NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

(NASA-CR-147615) HEAT TRANSFER TEST OF AN 0.006-SCALE THIN-SKIN THERMOCOUPLE SPACE SHUTTLE MODEL (50-0, 41-T) IN THE NASA-AMES RESEARCH CENTER 3.5-FOOT HYPERSONIC WIND TUNNEL AT MACH 5.3 (IH28), VOLUME 1

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SPACE SHUTTLE

AEROTHERMODYNAMIC DATA REPORT

JOHNSON SPACE CENTER

HOUSTON, TEXAS

DATA MANagement services

SPACE DIVISION CHRYSLER CORPORATION

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VOLUME 1 OF 2

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by

J. W. Cummings/T. F. Foster
Shuttle Aerosciences
Rockwell International Space Division
W. K. Lockman
NASA-Ames Research Center

Prepared Under Contract Number NAS9-13247

by

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

for

Engineering Analysis Division

Johnson Space Center
National Aeronautics and Space Administration
Houston, Texas

WIND TUNNEL TEST SPECIFICS:

Test Number: ARC 3.5-195
NASA Series Number: IH28
Model Number: 50-0, 41-T
Test Dates: May 17 through May 24, 1974
Occupancy Hours: 88

FACILITY COORDINATOR:

Joseph G. Marvin
Mail Stop N-229-1
NASA-Ames Research Center
Moffett Field, CA. 94035

PROJECT ENGINEERS:

J. W. Cummings
Rockwell International
Space Division
12214 Lakewood Blvd.
Mail Stop AD38
Downey, CA. 90241

Phone: (213) 922-4600

T. F. Foster
Rockwell International
Space Division
12214 Lakewood Blvd.
Mail Stop AD38
Downey, CA. 90241

Phone: (213) 922-4600

W. K. Lockman
Mail Stop N-229-1
NASA-Ames Research Center
Moffett Field, CA. 94035

Phone: (415) 965-6755

DATA MANAGEMENT SERVICES:

Prepared by: Liaison--D. A. Sarver
Operations--R. B. Lowe

Reviewed by: D. E. Poucher

Approved: J. L. Glynn, Manager
Data Operations

Concurrence: N. D. Kemp, Manager
Data Management Services

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ABSTRACT

This report presents data obtained from a heat transfer test conducted on an 0.006-scale Space Shuttle Orbiter and External Tank in the NASA-Ames Research Center 3.5-foot Hypersonic Wind Tunnel. The purpose of this test was to obtain data under simulated return-to-launch-site abort conditions. Configurations tested were integrated orbiter and external tank, orbiter alone, and external tank alone at angles of attack of 0, ±30, ±60, ±90, and ±120 degrees.

Runs were conducted at Mach numbers of 5.2 and 5.3 for Reynolds numbers of 1.0×10^6 and 4.0×10^6 per foot, respectively. Heat transfer data were obtained from 75 orbiter and 75 external tank iron-constantan thermocouples.

This report consists of 2 volumes. Volume 1 contains Figures 4→15; whereas, Volume 2 contains Figures 16→27 and the Tabulated Source Data.

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NOMENCLATURE

SYMBOL	PLOT SYMBOL	DEFINITION
b		thickness of model skin, in.
B	BREF	span length, in.
C		specific heat of model skin material, BTU/lb_m-°R
c		chord length, in.
C_o, C_1, C_2		constants in curve fit for C over model wall temperature range
c_p		specific heat of air stream (perfect gas value), BTU/lb_m-°R
CHAN	CHAN	Recording-system channel
H_{aw}	HAW	adiabatic wall enthalpy, BTU/lb_m
H_t	HT	free-stream total enthalpy, BTU/lb_m
	HO	average of free-stream total enthalpy values of all tunnel runs incorporated into an aero data-set, BTU/lb_m
H_{W_i}	HW	enthalpy based on model wall temperature for given T/C location at initial time, BTU/lb_m
h	H	heat-transfer coefficient at model wall for given T/C location
h_s	HS, HREF	stagnation-point heat-transfer coefficient for reference sphere
h/h_s	H/HS, H/HREF	ratio of model heat-transfer coefficient to heat-transfer coefficient of reference sphere for H_{aw}/H_t = X.XXX
IML		inner mold line
L	LREF,LENGTH	model reference length, in.or ft.
M_∞	MACH	free-stream Mach number
H_w		enthalpy based on model wall temperature, BTU/lb_m

NOMENCLATURE (Continued)

SYMBOL	PLOT SYMBOL	DEFINITION
P_t	PT	free-stream total pressure, psia
	PO	average of free-stream total pressure values of all tunnel runs incorporated into an aero dataset, psia
$\dot{q}_i$	QDOT,Q	heat-transfer rate at model wall for given T/C location at initial time, BTU/ft^2-sec
$\dot{q}_s$	QS, QREF	stagnation-point heat-transfer rate for reference sphere at initial time, BTU/ft^2-sec
R_s	RS	reference sphere radius at model scale equivalent to 0.305 m (1 ft) for full-scale vehicle
Re_∞/ft	RE/FT	free-stream Reynolds number per foot
	RN/L	average of free-stream Reynolds number values (per foot) of all tunnel runs incorporated into an aero dataset
$Re_{\infty,L}$	REL	free-stream Reynolds number based on model reference length, L
	S/R	body wetted running length
St	ST	Stanton number based on free-stream flow conditions and the model heat-transfer coefficient for H_{aw}/H_t = X.XXX
T		temperature, °R
T_t	TT	free-stream total temperature, °R
	TO	average of free-stream total temperature values of all tunnel runs incorporated into an aero dataset, °R
T_{w_i}	TW	model wall temperature for given T/C location at initial time, °R

NOMENCLATURE (Continued)

SYMBOL	PLOT SYMBOL	DEFINITION
T/C	T/C	thermocouple
t		time, sec
t_i	TIME	initial time (before model insertion into flow) extrapolated from $f(T_w)$ vs. time, sec
u,V		velocity, ft/sec
W		density of model skin material lb_m/ft^3
X		axial distance measured from nose, in.
	X/C	chordwise location, fraction of local chord
	X/L	longitudinal location, fraction of body length
Y		spanwise distance from centerline, in.
2y/B	2Y/B	spanwise location, fraction of semi-span
Z	Z	water plane distance, in.
	Z/BV	spanwise location on vertical tail, fraction of exposed span
α	ALPHA	angle of attack, degrees
β	BETA	angle of sideslip, degrees
μ		viscosity of air, $lb\text{-}sec/ft^2$
ρ		density of air, lb_m/ft^3
θ	THETA	external tank angular surface coordinate, measured clockwise looking forward. 0 degrees at bottom centerline, degrees
ϕ	PHI	orbiter angular surface coordinate, measured clockwise looking forward. 0 degrees at bottom centerline, degrees

NOMENCLATURE (Concluded)

SYMBOL	PLOT SYMBOL	DEFINITION
W.P.		water plane, height measured along Z axis, in.
B.L.	BP	butt plane, distance from orbiter centerline in the outboard direction, in.
	HI/HU	ratio of interference to undisturbed heat transfer coefficients
	ZMRP	moment reference point on Z axis
	YMRP	moment reference point on Y axis
	XMRP	moment reference point on X axis
	SREF	reference length or wing mean aerodynamic chord; ft.

SUBSCRIPTS

aw	adiabatic wall
i	initial value before model insertion
O	Orbiter
PG	perfect gas (calorically and thermally perfect gas)
s	reference sphere
t	free-stream total condition
T	tank
V	vertical tail
W	wall
∞	free-stream

CONFIGURATIONS INVESTIGATED

The model (Orbiter and External Tank) tested was a 0.006-scale representation of the Rockwell International Space Shuttle Vehicle. The Orbiter and External Tank are defined by Rockwell lines SS-H-01414 and SS-H-01415.

The Orbiter and Tank were initially built by Grumman Aircraft, Bethpage, New York, but the Orbiter was modified with additional thermocouples added to the upper surface of the left wing, vertical tail, and OMS pod. Modifications of both Orbiter and External Tank stings were accomplished to carry increased loading within the high angle of attack range.

The Orbiter was a full span (cast stainless steel) model with thin-skin inserts. Thin-skin stainless steel (17-4PH) inserts were located on the underside region, left-hand wing (top and bottom), windshield area, left fuselage side, OMS pod, and vertical tail. These inserts were instrumented with 89 iron-constantan thermocouples of which only 75 were used during this test. The model was built with all control surfaces in the 0° deflection condition.

The External Tank was constructed of thin-skin (15-5PH) stainless steel. The Tank was instrumented with 111 iron-constantan thermocouples, of which only 75 were used.

The Orbiter and External Tank were designed so either could be tested alone or in the second stage configuration.

CONFIGURATIONS INVESTIGATED (Concluded)

The following configuration components were tested:

Notation	Description
B_{22}	Fuselage (1-147B Lines)
C_7	Canopy
F_5	Body Flap
M_4	OMS Pods
V_7	Vertical Tail
W_{111}	Wing
T_8	External Tank (-139 Lines)

MODEL INSTRUMENTATION

The Orbiter and External Tank were instrumented with 200 iron-constantan thermocouples, but only 150 were used for this test. All thermocouples were spotwelded to thin-skin (nominal skin thickness of 0.030 in.) stainless steel inserts and the leads were clamped in bundles within the model. The exact T/C locations for the Orbiter and External Tank are presented in Tables IV and V, respectively, and illustrated in Figures 2a and 2b, respectively. The T/C leads were 50 feet long and fitted with Cannon Plug connectors.

TEST FACILITY DESCRIPTION

The NASA-Ames 3.5-foot Hypersonic Wind Tunnel is a closed-circuit, blowdown-type tunnel capable of operating at nominal Mach numbers of 5, 7, and 10 at pressures to 1800 psia and temperatures of 3400°R for run times to four minutes. The major components of the facility include a gas storage system where the test gas is stored at 3000 psi, a storage heater filled with aluminum-oxide pebbles capable of heating the test gas to 3400°R, axisymmetric contoured nozzles with exit diameters of 42 inches for generating the desired Mach number, and a 900,000 ft^3 vacuum storage system which operates to pressures of 0.3 psia. The test section itself is an open-jet type enclosed within a chamber approximately 12-feet in diameter and 40-feet in length, arranged transversally to the flow direction.

A model support system is provided that can pitch models through an angle-of-attack range of -20 to +20 degrees, in a vertical plane, about a fixed point of rotation on the tunnel centerline. This rotation point is adjustable from 1 to 5 feet from the nozzle exit plane. The model normally is out of the test stream (strut centerline 37 inches from tunnel centerline) until the tunnel test conditions are established after which it is inserted. Insertion time is adjustable to as little as ½ second and models may be inserted at any strut angle.

A high-speed, analog-to-digital data acquisition system is used to record test data on magnetic tape. The present system is equipped to measure and record the outputs from 80 transducers in addition to 20 channels of tunnel parameters.

TEST PROCEDURE

Heat Transfer Data were obtained by measuring the temperature rise over a period of time from a total of 150 iron-constantan thermocouples. The model was injected into the flow in approximately 1 second and held on tunnel centerline for approximately 1 second. Temperature measurements and tunnel conditions were recorded on magnetic tape at 0.07-second intervals by the data acquisition system from the start of model injection to the start of model retraction.

A maximum of 75 thermocouples could be recorded for any given run. The thermocouple leads were routed from the model through the tunnel model-injection mechanism, and connected to a junction box which was wired directly to a thermocouple reference-temperature (150°F) box. The junction box connectors were wrapped with asbestos for heat protection from the tunnel test-chamber ambient conditions (no free-stream flow on box).. Thermocouple changes were accomplished by changing 5 Cannon Plugs containing 15 thermocouples each. Prior to testing, a thermocouple heat-response check, through the data-acquisition system, was performed on all thermocouples to assure proper hook-up, polarity and response.

Prior to each run with model attitude changes, the model was leveled in pitch and roll by means of leveling blocks which attach to the sting assembly of the Orbiter/External Tank. When leveling the models, an inclinometer was placed on the leveling plate. Proper roll relationships between the models were set using scribed lines on the model stings.

DATA REDUCTION

All test data were reduced at the NASA/Ames Research Center using the data-reduction techniques outlined below. The thermocouple data were reduced using the one-dimensional, thin-wall equation:

$$\dot{q} = WCb \frac{dT_w}{dt} = h\,(H_{aw} - H_w) \equiv hH_t \left(\frac{H_{aw}}{H_t} - \frac{H_w}{H_t} \right) \qquad (1)$$

which neglects heat-conduction losses.

Assuming that W and h are constant and

$$C = C_o + C_1 T_w + C_2 T_w^2 \text{ for } T_w \text{ ranges} \qquad (2)$$

the integration of equation (1) for $t = t_1$ to t and $T_w = T_{w_1}$ to T_w yields the linear equation:

$$f(T_w) = -\ln \left(\frac{T'_{aw} - T_w}{T'_{aw} - T_{w_1}} \right) - \left[\frac{C_1}{C'_{aw}} + \frac{C_2}{C'_{aw}} \left(T'_{aw} + \frac{T_w + T_{w_1}}{2} \right) \right] (T_w - T_{w_1})$$

$$= \frac{hc_p}{WC'_{aw}b} \,(t - t_1) \qquad (3)$$

where it is defined that:

$$T'_{aw} \equiv \frac{H_{aw}}{c_p} \equiv \frac{H_{aw}}{H_t} \; \frac{H_t}{c_p} \neq (T_{aw})_{PG} \qquad (4)$$

$$C'_{aw} \equiv C_o + C_1 T'_{aw} + C_2 {T'_{aw}}^2 \qquad (5)$$

≠ specific heat at adiabatic wall temperature

The form of Eq (3) is $f(T_w) = mt + a$ where m is the slope and a is the intercept for a straight line if heat-conduction errors are negligible. Thus, deviations from a straight line can indicate heat-conduction effects.

The slope, m, of $f(T_w)$ vs t from Eq (3) is computed by a least-squares, straight-line fit over a finite time interval (approx. 1 sec) beginning when the model reaches uniform tunnel flow. The value of the heat-transfer coefficient, h, is then determined from:

$$h = \frac{W c'_{aw} b}{c_p} \; m \tag{6}$$

Using this value of h, the heat-transfer rate is evaluated at the initial time, t_i, when the model is isothermal at the initial wall enthalpy, H_{w_i}

$$\dot{q} = \dot{q}_i = h\,(H_{aw} - H_{w_i}) \equiv h H_t \left(\frac{H_{aw}}{H_t} - \frac{H_{w_i}}{H_t} \right) \tag{7}$$

where H_{aw}/H_t is the same value used to evaluate h. The resultant value of $\dot{q}$ is independent of the value of H_{aw}/H_t used for both the h and $\dot{q}$ evaluations.

The reference sphere heating is also evaluated at the initial wall enthalpy by the method of Fay and Riddell

$$\dot{q}_s = h_s\,(H_t - H_{w_i}) \equiv h_s \; H_t \left(1.0 - \frac{H_{w_i}}{H_t} \right) \tag{8}$$

The model-to-sphere ratio of heat-transfer coefficients is then determined from Eqs. (7) and (8) as

$$\frac{h}{h_s} = \frac{\dot{q}_i}{\dot{q}_s} \left[\frac{1.0 - H_{w_i}/H_t}{H_{aw}/H_t - H_{w_i}/H_t} \right] \tag{9}$$

where $\dot{q}_i$ is constant for all values of H_{aw}/H_t.

To determine h/h_s for various values of H_{aw}/H_t the particular value of H_{aw}/H_t is substituted into Eq. (9).

The Stanton number is defined as

$$St \equiv \frac{h}{\rho u} = \frac{\dot{q}_i}{\rho u(H_{aw} - H_{wi})} \tag{10}$$

where for free-stream conditions, $\rho u = \rho_\infty V_\infty$.

The calculations of the model heating, reference sphere heating, and Reynolds number included the corrections of NACA report 1135 (Ref. 3) for calorically imperfect, thermally perfect air. Keyes' equation for viscosity (Ref. 4) was also used for the sphere heating and Reynolds number computations:

$$\mu = \frac{0.0232 \times 10^{-6} T^{0.5}}{1 + \frac{220}{T} \times 10^{-9/T}} \tag{11}$$

where the units for T and μ are ^{o}R and $lb\text{-}sec/ft^2$, respectively.

REFERENCES

1. Walstad, D. G.: Pretest Information for Tests of an 0.006-Scale Thin-Skin Space Shuttle Heat Transfer Model (50-0, 41-T) in the Ames Research Center 3.5-foot HWT Wind Tunnel Test IH28. SD-74-SH-0135, March 27, 1974.

2. Fuy, J. A.; and Riddell, F. R.: Theory of Stagnation Point Heat Transfer in Dissociated Air. J. Aeron. Sci., Vol. 25, No. 1, February, 1958, pp 73-85.

3. Ames Research Staff: Equations, Tables, and Charts for Compressible Flow. NACA Rept. 1135, 1953.

4. Bertram, Mitchel H.: Comment on "Viscosity of Air." J. Spacecraft and Rockets, Vol. 4, No. 2, February, 1967, pp 287-288.

TABLE I.

TEST : IH28 (ARC 3.5-195)

DATE : 6-8-74

TEST CONDITIONS

MACH NUMBER	REYNOLDS NUMBER (per foot)	TOTAL PRESSURE (pounds/sq. inch) absolute	TOTAL TEMPERATURE (degrees Rankine
5.2	1.0×10^6	100	1500°R
5.3	4.0×10^6	410	1500°R

BALANCE UTILIZED: ______

	CAPACITY:	ACCURACY:	COEFFICIENT TOLERANCE:
NF			
SF			
AF			
PM			
RM			
YM			

COMMENTS: 75 iron-constantan T/C's on ORB
75 iron-constantan T/C's on ET

TABLE II.

TEST : IH28 (ARC 3.5-195) — DATA SET/RUN NUMBER COLLATION SUMMARY — DATE : JUNE, 1974

DATA SET IDENTIFIER	CONFIGURATION	SCHD. α	SCHD. β	PARAMETERS/VALUES Re^*	PARAMETERS/VALUES M_∞	NO. OF RUNS	MODEL THERMOCOUPLE HOOKUP T_1	MODEL THERMOCOUPLE HOOKUP O_1
REV001	O_1T_1	0	0	1.0	5.2	2	2	1
02		30					3	7
03		60					4	5
04		90					17	18
05		120					20	19
06		-120					21	22
07		-90					24	23
08		-60					13	14
09		-30					16	15
10		60		4.0	5.3		12	6
11		30		4.0	5.3		10	11
12		30	-5	1.0	5.2		9	8
13	T_1	0	0			1	33	—
14		-30					31	—
15		-60					32	—
16		-90					37	—
17		-120					38	—

TEST RUN NUMBERS

TYPE OF DATA — COEFFICIENT SCHEDULES — IDVAR (1) — IDVAR (2) — NDV

O_1 – ORBITER THERMOCOUPLE HOOKUP (CONST. SET 100)

T_1 – TANK THERMOCOUPLE HOOKUP (CONST. SET 200)

$* \sim \times 10^{-6}$ PER FT.

TABLE II. (Concluded)

TEST : IH28(ARC 3.5-195) — DATA SET/RUN NUMBER COLLATION SUMMARY — DATE : JUNE, 1974

DATA SET IDENTIFIER	CONFIGURATION	SCHD. α	SCHD. β	PARAMETERS/VALUES Re*	PARAMETERS/VALUES Ma			NO. OF RUNS	MODEL THERMOCOUPLE HOOKUP T_1	MODEL THERMOCOUPLE HOOKUP O_1
REV018	T_1	90	0	4.0	5.3			1	39	—
19	O_1	0	0	1.0	5.2				—	34
20		30							—	35
21		60							—	36
22		90							—	28
23		120							—	27
24		-120							—	26
25		-90							—	25
26		-60							—	29
27 ↓	↓	-30		↓	↓			↓	—	30

TEST RUN NUMBERS

TYPE OF DATA — COEFFICIENT SCHEDULES — IDVAR (1) — IDVAR (2) — NDV

O_1 ~ ORBITER THERMOCOUPLE HOOKUP (CONST. SET 100)

T_1 ~ TANK THERMOCOUPLE HOOKUP (CONST. SET 200)

* ~ $\times 10^{-6}$ PER FT.

The 4th character of the dataset identifier describes the T/C location.

A - underside fuselage	C - OMS pods	F - wing lower surface
T - external tank	D - chine	G - wing upper surface
B - body sidewall	E - canopy	H - vertical tail

TABLE III
MODEL DIMENSIONAL DATA

MODEL COMPONENT: BODY - B22

GENERAL DESCRIPTION: Fuselage, Configuration 3A per Rockwell Lines VL70-000147B.

NOTE: Identical to B19, except underside.

Model Scale = 0.006

DRAWING NUMBER: VL70-000147B

DIMENSIONS:	FULL-SCALE	MODEL SCALE
Length - in	1290.3	7.742
Max. Width - in	267.6	1.606
Max. Depth - in	244.5	1.467
Fineness Ratio	4.84601	4.84601
Area - Ft^2		
Max. Cross-Sectional	386.67	0.0139
Planform		
Wetted		
Base		

TABLE III (Continued)
MODEL DIMENSIONAL DATA

MODEL COMPONENT: Canopy - C7

GENERAL DESCRIPTION: Configuration 3 per Rockwell Lines VL70-000139

Model Scale = 0.006

DRAWING NUMBER VL70-000139

DIMENSION:	FULL SCALE	MODEL SCALE
Length (X_o = 433 to X_o = 670) - in. FS	237	1.422
Max Width		
Max Depth (Z_o = to Z_o = 501) - in FS		
Fineness Ratio		
Area		
Max Cross-Sectional		
Planform		
Wetted		
Base		

TABLE III (Continued)
MODEL DIMENSIONAL DATA

MODEL COMPONENT: F5 Body Flap

GENERAL DESCRIPTION: 3 Configuration per Rockwell Lines VL70-000139

Scale Model = 0.006

DRAWING NUMBER VL70-000139

DIMENSION:	FULL SCALE	MODEL SCALE
Length - in	84.70	.508
Max Width - in	267.6	1.606
Max Depth		
Fineness Ratio		
Area - Ft^2		
Max Cross-Sectional		
Planform	142.5	.005
Wetted		
Base	38.0958	.0014

TABLE III (Continued)
MODEL DIMENSIONAL DATA

MODEL COMPONENT: OMS Pod - M4

GENERAL DESCRIPTION: Configuration 3 per Rockwell Lines VL70-000139

NOTE: M4 identical to M3, except intersection to fuselage.

Model Scale = 0.006

DRAWING NUMBER VL70-000139

DIMENSION:	FULL SCALE	MODEL SCALE
Length - IN	346.0	2.076
Max Width - IN	108.0	.648
Max Depth - IN	113.0	.678
Fineness Ratio		
Area - FT^2		
Max Cross-Sectional		
Planform		
Wetted		
Base		

TABLE III (Continued)
MODEL DIMENSIONAL DATA

MODEL COMPONENT: T8 - EXTERNAL TANK

GENERAL DESCRIPTION: 2A Configuration per Rockwell Lines:
VL78-000018 and VL72-000061"C" Body of Revolution

Scale Model = 0.006

DRAWING NUMBER VL73-000018

DIMENSION:	FULL SCALE	MODEL SCALE
Length - In. (Nose @ X_T = 309)	186.50	1.119
Max Width (Dia) - In.	324.0	1.944
Max Depth		
Fineness Ratio L/D	6.1389	6.1389
Area - $Ft.^2$		
Max Cross-Sectional	572.56	0.02061
Planform		
Wetted		
Base		
WP of tank centerline, (Z_T) In.	400.0	2.400

TABLE III (Continued)
MODEL DIMENSIONAL DATA

MODEL COMPONENT: VERTICAL - V7

GENERAL DESCRIPTION: Centerline Vertical Tail, Doublewedge Airfoil with Rounded Leading Edge

NOTE: Same as V5, but with manipulator housing removed.

Model Scale = 0.006

DRAWING NUMBER: VL70-000139

DIMENSIONS:

TOTAL DATA	FULL-SCALE	MODEL SCALE
Area (Theo) Ft^2		
Planform	425.92	0.0153
Span (Theo) In	315.72	1.894
Aspect Ratio	1.675	1.675
Rate of Taper	0.507	0.507
Taper Ratio	0.404	0.404
Sweep Back Angles, degrees		
Leading Edge	45.000	45.000
Trailing Edge	26.249	26.249
0.25 Element Line	41.130	41.130
Chords:		
Root (Theo) WP	268.50	1.611
Tip (Theo) WP	108.47	0.651
MAC	199.81	1.199
Fus. Sta. of .25 MAC	1463.50	8.781
W. P. of .25 MAC	635.522	3.813
B. L. of .25 MAC	0.00	0.00
Airfoil Section		
Leading Wedge Angle Deg	10.000	10.000
Trailing Wedge Angle Deg	14.920	14.920
Leading Edge Radius	2.0	2.0
Void Area	13.17	0.0005
Blanketed Area	0.00	0.00

TABLE III (Concluded)
MODEL DIMENSIONAL DATA

MODEL COMPONENT: WING-W 111

GENERAL DESCRIPTION: Configuration 3A per Rockwell Lines VL70-000147B.

NOTE: Identical to W107, except lowered 3.5" and increased cuff incidence.

Model Scale = 0.006

TEST NO.　　　DWG. NO. VL70-000147B

DIMENSIONS:	FULL-SCALE	MODEL SCALE
TOTAL DATA		
Area (Theo.) Ft^2		
Planform	2690.00	0.0968
Span (Theo In.	936.68	5.620
Aspect Ratio	2.265	2.265
Rate of Taper	1.177	1.177
Taper Ratio	0.200	0.200
Dihedral Angle, degrees (@ T.E. of Elevon)	3.500	3.500
Incidence Angle, degrees	0.500	0.500
Aerodynamic Twist, degrees	+3.000	+3.000
Sweep Back Angles, degrees		
Leading Edge	45.000	45.000
Trailing Edge	-10.24	-10.24
0.25 Element Line	35.209	35.209
Chords:		
Root (Theo) B.P.O.O.	689.24	4.135
Tip, (Theo) B.P.	137.85	0.827
MAC	474.81	2. 49
Fus. Sta. of .25 MAC	1136.89	6.821
W.P. of .25 MAC	295.70	1.774
B.L. of .25 MAC	182.13	1.093
EXPOSED DATA		
Area (Theo) Ft^2	1752.29	0.063
Span, (Theo) In. BP108	720.68	4.324
Aspect Ratio	2.058	2.058
Taper Ratio	0.2451	0.2451
Chords		
Root BP108	562.40	3.374
Tip 1.00 $\frac{b}{2}$	137.85	0.827
MAC	393.03	2.358
Fus. Sta. of .25 MAC	1185.31	7.112
W.P. of .25 MAC	296.70	1.780
B.L. of .25 MAC	251.76	1.511
Airfoil Section (Rockwell Mod NASA) XXXX-64		
Root $\frac{b}{2}$ = @ Y_o 199 to NACA 0010	0.10	0.10
Tip $\frac{b}{2}$ =	0.12	0.12
Data for (1) of (2) Sides		
Leading Edge Cuff Planform Area Ft^2	118.333	0.0043
Leading Edge Intersects Fus M. L. @ Sta	500.0	3.000
Leading Edge Intersects Wing @ Sta	1083.5	6.501

TABLE IV ORBITER THERMOCOUPLE LOCATIONS

T/C No.	Skin Thick	LOCATION x/l	x/c	y	b/2	z	T/C No.	Skin Thick	LOCATION x/l	x/c	y	b/2	z
1	.035	.025					35	.035	.60				
2		.050					36	.034	.70				
3		.075					37	.032	.70				
4	.034	.10					38	.035	.70				
5	.033	.125					39		.825				
6		.150					40		.825		OMS PODS		
7	.034	.175		UNDERSIDE			41		.825				
8		.20		FUSELAGE ℄			42		.90				
9	.035	.25		BP = 0.0			43		.90				
10		.30					44		.90				
11	.034	.40					45	.035	.10				
12	.035	.50					46		.15		CHINE		
13		.65					47		.20				
14		.80					48		.17		CANOPY		
15	.036	.95					49*		.425		MID FUSE		
16	.030	.35					50	.031		.05		40%	
17	.027	.40		UNDERSIDE			51	.030		.10		40%	
18		.50		FUSELAGE			52*	.030		.20		40%	
19 *		.60		BP = 117.0			53	.029		.30		40%	
20		.70					54*	.028	WING	.40		40%	
21 *	.028	.80					55		LWR	.50		40%	
22	.031	.90					56*			.60		40%	
23 *	.036	1.00					57			.70		40%	
24	.034	.30					58*	.029		.80		40%	
25	.033	.30					59			.90		40%	
26	.034	.30		BODY			60	.034		.10		60%	
27	.035	.40		SIDEWALL			61	.032		.20		60%	
28	.034	.40					62*	.031		.30		60%	
29	.035	.40					63*	.030	WING	.40		60%	
30		.50					64*		LWR	.50		60%	
31	.034	.50					65			.60		60%	
32	.035	.50					66*			.70		60%	
33		.60					67*			.80		60%	
34	.033	.60					68			.90		60%	

TABLE IV ORBITER THERMOCOUPLE LOCATIONS (Concluded)

T/C No.	Skin Thick	LOCATION x/l	x/c	y	b/2	z	T/C No.	Skin Thick	LOCATION x/l	x/c	y	b/2	z
69	.034		.20		80%								
70		WING	.40		80%								
71 *		LWR	.60		80%								
72	.035		.80		80%								
73	.035		.20		40%								
74	.034	WING	.40		40%								
75	.035	UP	.60		40%								
76	.037		.80		40%								
77	.034		.20		60%								
78	.030	WING	.40		60%								
79	.030		.60		60%								
80	.031		.80		60%								
81	.027		.20		80%								
82	.028	WING	.40		80%								
83	.028	UP	.60		80%								
84	.028		.80		80%								
85	.039		.25			3.57							
86	.040	VERT	.50			3.57							
87	.037		.75			3.57							
88	.033	VERT	.35			4.42							
89	.034		.6			4.42							

* Data were not obtained at these T/C locations.

TABLE V EXTERNAL TANK THERMOCOUPLE LOCATIONS

T/C NO.	SKIN THICK.	LOCATION X/l	LOCATION Φ DEG.
1	0.037	0	NOSE
2	0.030	0.005	180
3	0.030	0.010	
4	0.030	0.020	
5	0.030	0.04	
6	0.030	0.06	
7	0.029	0.08	
8	0.029	0.10	
9	0.028	0.125	
10	0.028	0.15	
11	0.028	0.175	
12	0.028	0.20	180
13	0.028	0.20	90
14 *	0.032	0.25	180
15 *	0.029	0.25	90
16 *	0.030	0.275	112.5
17 *	0.030	0.275	90
18	0.034	0.30	180
19 *	0.031	0.30	112.5
20 *	0.031	0.30	90
21 *	0.030	0.30	67.5
22 *	0.031	0.325	135
23 *	0.031	0.325	112.5
24 *	0.031	0.325	90
25	0.032	0.35	180
26	0.032	0.35	135
27	0.031	0.35	112.5
28	0.031	0.35	90
29 *	0.031	0.35	67.5
30	0.034	0.375	180
31	0.032	0.375	135
32	0.033	0.40	180
33	0.032	0.40	157.5
34	0.032	0.40	135
35	0.033	0.40	112.5
36	0.033	0.40	90
37	0.030	0.40	67.5
38	0.029	0.40	45
39	0.031	0.40	0
40	0.032	0.425	180
41	0.032	0.45	180
42	0.033	0.45	157.5
43	0.031	0.45	135
44	0.031	0.45	112.5
45 *	0.031	0.45	90
46	0.033	0.475	180
47	0.033	0.50	180
48	0.033	0.50	157.5
49	0.032	0.50	135
50	0.033	0.50	112.5
51	0.031	0.50	90
52 *	0.031	0.50	67.5
53 *	0.030	0.50	45
54	0.032	0.525	180
55	0.032	0.55	180
56	0.033	0.55	157.5
57	0.031	0.55	135
58	0.031	0.55	112.5
59 *	0.031	0.55	90
60	0.032	0.575	180
61	0.032	0.60	180
62	0.033	0.60	157.5
63	0.031	0.60	135
64	0.031	0.60	112.5
65	0.031	0.60	90
66	0.031	0.60	67.5
67	0.030	0.60	45
68	0.030	0.60	0
69 *	0.033	0.625	180
70	0.033	0.65	180
71	0.032	0.65	157.5
72	0.031	0.65	135
73	0.030	0.65	112.5
74 *	0.030	0.65	90
75 *	0.030	0.65	67.5
76 *	0.033	0.675	180
77	0.033	0.70	180
78	0.032	0.70	157.5
79	0.032	0.70	135
80 *	0.031	0.70	112.5
81	0.030	0.70	90
82 *	0.031	0.70	67.5
83 *	0.029	0.70	45
84	0.033	0.75	180
85	0.033	0.75	157.5
86	0.032	0.75	135
87 *	0.031	0.75	112.5
88 *	0.031	0.75	90
89 *	0.030	0.75	67.5
90	0.033	0.80	180
91	0.033	0.80	157.5
92	0.032	0.80	135
93 *	0.032	0.80	112.5
94	0.031	0.80	90
95 *	0.030	0.80	67.5
96 *	0.029	0.80	45
97 *	0.030	0.80	0
98	0.033	0.85	180
99	0.032	0.85	157.5
100	0.032	0.85	135
101 *	0.030	0.85	112.5
102 *	0.030	0.85	90
103	0.030	0.90	180
104	0.033	0.90	157.5
105	0.032	0.90	135
106 *	0.032	0.90	112.5
107	0.031	0.90	90
108 *	0.030	0.90	67.5
109 *	0.029	0.90	45
110 *	0.033	0.935	180
111 *	0.033	0.974	180

* Data were not obtained at these T/C locations.

TABLE VI
RUN NUMBER/TUNNEL CONDITION SUMMARY

Run No.	Config	α_m, deg.	α_{strut}, deg.	β	Const Set**	M_∞	Nominal*** $Re_\infty/ft \times 10^{-6}$	Nominal*** P_t psia	Nominal*** T_t °R
1	$0_1 + T_1$	0	0	0	100	5.22	1.0	100	1500
2		0	0		200				
3		30	-10.0		200				
4		60	20.0		200				
5		60	20.0		100				
6		60	20.0		100	5.3	4.0	410	
7		30	-10.0		100	5.22	1.0	100	
8		*	*	-5	100			100	
9		*	*	-5	200			100	
10		30	-10.0	0	200	5.3	4.0	410	
11		30	-10.0		100		4.0	410	
12		60	20.0		200		4.0	410	
13		-60	-20.0		200	5.22	1.0	100	
14		-60	-20.0		100				
15		-30	10.0		100				
16		-30	10.0		200				
17		90	-10.0		200				
18		90	-10.0		100				
19		120	20.0		100				
20		120	20.0		200				
21		-120	20.0		200				
22		-120	20.0		100				
23		-90	-10.0		100				
24		-90	-10.0		200				
25	0_1	-90	-10.0		100				
26	0_1	-120	20.0		100				

* $\alpha_m = 30° 22' 32"$, $\alpha_{strut} = -9° 37' 28"$

** 100 - Orbiter T/Cs; 200 - External Tank T/Cs

*** Actual test values are given in the Appendix

TABLE VI

RUN NUMBER/TUNNEL CONDITION SUMMARY (Concluded)

Run No.	Config	α_T, deg.	α_{strut}, deg.	β	Const Set**	M_∞	Nominal*** Re_∞/ft $\times 10^{-6}$	Nominal*** P_t psia	Nominal*** T_t °R
27	O_1	120	20.0	0	100	5.22	1.0	100	1500
28	↓	90	-10.0	↓	100	↓	↓	↓	↓
29	↓	-60	-20.0	↓	100	↓	↓	↓	↓
30	↓	-30	10.0	↓	100	↓	↓	↓	↓
31	T_1	-30	10.0	↓	200	↓	↓	↓	↓
32	↓	-60	-20.0	↓	200	↓	↓	↓	↓
33	↓	0	0	↓	200	↓	↓	↓	↓
34	O_1	0	0	↓	100	↓	↓	↓	↓
35	↓	30	-10.0	↓	100	↓	↓	↓	↓
36	↓	60	20.0	↓	100	↓	↓	↓	↓
37	T_1	-90	-10.0	↓	200	↓	↓	↓	↓
38	↓	-120	20.0	↓	200	↓	↓	↓	↓
39	↓	-90	-10.0	↓	200	5.3	4.0	410	↓

** 100 - Orbiter T/Cs; 200 - External Tank T/Cs

*** Actual test values are given in the Appendix

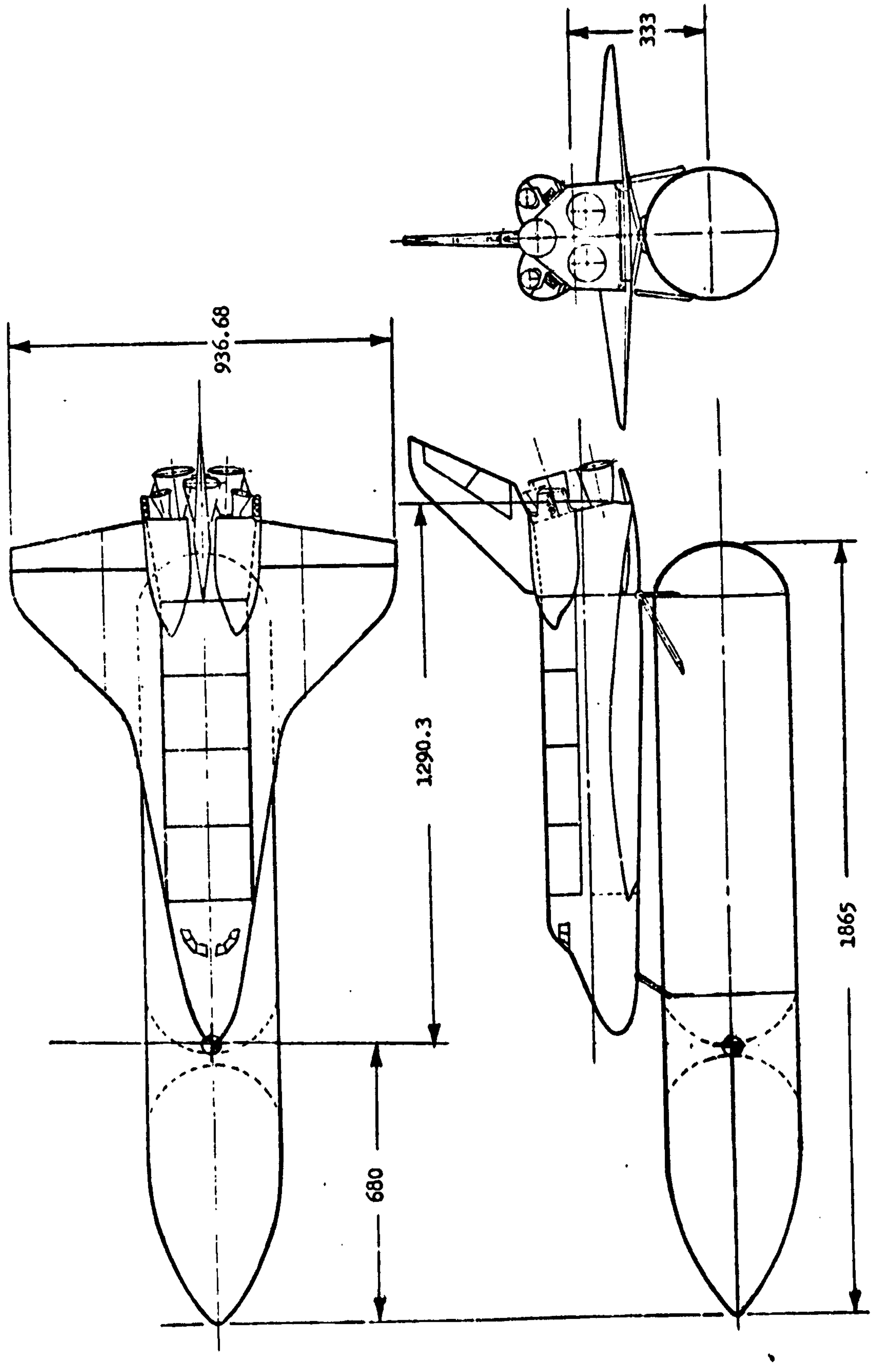
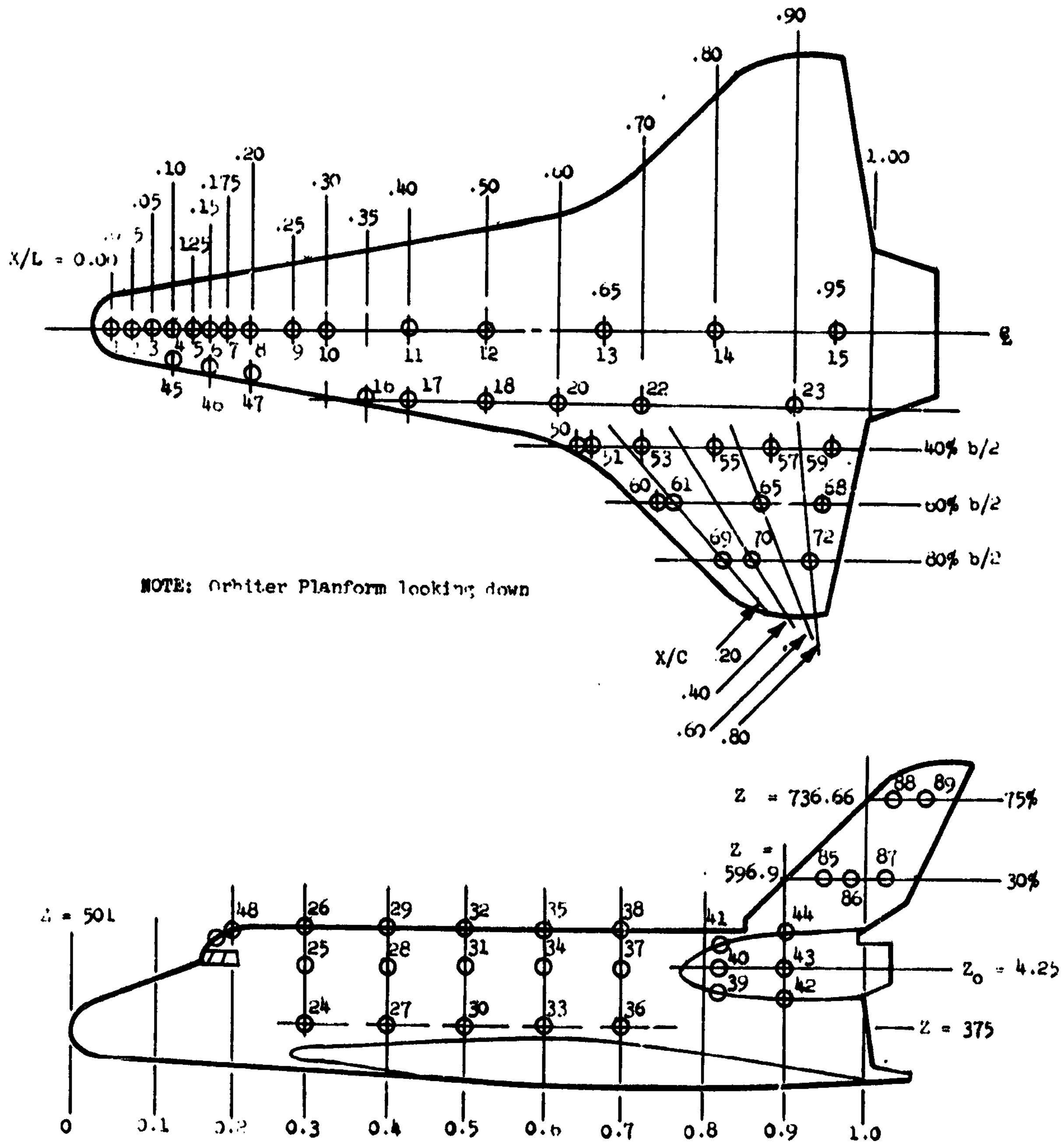
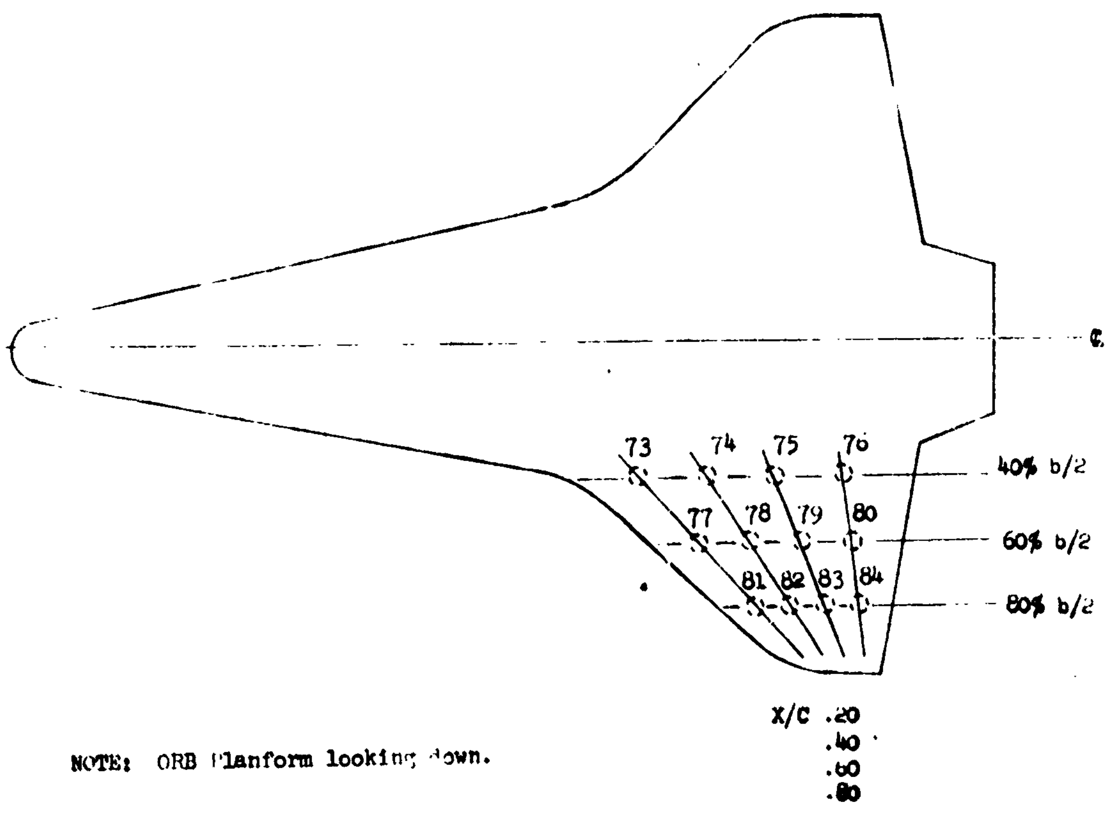


Figure 1. Orbiter/External Tank General Layout



a. 50-0 Orbiter -- 147-B Configuration Thermocouple Locations
Figure 2. Model Instrumentation Sketches

Upper Surface (Left Wing) Instrumentation



NOTE: ORB Planform looking down.

a. 50-0 Orbiter -- 147-B Configuration Thermocouple Locations
Figure 2. Model Instrumentation Sketches (Concluded).

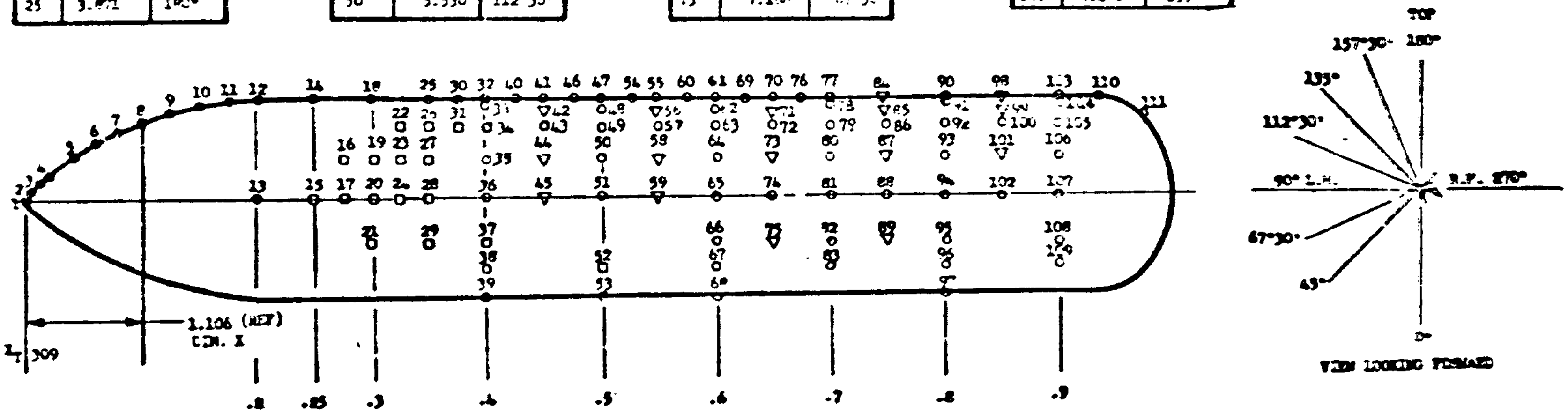
T/C NO.	DIM. X	φ
1	0	180°
2	.055	180°
3	[illegible]	↑
4	.221	↕
5	[illegible]	↕
6	[illegible]	↕
7	[illegible]	↕
8	1.106	↕
9	1.382	↕
10	1.659	↕
11	1.935	↓
12	2.2.2	180°
13	2.212	90°
14	2.765	180°
15	2.765	90°
16	3.041	117°30'
17	3.041	90°
18	3.318	180°
19	↑	112°30'
20	↓	90°
21	3.318	67°30'
22	3.594	135°
23	3.594	112°30'
24	3.594	90°
25	3.872	180°

T/C NO.	DIM. X	φ
26	3.871	135°
27	↑	112°30'
28	↓	90°
29	3.871	67°30'
30	4.147	180°
31	4.147	135°
32	4.424	180°
33	↑	157°30'
34	↕	135°
35	↕	112°30'
36	↕	90°
37	↕	67°30'
39	↓	45°
39	4.424	0°
40	4.700	180°
41	4.977	180°
42	↑	157°30'
43	↕	135°
44	↓	112°30'
45	4.977	90°
46	5.253	180°
47	5.530	180°
48	↑	157°30'
49	↓	135°
50	5.530	112°30'

T/C NO.	DIM. X	φ
51	5.530	90°
52	5.530	67°30'
53	5.530	45°
54	5.806	180°
55	6.082	180°
56	↑	157°30'
57	↕	135°
58	↓	112°30'
59	6.082	90°
60	6.359	180°
61	6.635	180°
62	↑	157°30'
63	↕	135°
64	↕	112°30'
65	↕	90°
66	↕	67°30'
67	↓	45°
68	6.638	0°
69	6.912	180°
70	7.188	180°
71	↑	157°30'
72	↕	135°
73	↕	112°30'
74	↓	90°
75	7.188	67°30'

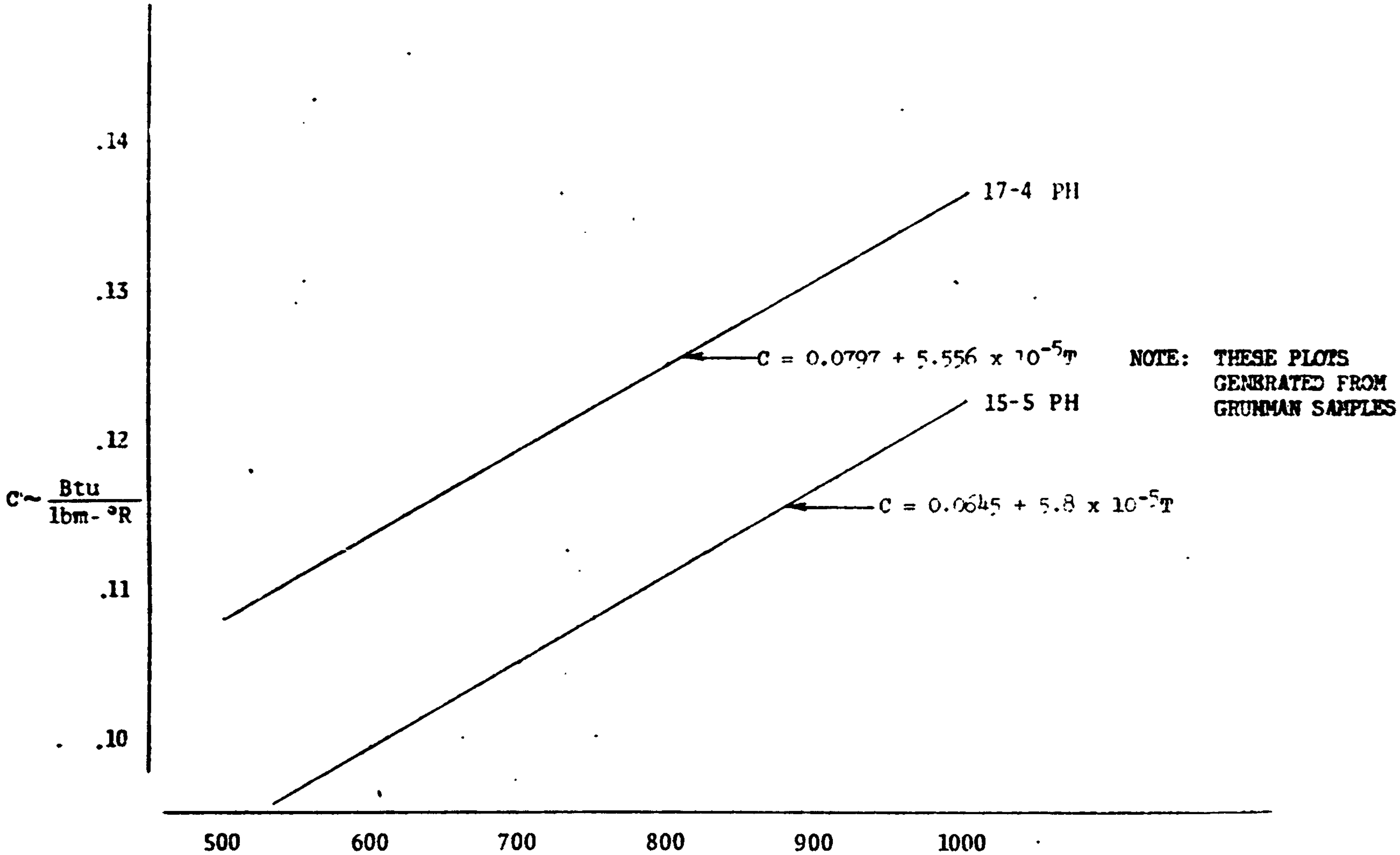
T/C NO.	DIM. X	φ
76	7.465	180°
77	7.742	180°
78	↑	[illegible]
79	↕	135°
80	↕	112°30'
81	↕	90°
82	↓	67°30'
83	7.742	45°
84	8.294	180°
85	↑	157°30'
86	↕	135°
87	↕	112°30'
88	↓	90°
89	8.294	67°30'
90	8.847	180°
91	↑	157°30'
92	↕	135°
93	↕	112°30'
94	↕	90°
95	↕	67°30'
96	↓	45°
97	8.847	0°
98	9.400	180°
99	9.400	157°30'
100	9.400	135°

T/C NO.	DIM. X	φ
101	9.400	112°30'
102	9.400	90°
103	[illegible]	[illegible]
104	↑	[illegible]
105	↕	135°
106	↕	112°30'
107	↕	90°
108	↓	67°30'
109	9.953	45°
110	10.326	180°



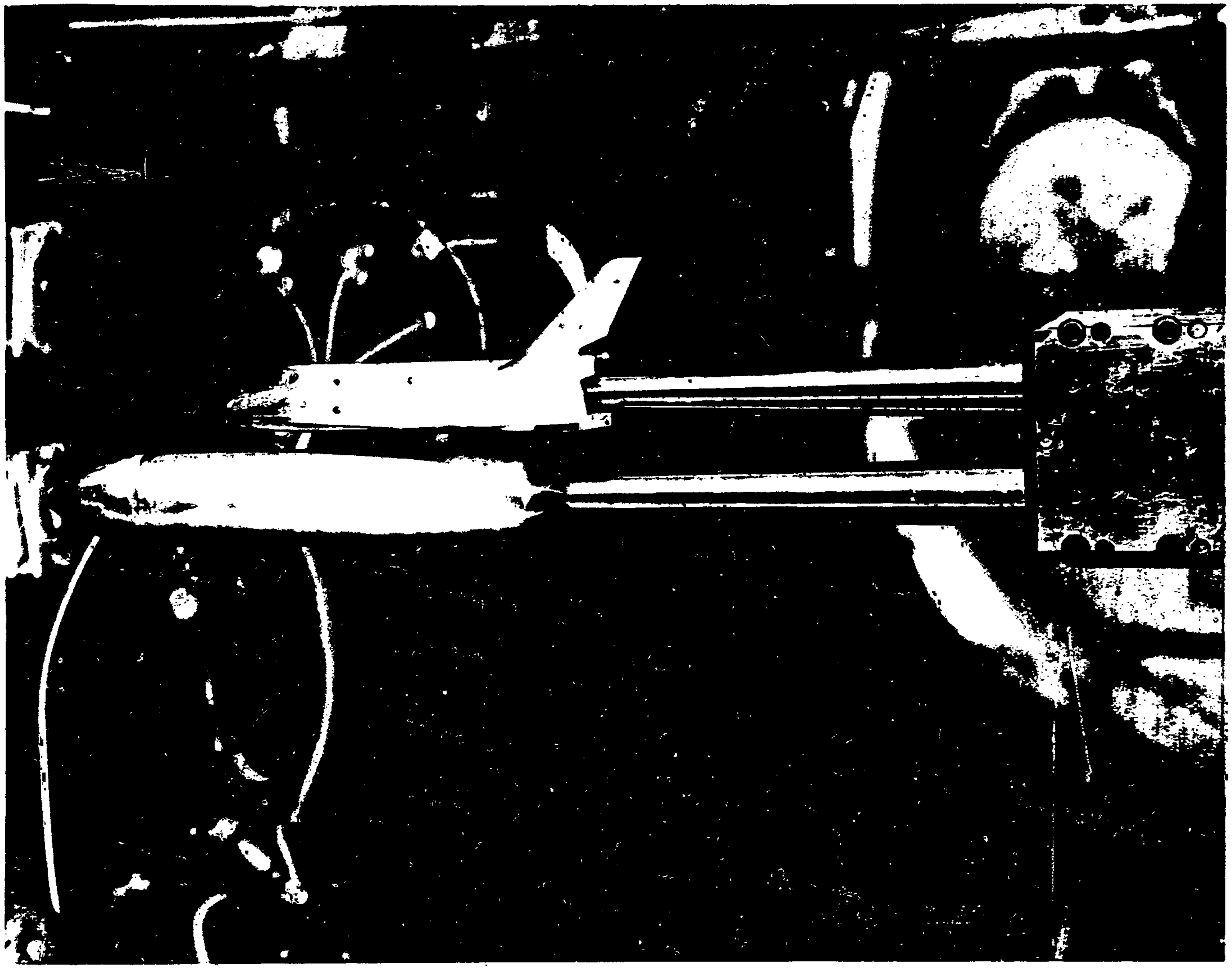
b. 41-T 0.006-Scale External Tank T/C Locations

Figure 3. Model Instrumentation Sketches

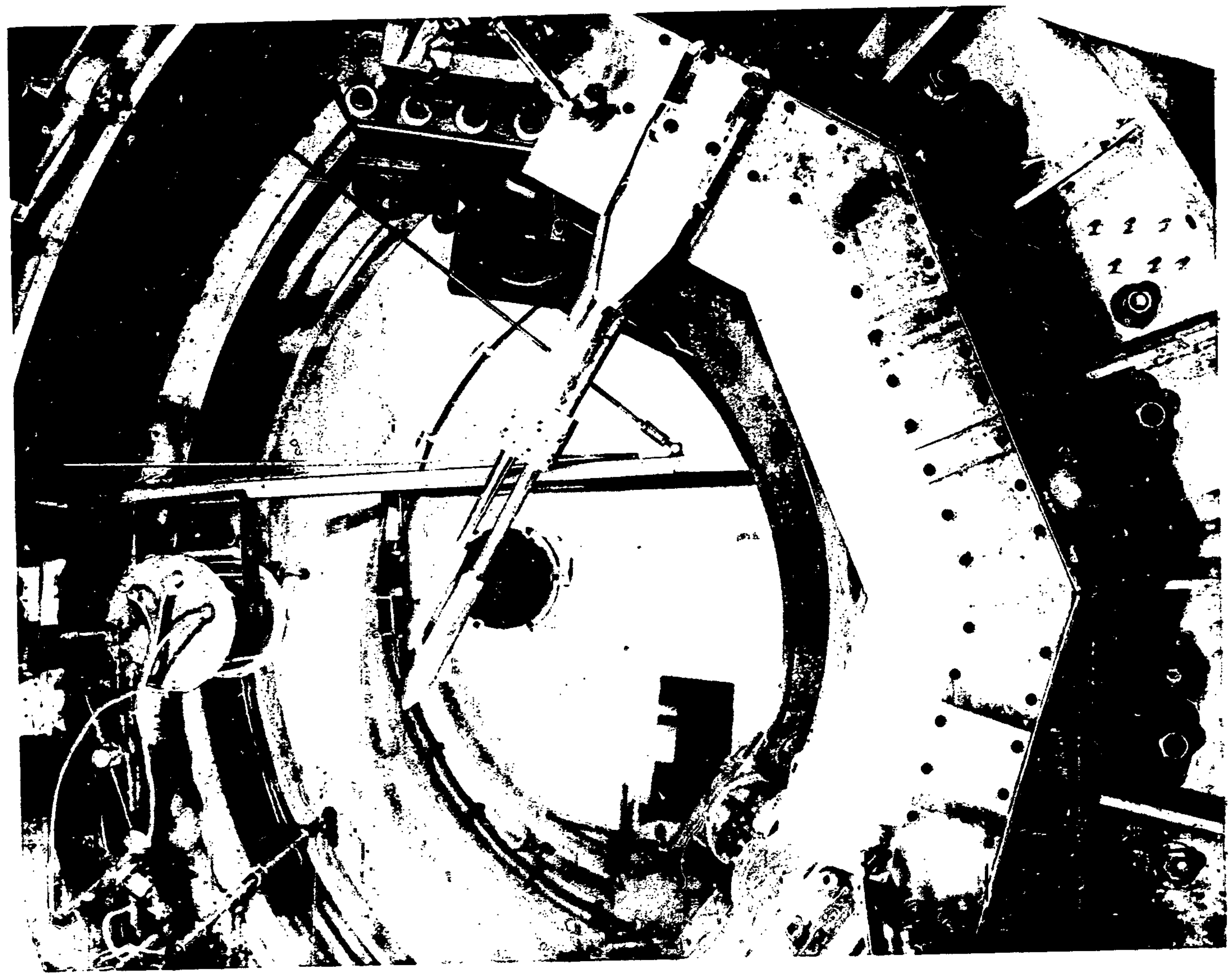


c. Specific Heat vs. Temperature for 17-4PH and 15-5PH stainless steel

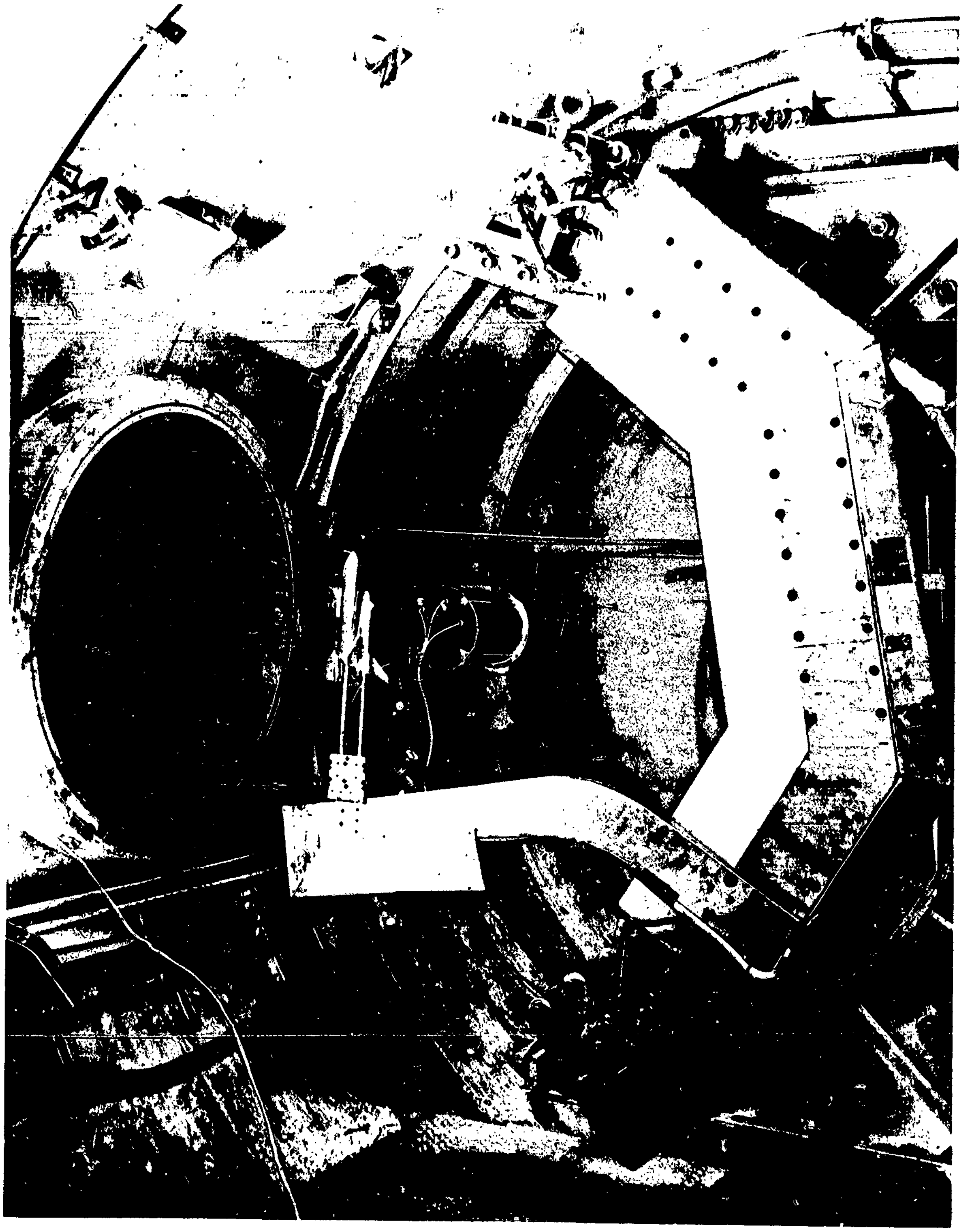
Figure 2. Model Instrumentation Sketches



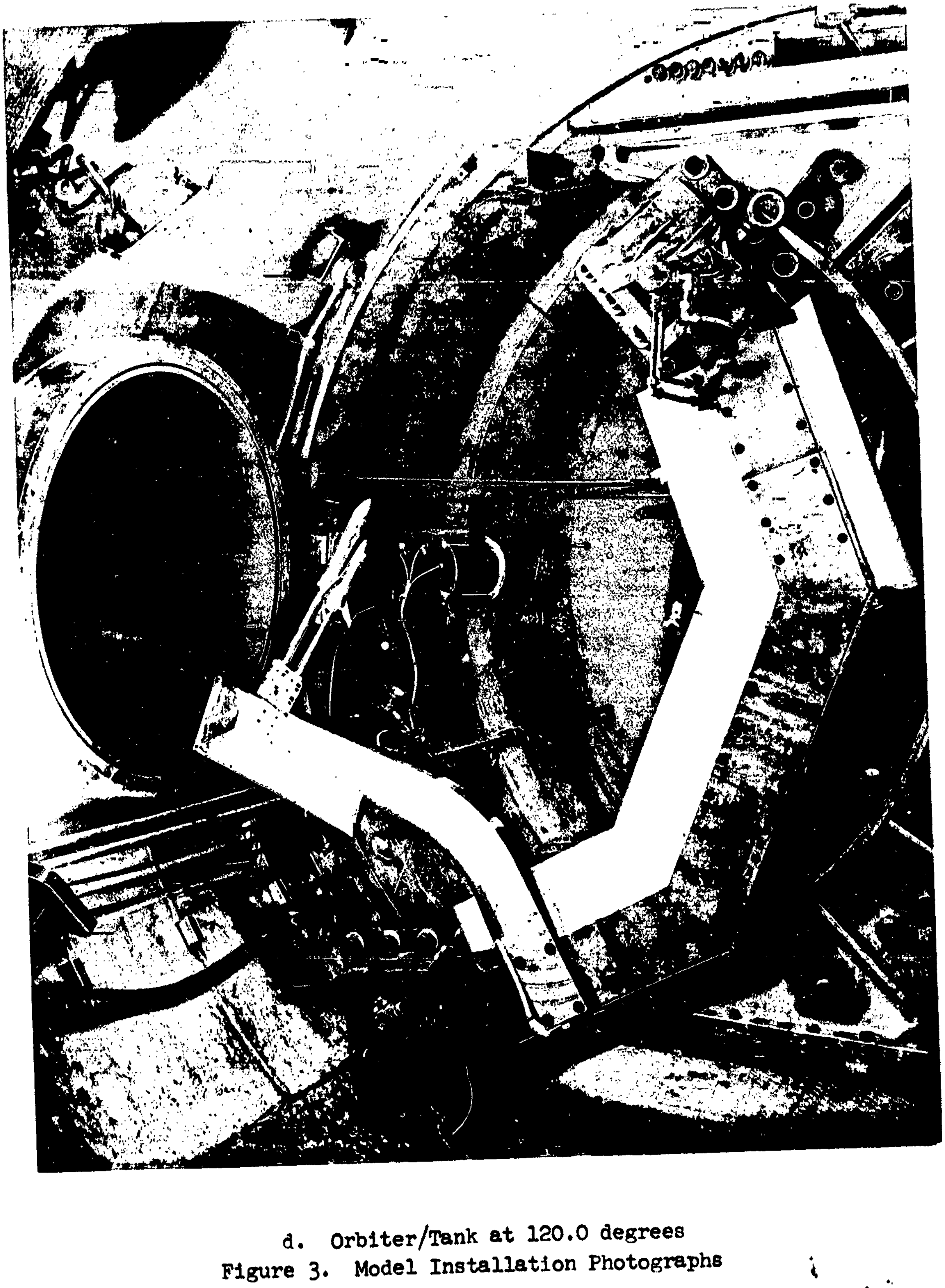
a. Orbiter/Tank at 0.0 degrees
Figure 3. Model Installation Photographs



b. Orbiter/Tank at -60.0 degrees
Figure 3. Model Installation Photographs



c. Orbiter/Tank at 90.0 degrees
Figure 3. Model Installation Photographs



d. Orbiter/Tank at 120.0 degrees
Figure 3. Model Installation Photographs

DATA FIGURES

Volume 1 - Figures 4-15

Volume 2 - Figures 16-27

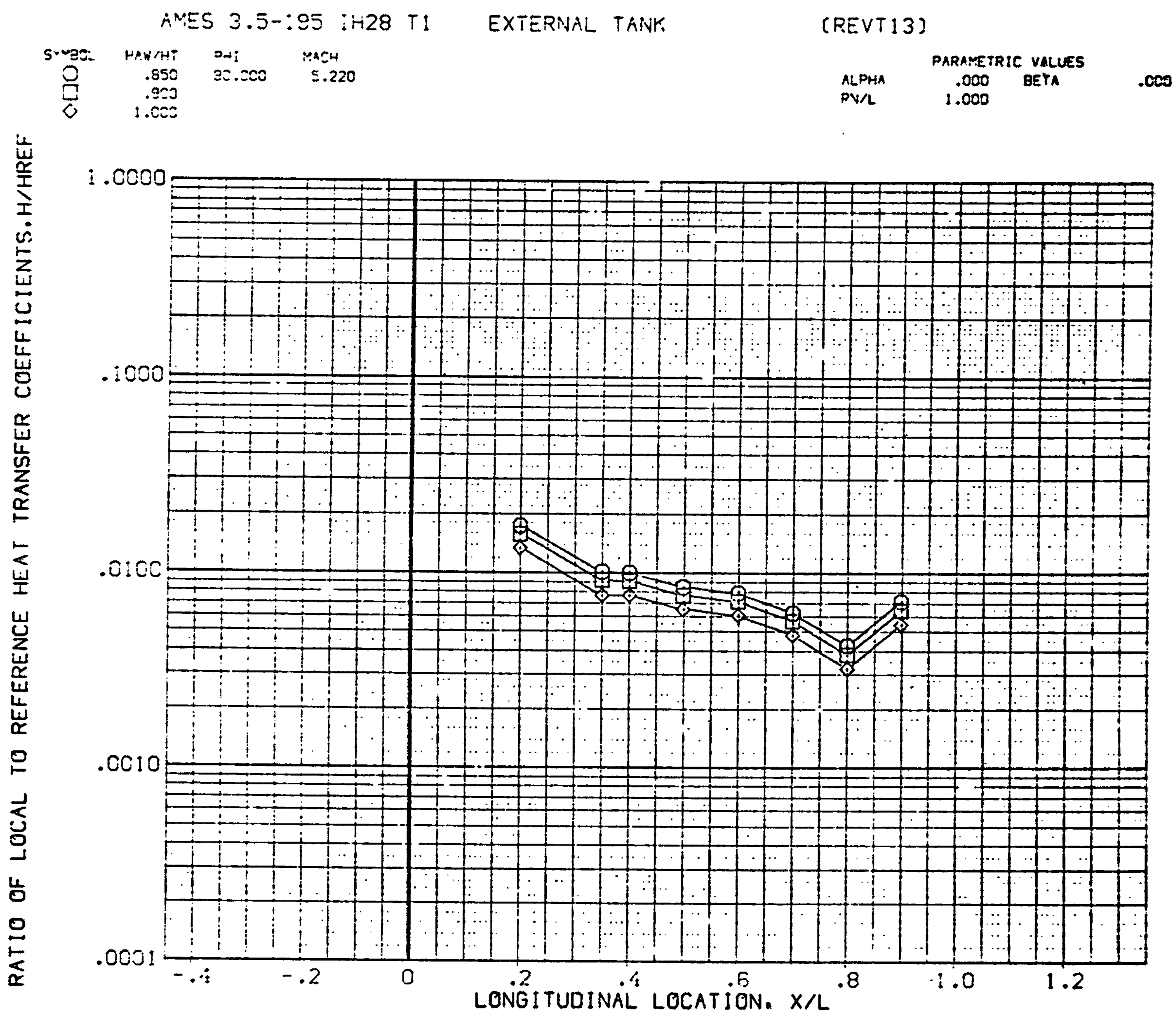


FIG. 4 TANK,ALONE

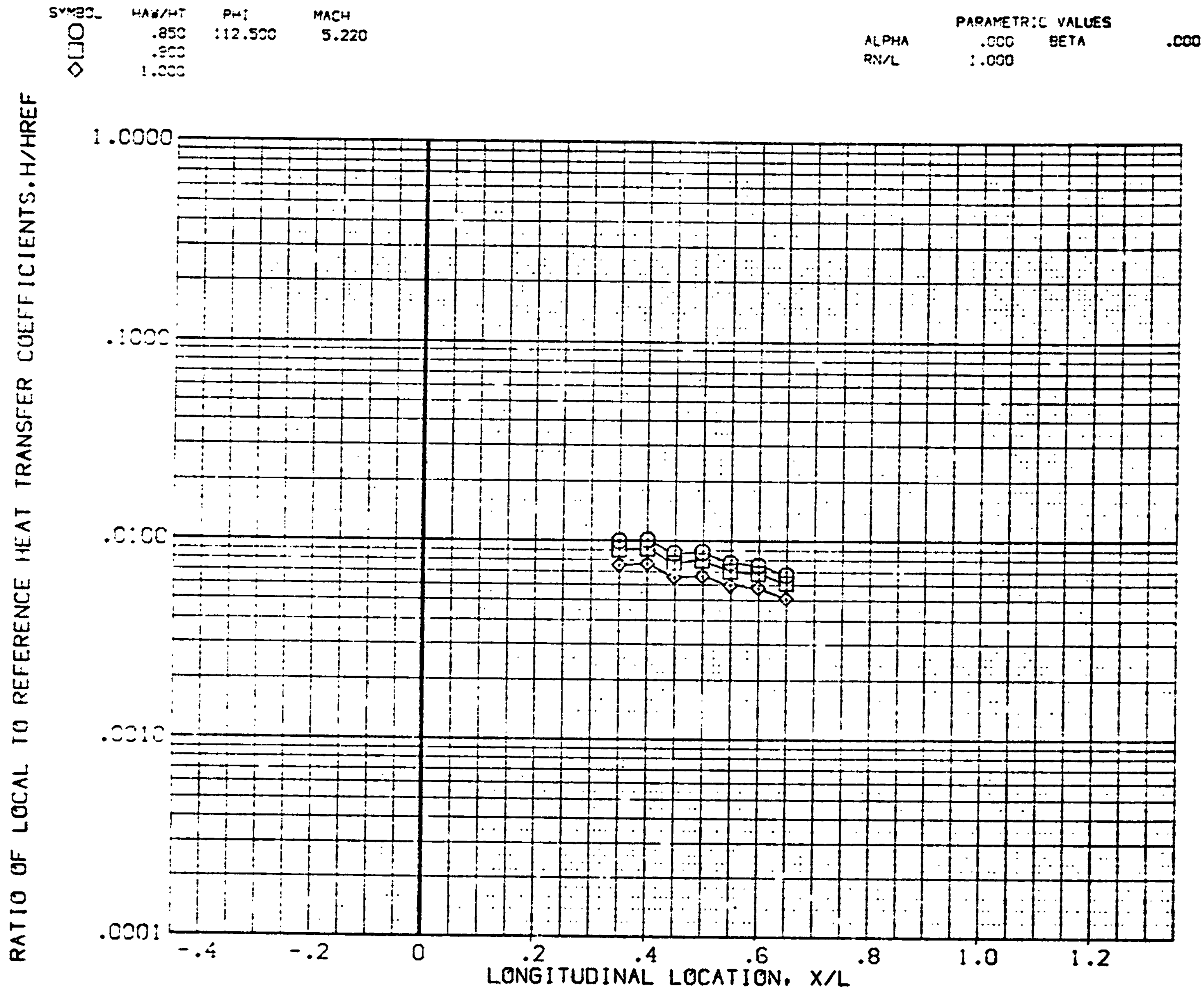


FIG. 4 TANK, ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT13)

SYMBOL	HA#/HT	PHI	MACH
○	.650	135.000	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA	.000	BETA	.000
RN/L	1.000		

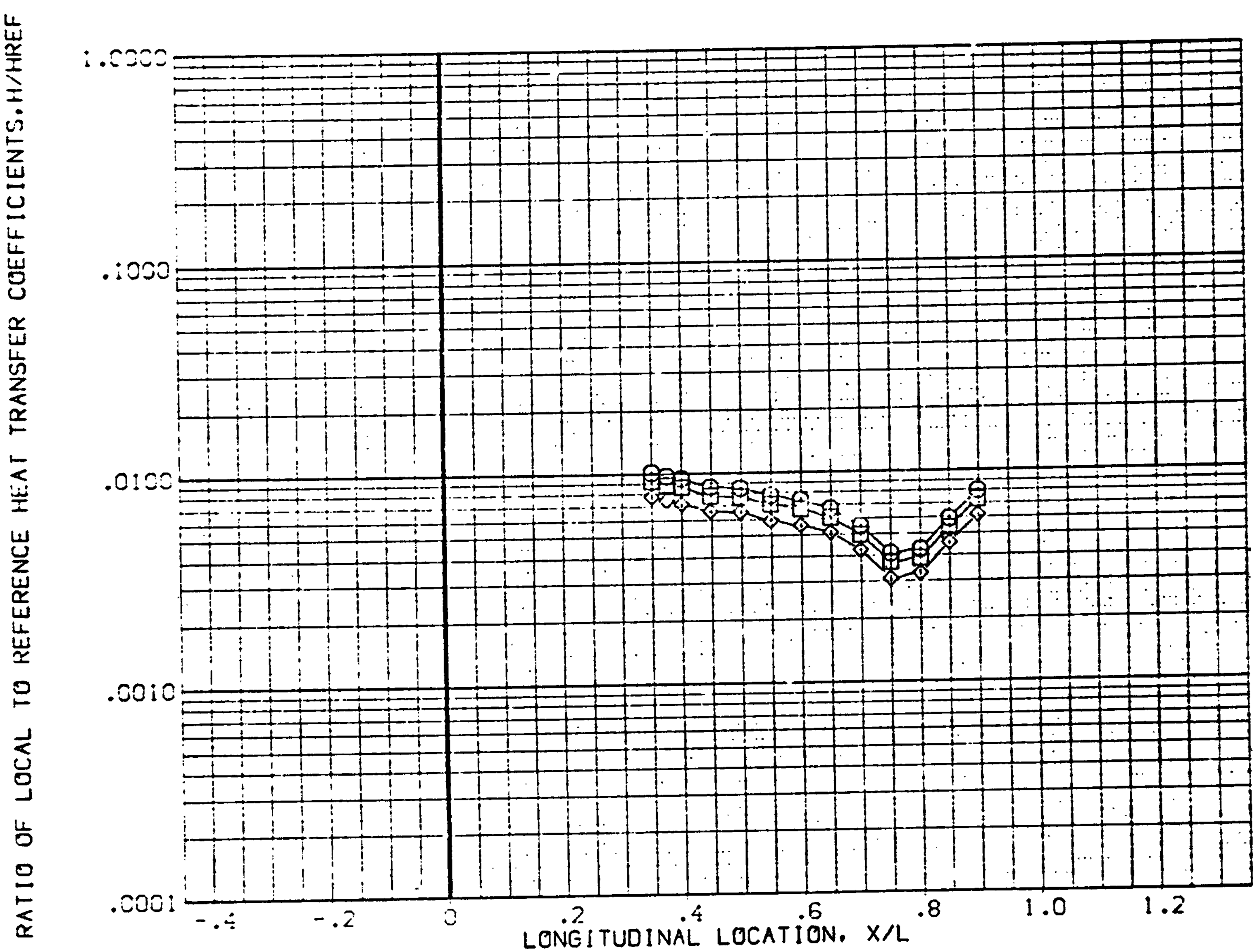


FIG. 4 TANK, ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT13)

SYMBOL	HAW/HT	PHI	MACH
○	.850	157.500	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA	.000	BETA	.000
RN/L	1.000		

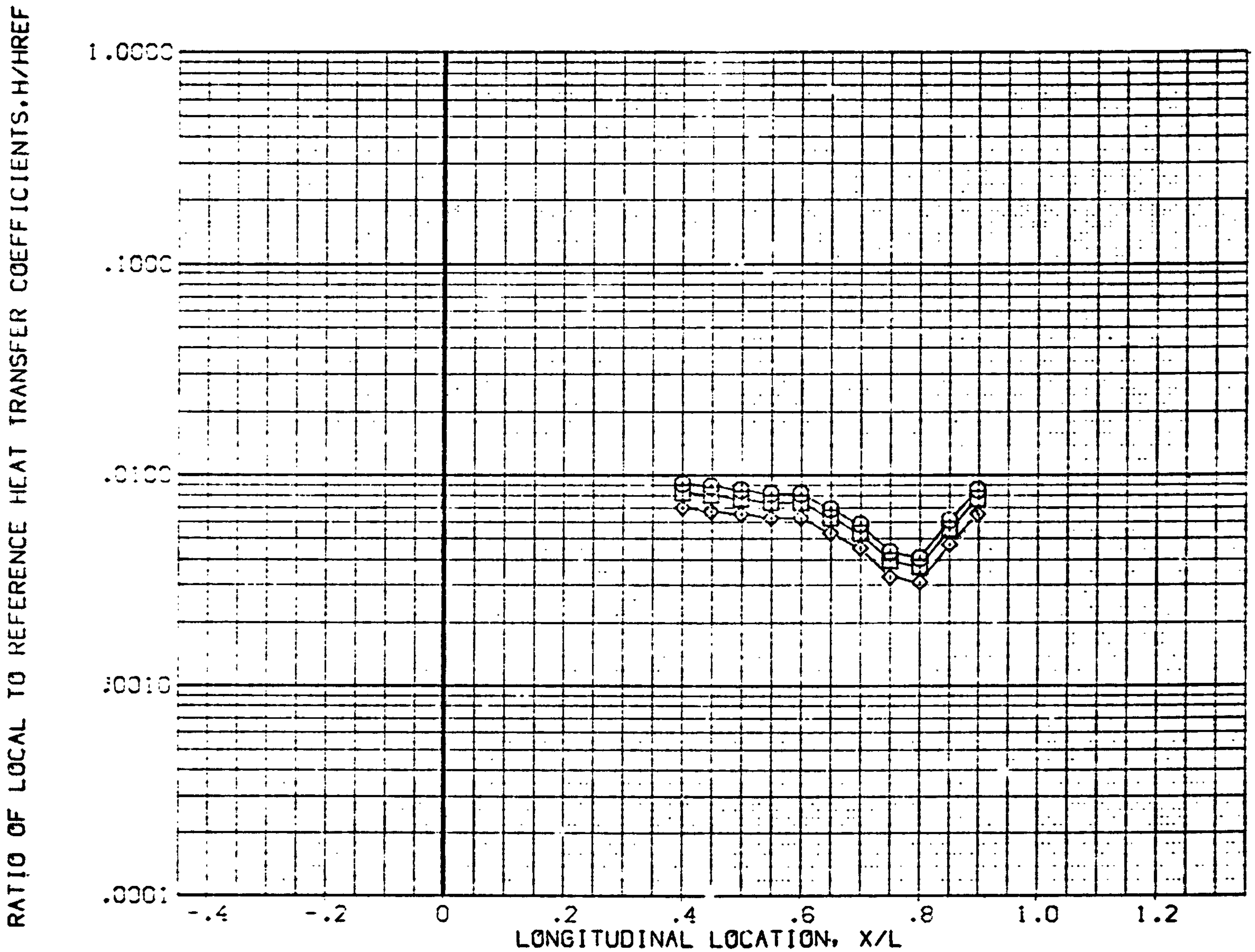


FIG. 4 TANK,ALONE

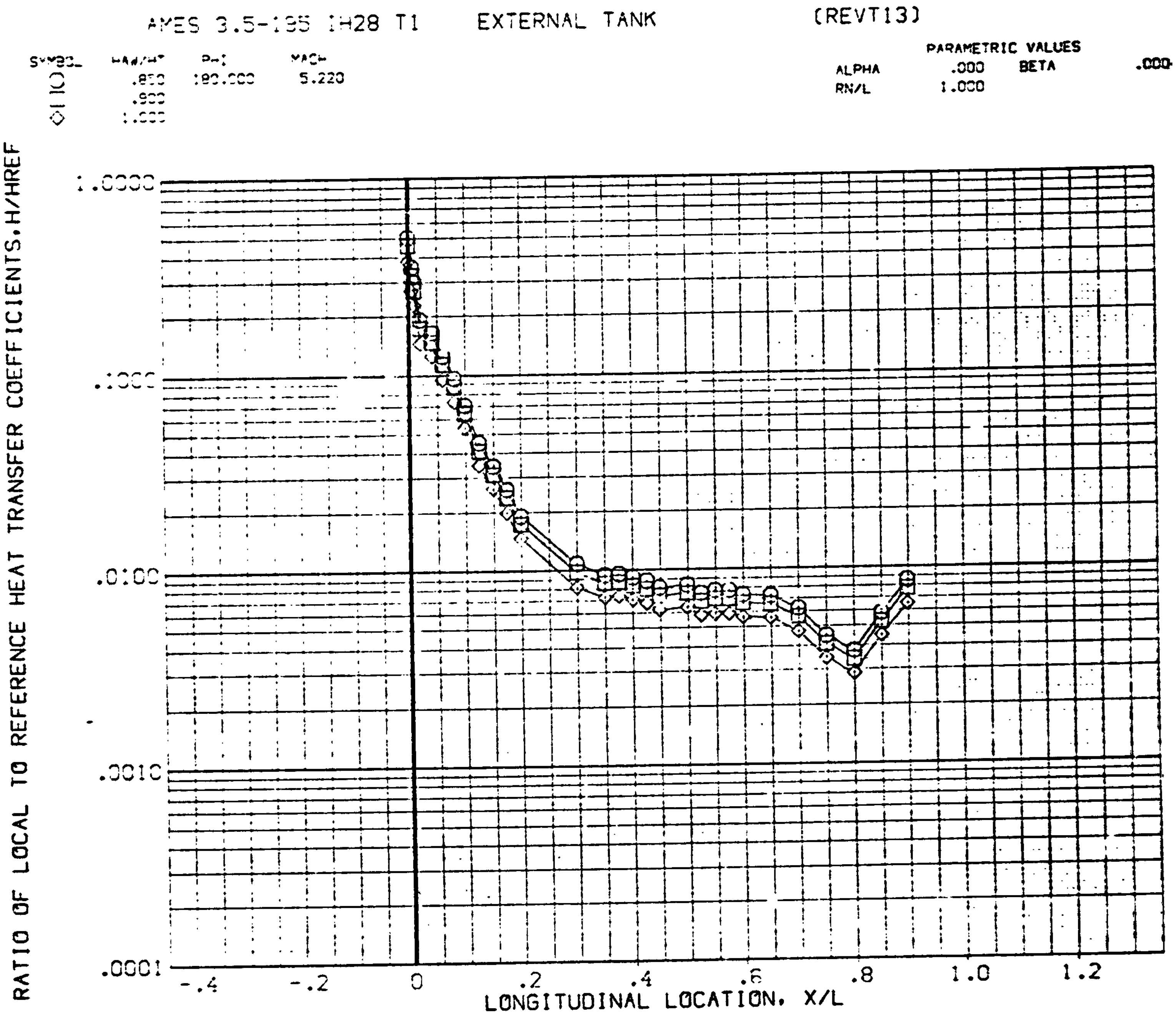


FIG. 4 TANK,ALONE

AMES 3.5-195 IH28 T1   EXTERNAL TANK   (REVT14)

SYMBOL	HAW/HT	PHI	MACH
○	.850	90.000	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA -30.000 BETA .000

RN/L 1.000

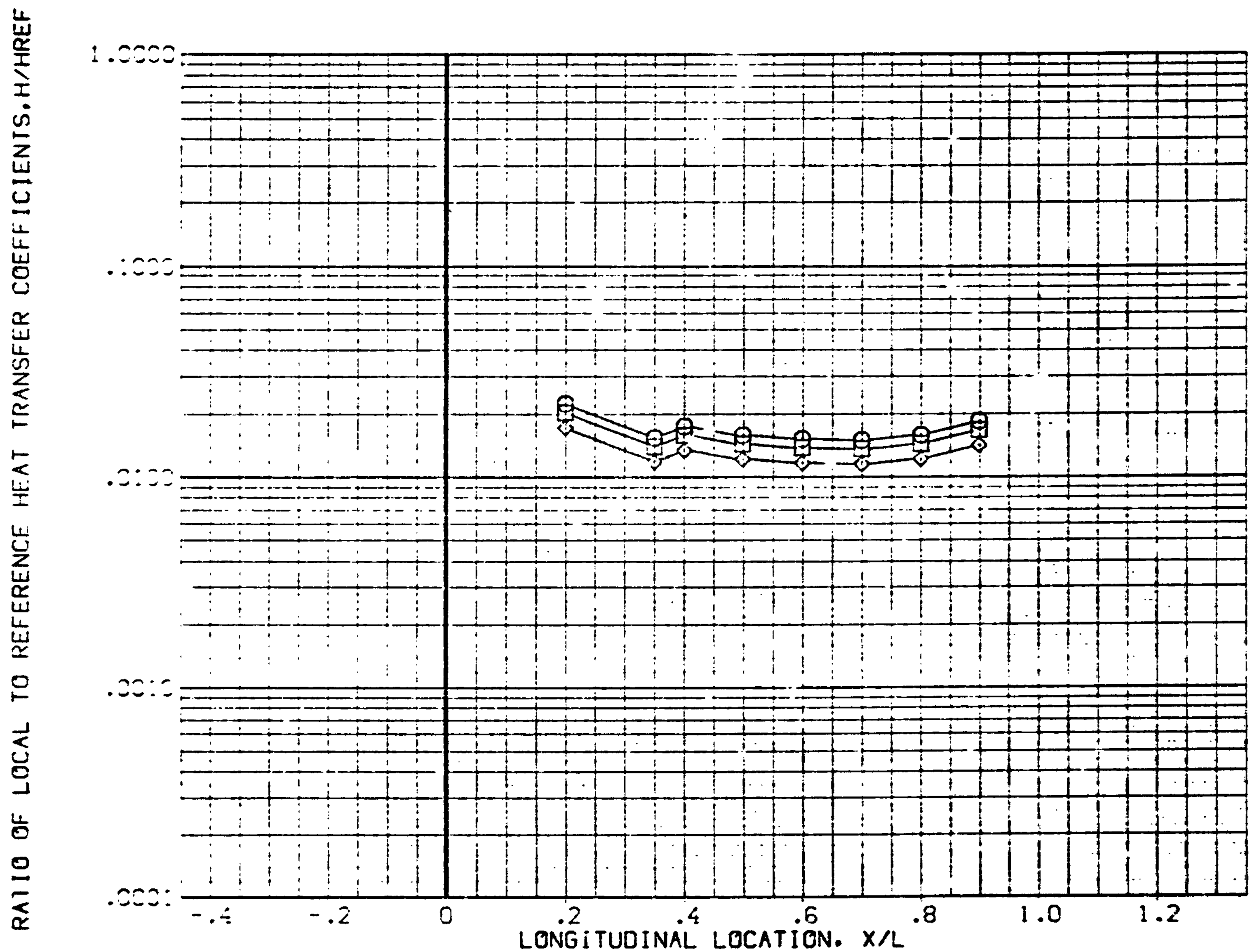


FIG. 4   TANK, ALONE

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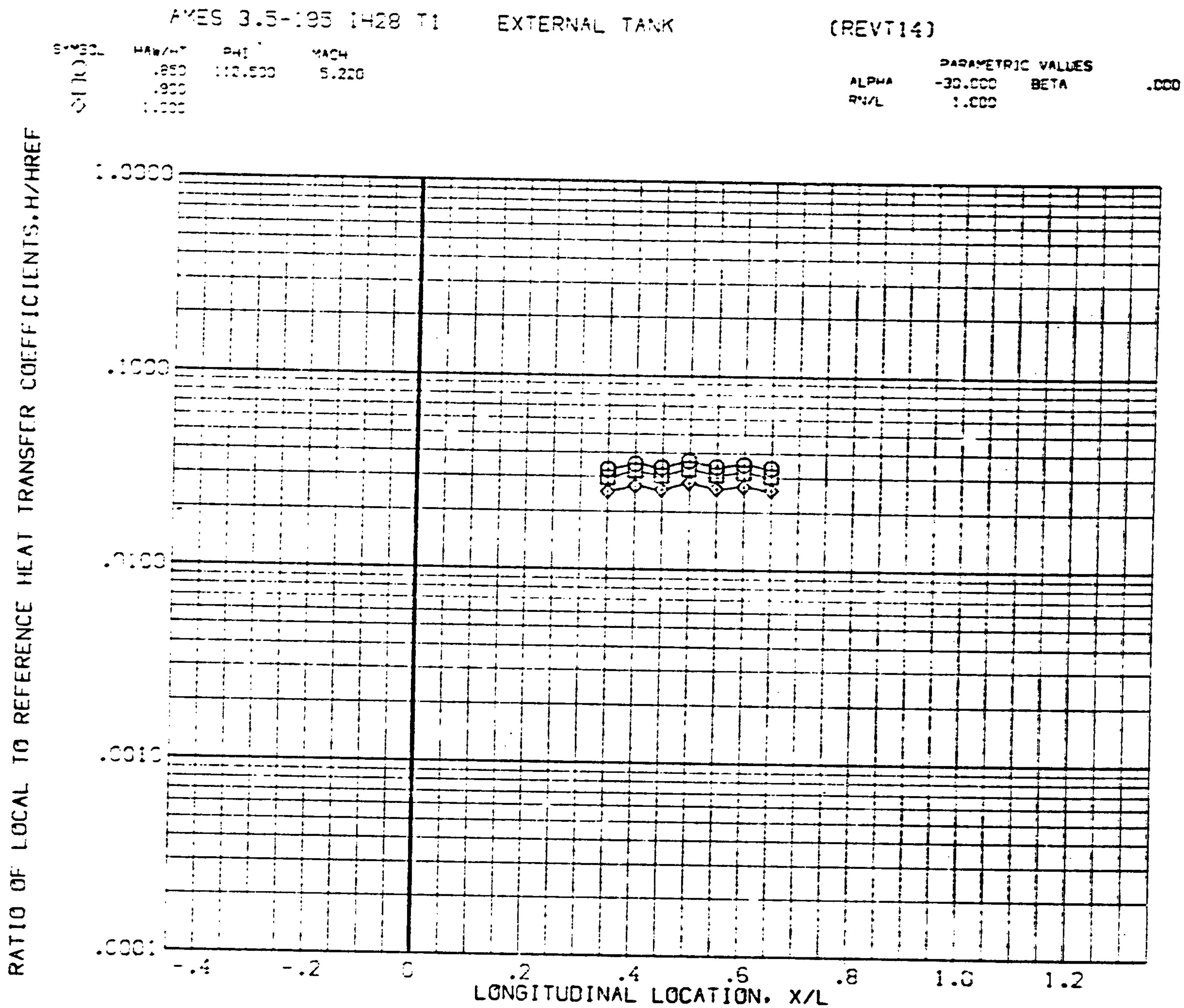

FIG. 4 TANK,ALONE

AMES 3.5-195 IH28 TI EXTERNAL TANK (REVT14)

SYMBOL	HAW/HT	PHI	MACH
○	.850	135.000	5.220
□	.300		
◇	1.000		

PARAMETRIC VALUES

ALPHA -30.000 BET .000

PN/L 1.000

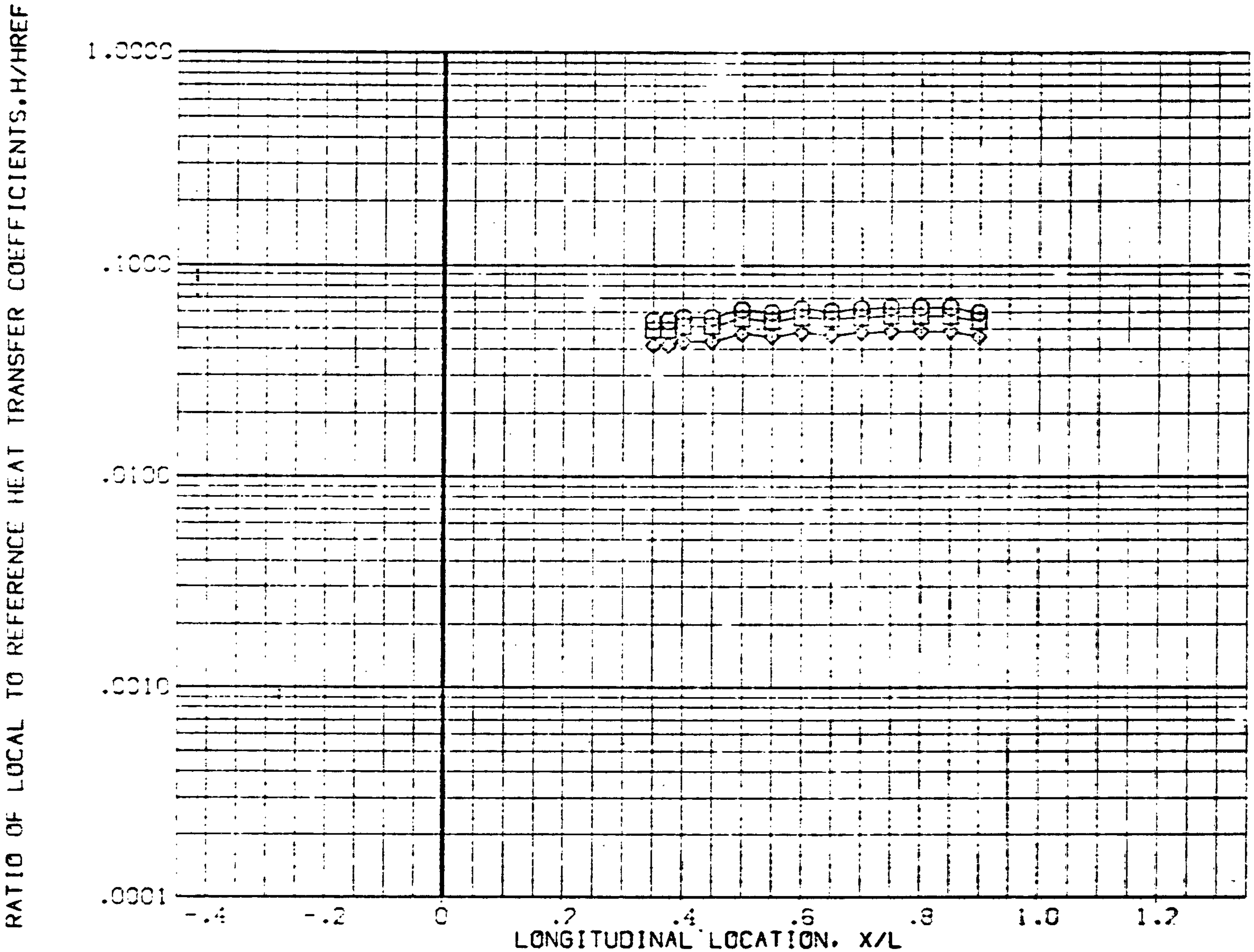

FIG. 4 TANK, ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT14)

SYMBOL	HAW/HT	PHI	MACH
○	.850	157.500	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES
ALPHA -30.000 BETA .000
RN/L 1.000

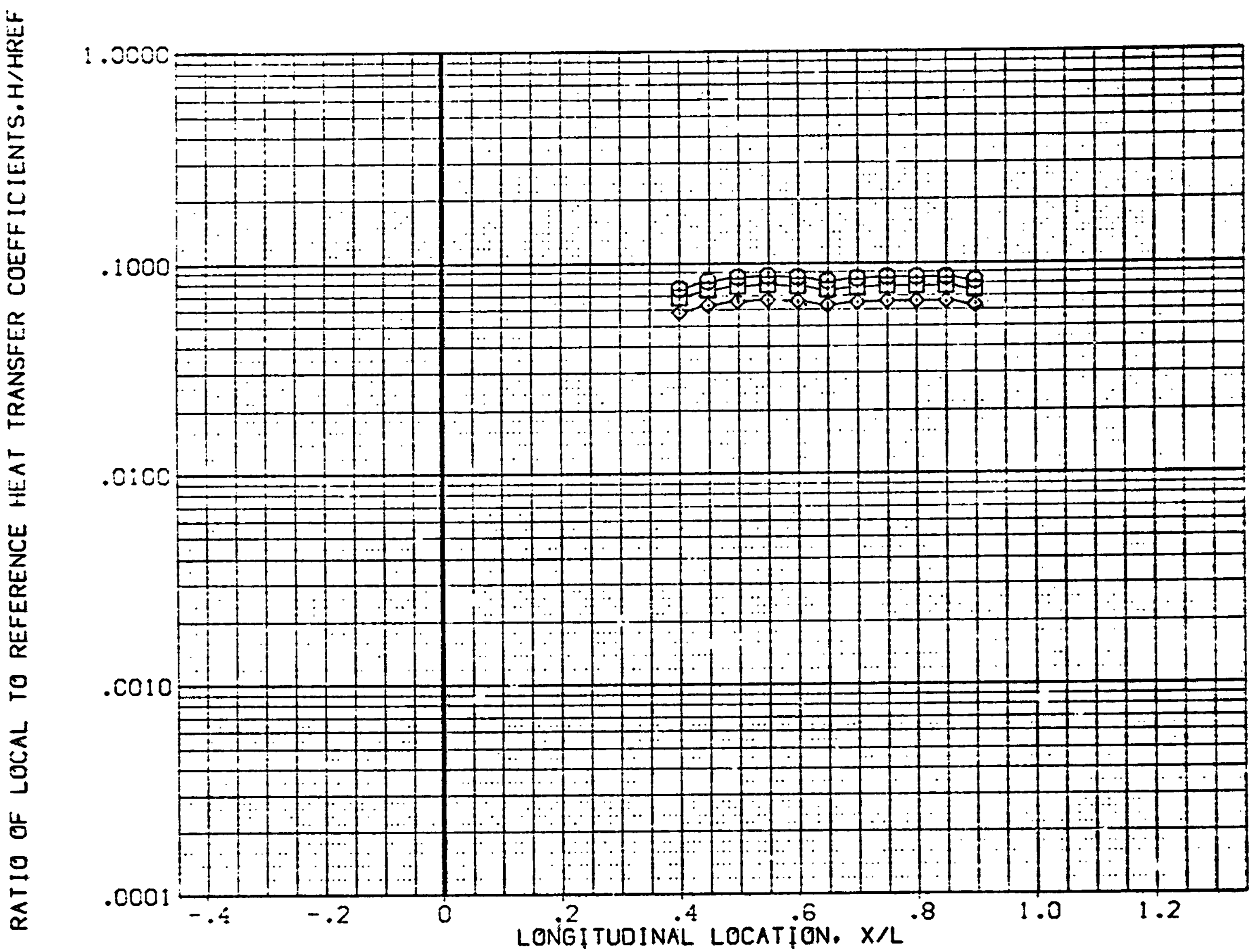

FIG. 4 TANK,ALONE

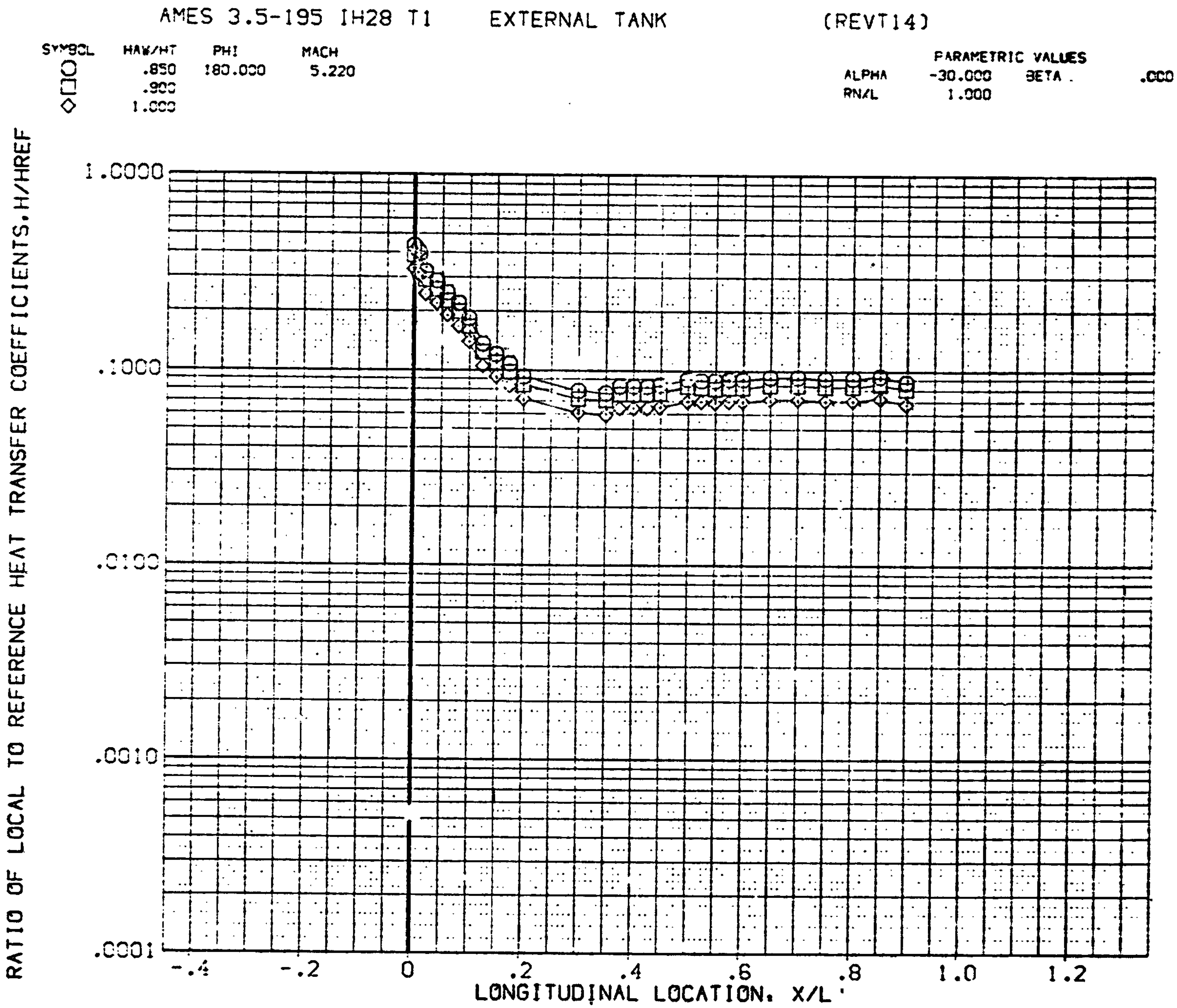

FIG. 4 TANK, ALONE

AMES 3.5-195 IH28 T1   EXTERNAL TANK   (REVT15)

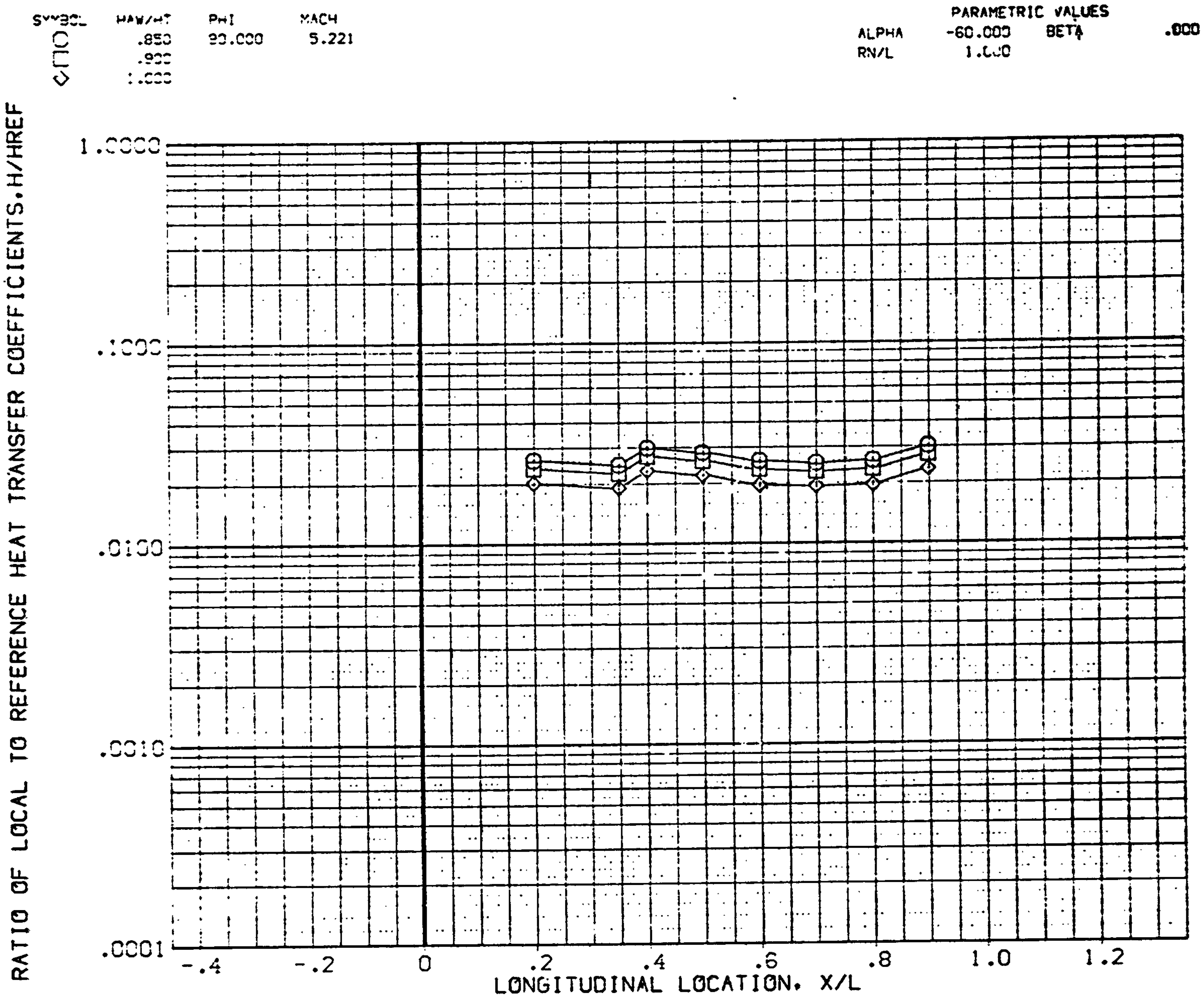

FIG. 4 TANK, ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT15)

SYMBOL	HAW/HT	PHI	MACH
○	.850	112.500	5.221
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA	-60.000	BETA	.000
RN/L	1.000		

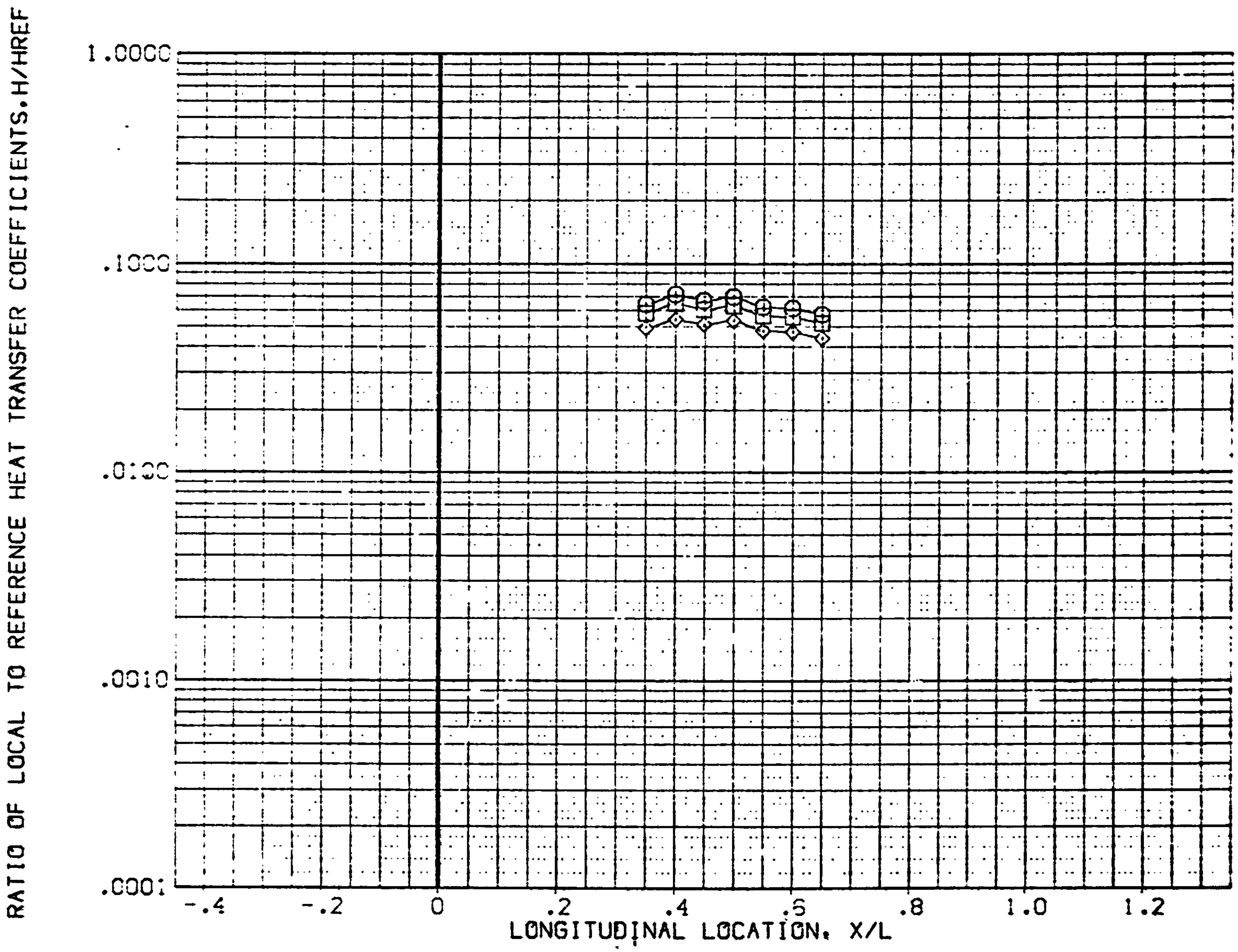

FIG. 4 TANK,ALONE

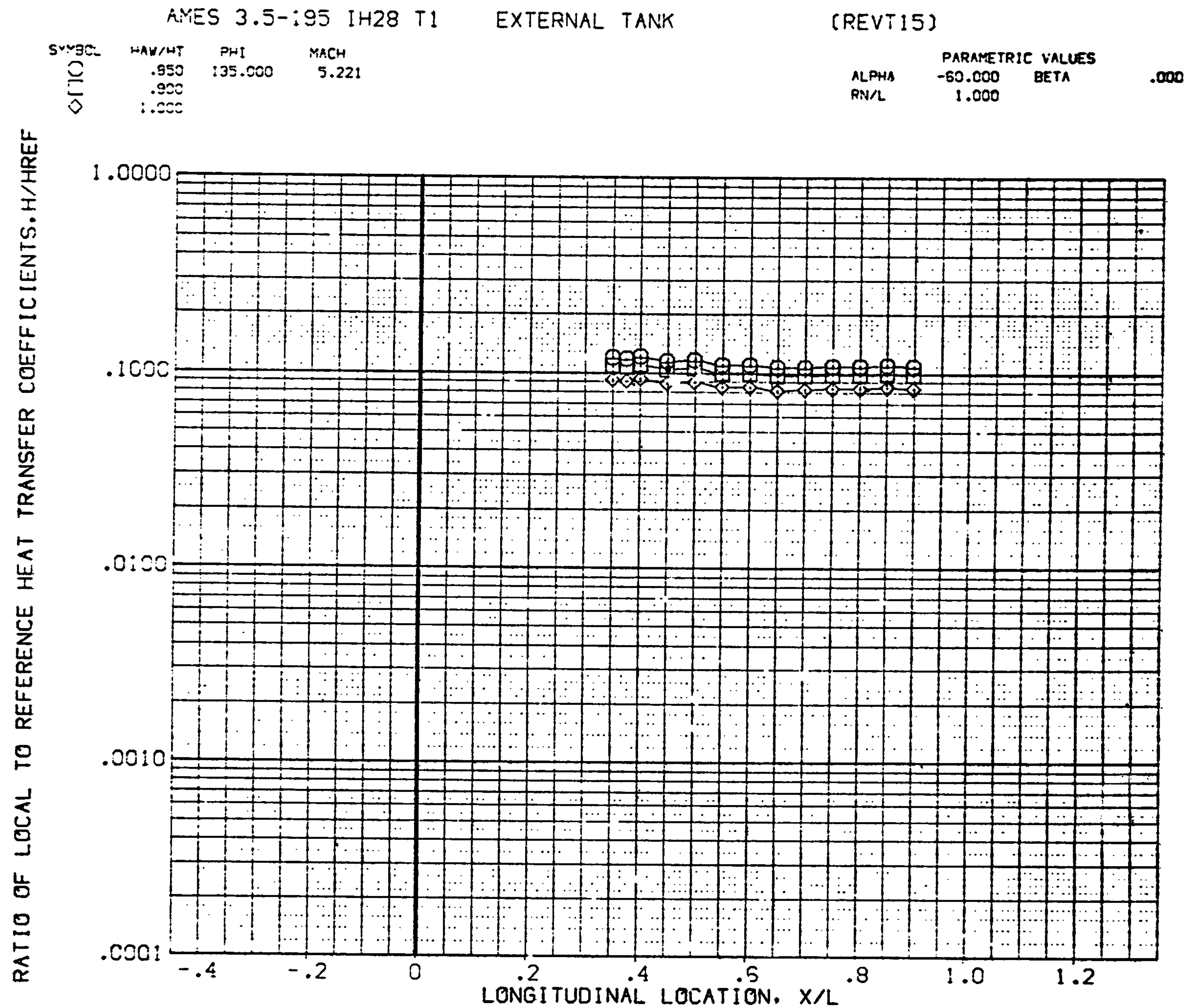

FIG. 4 TANK, ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT15)

SYMBOL	HAW/HT	PHI	MACH
○	.850	157.500	5.221
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA -60.000 BETA .000

RN/L 1.000

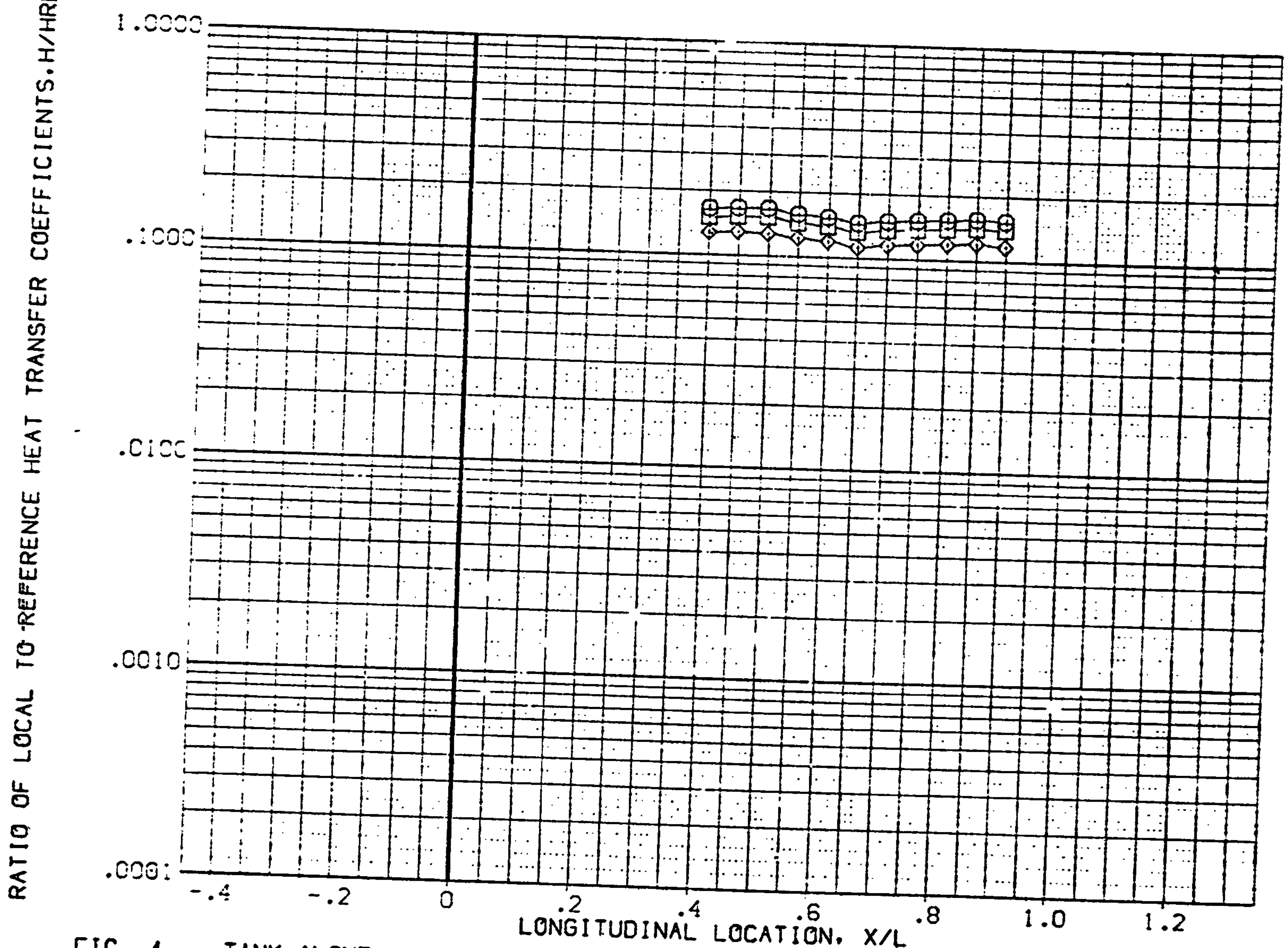

FIG. 4 TANK, ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT15)

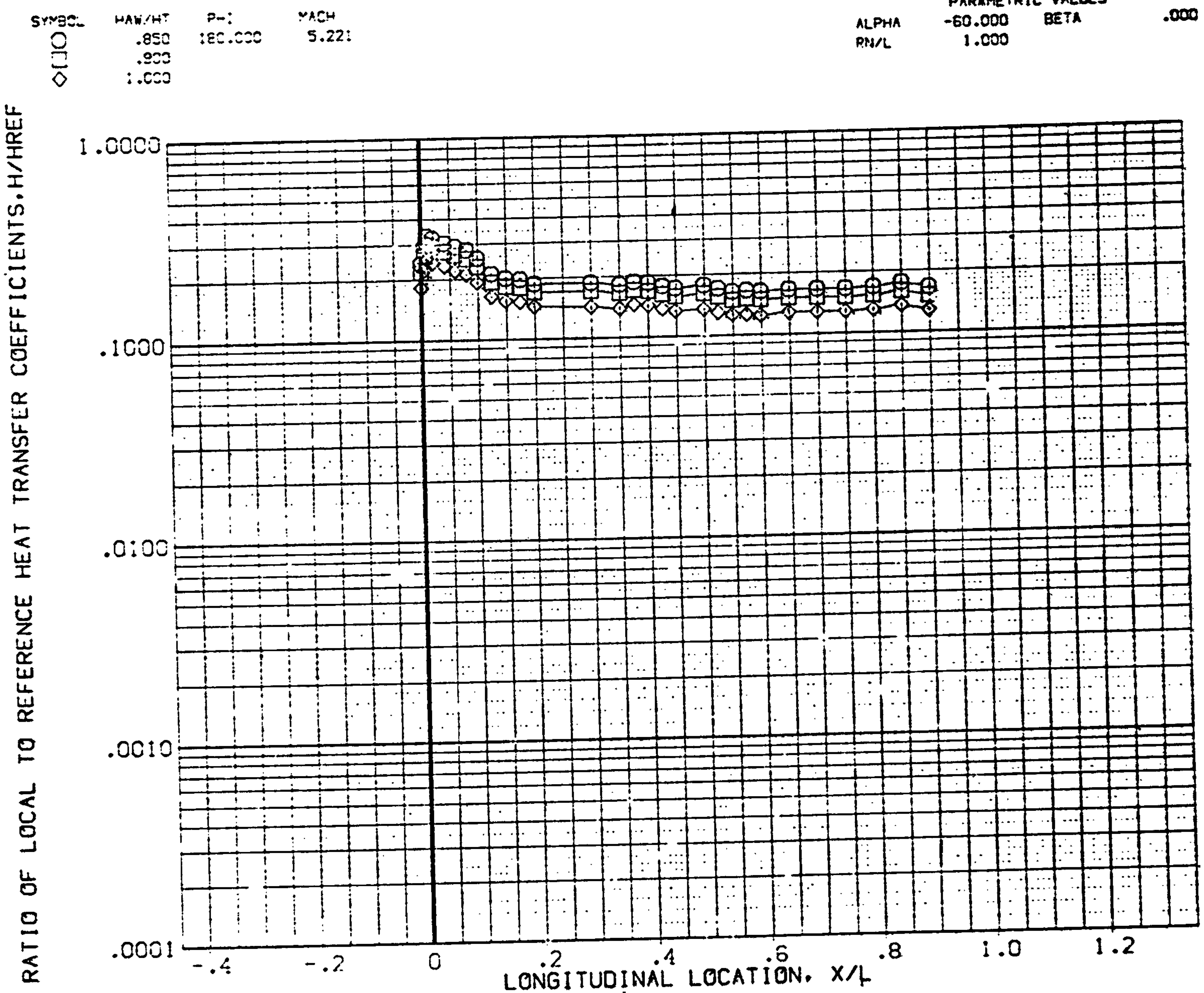

FIG. 4 TANK,ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT16)

SYMBOL	HAW/HT	PHI	MACH
○	.850	90.000	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES
ALPHA -90.000 BETA .000
PN/L 1.000

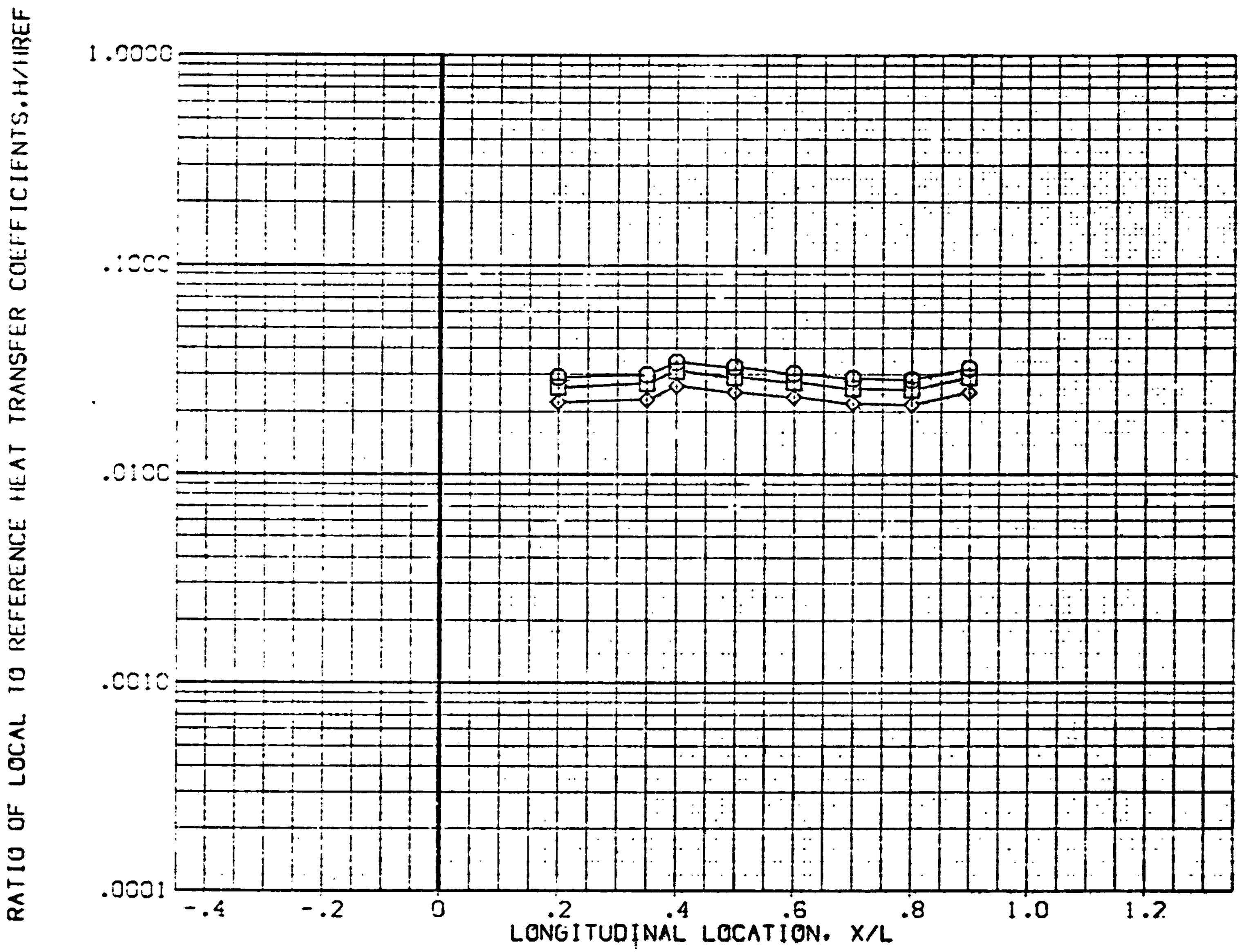

FIG. 4 TANK, ALONE

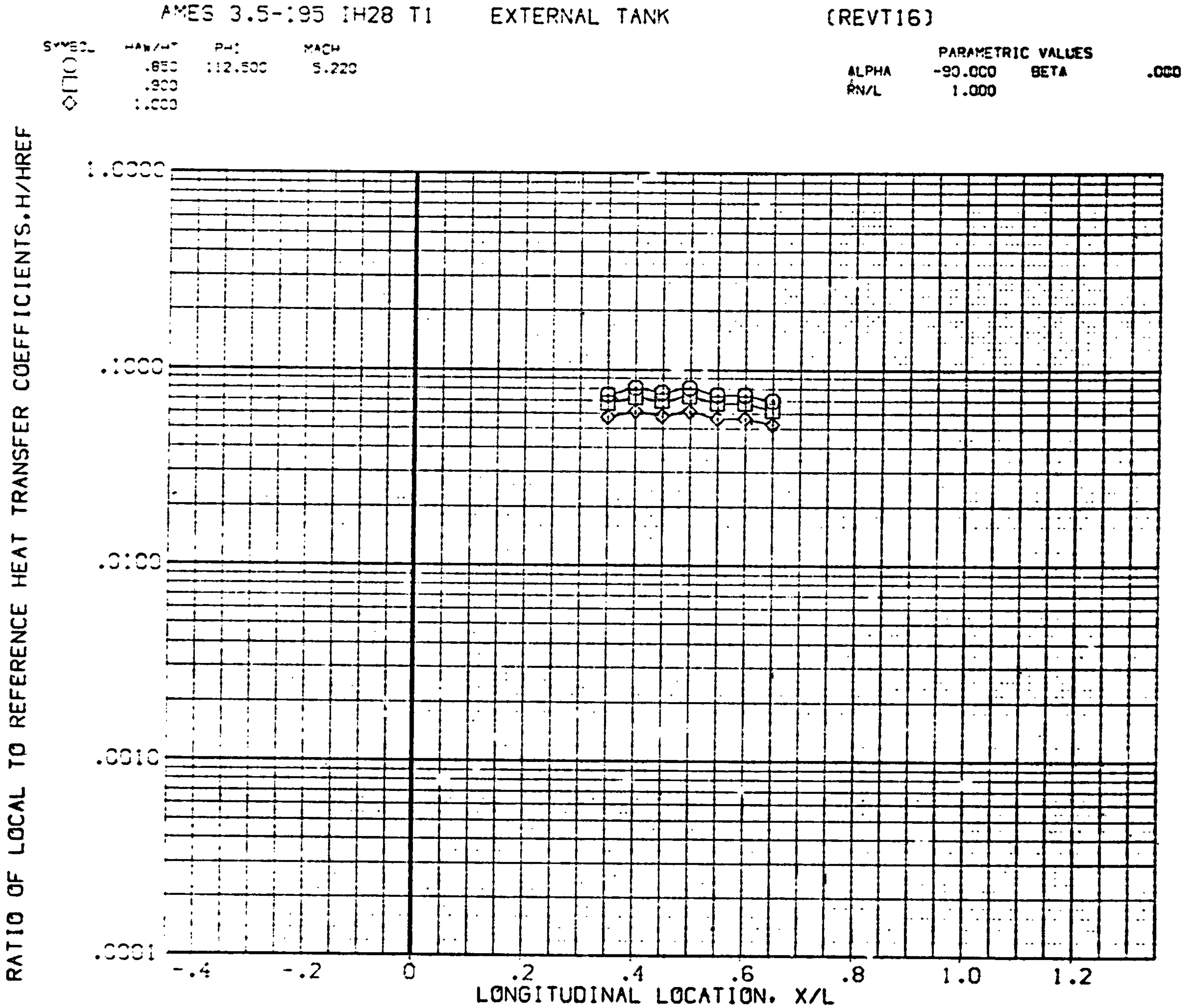

FIG. 4 TANK,ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT16)

SYMBOL	HAW/HT	PHI	MACH
○	.850	135.000	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES
ALPHA -90.000 BETA .000
RN/L 1.000

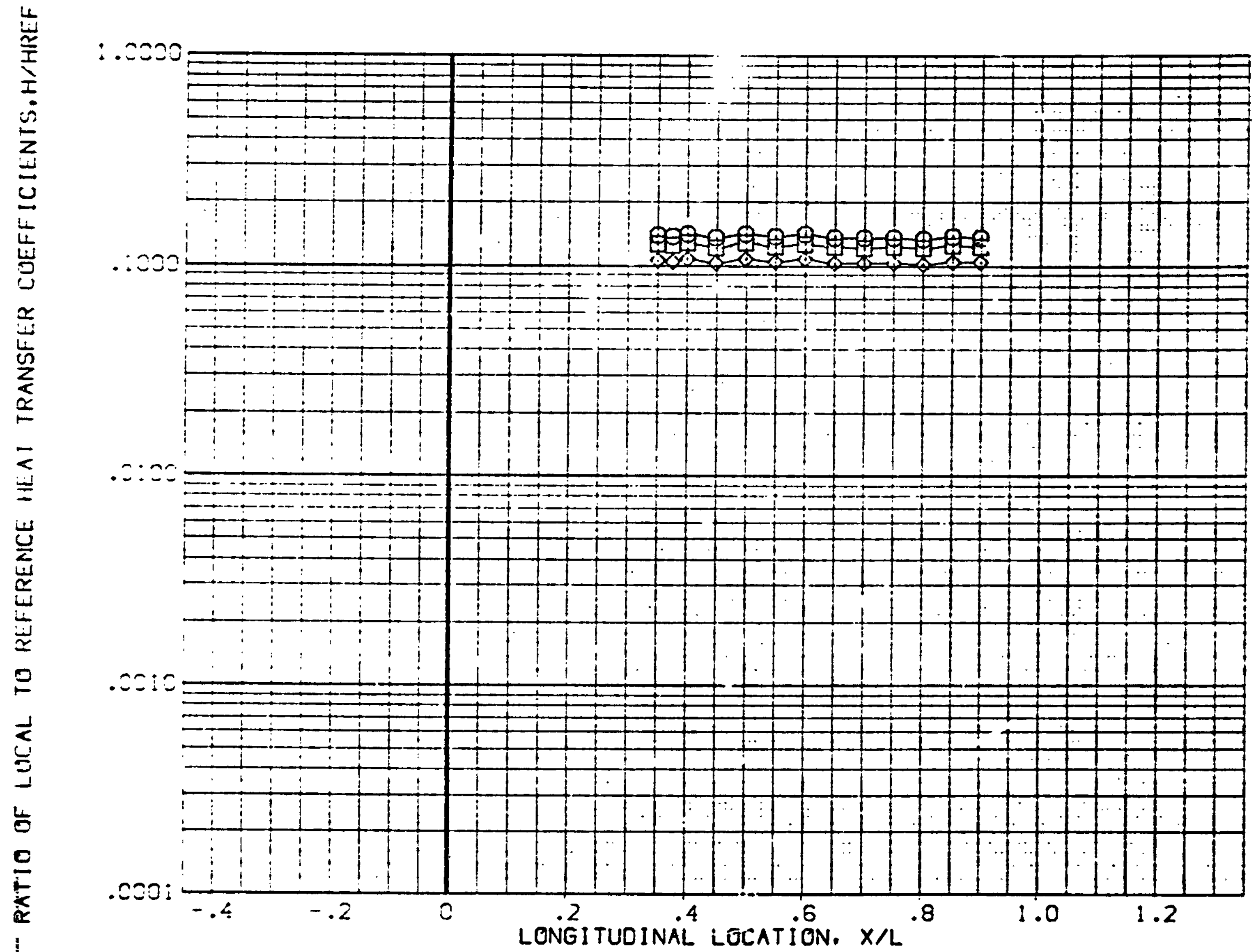

FIG. 4 TANK, ALONE

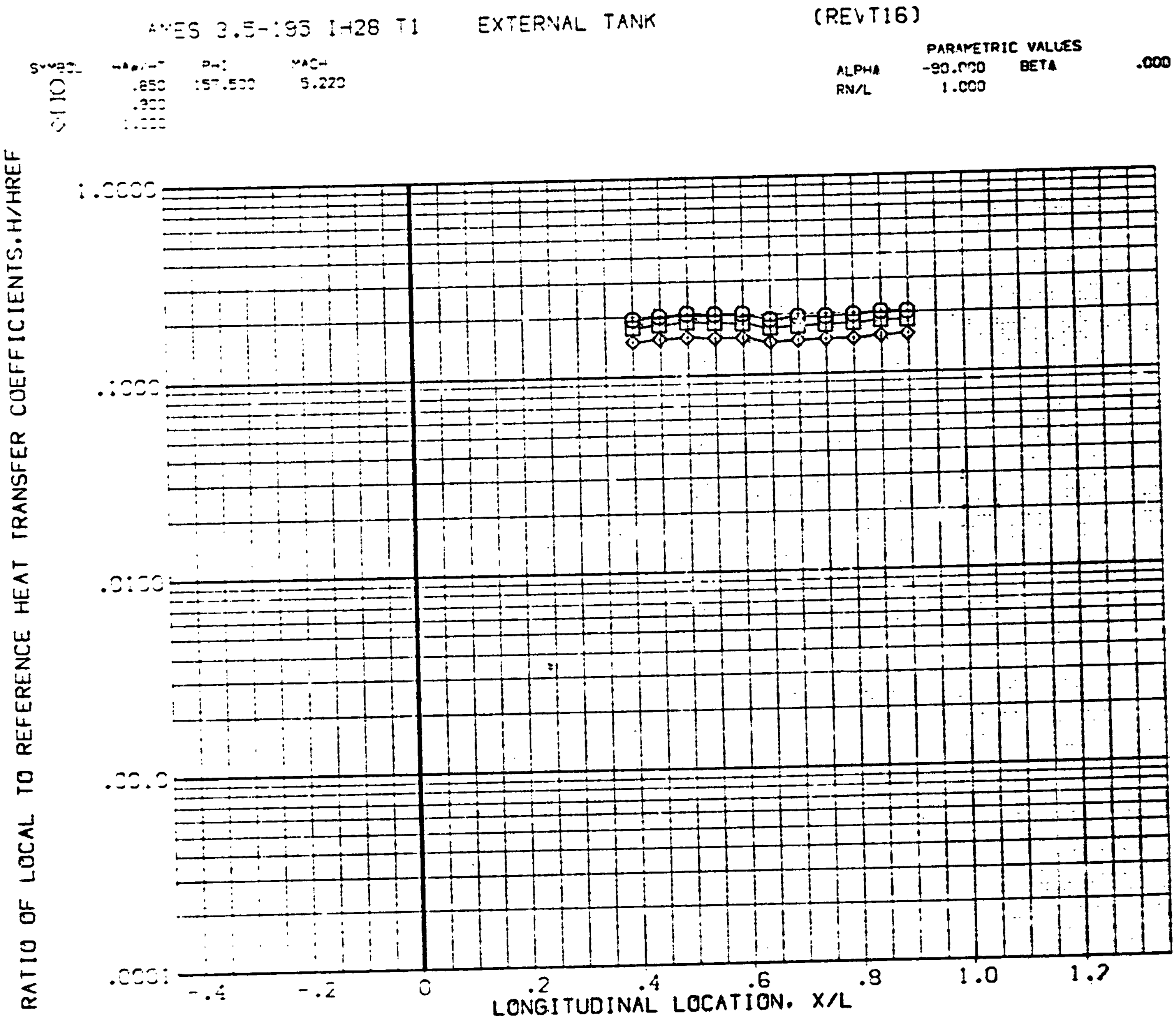

FIG. 4 TANK,ALONE

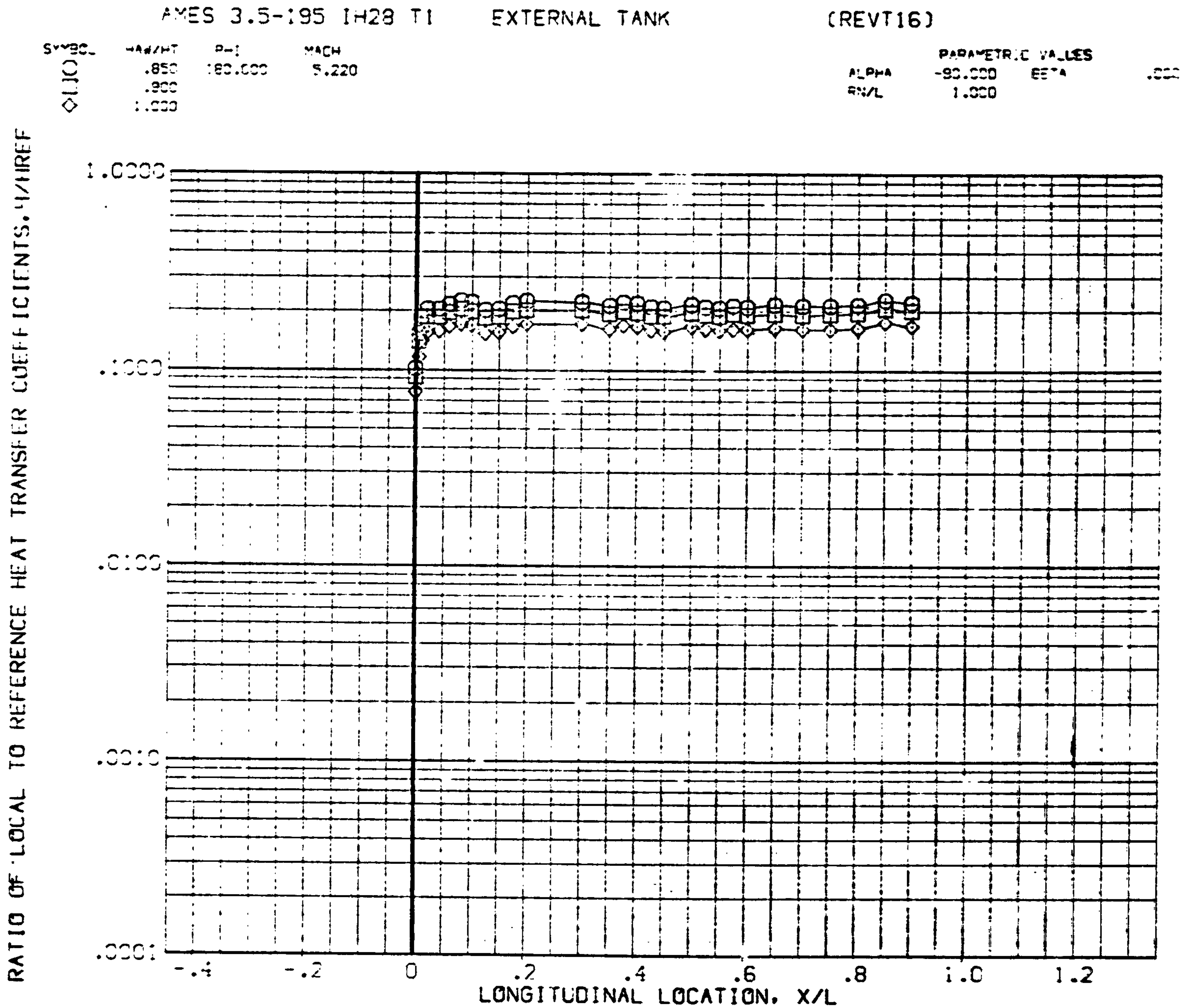

FIG. 4 TANK, ALONE

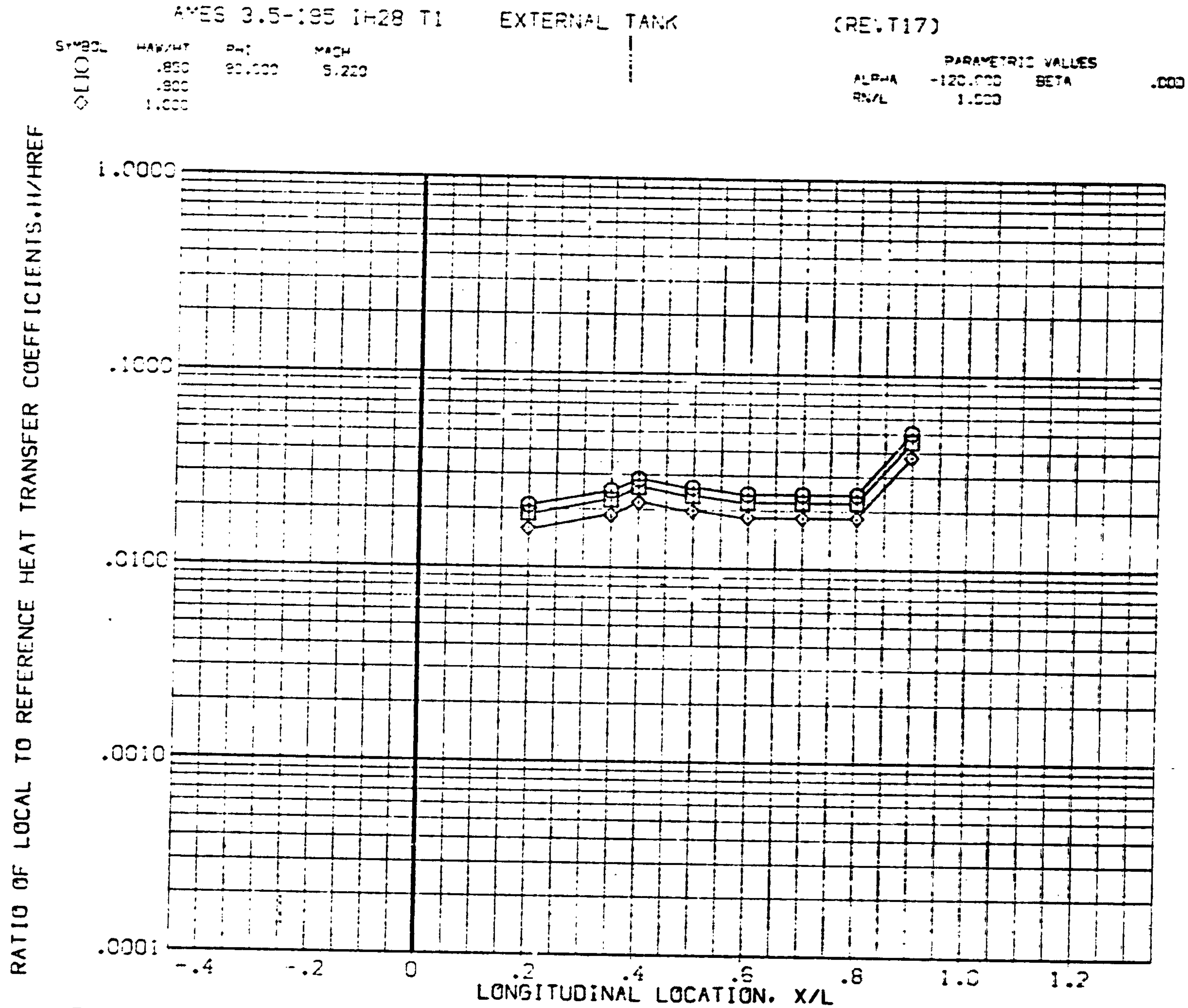

FIG. 4 TANK,ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVTI7)

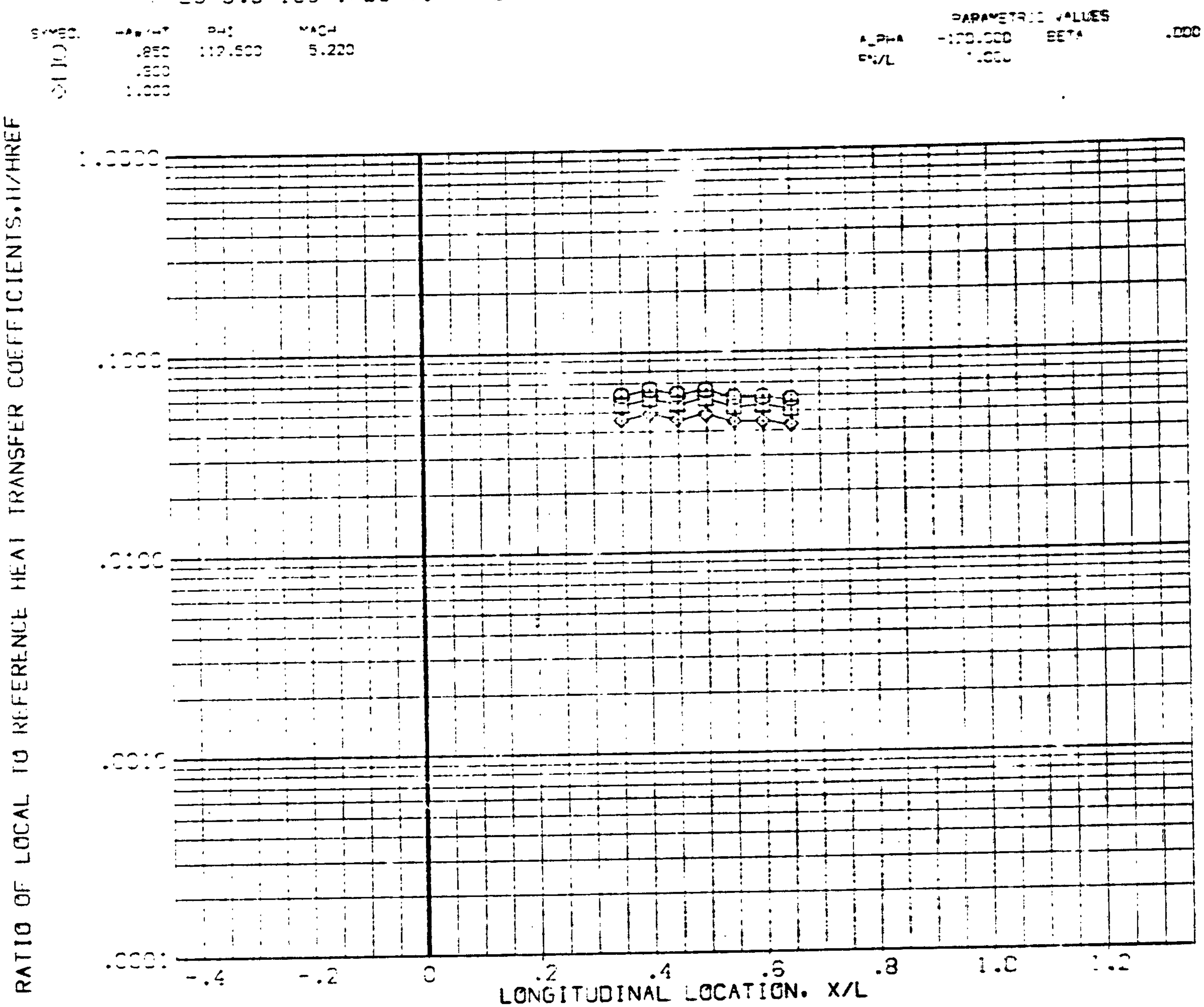

FIG. 4 TANK, ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT17)

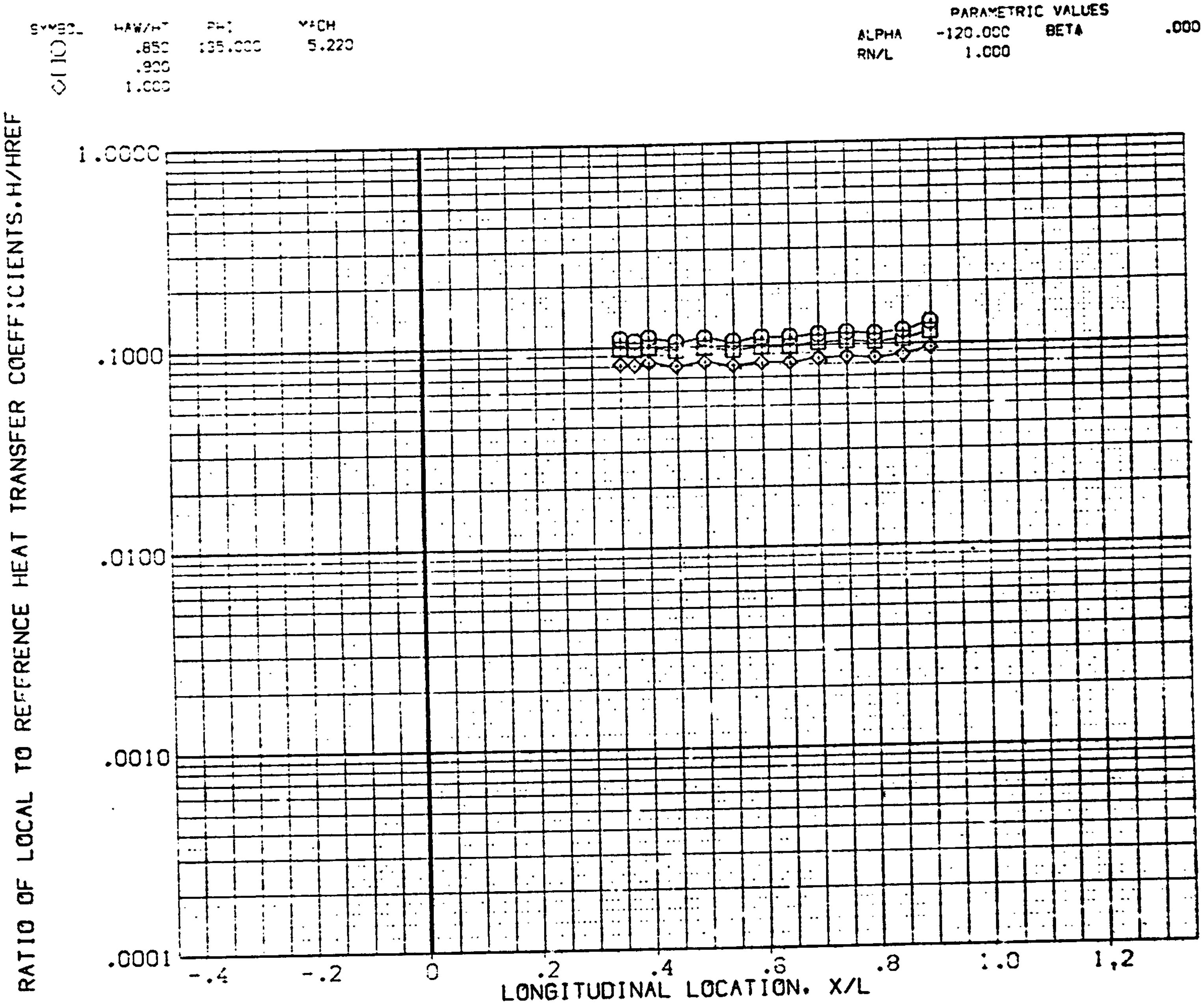

FIG. 4 TANK, ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT17)

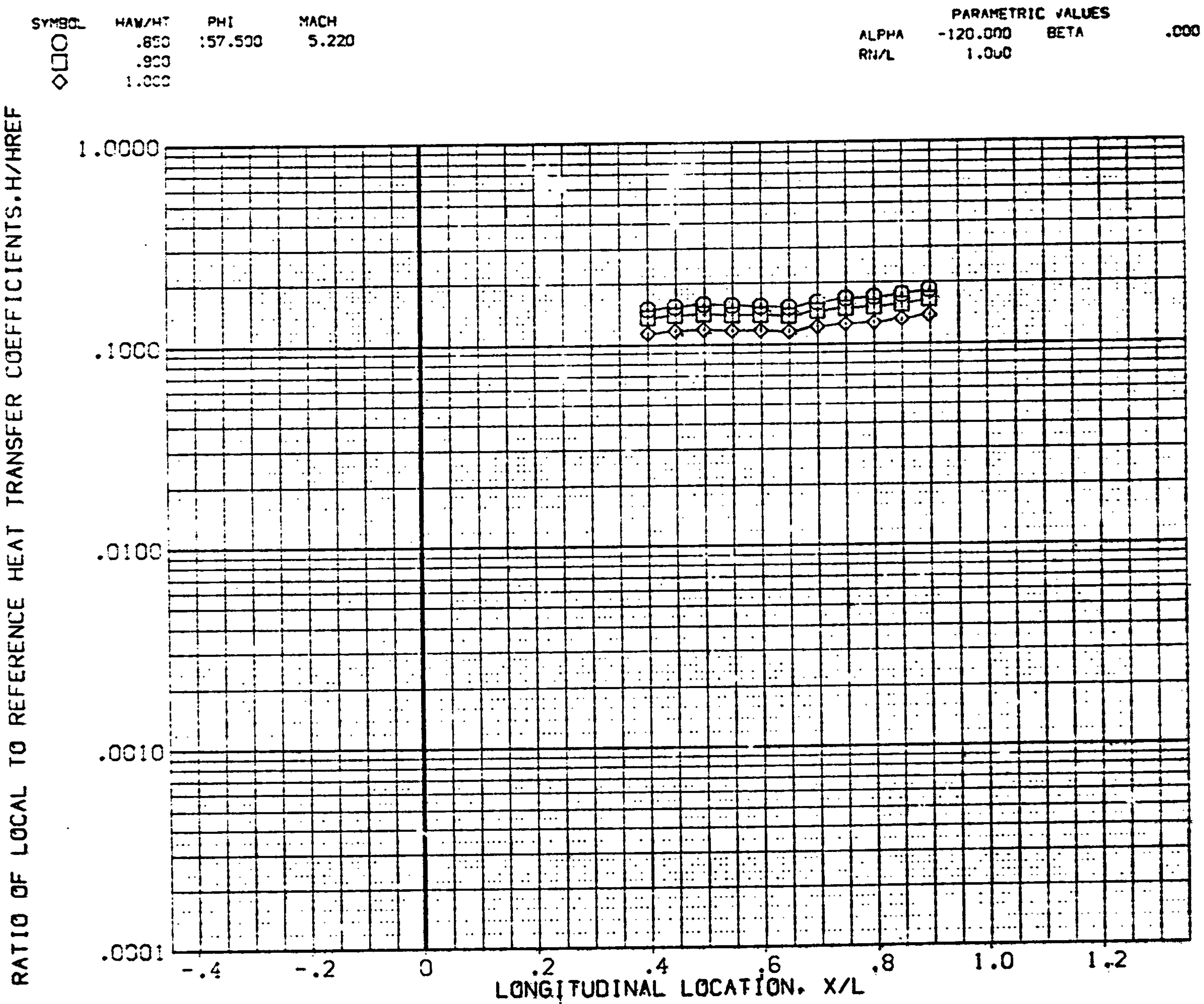

FIG. 4 TANK ALONE

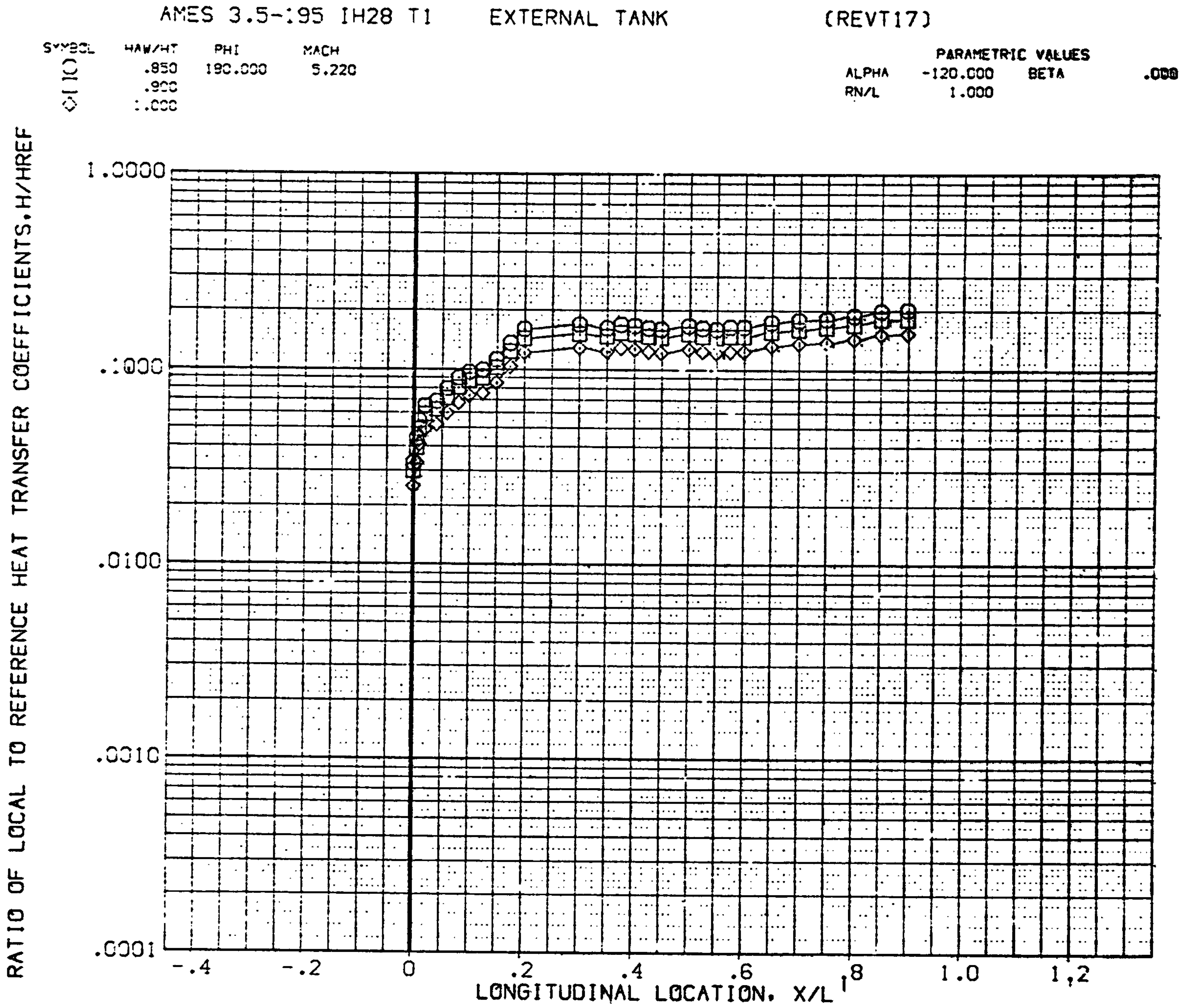

FIG. 4 TANK, ALONE

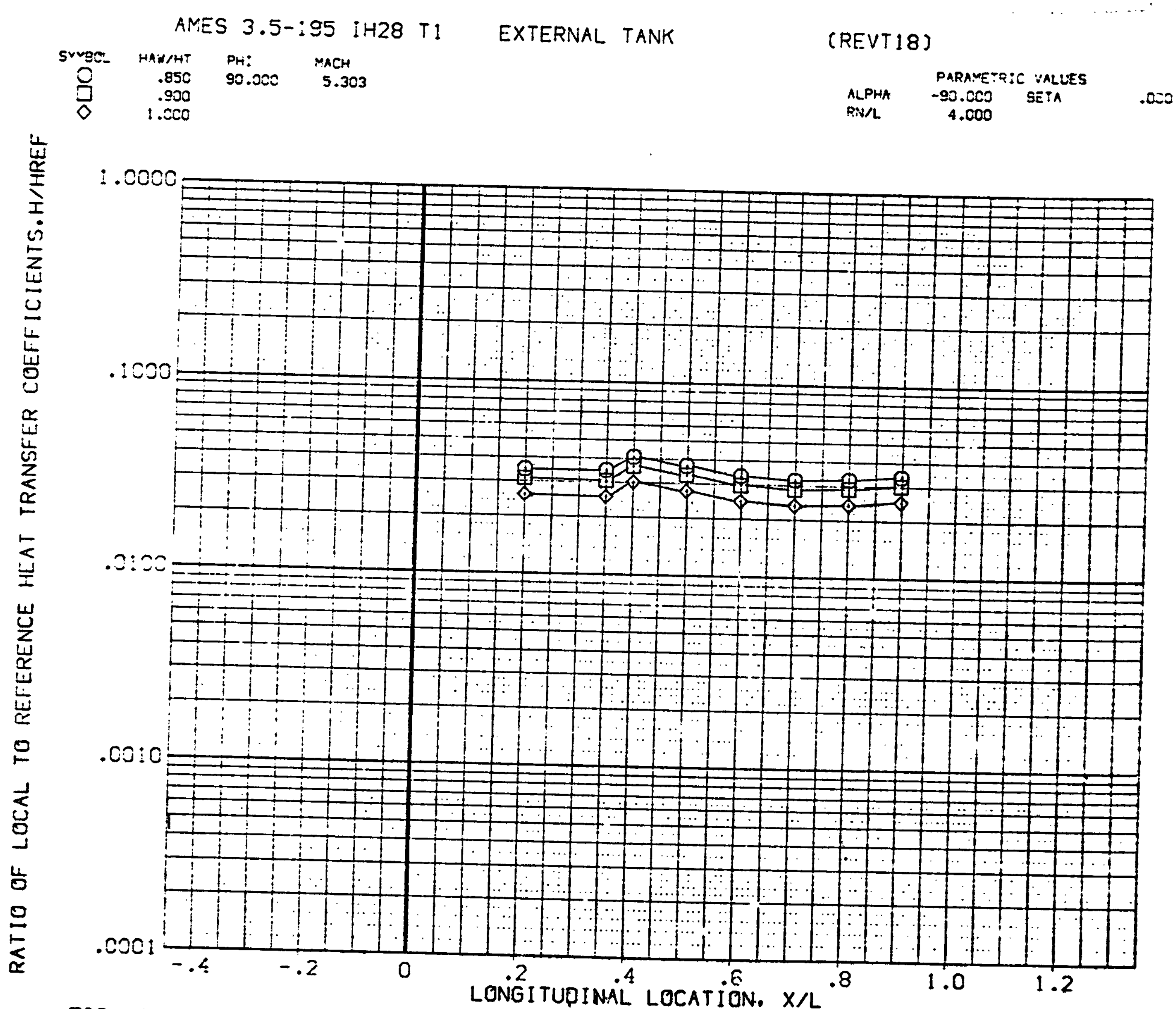

FIG. 4 TANK, ALONE

REPRODUCIBILITY OF THE PAGE ORIGINAL PAGE IS POOR

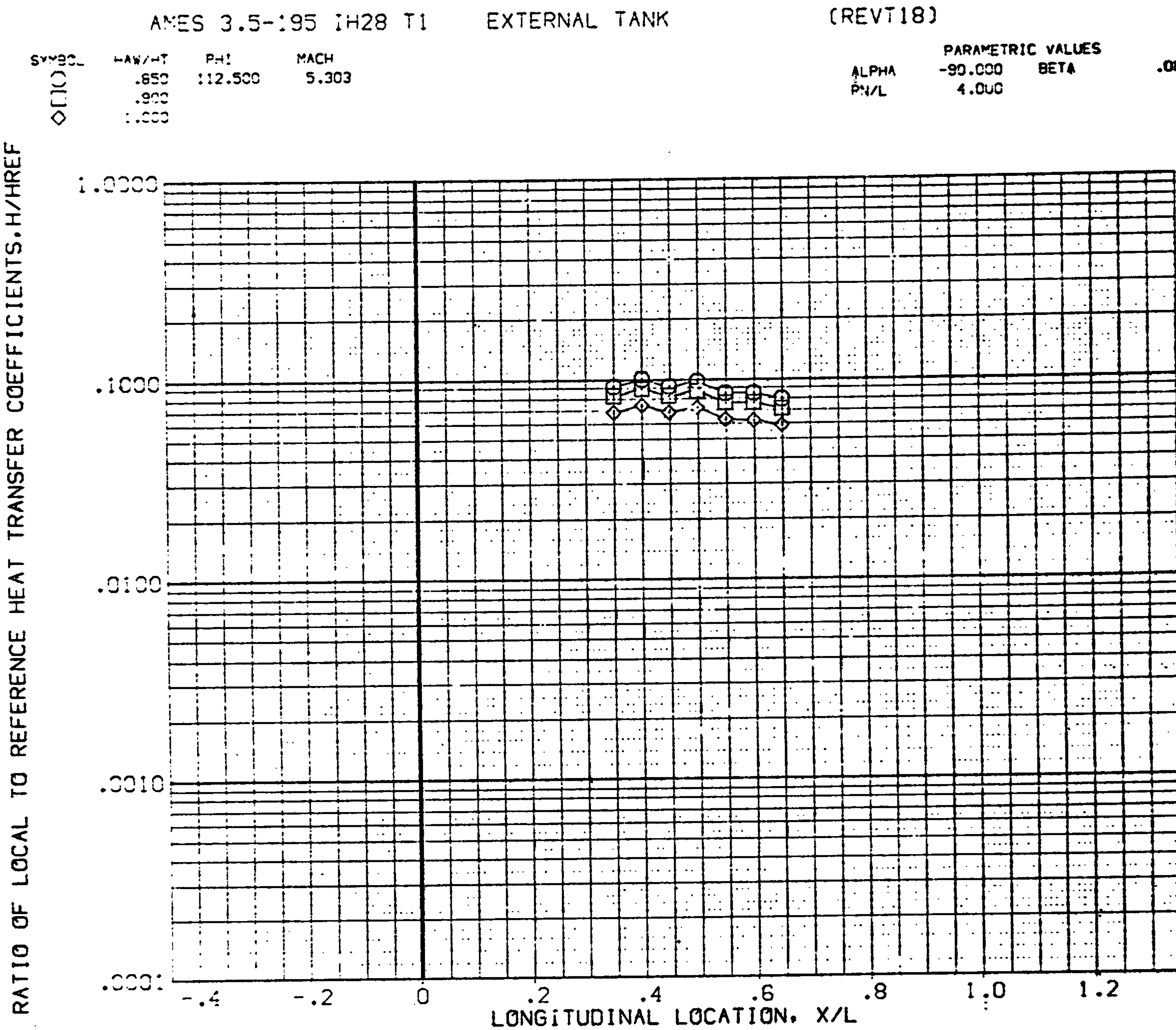

FIG. 4 TANK, ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT18)

SYMBOL	HAW/HT	PHI	MACH
○	.850	135.000	5.303
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA -90.000 BETA .000
RN/L 4.000

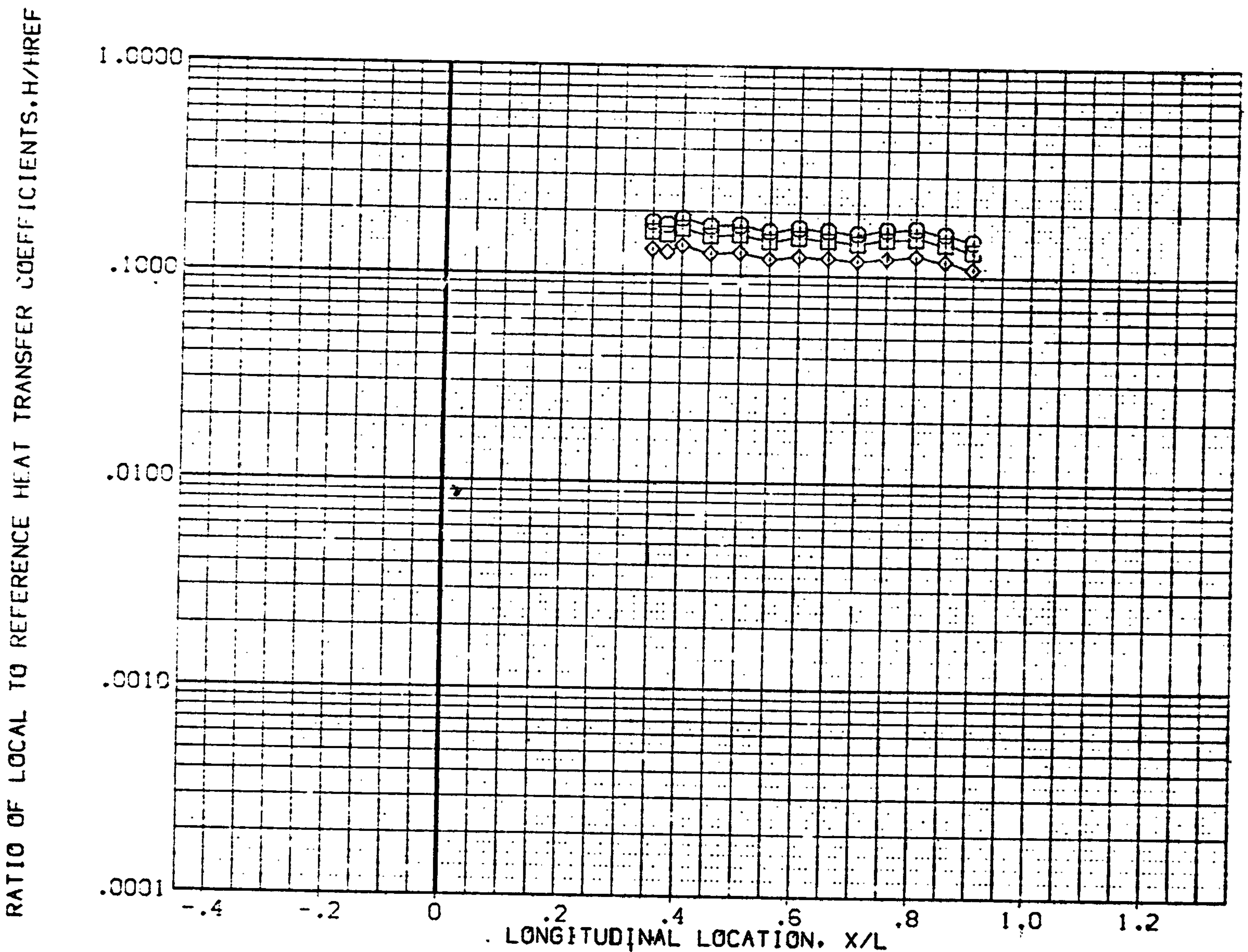

FIG. 4 TANK,ALONE

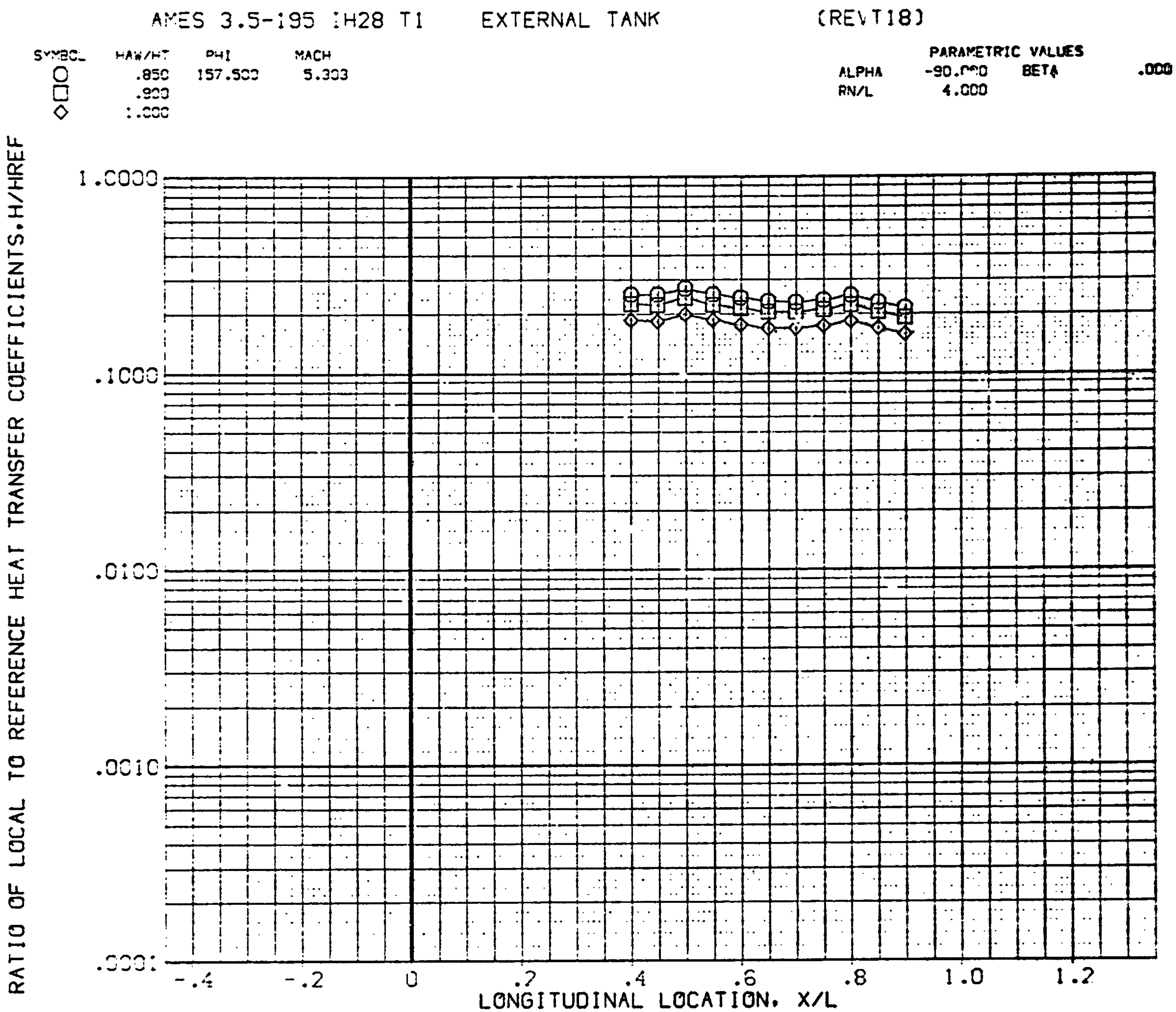

FIG. 4 TANK, ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT18)

SYMBOL	HA*/HT	PHI	MACH
○	.850	180.000	5.303
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA -90.000 BETA .000

PN/L 4.000

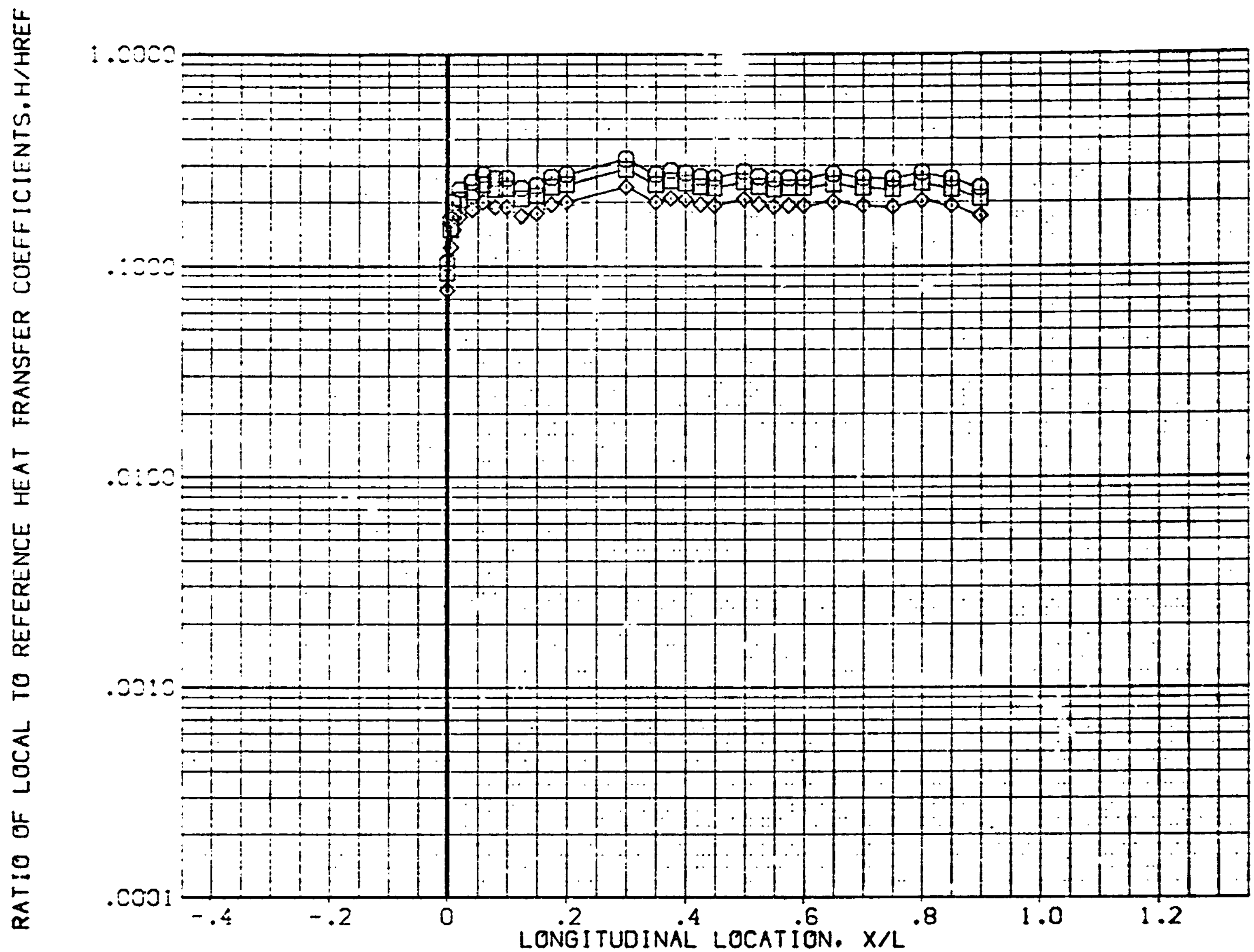

FIG. 4 TANK, ALONE

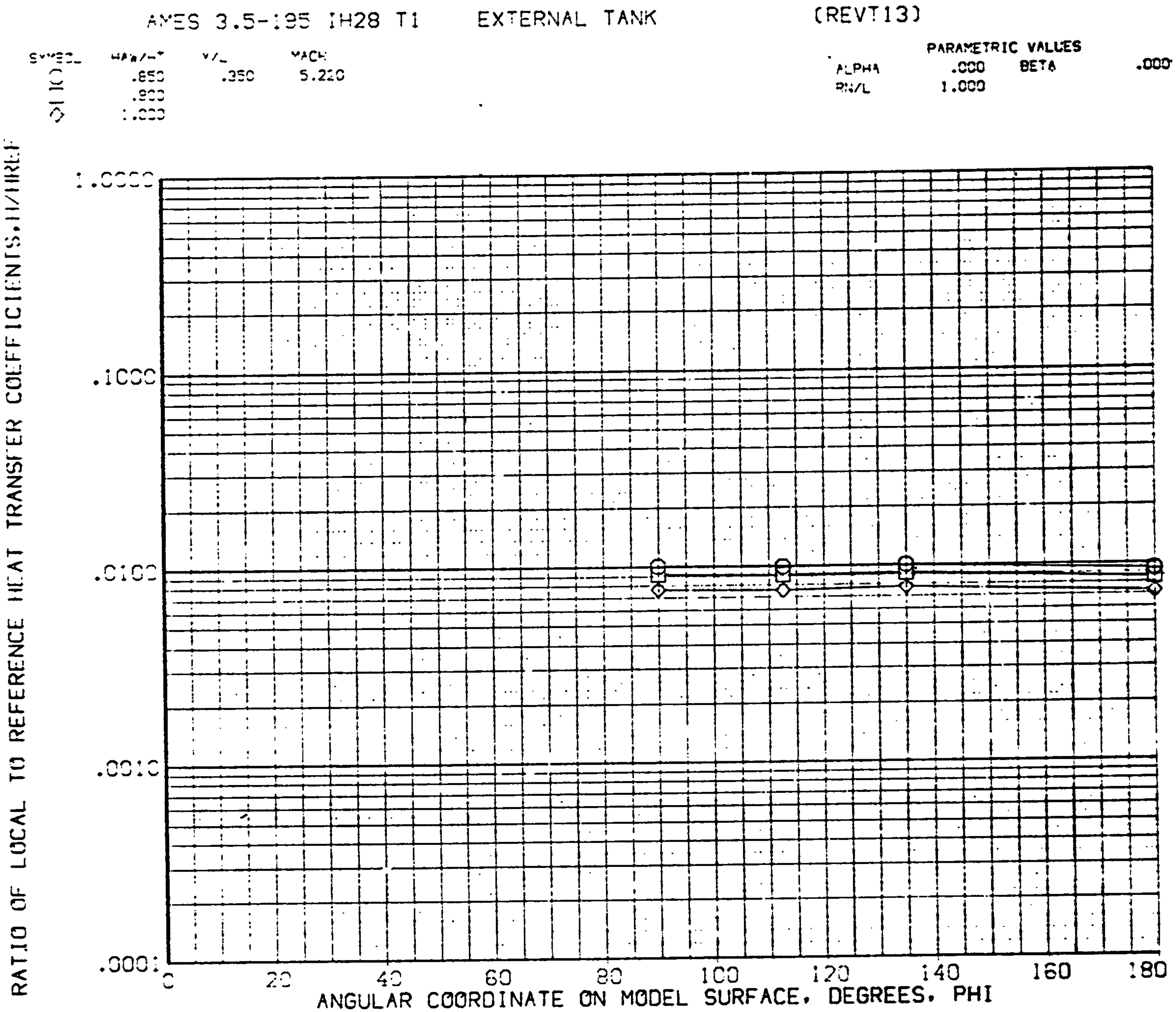

FIG. 4 TANK,ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT13)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.400	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA .000 BETA .000

RN/L 1.000

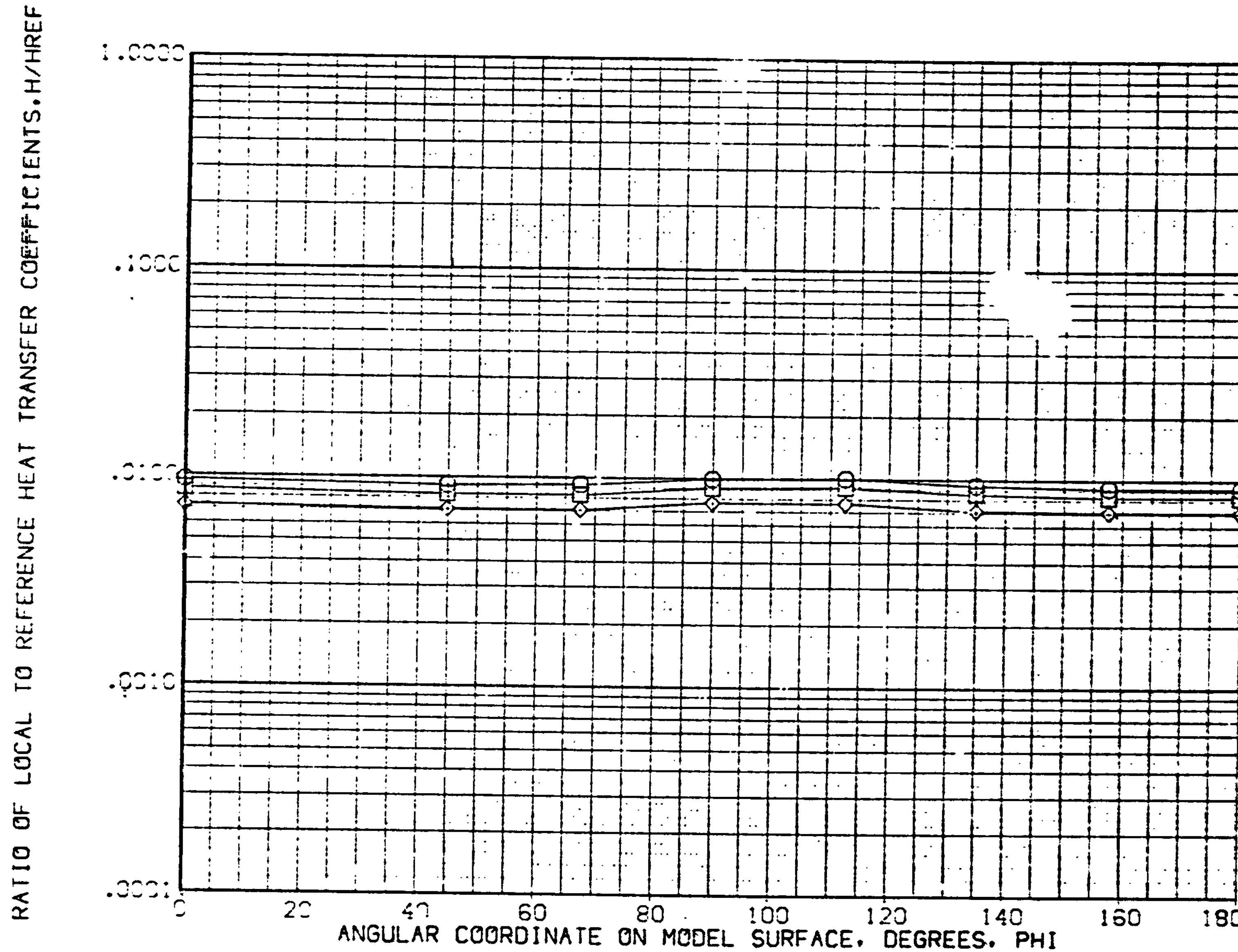

FIG. 4 TANK, ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT13)

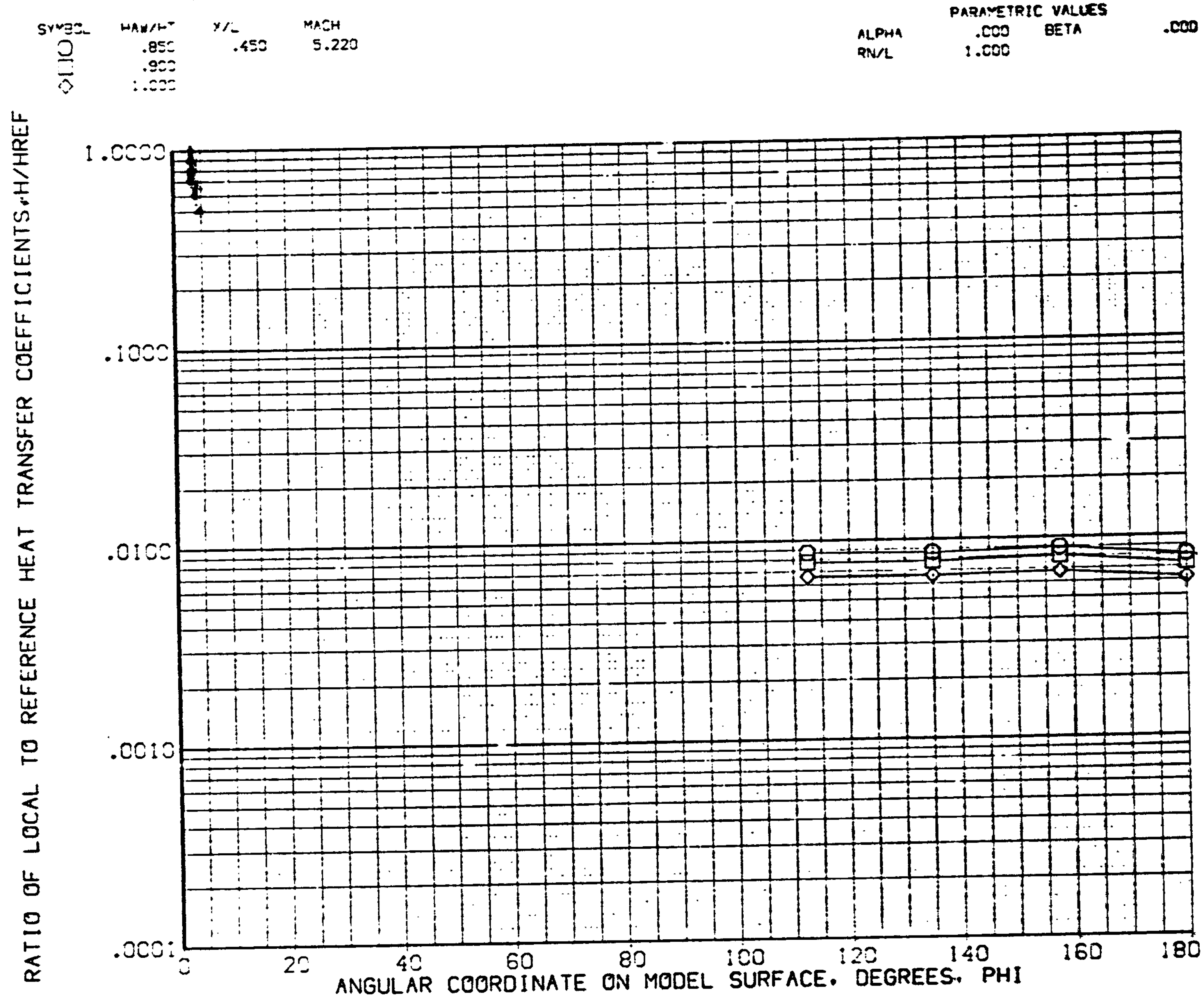

FIG. 4 TANK, ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT13)

SYMBOL	HW/HT	X/L	MACH
○	.850	.500	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA .000 BETA .000

RN/L 1.000

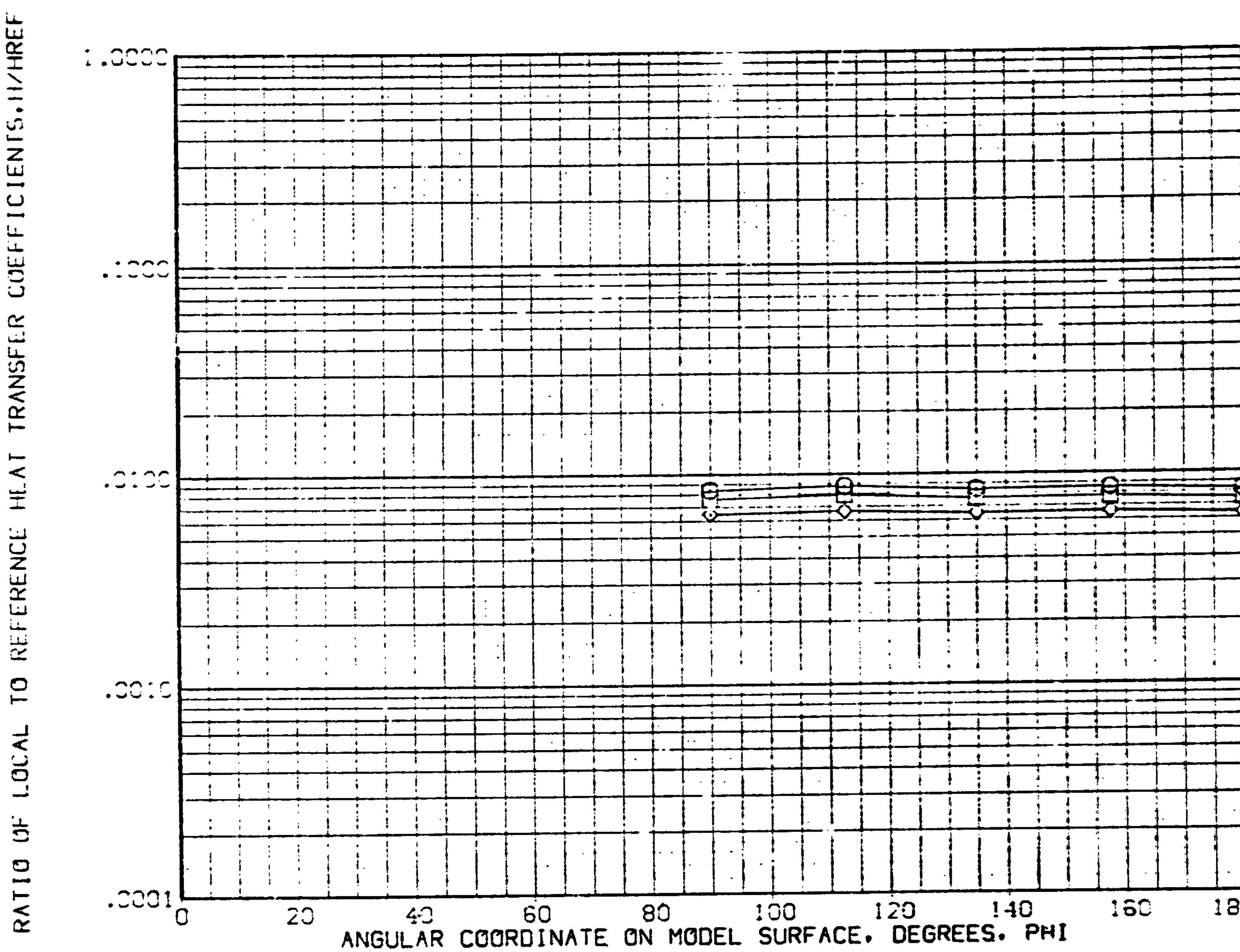

FIG. 4 TANK, ALONE

AMES 3.5-195 IH28 TI EXTERNAL TANK (REVT13)

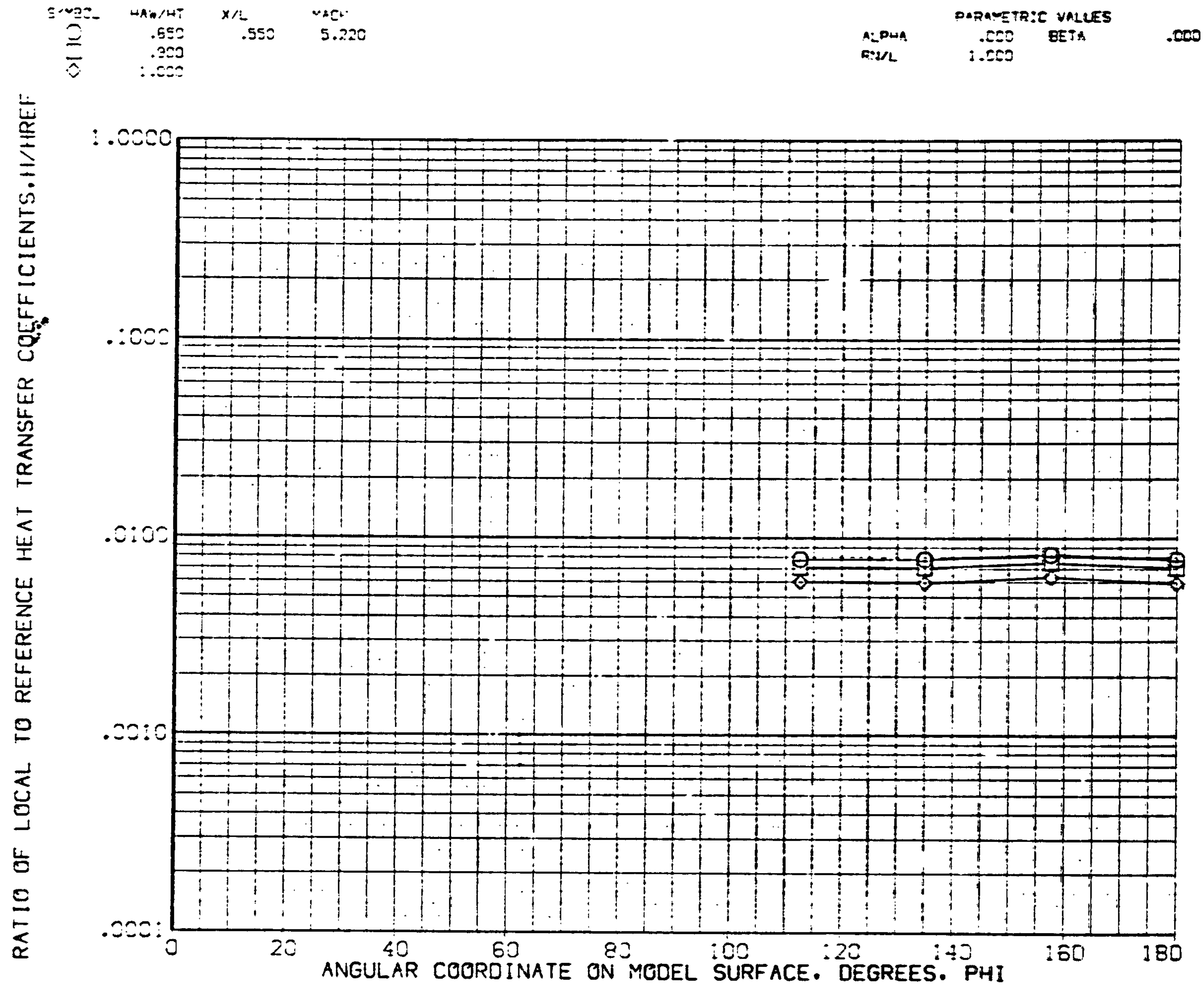

FIG. 4 TANK, ALONE

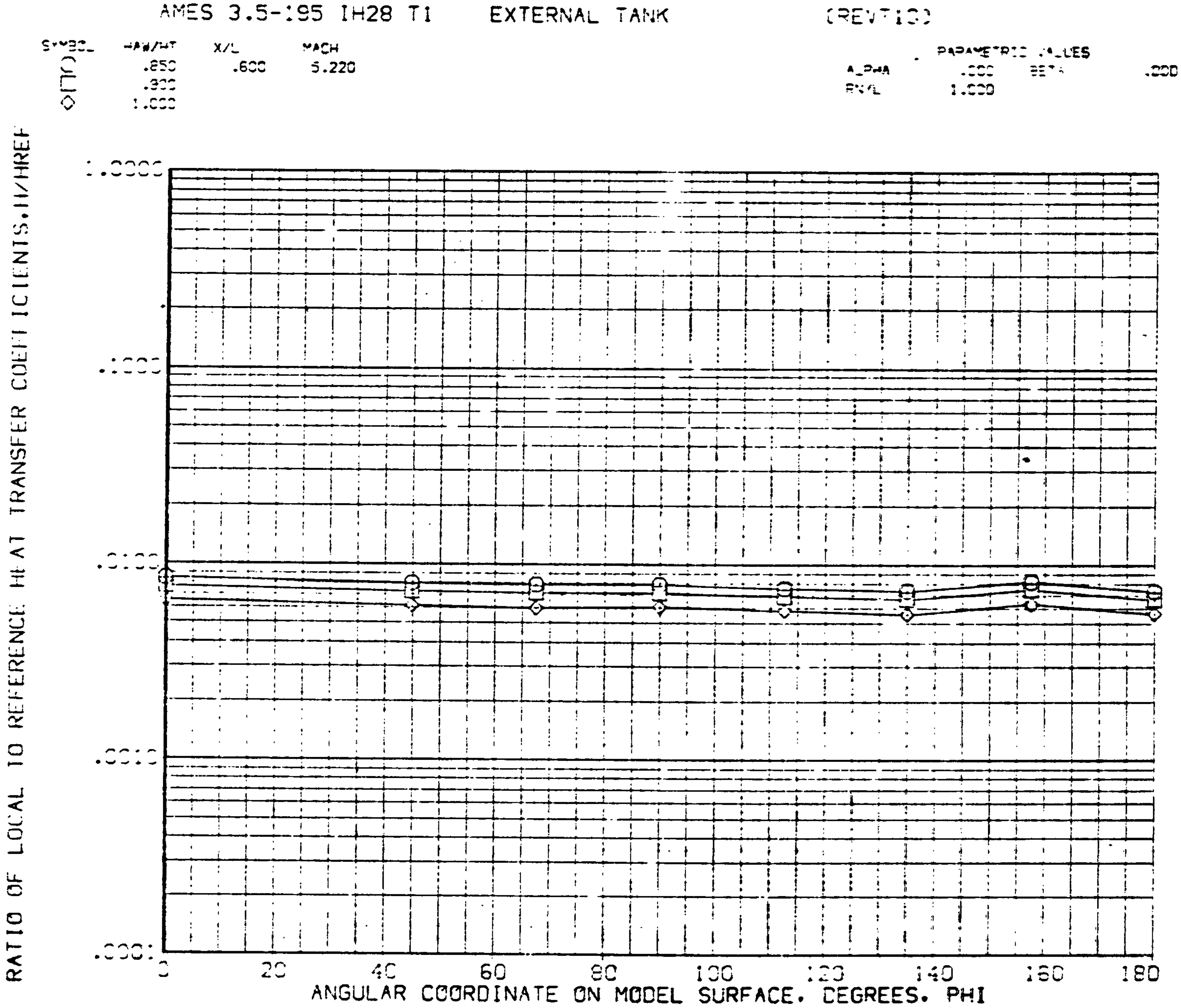

FIG. 4 TANK, ALONE

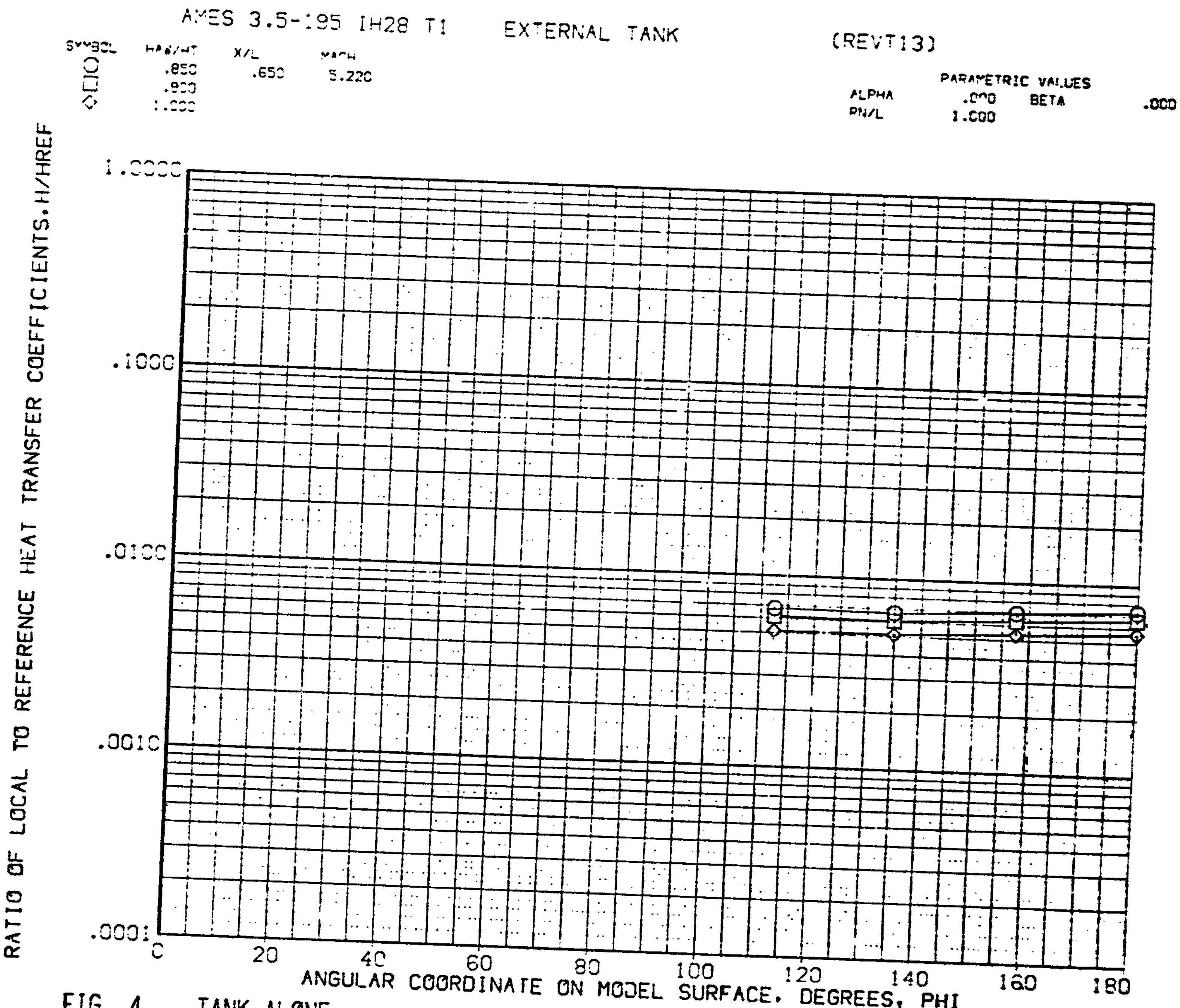

FIG. 4 TANK,ALONE

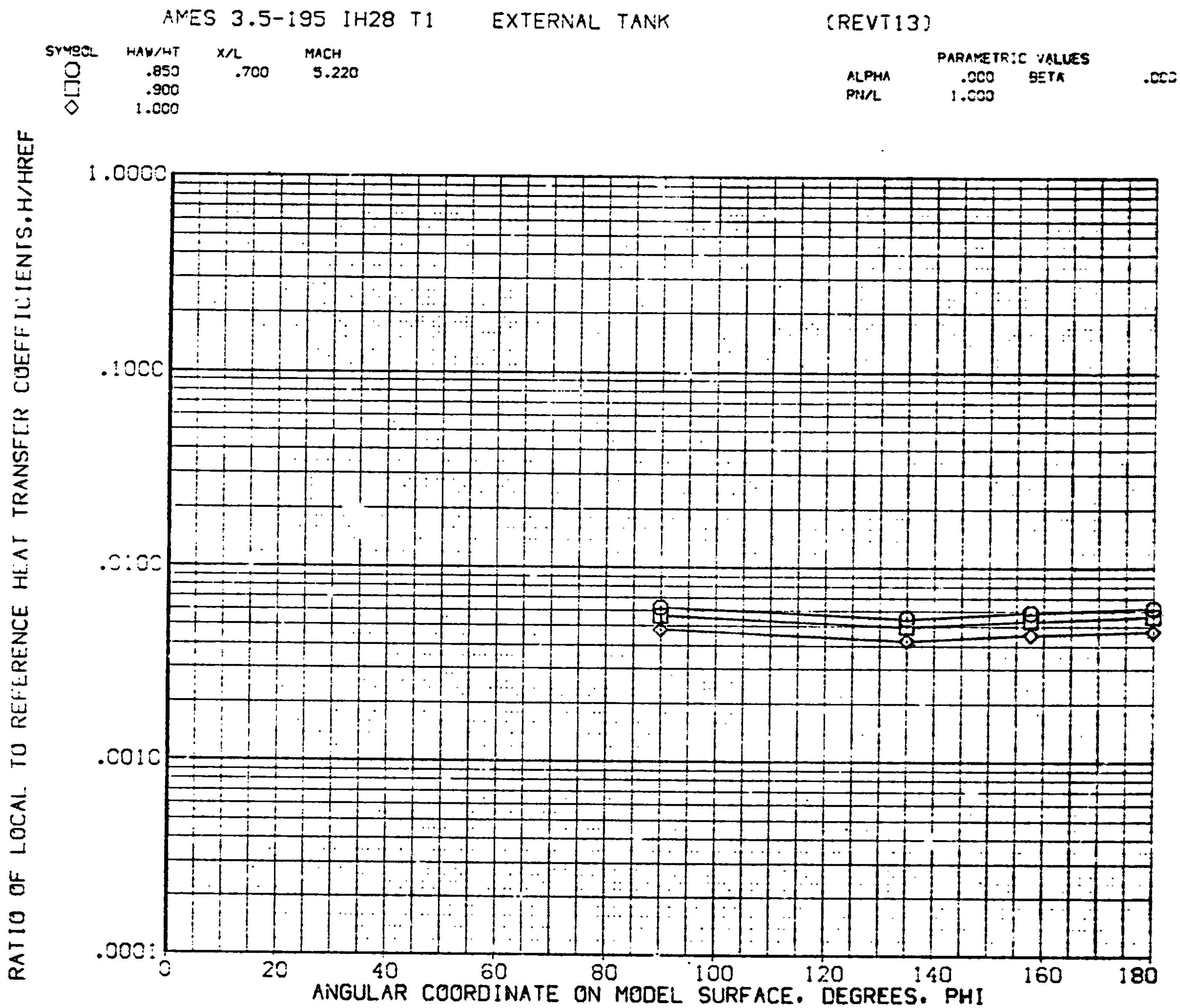

FIG. 4 TANK, ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT13)

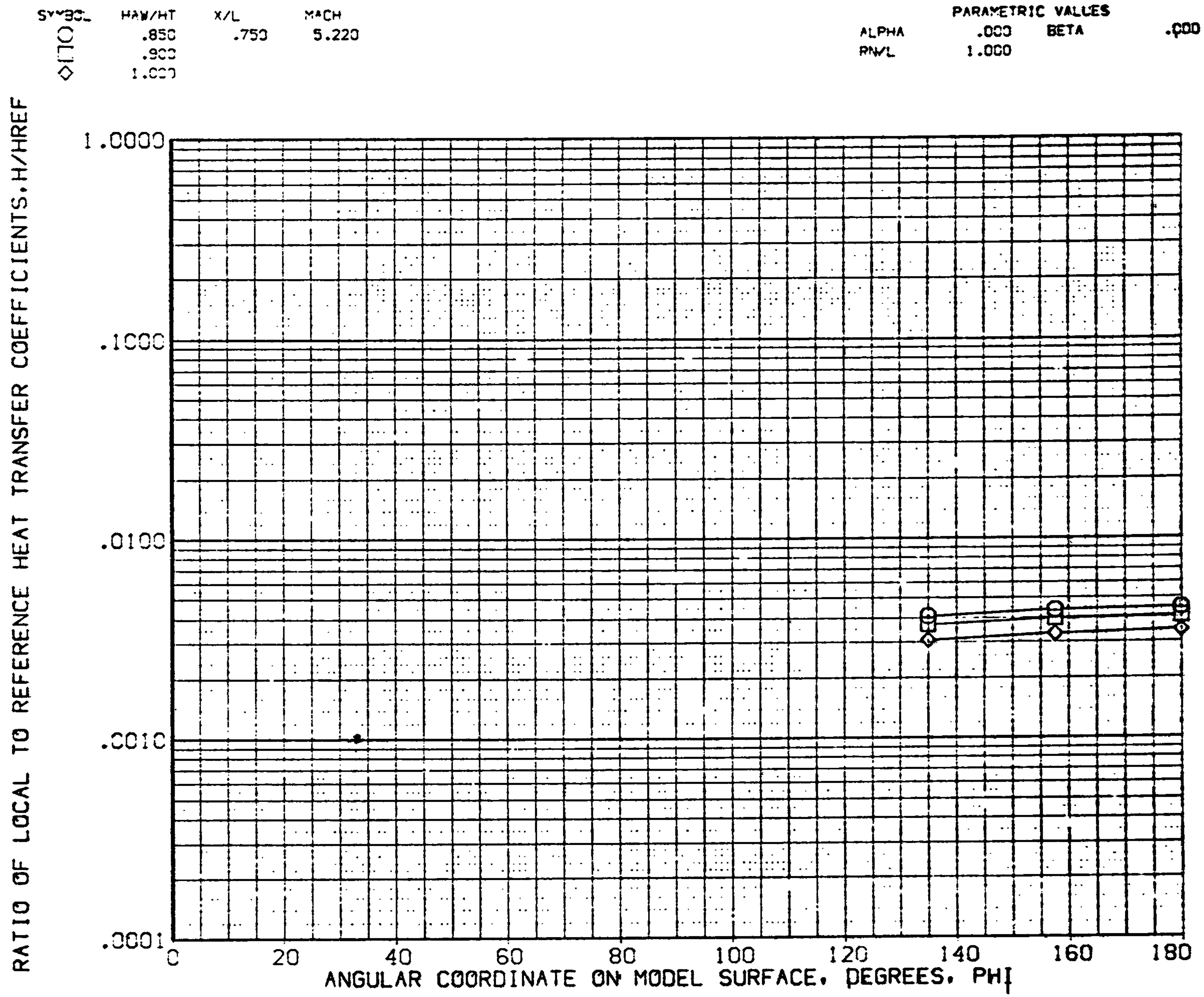

FIG. 4 TANK,ALONE

AMES 3.5-195 IH28 T1   EXTERNAL TANK   (REVT13)

