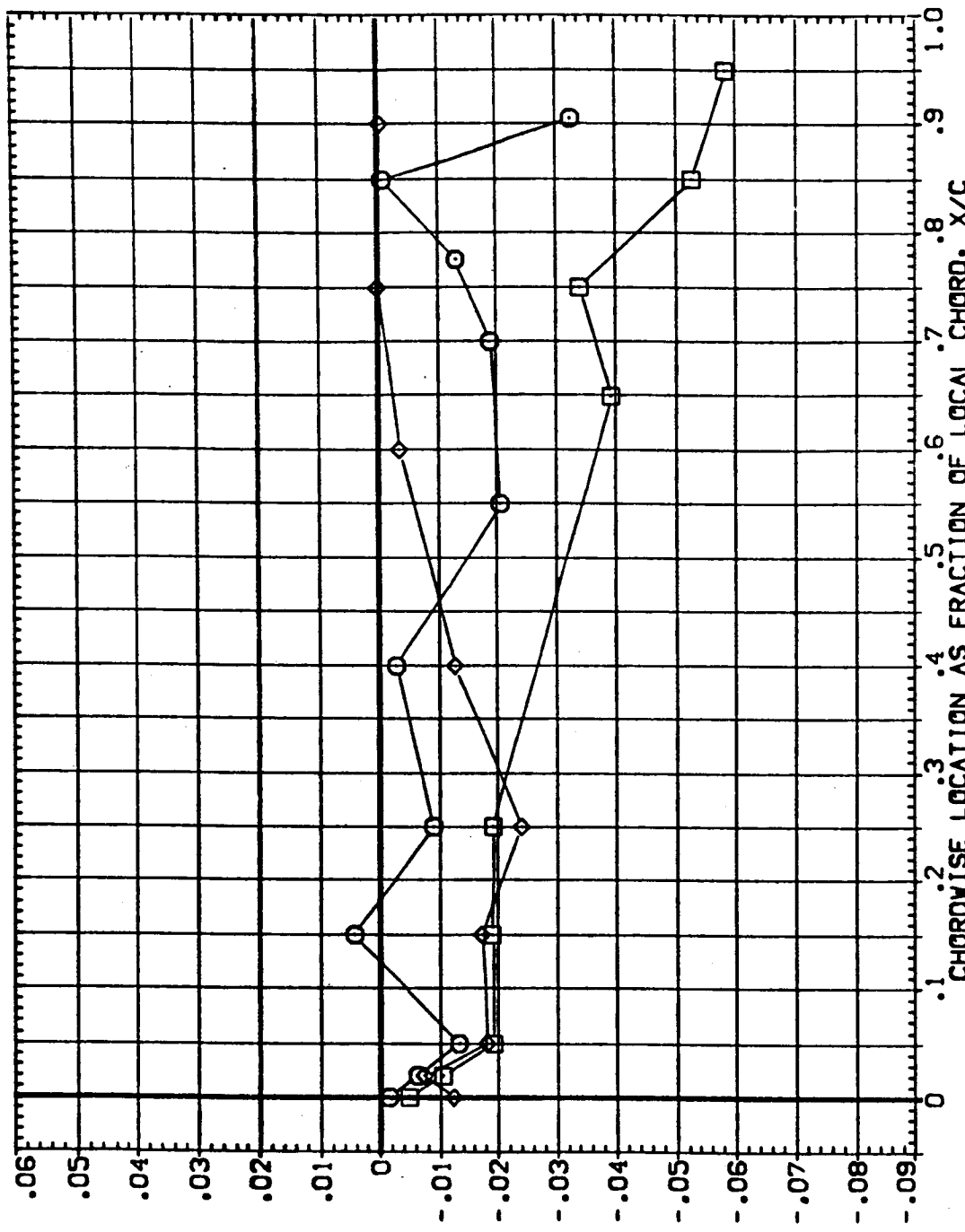


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(FEUR13)

SYMBOL 21/8 BETA ALPHA

○ .299 -1.000 .000

□ .364

◇ .427

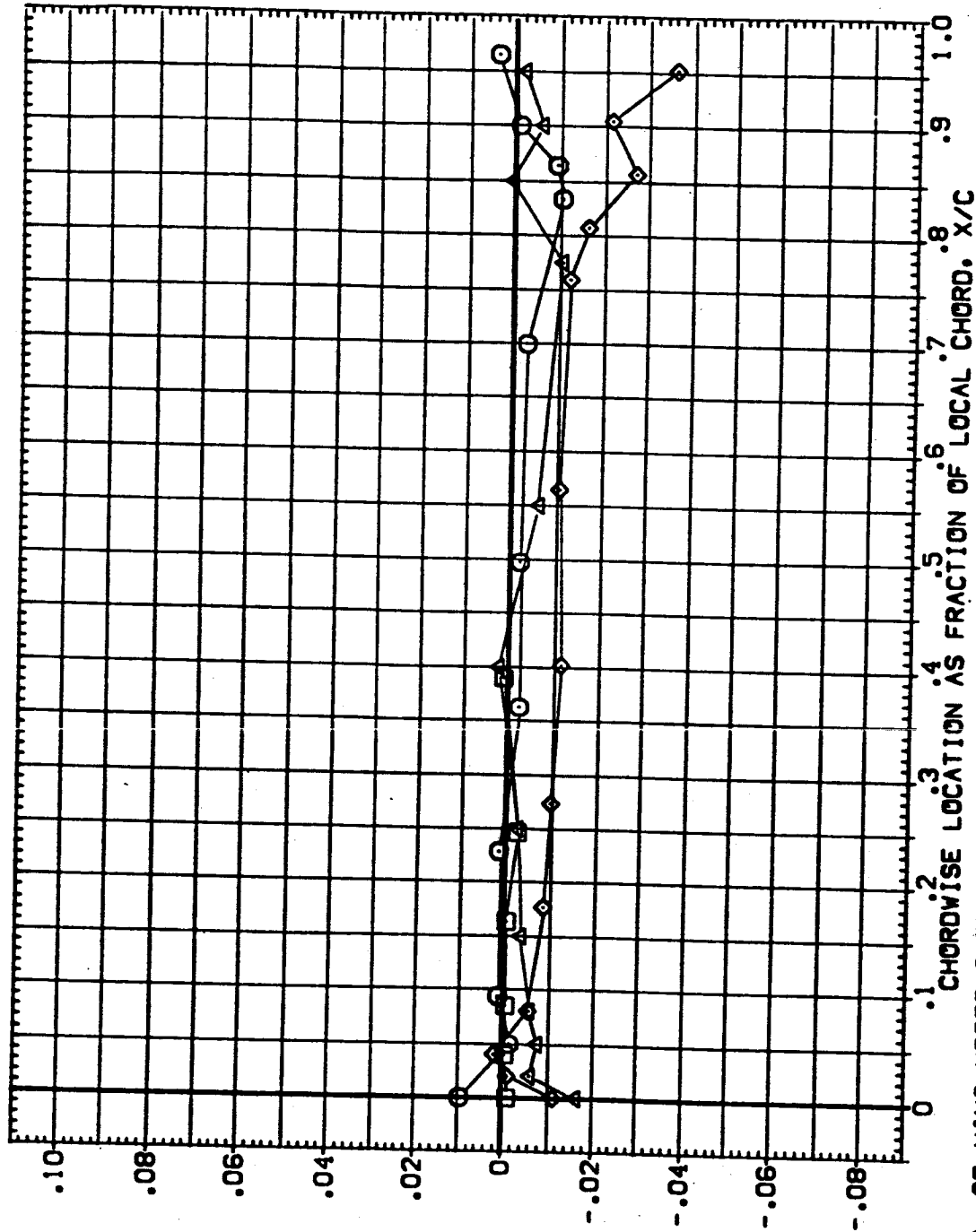
△ .534

PARAMETRIC VALUES

ELV-18 8.000 ELV-88 4.000

RUDDER .000 MACH .900

GIMBAL 1.000



INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(FEUR13)

PARAMETRIC VALUES
 8.000 ELV-OB 4.000
 .000 MACH .900
 1.000

ELV-18
 RUDDER
 GIMBAL

BETA ALPHA
 -4.000 .000

2V/B
 .641
 .780
 .887

SYMBOL
 ○ □ ◇

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

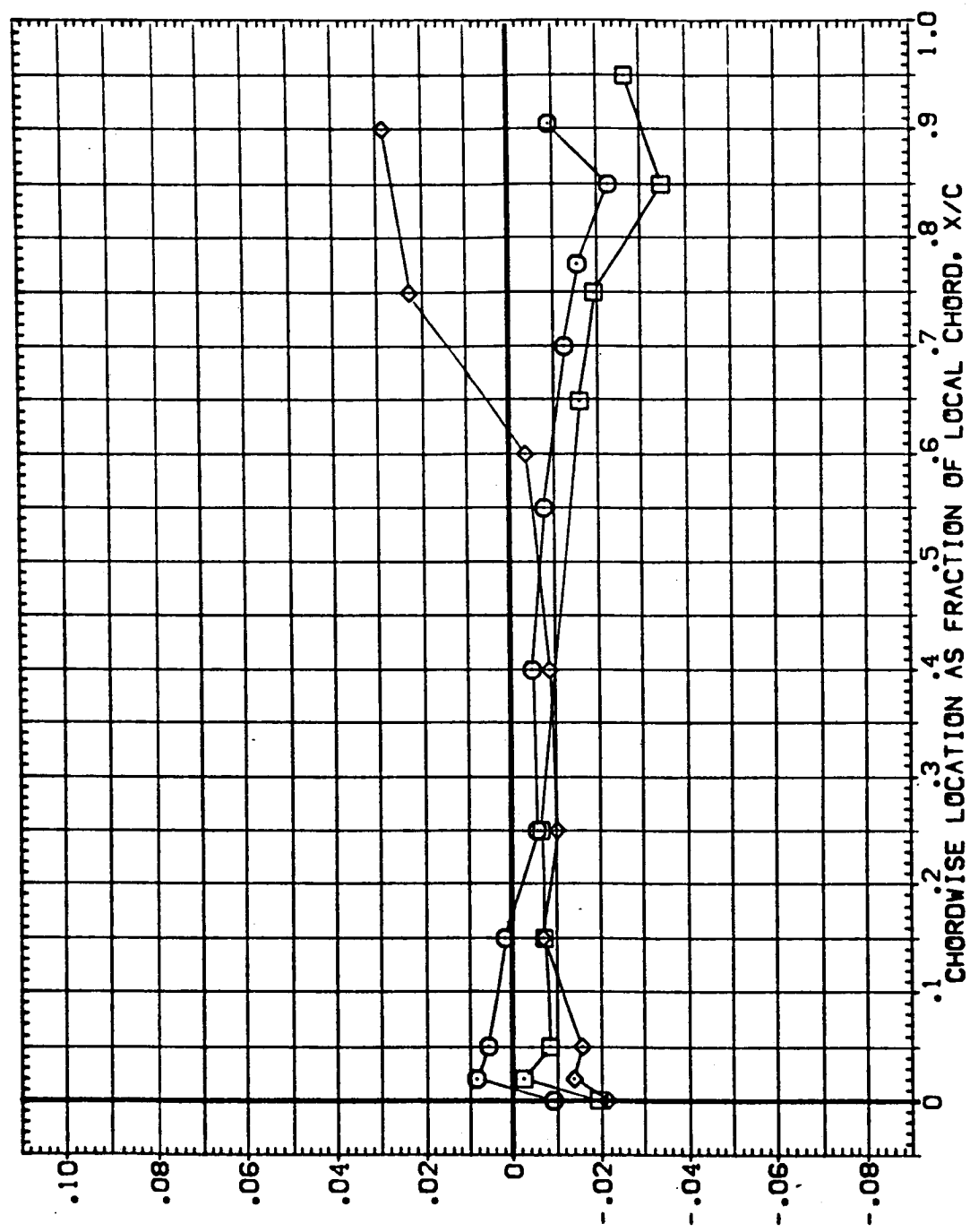


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(FEUR13)

SYMBOL 21/B BETA ALPHA

◊ .299 4.000 .000

□ .364

○ .427

△ .534

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000

RUDER .000 MACH

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

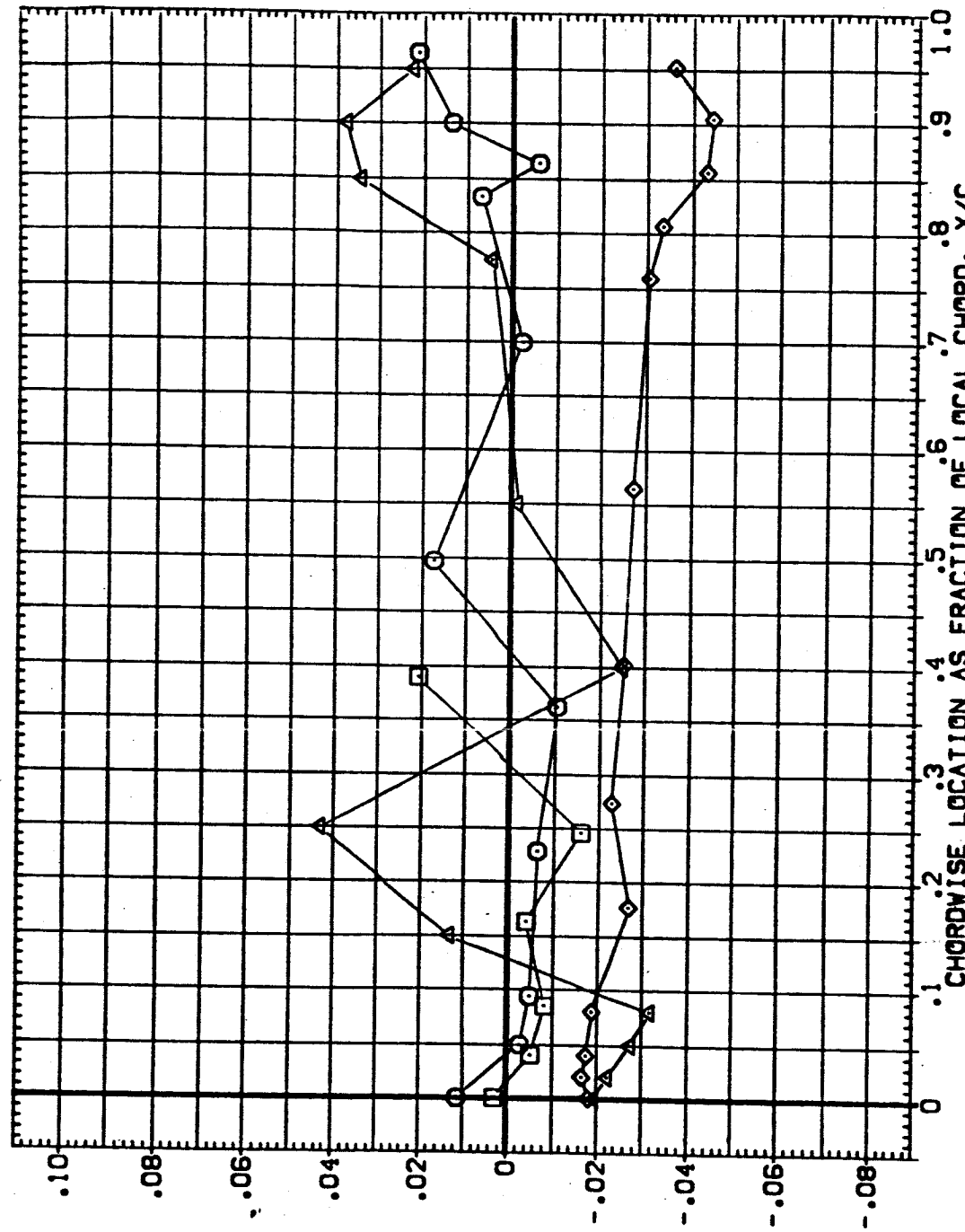


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(FEUR13)

SYMBOL 2 γ /8 BETA ALPHA PARAMETRIC VALUES

○	.841	1.000	.000	ELV-1B	8.000	ELV-08	4.000
□	.780			RUDDER	.000	MACH	.900
◇	.697			GIMBAL	1.000		

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

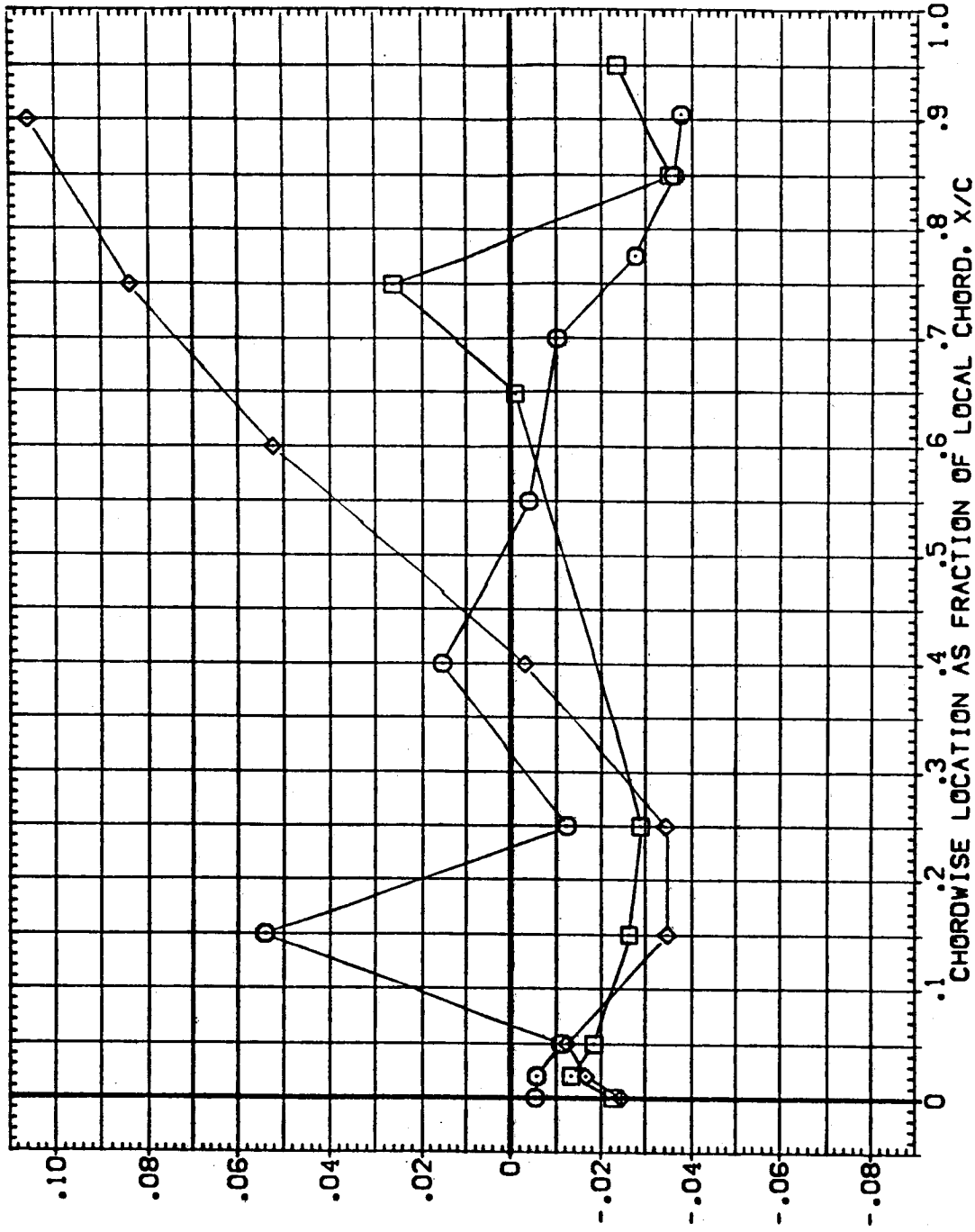


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(EEUR14)

SYMBOL 21/8 BETA ALPHA

◇ .299 .000 -1.000

□ .364

○ .427

△ .534

PARAMETRIC VALUES

ELV-18 0.000 ELV-08 1.000

RUDDER .000 MACH 1.100

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

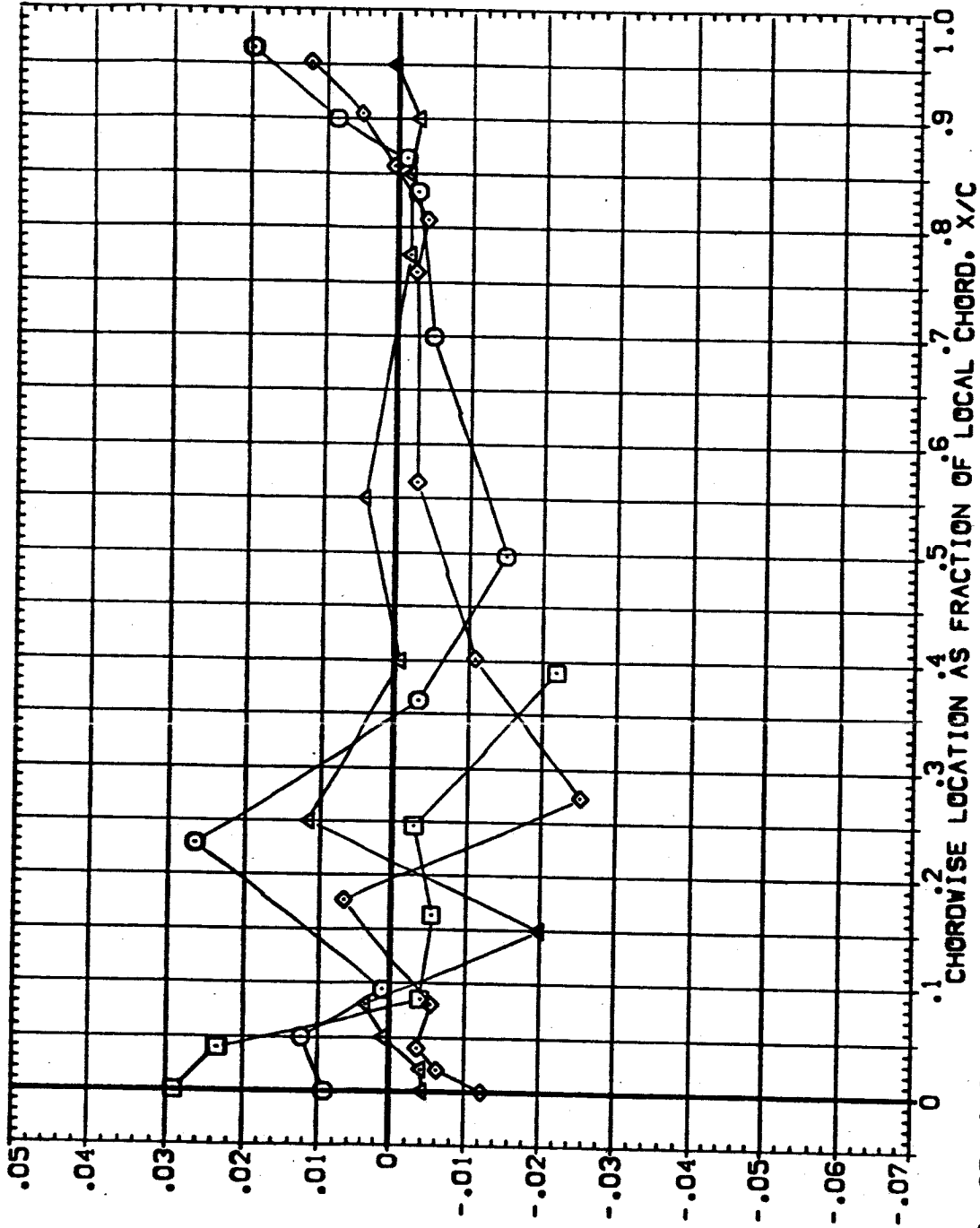


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(EEUR14)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-09 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

SYMBOL
 ○ □ ◇
 Z/Y/B .641 BETA .000 ALPHA -4.000
 .780
 .887

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

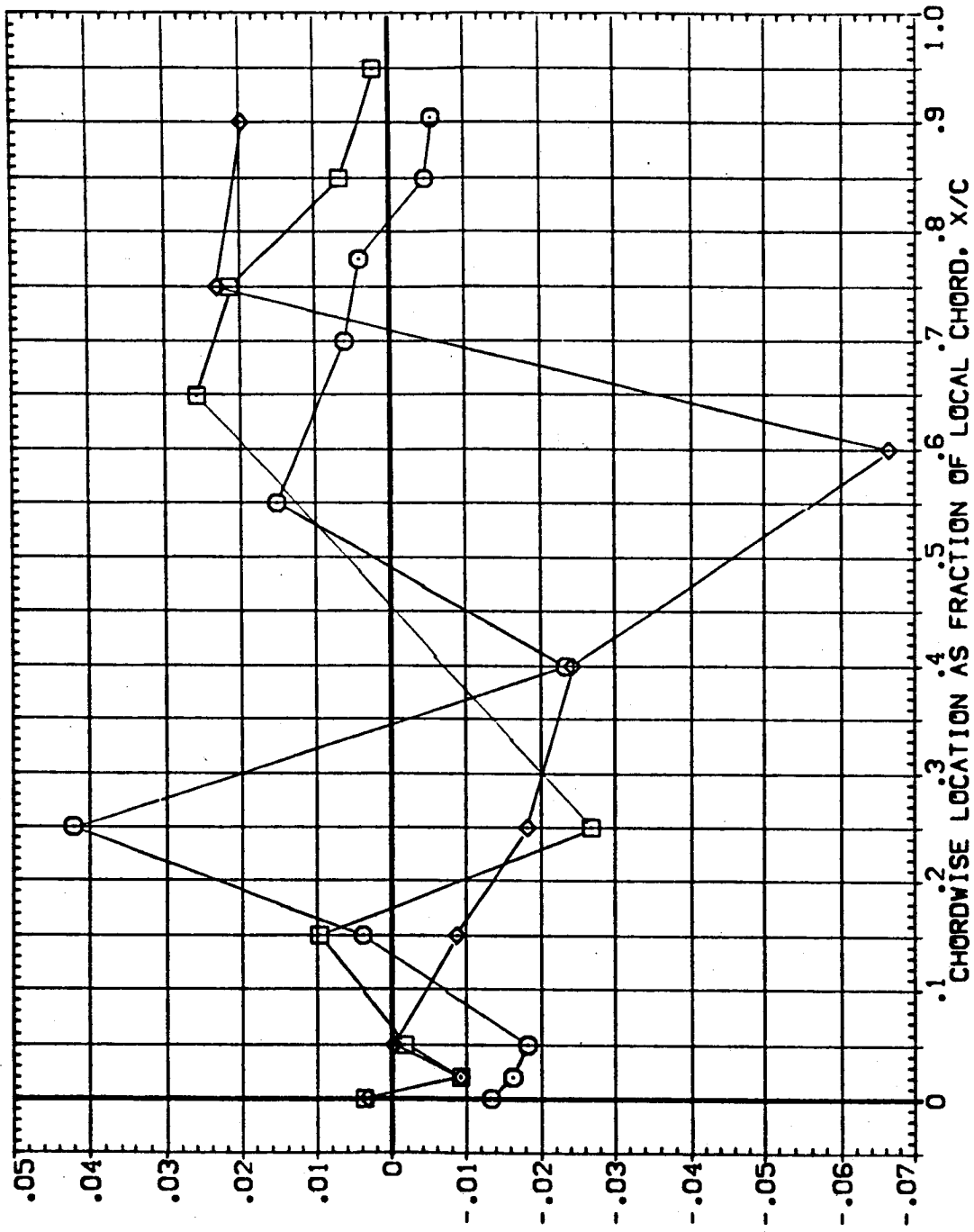


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(EEUR14)

SYMBOL 21/8 BETA ALPHA

◇ .259 .000 .000

□ .364 .000 .000

△ .427 .000 .000

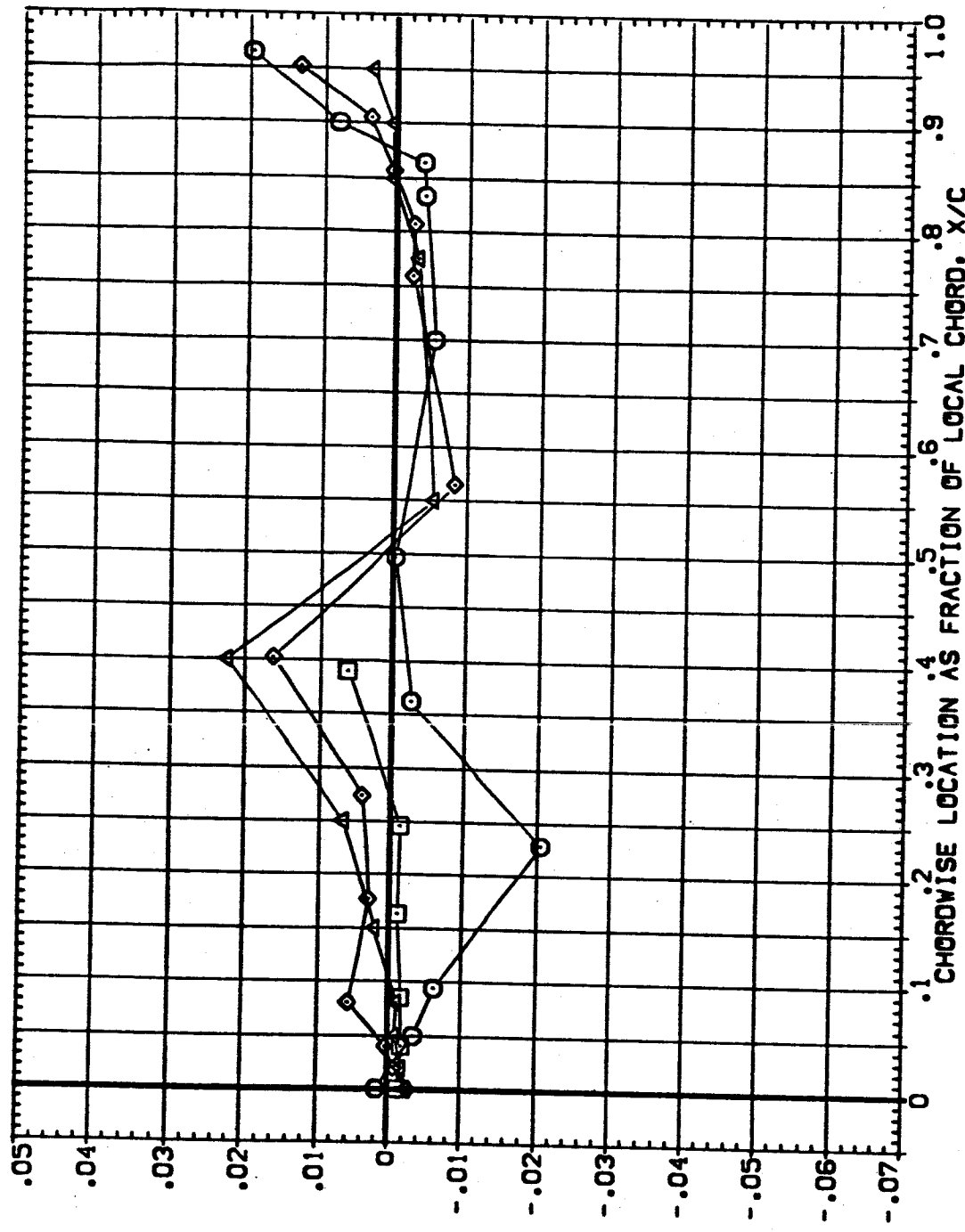
○ .534 .000 .000

PARAMETRIC VALUES

ELV-19 0.000 ELV-09 4.000

RUDER .000 MACH 1.100

GIMBAL 1.000



INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(EEUR14)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

SYMBL 21/8 BETA ALPHA
 ○ .641 .000
 □ .780 .000
 ◇ .887 .000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

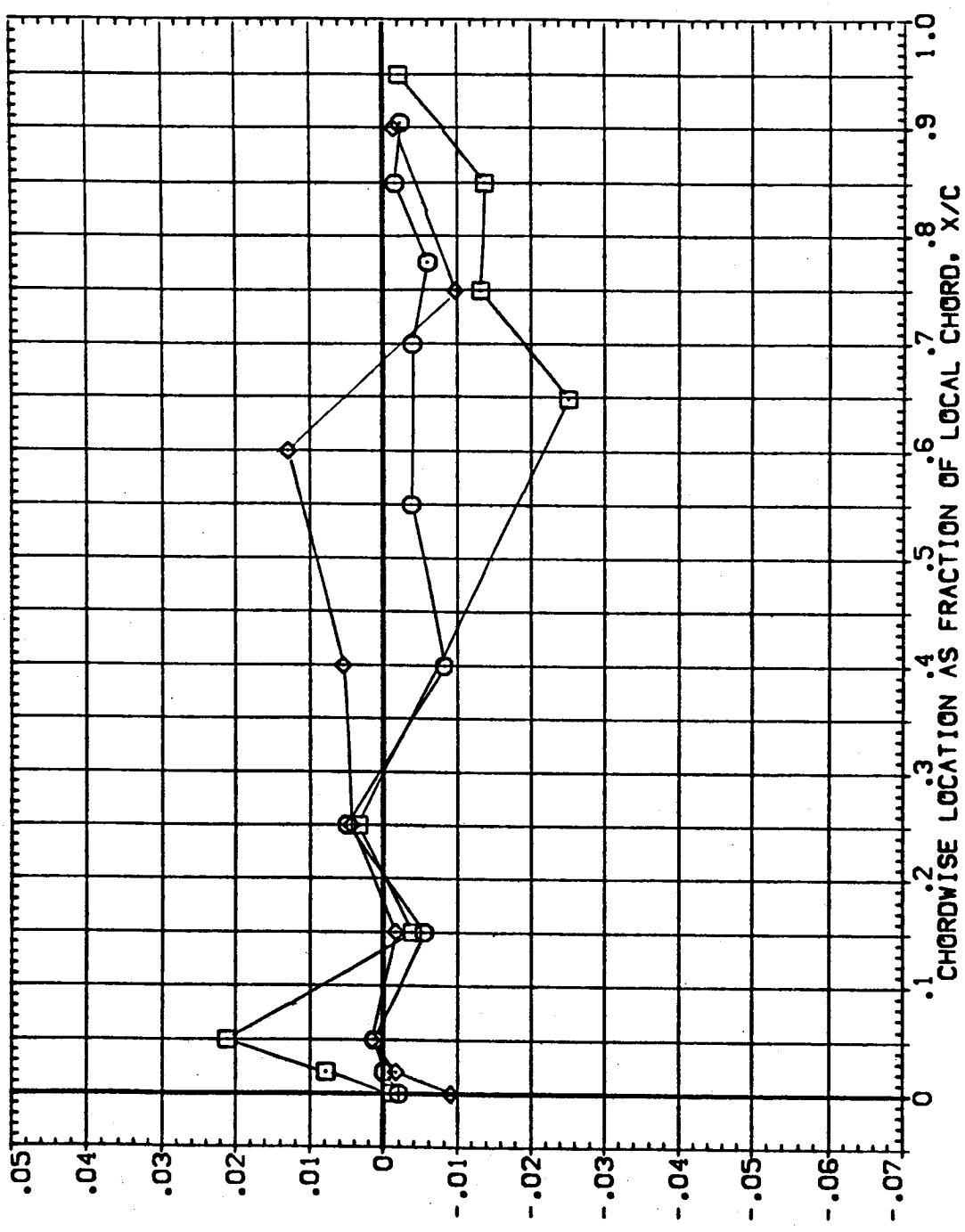


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(EEUR14)

SYMBOL
 ○ □ ◇ ▽

2Y/B .259
 .364
 .427
 .534

BETA .000

ALPHA 1.000

PARAMETRIC VALUES

ELV-1B 8.000 ELV-0B 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

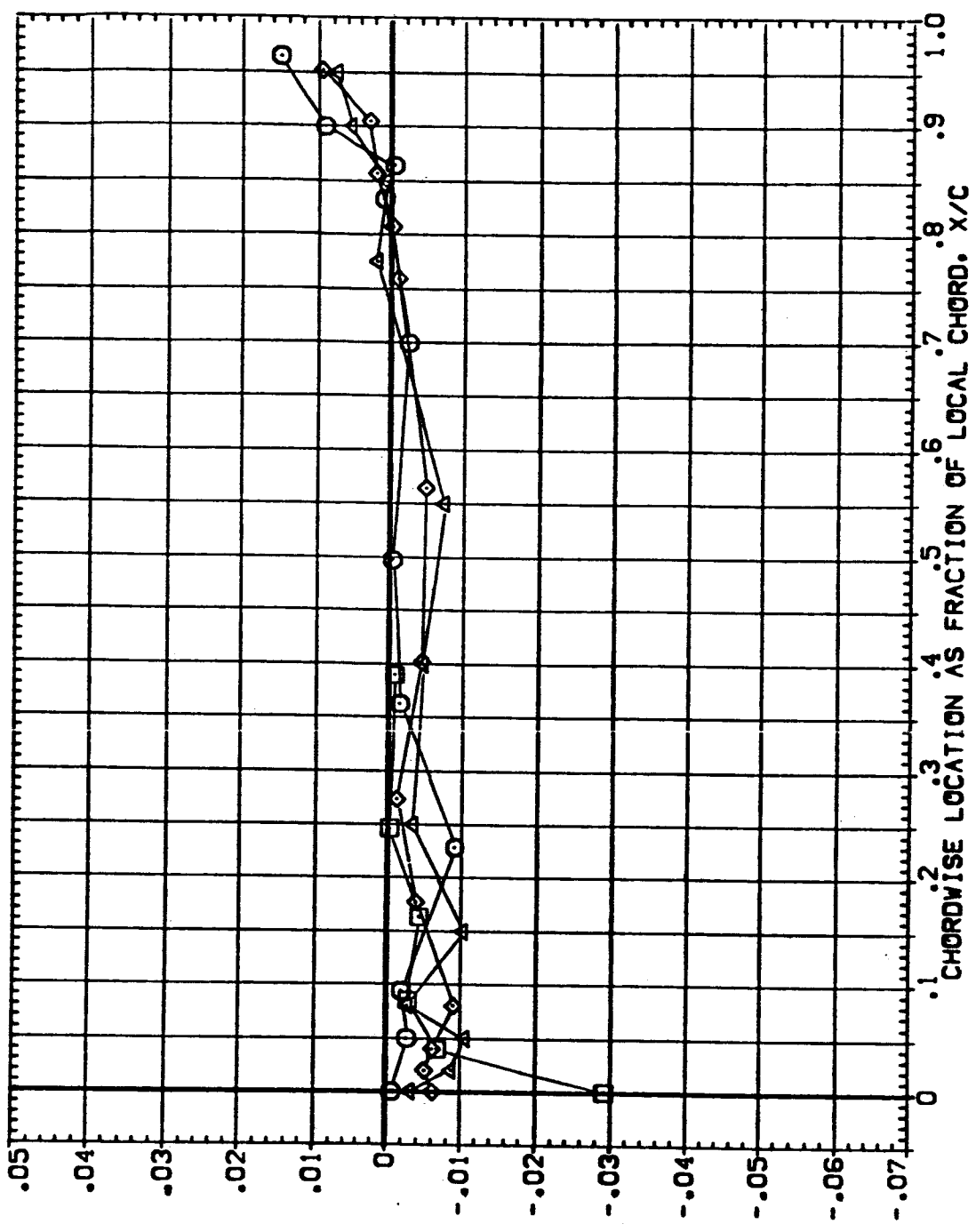


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(EEUR14)

SYMBOL 2V/B BETA ALPHA

PARAMETRIC VALUES
 ELV-1B ELV-0B
 RUDDER .000 MACH
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

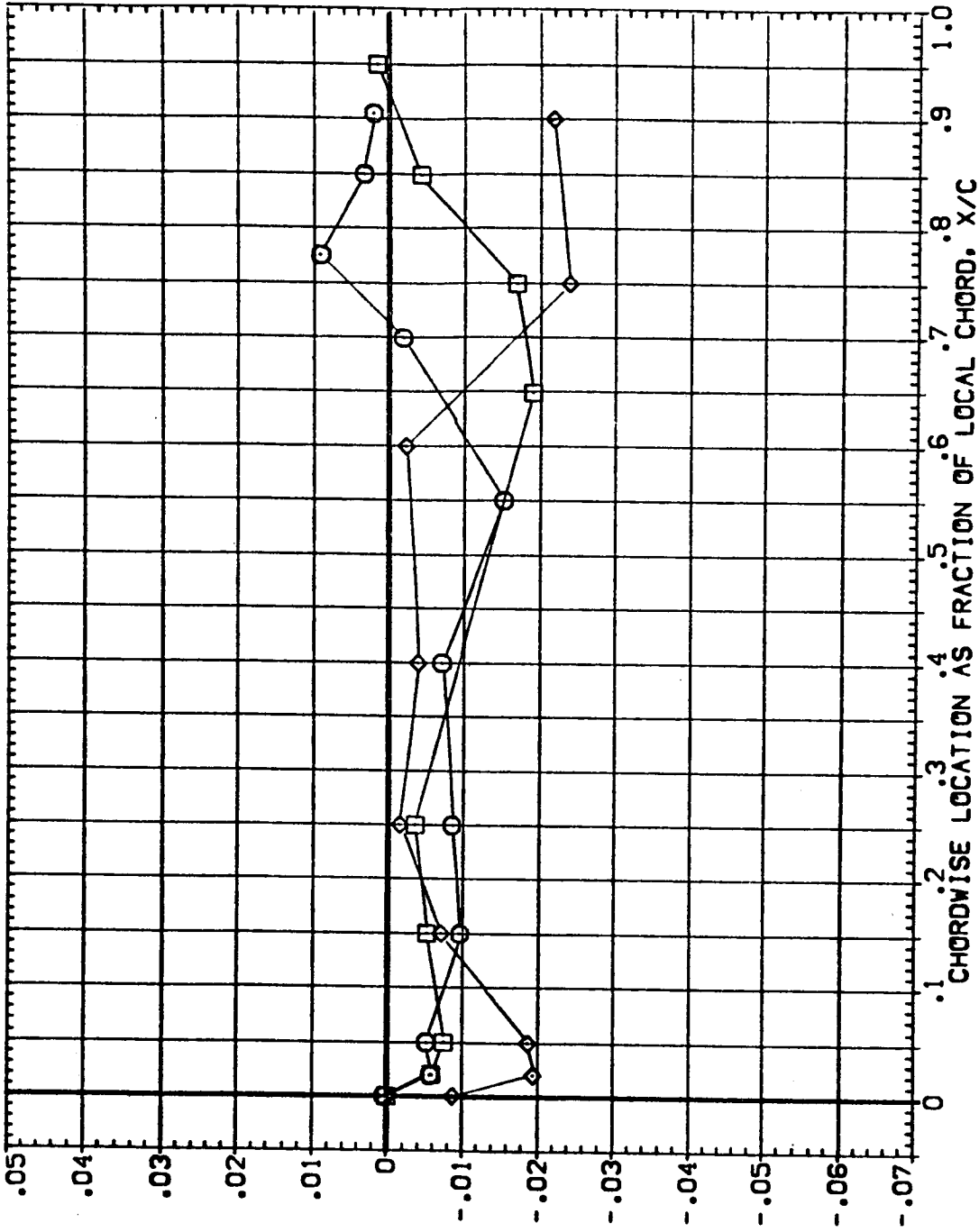


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(FEUR14)

27/B .299 BETA -1.000 ALPHA .000
 .364 RUDDER .000 ELY-08 4.000
 .427 GIMBAL 1.000 MACH 1.100
 .534

SYMBOL
 ◊ ○
 □ △

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

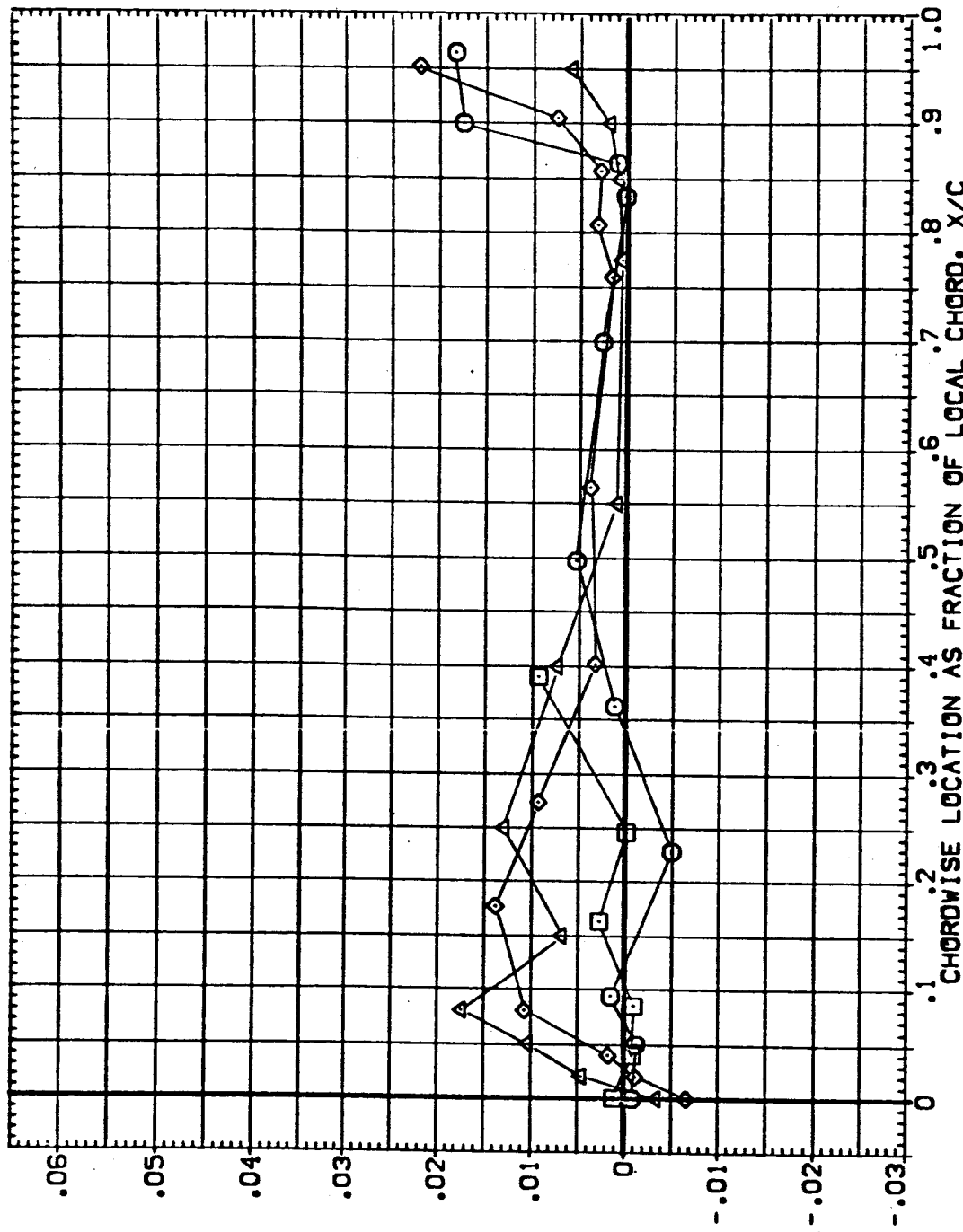


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(FEUR14)

PARAMETRIC VALUES
 8.000 ELV-OB 4.000
 .000 MACH 1.100
 ELV-18
 RUDDER
 GIMBAL 1.000

SYMBOL 21/B BETA ALPHA
 .641 -1.000 .000
 .780
 .887

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

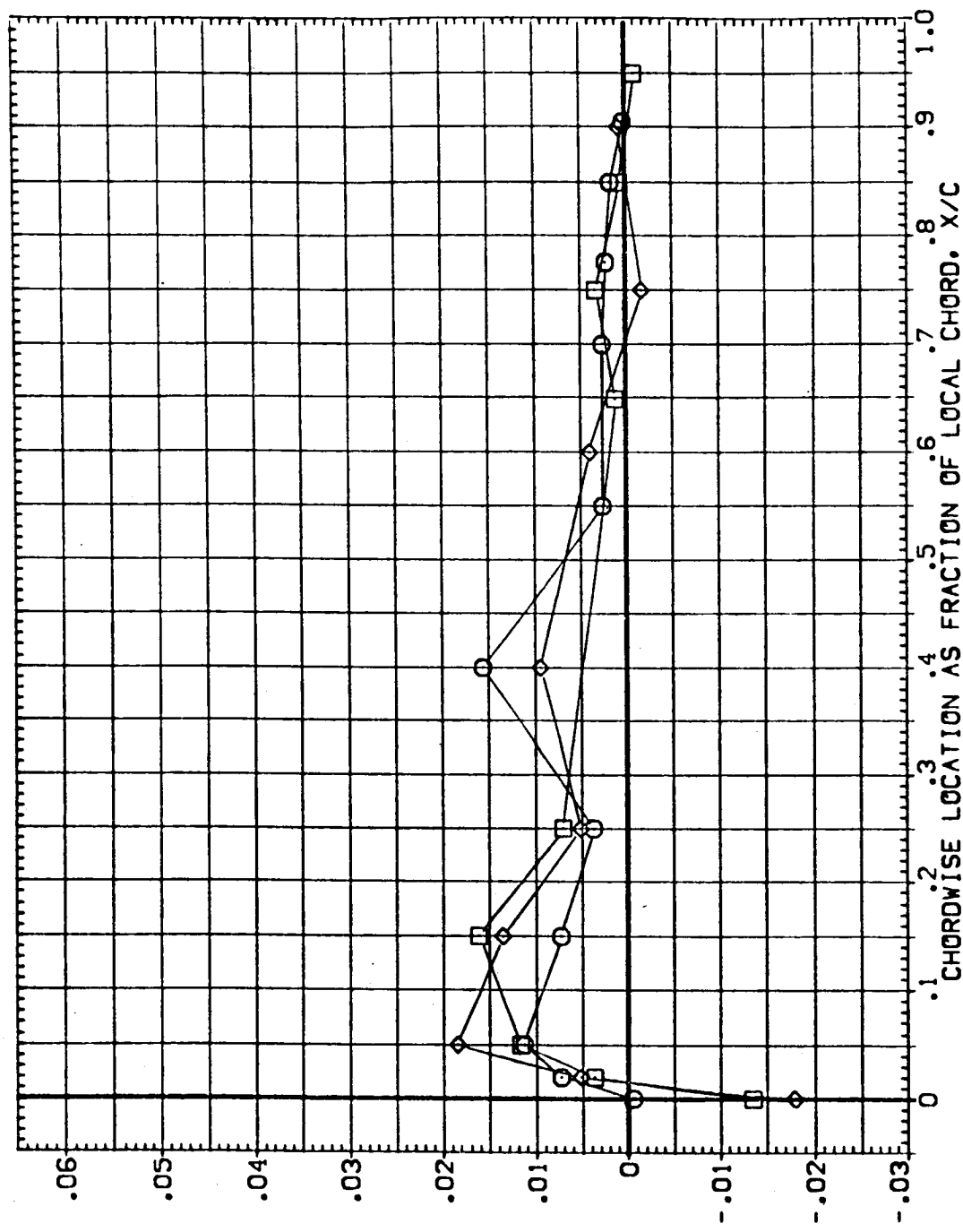


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(FEUR14)

SYMBOL	Z1/B	BETA	ALPHA	ELV-19	ELV-09	PARAMETRIC VALUES
○	.299	4.000	.000	8.000	4.000	
□	.364			.000	1.100	
◇	.427			RUDDER	MACH	
△	.534			GIMBAL		

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

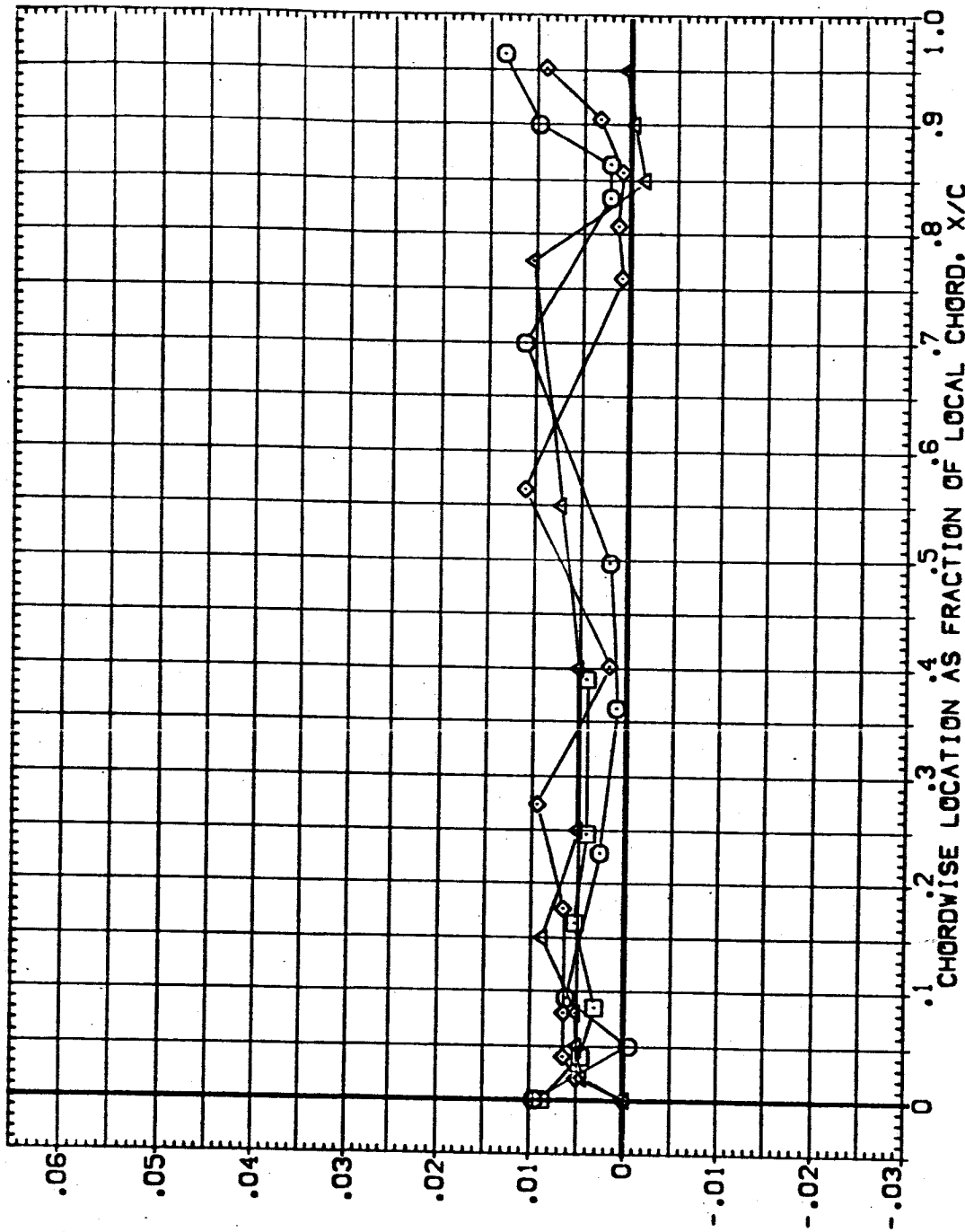


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

AKU11-UI41A19 015+SIRUI SRB-NOM MPS-OFF TOP WING(FEUR14)

SYMBOL	Z1/B	BETA	ALPHA	ELV-1B	ELV-09	PARAMETRIC VALUES
○	.641	4.000	.000	RUDER	.000	MACH
□	.780			GIMBAL	1.000	1.000
◇	.887					

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

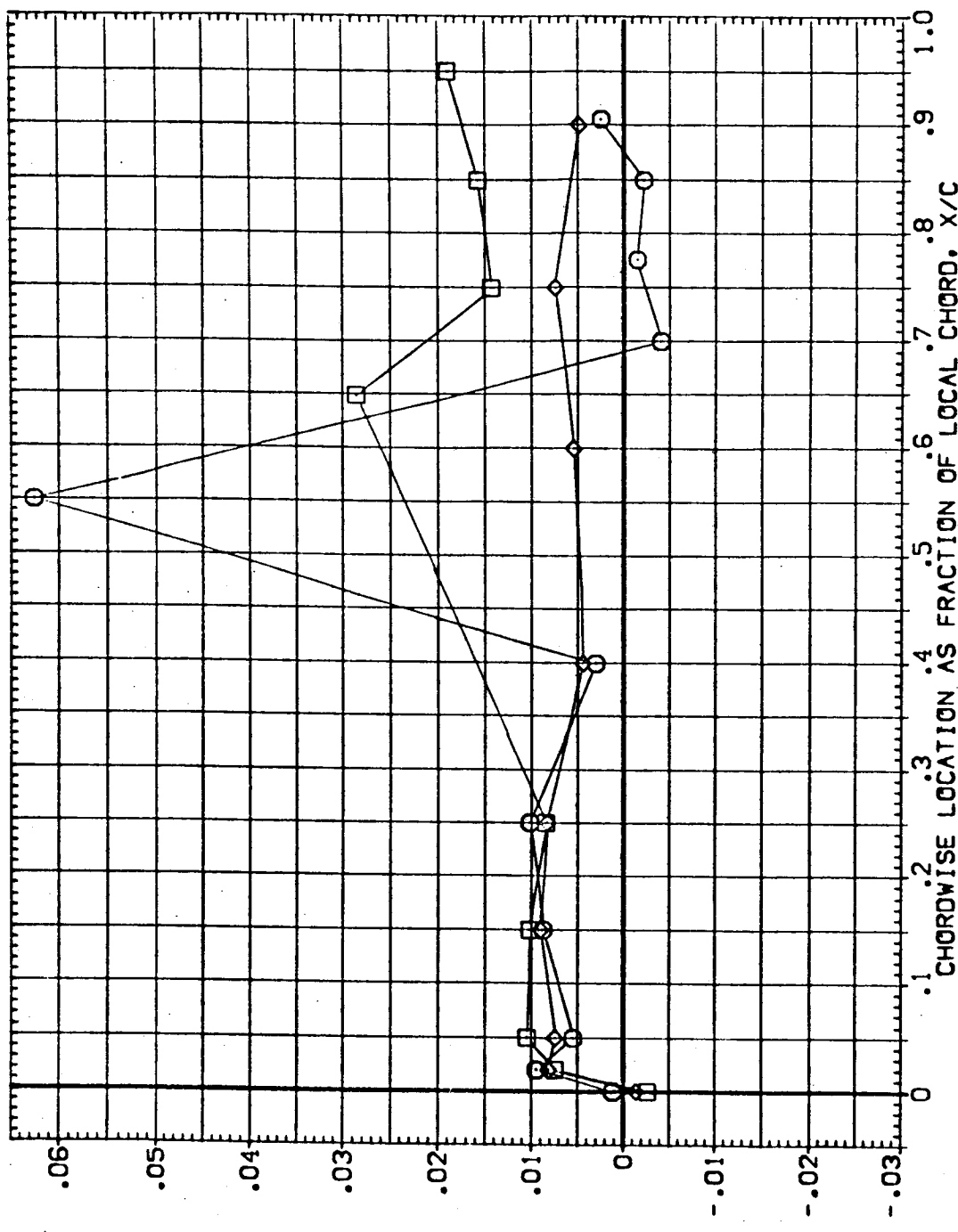


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(EEUR15)

SYMBOL	Z1/B	BETA	ALPHA	ELV-18	PARAMETRIC VALUES
○	.299	.000	-4.000	RUDDER	8.000 ELV-08
□	.364			GIMBAL	.000 MACH
◇	.427				1.000
△	.534				1.250

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

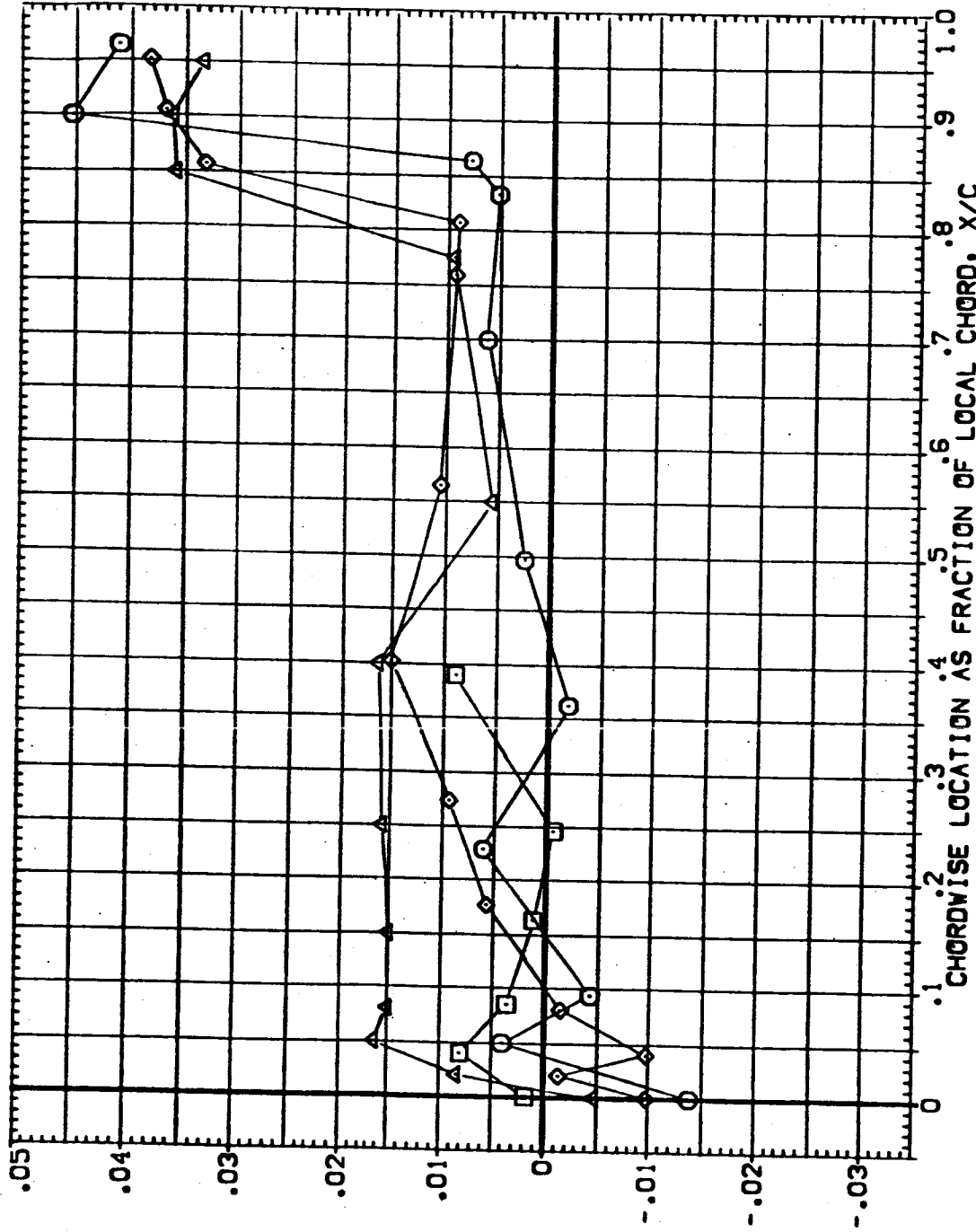


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SR9-NOM MPS-OFF TOP WING(EEUR15)

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

SYMBOL 2Y/B BETA ALPHA
 ◊ .641 .000 -4.000
 ○ .780 .000 .000
 □ .887 .000 .000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

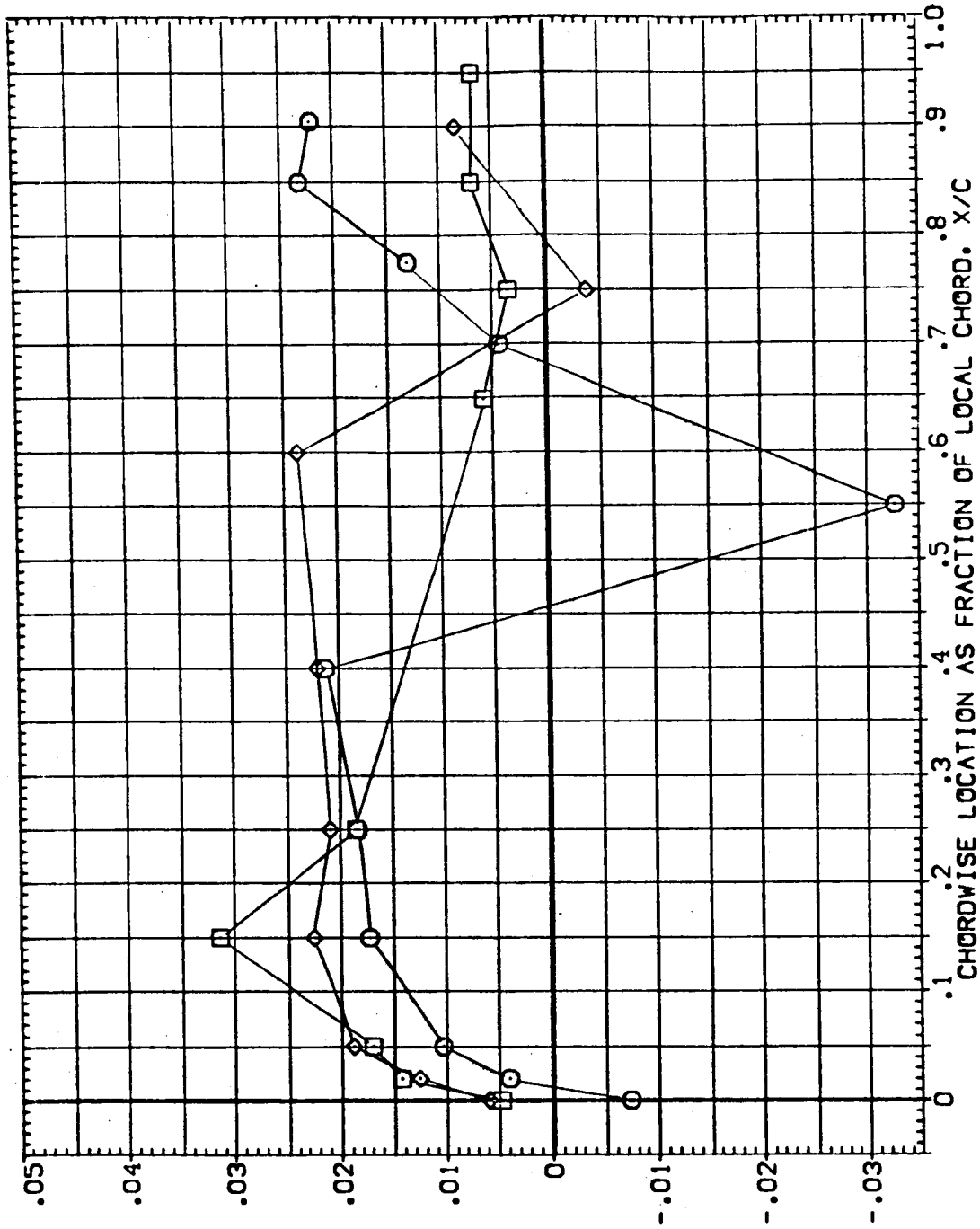


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING (EEUR15)

SYMBOL		ZV/B		BETA		ALPHA		PARAMETRIC VALUES	
○	◇	.299	.000	.000	.000	8.000	ELV-OB	4.000	
□	△	.364	.000	.000	.000	.000	RUDER	1.250	
◇	△	.427	.000	.000	.000	1.000	91P8AL	1.000	
◇	△	.534	.000	.000	.000	1.000			

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

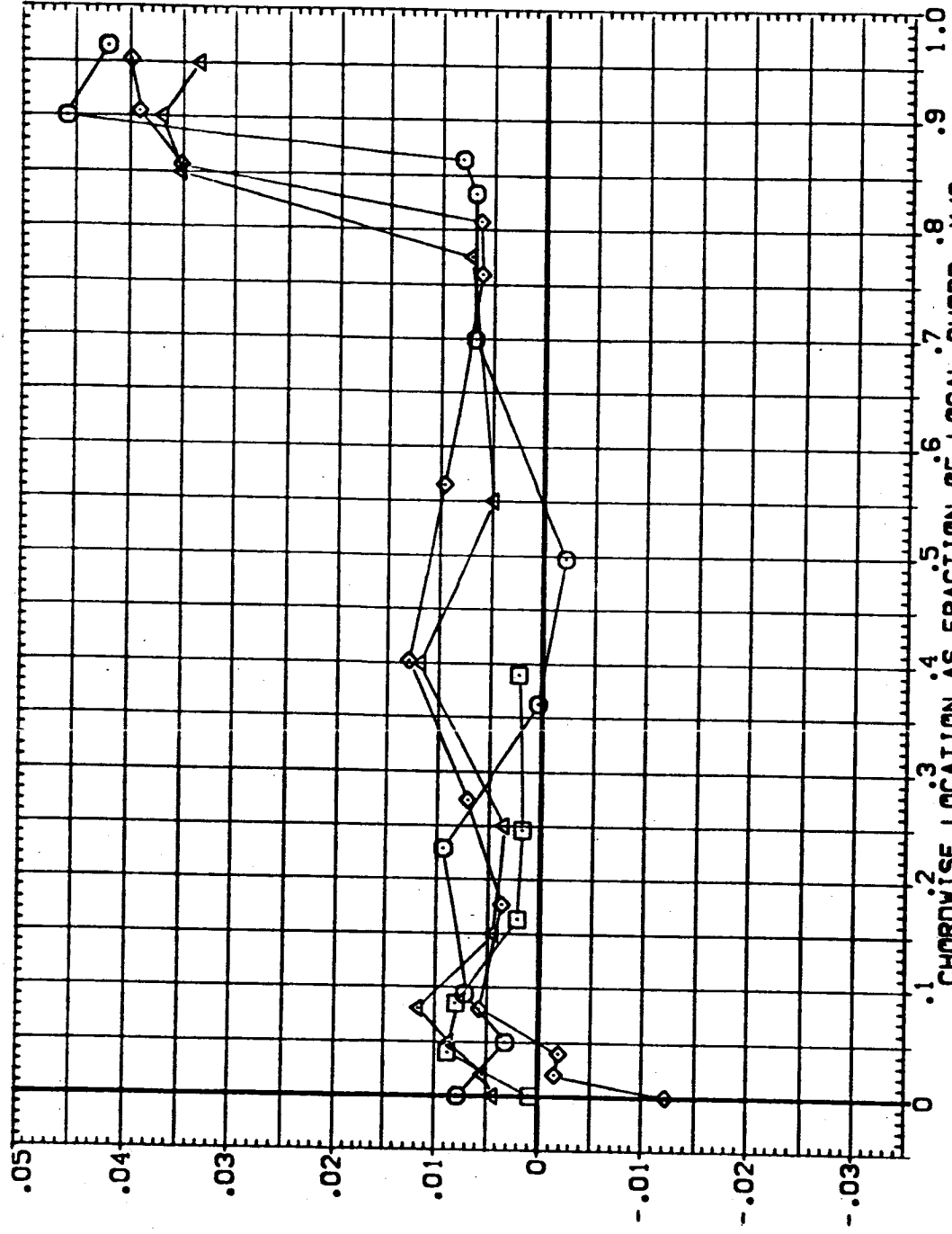


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

PARAMETRIC VALUES
 8.000 ELV-08 4.000
 .000 MACH 1.250

ELV-18
 RUDDER
 GIMBAL

BETA .000 ALPHA .000

ZY/B
 .641
 .780
 .887

SYMBOL
 ○ □ ◇

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

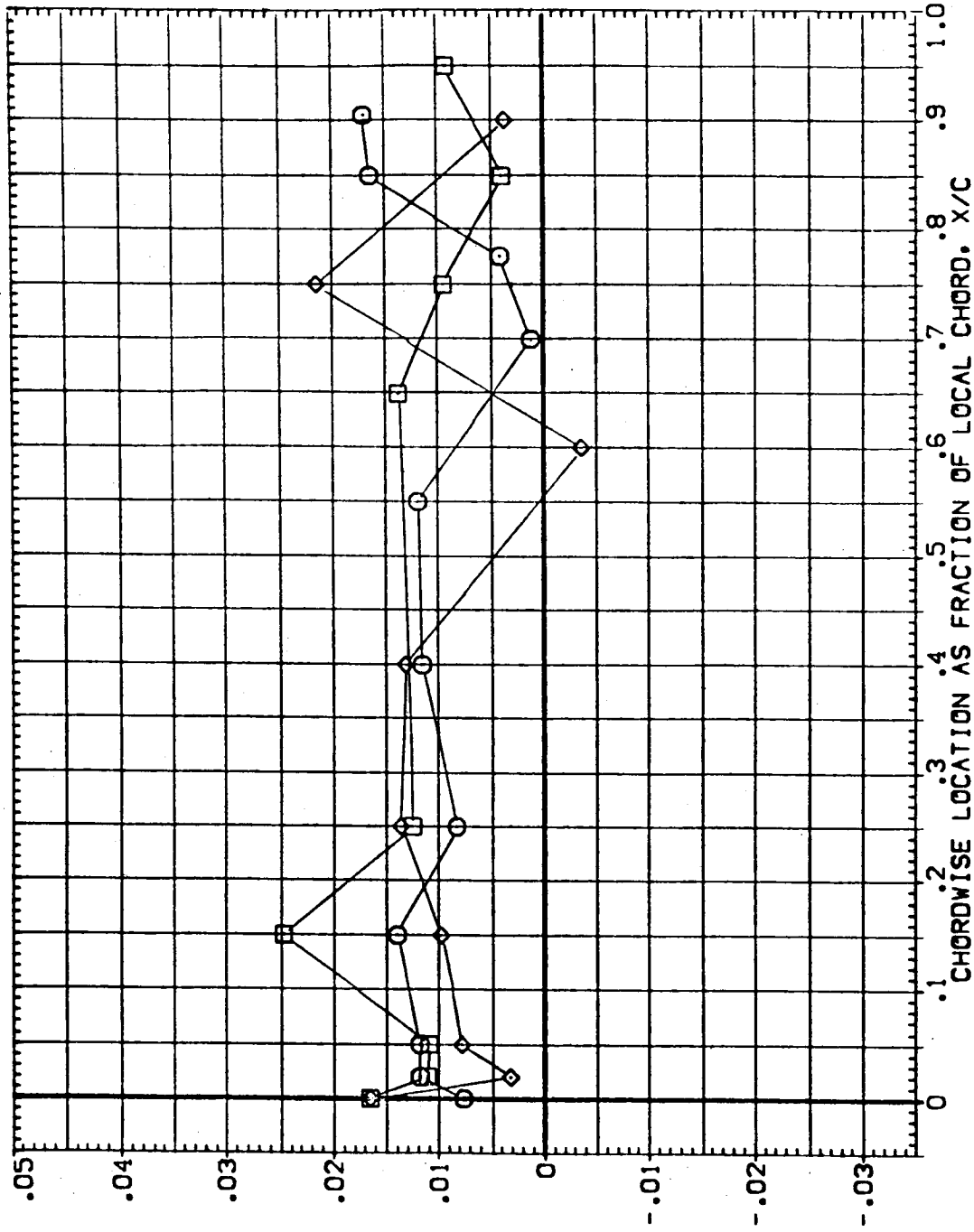


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(EEUR15)

SYMBOL	2 γ /8	BETA	ALPHA	ELV-18	PARAMETRIC VALUES
○	.299	.000	4.000	RUDER	8.000
□	.364			GIMBAL	1.000
◇	.427				4.000
△	.534				1.250
					MACH

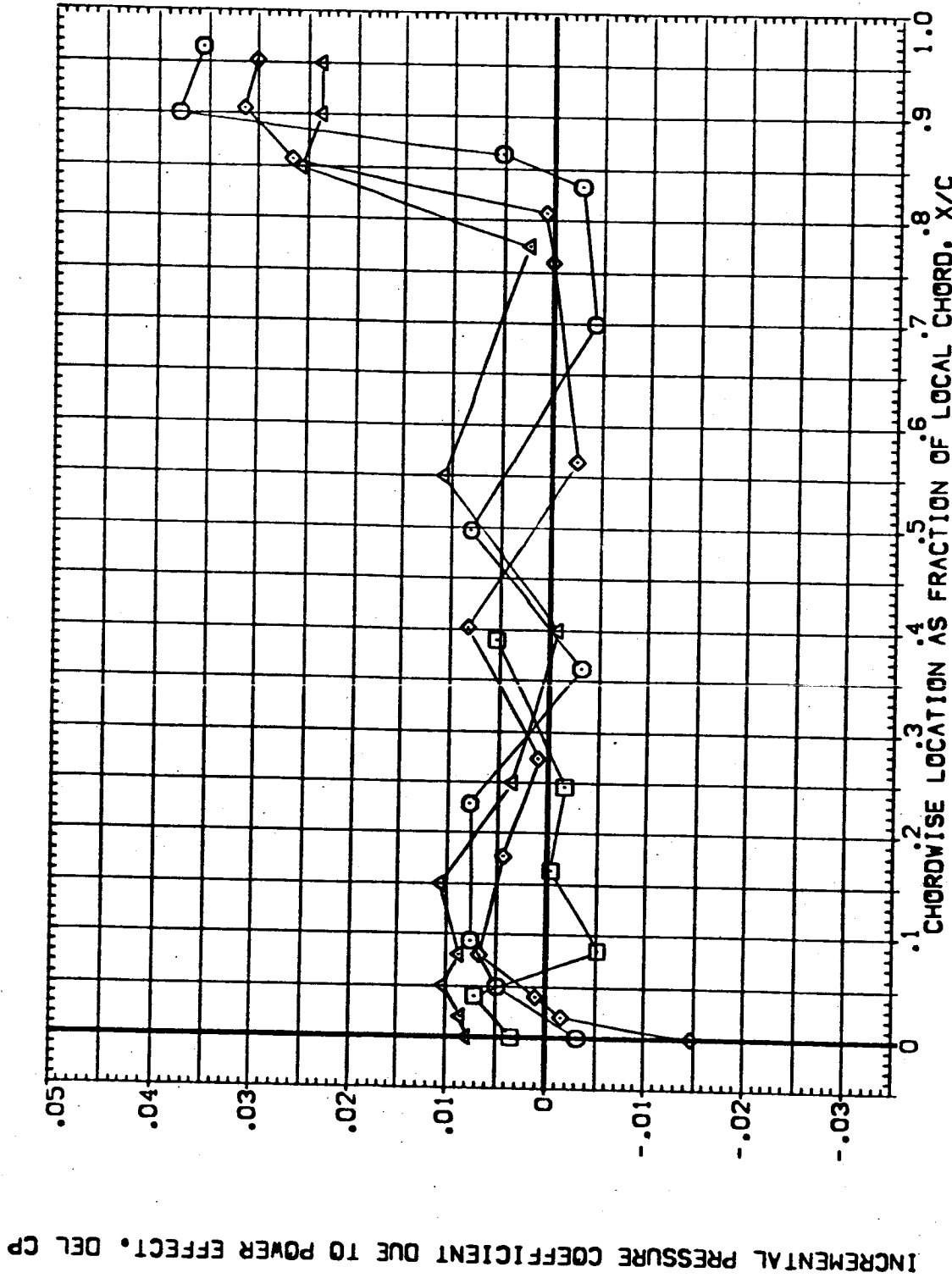


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(EEUR15)

SYMBOL Z₁/B BETA ALPHA

□ .641 .000 4.000

○ .780 .000 4.000

◇ .887 .000 4.000

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000

RUDDER .000 MACH 1.250

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

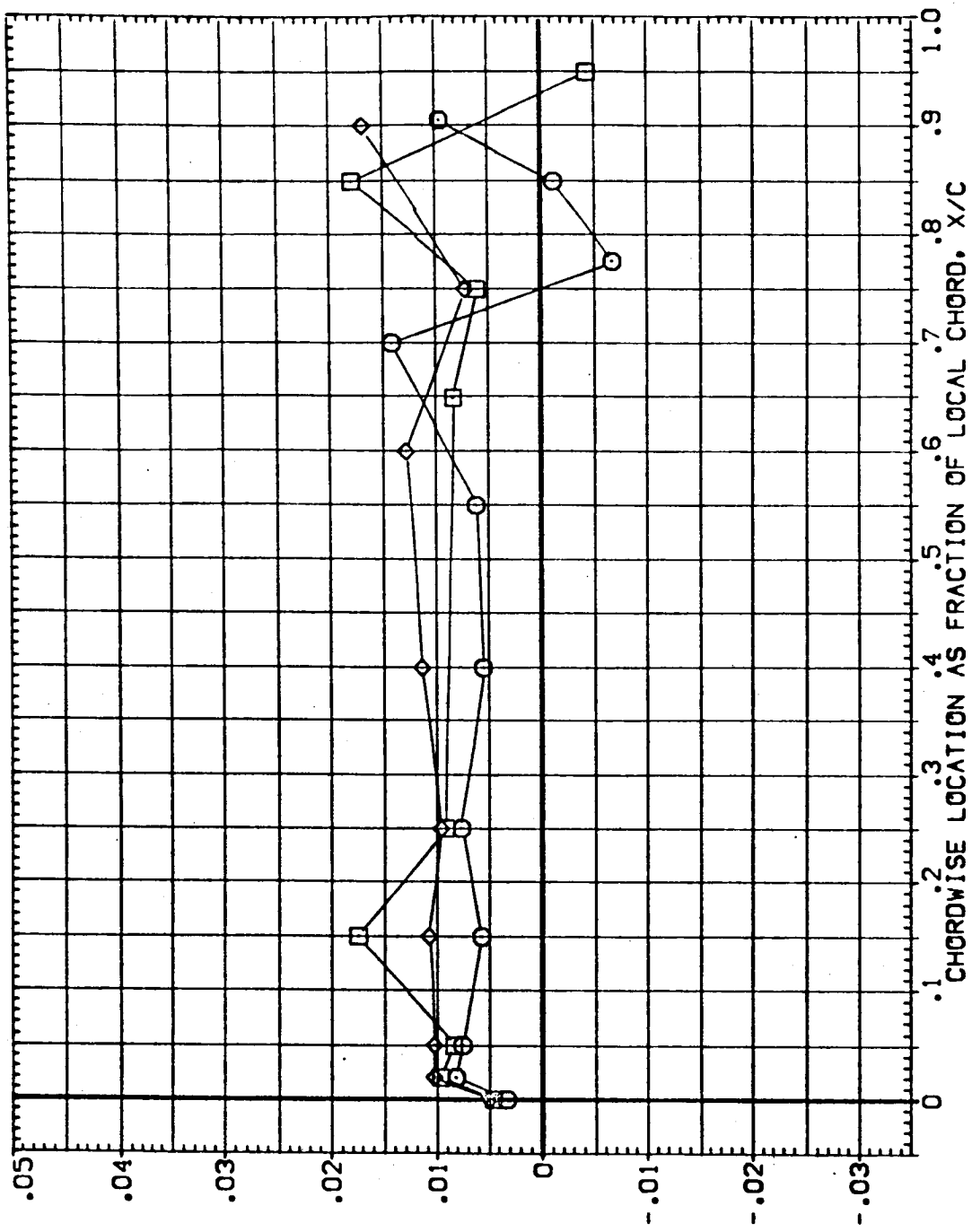


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(FEUR15)

SYMBOL Z1/B BETA ALPHA

◇	.299	-1.000	.000
□	.361		
○	.427		
△	.531		

PARAMETRIC VALUES

ELV-18	8.000	ELV-09	4.000
RUDDER	.000	MACH	1.250
GIMBAL	1.000		

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

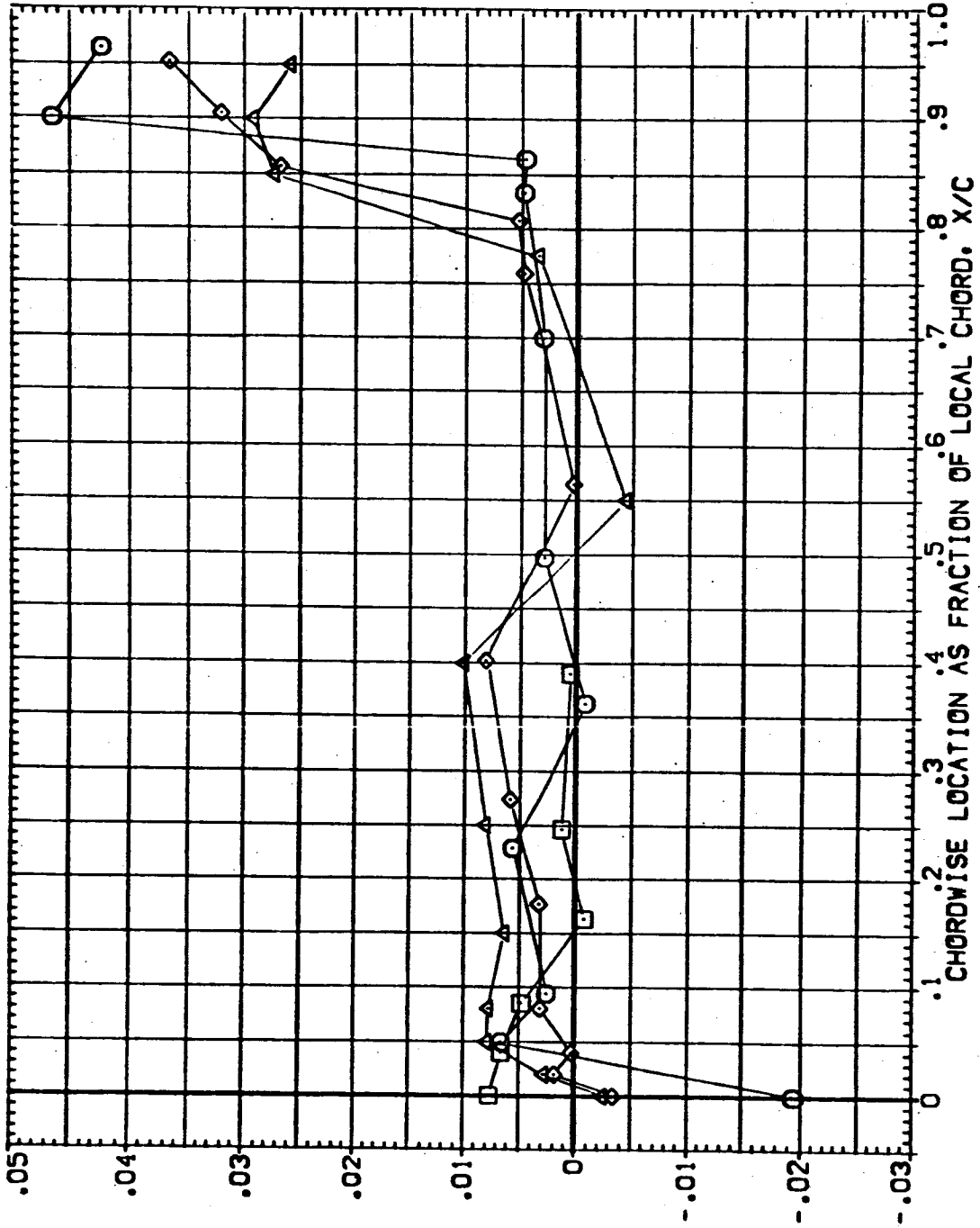


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(FEUR15)

SYMBOL	ZY/B	BETA	ALPHA	ELV-1B	ELV-08
○	.641	-4.000	.000	RUDDER	8.000
□	.780			G1P8AL	.000
◇	.807				1.000
					4.000
					1.250

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

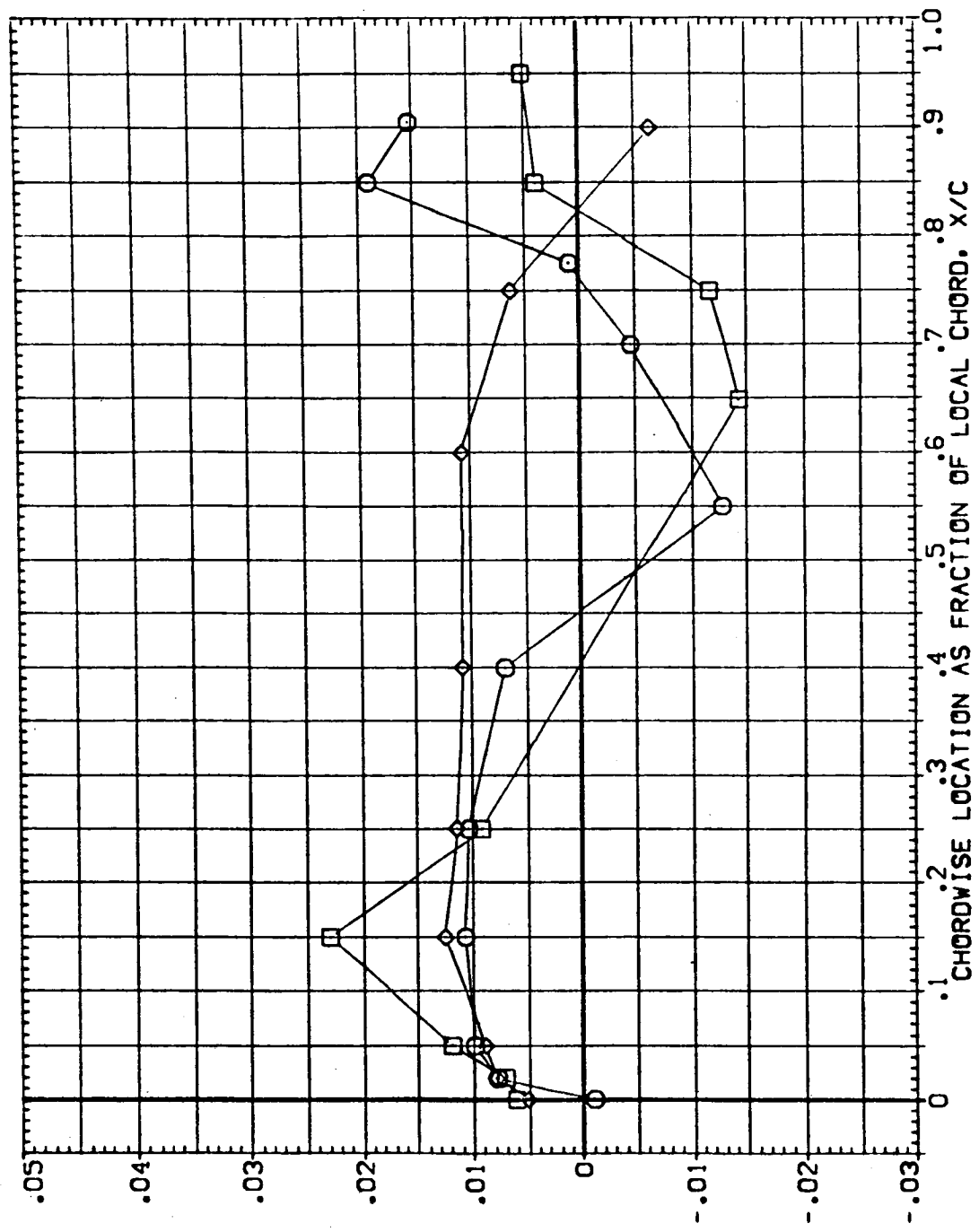


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(FEUR15)

SYMBOL		Z1/B		BETA		ALPHA		PARAMETRIC VALUES			
○	□	.299	1.000	1.000	.000	8.000	ELV-08	4.000	ELV-08	1.250	MACH
◇	△	.364	1.000	1.000	.000	.000	RUDER	1.000	ELV-08	1.250	MACH
		.427	1.000	1.000	.000	1.000	GIMBAL	1.000	ELV-08	1.250	MACH
		.534	1.000	1.000	.000	1.000	GIMBAL	1.000	ELV-08	1.250	MACH

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

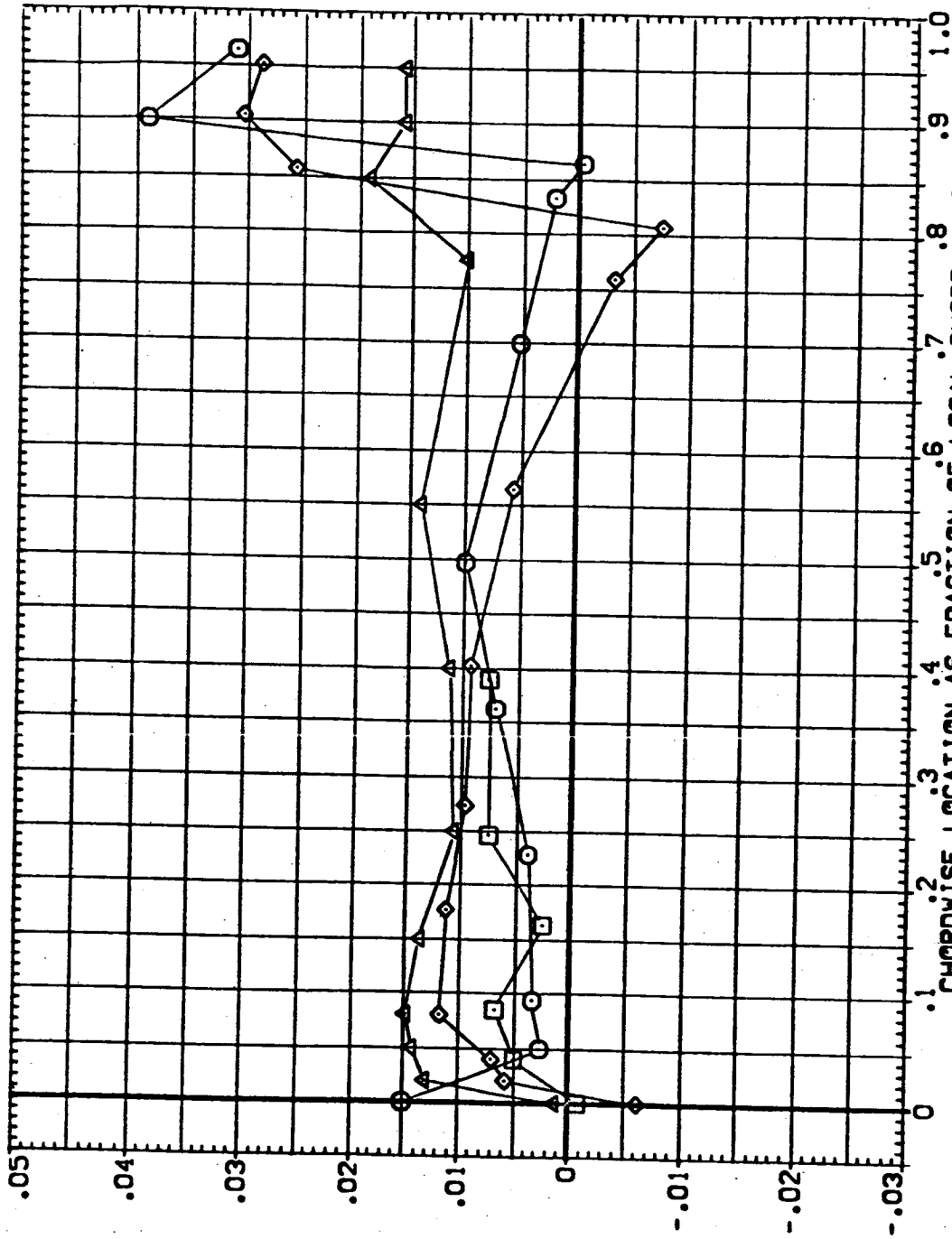


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(FEUR15)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

SYMBOL 2Y/B BETA ALPHA
 ○ .641 1.000 .000
 □ .780
 ◇ .887

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

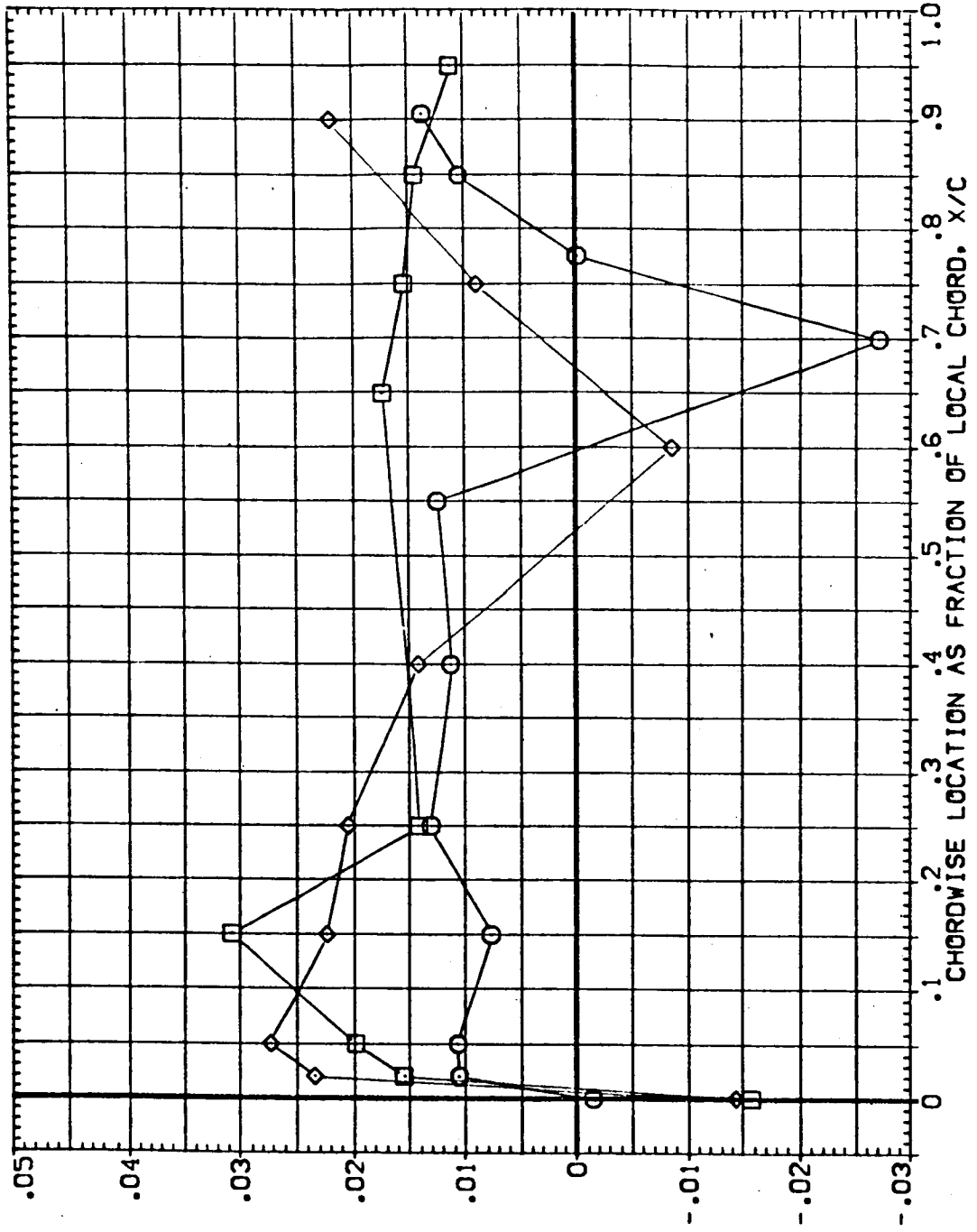


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(EEUR16)

PARAMETRIC VALUES
 ELV-18 9.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

SYMBOL 21/B BETA ALPHA
 ○ .299 .000 -4.000
 □ .364
 ◇ .427
 △ .534

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

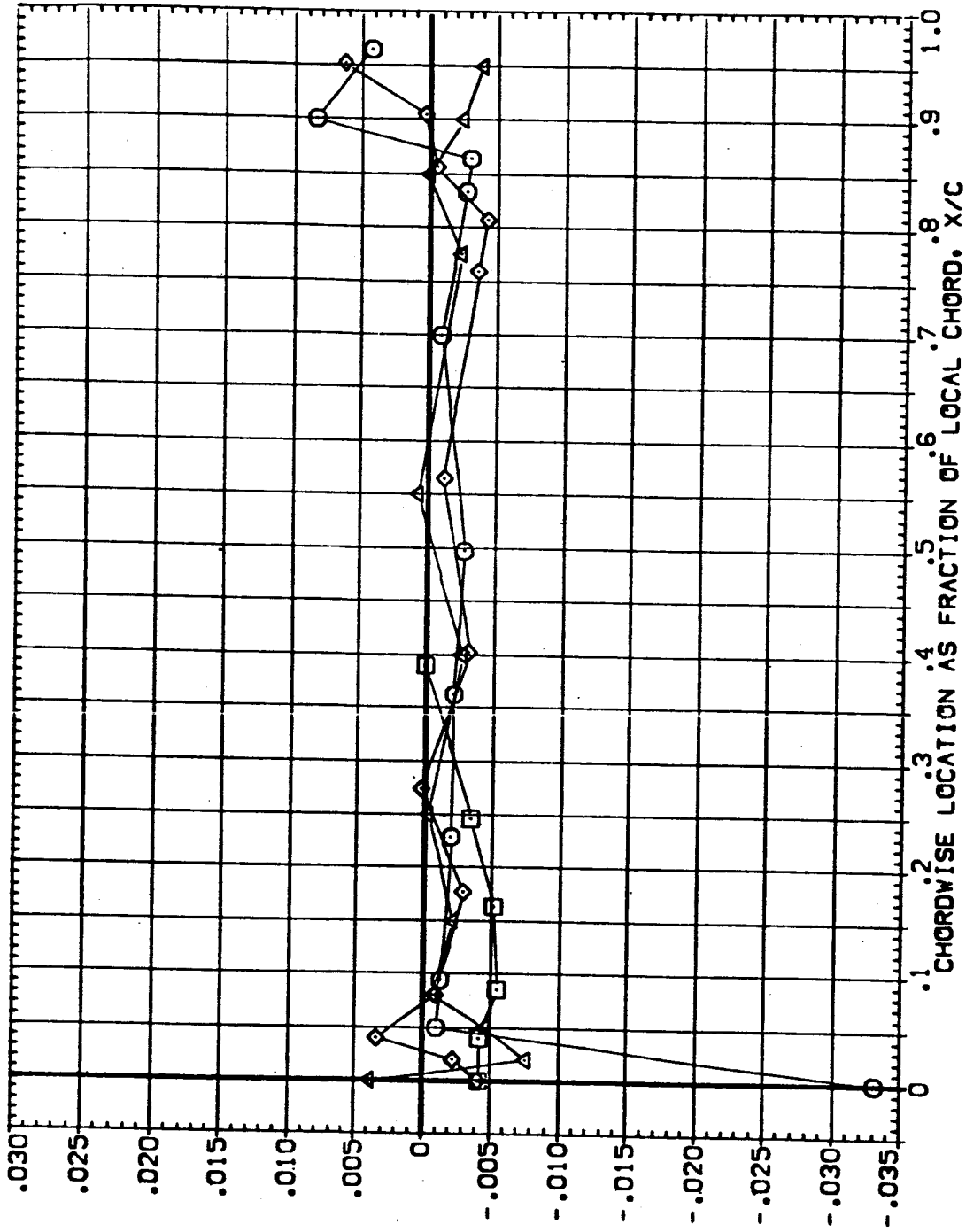


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(EEUR16)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

SYMBOL ZY/B BETA ALPHA
 ○ .641 .000 -4.000
 □ .780 .000 .000
 ◇ .887 .000 .000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

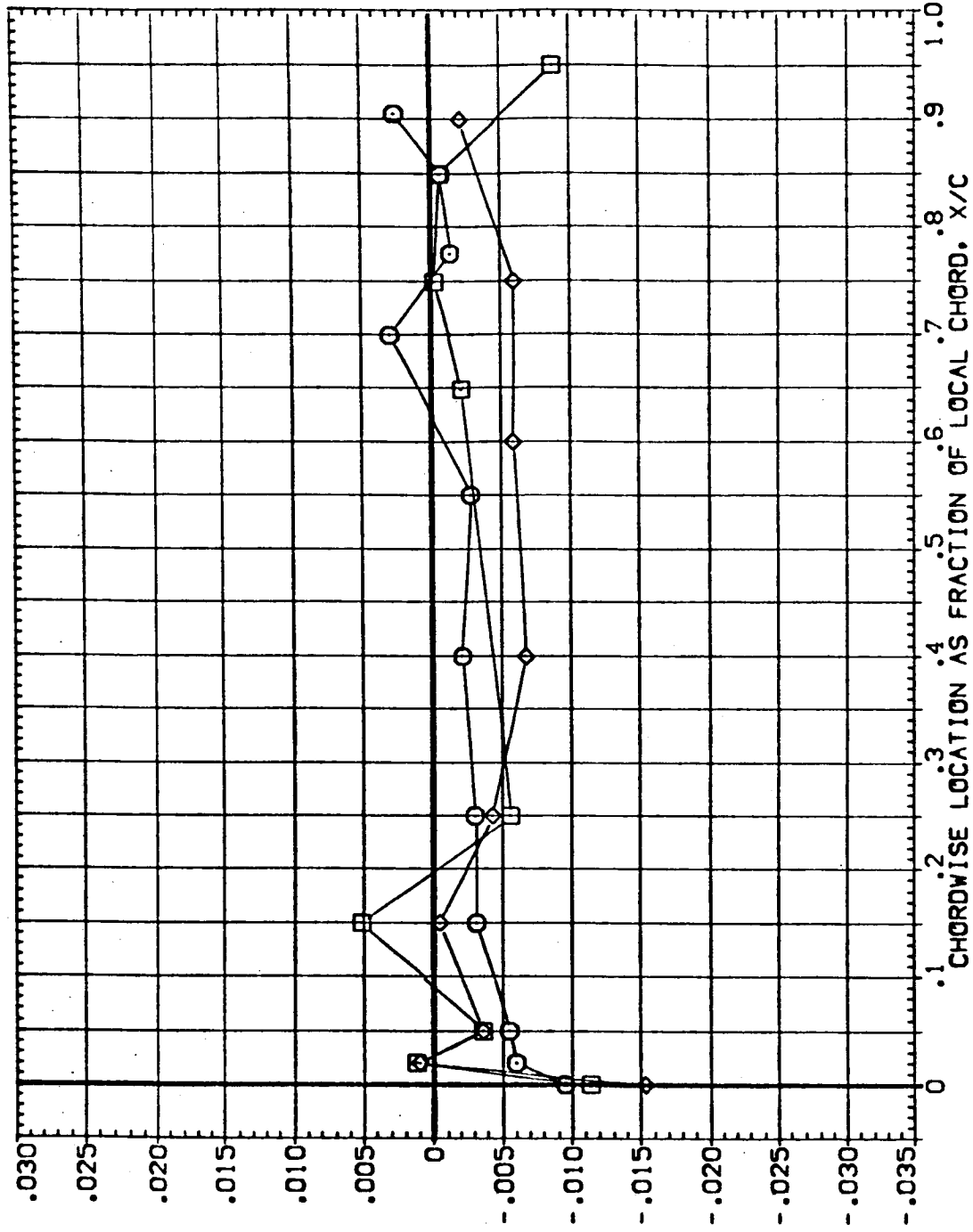


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(EEUR16)

SYMBOL	Z1/B	BETA	ALPHA	ELV-18	PARAMETRIC VALUES
○	.299	.000	.000	RUDER	8.000 ELV-08
□	.364	.000	.000	GIMBAL	.000 MACH
◇	.427	.000	.000		1.000
△	.534	.000	.000		4.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

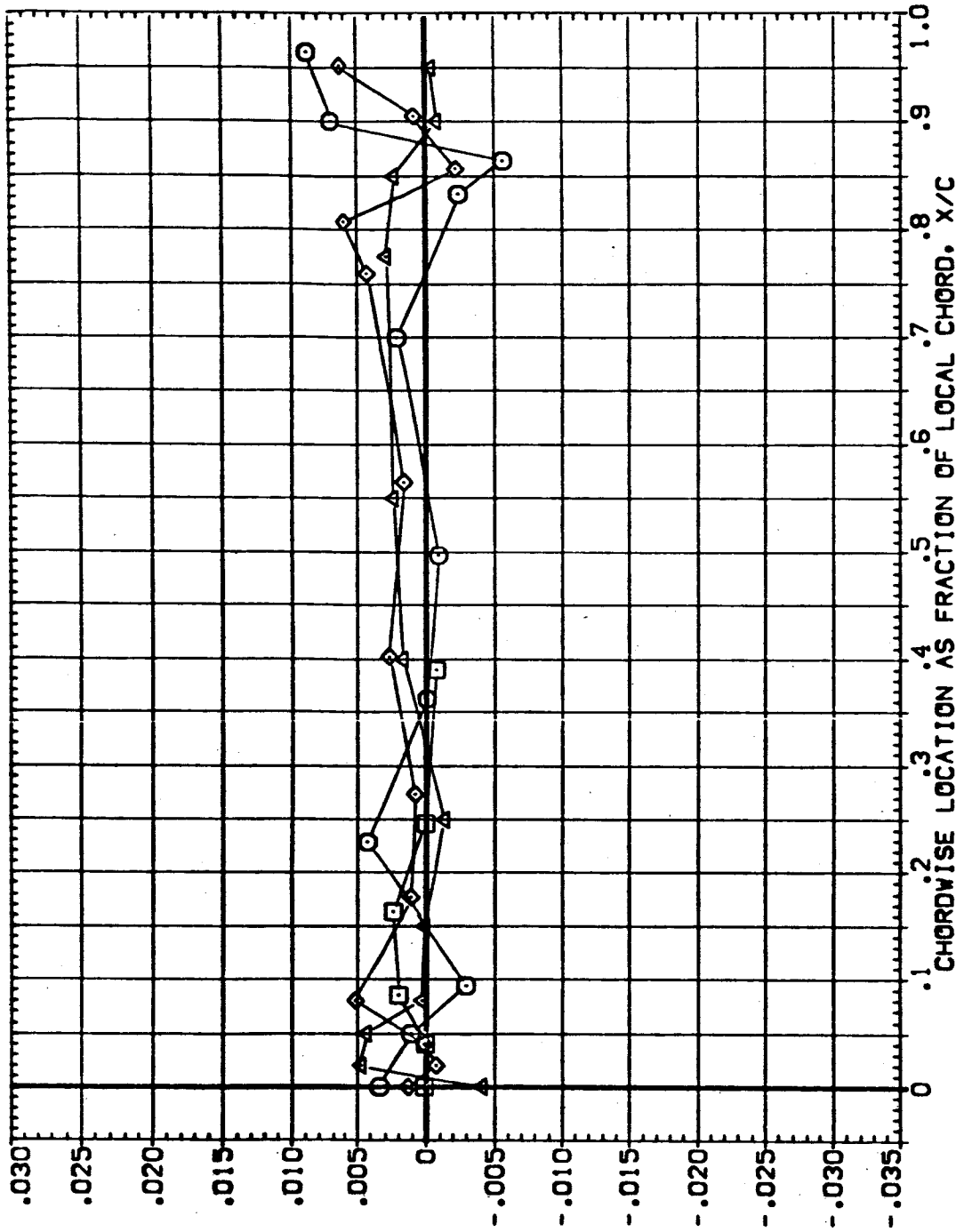


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(EEUR16)

SYMBOL	21/8	BETA	ALPHA	ELV-18	ELV-08
○	.641	.000	.000	RUDER	MACH
□	.780			GIMBAL	
◇	.887				

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

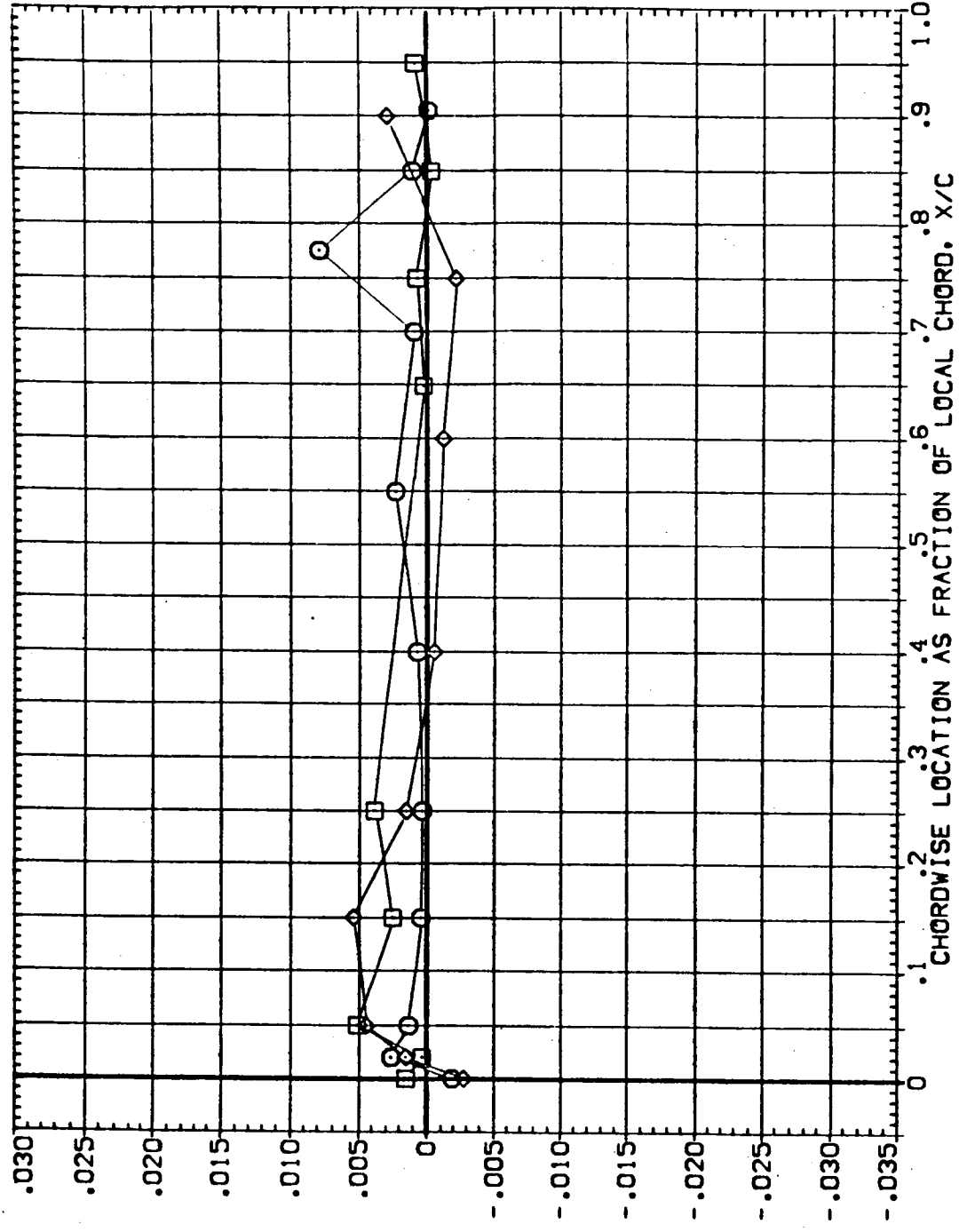


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(EEUR16)

SYMBOL Z1/B BETA ALPHA

○ .299 .000 4.000

□ .354 .000 4.000

◇ .427 .000 4.000

△ .534 .000 4.000

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000

RUDER .000 MACH 1.400

GIMBAL 1.000

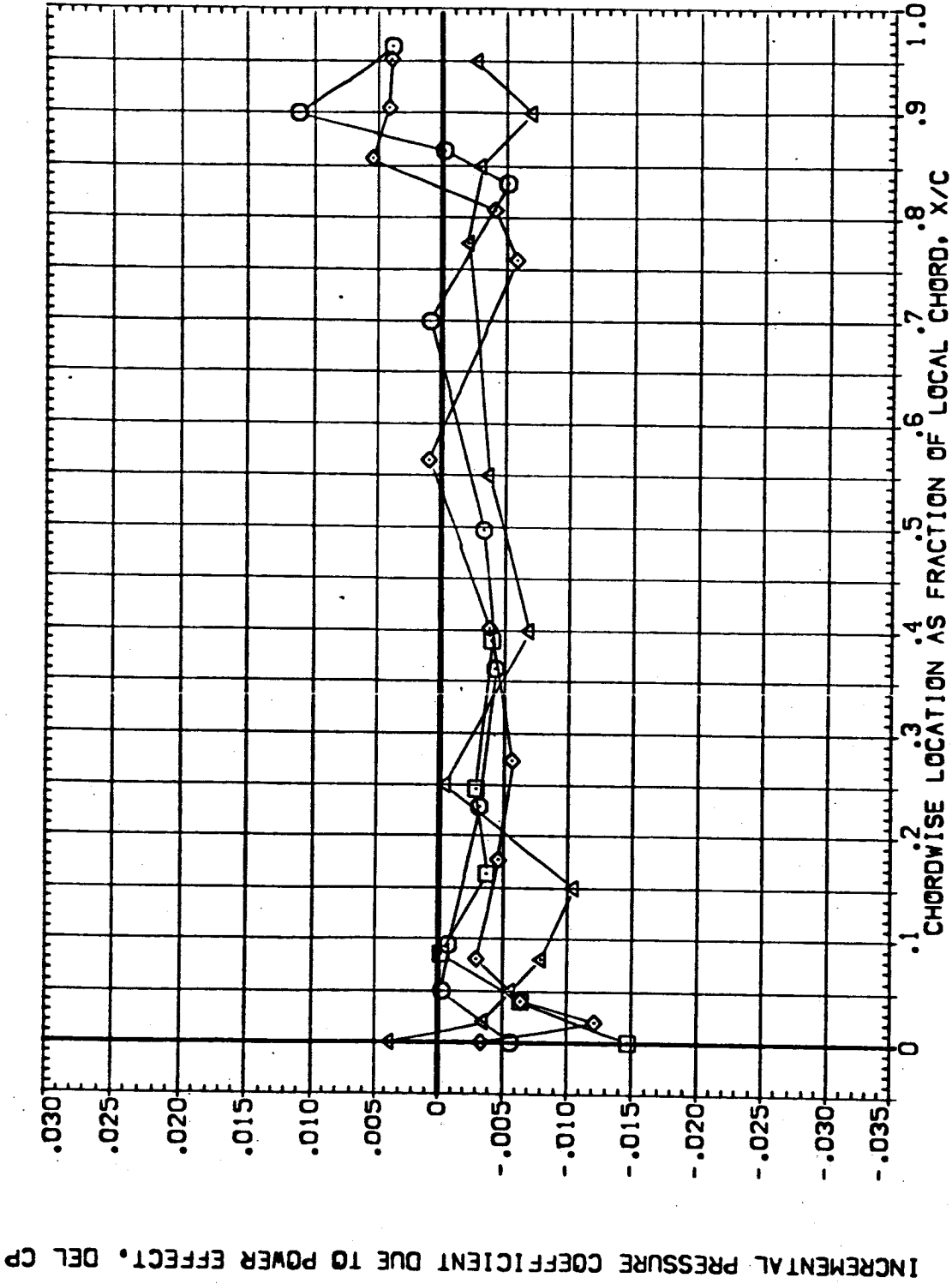


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(EEUR16)

SYMBOL 2 γ / δ BETA ALPHA
 ○ .641 .000 4.000
 □ .780 .000 1.000
 ◇ .857 .000 1.400

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-0B 1.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

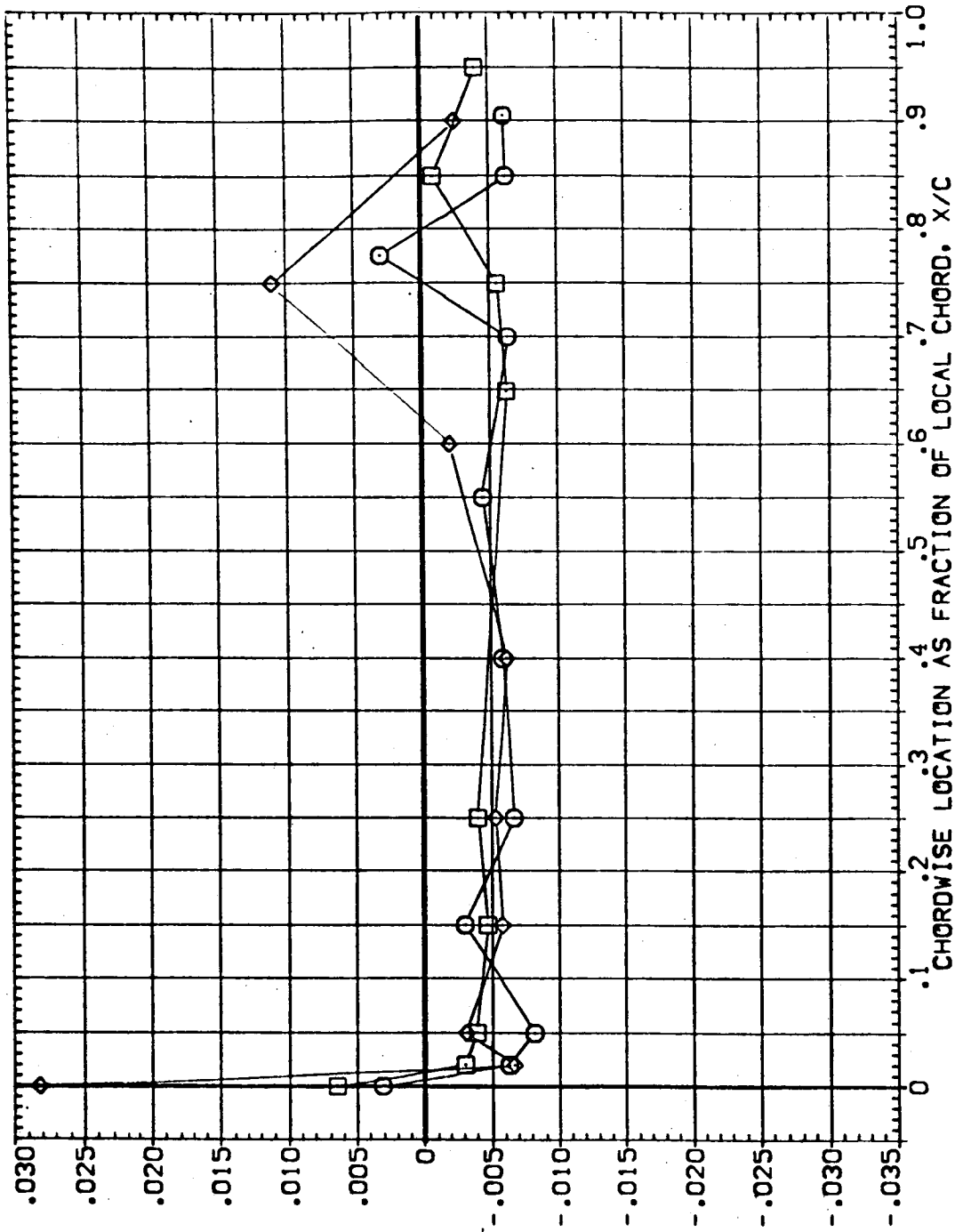


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(FEUR16)

SYMBOL
 ◊
 □
 △

Z1/B BETA ALPHA
 .299 -1.000 .000
 .364
 .427
 .534

PARAMETRIC VALUES
 ELV-1B ELV-08 4.000
 RUDDER MACH 1.400
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

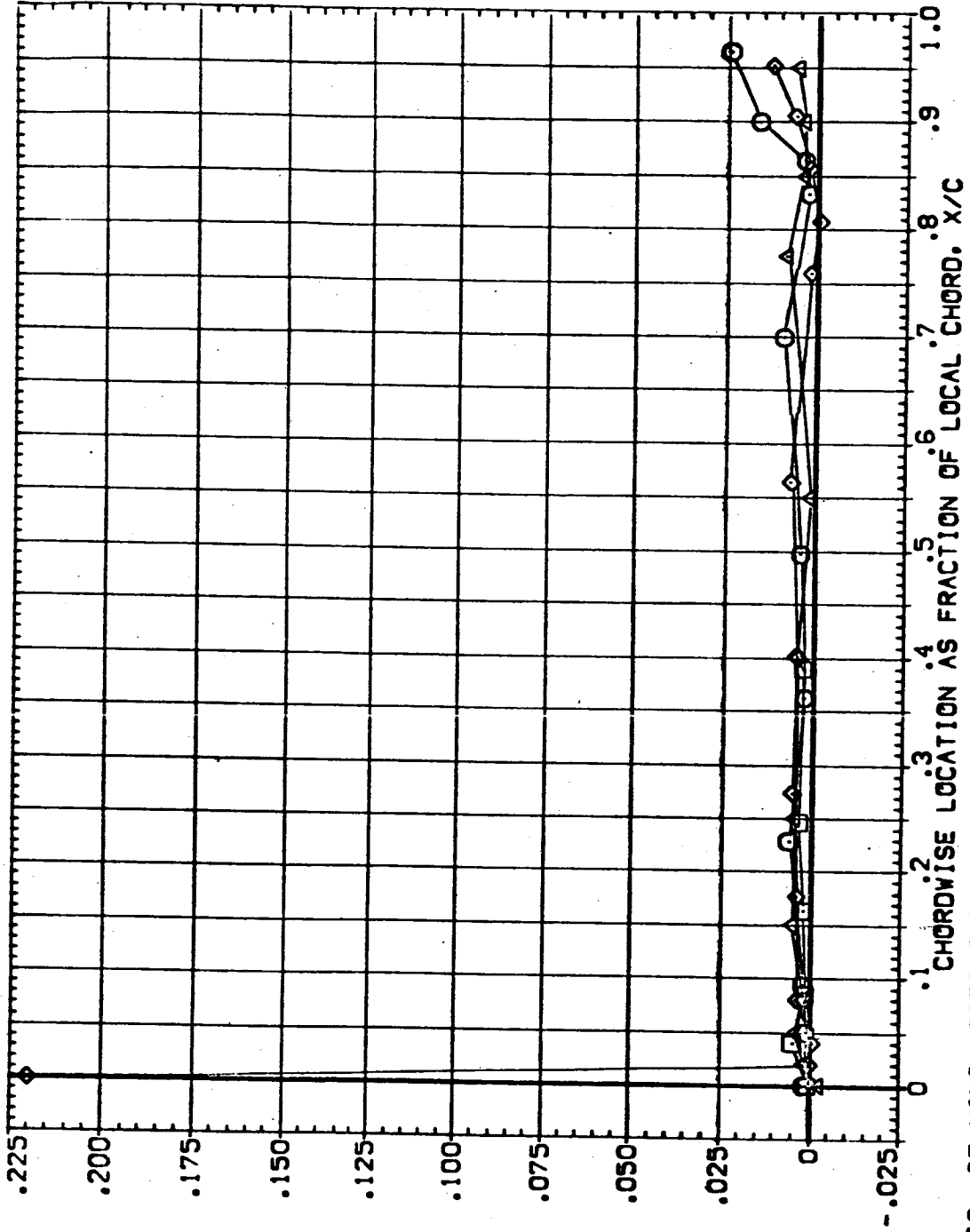


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(FEUR16)

SYMBOL	ZY/B	BETA	ALPHA	ELV-19	PARAMETRIC VALUES
○	.641	-4.000	.000	RUDDER	8.000 ELV-08
□	.780			GIMBAL	.000 MACH
◇	.887				1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

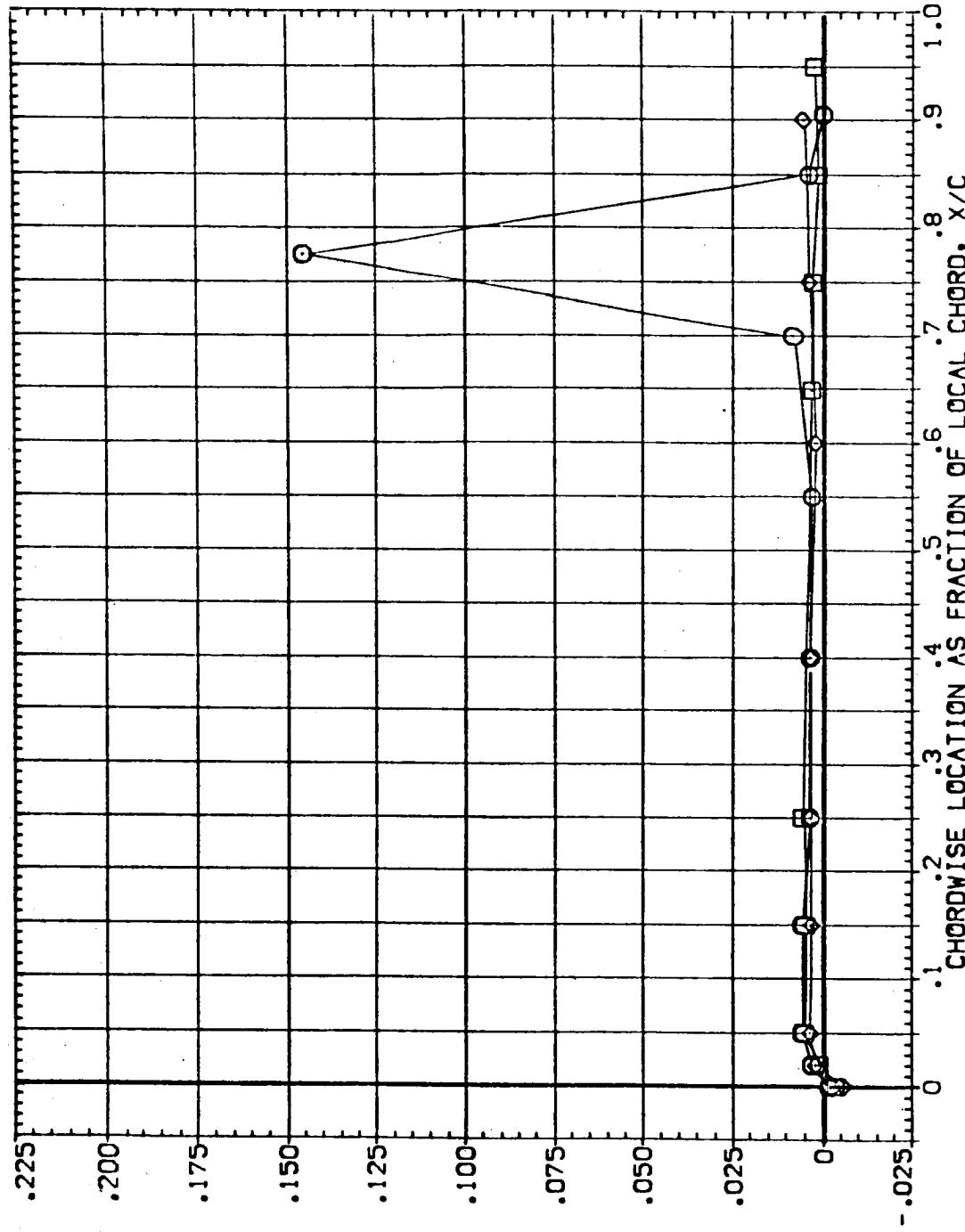


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(FEUR16)

SYMBOL ZY/B BETA ALPHA

○	.299	4.000	.000
□	.364		
◇	.477		
△	.534		

PARAMETRIC VALUES

ELV-18	8.000	ELV-08	4.000
RUDER	.000	MACH	1.400
GIMBAL	1.000		

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

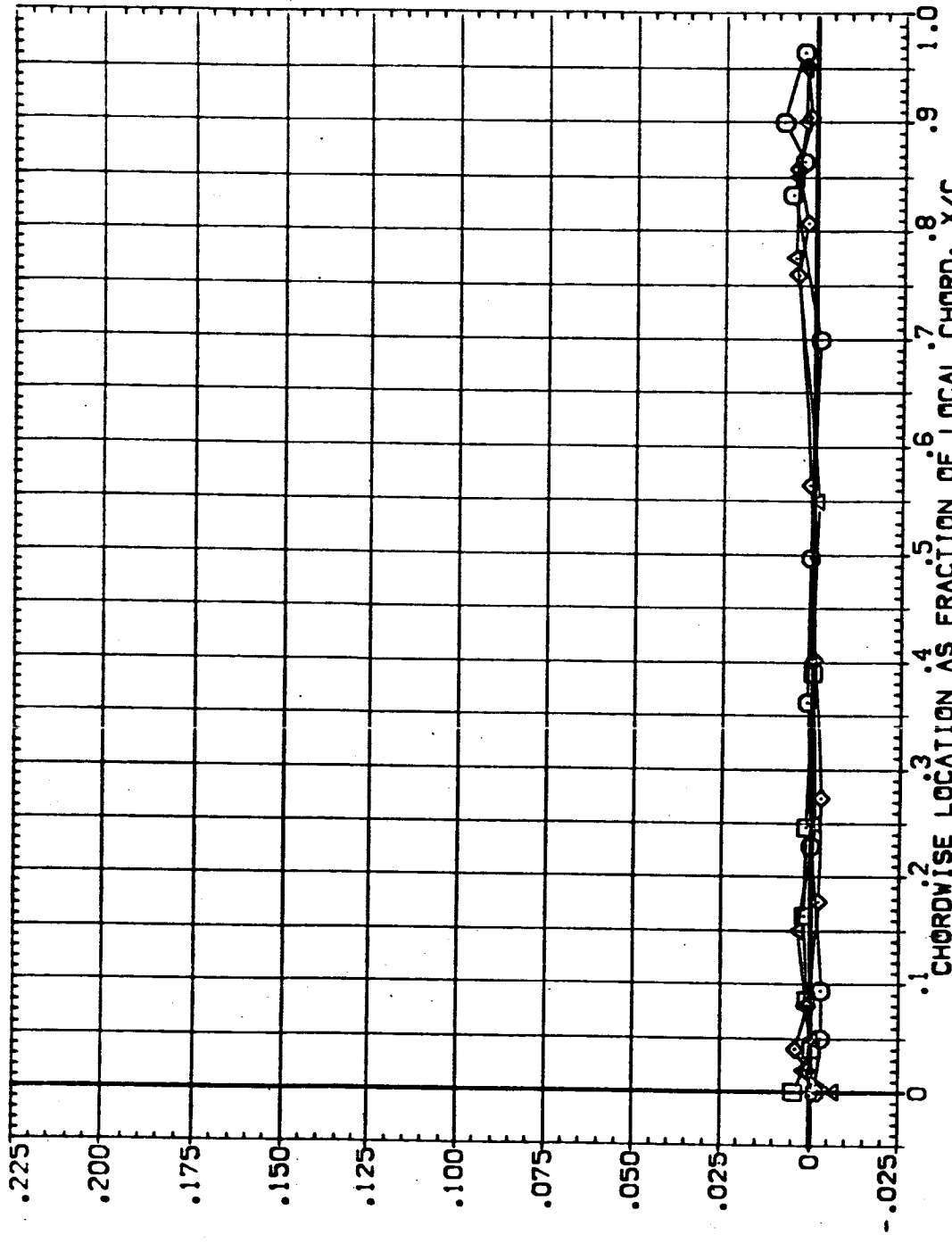


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(FEUR16)

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-09 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

SYMBOL Z/Y/B BETA ALPHA
 ○ .641 4.000 .000
 □ .780 .000
 ◇ .687

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

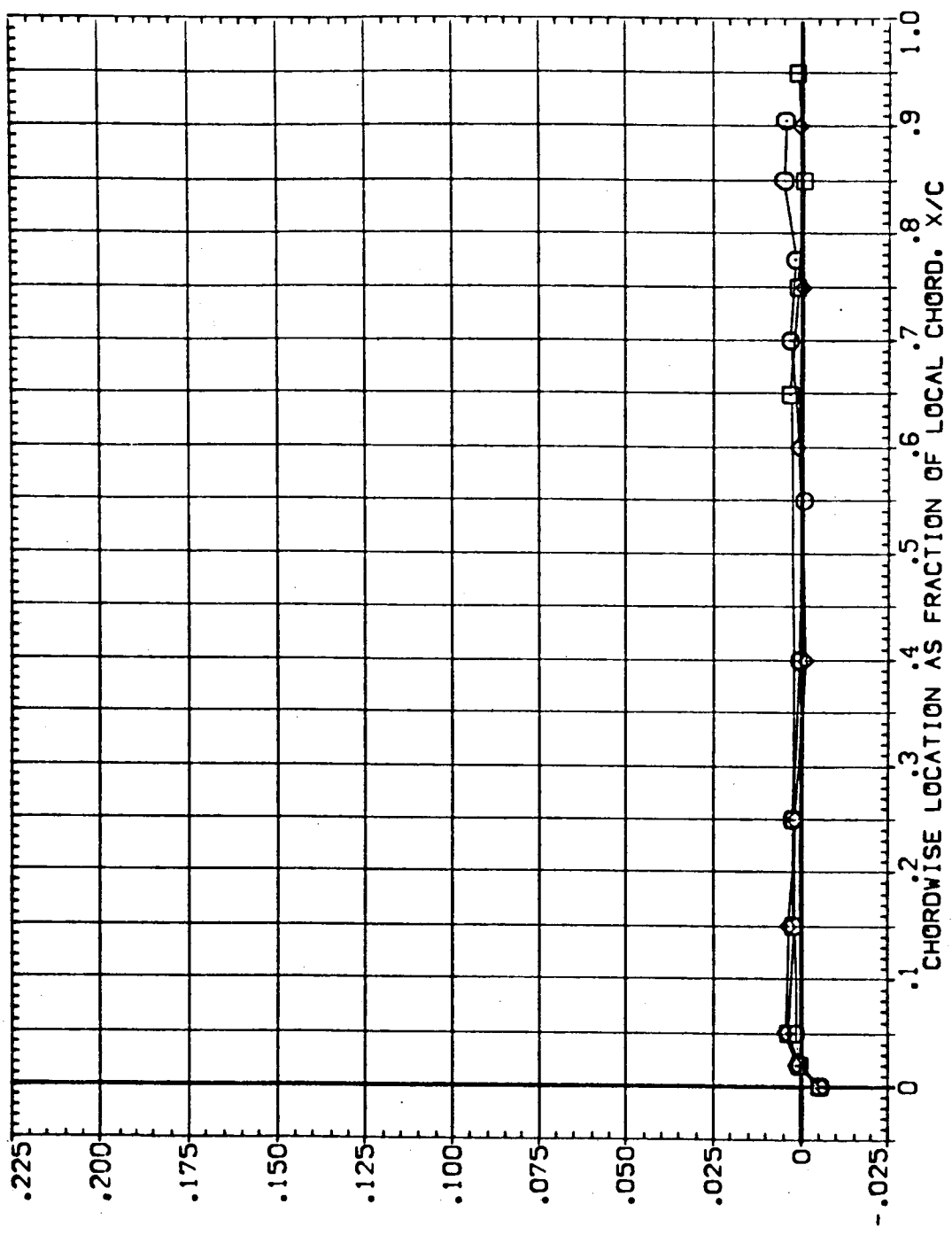


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(BEUW01)

SYMBOL	2 γ / δ	BETA	ALPHA	ELV-18	ELV-08
○	.299	.000	-4.000	RUDDER	MACH
□	.364			GIMBAL	
◇	.427				
△	.534				

PARAMETRIC VALUES
 8.000 4.000
 .000 .900
 1.000

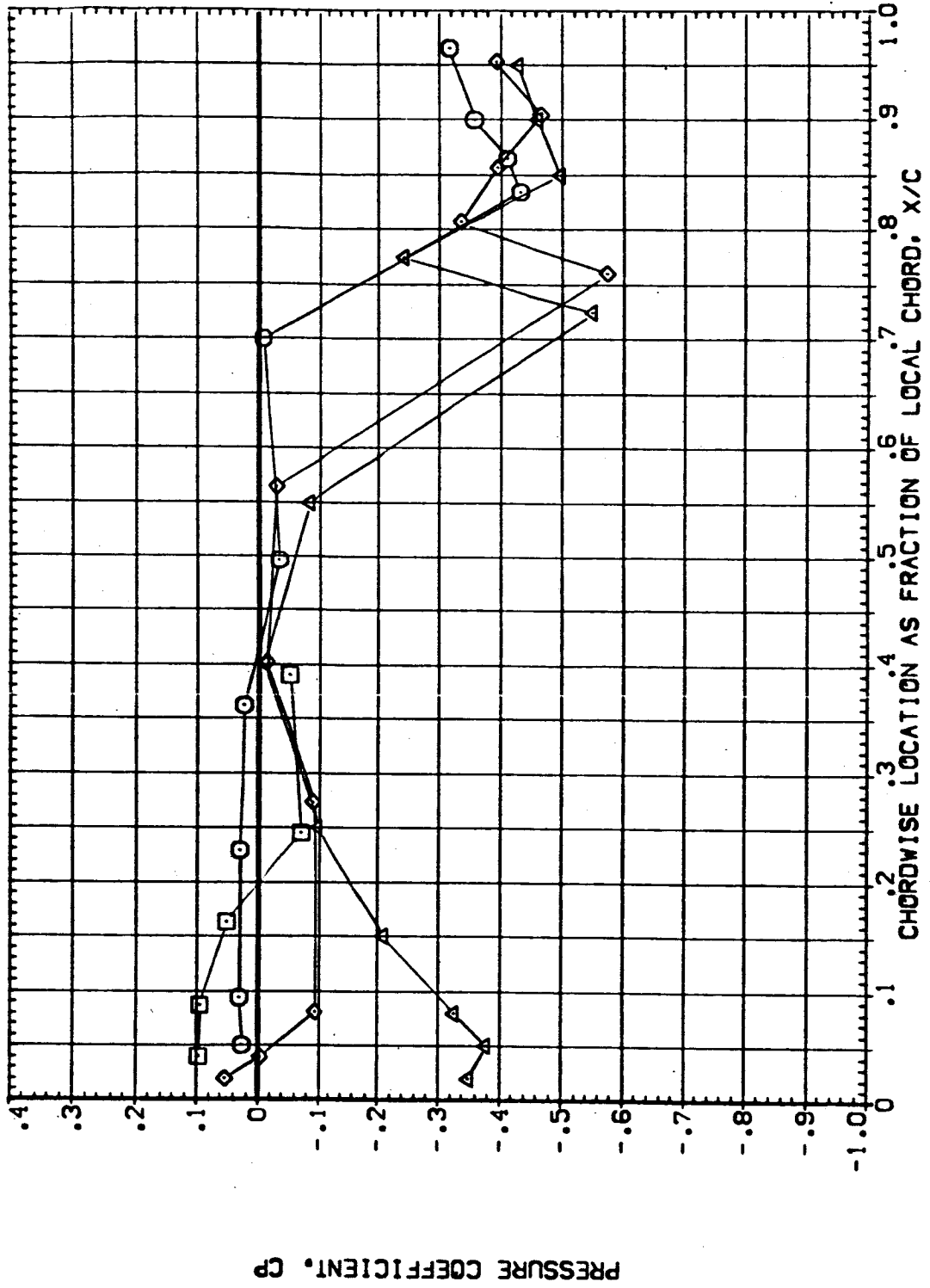


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(BEUW01)

SYMBOL Z_{T/B} BETA ALPHA
 ○ .641 .000 -4.000
 □ .780
 ◇ .887

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH
 GIMBAL 1.000

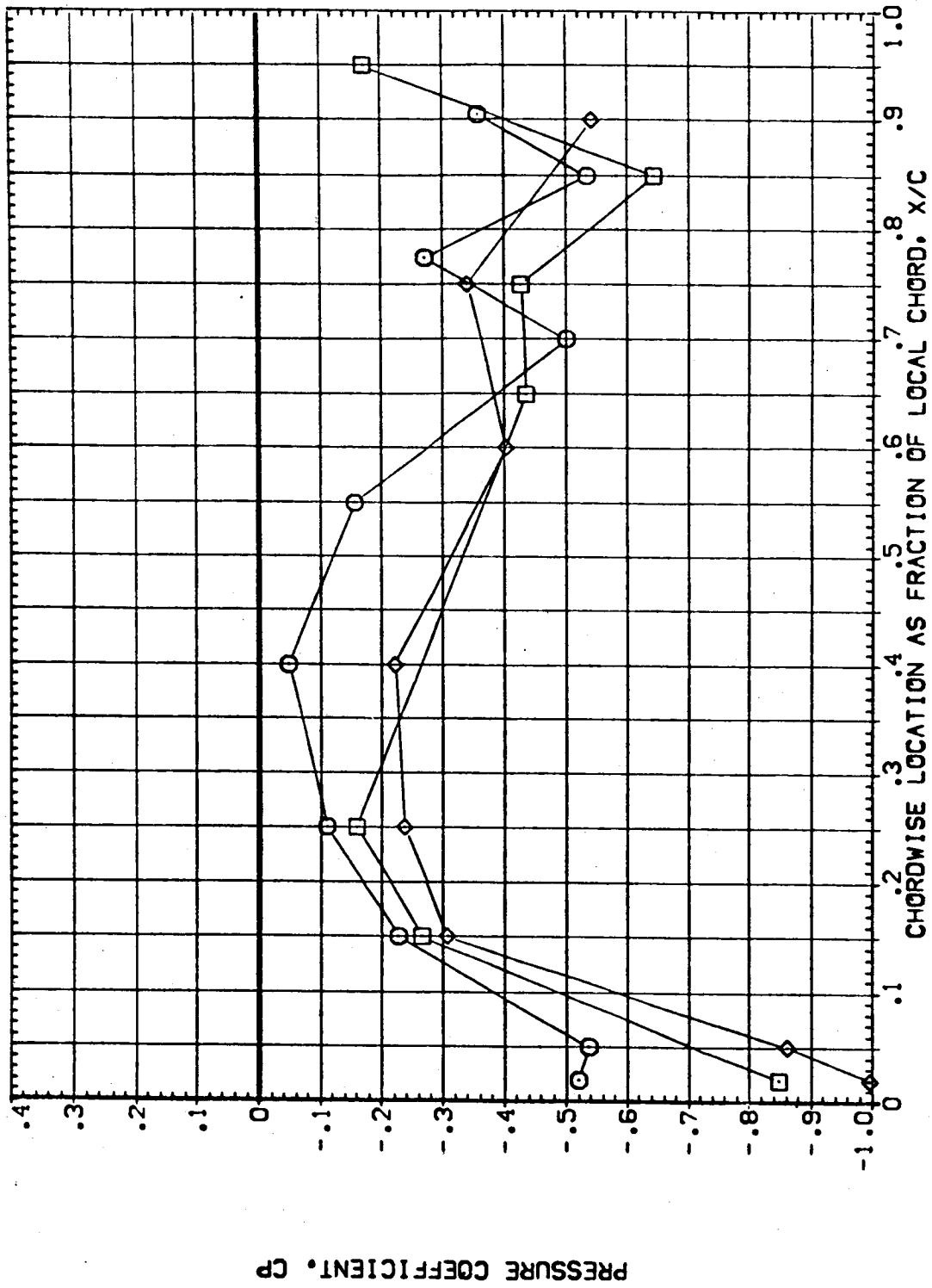


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(BEUW01)

SYMBOL	2 γ / δ	BETA	ALPHA	ELV-1 δ	ELV-0 δ	PARAME-TRIC VALUES
○	.299	.000	.000	RUDDER	8.000	4.000
□	.364	.000	.000	GIMBAL	.000	.900
◇	.427	.000	.000		1.000	
△	.534	.000	.000			

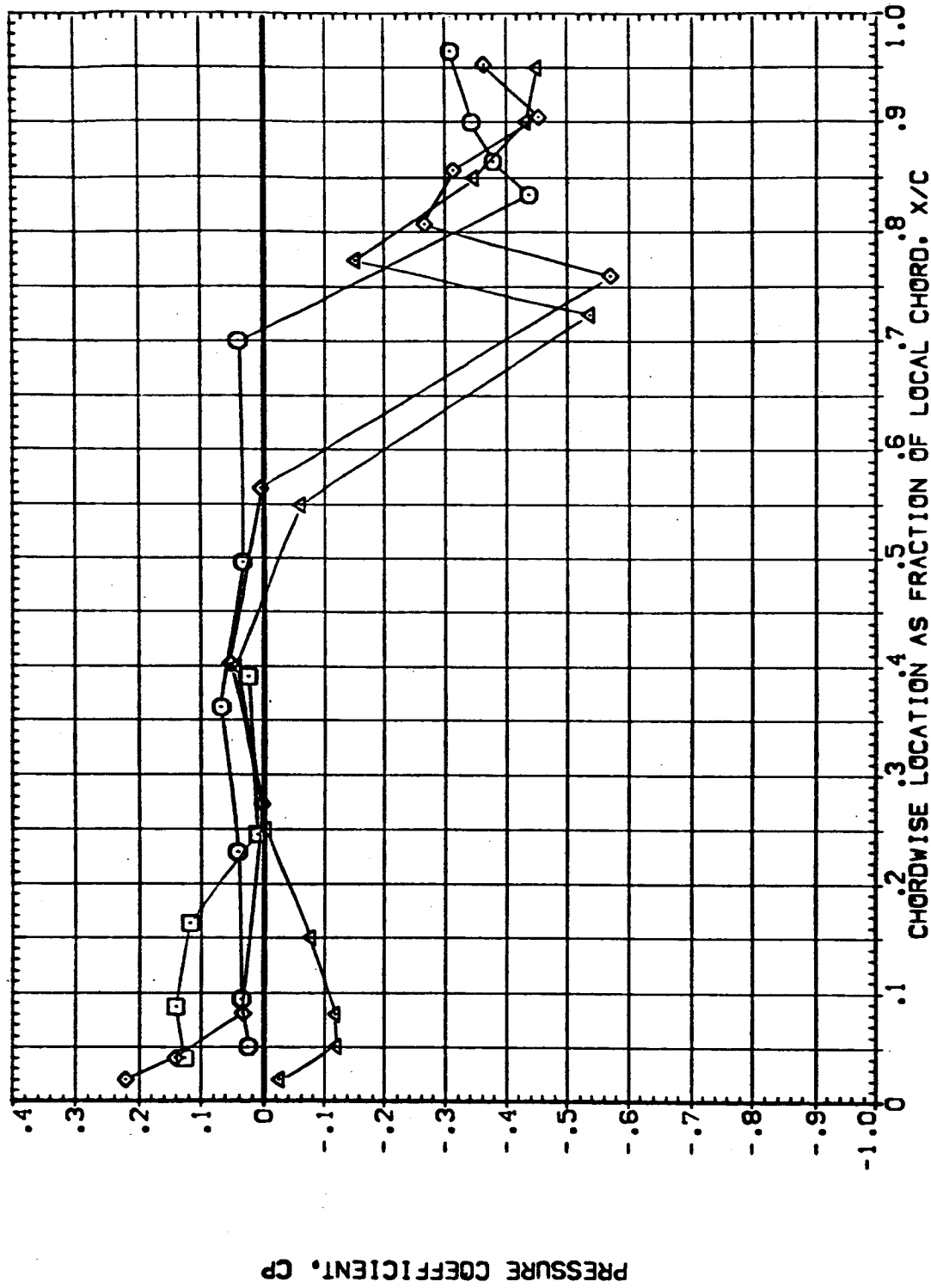


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(BEUW01)

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-09 1.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

SYMBOL 2 γ /8 BETA ALPHA
 ○ .641 .000 .000
 □ .780 .000 .000
 ◇ .687 .000 .000

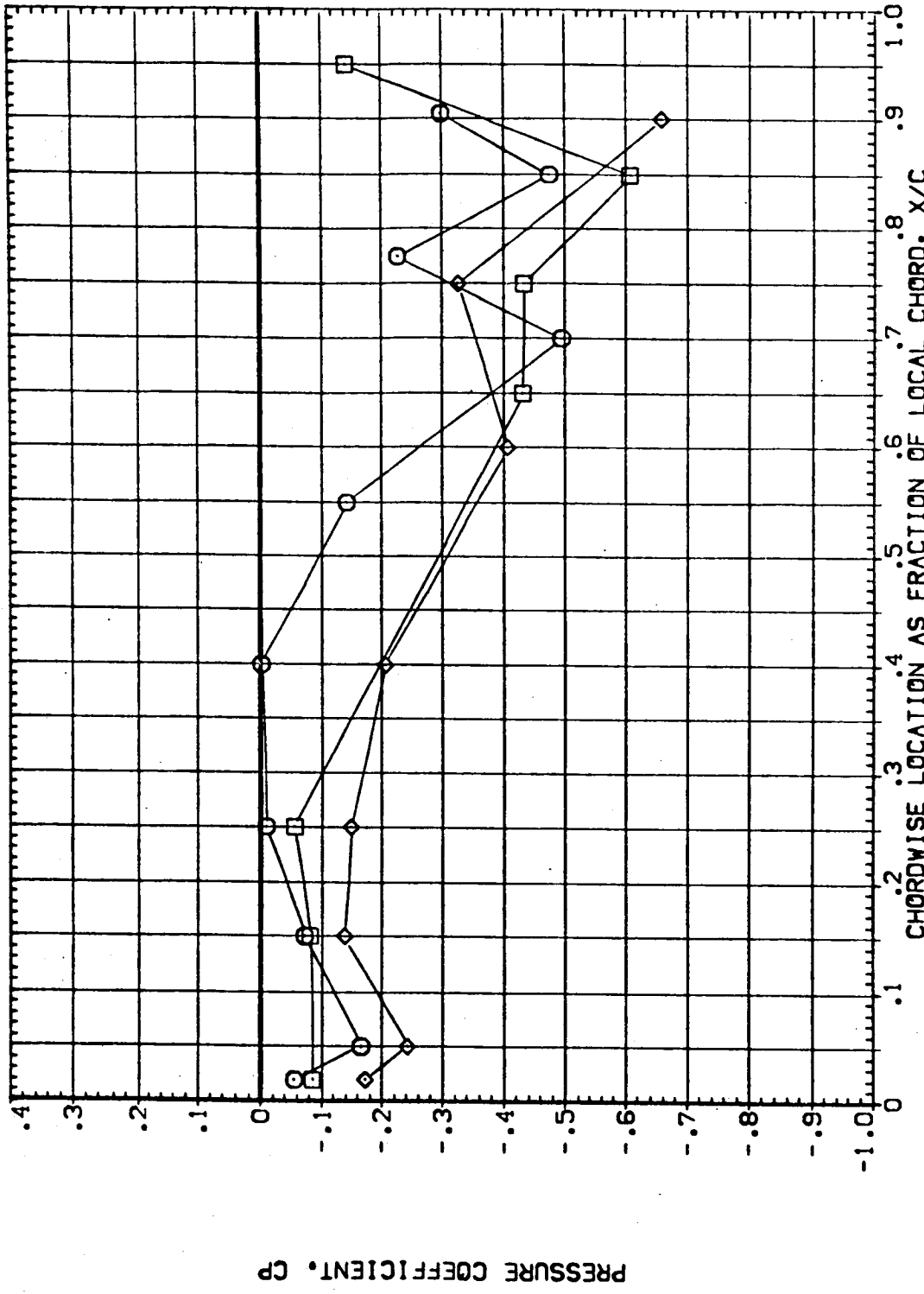


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF



ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(BEUW01)

SYMBOL 2 γ / β BETA ALPHA

○ .299 .000 4.000

□ .364 .000 4.000

◇ .427 .000 4.000

△ .534 .000 4.000

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000

RUDDER .000 MACH .900

GINBAL 1.000

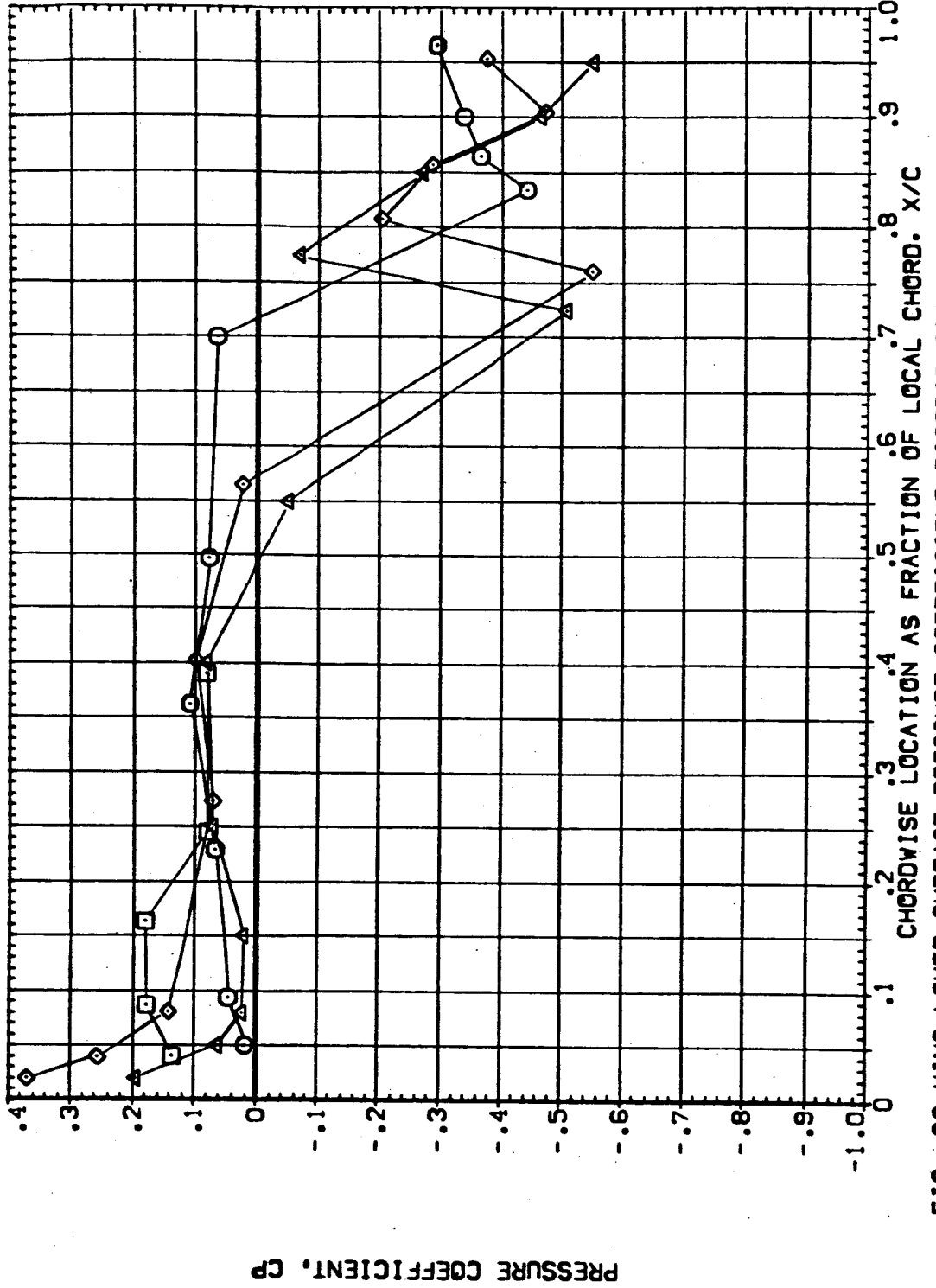


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(BEUW01)

PARAMETRIC VALUES
 8.000 ELV-08 4.000
 .000 MACH .900
 1.000

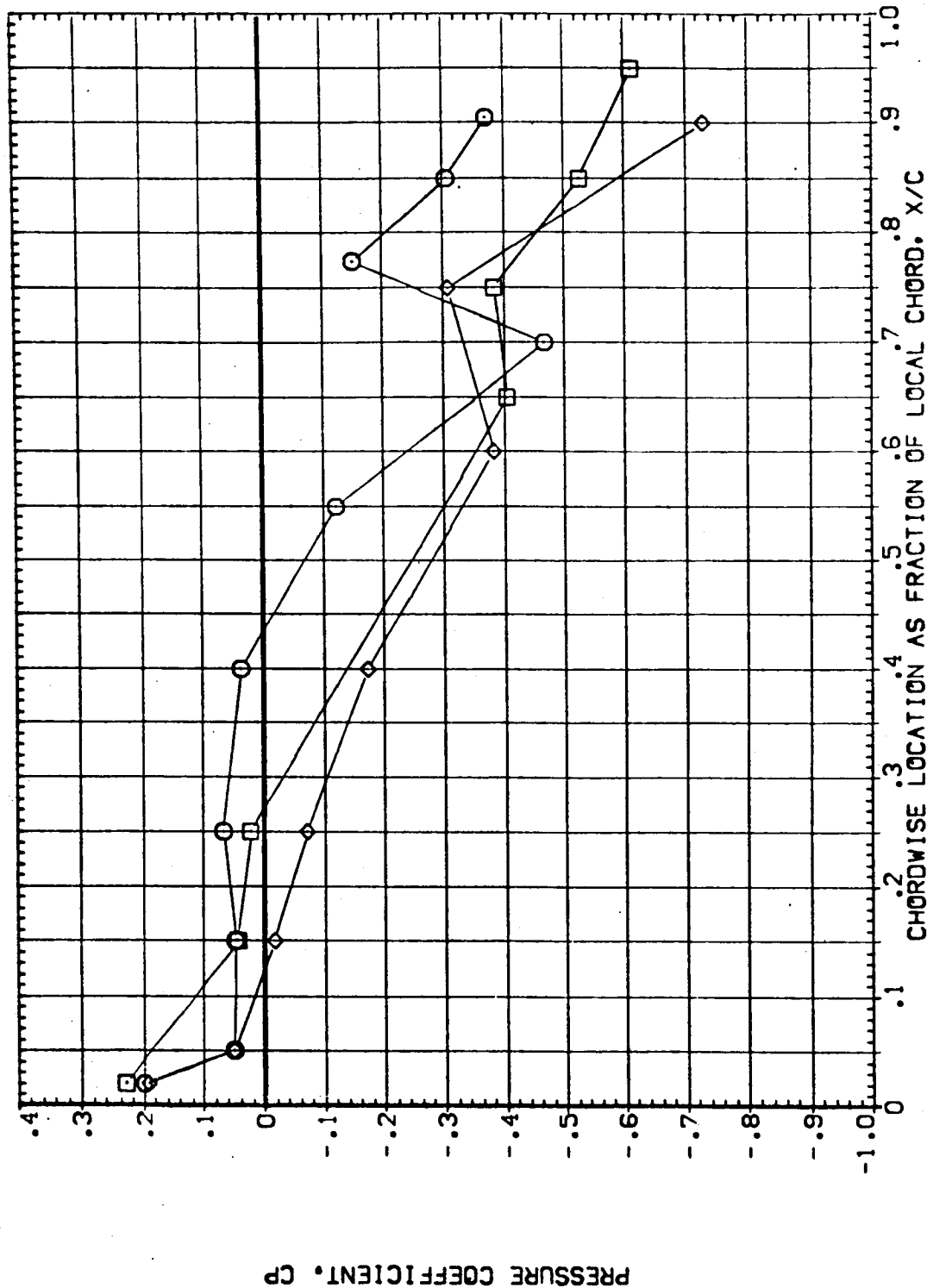
ELV-18
 RUDDER
 GIMBAL

ALPHA 4.000

BETA .000

ZY/B .641
 .780
 .887

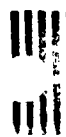
SYMBOL
 ○ □ ◇



PRESSURE COEFFICIENT, CP

CHORDWISE LOCATION AS FRACTION OF LOCAL CHORD, X/C

FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF



ARC11-014IA19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(CCEUW01)

SYMBOL Z₁/B BETA ALPHA

○	.299	-1.000	.000
□	.364		
◇	.427		
△	.534		

PARAMETRIC VALUES

ELV-1B	8.000	ELV-0B	4.000
RUDDER	.000	MACH	.900
GIMBAL	1.000		

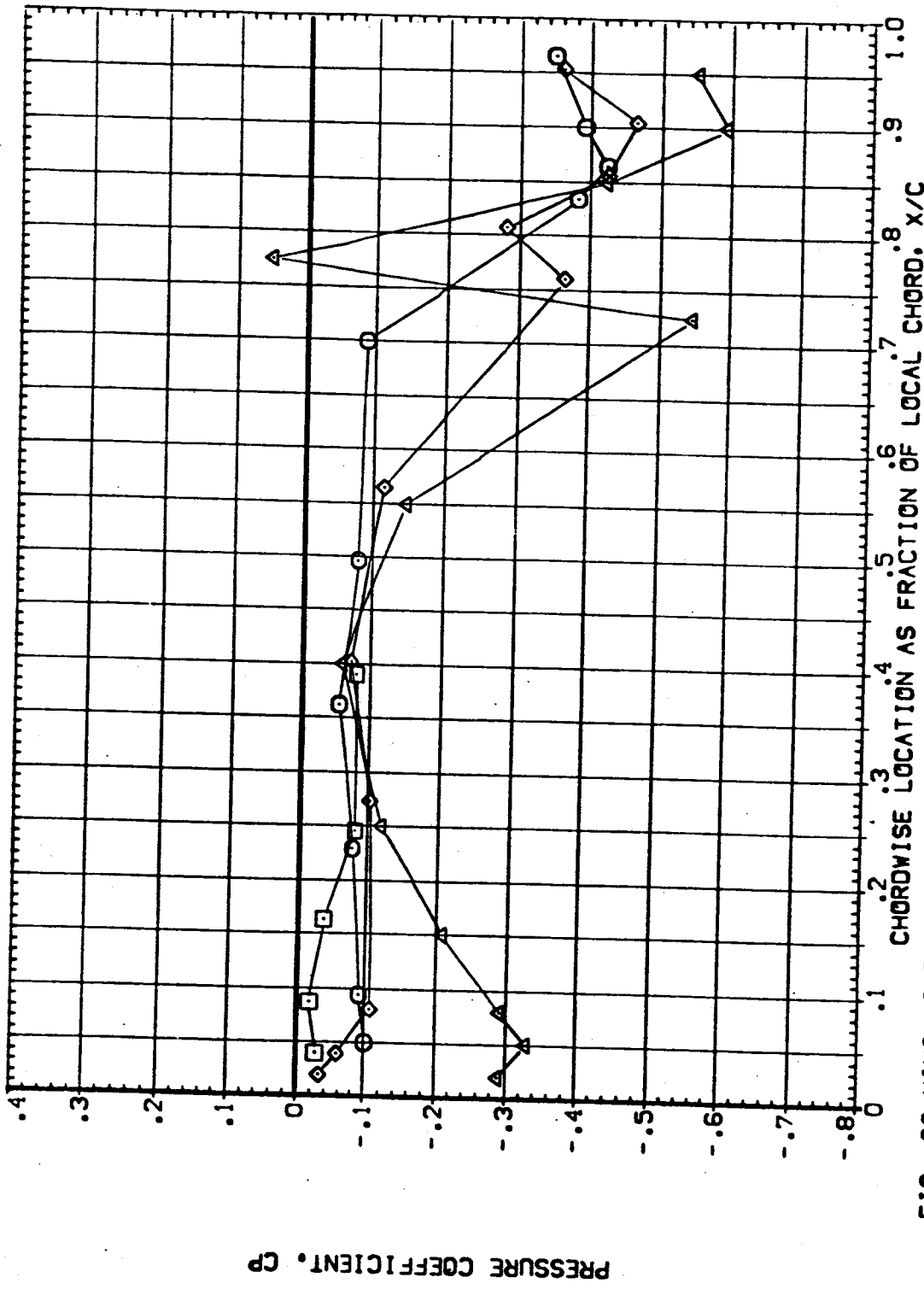


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(CEUW01)

SYMBOL Z1/B BETA ALPHA ELV-18 ELV-08 PARAMETRIC VALUES
 .641 -1.000 .000 RUDER MACH 4.000
 .780 GIMBAL .900
 .887 1.000

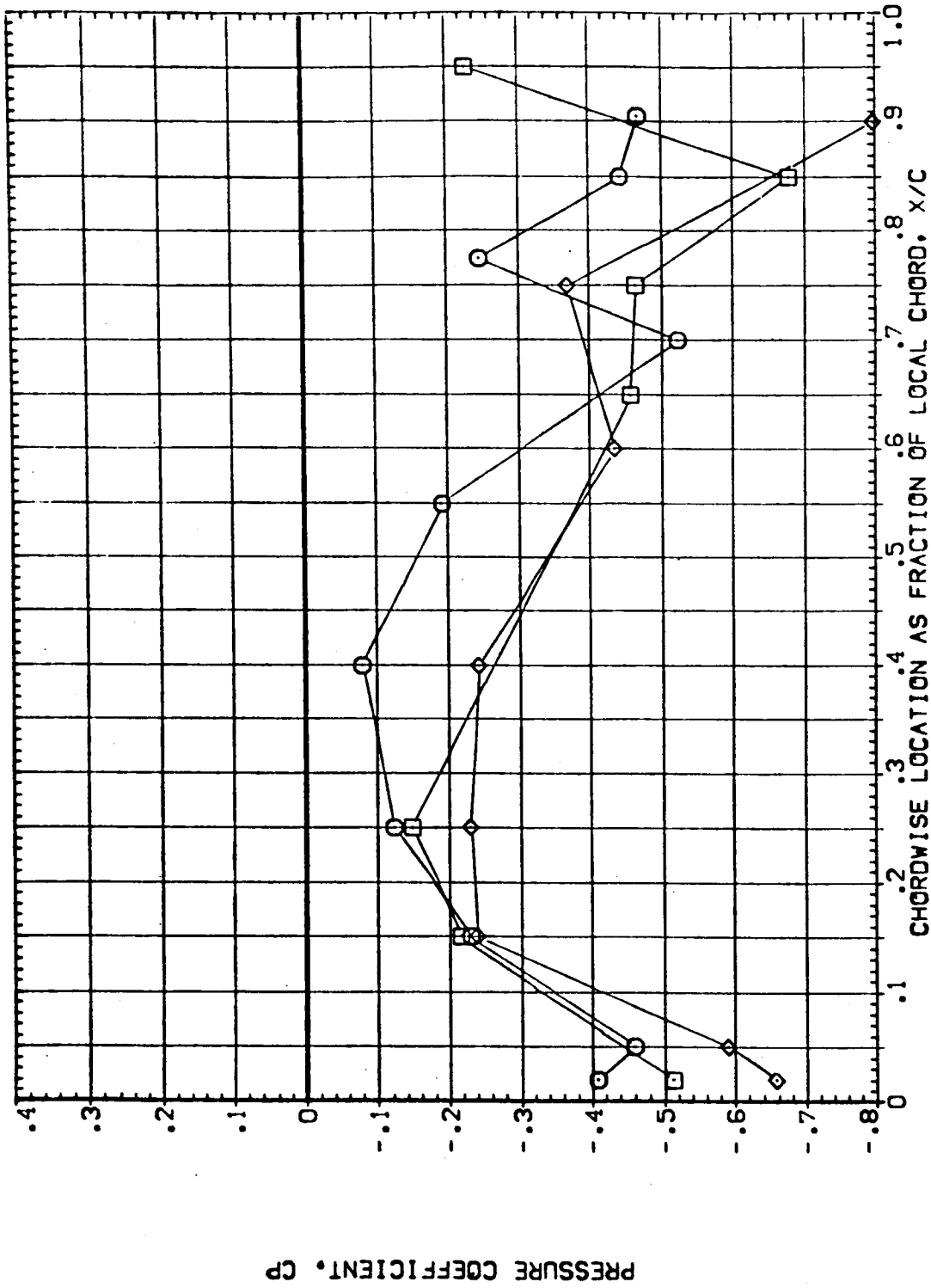


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(CEUW01)