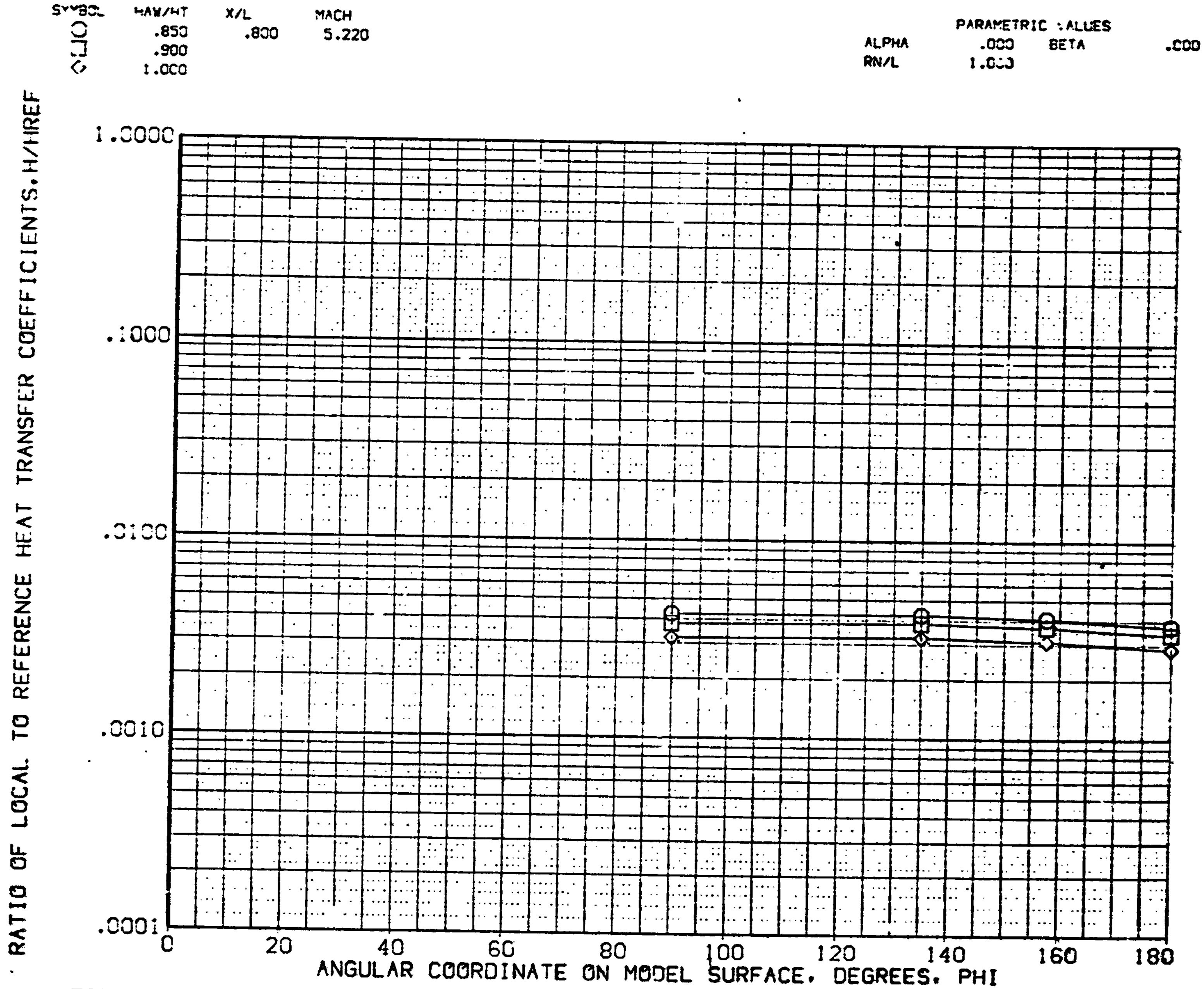

FIG. 4   TANK,ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT13)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.850	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA .000 BETA .000
RN/L 1.000

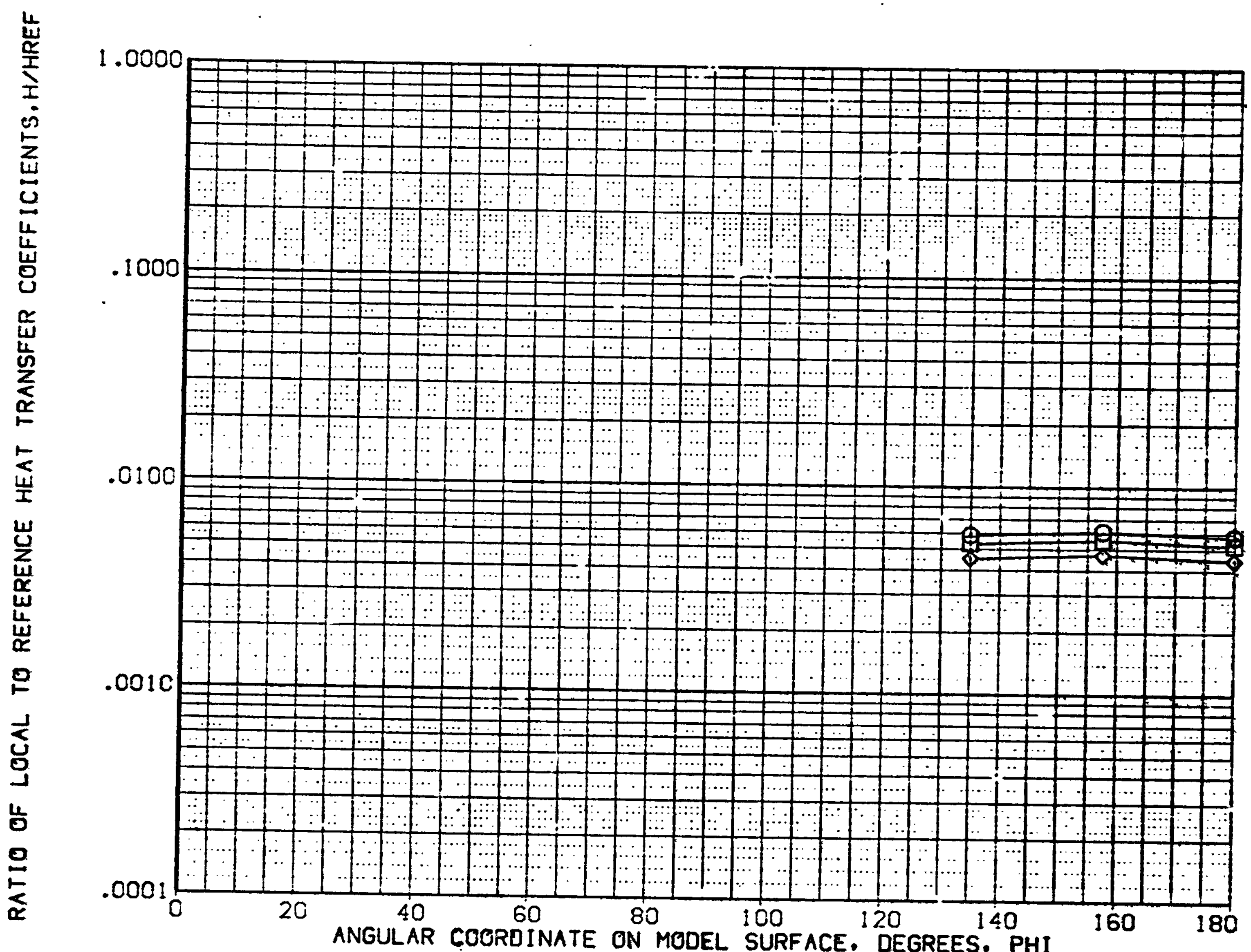

FIG. 4 TANK,ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT13)

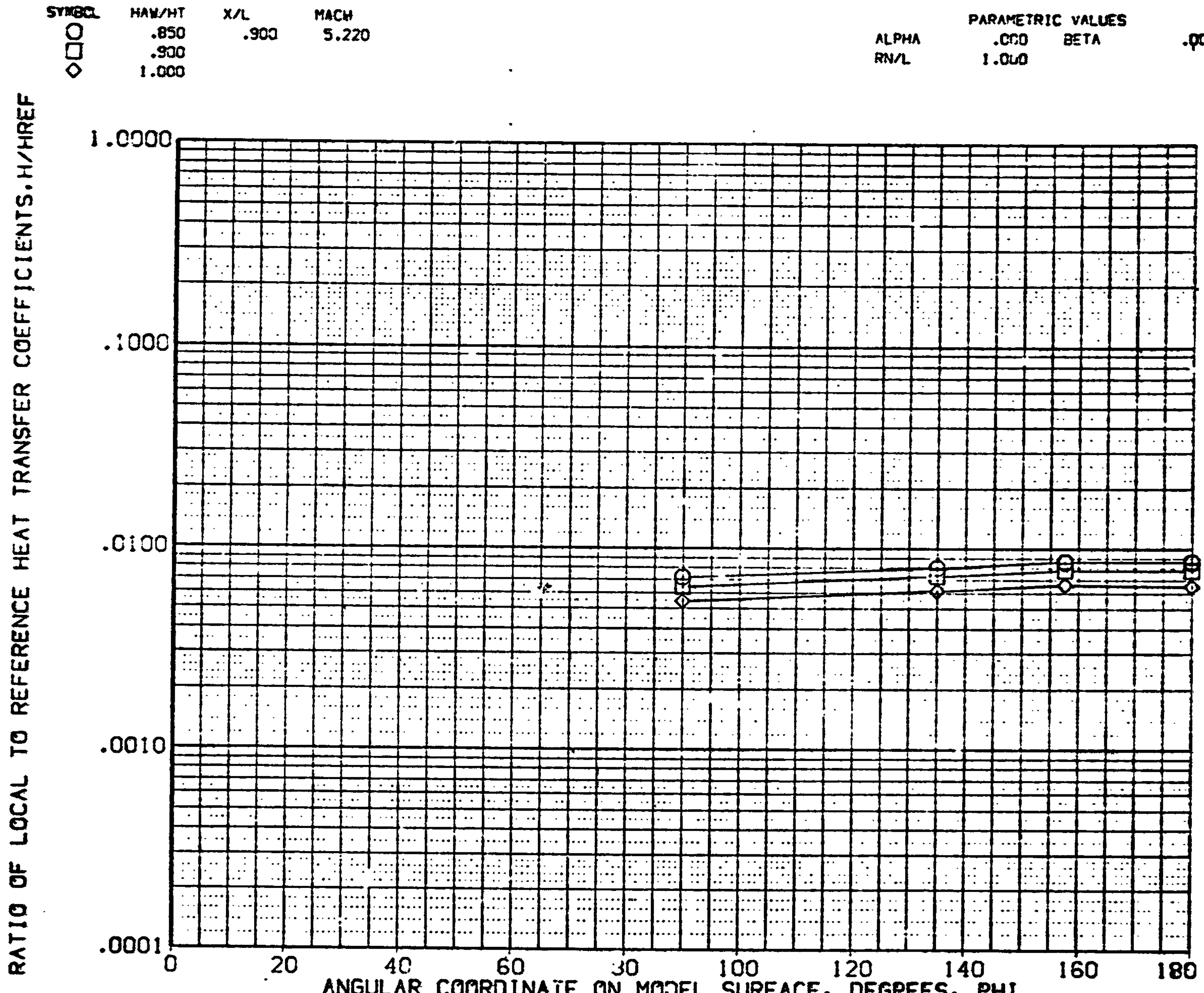

FIG. 4 TANK, ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT14)

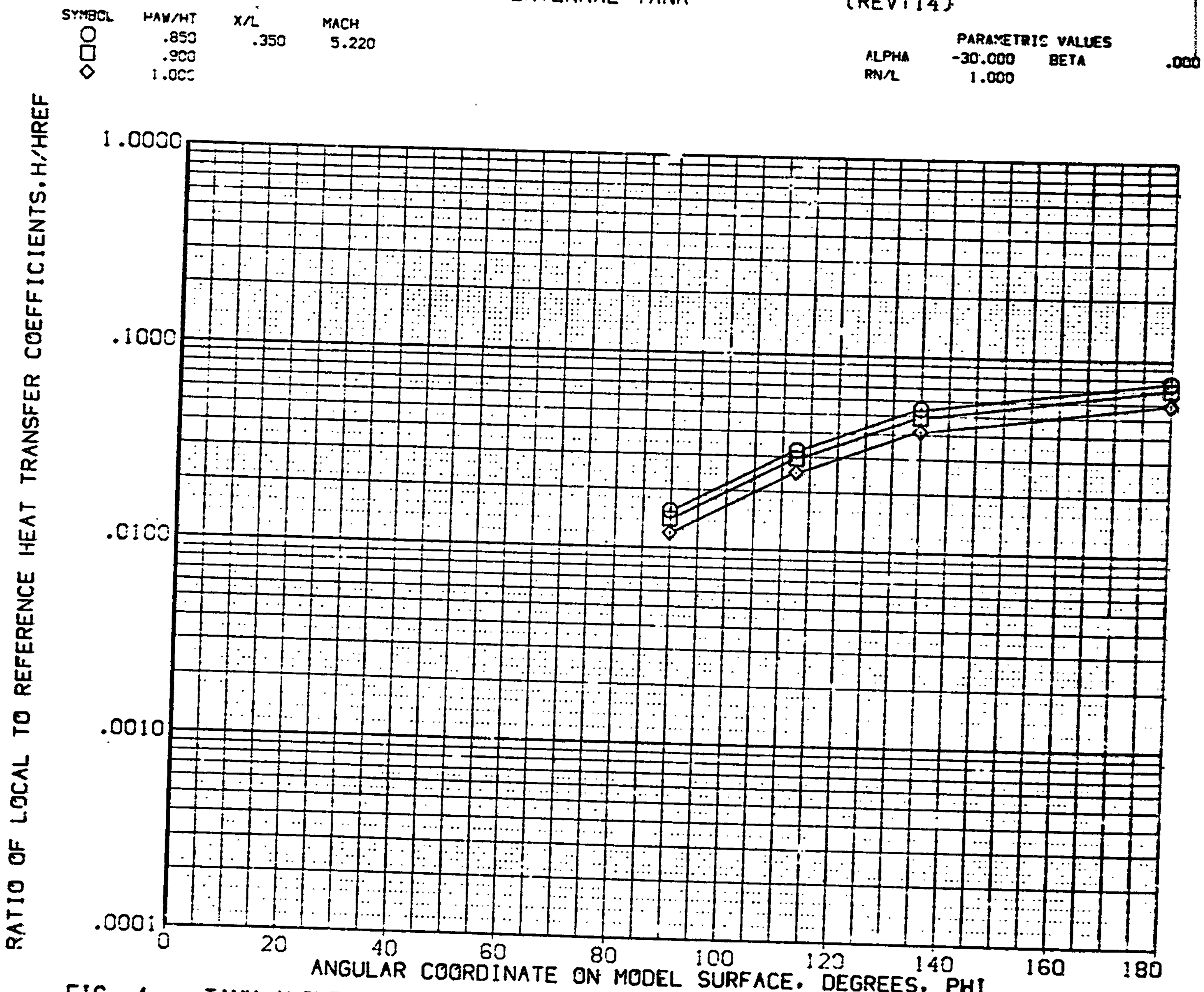

FIG. 4 TANK, ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT14)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.400	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA -30.000 BETA .000

RN/L 1.000

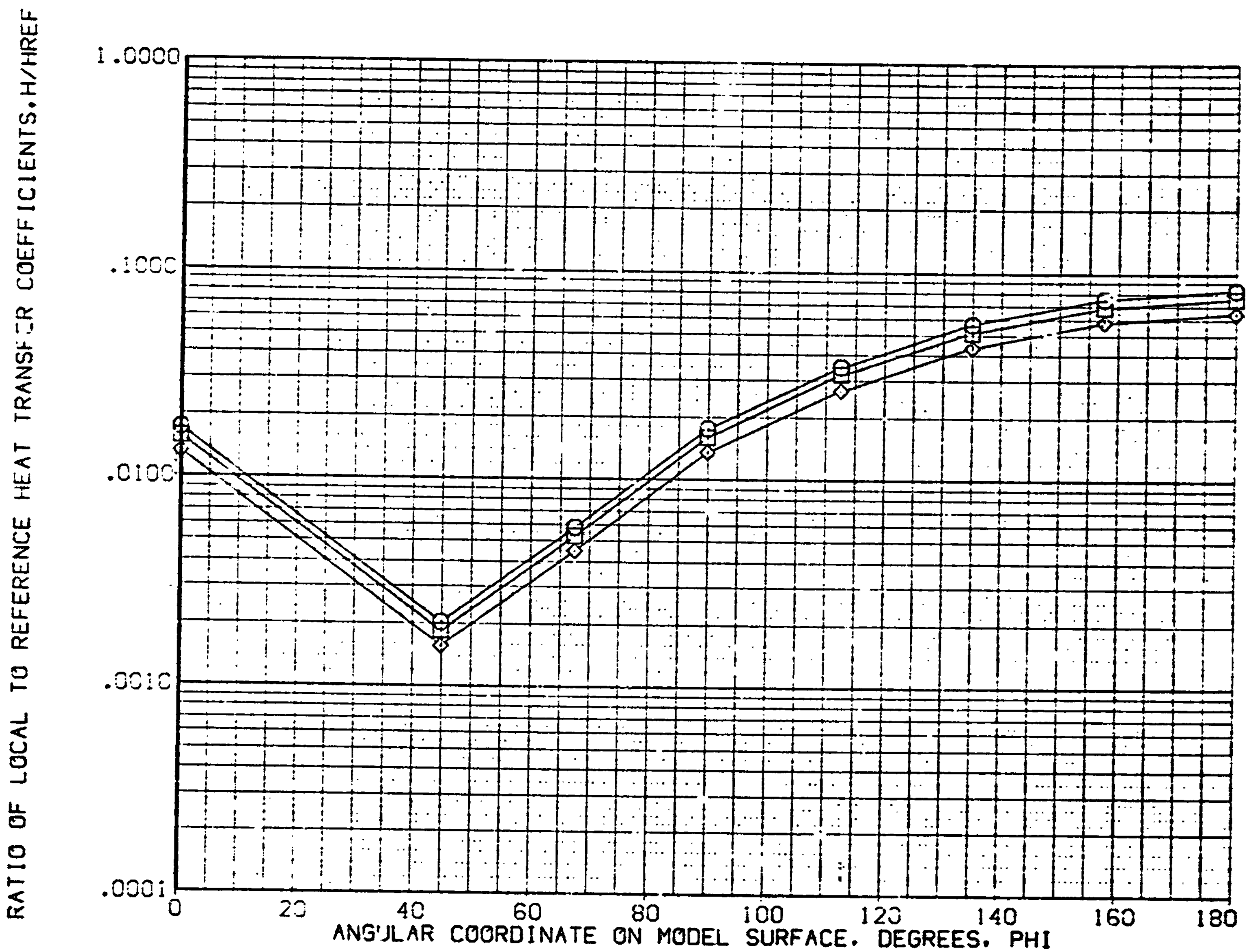

FIG. 4 TANK, ALONE

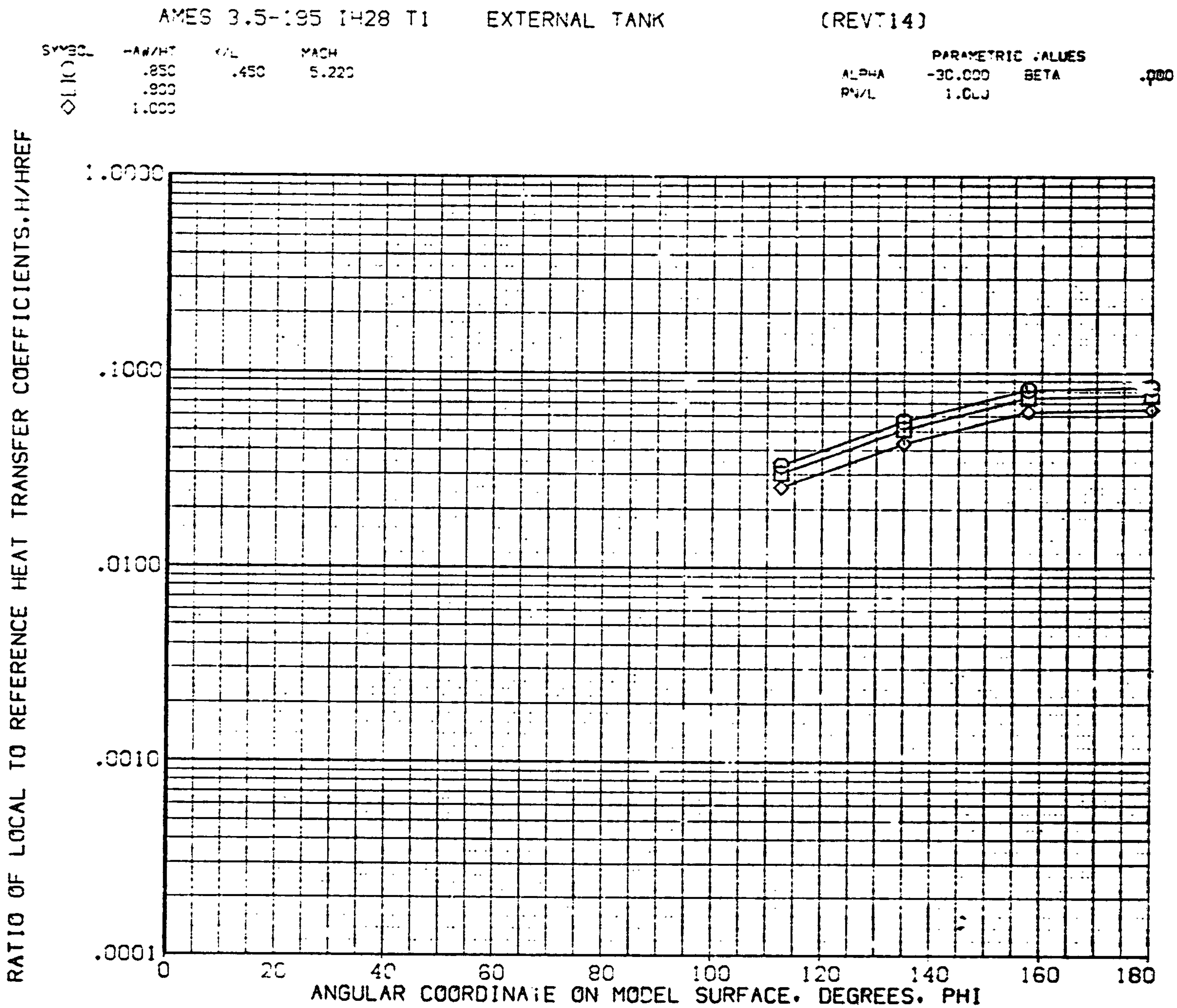

FIG. 4 TANK,ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT14)

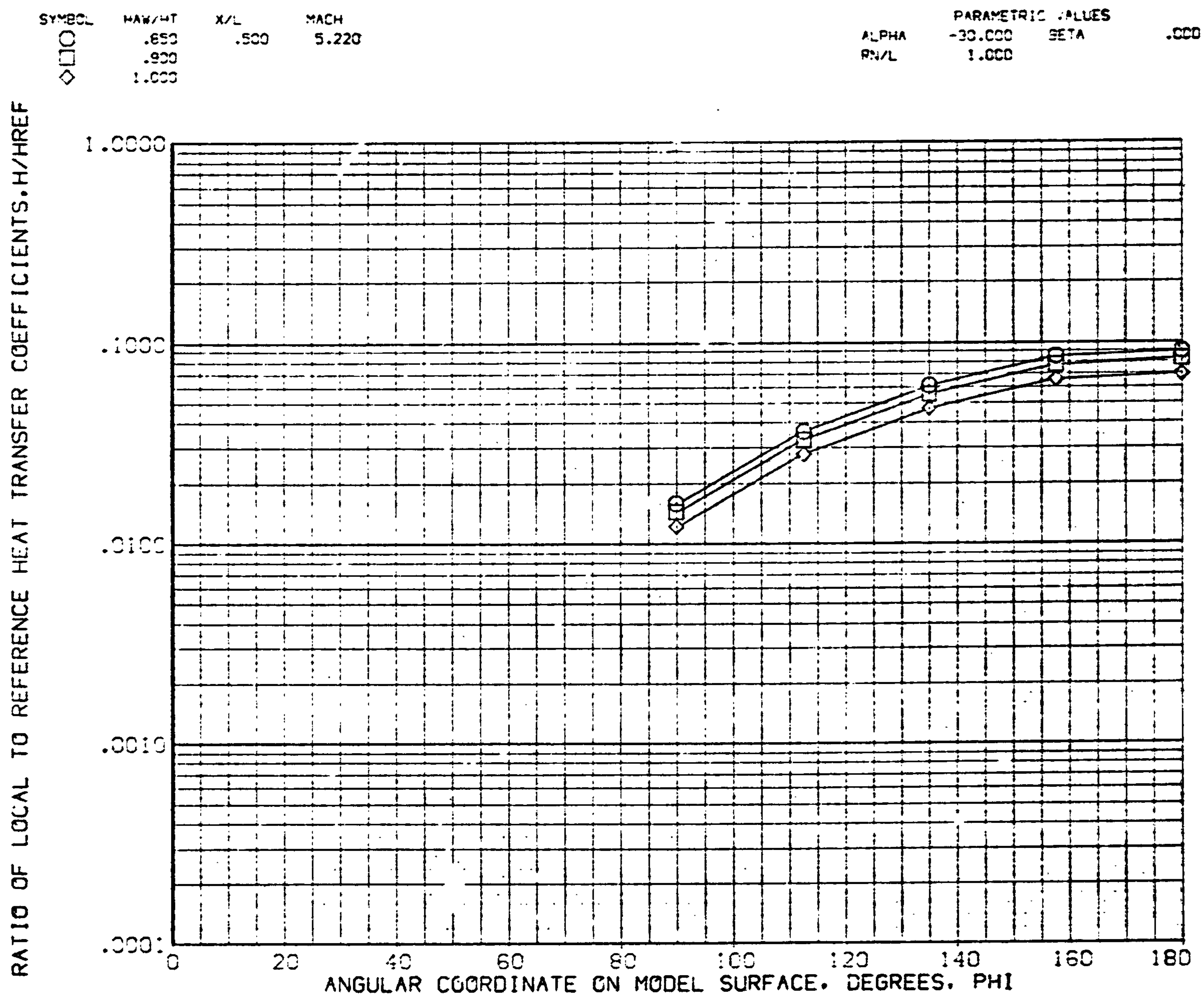

FIG. 4 TANK,ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT14)

SYMBOL	HA#/HT	X/L	MACH
○	.950	.550	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA -30.000 BETA .000

PHI/L 1.000

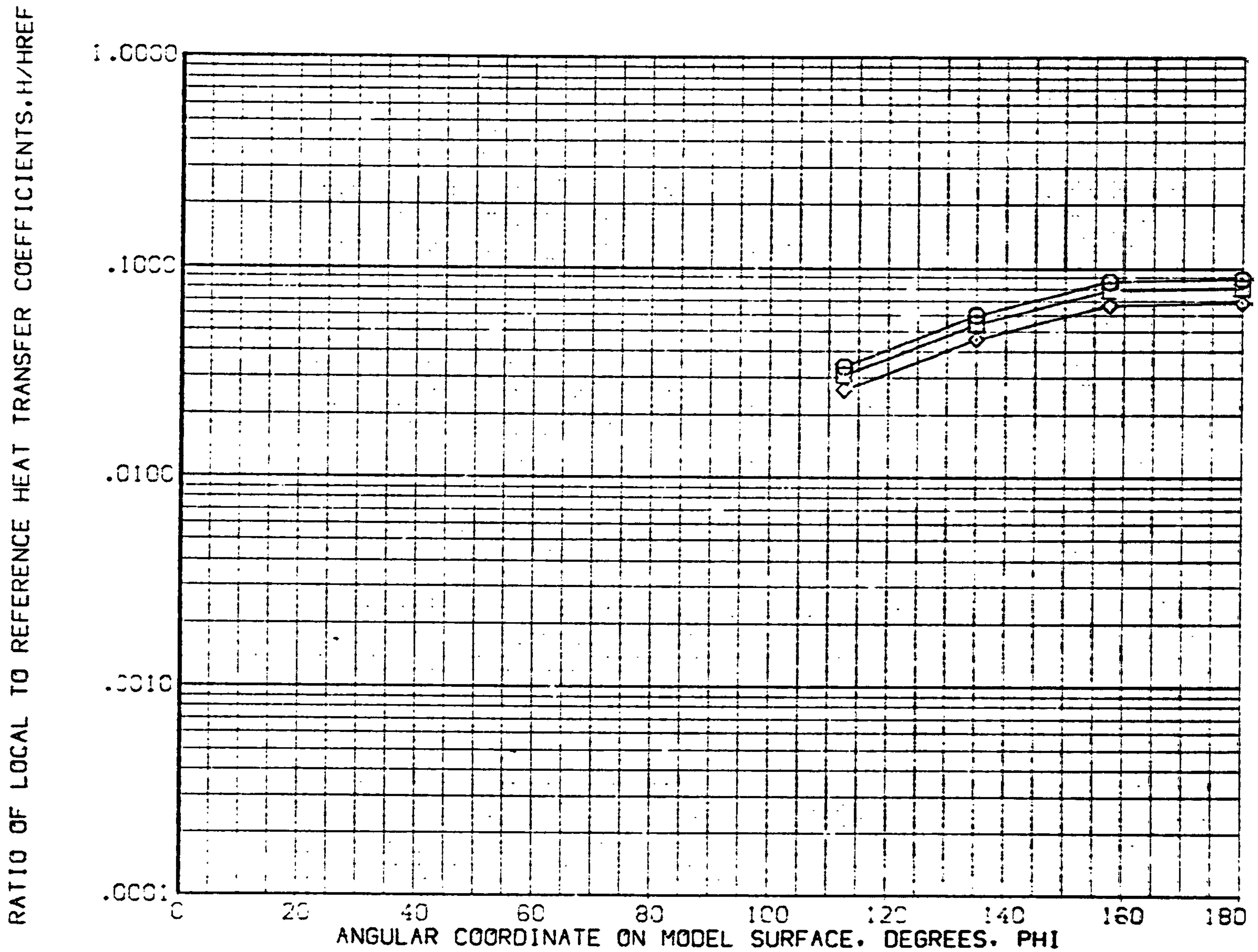

FIG. 4 TANK,ALONE

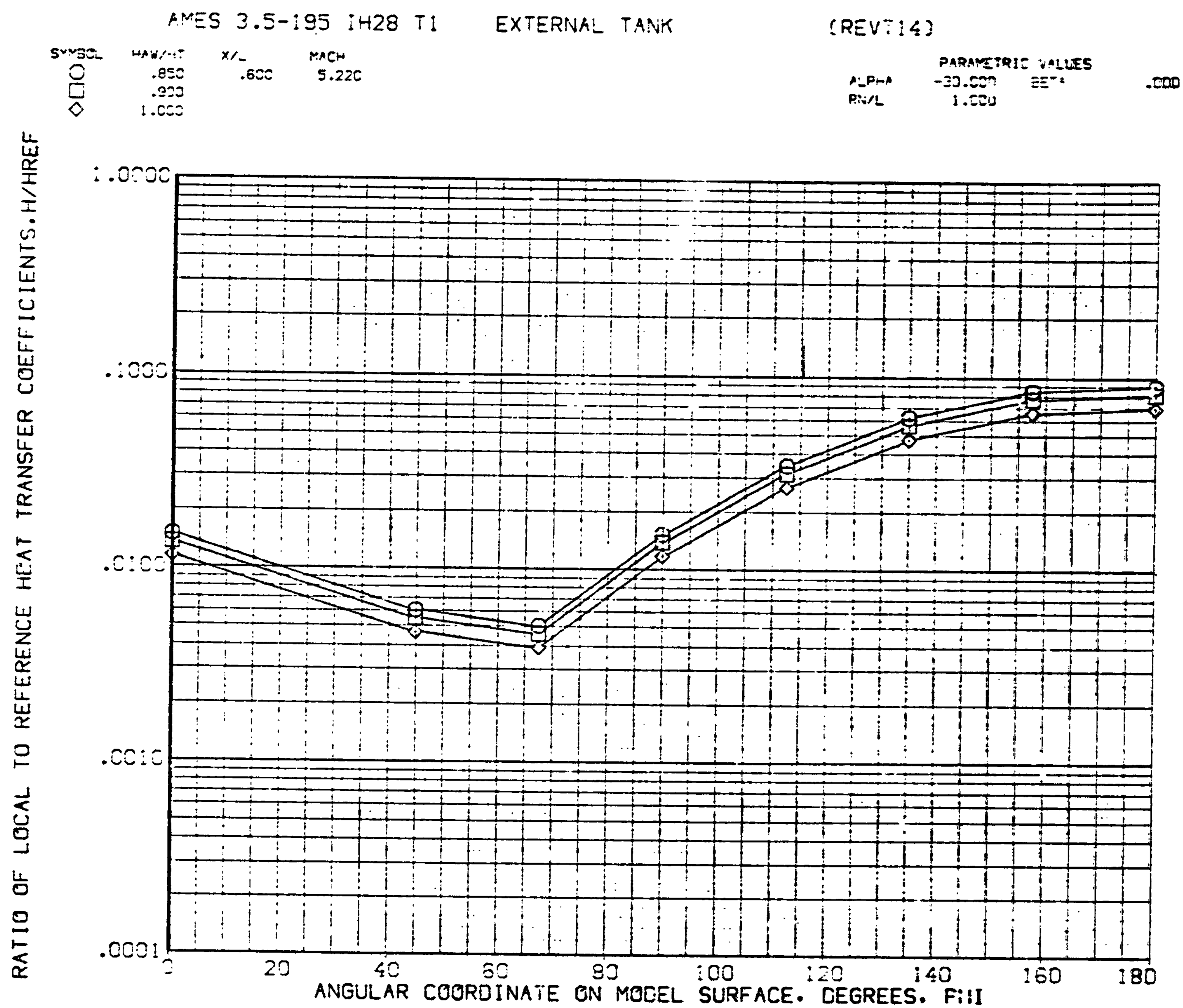

FIG. 4 TANK,ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT14)

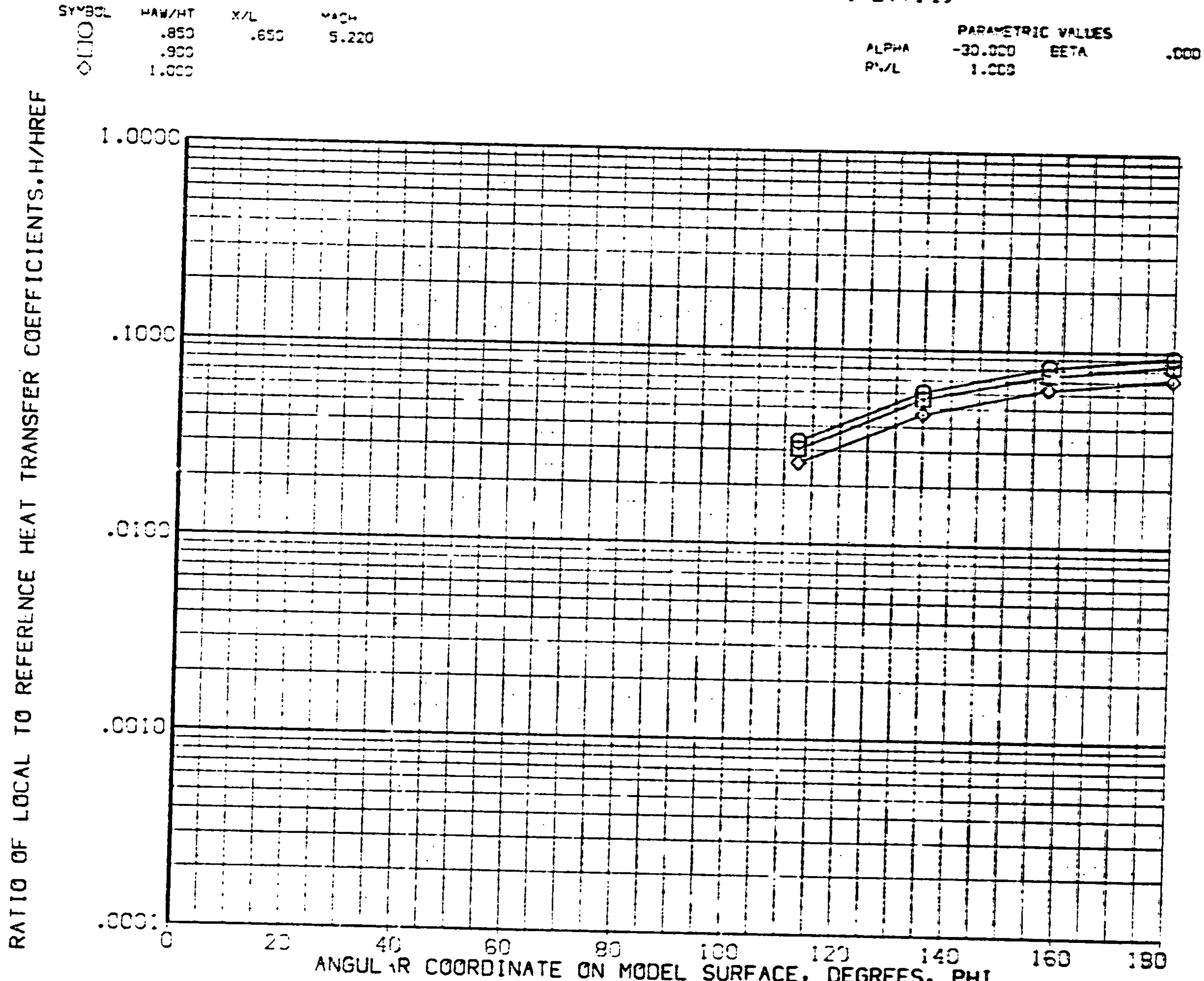

FIG. 4 TANK, ALONE

AMES 3.5-195 IH28 TI EXTERNAL TANK (REVT14)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.700	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA -30.000 BETA .000

PHIL 1.000

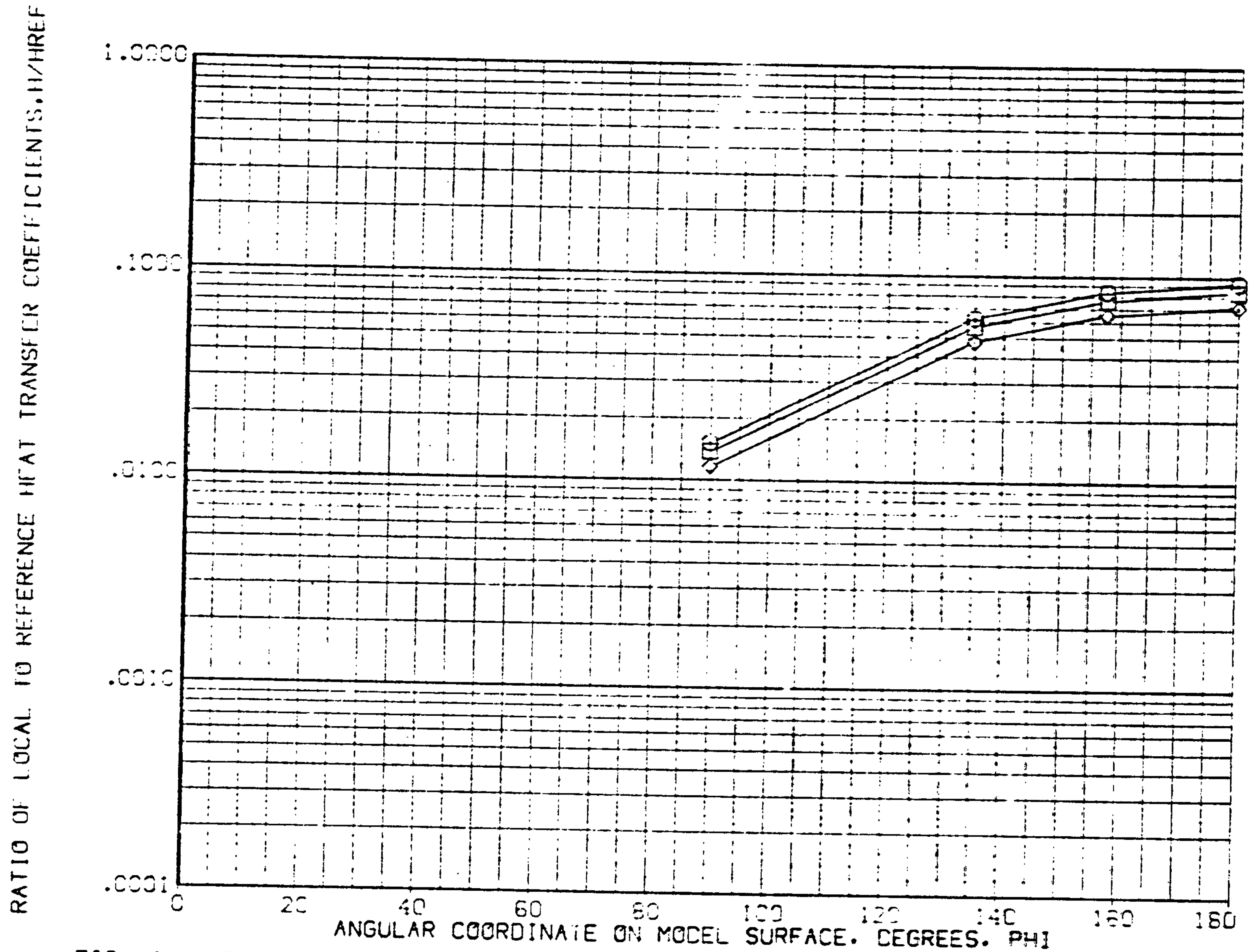

FIG. 4 TANK, ALONE

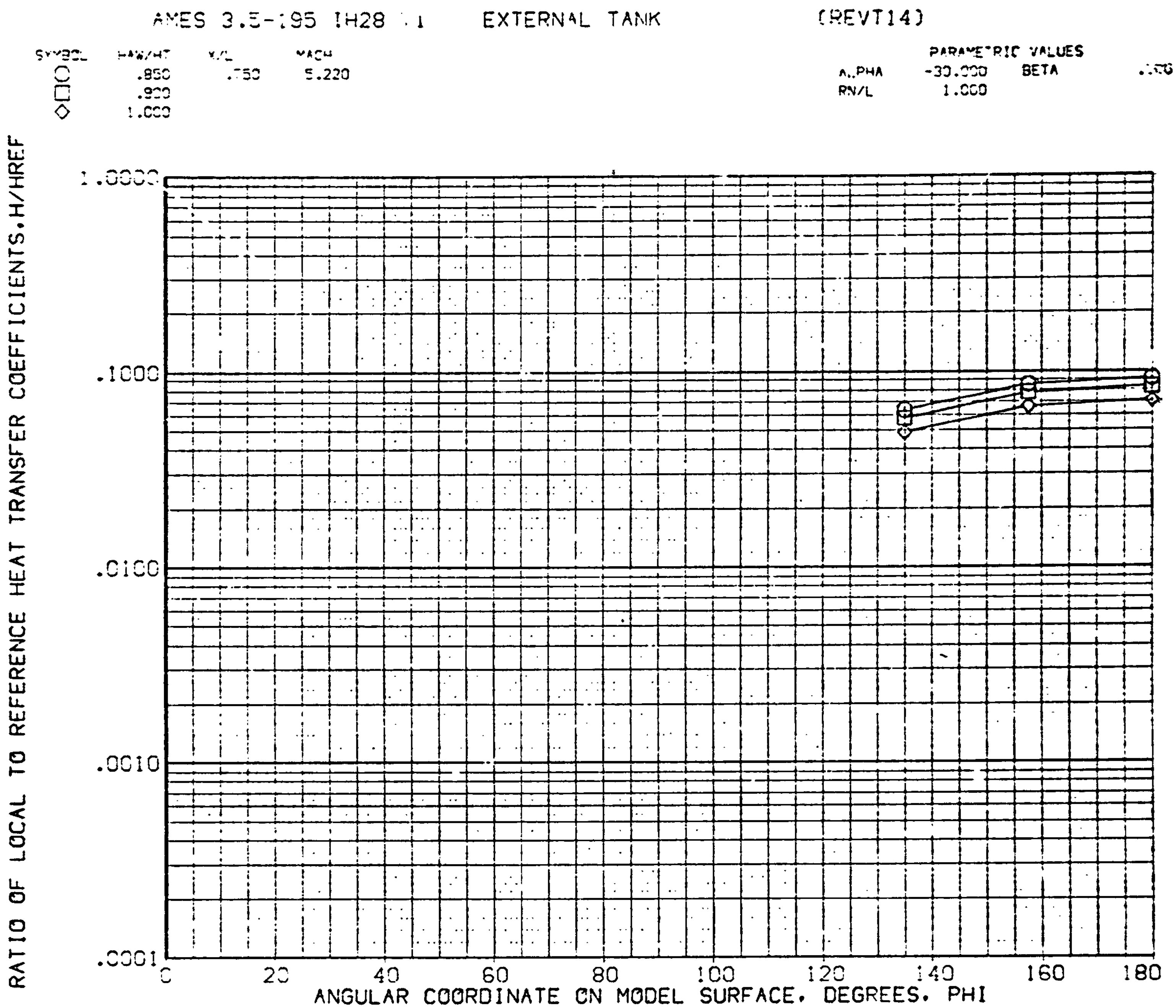

FIG. 4 TANK, ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT14)

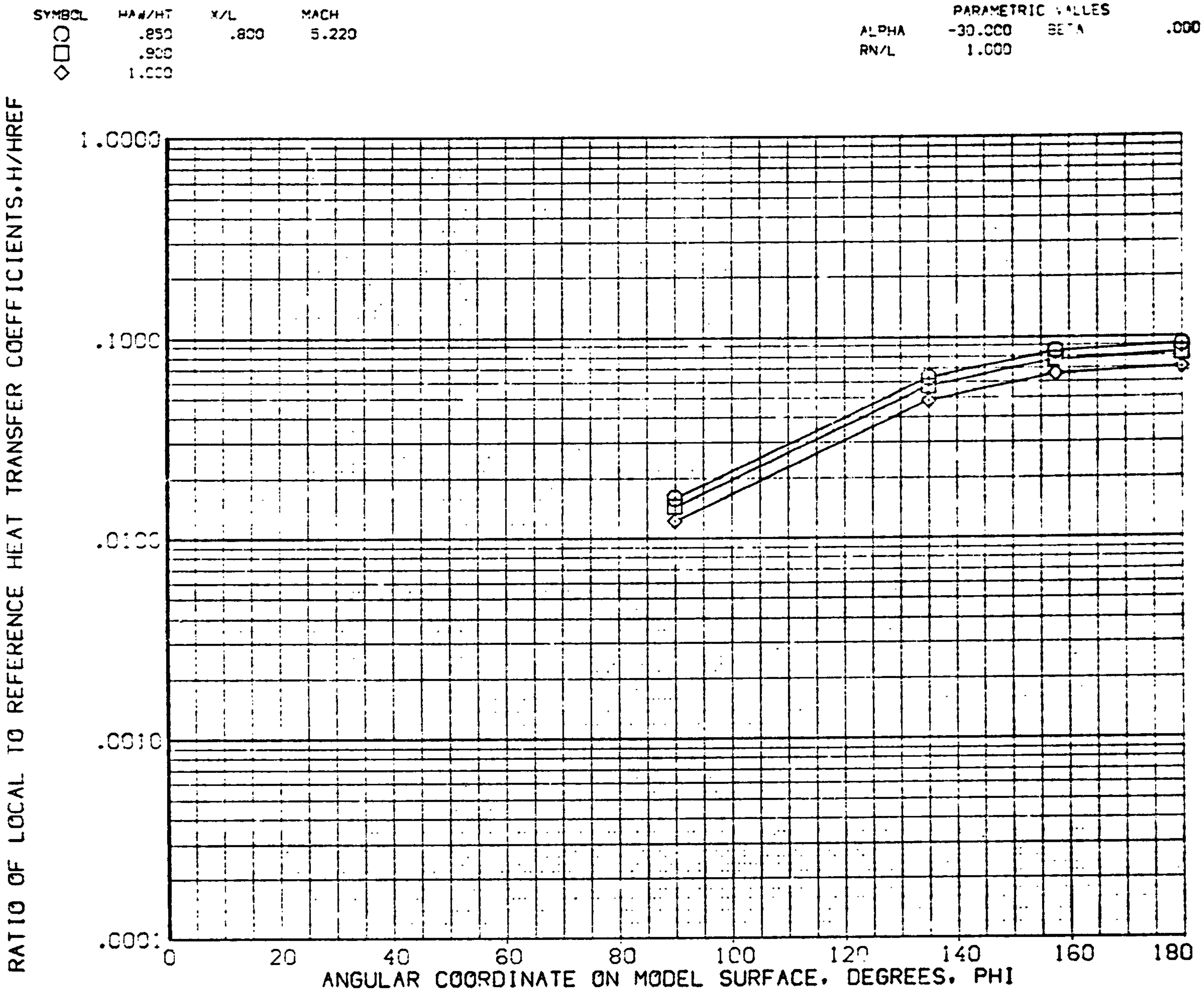

FIG. 4 TANK, ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT14)

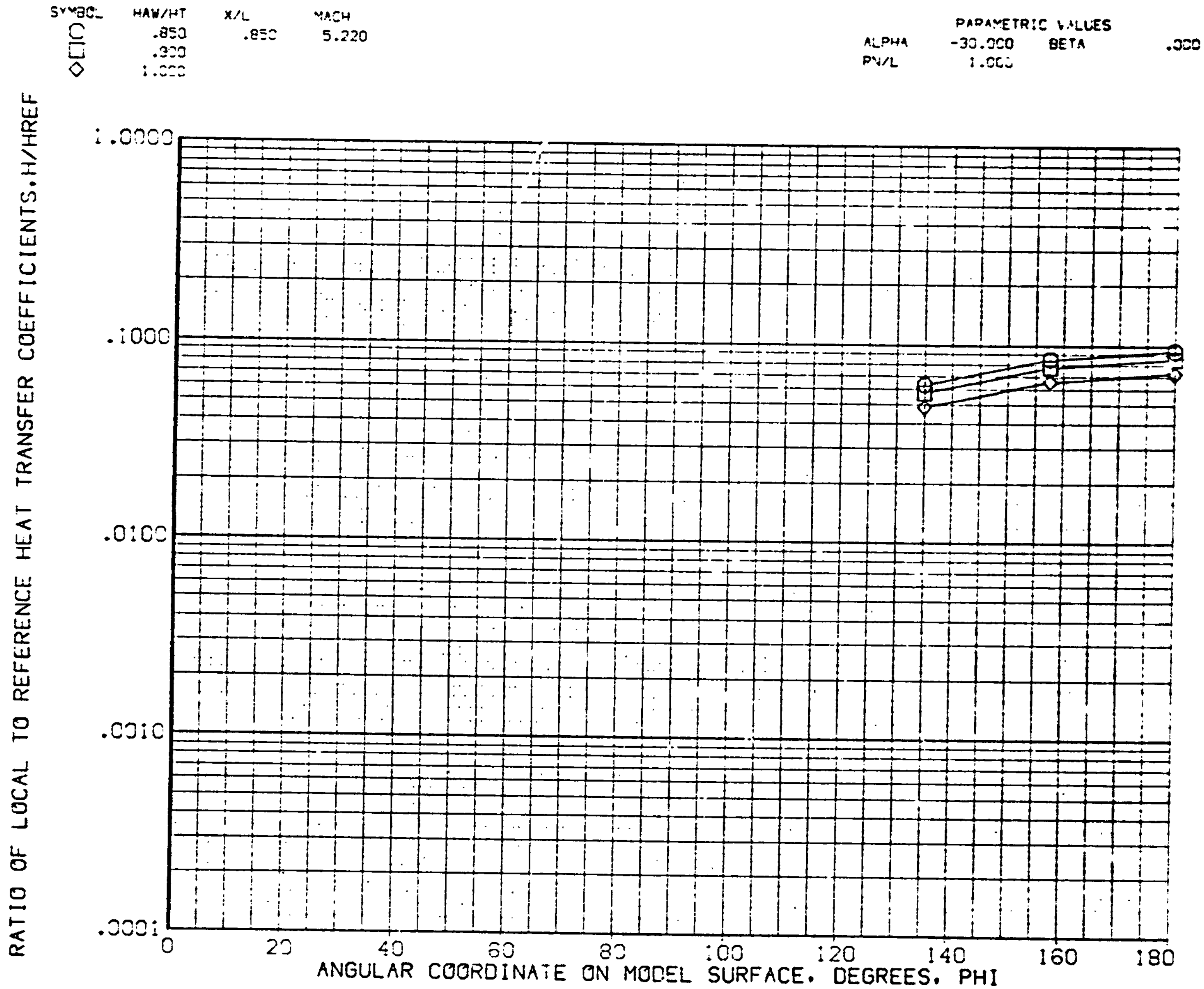

FIG. 4 TANK,ALONE

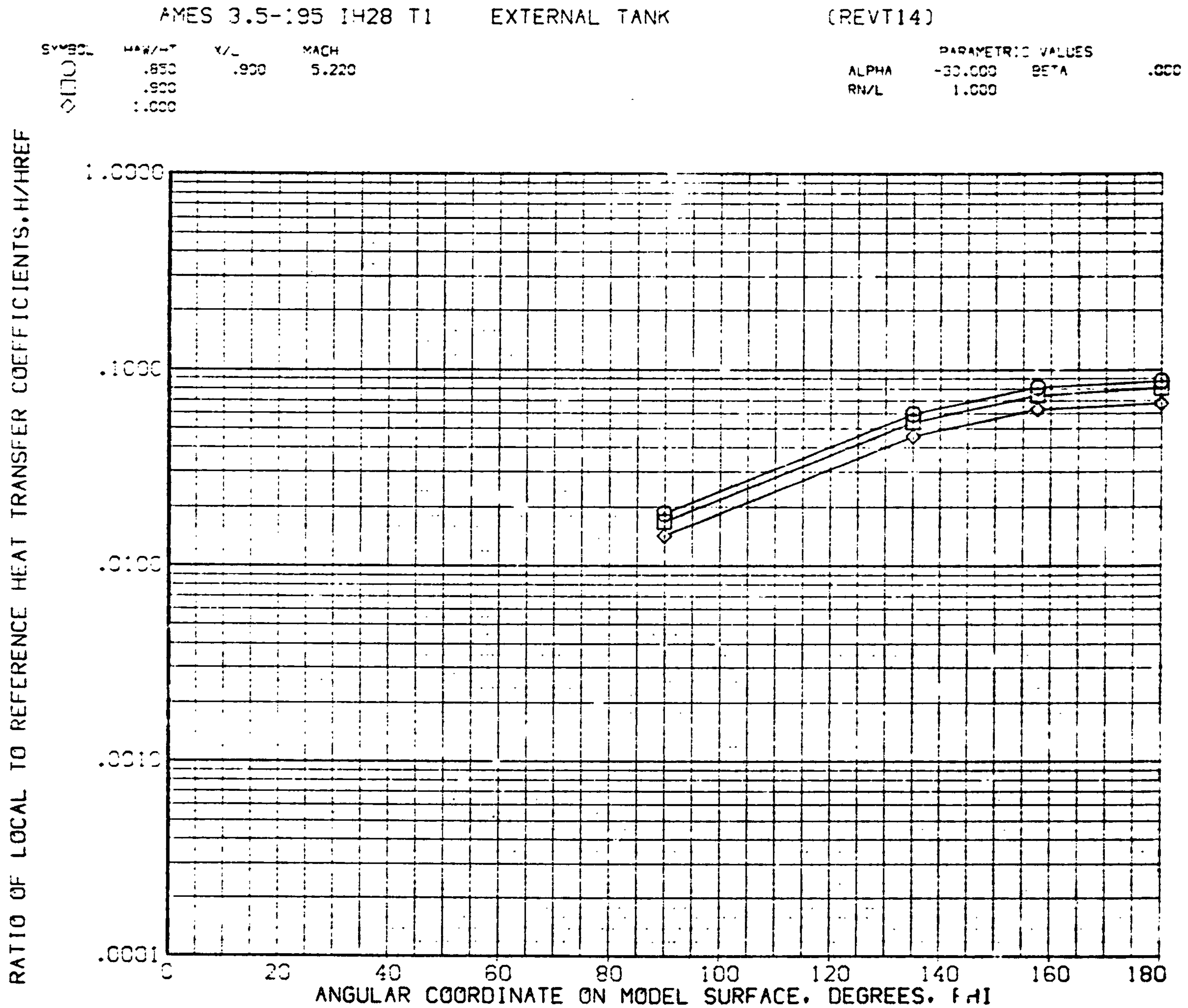

FIG. 4 TANK,ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT15)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.350	5.221
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA -60.000 BETA .000

RN/L 1.000

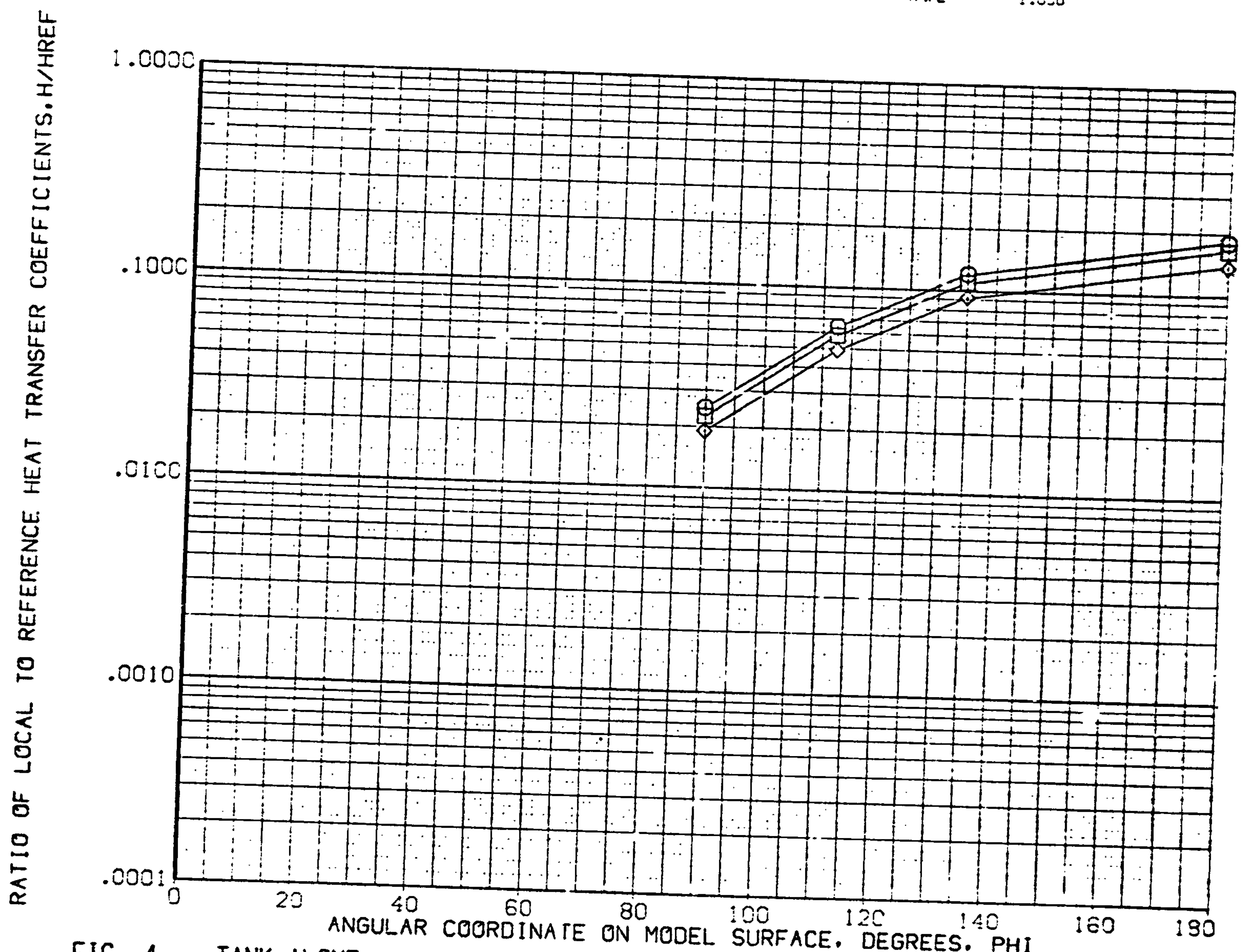

FIG. 4 TANK, ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT15)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.400	5.221
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA	-60.000	BETA	.000
RN/L	1.000		

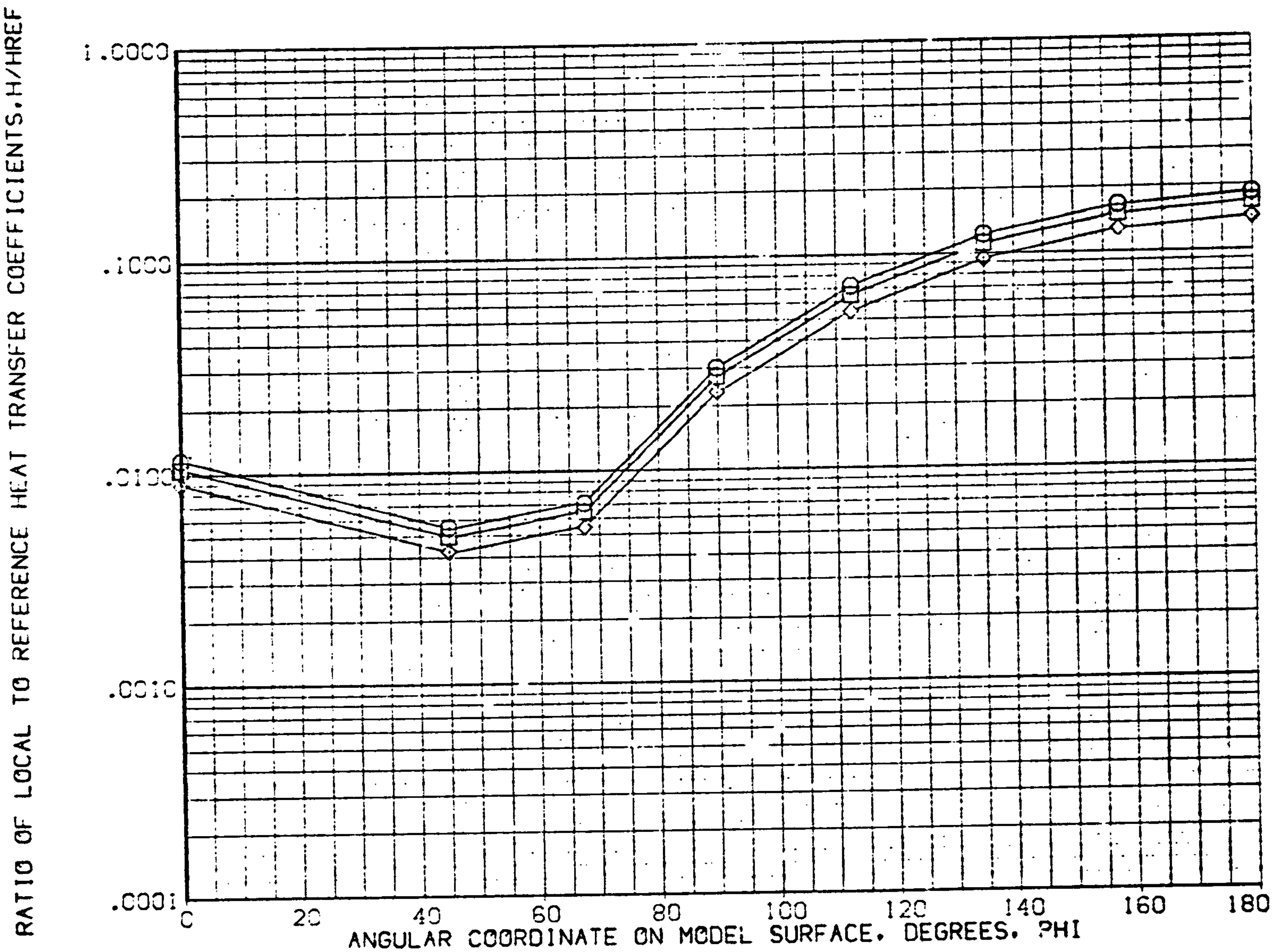

FIG. 4 TANK,ALONE

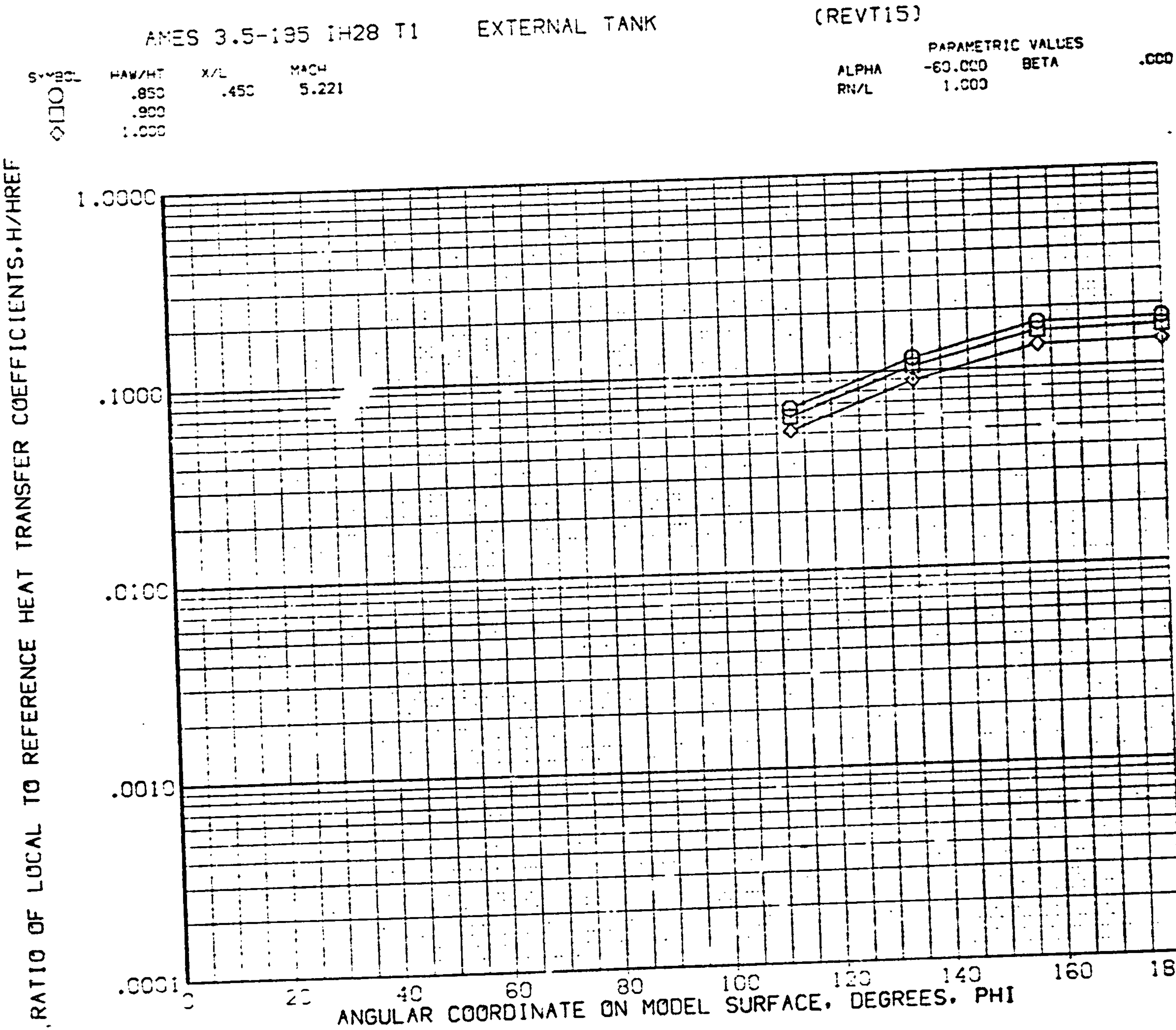

FIG. 4 TANK, ALONE

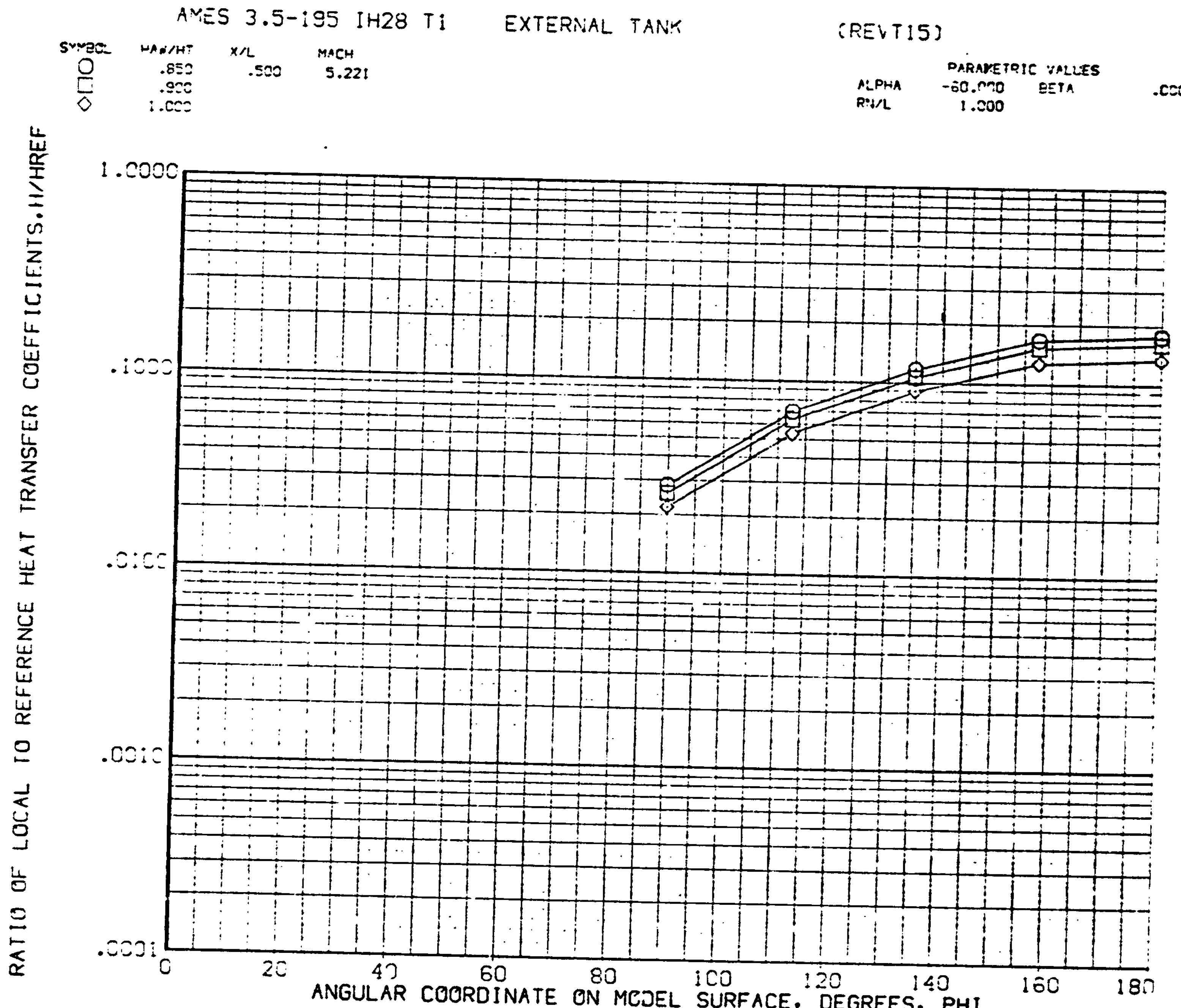

FIG. 4 TANK, ALONE

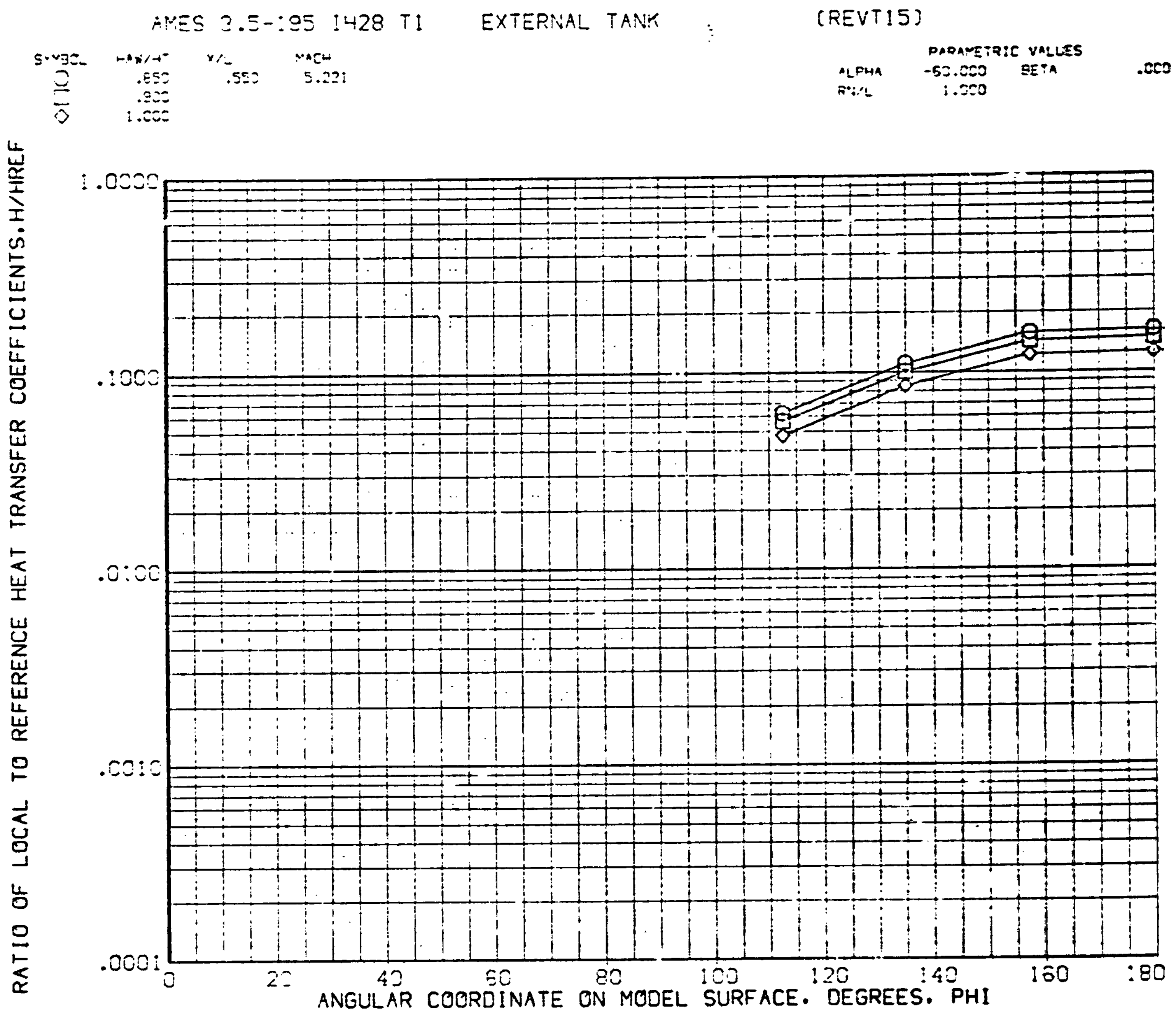

FIG. 4 TANK, ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT15)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.600	5.221
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA -60.000 BETA .000

RN/L 1.000

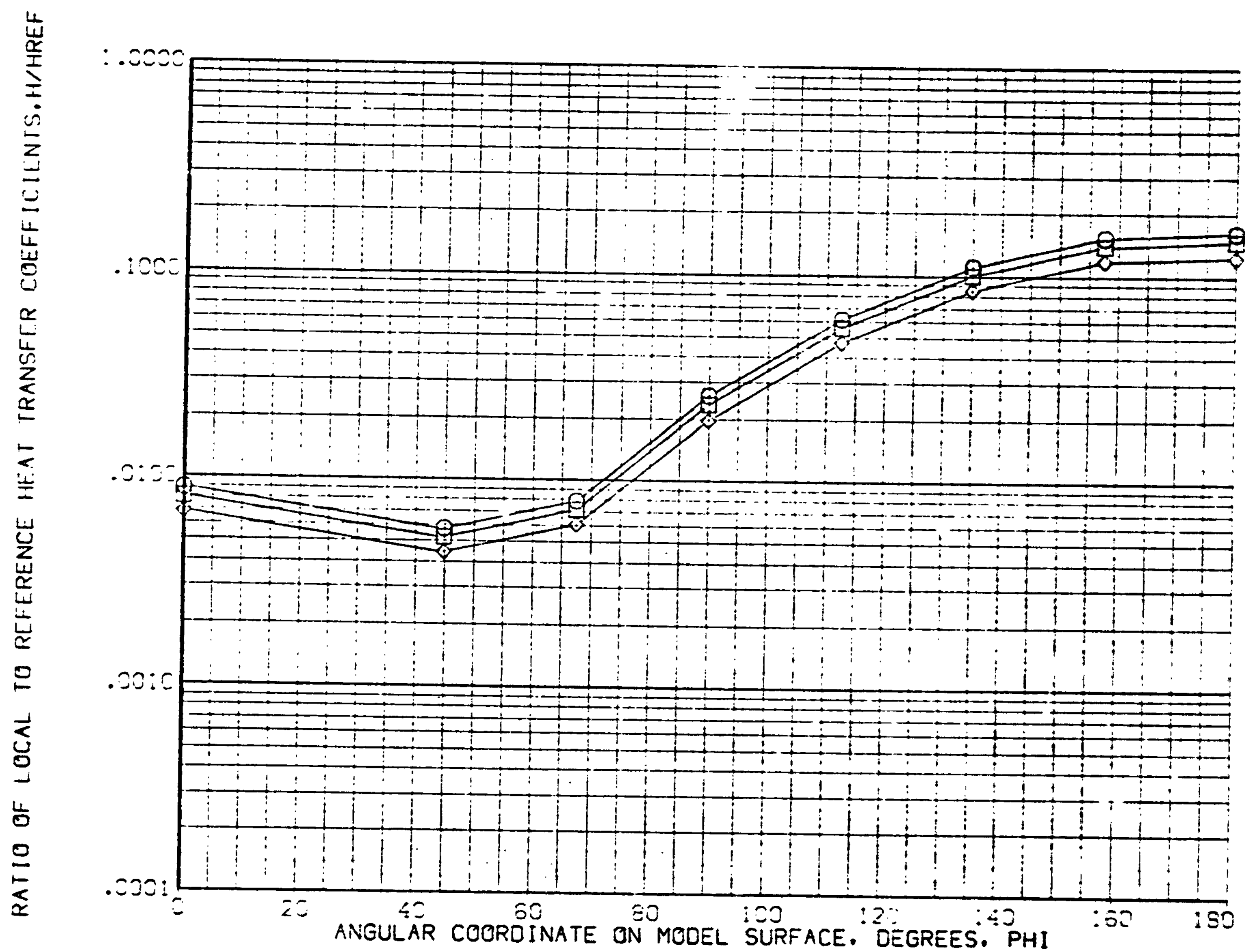

FIG. 4 TANK, ALONE

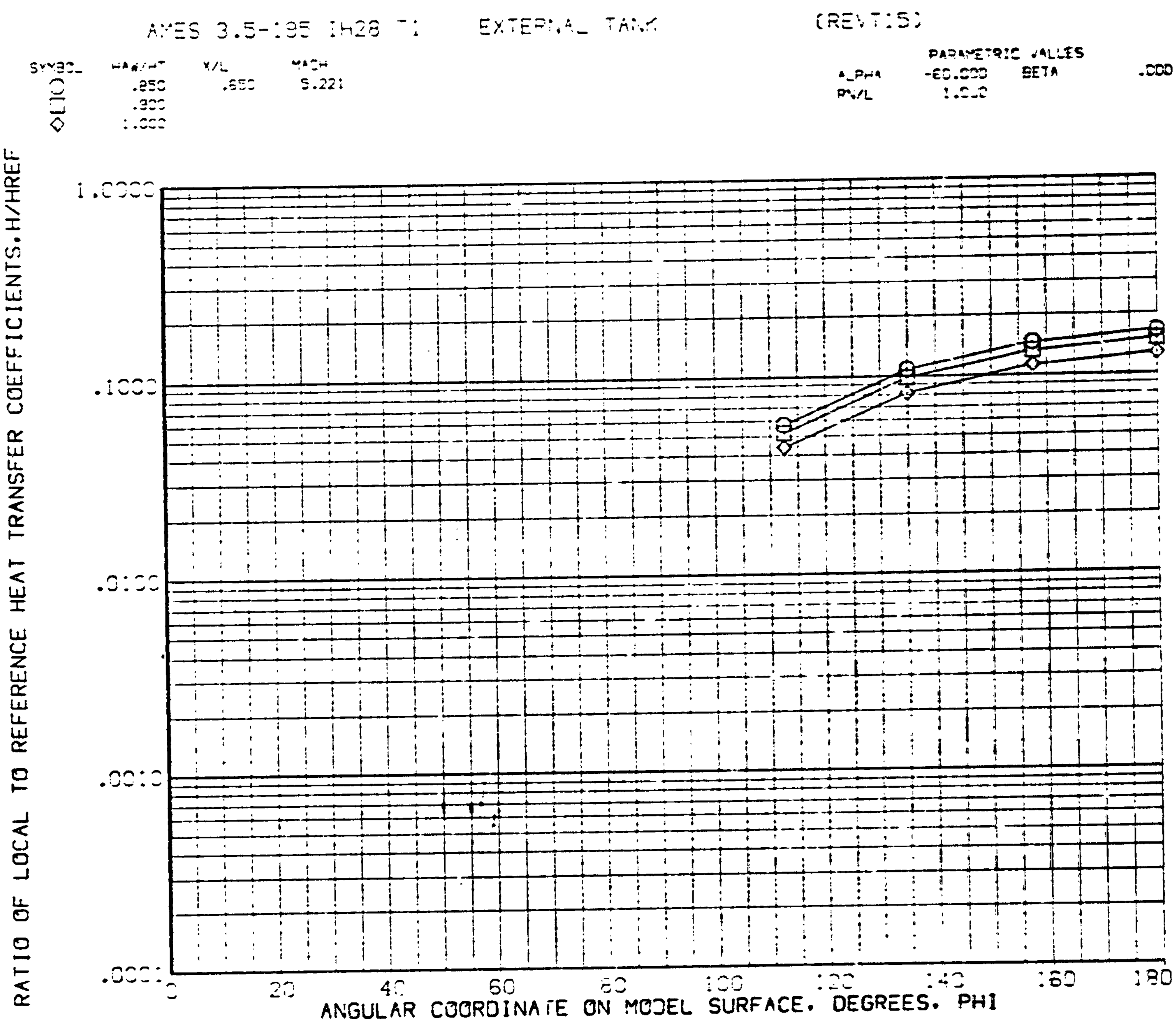

FIG. 4 TANK, ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT15)

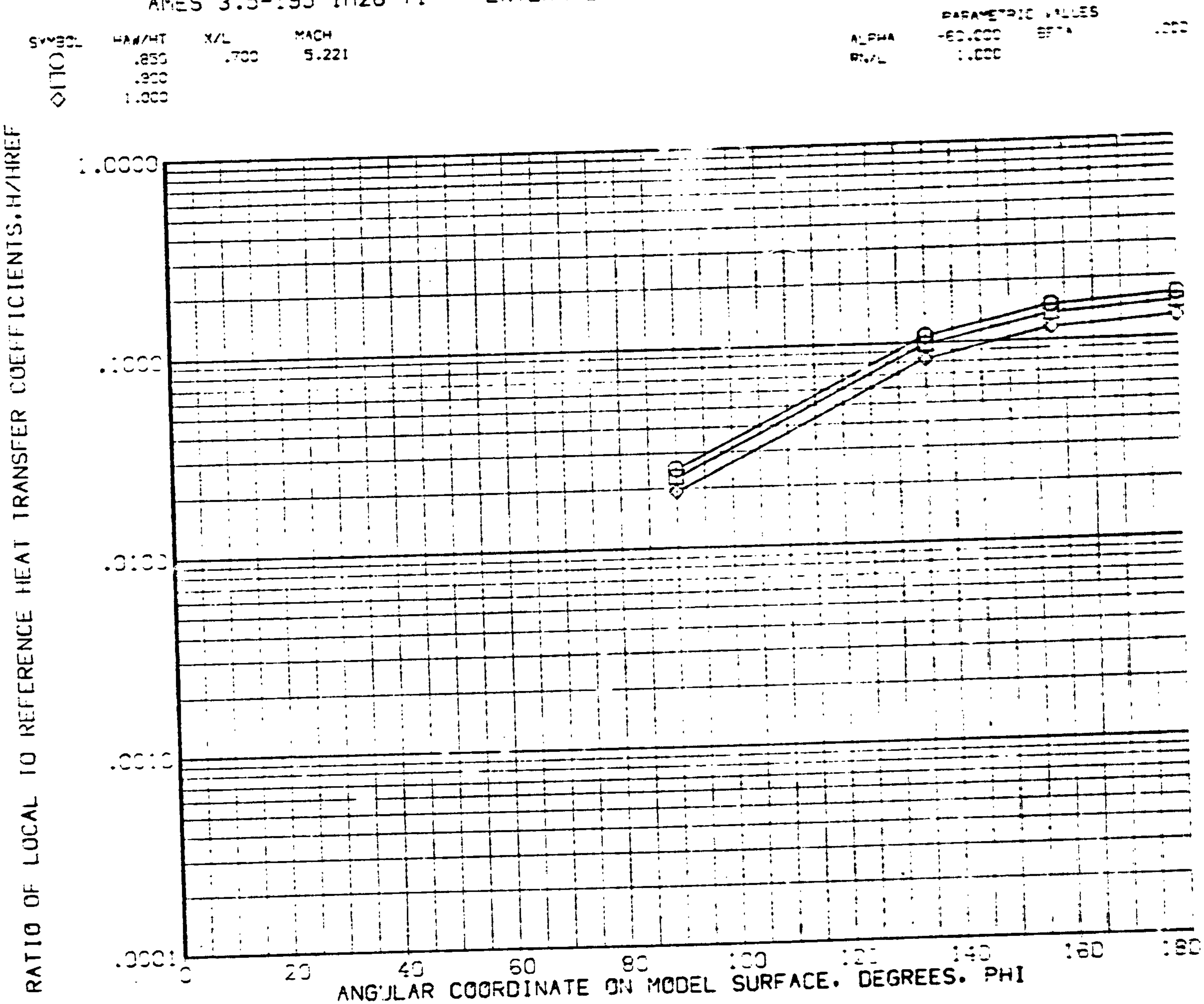

FIG. 4 TANK, ALONE

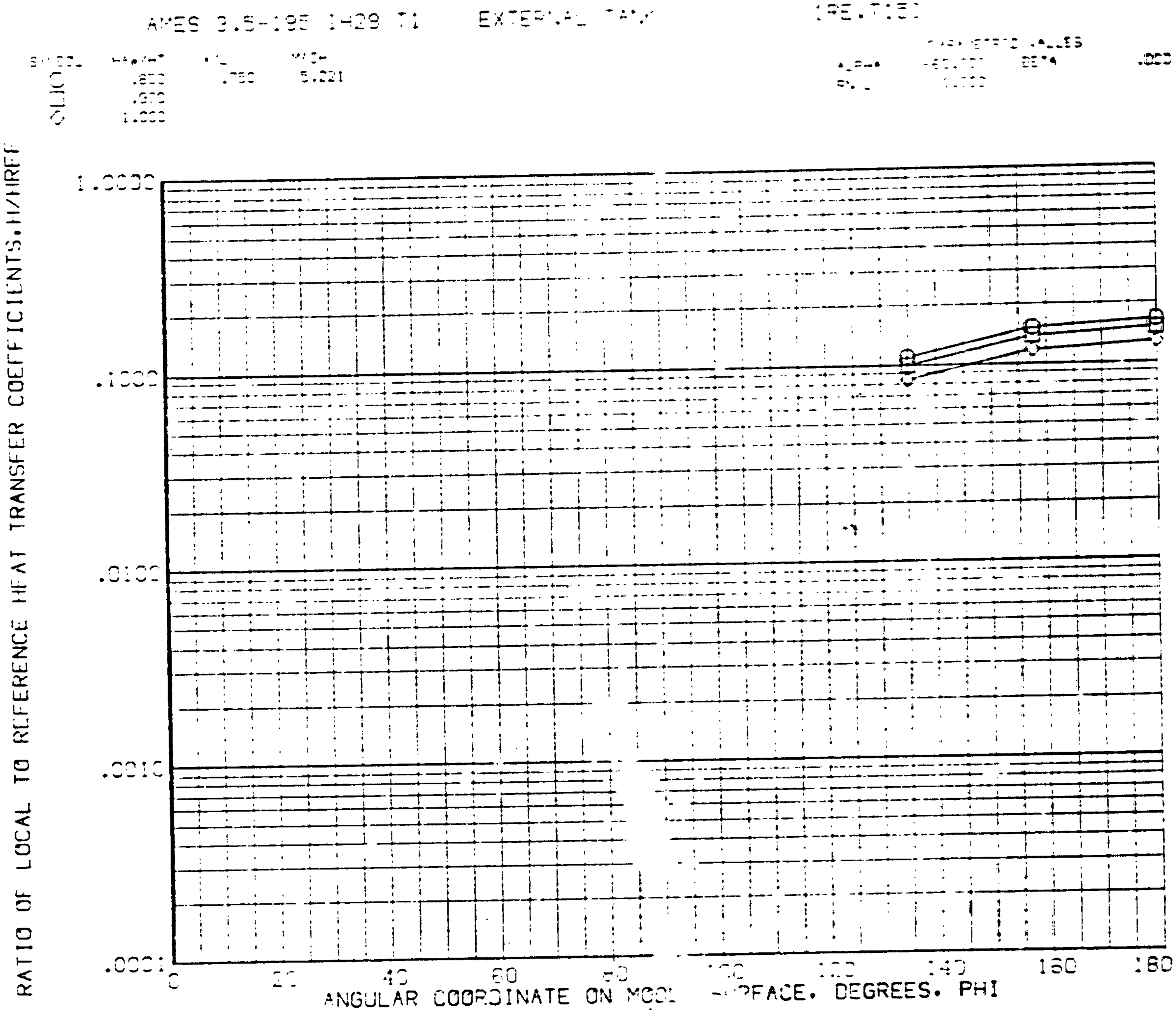

FIG. 4 TANK,ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT15)

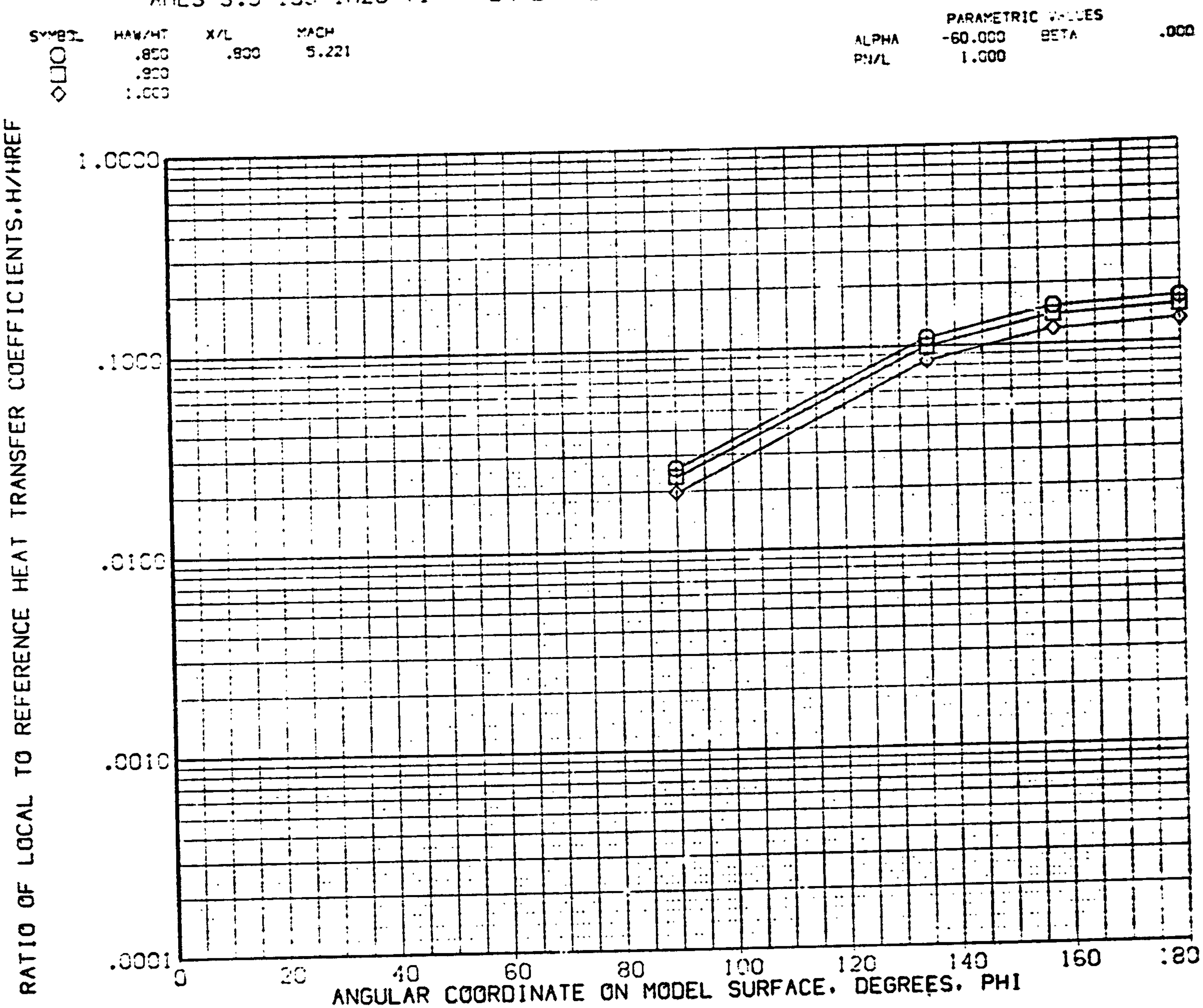

FIG. 4 TANK, ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT15)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.650	5.221
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA -60.000 BETA .000

RN/L 1.000

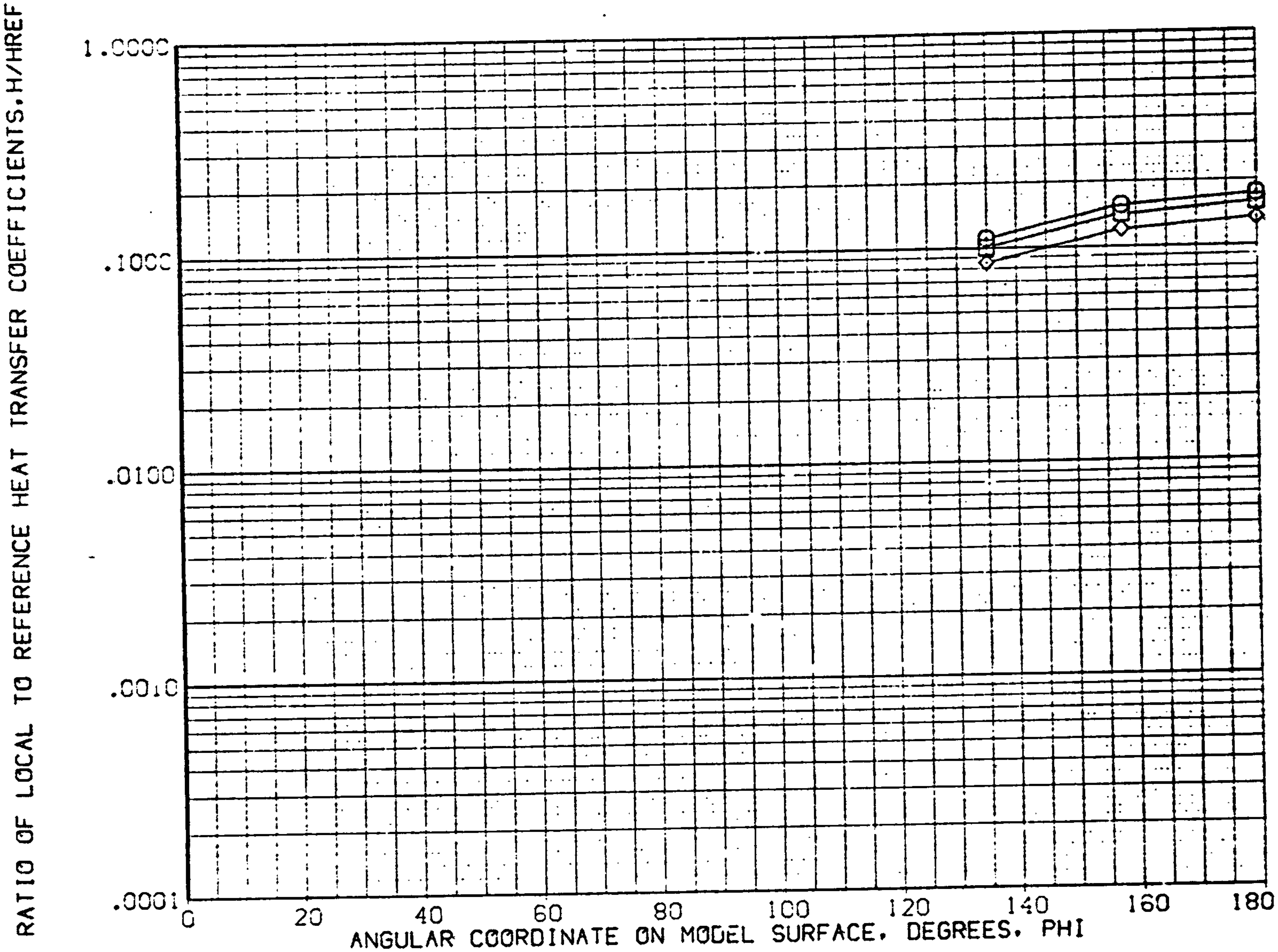

FIG. 4 TANK, ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT15)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.900	5.221
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA	-60.000	BETA	.000
RN/L	1.000		

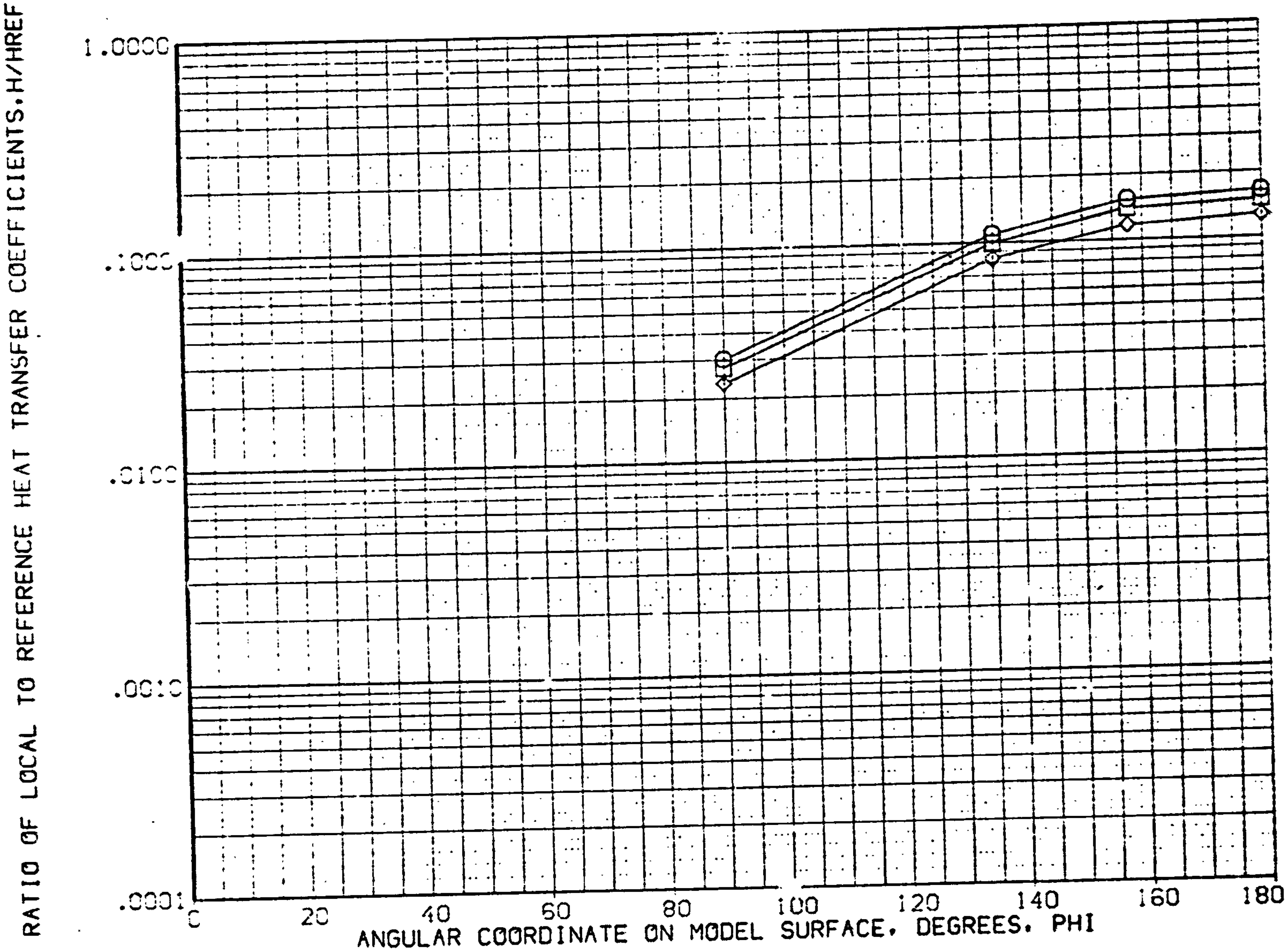

FIG. 4 TANK, ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT16)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.350	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA -90.000 BETA .000

RN/L 1.000

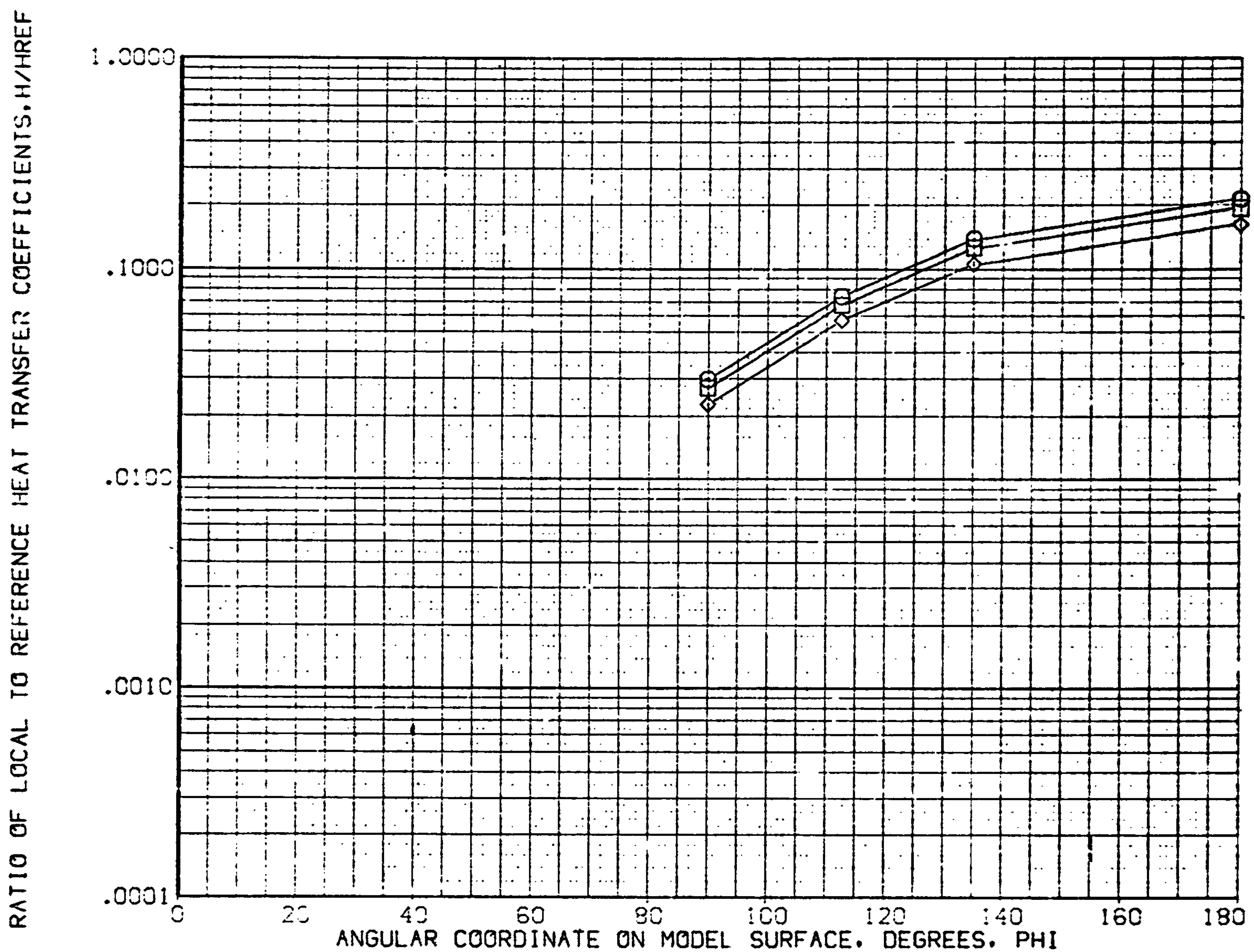

FIG. 4 TANK, ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT16)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.400	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA -90.000 BETA .000
PW/L 1.000

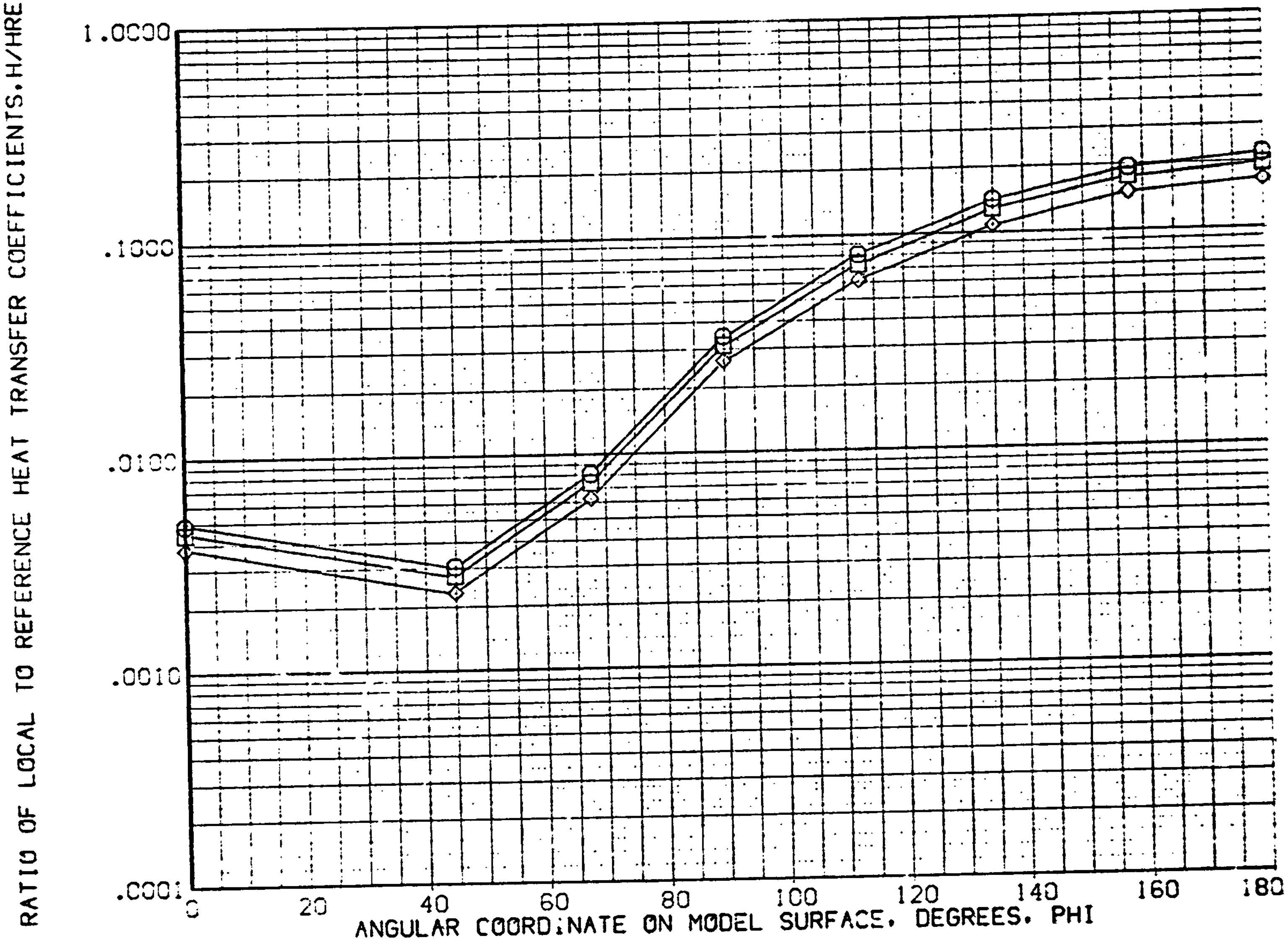

FIG. 4 TANK,ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REV-16)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.450	5.220
□	.300		
◇	1.000		

PARAMETRIC VALUES

ALPHA	-90.000	BETA	.000
RN/L	1.000		

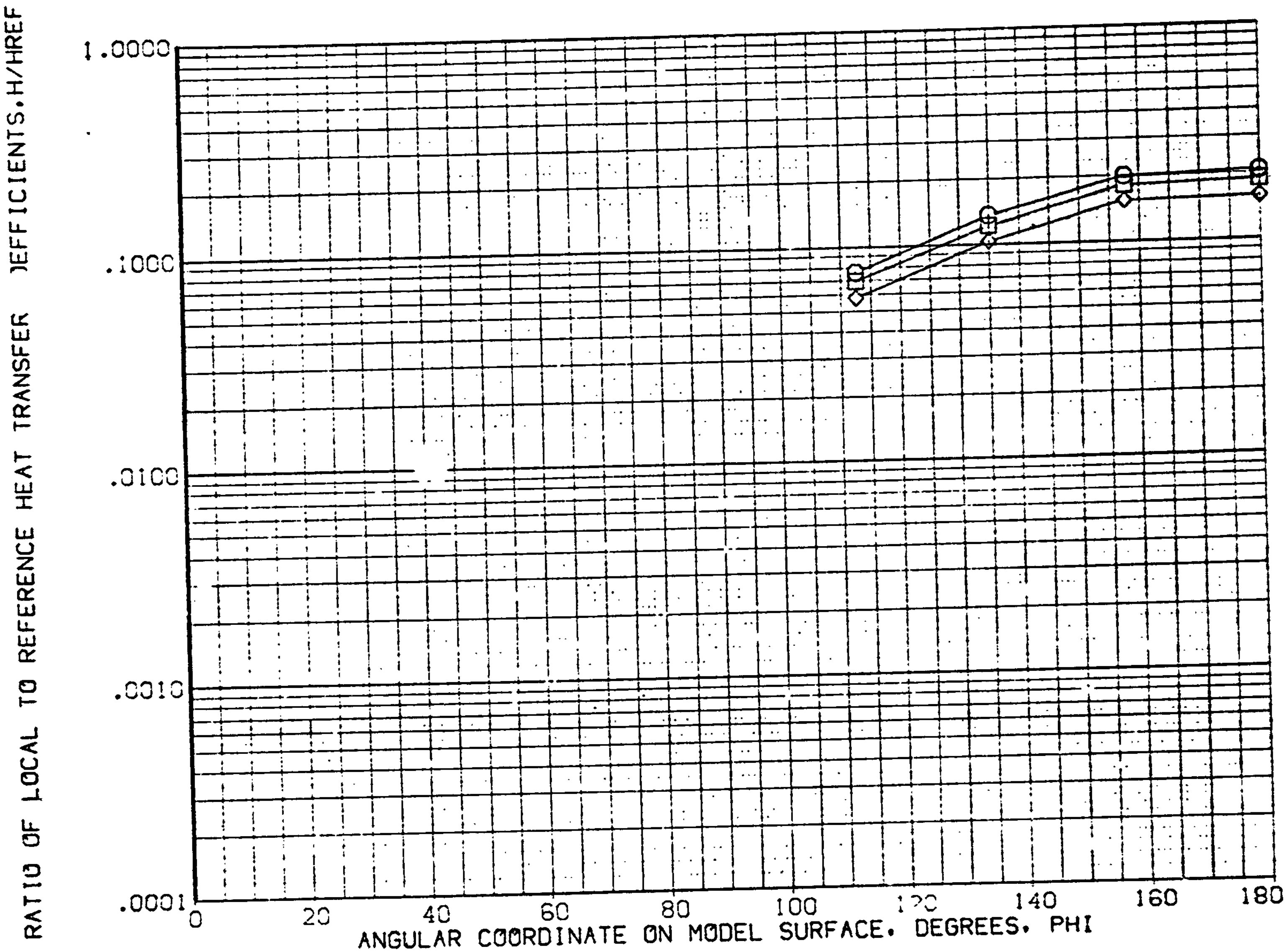

FIG. 4 TANK, ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT16)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.500	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA -90.000 BETA .000

PN/L 1.000

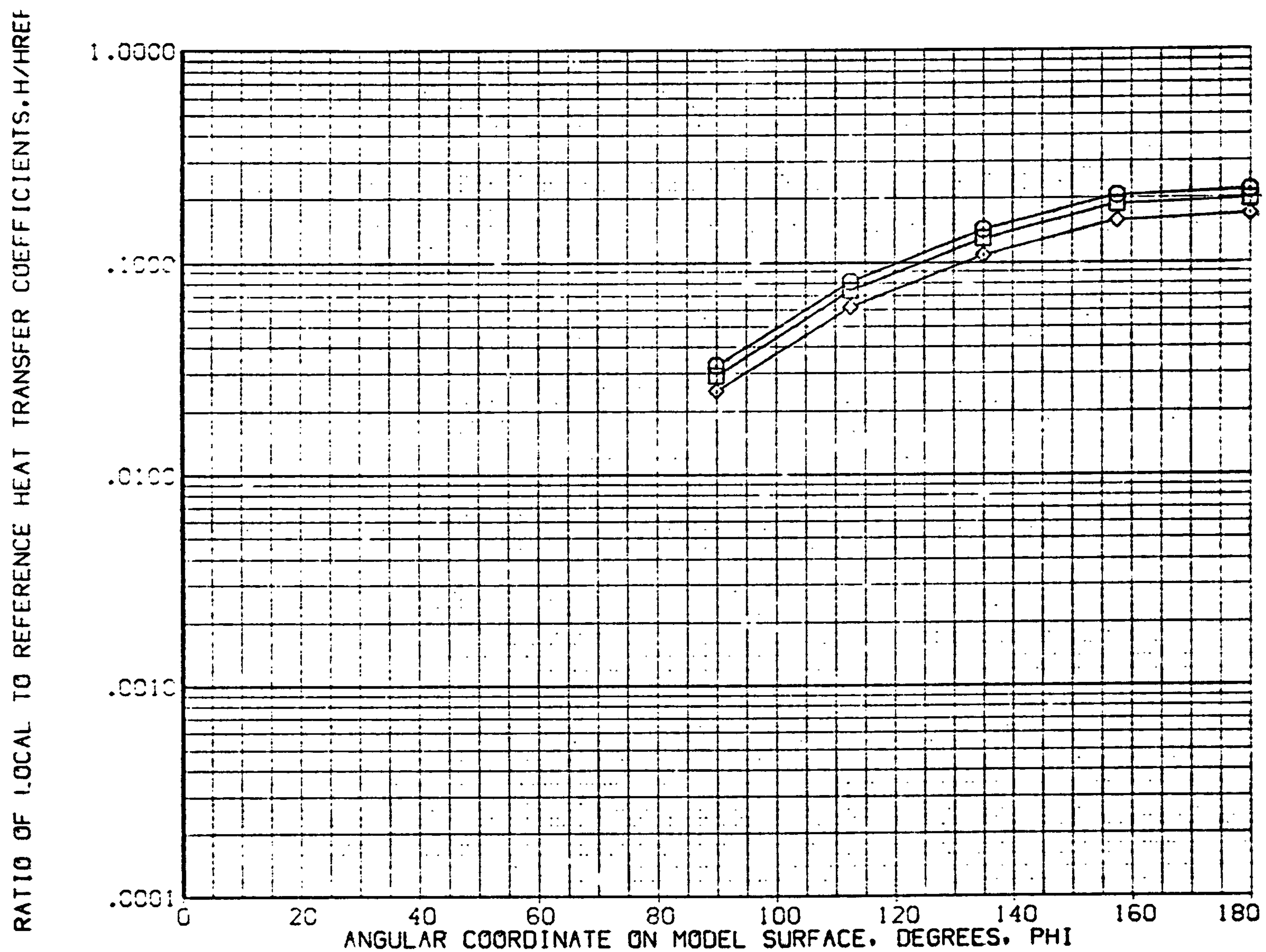

FIG. 4 TANK,ALONE

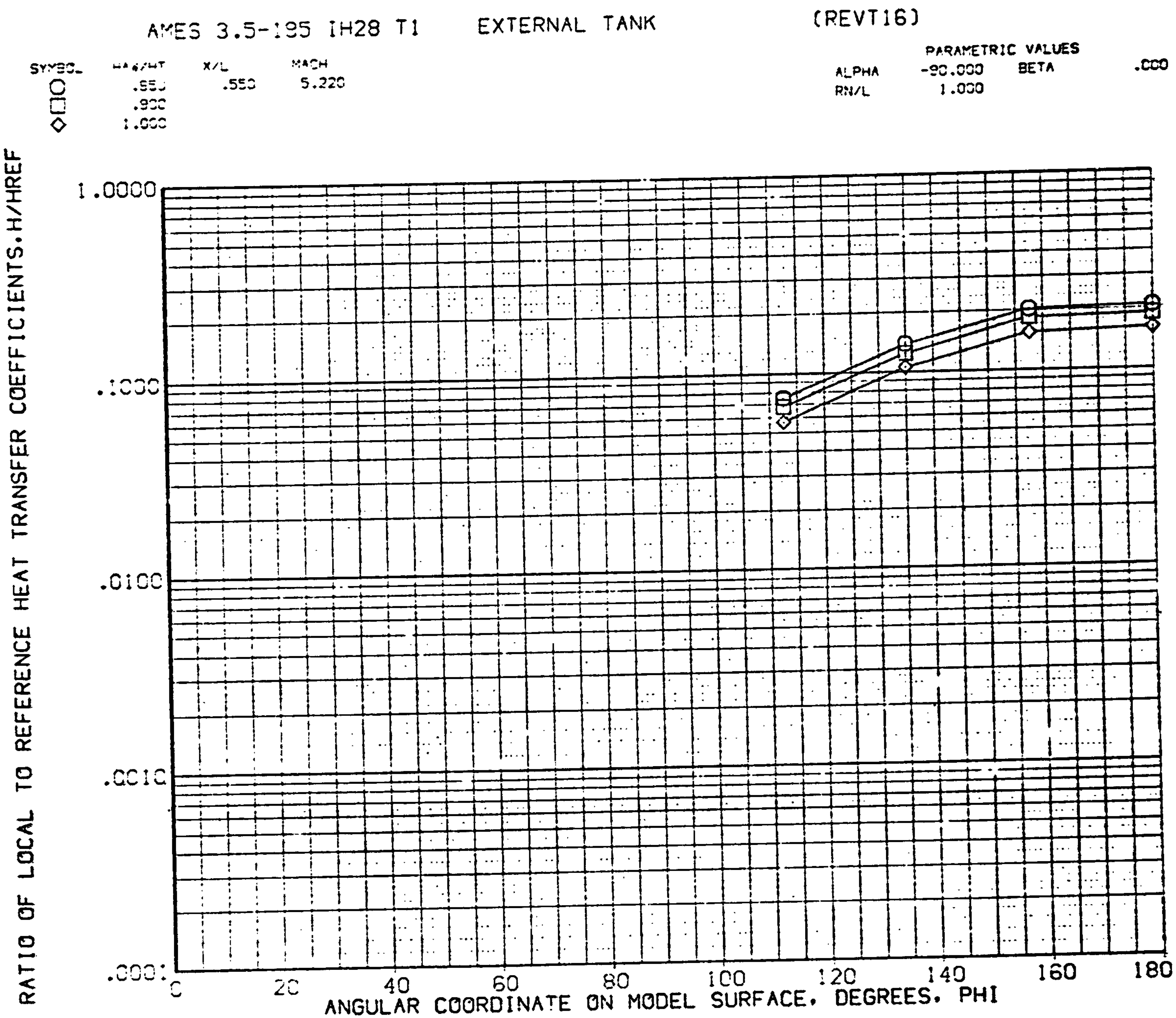

FIG. 4 TANK, ALONE

REPRODUCIBILITY OF THE ORIGINAL PAGE IS POOR

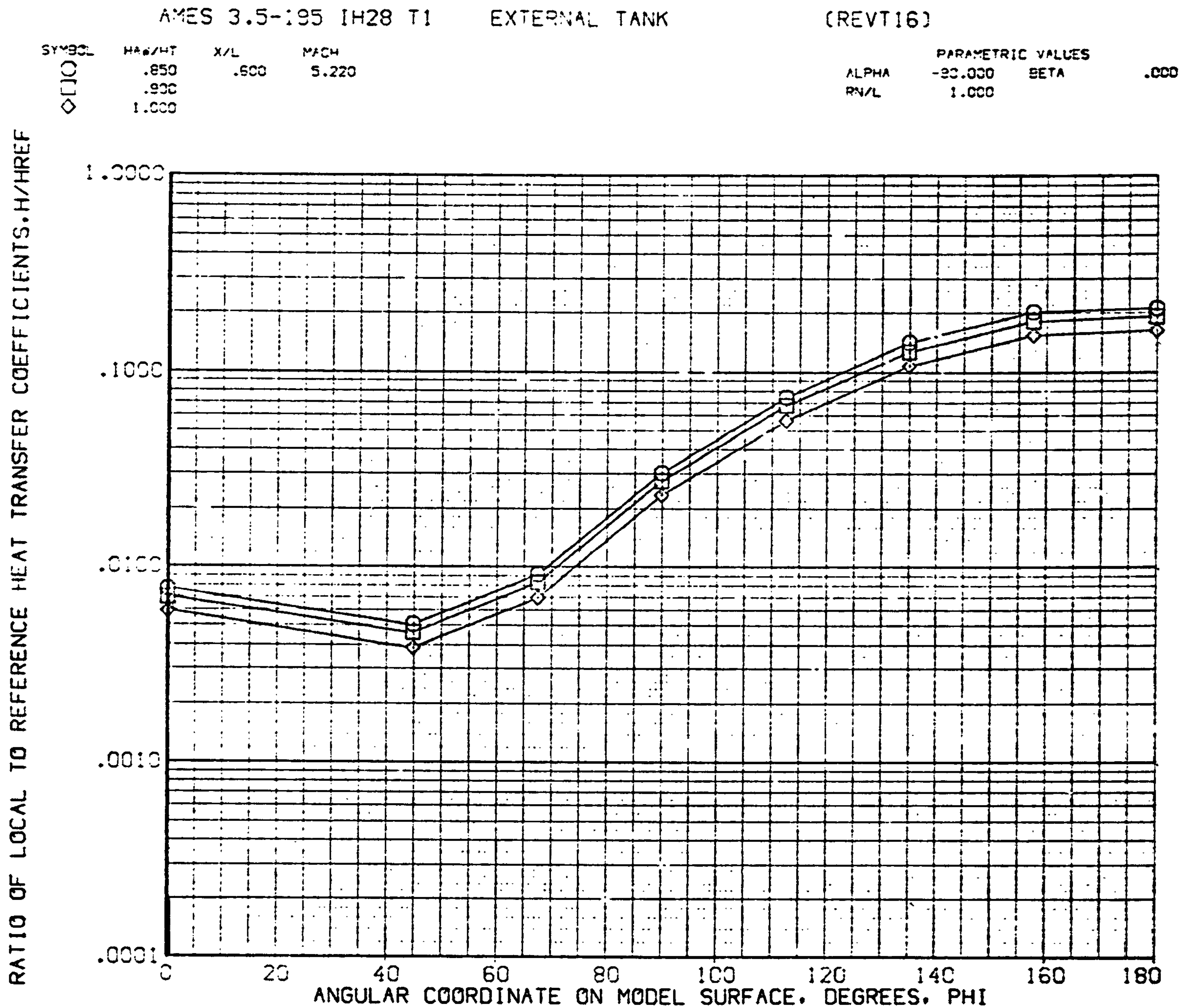

FIG. 4 TANK, ALONE

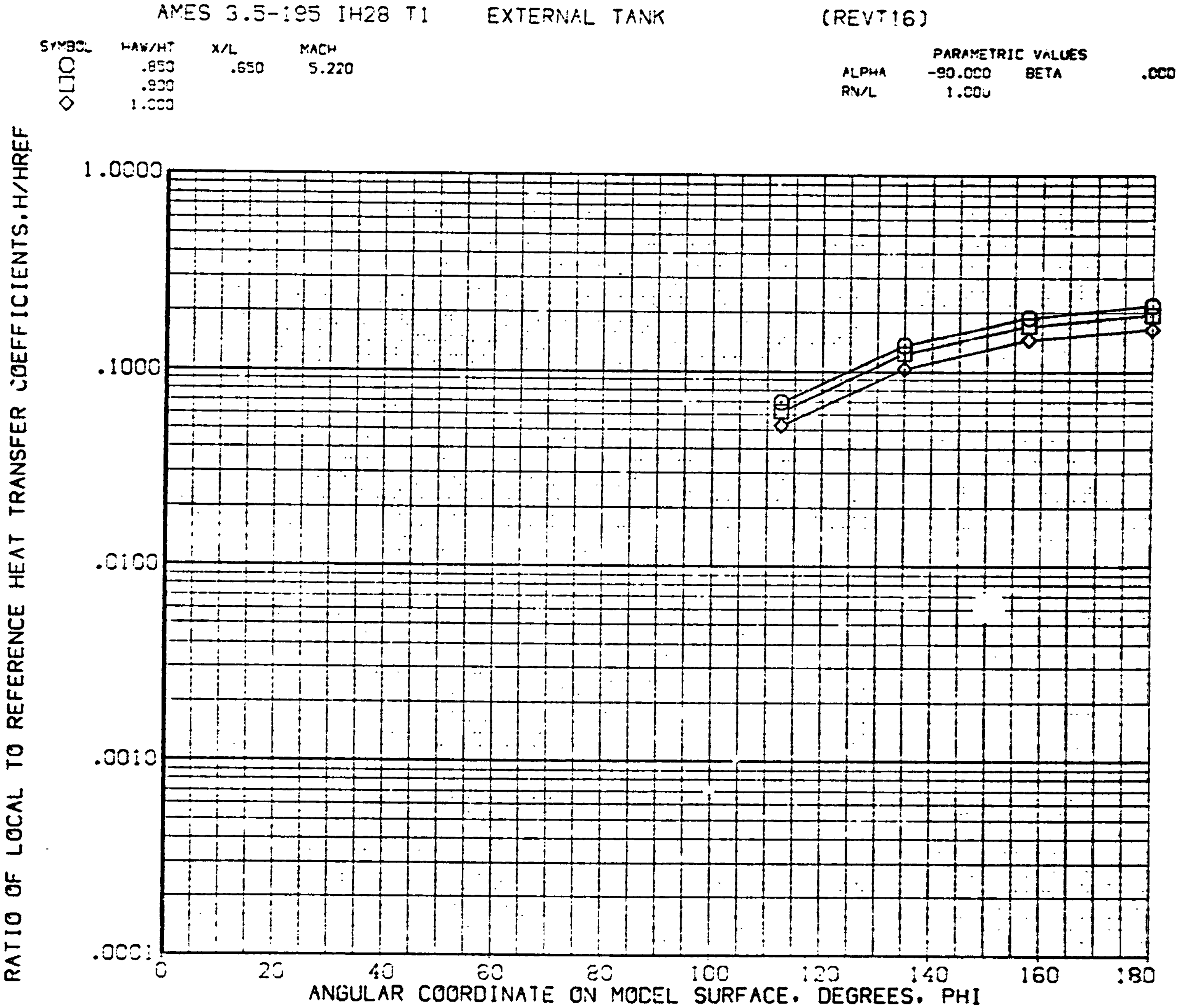

FIG. 4 TANK, ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT16)

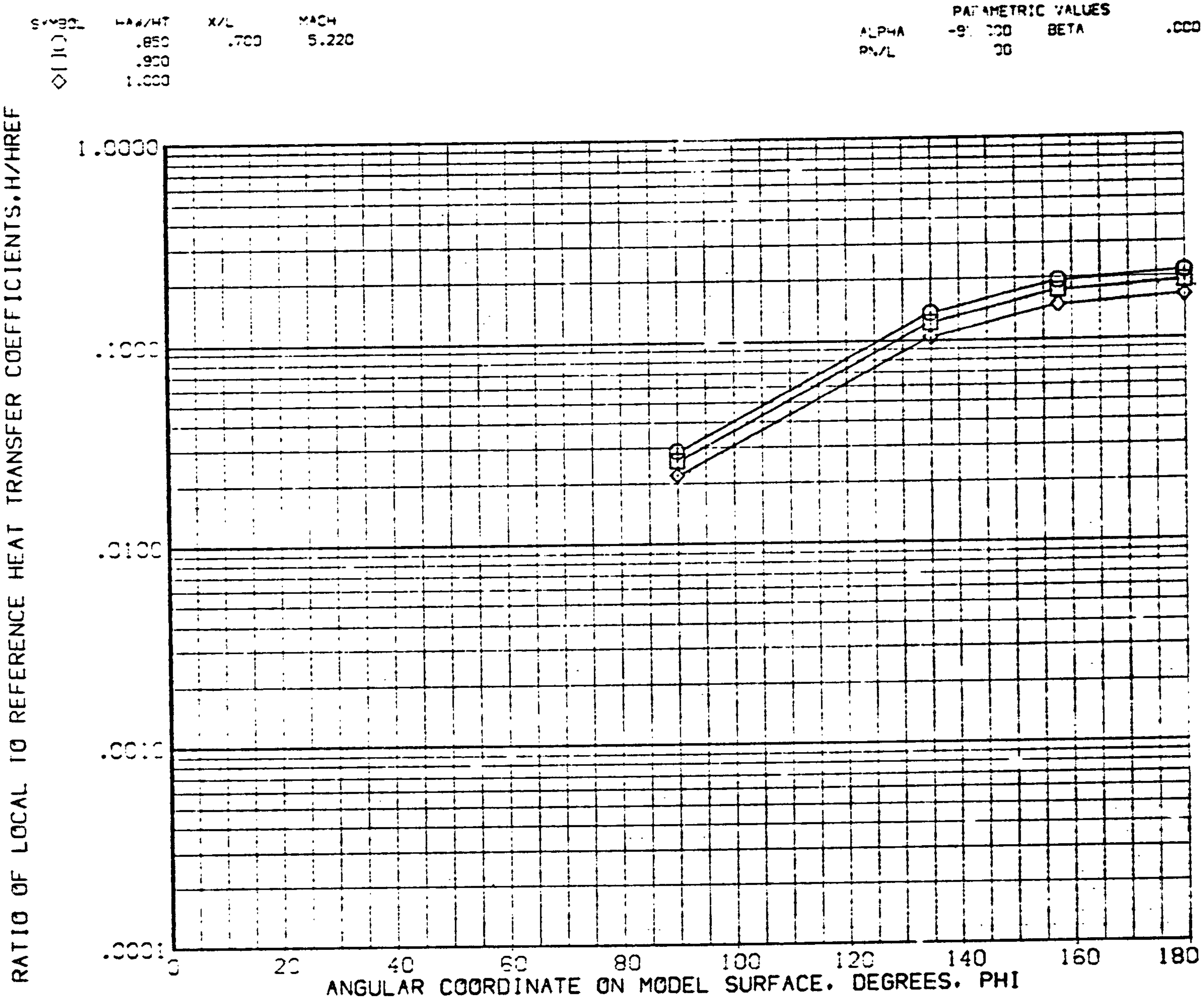

FIG. 4 TANK,ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT16)

SYMBOL	HA/HT	X/L	MACH
○	.850	.750	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA -90.000 BETA .000
RN/L 1.000

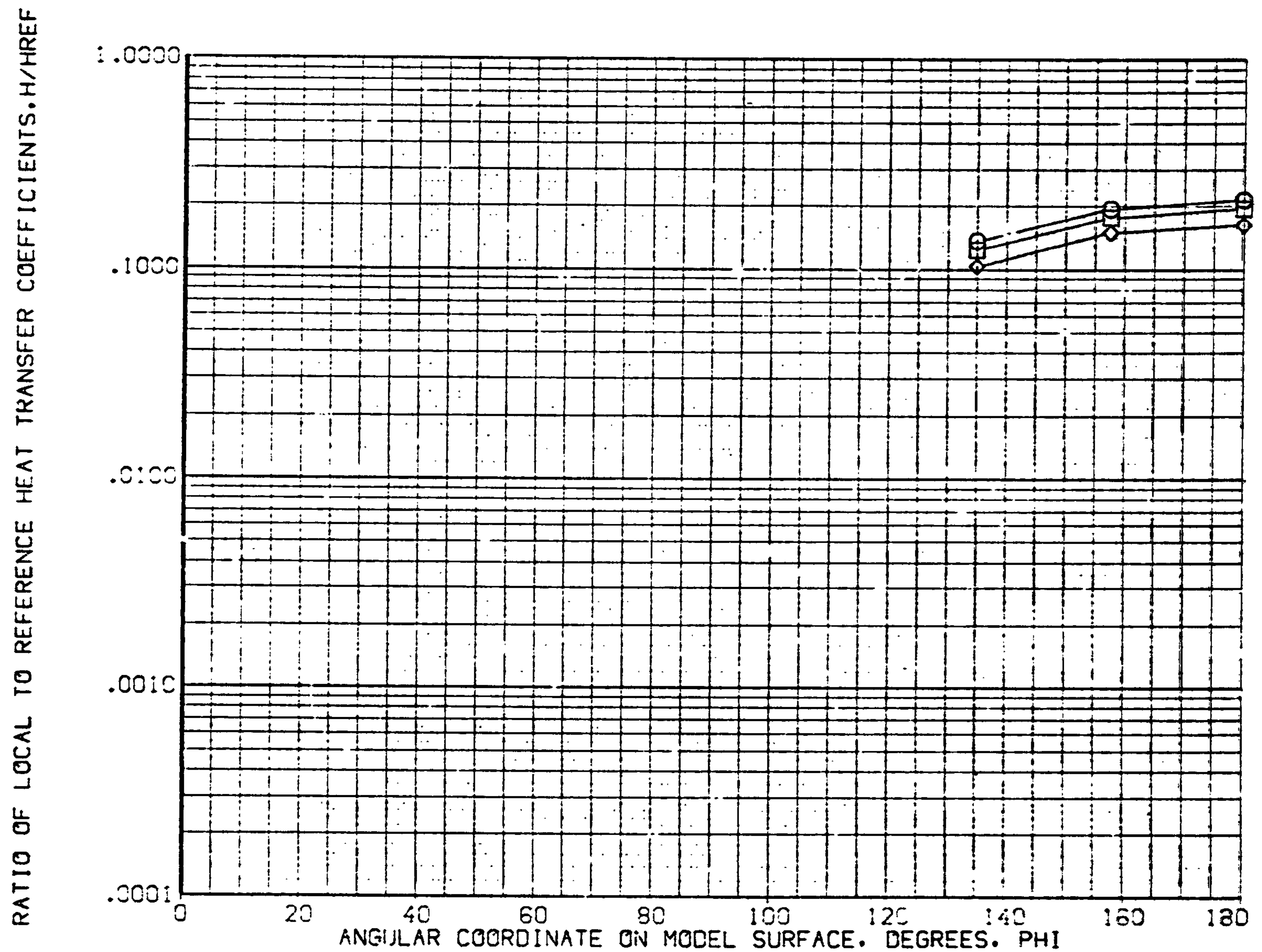

FIG. 4 TANK,ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (RE:T.5)

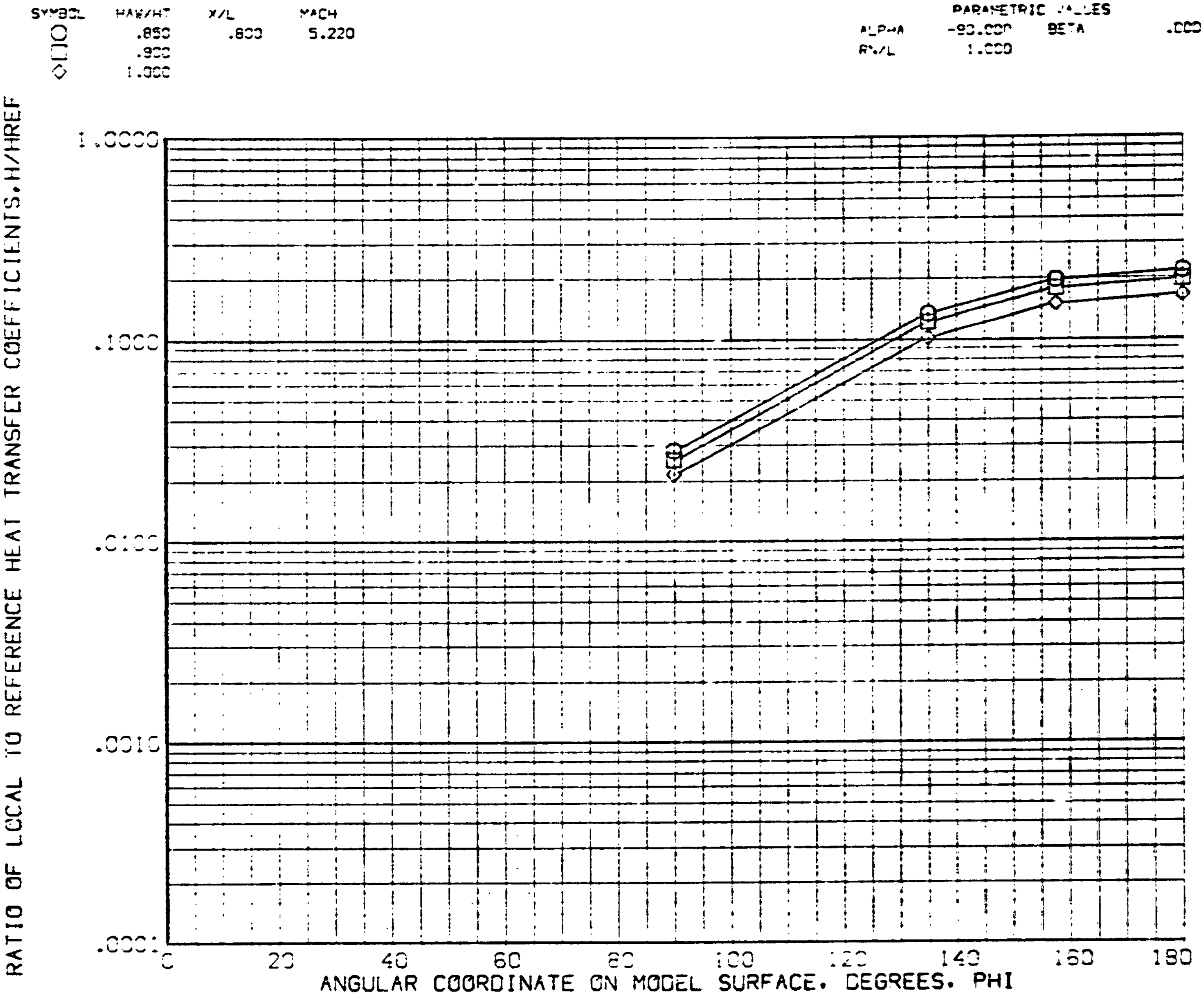

FIG. 4 TANK, ALONE

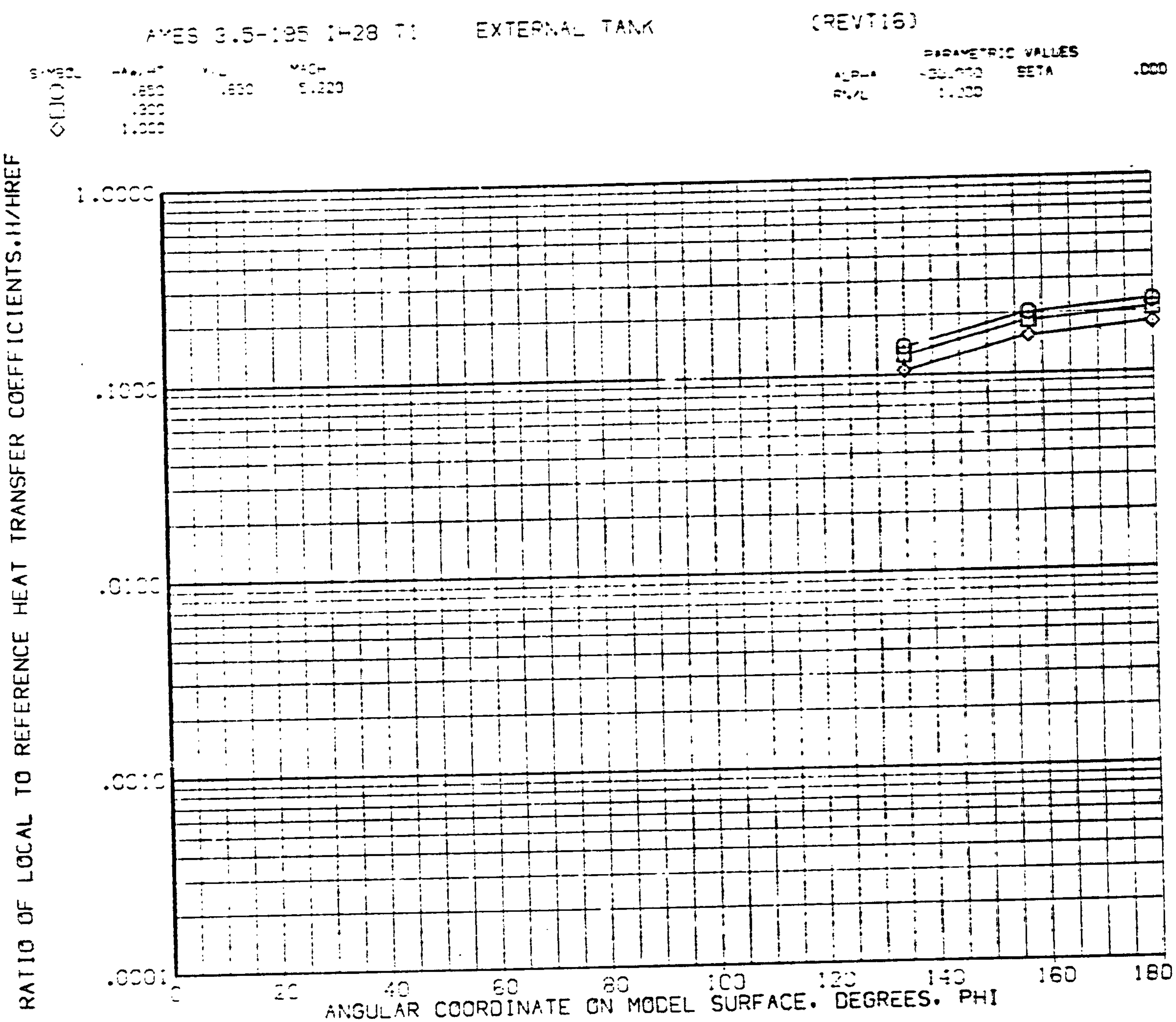

FIG. 4 TANK ALONE

AMES 3.5-195 IH28 T1   EXTERNAL TANK   (REVT16)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.900	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA	-90.000	BETA	.000
RN/L	1.000		

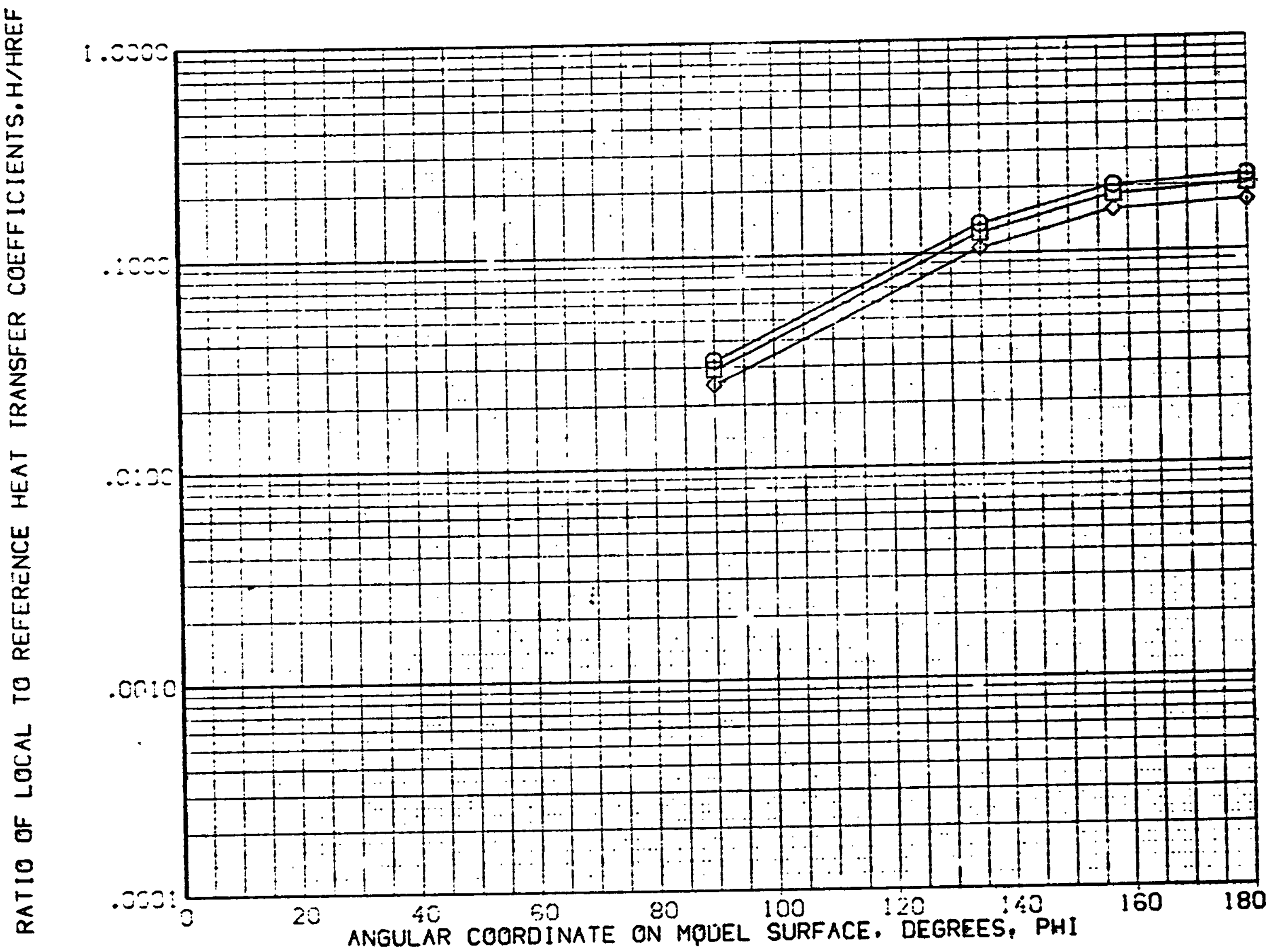

FIG. 4   TANK,ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT17)

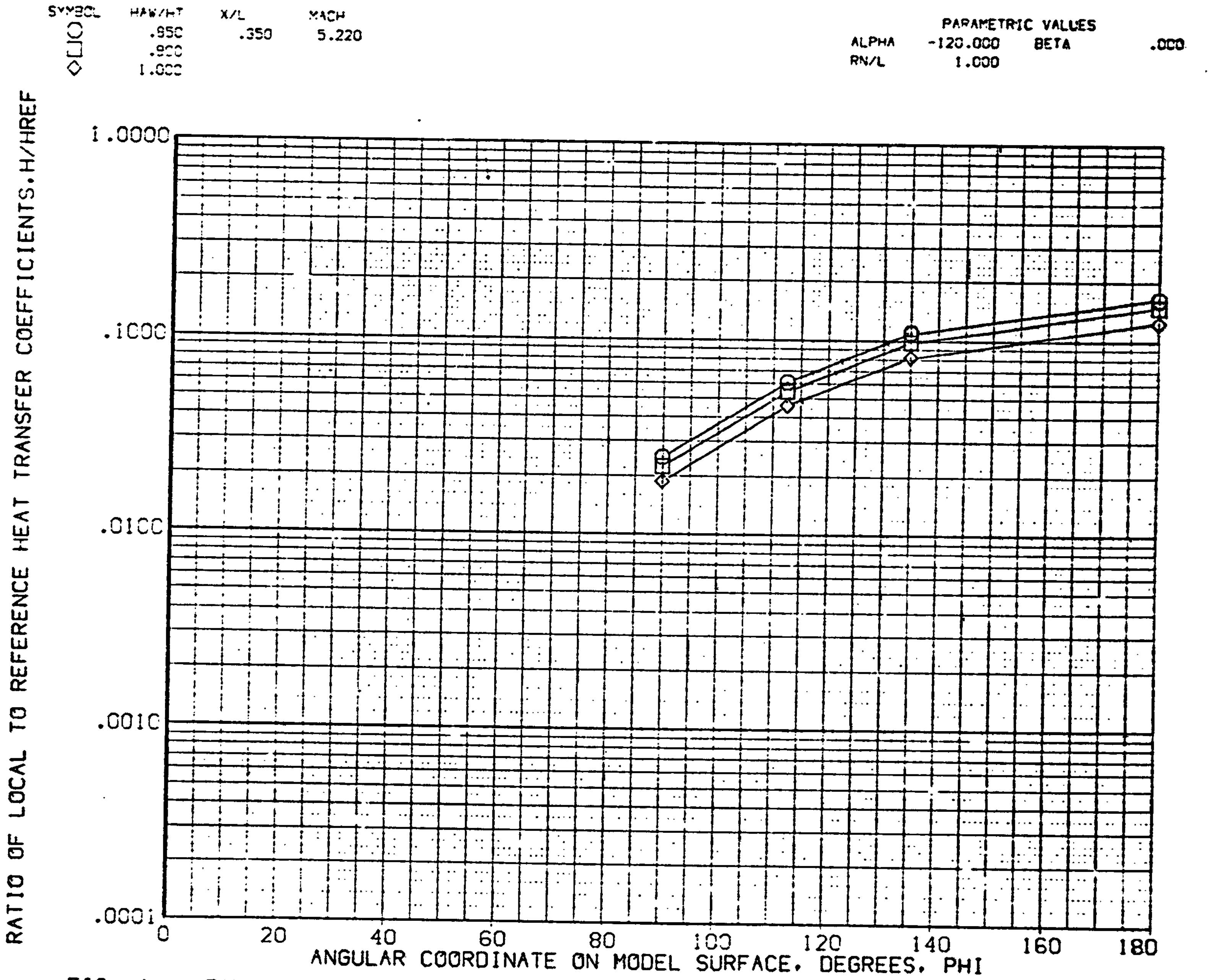

FIG. 4 TANK, ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT17)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.400	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA	-120.000	BETA	.000
RN/L	1.000		

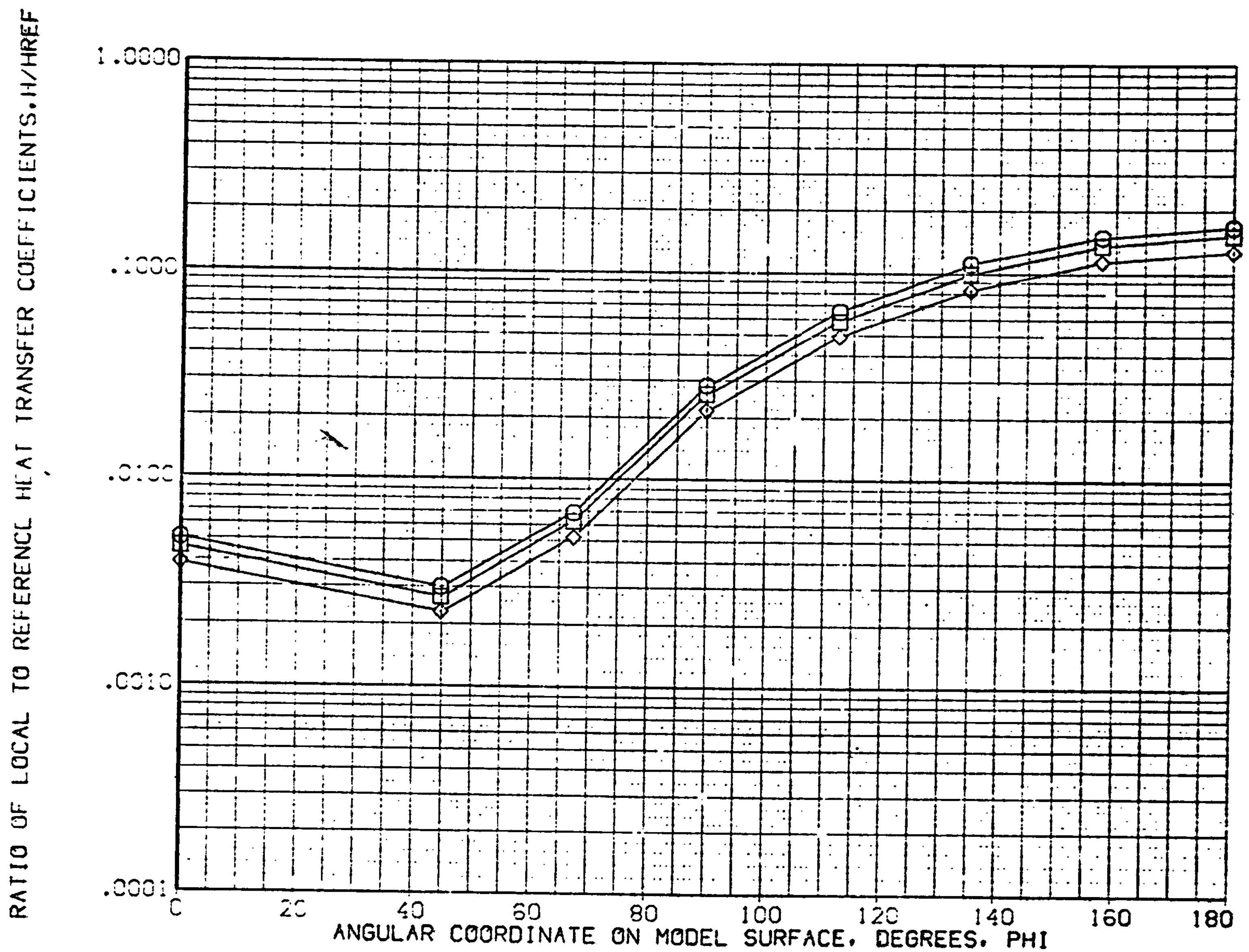

FIG. 4 TANK, ALONE

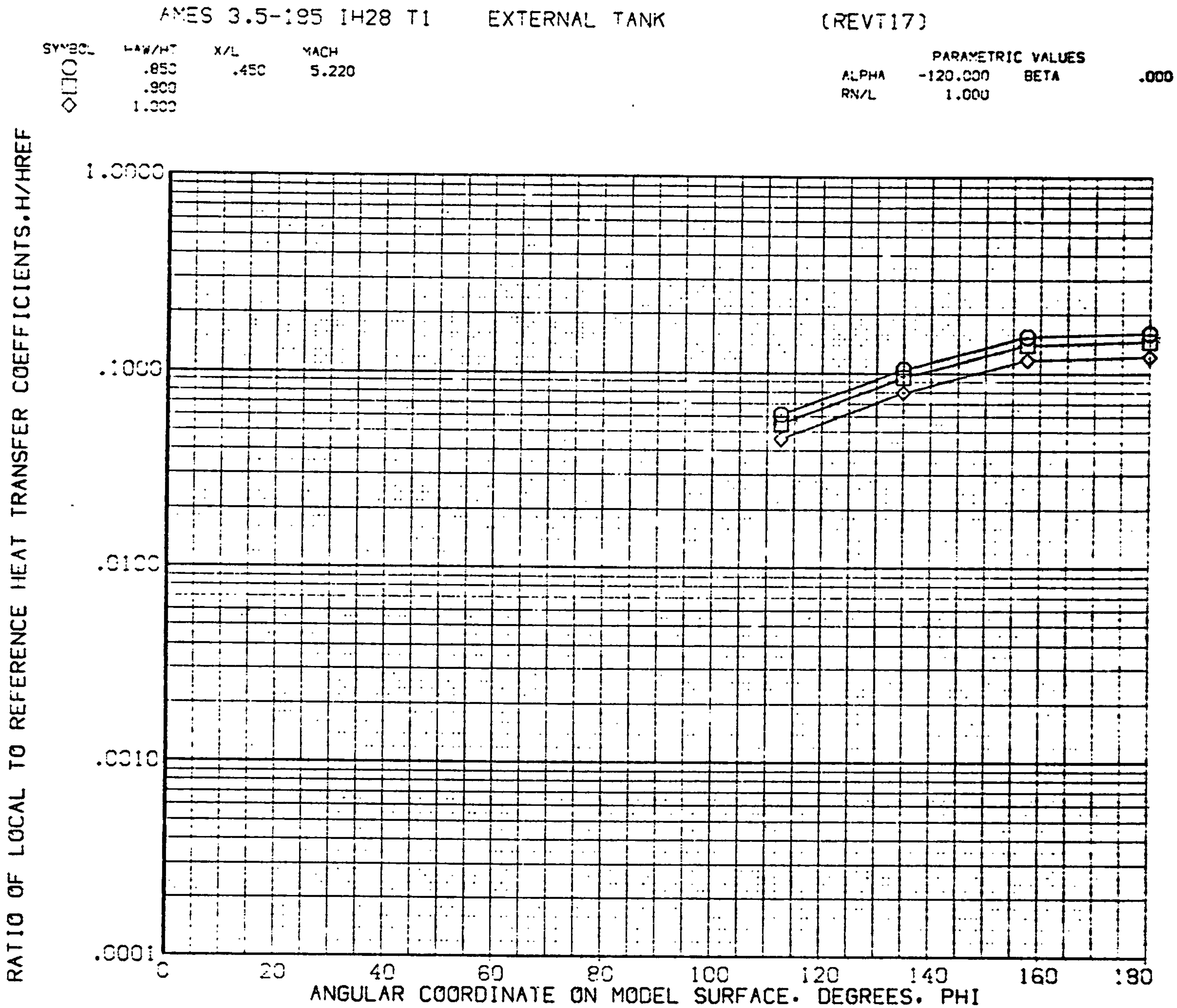

FIG. 4 TANK,ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT17)

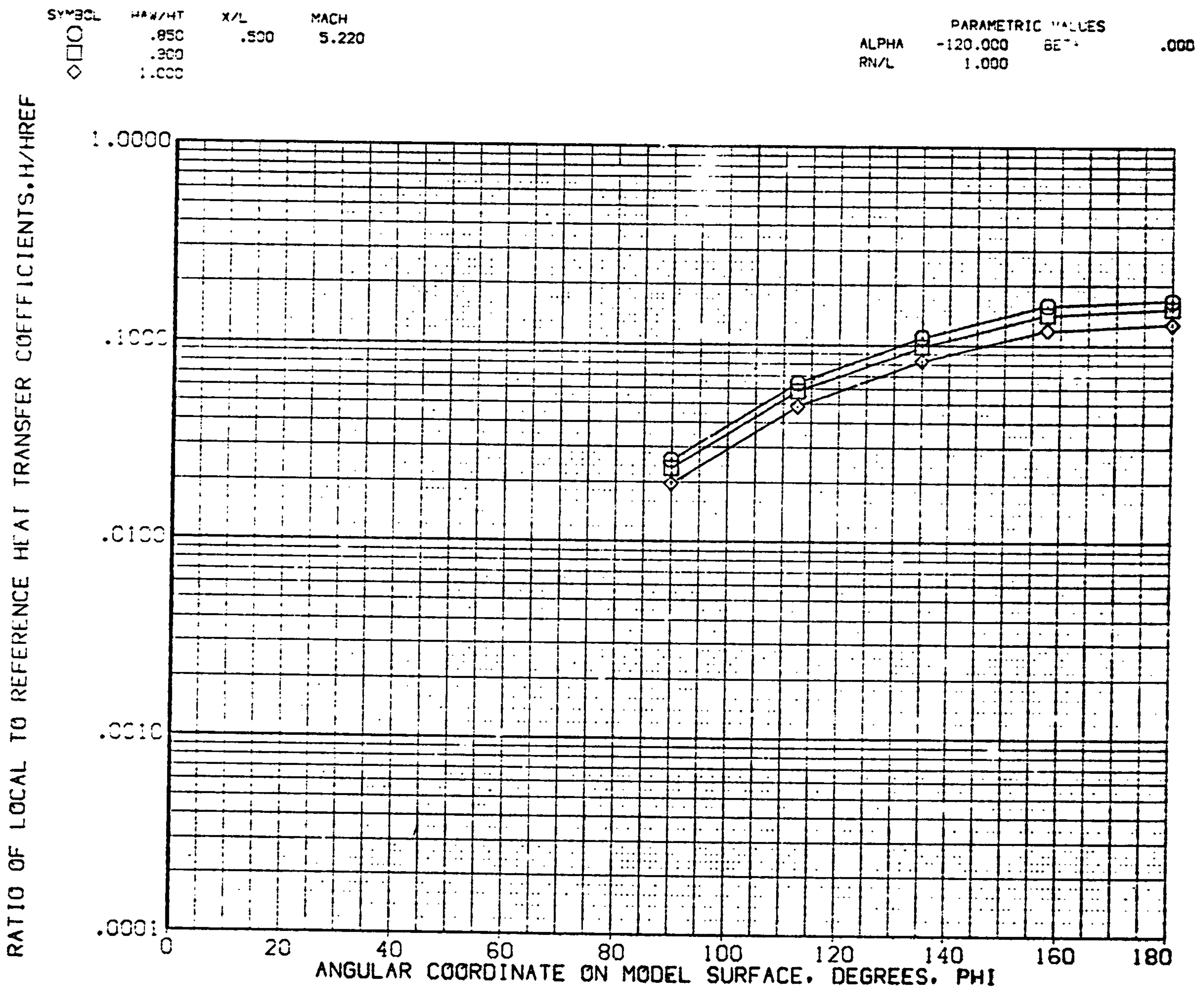

FIG. 4 TANK,ALONE

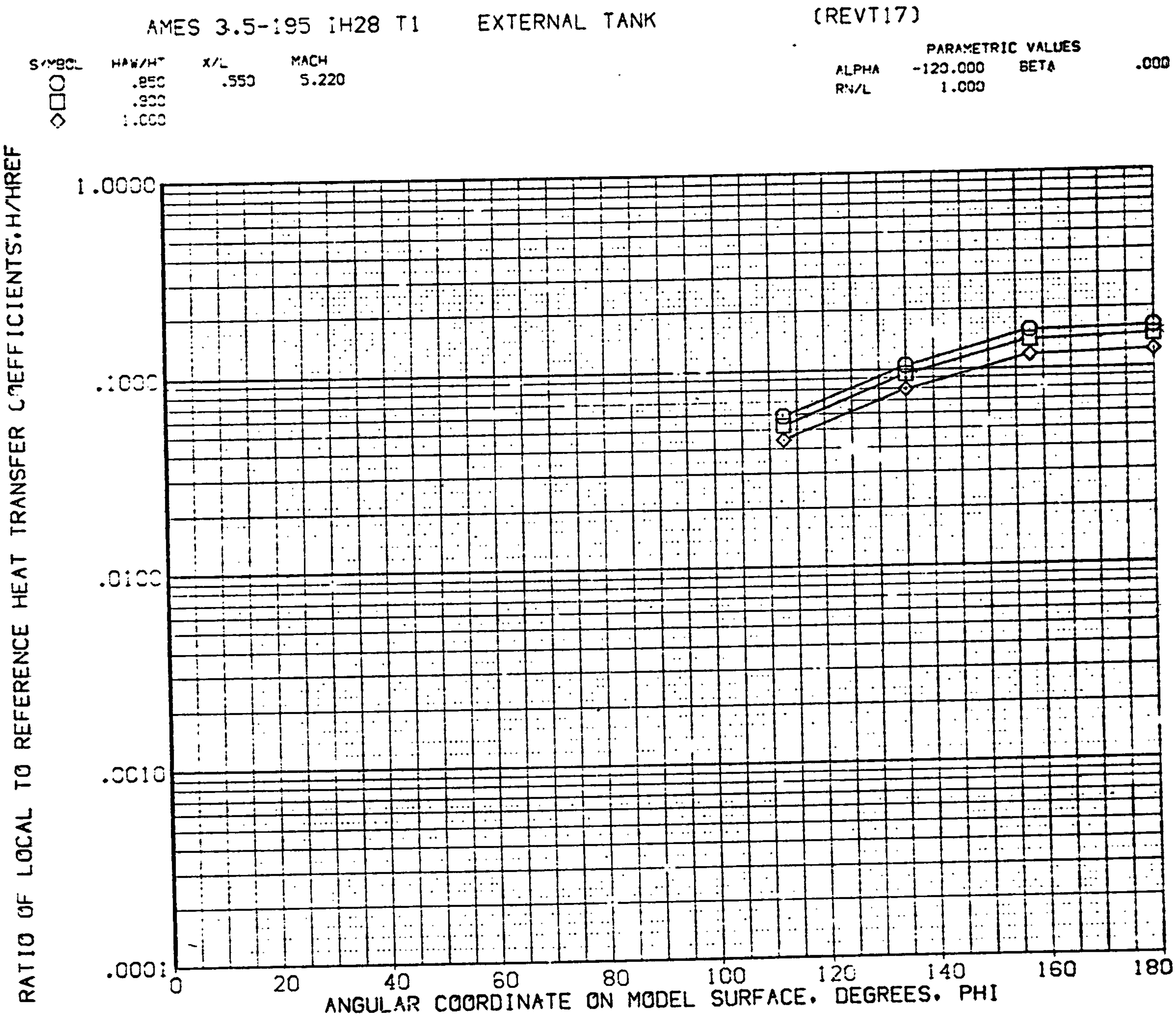

FIG. 4 TANK, ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT17)

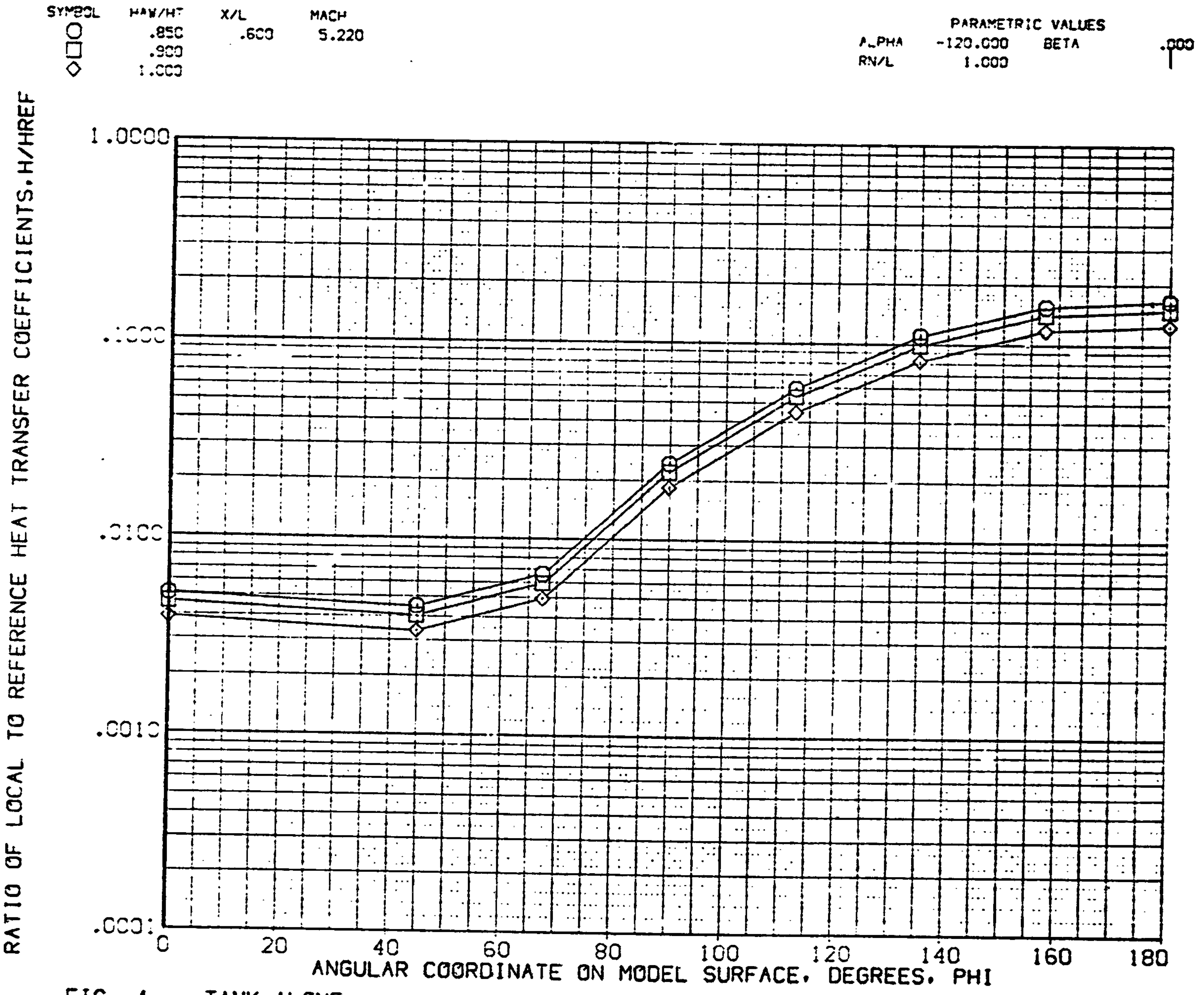

FIG. 4 TANK, ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT17)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.650	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA -120.000 BETA .000

RN/L 1.000

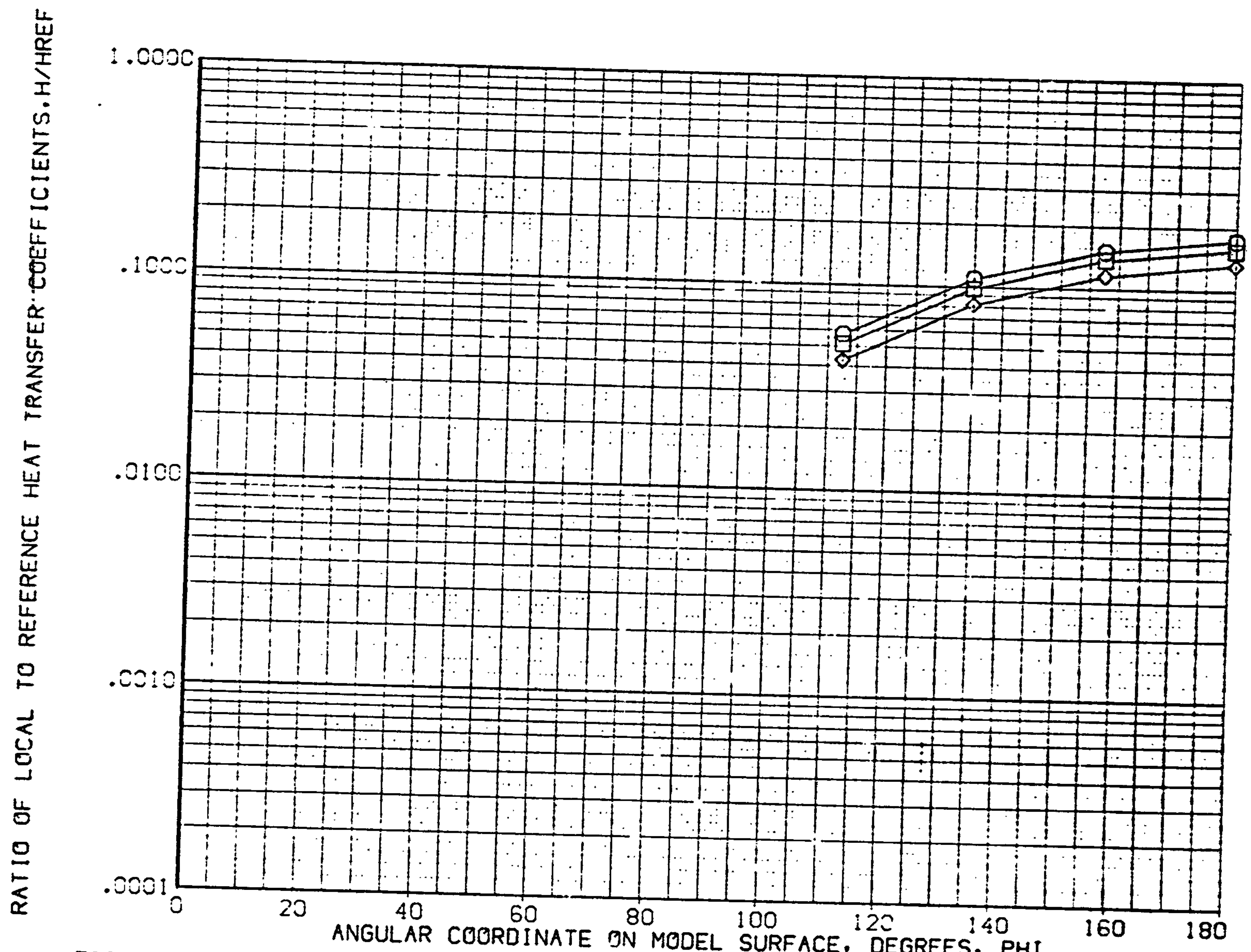

FIG. 4 TANK, ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT17)

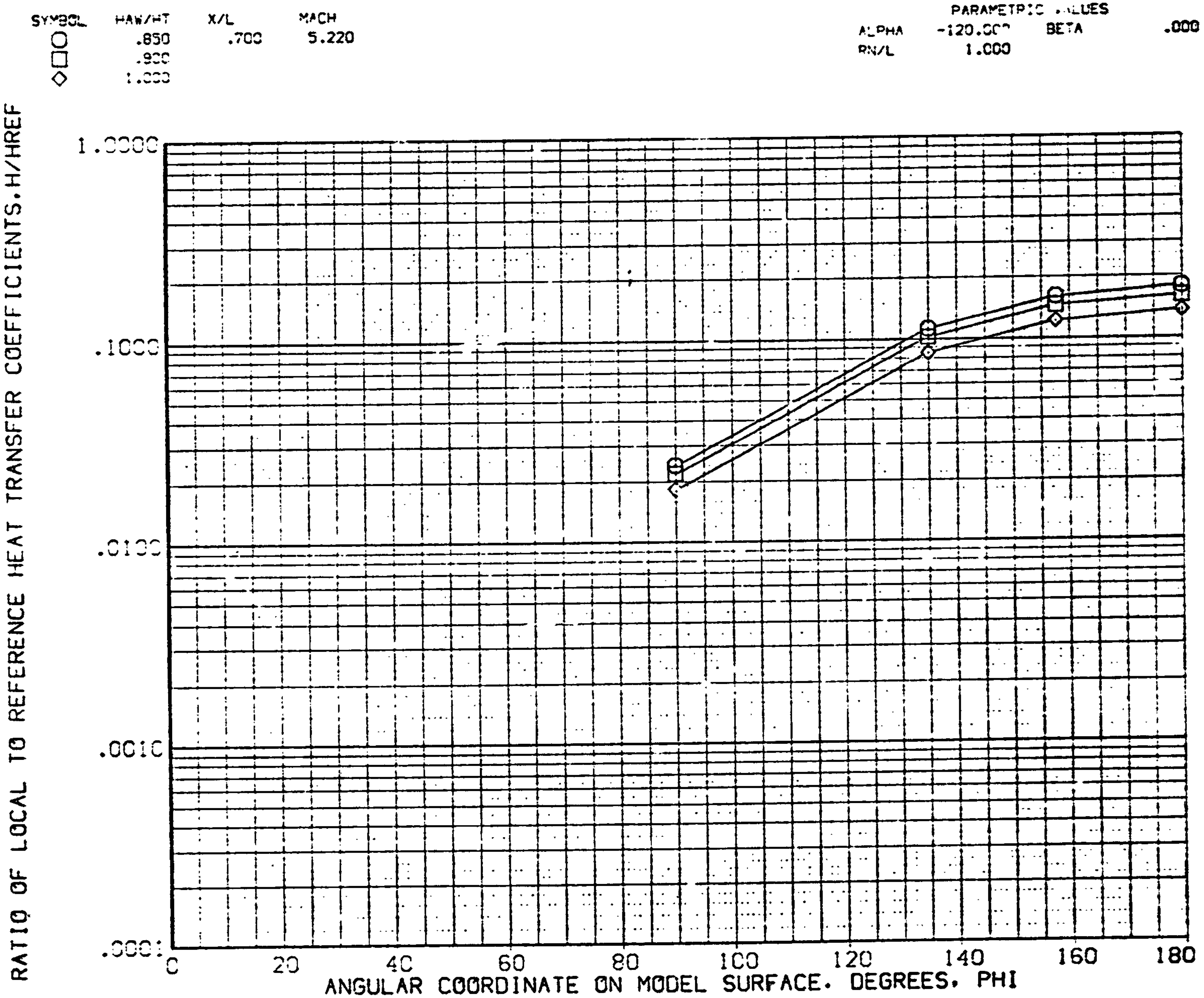

FIG. 4 TANK, ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT17)

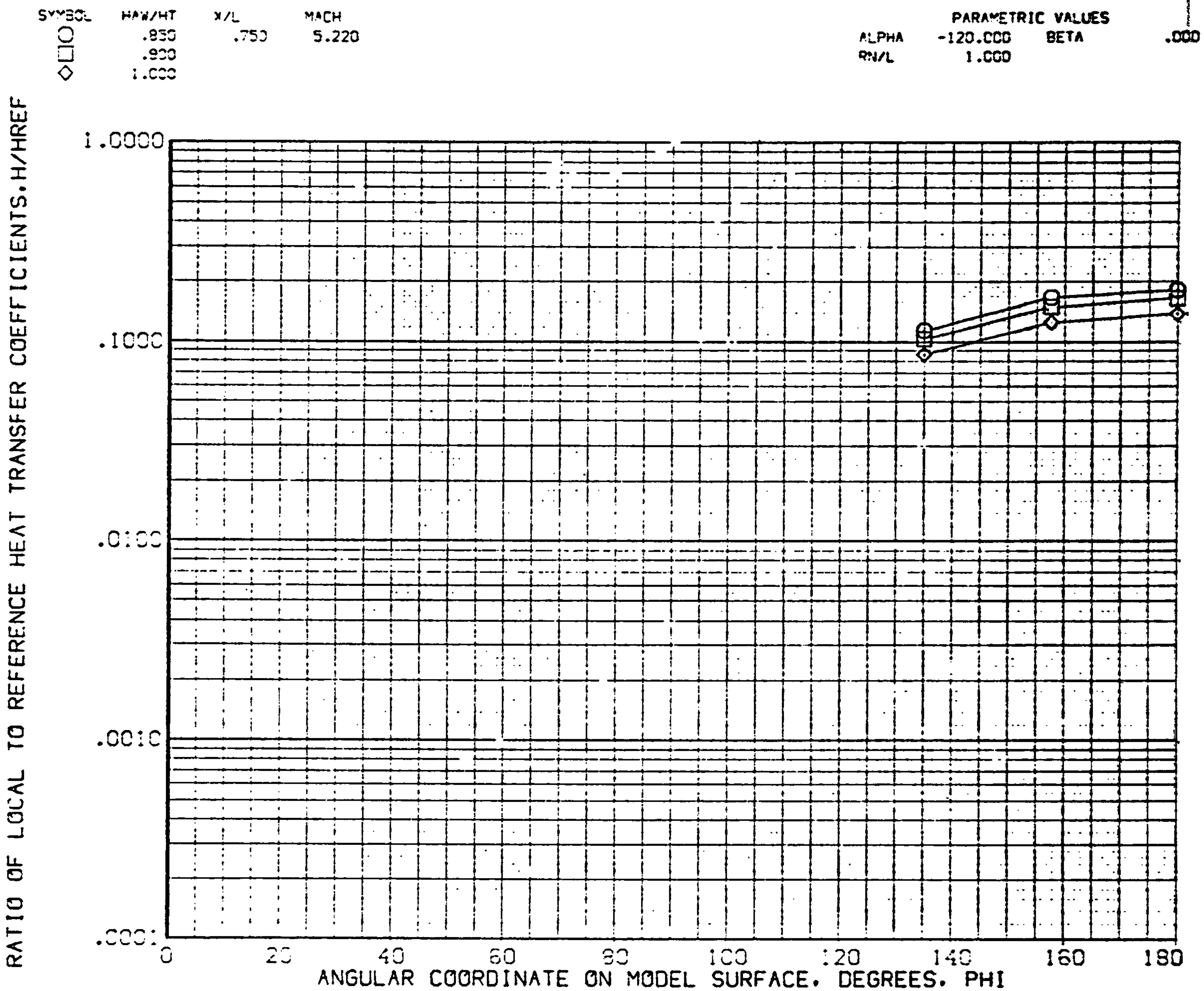

FIG. 4 TANK, ALONE

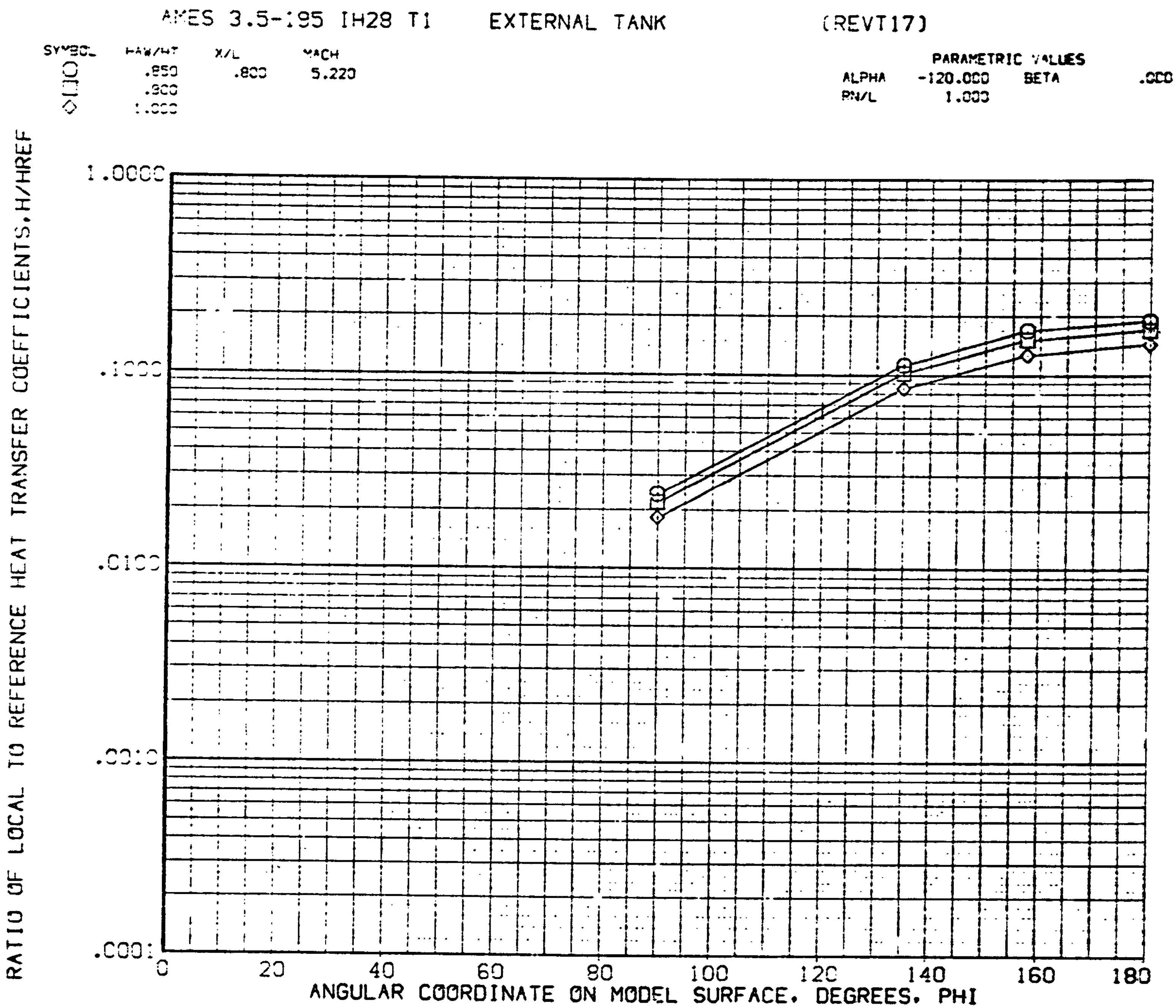

FIG. 4 TANK, ALONE

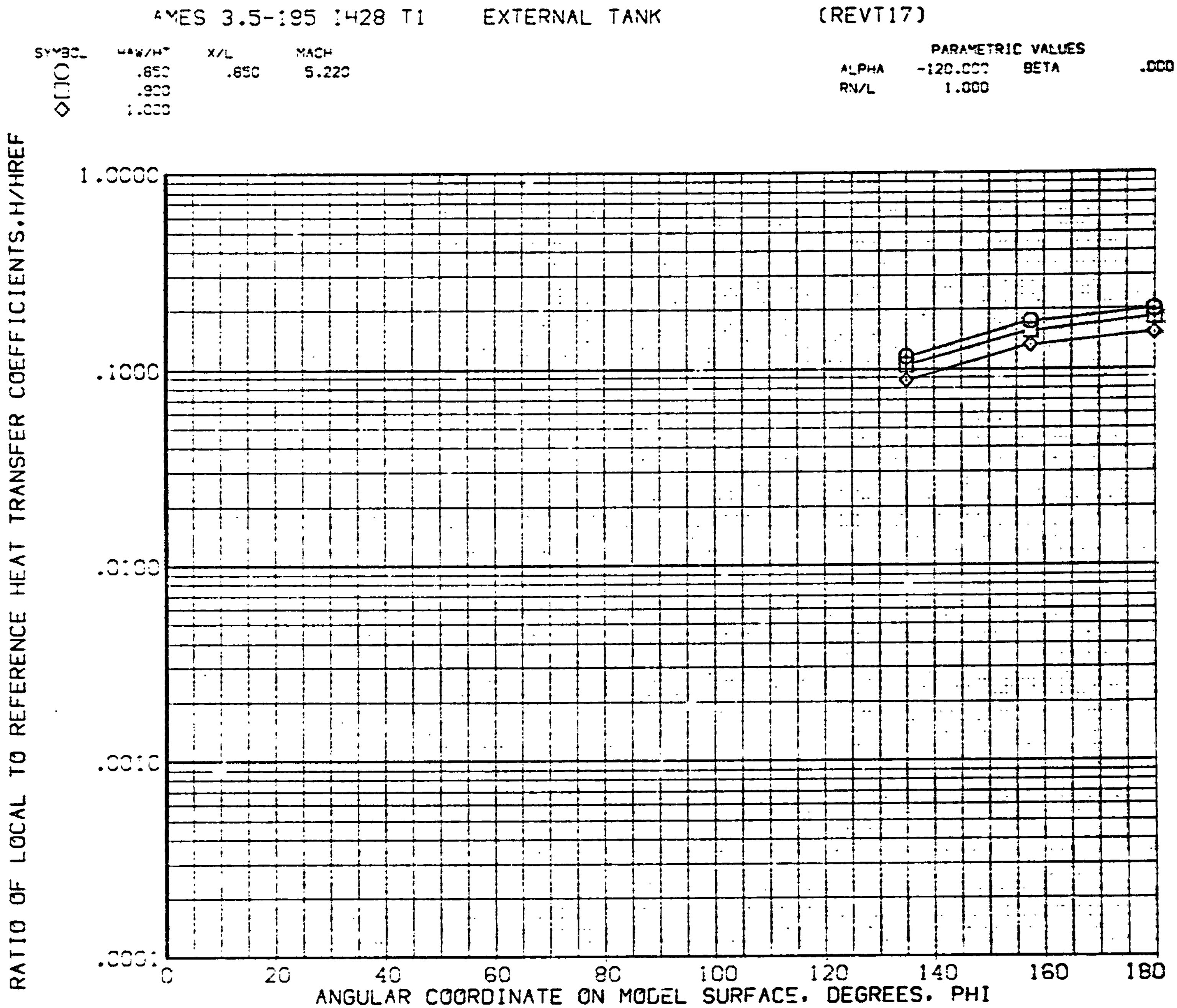

FIG. 4 TANK,ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (PEVT17)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.900	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA -120.000 BETA .000
RN/L 1.000

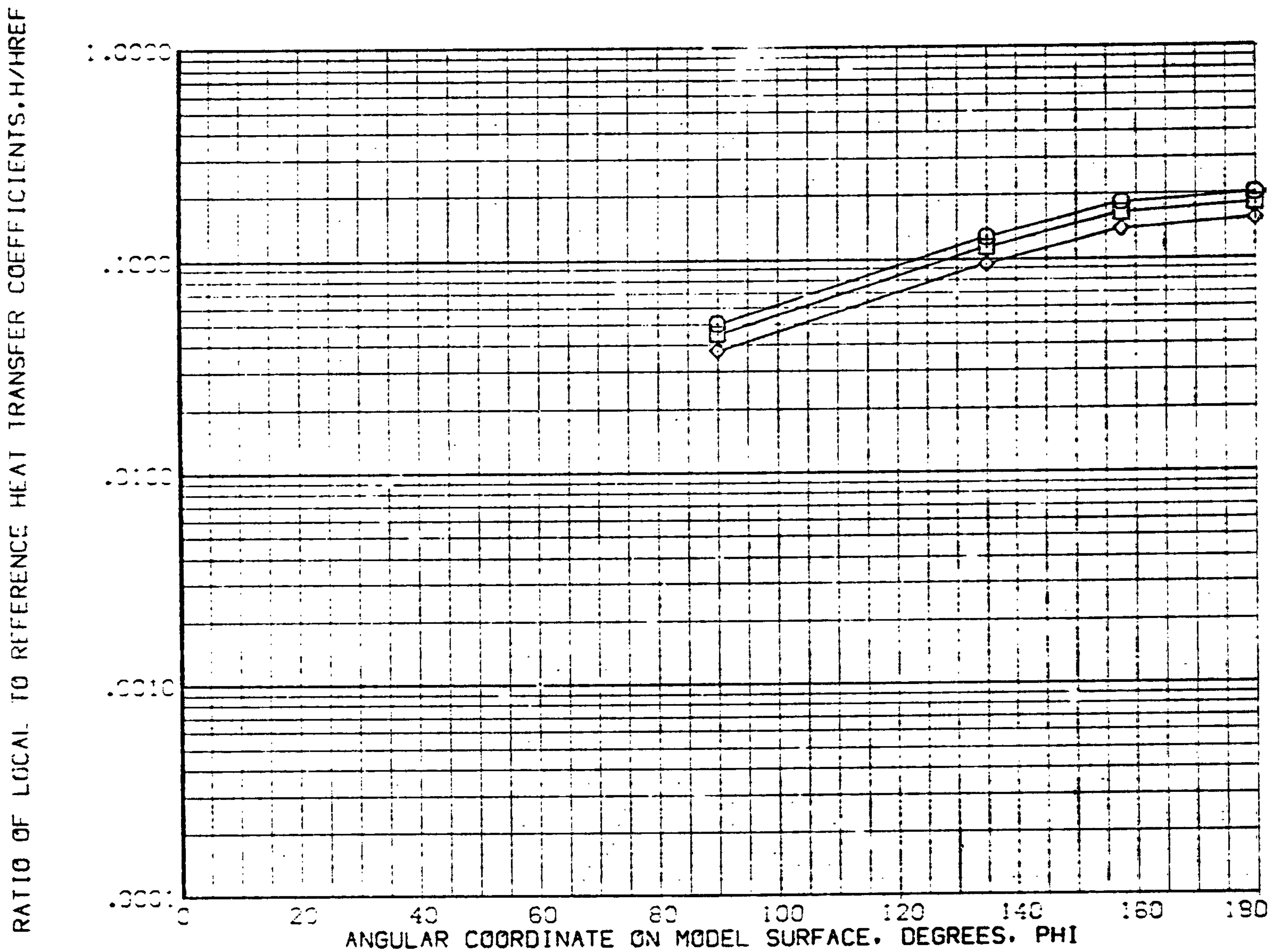

FIG. 4 TANK,ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT18)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.350	5.303
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA -90.000 BETA .000

PN/L 4.000

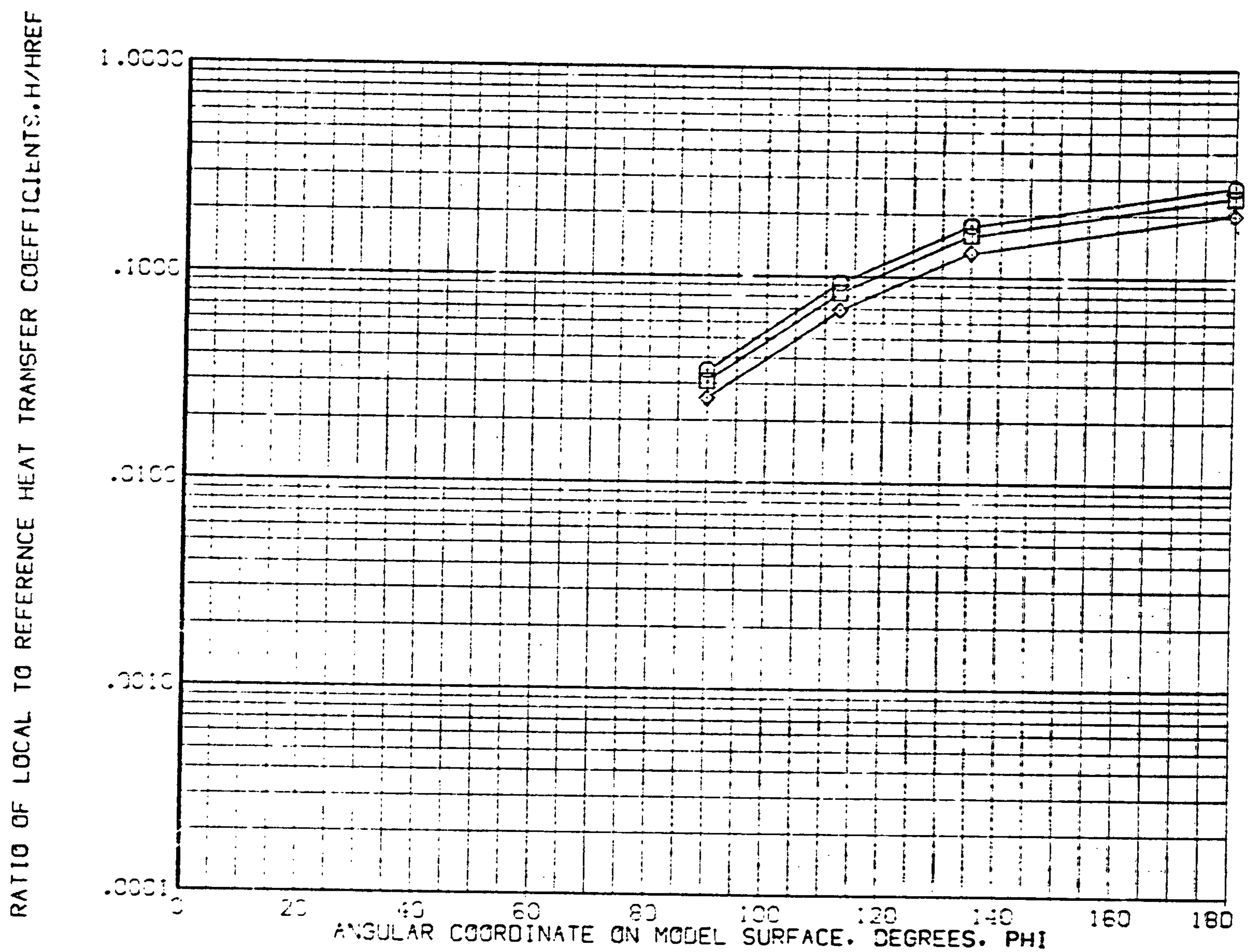

FIG. 4 TANK, ALONE

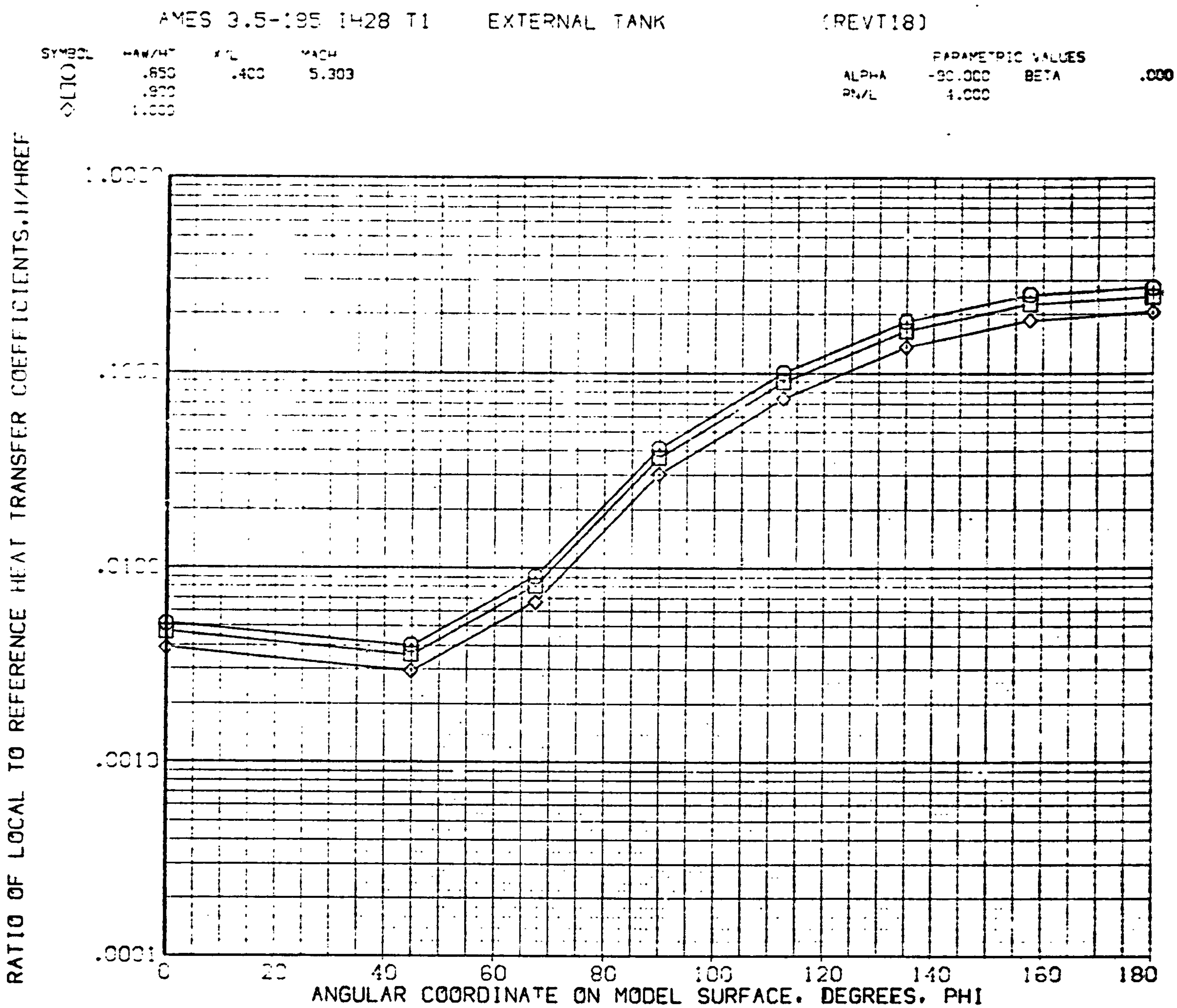

FIG. 4 TANK, ALONE

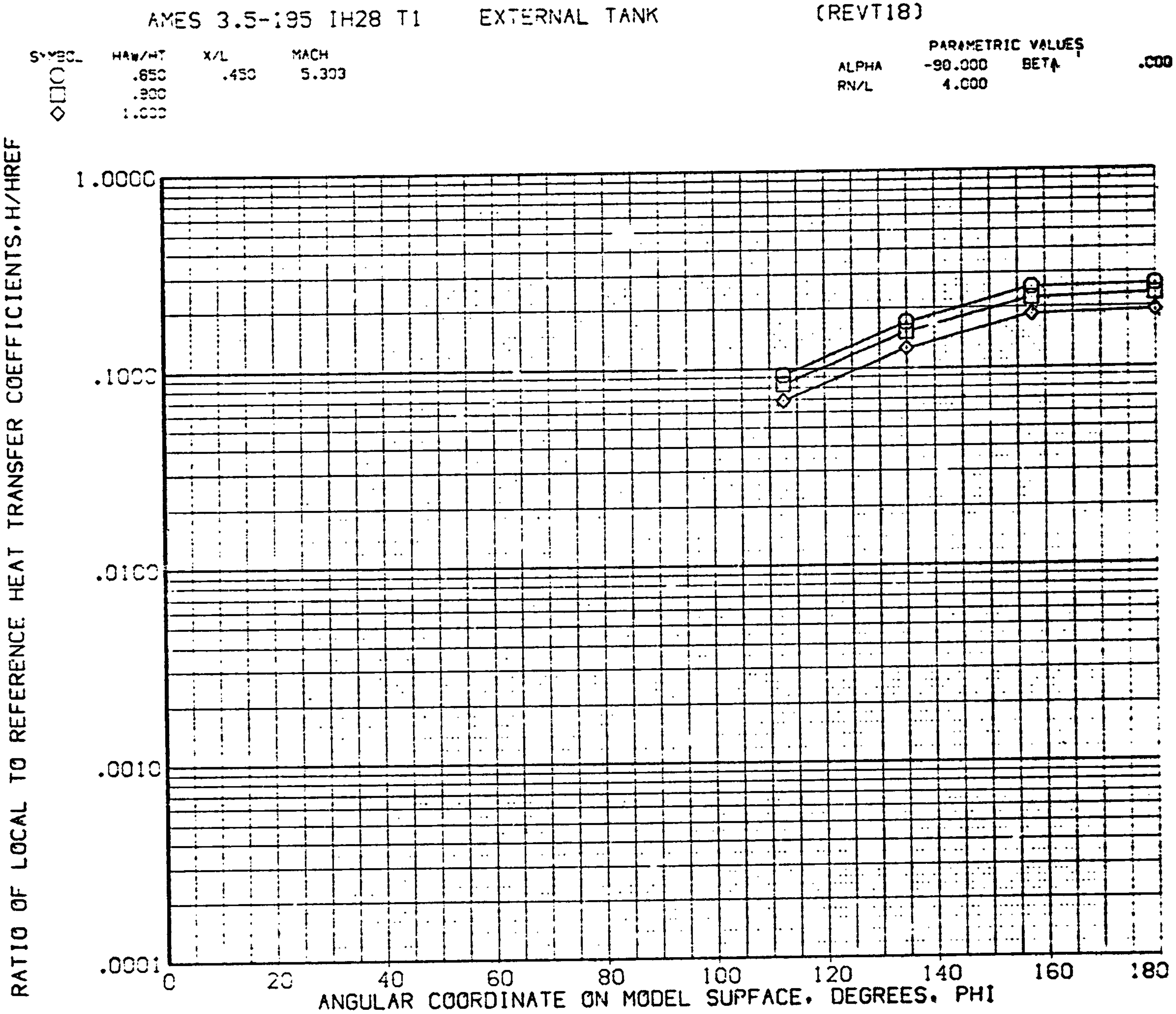

FIG. 4 TANK, ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT18)

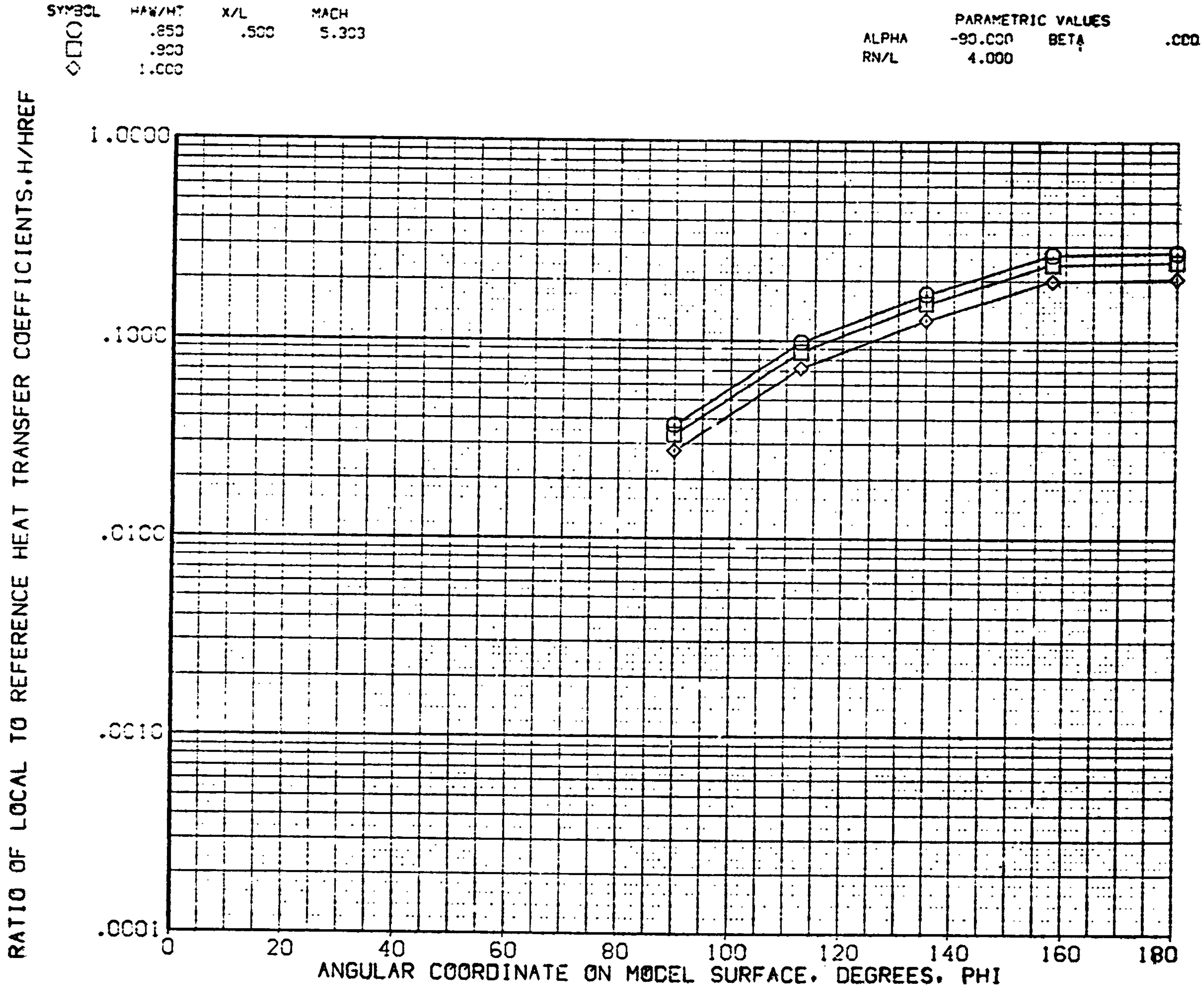

FIG. 4 TANK, ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT18)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.550	5.303
□	.900		
◇	1.000		

PARAMETRIC VALUES
ALPHA -90.000 BETA .000
RN/L 4.000

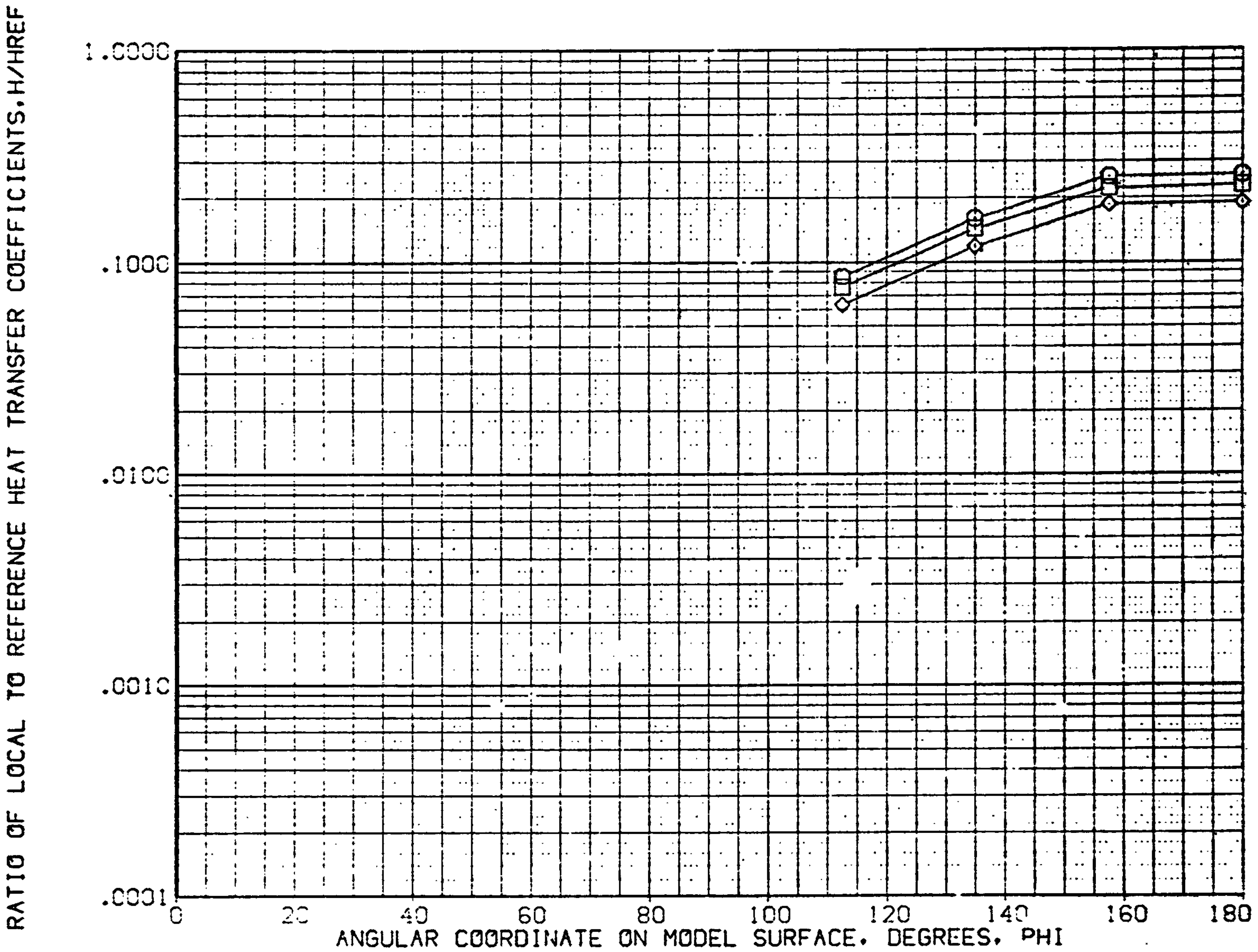

FIG. 4 TANK, ALONE

AMES 3.5-195 IH28 T1   EXTERNAL TANK   (REVT18)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.600	5.303
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA -90.000 BETA .000

RN/L 4.000

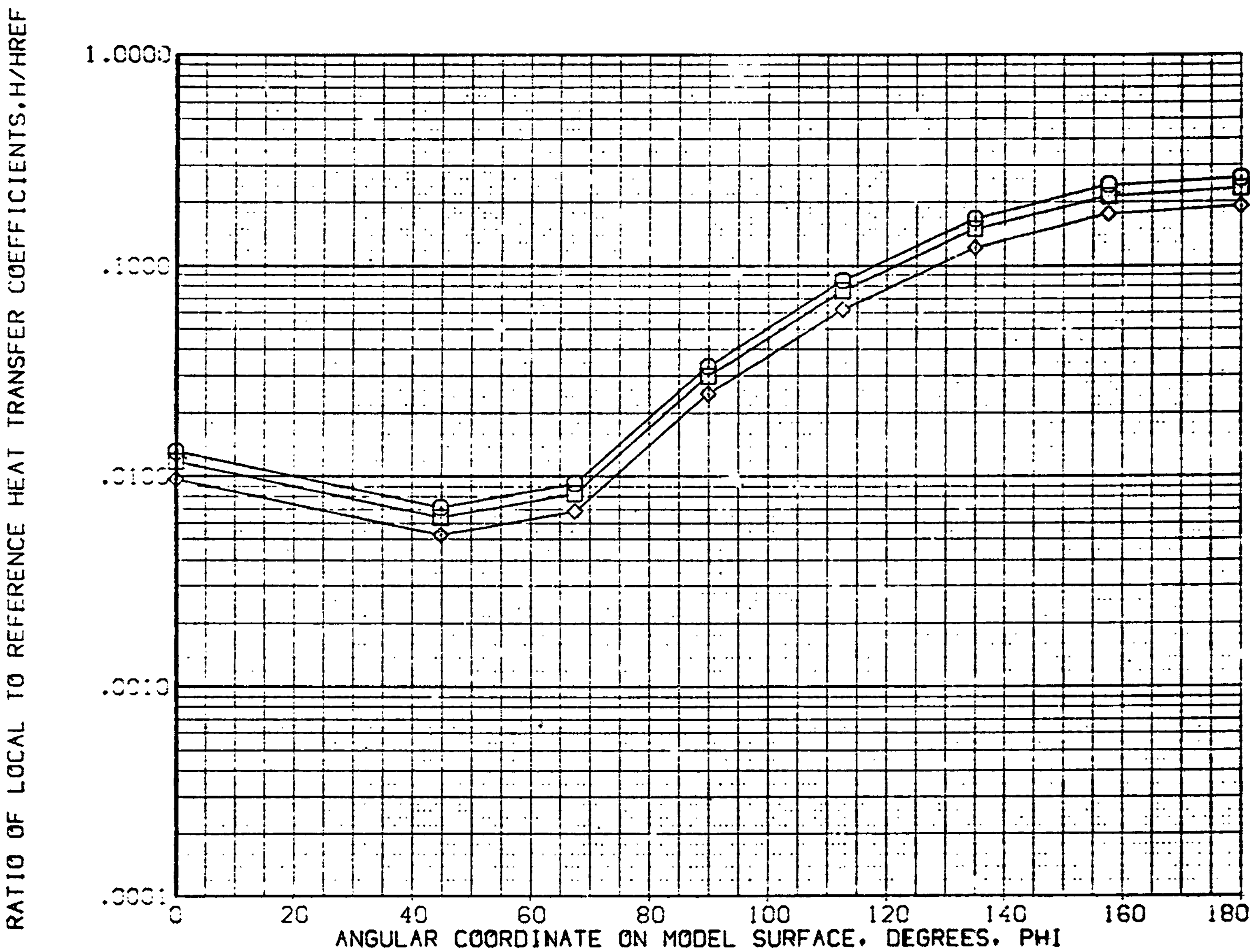

FIG. 4   TANK,ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT18)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.650	5.303
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA	-90.000	BETA	.000
RN/L	4.000		

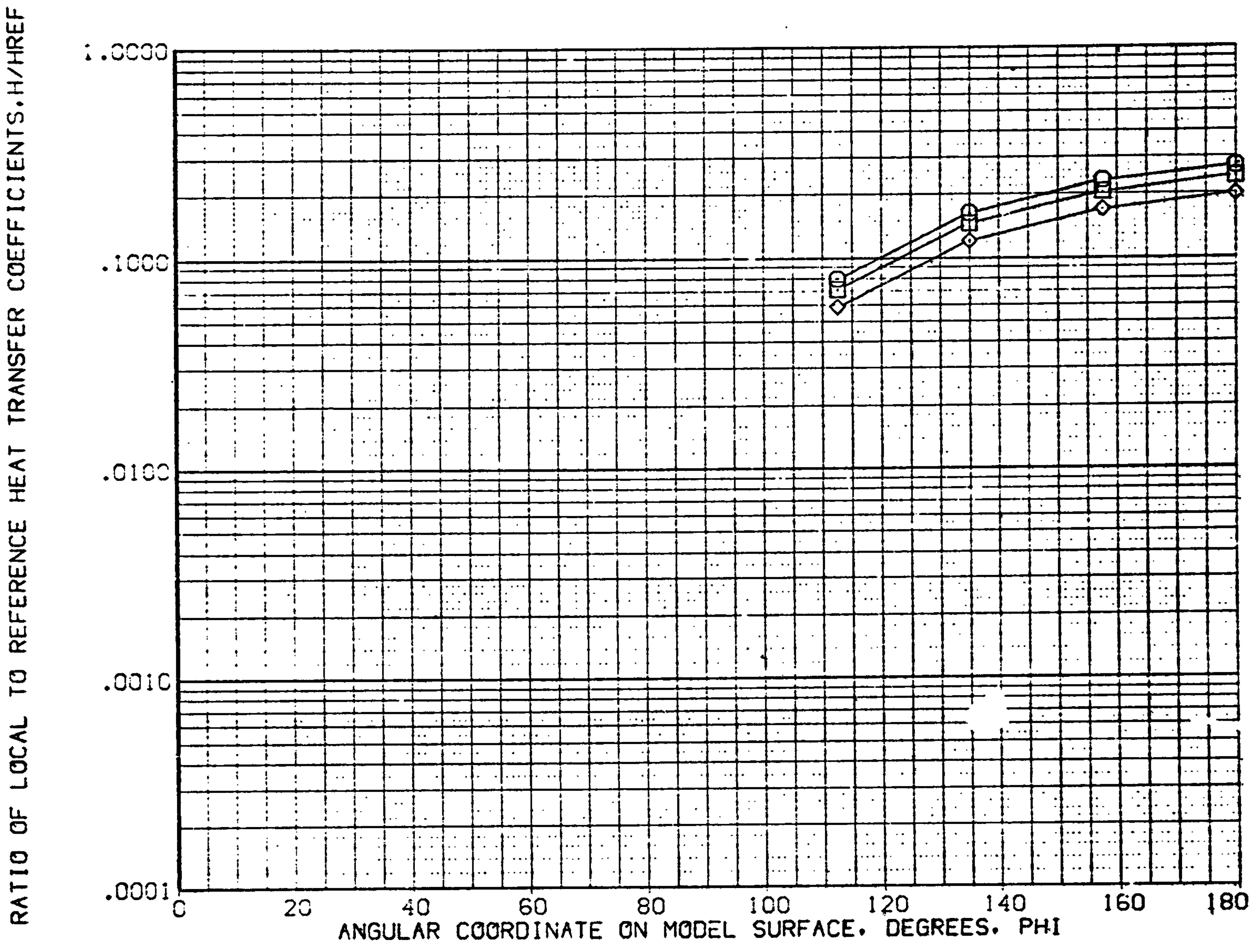

FIG. 4 TANK, ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT18)