SYMBOL Z1/B BETA ALPHA
 ◊ .299 4.000 .000
 ◻ .364
 ○ .427
 △ .534

PARAMETRIC VALUES
 ELV-19 8.000 ELV-09 4.000
 RUDDER .000 MACH
 GIMBAL 1.000

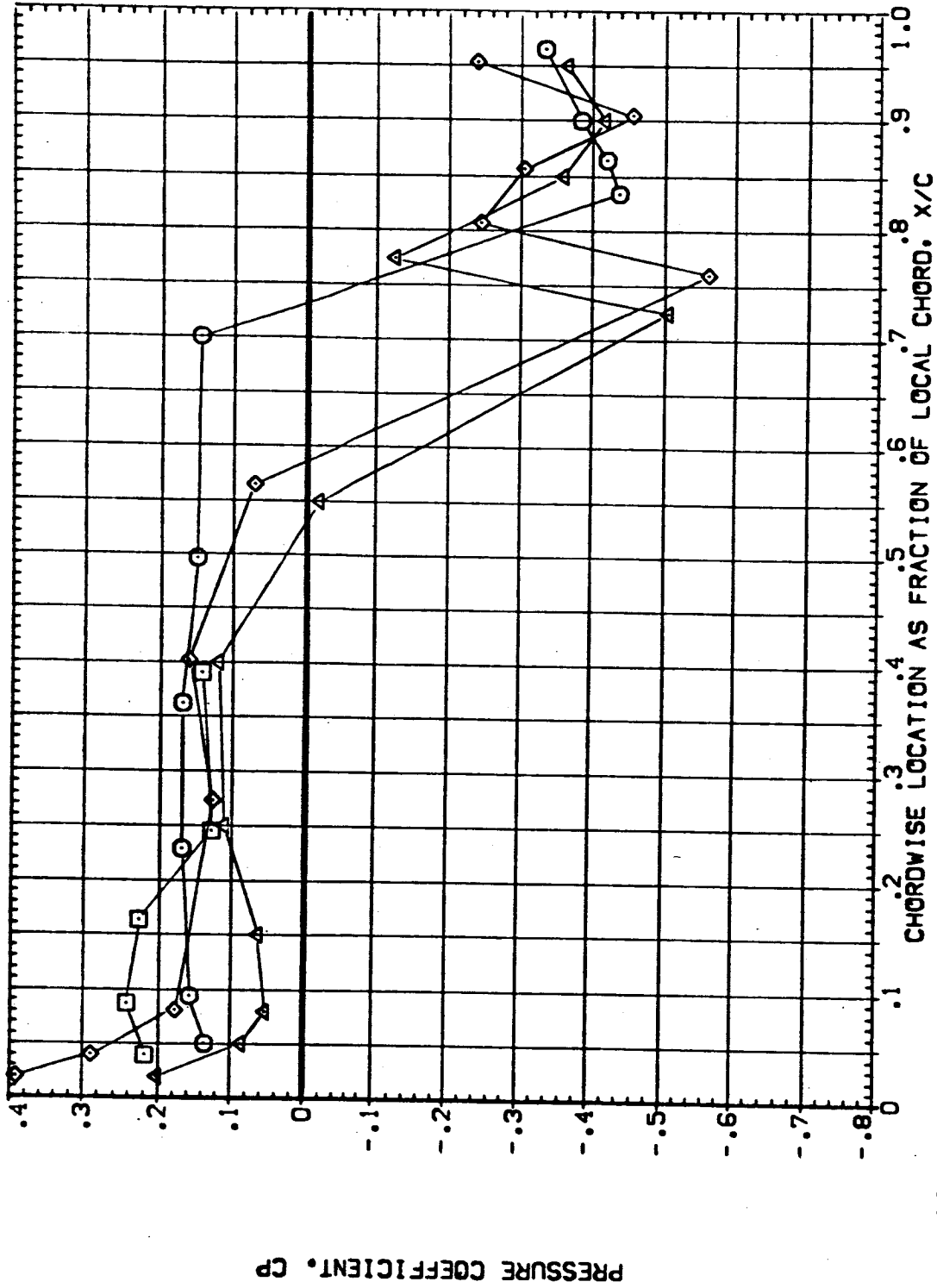


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(CEUW01)

SYMBOL: \square \diamond
 2Y/B .641 BETA 4.000 ALPHA .000
 .780
 .687

PARAMETRIC VALUES
 8.000 ELV-08 4.000
 .000 MACH .900
 1.000 GIMBAL

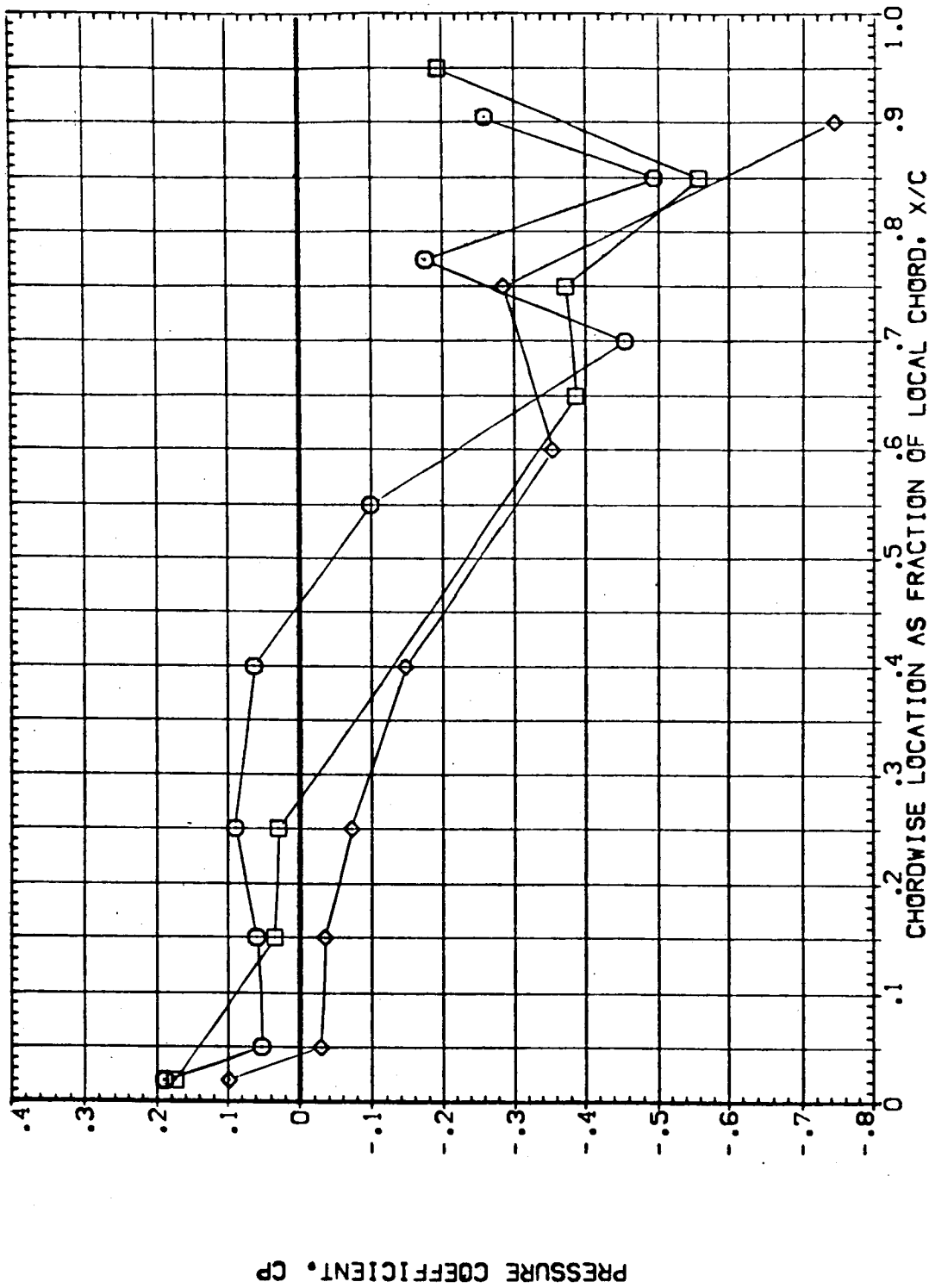


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(BEUW02)

SYMBOL	2 γ / δ	BETA	ALPHA	ELV-18	ELV-DB
○	.299	.000	-4.000	8.000	1.000
□	.364			.000	MACH
◇	.427			1.000	
△	.534			GIMBAL	1.000

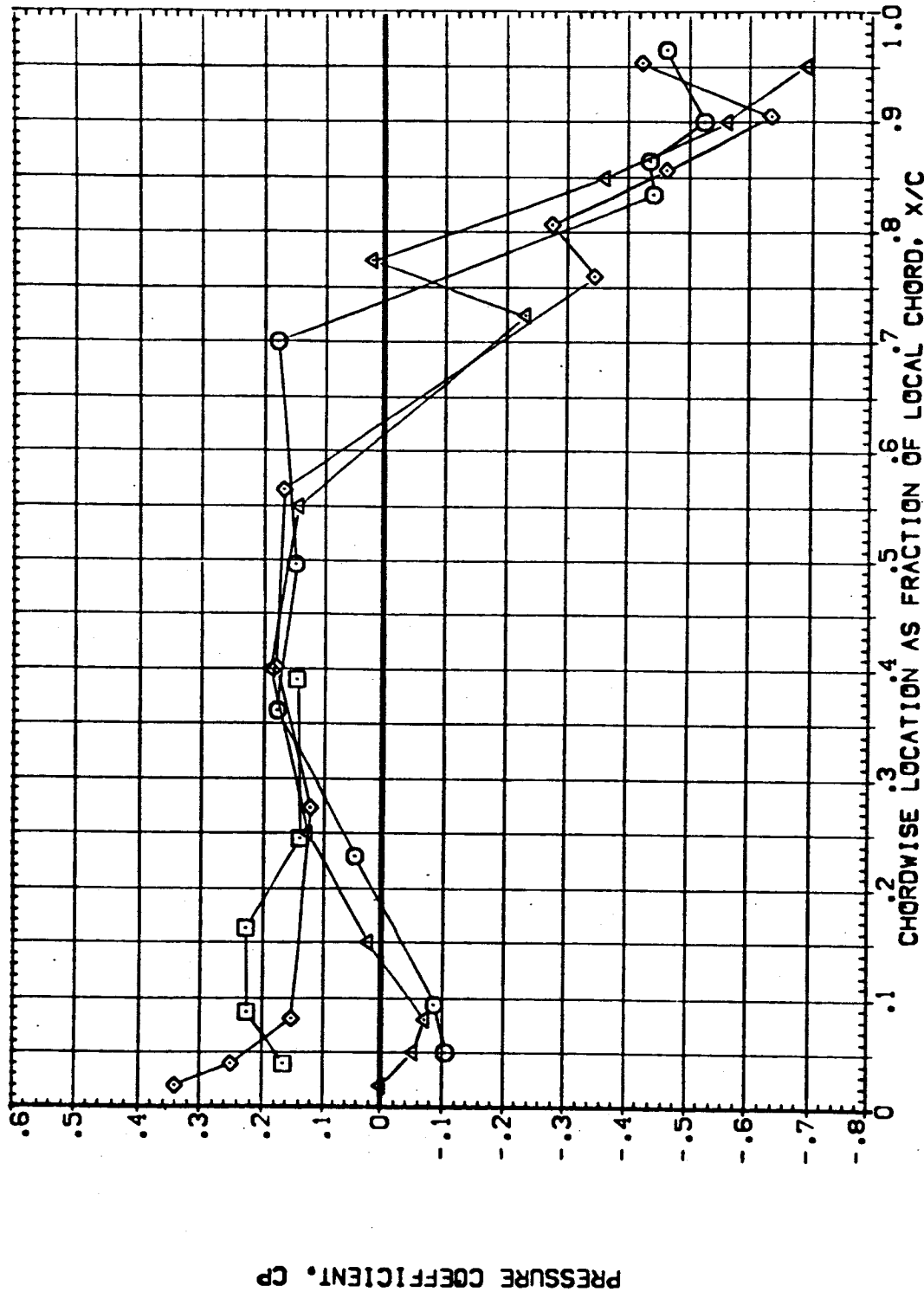


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(BEUW02)

SYMBOL Z1/B BETA ALPHA
 ○ .641 .000 -4.000
 □ .760
 ◇ .687

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

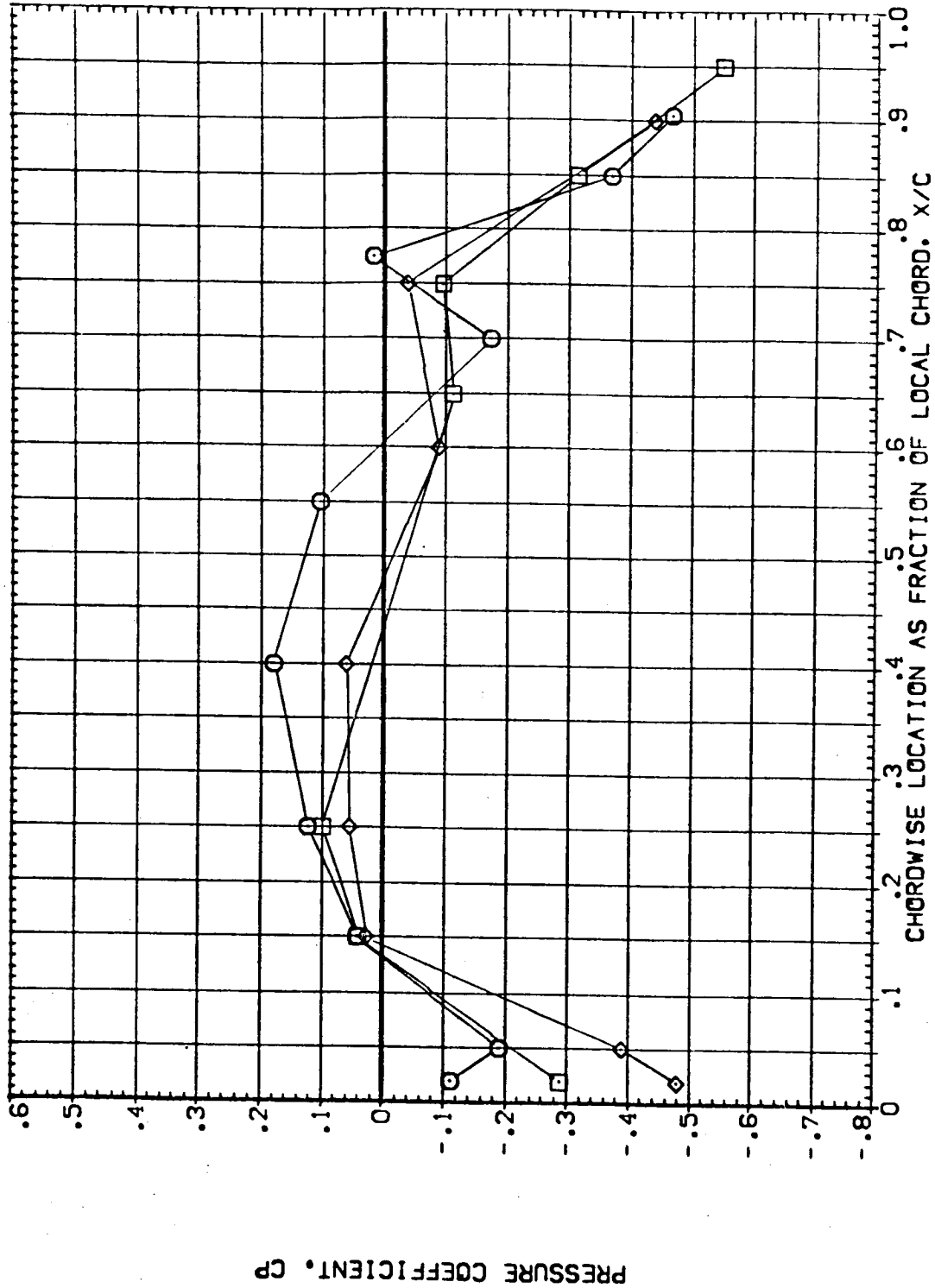


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING (BEUW02)

PARAMETRIC VALUES
 8.000 ELV-08 4.000
 .000 MACH 1.100

ELV-18
 RUDDER
 GIMBAL

SYMBOL 21/8 BETA ALPHA
 .299 .000 .000
 .364
 .427
 .534

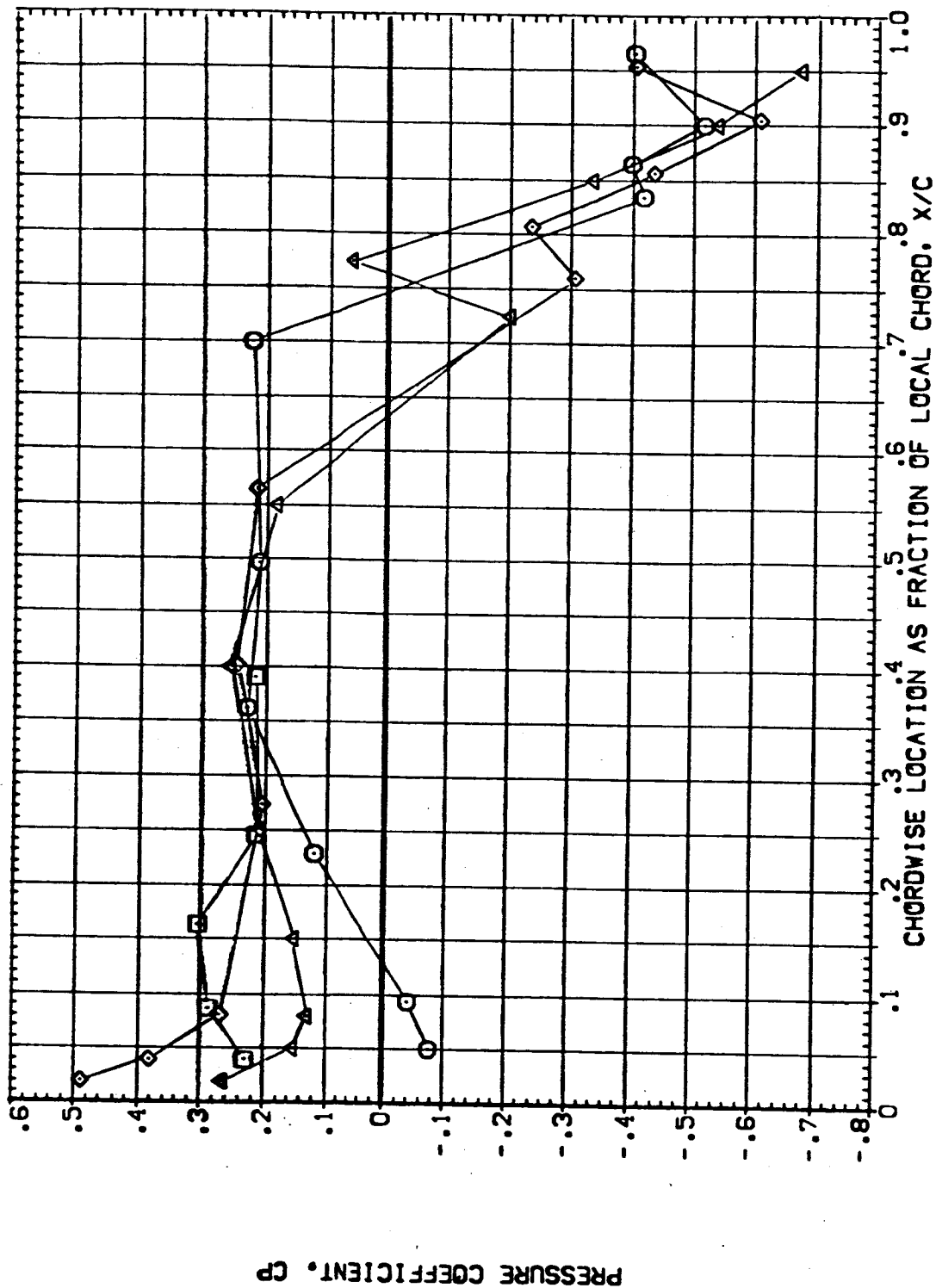


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING (BEUW02)

SYMBOL 2Y/B BETA ALPHA

○ .641 .000

□ .780 .000

◇ .687 .000

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000

RUDDER .000 MACH 1.100

GIMBAL 1.000

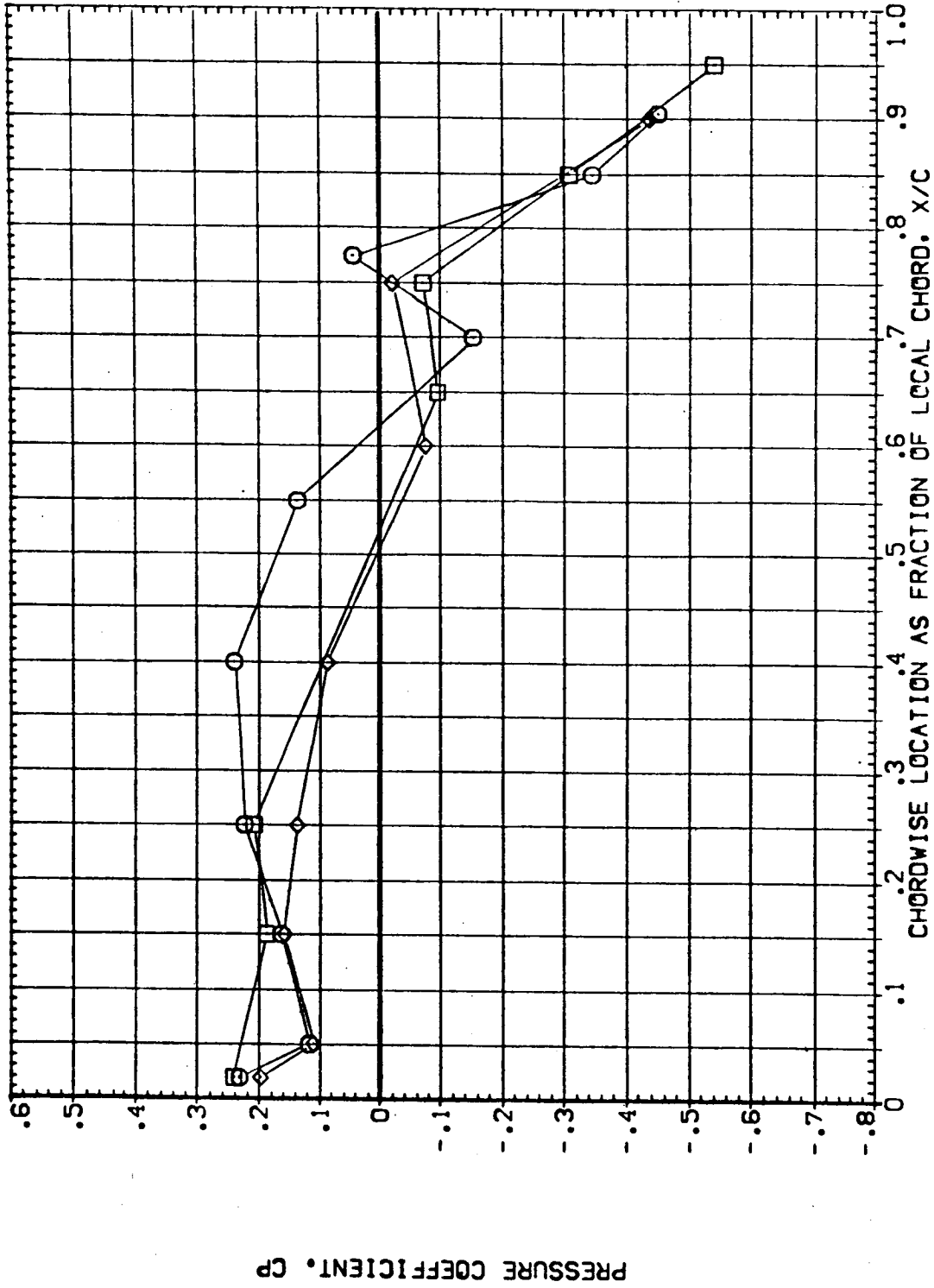


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(BEUW02)

SYMBOL ZY/B BETA ALPHA

○ .299 .000 4.000

□ .364 .000 4.000

◇ .427 .000 4.000

△ .534 .000 4.000

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000

RUDER .000 MACH 1.100

GIMBAL 1.000

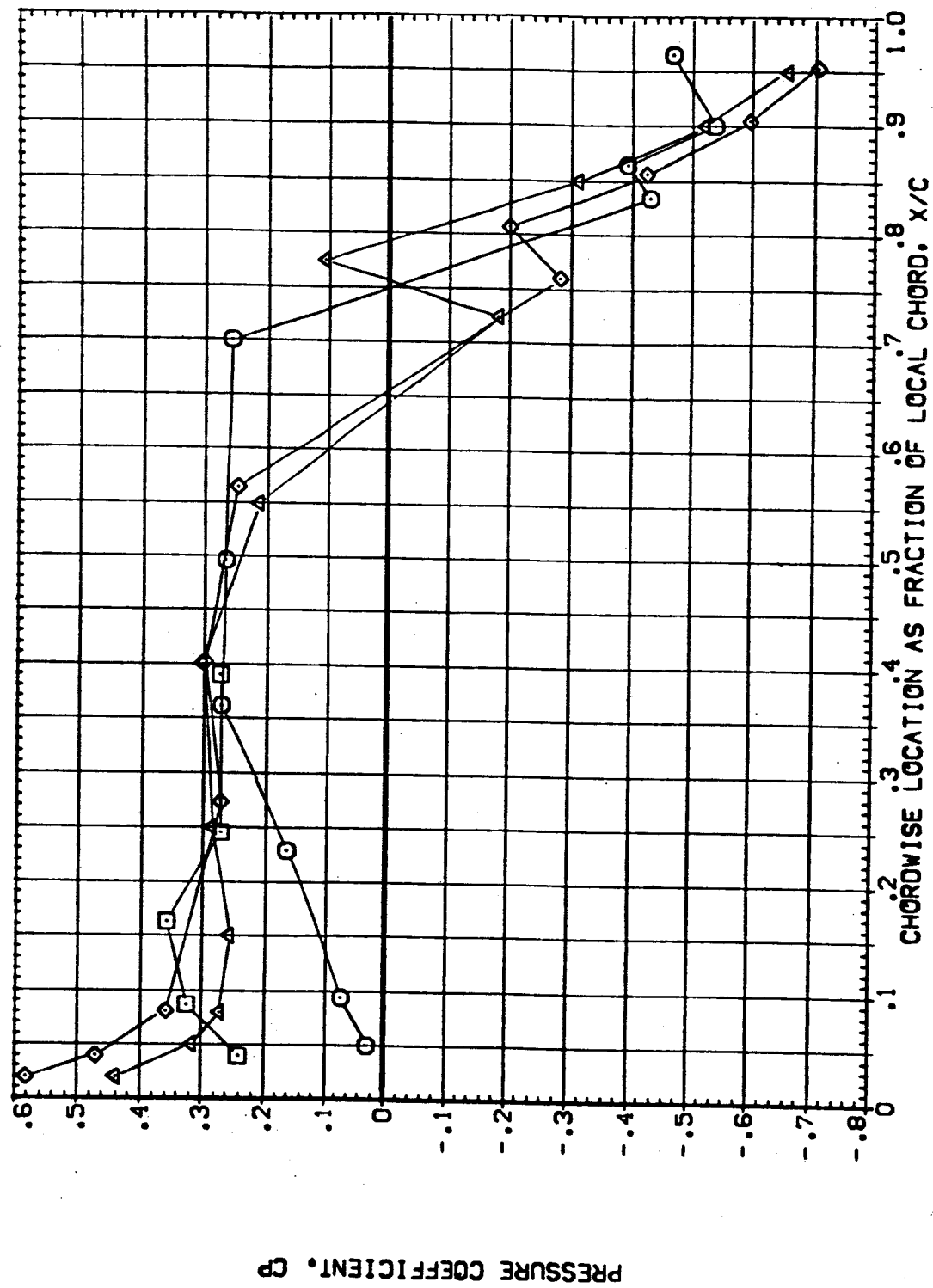


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+SIRUT SRB-OFF MPS-OFF LWR WING(BEUW02)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

SYMBOL 2Y/B BETA ALPHA
 ○ .641 .000 4.000
 □ .780
 ◇ .887

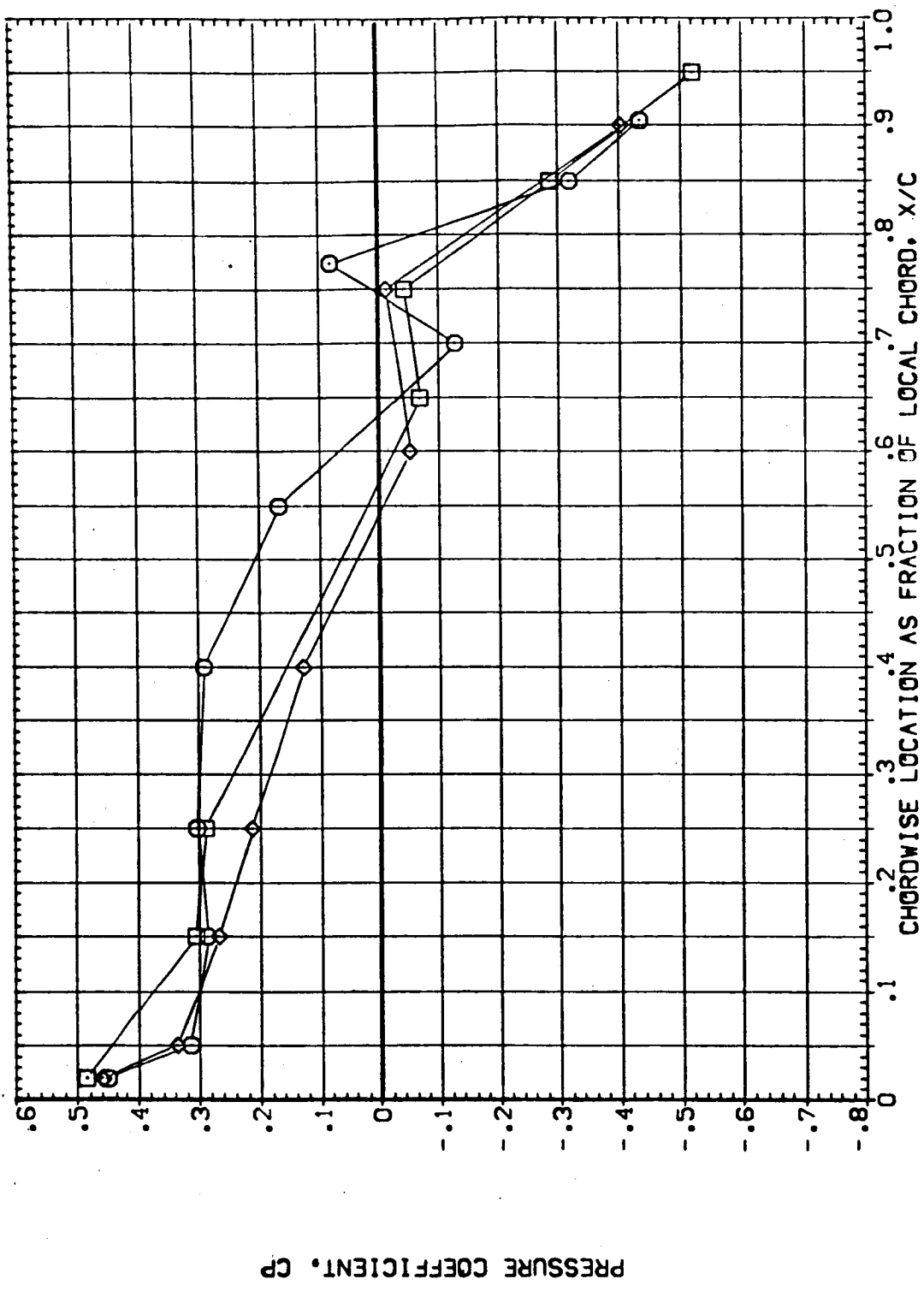


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(CEUW02)

SYMBOL ZY/B BETA ALPHA
 ○ .299 -1.000 .000
 □ .364
 ◇ .427
 △ .534

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

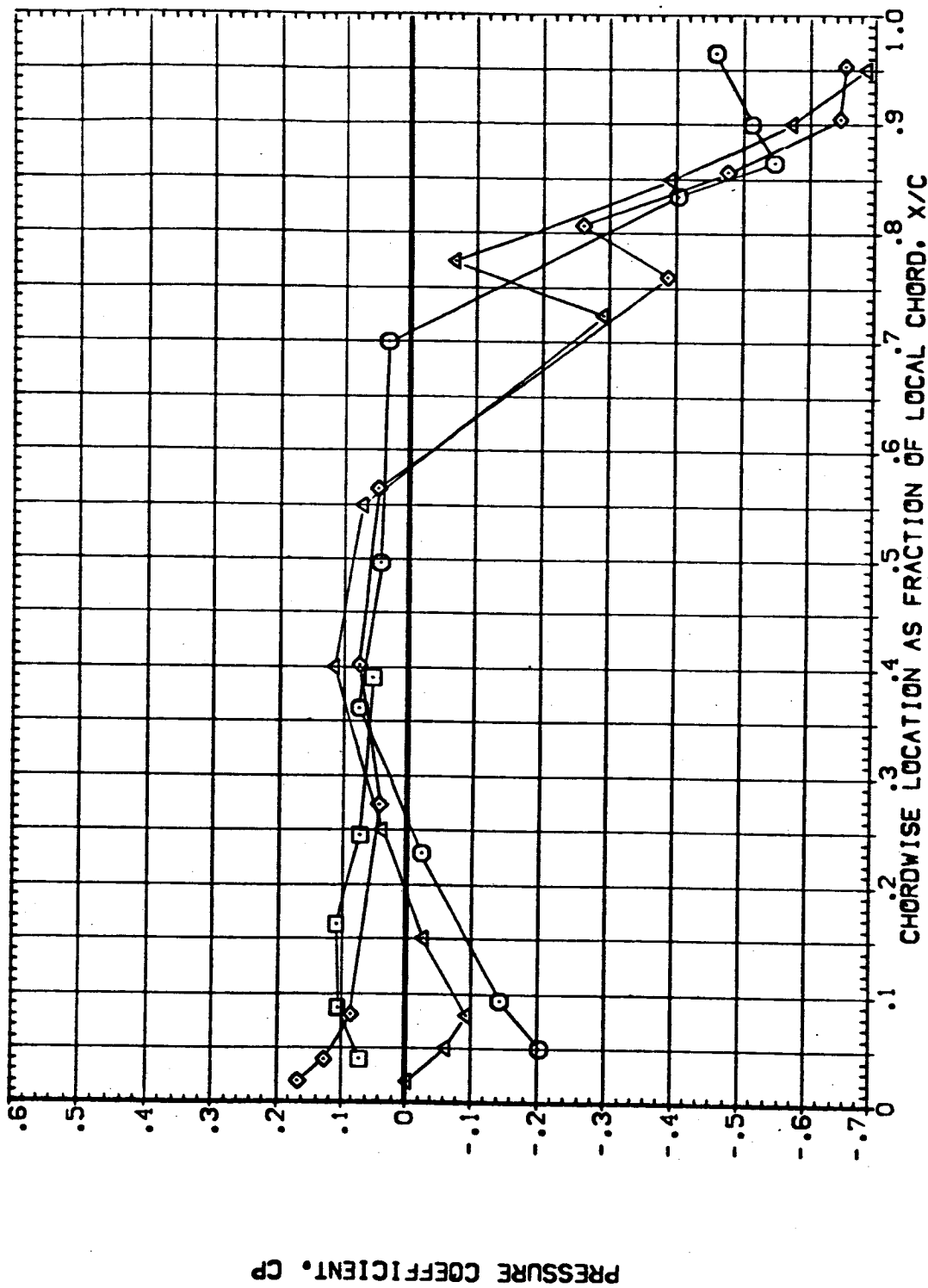


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING (CEUW02)

SYMBOL 2 γ / β BETA ALPHA

○ .641 -1.000 .000

□ .780

◇ .687

PARAMETRIC VALUES

8.000 ELV-OB 4.000

.000 MACH 1.100

1.000

ELV-18

RUDDER

GIMBAL

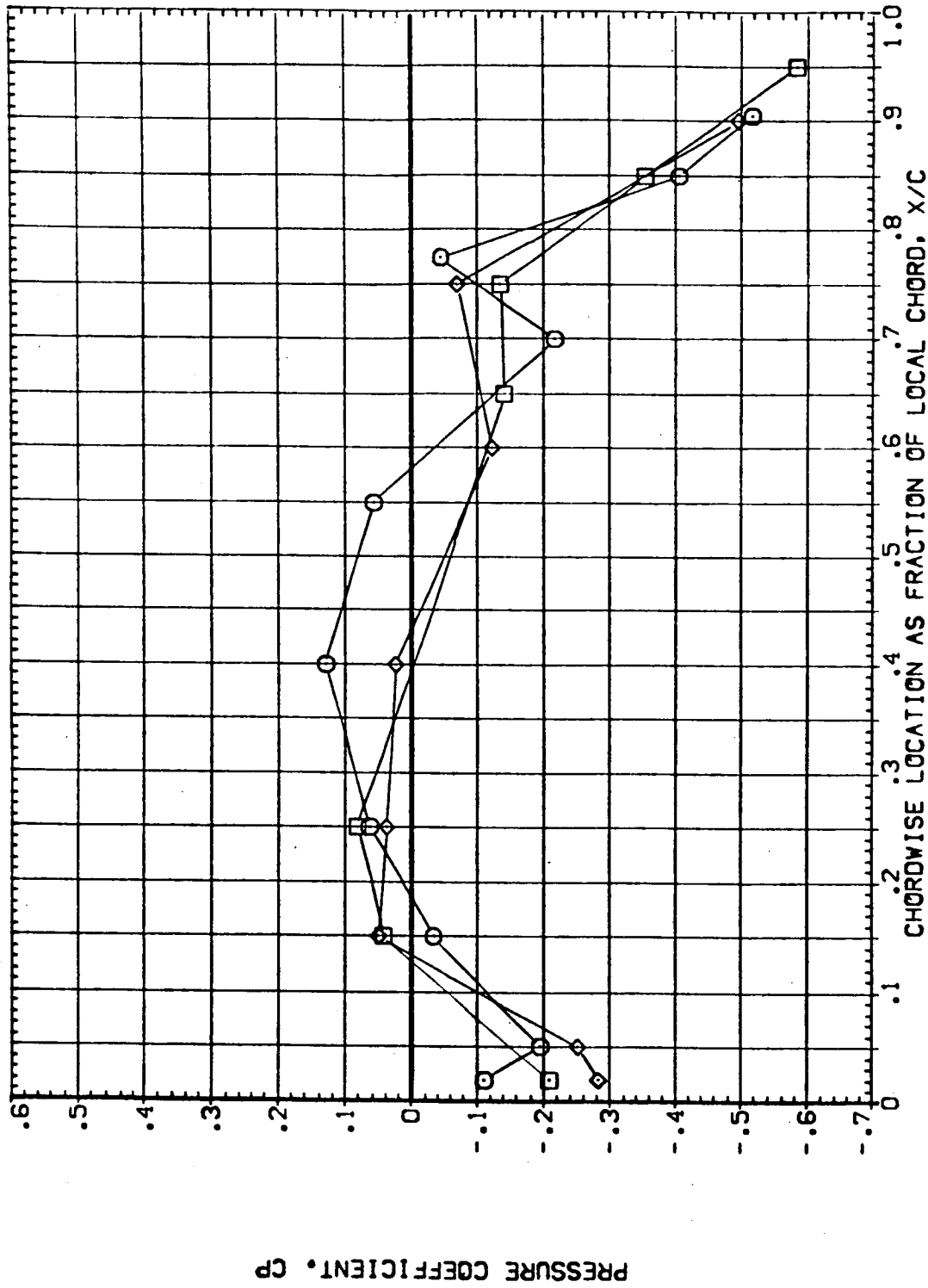


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(CEUW02)

SYMBOL	2 γ /8	BETA	ALPHA	ELV-18	PARAMETRIC VALUES
○	.299	4.000	.000	RUDER	8.000
□	.364			GIMBAL	.000
◇	.427				1.000
△	.534				1.000

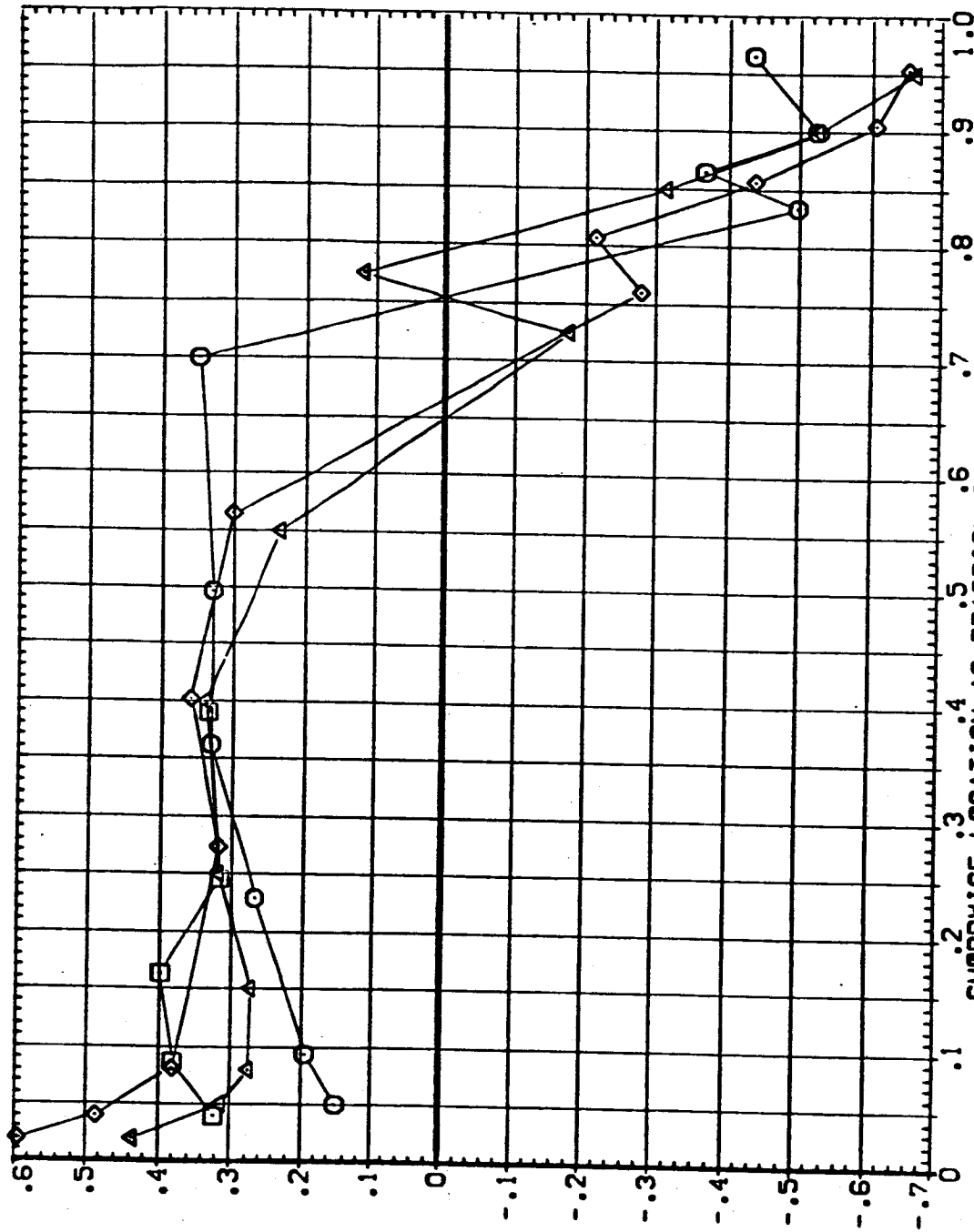


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(CEUW02)

SYMBOL Z1/B BETA ALPHA

PARAMETRIC VALUES
 ELV-18 8.000 ELV-88 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

.641
 .780
 .897

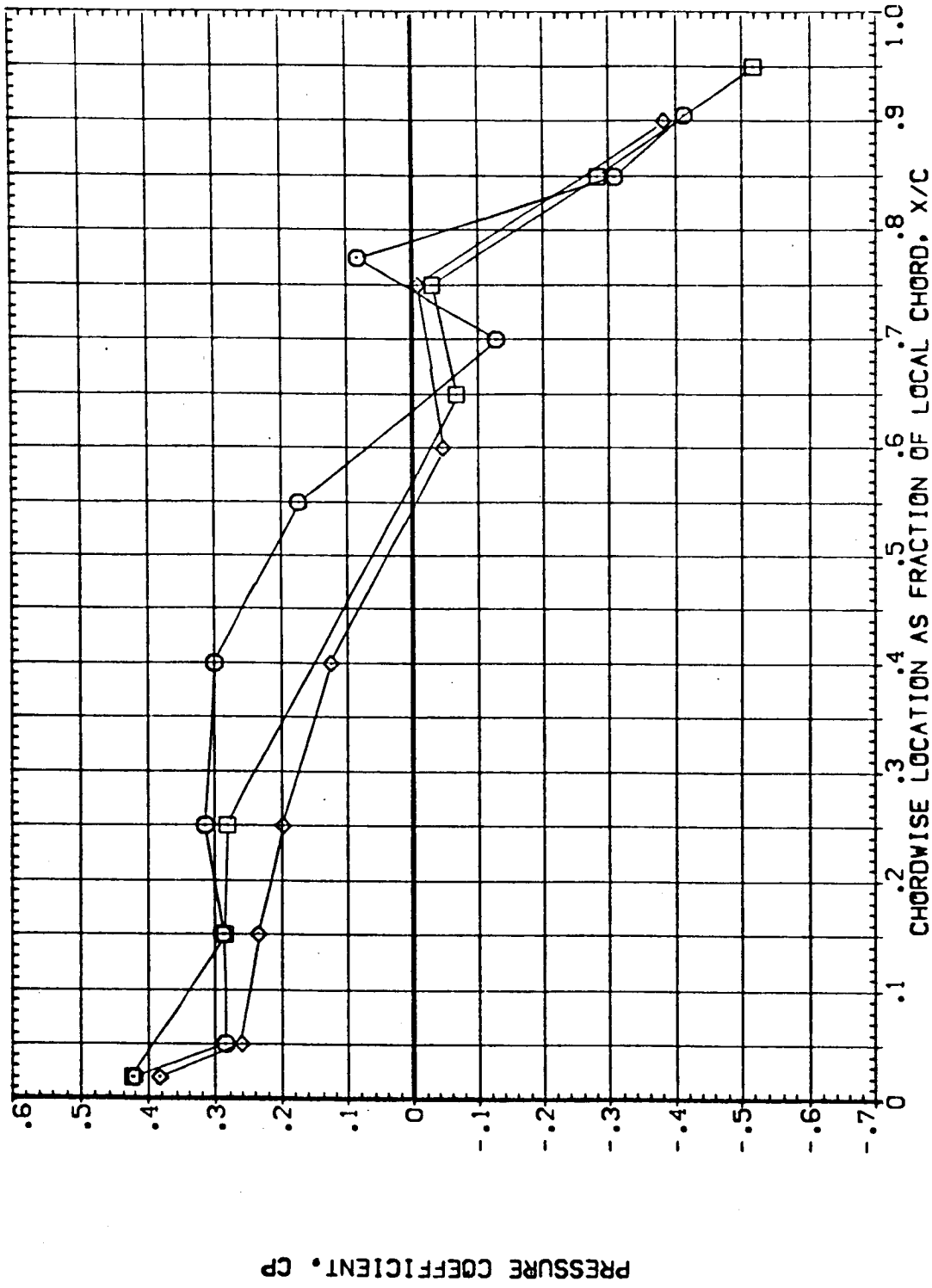


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(BEUW03)

SYMBOL ZY/B BETA ALPHA

○ .298 .000 -1.000

□ .364

◇ .427

▽ .534

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000

RUDER .000 MACH 1.250

GIMBAL 1.000

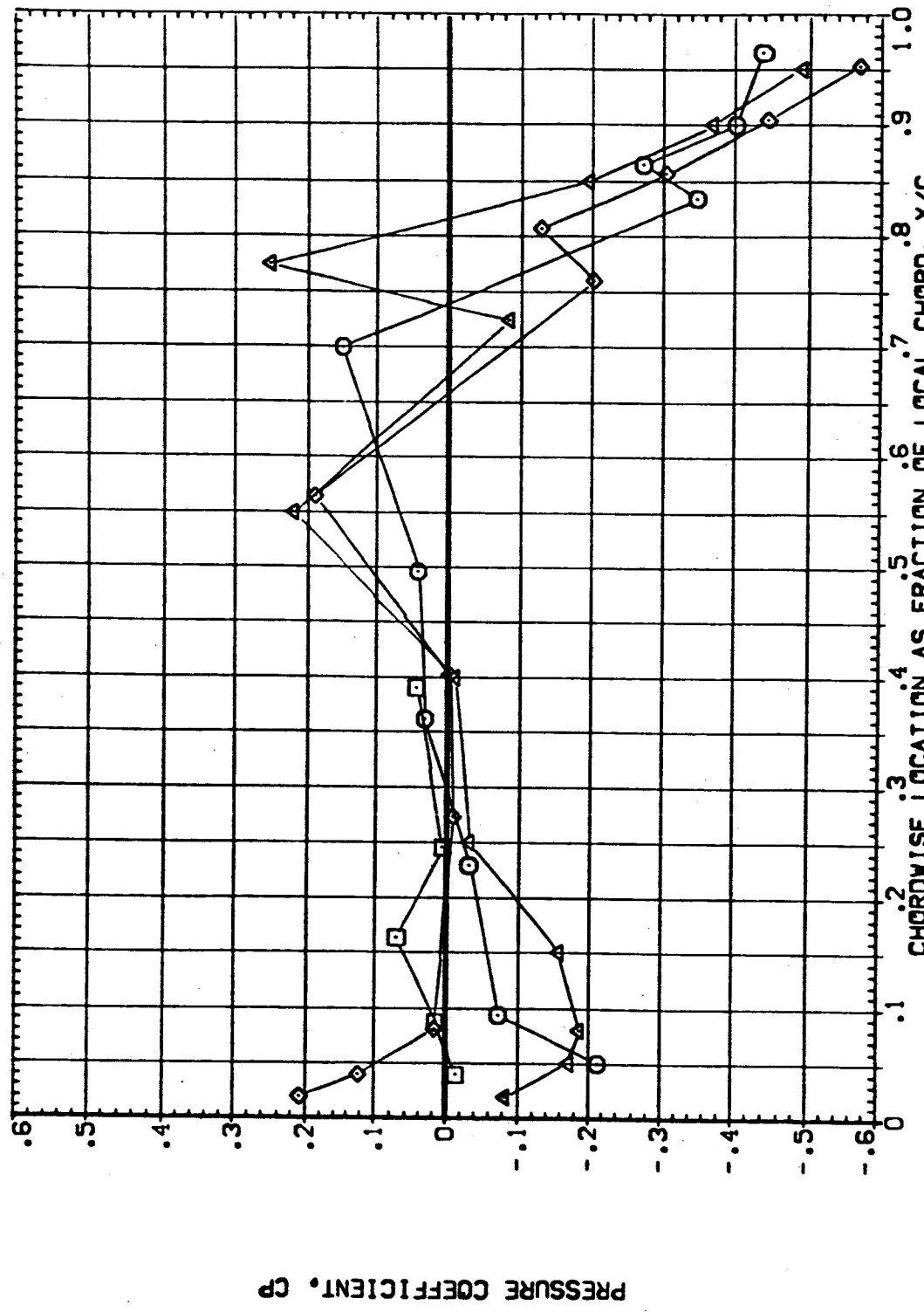


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(BEUW03)

SYMBOL 2 γ /B BETA ALPHA

○ .641 .000 -4.000

□ .780

◇ .887

PARAMETRIC VALUES

ELV-1B 8.000 ELV-0B 1.000

RUDDER .000 MACH 1.250

GIMBAL 1.000

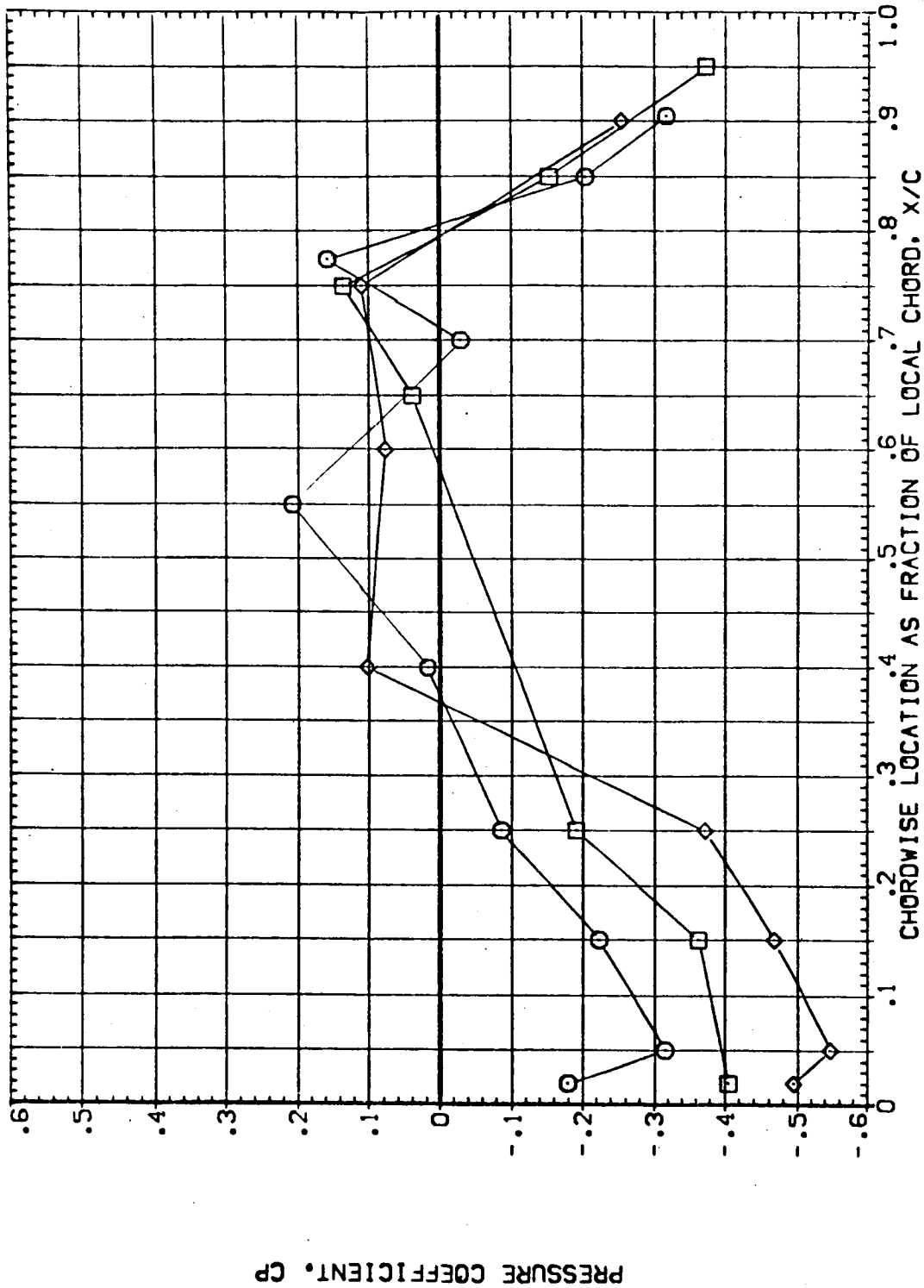


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(BEUW03)

SYMBOL ZY/B BETA ALPHA

○ .299 .000 .000

◇ .364 .000 .000

△ .427 .000 .000

▽ .534 .000 .000

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000

RUDDER .000 MACH 1.250

GIMBAL 1.000

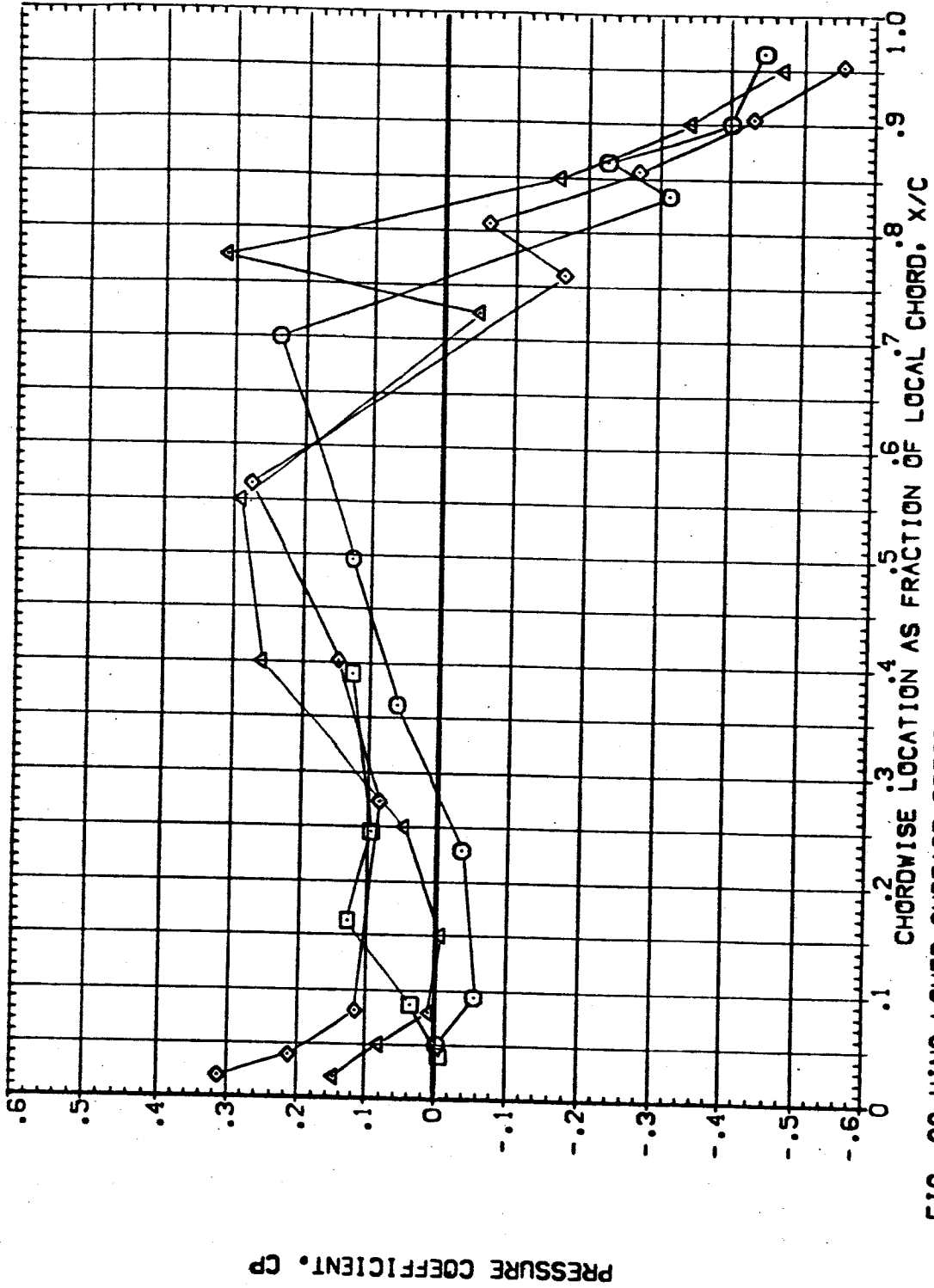


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(BEUW03)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-09 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

SYMBOL
 ◊ ◻ ○

ZY/B BETA ALPHA
 .641 .000 .000
 .780
 .887

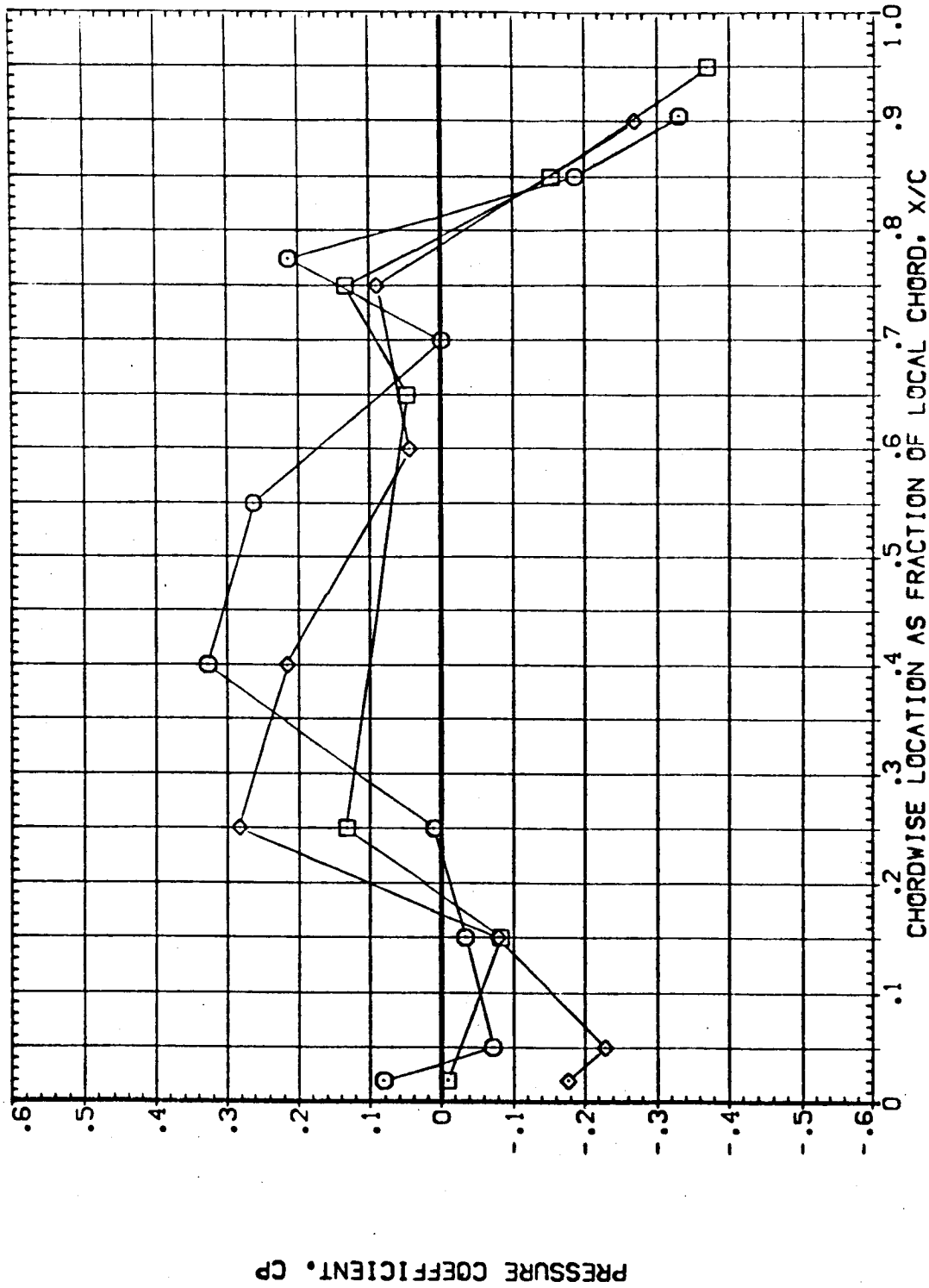


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(BEUW03)

SYMBOL Z1/B BETA ALPHA

□ .259 .000 4.000

◇ .364 .000 1.000

△ .427 .000 1.250

○ .534 1.000 MACH

PARAMETRIC VALUES

ELV-1B 8.000 ELV-CB 4.000

RUDDER .000 MACH 1.250

GIMBAL 1.000

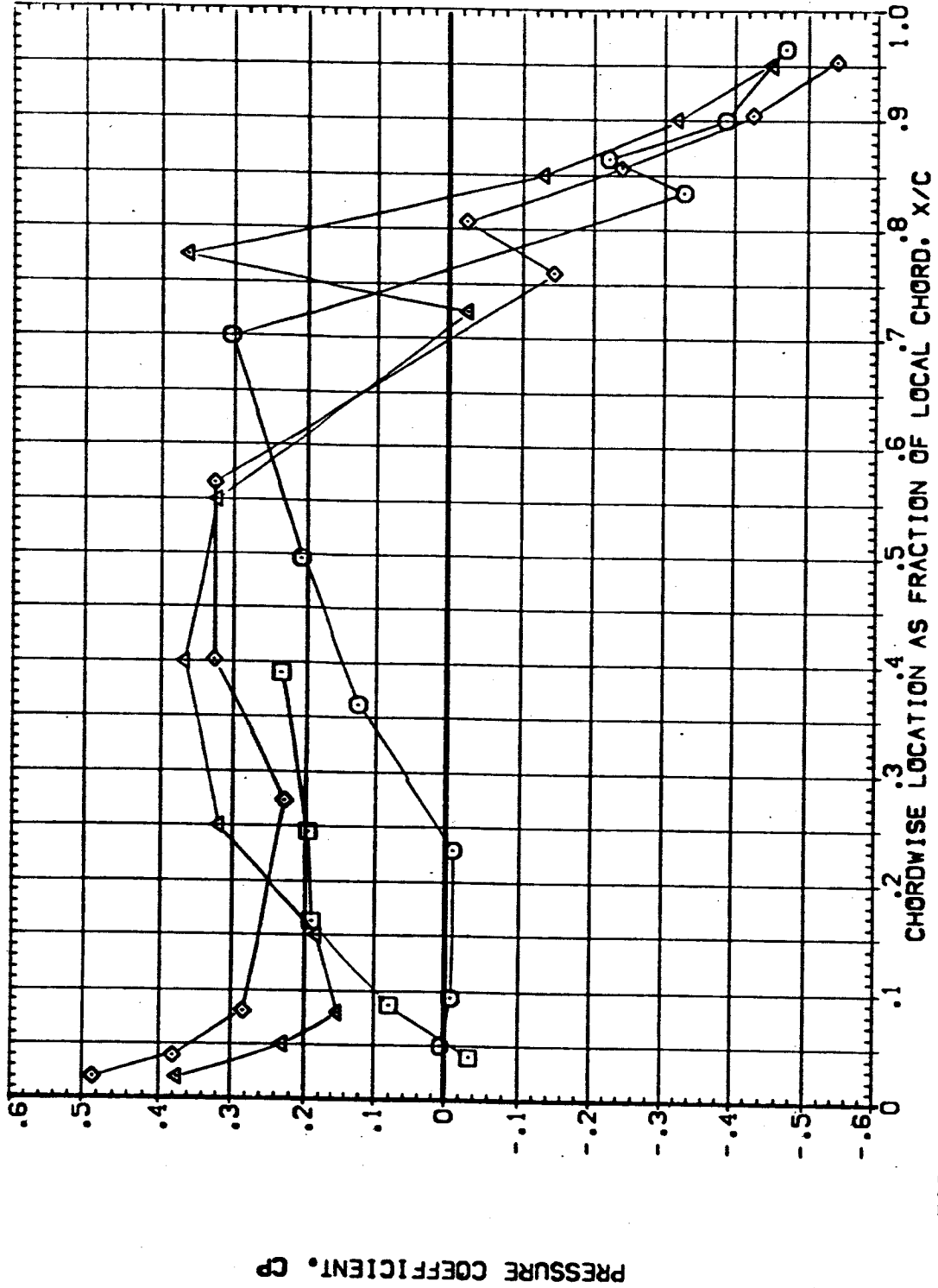


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING (BEUW03)

PARAMETRIC VALUES
 8.000 ELV-09 4.000
 .000 MACH 1.250

ELV-19
 RUDDER
 GIMBAL

BETA ALPHA
 .000 4.000

2 γ / δ
 .641
 .780
 .887

SYMBOL
 ○ □ ◇

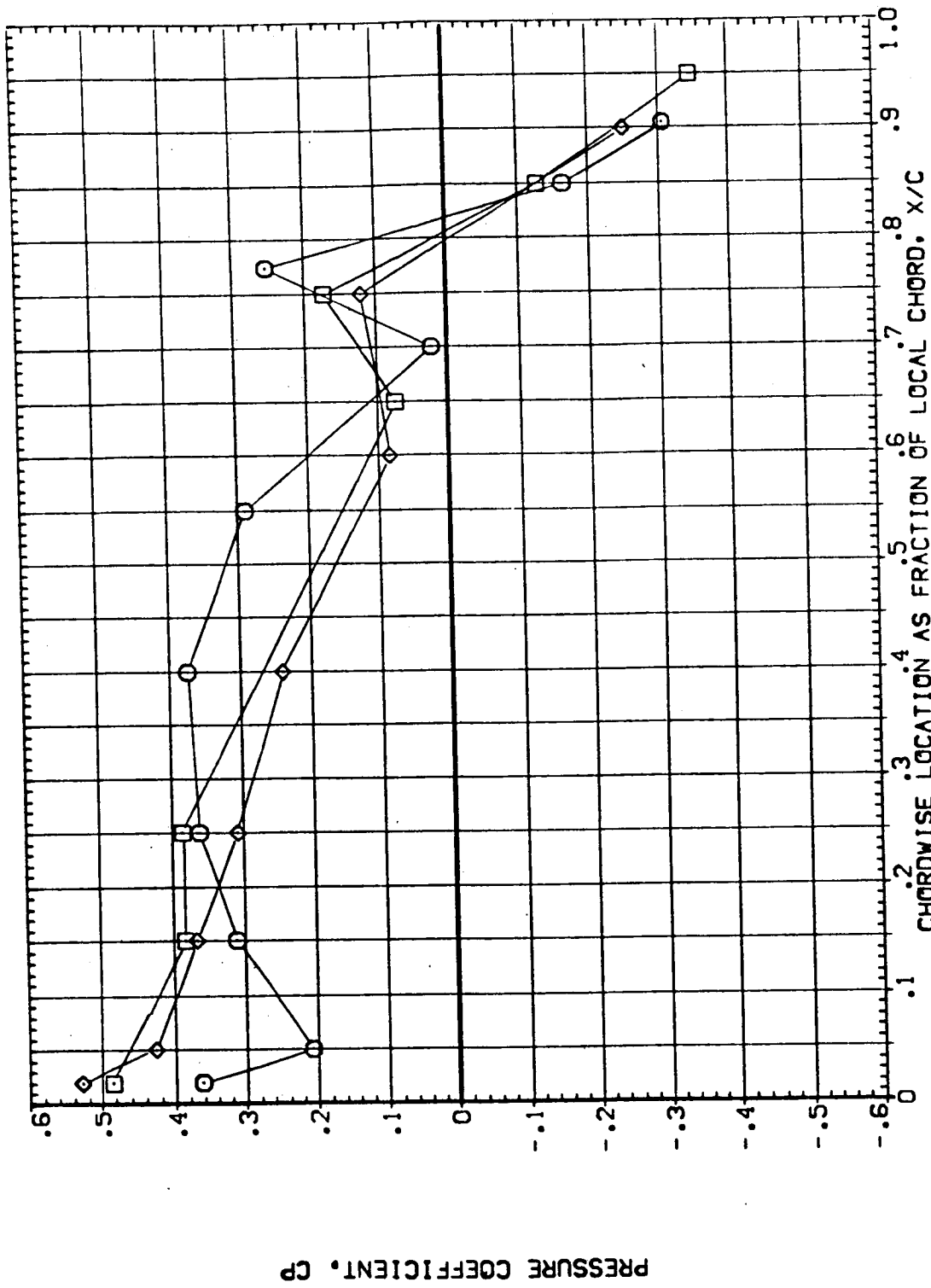
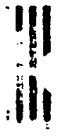


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF



ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(CCEUW03)

SYMBOL ZV/B BETA ALPHA
 ○ .299 -1.000 .000
 □ .364
 ◇ .427
 △ .534

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

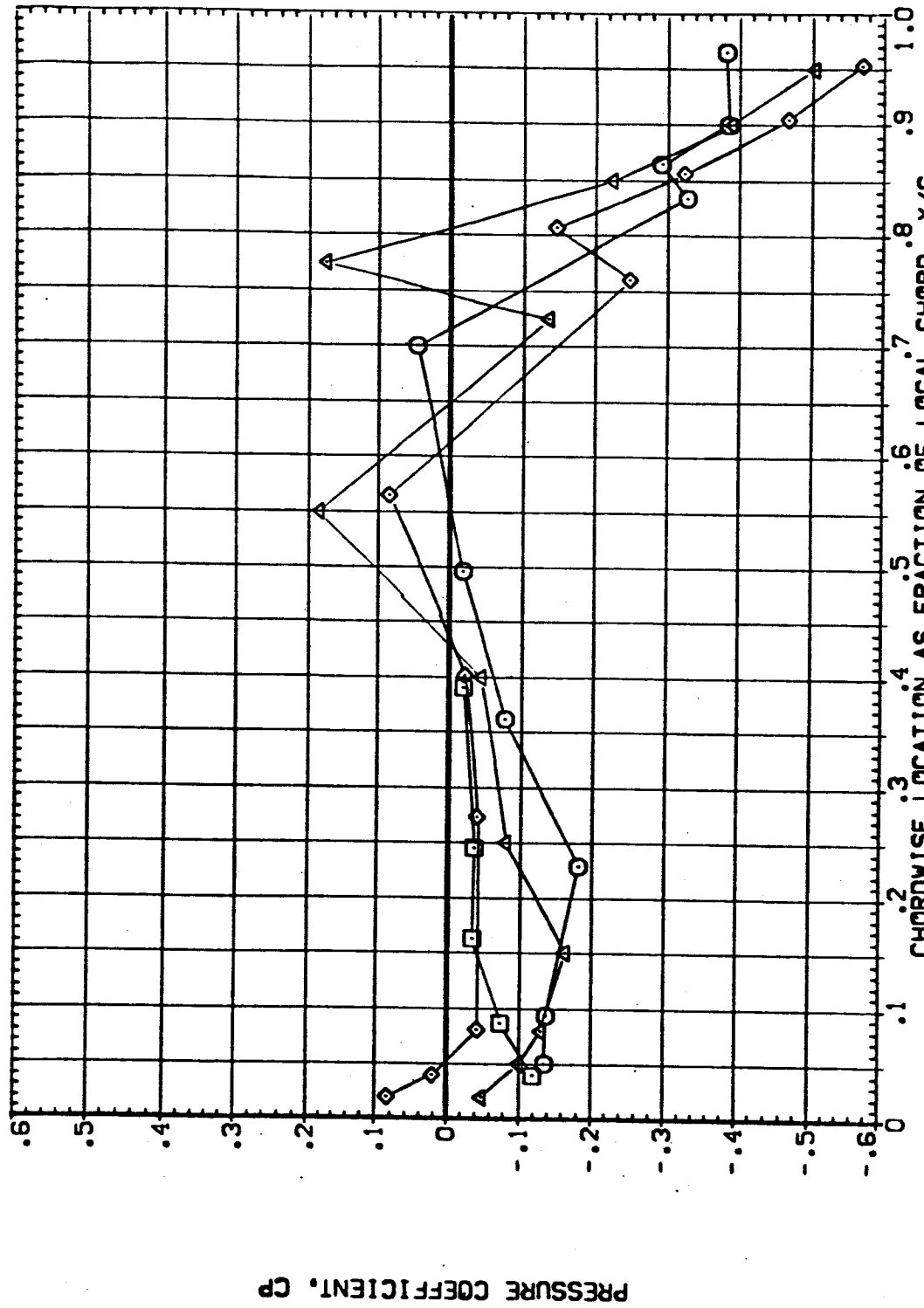


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(CEUW03)

SYMBOL: \circ \square \diamond
 Z1/B .641 BETA -4.000 ALPHA .000
 .780
 .687

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

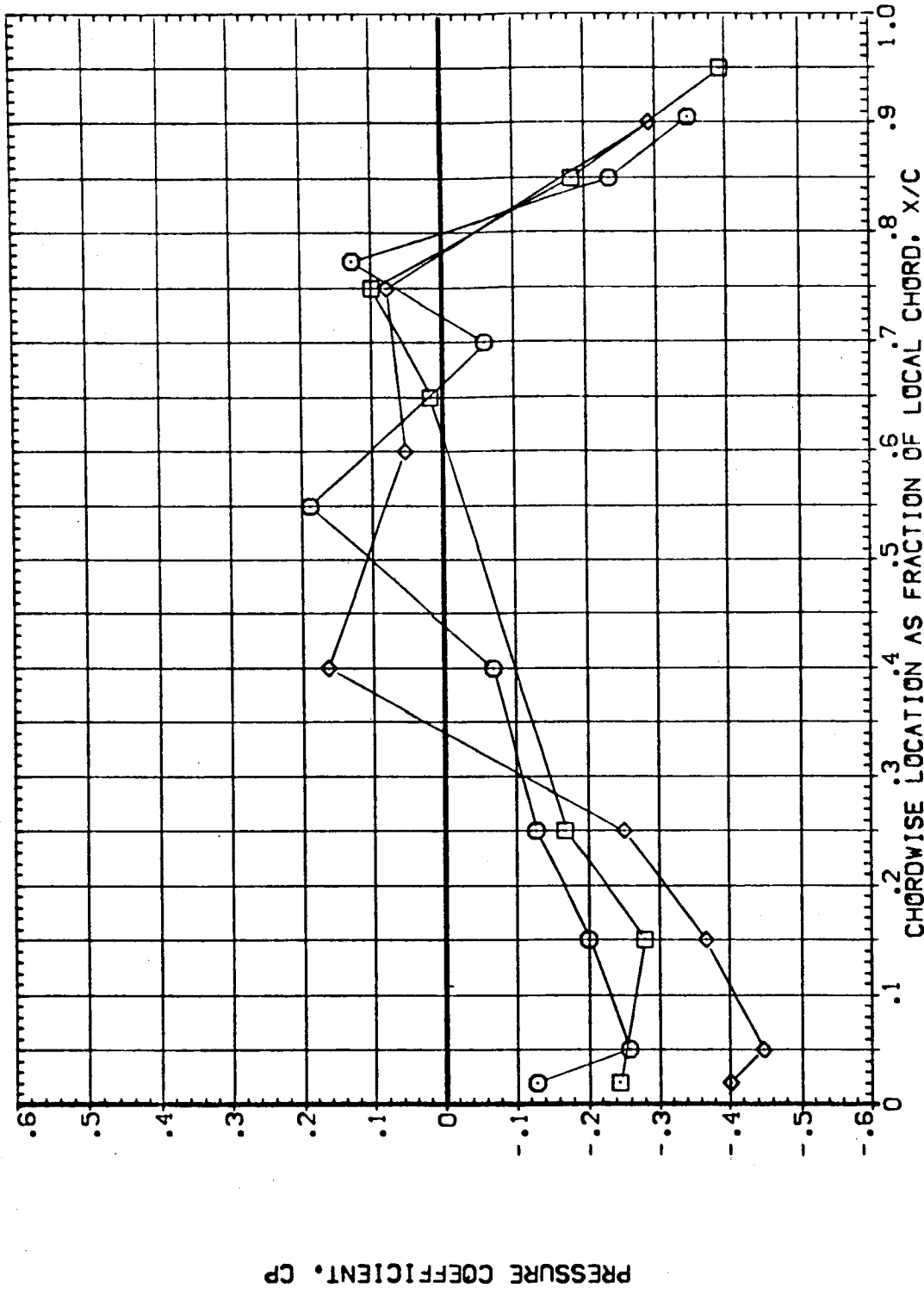


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF



ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(CEUW03)

SYMBOL Z1/B BETA ALPHA
 ○ .299 4.000 .000
 □ .364
 ◇ .427
 △ .534

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

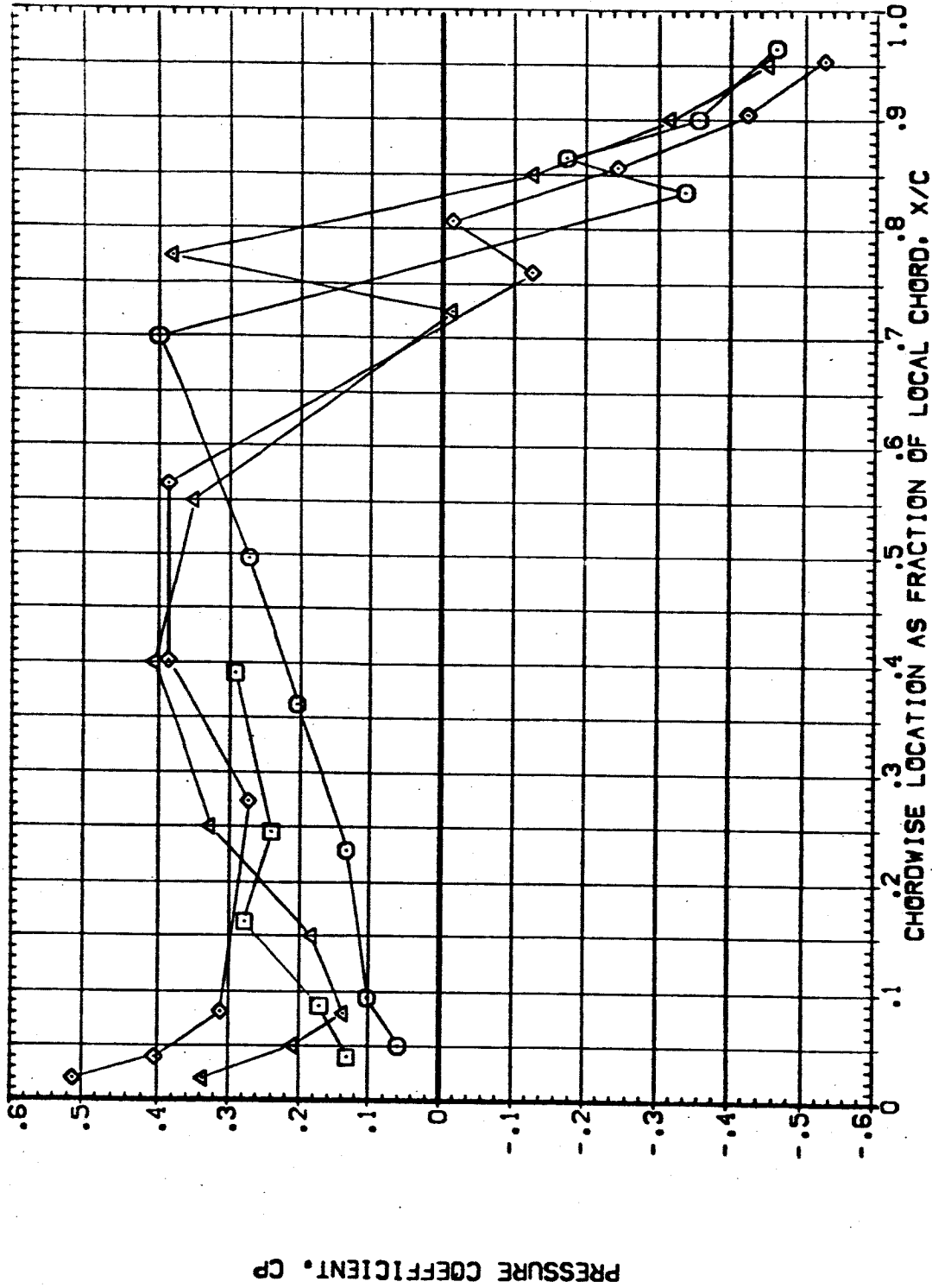


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(CCEUW03)

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-09 1.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

SYMB. Z1/B BETA ALPHA
 ○ .641 4.000 .000
 □ .780
 ◇ .887

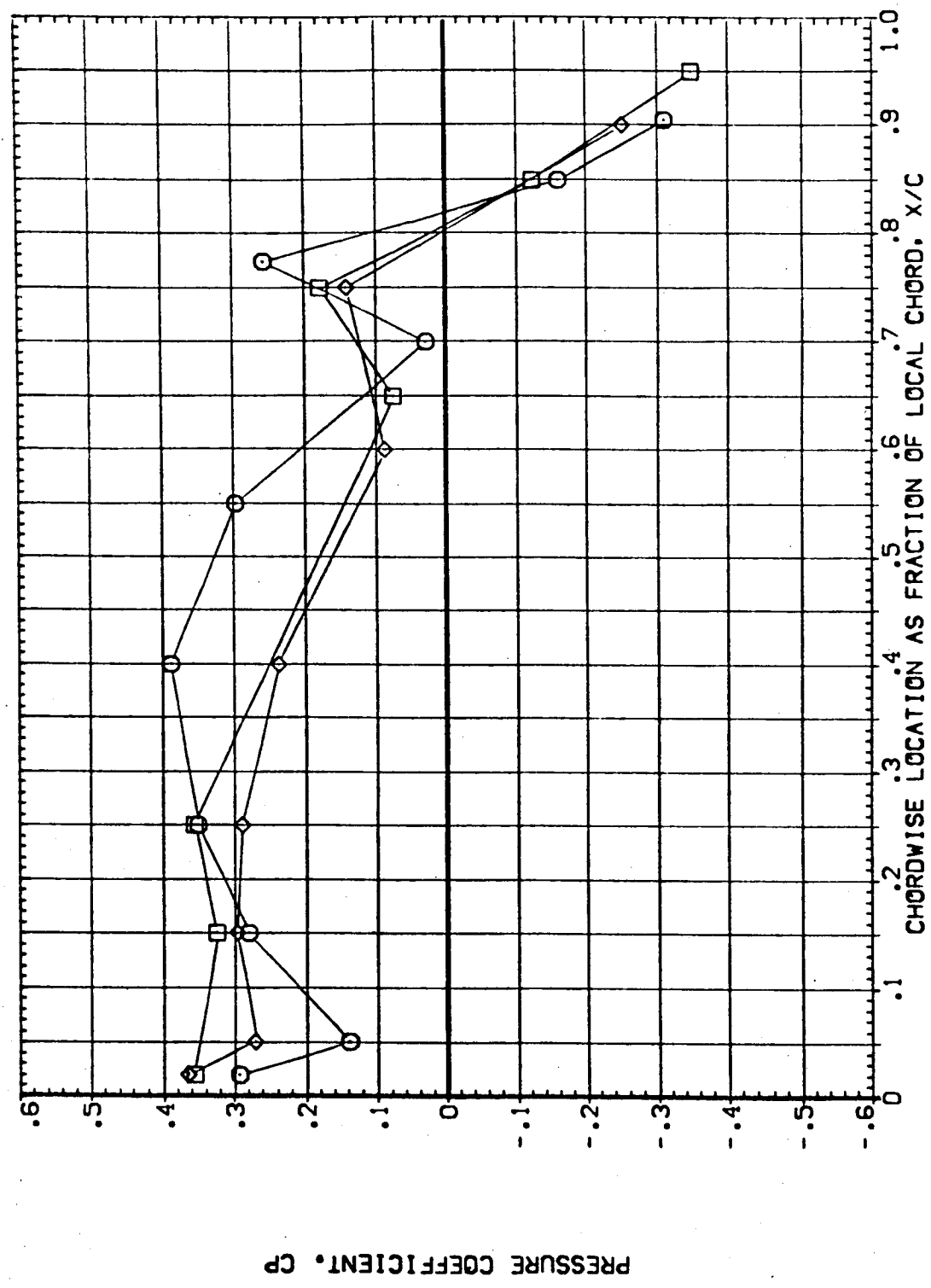


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(BEUW04)

SYMBOL	2 γ / θ	BETA	ALPHA	PARAMETRIC VALUES
\diamond	.299	.000	-4.000	ELV-18 8.000 ELV-09 4.000
\square	.364			RUDER .000 MACH 1.400
\triangle	.427			GIMBAL 1.000
∇	.534			

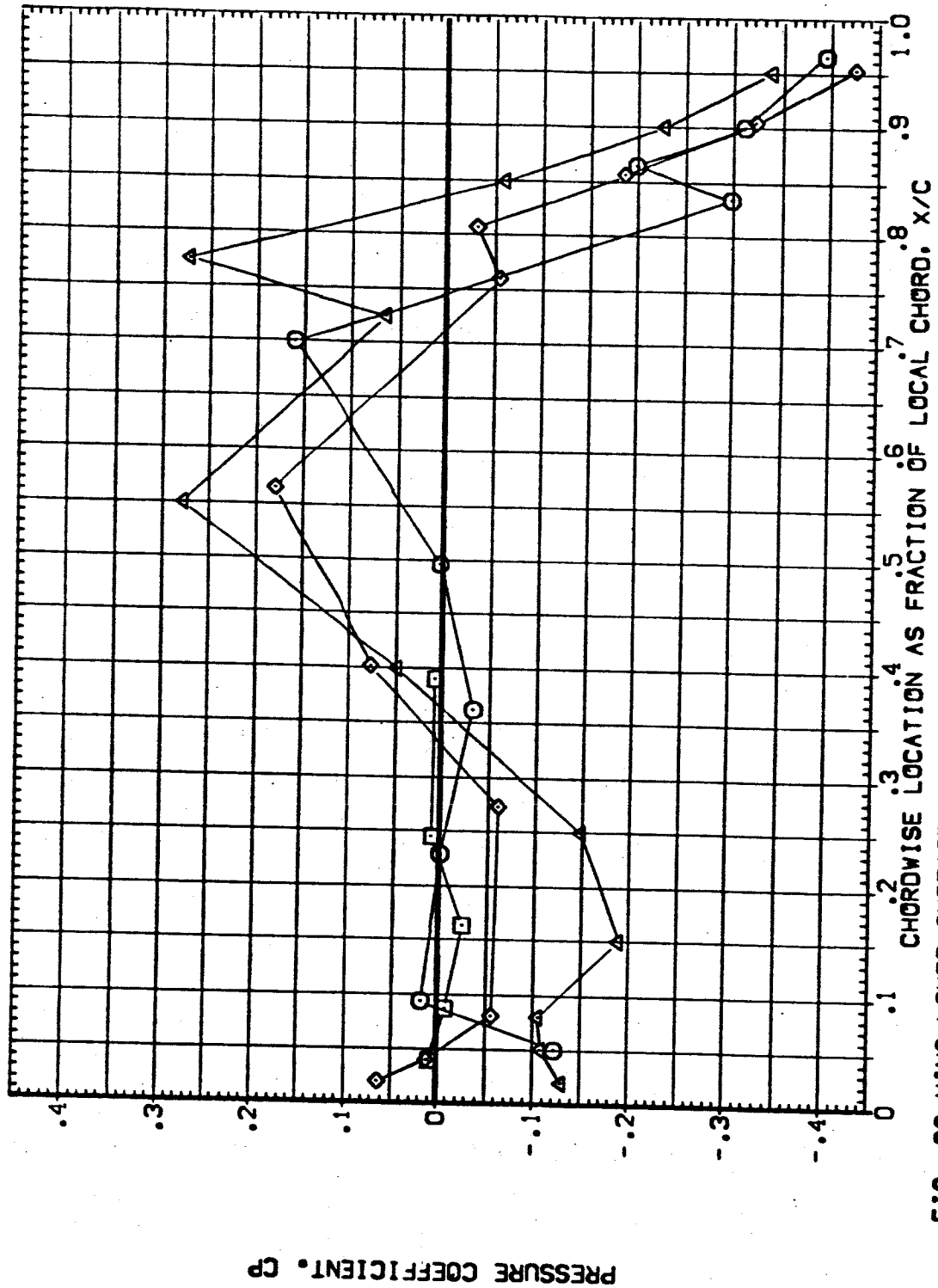


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(BEUW04)

SYMBOL ZY/B BETA ALPHA

○ .641 .000 -1.000

□ .780

◇ .887

PARAMETRIC VALUES

ELV-1B 8.000 ELV-09 4.000

RUDDER .000 MACH 1.400

GIMBAL 1.000

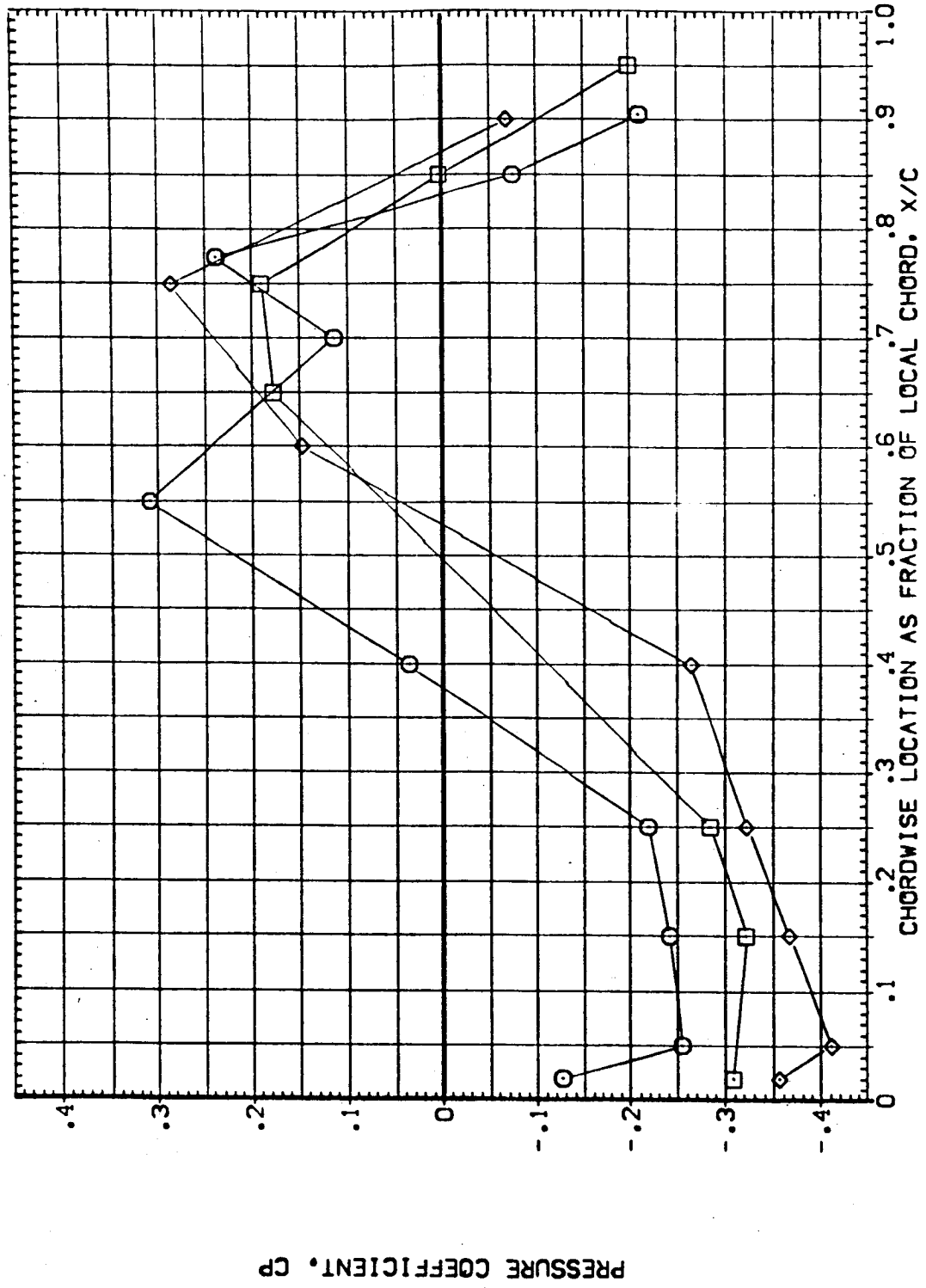


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF



ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(BEUW04)

SYMBOL 27/8 BETA ALPHA

○ .299 .000 .000

□ .364

◇ .427

△ .534

PARAMETRIC VALUES

ELV-18 8,000 ELV-08 4,000

RUDER .000 MACH 1.400

GIMBAL 1,000

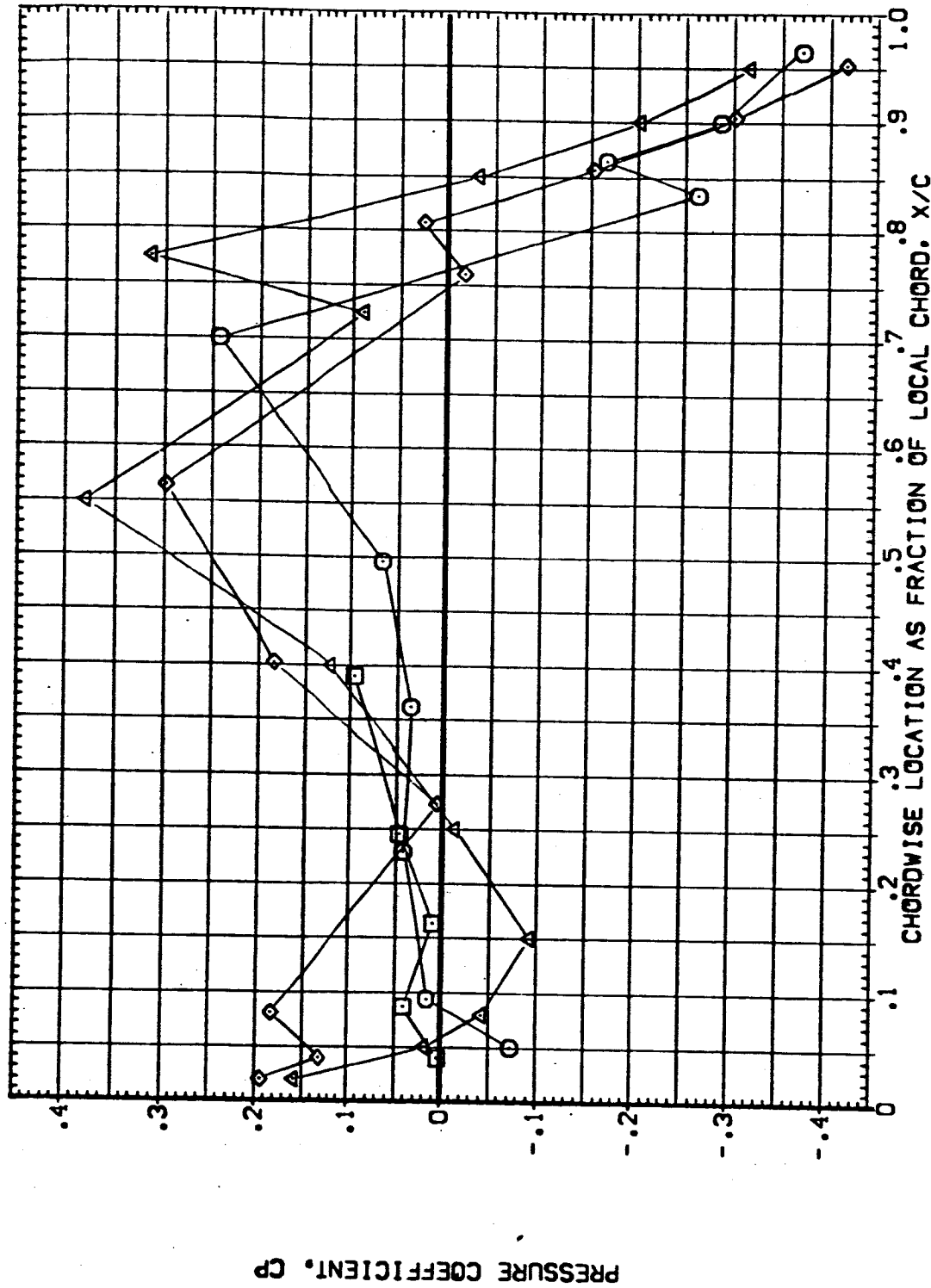


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(BEUW04)

SYMBOL	21/B	BETA	ALPHA	ELV-19	ELV-08	PARAMETRIC VALUES
○	.641	.000	.000	RUDER	MACH	4.000
□	.780			GIMBAL		1.400
◇	.887					

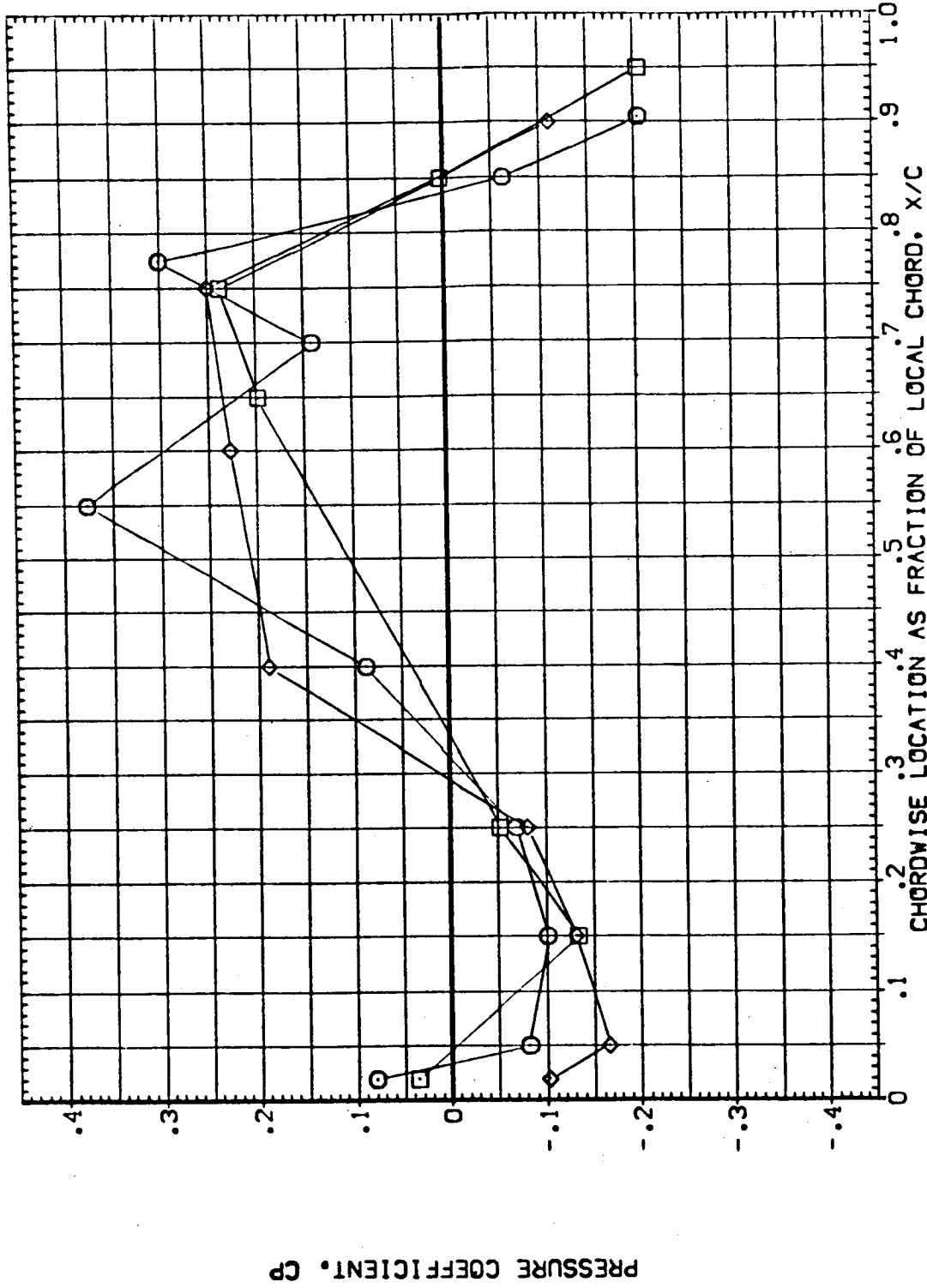


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(BEUW04)

SYMBOL Z_T/B BETA ALPHA

.299 .000 4.000
 .364
 .427
 .534

PARAMETRIC VALUES
 ELV-18 8.000 ELV-CB 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

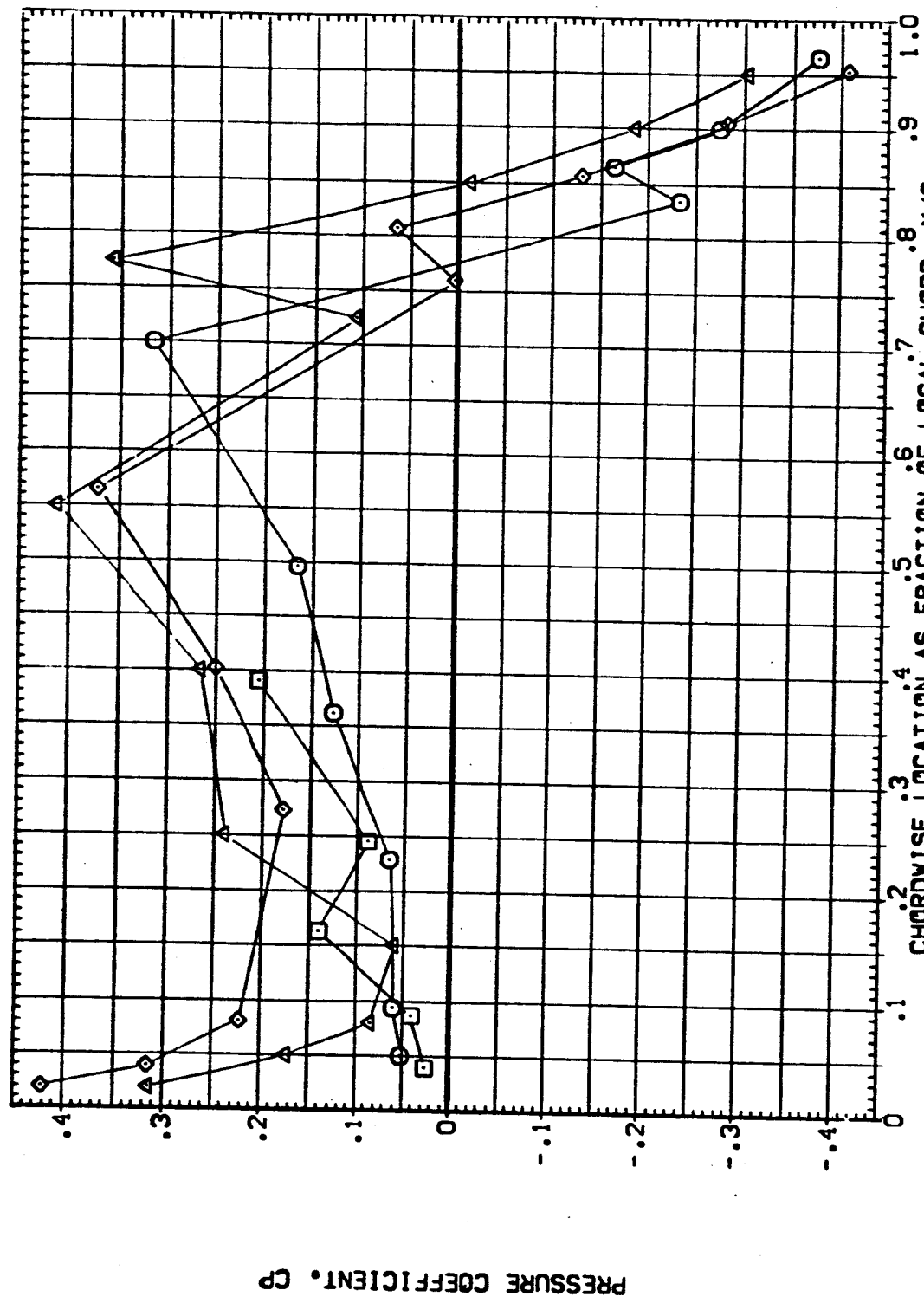


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(BEUW04)

PARAMETRIC VALUES
 ELV-18 0.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

27/8 BETA ALPHA
 .641 .000 4.000
 .780
 .667

SYMBOL
 ◊
 ◻
 ○

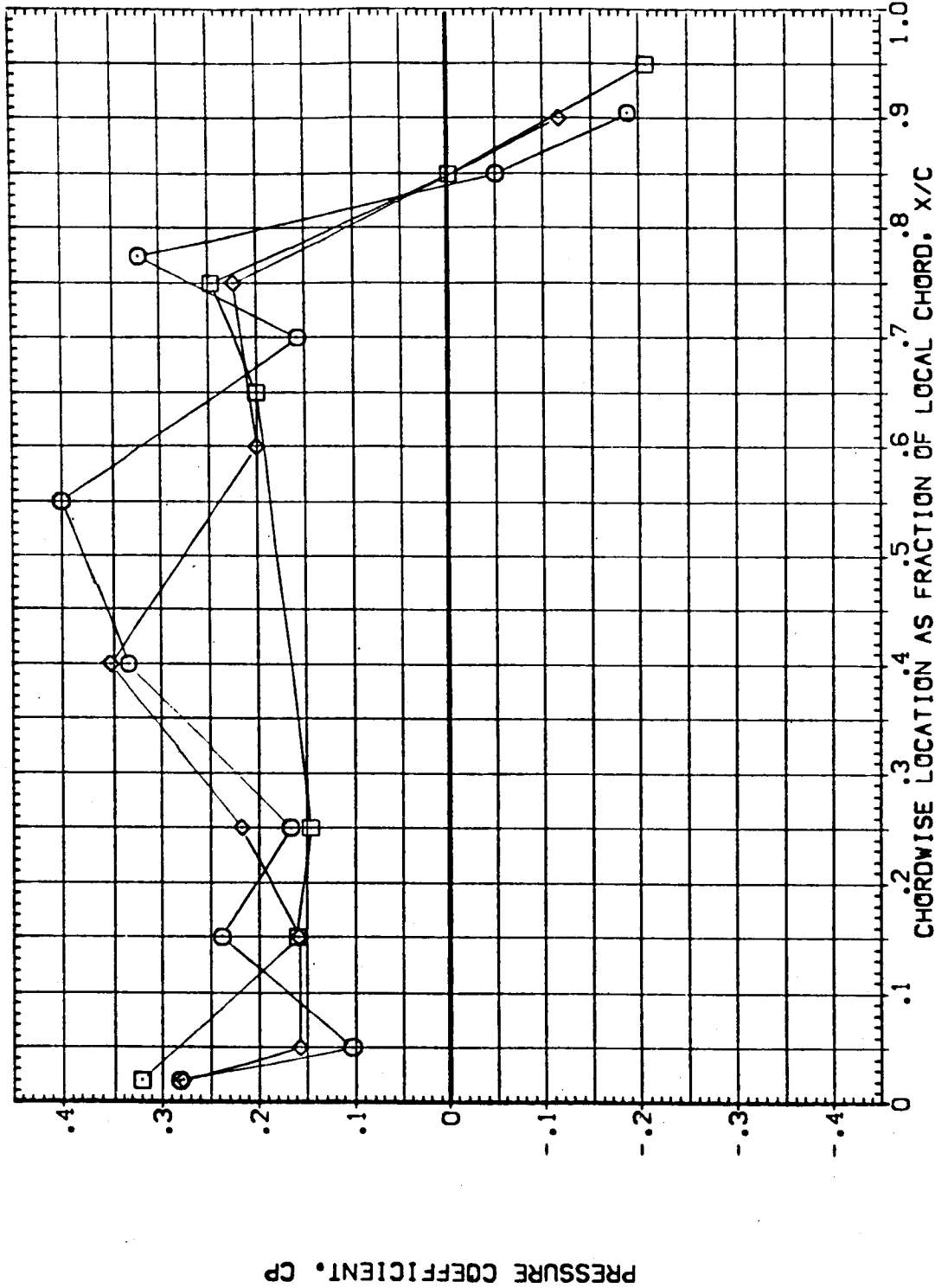


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(CEJW04)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

21/8 BETA ALPHA
 .399 -1.000 .000
 .364
 .427
 .534

SYMBOL
 ◊ □ ○ △

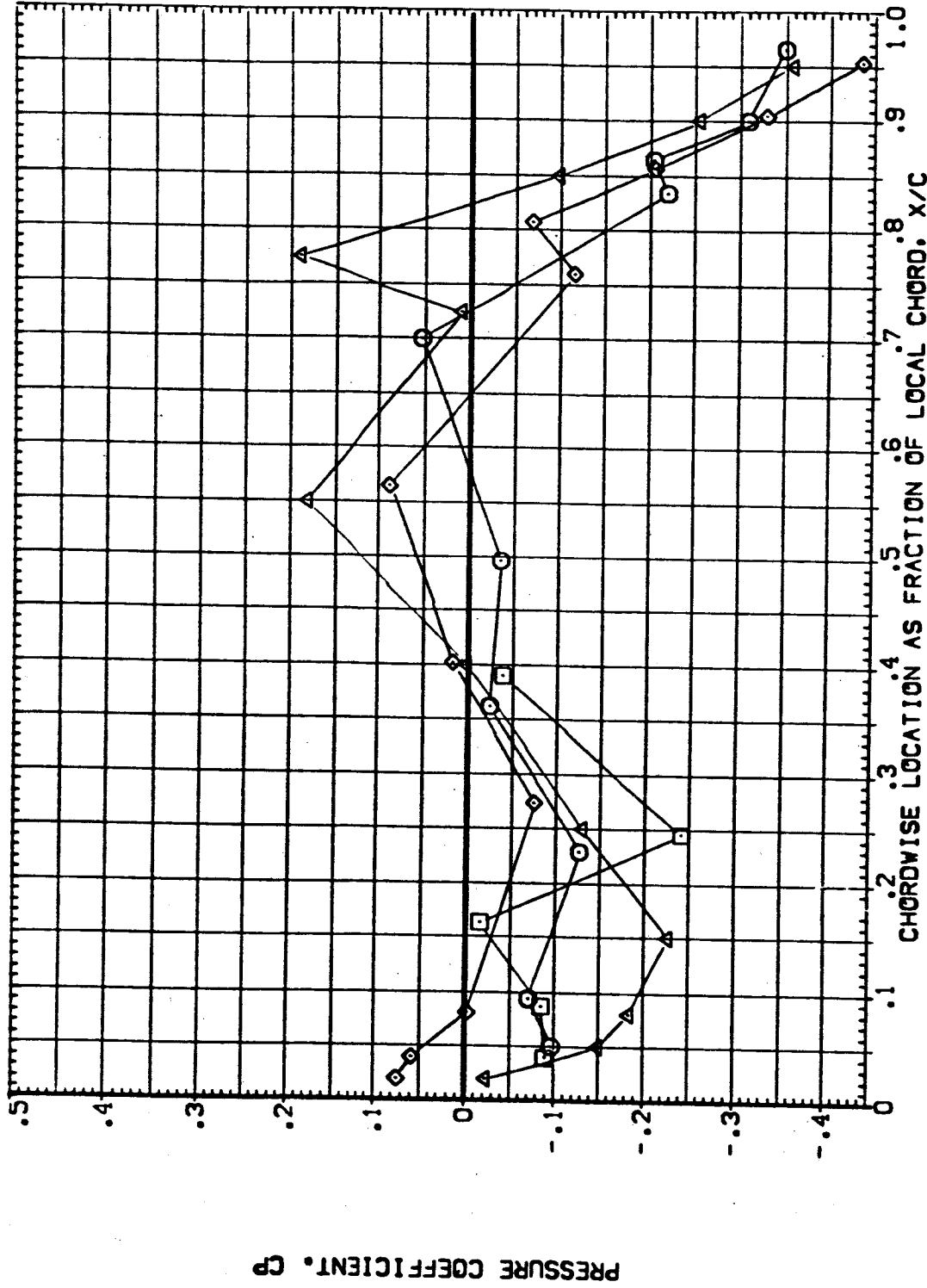


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING (CEUW04)

SYMBOL	2Y/B	BETA	ALPHA	ELV-18	ELV-08
○	.641	-4.000	.000	RUDER	MACH
□	.780			GIMBAL	
◇	.887				

PARAMETRIC VALUES	8.000	4.000
	.000	1.400
	1.000	

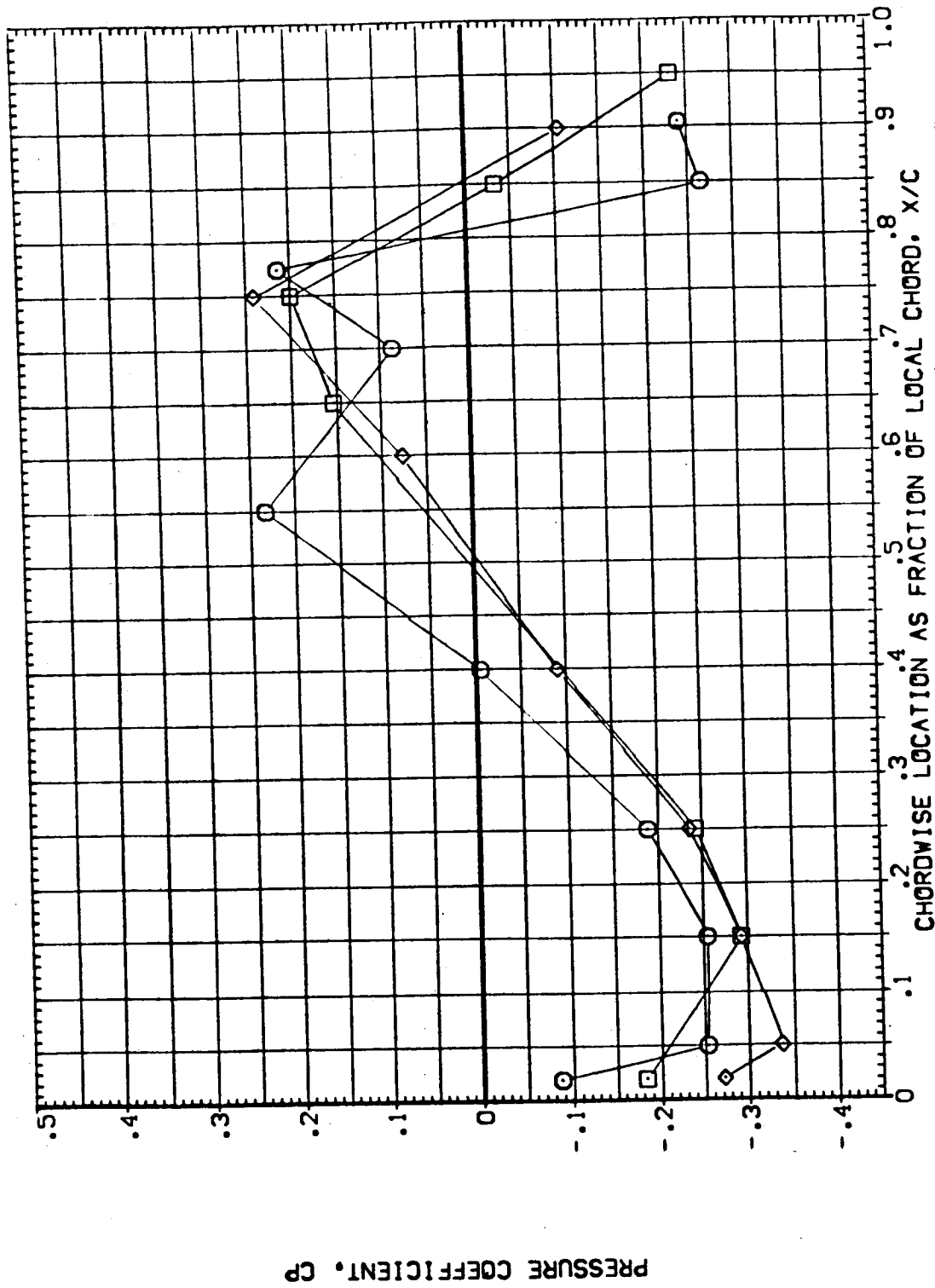


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(CEUW04)

SYMBOL 2V/B BETA ALPHA
 ○ .799 1.000 .000
 □ .364
 ◇ .427
 △ .534

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

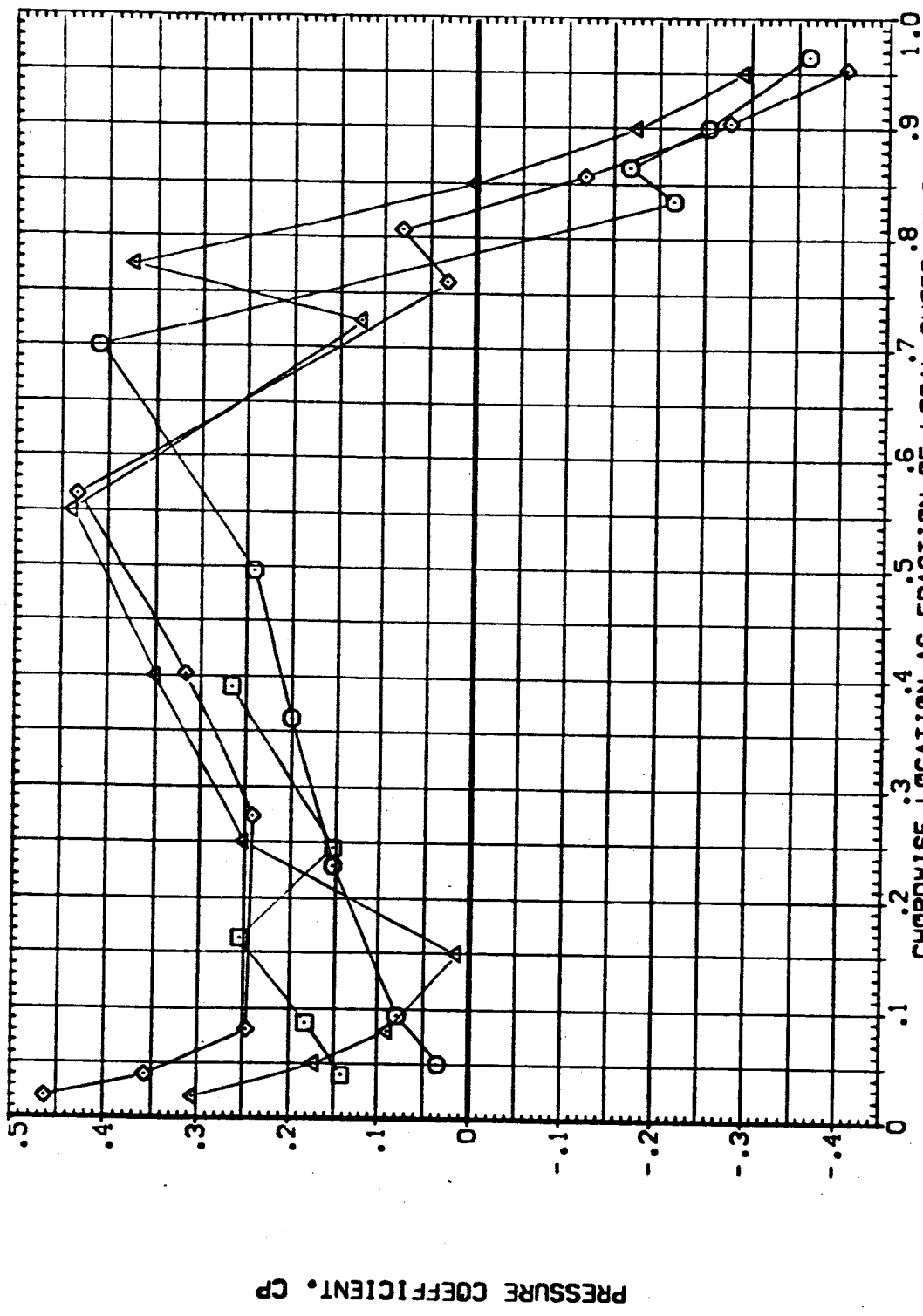


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(CEUW04)

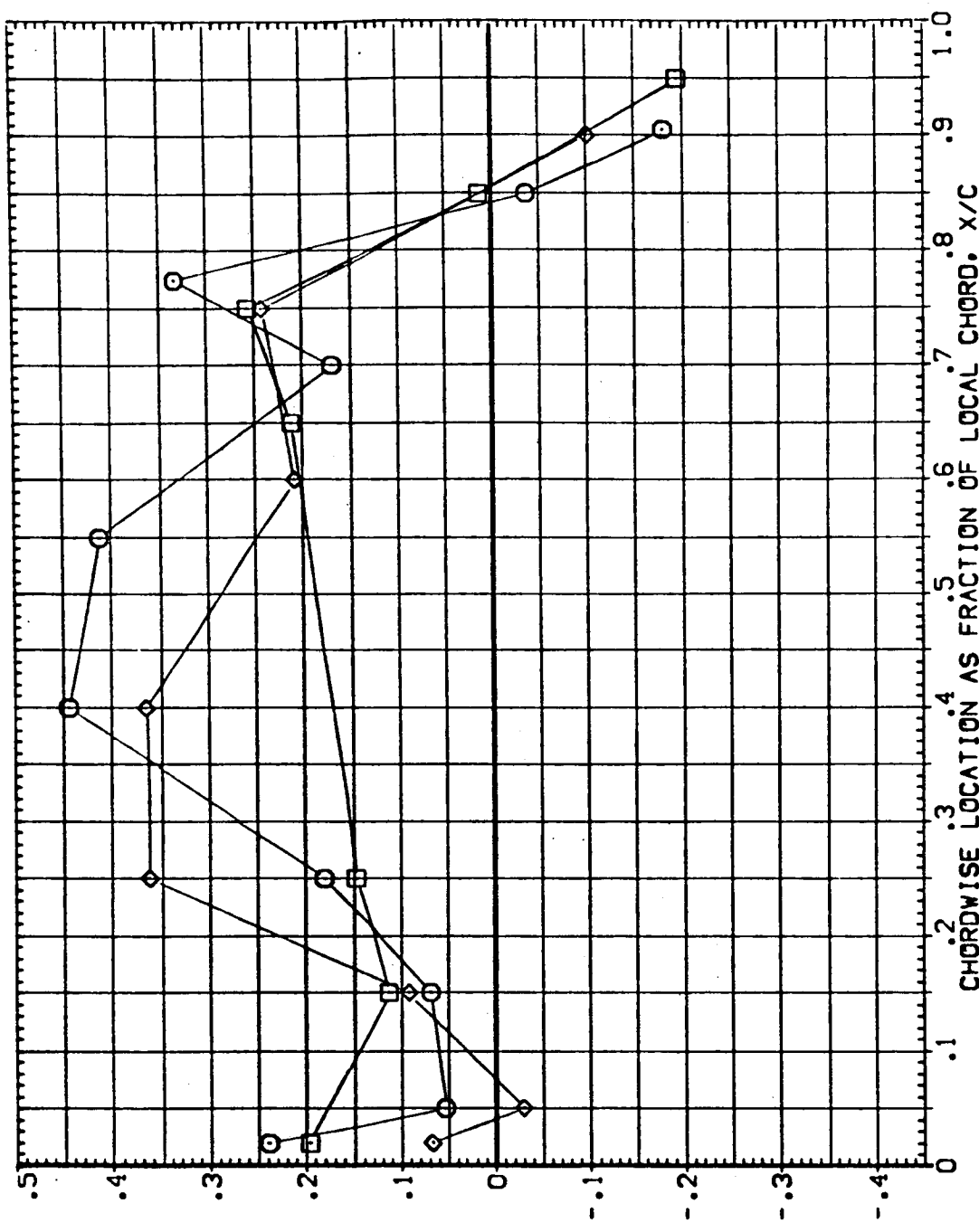
PARAMETRIC VALUES
 8.000 ELV-08 4.000
 .000 MACH 1.400

ELV-18
 RUDDER
 GIMBAL

BETA ALPHA
 1.000 .000

ZI/ZB
 .641
 .780
 .887

SYMBOL
 ○ □ ◇



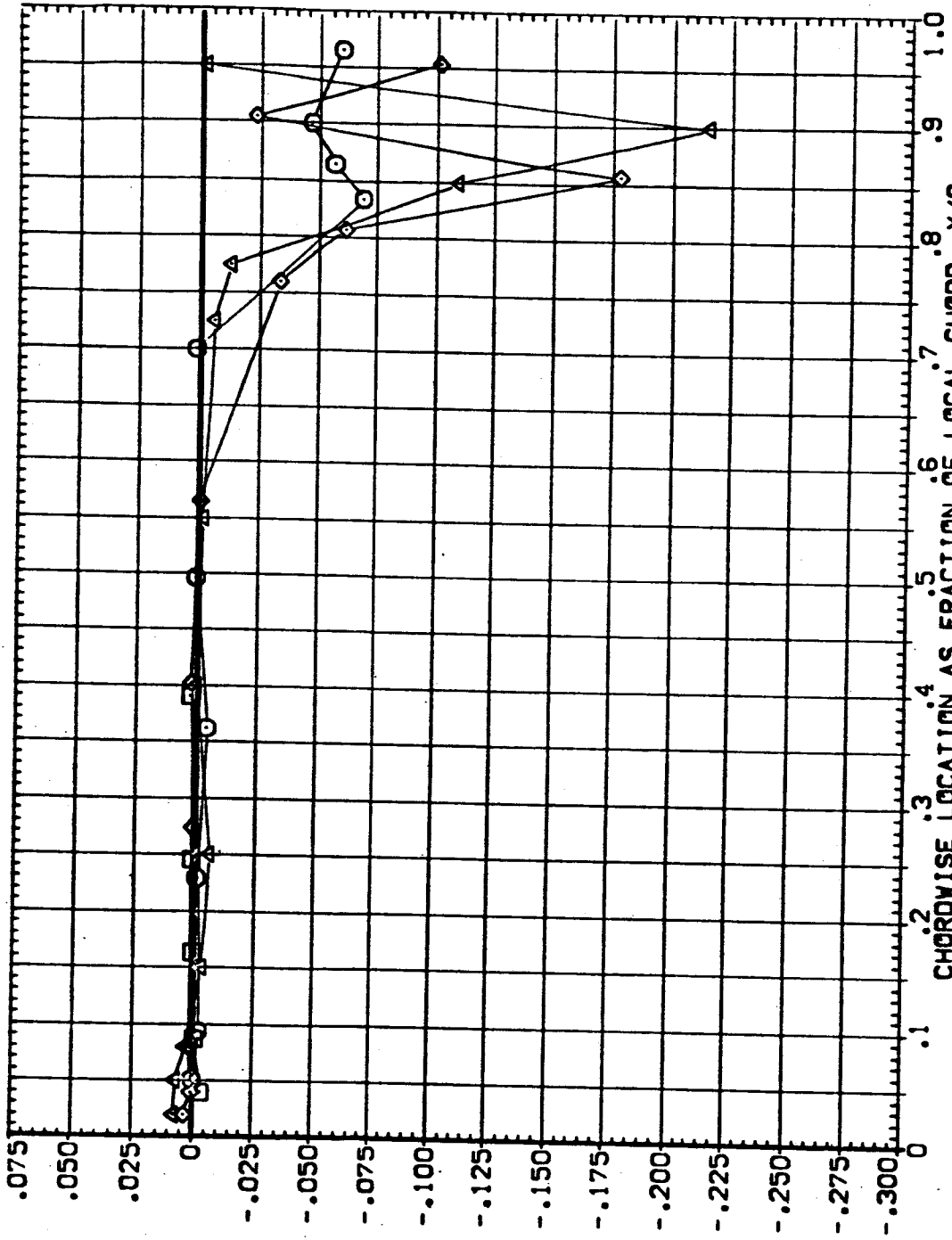
PRESSURE COEFFICIENT, CP

FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(EEUW05)

SYMBOL 2Y/B BETA ALPHA
 ○ .298 .000 -4.000
 □ .364 .000 -4.000
 ◇ .427 .000 -4.000
 △ .534 .000 -4.000

PARAMETRIC VALUES
 ELV-18 8.000 ELV-09 1.000
 RUDDER .000 MACH .900
 GIMBAL 1.000



INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 01S+S1RUT SRB-NOM MPS-NOM LWR WING(EEUW05)

SYMBOL Z1/B BETA ALPHA
 ○ .641 .000 -4.000
 □ .780 .000 -4.000
 ◇ .687 .000 -4.000

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

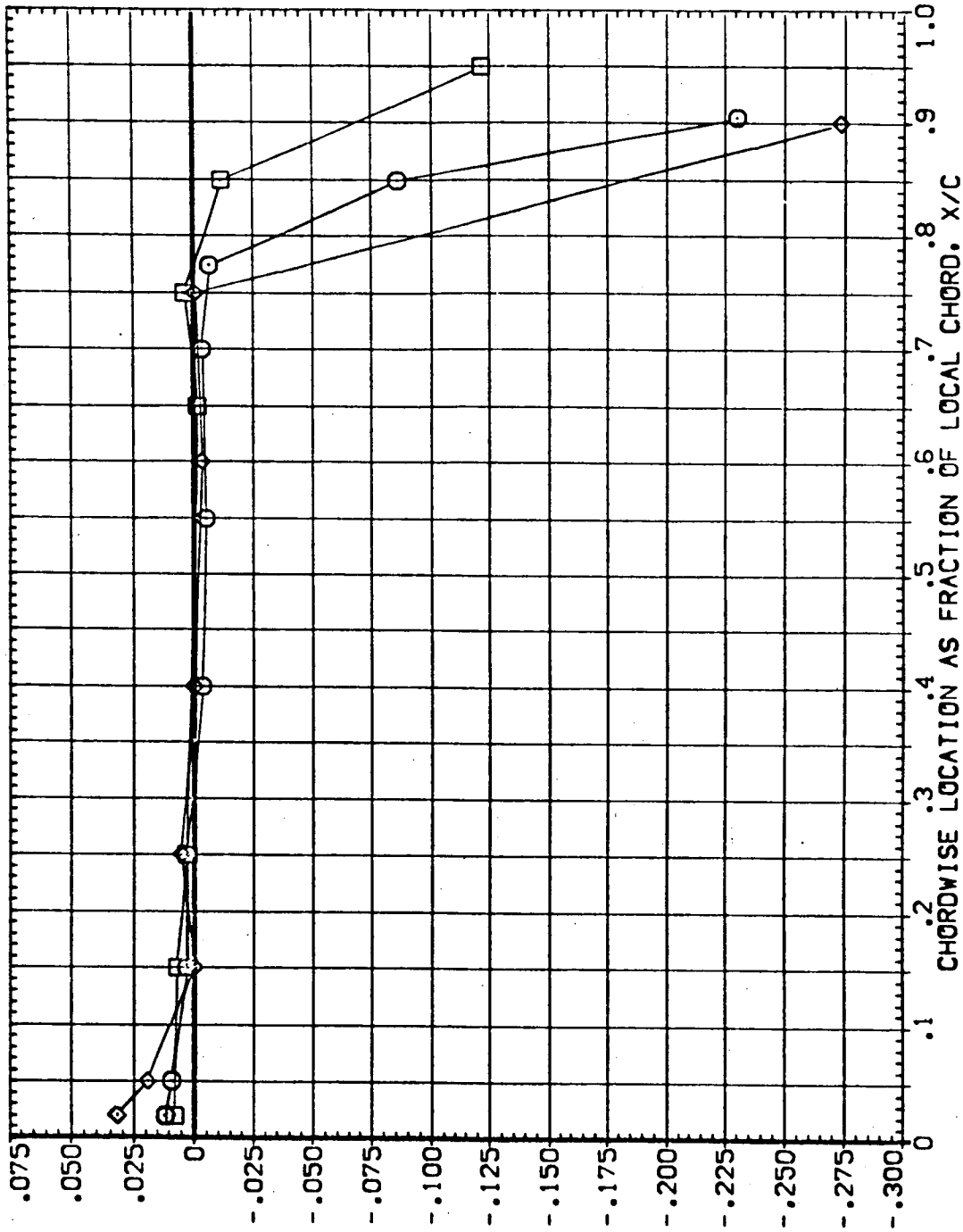


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(EEUW05)

SYMBOL 21/8 BETA ALPHA

○ .299 .000 .000

□ .364

◇ .427

▽ .534

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000

RUDDER .000 MACH .900

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

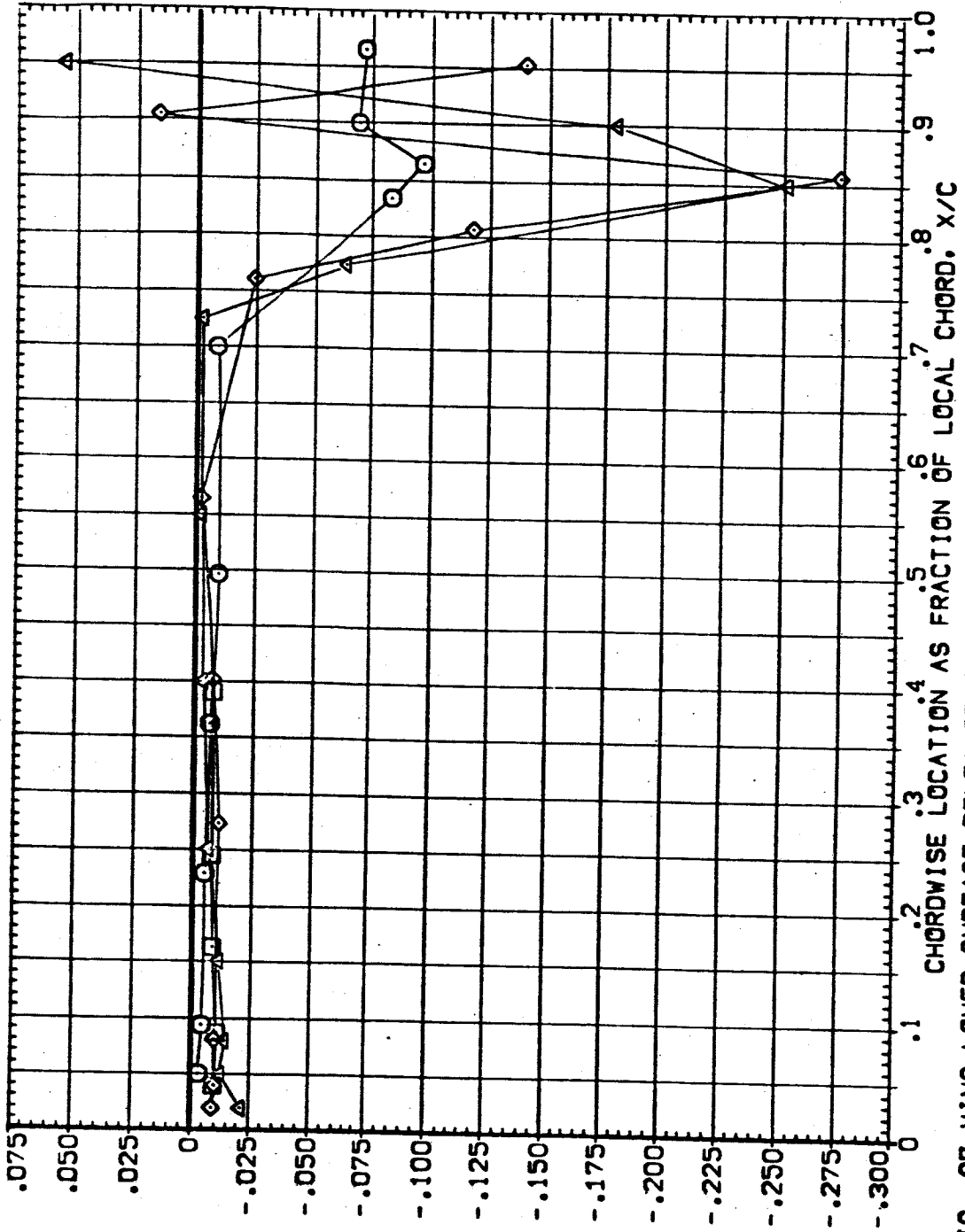


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(EEUW05)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

SYMBOL α /B BETA ALPHA
 ○ .641 .000
 □ .780 .000
 ◇ .887

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

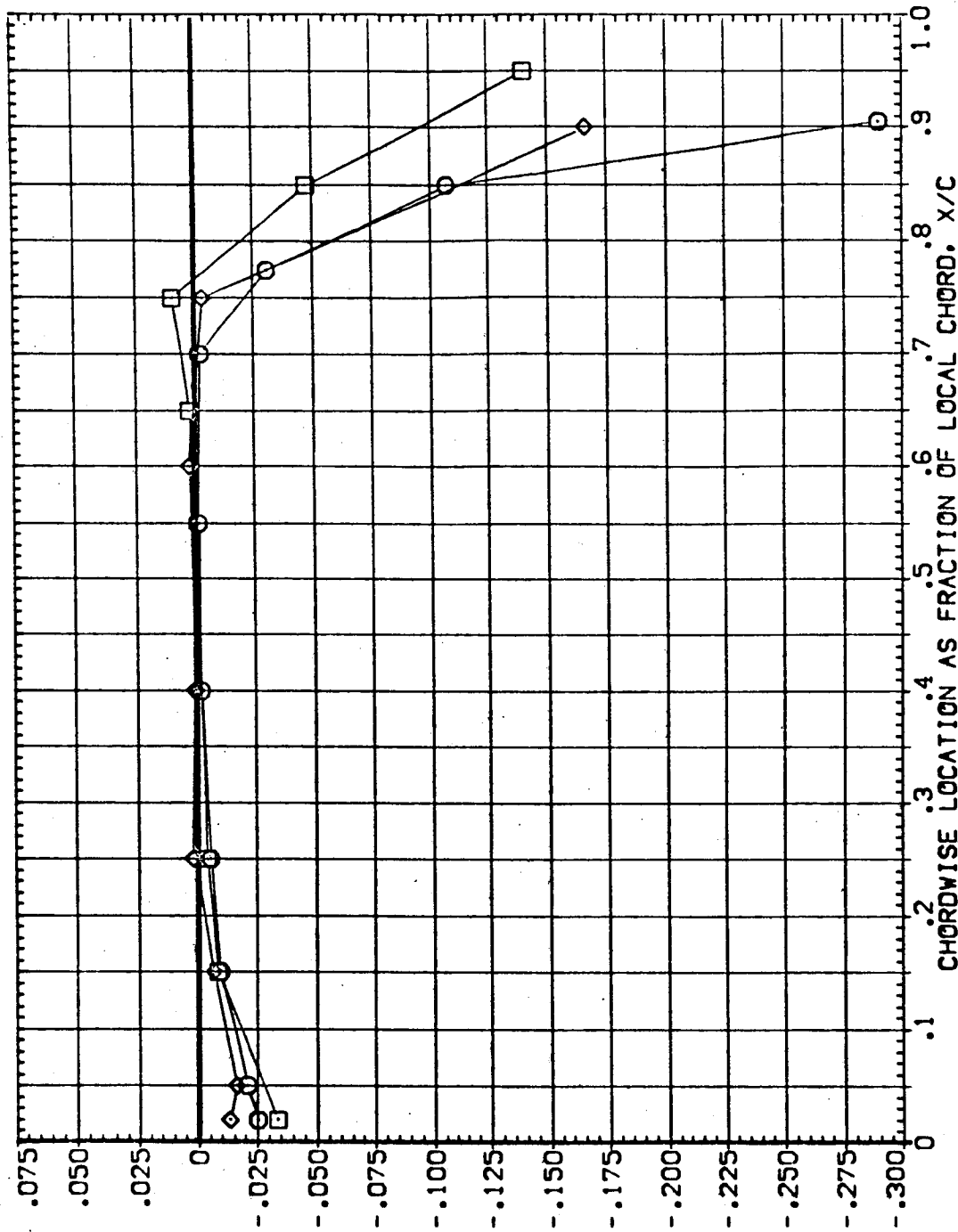


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(EEUW05)

SYMBOL	2 γ /B	BETA	ALPHA	ELV-1B	PARAMETRIC VALUES
○	.299	.000	1.000	RUDDER	8.000 ELV-08
□	.364	.000	1.000	GIMBAL	.000 MACH
◇	.427				1.000
△	.504				

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

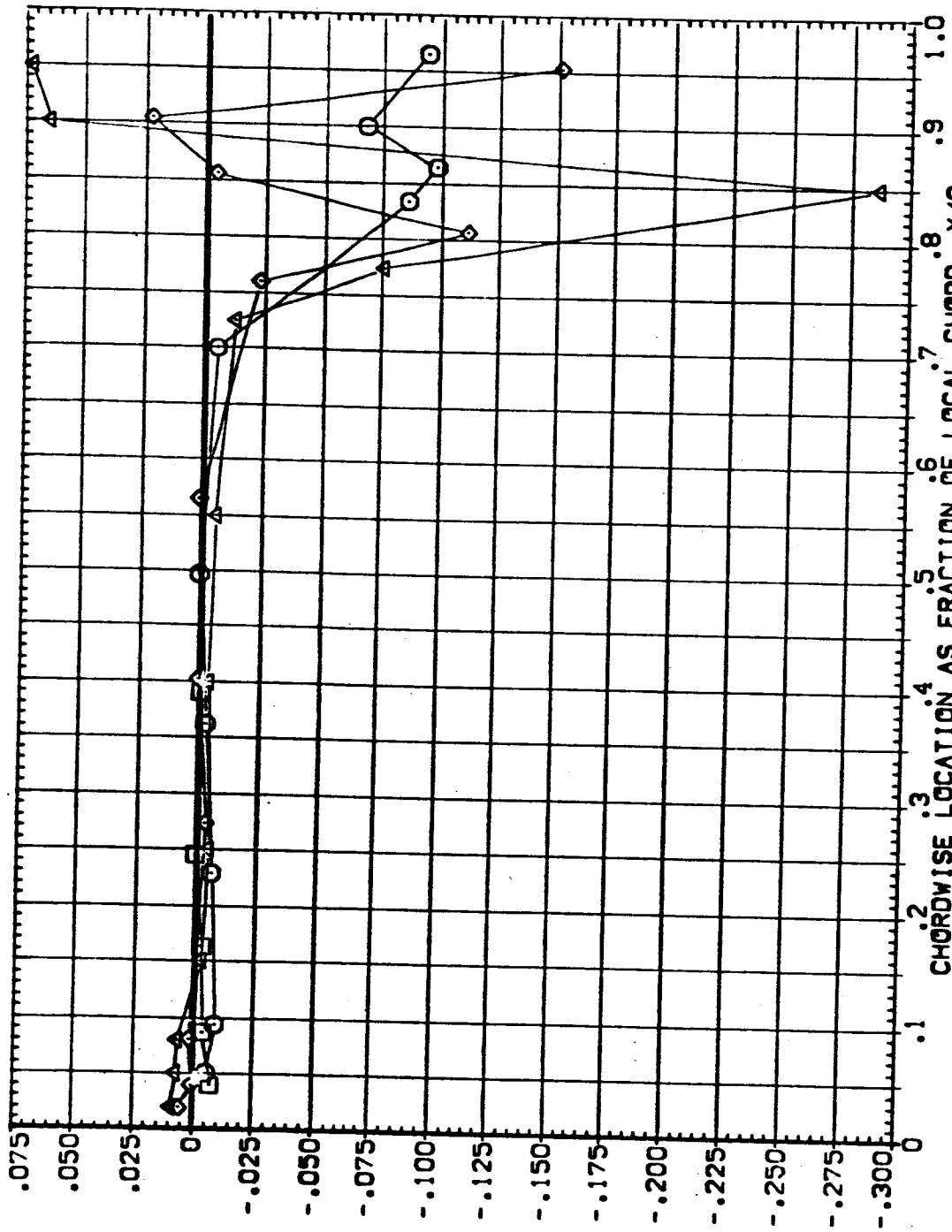


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING (EEUW05)

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-08 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

SYMBOL 2Y/B BETA ALPHA
 ○ .641 .000 4.000
 □ .780 .000 4.000
 ◇ .687 .000 4.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

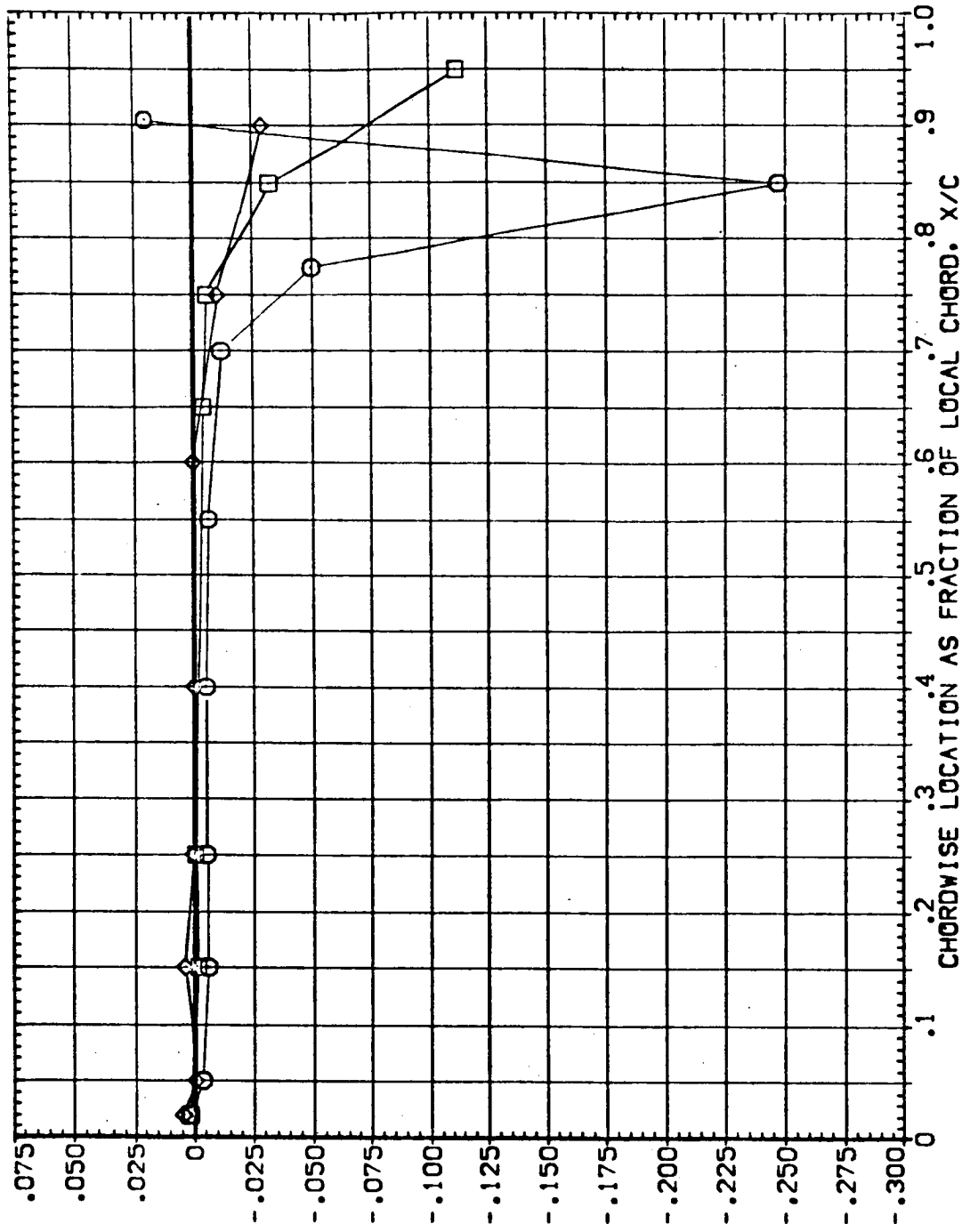


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(FEUW05)

SYMBOL 2Y/B BETA ALPHA
 ○ .299 -4.000 .000
 □ .364
 ◇ .427
 △ .534

PARAMETRIC VALUES
 ELV-18 8.000 ELV-09 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

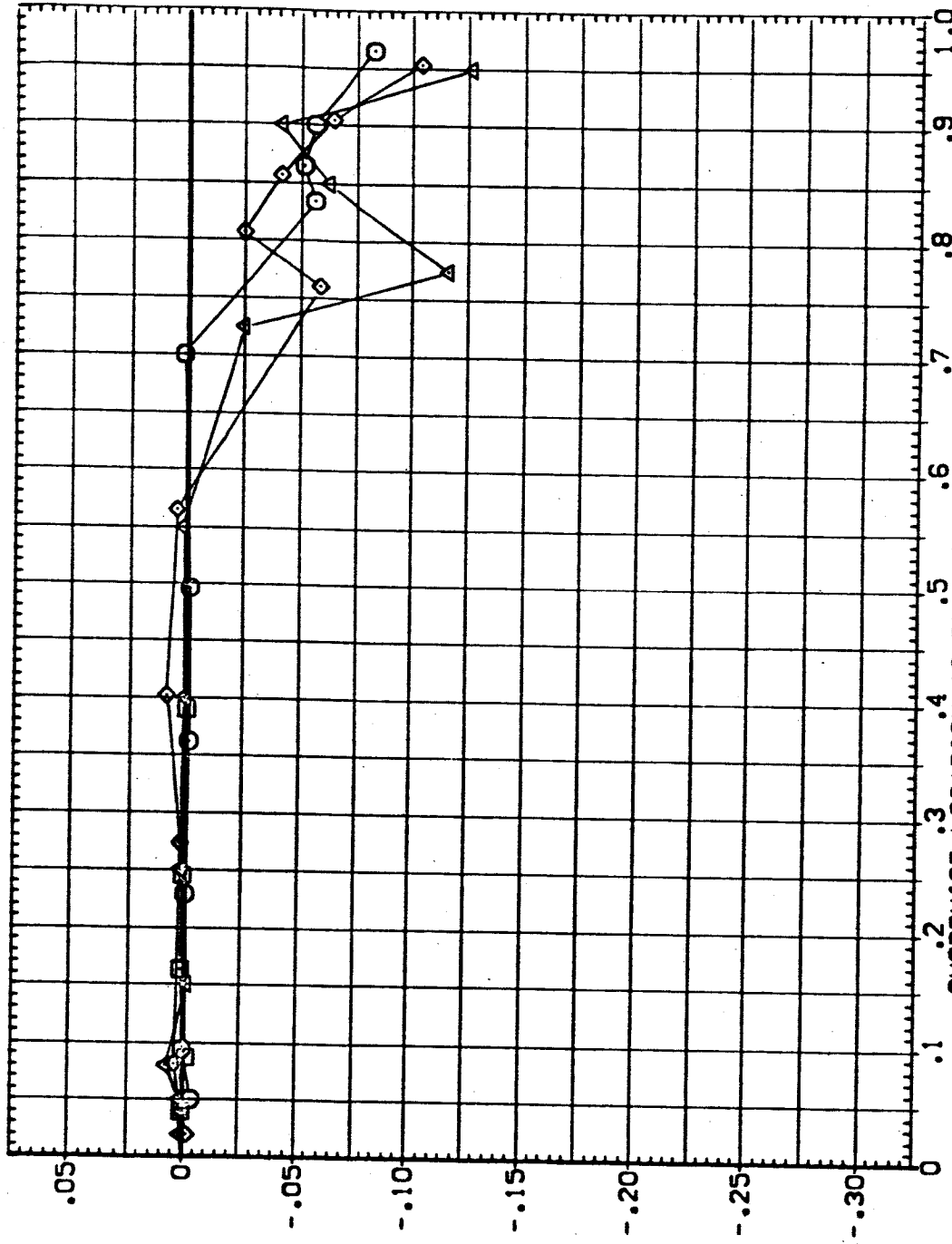


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(FEUW05)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 1.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

2 γ / β .641 BETA -4.000 ALPHA .000
 .780
 .887

SYMBOL
 ◻
 ◊

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

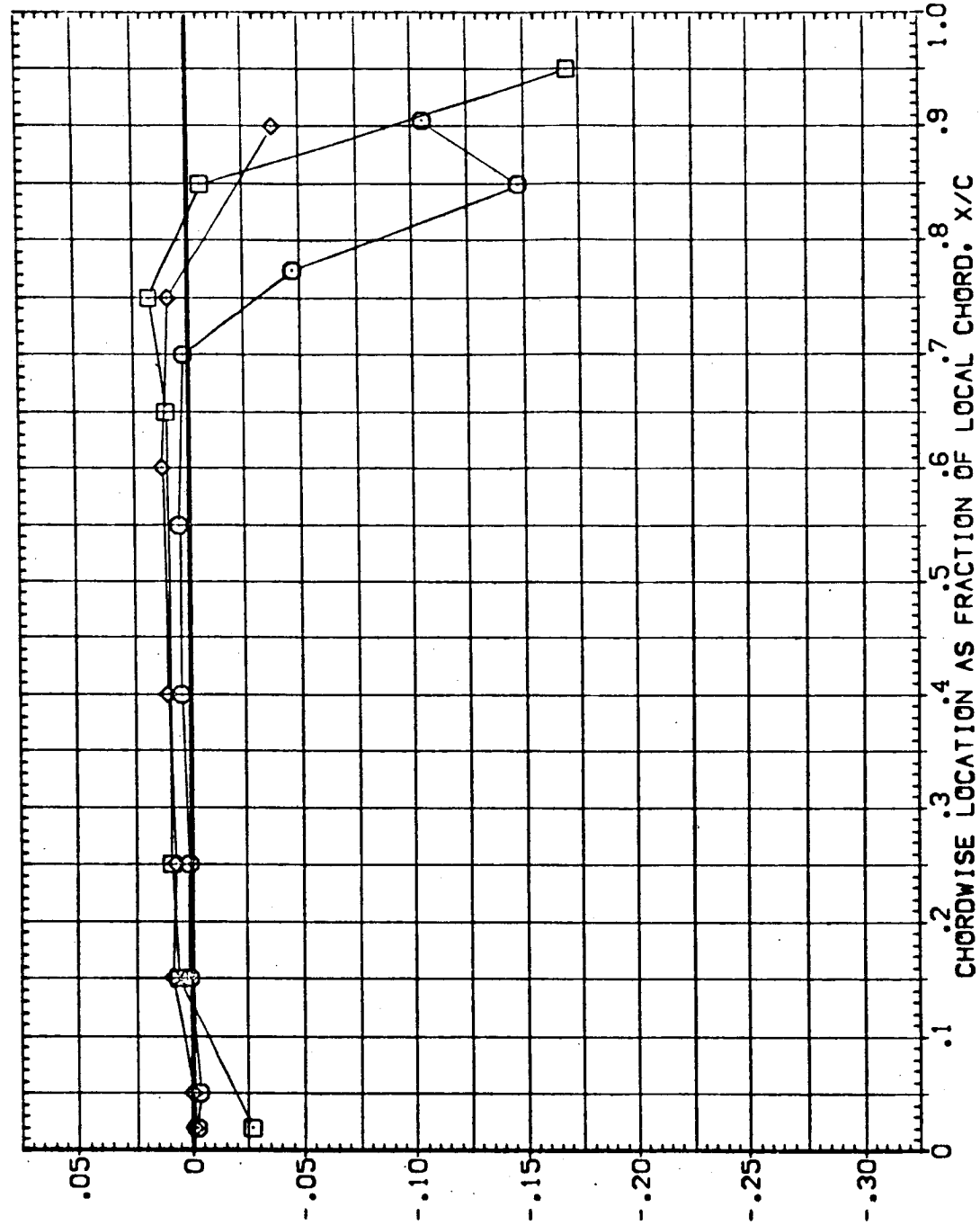


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(FEUW05)

SYMBOL Z1/B BETA ALPHA

□ .299 1.000 .000

◇ .364

△ .427

○ .534

PARAMETRIC VALUES

ELV-1B 8.000 ELV-08 4.000

RUDER .000 MACH .900

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

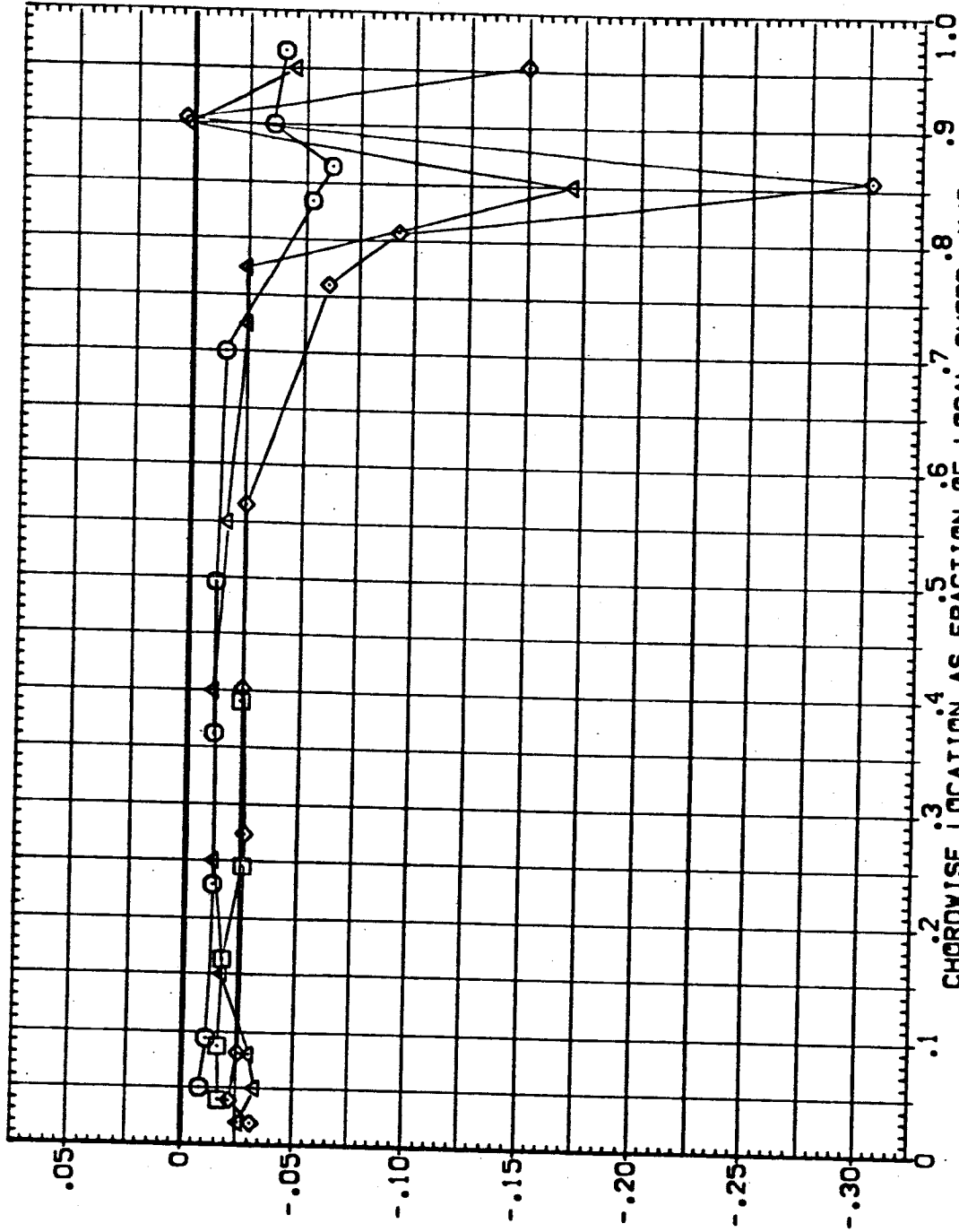


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(FEUW05)

SYMBOL 2Y/B BETA ALPHA
 ○ .641 4.000 .000
 □ .780 1.000 .000
 ◇ .887 1.000 .000

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

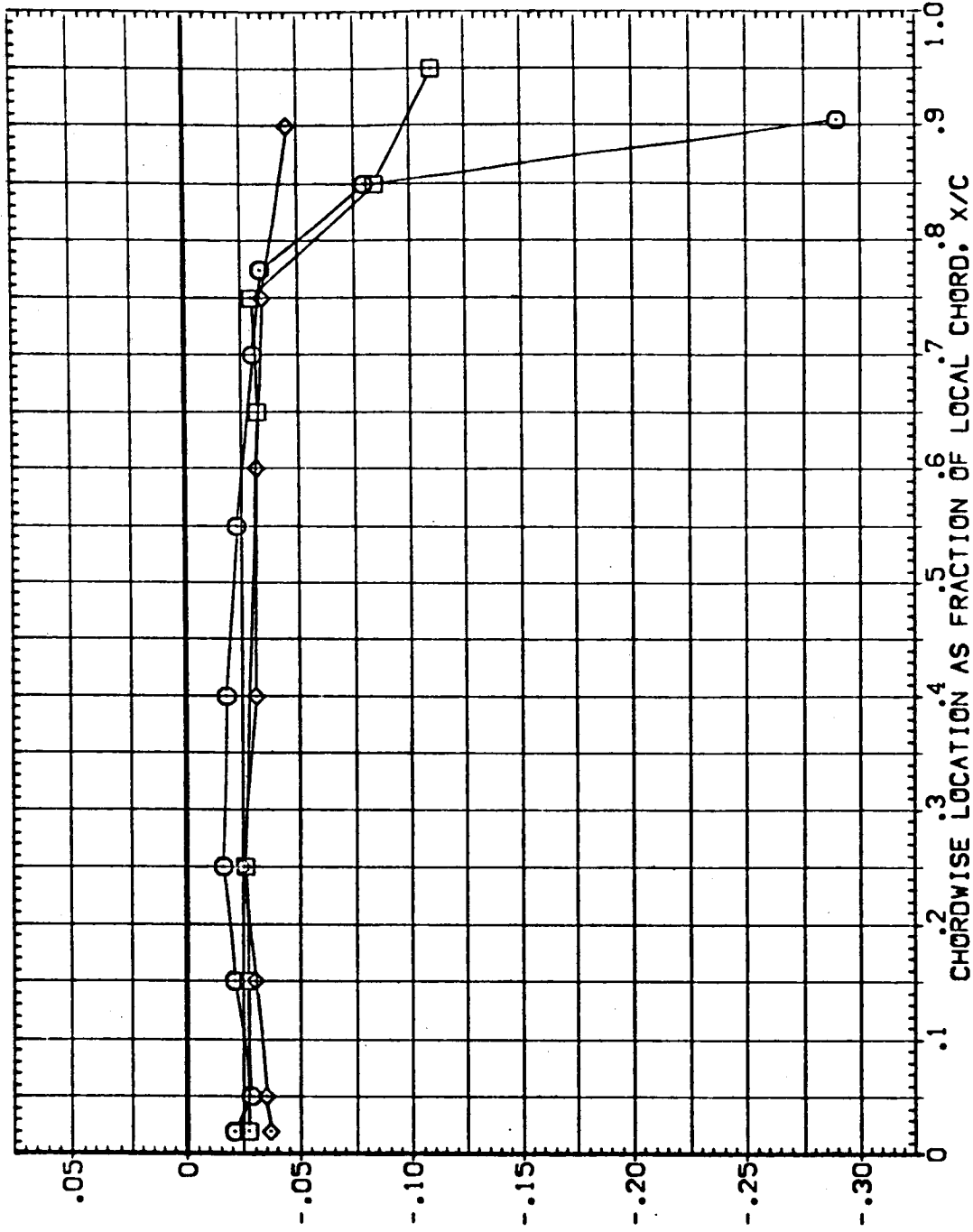


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(EEUW06)

SYMBOL Z1/B BETA ALPHA
 ◊ .299 .000 -4.000
 □ .364 .000 -4.000
 ◊ .477 .000 -4.000
 ◊ .534 .000 -4.000

PARAMETRIC VALUES
 ELV-18 6.000 ELV-CB 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

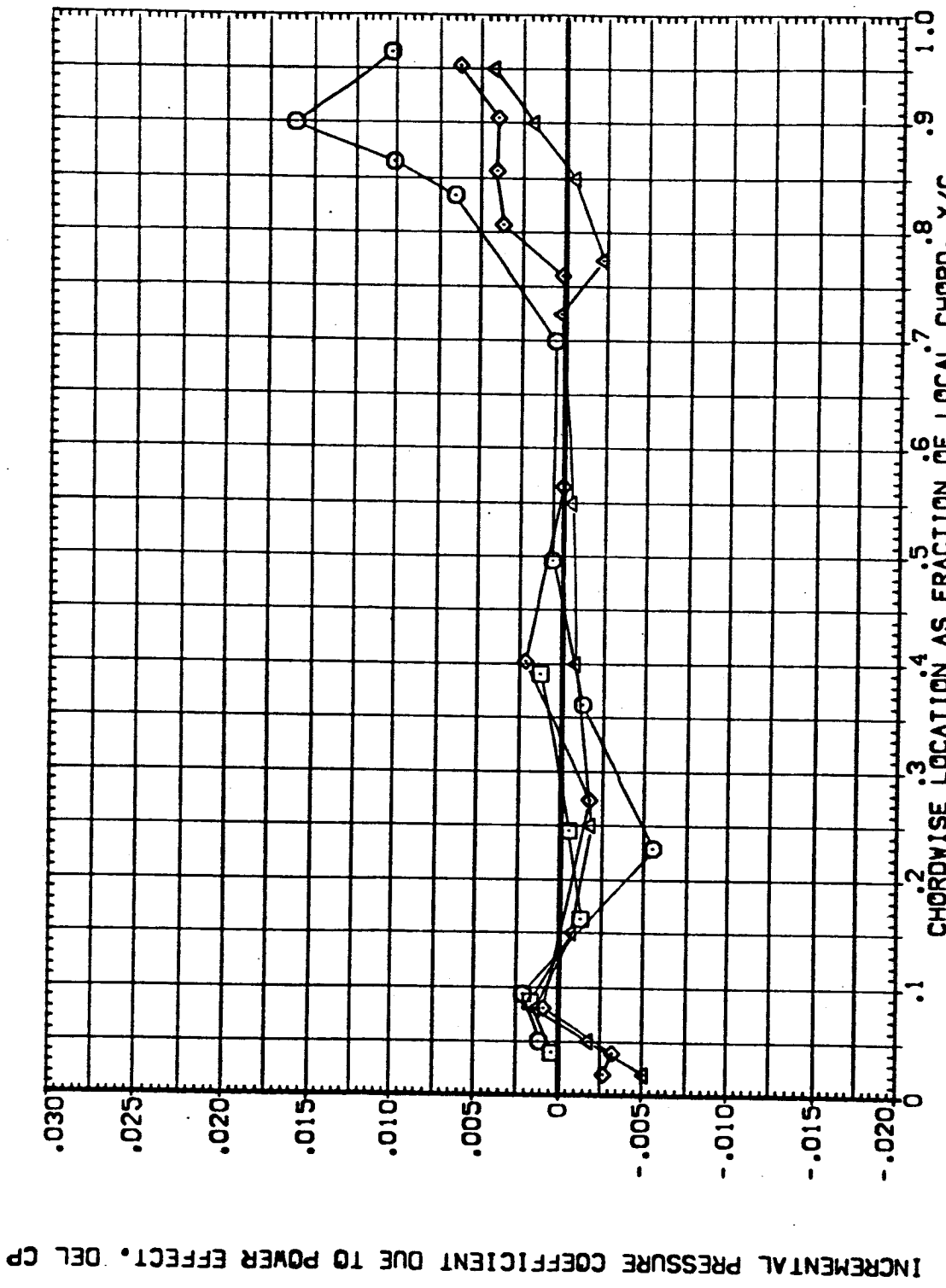


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(EEUW06)

SYMBOL 2 γ / δ BETA ALPHA

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

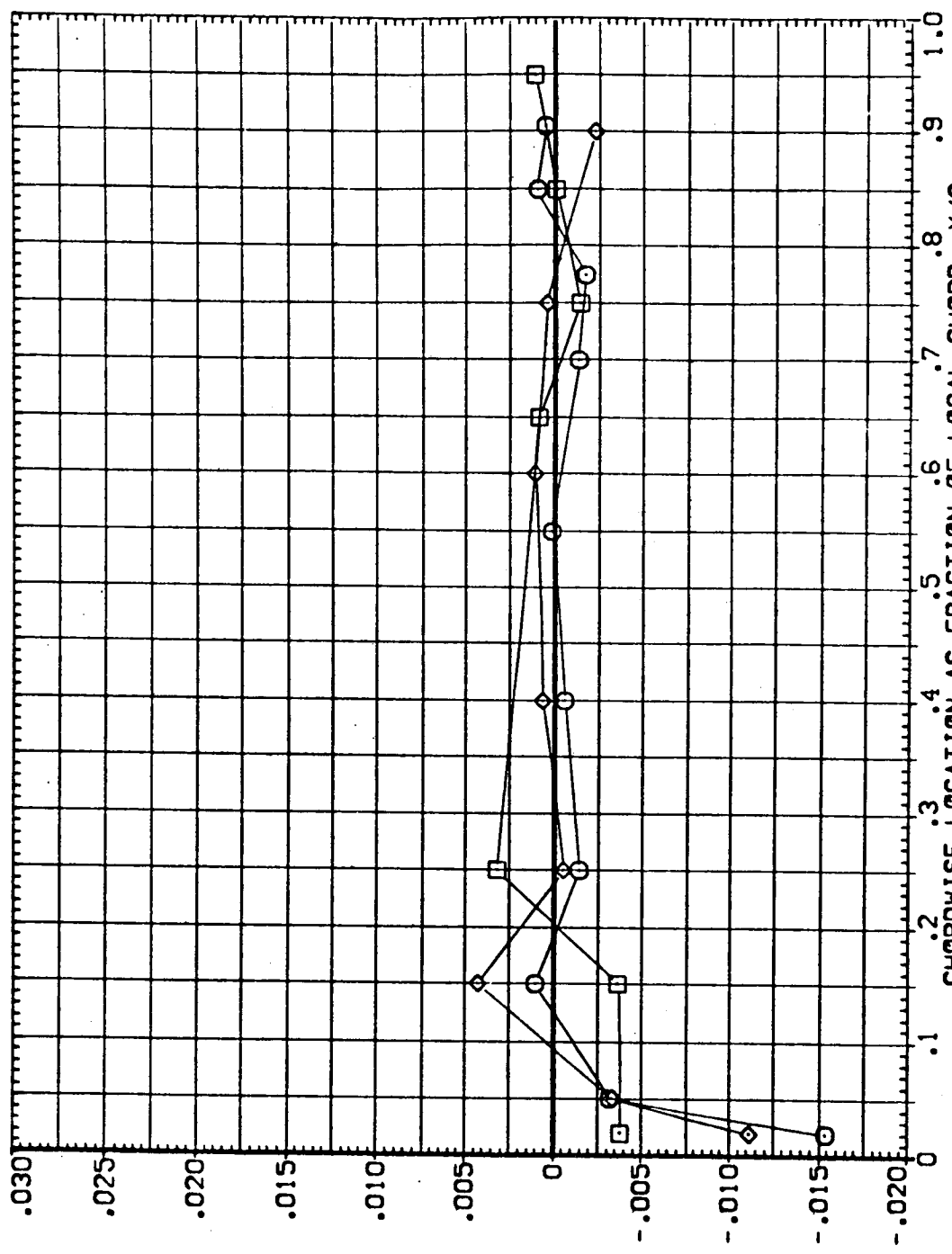


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING (EEUW06)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

2 γ / β BETA ALPHA
 .299 .000 .000
 .364
 .427
 .534

SYMBOL
 ◻ ◊ ◀

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

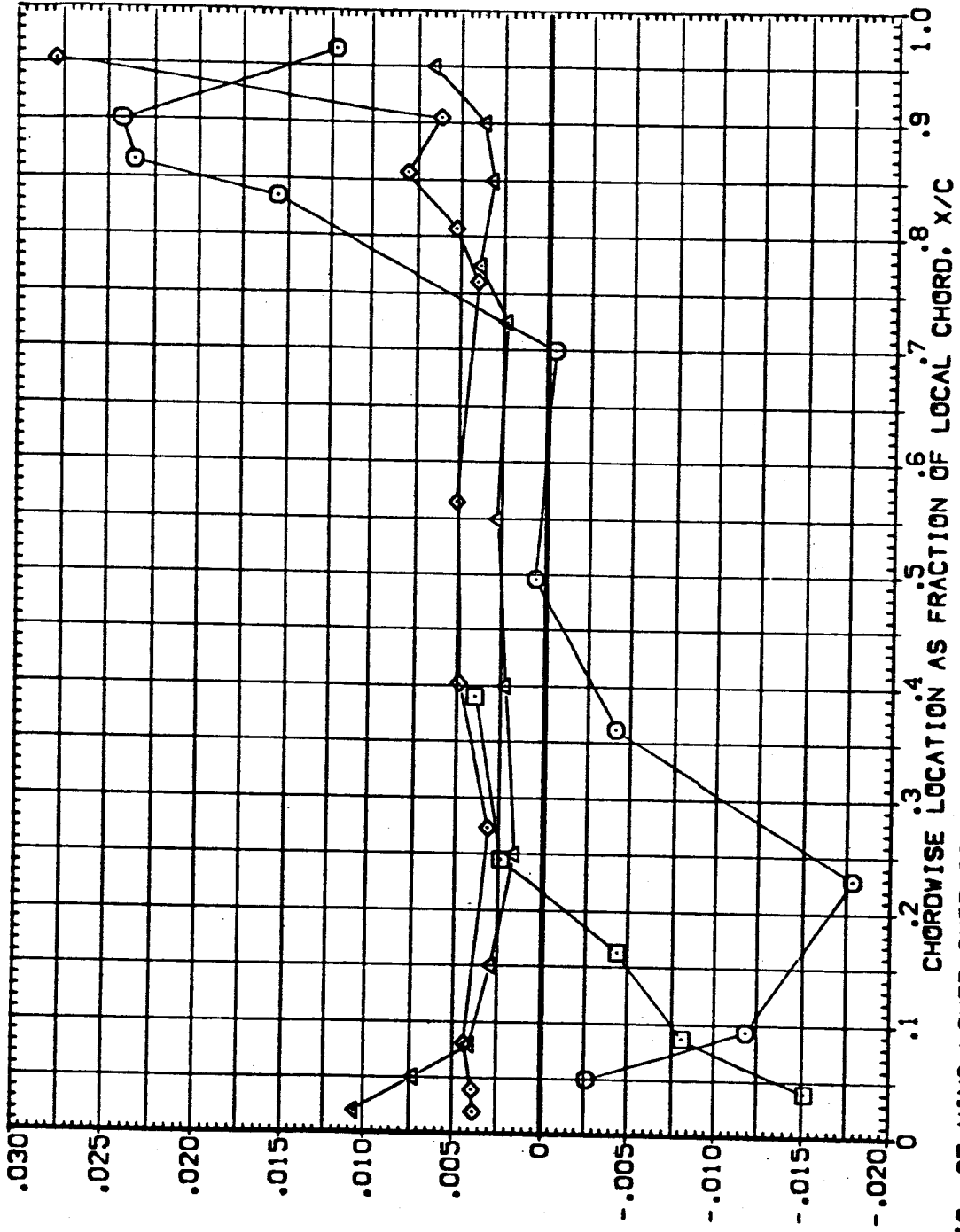


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(EEUW06)

SYMBOL	Z1/B	BETA	ALPHA	ELV-1B	PARAMETRIC VALUES
○	.641	.000	.000	RUDDER	8.000
□	.780	.000	.000	GIMBAL	.000
◇	.887	.000	.000		1.000
					4.000
					1.100

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

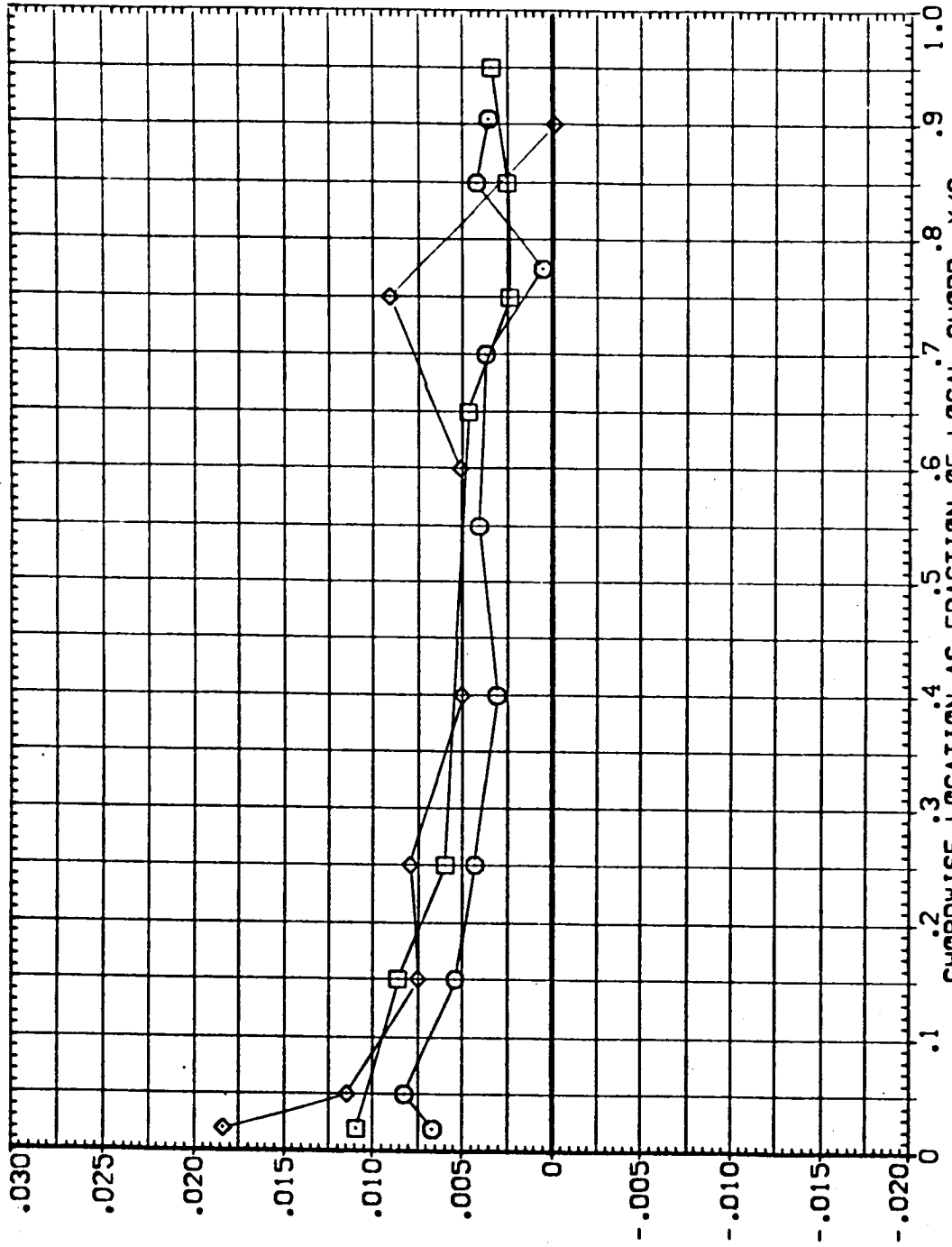


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(EEUW06)

SYMBOL Z1/B BETA ALPHA

○ .299 .000 4.000

□ .364 .000 4.000

◇ .427 .000 4.000

△ .534 .000 4.000

PARAMETRIC VALUES

ELV-18 8.000 ELV-09 4.000

RUDDER .000 MACH 1.100

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

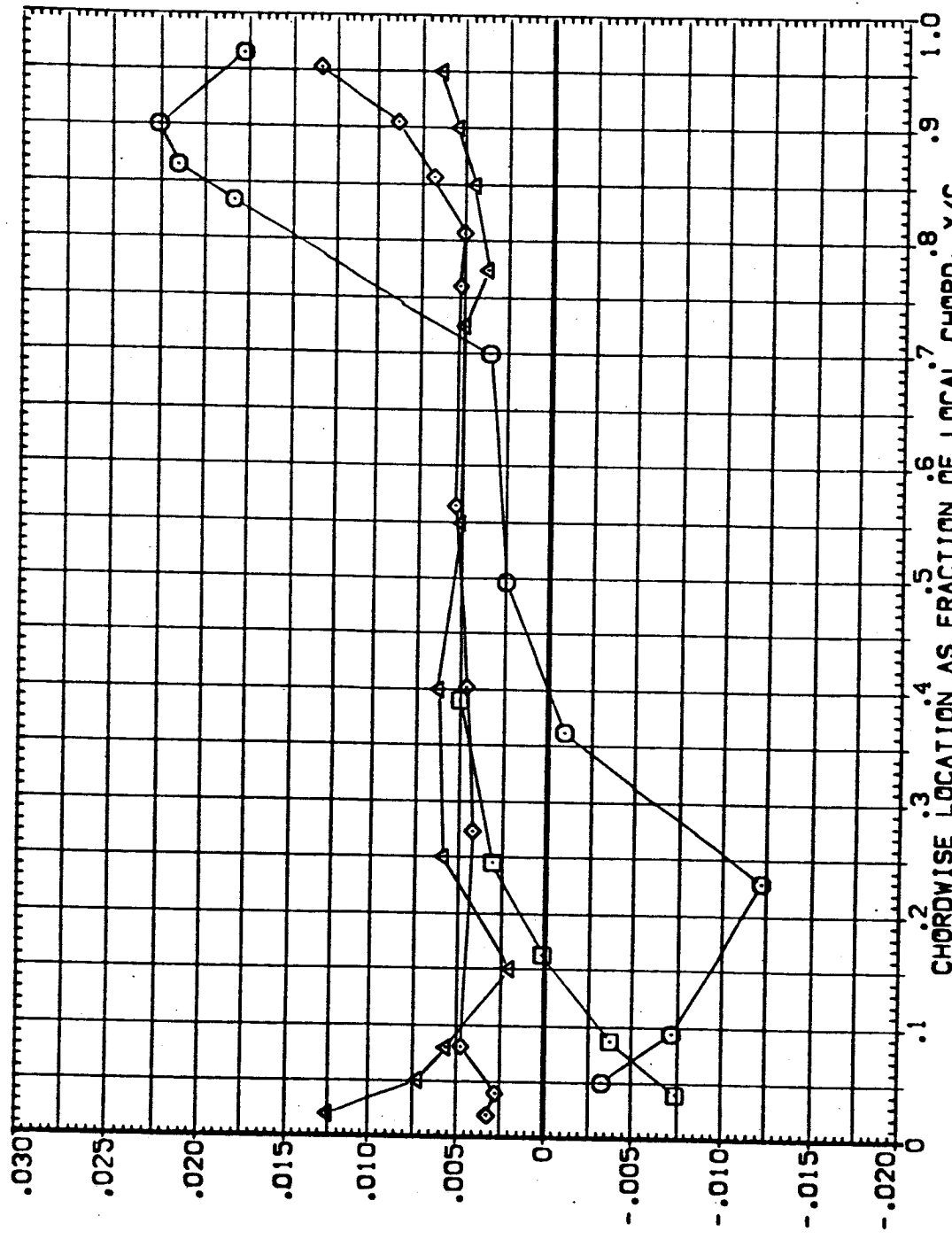


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING (EEUW06)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 S1-BAL 1.000

ALPHA 4.000

BETA .000

Z1/B .641
 .780
 .687

SYMBOL
 ○
 □
 ◇

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

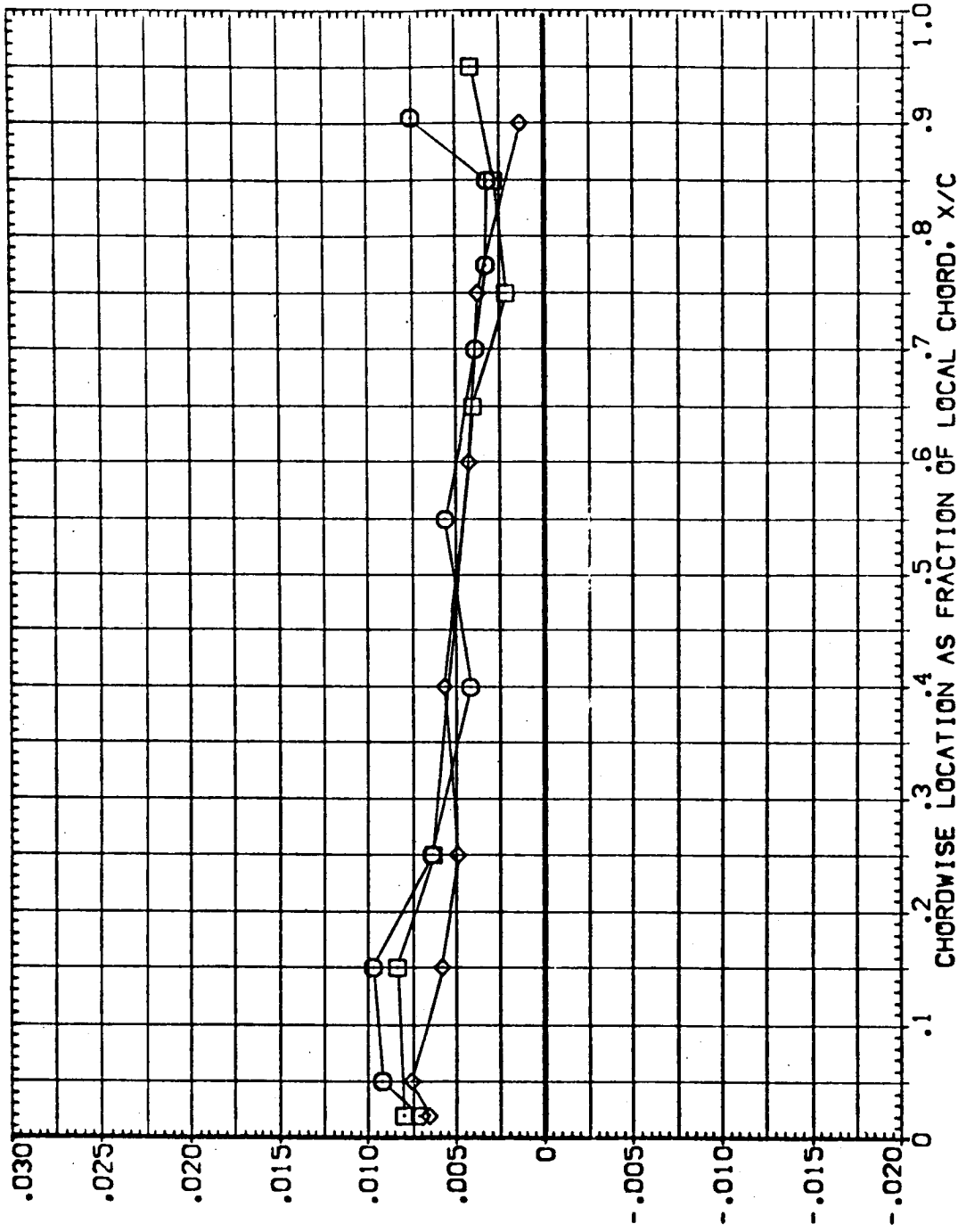


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(FEUW06)

PARAMETRIC VALUES
 ELV-18 0.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

2Y/B BETA ALPHA
 .299 -4.000 .000
 .364
 .427
 .534

SYMBOL
 ◊ ◻ ◊ ◻

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

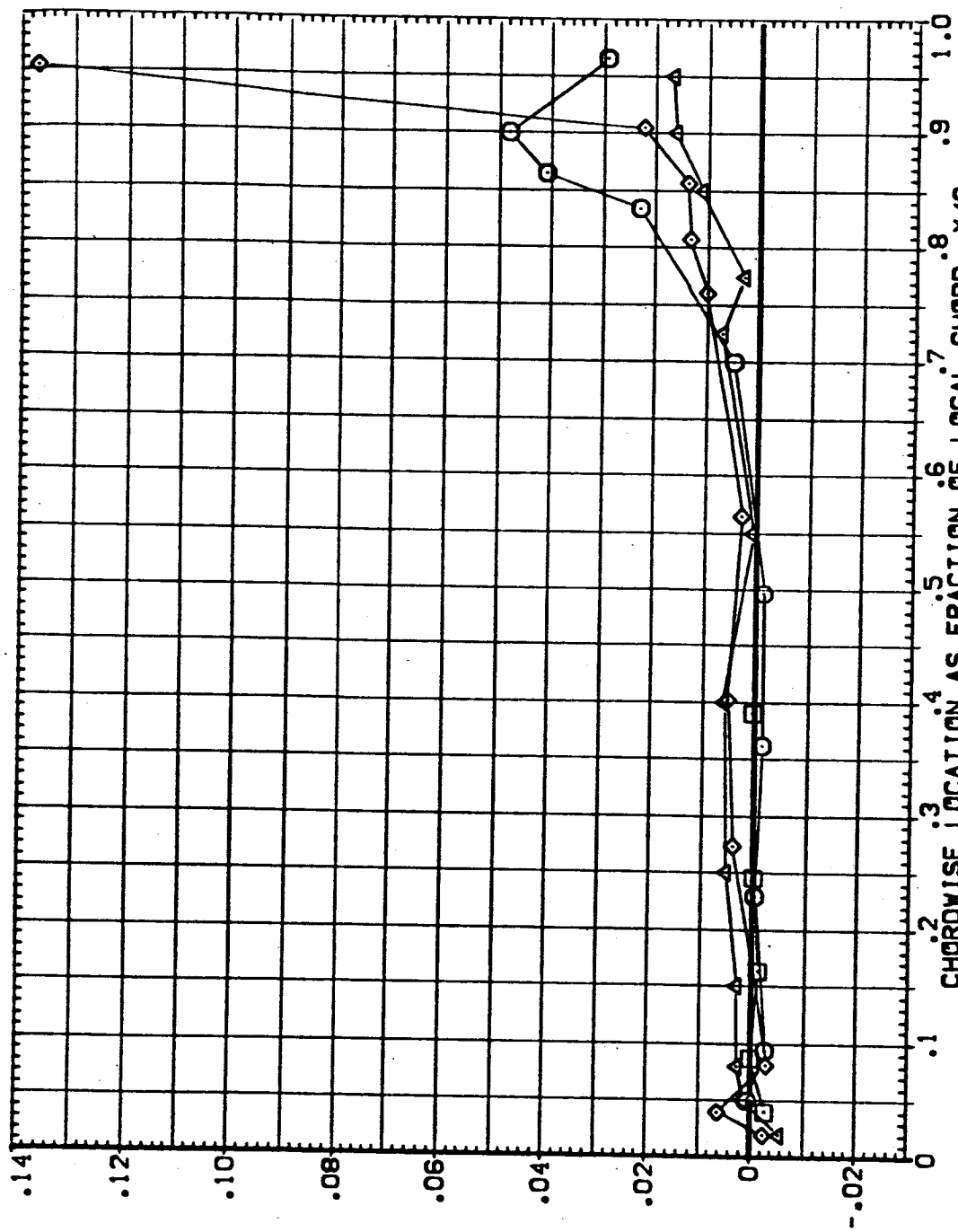


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

ELV-18 8.000
 RUDDER .000
 GIMBAL 1.000

BETA ALPHA
 -4.000 .000

ZY/B .641
 .780
 .687

SYMBOL
 ○ □ ◇

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

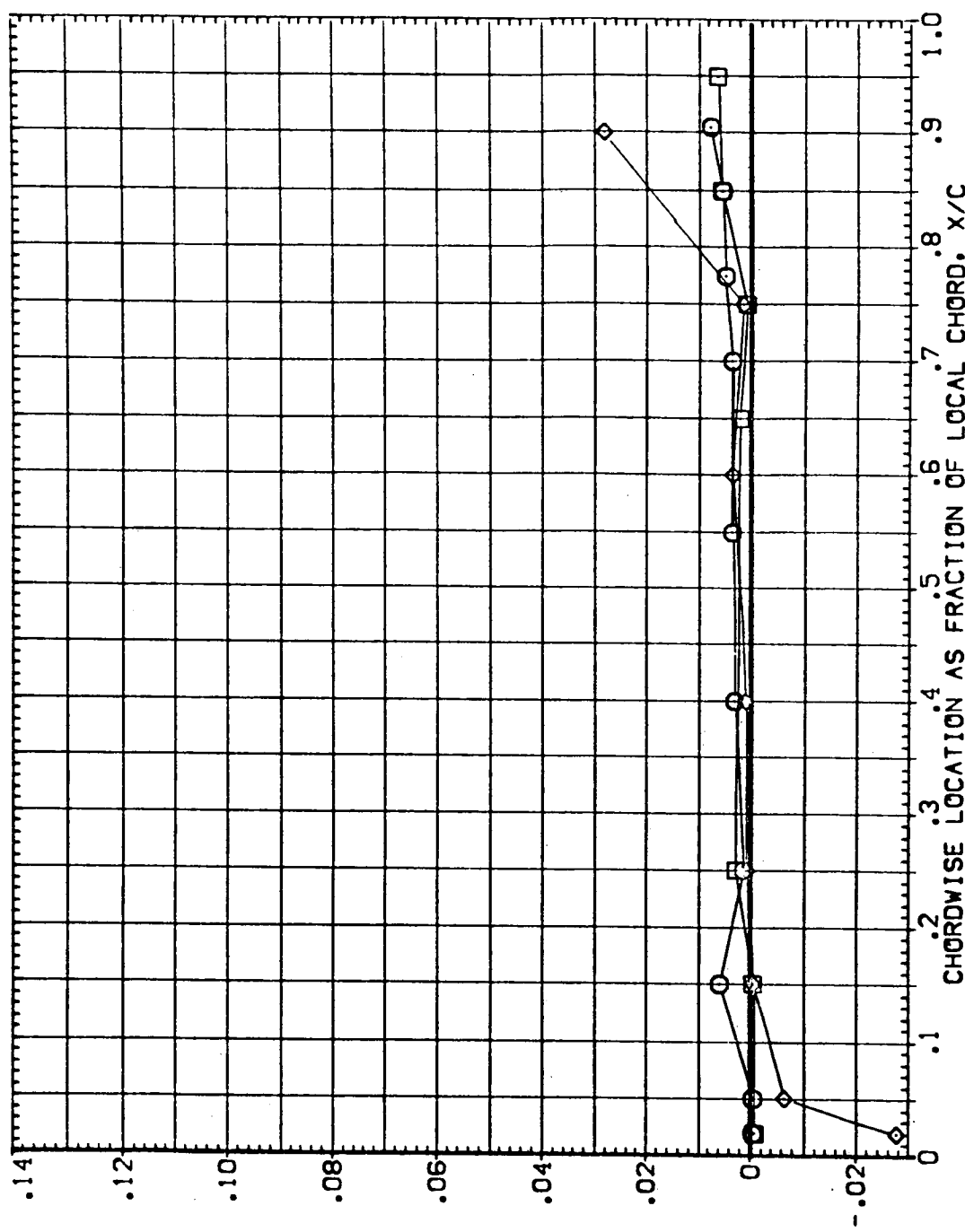


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS





ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(FEUW06)

SYMBOL
◇
□
▽

BETA 1.000 ALPHA .000
.299
.364
.427
.534

ELV-18
RUDDER
GIMBAL

8.000
.000
1.000

ELV-08
MACH

4.000
1.100

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

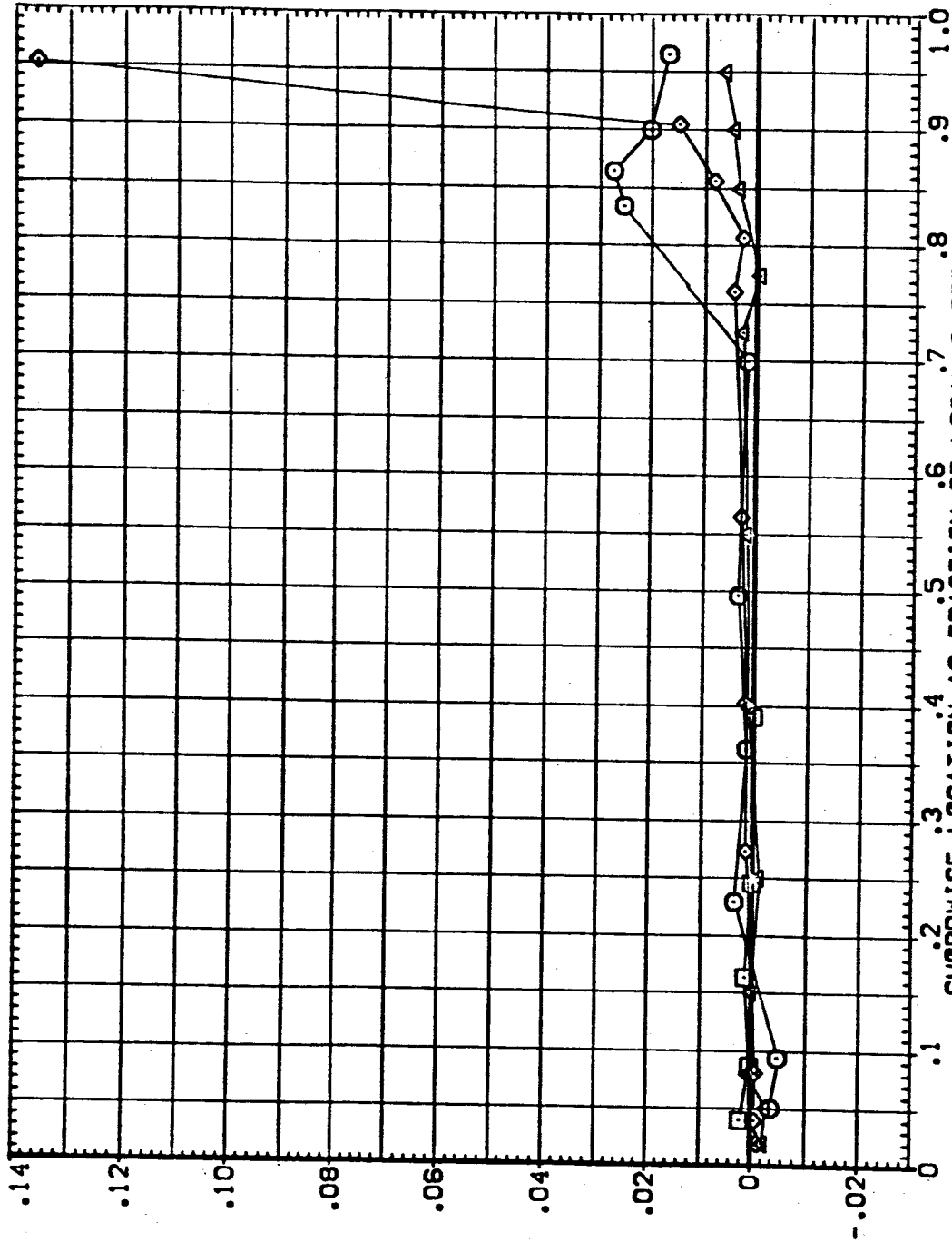


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(FEUW06)

SYMBOL γ/β BETA ALPHA

○ .641 4.000 .000

□ .780

◇ .887

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000

RUDDER .000 MACH 1.100

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

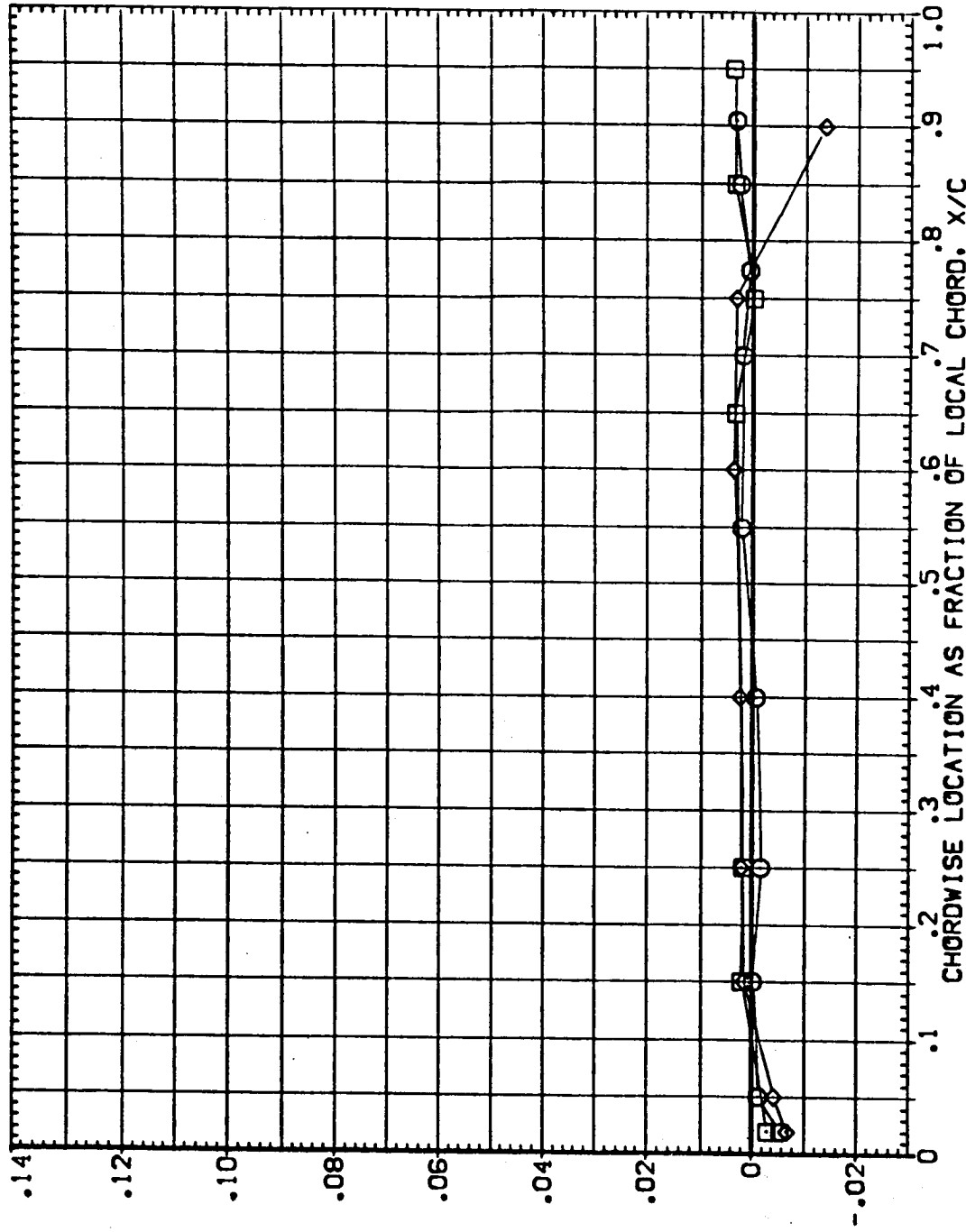


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(EEUW07)

SYMBOL		PARAMETRIC VALUES	
○	2Y/B	ELV-1B	ELV-09
□	.259	RUDDER	MACH
◇	.364	GIMBAL	
△	.427		
	.534		
	BETA		
	.000		
	ALPHA		
	-4.000		

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

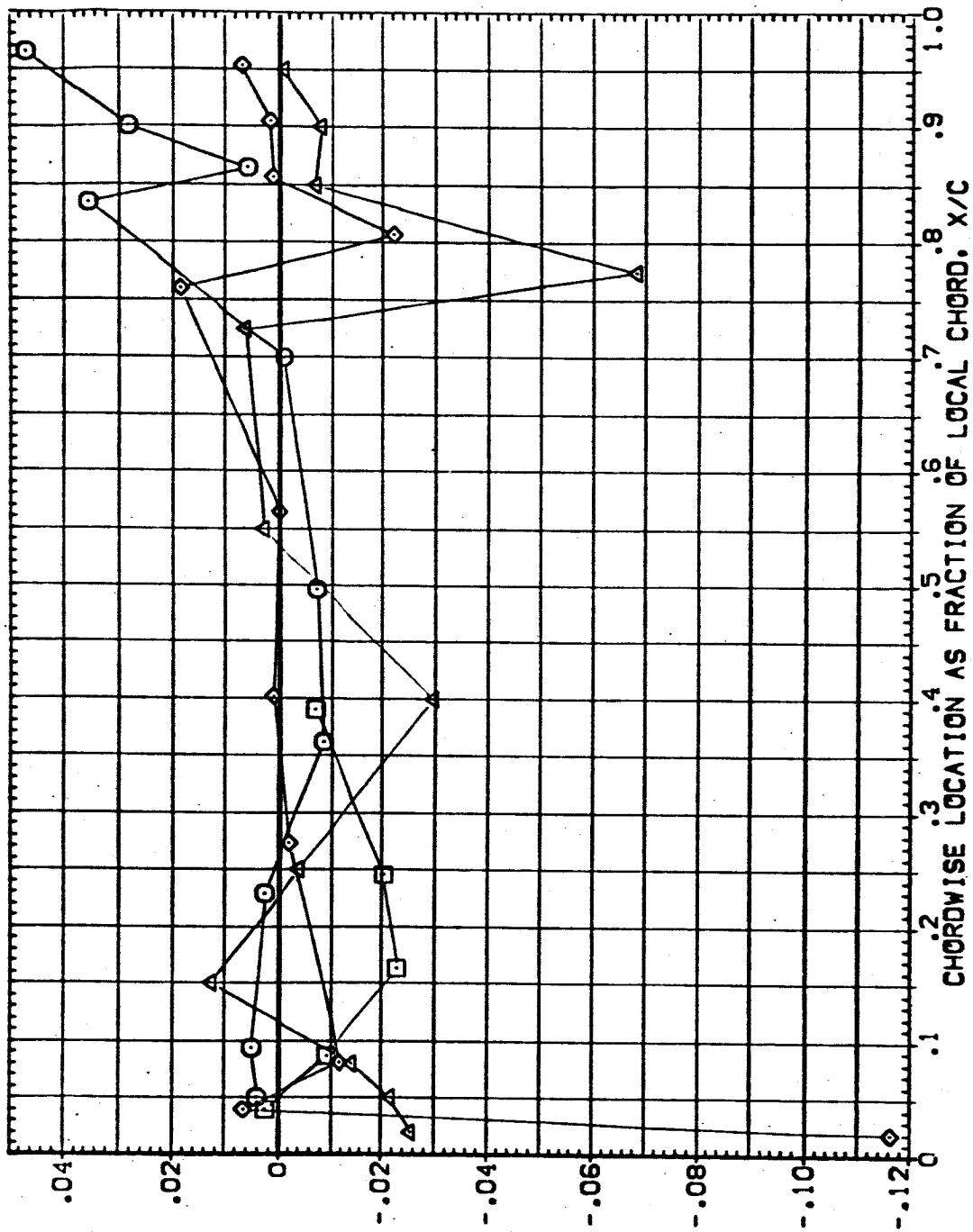


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

AMU11-UI41A19 015+SIRUT SRB-NOM MPS-NOM LWR WING(EEUW07)

SYMBOL Z1/B BETA ALPHA

○ .641 .000 -1.000

□ .780 .000 -1.000

◇ .887 .000 -1.000

PARAMETRIC VALUES

ELV-1B 8.000 ELV-08 4.000

RUDDER .000 MACH 1.250

G1/BAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

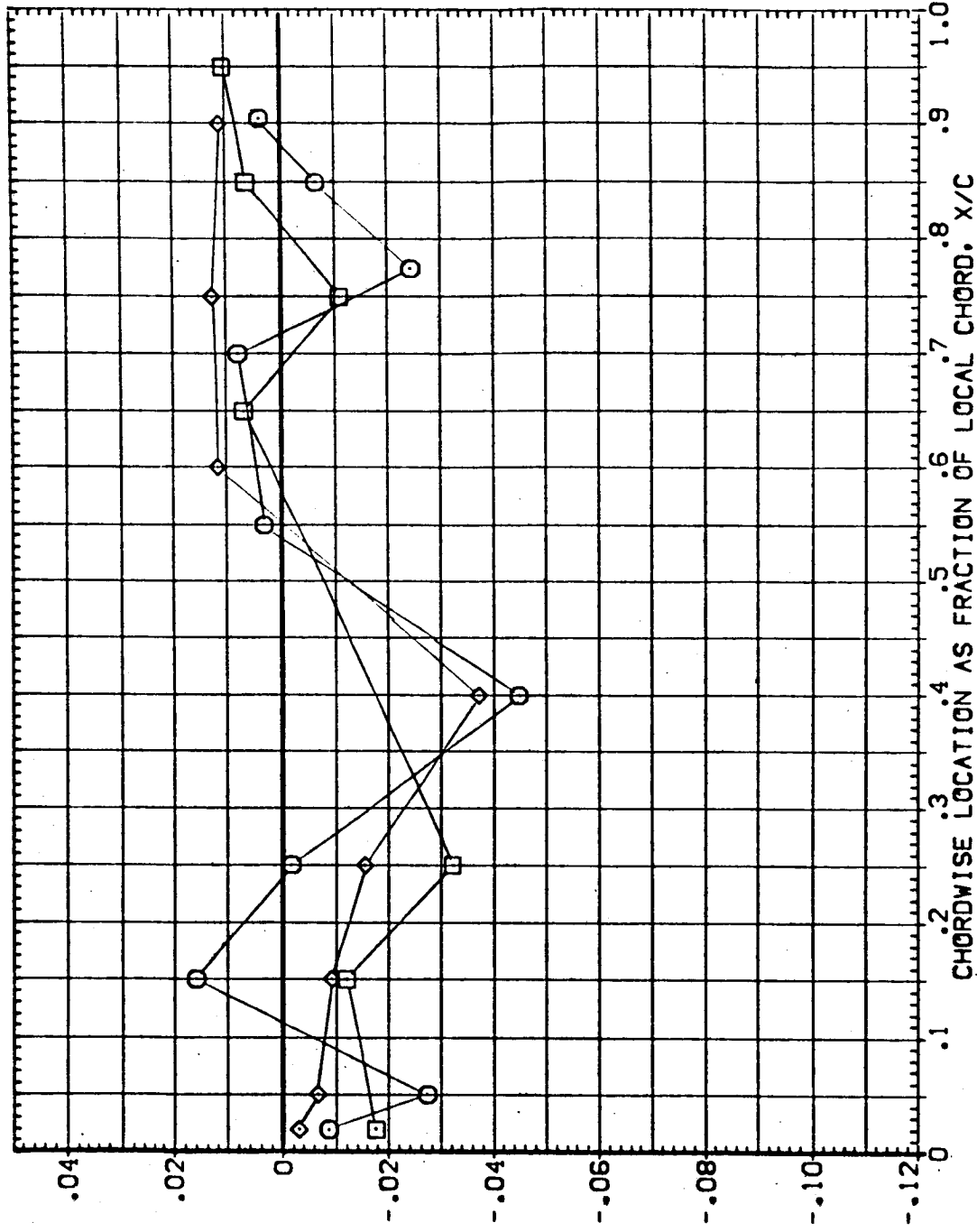


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(EEUW07)

SYMBOL 21/8 BETA ALPHA

ELV-18
RUDDER
GIMBAL

PARAMETRIC VALUES
6.000 ELV-08
.000 MACH
1.000

.299
.361
.427
.534

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

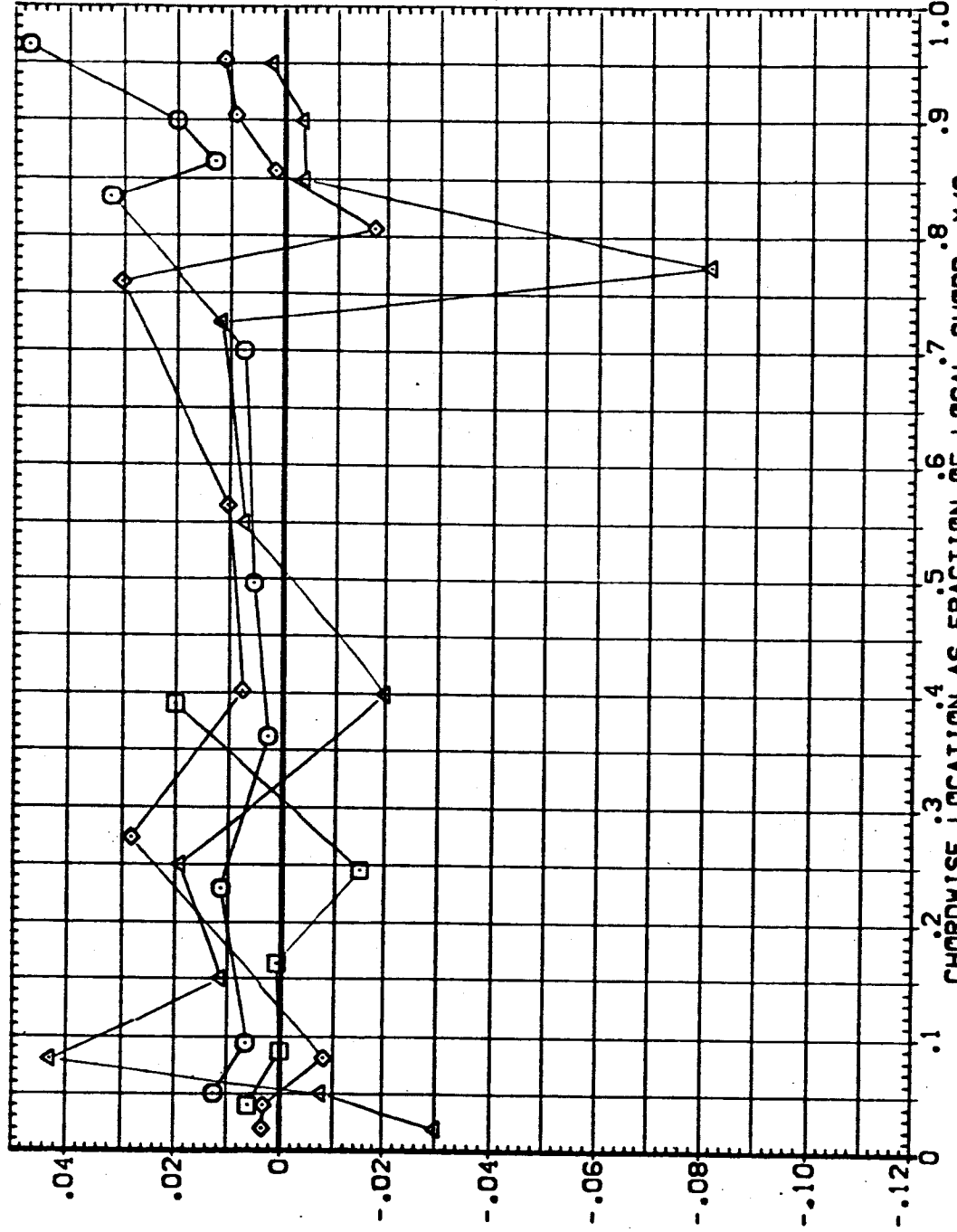


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(EUUW07)

SYMBOL Z1/B BETA ALPHA

○ .641 .000 .000
 □ .780 .000 .000
 ◇ .887 .000 .000

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

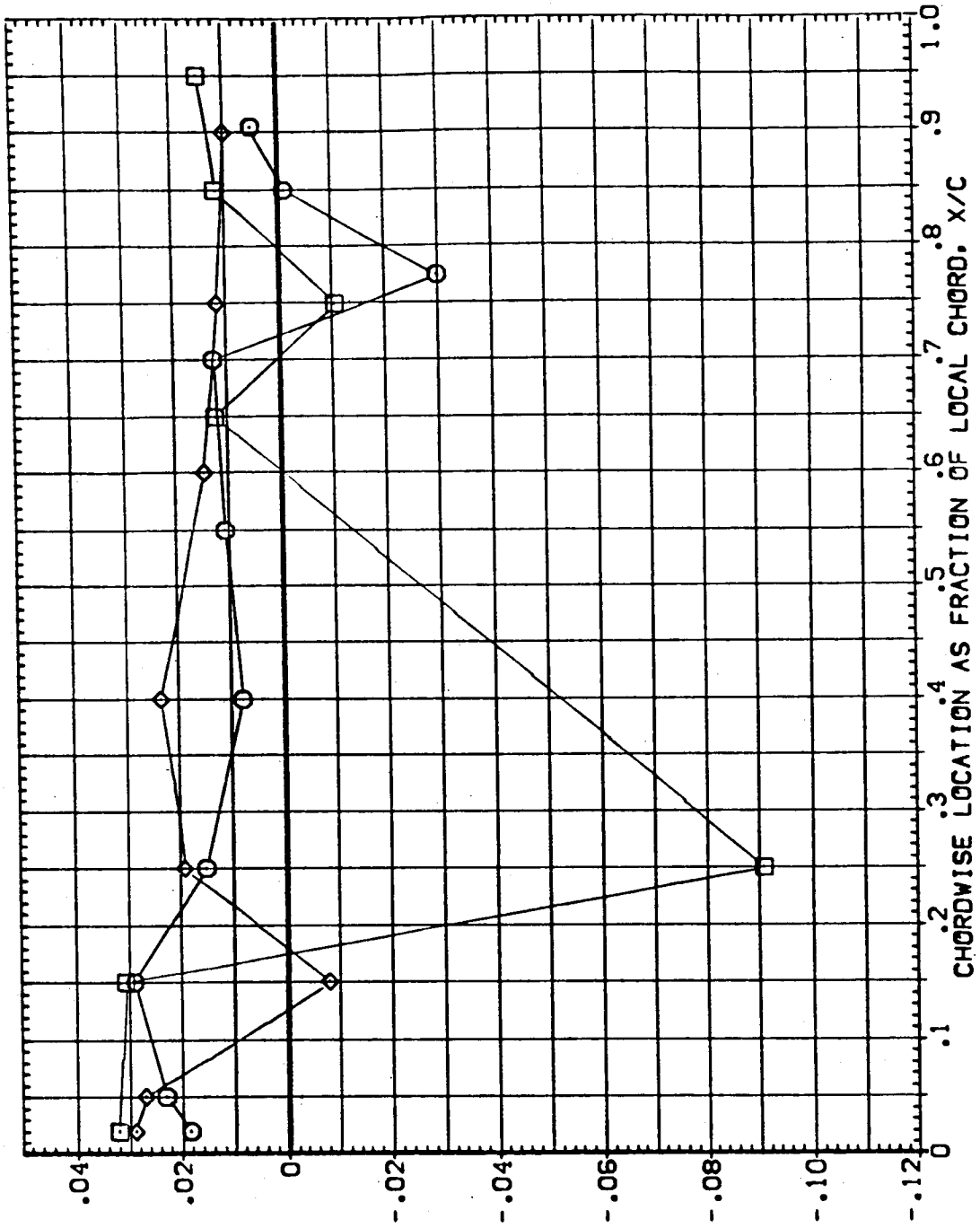


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(EEUW07)

SYMBOL		PARAMETRIC VALUES	
○	BETA	ELV-18	ELV-08
□	.000	.000	.000
◇	.299	RUDDER	MACH
△	.364	GIMBAL	1.000
	.427		1.250
	.534		4.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

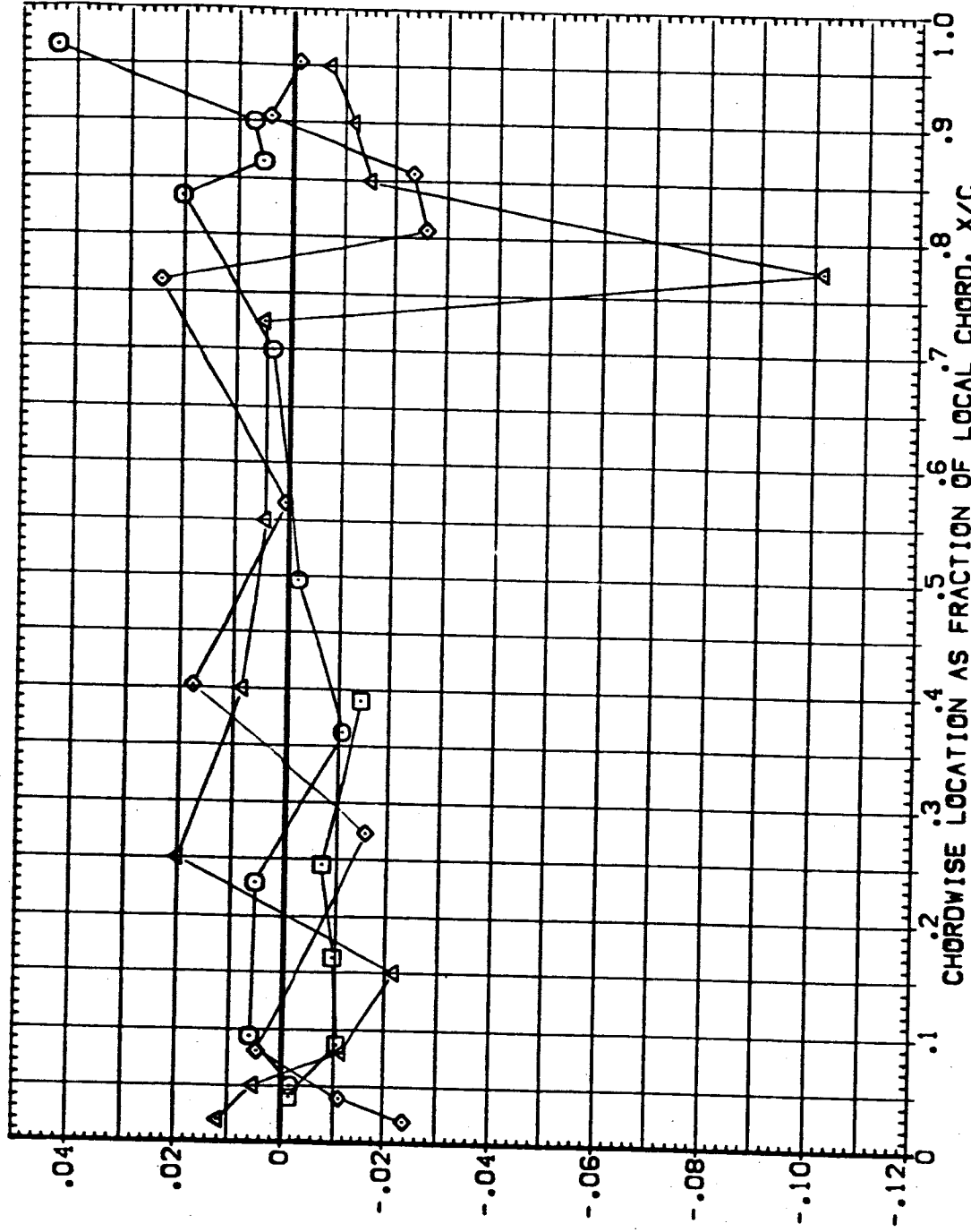


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(EEUW07)

SYMBOL 2Y/B BETA ALPHA

○ .641 .000 4.000

□ .780 .000 4.000

◇ .887 .000 4.000

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000

RUDER .000 MACH 1.250

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

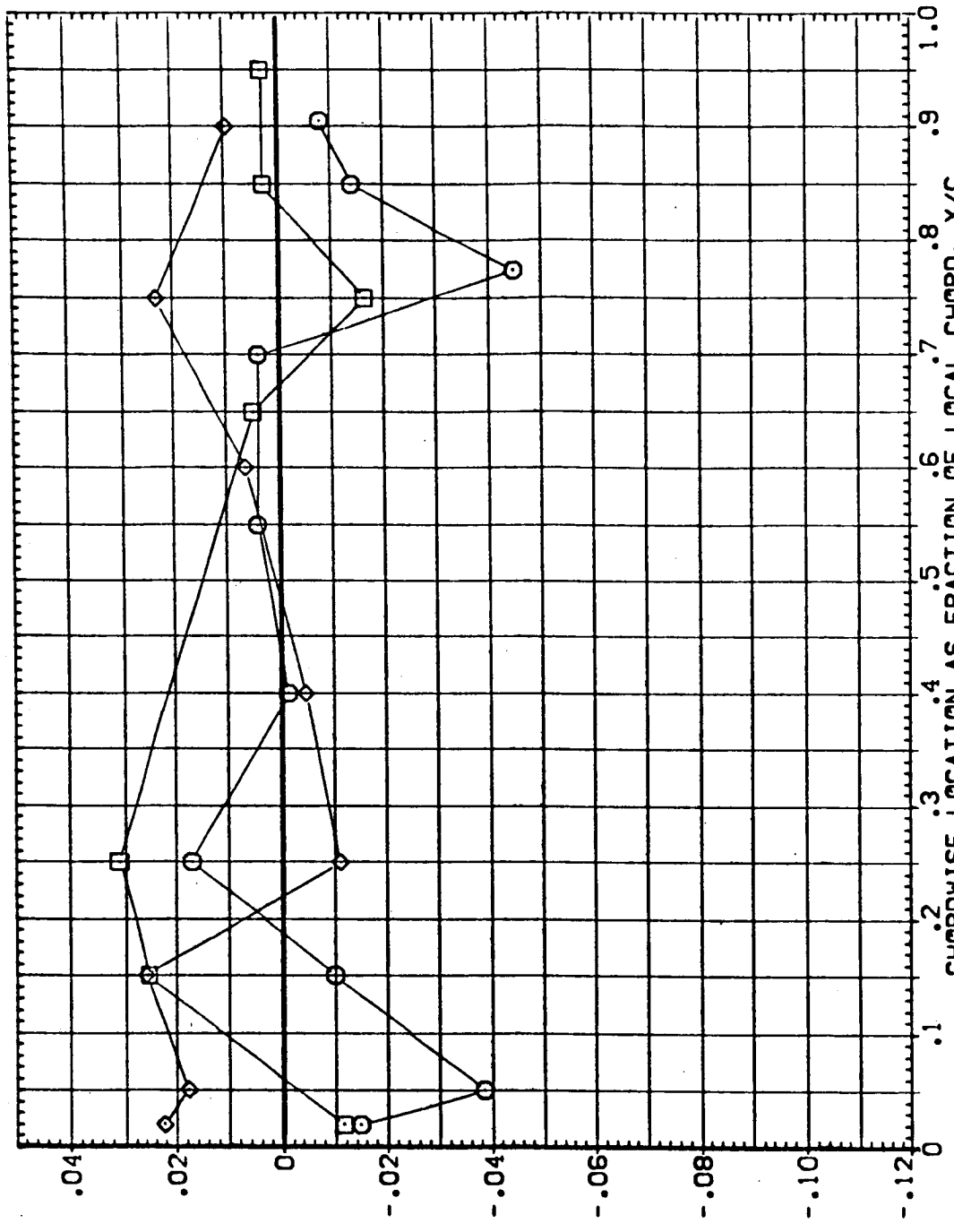


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(FEUW07)

PARAMETRIC VALUES
 ELV-18 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

SYMBOL Z1/B BETA ALPHA
 ○ .299 -4.000 .000
 □ .364 .427 .534
 ◇
 △

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

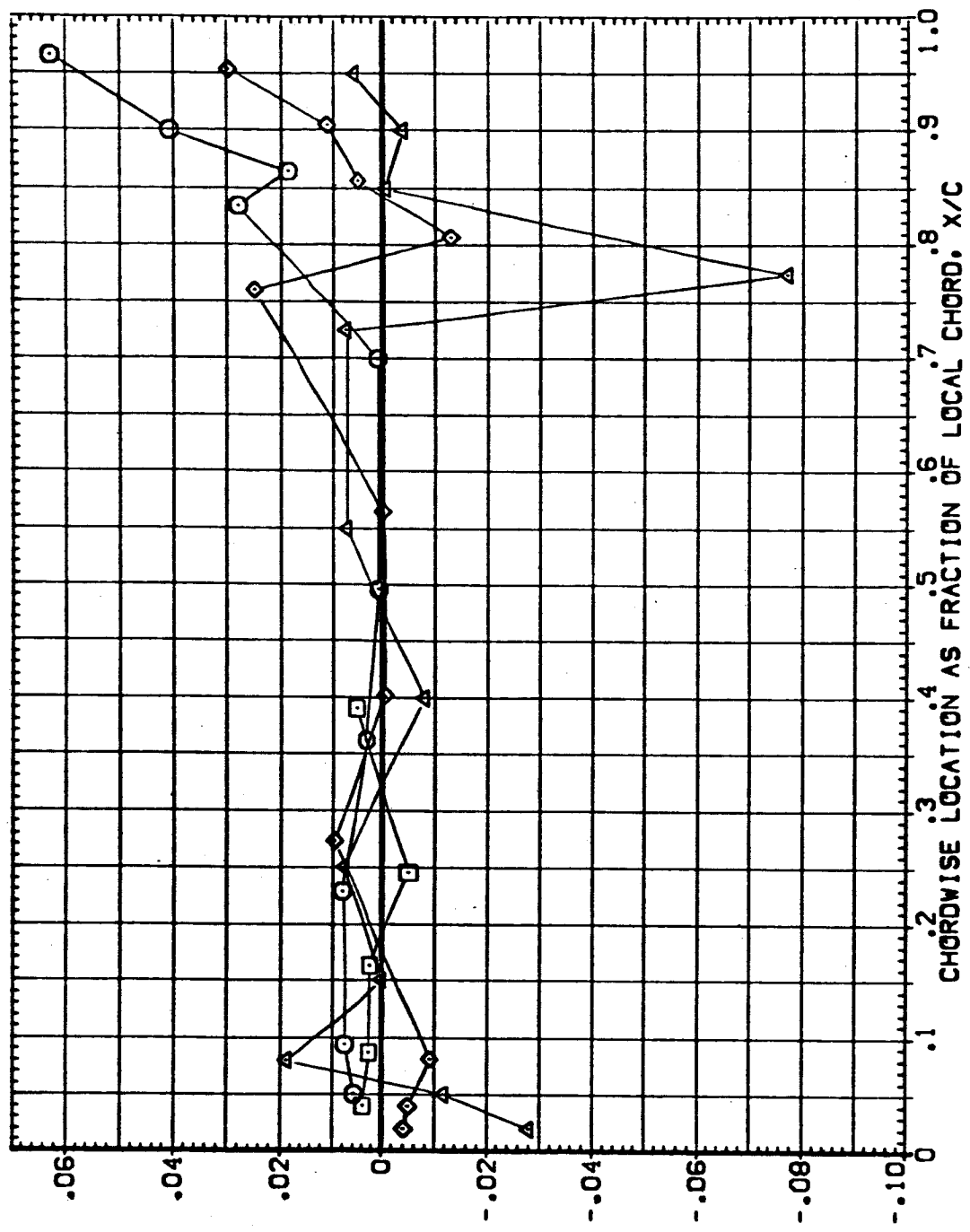


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

AKC11-U141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(FEUW07)

SYMBOL	Z1/B	BETA	ALPHA	PARAMETRIC VALUES
○	.641	-1.000	.000	8.000 ELV-08
□	.780			.000 MACH
◇	.687			1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

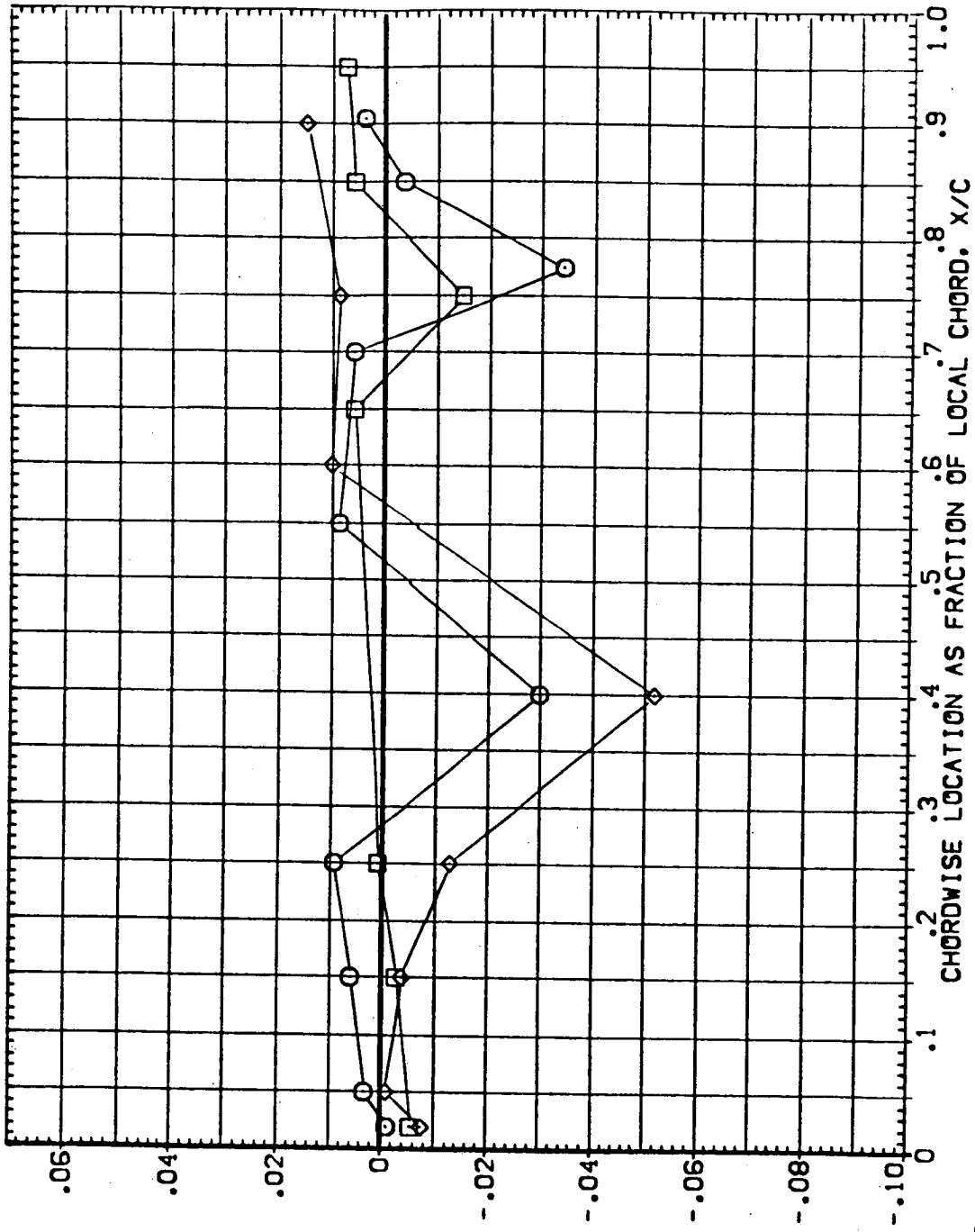


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(FEUW07)

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

SYMBOL ZY/B BETA ALPHA
 ○ .641 4.000 .000
 □ .780 .000
 ◇ .887

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

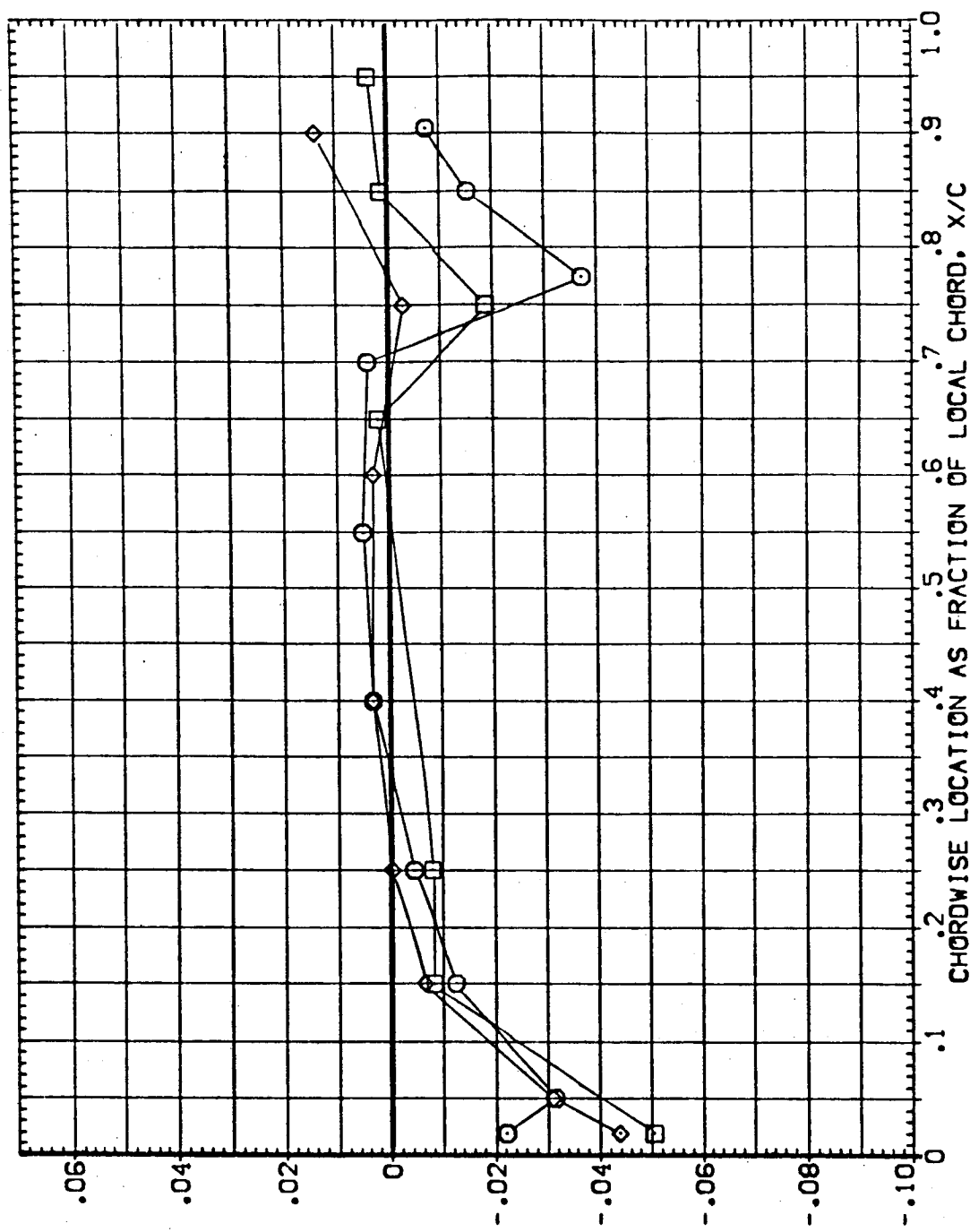


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(EEUW08)

SYMBOL ZY/B BETA ALPHA

○ .299 .000 -1.000

□ .364

◇ .427

▽ .534

PARAMETRIC VALUES

ELV-IB 8.000 ELV-OB 4.000

RUDDER .000 MACH 1.400

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

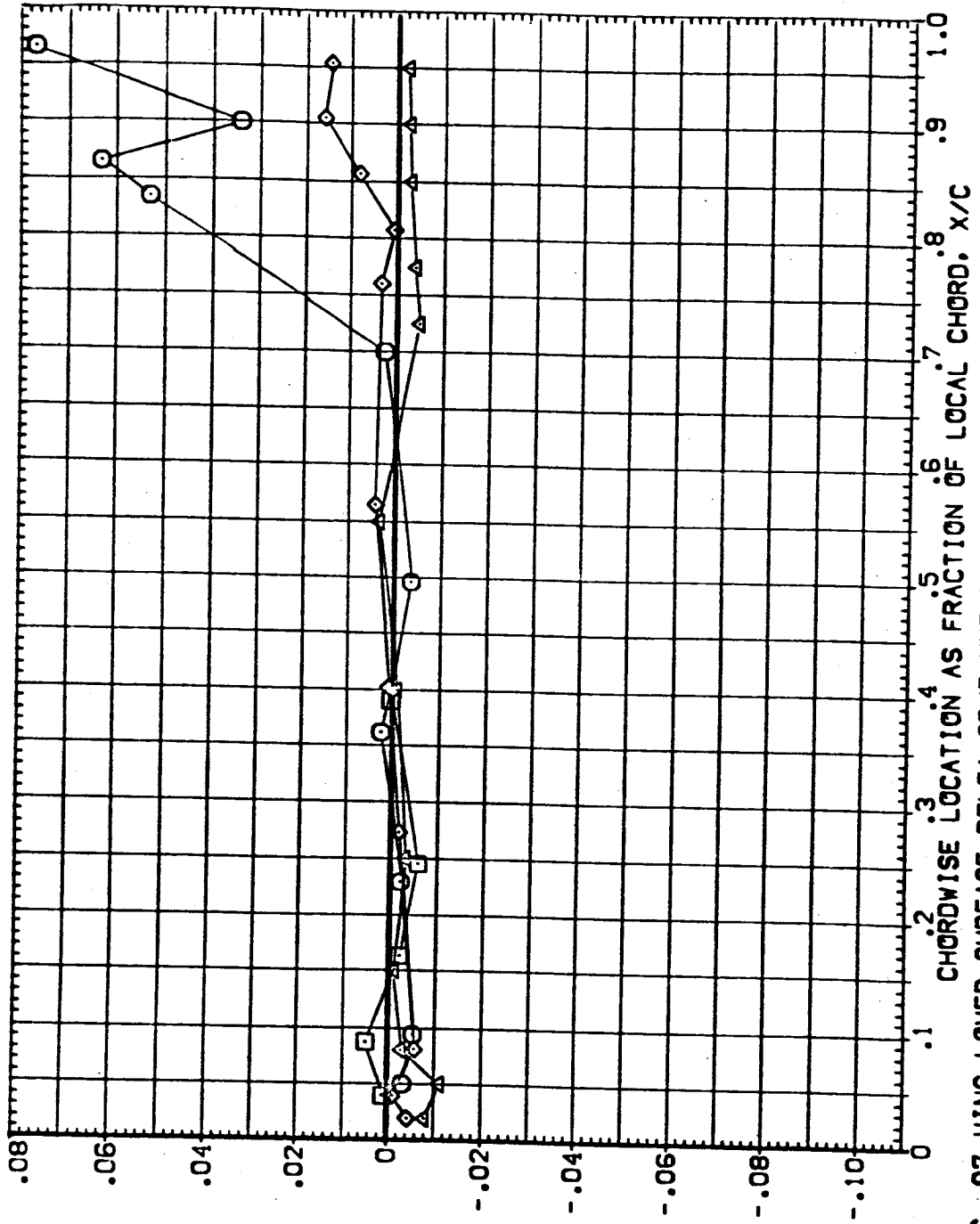


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(EEUW08)

SYMBOL 21/B BETA ALPHA

◇ .61 .000 -4.000

□ .780

○ .887

PARAMETRIC VALUES

8.000 ELV-08 4.000

.000 MACH 1.400

1.000

ELV-18

RUDDER

GIMBAL

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

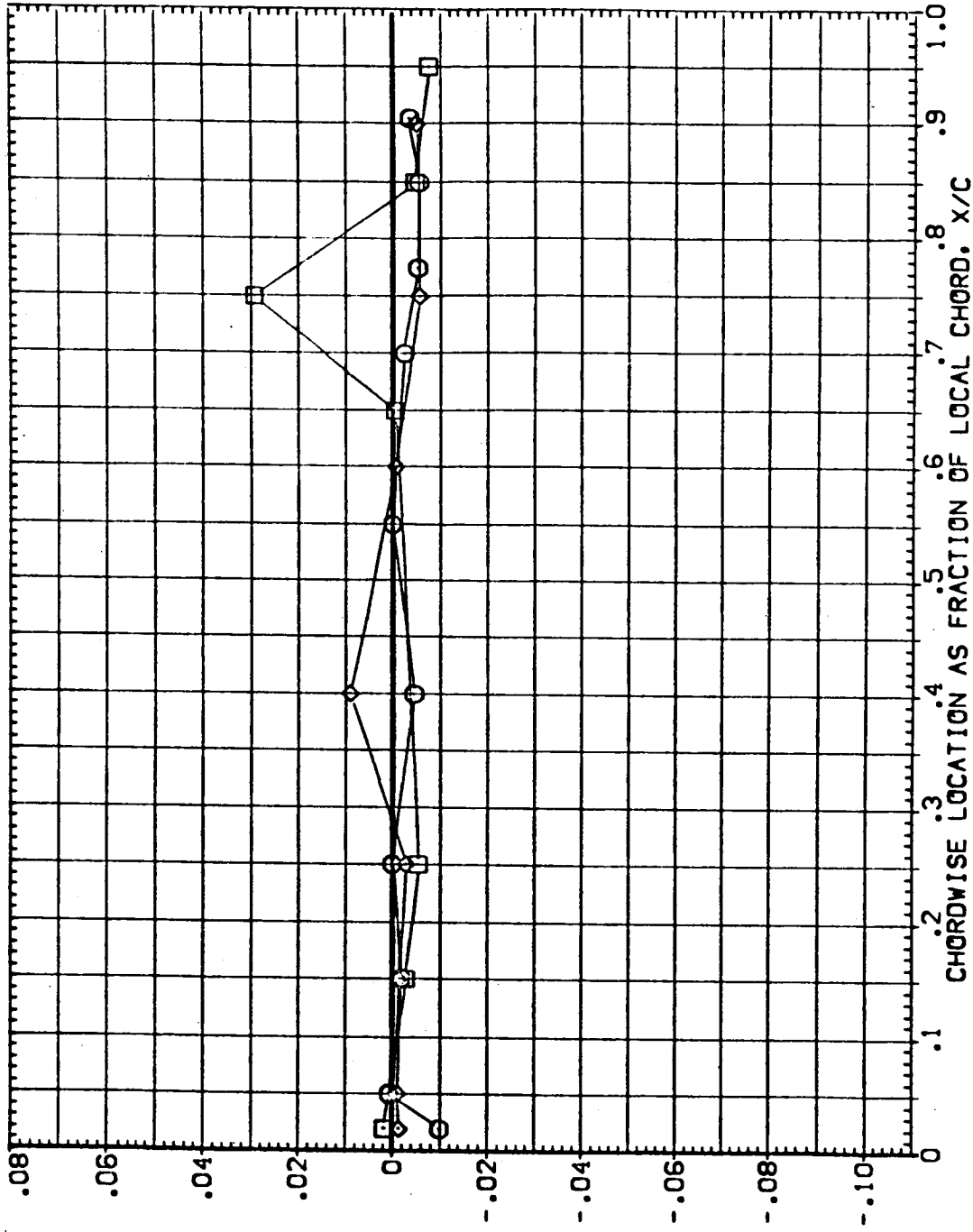


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(EEUW08)

SYMBOL	ZN/B	BETA	ALPHA	ELV-1B	ELV-08	PARAMETRIC VALUES
◇	.299	.000	.000	RUDER	.000	6.000
□	.364	.000	.000	GIMBAL	1.000	1.000
○	.427					MACH
△	.534					1.400

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

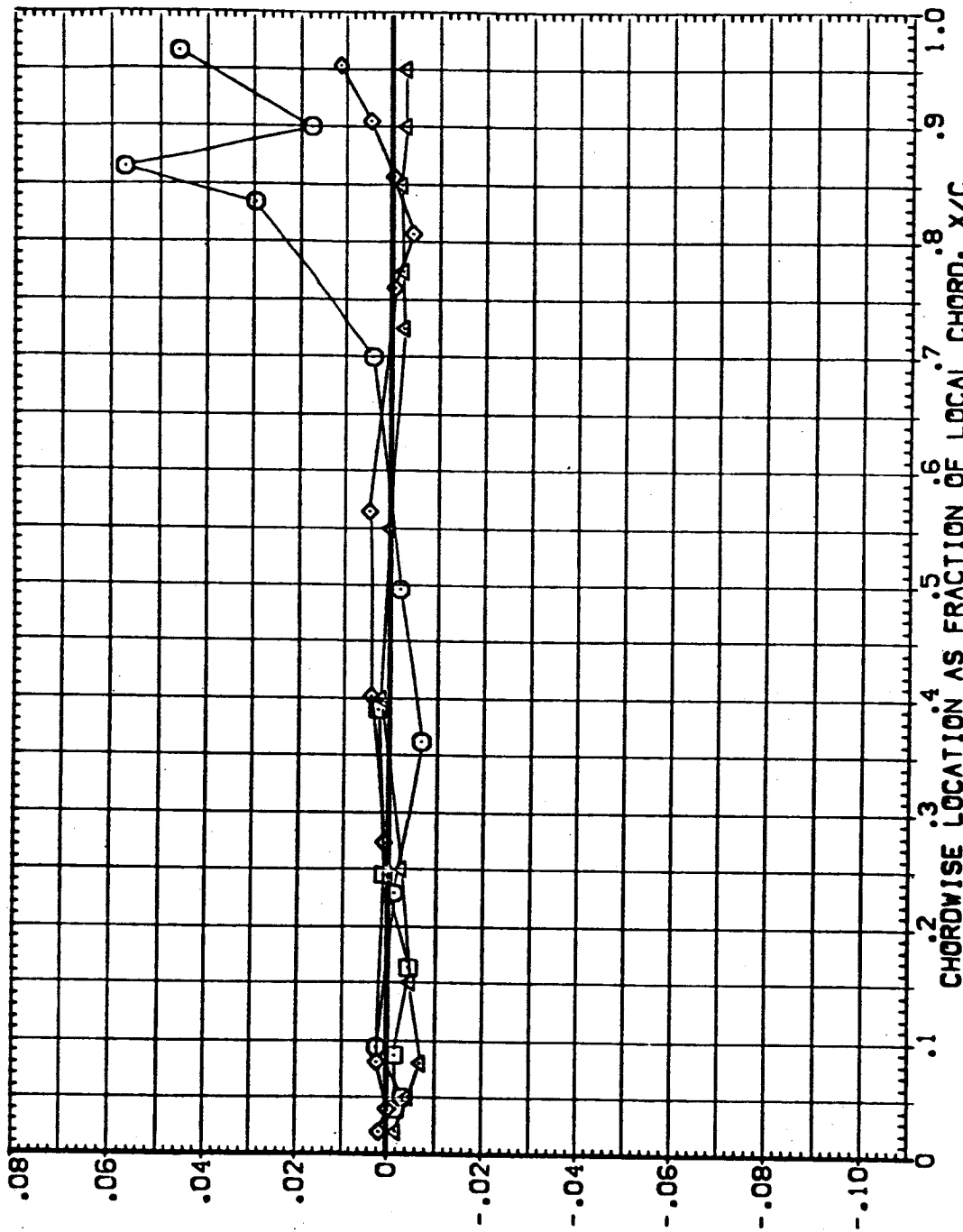


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING (EEUW08)

SYMBOL 2Y/B BETA ALPHA

○ .641 .000 .000

□ .780

◇ .887

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000

RUDDER .000 MACH 1.400

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

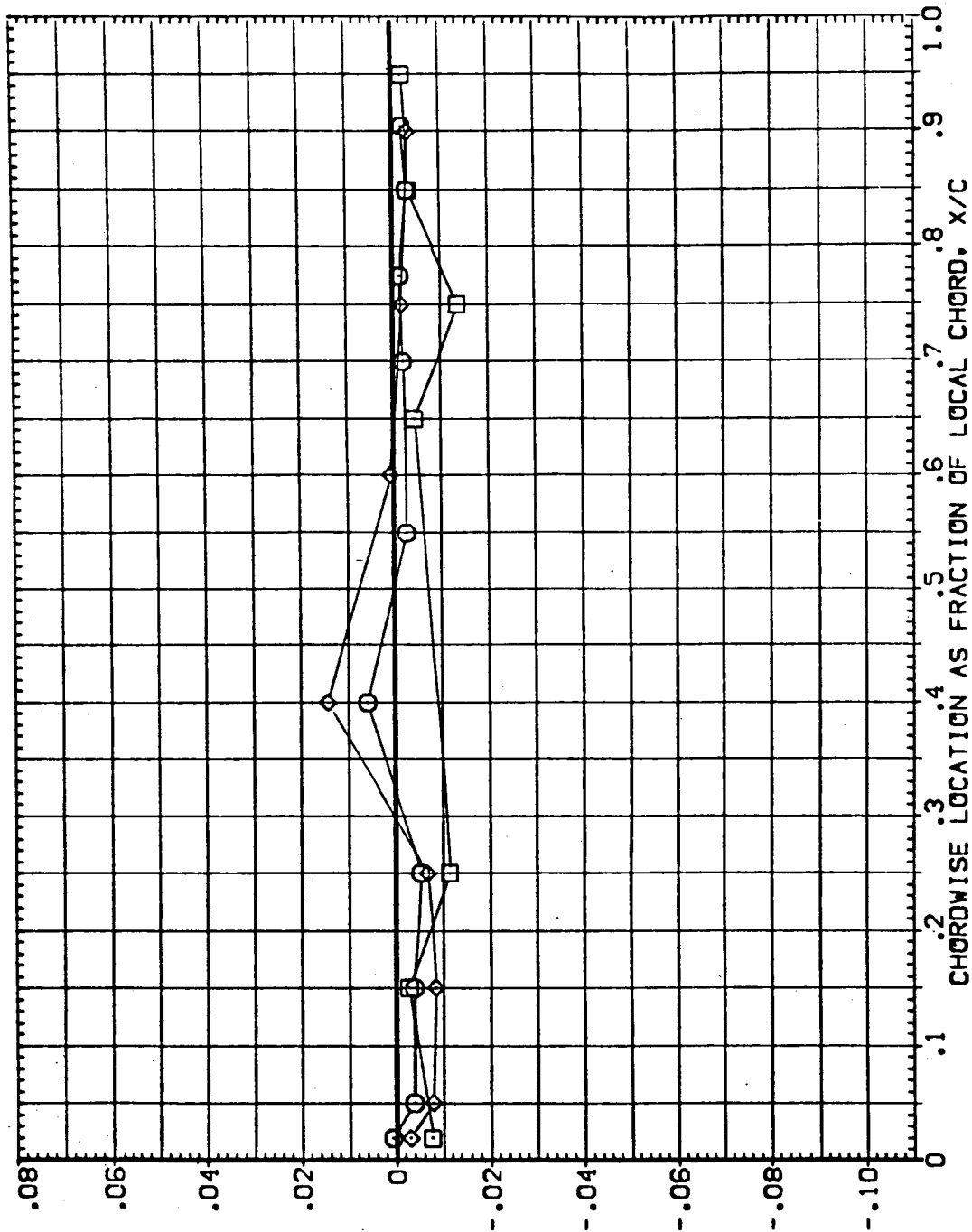


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(EEUW08)

SYMBOL	Z1/B	BETA	ALPHA	ELV-1B	PARAMETRIC VALUES
○	.259	.000	4.000	RUDDER	8.000 ELV-08
◇	.364			GIMBAL	.000 MACH
△	.427				1.000
▽	.534				

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

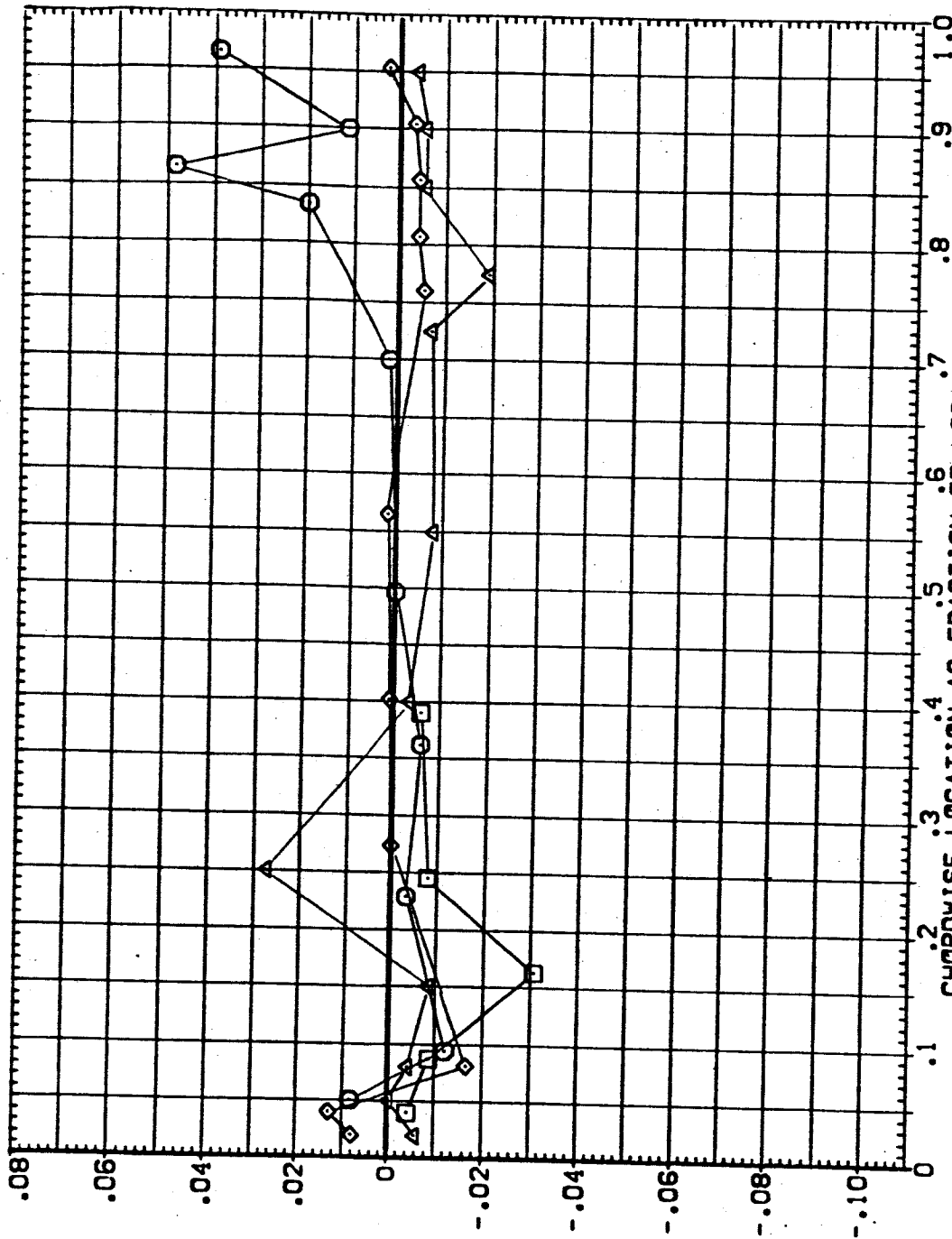


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(EEUW08)

SYMBOL	ZY/B	BETA	ALPHA	PARAMETRIC VALUES
○	.641	.000	4.000	ELV-18 8.000
□	.780	.000	1.000	ELV-08 .000
◇	.887	.000	1.400	RUDDER MACH
				GIMBAL 1.000

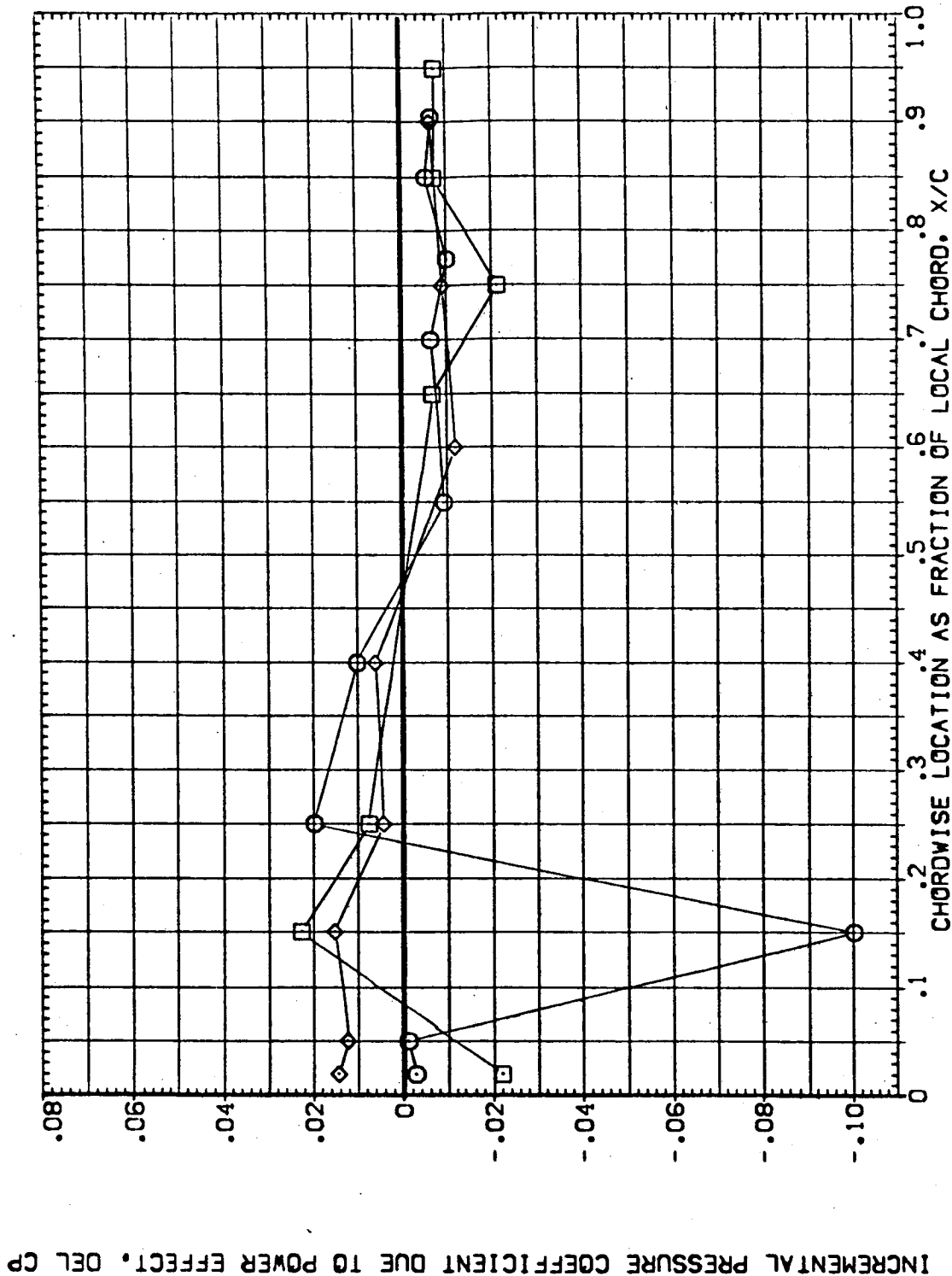


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS



ARC11-014IA19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(FEUW08)

SYMBOL
 ○
 □
 ◇
 ▽

2Y/B BETA ALPHA
 .299 -1.000 .000
 .361
 .427
 .531

PARAMETRIC VALUES
 ELV-19 ELV-08 4.000
 RUDDER MACH 1.400
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

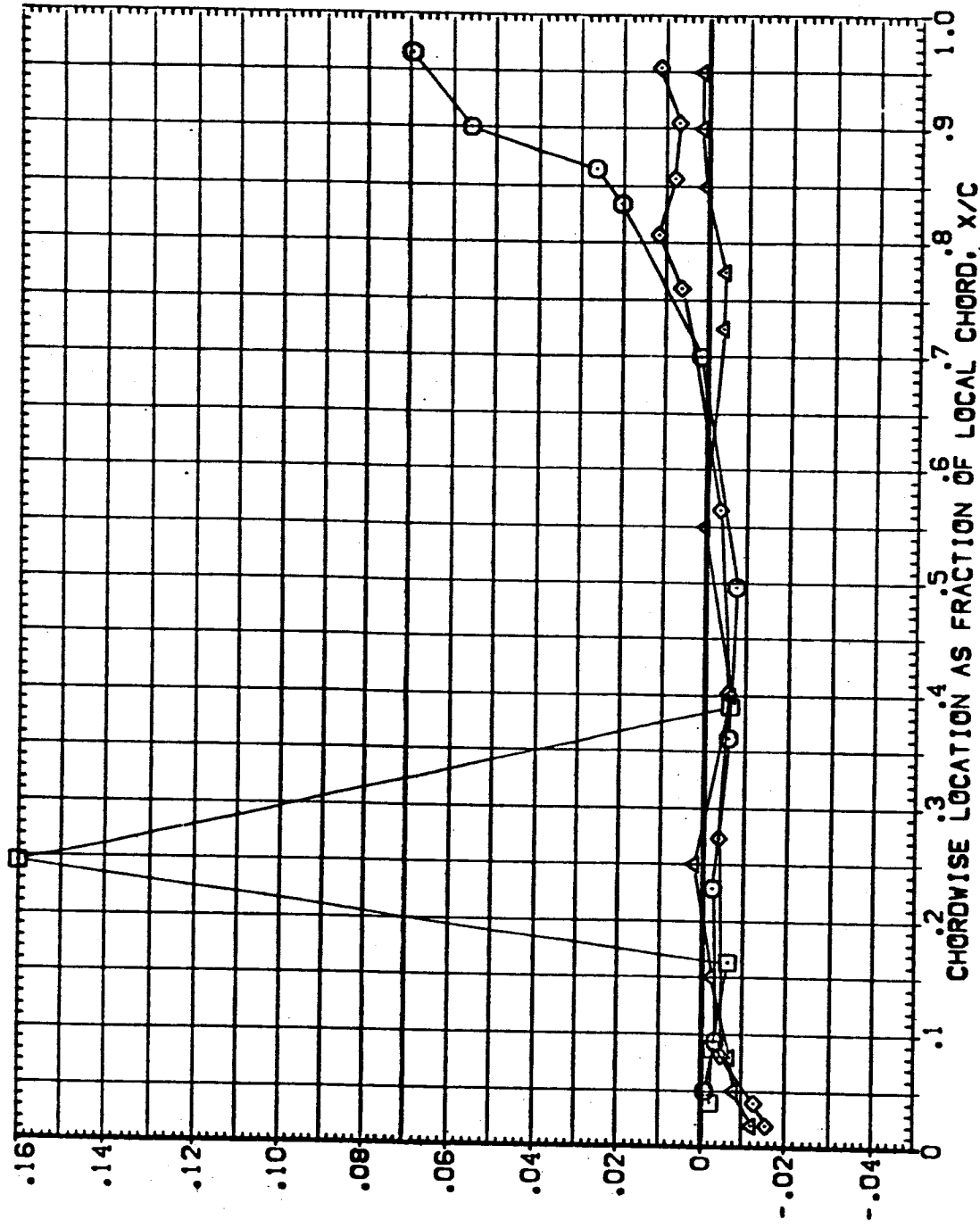


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(FEUW08)

SYMBOL
 ○
 □
 ◇

ZY/B .641
 .780
 .687

BETA -4.000
 ALPHA .000

ELV-18
 RUDDER
 GIMBAL

PARAMETRIC VALUES
 8.000 ELV-08
 .000 MACH
 1.000 4.000
 1.400

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

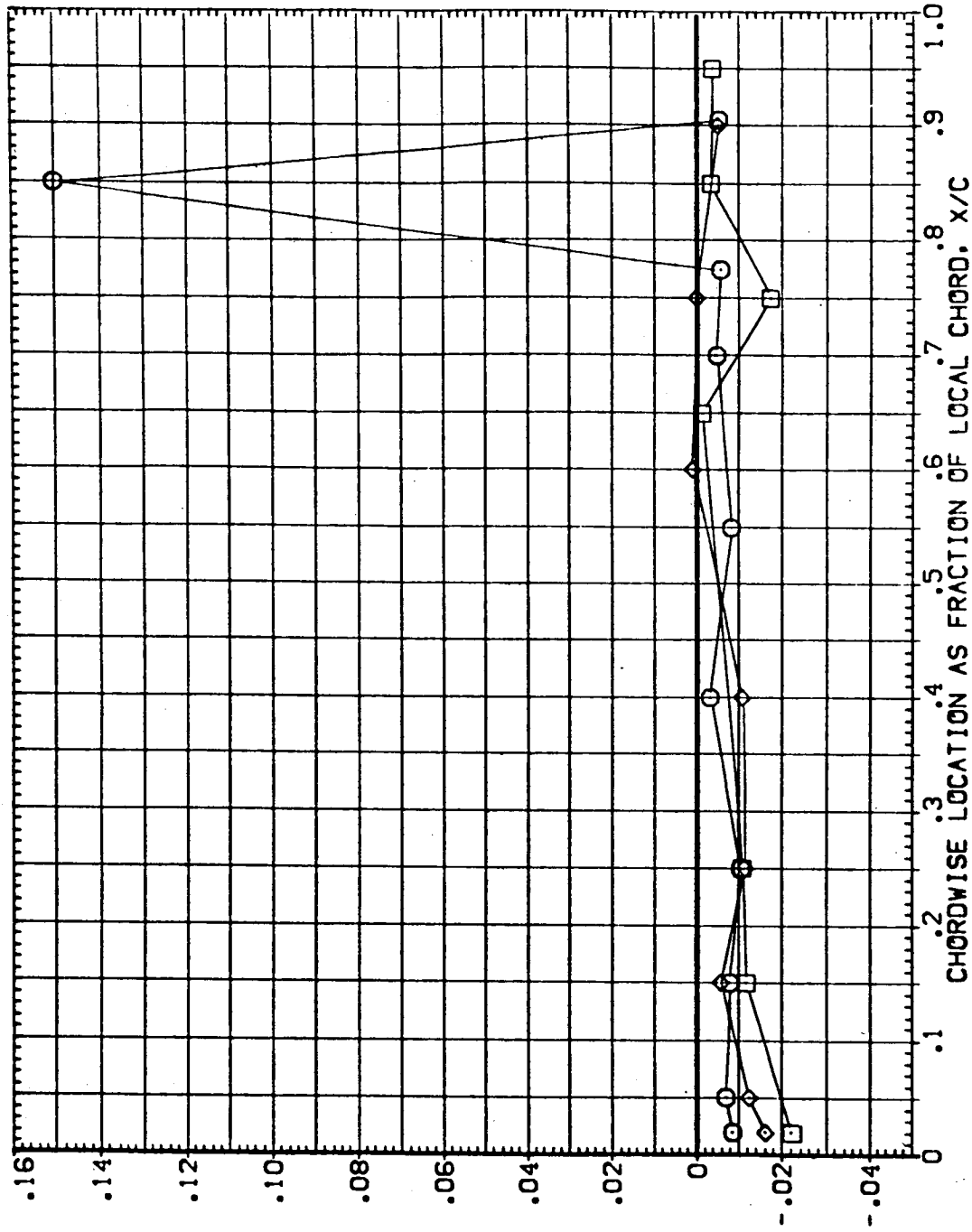


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(FEUW08)

SYMBOL Z1/B BETA ALPHA

○ .299 1.000 .000

□ .364 .000 .000

◇ .427 .000 .000

▽ .534 1.000 .000

PARAMETRIC VALUES

ELV-19 8.000 ELV-08 4.000

RUDDER .000 MACH 1.400

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

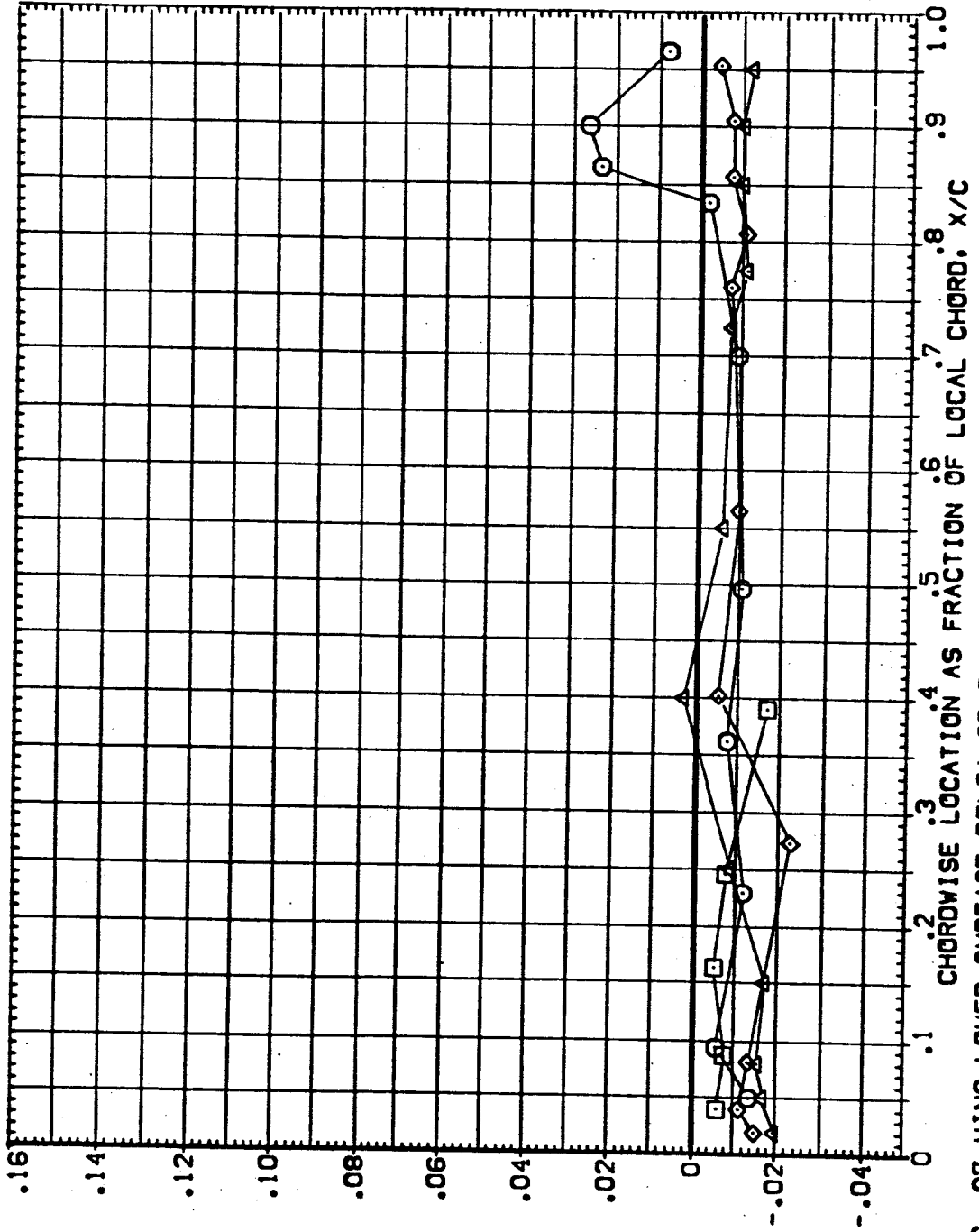


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING (FEUW08)

SYMBOL
 ○ □ ◇

Z/Y/B BETA ALPHA
 .641 4.000 .000
 .780
 .887

PARAMETRIC VALUES
 ELV-18 ELV-08 4.000
 RUDDER MACH 1.400
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

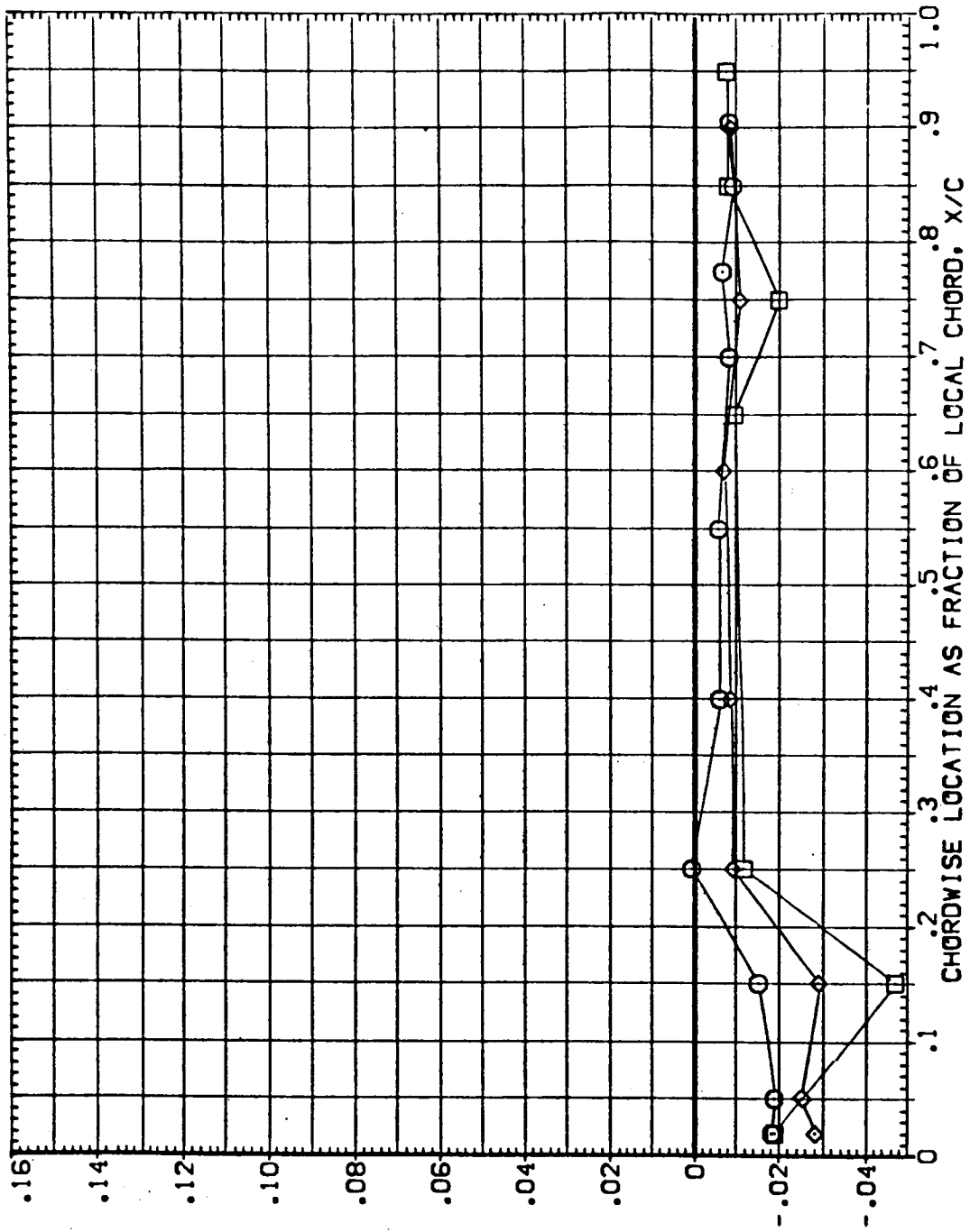


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(EEUW13)

SYMB.	Z1/B	BETA	ALPHA	ELV-18	PARAMETRIC VALUES
◇	.259	.000	-4.000	RUDER	8.000
□	.364			GIMBAL	.000
△	.427				1.000
	.534				4.000
					.900

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

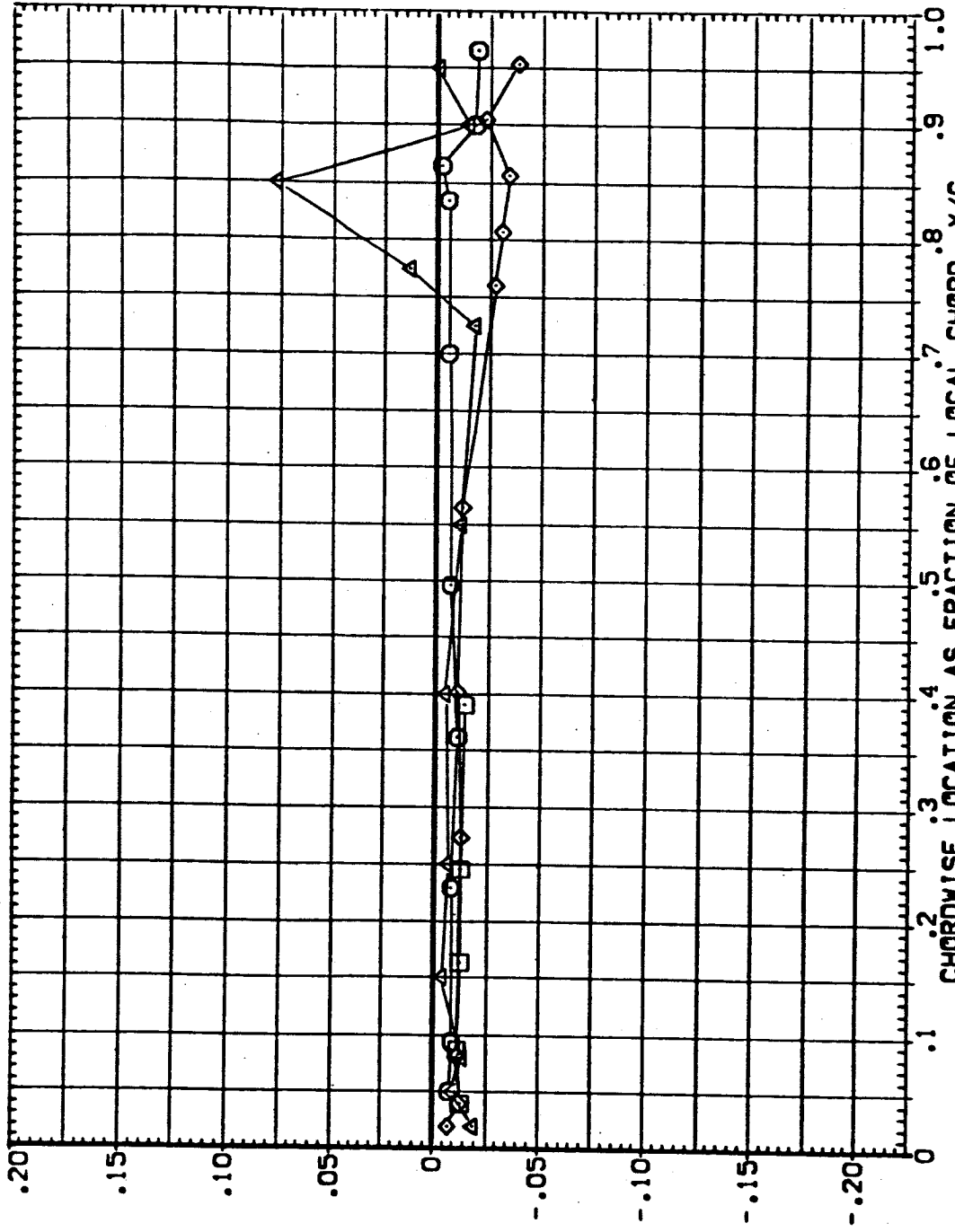


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM. MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(EEUW13)

SYMBOL ZY/B BETA ALPHA

○ .641 .000 -1.000

□ .780 .000 .000

◇ .887 .000 .000

PARAMETRIC VALUES

ELV-1B 8.000 ELV-08 4.000

RUDER .000 MACH .900

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

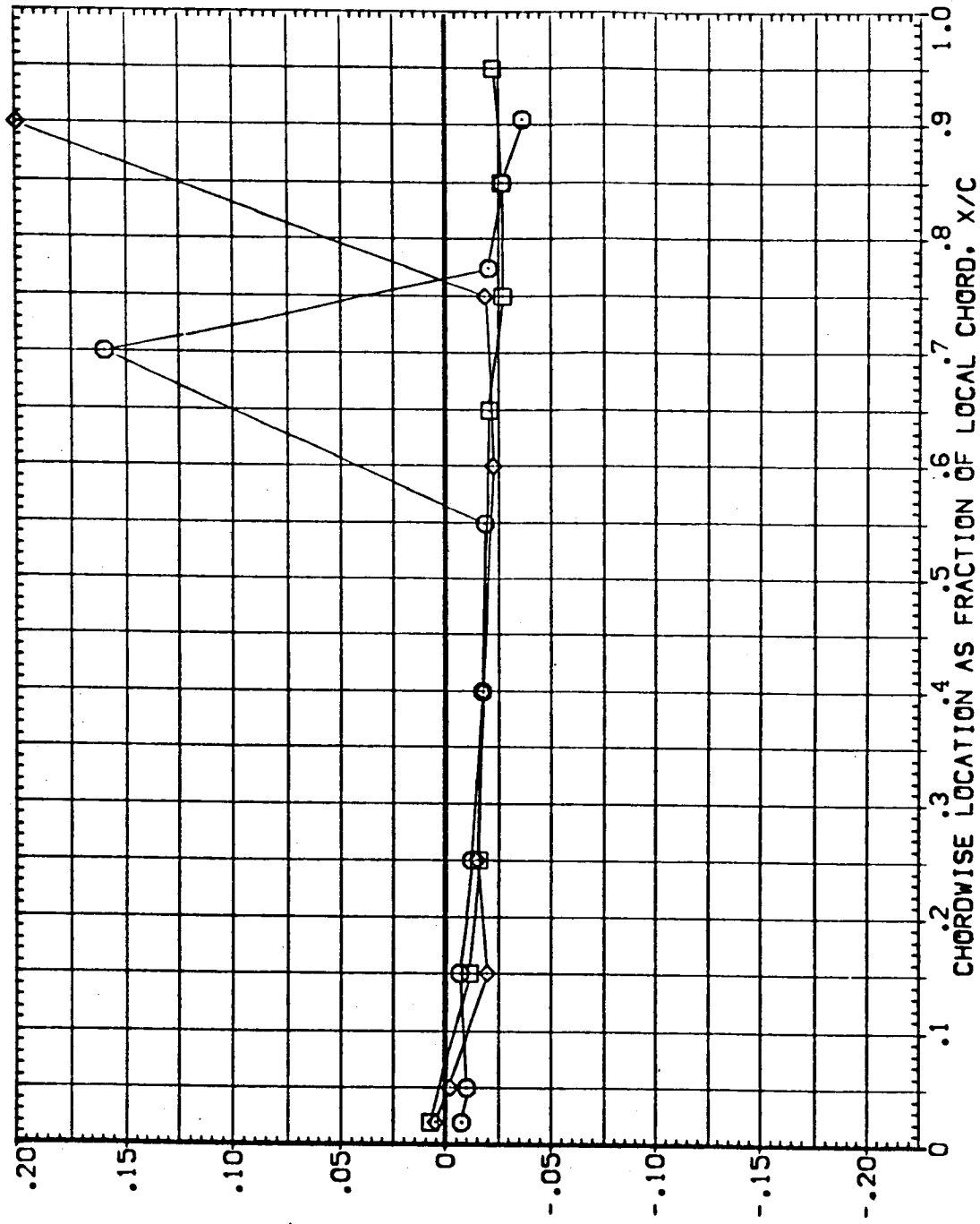


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF



ARC11-0141A19 QTS+STRUT SRB-NOM MPS-OFF LWR WING(EEUW13)

SYMBOL		PARAMETRIC VALUES	
○	2Y/B	ELV-18	ELV-08
□	BETA	RUDER	MACH
◇	ALPHA	GIMBAL	
△			
	.299	.000	1.000
	.364	.000	.900
	.427	1.000	
	.534		

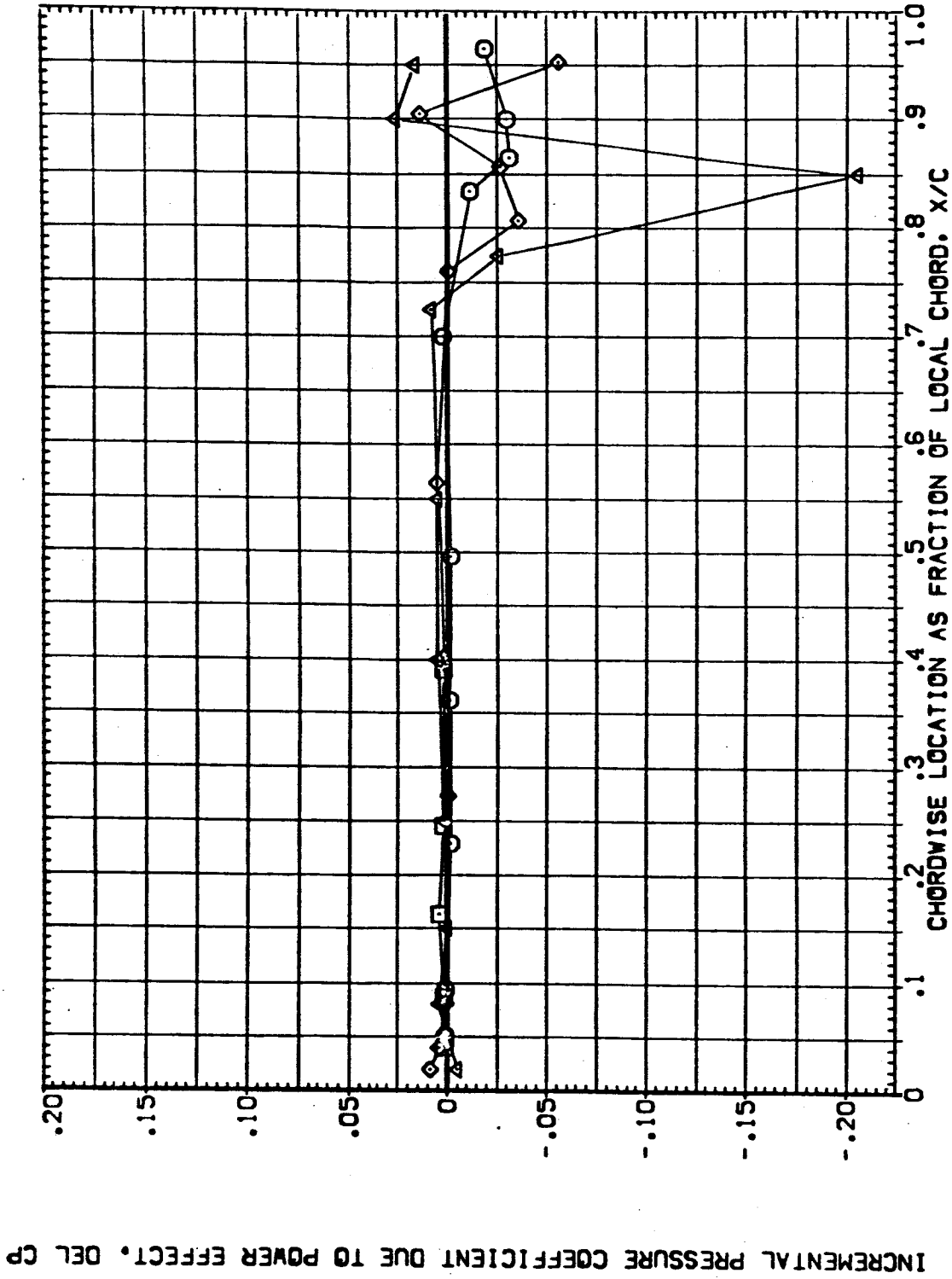


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(EEUW13)

SYMBOL Z1/B BETA ALPHA

○ .641 .000 .000

□ .780 .000 .000

◇ .687 .000 .000

PARAMETRIC VALUES

ELV-1B 8.000 ELV-08 4.000

RUDDER .000 MACH .900

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

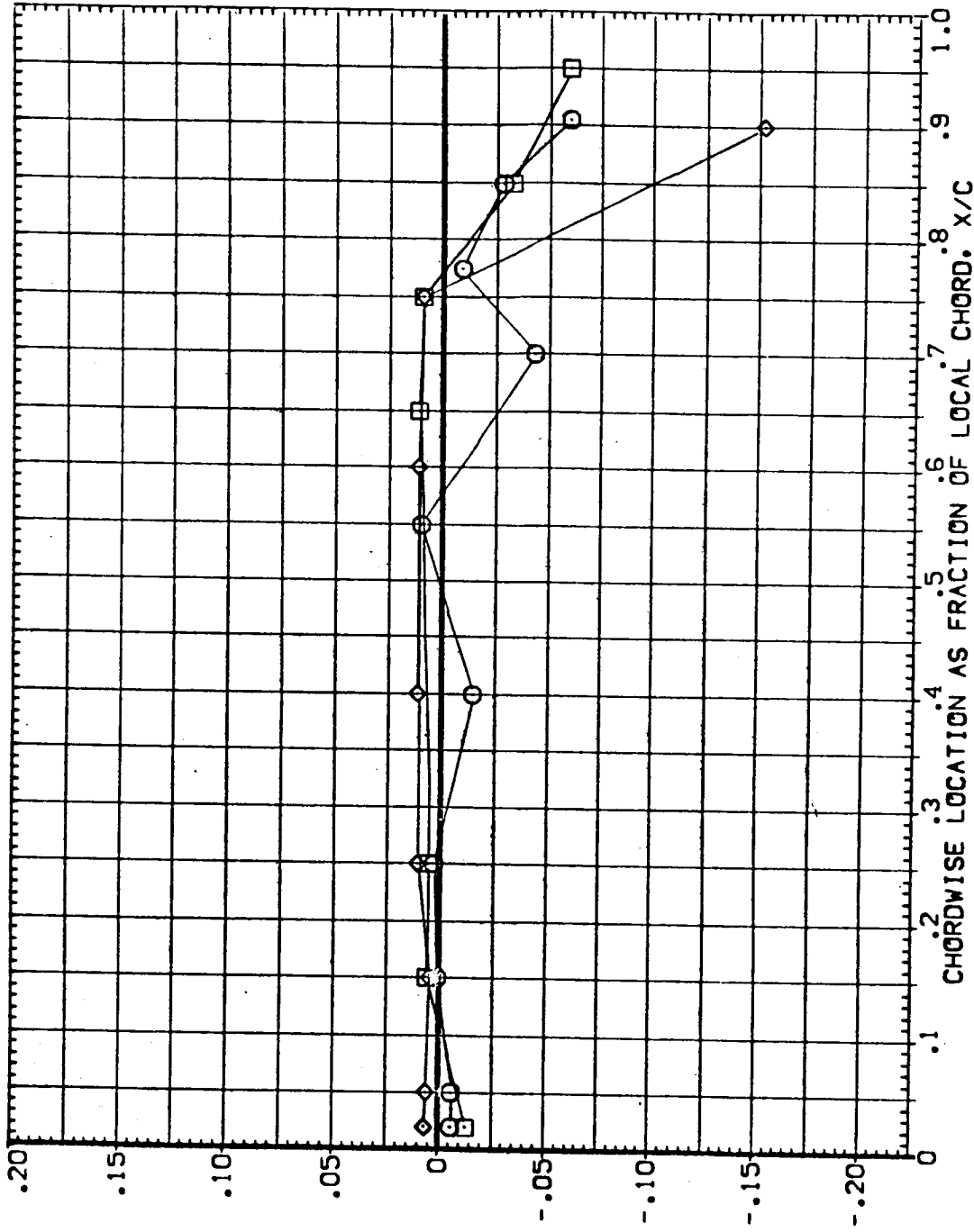


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(EEUW13)

SYMBOL	ZY/B	BETA	ALPHA	PARAMETRIC VALUES
◇	.299	.000	4.000	ELV-19 8.000 ELV-09 4.000
○	.364			RUDDER .000 MACH .900
△	.427			GIMBAL 1.000
◇	.534			

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

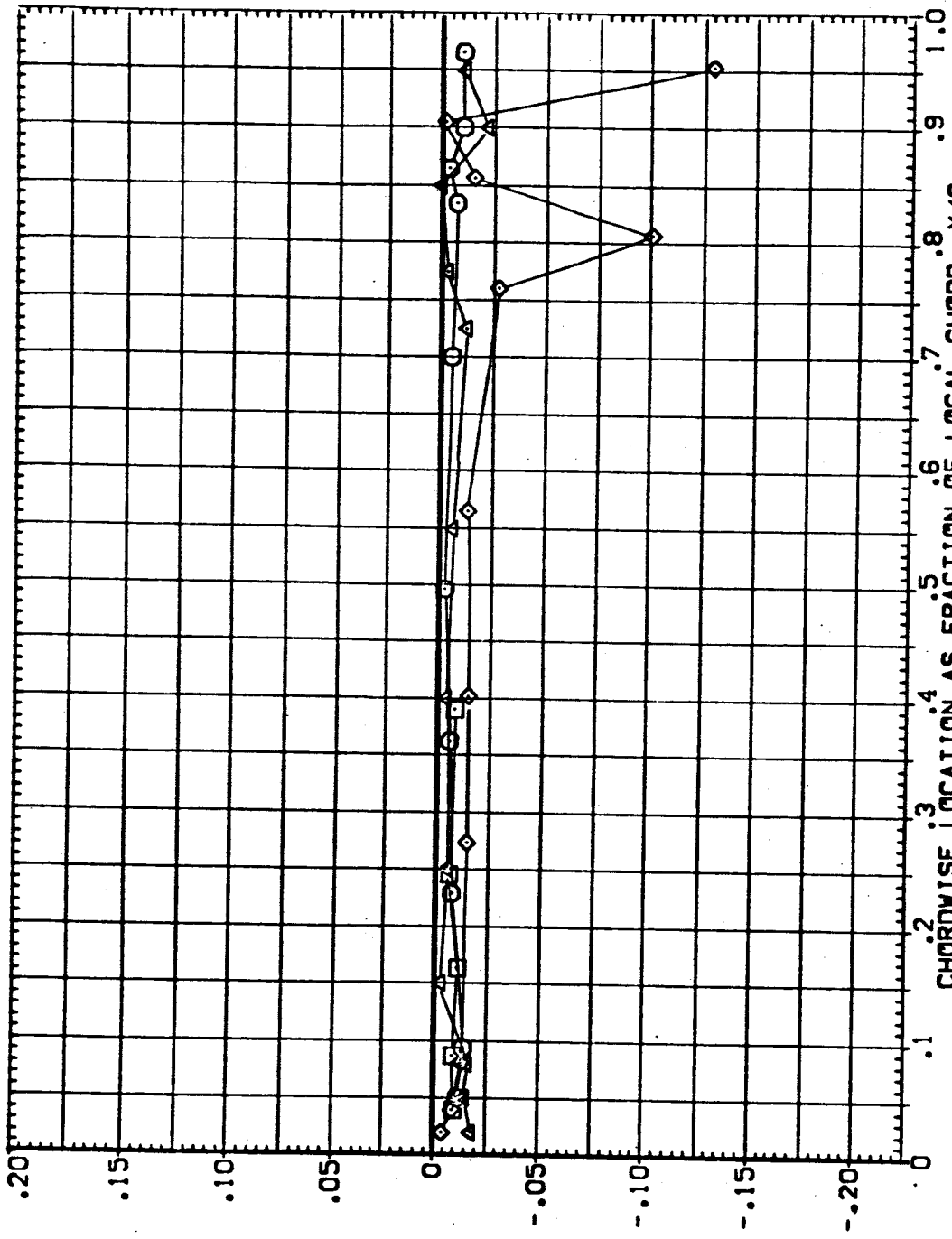


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(EEUW13)

PARAMETRIC VALUES
 ELV-19 8.000 ELV-09 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

SYMBOL 2Y/B BETA ALPHA
 ○ .641 .000 4.000
 □ .780 .000 4.000
 ◇ .887 .000 4.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

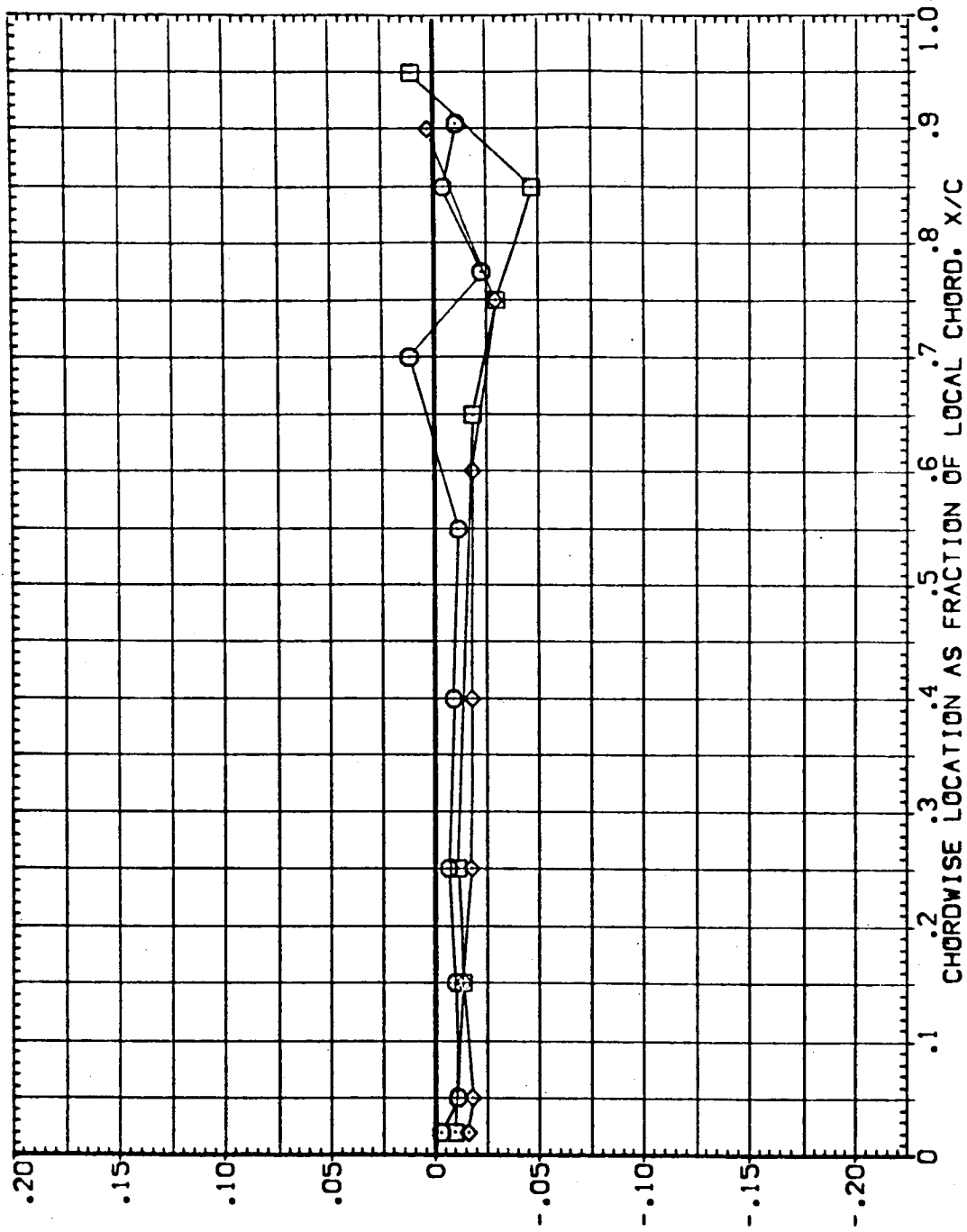


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(FEUV13)

SYMBOL Z1/B BETA ALPHA
 ○ .299 -1.000 .000
 □ .364 .000 .000
 ◇ .427 .000 .000
 △ .531 .000 .000

PARAMETRIC VALUES
 ELV-18 8.000 ELV-09 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

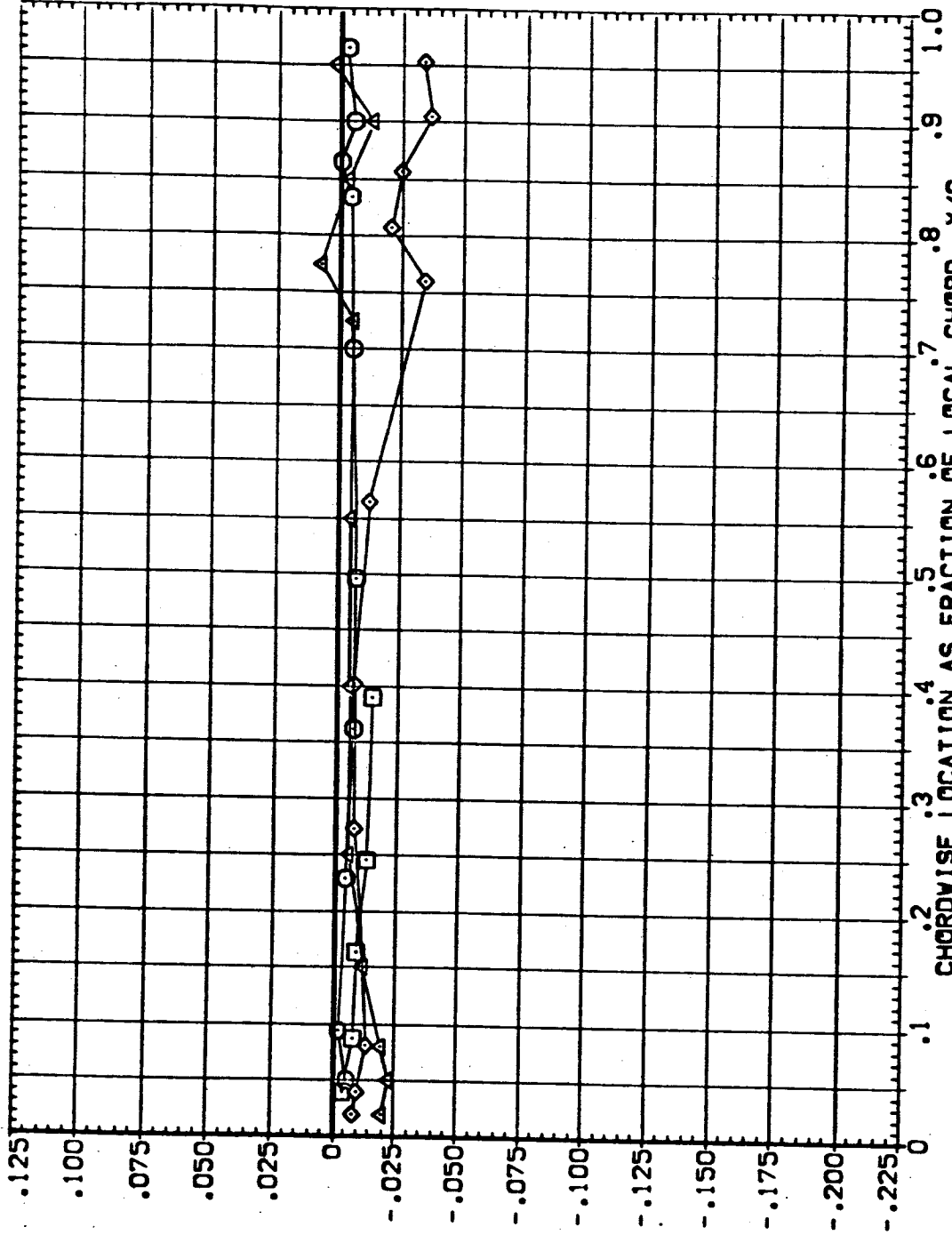


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(FEUW13)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-09 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

SYMBOL ZY/B BETA ALPHA
 ○ .641 -4.000 .000
 □ .780
 ◇ .887

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

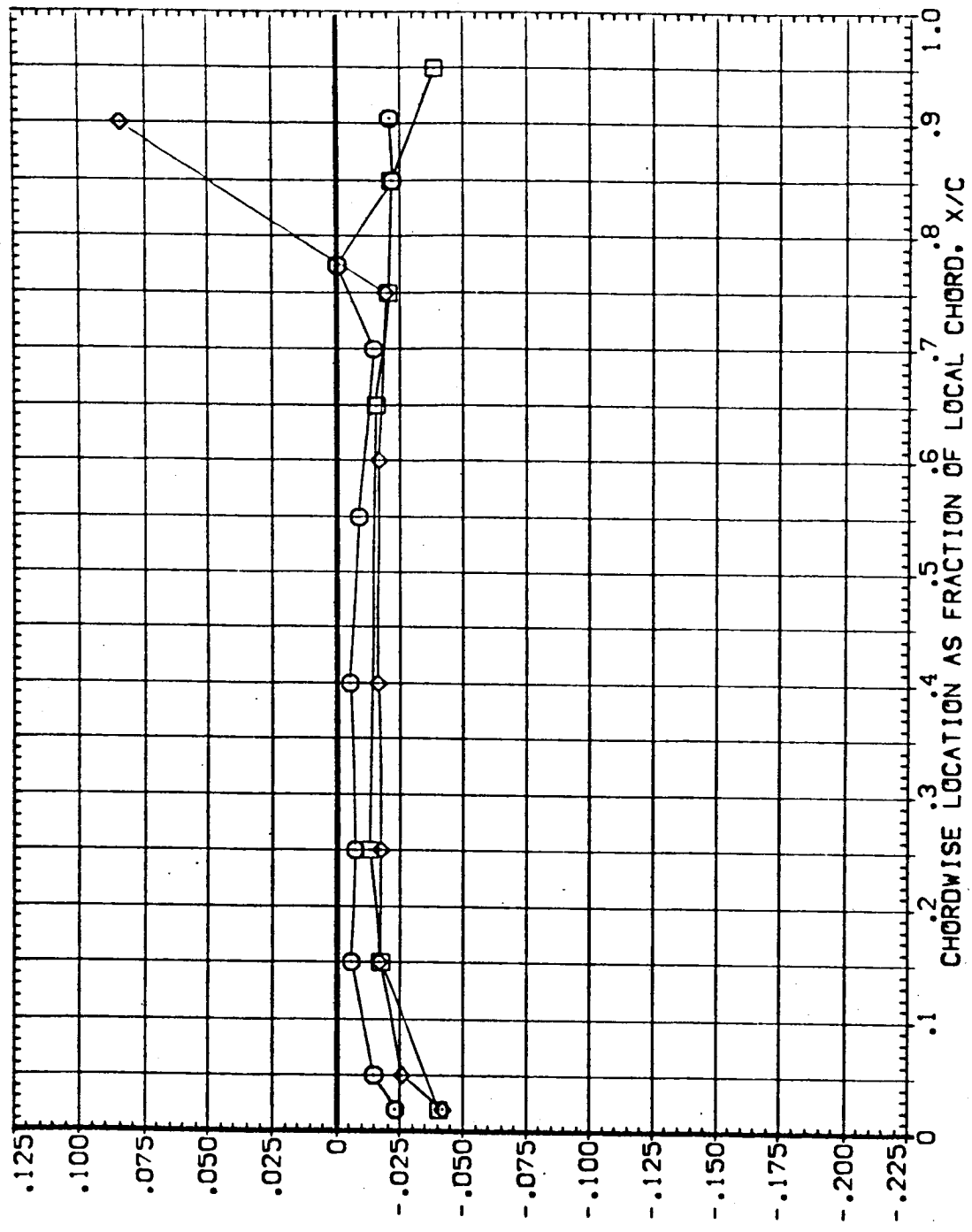


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(FEUW13)

SYMBOL	21/8	BETA	ALPHA	ELV-18	ELV-08
○	.299	4.000	.000	RUDER	MACH
□	.364			GIMBAL	
◇	.427				
△	.534				

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

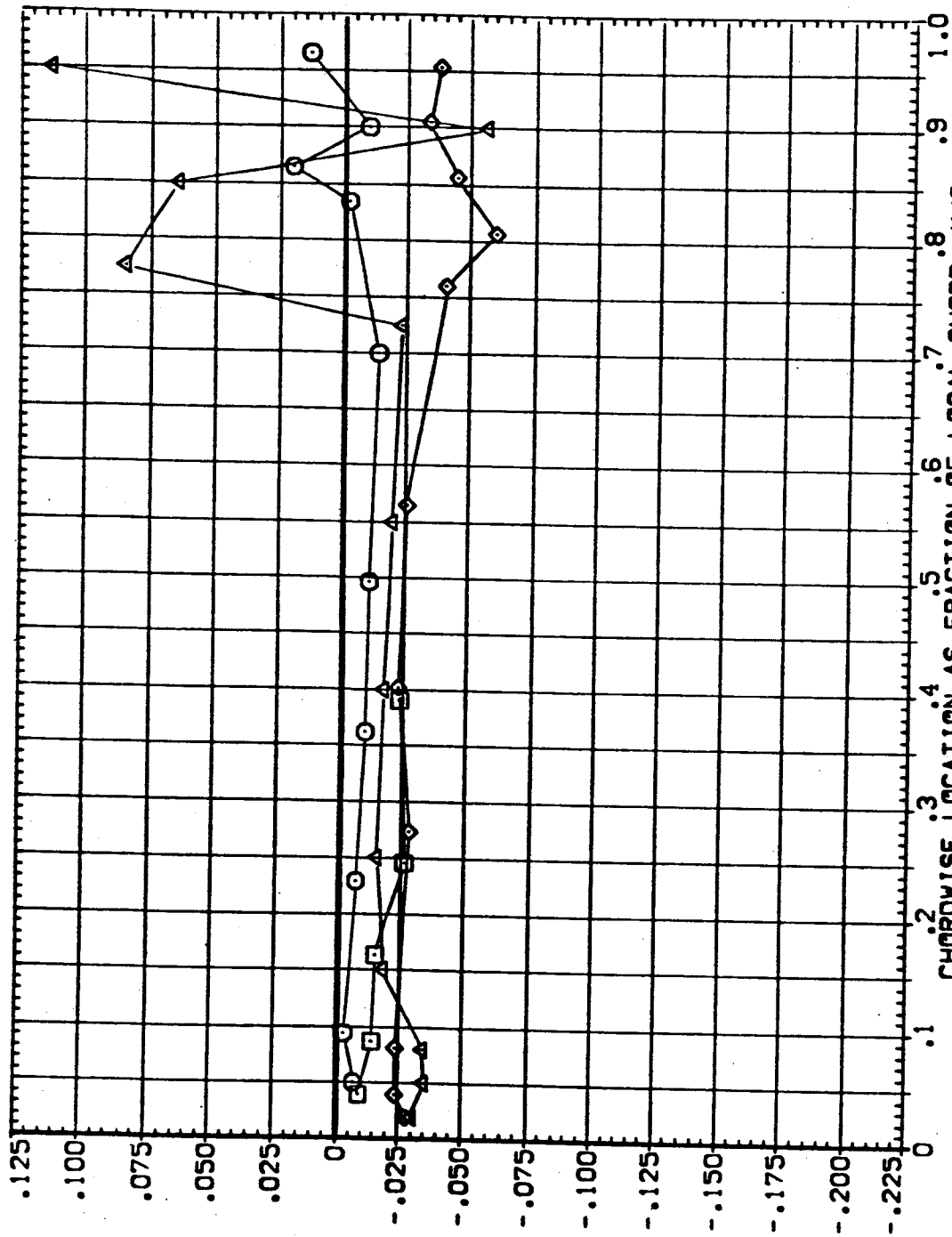


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(FEUW13)

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-08 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

SYMBOL Z1/B BETA ALPHA
 ○ .641 4.000 .000
 □ .780
 ◇ .887

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

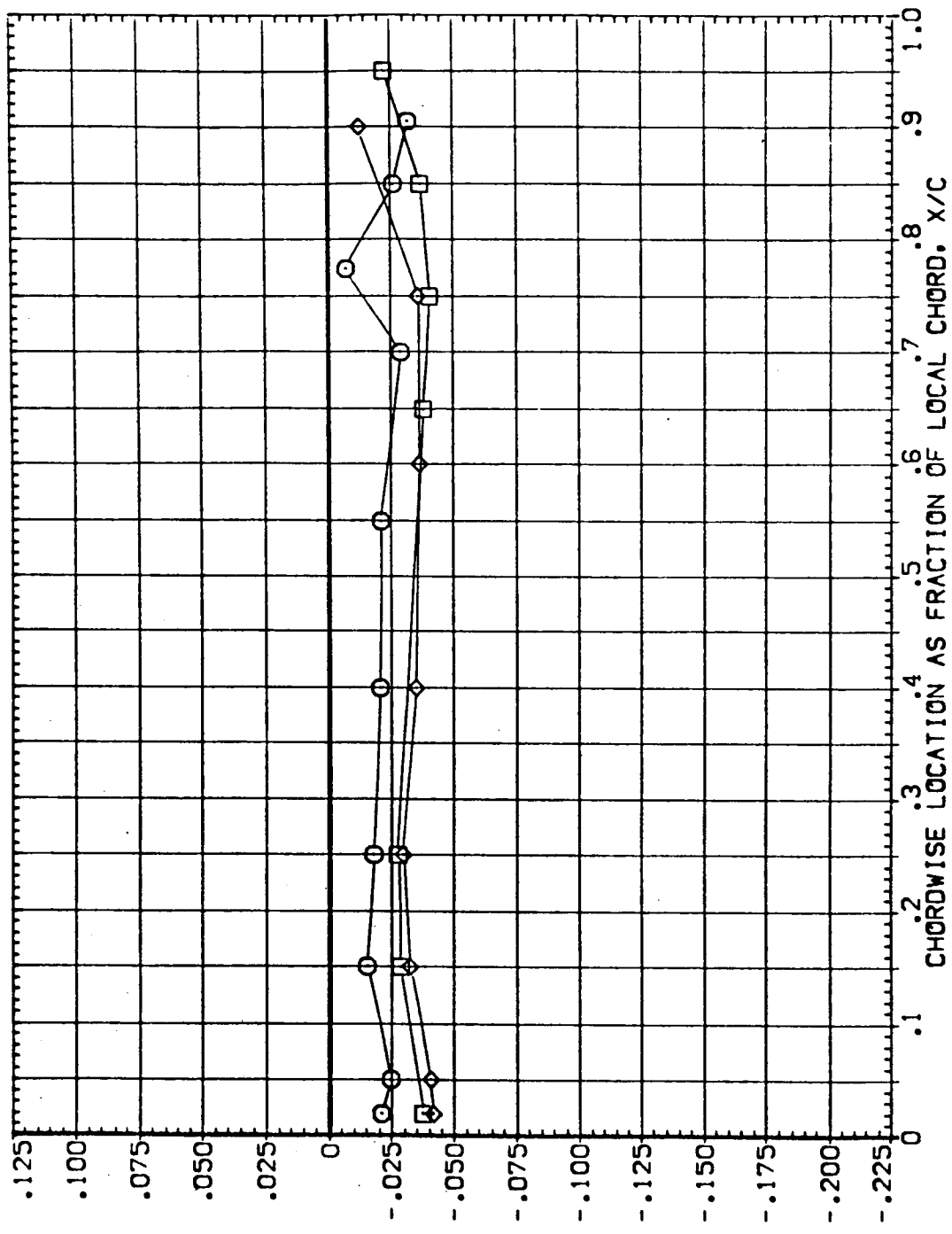


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(EEUW14)

SYMBOL 21/B BETA ALPHA

○ .299 .000 -4.000

◇ .364 .000 .000

△ .427 .000 .000

▽ .534 .000 .000

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000

RUDER .000 MACH 1.100

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

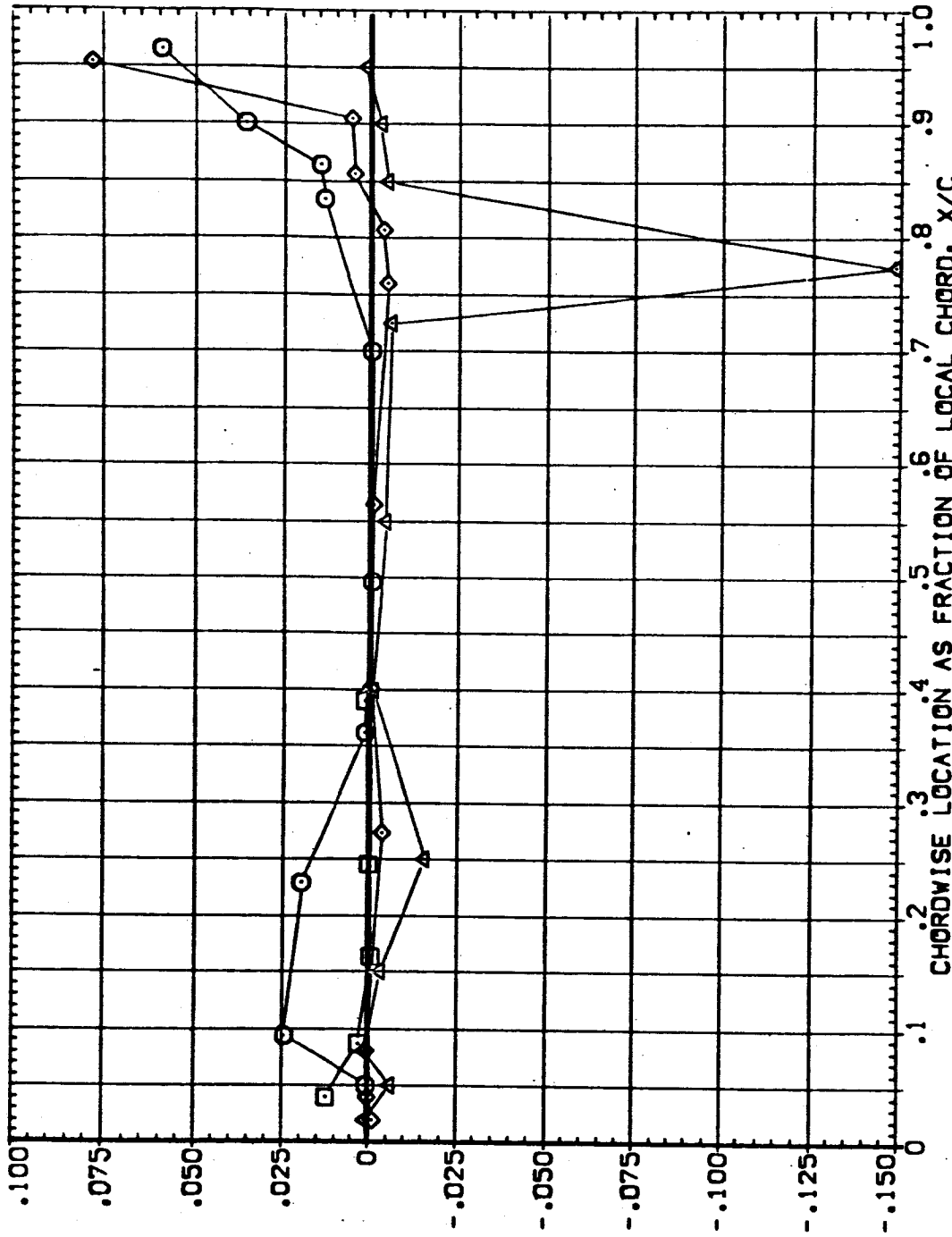


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(EEUW14)

SYMBOL 2Y/B BETA ALPHA
 ○ .641 .000 -4.000
 □ .780 .000 -4.000
 ◇ .887 .000 -4.000

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

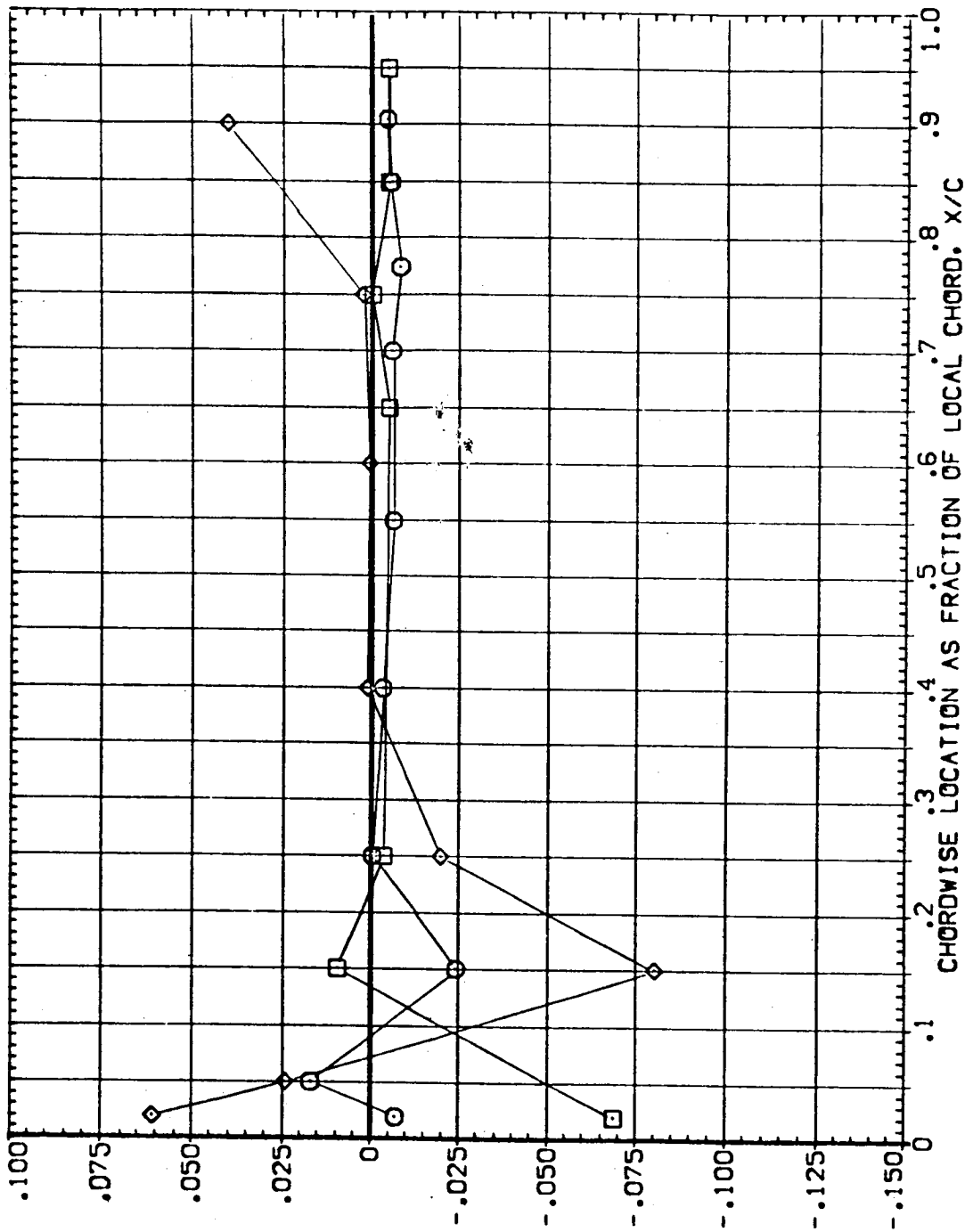


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(EUW14)

SYMBOL	Z ₁ /B	BETA	ALPHA	PARAMETRIC VALUES
◇	.299	.000	.000	ELV-18 4.000
□	.364	.000	.000	RUDDER 8.000
○	.427	.000	.000	MACH 1.000
△	.534	.000	.000	GIMBAL 1.000

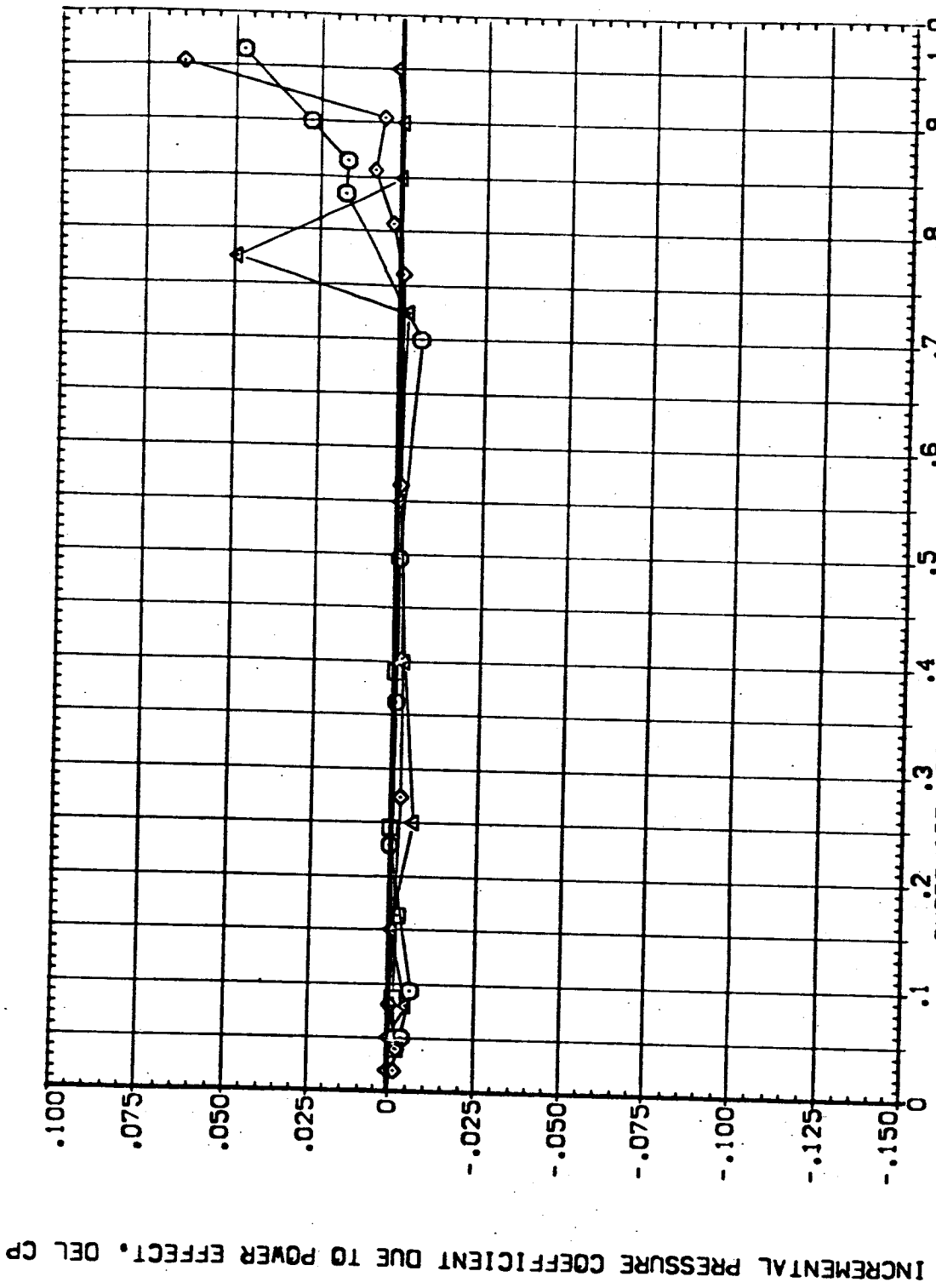


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(EEUW14)

SYMBOL ZI/B BETA ALPHA

○ .641 .000 .000

□ .760 .000 .000

◇ .687 .000 .000

PARAMETRIC VALUES

ELV-1B 8.000 ELV-08 4.000

RUDER .000 MACH 1.100

GIMBAL 1.000

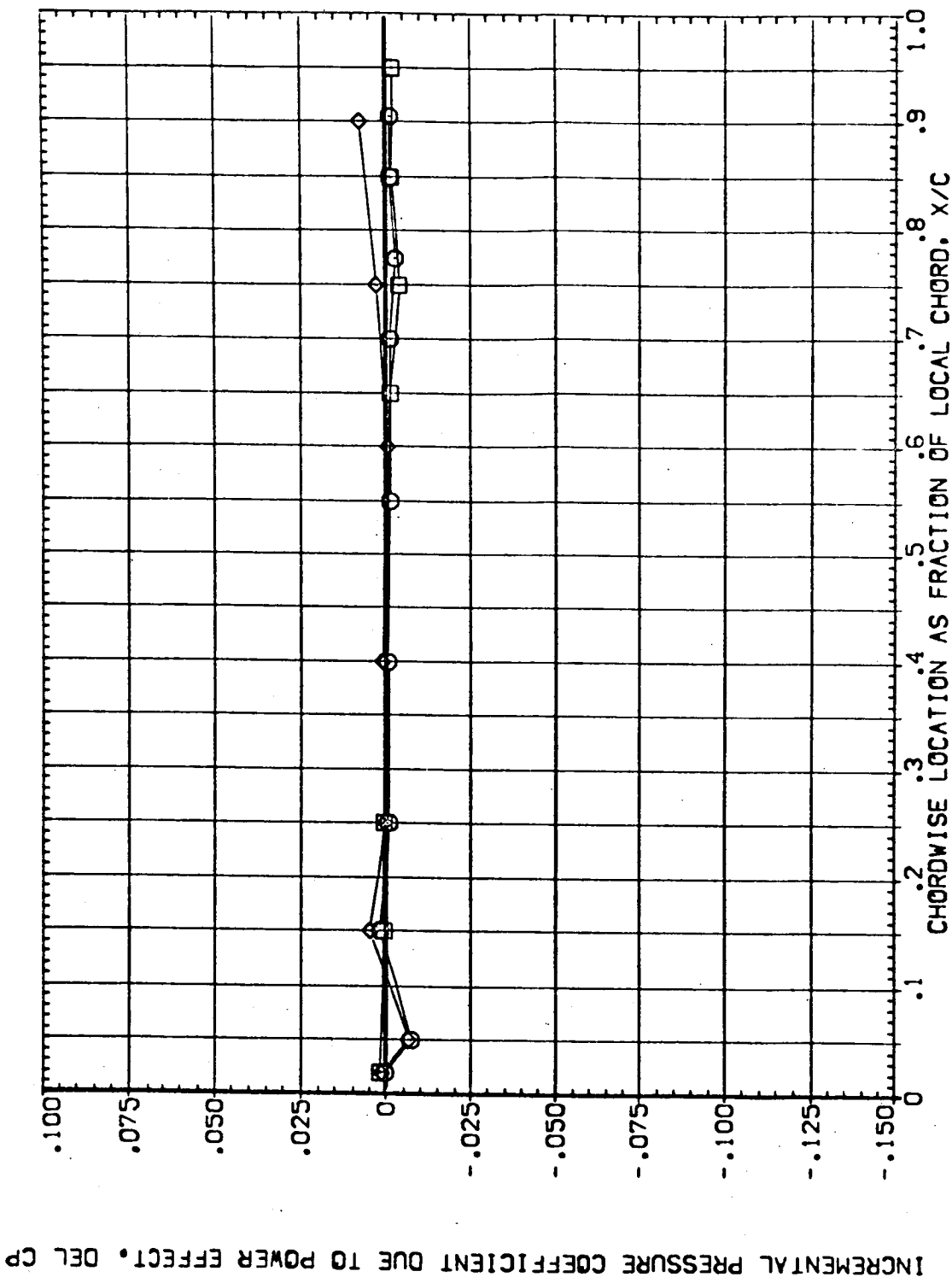


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(EEUW14)

SYMBOL Z1/B BETA ALPHA

○ .299 .000 4.000

□ .364 .000 1.100

◇ .427 .000 1.100

▽ .534 1.000 MACH

PARAMETRIC VALUES

ELV-1B 0.000 ELV-0B 4.000

RUDER .000 MACH 1.100

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

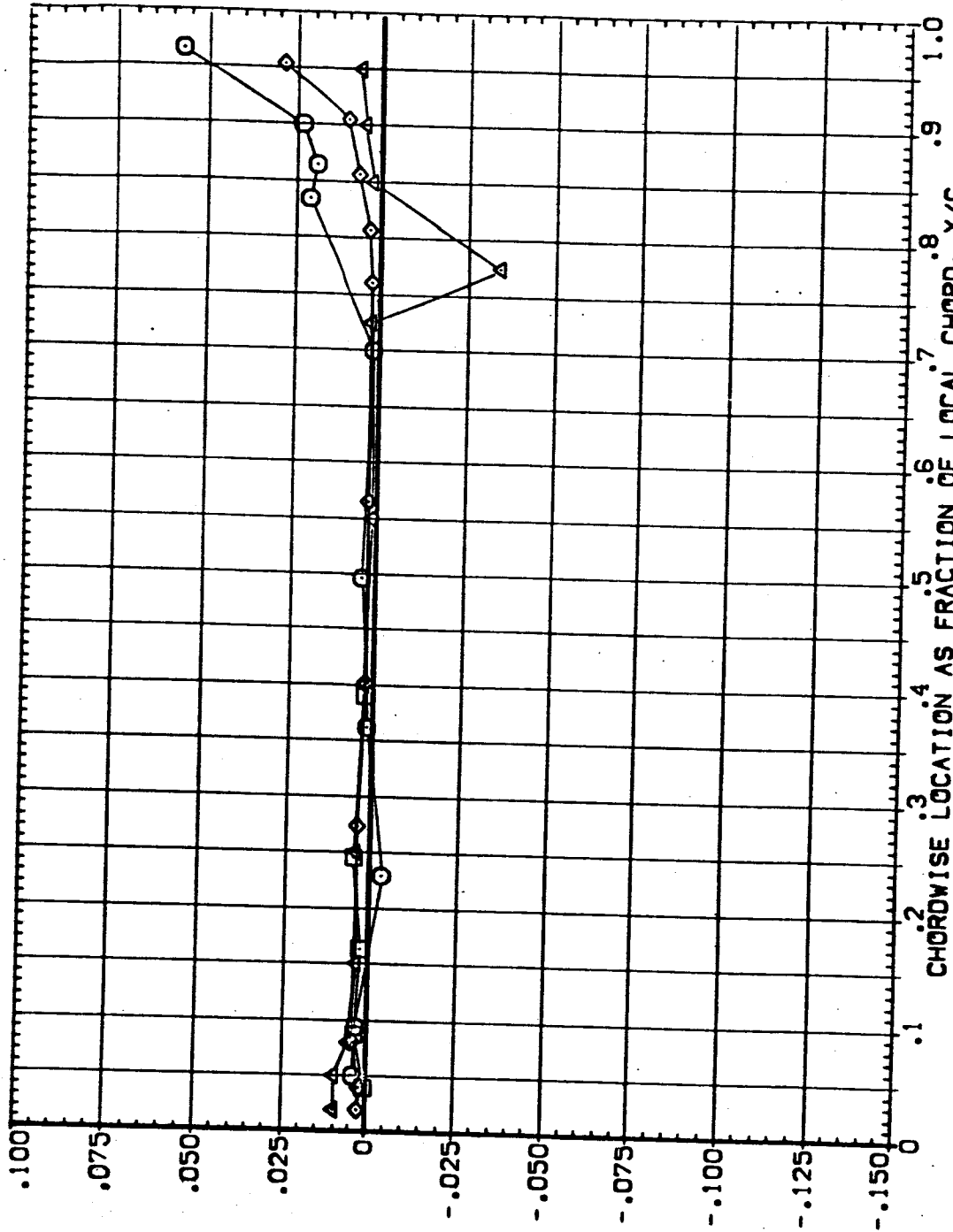


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(EEUW14)

PARAMETRIC VALUES
 8.000 ELV-08 4.000
 .000 RUDER 1.100
 1.000 GIMBAL

2Y/B BETA ALPHA
 .641 .000 4.000
 .780
 .687

SYMBOL
 ○ □ ◇

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

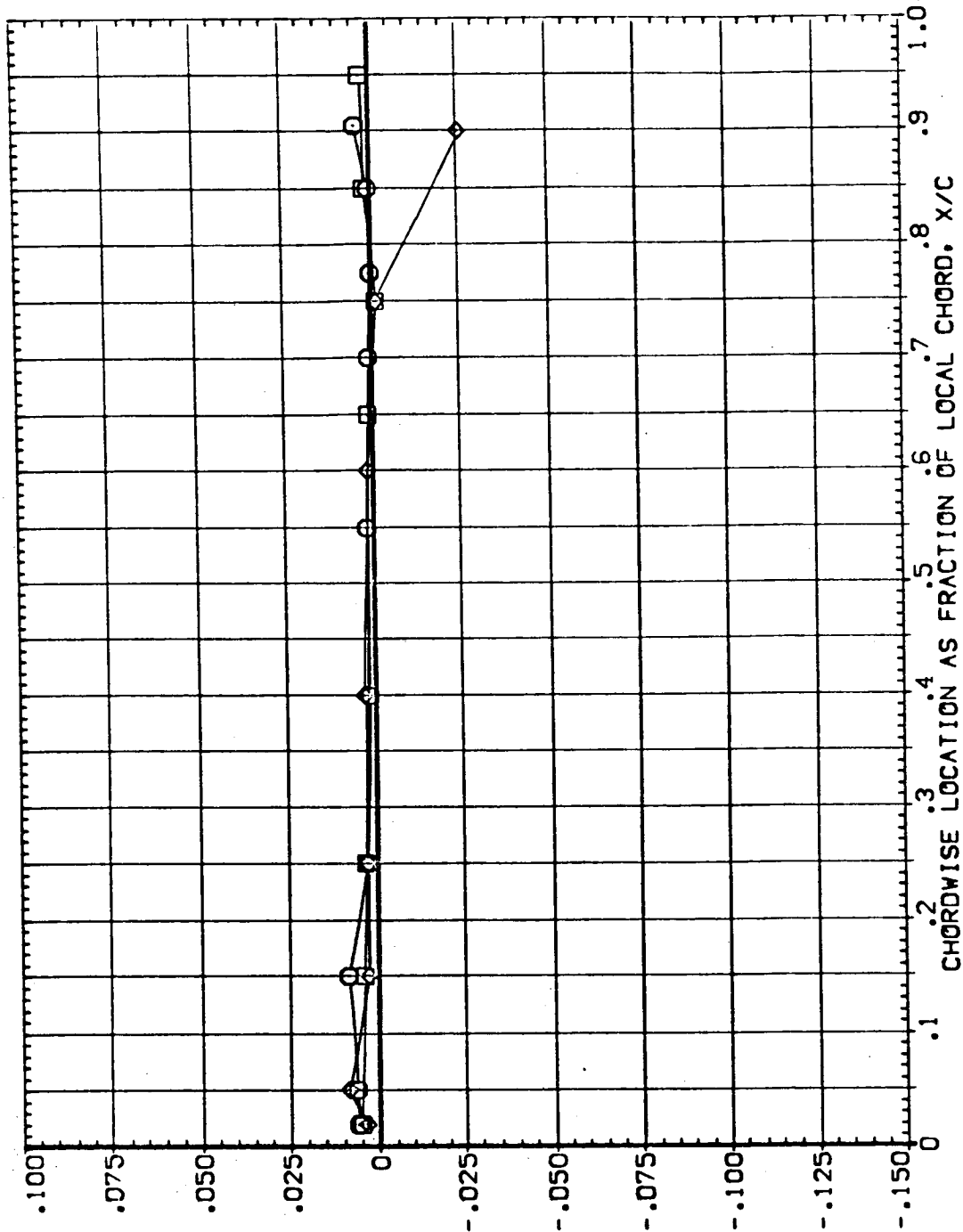


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(FEUW14)