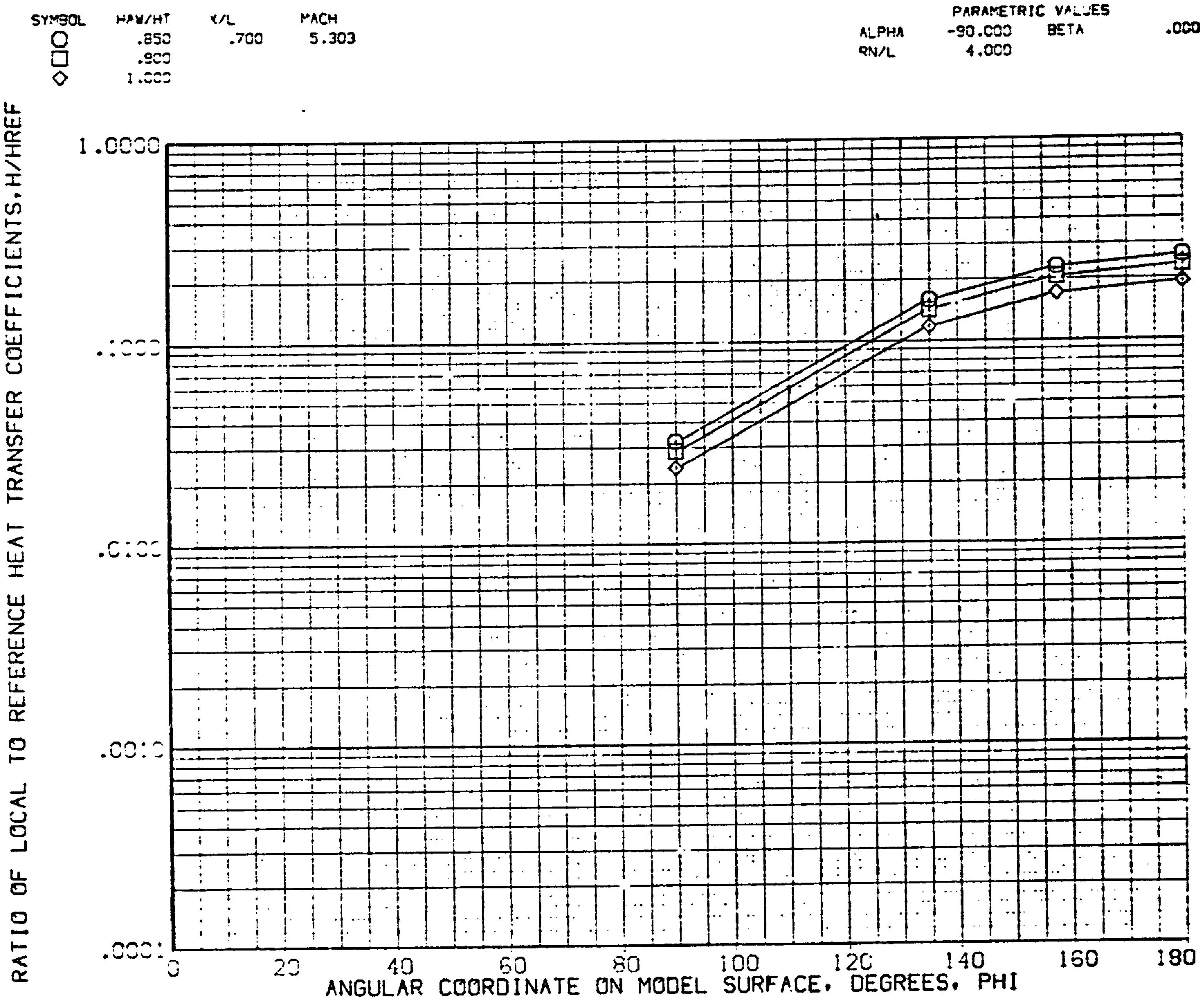

FIG. 4 TANK, ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT18)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.750	5.303
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA -90.00 BETA .000
RN/L 4.000

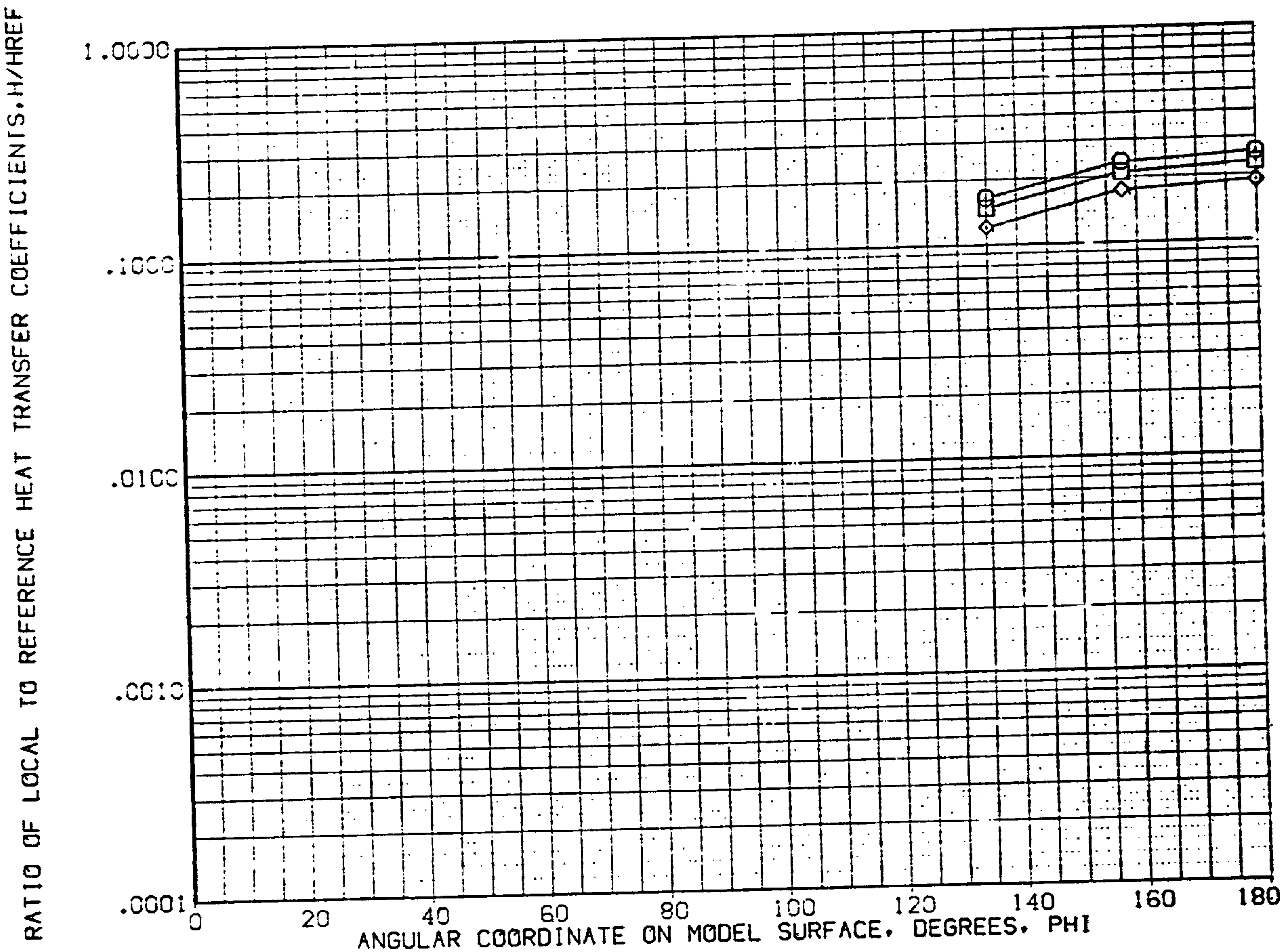

FIG. 4 TANK, ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT18)

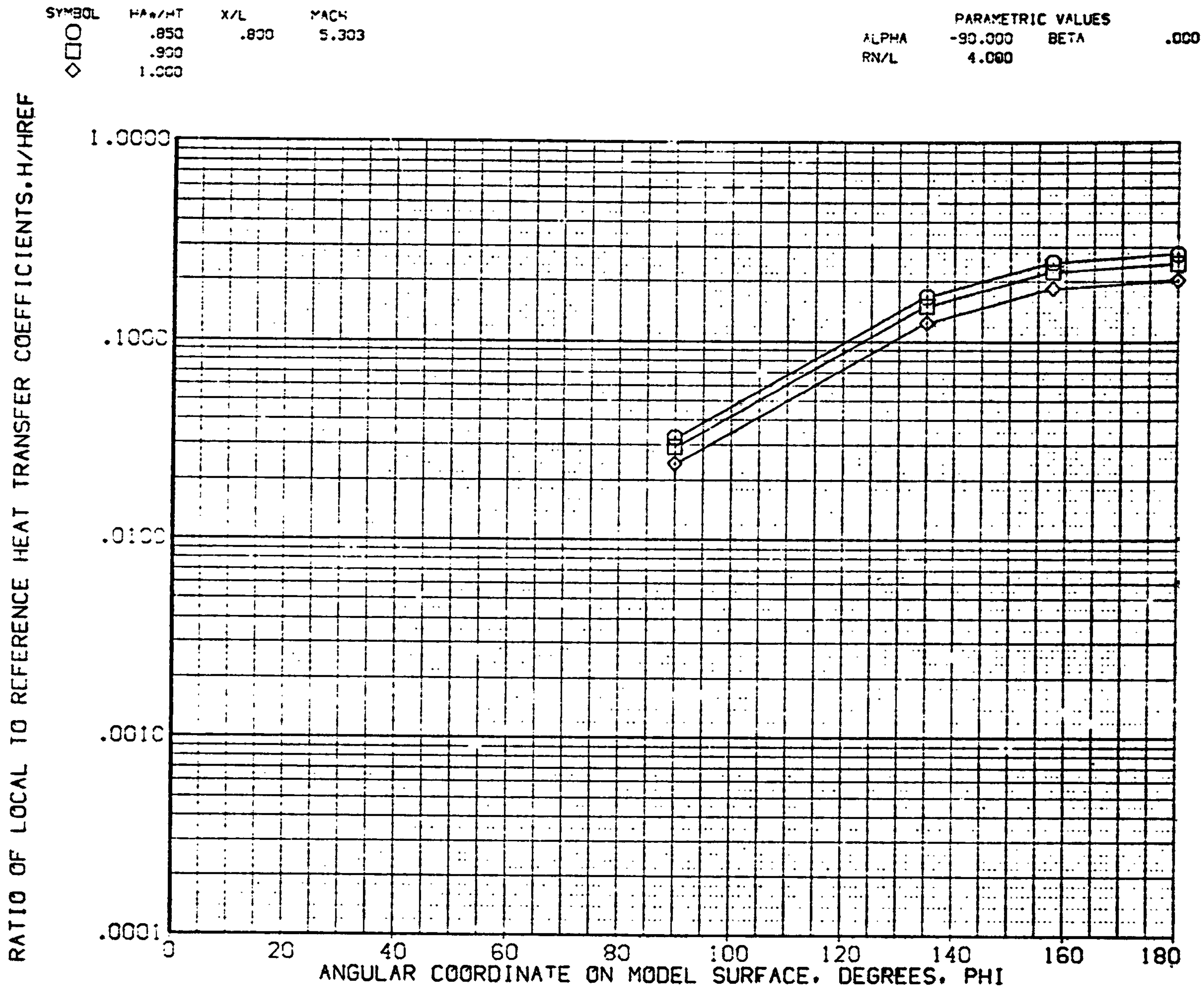

FIG. 4 TANK, ALONE

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AMES 3.5-195 IH28 T1   EXTERNAL TANK   (REVT18)

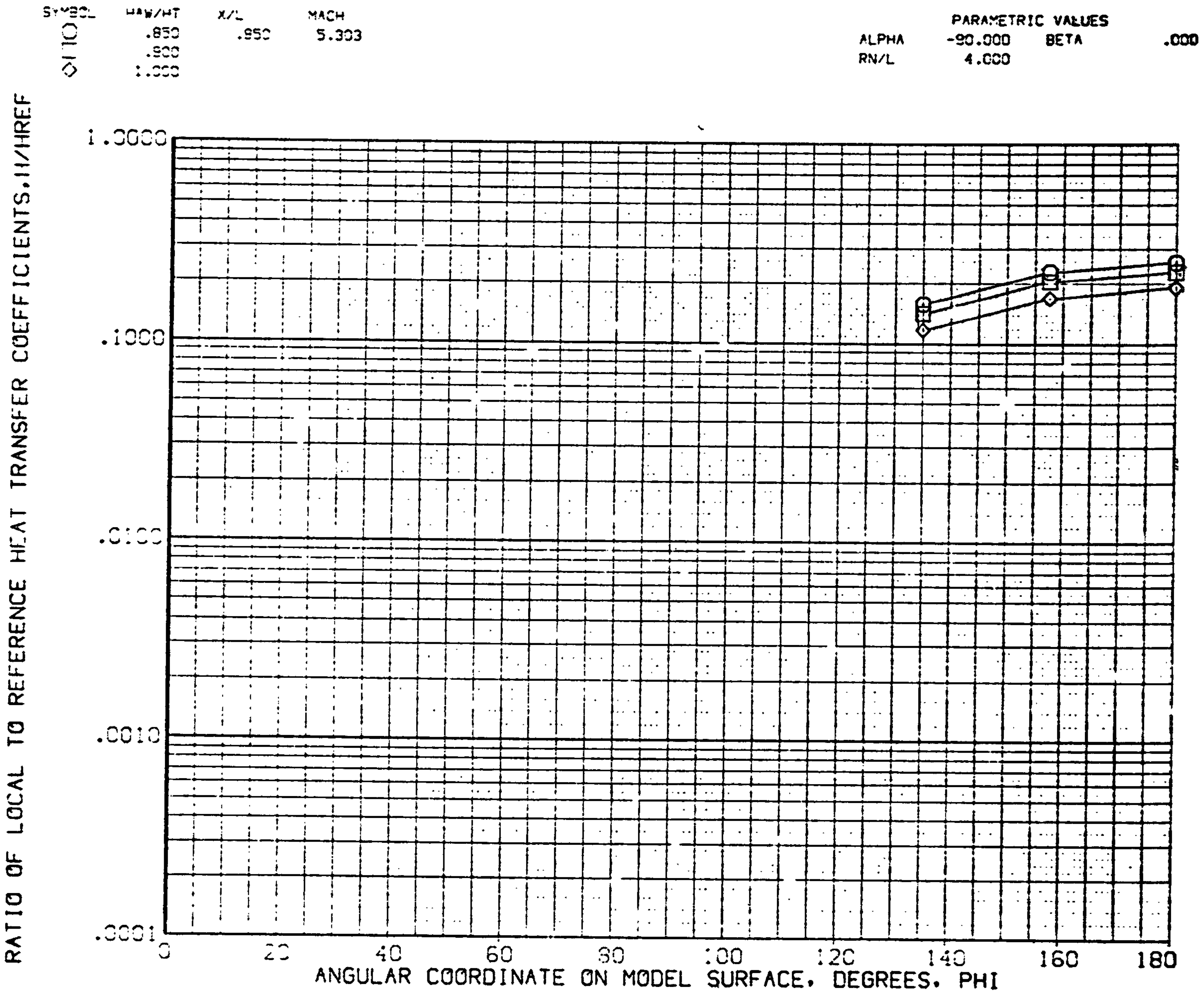


FIG. 4 TANK, ALONE

AMES 3.5-195 IH28 T1 EXTERNAL TANK (REVT18)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.900	5.303
□	.900		
◇	1.000		

PARAMETRIC VALUES
ALPHA -90.000 BETA .000
RN/L 4.000

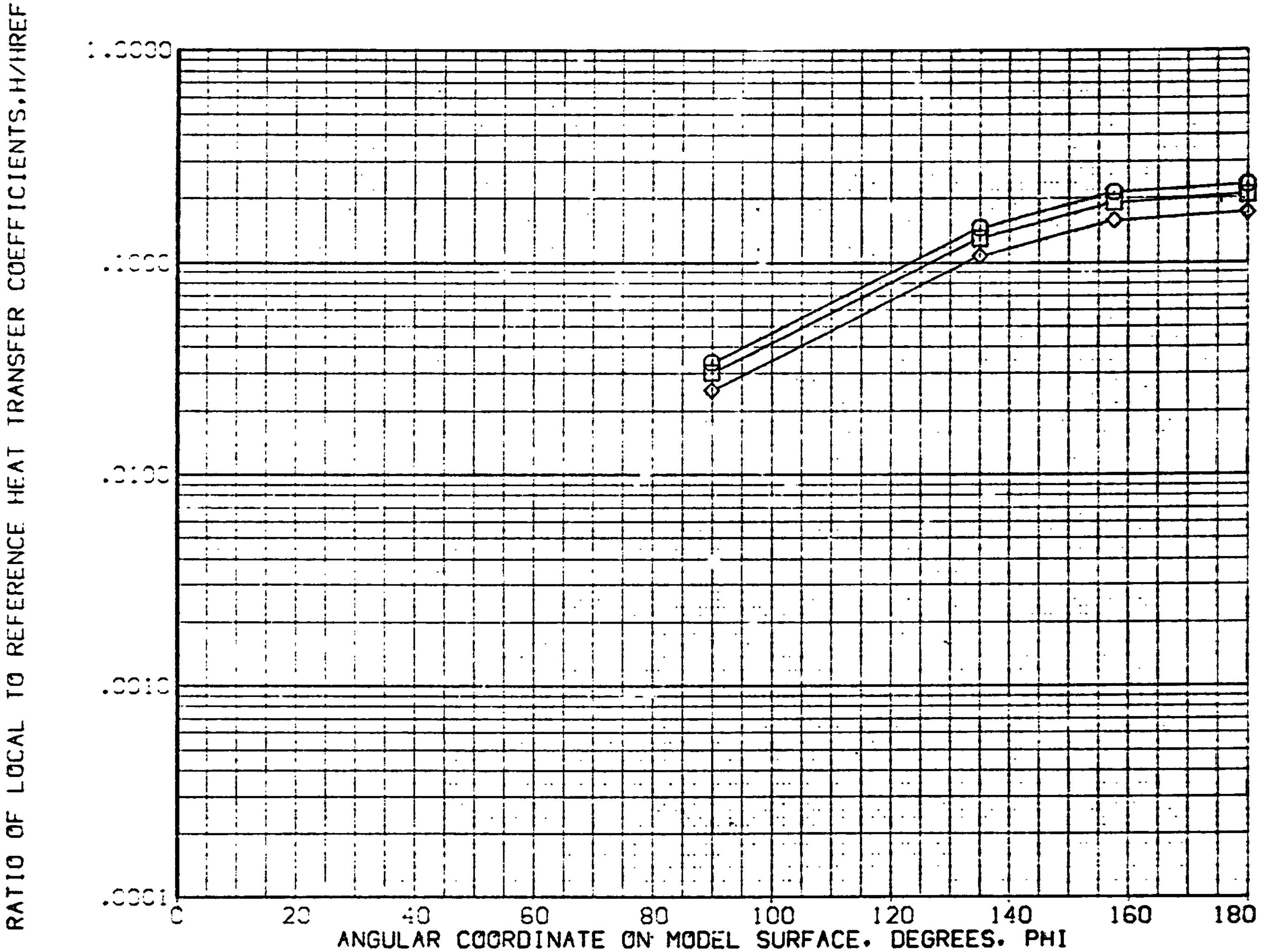


FIG. 4 TANK, ALONE

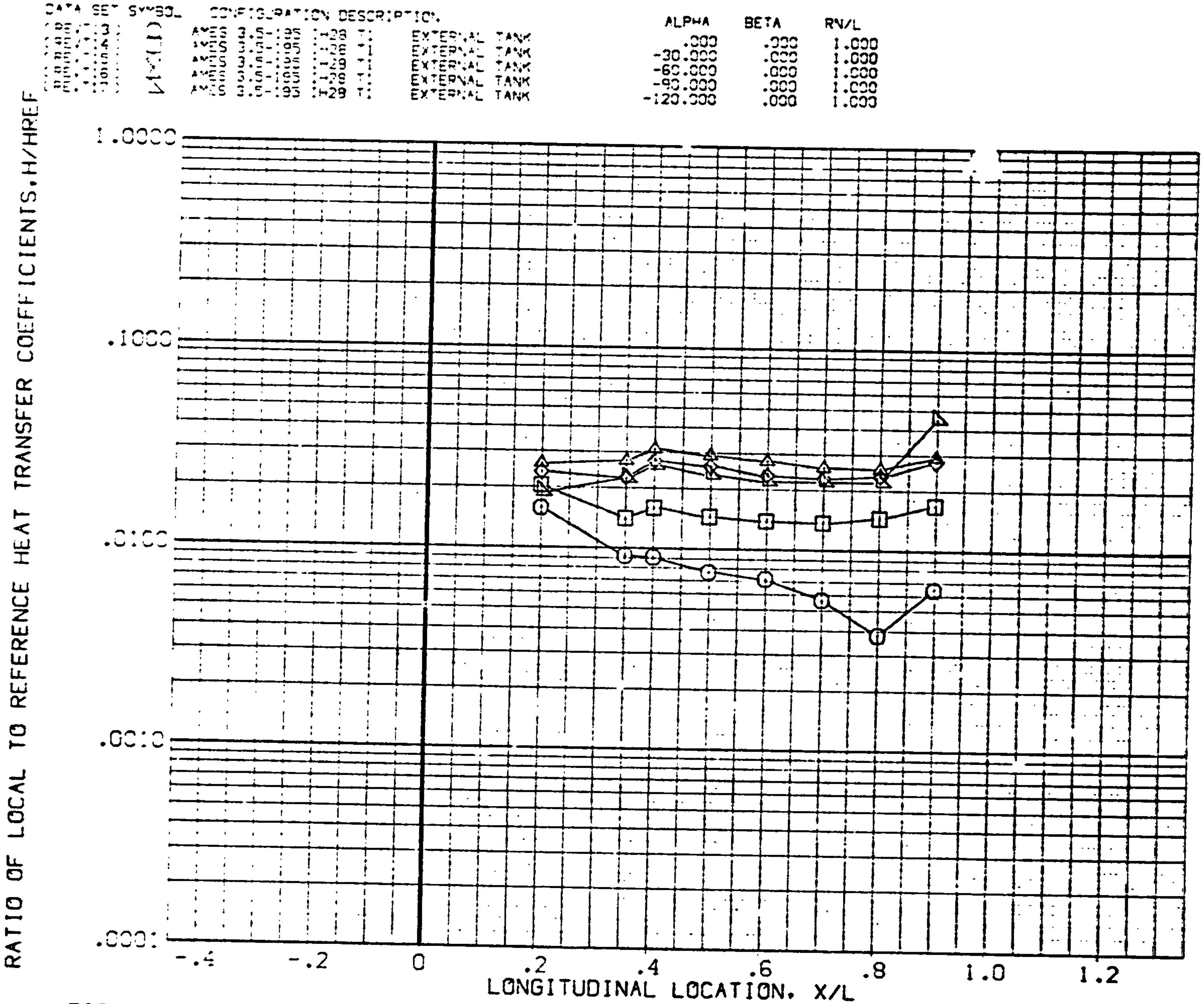


FIG. 4 TANK, ALONE

MAC- = 5.300 -A / HT= .900 PHI = 90.000

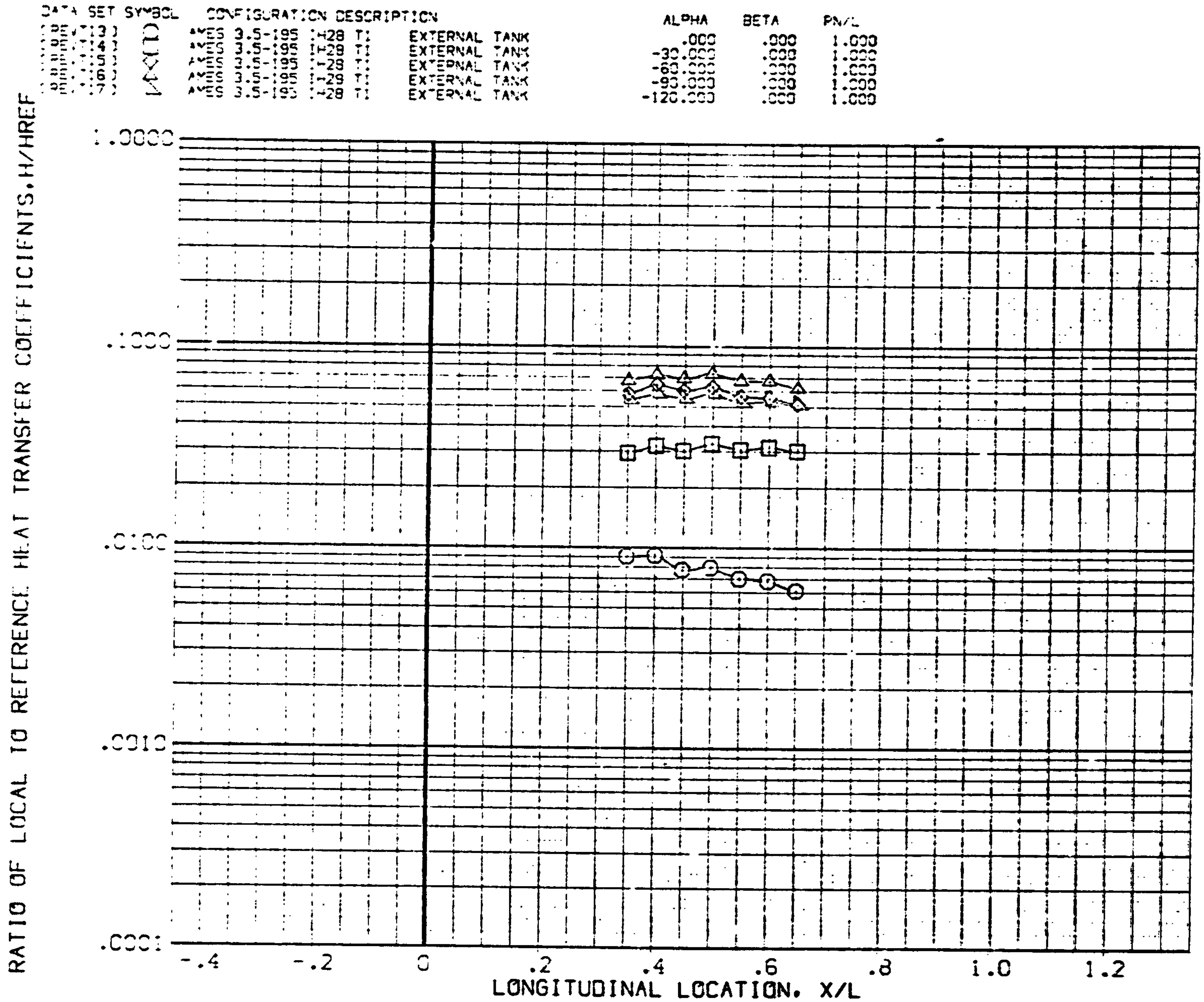


FIG. 4 TANK, ALONE

MACH = 5.300 = .900 PHI = 112.500

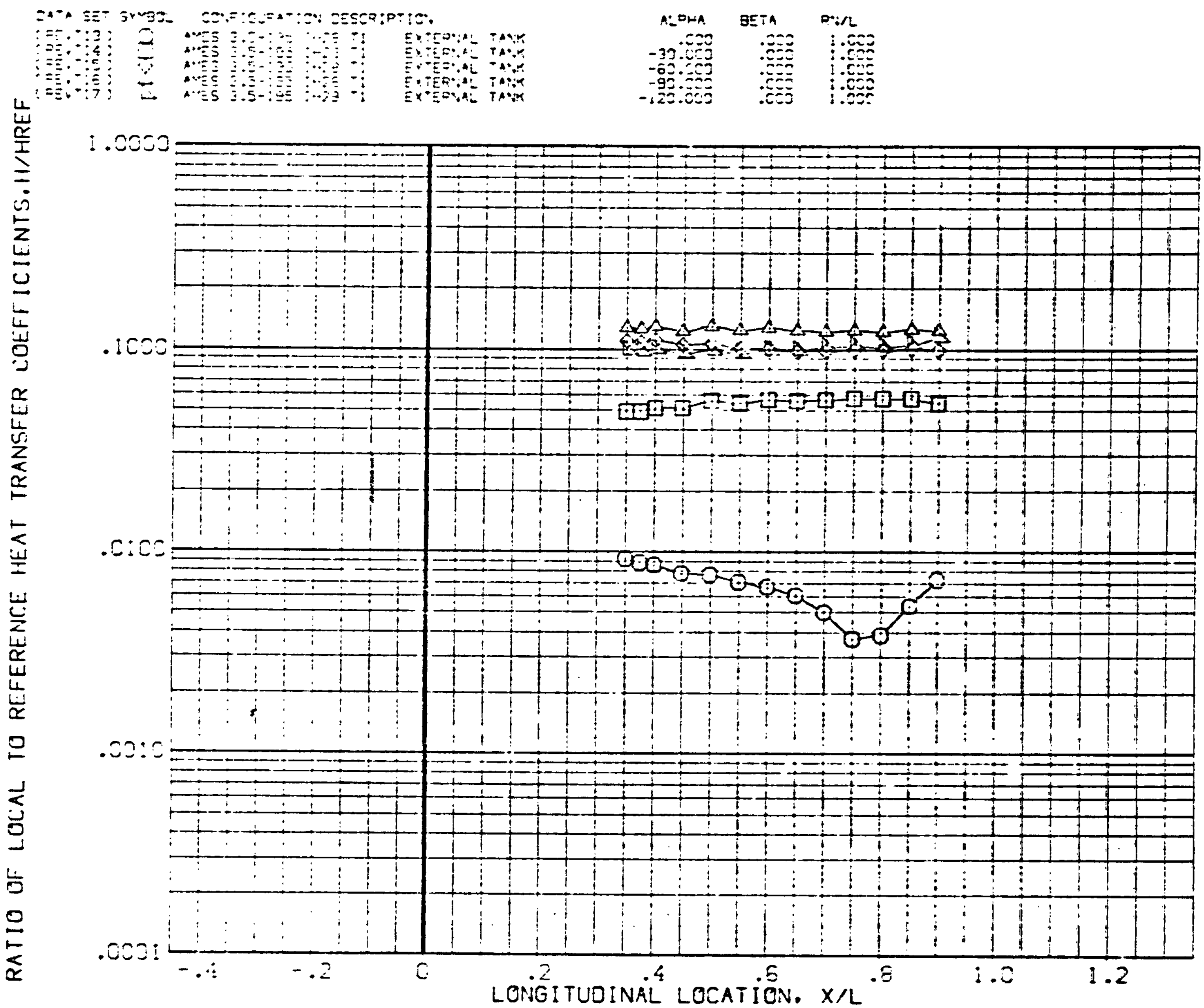


FIG. 4 TANK ALONE

MACH = 5.300 THAW/HT = .900 PHI = 135.000

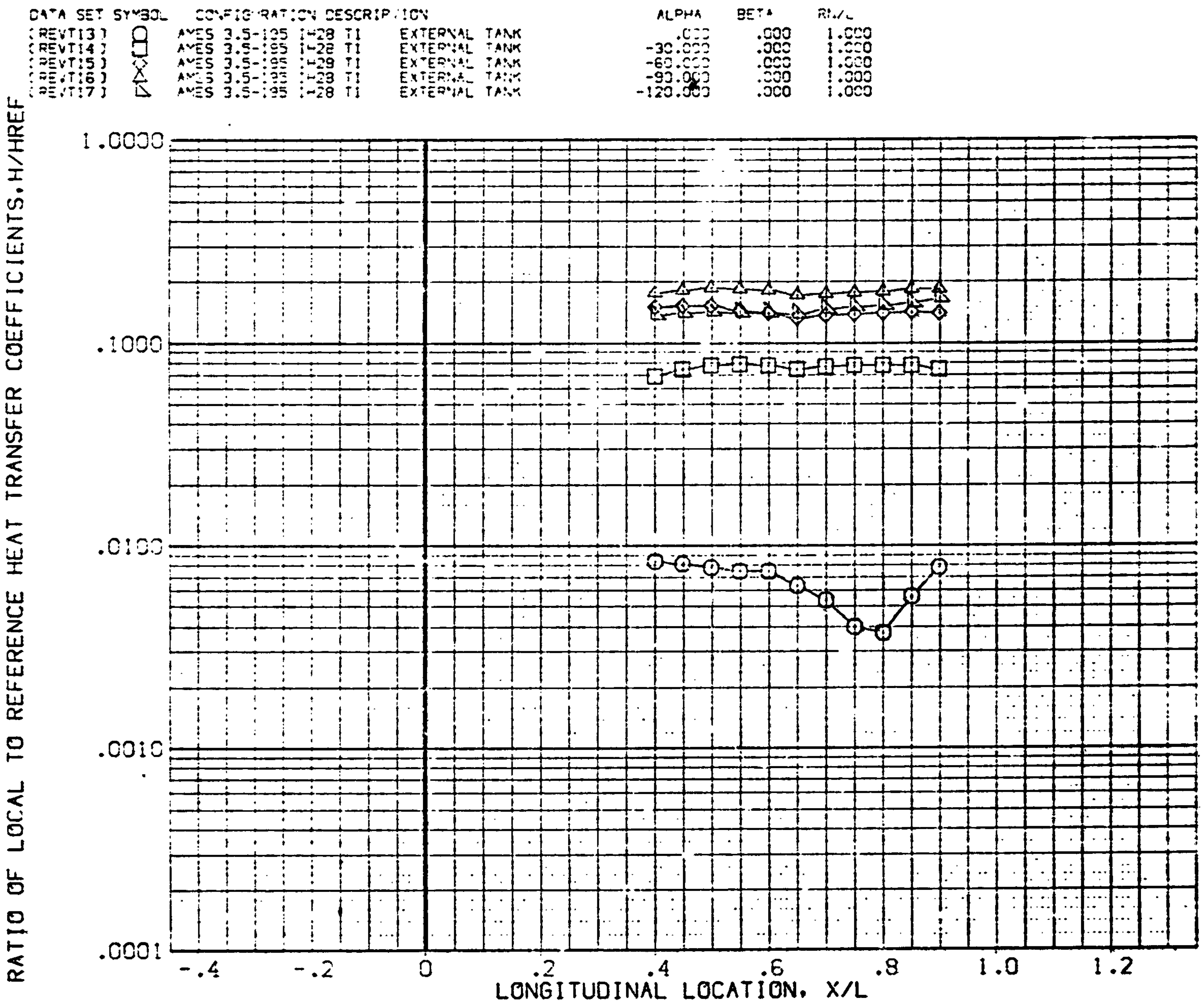


FIG. 4 TANK,ALONE

MACH = 5.300 HAW/HT= .900 PHI = 157.500

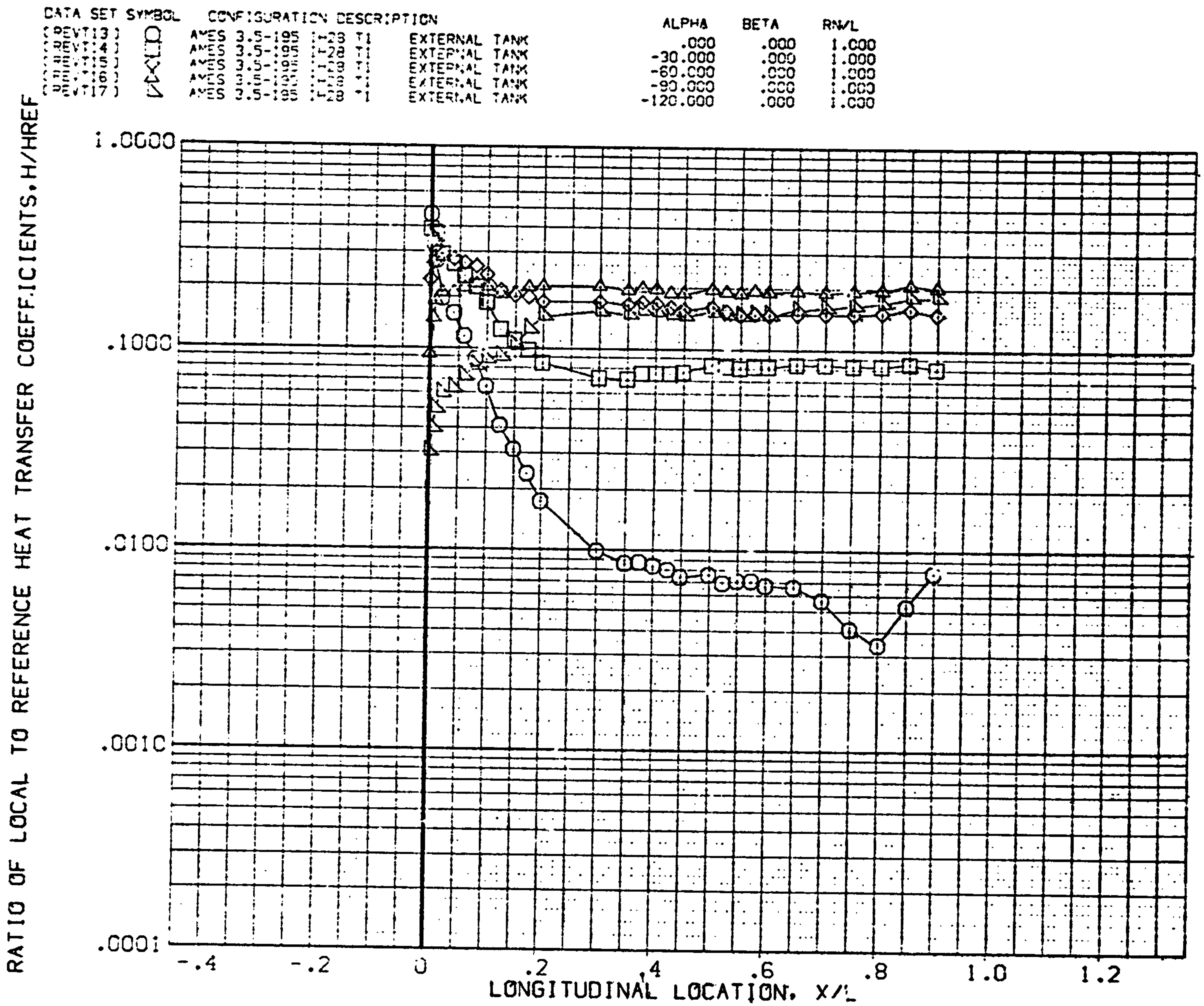


FIG. 4 TANK, ALONE

MACH = 5.300 HAW/HT= .900 PHI = 180.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ALPHA	BETA	RN/L
(REVT16)	○	AMES 3.5-195 IH28 TI	EXTERNAL TANK	90.000	.000	1.000
(REVT18)	□	AMES 3.5-195 IH28 TI	EXTERNAL TANK	90.000	.000	4.000

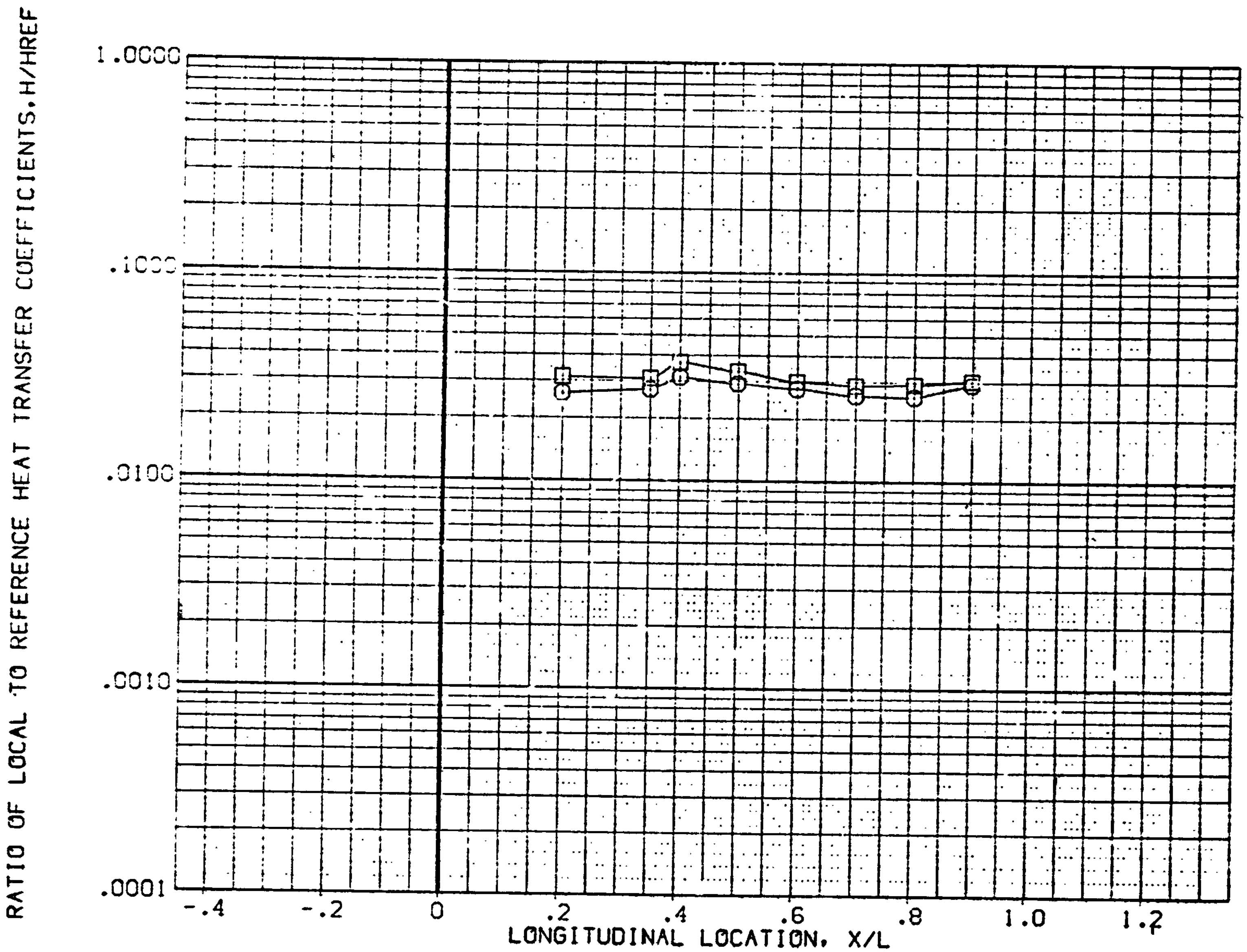


FIG. 4 TANK, ALONE

MACH = 5.300 HAW/HT= .900 PHI = 90.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ALPHA	BETA	RN/L
(REVT16)	○	AMES 3.5-195 IH28 T1	EXTERNAL TANK	-90.000	.000	1.000
(REVT18)	□	AMES 3.5-195 IH28 T1	EXTERNAL TANK	-90.000	.000	4.000

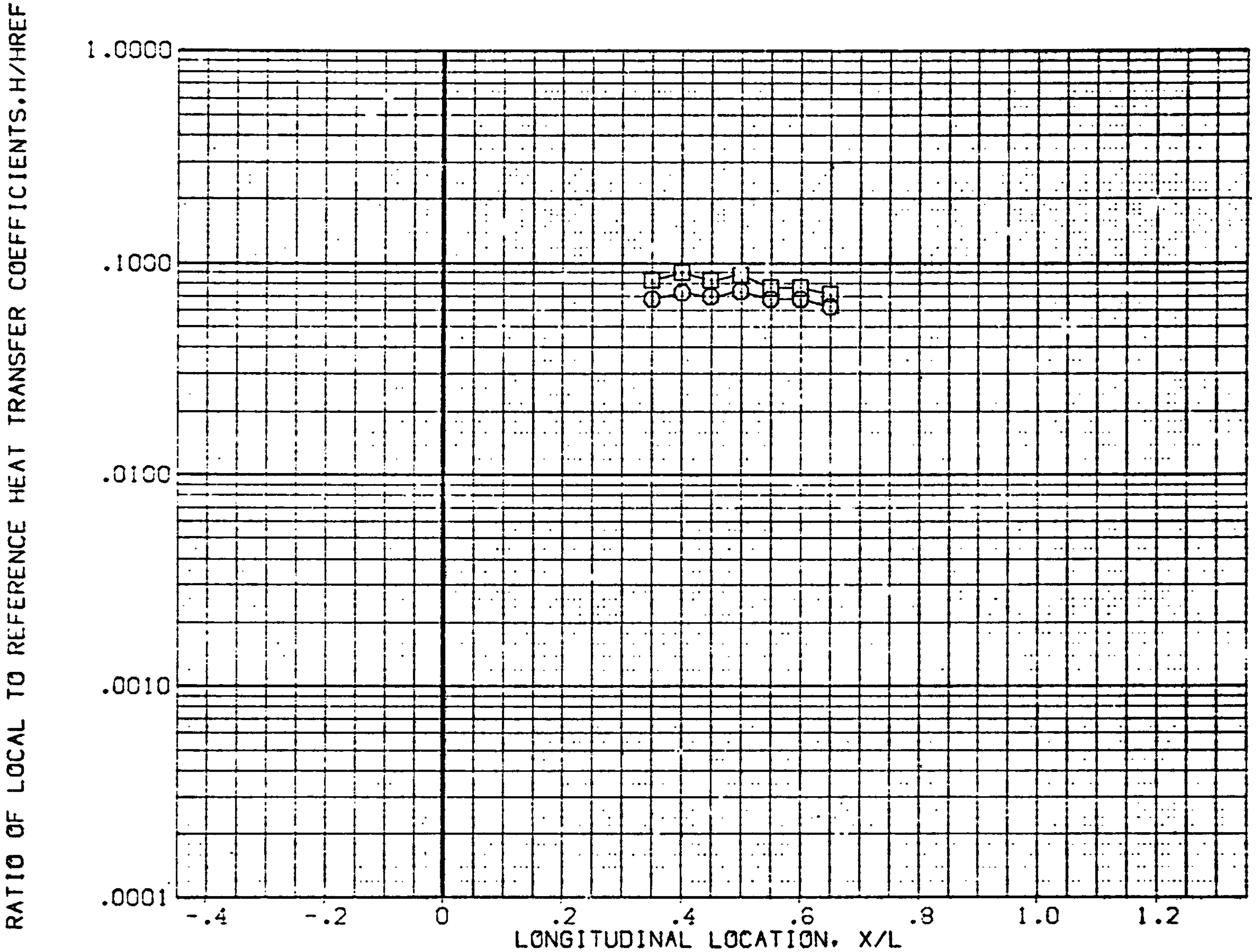


FIG. 4 TANK, ALONE

MACH = 5.300 HAW/HT= .900 PHI = 112.500

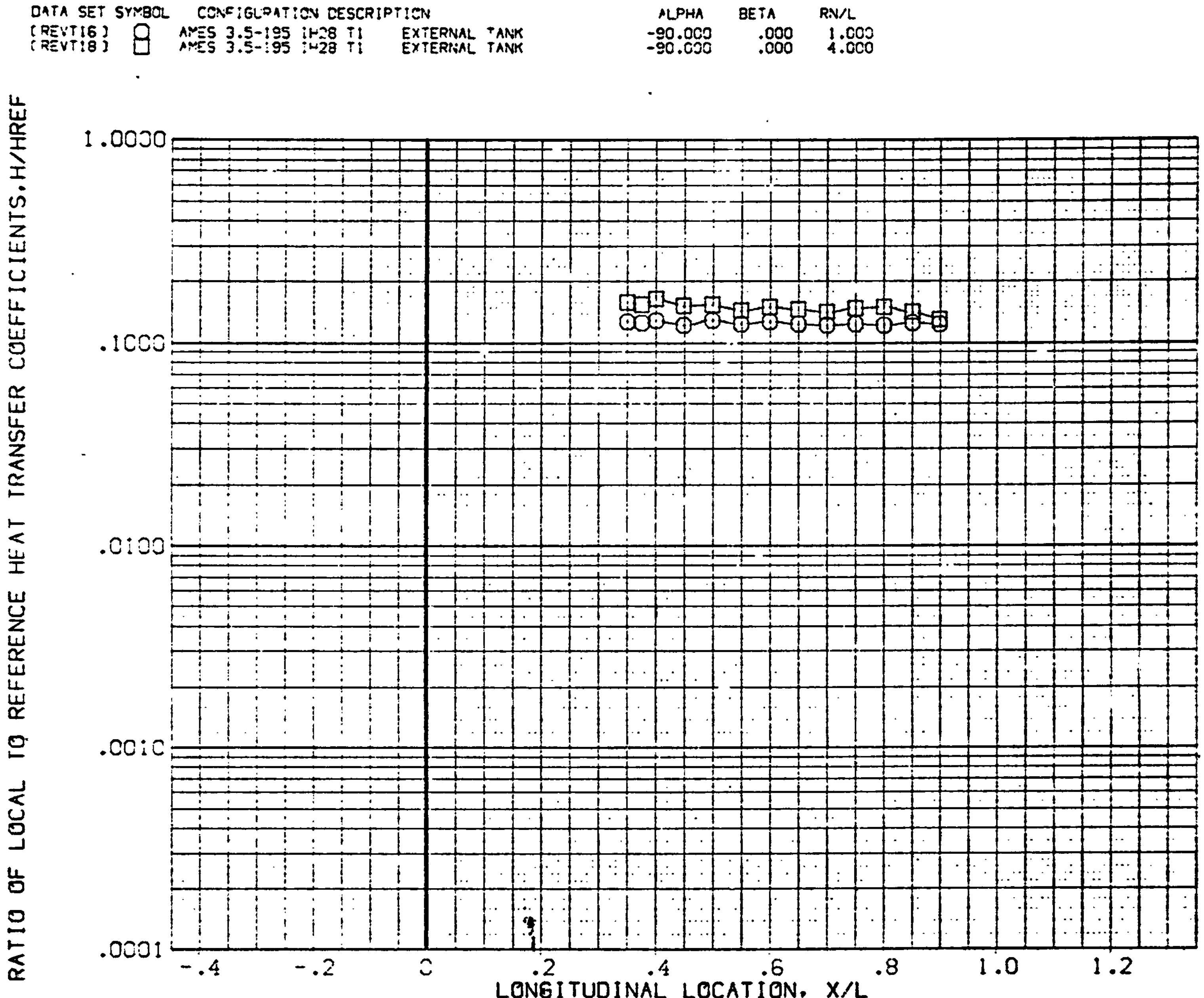


FIG. 4 TANK,ALONE

MACH = 5.300 HAW/HT= .900 PHI = 135.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ALPHA	BETA	RN/L
(REVT16)	○	AMES 3.5-195 IH28 T1	EXTERNAL TANK	-90.000	.000	1.000
(REVT18)	□	AMES 3.5-195 IH28 T1	EXTERNAL TANK	-90.000	.000	4.000

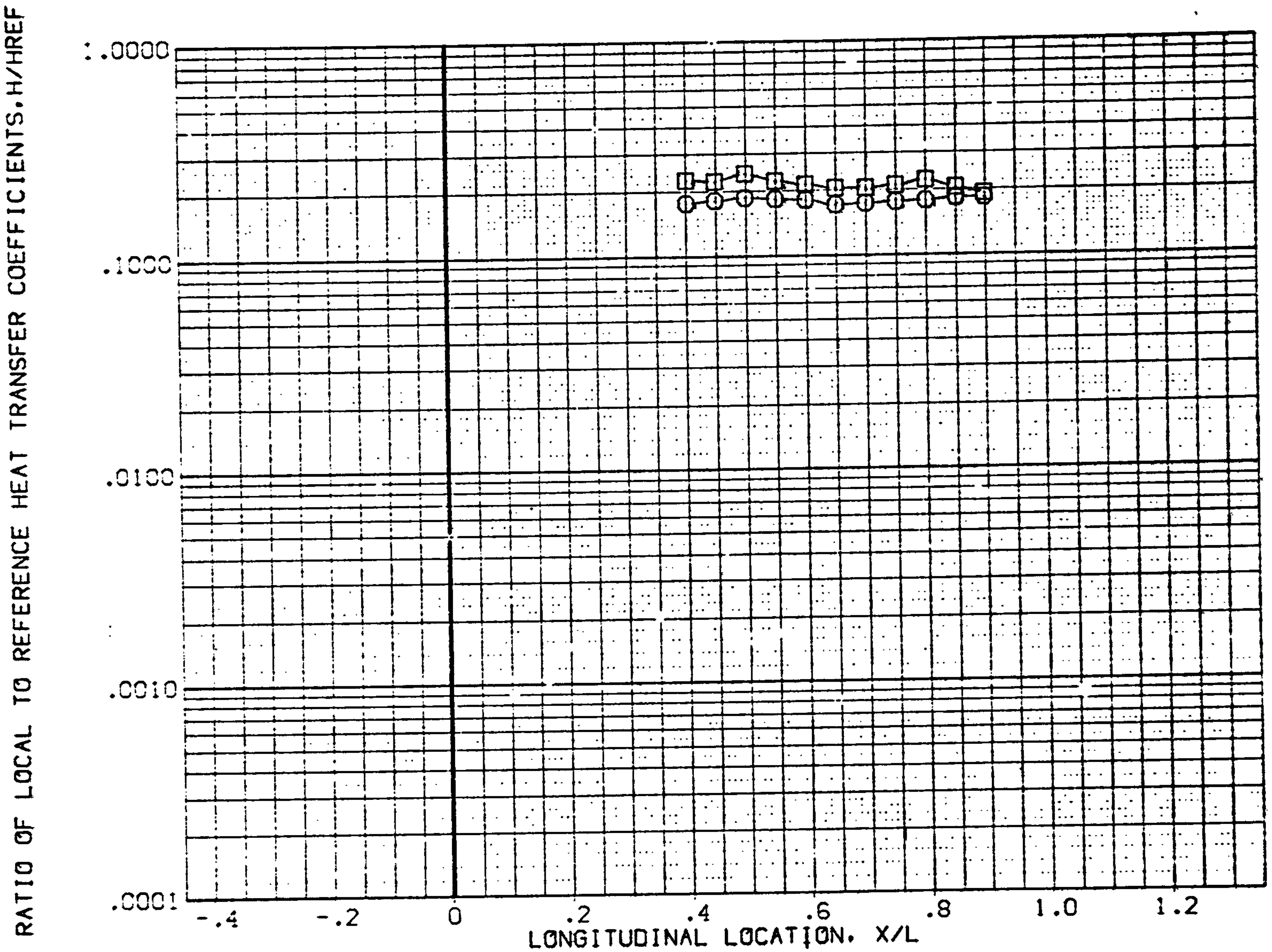


FIG. 4 TANK, ALONE

MACH = 5.300 HAW/HT= .900 PHI = 157.500

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ALPHA	BETA	RN/L
(REVT16)	○	AMES 3.5-195 1428 TT	EXTERNAL TANK	-90.000	.000	1.000
(REVT18)	□	AMES 3.5-195 1428 TI	EXTERNAL TANK	-90.000	.000	4.000

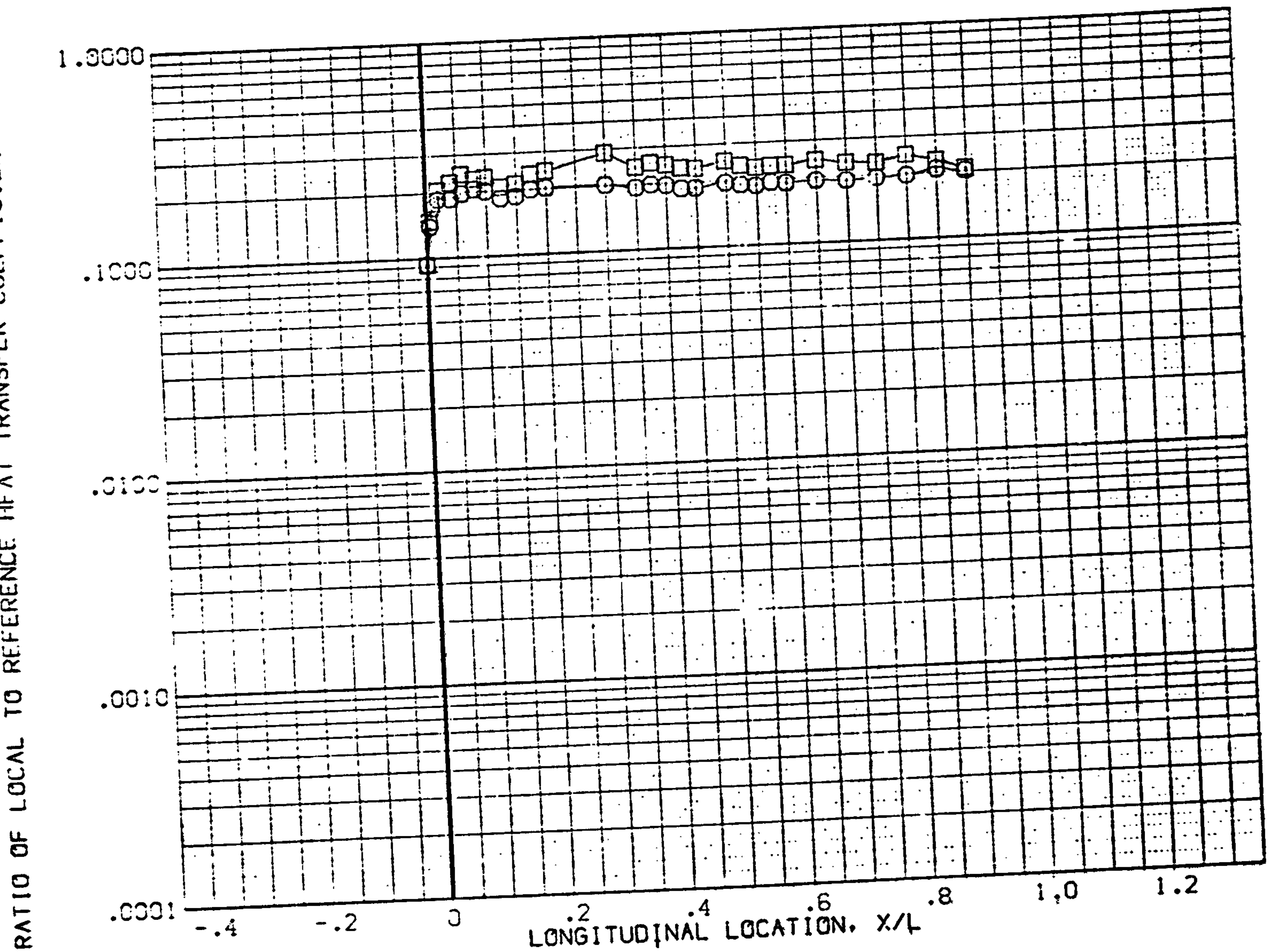


FIG. 4 TANK, ALONE

MACH = 5.300 HAW/HT= .900 PHI = 180.000

AMES 3.5-195 IH28 01+T1 EXTERNAL TANK (REVT01)

SYMBOL	HA/HT	PHI	MACH
○	.850	90.000	5.222
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA	.000	BETA	.000
RN/L	1.000		

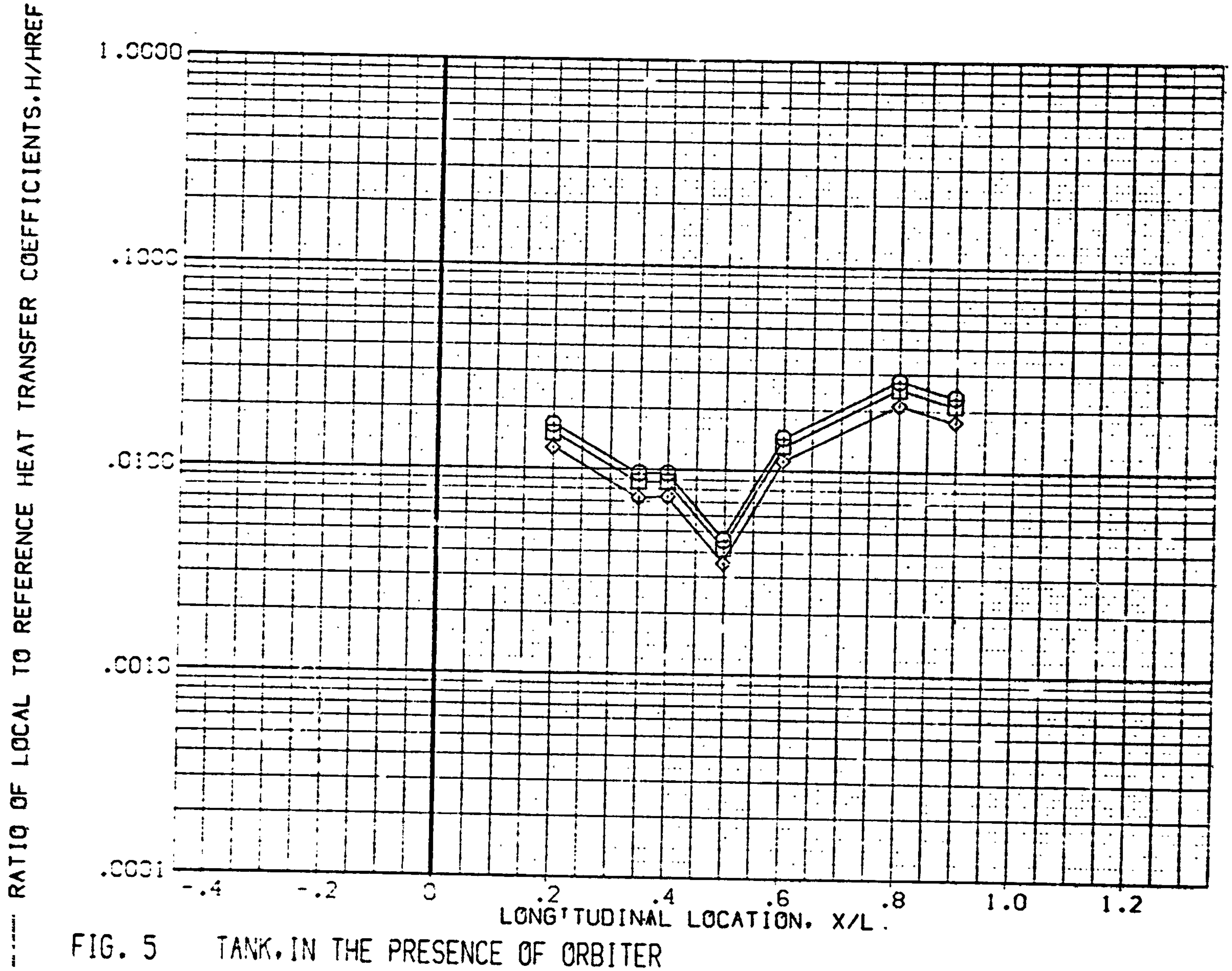


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

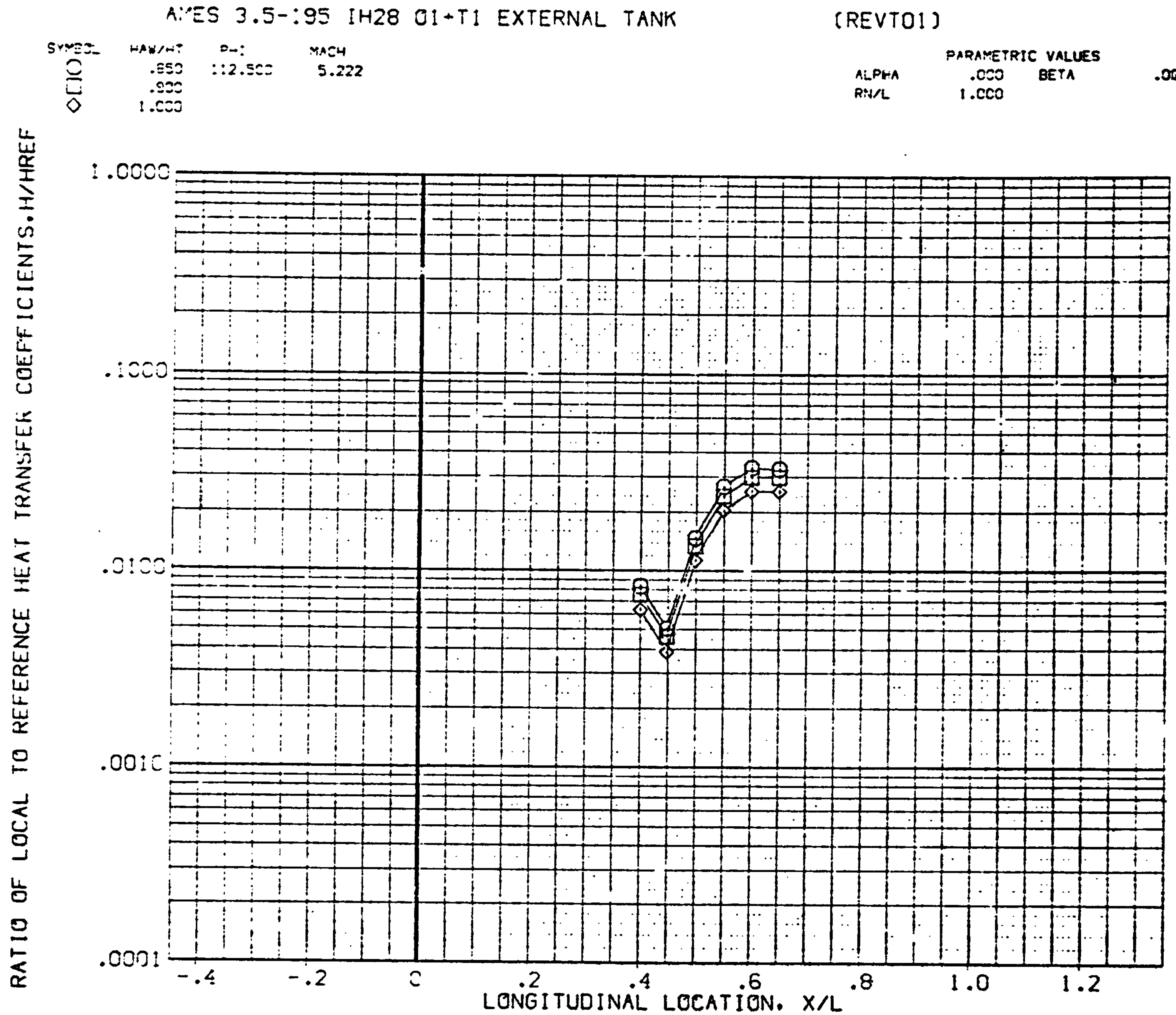


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

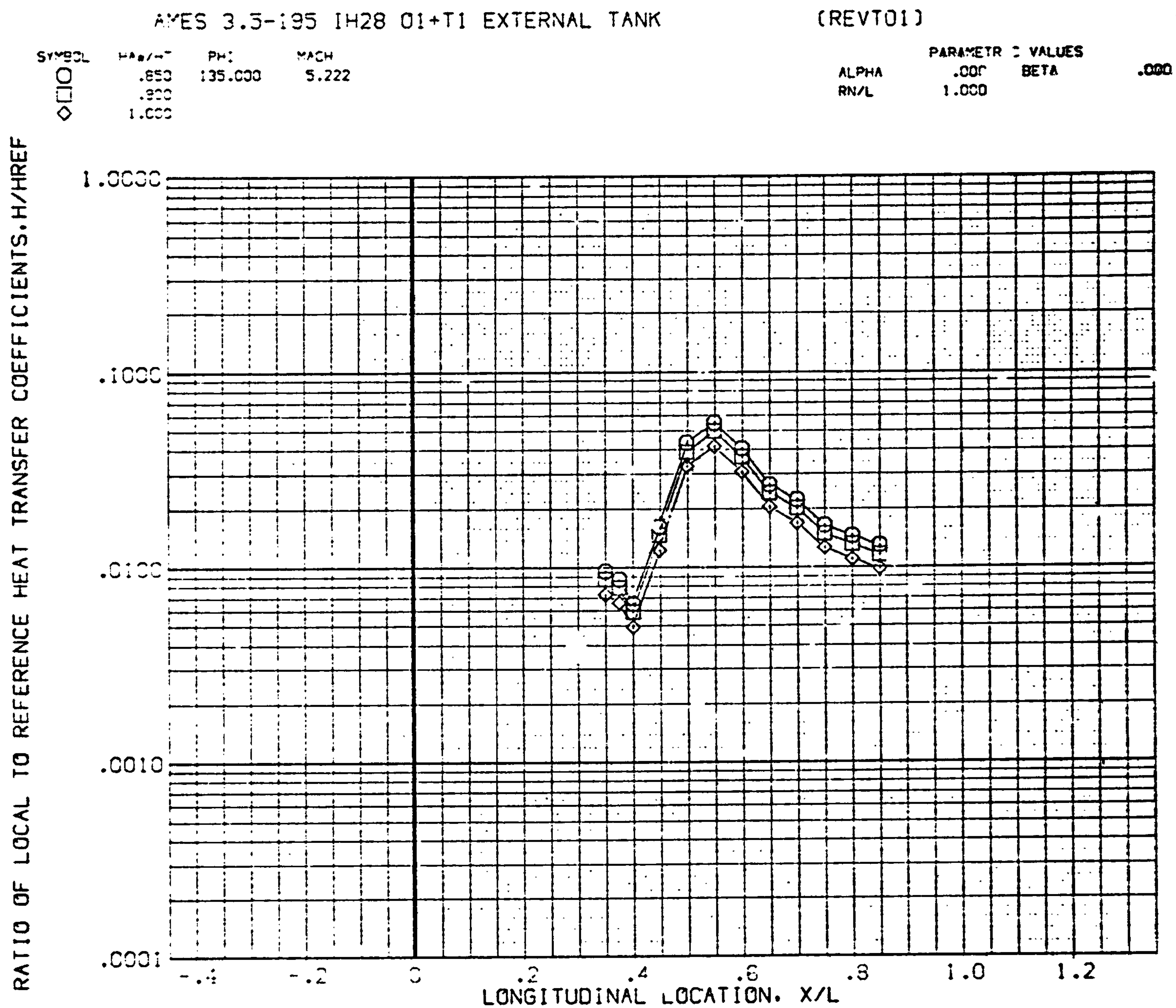


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

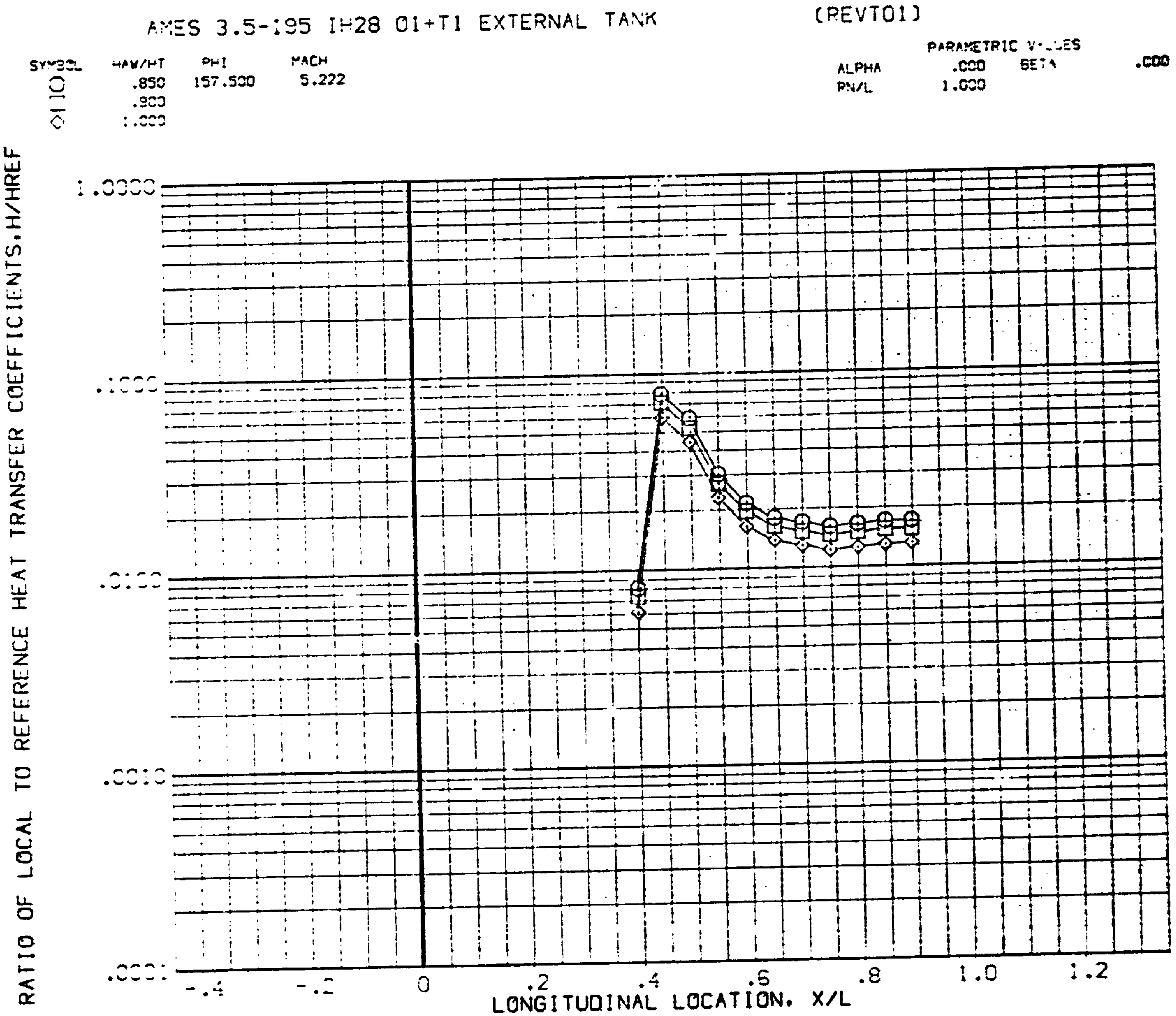


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

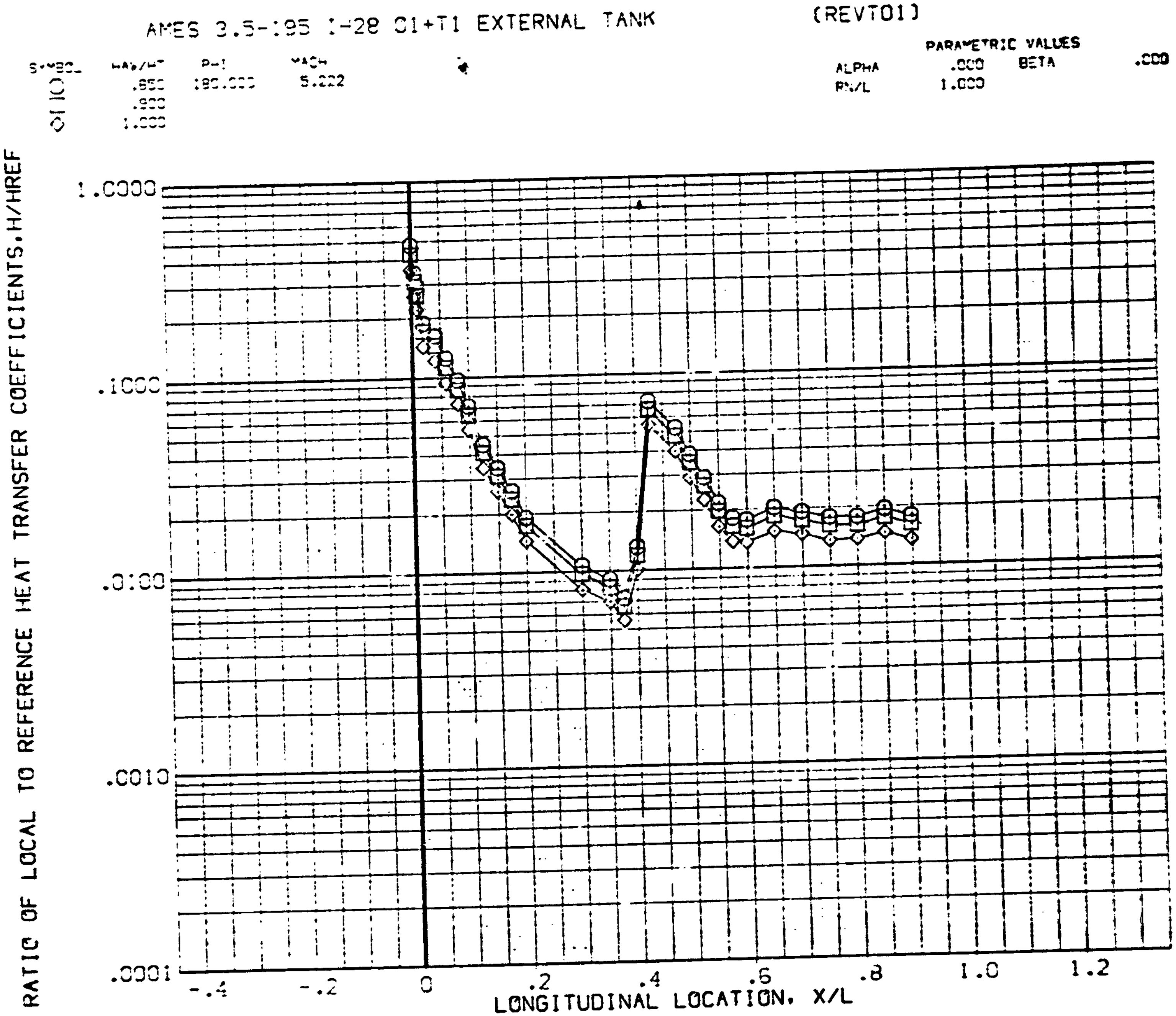


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 OI+TI EXTERNAL TANK (REVTO2)

SYMBOL	[illegible]	PHI	MACH
○	.850	90.000	5.220
□	.300	
◇	1.000	

PARAMETRIC VALUES
ALPHA 30.000 BETA .000
RN/L 1.000

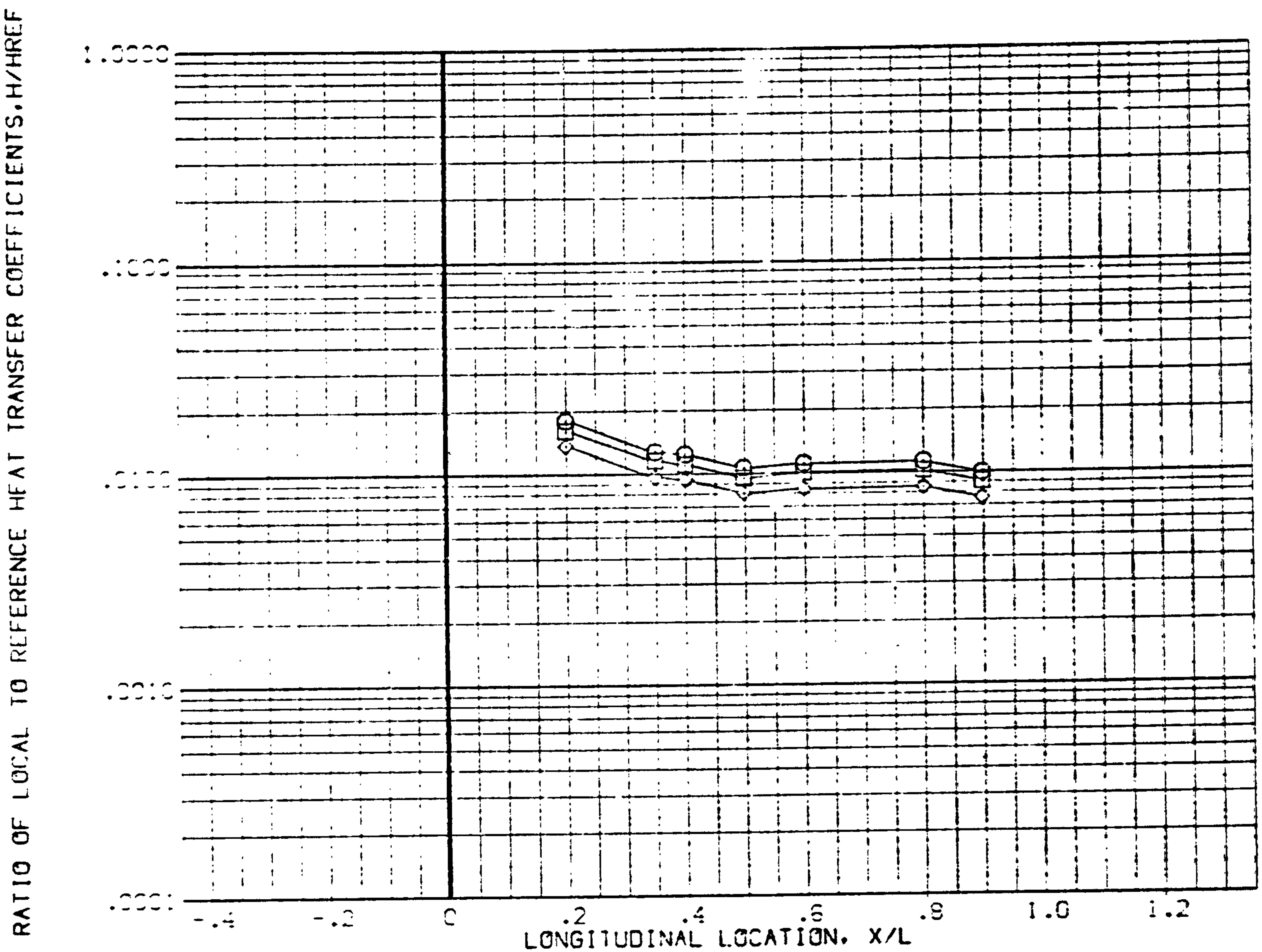


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

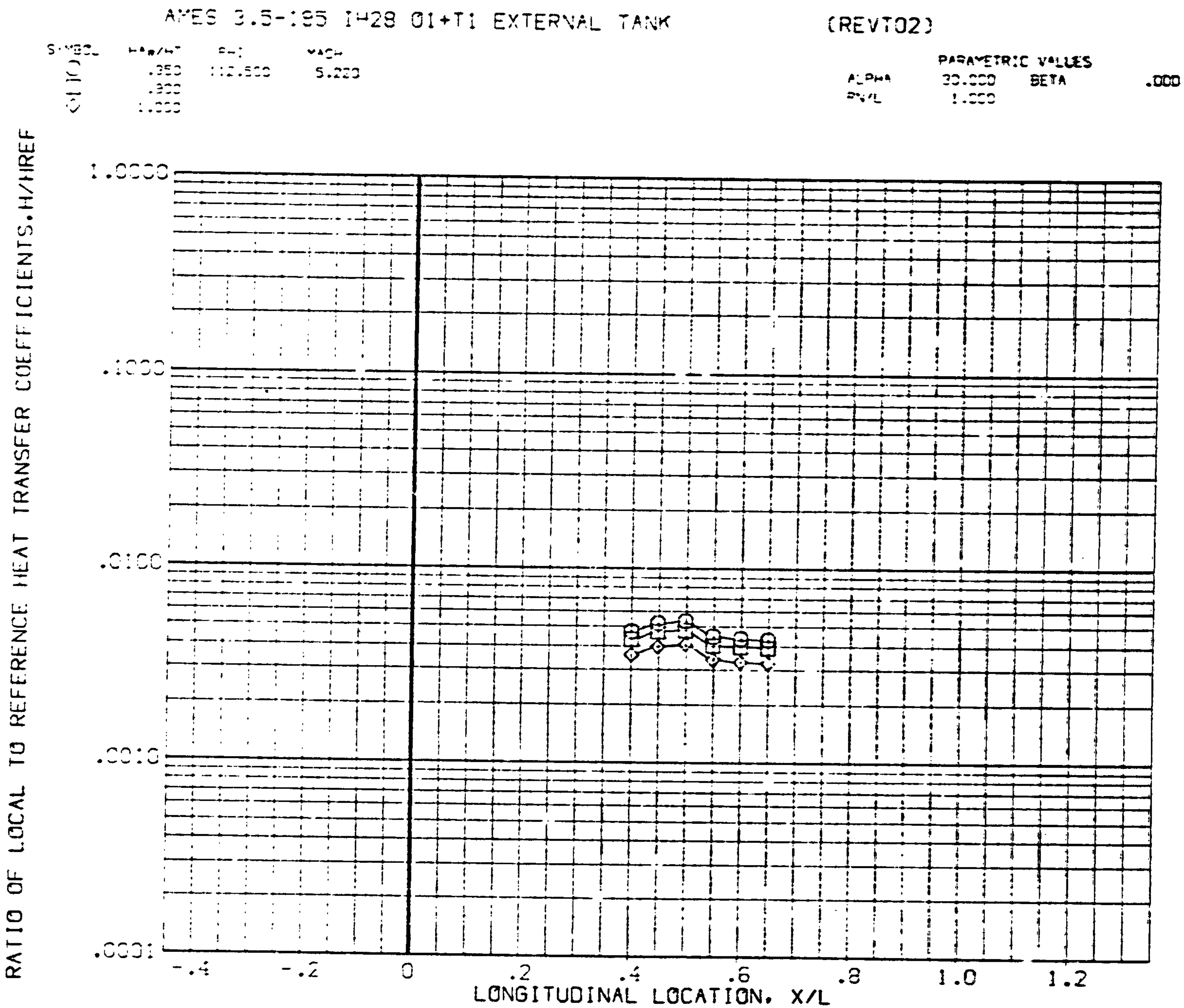


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

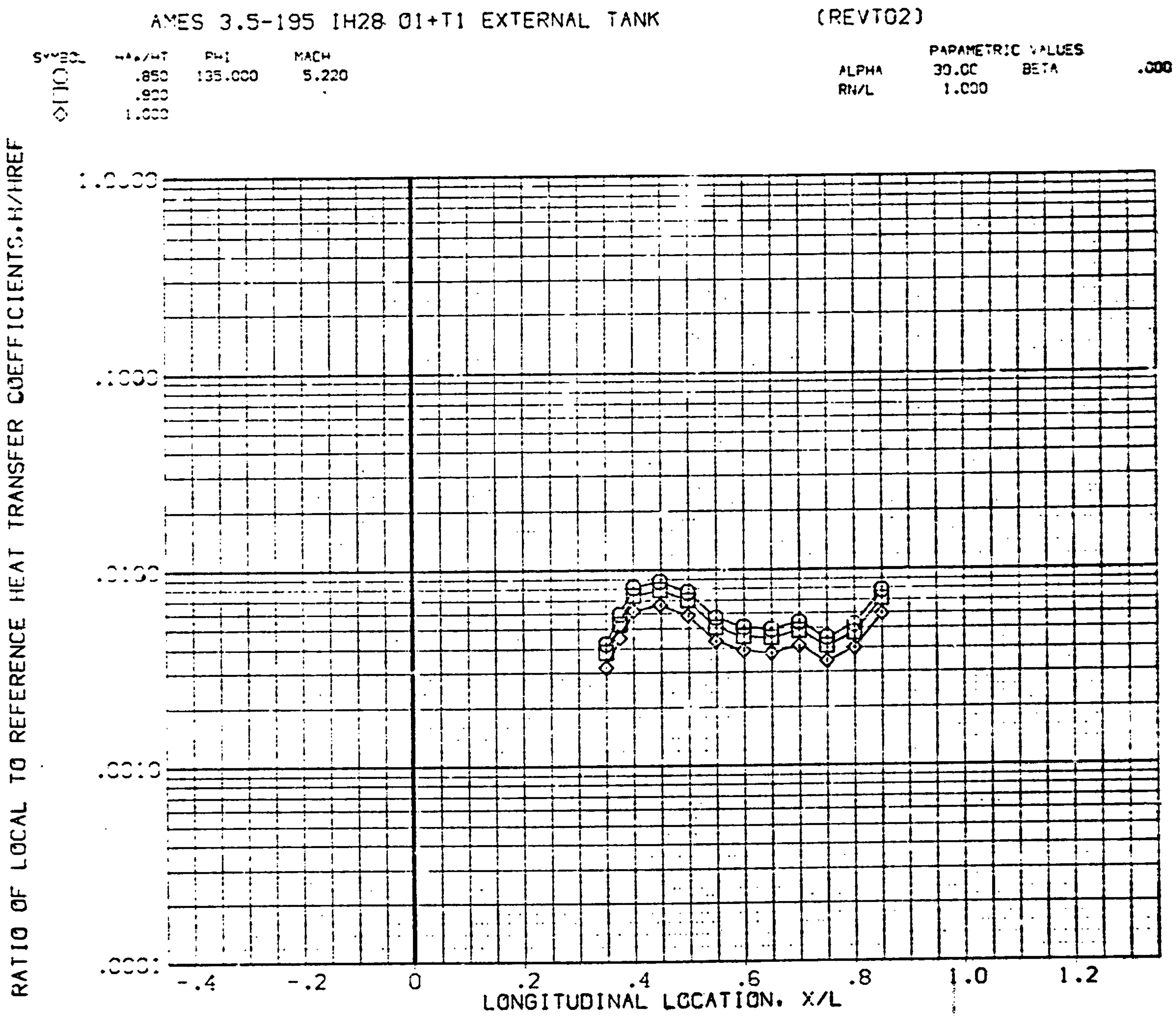


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK (REVTO2)

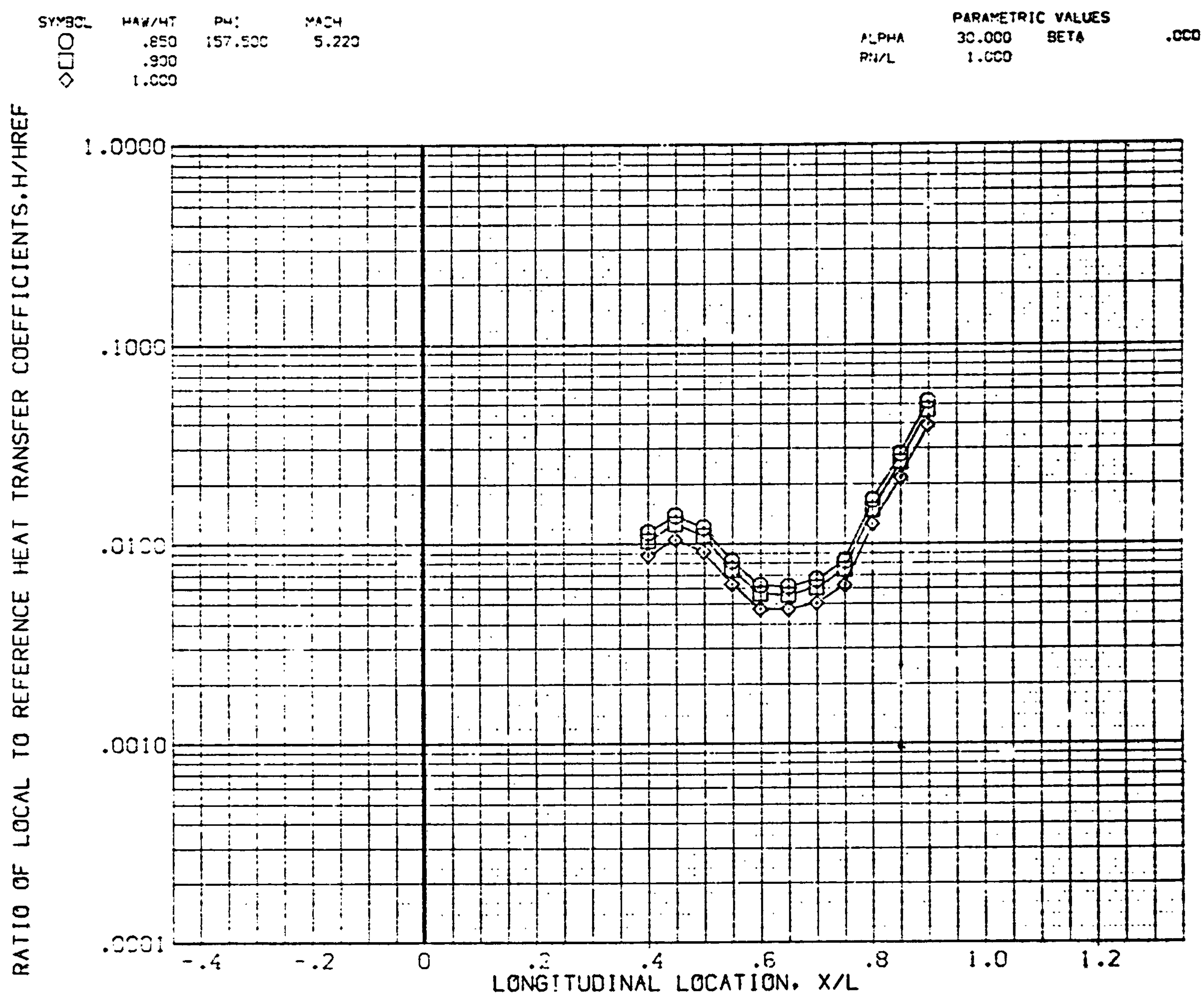


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

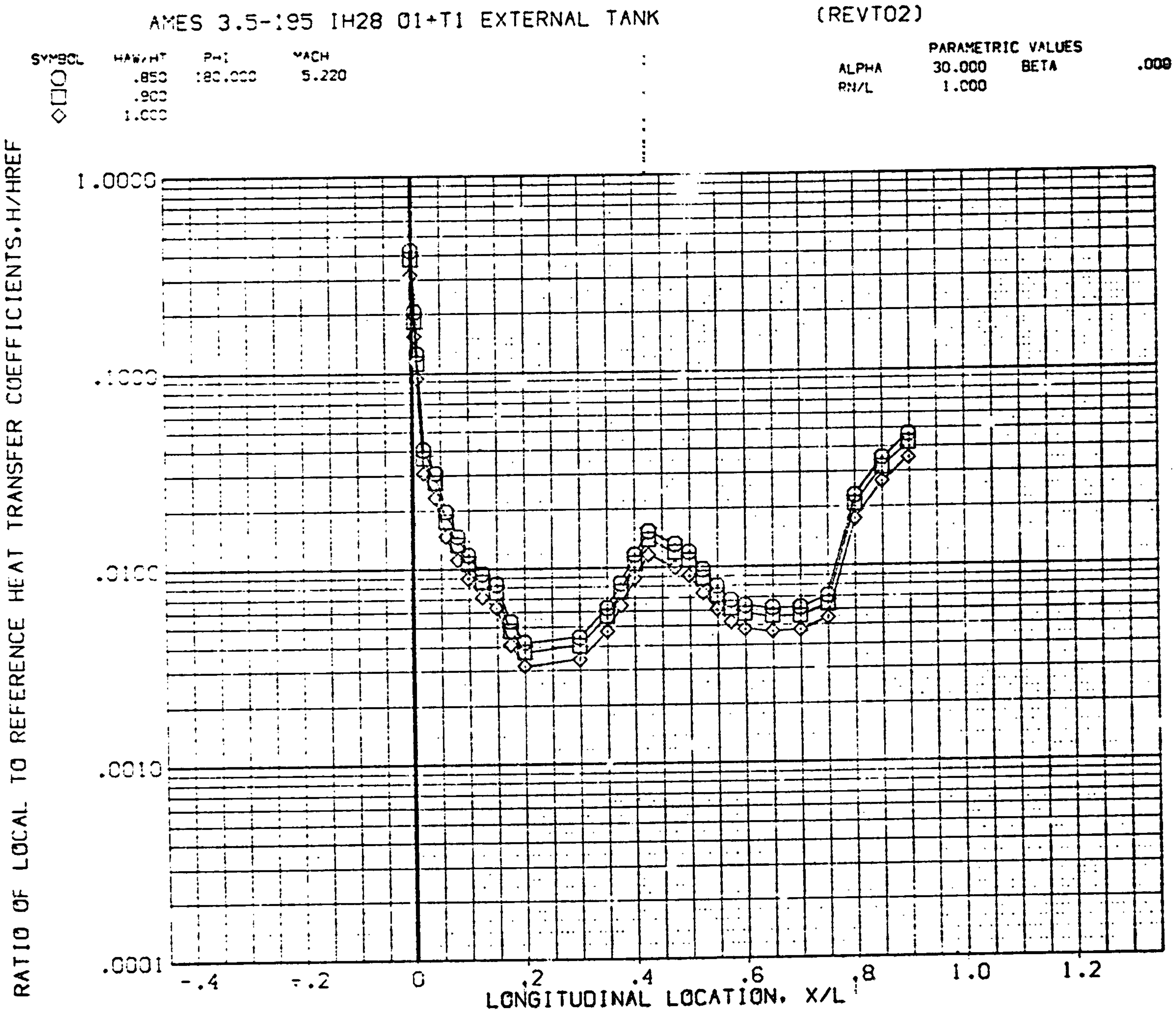


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 OI+TI EXTERNAL TANK (REVT03)

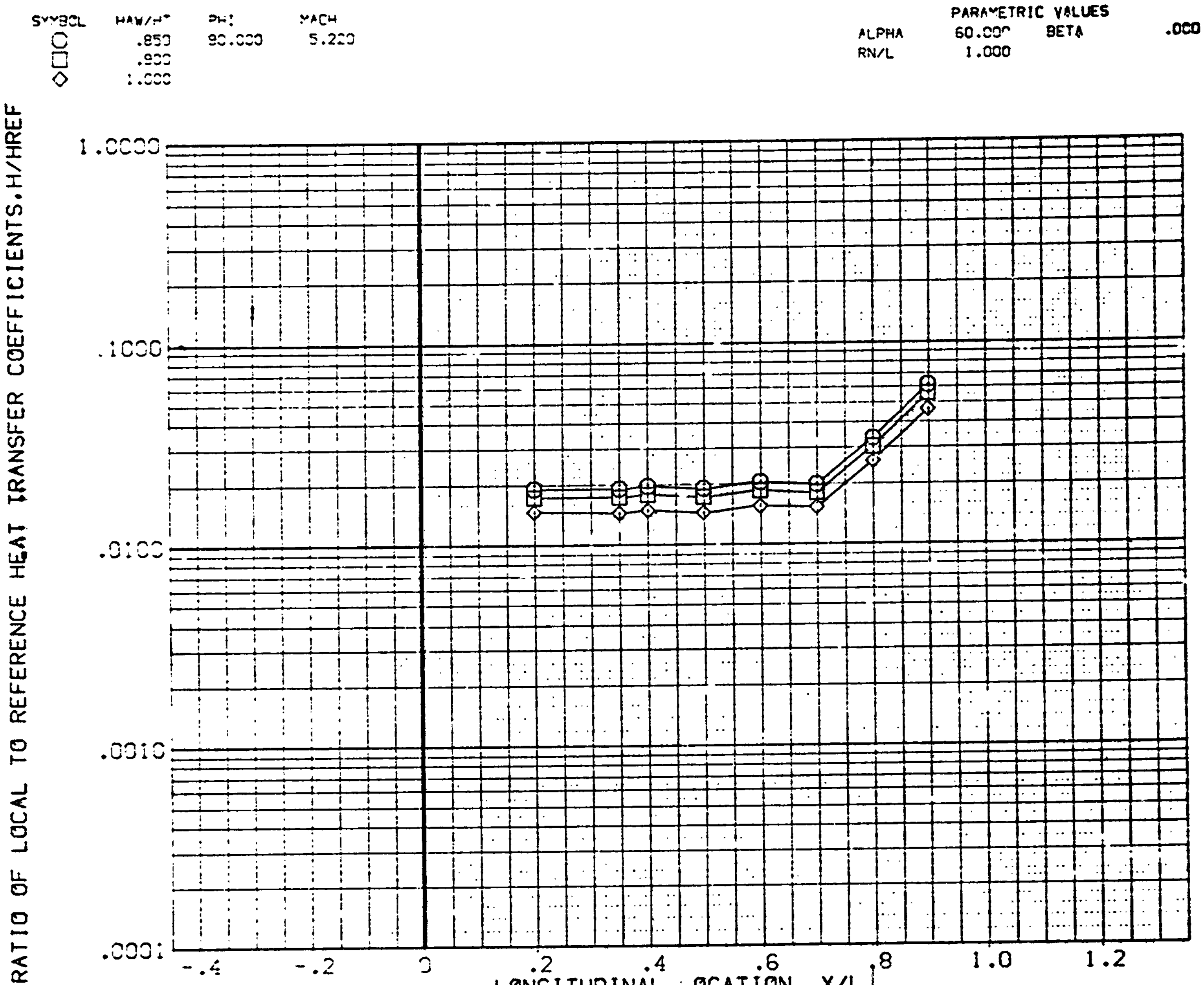


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

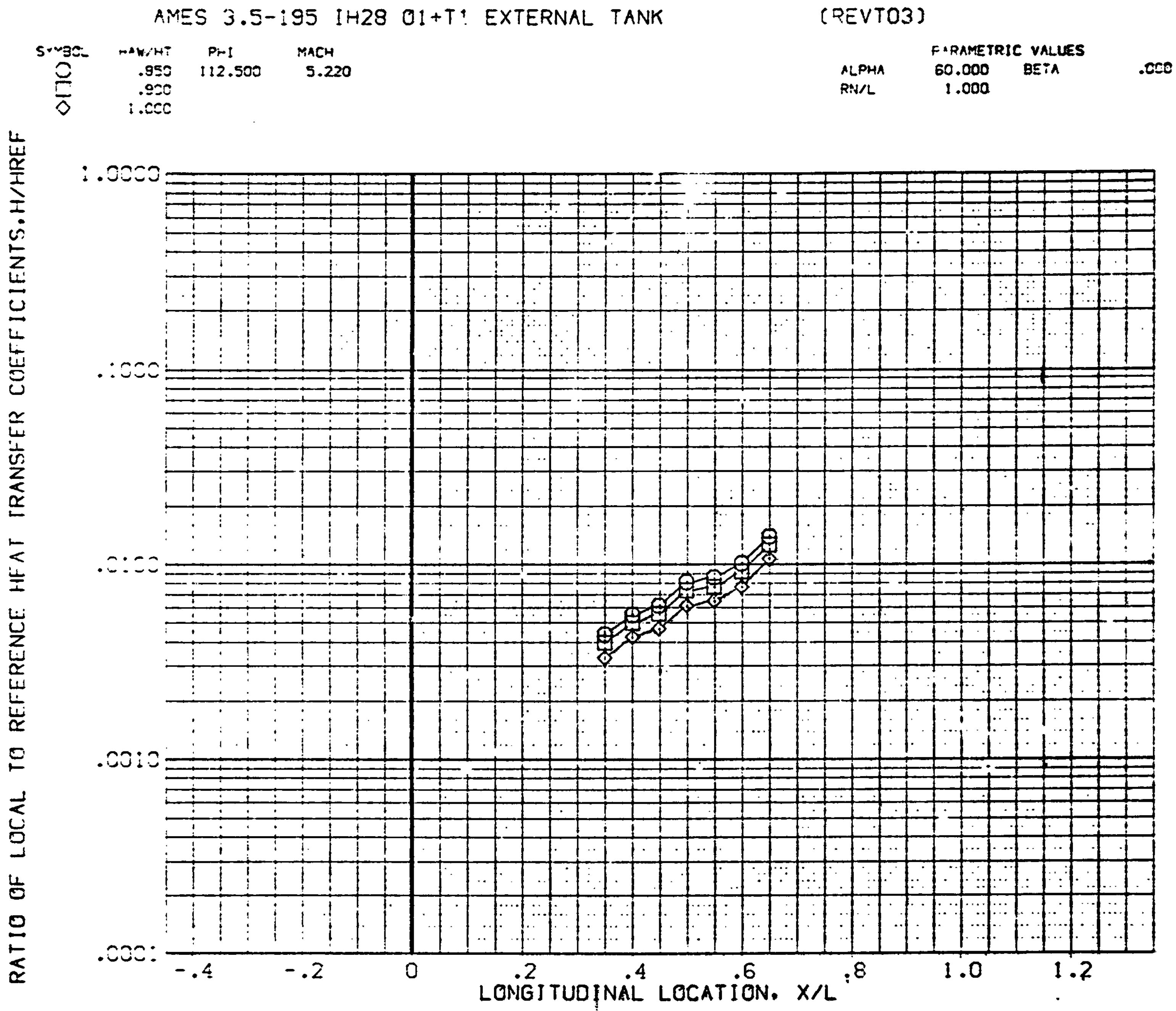


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

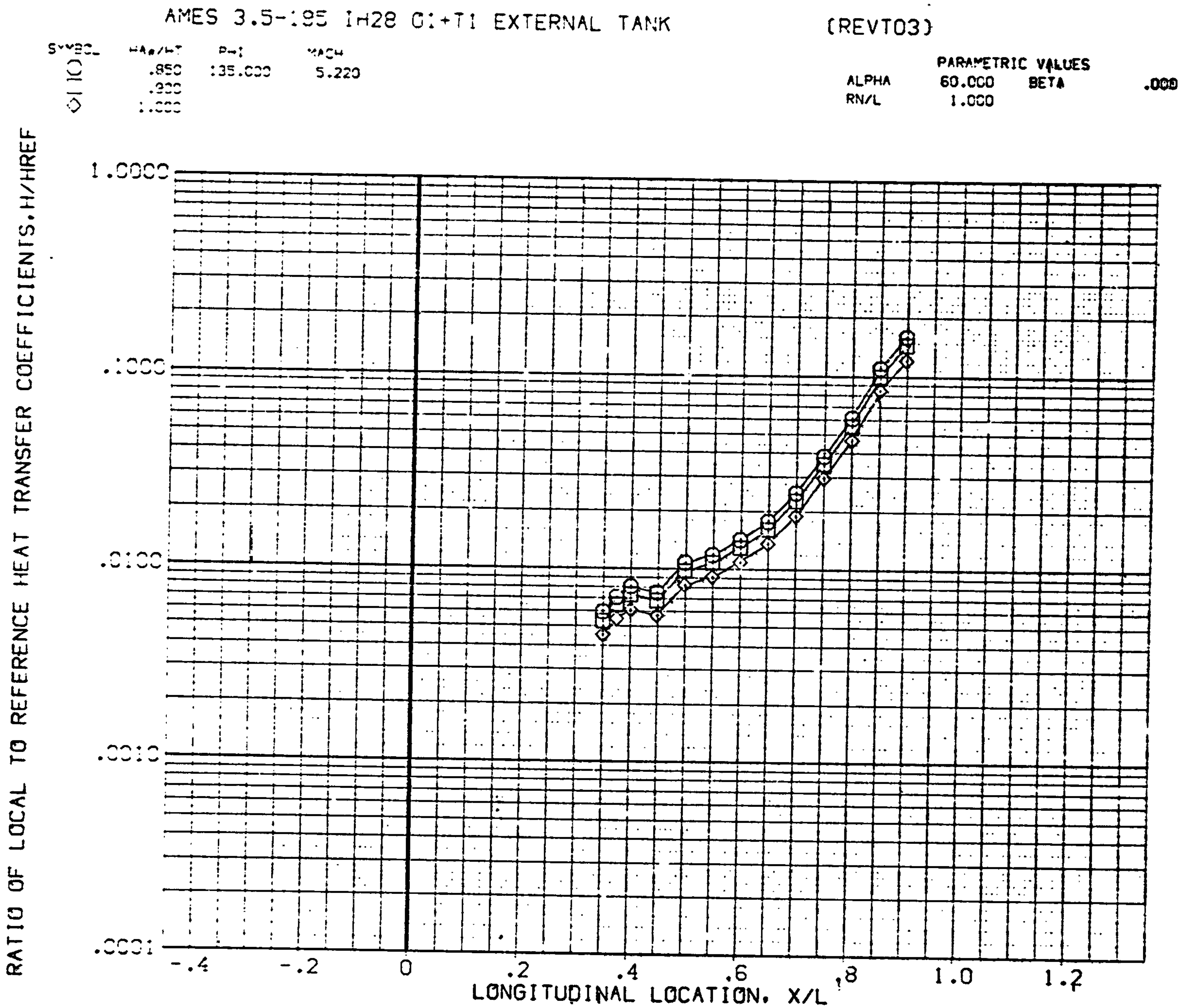


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

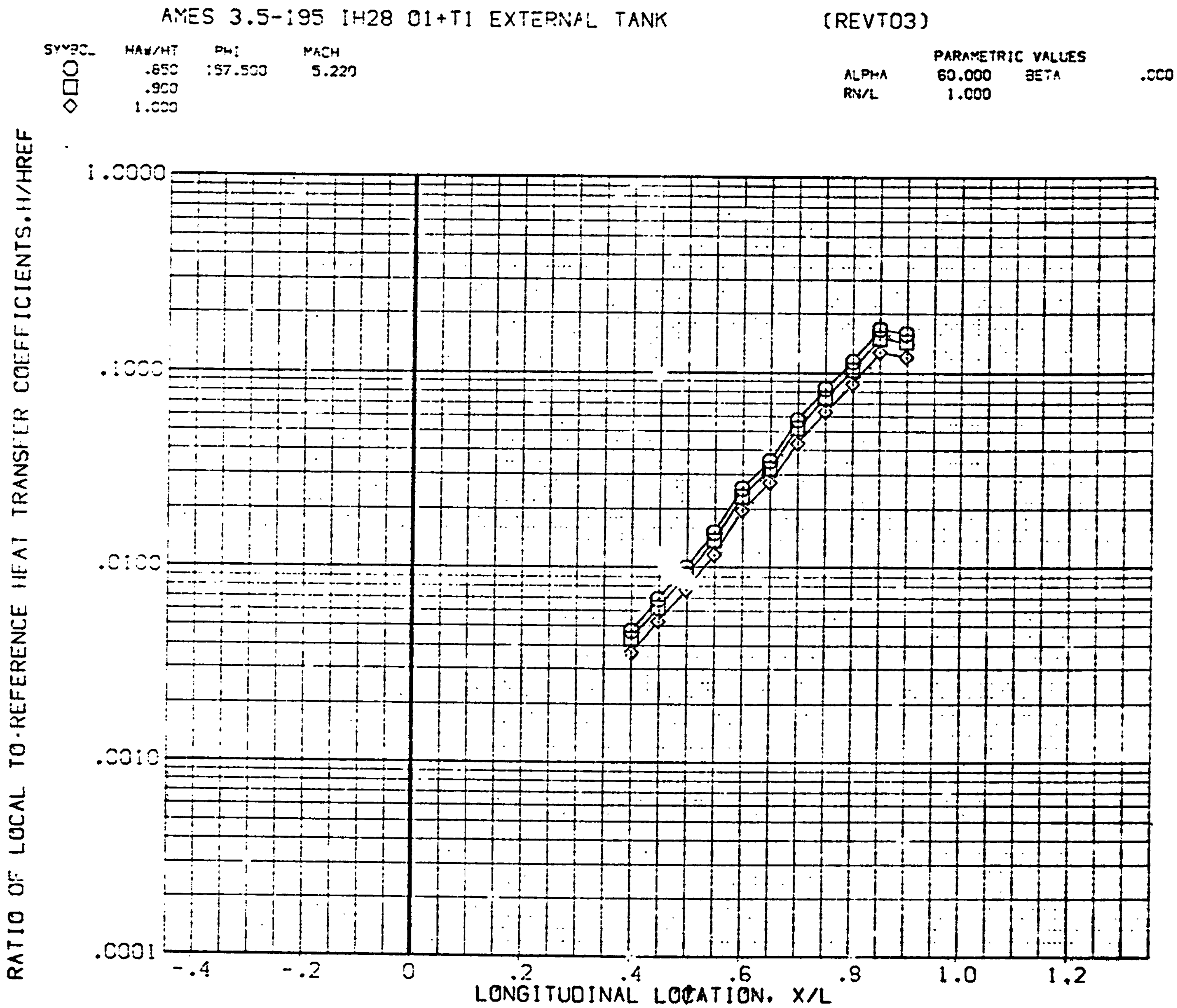


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 01+T1 EXTERNAL TANK (REVT03)

SYMBOL	HAW/HT	PHI	MACH
○	.850	180.000	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA 60.000 BETA .000

RN/L 1.000

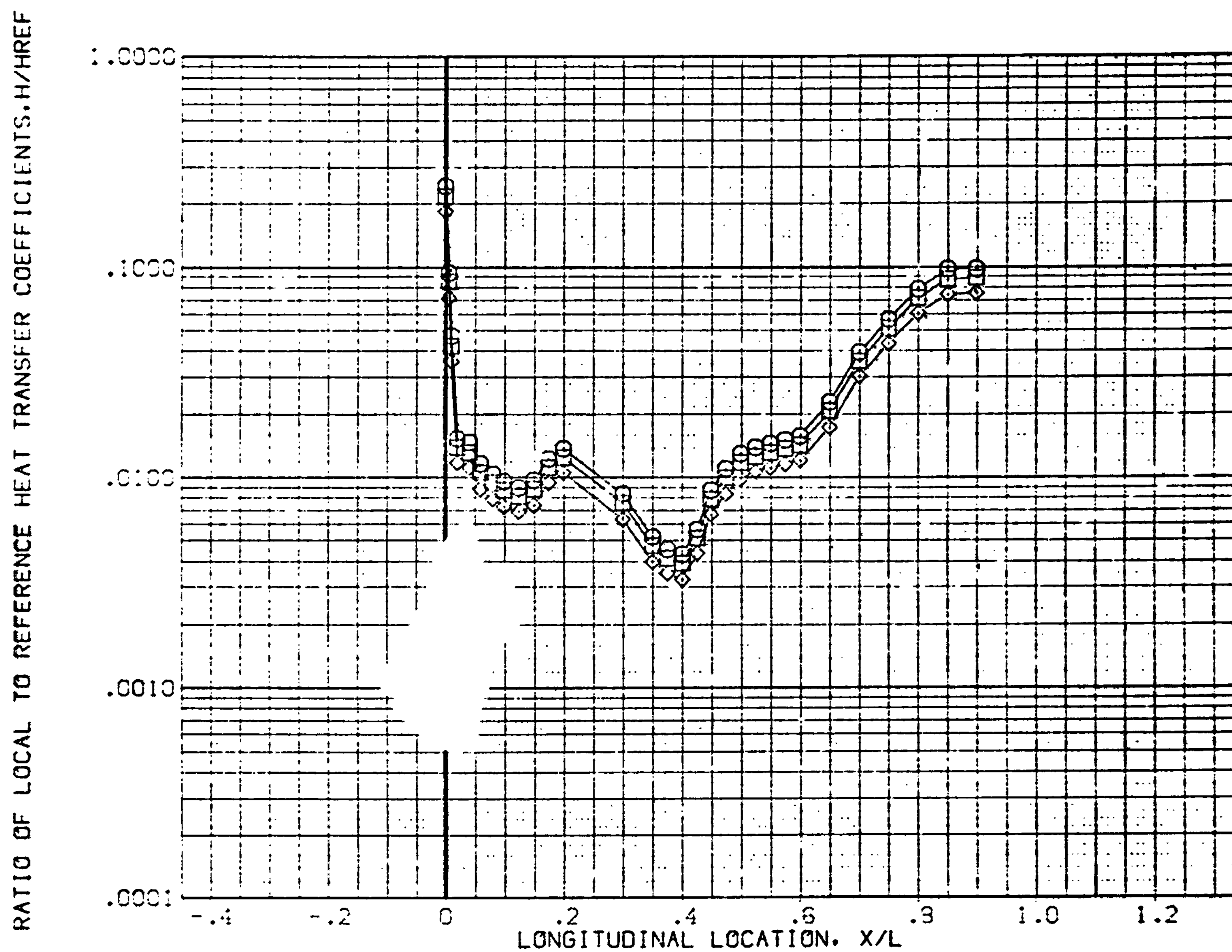


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

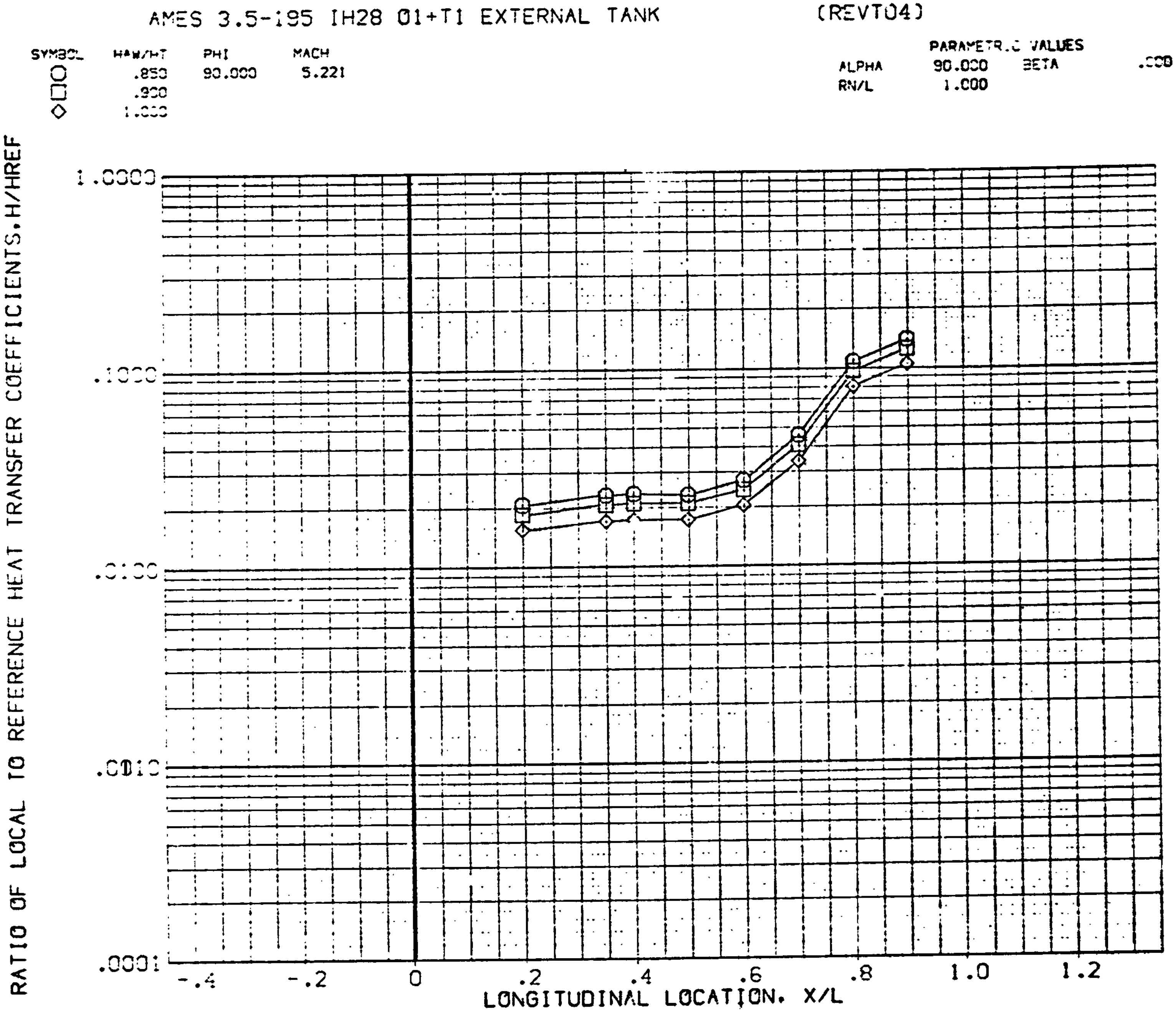


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

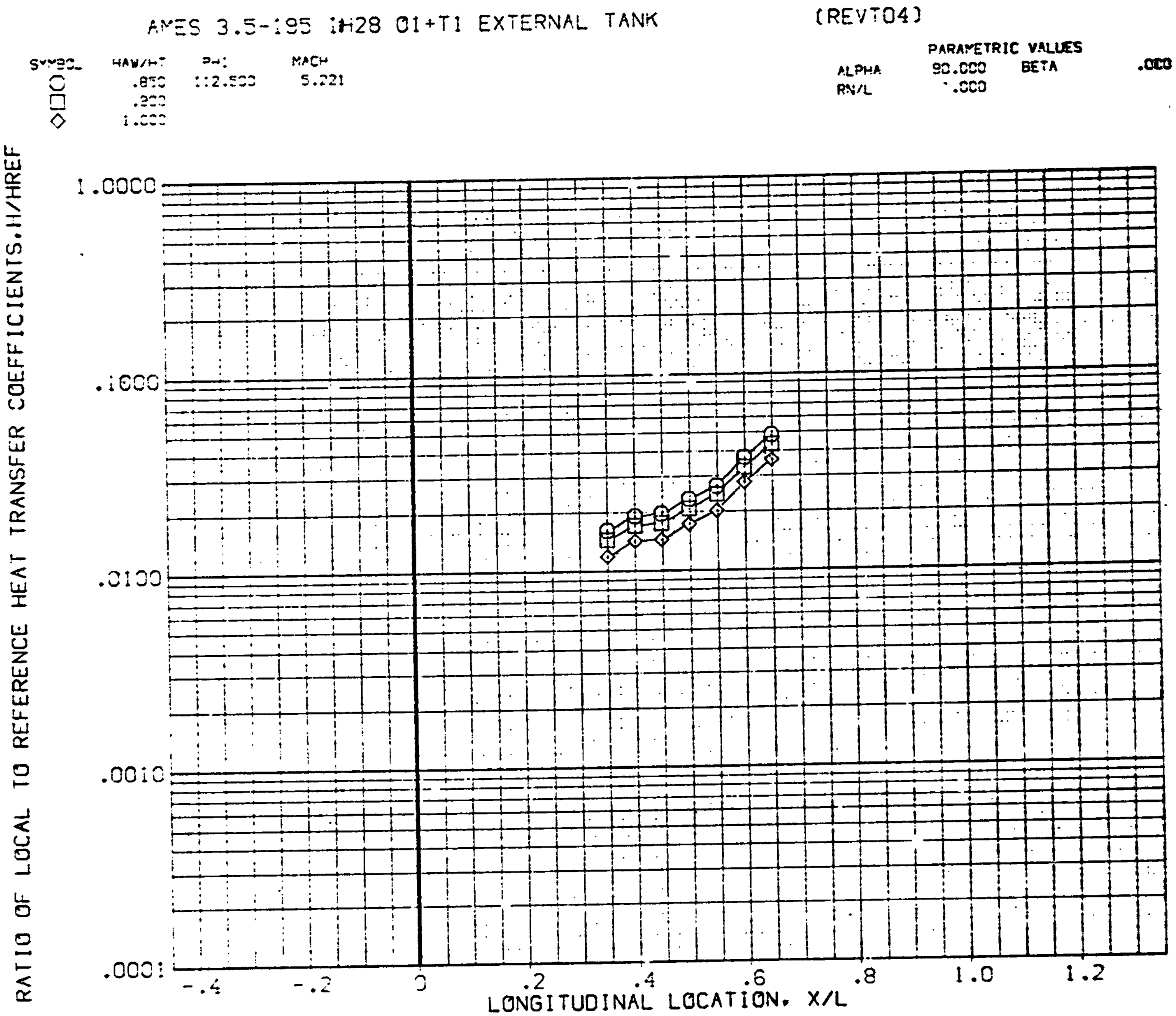


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 01+T1 EXTERNAL TANK (REVT04)

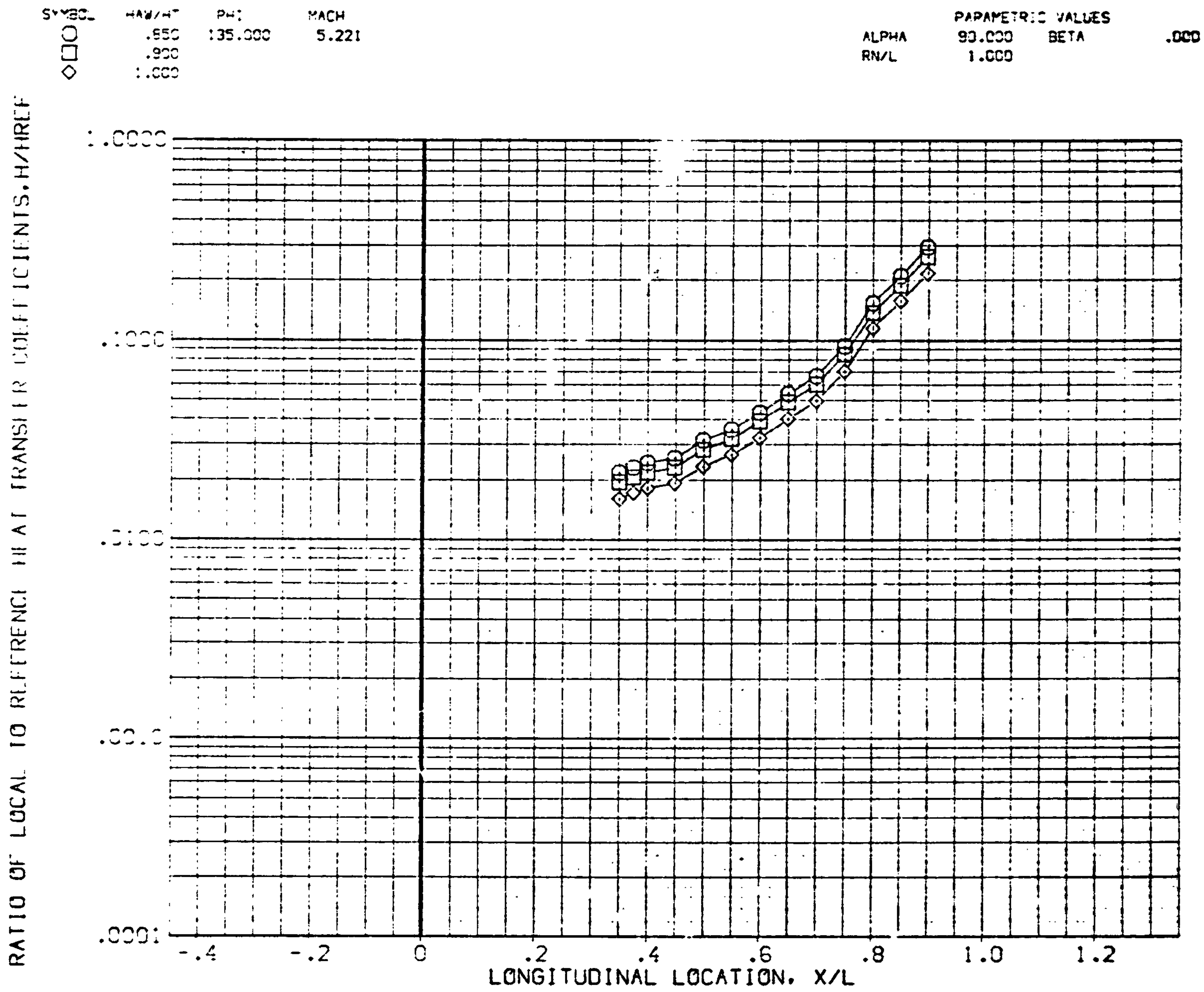


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

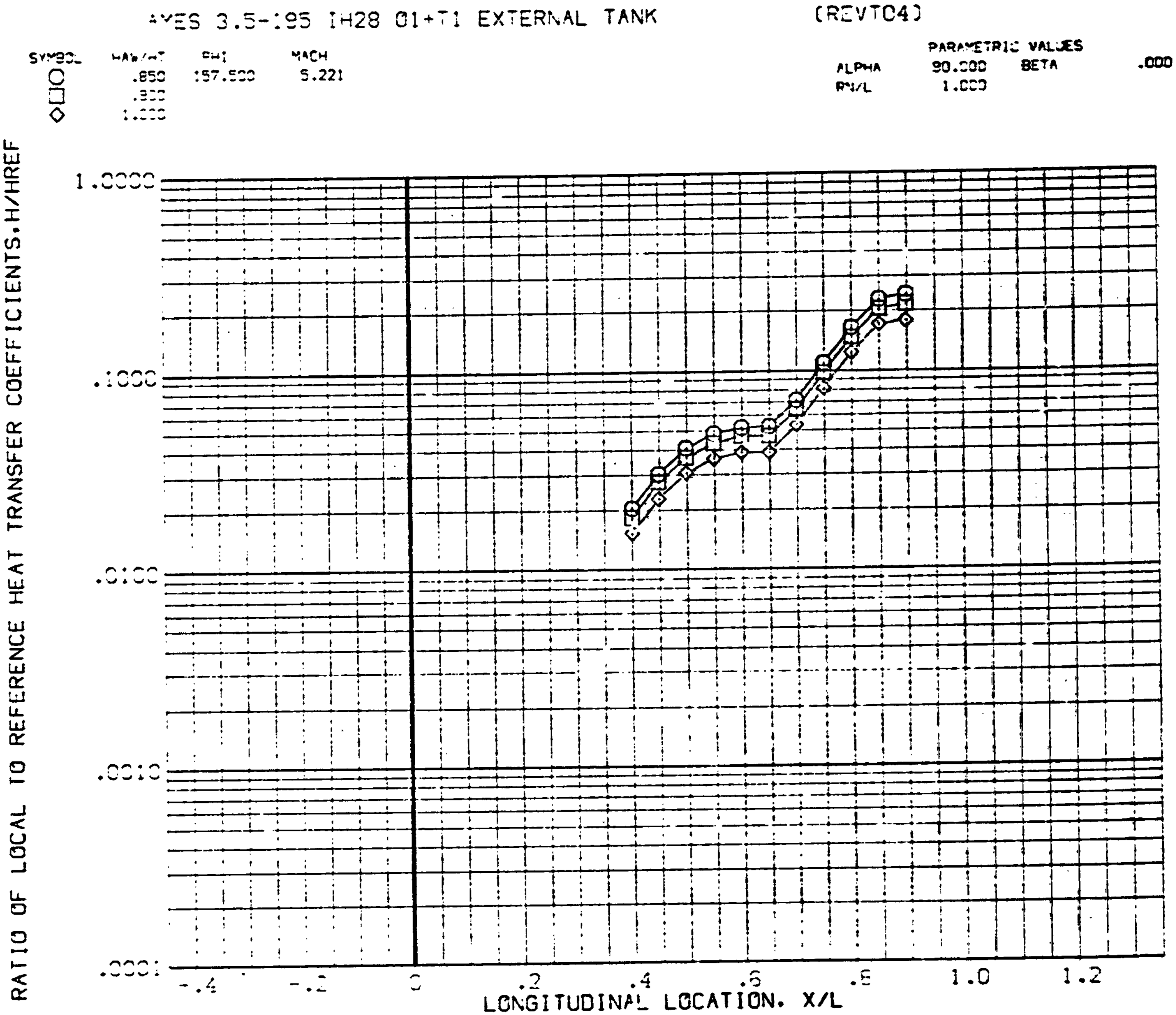


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

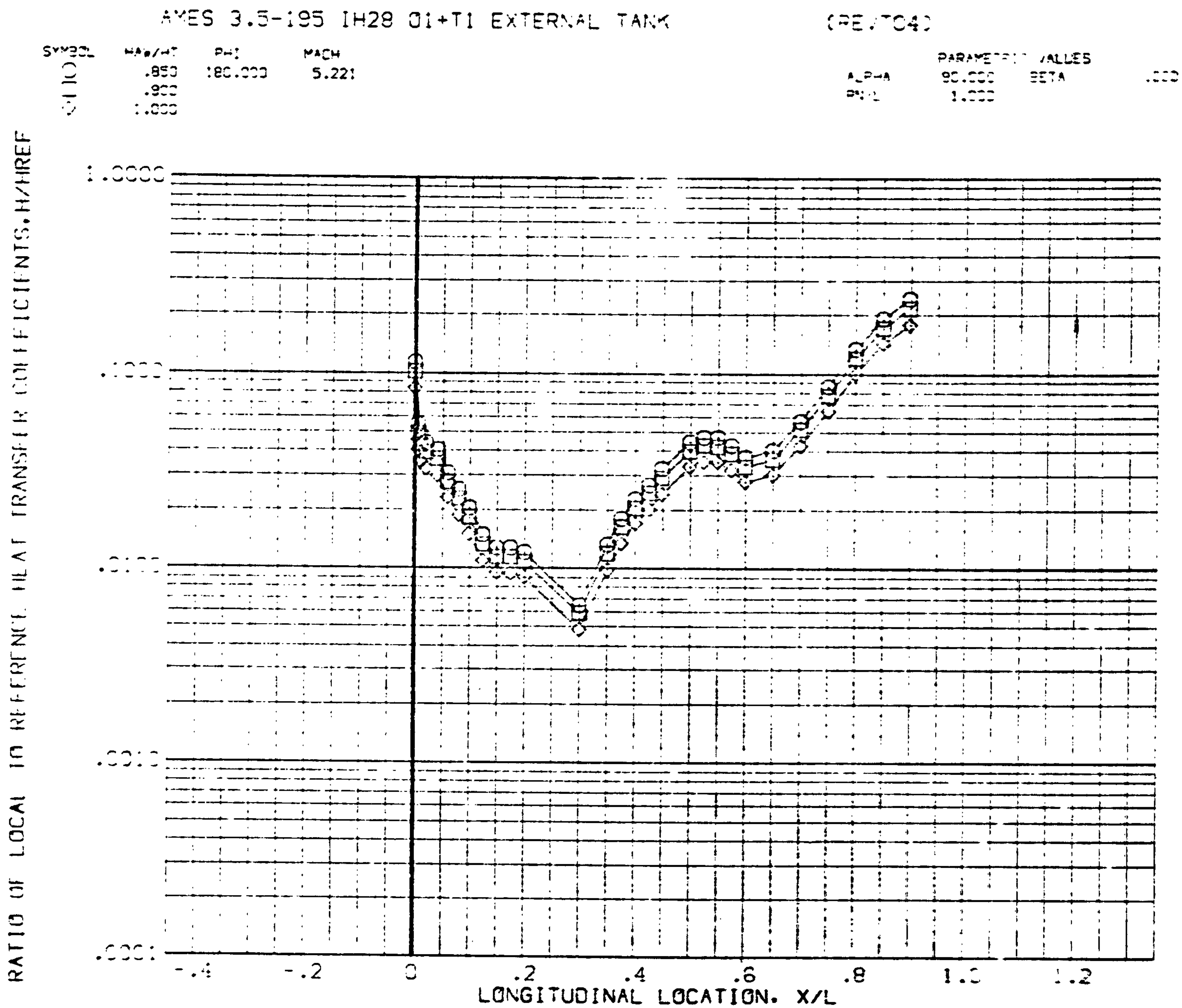


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

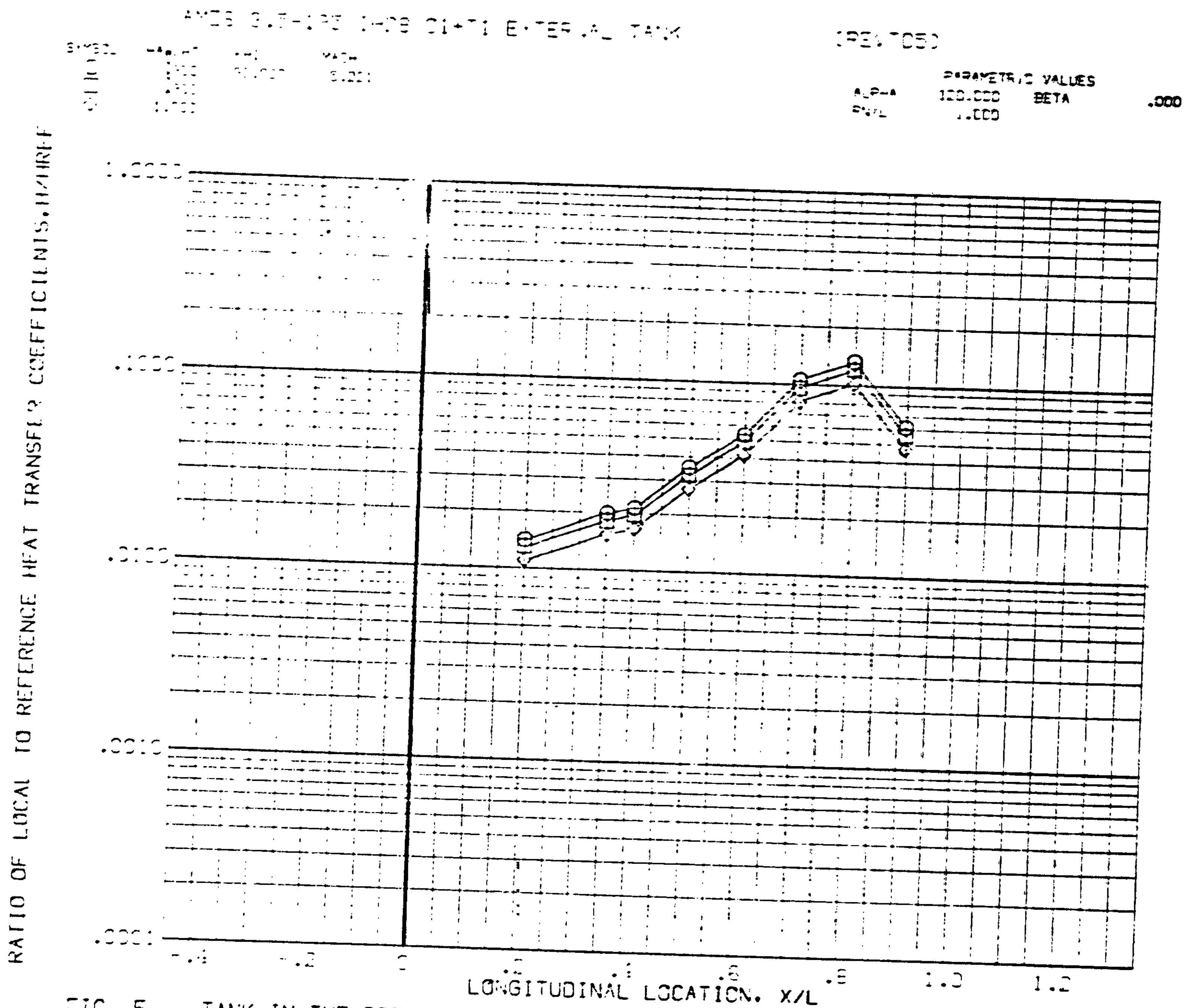


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 OI+T1 EXTERNAL TANK (REVT05)

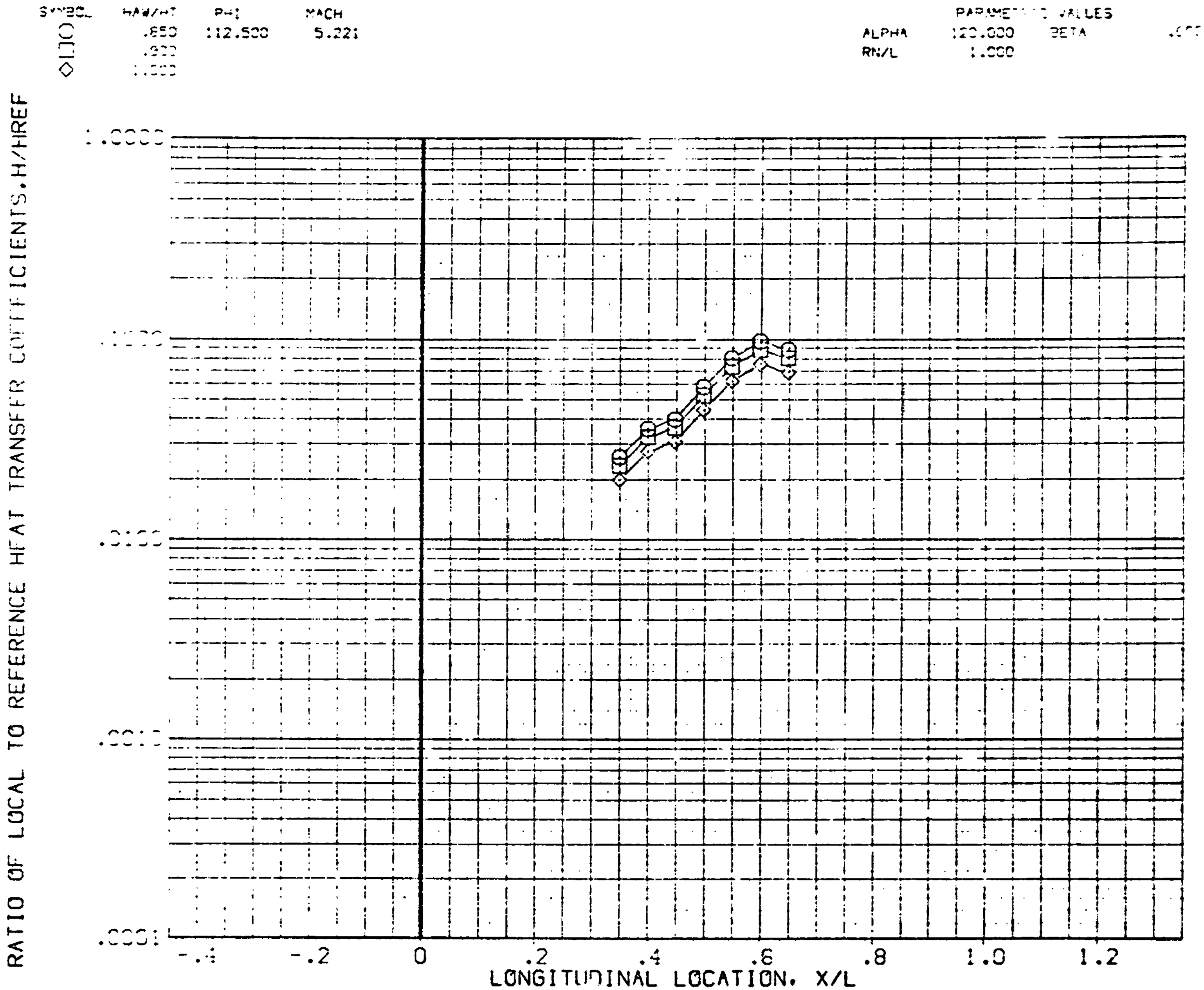


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

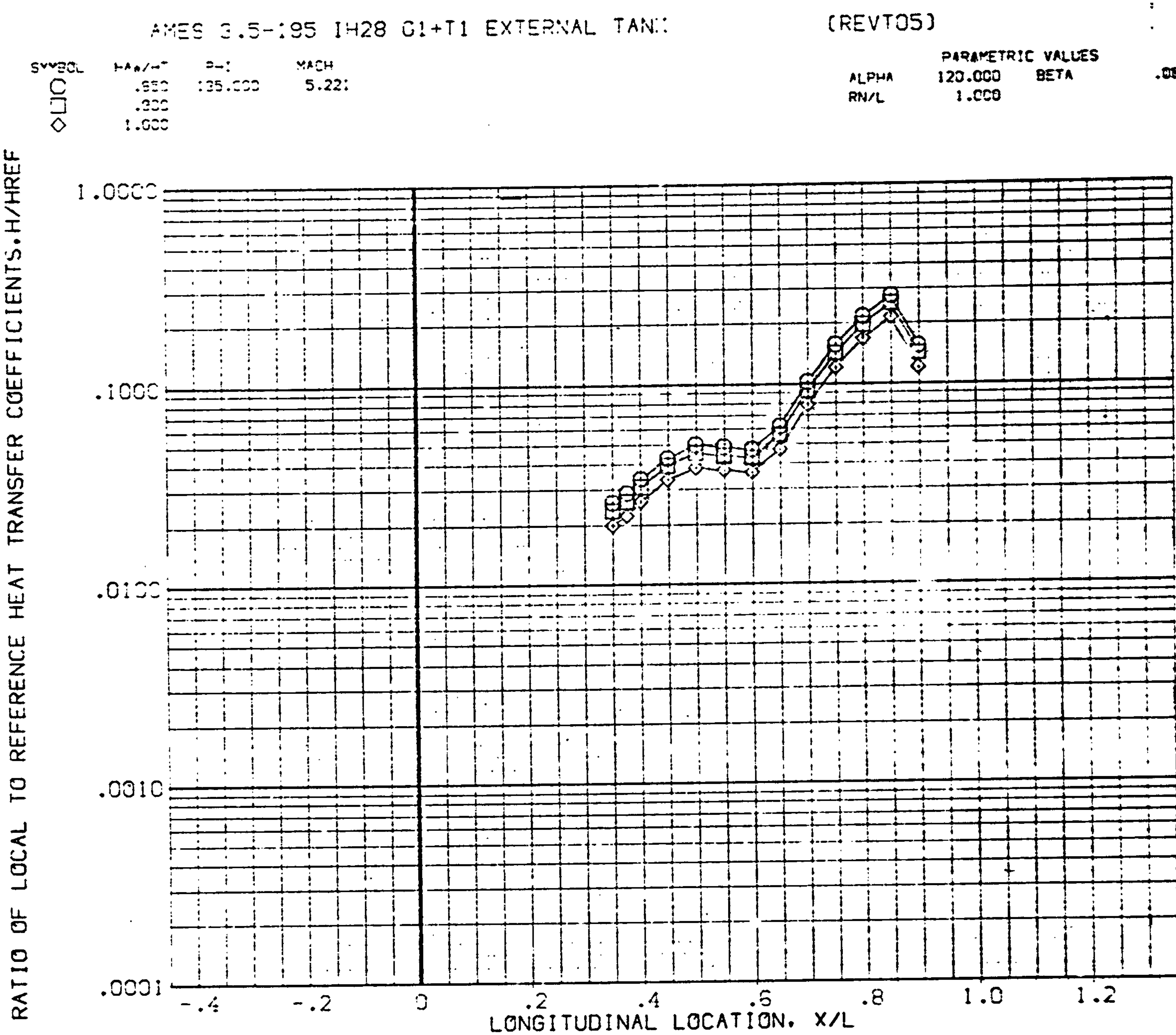


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

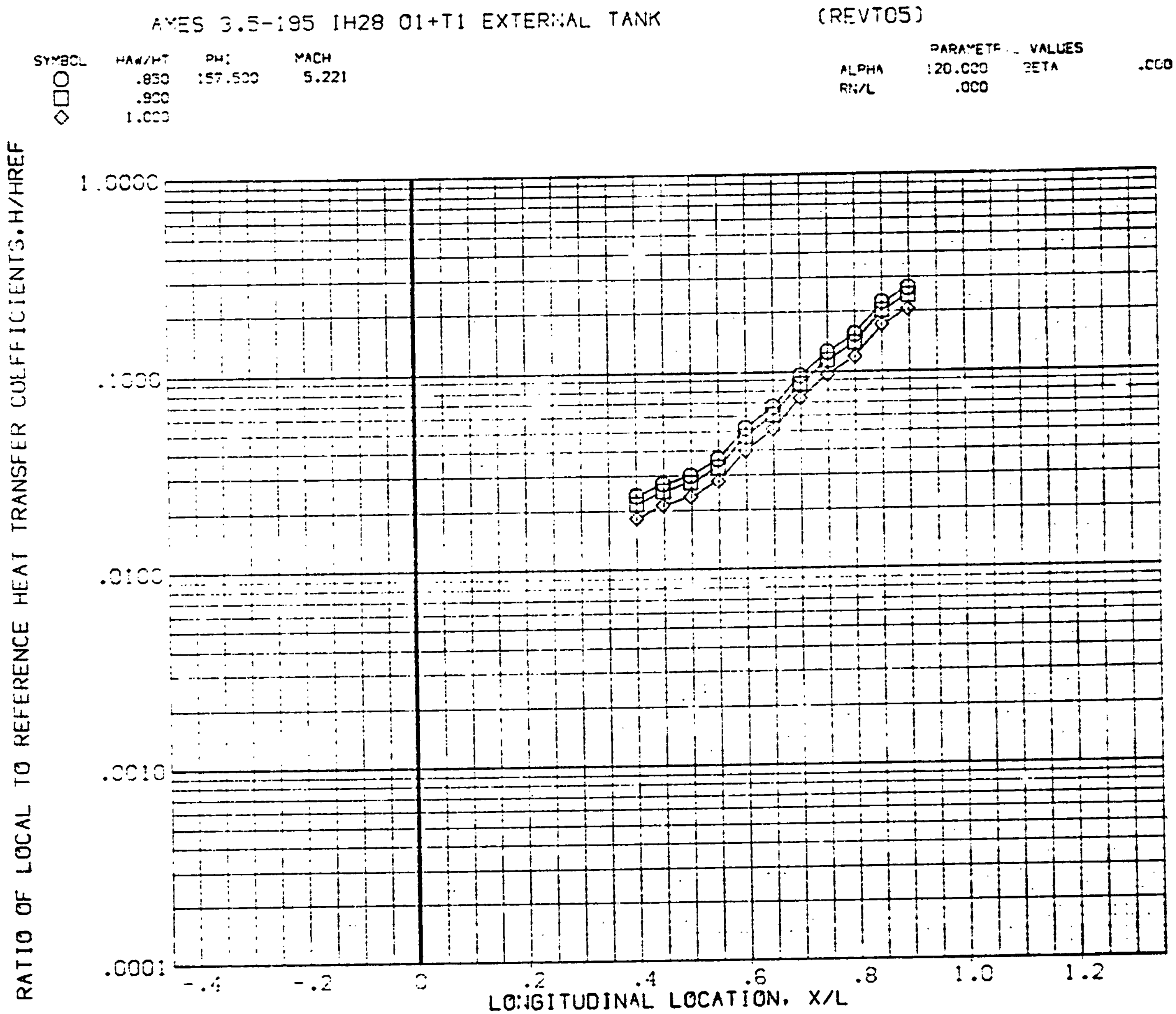


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

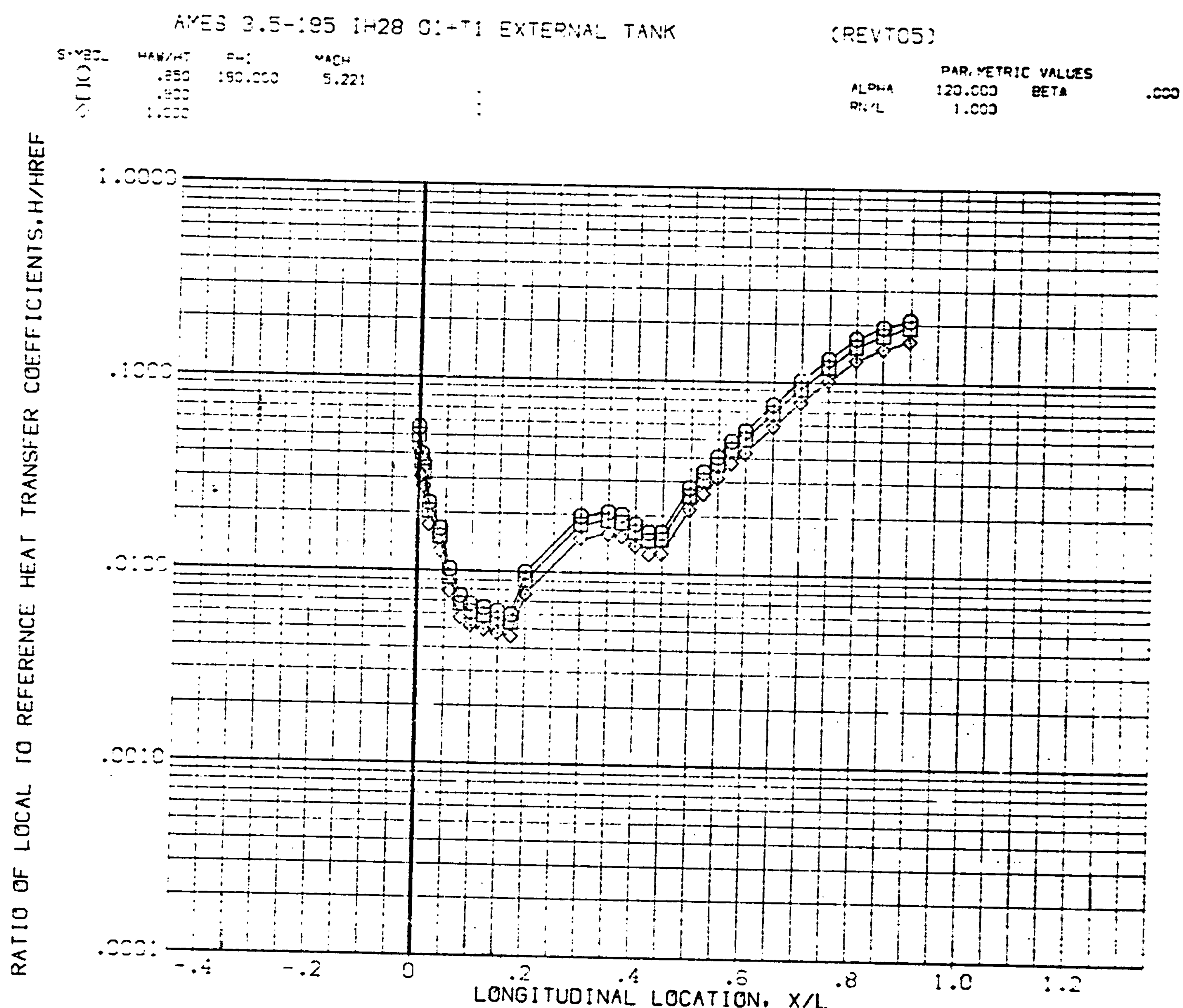


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

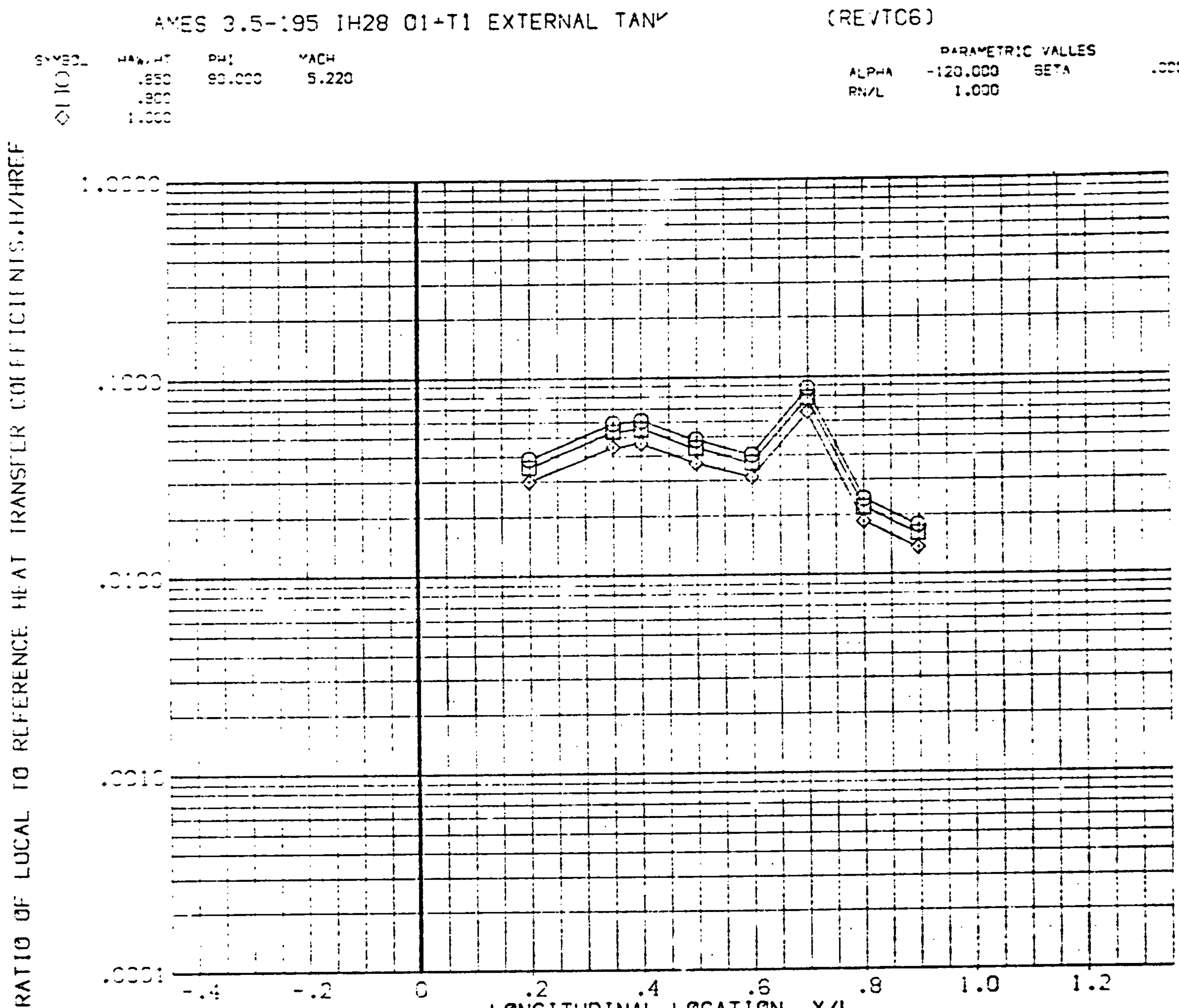


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

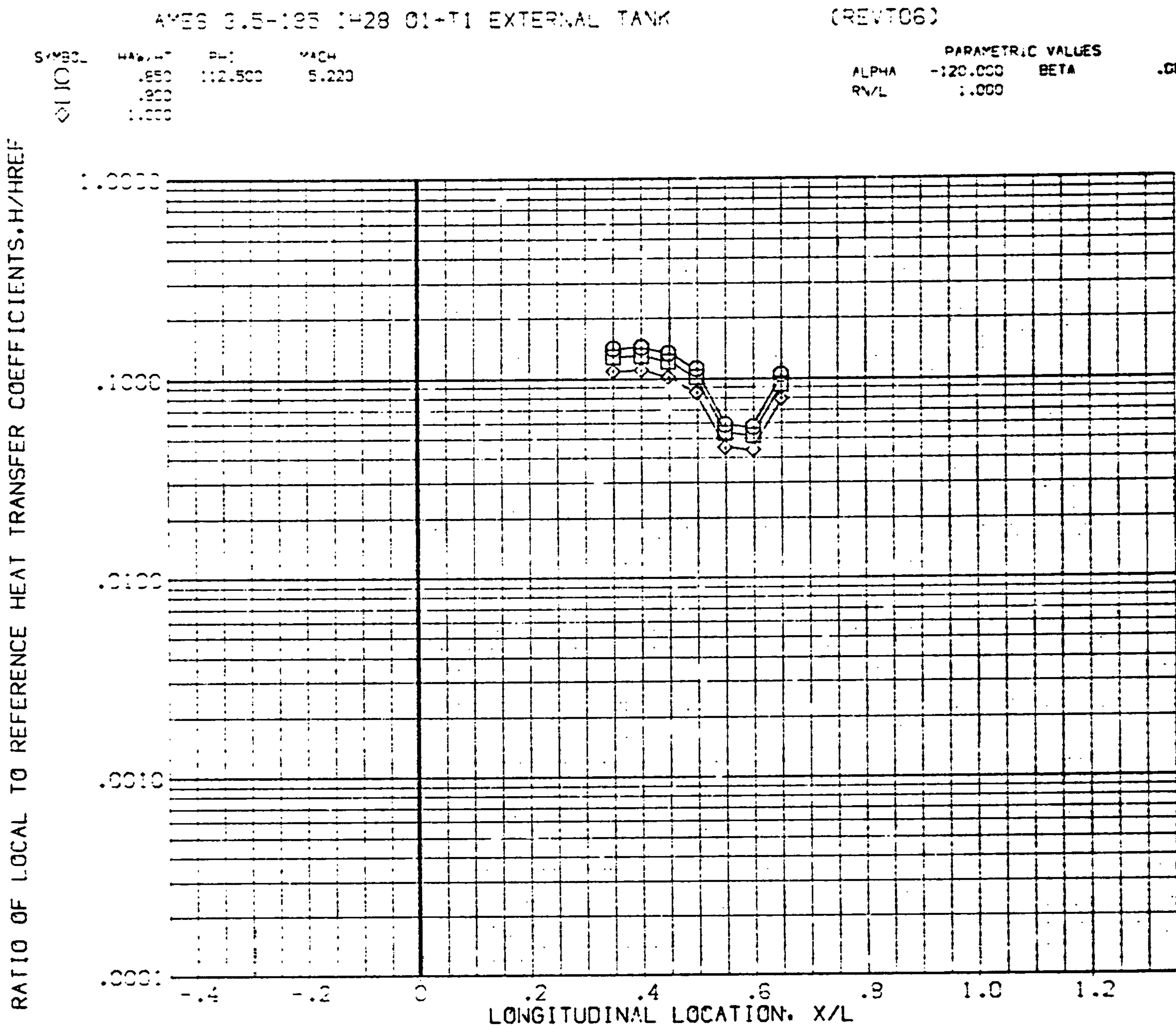


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

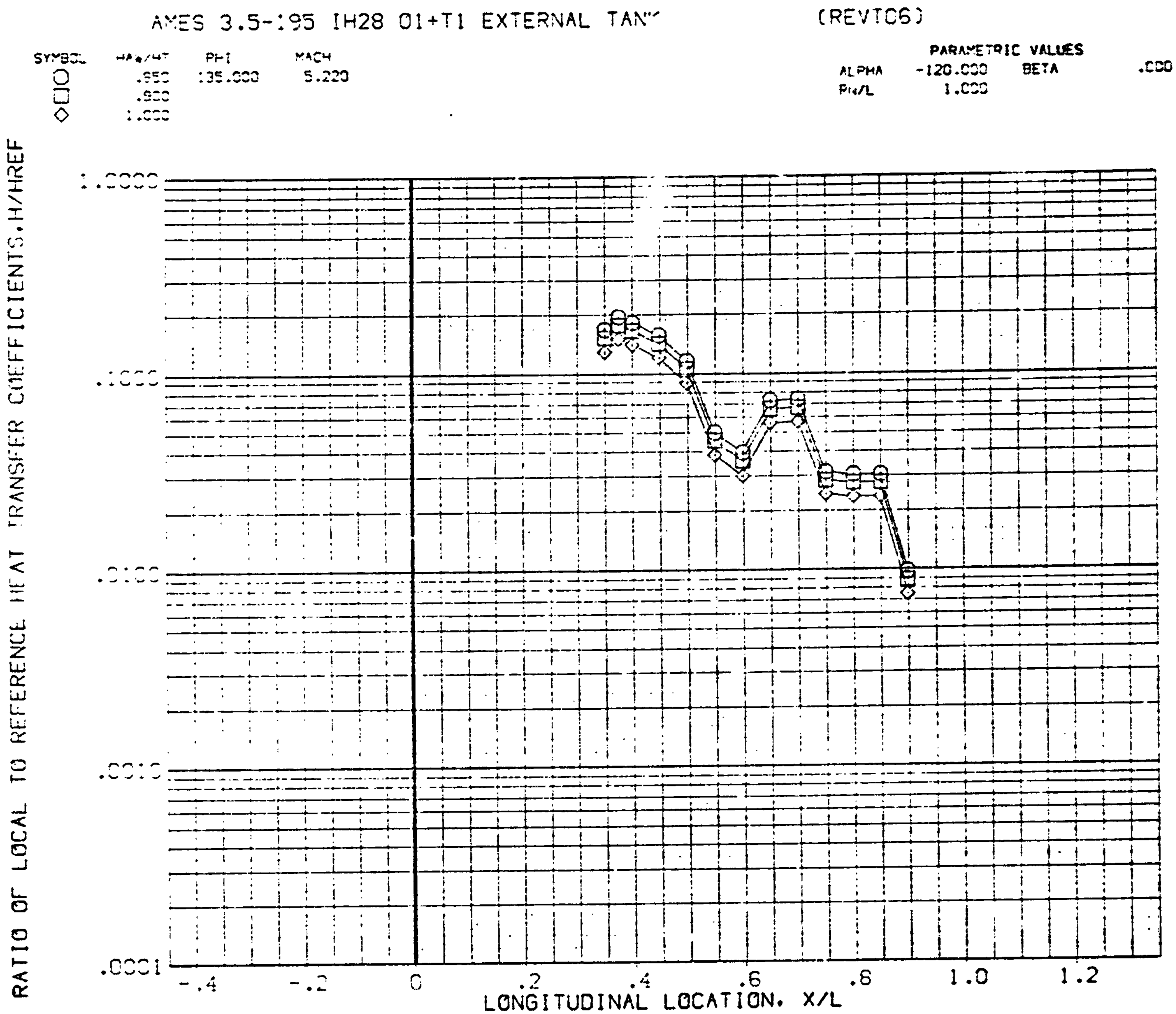


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 .H28 OI+T1 EXTERNAL TANK (REVTO6)

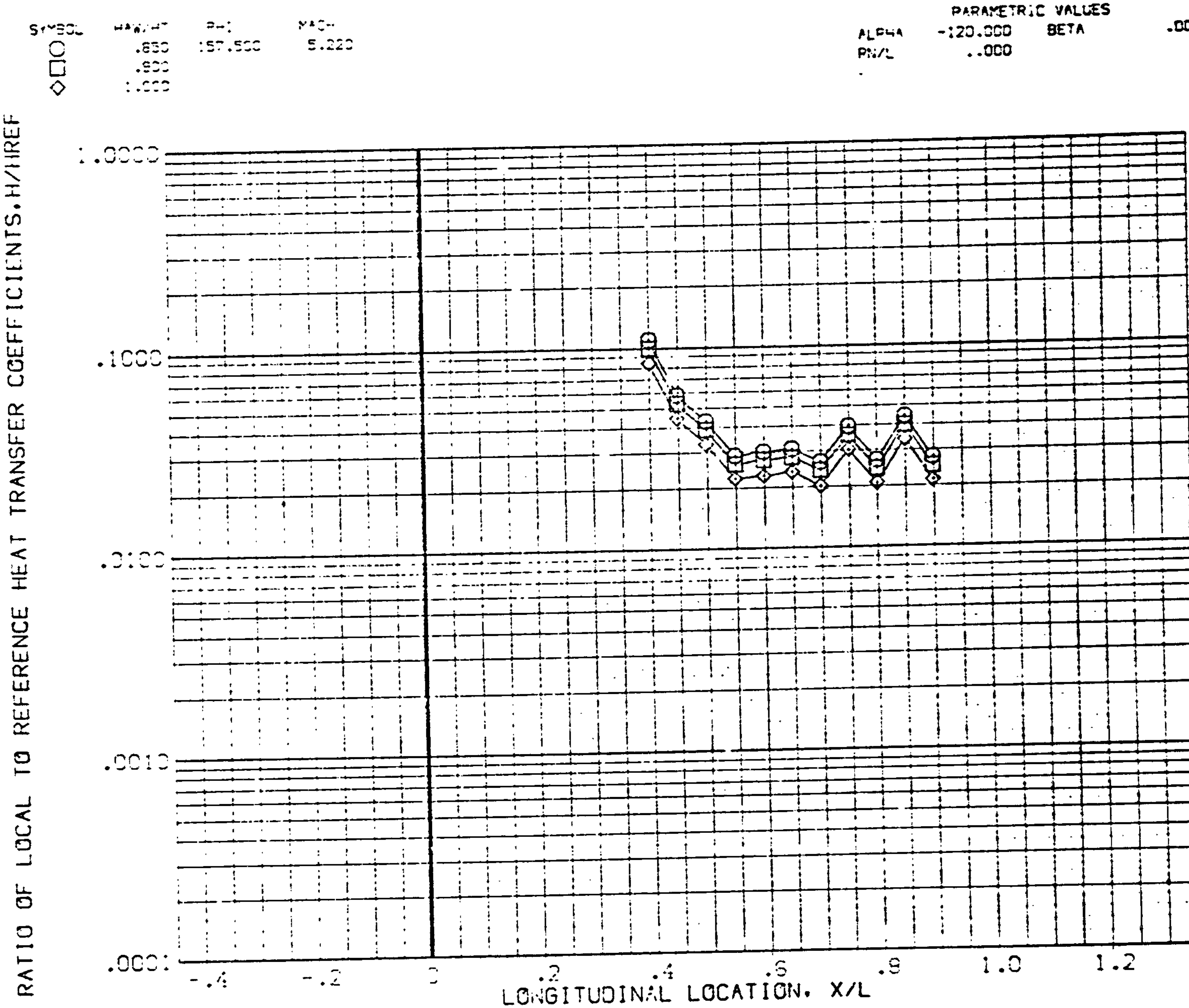


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

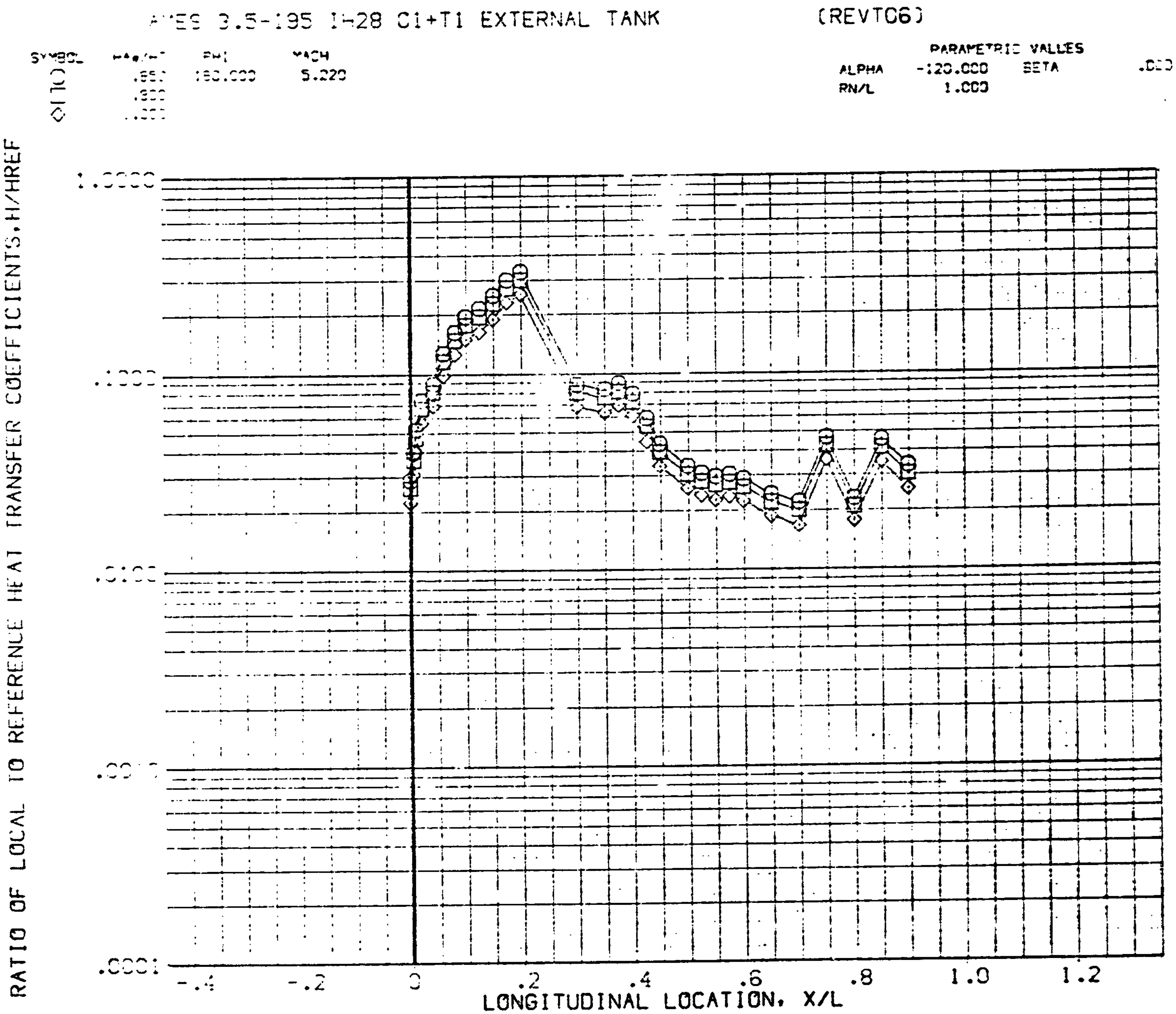


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

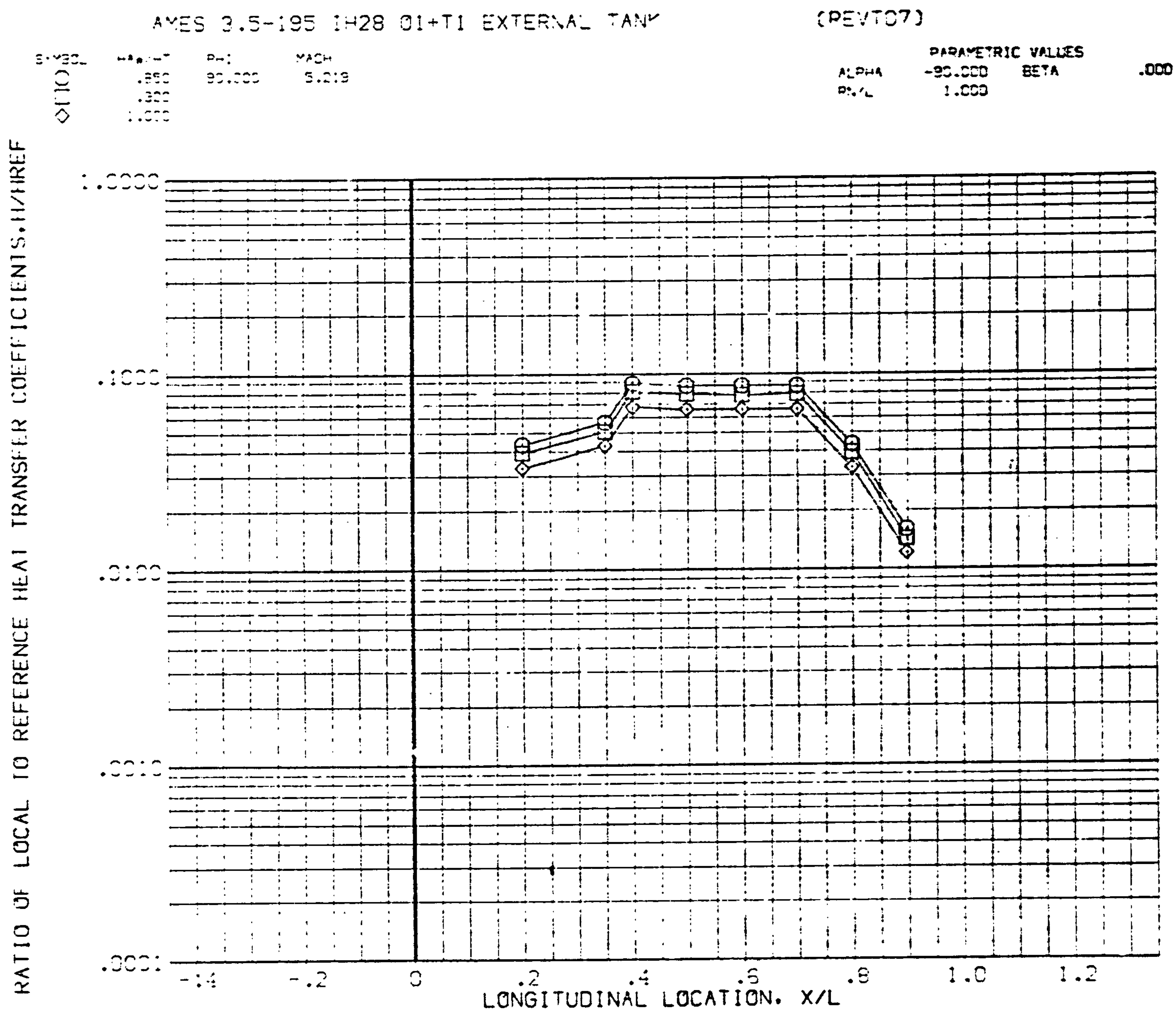


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

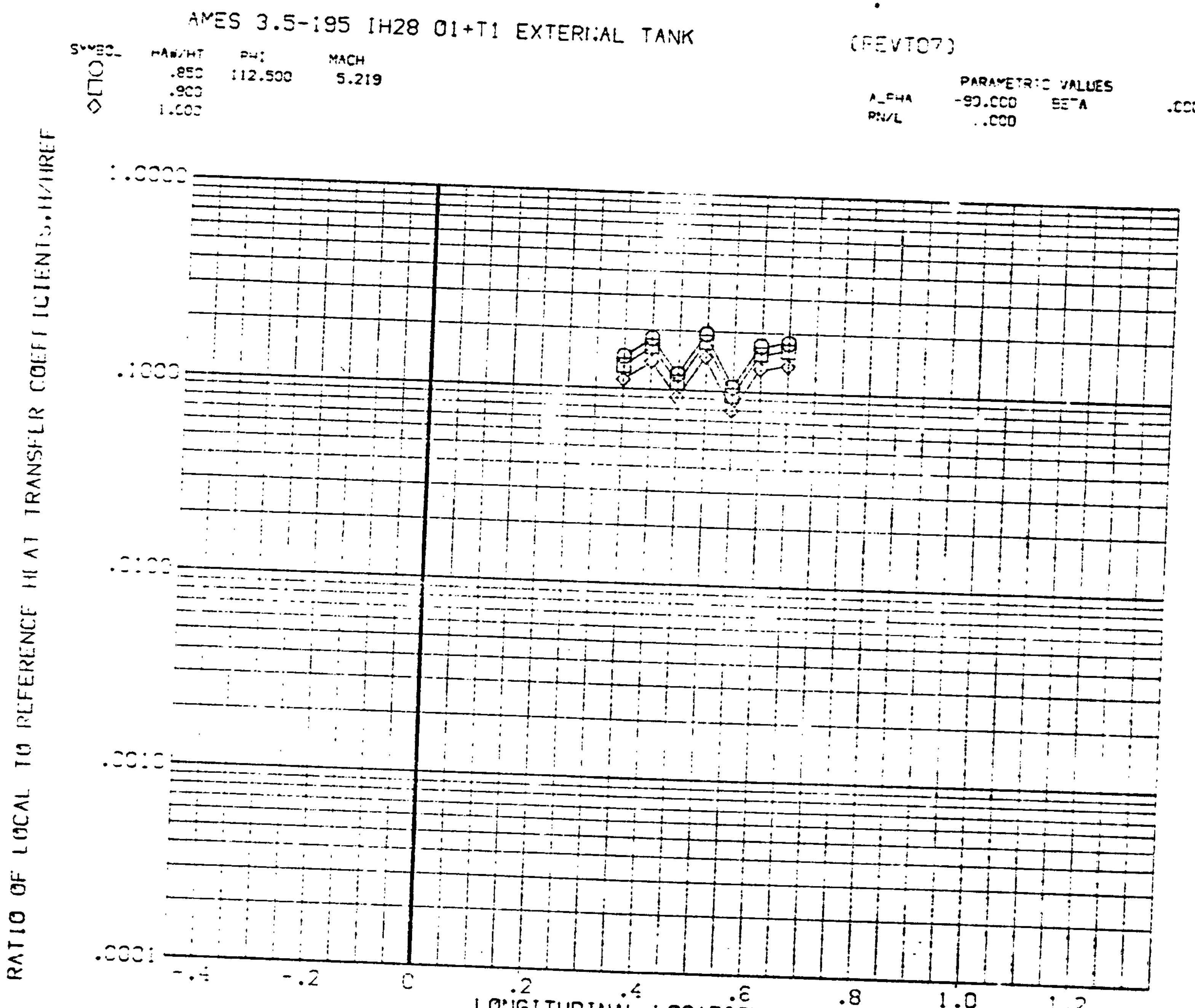


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

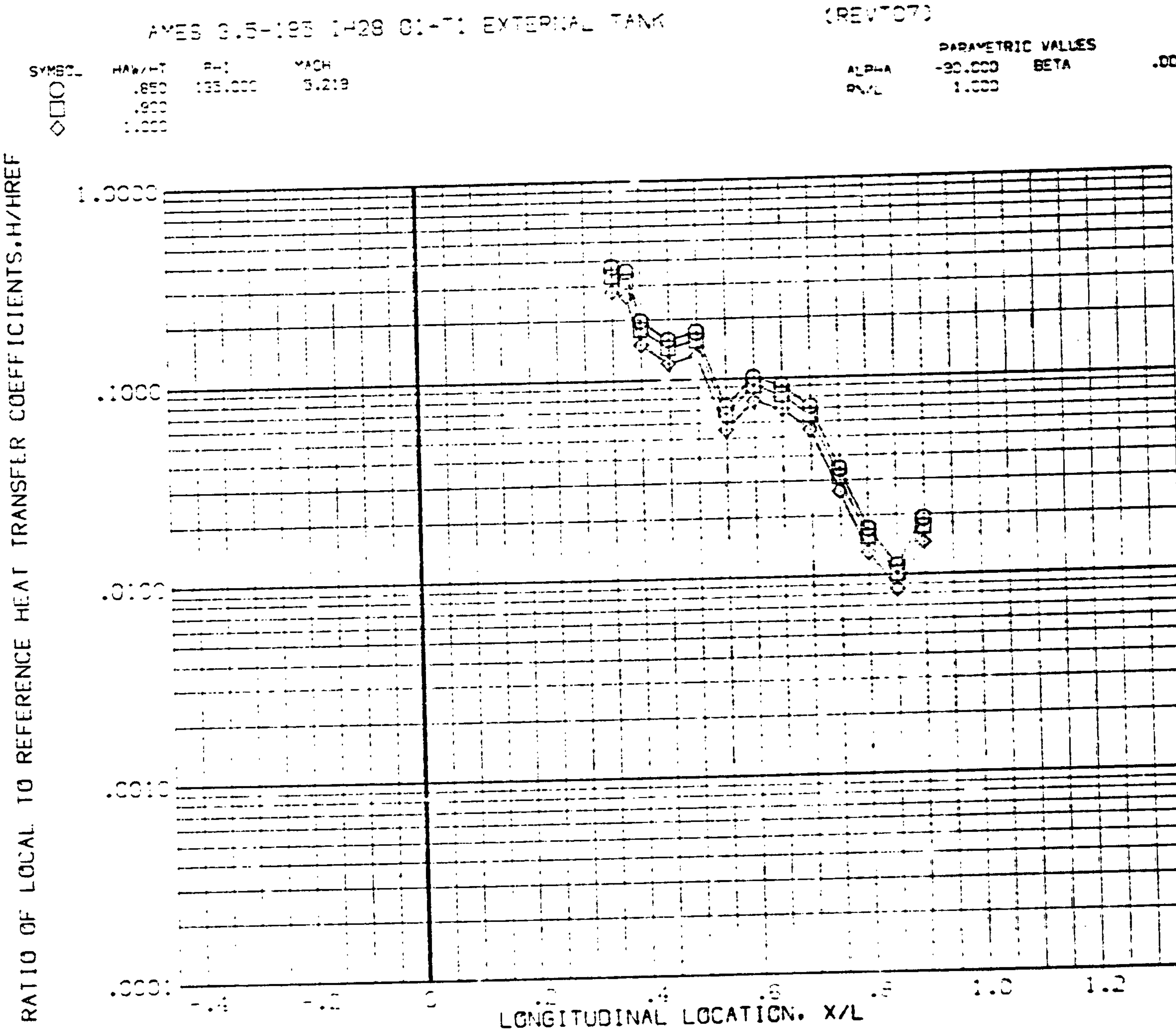


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 OI+T1 EXTERNAL TANK (REJT07)

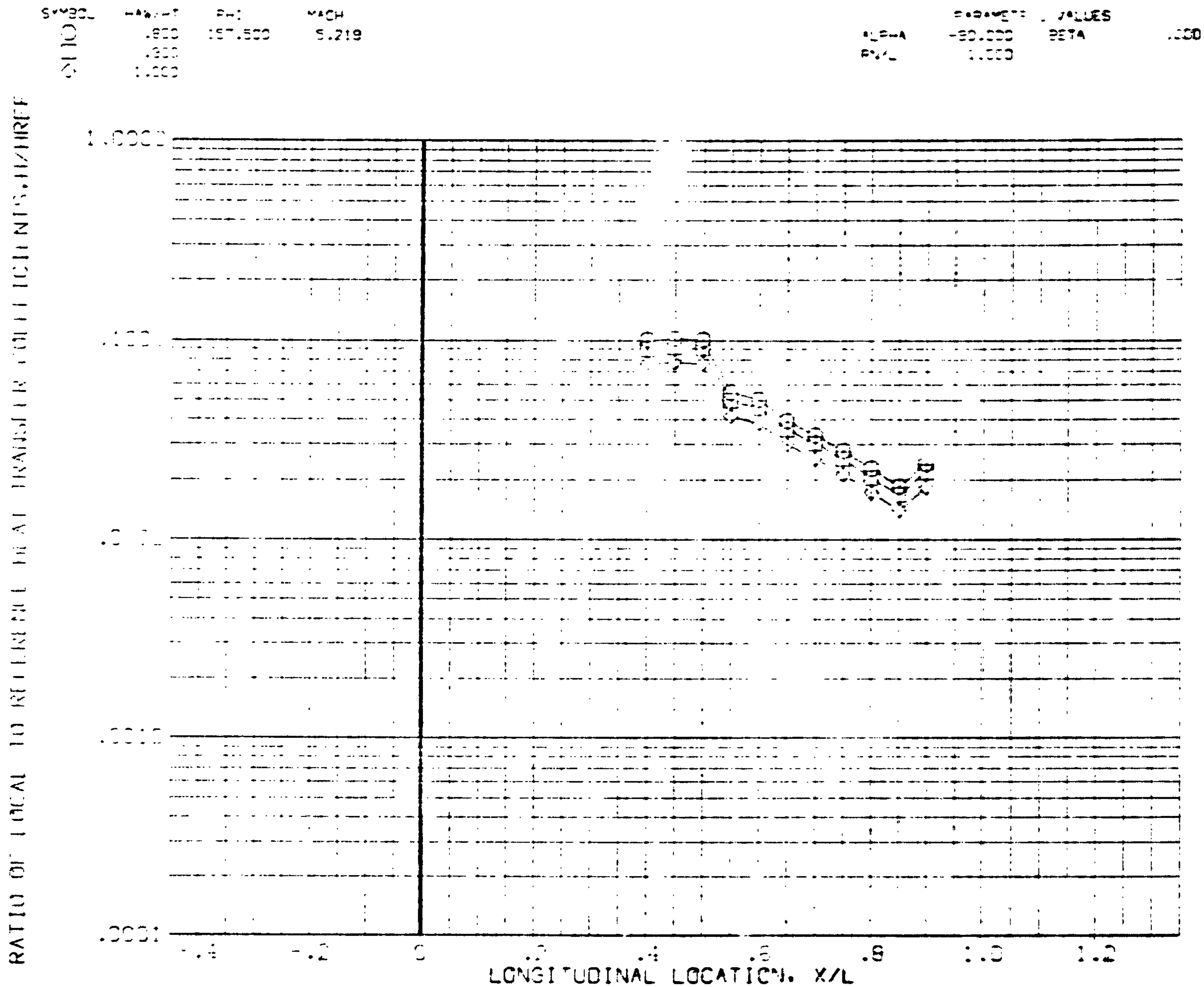


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

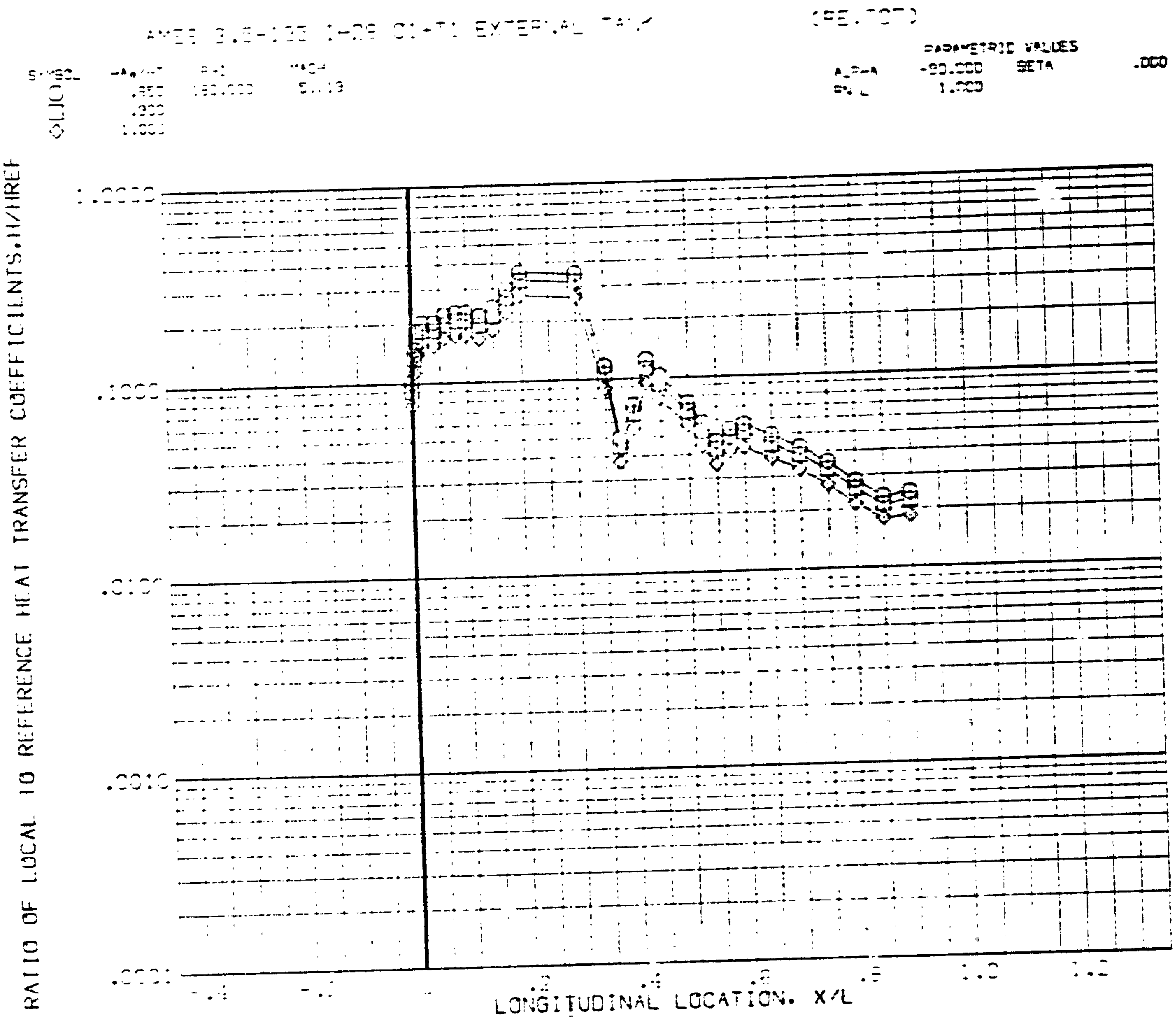


FIG. 5 TANK.IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 01+T1 EXTERNAL TANK (REVTC8)

SYMBOL	HAW/HT	PHI	MACH
○	.850	90.000	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA -60.000 BETA .000

RN/L 1.000

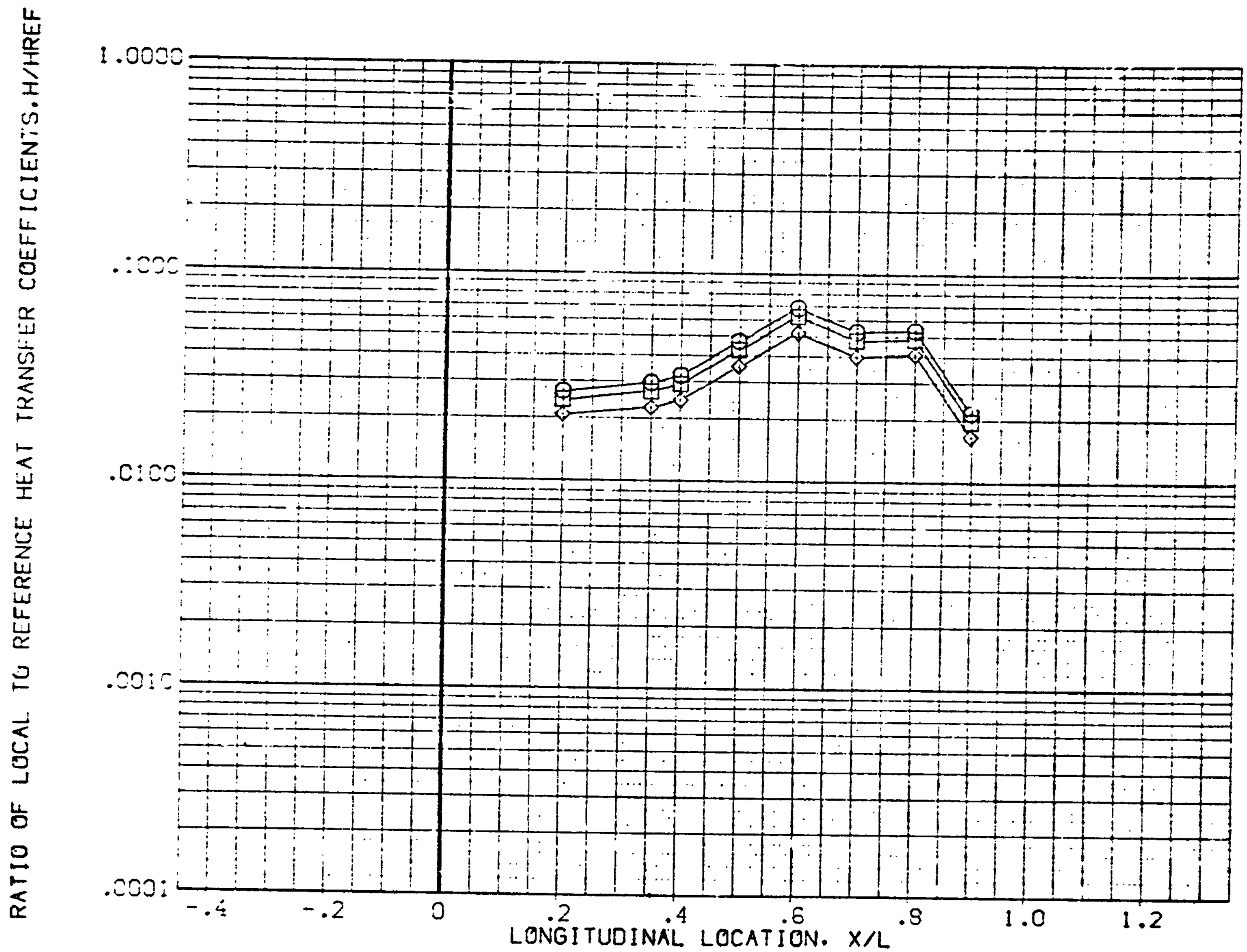


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

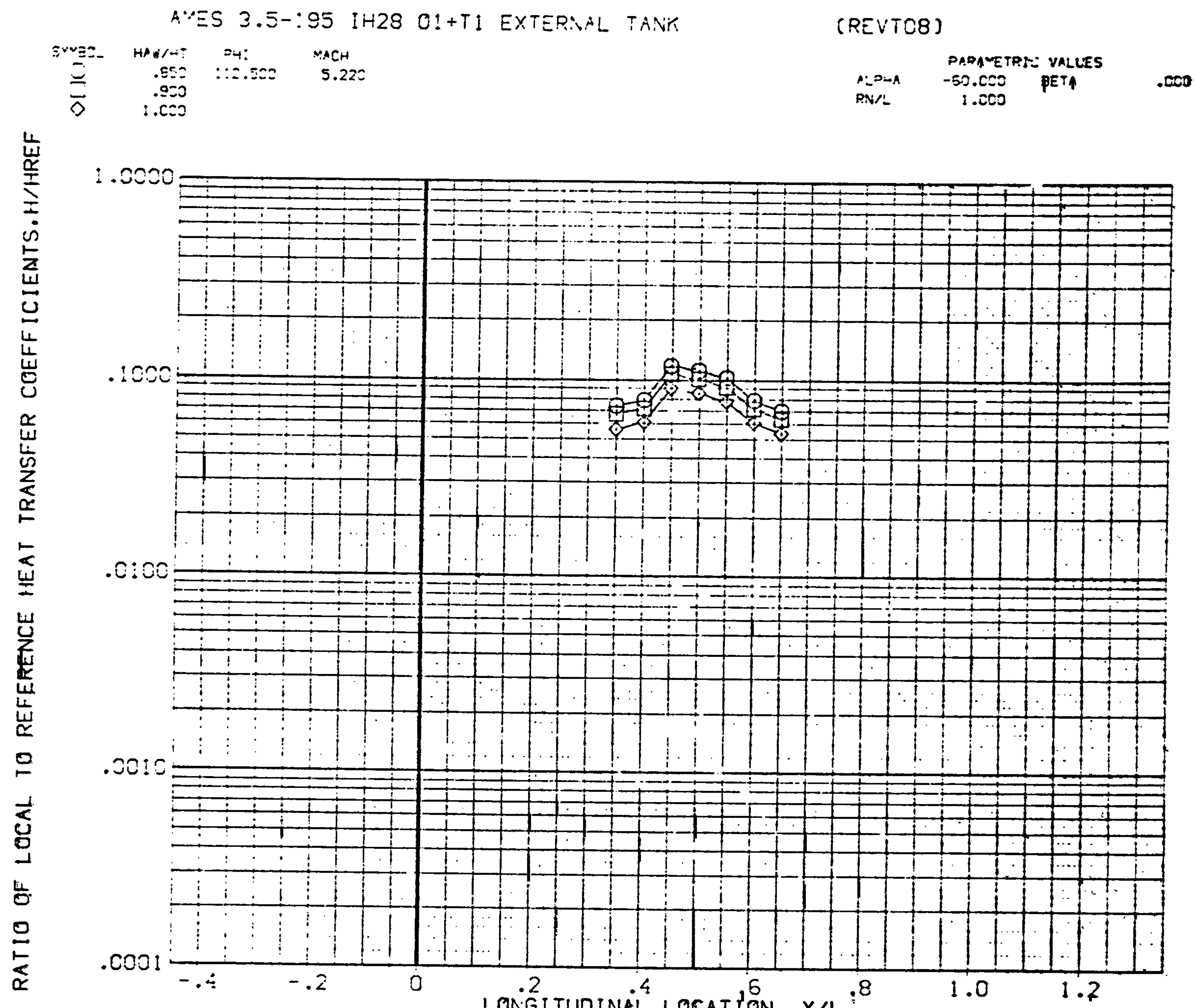


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

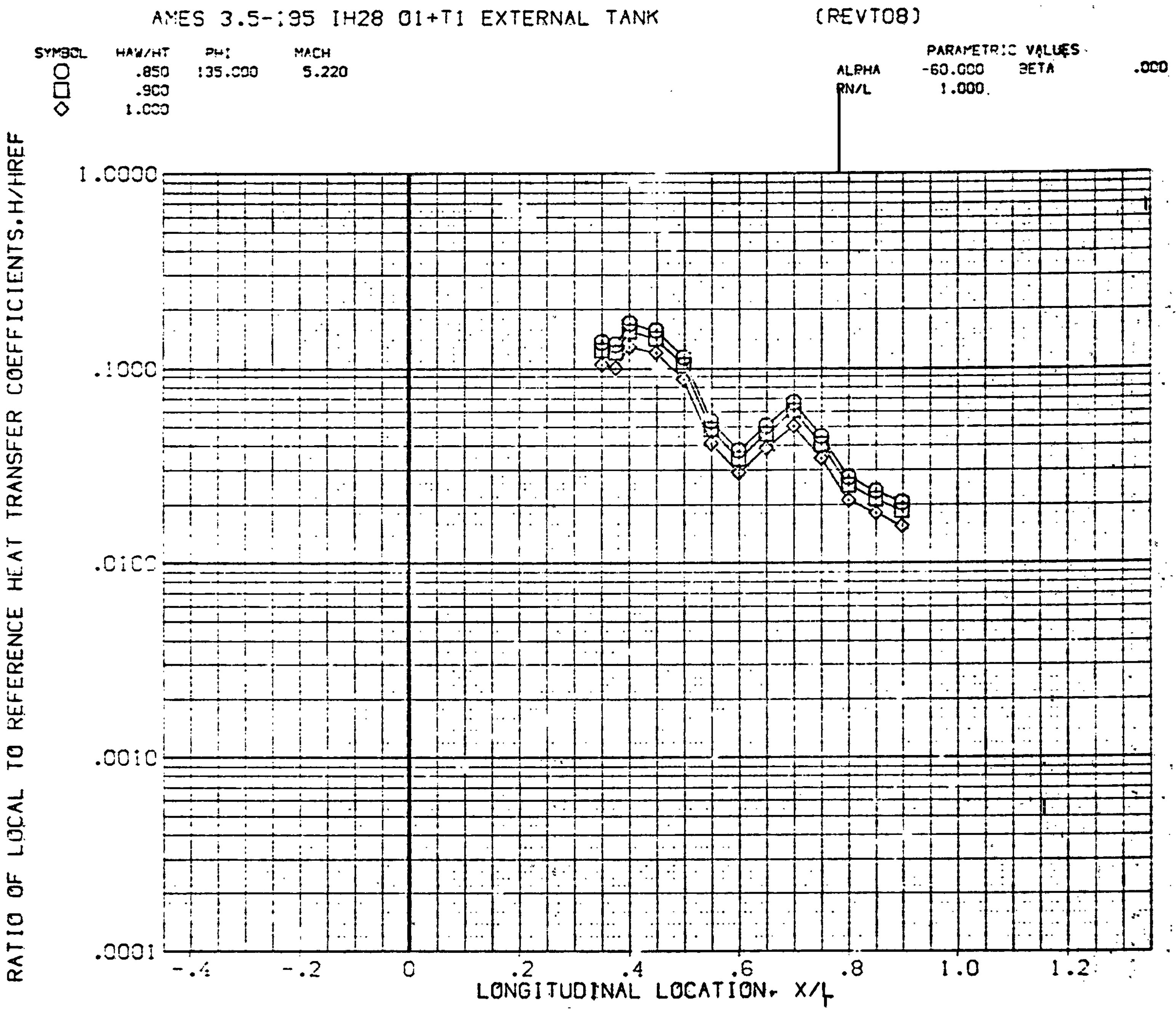


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

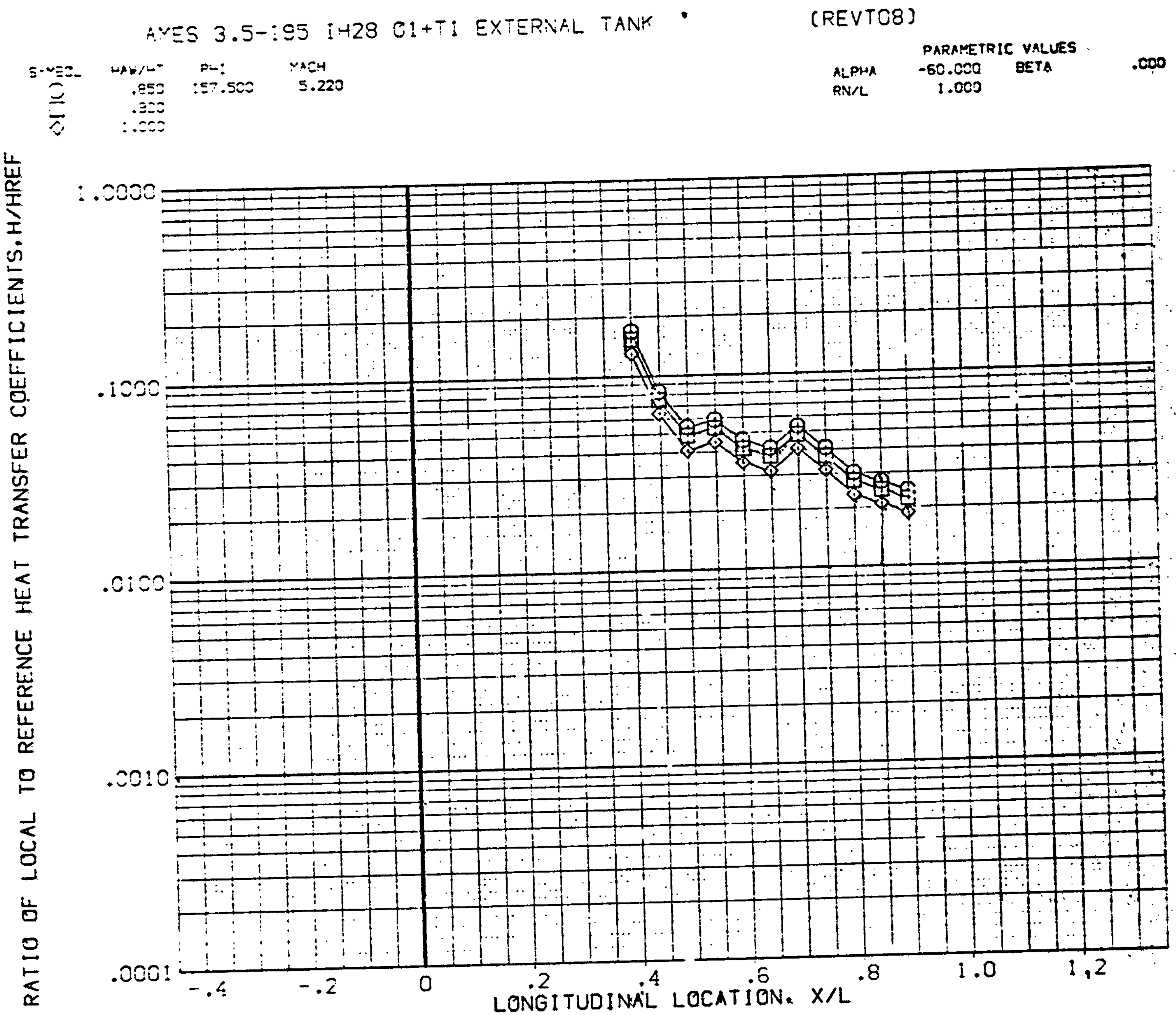


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 01+T1 EXTERNAL TANK (REVT08)

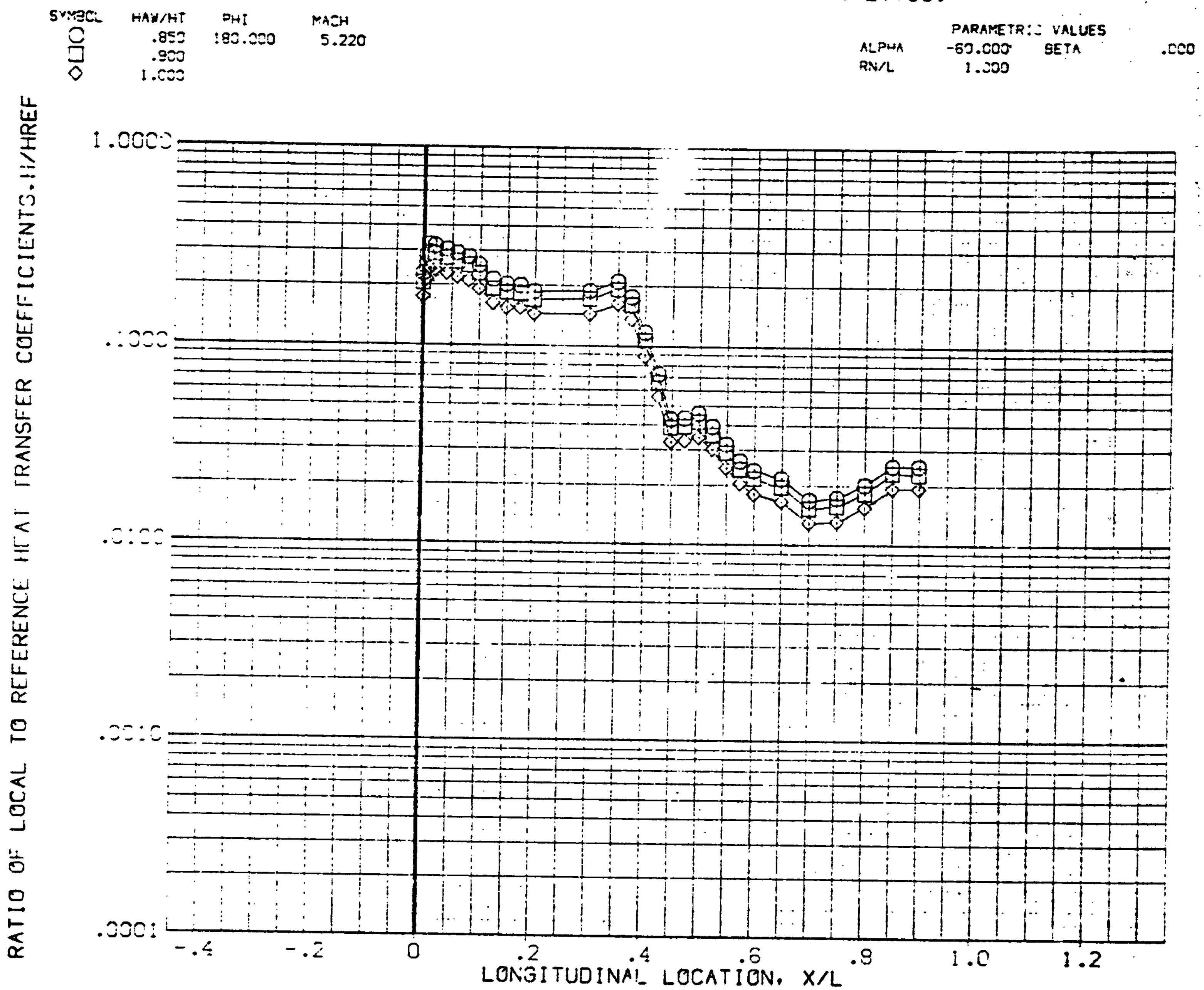


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

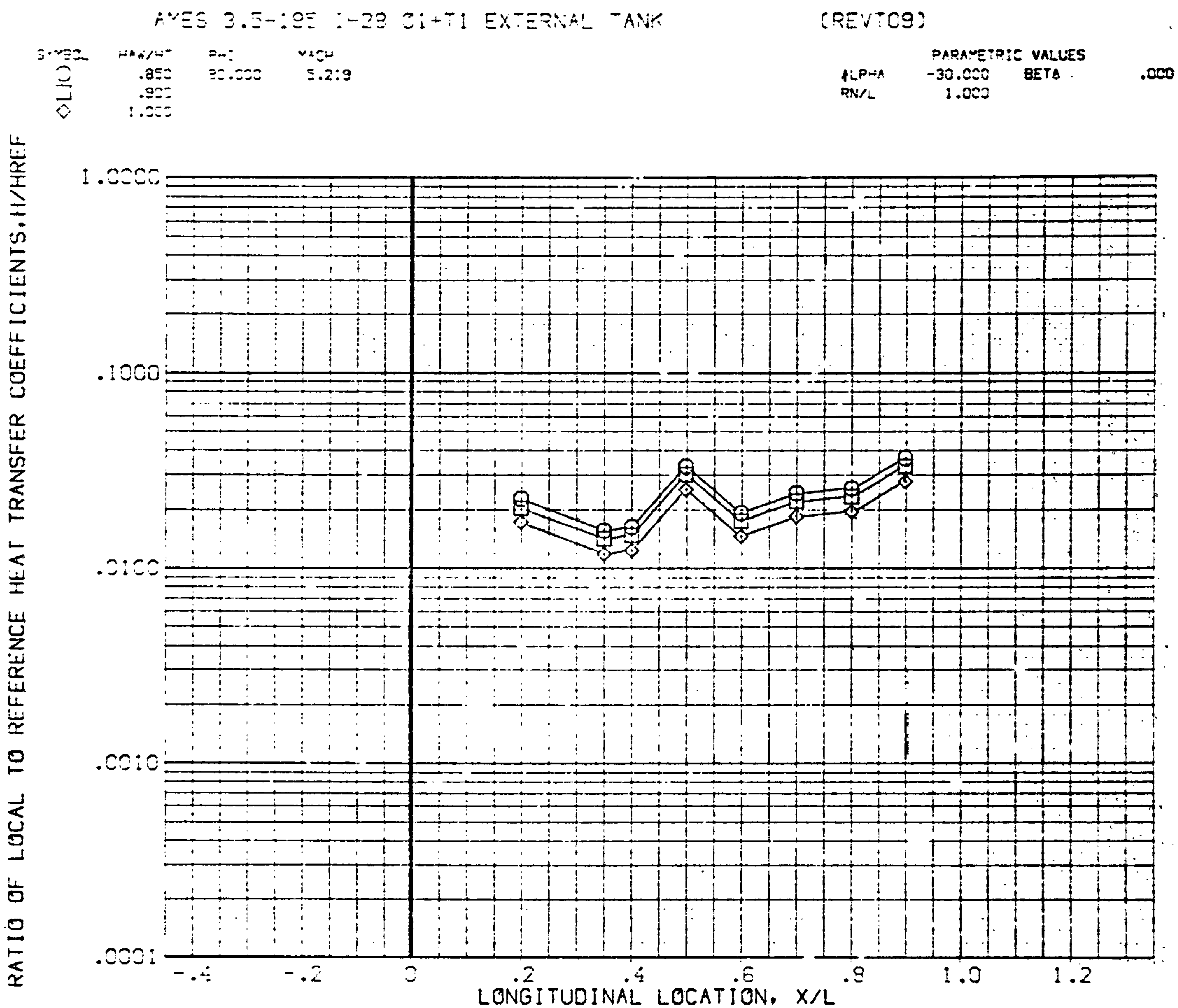


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

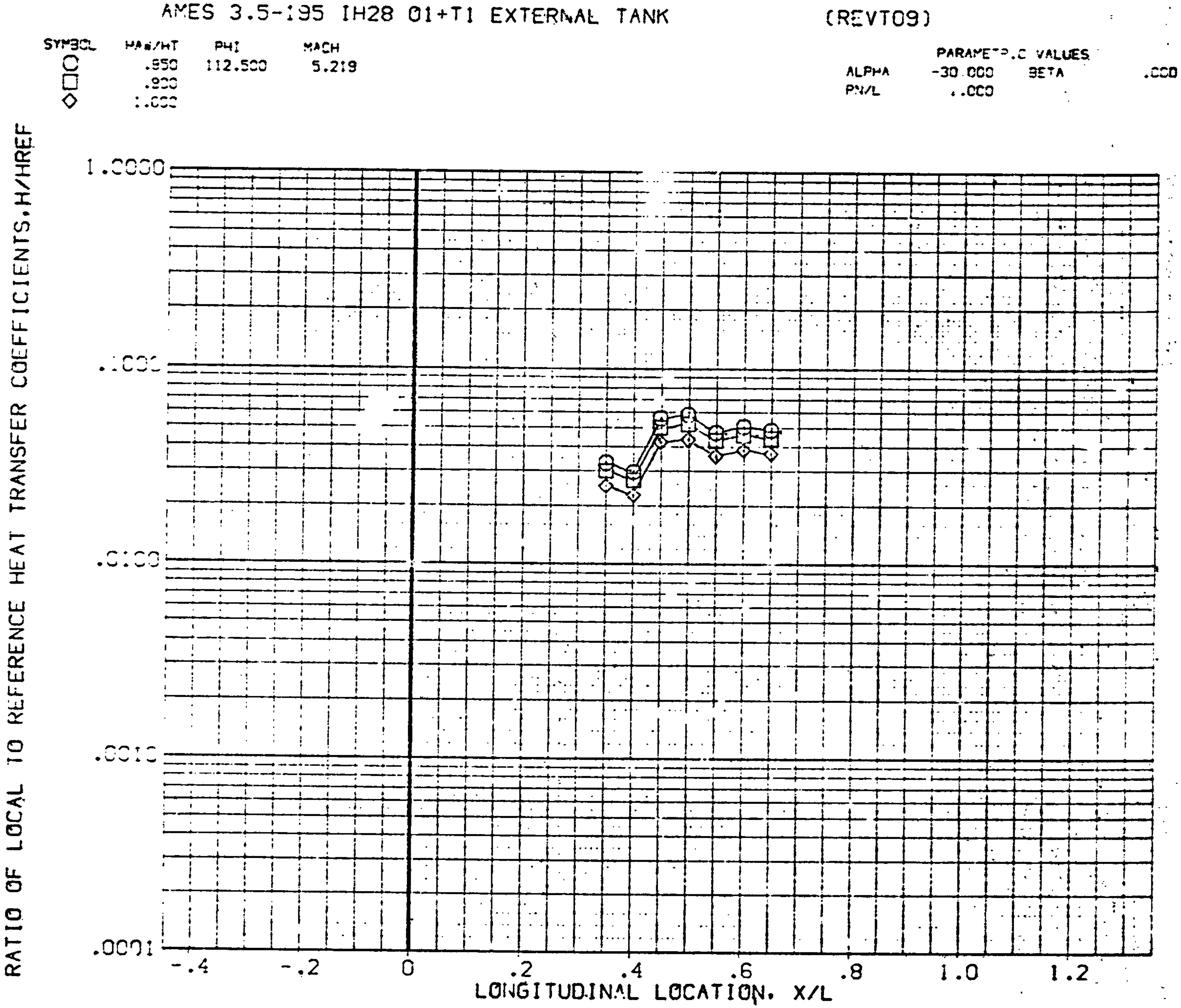


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

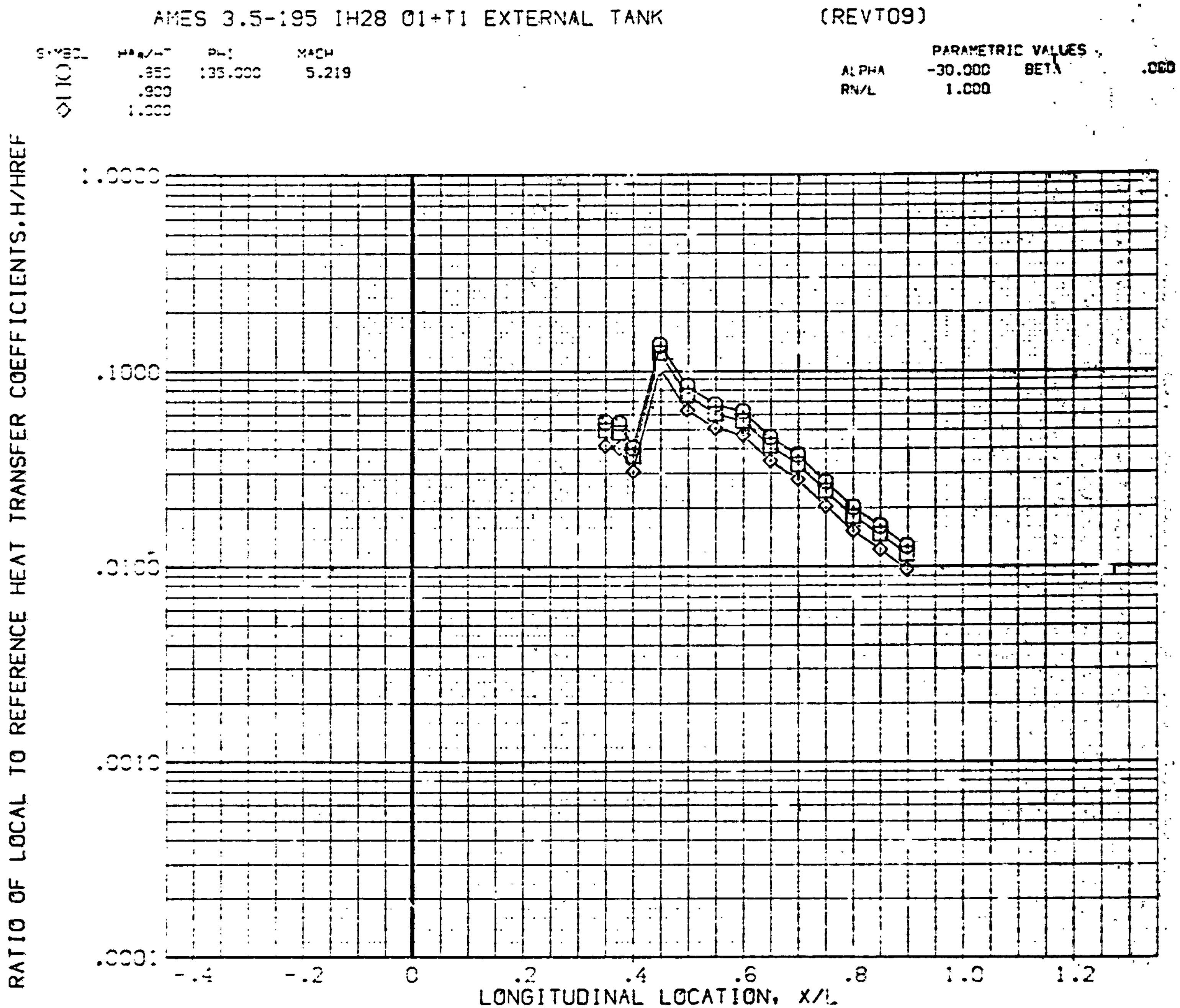


FIG. 5 TANK,IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK (REVTC9)

SYMBOL	HAW/HT	PHI	MACH
○	.950	157.500	5.219
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA -30.000 BETA .000
RN/L 1.000