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

SYMBOL Z1/B BETA ALPHA
 ○ .299 -4.000 .000
 □ .364
 ◇ .427
 △ .534

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

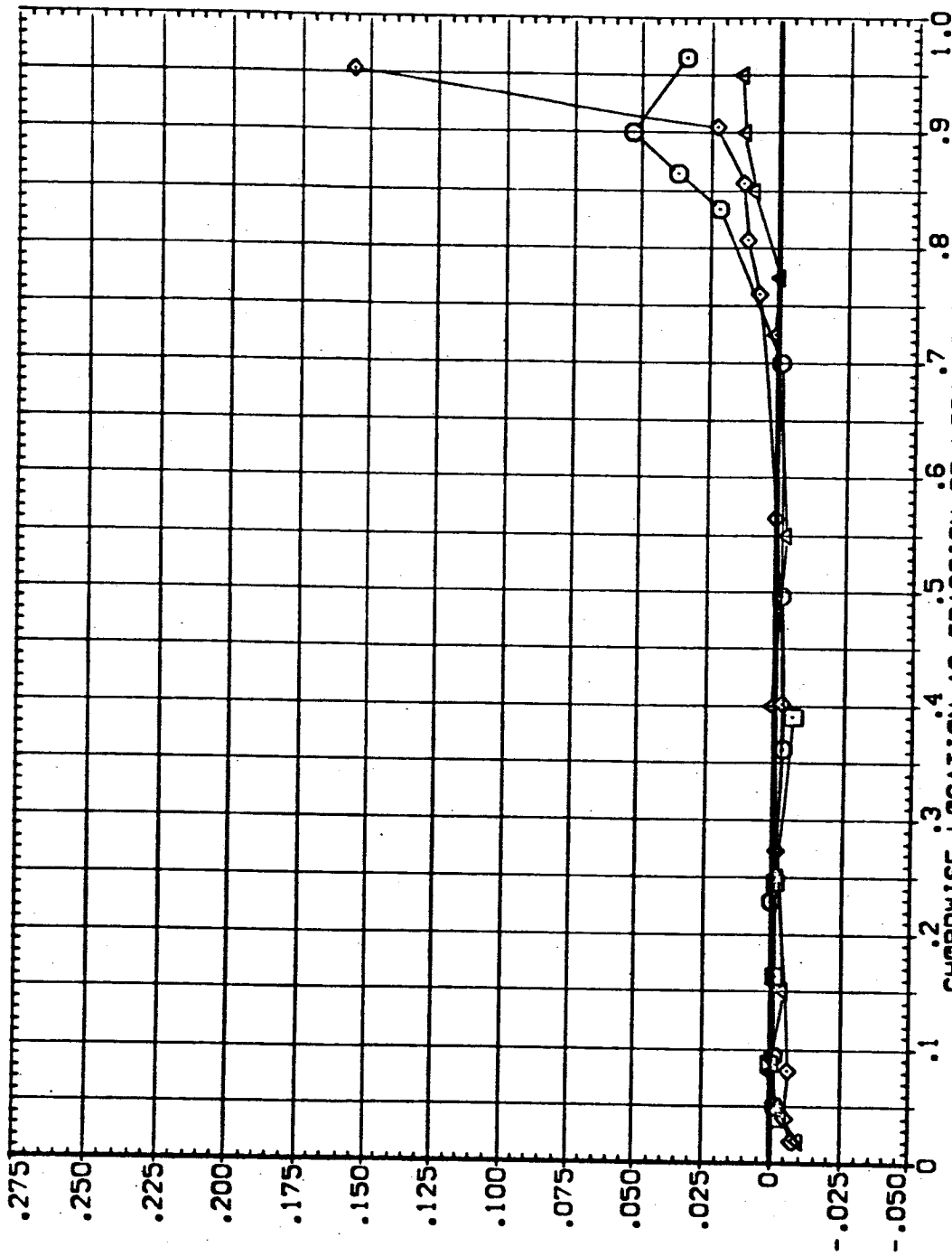


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(FEUW14)

SYMBOL ZY/B BETA ALPHA

○ .641 -4.000 .000

□ .780

◇ .667

PARAMETRIC VALUES

ELV-1B 8.000 ELV-08 4.000

RUDDER .000 MACH 1.100

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

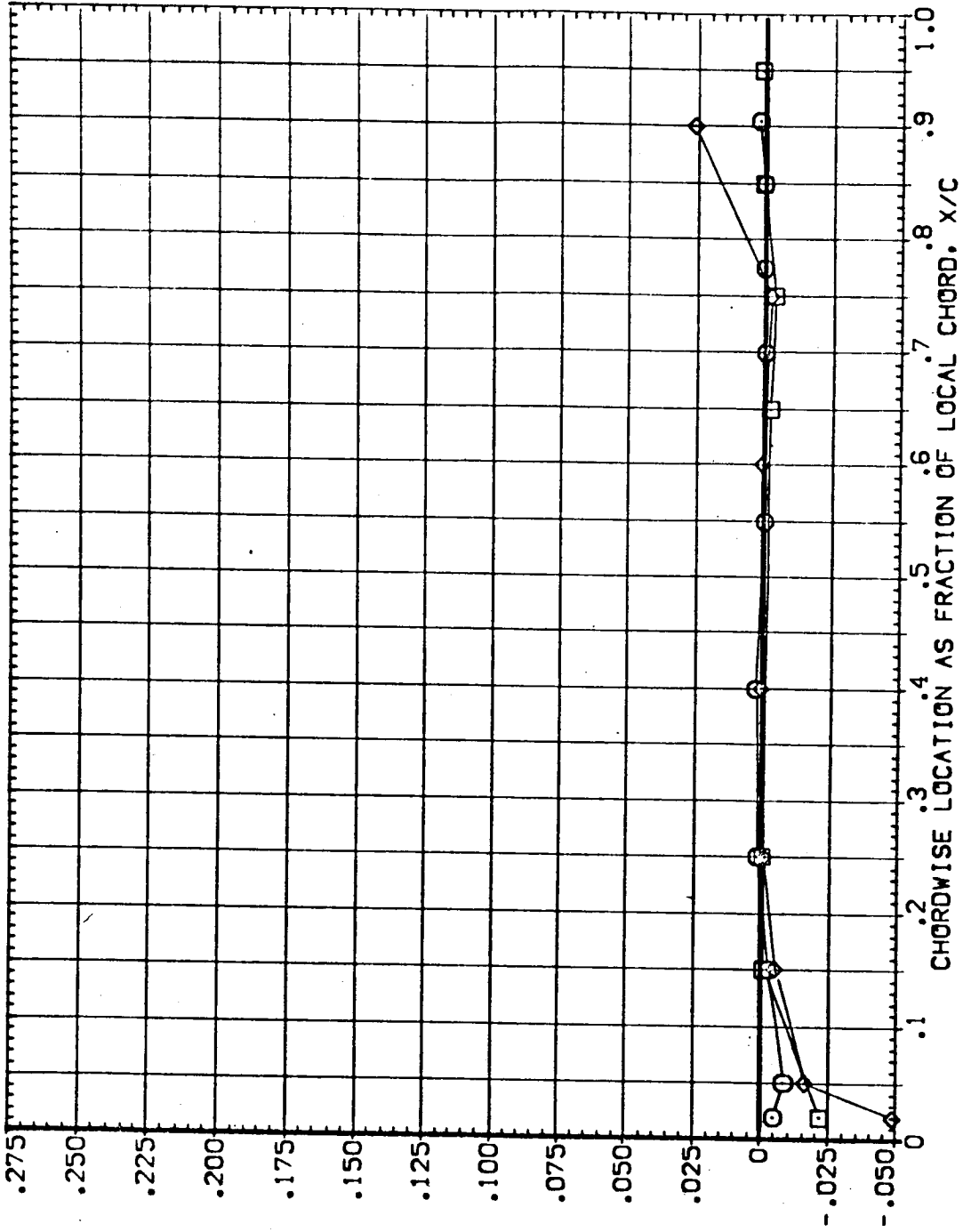


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(FEUV14)

PARAMETRIC VALUES
 ELV-18 6.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

BETA 1.000 ALPHA .000
 21/8 .299
 .364
 .427
 .534

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

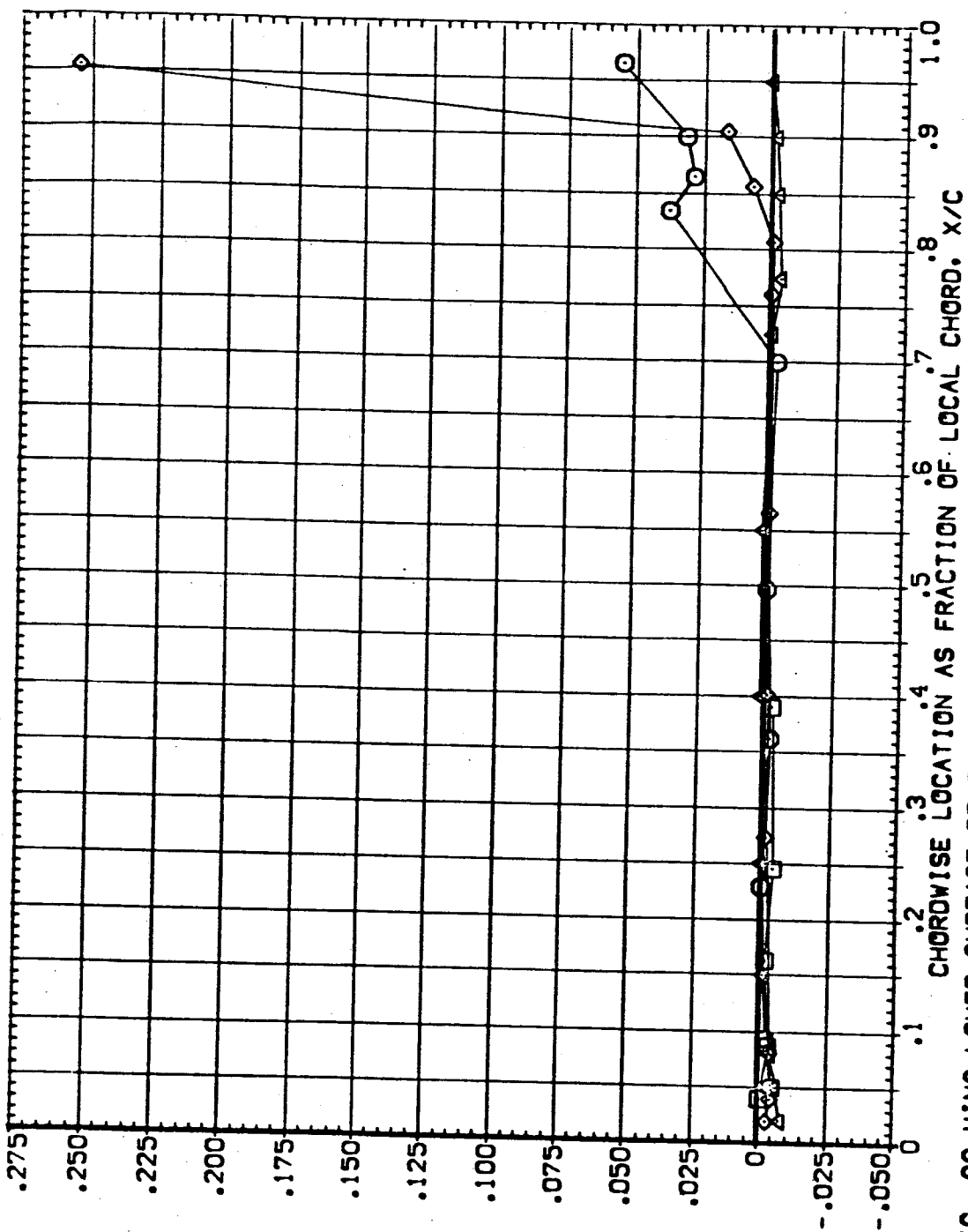


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(FEUW14)

SYMBOL ZY/B BETA ALPHA
 ○ .641 4.000 .000
 ◇ .760 .000
 ◇ .867 .000

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

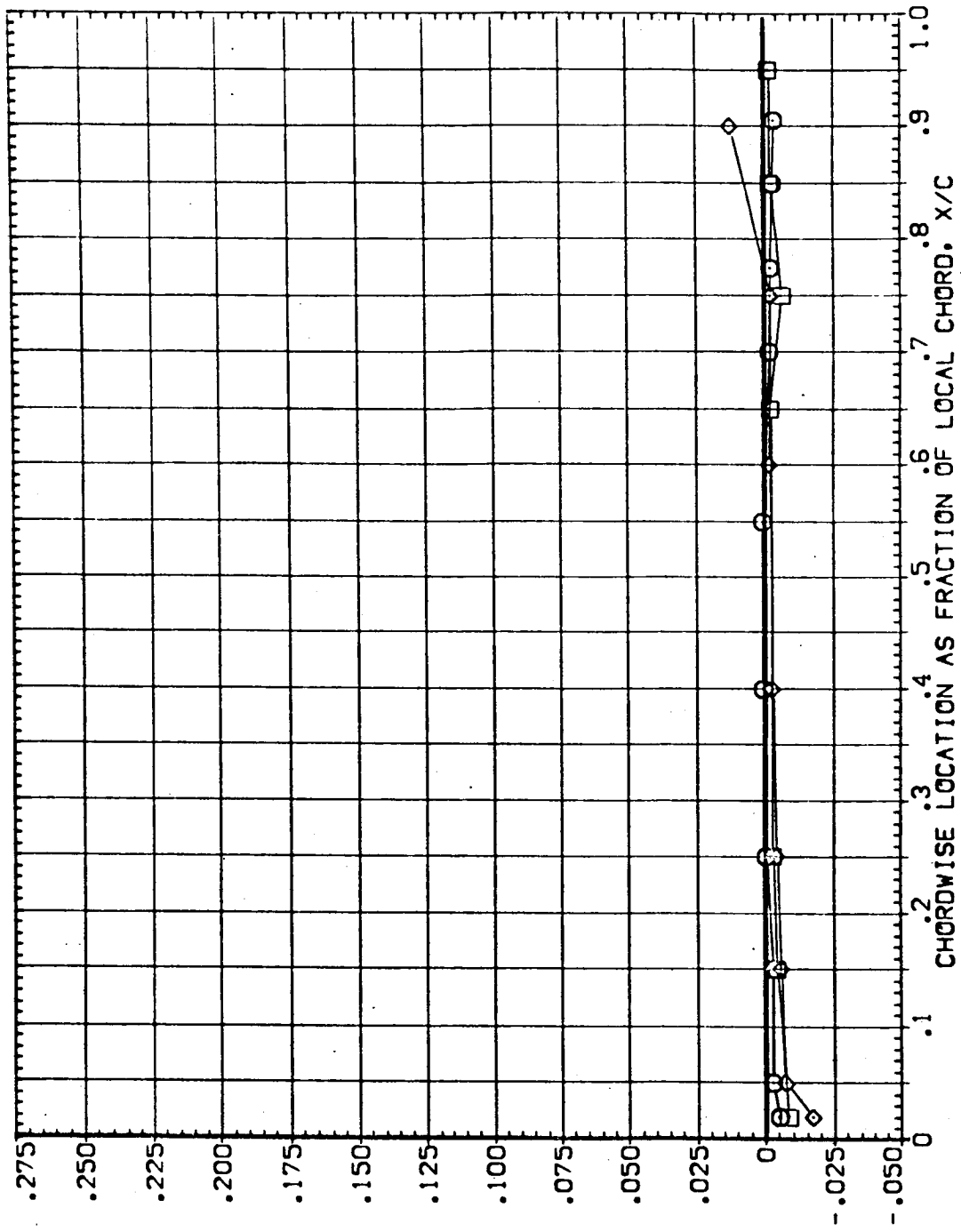


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-09 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

SYMBOL 2Y/B BETA ALPHA
 ○ .641 .000 -4.000
 □ .780
 ◇ .887

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

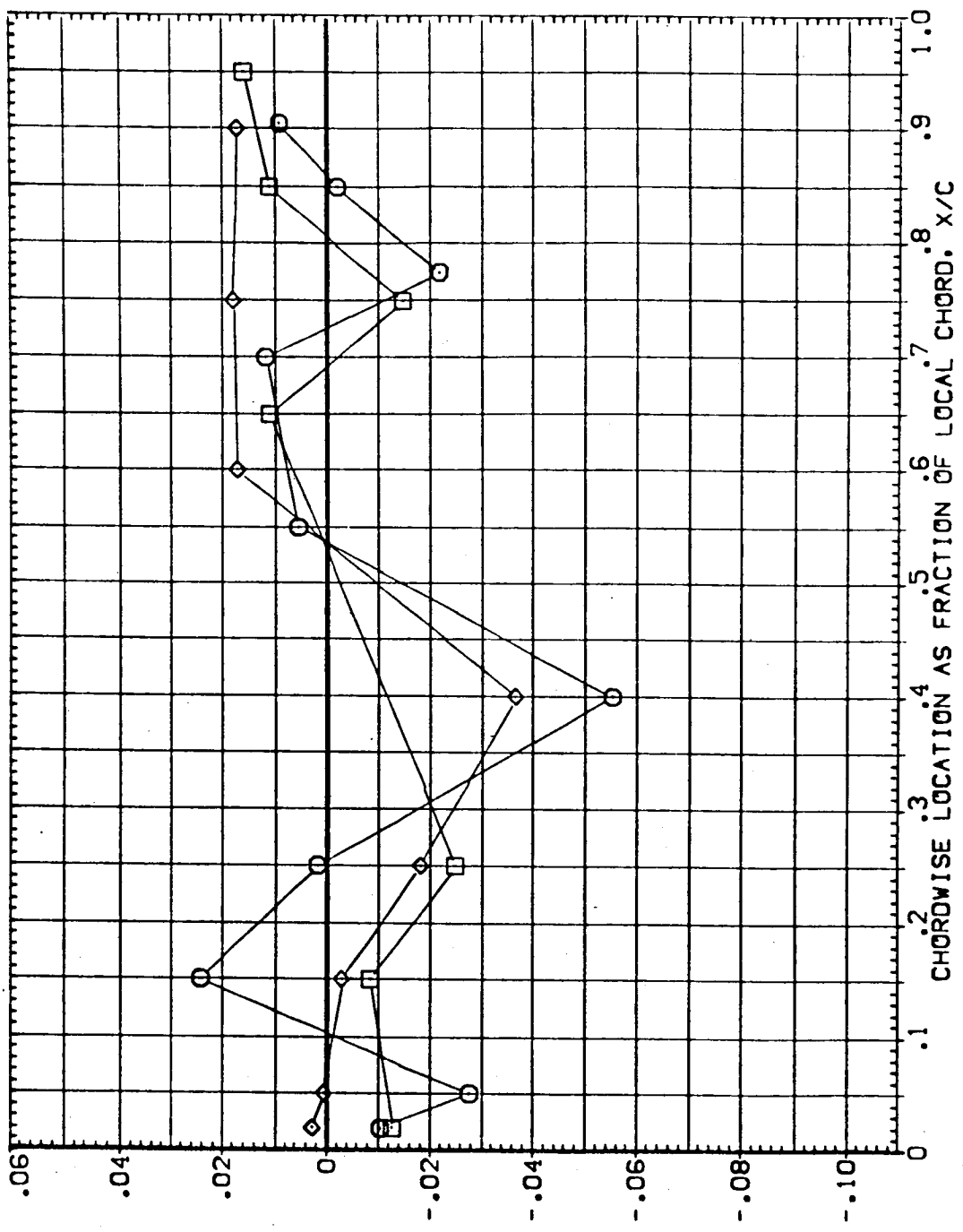


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(EEUW15)

PARAMETRIC VALUES
 ELV-18 8.000 ELY-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

SYMBOL 2Y/8 BETA ALPHA
 ○ .299 .000
 □ .364 .000
 ◇ .427 .000
 △ .534 .000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

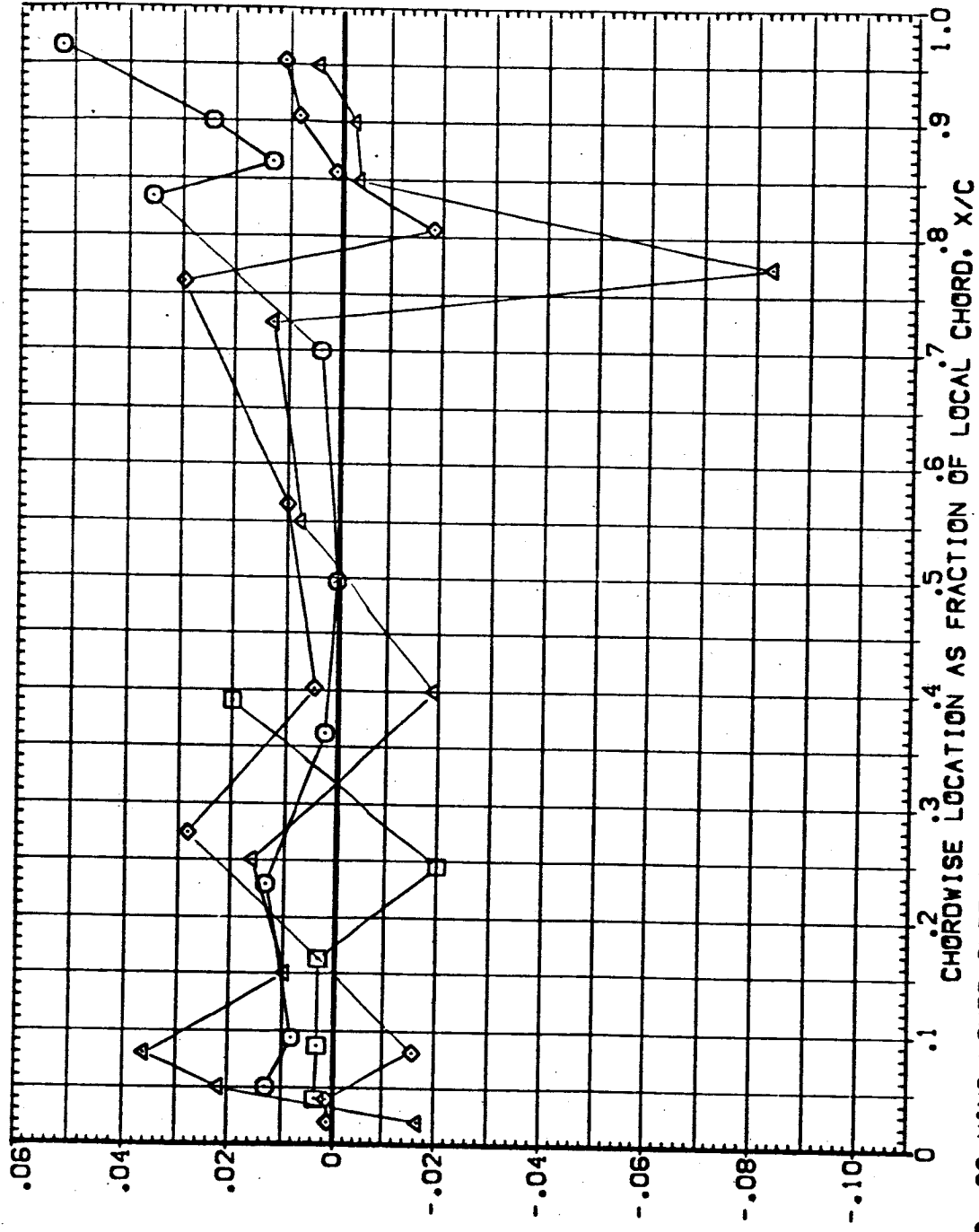


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(EEUW15)

PARAMETRIC VALUES
 ELV-IB 8.000 ELV-OB 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

SYMBOL ZY/B BETA ALPHA
 ○ .641 .000
 □ .780 .000
 ◇ .887 .000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

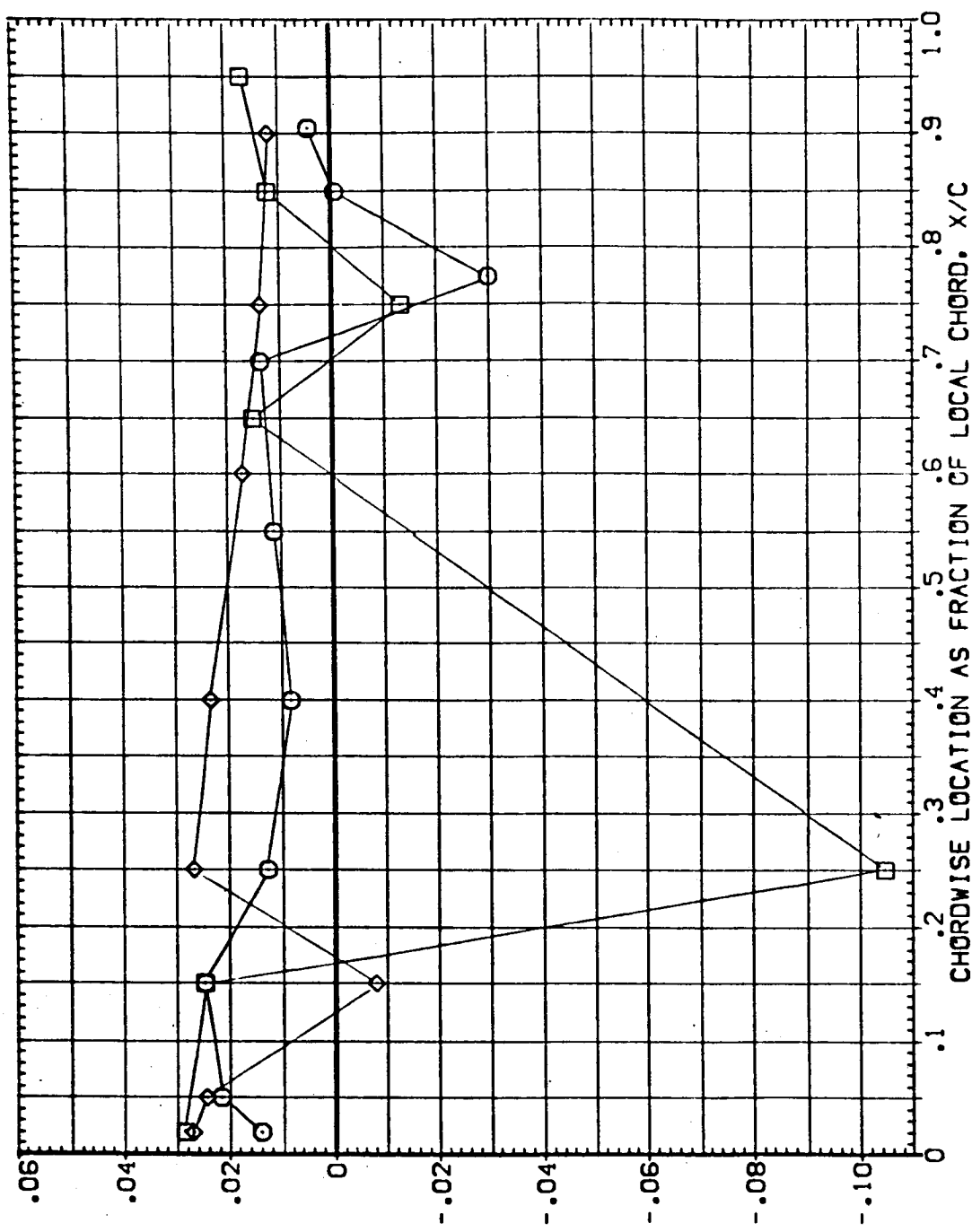


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(EEUW15)

PARAMETRIC VALUES
 ELV-OB 4.000
 RUDER .000 MACH 1.250
 GIMBAL 1.000

2 γ / β BETA ALPHA
 .299 .000 4.000
 .364
 .427
 .534

SYMBOL
 ○ □ ◇ △

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

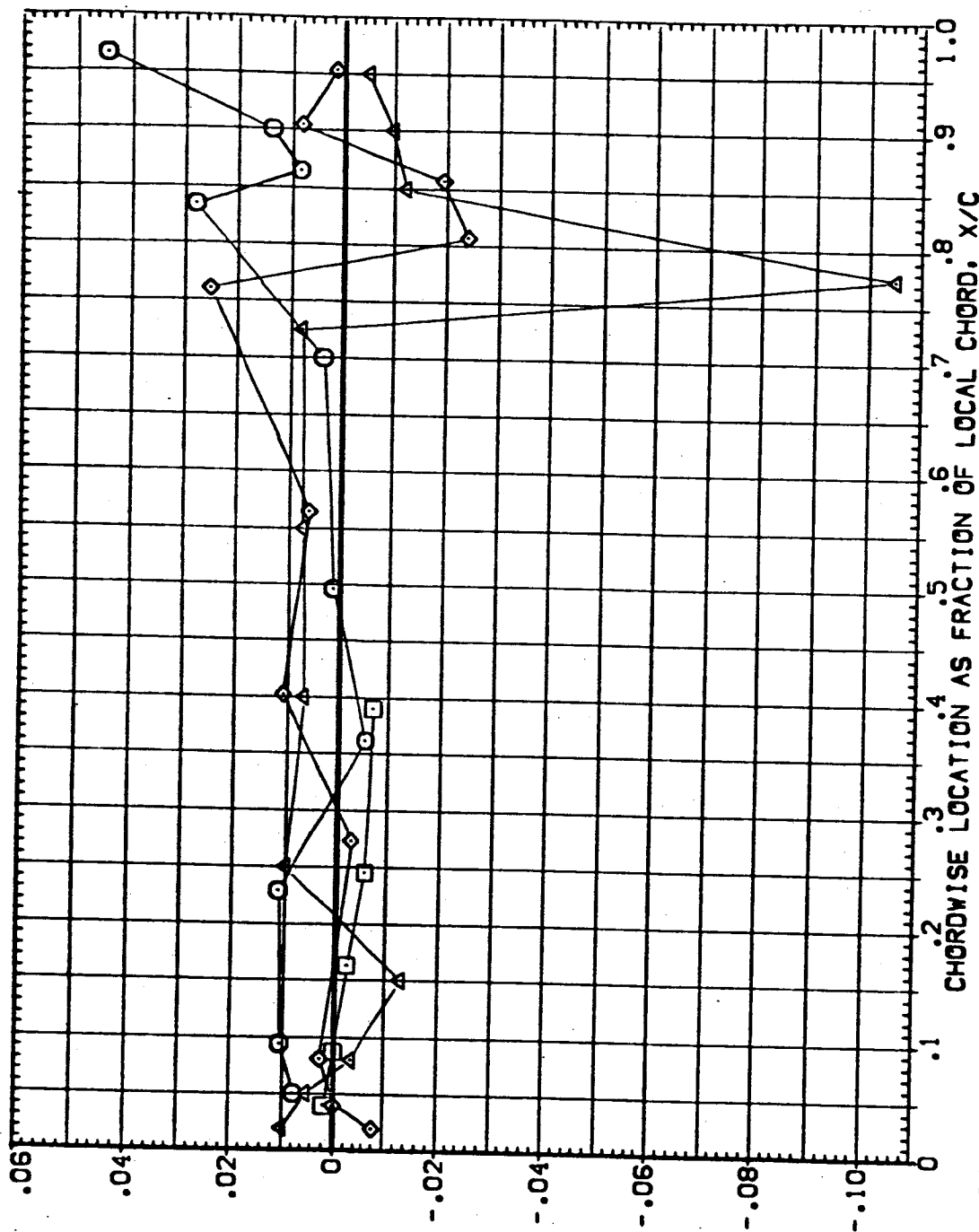


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(EEUW15)

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

SYMBOL 2Y/B BETA ALPHA
 ○ .641 .000 4.000
 □ .780 .000 4.000
 ◇ .687 .000 4.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

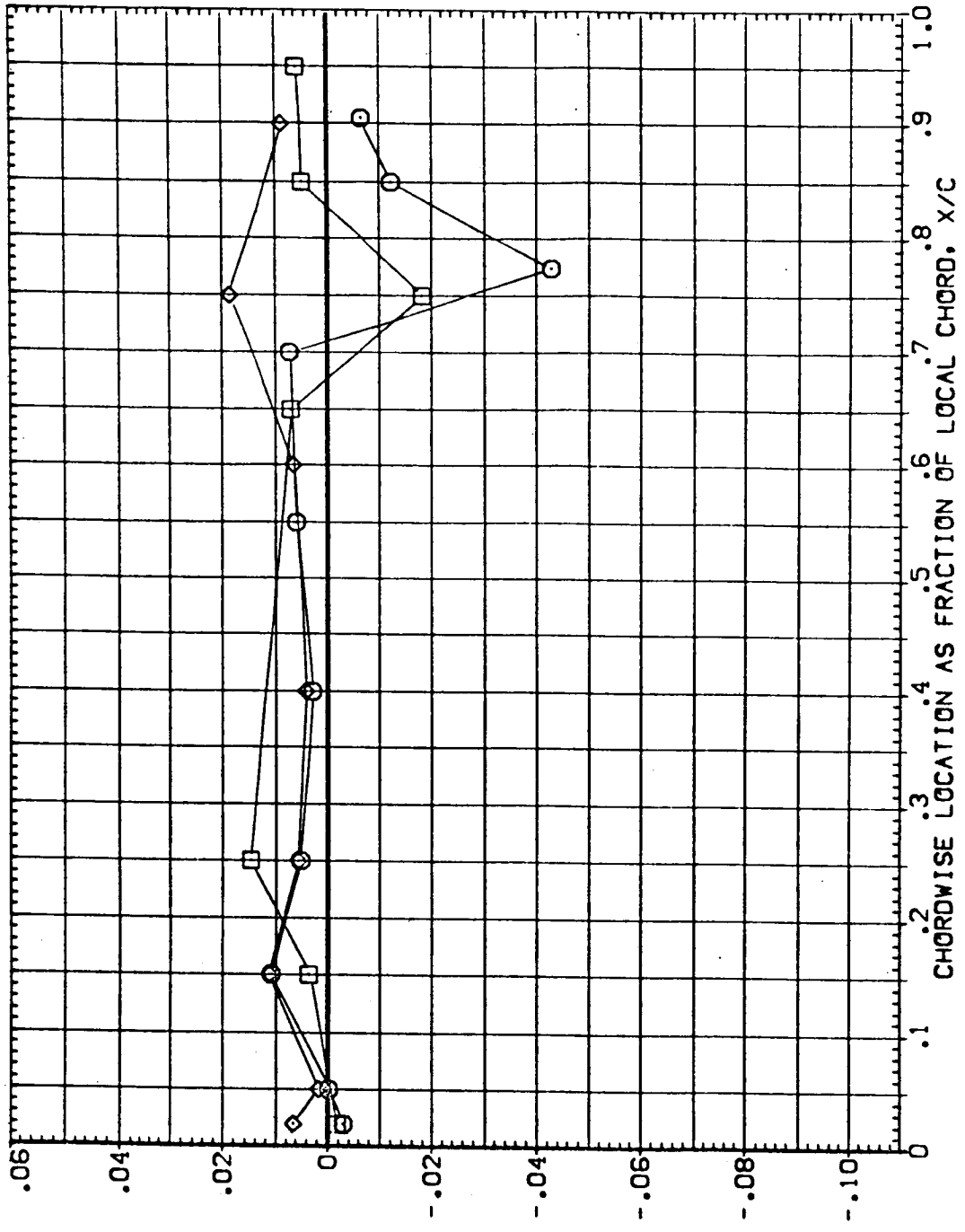


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(FEUW15)

SYMBOL		PARAMETRIC VALUES	
○	27/B	ELV-18	ELV-08
◇	.299	RUDER	MACH
□	.364	GIMBAL	
△	.427		
	.534		
	BETA		
	-4.000		
	ALPHA		
	.000		

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

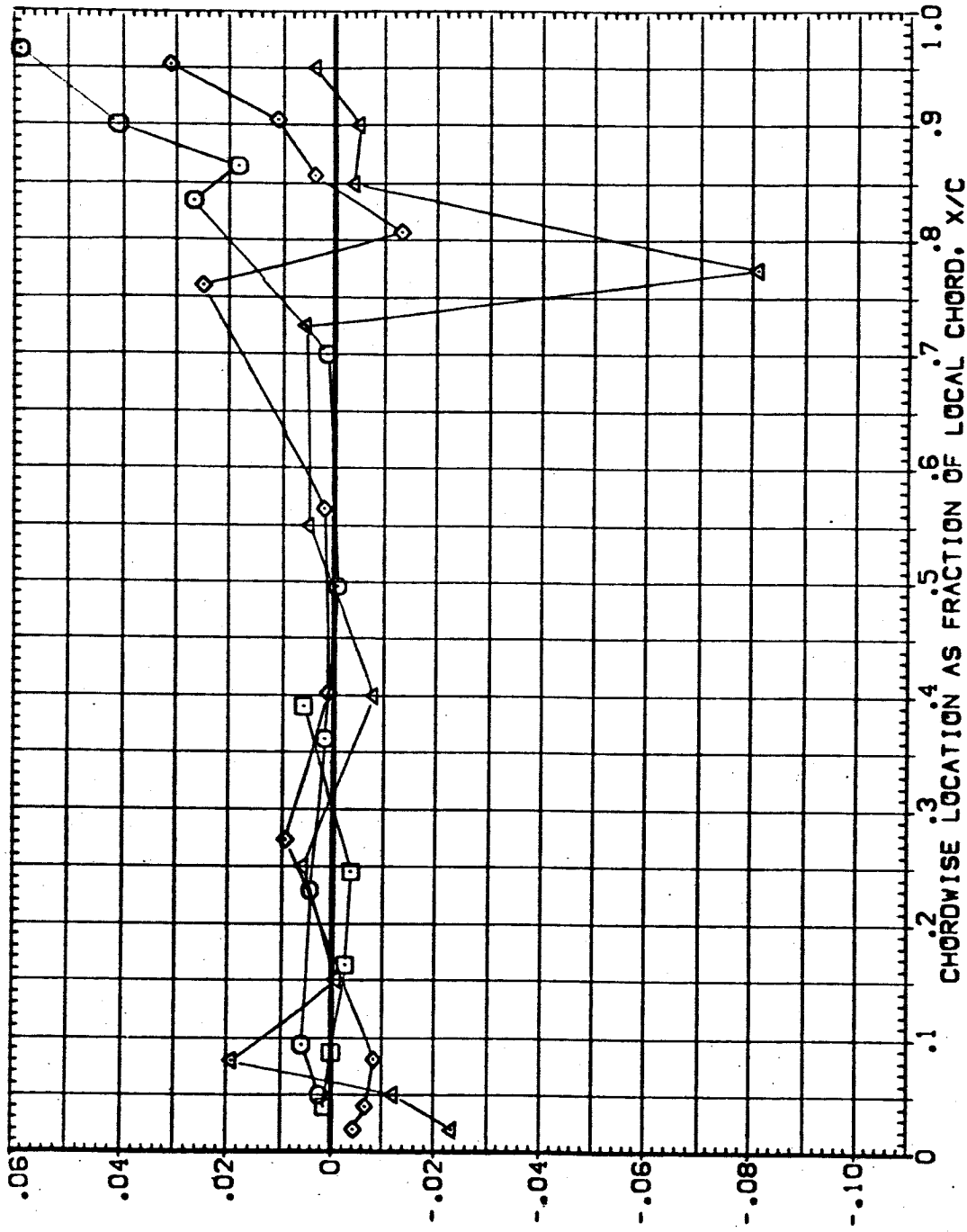


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(FEUW15)

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-0B 1.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

SYMBOL 2Y/B BETA ALPHA
 ○ .641 -4.000 .000
 □ .780
 ◇ .887

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

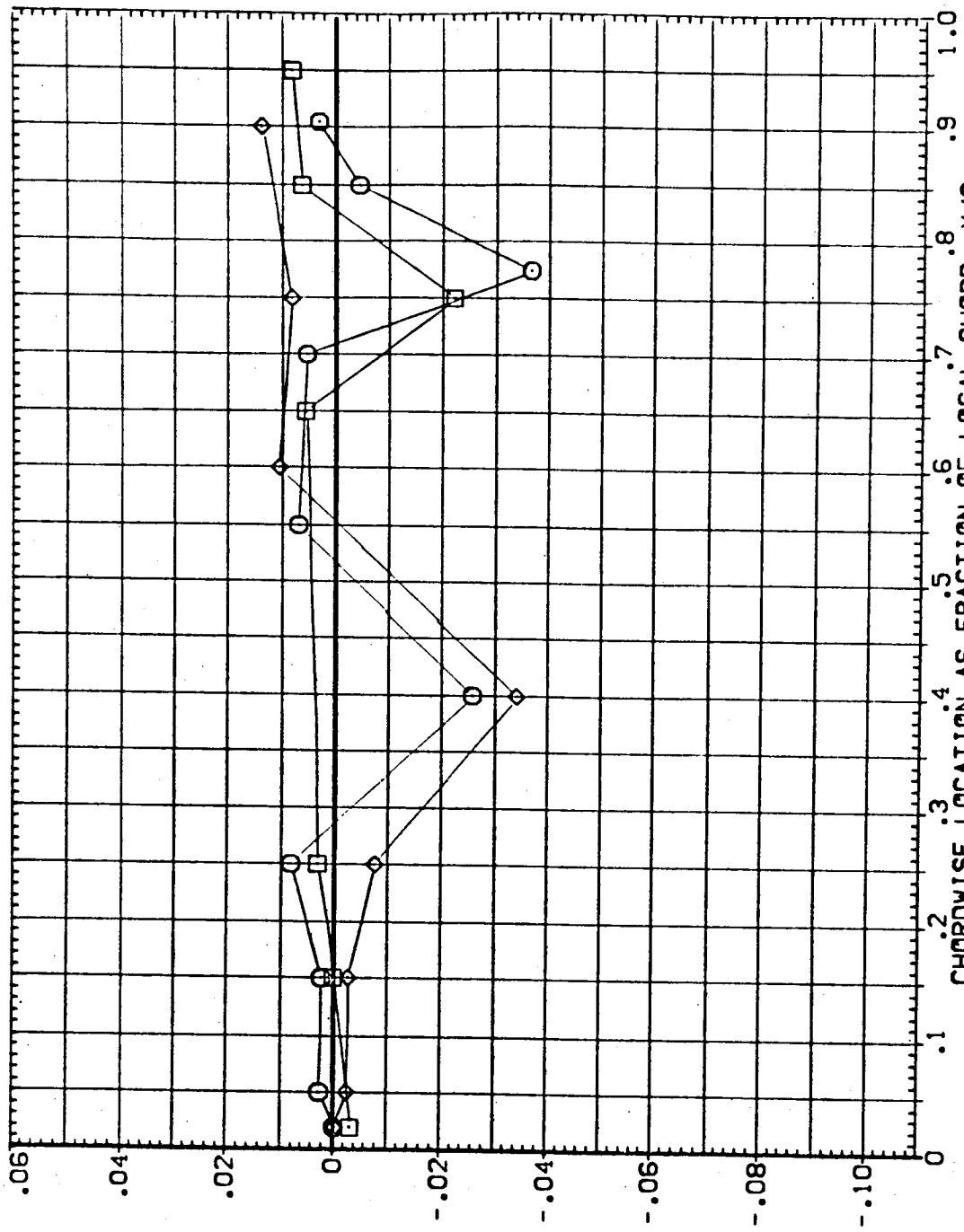


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(FEUW15)

SYMBOL 2 γ /B BETA ALPHA
 ○ 1.000 .000
 □ .299 .364 .427 .534
 ◇
 △

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

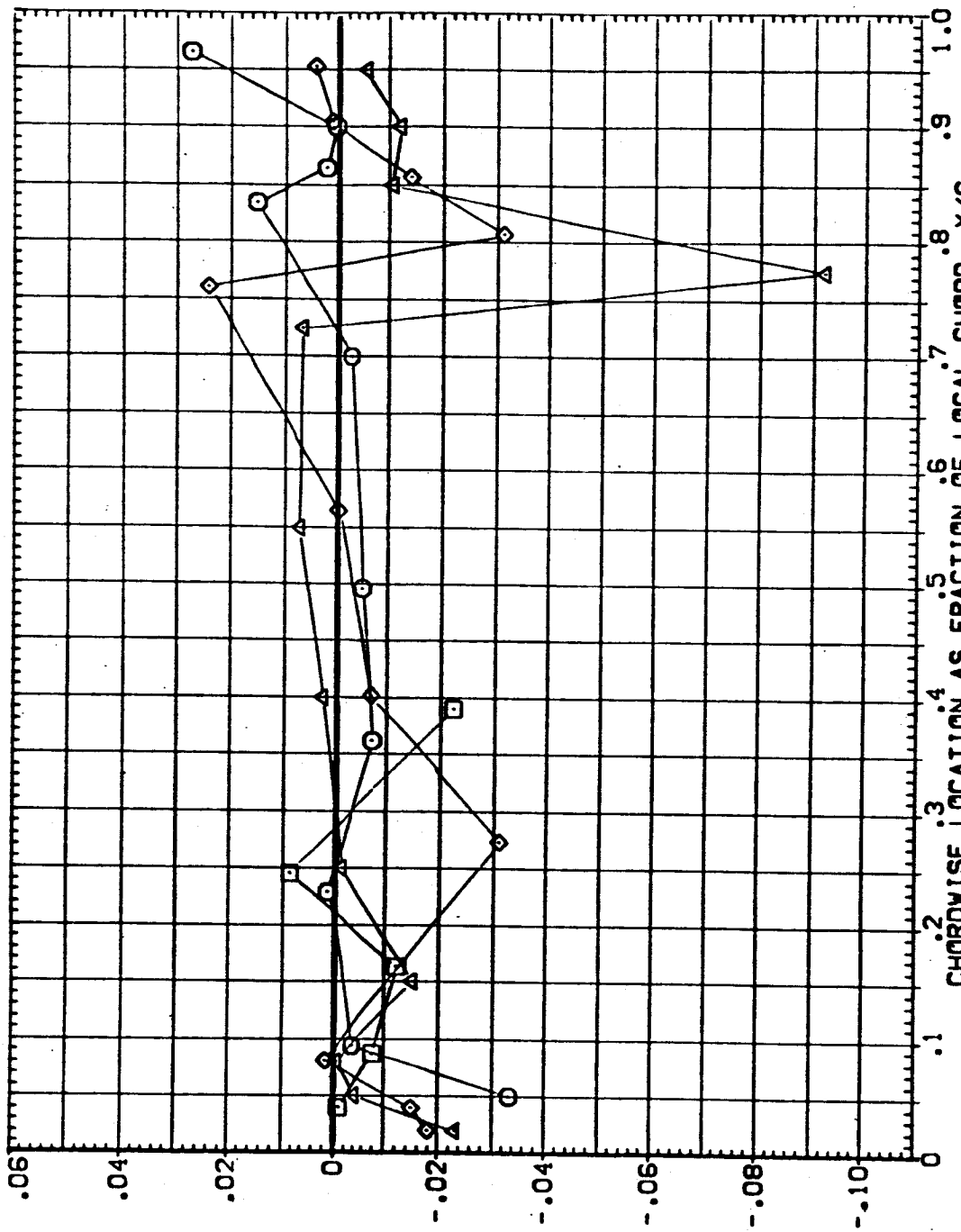


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(FEUW15)

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

SYMBOL 2Y/B BETA ALPHA
 ○ .641 4.000 .000
 □ .780
 ◇ .687

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

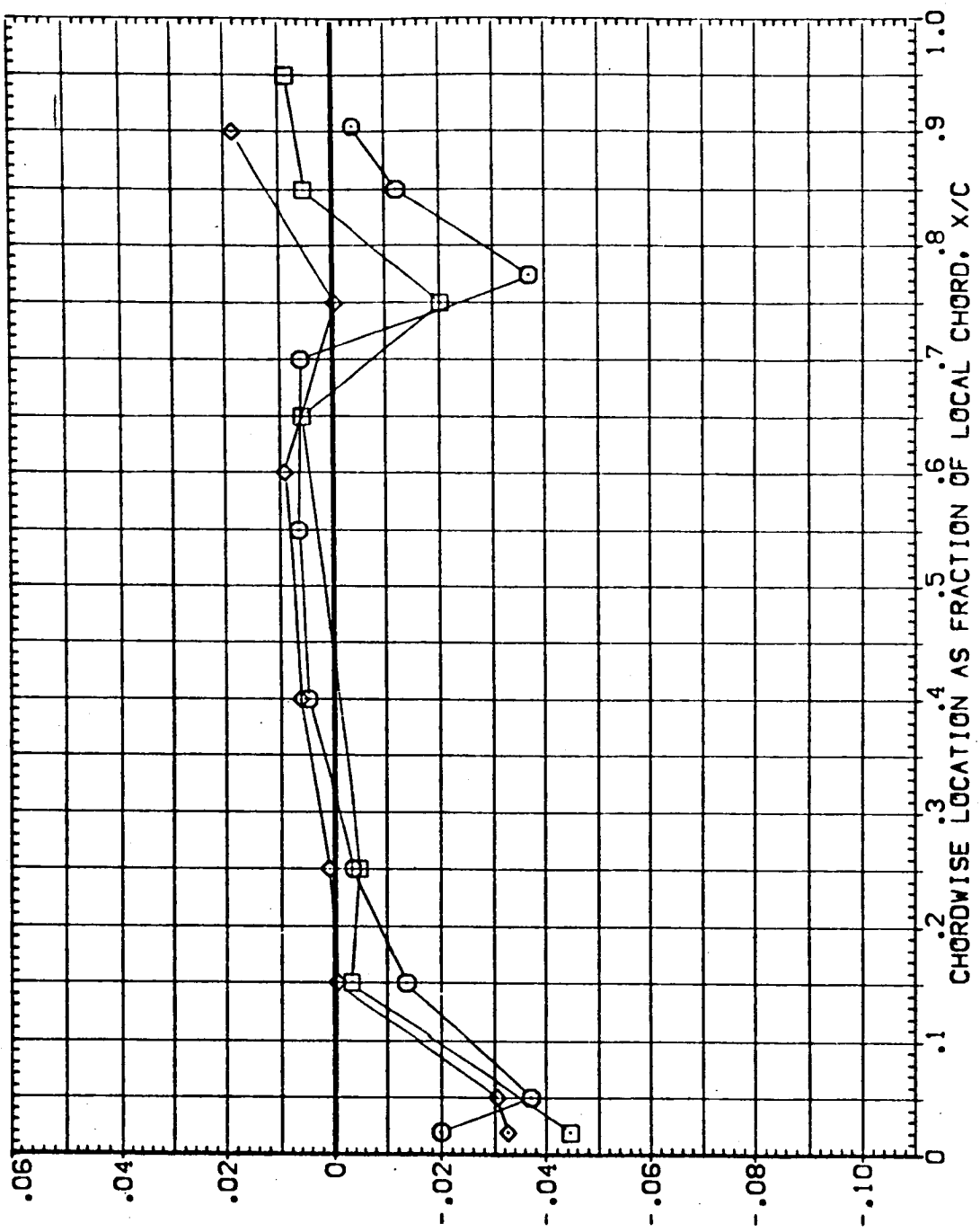


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(EEUW16)

SYMBOL 2Y/B BETA ALPHA
 ○ .299 .000 -1.000
 □ .364
 ◇ .427
 △ .534

PARAMETRIC VALUES
 ELV-19 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

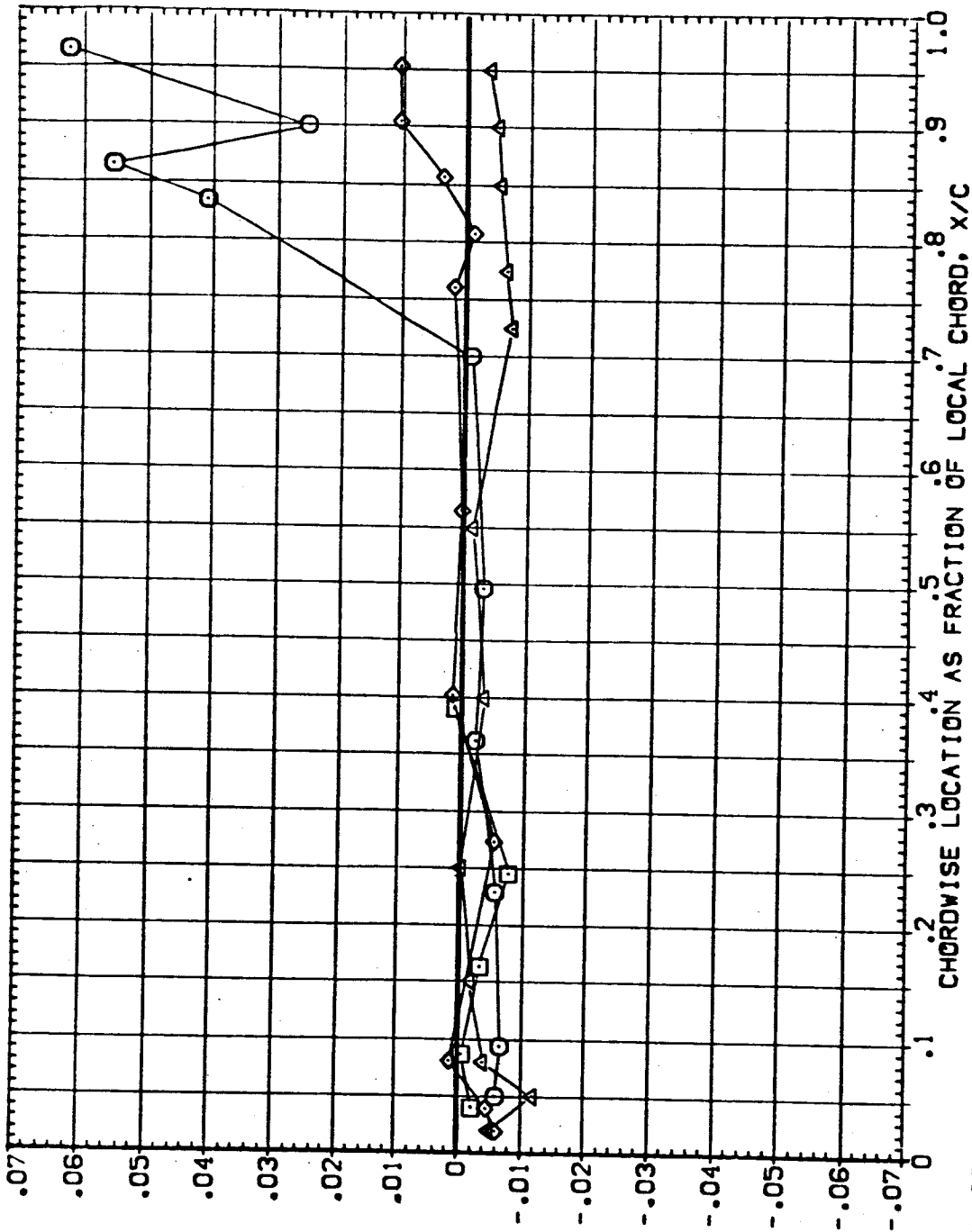


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(EEUW16)

SYMBOL ZI/B BETA ALPHA

○ .641 .000 -1.000

□ .780 .000 -1.000

◇ .687 .000 -1.000

PARAMETRIC VALUES

ELV-1B 8.000 ELV-08 4.000

RUDDER .000 MACH 1.400

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

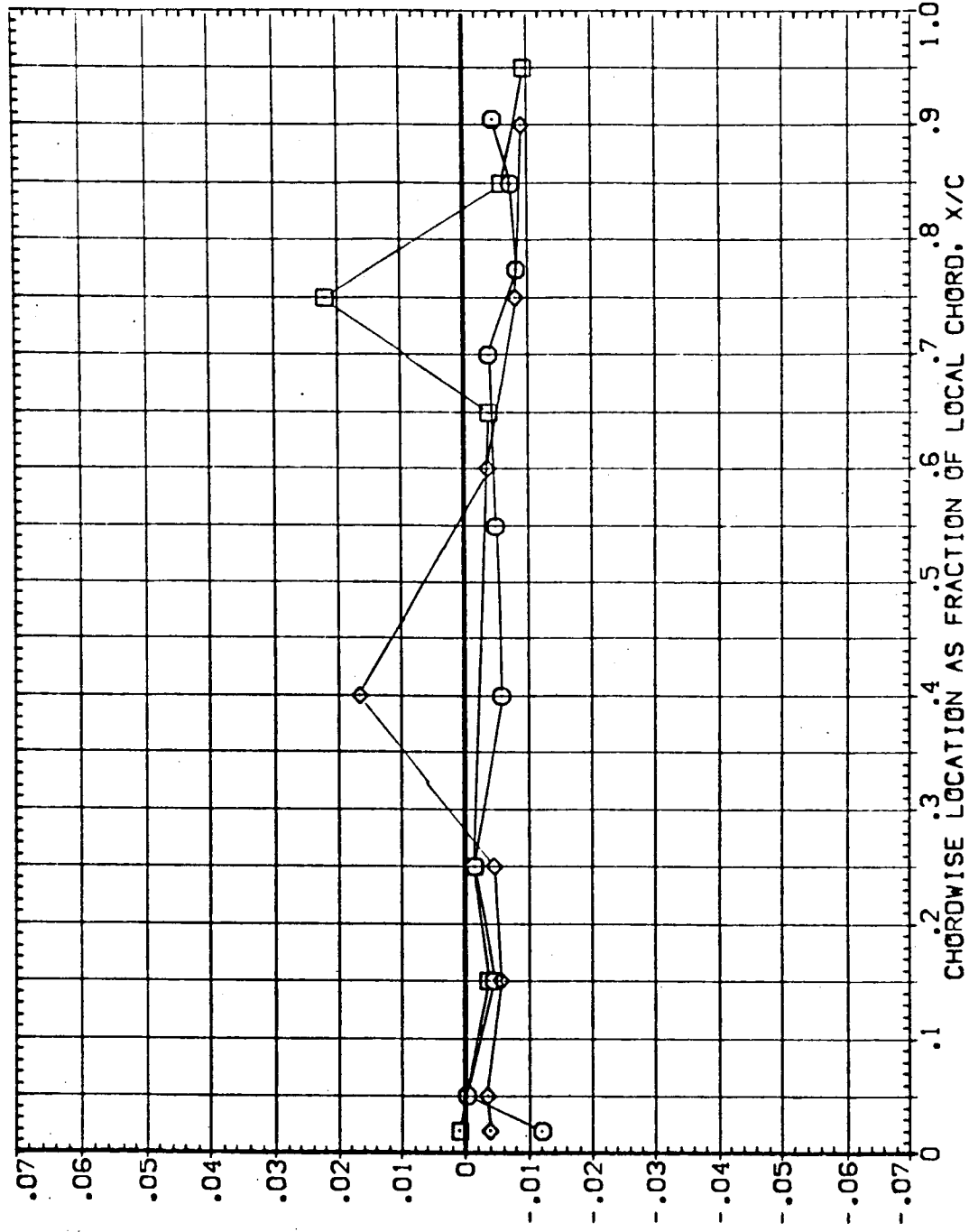


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 CTS+STRUT SRB-NOM MPS-OFF LWR WING(EEUW16)

SYMBOL	2 γ /8	BETA	ALPHA	ELV-18	ELV-09	PARAMETRIC VALUES
○	.299	.000	.000	RUDER	.000	MACH
◇	.364			GIMBAL	1.000	4.000
△	.427					1.400
▽	.534					

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

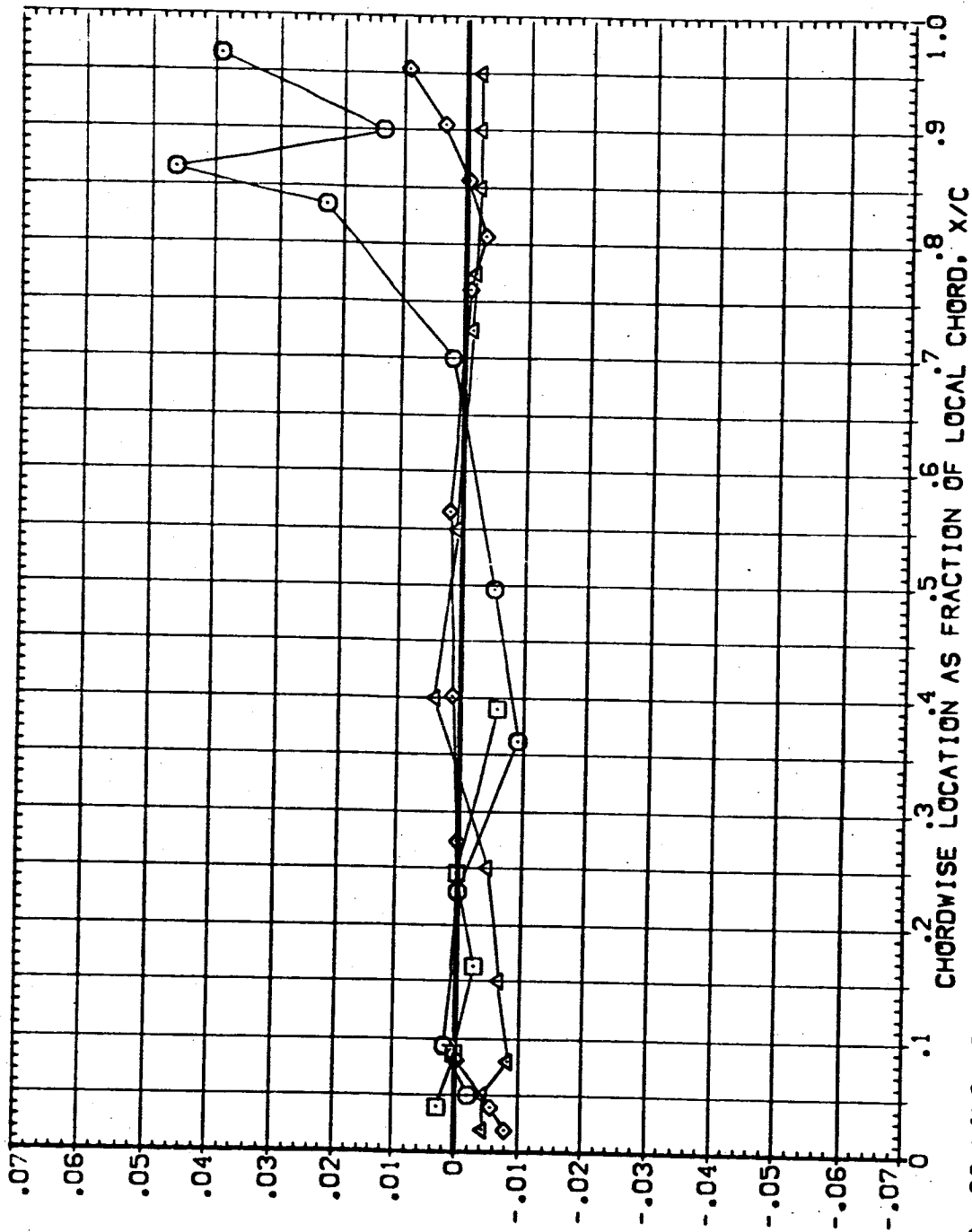


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(EEUW16)

SYMBOL Z1/B BETA ALPHA

○ .641 .000 .000

◇ .780 .000 .000

◇ .887 .000 .000

PARAMETRIC VALUES

ELV-1B 8.000 ELV-08 4.000

RUDER .000 MACH 1.400

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

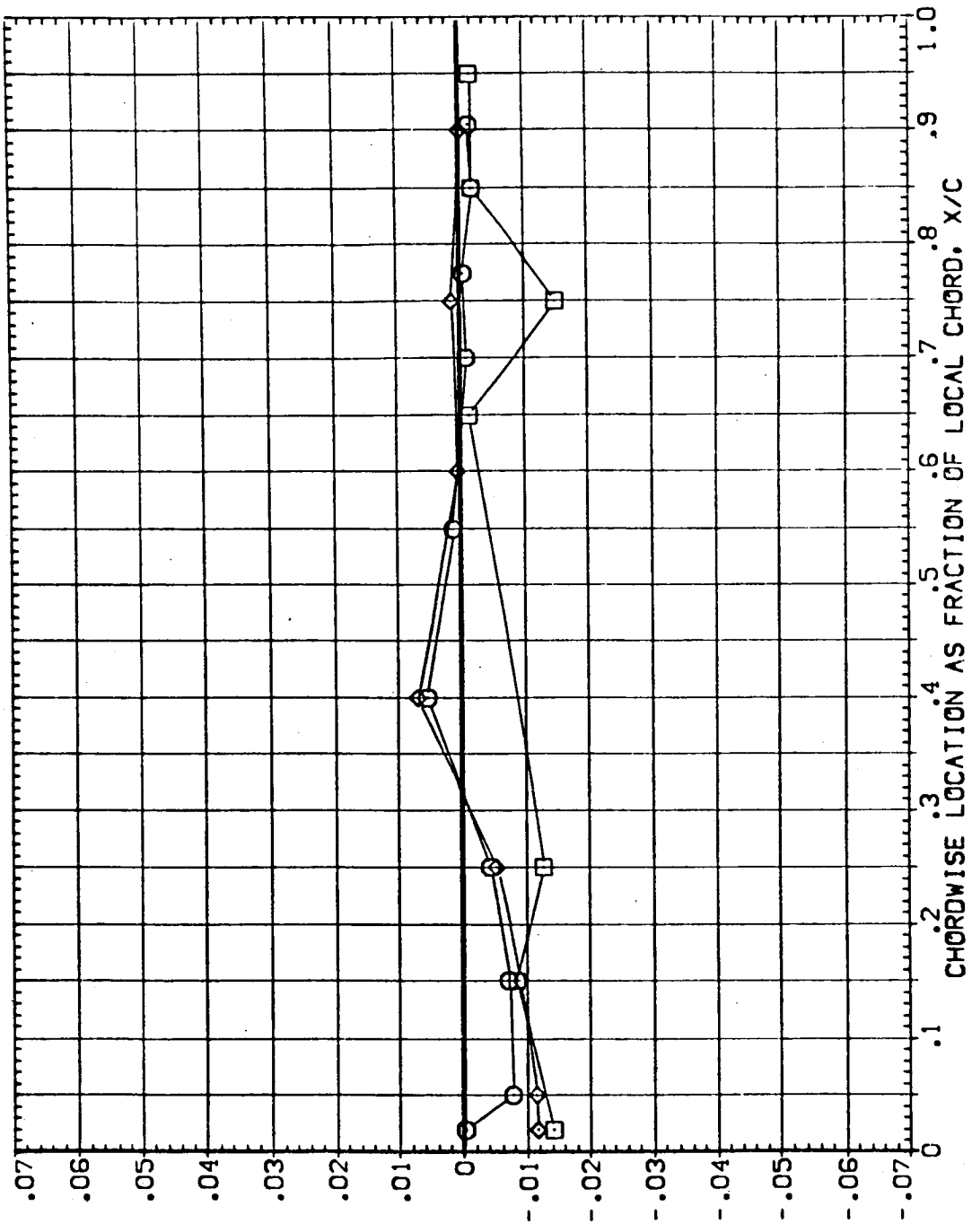


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(EEUW16)

SYMBOL	ZY/B	BETA	ALPHA	ELV-19	ELV-09
◇	.299	.000	1.000	RUDER	MACH
□	.364			GIMBAL	
△	.427				
○	.534				

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

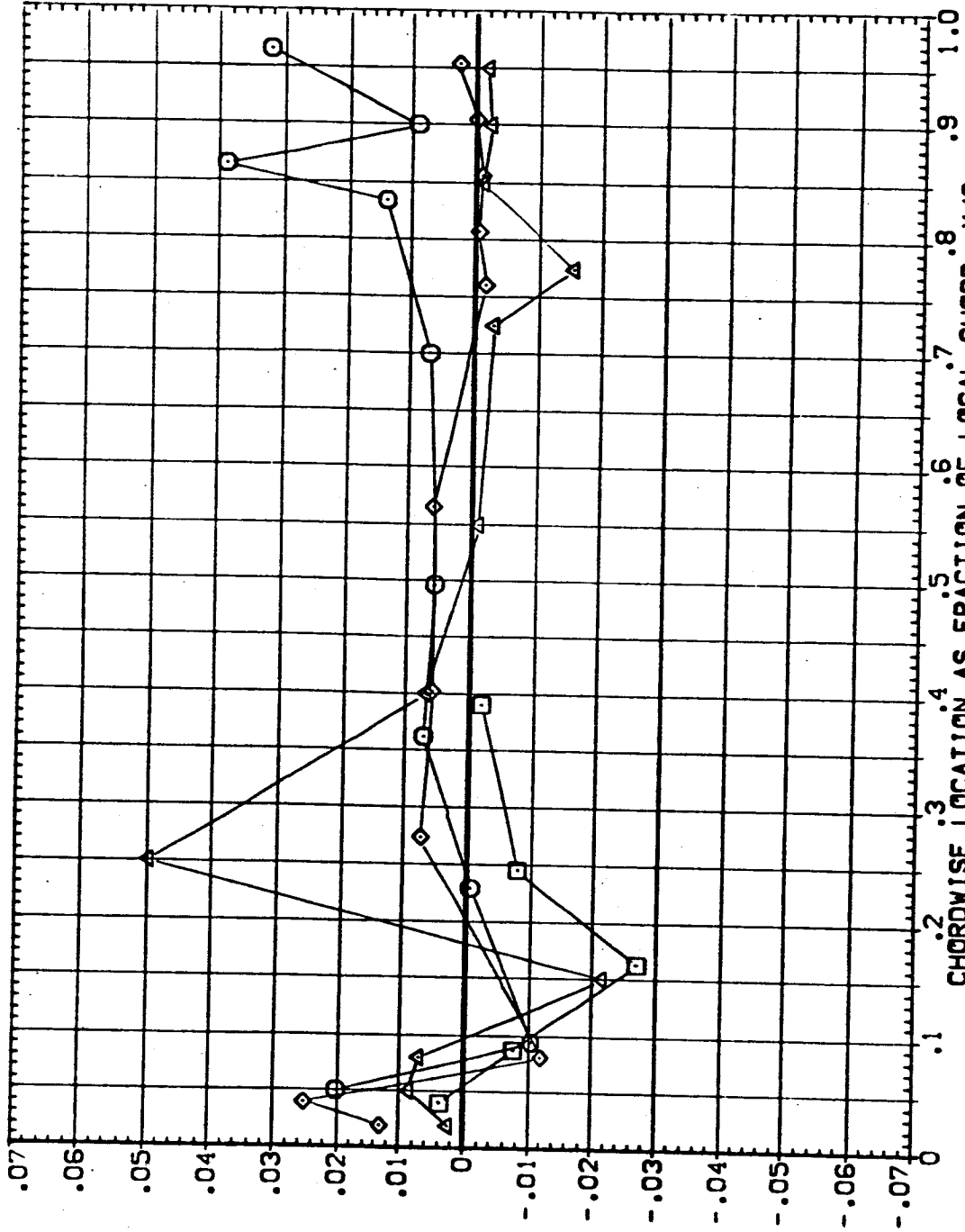


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(EEUW16)

SYMBOL	ZY/B	BETA	ALPHA	PARAMETRIC VALUES
○	.641	.000	4.000	ELV-18 8.000 ELV-08 4.000
□	.780			RUDDER .000 MACH 1.400
◇	.687			GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

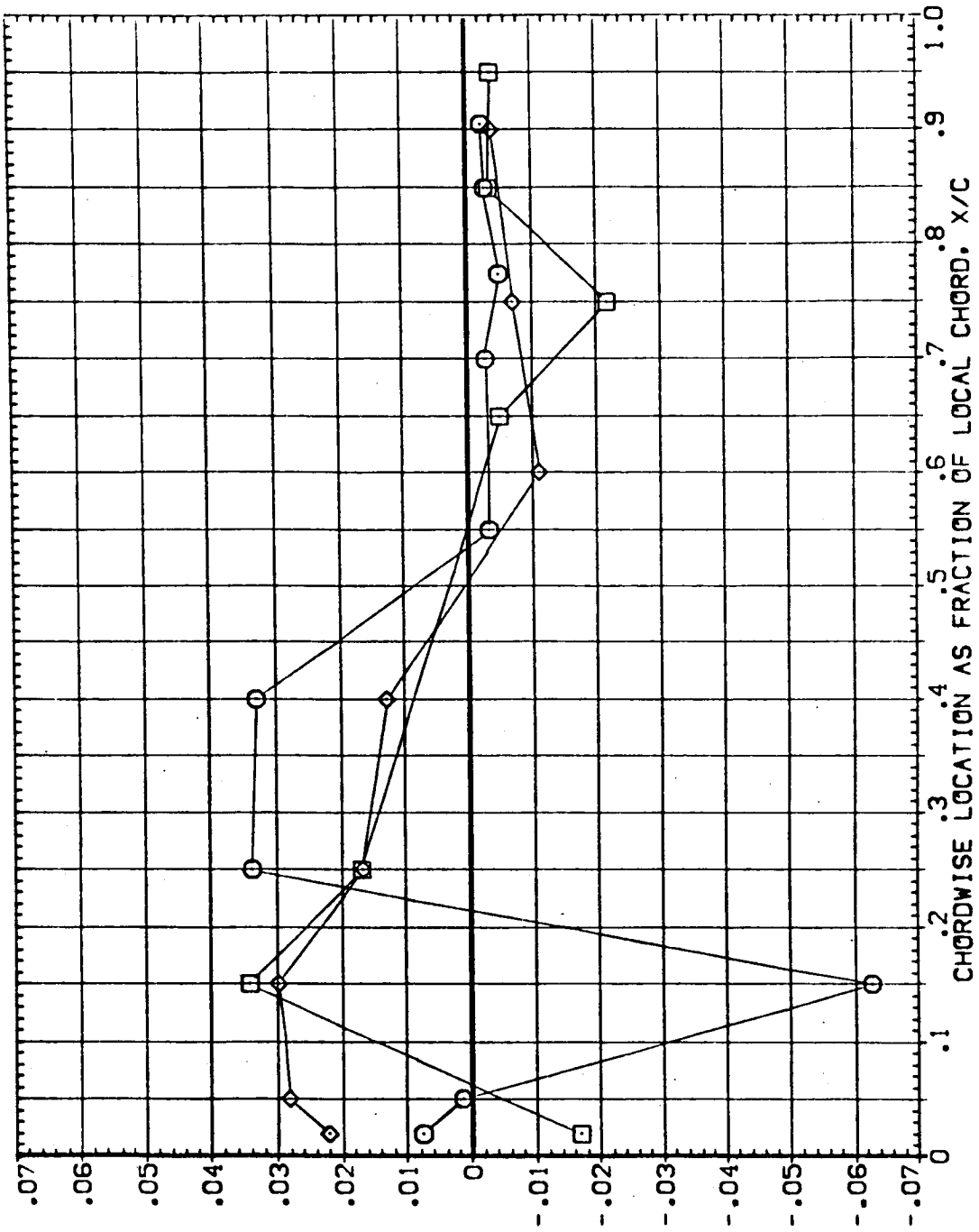


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(FEUW16)

PARAMETRIC VALUES
 ELV-08 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

2Y/B BETA ALPHA
 .299 -4.000 .000
 .364
 .427
 .534

SYMBOL
 ○
 □
 ◇
 △

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

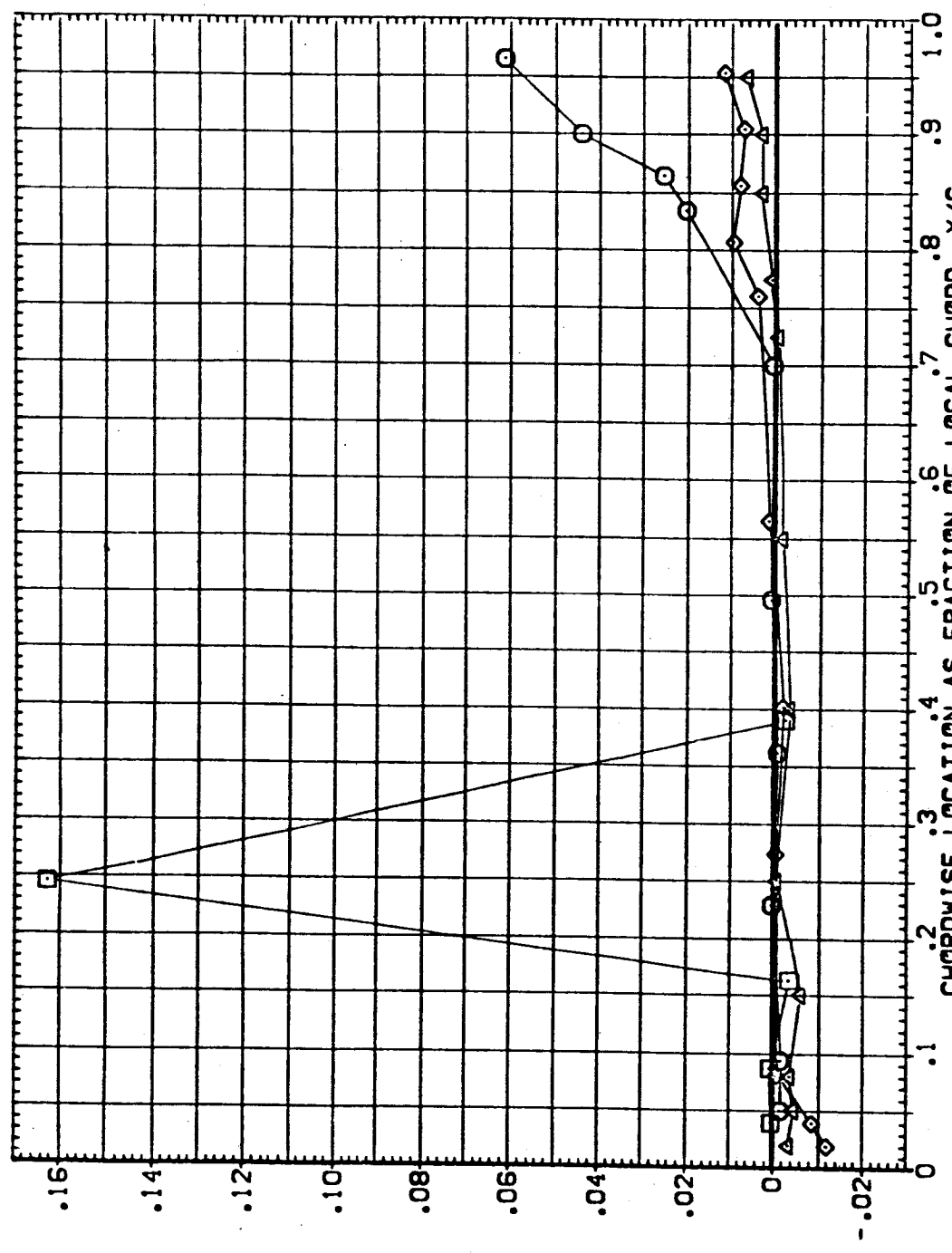


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(FEUW16)

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

SYMBOL 2Y/B BETA ALPHA
 ○ .641 -4.000 .000
 □ .780 .000
 ◇ .887

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

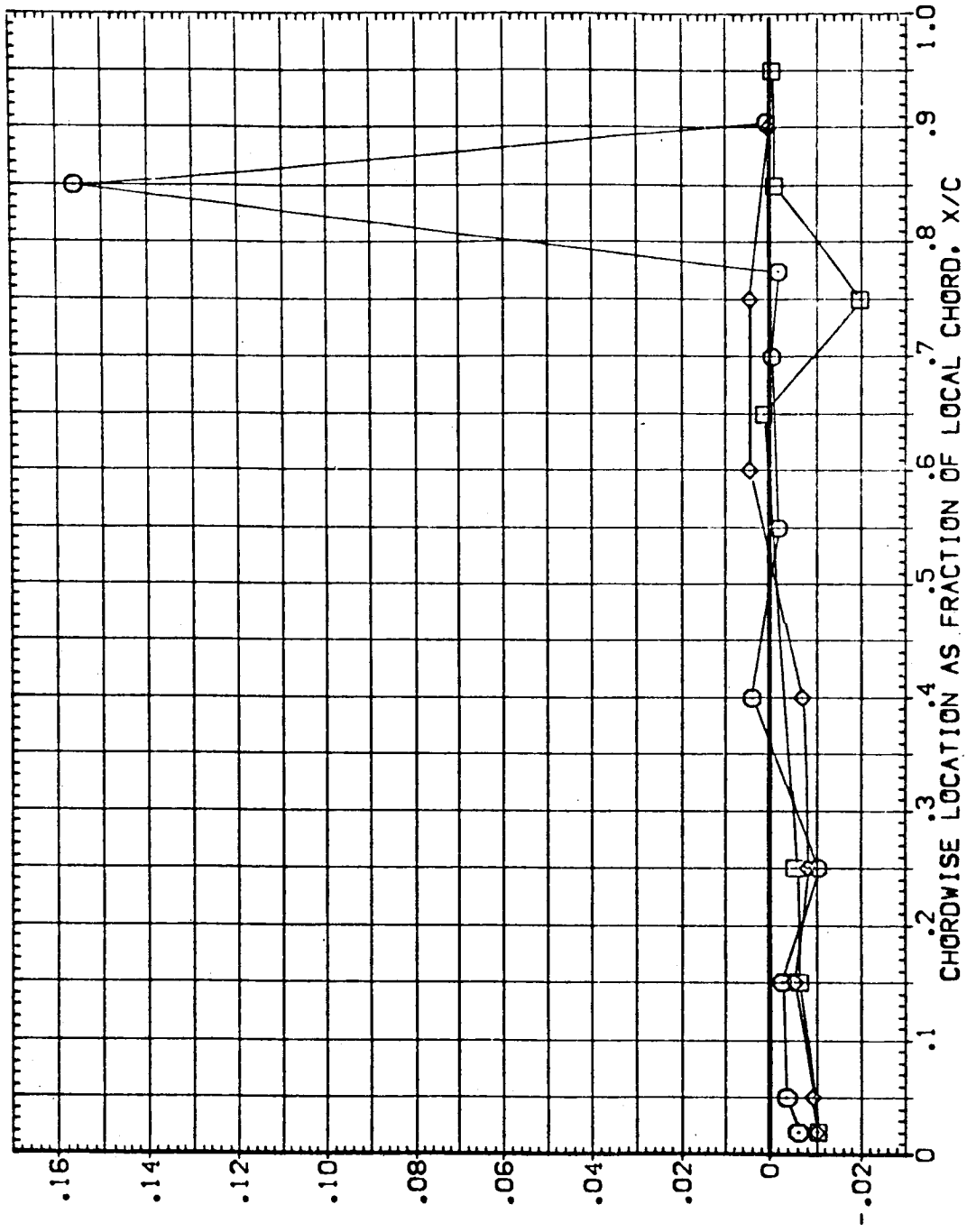


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(FEUW16)

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-08 1.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

2Y/B BETA ALPHA
 .299 4.000 .000
 .364
 .427
 .534

SYMBOL
 ◊
 □
 ○

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

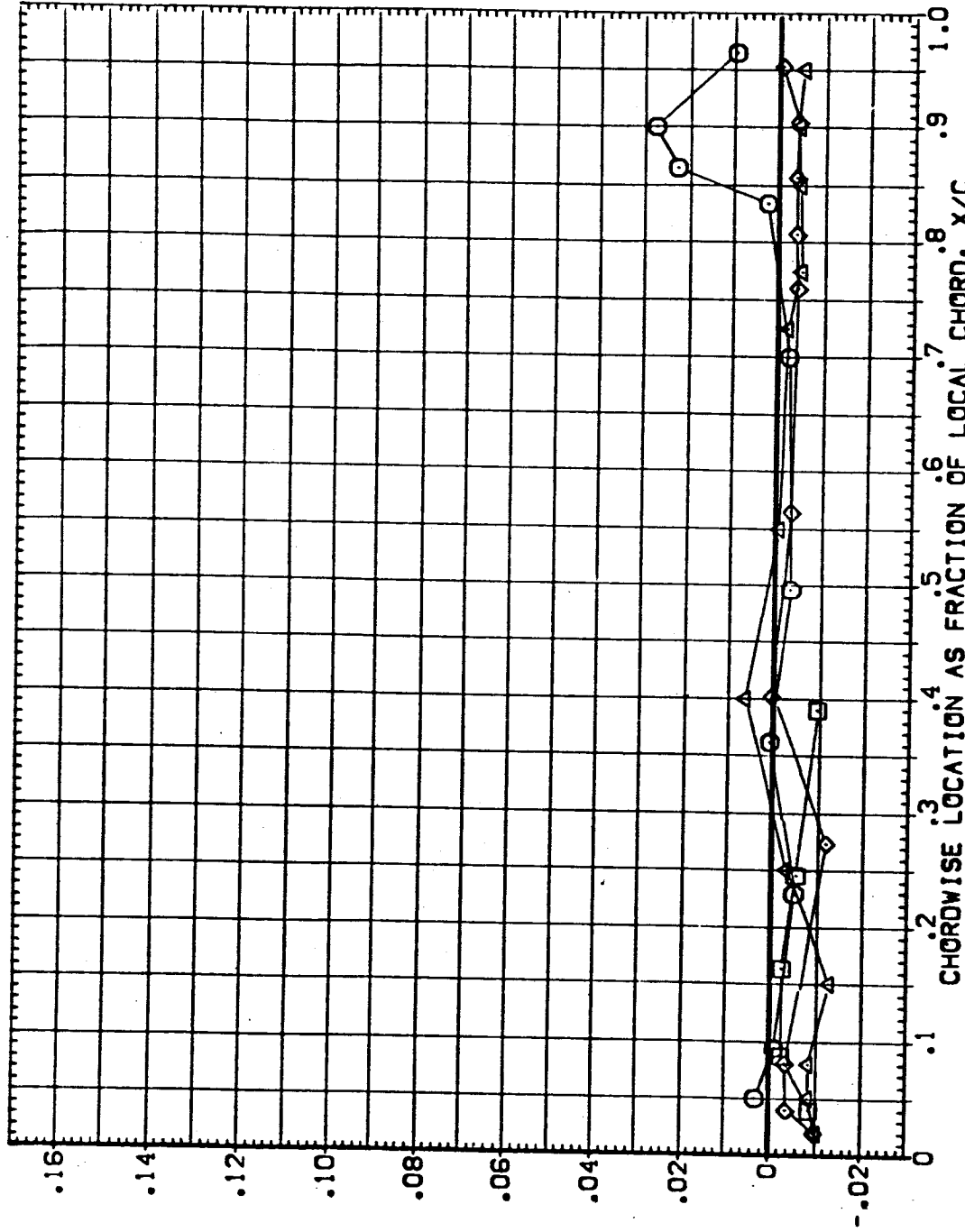


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC1:-0141A19 OTS+SIRUT SRB-NOM MPS-OFF LWR WING(FEUW16)

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

SYMBOL 2Y/B BETA ALPHA
 ○ .641 4.000 .000
 □ .760
 ◇ .897

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

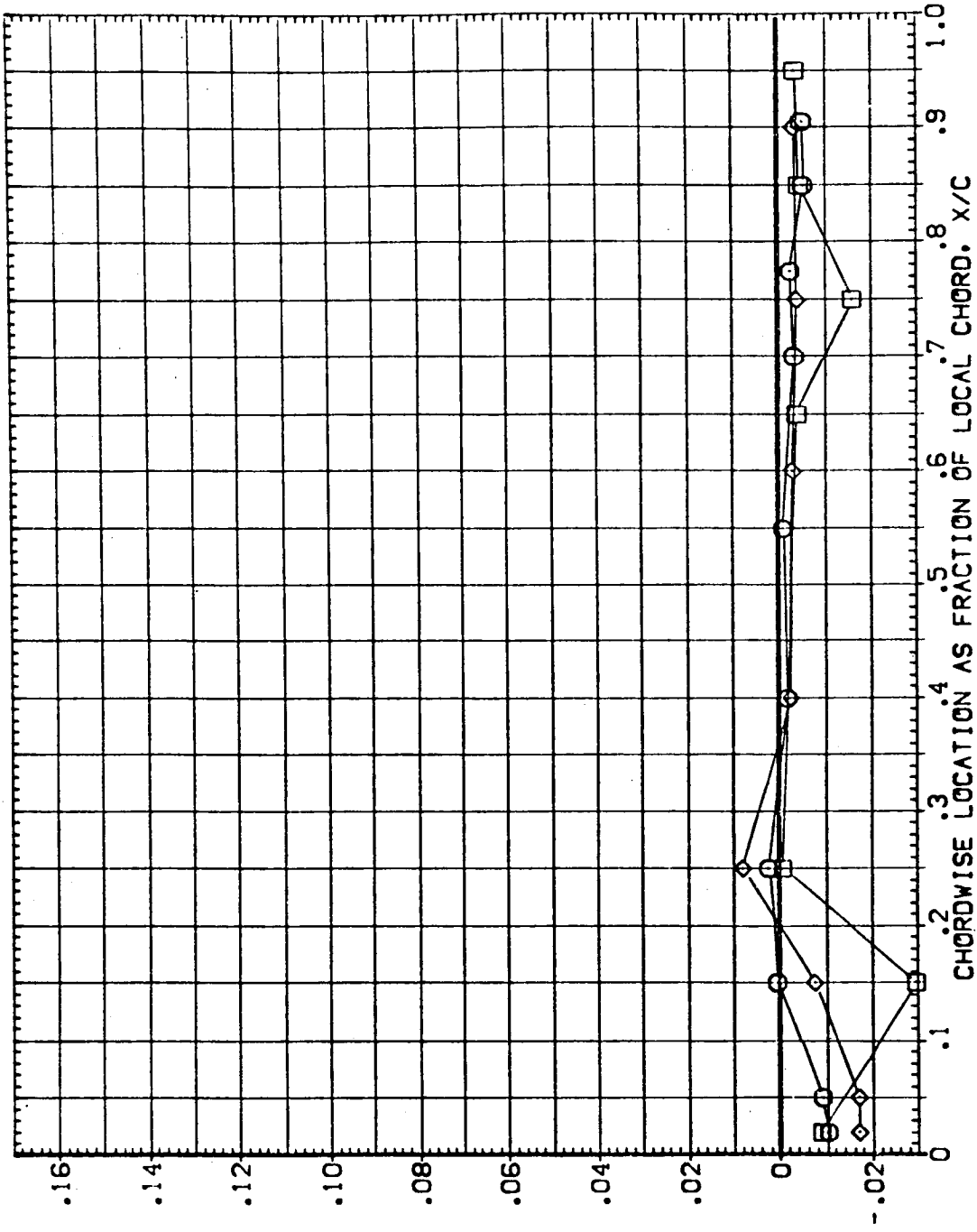


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF VERTICAL (BEUV01)

SYMBOL Z/BV BETA ALPHA

○ .158 .000 -1.000

□ .316 .000 -1.000

◇ .500 .000 -1.000

△ .840 .000 -1.000

▽ .925 .000 -1.000

PARAMETRIC VALUES

ELV-18 8.000 ELV-09 4.000

RUDDER .000 MACH

GIMBAL 1.000

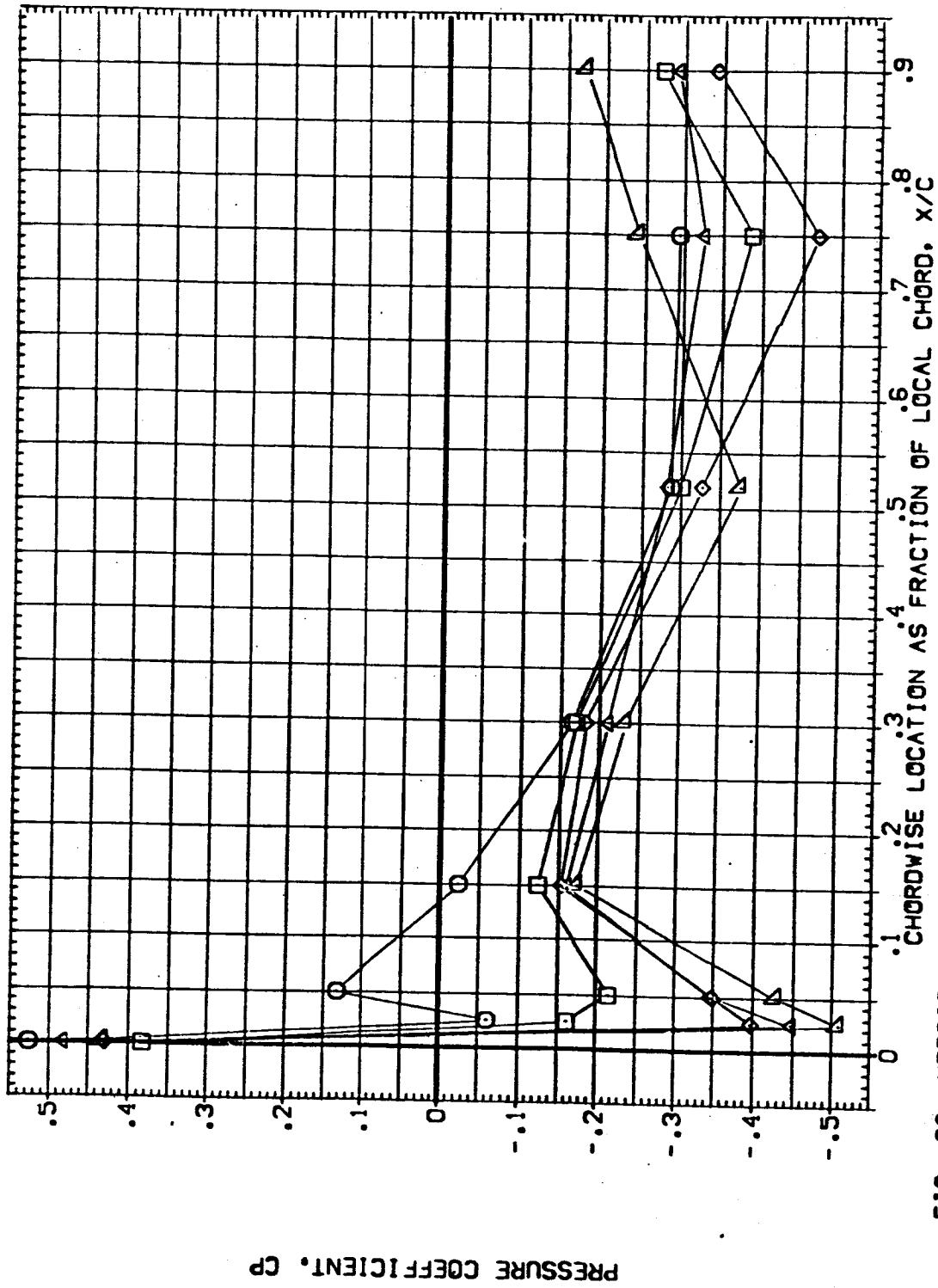


FIG. 99 VERTICAL TAIL PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF VERTICAL (BEUV01)

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-08 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

SYMBOL Z/BV BETA ALPHA
 ○ .158 .000
 □ .316 .000
 ◇ .600 .000
 △ .840 .000
 ▽ .925 .000

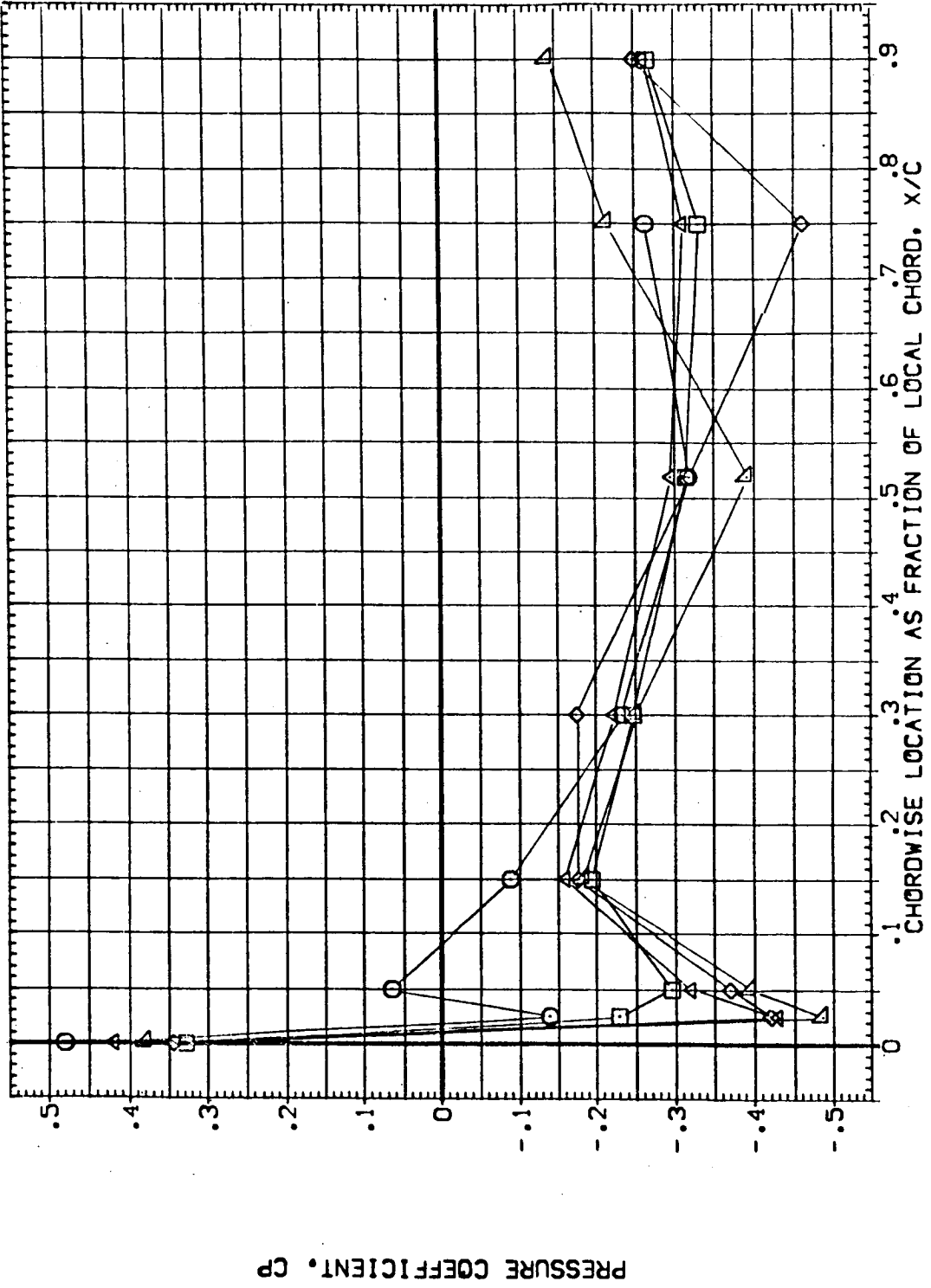


FIG. 99 VERTICAL TAIL PRESSURE COEFFICIENT DISTRIBUTION POWER OFF



ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF VERTICAL (BEUV01)

SYMBOL	Z/BV	BETA	ALPHA	ELV-18 RUDDER GIMBAL	PARAMETRIC VALUES ELV-09 MACH
○	.158	.000	4.000	8.000	4.000
□	.316	.000	4.000	.000	.900
◇	.600	.000	4.000	1.000	
△	.840	.000	4.000		
▽	.925	.000	4.000		

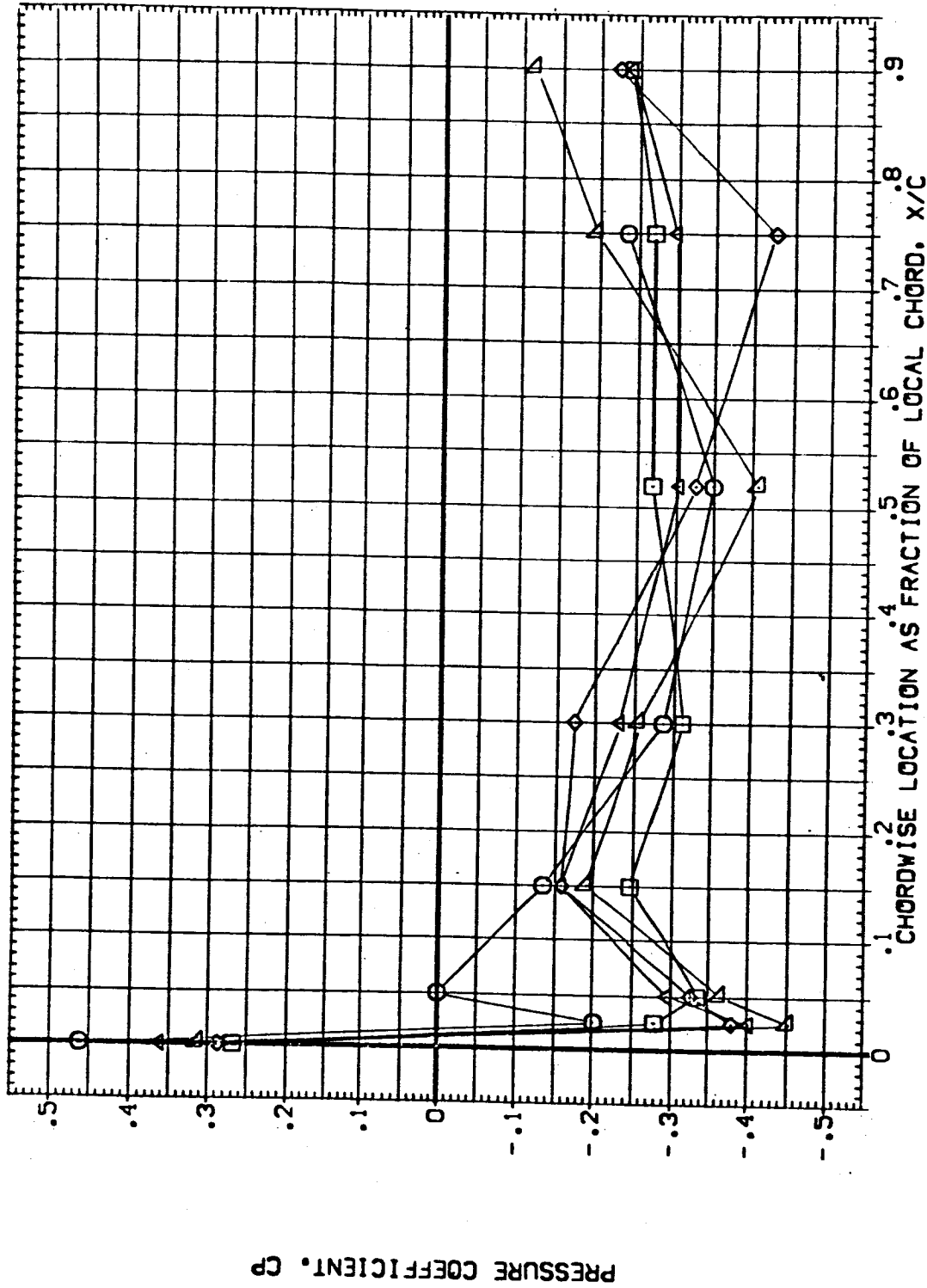


FIG. 99 VERTICAL TAIL PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF VERTICAL (CEUV01)

SYMBOL Z/BV BETA ALPHA

○ .158 -4.000 .000

□ .316 .000

◇ .600 .000

△ .940 .000

 .925 .000

PARAMETRIC VALUES

ELV-1B 8.000 ELV-09 4.000

RUDDER .000 MACH .900

GIMBAL 1.000

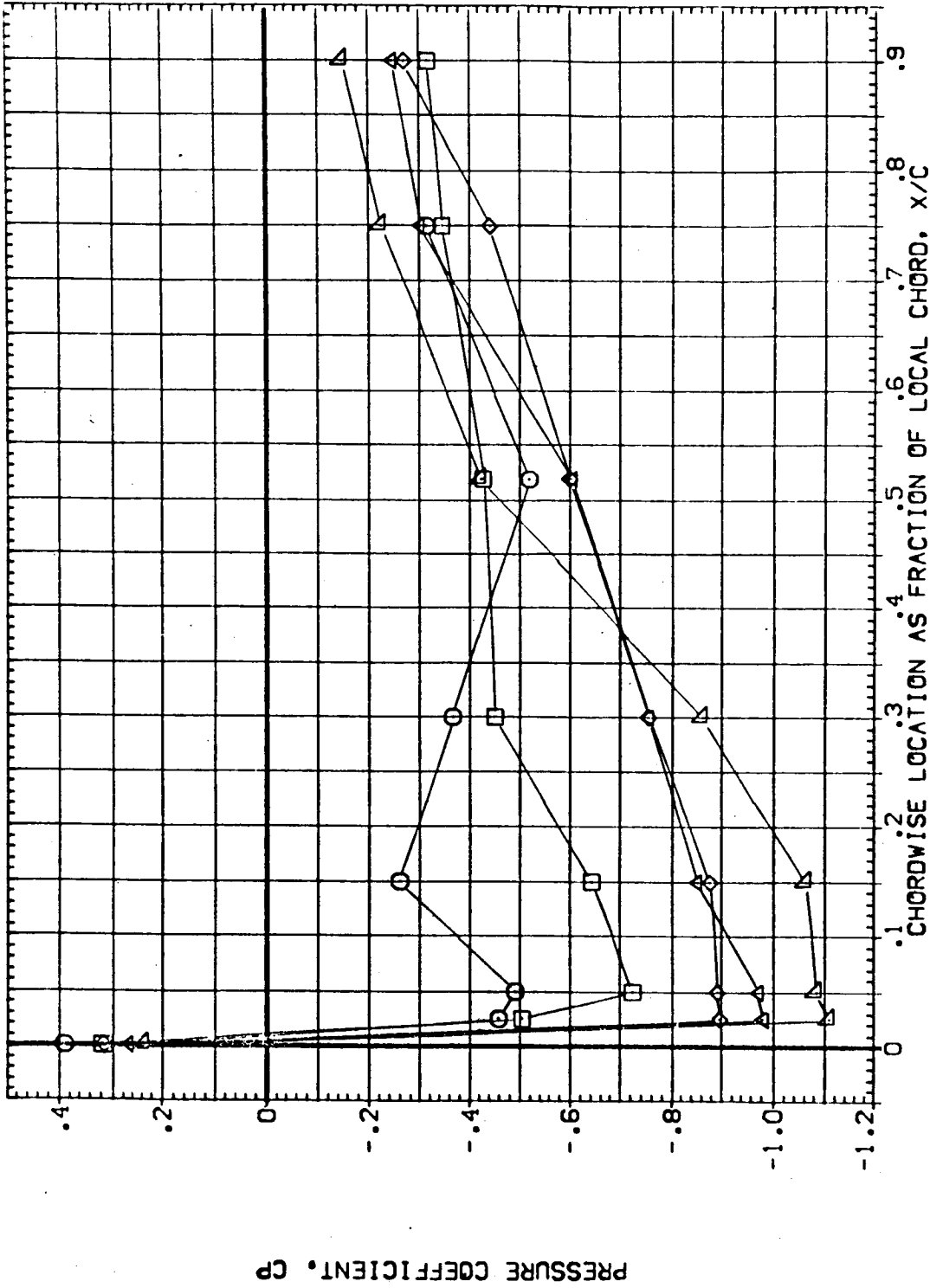


FIG. 99 VERTICAL TAIL PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

C-8

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF VERTICAL (CEUV01)

SYMBOL	Z/BV	BETA	ALPHA	PARAMETRIC VALUES
○	.156	4.000	.000	8.000 ELV-08 4.000
□	.316			.000 RUDDER .900
◇	.600			1.000 GIMBAL
△	.840			
▽	.925			

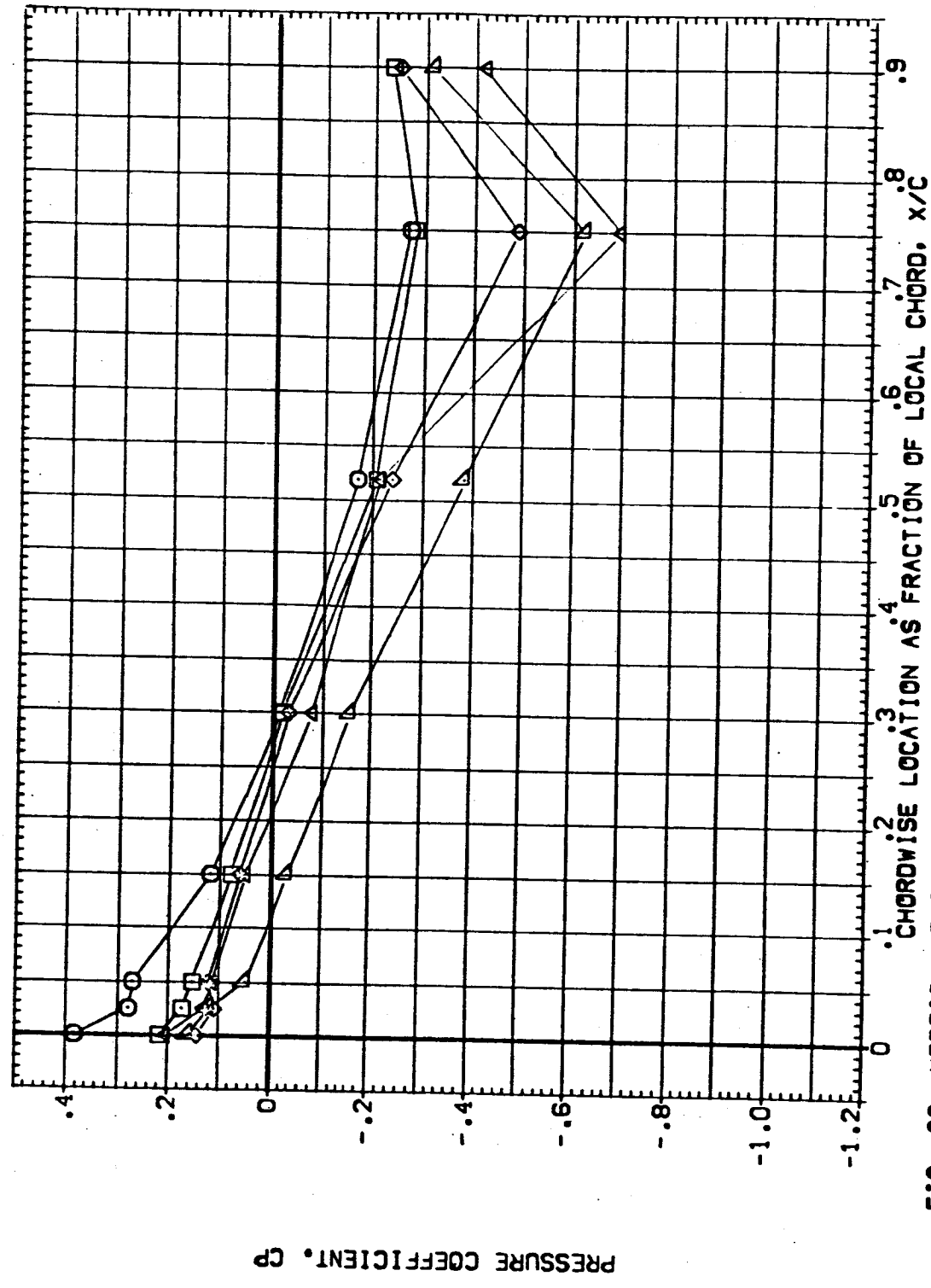


FIG. 99 VERTICAL TAIL PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF VERTICAL (BEUV02)

SYMBOL	Z/SV	BETA	ALPHA	ELV-18 RUDDER	ELV-08 MACH	PARAMETRIC VALUES
○	.158	.000	-4.000	.000	1.000	8.000
□	.316	.000	-4.000	.000	1.000	4.000
◇	.600	.000	-4.000	.000	1.000	1.100
▽	.840	.000	-4.000	.000	1.000	1.100
△	.925	.000	-4.000	.000	1.000	1.100

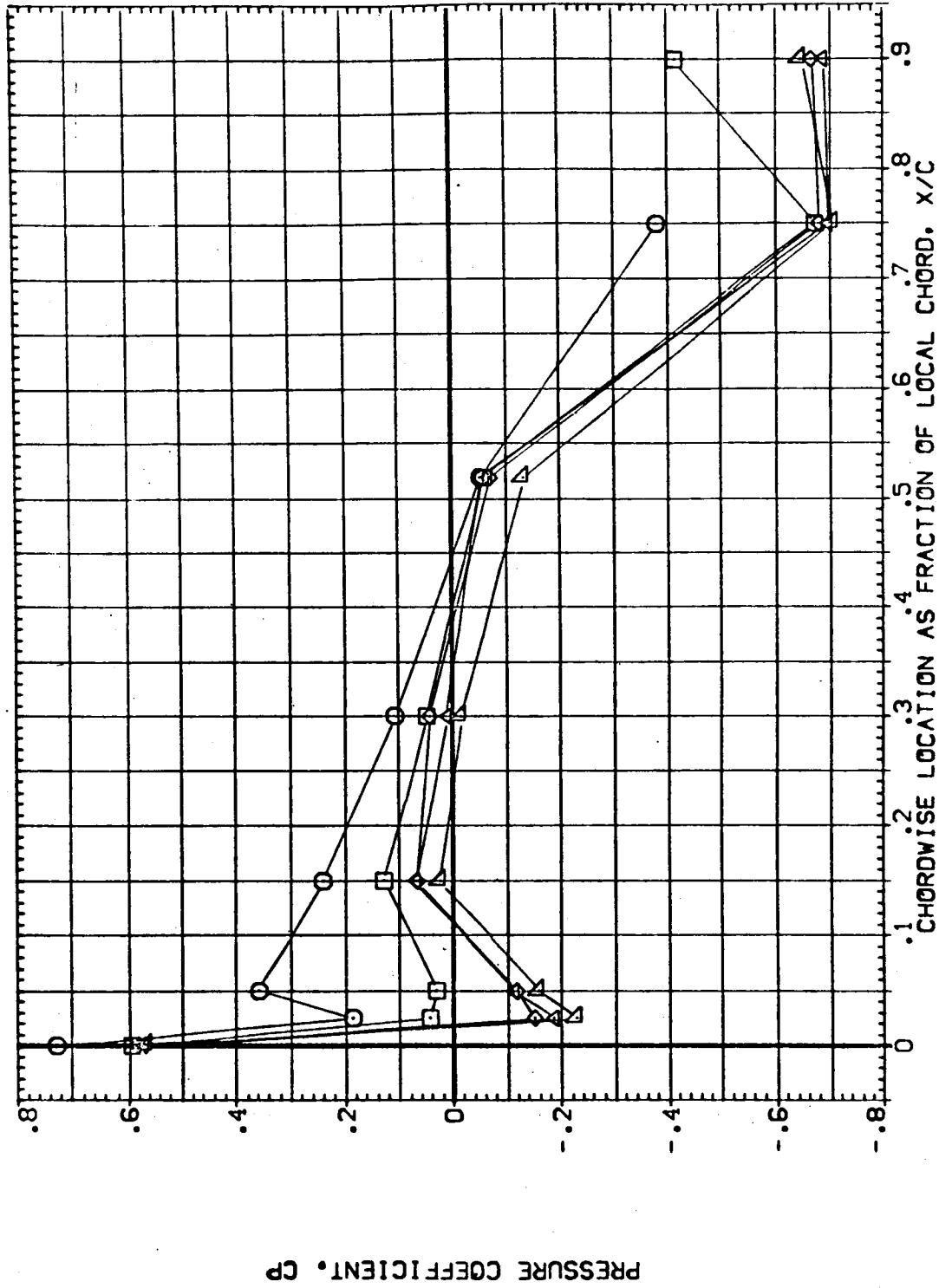


FIG. 99 VERTICAL TAIL PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF VERTICAL (BEUV02)

PARAMETRIC VALUES	
ELV-18	8.000
RUDER	.000
GIMBAL	1.000
ELV-09	4.000
MACH	1.100

Z/BV	BETA	ALPHA
.158	.000	.000
.316	.000	.000
.600	.000	.000
.840	.000	.000
.975	.000	.000

SYMBOL	Z/BV
○	.158
□	.316
◇	.600
△	.840
▽	.975

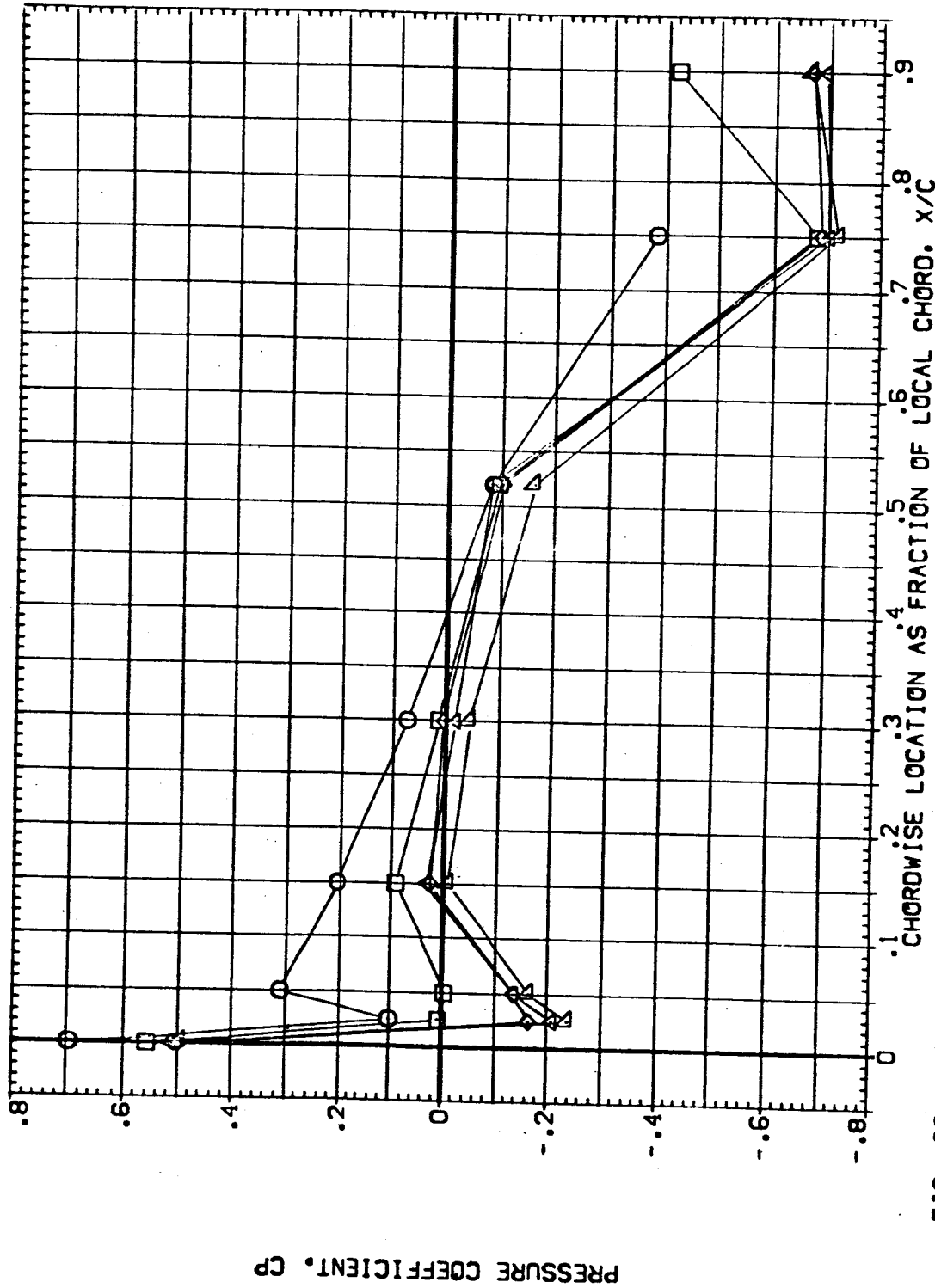


FIG. 99 VERTICAL TAIL PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF VERTICAL (BEUV02)

Z/BV	BETA	ALPHA	PARAMETRIC VALUES
.158	.000	4.000	8.000 ELV-08
.316			.000 MACH
.600			1.000
.840			
.925			

ELV-18	ELV-08
RUDDER	MACH
GIMBAL	

SYMBOL
○
□
◇
▽

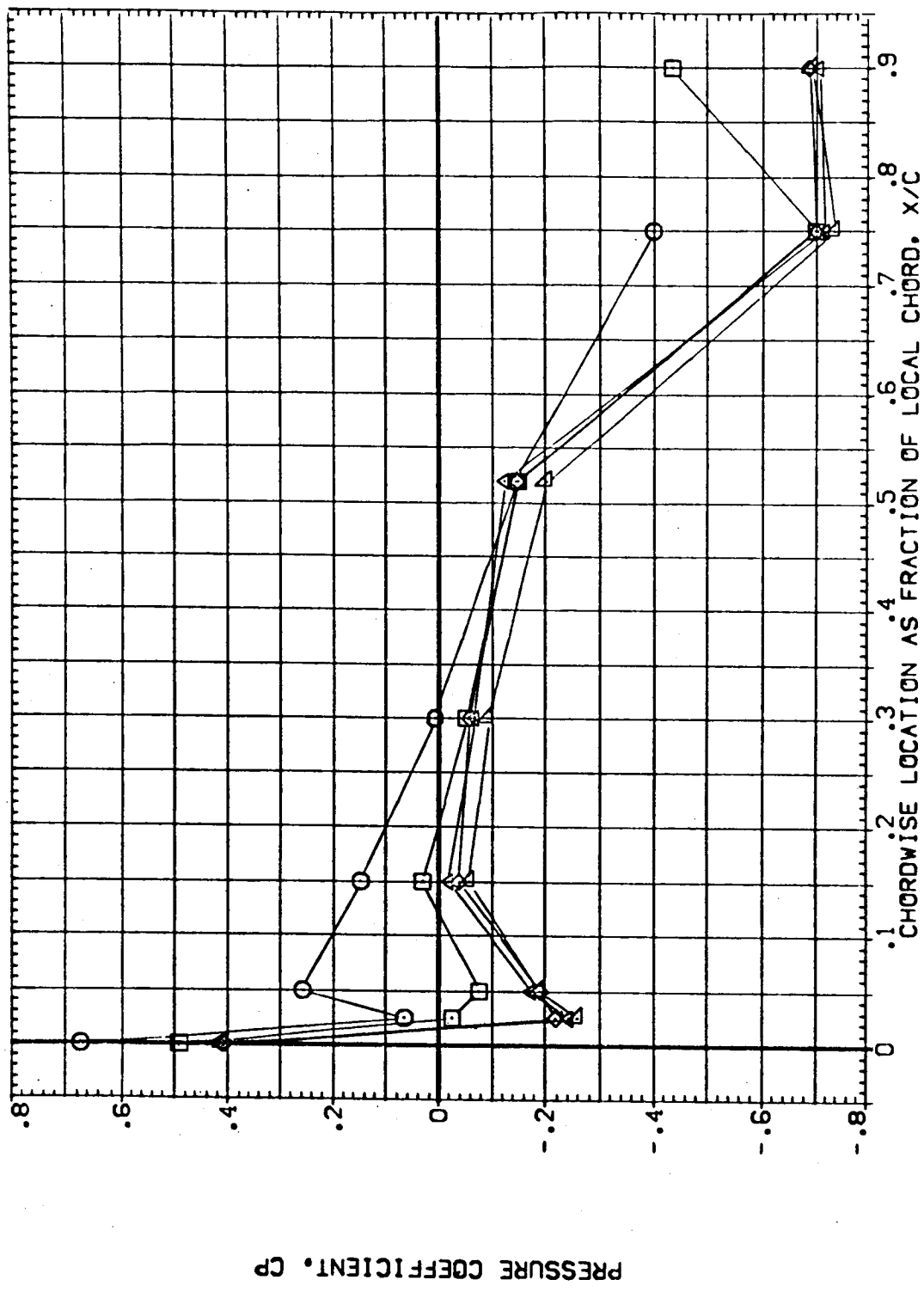


FIG. 99 VERTICAL TAIL PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF VERTICAL (CEUV02)

SYMBOL Z/BV BETA ALPHA
 ○ .159 -4.000 .000
 □ .316
 ◇ .600
 △ .810
 .925

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-0B 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

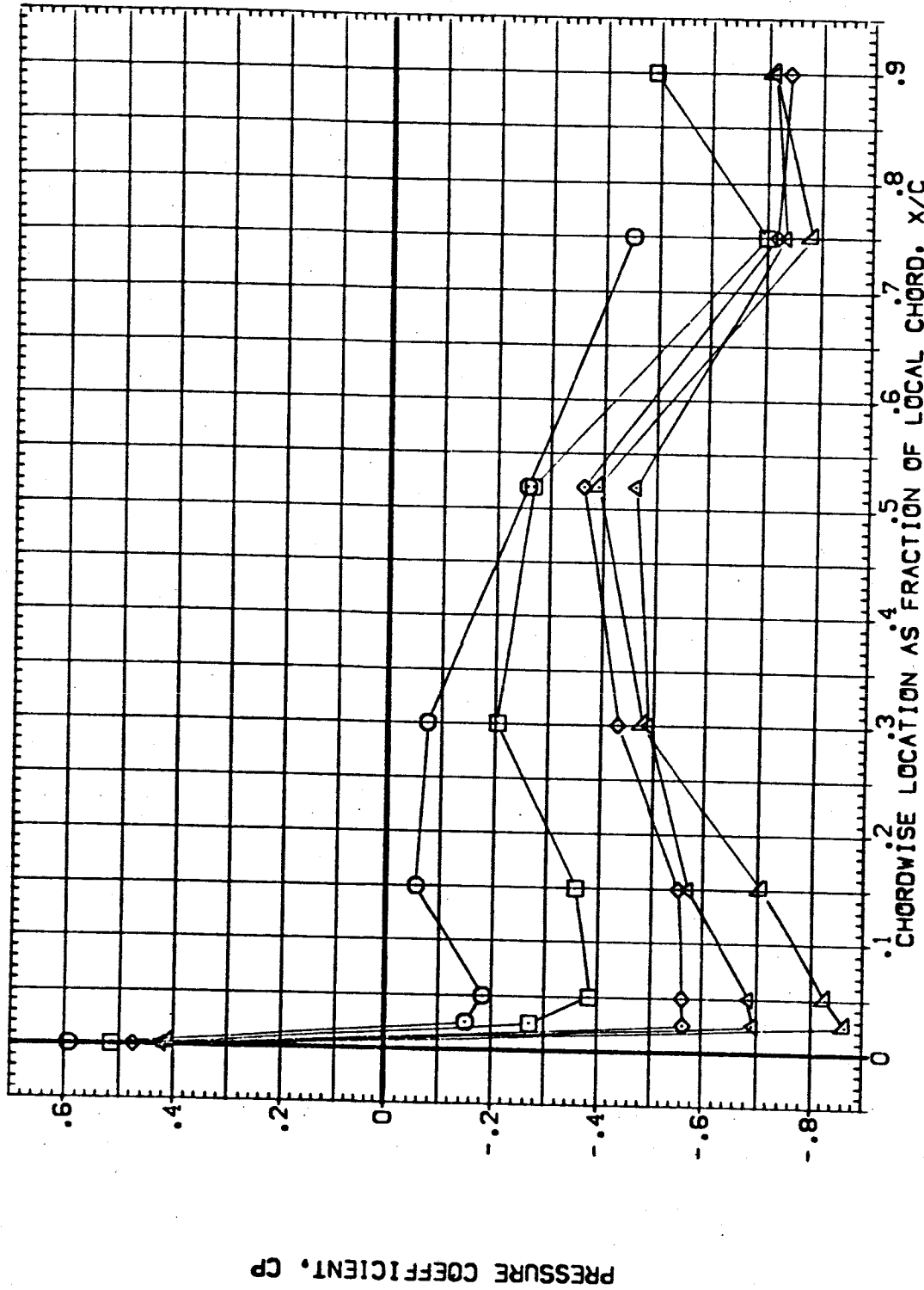


FIG. 99 VERTICAL TAIL PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF VERTICAL (CEUV02)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-09 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

Z/BV .158 BETA 4.000 ALPHA .000
 .316
 .600
 .840
 .925

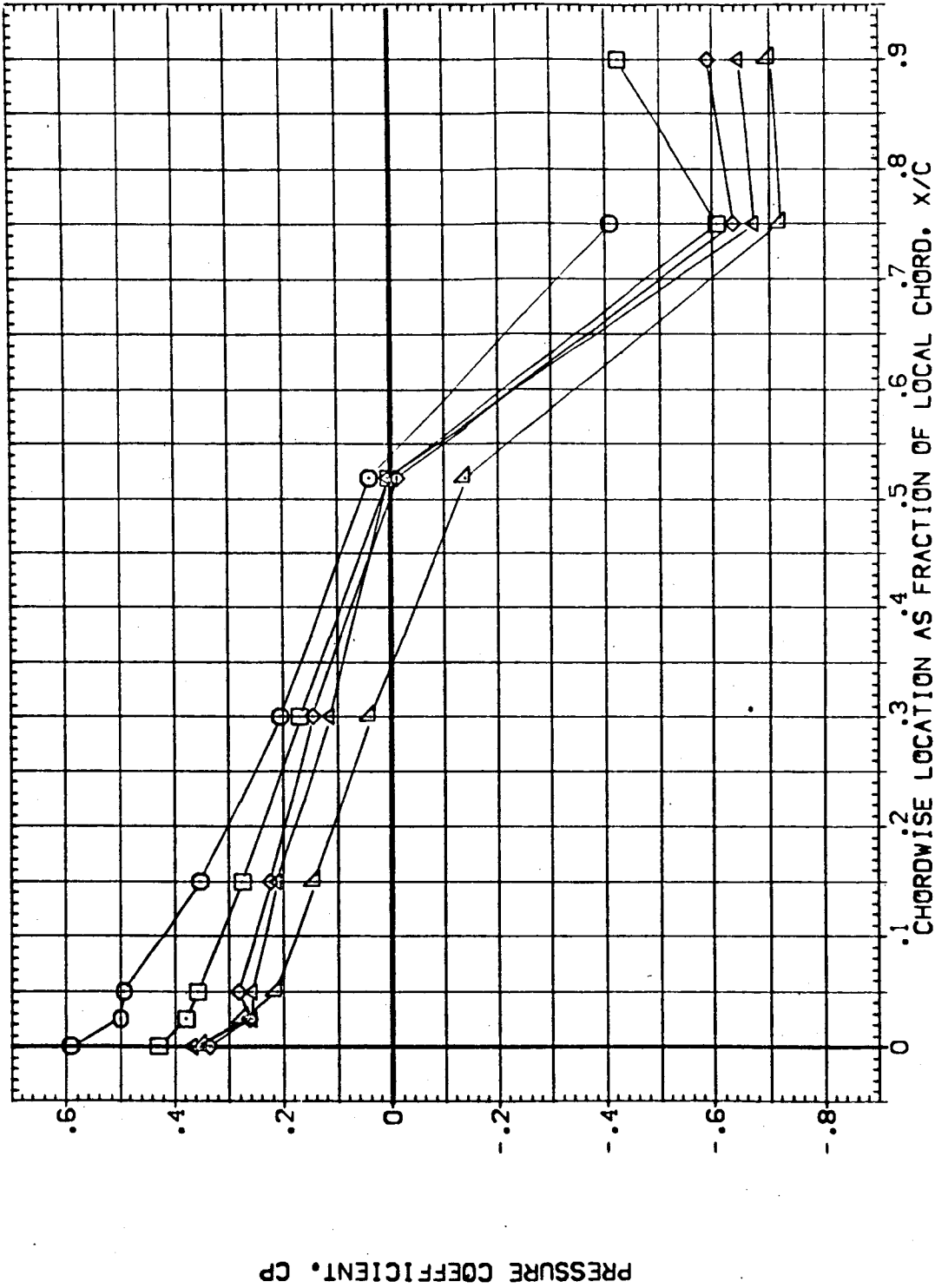


FIG. 99 VERTICAL TAIL PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF VERTICAL (BEUV03)

SYMBOL	Z/BV	BETA	ALPHA	ELV-18	ELV-09
○	.158	.000	-4.000	RUDDER	MACH
◇	.316			GIMBAL	
□	.600				
△	.840				
▽	.925				

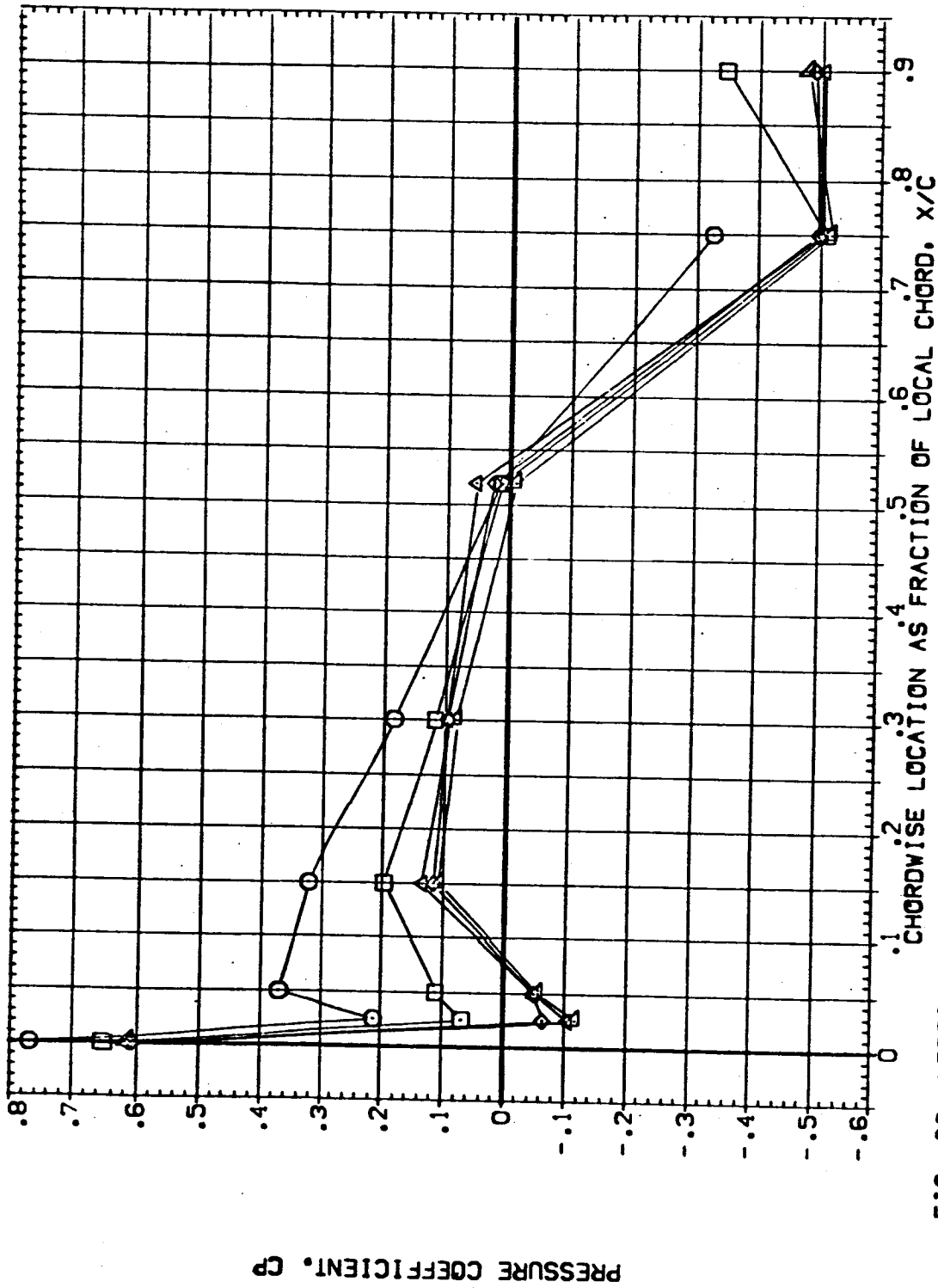


FIG. 99 VERTICAL TAIL PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SR8-OFF MPS-OFF VERTICAL (BEUV03)

SYMBOL	Z/BV	BETA	ALPHA	ELV-1B	ELV-08	PARAMETRIC VALUES
○	.158	.000	.000	8.000	4.000	
◇	.316	.000	.000	.000	1.250	
□	.600	.000	.000	1.000		
△	.840	.000	.000			
▽	.925	.000	.000			

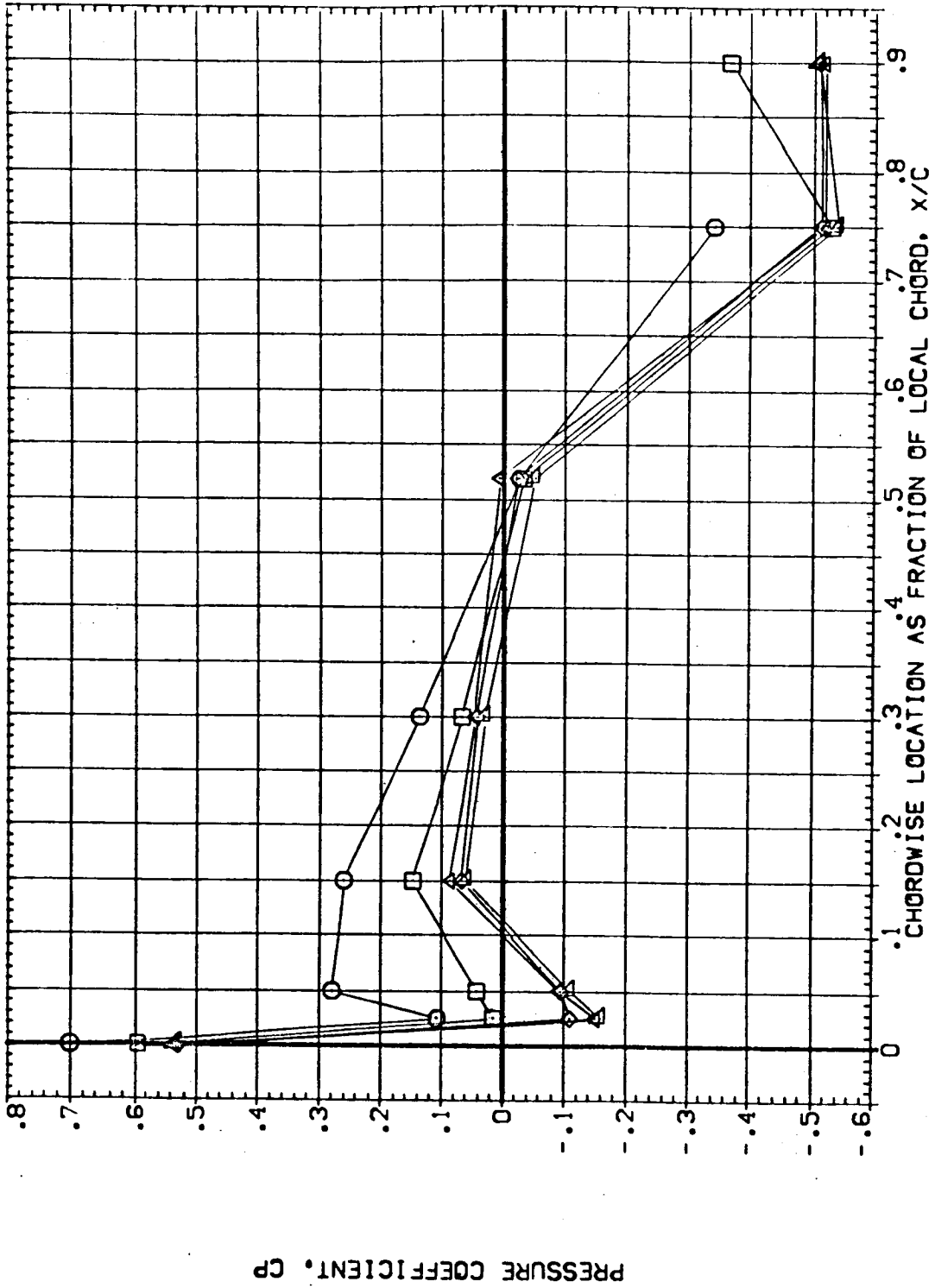


FIG. 99 VERTICAL TAIL PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF VERTICAL (CEUV03)

SYMBOL	Z/BV	BETA	ALPHA	PARAMETRIC VALUES
○	.156	-4.000	.000	ELV-1B 8.000 ELV-08 4.000
□	.316			RUDER .000 MACH 1.250
◇	.600			GIMBAL 1.000
△	.840			
▽	.925			

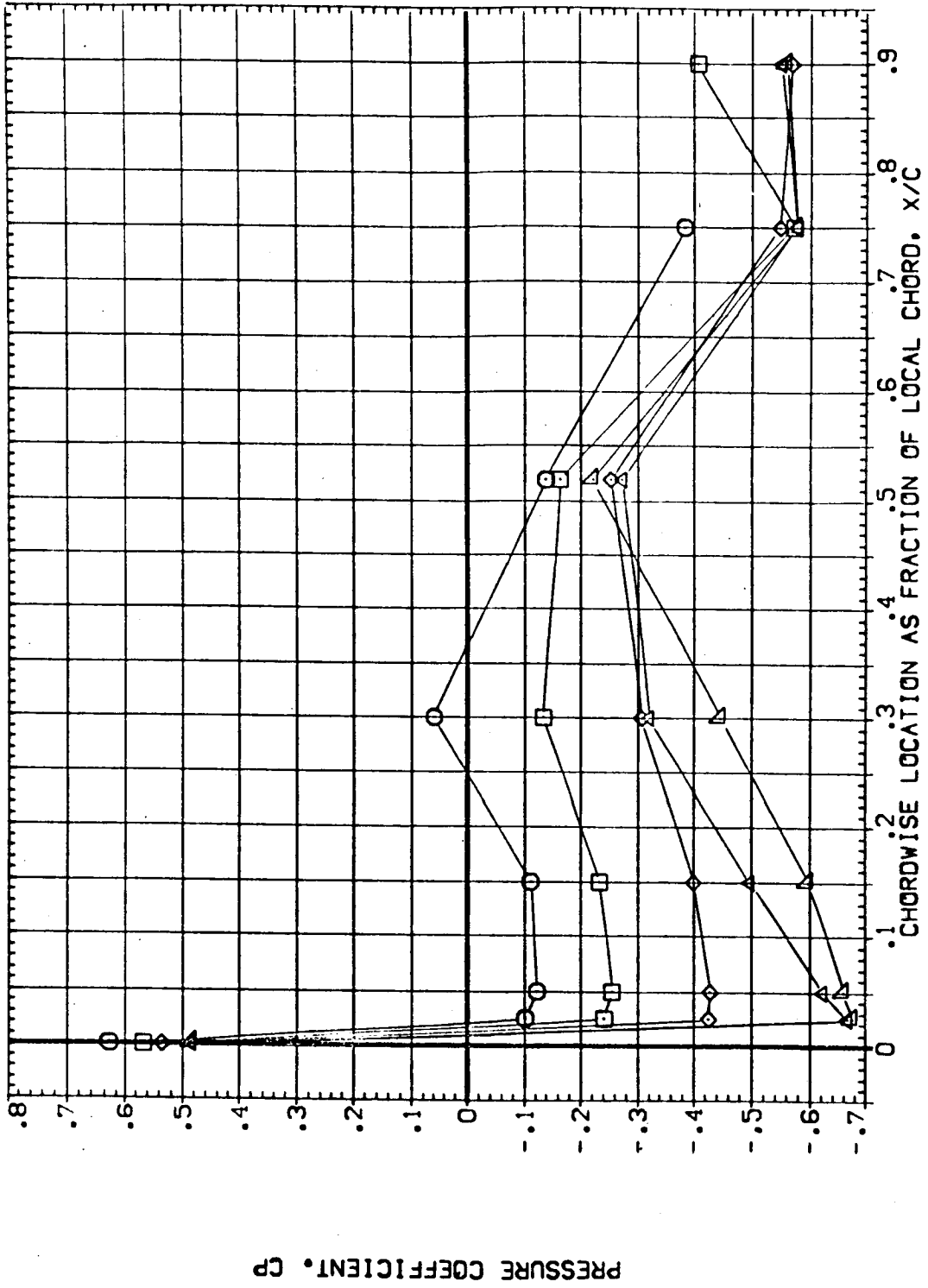


FIG. 99 VERTICAL TAIL PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF VERTICAL (CEUV03)

SYMBOL		Z/BV	BETA	ALPHA	PARAMETRIC VALUES			
○		.156	4.000	.000	ELV-18	8.000	ELV-08	4.000
□		.316			RUDER	.000	MACH	1.250
◇		.600			GIMBAL	1.000		
△		.840						
▽		.925						

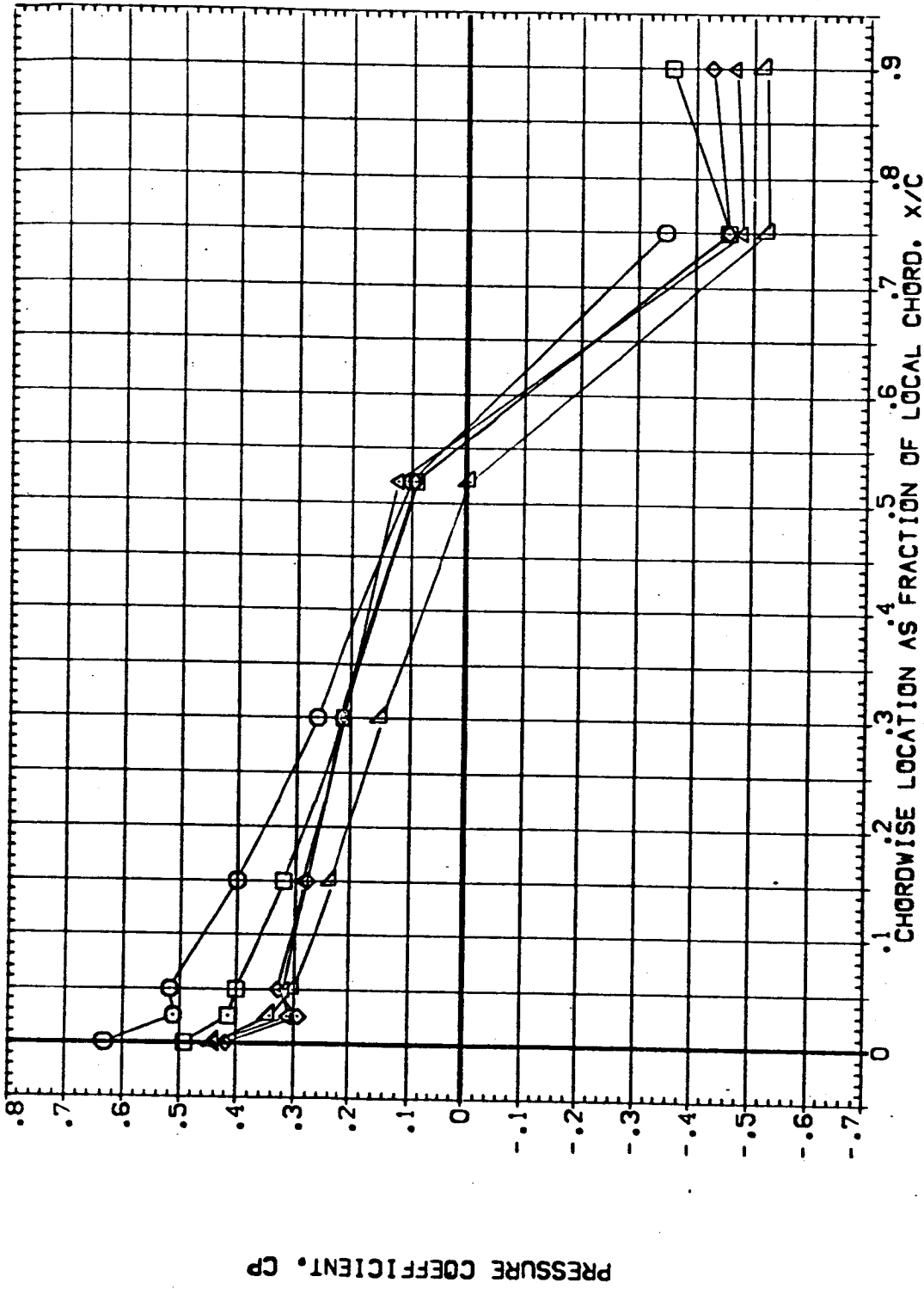


FIG. 99 VERTICAL TAIL PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF VERTICAL (BEUV04)

SYMBOL Z/BV BETA ALPHA

○	.158	.000	-4.000
□	.316	.000	-4.000
◇	.600	.000	-4.000
▽	.840	.000	-4.000
△	.975	.000	-4.000

PARAMETRIC VALUES

ELV-18	8.000	ELV-08	4.000
RUDDER	.000	MACH	1.400
GIMBAL	1.000		

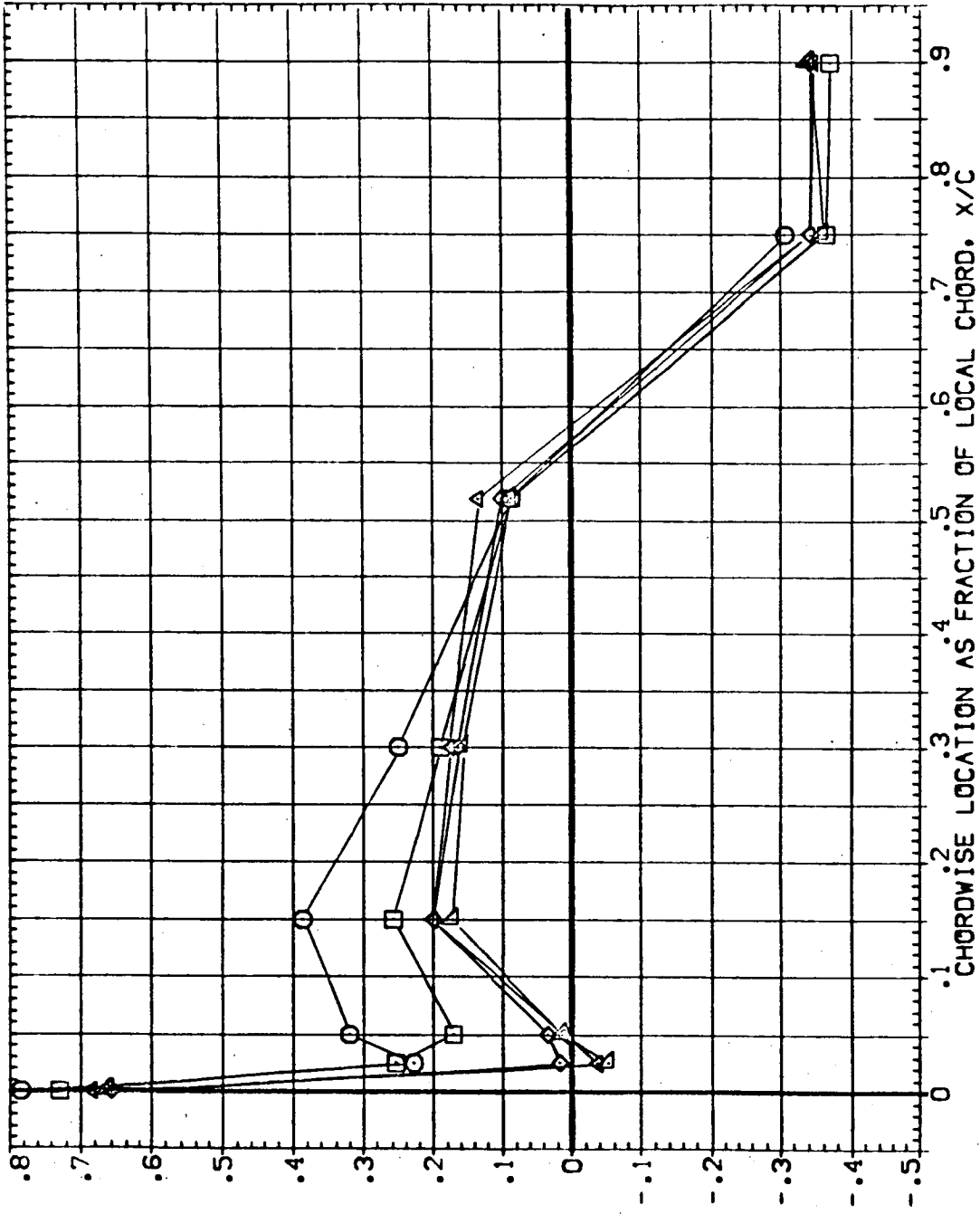
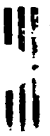


FIG. 99 VERTICAL TAIL PRESSURE COEFFICIENT DISTRIBUTION POWER OFF



ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF VERTICAL (BEUV04)

SYMBOL	Z/BV	BETA	ALPHA	ELV-18	ELV-08
◇	.158	.000	.000	RUDER	MACH
◇	.316	.000	.000	GIMBAL	1.000
◇	.500	.000	.000		1.400
◇	.840	.000	.000		
◇	.925	.000	.000		

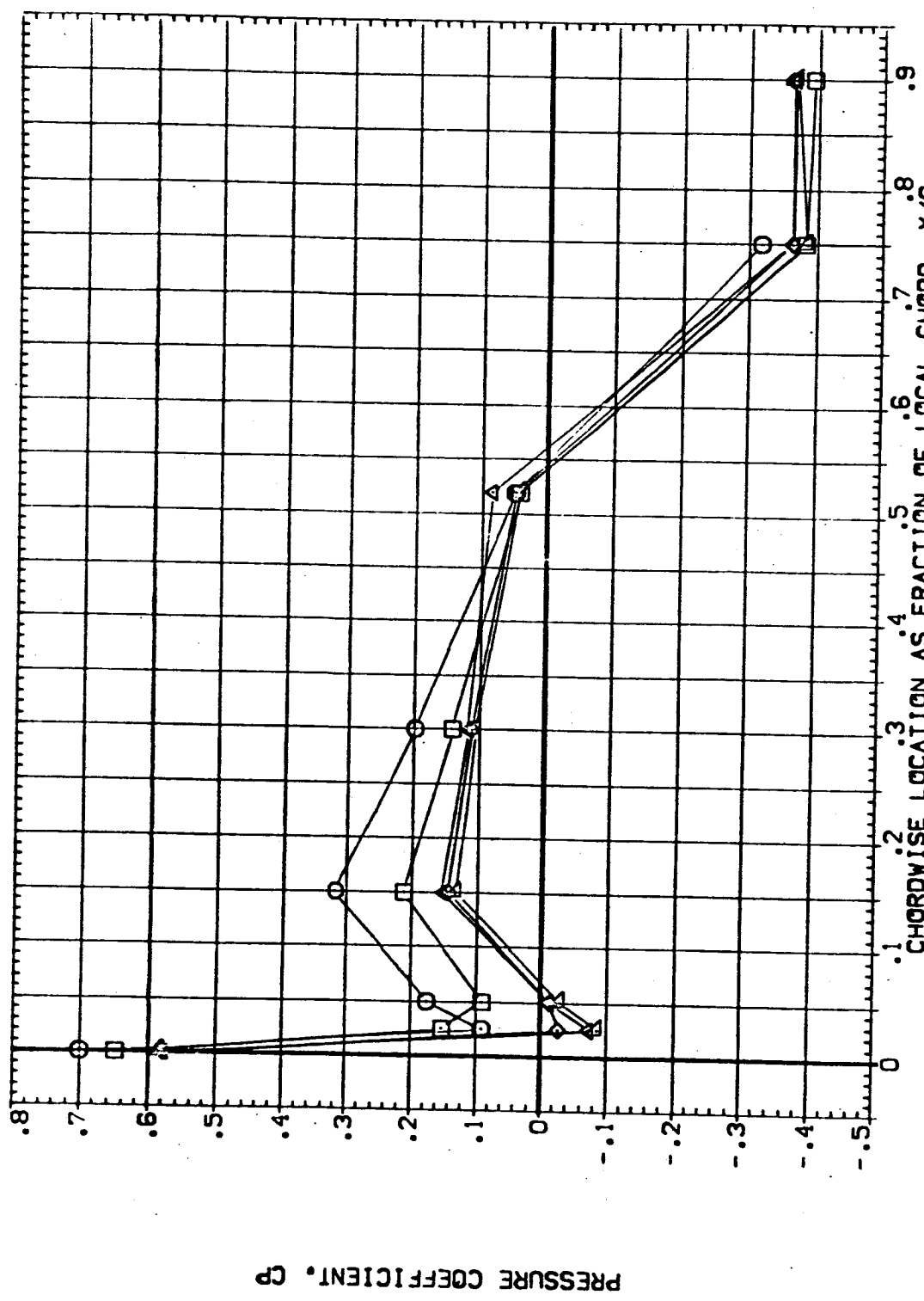


FIG. 99 VERTICAL TAIL PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF VERTICAL (BEUV04)

SYMBOL	Z/BV	BETA	ALPHA	PARAMETRIC VALUES	ELV-08	4.000
	.156	.000	1.000		ELV-08	1.400
○	.316			RUDER	.000	
□	.600			GIMBAL	1.000	
◇	.840					
△	.975					

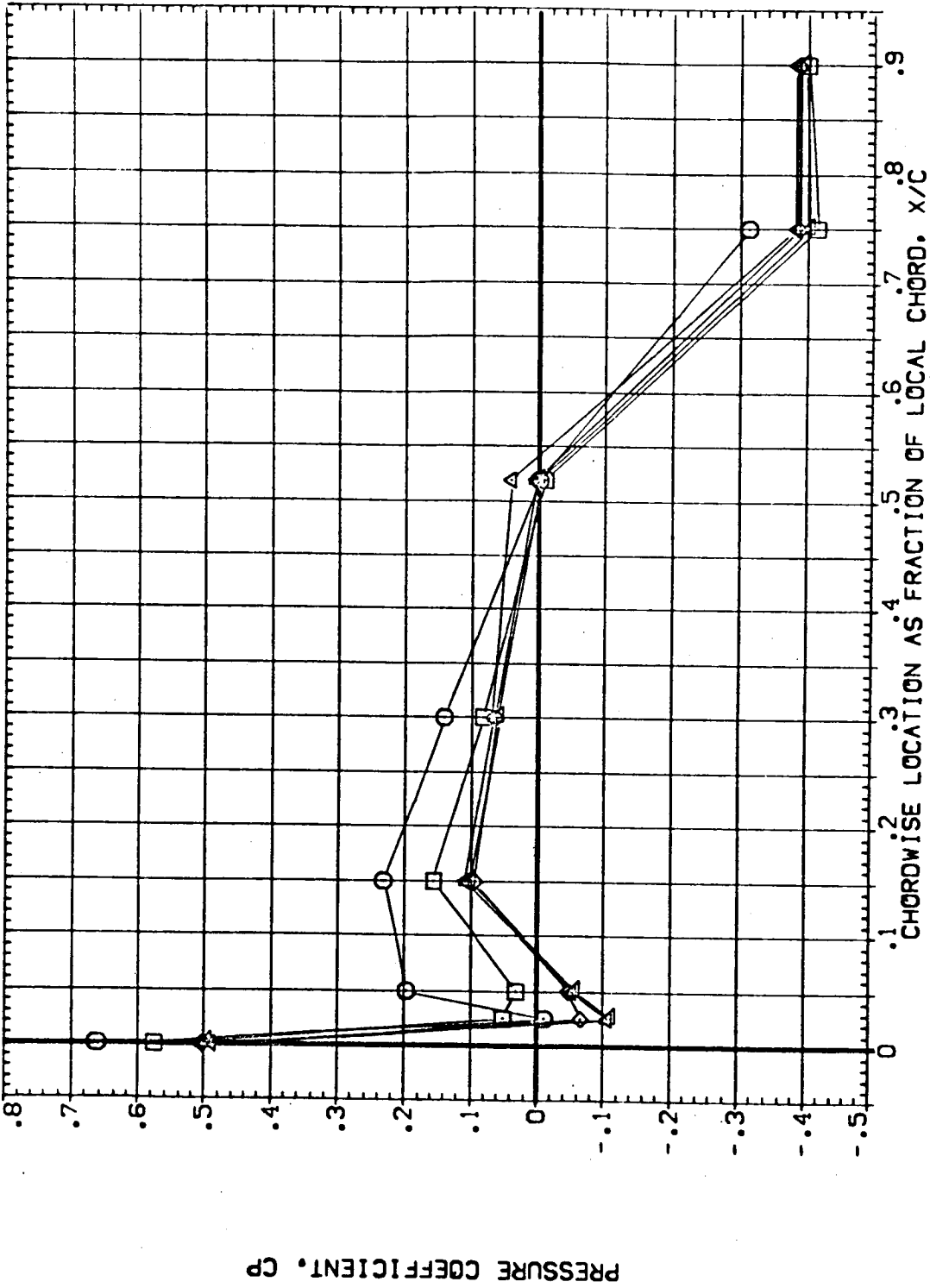


FIG. 99 VERTICAL TAIL PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF VERTICAL (CEUV04)

SYMBOL	Z/8V	BETA		ALPHA		PARAMETRIC VALUES			
						ELV-18	ELV-08	ELV-08	MACH
○	.158	-4.000		.000		8.000	.000	1.000	4.000
□	.316								1.400
◇	.600								
△	.840								
▽	.925								

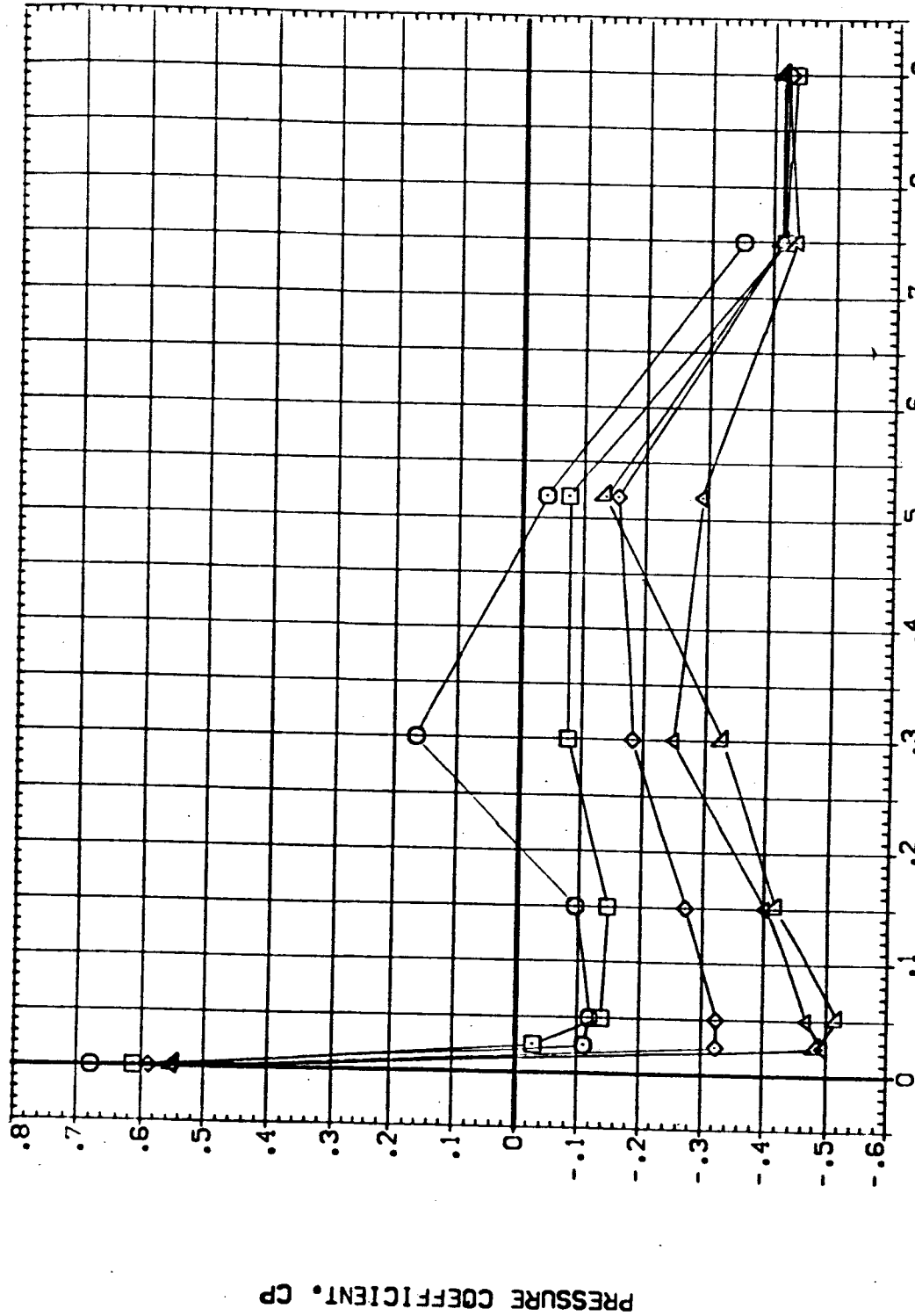


FIG. 99 VERTICAL TAIL PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF VERTICAL (CEUV04)

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-0B 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

BETA 4.000 ALPHA .000

Z/BV .158
 .316
 .600
 .840
 .925

SYMBOL
 ○
 □
 ◇
 △

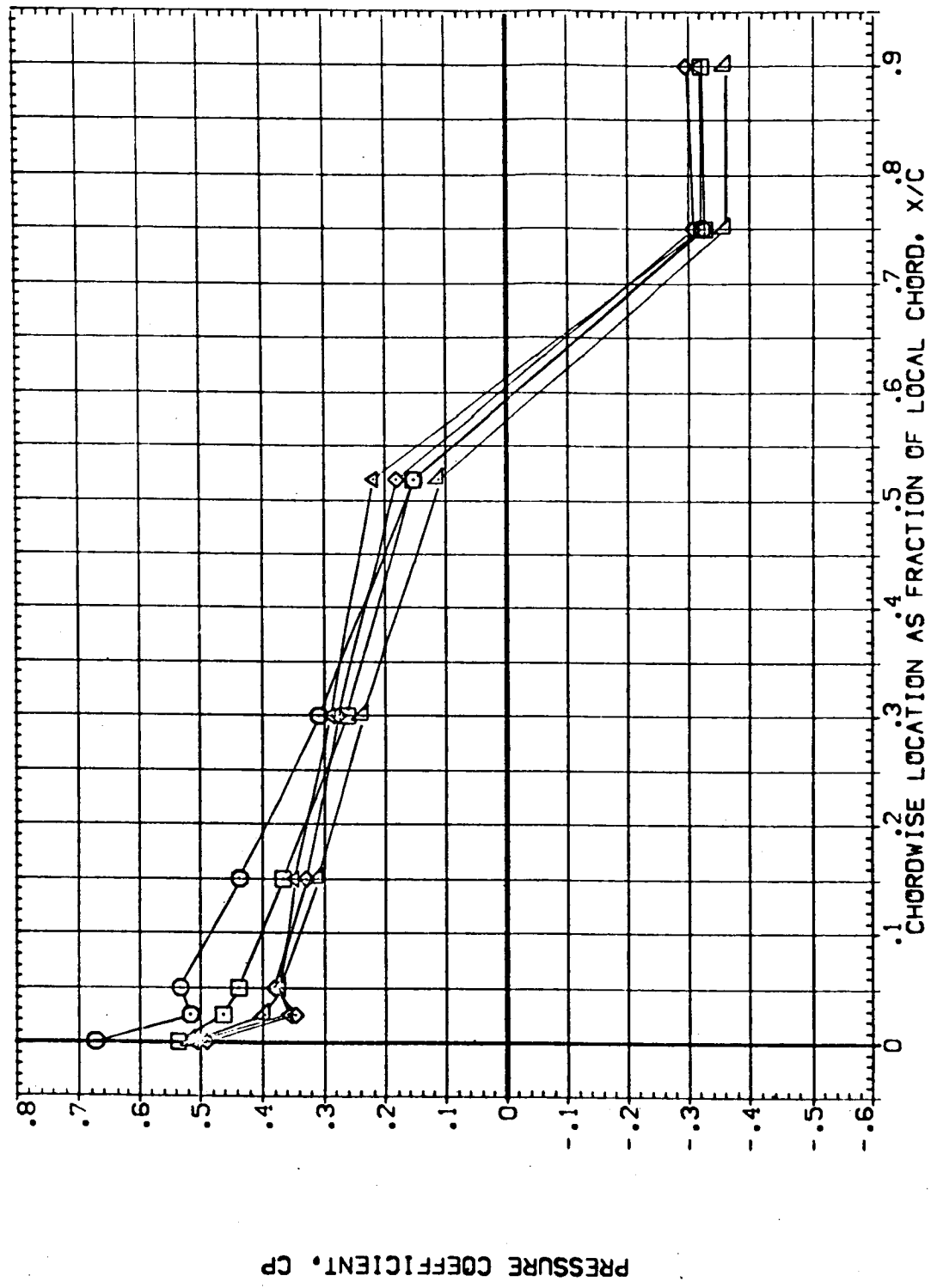
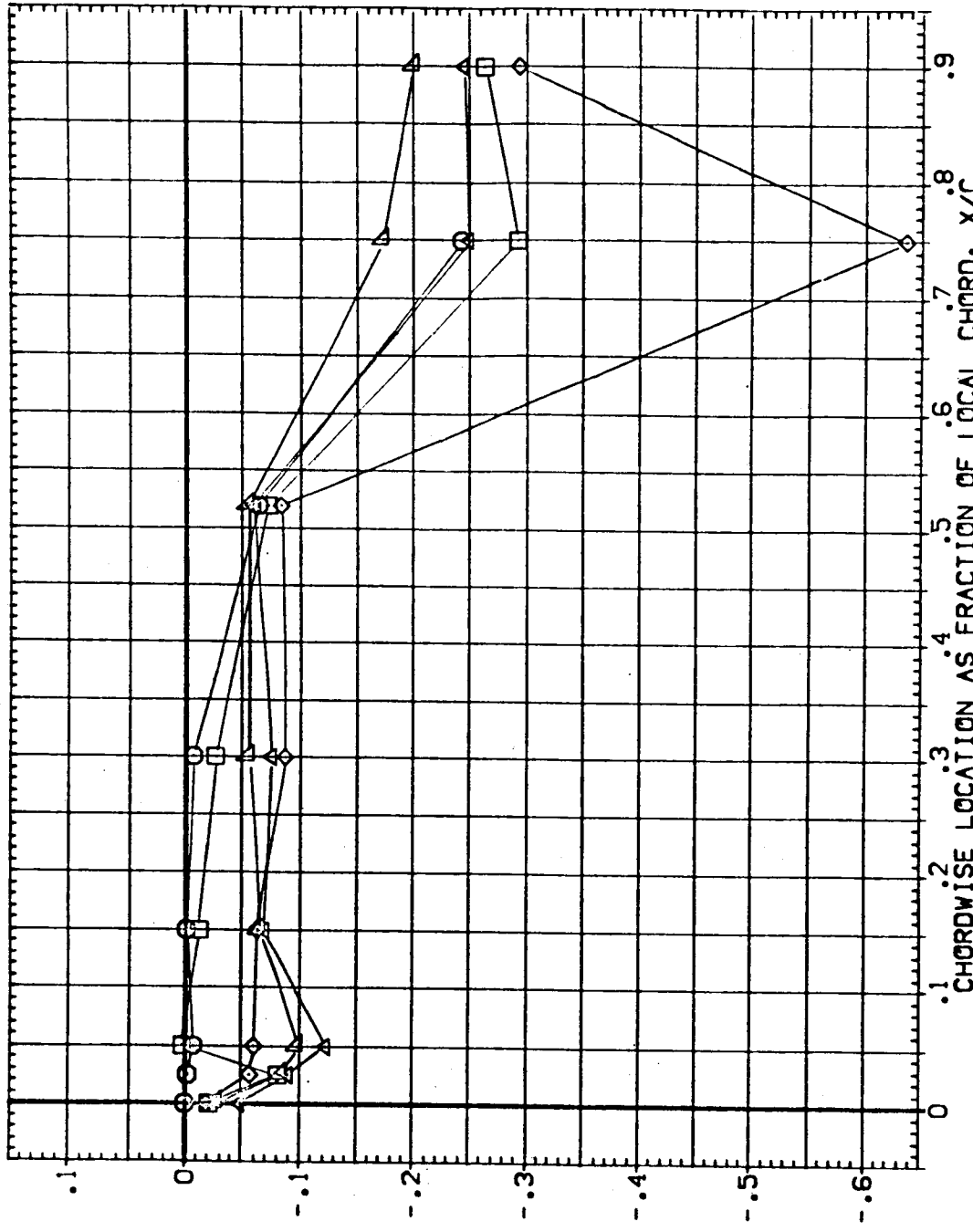