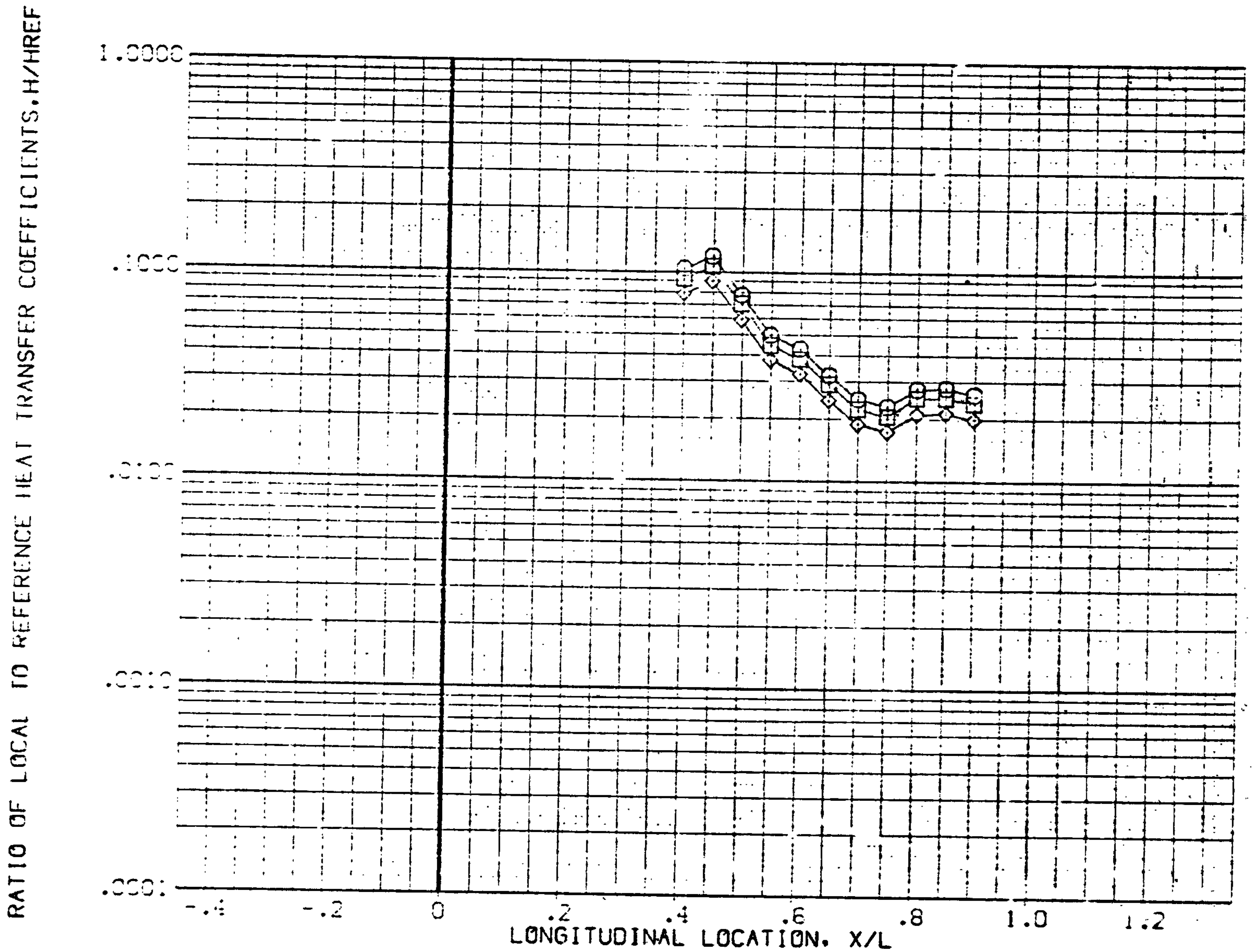


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

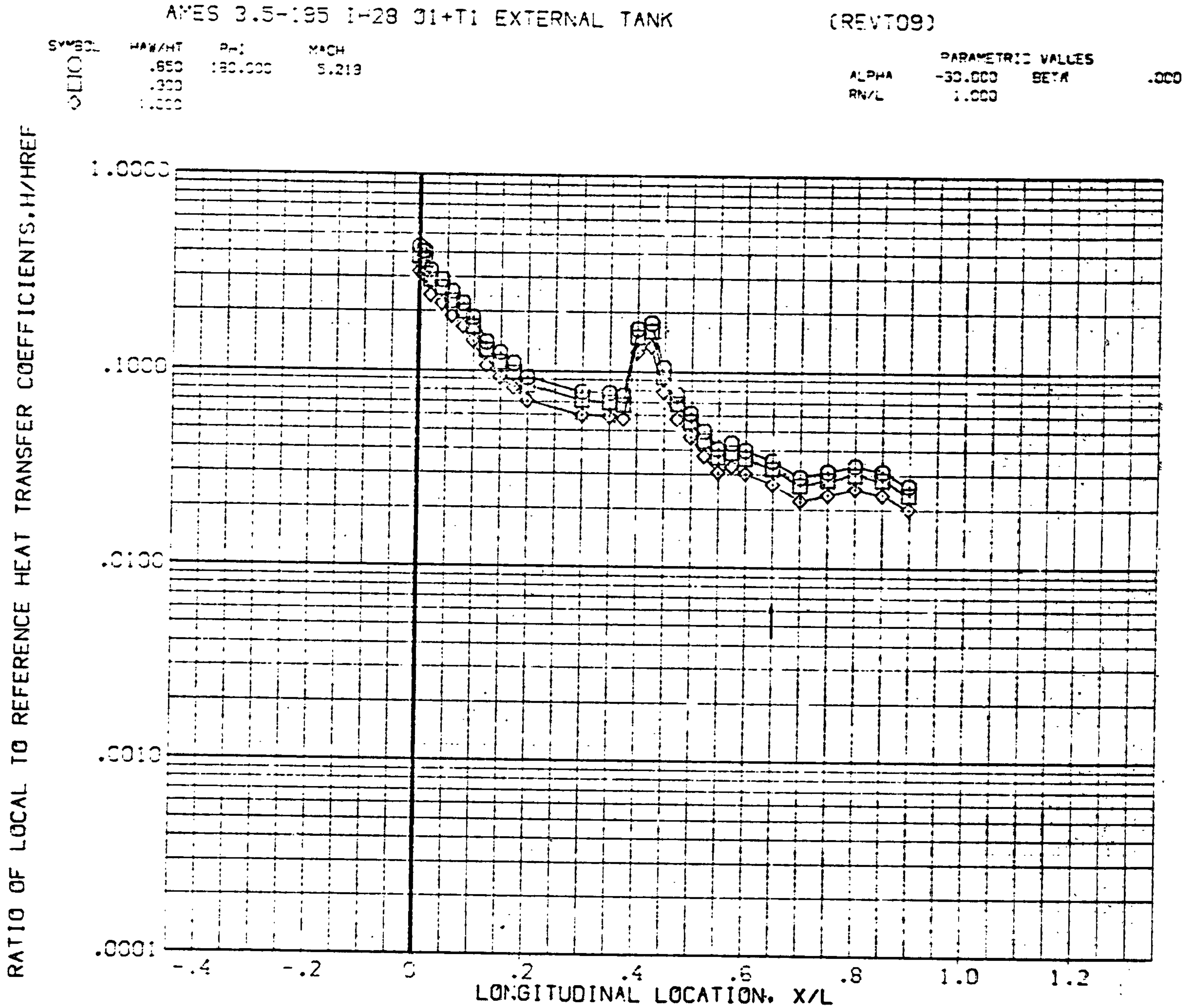


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK (REVTIC)

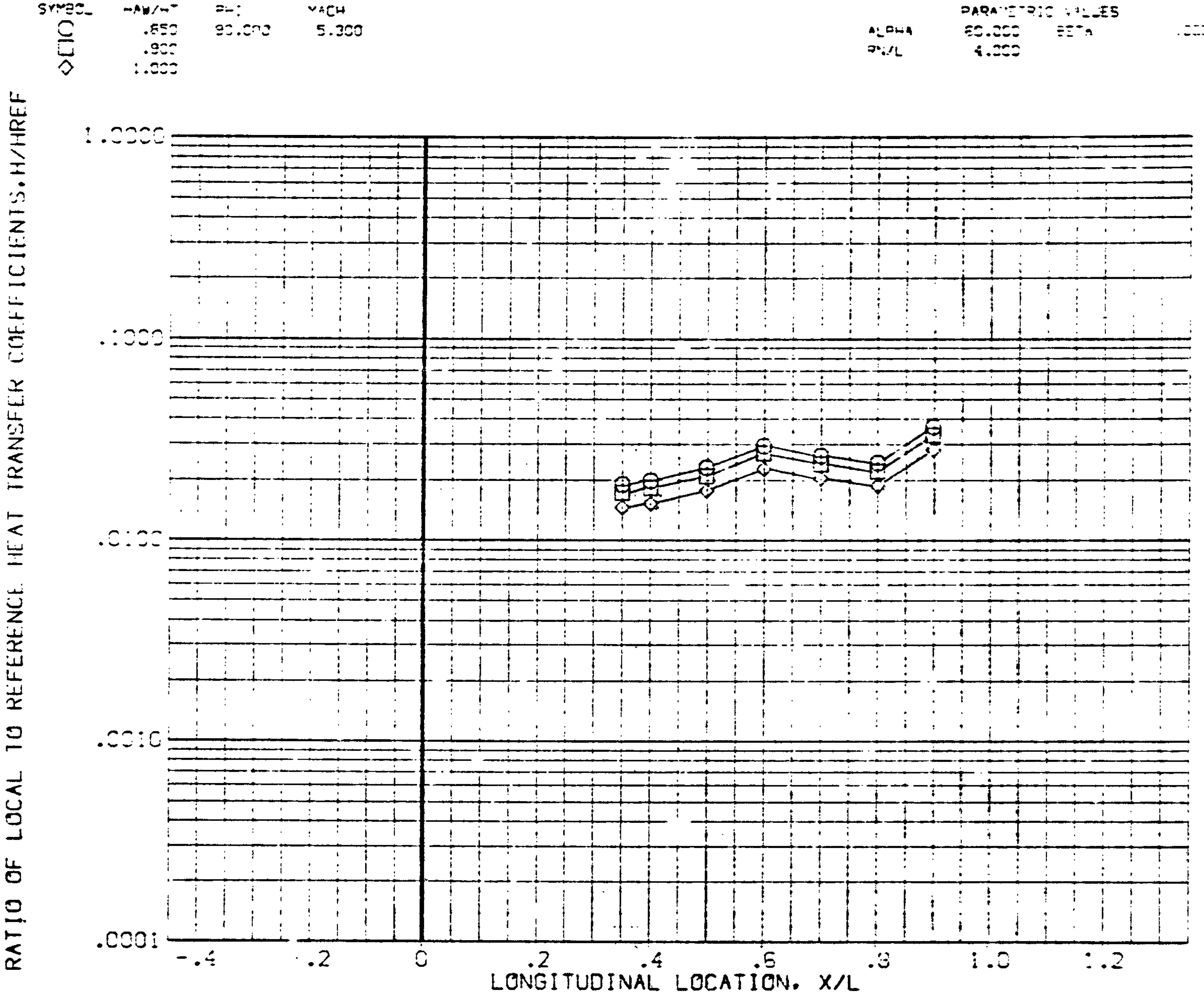


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

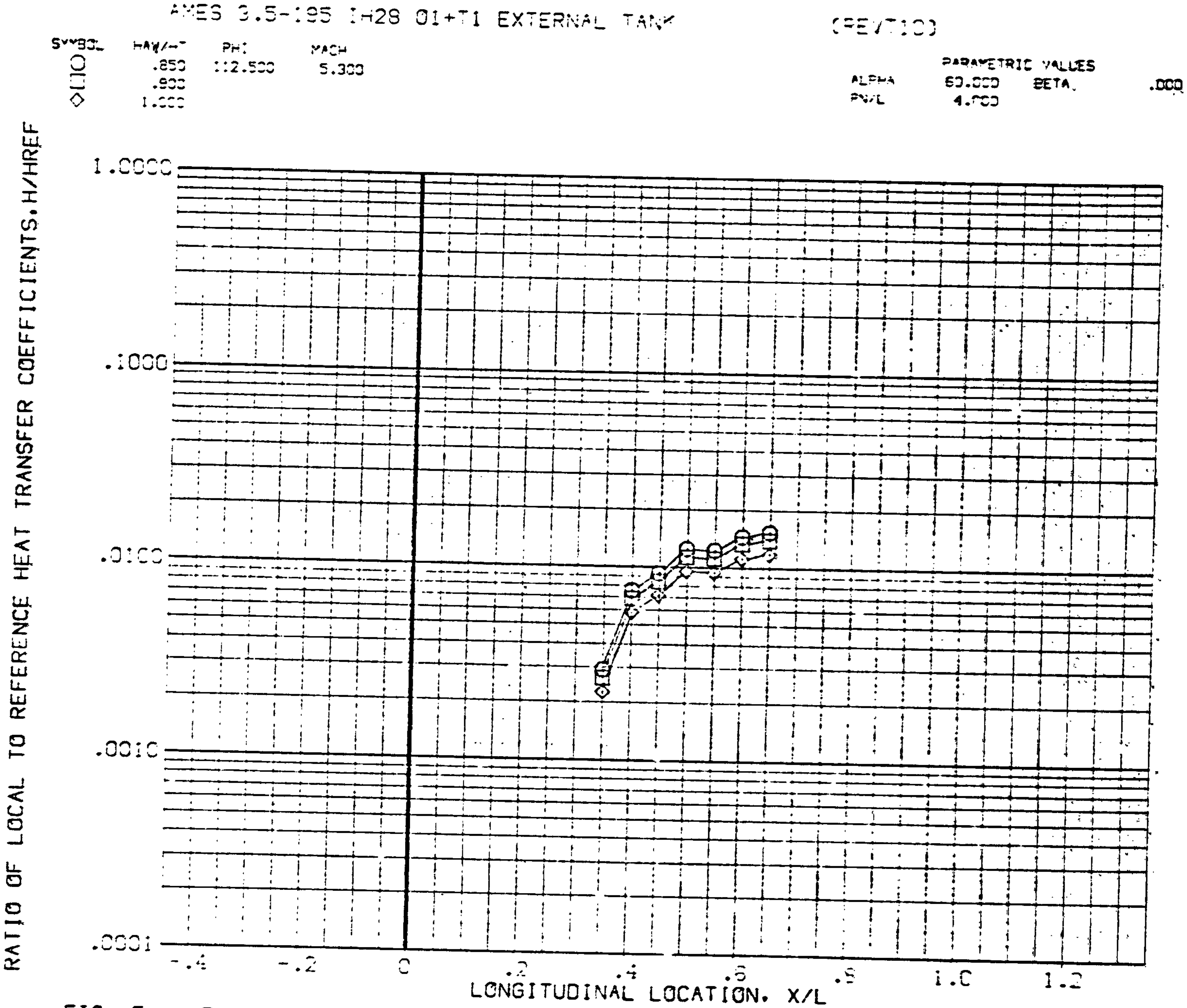


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

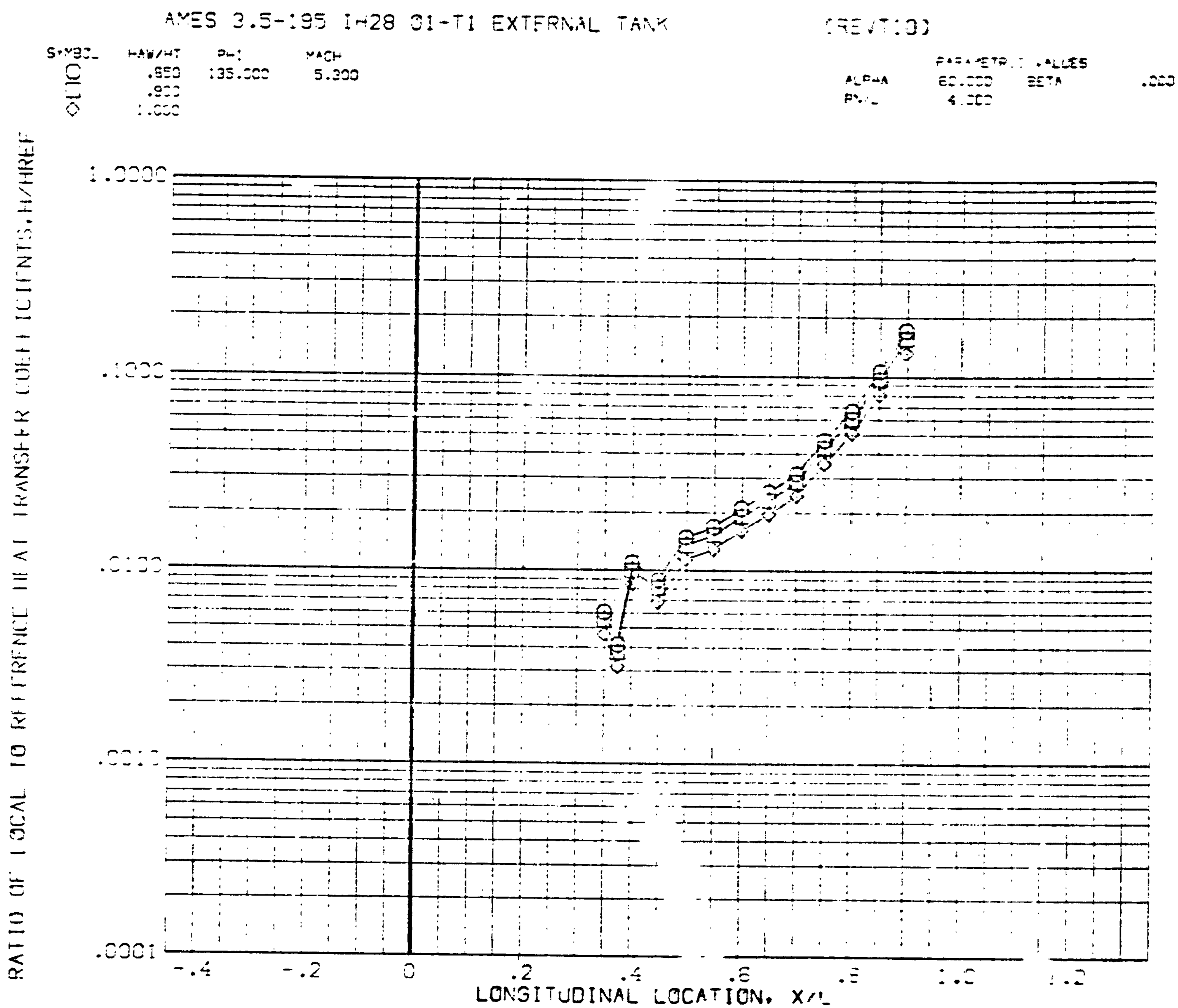


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

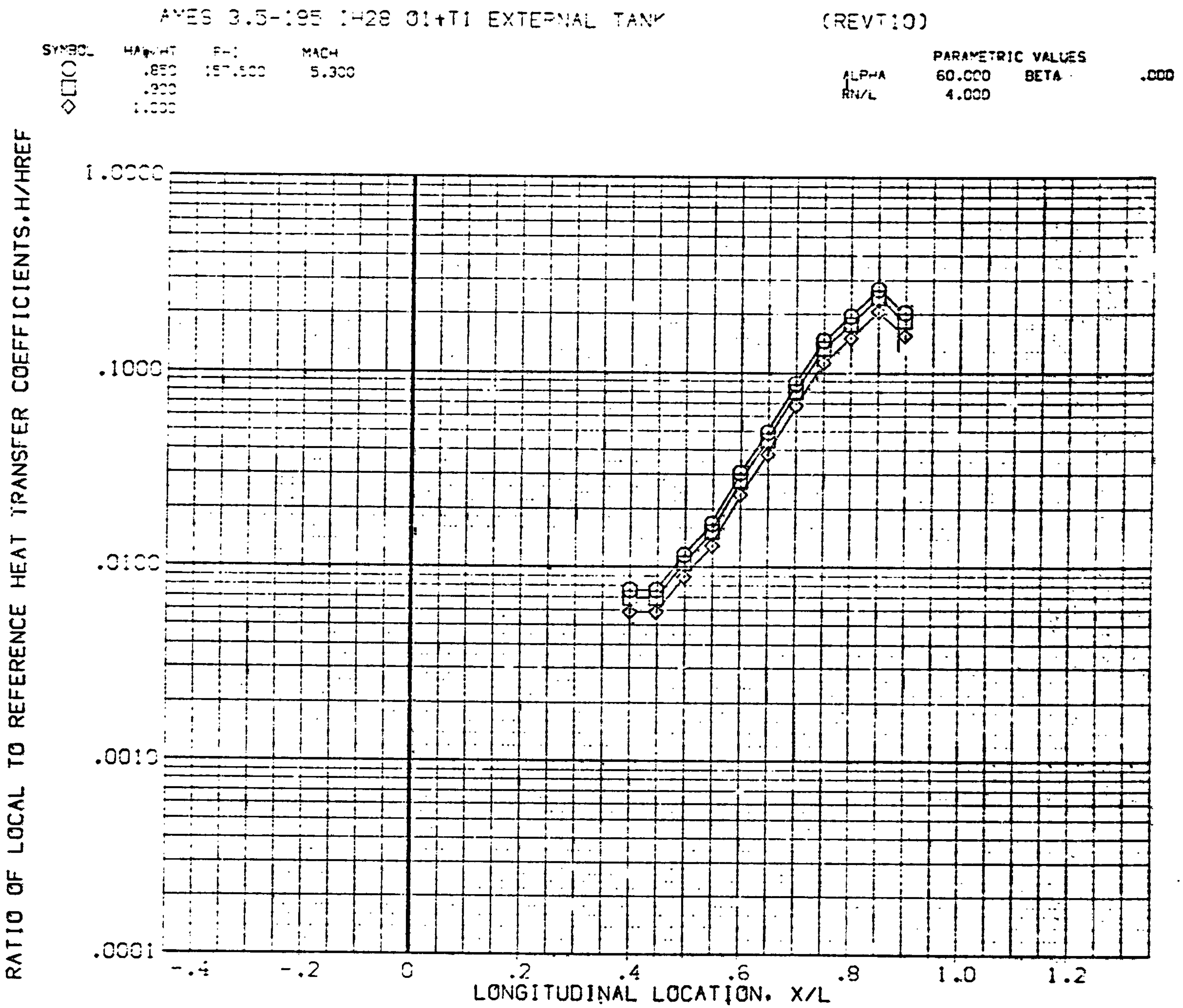


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

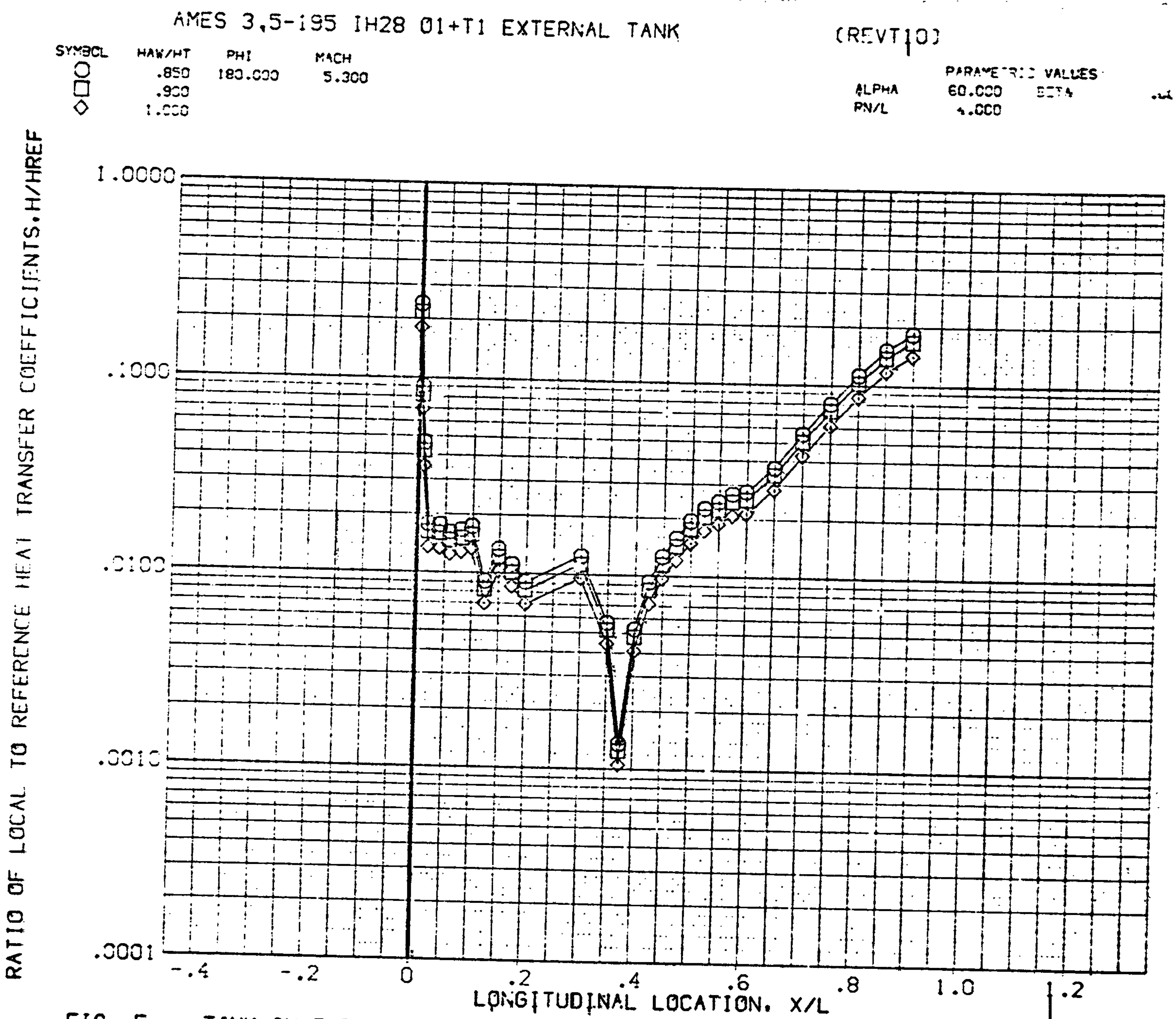


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

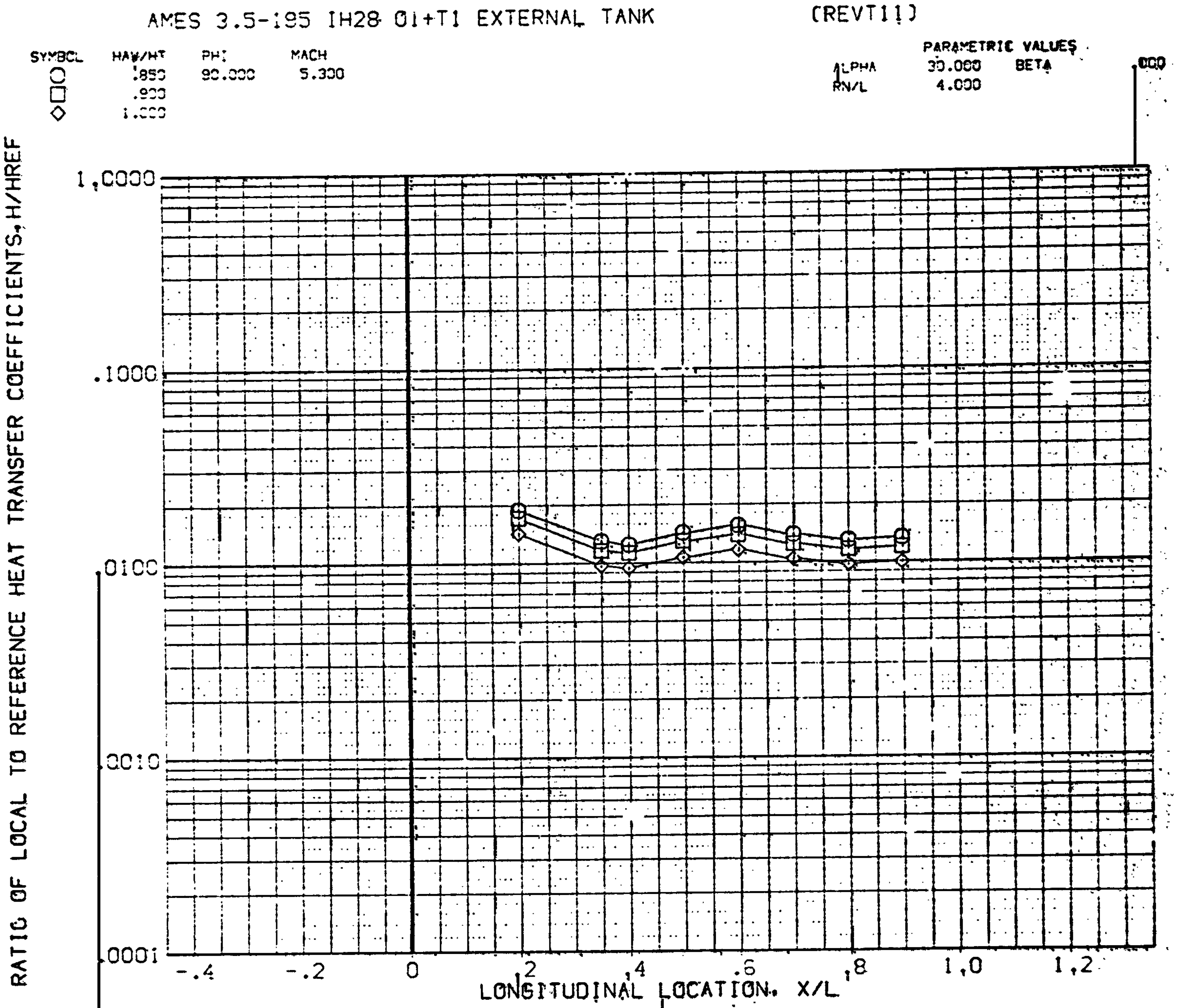


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 01+T1 EXTERNAL TANK (REVT11)

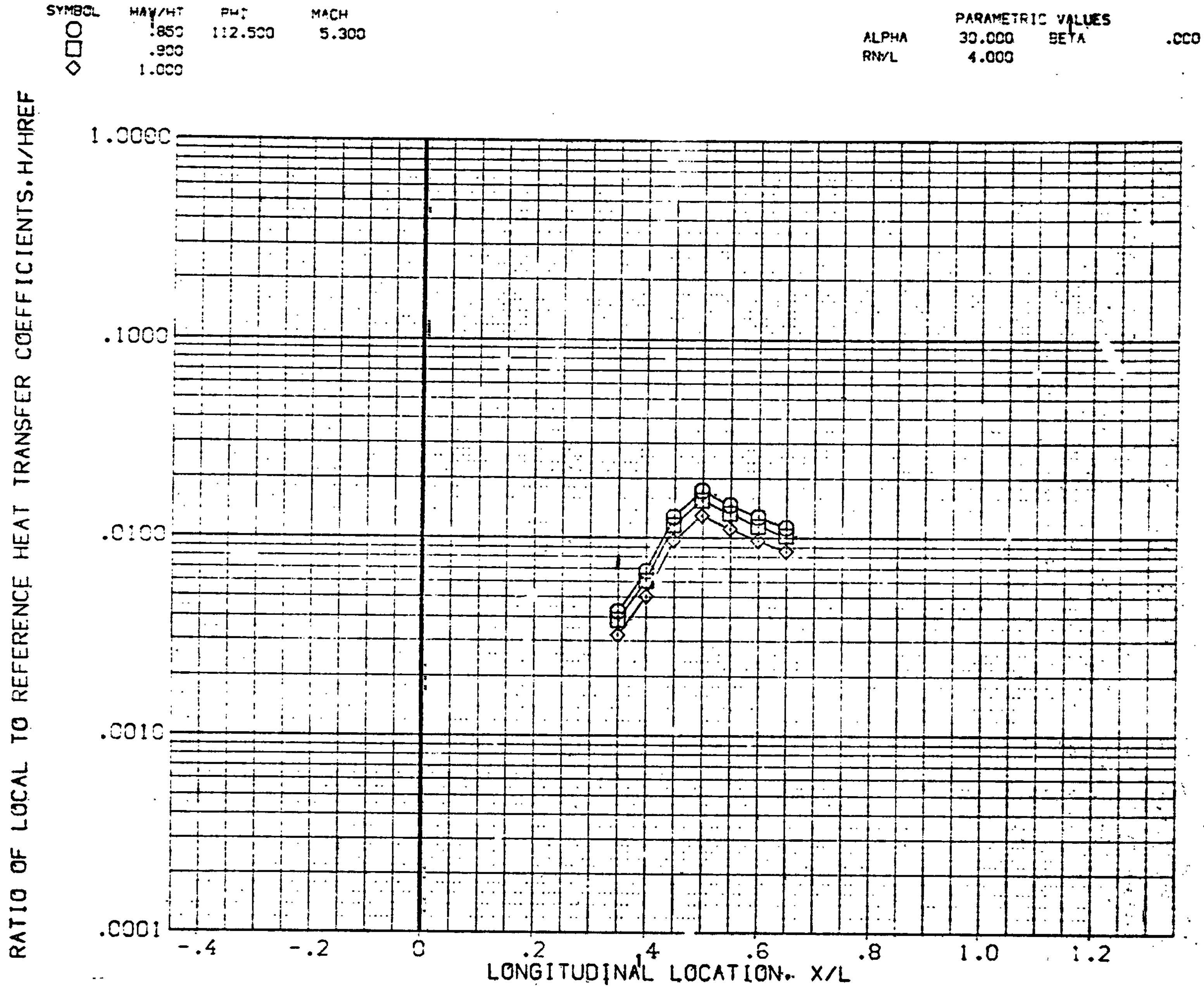


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

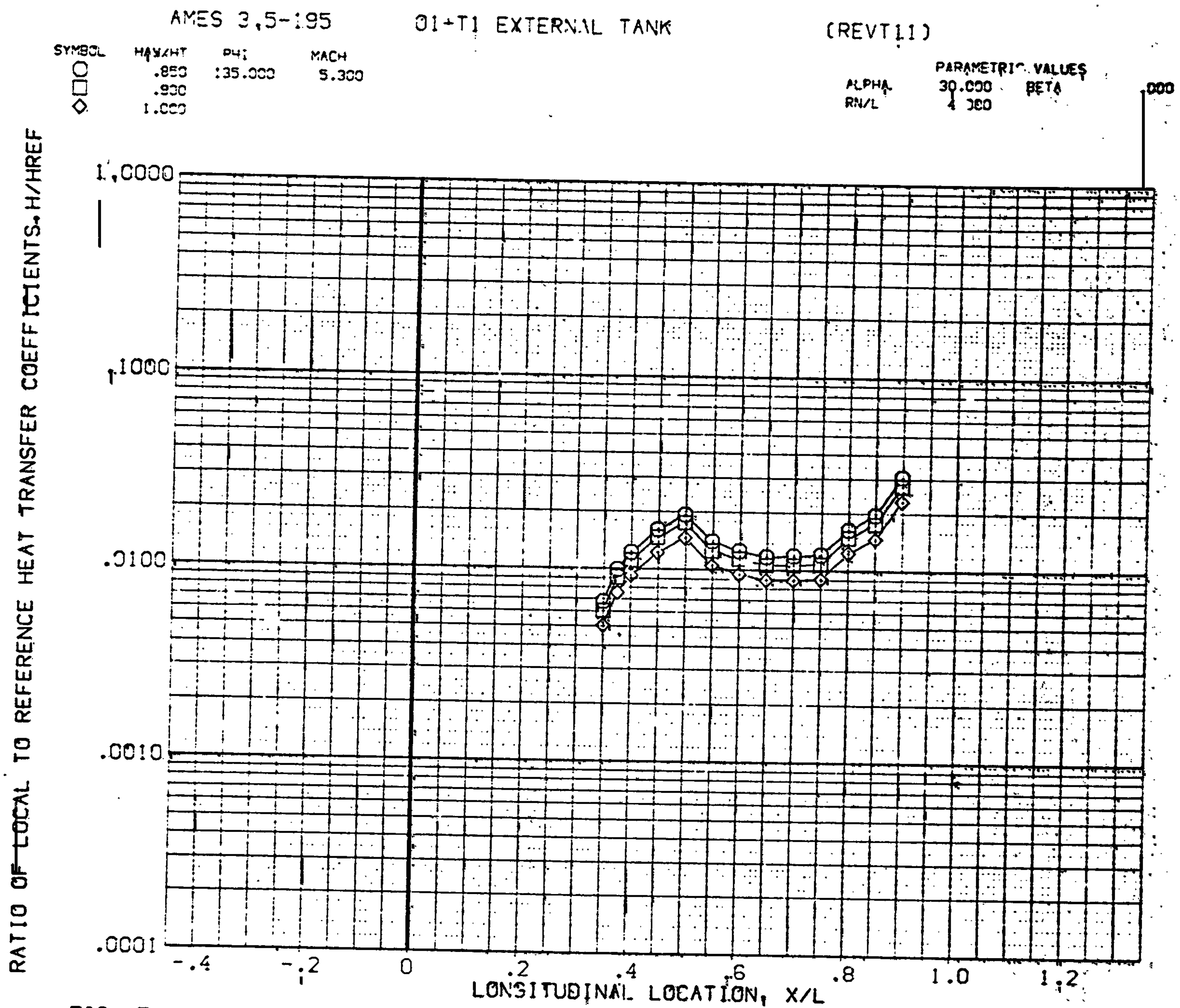


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK (REVT11)

SYMBOL	HAW/HT	PHI	MACH
O	.850	157.500	5.300
□	.900		
◇	1.000		

PARAMETRIC VALUES.

ALPHA	30.000	BETA	.000
RN/L	4.000		

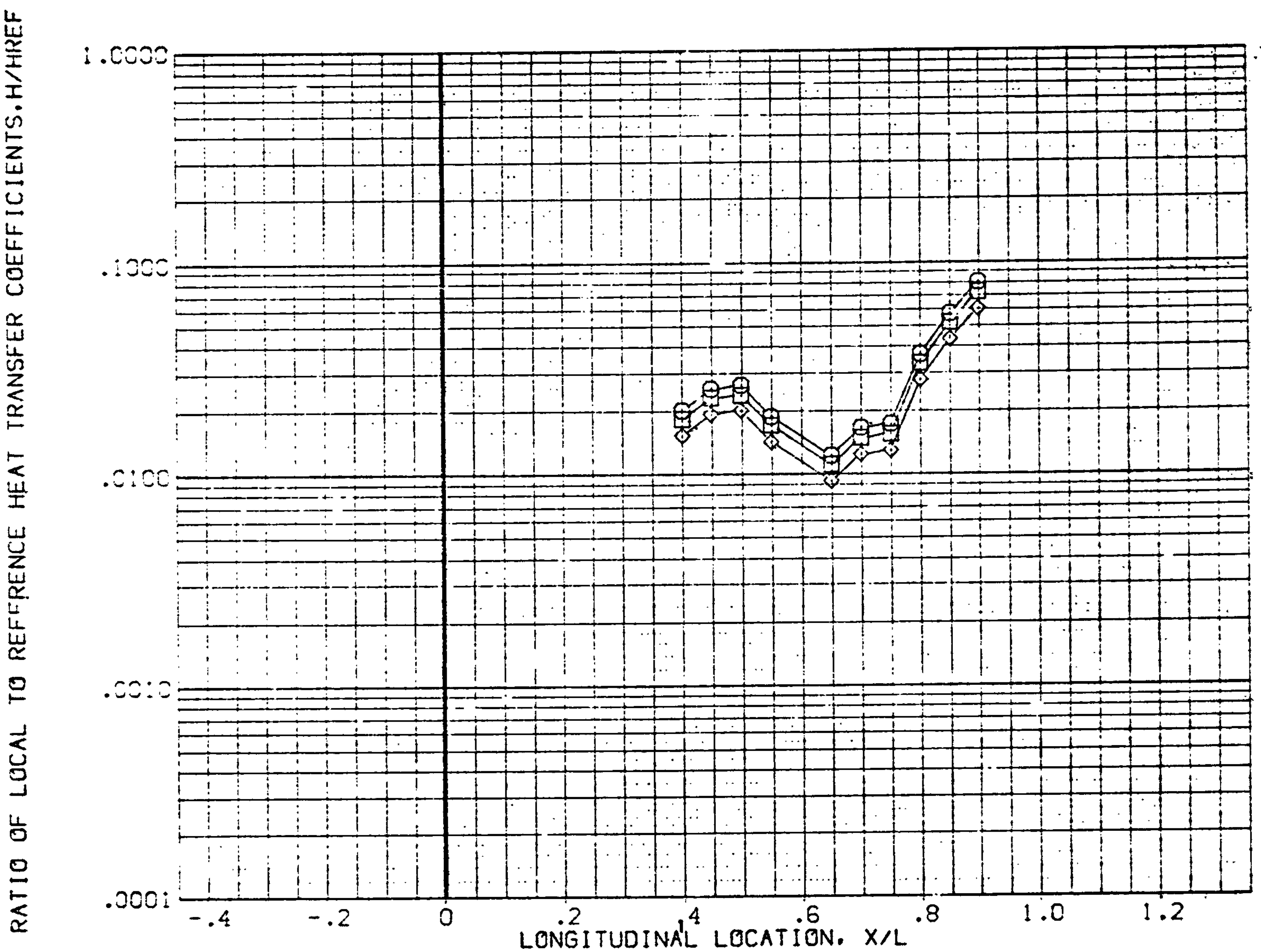


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

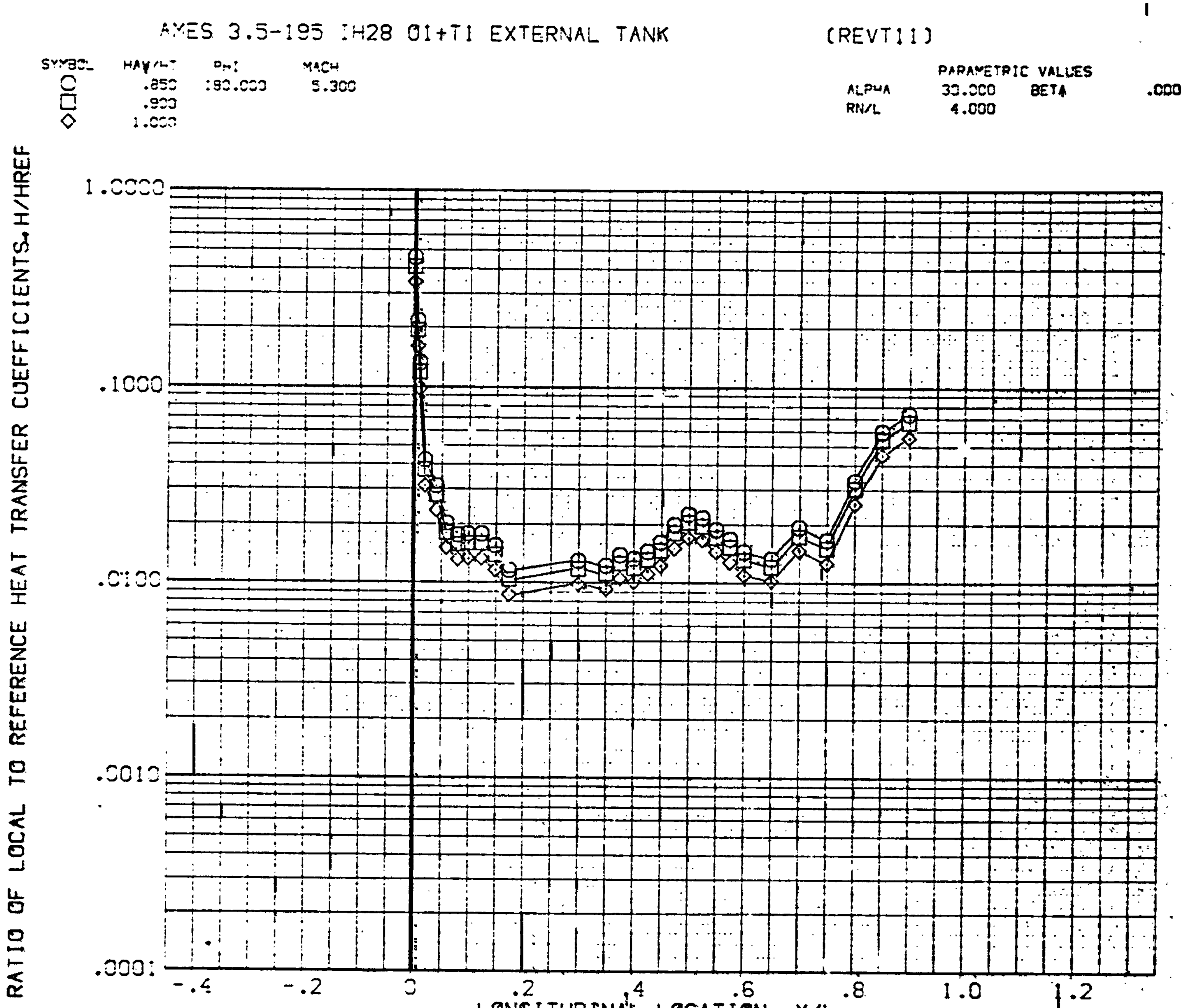


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 01+T1 EXTERNAL TANK (REVT12)

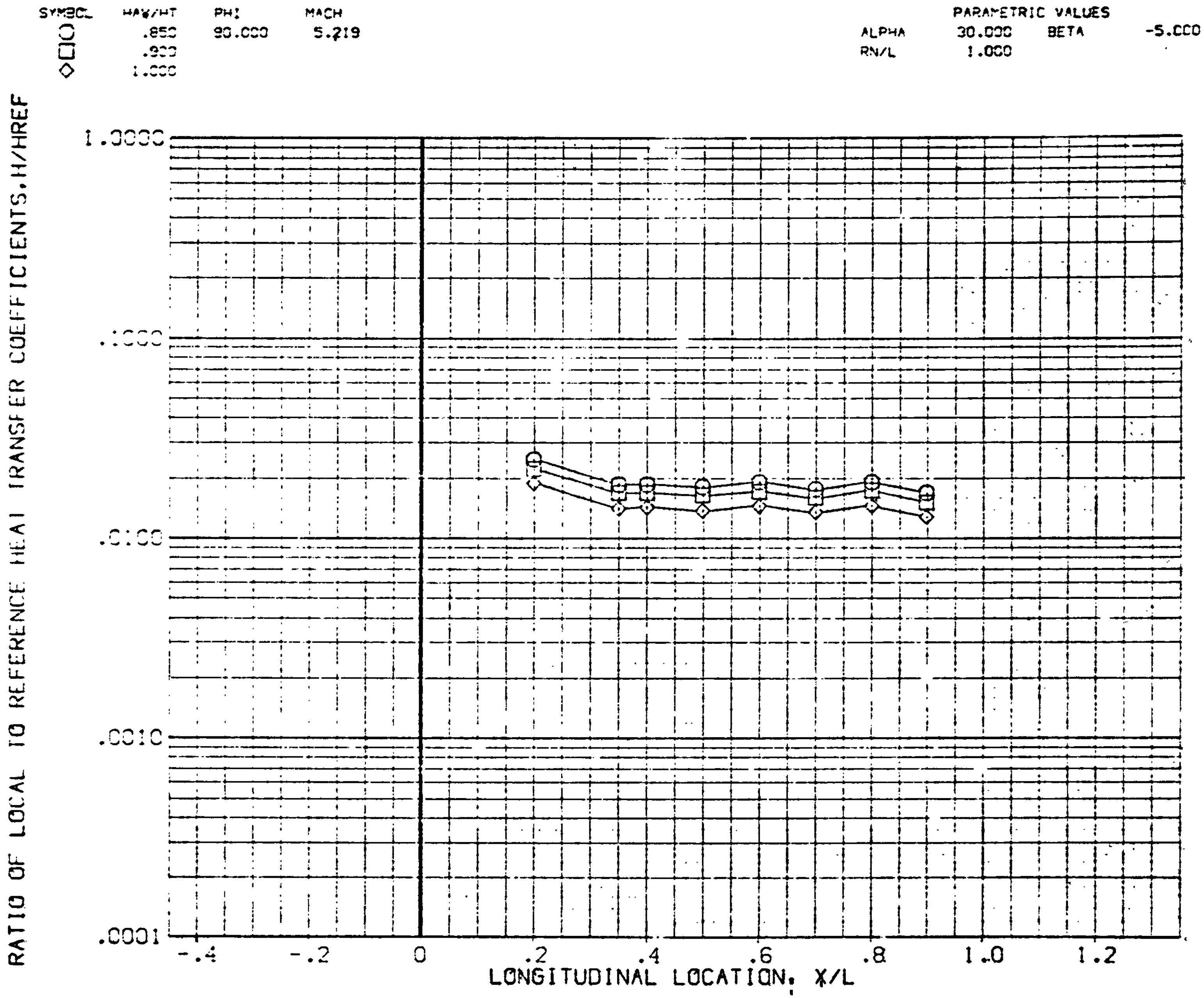


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 C1+T1 EXTERNAL TANK (REVT12)

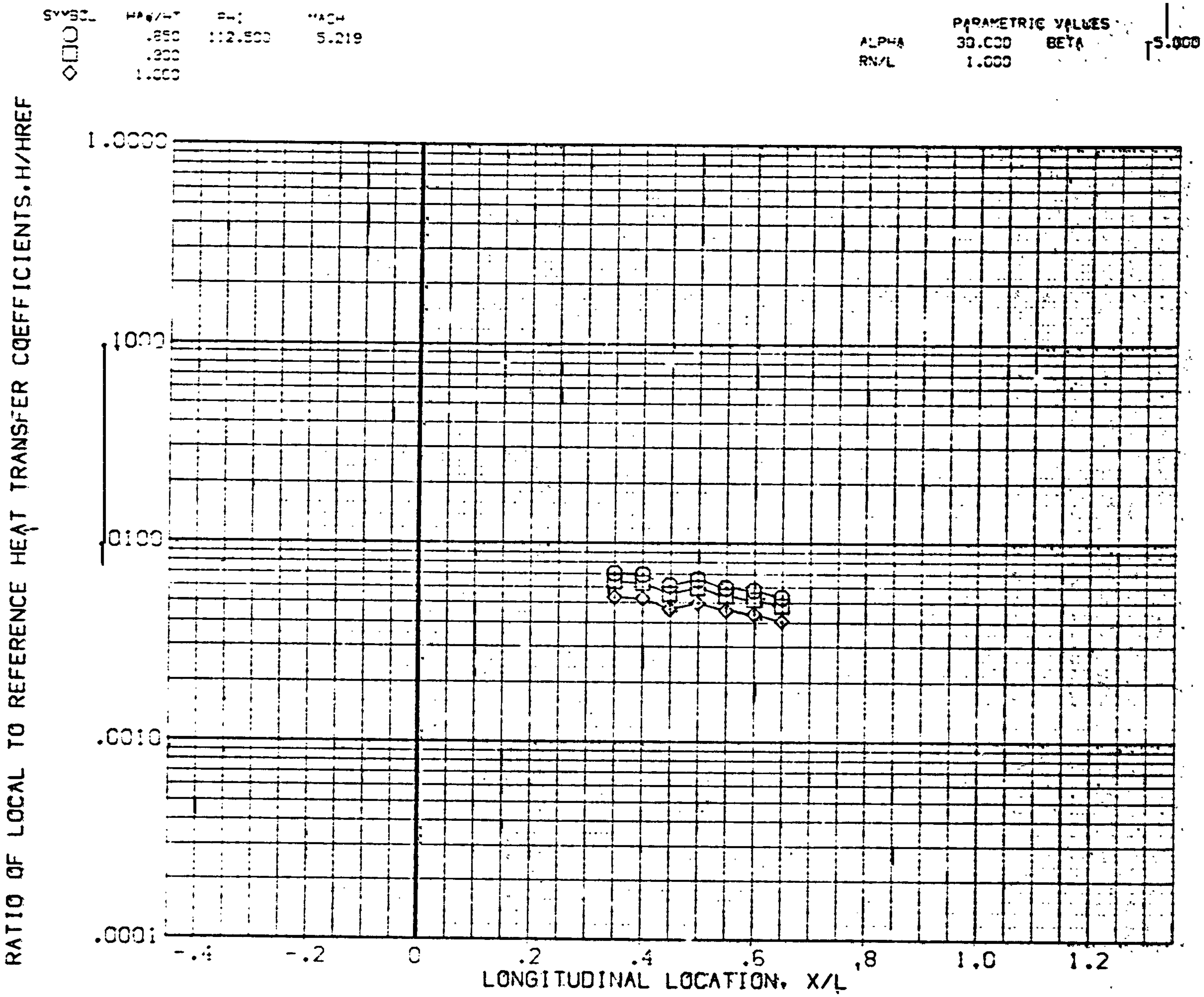


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

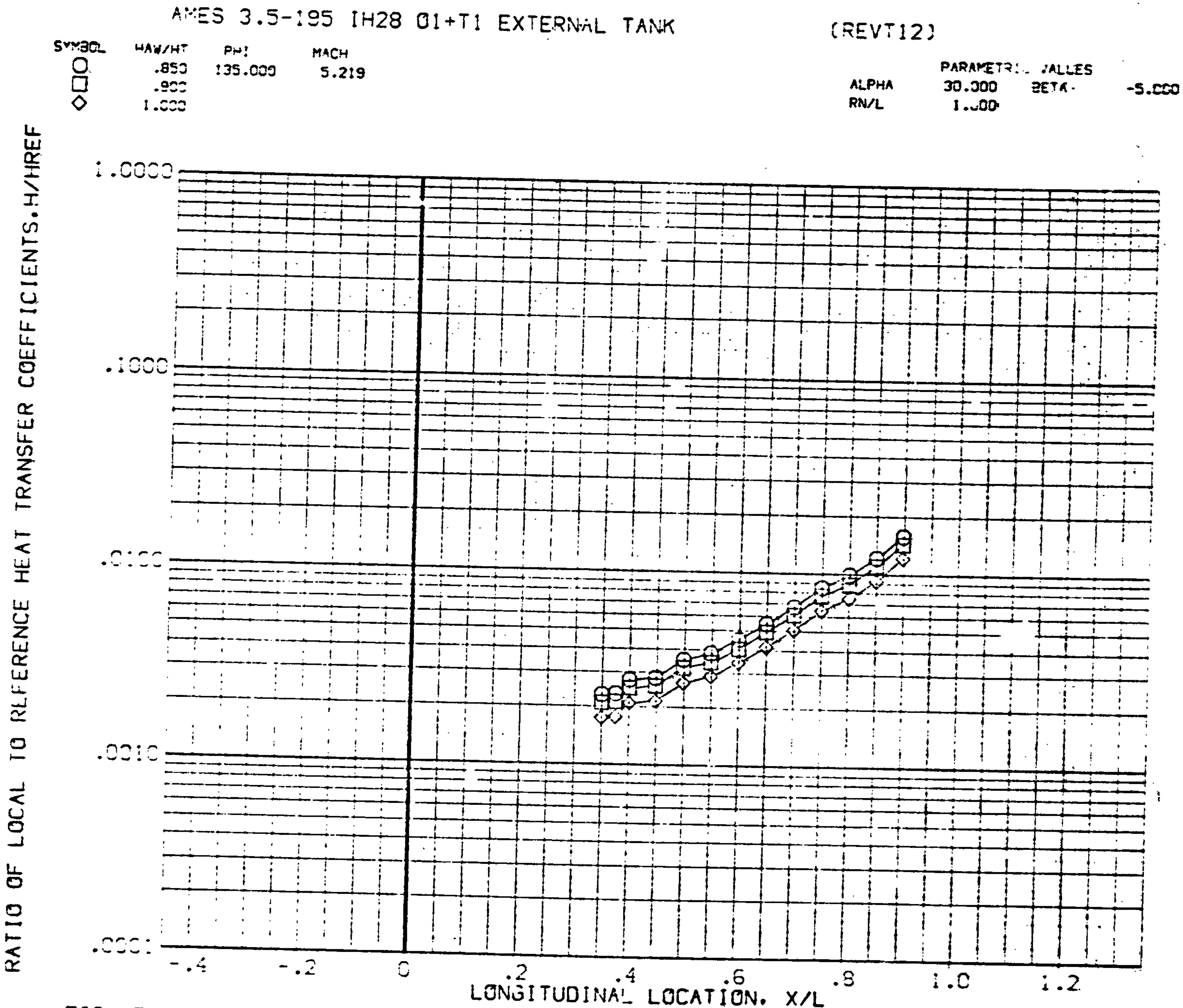


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

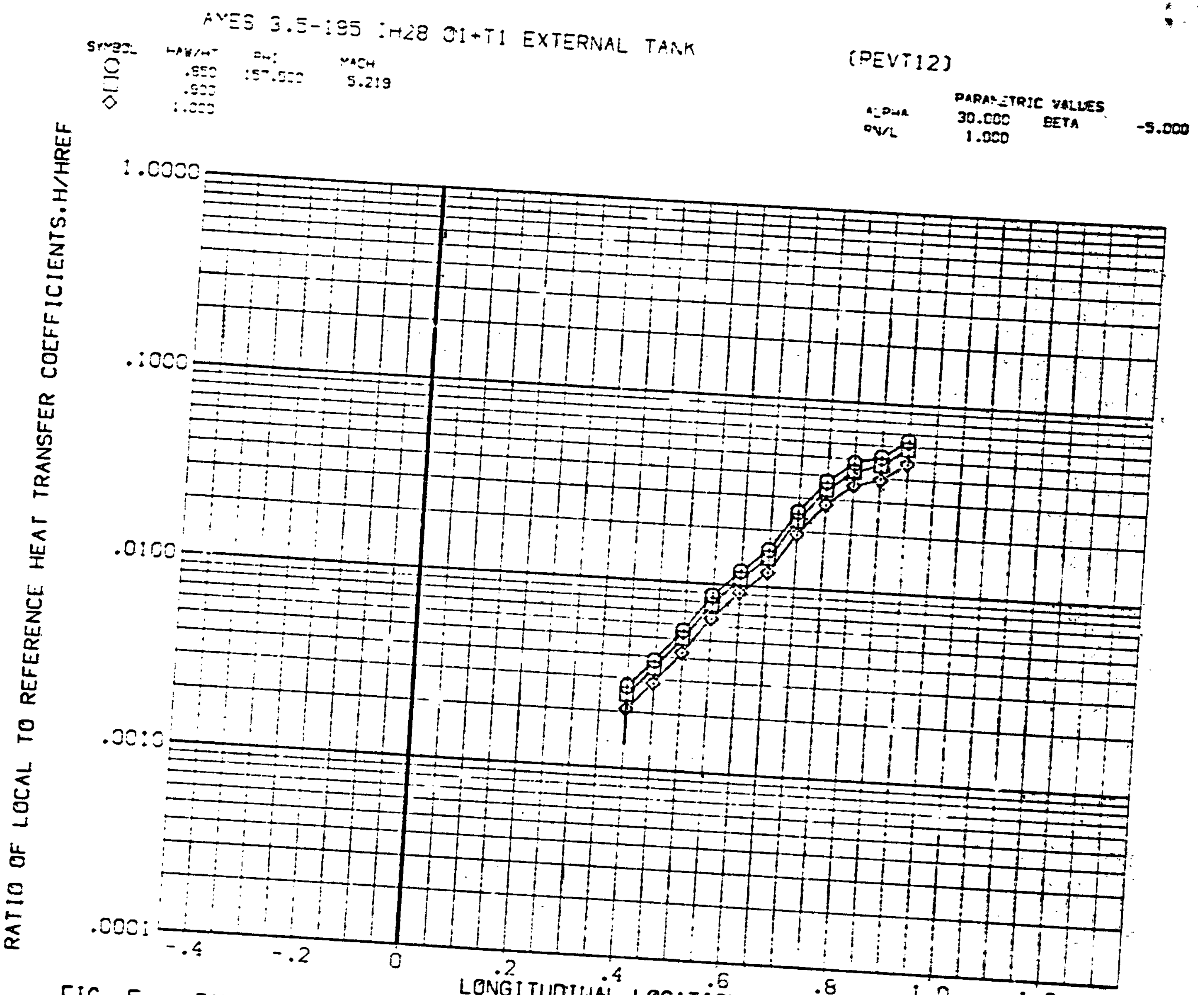


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 CI+TI EXTERNAL TANK (REVT12)

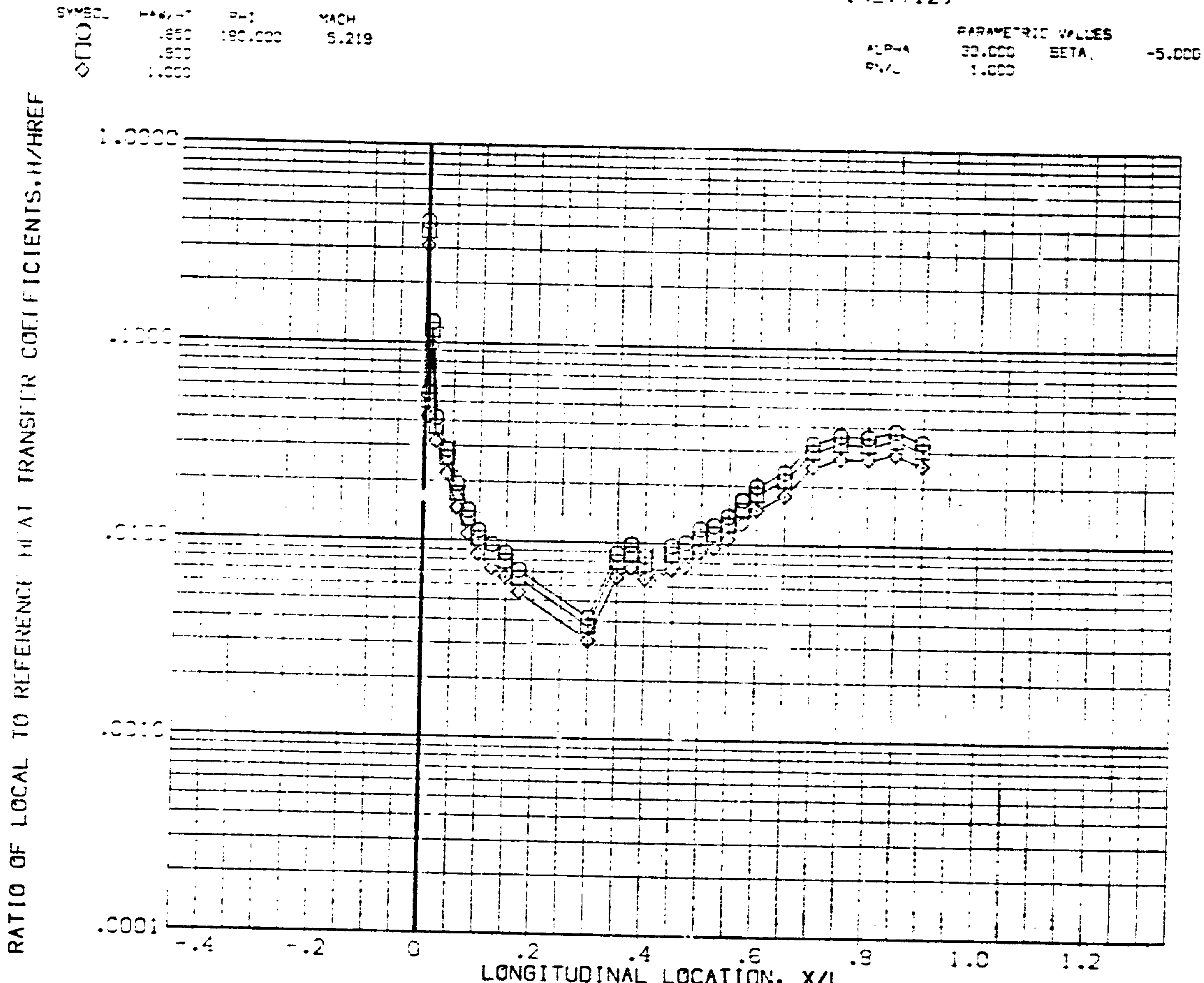


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 01+T1 EXTERNAL TANK (REVTO1)

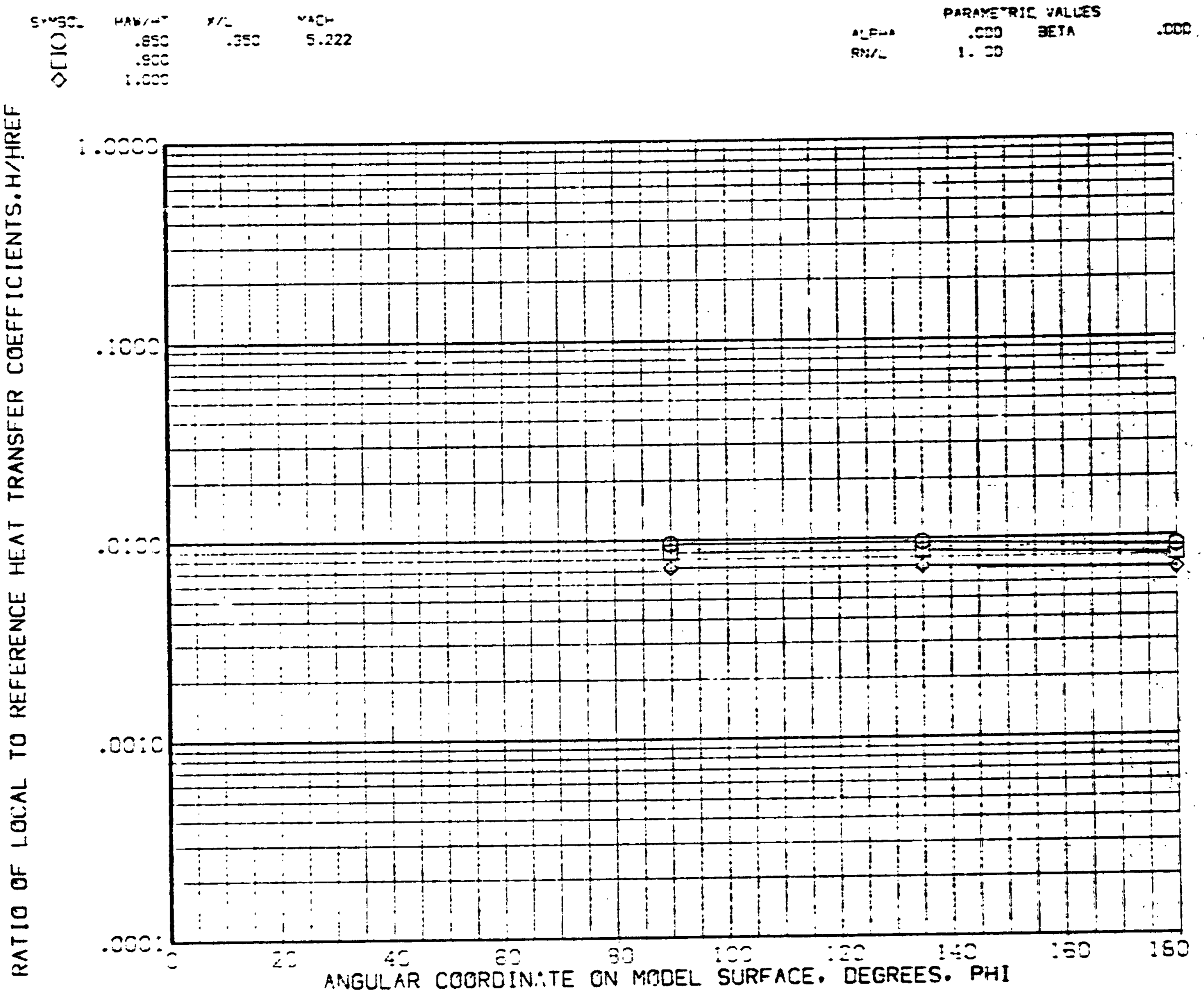


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

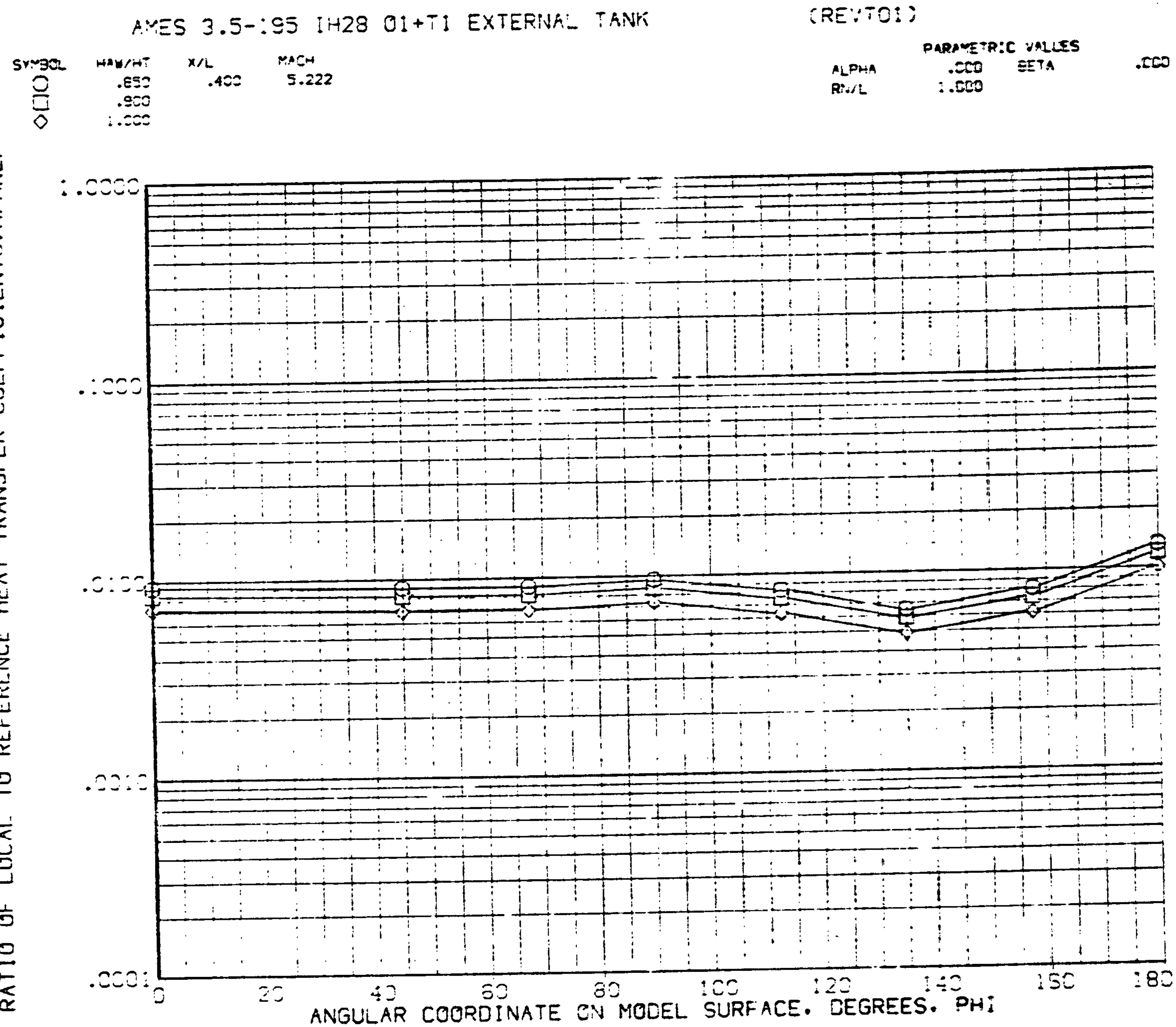


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

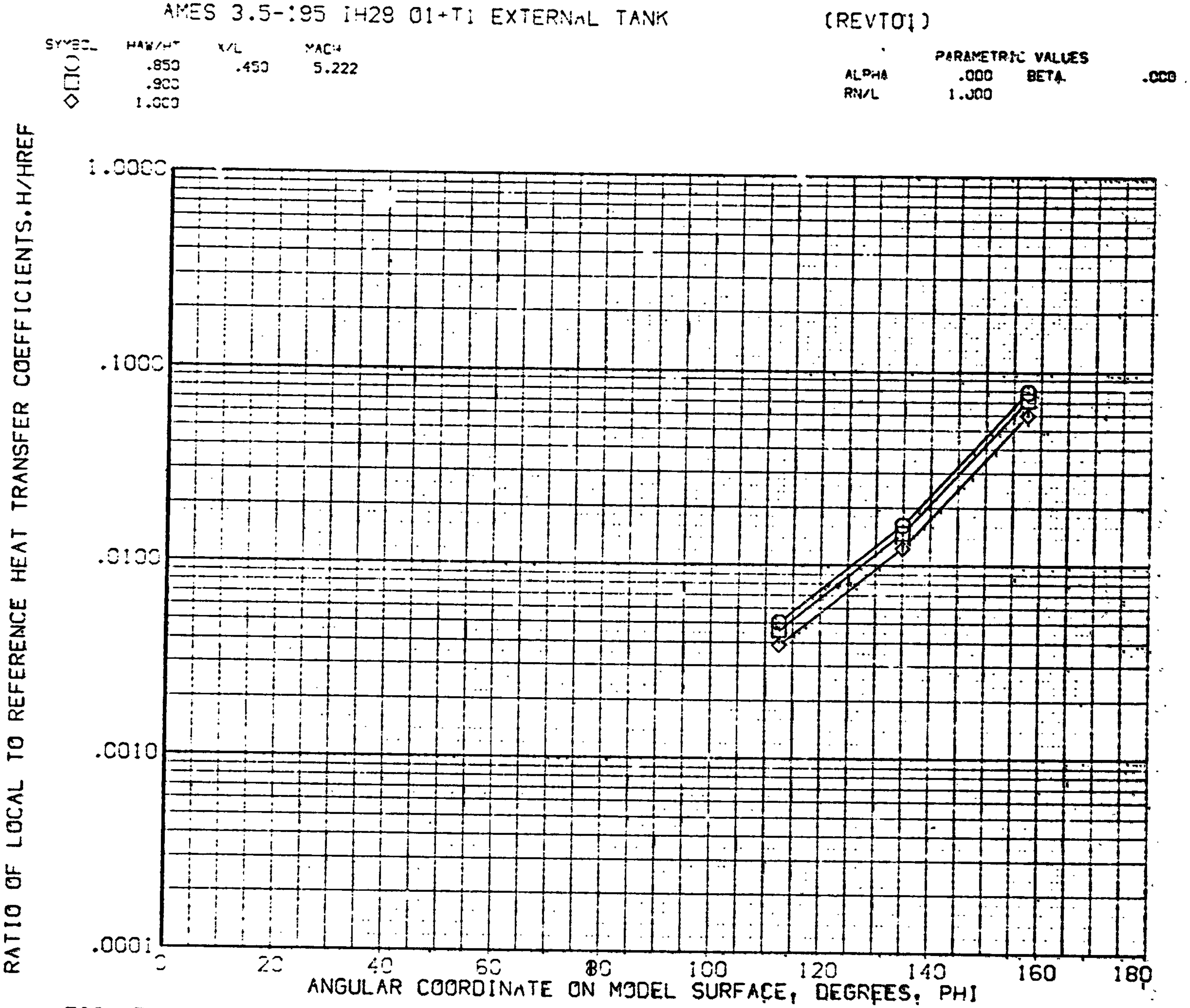


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK (REVT01)

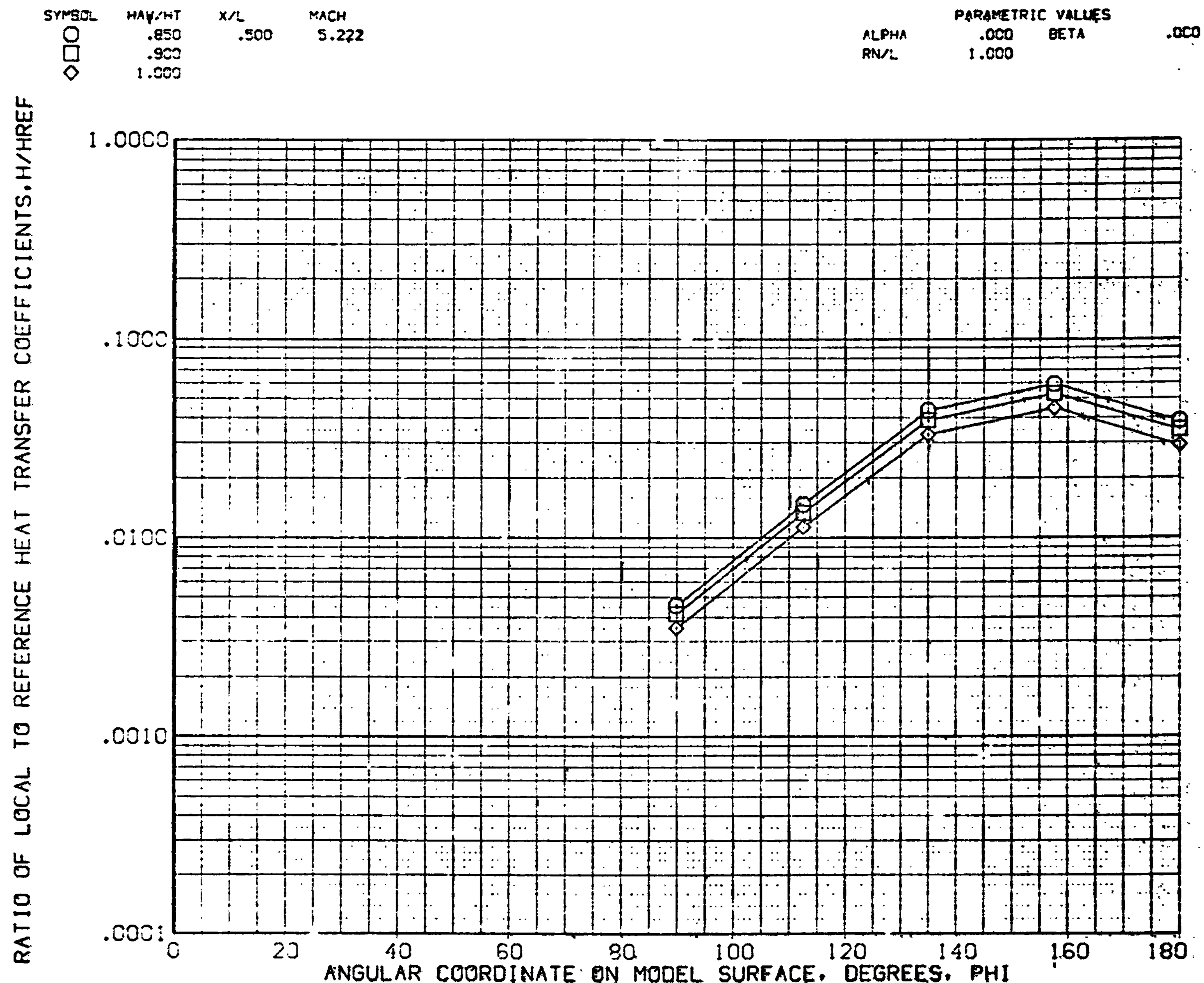


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK (REVT01)

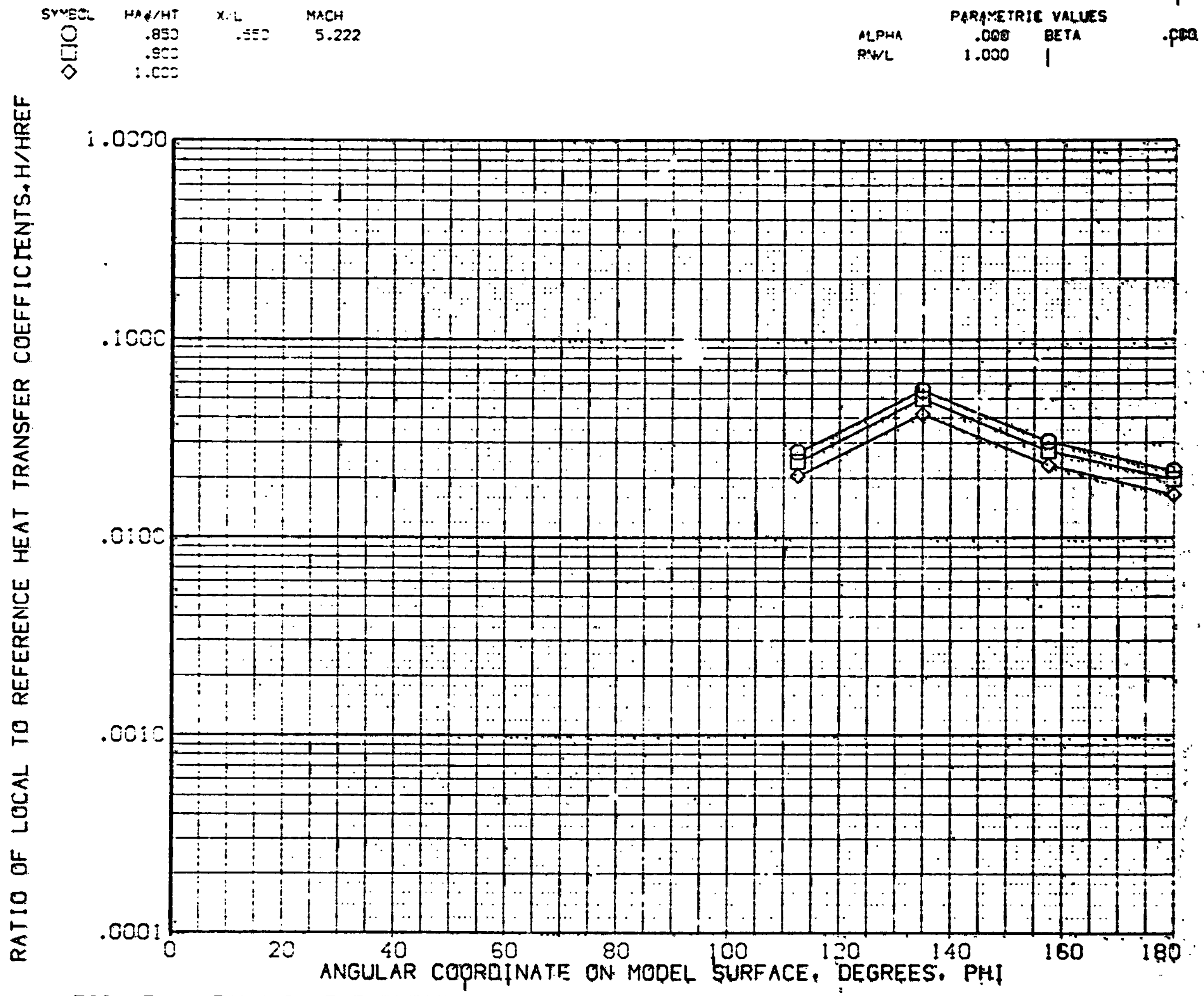


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

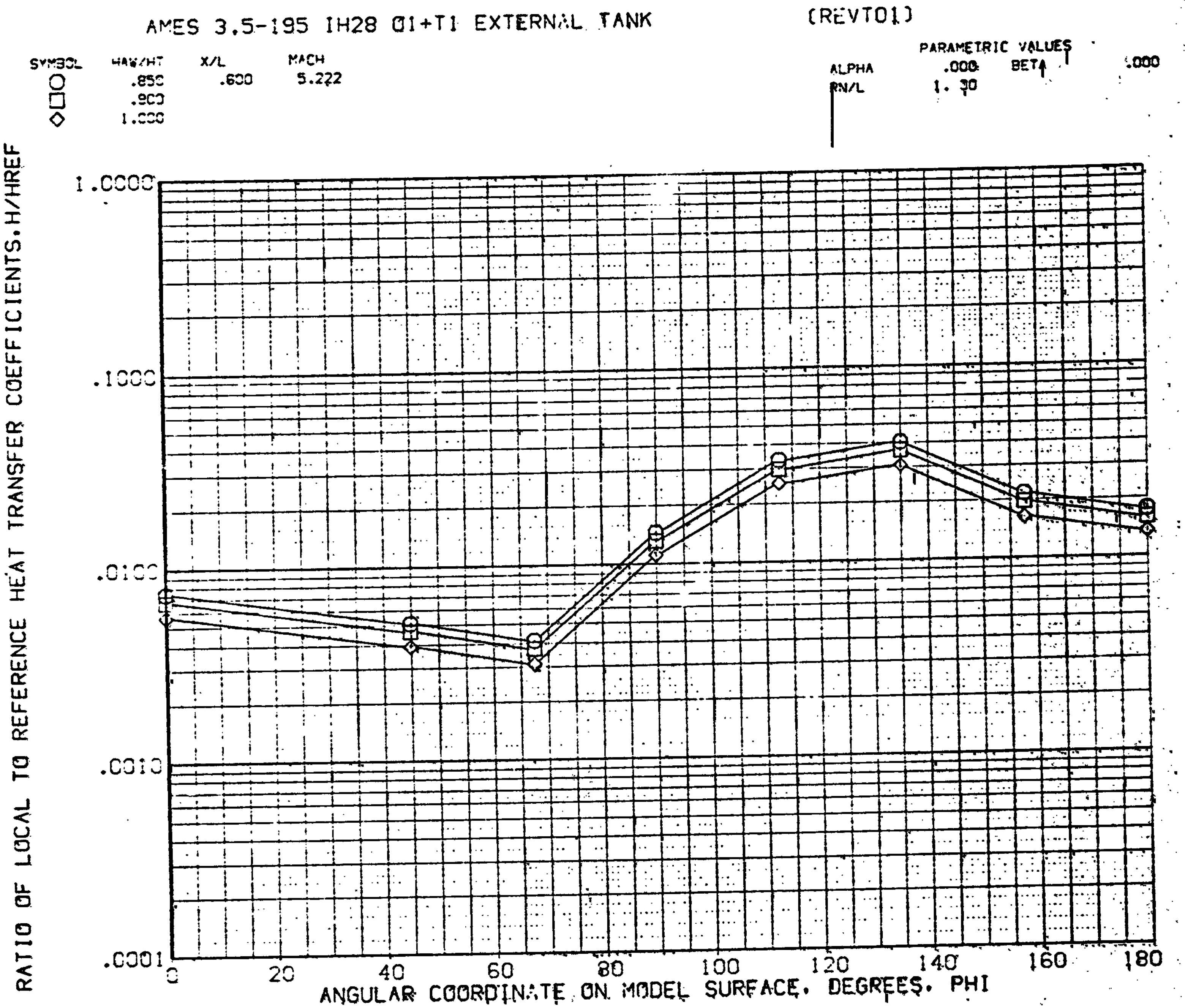


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK (REVT01)

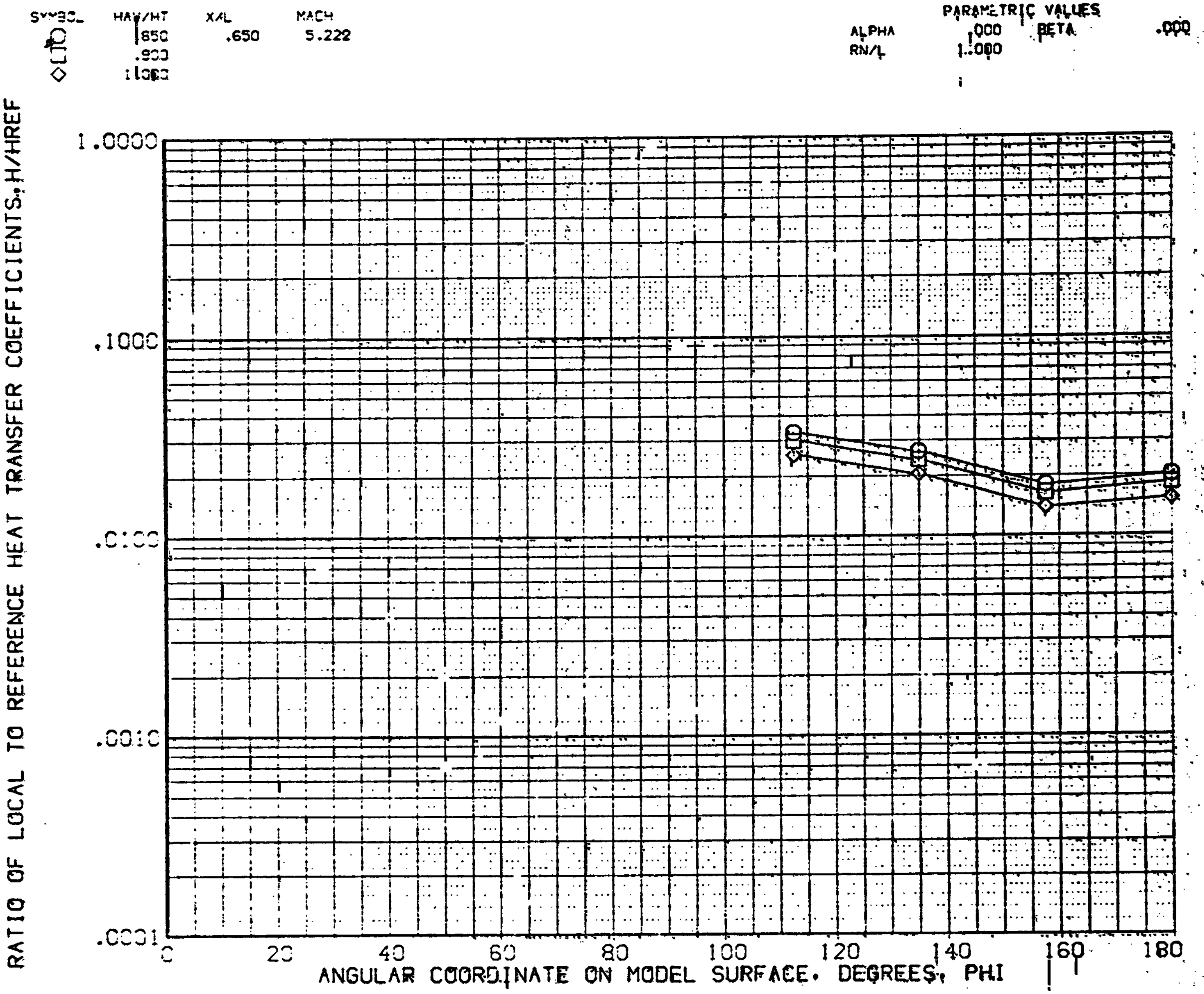


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 01+T1 EXTERNAL TANK (REVT01)

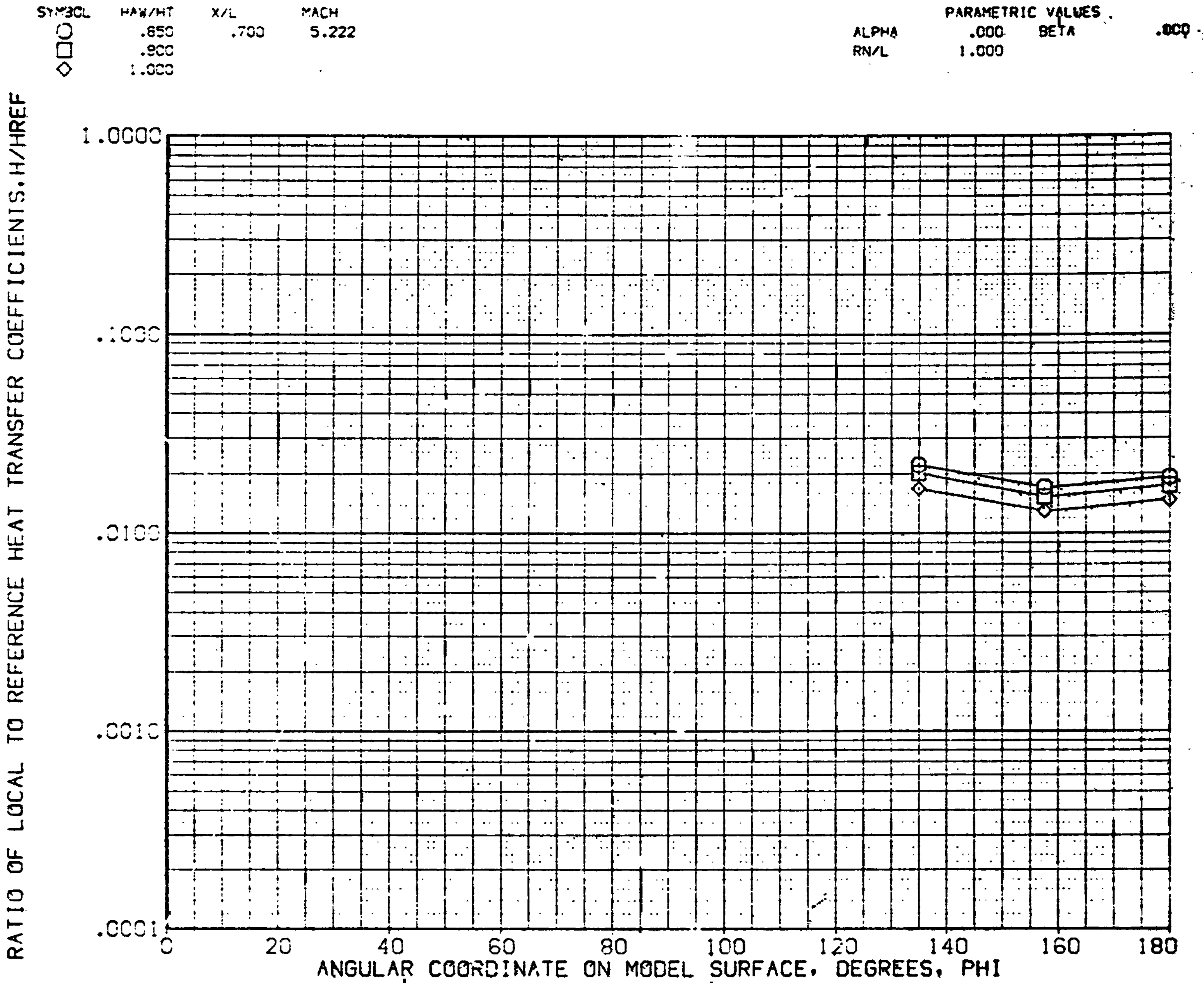


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK (REVTO1)

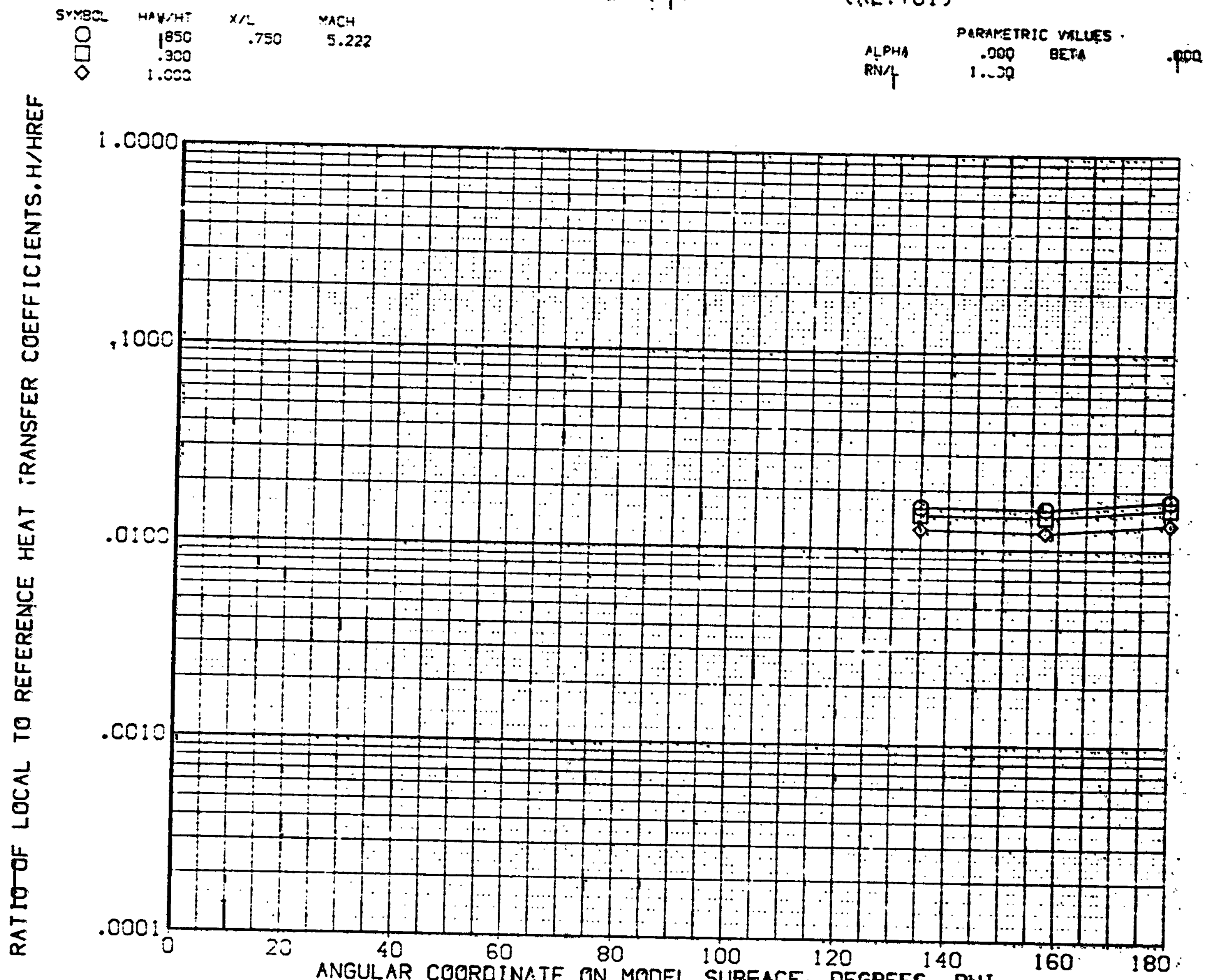


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK (REVT01)

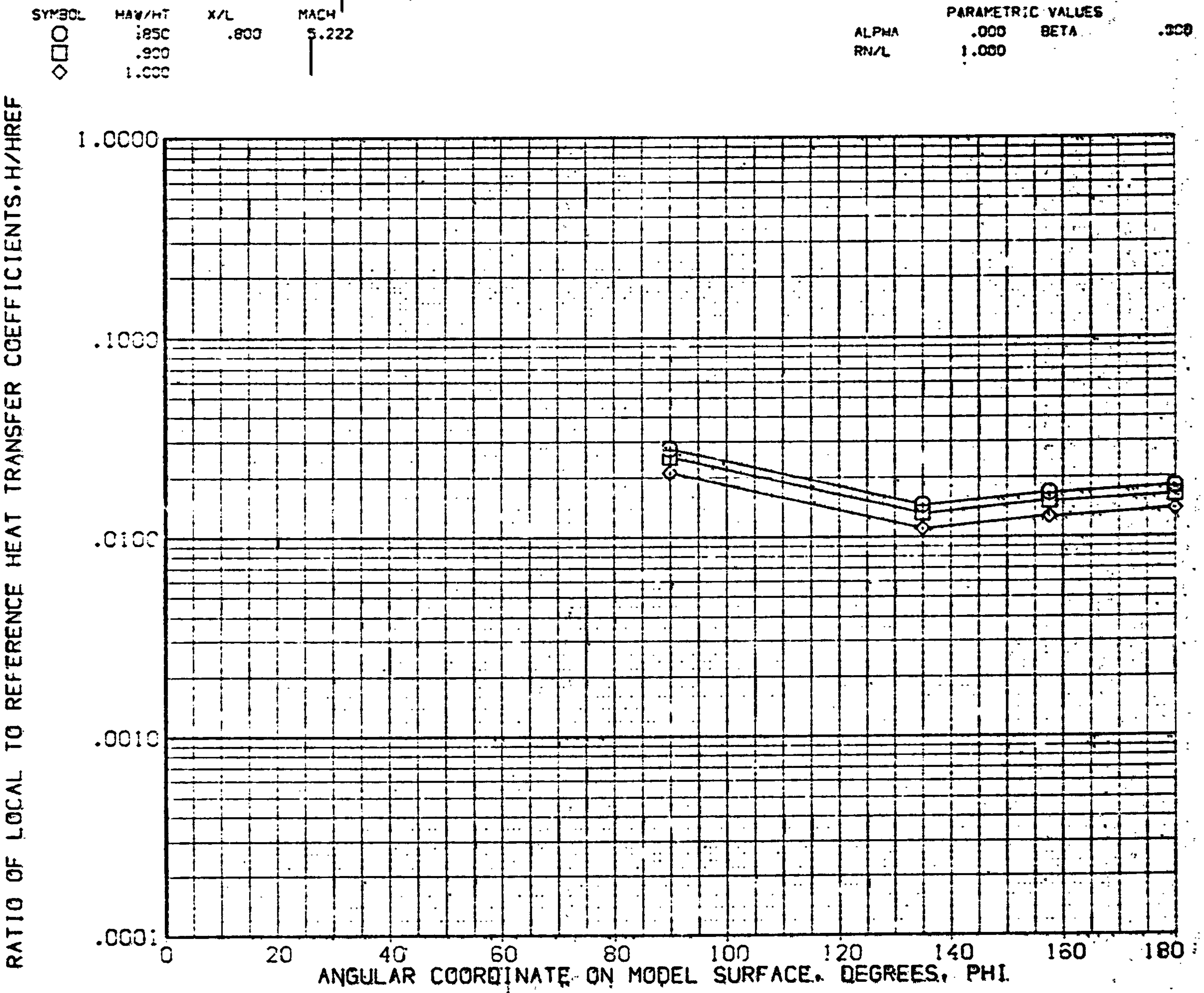


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 01+T1 EXTERNAL TANK (REVT01)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.850	5.222
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA .000 BETA .000

RN/L 1.000

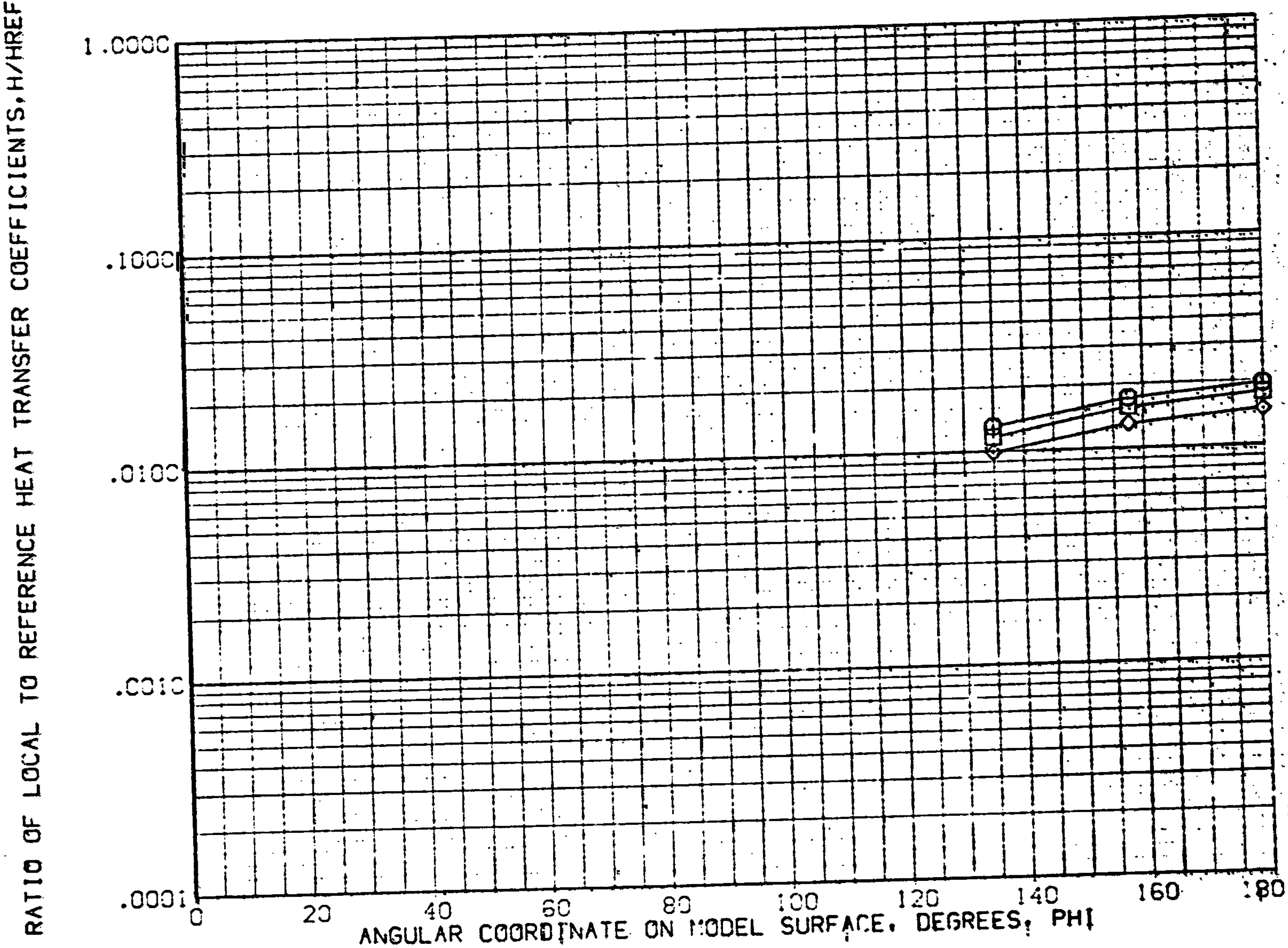


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 OI+T1 EXTERNAL TANK (REVTO1)

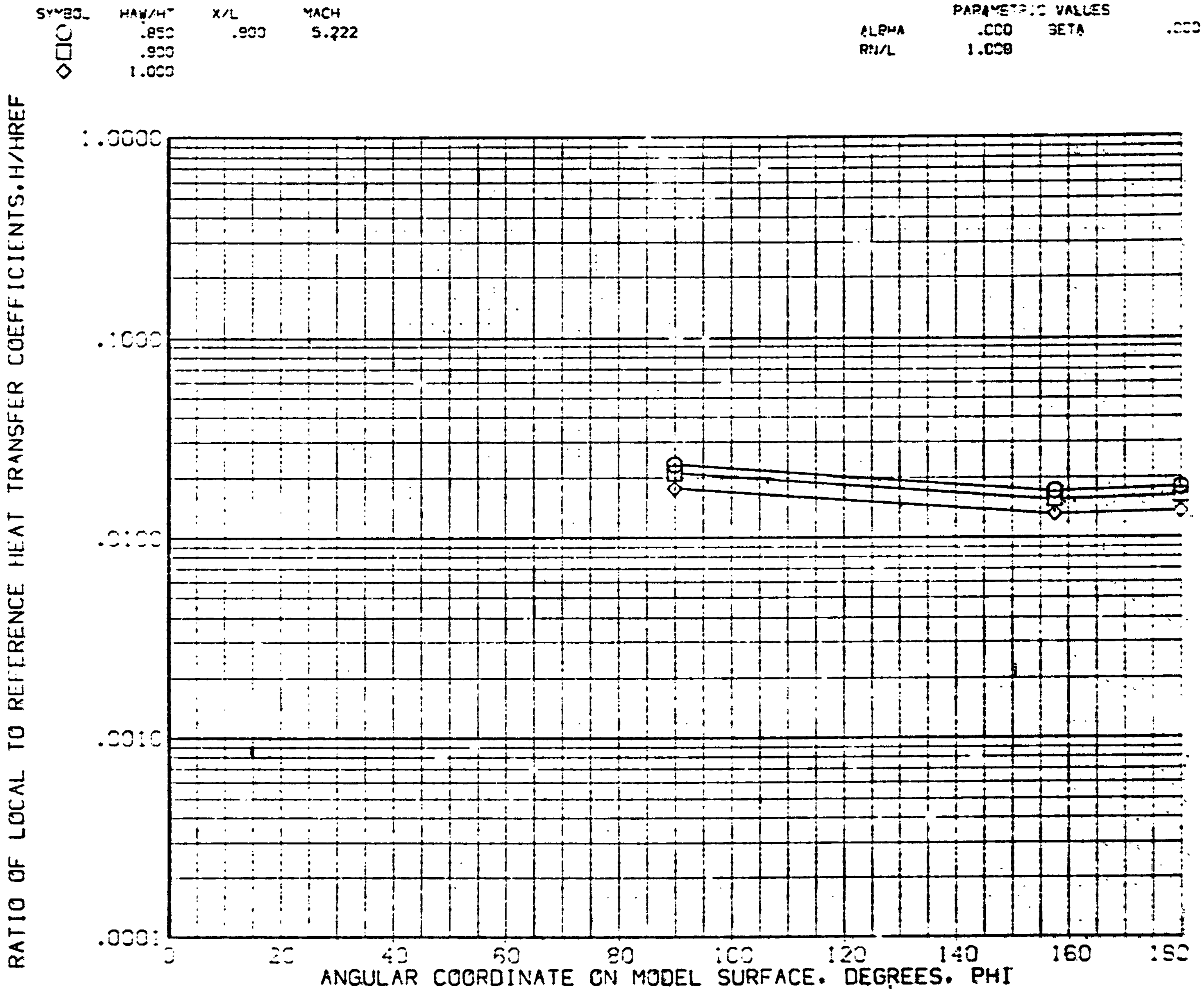


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

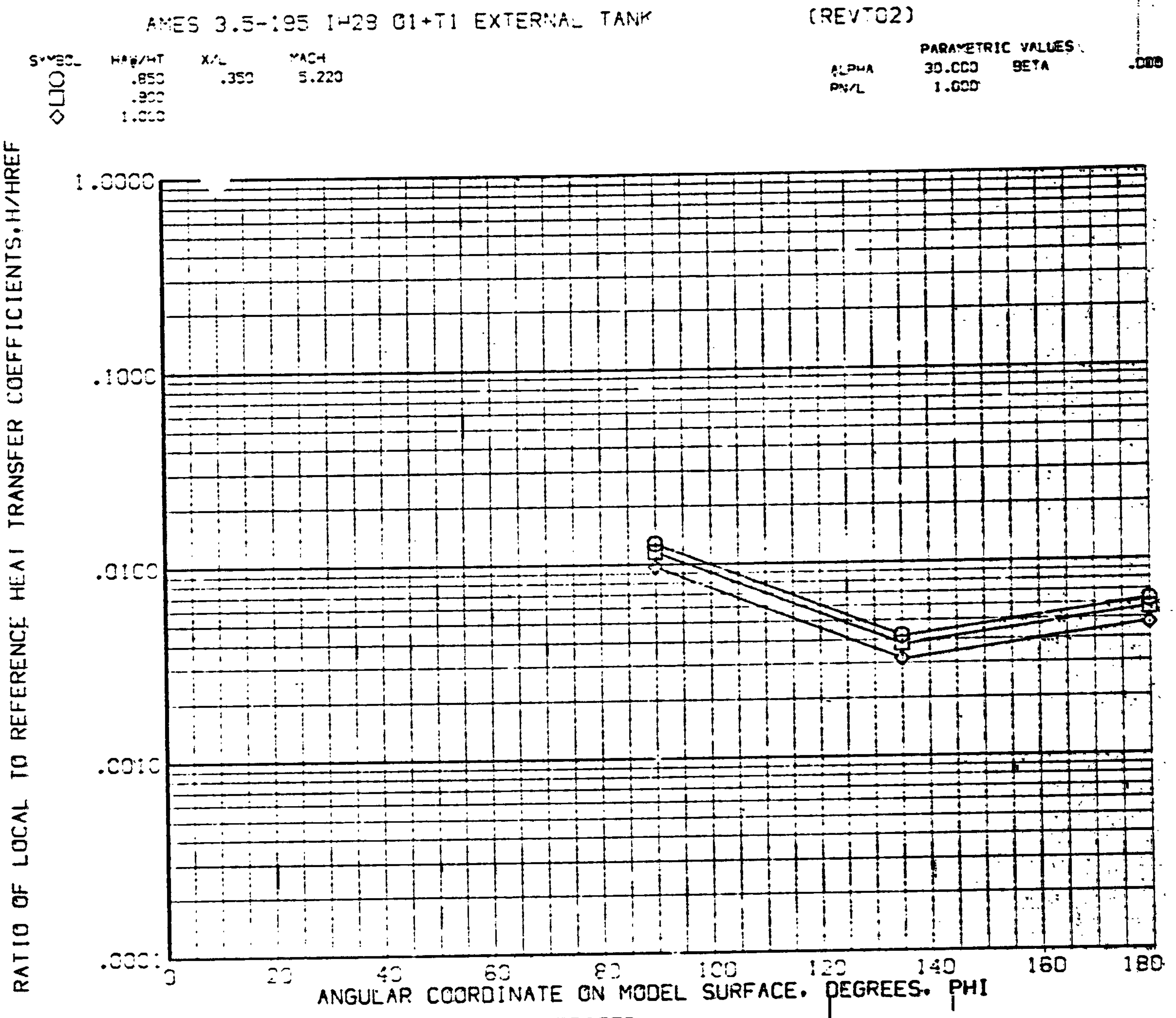


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 01+T1 EXTERNAL TANK (REVT02)

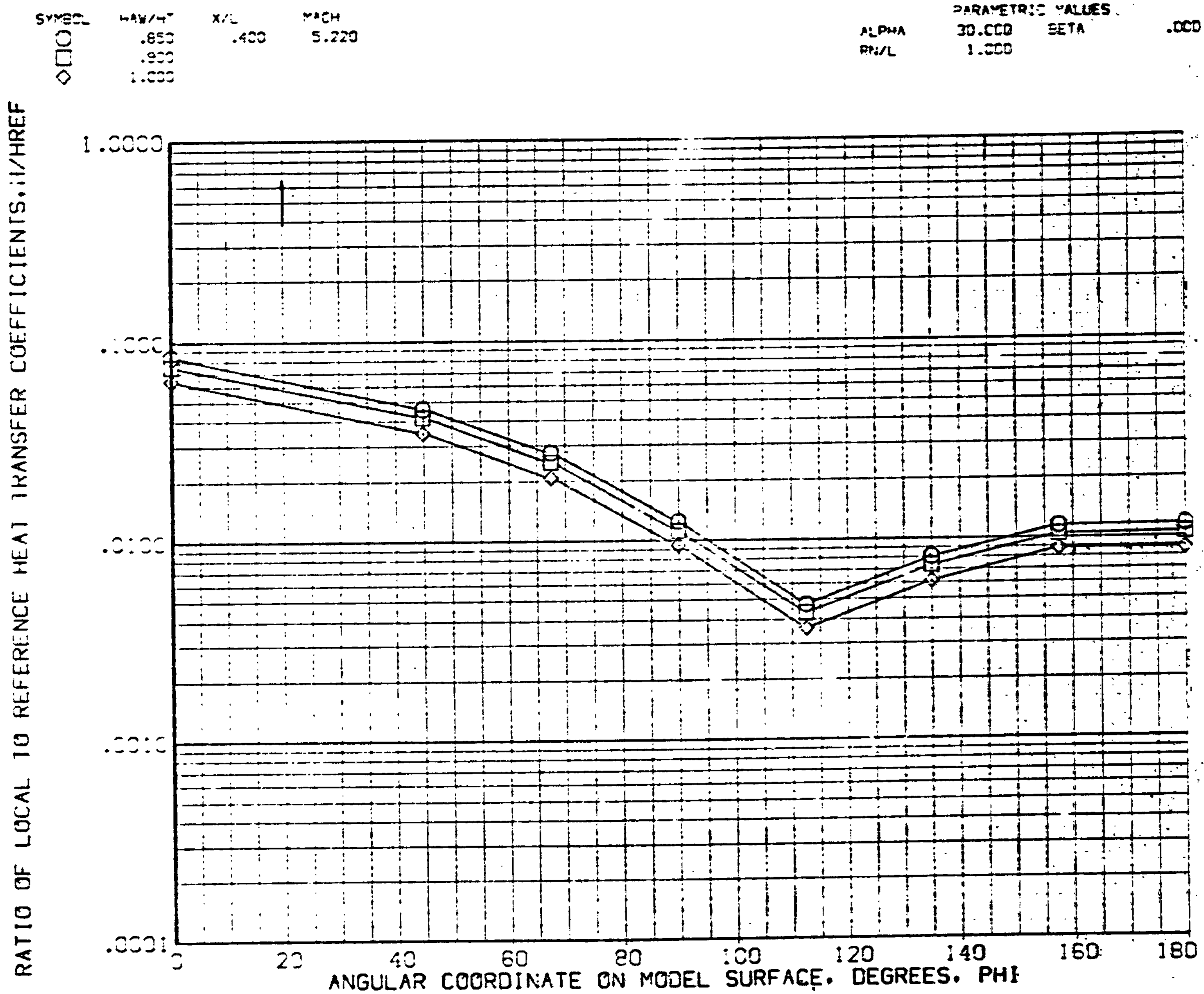


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK (REVTO2)

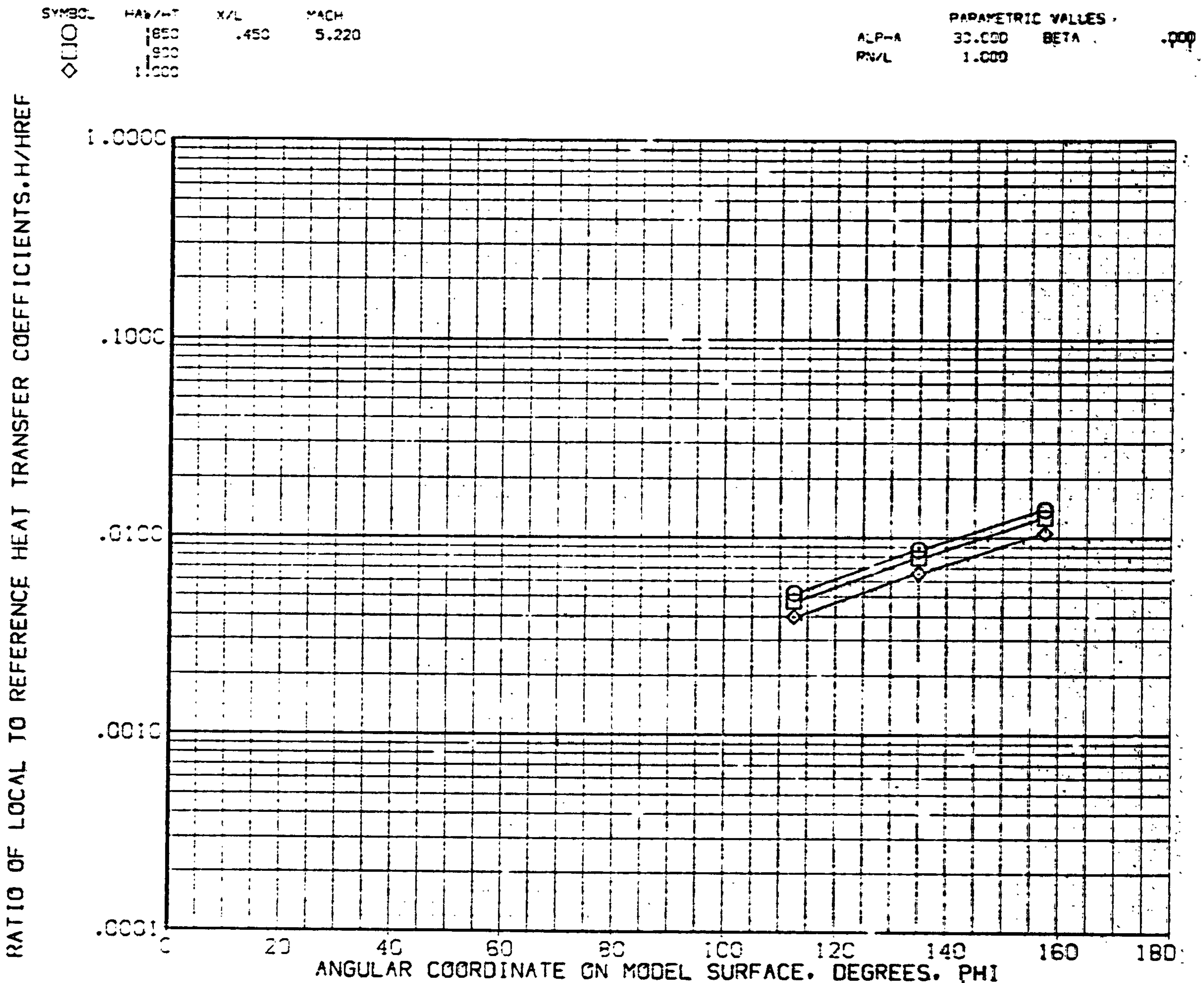


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

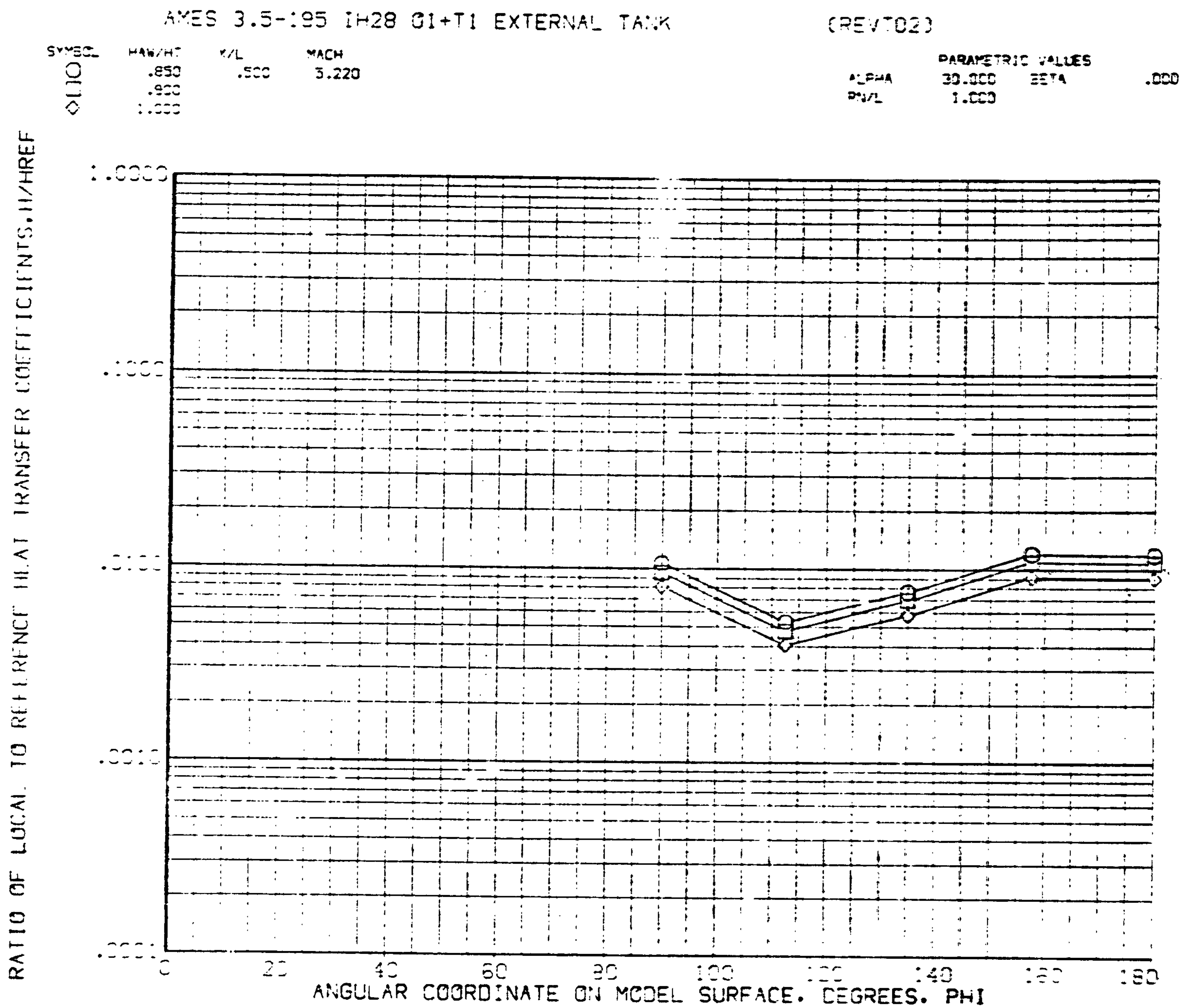


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

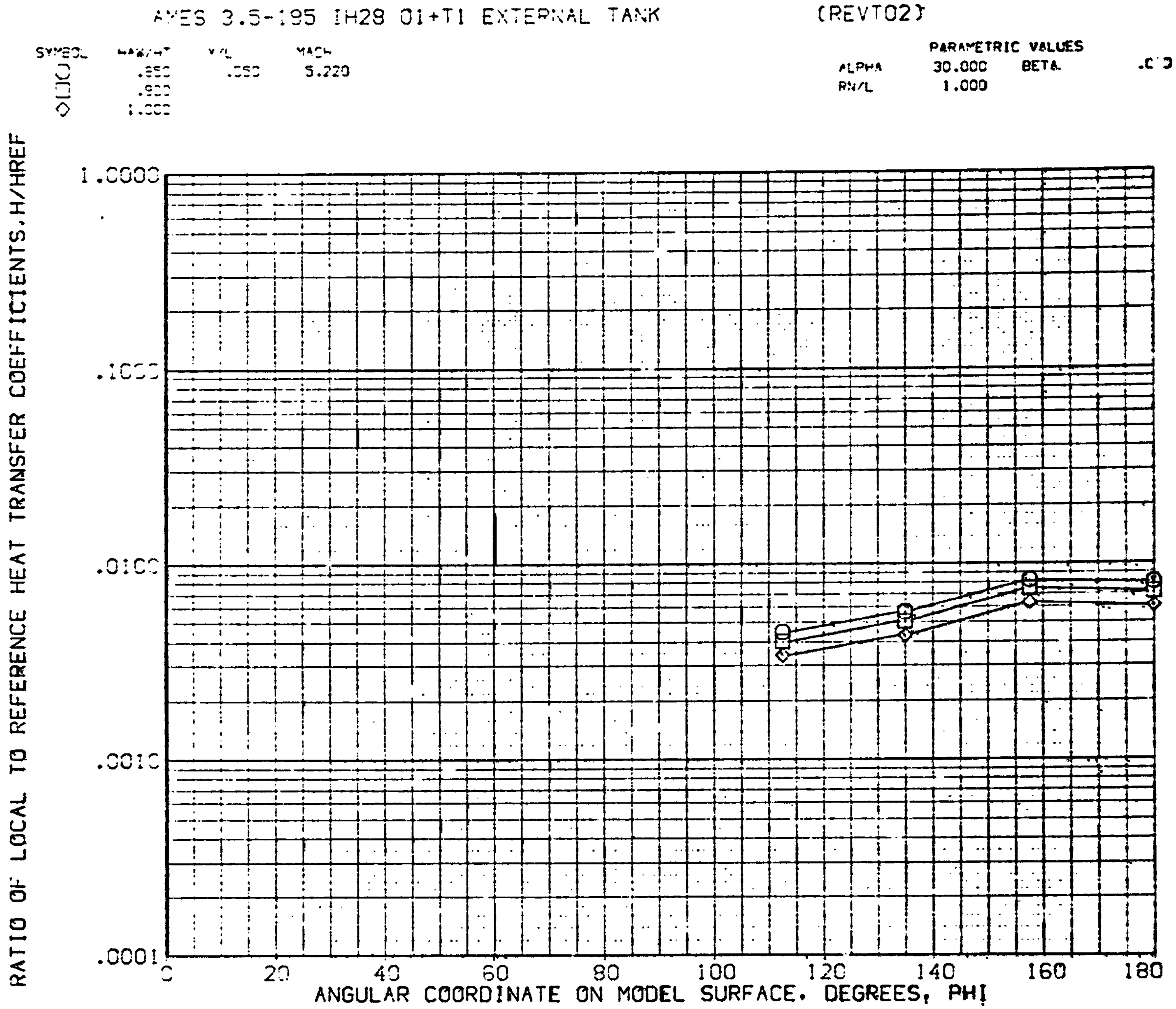


FIG. 5 TANK IN THE PRESENCE OF ORBITER

AMES 3,5-195 IH28 01+T1 EXTERNAL TANK (REVTO2)

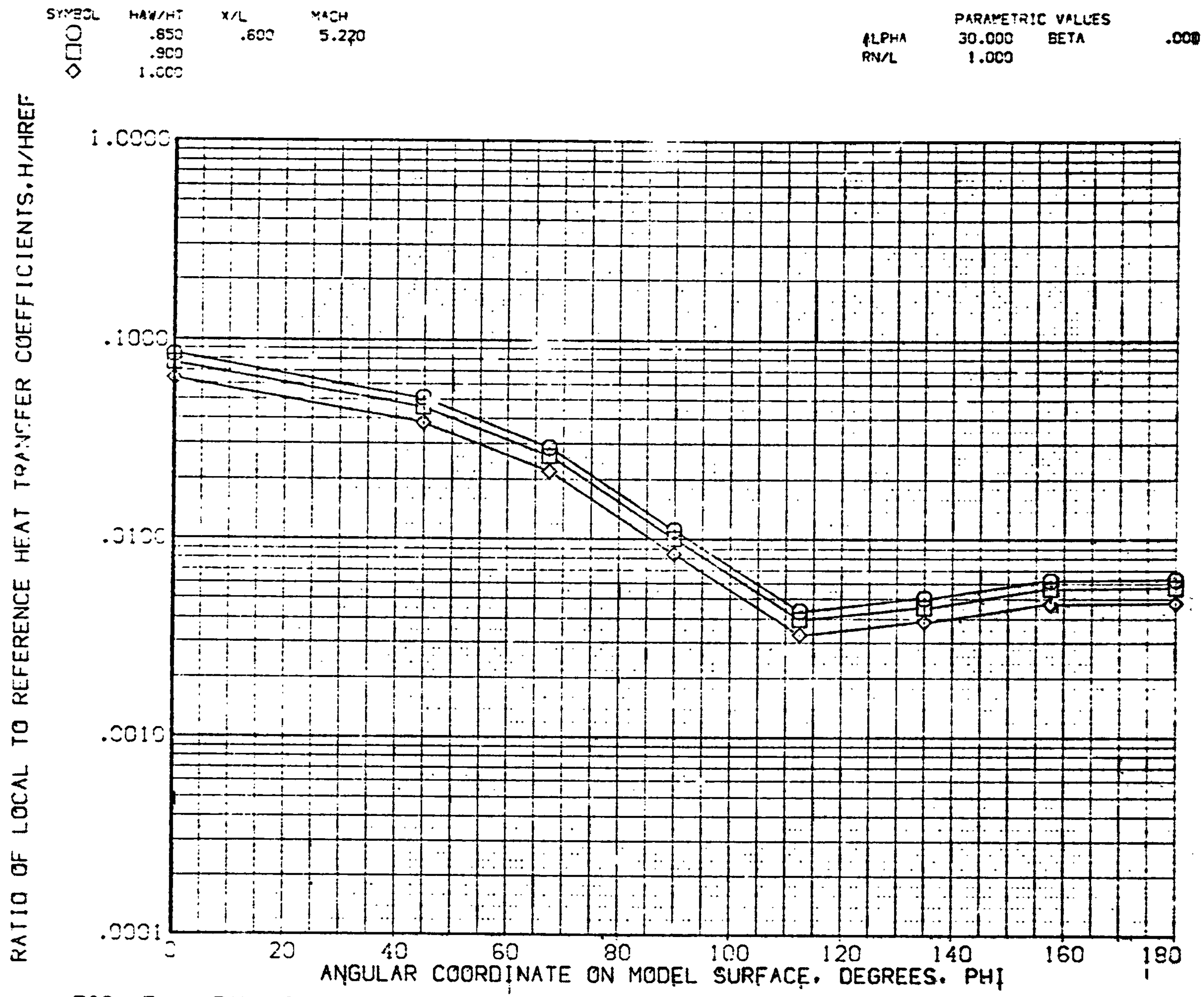


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK (REVTO2)

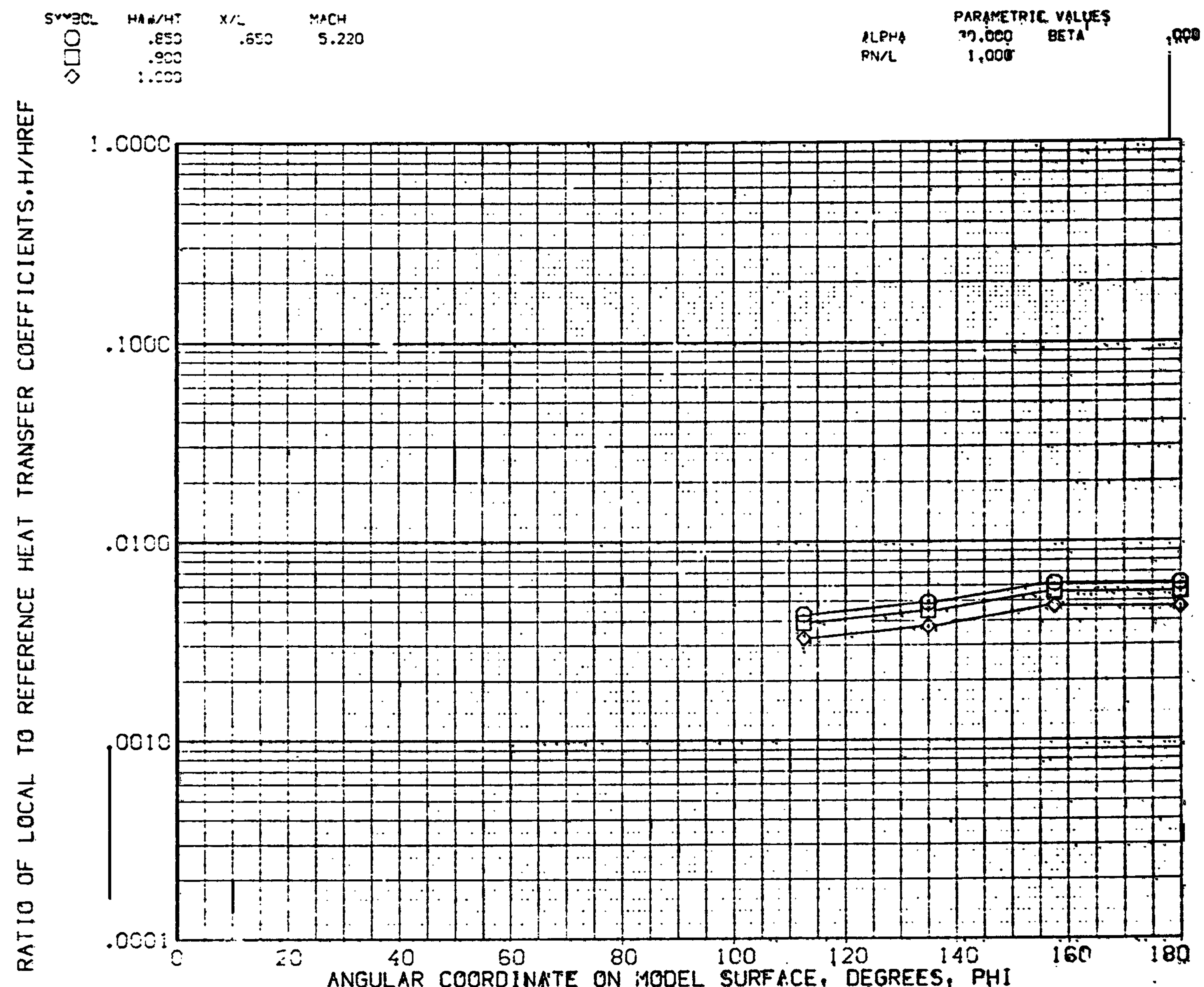


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 01+T1 EXTERNAL TANK (REVT02)

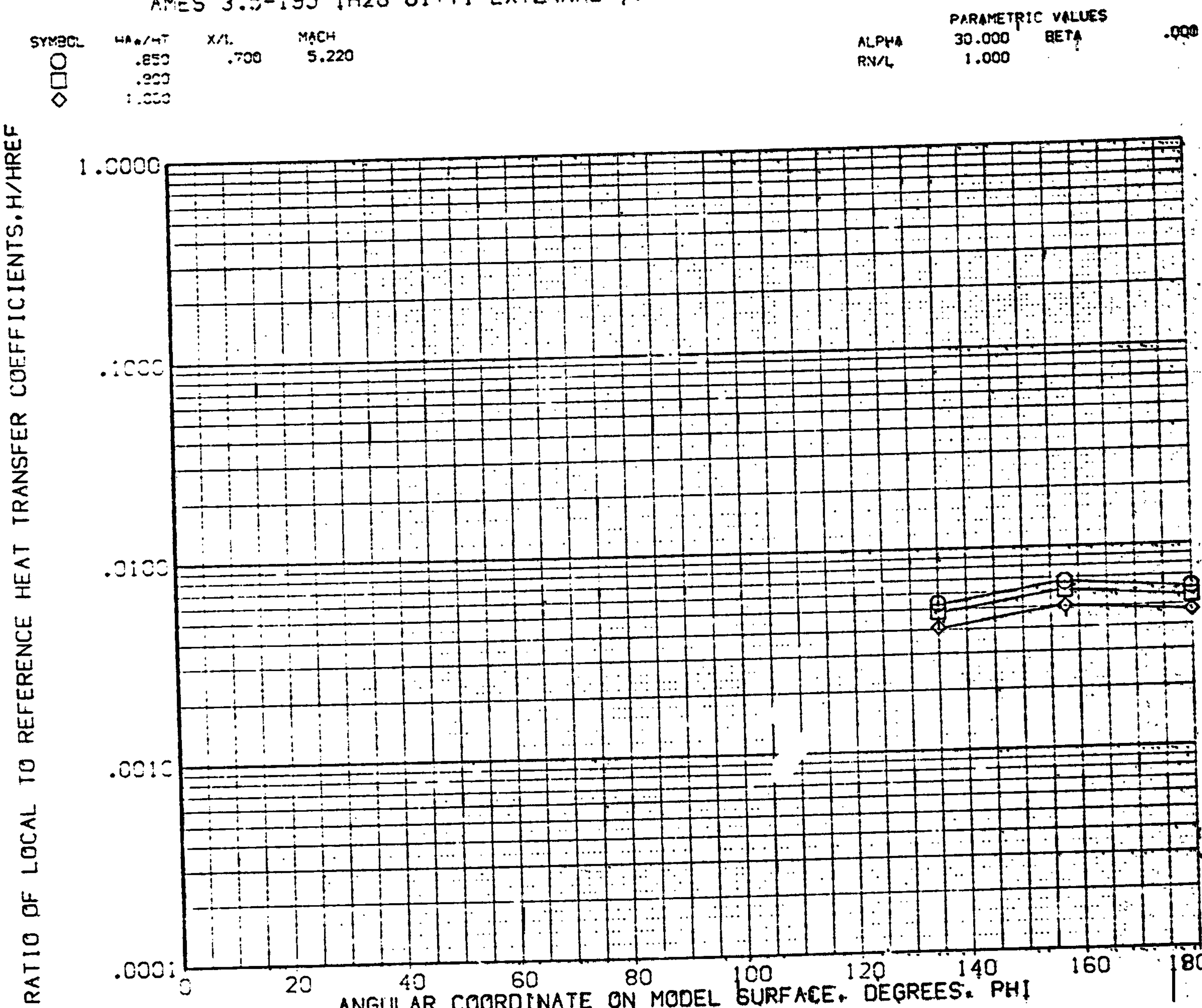
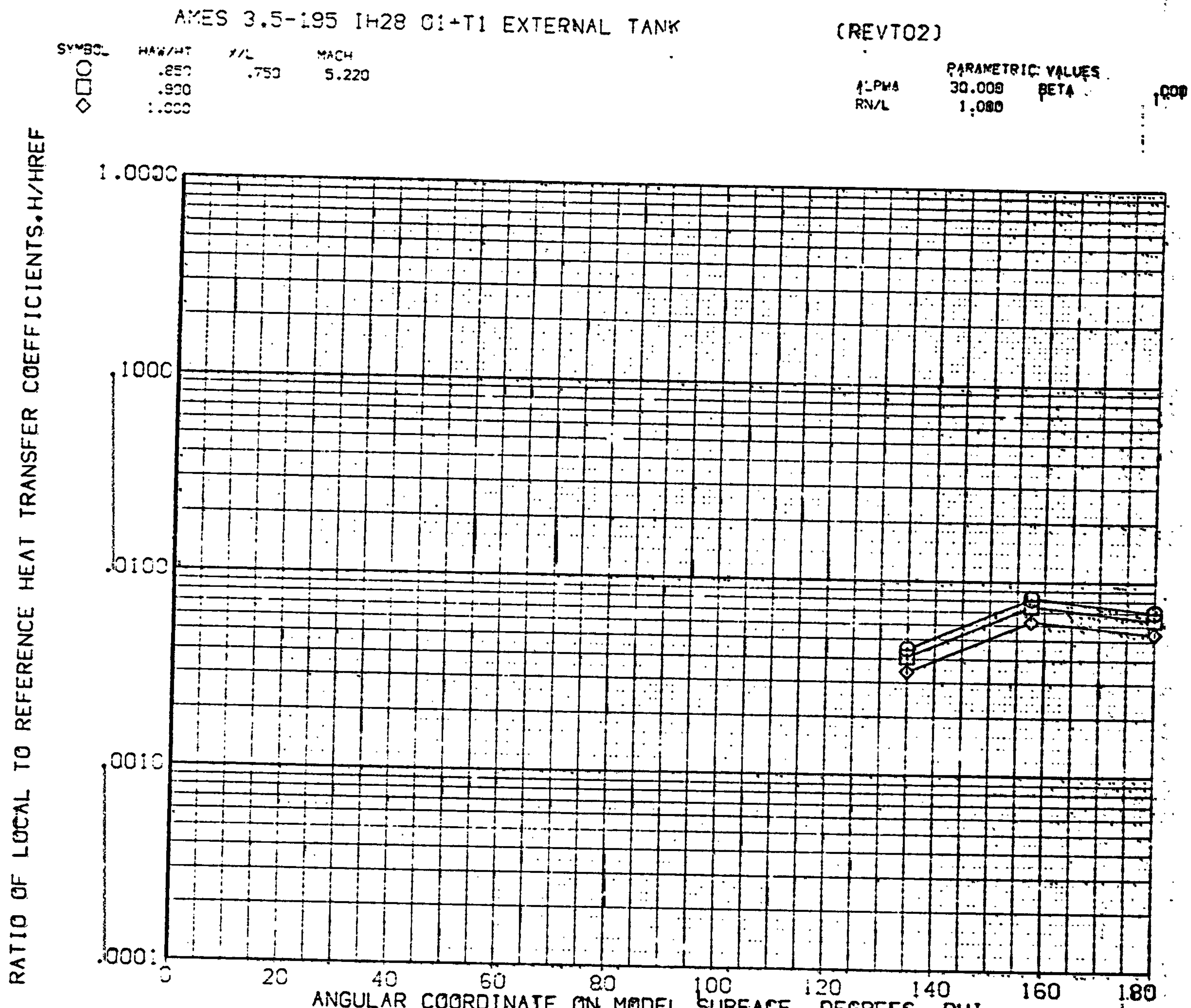


FIG. 5 TANK, IN THE PRESENCE OF ORBITER



FIG, 5 TANK,IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 01+T1 EXTERNAL TANK (REVT02)

SYMBOL	HAW/HT	X/L	MACH
○	.950	.800	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA 30.000 BETA .000

RN/L 1.000

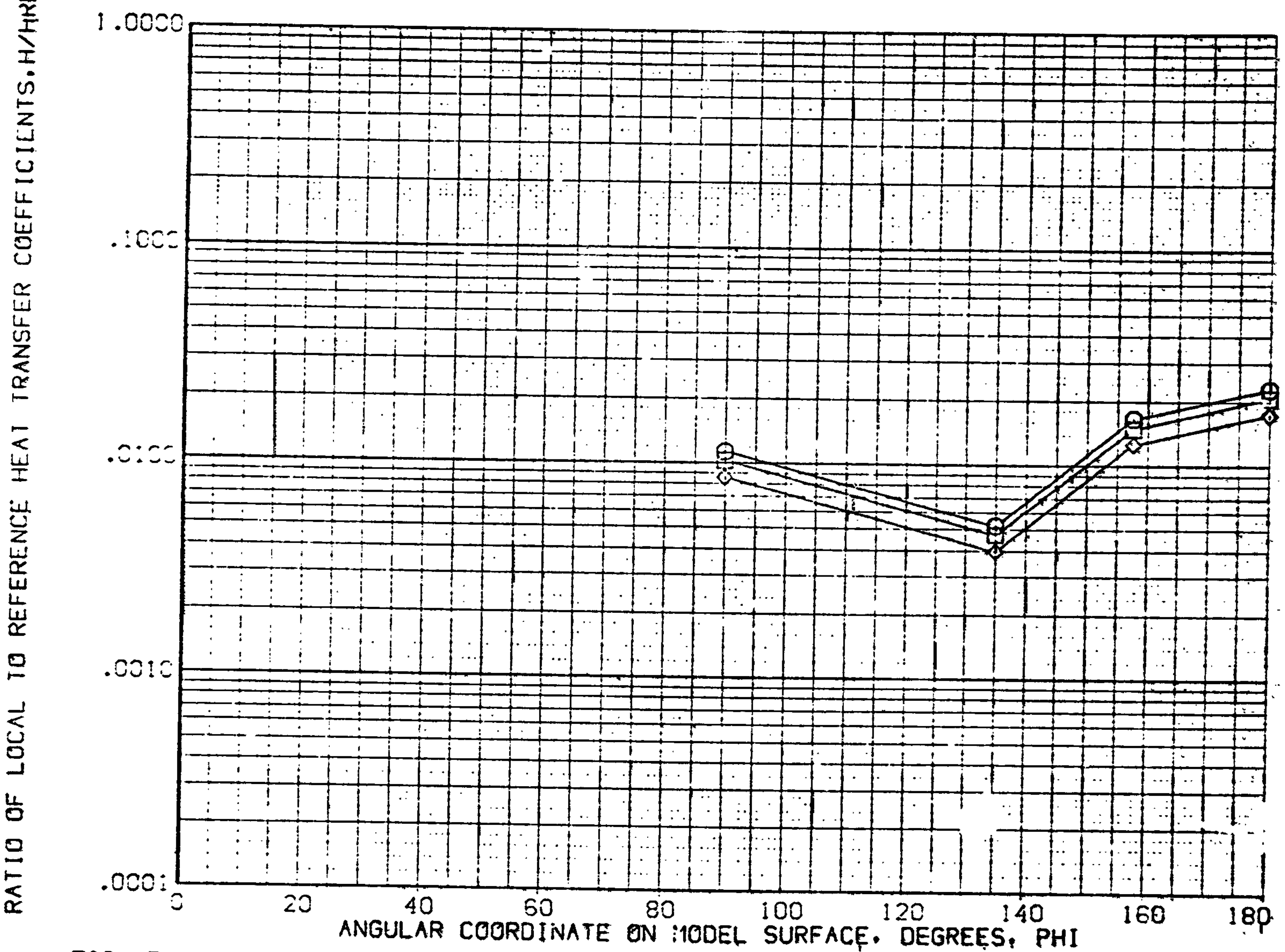


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

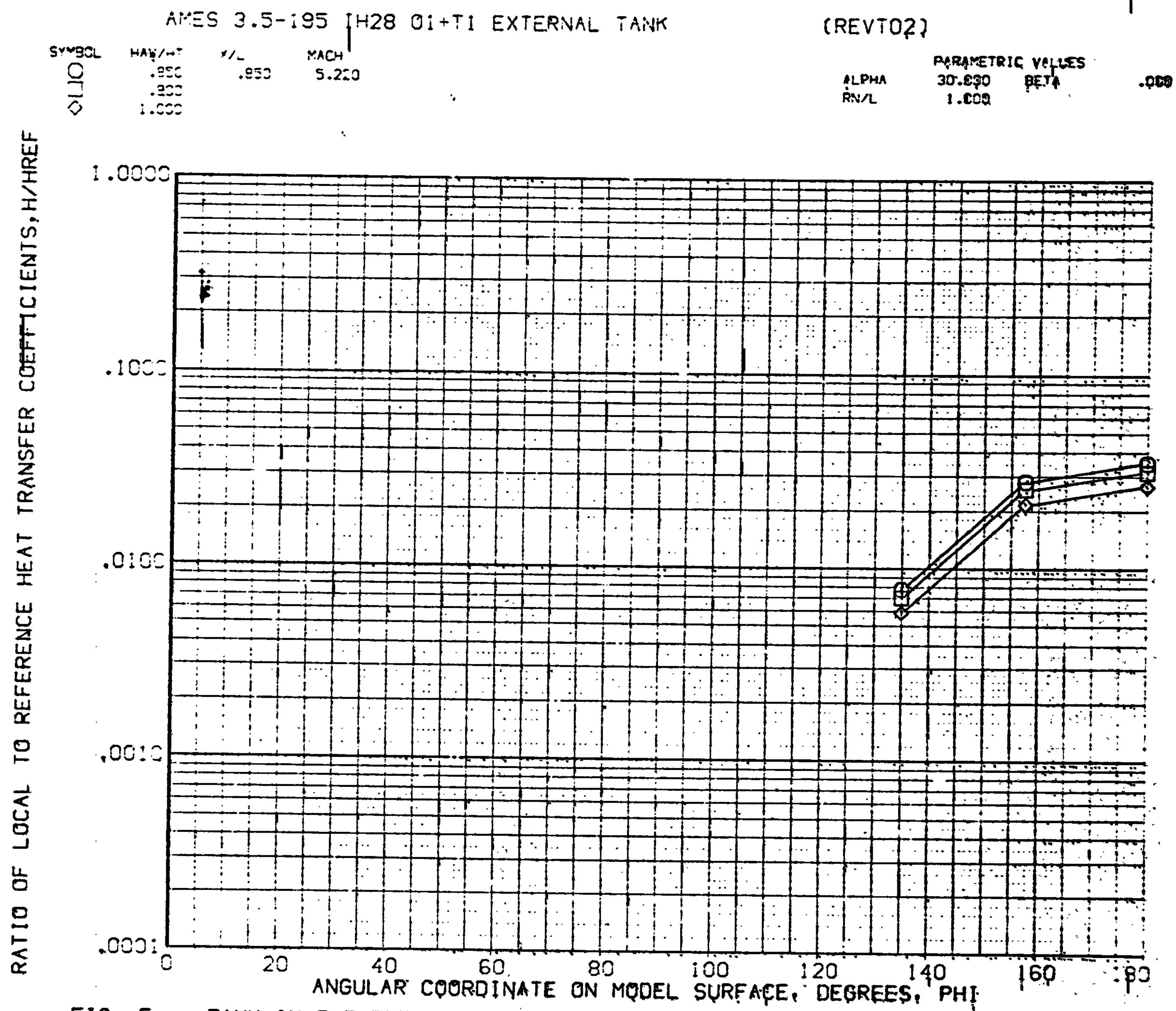


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 OI+T1 EXTERNAL TANK (REVTO2)

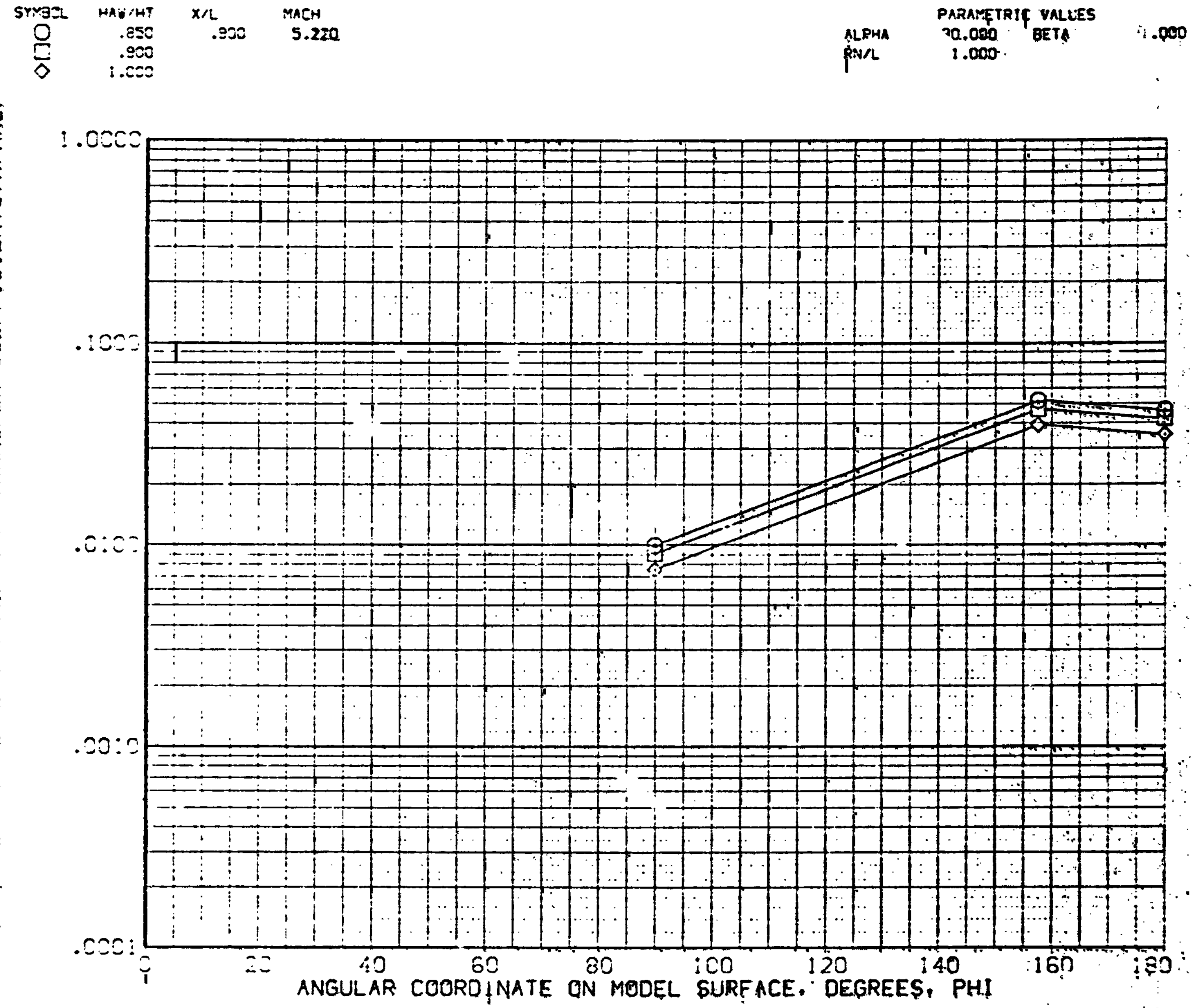


FIG. 5 TANK IN THE PRESENCE OF ORBITER

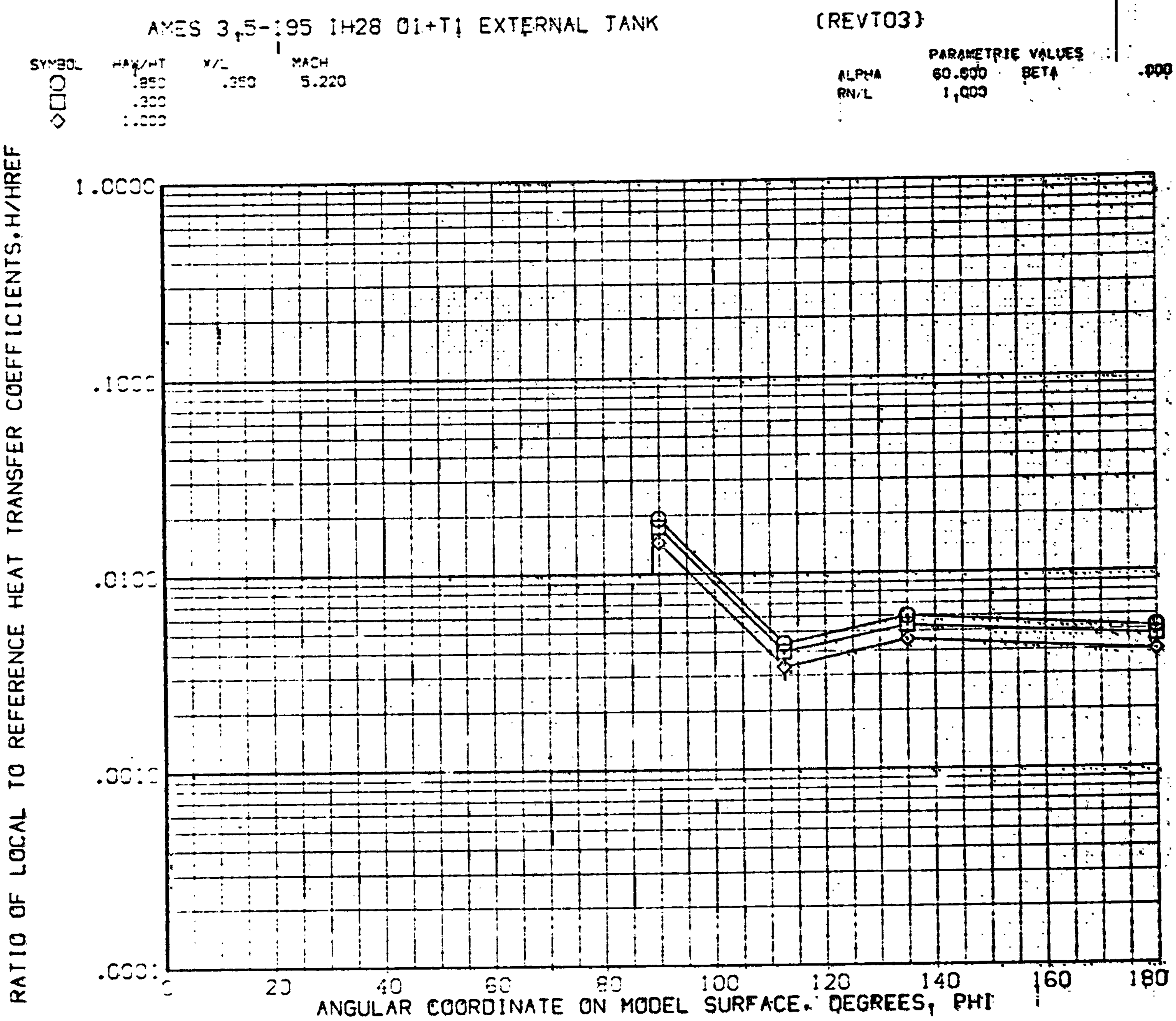


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK (REVTO3)

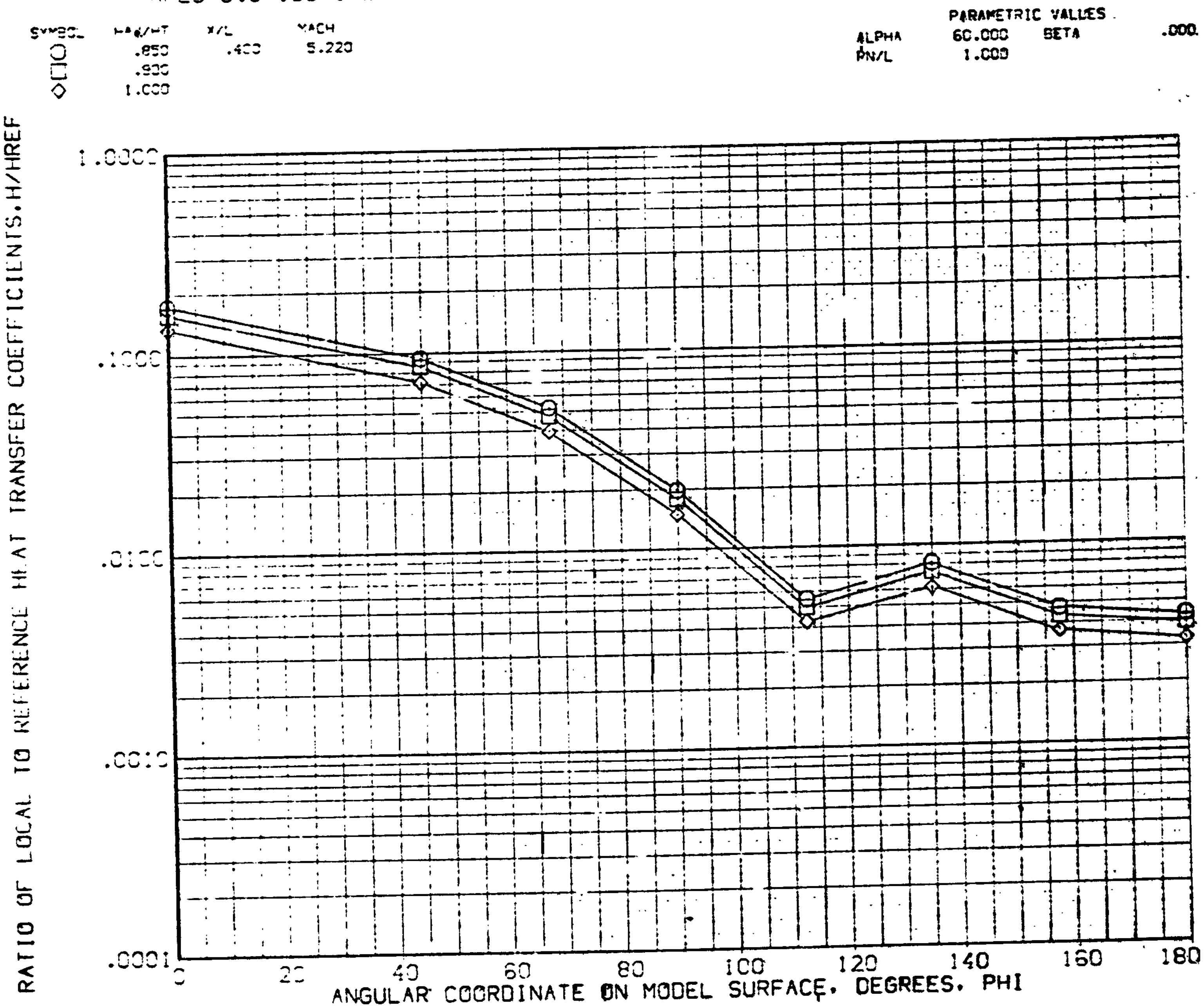


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

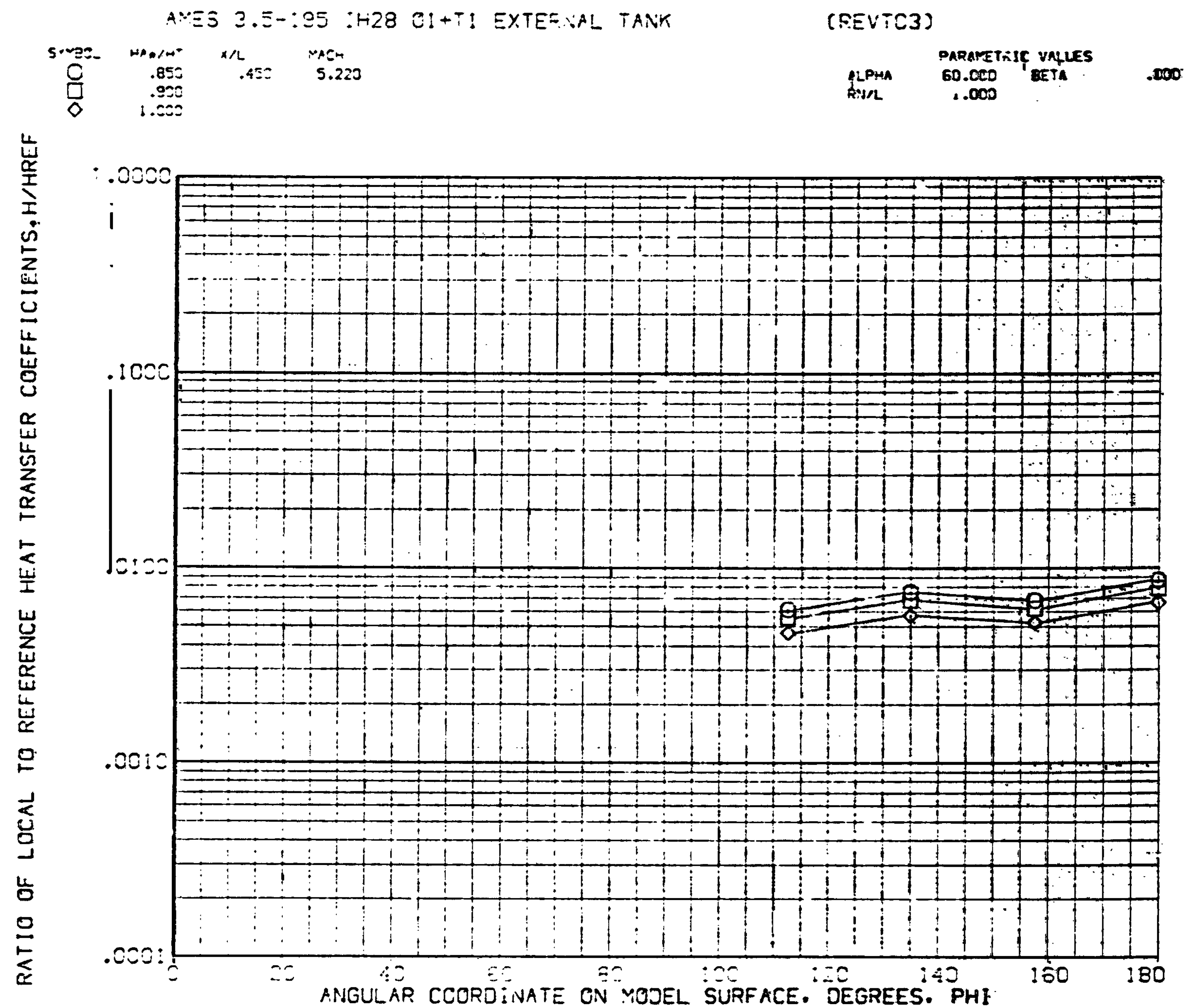


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK (REVT03)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.500	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA	60.000	BETA	.000
RN/L	1.000		

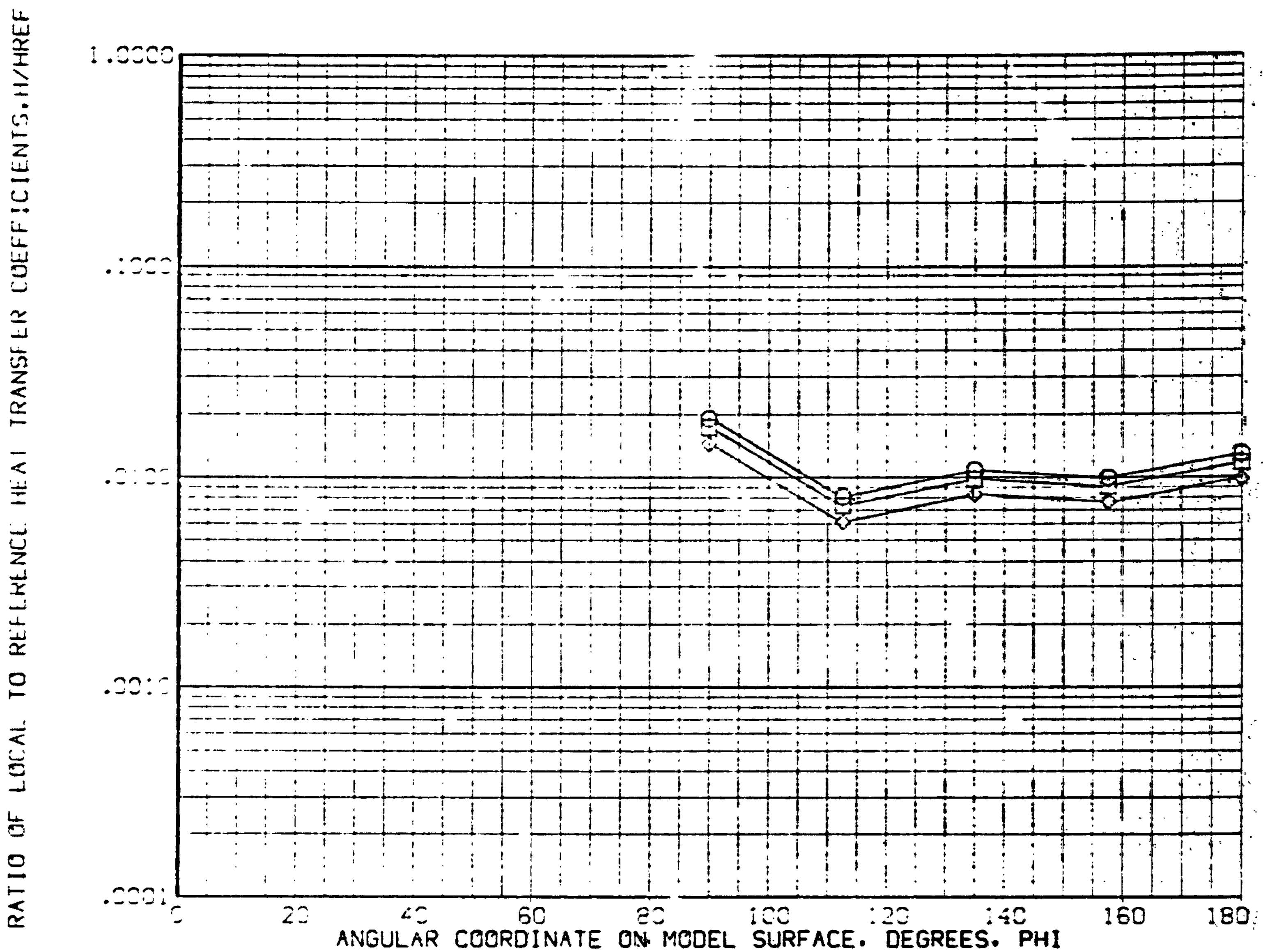


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 OI+TI EXTERNAL TANK (REVTO3)

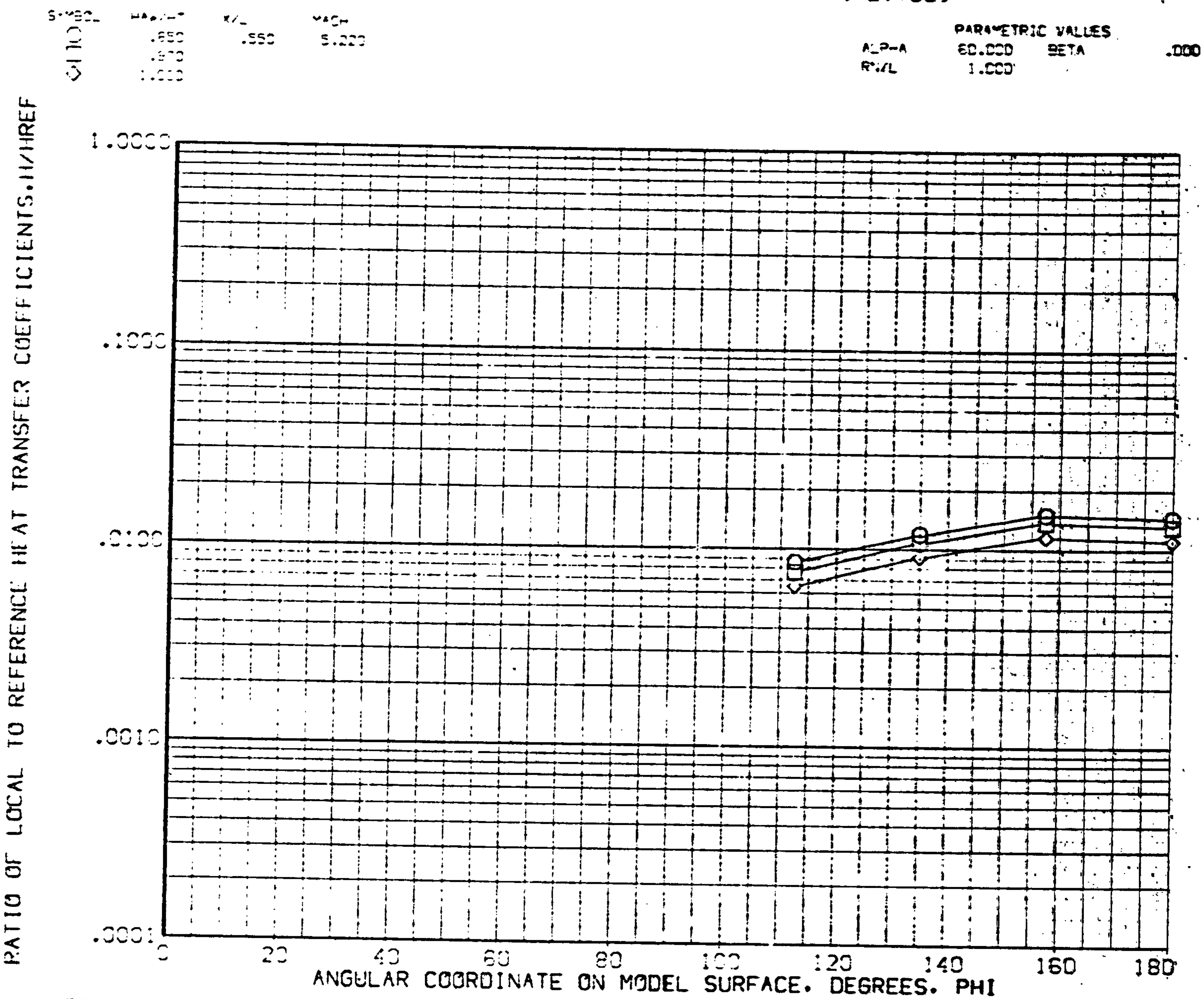


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK (REVT03)

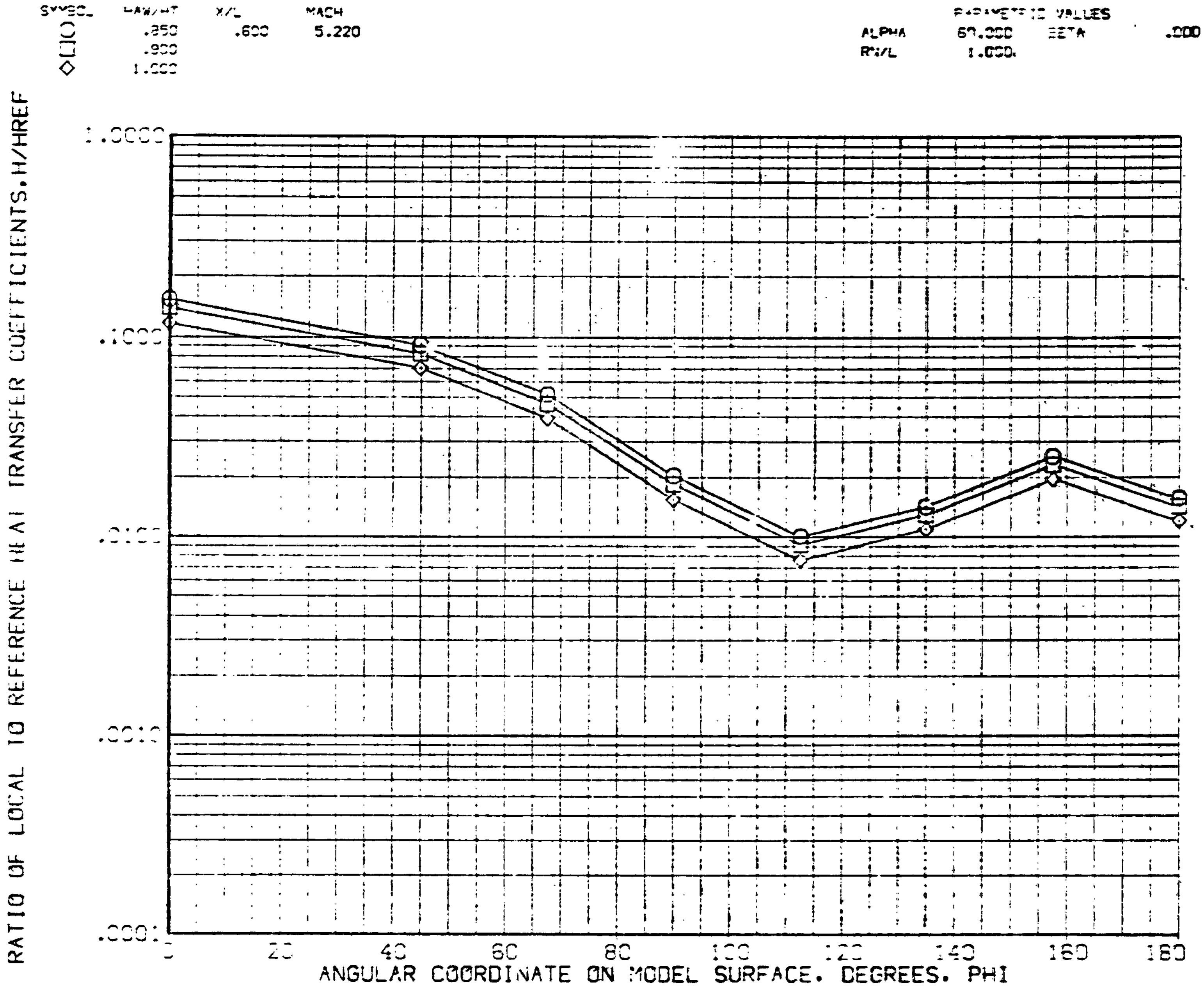


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 C1+T1 EXTERNAL TANK (REVT03)

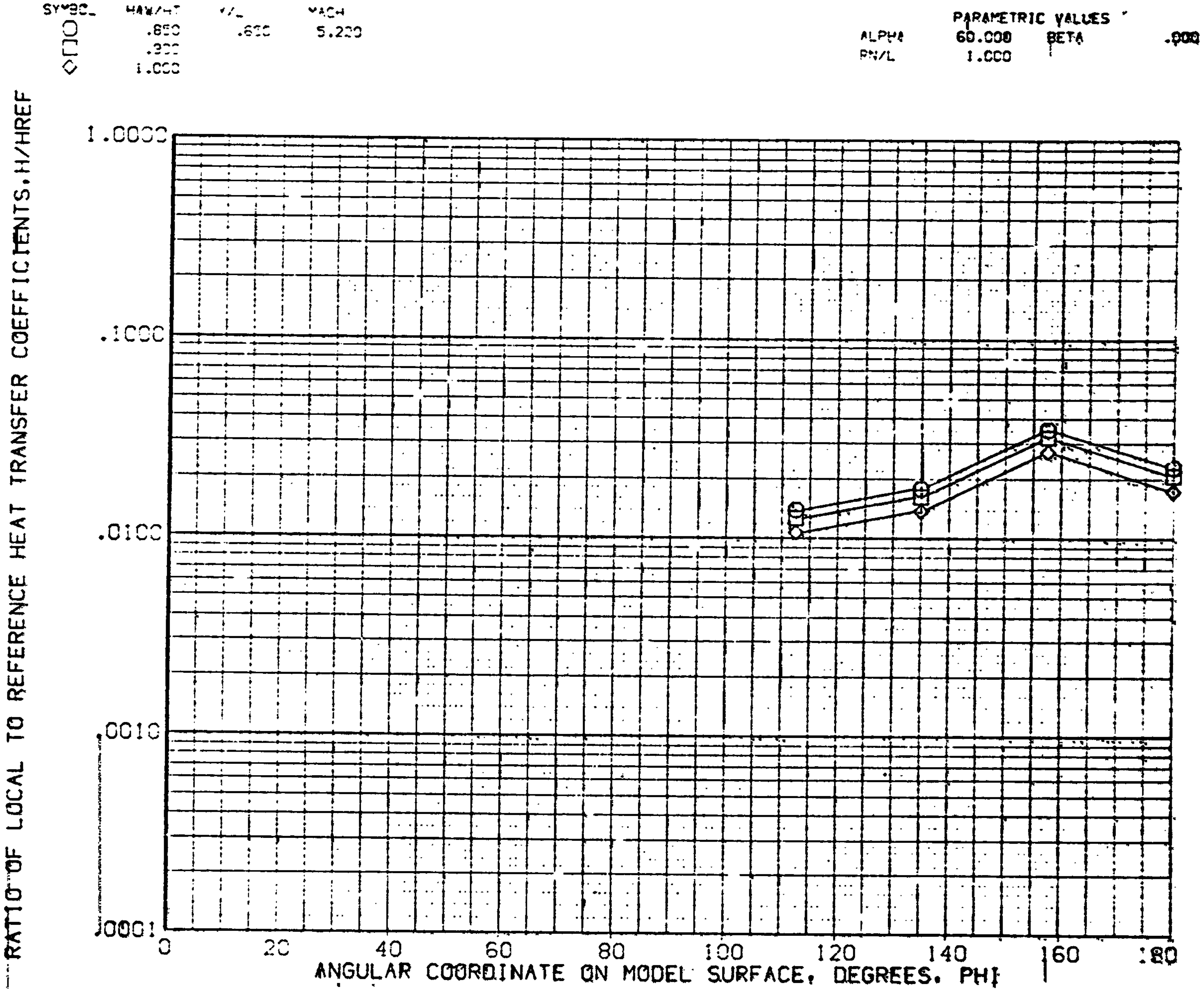


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3,5-195 IH28 O1+T1 EXTERNAL TANK (REVT03)

SYMBOL	HA#/HT	X/L	MACH
○	.850	.700	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA	90.000	BETA	.000
RN/L	1.000		

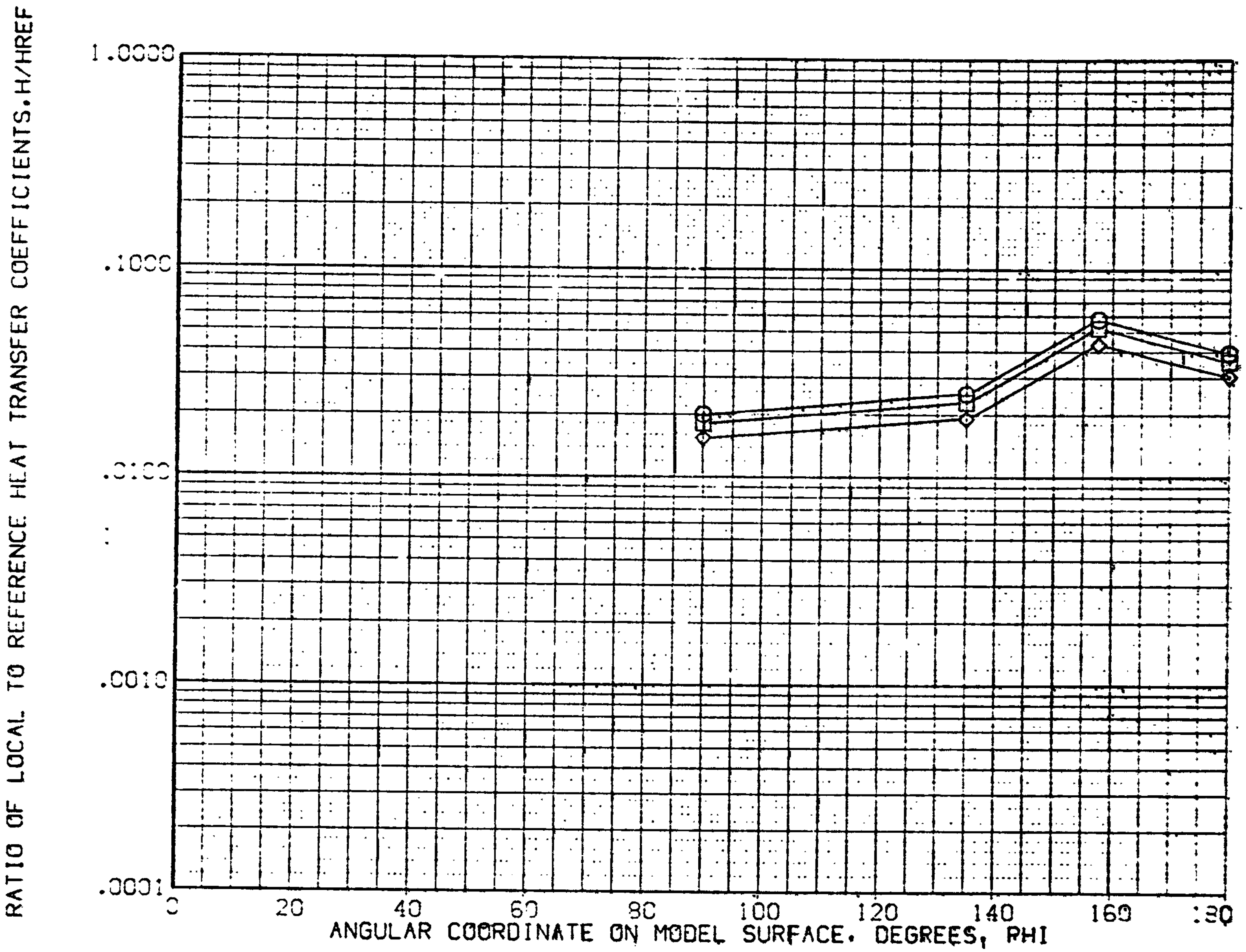


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

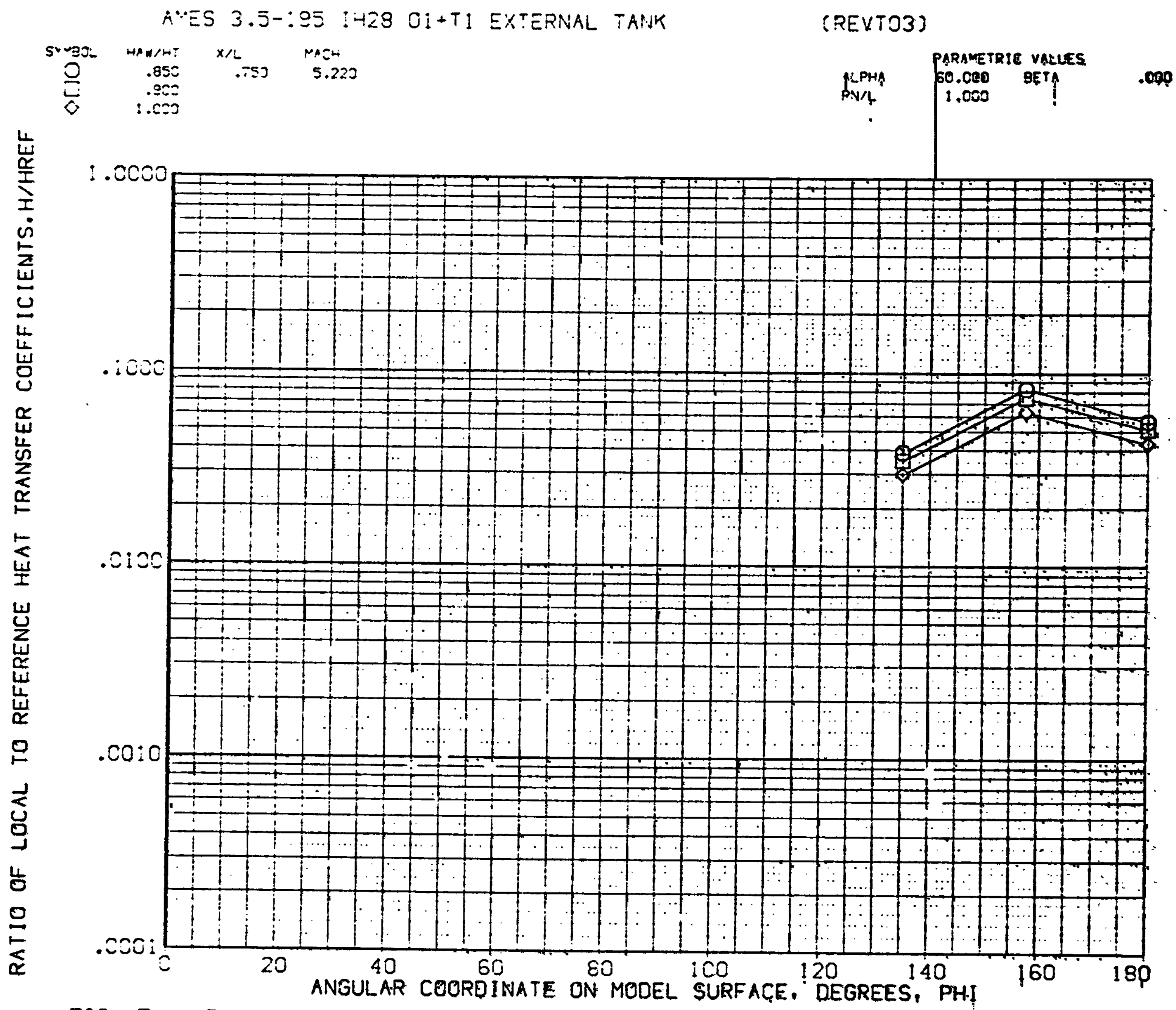


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 01+T1 EXTERNAL TANK (REVT03)

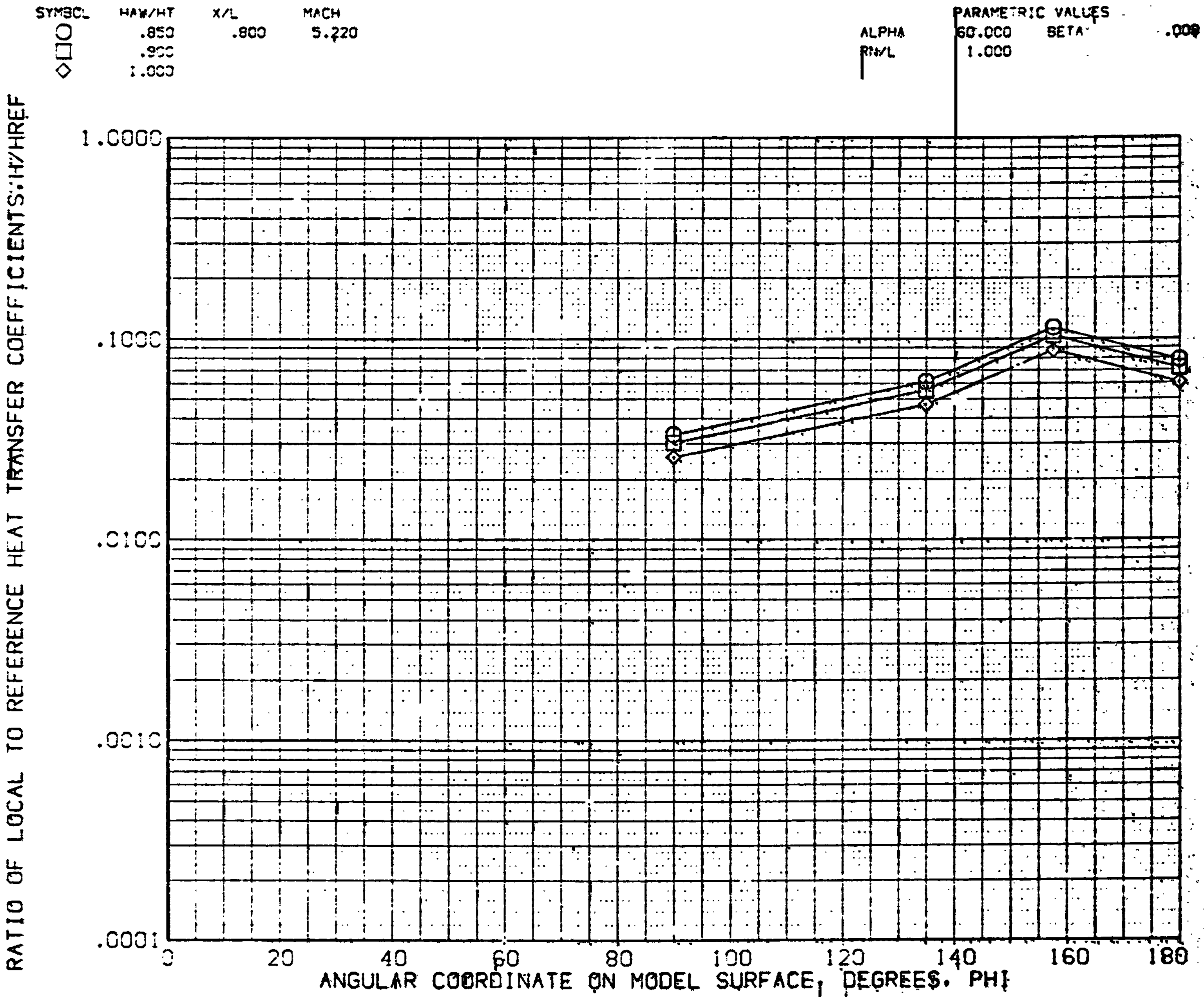


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

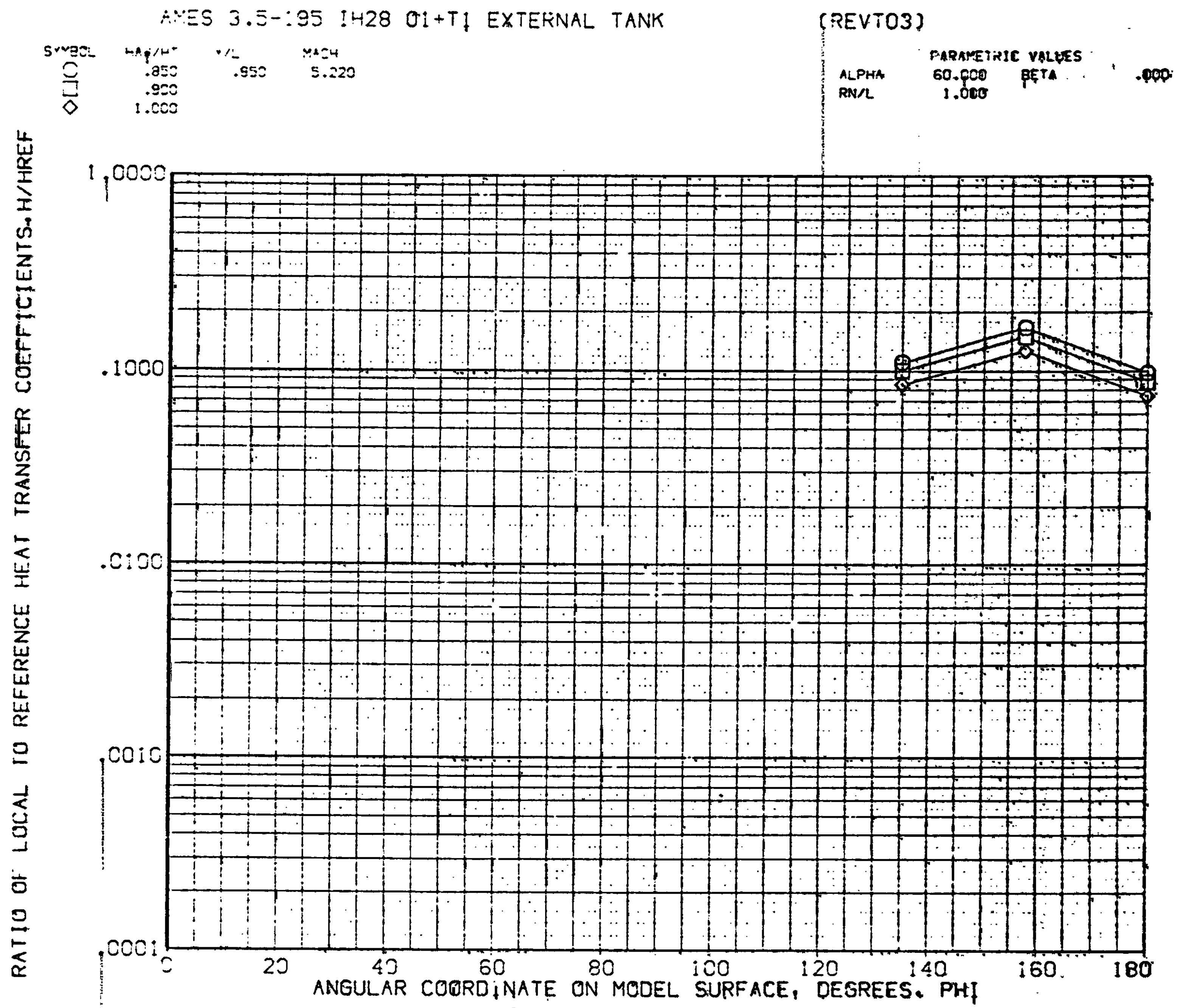


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK (REVT03)

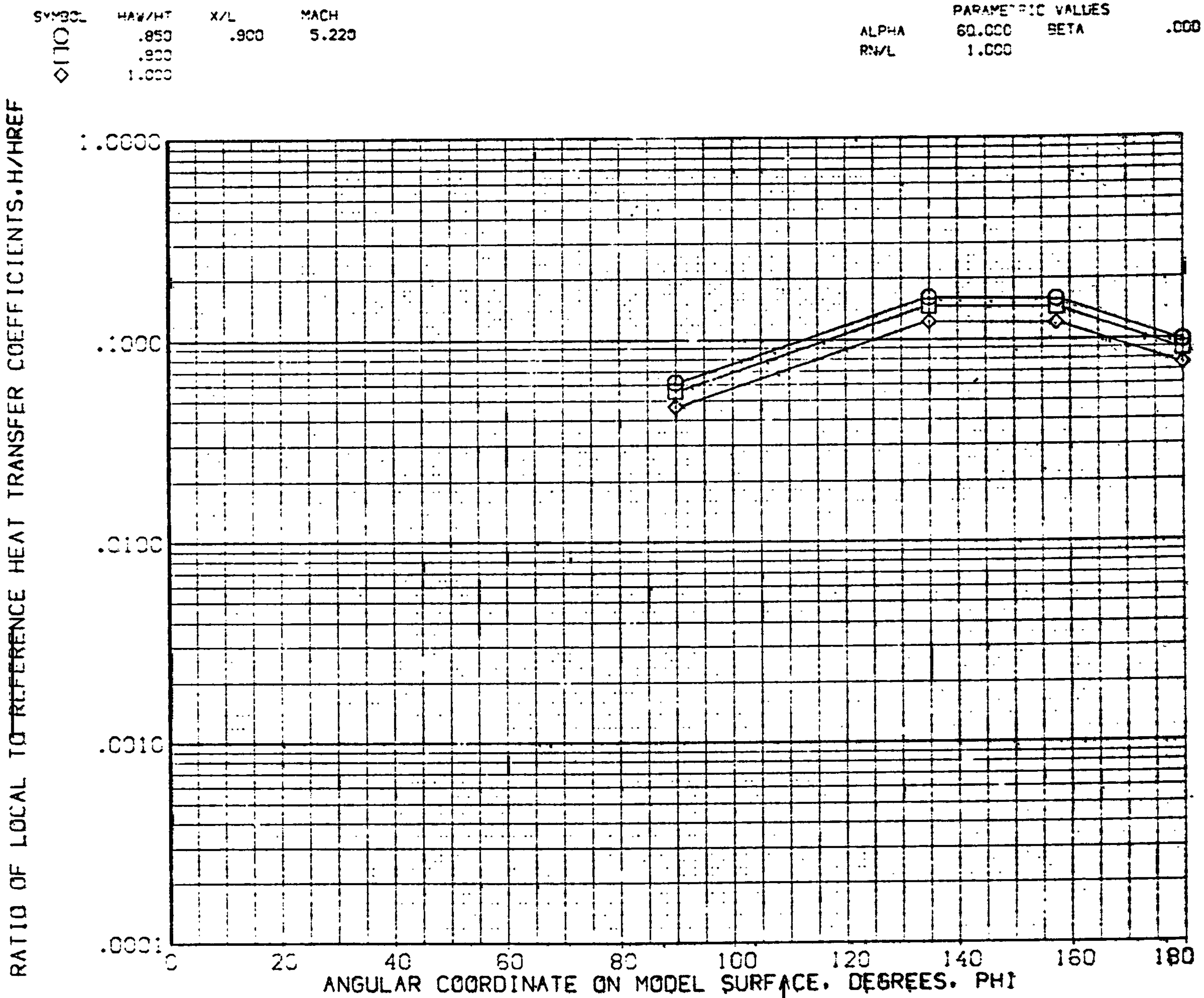


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

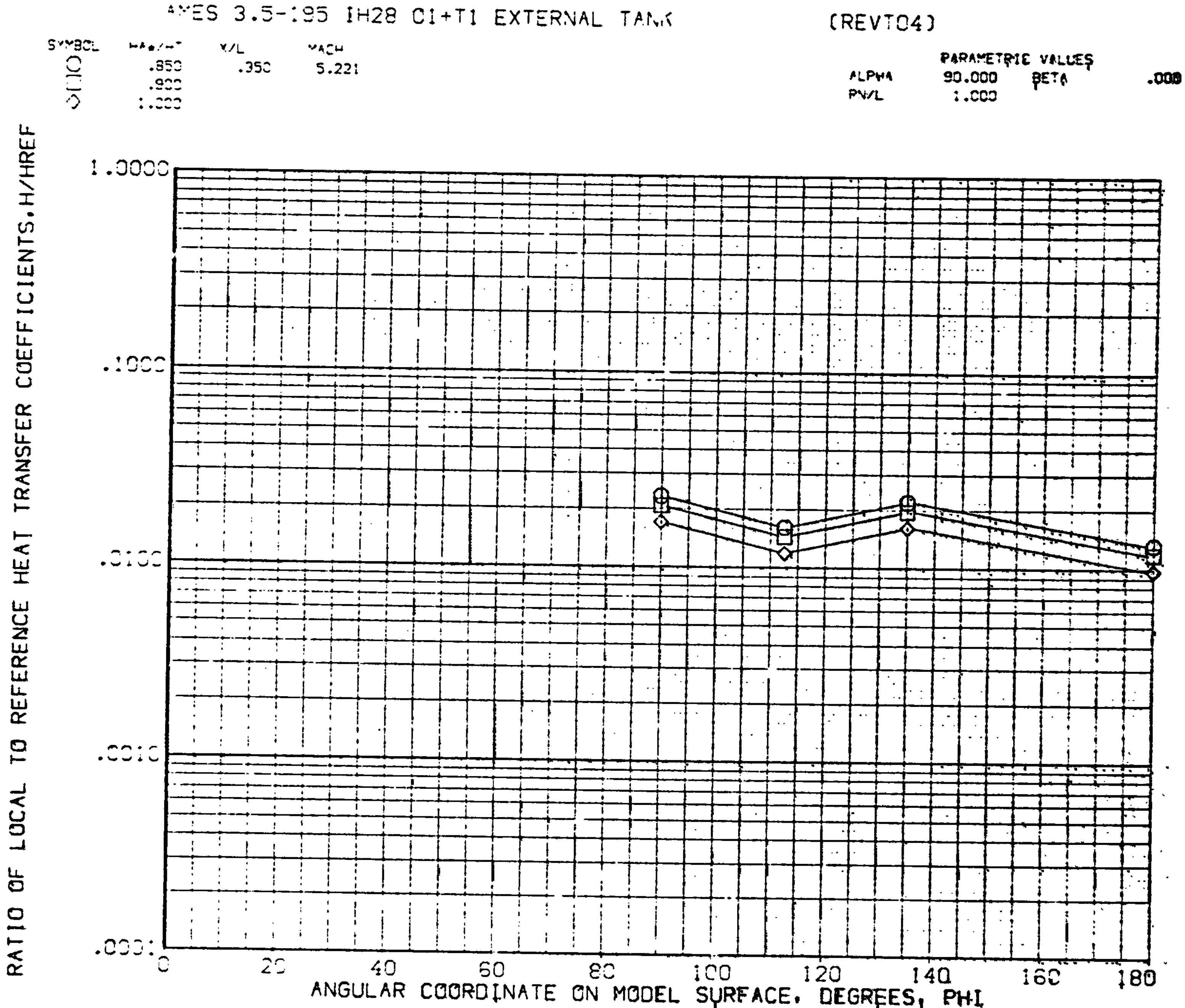


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 I428 O1+T1 EXTERNAL TANK (REVT04)

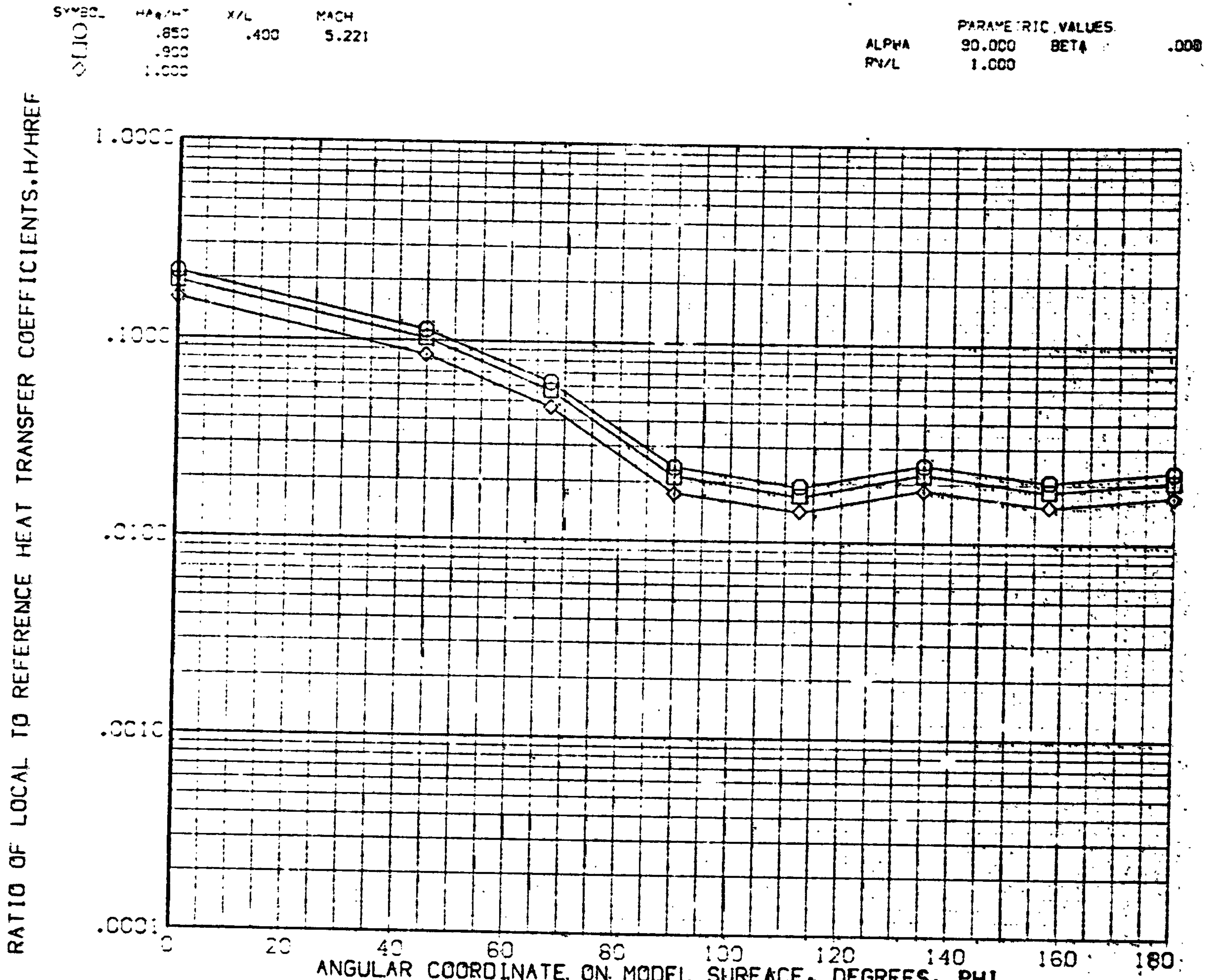


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

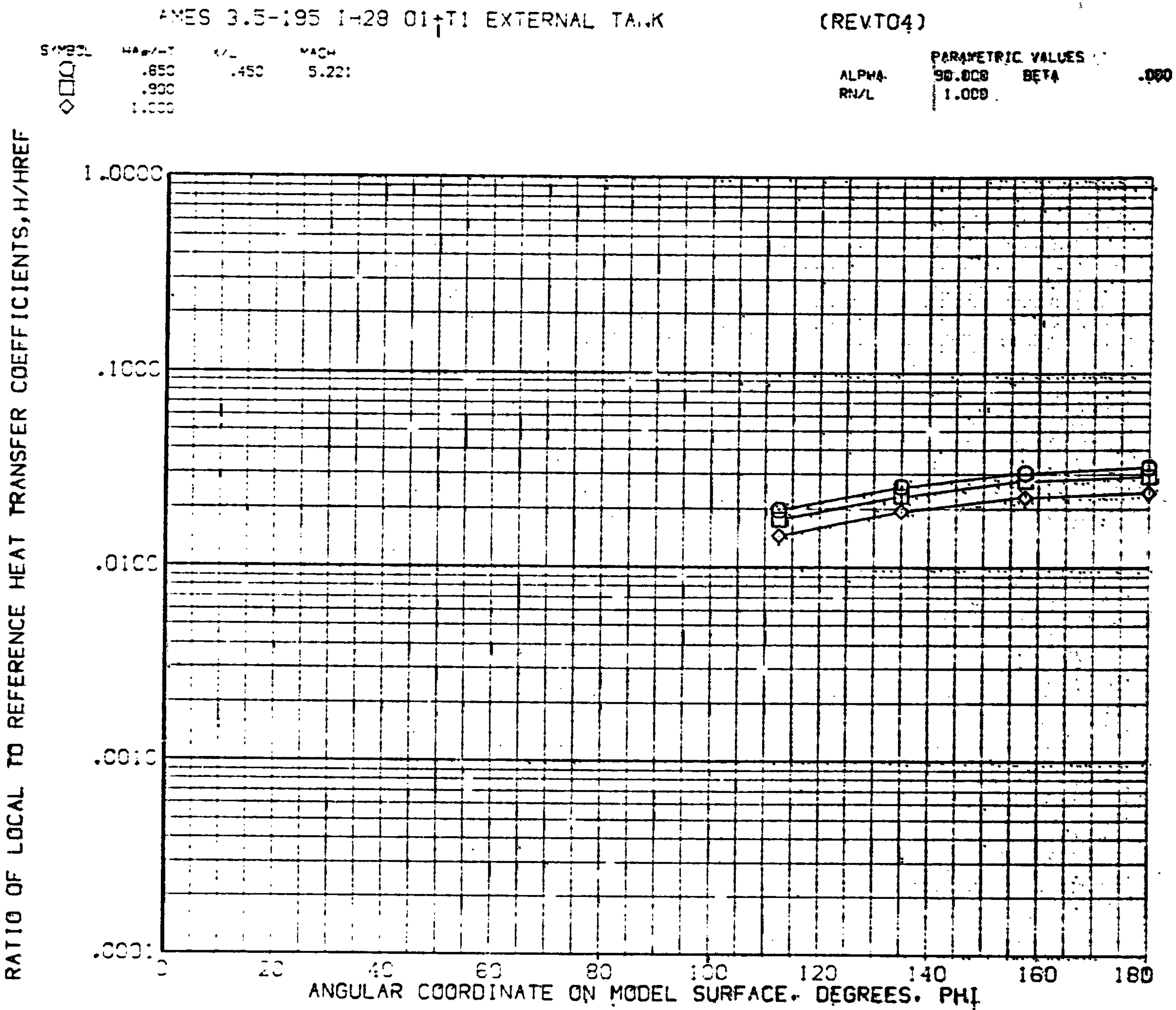


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 OI-TI EXTERNAL TANK (REVTC4)

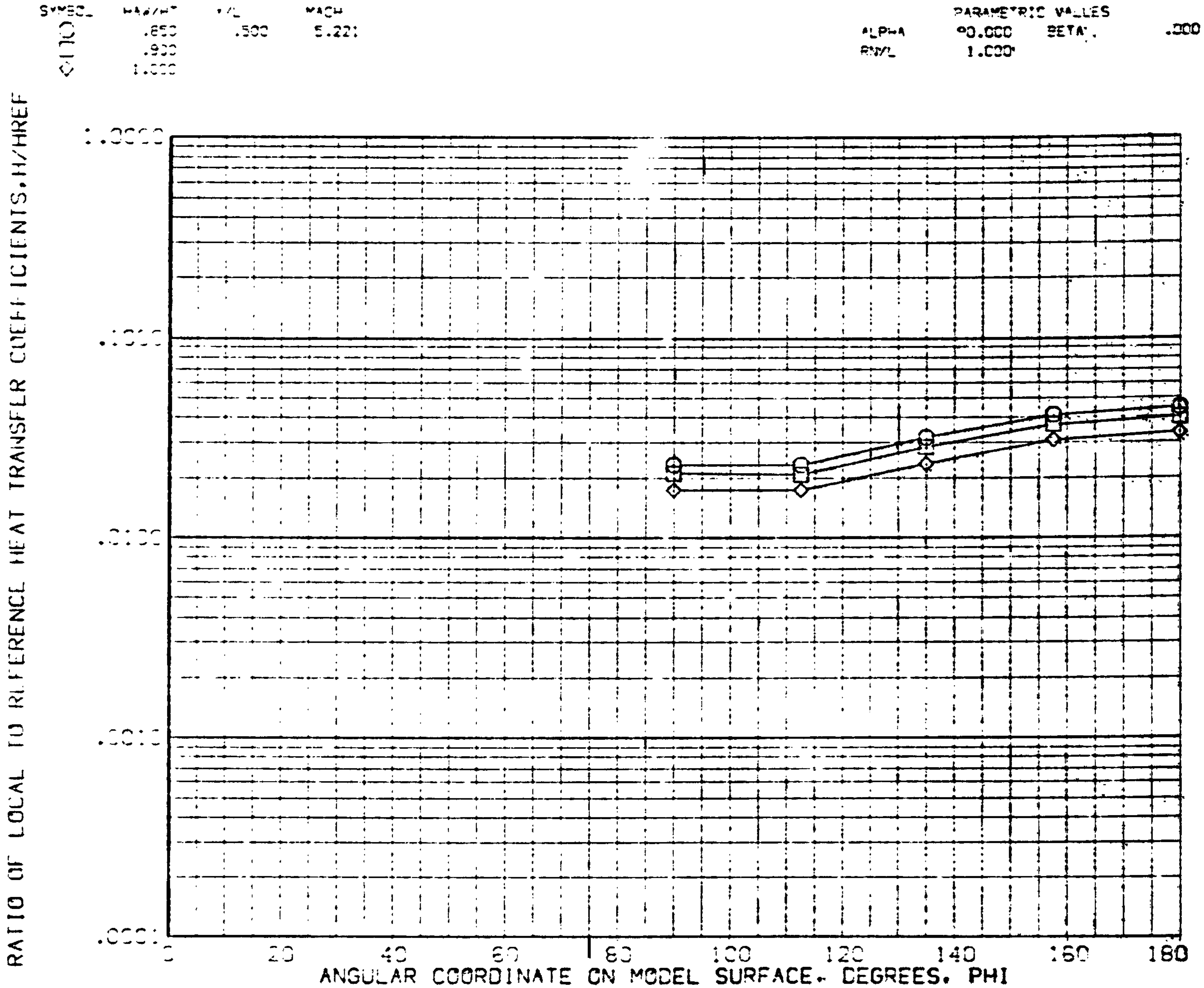


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH-29 C1+T1 EXTERNAL TANK (REVT04)

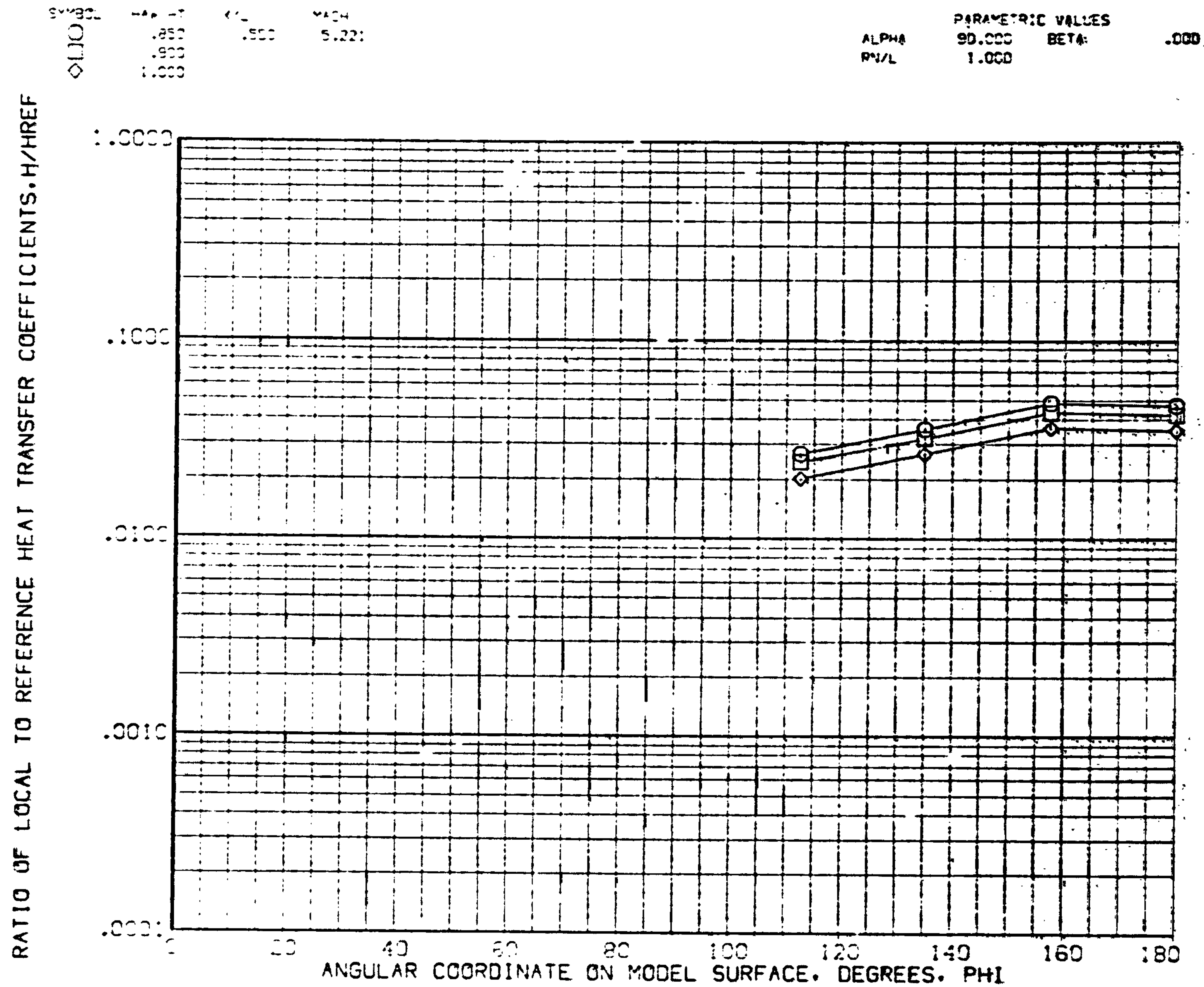


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

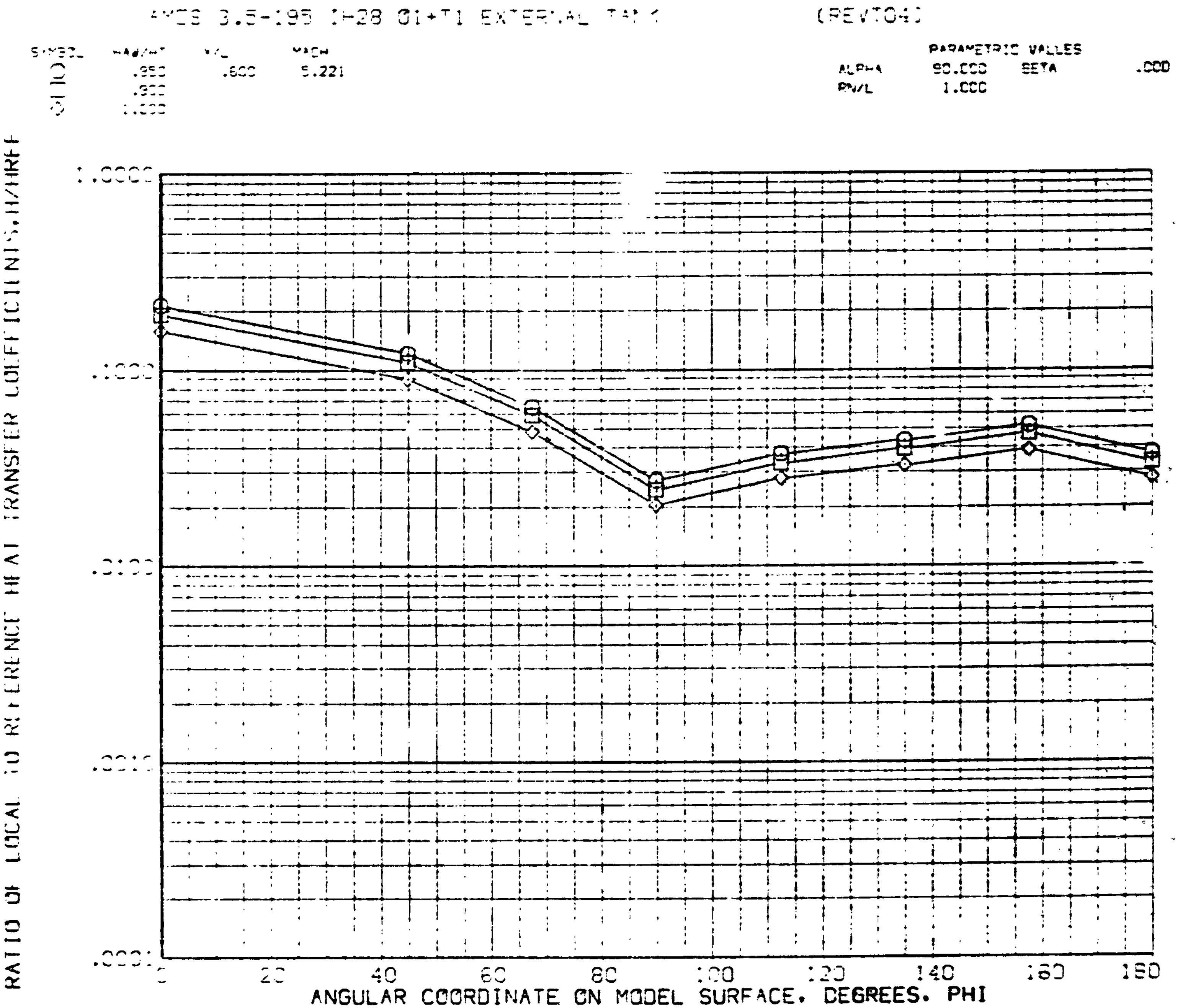


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

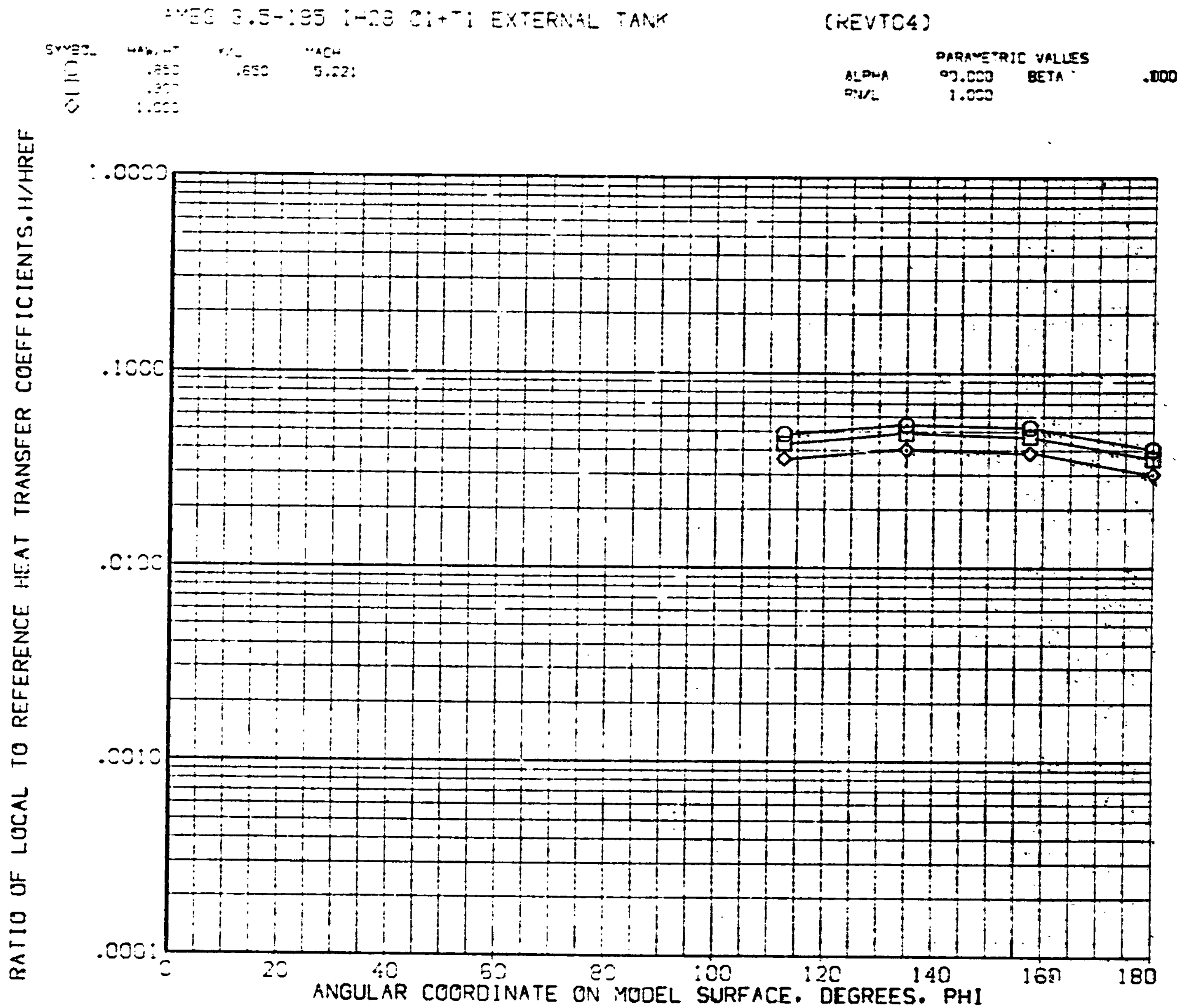


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 OI-T1 EXTERNAL TANK (REJT04)

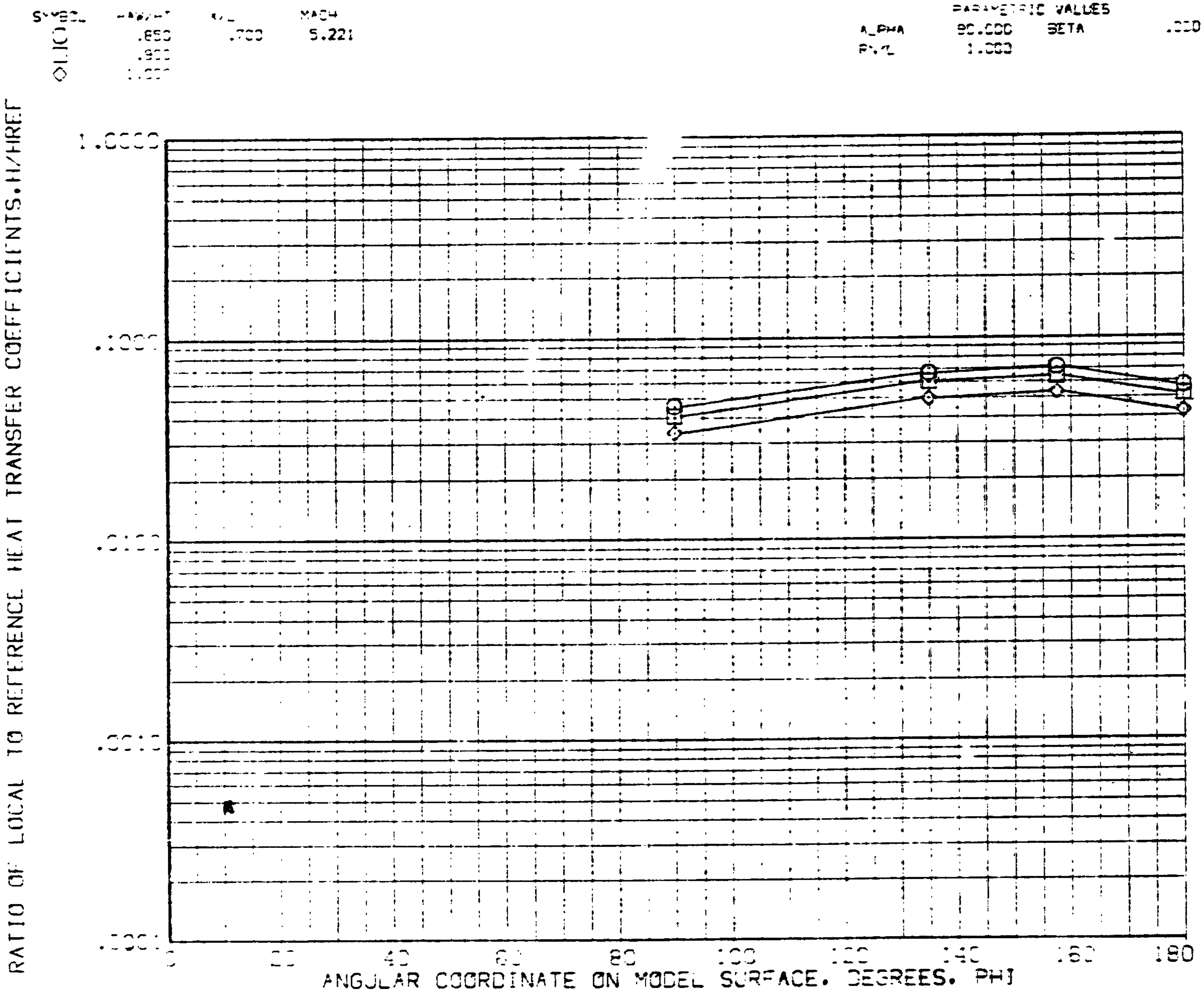


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

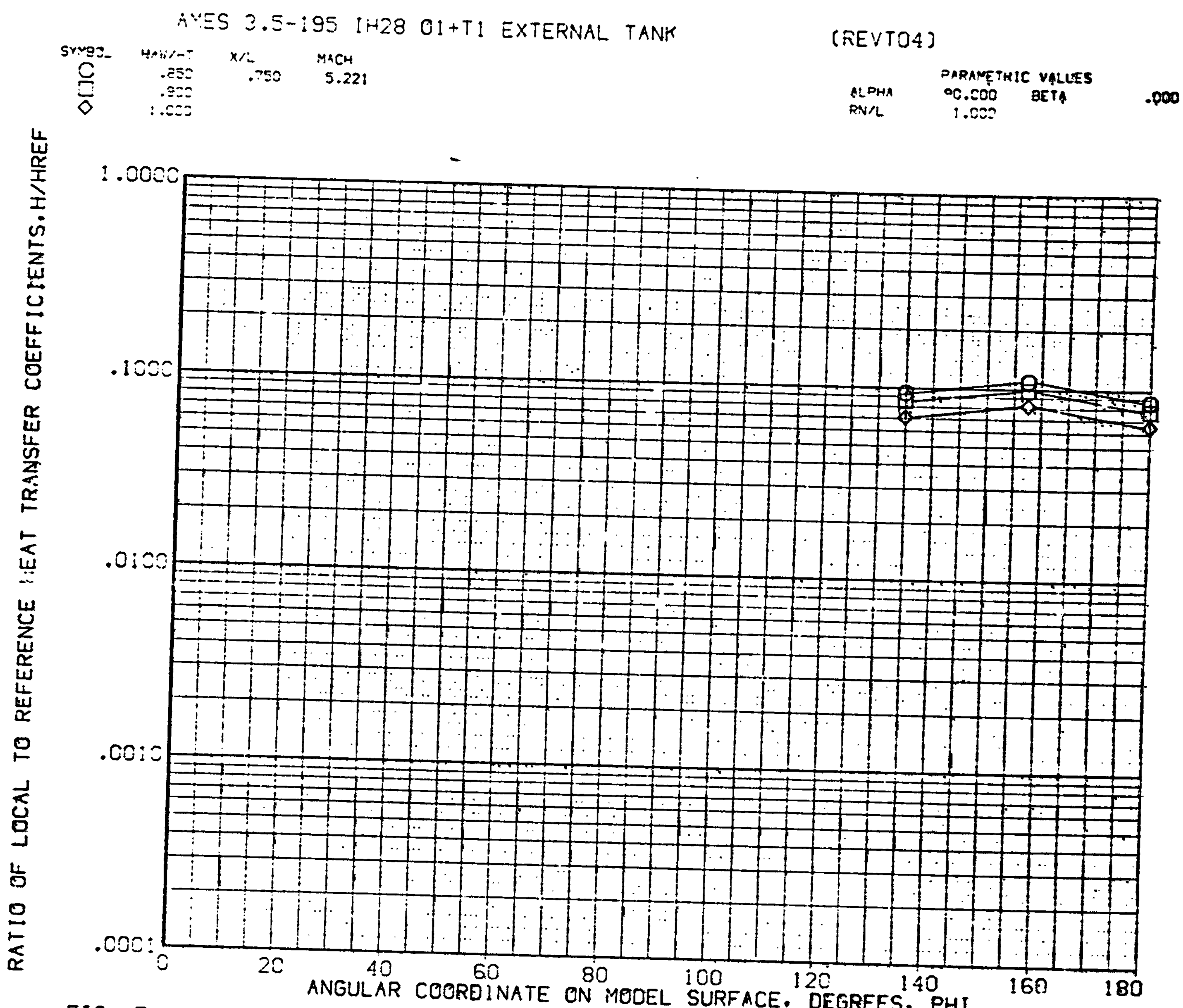


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

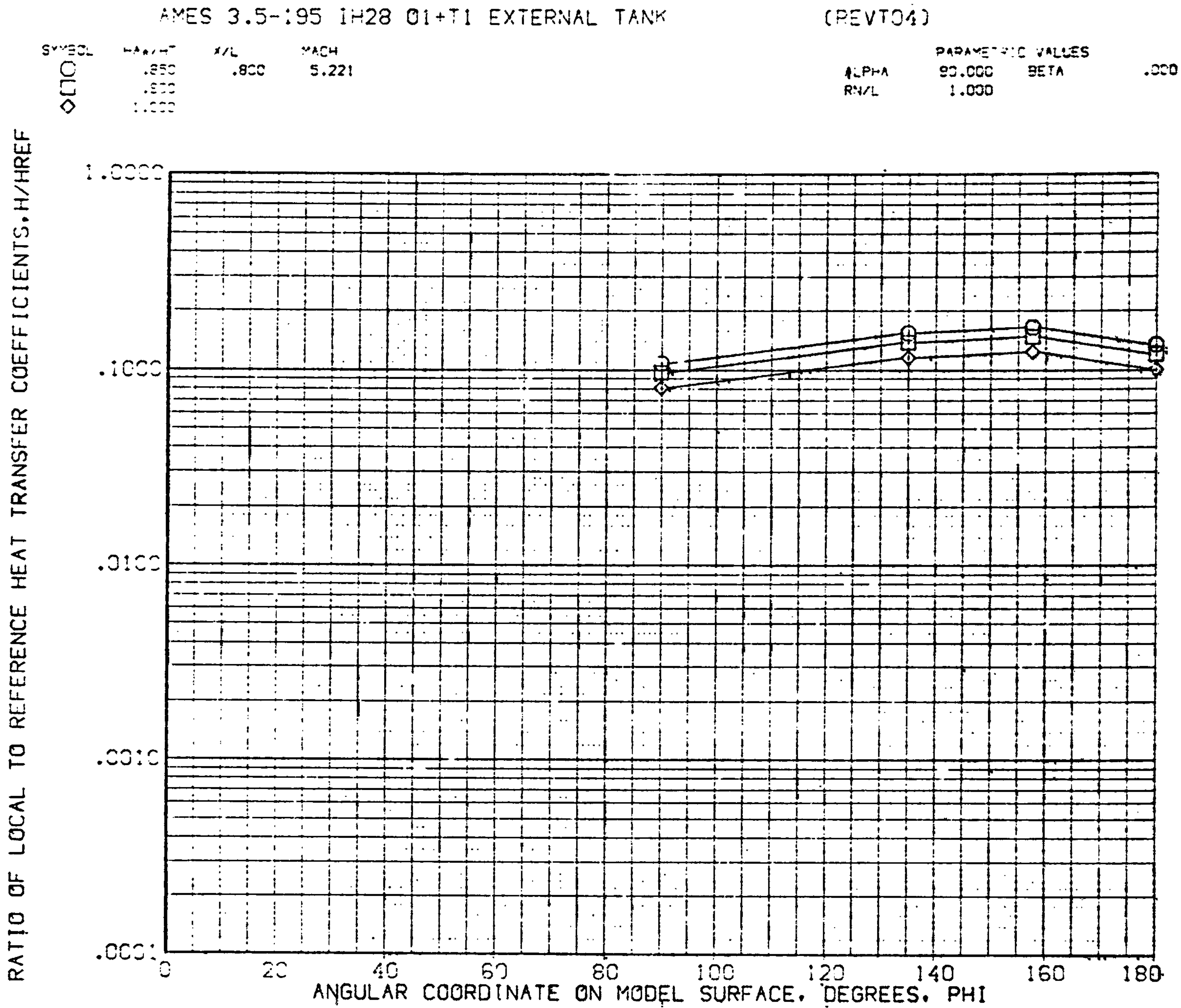


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

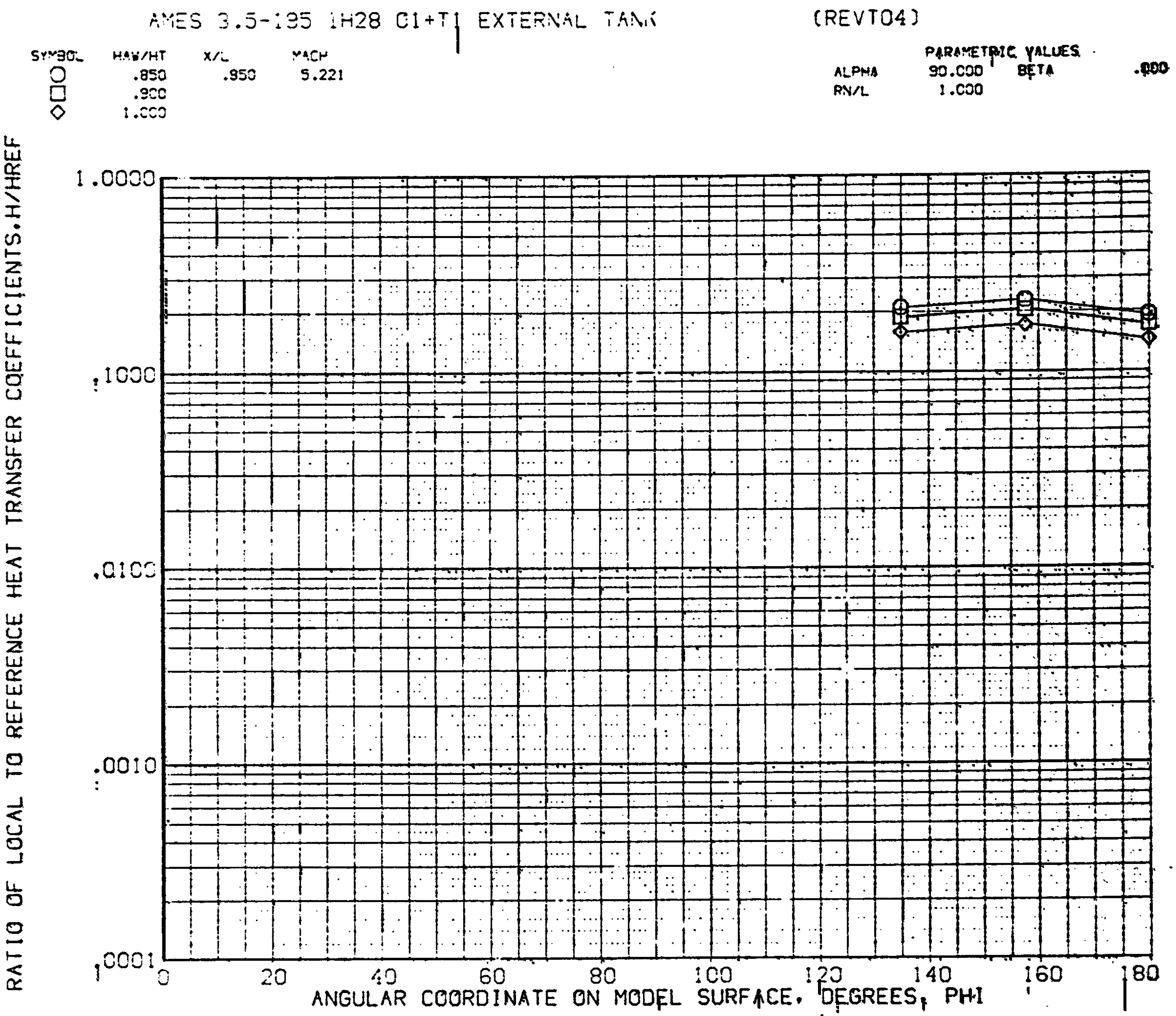


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 OI-TI EXTERNAL TANK (REVT04)

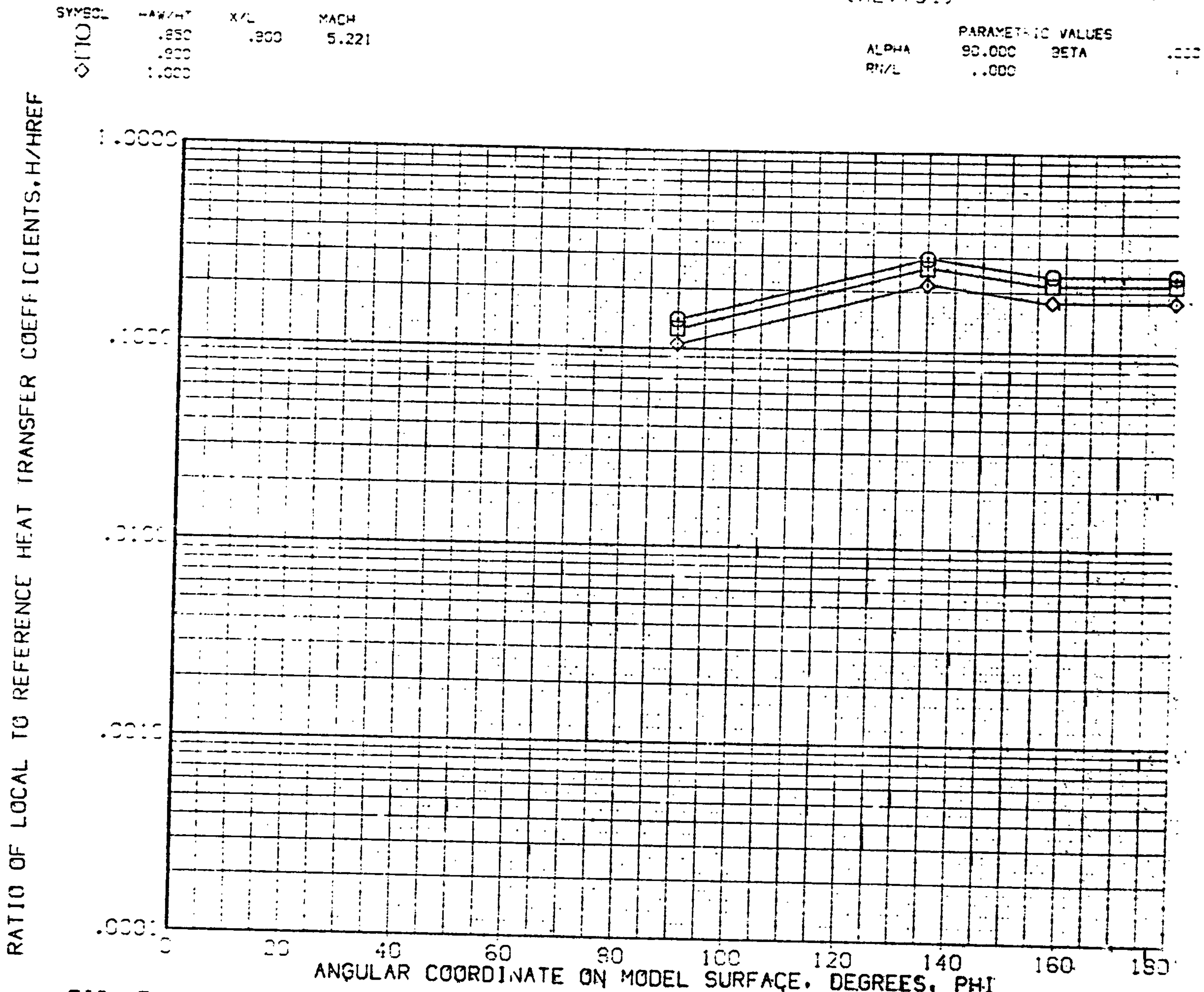


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

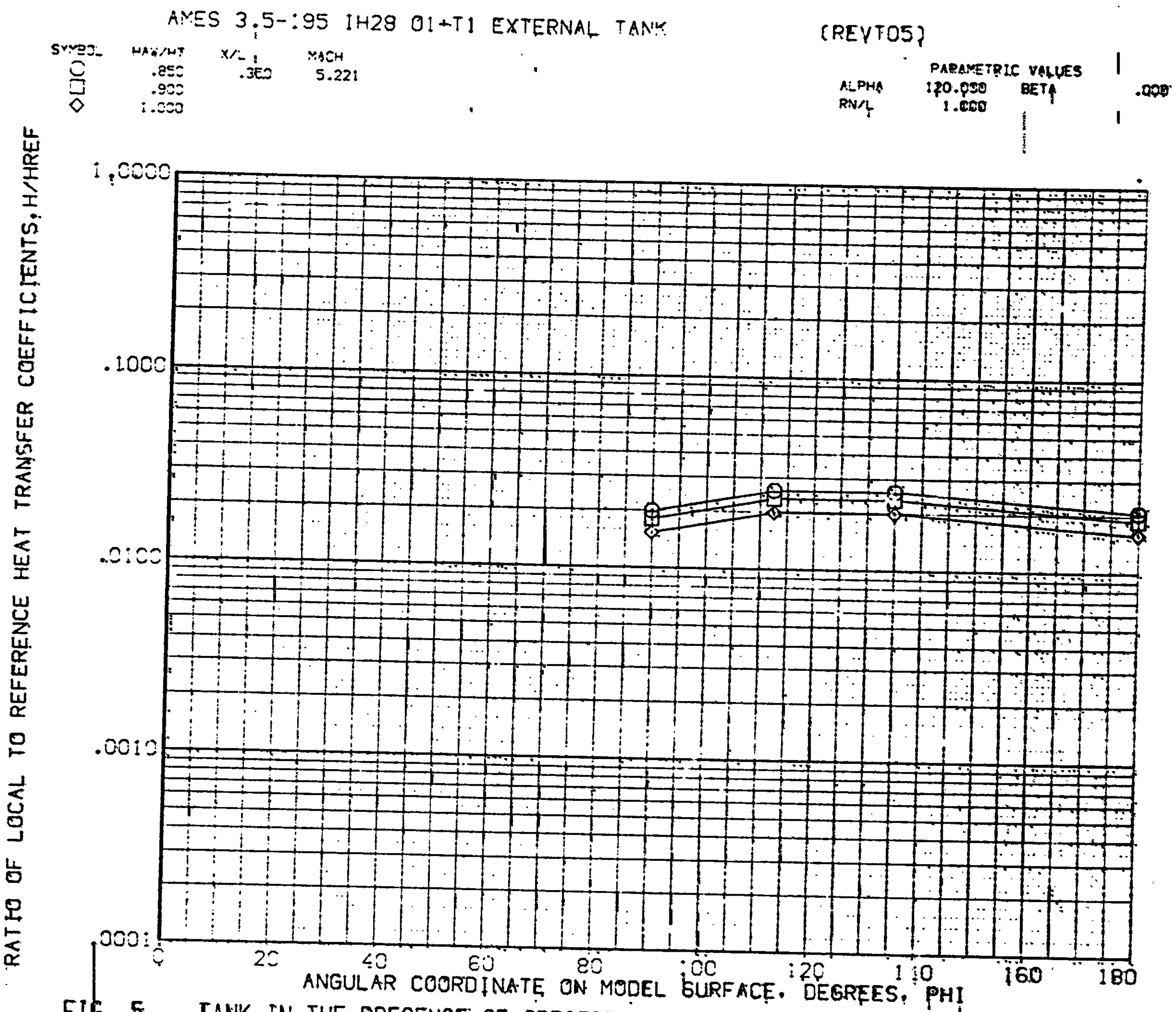


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK (REVT05)

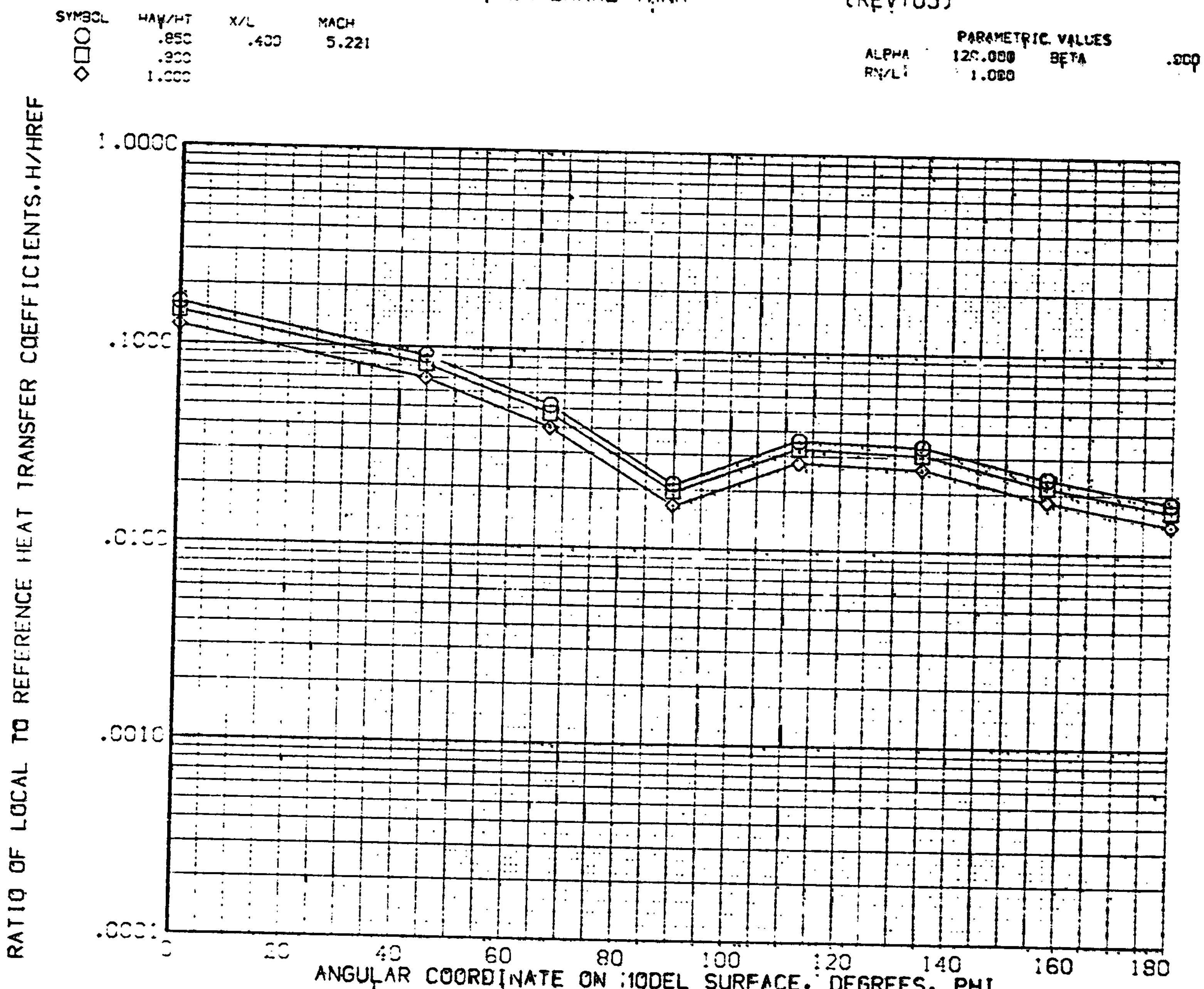


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK (REVT05)

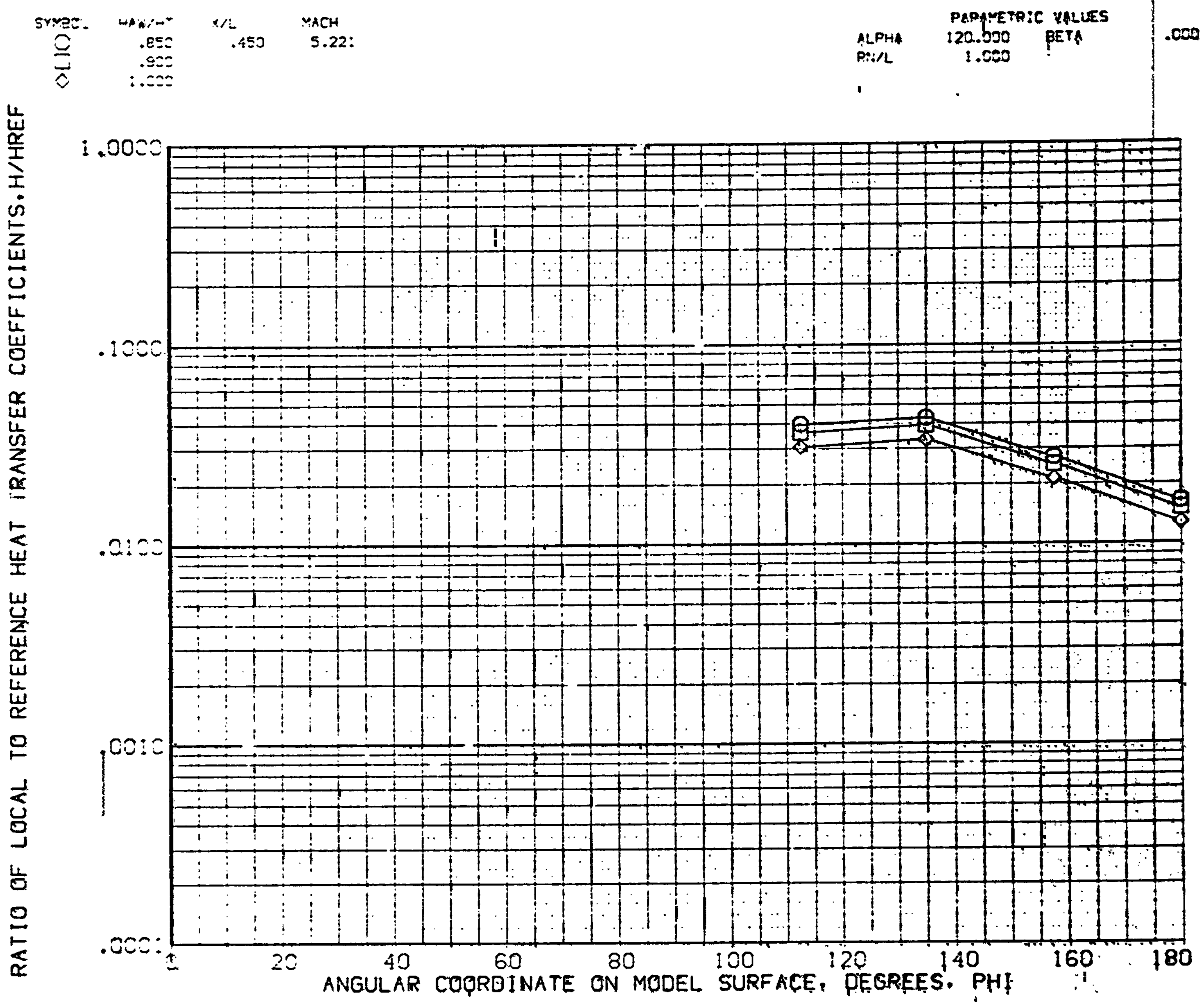


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 01+T1 EXTERNAL TANK (REVT05)

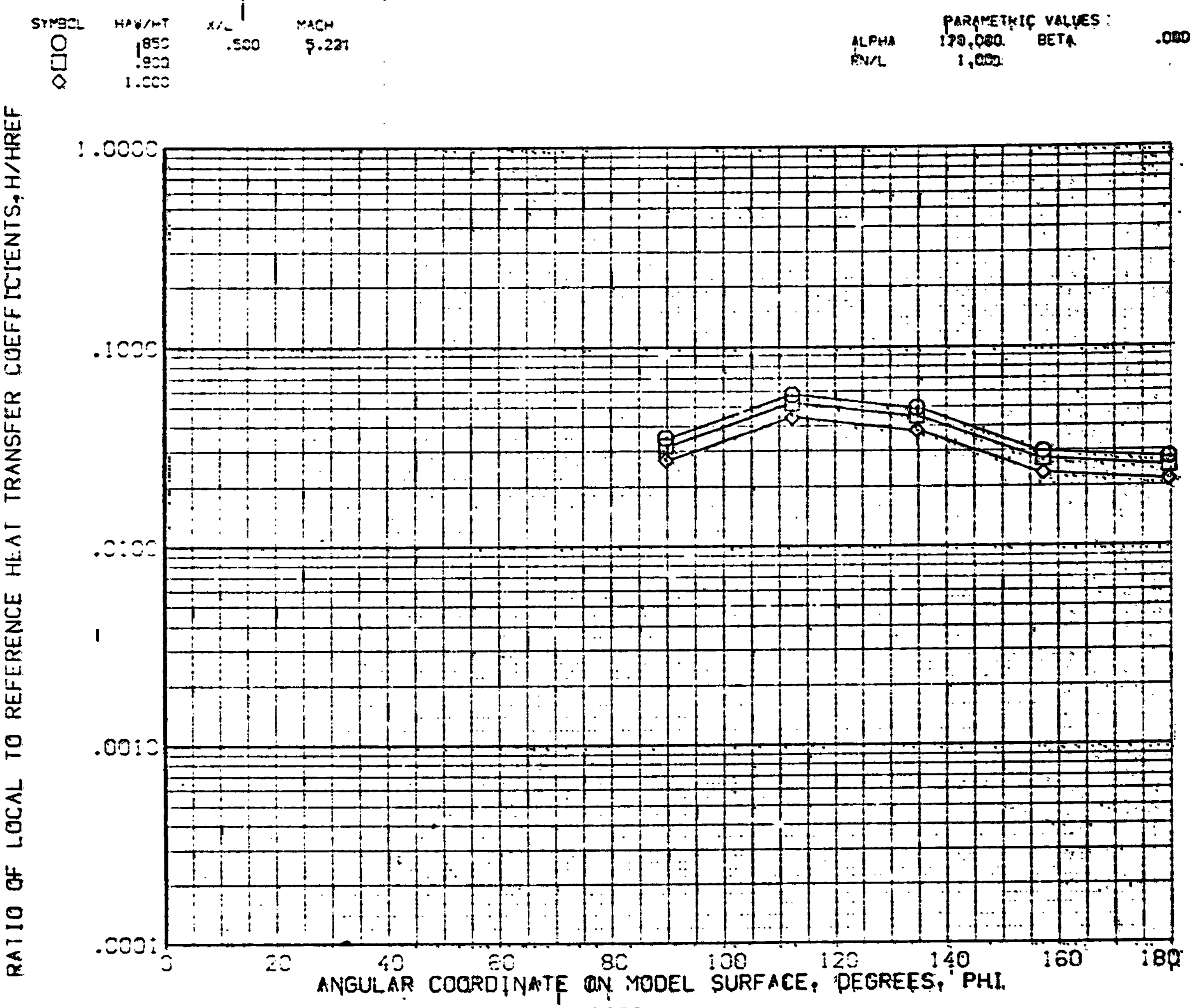


FIG. 5 TANK IN THE PRESENCE OF ORBITER

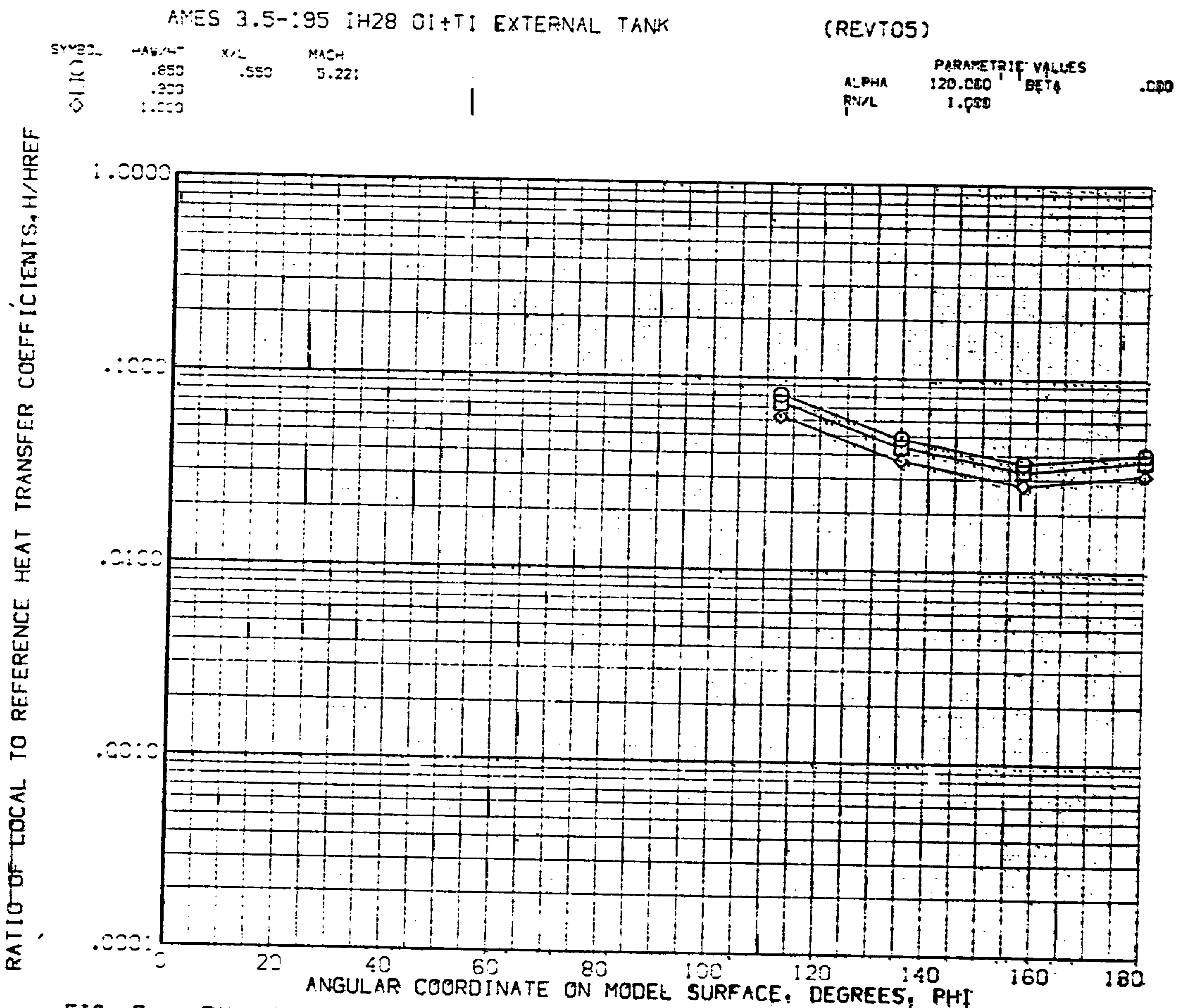


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

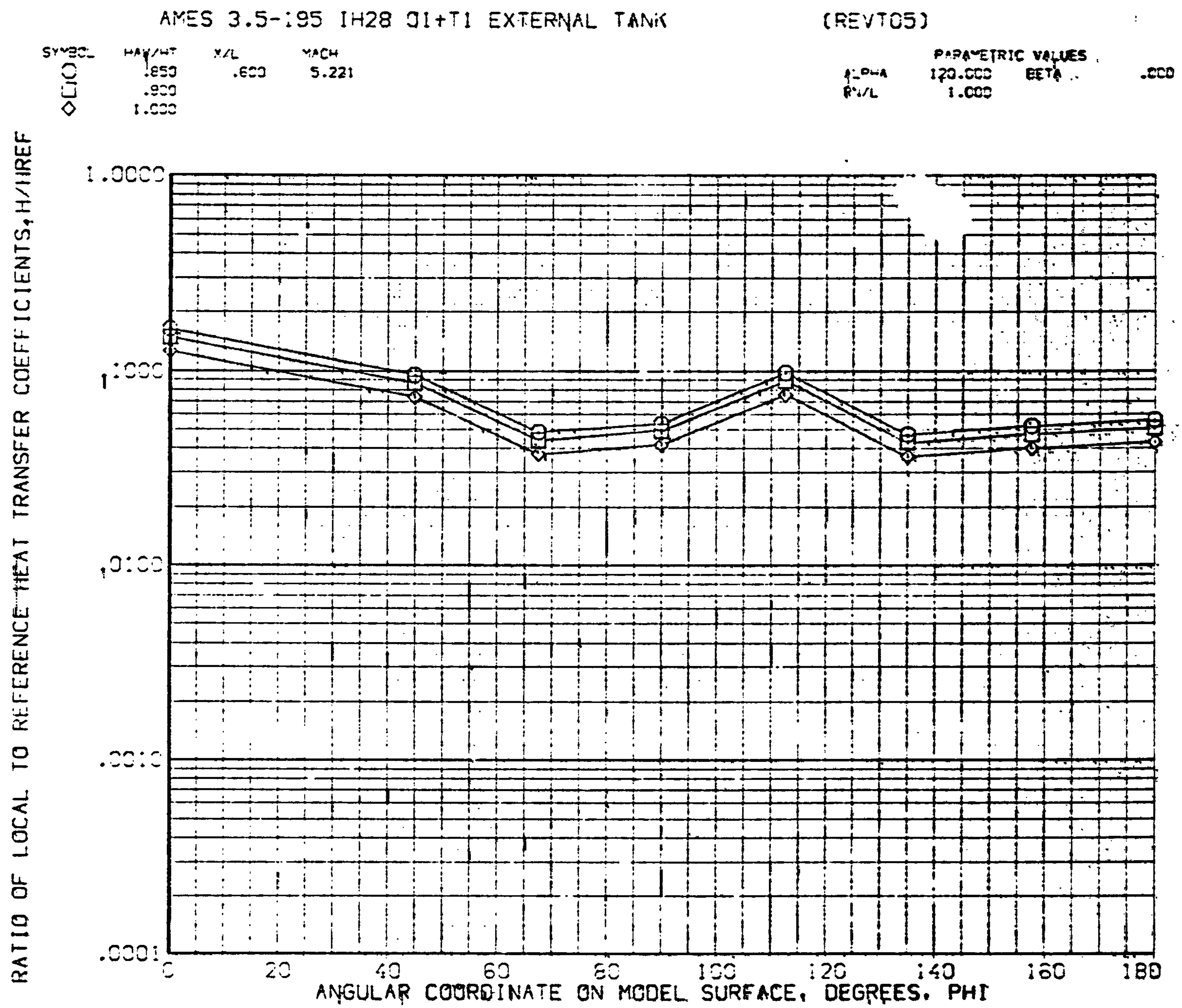


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

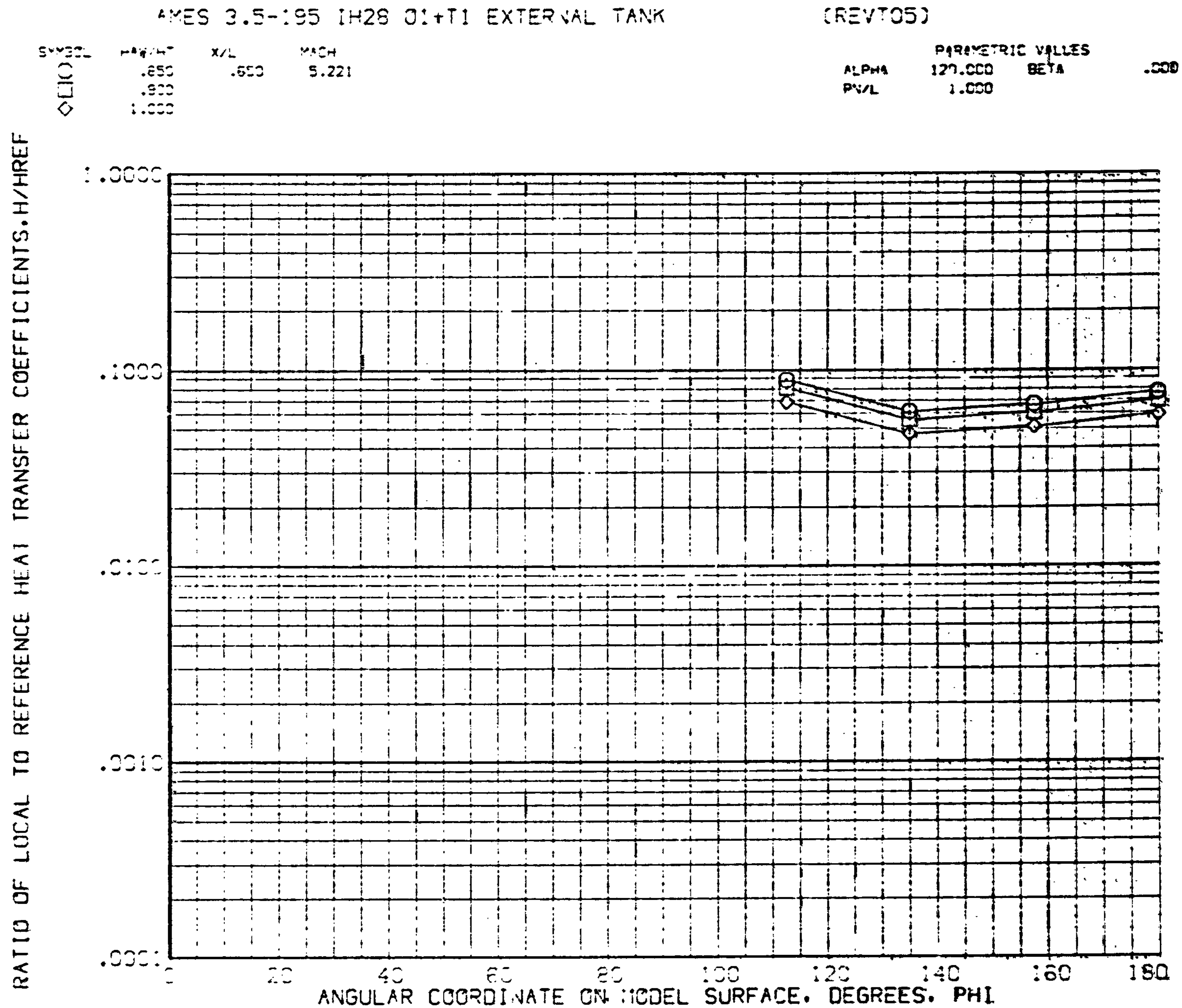


FIG. 5 TANK.IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK (REVTO5)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.700	5.221
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA	120.000	BETA	.000
RN/L	1.000		

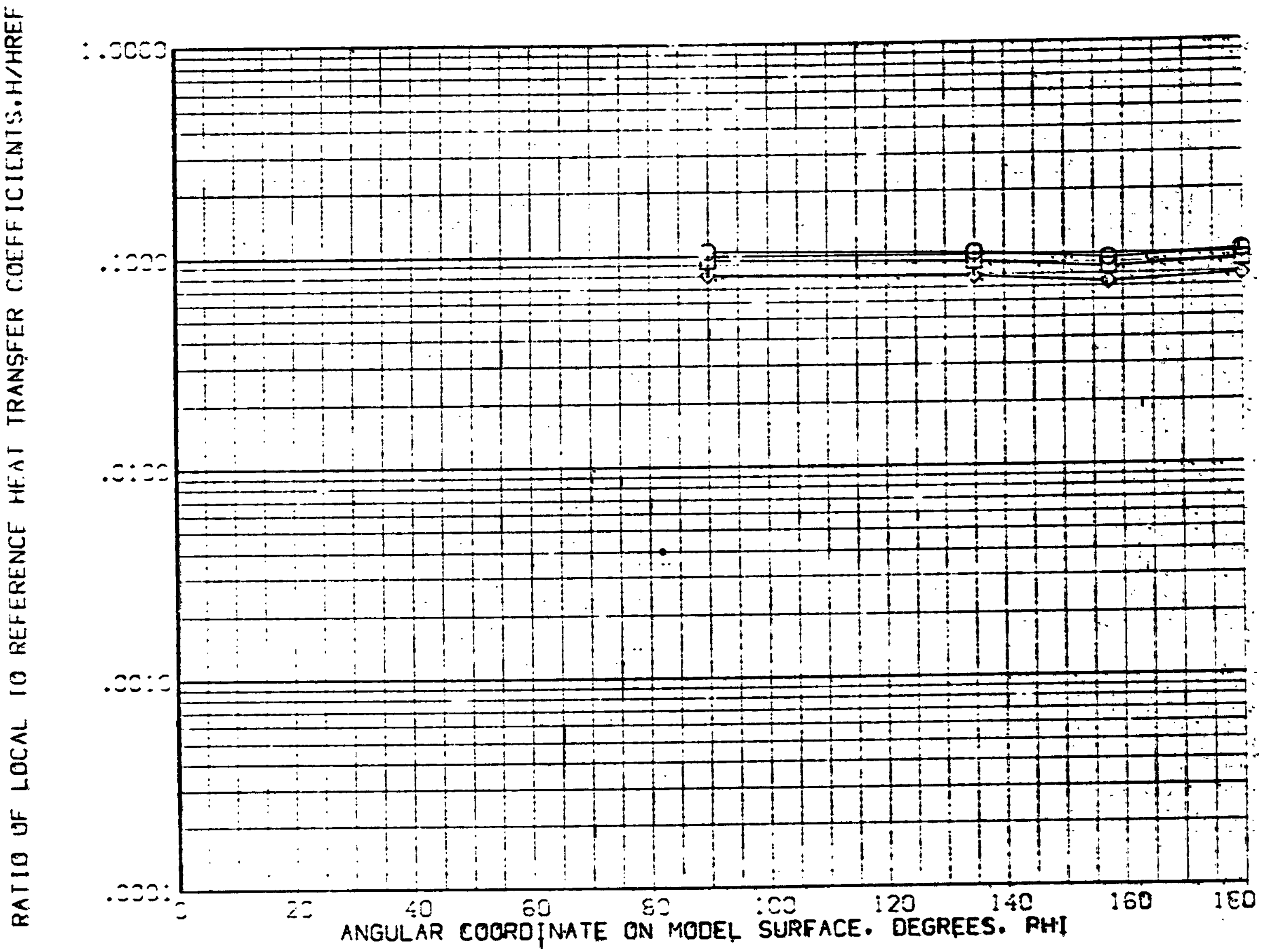


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

REPRODUCIBILITY OF THE ORIGINAL PAGE IS POOR

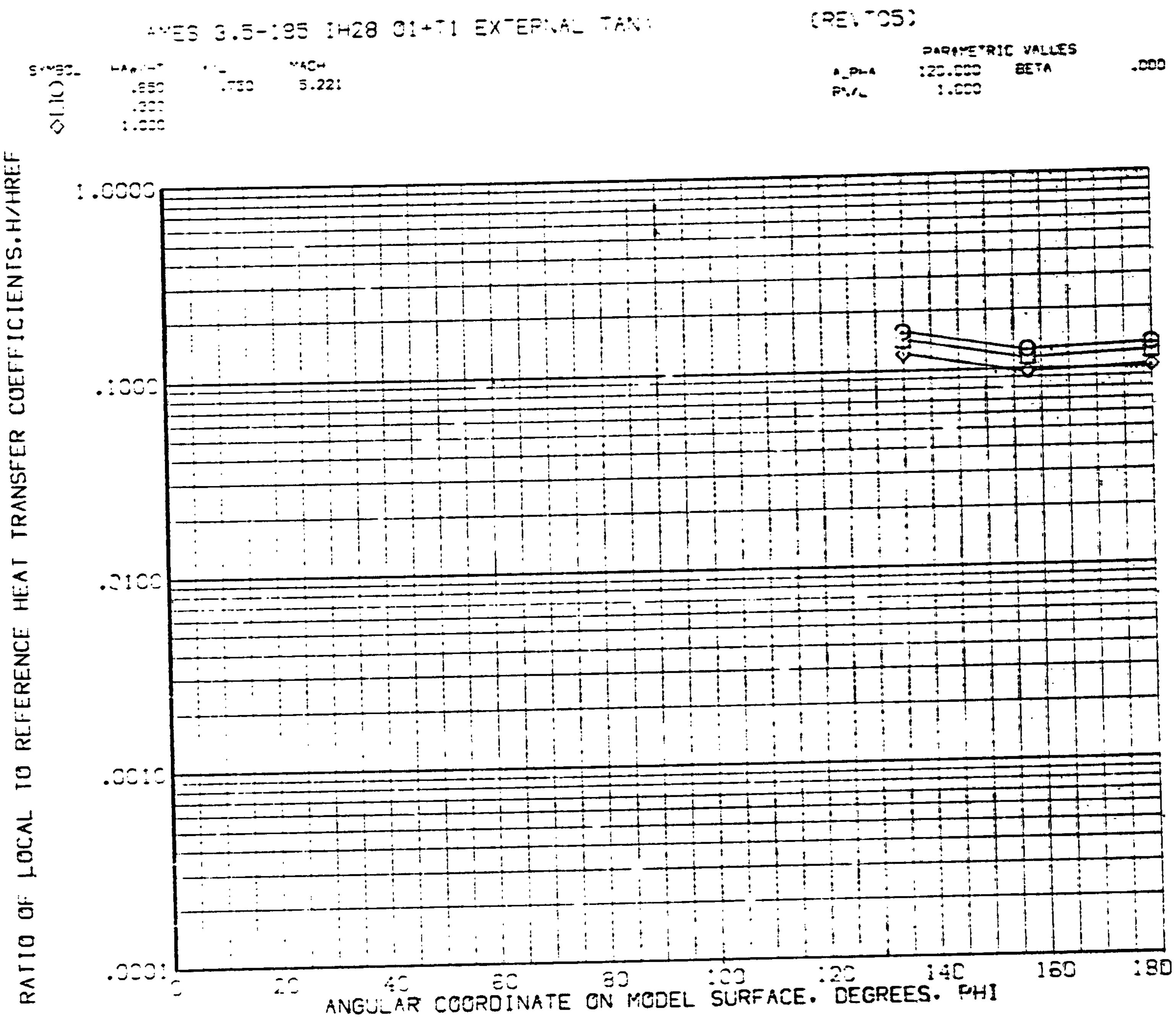


FIG. 5 TANK,IN THE PRESENCE OF ORBITER

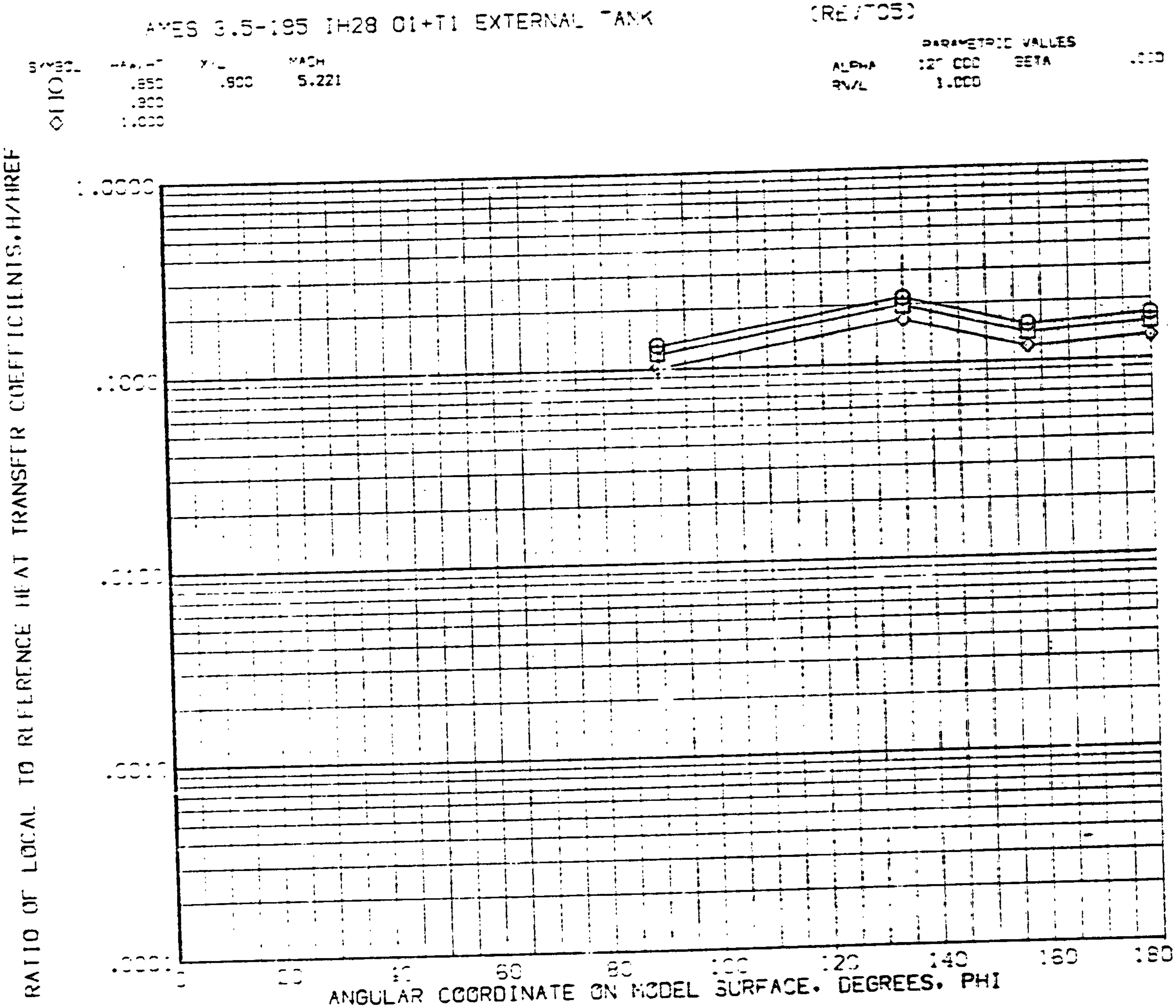


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

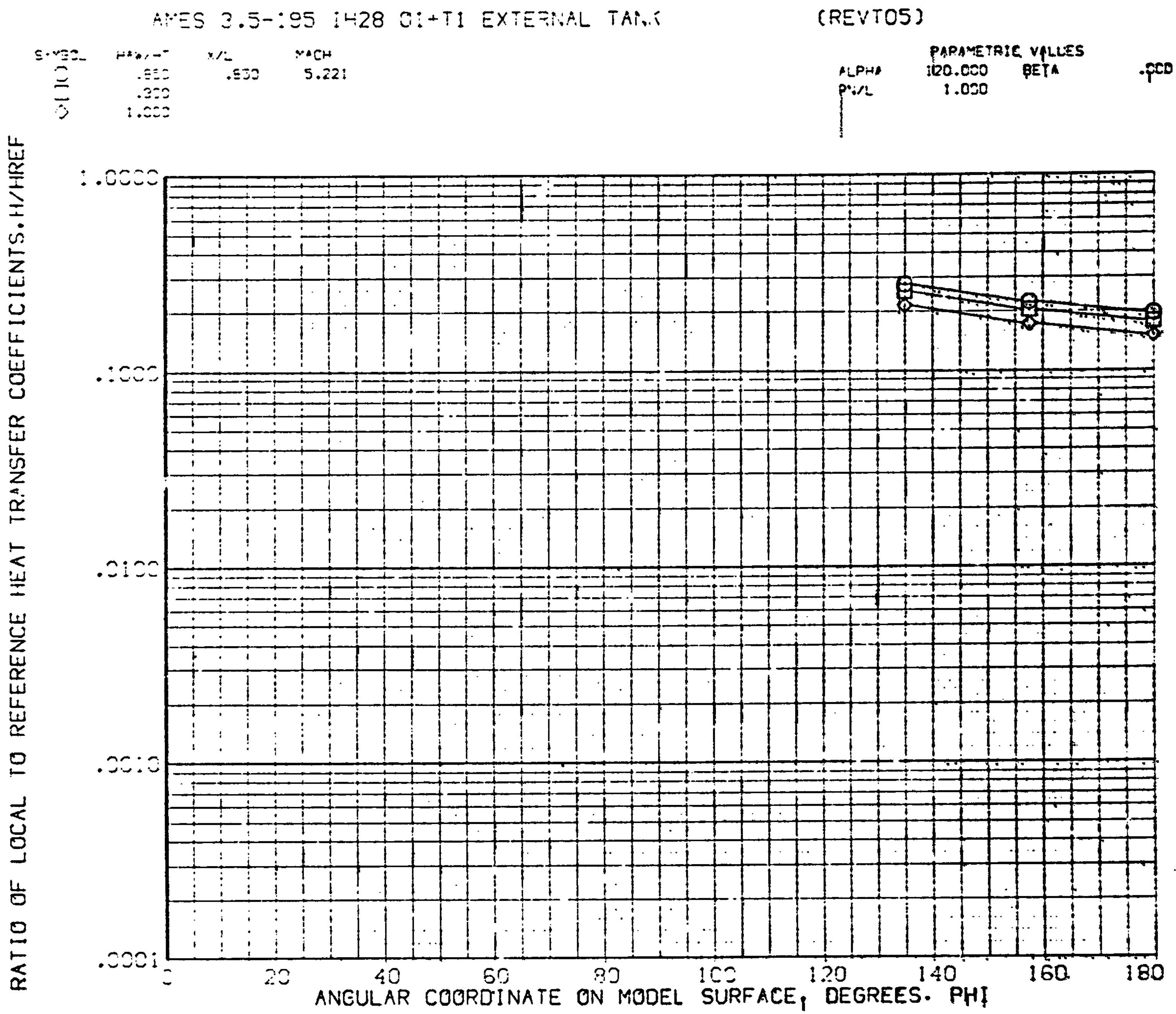


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK (REVT05)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.900	5.221
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA	120.000	BETA	.000
RN/L	1.000		

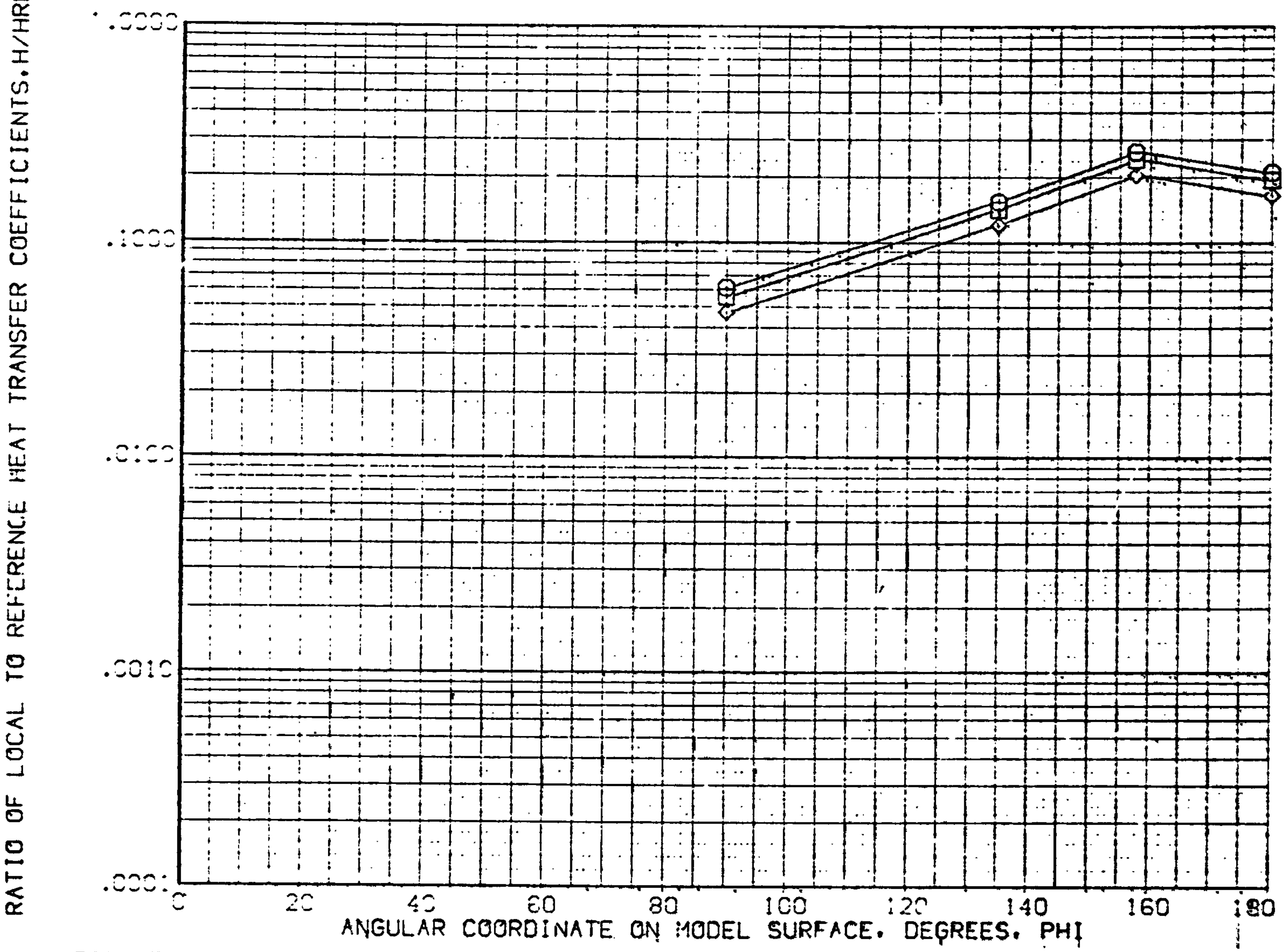


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

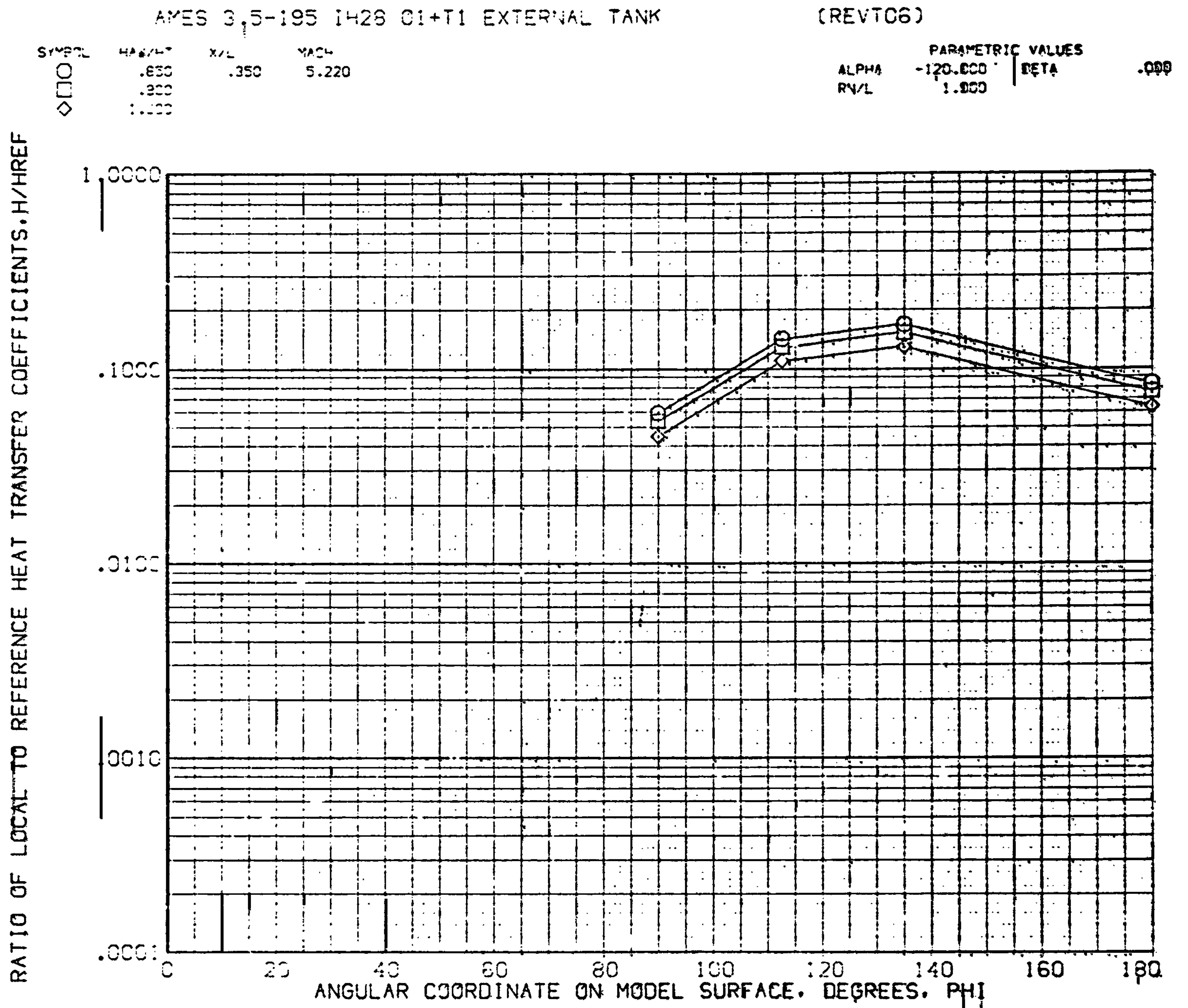


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

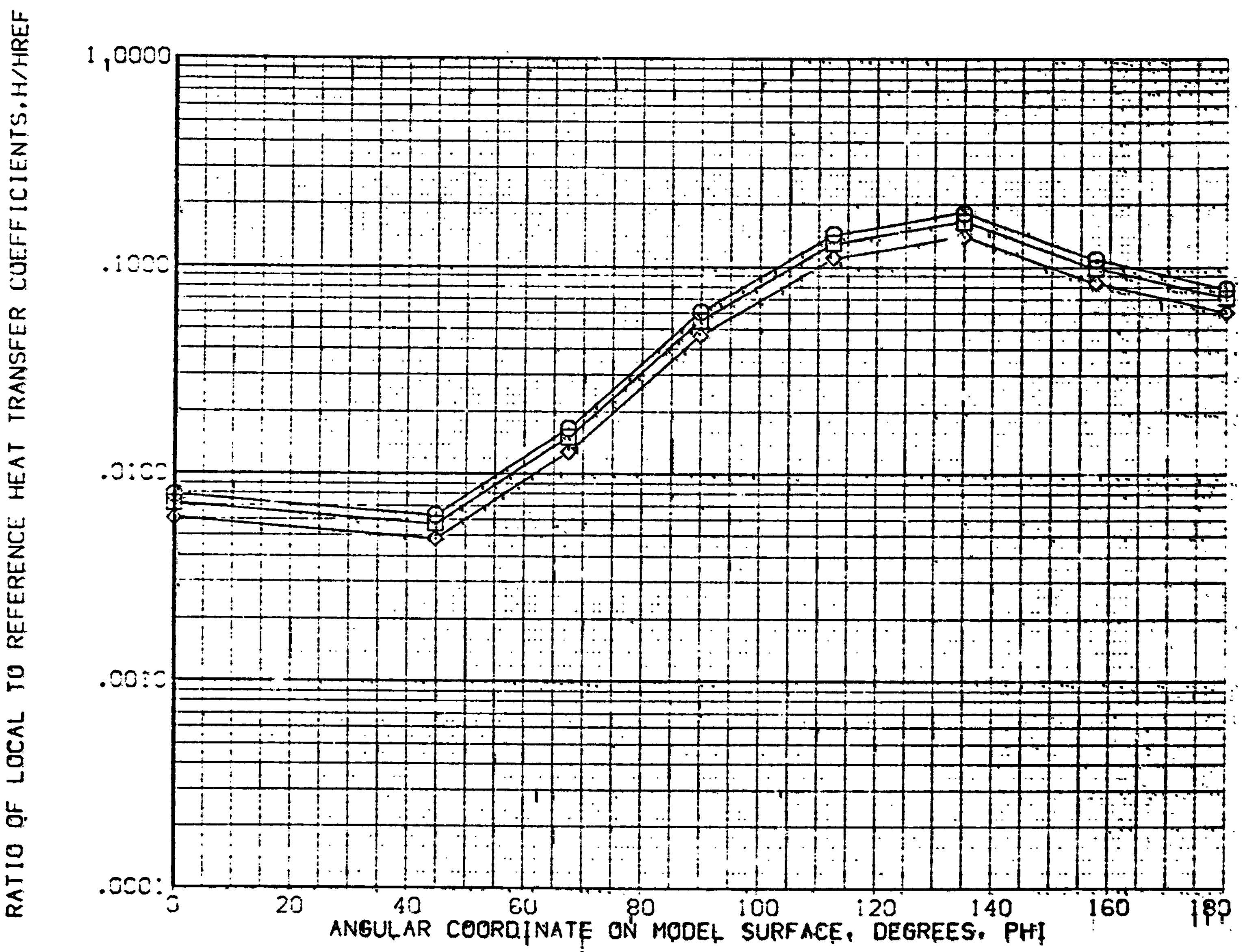
AMES 3.5-195 IH28 OI+TI EXTERNAL TANK (REVTO6)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.400	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA -120.000 BETA .000

RN/L 1.000



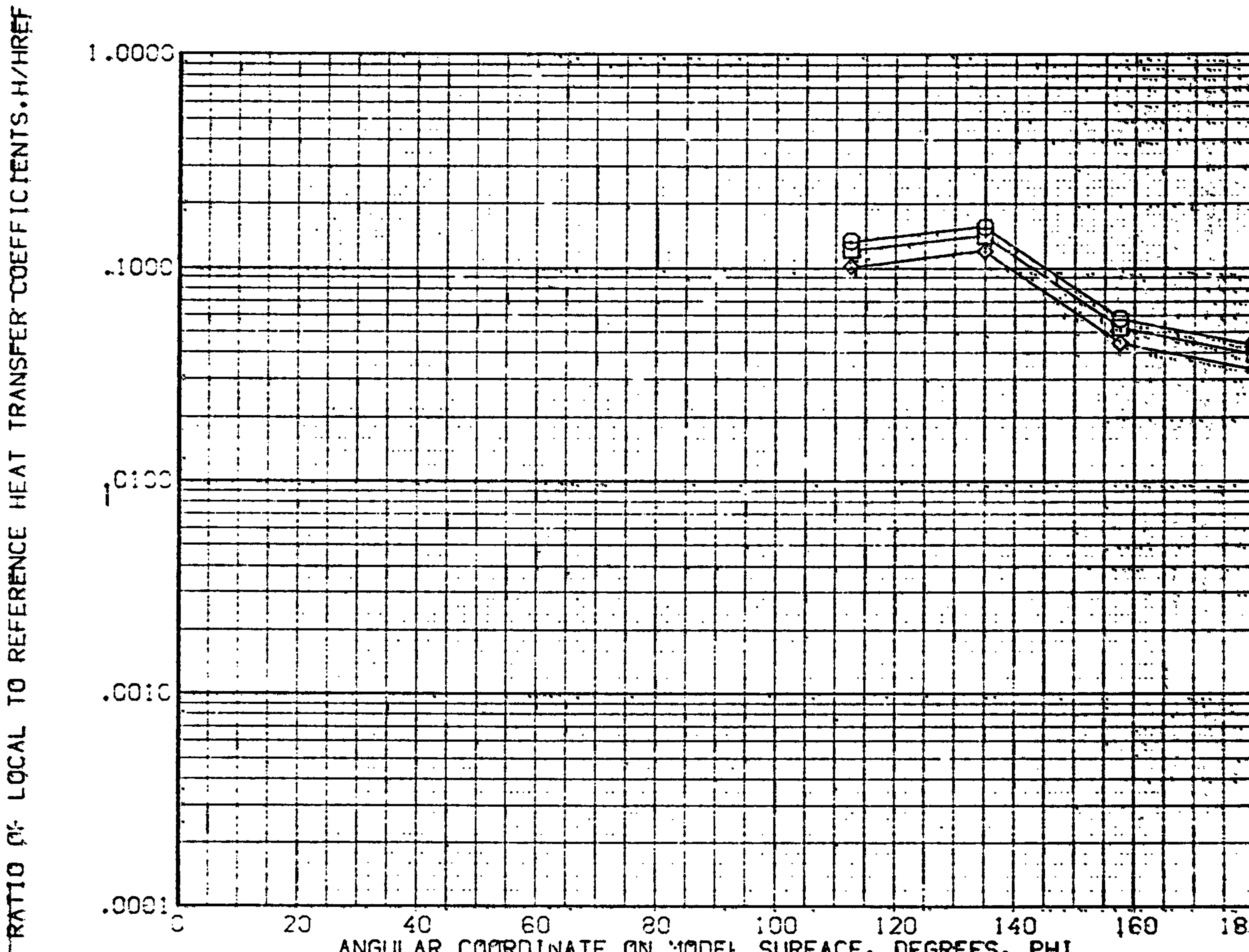
FIG, 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 OI+TI EXTERNAL TANK (REVTO6)

SYMBOL	MAN/HT	X/L	MACH
○	.850	.450	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA -120.000 BETA .000
RN/L 1.000



FIG, 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK (REVT06)

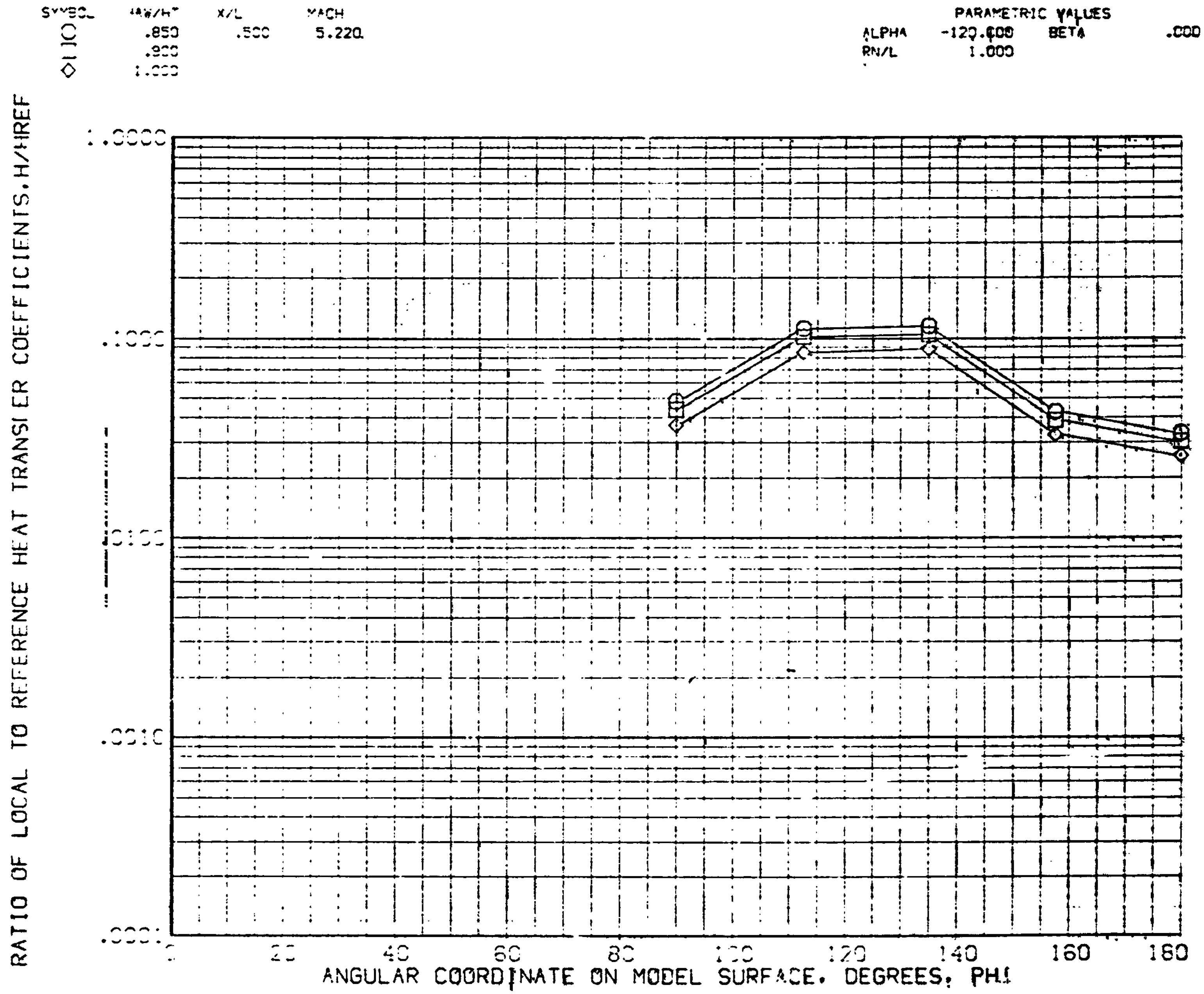


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK (REVT06)

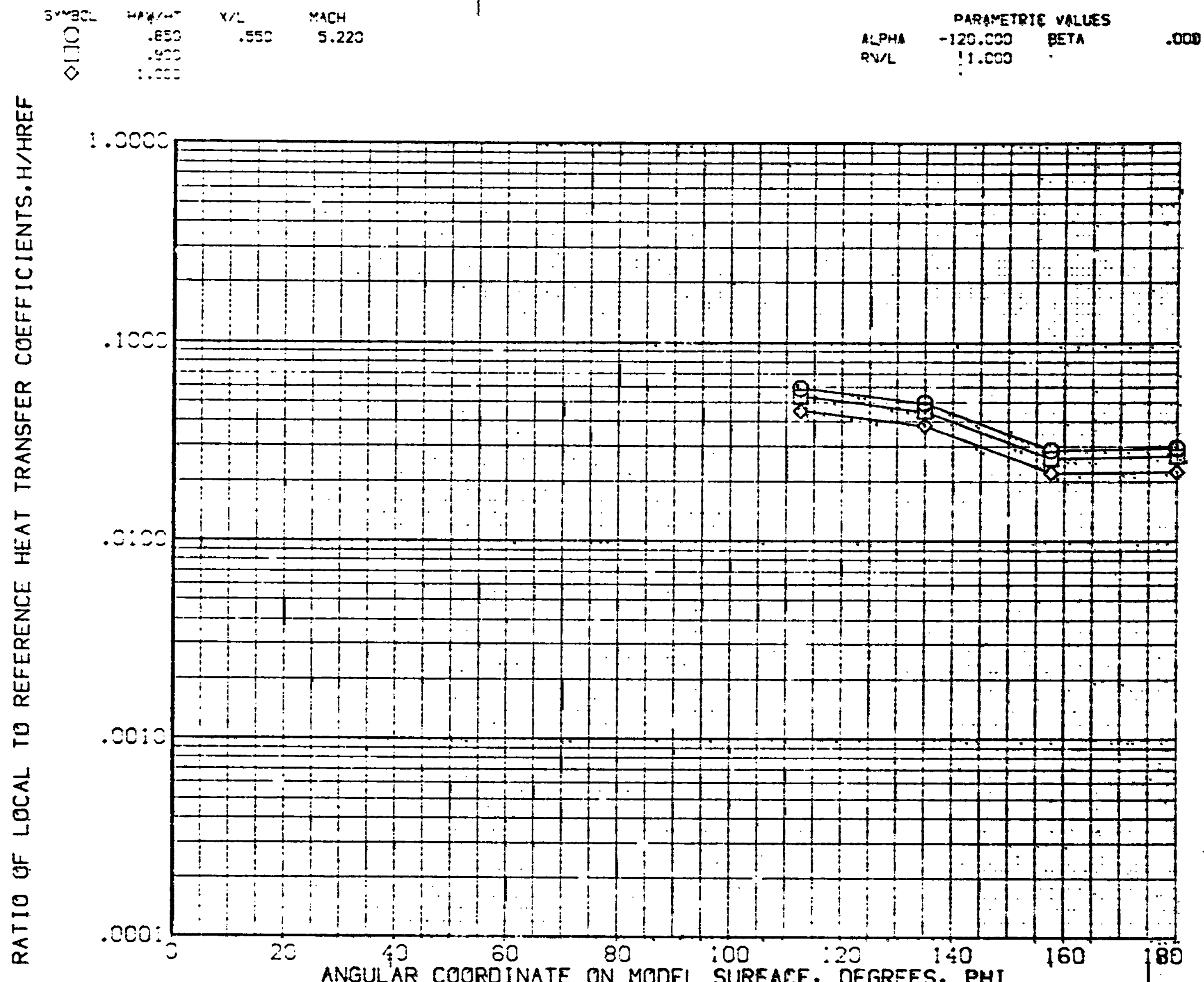
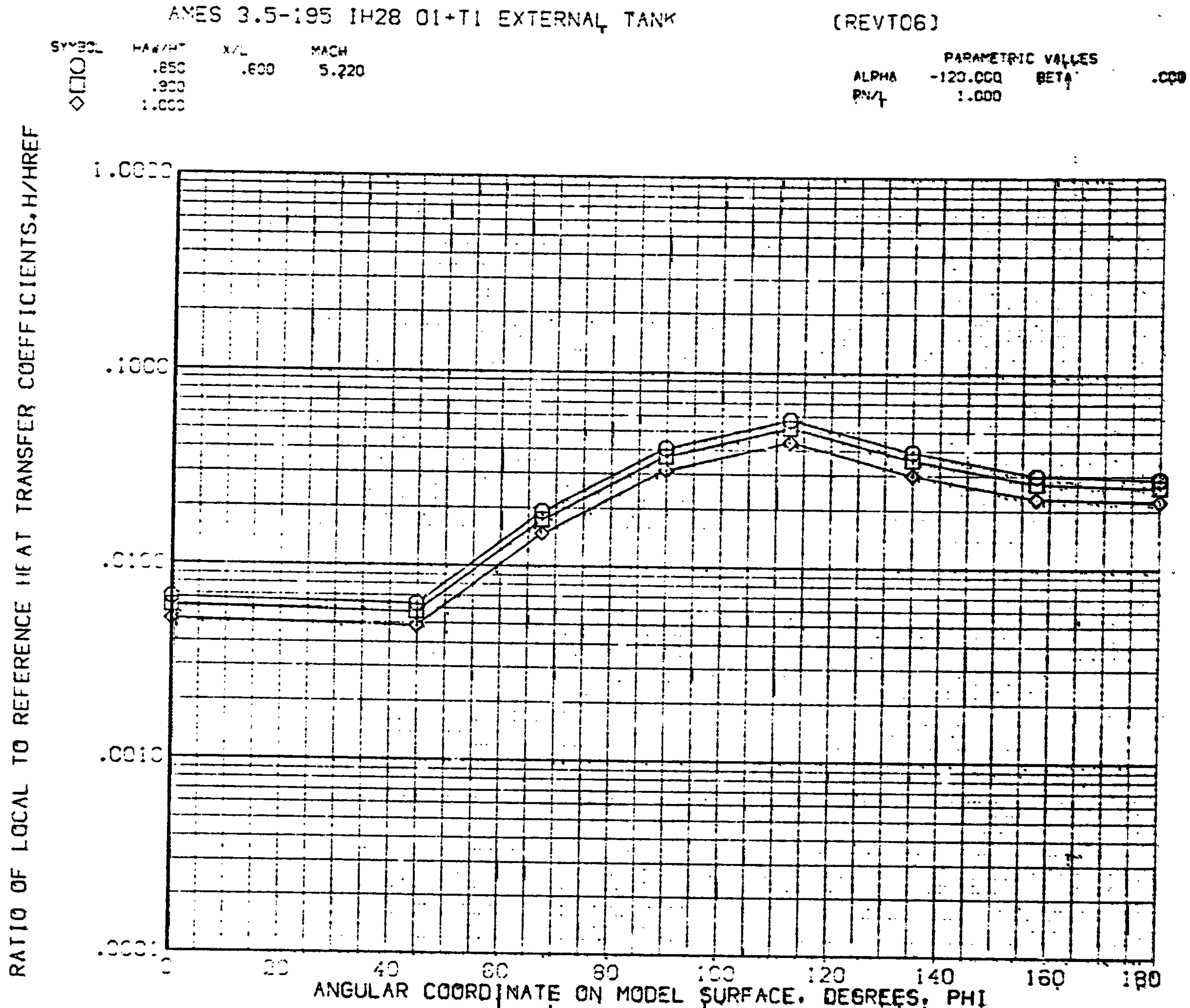
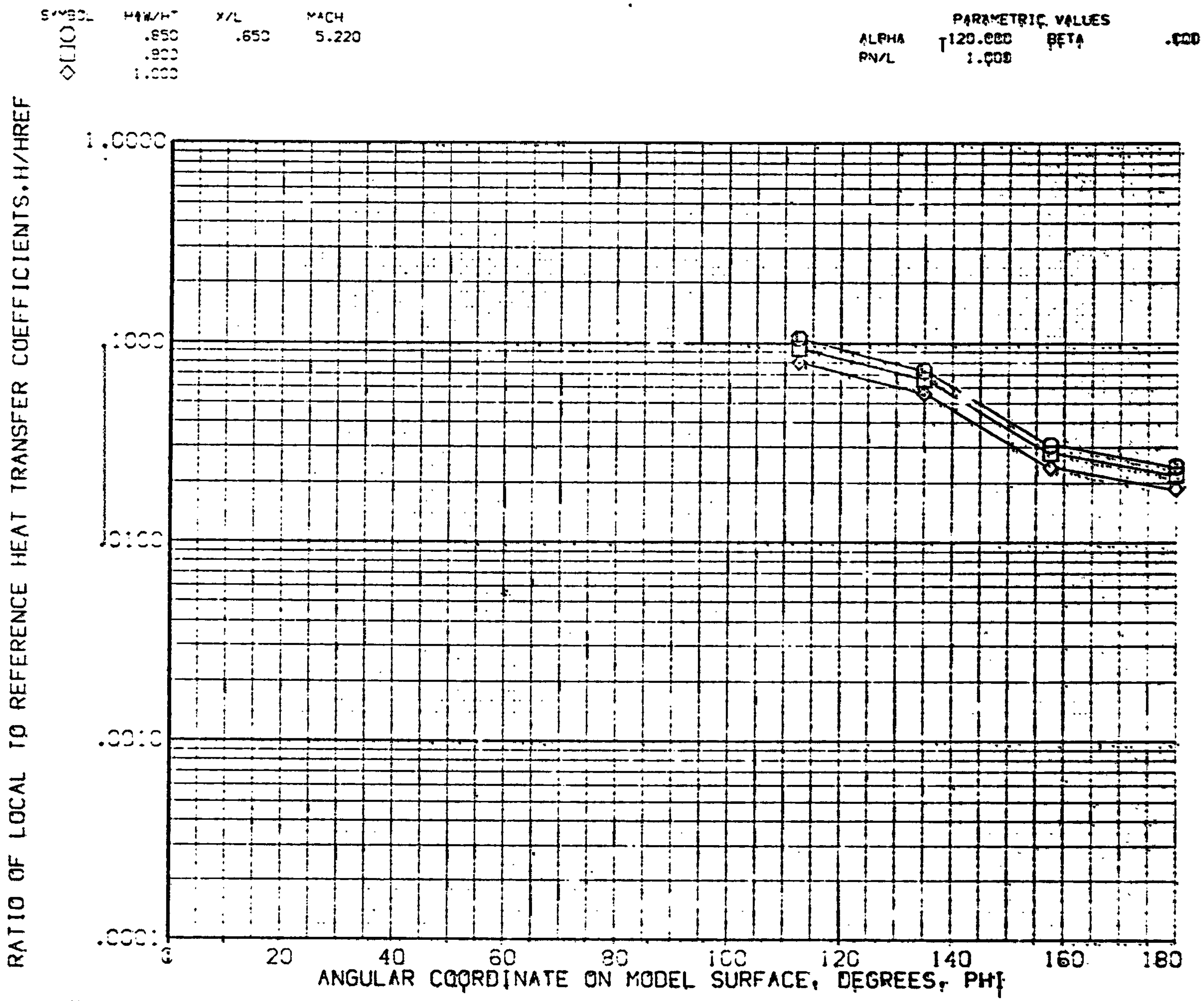


FIG. 5 TANK, IN THE PRESENCE OF ORBITER



FIG, 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 OI+TI EXTERNAL TANK (REVT06)



FIG, 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK (REVTO6)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.700	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA	-120.000	BETA	.000
RN/L	1.000		

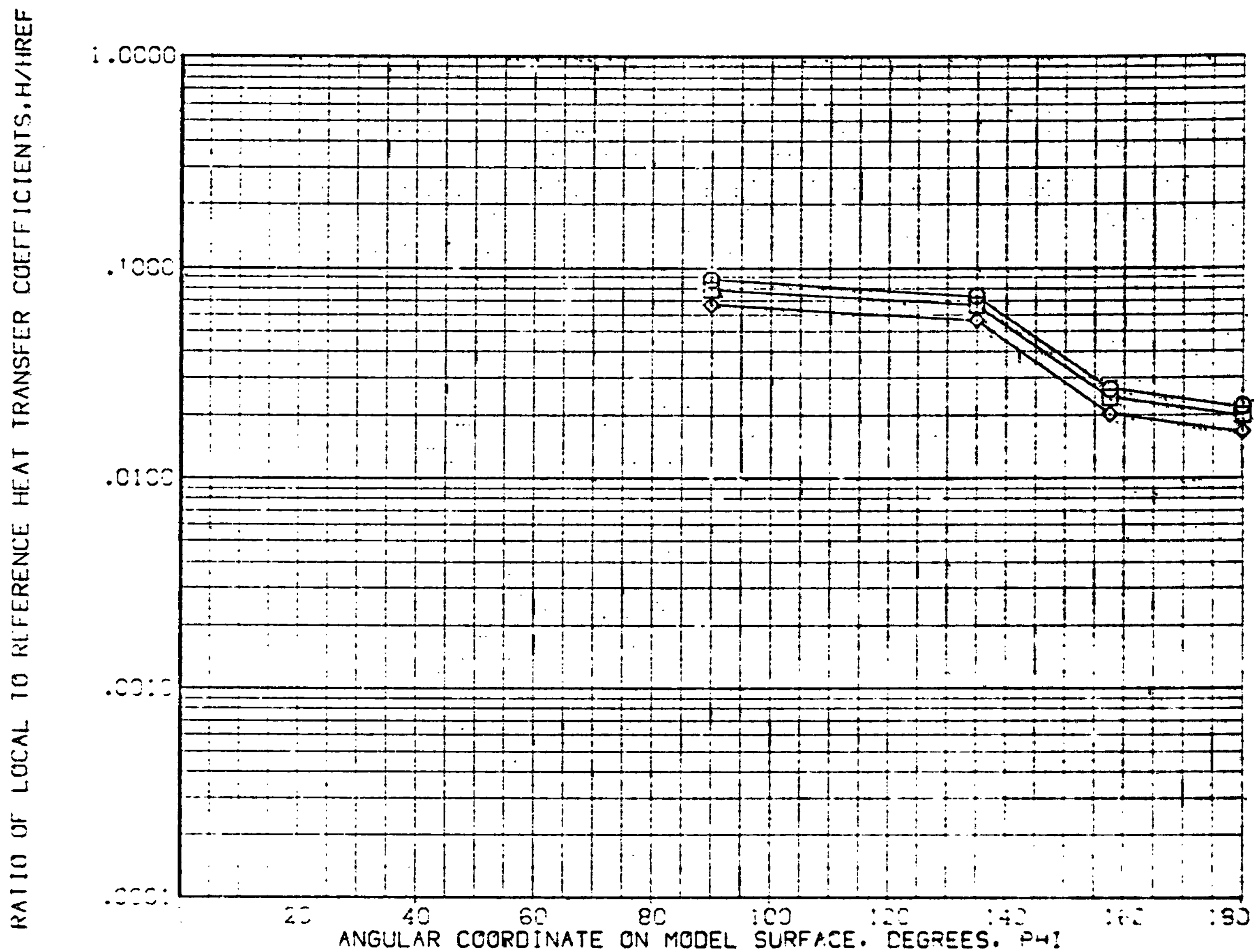


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

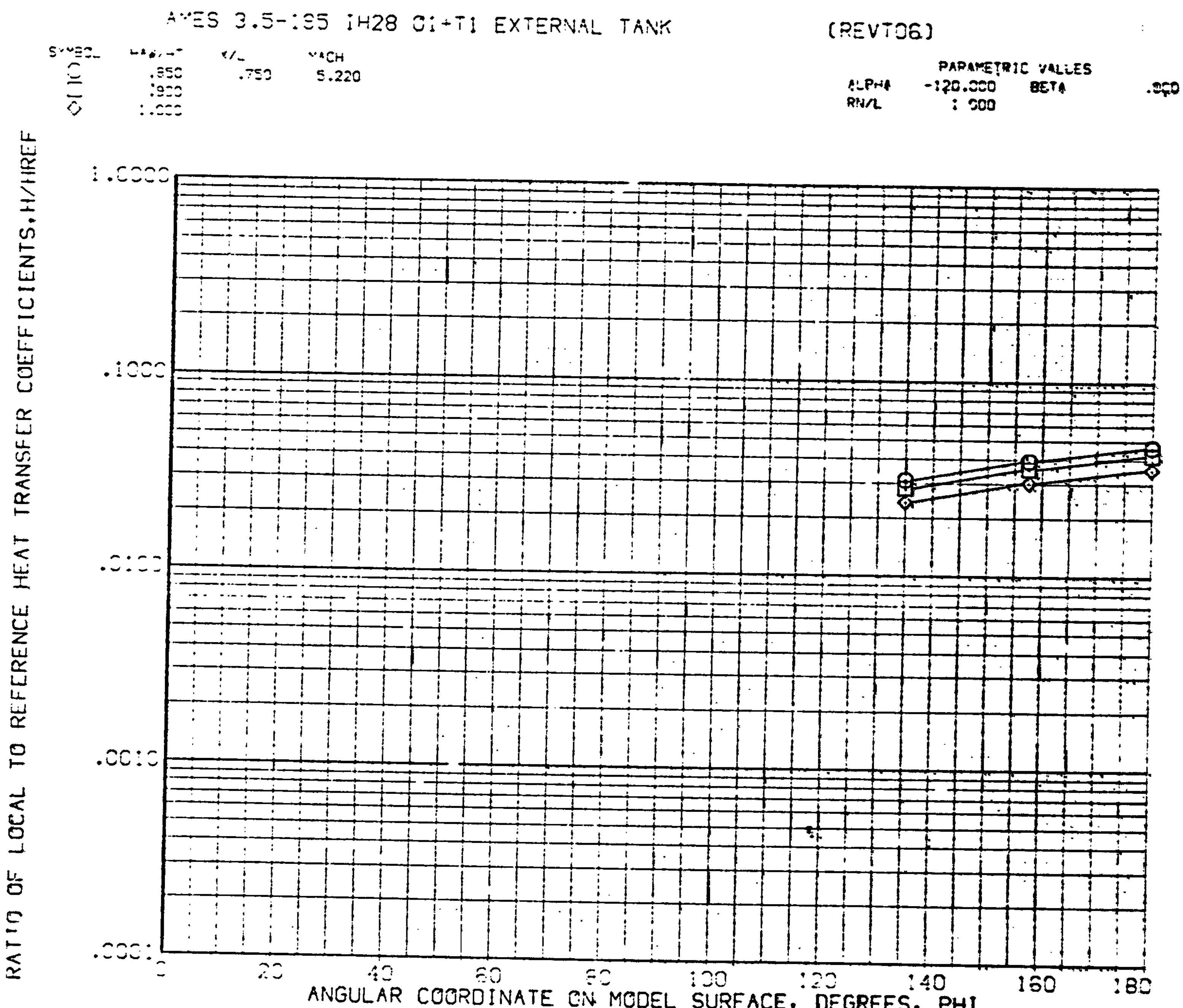


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

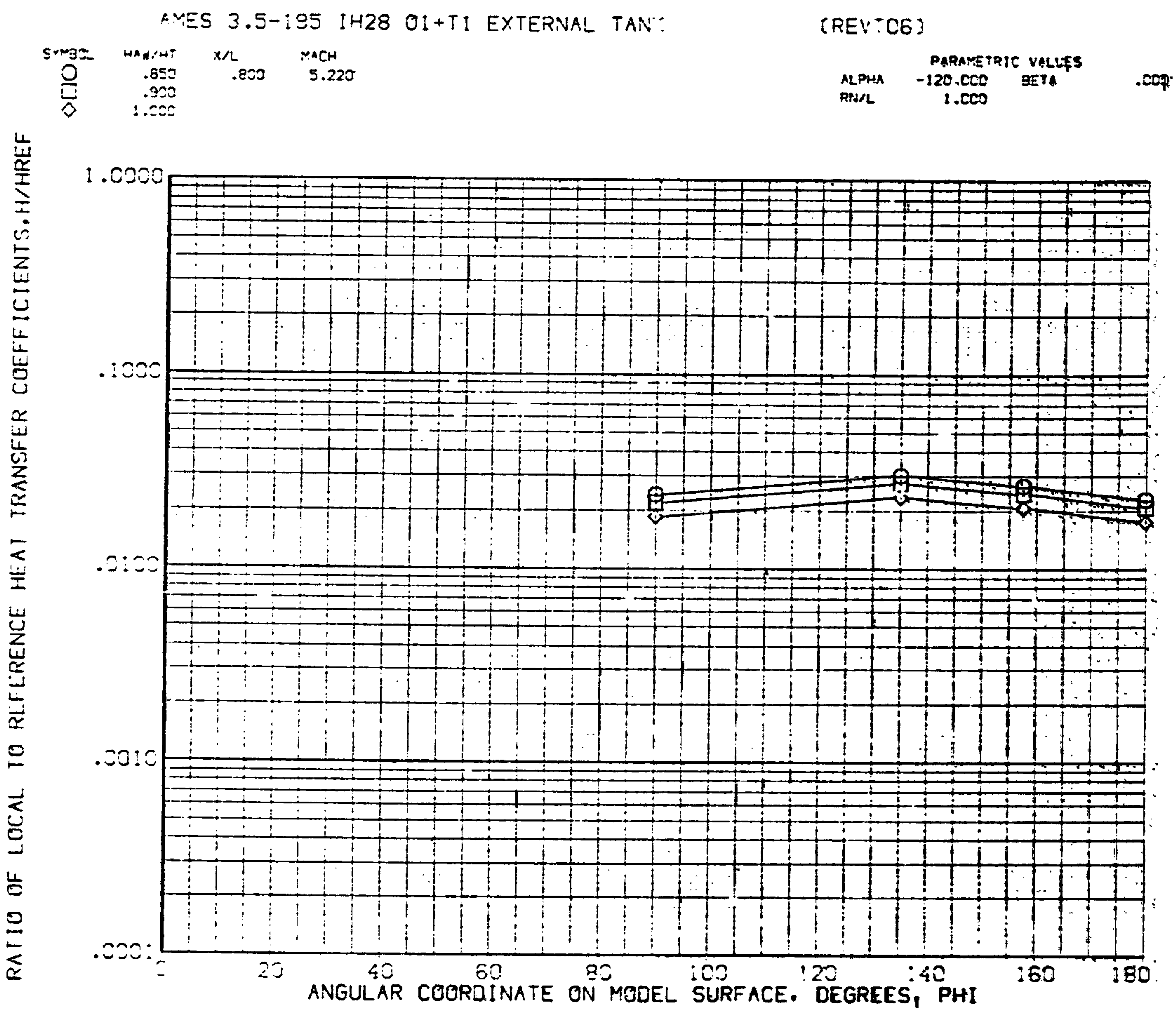


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 OI+TI EXTERNAL TANK (REVTC6)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.850	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA -120.000 BETA .000

R%/L 1.000

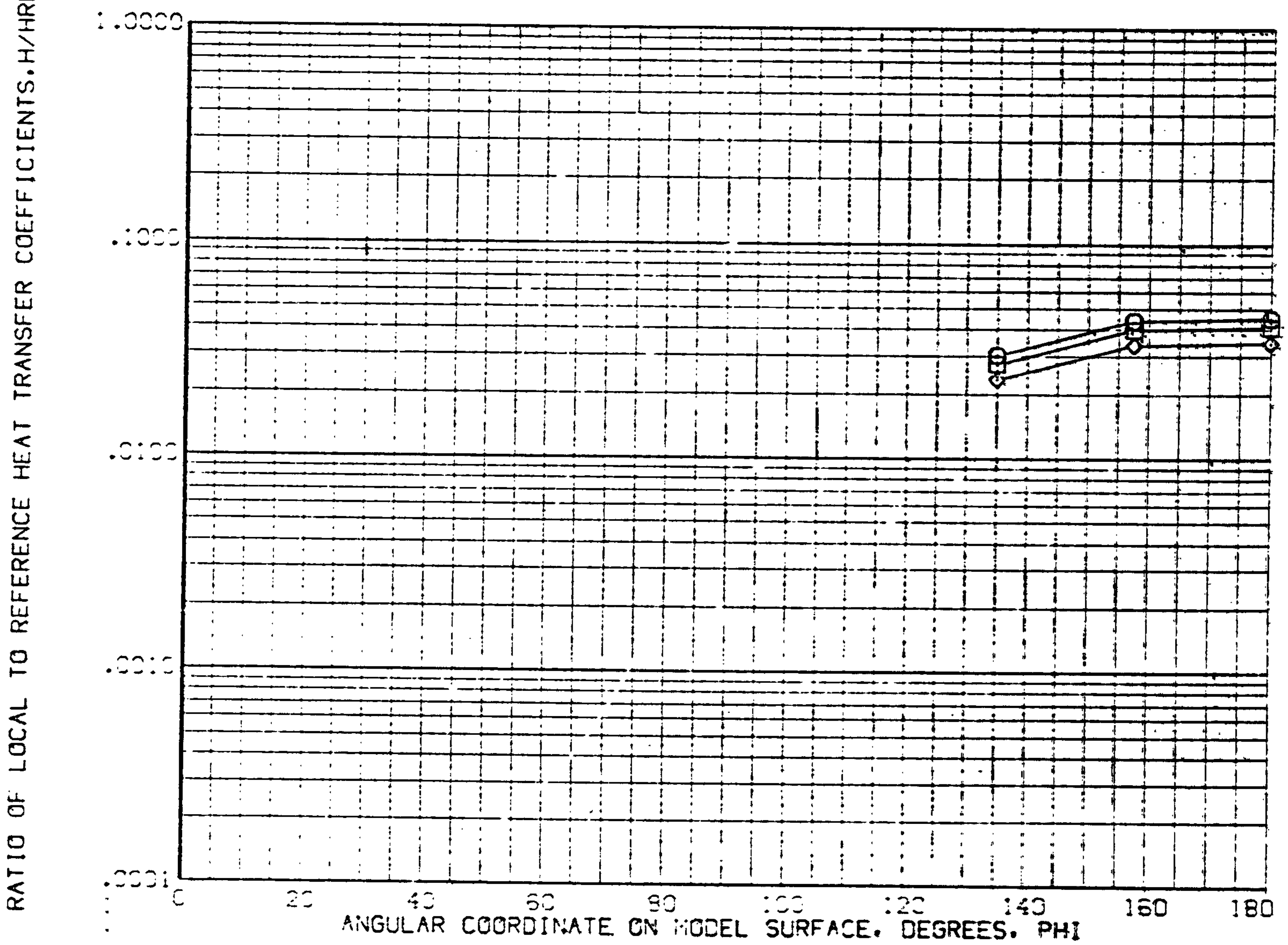


FIG. 5 TANK,IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK (REVTC6)

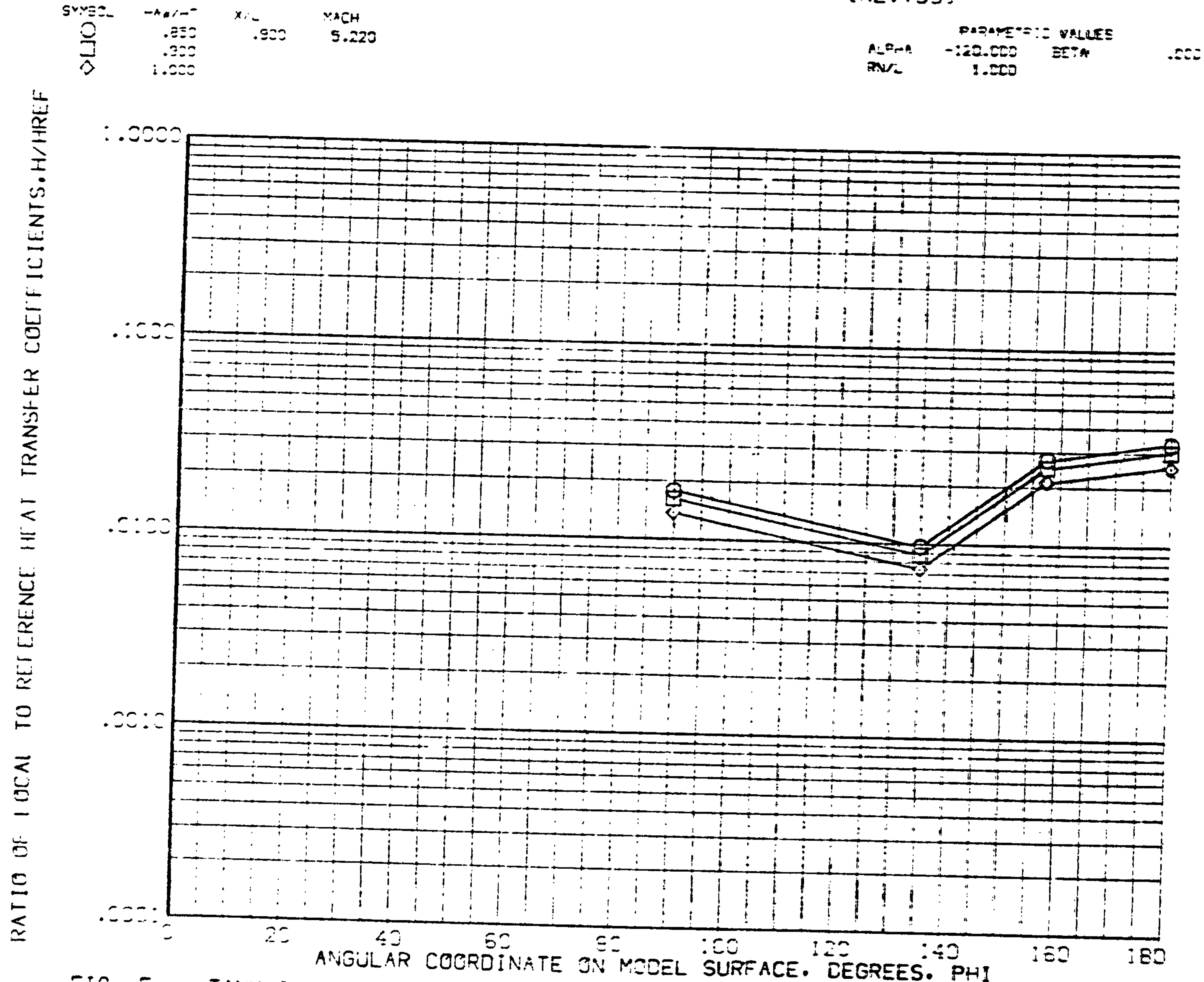


FIG. 5 TANK,IN THE PRESENCE OF ORBITER

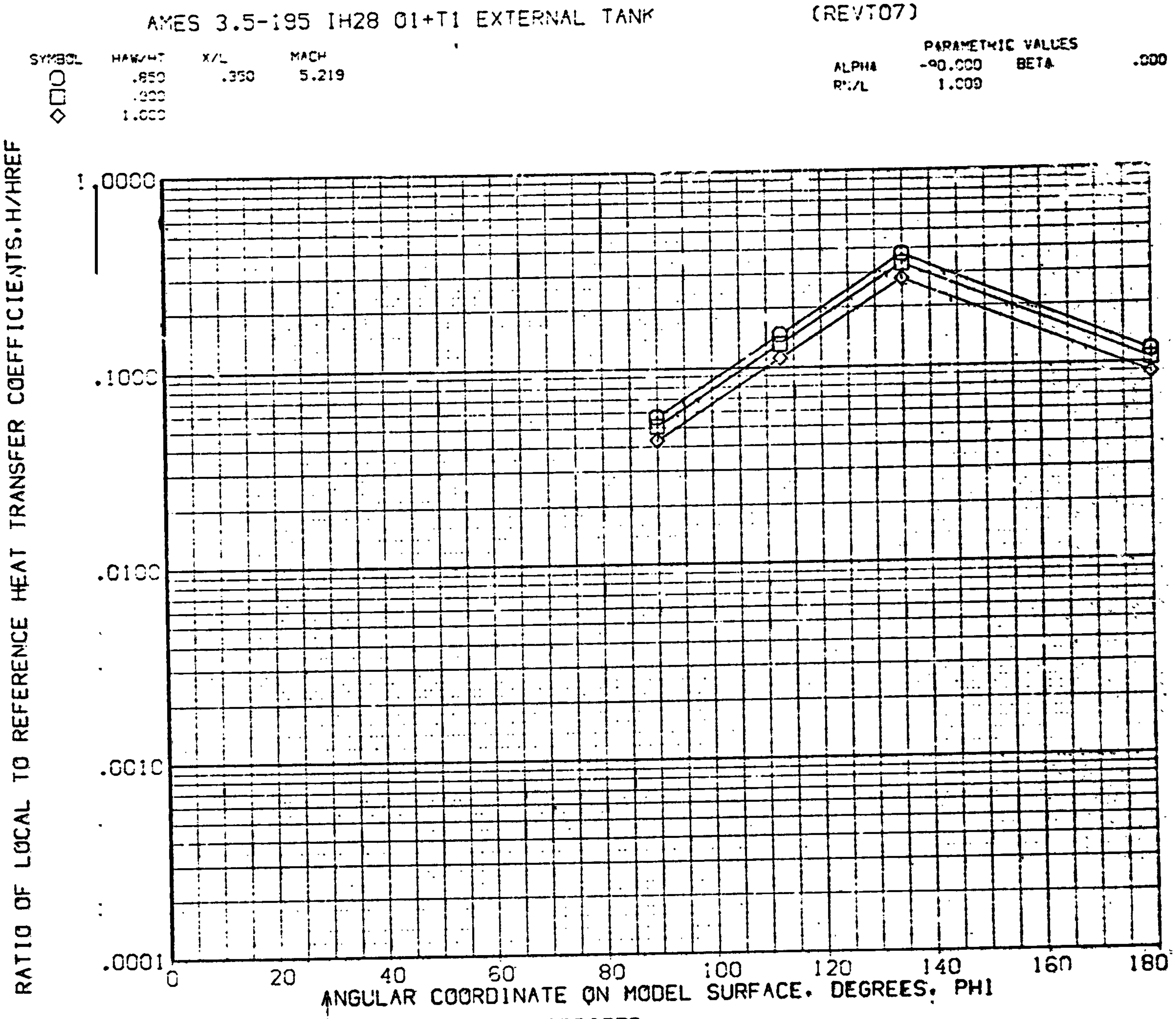


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 01+T1 EXTERNAL TANK (REVT07)

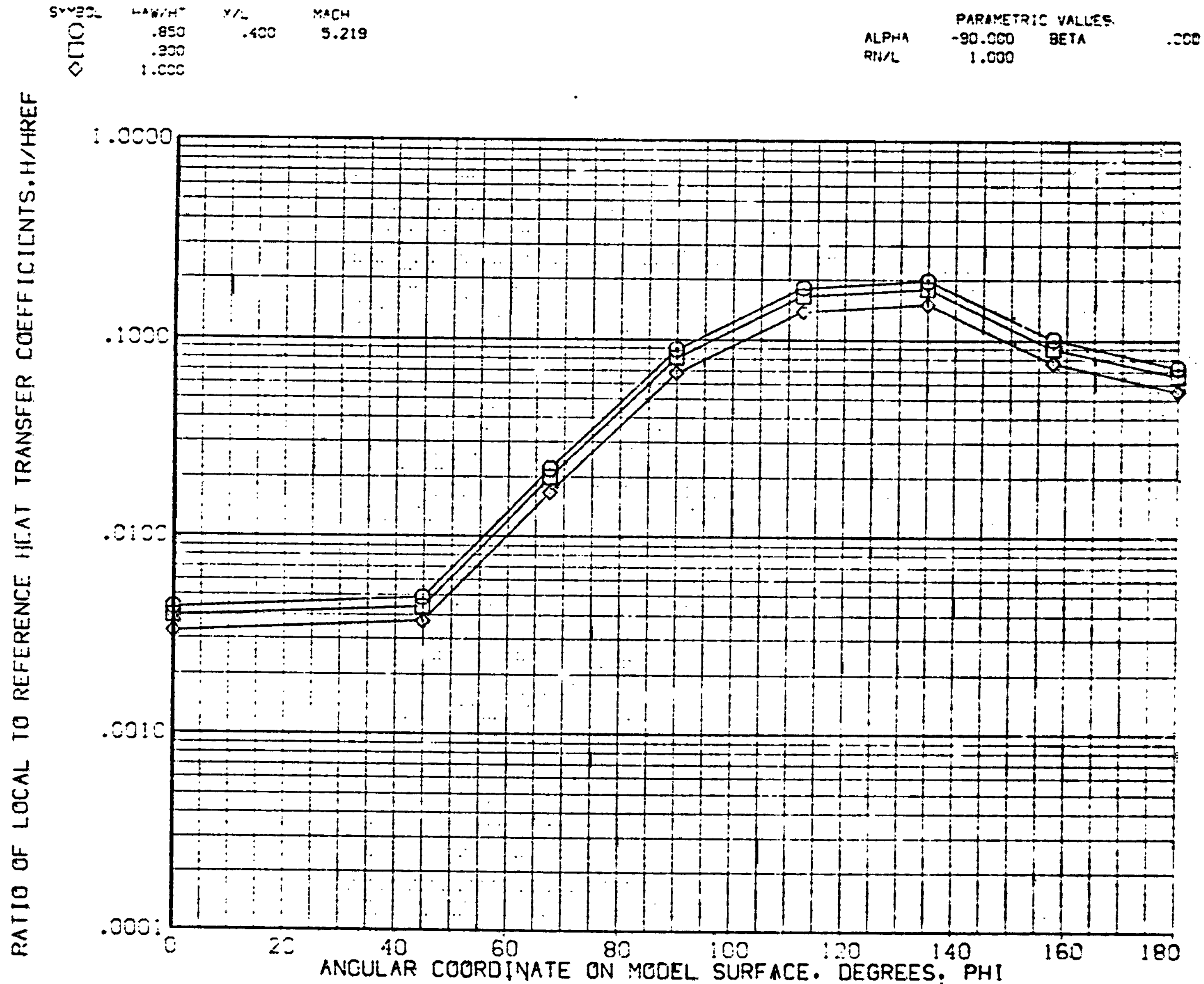


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 OI+TI EXTERNAL TANK (REVT07)

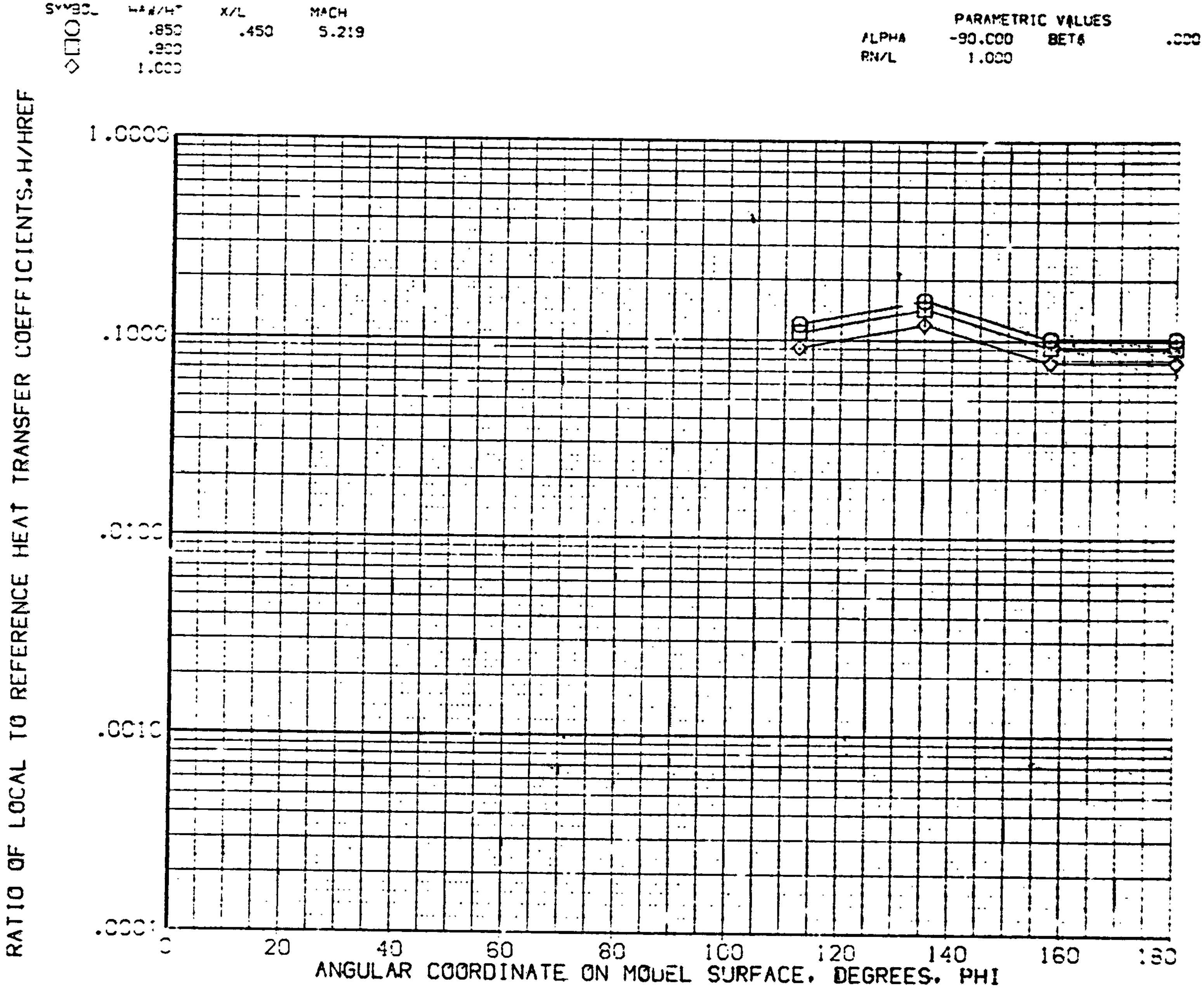


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK (REVT07)

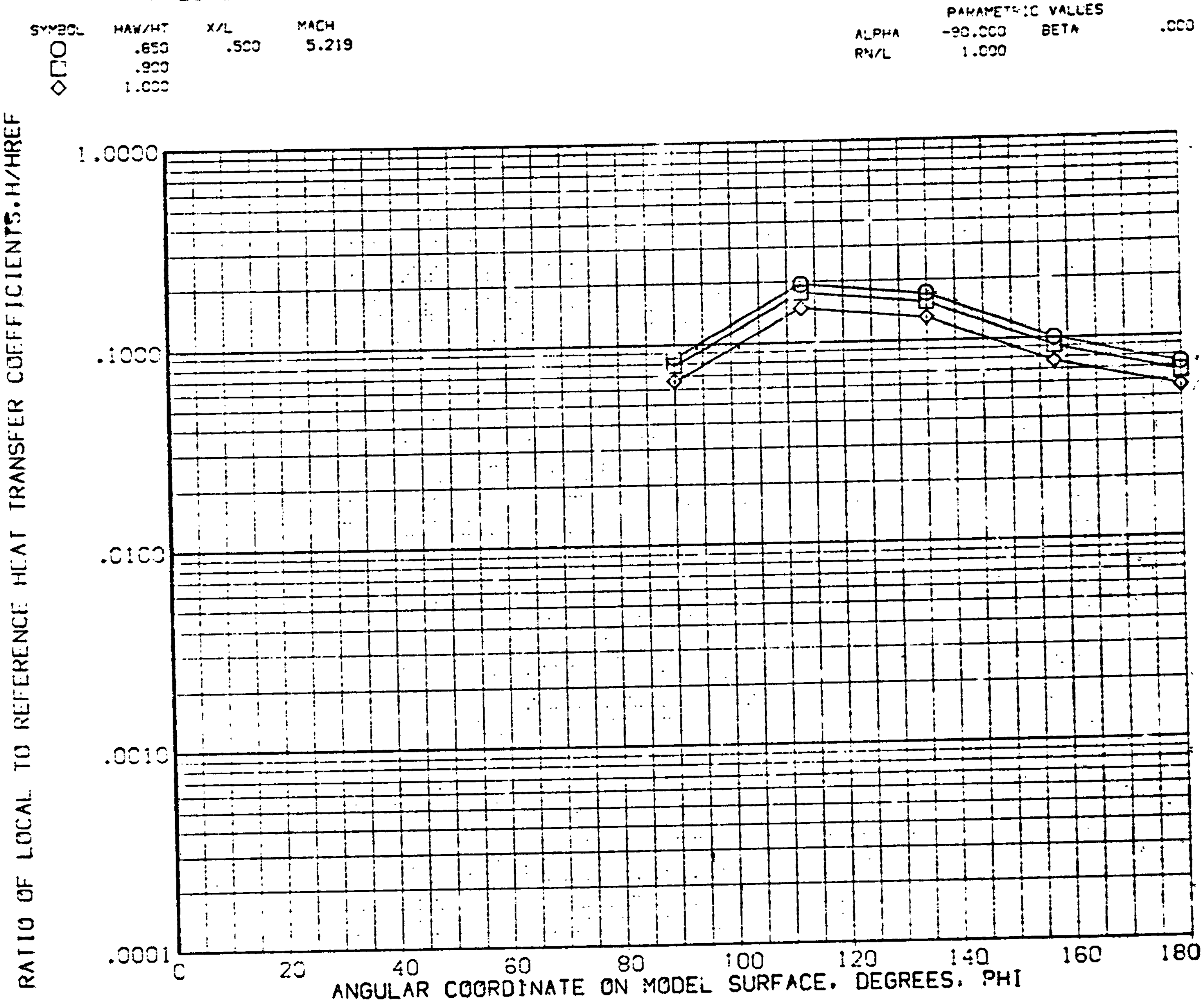


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

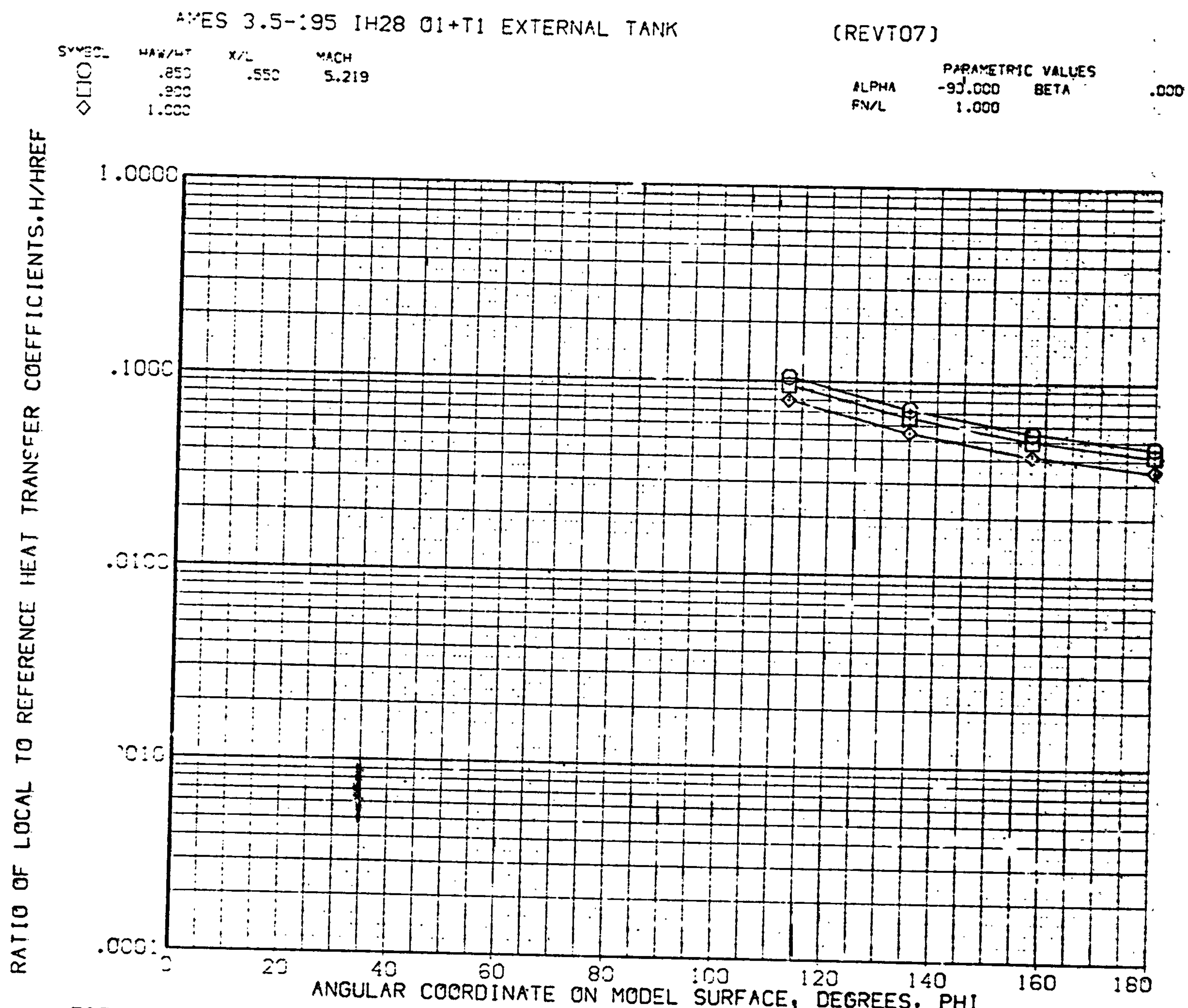


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

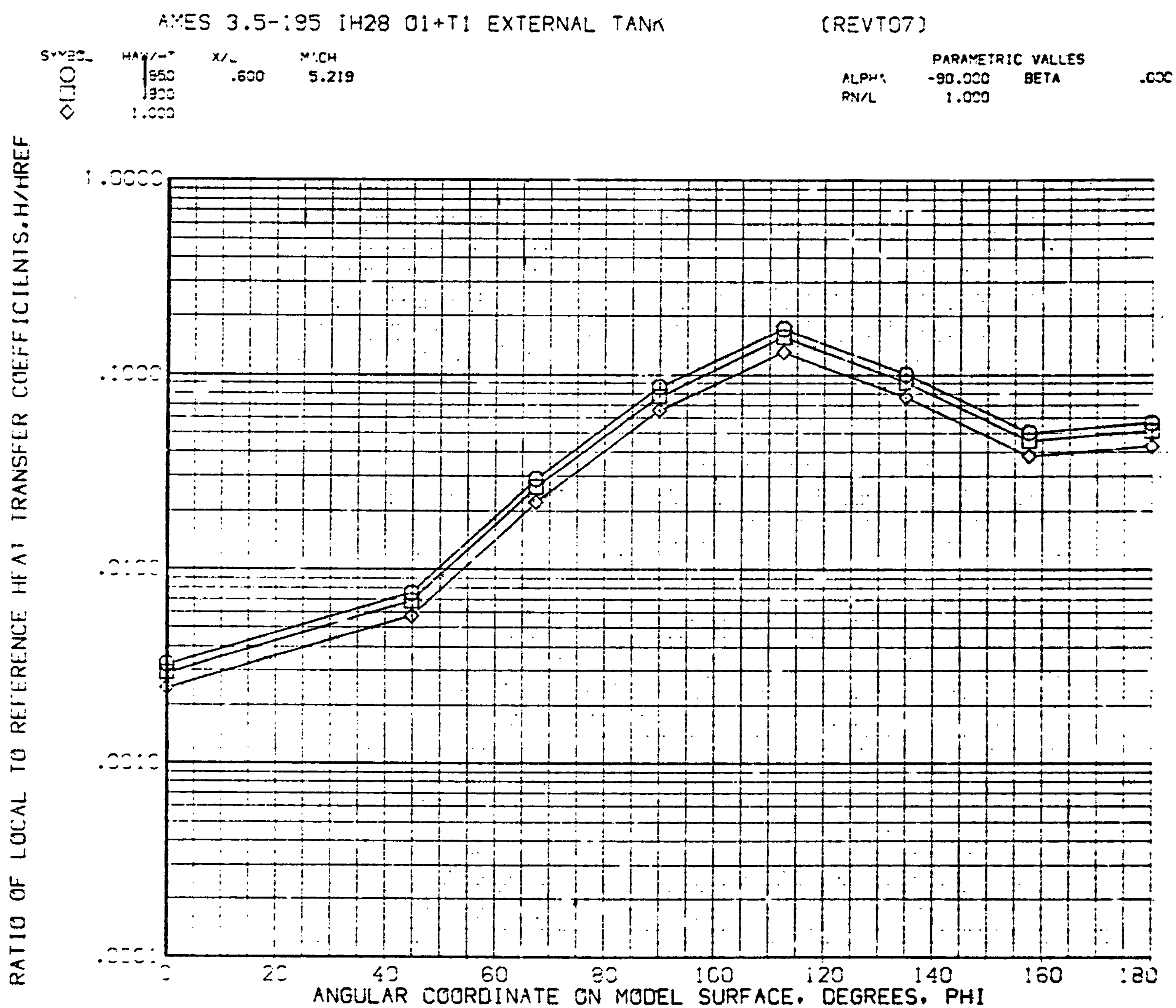


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK (REVT07)

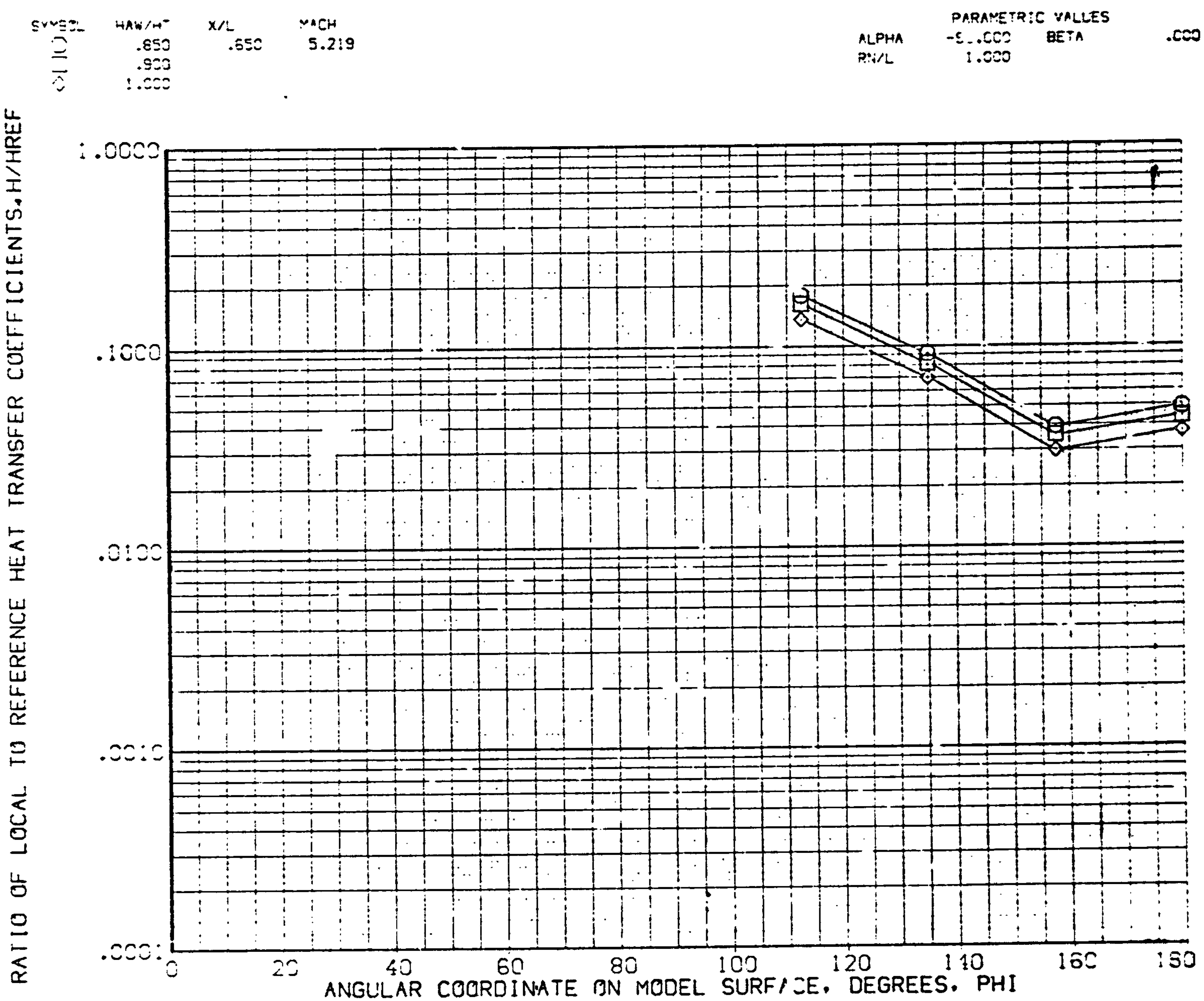


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK (REVT07)

SYMBOL	HAW-HT	X/L	MACH
○	.850	.700	5.219
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA	-90.000	BETA	.000
RN/L	1.000		

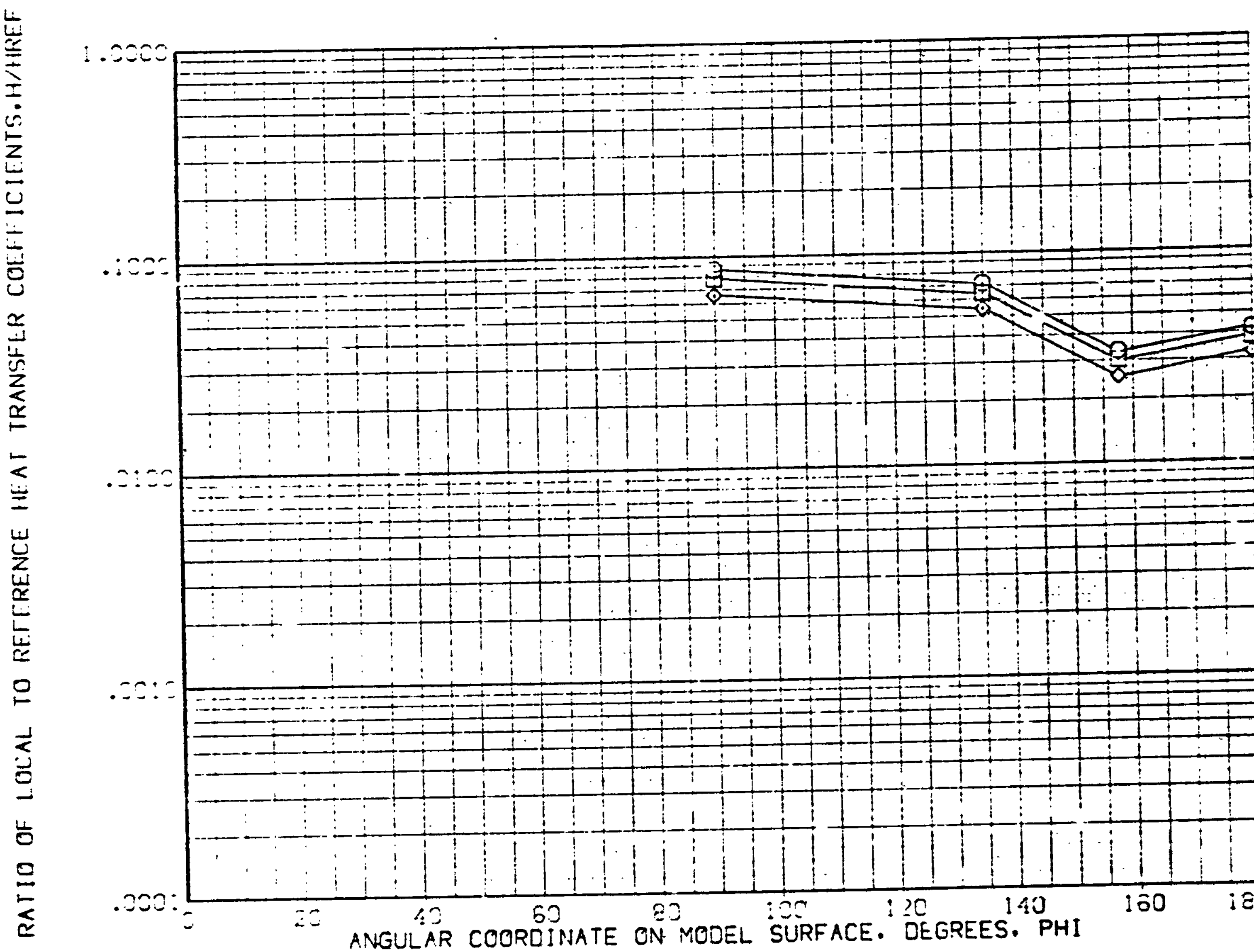


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

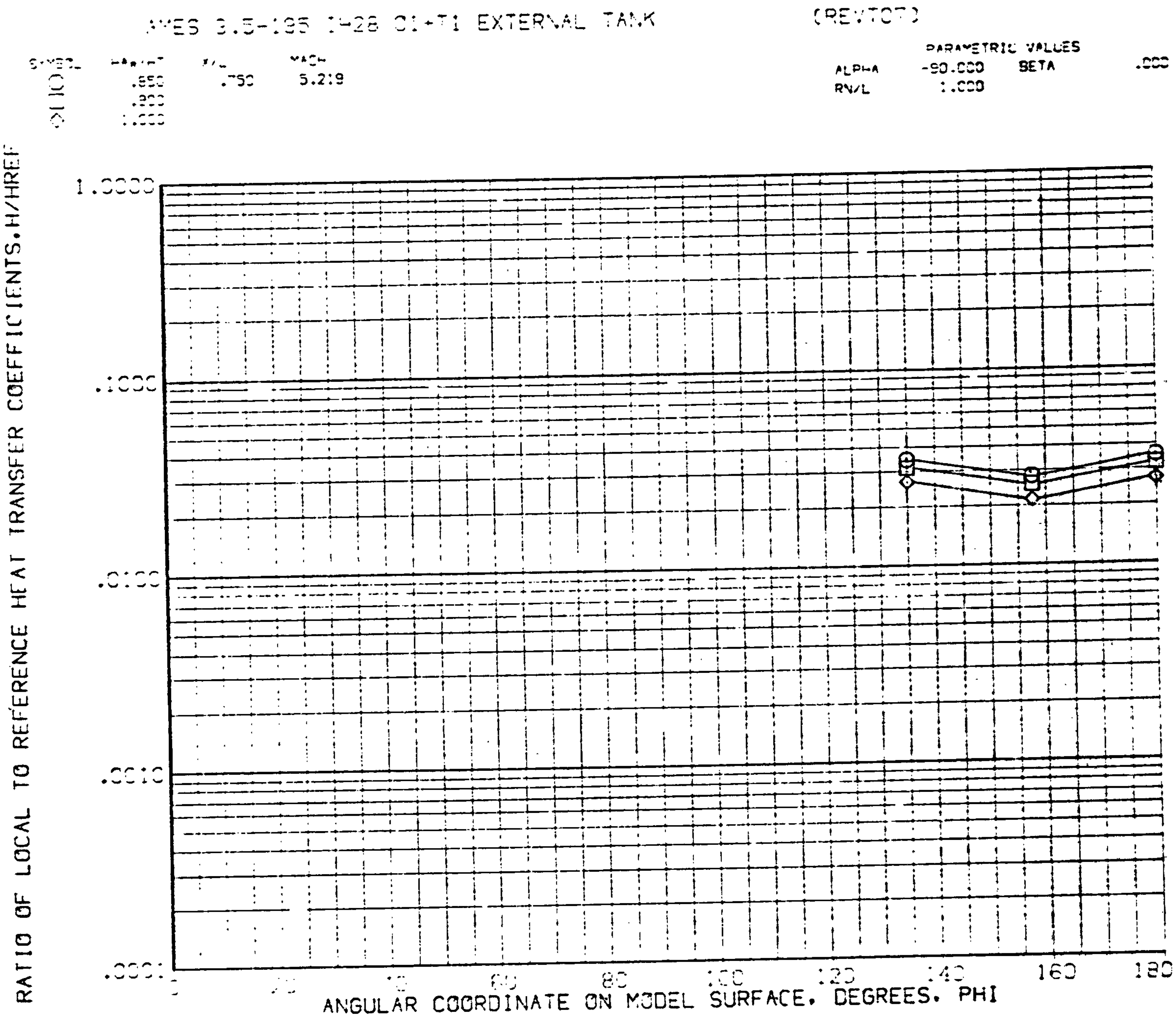


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK (REV T07)

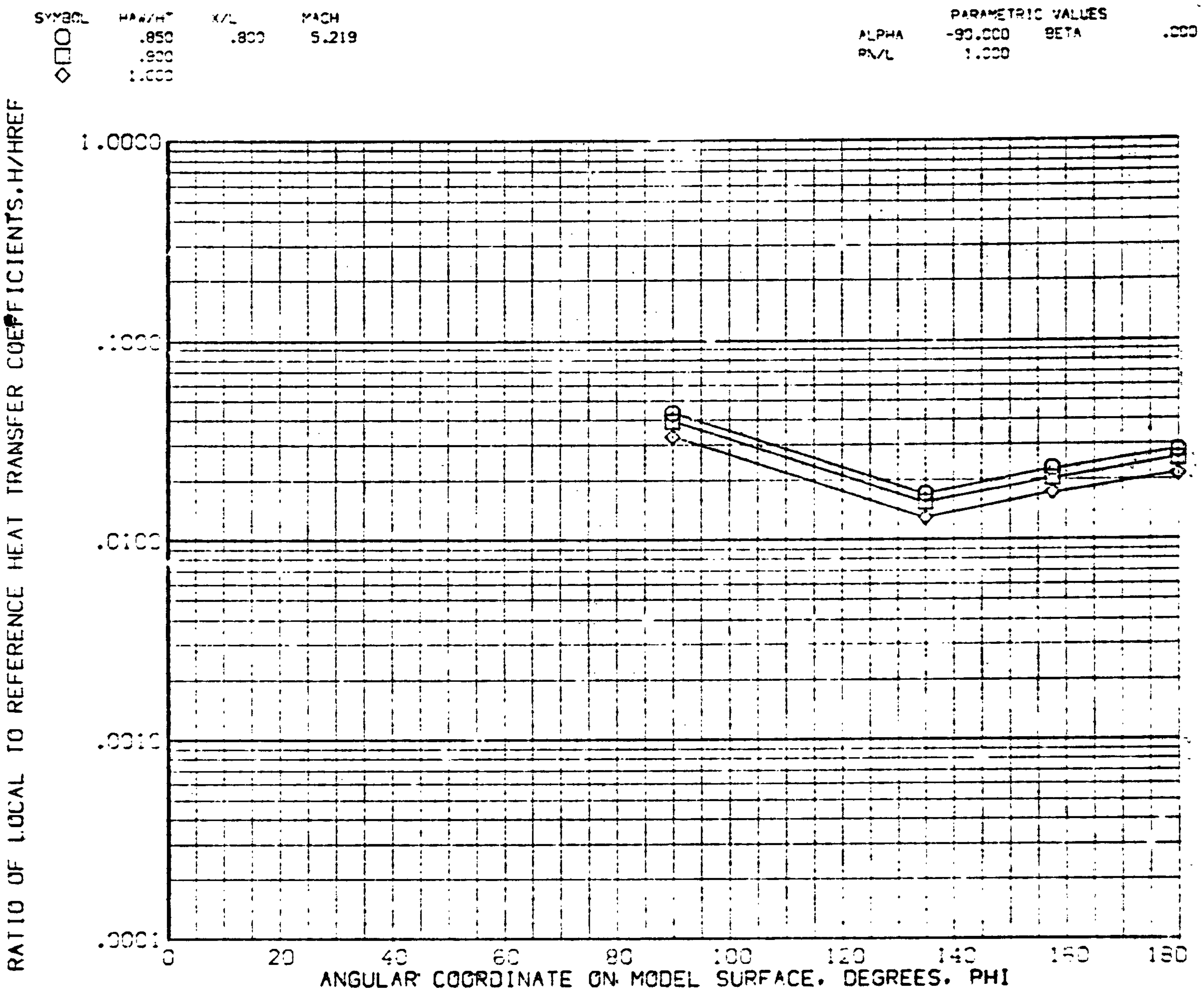


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 I-28 O1+T1 EXTERNAL TANK (REVTOT)

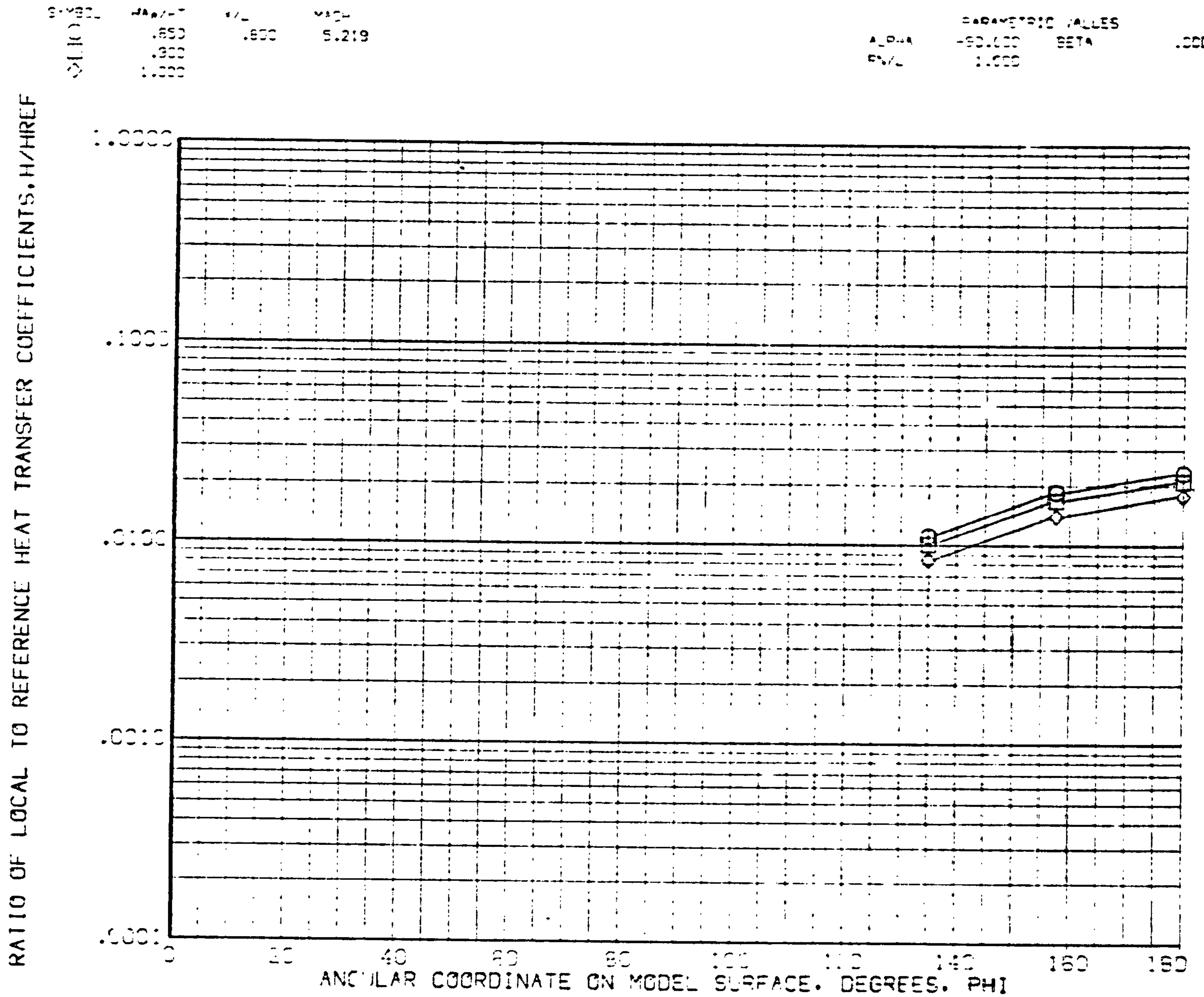


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

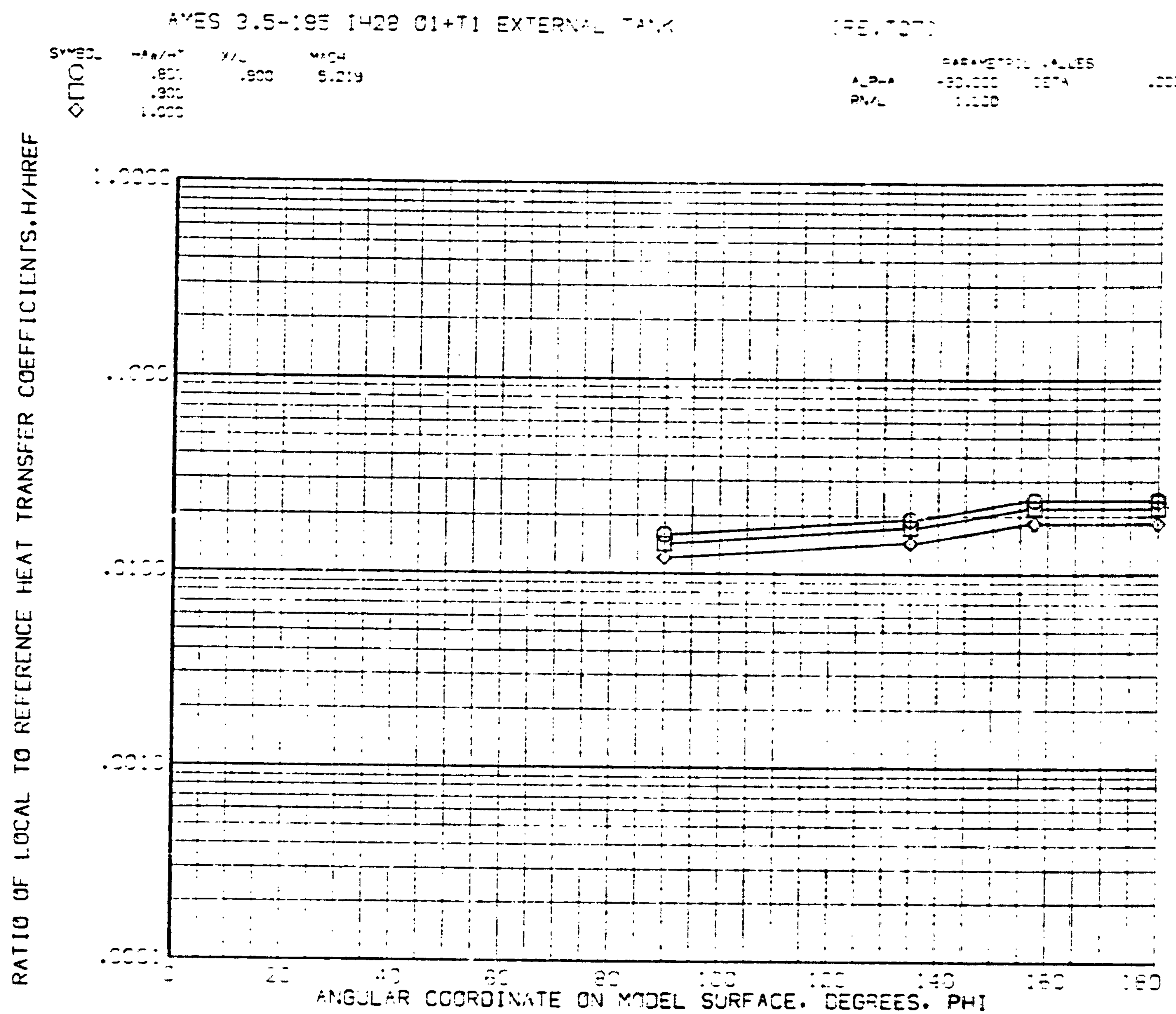


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 OI-T1 EXTERNAL TANK

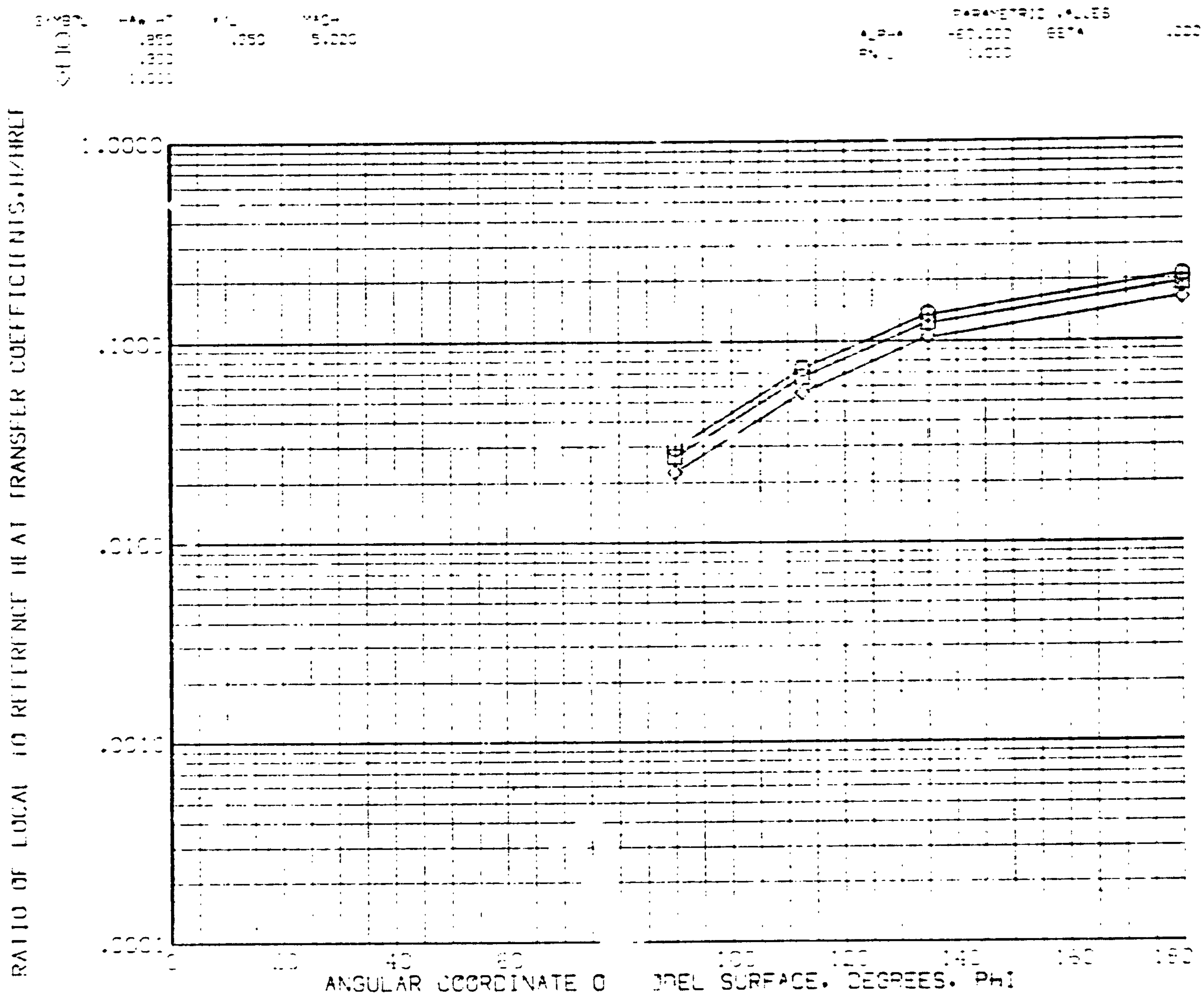


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

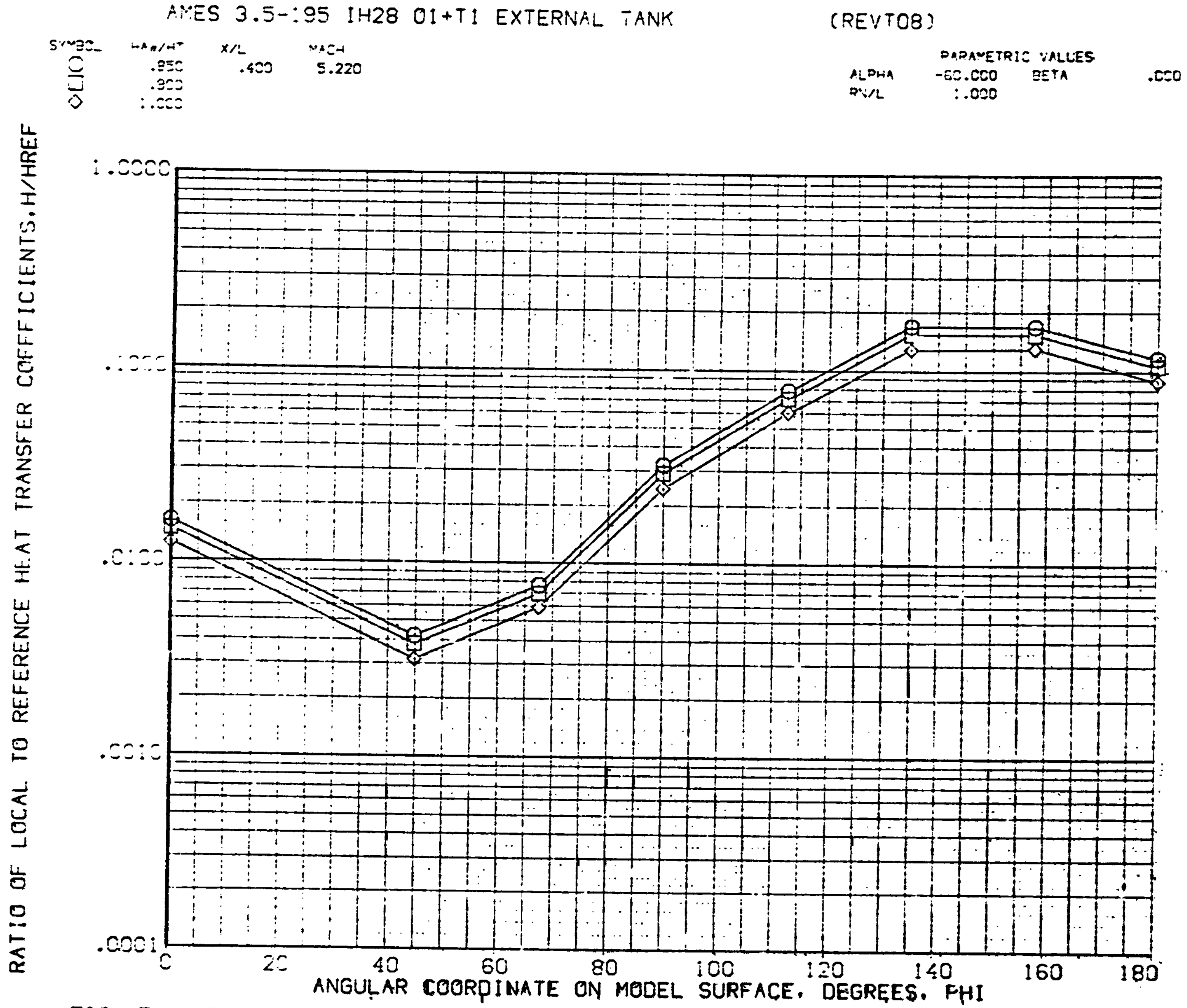


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

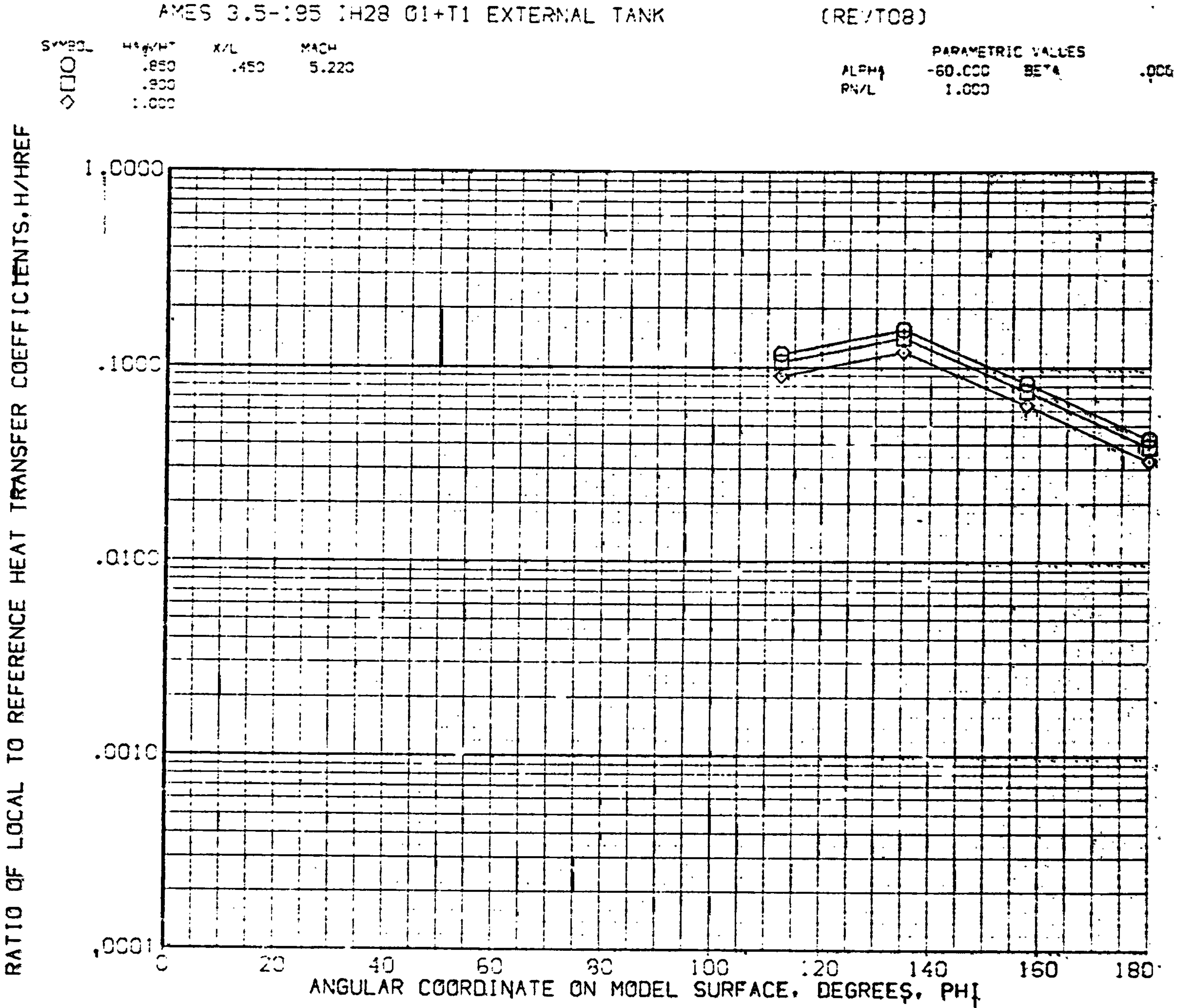


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK (REVT08)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.500	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA -60.000 BETA .000

RN/L 1.000

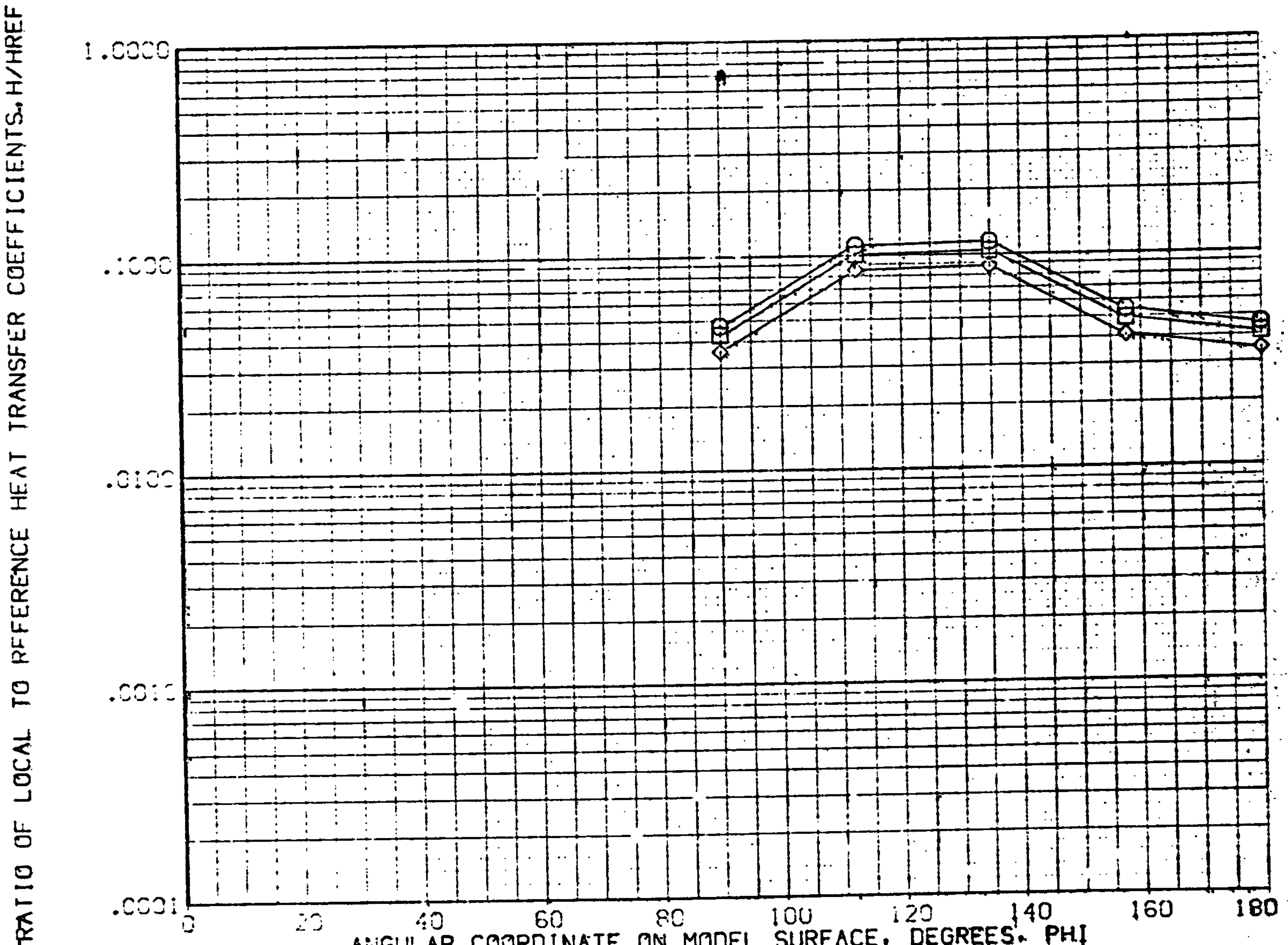


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

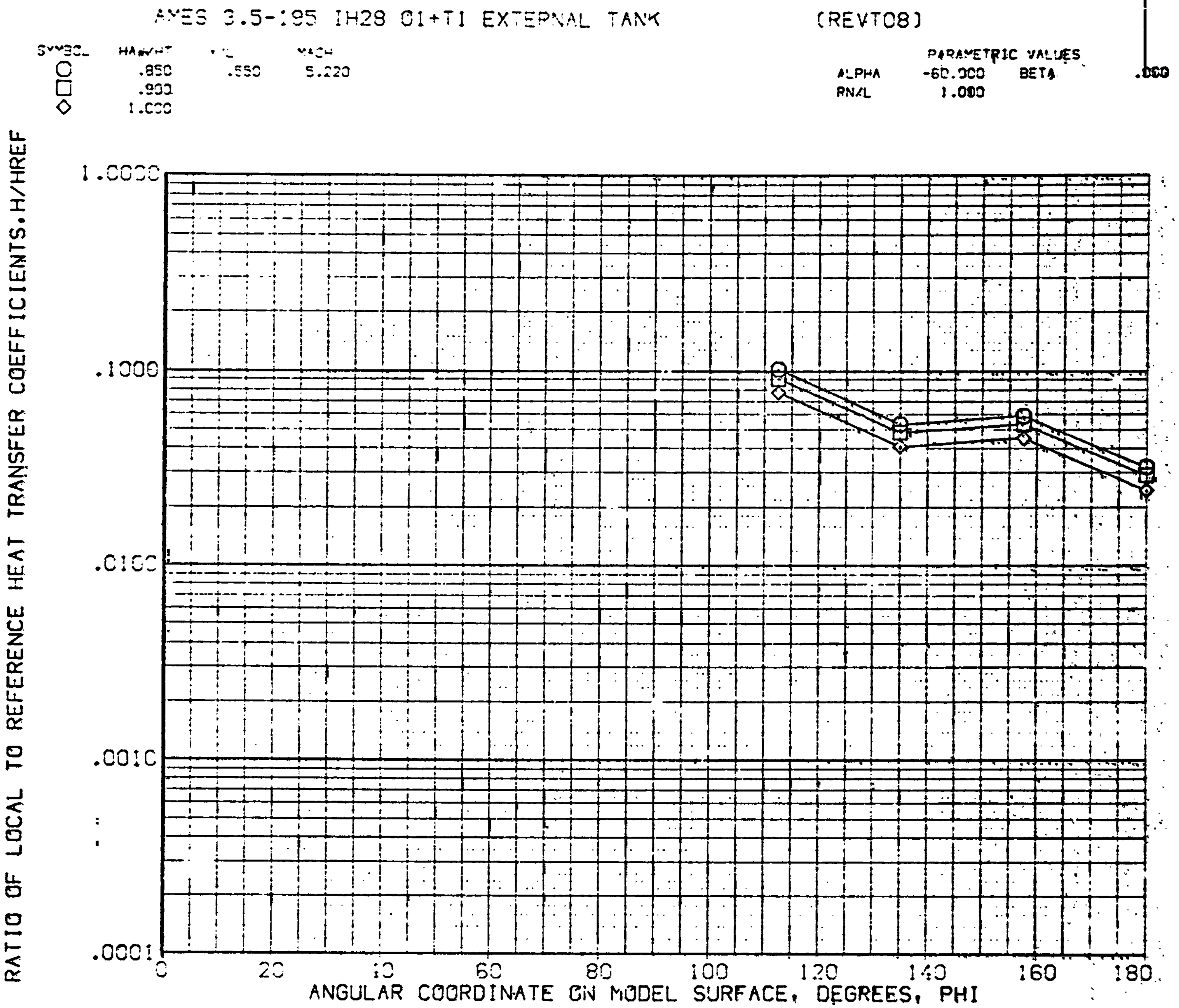


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

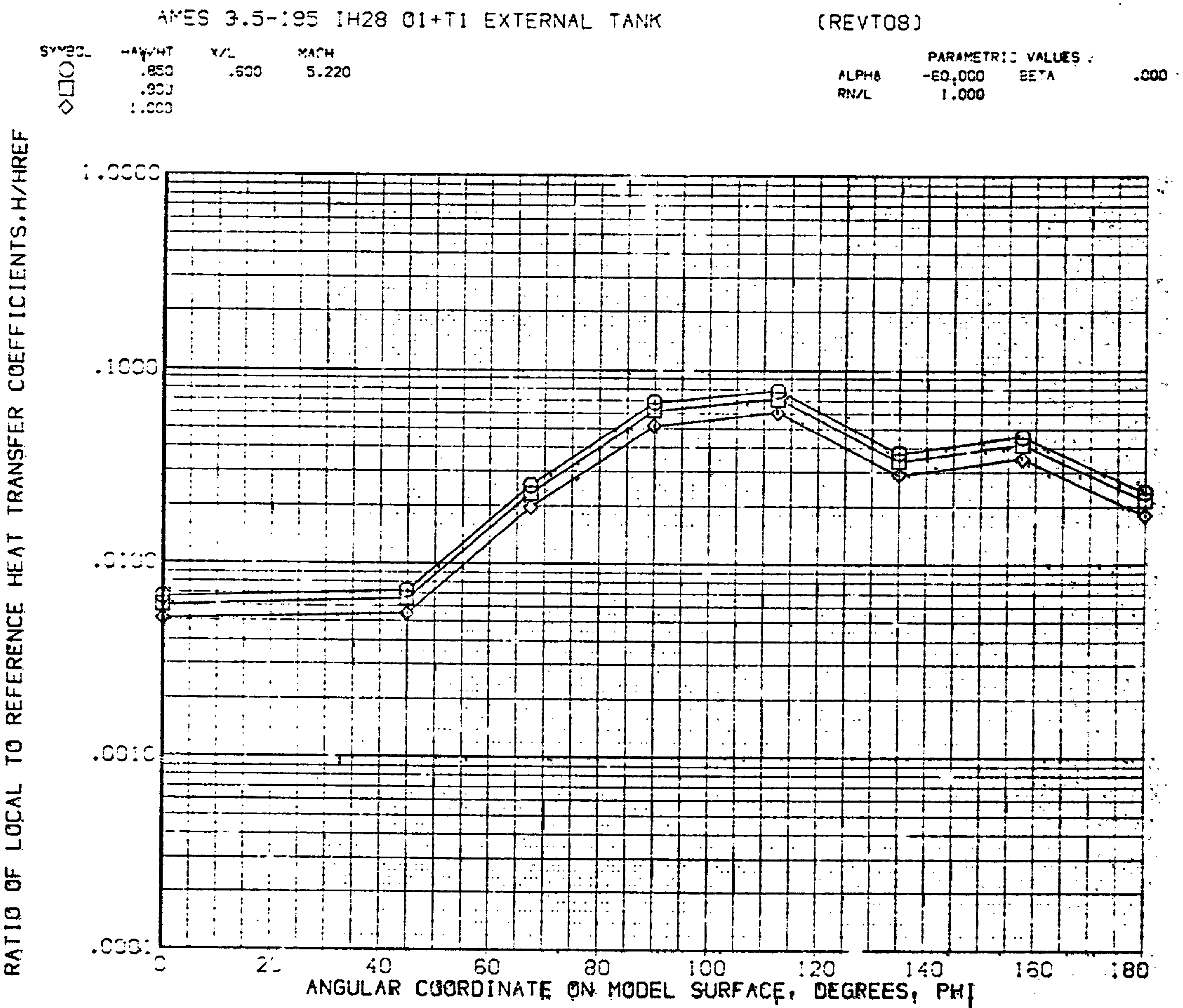


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

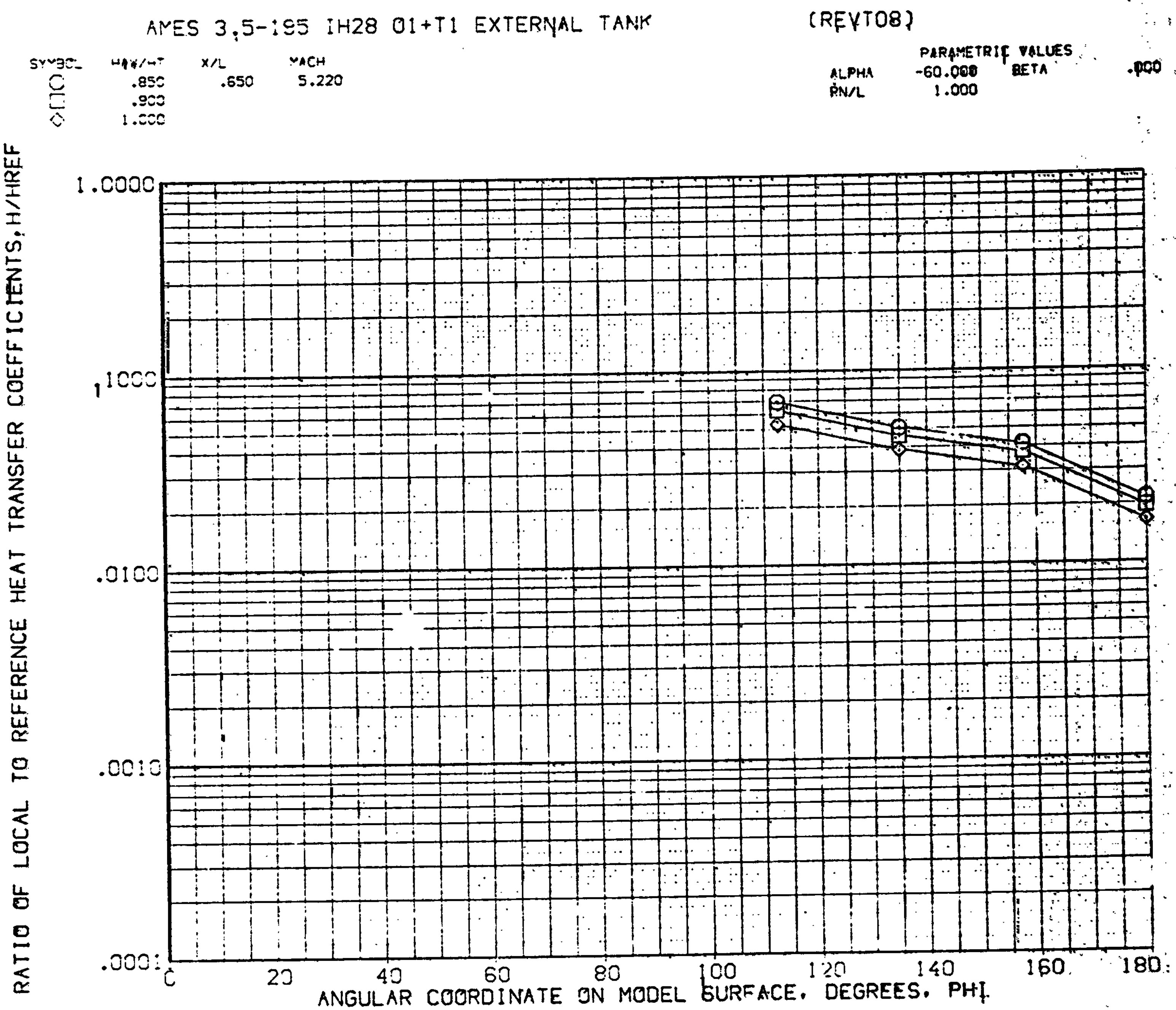


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

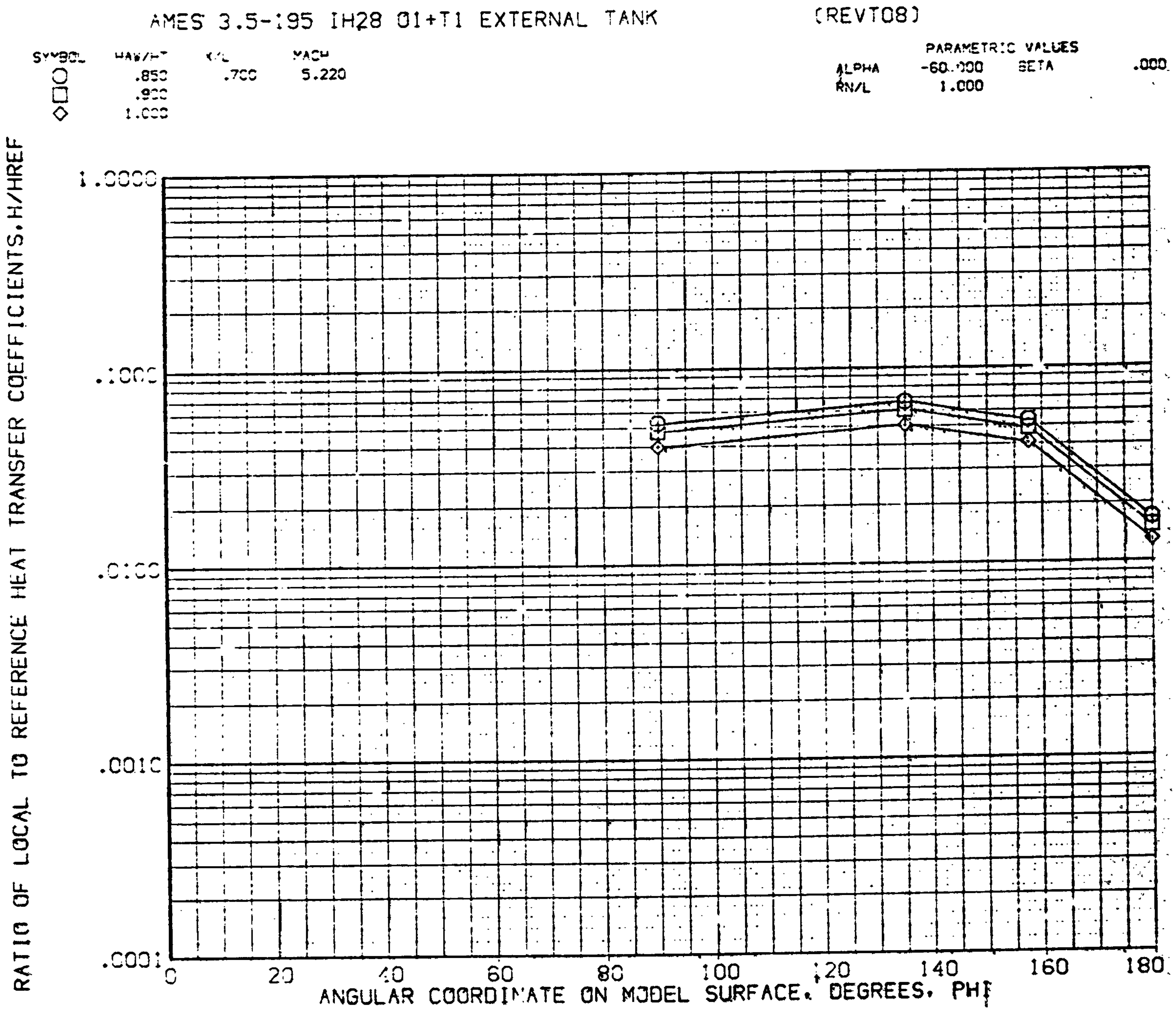


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK (REVT08)

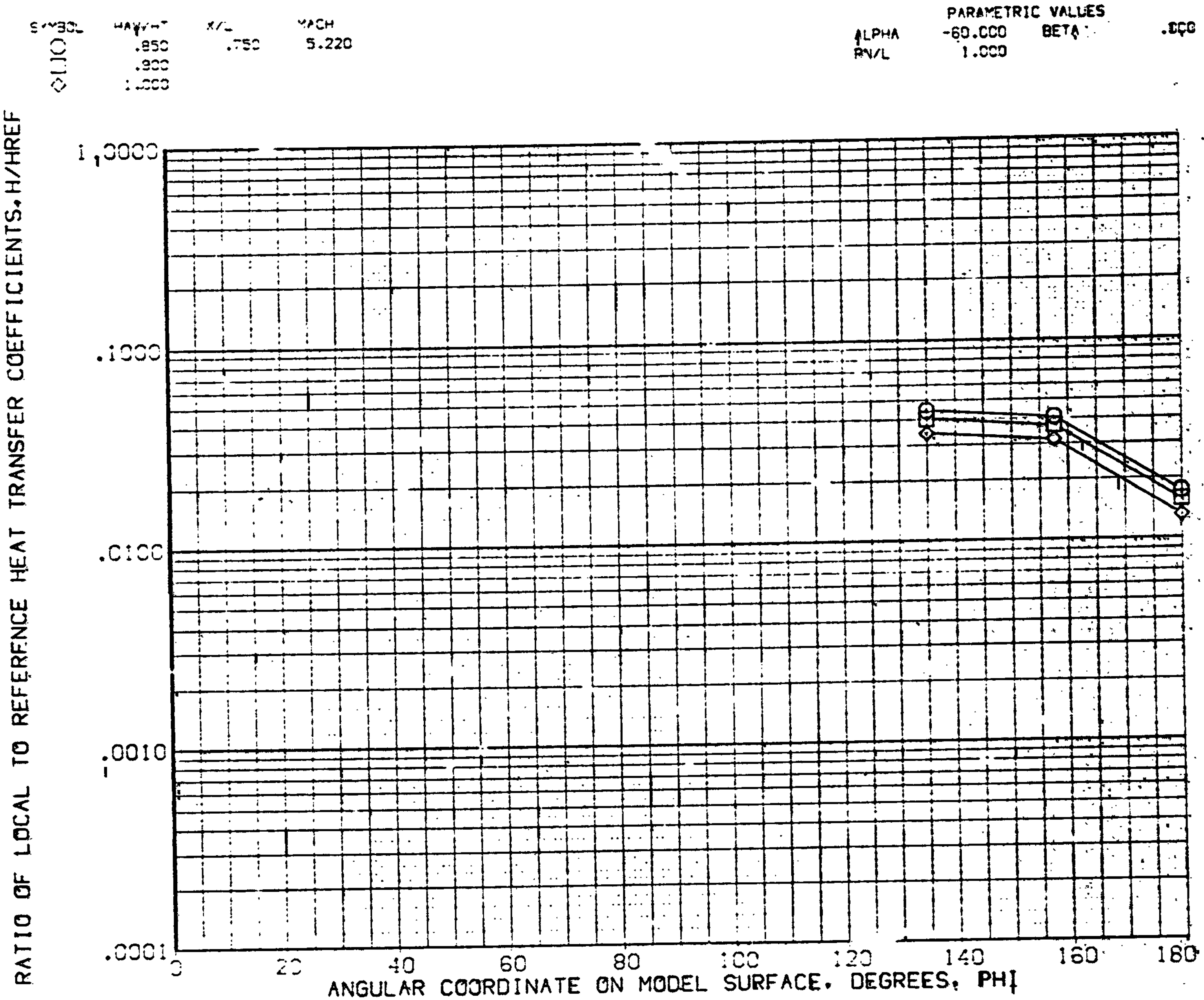


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 01+T1 EXTERNAL TANK (REVT08)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.800	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA -60.000 BETA .000
RN/L 1.000

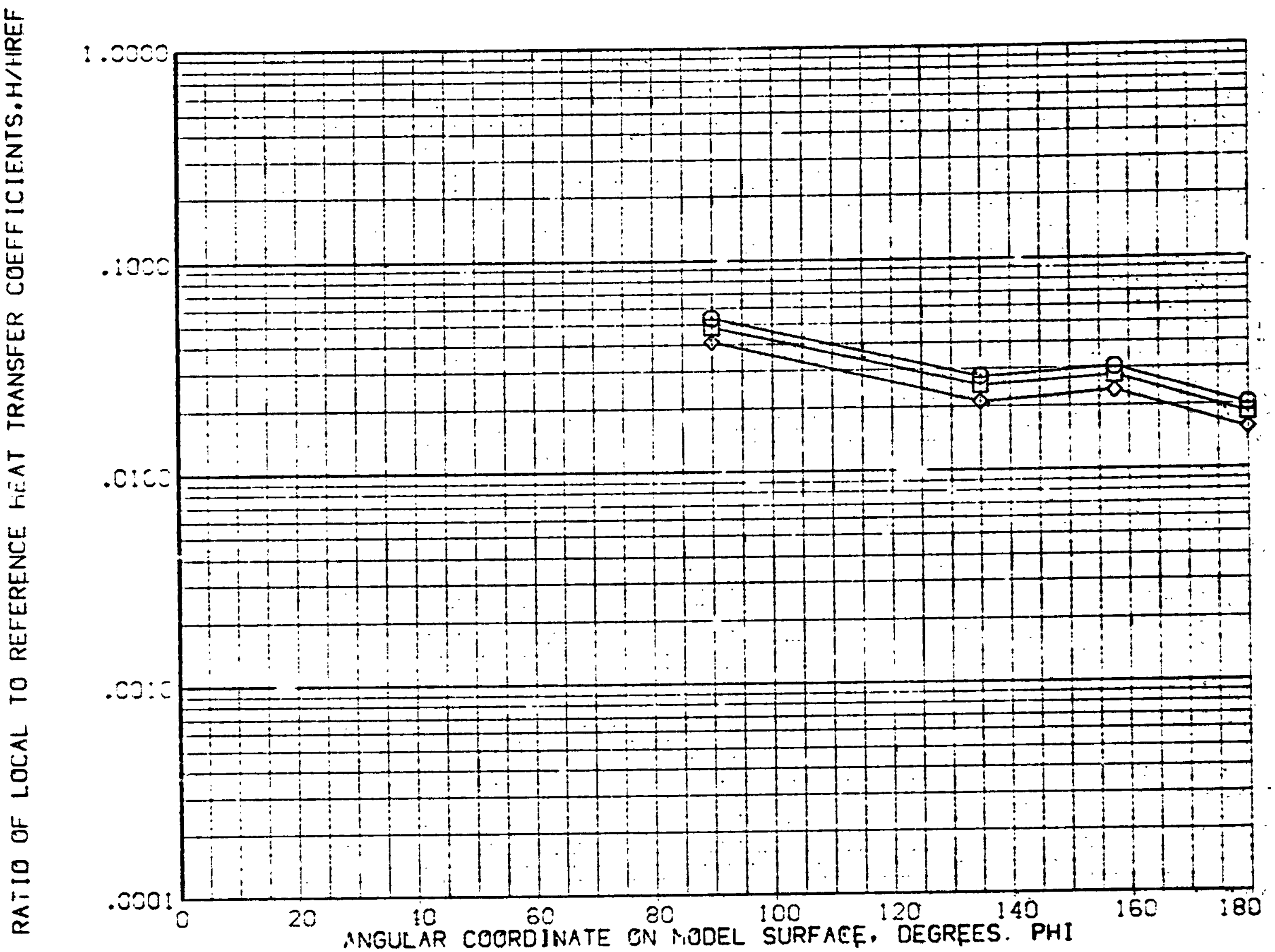


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

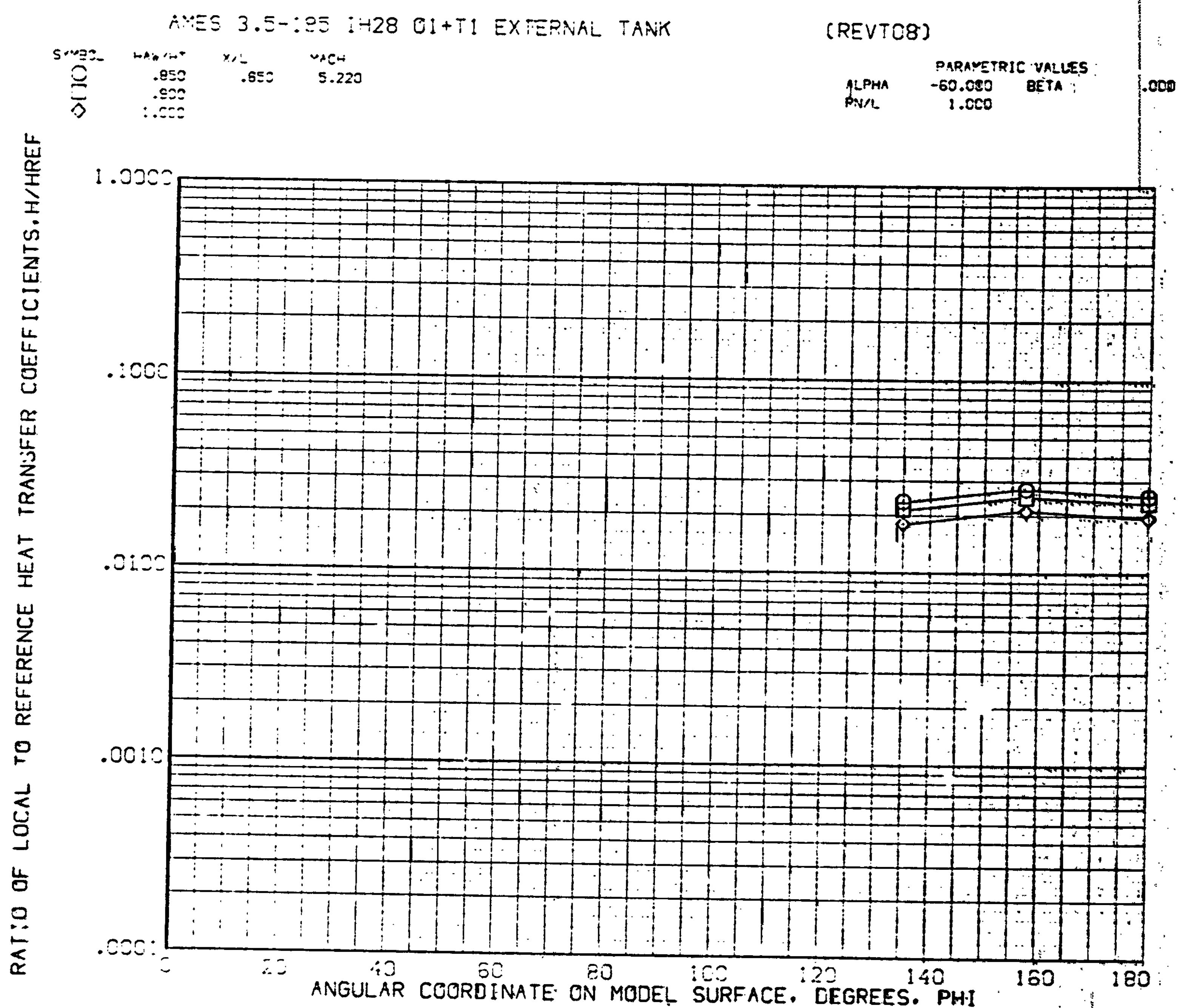


FIG. 5 TANK IN THE PRESENCE OF ORBITER

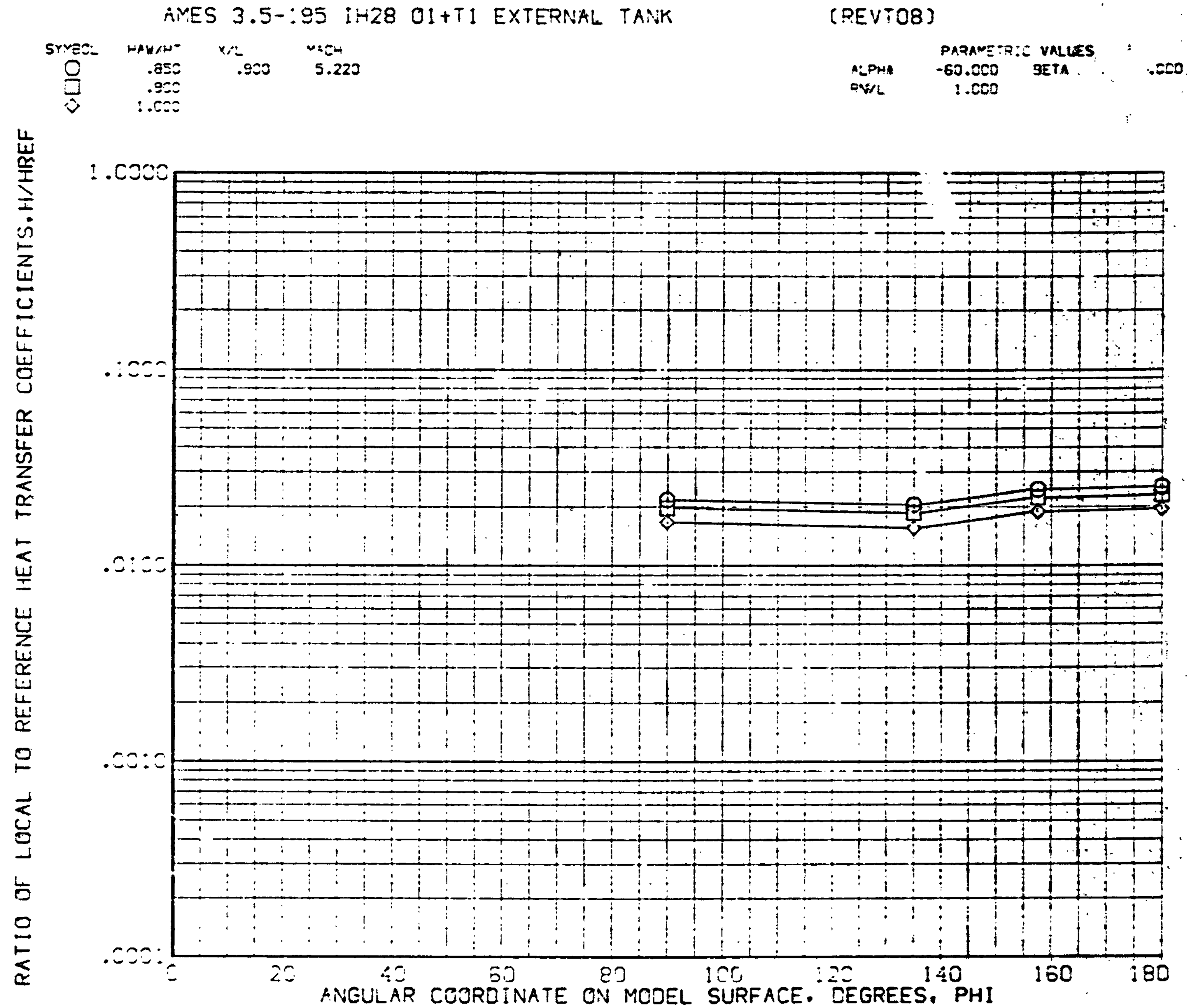


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

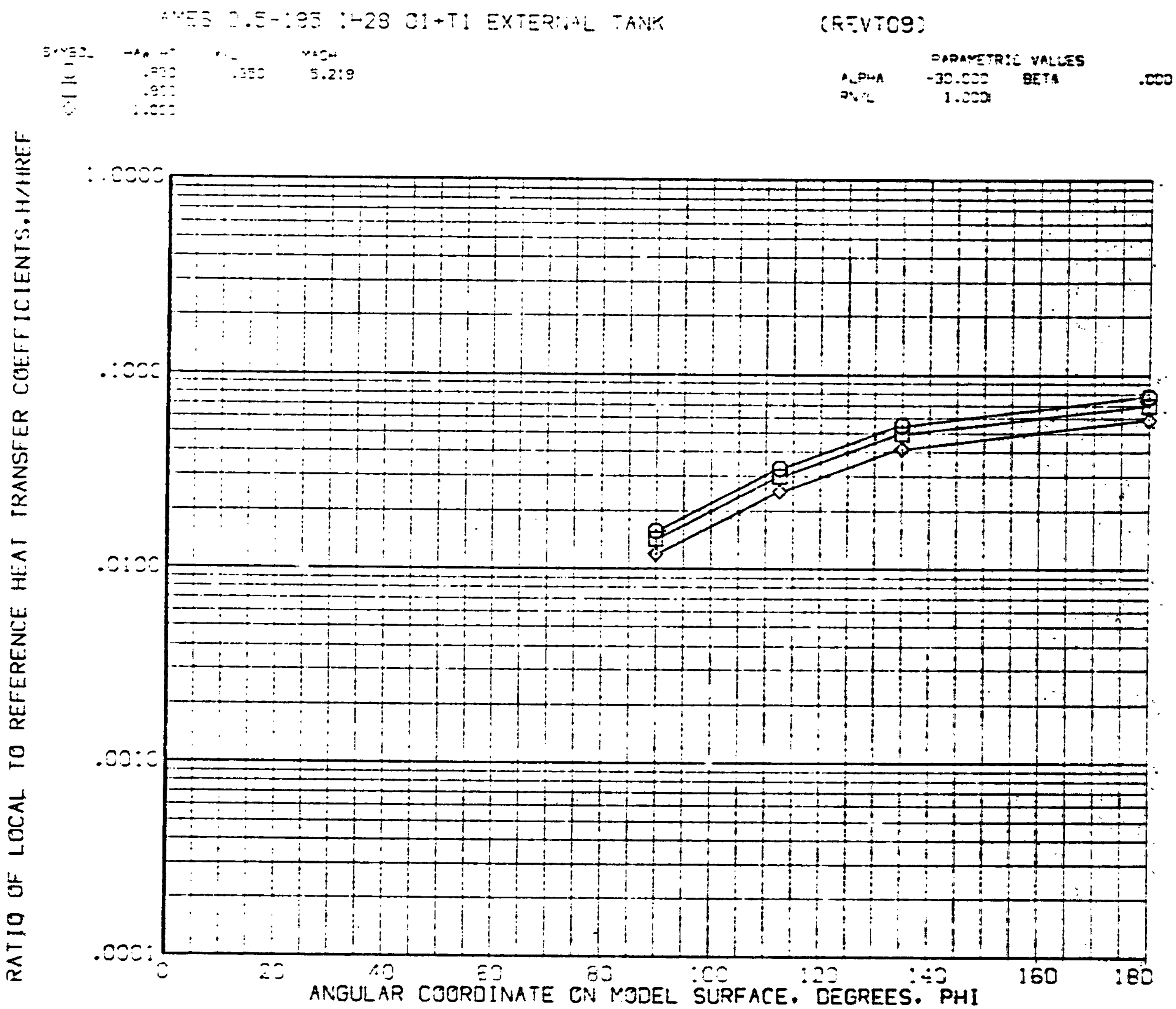


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

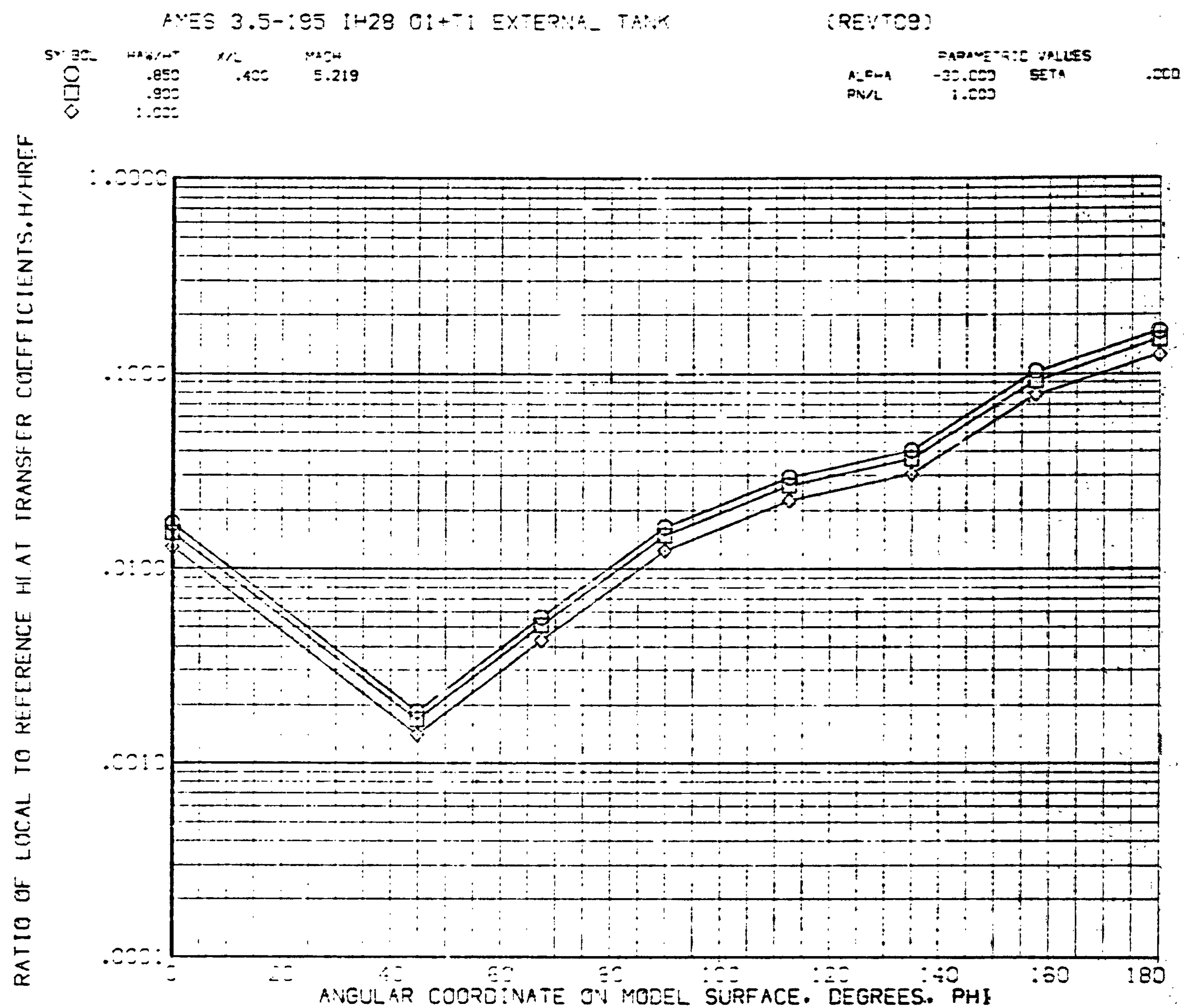


FIG. 5 TANK,IN THE PRESENCE OF ORBITER

AMES 3.5-105 IA-28 OI-TI EXTERNAL TANK (RE.TOB)

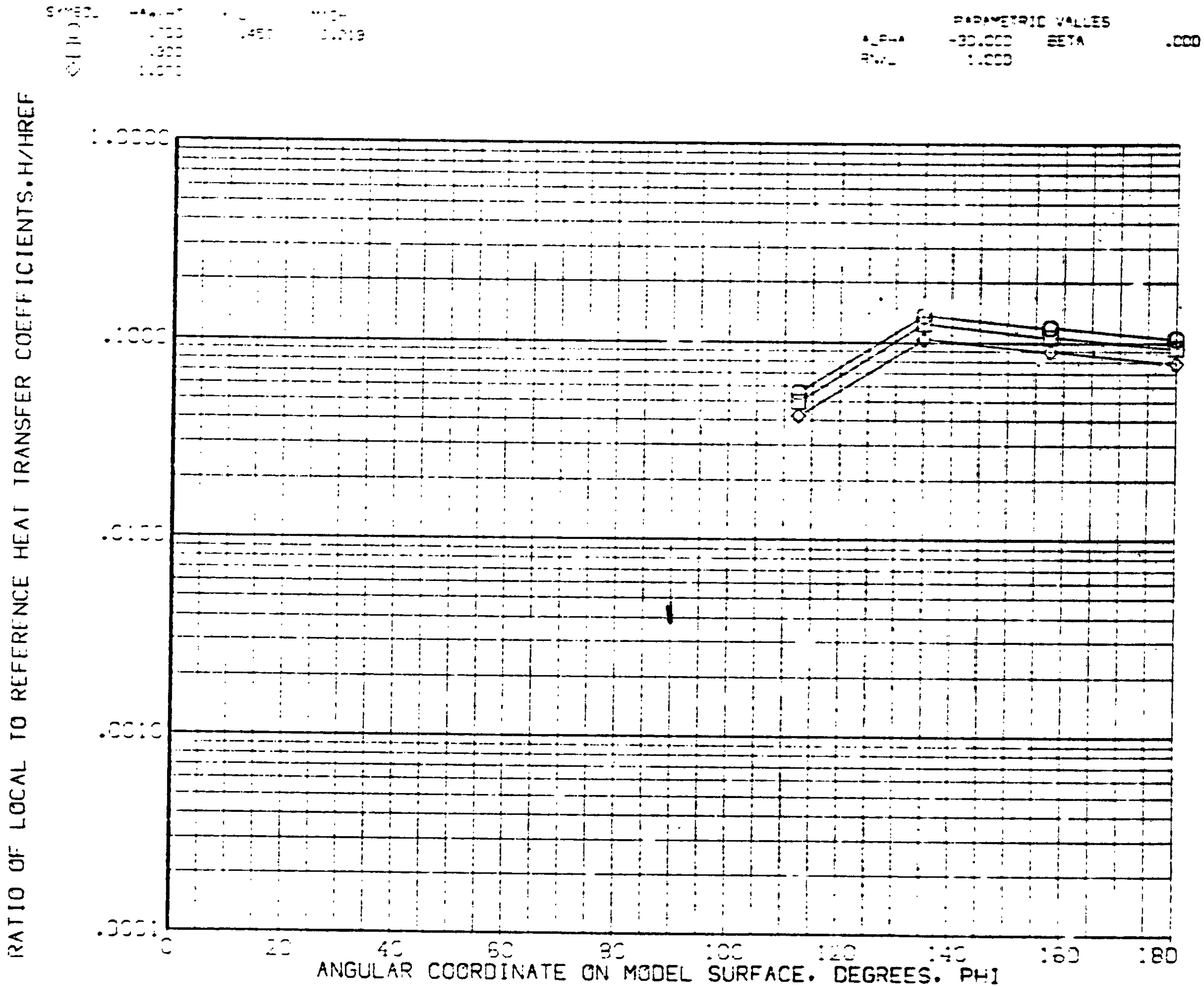


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK (REVT09)

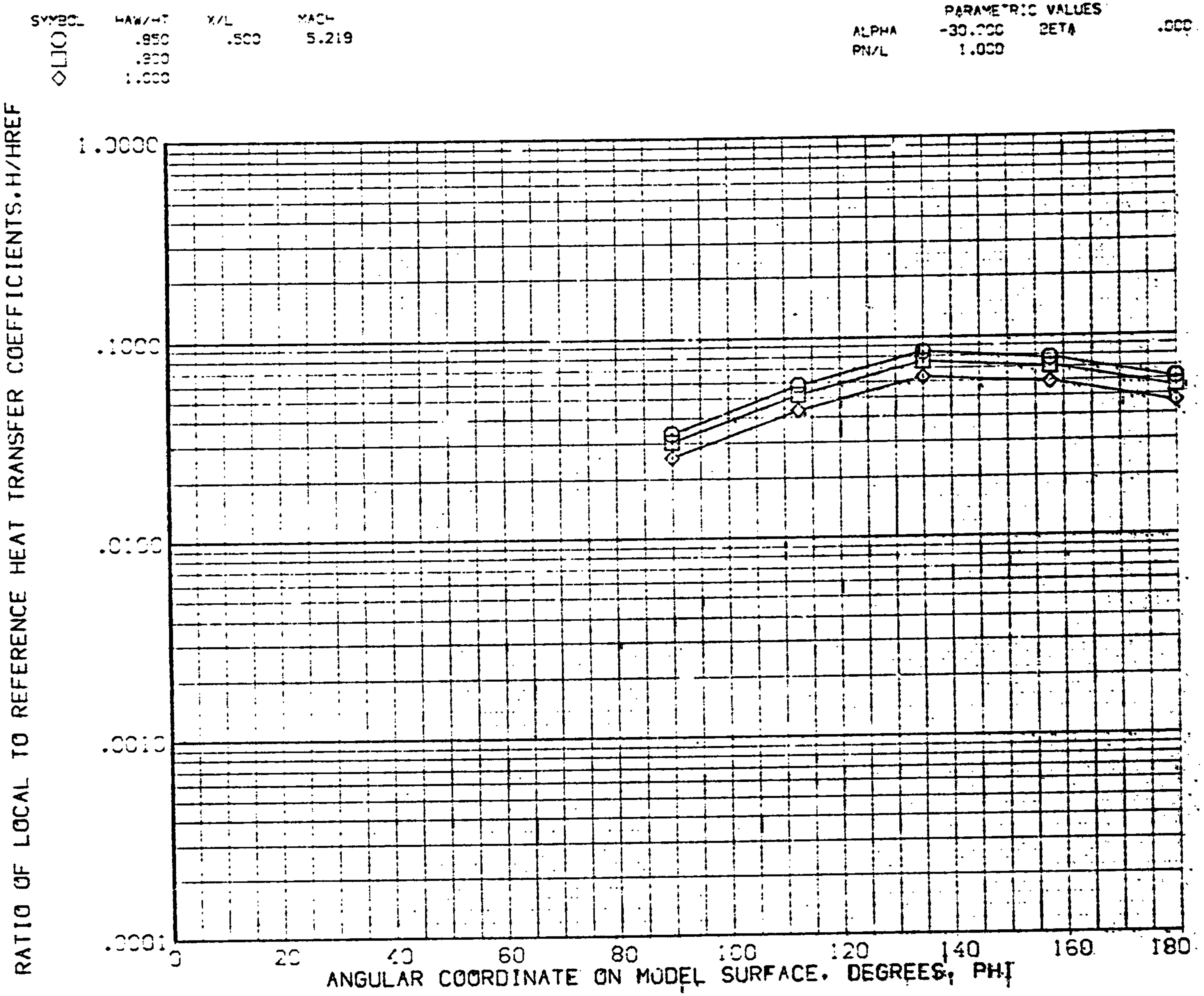


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 OI-T1 EXTERNAL TANK (REVT09)