FIG. 99 VERTICAL TAIL PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

100 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

PARAMETRIC VALUES

Z/BV	BETA	ALPHA	ELV-1B	ELV-0B
.158	.000	.000	8.000	4.000
.316	.000	.000	.000	.900
.600	.000	.000	RUDDER	MACH
.840	.000	.000	GIMBAL	1.000
.925	.000	.000		



INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

FIG. 100 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM VERTICAL (EEUV05)

SYMBOL	Z/BV	BETA	ALPHA	PARAMETRIC VALUES	
				ELV-18	ELV-08
□	.156	.000	1.000	8.000	4.000
○	.316	.000	1.000	.000	MACH
◇	.600	.000	1.000	1.000	
△	.840	.000	1.000		
▽	.925	.000	1.000		

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

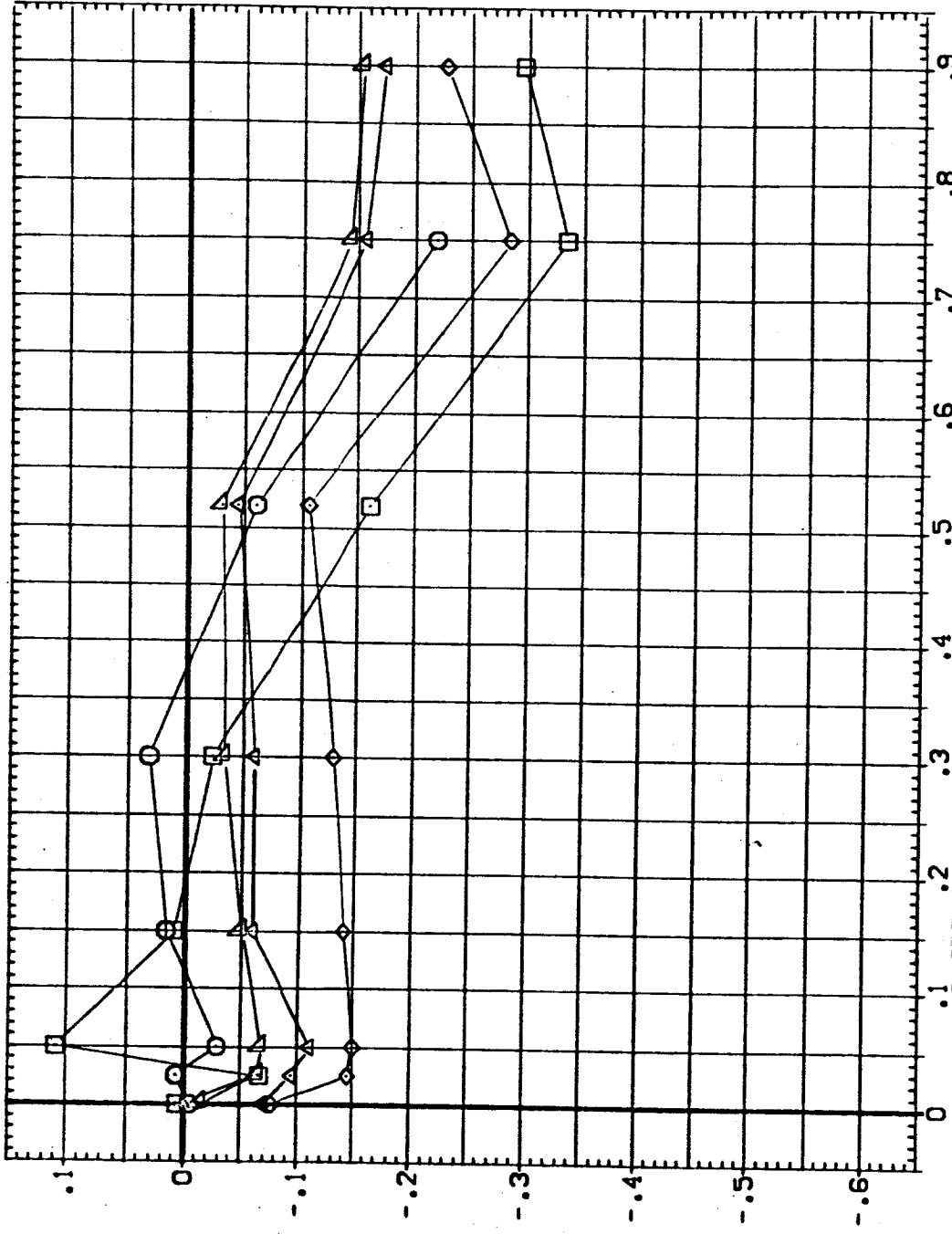


FIG. 100 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM VERTICAL (FEUV05)

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-09 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

Z/BV BETA ALPHA
 .158 -4.000 .000
 .316
 .600
 .840
 .925

SYMBOL
 ◻ ◊ ◴ ◵

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

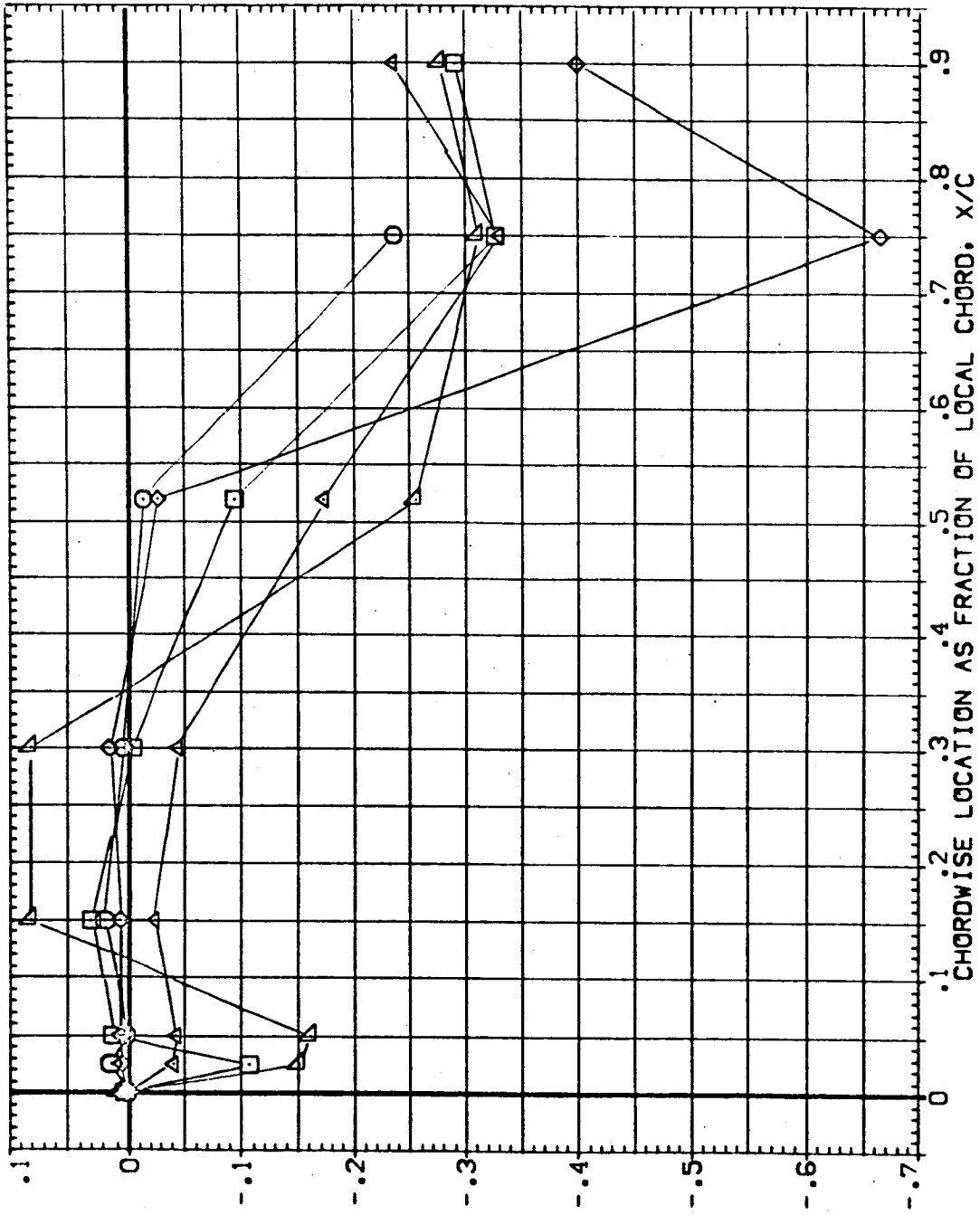
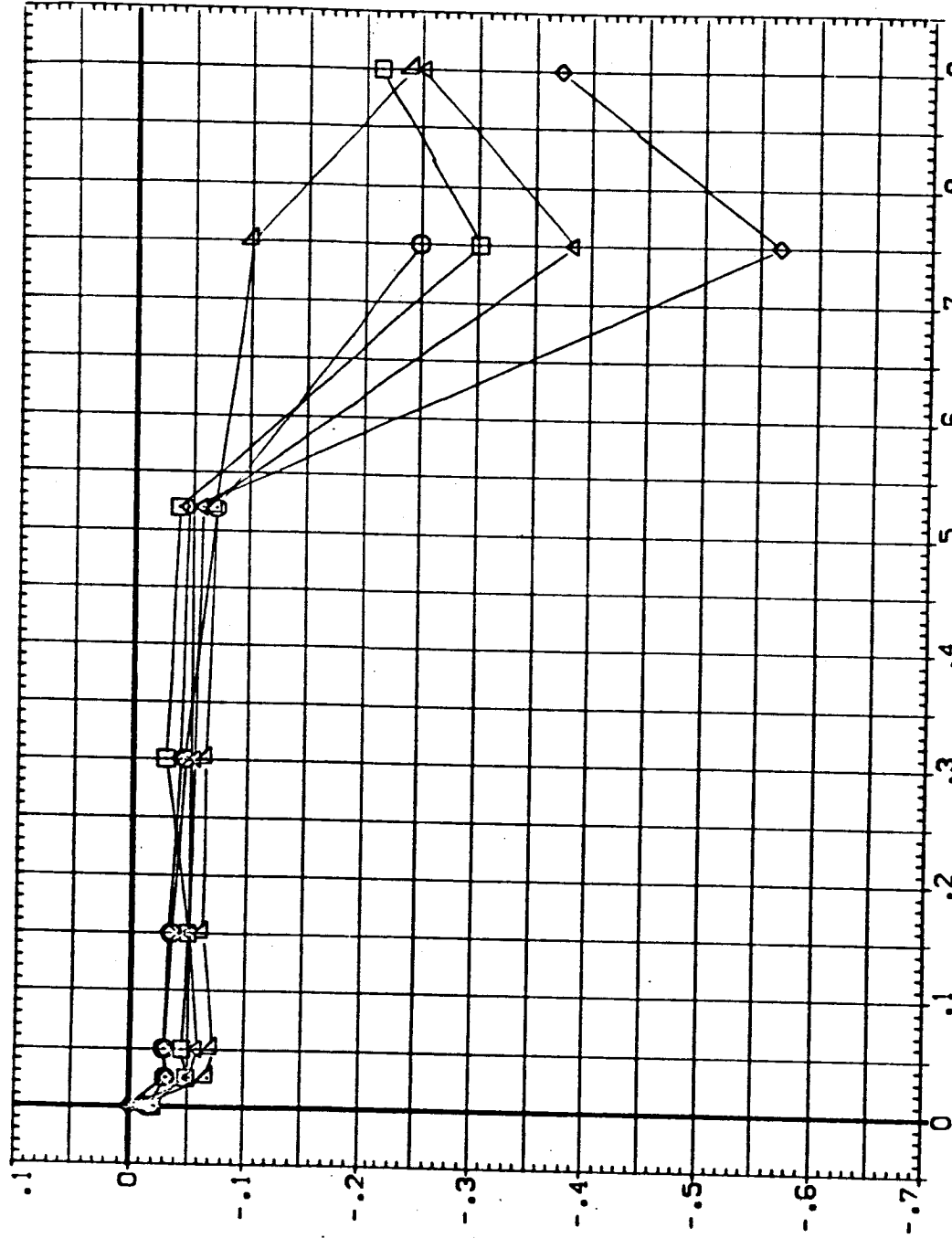


FIG. 100 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM VERTICAL (FEUV05)

SYMBOL		Z/BV	BETA	ALPHA	PARAMETRIC VALUES		
◇	◇	.156	1.000	.000	ELV-18	ELV-08	4.000
◇	◇	.316	1.000	.000	RUDER	MACH	.900
◇	◇	.600	1.000	.000	GIMBAL		
◇	◇	.840	1.000	.000			
◇	◇	.925	1.000	.000			



INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

FIG. 100 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM VERTICAL (EEUV06)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

SYMBOL Z/BV BETA ALPHA
 ○ .158 .000 -4.000
 □ .316 .000 -4.000
 ◇ .600 .000 -4.000
 △ .840 .000 -4.000
 ▽ .975 .000 -4.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

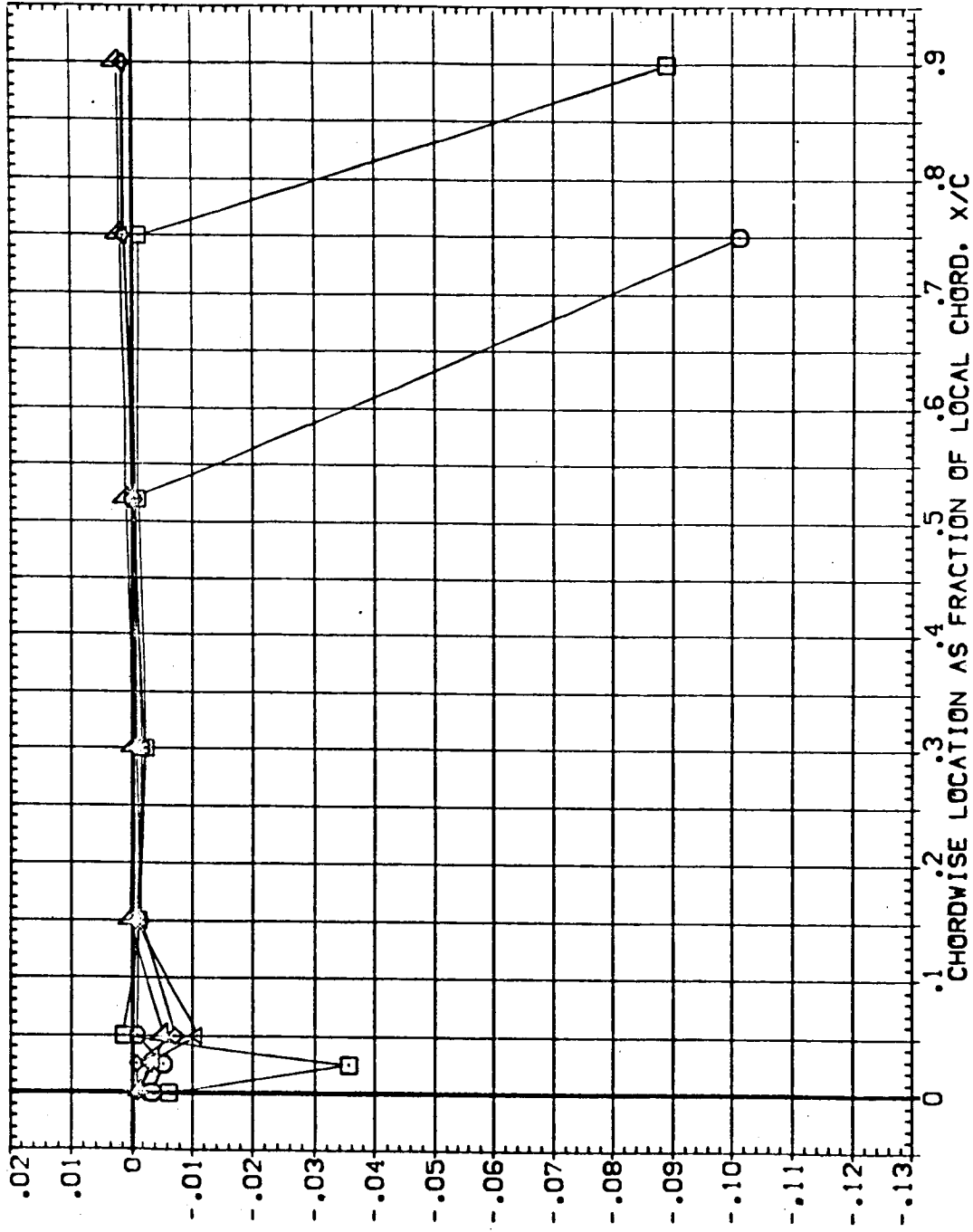
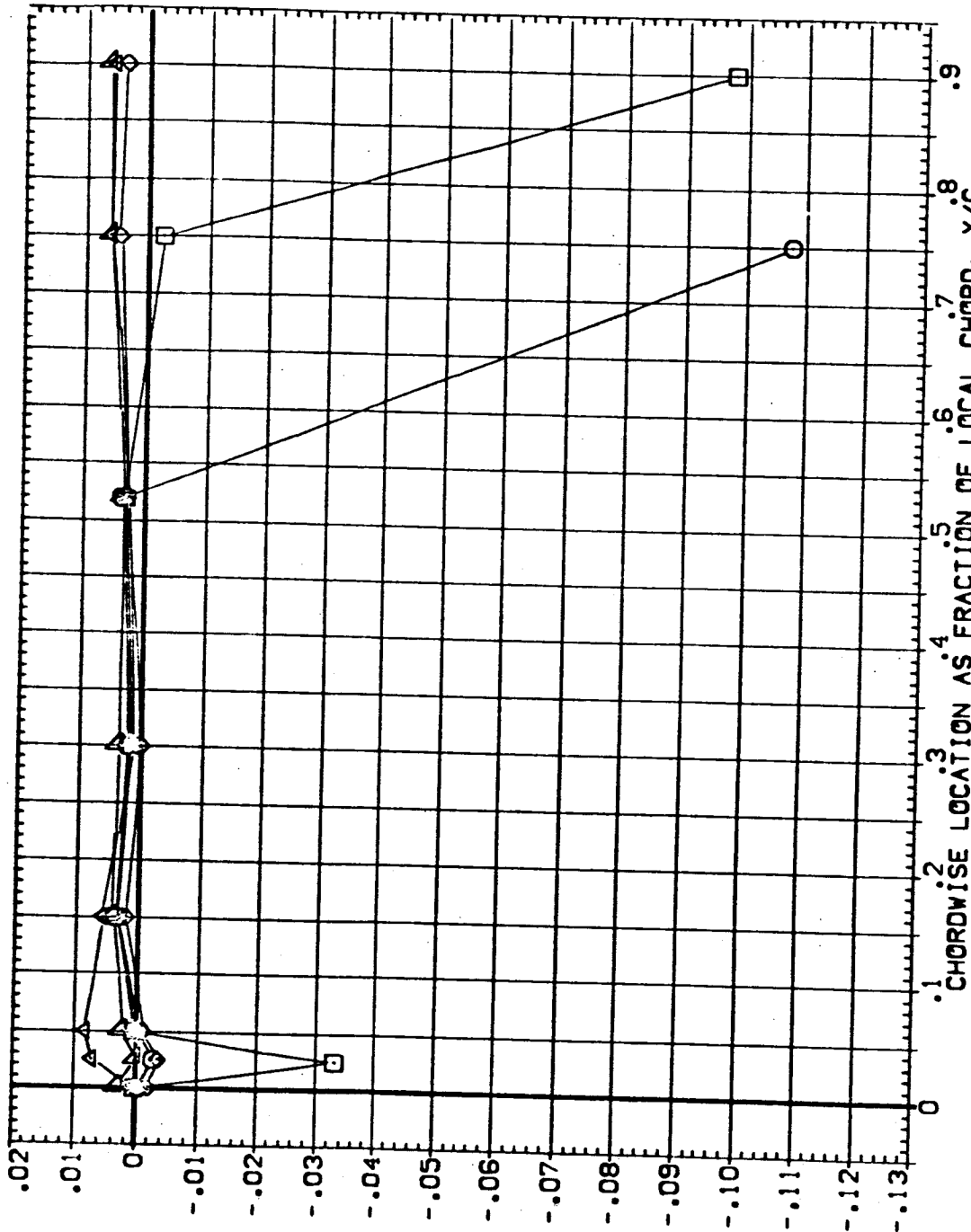


FIG. 100 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC:11-0141A19 OTS+STRUT SRB-NOM MPS-NOM VERTICAL (EEUV06)

SYMBOL	Z/BV	BETA	ALPHA	ELV-18	ELV-08
▽	.158	.000	.000	RUDER	4.000
◇	.316	.000	.000	GIMBAL	1.100
□	.600	.000	.000		
○	.840	.000	.000		
△	.925	.000	.000		



INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

FIG. 100 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM VERTICAL (EEUV06)

SYMB.	Z/BV	BETA	ALPHA	ELV-18	PARAMETRIC VALUES
◇	.156	.000	4.000	RUDER	8.000 ELV-08
○	.316	.000	4.000	GIMBAL	.000 MACH
△	.600	.000	4.000		1.000
□	.840	.000	4.000		
◇	.925	.000	4.000		

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

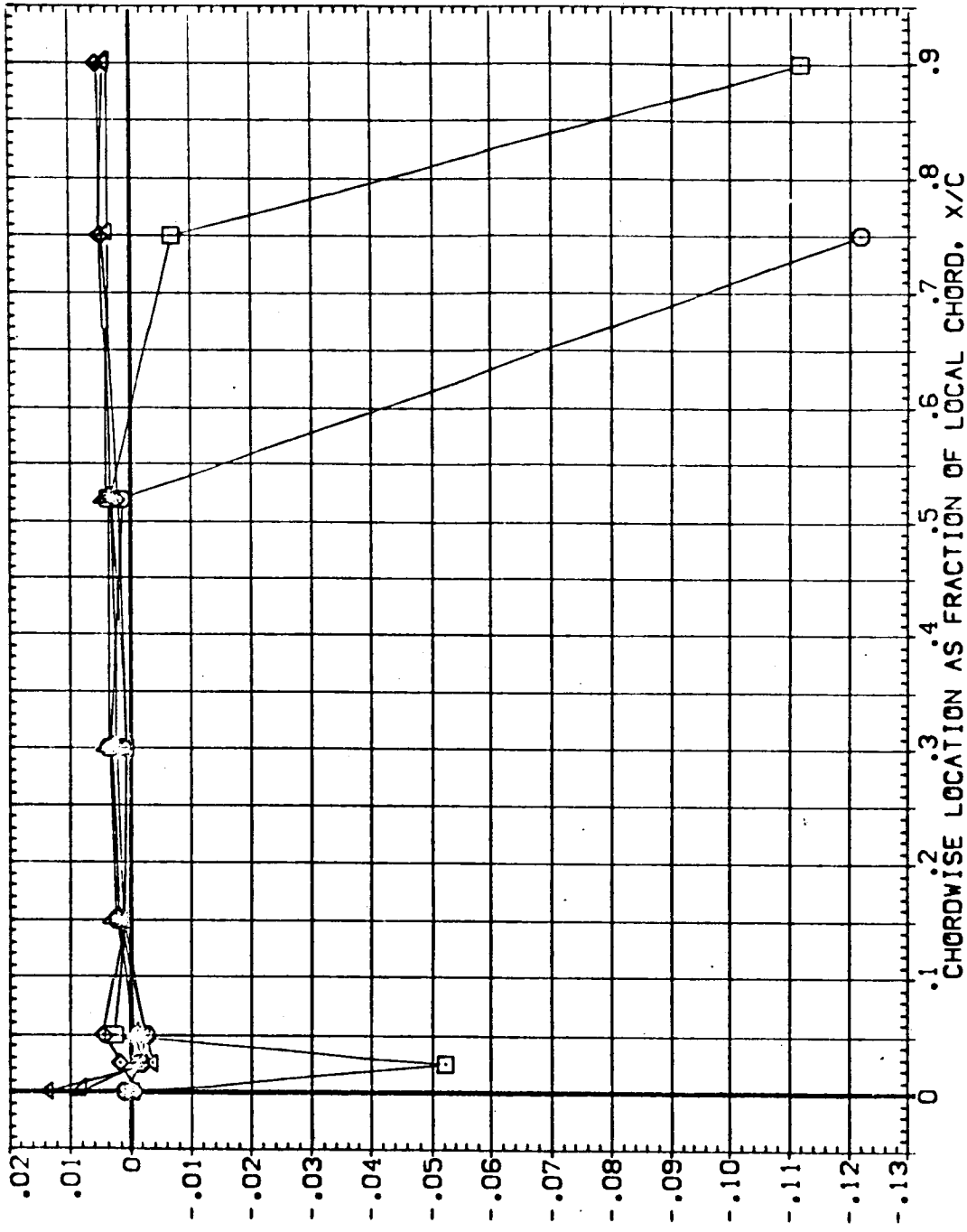


FIG. 100 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM VERTICAL (FEUV06)

SYMBOL Z/BV BETA ALPHA

◇	.158	-4.000	.000
◇	.316		
◇	.600		
◇	.840		
◇	.925		

PARAMETRIC VALUES

ELV-18	8.000	ELV-08	4.000
RUDDER	.000	MACH	1.100
GIMBAL	1.000		

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

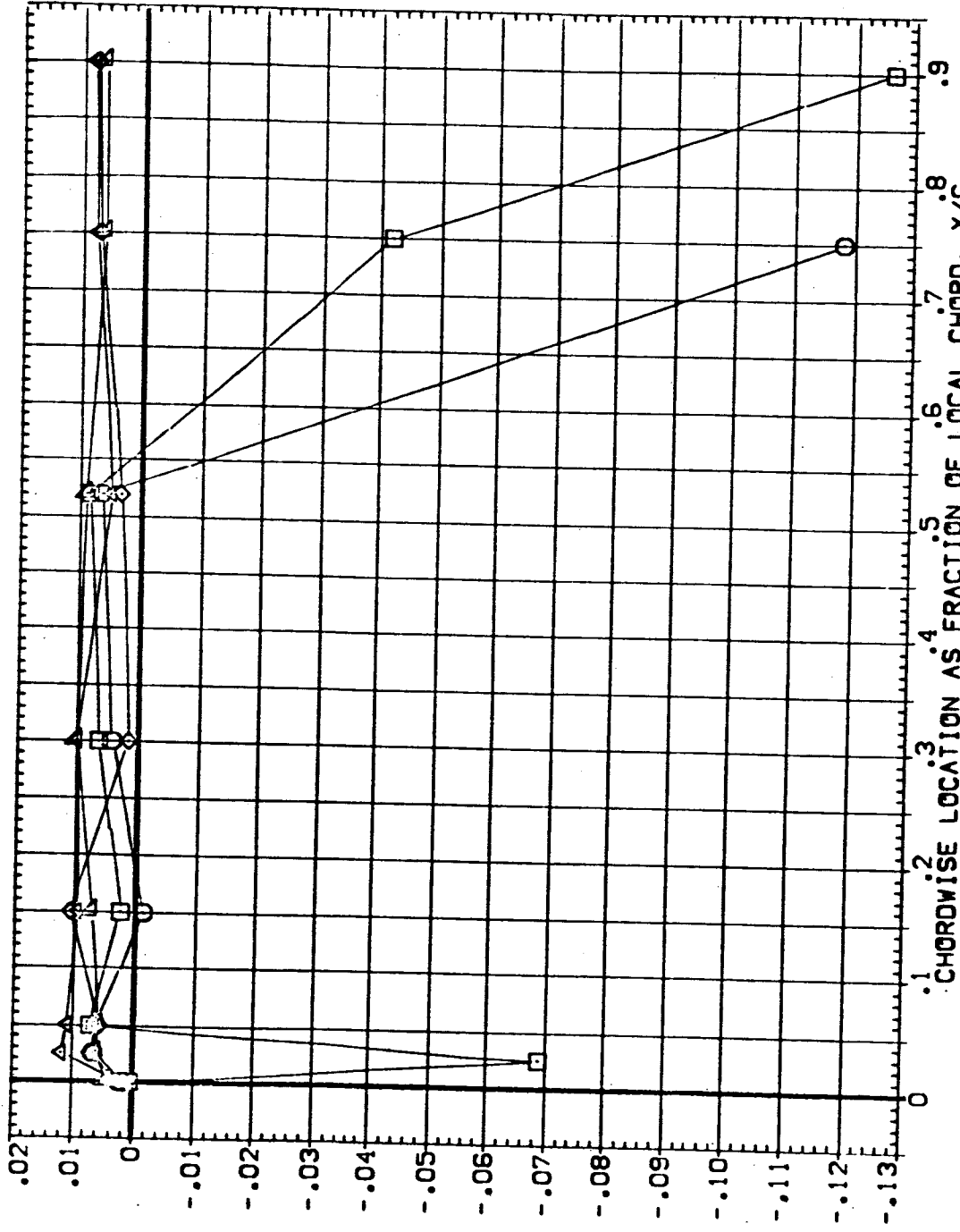


FIG. 100 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM VERTICAL (FEUV06)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-09 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

BETA 1.000 ALPHA .000

Z/BV .159
 .316
 .600
 .840
 .925

SYMBOL
 ▽
 ◇
 ◊
 ◊
 ◊
 ◊

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

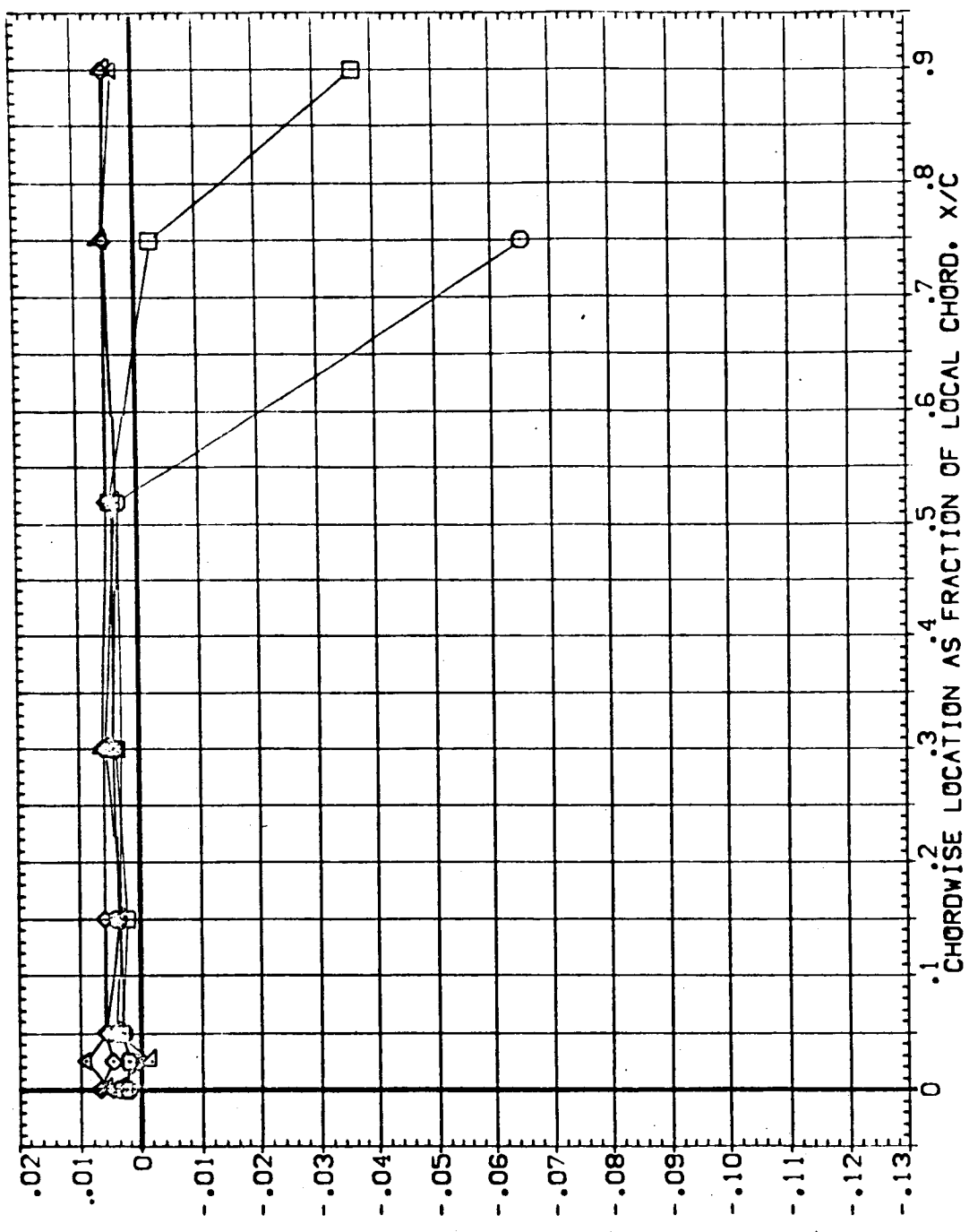


FIG. 100 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM VERTICAL (EEUV07)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-CR 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

Z/BV BETA ALPHA
 .156 .000 -1.000
 .316 .600
 .640 .840
 .925

SYMBOL
 ▽ ◊ ○ □

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

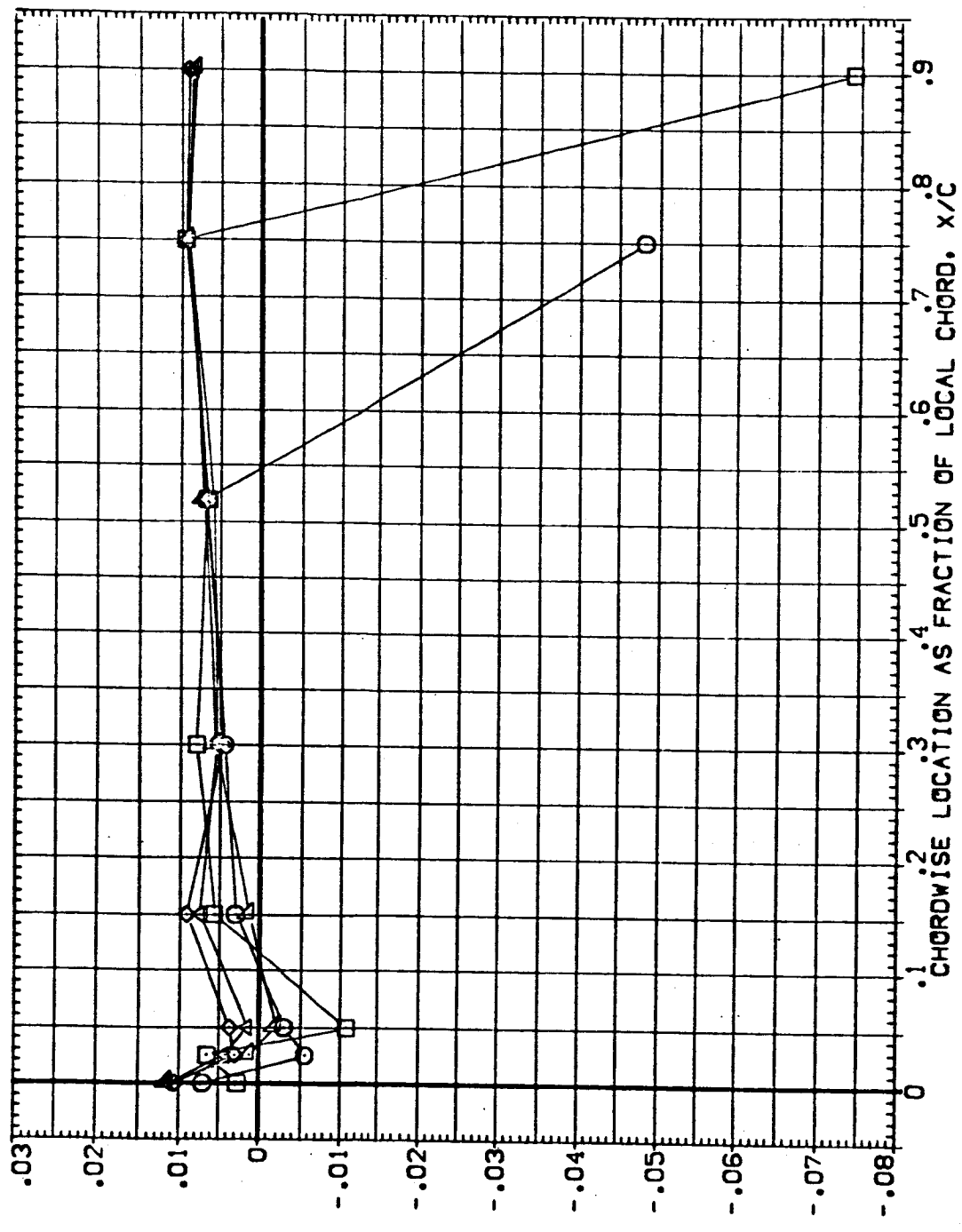


FIG. 100 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM VERTICAL (EEUV07)

PARAMETRIC VALUES
 ELV-19 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

Z/BV BETA ALPHA
 .158 .000 .000
 .316 .000 .000
 .600 .000 .000
 .840 .000 .000
 .925 .000 .000

SYMBOL
 ▽ ◊ □ ○

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

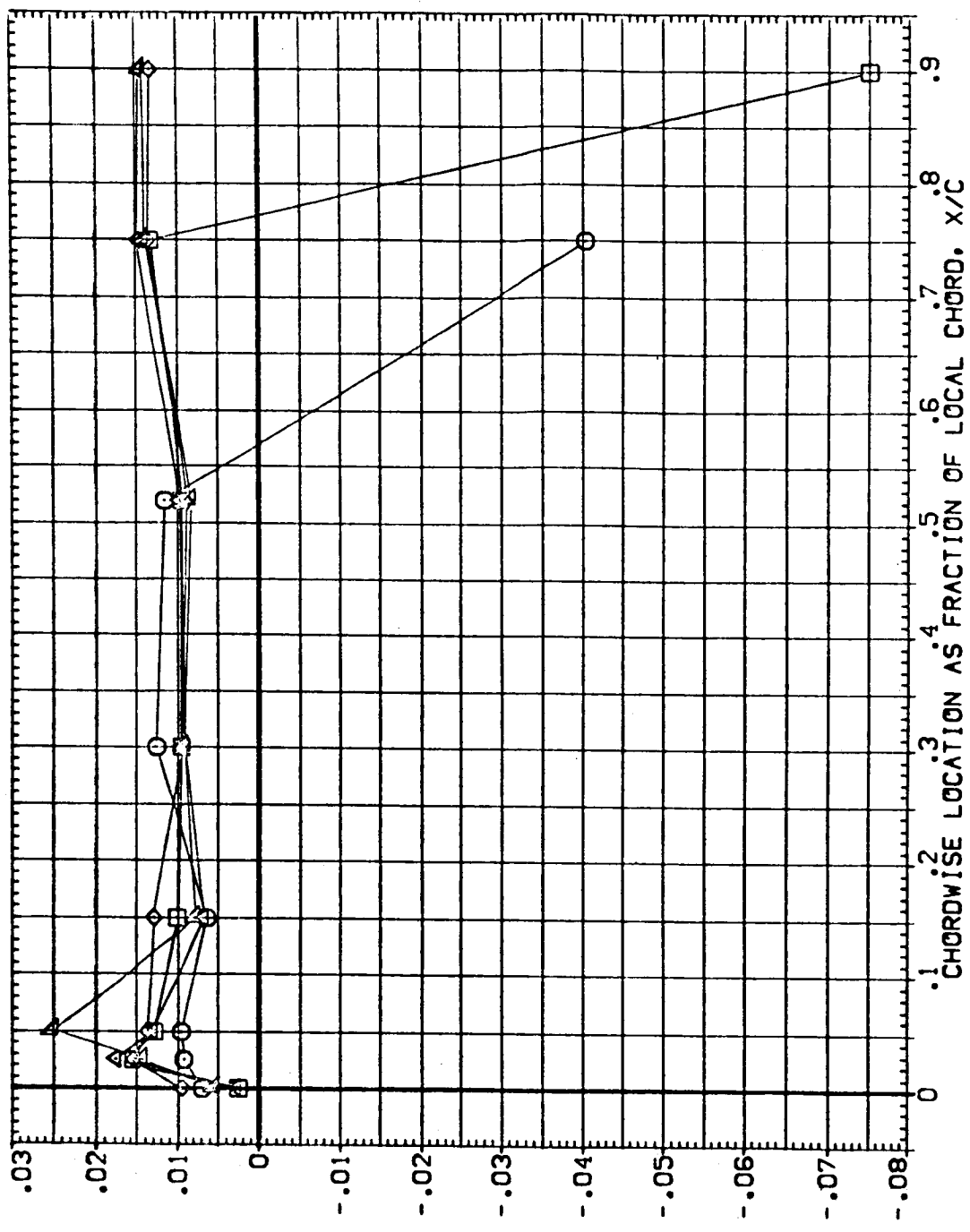


FIG. 100 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM VERTICAL (EEUV07)

SYMBOL Z/BV BETA ALPHA

□ .158 .000 4.000

◇ .316 .000 4.000

○ .600 .000 4.000

△ .940 .000 4.000

▽ .975 .000 4.000

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000

RUDDER .000 MACH 1.250

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

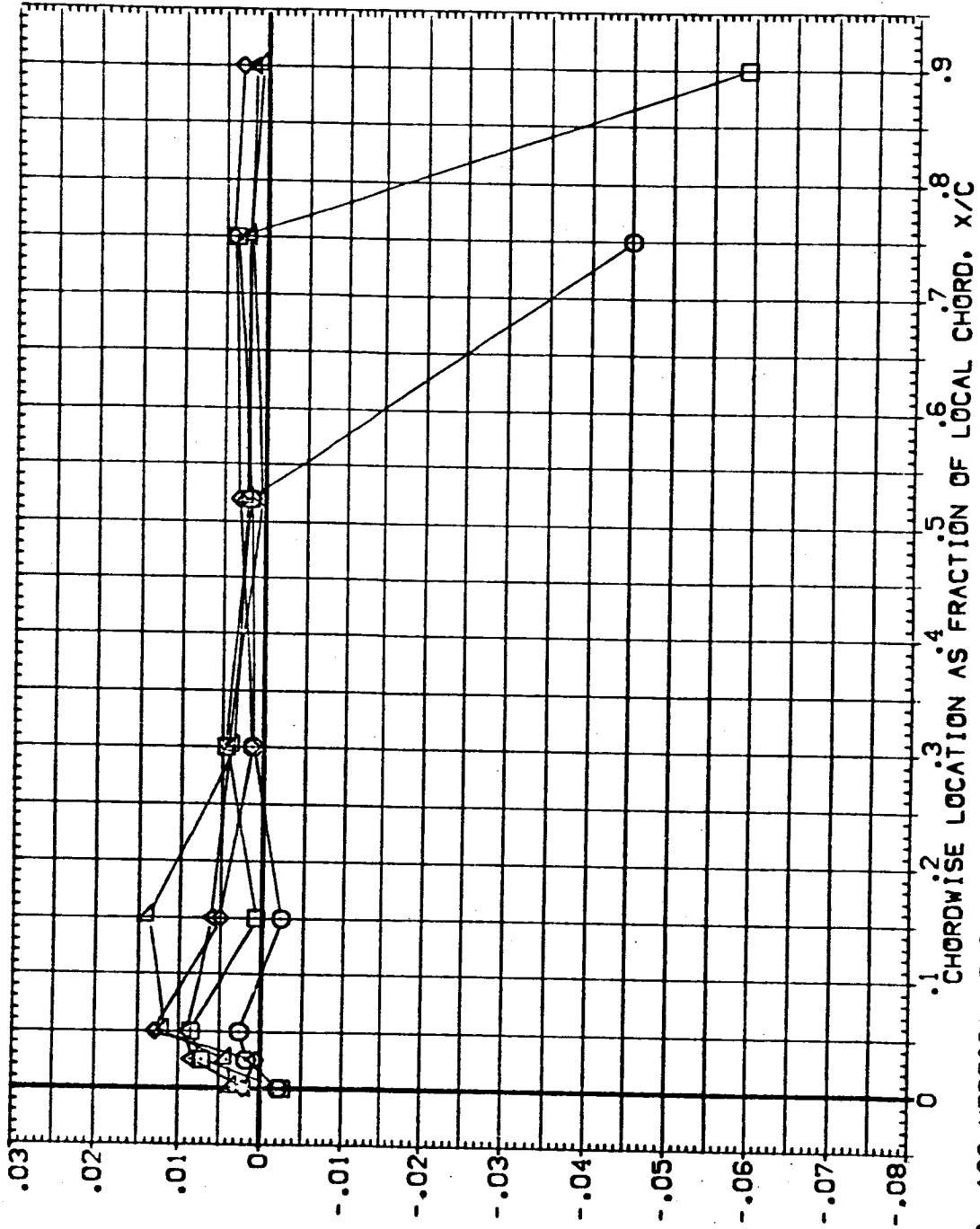


FIG. 100 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

SYMB. Z/BV BETA ALPHA
 ▽ .158 -1.000 .000
 ◇ .316
 □ .600
 ○ .840
 △ .925

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

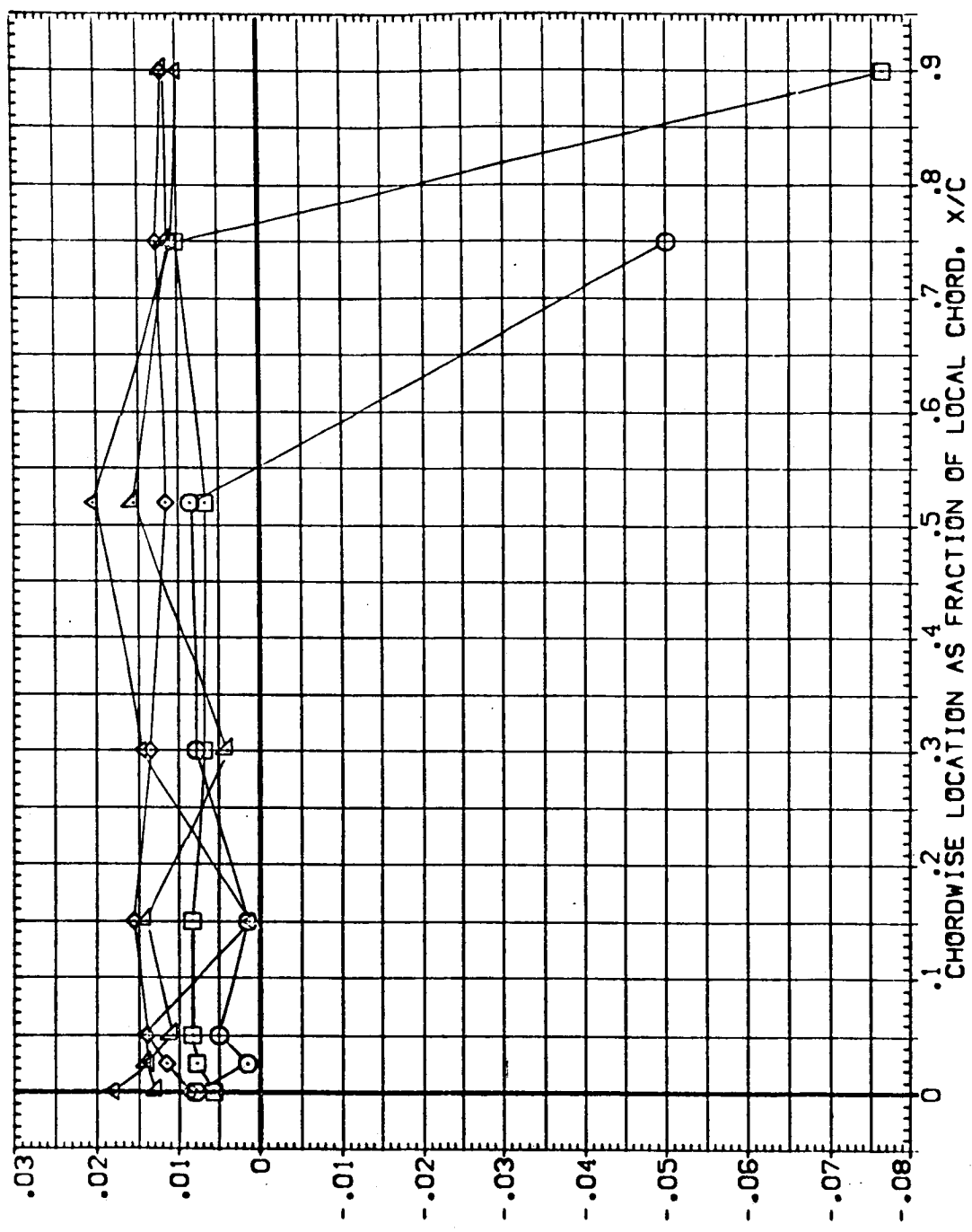


FIG. 100 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

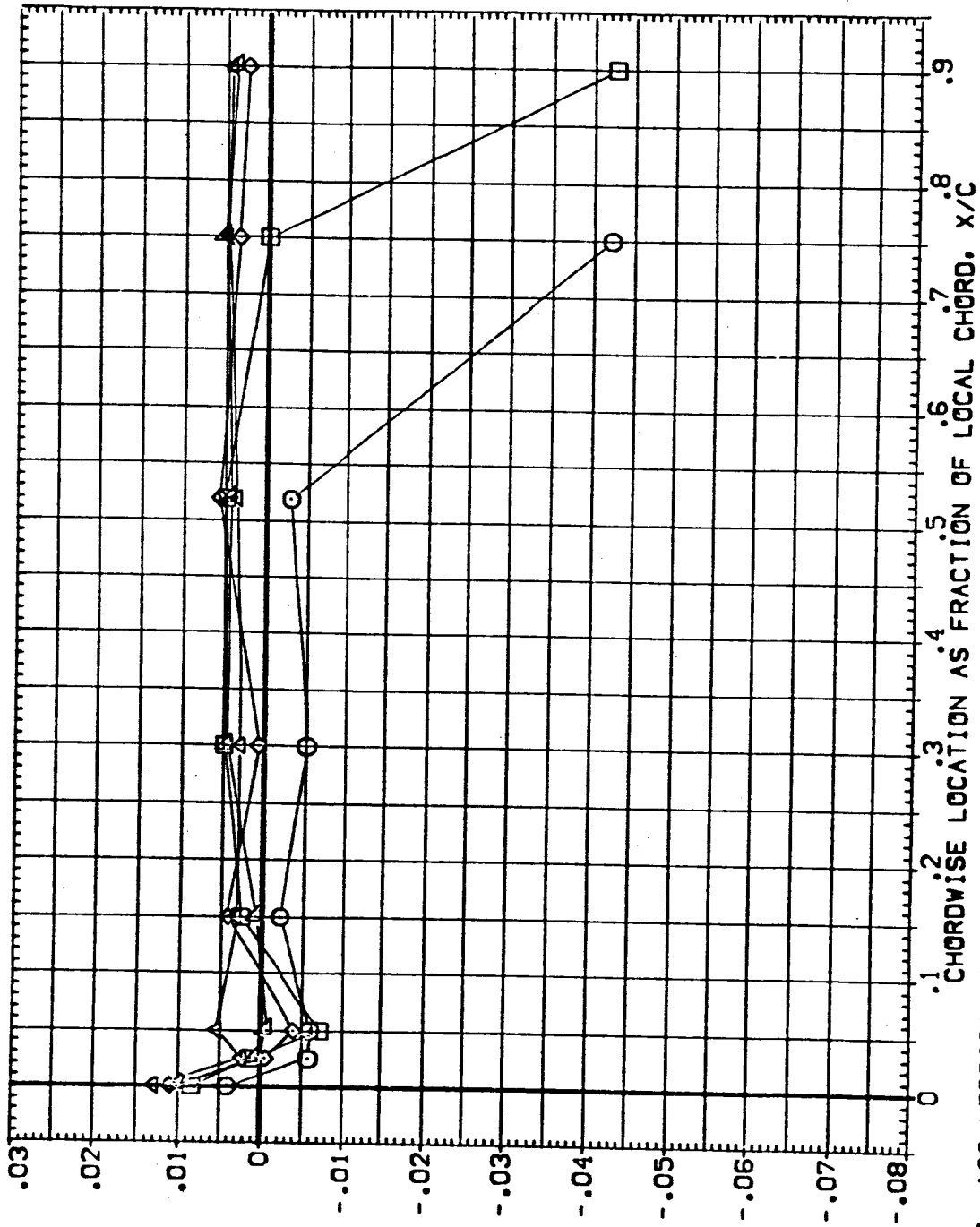
ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM VERTICAL (FEUV07)

SYMBOL Z/BV BETA ALPHA

◇	.158	4.000	.000
◇	.316		
◇	.600		
◇	.840		
◇	.925		

PARAMETRIC VALUES

ELV-18	8.000	ELV-08	4.000
RUDDER	.000	MACH	1.250
GIMBAL	1.000		



INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

FIG. 100 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

SYMBOL
 ○
 ◇
 □
 △

Z/BV
 .158
 .316
 .600
 .840
 .925

BETA
 .000

ALPHA
 -4.000

ELV-18
 RUDDER
 GIMBAL

PARAMETRIC VALUES
 8.000
 .000
 1.000

ELV-08
 MACH
 1.400

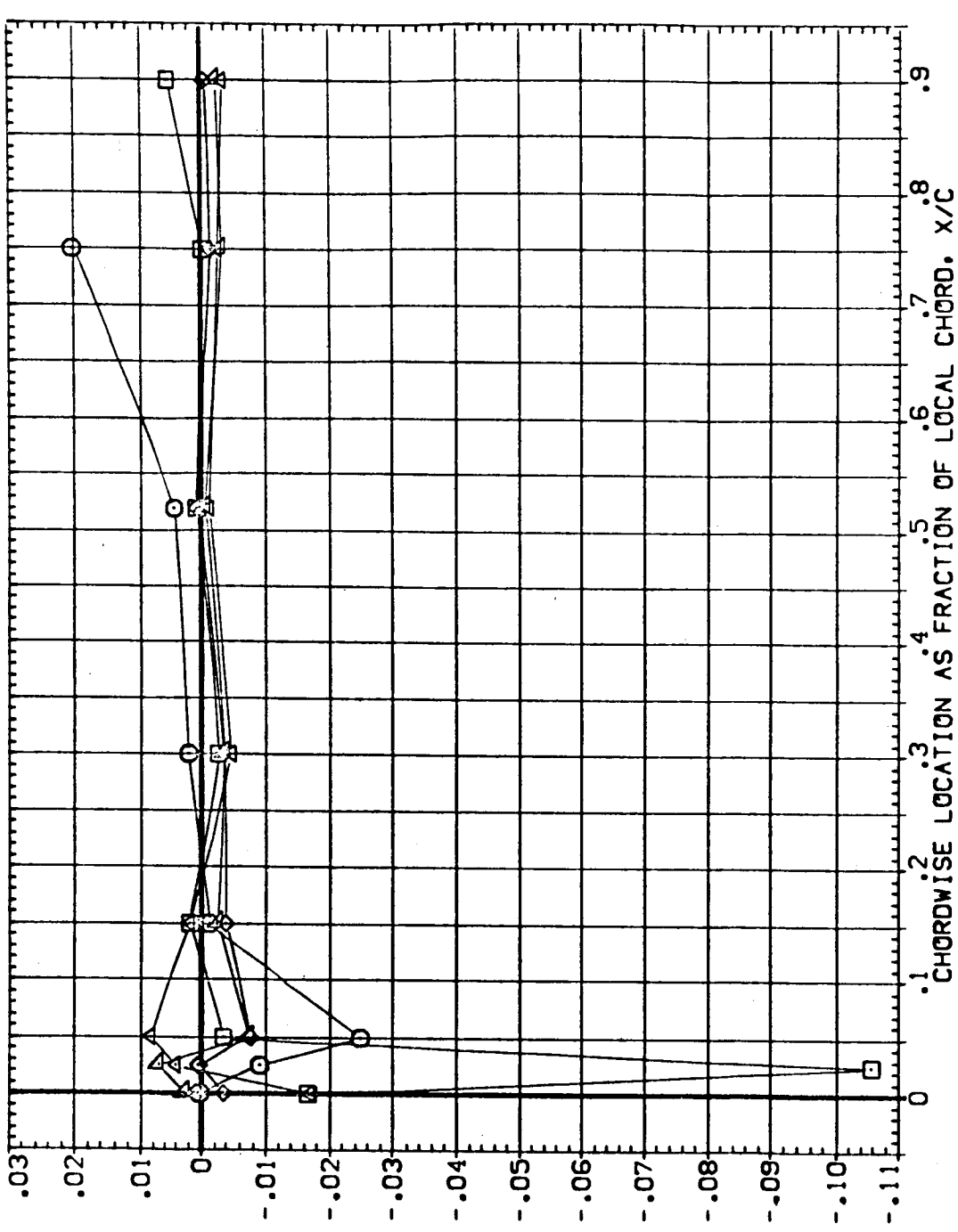


FIG. 100 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM VERTICAL (EEUV08)

PARAMETRIC VALUES	
Z/8V	ALPHA
.156	.000
.316	.000
.600	.000
.840	.000
.925	.000
ELV-18	ELV-08
RUDDER	MACH
GIMBAL	1.000
	4.000
	1.400

SYMBOL
○
◇
△
□

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

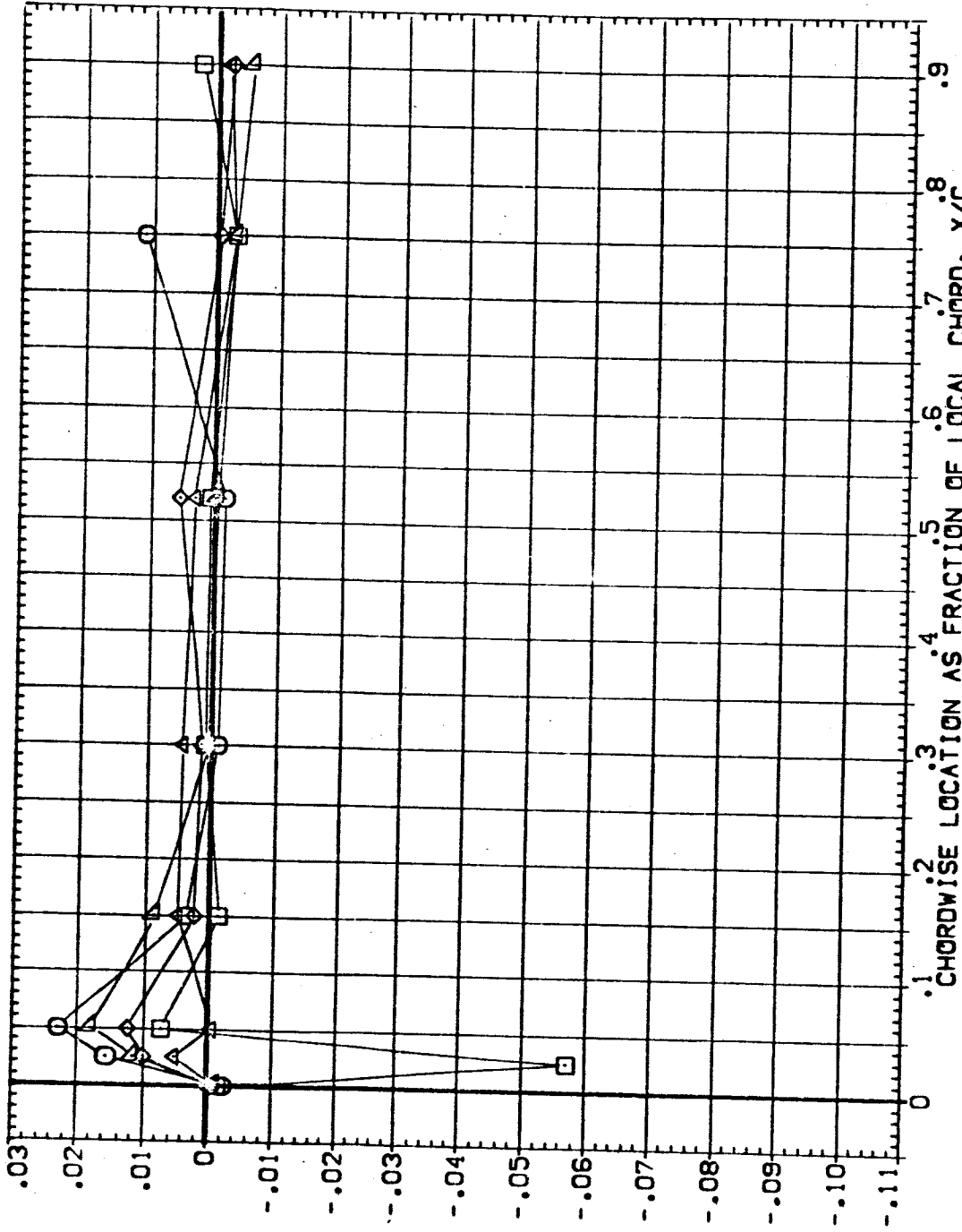


FIG. 100 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM VERTICAL (EEUV08)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-09 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

Z/BV BETA ALPHA
 .158 .000 1.000
 .316 .000 1.000
 .600 .000 1.000
 .840 .000 1.000
 .925 .000 1.000

SYMBOL
 ○ □ ◇ △

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

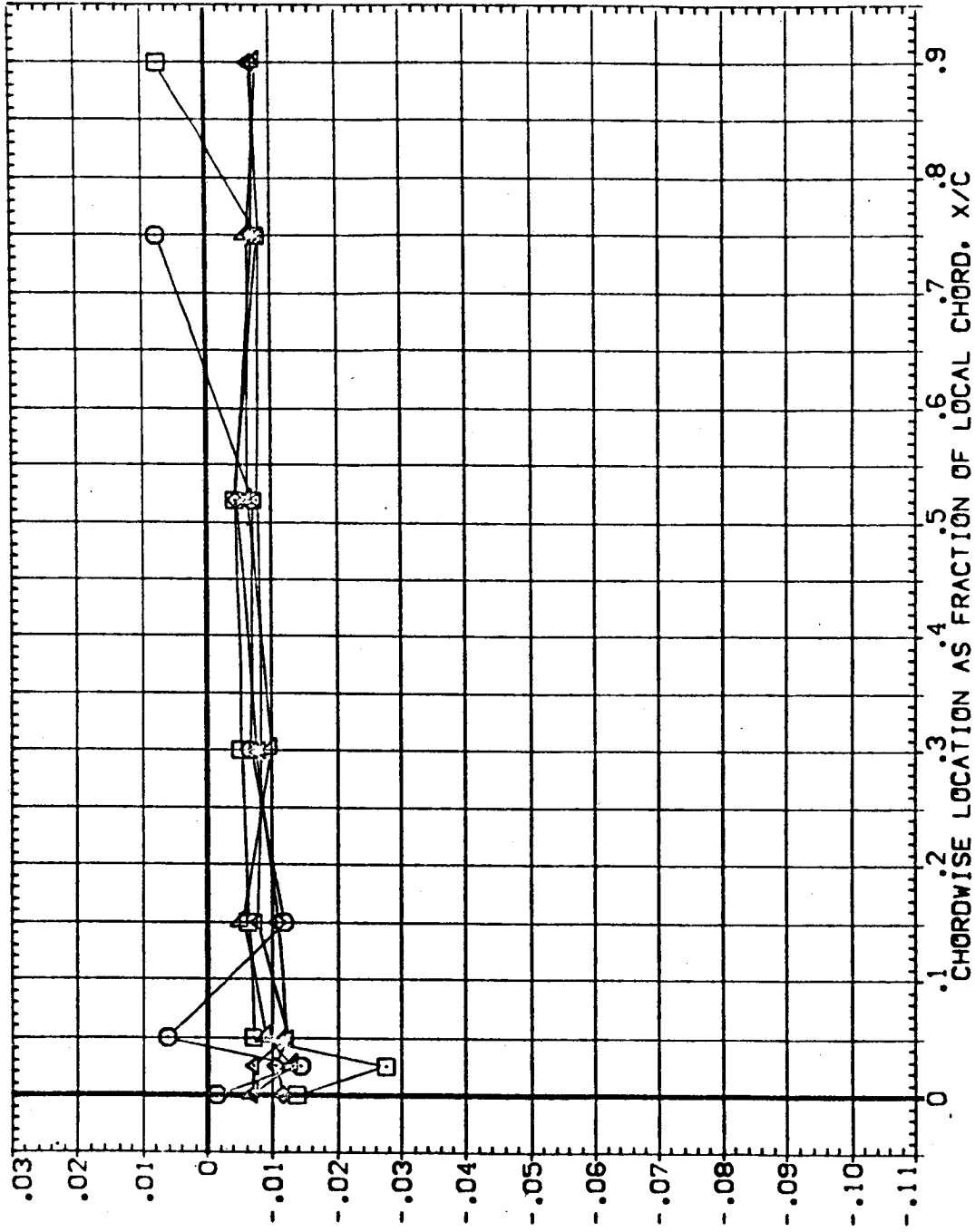


FIG. 100 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

FIG. 100 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

BETA 4.000 ALPHA .000

Z/BV .158
 .316
 .600
 .840
 .975

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

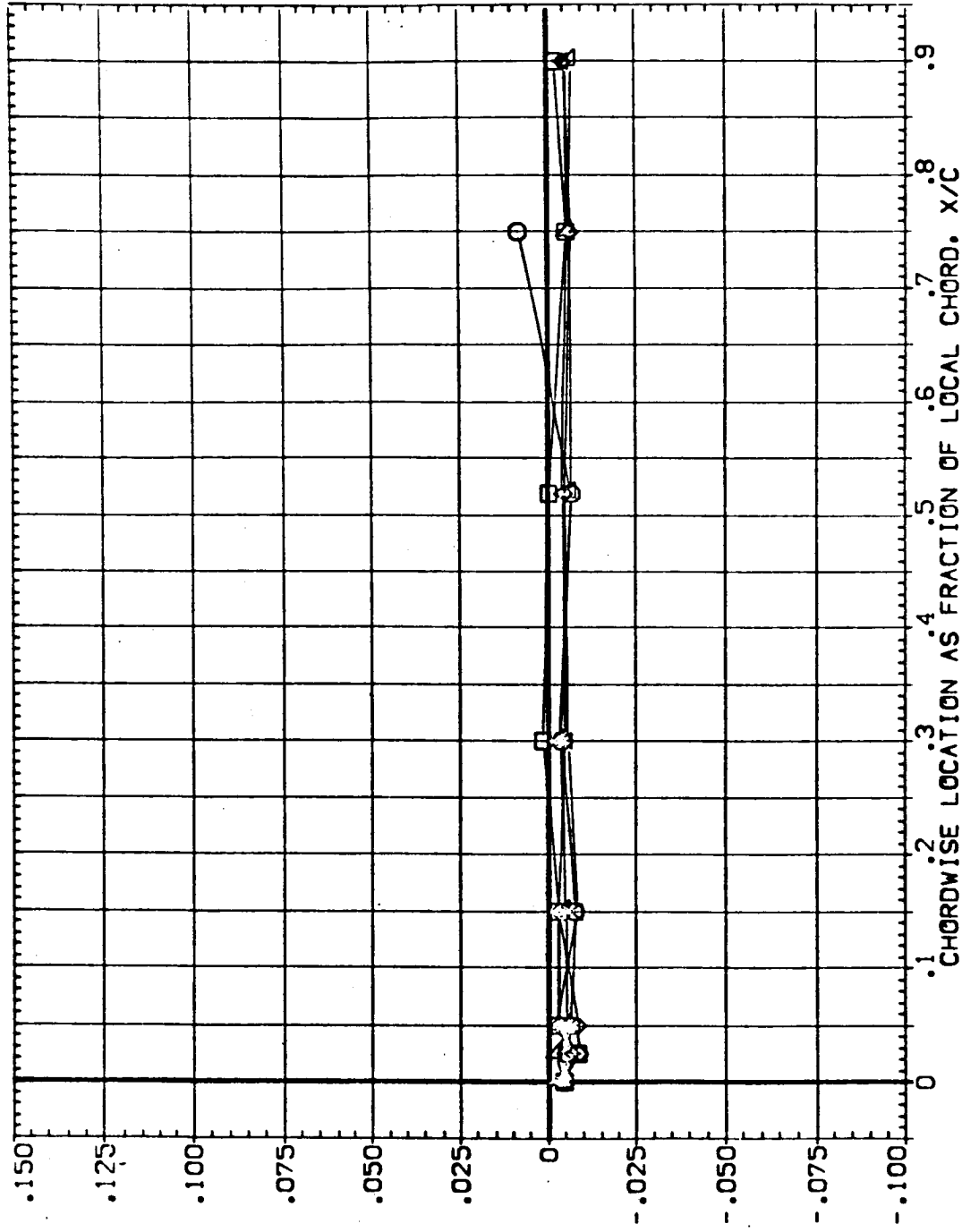


FIG. 100 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF VERTICAL (EEUV:3)

SYMBOL	Z/BV	BETA	ALPHA	PARAMETRIC VALUES	
	.156	.000	-4.000	ELV-18	ELV-08
	.316			RUDDER	MACH
	.600			1.000	1.000
	.840				
	.925				

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

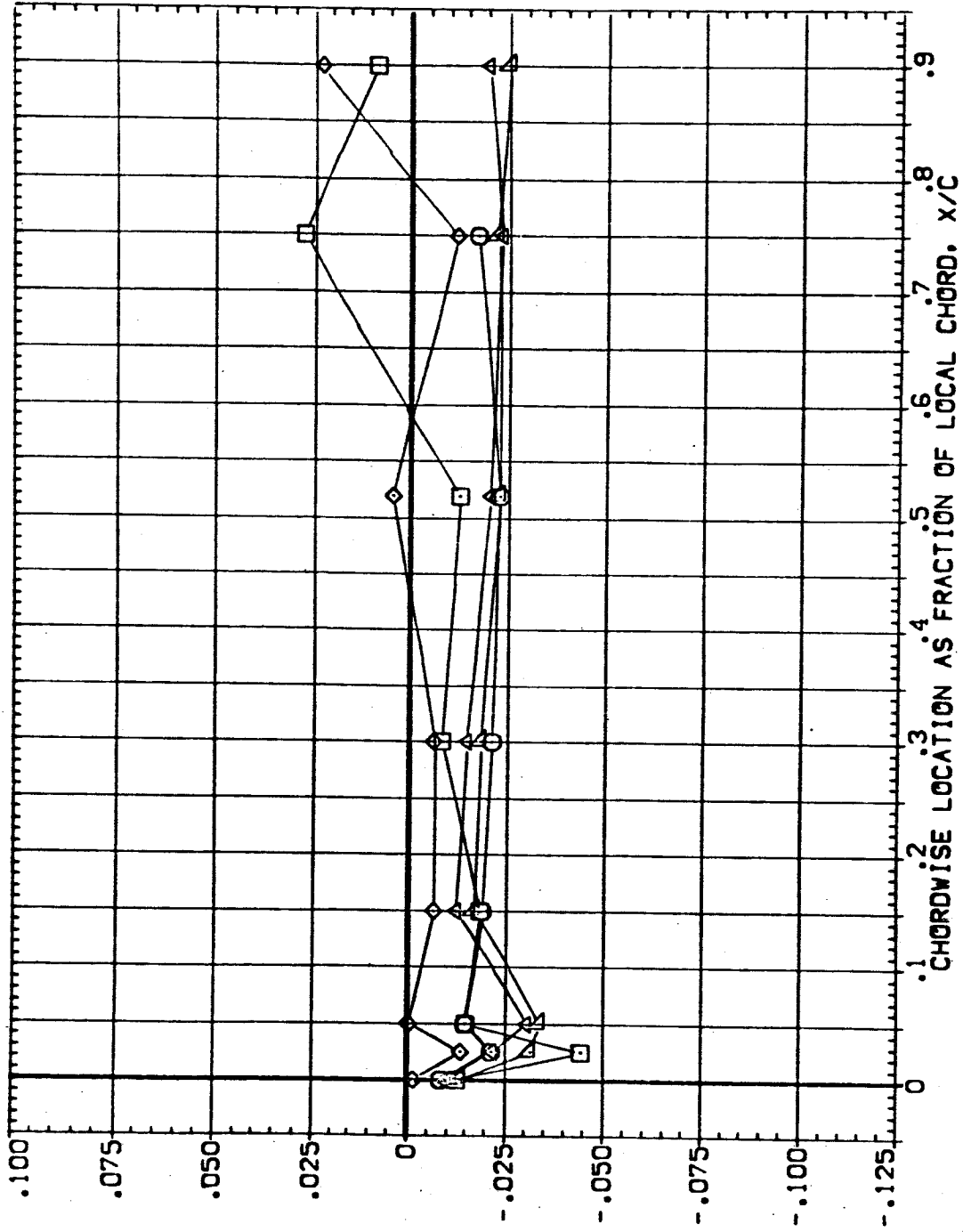


FIG. 101 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF VERTICAL (EEUV13)

SYMBOL Z/BV BETA ALPHA

○	.158	.000	.000
□	.316	.000	.000
◇	.600	.000	.000
△	.840	.000	.000
▽	.925	.000	.000

PARAMETRIC VALUES

ELV-1B	8.000	ELV-CB	4.000
RUDDER	.000	MACH	.900
GIMBAL	1.000		

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

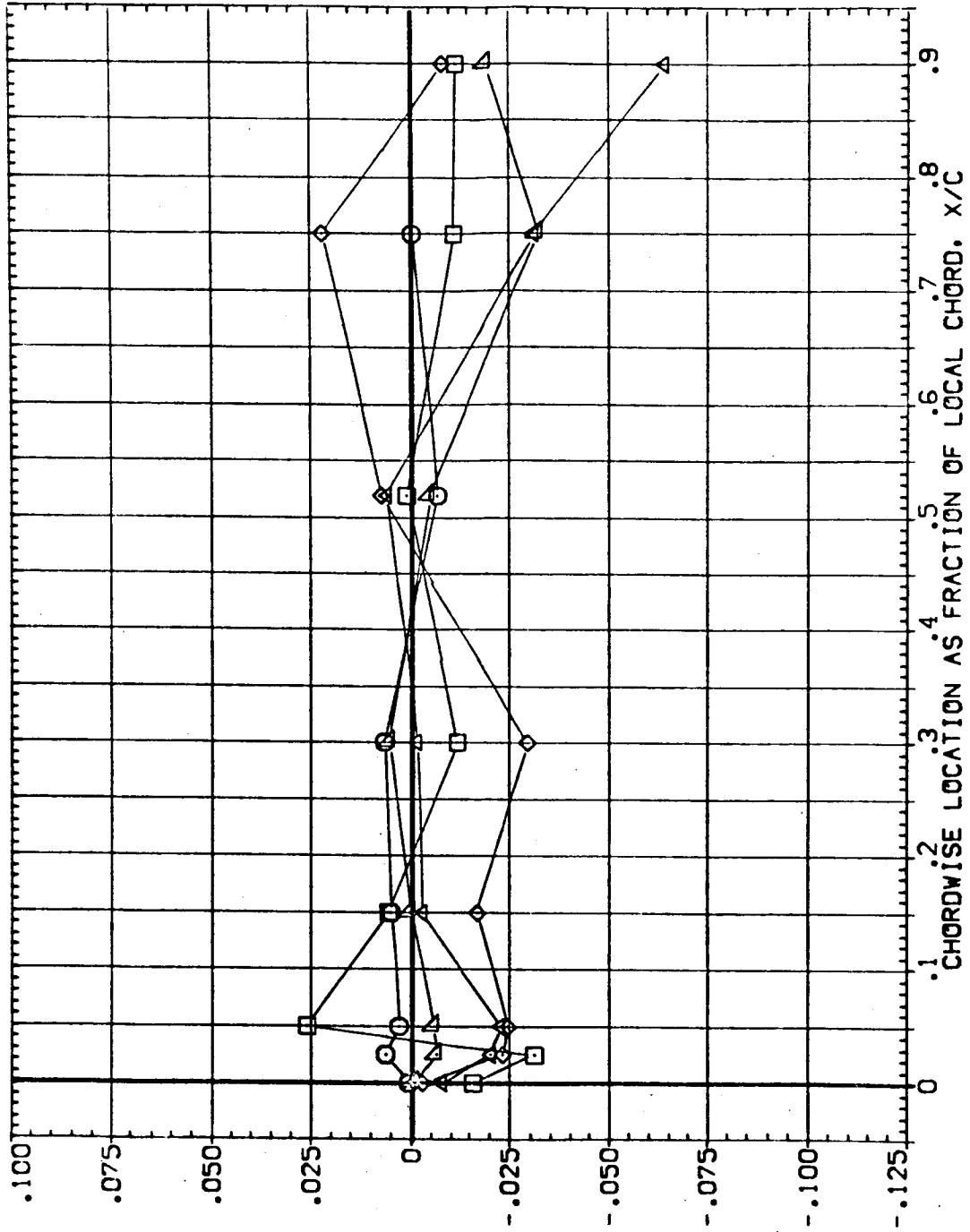


FIG. 101 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF VERTICAL (EEUV13)

SYMBOL Z/BV BETA ALPHA

◇	.158	.000	4.000
△	.316	.000	4.000
○	.600	.000	4.000
□	.840	.000	4.000
◇	.925	.000	4.000

PARAMETRIC VALUES

8.000	ELV-OB	4.000
.000	RUDDER	MACH
1.000	GIMBAL	

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

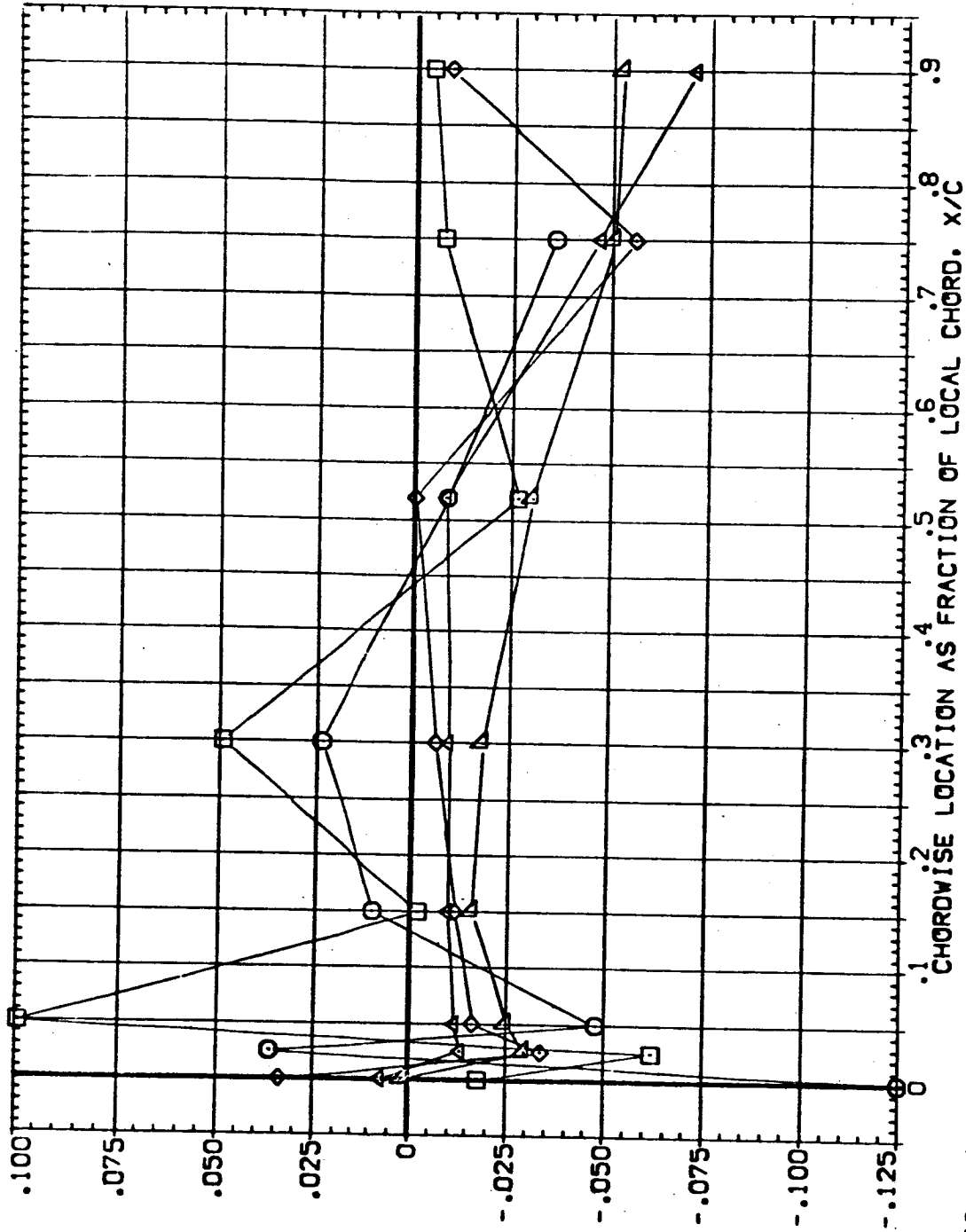


FIG. 101 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF VERTICAL (FEUV13)

SYMBOL: ∇ \diamond \square \circ

Z/BV .158
 .316
 .600
 .840
 .925

BETA -4.000

ALPHA .000

PARAMETRIC VALUES

ELV-18 8.000
 RUDDER .000
 GIMBAL 1.000

ELV-08 4.000
 MACH .900

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

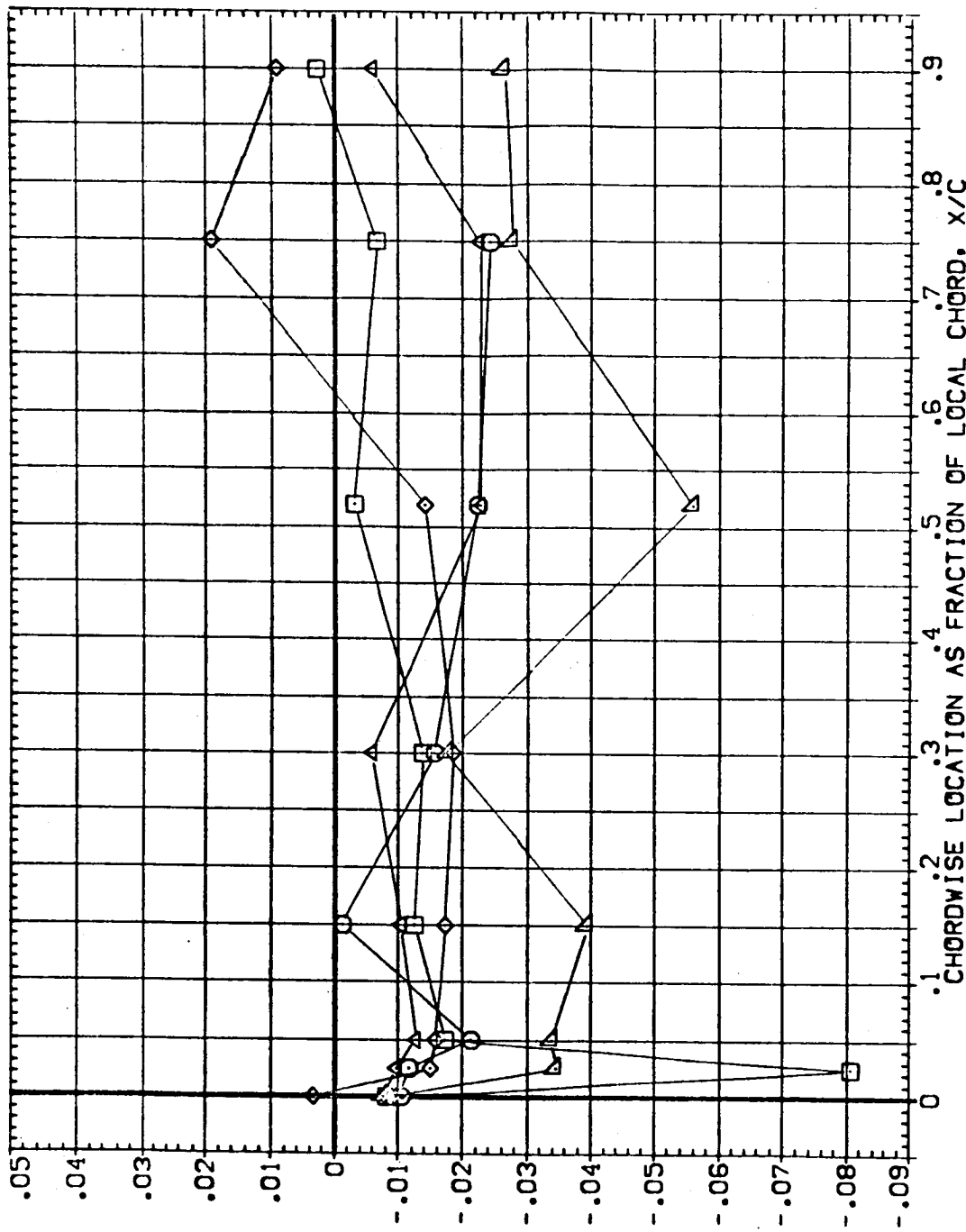


FIG. 101 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF VERTICAL (FEUV13)

SYMBOL	Z/8V	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	ELV-08
◇	.156	4.000	.000	RUDER	.000	MACH	1.000
◇	.316			GIMBAL	1.000		
◇	.600						
◇	.840						
◇	.925						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

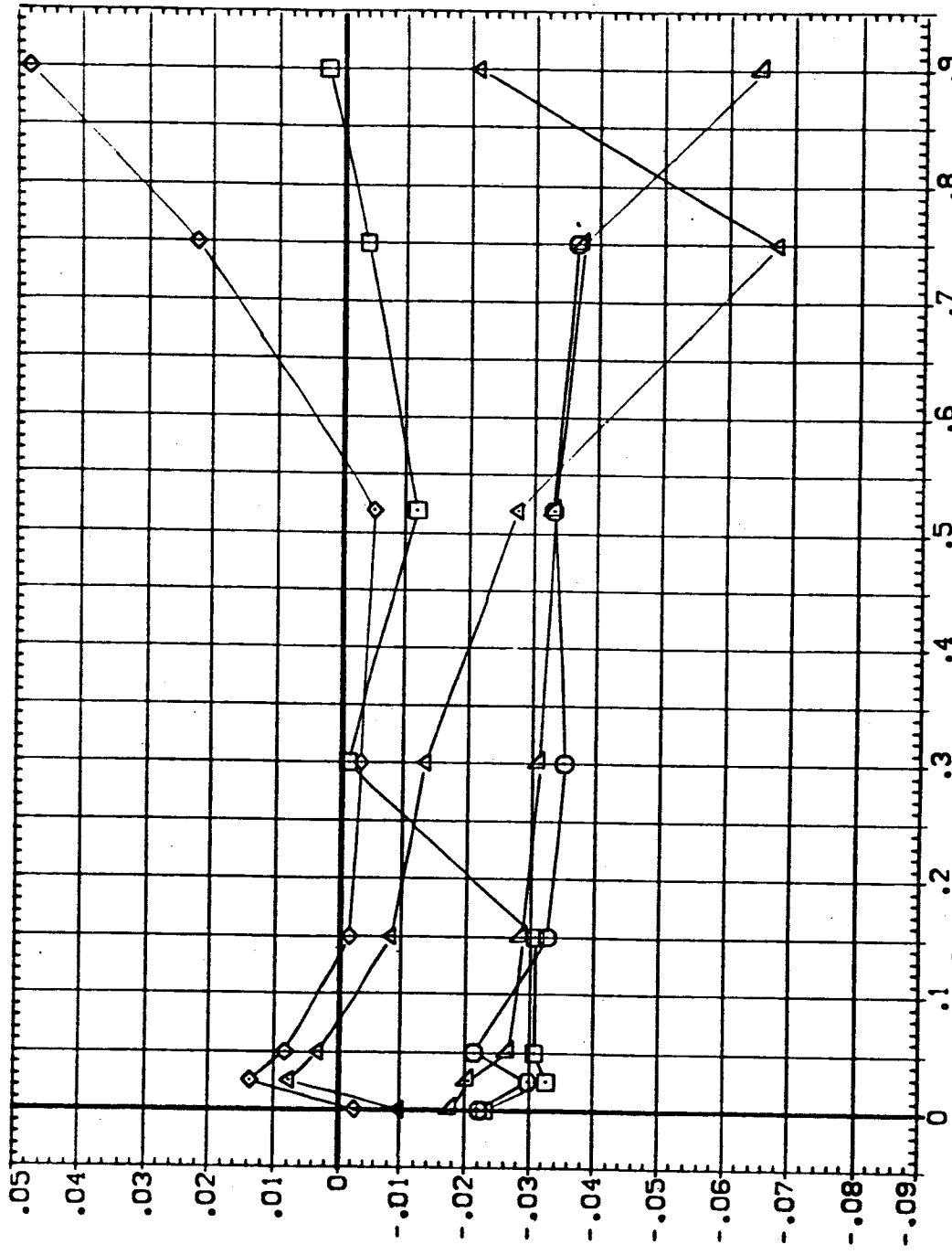


FIG. 101 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF VERTICAL (EEUV14)

SYMBOL	Z/BV	BETA	ALPHA	PARAMETRIC VALUES
□	.158	.000	-4.000	ELV-18 8.000 ELV-08 4.000
○	.316			RUDER .000 MACH 1.100
◇	.640			
△	.925			

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

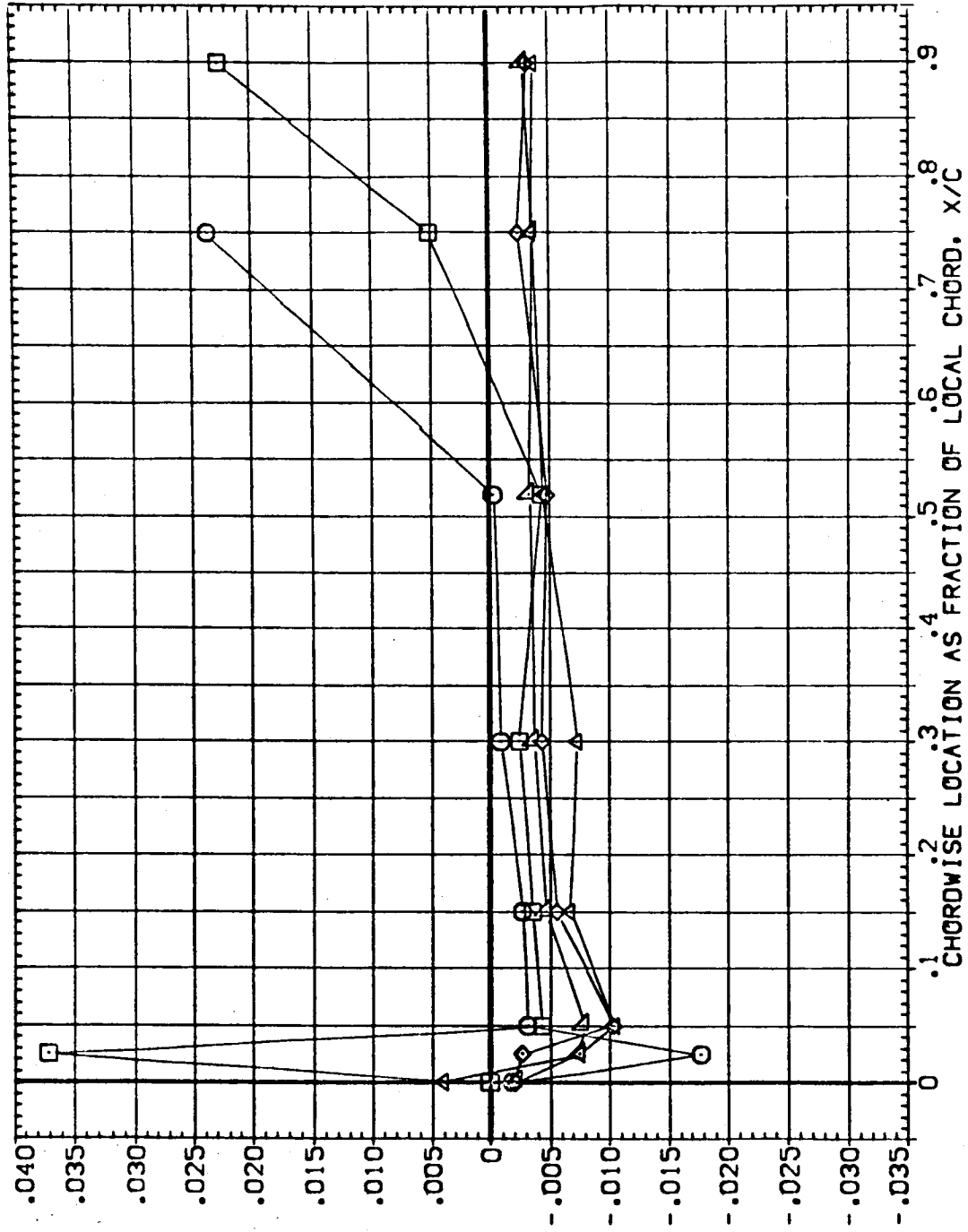


FIG. 101 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF VERTICAL (EEUV14)

SYMBOL Z/BV BETA ALPHA

○	.158	.000	.000
□	.316	.000	.000
◇	.600	.000	.000
△	.840	.000	.000
▽	.925	.000	.000

PARAMETRIC VALUES

ELV-18	8.000	ELV-09	4.000
RUDER	.000	MACH	1.100
GIMBAL	1.000		

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

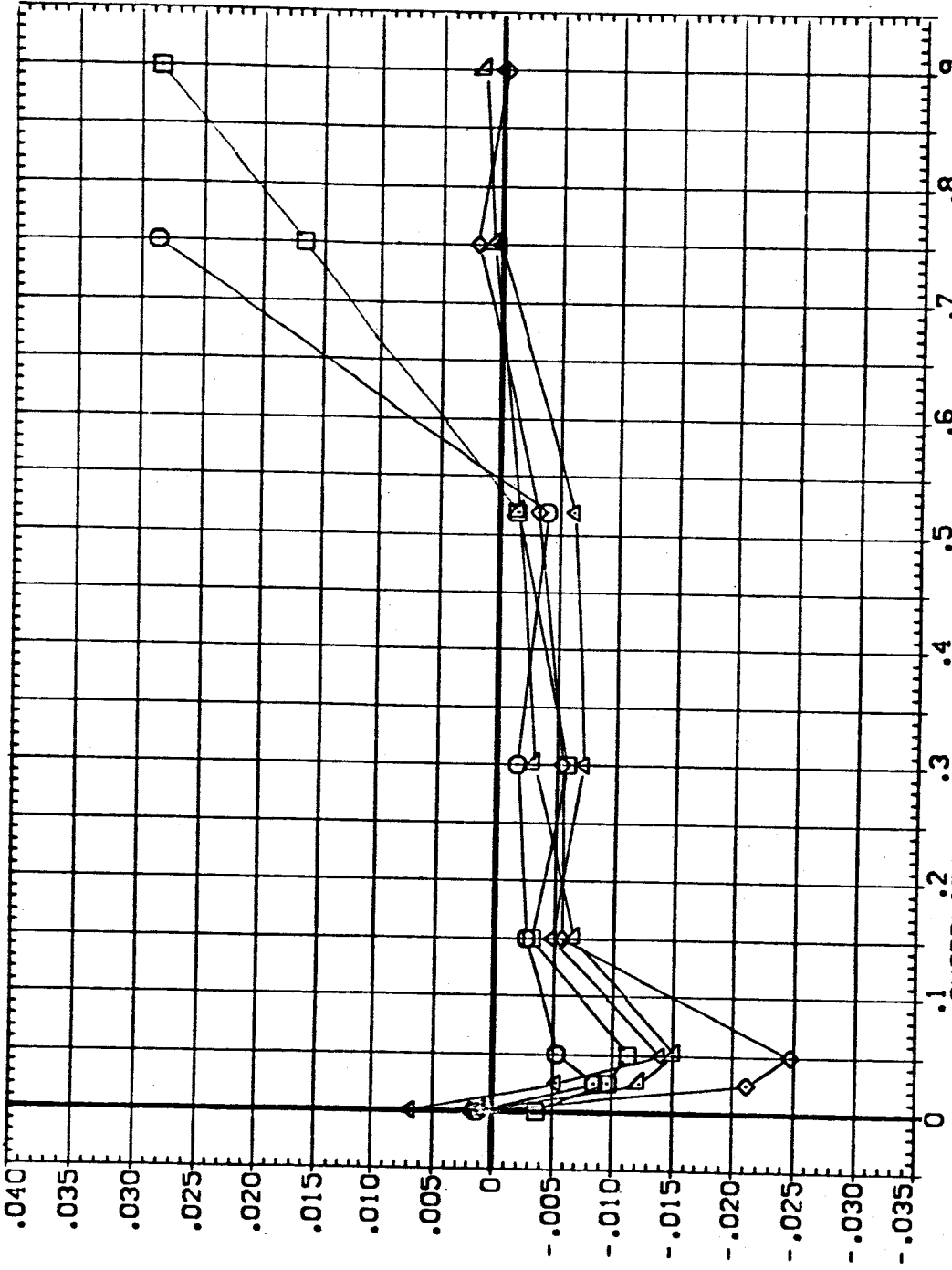


FIG. 101 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF VERTICAL (EEUV14)

SYMBOL Z/BV BETA ALPHA 4.000
 ○ .158 .000
 □ .316 .000
 ◇ .600 .000
 △ .840 .000
 .925 .000

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

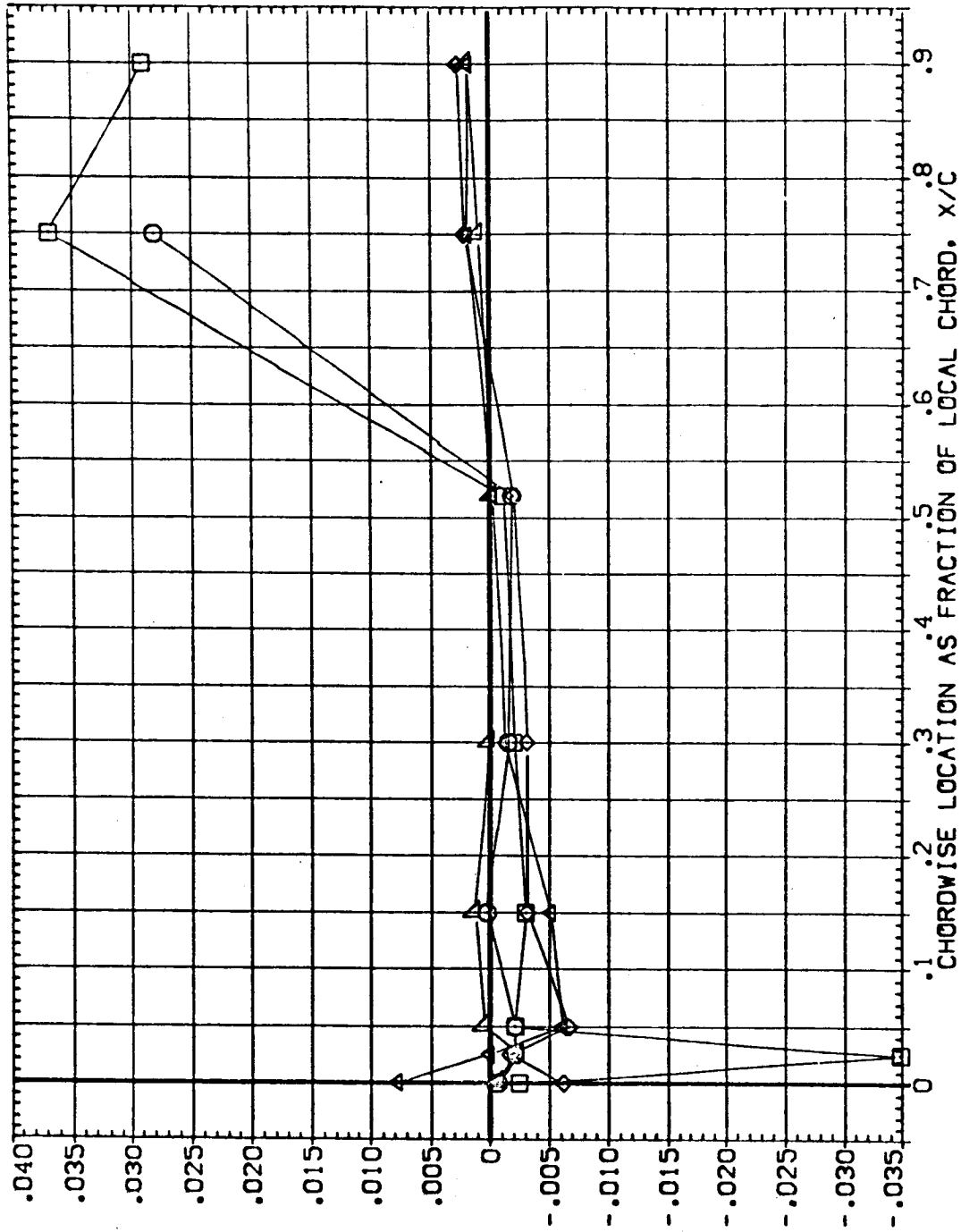


FIG. 101 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF VERTICAL (FEUV14)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

Z/BV BETA ALPHA
 .158 -4.000 .000
 .316
 .600
 .840
 .925

SYMBOL
 ○
 □
 △

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

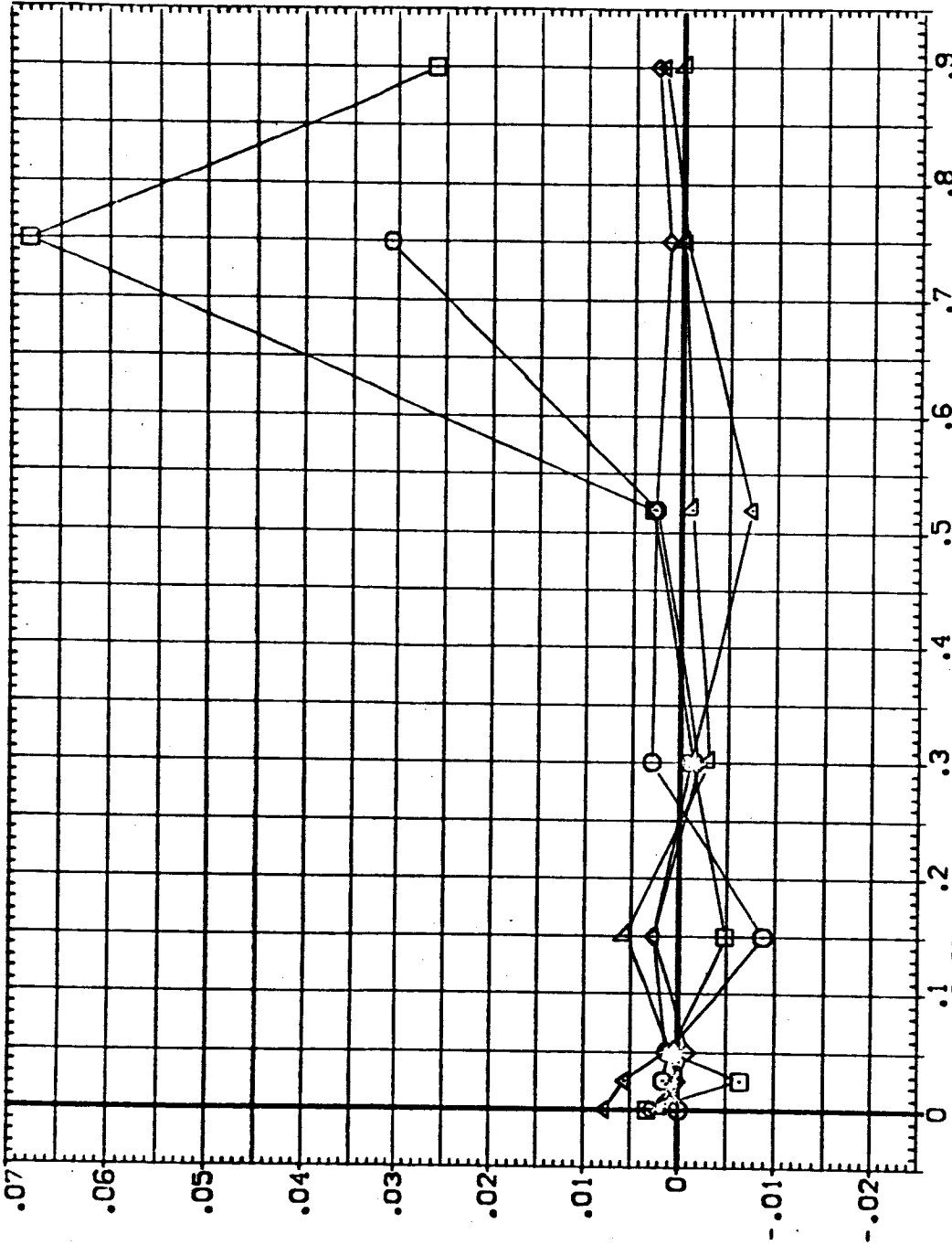


FIG. 101 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF VERTICAL (FEUV14)

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-08 1.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

BETA 4.000 ALPHA .000

Z/BV .158
 .316
 .600
 .840
 .925

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

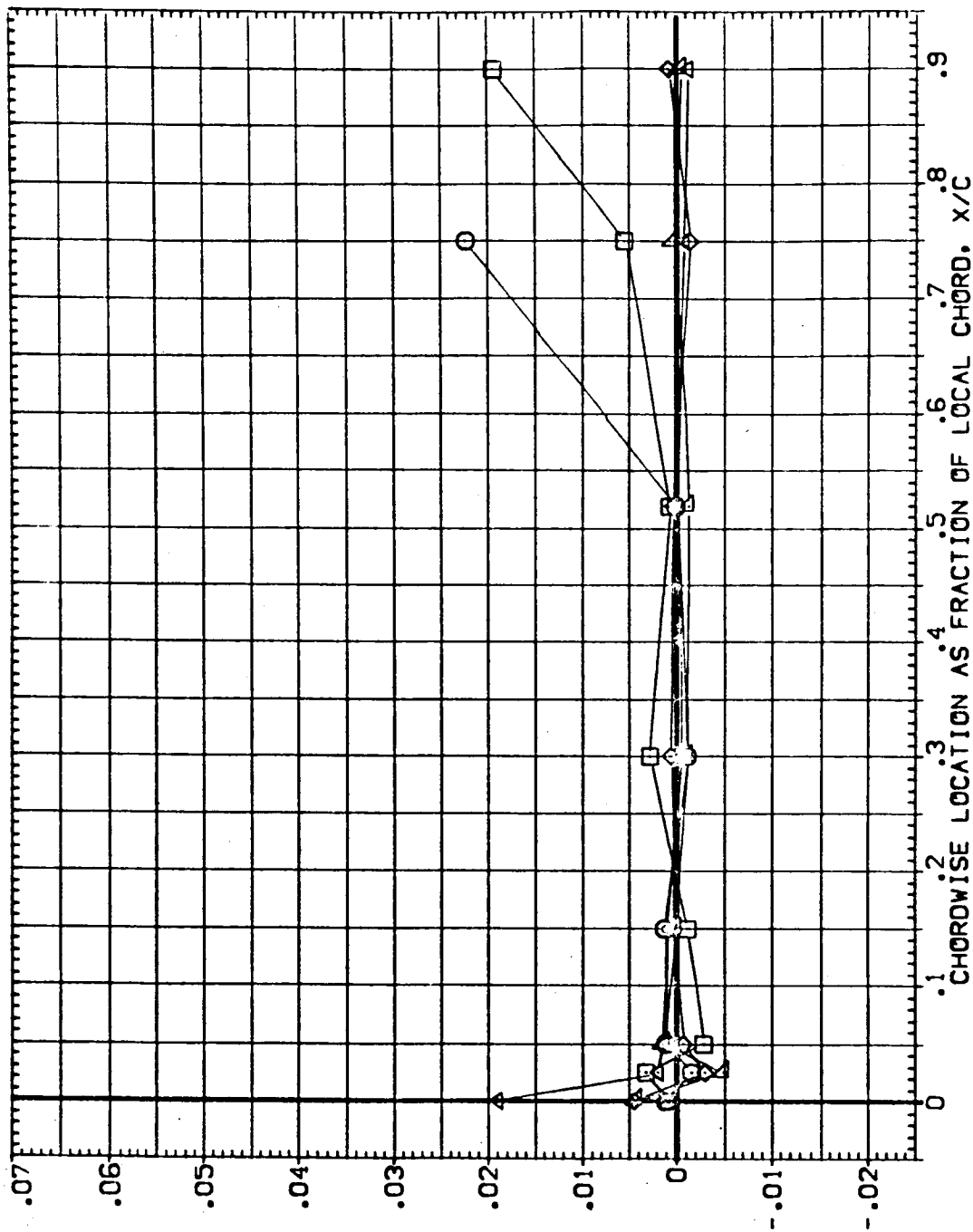


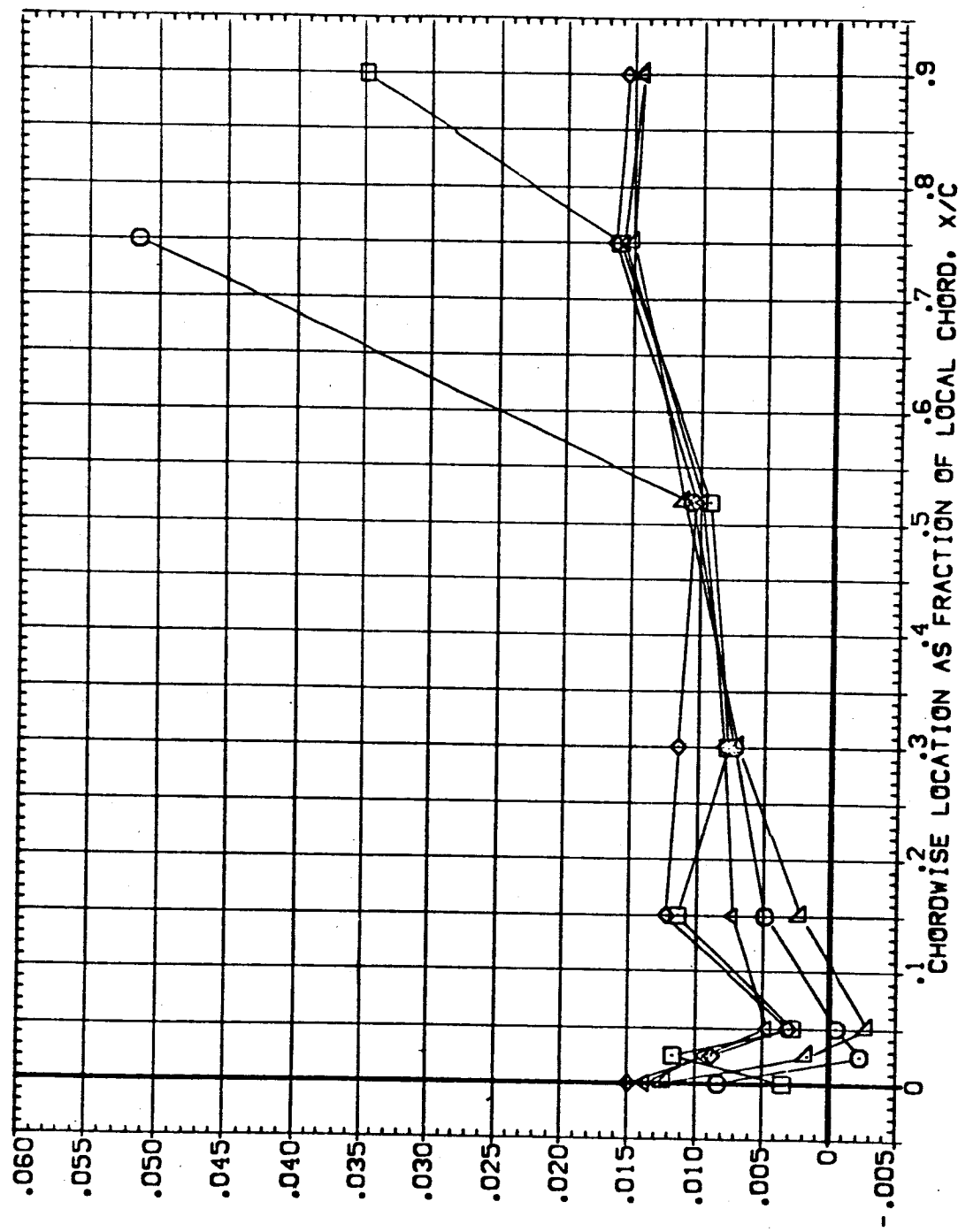
FIG. 101 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF VERTICAL (EEUV15)

SYMBOL
 ○
 ◊
 △
 □

Z/BV BETA ALPHA
 .158 .000 -4.000
 .316
 .600
 .840
 .925

PARAMETRIC VALUES
 ELV-1B ELV-08 4.000
 RUDDER .000 MACH
 GIMBAL 1.000



INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

FIG. 101 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF VERTICAL (EEUV15)

SYMBOL	Z/BV	BETA	ALPHA	ELV-18	ELV-08	PARAMETRIC VALUES
○	.158	.000	.000	RUDDER	.000	8.000
□	.316	.000	.000	GIMBAL	.000	1.250
◇	.600					4.000
△	.840					1.250
	.925					1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

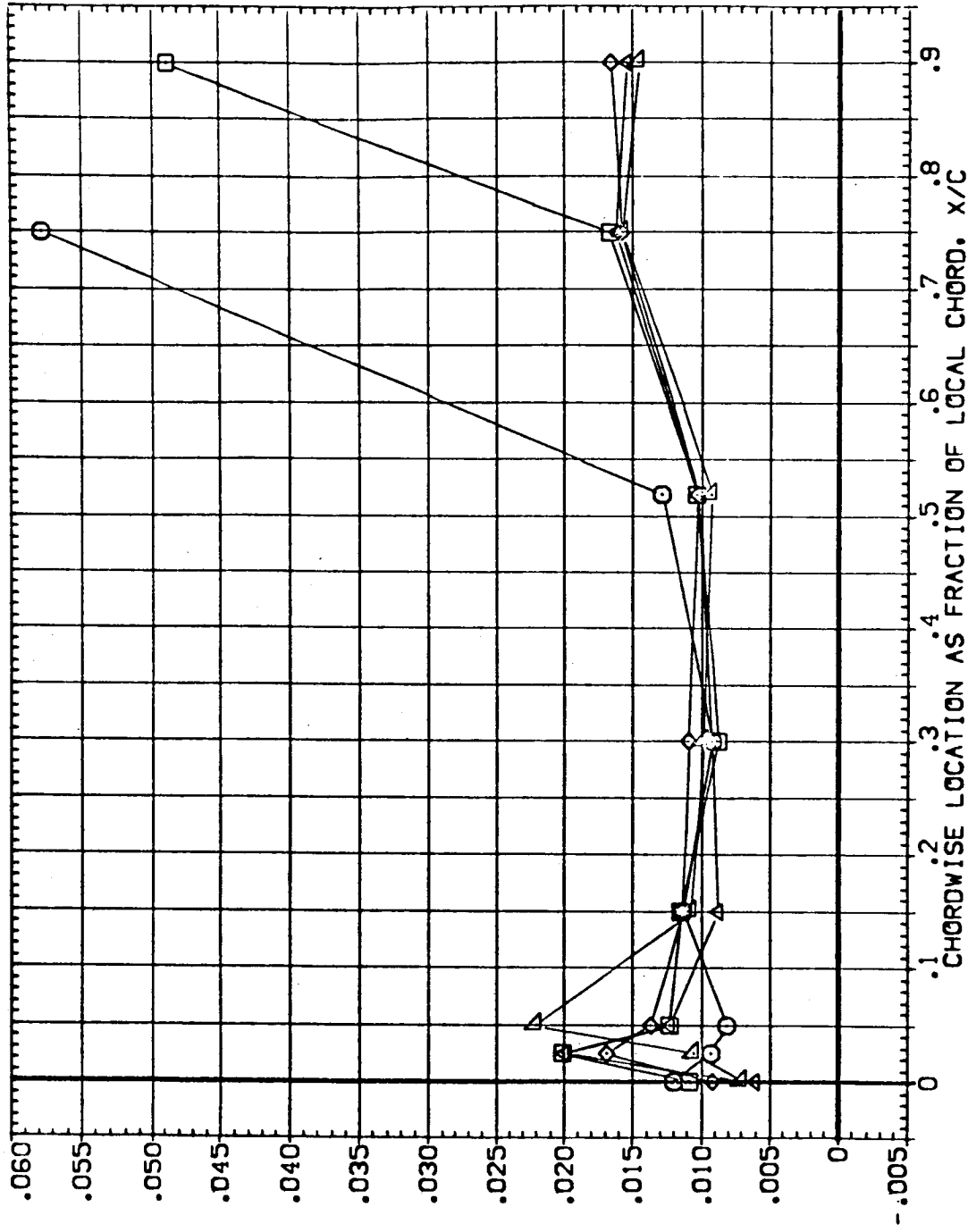


FIG. 101 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

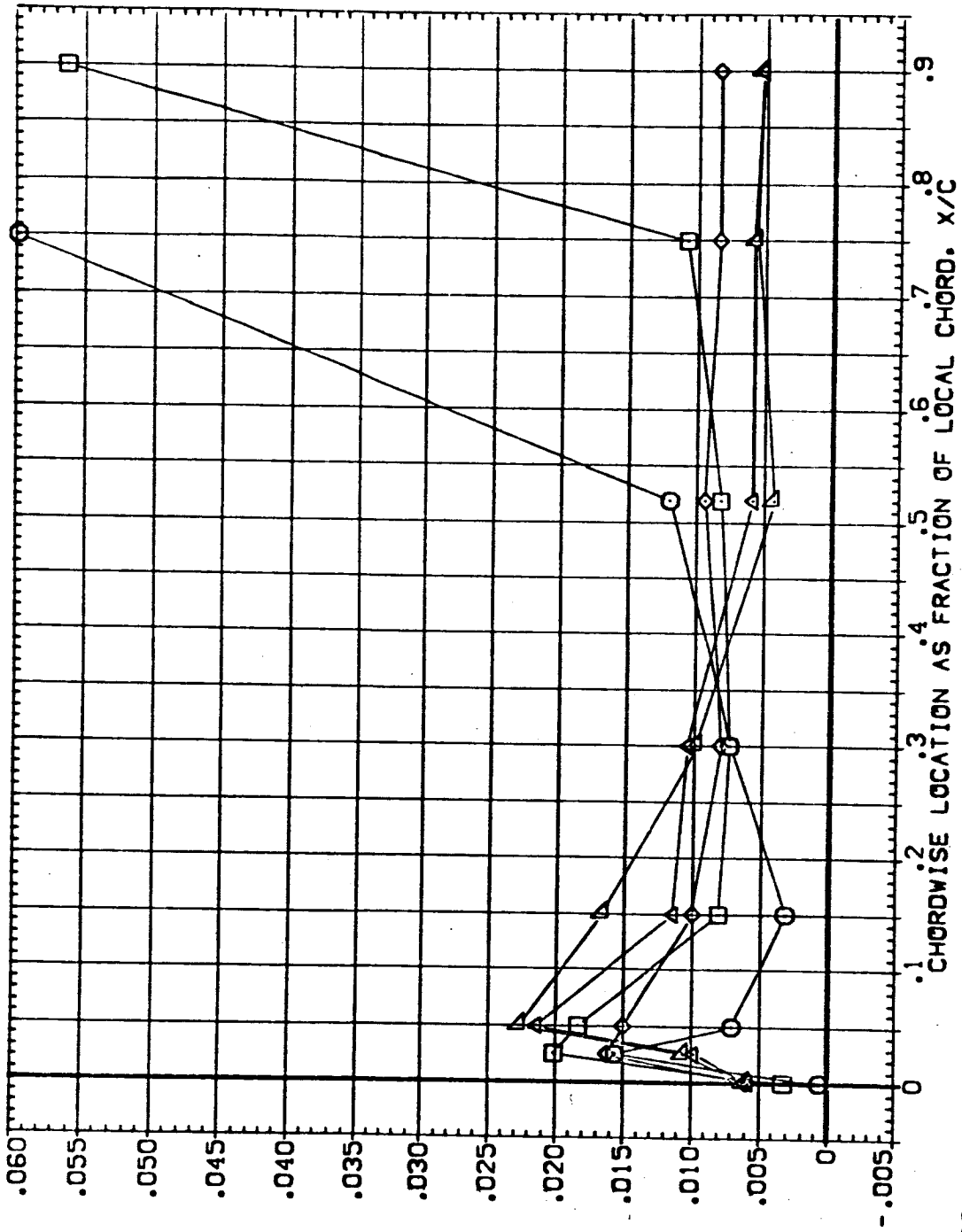
ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF VERTICAL (EEUV15)

SYMBOL Z/BV BETA ALPHA

○	.158	.000	4.000
□	.316	.000	4.000
◇	.600	.000	4.000
△	.840	.000	4.000
▽	.925	.000	4.000

PARAMETRIC VALUES

ELV-18	8.000	ELV-08	4.000
RUDDER	.000	MACH	1.250
GIMBAL	1.000		



INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

FIG. 101 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF VERTICAL (FEUV15)

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

Z/BV BETA ALPHA
 .158 -1.000 .000
 .316
 .600
 .840
 .925

SYMBOL
 ○
 ◇
 △
 □

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

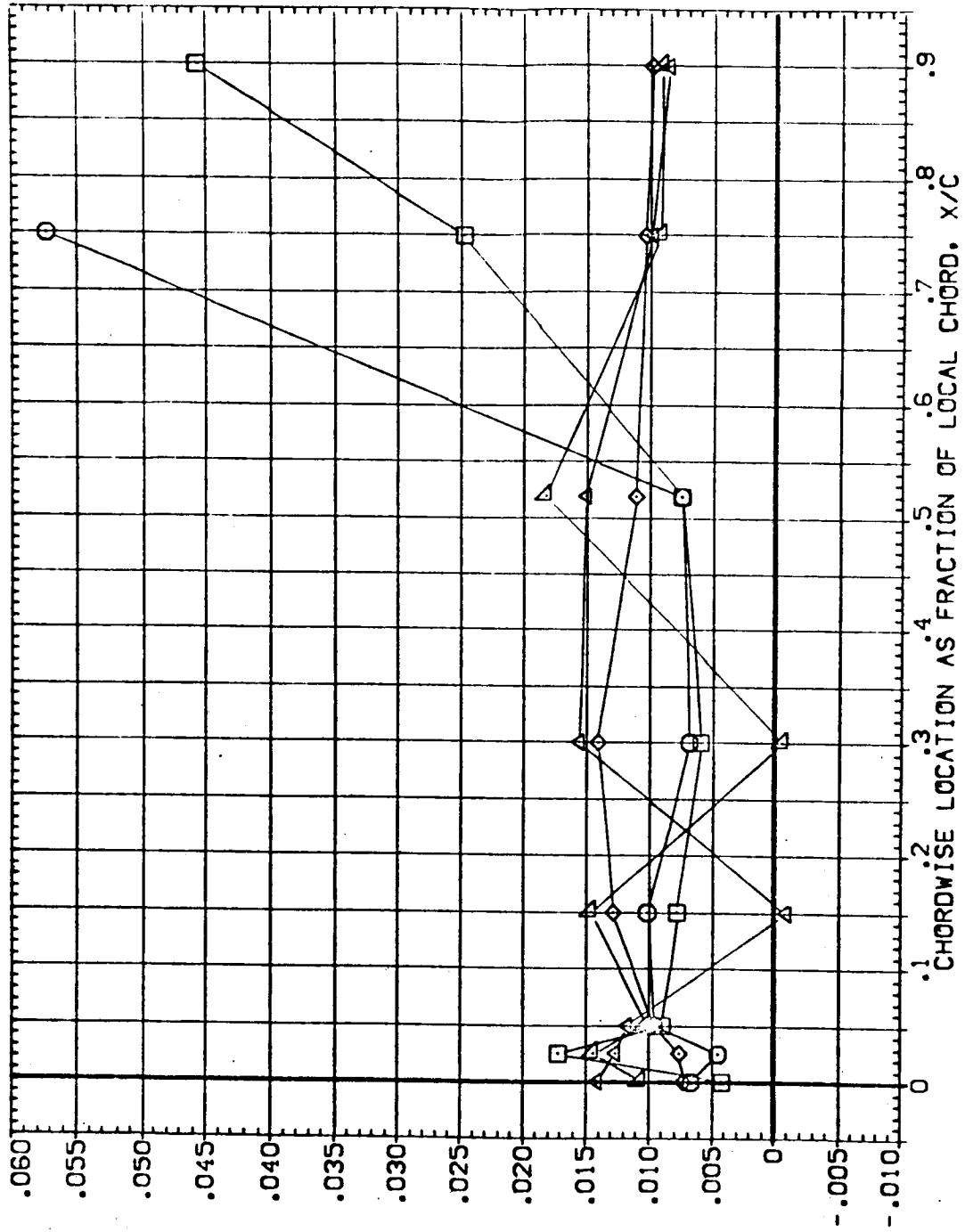


FIG. 101 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF VERTICAL (FEUV15)

SYMBOL	PARAMETRIC VALUES	
	ELV-18 RUDDER GIMBAL	ELV-08 MACH
Z/BV	BETA	ALPHA
.158	4.000	.000
.316		
.600		
.840		
.975		

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

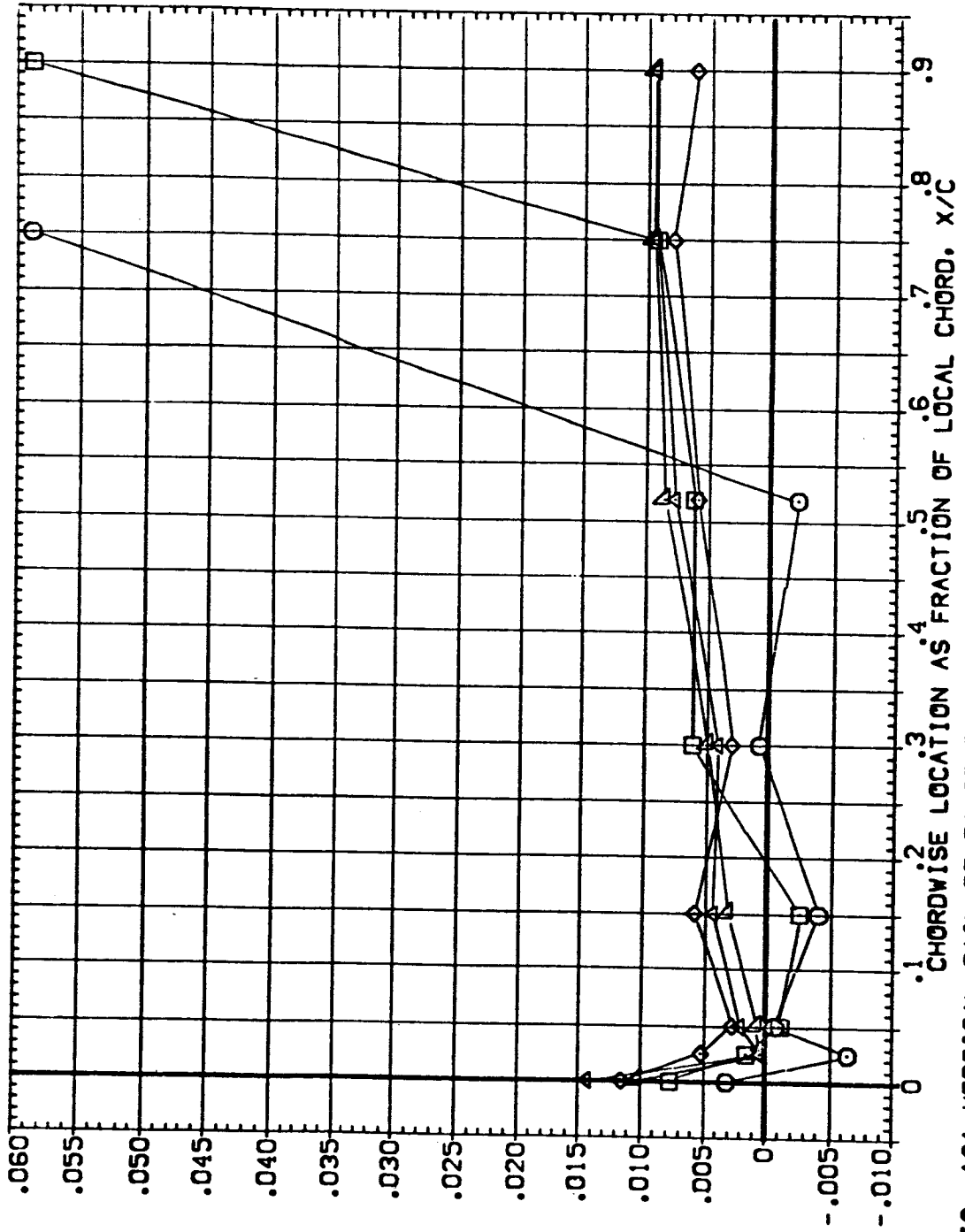


FIG. 101 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF VERTICAL (EEUV16)

PARAMETRIC VALUES
 ELV-IB 8.000 ELV-OB 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

Z/BV BETA ALPHA
 .158 .000 -4.000
 .316
 .600
 .840
 .925

SYMBOL
 ○
 □
 ◇
 △

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

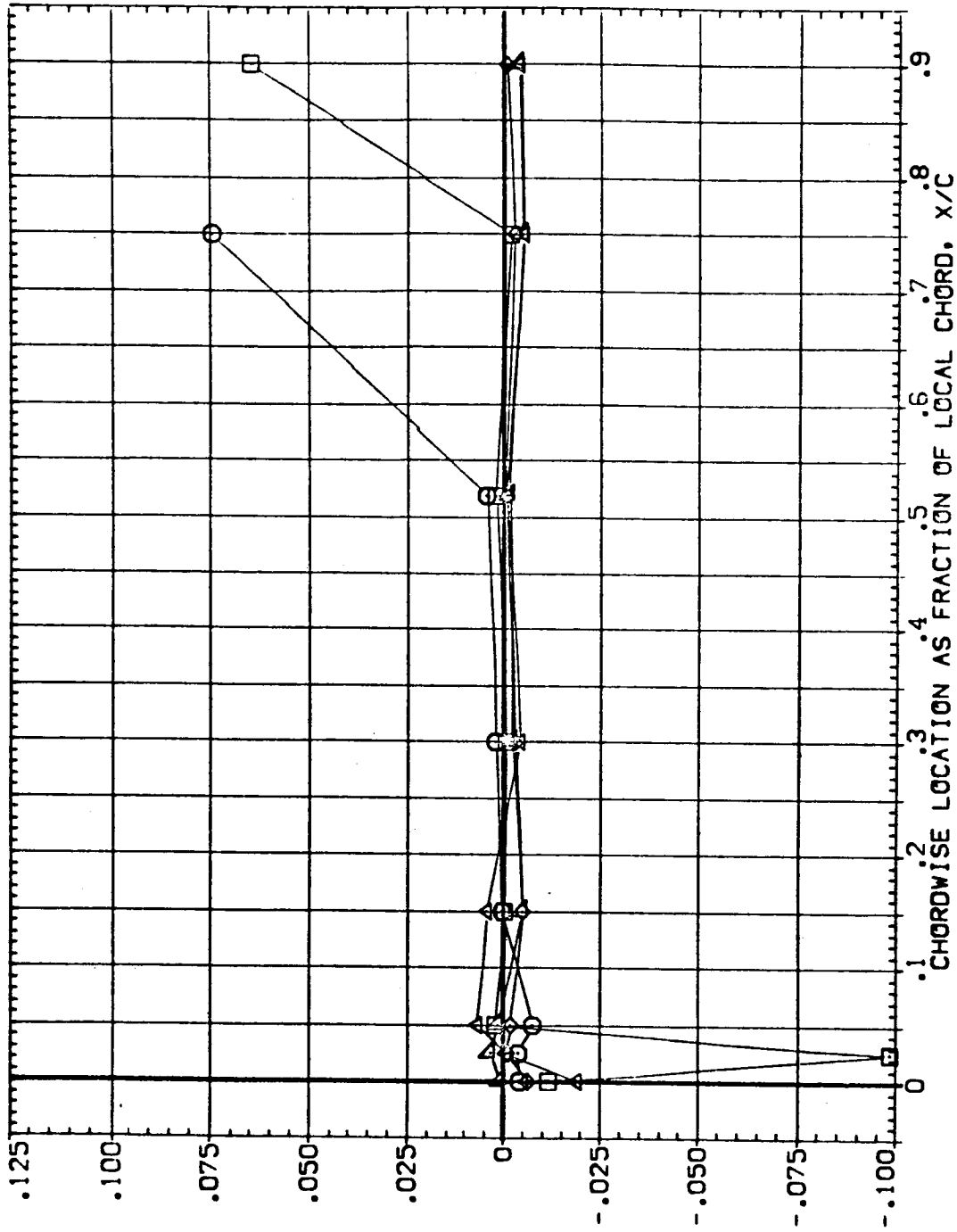


FIG. 101 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF VERTICAL (EEUV16)

SYMBOL	Z/BV	PARAMETRIC VALUES	
		BETA	ALPHA
△	.156	.000	.000
◇	.316	.000	.000
□	.600	.000	.000
○	.840	.000	.000
○	.925	.000	.000

PARAMETRIC VALUES	ELV-18	ELV-08	MACH
4.000	.000	.000	1.000
1.400	.000	.000	1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

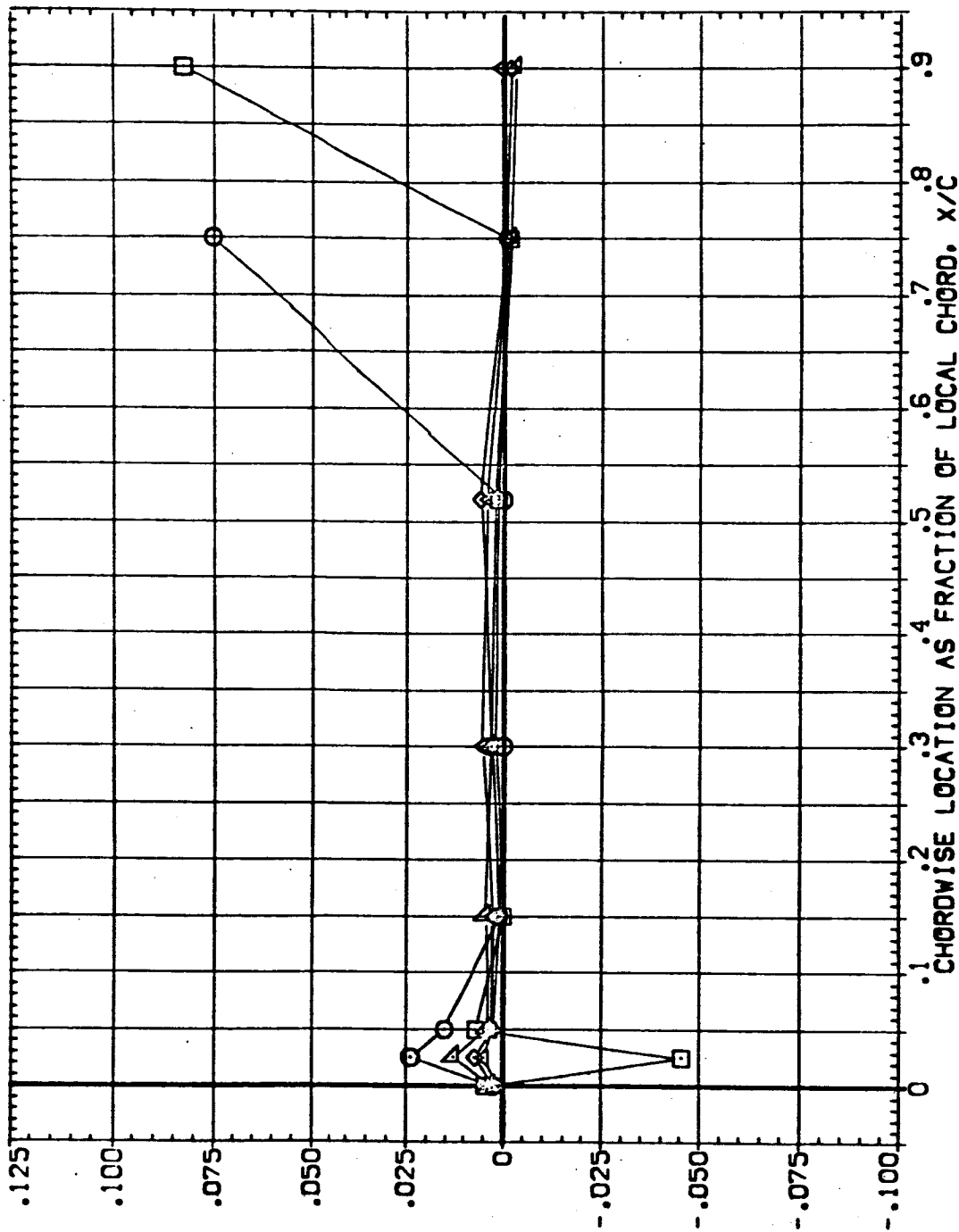


FIG. 101 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF VERTICAL (EEUV16)

SYMBOL Z/BV BETA ALPHA

○ .158 .000 4.000

◇ .316 .000 4.000

△ .600 .000 4.000

▽ .840 .000 4.000

 .975 .000 4.000

PARAMETRIC VALUES

ELV-19 8.000 ELV-08 4.000

RUDDER .000 MACH 1.400

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

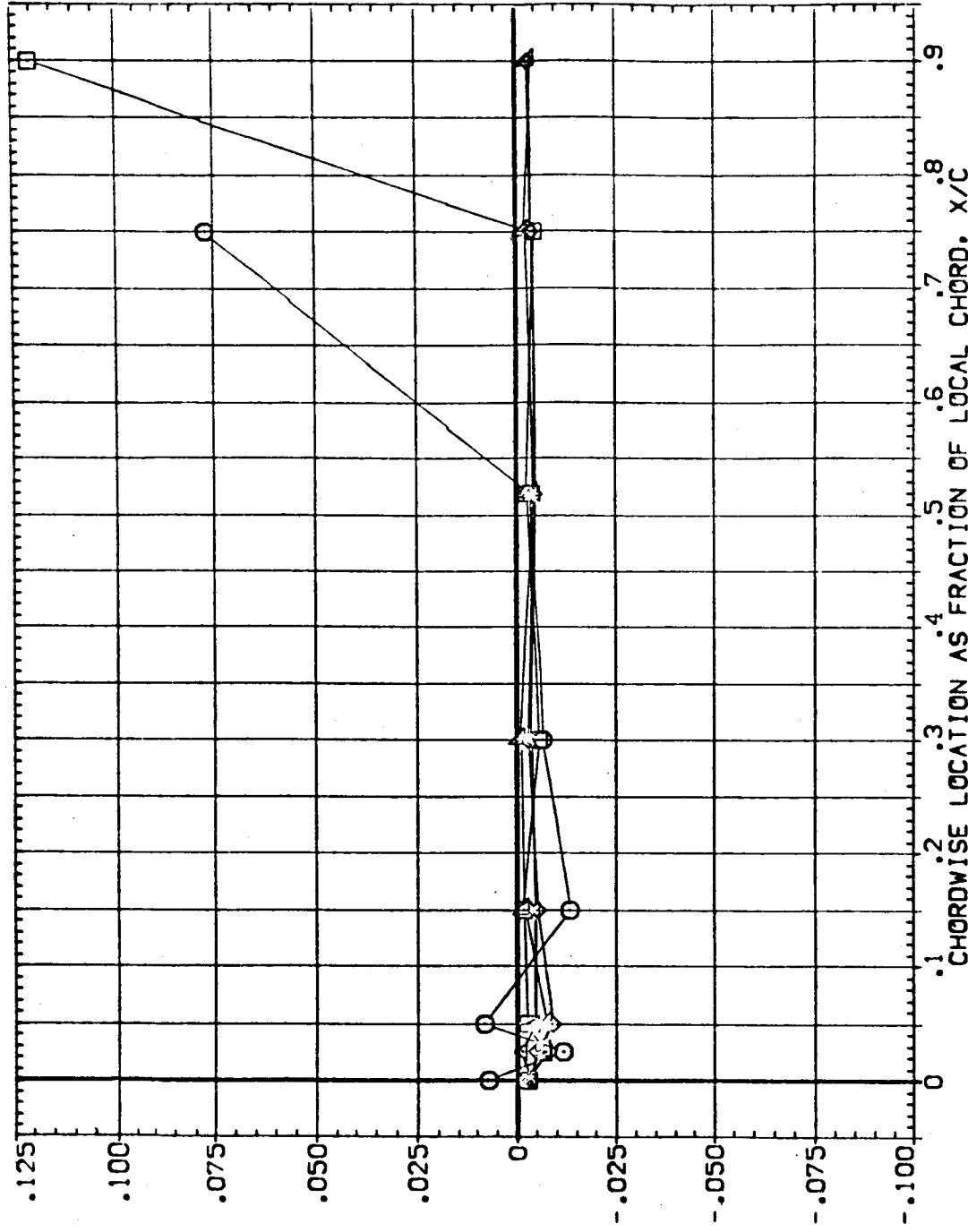


FIG. 101 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF VERTICAL (FEUV16)

SYMBOL Z/BV BETA ALPHA

▽	.158	-1.000	.000
◇	.316		
◇	.600		
◇	.840		
▽	.925		

PARAMETRIC VALUES

ELV-18	8.000	ELV-08	4.000
RUDDER	.000	MACH	1.400
GIMBAL	1.000		

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

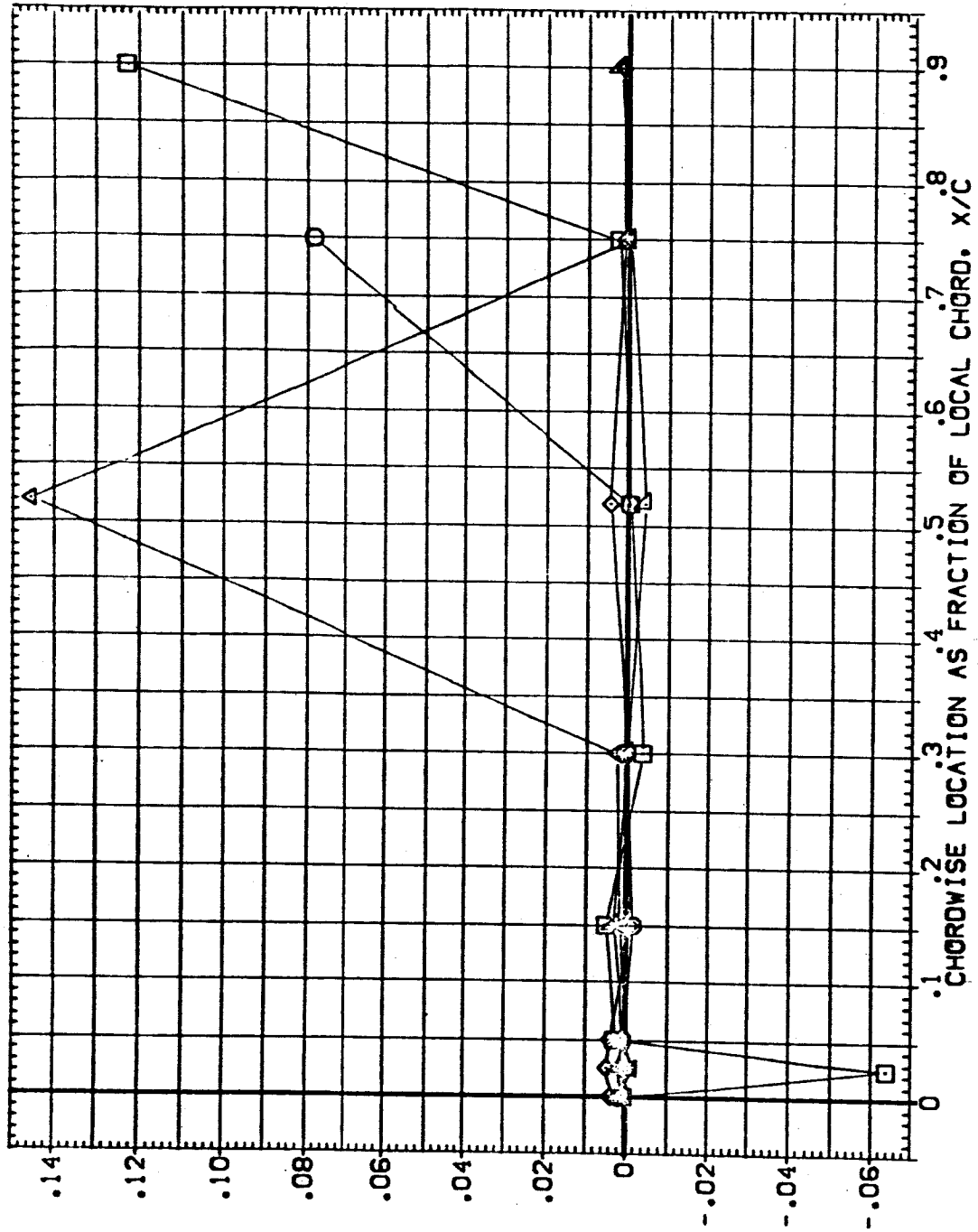


FIG. 101 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF VERTICAL (FEUV16)

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

Z/BV BETA ALPHA
 .158 4.000 .000
 .316
 .600
 .840
 .925

SYMBOL
 ◊ ◻ ◊ ◻ ◊ ◻ ◊ ◻

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

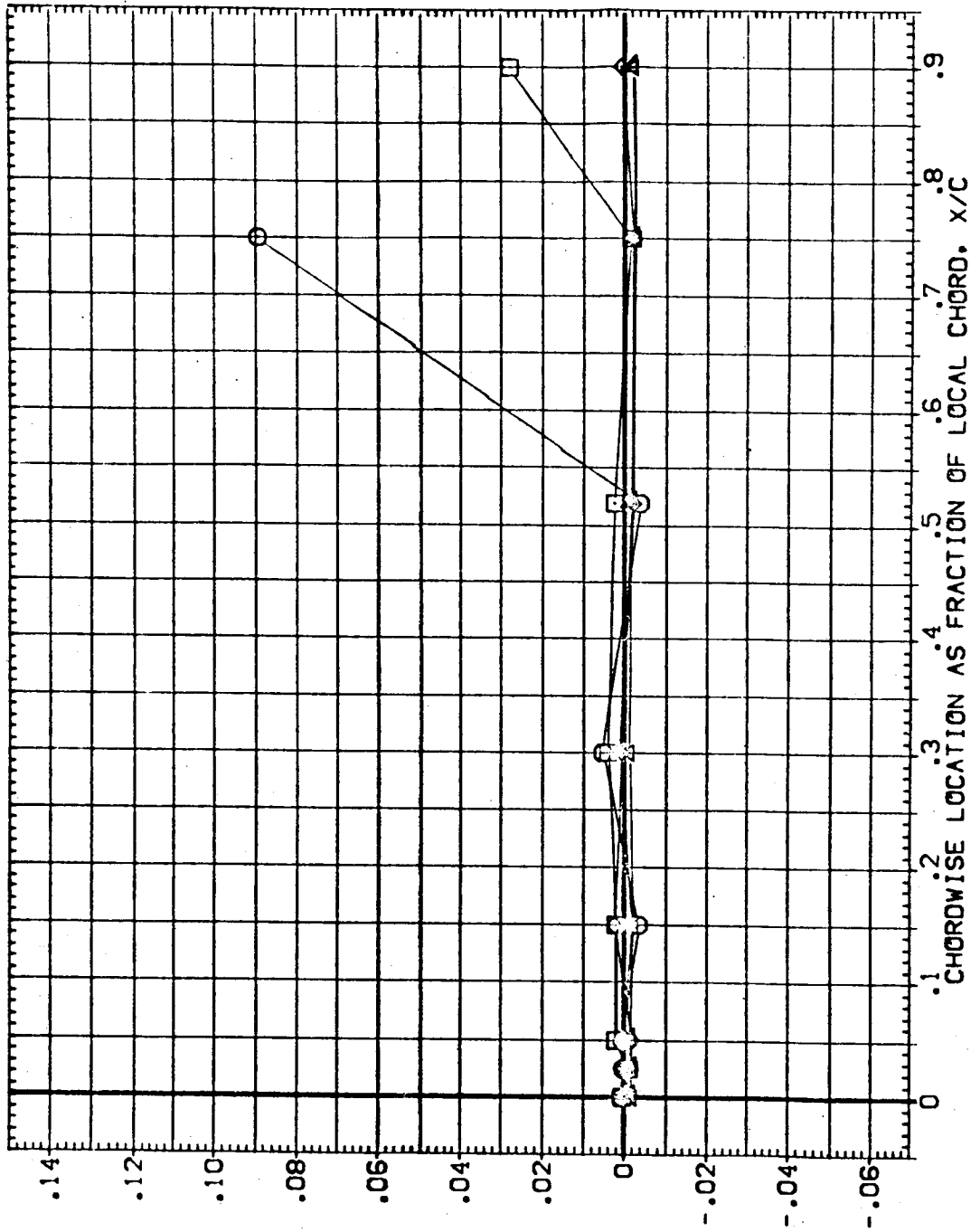


FIG. 101 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF EXT TANK (BEUTO1)

SYMBOL	X/L	BETA	ALPHA	ELV-18	ELV-CB	PARAMETRIC VALUES
○	.634	.000	-4.000	RUDER	.000	MACH
□	.742			GIMBAL	1.000	
◇	.851					
△	.958					

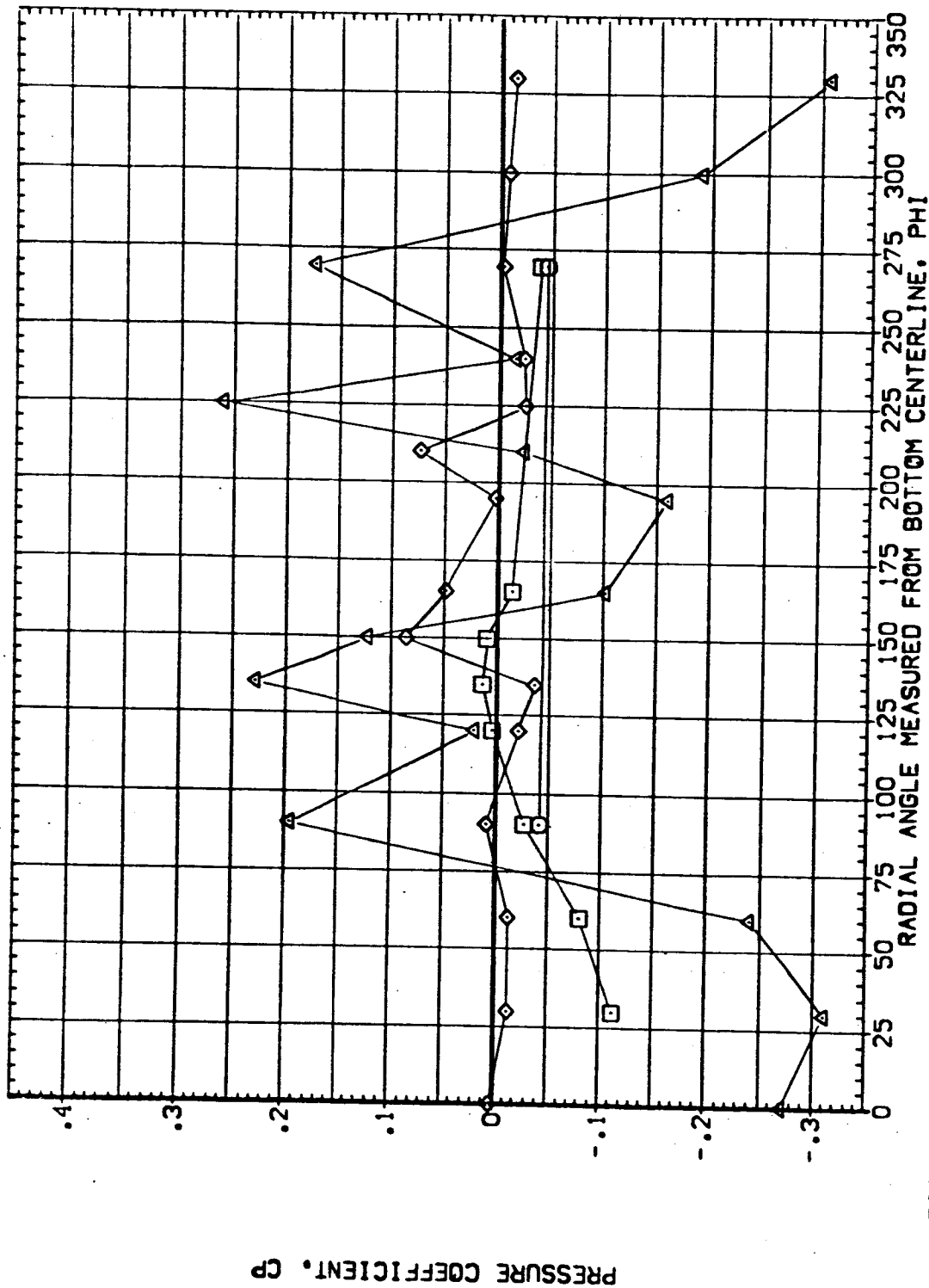


FIG. 102 EXTERNAL TANK PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF EXT TANK(BEUTO1)

SYMBOL	X/L	BETA	ALPHA	ELV-IB	PARAMETRIC VALUES
○	.634	.000	.000	RUDER	8.000
□	.742			GIMBAL	.000
◇	.851				1.000
△	.936				4.000
					.900

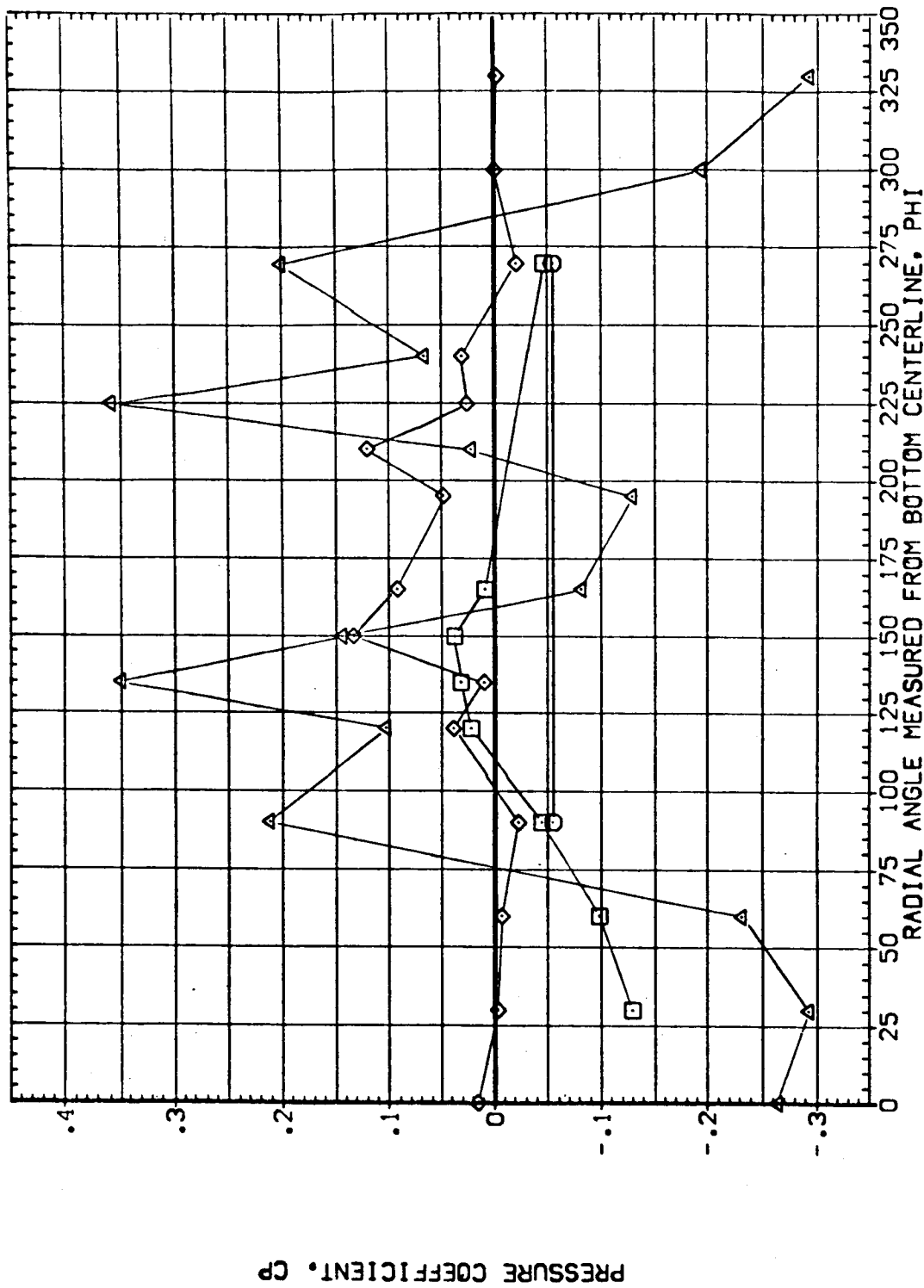


FIG. 102 EXTERNAL TANK PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF EXT TANK(BEUTO1)

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES	
				ELV-18	ELV-08
□	.634	.000	1.000	8.000	4.000
◇	.742	.000	1.000	RUDDER	MACH
△	.851	.000	1.000	GIMBAL	
	.966				

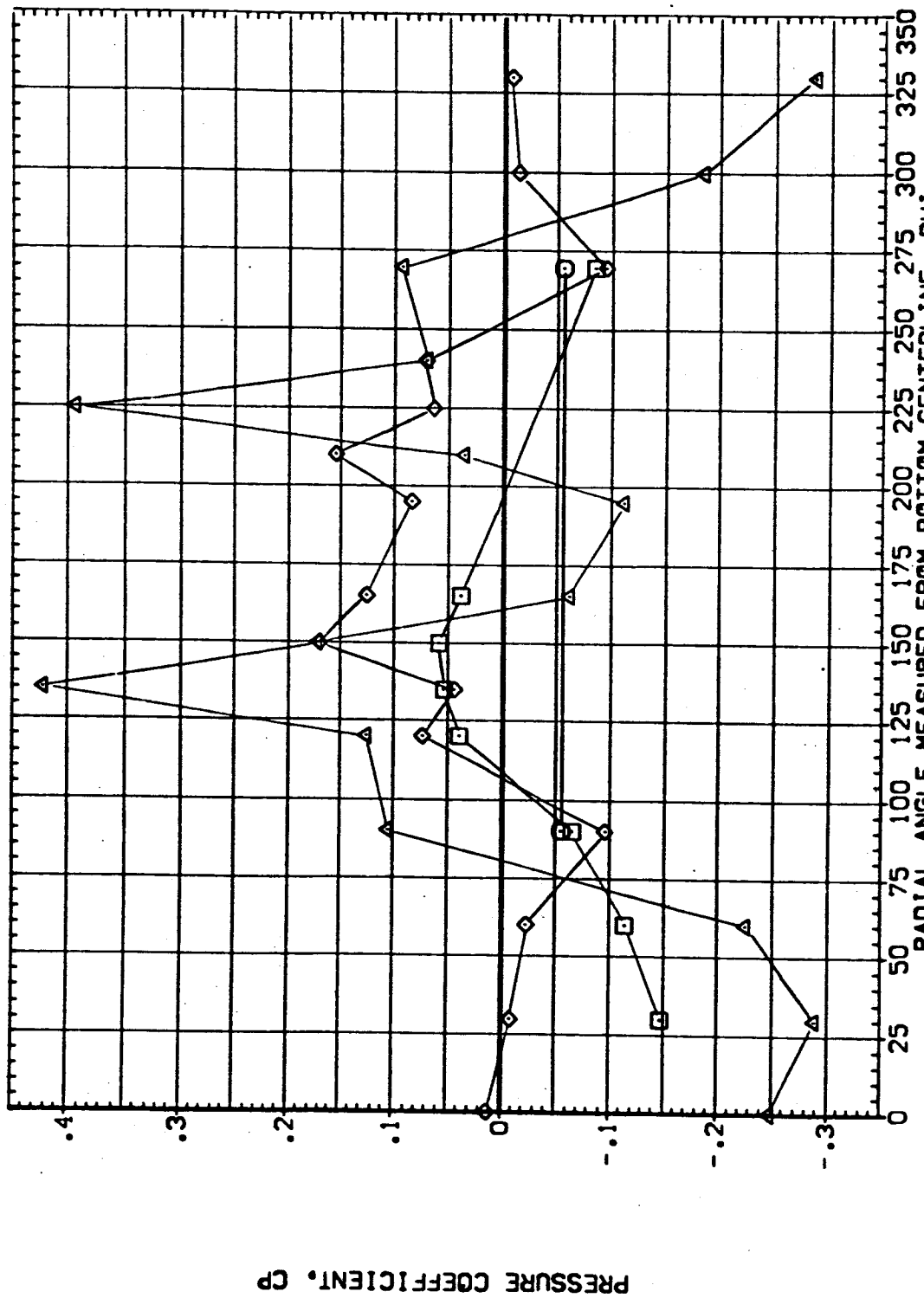


FIG. 102 EXTERNAL TANK PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-014IA19 OTS+STRUT SRB-OFF MPS-OFF EXT TANK(CEUTO1)

SYMBOL	BETA	ALPHA	ELV-18	PARAMETRIC VALUES
□	-1.000	.000	RUDDER	8.000
◇			GIMBAL	1.000
△				4.000
				MACH
				.900
X/L				
.634				
.742				
.851				
.966				

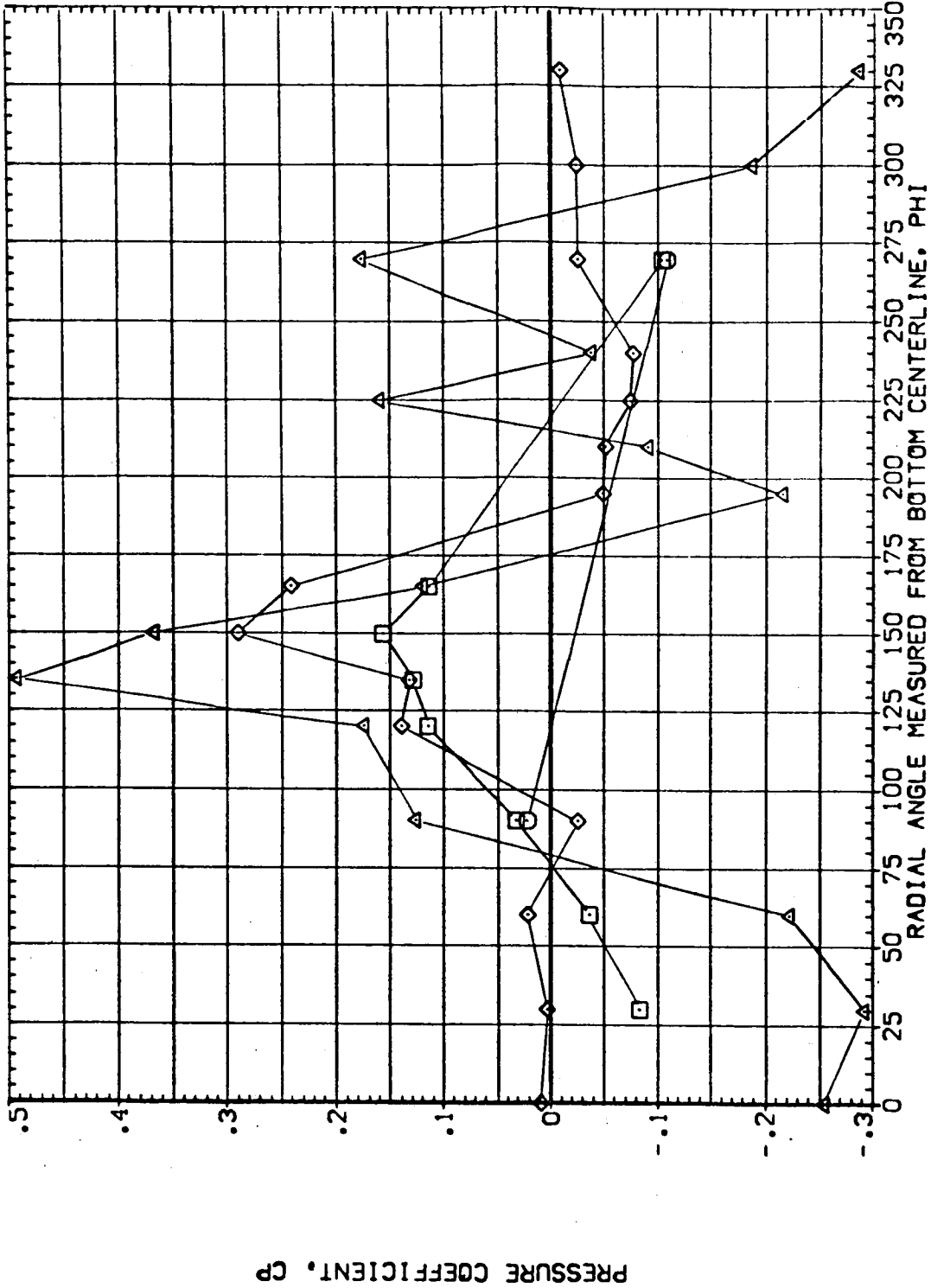


FIG. 102 EXTERNAL TANK PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF EXT TANK(CCEUTO1)

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-09	ELV-09	4.000
◇	.634	1.000	.000	RUDDER	.000	MACH	.900
□	.742			GIMBAL	1.000		
△	.851						
▽	.986						

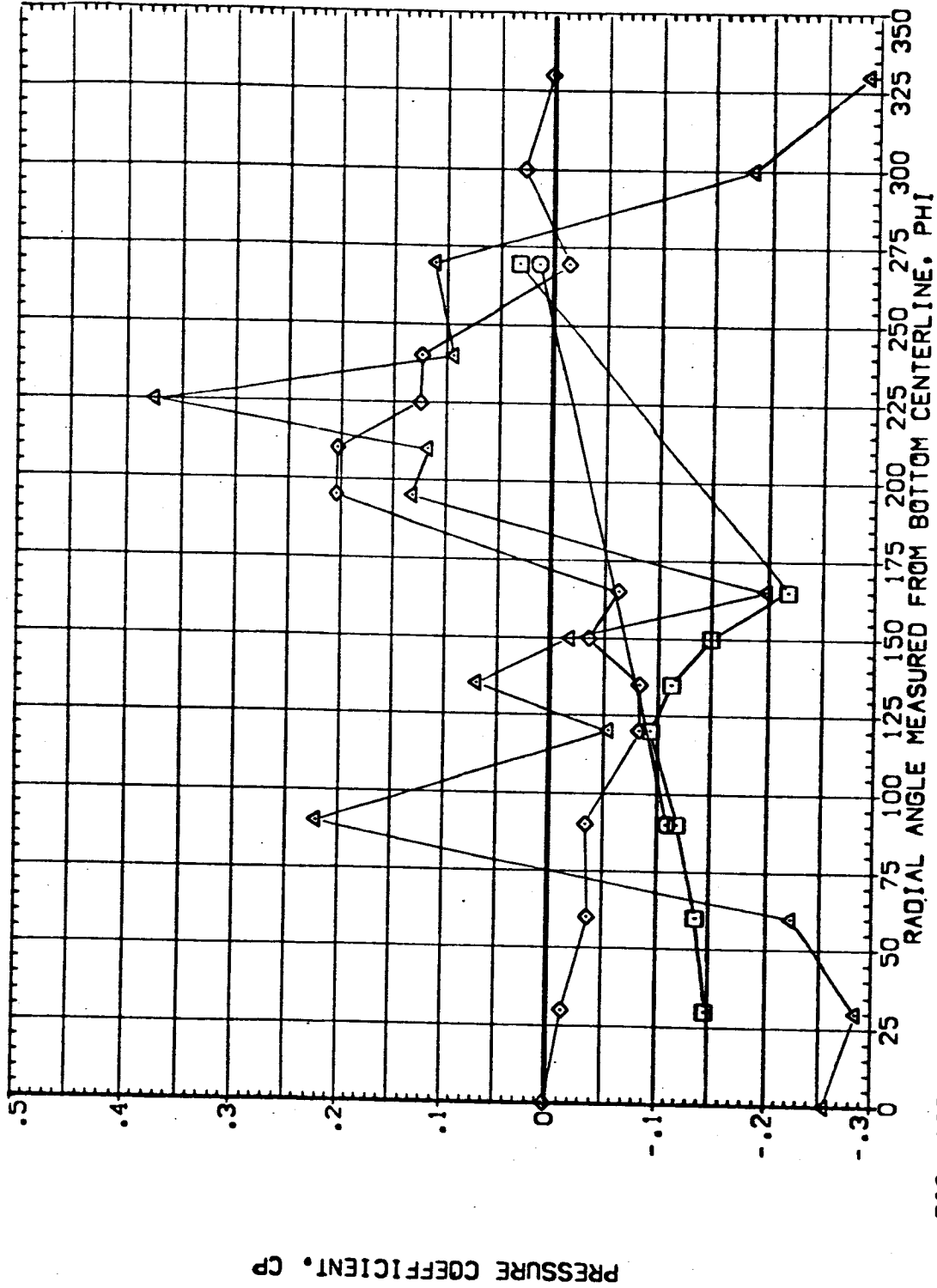


FIG. 102 EXTERNAL TANK PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF EXT TANK (BEUTO2)