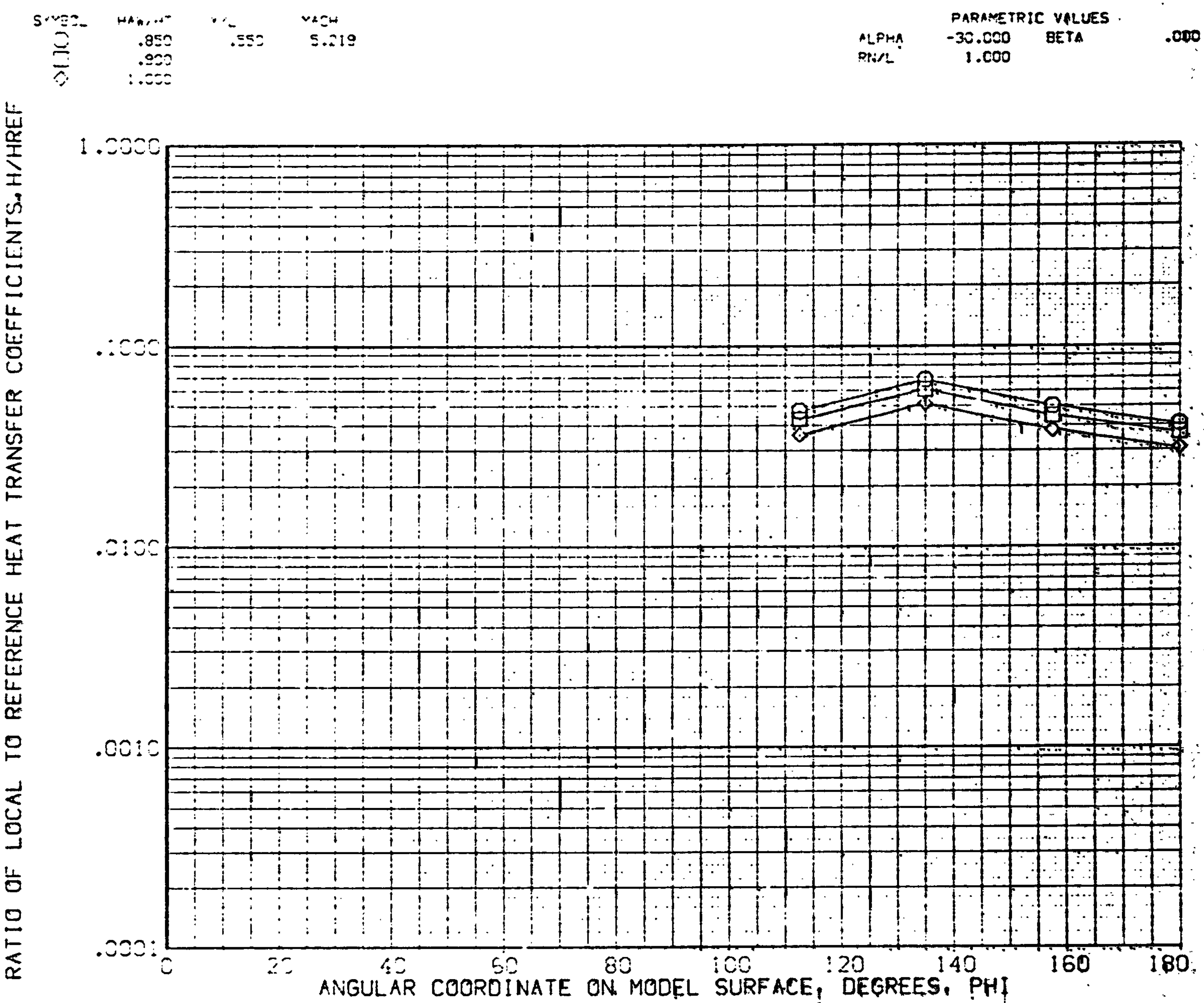


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

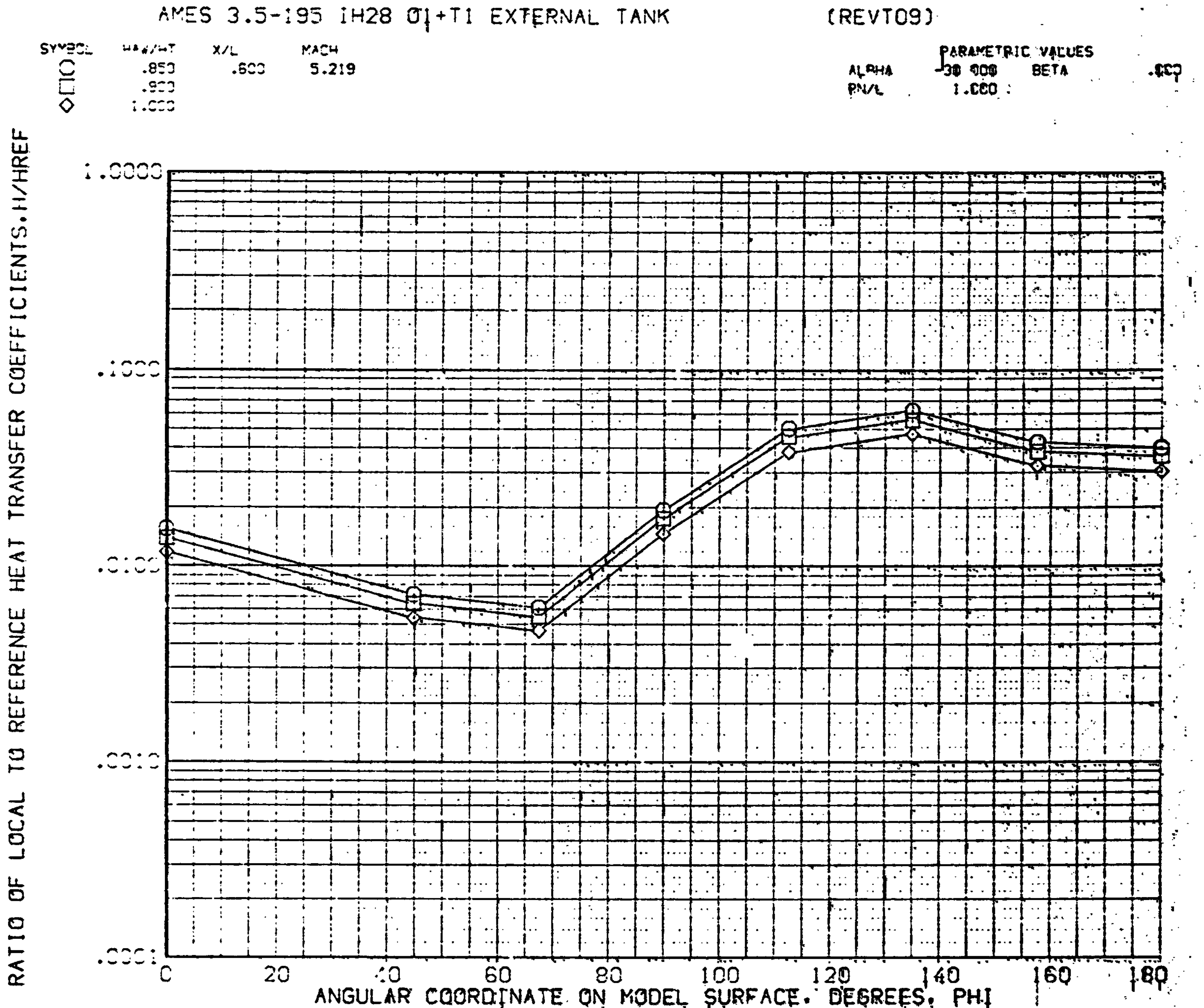


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

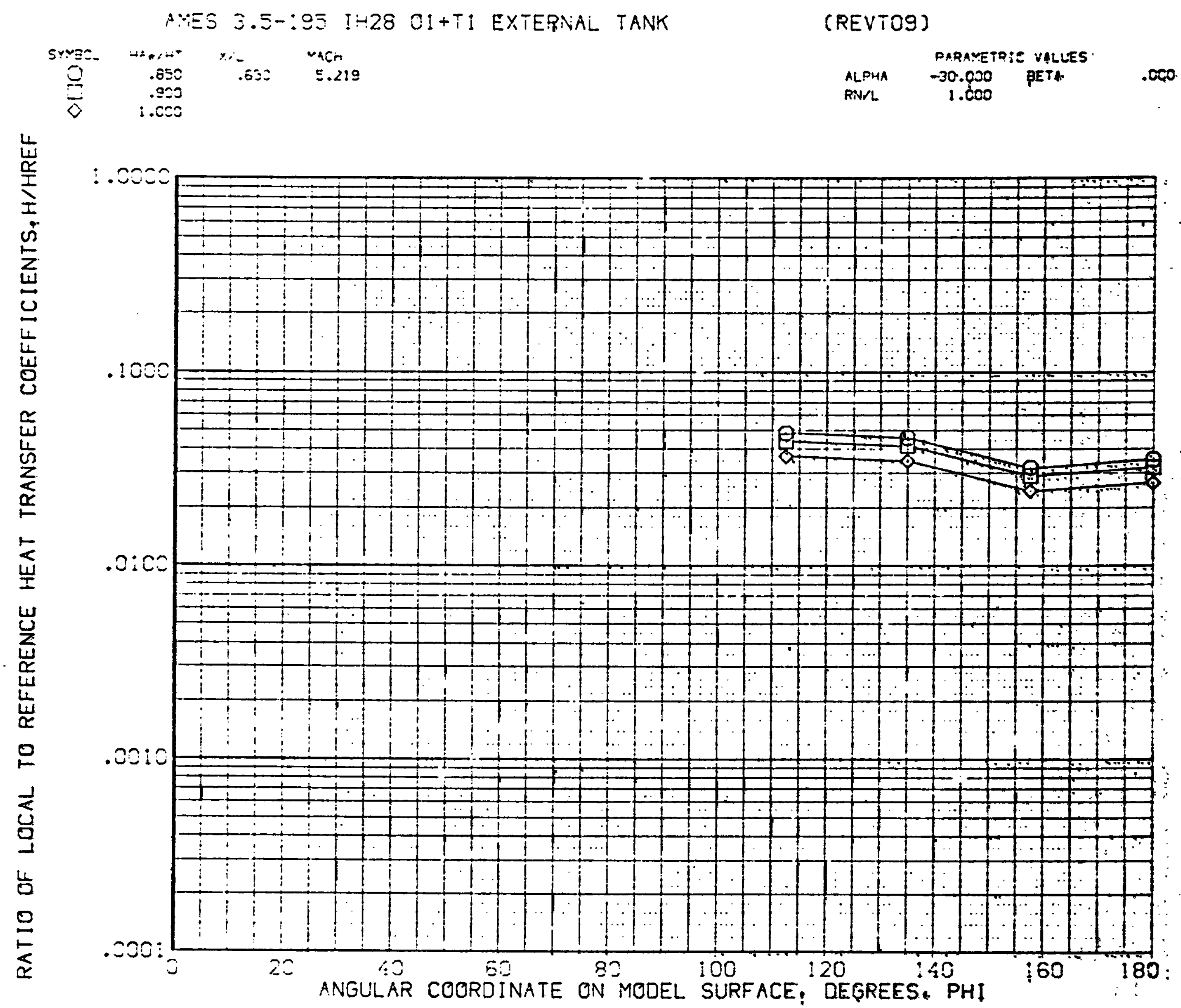


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 O1+T EXTERNAL TANK (REVT09)

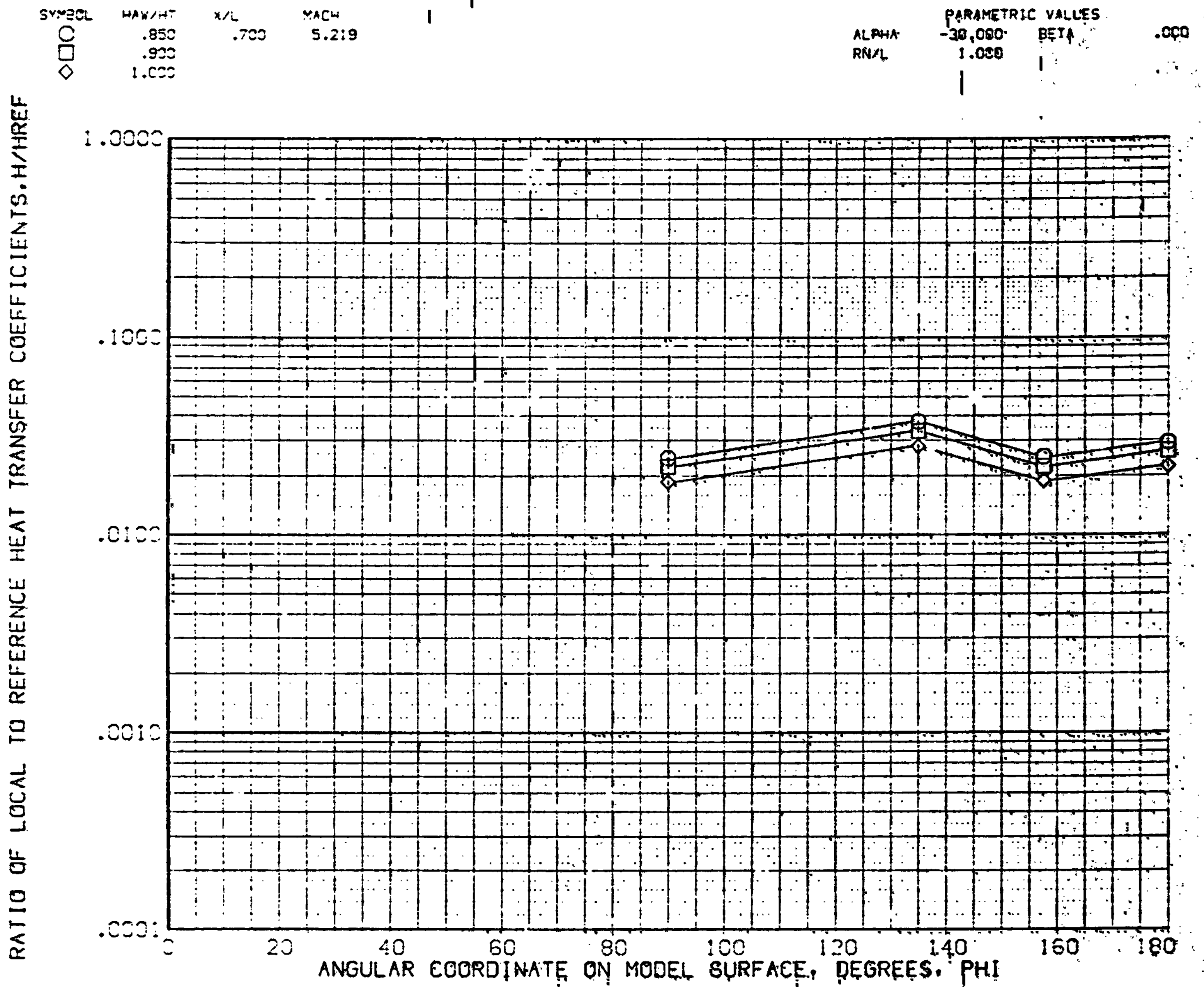


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK (RE/T09)

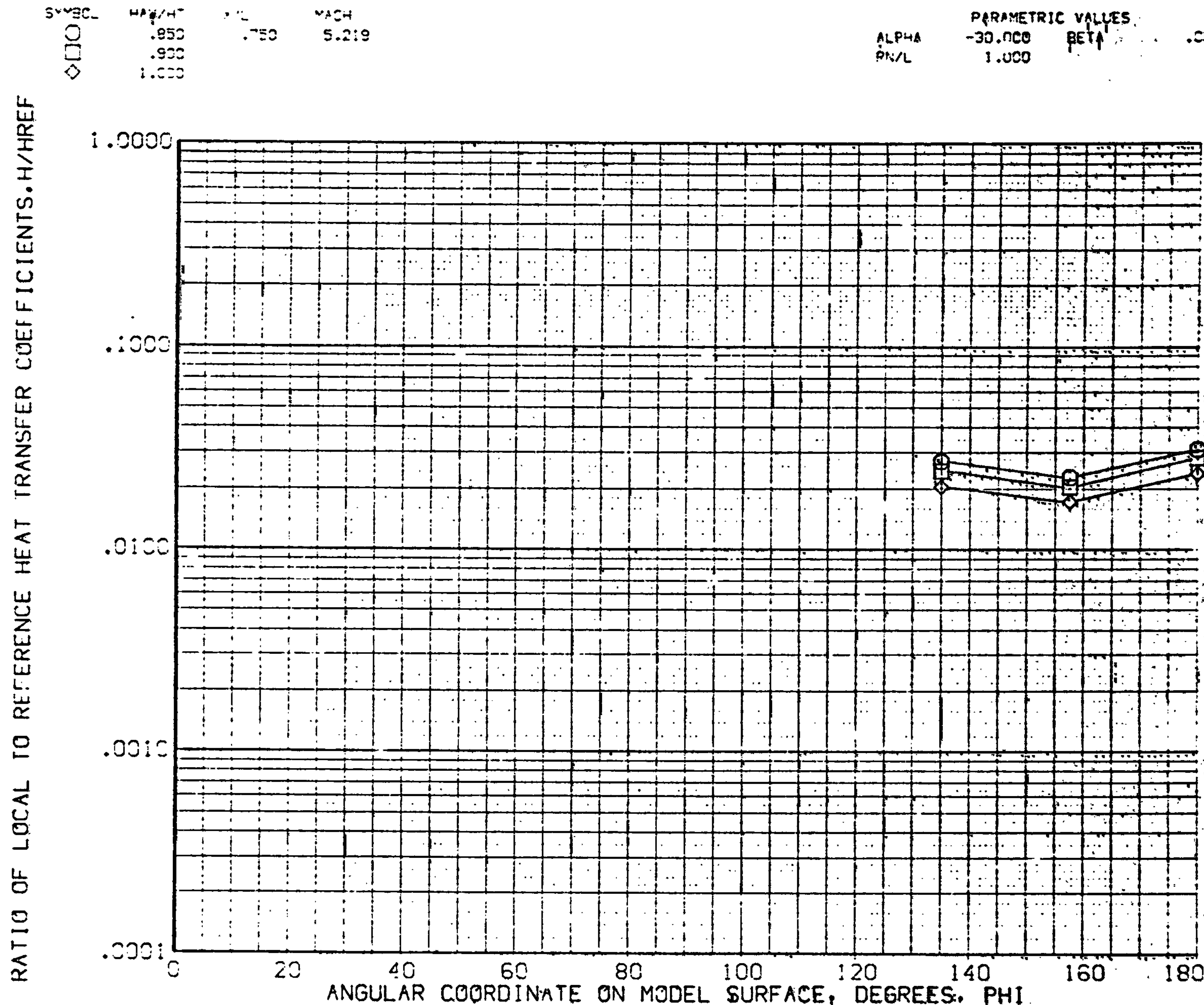
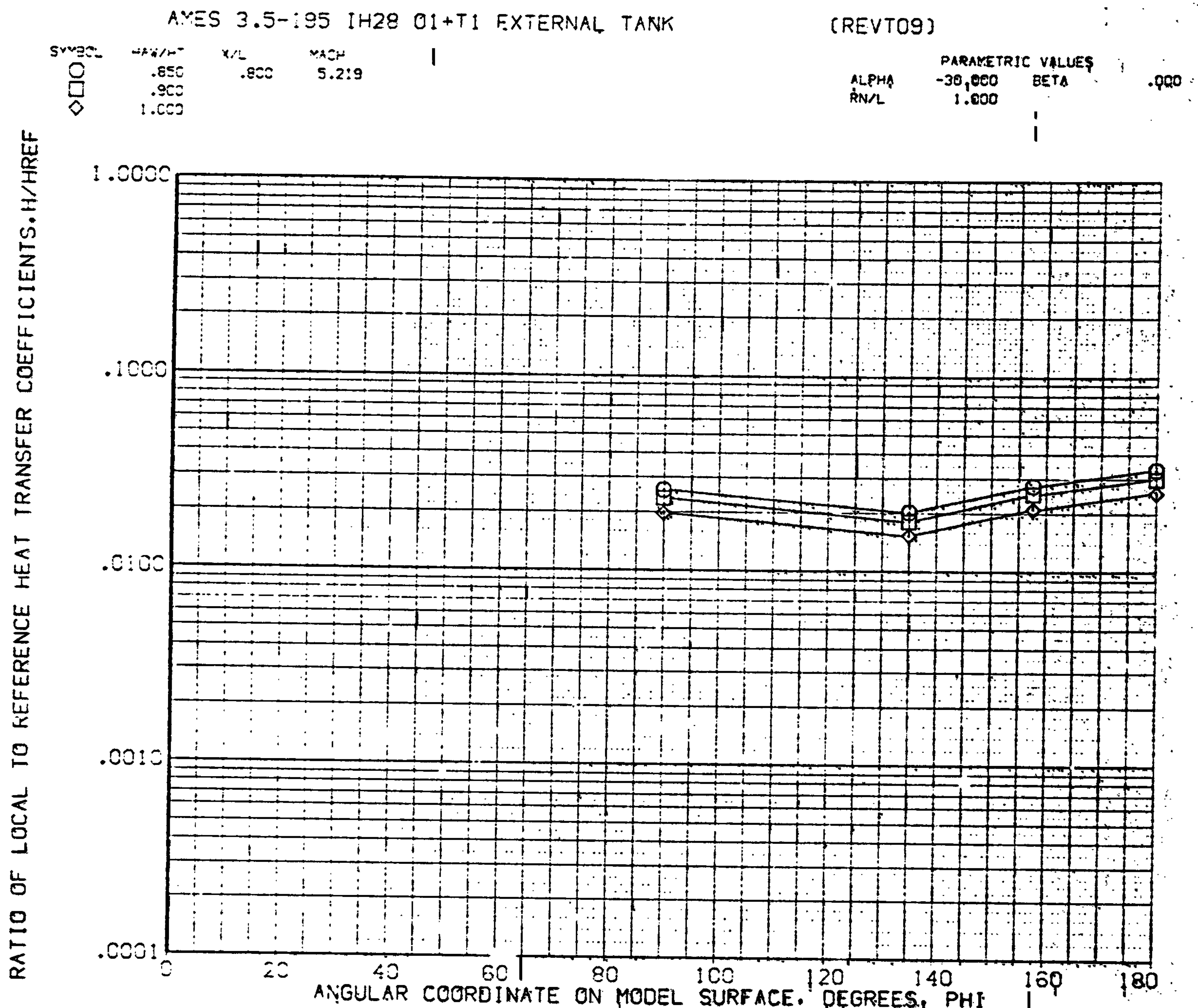


FIG. 5 TANK, IN THE PRESENCE OF ORBITER



FIG, 5 TANK, IN THE PRESENCE OF ORBITER

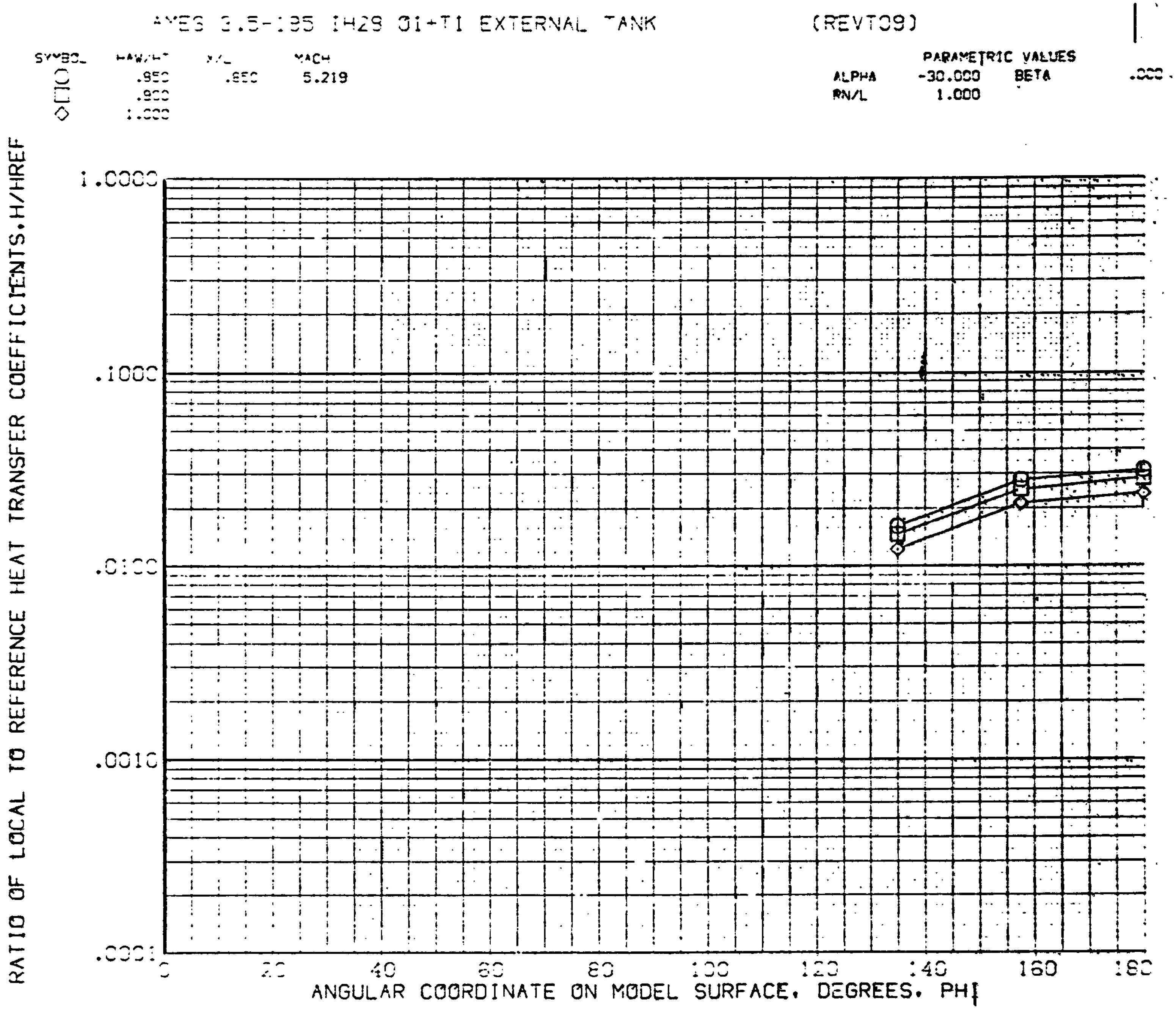


FIG. 5 TANK,IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK (REVT09)

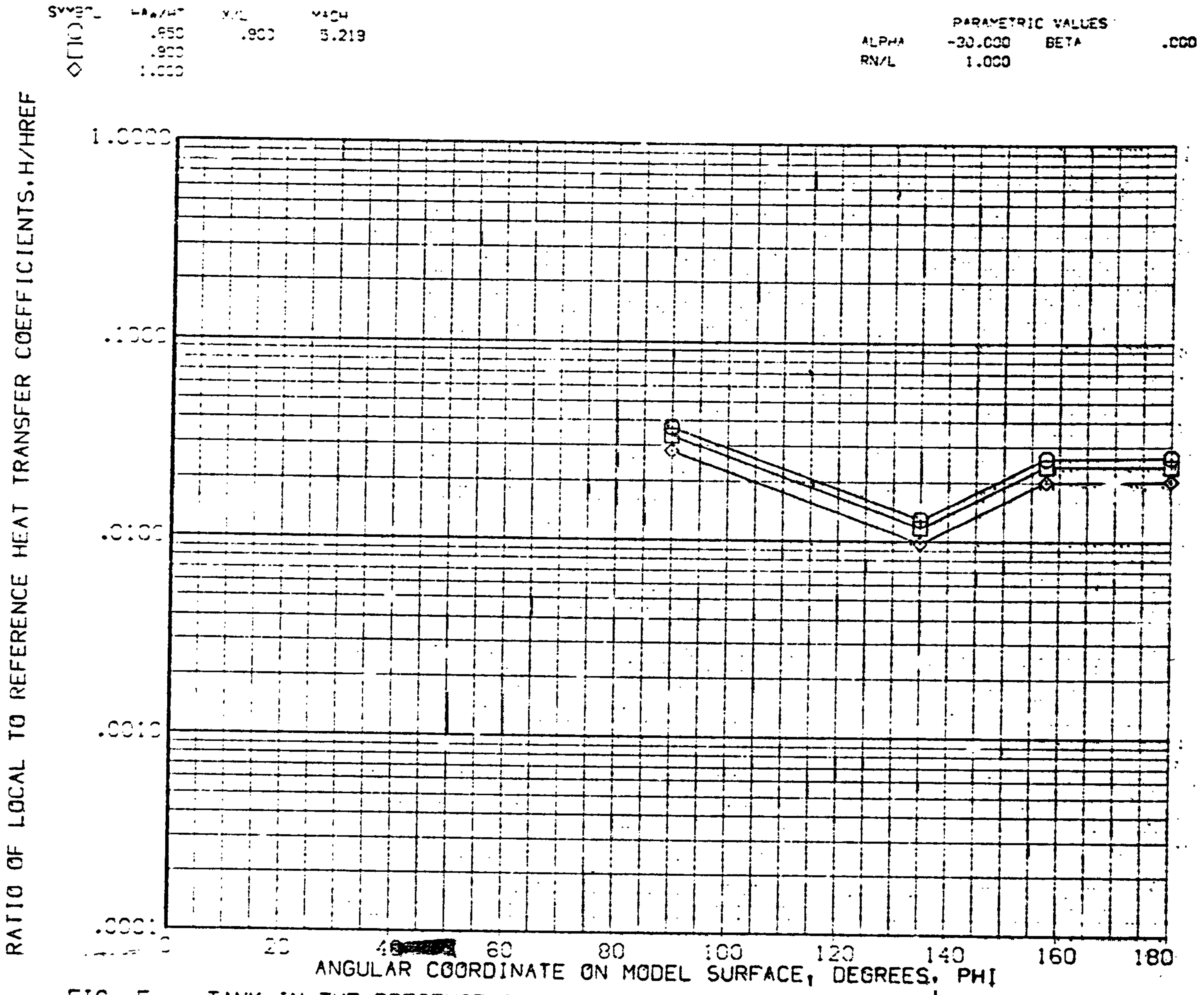


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

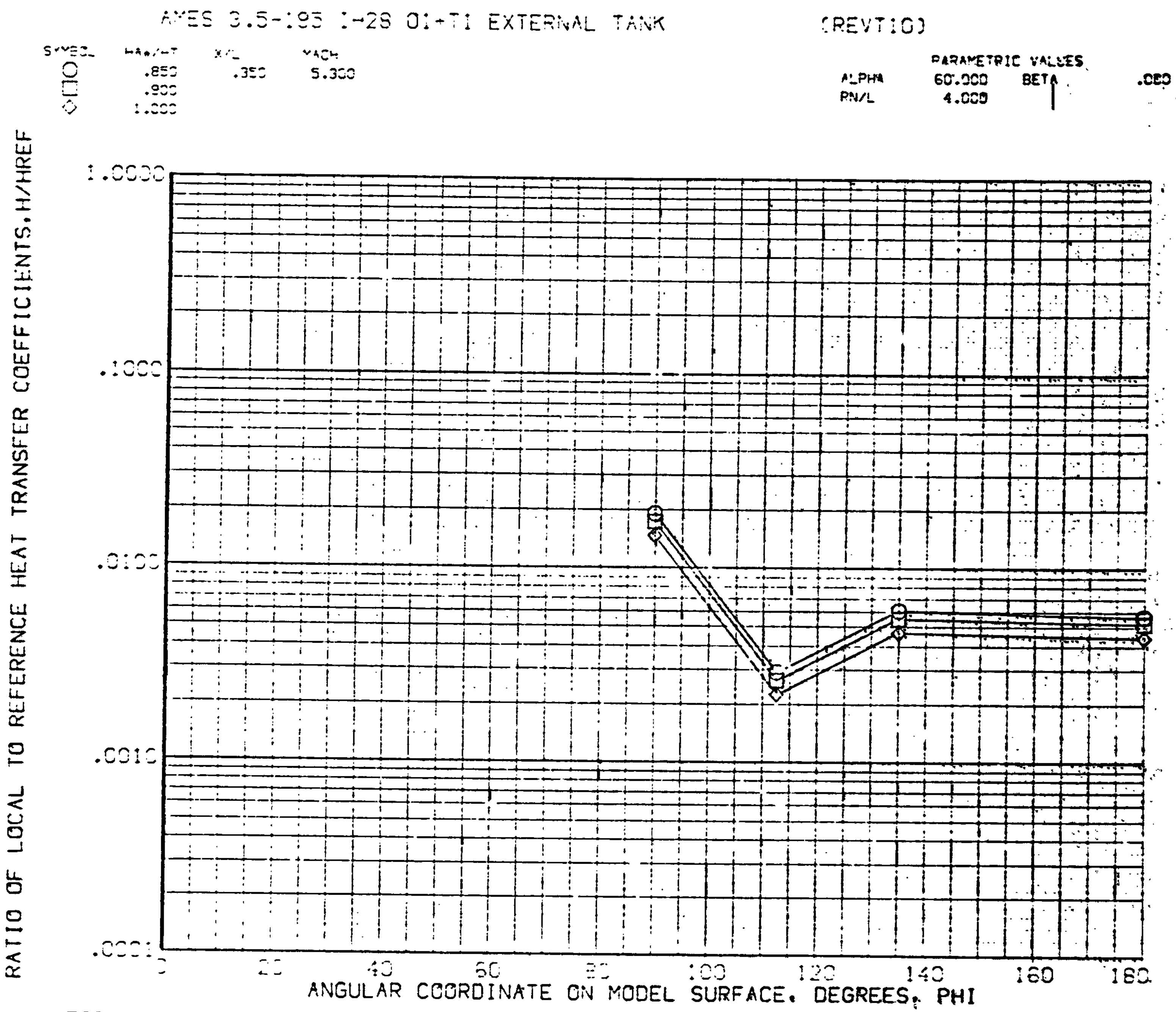


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

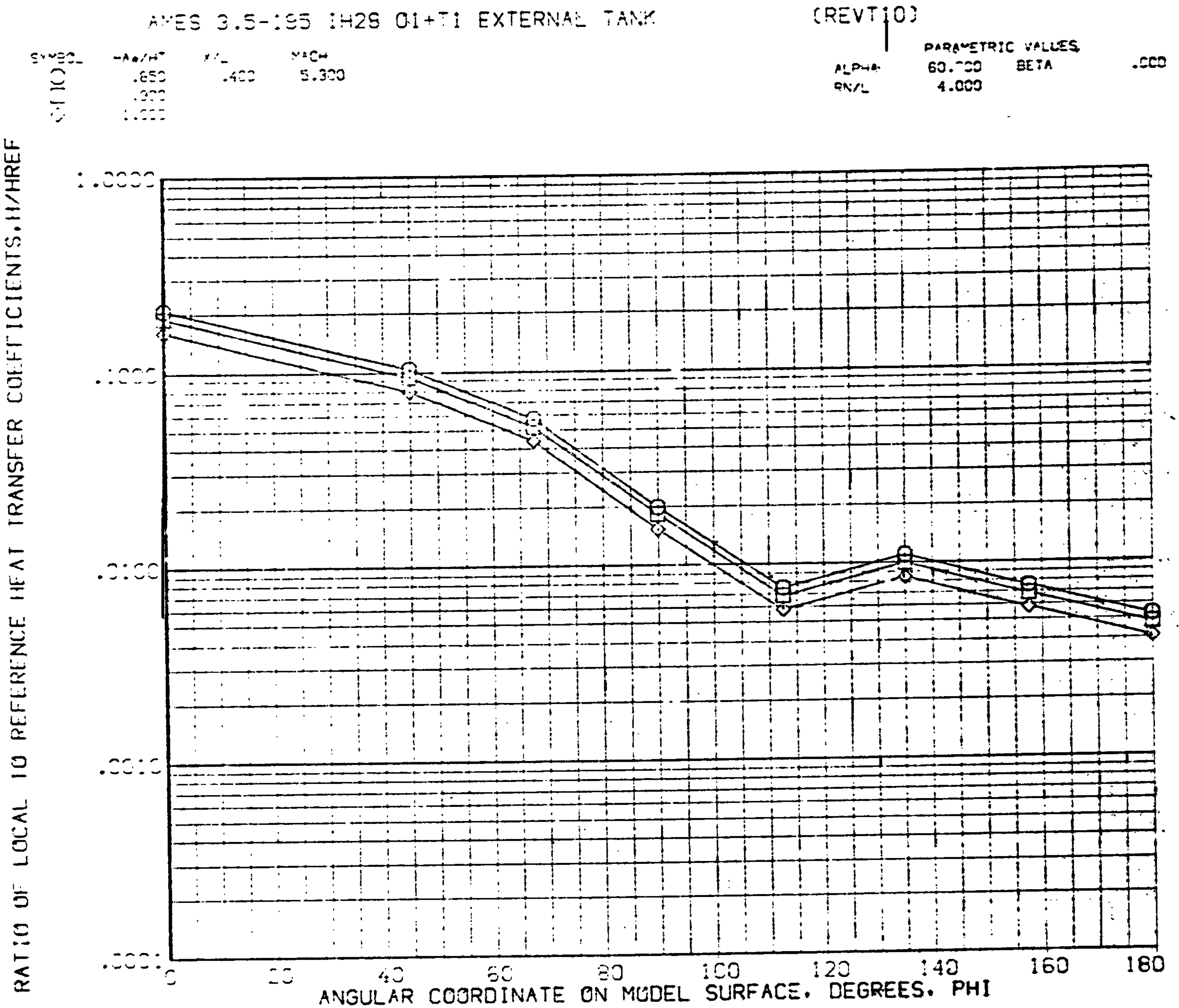


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-135 IH28 OI+TI EXTERNAL TANK (REVTIO)

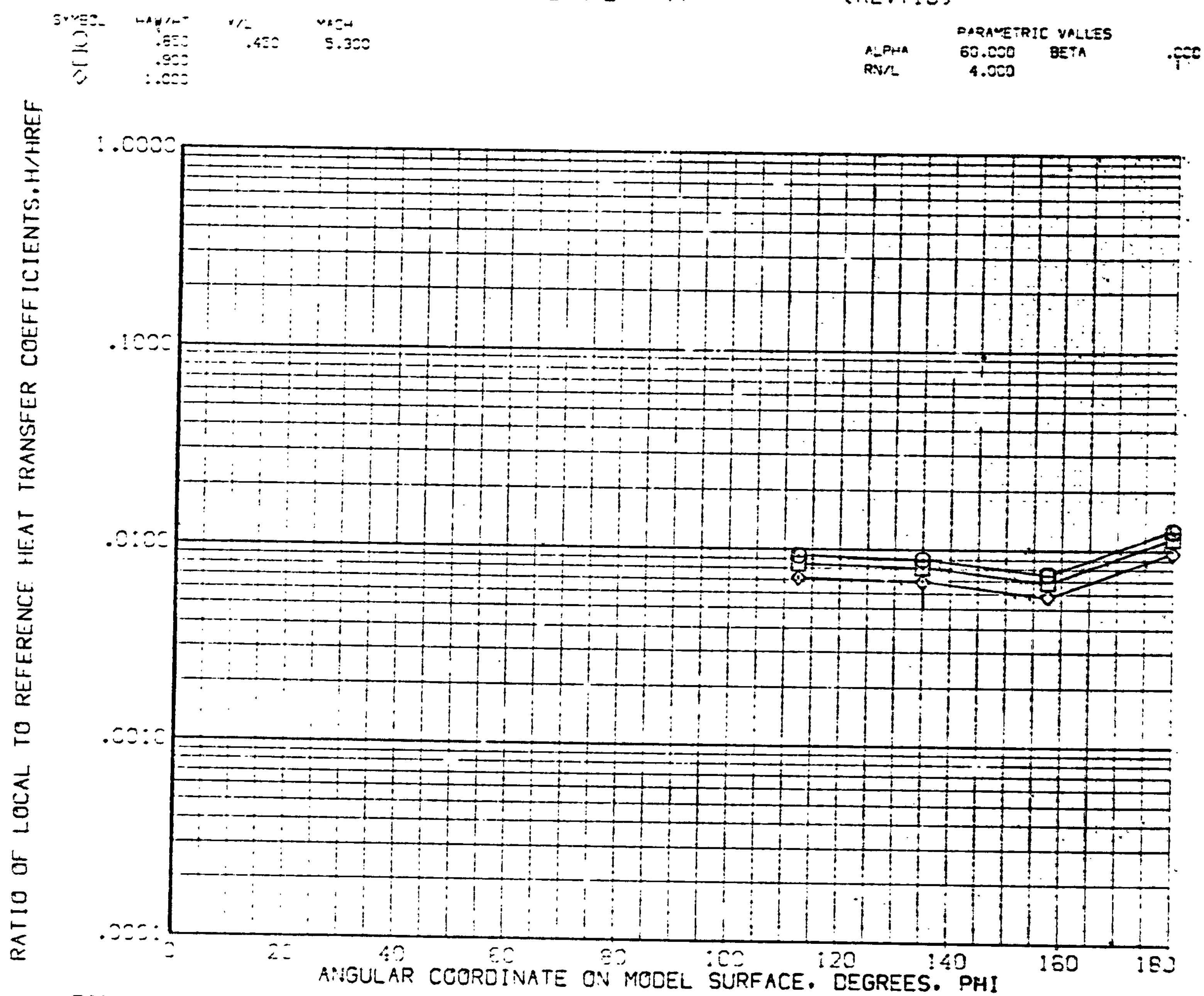


FIG. 5 TANK,IN THE PRESENCE OF ORBITER

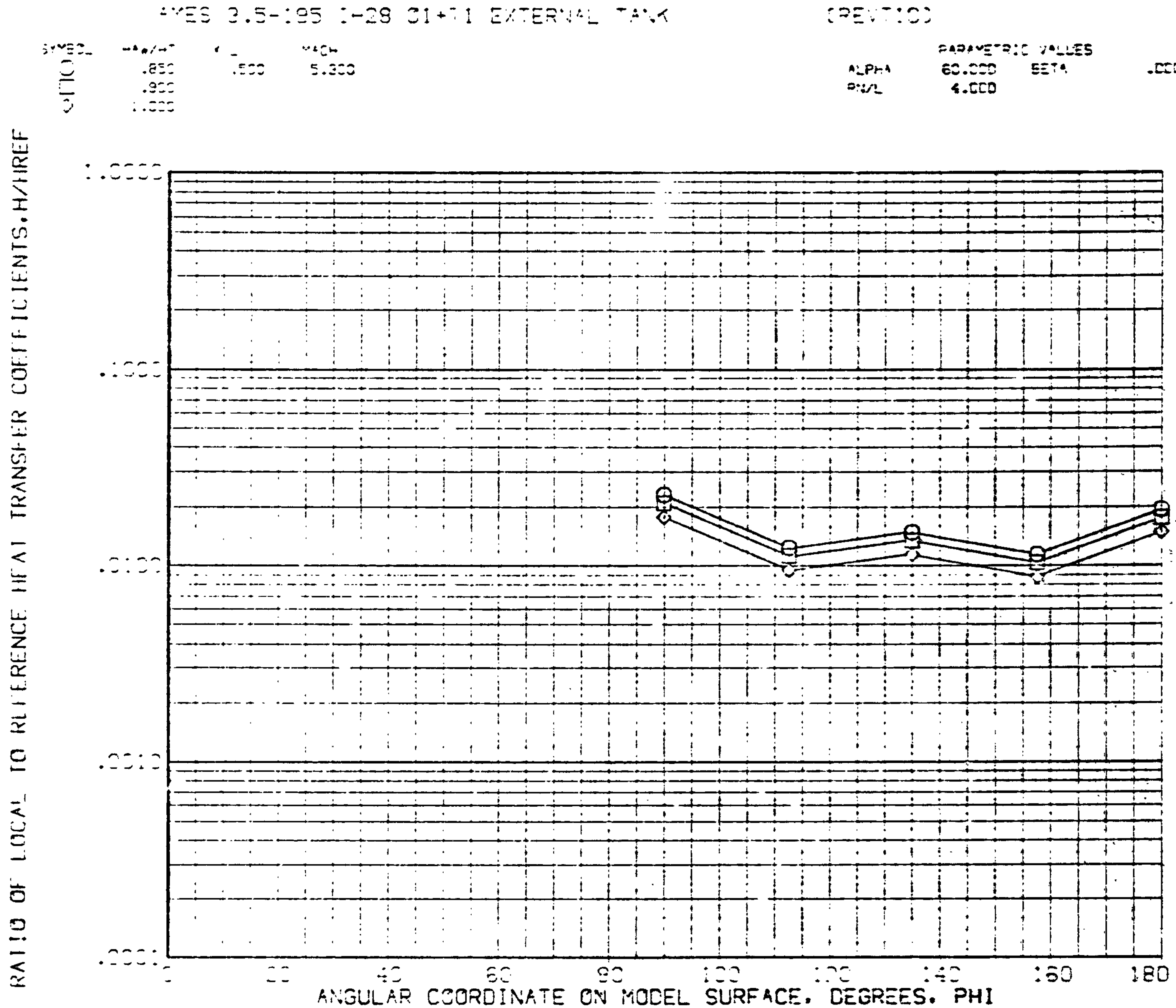


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 OI-T1 EXTERNAL TANK (REVTID)

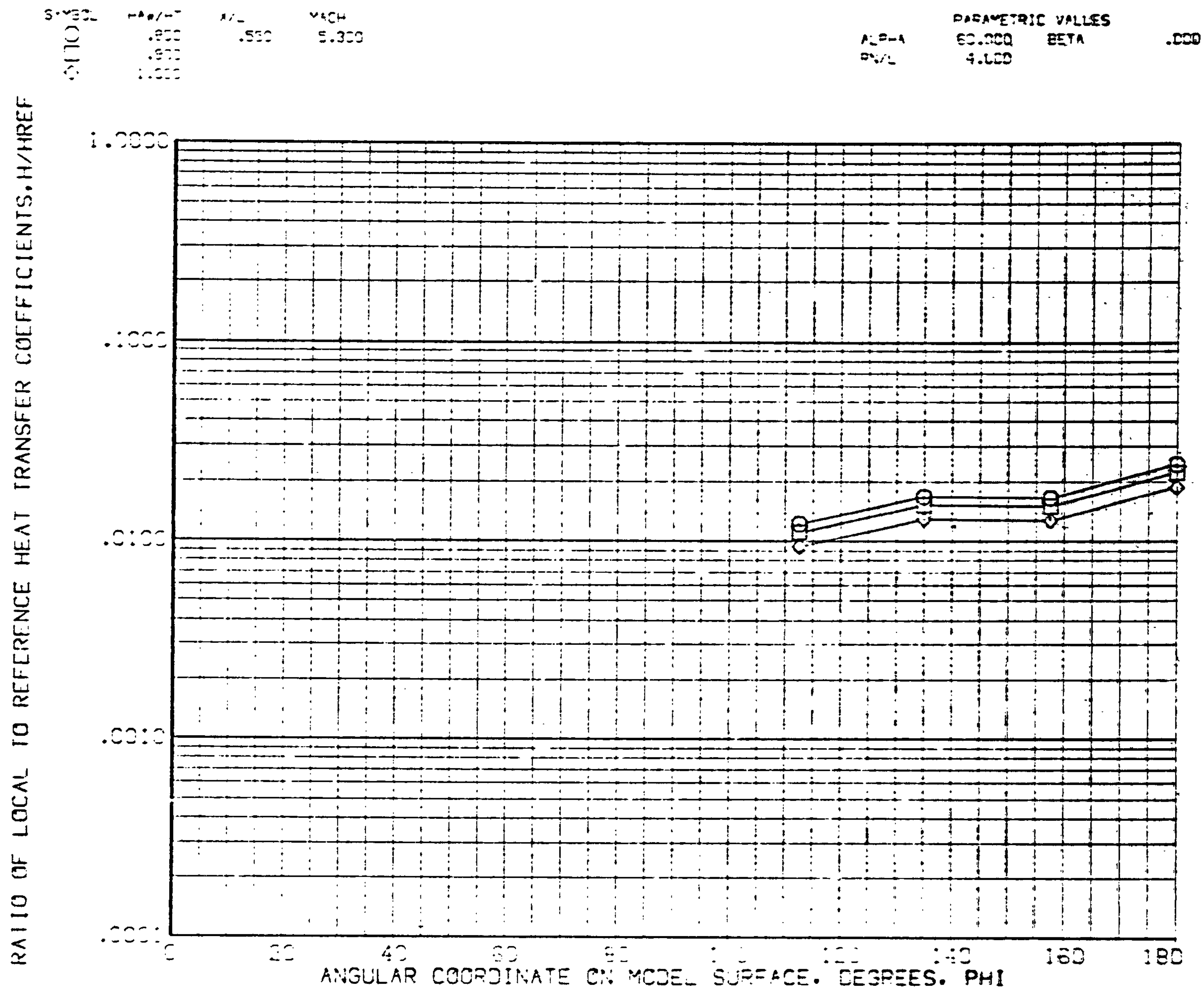


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 01-T1 EXTERNAL TANK (REVT10)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.600	5.300
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA	60.000	BETA	.000
RN/L	4.000		

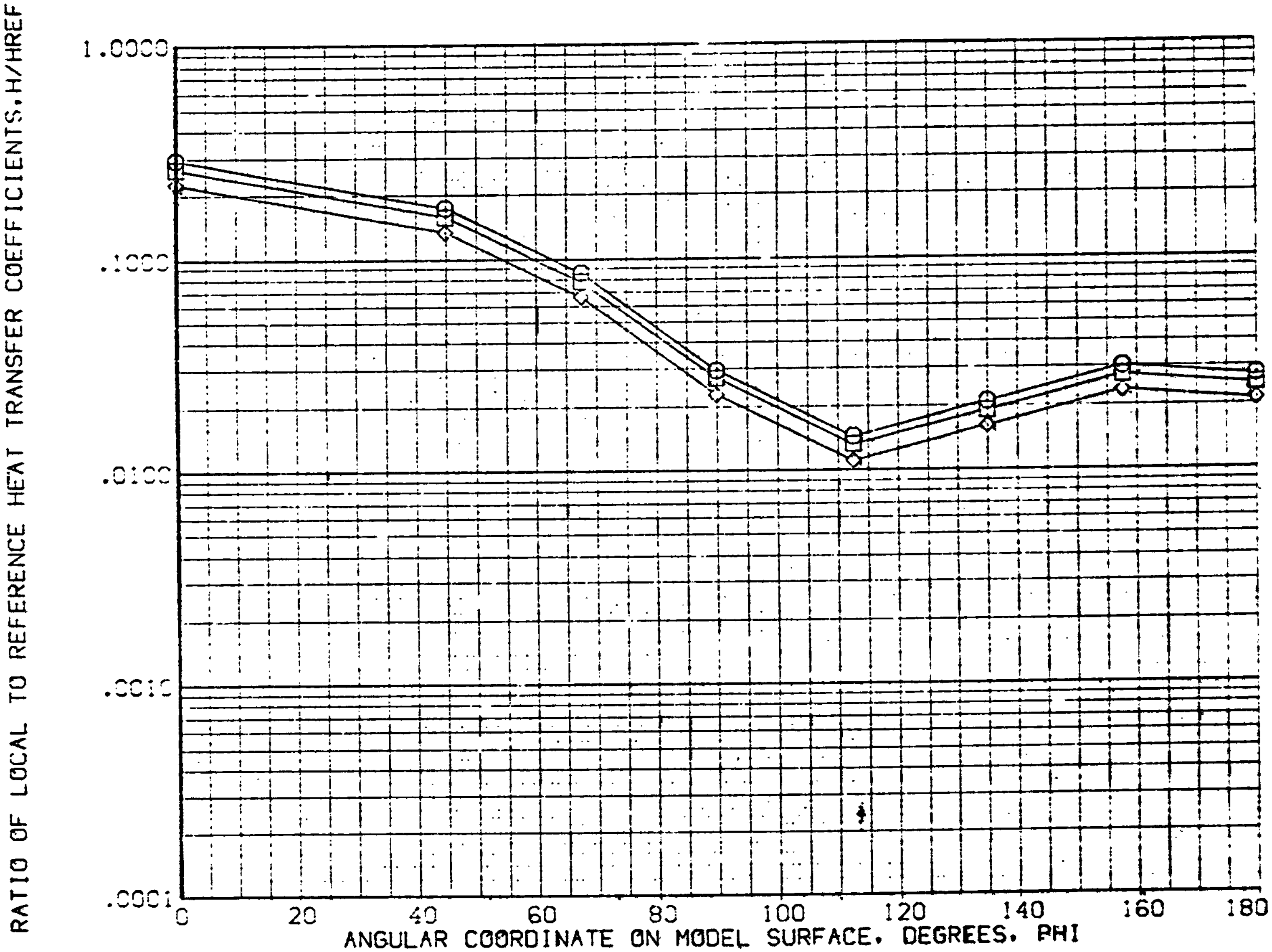


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK (REVT10)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.650	5.300
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA	60.000	BETA	.000
RN/L	4.000		

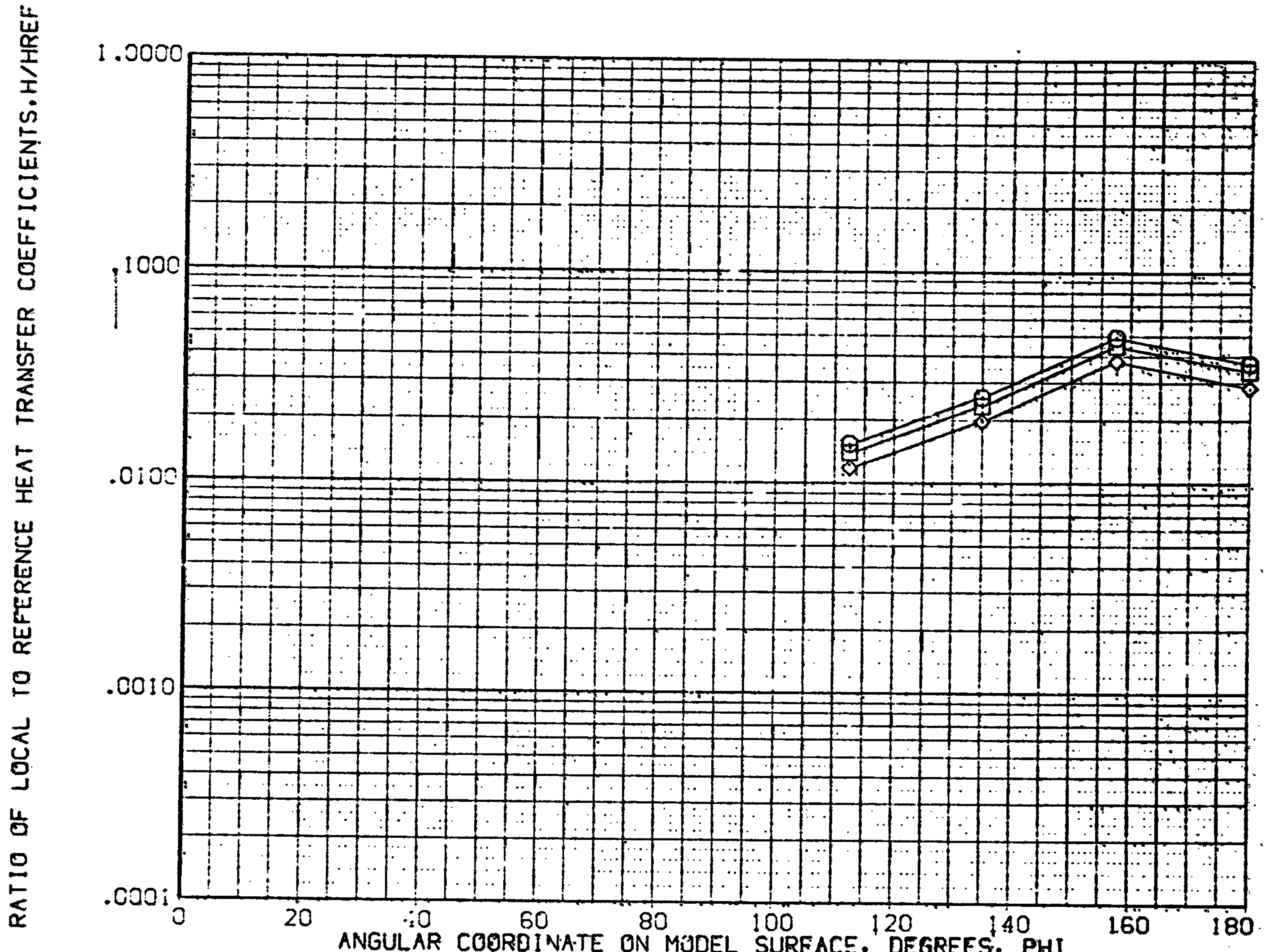


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 01+T1 EXTERNAL TANK (REVT10)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.700	5.300
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA	60.000	BETA	.000
RN/L	4.000		

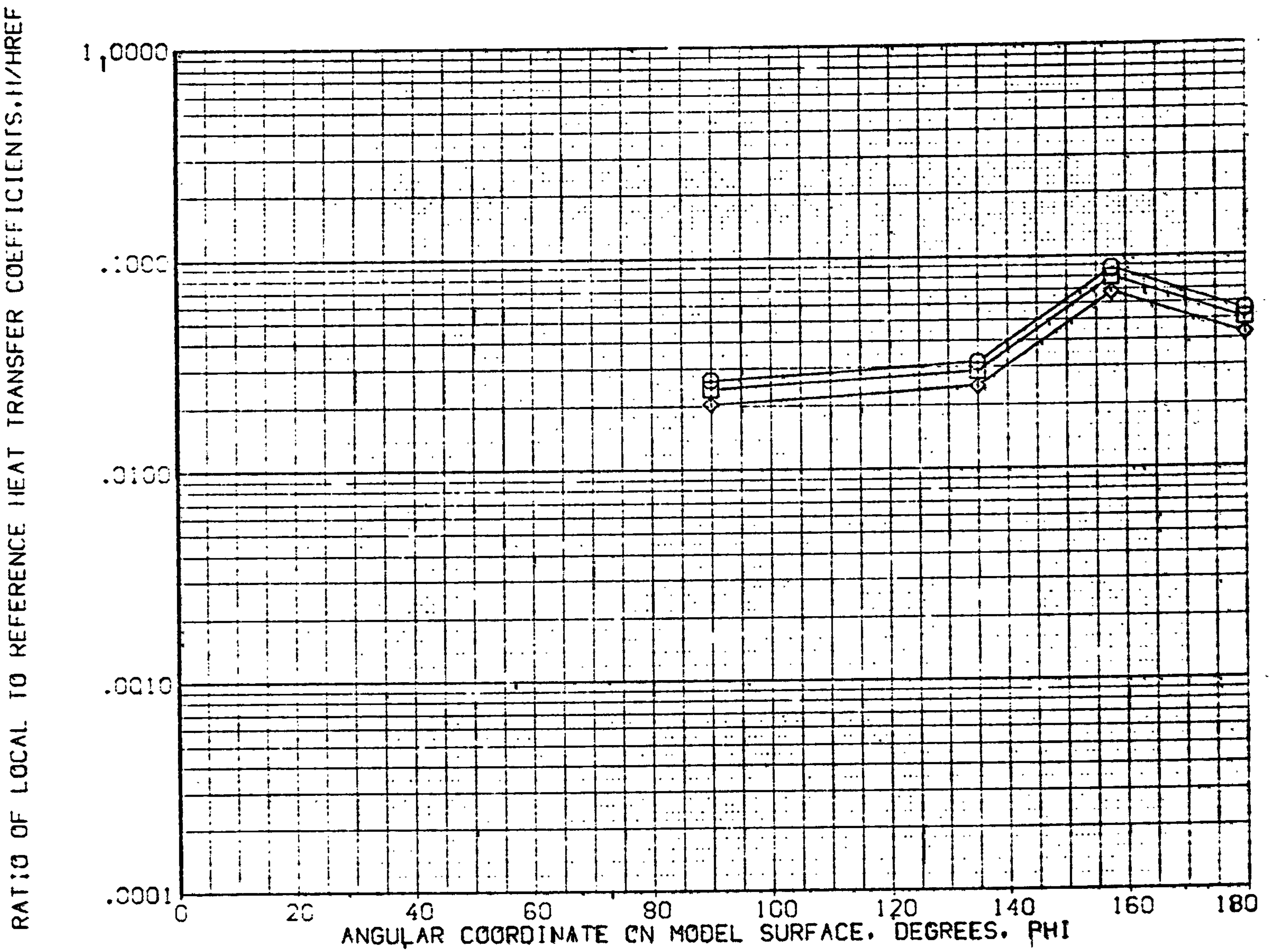


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK (REVT10)

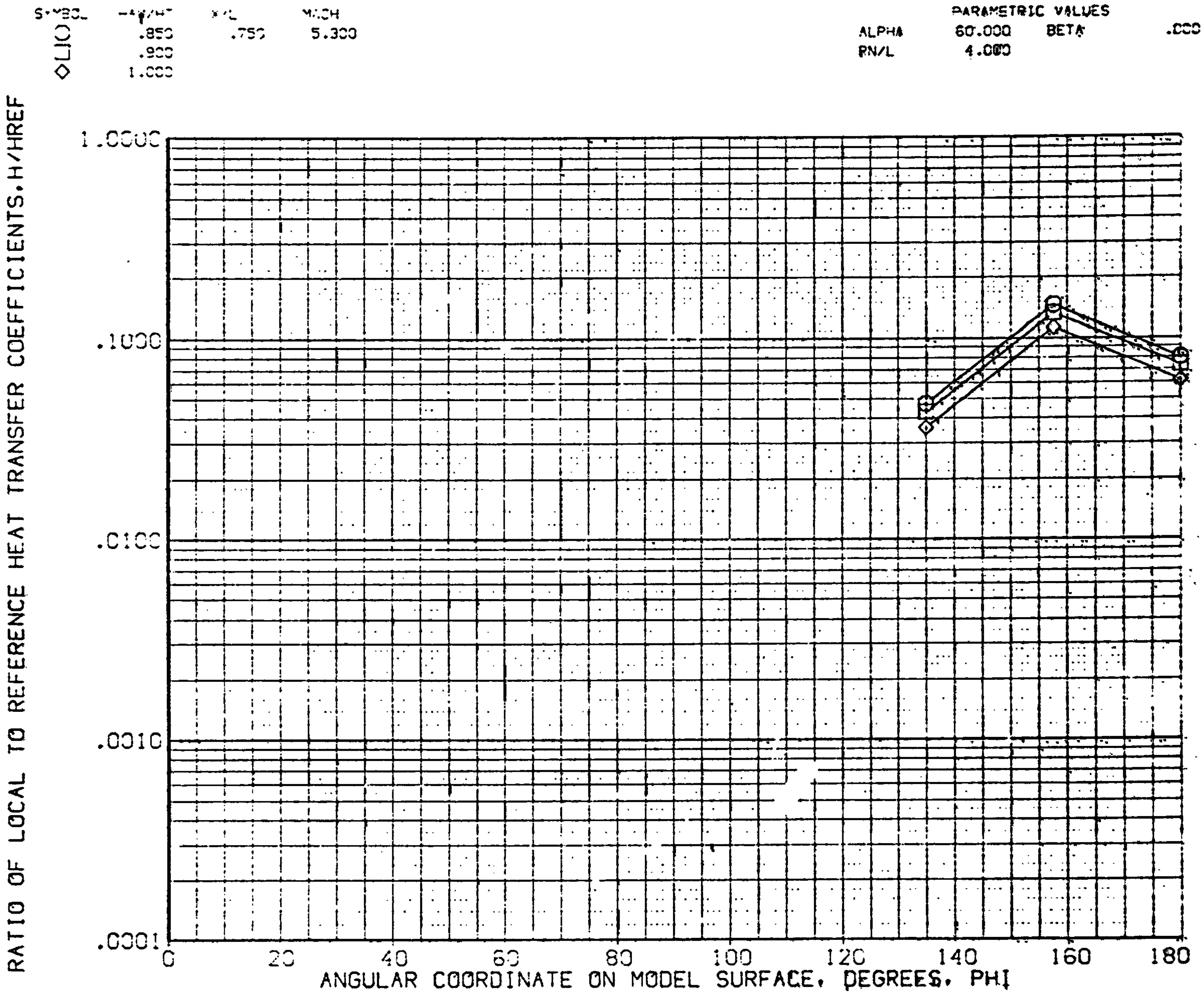


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK (REVT10)

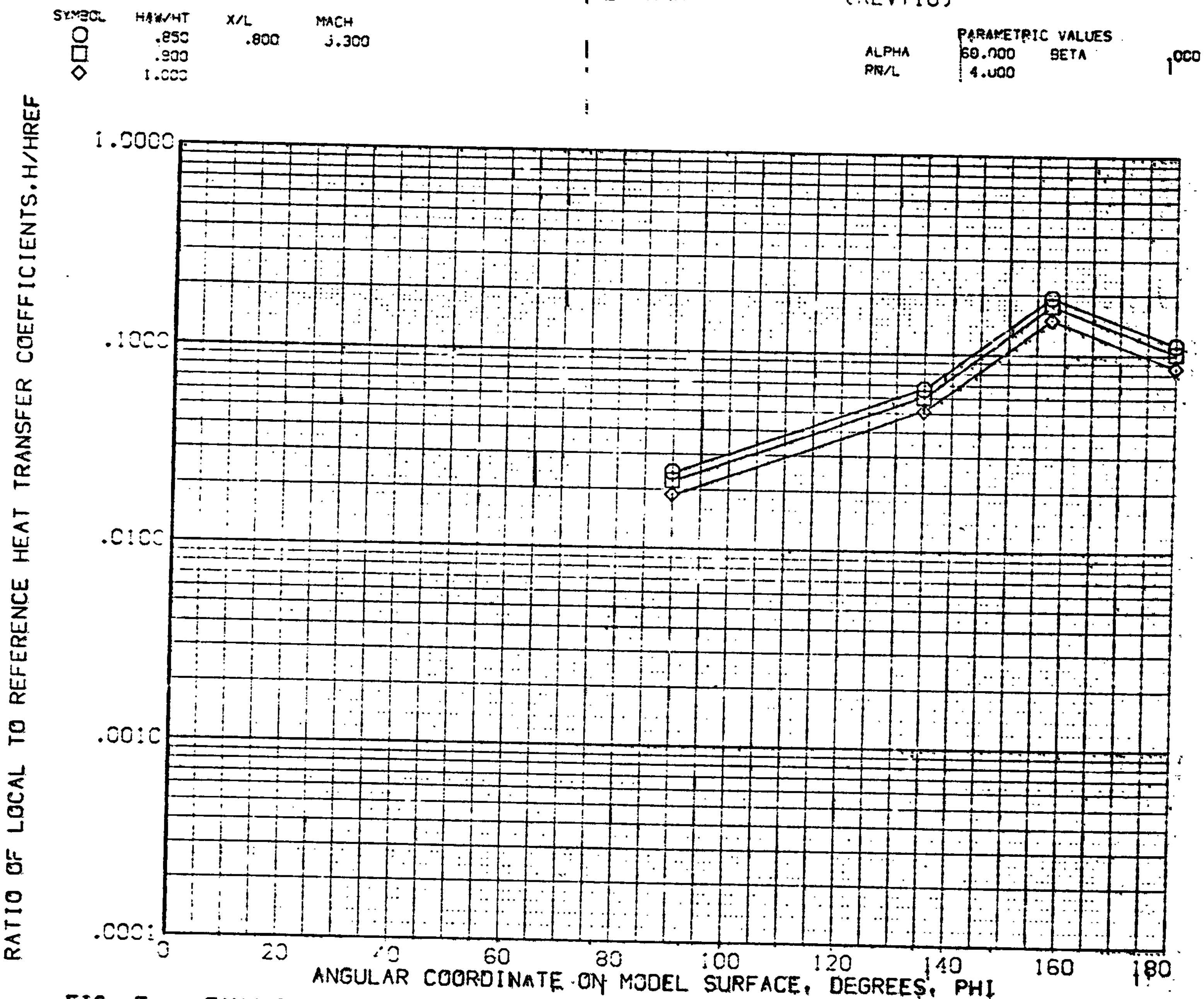


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

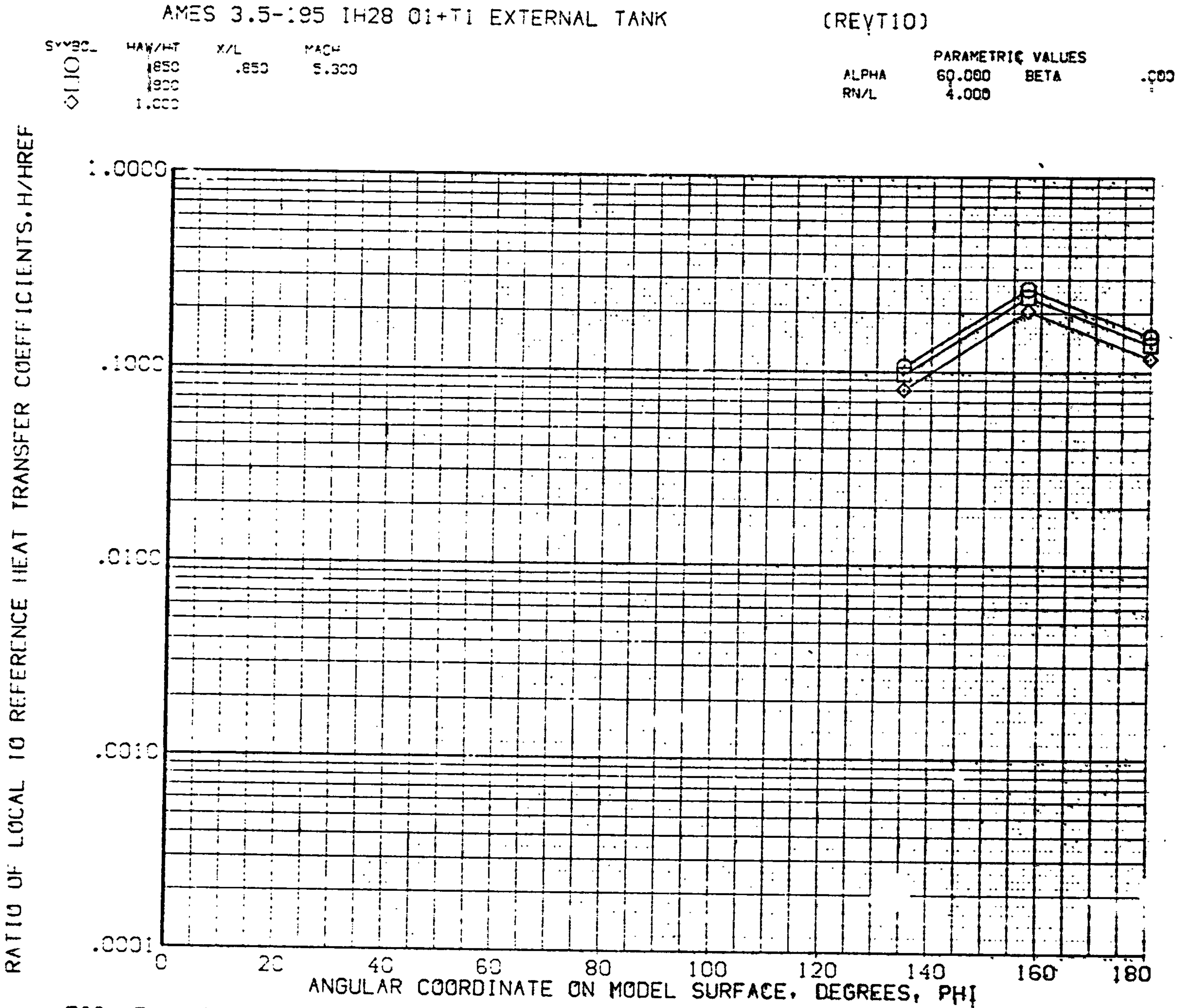


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

SYMBOL	HW/HT	X/L	MACH
○	.850	.900	5.300
□	.900		
◇	1.000		

PARAMETRIC VALUES
ALPHA 60.000 BETA .000
RN/L 4.000

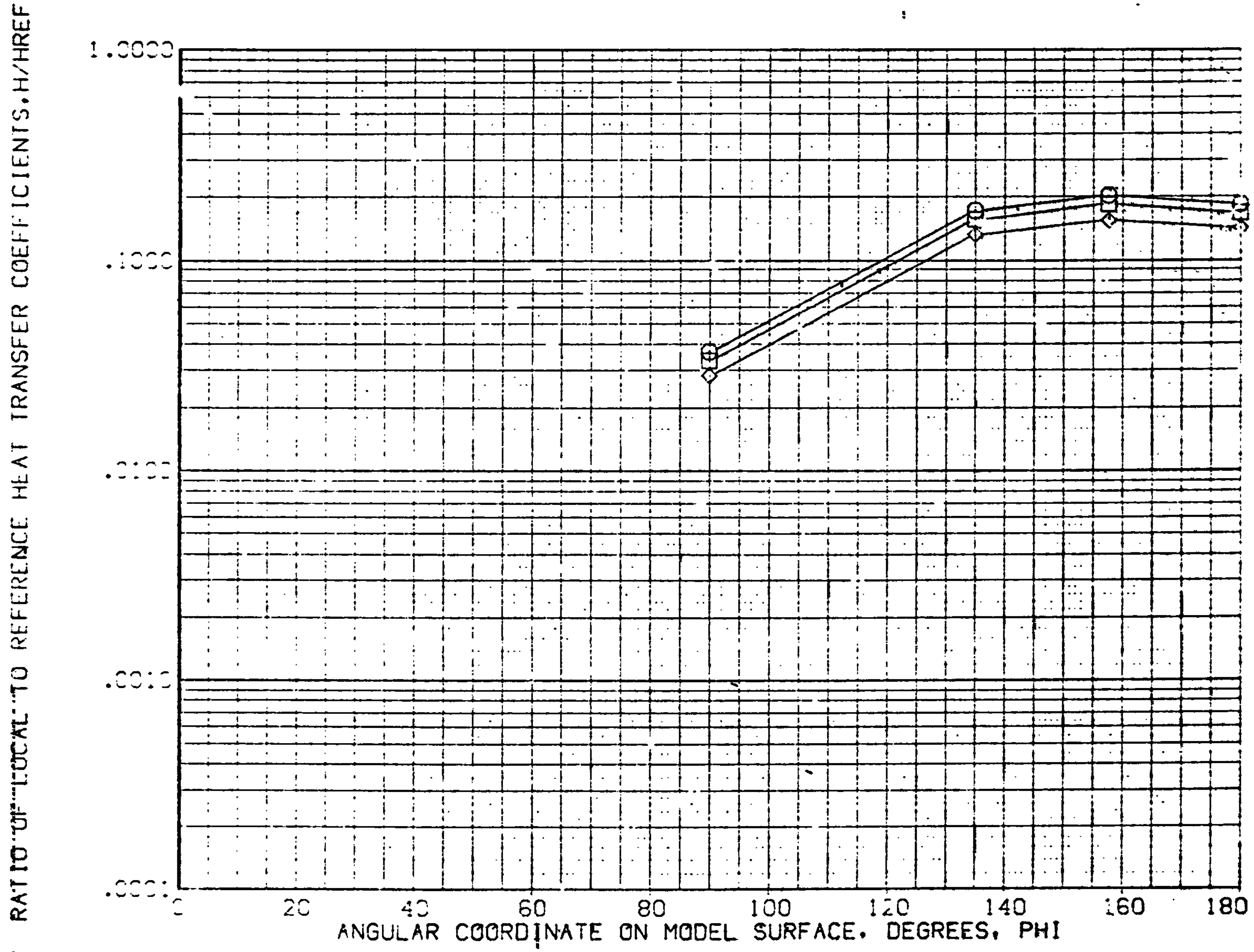


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

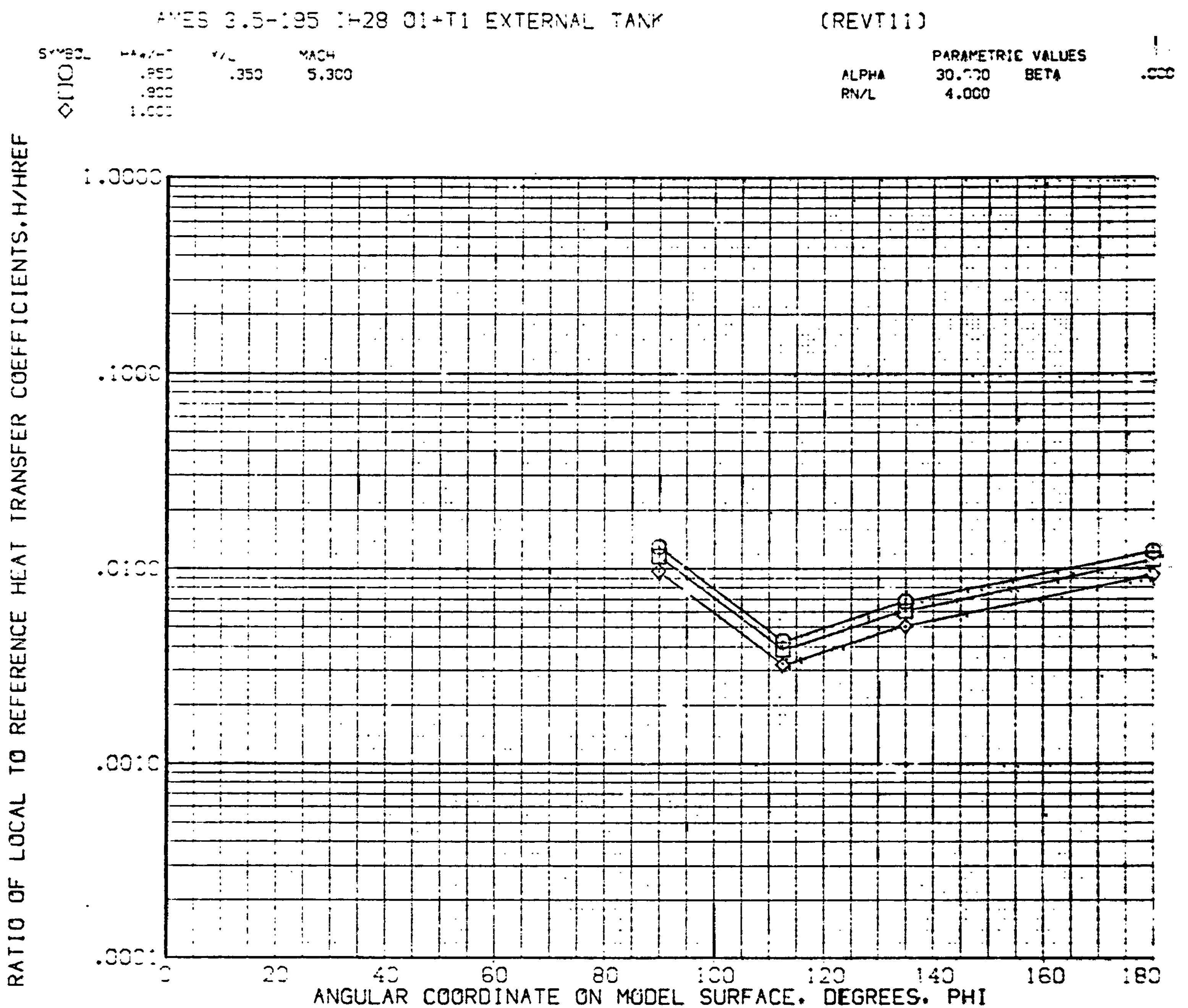


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

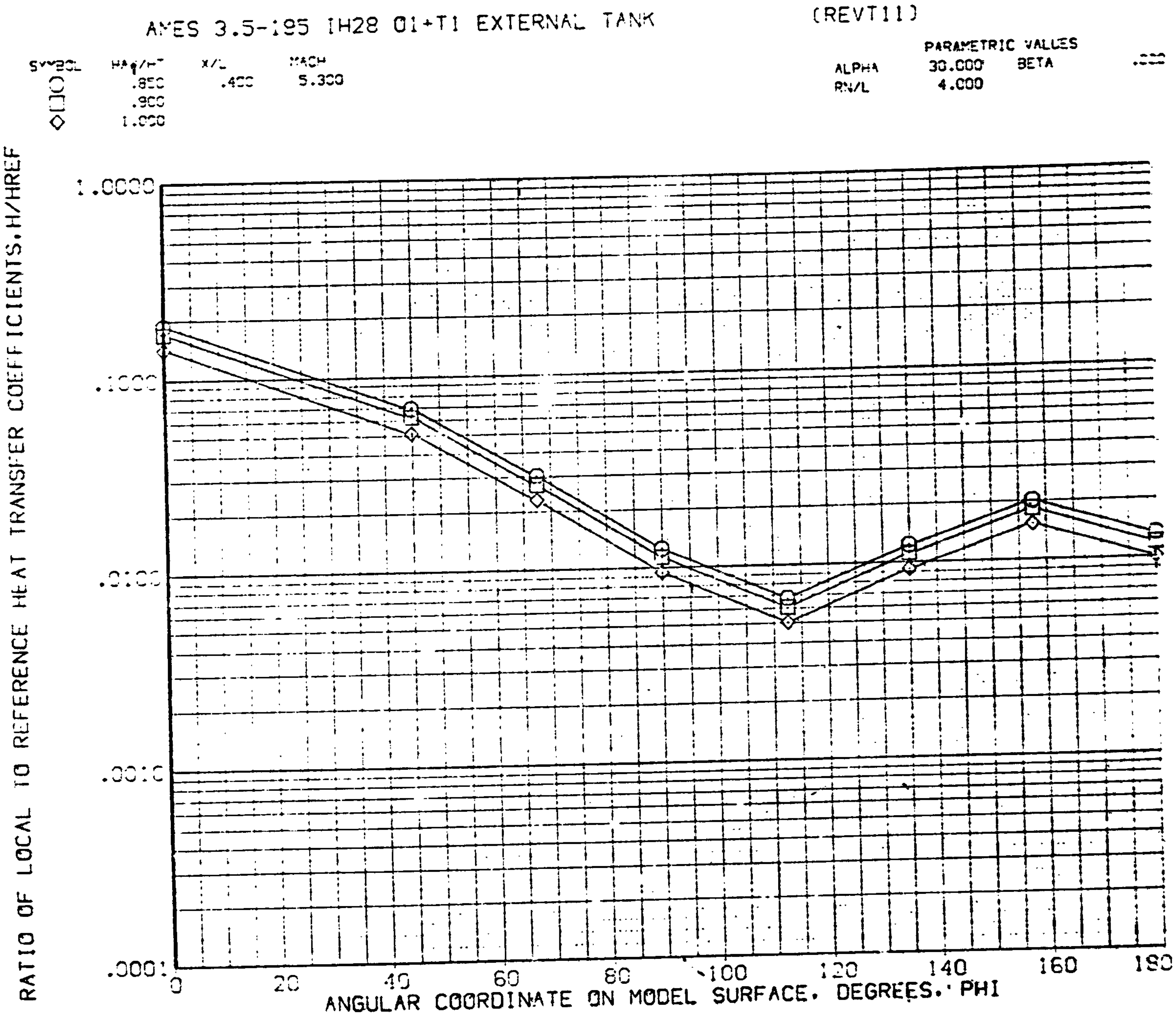


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

REPRODUCIBILITY OF THE ORIGINAL PAGE IS POOR

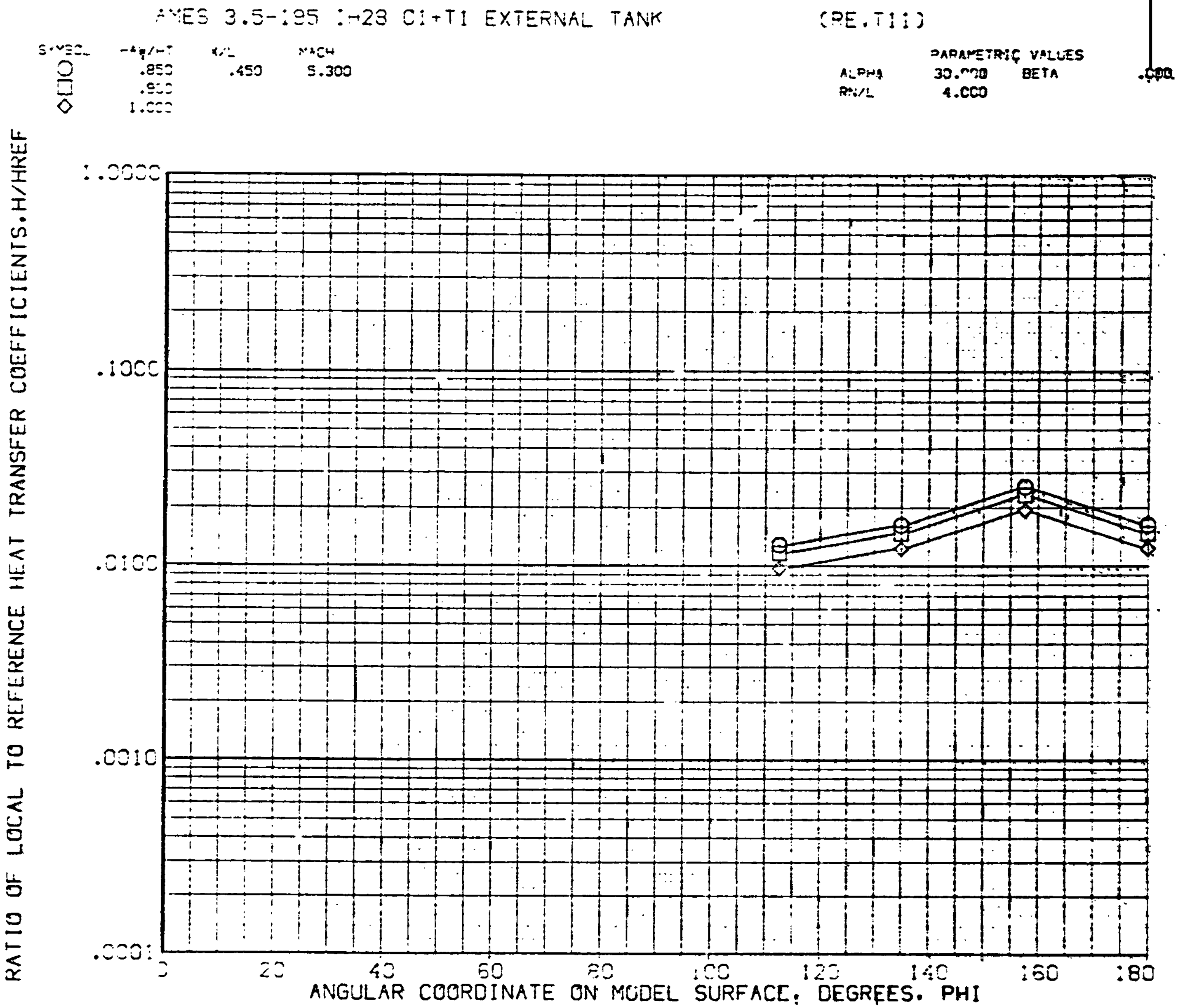


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK (REVT11)

SYMBOL	HA/HT	X/L	MACH
○	.850	.500	5.300
□	.900		
◇	1.000		

PARAMETRIC VALUES
ALPHA 30.000 BETA .000
RN/L 4.000

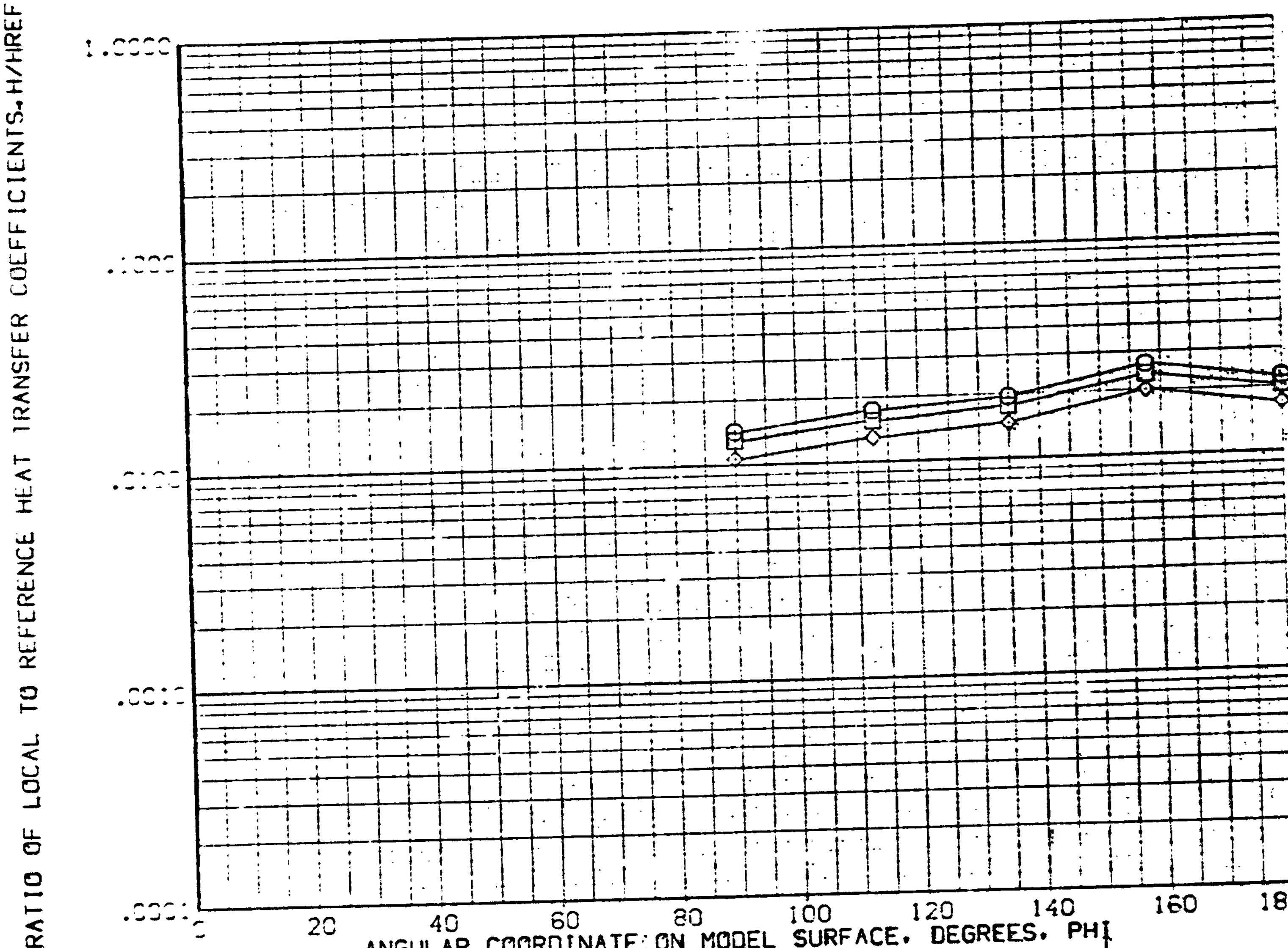


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

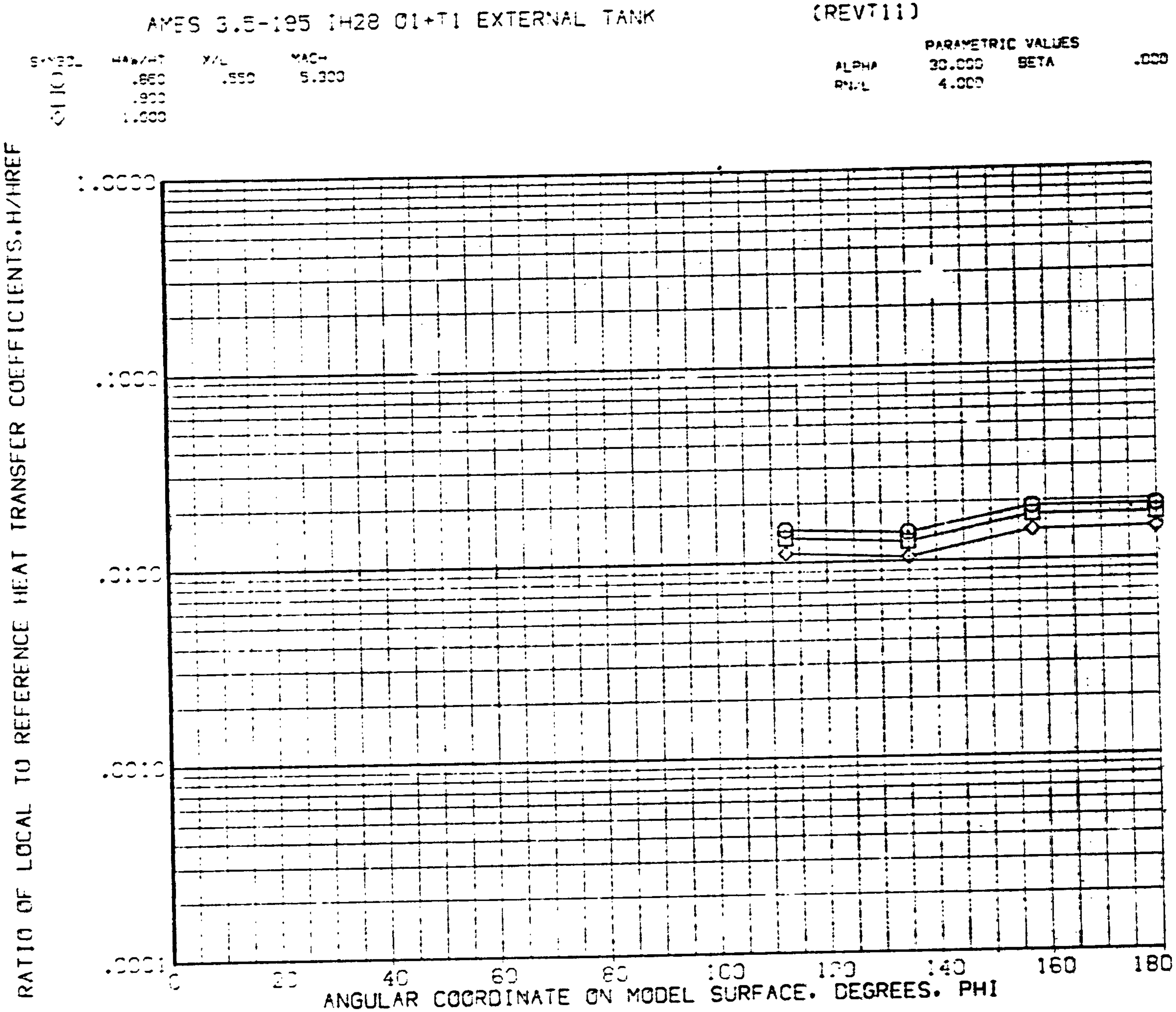


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 CI+TI EXTERNAL TANK (PEVTII)

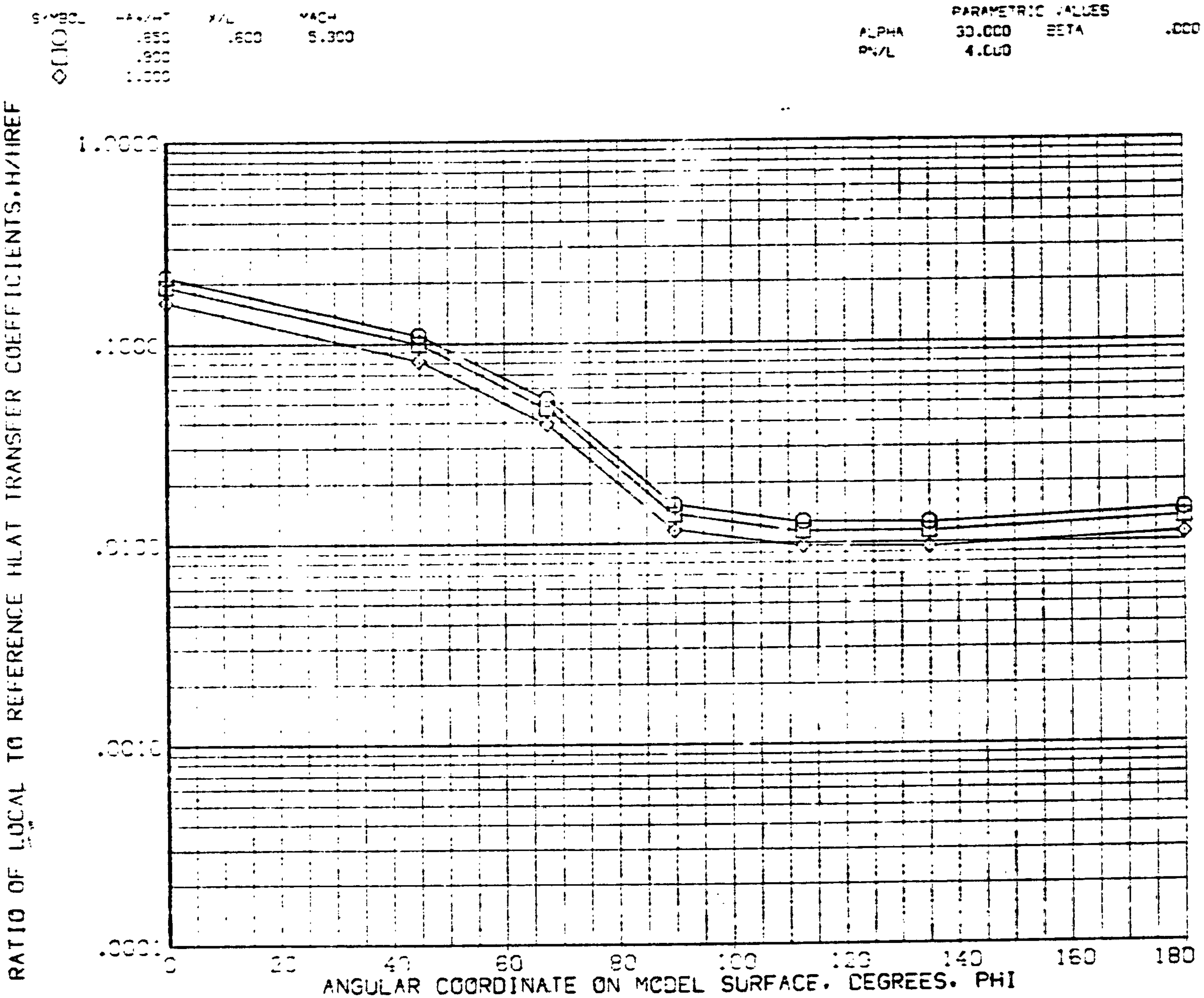


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 OI+TI EXTERNAL TANK (REVTII)

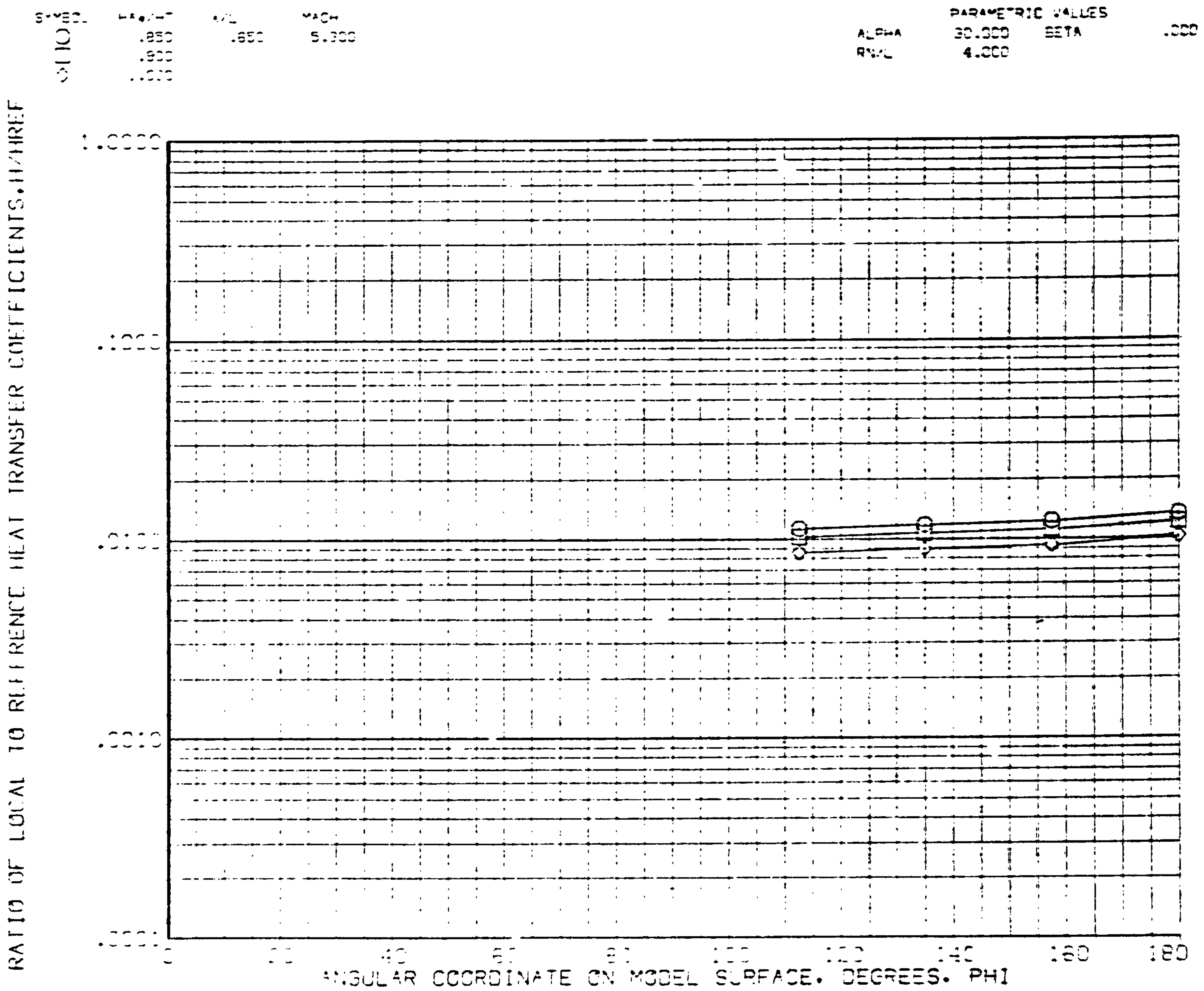


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

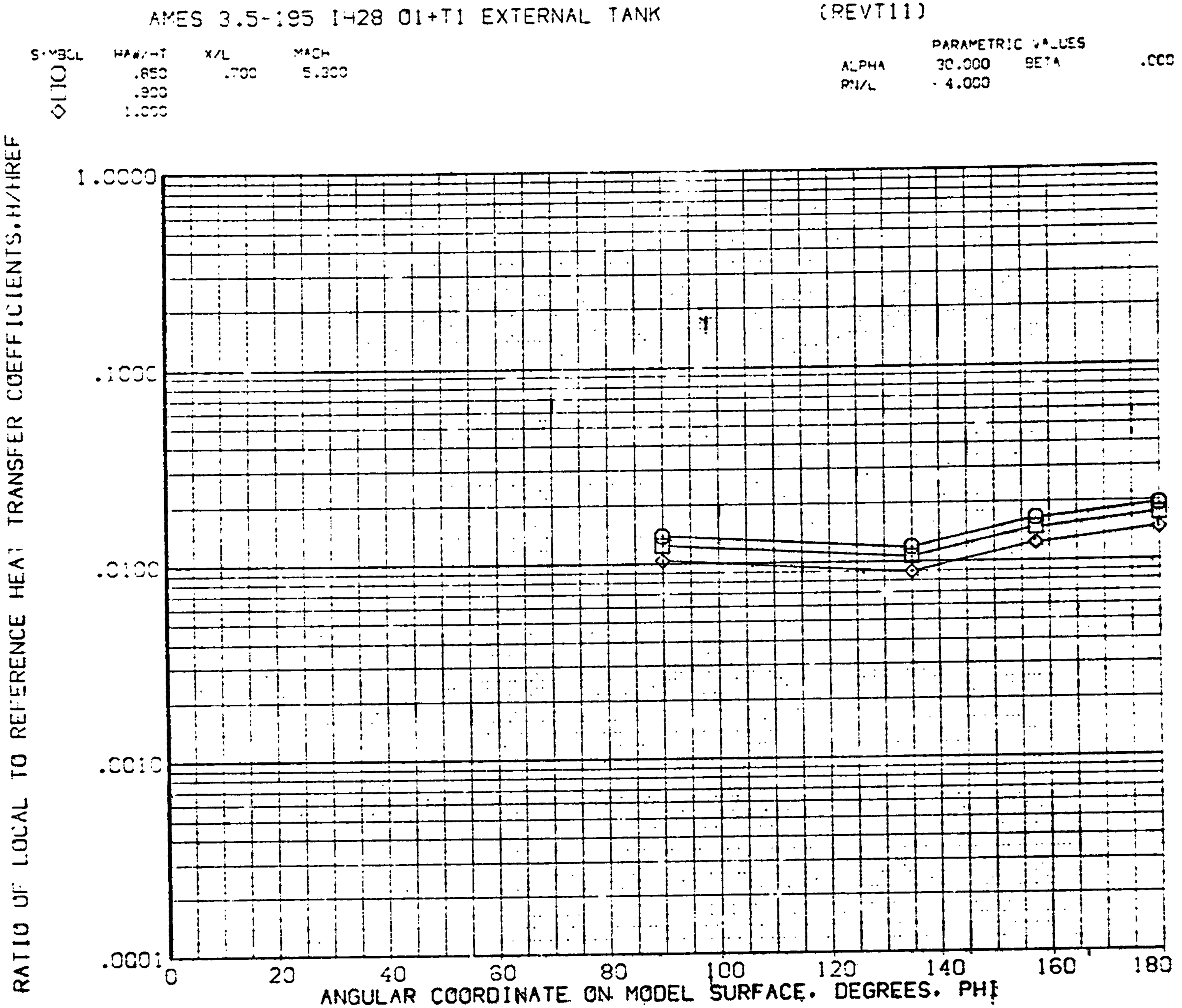


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK (REVT11)

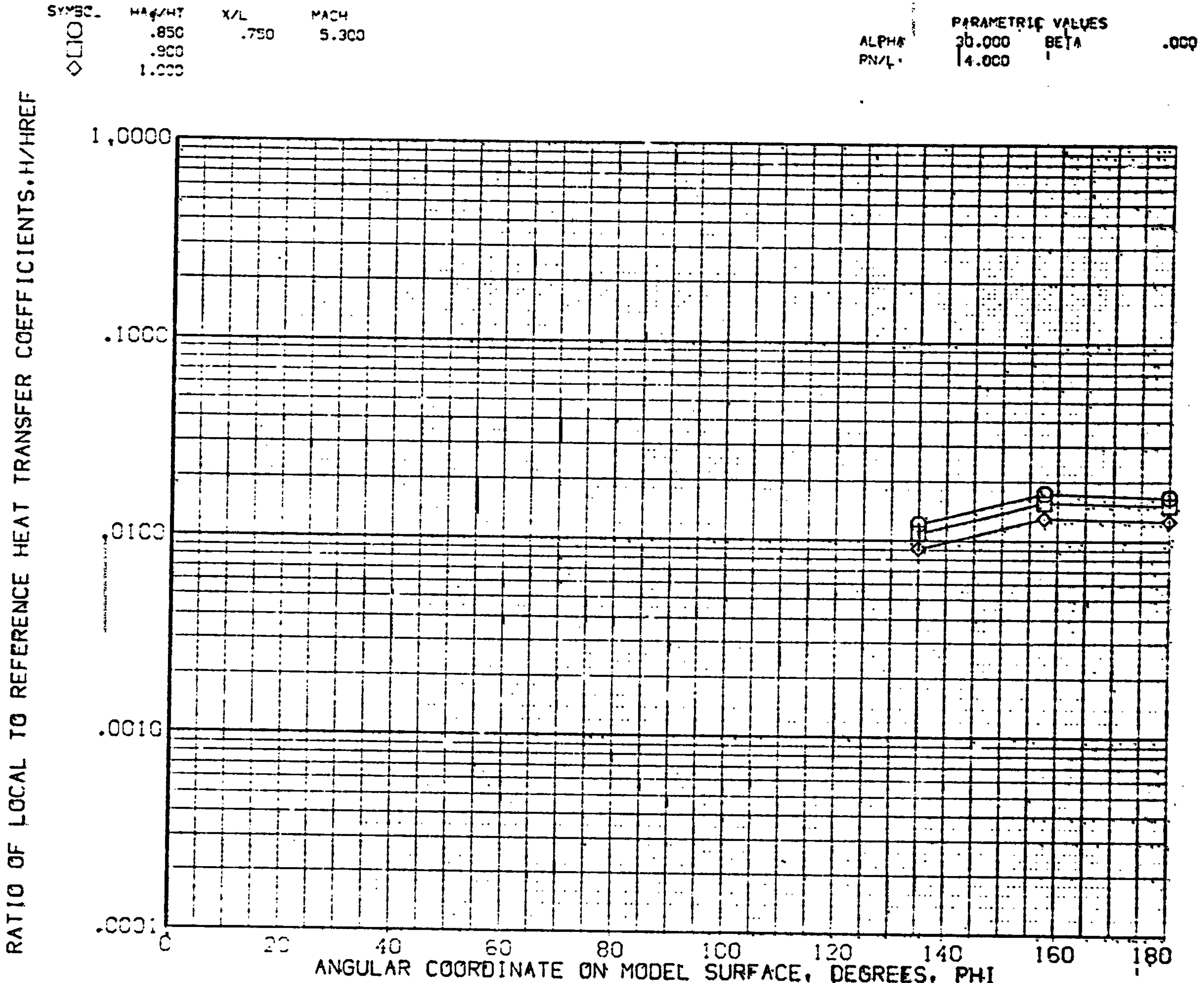


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 01+T1 EXTERNAL TANK (REVT11)

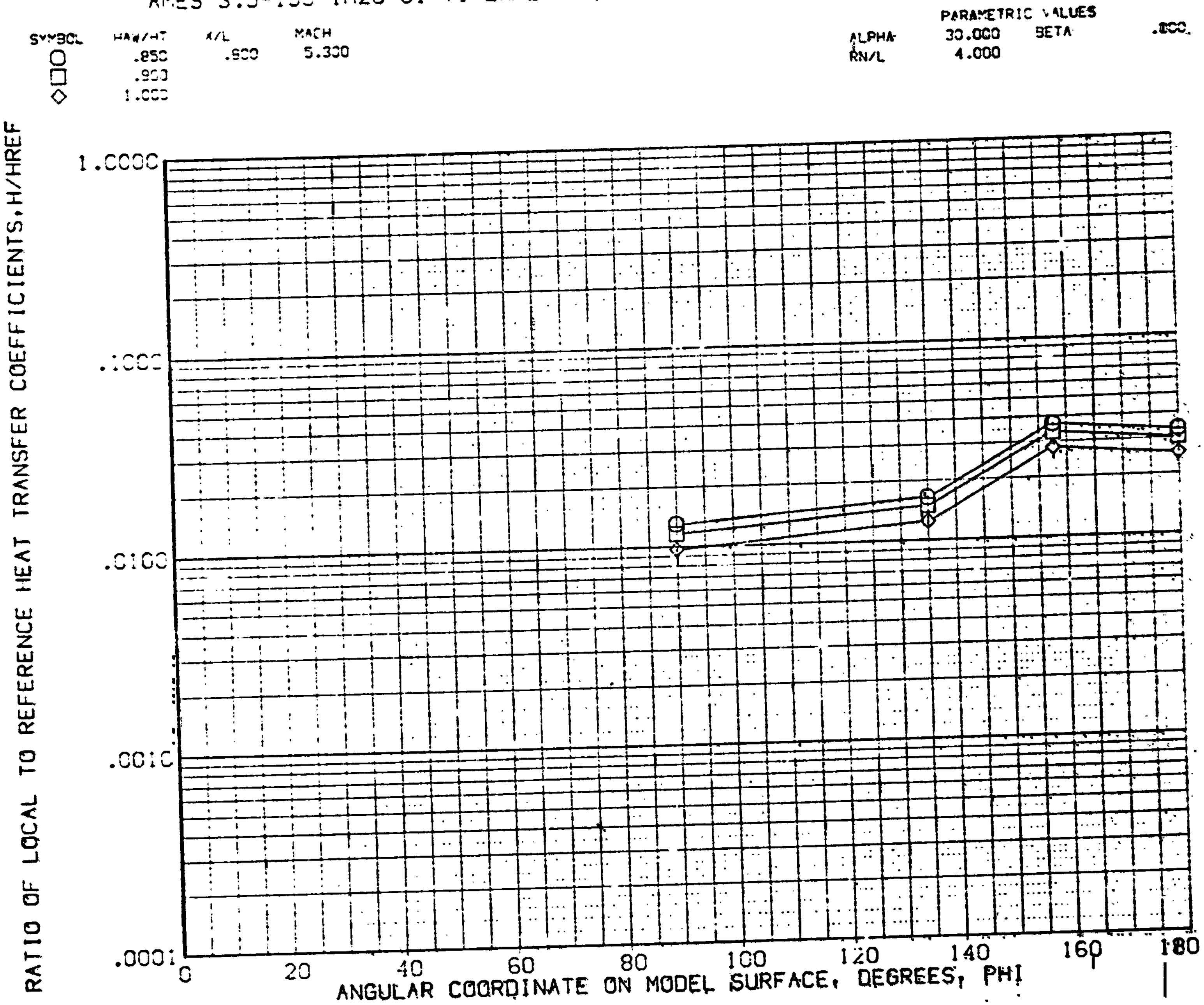


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 01+T. EXTERNAL TANK (REVT11)

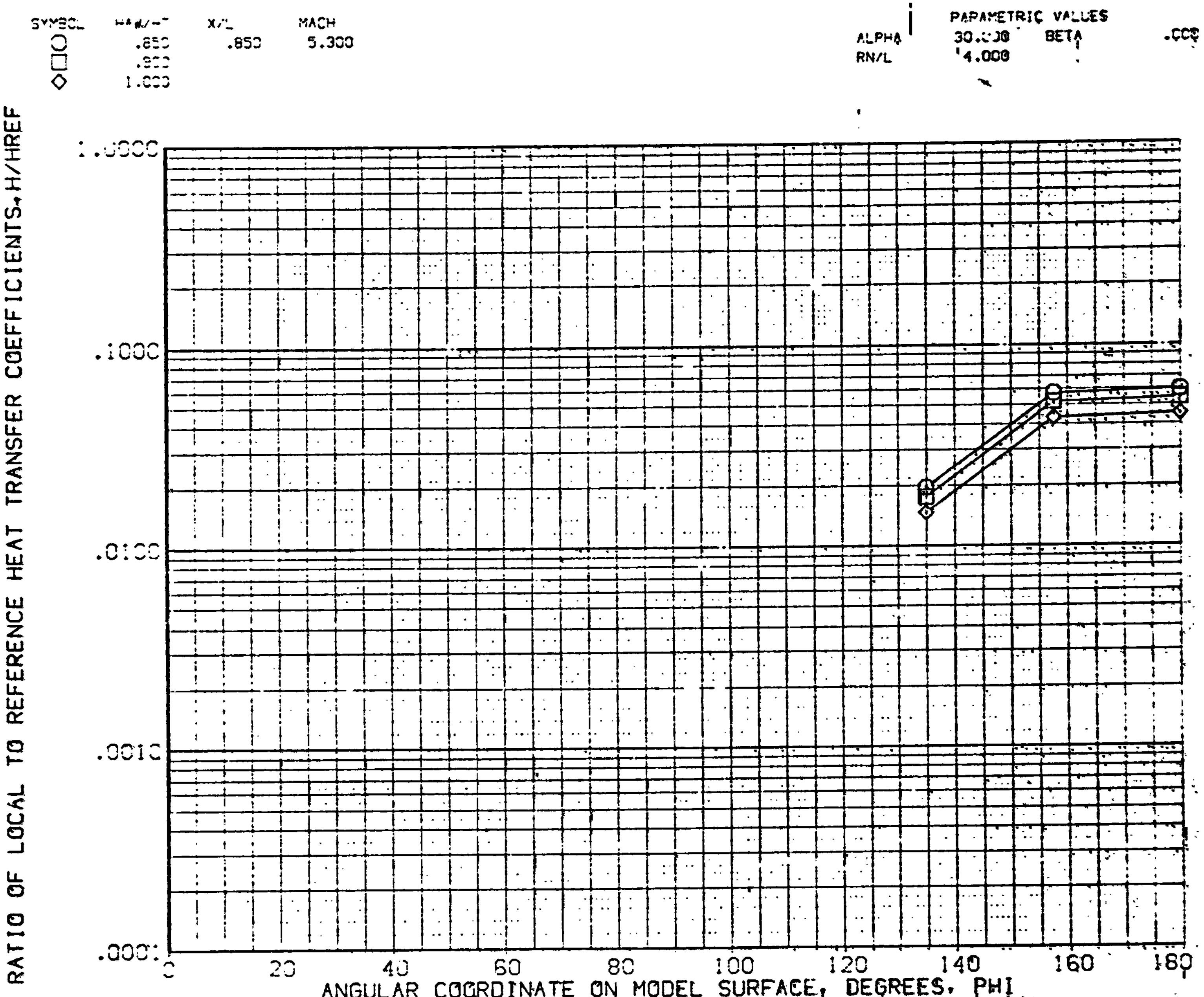


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK (REVT11)

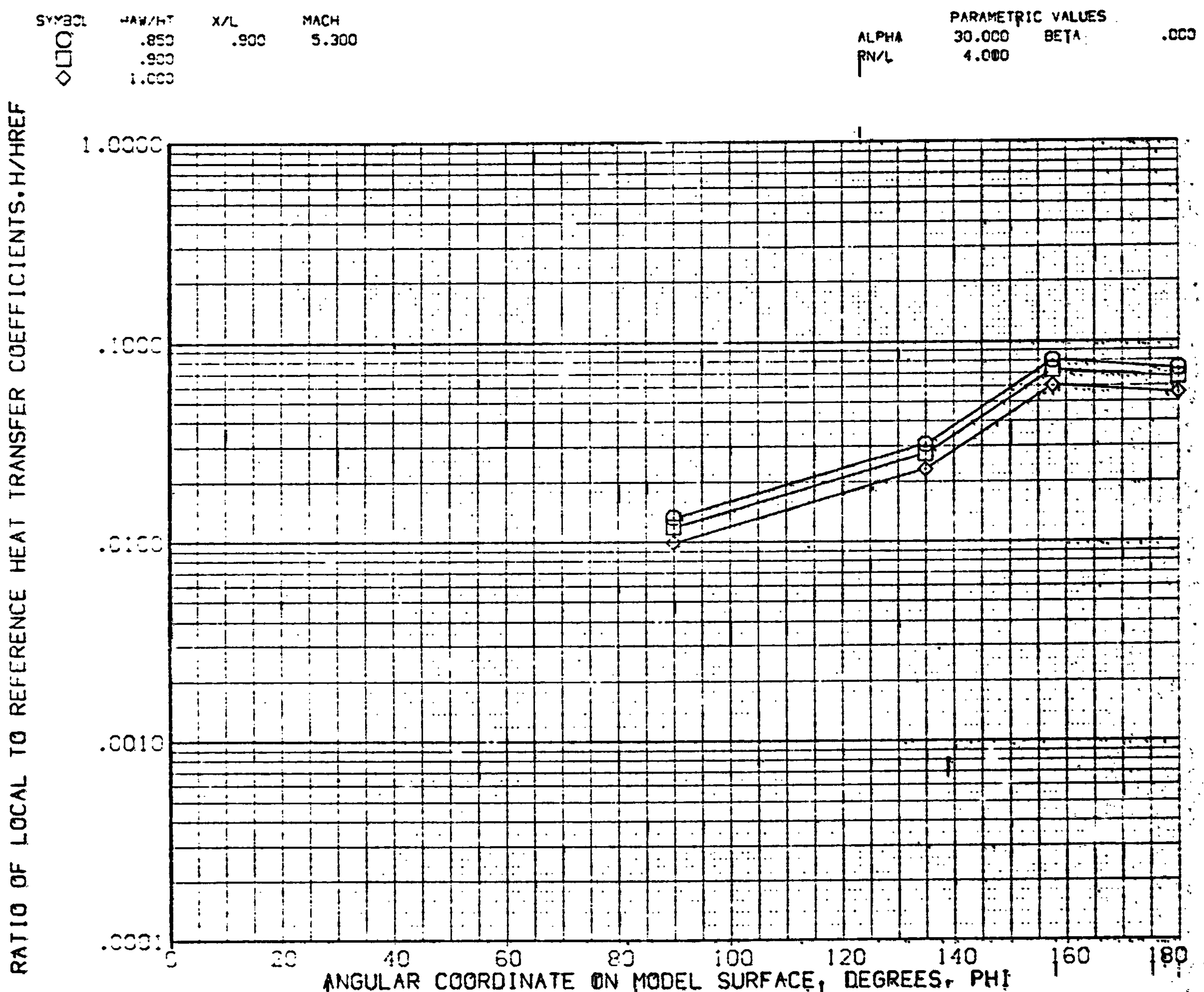


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK (REVT12)

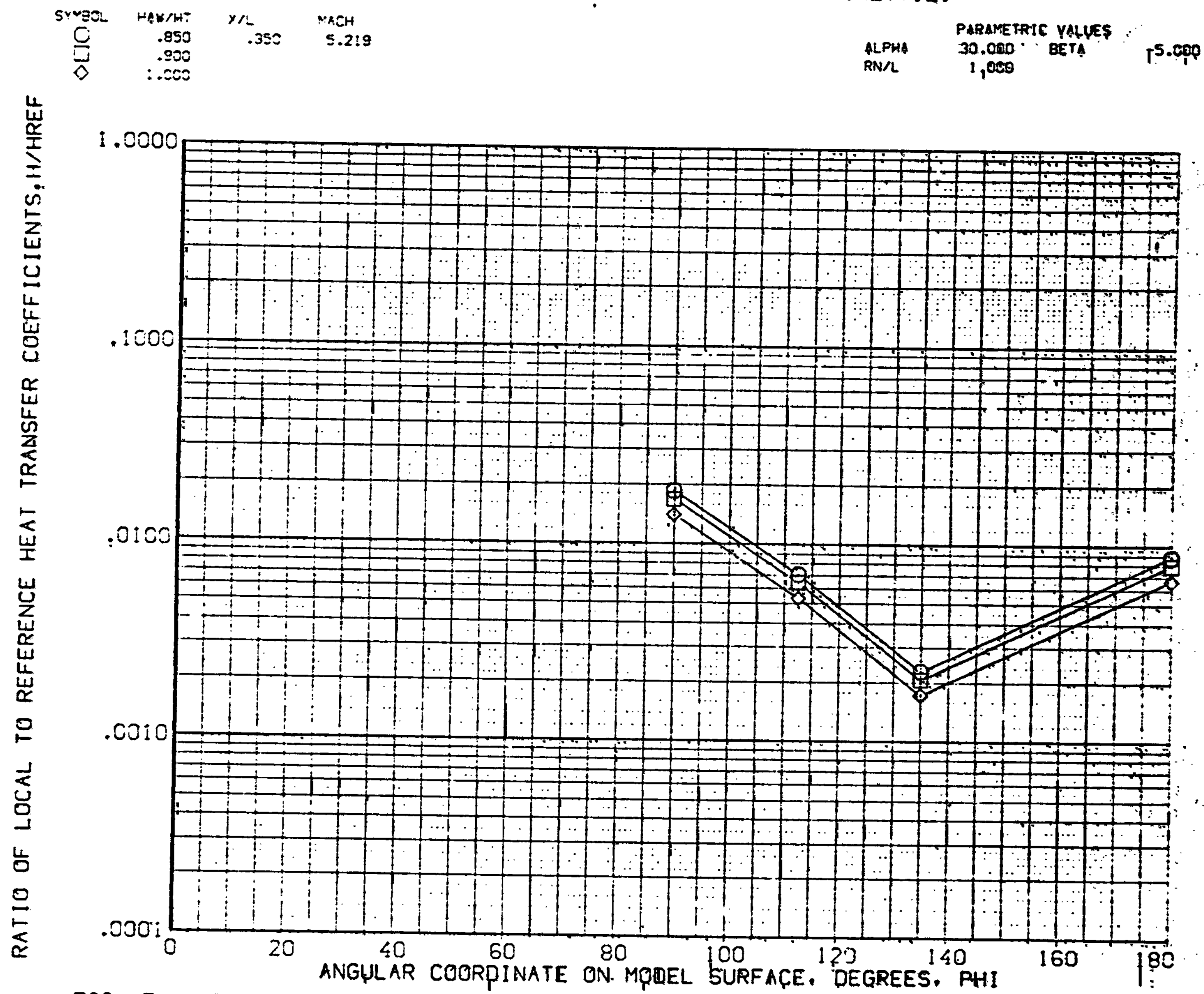


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

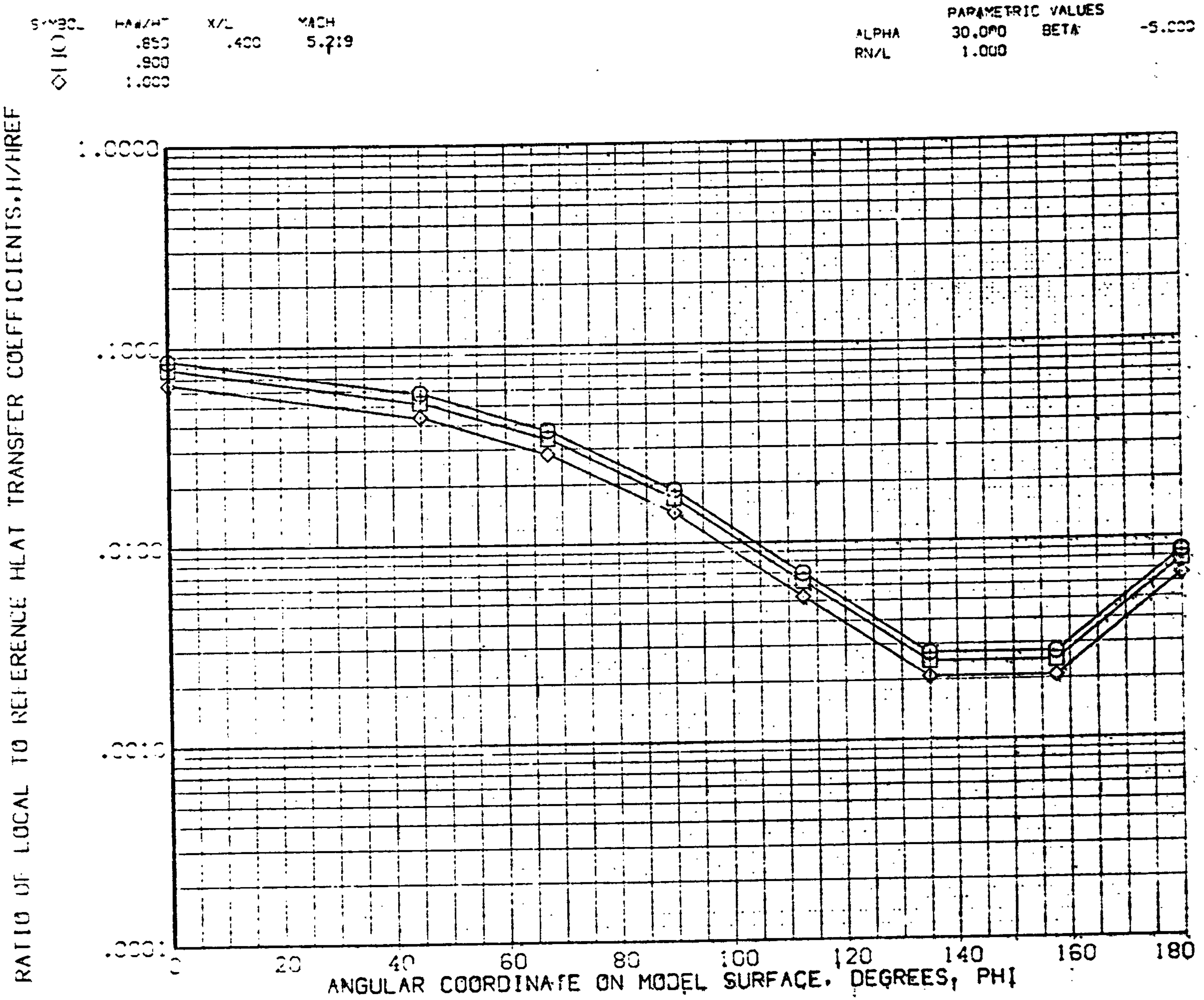


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

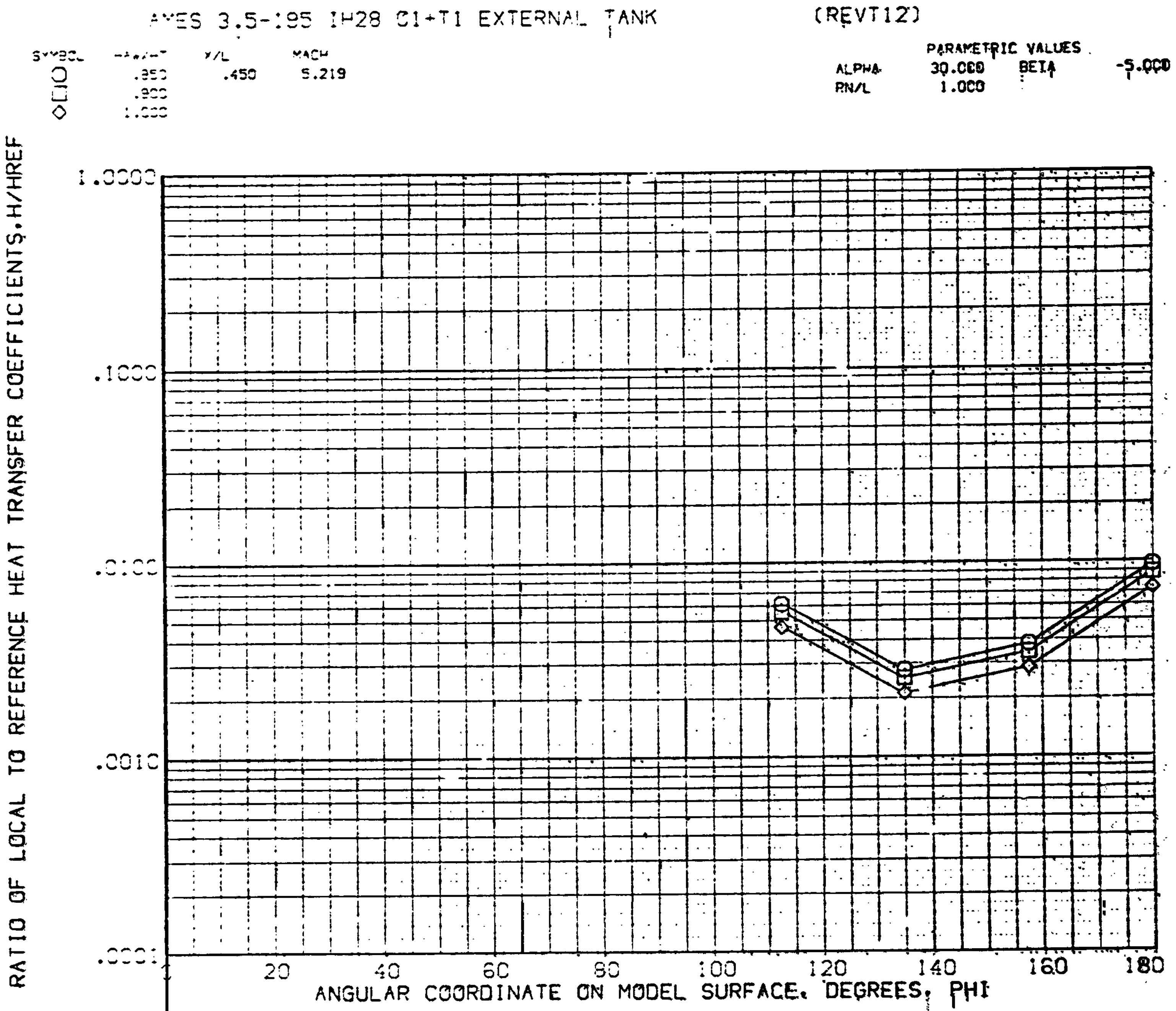


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 C1+T1 EXTERNAL TANK (REVT12)

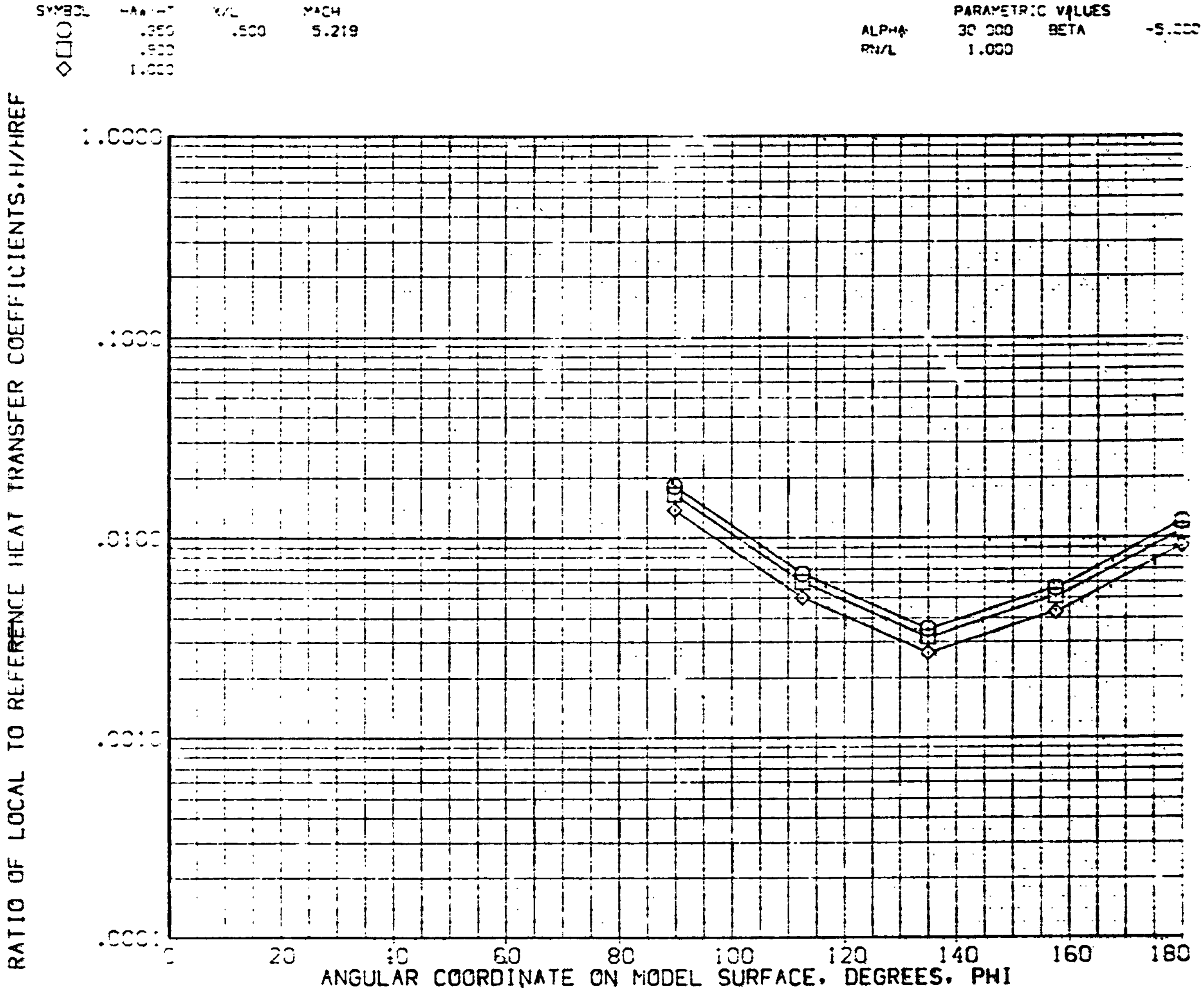


FIG. 5 TANK,IN THE PRESENCE OF ORBITER

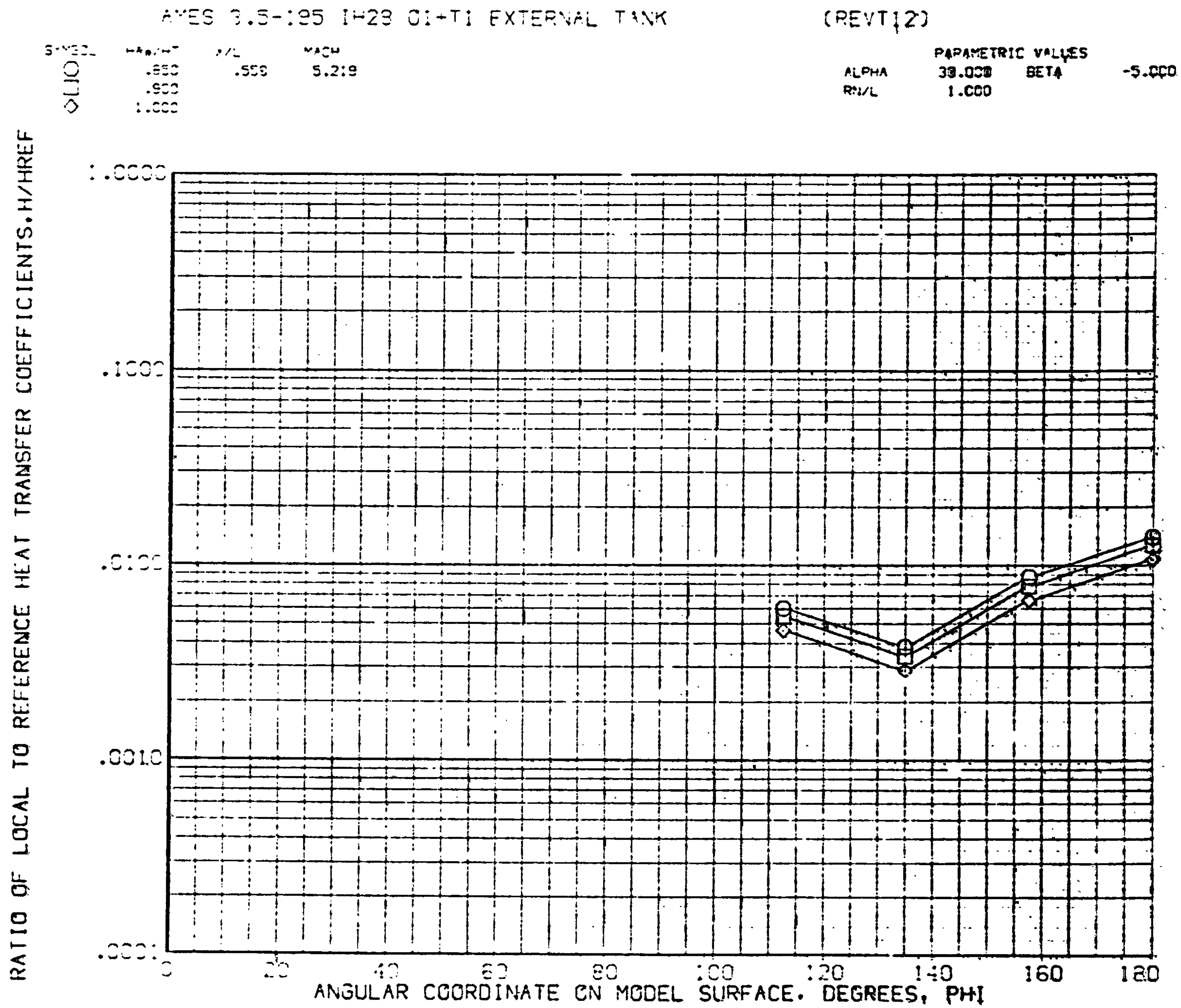


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

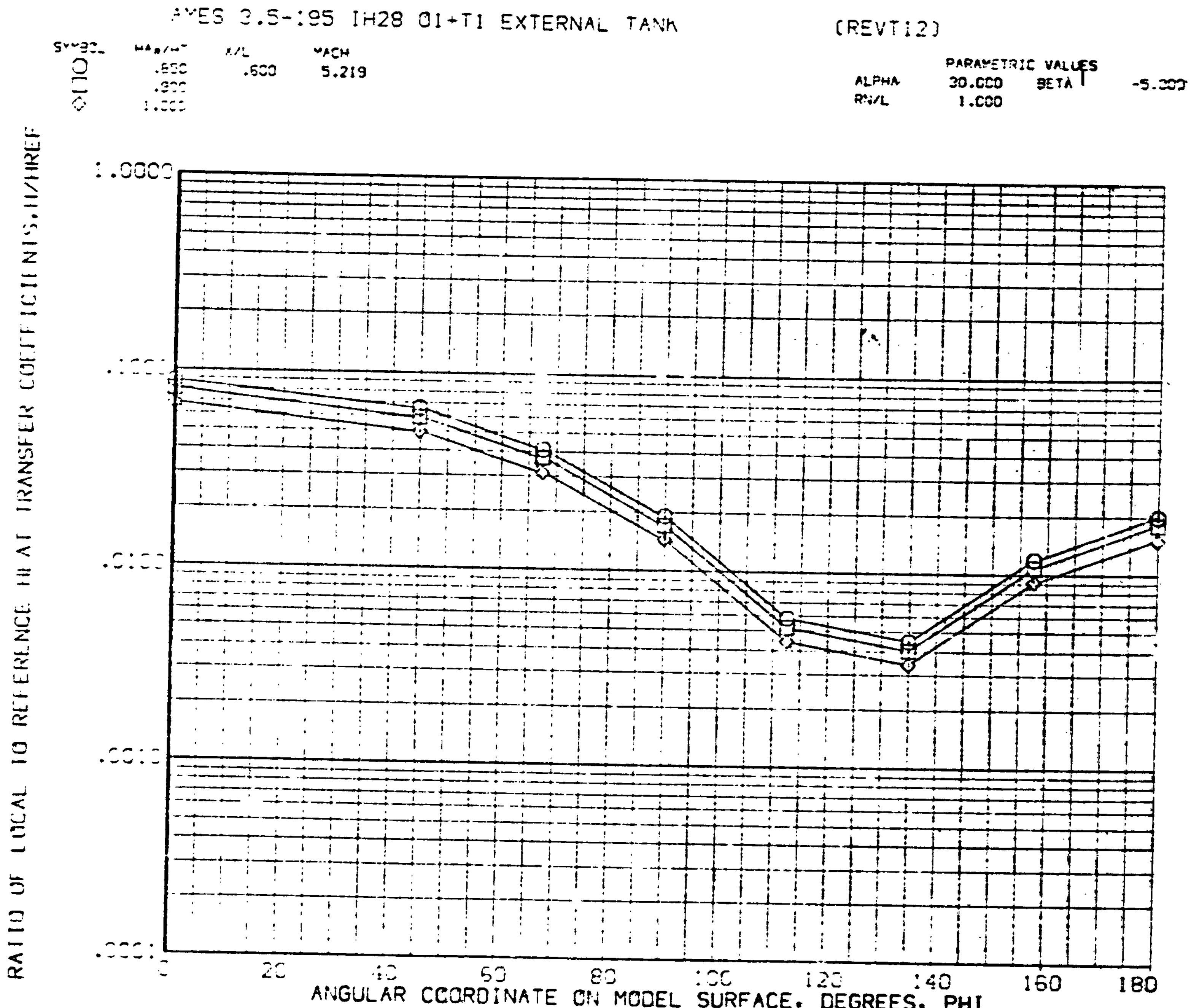


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

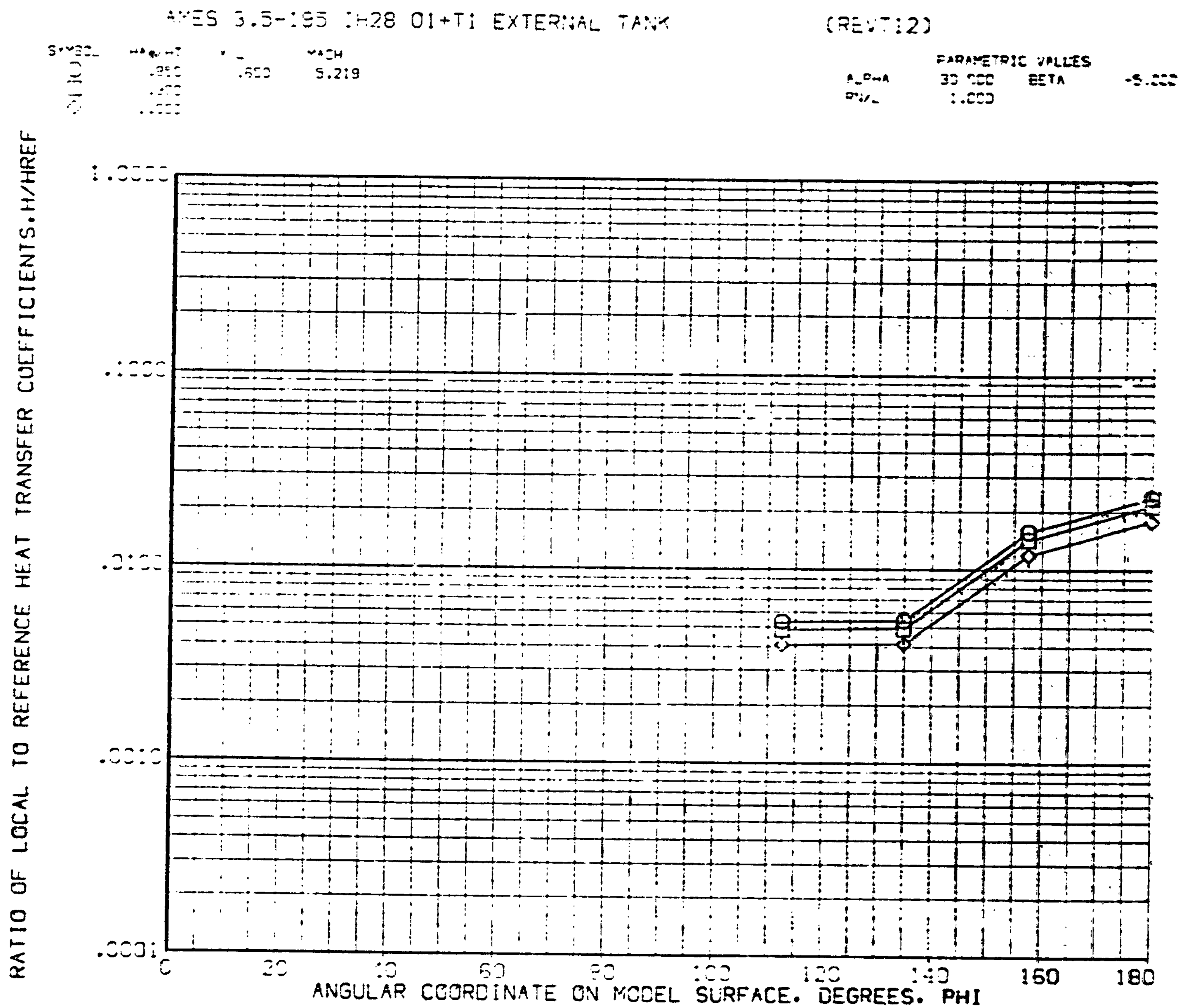


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 OI+TI EXTERNAL TANK (REVT12)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.700	5.219
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA	30.000	BETA	-5.000
RN/L	1.000		

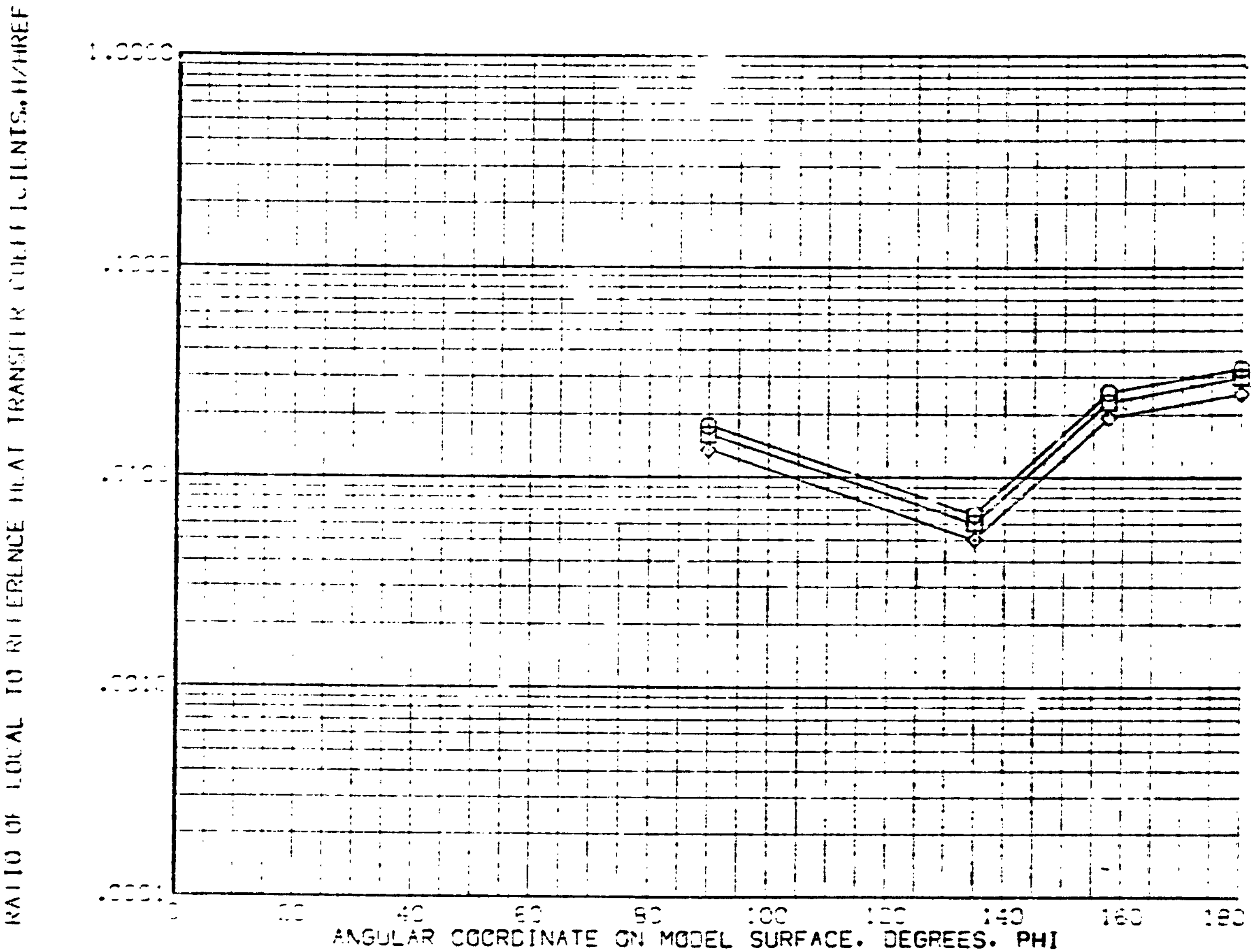


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

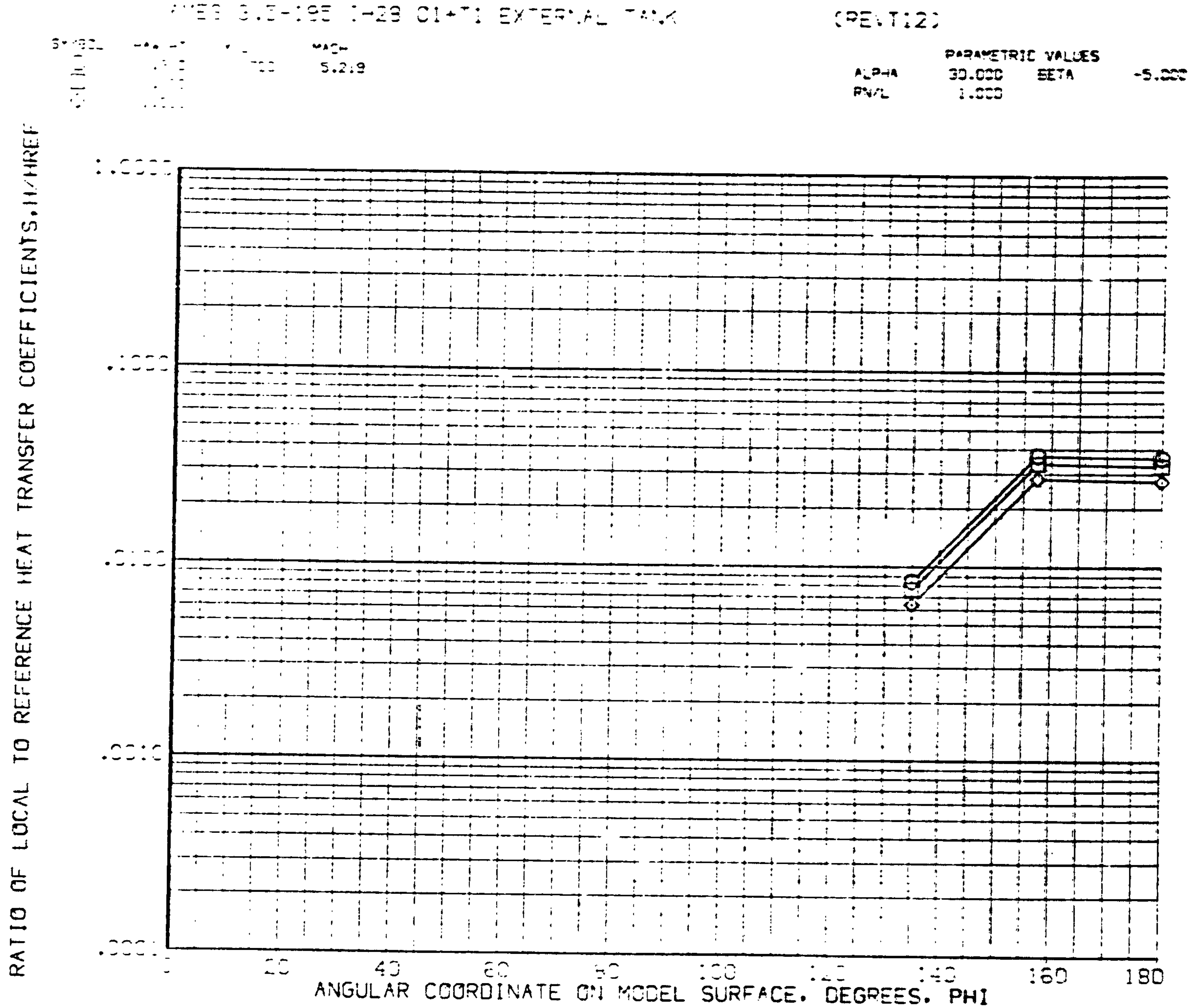


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 01+T1 EXTERNAL TANK (REVT12)

SYMBOL	HA/HT	X/L	MACH
○	.850	.800	5.219
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA 30.000 BETA -5.000

RN/L 1.000

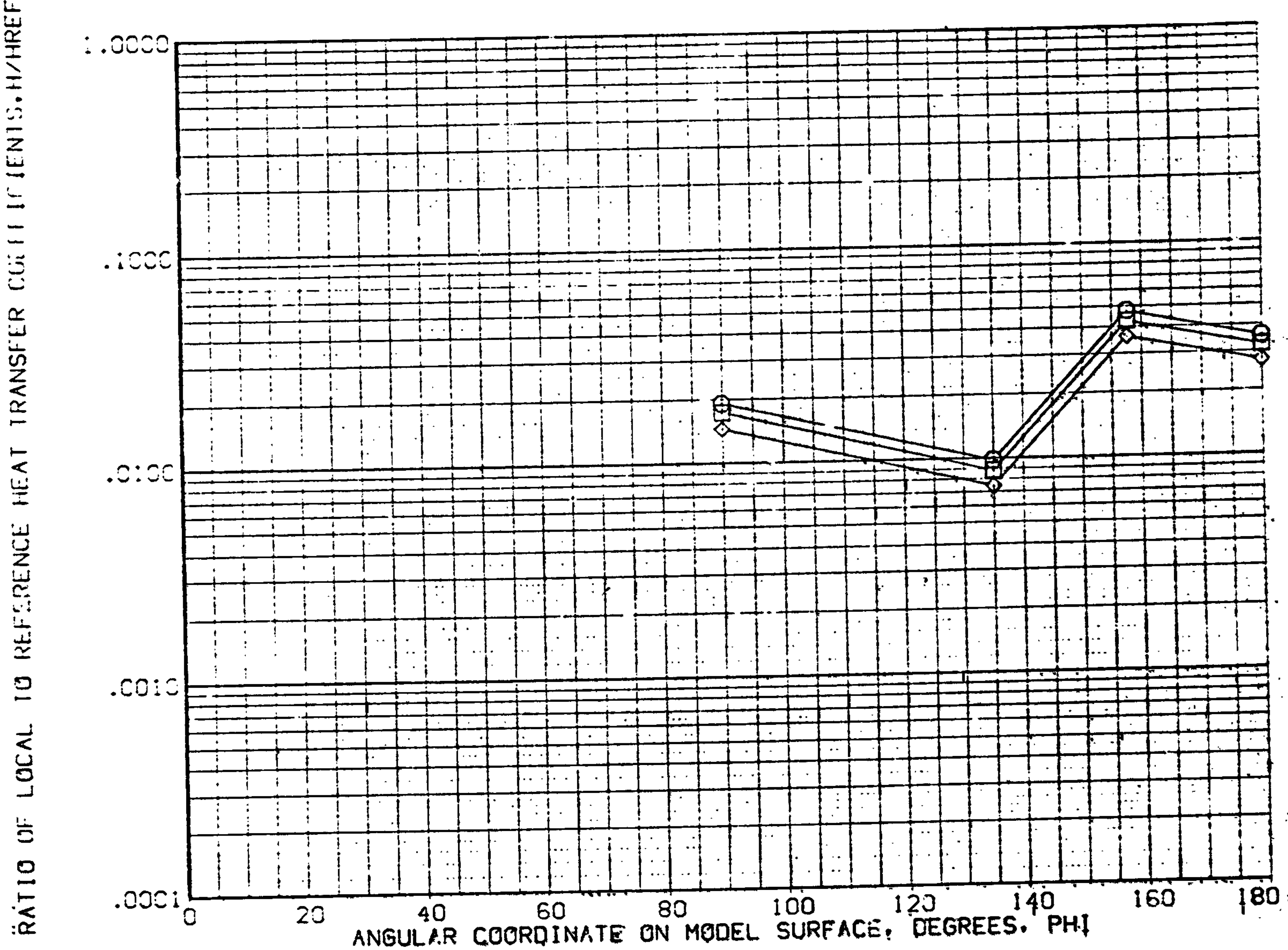


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK (REVT12)

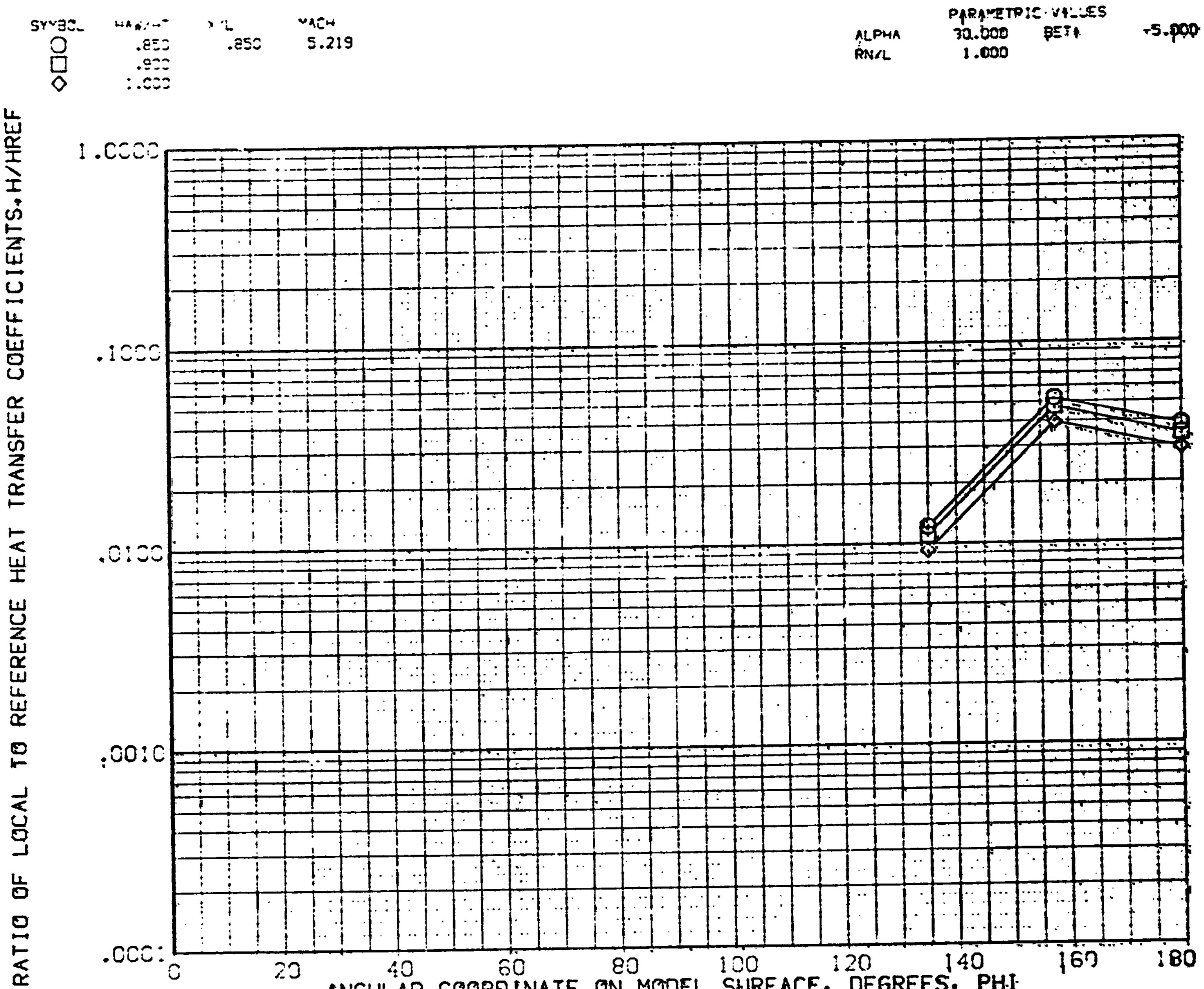


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK (REVT12)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.900	5.219
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA 30.000 BETA -5.000

RN/L 1.000

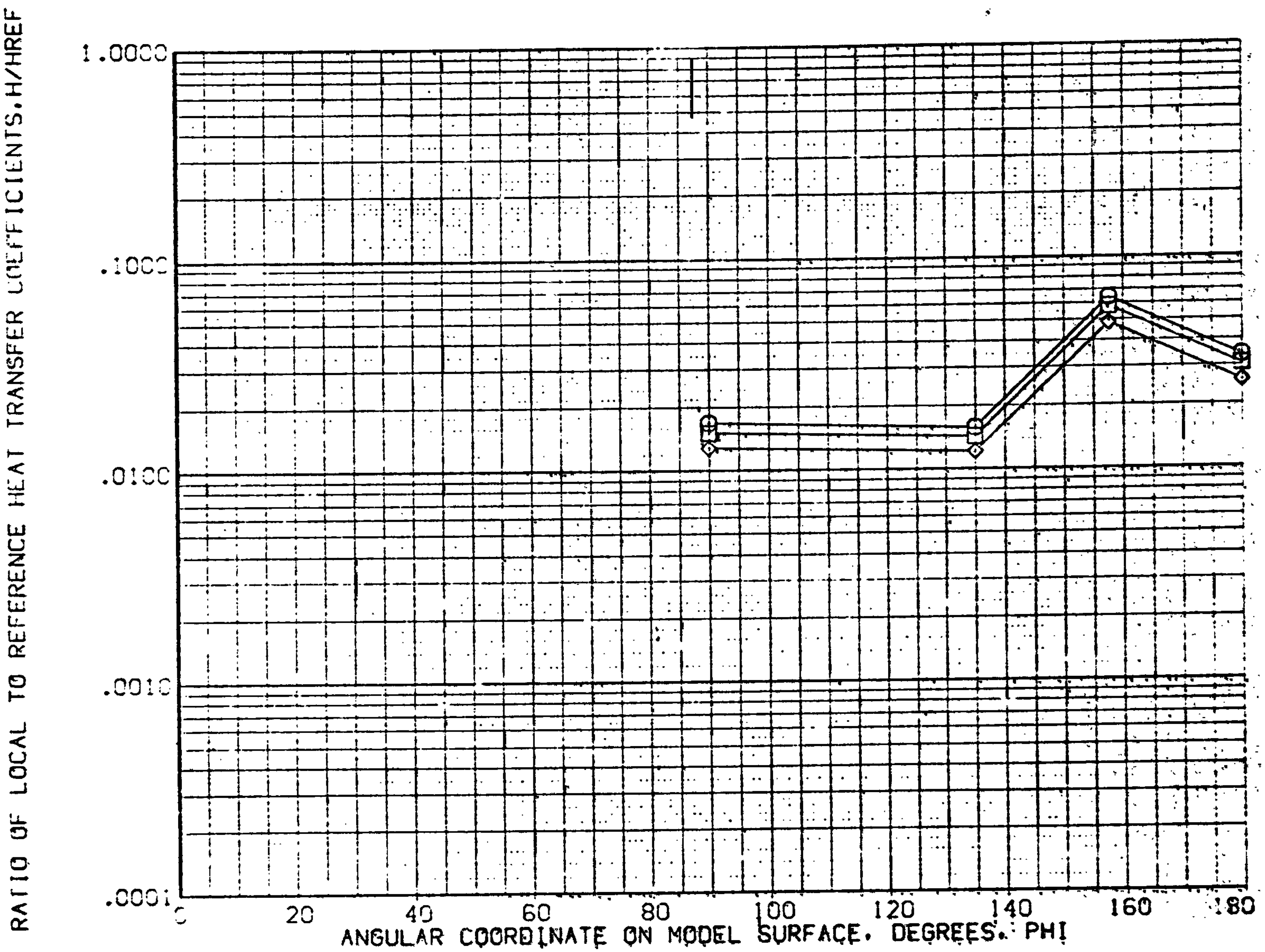


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

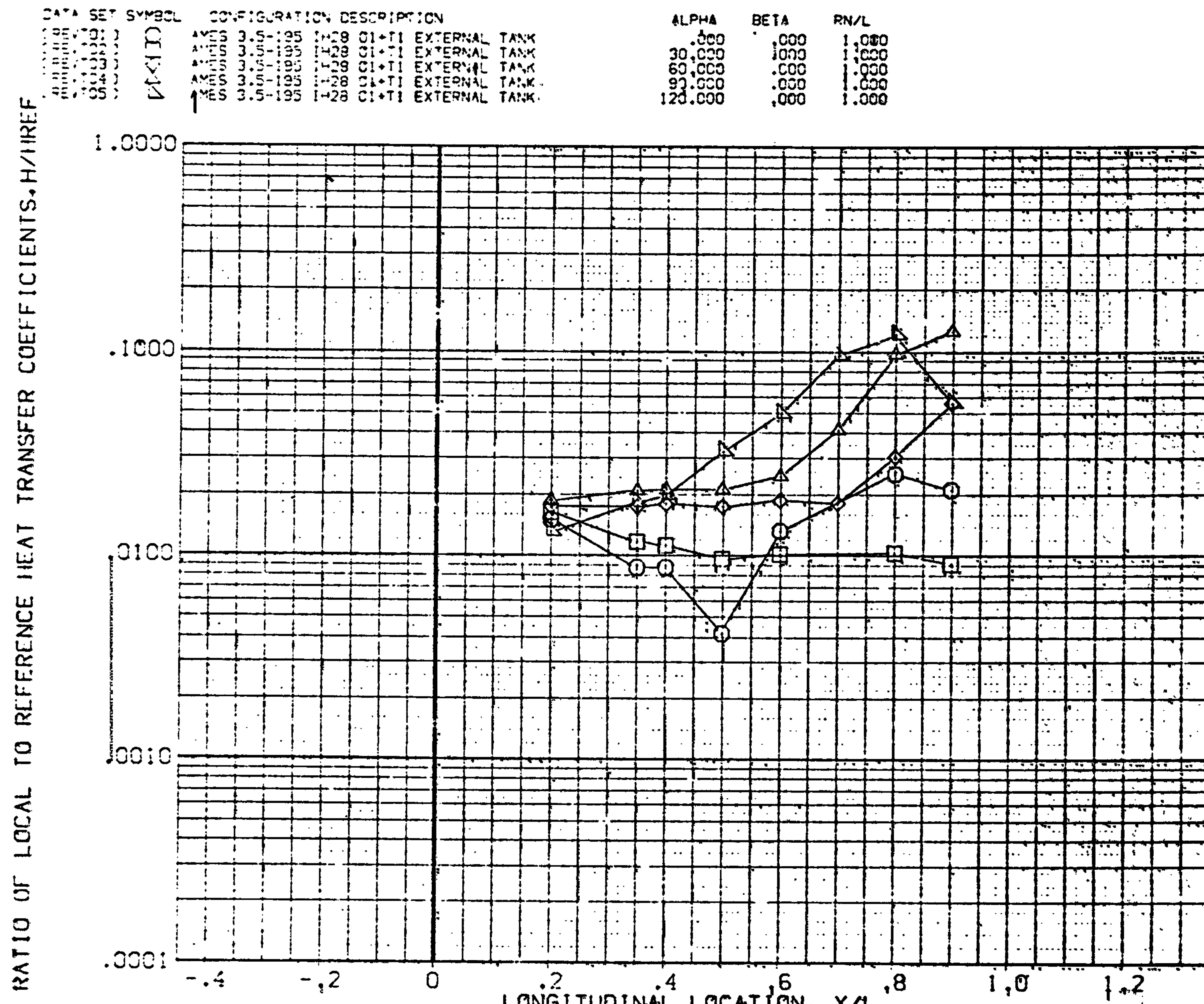


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

MACH = 5.300 HAW/HT= .900 PHI = 90.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	RN/L
(REVTO1)	○	AMES 3.5-195 IH28 C1+T1 EXTERNAL TANK	.000	.000	1.000
(REVTO2)	□	AMES 3.5-195 IH28 C1+T1 EXTERNAL TANK	30.000	.000	1.000
(REVTO3)	◇	AMES 3.5-195 IH28 C1+T1 EXTERNAL TANK	60.000	.000	1.000
(REVTO4)	△	AMES 3.5-195 IH28 C1+T1 EXTERNAL TANK	90.000	.000	1.000
(REVTO5)	◁	AMES 3.5-195 IH28 C1+T1 EXTERNAL TANK	120.000	.000	1.000

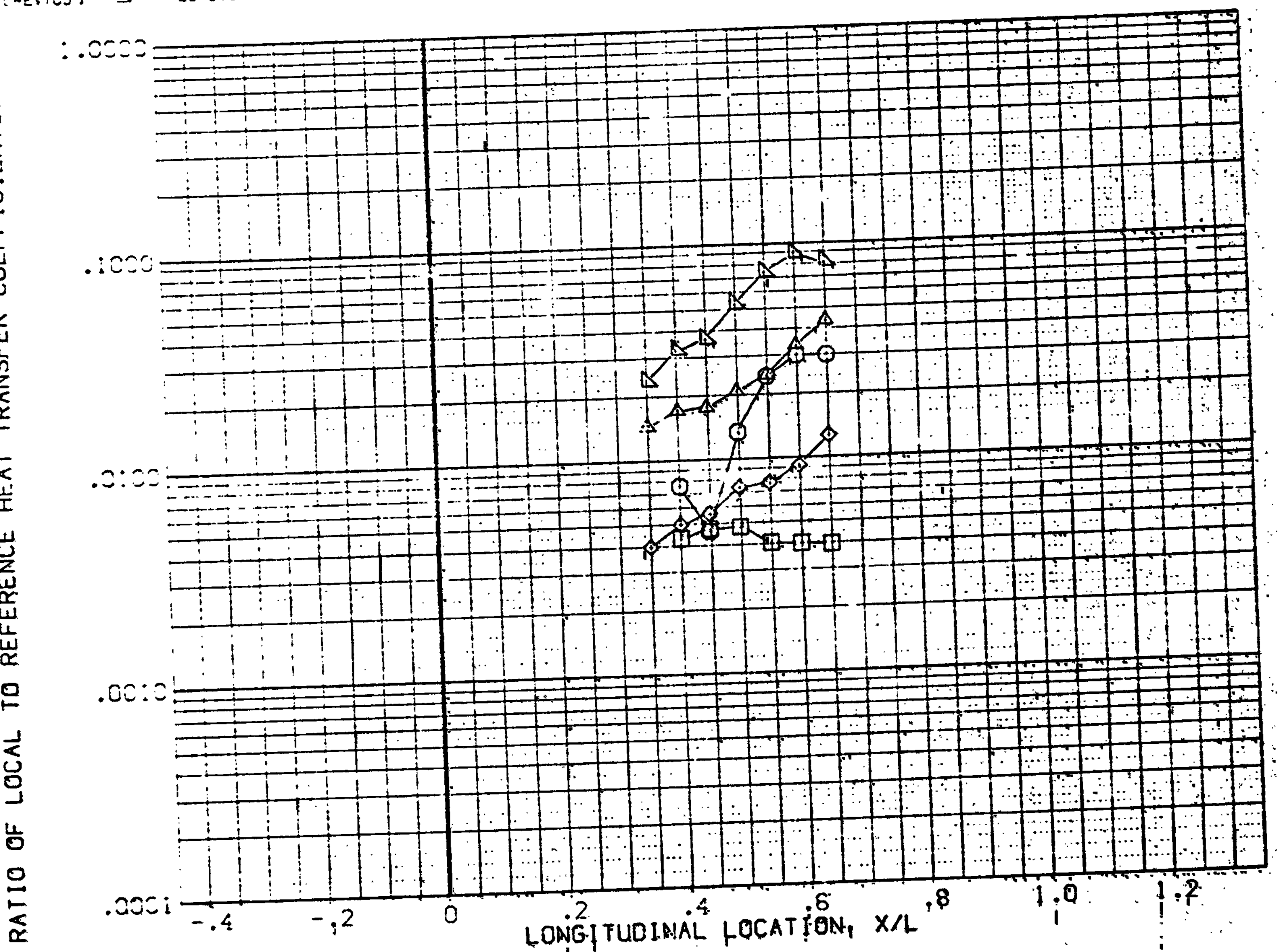


FIG. 5 TANK IN THE PRESENCE OF ORBITER

MACH = 5.300 HAW/HT= .900 PHI = 112.500

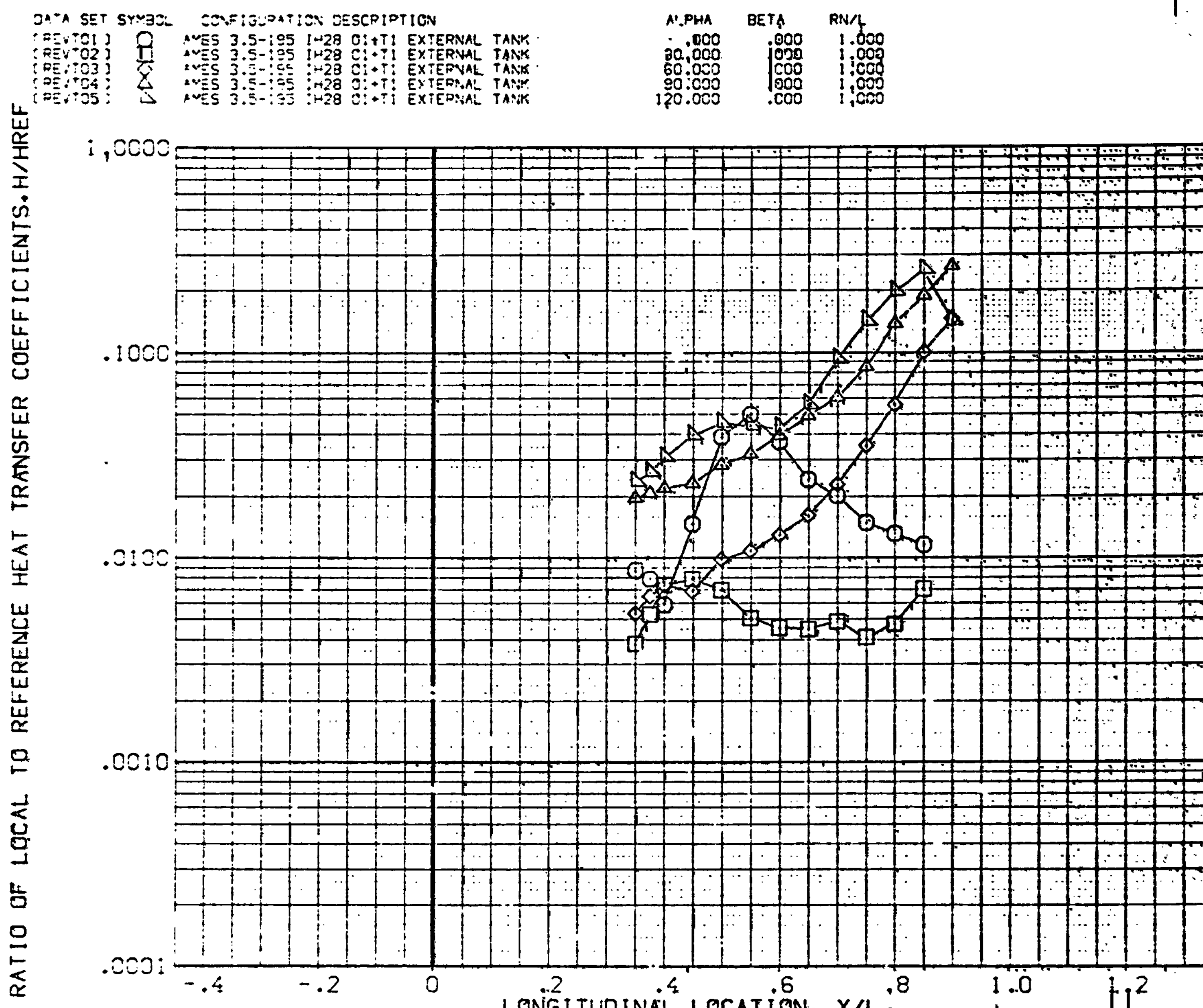


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

MACH = 5.300 HAW/HT= .900 PHI = 135.000

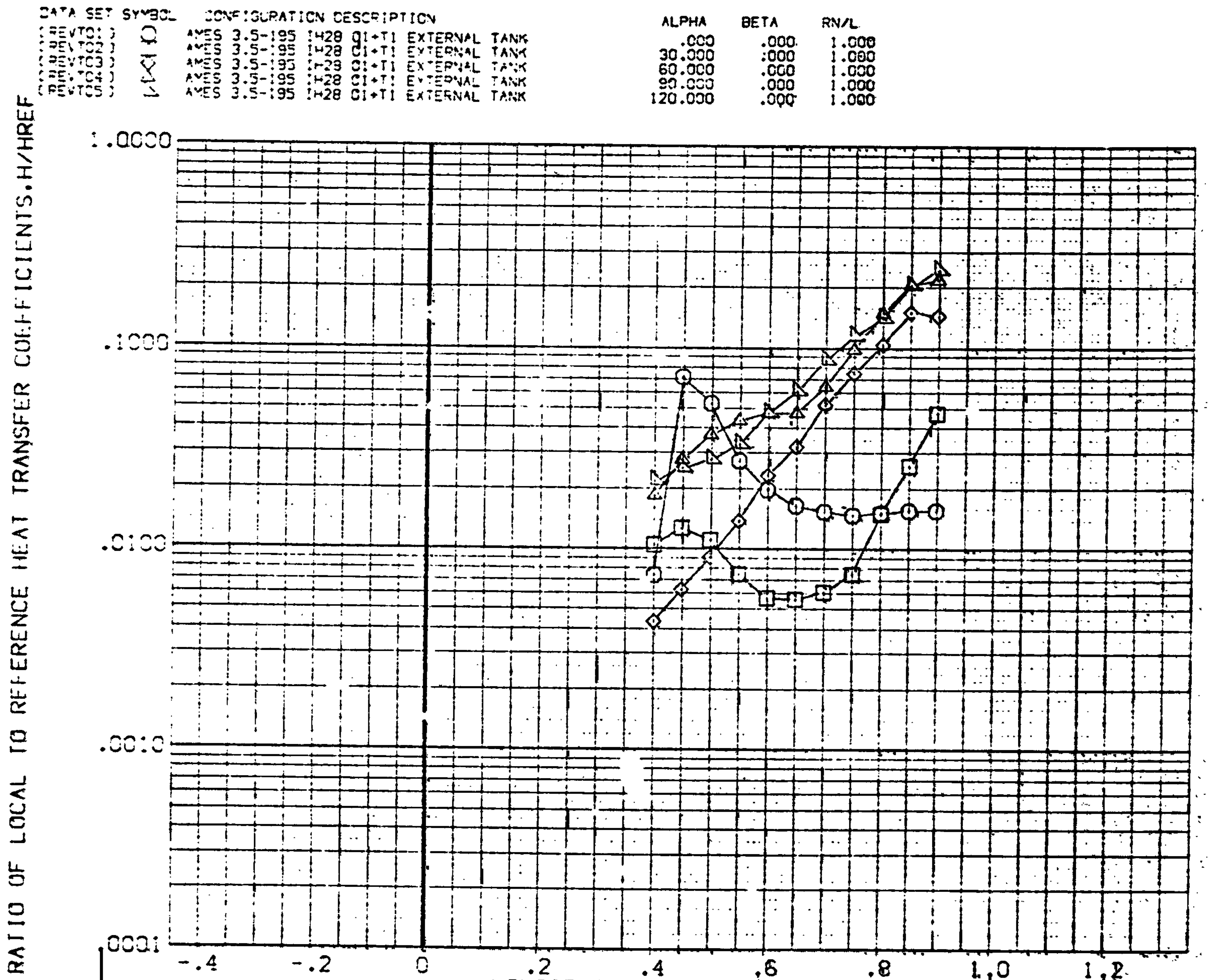


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

MACH = 5.300 HAW/HT= .900 PHI = 157.500

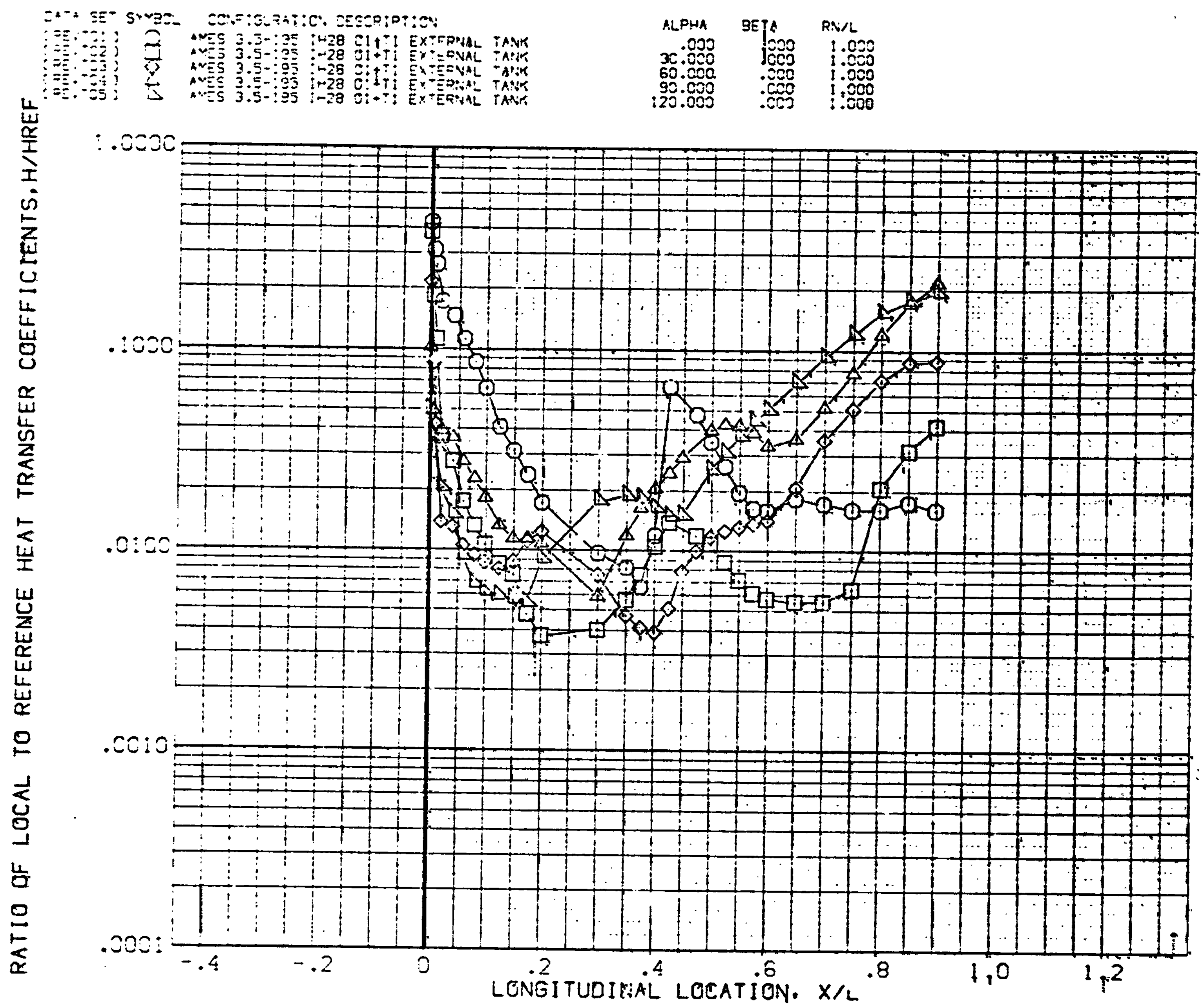


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

MACH = 5.300 HW/HT= .900 PHI = 180.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	RN/L
(REVT01)	○	AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK	.000	.000	1.000
(REVT03)	□	AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK	30.000	.000	1.000
(REVT03)	◇	AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK	-60.000	.000	1.000
(REVT04)	△	AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK	-90.000	.000	1.000
(REVT06)	◁	AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK	-120.000	.000	1.000

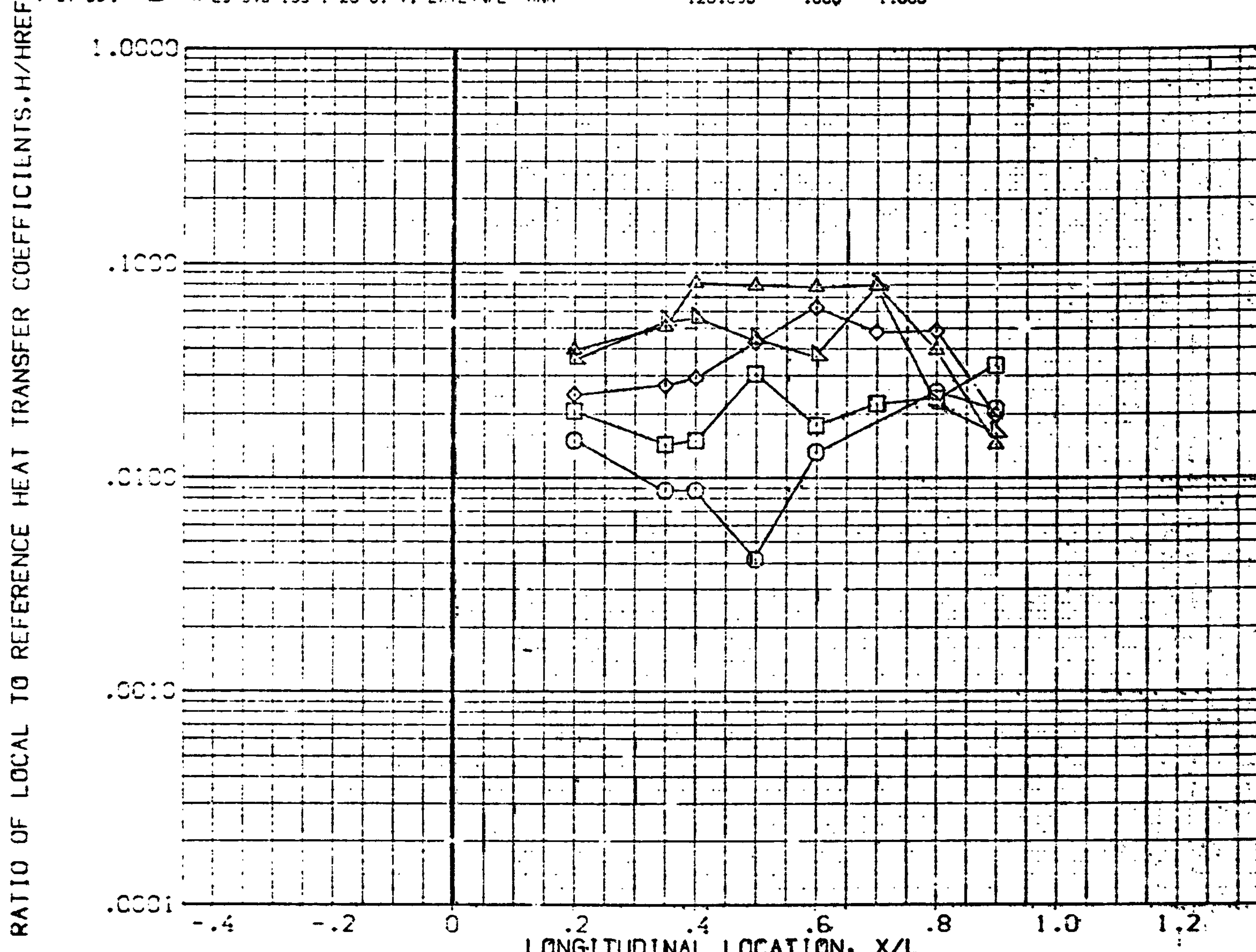


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

MACH = 5.300 HAW/HT= .900 PHI = 50.000

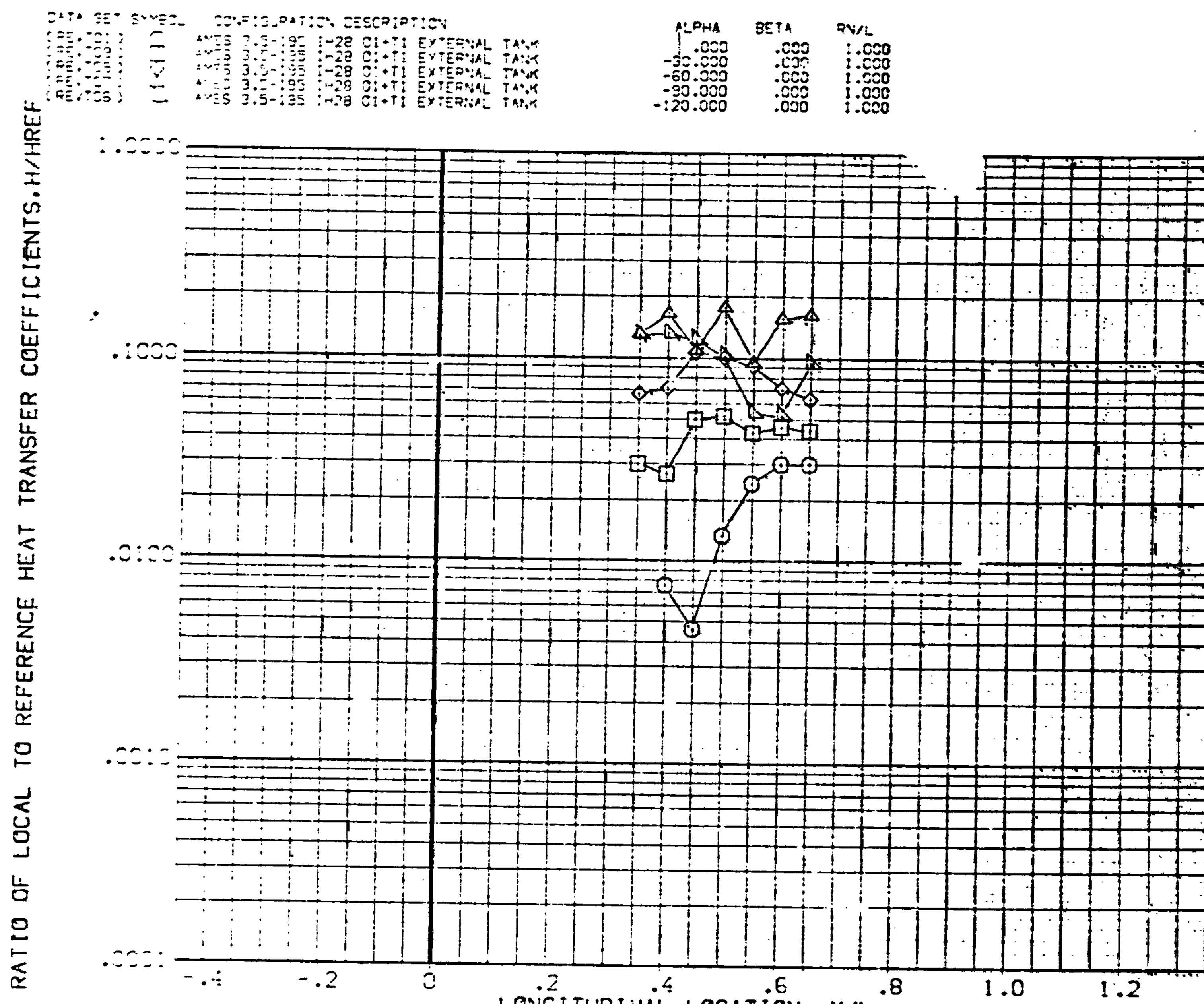


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

MACH = 5.300 HAW/HT= .900 PHI = 112.500

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	RN/L
[illegible]	○	AMES 3.5-195 IH28 C1+T1 EXTERNAL TANK	.000	.000	1.000
[illegible]	□	AMES 3.5-195 IH28 C1+T1 EXTERNAL TANK	-30.000	.000	1.000
[illegible]	◇	AMES 3.5-195 IH28 C1+T1 EXTERNAL TANK	-60.000	.000	1.000
[illegible]	△	AMES 3.5-195 IH28 C1+T1 EXTERNAL TANK	-90.000	.000	1.000
[illegible]	⊿	AMES 3.5-195 IH28 C1+T1 EXTERNAL TANK	-120.000	.000	1.000

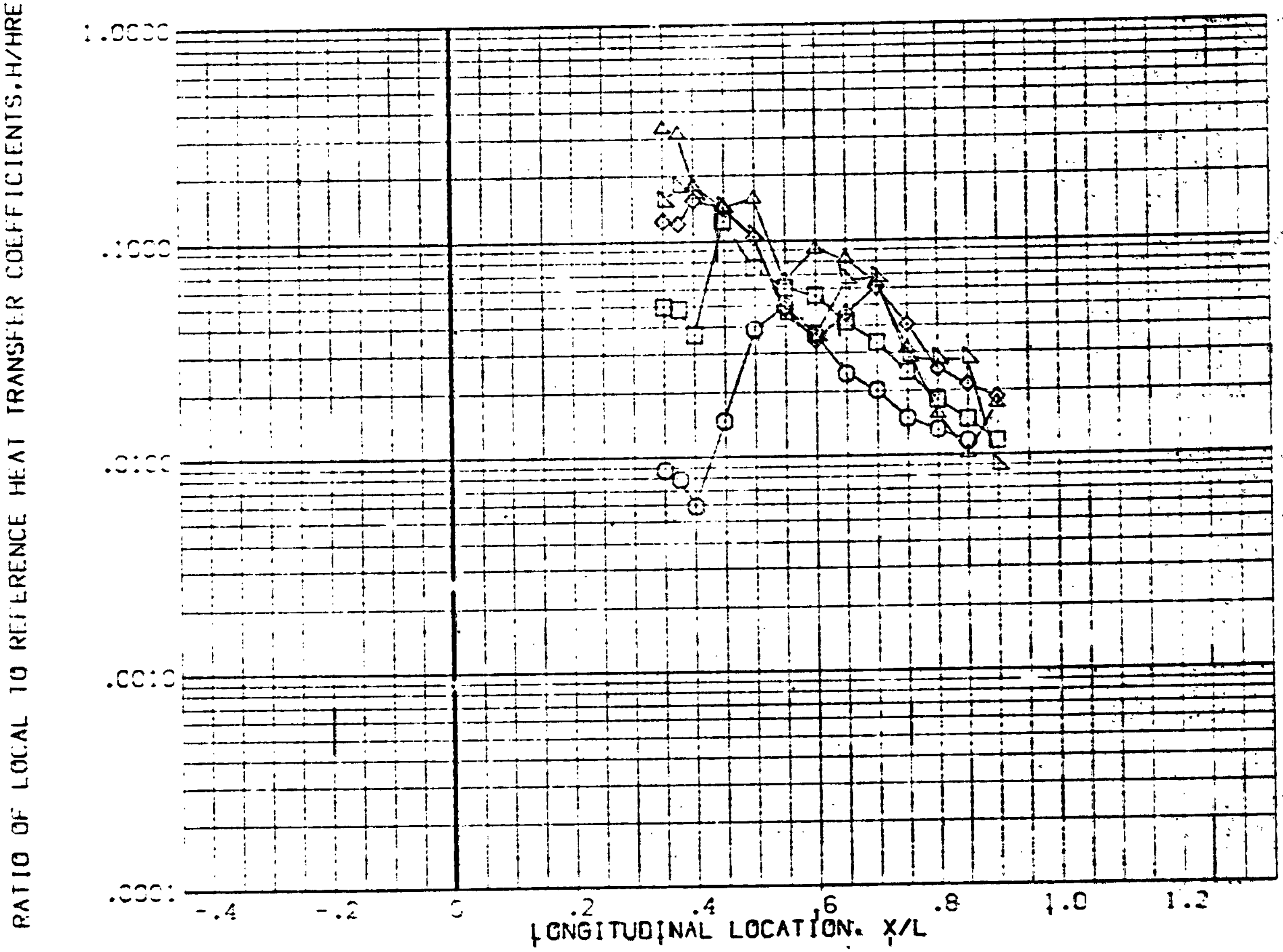


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

MACH = 5.300 HAW/HT= .900 PHI = 135.000

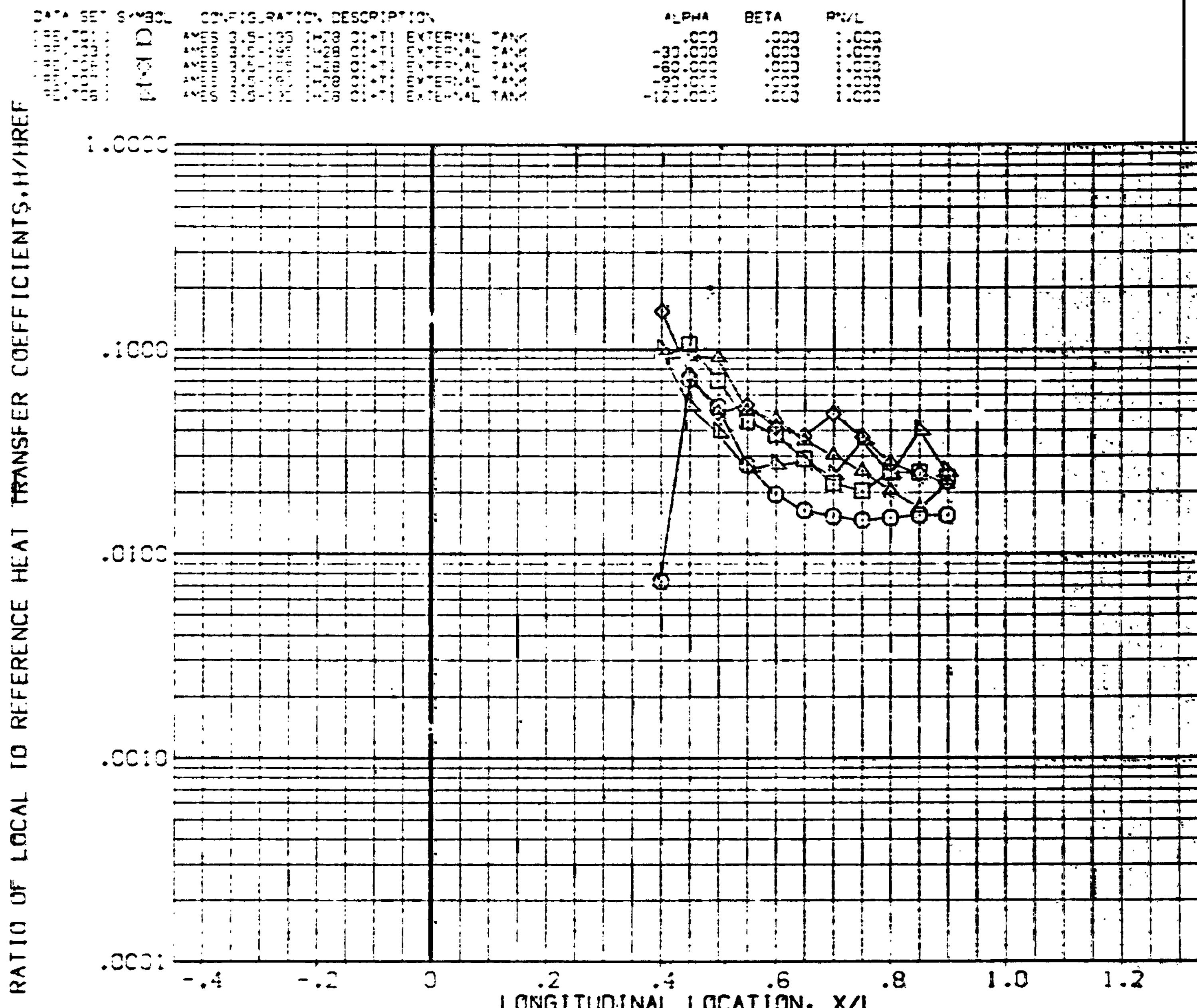


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

MACH = 5.300 HAW/HT= .900 PHI = 157.500

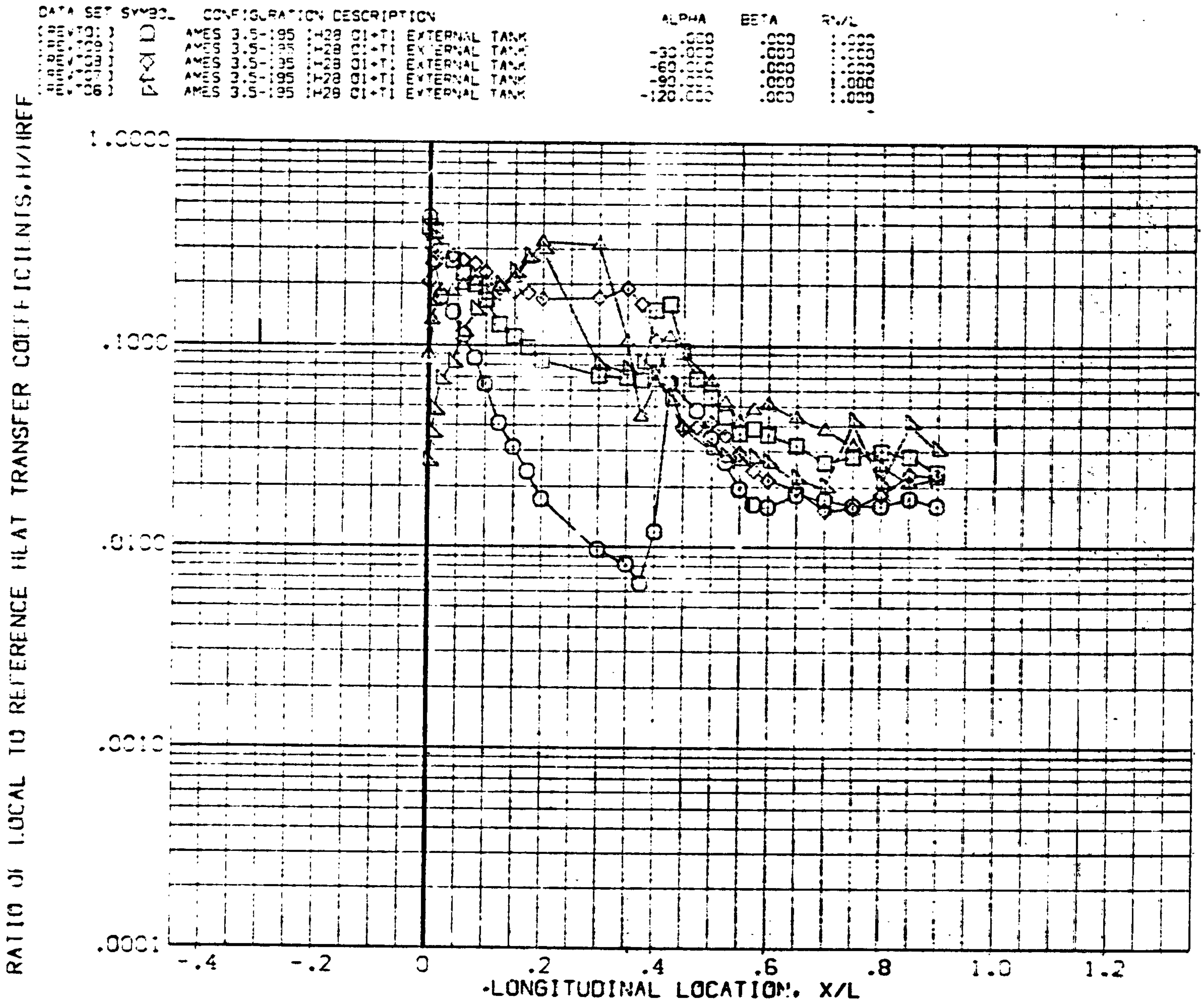


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

MACH = 5.300 HAW/HT = .900 PHI = 180.000

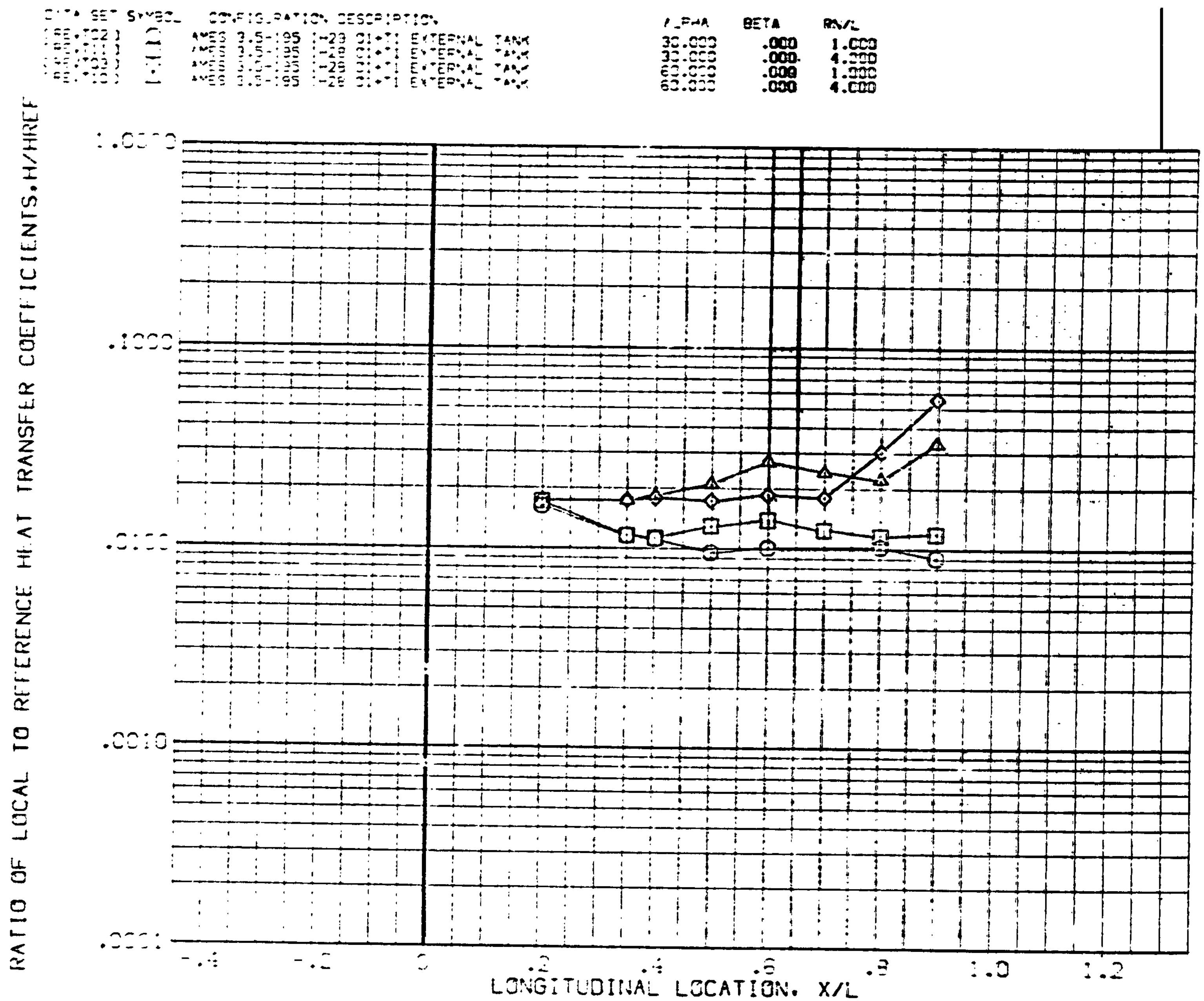


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

MACH = 5.300 ... .800 ... = 30.000

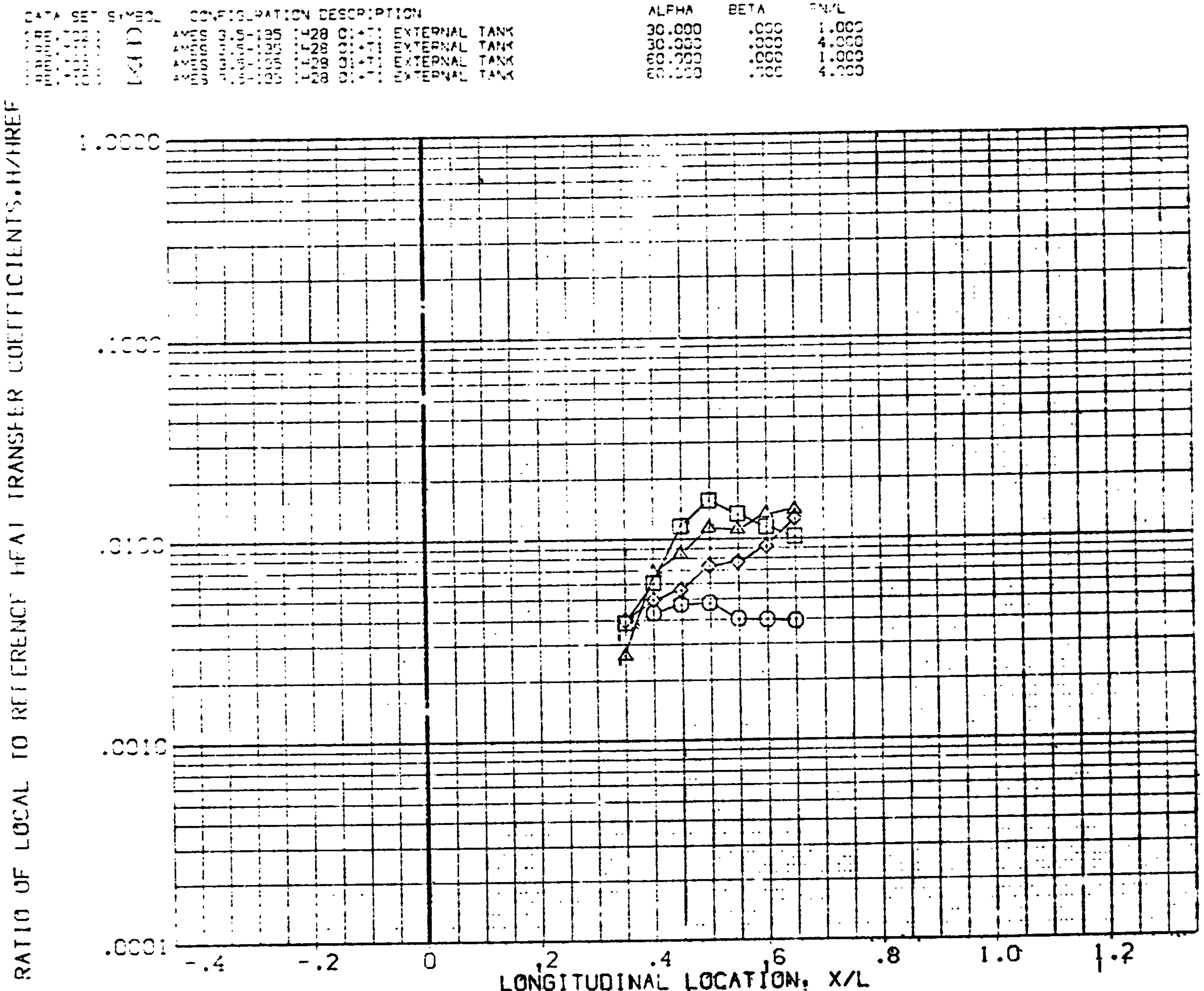


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

MACH = 5.300 HAW/HT= .900 PHI = 112.500

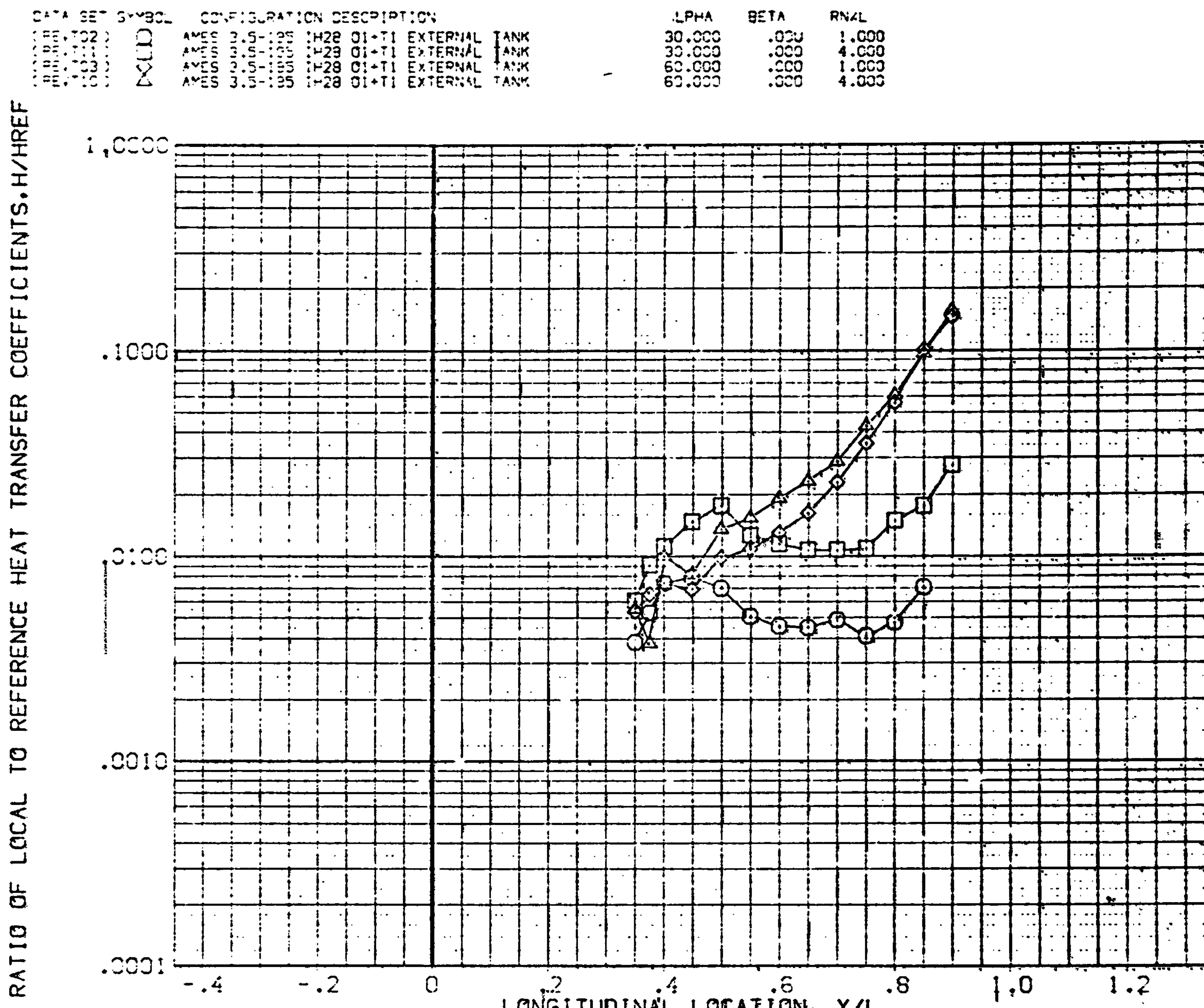
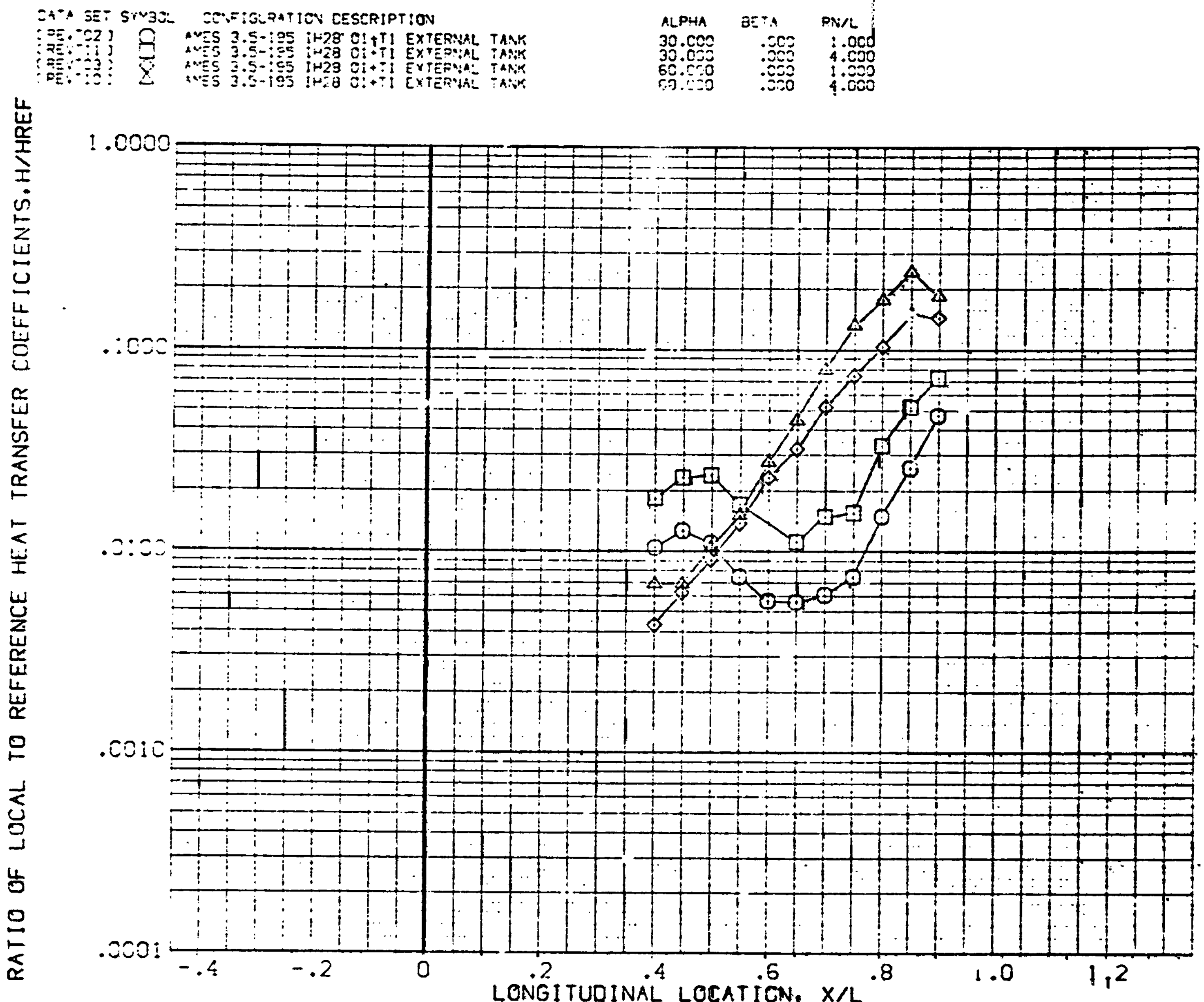