PARAMETRIC VALUES
 ELV-19 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

SYMBOL X/L BETA ALPHA
 ○ .634 .000 -1.000
 □ .742 .000 -1.000
 ◇ .851 .000 -1.000
 △ .906 .000 -1.000

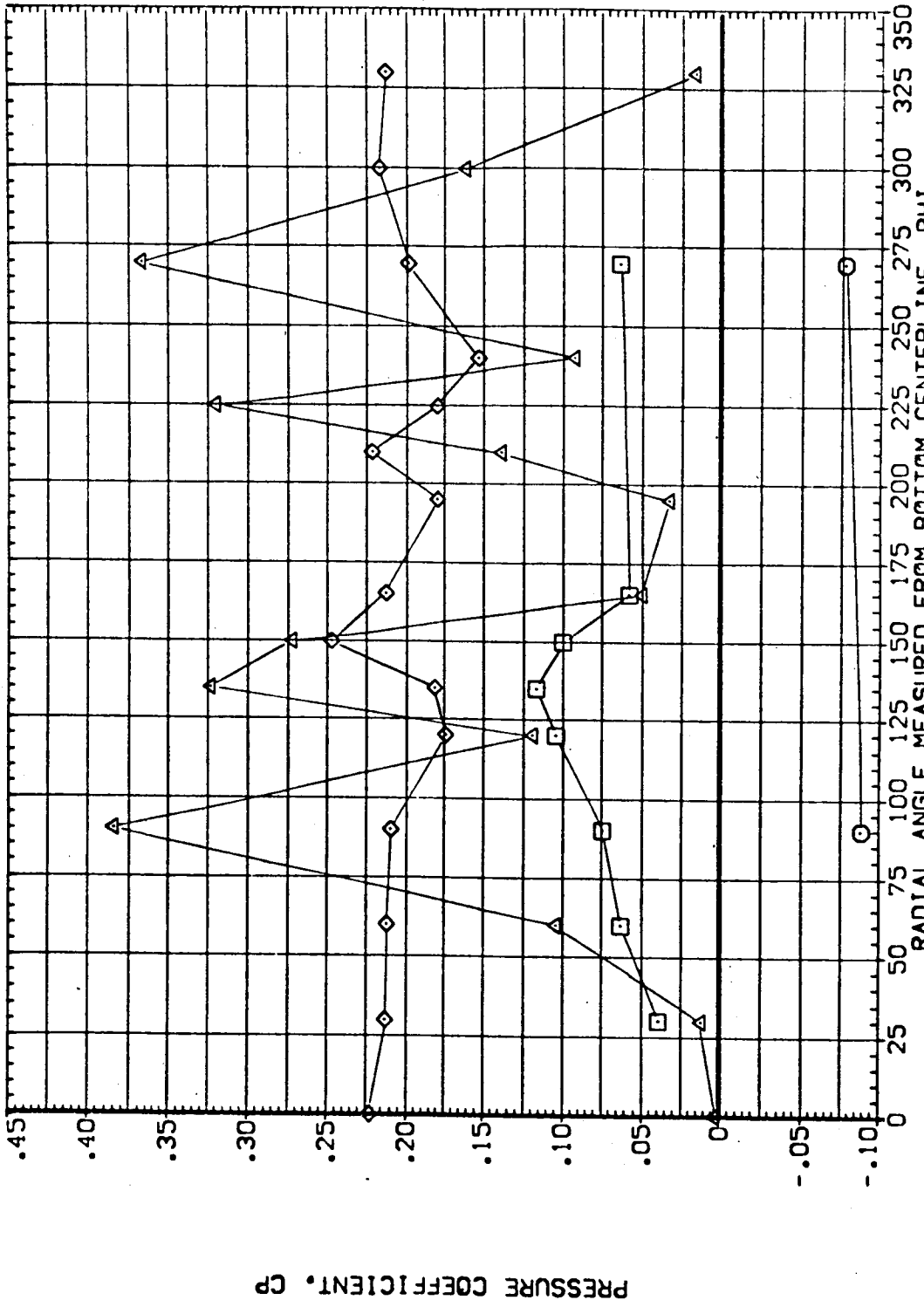


FIG. 102 EXTERNAL TANK PRESSURE COEFFICIENT DISTRIBUTION POWER OFF



ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF EXT TANK(BEUT02)

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES
○	.634	.000	.000	ELV-08 4.000
□	.742	.000	.000	ELV-08 1.100
◇	.851	.000	.000	MACH
△	.986	.000	.000	MACH

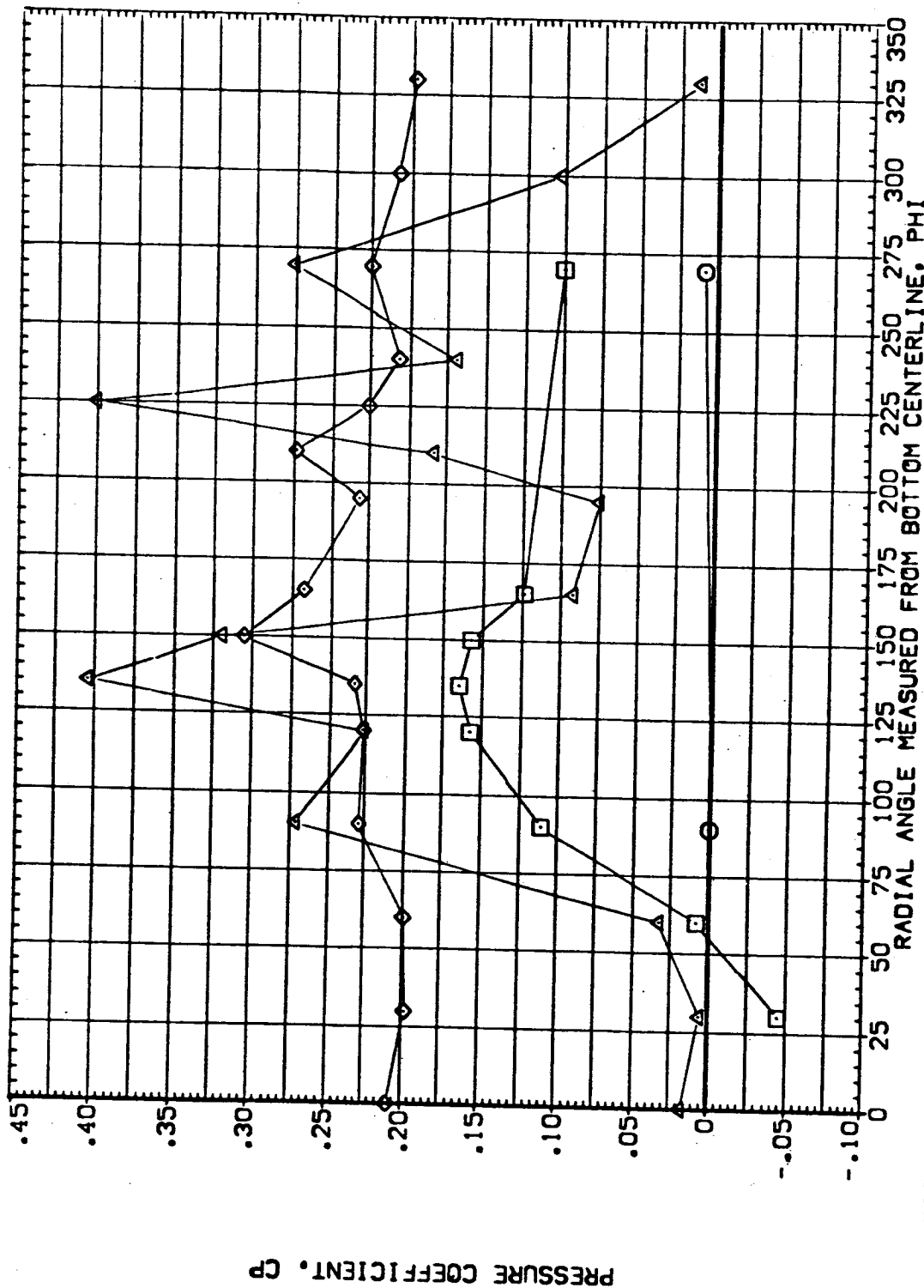


FIG. 102 EXTERNAL TANK PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

AKU11-0141A19 OTS+STRUT SRB-OFF MPS-OFF EXT TANK (BEUTO2)

PARAMETRIC VALUES
 ELV-18 0.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

SYMBOL X/L BETA ALPHA
 ○ .634 .000 4.000
 □ .742 .000 4.000
 ◇ .851 .000 4.000
 △ .986 .000 4.000

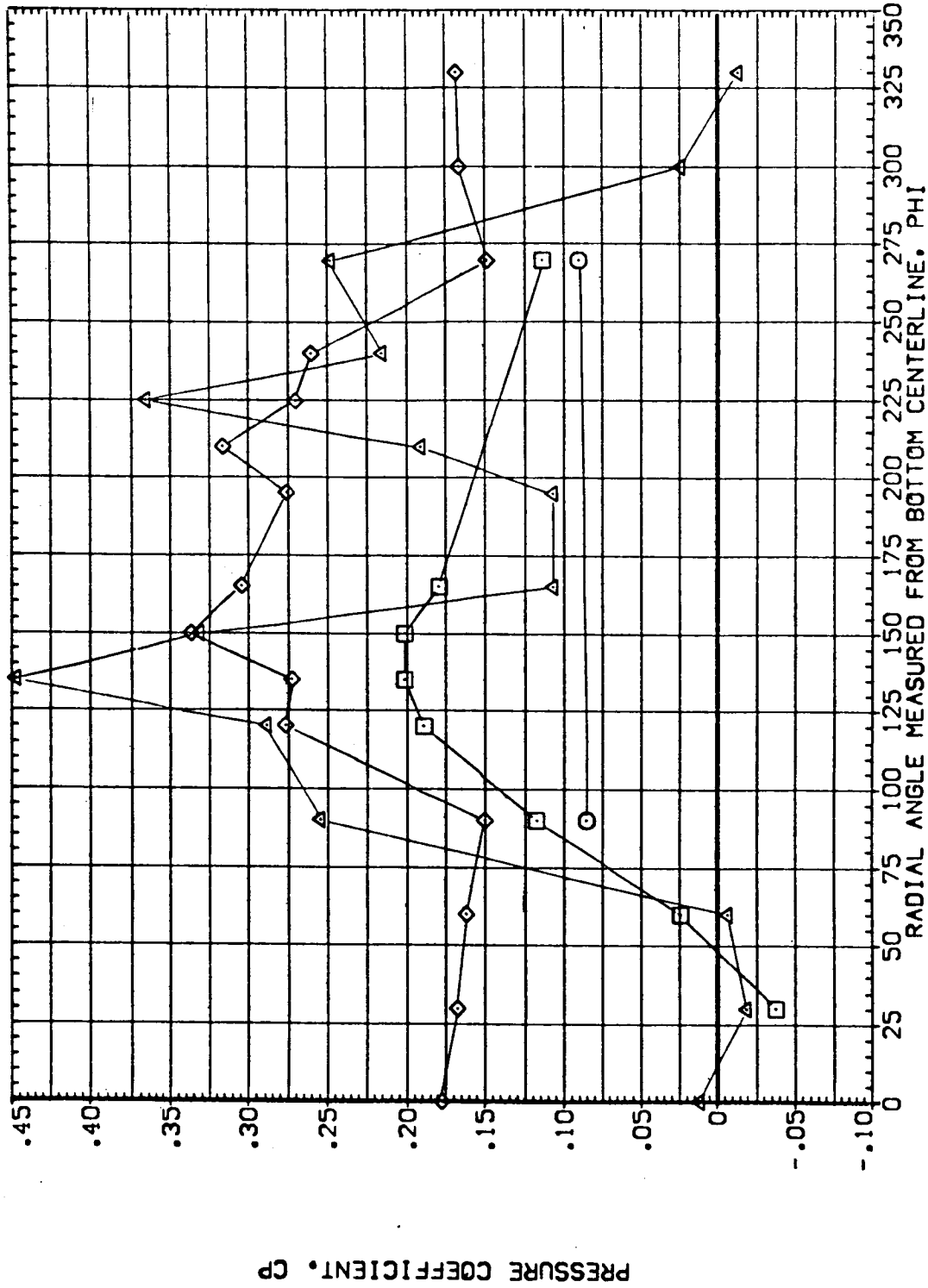


FIG. 102 EXTERNAL TANK PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF EXT TANK(CEUTO2)

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES	
				ELV-18	ELV-08
○	.634	-1.000	.000	8.000	1.000
□	.742			.000	1.100
◇	.851				
△	.966				

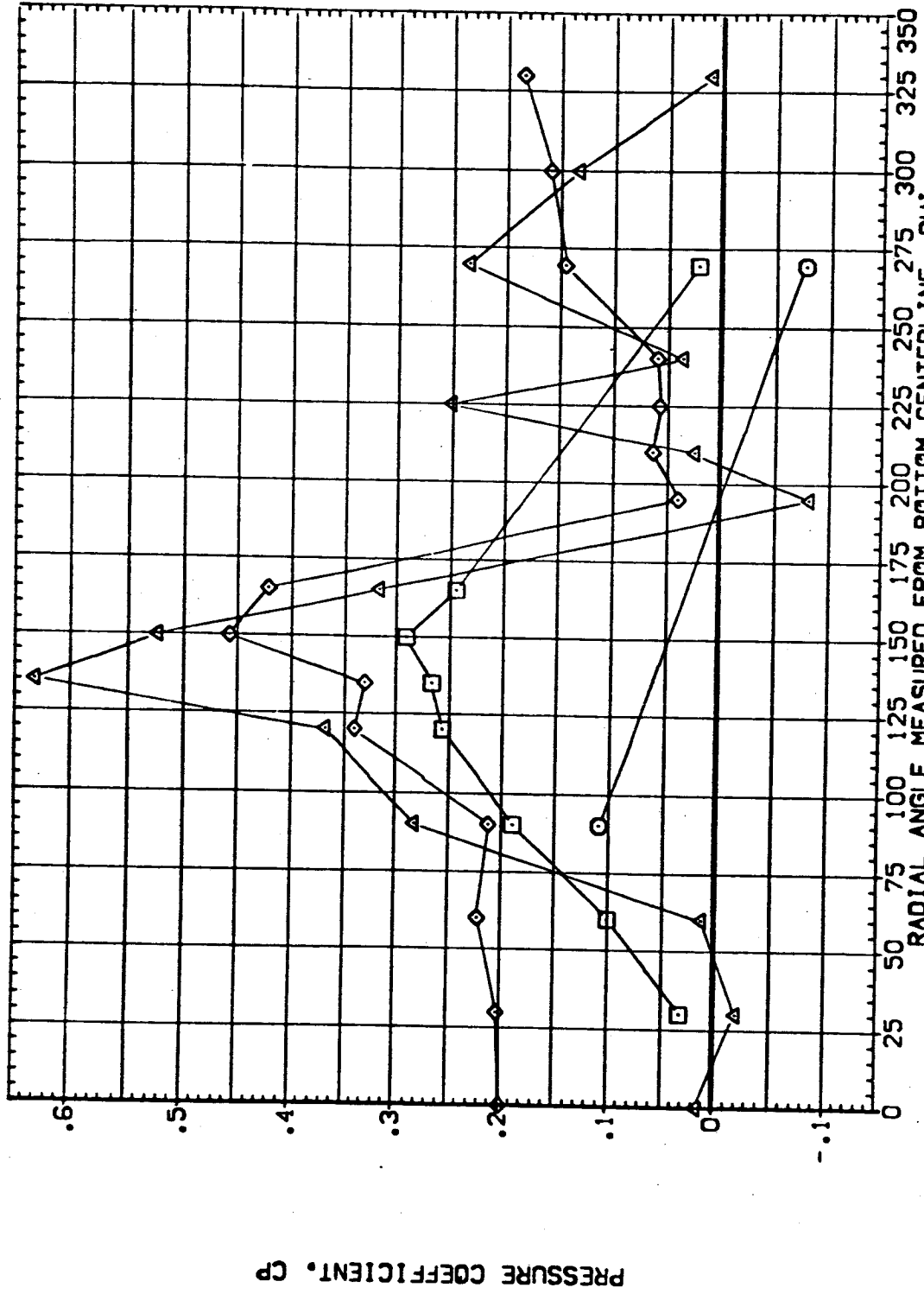


FIG. 102 EXTERNAL TANK PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF EXT TANK(CEUT02)

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

X/L BETA ALPHA
 .634 4.000 .000
 .742
 .851
 .986

SYMBOL
 ○
 ◇
 △

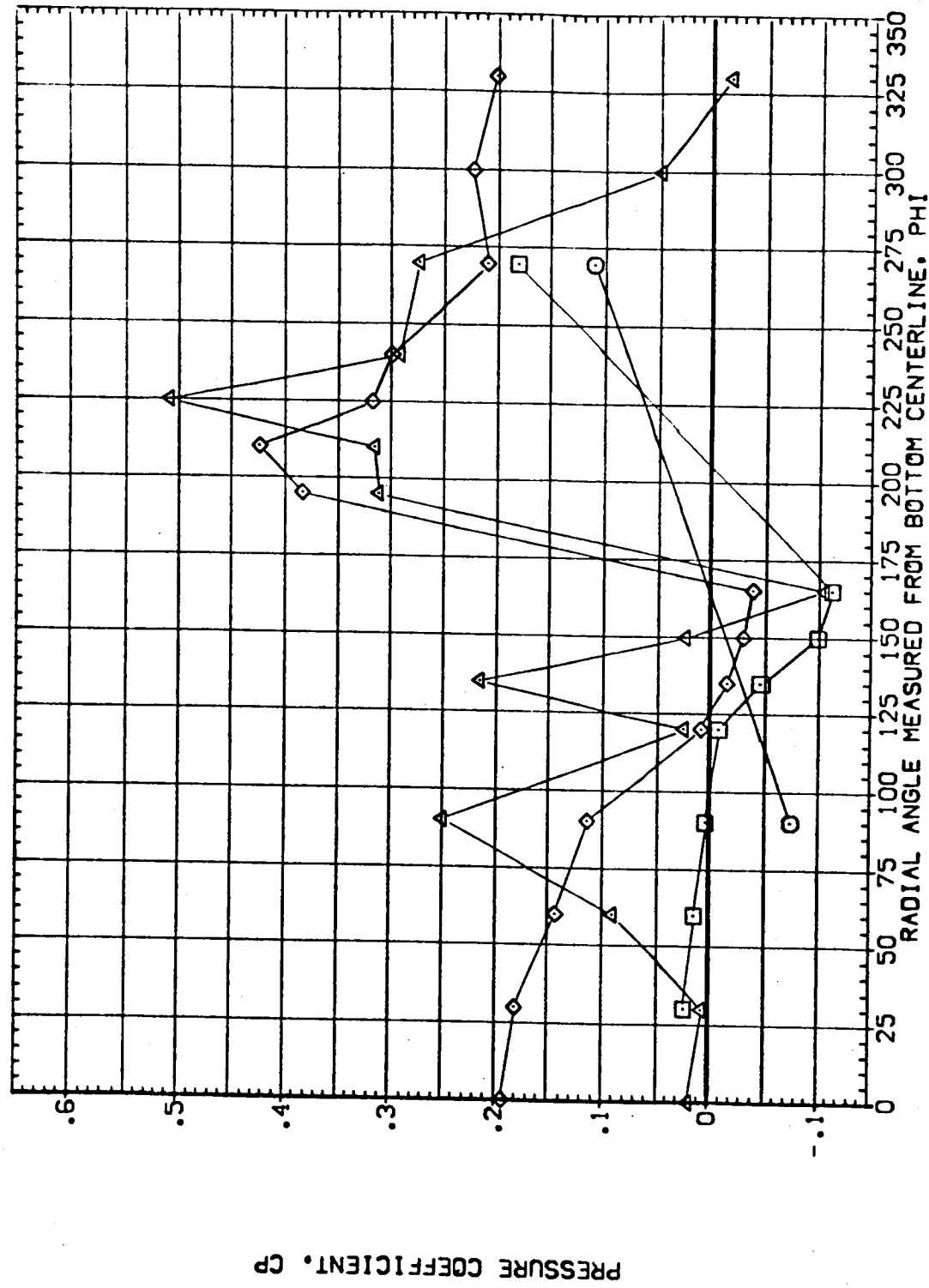


FIG. 102 EXTERNAL TANK PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF EXT TANK (BEUTO3)

SYMBOL X/L BETA ALPHA

○	.634	.000	-4.000
◇	.742		
△	.851		
▽	.986		

PARAMETRIC VALUES

ELV-1B	6.000	ELV-08	1.000
RUDDER	.000	MACH	1.250
GIMBAL	1.000		

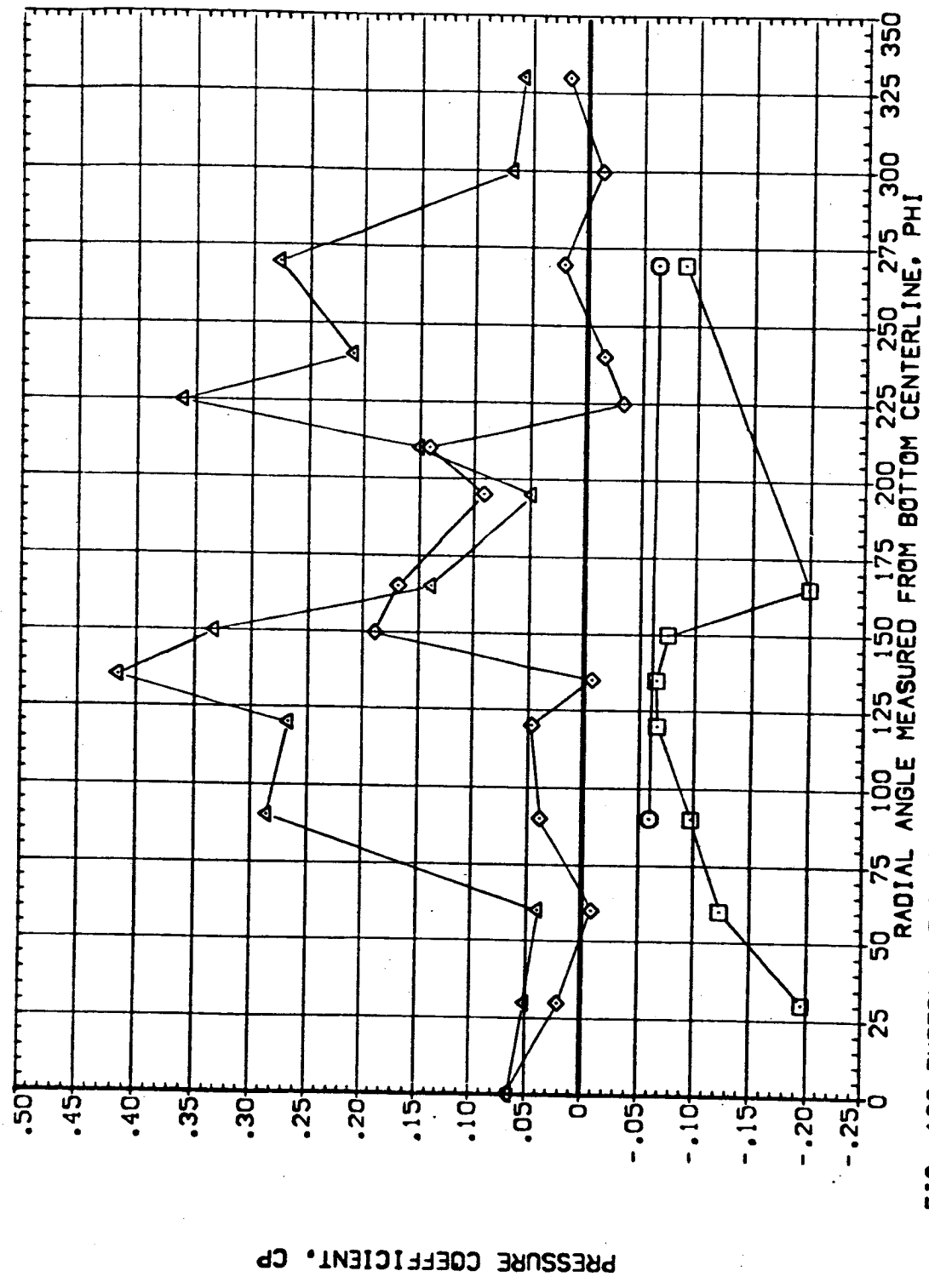


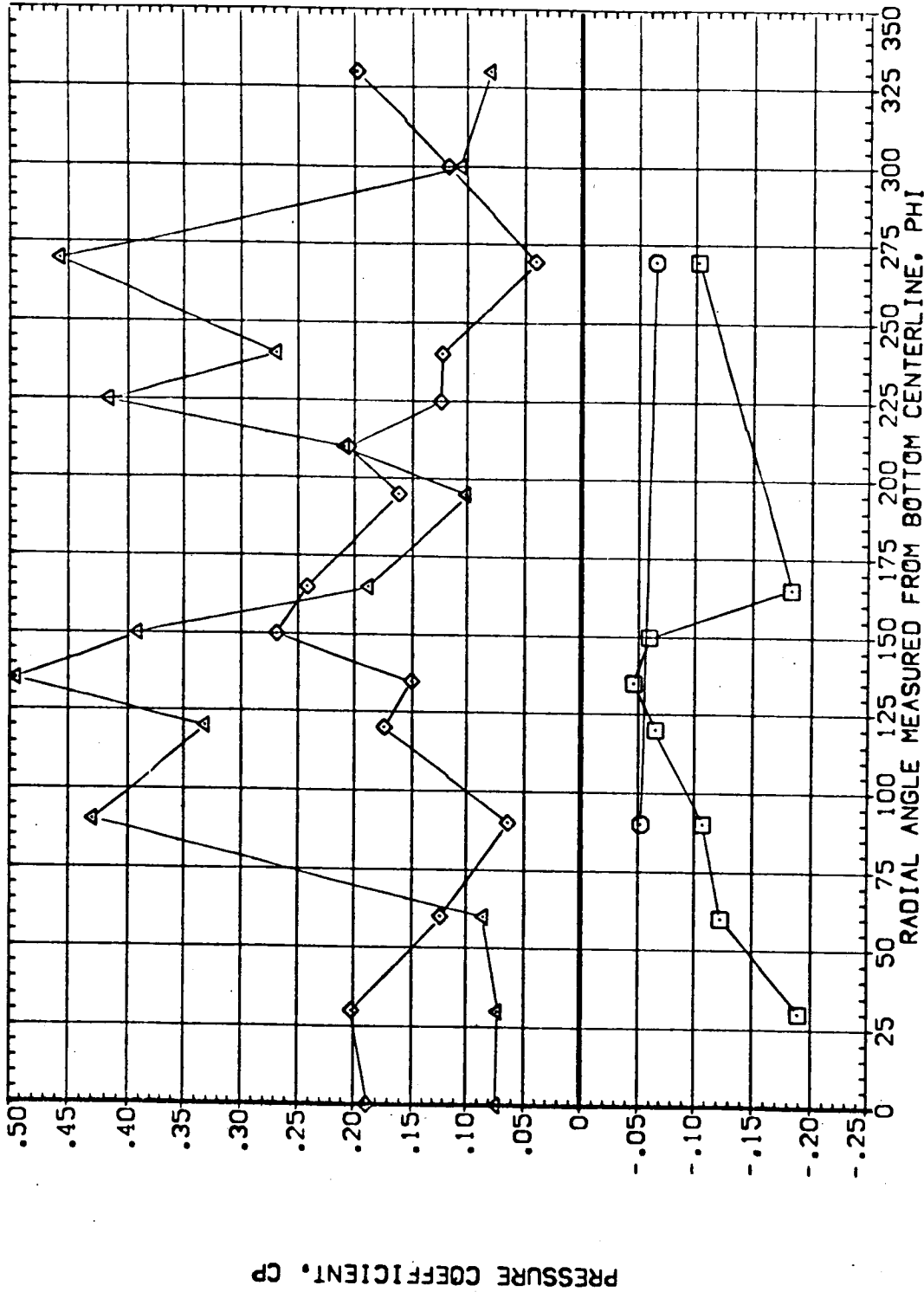
FIG. 102 EXTERNAL TANK PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF EXT TANK (BEUT03)

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

X/L BETA ALPHA
 .634 .000 .000
 .742
 .861
 .986

SYMBOL
 ○
 □
 ◇
 △



PRESSURE COEFFICIENT, CP

FIG. 102 EXTERNAL TANK PRESSURE COEFFICIENT DISTRIBUTION POWER OFF



ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF EXT TANK (BEUT03)

SYMBOL	X/L	BETA	ALPHA	ELV-1B	ELV-0B
		.000	4.000		
◇	.634			8.000	4.000
○	.742			.000	1.250
□	.651			1.000	
△	.986				

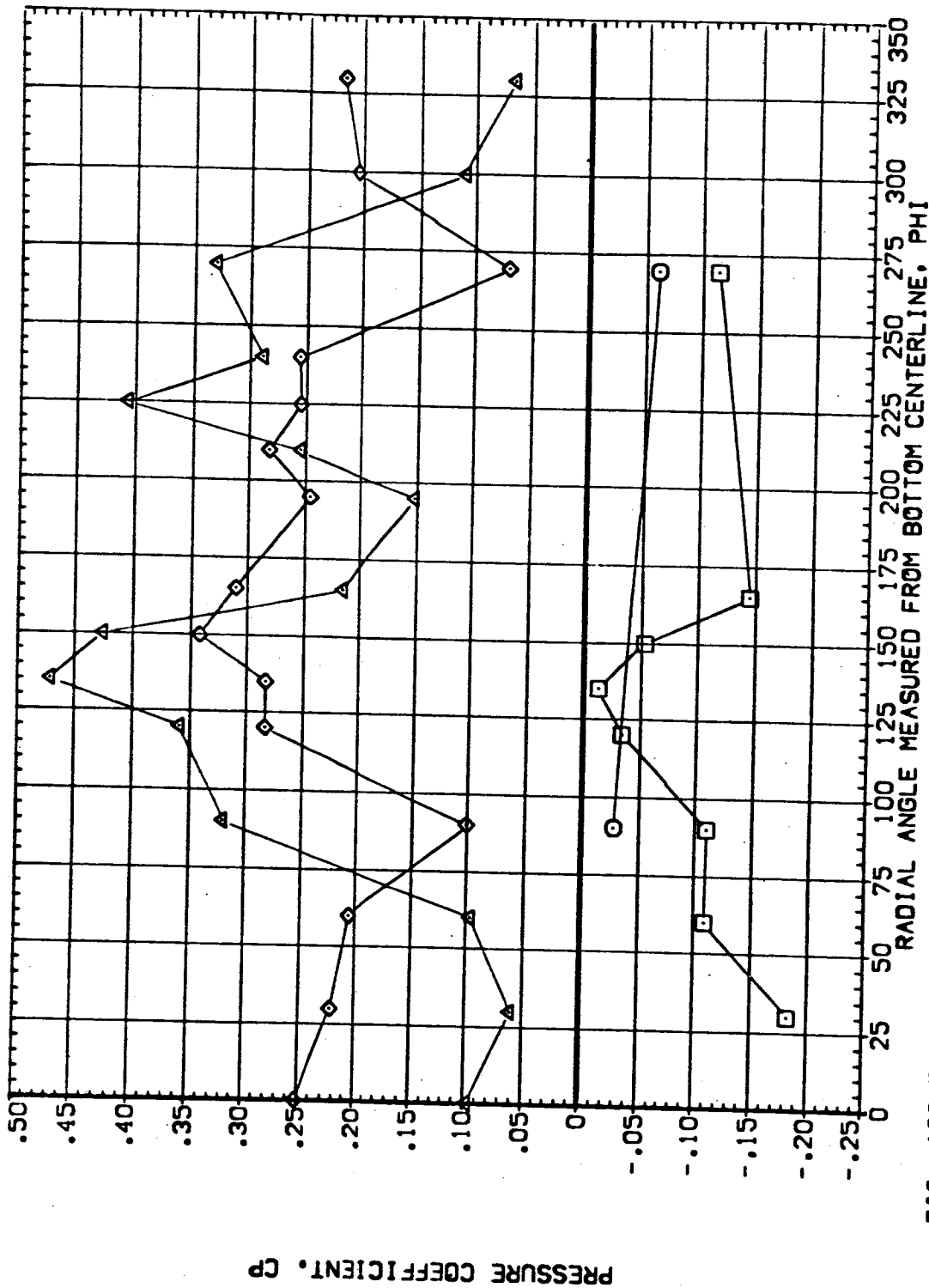


FIG. 102 EXTERNAL TANK PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF EXT TANK (CEUTO3)

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES
○	.634	-4.000	.000	ELV-19 8.000 ELV-09 4.000
◇	.742			RUDER .000 MACH 1.250
△	.851			GIMBAL 1.000
□	.986			

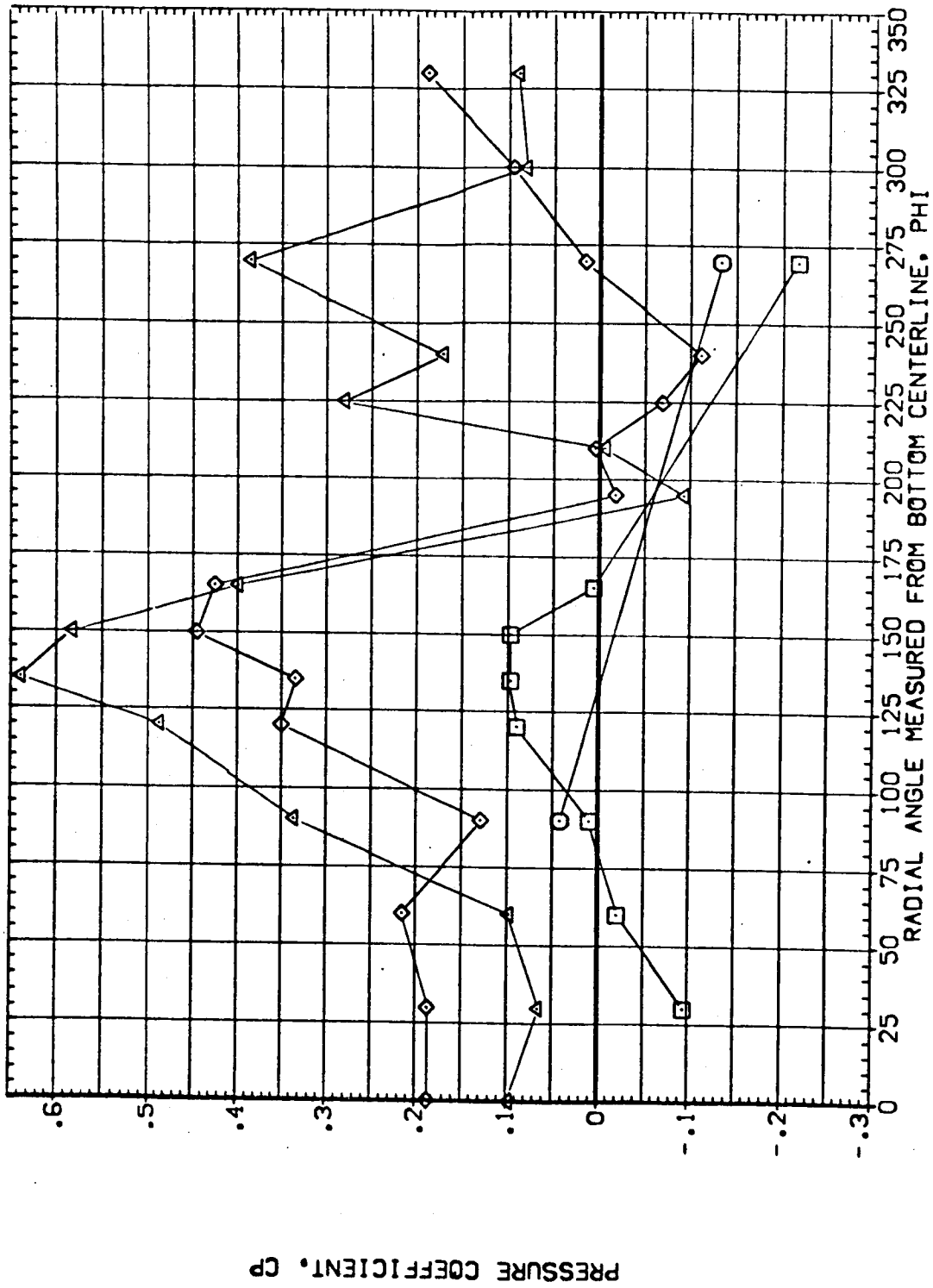


FIG. 102 EXTERNAL TANK PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-014IA19 OTS+STRUT SRB-OFF MPS-OFF EXT TANK (CEUT03)

SYMBOL X/L BETA ALPHA

○	.631	1.000	.000
□	.742		
◇	.851		
△	.936		

PARAMETRIC VALUES

ELV-18	9.000	ELV-08	4.000
RUDDER	.000	MACH	1.250
GIMBAL	1.000		

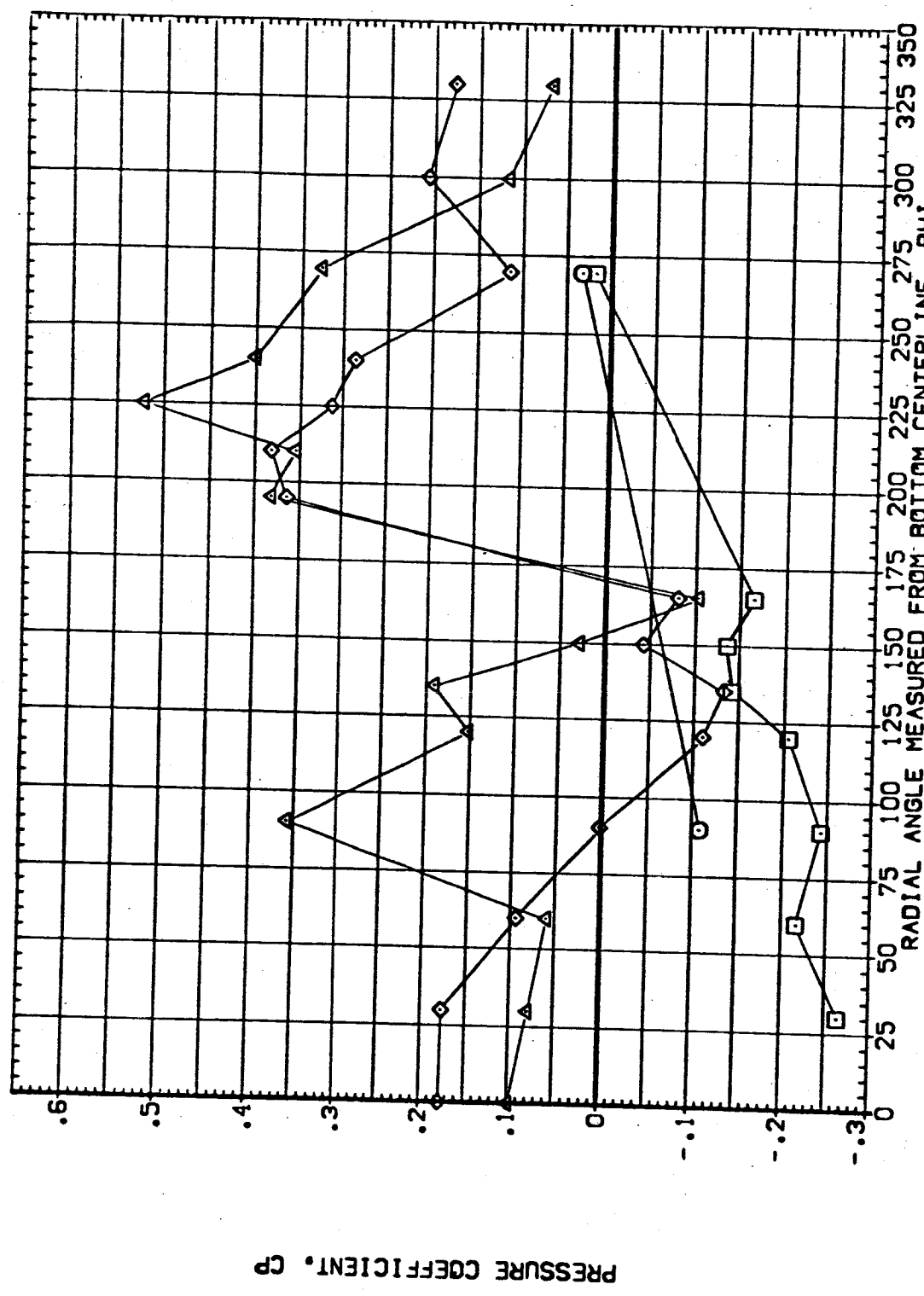


FIG. 102 EXTERNAL TANK PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

AKU11-UI41A19 DIS+STRUT SRB-OFF MPS-OFF EXT TANK (BEUTO4)

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-08 1.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

SYMBOL X/L BETA ALPHA
 ○ .634 .000 -1.000
 □ .742
 ◇ .851
 △ .866

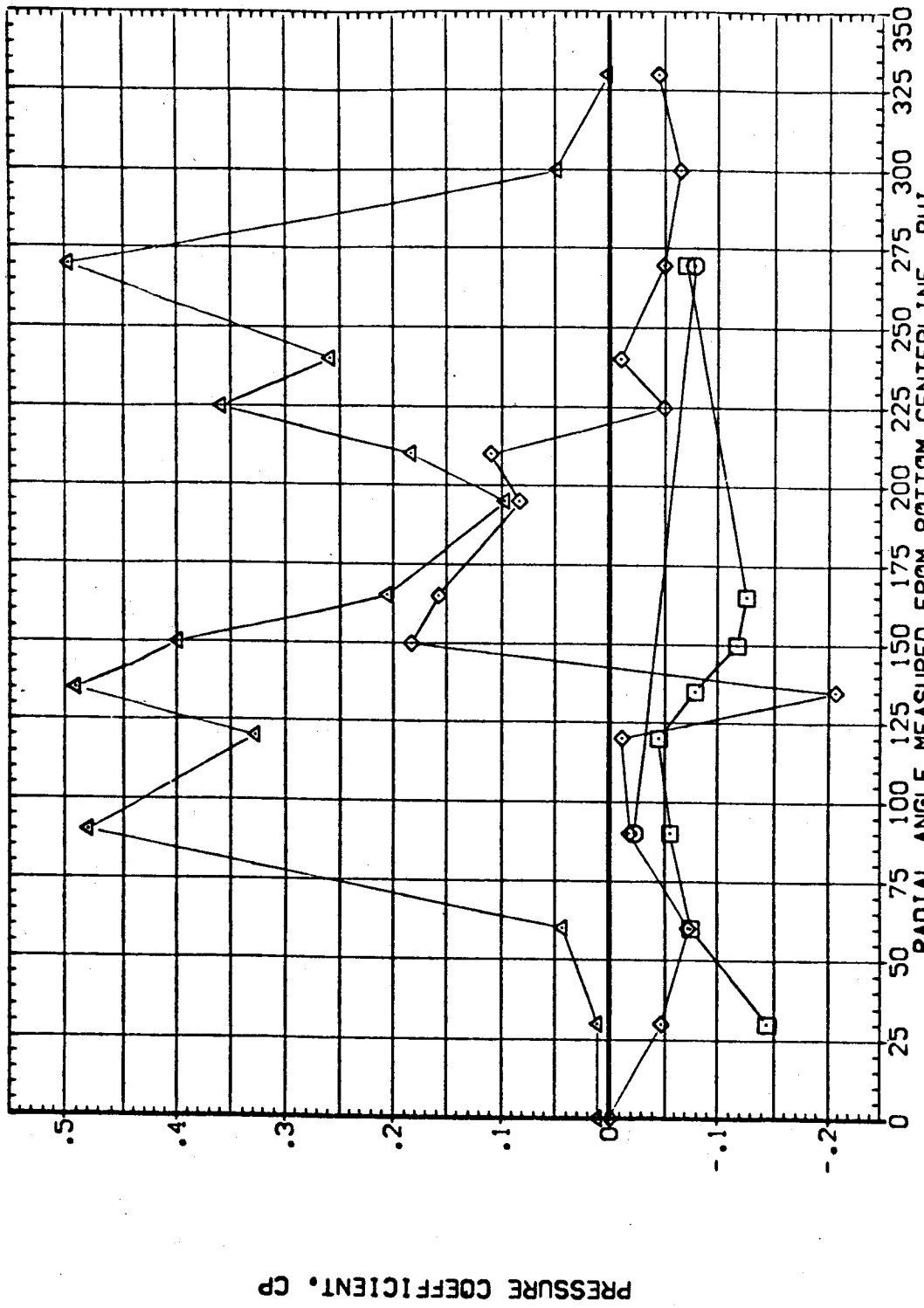


FIG. 102 EXTERNAL TANK PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF EXT TANK (BEUTO4)

SYMBOL X/L BETA ALPHA
 ○ .634 .000
 □ .742 .000
 ◇ .851 .000
 △ .986 .000

PARAMETRIC VALUES
 ELV-18 8.000 ELV-09 4.000
 RUDDER .000 MACH 1.400
 G11-BAL 1.000

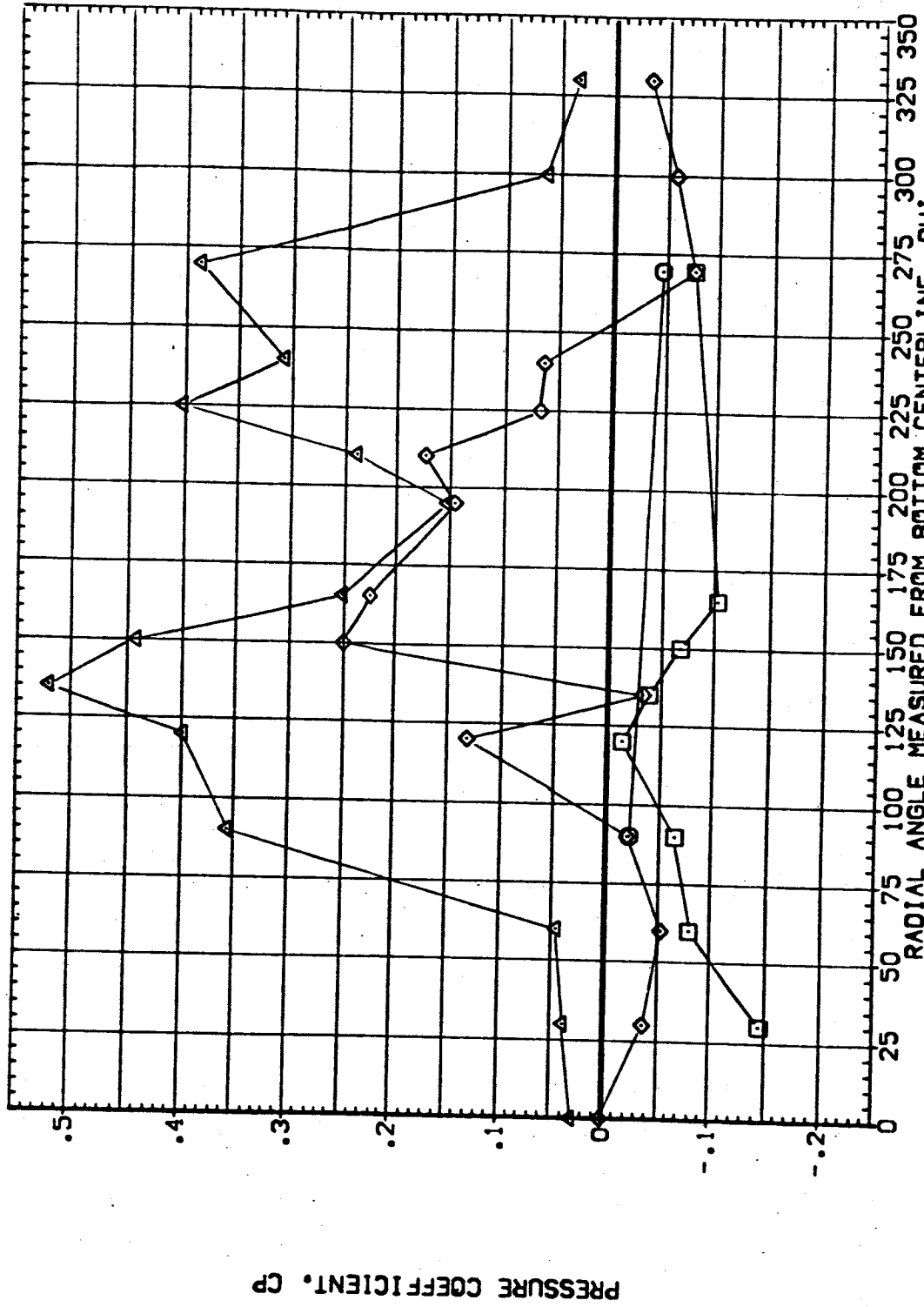


FIG. 102 EXTERNAL TANK PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF EXT TANK (BEUTO4)

PARAMETRIC VALUES
 ELV-19 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

SYMBOL X/L BETA ALPHA
 ○ .634 .000 1.000
 □ .742 .000 1.000
 ◇ .851 .000 1.000
 △ .966 .000 1.000

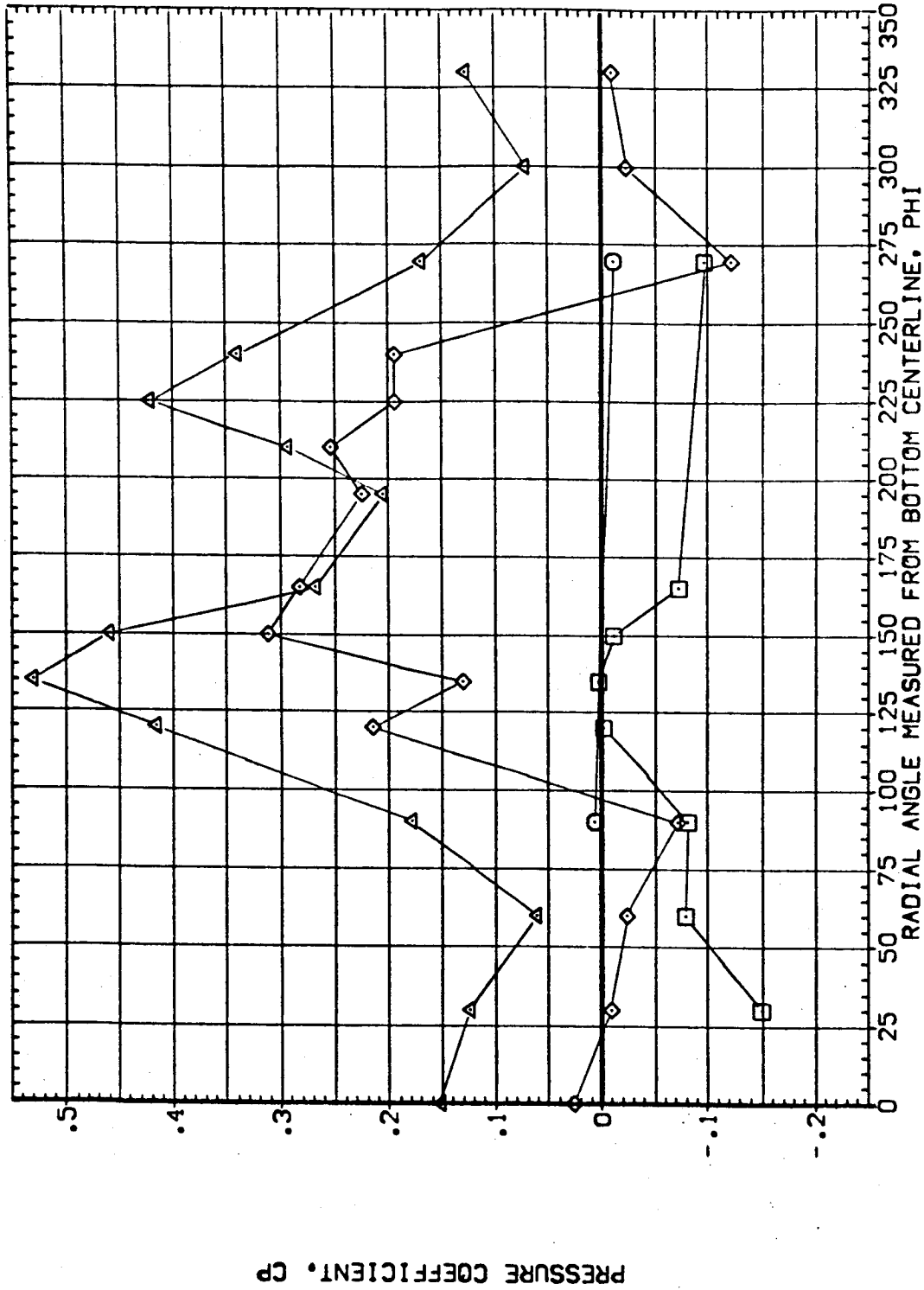


FIG. 102 EXTERNAL TANK PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF EXT TANK (CEUTO4)

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES
□	.634	-1.000	.000	ELV-OB 8.000
◇	.742			RUDER .000
△	.651			MACH 1.400
	.906			GIMBAL 1.000

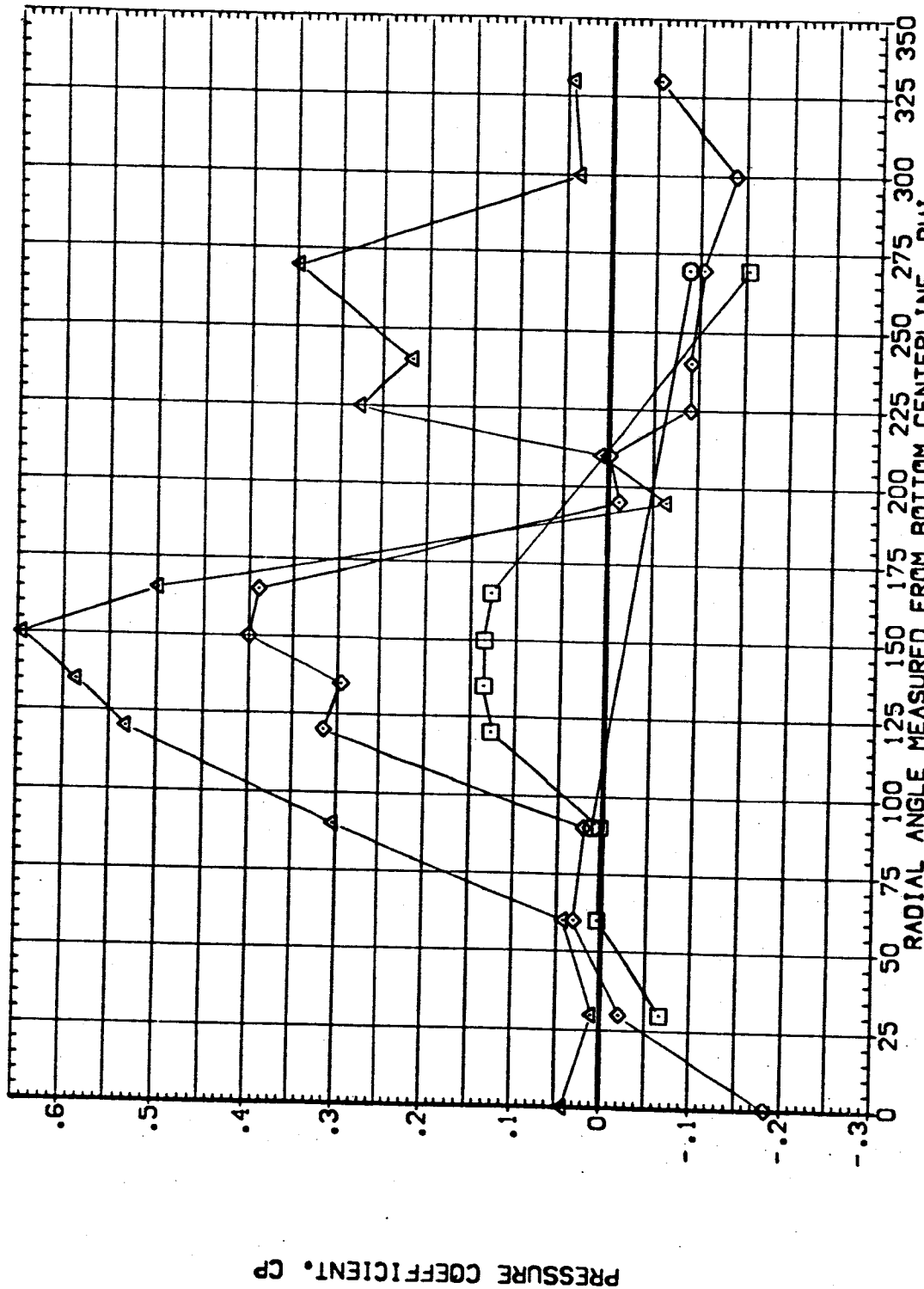


FIG. 102 EXTERNAL TANK PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11 011A19 0TS+STRUT SRB-OFF MPS-OFF EXT TANK(CEUTO4)

SYMBOL X/L BETA ALPHA
 ○ .634 4.000 .000
 □ .742
 ◇ .851
 △ .986

PARAMETRIC VALUES
 8.000 ELV-08 4.000
 .000 MACH 1.400
 1.000
 ELV-18
 RUDDER
 GIMBAL

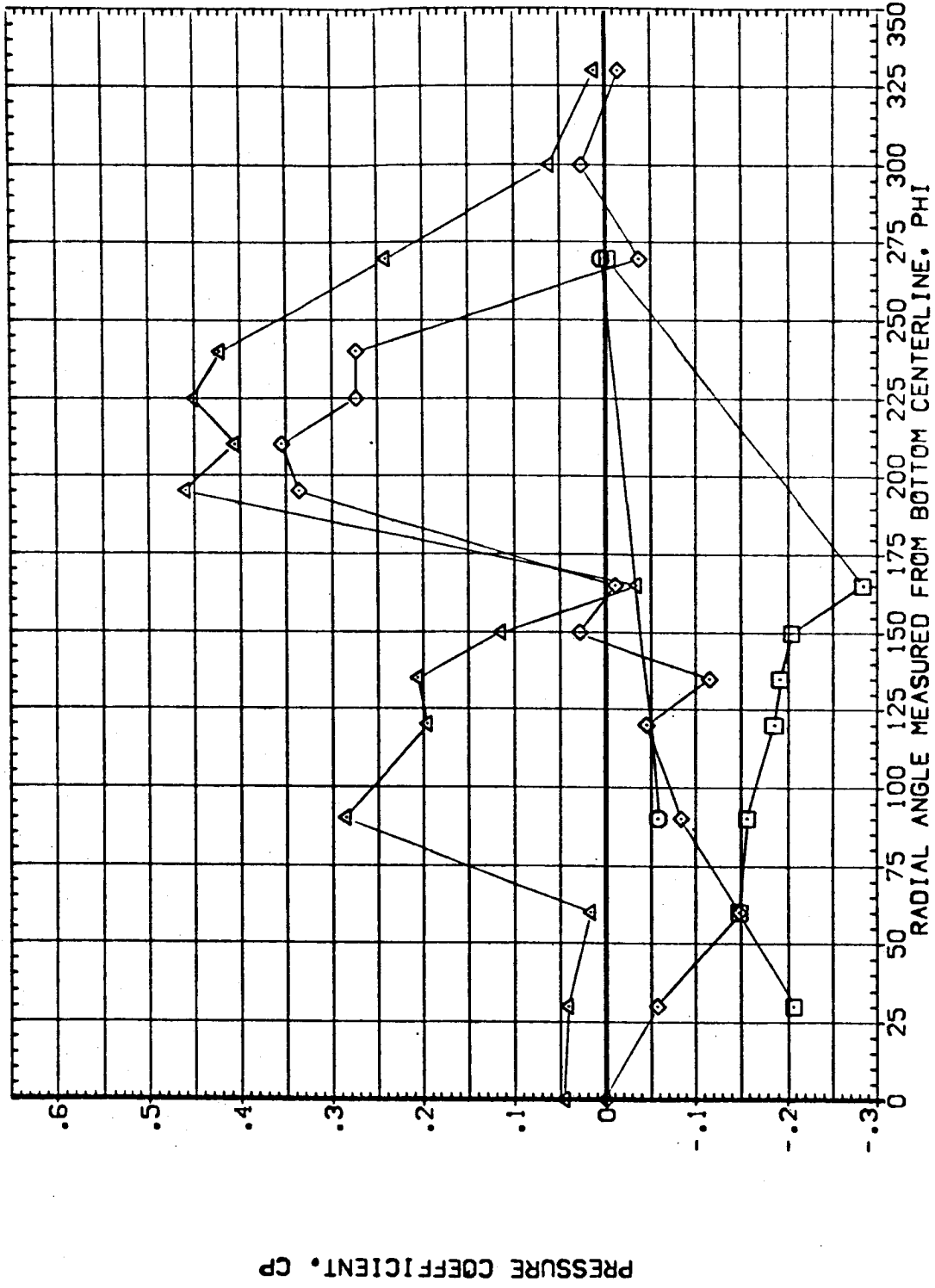


FIG. 102 EXTERNAL TANK PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM EXT TANK (EUT05)

SYMBOL	X/L	BETA	ALPHA	ELV-1B	ELV-09	MACH
		.634	-1.000			
○	.742	.000		RUDDER	.000	
◇	.851			01MBAL	1.000	
△	.906					

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

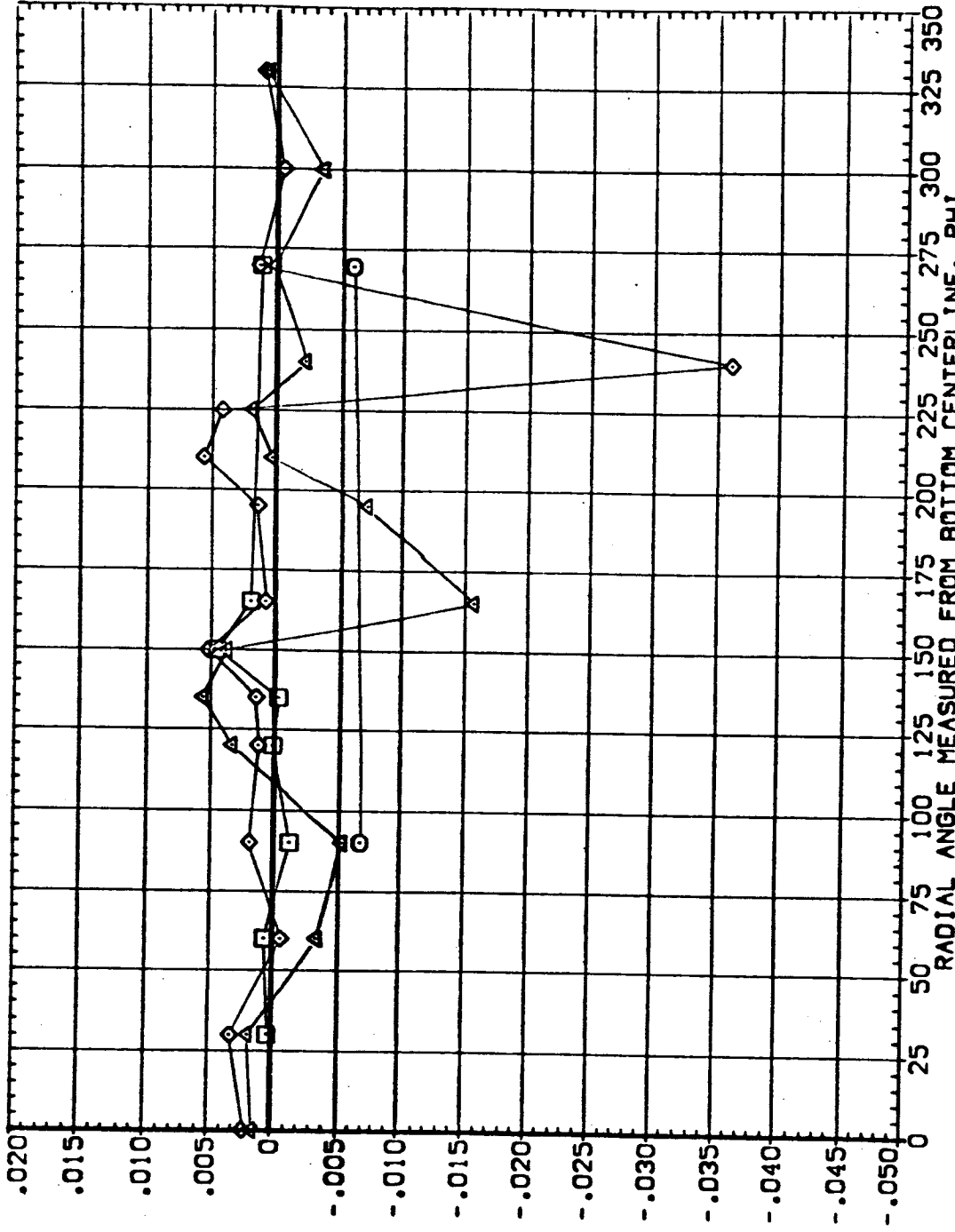


FIG. 103 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM EXT TANK (EUT05)

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-09 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

SYMBOL X/L BETA ALPHA
 ◊ .634 .000
 ◻ .742 .000
 ◻ .851 .000
 ◻ .906 .000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

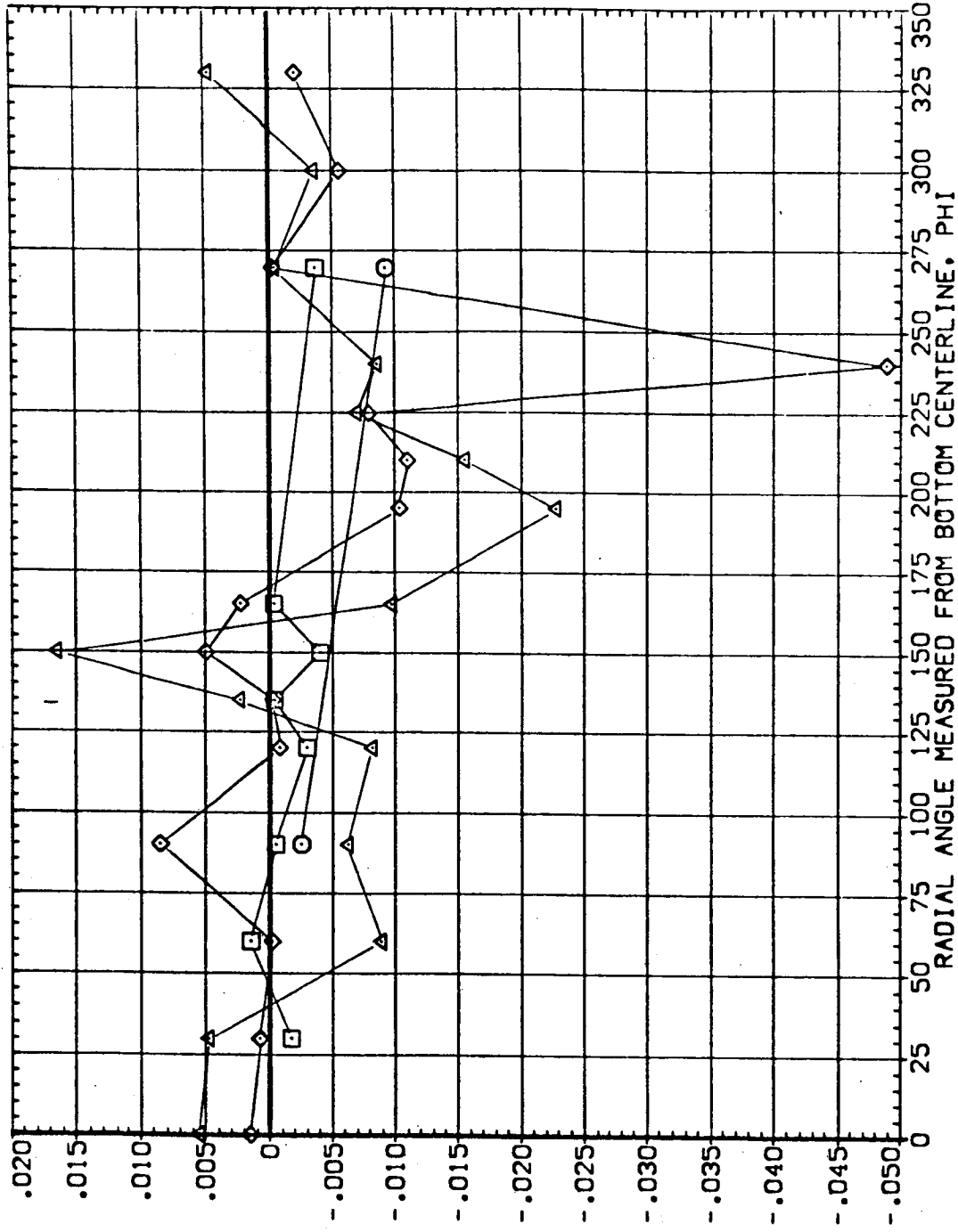


FIG. 103 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM EXT TANK(EEUT05)

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-08 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

SYMBOL X/L BETA ALPHA
 ○ .634 .000 4.000
 □ .742 .000 4.000
 ◇ .851 .000 4.000
 △ .986 .000 4.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

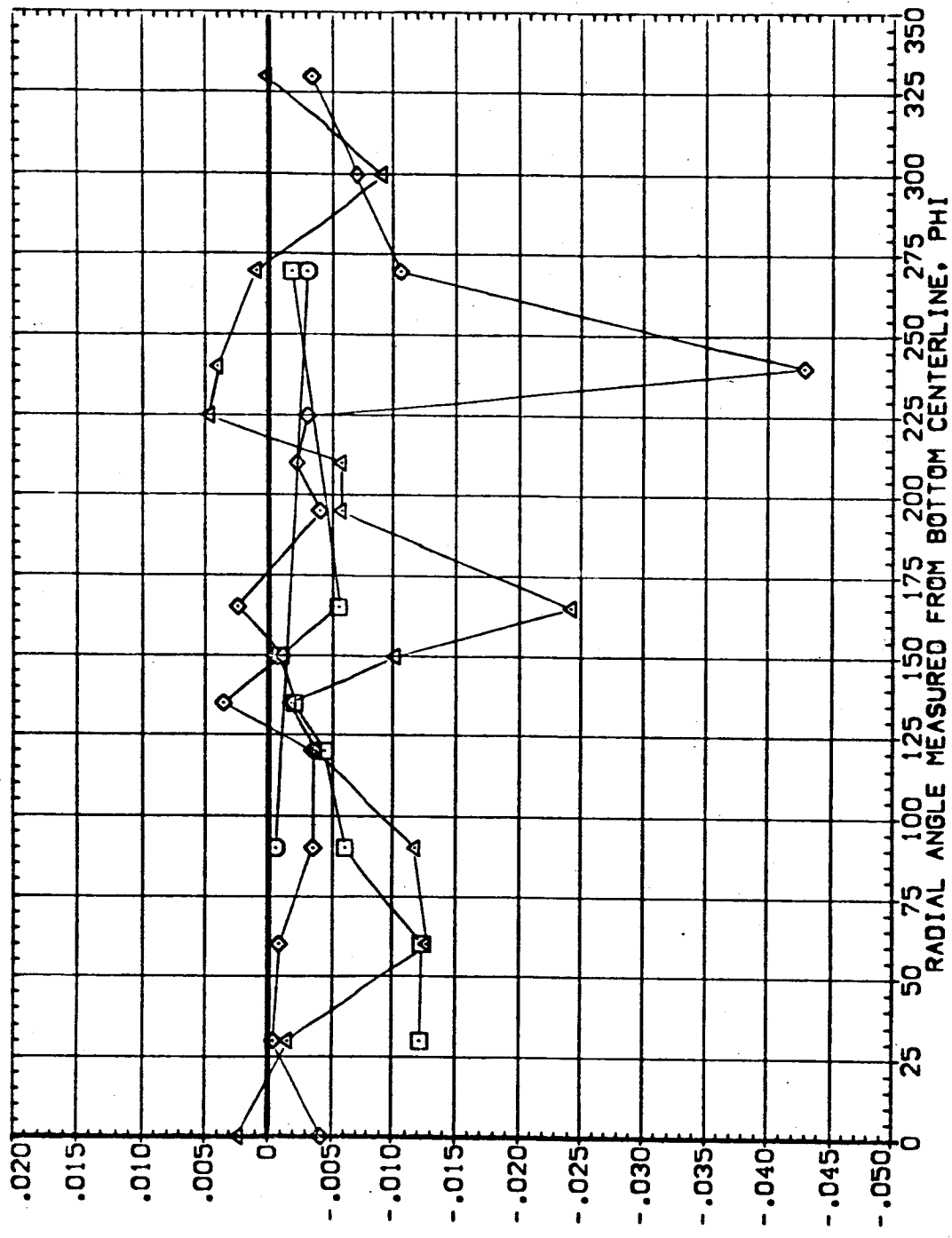


FIG. 103 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

MULTI-VARIABLE DISCRETE SRB-NOM MPS-NOM EXT TANK (FEUT05)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

BETA -4.000 ALPHA .000
 X/L .634
 .742
 .851
 .986

SYMBOL
 ○
 □
 △
 ◇

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

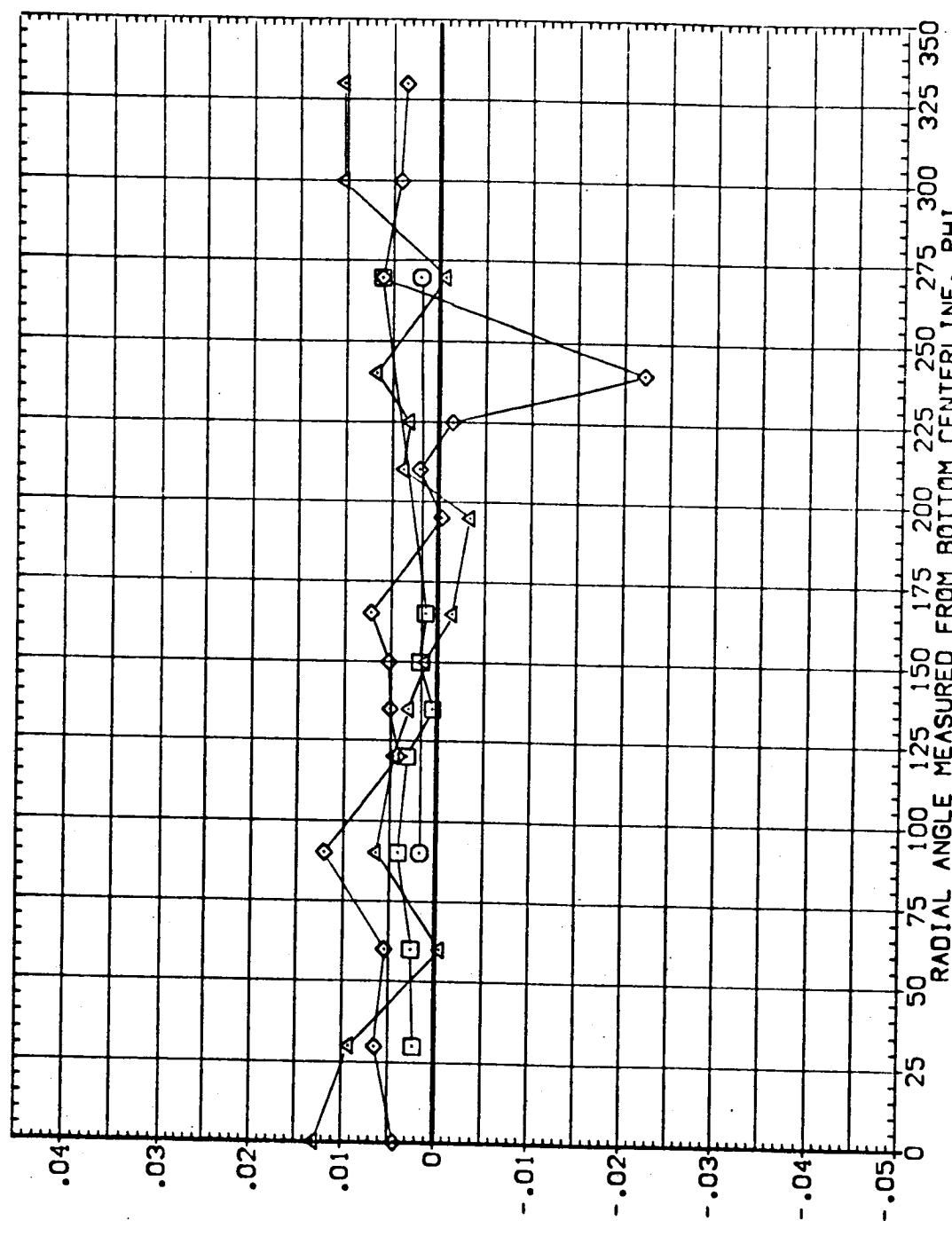


FIG. 103 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS



ARC11-014IA19 OTS+STRUT SRB-NOM MPS-NOM EXT TANK (FEUT05)

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-0B 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

SYMBOL X/L BETA ALPHA
 ○ .634 1.000 .000
 □ .742
 ◇ .851
 △ .986

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

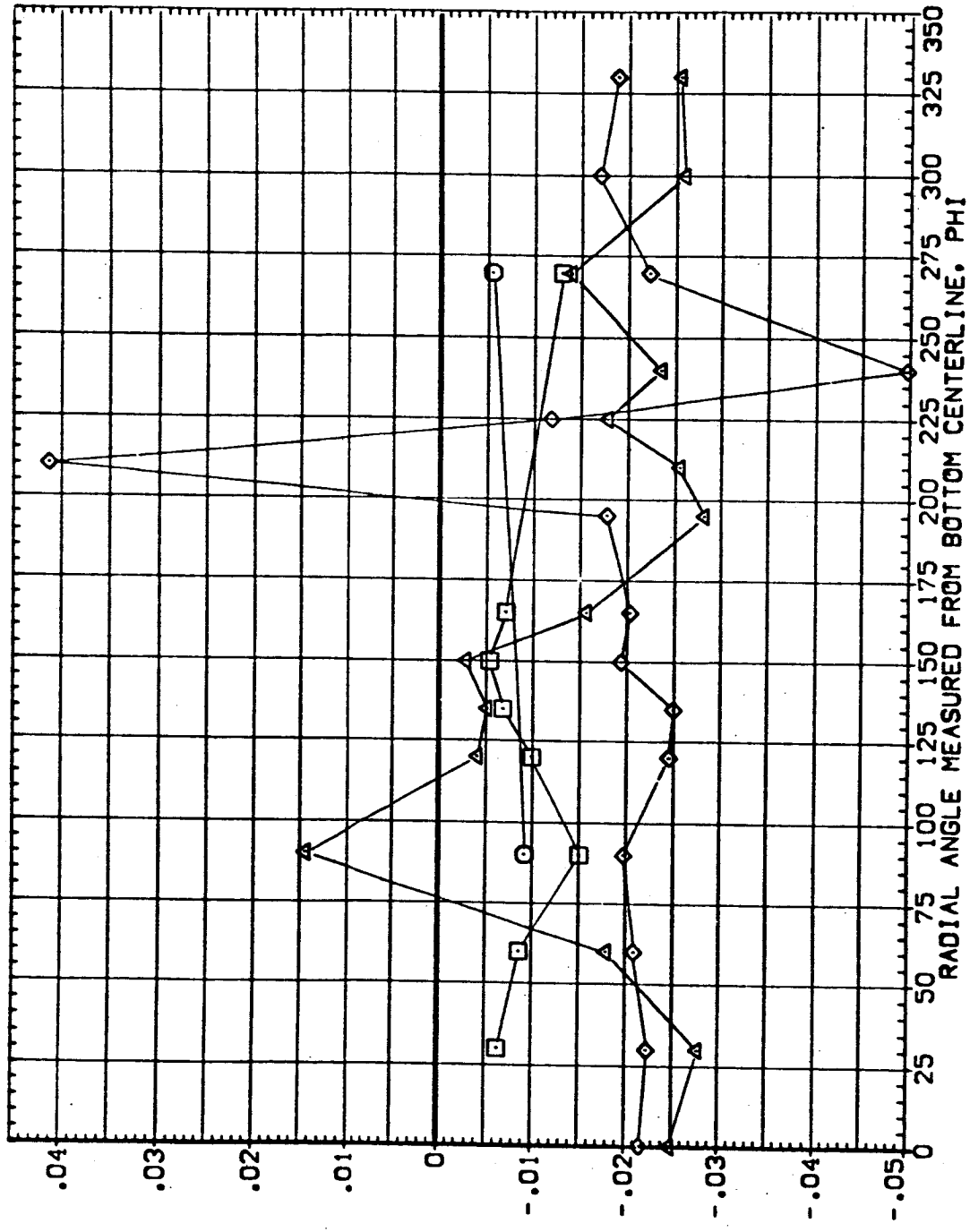


FIG. 103 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

SYMBOL X/L BETA ALPHA
 ○ .634 .000 -4.000
 □ .742 .000 -4.000
 ◇ .851 .000 -4.000
 △ .986 .000 -4.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

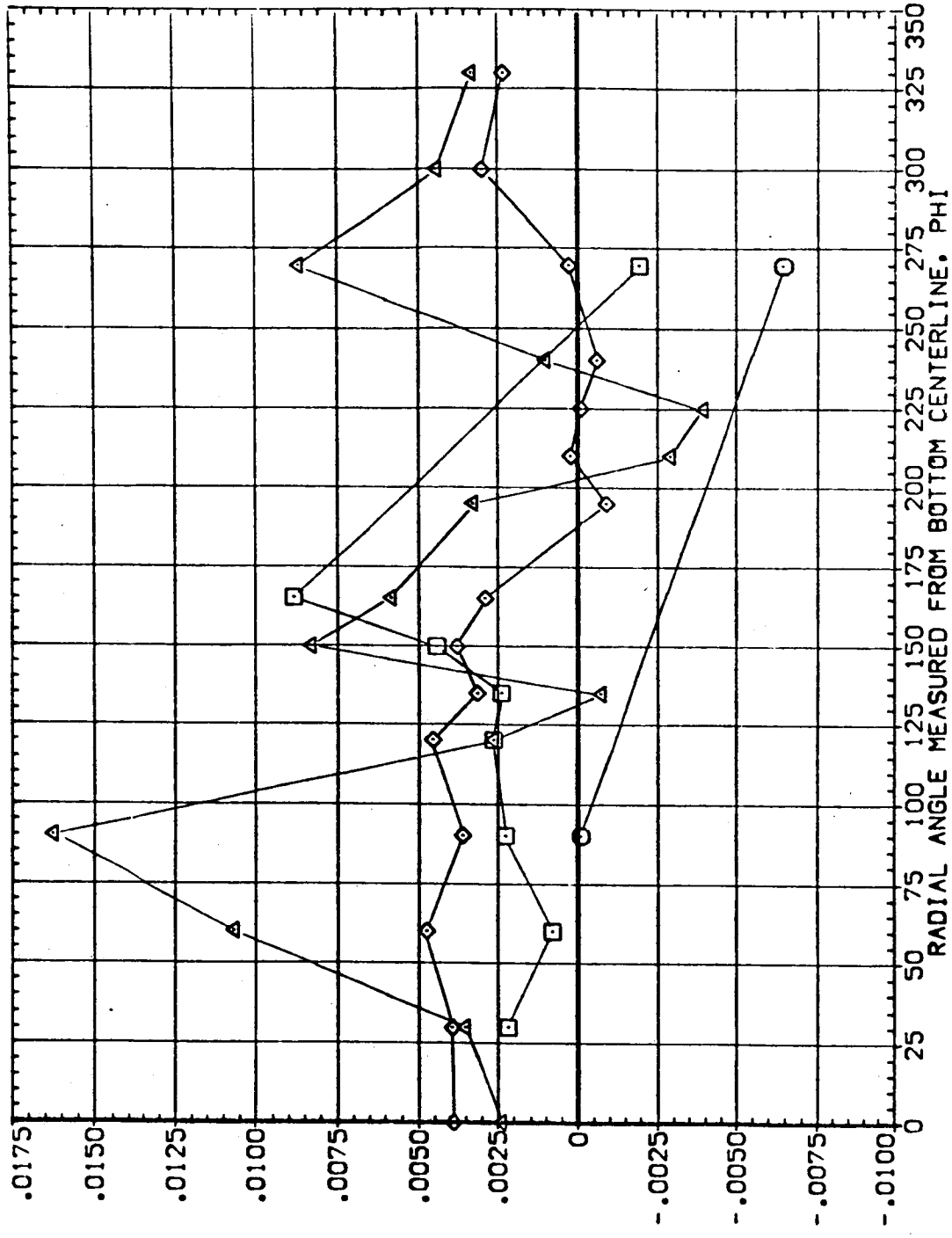


FIG. 103 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM EXT TANK(EAUT06)

SYMO. X/L BETA ALPHA
 ◊ .634 .000 .000
 ◻ .742 .000 .000
 ◻ .851 .000 .000
 ◻ .906 .000 .000

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

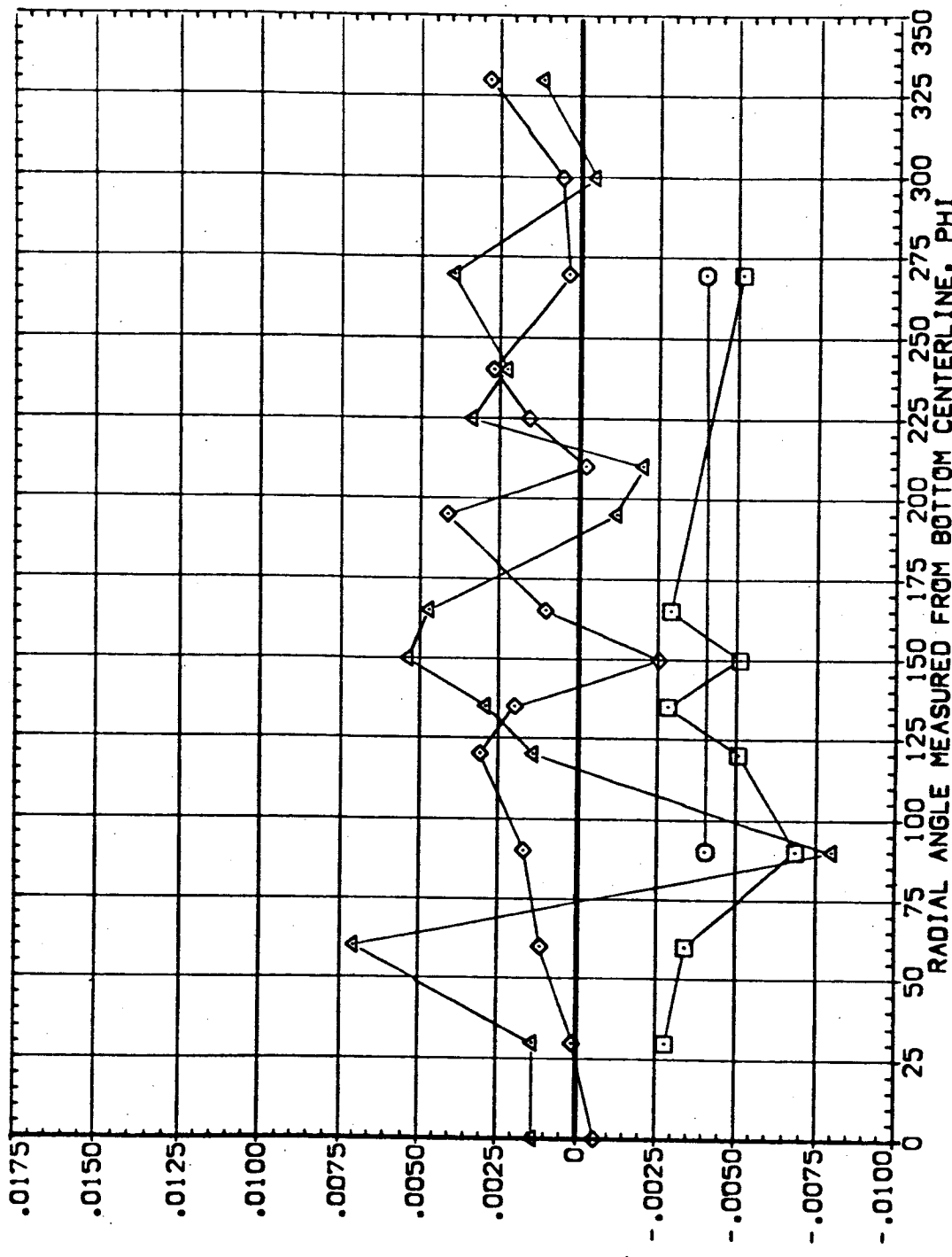


FIG. 103 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM EXT TANK (EEUT06)

SYMBOL	X/L	BETA	ALPHA	ELV-IB	ELV-CB
○	.634	.000	4.000	8.000	4.000
□	.742			RUDER	MACH
◇	.851			GIMBAL	1.000
△	.986				

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

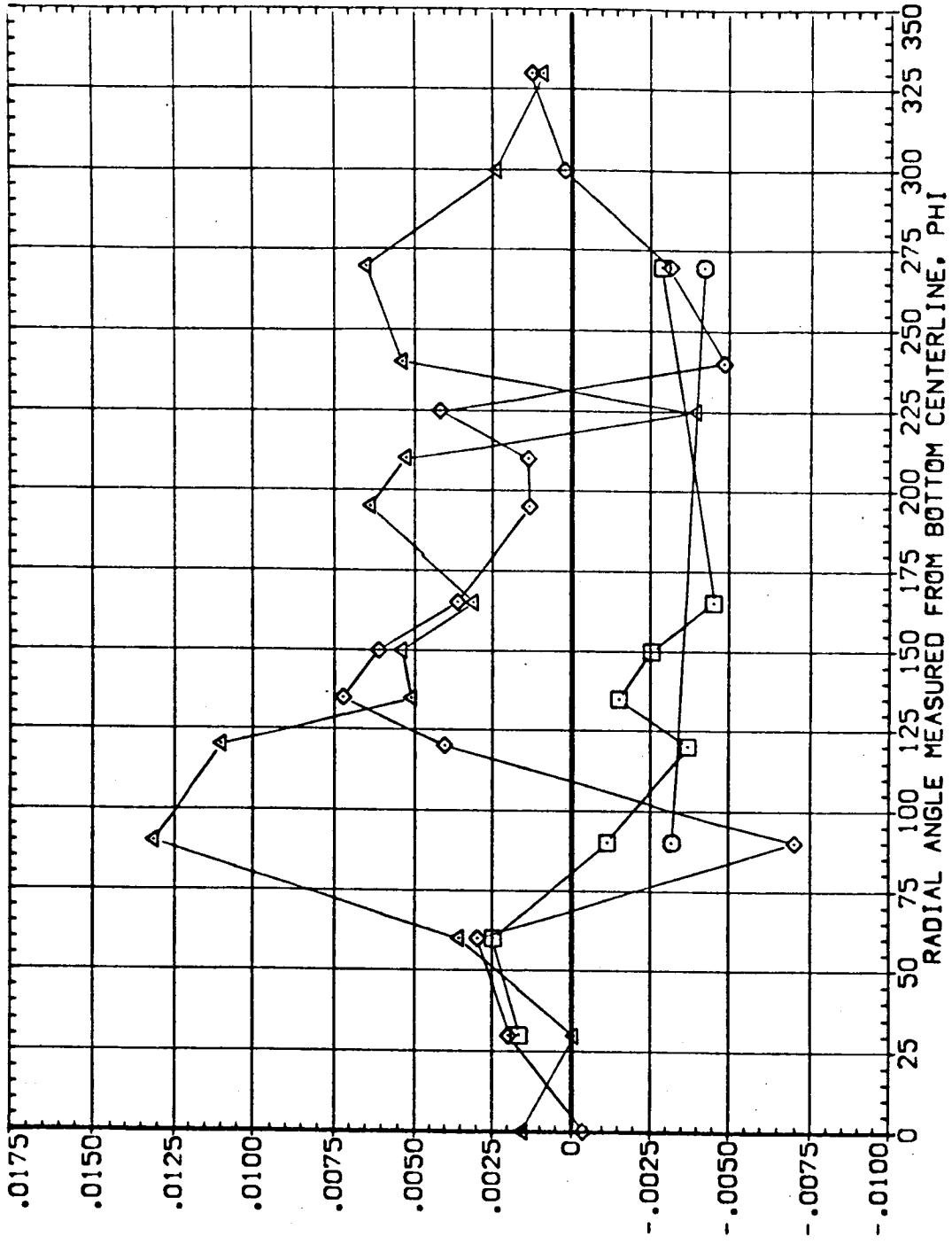


FIG. 103 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM EXT TANK(FEUT06)

SYMBOL	X/L	BETA	ALPHA	ELV-18	RUDDER	GIMBAL	ELV-CB	MACH
◇	.634	-1.000	.000	8.000	.000	1.000	4.000	1.100
□	.742							
△	.651							
◇	.986							

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

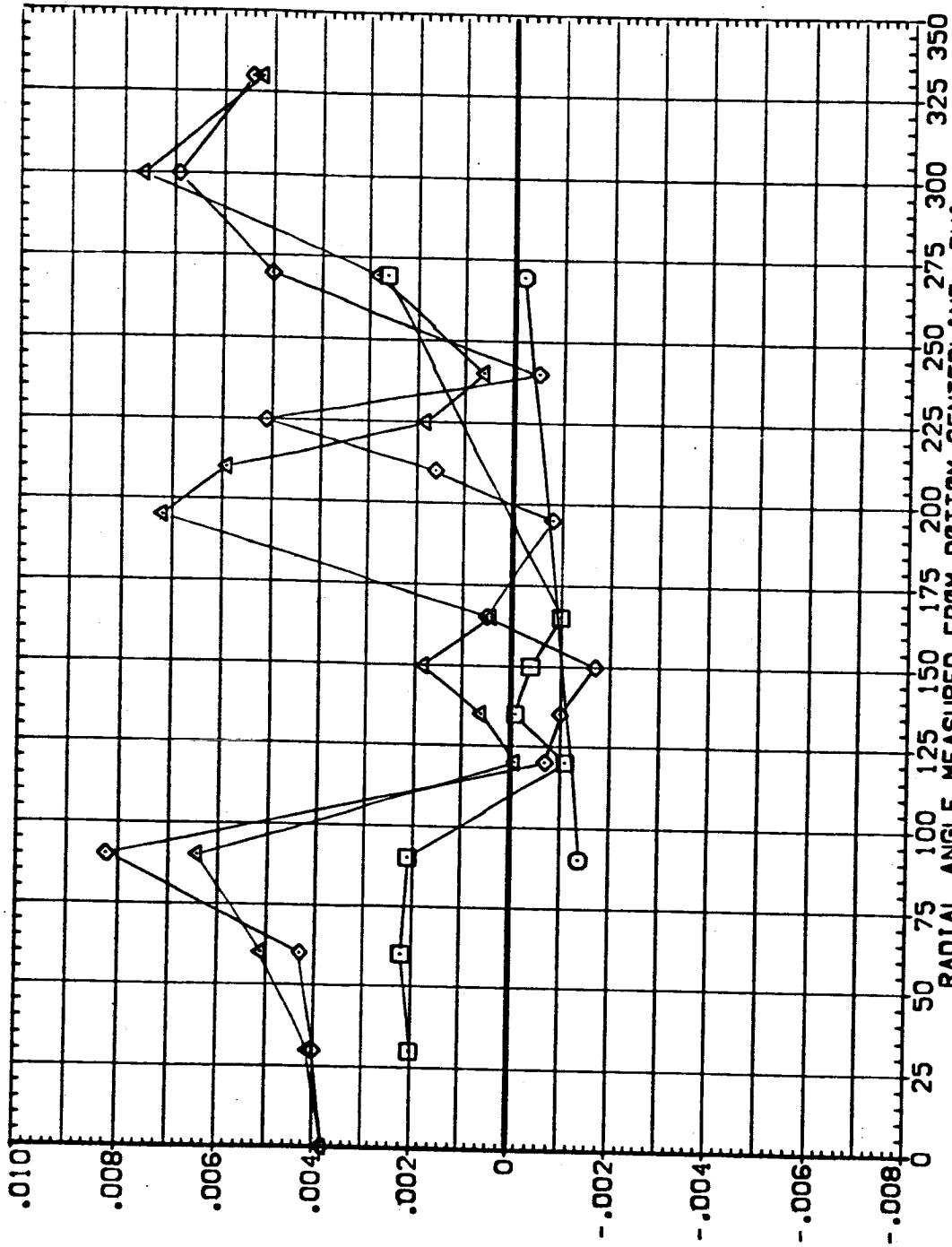


FIG. 103 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM EXT TANK (FEUT06)

PARAMETRIC VALUES
 ELV-IB 6.000 ELV-OB 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

SYMBOL X/L BETA ALPHA
 ○ .634 4.000 .000
 □ .742
 ◇ .851
 △ .986

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

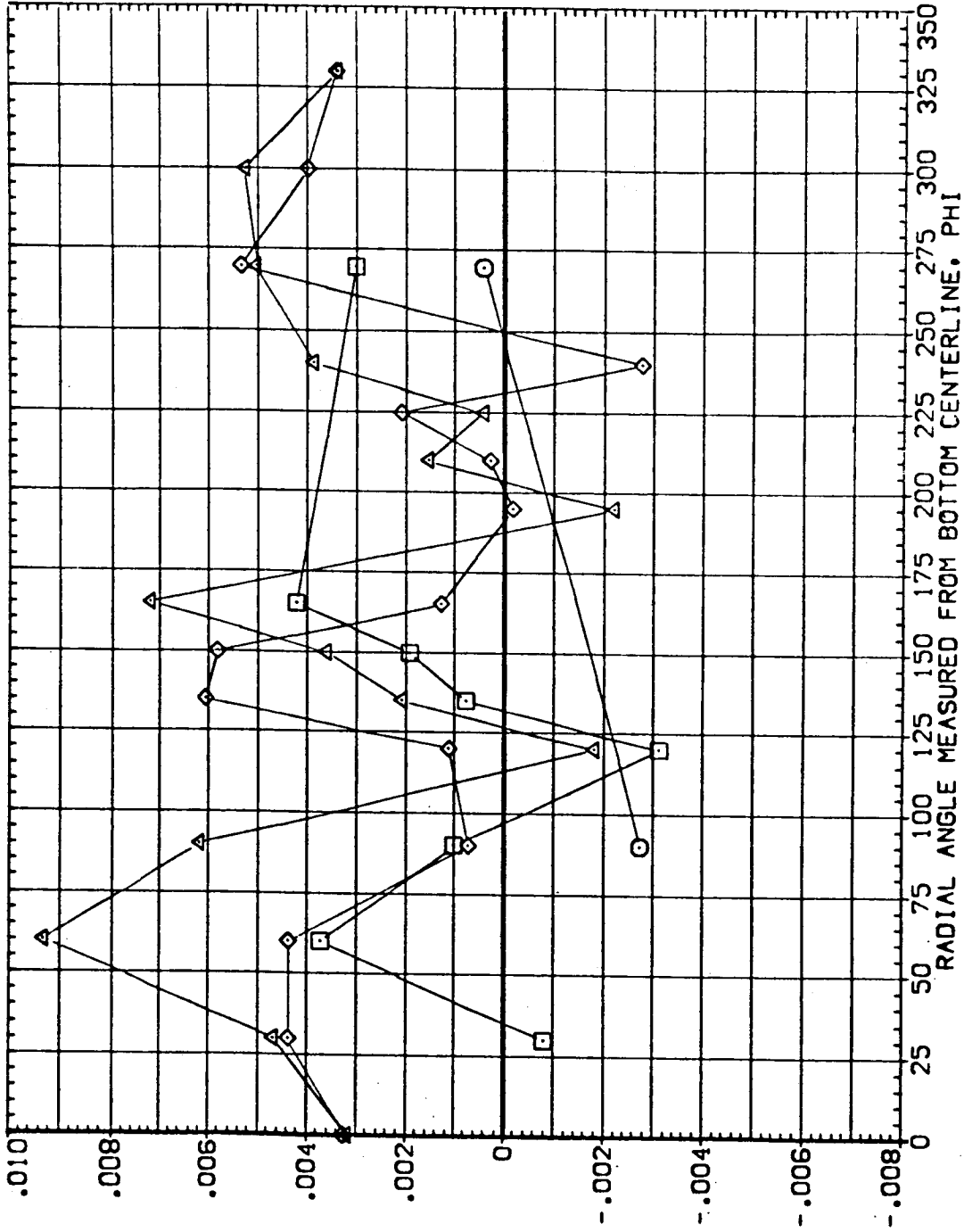


FIG. 103 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM EXT TANK (EEUT07)

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

SYMBOL X/L BETA ALPHA
 ○ .634 .000 -1.000
 □ .742 .000 -1.000
 ◇ .851 .000 -1.000
 △ .986 .000 -1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

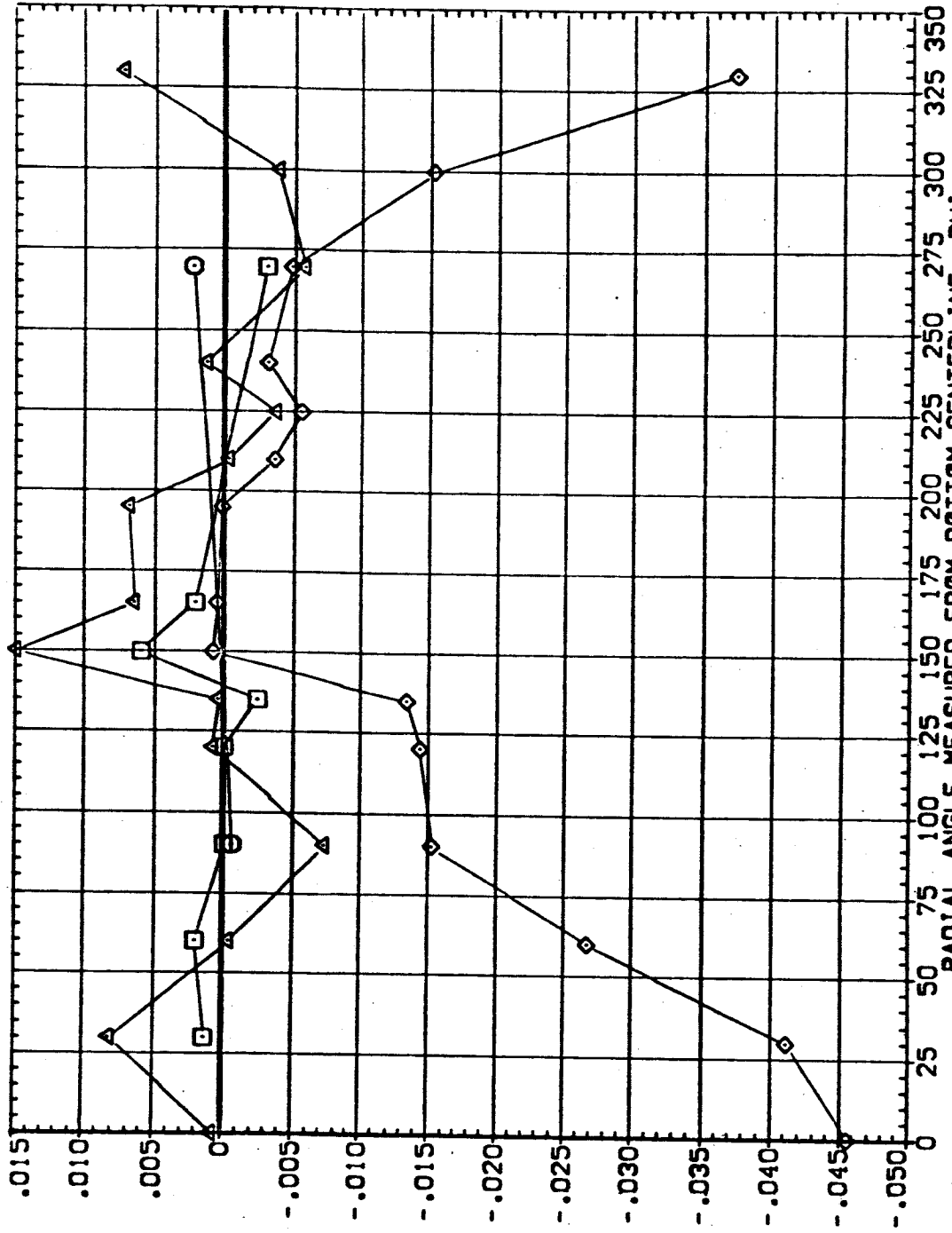


FIG. 103 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM EXT TANK (EEUT07)

SYMBOL X/L BETA ALPHA

○ .634 .000

□ .742 .000

◇ .651 .000

△ .986 .000

PARAMETRIC VALUES

ELV-18 8.000 ELV-09 1.000

RUDER .000 MACH 1.250

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

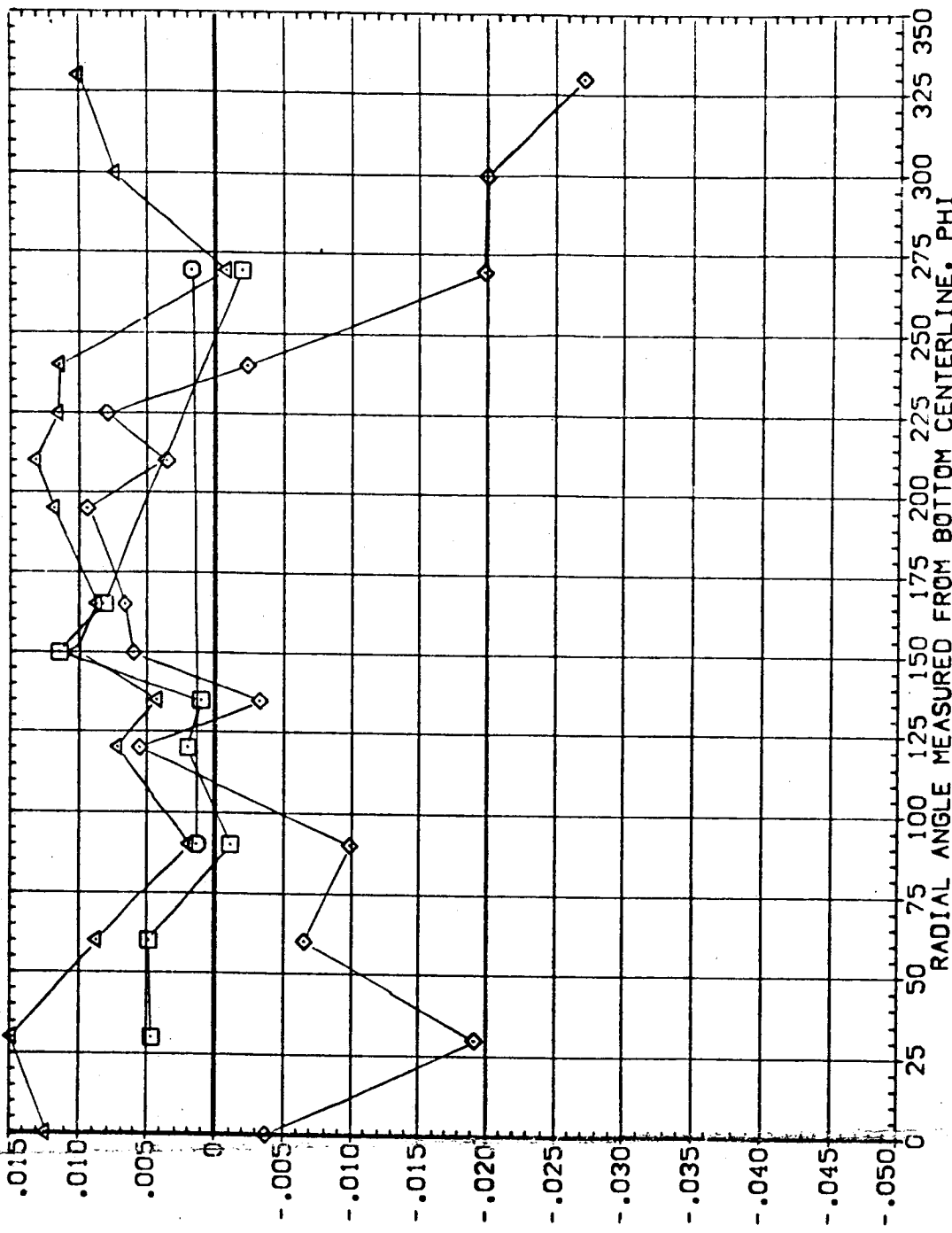


FIG. 103 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-014IA19 OTS+STRUT SRB-NOM MPS-NOM EXT TANK(EAUT07)

SYMBOL X/L BETA ALPHA
 ○ .634 .000 4.000
 □ .742 .000 4.000
 ◇ .851 .000 4.000
 △ .986 .000 4.000

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

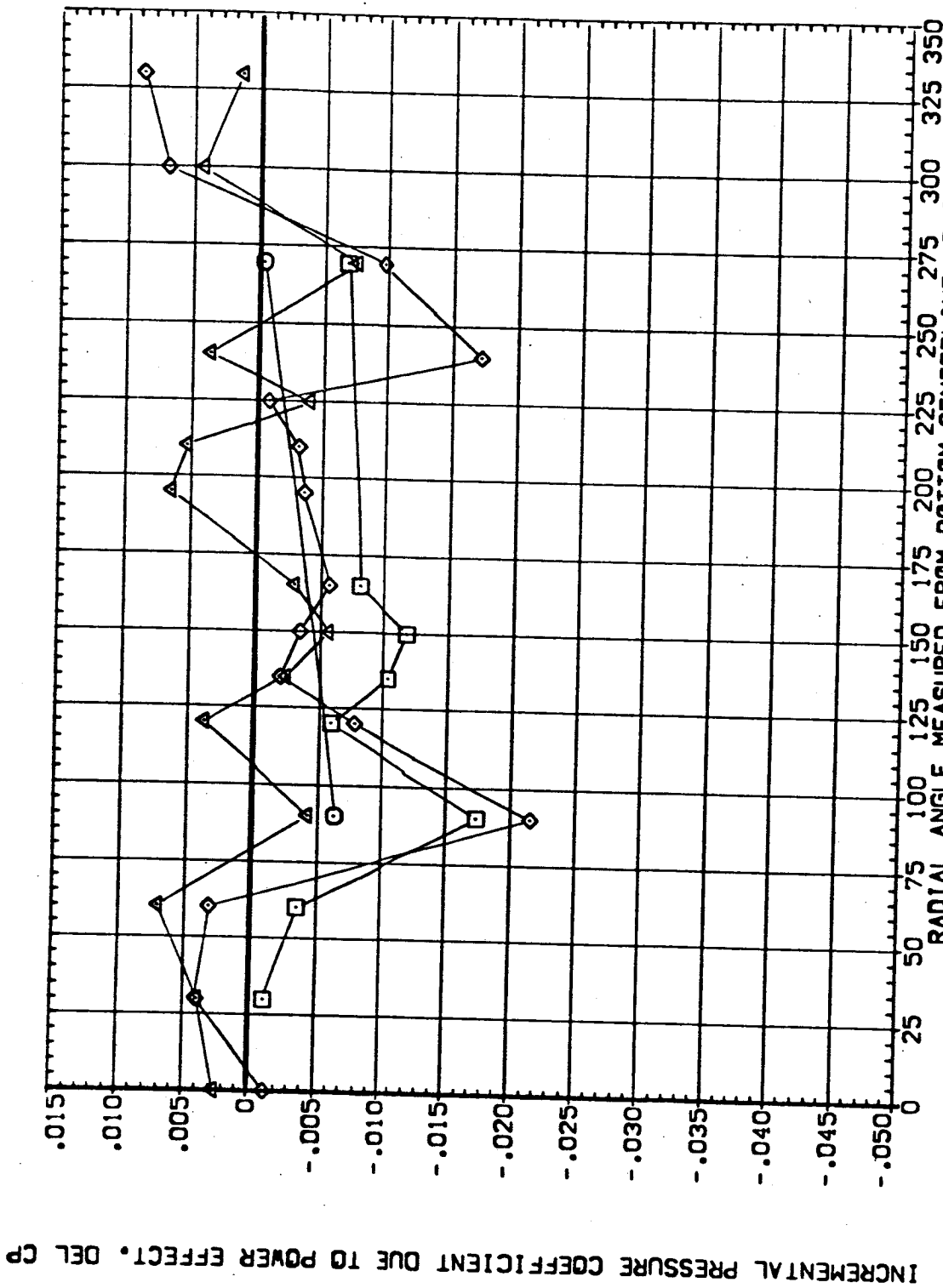


FIG. 103 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 0TS+STRUT SRB-NOM MPS-NOM EXT TANK (FEUT07)

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

SYMBOL X/L BETA ALPHA
 ○ .634 -1.000 .000
 □ .742
 ◇ .851
 △ .986

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

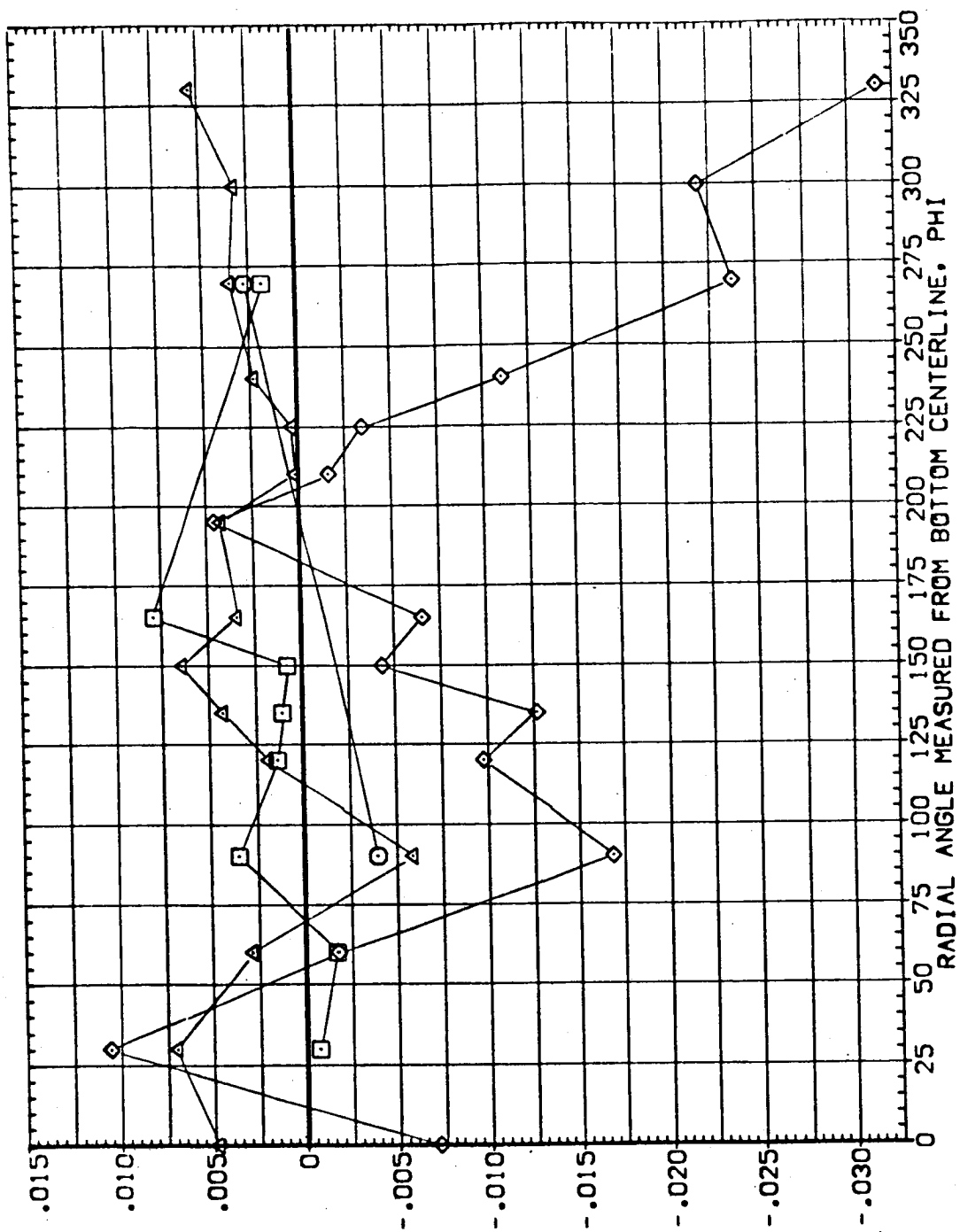


FIG. 103 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM EXT TANK (FEUT07)

SYMBOL	X/L	BETA	ALPHA	ELV-1B	ELV-08
○	.634	4.000	.000	RUDER	MACH
◇	.742			GIMBAL	
□	.851				
△	.986				

PARAMETRIC VALUES
 0.000 ELV-08 1.000
 .000 MACH 1.250

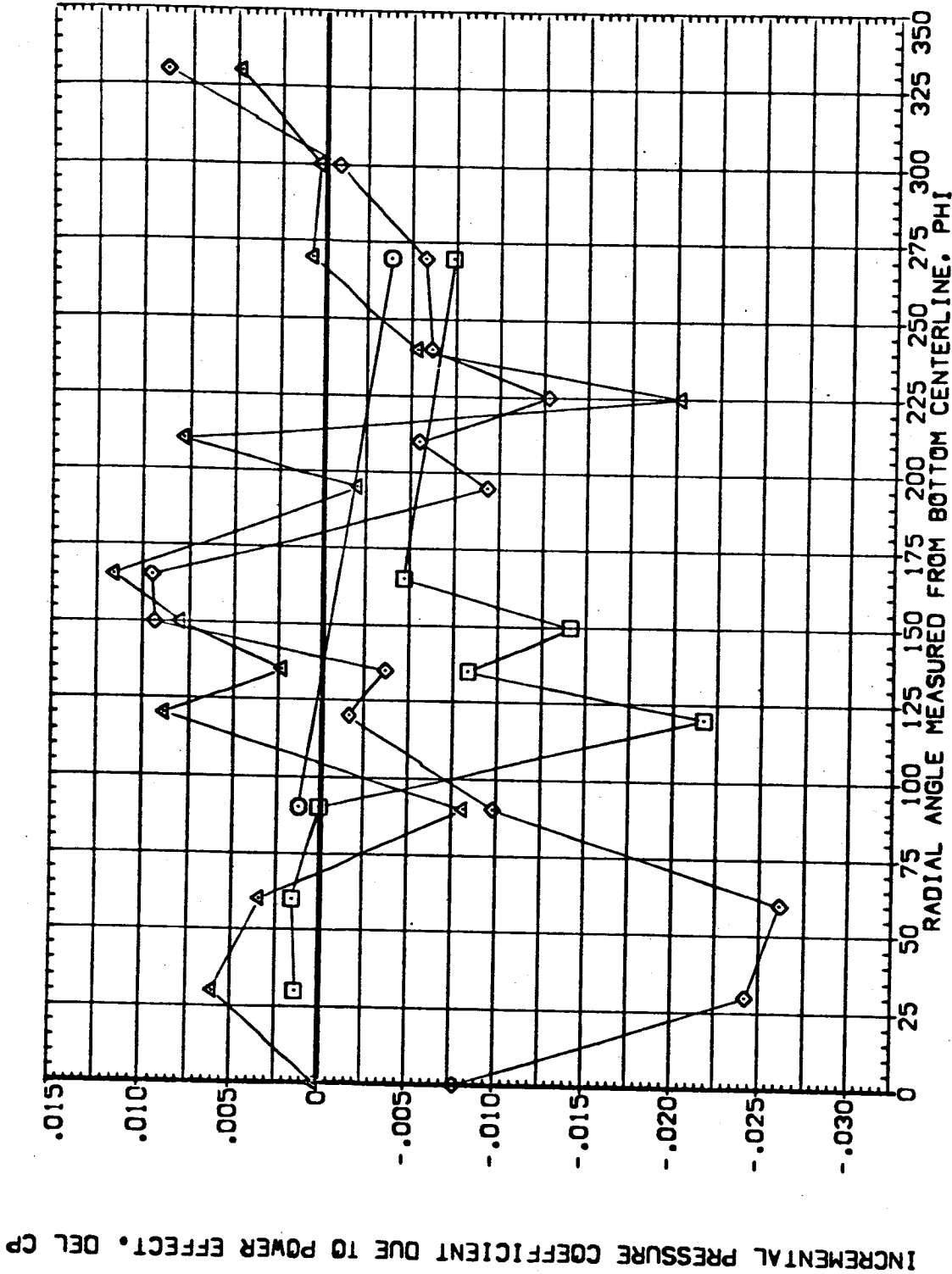


FIG. 103 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM EXT TANK(EEU08)

SYMBOL X/L BETA ALPHA
 ○ .634 .000 -4.000
 □ .742
 ◇ .651
 △ .586

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

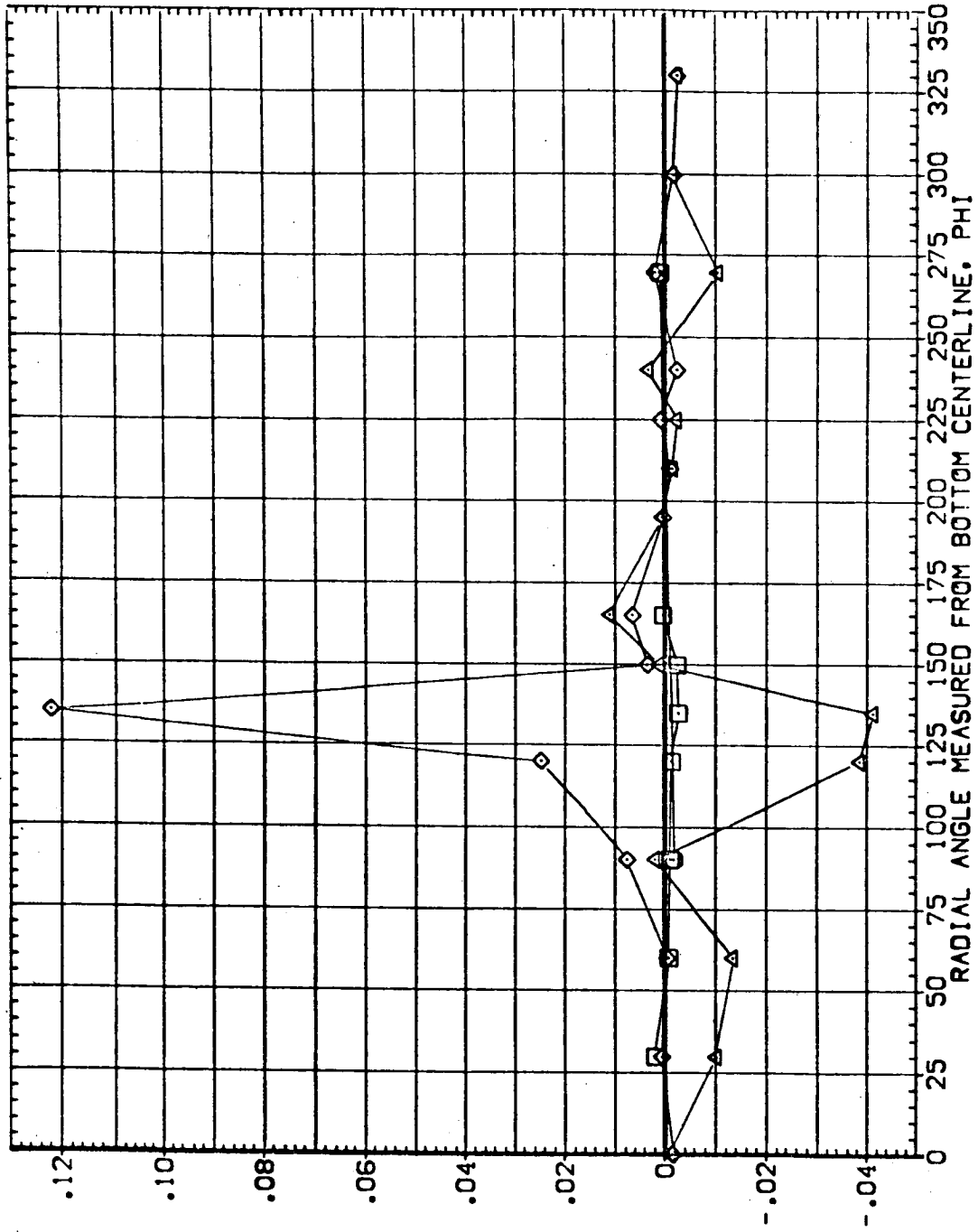


FIG. 103 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM EXT TANK (EEUT08)

SYMBOL XL BETA ALPHA
 ◊ .634 .000
 □ .742 .000
 ◻ .651 .000
 △ .988 .000

PARAMETRIC VALUES
 ELV-19 8.000 ELV-09 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

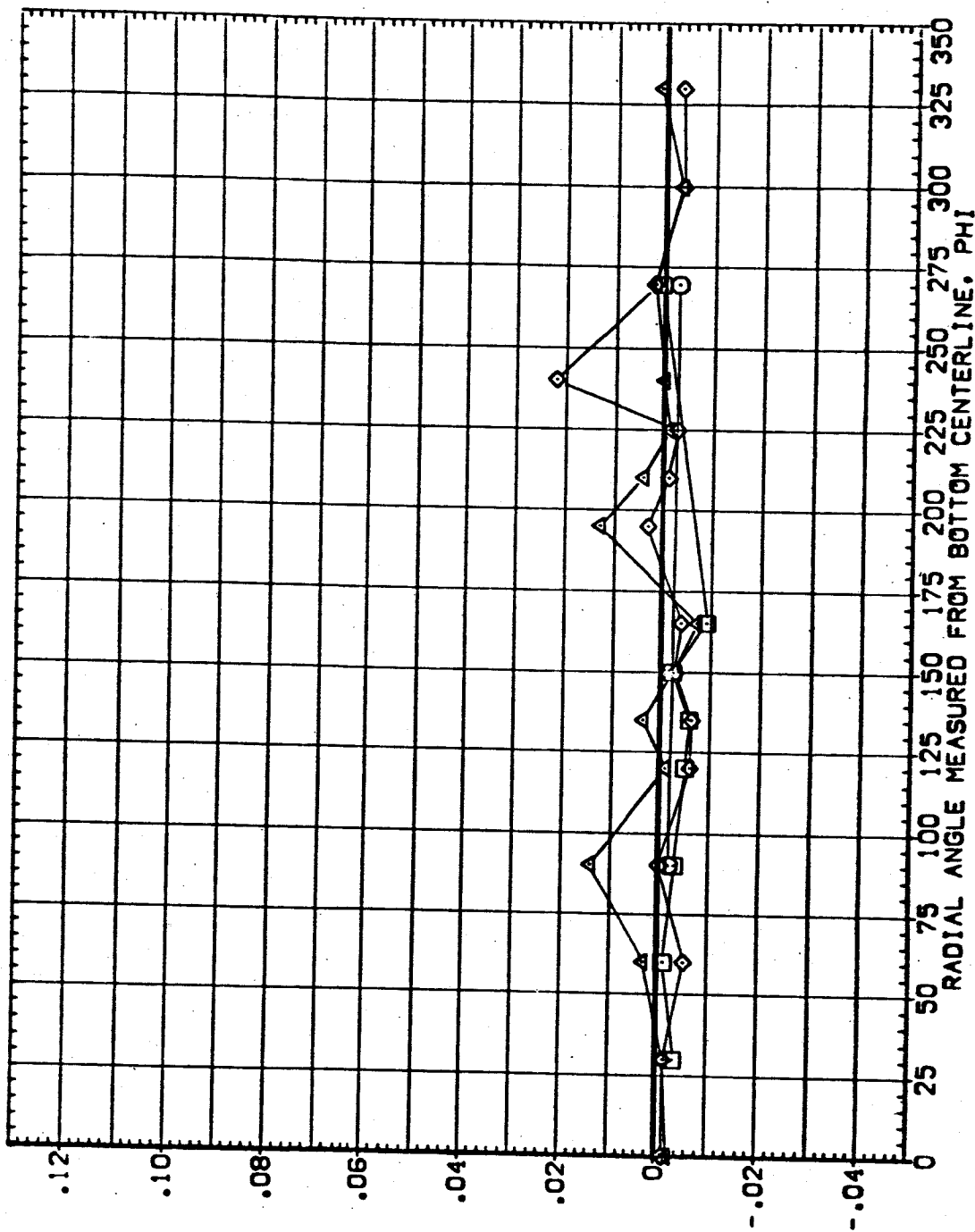


FIG. 103 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM EXT TANK(EAUT08)

PARAMETRIC VALUES
 ELV-08 4.000
 MACH 1.100
 ELV-18 8.000
 RUDDER .000
 GIMBAL 1.000

SYMBOL X/L BETA ALPHA
 ◊ .634 .000 1.000
 ◻ .742 .000 1.000
 ◊ .851 .000 1.000
 ◻ .986 .000 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

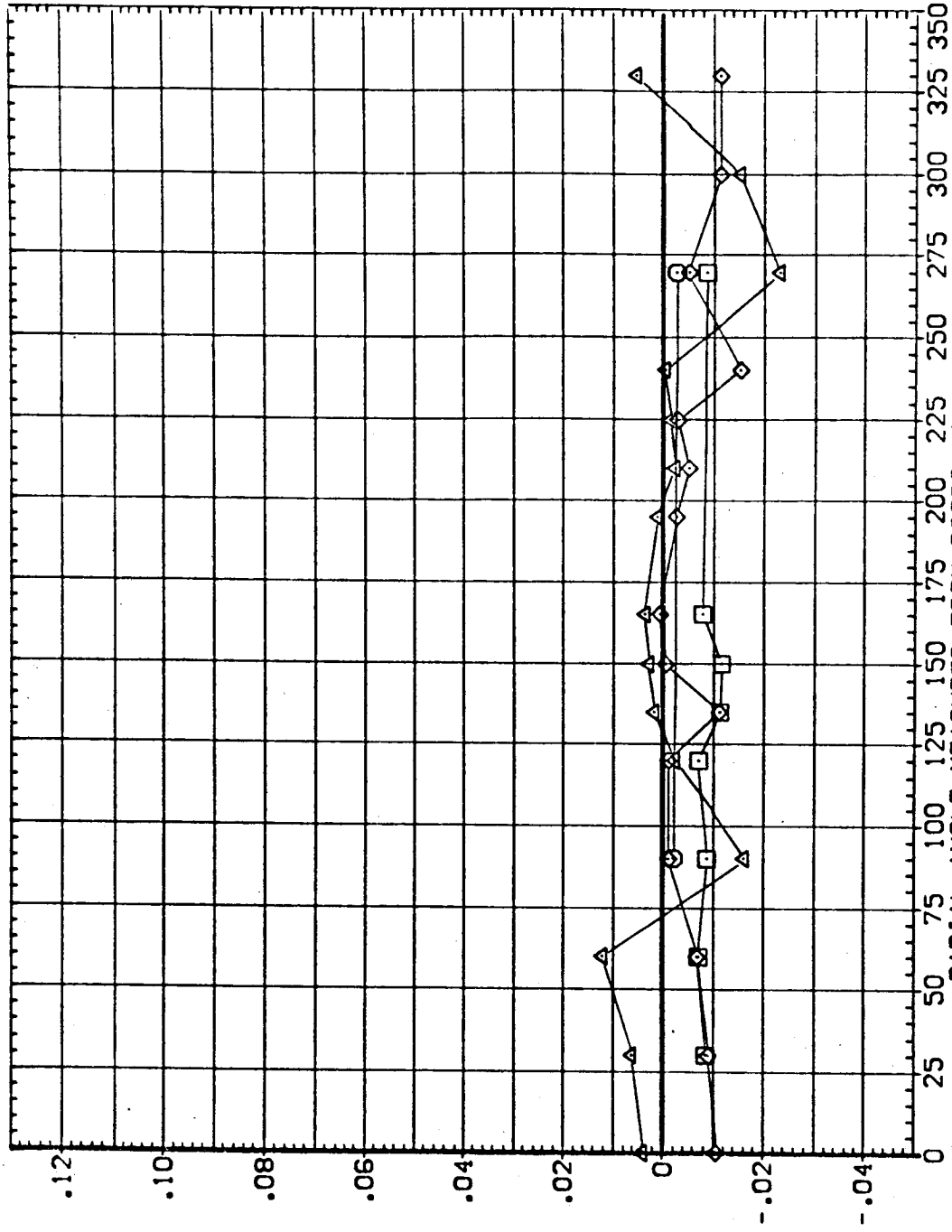


FIG. 103 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM EXT TANK(FEUT08)

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES
○	.534	-4.000	.000	ELV-08 8.000 ELV-08 4.000
□	.742			RUDDER .000 MACH 1.400
◇	.851			
△	.906			

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

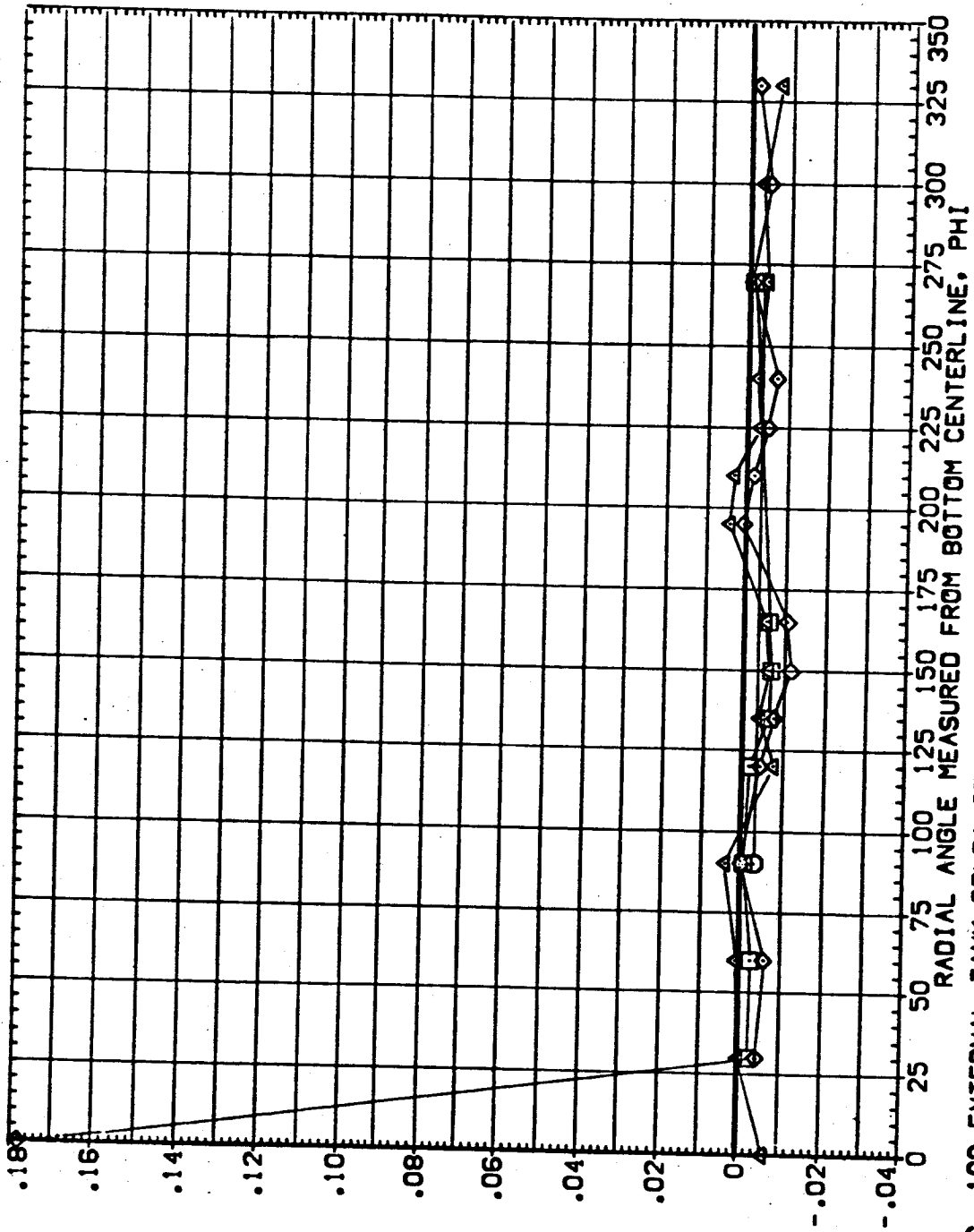


FIG. 103 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM EXT TANK (FEUT08)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-09 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

SYMBOL X/L BETA ALPHA
 ○ .634 4.000 .000
 □ .742
 ◇ .851
 △ .986

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

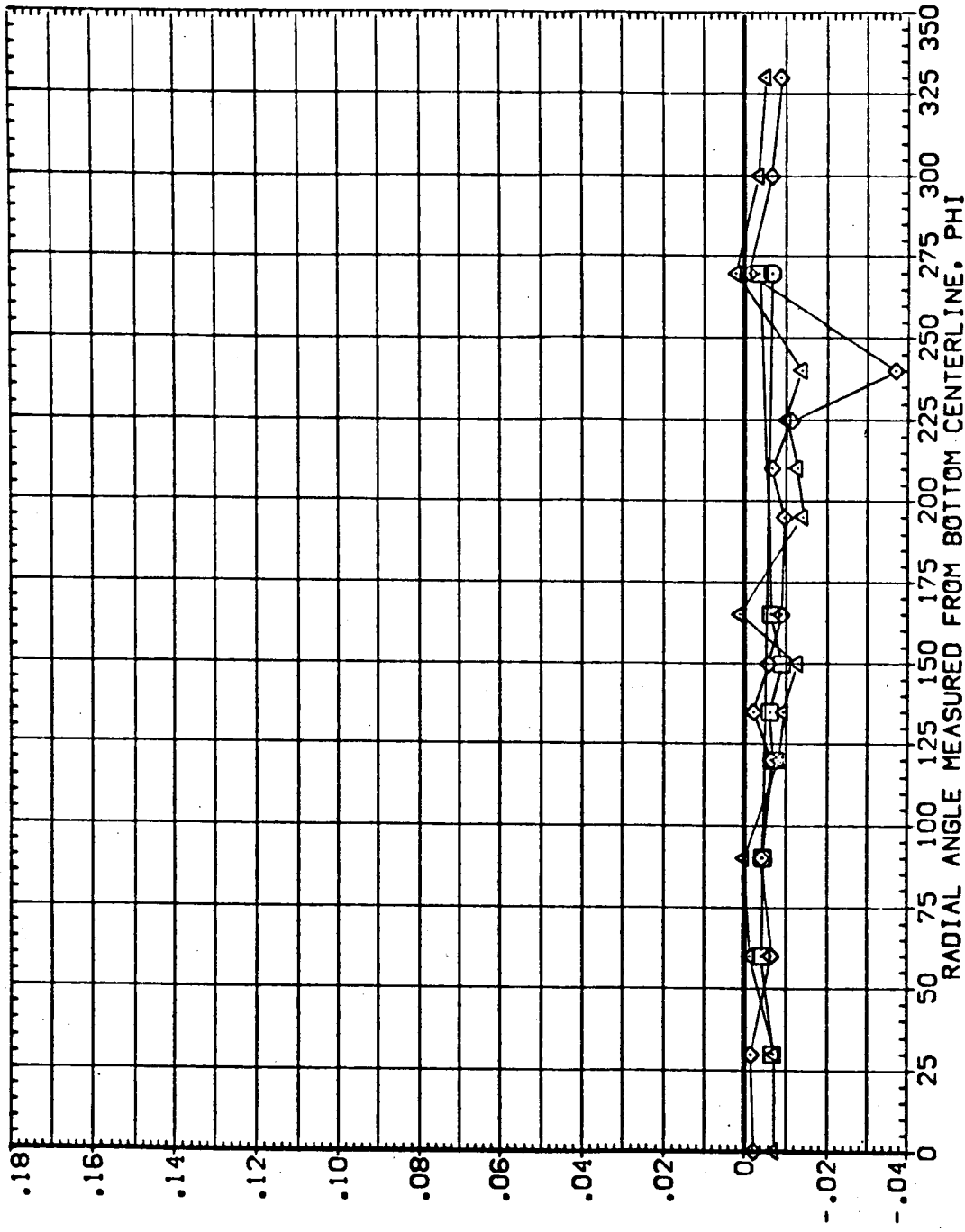


FIG. 103 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

6.9

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF EXT TANK(EUT13)

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES
◇	.634	.000	-1.000	ELV-18 4.000
□	.742			RUDER .000
○	.851			GIMBAL 1.000
	.986			MACH .900

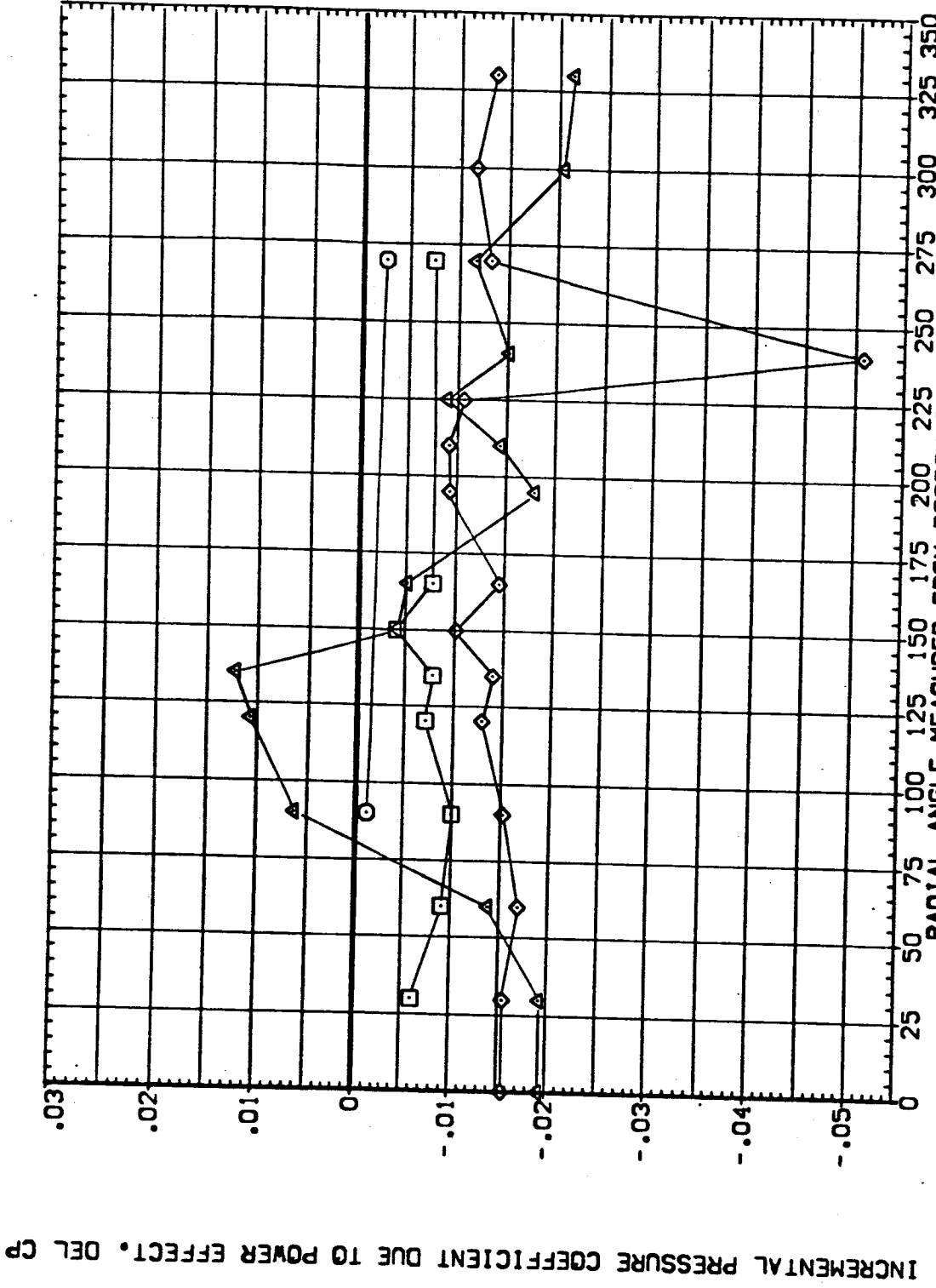


FIG. 104 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF EXT TANK(EEUT13)

SYMBOL X/L BETA ALPHA

○ .634 .000

□ .742 .000

◇ .651 .000

△ .586 .000

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 1.000

RUDER .000 MACH .900

GIMBAL 1.000

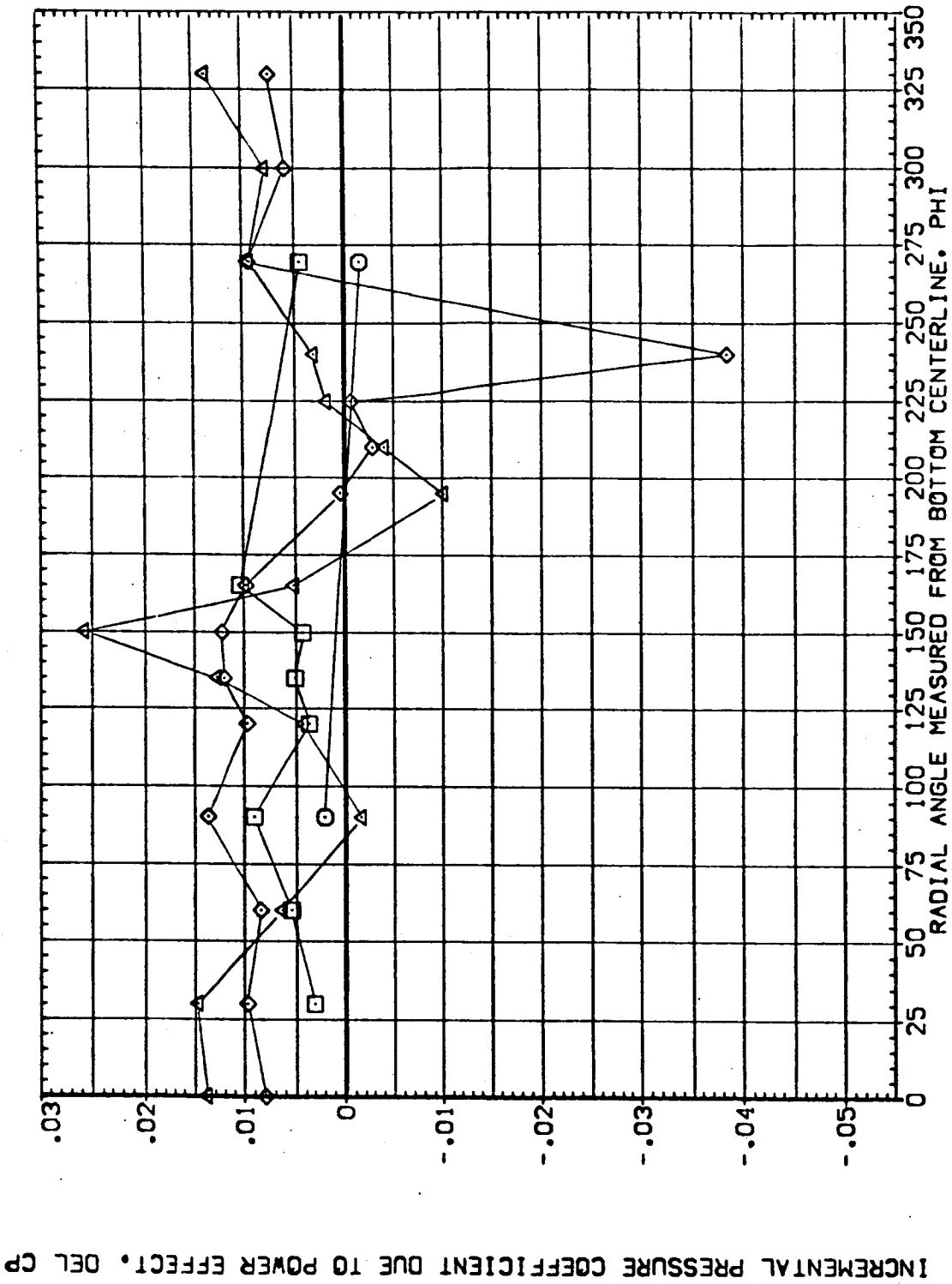


FIG. 104 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF EXT TANK (EEUT13)

X/L BETA ALPHA
 .634 .000 4.000
 .742
 .851
 .986

PARAMETRIC VALUES
 ELV-18 ELV-08 4.000
 RUDDER MACH .900
 GIMBAL 1.000

SYMBOL
 ○ □ ◇ △

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

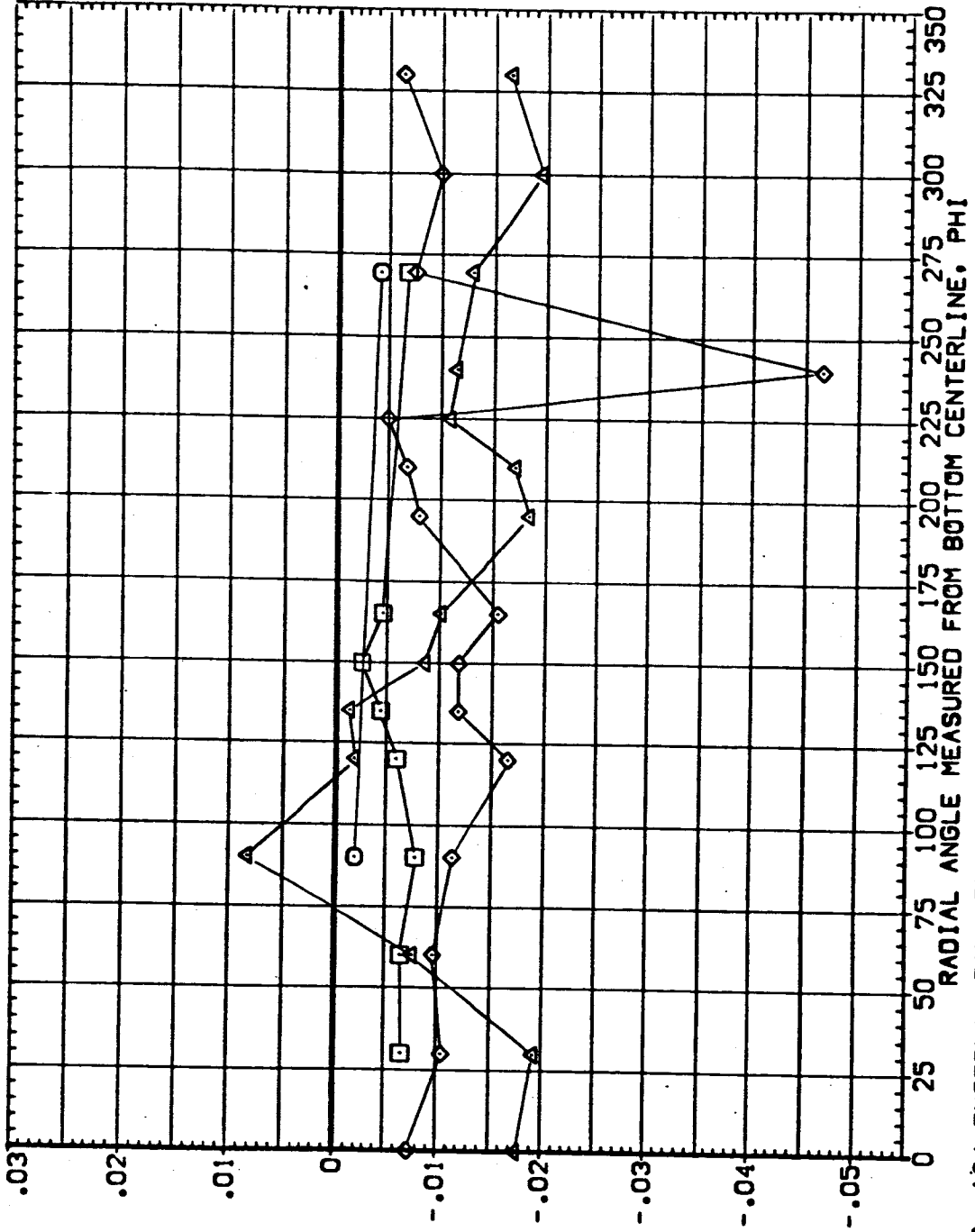


FIG. 104 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF EXT TANK (FEUT13)

SYMBOL X/L BETA ALPHA

○ .634 -1.000 .000

□ .742

◇ .851

△ .986

PARAMETRIC VALUES

ELV-18 8.000 ELV-09 4.000

RUDDER .000 MACH .900

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

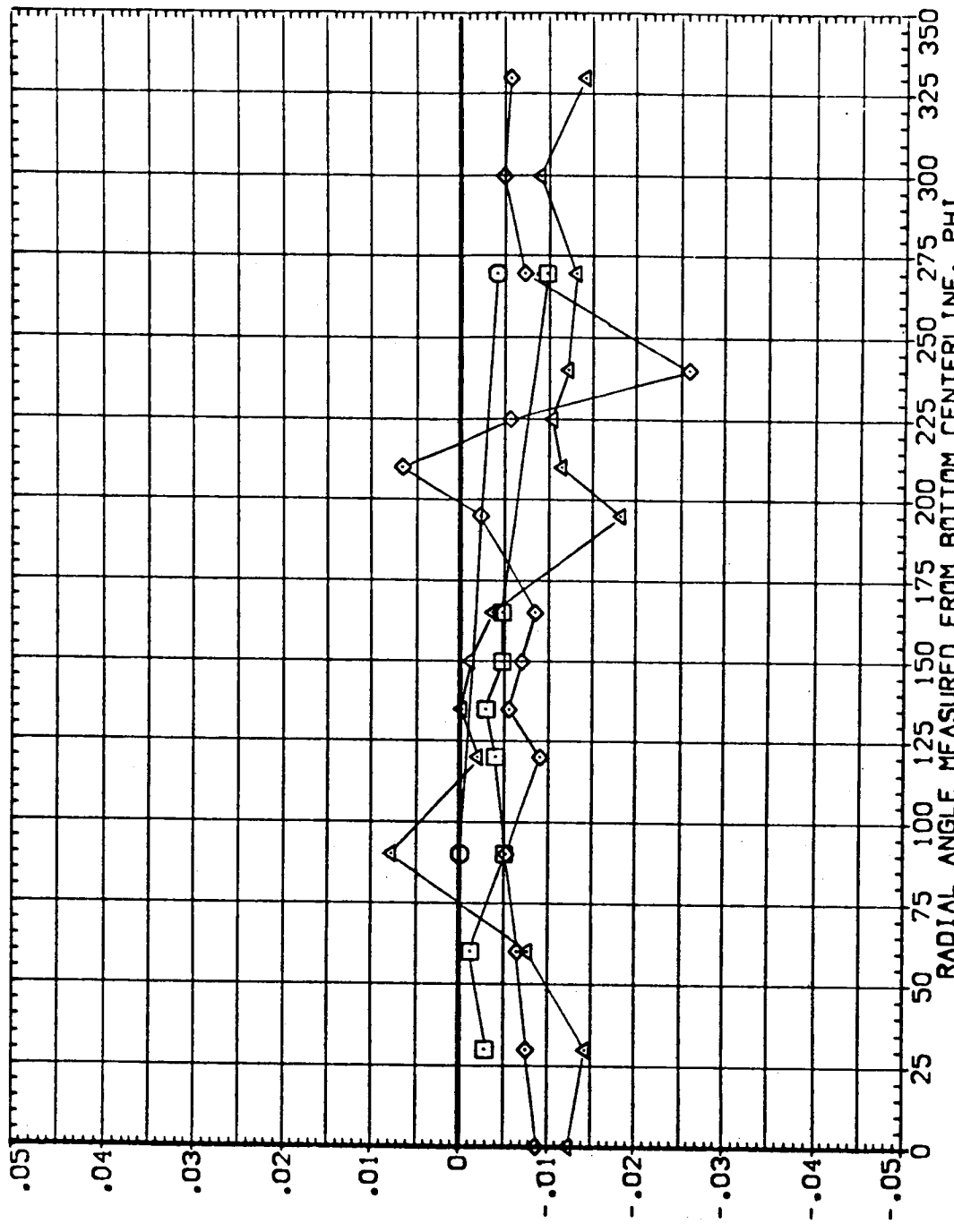


FIG. 104 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF EXT TANK (FEUT13)

SYMBOL X/L BETA ALPHA
 ○ .634 1.000 .000
 □ .742
 ◇ .851
 △ .906

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

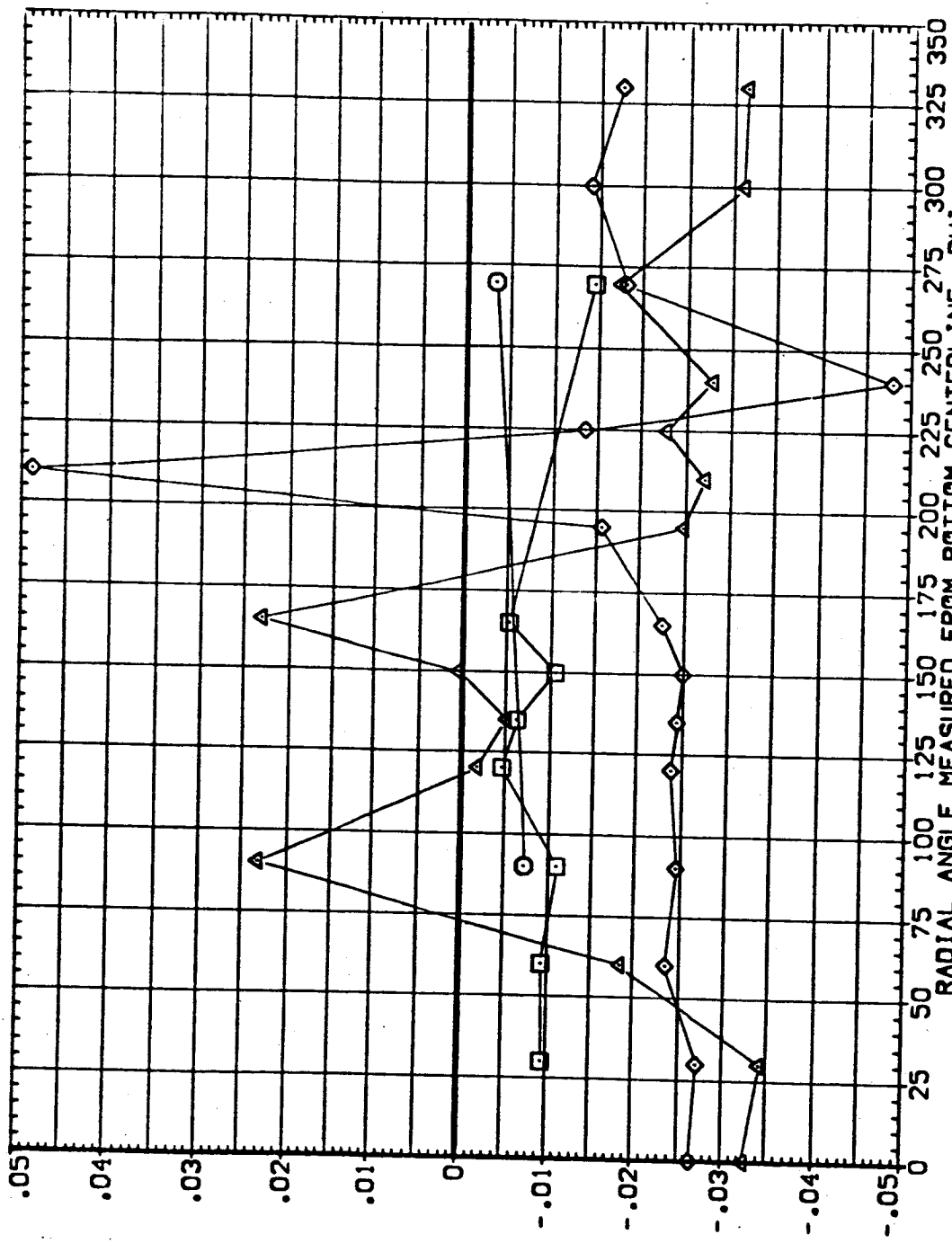


FIG. 104 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF EXT TANK(EEUT14)

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-CB 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

SYMBOL X/L BETA ALPHA
 ○ .634 .000 -1.000
 □ .742 .000 -1.000
 ◇ .851 .000 -1.000
 △ .906 .000 -1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

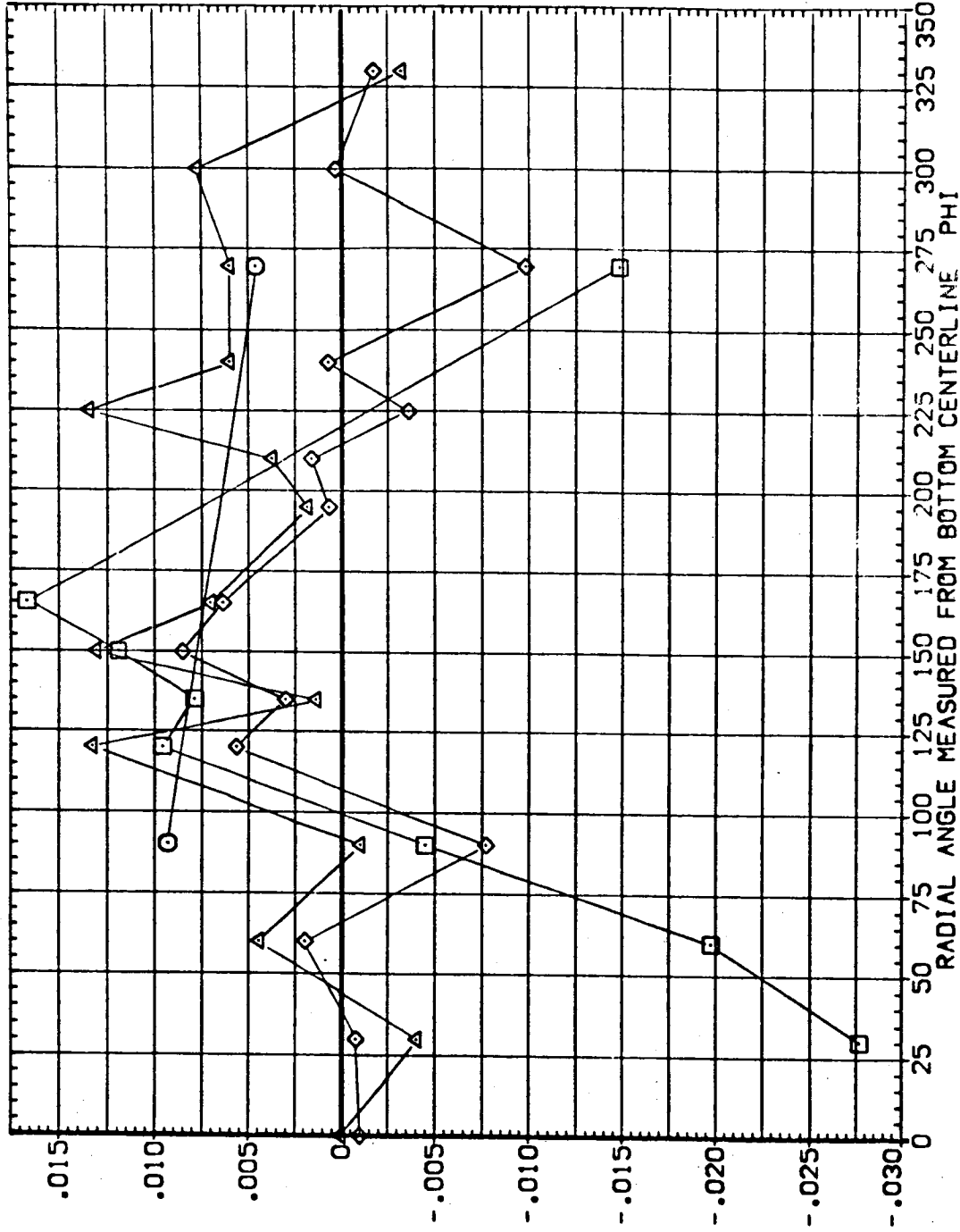


FIG. 104 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF EXT TANK(EAUT14)

SYMBOL X/L BETA ALPHA

○	.634	.000	.000
□	.742	.000	.000
◇	.851	.000	.000
△	.986	.000	.000

PARAMETRIC VALUES

ELV-1B	8.000	ELV-08	4.000
RLOOR	.000	MACH	1.100
GIMBAL	1.000		

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

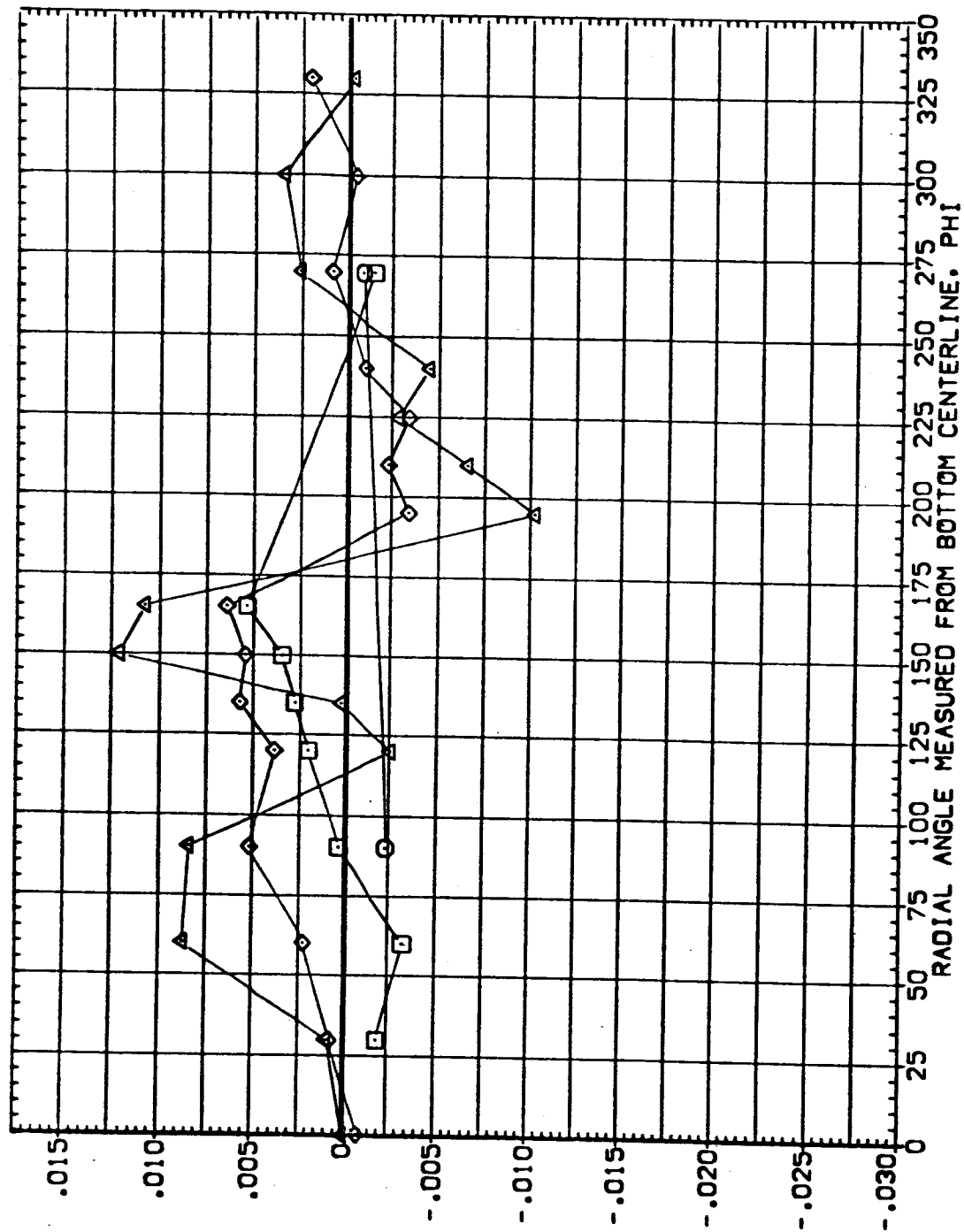


FIG. 104 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF EXT TANK(EEUT14)

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

SYMBOL X/L BETA ALPHA
 ○ .634 .000 4.000
 □ .742
 ◇ .851
 △ .986

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

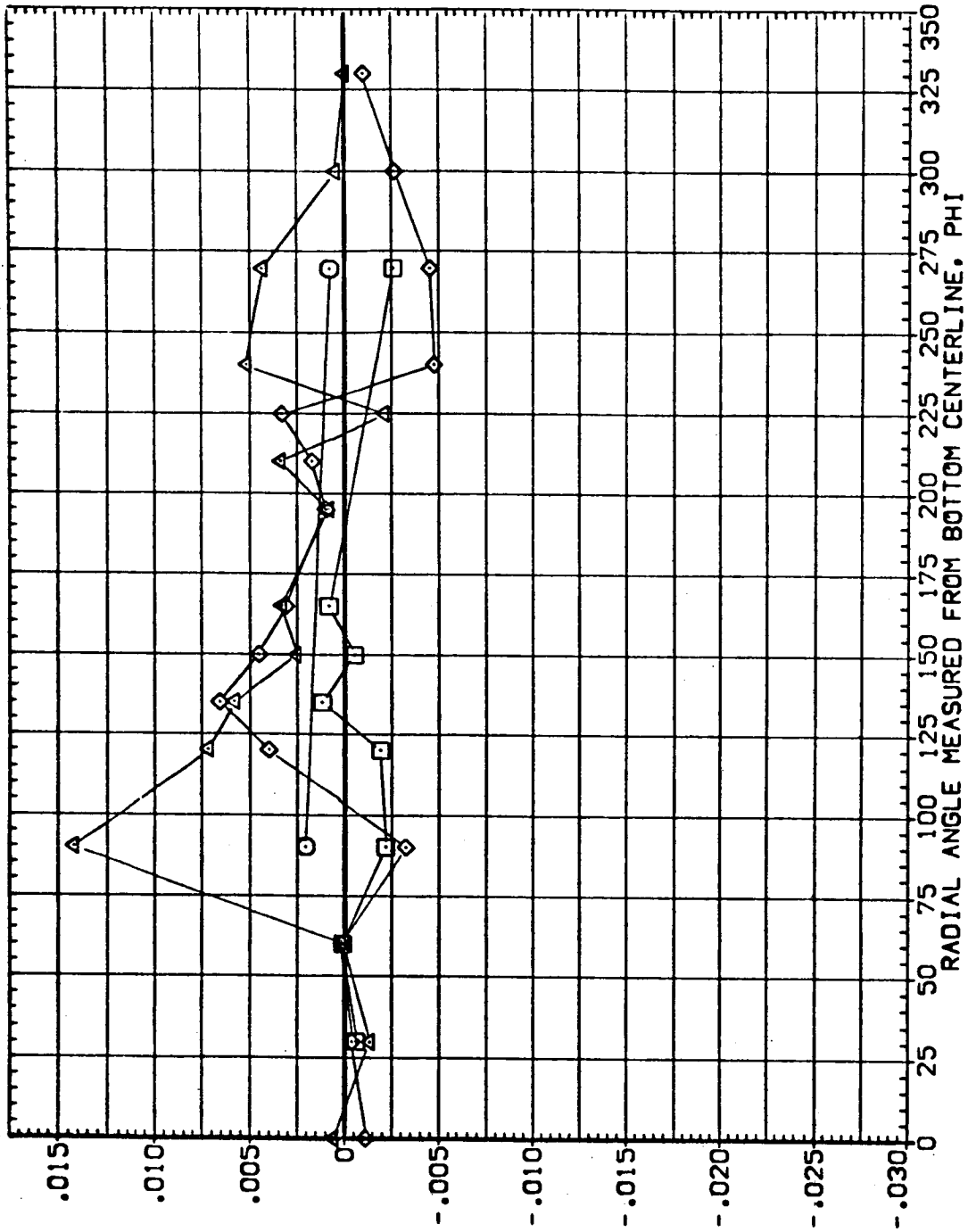


FIG. 104 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF EXT TANK (FEUT14)