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

MACH = 5.300 HAW/HT= .900 PHI = 135.000



FIG, 5 TANK, IN THE PRESENCE OF ORBITER

MACH = 5.300 HW/HT= .900 PHI = 157.500

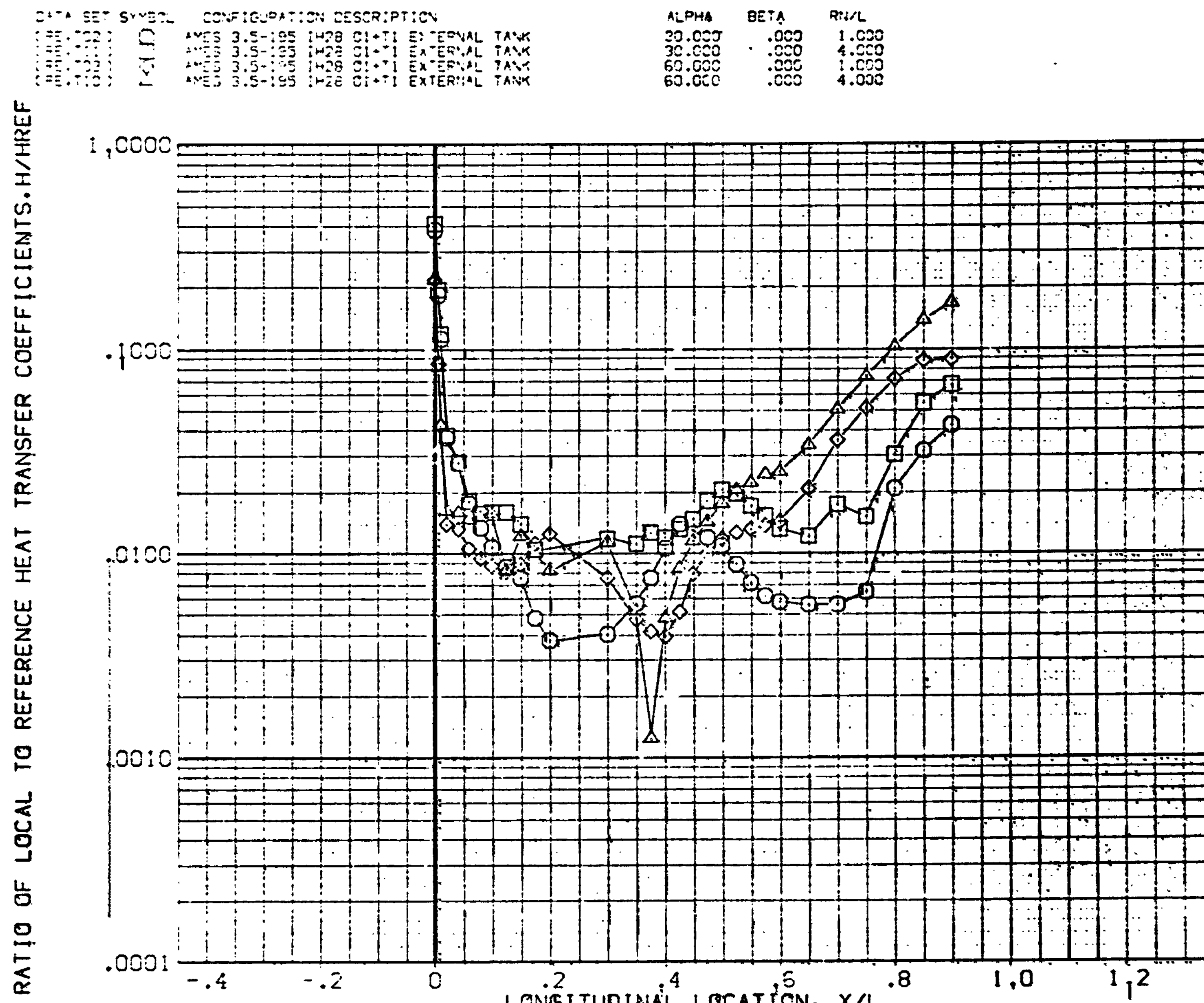
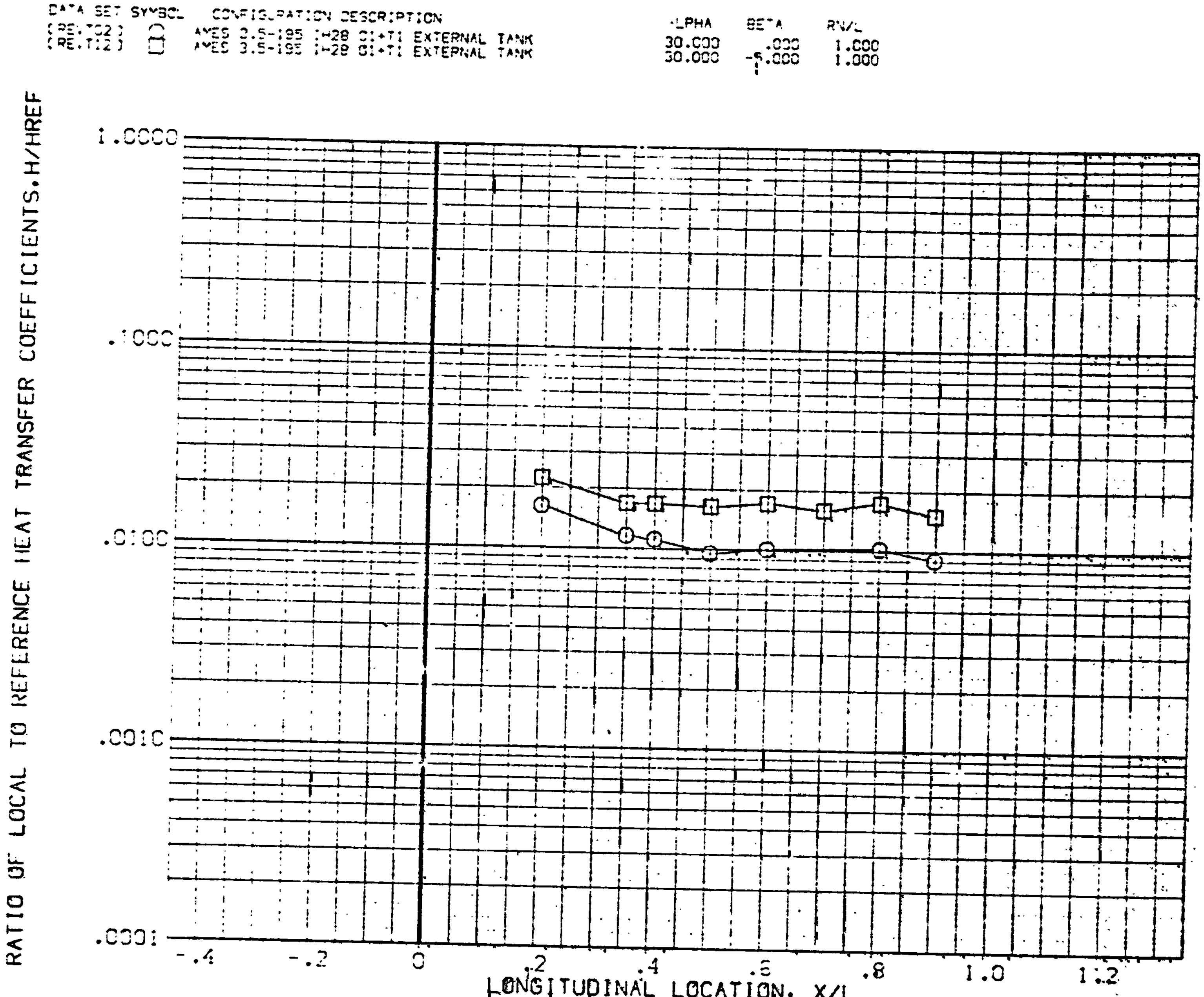


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

MACH = 5.300 HAW/HT= .900 PHI = 180.000



FIG, 5 TANK IN THE PRESENCE OF ORBITER

MACH = 5.300 LAW/HT= .900 PHI = 90,000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	RN/L
(PEVT02)	○	AMES 3.5-195 IH28 OI+TI EXTERNAL TANK	0.000	.000	1.000
(REVT12)	□	AMES 3.5-195 IH28 OI+TI EXTERNAL TANK	0.000	-5.000	1.000

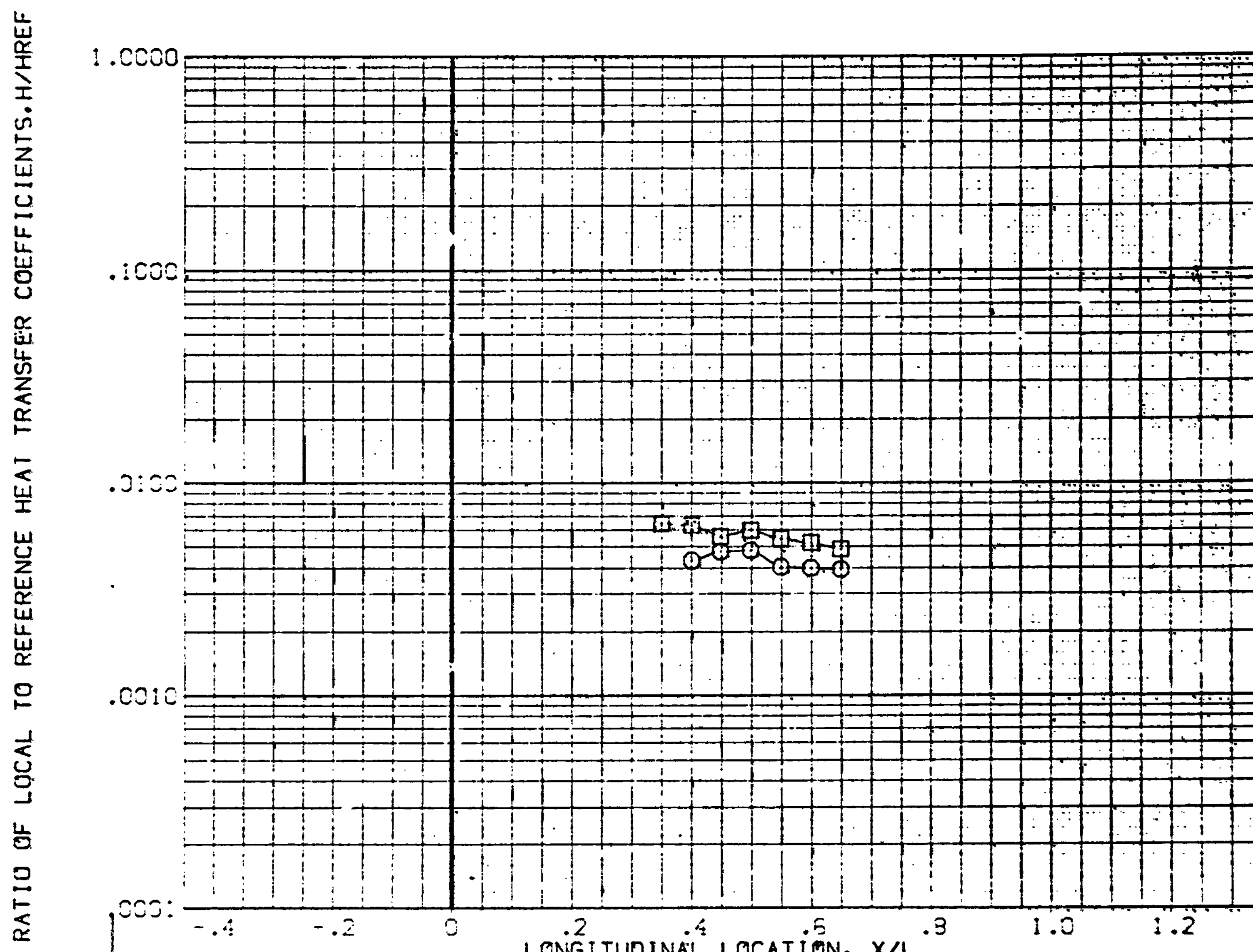


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

MACH = 5.300 HAW/HT= .900 PHI = 112.500

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	RN/L
(REVT02)	□	AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK	30.000	.000	1.000
(REVT12)	⊡	AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK	30.000	-5.000	1.000

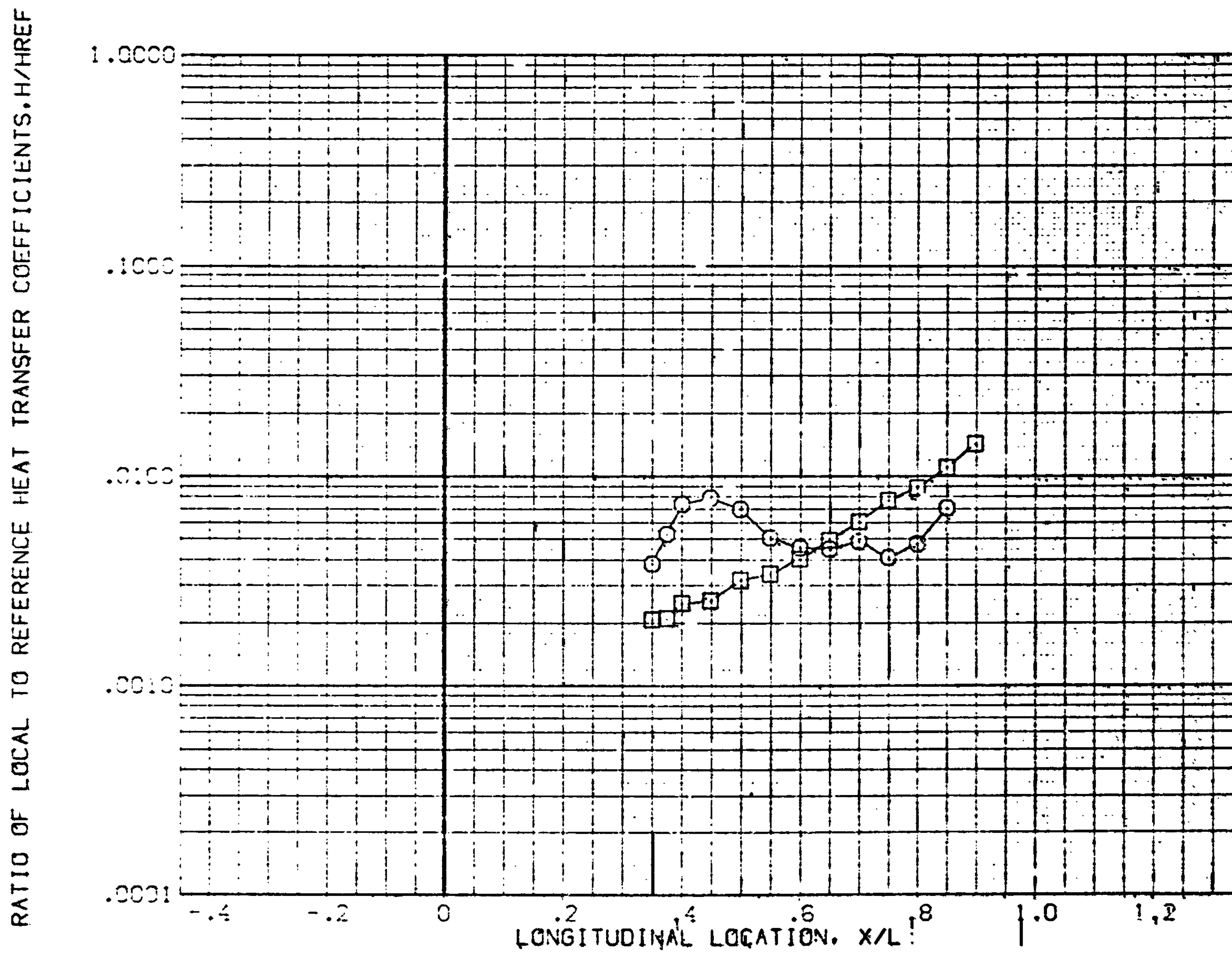


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

MACH = 5.300 HAW/HT= .900 PHI = 135.000

REPRODUCIBILITY OF THE ORIGINAL PAGE IS POOR

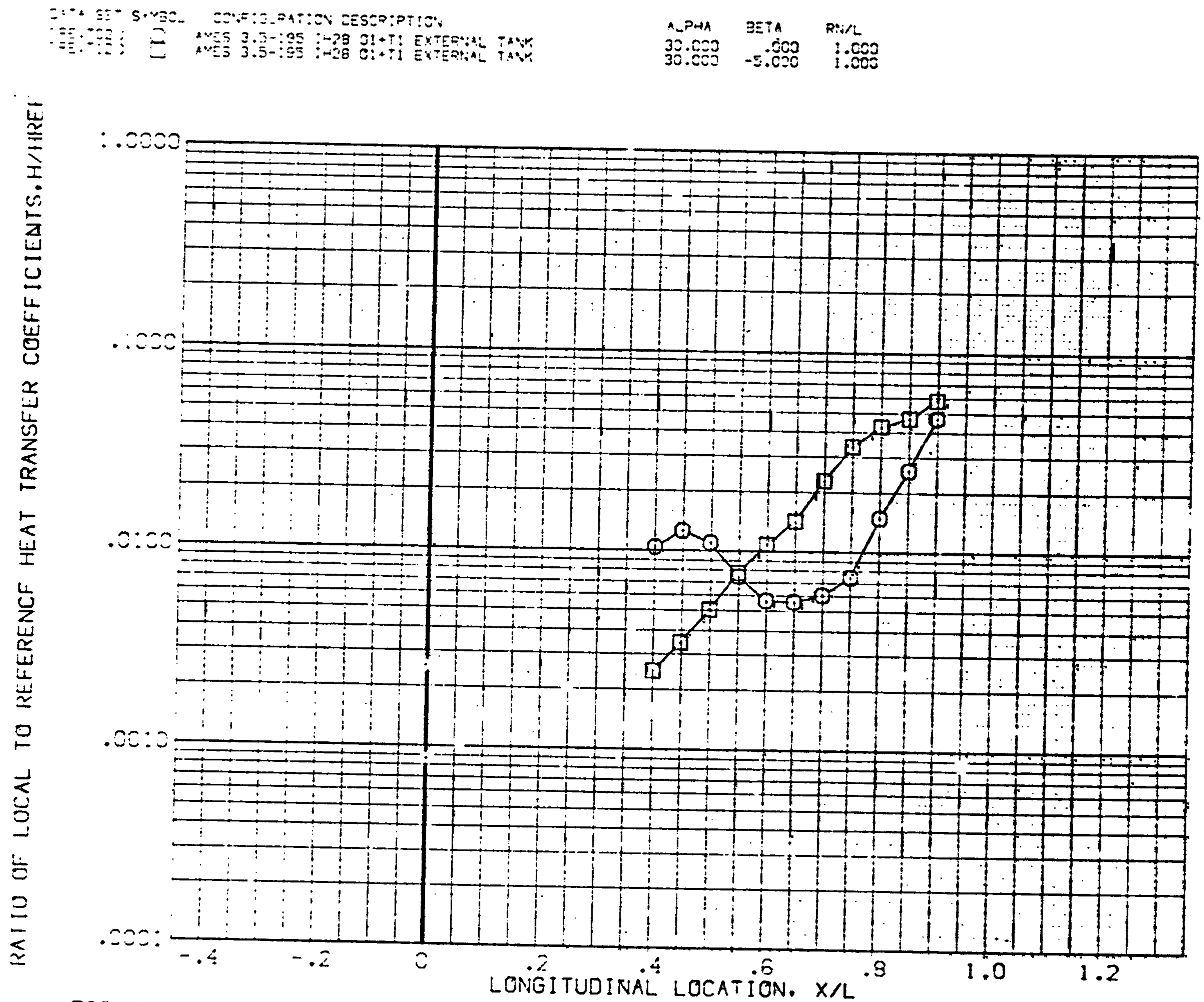


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

MACH = 5.300 HW/HT= .900 PHI = 157.500

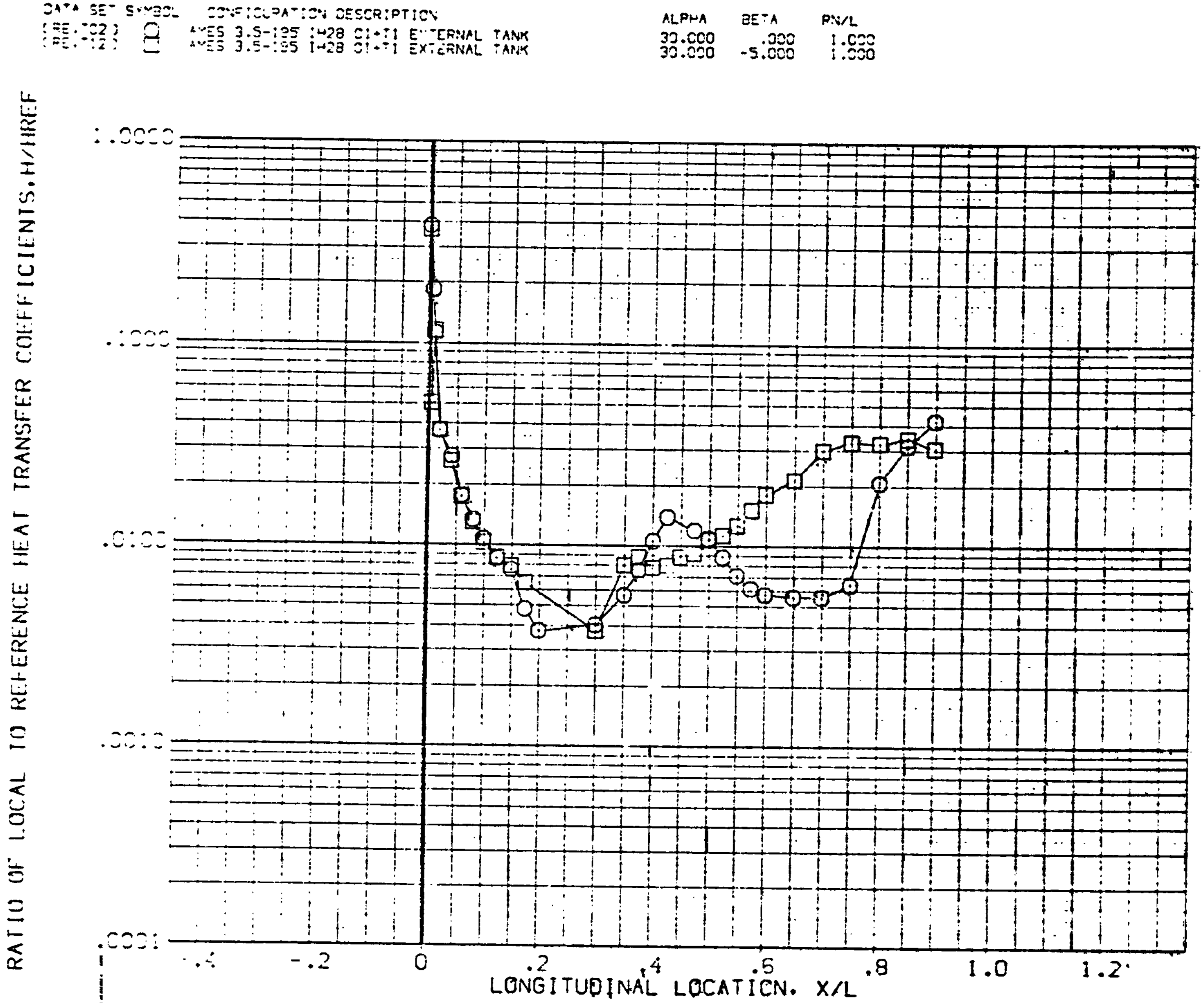


FIG. 5 TANK, IN THE PRESENCE OF ORBITER

MACH = 5.300 HA/HT= .900 PHI = 180.000

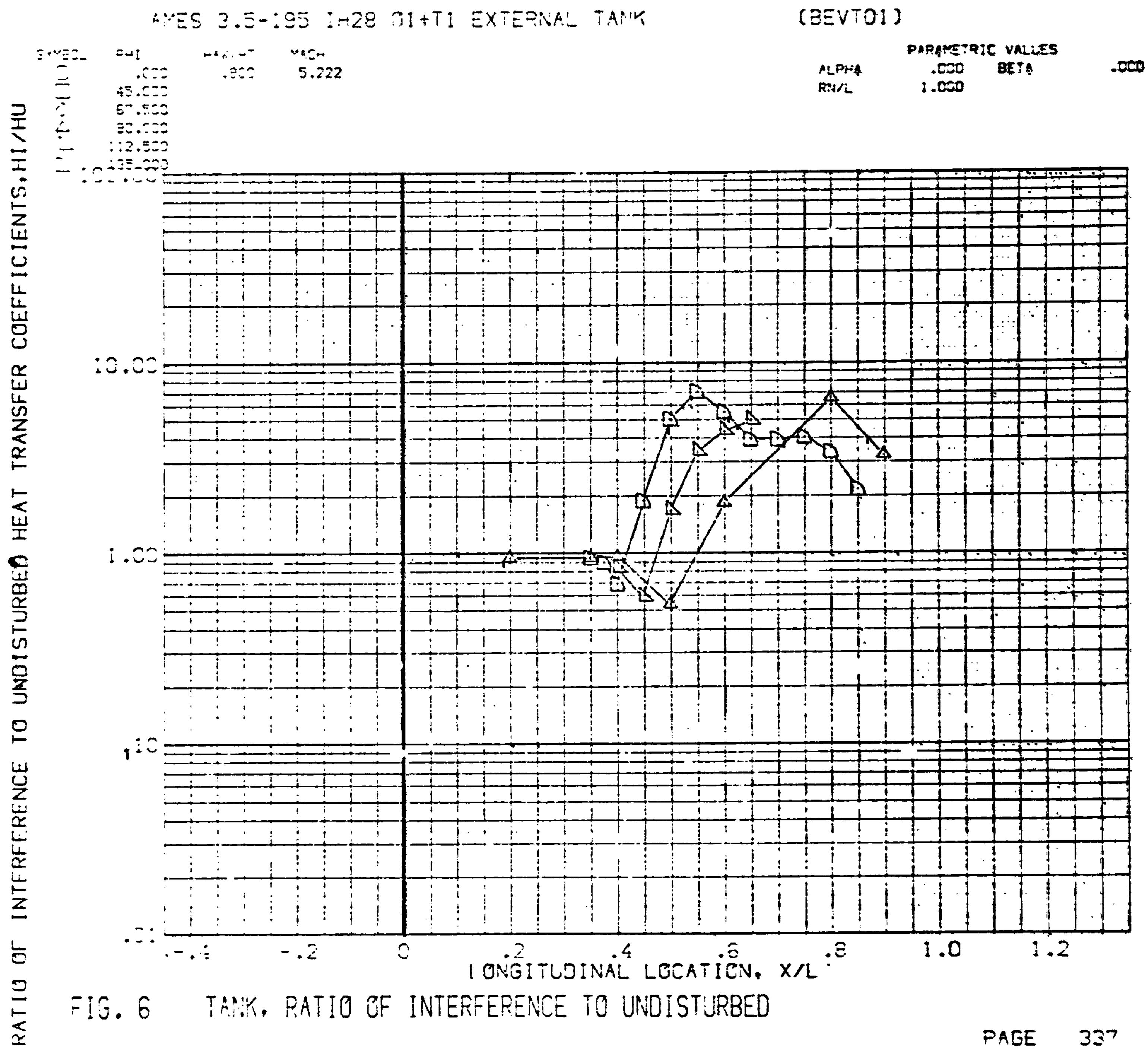


FIG. 6 TANK, RATIO OF INTERFERENCE TO UNDISTURBED

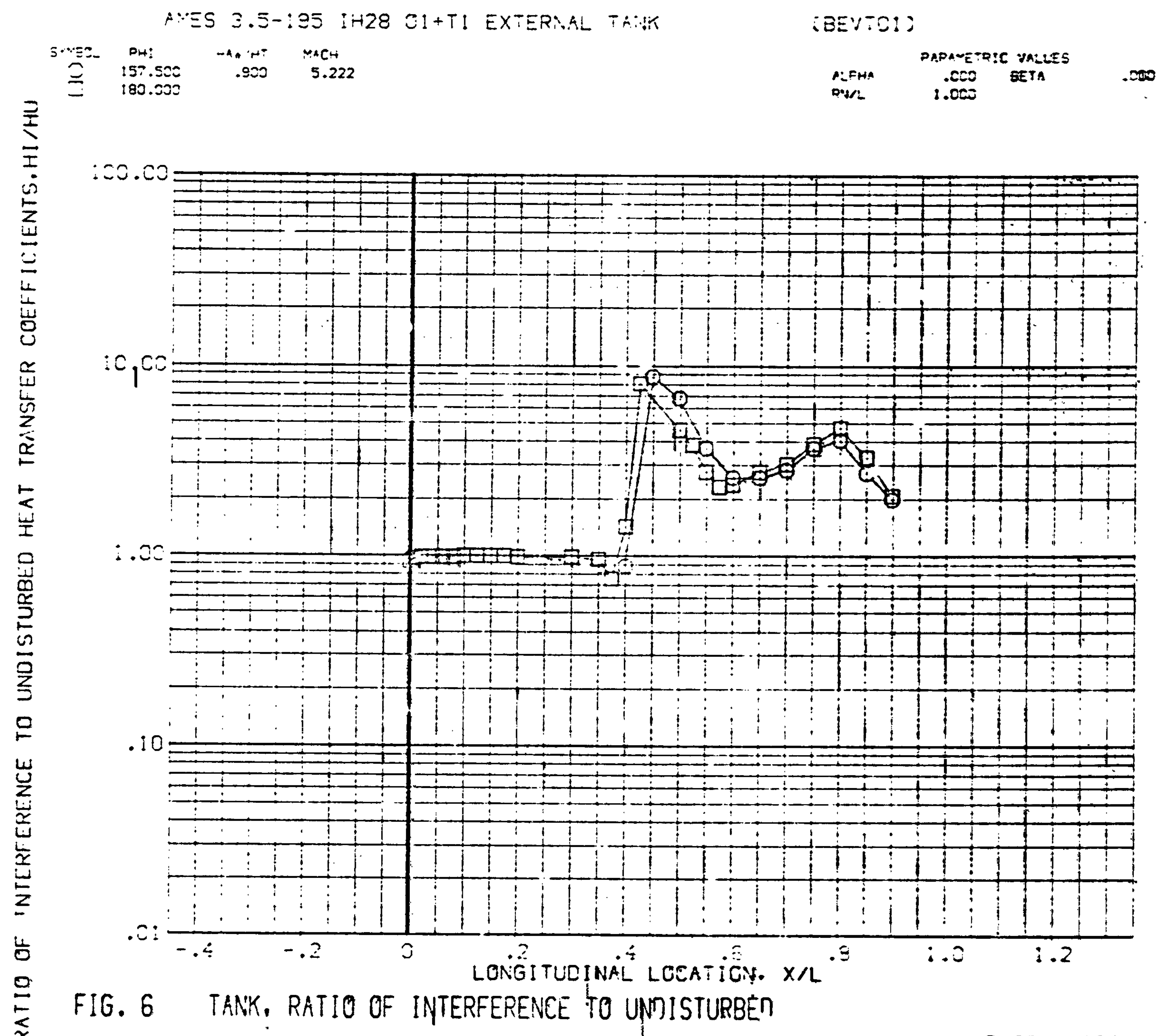


FIG. 6 TANK, RATIO OF INTERFERENCE TO UNDISTURBED

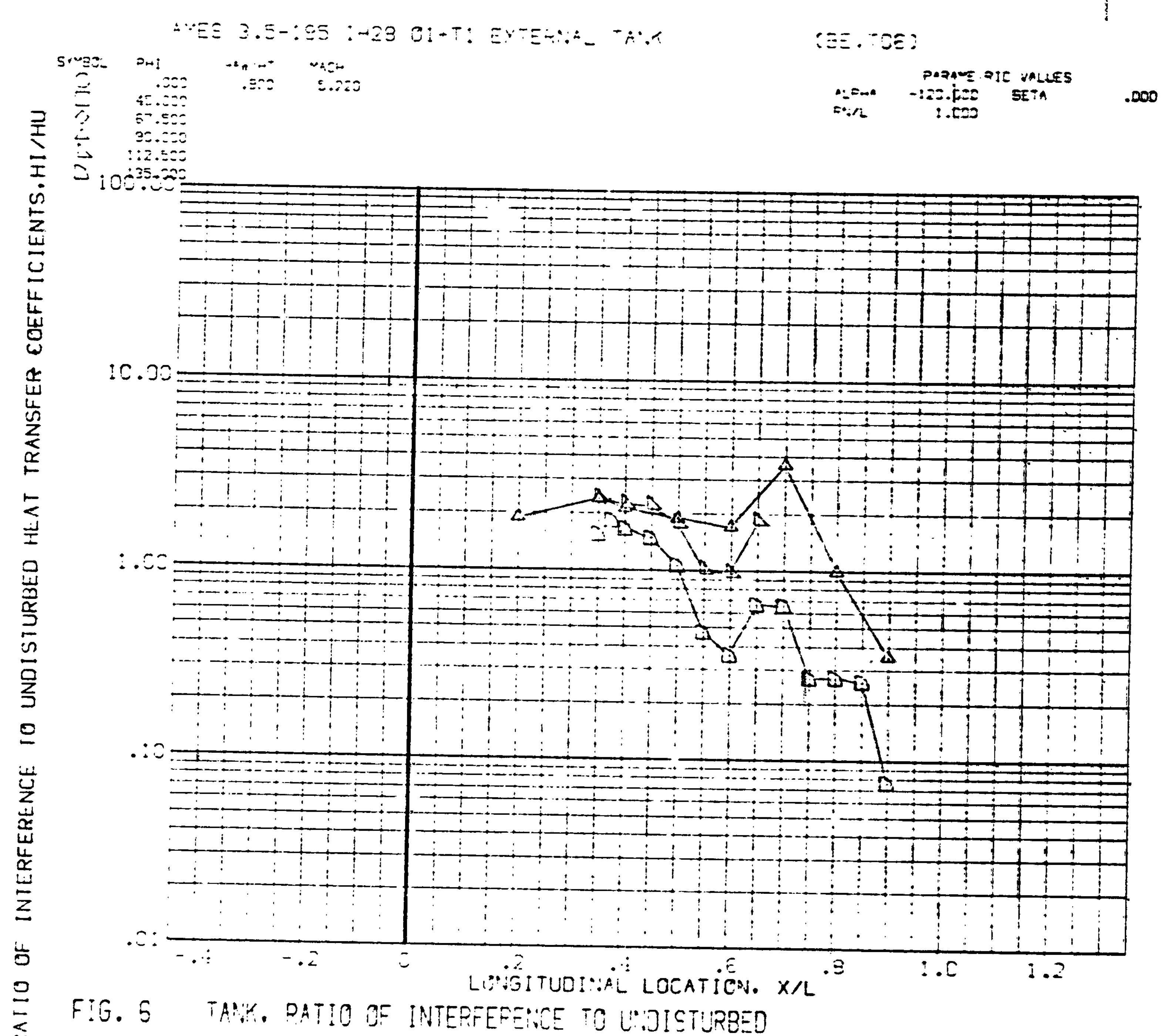


FIG. 6 TANK, RATIO OF INTERFERENCE TO UNDISTURBED

AMES 3.5-195 I-28 O1+T1 EXTERNAL TANK (BEVT06)

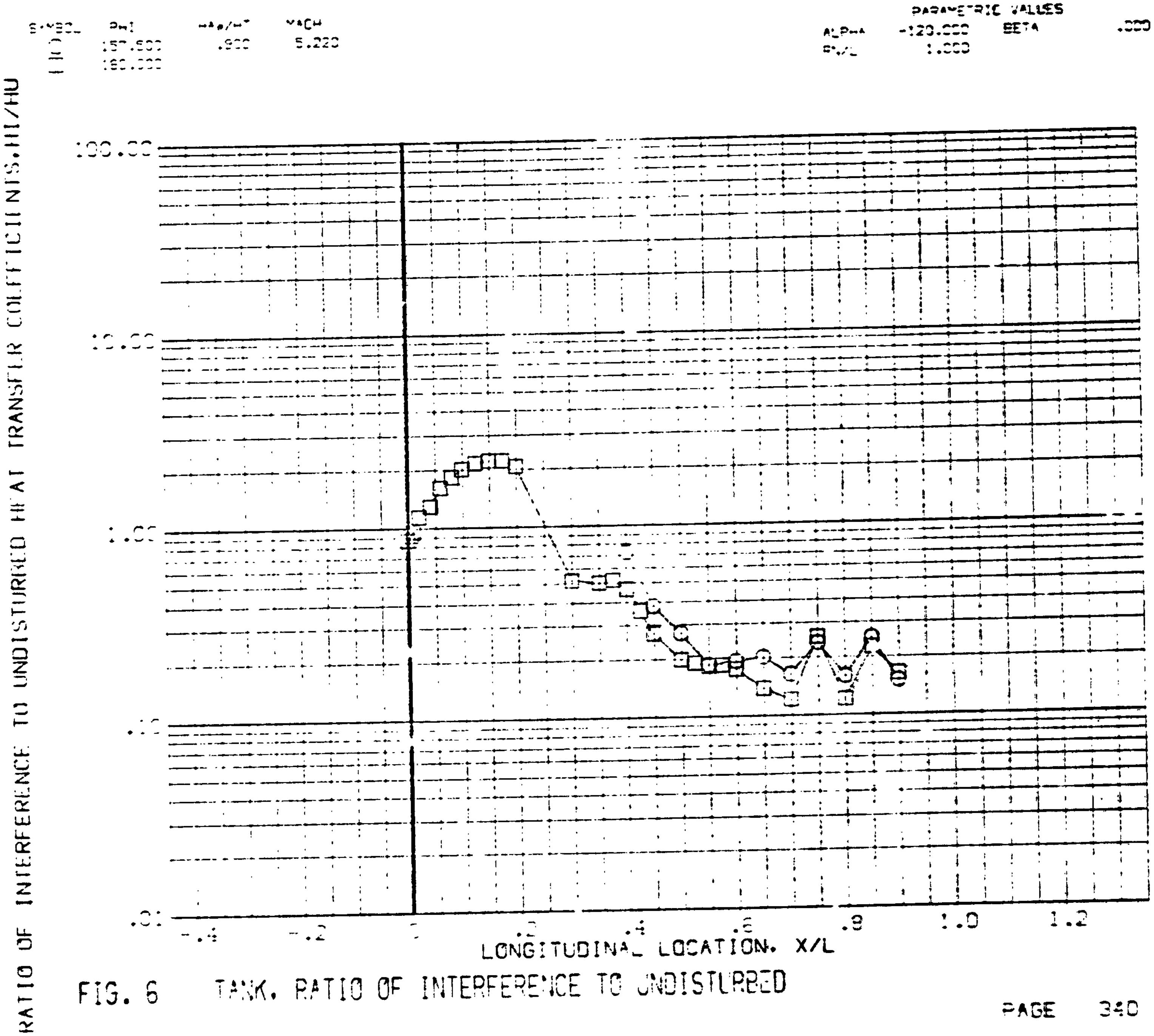


FIG. 6 TANK, RATIO OF INTERFERENCE TO UNDISTURBED

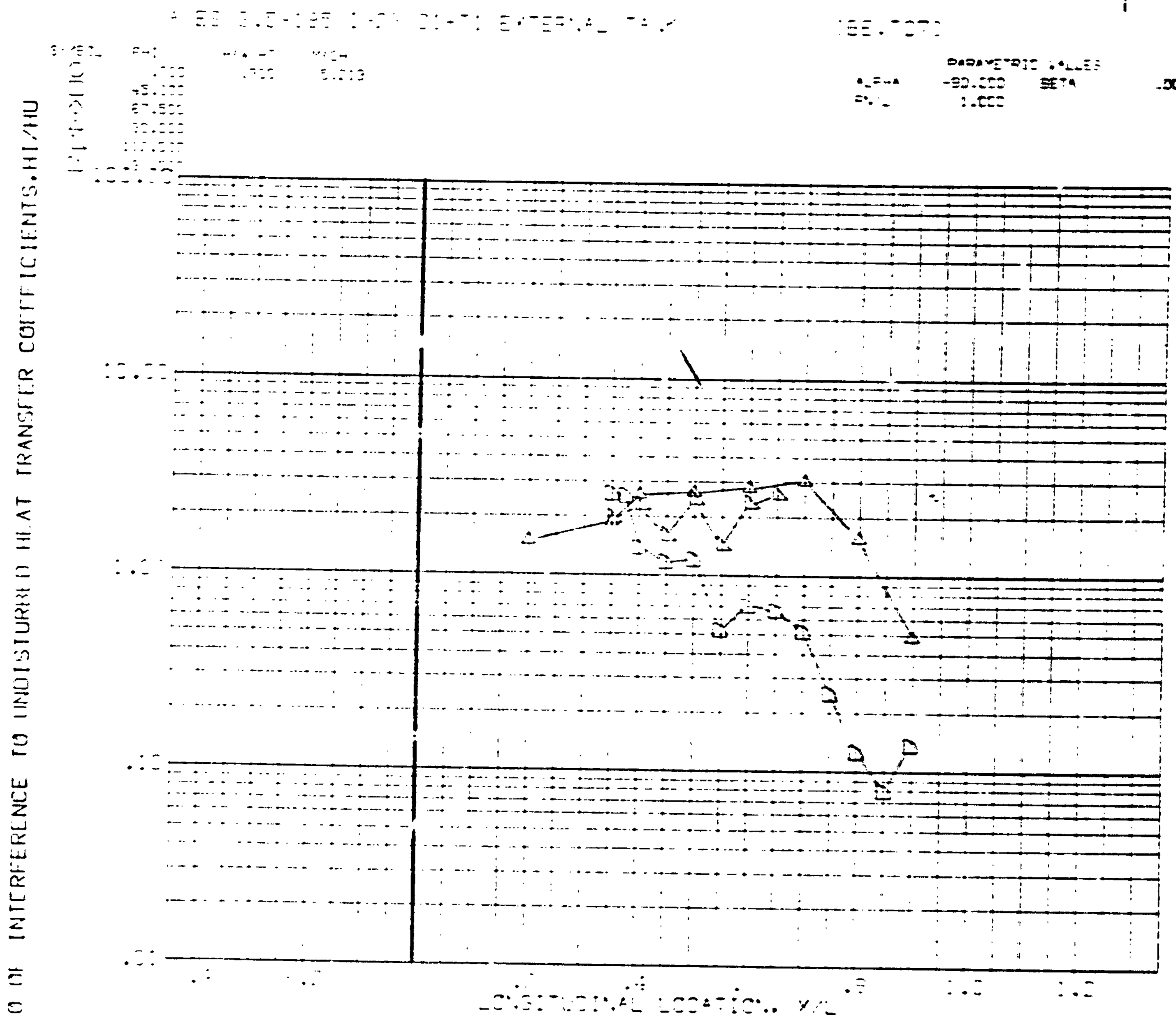


FIG. 8 ... RATIO OF INTERFERENCE TO UNDISTURBED

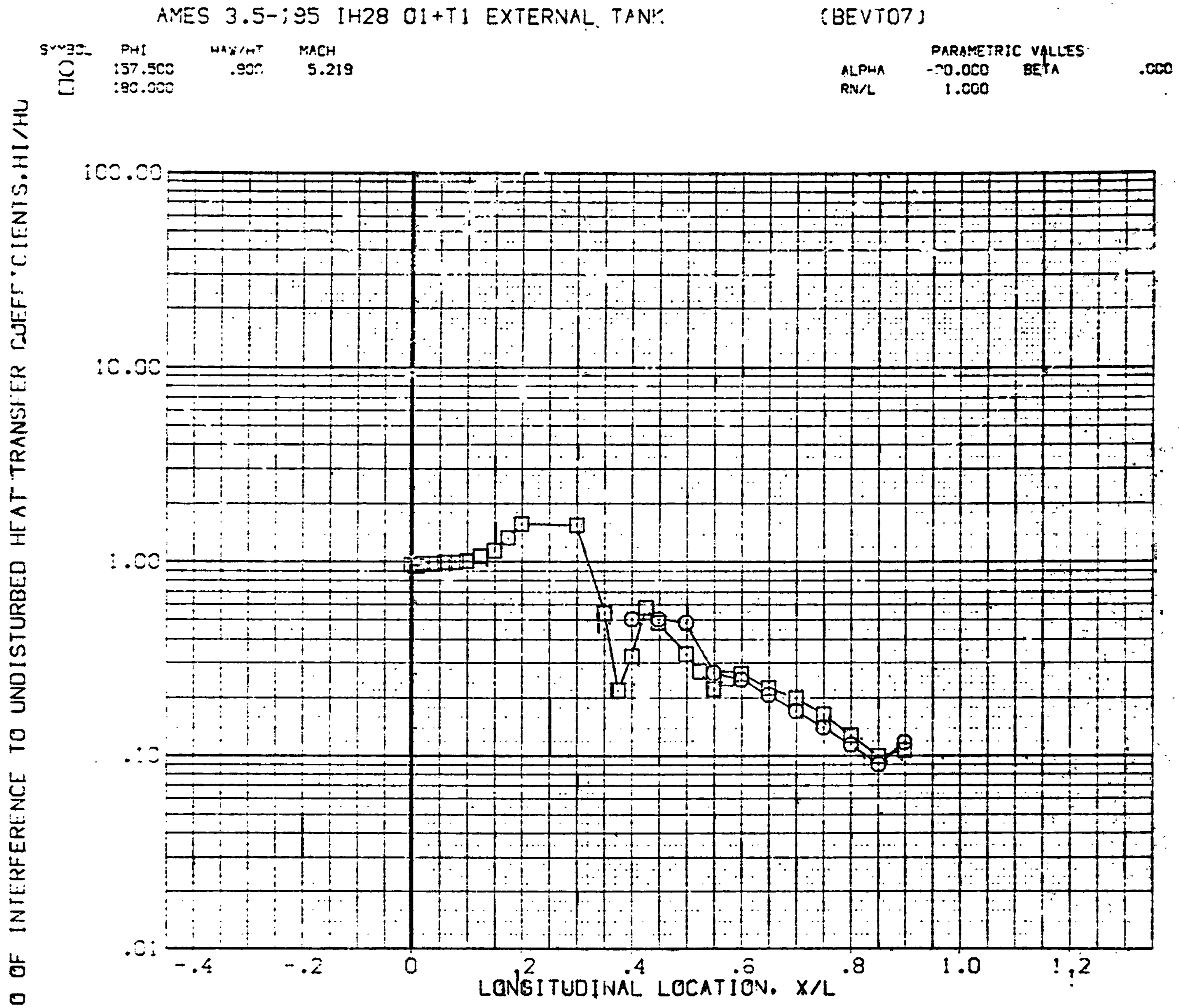


FIG. 6 TANK, RATIO OF INTERFERENCE TO UNDISTURBED

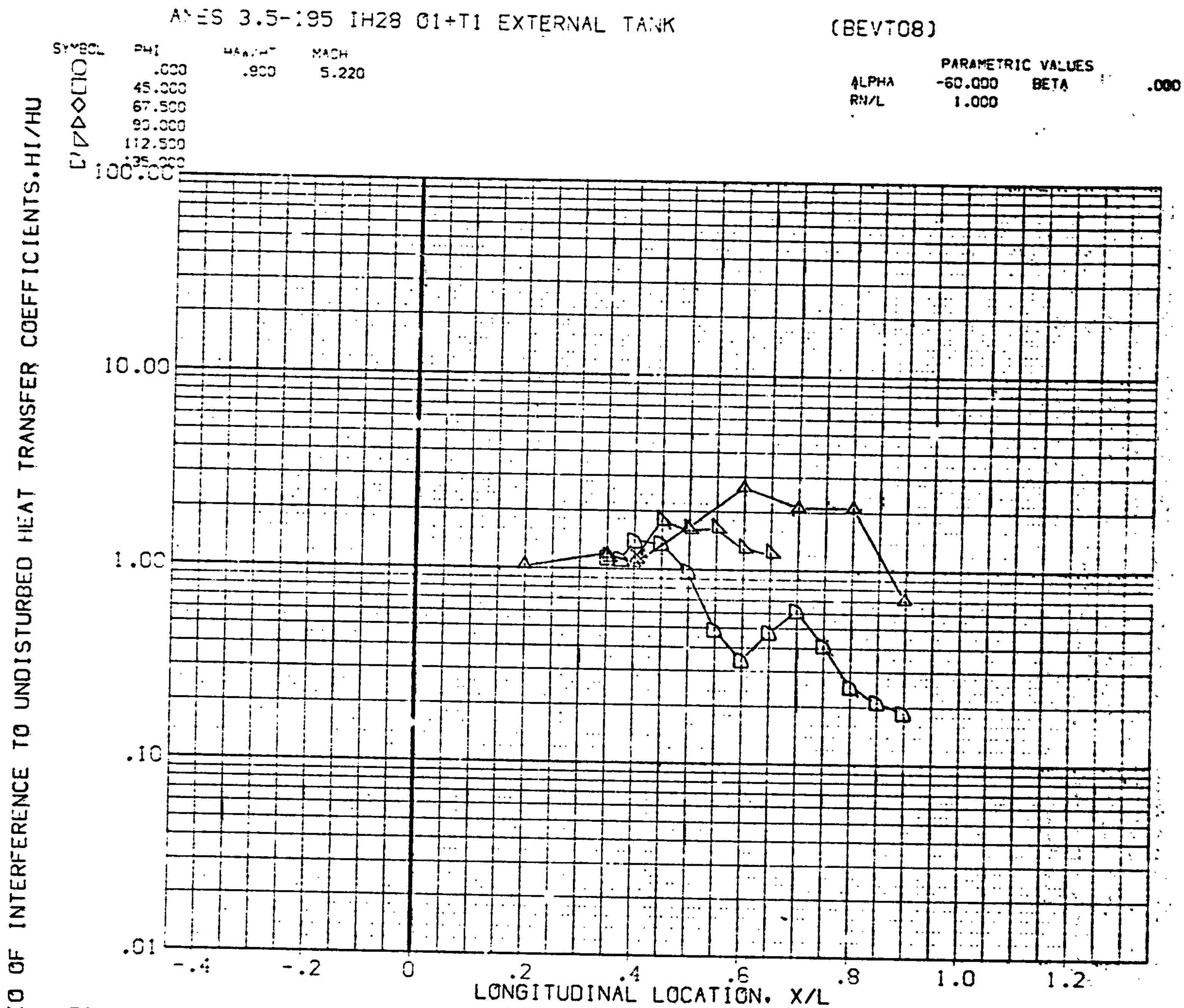


FIG. 6 TANK, RATIO OF INTERFERENCE TO UNDISTURBED

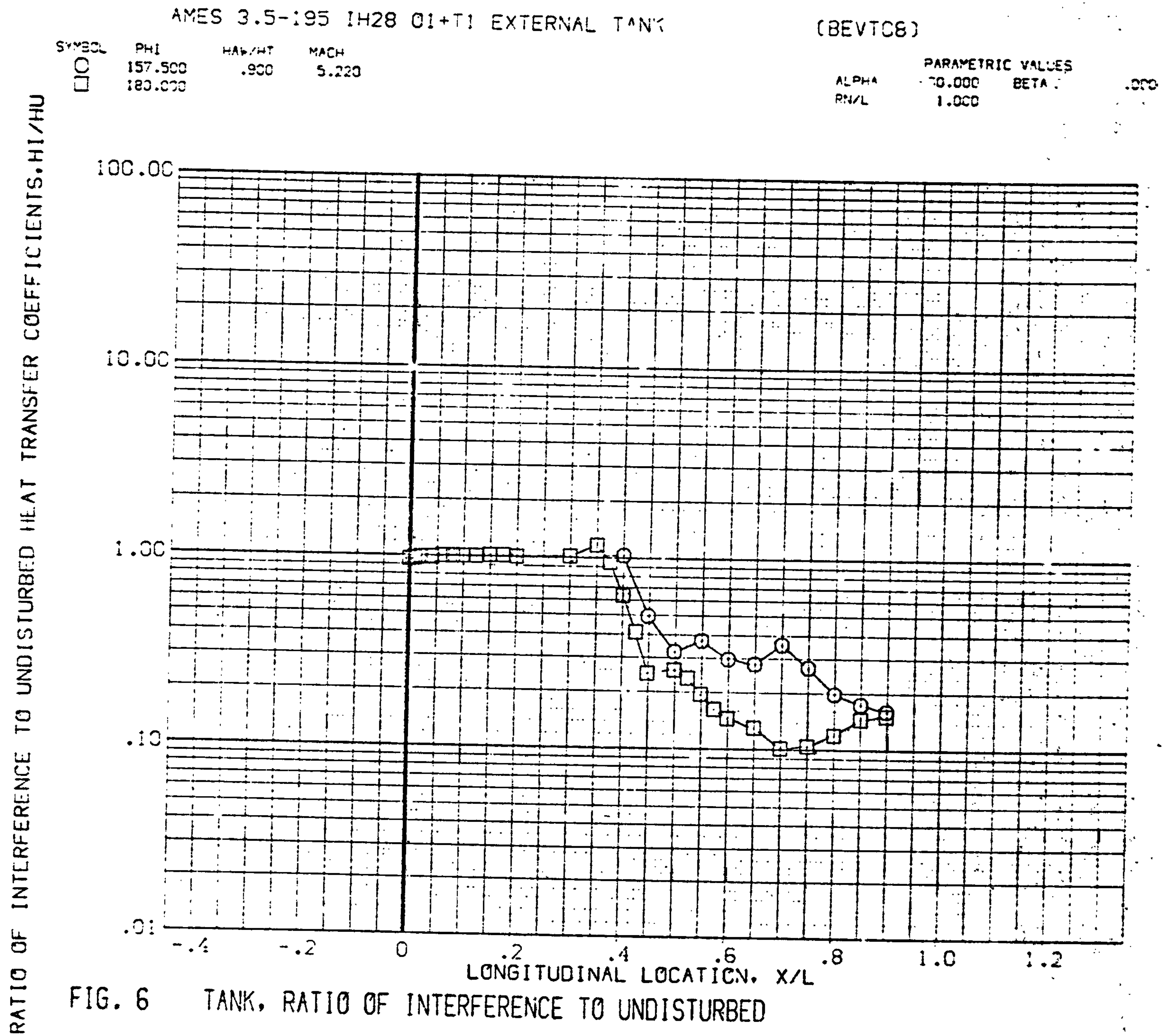


FIG. 6 TANK, RATIO OF INTERFERENCE TO UNDISTURBED

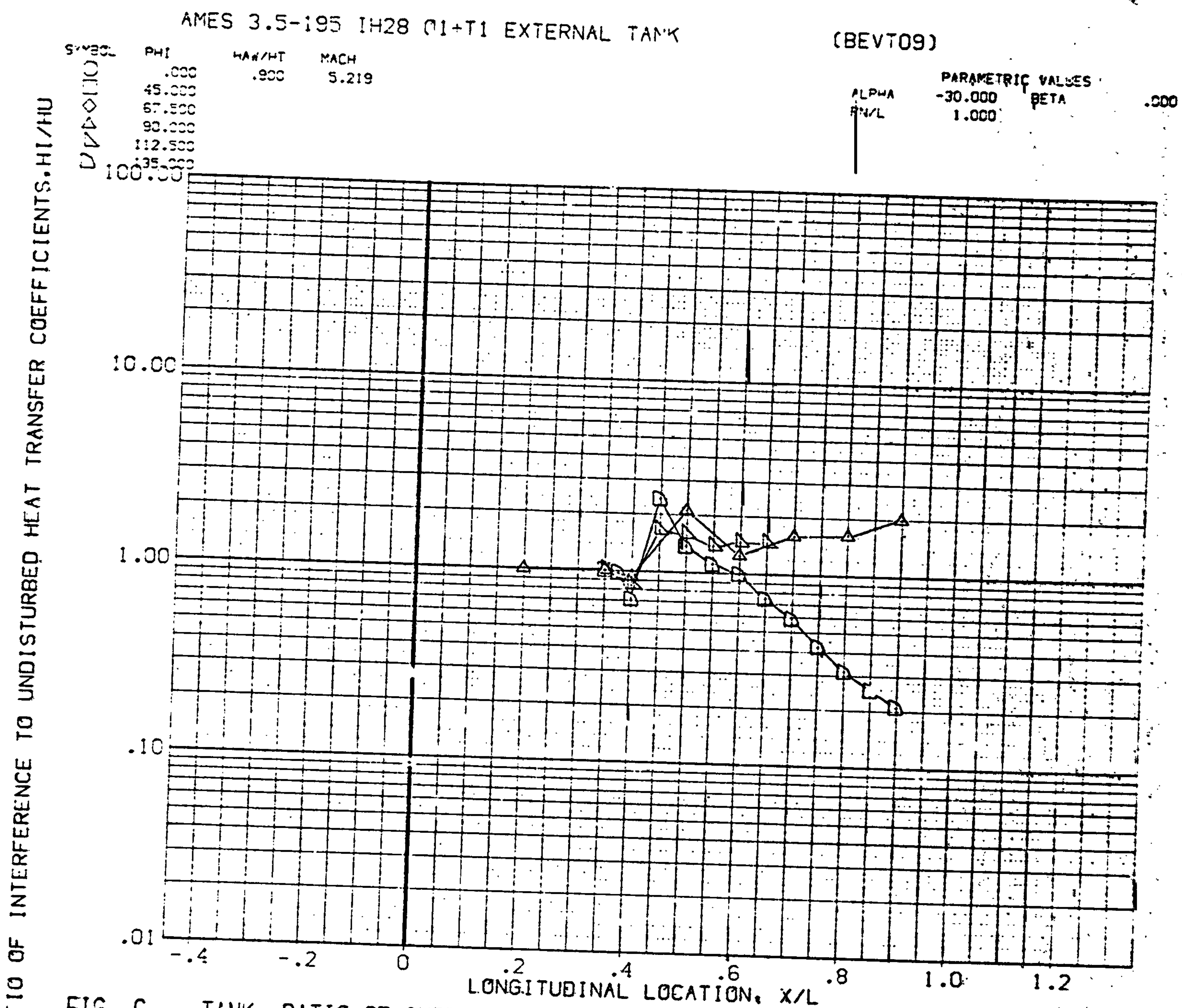


FIG. 6 TANK, RATIO OF INTERFERENCE TO UNDISTURBED

AMES 3.5-195 IH28 01+T1 EXTERNAL TANK (BEVT09)

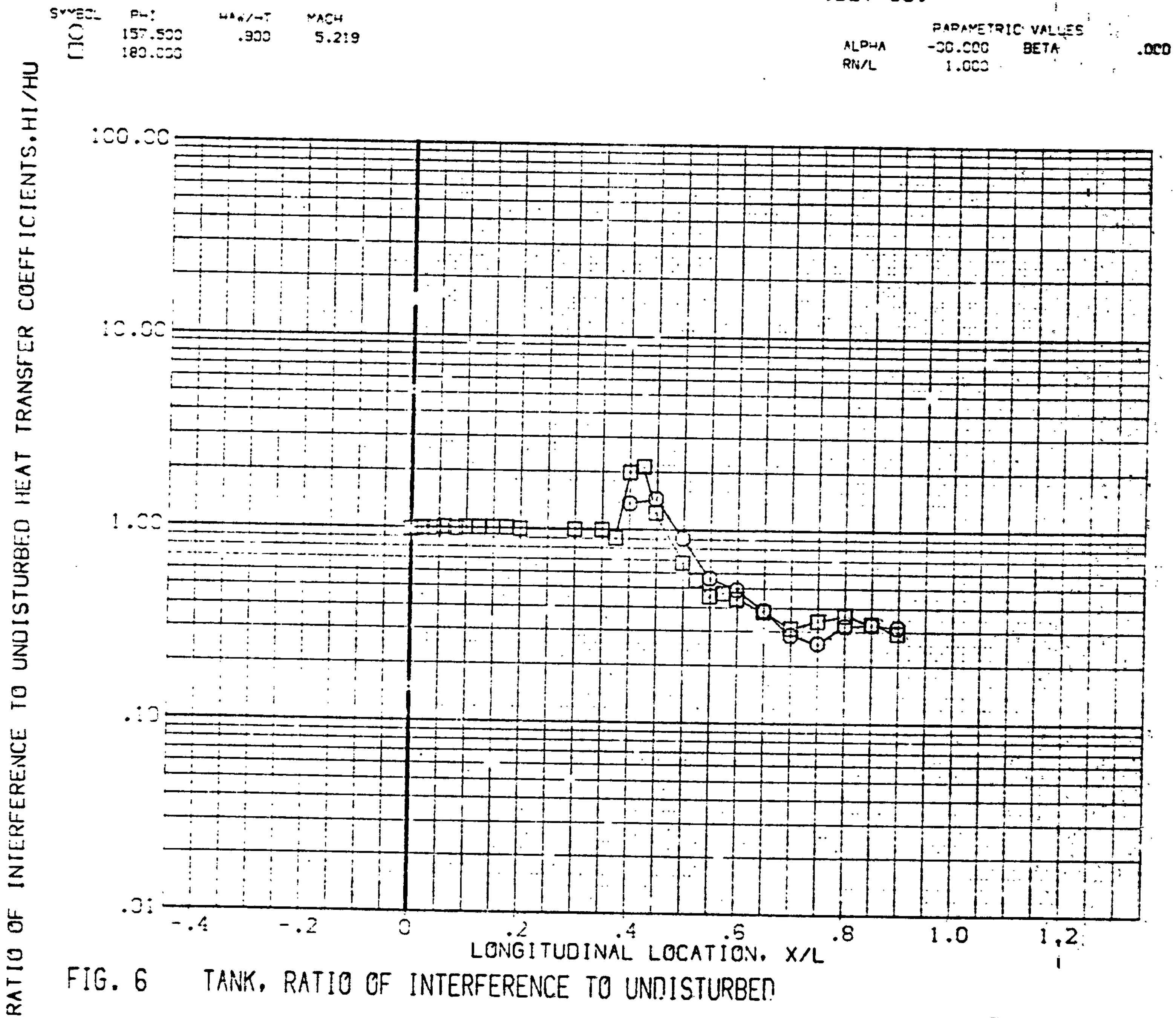


FIG. 6 TANK, RATIO OF INTERFERENCE TO UNDISTURBED

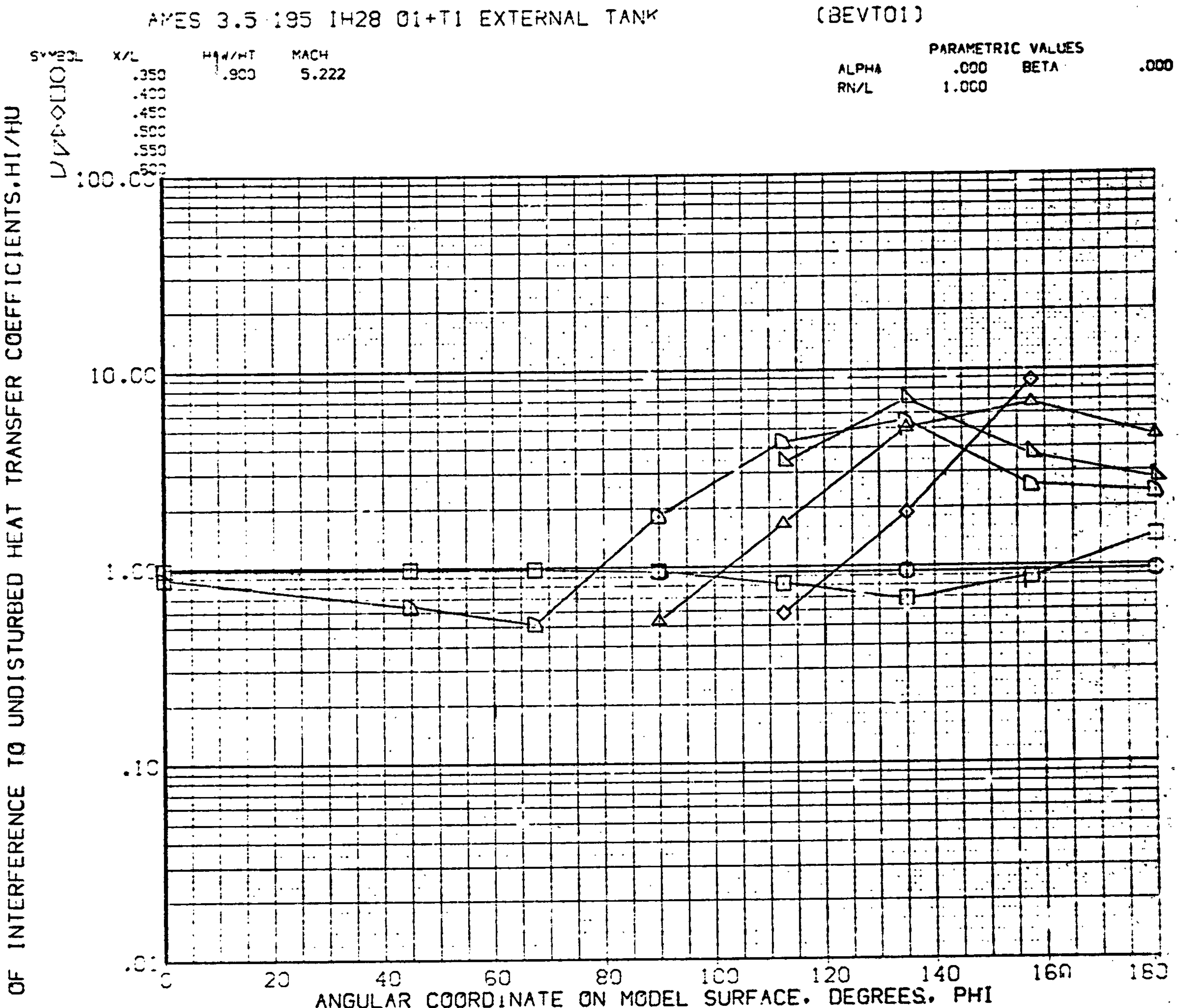


FIG. 6 TANK, RATIO OF INTERFERENCE TO UNDISTURBED

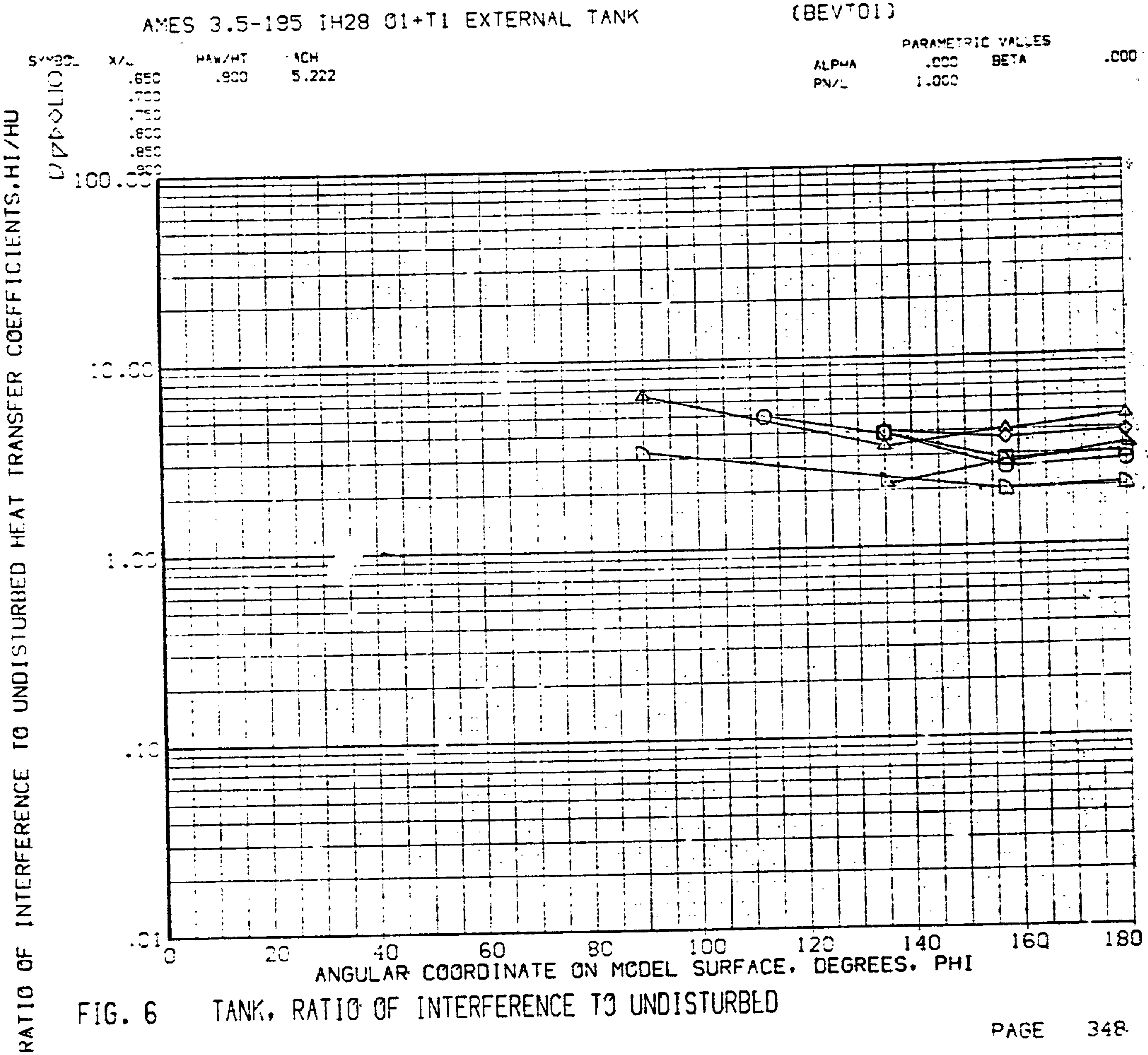


FIG. 6 TANK, RATIO OF INTERFERENCE TO UNDISTURBED

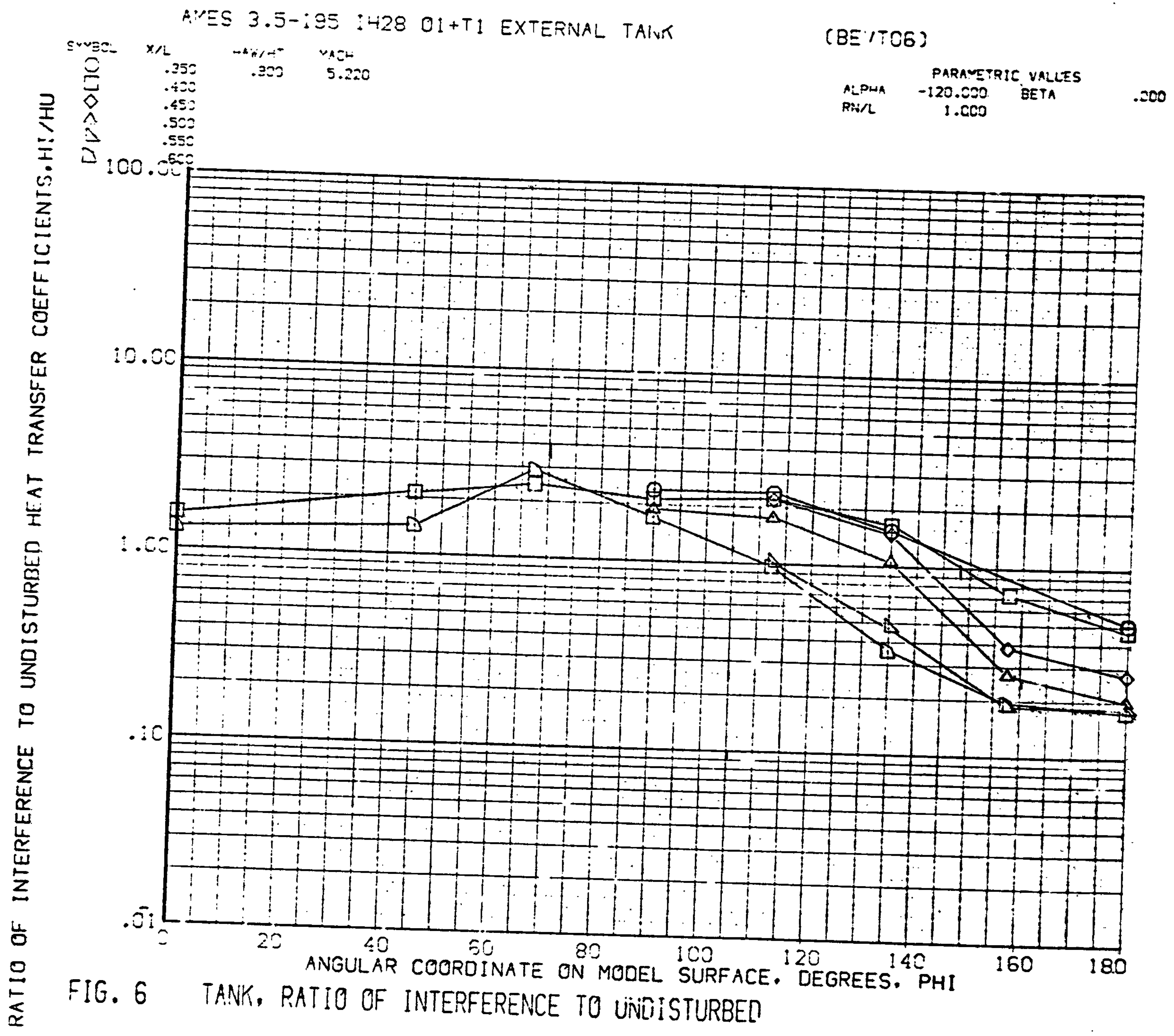


FIG. 6 TANK, RATIO OF INTERFERENCE TO UNDISTURBED

AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK (BEVTC6)

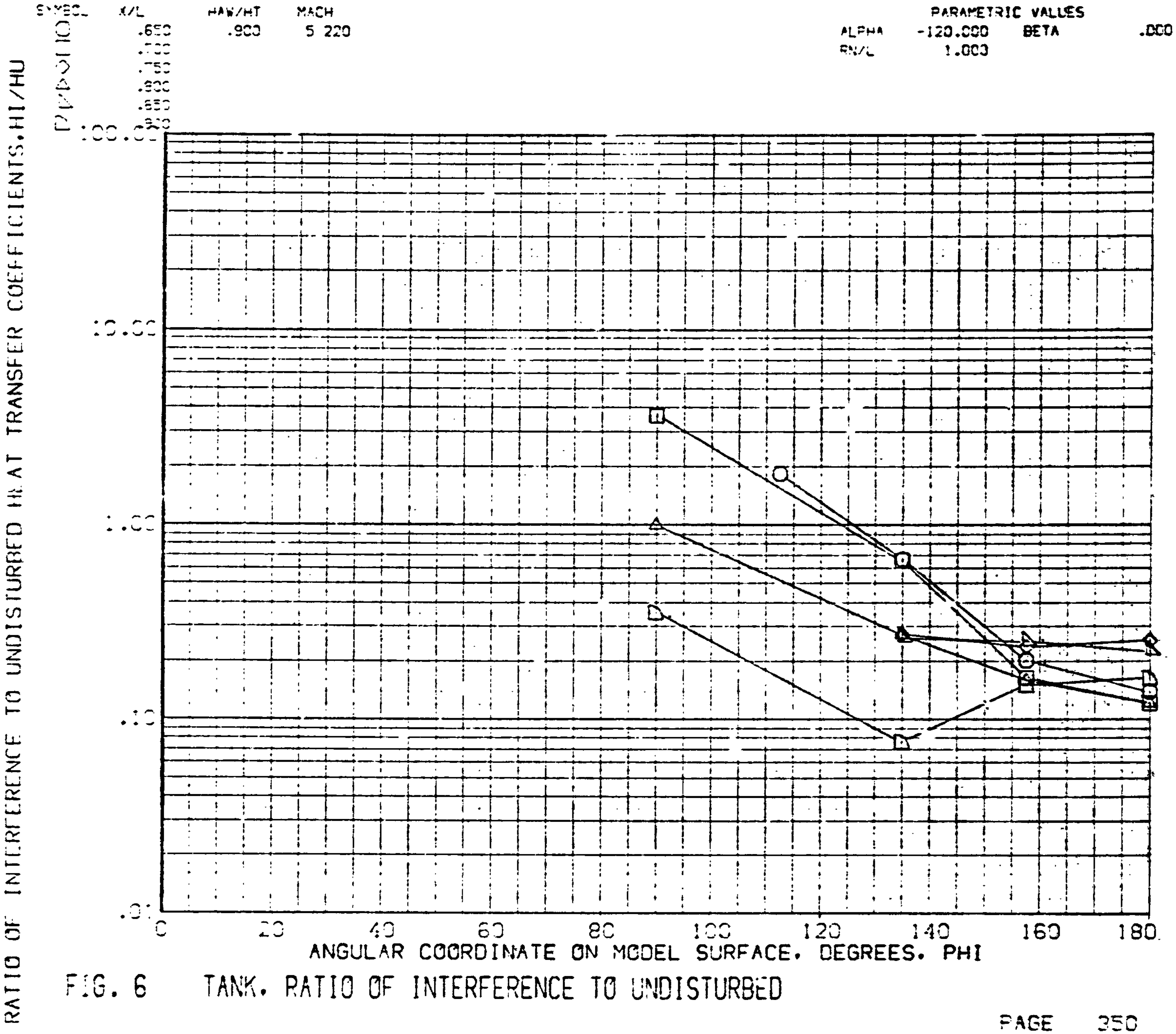


FIG. 6 TANK, RATIO OF INTERFERENCE TO UNDISTURBED

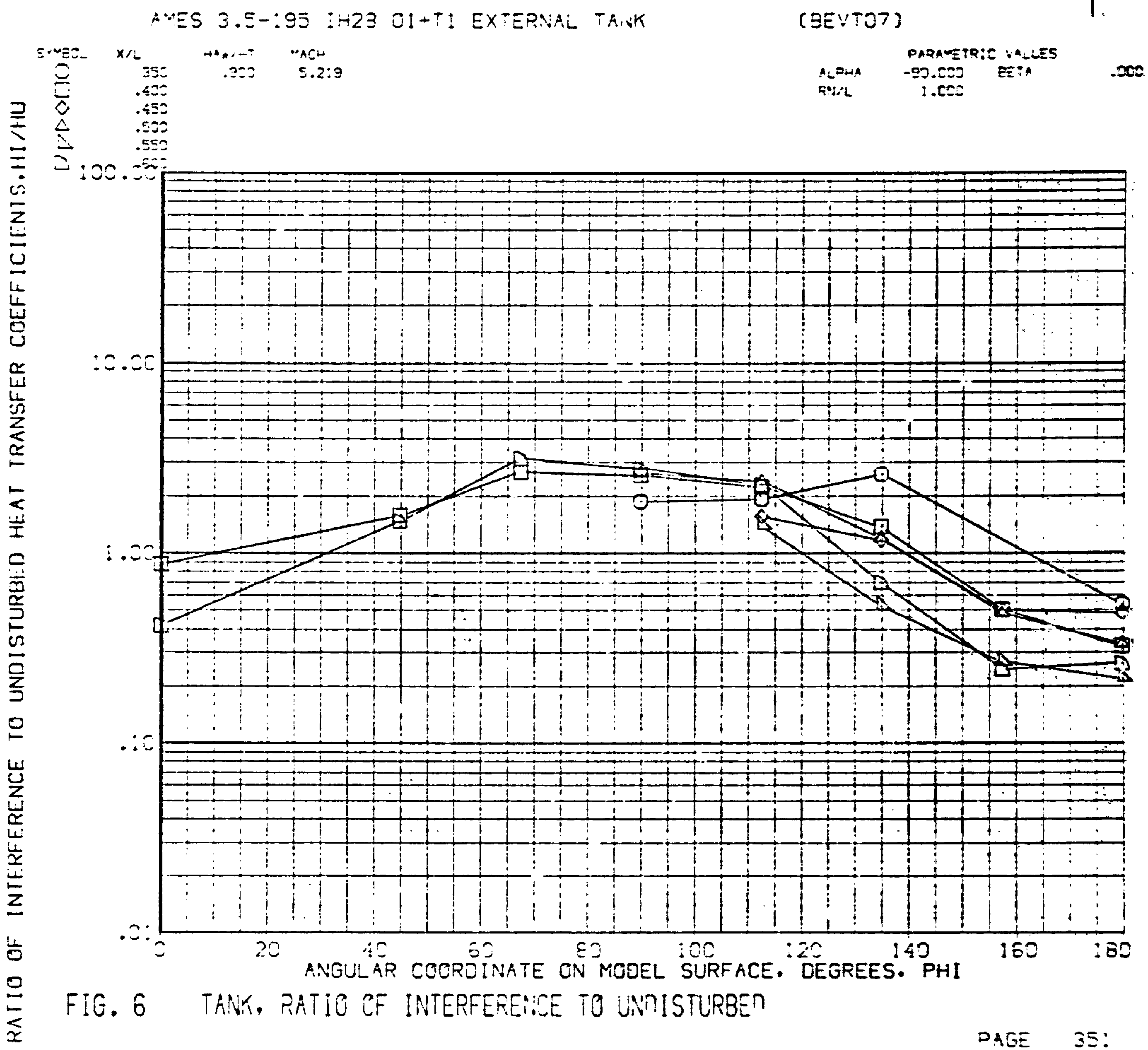


FIG. 6 TANK, RATIO OF INTERFERENCE TO UNDISTURBED

AMES 3.5-195 IH28 OI+TI EXTERNAL TANK (BEVT07)

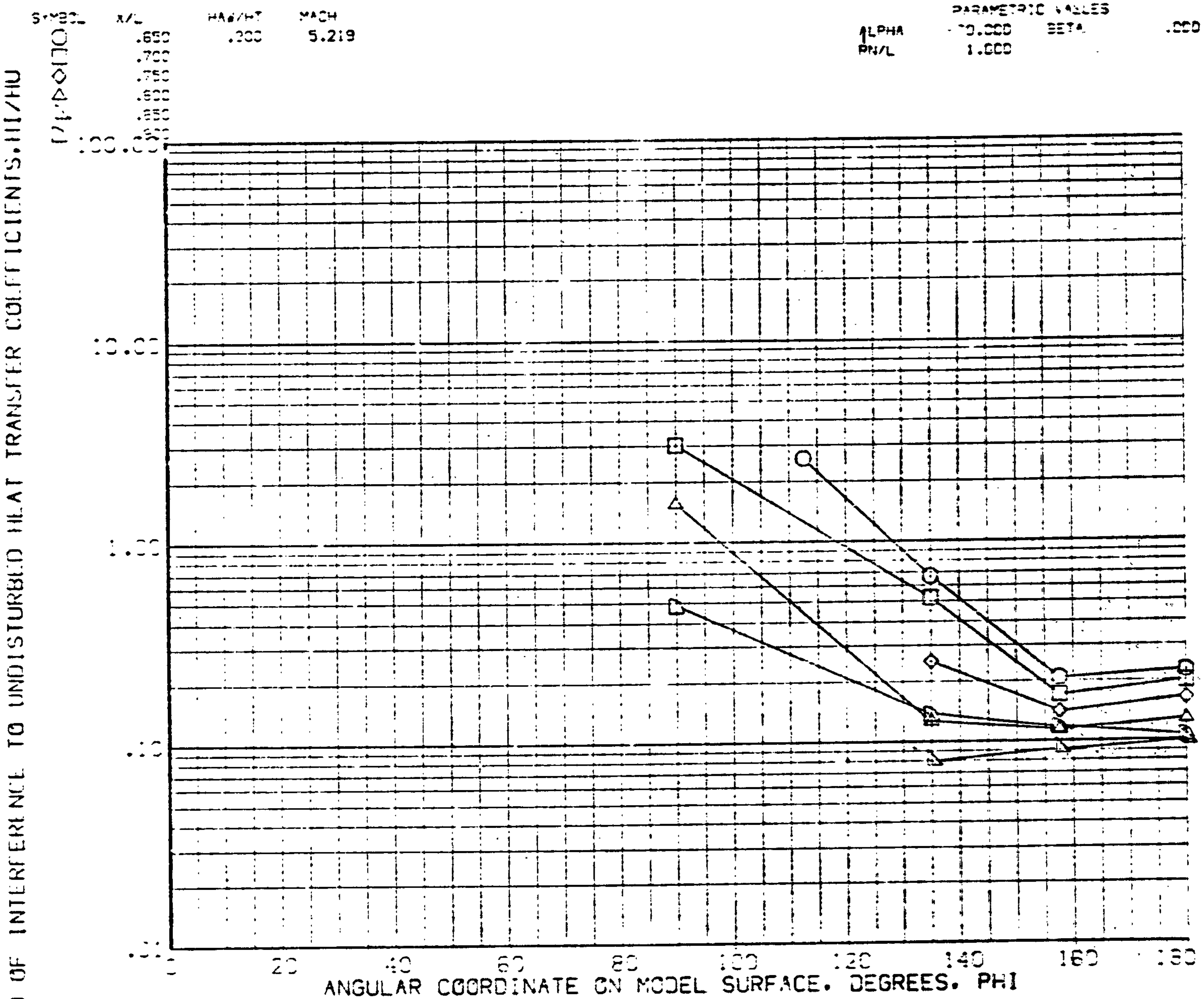


FIG. 6 TANK, RATIO OF INTERFERENCE TO UNDISTURBED

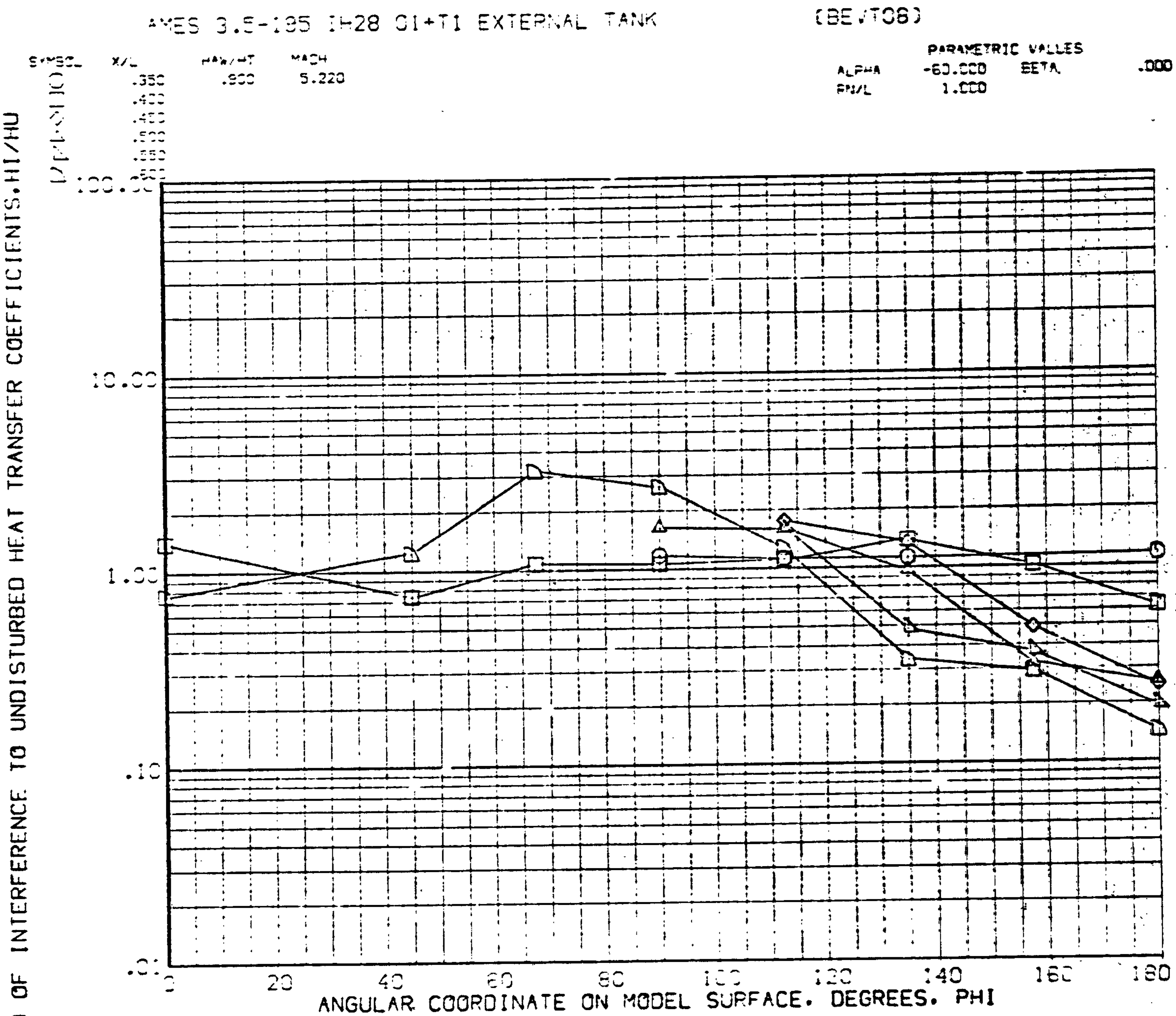


FIG. 6 TANK, RATIO OF INTERFERENCE TO UNDISTURBED

AMES 3.5-195 IH28 OI+T1 EXTERNAL TANK (BEVTC3)

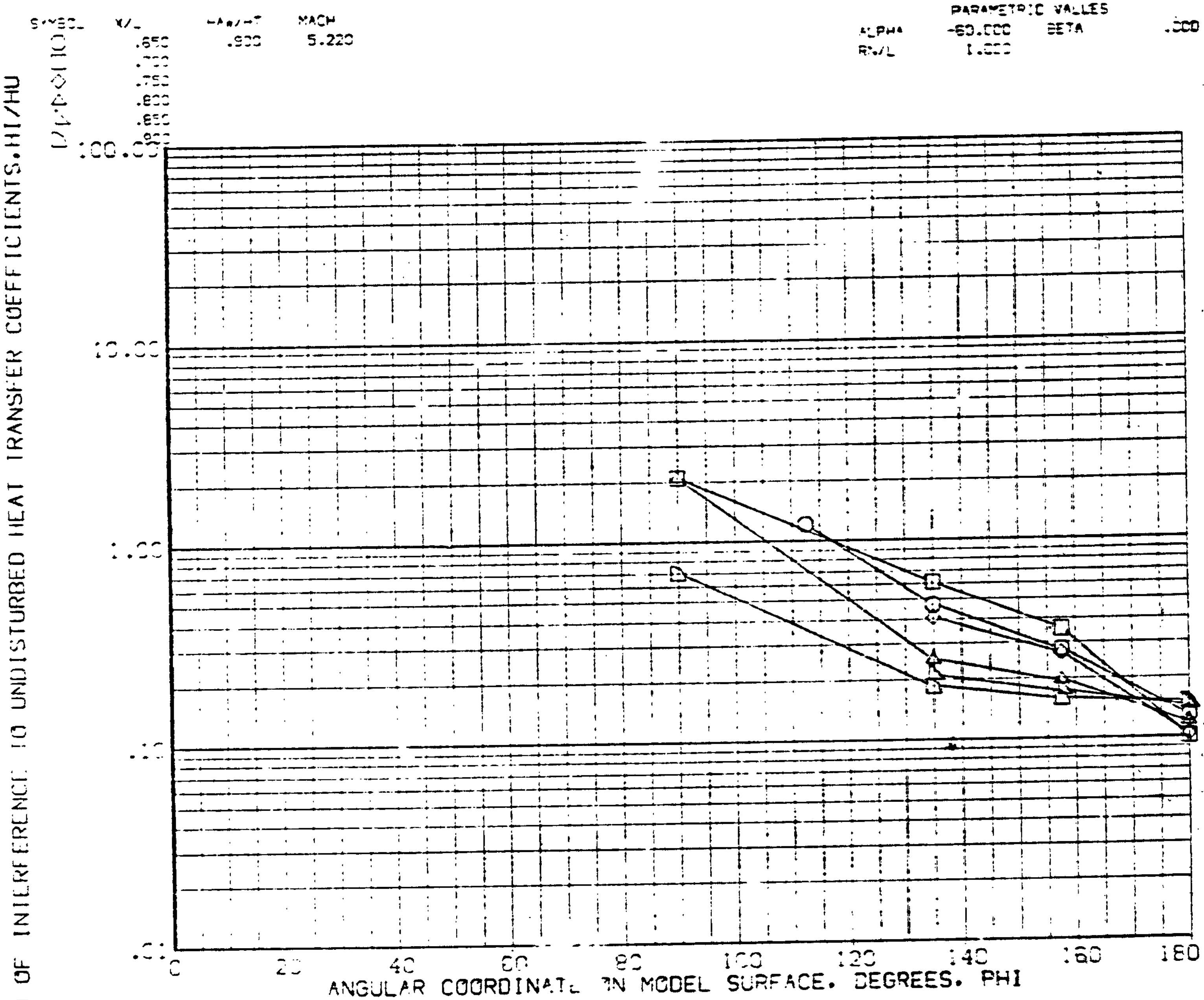


FIG. 6 TANK, RATIO OF INTERFERENCE TO UNDISTURBED

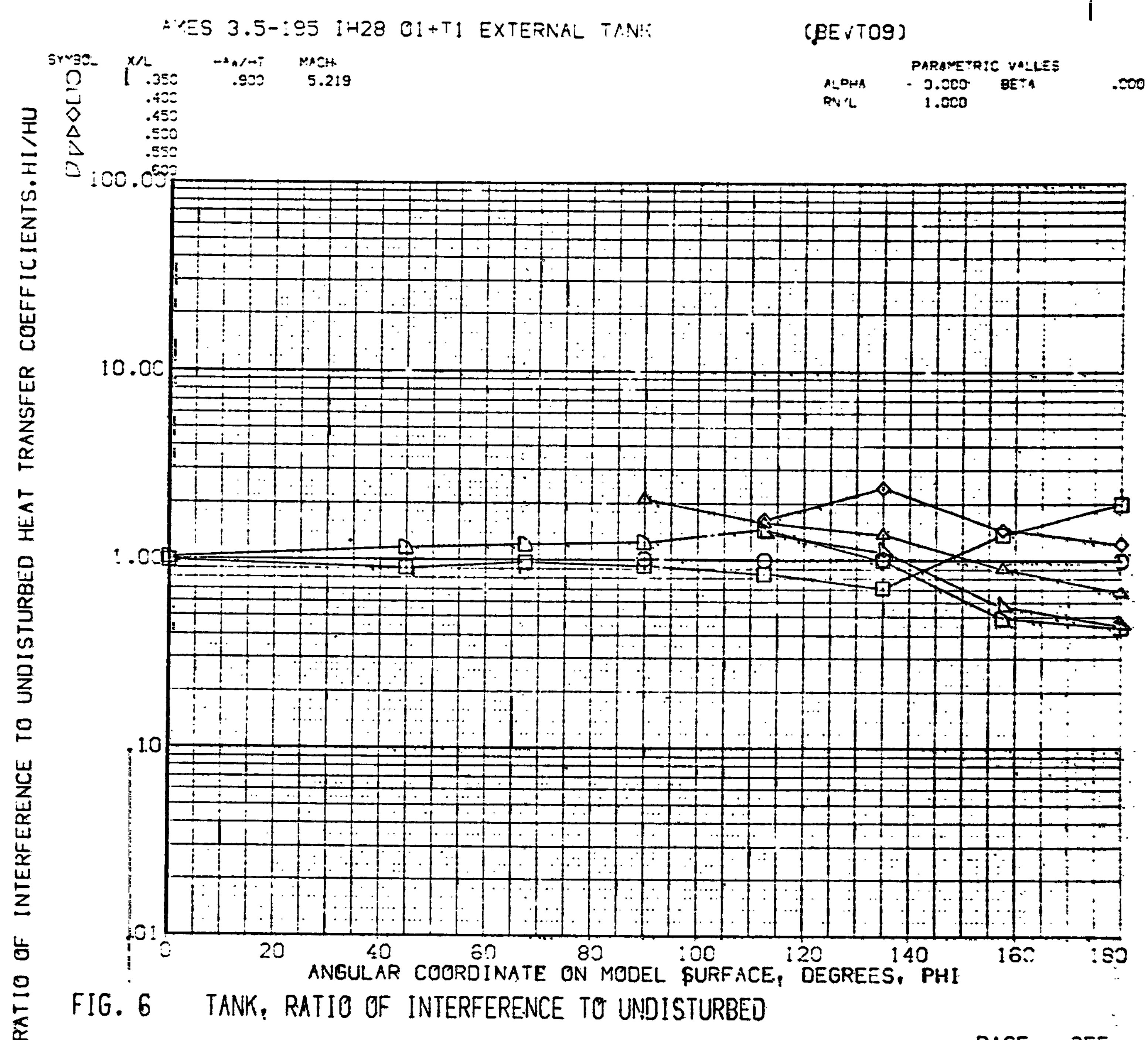


FIG. 6 TANK, RATIO OF INTERFERENCE TO UNDISTURBED

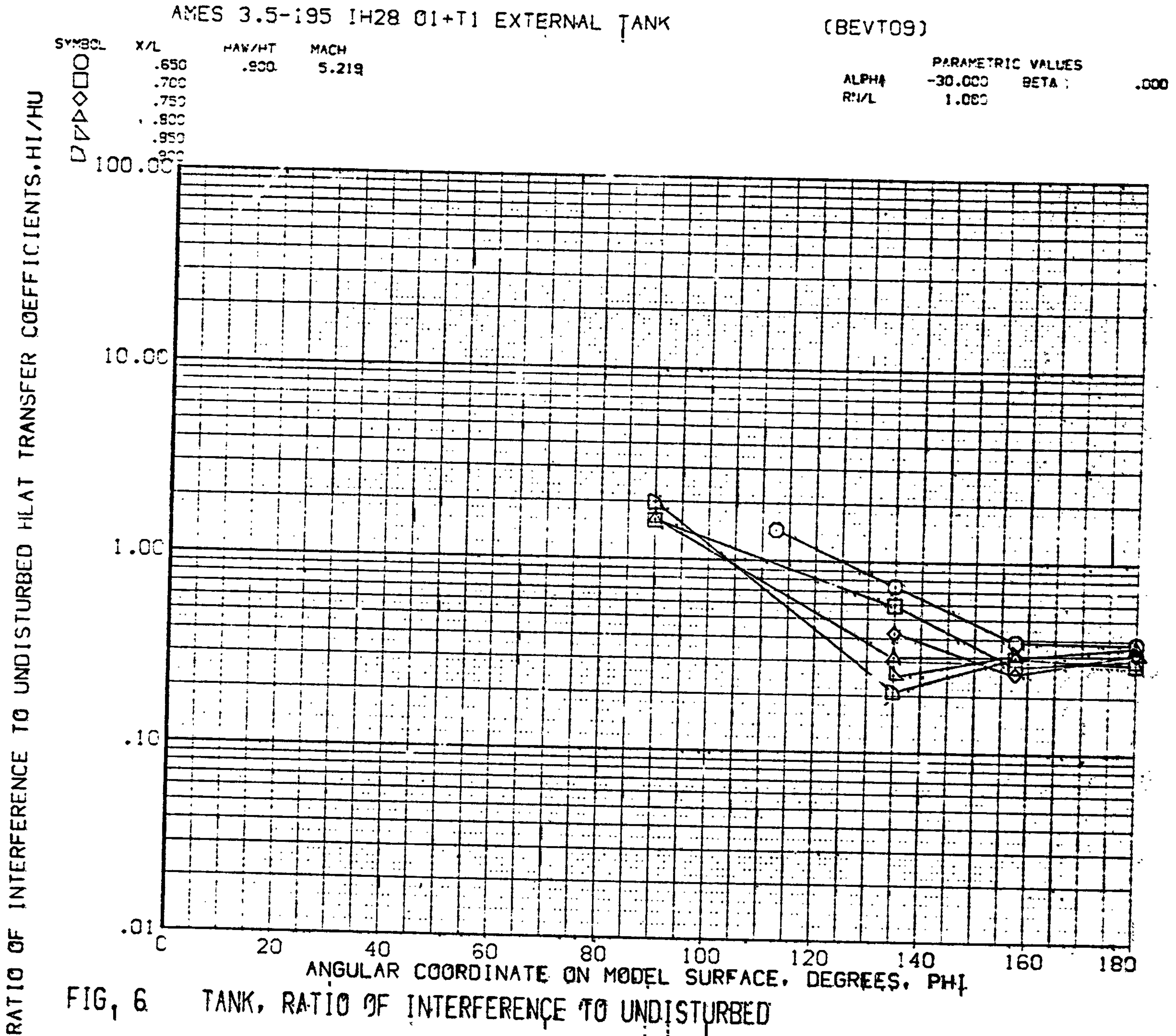


FIG. 6 TANK, RATIO OF INTERFERENCE TO UNDISTURBED

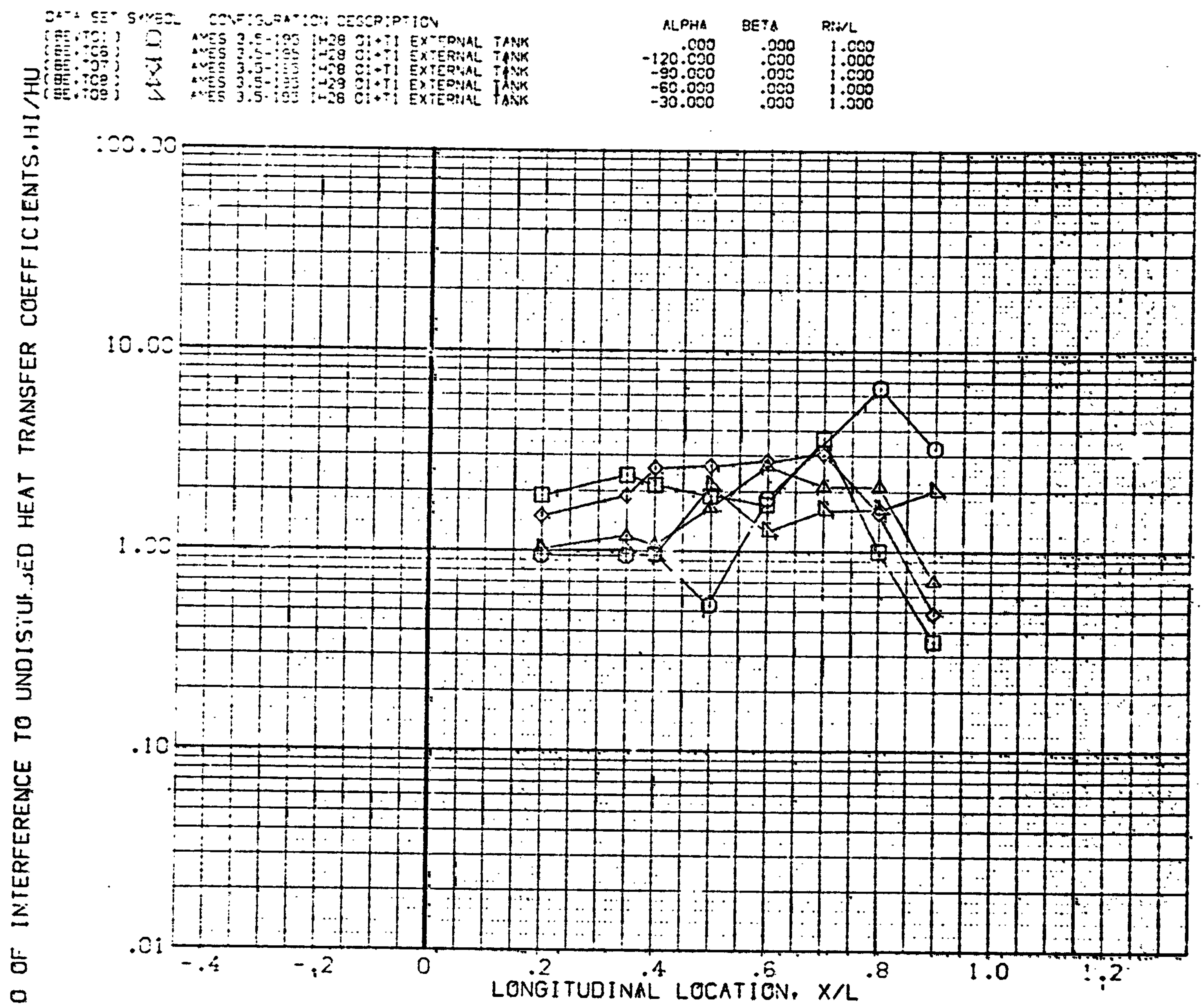


FIG. 6 TANK, RATIO OF INTERFERENCE TO UNDISTURBED

MACH = 5.300 HAW/HT= .900 PHI = 30.000

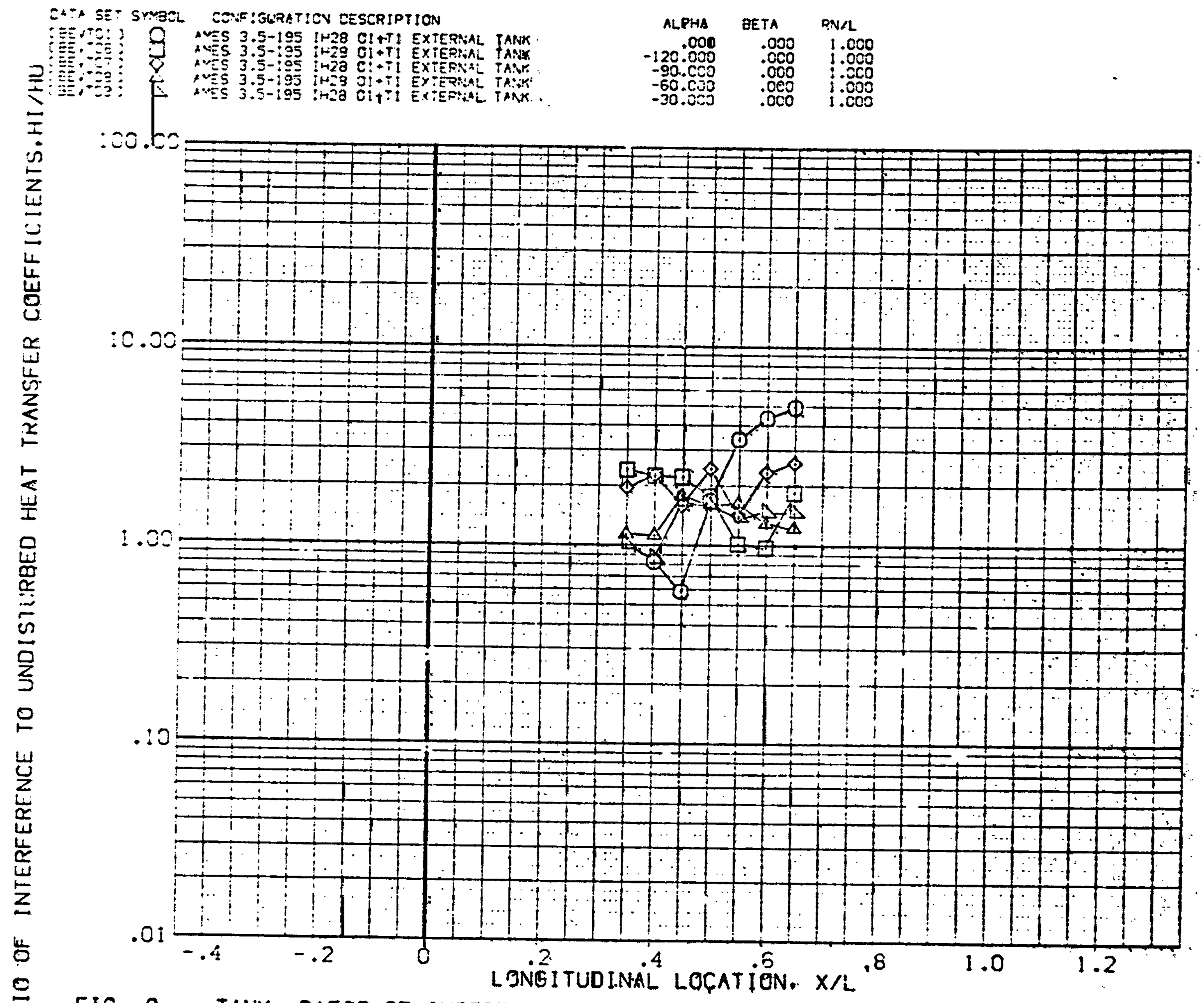


FIG. 6 TANK, RATIO OF INTERFERENCE TO UNDISTURBED

MACH = 5.300 HAW/HT= .900 PHI = 112.500

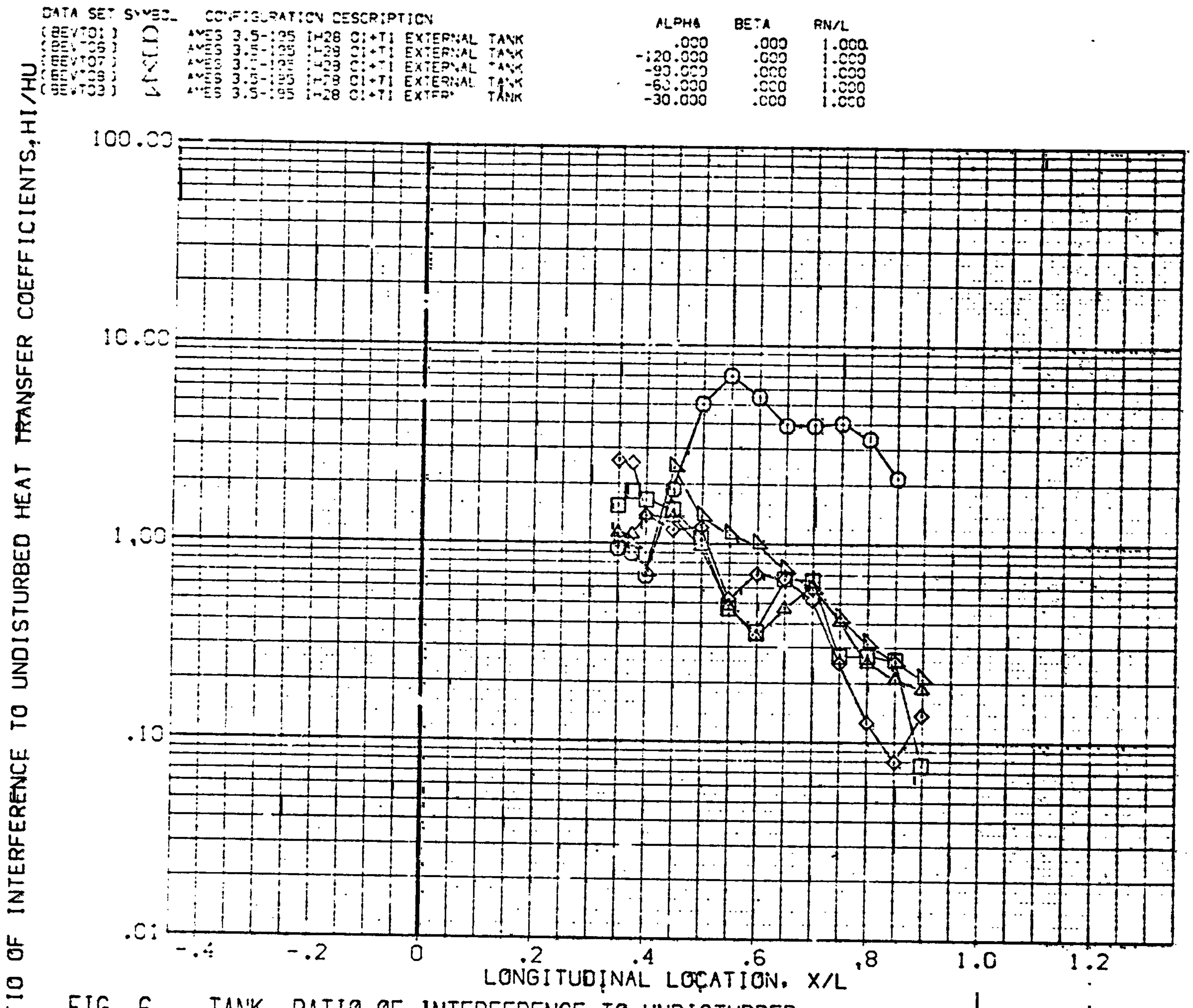


FIG. 6 TANK, RATIO OF INTERFERENCE TO UNDISTURBED

MACH = 5.300 HAW/HT = .900 PHI = 135.000

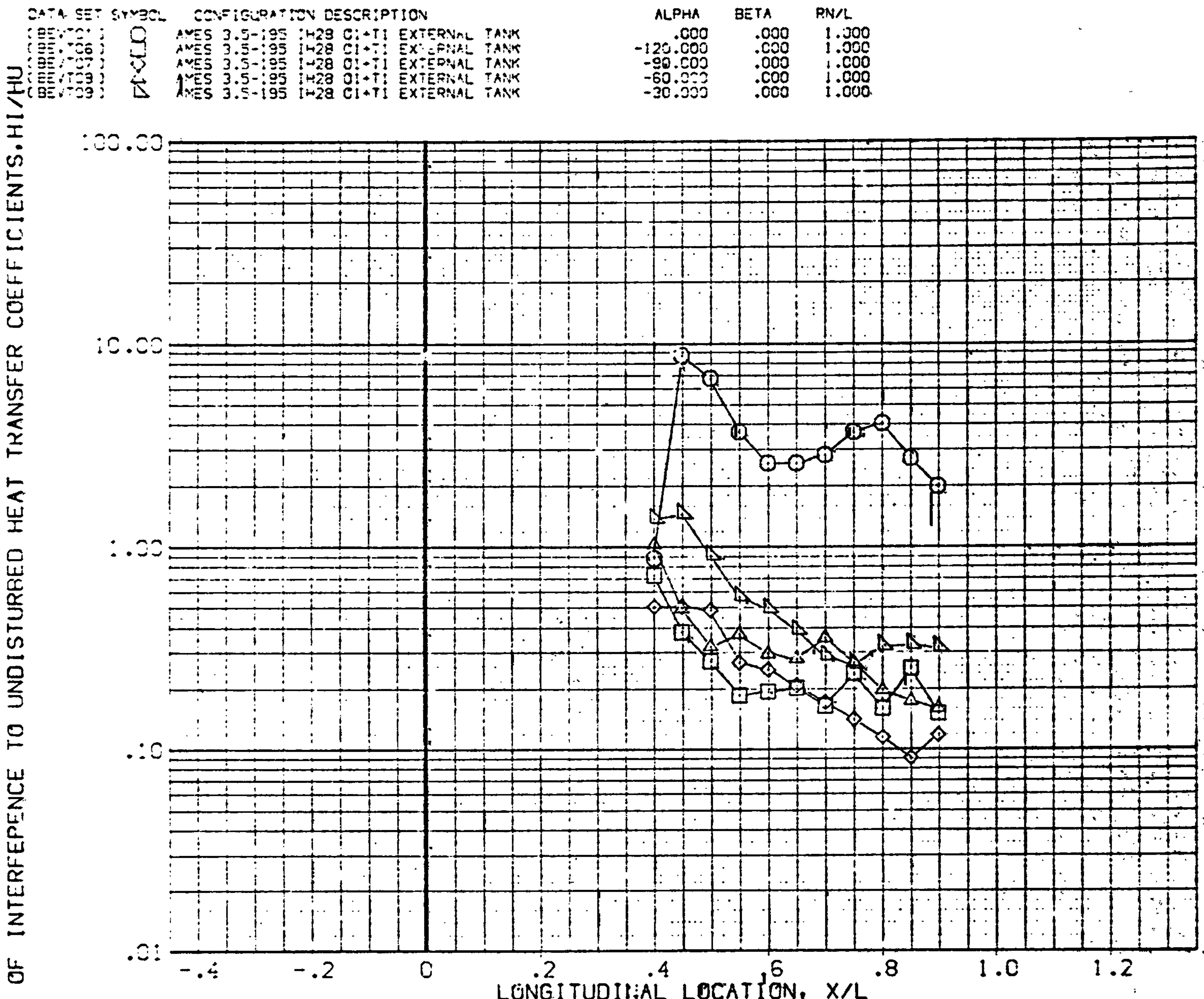


FIG. 6 TANK, RATIO OF INTERFERENCE TO UNDISTURBED

MACH = 5.300 HAW/HT= .900 PHI = 157.500

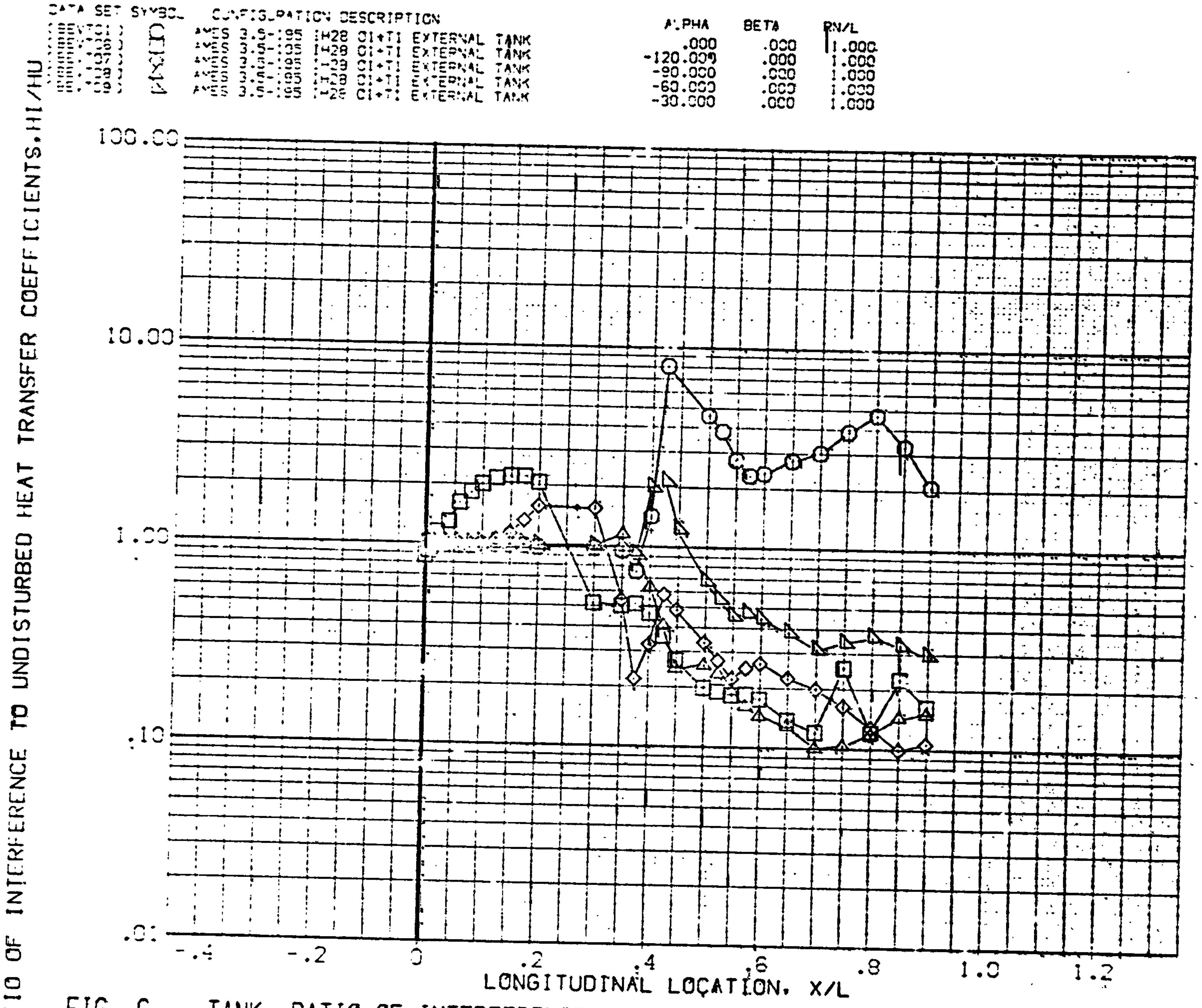


FIG. 6 TANK, RATIO OF INTERFERENCE TO UNDISTURBED

MACH = 5.300 HAW/HT = .900 PHI = 180.000

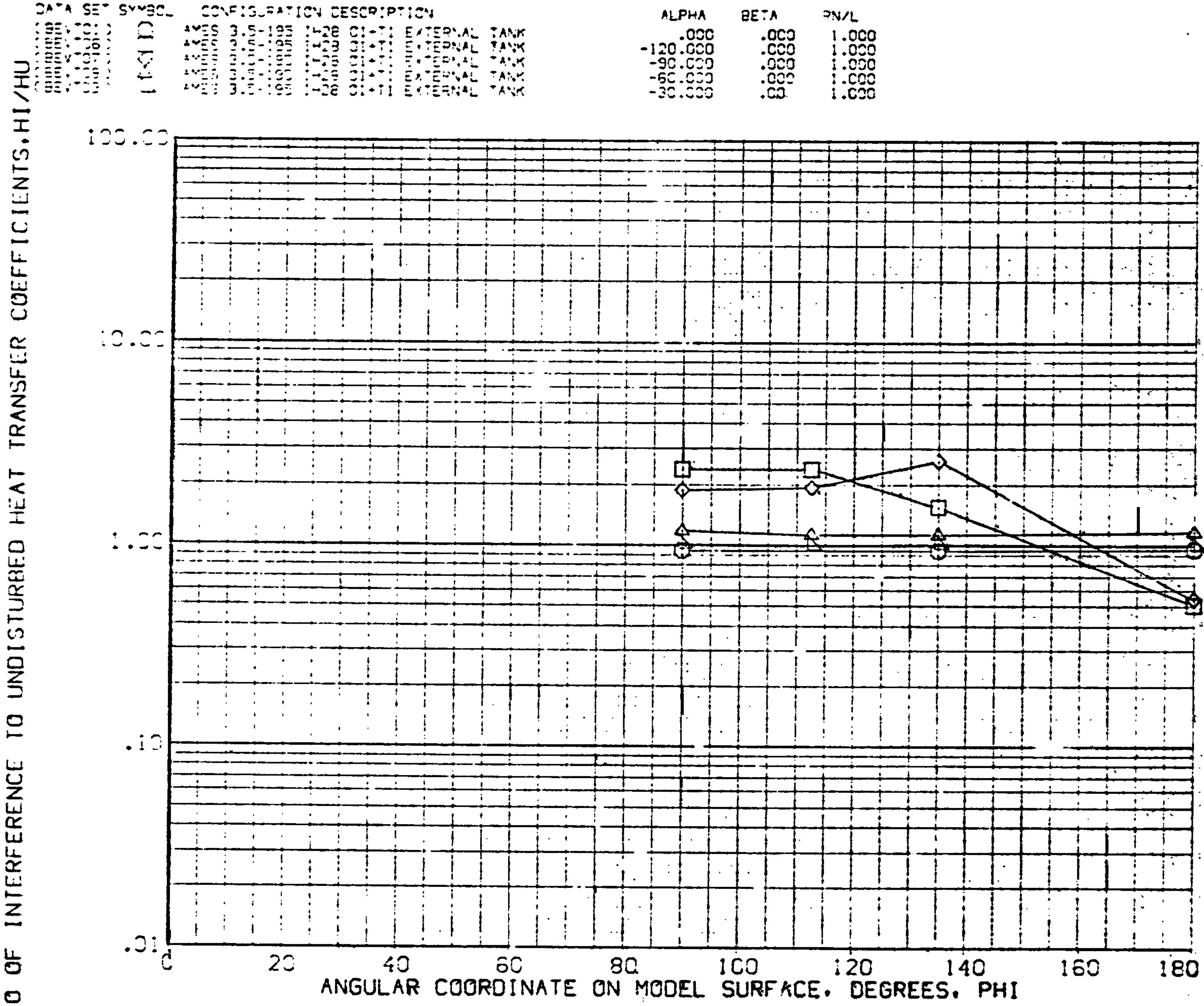


FIG. 6 TANK, RATIO OF INTERFERENCE TO UNDISTURBED

MACH = 5.300 HAW/HT= .900 X/L = .050

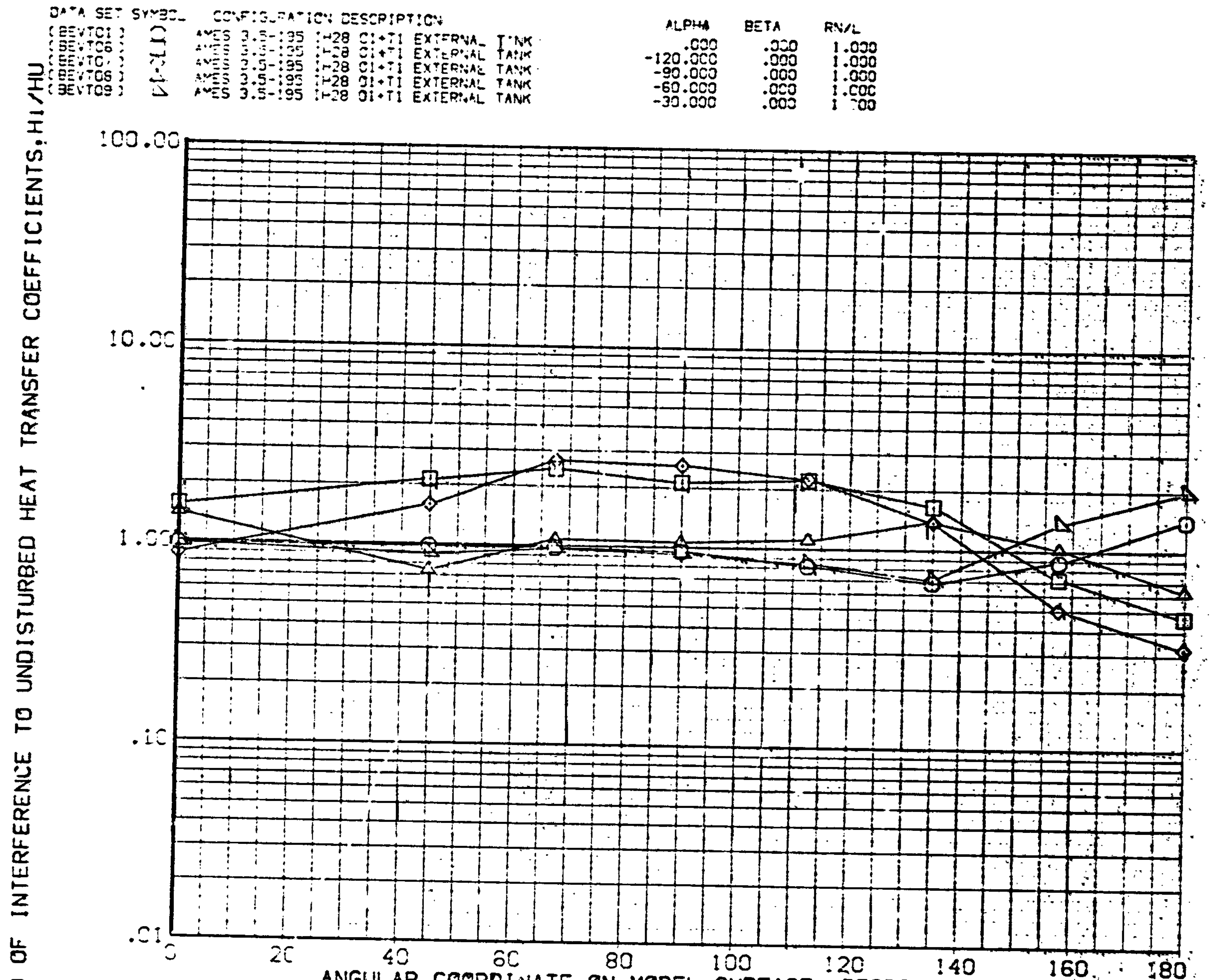


FIG. 6 TANK, RATIO OF INTERFERENCE TO UNDISTURBED

MACH = 5.300 HAW/HT= .900 X/L = .400

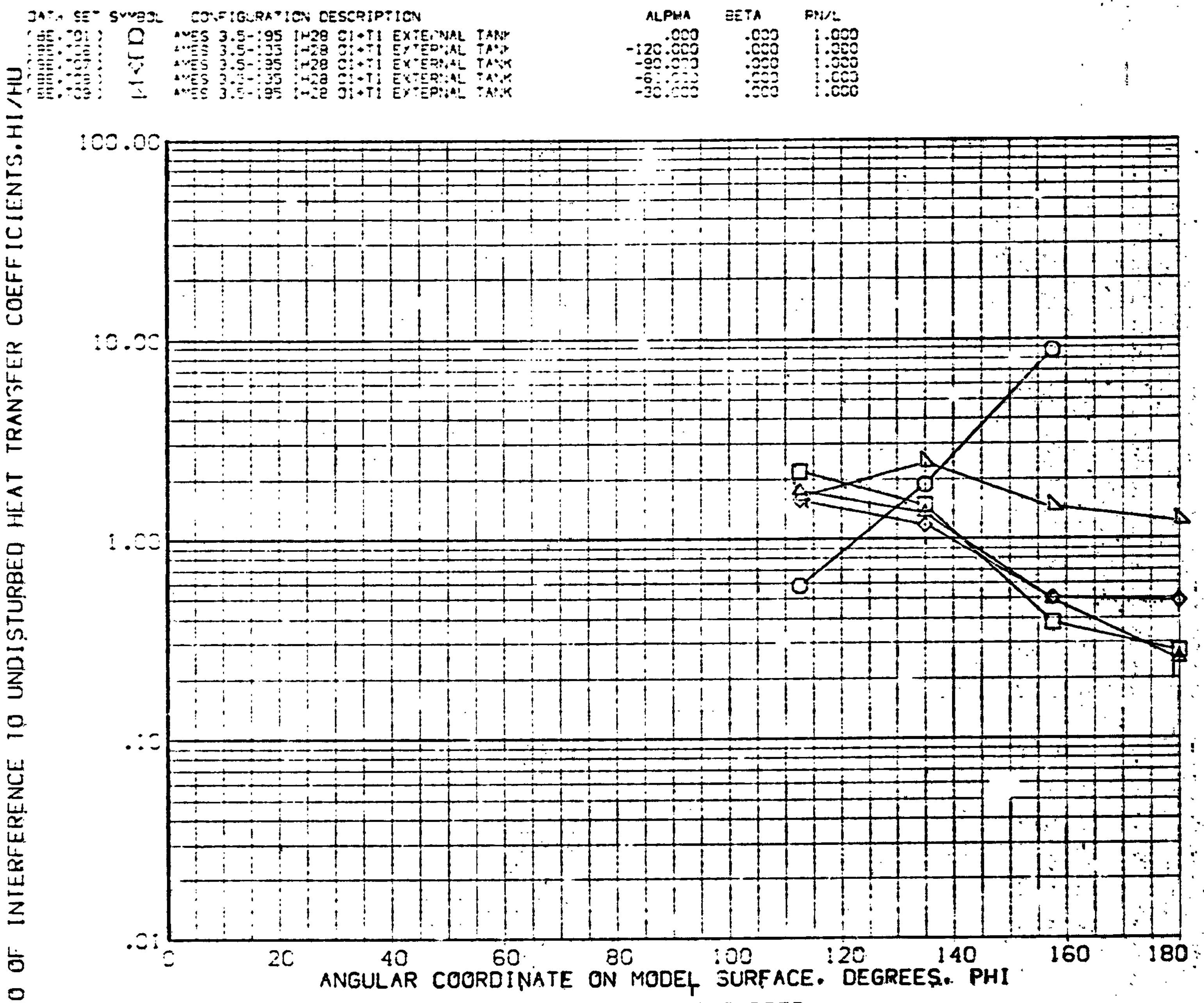


FIG. 6 TANK, RATIO OF INTERFERENCE TO UNDISTURBED

MACH = 5.300 = .900 X/L = .450

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	RN/L
(BE.TC1)	○	AMES 3.5-193 IH28 01+T1 EXTERNAL TANK	.000	.000	1.000
(BE.TC8)	□	AMES 3.5-193 IH28 01+T1 EXTERNAL TANK	-120.000	.000	1.000
(BEVTC7)	◇	AMES 3.5-193 IH28 01+T1 EXTERNAL TANK	-90.000	.000	1.000
(BEVTC9)	△	AMES 3.5-193 IH28 01+T1 EXTERNAL TANK	-60.000	.000	1.000
(BEVTC3)	⊿	AMES 3.5-193 IH28 01+T1 EXTERNAL TANK	-30.000	.000	1.000

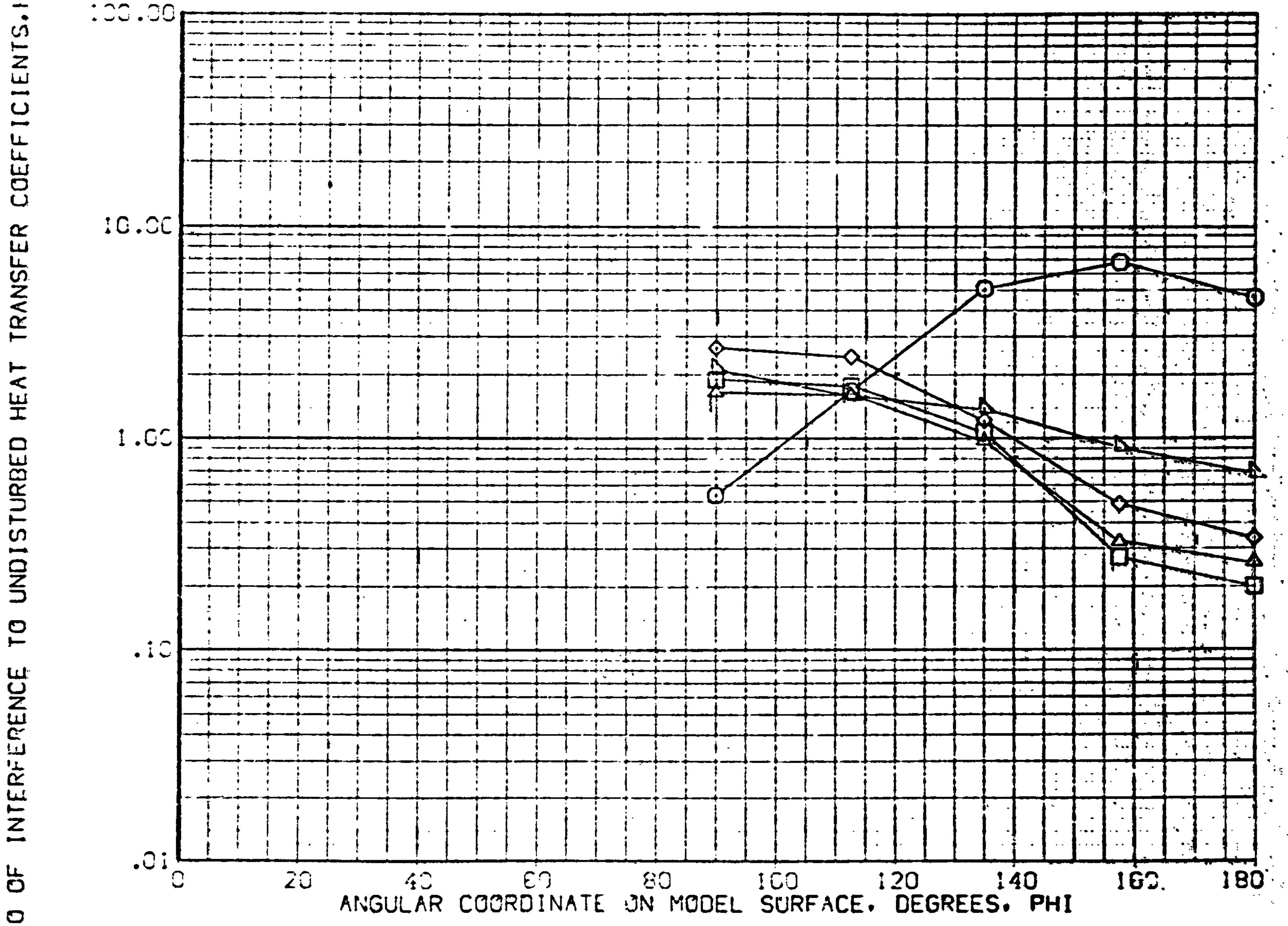


FIG. 6 TANK, RATIO OF INTERFERENCE TO UNDISTURBED

MACH = 5.300 HAW/HT = .900 X/L = .500

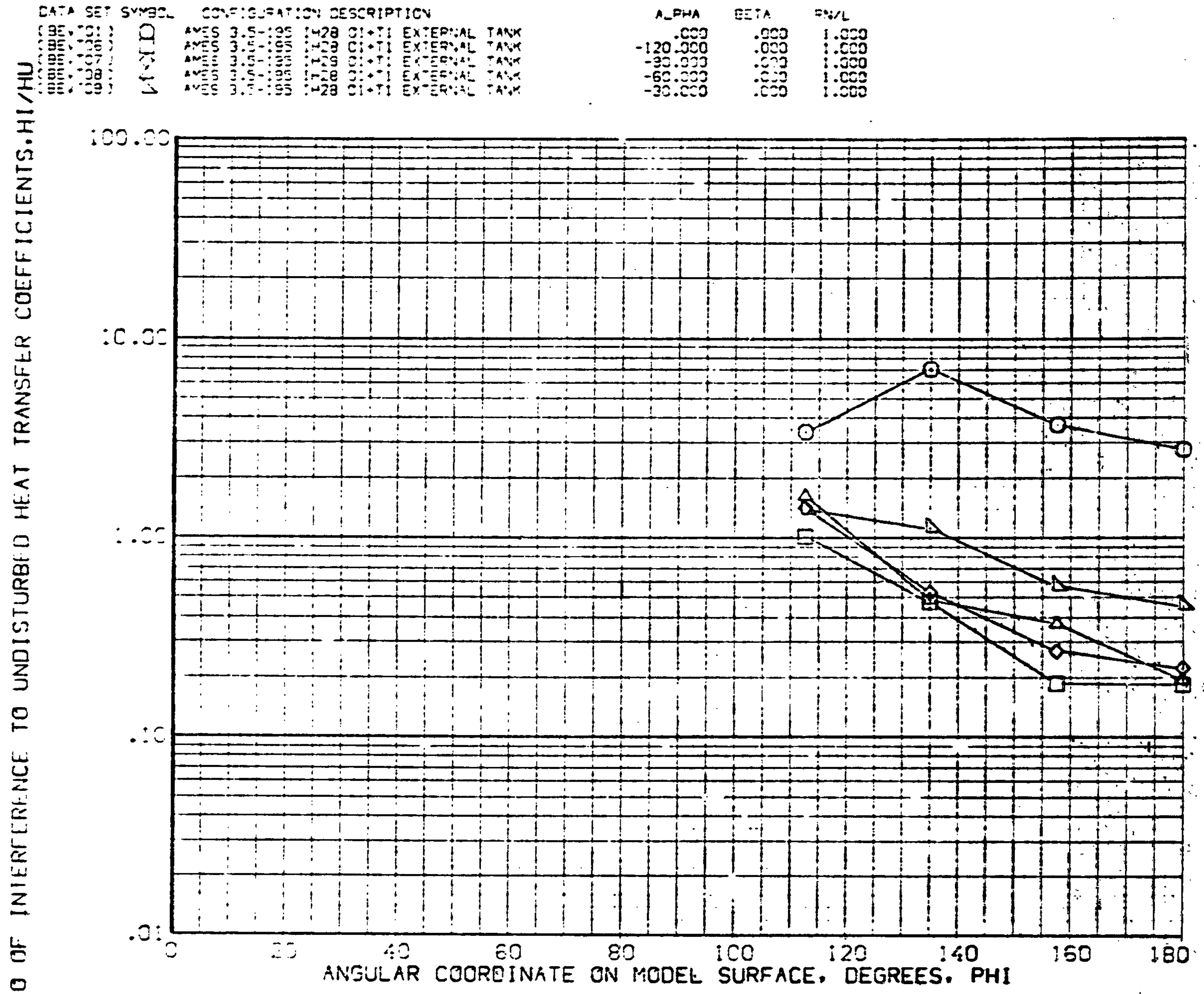


FIG. 6 TANK, RATIO OF INTERFERENCE TO UNDISTURBED

MACH = 5.300 HAW/HT= .900 X/L = .550

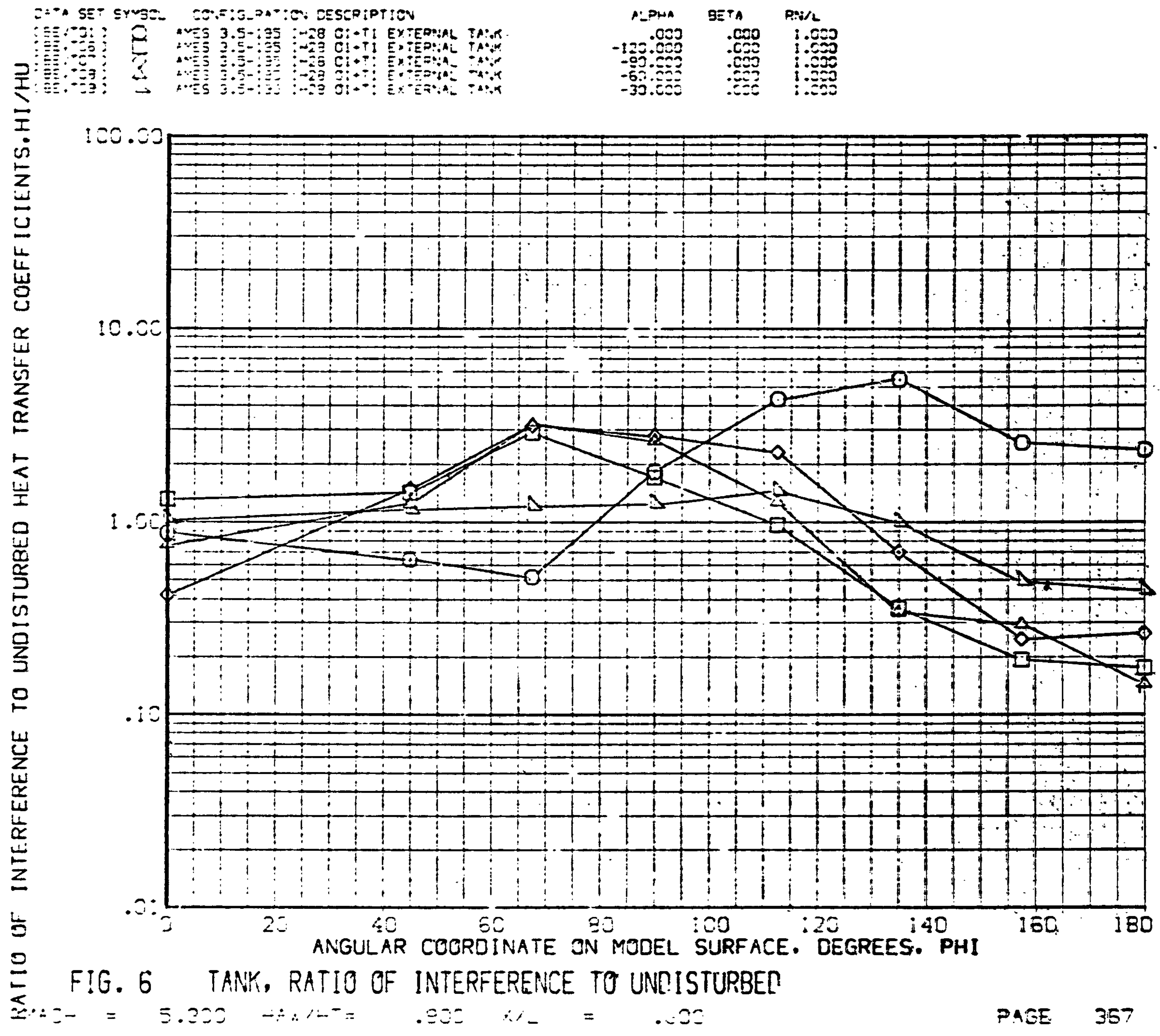


FIG. 6 TANK, RATIO OF INTERFERENCE TO UNDISTURBED

RMACH = 5.300 HAA/HT= .900 X/L = .000

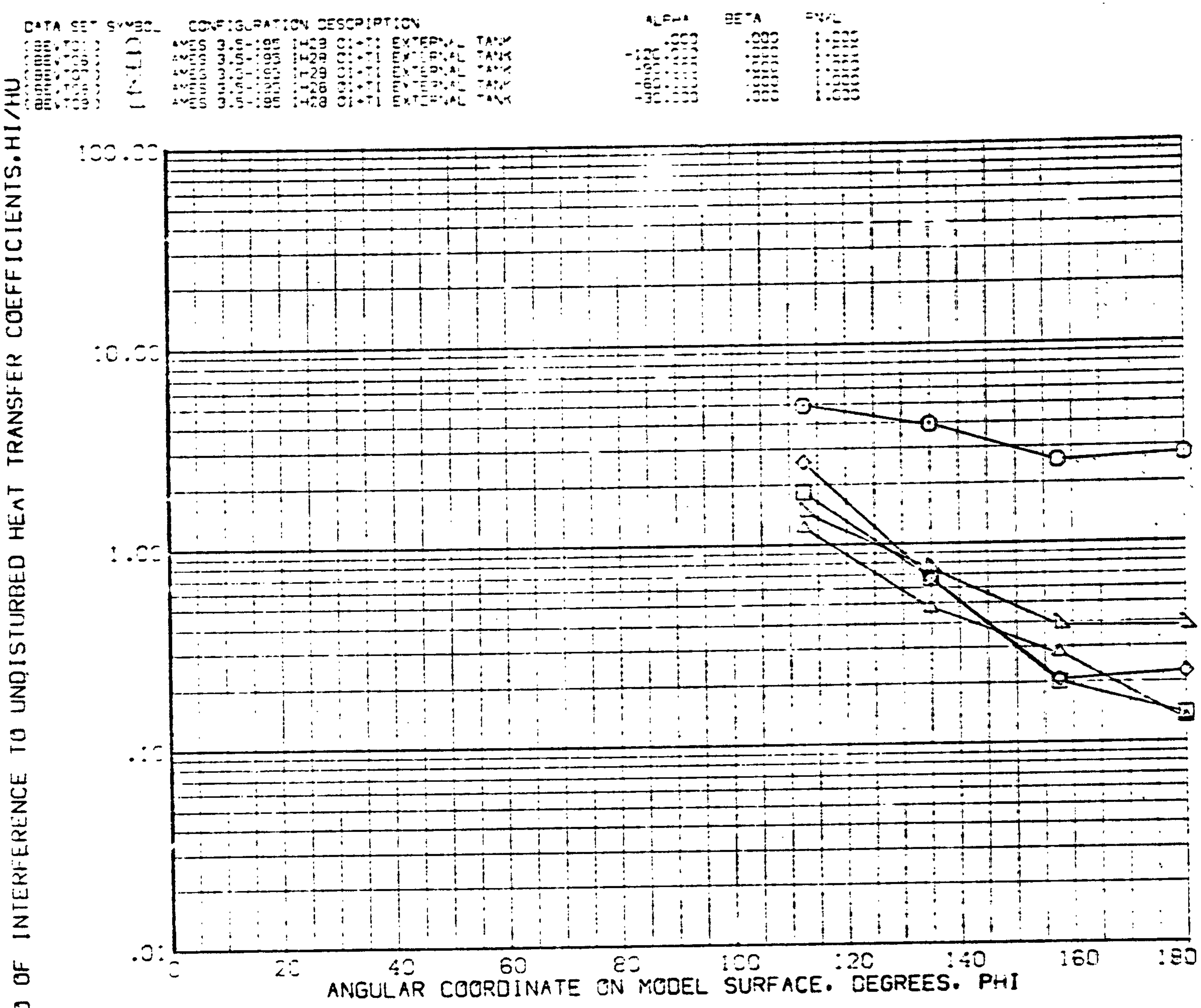


FIG. 6 TANK, RATIO OF INTERFERENCE TO UNDISTURBED

MACH = 5.300 HW/HT= .900 X/L = 650

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	RN/L
(BE.T01)	○	AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK	.000	.000	1.000
(BE.T06)	□	AMES 3.5-195 I-28 O1+T1 EXTERNAL TANK	-120.000	.000	1.000
(BE.T07)	◇	AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK	-90.000	.000	1.000
(BE.T08)	△	AMES 3.5-195 I-28 O1+T1 EXTERNAL TANK	-60.000	.000	1.000
(BE.T09)	⊿	AMES 3.5-195 I-28 O1+T1 EXTERNAL TANK	-30.000	.000	1.000

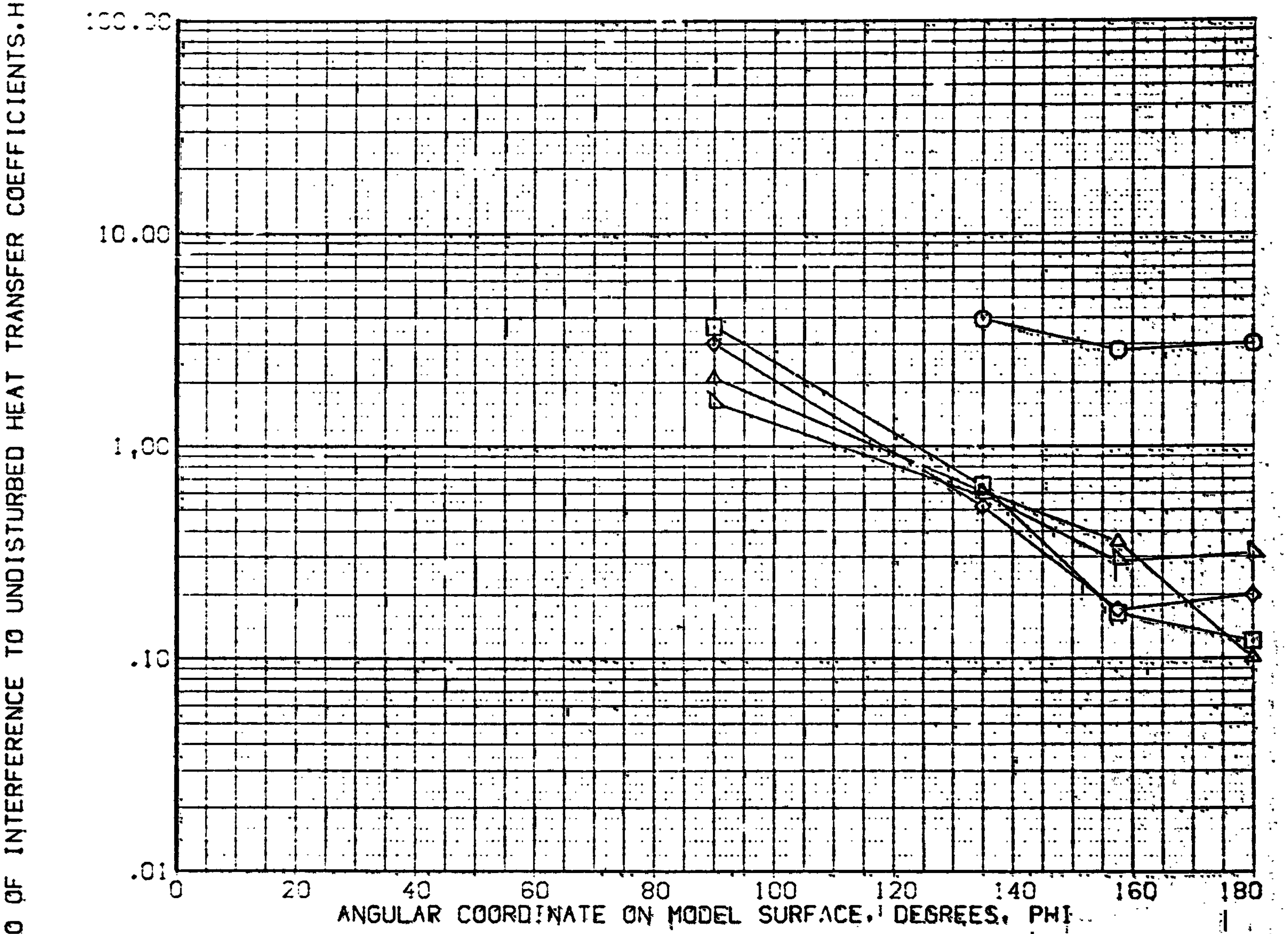


FIG. 6 TANK, RATIO OF INTERFERENCE TO UNDISTURBED

MACH = 5.300 HAW/HT= .900 X/L = .700

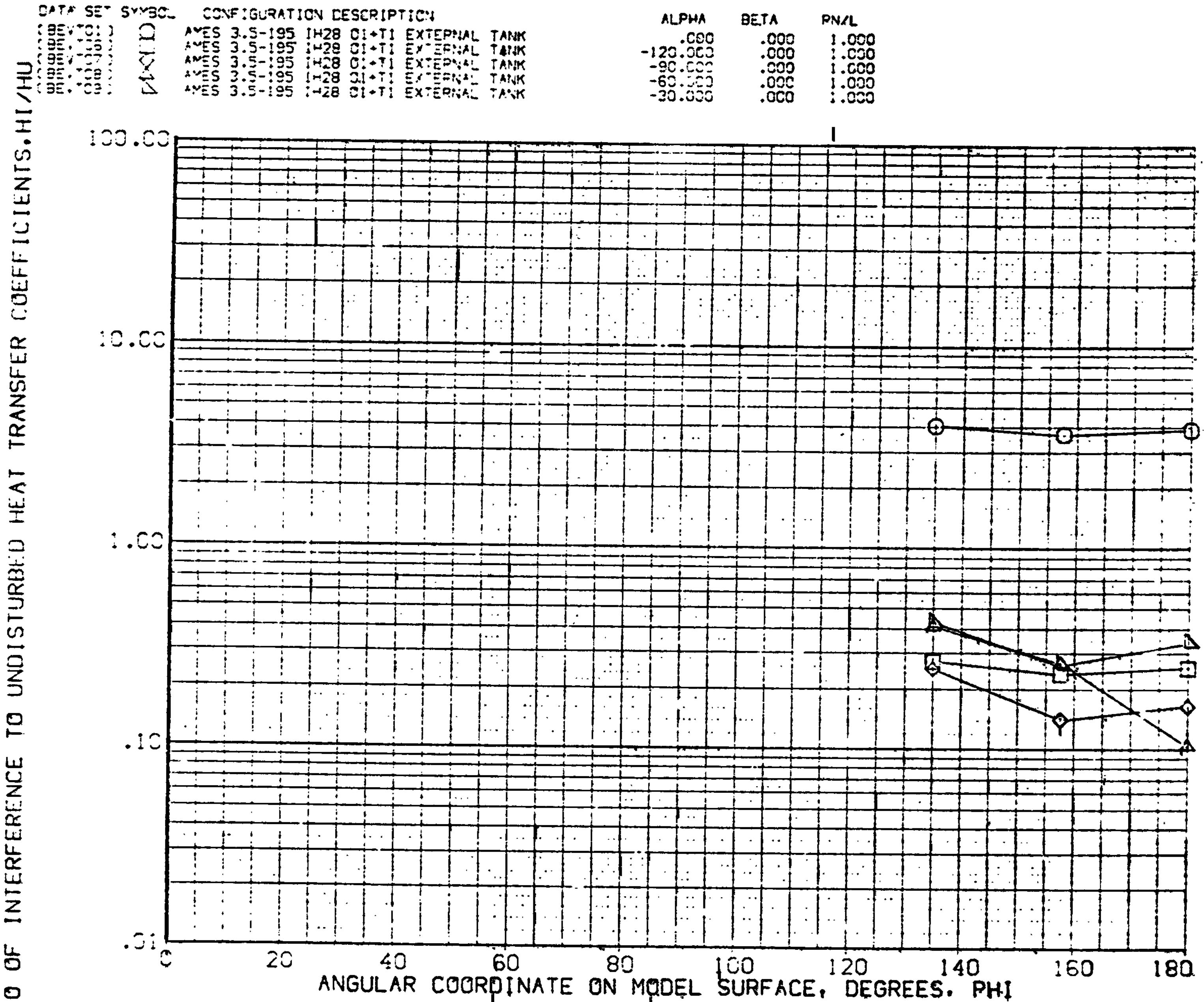


FIG. 6 TANK, RATIO OF INTERFERENCE TO UNDISTURBED

MACH = 5.300 HAW/HT= .900 X/L = .750

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	PN/L
(BEV701)	○	AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK	.000	.000	1.000
[illegible]	□	AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK	-120.000	.000	1.000
[illegible]	◇	AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK	-90.000	.000	1.000
[illegible]	◁	AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK	-60.000	.000	1.000
[illegible]	△	AMES 3.5-195 IH28 O1+T1 EXTERNAL TANK	-30.000	.000	1.000

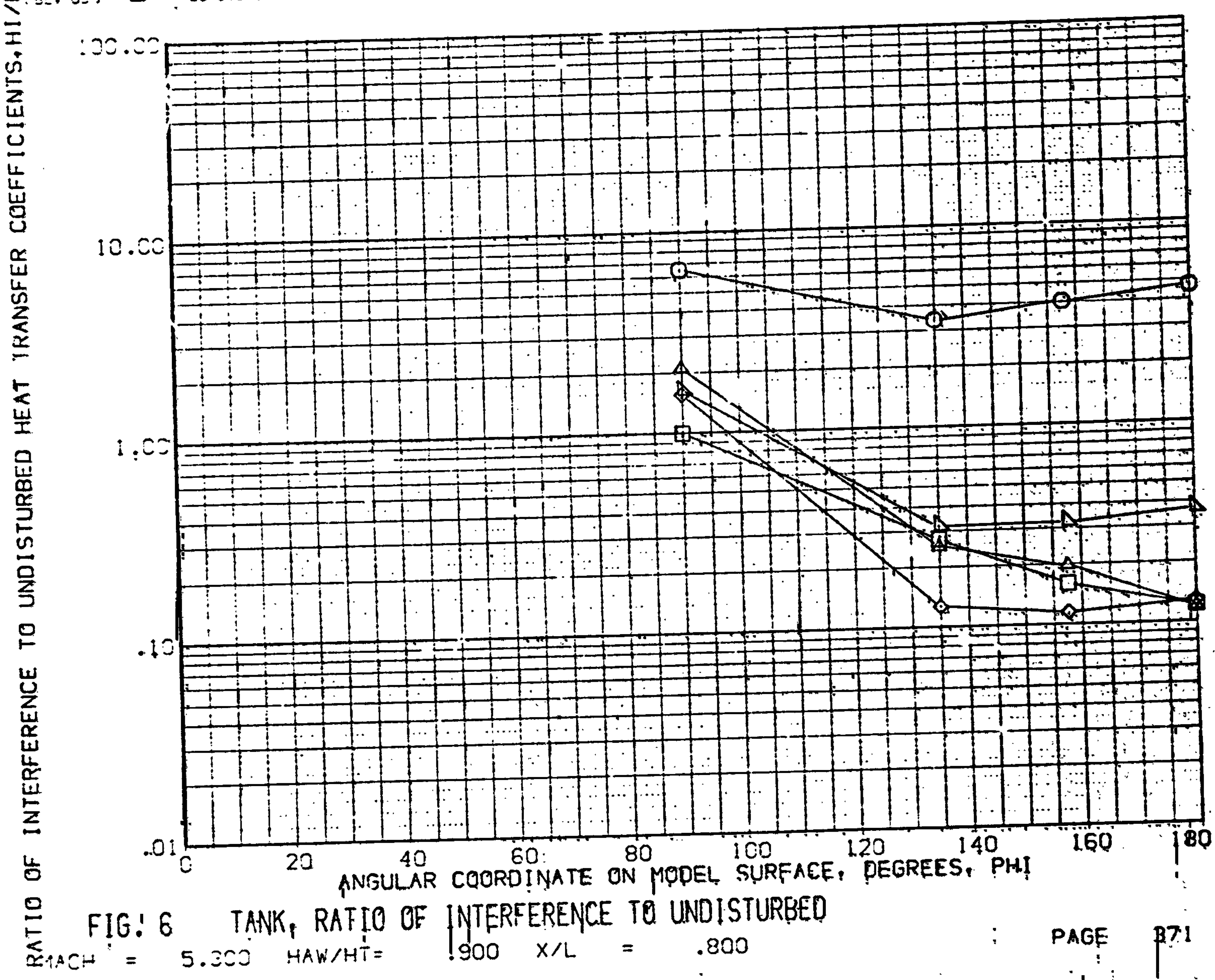


FIG. 6 TANK, RATIO OF INTERFERENCE TO UNDISTURBED

MACH = 5.300 HAW/HT= .900 X/L = .800

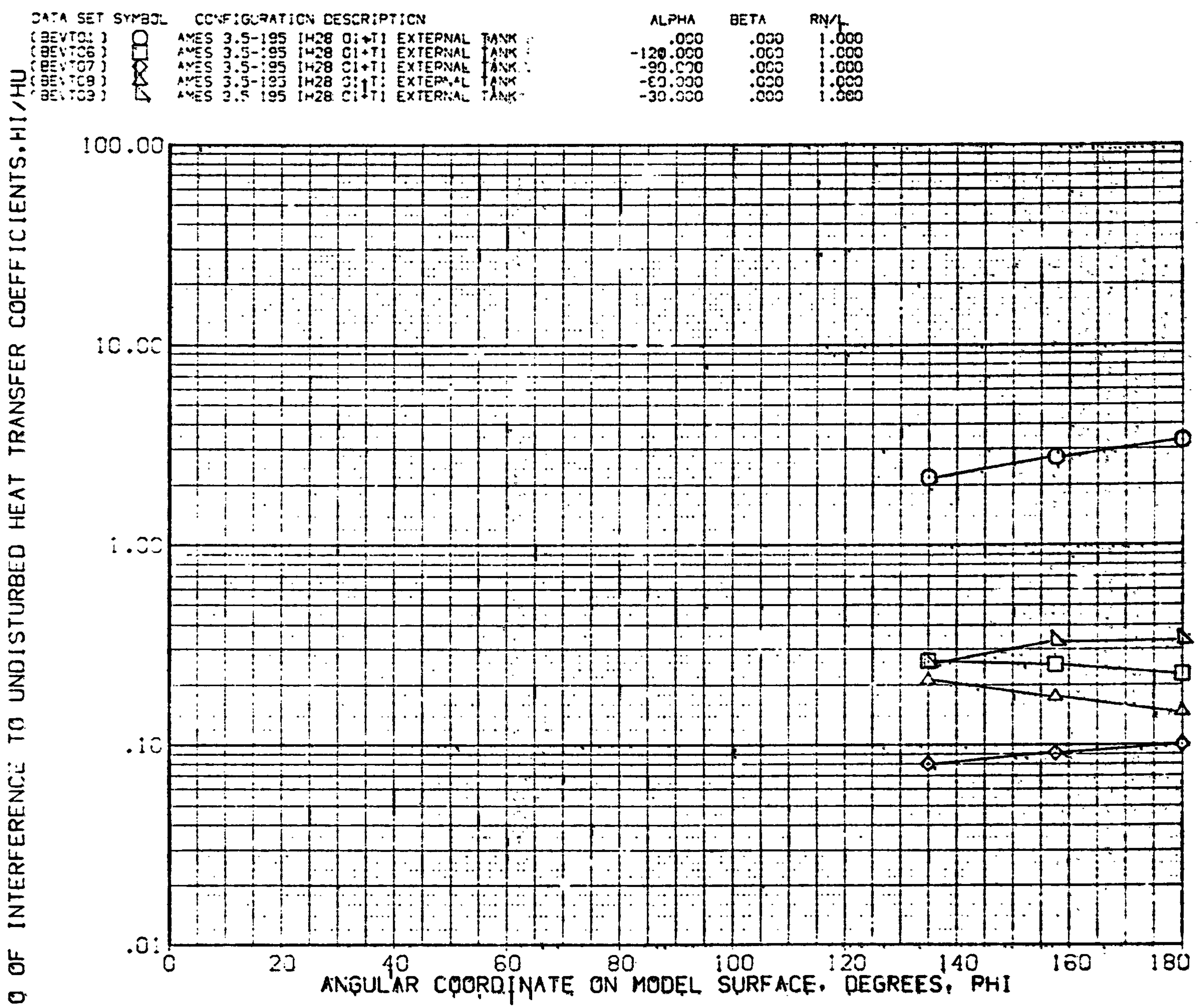


FIG. 6 TANK, RATIO OF INTERFERENCE TO UNDISTURBED

MACH = 5.300 HAW/HT= .900 X/L = .850

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	RN/L
(BE/T01)	○	AMES 3.5-195 IH28 OI+TI EXTERNAL TANK	.800	.000	1.000
(BE/T02)	□	AMES 3.5-195 IH28 OI+TI EXTERNAL TANK	-120.000	.000	1.000
(BE/T03)	◇	AMES 3.5-195 IH28 OI+TI EXTERNAL TANK	-90.000	.000	1.000
(BE/T08)	△	AMES 3.5-195 IH28 OI+TI EXTERNAL TANK	-60.000	.000	1.000
(BE/T09)	◁	AMES 3.5-195 IH28 OI+TI EXTERNAL TANK	-30.000	.000	1.000

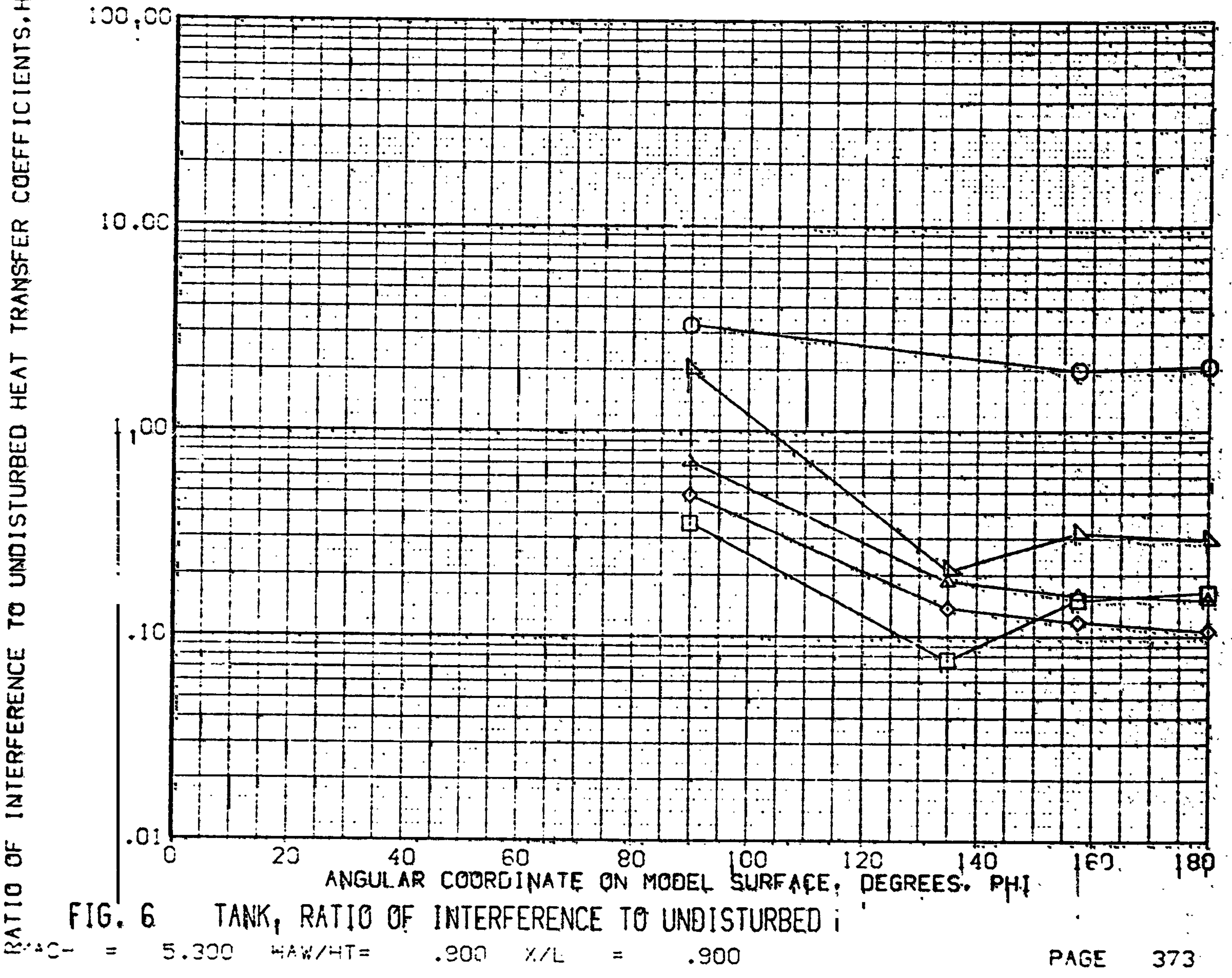


FIG. 6 TANK, RATIO OF INTERFERENCE TO UNDISTURBED i

RMAC- = 5.300 HAW/HT= .900 X/L = .900

AMES 3.5-195 IH28 01 UNDERSIDE FUSELAGE (REV 19)

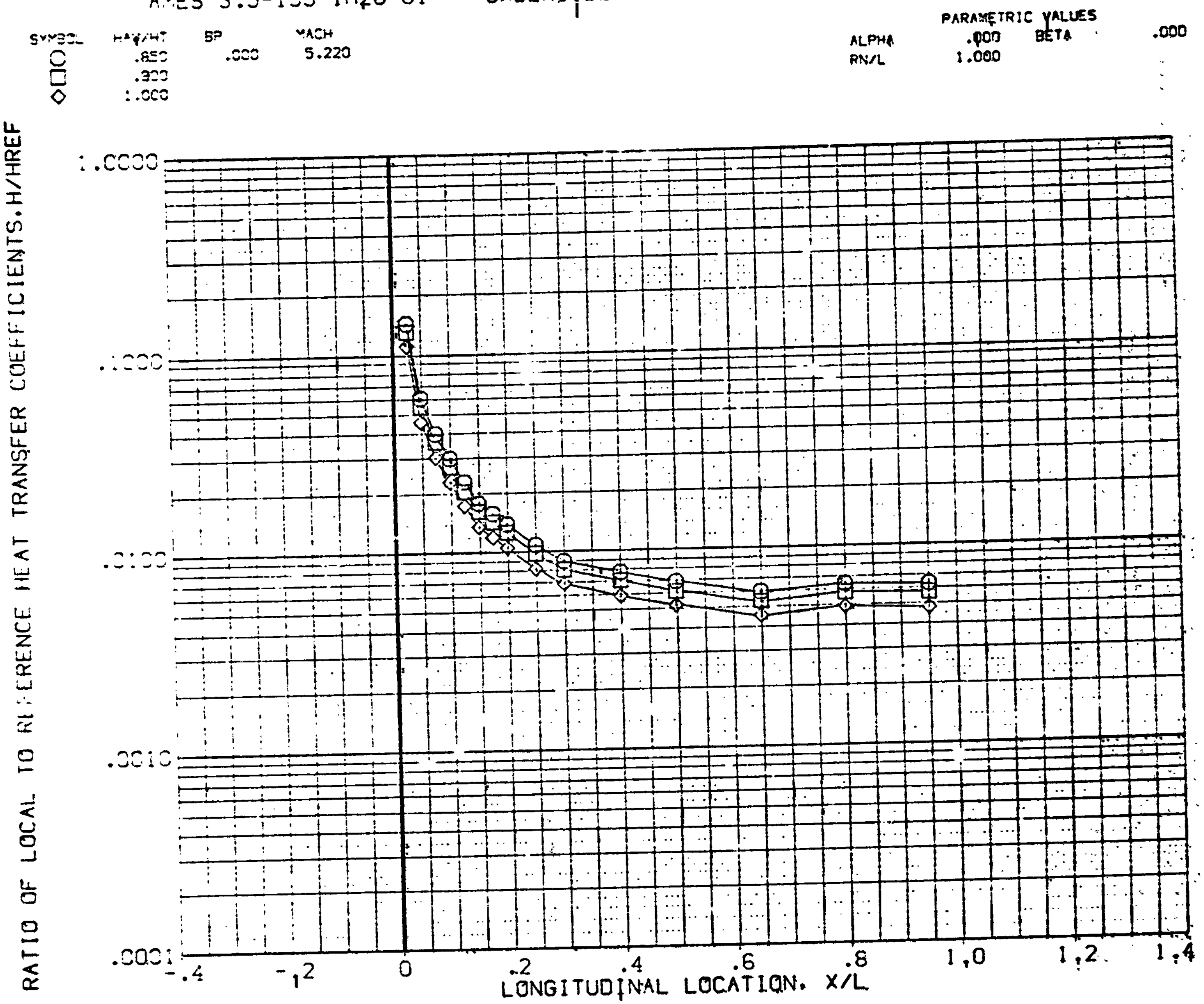


FIG. 7 ORBITER UNDERSIDE FUSELAGE, ORBITER ALONE

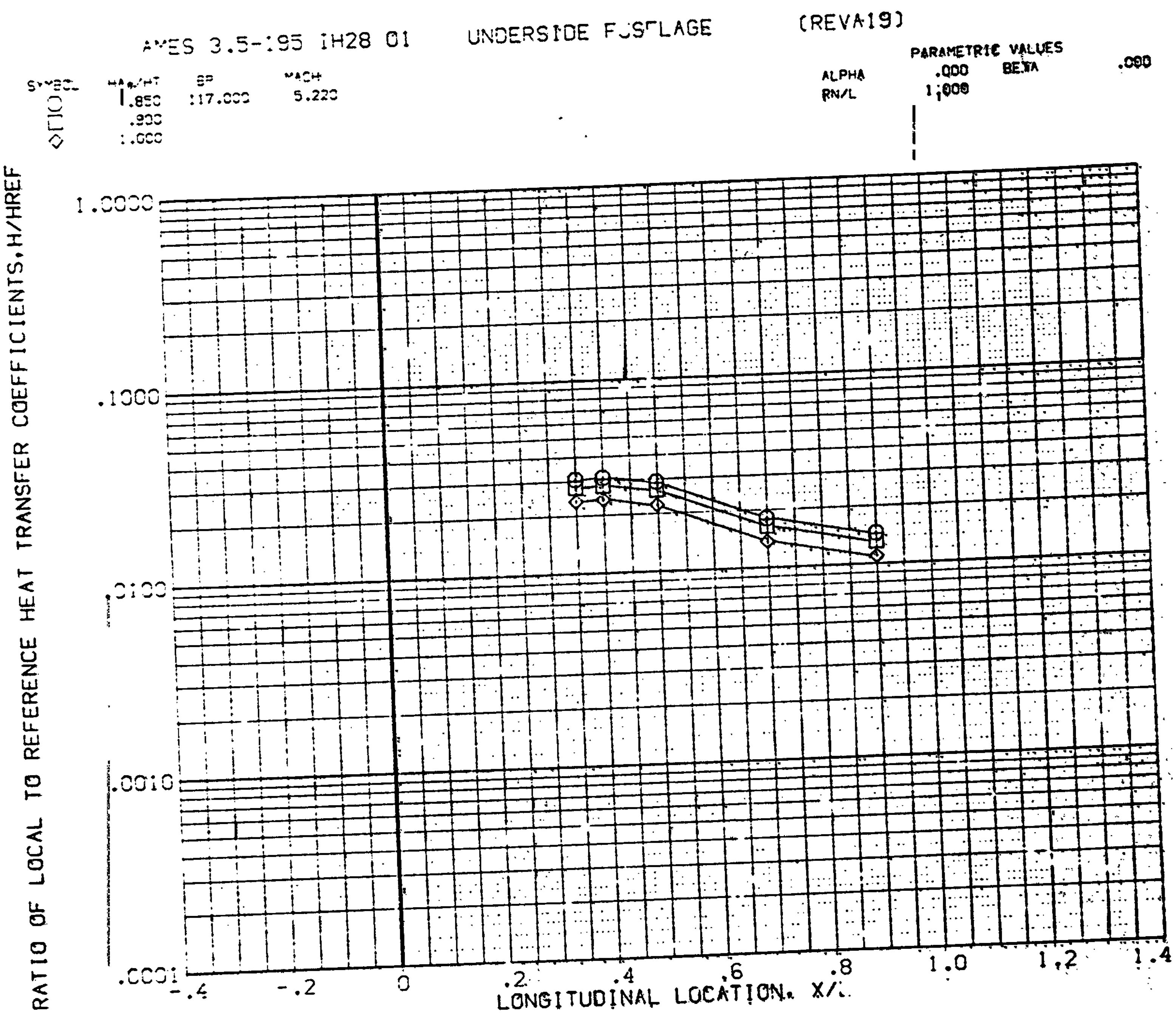


FIG. 7 ORBITER UNDERSIDE FUSELAGE, ORBITER ALONE

AMES 3.5-195 IH28 01 UNDERSIDE FUCELAGE (REVA20)

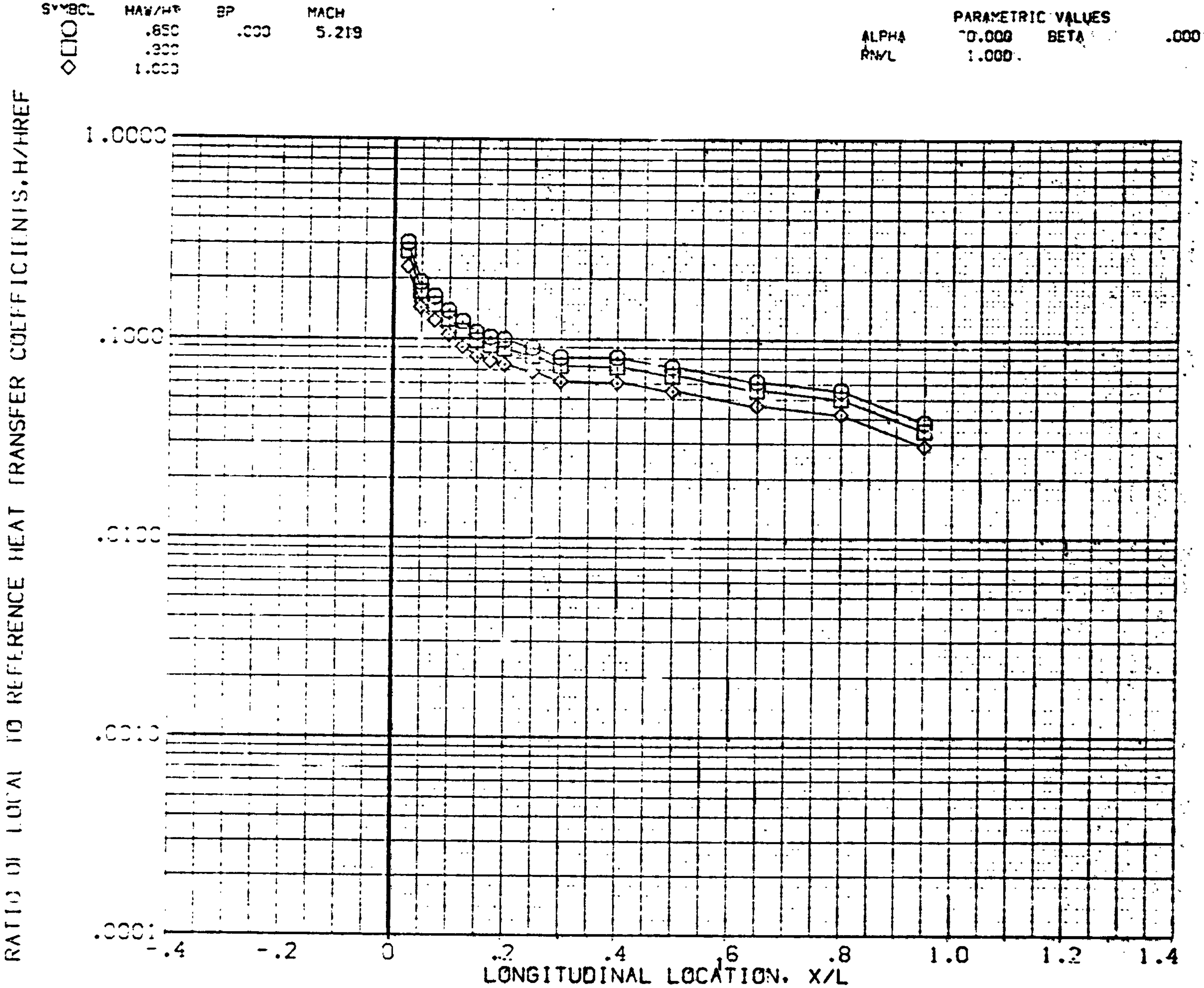


FIG. 7 ORBITER UNDERSIDE FUSELAGE, ORBITER ALONE

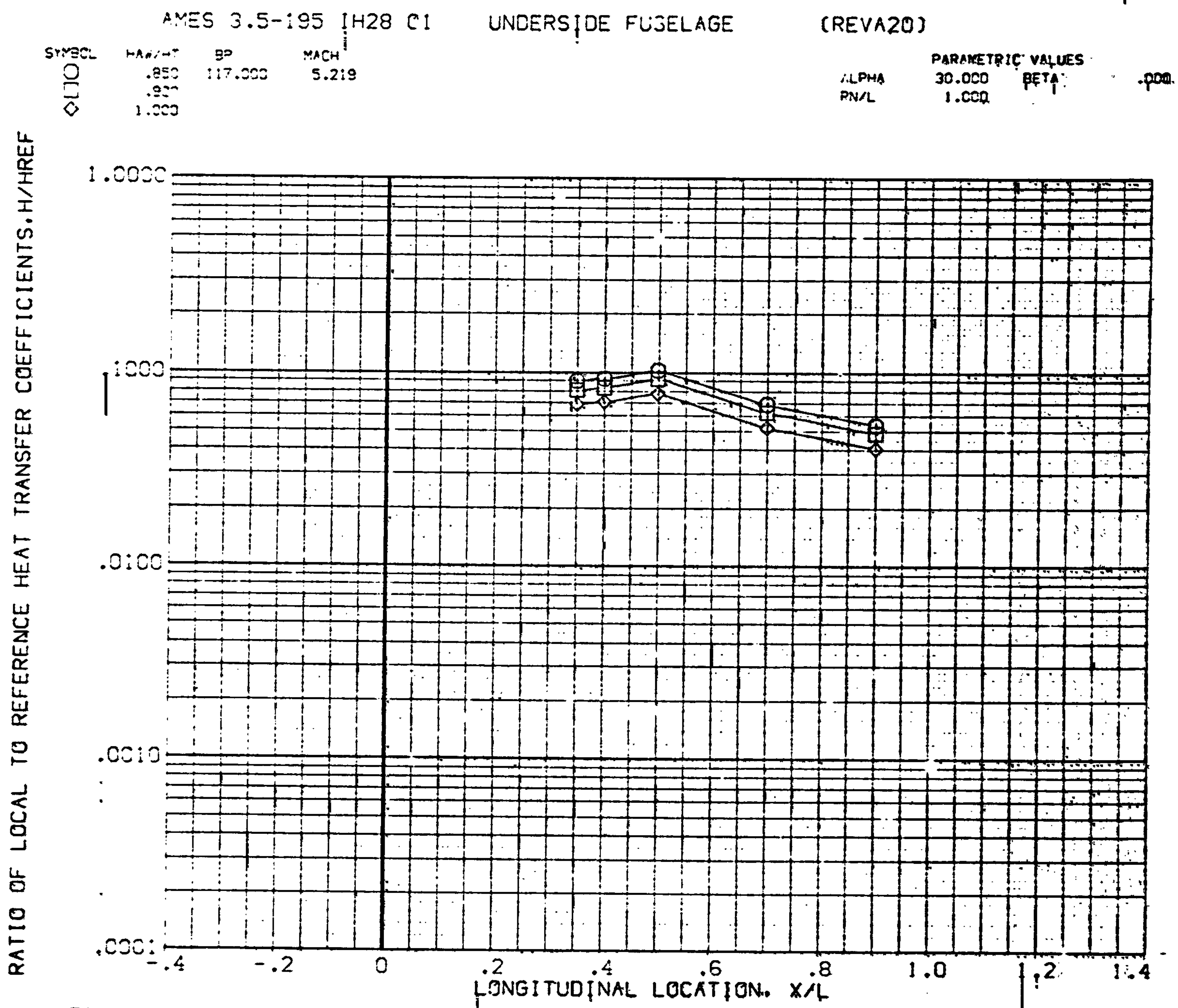


FIG. 7 ORBITER UNDERSIDE FUSELAGE, ORBITER ALONE

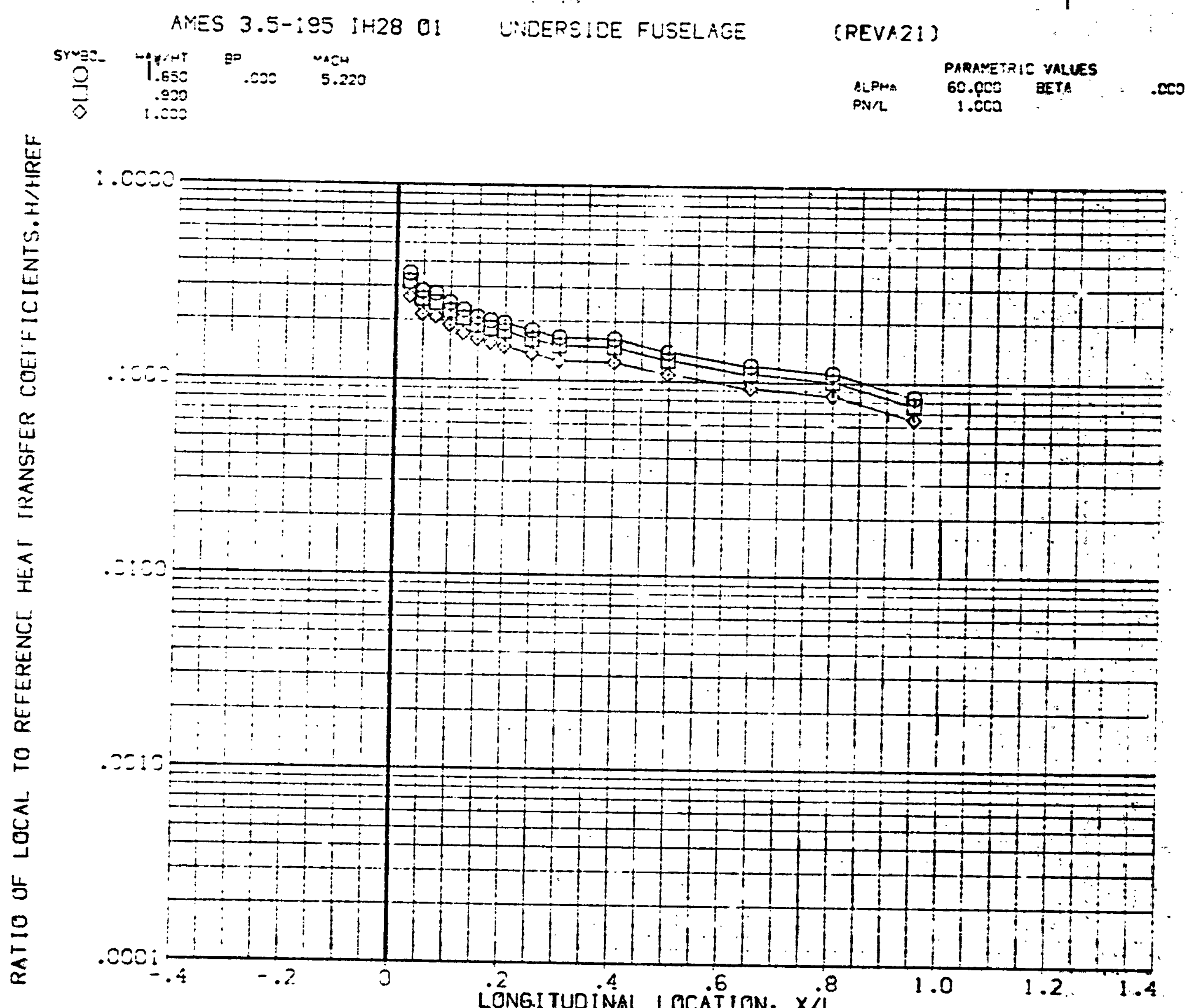


FIG. 7 ORBITER UNDERSIDE FUSELAGE, ORBITER ALONE

AMES 3.5-195 IH28 01 UNDERSIDE FUSELAGE (REVA21)

SYMBOL	HAW/HT	RE	MACH
○	.850	117.000	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA 60.000 BETA .000
RN/L 1.000

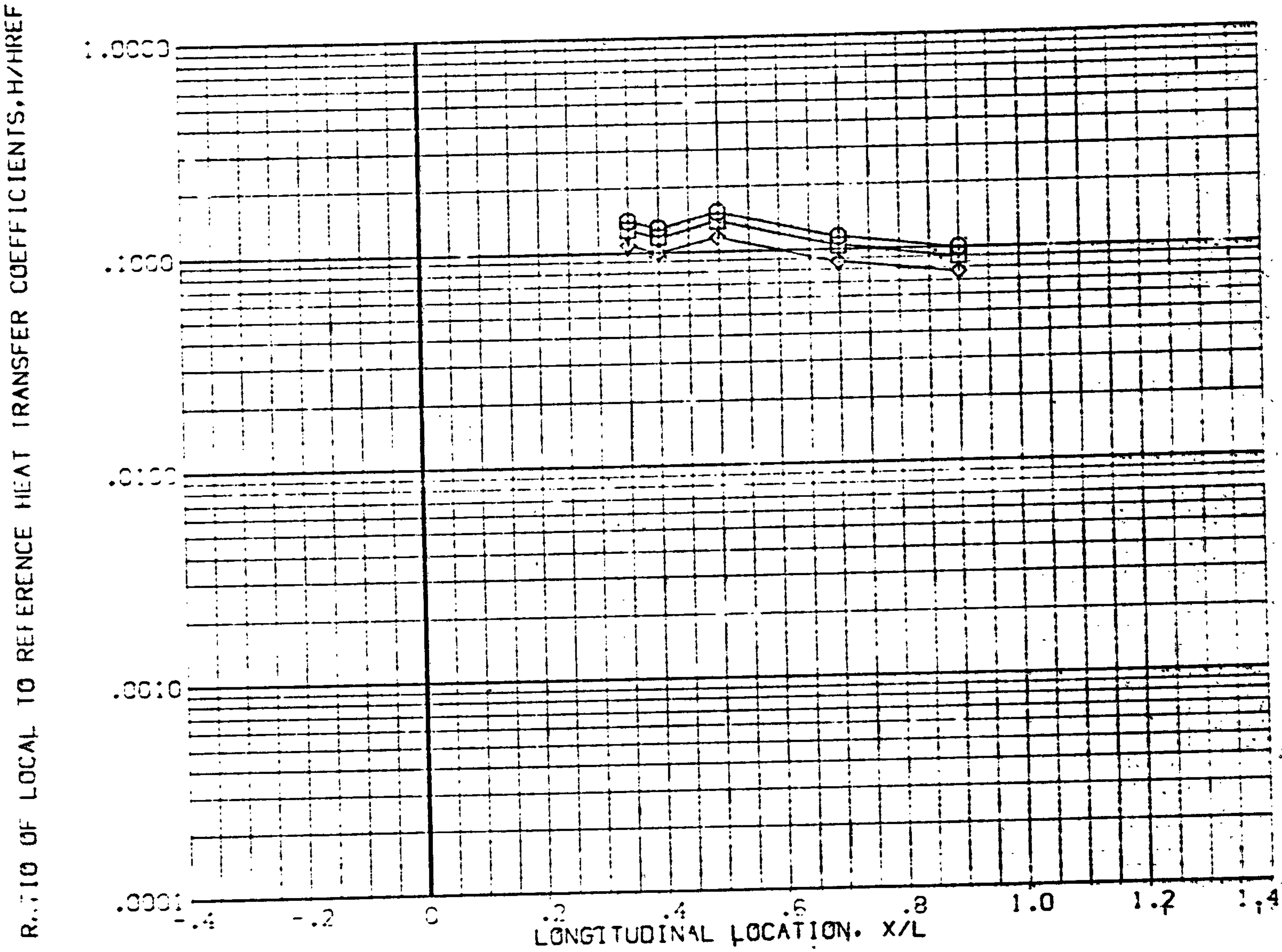


FIG. 7 ORBITER UNDERSIDE FUSELAGE, ORBITER ALONE

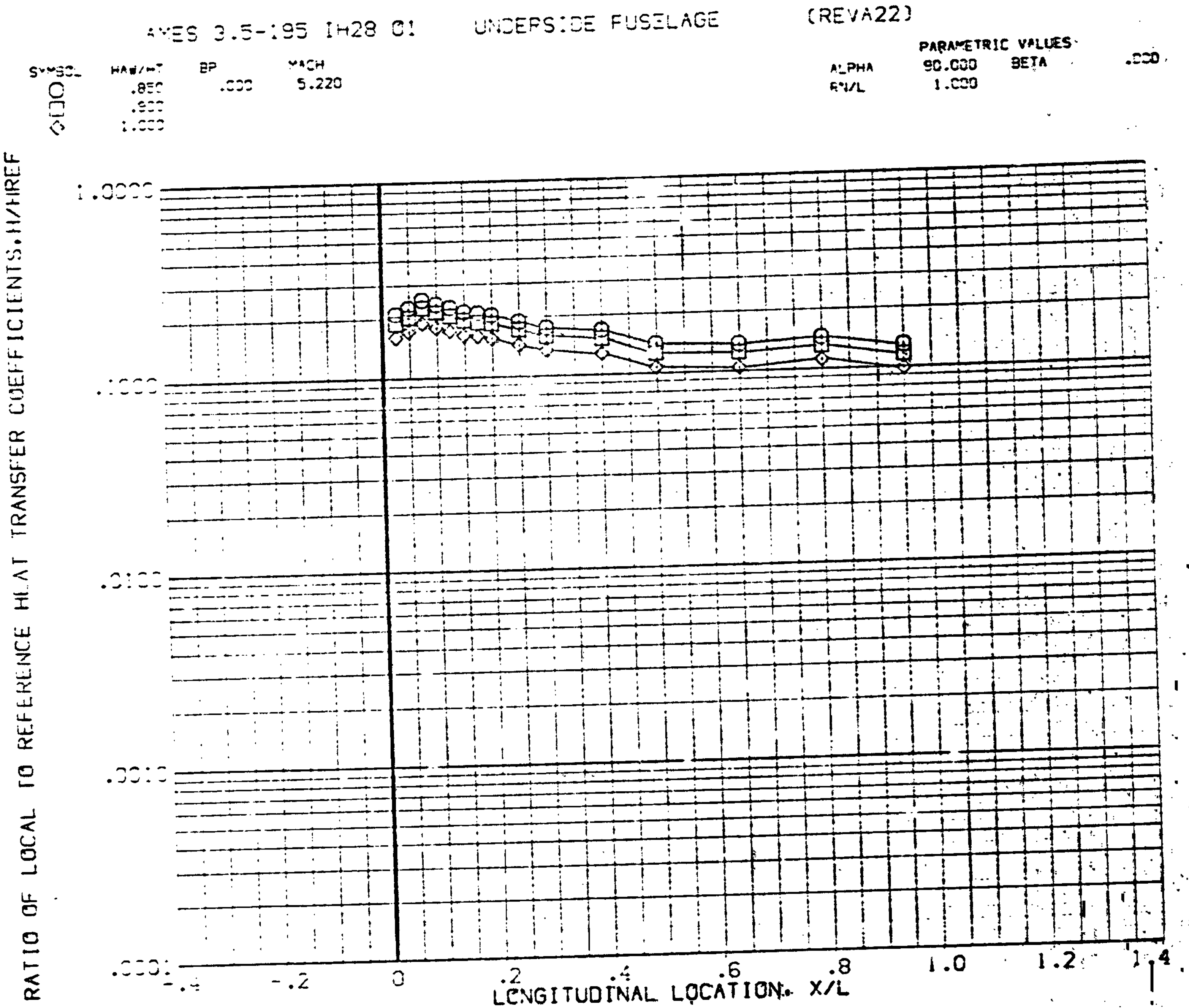


FIG. 7 ORBITER UNDERSIDE FUSELAGE, ORBITER ALONE

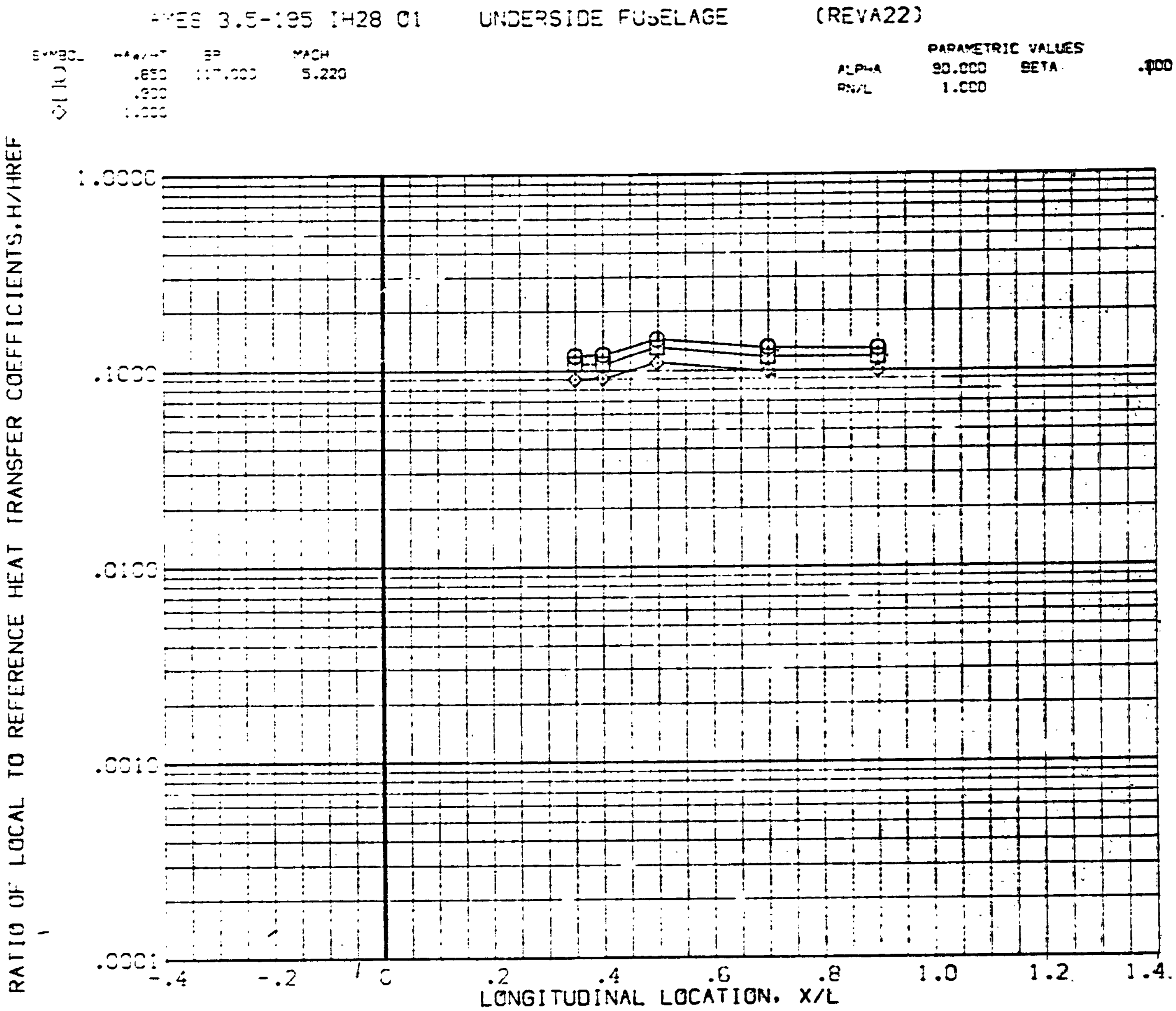


FIG. 7 ORBITER UNDERSIDE FUSELAGE, ORBITER ALONE

AMES 3.5-195 IH28 01   UNDERSIDE FUSELAGE   (PEVA23)

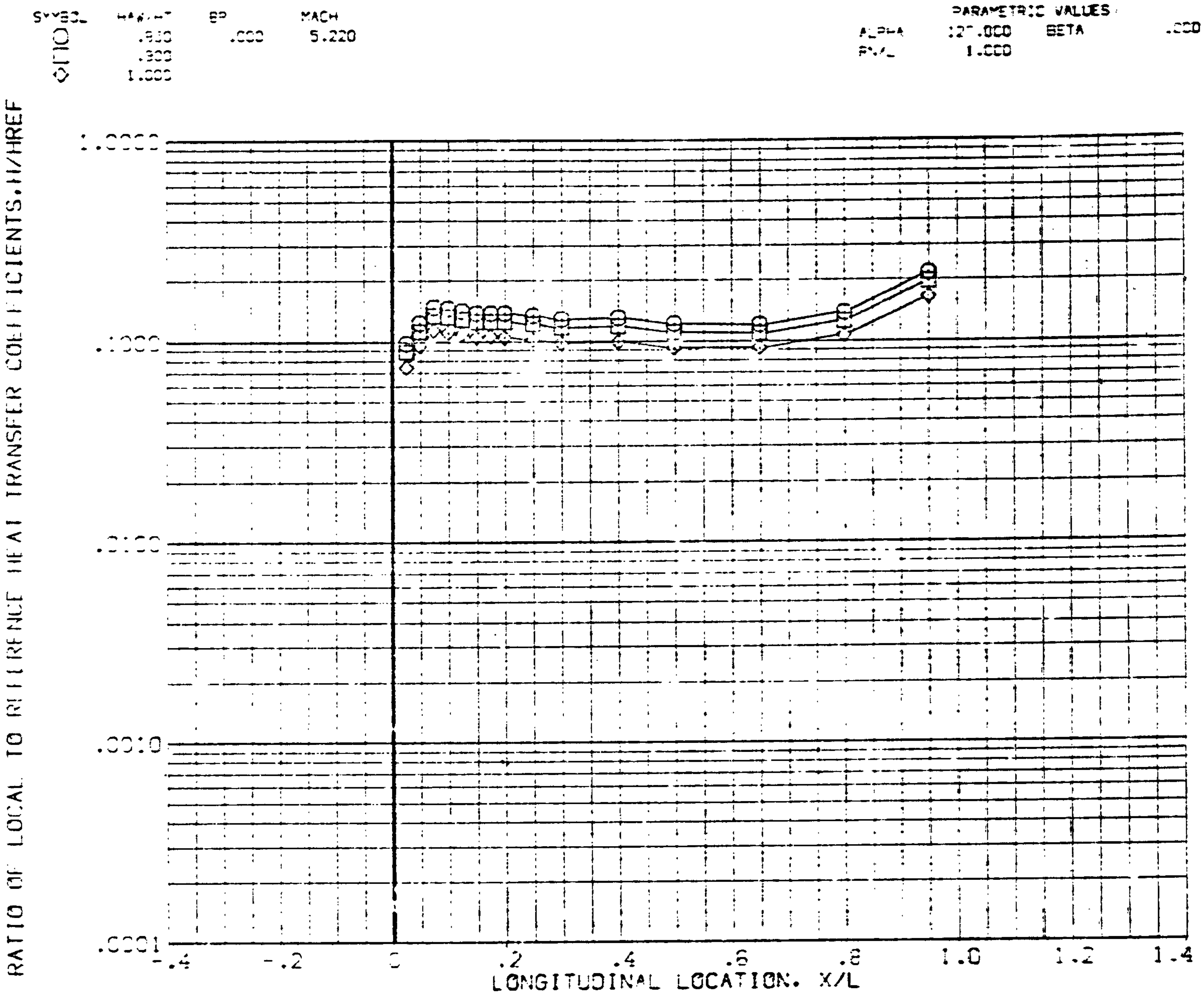


FIG. 7   ORBITER UNDERSIDE FUSELAGE, ORBITER ALONE

AMES 3,5-195 IH28 C1 UNDERSIDE FUSELAGE (PEVA23)

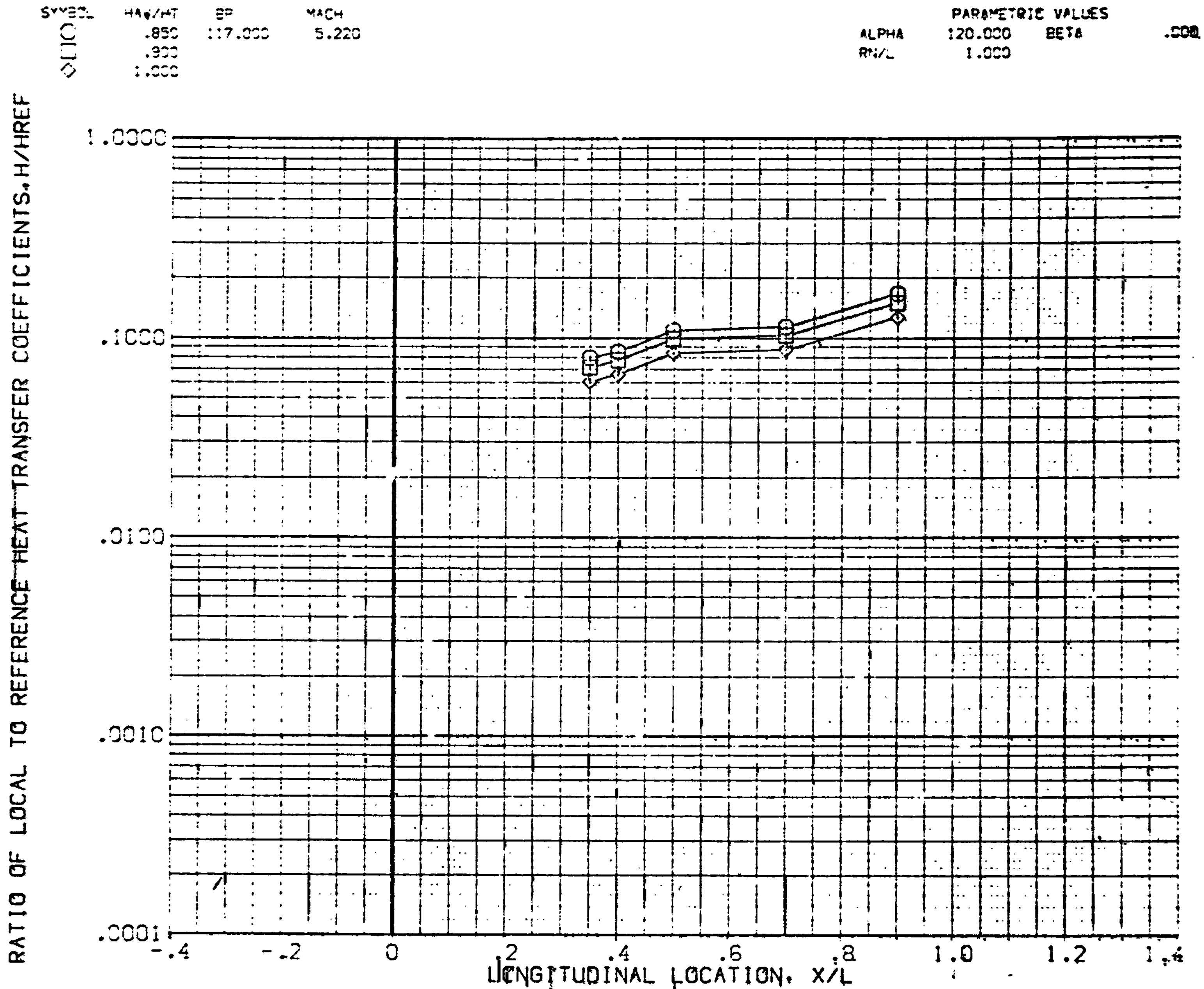


FIG. 7 ORBITER UNDERSIDE FUSELAGE, ORBITER ALONE

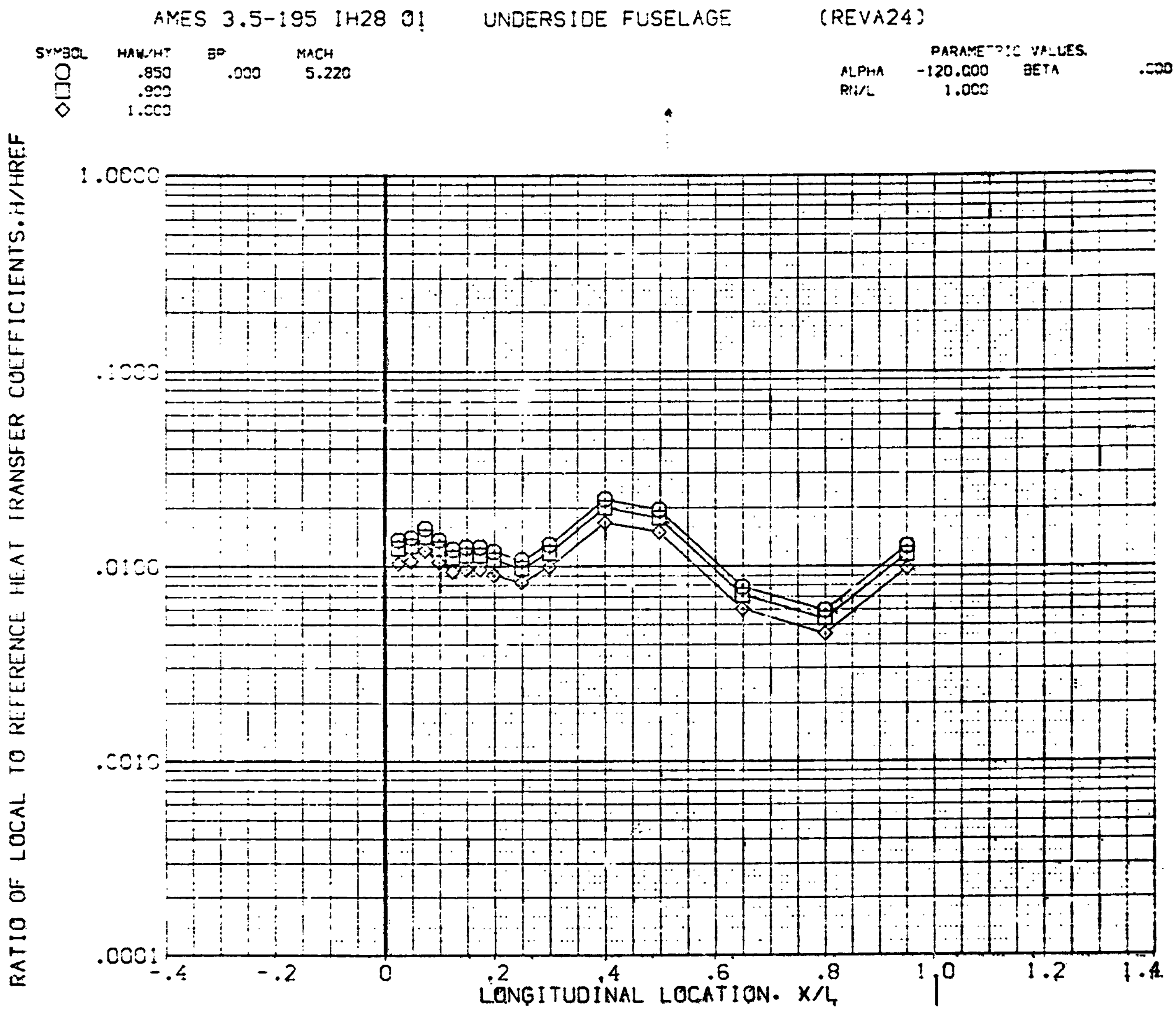


FIG. 7 ORBITER UNDERSIDE FUSELAGE, ORBITER ALONE

AMES 3.5-195 IH28 01   UNDERSIDE FUSELAGE   (REVA24)

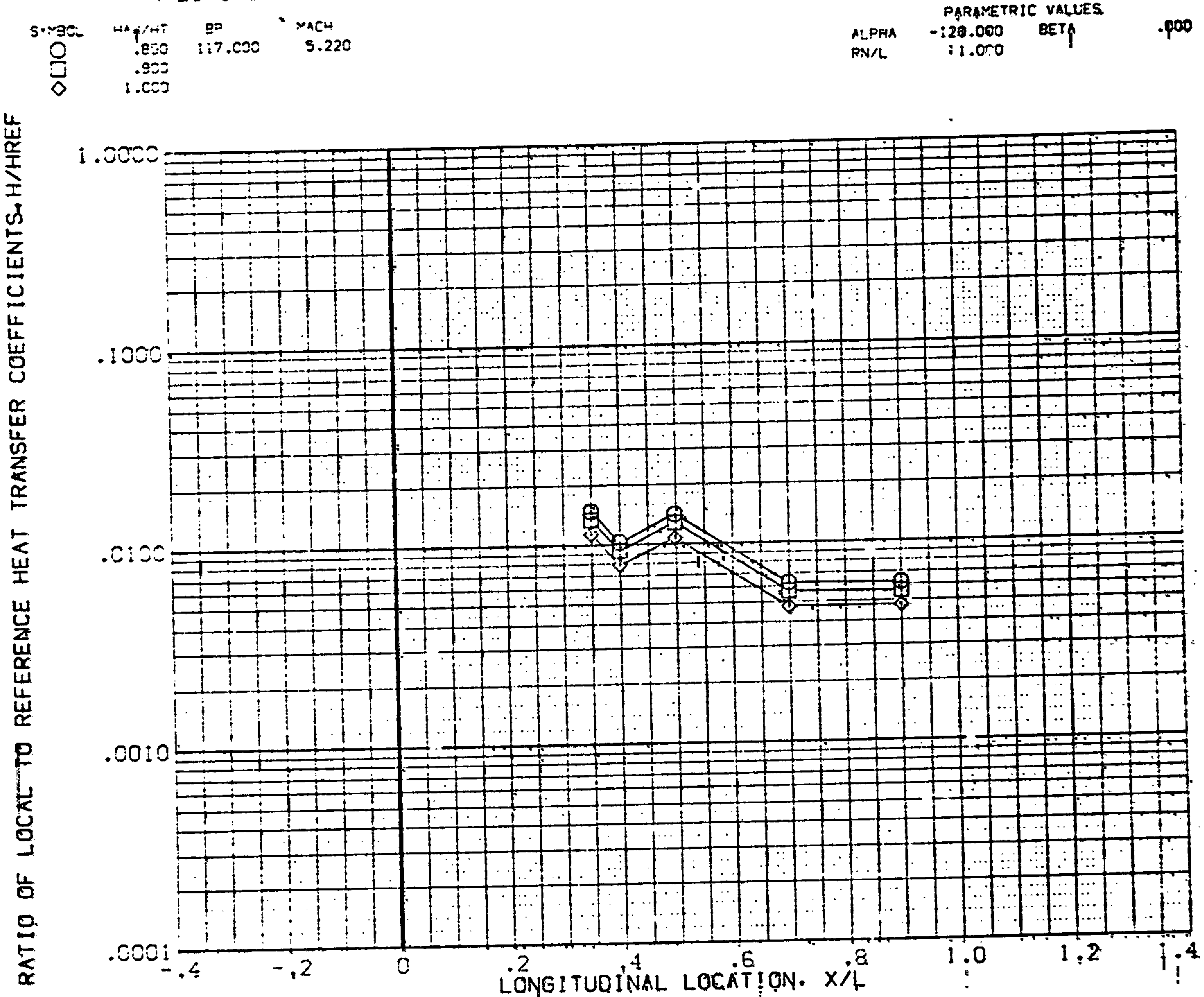


FIG. 7 ORBITER UNDERSIDE FUSELAGE, ORBITER ALONE

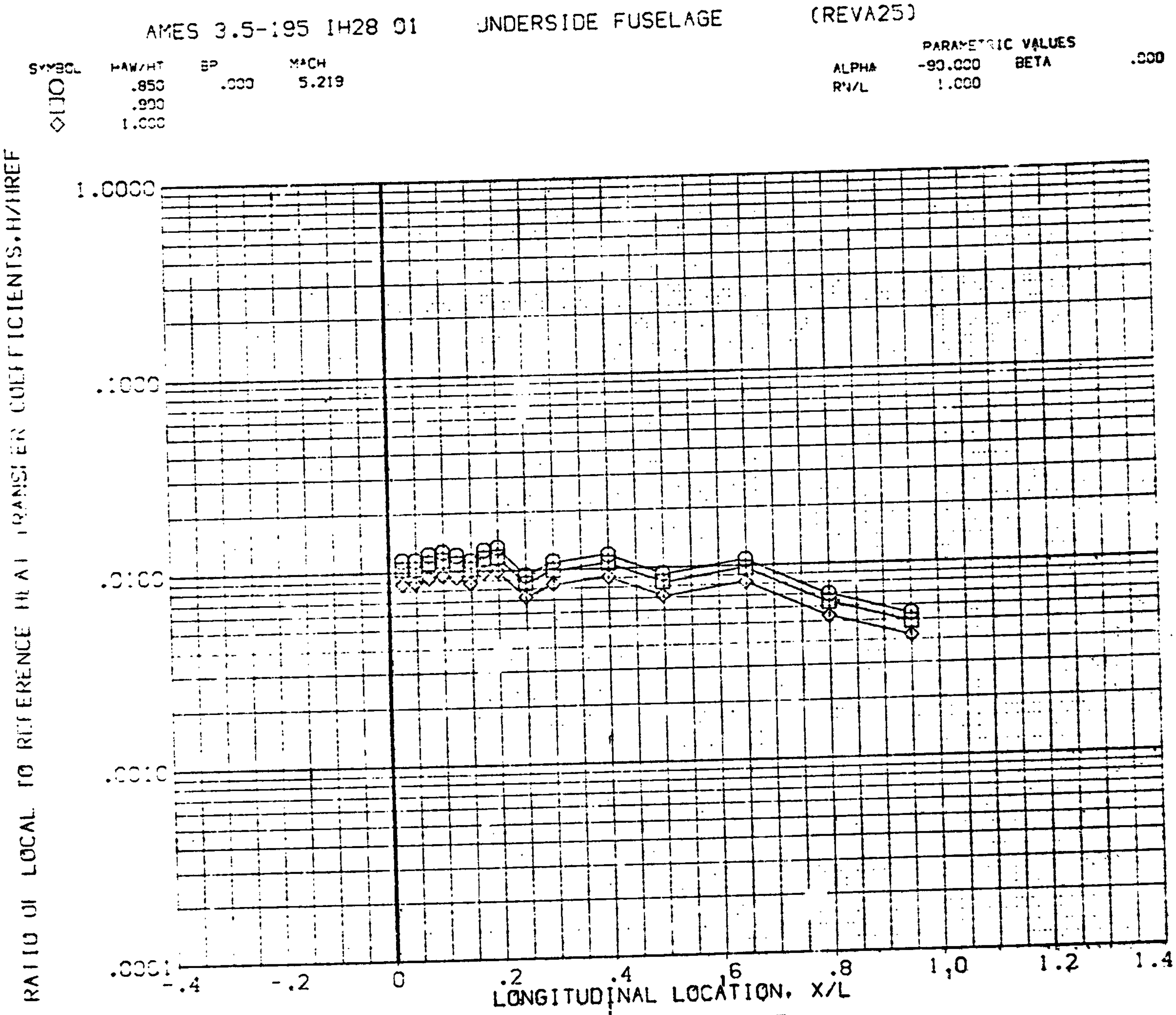


FIG. 7 ORBITER UNDERSIDE FUSELAGE, ORBITER ALONE

AMES 3.5-195 IH28 01 UNDERSIDE FUSELAGE (REVA25)