PARAMETRIC VALUES
 ELV-19 8.000 ELV-09 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

SYMBOL X/L BETA ALPHA
 ○ .634 -4.000 .000
 □ .742
 ◇ .851
 △ .986

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

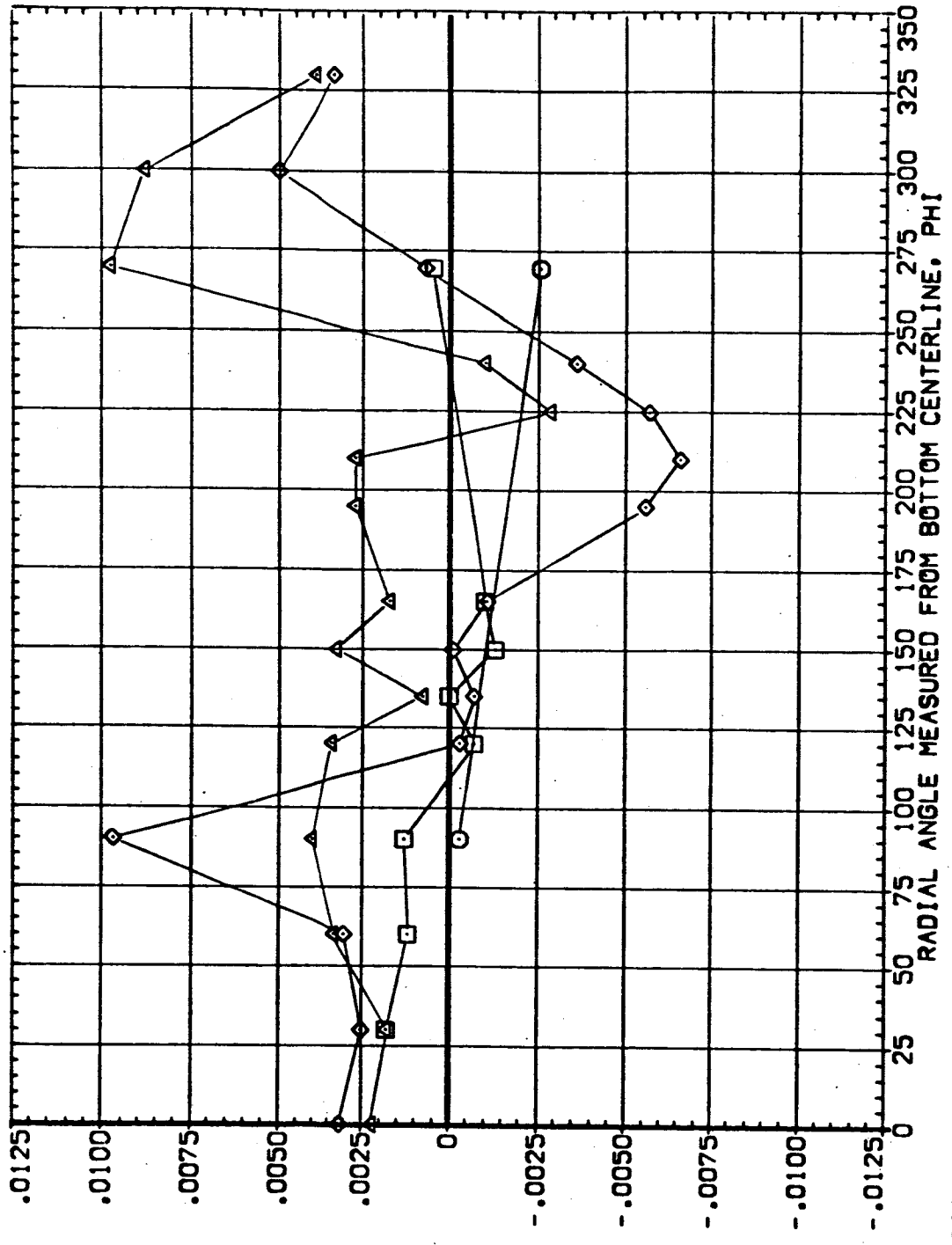


FIG. 104 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-014IA19 OTS+STRUT SRB-NOM MPS-OFF EXT TANK(FEUT14)

SYMBOL	X/L	BETA	ALPHA	ELV-18	ELV-08
○	.634	4.000	.000	RUDER	MACH
□	.742			GIMBAL	
◇	.651				
△	.986				

PARAMETRIC VALUES
 8.000 ELV-08 4.000
 .000 MACH 1.100
 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

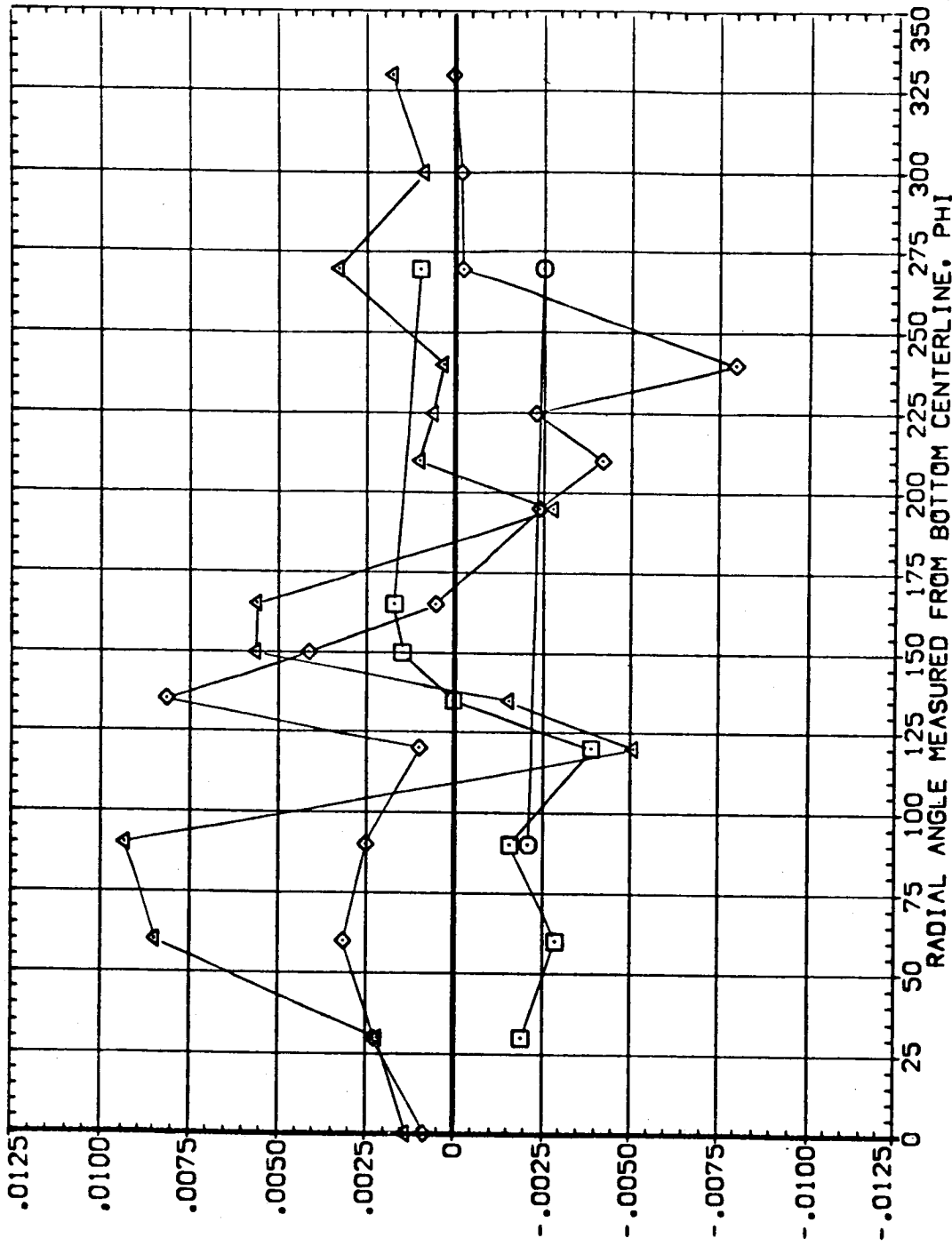


FIG. 104 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF EXT TANK(EAUT15)

SYMBOL X/L BETA ALPHA

□	.534	.000	-4.000
◇	.742		
△	.851		
▽	.986		

PARAMETRIC VALUES

ELV-18	6.000	ELV-08	4.000
RUDER	.000	MACH	1.250
GINBAL	1.000		

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

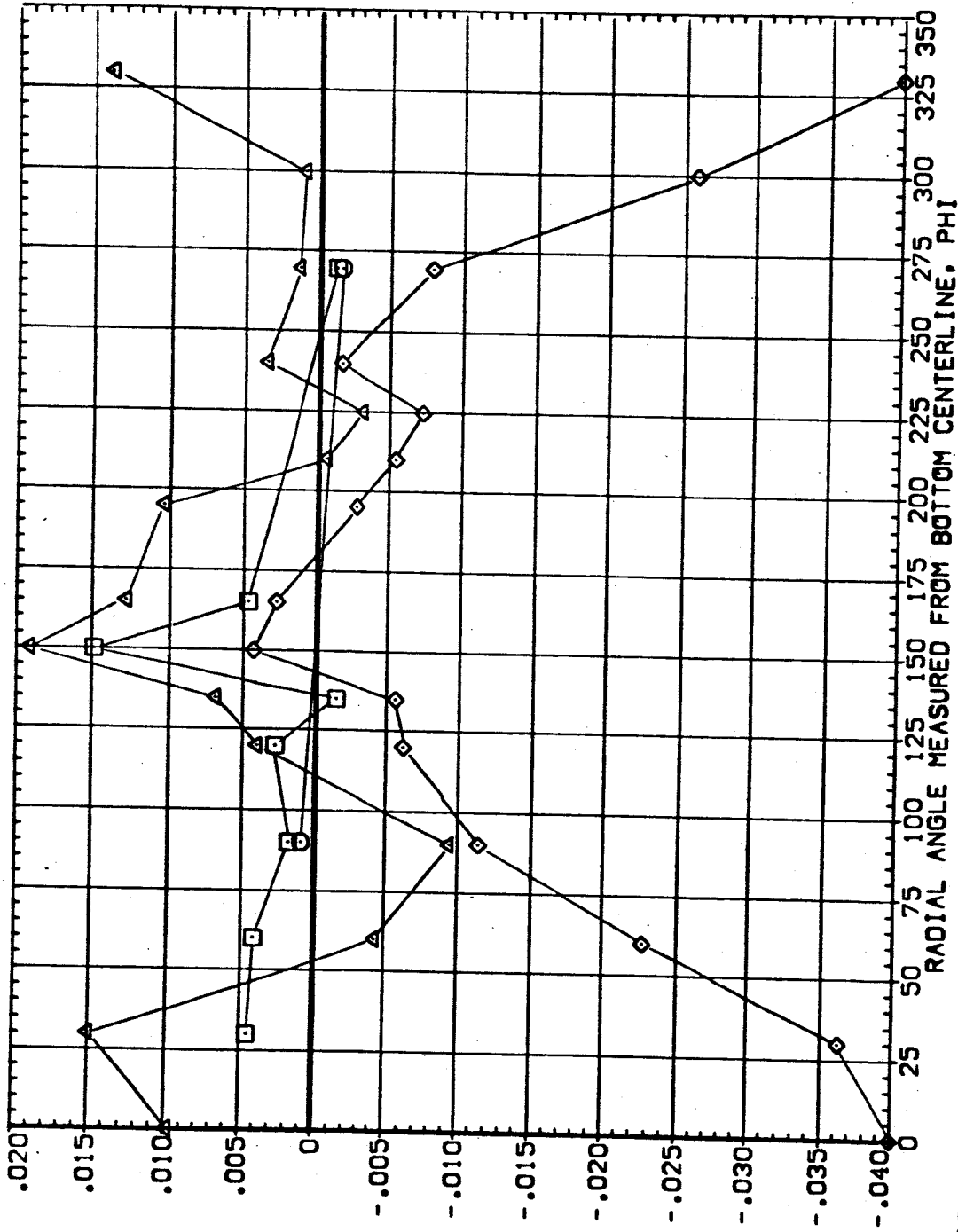


FIG. 104 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF EXT TANK (EUT15)

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES
○	.634	.000	.000	ELV-09 4.000
□	.742	.000	.000	RUDER 1.250
◇	.851	.000	.000	GIMBAL 1.000
△	.986	.000	.000	

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

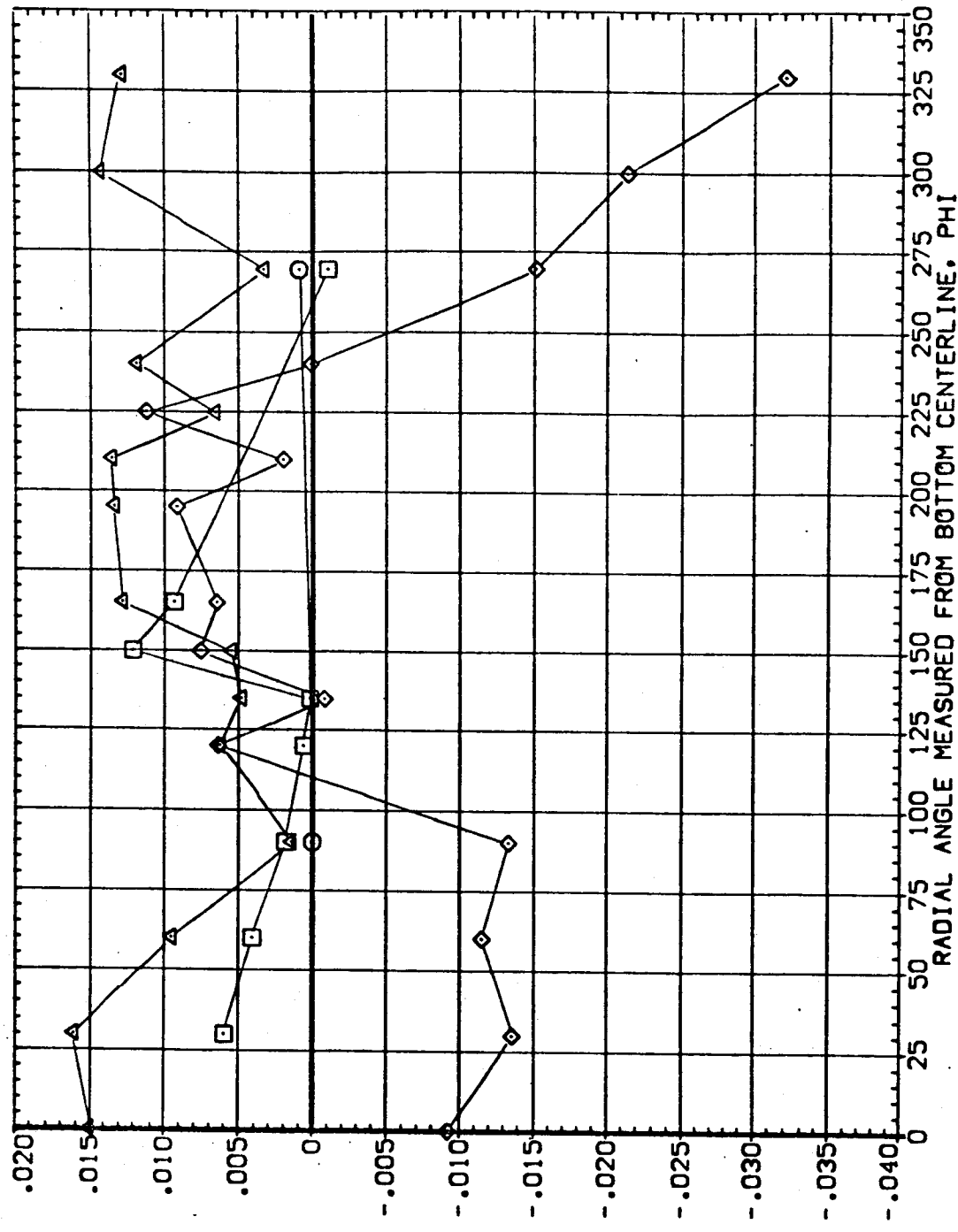


FIG. 104 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF EXT TANK (EEUT15)

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES	
				ELV-18	ELV-08
□	.634	.000	1.000	8.000	4.000
○	.742	.000	1.000	RUDER	MACH
◇	.851	.000	1.000	1.000	1.250
△	.966	.000	1.000	GIMBAL	

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

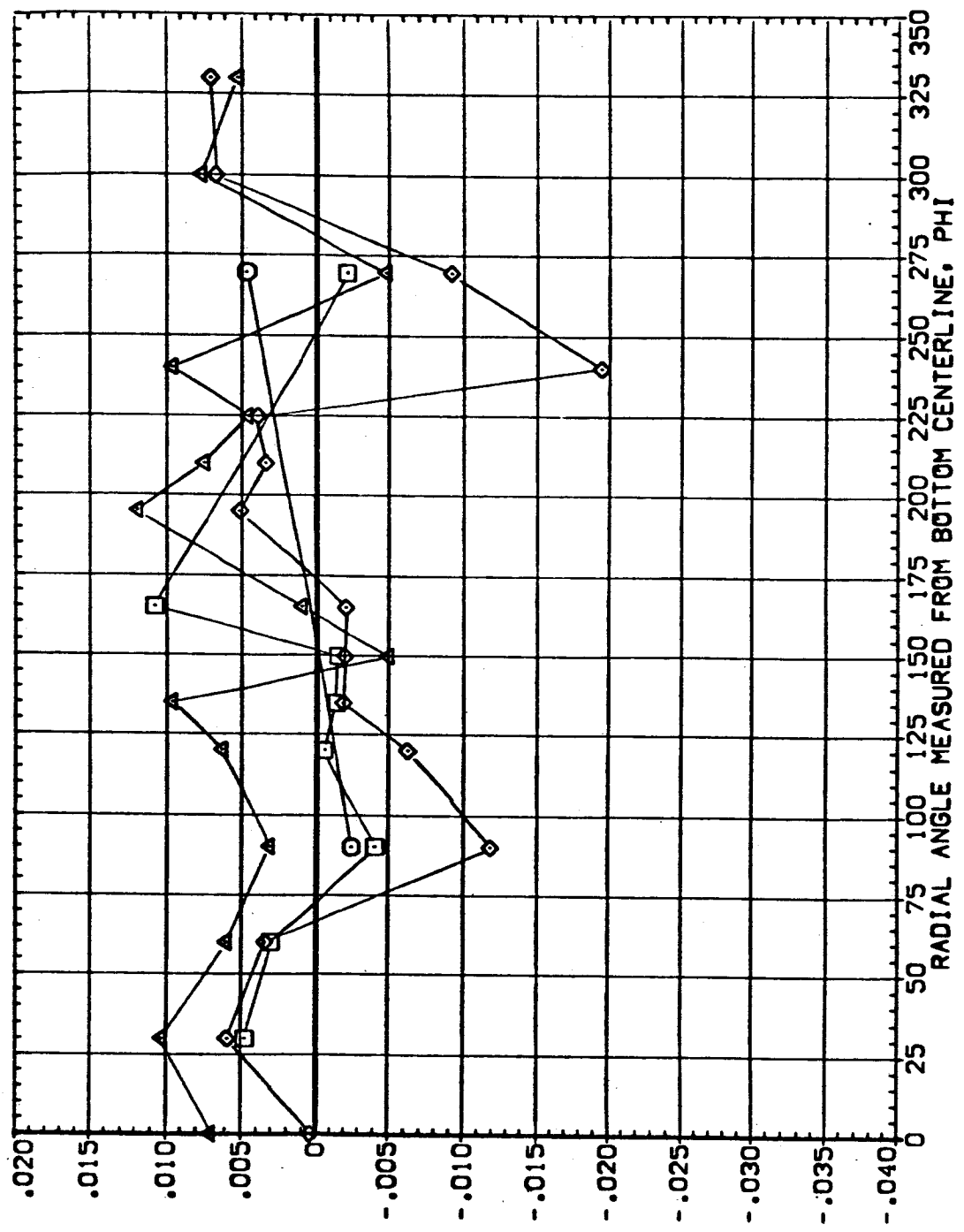


FIG. 104 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF EXT TANK(FEUT15)

SYMBOL X/L BETA ALPHA
 ○ .631 -4.000 .000
 □ .742
 ◇ .651
 △ .986

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

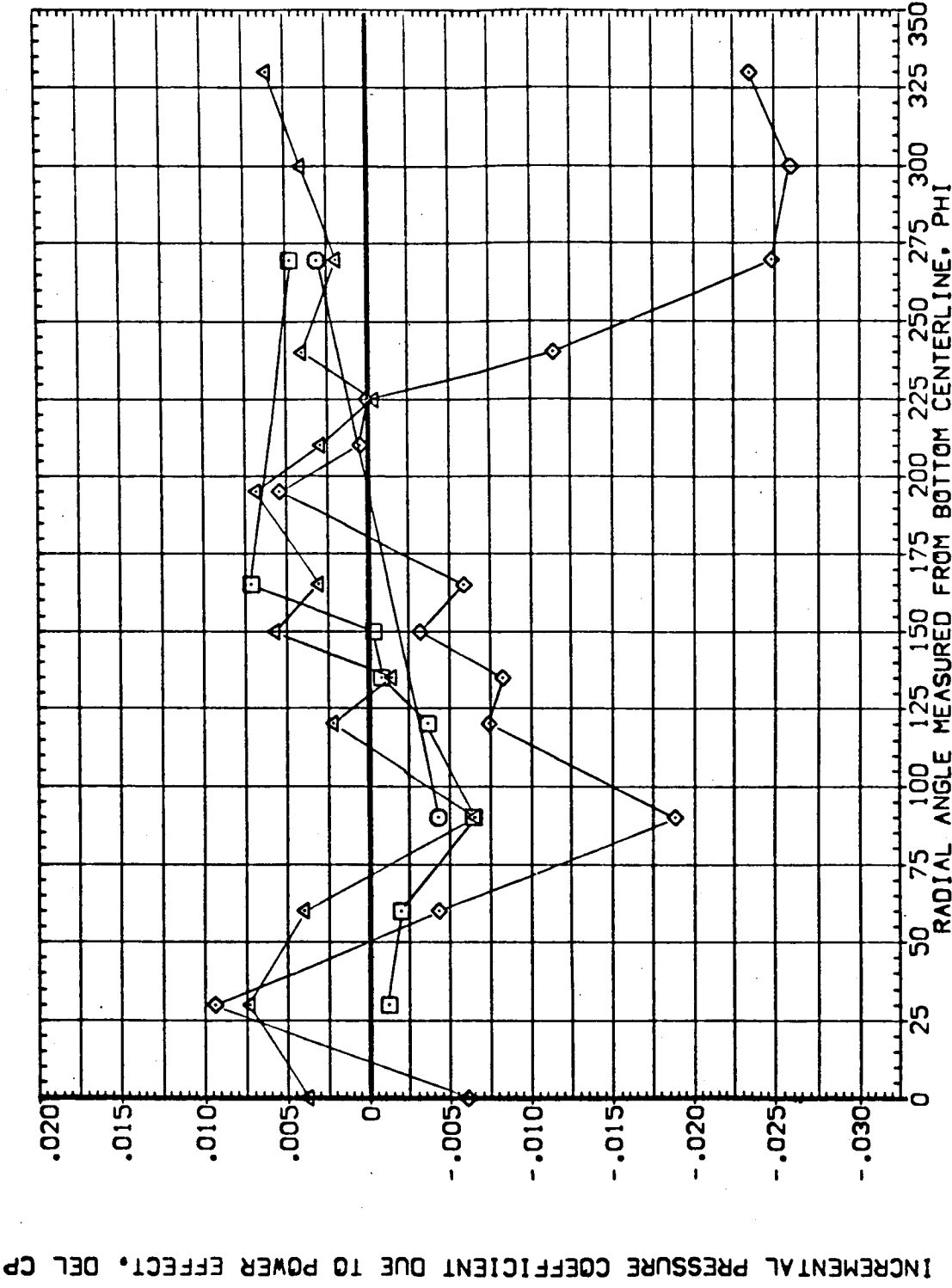


FIG. 104 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-014JA19 OTS+STRUT SRB-NOM MPS-OFF EXT TANK(FEUT15)

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

SYMBOL X/L BETA ALPHA
 ◊ .634 4.000 .000
 ◻ .742 .000
 ◐ .851
 ◑ .985

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

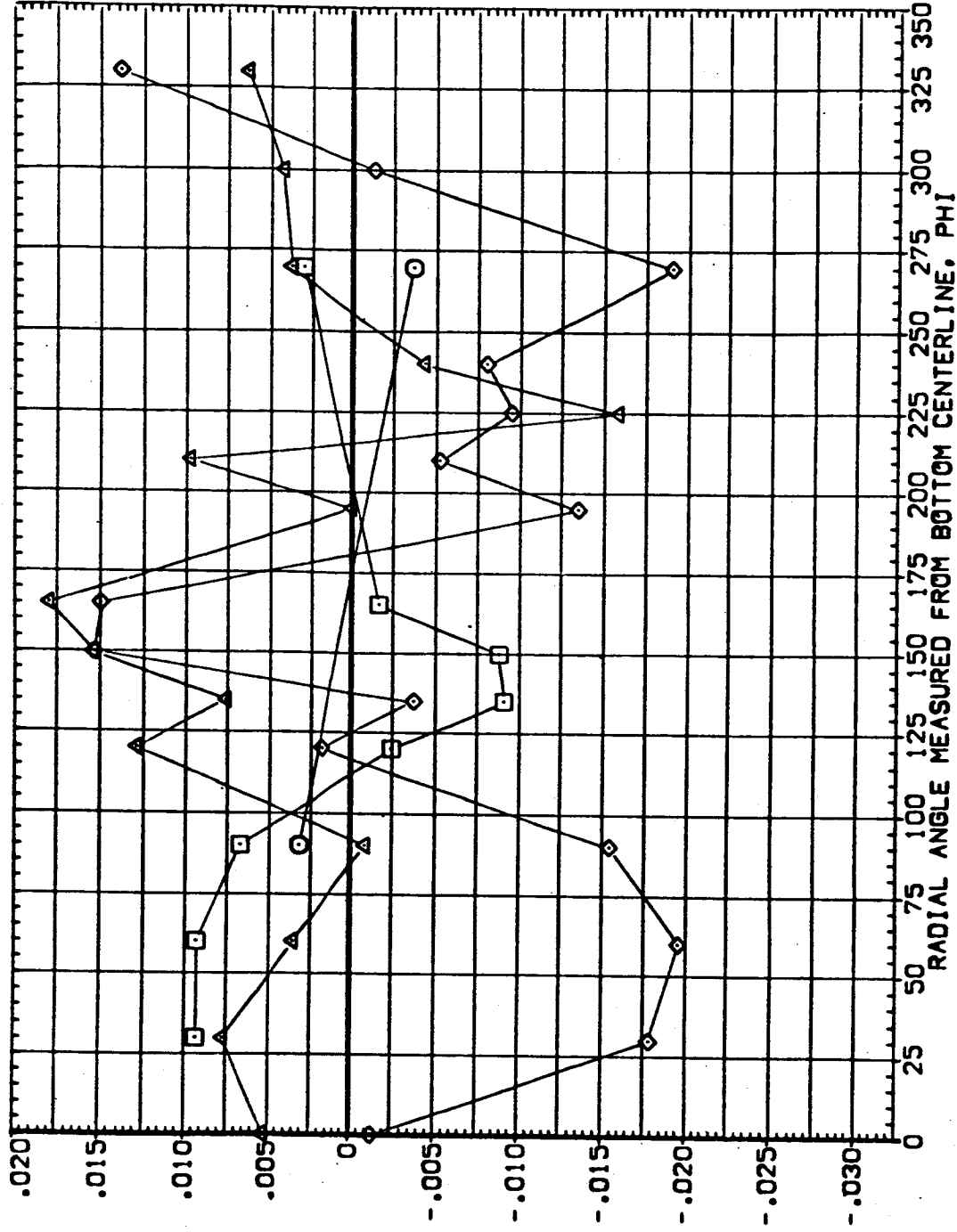


FIG. 104 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF EXT TANK(EAUT16)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

SYMBOL X/L BETA ALPHA
 □ .634 .000 -4.000
 ○ .742
 ◇ .651
 △ .906

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

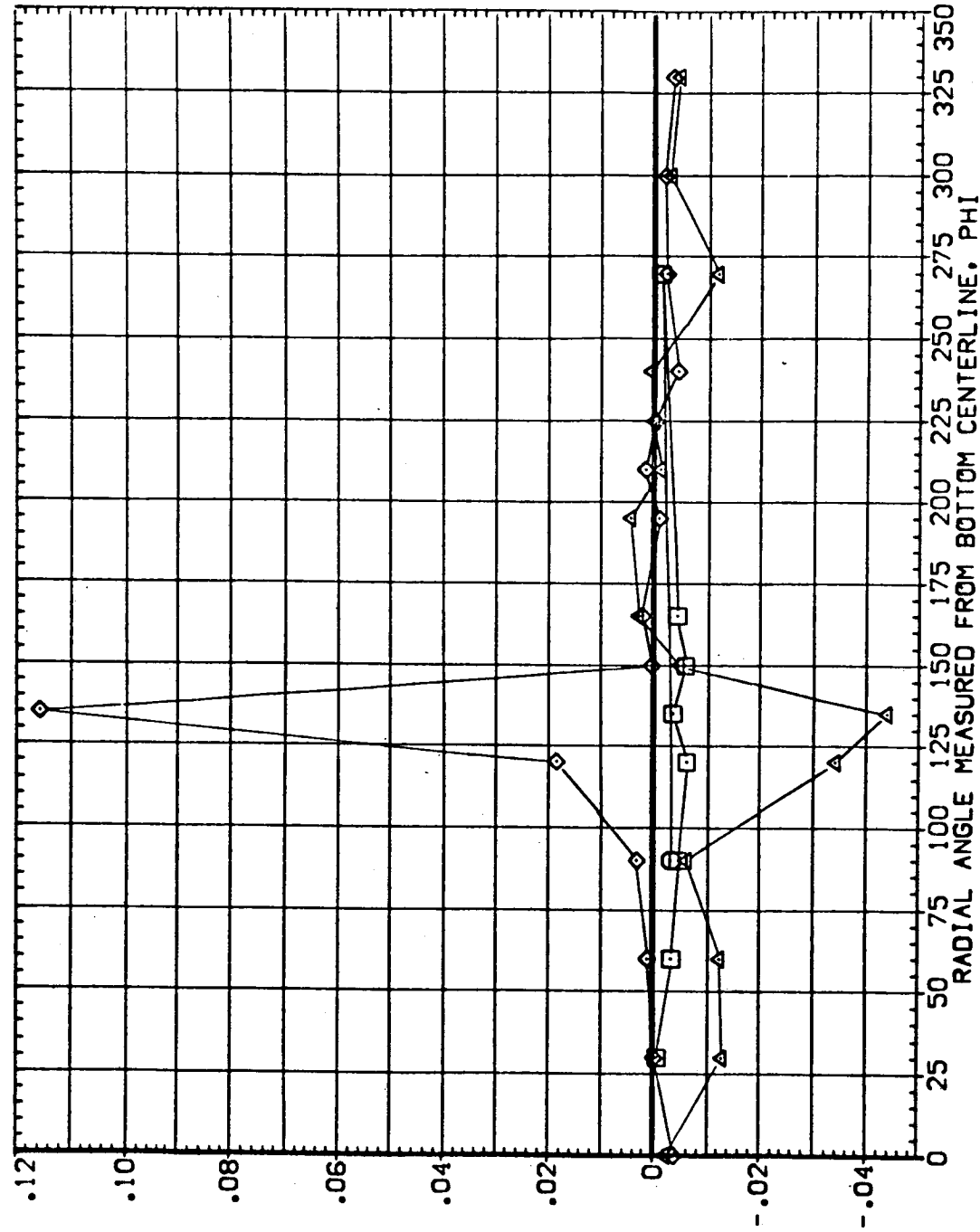


FIG. 104 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF EXT TANK(EAUT16)

SYMBOL	X/L	BETA	ALPHA	ELV-18	ELV-08
□	.634	.000	.000	RUDDER	MACH
◇	.742			GIMBAL	
△	.851				
	.986				

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

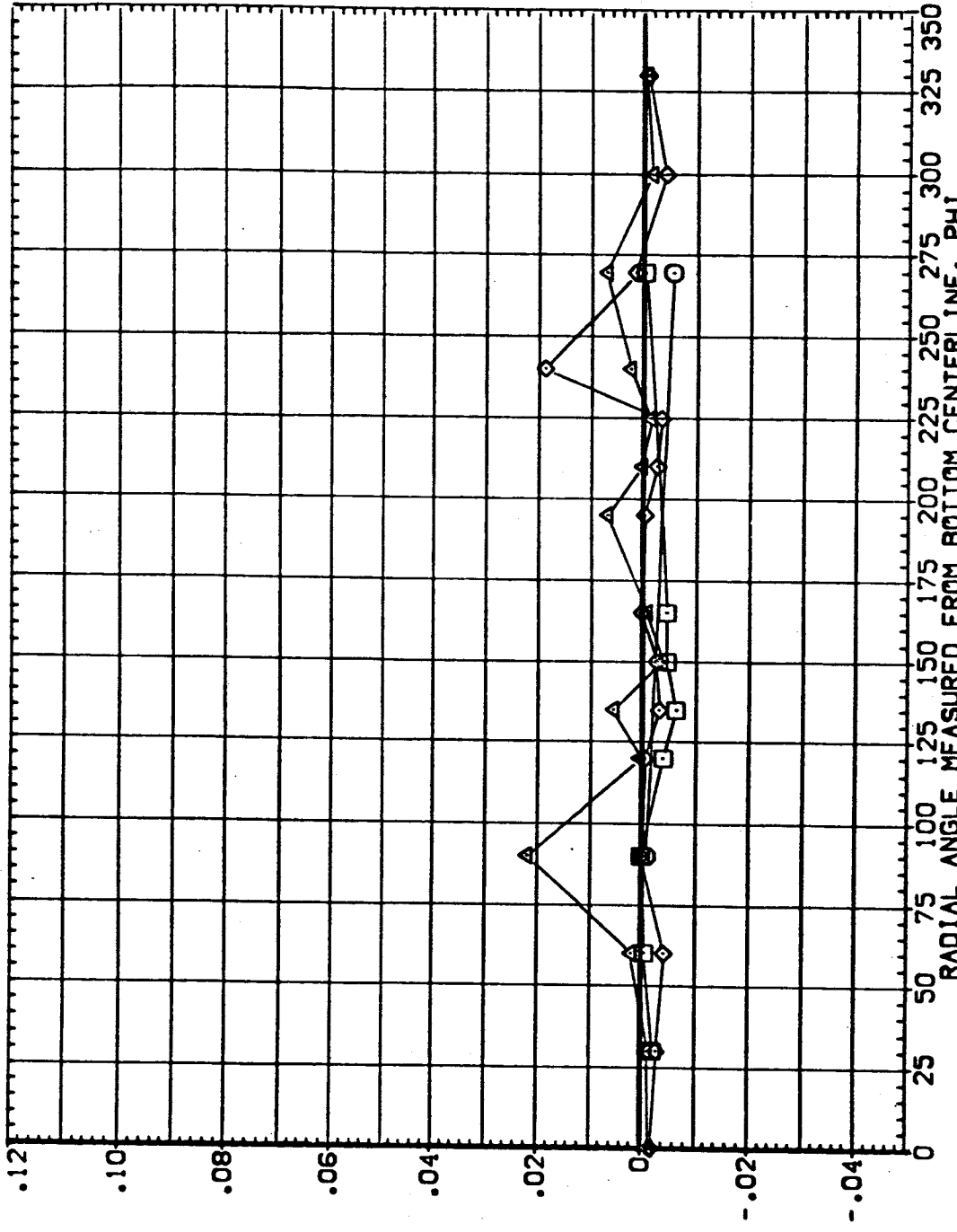


FIG. 104 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF EXT TANK(EAUT16)

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES
○	.634	.000	1.000	ELV-18 8.000 ELV-09 4.000
□	.742			RUDER .000 MACH 1.400
◇	.851			GIMBAL 1.000
△	.906			

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

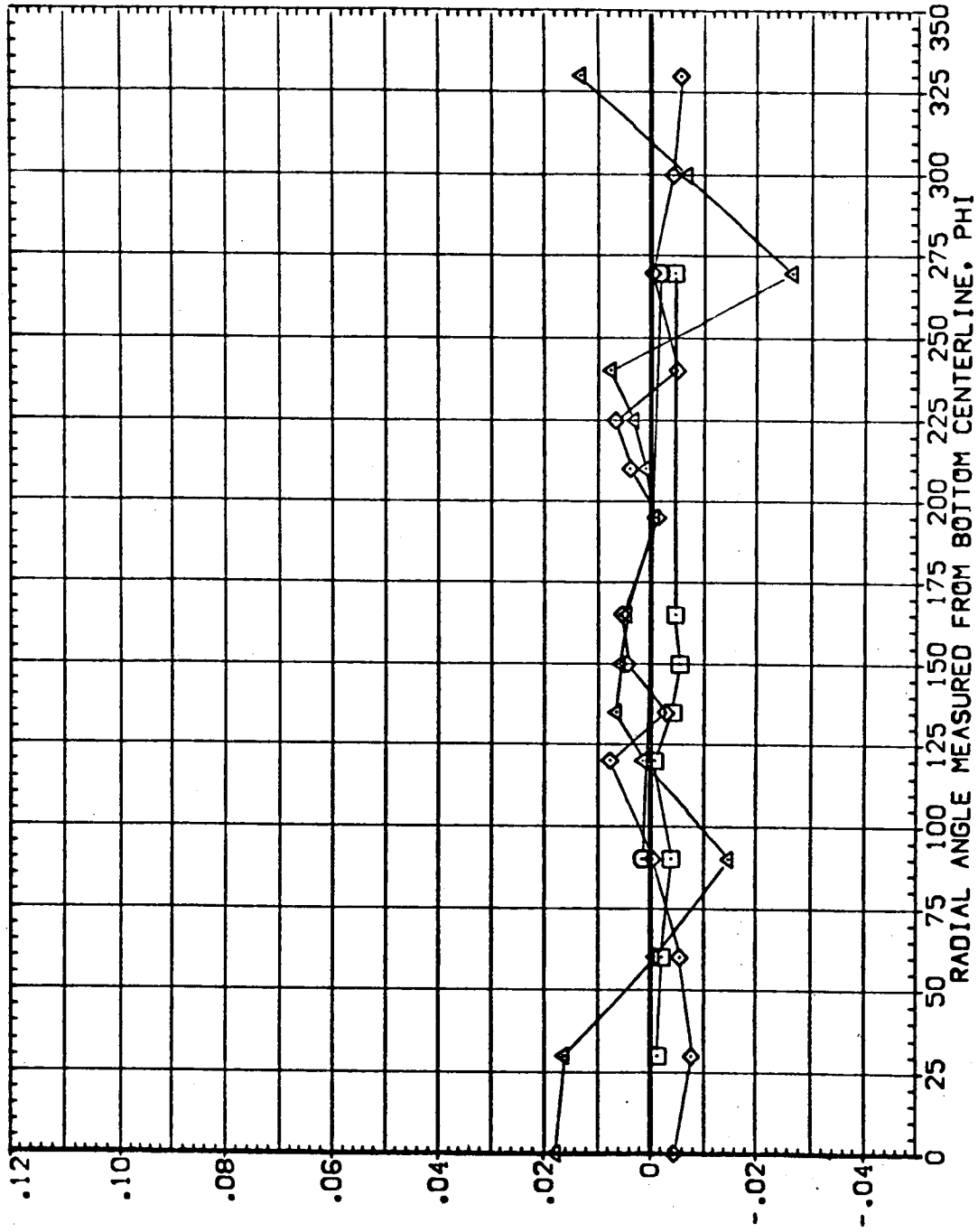


FIG. 104 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF EXT TANK(FEUT16)

SYMBOL X/L BETA ALPHA

◇	.634	-4.000	.000
□	.742		
○	.851		
◇	.986		

PARAMETRIC VALUES

ELV-18	8.000	ELV-08	4.000
RUDDER	.000	MACH	1.400
GIMBAL	1.000		

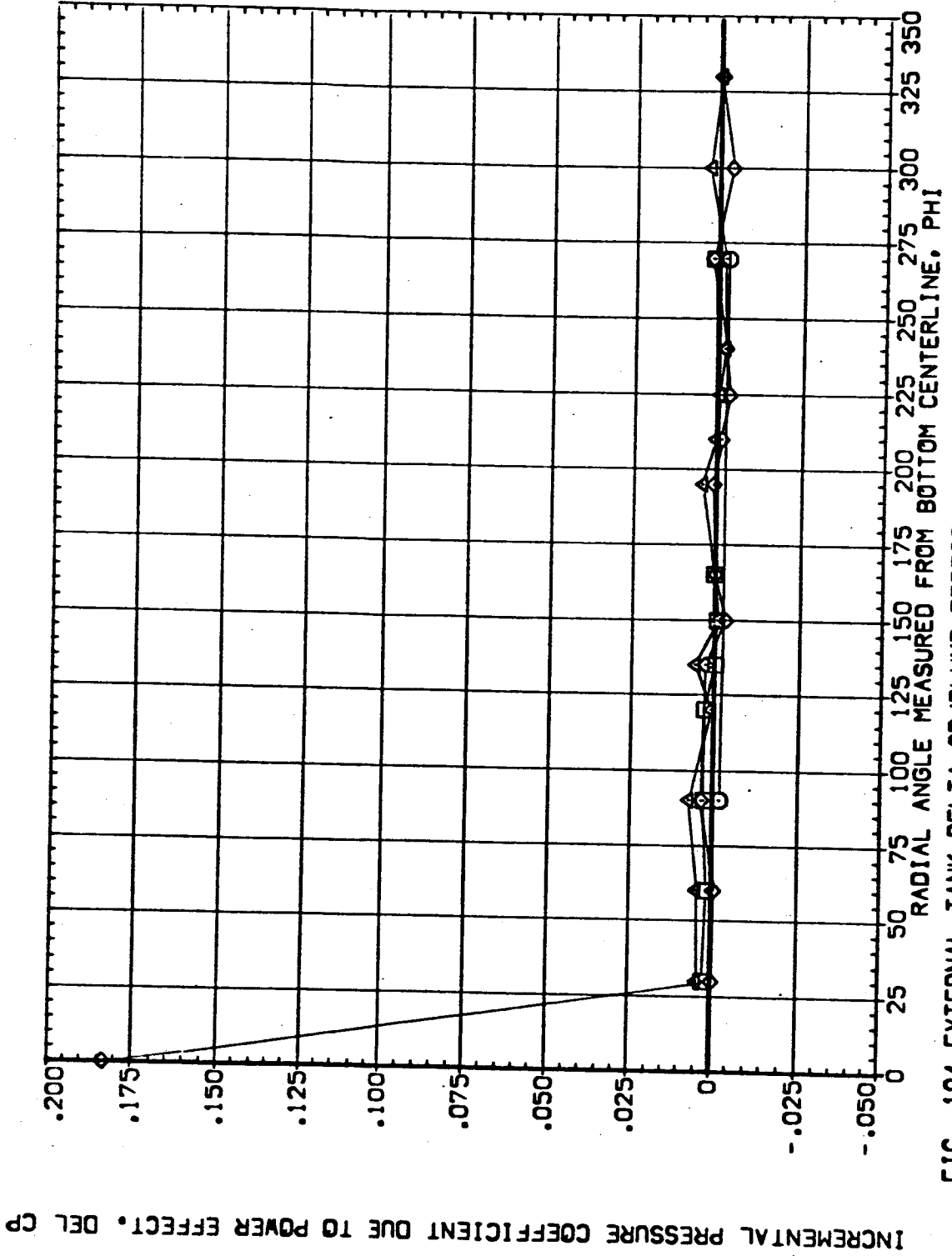


FIG. 104 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF EXT TANK (FEUT16)

SYMBL	X/L	BETA	ALPHA	PARAMETRIC VALUES
○	.634	1.000	.000	ELV-18 8.000 ELV-08 4.000
□	.742			RUDER .000 MACH 1.400
◇	.851			GIMBAL 1.000
△	.988			

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

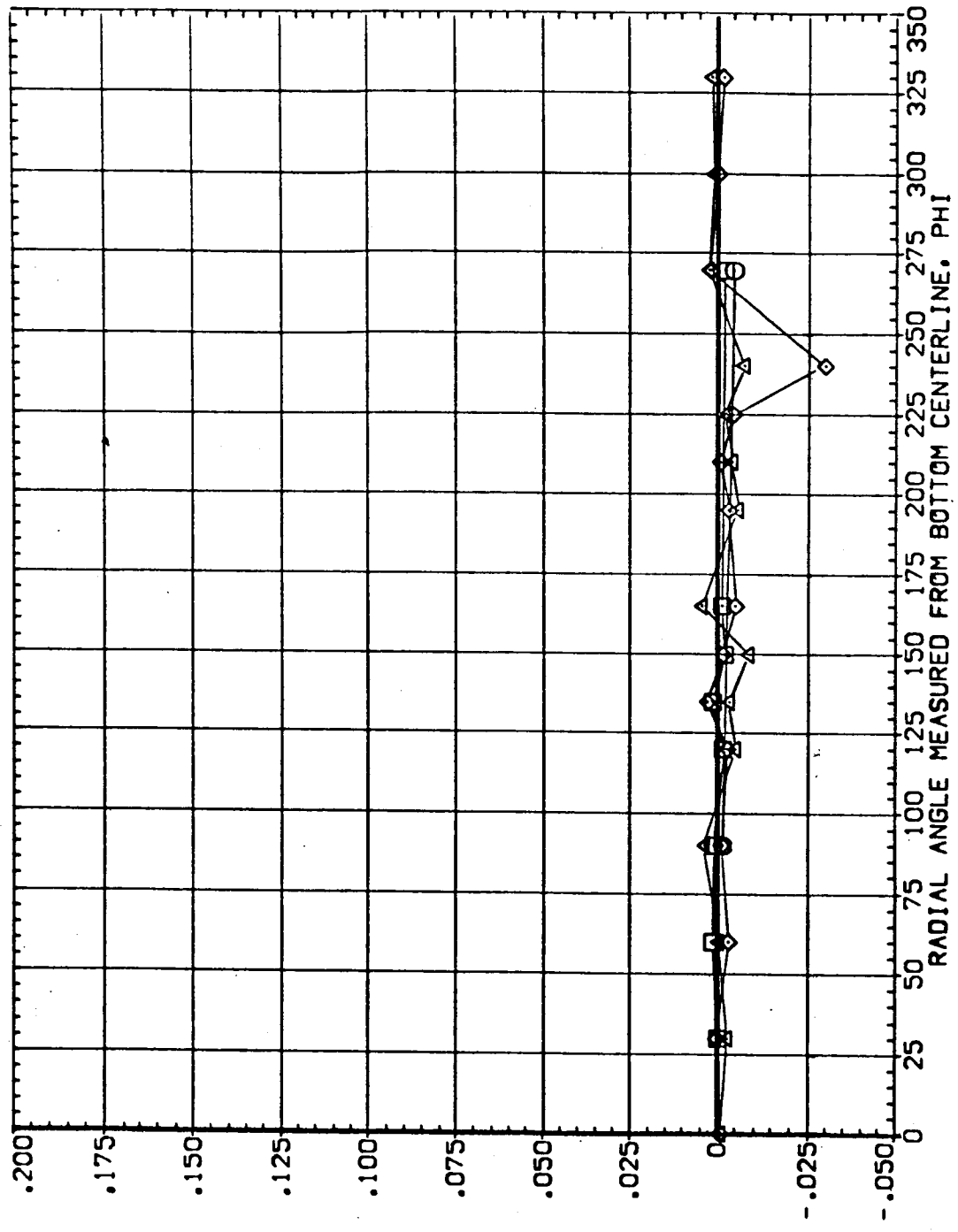


FIG. 104 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF



ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF SRB BODY (BEUSO1)

SYMBOL	PHI	BETA	ALPHA	ELV-09	ELV-09
○	.000	.000	-4.000	8.000	4.000
□	90.000			.000	.900
◇	180.000			1.000	
△	270.000				

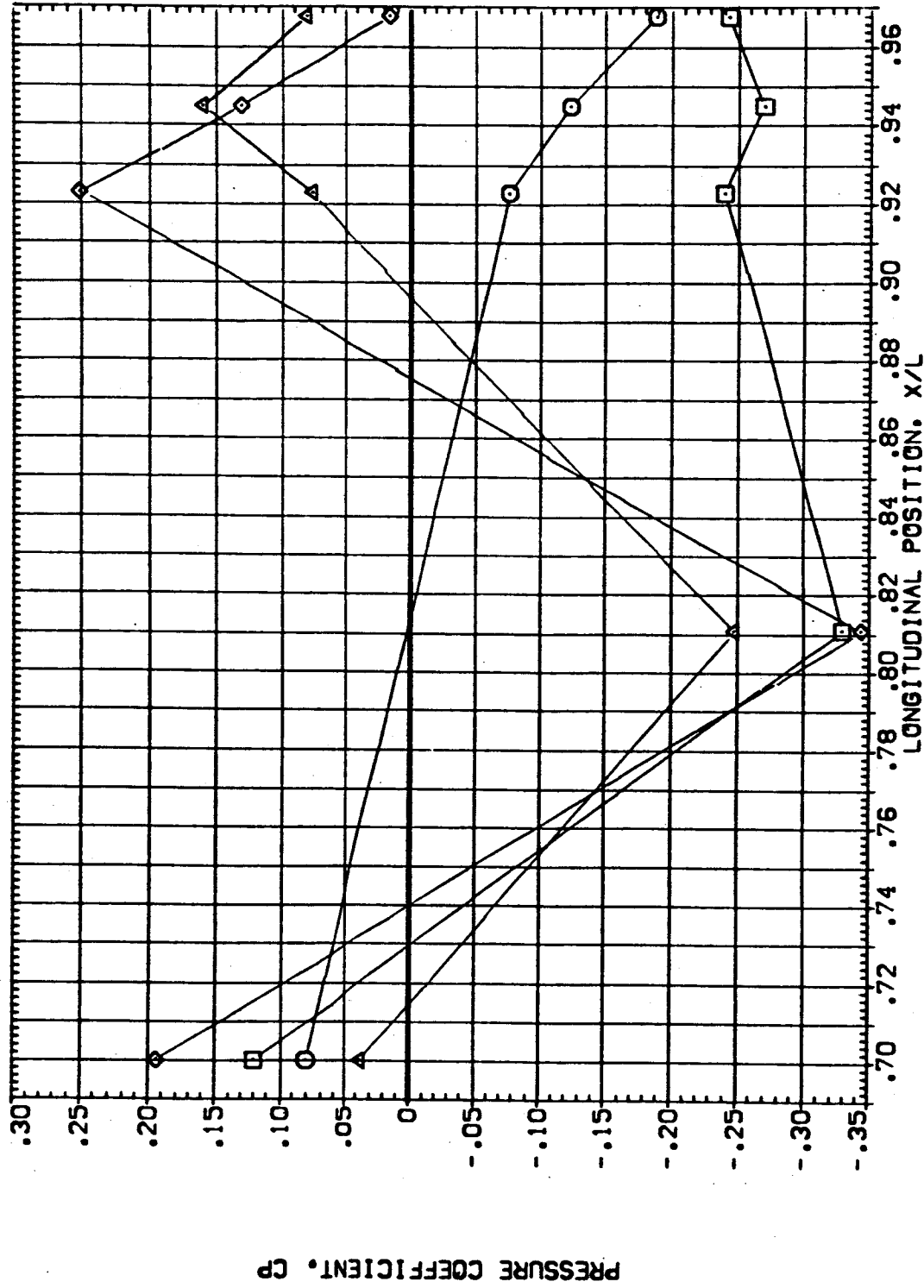


FIG. 105 SRM BOOSTER PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF SRB BODY (BEUS01)

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-08 4.000
 RUDDER .000 MACH .500
 GIMBAL 1.000

PHI .000 BETA .000 ALPHA .000
 50.000
 180.000
 270.000

SYMBOL
 ○ □ ◇ △

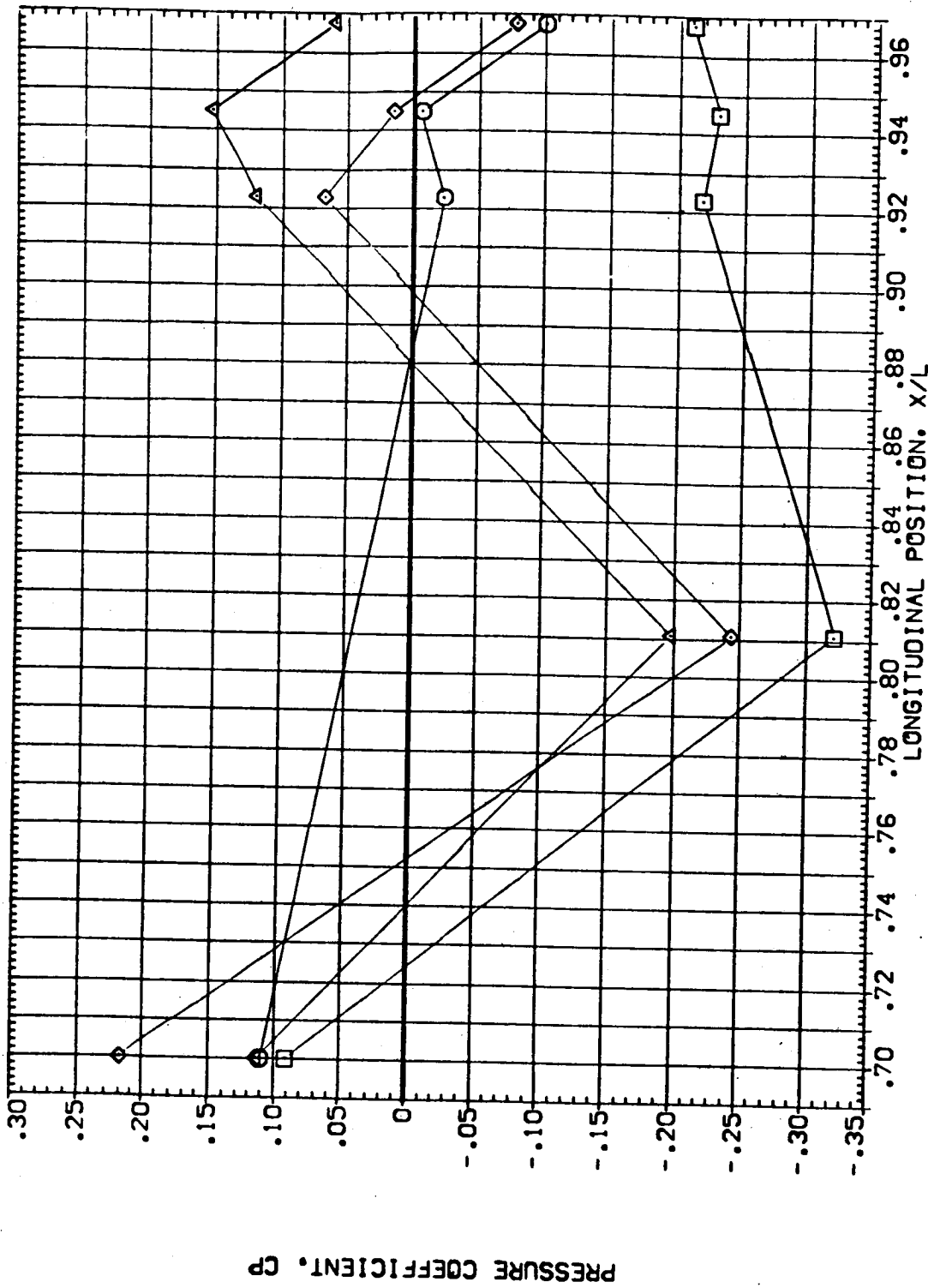


FIG. 105 SRM BOOSTER PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF SRB BODY (BEUS01)

PHI	BETA	ALPHA	ELV-IB	ELV-CB
.000	.000	4.000	RUDER	MACH
90.000			GIMBAL	
180.000				
270.000				

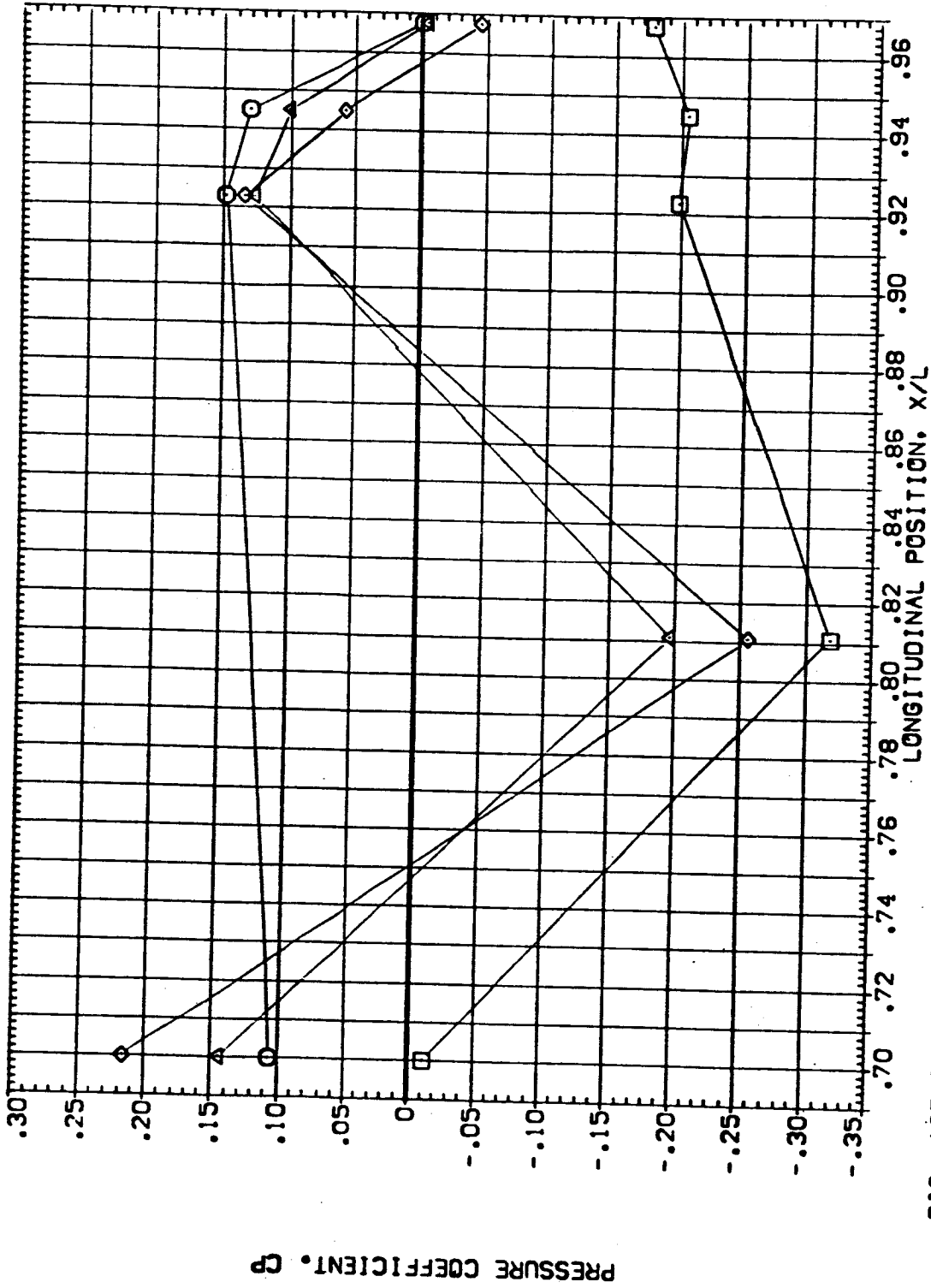


FIG. 105 SRM BOOSTER PRESSURE COEFFICIENT DISTRIBUTION. POWER OFF

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES
○	.000	-1.000	.000	ELV-19 6.000 ELV-69 4.000
□	90.000			RUDDER .000 MACH .900
◇	180.000			
△	270.000			

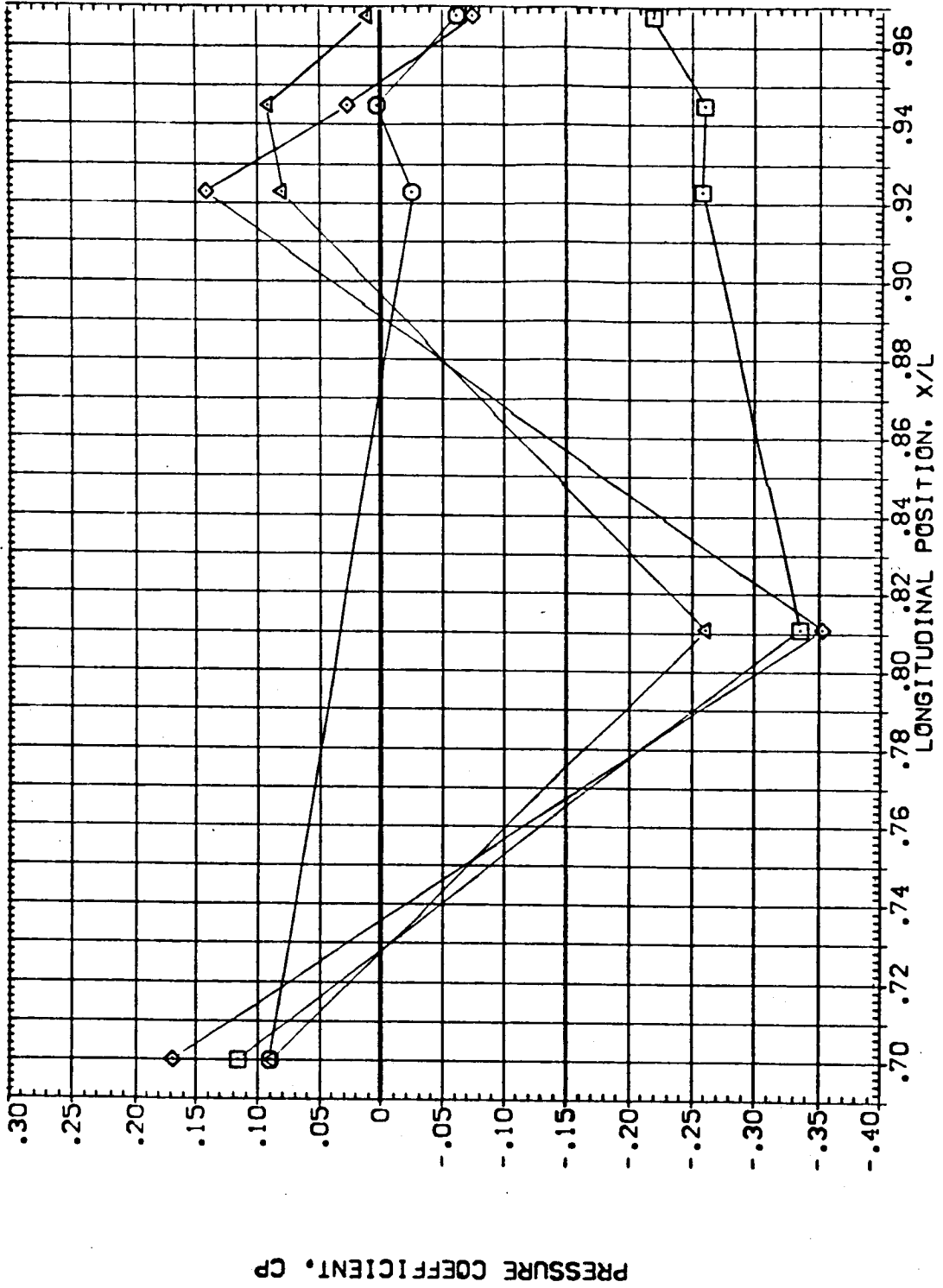


FIG. 105 SRM BOOSTER PRESSURE COEFFICIENT DISTRIBUTION POWER OFF



ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF SRB BODY(CEUS01)

SYMBOL PHI BETA ALPHA
 ○ .000 1.000 .000
 □ 90.000
 ◇ 180.000
 △ 270.000

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH
 GIMBAL 1.000

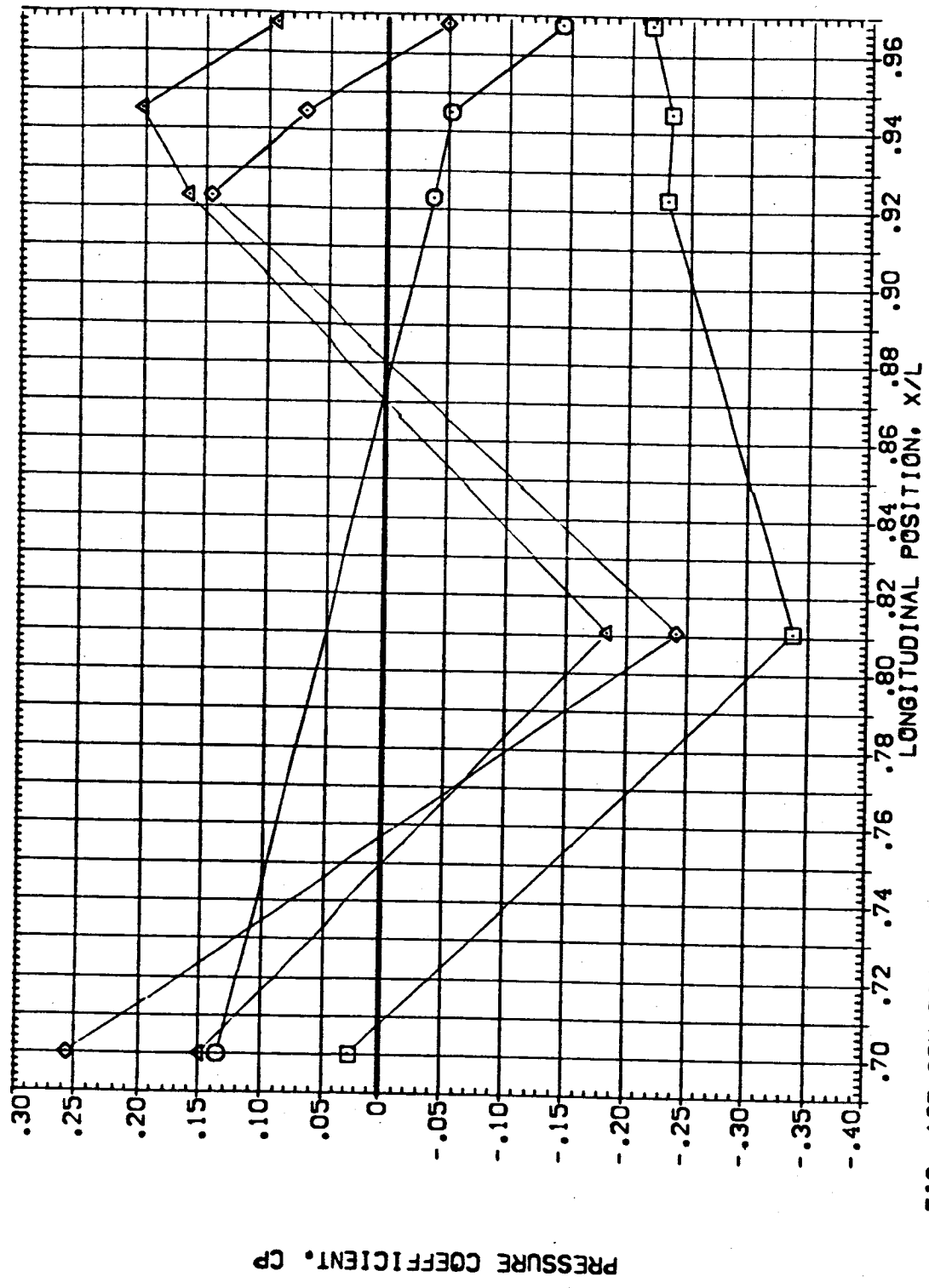


FIG. 105 SRM BOOSTER PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF SRB BODY (BEUS02)

SYMBOL PHI BETA ALPHA

○ .000 .000 -4.000

□ 90.000

◇ 180.000

△ 270.000

PARAMETRIC VALUES

ELV-IB 8.000 ELV-OB 4.000

RUDDER .000 MACH 1.100

GIMBAL 1.000

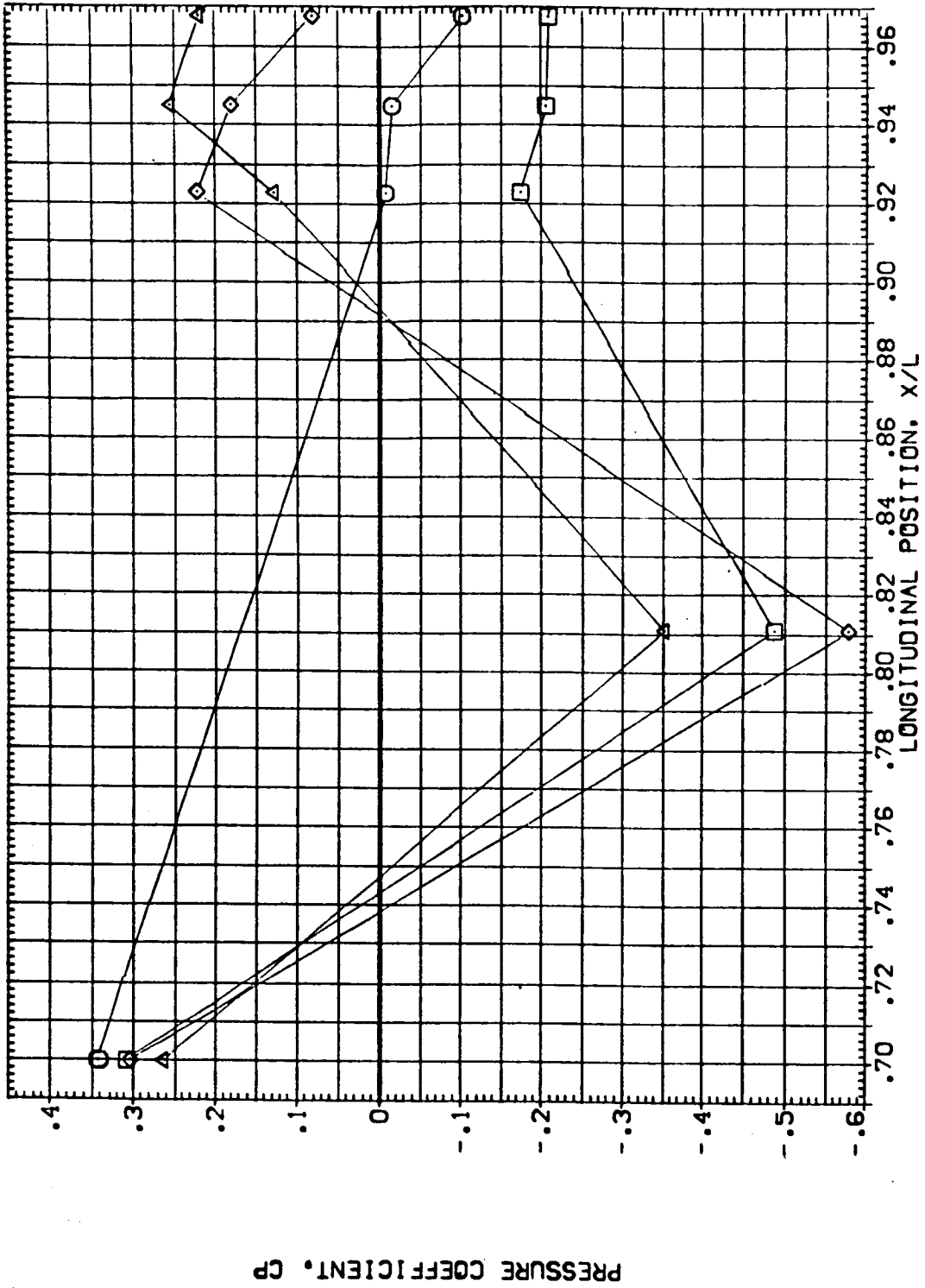


FIG. 105 SRM BOOSTER PRESSURE COEFFICIENT DISTRIBUTION POWER OFF



ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF SRB BODY (BEUS02)

SYMBOL	PHI	BETA	ALPHA	ELV-19	ELV-09	PARAMETRIC VALUES
○	.000	.000	.000	RUDDER	MACH	4.000
□	90.000			GIMBAL		1.100
◇	180.000					
△	270.000					

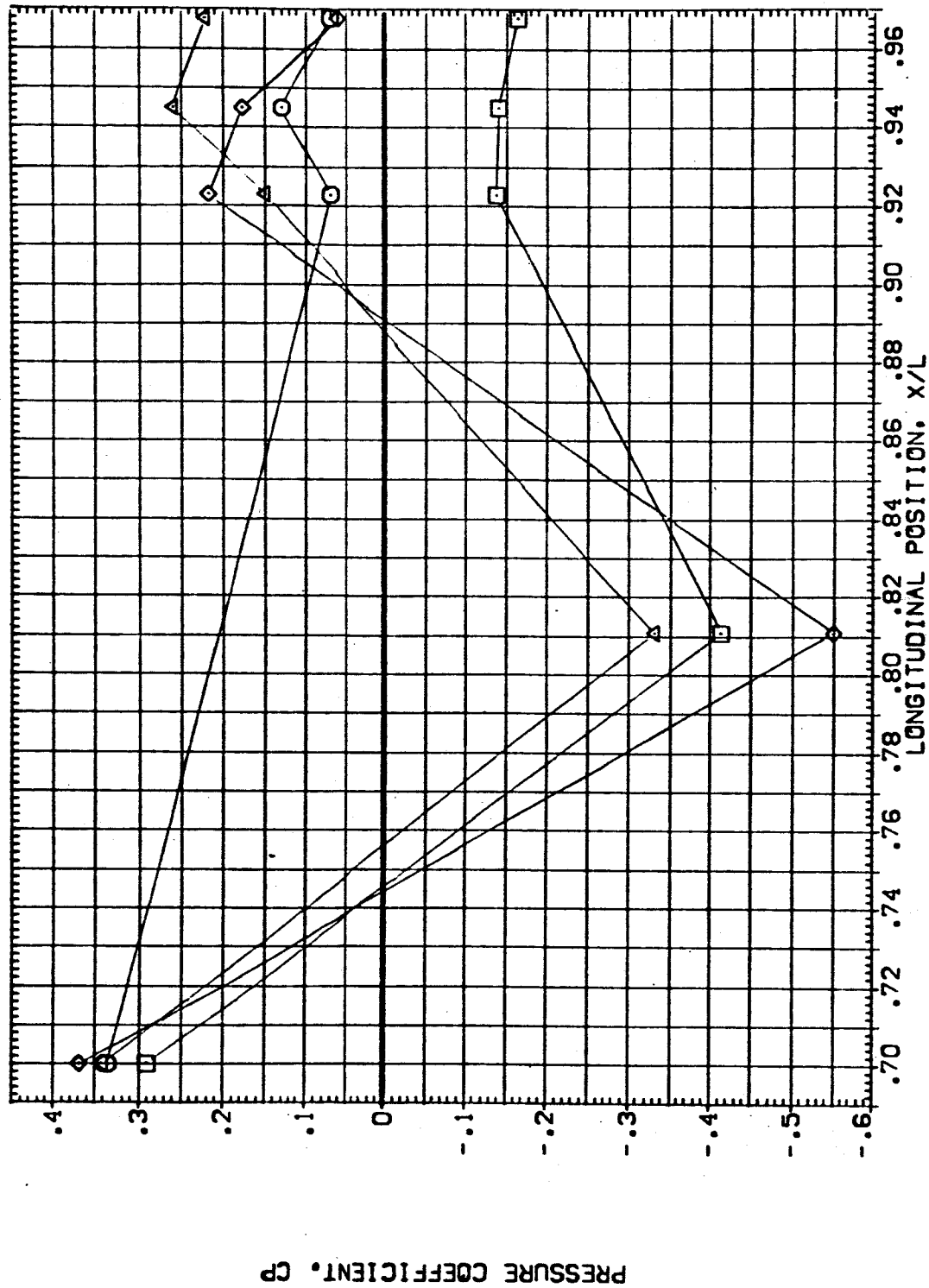


FIG. 105 SRM BOOSTER PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF SRB BODY (BEUS02)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES
○	.000	.000	4.000	ELV-18
□	90.000			RUDER
◇	180.000			GIMBAL
△	270.000			
				ELV-08
				MACH
				1.100
				1.000

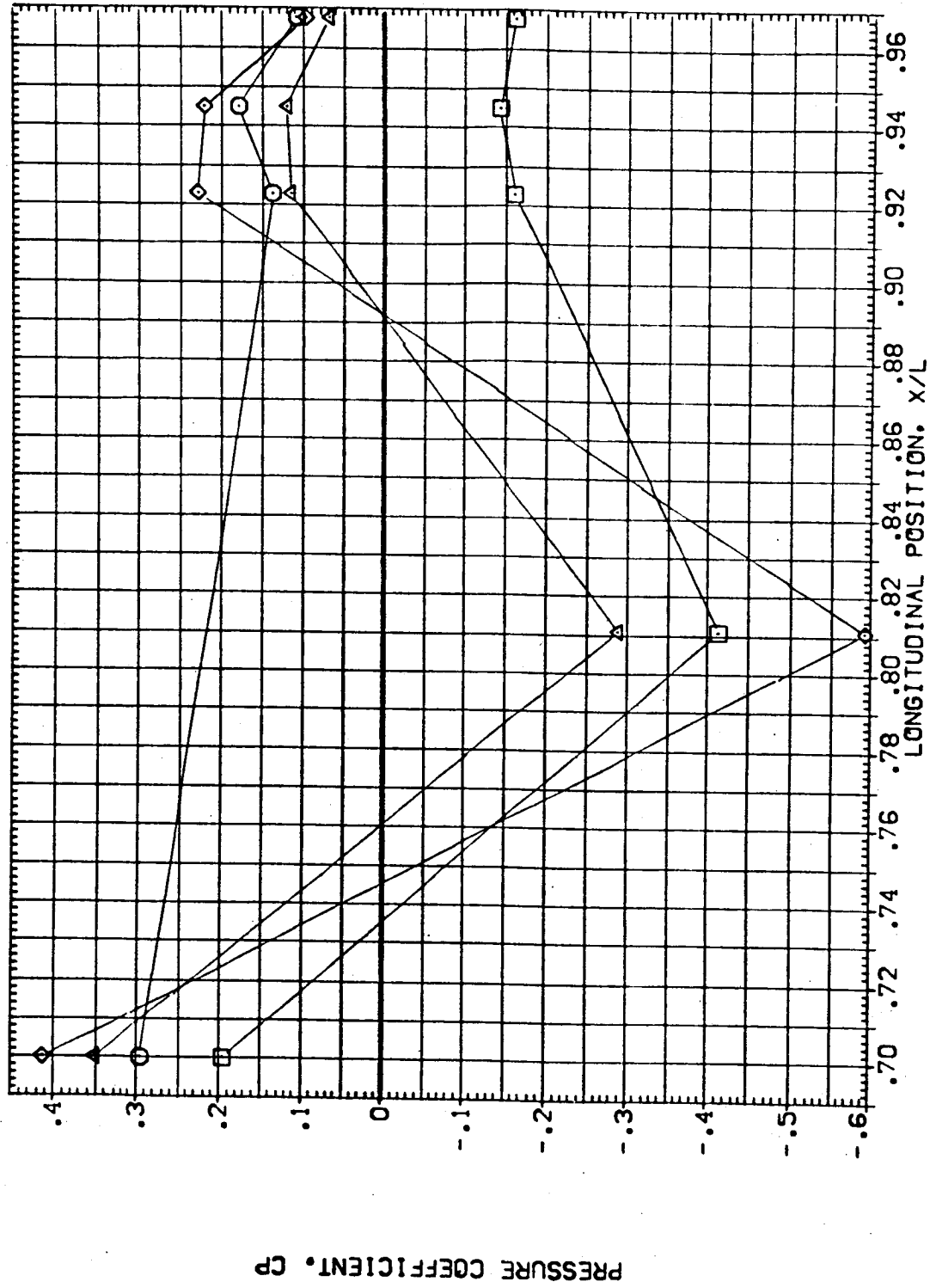


FIG. 105 SRM BOOSTER PRESSURE COEFFICIENT DISTRIBUTION POWER OFF



ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF SRB BODY (CEUS02)

PARAMETRIC VALUES	
PHI	ELV-18
.000	8.000
90.000	.000
180.000	1.000
270.000	
BETA	ELV-08
-1.000	MACH
ALPHA	
.000	
RUDER	
GIMBAL	

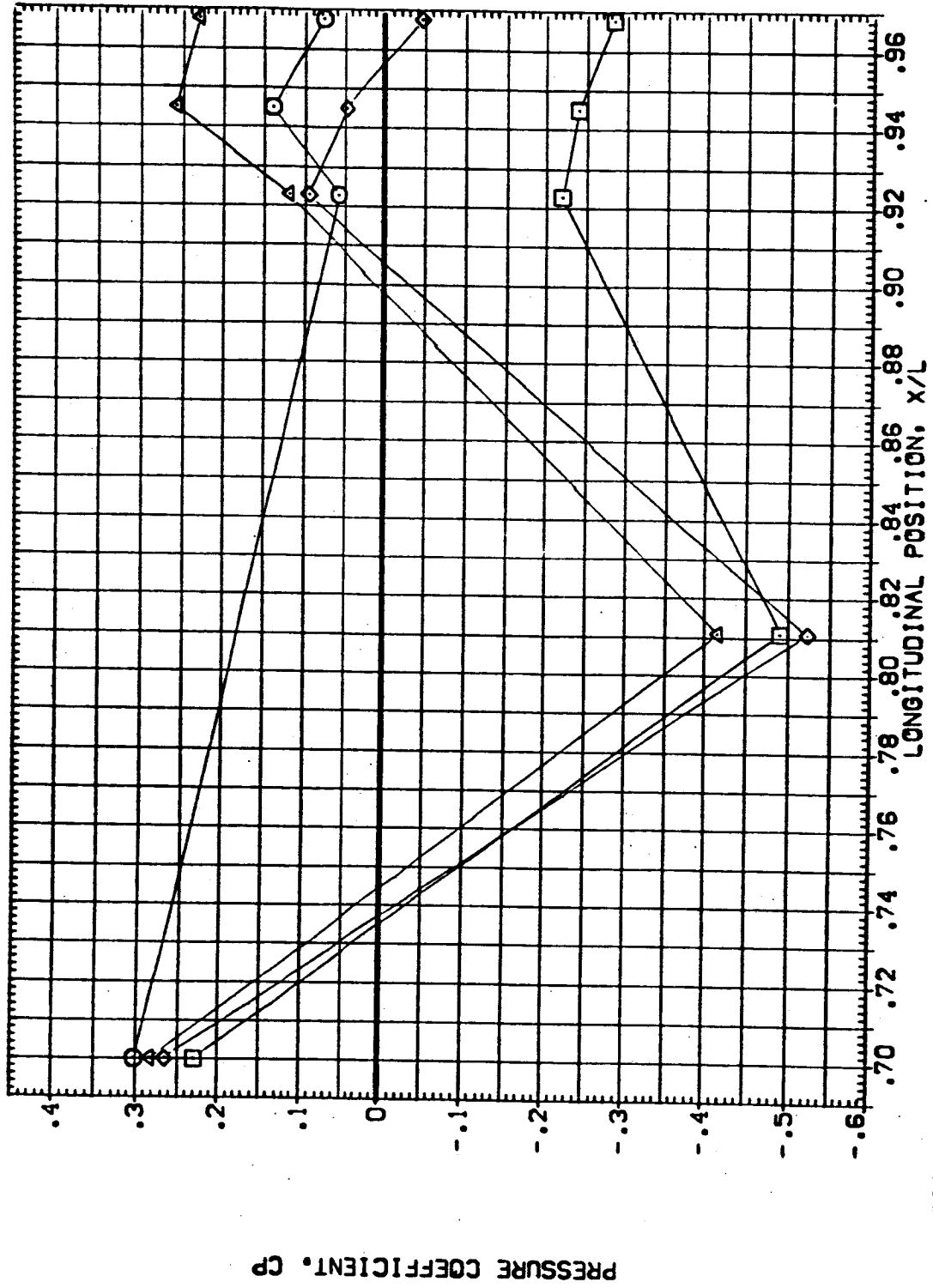


FIG. 105 SRM BOOSTER PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF SRB BODY (CEUS02)

SYMBOL PHI BETA ALPHA
 ○ .000 4.000 .000
 □ 90.000
 ◇ 180.000
 △ 270.000

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

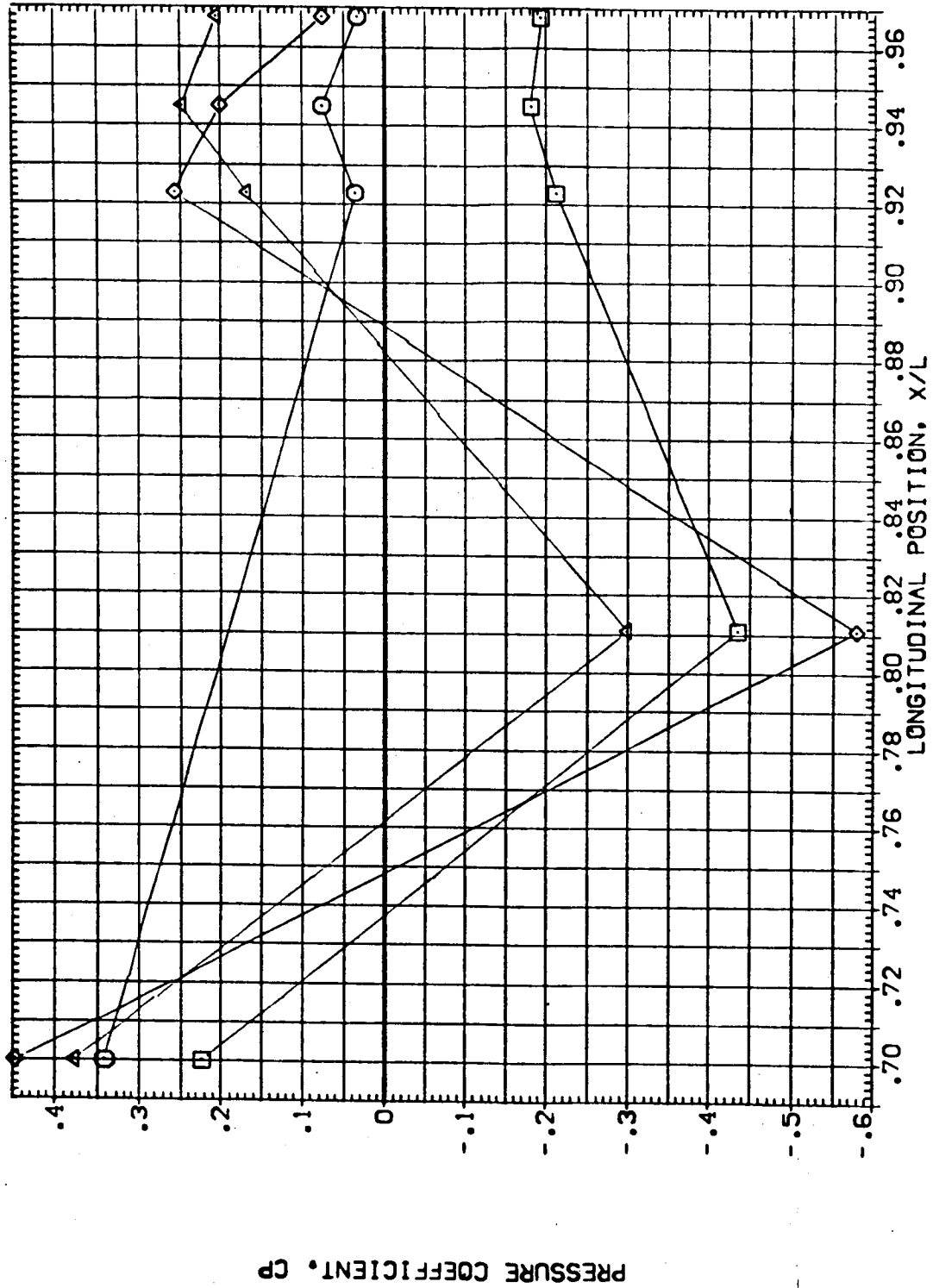


FIG. 105 SRM BOOSTER PRESSURE COEFFICIENT DISTRIBUTION POWER OFF



ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF SRB BODY (BEUS03)

SYMBOL	PHI	BETA	ALPHA	ELV-18	ELV-08
○	.000	.000	-4.000	8.000	1.000
□	90.000			RUDDER	MACH
◇	180.000			1.000	1.250
△	270.000			GIMBAL	1.000

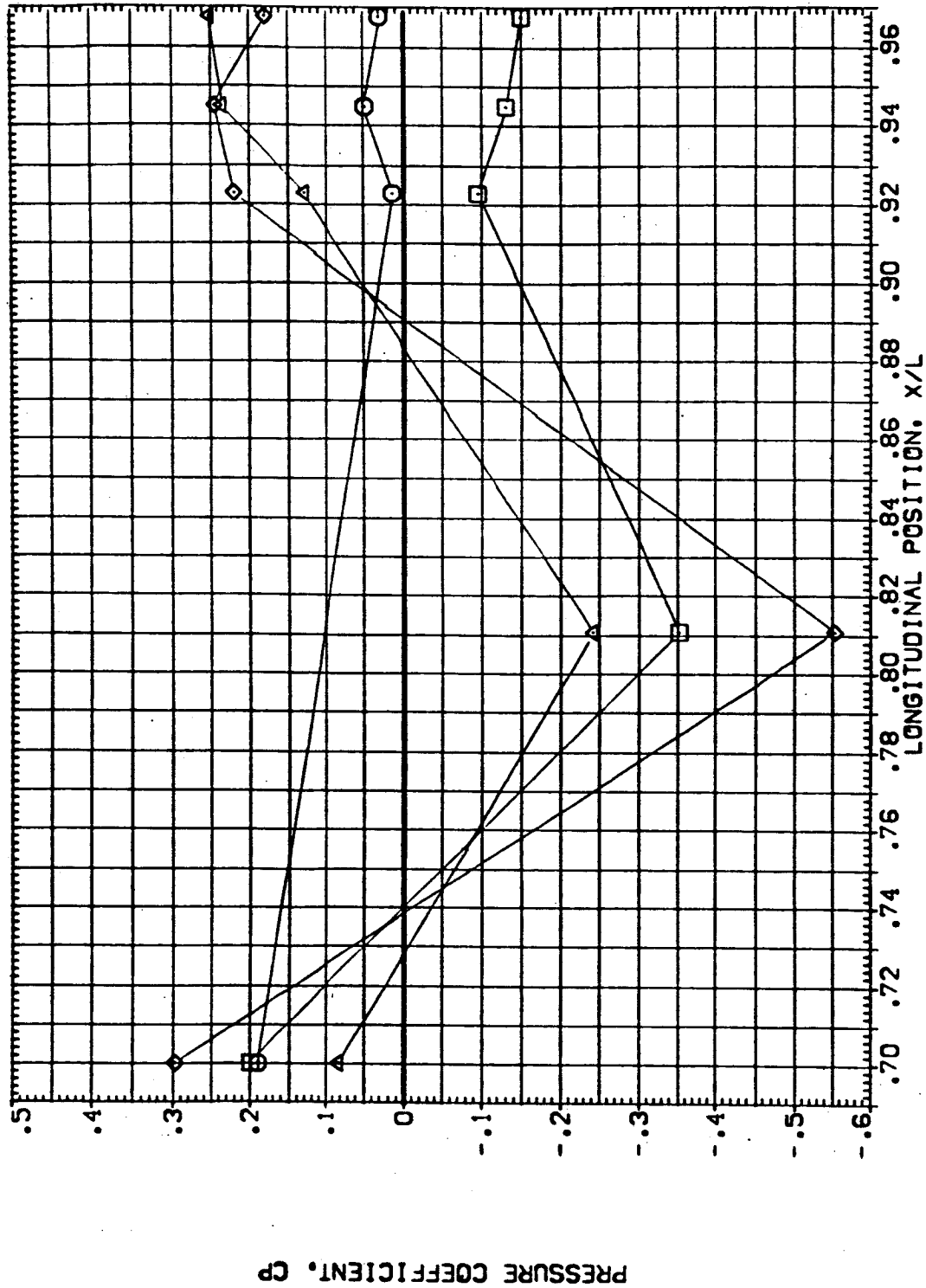


FIG. 105 SRM BOOSTER PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF SRB BODY (BEUS03)

SYMBOL PHI BETA ALPHA
 ○ .000 .000 .000
 □ 90.000 .000 .000
 ◇ 180.000 .000 .000
 △ 270.000 .000 .000

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

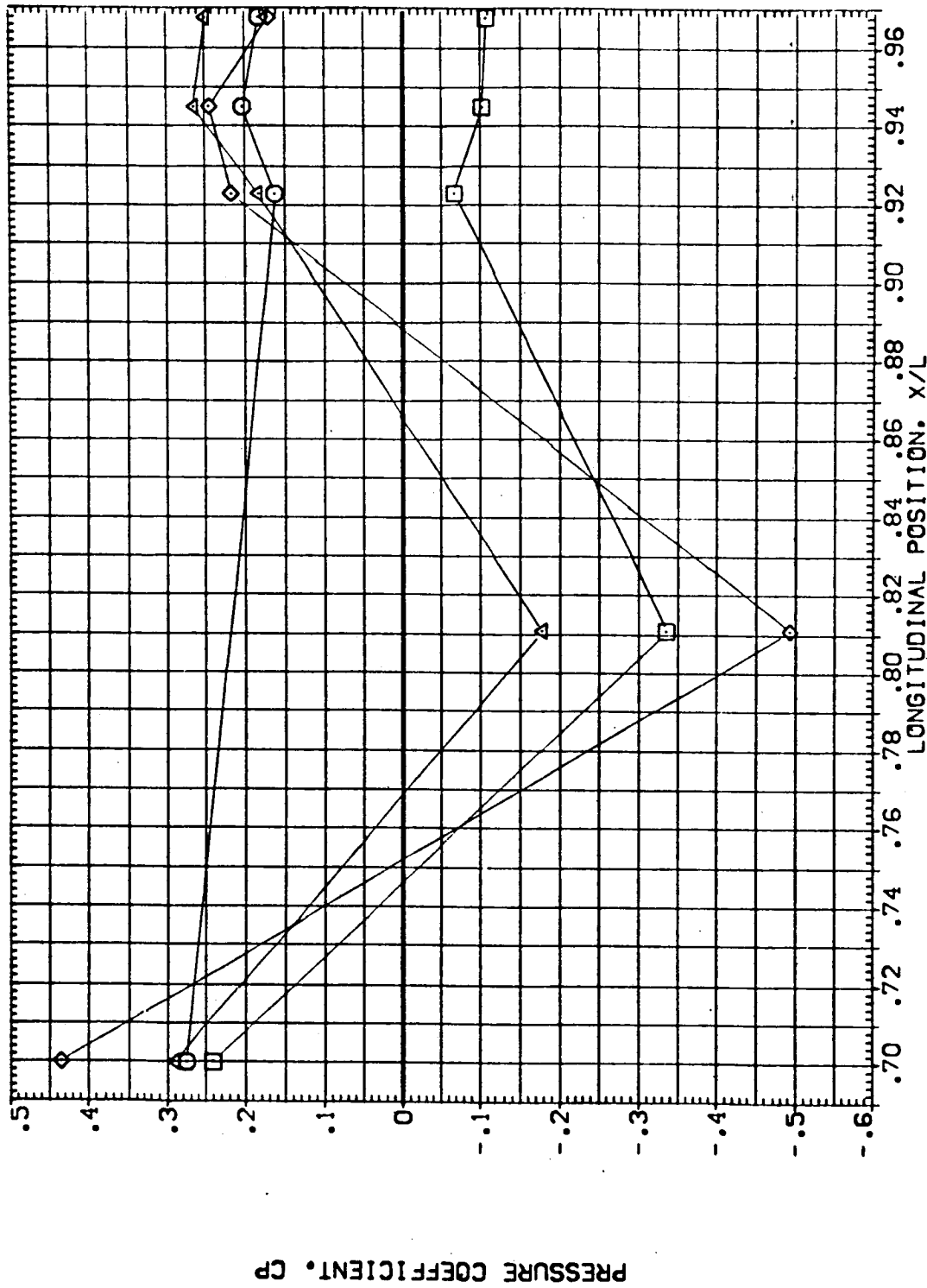


FIG. 105 SRM BOOSTER PRESSURE COEFFICIENT DISTRIBUTION POWER OFF



ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF SRB BODY (BEUS03)

PHI	BETA	ALPHA	ELV-19	ELV-09
.000	.000	4.000	8.000	4.000
90.000			.000	MACH
180.000			1.000	1.250
270.000				

SYMBOL	
○	
□	
◇	
△	

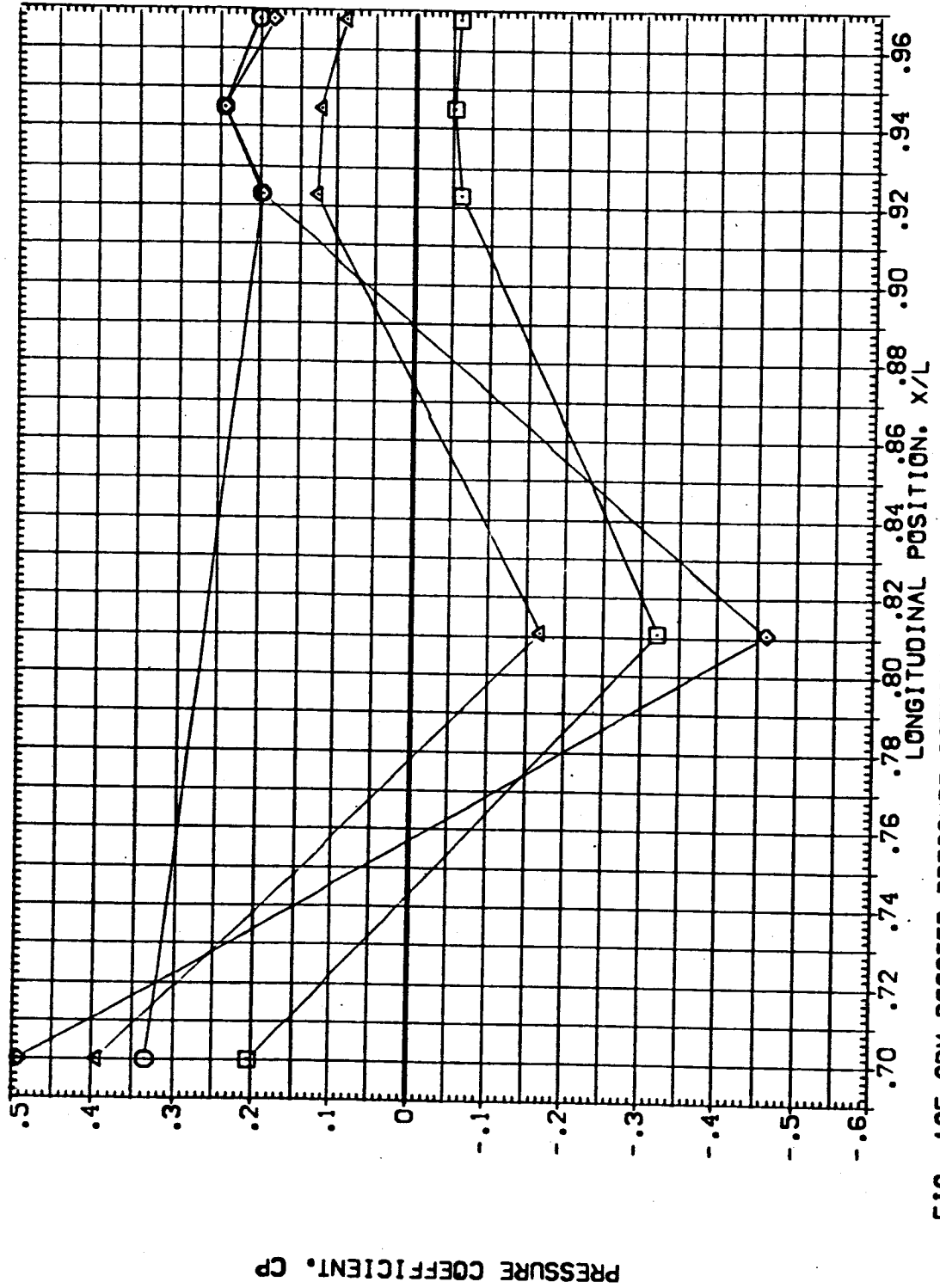


FIG. 105 SRM BOOSTER PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF SRB BODY (CEUS03)

PARAMETRIC VALUES
 ELV-10 0.000 ELV-09 1.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

PHI .000 BETA -4.000 ALPHA .000
 90.000
 180.000
 270.000

SYMBOL
 ○ □ ◇ △

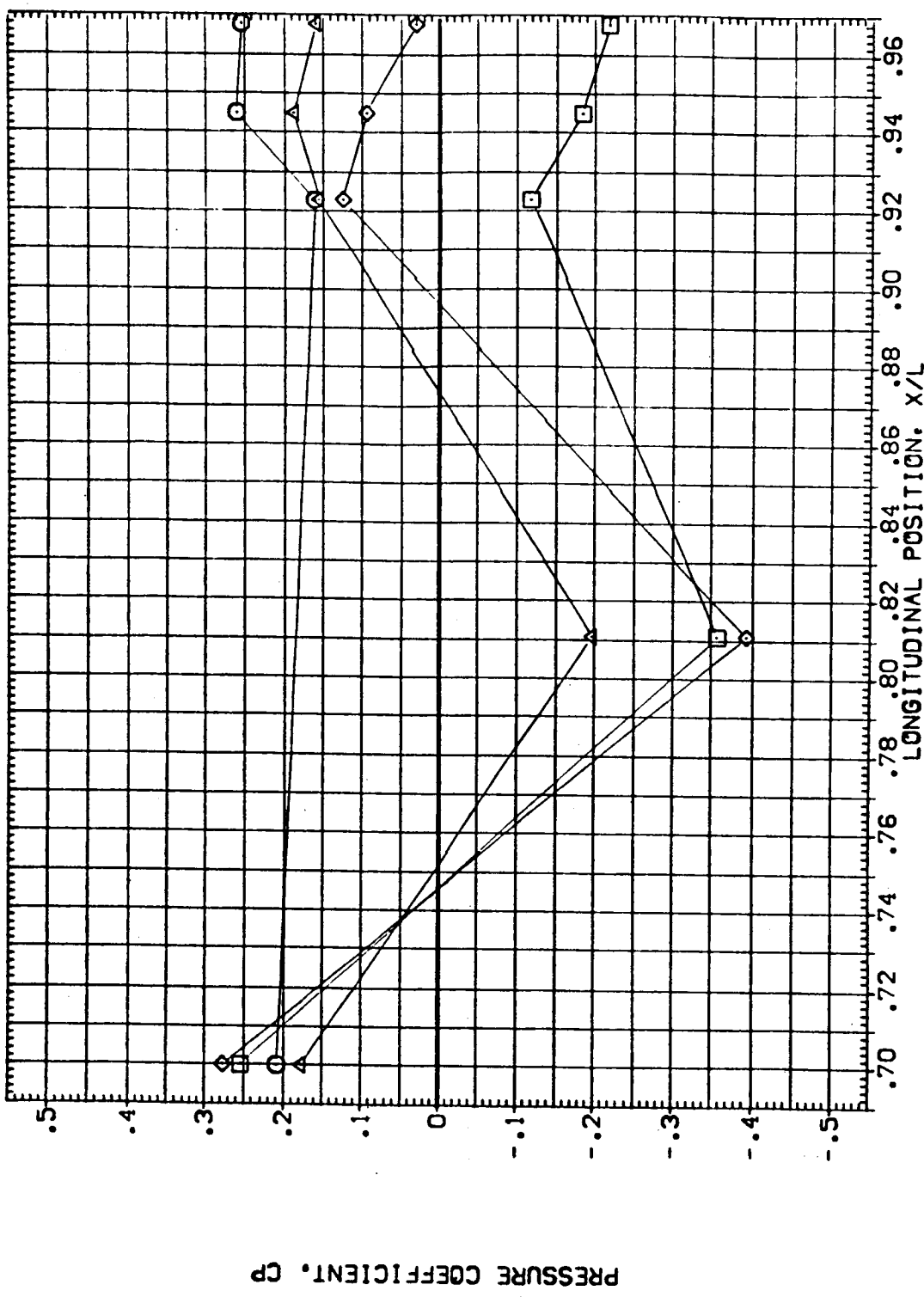


FIG. 105 SRM BOOSTER PRESSURE COEFFICIENT DISTRIBUTION POWER OFF



ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF SRB BODY (CEUS03)

PHI	BETA	ALPHA	PARAMETRIC VALUES	
.000	4.000	.000	ELV-1B	ELV-0B
90.000			RUDER	MACH
180.000			GIMBAL	
270.000				4.000
				1.250

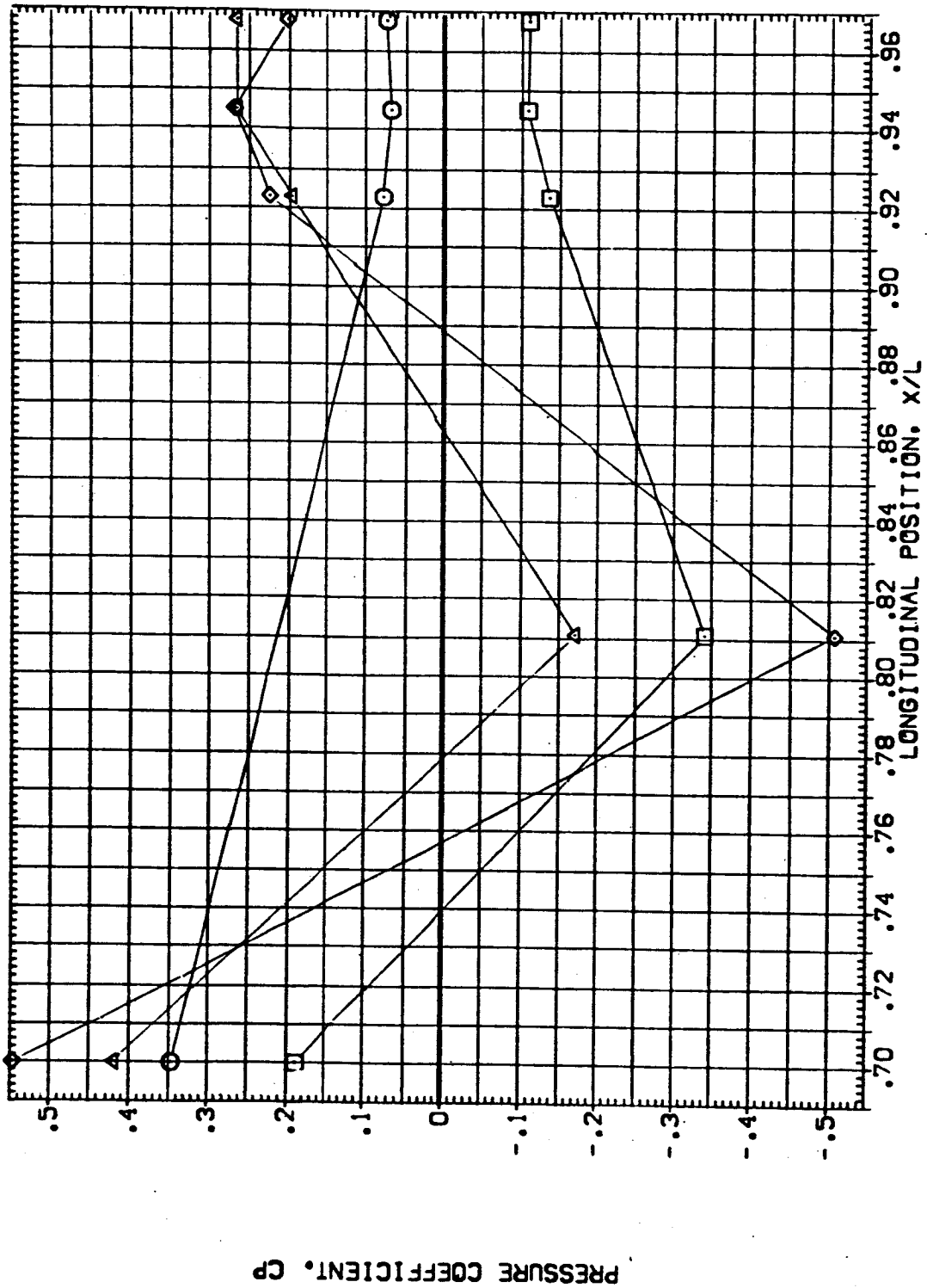


FIG. 105 SRM BOOSTER PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF SRB BODY (BEUS04)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES
○	.000	.000	-4.000	ELV-18 8.000 ELV-08 4.000
□	90.000			RUDER .000 MACH 1.400
◇	180.000			GIMBAL 1.000
△	270.000			

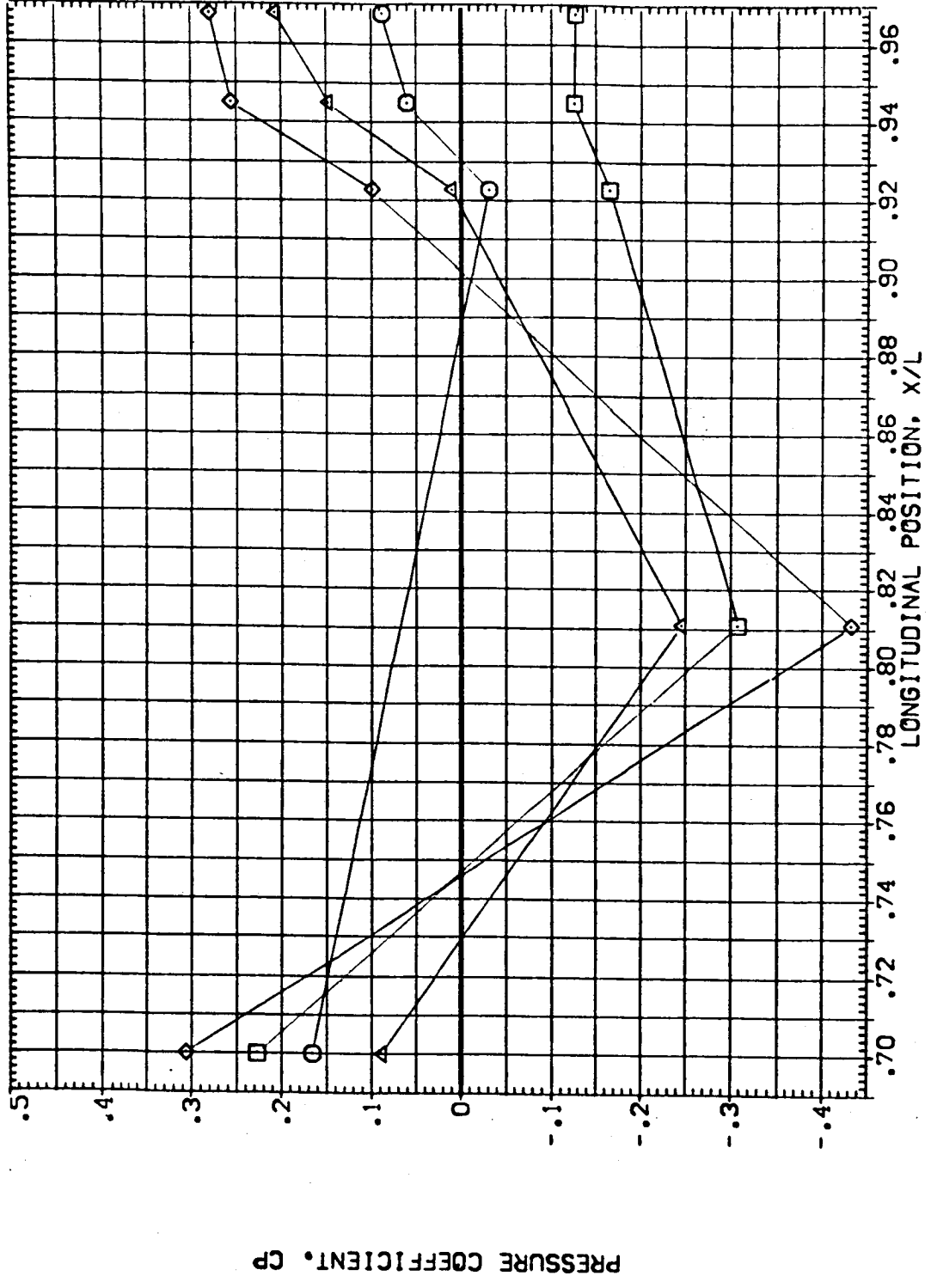


FIG. 105 SRM BOOSTER PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF SRB BODY (BEUS04)

SYMBOL PHI BETA ALPHA

○ .000 .000 .000

□ 90.000

◇ 180.000

△ 270.000

PARAMETRIC VALUES

ELV-18 8.000 ELV-CB 4.000

RUDDER .000 MACH 1.400

GIMBAL 1.000

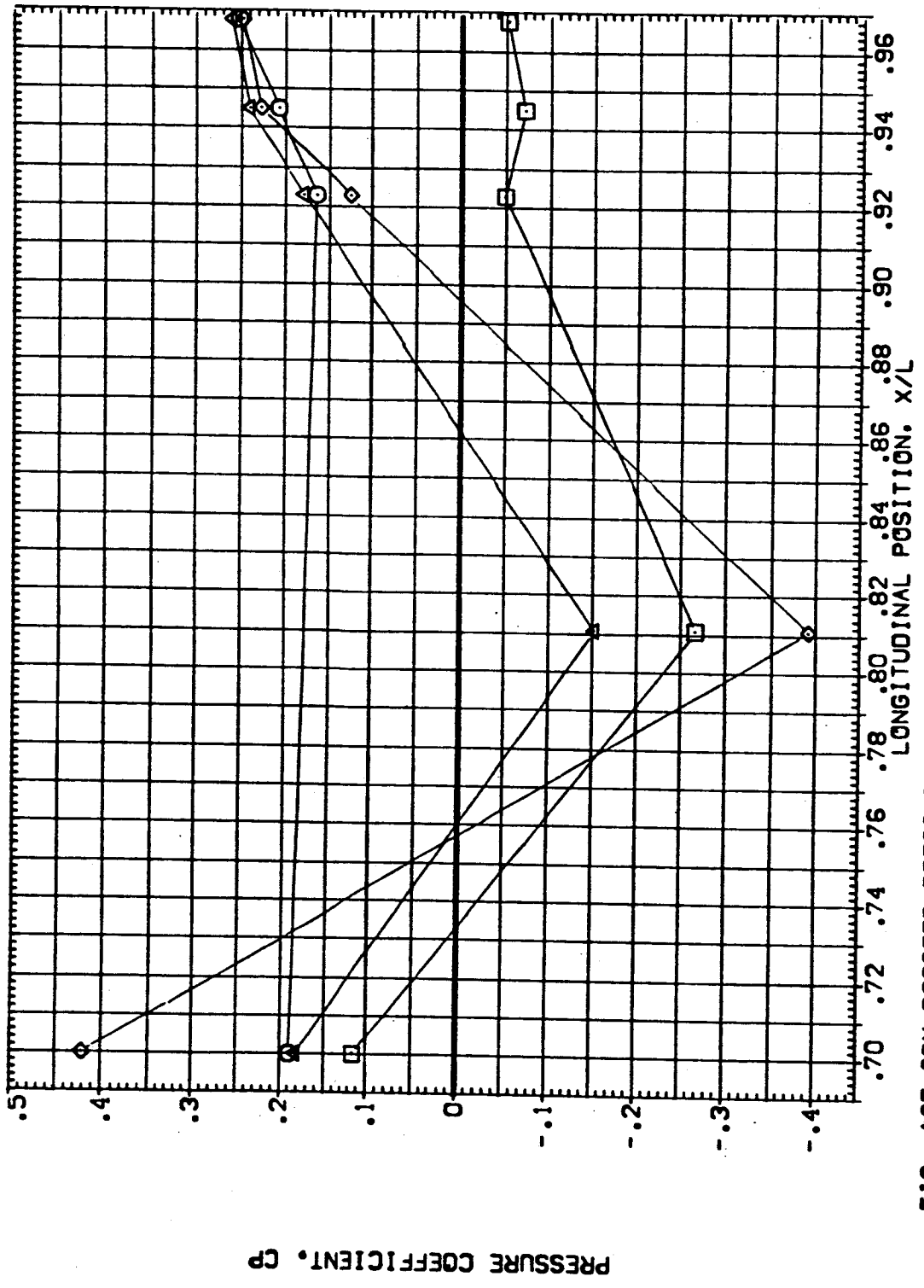


FIG. 105 SRM BOOSTER PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF SRB BODY (BEUS04)

SYMBOL	PHI	BETA	ALPHA	ELV-18	PARAMETRIC VALUES
○	.000	.000	4.000	RUDER	8.000 ELV-08
□	90.000			GIMBAL	.000 MACH
◇	180.000				1.400
△	270.000				1.000

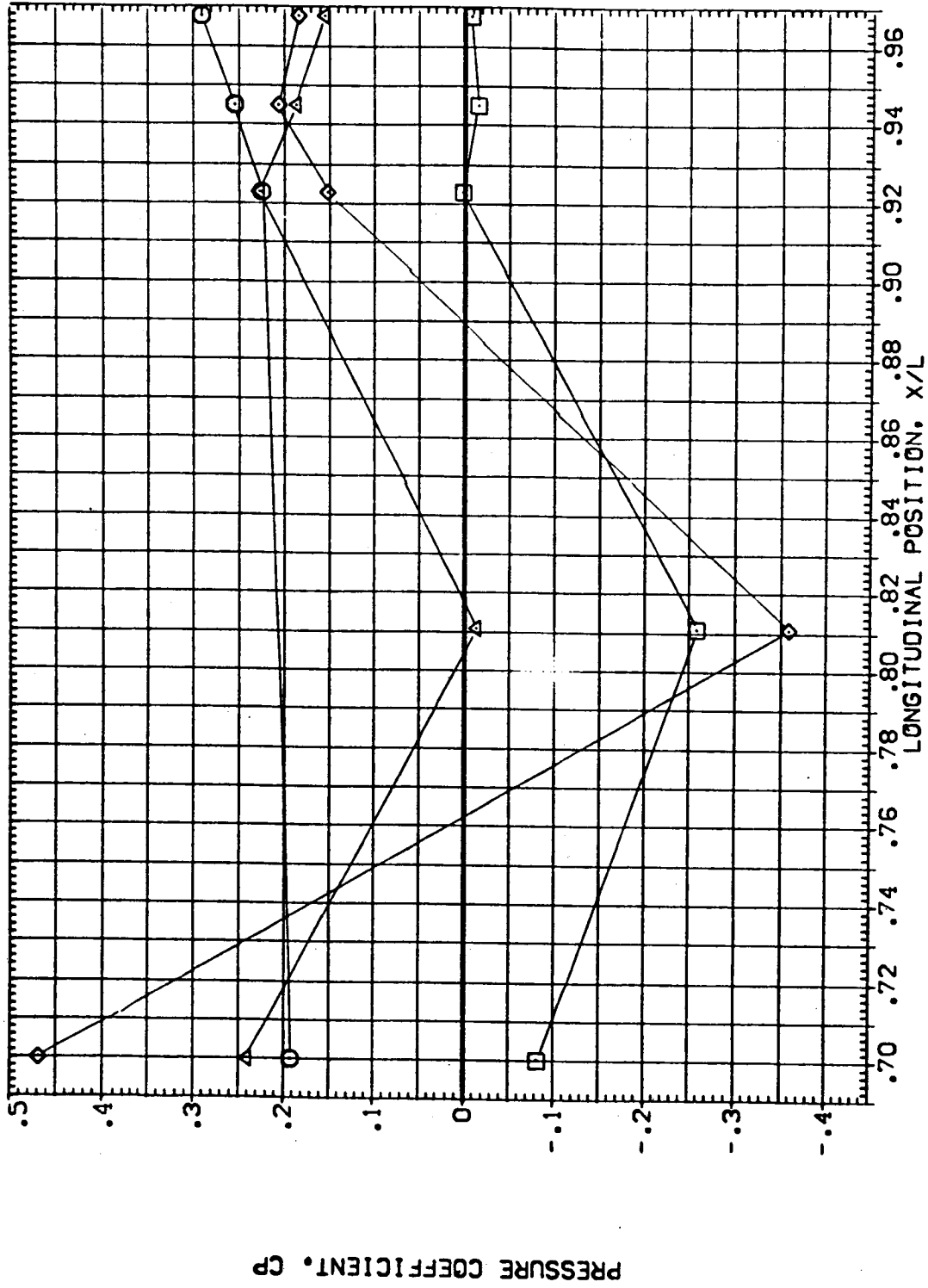


FIG. 105 SRM BOOSTER PRESSURE COEFFICIENT DISTRIBUTION POWER OFF



ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF SRB BODY (CEUS04)

SYMBOL PHI BETA ALPHA
 ○ .000 -4.000 .000
 □ 90.000
 ◇ 180.000
 △ 270.000

PARAMETRIC VALUES
 ELV-18 ELV-CB 1.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

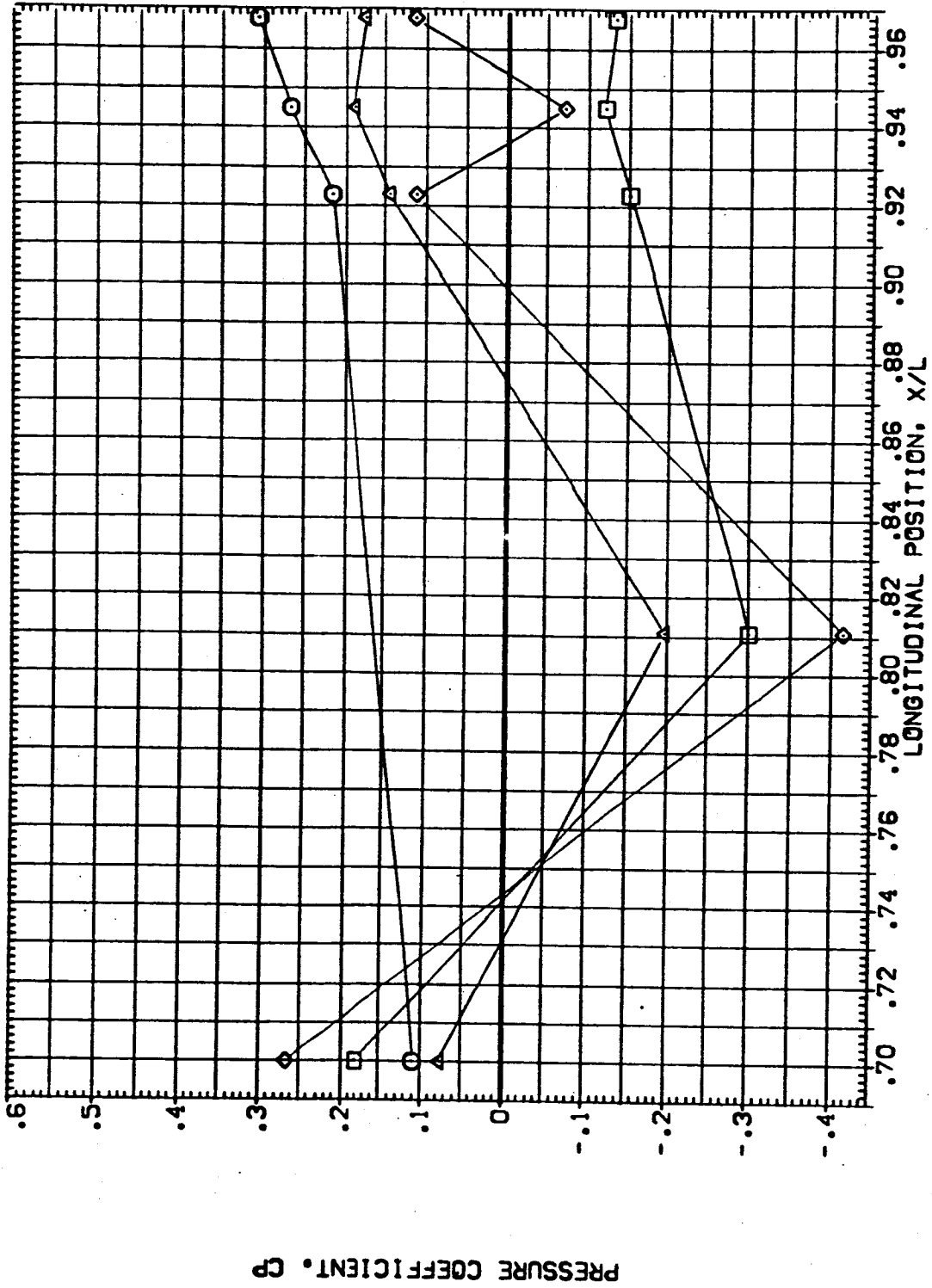


FIG. 105 SRM BOOSTER PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF SRB BODY (CEUS04)

SYMBOL PHI BETA ALPHA
 ○ .000 4.000 .000
 □ 90.000
 ◇ 180.000
 △ 270.000

PARAMETRIC VALUES
 ELV-IB 8.000 ELV-OB 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

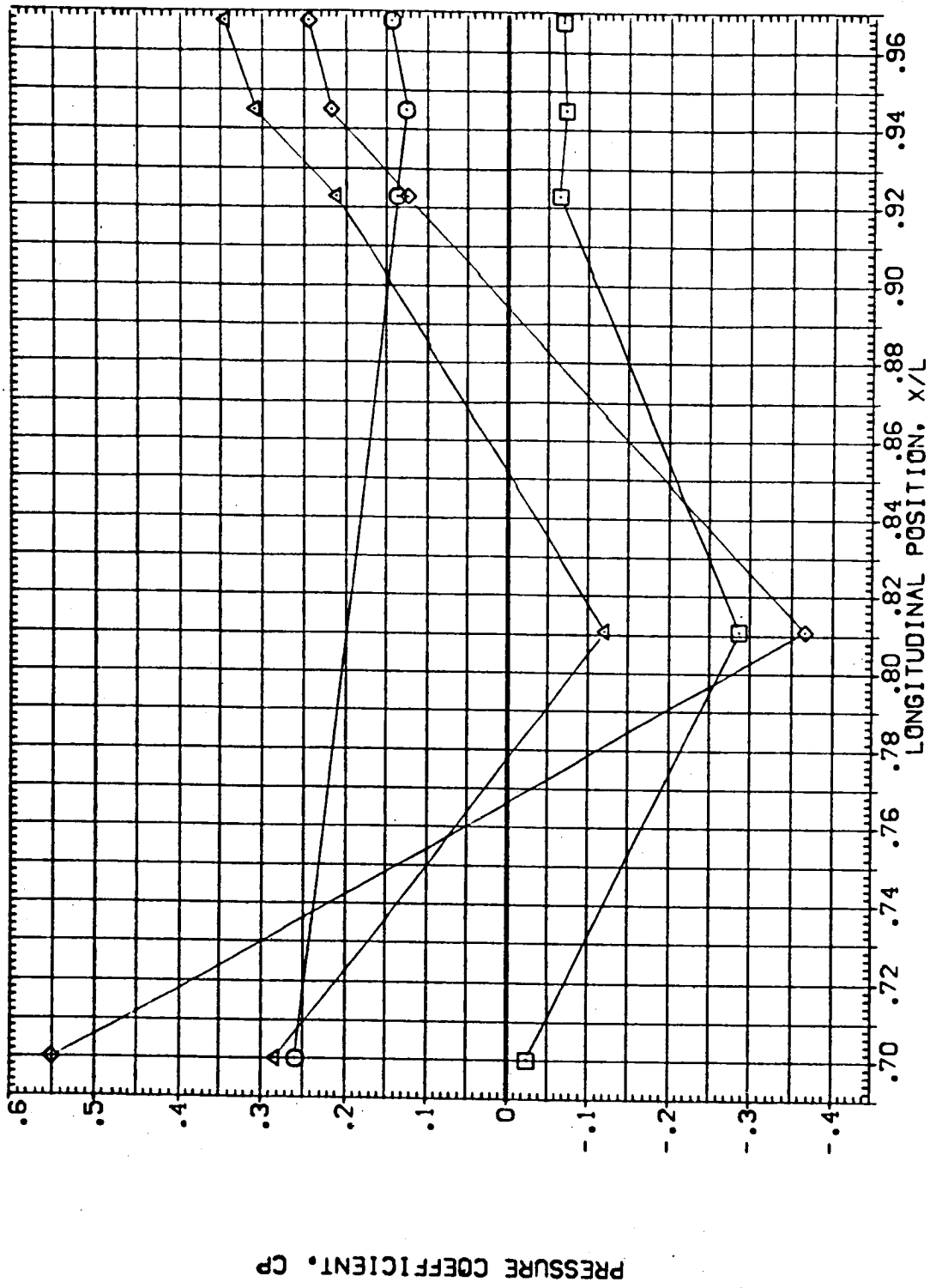


FIG. 105 SRM BOOSTER PRESSURE COEFFICIENT DISTRIBUTION POWER OFF



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM SRB BODY (EEUS05)

SYMBOL PHI BETA ALPHA
 ○ .000 .000 -4.000
 □ 90.000
 ◇ 180.000
 △ 270.000

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

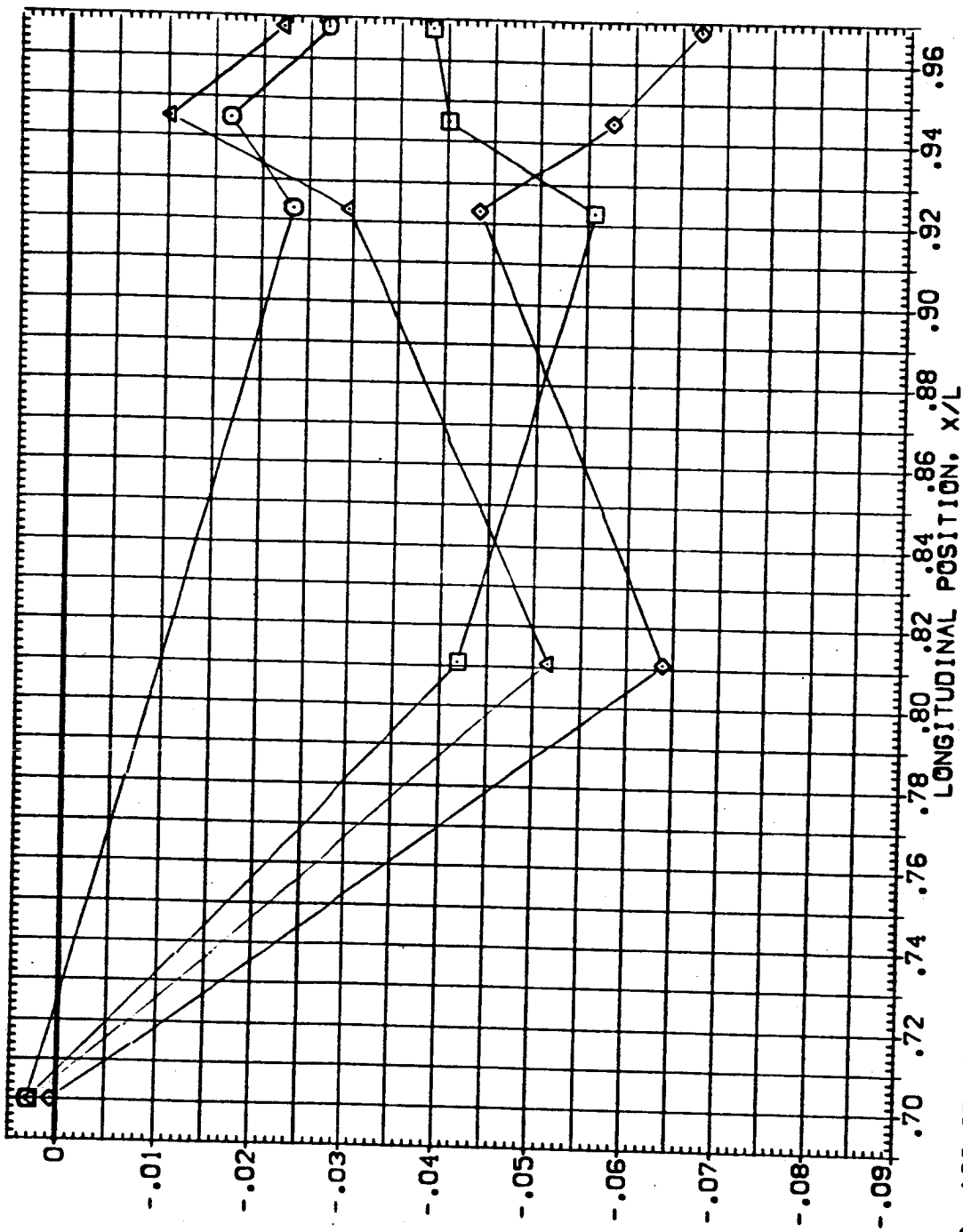


FIG. 106 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM SRB BODY (EEUS05)

SYMBOL PHI BETA ALPHA
 ○ .000 .000 .000
 □ 90.000 .000 .000
 ◇ 180.000 .000 .000
 △ 270.000 .000 .000

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

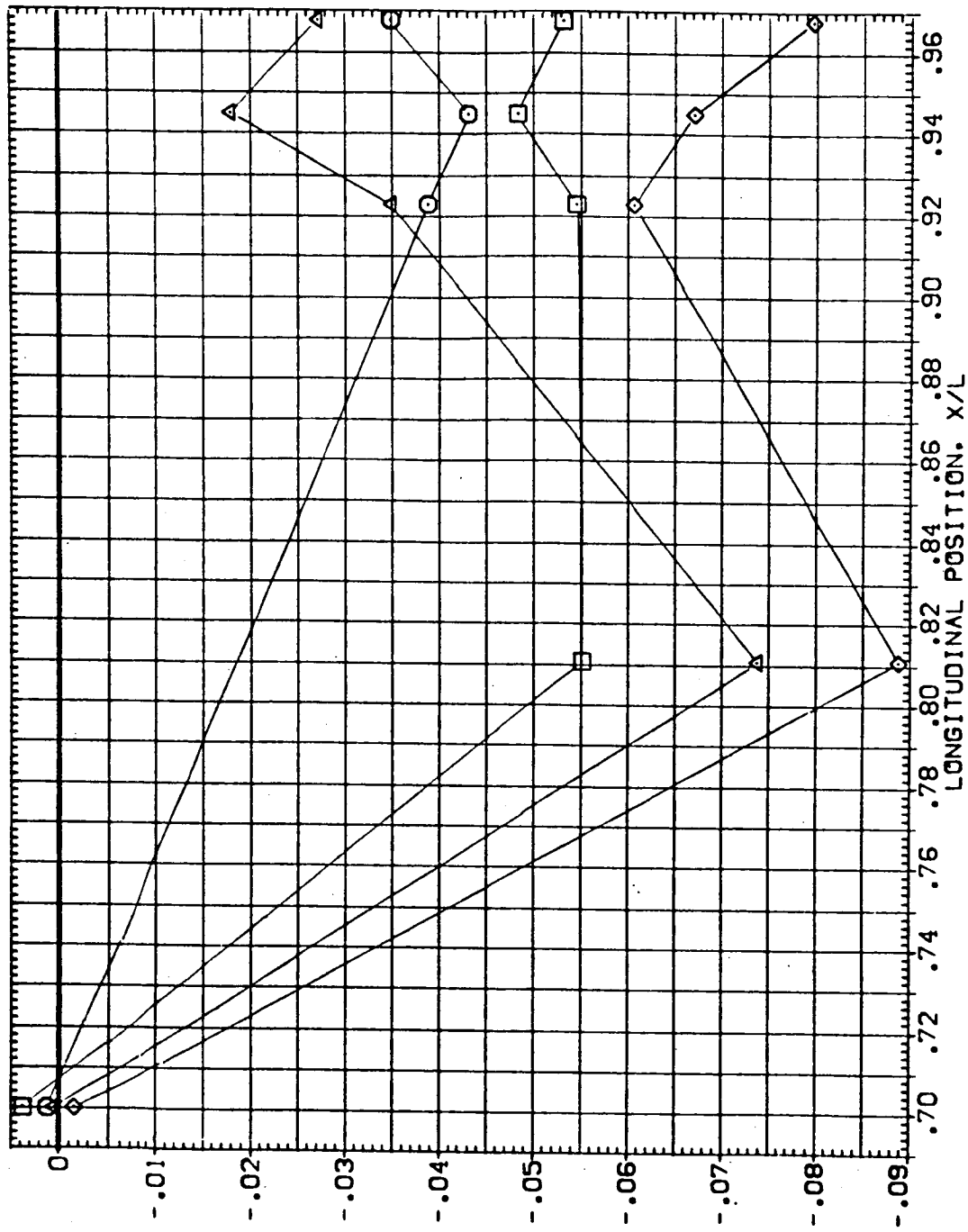


FIG. 106 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM SRB BODY (EEUS05)

SYMBOL PHI BETA ALPHA
 ○ .000 .000 4.000
 □ 90.000
 ◇ 180.000
 △ 270.000

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

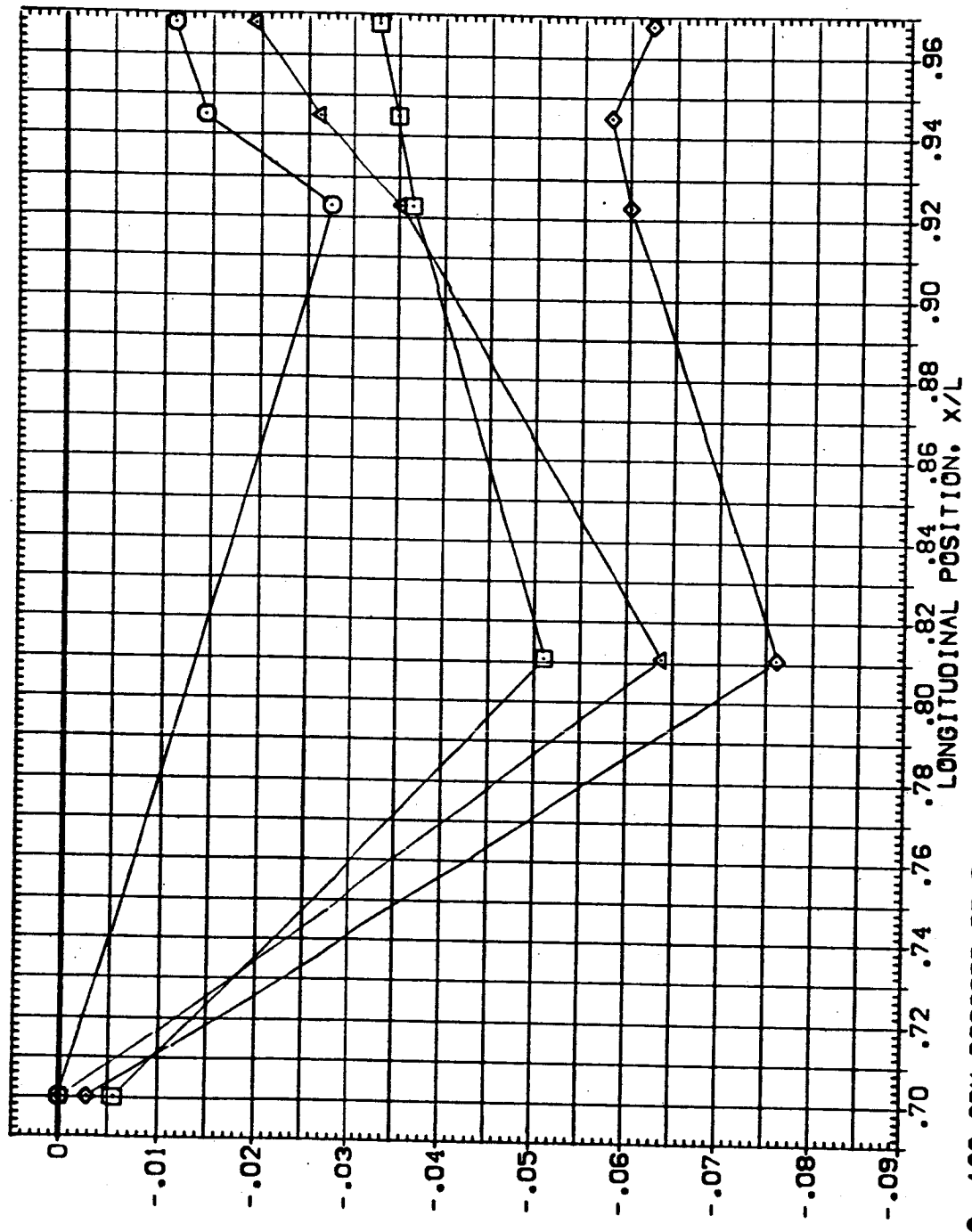


FIG. 106 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM SRB BODY (FEUS05)

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-08 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

SYMBOL PH1 BETA ALPHA
 ○ .000 -4.000 .000
 □ 50.000
 △ 180.000
 ◇ 270.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

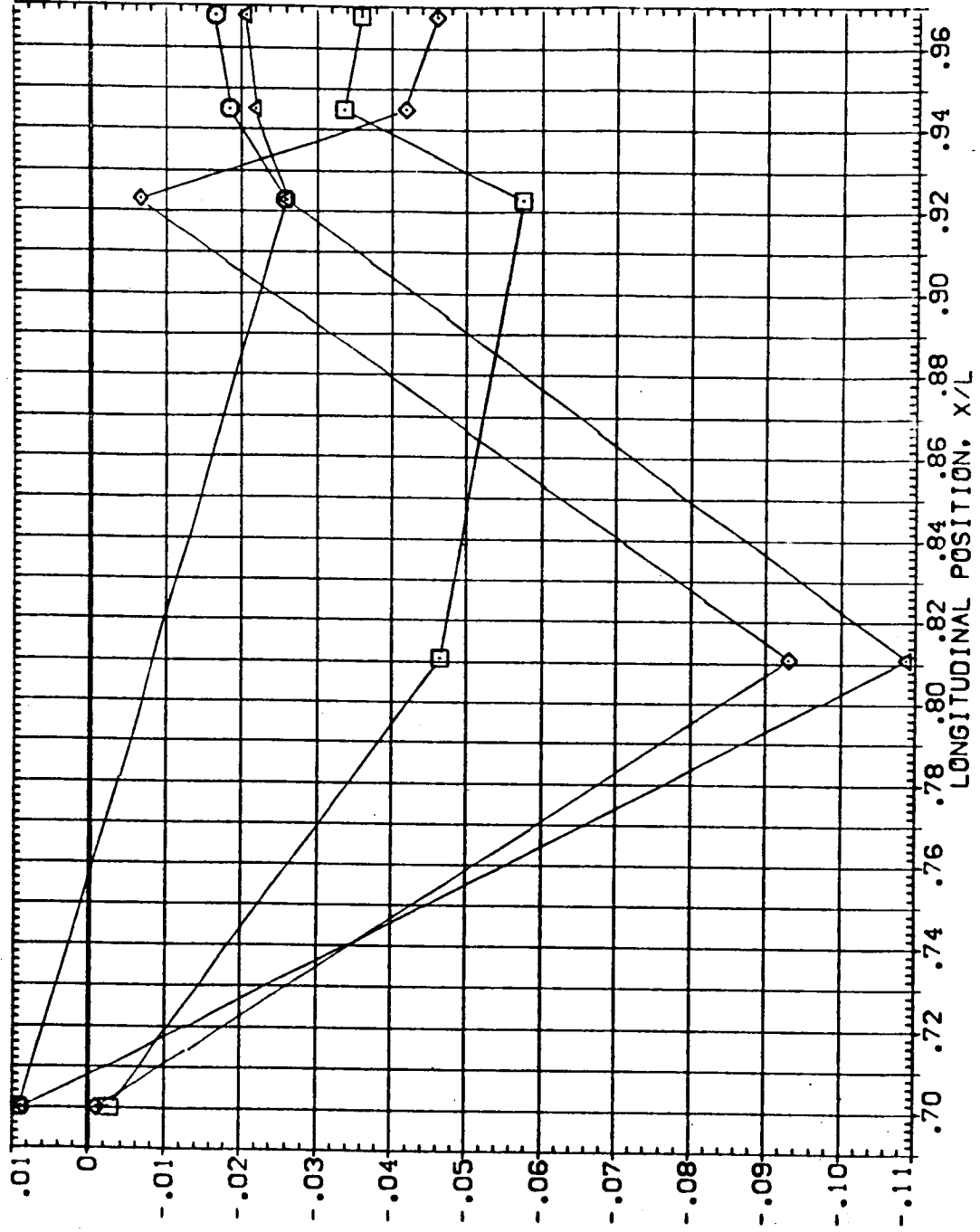


FIG. 106 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS



ARC11-014IA19 OTS+STRUT SRB-NOM MPS-NOM SRB BODY (FEUS05)

PHI	BETA	ALPHA	ELV-18	ELV-08
.000	1.000	.000	.000	4.000
90.000			RLODR	MACH
180.000			GIMBAL	1.000
270.000				

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

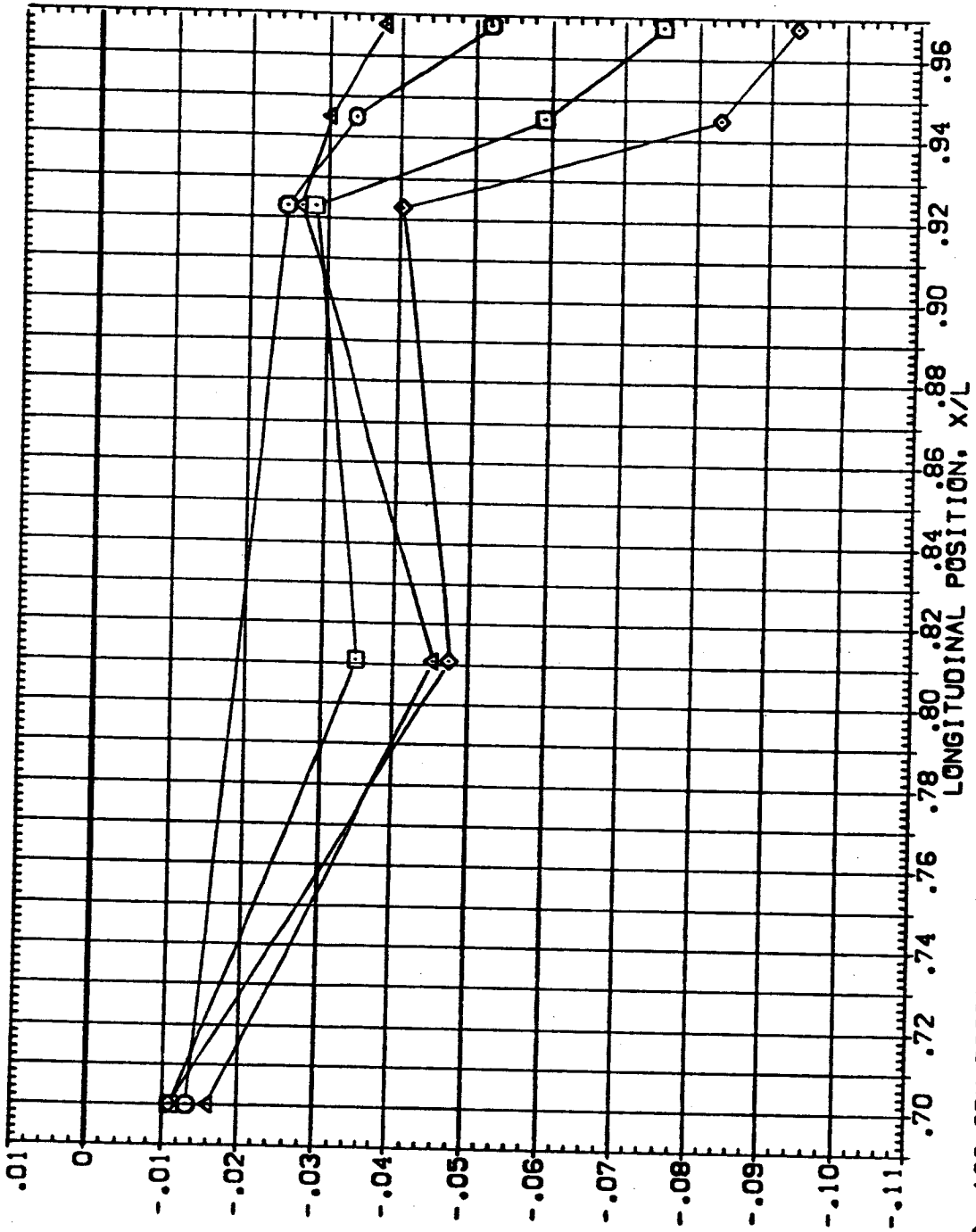


FIG. 106 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

AKL11-U141A19 01S+STRUT SRB-NOM MPS-NOM SRB BODY (EEUS06)

SYMBOL	PHI	BETA	ALPHA	ELV-IB	ELV-08	PARAMETRIC VALUES
○	.000	.000	-4.000	8.000	4.000	
□	90.000			.000	1.100	
◇	180.000			1.000		
△	270.000					

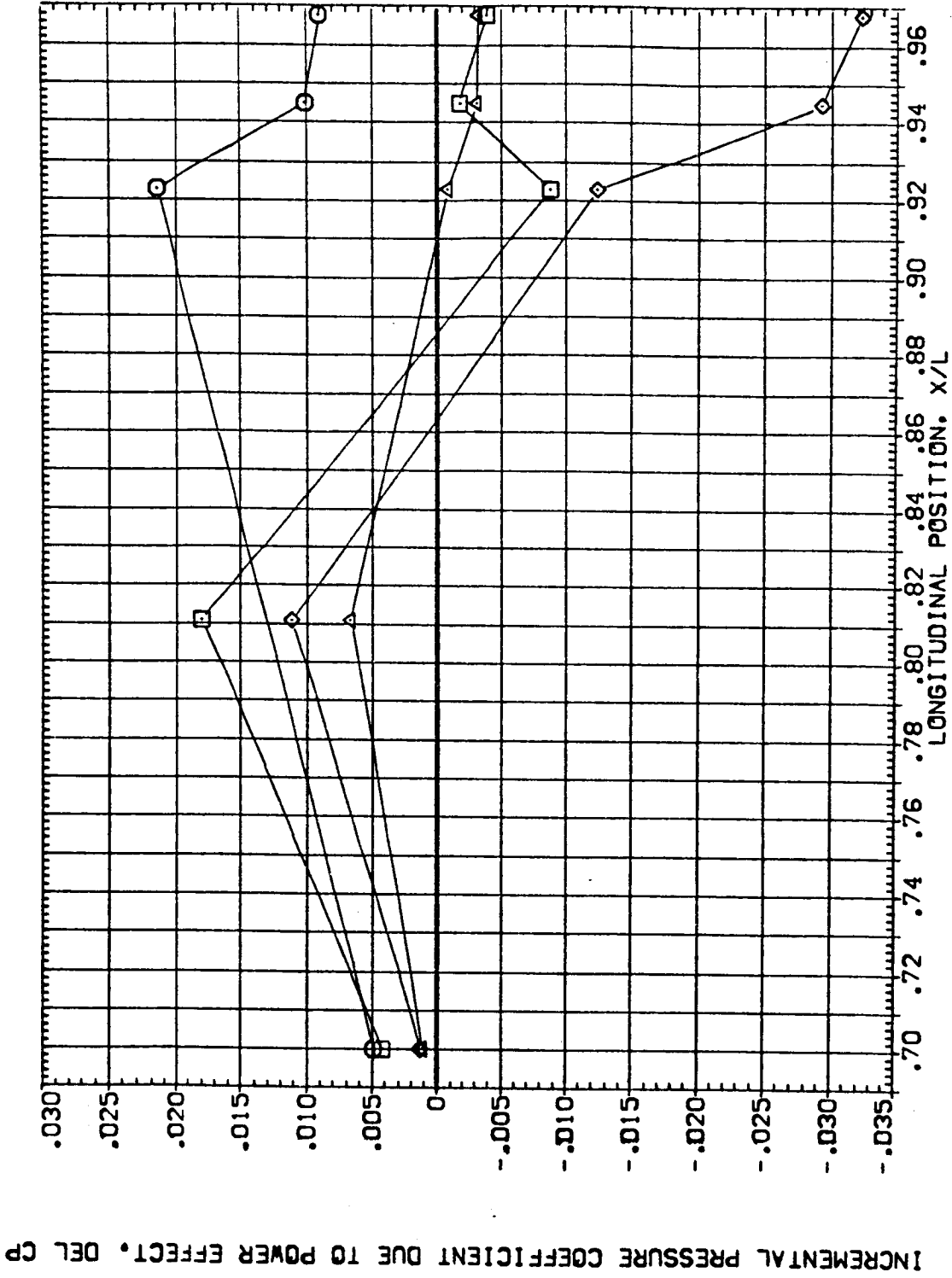


FIG. 106 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM SRB BODY (EEUS06)

SYMBOL PH1 BETA ALPHA ELV-18 ELV-08
 .000 .000 .000 8.000 4.000
 90.000 160.000 270.000 .000 MACH 1.100
 RUDER 1.000 GIMBAL

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

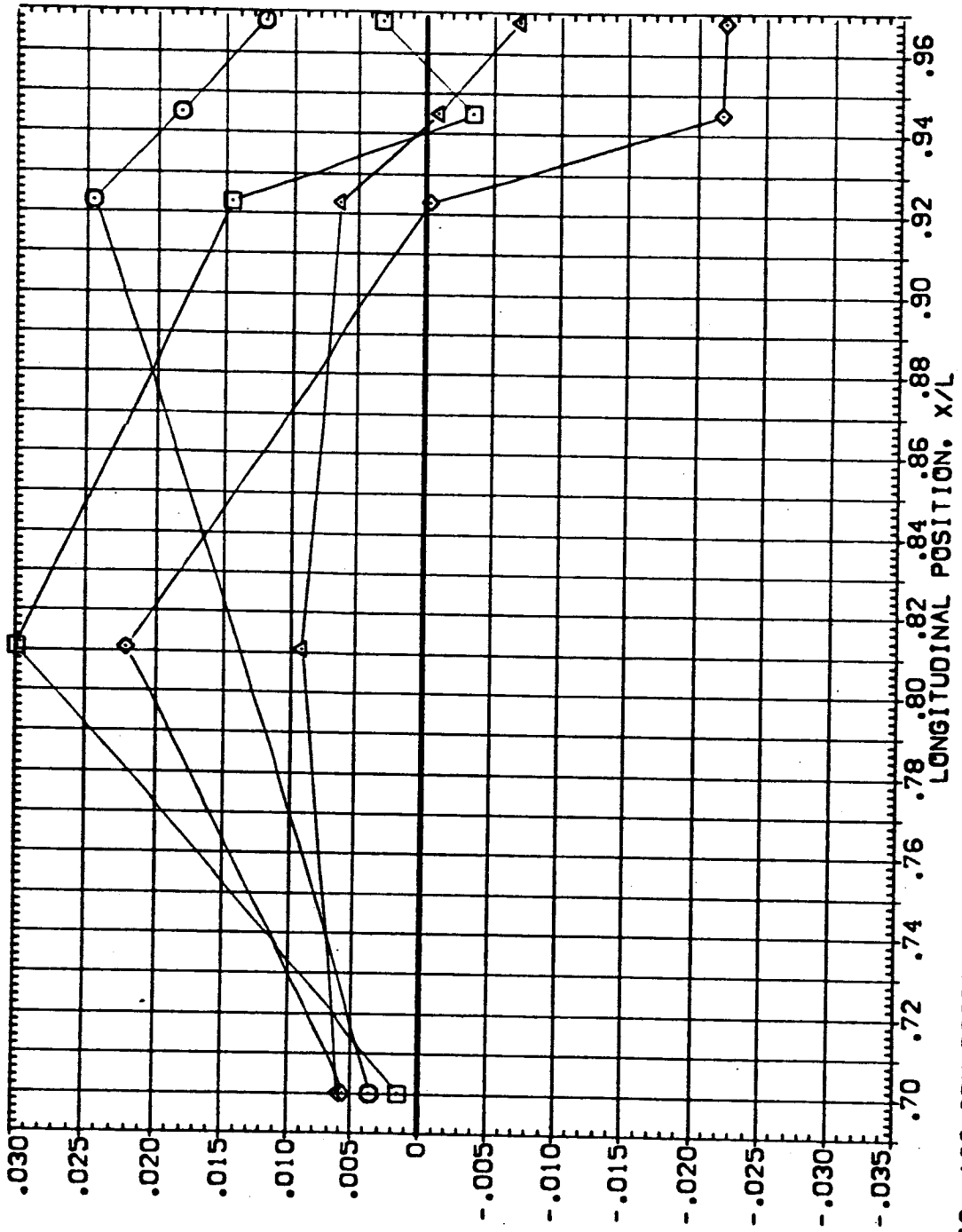


FIG. 106 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM SRB BODY (EEUS06)

SYMBOL: \square \circ \diamond \triangle

PHI: .000 90.000 180.000 270.000

BETA: .000 1.000

ALPHA: 1.000

PARAMETRIC VALUES

ELV-18 8.000 4.000

RUDDER .000 1.100

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

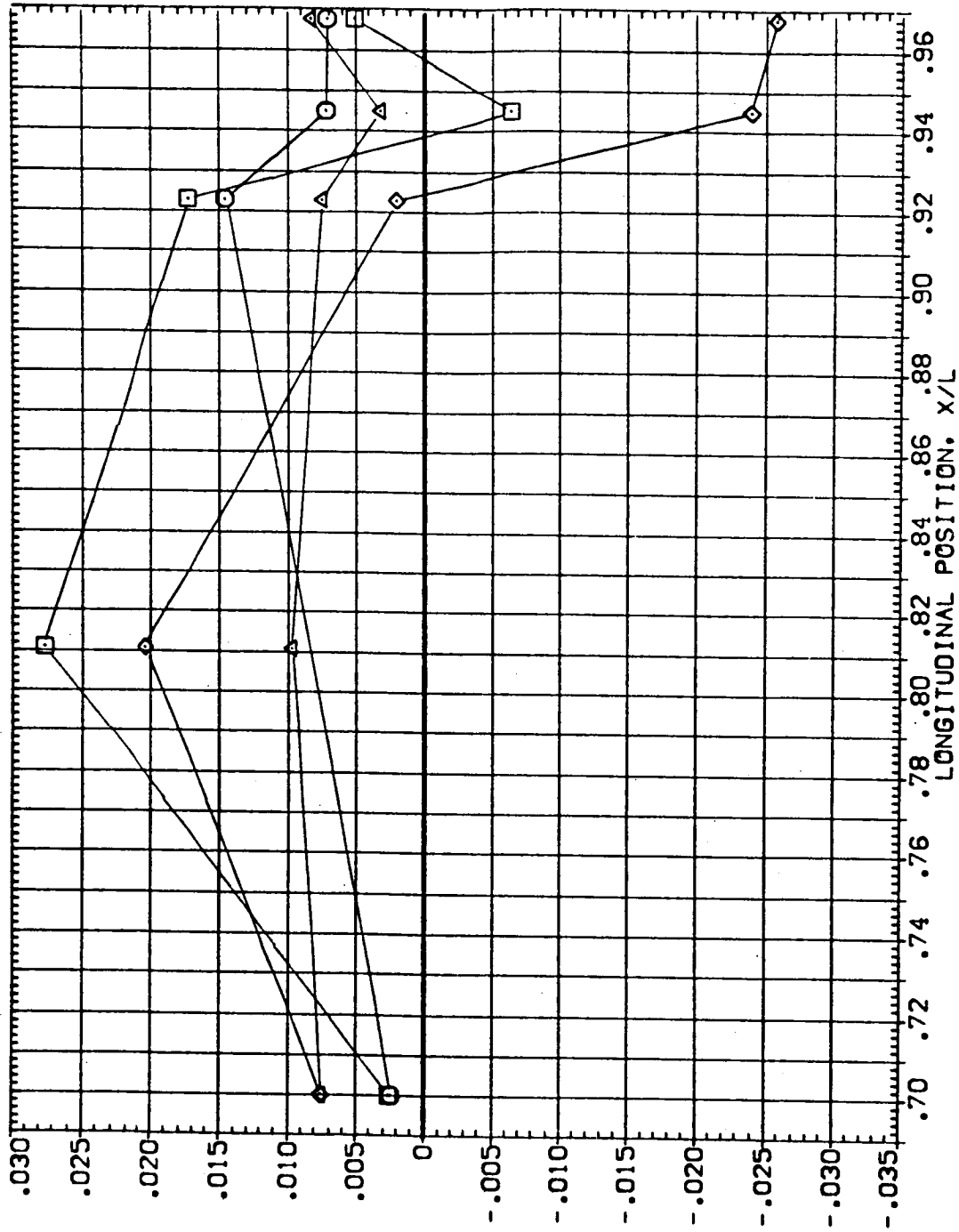


FIG. 106 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM SRB BODY (FEUS06)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

SYMBOL PHI BETA ALPHA
 ○ .000 1.000 .000
 □ 50.000
 ◇ 180.000
 △ 270.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

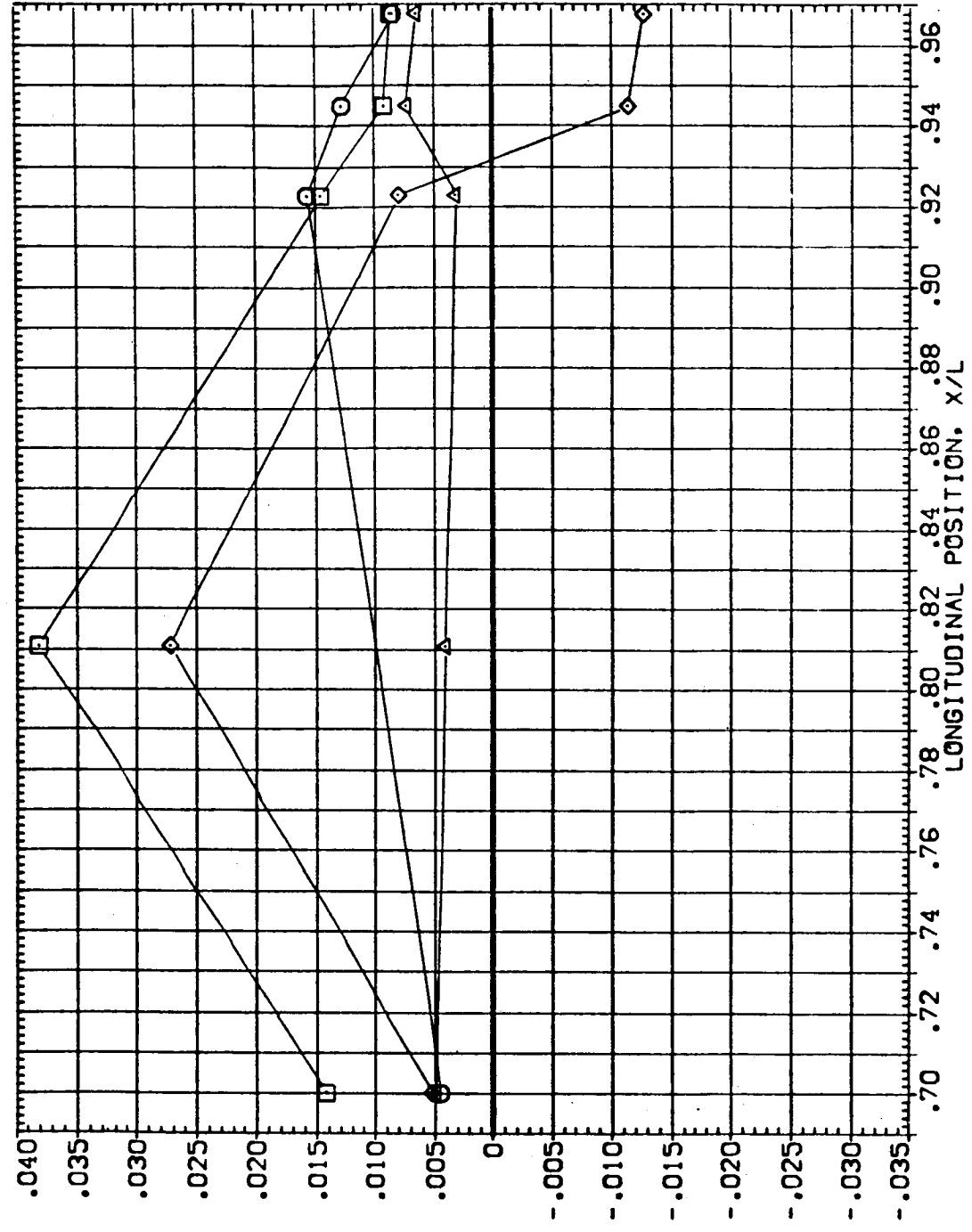


FIG. 106 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM SRB BODY (EEUS07)

SYMBOL	PHI	BETA	ALPHA	ELV-19	ELV-08
□	.000	.000	-1.000	8.000	4.000
◇	90.000			.000	1.250
△	180.000			1.000	
	270.000				

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

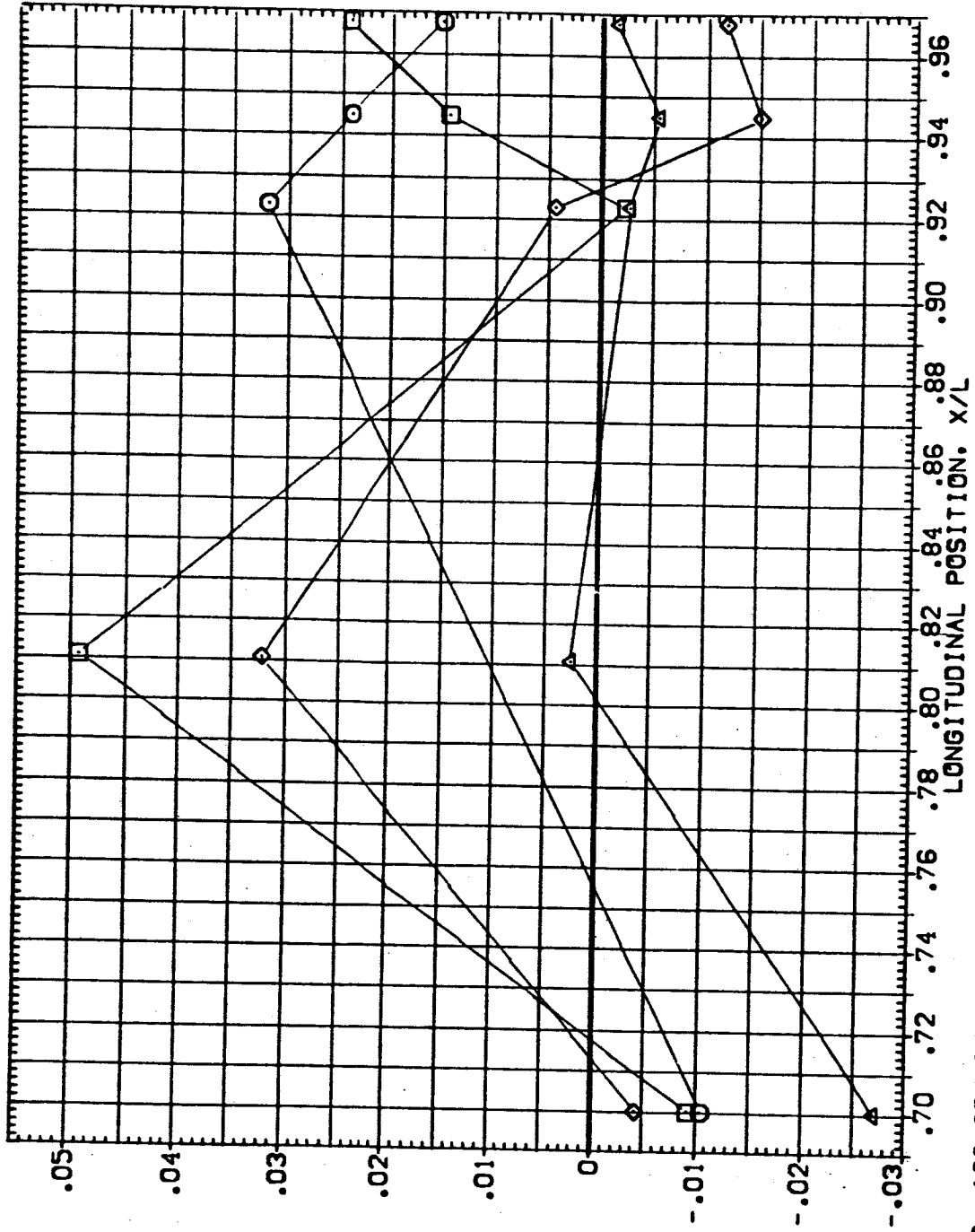


FIG. 106 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM SRB BODY (EEUS07)

SYMBOL PHI BETA ALPHA ELV-18 ELV-08 4.000
 .000 .000 .000 RUDDER MACH 1.250
 50.000 180.000 270.000 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

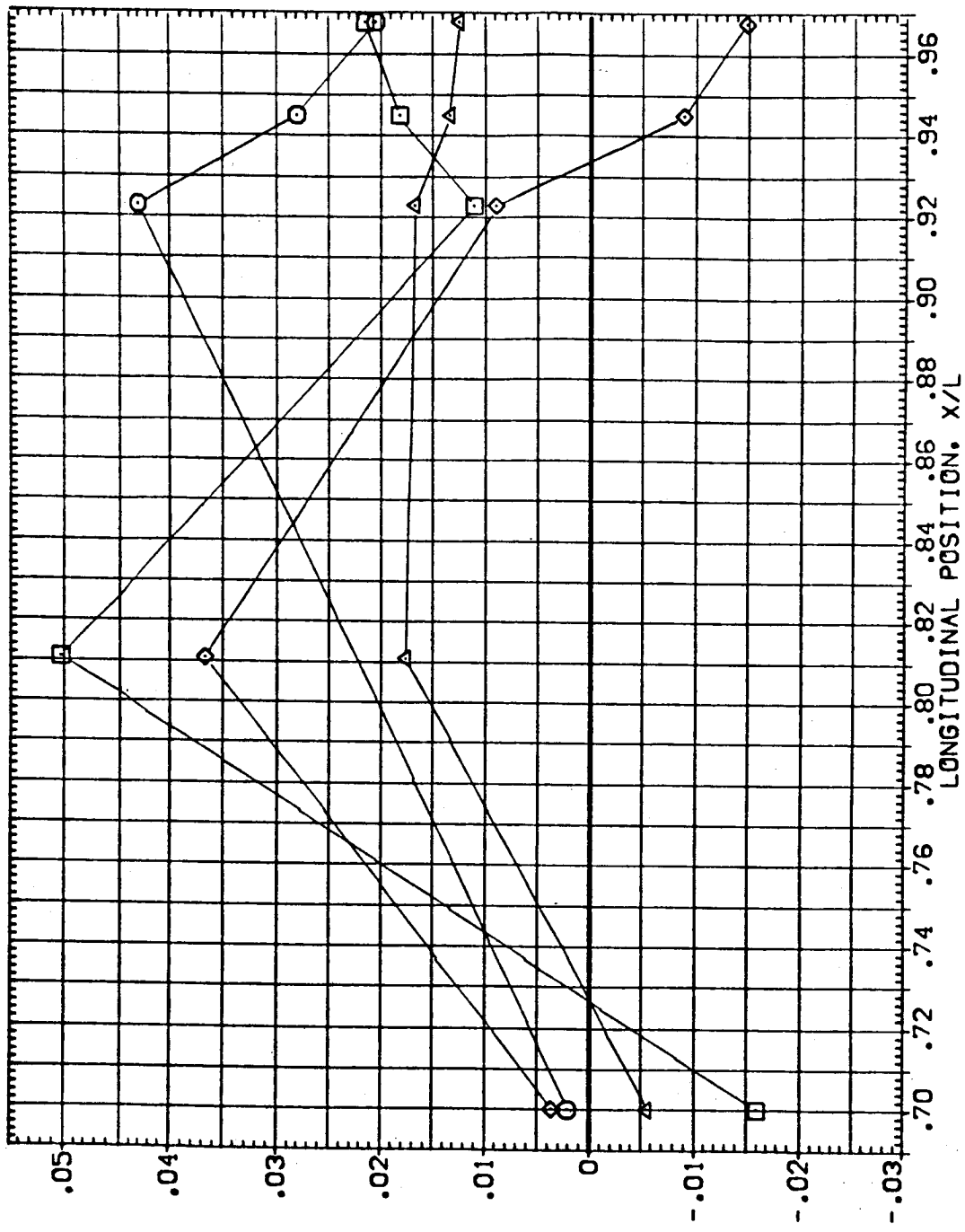


FIG. 106 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM SRB BODY (FEUS07)

PHI .000 BETA -1.000 ALPHA .000
 90.000
 180.000
 270.000

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 1.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

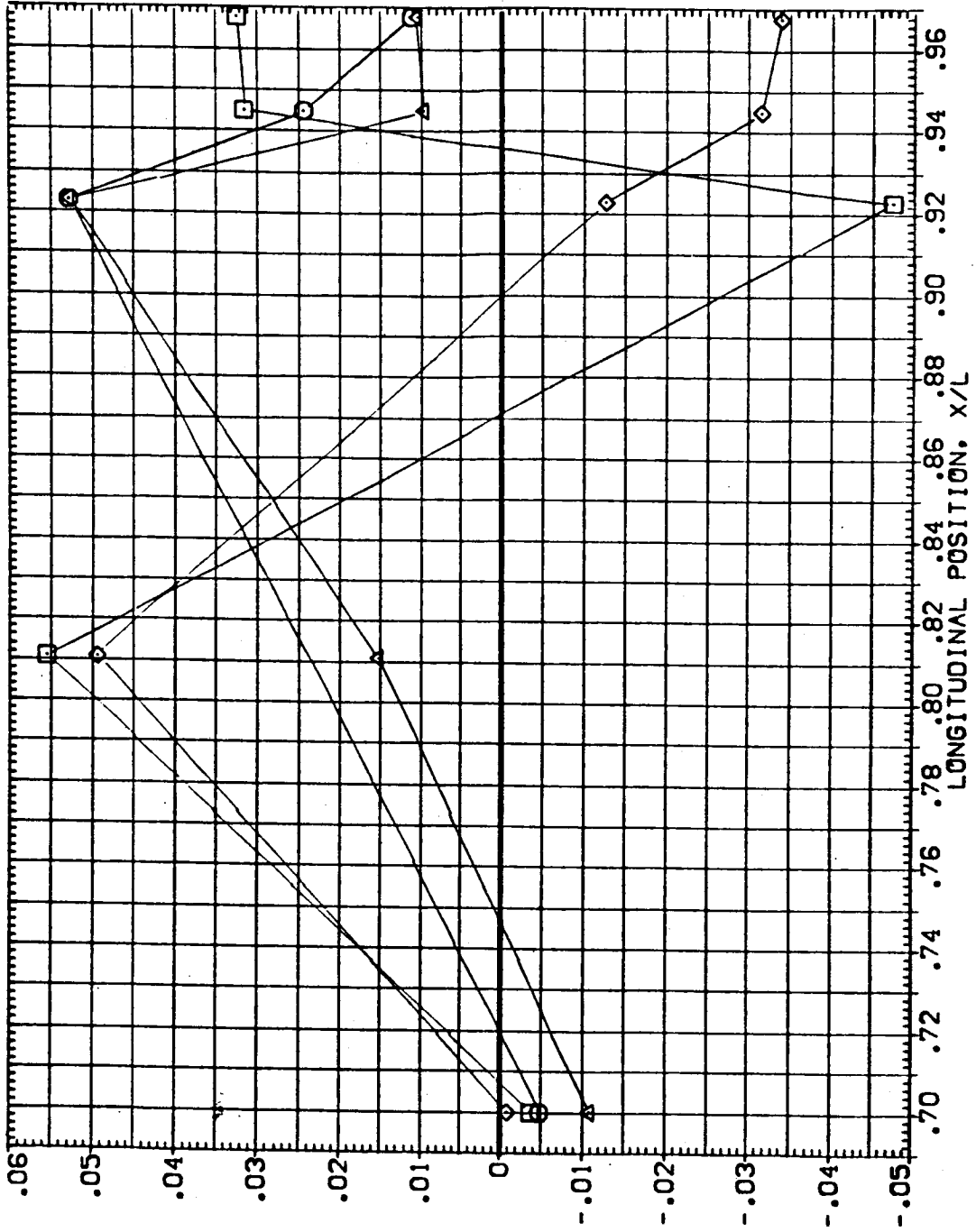


FIG. 106 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM SRB BODY (FEUS07)

PHI	BETA	ALPHA	PARAMETRIC VALUES	
.000	1.000	.000	ELV-18	ELV-08
90.000			RUDDER	MACH
180.000			GIMBAL	
270.000			1.000	1.250
			8.000	4.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

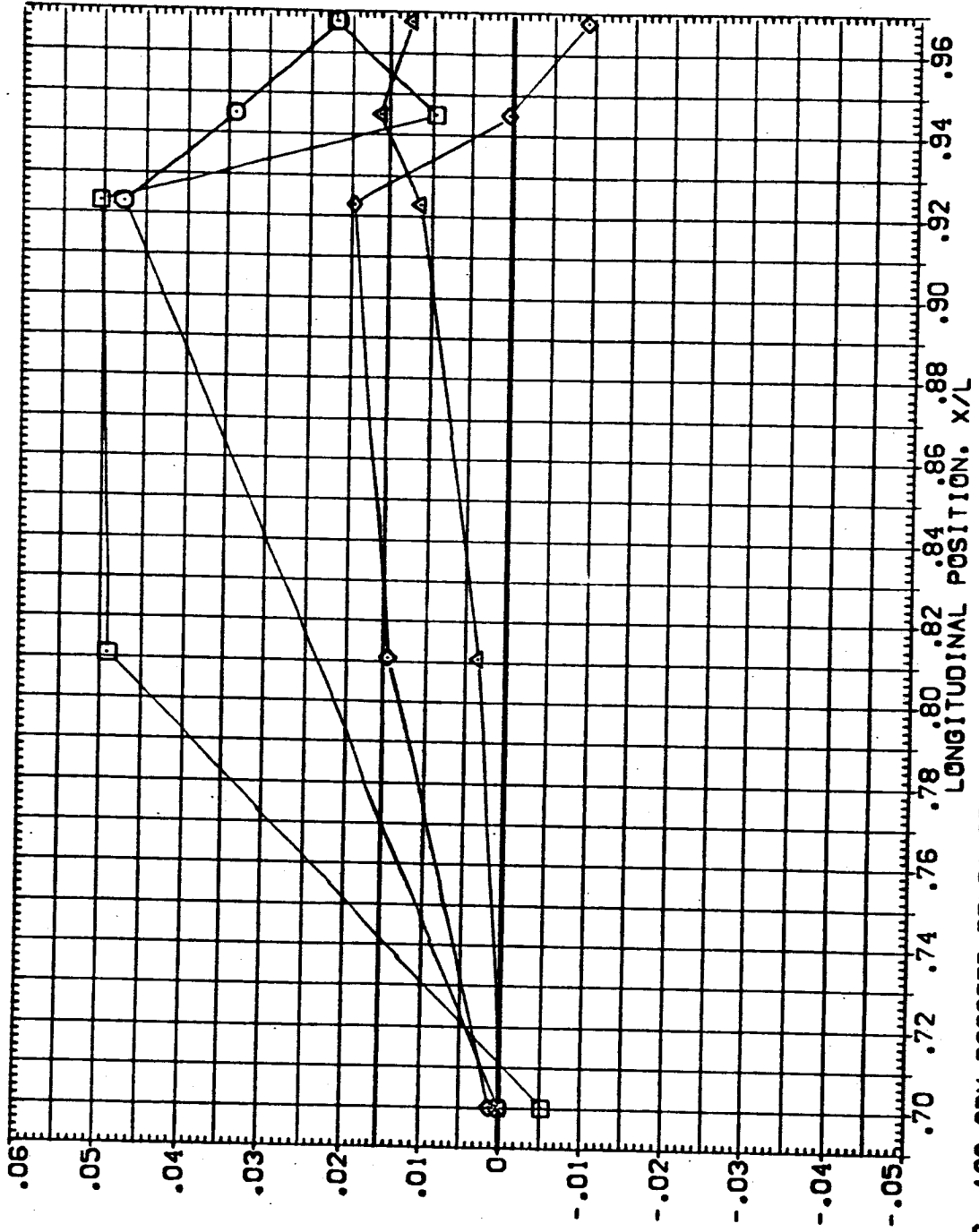


FIG. 106 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM SRB BODY (EUS08)

PHI .000 ALPHA -4.000
 90.000
 180.000
 270.000

BETA .000
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

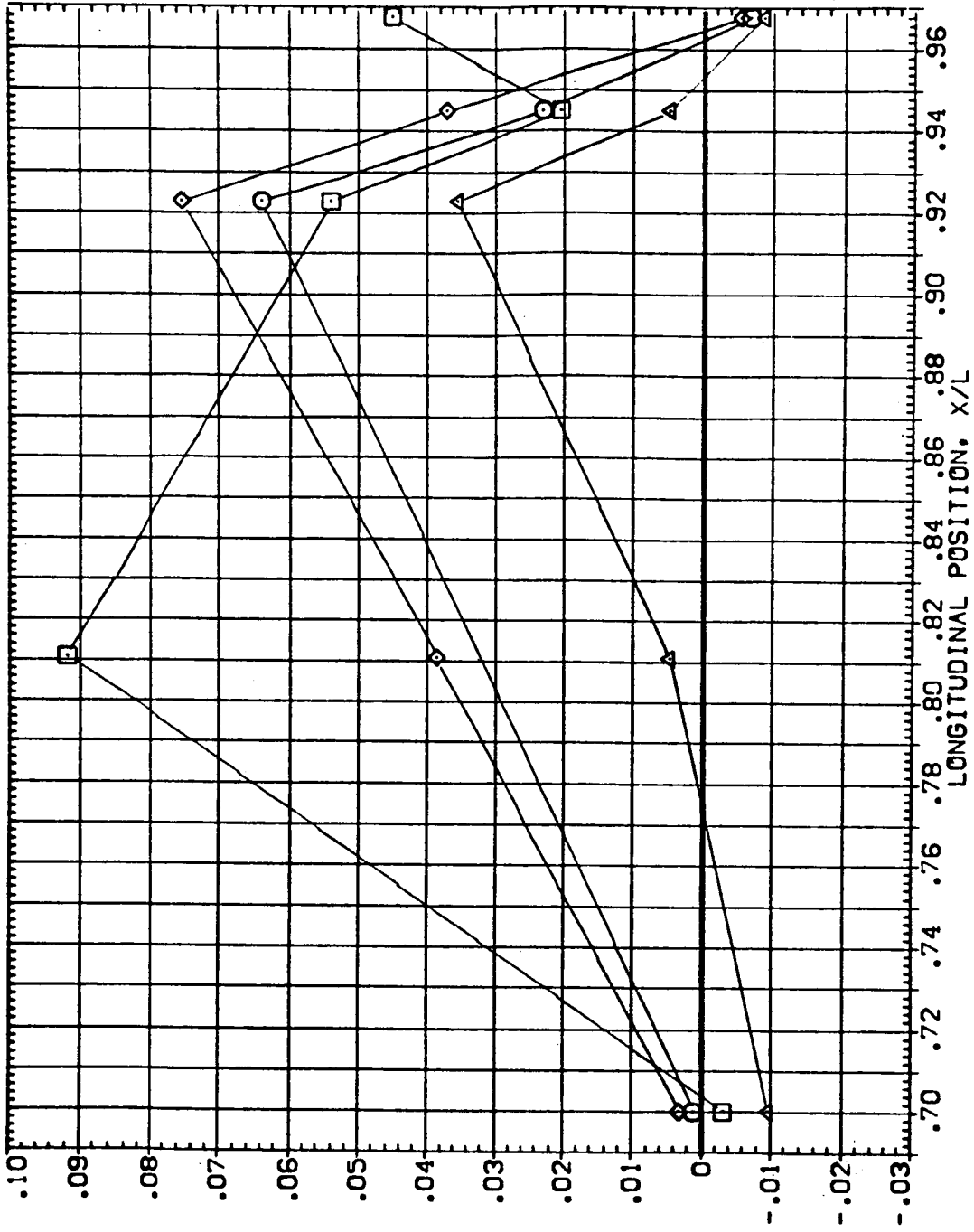


FIG. 106 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM SRB BODY (EEUS08)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES
○	.000	.000	.000	ELV-08 4.000
□	90.000			RUDDER .000 MACH 1.400
◇	180.000			
△	270.000			

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

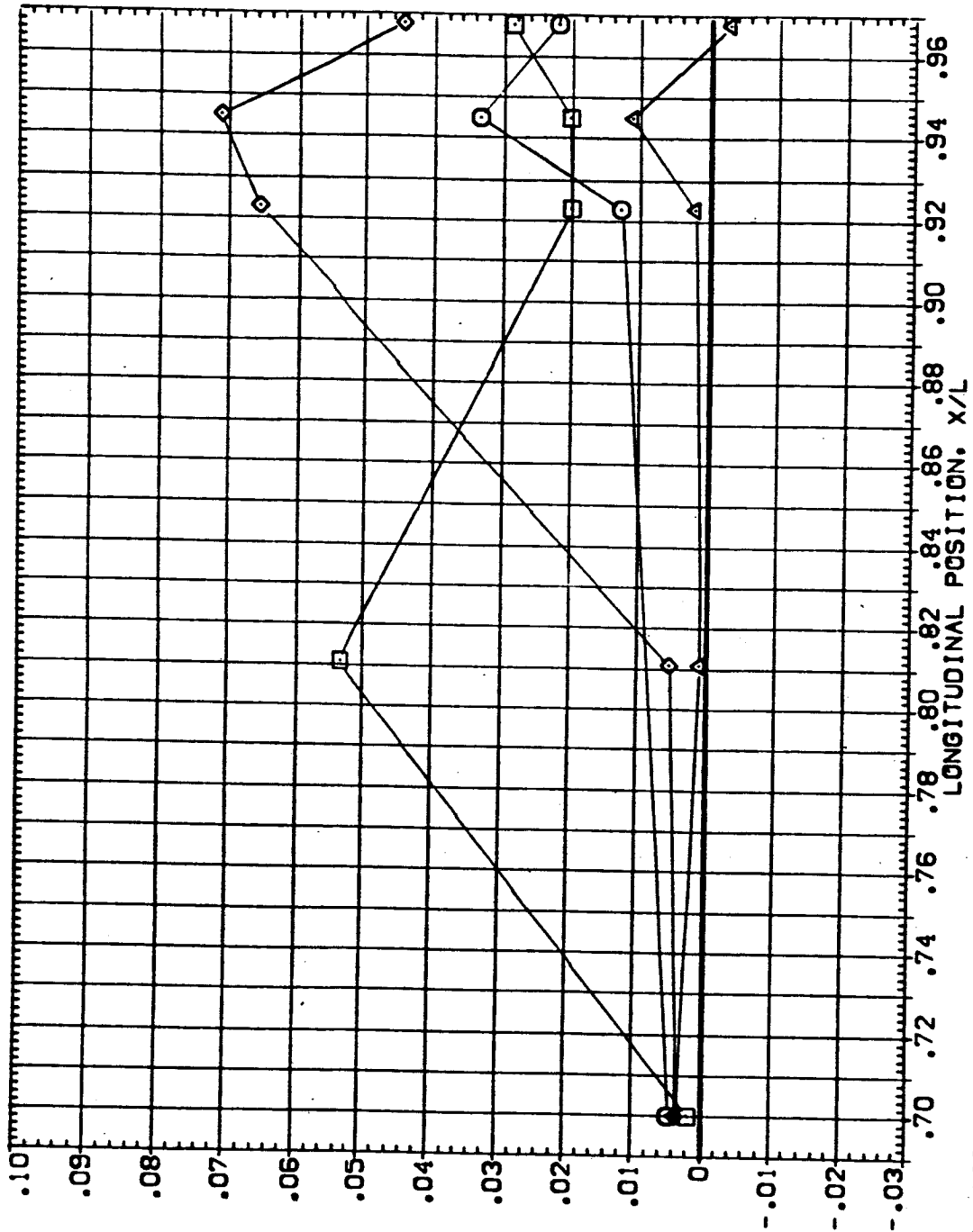


FIG. 106 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM SRB BODY (EEUS08)

SYMBOL	PHI	BETA	ALPHA	ELV-1B	ELV-08
○	.000	.000	4.000	RUDER	MACH
□	90.000			GIMBAL	
◇	180.000				
△	270.000				

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

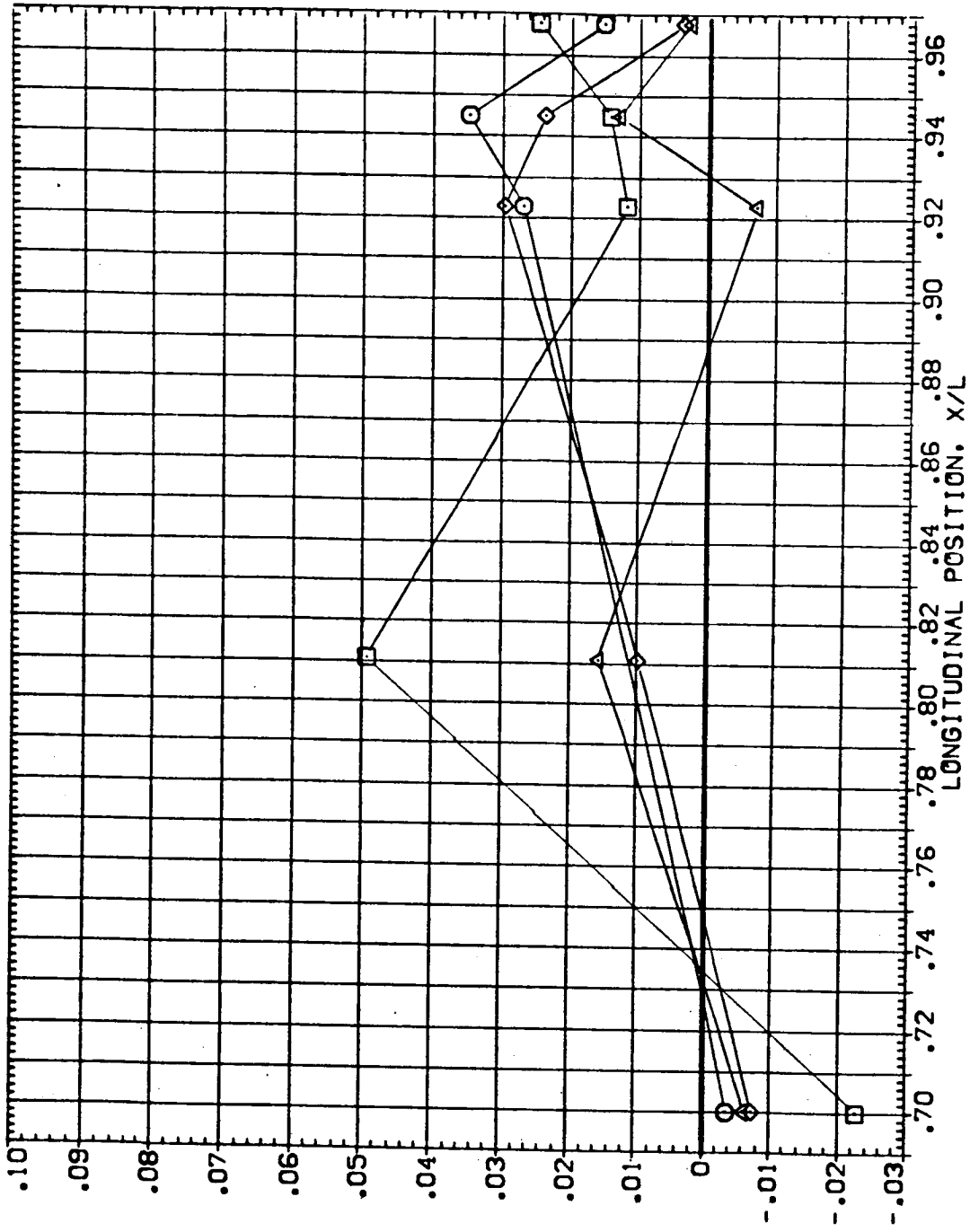


FIG. 106 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM SRB BODY (FEUS08)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

PHI BETA ALPHA
 .000 -4.000 .000
 90.000
 180.000
 270.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

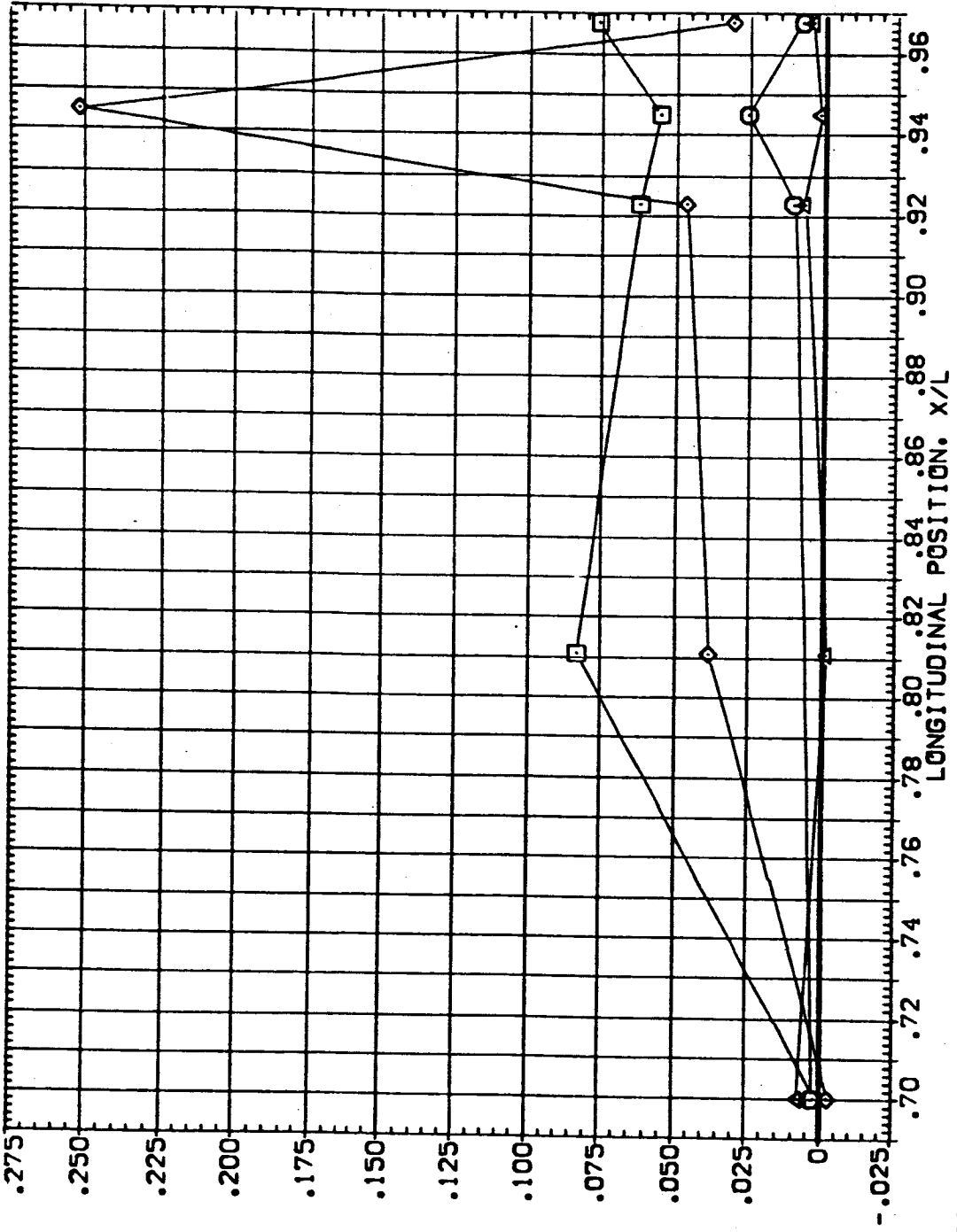


FIG. 106 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM SRB BODY (FEUS08)

PARAMETRIC VALUES
 ELV-19 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

SYMBOL PHI BETA ALPHA
 ○ .000 4.000 .000
 □ 90.000
 ◇ 180.000
 △ 270.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

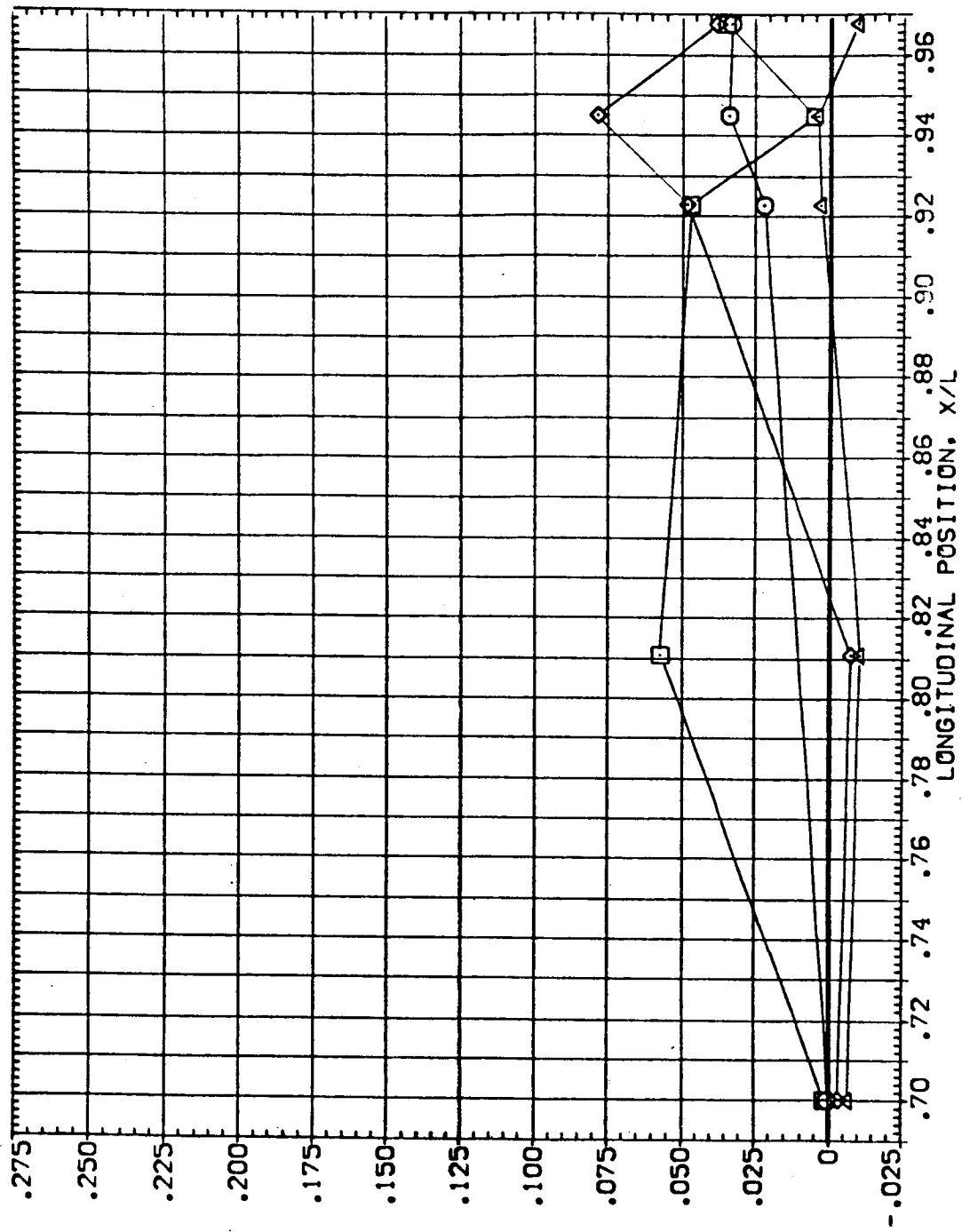


FIG. 106 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF SRB BODY(EEUS13)

SYMBO: \square \diamond \triangle \circ
 PHI .000 BETA .000 ALPHA -1.000
 90.000
 160.000
 270.000
 ELV-18 8.000 ELV-09 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

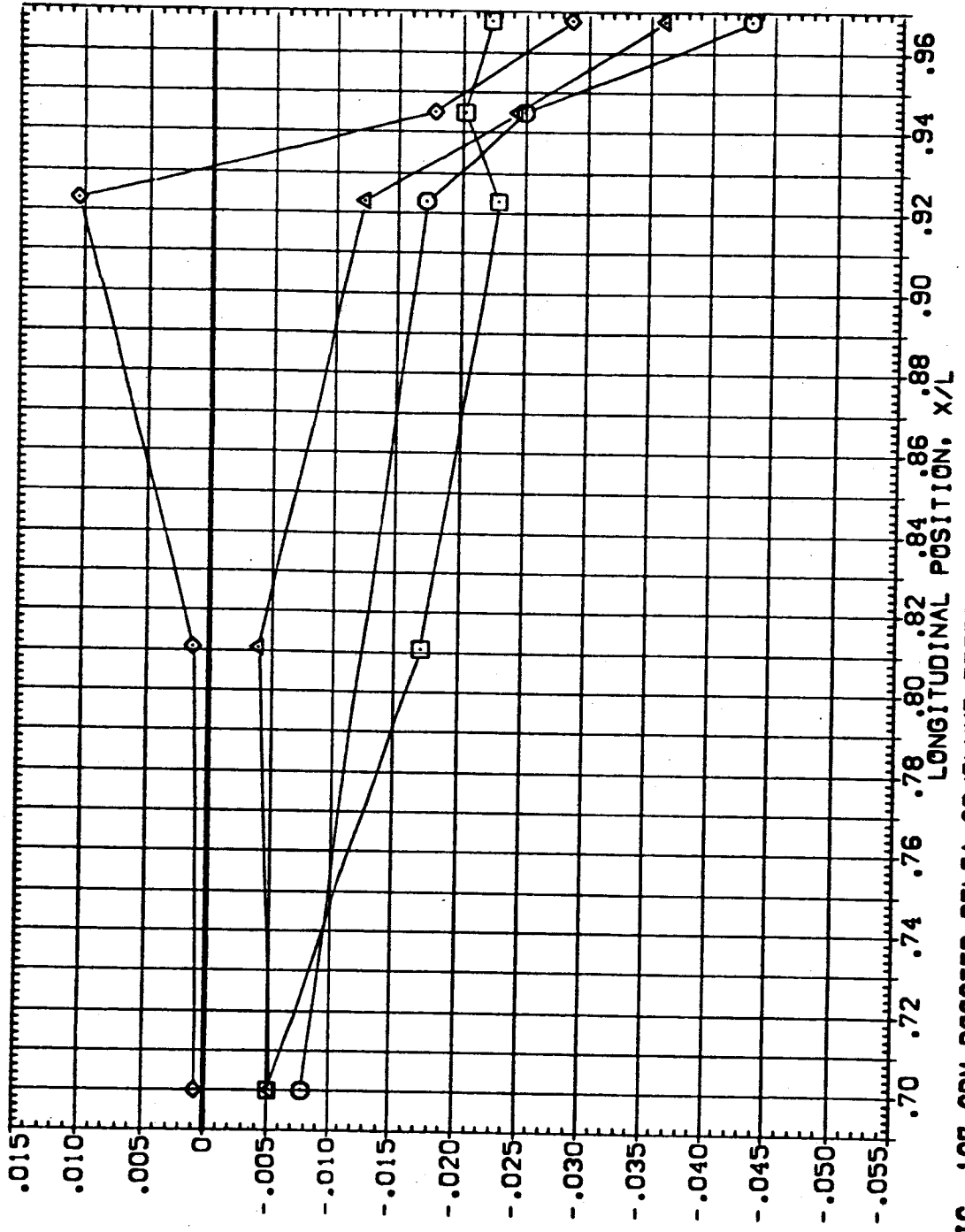


FIG. 107 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF SRB BODY (EEUS13)

PHI	BETA	ALPHA	ELV-1B	ELV-0B
.000	.000	.000	RLOOR	MACH
90.000			61MBAL	1.000
180.000				1.000
270.000				

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

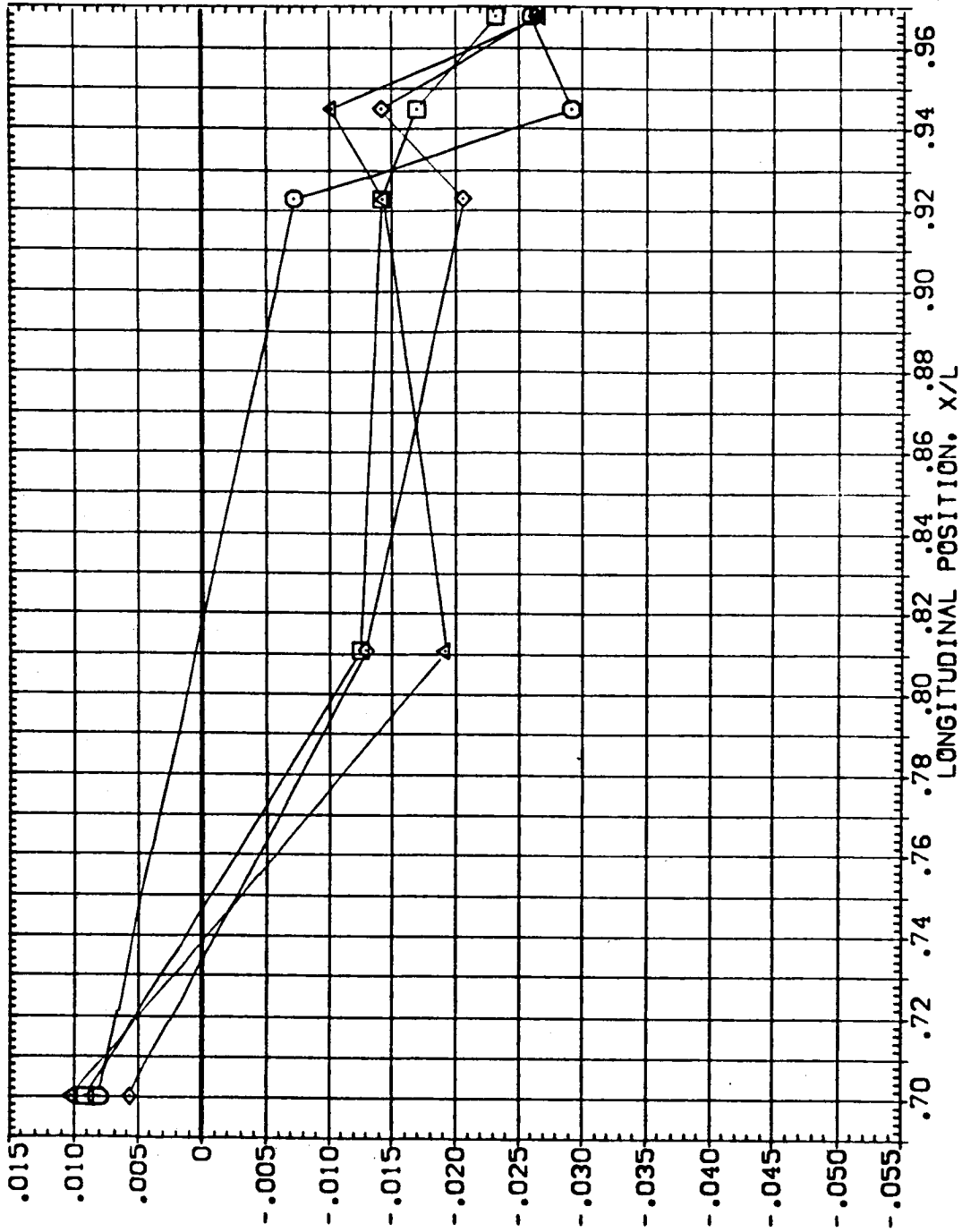


FIG. 107 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF SRB BODY (EEUS13)

SYMBOL PHI BETA ALPHA
 □ .000 .000 1.000
 ◇ 90.000
 △ 180.000
 270.000

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

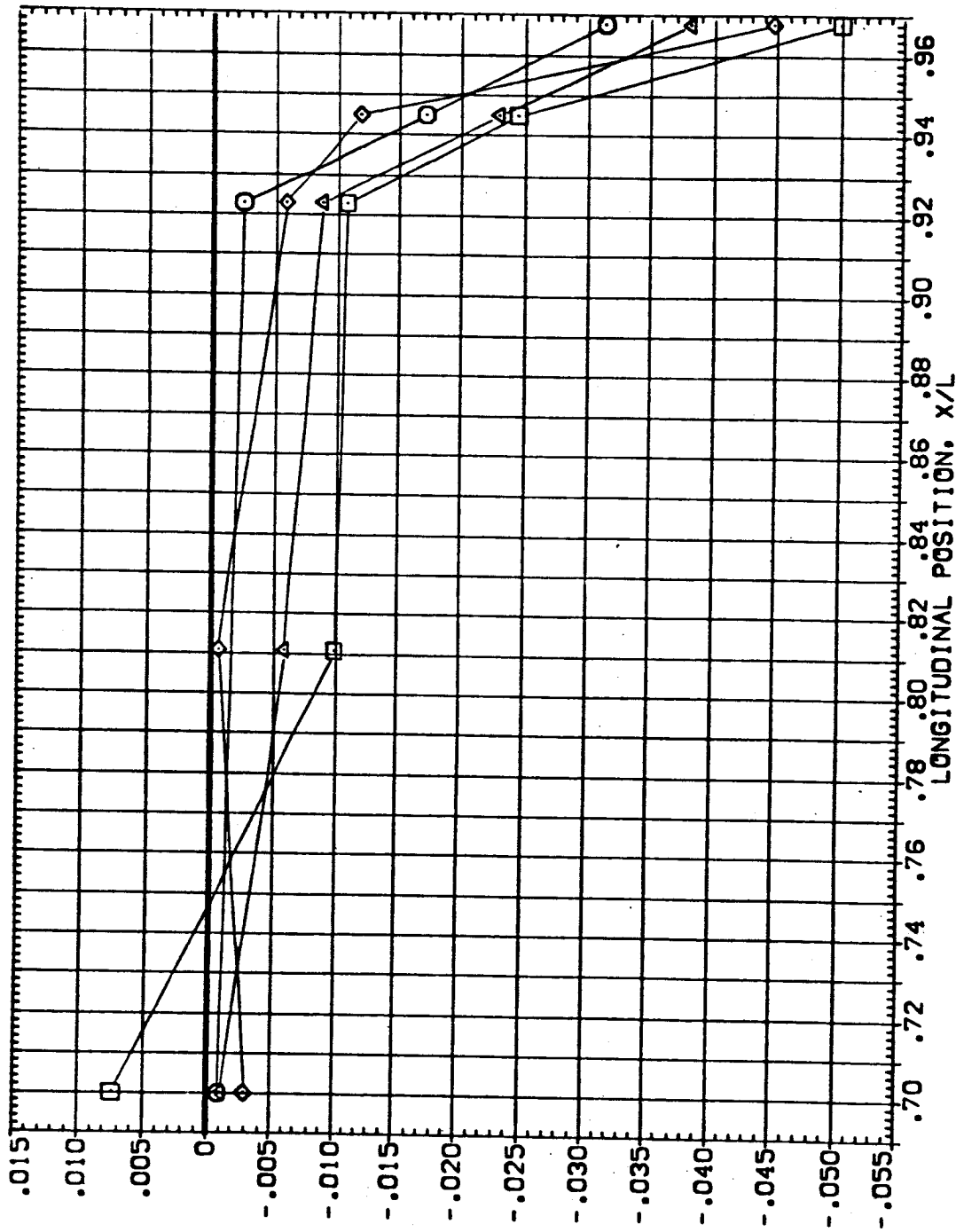


FIG. 107 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF SRB BODY (FEUS13)

SYMBOL	PHI	BETA	ALPHA	ELV-18	PARAMETRIC VALUES
○	.000	-1.000	.000	RUDDER	8.000 ELV-08
□	90.000			GIMBAL	.000 MACH
◇	180.000				1.000
△	270.000				

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

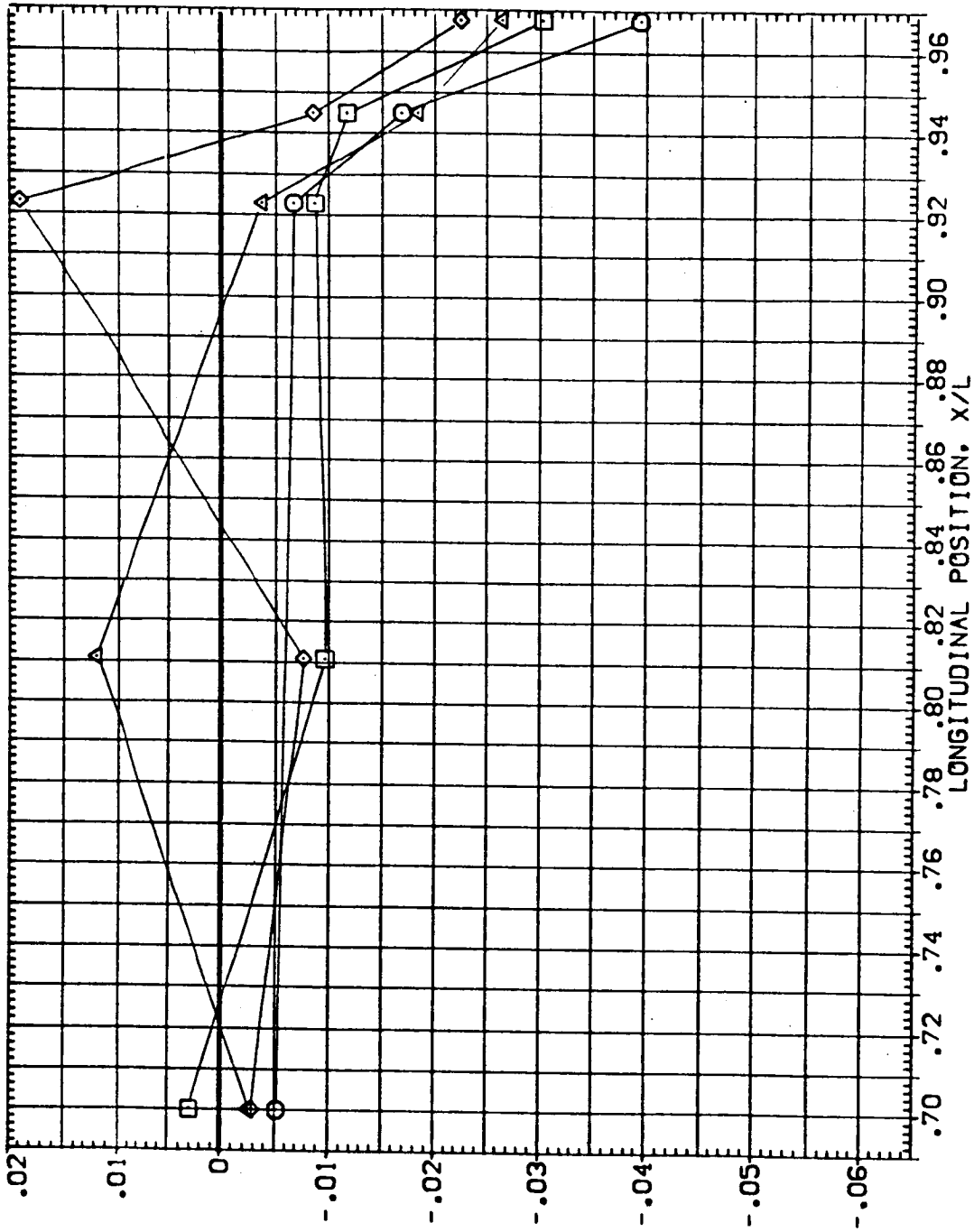


FIG. 107 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF SRB BODY (EEUS14)

PHI	BETA	ALPHA	ELV-1B	ELV-CB
.000	.000	-1.000	8.000	4.000
90.000			.000	1.100
180.000			1.000	
270.000				

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

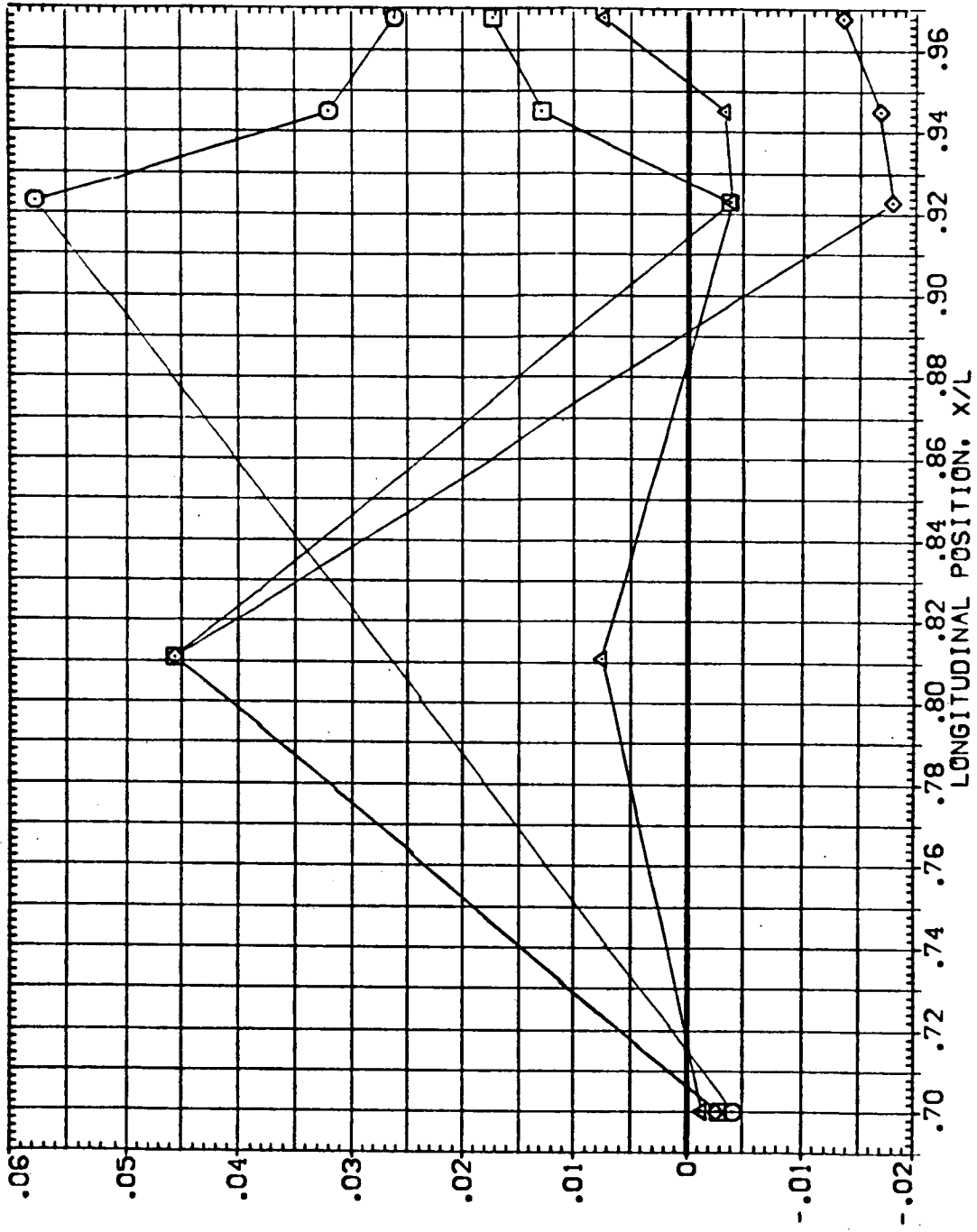


FIG. 107 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF SRB BODY (EEUS14)

PHI .000 BETA .000 ALPHA .000
 90.000
 180.000
 270.000

ELV-18 ELV-08
 RUDDER MACH
 GIMBAL 1.000 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

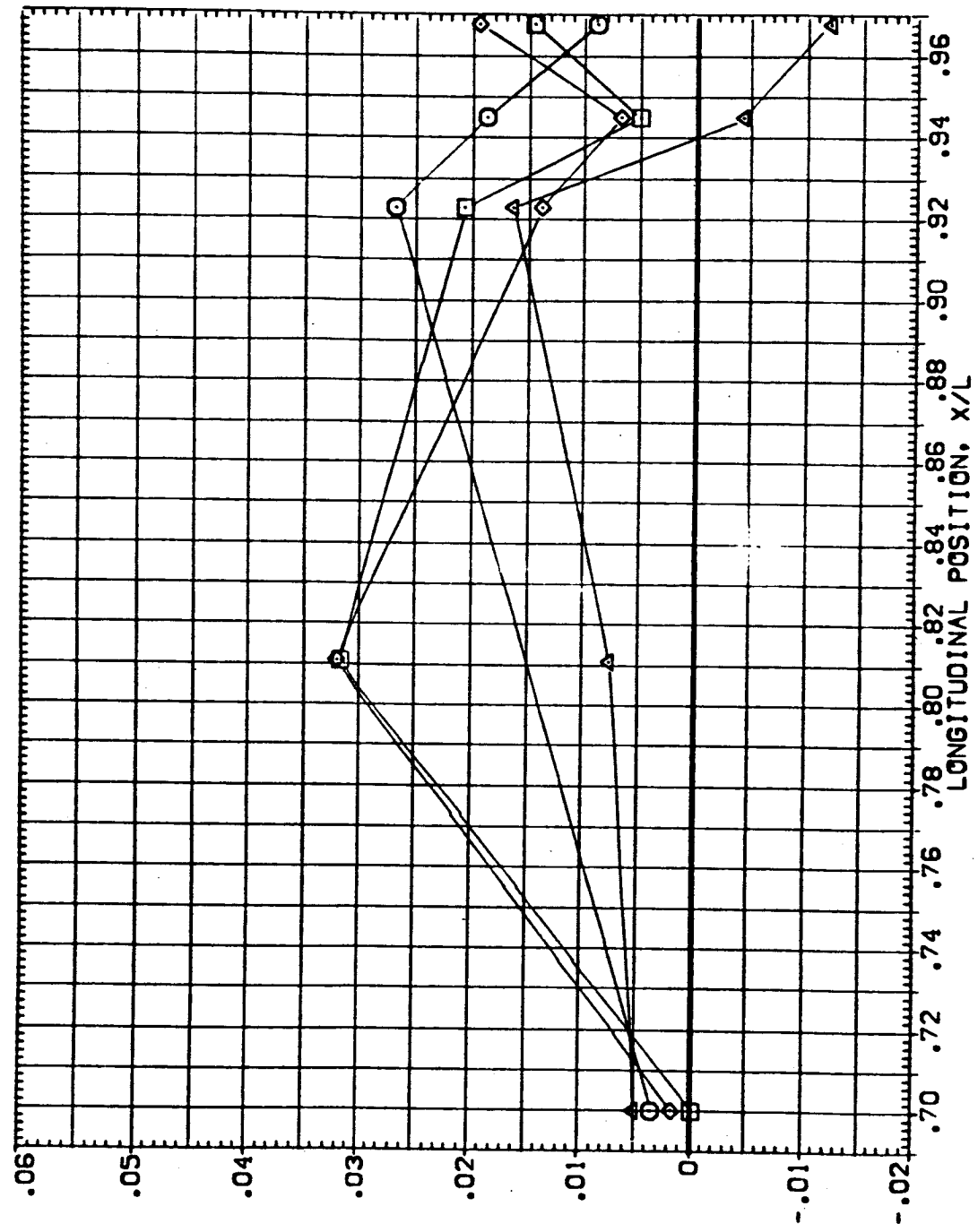


FIG. 107 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF SRB BODY (EEUS14)

SYMBOL PHI BETA ALPHA
 ○ .000 .000 4.000
 □ 90.000
 ◇ 180.000
 △ 270.000

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

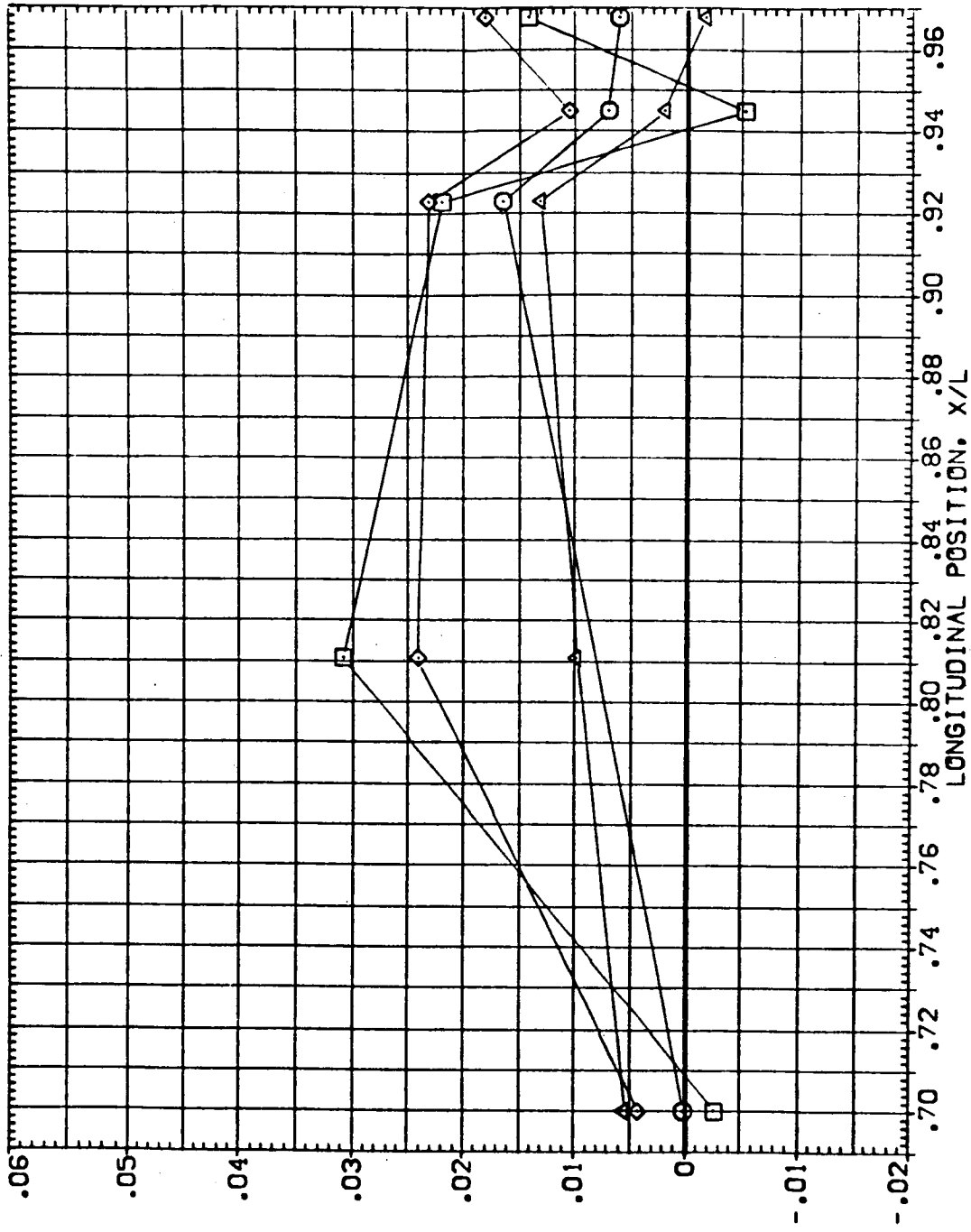


FIG. 107 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF SRB BODY (FEUS14)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

PHI BETA ALPHA
 .000 -1.000 .000
 90.000
 180.000
 270.000

SYMBOL
 ○ □ ◇ △

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

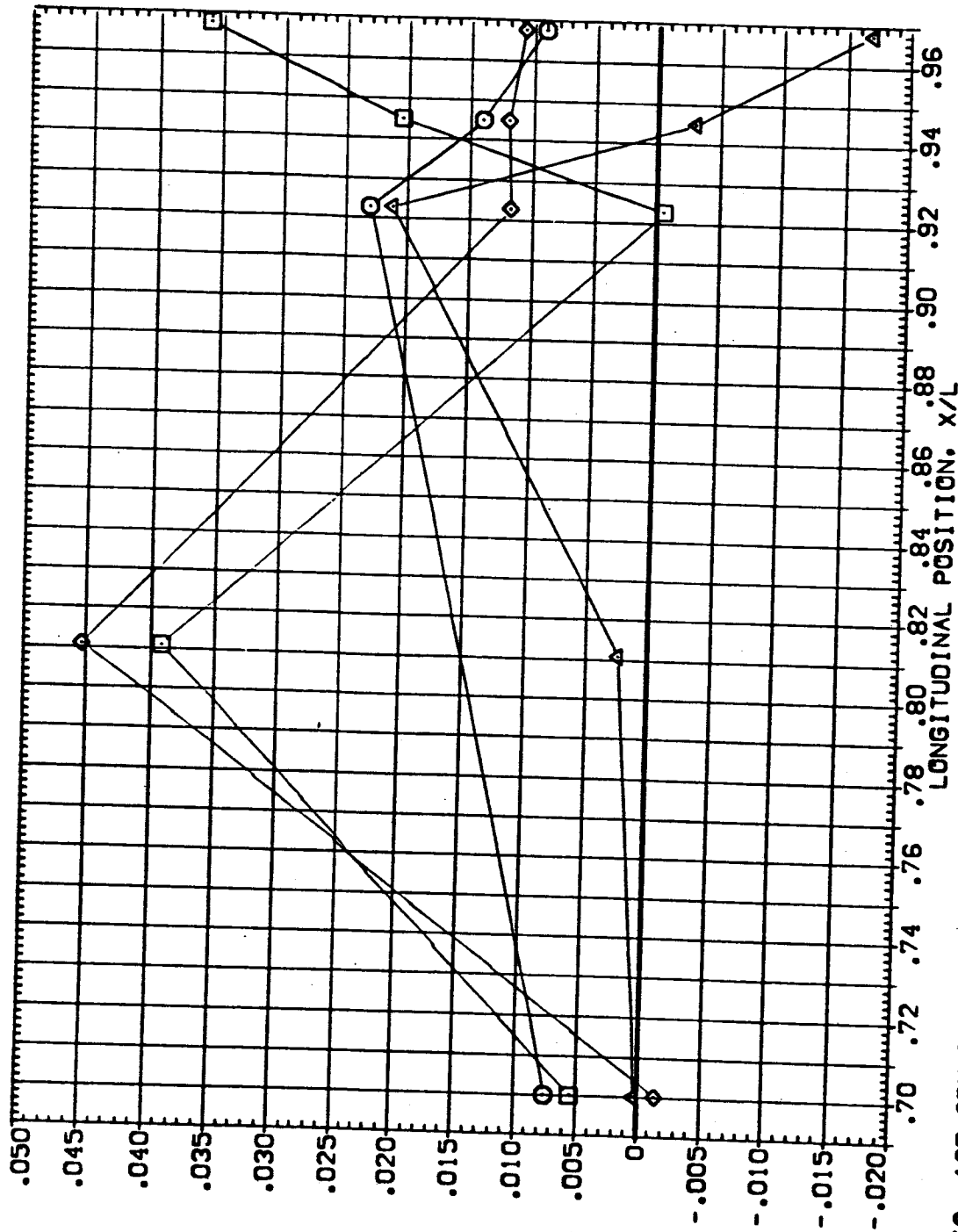


FIG. 107 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF SRB BODY (FEUS14)

SYMBOL PHI BETA ALPHA
 ○ .000 4.000 .000
 □ 90.000
 ◇ 180.000
 △ 270.000

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

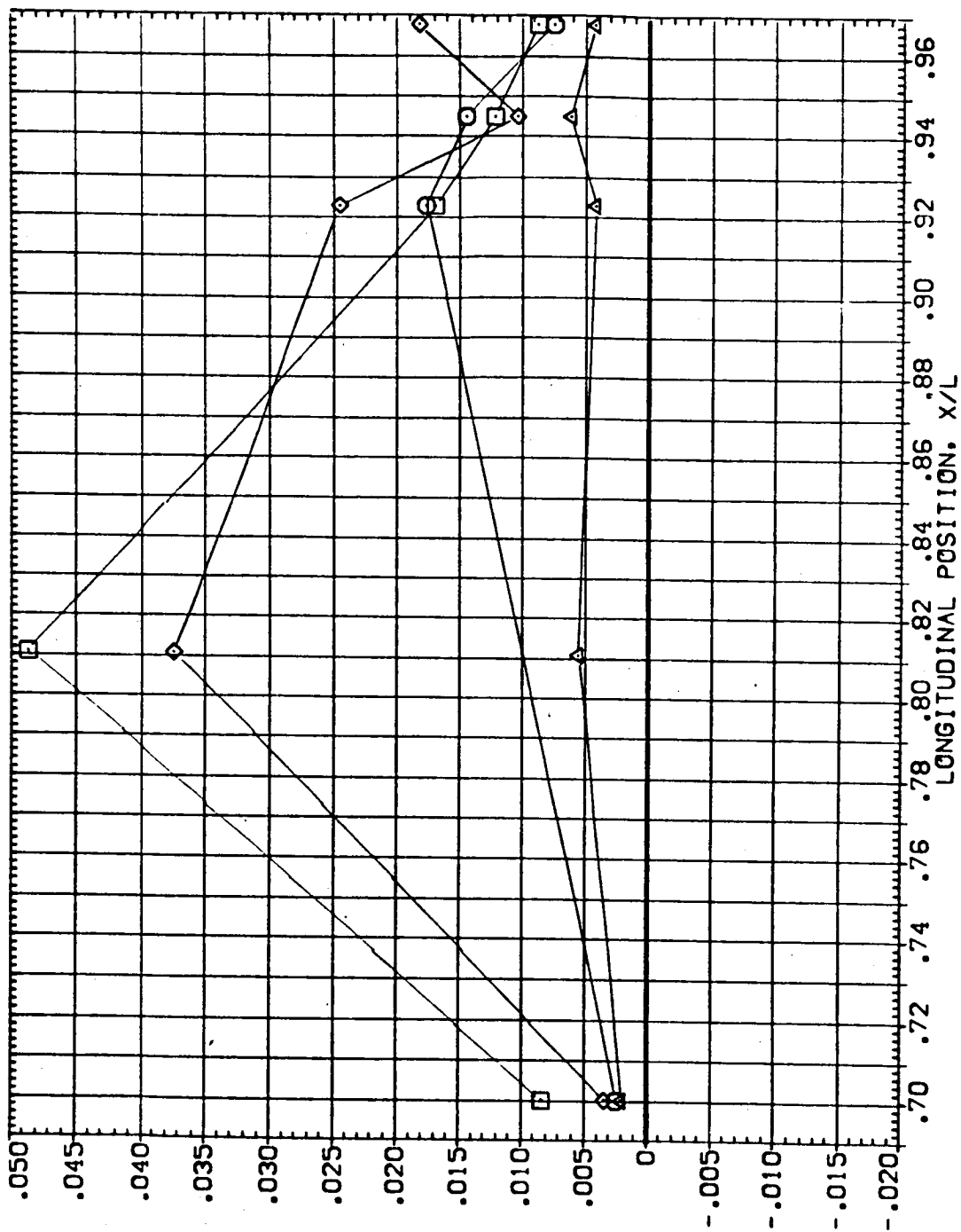


FIG. 107 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF SRB BODY (EEUS15)

SYMBOL	PHI	BETA	ALPHA	ELV-18	PARAMETRIC VALUES
□	.000	.000	-1.000	RUDER	8.000
◇	90.000			GIMBAL	.000
○	180.000				1.250
△	270.000				4.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

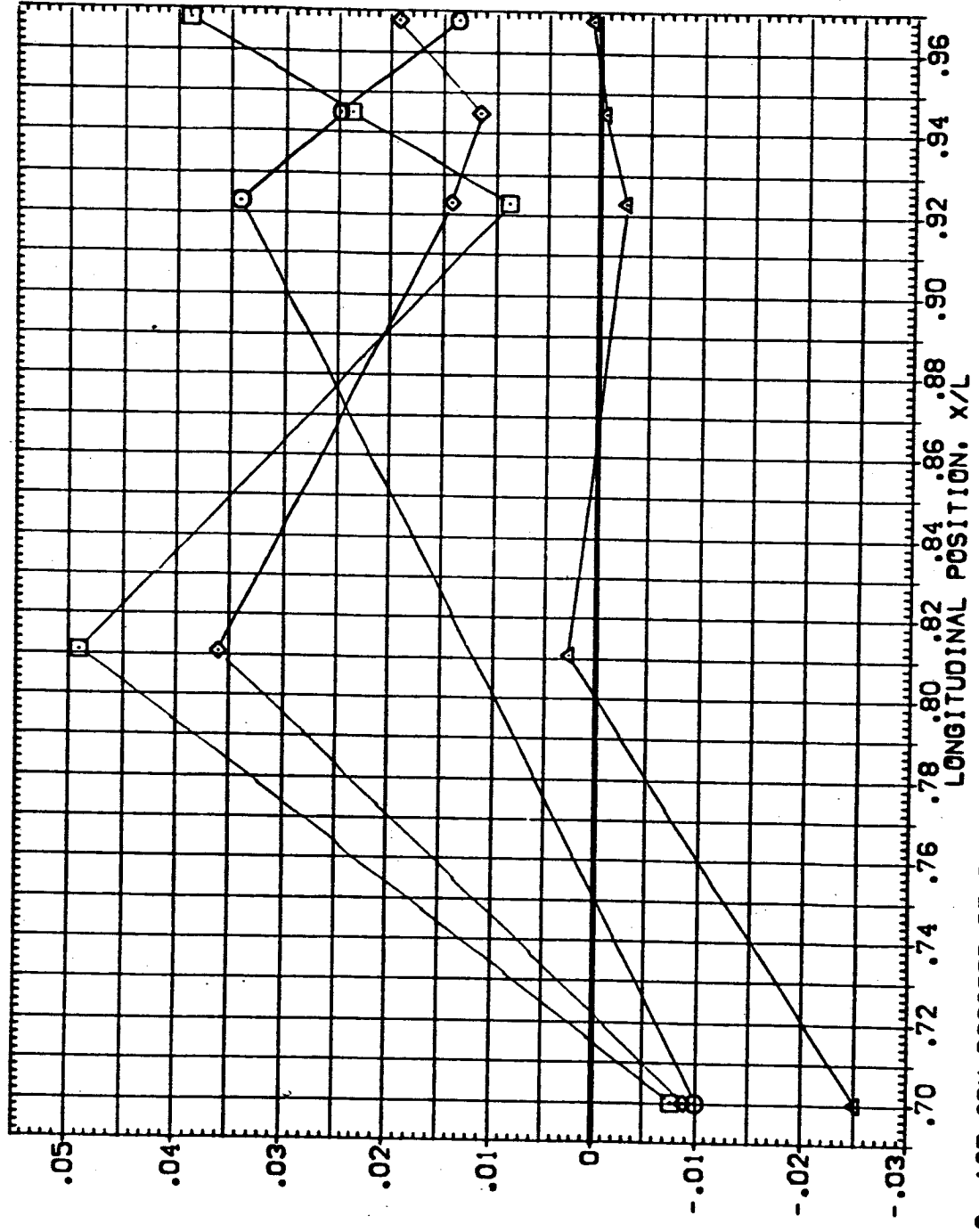


FIG. 107 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF SRB BODY (EEUS15)

PHI BETA ALPHA
 .000 .000 .000
 90.000
 180.000
 270.000

PARAMETRIC VALUES
 ELV-18 6.000 ELV-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

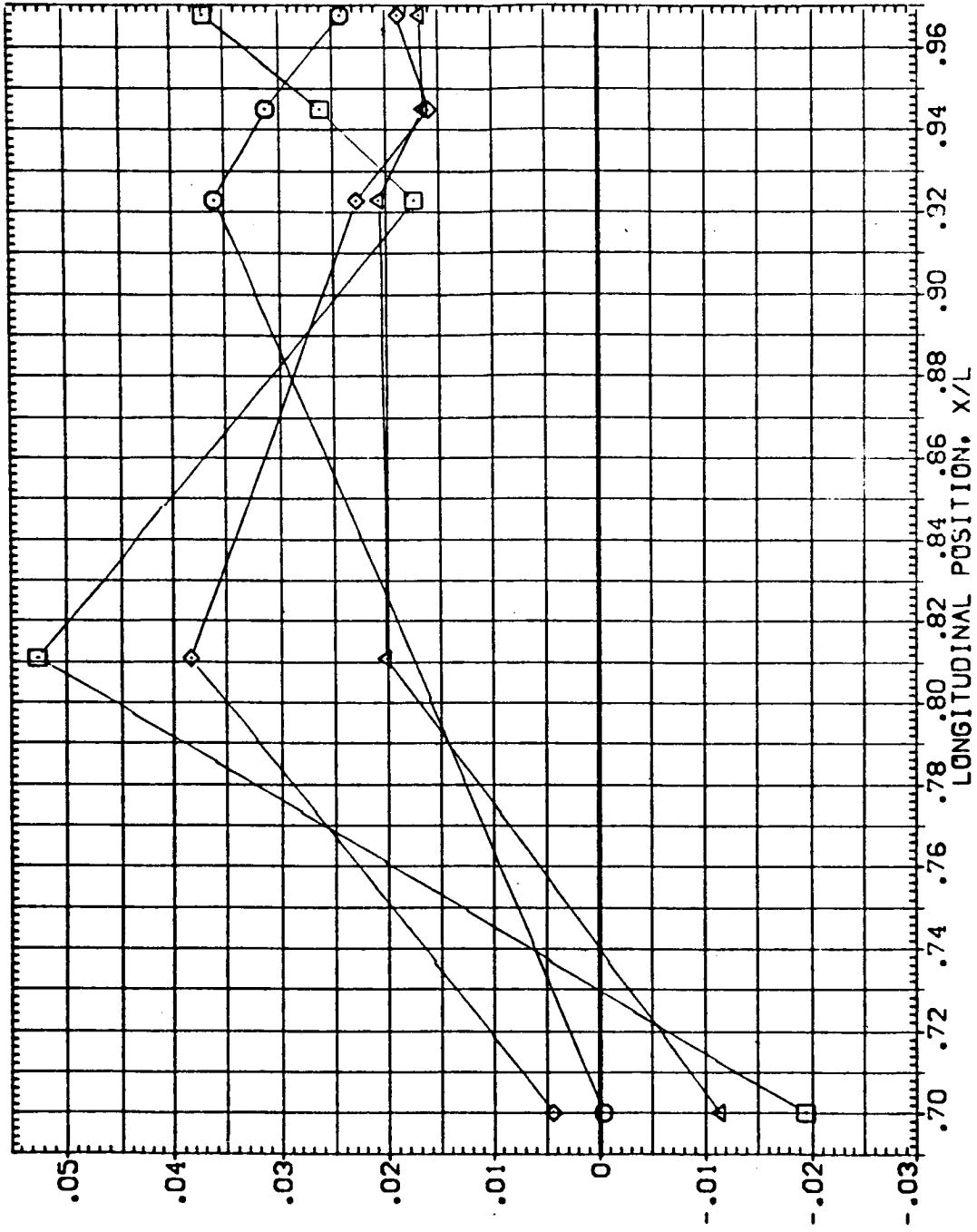


FIG. 107 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF SRB BODY (EEUS15)

SYMBO. PHI BETA ALPHA ELV-18 ELV-08 4.000
 90.000 .000 4.000 RUDDER MACH 1.250
 180.000 GIMBAL 1.000
 270.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

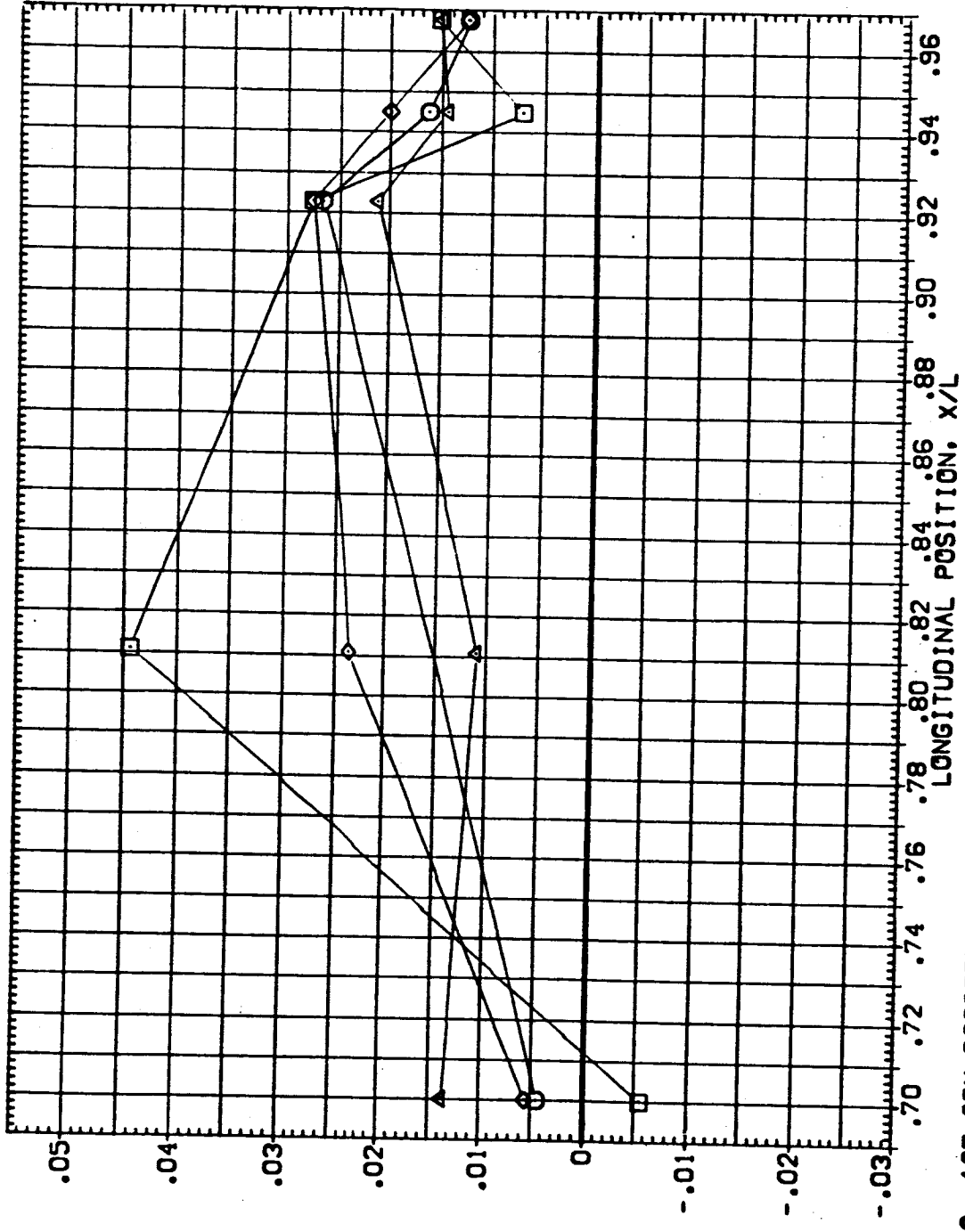


FIG. 107 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

AKU11-UI41A19 UIS+SIRUT SRB-NOM MPS-OFF SRB BODY (FEUS15)

PHI .000
 90.000
 180.000
 270.000

BETA -4.000
 ALPHA .000

ELV-18
 RUDDER
 GIMBAL

PARAMETRIC VALUES
 8.000 ELV-08 4.000
 .000 MACH 1.250
 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

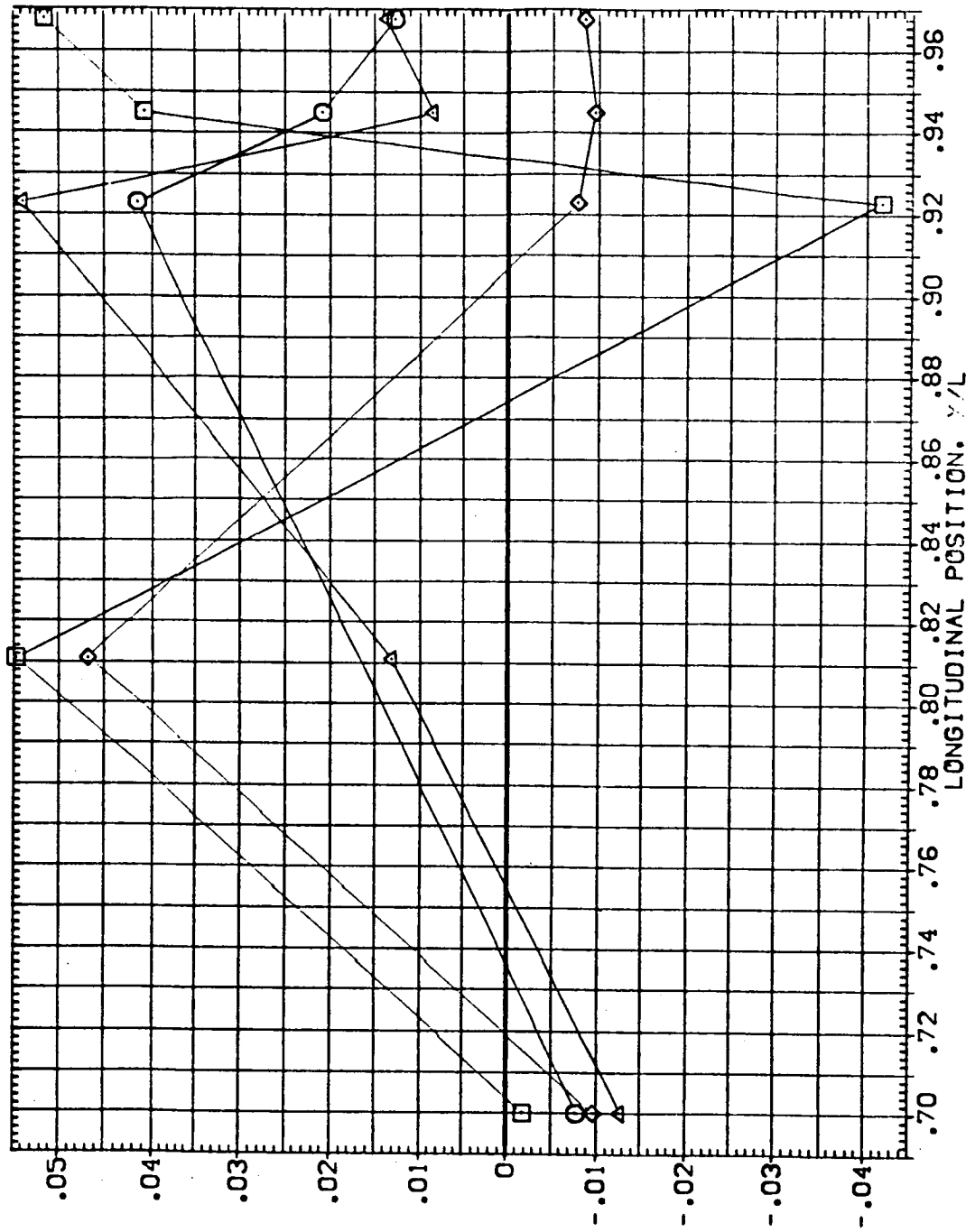


FIG. 107 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF SRB BODY (FEUS15)

PHI .000 ALPHA .000
 90.000 BETA 1.000
 180.000 ELV-DB 4.000
 270.000 RUDDER .000 MACH 1.250
 GIMBAL 1.000

PARAMETRIC VALUES
 ELV-DB 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

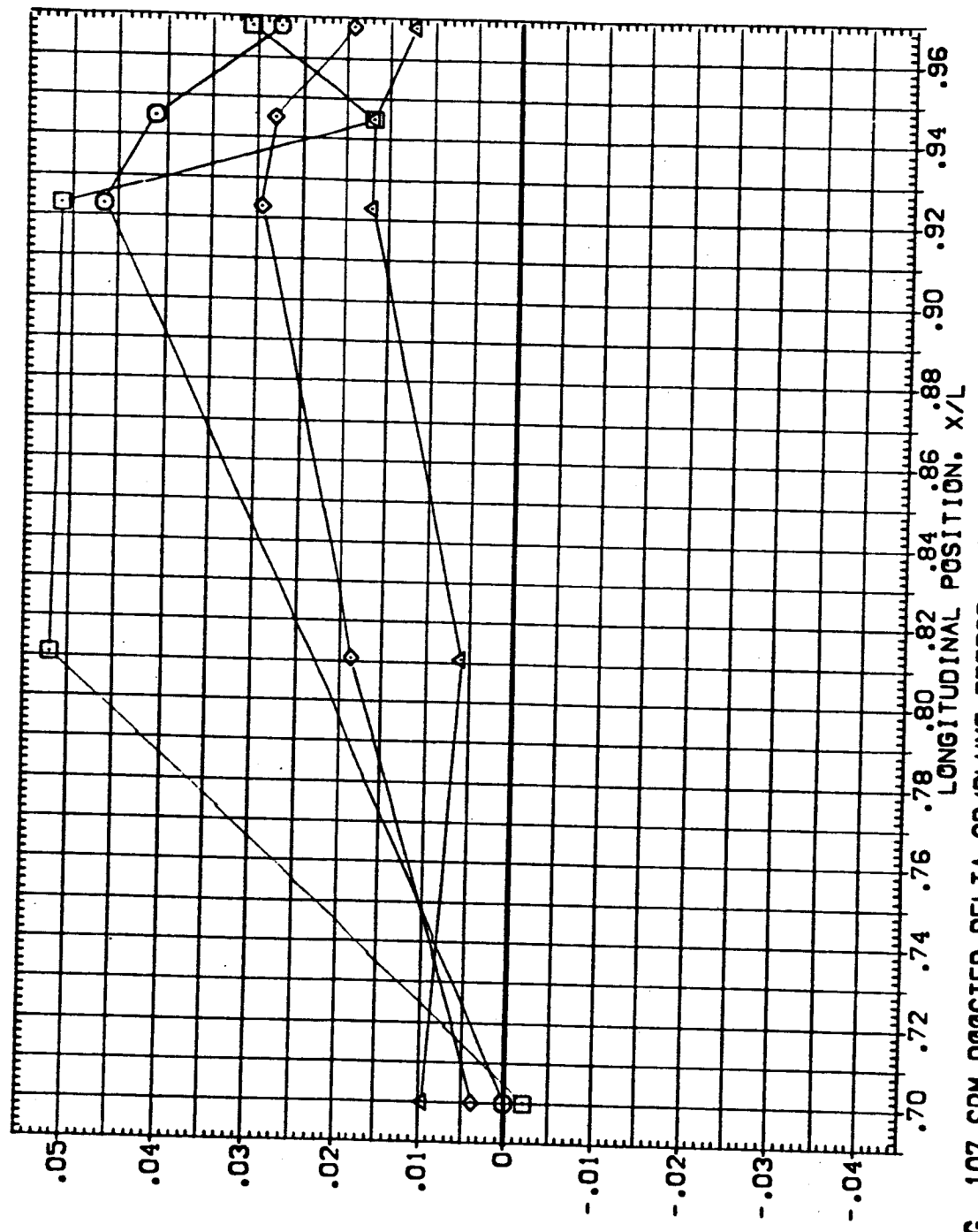


FIG. 107 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-014IA19 OTS+STRUT SRB-NOM MPS-OFF SRB BODY (EEUS16)

PHI .000 BETA .000 ALPHA -4.000
 90.000
 180.000
 270.000

ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

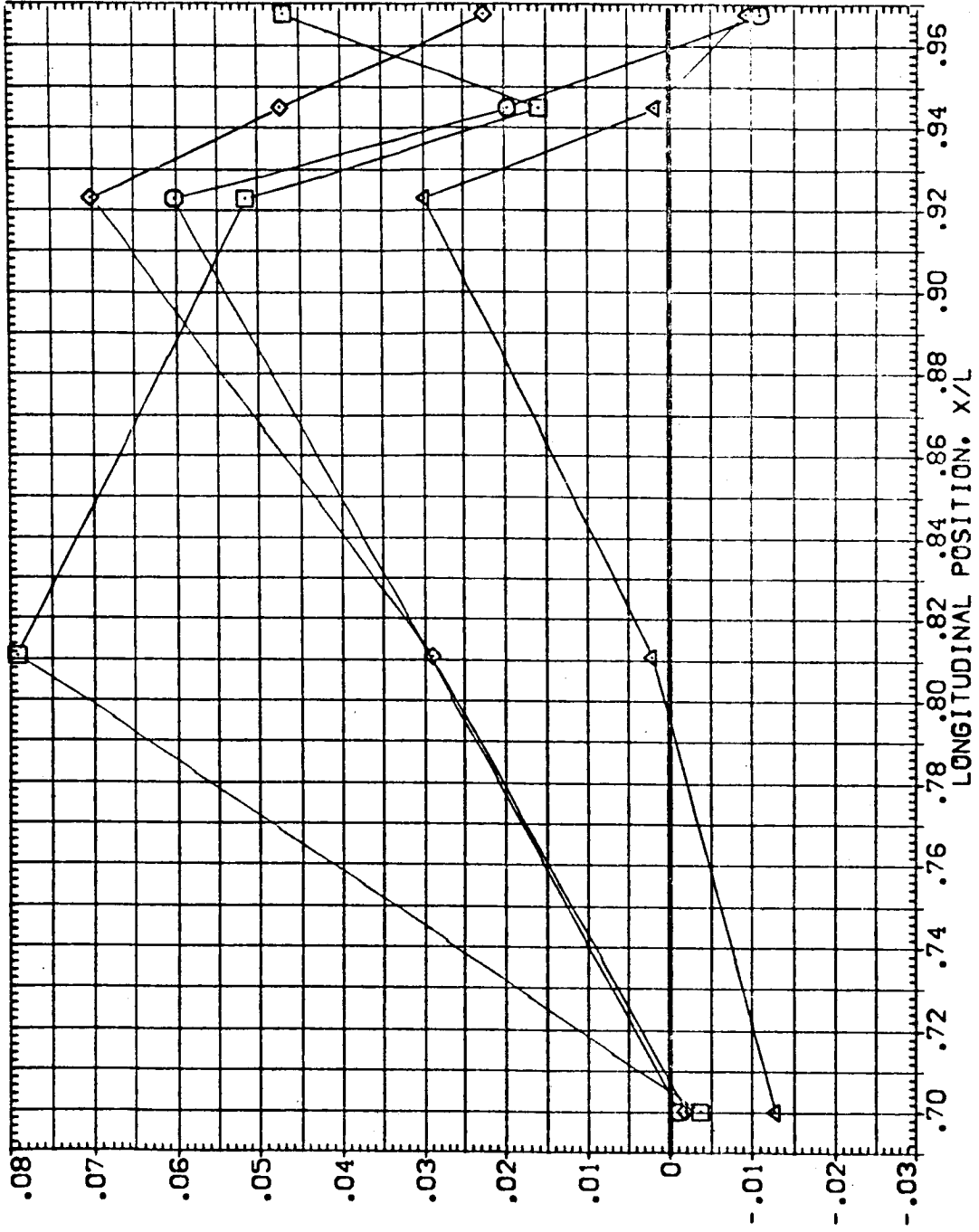


FIG. 107 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF SRB BODY (EEUS16)

SYMBO: PH-I BETA ALPHA ELV-IB ELV-OB PARAMETRIC VALUES
 .000 .000 4.000 RUDER MACH .000 .000 .000 .000
 90.000 180.000 270.000 GIMBAL 1.000 1.000 1.000 1.400

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

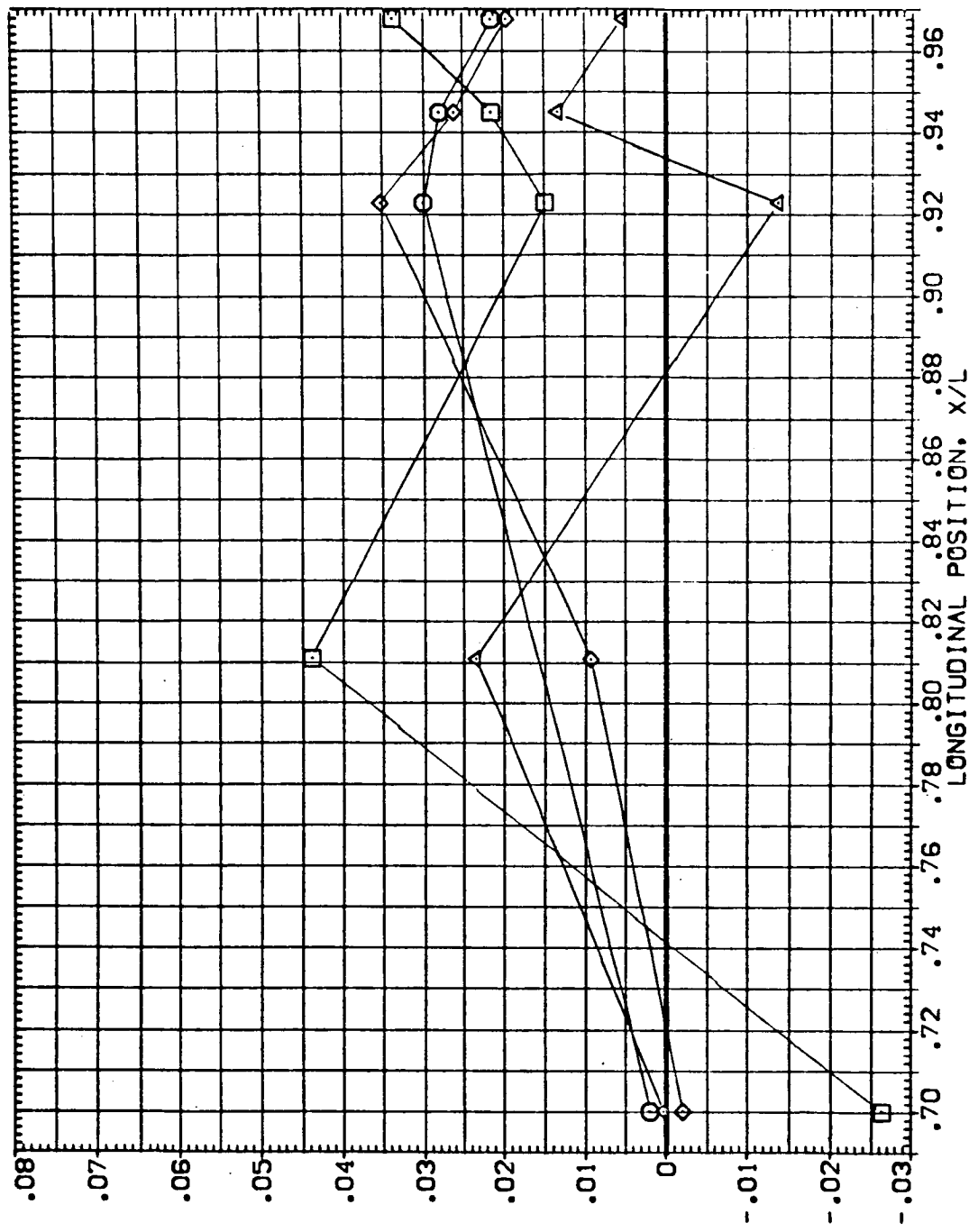


FIG. 107 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF SRB BODY(FEUS16)

PHI .000 ALPHA .000
 90.000 BETA -4.000
 180.000
 270.000

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

SYMBOL
 ○ □ ◇ △

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

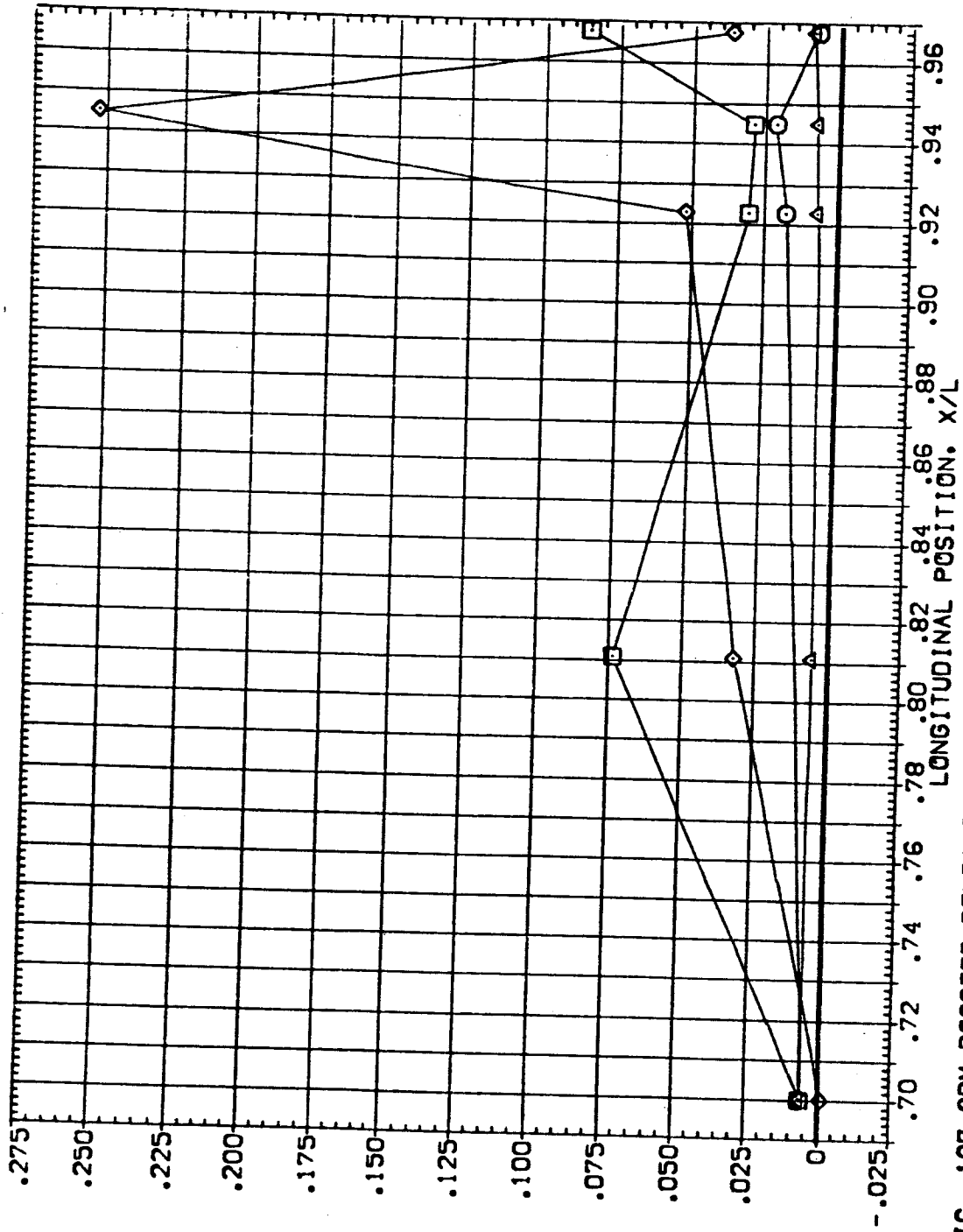


FIG. 107 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

PHI .000 BETA 4.000 ALPHA .000
 90.000
 180.000
 270.000

ELV-1B 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

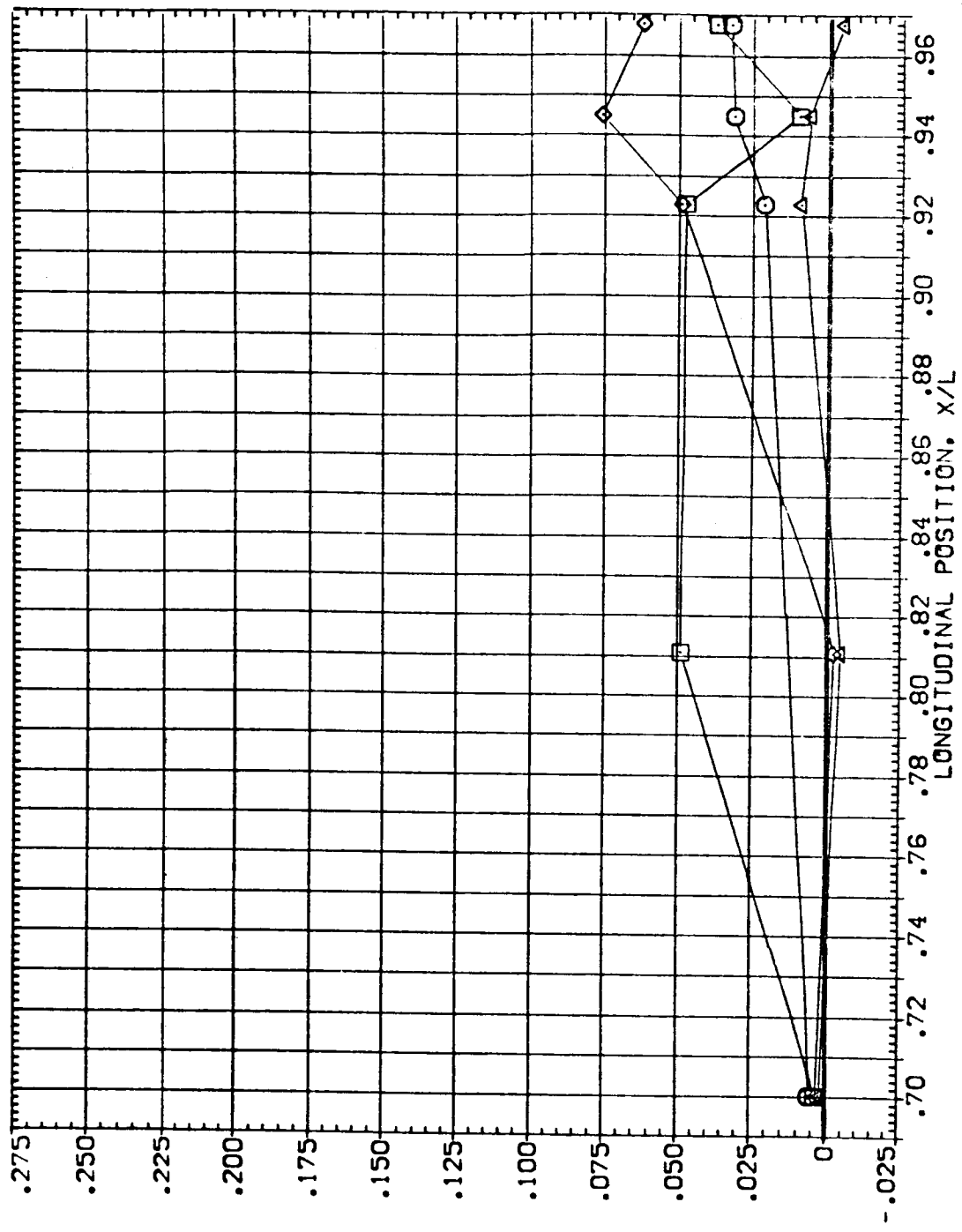


FIG. 107 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF



APPENDIX
TABULATED SOURCE FORCE DATA

Tabulations of plotted data are available
on request from Data Management Services.

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ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF (REU001) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 978.0000 IN. XT
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 52/ 0 RN/L = 4.13 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-3.993	.000	.90270	.00000	.00000	.01250	.01750	.01810	.07840	.01540
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 53/ 0 RN/L = 4.14 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-.816	-4.008	.80440	.00000	.00000	.02220	.02430	.02000	.07740	.01380
-.339	.006	.80040	.00000	.00000	.01020	.01710	.01720	.07280	.01430
-.222	4.025	.80590	.00000	.00000	.01070	.01750	.01690	.07750	.01500
	GRADIENT	.00014	.00000	.00000	-.00143	-.00085	-.00014	.00001	.00017

RUN NO. 54/ 0 RN/L = 4.15 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
3.948	.000	.90340	.00000	.00000	.01430	.01740	.01840	.07110	.01410
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 978.0000 IN. XT
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 37/ 0 RN/L = 4.22 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.178	.000	1.06450	.00000	.00000	.02970	.02730	.02690	.09350	.02840
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 38/ 0 RN/L = 4.22 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-.284	-4.003	1.06430	.00000	.00000	.03830	.00550	.03300	.09710	.02420
-.252	.009	1.10030	.00000	.00000	.02390	.02440	.02650	.06950	.02560
-.225	4.028	1.05800	.00000	.00000	.02280	.02390	.03320	.05520	.02540
	GRADIENT	.00021	.00000	.00000	-.00195	.00229	.00003	-.00024	.00015

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF (REU002) (23 OCT 74)

PARAMETRIC DATA

ELV-18 = 8.000
 RUDDER = .000
 01MBAL = 1.100

PARAMETRIC DATA

ELV-18 = 8.000
 RUDDER = .000
 01MBAL = 1.100

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ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF

(REU004) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT
 BRP = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

PARAMETRIC DATA

ELV-18 = 8.000 ELV-08 = 4.000
 RUDDER = .000 MACH = 1.400
 GIMBAL = 1.000

RUN NO. 25/ 0 RN/L = 4.27 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-3.808	.009	1.40430	.00000	.00000	.03420	-.01690	.02260	.06940	.01940
GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 25/ 0 RN/L = 4.43 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-.204	-4.000	1.40100	.00000	.00000	.00920	-.03120	.02340	.06390	.01820
-.306	.016	1.40090	.00000	.00000	.02050	-.02710	.02190	.05980	.01940
-.267	4.031	1.40170	.00000	.00000	.02710	-.01690	.02310	.06230	.01970
GRADIENT	.00009	.00009	.00000	.00000	.00223	.00179	-.00004	-.00015	.00019

RUN NO. 24/ 0 RN/L = 4.20 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
4.392	.012	1.40000	.00000	.00000	.00680	-.03800	.02240	.05550	.02040
GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM

(REU005) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT
 BRP = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

PARAMETRIC DATA

ELV-18 = 8.000 ELV-08 = 4.000
 RUDDER = .000 MACH = .900
 GIMBAL = 1.000

RUN NO. 57/ 0 RN/L = 4.18 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.119	-.006	.90240	43.20000	64.00000	.01430	.02020	.03510	.06920	.02030
GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 58/ 0 RN/L = 4.17 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-.306	-4.000	.90960	43.20000	64.00000	.02330	.02680	.03840	.08430	.01610
-.264	.016	.90360	43.20000	64.00000	.01160	.01950	.03480	.06440	.02010
-.348	4.028	.89440	43.20000	64.00000	.00450	.02010	.03560	.09070	.02330
GRADIENT	-.00189	-.00189	.00000	.00000	-.00234	-.00083	-.00035	.00080	.00090

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ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM

(REU005) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 55/ 0 RN/L = 4.16 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA 3.924 BETA .000 MACH .90390 SRBPR 43.20000 MPSPR 64.00000 CHEI .00920 CHEO .01900 CABO .03330 CABT .08010 CABS .01980
 GRADIENT .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000

PARAMETRIC DATA

ELV-1B = 8.000 ELV-08 = 4.000
 RUDDER = .000 MACH = .900
 GIMBAL = 1.000

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM

(REU006) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 43/ 0 RN/L = 4.23 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA -4.074 BETA .000 MACH 1.09500 SRBPR 54.20000 MPSPR 128.00000 CHEI .02790 CHEO .02740 CABO .03560 CABT .09000 CABS .02180
 GRADIENT .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000

PARAMETRIC DATA

ELV-1B = 8.000 ELV-08 = 4.100
 RUDDER = .000 MACH = 1.100
 GIMBAL = 1.000

RUN NO. 44/ 0 RN/L = 4.23 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA -.395 BETA -4.003 MACH 1.09670 SRBPR 54.20000 MPSPR 128.00000 CHEI .03360 CHEO .00670 CABO .04250 CABT .08880 CABS .01990
 GRADIENT .009 1.10190 1.10190 128.00000 128.00000 .02150 .02440 .02220 .08300 .02120
 .339 4.028 1.09780 54.20000 128.00000 .01030 .02390 .04220 .08790 .02330 .00042
 GRADIENT .00014 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000

PARAMETRIC DATA

ELV-1B = 8.000 ELV-08 = 4.000
 RUDDER = .000 MACH = 1.100
 GIMBAL = 1.000

RUN NO. 45/ 0 RN/L = 4.24 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA 3.984 BETA .003 MACH 1.10590 SRBPR 54.20000 MPSPR 128.00000 CHEI .02350 CHEO .00420 CABO .04040 CABT .08470 CABS .02070
 GRADIENT .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000

PARAMETRIC DATA

ELV-1B = 8.000 ELV-08 = 4.000
 RUDDER = .000 MACH = 1.100
 GIMBAL = 1.000

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 28/ 0 RN/L = 4.20 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
4.014	.009	1.39500	106.00000	196.00000	.00490	-.03730	.02220	.04480	.00870
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ELV-1B = 6.000
 RUDDER = .000
 O1MBAL = 1.000
 ELV-08 = 4.000
 MACH = 1.400

PARAMETRIC DATA

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 68/ 0 RN/L = 4.20 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.191	.000	.89470	57.60000	118.90000	.01250	.02020	.03720	.06370	.01500
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ELV-1B = 6.000
 RUDDER = .000
 O1MBAL = 1.000
 ELV-08 = 4.000
 MACH = .900

PARAMETRIC DATA

RUN NO. 70/ 0 RN/L = 4.22 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.38	-4.000	.90080	57.60000	118.90000	.02050	.02510	.03920	.08190	.01160
GRADIENT		.90260	57.60000	118.90000	.00570	.01900	.03620	.07610	.01280
		.80190	57.60000	118.90000	.00200	.02120	.03940	.08100	.01450
		.00012	-.00000	-.00000	-.00218	-.00061	-.00010	-.00011	.00035

ELV-1B = 6.000
 RUDDER = .000
 O1MBAL = 1.000
 ELV-08 = 4.000
 MACH = .900

PARAMETRIC DATA

RUN NO. 71/ 0 RN/L = 4.22 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CA20	CABT	CABS
4.050	.006	.90520	57.60000	118.90000	.00840	.01690	.03450	.07370	.01230
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ELV-1B = 6.000
 RUDDER = .000
 O1MBAL = 1.000
 ELV-08 = 4.000
 MACH = .900

PARAMETRIC DATA

(REU011) (23 OCT 74)

ARC11-0141A19 OTS+STRUT SRB-LOW MPS-NOM

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 9/ 0 RN/L = 4.25 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
3.552	.003	1.23930	46.80000	196.00000	.02780	-.02420	.03170	.06570	.01810
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ELV-1B = 8.000
 RUDDER = .000
 GIMBAL = 1.000
 ELV-08 = 4.000
 MACH = 1.250

PARAMETRIC DATA

ARC11-0141A19 OTS+STRUT SRB-LOW MPS-NOM

(REU012) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 35/ 0 RN/L = 4.18 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.122	.000	1.39970	65.00000	196.00000	.03220	-.01770	.02380	.05530	.01120
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

PARAMETRIC DATA

ELV-1B = 8.000
 RUDDER = .000
 GIMBAL = 1.000
 ELV-08 = 4.000
 MACH = 1.400

RUN NO. 33/ 0 RN/L = 4.18 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-3.396	-4.003	1.40090	65.00000	196.00000	.01070	-.03610	.02490	.05460	.00950
-3.378	.006	1.40150	65.00000	196.00000	.01880	-.02670	.02340	.05160	.01160
-3.315	4.025	1.39970	65.00000	196.00000	.02490	-.01630	.02440	.05420	.01370
	GRADIENT	-.00028	.00000	.00000	.00176	.00247	-.00008	-.00005	.00052

PARAMETRIC DATA

ELV-1B = 8.000
 RUDDER = .000
 GIMBAL = 1.000
 ELV-08 = 4.000
 MACH = 1.400

RUN NO. 34/ 0 RN/L = 4.19 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
4.005	.000	1.39310	65.00000	196.00000	.00660	-.03590	.02370	.04940	.01210
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

PARAMETRIC DATA

ELV-1B = 8.000
 RUDDER = .000
 GIMBAL = 1.000
 ELV-08 = 4.000
 MACH = 1.250



DATE 03 MAY 75

TABULATED SOURCE FORCE DATA - 1A19 (ARC 11-014)

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ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF

(REU013) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XHRP = 976.0000 IN. XT
 LREF = 1290.3000 IN. YHRP = .0000 IN. YT
 BREF = 1290.3000 IN. ZHRP = 400.0000 IN. ZT
 SCALE = .0200

ELV-1B = 8.000 ELV-08 = 4.000
 RUDDER = .000 MACH = .900
 GIMBAL = 1.000

PARAMETRIC DATA

RUN NO. 59/ 0 RN/L = 4.16 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.119	-.003	.89220	43.20000	.00000	.01180	.01650	.01860	.06050	.02110
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 58/ 0 RN/L = 4.17 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-3.390	-3.597	.89810	43.20000	.00000	.02240	.02280	.02000	.06140	.01730
-3.378	.018	.80890	43.20000	.00000	.01240	.01690	.01790	.07410	.01550
-3.327	4.028	.89050	43.20000	.00000	.00870	.01540	.01840	.09330	.02290
	GRADIENT	-.00093	-.00000	.00000	-.00158	-.00093	-.00020	.00024	.00070

RUN NO. 60/ 0 RN/L = 4.16 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
3.809	.000	.89780	43.20000	.00000	.01490	.01730	.01730	.07640	.02030
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XHRP = 976.0000 IN. XT
 LREF = 1290.3000 IN. YHRP = .0000 IN. YT
 BREF = 1290.3000 IN. ZHRP = 400.0000 IN. ZT
 SCALE = .0200

ELV-1B = 8.000 ELV-08 = 4.000
 RUDDER = .000 MACH = 1.100
 GIMBAL = 1.000

PARAMETRIC DATA

RUN NO. 48/ 0 RN/L = 4.24 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-5.142	-.008	1.02080	54.20000	.00000	.02990	.02990	.02720	.08920	.02030
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 47/ 0 RN/L = 4.23 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.321	-4.003	1.06960	54.20000	.00000	.03120	.00890	.03070	.08900	.01920
-4.432	.018	1.10000	54.20000	.00000	.01840	.02500	.02630	.08140	.02080
-3.366	4.025	1.06960	54.20000	.00000	.01650	.02420	.03060	.08630	.02290
	GRADIENT	.00008	-.00000	.00000	-.00183	.00217	-.00001	-.00021	.00046

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF

(REU014) (23 OCT 74)

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(REU014) (23 OCT 74)

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 978.0000 IN. XT
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 46/ 0 RN/L = 4.24 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
3.864	.003	1.10450	54.20000	.00000	.02180	.00430	.02840	.08350	.02080
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ELY-1B = 8.000
 RUDDER = .000
 GIMBAL = 1.000
 ELY-08 = 4.000
 MACH = 1.100

PARAMETRIC DATA

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF

(REU015) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 978.0000 IN. XT
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 13/ 0 RN/L = 4.35 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.113	.003	1.24600	72.00000	.00000	.03870	.00890	.02030	.06530	.01330
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ELY-1B = 8.000
 RUDDER = .000
 GIMBAL = 1.000
 ELY-08 = 4.000
 MACH = 1.250

PARAMETRIC DATA

RUN NO. 14/ 0 RN/L = 4.35 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-3.390	-4.000	1.24100	72.00000	.00000	.03670	-.02370	.02250	.06490	.01230
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ELY-1B = 8.000
 RUDDER = .000
 GIMBAL = 1.000
 ELY-08 = 4.000
 MACH = 1.250

PARAMETRIC DATA

RUN NO. 15/ 0 RN/L = 4.34 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
3.834	.012	1.24410	72.00000	.00000	.02810	-.02560	.02180	.06140	.01480
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ELY-1B = 8.000
 RUDDER = .000
 GIMBAL = 1.000
 ELY-08 = 4.000
 MACH = 1.100

PARAMETRIC DATA



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TABLATED SOURCE FORCE DATA - 1A19 (ARC 11-014)

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ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF

(REU016) (23 OCT 74)

REFERENCE DATA

SREF = 2880.0000 SQ.FT. XMRP = 976.0000 IN. XT
 LREF = 1280.3000 IN. YMRP = .0000 IN. YT
 BRP = 1280.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

PARAMETRIC DATA

ELV-18 = 8.000 ELV-08 = 4.000
 RUDDER = .000 MACH = 1.400
 GIMBAL = 1.000

RUN NO. 29/ 0 RN/L = 4.19 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHE1	CHE0	CAB0	CABT	CABS
-4.095	.012	1.39830	108.00000	.00000	.03120	-.01700	.01620	.05110	.00780
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 30/ 0 RN/L = 4.19 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHE1	CHE0	CAB0	CABT	CABS
-3.383	-4.000	1.40090	108.00000	.00000	.01040	-.03910	.01650	.05110	.00600
-2.291	-.003	1.39280	108.00000	.00000	.01820	-.02680	.01620	.04870	.00810
-3.318	4.026	1.39730	108.00000	.00000	.02430	-.01600	.01630	.05120	.01040
	GRADIENT	-.00045	-.00000	.00000	.00173	.00250	-.00002	.00001	.00095

RUN NO. 31/ 0 RN/L = 4.19 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHE1	CHE0	CAB0	CABT	CABS
3.881	-.006	1.39840	108.00000	.00000	.00810	-.03700	.01680	.04640	.00850
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ARC11-0141A19 OTS+STRUT SRB-HI MPS-HI

(REU017) (23 OCT 74)

REFERENCE DATA

SREF = 2880.0000 SQ.FT. XMRP = 976.0000 IN. XT
 LREF = 1280.3000 IN. YMRP = .0000 IN. YT
 BRP = 1280.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

PARAMETRIC DATA

ELV-18 = 8.000 ELV-08 = 4.000
 RUDDER = .000 MACH = .900
 GIMBAL = 1.000

RUN NO. 66/ 0 RN/L = 4.20 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHE1	CHE0	CAB0	CABT	CABS
-4.155	.009	.90830	84.80000	118.80000	.01220	.02030	.03650	.07780	.01240
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 67/ 0 RN/L = 4.21 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHE1	CHE0	CAB0	CABT	CABS
-4.426	-4.003	.89990	84.80000	118.80000	.01880	.02330	.04010	.06310	.01140
-4.447	.008	.90820	84.80000	118.80000	.00900	.01970	.03730	.07780	.01220
-4.435	4.028	.91140	84.80000	118.80000	-.00080	.02180	.03680	.07730	.01270
	GRADIENT	.00143	.00000	.00000	-.00254	-.00019	-.00004	-.00072	.00016

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DATE 03 MAY 75

TABLATED SOURCE FORCE DATA - 1A19 (ARC 11-014)

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ARC11-0141A19 OTS+STRUT SRB-HI MPS-HI

(REU019) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XPRP = 976.0000 IN. XT
 LREF = 1290.3000 IN. YPRP = .0000 IN. YT
 SREF = 1290.3000 IN. ZPRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 18/ 0 RN/L = 4.35 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABS
-4.165	-0.009	1.24500	117.00000	204.60000	.03080	.00700	.02440	.00830
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 19/ 0 RN/L = 4.34 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABS
-4.459	-4.000	1.24260	117.00000	204.60000	.03300	-.02490	.02650	.00780
-4.38	.012	1.24500	117.00000	204.60000	.02530	-.00750	.02440	.00880
-5.49	4.028	1.24440	117.00000	204.60000	.01940	.00800	.02570	.01140
	GRADIENT	.00020	-.00000	-.00000	-.00169	.00410	-.00010	-.00045

RUN NO. 20/ 0 RN/L = 4.35 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABS
3.518	.012	1.24080	117.00000	204.60000	.02160	-.02510	.02580	.00980
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ARC11-0141A19 OTS+STRUT SRB-HI MPS-HI

(REU020) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XPRP = 976.0000 IN. XT
 LREF = 1290.3000 IN. YPRP = .0000 IN. YT
 SREF = 1290.3000 IN. ZPRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 62/ 0 RN/L = 4.37 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABS
-4.167	-0.003	1.38780	106.00000	196.00000	.02680	-.01740	.01950	.00340
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 63/ 0 RN/L = 4.33 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABS
-4.469	-4.003	1.35970	106.00000	196.00000	.00870	-.03560	.01970	.00200
-4.32	.009	1.40690	106.00000	196.00000	.01590	-.02680	.01660	.00340
-4.466	4.025	1.39830	106.00000	196.00000	.01800	-.01600	.01920	.00560
	GRADIENT	-.00017	.00000	.00000	.00128	.00244	-.00006	-.00047

PARAMETRIC DATA

ELV-18 = 8.000 ELV-08 = 4.000
 RUDDER = .000 MACH = 1.250
 01MBAL = 1.000

CABT CABS
 .05380 .00830
 .00000 .00000

CABT CABS
 .05310 .00780
 .04970 .00880
 .05300 .01140
 -.00001 .00045

CABT CABS
 .05190 .00980
 .00000 .00000

PARAMETRIC DATA

ELV-18 = 8.000 ELV-08 = 4.000
 RUDDER = .000 MACH = 1.400
 01MBAL = 1.000

CABT CABS
 .03980 .00340
 .00000 .00000

CABT CABS
 .03980 .00200
 .03600 .00340
 .03930 .00560
 -.00006 .00047

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(REU020) (23 OCT 74)

ARC11-0141A19 OTS+STRUT SRB-HI MPS-HI

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 64/ 0 RN/L = 4.30 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS	ELV-1B =	ELV-08 =
3.657	.009	1.40540	106.00000	196.00000	.00290	-.03680	.01910	.03510	.00390	.000	4.000
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	MACH =	1.400
										GIMBAL =	1.000

PARAMETRIC DATA

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF

(REU021) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 72/ 0 RN/L = 4.32 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS	ELV-1B =	ELV-08 =
-4.200	.003	1.40450	.00000	.00000	.03510	-.00270	.02240	.06740	.01890	.000	1.400
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	MACH =	1.400
										GIMBAL =	1.000

PARAMETRIC DATA

RUN NO. 73/ 0 RN/L = 4.30 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS	ELV-1B =	ELV-08 =
-.180	-4.000	1.40260	.00000	.00000	.01130	-.01850	.02320	.06330	.01810	.000	1.400
-.291	.012	1.40650	.00000	.00000	.02090	-.01300	.02170	.05950	.01920	MACH =	1.400
-.306	4.028	1.39990	.00000	.00000	.02700	-.00180	.02310	.06250	.01970	GIMBAL =	1.000
	GRADIENT	-.00034	.00000	.00000	.00196	.00208	-.00001	-.00010	.00020		

PARAMETRIC DATA

RUN NO. 74/ 0 RN/L = 4.27 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS	ELV-1B =	ELV-08 =
3.969	.006	1.40130	.00000	.00000	.00760	-.02400	.02260	.05580	.02030	.000	1.400
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	MACH =	1.400
										GIMBAL =	1.000

PARAMETRIC DATA

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT ELV-1B = .000 ELV-08 = .000
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT RUDDER = .000 MACH = .900
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT GIMBAL = 1.000
 SCALE = .0200

RUN NO. 102/ 0 RN/L = 4.22 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
3.655	.003	.91180	.00000	.00000	.03200	.03030	.01750	.07410	.01440
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

PARAMETRIC DATA

(REU024) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT ELV-1B = .000 ELV-08 = .000
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT RUDDER = .000 MACH = 1.100
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT GIMBAL = 1.000
 SCALE = .0200

RUN NO. 84/ 0 RN/L = 4.27 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-3.953	.009	1.09270	.00000	.00000	.11230	.05780	.02860	.09710	.02600
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

PARAMETRIC DATA

(REU024) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT ELV-1B = .000 ELV-08 = .000
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT RUDDER = .000 MACH = .02540
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT GIMBAL = 1.000
 SCALE = .0200

RUN NO. 85/ 0 RN/L = 4.26 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-2.79	-4.003	1.09250	.00000	.00000	.13980	.03040	.03180	.10090	.02410
	.009	1.05840	.00000	.00000	.10320	.05370	.02830	.09140	.02540
	4.025	1.09440	.00000	.00000	.10230	.05240	.03250	.09880	.02500
GRADIENT		.00024	.00000	.00000	-.00455	.00274	.00009	-.00026	.00011

PARAMETRIC DATA

(REU024) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT ELV-1B = .000 ELV-08 = .000
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT RUDDER = .000 MACH = .02980
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT GIMBAL = 1.000
 SCALE = .0200

RUN NO. 96/ 0 RN/L = 4.27 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
3.804	-.003	1.10180	.00000	.00000	.10710	.02980	.02980	.09380	.02520
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

PARAMETRIC DATA

(REU024) (23 OCT 74)



DATE 03 MAY 75

TABLATED SOURCE FORCE DATA - 1A19 (ARC 11-014)

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ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF (REV025) (23 OCT 74)

REFERENCE DATA

SREF = 2990.0000 SQ.FT. XMRP = 978.0000 IN. XT
LREF = 1290.3000 IN. YMRP = .0000 IN. YT
BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
SCALE = .0200

PARAMETRIC DATA

ELV-18 = .000 ELV-08 = .000
RUDDER = .000 MACH = 1.250
GIMBAL = 1.000

RUN NO. 88/ 0 RV/L = 4.31 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA BETA MACH SRBPR MPSPR CHEI CHEO CABO CABT CABS
-3.975 .003 1.24580 .00000 .00000 .12900 .02930 .02420 .07880 .02270
GRADIENT .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000

RUN NO. 89/ 0 RV/L = 4.31 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA BETA MACH SRBPR MPSPR CHEI CHEO CASO CABT CABS
-.295 -4.000 1.24280 .00000 .00000 .12950 -.00980 .02620 .03080 .02240
-.285 .012 1.23380 .00000 .00000 .11890 .01010 .02360 .07230 .02290
-.189 4.031 1.23950 .00000 .00000 .11370 .03070 .02840 .07870 .02340
GRADIENT -.00041 .00000 .00000 -.00147 .00488 .00003 -.00011 .00012 .00000 .00000

RUN NO. 90/ 0 RV/L = 4.32 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA BETA MACH SRBPR MPSPR CHEI CHEO CABO CABT CABS
4.005 .003 1.24680 .00000 .00000 .11180 -.00770 .02590 .07500 .02410
GRADIENT .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF

(REV026) (23 OCT 74)

REFERENCE DATA

SREF = 2990.0000 SQ.FT. XMRP = 978.0000 IN. XT
LREF = 1290.3000 IN. YMRP = .0000 IN. YT
BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
SCALE = .0200

PARAMETRIC DATA

ELV-18 = .000 ELV-08 = .000
RUDDER = .000 MACH = 1.400
GIMBAL = 1.000

RUN NO. 82/ 0 RV/L = 4.29 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA BETA MACH SRBPR MPSPR CHEI CHEO CABO CABT CABS
-3.809 .009 1.40370 .00000 .00000 .11440 -.00030 .02120 .06870 .01980
GRADIENT .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000

RUN NO. 83/ 0 RV/L = 4.24 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA BETA MACH SRBPR MPSPR CHEI CHEO CABO CABT CABS
-.243 -4.000 1.40300 .00000 .00000 .06980 -.01590 .02820 .06920 .01810
-.237 .012 1.40300 .00000 .00000 .09410 -.00900 .02080 .06190 .01940
-.234 4.031 1.36800 .00000 .00000 .10110 .00110 .02230 .05810 .02000
GRADIENT -.00087 .00000 .00000 .00193 .00212 .00001 -.00001 .00024 .00000 .00000

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9.10

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT ELV-1B = .000 ELV-08 = .000
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT RUDDER = .000 MACH = 1.400
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT GIMBAL = 1.000
 SCALE = .0200

RUN NO. 84/ 0 RN/L = 4.24 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
4.047	.006	1.38580	.00000	.00000	.07800	-.01680	.02150	.06010	.02040
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

PARAMETRIC DATA

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT ELV-1B = .000 ELV-08 = .000
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT RUDDER = .000 MACH = .900
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT GIMBAL = 1.000
 SCALE = .0200

RUN NO. 87/ 0 RN/L = 4.16 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.125	.000	.90400	43.20000	84.00000	.03290	.03490	.03690	.08750	.01980
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

PARAMETRIC DATA

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT ELV-1B = .000 ELV-08 = .000
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT RUDDER = .000 MACH = .900
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT GIMBAL = 1.000
 SCALE = .0200

RUN NO. 88/ 0 RN/L = 4.17 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-3.395	-4.003	.90090	43.20000	84.00000	.07450	.03350	.03370	.08890	.01700
GRADIENT		.00720	43.20000	84.00000	.02440	.03590	.03360	.02260	.01900
		.00078	-.00000	.00000	.01170	.03540	.03740	.08350	.02200
					-.00782	.00024	-.00016	-.00004	.00062

PARAMETRIC DATA

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT ELV-1B = .000 ELV-08 = .000
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT RUDDER = .000 MACH = .900
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT GIMBAL = 1.000
 SCALE = .0200

RUN NO. 99/ 0 RN/L = 4.17 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
3.792	-.003	.90710	43.20000	84.00000	.02900	.03140	.03210	.08170	.01960
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

PARAMETRIC DATA



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM

(REU028) (23 OCT 74)

REFERENCE DATA

PARAMETRIC DATA

SREF = 2990.0000 SQ.FT. XMRP = 976.0000 IN. XT ELY-1B = .000 ELY-08 = .000
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT RUDDER = .000 MACH = 1.100
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT GIMBAL = 1.000
 SCALE = .0200

RUN NO. 91/ 0 RN/L = 4.28 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.191	.003	1.09010	54.20000	128.00000	.10960	.05760	.03740	.09200	.02080
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 92/ 0 RN/L = 4.27 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.485	-4.003	1.09410	54.20000	128.00000	.12880	.03190	.04070	.09110	.01990
-4.447	.012	1.10060	54.20000	128.00000	.09310	.09410	.03680	.08360	.02090
-4.405	4.031	1.09530	54.20000	128.00000	.09370	.05240	.04050	.08960	.02290
	GRADIENT	.00015	.00000	.00000	-.00437	.00295	-.00002	-.00019	.00037

RUN NO. 93/ 0 RN/L = 4.28 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
3.819	.009	1.10480	54.20000	128.00000	.10230	.03060	.03970	.08580	.02140
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

REFERENCE DATA

PARAMETRIC DATA

SREF = 2990.0000 SQ.FT. XMRP = 976.0000 IN. XT ELY-1B = .000 ELY-08 = .000
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT RUDDER = .000 MACH = 1.250
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT GIMBAL = 1.000
 SCALE = .0200

RUN NO. 95/ 0 RN/L = 4.32 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.080	.006	1.24670	72.00000	158.00000	.11640	.02940	.02770	.06490	.01330
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 96/ 0 RN/L = 4.32 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-3.375	-3.987	1.24770	72.00000	158.00000	.12220	-.00630	.02880	.06530	.01280
-4.408	.012	1.25480	72.00000	158.00000	.10910	.01050	.02740	.08010	.01330
-3.381	4.031	1.24420	72.00000	158.00000	.10110	.03070	.02840	.08950	.01850
	GRADIENT	-.00044	-.00000	-.00000	-.00283	.00461	-.00002	.00003	.00046

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(REU029) (23 OCT 74)

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XHRP = 976.0000 IN. XT
 LREF = 1290.3000 IN. YHRP = .0000 IN. YT
 BREF = 1290.3000 IN. ZHRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 87/ 0 RN/L = 4.33 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHE1	CHE0	CABO	CABT	CABS
3.643	.003	1.24740	72.00000	196.00000	.10130	-.00710	.02950	.06180	.01440
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ELV-1B = .000 ELV-0B = .000
 RUDDER = .000 MACH = 1.250
 G1M3AL = 1.000

PARAMETRIC DATA

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM

(REU030) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XHRP = 976.0000 IN. XT
 LREF = 1290.3000 IN. YHRP = .0000 IN. YT
 BREF = 1290.3000 IN. ZHRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 78/ 0 RN/L = 4.31 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHE1	CHE0	CABO	CABT	CABS
-4.224	.006	1.39920	106.00000	195.00000	.10600	.00080	.02090	.04650	.00750
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ELV-1B = .000 ELV-0B = .000
 RUDDER = .000 MACH = 1.400
 G1M3AL = 1.000

PARAMETRIC DATA

RUN NO. 80/ 0 RN/L = 4.28 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHE1	CHE0	CABO	CABT	CABS
-4.444	-3.997	1.40220	106.00000	196.00000	.08730	-.01540	.02230	.05070	.00700
		.016	1.40590	106.00000	.08540	-.00870	.02080	.04650	.00900
			1.40200	106.00000	.09240	.00140	.02110	.04900	.01000
					.00064	.00209	-.00015	-.00021	.00037

ELV-1B = .000 ELV-0B = .000
 RUDDER = .000 MACH = 1.400
 G1M3AL = 1.000

PARAMETRIC DATA

RUN NO. 81/ 0 RN/L = 4.27 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHE1	CHE0	CABO	CABT	CABS
3.818	.009	1.40140	106.00000	196.00000	.07200	-.01350	.02150	.04490	.00870
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ELV-1B = .000 ELV-0B = .000
 RUDDER = .000 MACH = 1.250
 G1M3AL = 1.000

PARAMETRIC DATA



DATE 03 MAY 75

TABLATED SOURCE FORCE DATA - 1A19 (ARC 11-014)

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ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF

(REU031) (23 OCT 74)

REFERENCE DATA

SREF = 2890.0000 SQ.FT. XHRP = 978.0000 IN. XT
 LREF = 1290.3000 IN. YHRP = .0000 IN. YT
 SREF = 1290.3000 IN. ZHRP = 400.0000 IN. ZT
 SCALE = .0200

PARAMETRIC DATA

ELV-18 = .000 ELV-08 = .000
 RUDDER = .000 MACH = .900
 GIMBAL = 2.000

RUN NO. 106/ 0 RN/L = 4.80 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.020	.008	.89850	.00000	.00000	.04240	.03040	.01800	.07820	.01510
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 107/ 0 RN/L = 4.22 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-.268	-4.003	.90520	.00000	.00000	.07130	.03150	.02100	.08070	.01380
-.279	.009	.91350	.00000	.00000	.02890	.02850	.01730	.07030	.01320
-.284	4.031	.90900	.00000	.00000	.01000	.02190	.01920	.07890	.01500
	GRADIENT	.00047	.00000	.00000	-.00783	-.00120	-.00022	-.00022	.00015

RUN NO. 100/ 0 RN/L = 4.23 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
3.978	.000	.90870	.00000	.00000	.02310	.03000	.01850	.07220	.01430
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

REFERENCE DATA

SREF = 2890.0000 SQ.FT. XHRP = 978.0000 IN. XT
 LREF = 1290.3000 IN. YHRP = .0000 IN. YT
 SREF = 1290.3000 IN. ZHRP = 400.0000 IN. ZT
 SCALE = .0200

PARAMETRIC DATA

ELV-18 = .000 ELV-08 = .000
 RUDDER = .000 MACH = 1.100
 GIMBAL = 2.000

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF

(REU032) (23 OCT 74)

RUN NO. 124/ 0 RN/L = 4.38 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-3.808	.000	1.05500	.00000	.00000	.10780	.08790	.02780	.02390	.02570
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 125/ 0 RN/L = 4.42 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-.255	-4.000	1.10950	.00000	.00000	.12980	.02740	.02910	.09170	.02330
-.213	.009	1.11790	.00000	.00000	.10280	.05200	.02530	.08280	.02370
-.219	4.028	1.11020	.00000	.00000	.00320	.08350	.03050	.00050	.02370
	GRADIENT	.00007	.00000	.00000	-.00411	.00314	.00017	-.00014	.00005

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(REU032) (23 OCT 74)

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT
 BRP = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 126/ 0 RN/L = 4.43 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
3.981	.000	1.12440	.00000	.00000	.10670	.02520	.02710	.08510	.02370
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ELV-1B = .000 ELV-08 = .000
 RUDDER = .000 MACH = 1.100
 GIMBAL = 2.000

PARAMETRIC DATA

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT
 BRP = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 112/ 0 RN/L = 4.38 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.044	.003	1.25250	.00000	.00000	.12780	.02800	.02320	.07720	.02240
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ELV-1B = .000 ELV-08 = .000
 RUDDER = .000 MACH = 1.250
 GIMBAL = 2.000

PARAMETRIC DATA

(REU033) (23 OCT 74)

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT
 BRP = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 113/ 0 RN/L = 4.37 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-1.198	-4.000	1.25040	.00000	.00000	.12540	-.00720	.02540	.07910	.02220
GRADIENT		.00000	.00000	.00000	.11840	.00280	.02320	.07210	.02300
		1.24580	.00000	.00000	.11440	.02530	.02630	.07880	.02310
			.00000	.00000	-.00137	.00461	.00015	-.00004	.00011

ELV-1B = .000 ELV-08 = .000
 RUDDER = .000 MACH = 1.250
 GIMBAL = 2.000

PARAMETRIC DATA

(REU033) (23 OCT 74)

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT
 BRP = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 114/ 0 RN/L = 4.35 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
3.846	.003	1.25060	.00000	.00000	.11140	-.00780	.02490	.07340	.02390
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ELV-1B = .000 ELV-08 = .000
 RUDDER = .000 MACH = 1.250
 GIMBAL = 2.000

PARAMETRIC DATA



DATE 03 MAY 75

TABLULATED SOURCE FORCE DATA - 1A19 (ARC 11-014)

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ARC11-0141A19 OTS*STRUT SRB-OFF MPS-OFF

(REU034) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT
 SREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

ELV-1B = .000 ELV-08 = .000
 RUDDER = .000 MACH = 1.400
 OIMBAL = 2.000

PARAMETRIC DATA

RUN NO. 119/ 0 RN/L = 4.23 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-3.061	.000	1.40380	.00000	.00000	.11960	.00020	.02090	.06990	.01870
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 119/ 0 RN/L = 4.23 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-.231	-4.000	1.40180	.00000	.00000	.09900	-.01920	.02240	.06950	.01820
-.231	.009	1.40540	.00000	.00000	.09400	-.00950	.02050	.08190	.01930
-.210	4.028	1.39550	.00000	.00000	.10130	.00080	.02290	.06960	.02000
	GRADIENT	-.00079	.00000	.00000	.00153	.00212	.00005	.00001	.00022

RUN NO. 120/ 0 RN/L = 4.23 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA 3.930 BETA .003 MACH 1.39550 SRBPR .00000 MPSPR .00000 CHEI .07830 CHEO -.01690 CABO .02150 CABT .06000 CABS .02050 GRADIENT .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000

ARC11-0141A19 OTS*STRUT SRB-NOM MPS-NOM

(REU035) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT
 SREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

ELV-1B = .000 ELV-08 = .000
 RUDDER = .000 MACH = .900
 OIMBAL = 2.000

PARAMETRIC DATA

RUN NO. 103/ 0 RN/L = 4.18 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.308	.009	.90820	43.20000	64.00000	.03630	.03950	.03410	.09590	.02060
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 104/ 0 RN/L = 4.19 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-.390	-4.000	.90330	43.20000	64.00000	.08030	.03690	.03750	.09590	.01820
-.384	.012	.91040	43.20000	64.00000	.02950	.03700	.03350	.06950	.01840
-.345	4.025	.90510	43.20000	64.00000	.01930	.04070	.03620	.06350	.02290
	GRADIENT	.00022	-.00000	-.00000	-.00810	.00049	-.00018	.00007	.00059

ARC11-0141A19 OTS*STRUT SRB-NOM MPS-NOM (REU035) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XHRP = 976.0000 IN. XT
 LREF = 1290.3000 IN. YHRP = .0000 IN. YT
 BREF = 1290.3000 IN. ZHRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 105/ 0 RN/L = 4.20 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHE1	CHE0	CAB0	CABT	CABS	ELV-08	MACH
3.903	.006	.90230	43.20000	84.00000	.02870	.03130	.03050	.08950	.02040	.000	.000
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.000	2.000

PARAMETRIC DATA

ELV-18 = .000
 RUDDER = .000
 GIMBAL = 2.000

ARC11-0141A19 OTS*STRUT SRB-NOM MPS-NOM (REU036) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XHRP = 976.0000 IN. XT
 LREF = 1290.3000 IN. YHRP = .0000 IN. YT
 BREF = 1290.3000 IN. ZHRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 121/ 0 RN/L = 4.33 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHE1	CHE0	CAB0	CABT	CABS	ELV-08	MACH
-4.008	.003	1.09040	54.20000	128.00000	.11220	.05780	.03730	.09550	.02110	.000	.000
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.000	2.000

PARAMETRIC DATA

ELV-18 = .000
 RUDDER = .000
 GIMBAL = 2.000

RUN NO. 122/ 0 RN/L = 4.34 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHE1	CHE0	CAB0	CABT	CABS	ELV-08	MACH
-3.342	-4.000	1.09280	54.20000	128.00000	.13430	.03050	.04030	.09450	.02010	.000	.000
		.012	1.11310	128.00000	.10200	.05320	.03480	.08500	.02040	.000	.000
		4.031	1.10120	128.00000	.05760	.05240	.03970	.09110	.02270	.000	.000
	GRADIENT	.00055	.00000	.00000	-.00457	.00273	-.00007	-.00042	.00032	.000	.000

PARAMETRIC DATA

ELV-18 = .000
 RUDDER = .000
 GIMBAL = 2.000

RUN NO. 123/ 0 RN/L = 4.35 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHE1	CHE0	CAB0	CABT	CABS	ELV-08	MACH
3.717	.000	1.10270	54.20000	128.00000	.10710	.03150	.03910	.09250	.02200	.000	.000
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.000	.000

PARAMETRIC DATA

ELV-18 = .000
 RUDDER = .000
 GIMBAL = 2.000



(REU037) (23 OCT 74)

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM

REFERENCE DATA

SREF = 2890.0000 SQ.FT. XMRP = 976.0000 IN. XT ELV-18 = .000 ELV-08 = .000
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT RUDDER = .000 MACH = 1.250
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT 01MBAL = 2.000
 SCALE = .0200

RUN NO. 109/ 0 RN/L = 4.41 GRADIENT INTERVAL = -5.00/ 5.00
 ALPHA BETA MACH SRBPR MPSPR CHEI CHEO CABO CABT CABS
 -4.149 .006 1.24870 72.00000 156.00000 .12370 .02950 .02870 .07230 .01420
 GRADIENT .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000

RUN NO. 110/ 0 RN/L = 4.39 GRADIENT INTERVAL = -5.00/ 5.00
 ALPHA BETA MACH SRBPR MPSPR CHEI CHEO CABO CABT CABS
 -4.414 -4.003 1.24890 72.00000 156.00000 .12490 -.00630 .03030 .07090 .01340
 -4.458 .008 1.25580 72.00000 156.00000 .11460 .01060 .02680 .06800 .01420
 -4.468 .028 1.24700 72.00000 156.00000 .10800 .03040 .03010 .06910 .01650
 GRADIENT -.00024 .00000 .00000 -.00235 .00457 -.00002 -.00002 -.00021 .00039 .00039

RUN NO. 111/ 0 RN/L = 4.39 GRADIENT INTERVAL = -5.00/ 5.00
 ALPHA BETA MACH SRBPR MPSPR CHEI CHEO CABO CABT CABS
 3.864 .003 1.24540 72.00000 156.00000 .10870 -.00730 .03040 .06920 .01550
 GRADIENT .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000

PARAMETRIC DATA

ELV-18 = .000 ELV-08 = .000
 RUDDER = .000 MACH = 1.250
 01MBAL = 2.000

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(REU038) (23 OCT 74)

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM

REFERENCE DATA

SREF = 2890.0000 SQ.FT. XMRP = 976.0000 IN. XT ELV-18 = .000 ELV-08 = .000
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT RUDDER = .000 MACH = 1.400
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT 01MBAL = 2.000
 SCALE = .0200

RUN NO. 115/ 0 RN/L = 4.27 GRADIENT INTERVAL = -5.00/ 5.00
 ALPHA BETA MACH SRBPR MPSPR CHEI CHEO CABO CABT CABS
 -4.155 .003 1.40080 106.00000 196.00000 .10930 .00040 .02170 .05430 .00800
 GRADIENT .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000

RUN NO. 116/ 0 RN/L = 4.26 GRADIENT INTERVAL = -5.00/ 5.00
 ALPHA BETA MACH SRBPR MPSPR CHEI CHEO CABO CABT CABS
 -4.367 -4.000 1.40270 106.00000 196.00000 .08640 -.01970 .02200 .05400 .00820
 -4.318 .008 1.40480 106.00000 196.00000 .05050 -.00900 .02150 .05080 .00820
 -4.354 .031 1.40050 106.00000 196.00000 .08500 .00100 .02250 .05290 .01020
 GRADIENT -.00022 .00000 .00000 .00082 .00208 .00006 -.00014 -.00014 .00050 .00050

PARAMETRIC DATA

ELV-18 = .000 ELV-08 = .000
 RUDDER = .000 MACH = 1.400
 01MBAL = 2.000

REFERENCE DATA

SREF = 2890.0000 SQ.FT. XMRP = 976.0000 IN. XT
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 117/ 0 RN/L = 4.25 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
3.939	.000	1.40320	106.00000	196.00000	.07330	-.01920	.02230	.04790	.00830
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ELY-1B = .000 ELY-08 = .000
 RUDDER = .000 MACH = 1.400
 G1MBAL = 2.000

PARAMETRIC DATA

REFERENCE DATA

SREF = 2890.0000 SQ.FT. XMRP = 976.0000 IN. XT
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 181/ 0 RN/L = 4.17 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-8.139	.000	.90570	.00000	.00000	.05250	.03350	.02000	.08140	.01510
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ELY-1B = .000 ELY-08 = .000
 RUDDER = .000 MACH = .900
 G1MBAL = 1.000

PARAMETRIC DATA

RUN NO. 182/ 0 RN/L = 4.17 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.032	.000	.90390	.00000	.00000	.04200	.03000	.01810	.07350	.01400
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ELY-1B = .000 ELY-08 = .000
 RUDDER = .000 MACH = .900
 G1MBAL = 1.000

PARAMETRIC DATA

RUN NO. 183/ 0 RN/L = 4.17 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-.228	-4.003	.90440	.00000	.00000	.06770	.02830	.01810	.07830	.01360
-.249	.012	.90250	.00000	.00000	.03910	.02930	.01670	.07060	.01350
-.281	4.028	.89910	.00000	.00000	.01050	.01540	.01810	.07810	.01550
	GRADIENT	-.00066	.00000	.00000	-.00712	-.00161	-.00000	-.00002	.00027

ELY-1B = .000 ELY-08 = .000
 RUDDER = .000 MACH = .900
 G1MBAL = 1.000

PARAMETRIC DATA

RUN NO. 184/ 0 RN/L = 4.18 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
4.032	.003	.90520	.00000	.00000	.04260	.02830	.01680	.07050	.01410
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ELY-1B = .000 ELY-08 = .000
 RUDDER = .000 MACH = .900
 G1MBAL = 1.000

PARAMETRIC DATA



(REU039) (23 OCT 74)

ARC11-0141A19 OTS SRB-OFF MPS-OFF

REFERENCE DATA

SREF = 2890.0000 SQ.FT. XMRP = 978.0000 IN. XT ELV-1B = .000 ELV-08 = .000
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT RUDDER = .000 MACH = .900
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT 01MBAL = 1.000
 SCALE = .0200

PARAMETRIC DATA

RUN NO. 185/ 0 RN/L = 4.18 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
7.920	.003	.90010	.00000	.00000	.04470	.02400	.01730	.07510	.01840
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

(REU040) (23 OCT 74)

ARC11-0141A19 OTS SRB-OFF MPS-OFF

REFERENCE DATA

SREF = 2890.0000 SQ.FT. XMRP = 978.0000 IN. XT ELV-1B = .000 ELV-08 = .000
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT RUDDER = .000 MACH = 1.100
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT 01MBAL = 1.000
 SCALE = .0200

PARAMETRIC DATA

RUN NO. 181/ 0 RN/L = 4.41 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-7.992	.003	1.10400	.00000	.00000	.11710	.05440	.02840	.08770	.02430
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 182/ 0 RN/L = 4.40 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.080	.003	1.10270	.00000	.00000	.10830	.05750	.02860	.09030	.02510
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 183/ 0 RN/L = 4.38 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-1.225	-4.000	1.09870	.00000	.00000	.12200	.03310	.02990	.06540	.02380
	.012	1.10670	.00000	.00000	.10080	.05380	.02870	.08720	.02460
	4.028	1.10900	.00000	.00000	.07730	.05650	.02810	.09130	.02420
GRADIENT		.00128	.00000	.00000	-.00557	.00291	-.00022	-.00051	.00005

RUN NO. 184/ 0 RN/L = 4.38 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
3.685	.000	1.10310	.00000	.00000	.10710	.03180	.03000	.09330	.02900
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

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(REU040) (23 OCT 74)

ARC11-0141A19 OTS SR8-OFF MPS-OFF

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT ELV-1B = .000 ELY-08 = .000
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT RUDDER = .000 MACH = 1.100
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT GIMBAL = 1.000
 SCALE = .0200

RUN NO. 195/ 0 RN/L = 4.37 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
8.073	.000	1.09540	.00000	.00000	.11220	.00030	.03390	.10080	.02660
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

(REU041) (23 OCT 74)

ARC11-0141A19 OTS SR8-OFF MPS-OFF

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT ELV-1B = .000 ELY-08 = .000
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT RUDDER = .000 MACH = 1.250
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT GIMBAL = 1.000
 SCALE = .0200

RUN NO. 139/ 0 RN/L = 4.33 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-8.232	-.006	1.25430	.00000	.00000	.14250	.04800	.02370	.08630	.02210
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

(REU041) (23 OCT 74)

ARC11-0141A19 OTS SR8-OFF MPS-OFF

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT ELV-1B = .000 ELY-08 = .000
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT RUDDER = .000 MACH = 1.250
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT GIMBAL = 1.000
 SCALE = .0200

RUN NO. 141/ 0 RN/L = 4.34 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.098	-.006	1.25450	.00000	.00000	.12680	.02930	.02310	.07650	.02220
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

(REU041) (23 OCT 74)

ARC11-0141A19 OTS SR8-OFF MPS-OFF

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT ELV-1B = .000 ELY-08 = .000
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT RUDDER = .000 MACH = 1.250
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT GIMBAL = 1.000
 SCALE = .0200

RUN NO. 140/ 0 RN/L = 4.34 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-2.43	-4.000	1.24510	.00000	.00000	.12550	-.00480	.02520	.07830	.02150
GRADIENT		.012	.00000	.00000	.12000	.01090	.02320	.07220	.02290
		4.025	.00000	.00000	.02920	.03400	.02520	.07940	.02360
			.00000	.00000	-.00340	.00423	-.00000	.00014	.00226

(REU041) (23 OCT 74)



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TABULATED SOURCE FORCE DATA - 1A19 (ARC 11-014)

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ARC11-0141A19 OTS SRB-OFF MPS-OFF

(REU041) (23 OCT 74)

REFERENCE DATA

PARAMETRIC DATA

SREF = 2990.0000 SQ.FT. XMRP = 976.0000 IN. XT
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 142/ 0 RN/L = 4.34 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA BETA MACH SRBPR MPSPR CHE1 CHEO CABO CABT CABS
 7.860 -.003 1.23910 .00000 .00000 .10820 -.02490 .02820 .07980 .02590
 GRADIENT .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000

ELV-1B = .000 ELV-0B = .000
 RUDDER = .000 MACH = 1.250
 GIMBAL = 1.000

ARC11-0141A19 OTS SRB-OFF MPS-OFF

(REU042) (23 OCT 74)

REFERENCE DATA

PARAMETRIC DATA

SREF = 2990.0000 SQ.FT. XMRP = 976.0000 IN. XT
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 128/ 0 RN/L = 4.34 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA BETA MACH SRBPR MPSPR CHE1 CHEO CABO CABT CABS
 -4.059 .000 1.40830 .00000 .00000 .11940 .00190 .01440 .06840 .01680
 GRADIENT .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000

ELV-1B = .000 ELV-0B = .000
 RUDDER = .000 MACH = 1.400
 GIMBAL = 1.000

ARC11-0141A19 OTS SRB-OFF MPS-OFF

(REU043) (23 OCT 74)

REFERENCE DATA

PARAMETRIC DATA

SREF = 2990.0000 SQ.FT. XMRP = 976.0000 IN. XT
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 130/ 0 RN/L = 4.35 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA BETA MACH SRBPR MPSPR CHE1 CHEO CABO CABT CABS
 -4.059 .000 1.40830 .00000 .00000 .11940 .00190 .01440 .06840 .01680
 GRADIENT .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000

ELV-1B = .000 ELV-0B = .000
 RUDDER = .000 MACH = 1.400
 GIMBAL = 1.000

ARC11-0141A19 OTS SRB-OFF MPS-OFF

(REU044) (23 OCT 74)

REFERENCE DATA

PARAMETRIC DATA

SREF = 2990.0000 SQ.FT. XMRP = 976.0000 IN. XT
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 131/ 0 RN/L = 4.27 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA BETA MACH SRBPR MPSPR CHE1 CHEO CABO CABT CABS
 3.824 .003 1.40390 .00000 .00000 .07820 -.01810 .02080 .05950 .02010
 GRADIENT .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000

ELV-1B = .000 ELV-0B = .000
 RUDDER = .000 MACH = 1.250
 GIMBAL = 1.000

ARC11-0141A19 OTS SRB-OFF MPS-OFF

(REU045) (23 OCT 74)

REFERENCE DATA

PARAMETRIC DATA

SREF = 2990.0000 SQ.FT. XMRP = 976.0000 IN. XT
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 132/ 0 RN/L = 4.28 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA BETA MACH SRBPR MPSPR CHE1 CHEO CABO CABT CABS
 7.809 .003 1.40220 .00000 .00000 .08130 -.03260 .02200 .05870 .02110
 GRADIENT .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000

ELV-1B = .000 ELV-0B = .000
 RUDDER = .000 MACH = 1.250
 GIMBAL = 1.000

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DATE 03 MAY 78

TABLATED SOURCE FORCE DATA - 1A18 (ARC 11-014)

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ARC11-0141A18 OTS (REV044) (23 OCT 74)

SRB-NON MPS-OFF

SRB-NON MPS-OFF

REFERENCE DATA

PARAMETRIC DATA

SREF = 2000.0000 SQ.FT. XRRP = 578.0000 IN. XT ELV-IB = .000 ELV-OB = .000
 LREF = 1890.3000 IN. YRRP = .0000 IN. YT RUDDER = .000 MACH = 1.100
 SREF = 1890.3000 IN. ZRRP = 400.0000 IN. ZT 01MBAL = 1.000
 SCALE = .0200

RUN NO. 156/ 0 RN/L = 4.35 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-8.106	.000	1.10370	54.20000	.00000	.10730	.05480	.02370	.06850	.01910
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 157/ 0 RN/L = 4.35 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.038	.000	1.10060	54.20000	.00000	.06870	.05780	.02480	.08510	.02020
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 158/ 0 RN/L = 4.35 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-3.383	-4.003	1.09140	54.20000	.00000	.11670	.03470	.02680	.09290	.01980
		.012	54.20000	.00000	.08430	.05500	.02980	.08430	.02100
		4.022	54.20000	.00000	.07000	.05850	.02680	.08780	.02320
	GRADIENT	.00131	.00000	.00000	-.00582	.00272	-.00025	-.00062	.00042

RUN NO. 159/ 0 RN/L = 4.34 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
3.888	.000	1.09420	54.20000	.00000	.10370	.03380	.02680	.09140	.02250
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 160/ 0 RN/L = 4.34 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
7.977	.000	1.09480	54.20000	.00000	.10180	.00120	.03220	.09400	.02360
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

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ARC11-0141A19 OTS SRB-NOM MPS-OFF

(REU045) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 876.0000 IN. XT
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

ELV-1B = .000 ELV-0B = .000
 RUDDER = .000 MACH = 1.250
 GIMBAL = 1.000

PARAMETRIC DATA

RUN NO. 143/ 0 RN/L = 4.32 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA BETA MACH SRBPR MPSPR CHEI CHEO CABO CABT CABS
 -8.244 -.009 1.24690 72.00000 .00000 .13580 .04630 .01900 .07420 .01330
 GRADIENT .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000

RUN NO. 144/ 0 RN/L = 4.33 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA BETA MACH SRBPR MPSPR CHEI CHEO CABO CABT CABS
 -3.936 -.009 1.24650 72.00000 .00000 .12020 .02910 .01900 .05700 .01320
 GRADIENT .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000

RUN NO. 145/ 0 RN/L = 4.33 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA BETA MACH SRBPR MPSPR CHEI CHEO CABO CABT CABS
 -.309 -4.000 1.25080 72.00000 .00000 .12280 -.00430 .02020 .06720 .01160
 -.360 .009 1.25550 72.00000 .00000 .11300 .01110 .01900 .06350 .01360
 -.405 4.025 1.24560 72.00000 .00000 .08510 .03410 .02000 .06810 .01640
 GRADIENT -.00085 .00000 .00000 -.00470 .00479 -.00002 .00011 .00000 .00000 .00060

RUN NO. 146/ 0 RN/L = 4.33 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA BETA MACH SRBPR MPSPR CHEI CHEO CABO CABT CABS
 3.873 .000 1.24960 72.00000 .00000 .10640 -.00630 .02070 .06450 .01470
 GRADIENT .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000

RUN NO. 147/ 0 RN/L = 4.33 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA BETA MACH SRBPR MPSPR CHEI CHEO CABO CABT CABS
 7.969 .000 1.24670 72.00000 .00000 .10340 -.02550 .02320 .06870 .01630
 GRADIENT .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000



DATE 03 MAY 75

TABULATED SOURCE FORCE DATA - 1A18 (ARC 11-014)

PAGE 33

ARC11-0141A18 OTS

SRB-NCH FPS-OFF

(REV048) (23 OCT 74)

REFERENCE DATA

SREF = 8980.0000 SQ.FT. XTRP = 878.0000 IN. XT
 LREF = 1280.3000 IN. YTRP = .0000 IN. YT
 SREF = 1280.3000 IN. ZTRP = 400.0000 IN. ZT
 SCALE = .0200

PARAMETRIC DATA

ELV-18 = .000 ELV-08 = .000
 RUDDER = .000 MACH = 1.400
 Q1M8AL = 1.000

RUN NO. 133/ 0 RN/L = 4.23 GRADIENT INTERVAL = -8.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-8.175	.003	1.39840	106.00000	.00000	.12530	.02570	.01420	.06040	.00780
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 134/ 0 RN/L = 4.21 GRADIENT INTERVAL = -8.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.002	.003	1.40480	106.00000	.00000	.10980	.00210	.01470	.05120	.00710
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 135/ 0 RN/L = 4.21 GRADIENT INTERVAL = -8.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-3.348	-4.000	1.40540	106.00000	.00000	.06840	-.01480	.01500	.05390	.00840
	GRADIENT	.016	1.40730	106.00000	.00000	.08280	-.00710	.04280	.00780
		4.028	1.40530	106.00000	.00000	.09180	.00820	.05330	.00980
					.00000	.00087	.00283	.00007	.00042

RUN NO. 136/ 0 RN/L = 4.21 GRADIENT INTERVAL = -8.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
3.800	.006	1.40750	106.00000	.00000	.07560	-.01680	.01510	.04870	.00850
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 137/ 0 RN/L = 4.21 GRADIENT INTERVAL = -8.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
7.853	.008	1.40380	106.00000	.00000	.05770	-.03580	.01850	.04910	.00870
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

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REFERENCE DATA

SREF = 2880.0000 SQ.FT. XMRP = 876.0000 IN. XT
 LREF = 1280.3000 IN. YMRP = .0000 IN. YT
 BREF = 1280.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 174/ 0 RN/L = 4.21 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.050	-.003	1.40360	.00000	.00000	.03480	-.00080	.02200	.06660	.01910
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 172/ 0 RN/L = 4.24 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-.150	-4.000	1.40600	.00000	.00000	.00720	-.01850	.02190	.06140	.01780
-.129	.009	1.40920	.00000	.00000	.02080	-.01170	.02120	.05820	.01940
-.234	4.028	1.40370	.00000	.00000	.02780	.00280	.02270	.06460	.02020
	GRADIENT	-.00029	.00000	.00000	.00257	.00265	.00010	.00040	.00030

RUN NO. 173/ 0 RN/L = 4.22 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
3.867	.009	1.40450	.00000	.00000	.00770	-.02340	.02210	.05550	.02020
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

REFERENCE DATA

SREF = 2880.0000 SQ.FT. XMRP = 976.0000 IN. XT
 LREF = 1280.3000 IN. YMRP = .0000 IN. YT
 BREF = 1280.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 175/ 0 RN/L = 4.21 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.143	-.003	1.40260	106.00000	.00000	.03070	-.00090	.01590	.05060	.00720
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 176/ 0 RN/L = 4.20 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-.243	-4.003	1.40450	106.00000	.00000	.00690	-.01800	.01590	.05160	.00590
-.324	.009	1.40470	106.00000	.00000	.01940	-.01110	.01590	.04320	.00778
-.435	4.025	1.40550	106.00000	.00000	.02360	.00310	.01610	.05160	.00950
	GRADIENT	.00012	.00000	.00000	.00208	.00263	.00002	.00000	.00045

PARAMETRIC DATA

ELV-1B = 8.000 ELY-08 = .000
 RUDDER = .000 MACH = 1.400
 G1MBAL = 1.000

PARAMETRIC DATA

ELV-1B = 8.000 ELY-08 = .000
 RUDDER = .000 MACH = 1.400
 G1MBAL = 1.000



DATE 03 MAY 75

TABLATED SOURCE FORCE DATA - 1A19 (ARC 11-014)

PAGE 35

ARC11-0141A19 OTS SRB-NOM MPS-OFF

(RELU049) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XPRP = 978.0000 IN. XT
LREF = 1290.3000 IN. YPRP = .0000 IN. YT
BREF = 1290.3000 IN. ZPRP = 400.0000 IN. ZT
SCALE = .0200

PARAMETRIC DATA

ELV-18 = 8.000 ELV-08 = .000
RUDDER = .000 MACH = 1.400
GIMBAL = 1.000

RUN NO. 177/ 0 RV/L = 4.18 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA 4.032 BETA -.006 MACH 1.40590 SRBPR .00000 MPSPR .00000 CHEI .00810 CHEO -.02350 CABO .01840 CABT .04630 CABS .00830
GRADIENT .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000

ARC11-0141A19 OTS SRB-OFF MPS-OFF

(RELU049) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XPRP = 978.0000 IN. XT
LREF = 1290.3000 IN. YPRP = .0000 IN. YT
BREF = 1290.3000 IN. ZPRP = 400.0000 IN. ZT
SCALE = .0200

PARAMETRIC DATA

ELV-18 = 8.000 ELV-08 = 4.000
RUDDER = .000 MACH = .900
GIMBAL = 1.000

RUN NO. 196/ 0 RV/L = 4.12 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA -4.041 BETA .000 MACH .88910 SRBPR .00000 MPSPR .00000 CHEI .01070 CHEO .01570 CABO .01820 CABT .07840 CABS .01530
GRADIENT .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000

RUN NO. 197/ 0 RV/L = 4.14 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA -1.198 BETA -4.003 MACH .88300 SRBPR .00000 MPSPR .00000 CHEI .02020 CHEO .01980 CABO .01800 CABT .07910 CABS .01400
-1.182 .009 .90840 .00000 .00000 .01010 .01840 .01790 .07180 .01400
-1.295 4.022 .90070 .00000 .00000 -.00130 .01590 .01810 .07550 .01940
GRADIENT .00034 .00000 .00000 .00000 .00000 -.00289 -.00049 .00001 -.00045 .00017

RUN NO. 198/ 0 RV/L = 4.15 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA 3.828 BETA -.003 MACH .90390 SRBPR .00000 MPSPR .00000 CHEI .01320 CHEO .01910 CABO .01990 CABT .07280 CABS .01430
GRADIENT .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000

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(REU050) (23 OCT 74)

ARC11-0141A19 OTS SRB-OFF MPS-OFF

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT ELV-18 = 8.000 ELV-08 = 4.000
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT RUDDER = .000 MACH = 1.100
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT GIMBAL = 1.000
 SCALE = .0200

RUN NO. 190/ 0 RN/L = 4.28 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.017	.003	1.09960	.00000	.00000	.02860	.02780	.02620	.08000	.02610
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 191/ 0 RN/L = 4.29 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-.162	-4.000	1.09520	.00000	.00000	.03010	.00840	.03110	.09360	.02430
-.141	.012	1.10870	.00000	.00000	.02290	.02420	.02720	.08370	.02490
-.234	4.025	1.09750	.00000	.00000	.01190	.02730	.02980	.09270	.02560
	GRADIENT	.00029	.00000	.00000	-.00227	.00236	-.00016	-.00011	.00016

RUN NO. 192/ 0 RN/L = 4.29 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
3.679	.000	1.10340	.00000	.00000	.02660	.00540	.03090	.09030	.02550
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

(REU051) (23 OCT 74)

ARC11-0141A19 OTS SRB-OFF MPS-OFF

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT ELV-18 = 8.000 ELV-08 = 4.000
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT RUDDER = .000 MACH = 1.250
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT GIMBAL = 1.000
 SCALE = .0200

RUN NO. 184/ 0 RN/L = 4.27 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.008	.000	1.25130	.00000	.00000	.03590	.00740	.02370	.07320	.02260
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 185/ 0 RN/L = 4.28 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-.138	-4.003	1.24780	.00000	.00000	.03460	-.02400	.02520	.07340	.02140
-.225	.008	1.25540	.00000	.00000	.03330	-.00910	.02430	.06900	.02310
-.252	4.022	1.24890	.00000	.00000	.02840	.00940	.02500	.07370	.02310
	GRADIENT	.00014	.00000	.00000	-.00077	.00416	-.00002	.00004	.00021

PARAMETRIC DATA

PARAMETRIC DATA



DATE 03 MAY 75

TABLATED SOURCE FORCE DATA - 1A19 (ARC 11-014)

PAGE 37

(REU051) (23 OCT 74)

ARC11-0141A19 OTS

SRB-OFF MPS-OFF

REFERENCE DATA

SREF = 2680.0000 SQ.FT. XPRP = 978.0000 IN. XT ELV-18 = 8.000 ELV-08 = 4.000
 LREF = 1290.3000 IN. YPRP = .0000 IN. YT RUDDER = .000 MACH = 1.250
 BREF = 1290.3000 IN. ZPRP = 400.0000 IN. ZT GIMBAL = 1.000
 SCALE = .0200

PARAMETRIC DATA

RUN NO. 186/ 0 RN/L = 4.28 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
3.884	.000	1.40850	.00000	.00000	.02880	-.02880	.02880	.07070	.02410
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

(REU052) (23 OCT 74)

ARC11-0141A19 OTS

SRB-OFF MPS-OFF

REFERENCE DATA

SREF = 2680.0000 SQ.FT. XPRP = 978.0000 IN. XT ELV-18 = 8.000 ELV-08 = 4.000
 LREF = 1290.3000 IN. YPRP = .0000 IN. YT RUDDER = .000 MACH = 1.400
 BREF = 1290.3000 IN. ZPRP = 400.0000 IN. ZT GIMBAL = 1.000
 SCALE = .0200

PARAMETRIC DATA

RUN NO. 178/ 0 RN/L = 4.22 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-3.990	.000	1.40850	.00000	.00000	.03330	-.01830	.02130	.06450	.01900
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 179/ 0 RN/L = 4.20 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-1.185	-4.003	1.40210	.00000	.00000	.00700	-.03580	.02220	.06180	.01790
GRADIENT		.00000	.00000	.00000	.02000	-.02590	.02120	.05920	.01940
		.00000	.00000	.00000	.02770	-.01120	.02280	.06430	.02010
		.00004	.00000	.00000	.00258	.00308	.00005	.00031	.00027

RUN NO. 180/ 0 RN/L = 4.20 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
3.980	.000	1.40890	.00000	.00000	.00790	-.03830	.02180	.05500	.02010
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

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DATE 03 MAY 78

TABULATED SOURCE FORCE DATA - 1A19 (ARC 11-014)

PAGE 39

ARC11-0141A19 OTS SRB-NOM MPS-OFF

(REU054) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 876.0000 IN. XT
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

ELY-1B = 8.000 ELY-O8 = 4.000
 RUDDER = .000 MACH = 1.100
 O1MBAL = 1.000

PARAMETRIC DATA

RUN NO. 188/ 0 RN/L = 4.30 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
3.915	-.003	1.10630	84.20000	.00000	.02270	.00480	.02680	.08290	.02070
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ARC11-0141A19 OTS SRB-NOM MPS-OFF

(REU055) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 876.0000 IN. XT
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

ELY-1B = 8.000 ELY-O8 = 4.000
 RUDDER = .000 MACH = 1.250
 O1MBAL = 1.000

PARAMETRIC DATA

RUN NO. 187/ 0 RN/L = 4.26 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-3.981	.000	1.24560	72.00000	.00000	.03570	.00730	.02030	.06520	.01310
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 188/ 0 RN/L = 4.26 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-3.369	-4.000	1.24490	72.00000	.00000	.03370	-.02300	.02120	.06560	.01170
-3.309	.012	1.25110	72.00000	.00000	.03090	-.00810	.02020	.06100	.01350
-3.300	4.022	1.23940	72.00000	.00000	.02020	.01110	.02110	.06840	.01660
	GRADIENT	-.00081	-.00000	.00000	-.00166	.00425	-.00001	.00010	.00061

RUN NO. 189/ 0 RN/L = 4.29 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
3.966	.003	1.24370	72.00000	.00000	.02610	-.02670	.02660	.06290	.01470
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

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REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT
 LINEF = 1290.3000 IN. YMRP = .0000 IN. YT
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 181/ 0 RN/L = 4.19 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.071	.000	1.40270	106.00000	.00000	.03040	-.01590	.01570	.05020	.00740
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 182/ 0 RN/L = 4.18 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-.294	-4.000	1.40420	106.00000	.00000	.00650	-.03540	.01570	.05100	.00600
-.375	-.009	1.40110	106.00000	.00000	.01650	-.02500	.01620	.04860	.00790
-.423	4.028	1.40040	106.00000	.00000	.02390	-.01090	.01610	.05100	.00950
	GRADIENT	-.00047	.00000	.00000	.00217	.00308	.00005	.00000	.00044

RUN NO. 183/ 0 RN/L = 4.19 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
3.834	-.003	1.40030	106.00000	.00000	.00630	-.03630	.01660	.04640	.00790
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT
 LINEF = 1290.3000 IN. YMRP = .0000 IN. YT
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 4/ 0 RN/L = 4.30 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.487	.003	1.23340	72.00000	158.00000	.03960	.00990	.03000	.06520	.01330
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 5/ 0 RN/L = 4.26 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-.339	-3.897	1.23280	72.00000	158.00000	.03620	-.02510	.03170	.06420	.01250
-.485	.019	1.23610	72.00000	158.00000	.03040	-.00670	.02980	.06030	.01360
-.435	4.031	1.23190	72.00000	158.00000	.02530	.00690	.03100	.06360	.01590
	GRADIENT	-.00011	.00000	.00000	-.00136	.00424	-.00009	-.00005	.00042

PARAMETRIC DATA

ELV-18 = 8.000 ELV-08 = 4.000
 RUDDER = .000 MACH = 1.400
 GIMBAL = 1.000

PARAMETRIC DATA

ELV-18 = 8.000 ELV-08 = 4.000
 RUDDER = .000 MACH = 1.250
 GIMBAL = 1.000



DATE 03 MAY 75

TABLATED SOURCE FORCE DATA - 1A19 (ARC 11-014)

PAGE 41

ARC11-0141A19 OTS+STRUT SRB-NON+MPS-NON+

(REU057) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 978.0000 IN. XT
LREF = 1290.3000 IN. YMRP = .0000 IN. YT
BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
SCALE = .0200

RUN NO. 6/ 0 RW/L = 4.27 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA BETA MACH SRBPR MPBPR CHEI CHEO CABO CABT CABS
3.638 .003 1.23720 72.00000 196.00000 .02570 -.02500 .03040 .06120 .01450
GRADIENT .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000

PARAMETRIC DATA

ELV-1B = 8.000 ELY-08 = 4.000
RUDDER = .000 MACH = 1.250
OIMBAL = 1.000

ARC11-0141A19 OTS+STRUT SRB-LOW MPS-NON

(REU058) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 978.0000 IN. XT
LREF = 1290.3000 IN. YMRP = .0000 IN. YT
BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
SCALE = .0200

RUN NO. 32/ 0 RW/L = 4.18 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA BETA MACH SRBPR MPBPR CHEI CHEO CABO CABT CABS
-4.155 .000 1.40010 170.00000 263.00000 .03210 -.01750 .02390 .05510 .01120
GRADIENT .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000

PARAMETRIC DATA

ELV-1B = 8.000 ELY-08 = 4.000
RUDDER = .000 MACH = 1.400
OIMBAL = 1.000

RUN NO. 36/ 0 RW/L = 4.19 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA BETA MACH SRBPR MPBPR CHEI CHEO CABO CABT CABS
-.342 4.028 1.38290 65.00000 196.00000 .02490 -.01590 .02430 .05480 .01390
GRADIENT .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000

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REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT
 LRFB = 1290.3000 IN. YMRP = .0000 IN. YT
 BRFB = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 16/ 0 RN/L = 4.34 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.080	.012	1.24230	72.00000	.00000	.03660	.00780	.02040	.06590	.01360
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ELV-1B = 8.000
 RUDDER = .000
 GIMBAL = 1.000
 ELV-08 = 4.000
 MACH = 1.250

PARAMETRIC DATA

RUN NO. 17/ 0 RN/L = 4.34 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-3.375	.012	1.25030	72.00000	.00000	.03100	-.00810	.02010	.05950	.01350
-3.333	GRADIENT	1.23650	72.00000	.00000	.02770	.00630	.02250	.06590	.01660
		-.00343	.00000	.00000	-.00082	.00408	.00060	.00159	.00077

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT
 LRFB = 1290.3000 IN. YMRP = .0000 IN. YT
 BRFB = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 21/ 0 RN/L = 4.33 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.122	.012	1.24490	117.00000	168.00000	.03180	.00720	.02660	.05480	.00860
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ELV-1B = 8.000
 RUDDER = .000
 GIMBAL = 1.000
 ELV-08 = 4.000
 MACH = 1.250

PARAMETRIC DATA