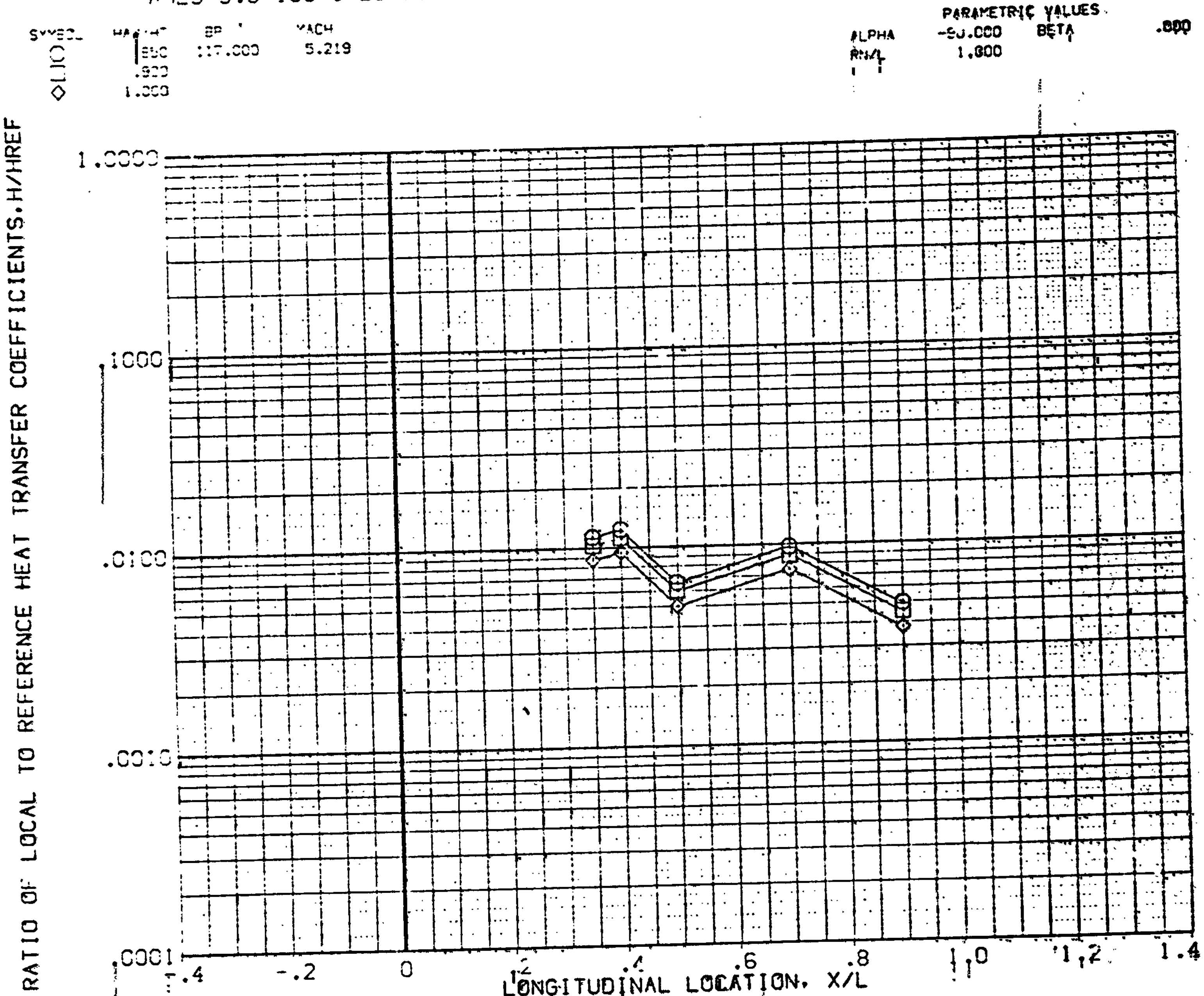


FIG. 7 ORBITER UNDERSIDE FUSELAGE, ORBITER ALONE

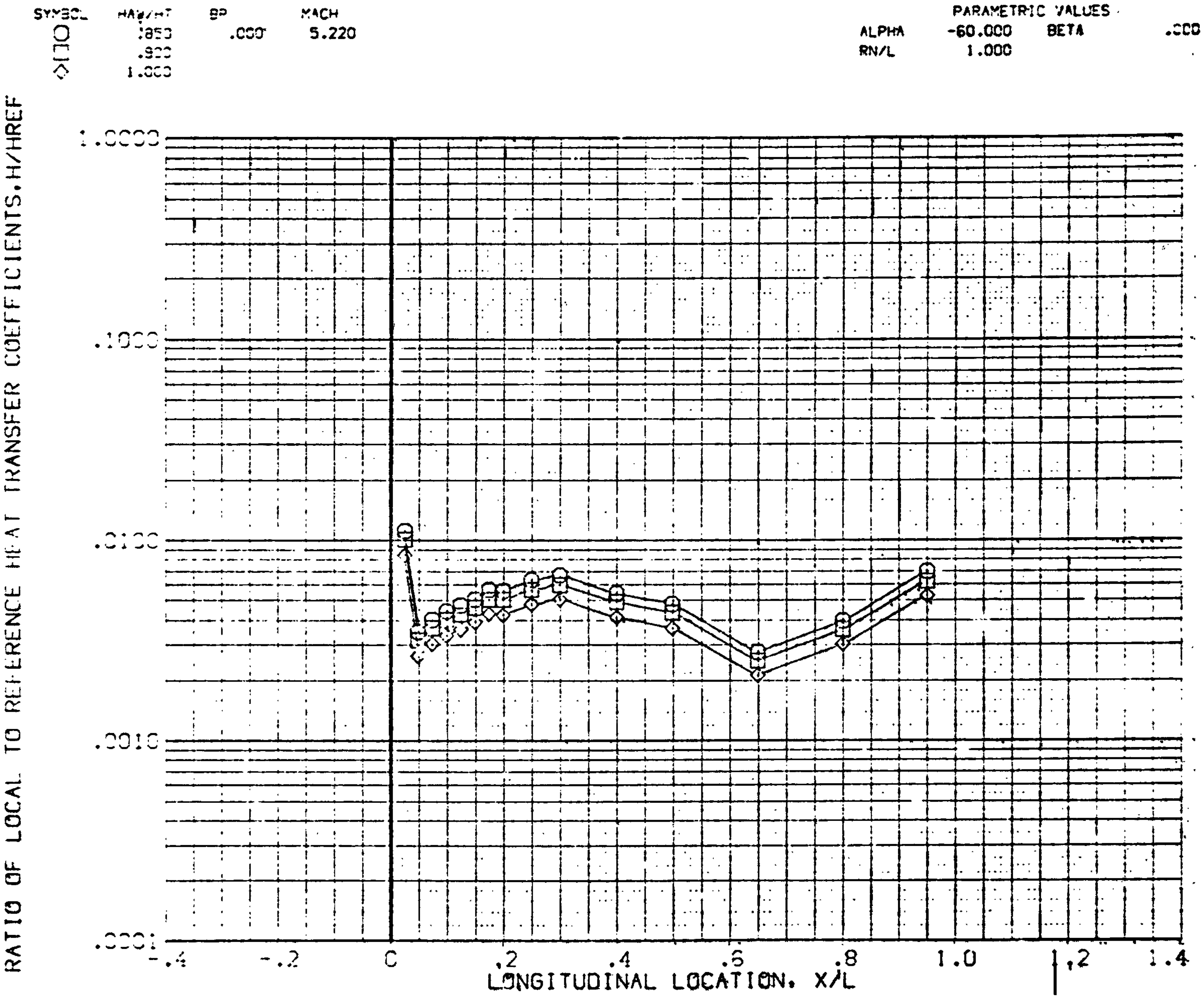


FIG. 7 ORBITER UNDERSIDE FUSELAGE, ORBITER ALONE

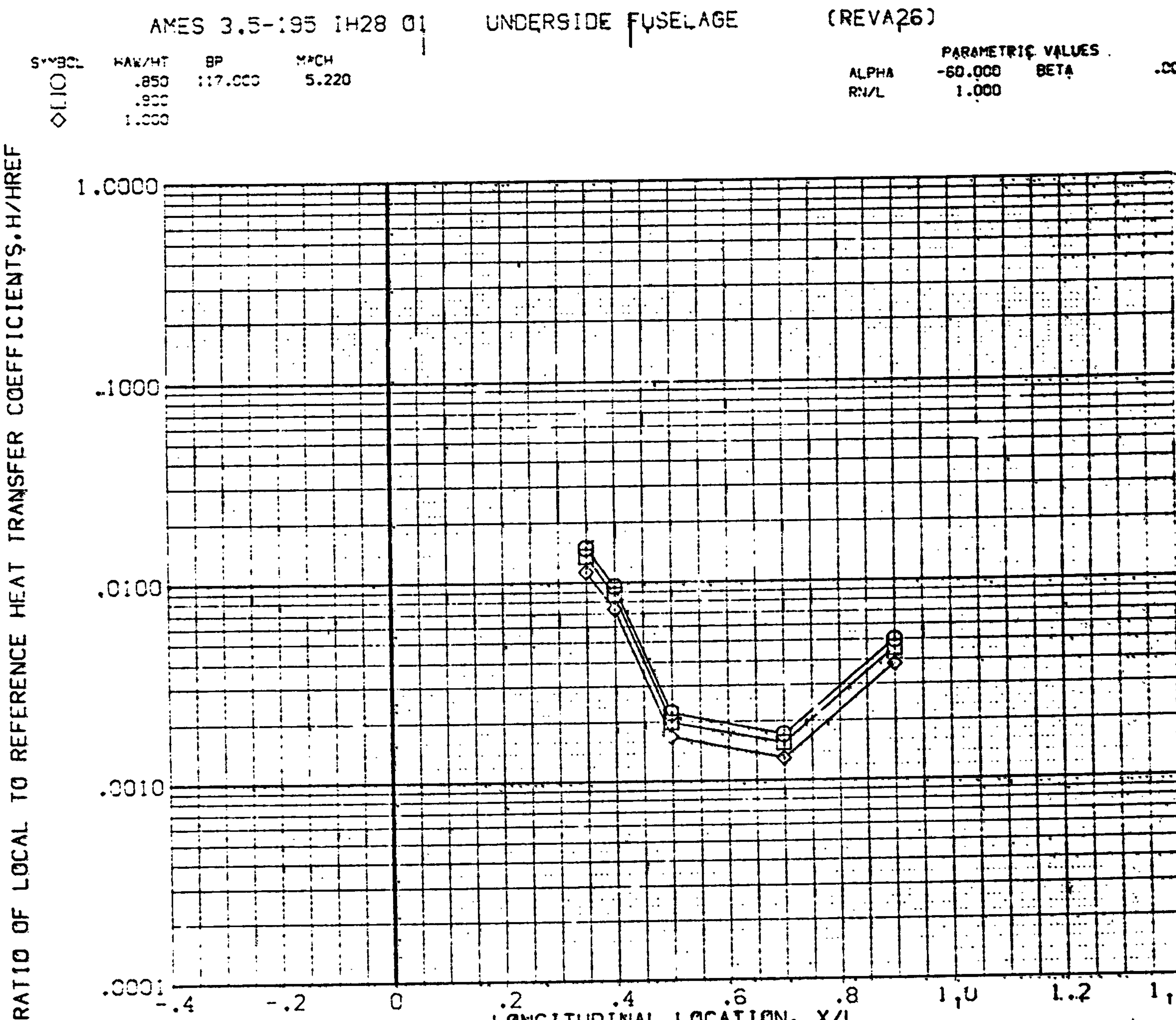


FIG. 7 ORBITER UNDERSIDE FUSELAGE, ORBITER ALONE

AMES 3.5-195 IH28 01 UNDERSIDE FUSELAGE (REVA27)

SYMBOL	HAW/HT	BP	MACH
○	.850	.000	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA -10.000 BETA .000

RN/L 1.000

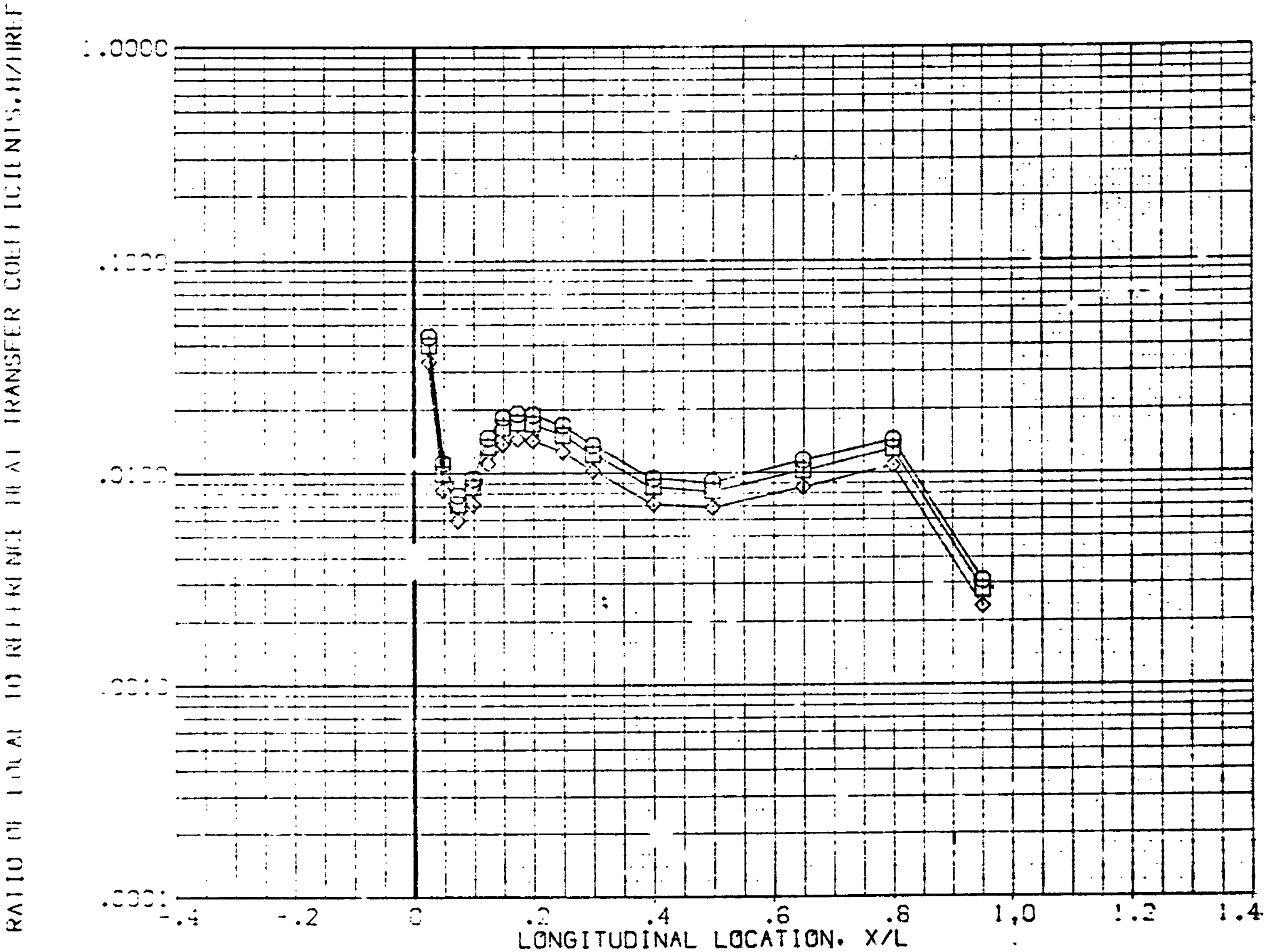


FIG. 7 ORBITER UNDERSIDE FUSELAGE, ORBITER ALONE

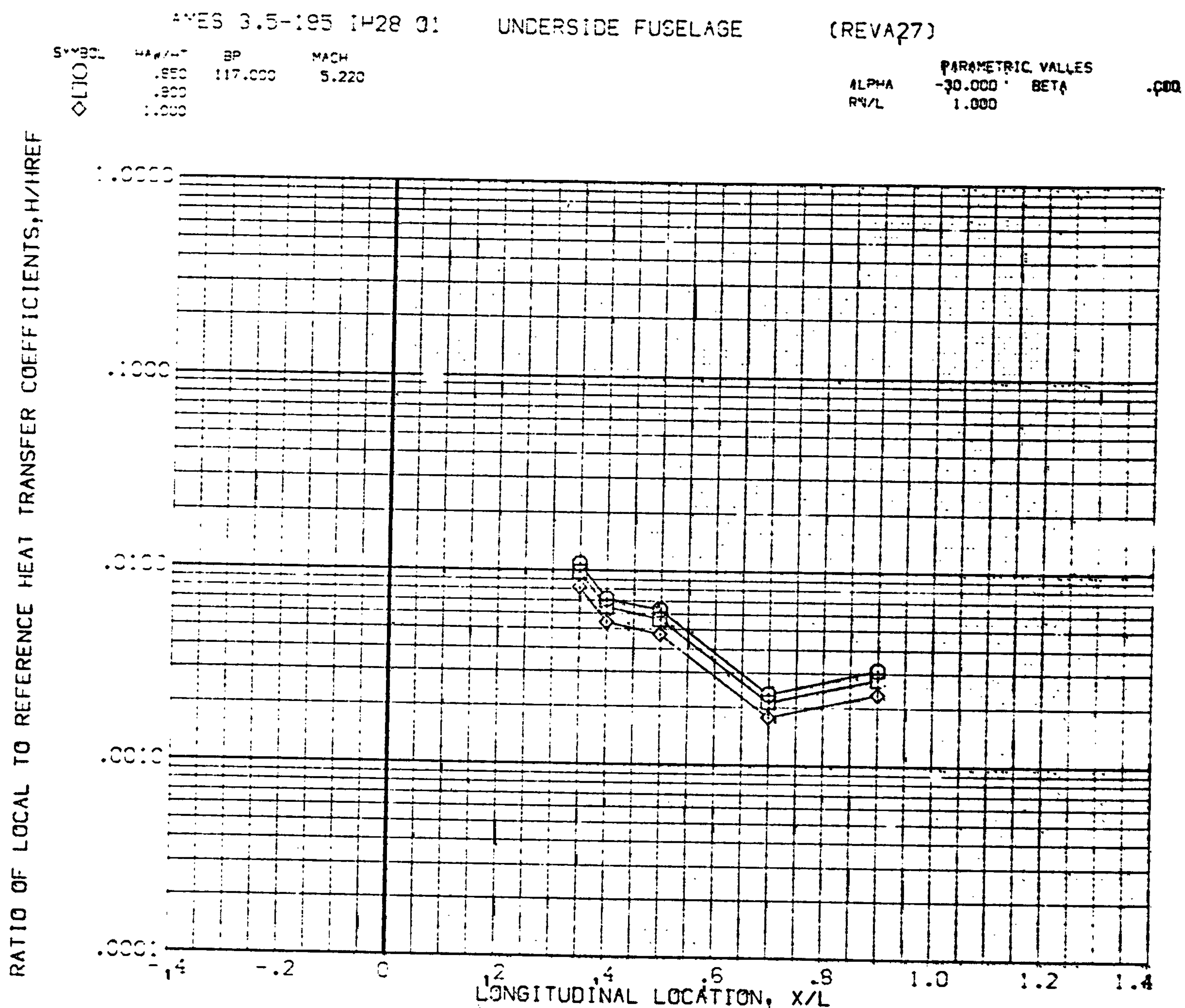


FIG. 7 ORBITER UNDERSIDE FUSELAGE, ORBITER ALONE

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ALPHA	BETA	RN/L
(RELA19)	○	AMES 3.5-135 IH28 01	UNDERSIDE FUSELAGE	.000	.000	1.000
(RELA20)	□	AMES 3.5-135 IH28 01	UNDERSIDE FUSELAGE	30.000	.000	1.000
(RELA21)	◇	AMES [illegible] IH28 01	UNDERSIDE FUSELAGE	60.000	.000	1.000
(RELA22)	△	AMES [illegible] IH28 01	UNDERSIDE FUSELAGE	90.000	.000	1.000
(RELA23)	⊏	AMES 3.5-135 IH28 01	UNDERSIDE FUSELAGE	120.000	.000	1.000

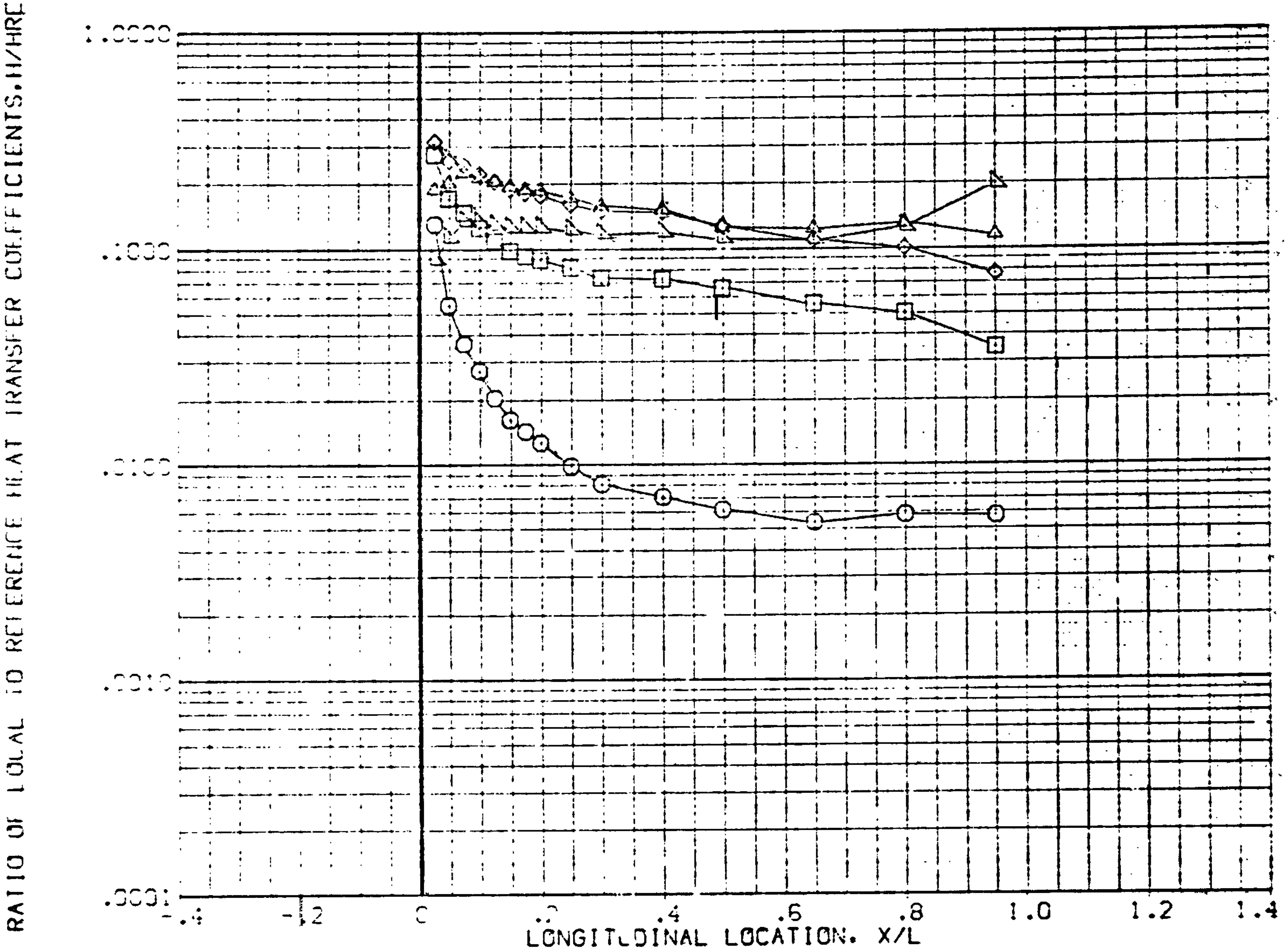


FIG. 7 ORBITER UNDERSIDE FUSELAGE, ORBITER ALONE

MACH = 5.300 [illegible] = .000 BP = .000

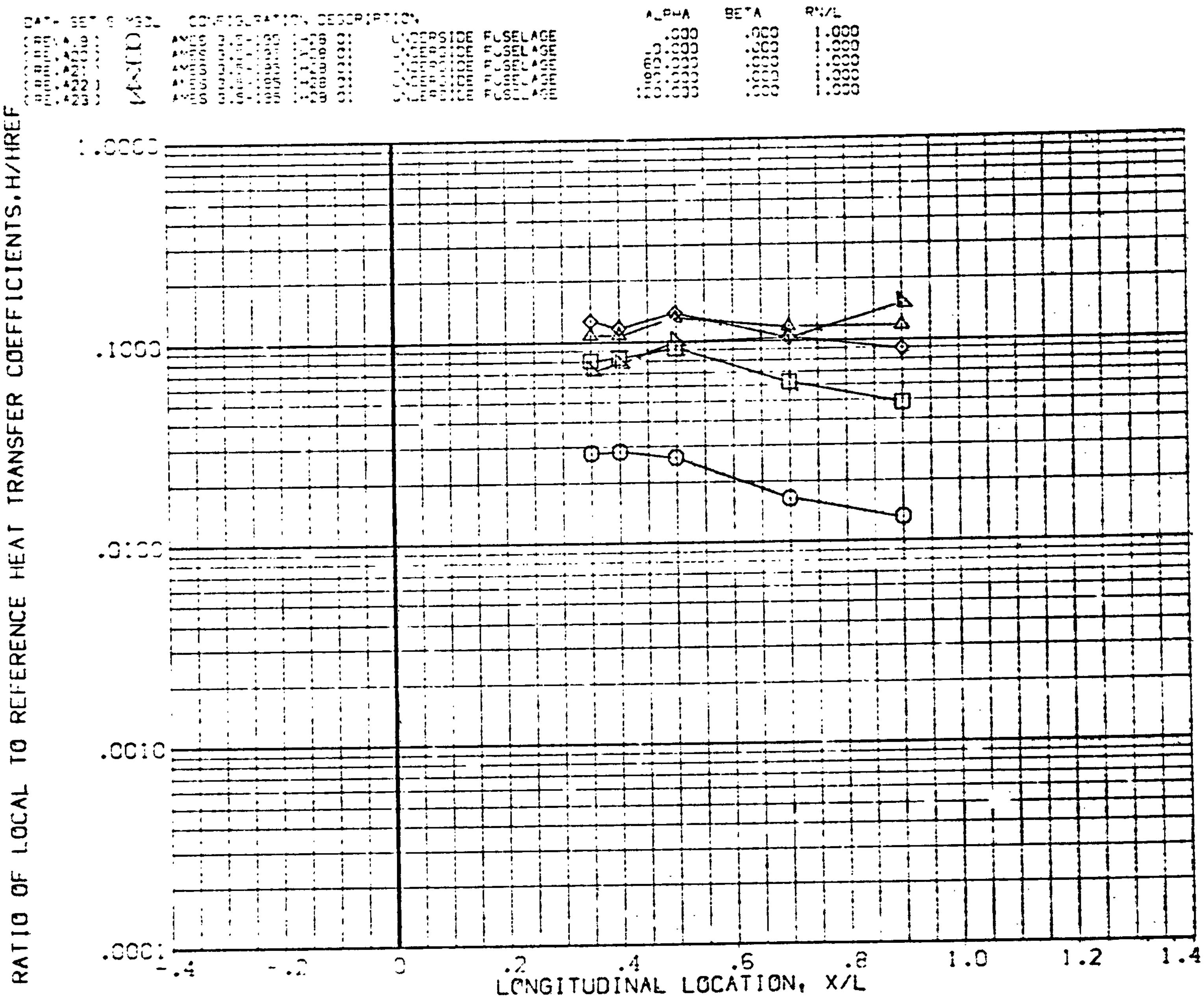


FIG. 7 ORBITER UNDERSIDE FUSELAGE, ORBITER ALONE

MACH = 5.300 ... = 117.000

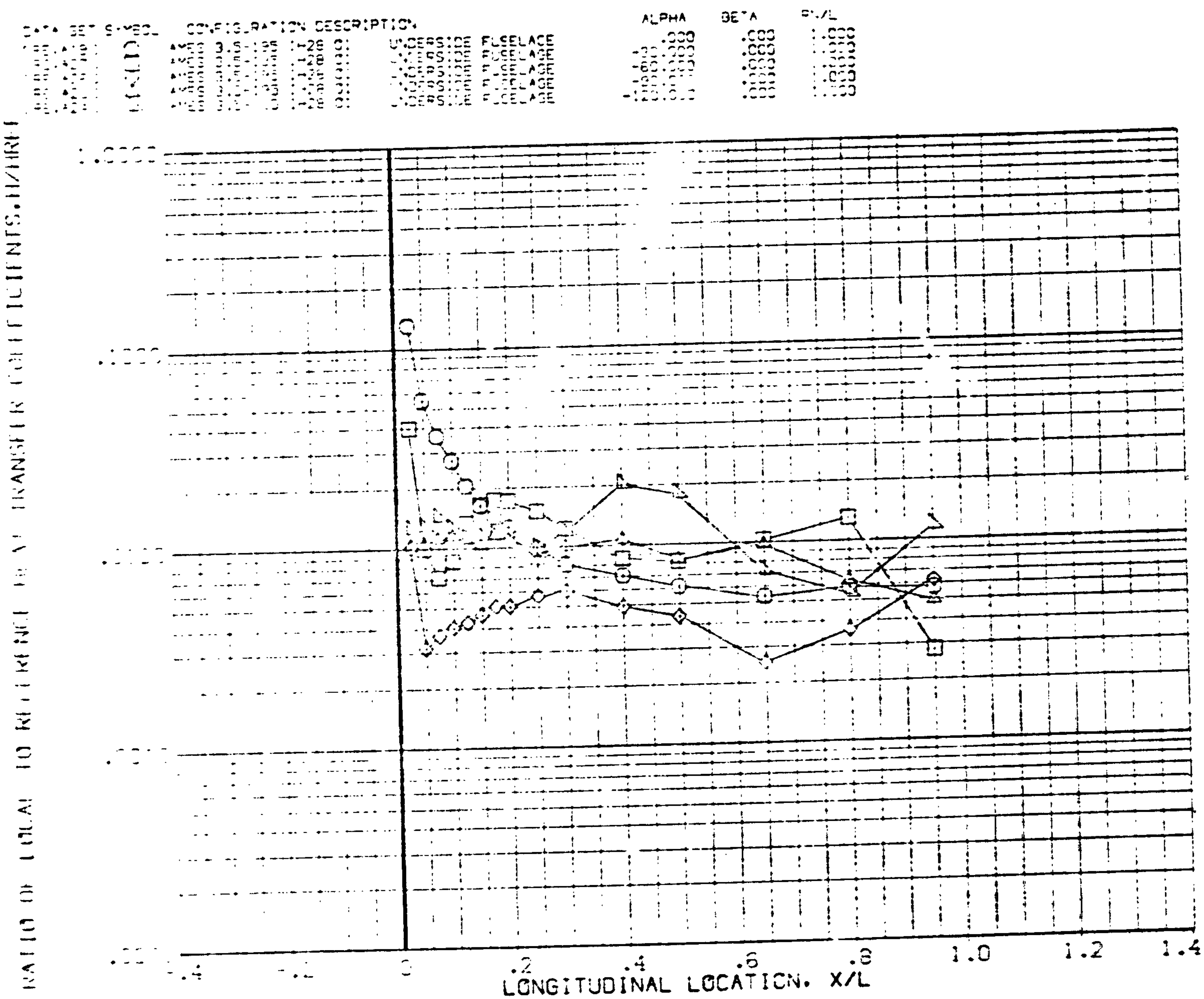


FIG. 7 ORBITER UNDERSIDE FUSELAGE, ORBITER ALONE

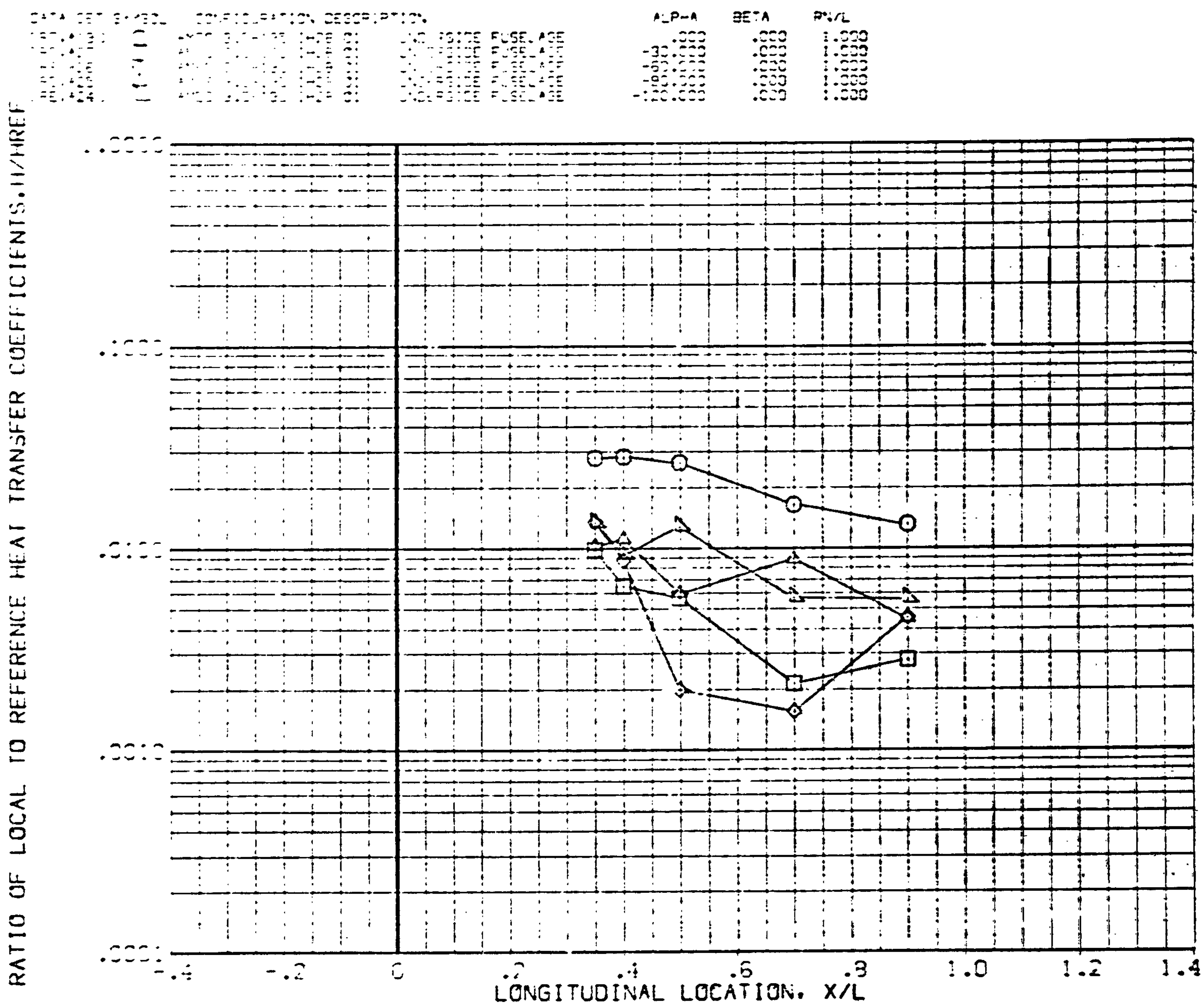


FIG. 7 ORBITER UNDERSIDE FUSELAGE, ORBITER ALONE

AMES 3.5-195 IH28 O1+T1 UNDERSIDE FUSELAGE (REVAO1)

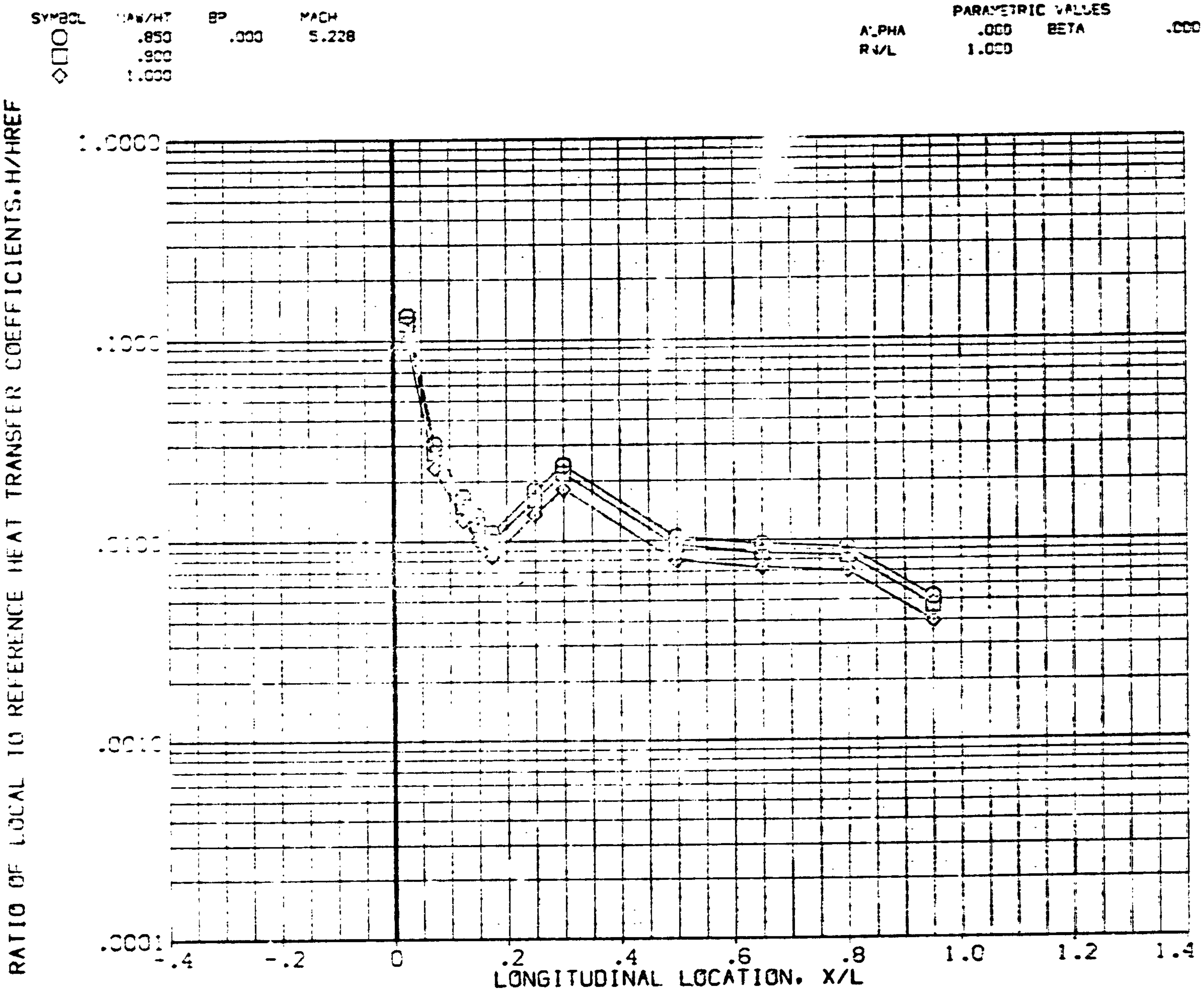


FIG. 8 ORBITER UNDERSIDE FUSELAGE, ORBITER IN THE PRESENCE OF THE TANK

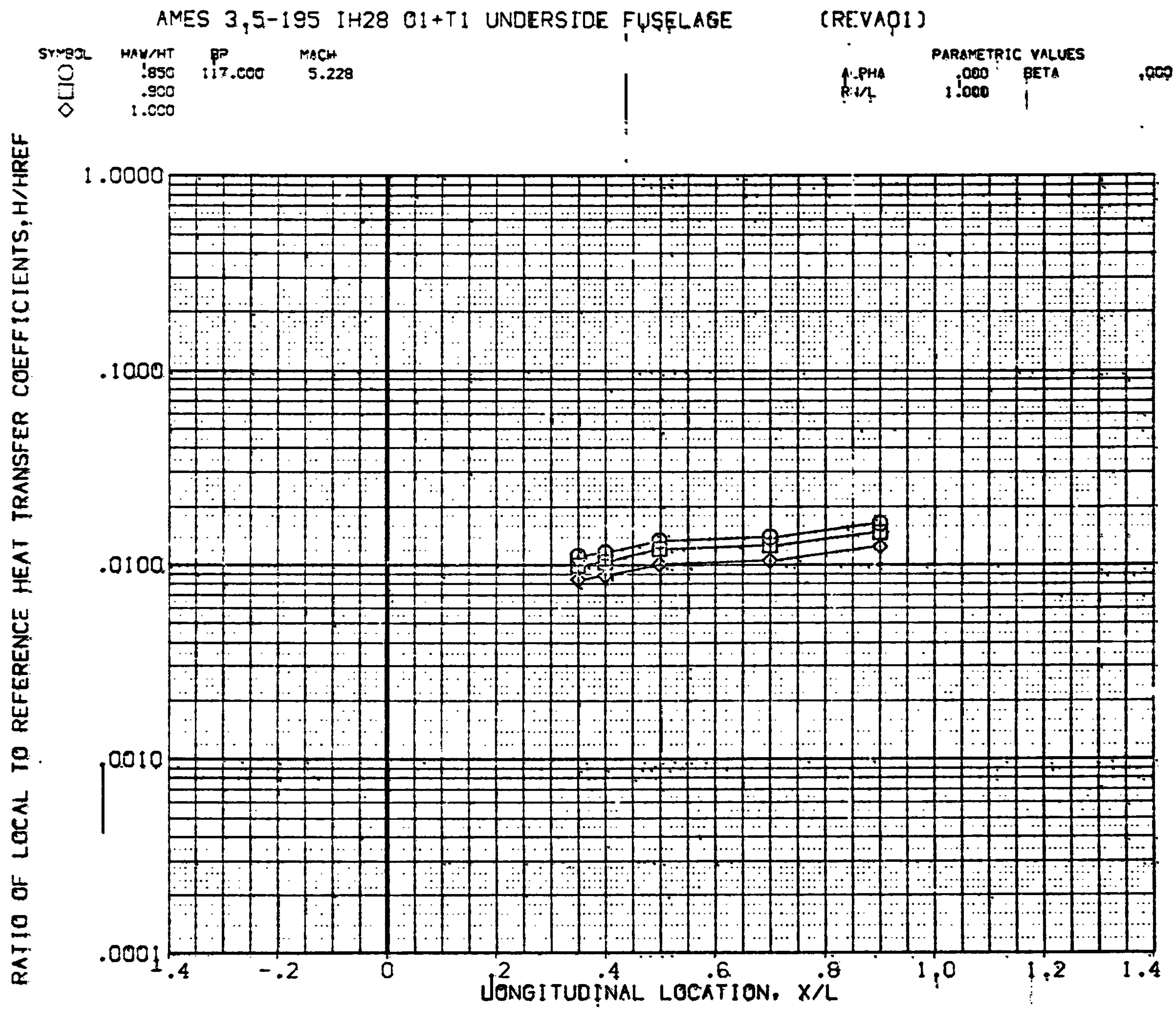


FIG. 8 ORBITER UNDERSIDE FUSELAGE, ORBITER IN THE PRESENCE OF THE TANK

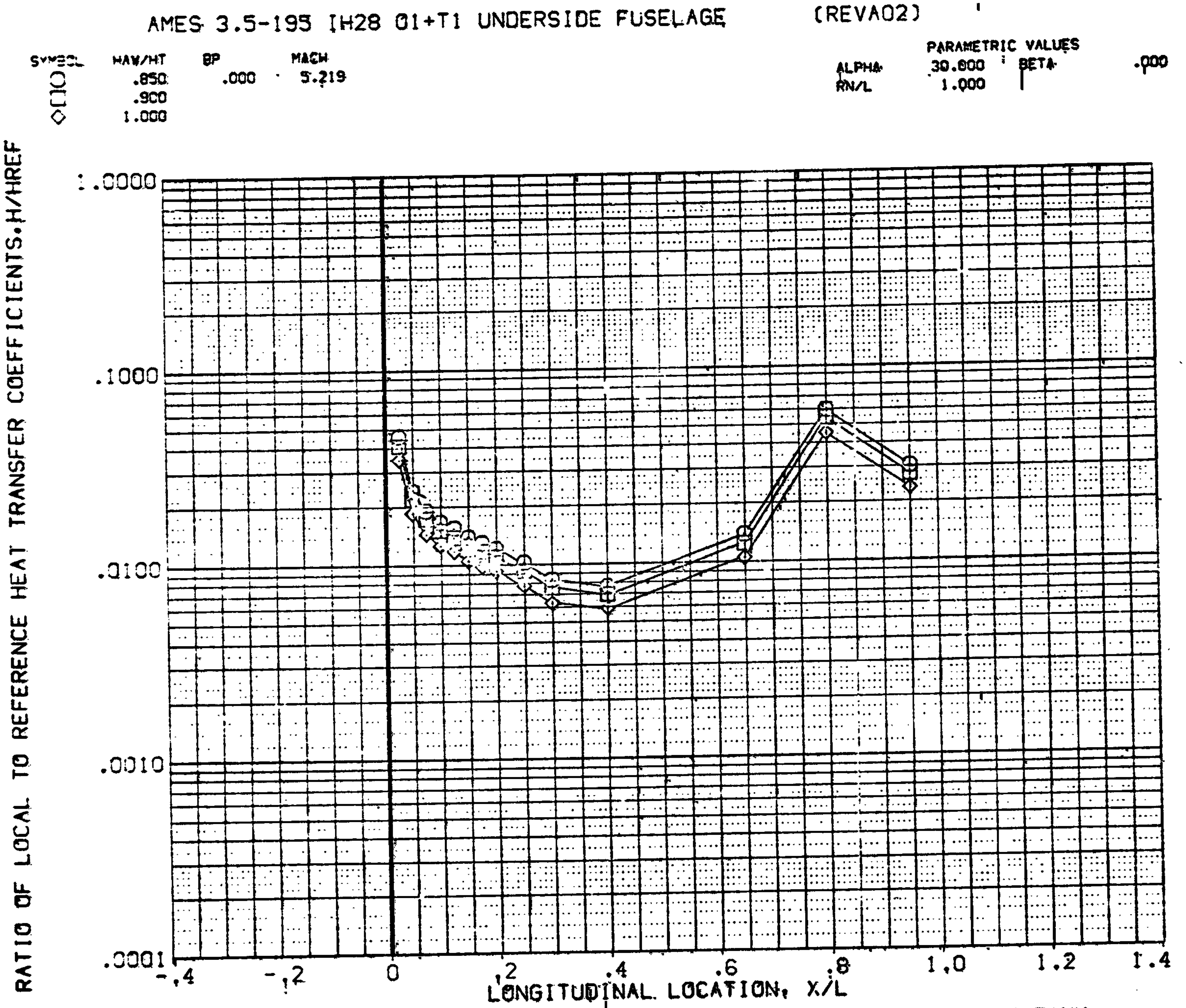


FIG. 8 ORBITER UNDERSIDE FUSELAGE, ORBITER IN THE PRESENCE OF THE TANK

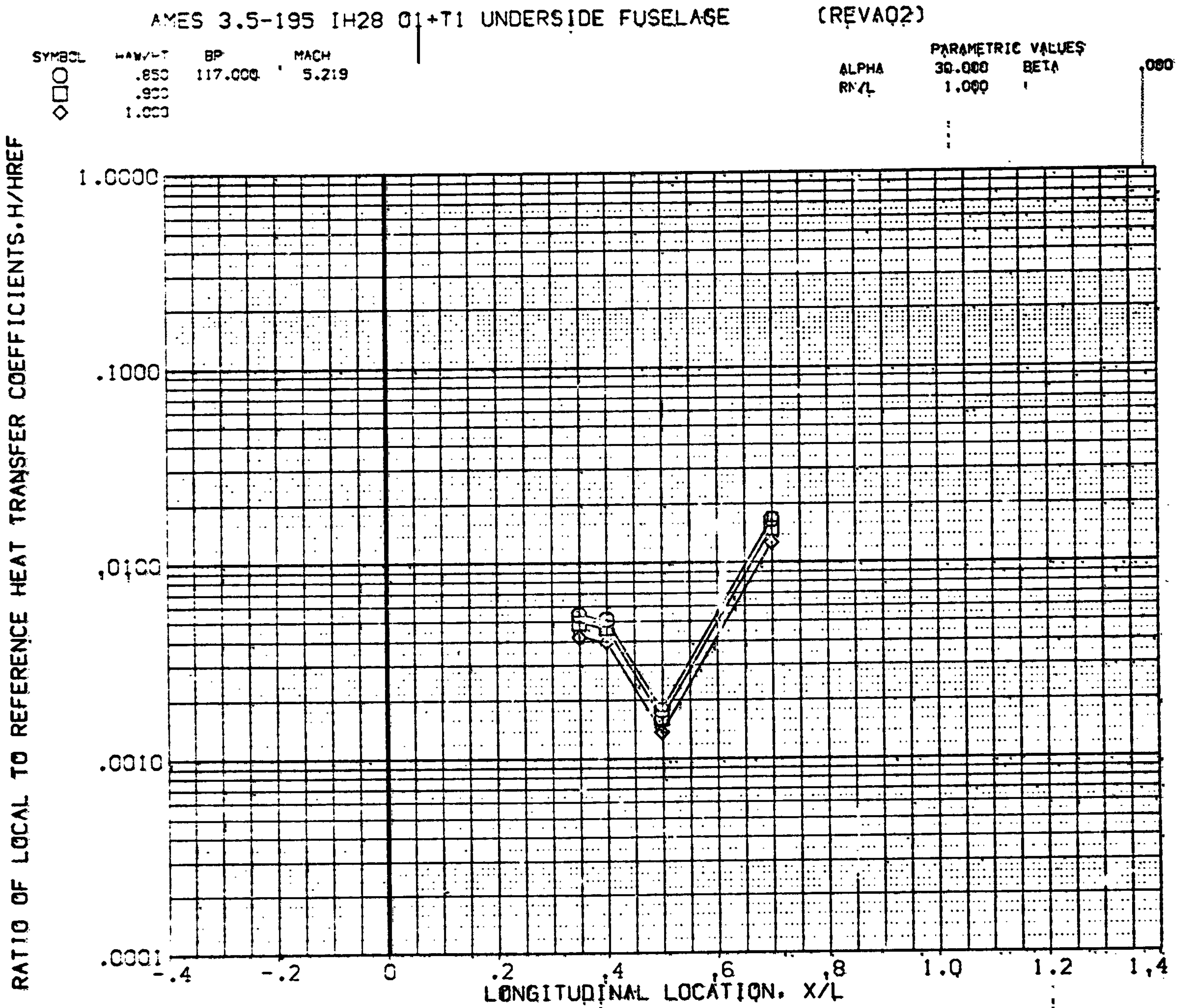


FIG. 8 ORBITER UNDERSIDE FUSELAGE, ORBITER IN THE PRESENCE OF THE TANK

AMES 3.5-195 IH28 O1+T1 UNDERSIDE FUSELAGE (REVA03)

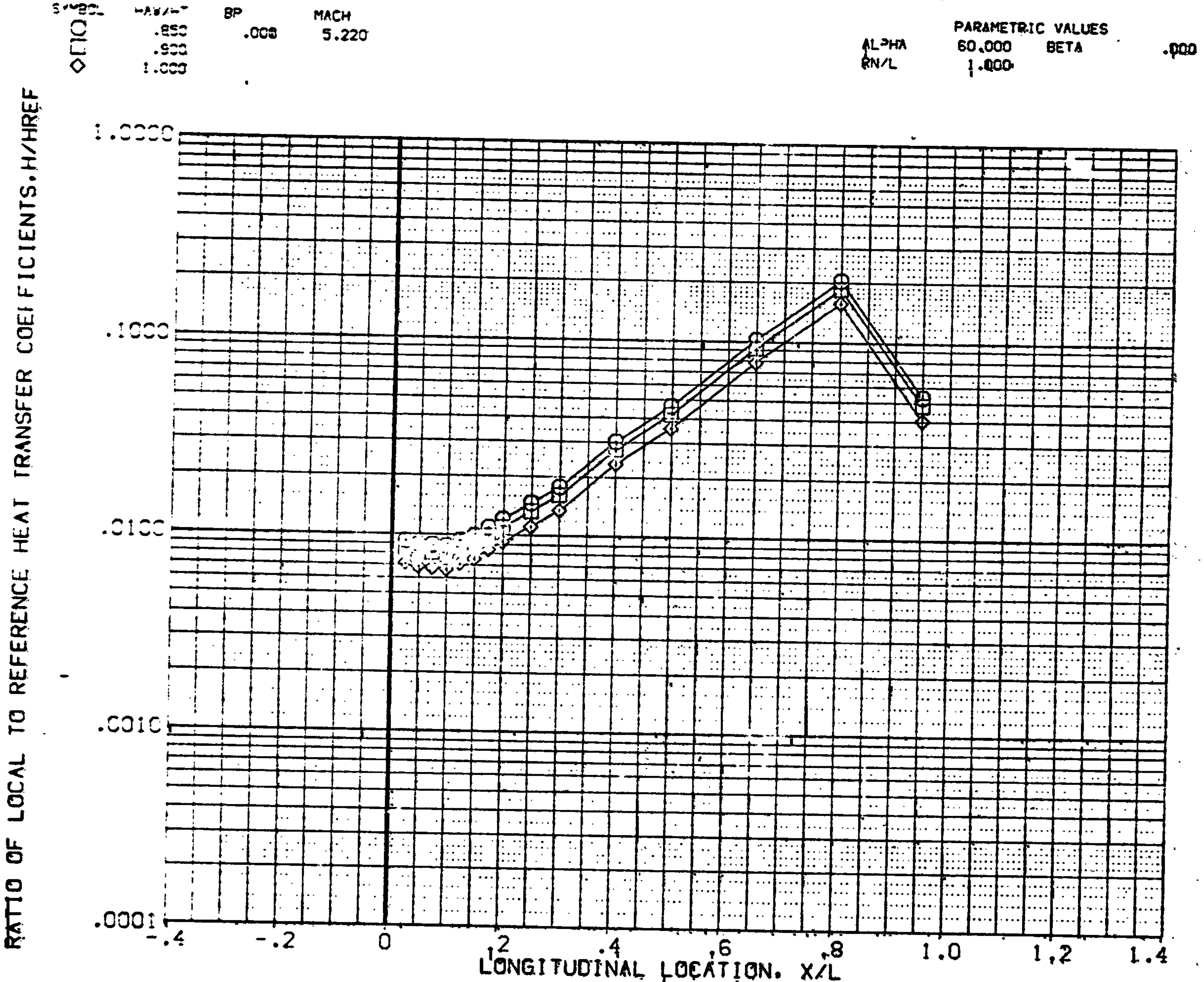


FIG. 8 ORBITER UNDERSIDE FUSELAGE, ORBITER IN THE PRESENCE OF THE TANK

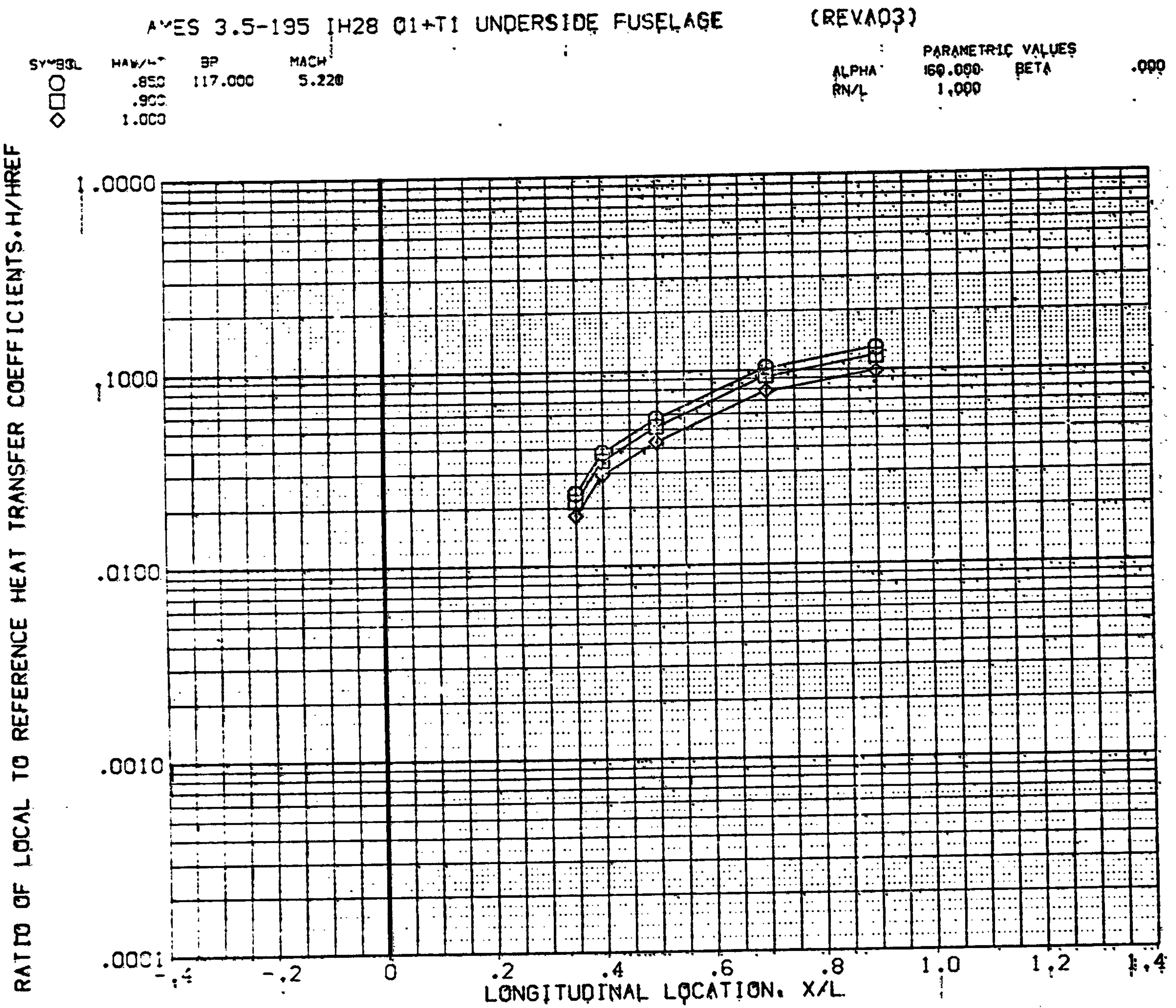


FIG. 8 ORBITER UNDERSIDE FUSELAGE, ORBITER IN THE PRESENCE OF THE TANK

AMES 3.5-195 IH28 01+T1 UNDERSIDE FUSELAGE (REVA04)

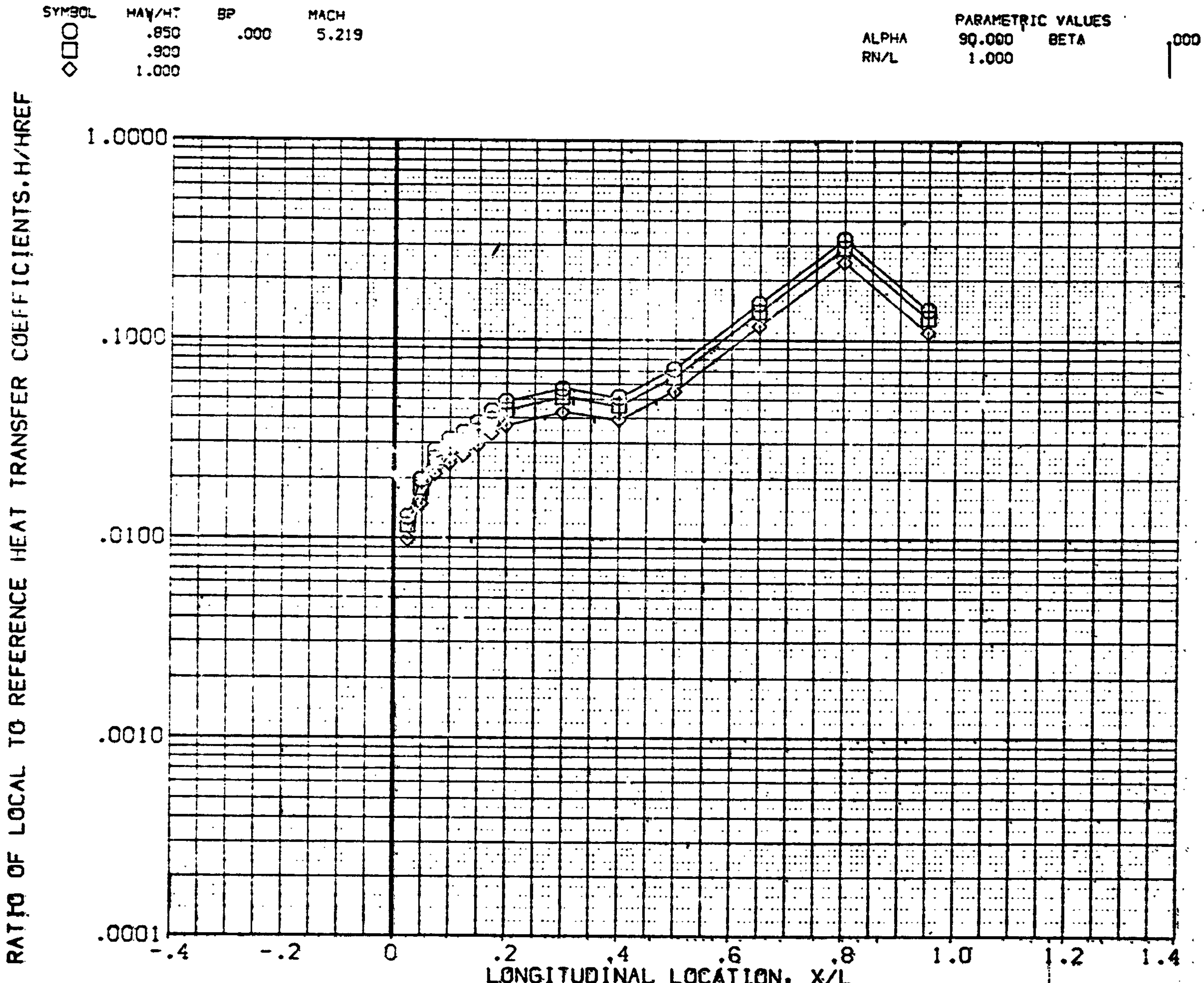


FIG. 8 ORBITER UNDERSIDE FUSELAGE, ORBITER IN THE PRESENCE OF THE TANK

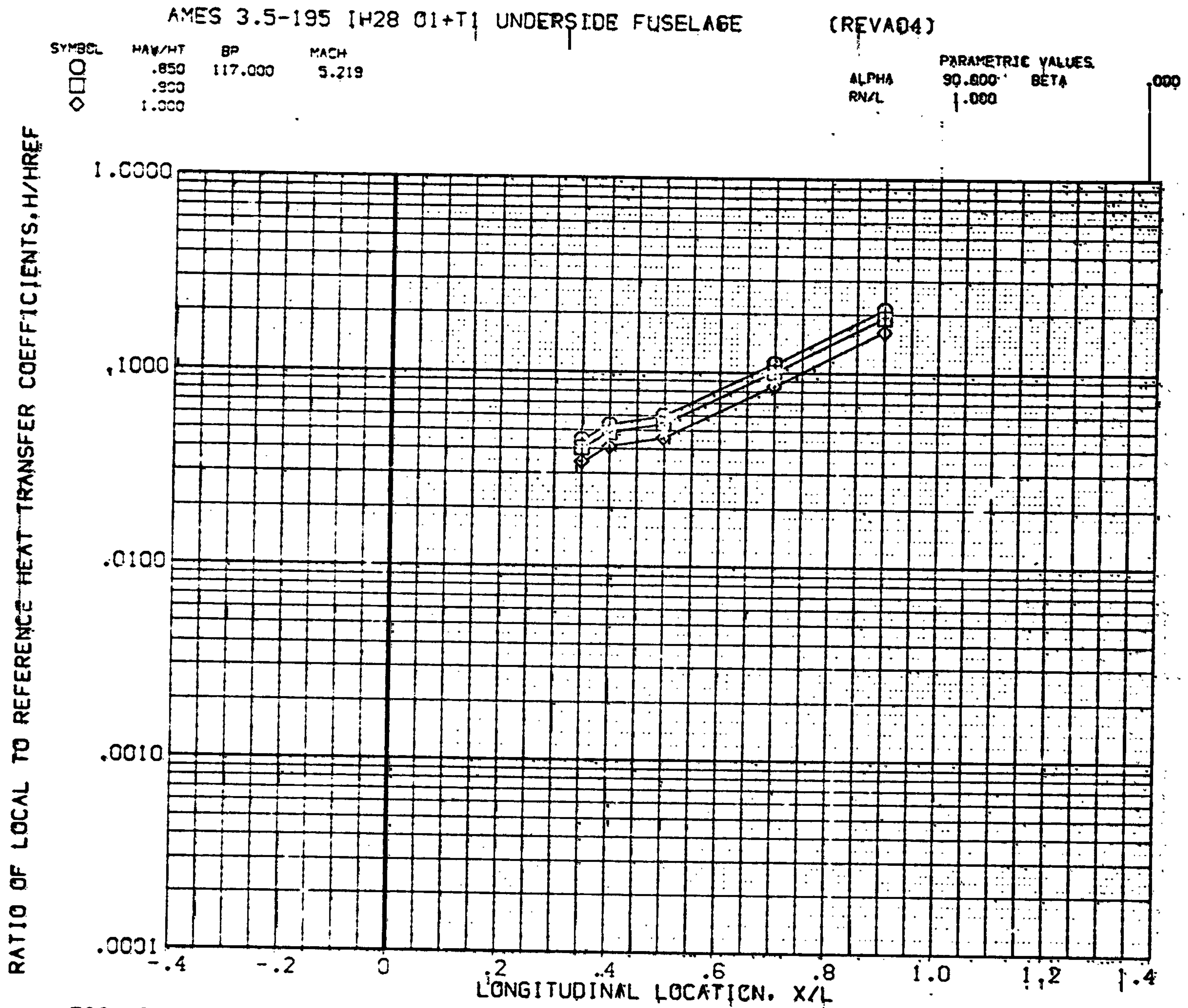


FIG. 8 ORBITER UNDERSIDE FUSELAGE, ORBITER IN THE PRESENCE OF THE TANK

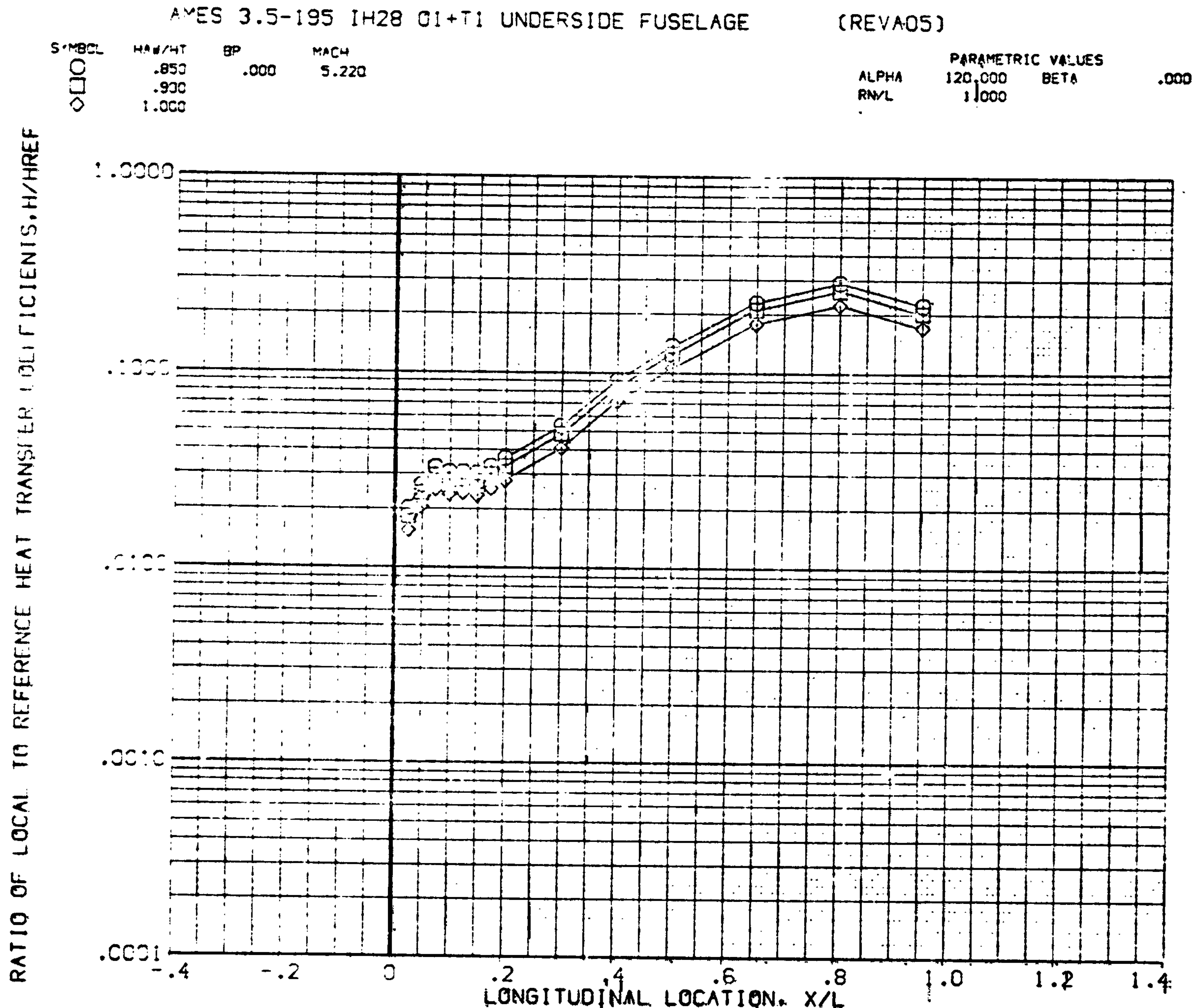


FIG. 8 ORBITER UNDERSIDE FUSELAGE, ORBITER IN THE PRESENCE OF THE TANK

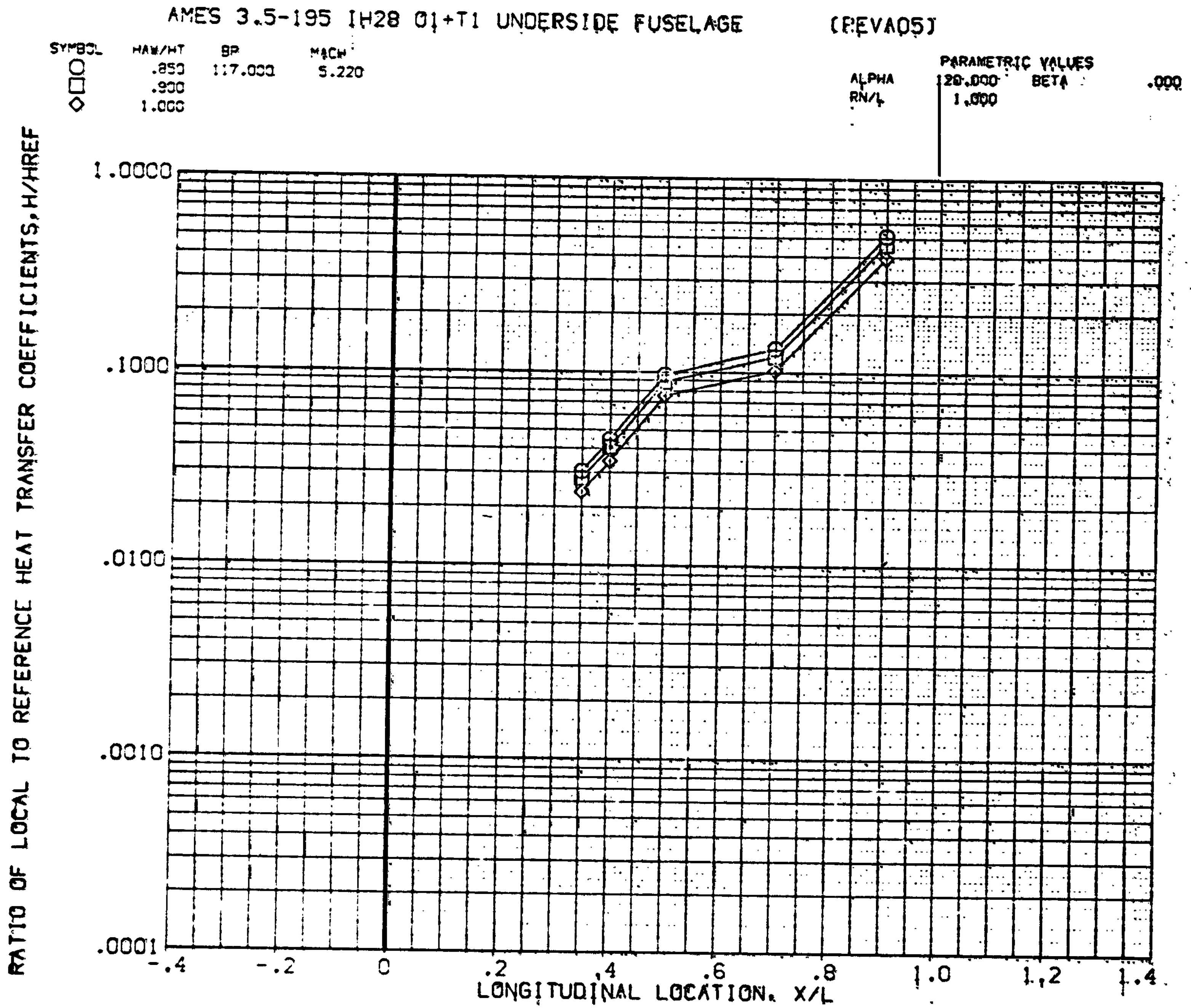


FIG. 8 ORBITER UNDERSIDE FUSELAGE, ORBITER IN THE PRESENCE OF THE TANK

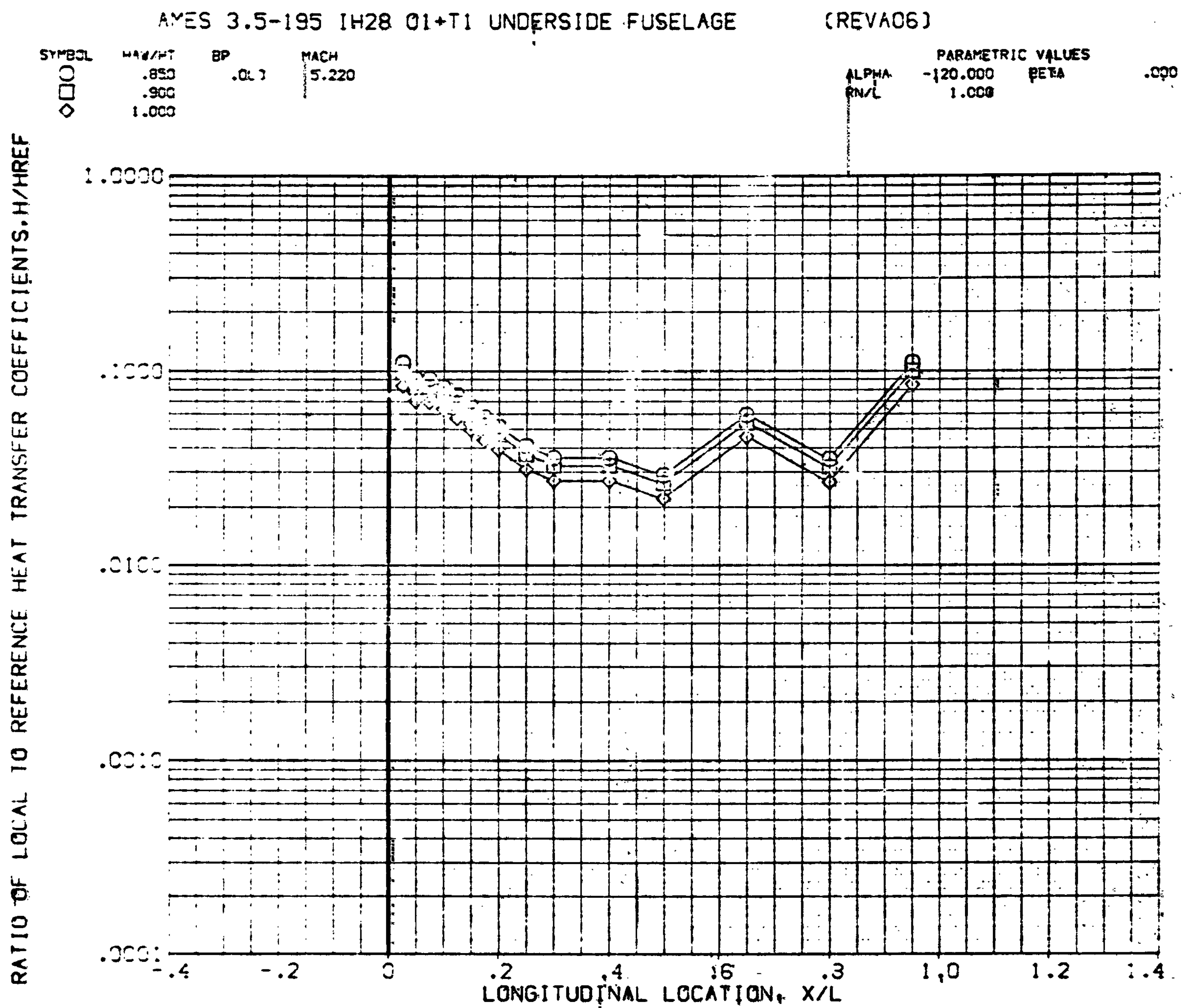


FIG. 8 ORBITER UNDERSIDE FUSELAGE, ORBITER IN THE PRESENCE OF THE TANK

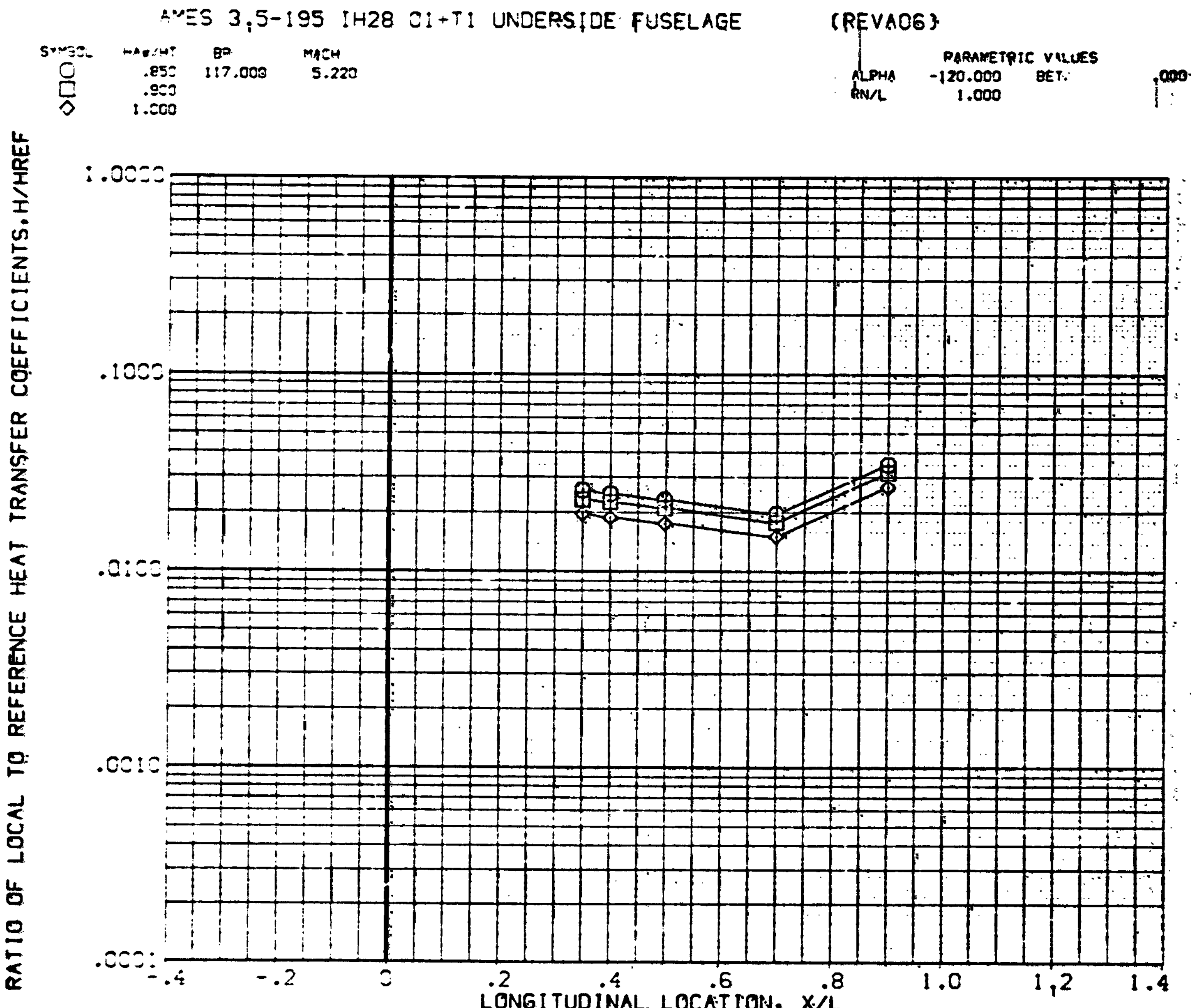


FIG. 8 ORBITER UNDERSIDE FUSELAGE, ORBITER IN THE PRESENCE OF THE TANK

AMES 3.5-195 IH28 OI+T1 UNDERSIDE FUSELAGE (REVA07)

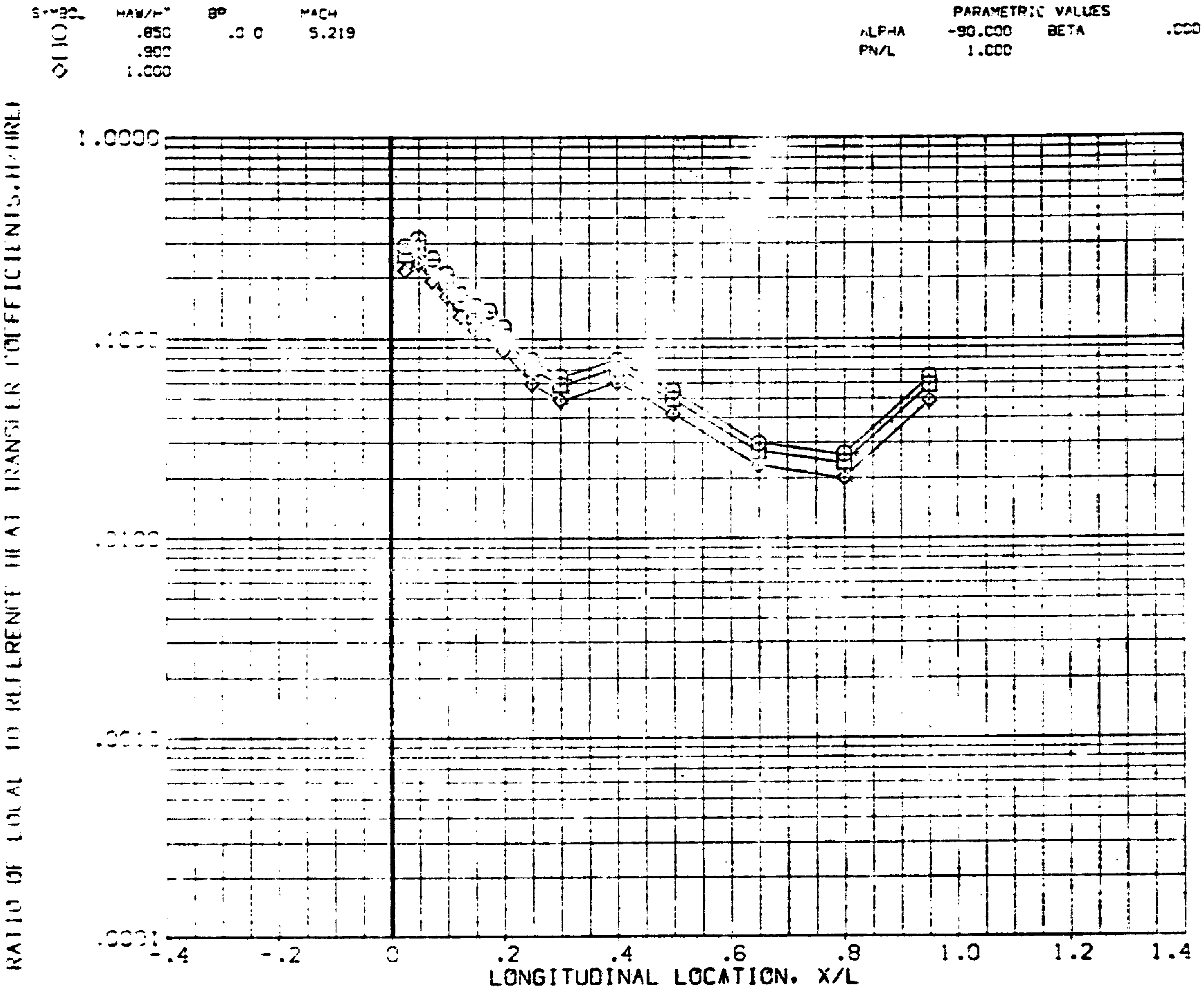


FIG. 8 ORBITER UNDERSIDE FUSELAGE, ORBITER IN THE PRESENCE OF THE TANK

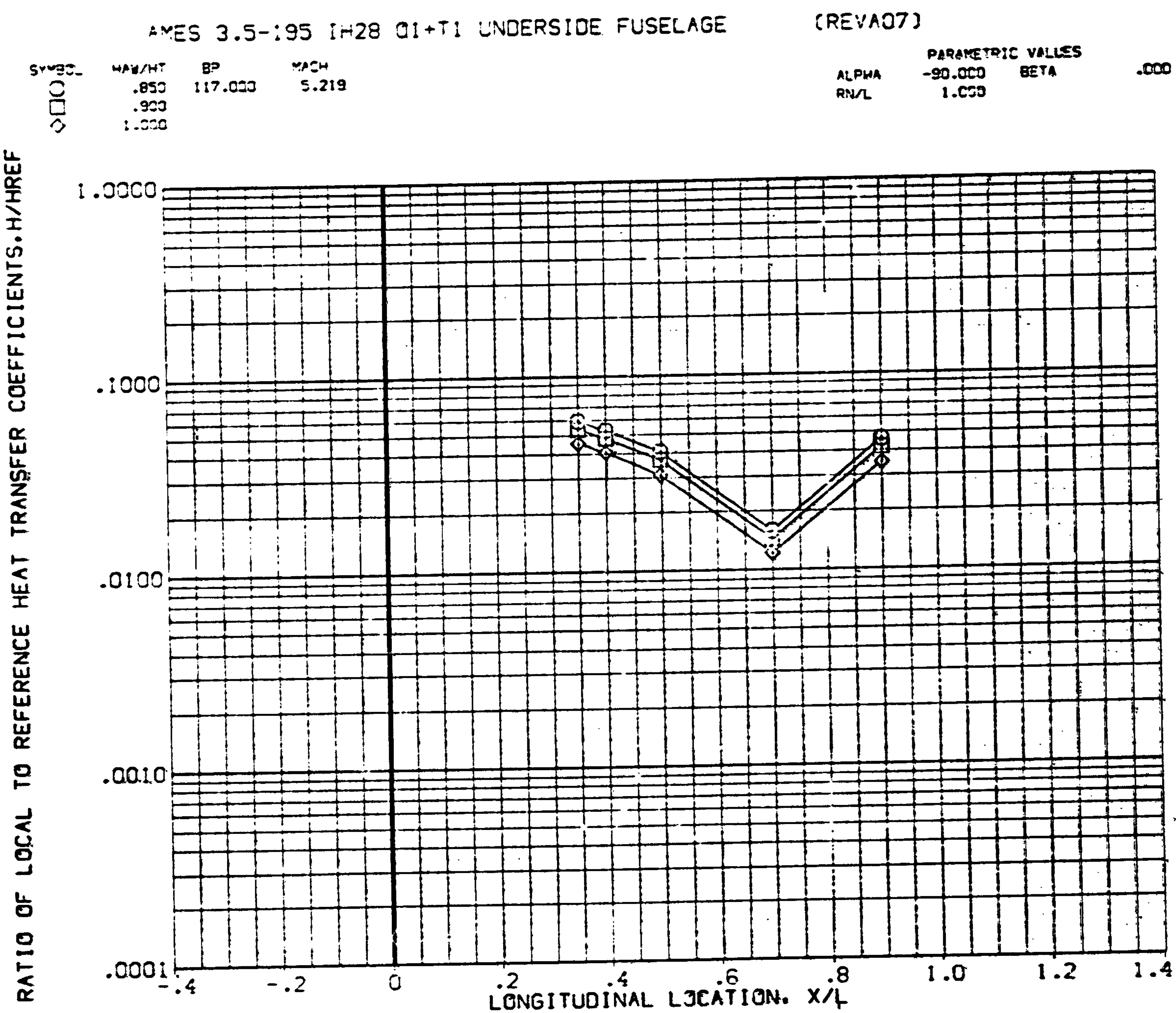


FIG. 8 ORBITER UNDERSIDE FUSELAGE, ORBITER IN THE PRESENCE OF THE TANK

AMES 3.5-195 IH28 O1+T1 UNDERSIDE FUSELAGE (REV408)

SYMBOL	HAW/HT	BP	MACH
○	.850	.000	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA	-60.000	BETA	.000
RN/L	1.000		

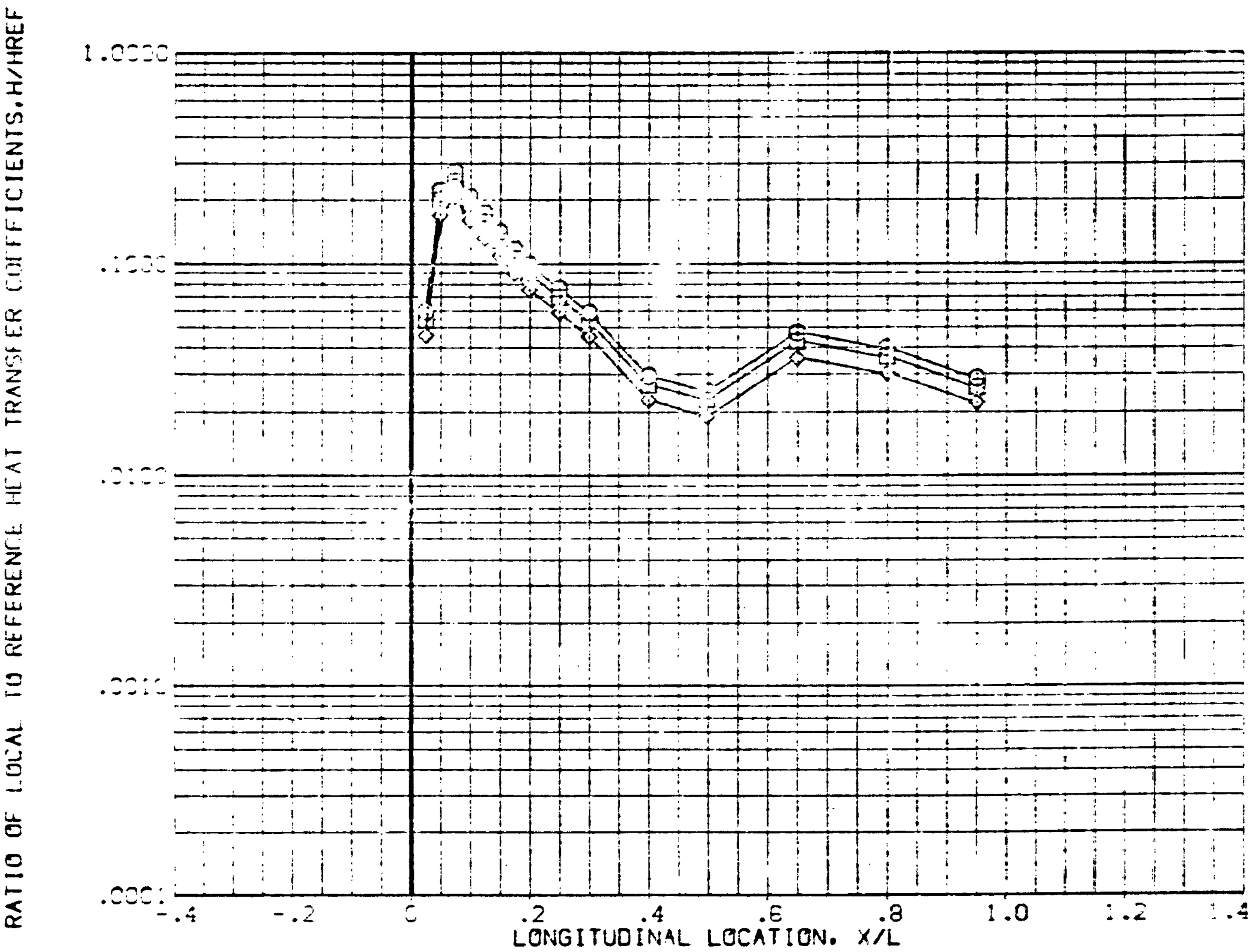


FIG. 8 ORBITER UNDERSIDE FUSELAGE, ORBITER IN THE PRESENCE OF THE TANK

AMES 3.5-195 IH28 O1+T1 UNDERSIDE FUSELAGE (REVA08)

SYMBOL	HAW/HT	BP	MACH
○	.850	117.000	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA 60.000 BETA .000

RN/L 1.000

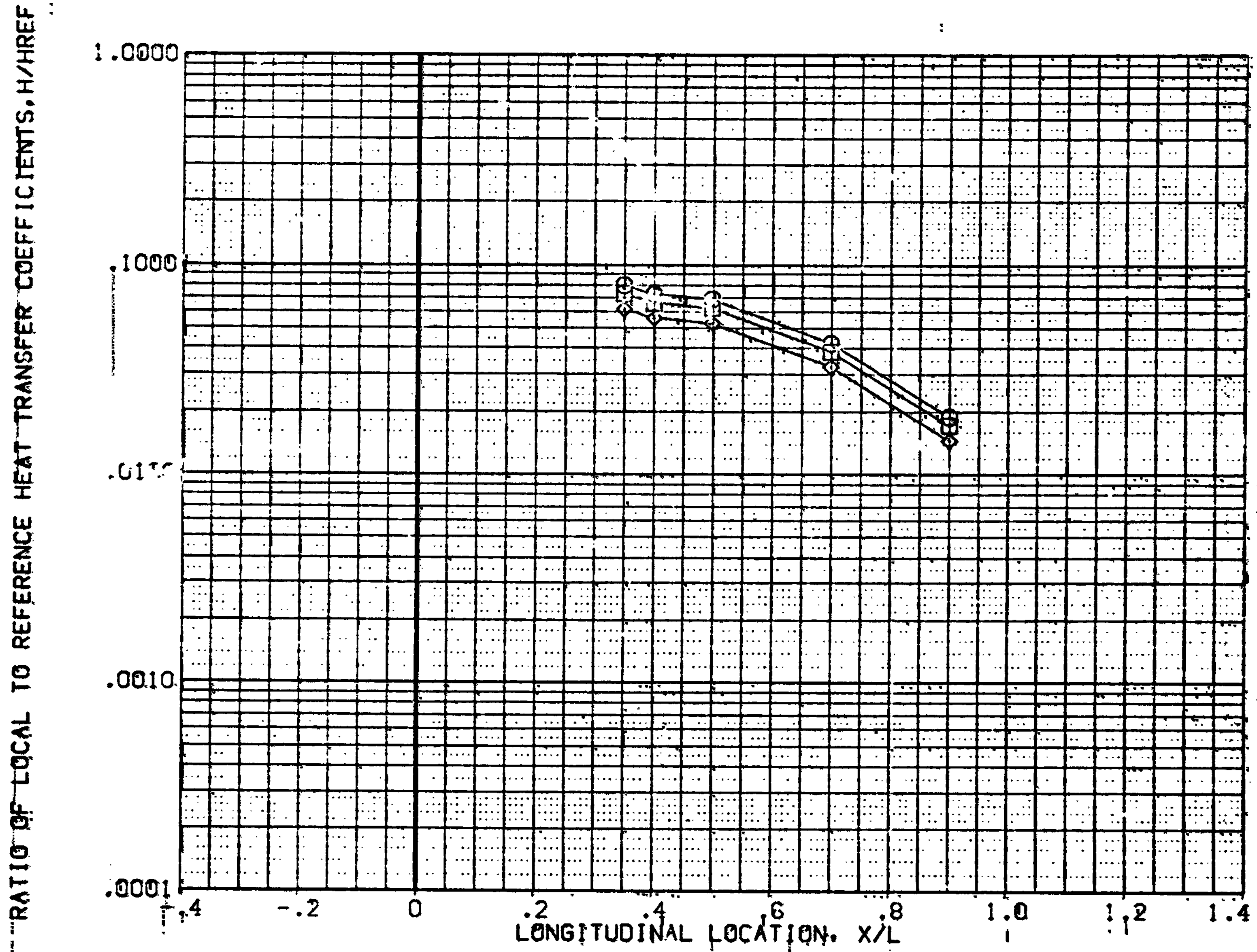


FIG. 8 ORBITER UNDERSIDE FUSELAGE, ORBITER IN THE PRESENCE OF THE TANK

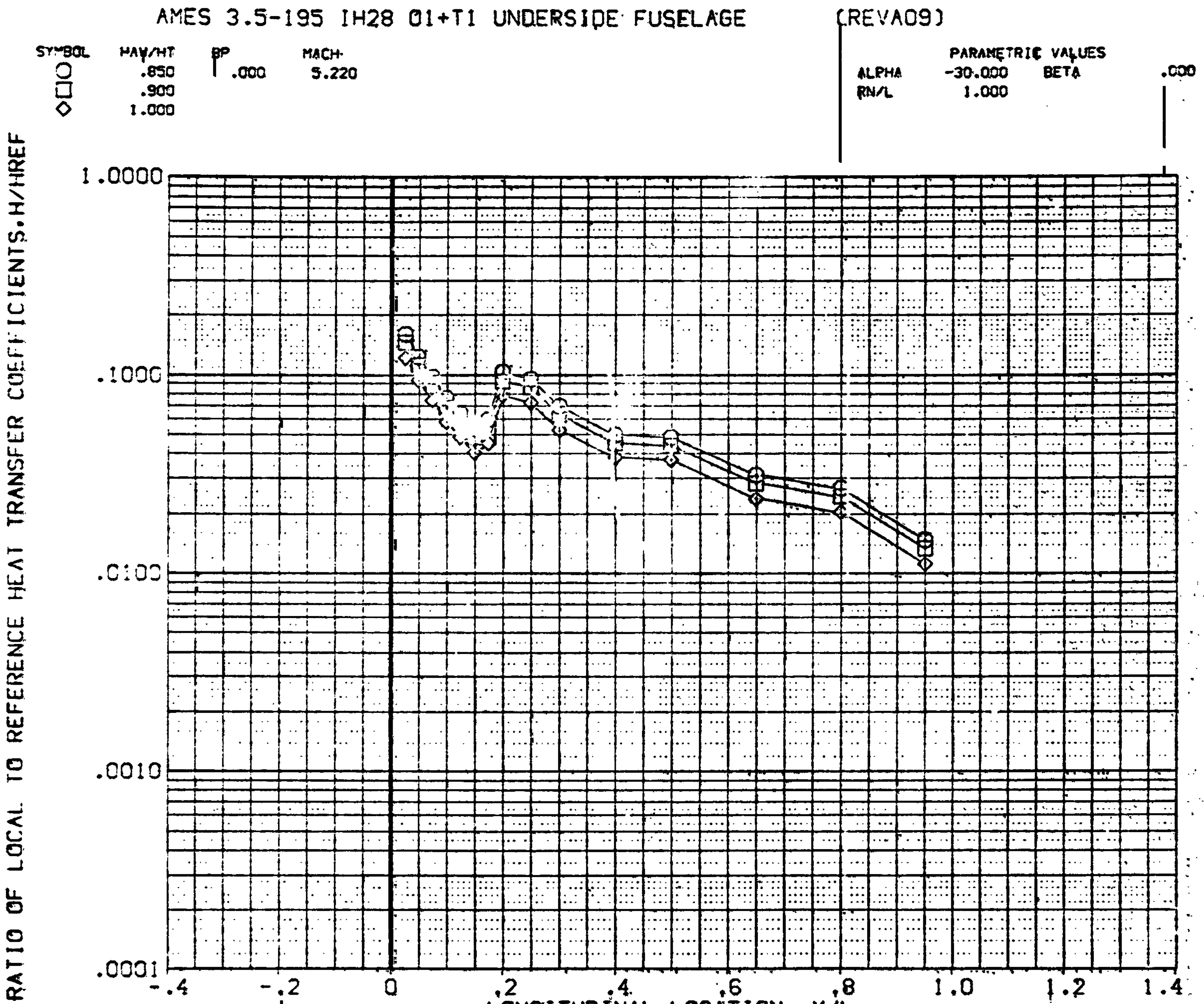


FIG. 8 ORBITER UNDERSIDE FUSELAGE, ORBITER IN THE PRESENCE OF THE TANK

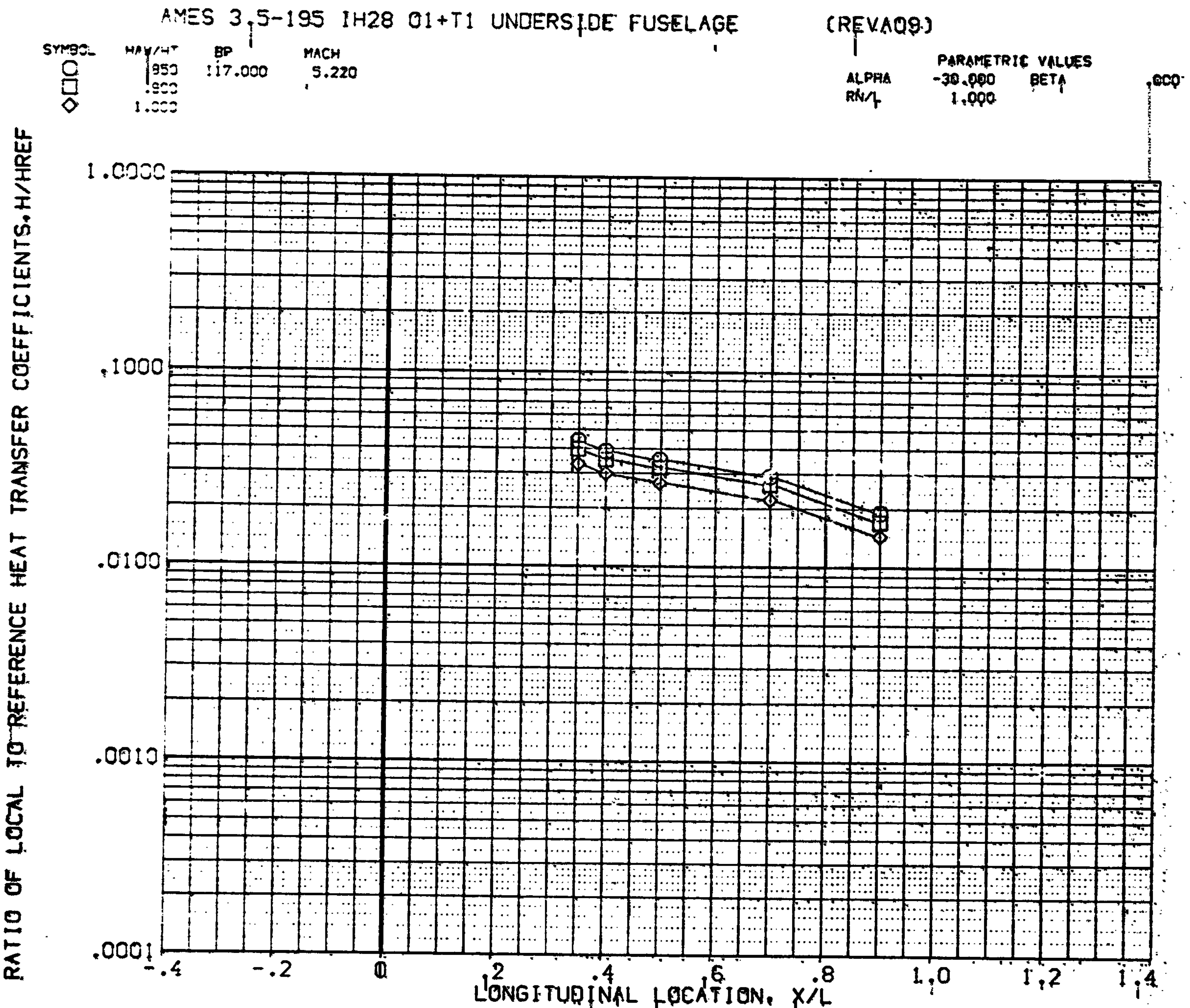


FIG. 8 ORBITER UNDERSIDE FUSELAGE, ORBITER IN THE PRESENCE OF THE TANK

AMES 3.5-195 IH28 01+T1 UNDERSIDE FUSELAGE (REVA1Q)

SYMBOL	HAW/HT	BP	MACH
○	.850	.000	5.299
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA	60.000	BETA	.000
RN/L	4.000		

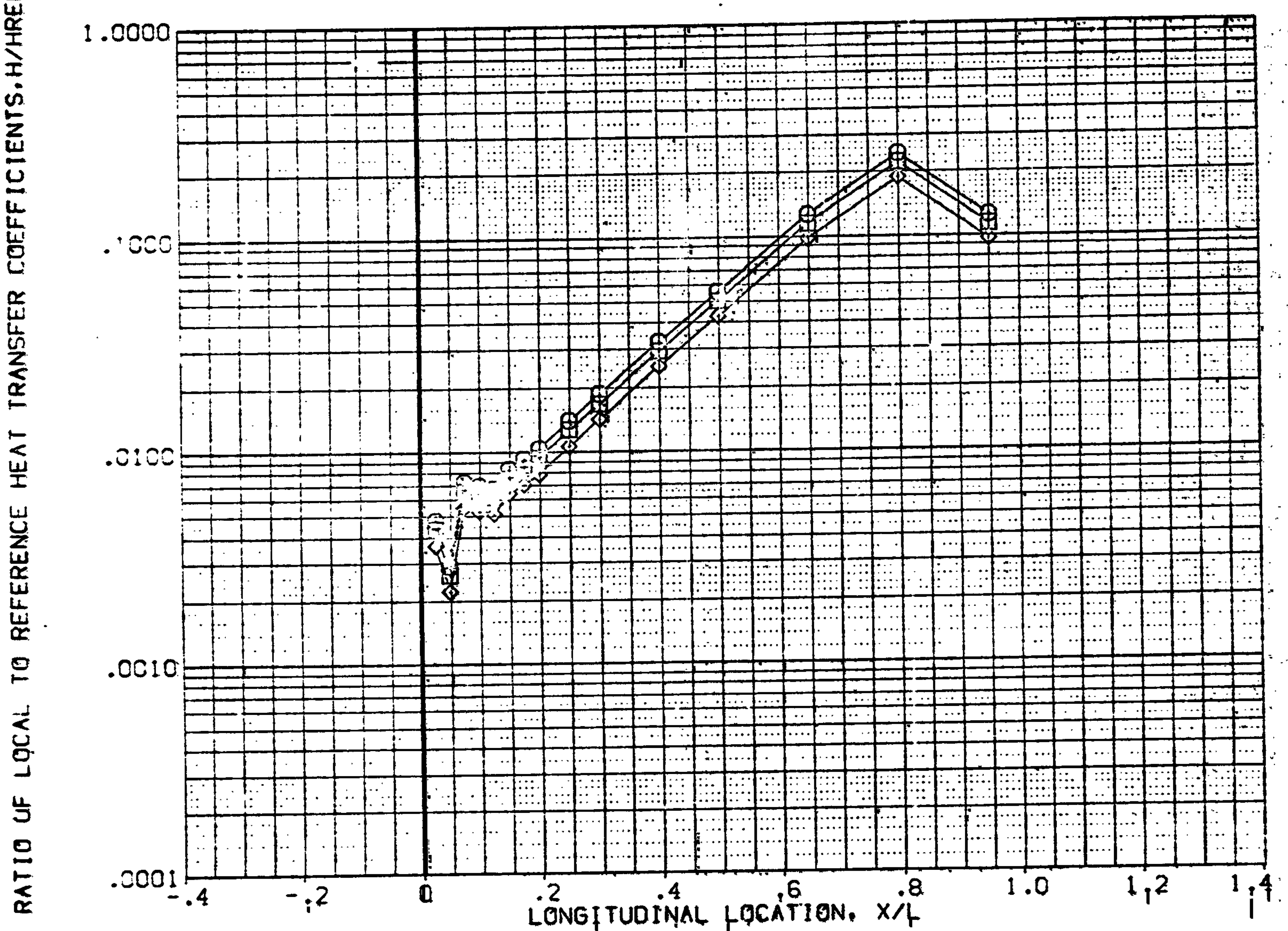


FIG. 8 ORBITER UNDERSIDE FUSELAGE, ORBITER IN THE PRESENCE OF THE TANK

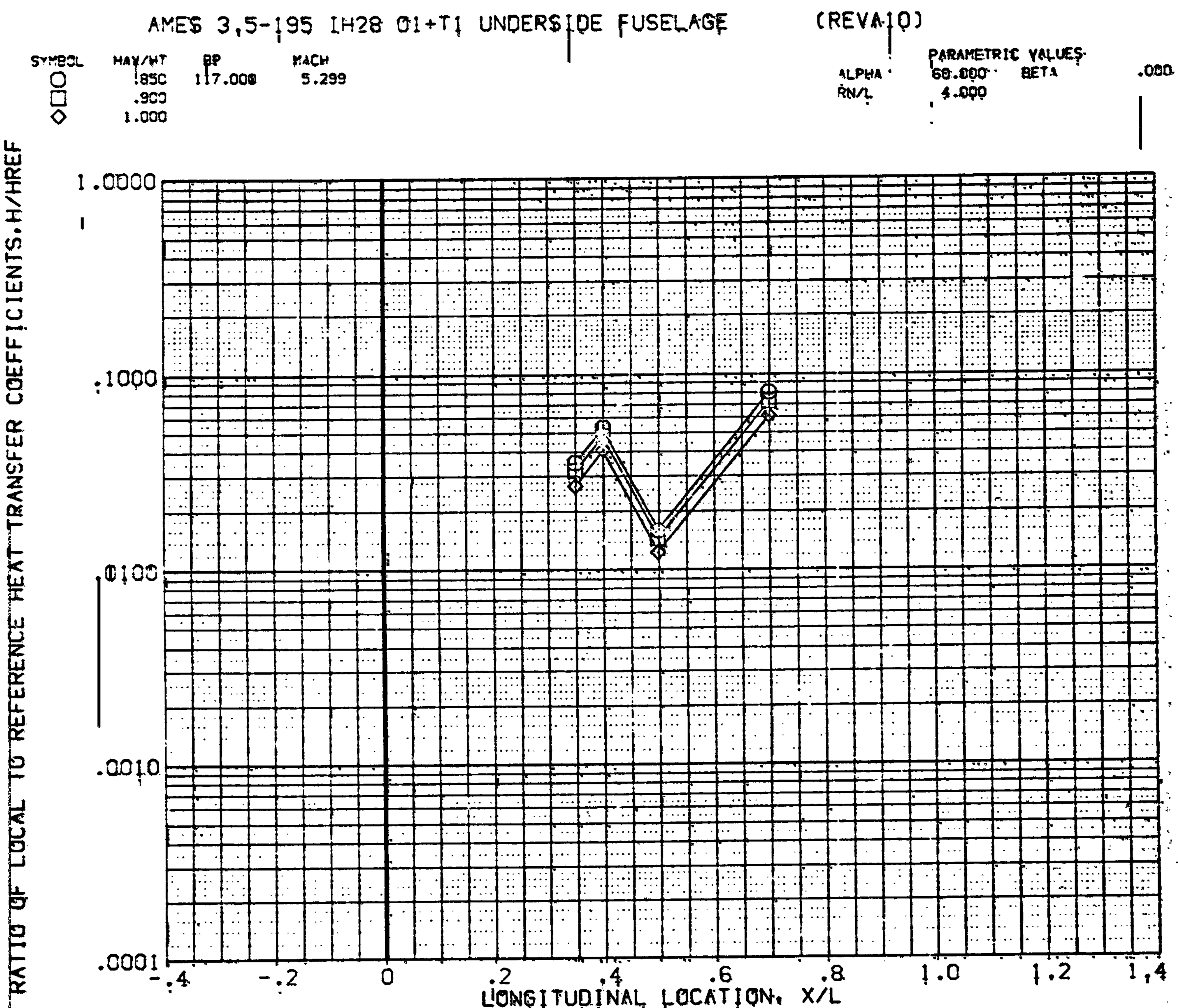


FIG. 8 ORBITER UNDERSIDE FUSELAGE, ORBITER IN THE PRESENCE OF THE TANK

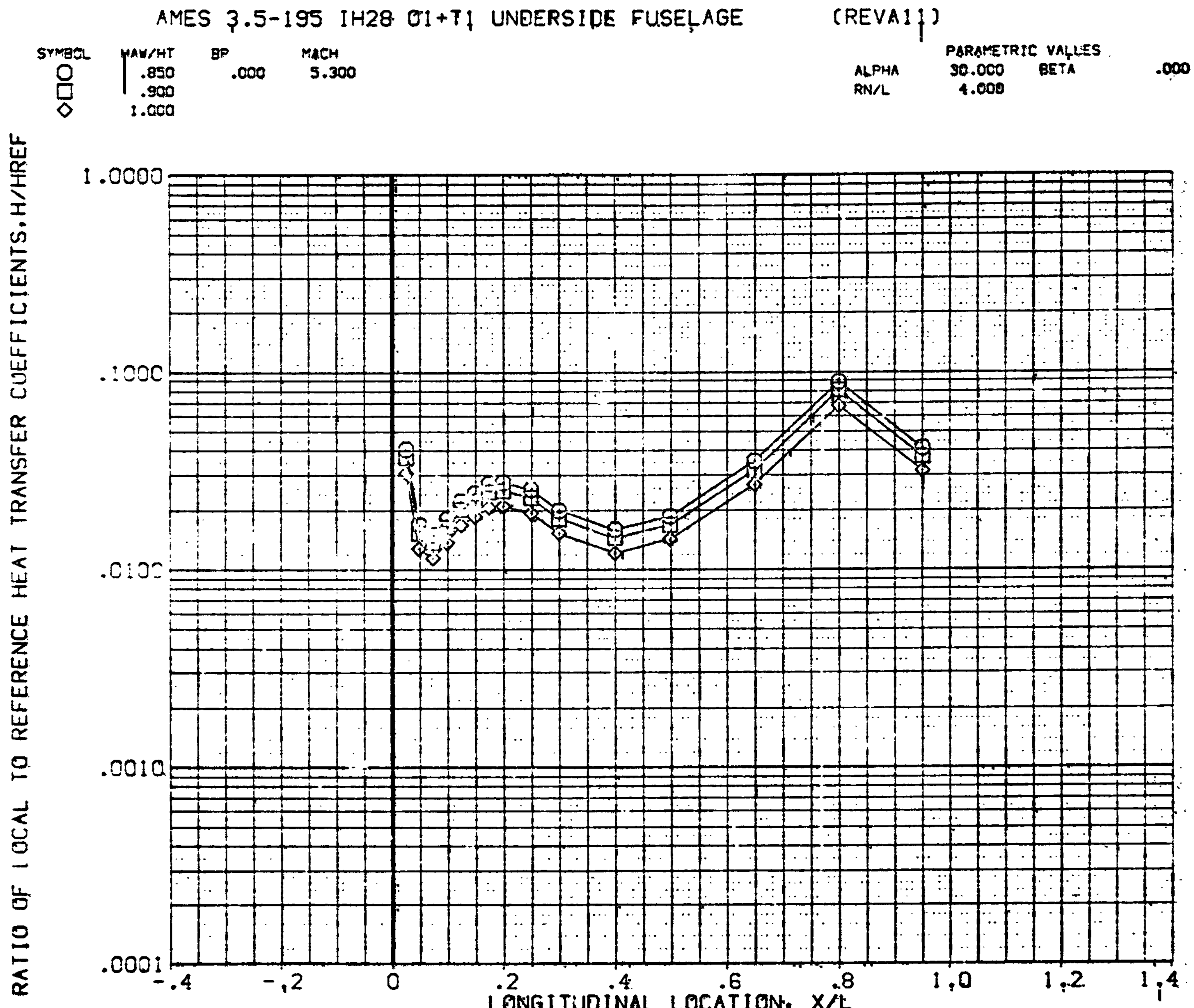


FIG. 8 ORBITER UNDERSIDE FUSELAGE, ORBITER IN THE PRESENCE OF THE TANK

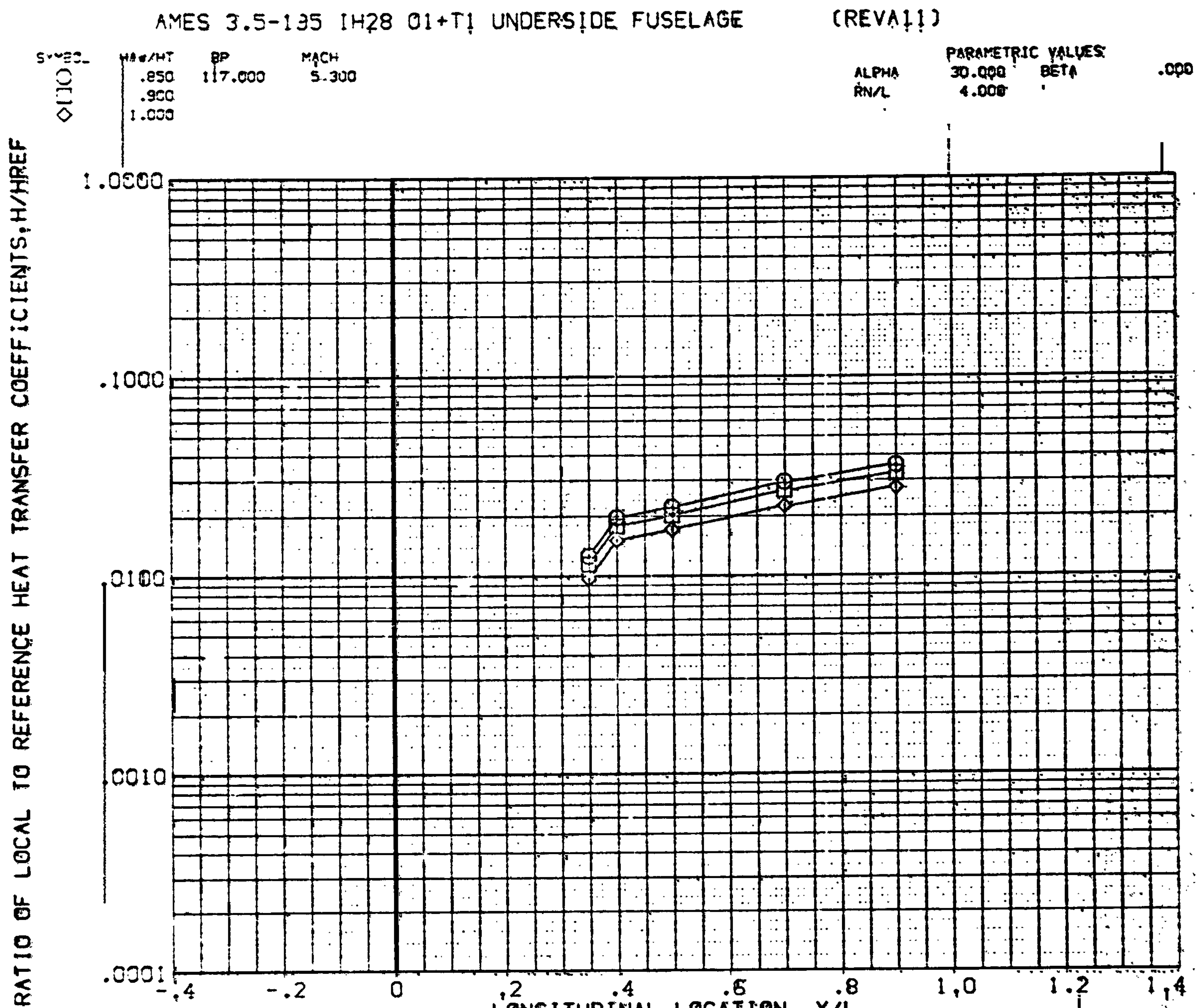


FIG. 8 ORBITER UNDERSIDE FUSELAGE, ORBITER IN THE PRESENCE OF THE TANK

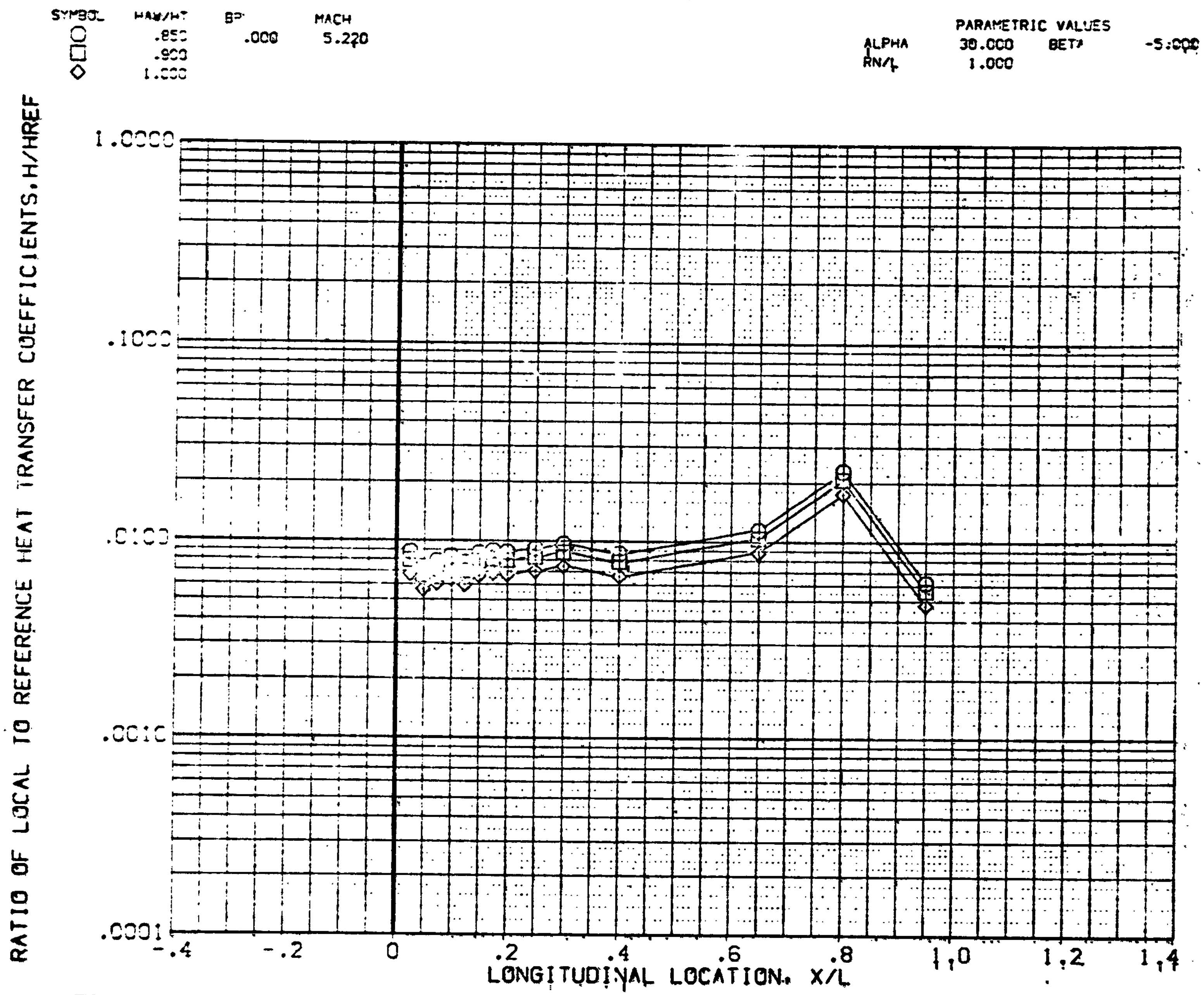


FIG. 8 ORBITER UNDERSIDE FUSELAGE, ORBITER IN THE PRESENCE OF THE TANK

AMES 3.5-195 IH28 O1+T1 UNDERSIDE FUSELAGE (REVA12)

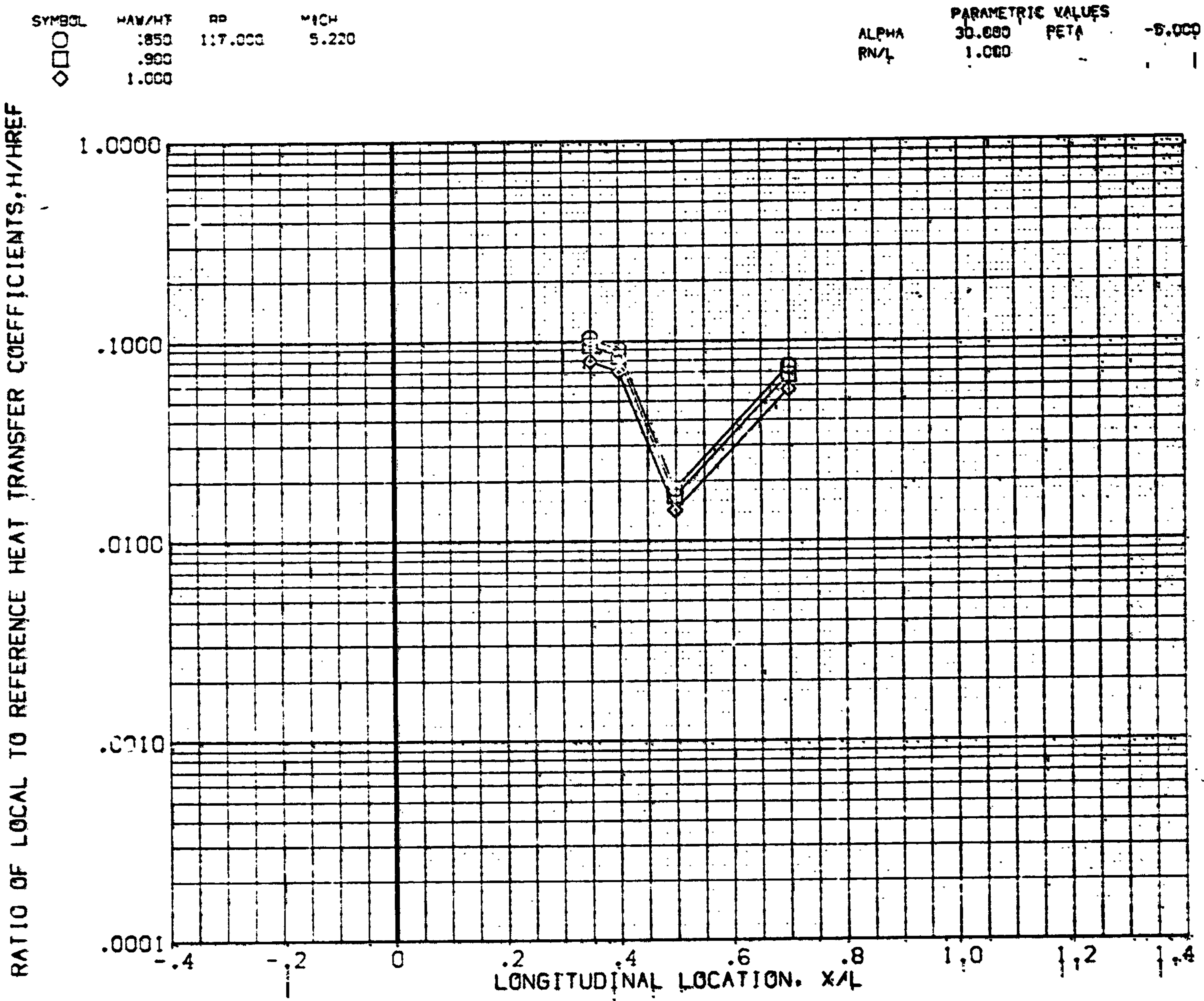


FIG. 8 ORBITER UNDERSIDE FUSELAGE, ORBITER IN THE PRESENCE OF THE TANK

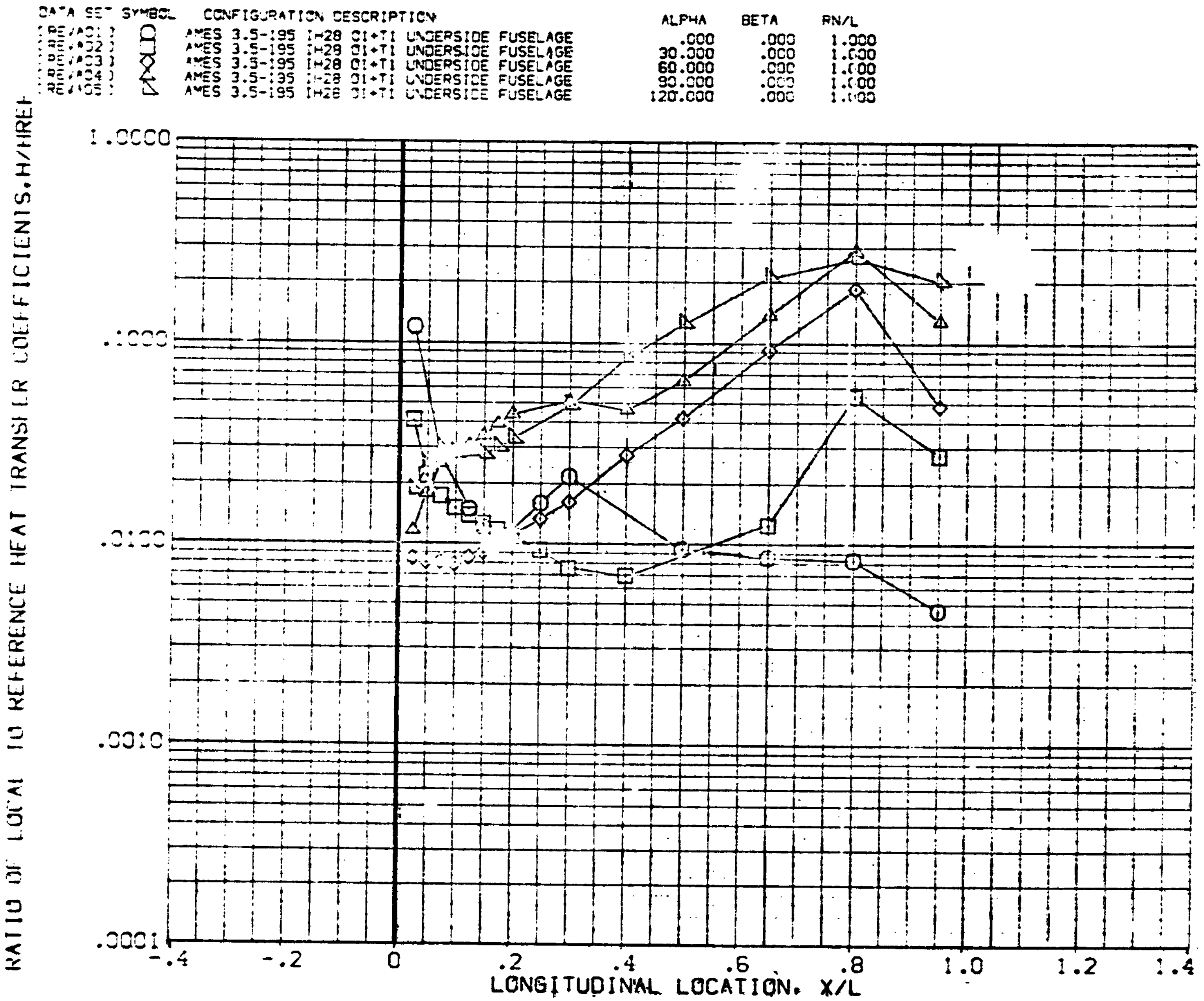


FIG. 8 ORBITER UNDERSIDE FUSELAGE, ORBITER IN THE PRESENCE OF THE TANK

MACH = 5.300 HAW/HT= .900 BP = .000

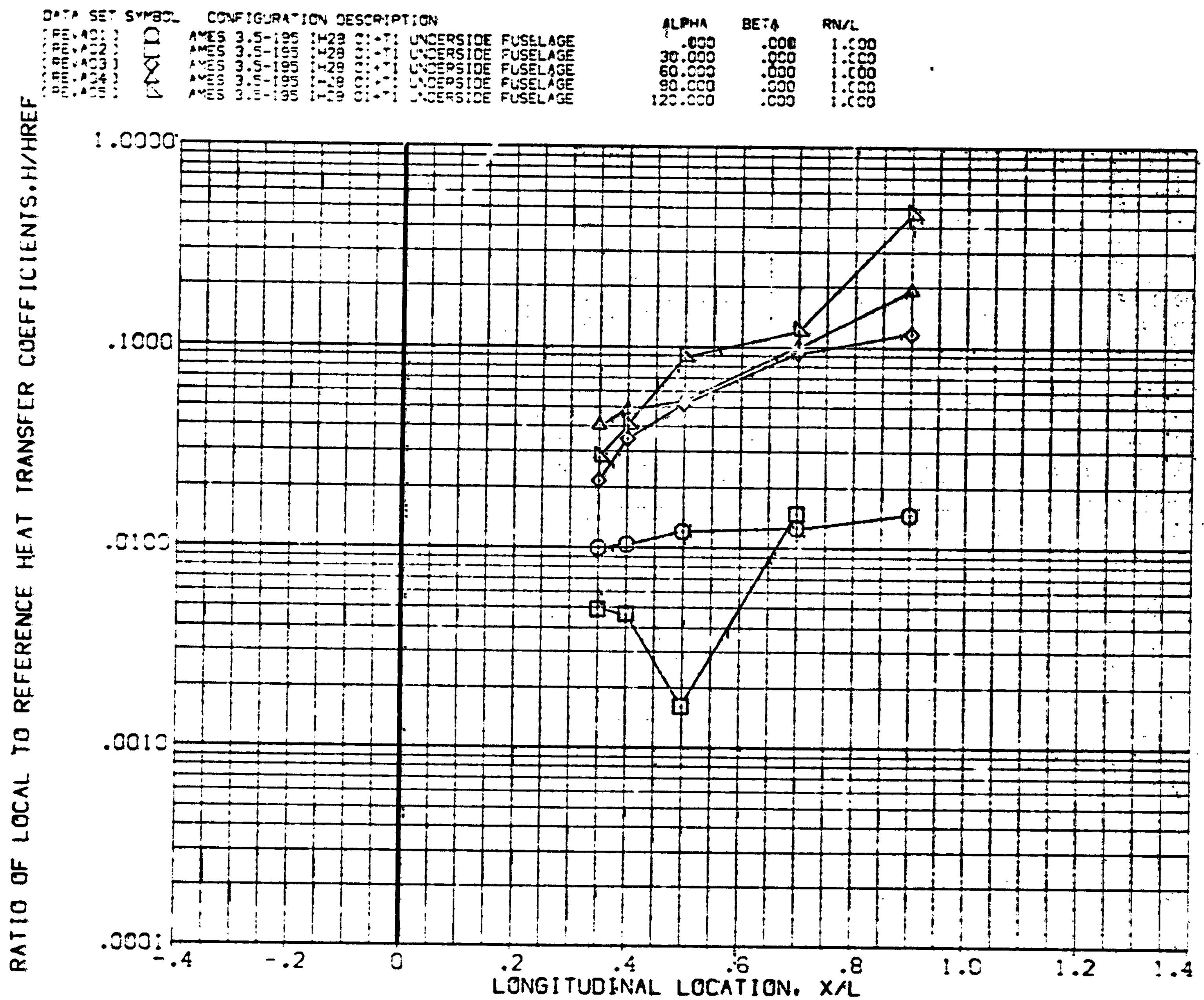


FIG. 8 ORBITER UNDERSIDE FUSELAGE, ORBITER IN THE PRESENCE OF THE TANK

MACH = 5.300 HAW/HT= .900 BP = 117.000

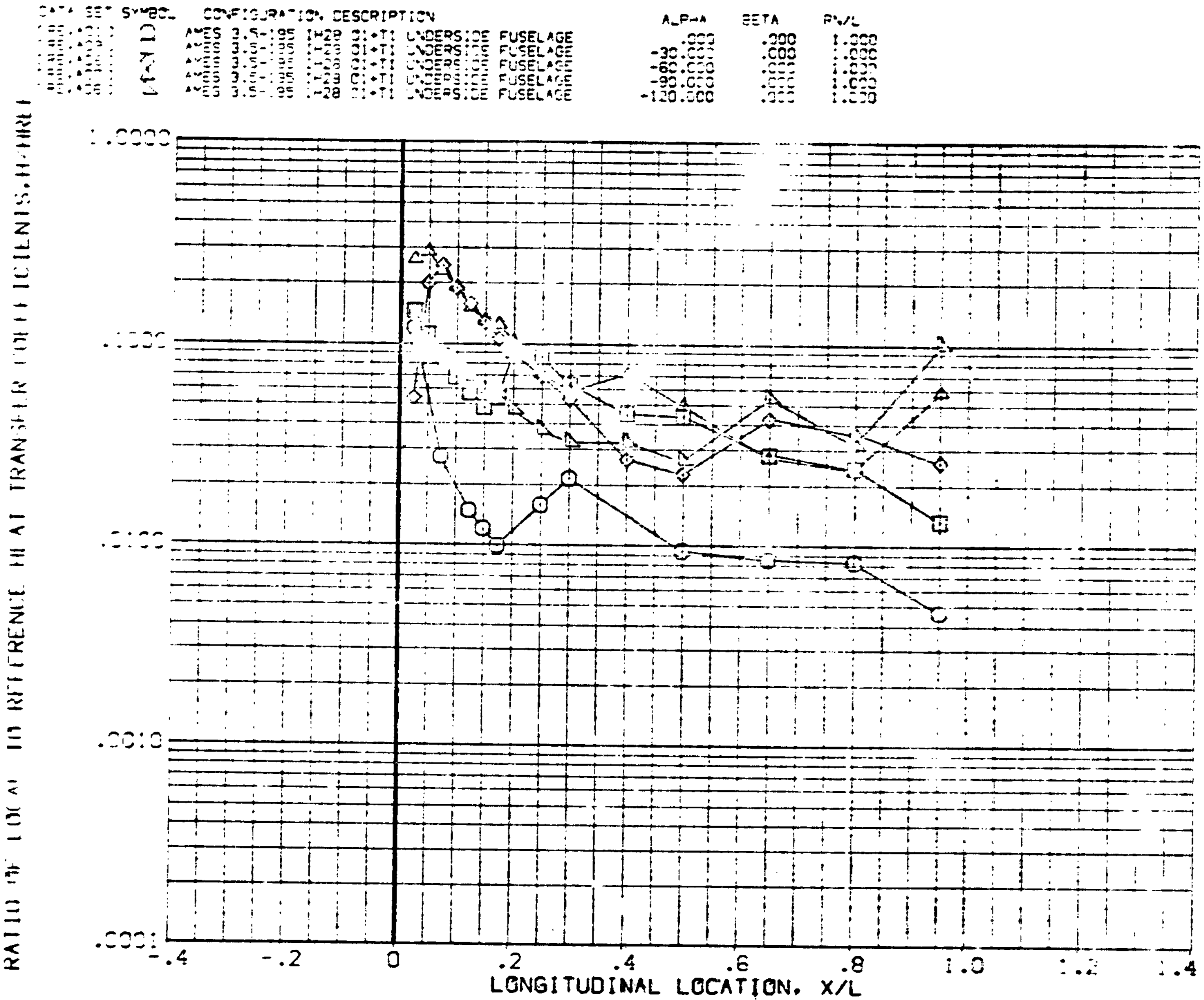


FIG. 8 ORBITER UNDERSIDE FUSELAGE, ORBITER IN THE PRESENCE OF THE TANK

MACH = 5.300 HAW/HT= .900 BP = .000

REPRODUCIBILITY OF THE ORIGINAL PAGE IS POOR

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	RN/L
(RE1401)	○	AMES 3.5-195 IH28 OI+TI UNDERSIDE FUSELAGE	.000	.000	1.000
(RE1409)	□	AMES 3.5-195 IH28 OI+TI UNDERSIDE FUSELAGE	-30.000	.000	1.000
(RE1408)	◇	AMES 3.5-195 IH28 OI+TI UNDERSIDE FUSELAGE	-60.000	.000	1.000
(RE1407)	△	AMES 3.5-195 IH28 OI+TI UNDERSIDE FUSELAGE	-90.000	.000	1.000
(RE1406)	◺	AMES 3.5-195 IH28 OI+TI UNDERSIDE FUSELAGE	-120.000	.000	1.000

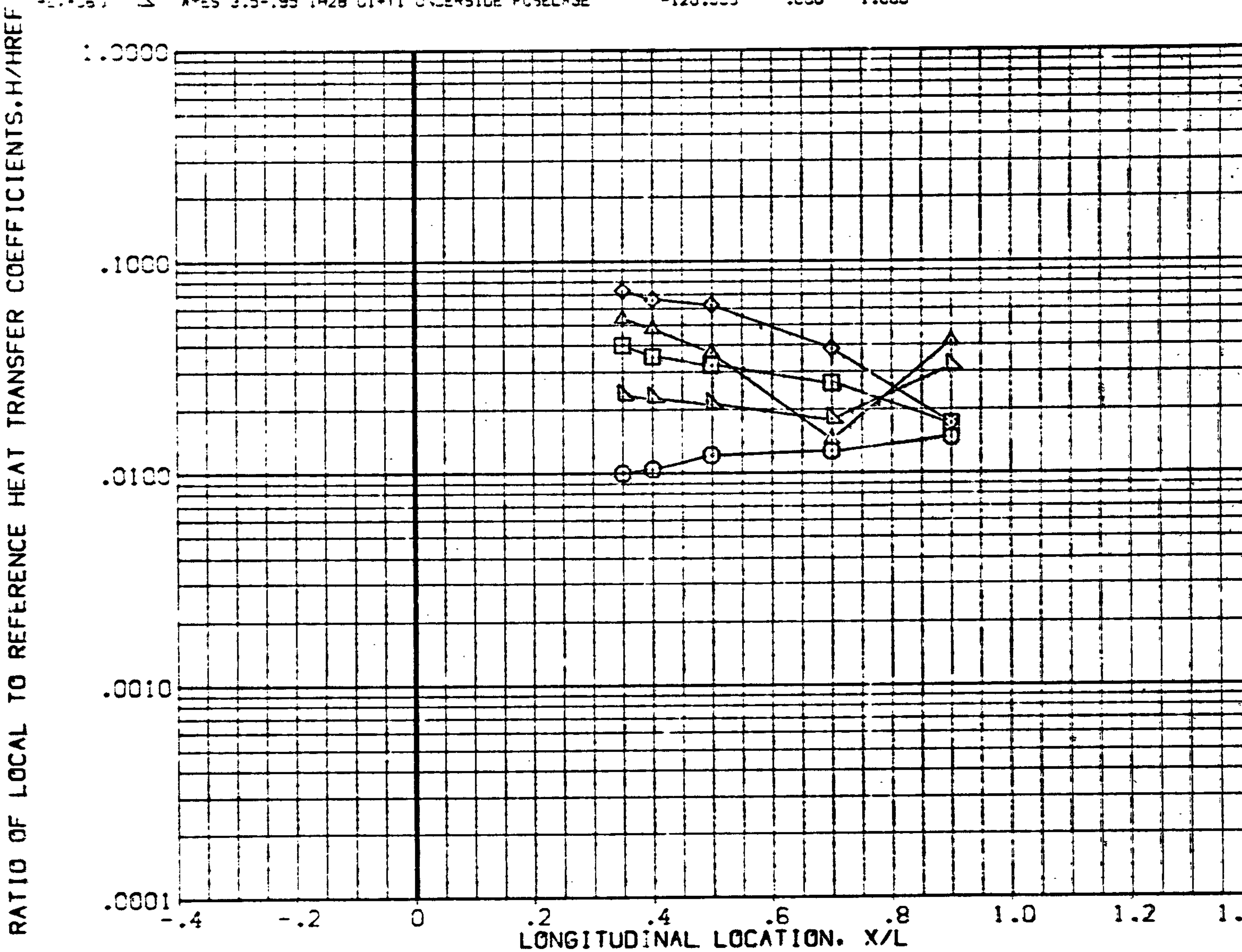


FIG. 8 ORBITER UNDERSIDE FUSELAGE, ORBITER IN THE PRESENCE OF THE TANK

MACH = 5.300 HAW/HT= .900 BP = 117.000

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	RN/L
(RE.A02) ⊙	AMES 3.5-195 IH28 C1+T1 UNDERSIDE FUSELAGE	30.000	.000	1.000
(RE.A11) □	AMES 3.5-195 IH28 C1+T1 UNDERSIDE FUSELAGE	30.000	.000	4.000
(RE.A03) ◇	AMES 3.5-195 IH28 C1+T1 UNDERSIDE FUSELAGE	60.000	.000	1.000
(RE.A10) △	AMES 3.5-195 IH28 C1+T1 UNDERSIDE FUSELAGE	60.000	.000	4.000

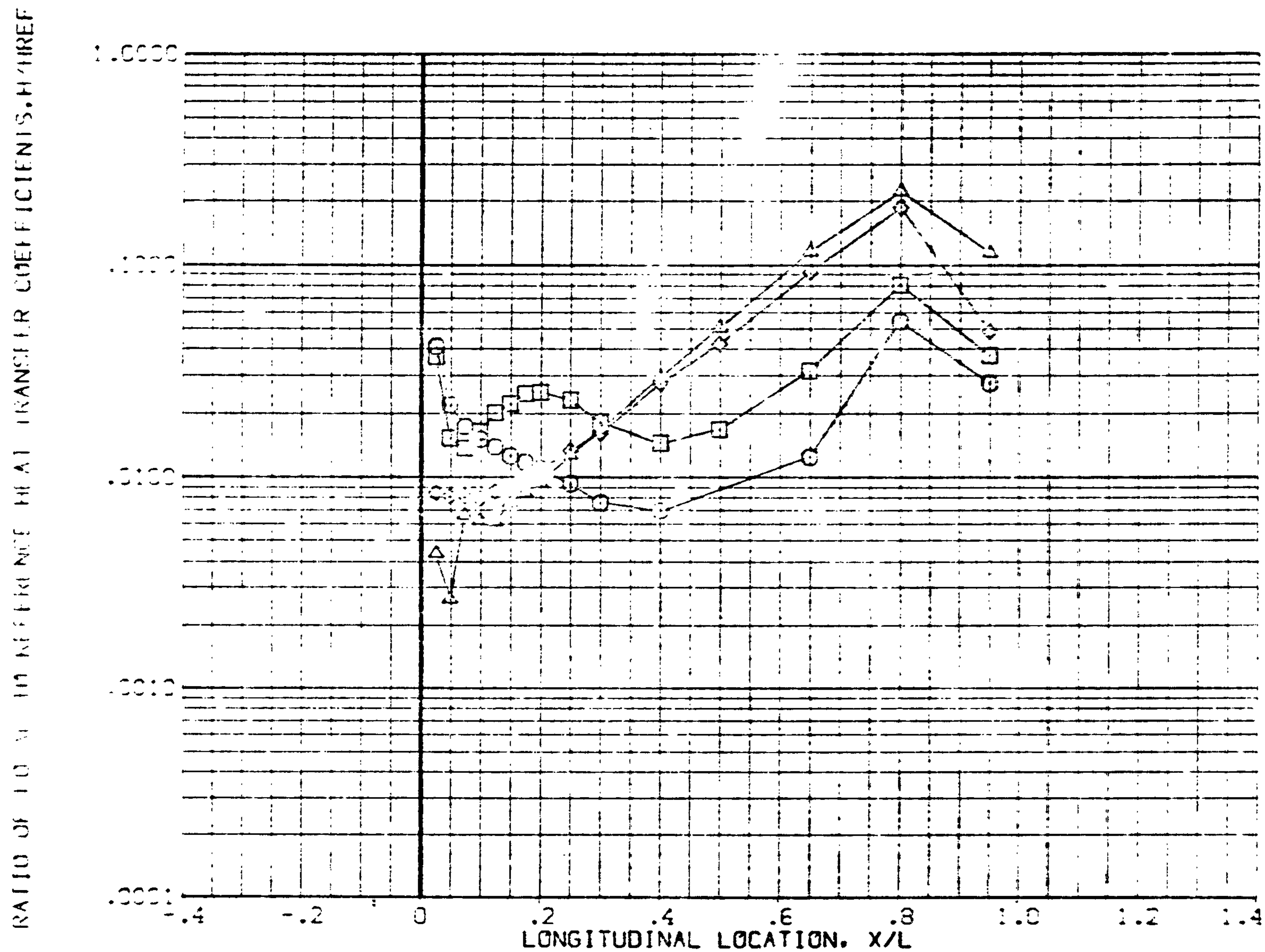


FIG. 8 ORBITER UNDERSIDE FUSELAGE, ORBITER IN THE PRESENCE OF THE TANK

MACH = 5.300 HAW/HT= .900 BP = .000

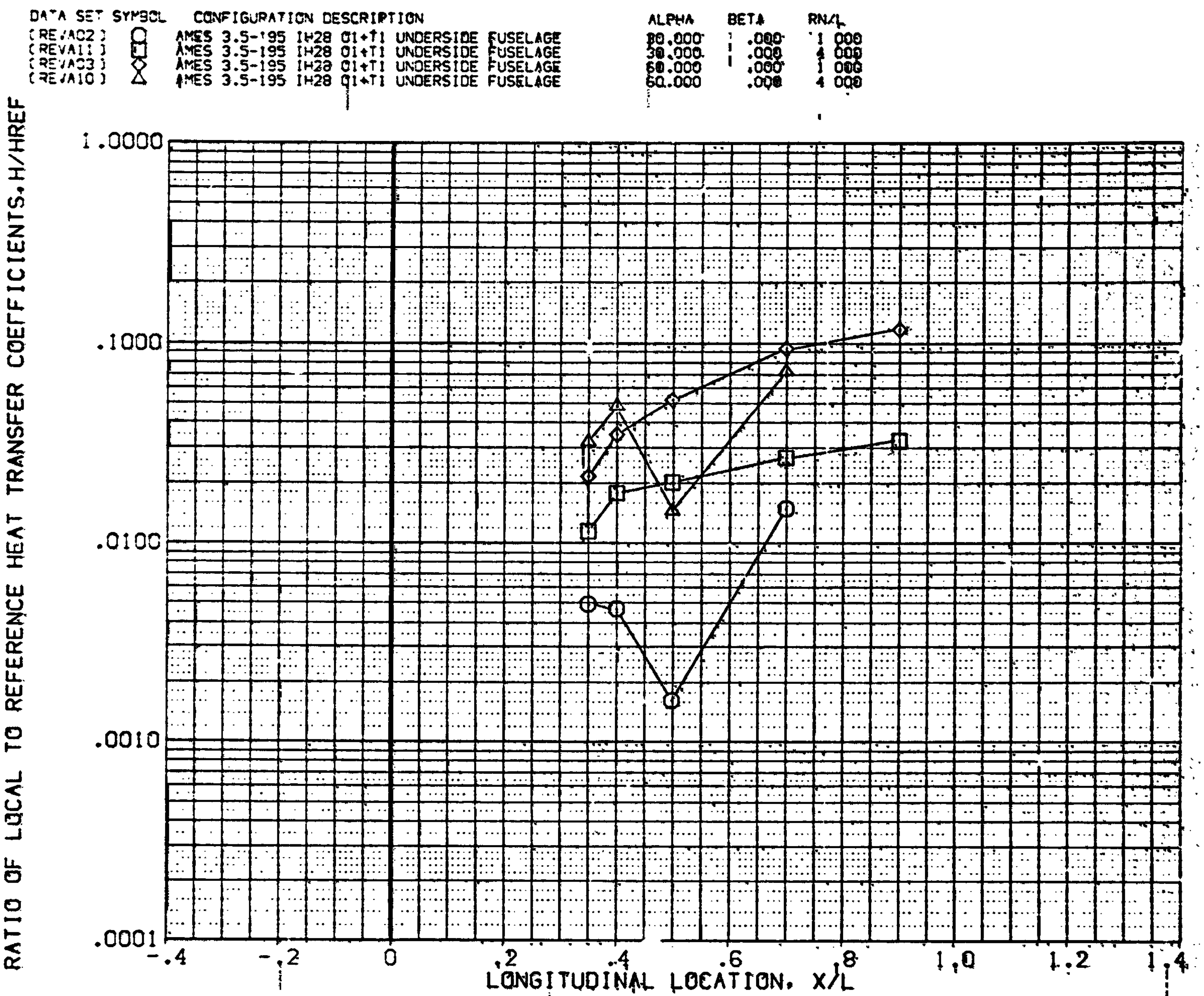


FIG. 8 ORBITER UNDERSIDE FUSELAGE, ORBITER IN THE PRESENCE OF THE TANK

MACH = 5.300 HAW/HT= .900 BP = 117.000

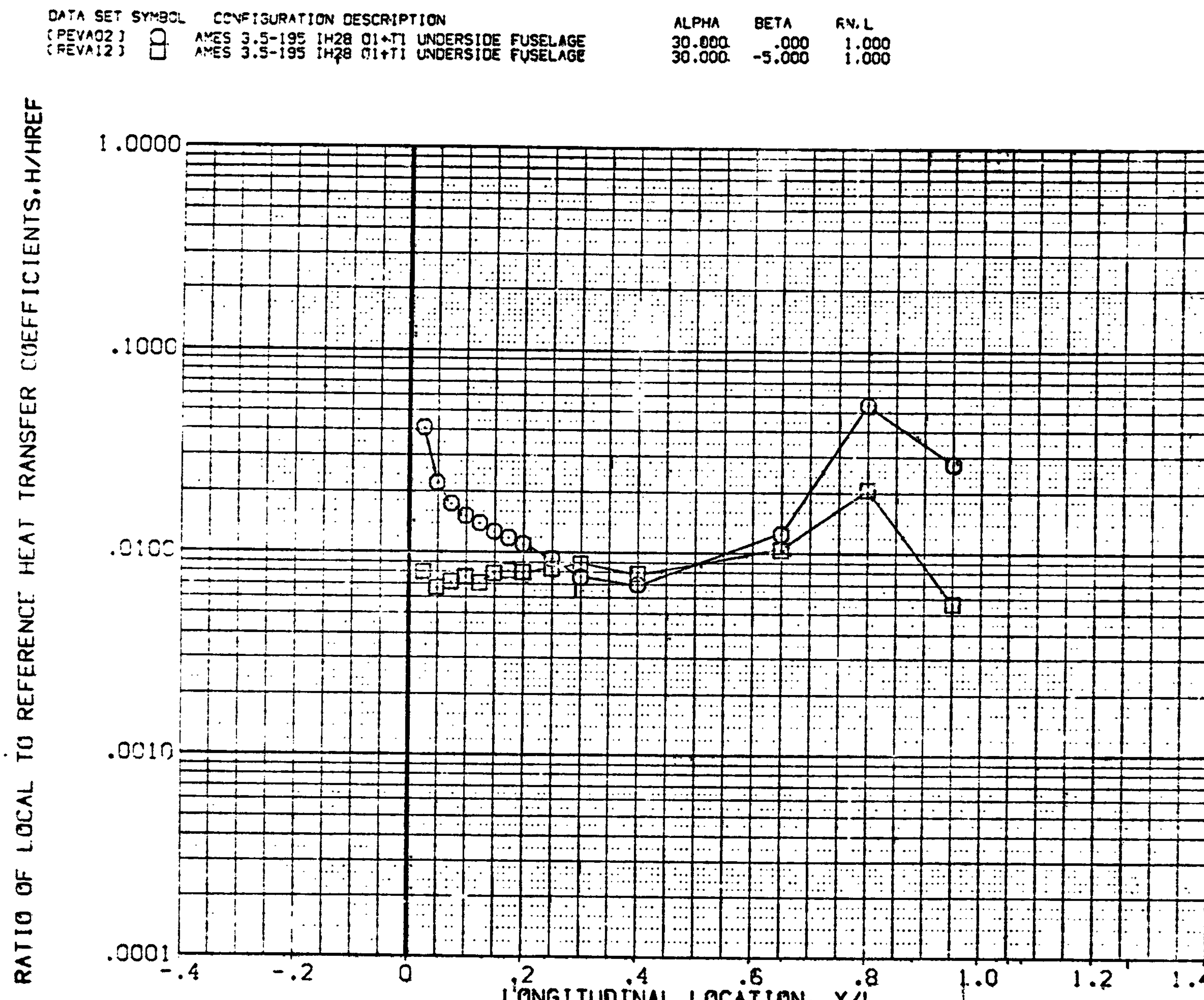


FIG. 8 ORBITER UNDERSIDE FUSELAGE, ORBITER IN THE PRESENCE OF THE TANK

MACH = 5.300 HAW/HT= .900 BP = .000

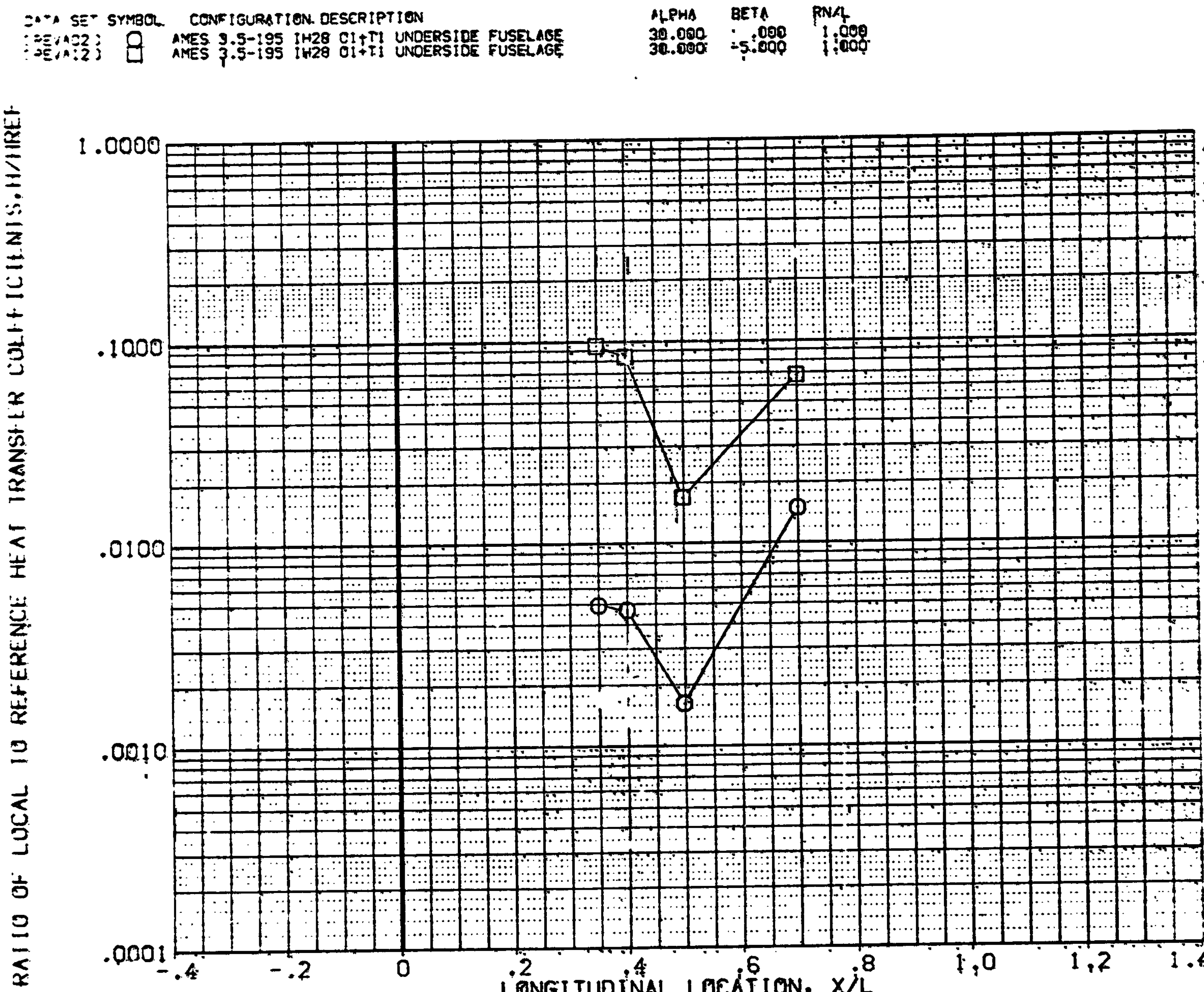


FIG. 8 ORBITER UNDERSIDE FUSELAGE, ORBITER IN THE PRESENCE OF THE TANK

MACH = 5.300 HAW/HT= .900 BP = 117.000

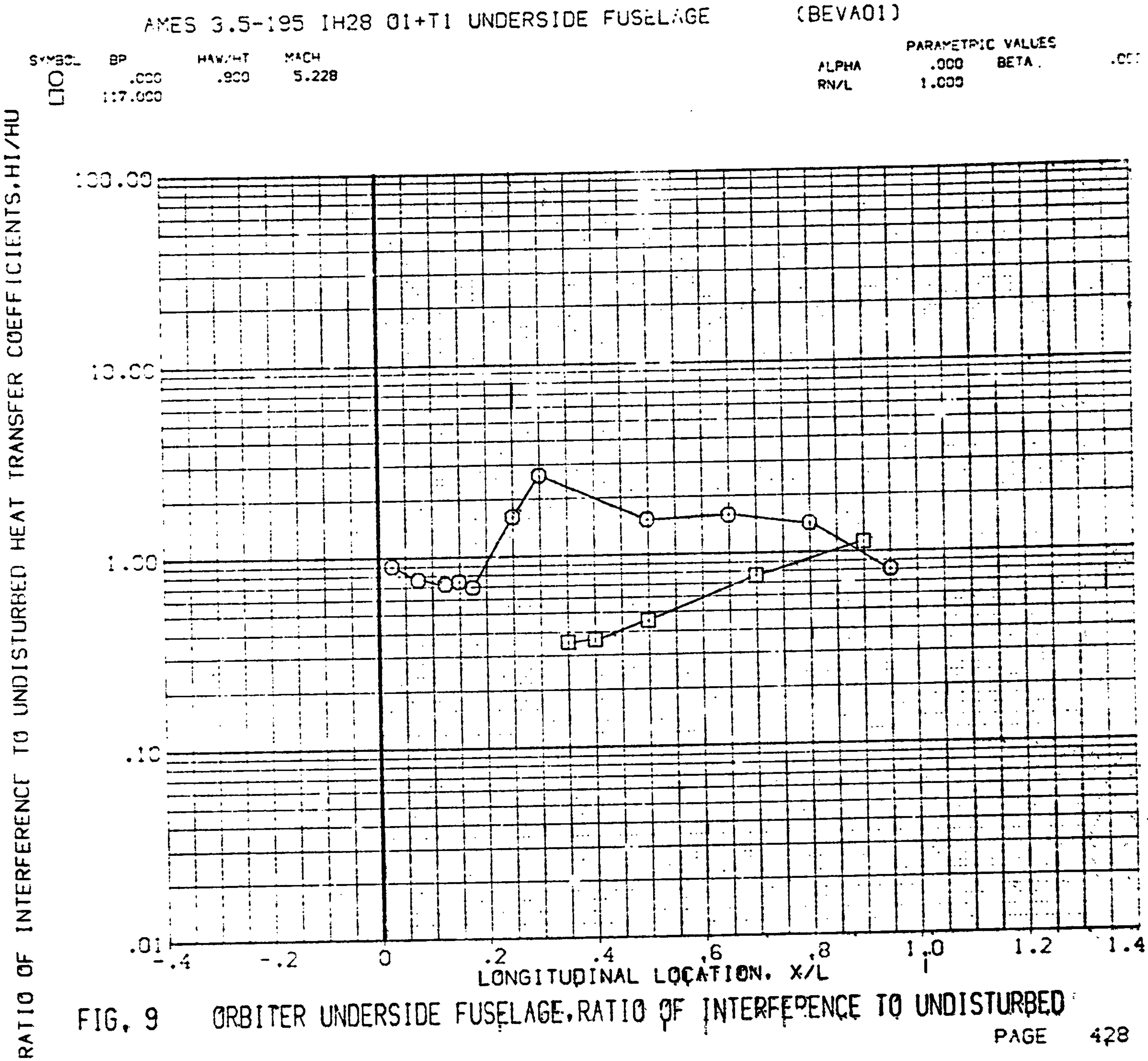


FIG. 9 ORBITER UNDERSIDE FUSELAGE, RATIO OF INTERFERENCE TO UNDISTURBED

AMES 3.5-195 IH28 O1+T1 UNDERSIDE FUSELAGE (BEVAQ2)

SYMBOL	BP	HAW/HT	MACH
○	.000	.900	5.219
□	117.000		

PARAMETRIC VALUES

ALPHA 30.000 BETA .000

RN/L 1.000

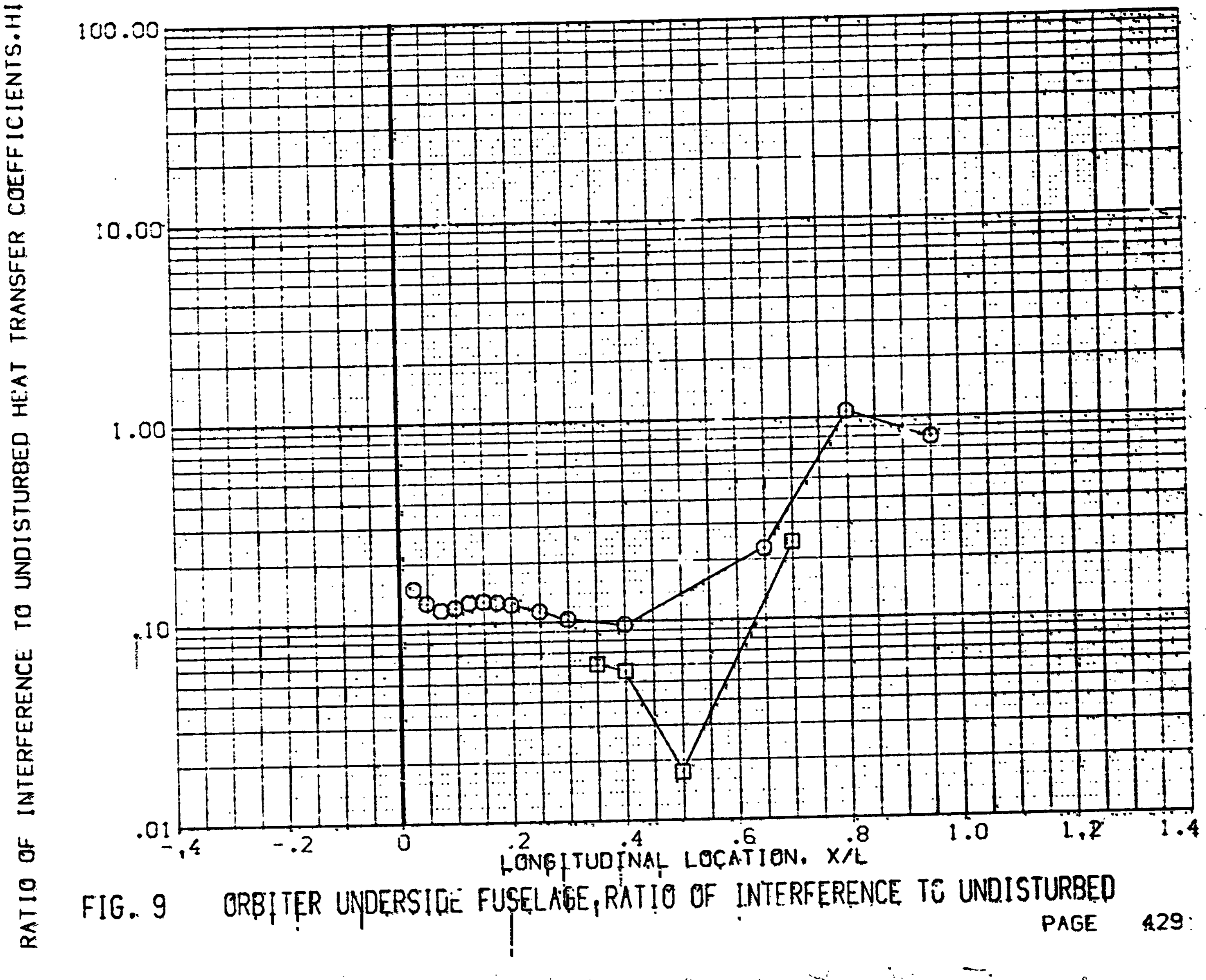


FIG. 9 ORBITER UNDERSIDE FUSELAGE, RATIO OF INTERFERENCE TO UNDISTURBED

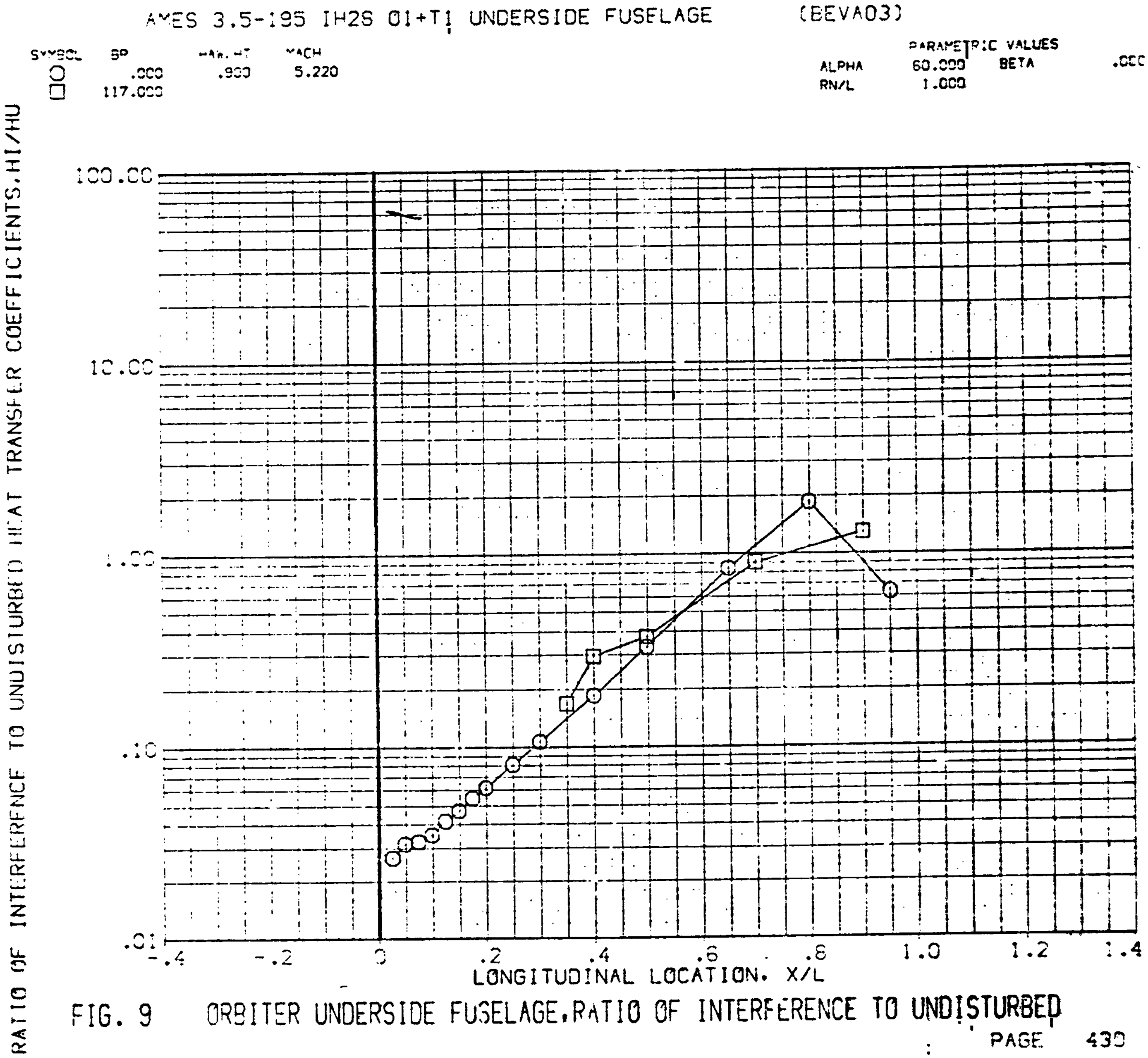


FIG. 9 ORBITER UNDERSIDE FUSELAGE,RATIO OF INTERFERENCE TO UNDISTURBED

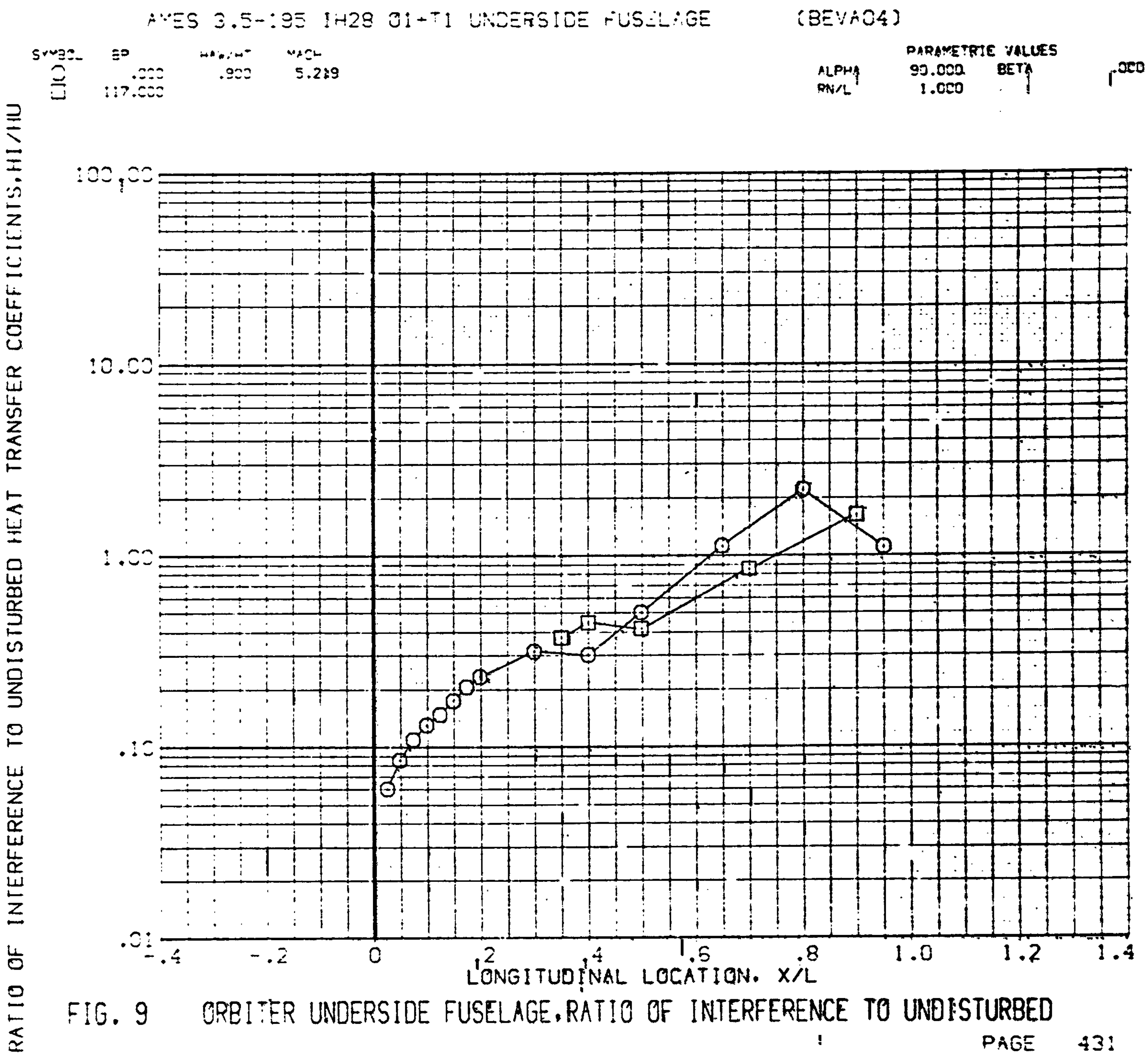


FIG. 9 ORBITER UNDERSIDE FUSELAGE, RATIO OF INTERFERENCE TO UNDISTURBED

AMES 3.5-195 IH28 O1+T1 UNDERSIDE FUSELAGE (BEVA05)

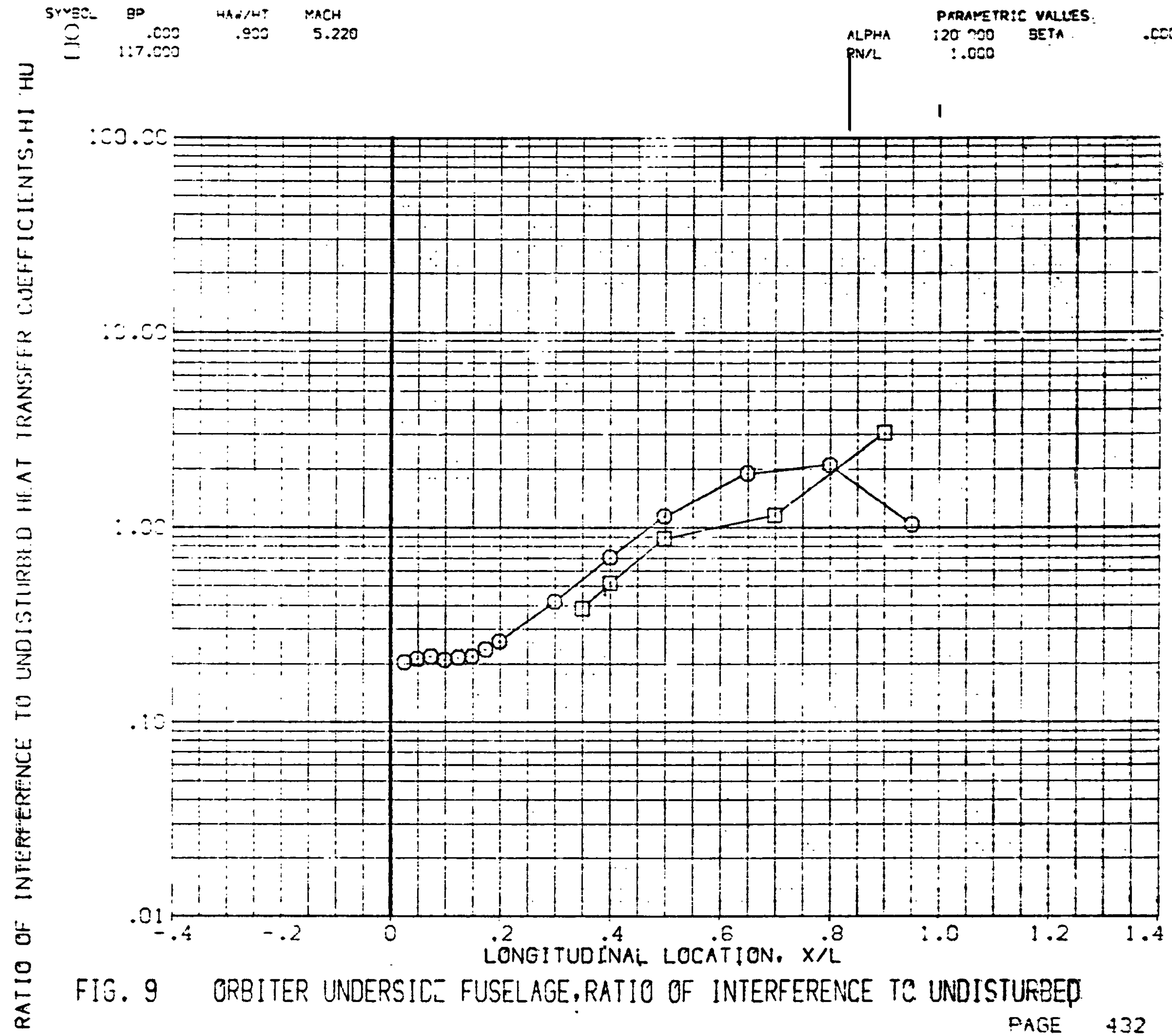


FIG. 9 ORBITER UNDERSIDE FUSELAGE,RATIO OF INTERFERENCE TO UNDISTURBED

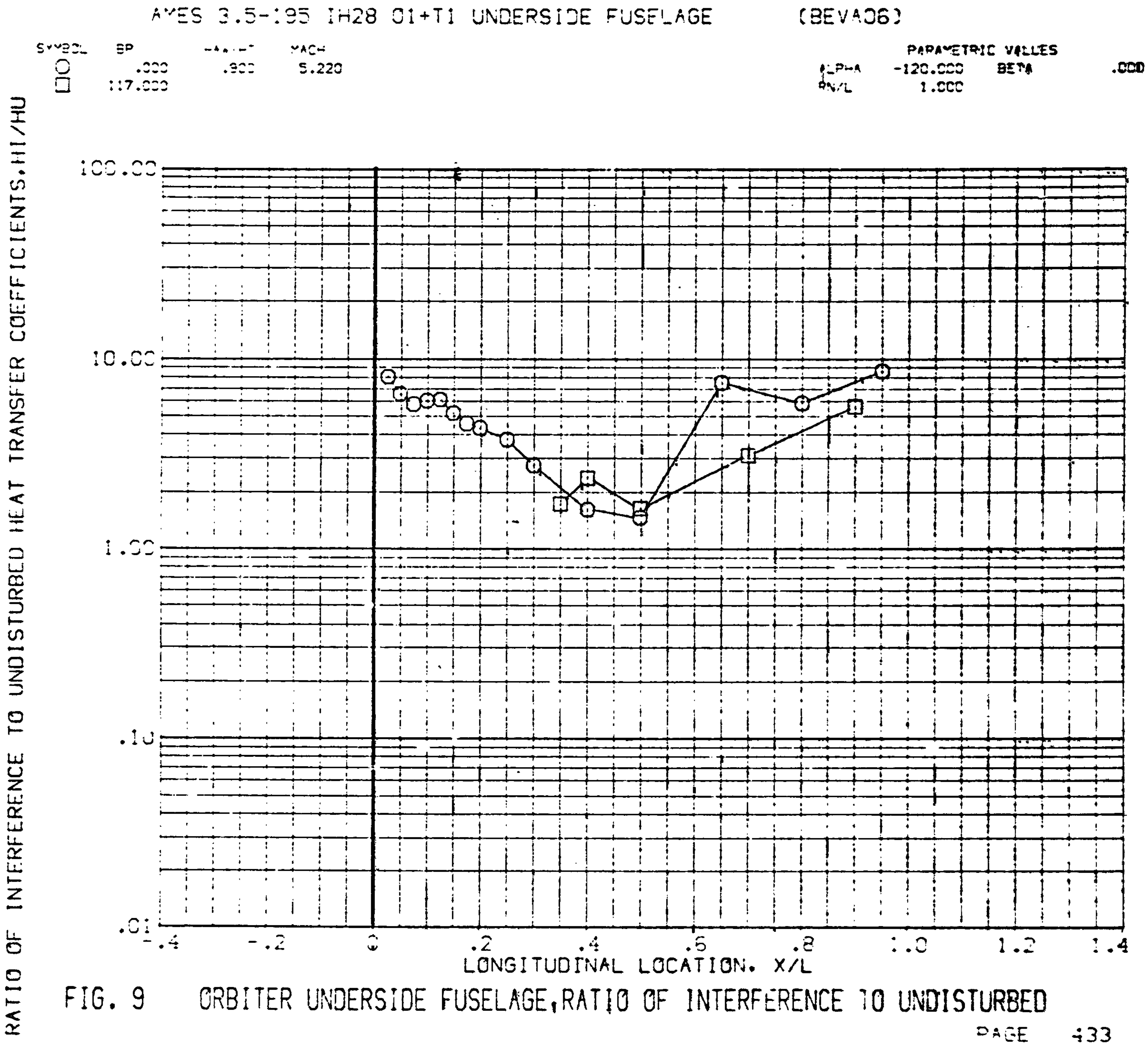


FIG. 9 ORBITER UNDERSIDE FUSELAGE, RATIO OF INTERFERENCE TO UNDISTURBED

AMES 3.5-195 IH28 01+T1 UNDERSIDE FUSELAGE (BEVAC7)

SYMBOL	BP	HAW/HT	MACH
○	.000	.900	5.219
□	117.000		

PARAMETRIC VALUES

ALPHA -90.000 BETA .000

RN/L 1.000

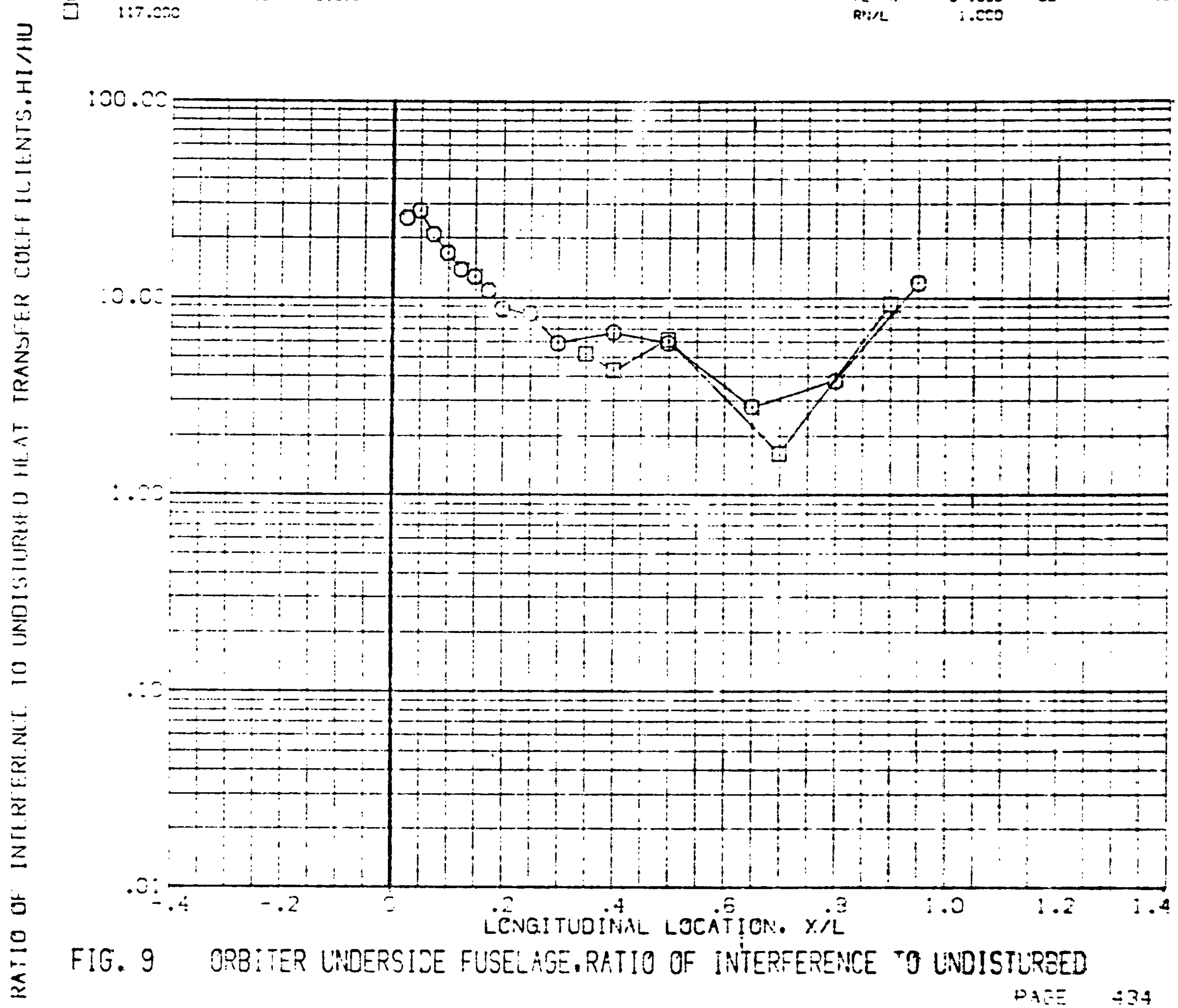


FIG. 9 ORBITER UNDERSIDE FUSELAGE, RATIO OF INTERFERENCE TO UNDISTURBED

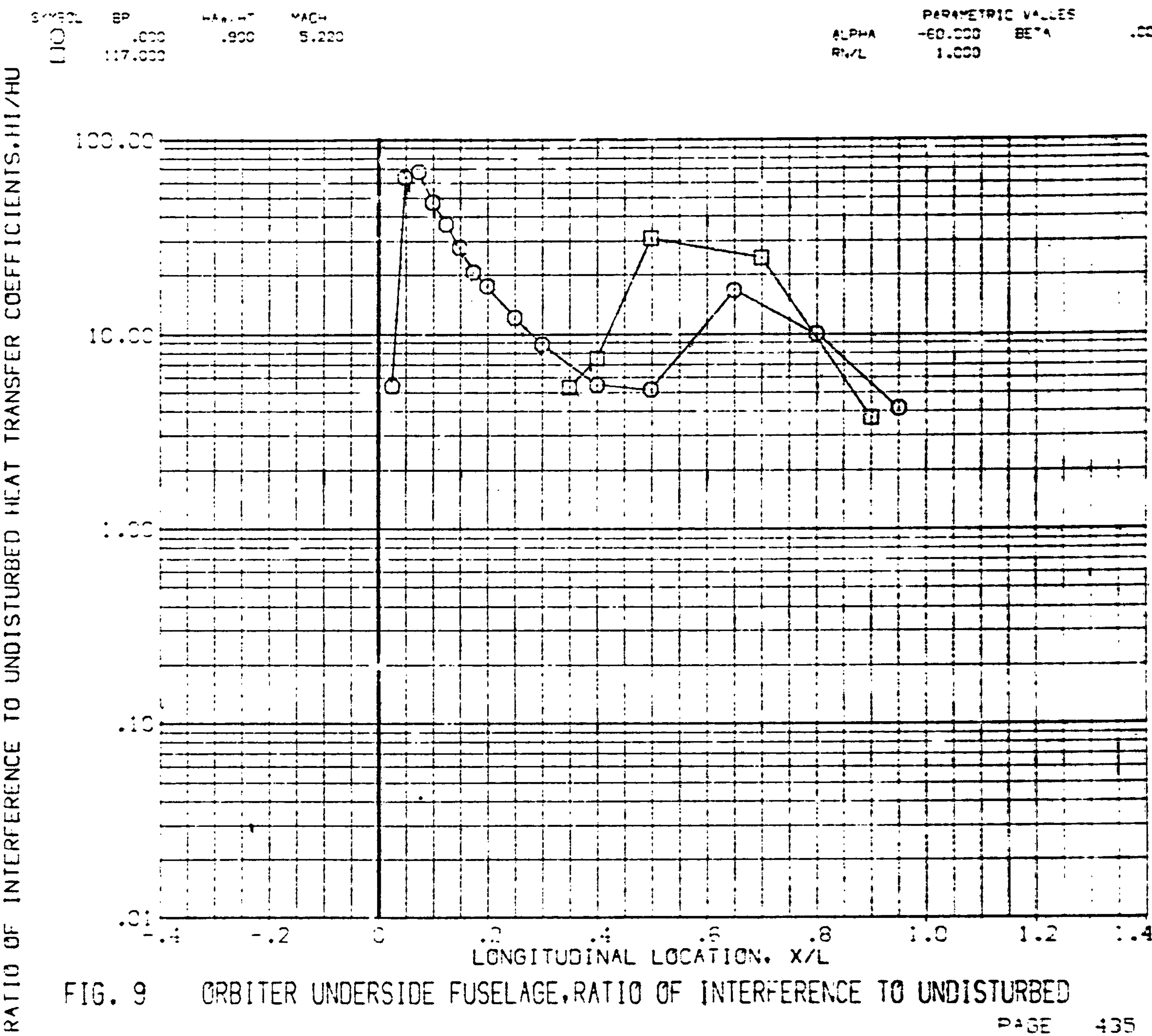


FIG. 9 ORBITER UNDERSIDE FUSELAGE,RATIO OF INTERFERENCE TO UNDISTURBED

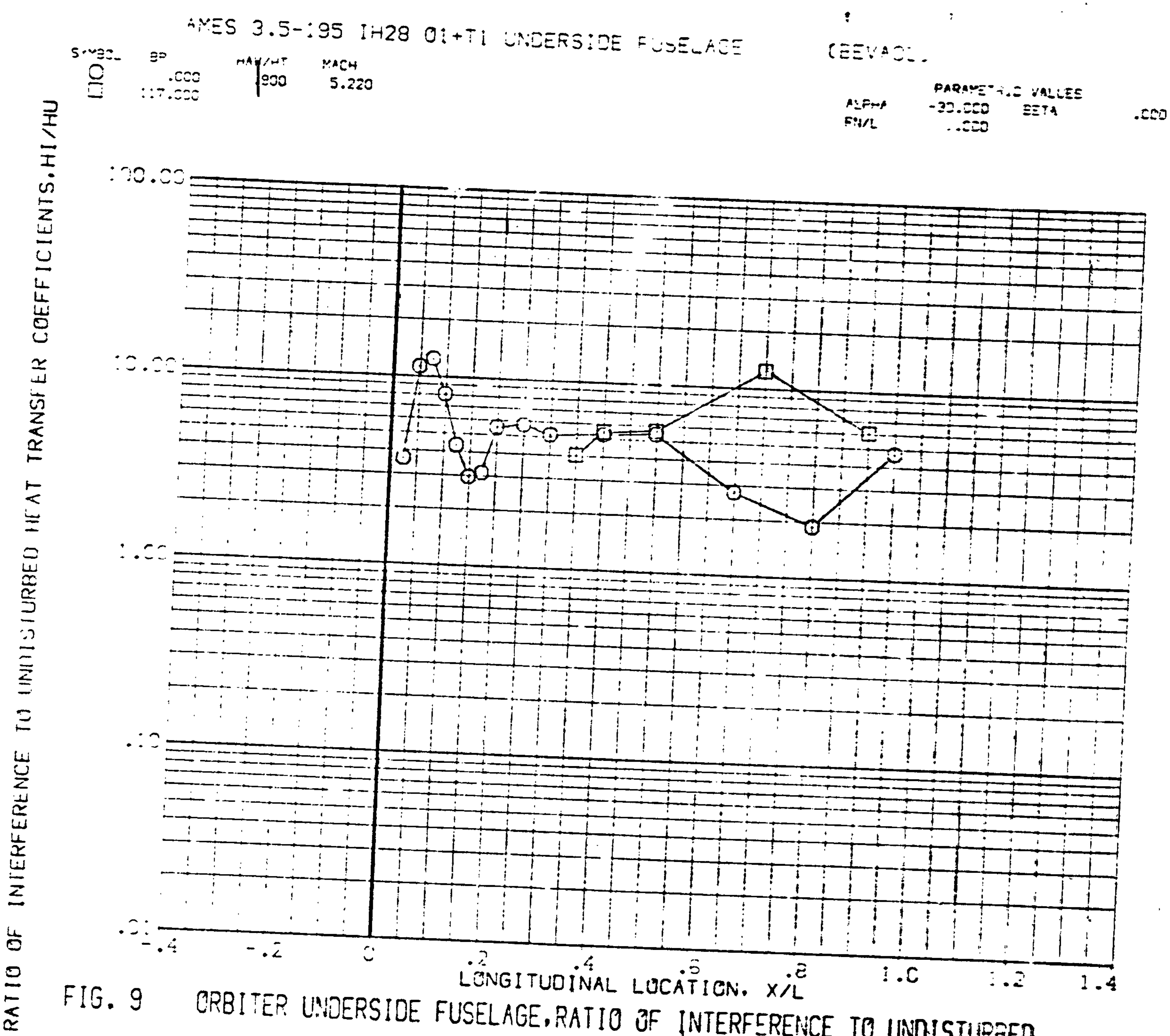


FIG. 9 ORBITER UNDERSIDE FUSELAGE, RATIO OF INTERFERENCE TO UNDISTURBED

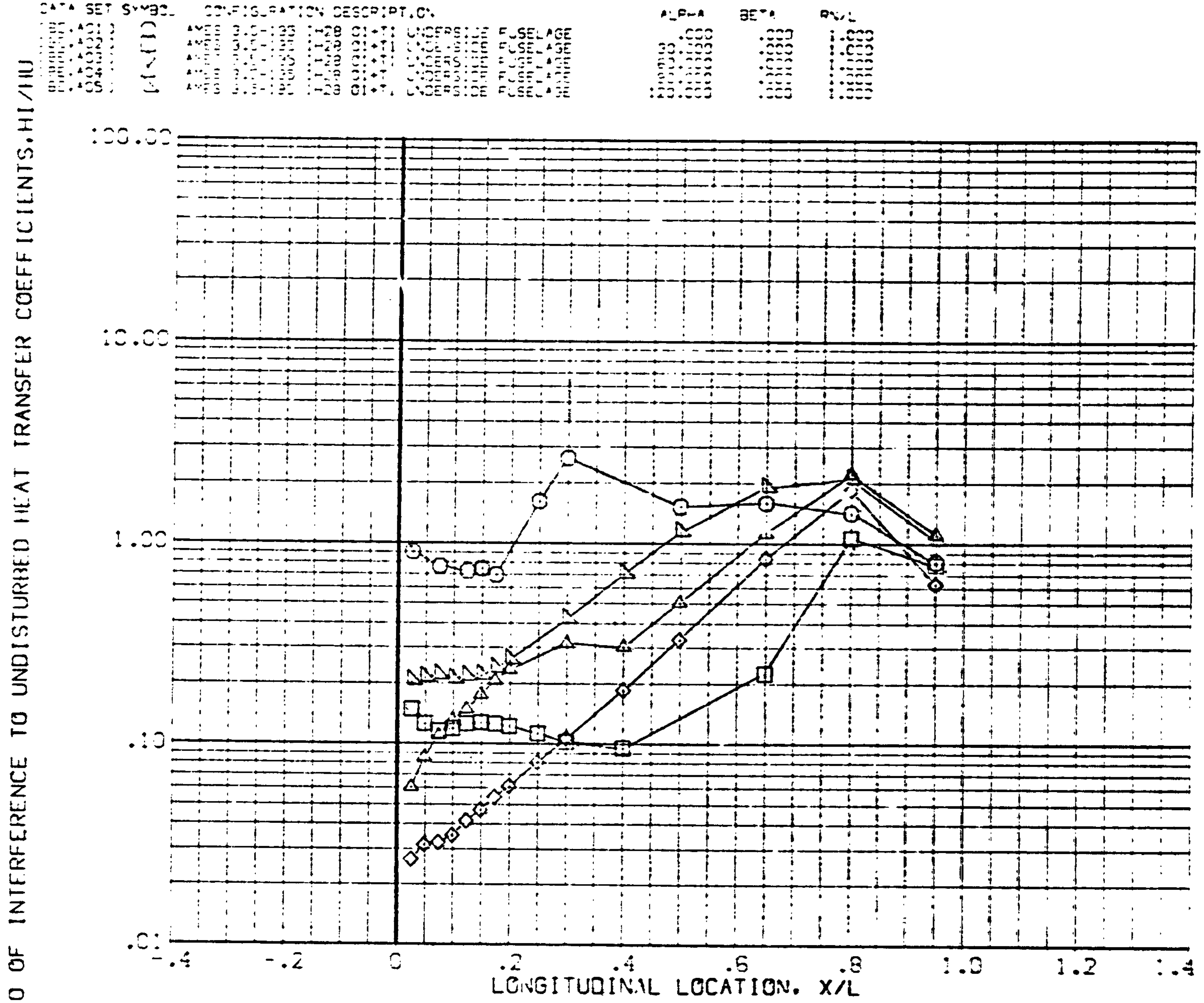


FIG. 9 ORBITER UNDERSIDE FUSELAGE.RATIO OF INTERFERENCE TO UNDISTURBED

MACH = 5.300 HAA/HT= .800 BP = .000

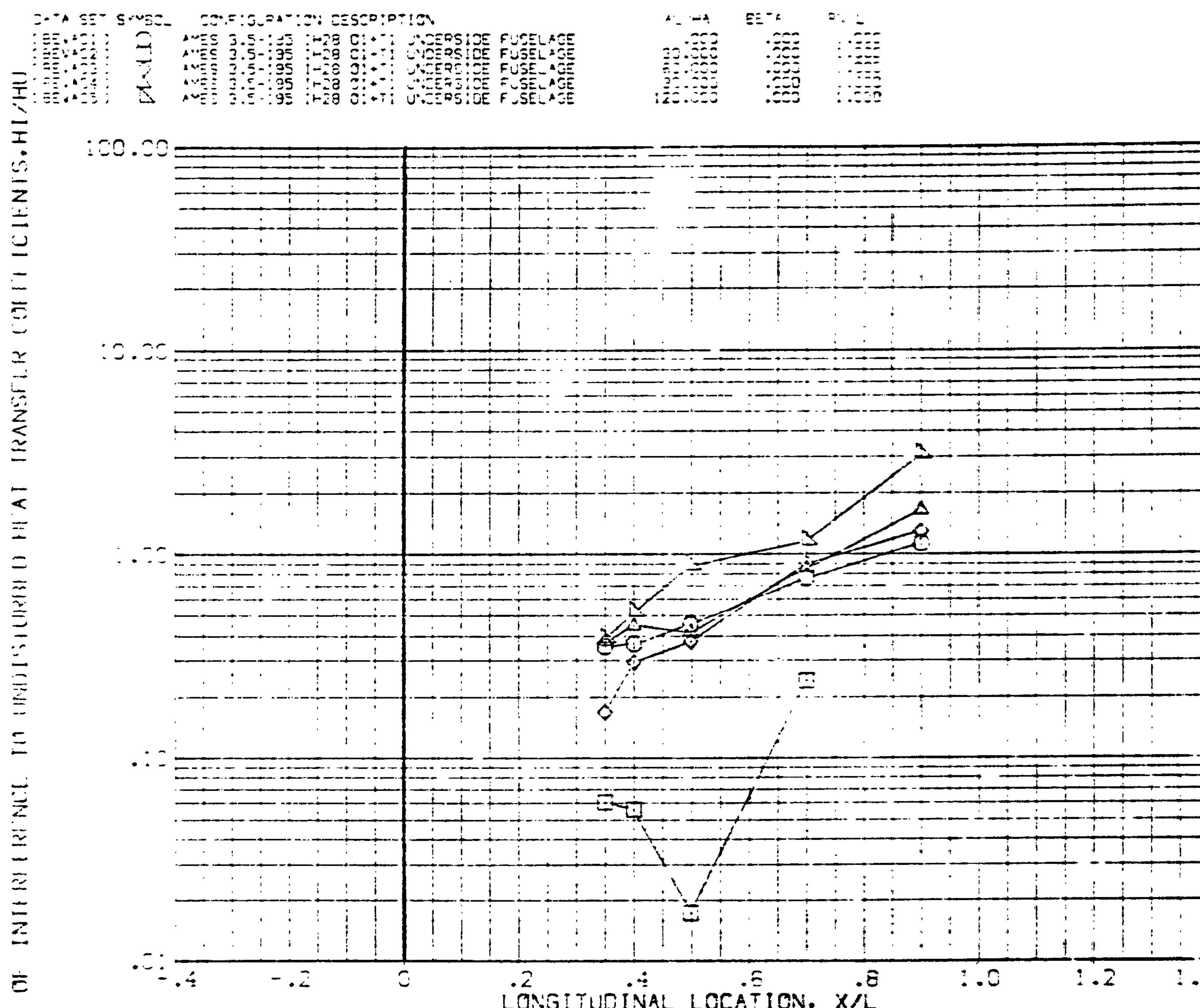


FIG. 9 ORBITER UNDERSIDE FUSELAGE,RATIO OF INTERFERENCE TO UNDISTURBED

MACH = 5.300 HAW/HT= .900 BP = 117.000 PAGE 438

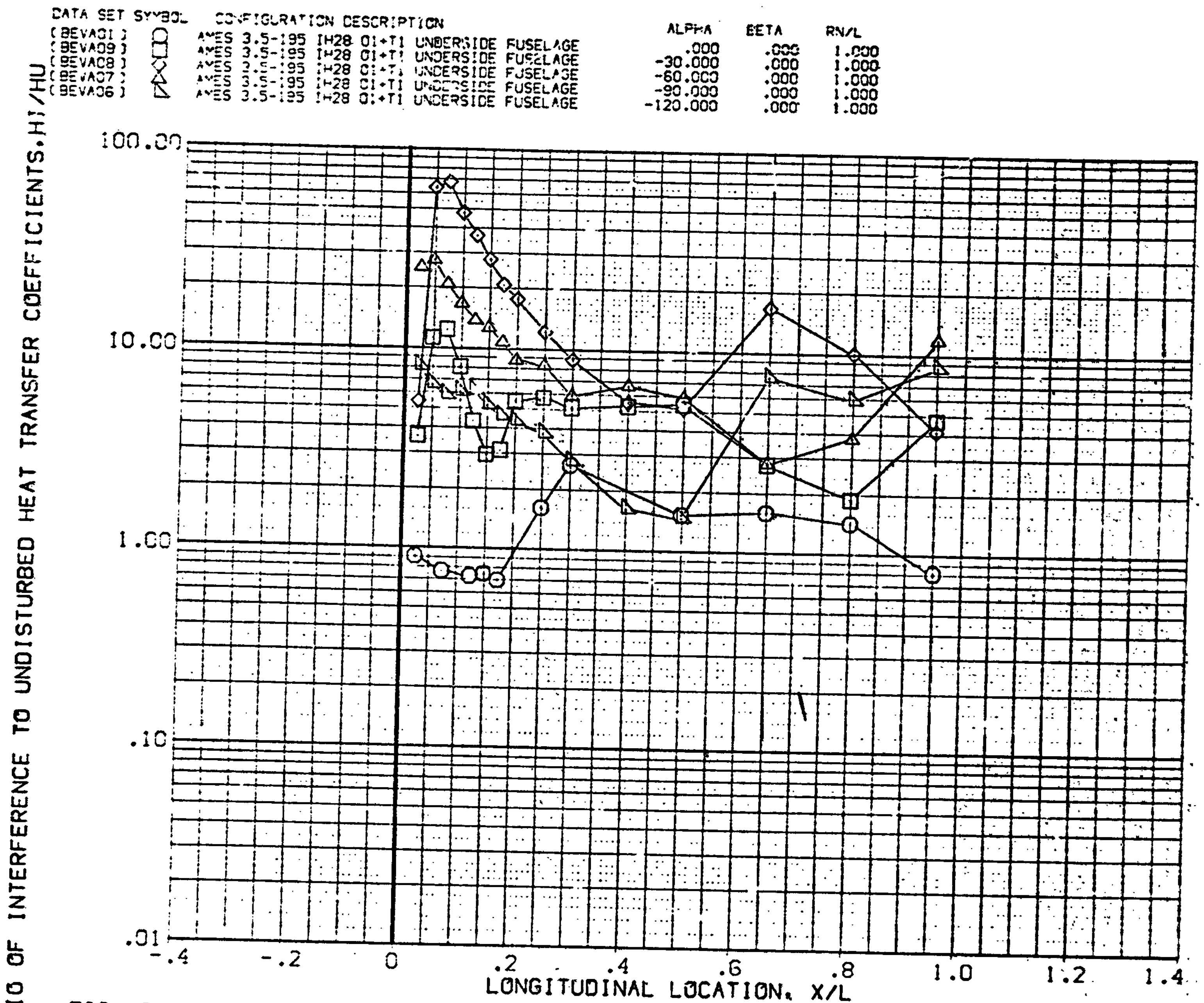


FIG. 9 ORBITER UNDERSIDE FUSELAGE, RATIO OF INTERFERENCE TO UNDISTURBED

MACH = 5.300 HAW/HT= .900 BP = .000

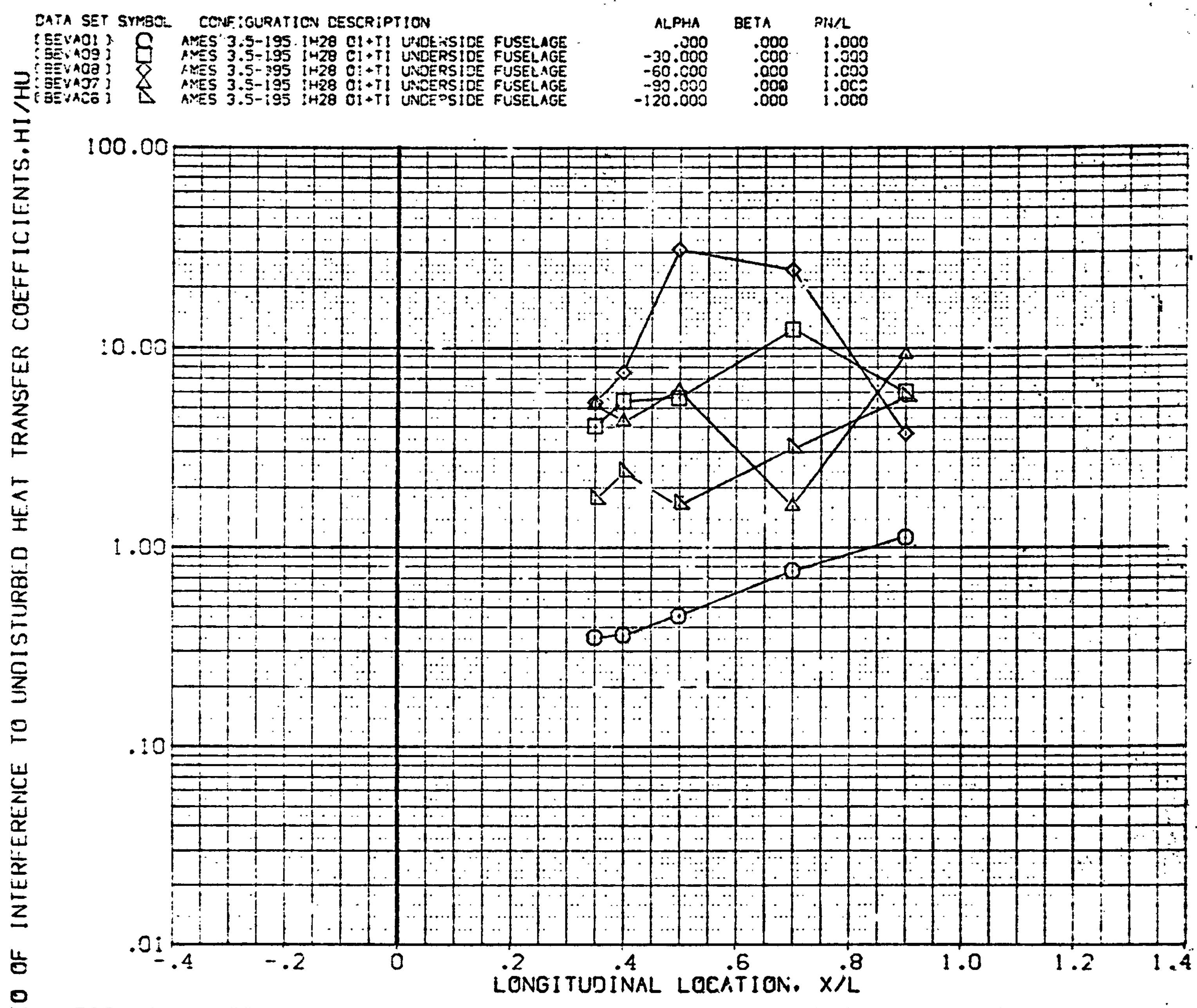


FIG. 9 ORBITER UNDERSIDE FUSELAGE, RATIO OF INTERFERENCE TO UNDISTURBED

MACH = 5.300 HAW/HT= .900 BP = 117.000

AMES 3.5-195 IH28 01 BODY SIDEWALL (REVB19)

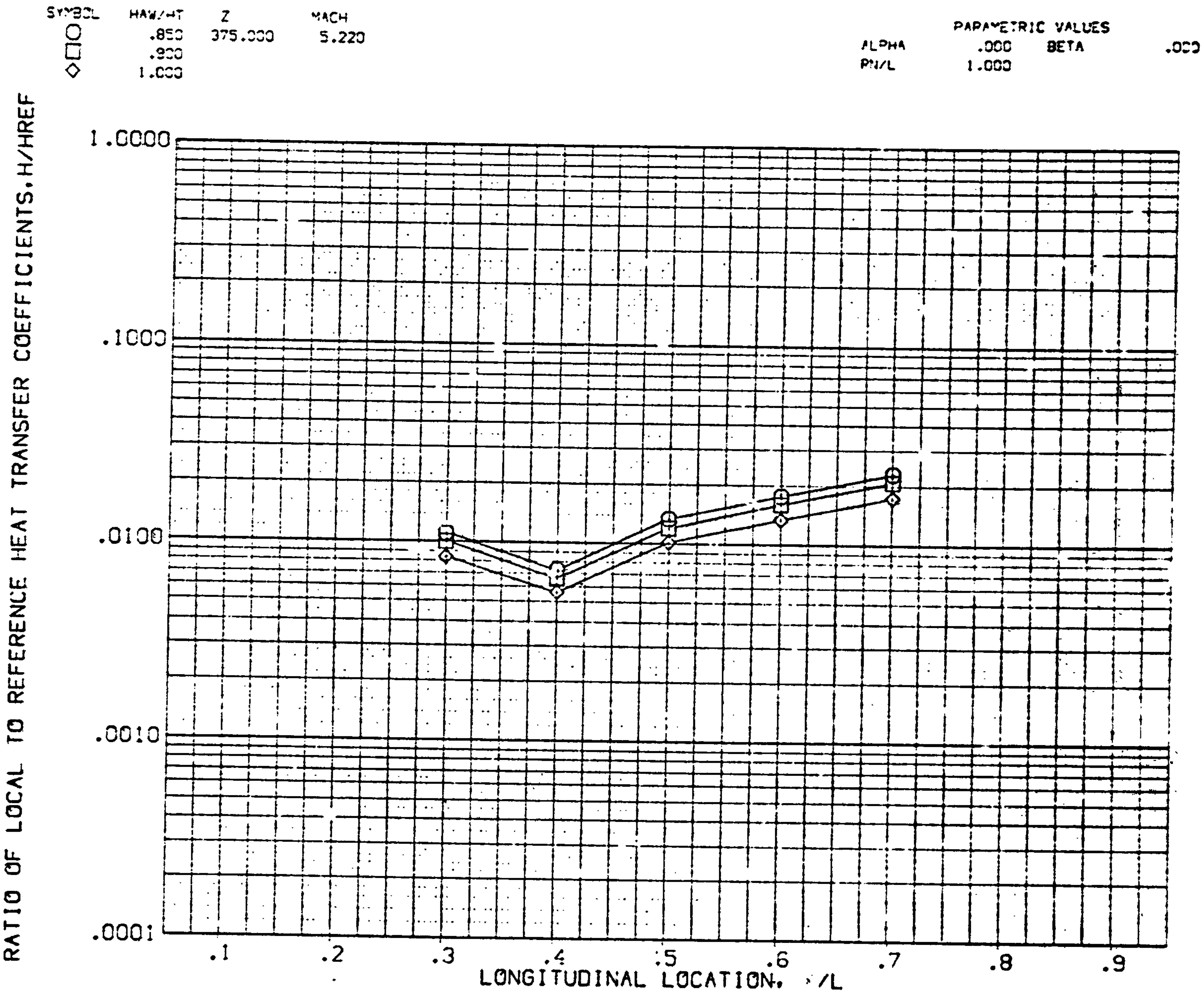


FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

AMES 3.5-195 IH28 01 BODY SIDEWALL (REVB19)

SYMBOL	HAW/HT	Z	MACH
○	.850	425.000	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA	.000	BETA	.000
RN/L	1.000		

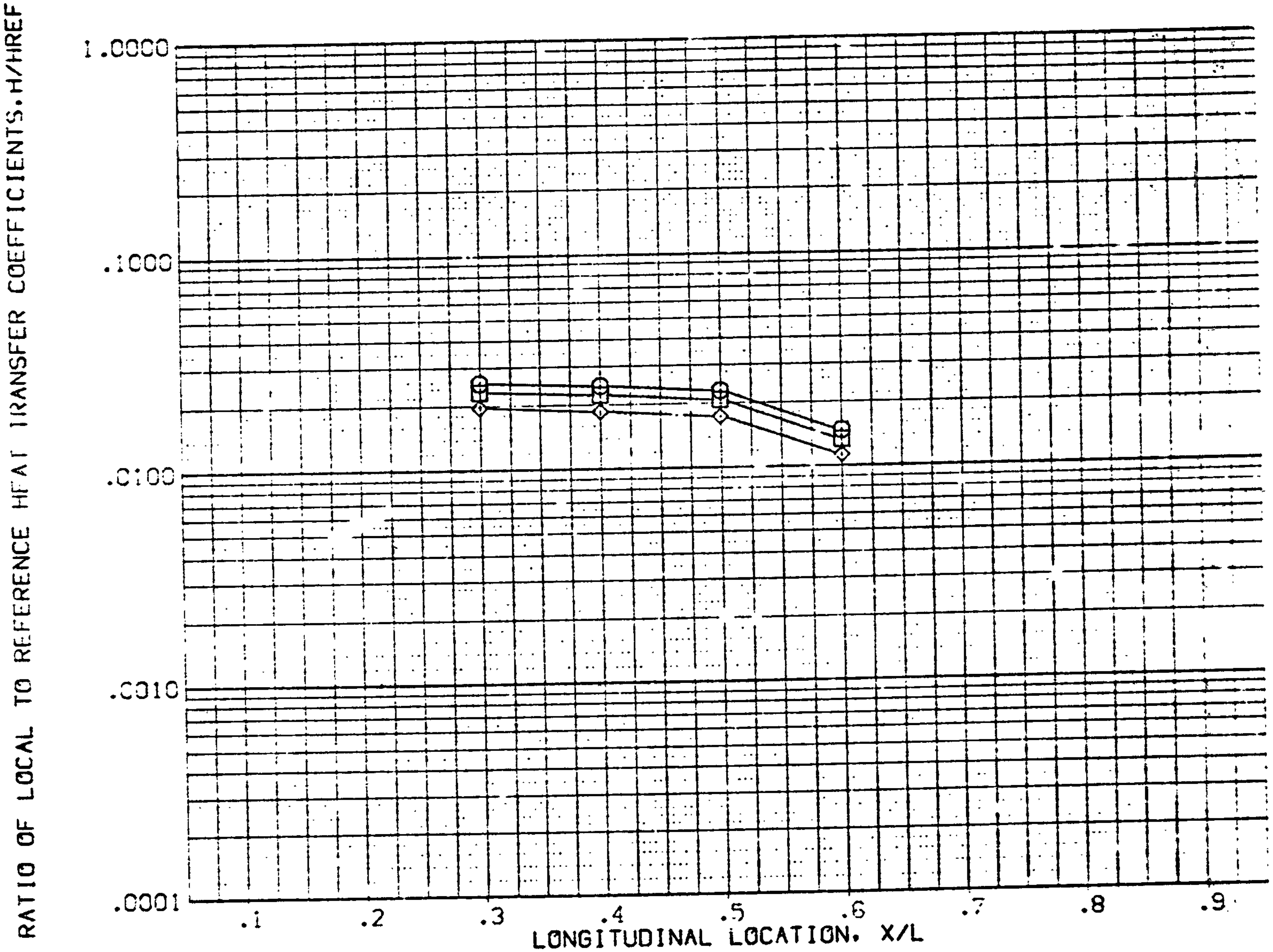


FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

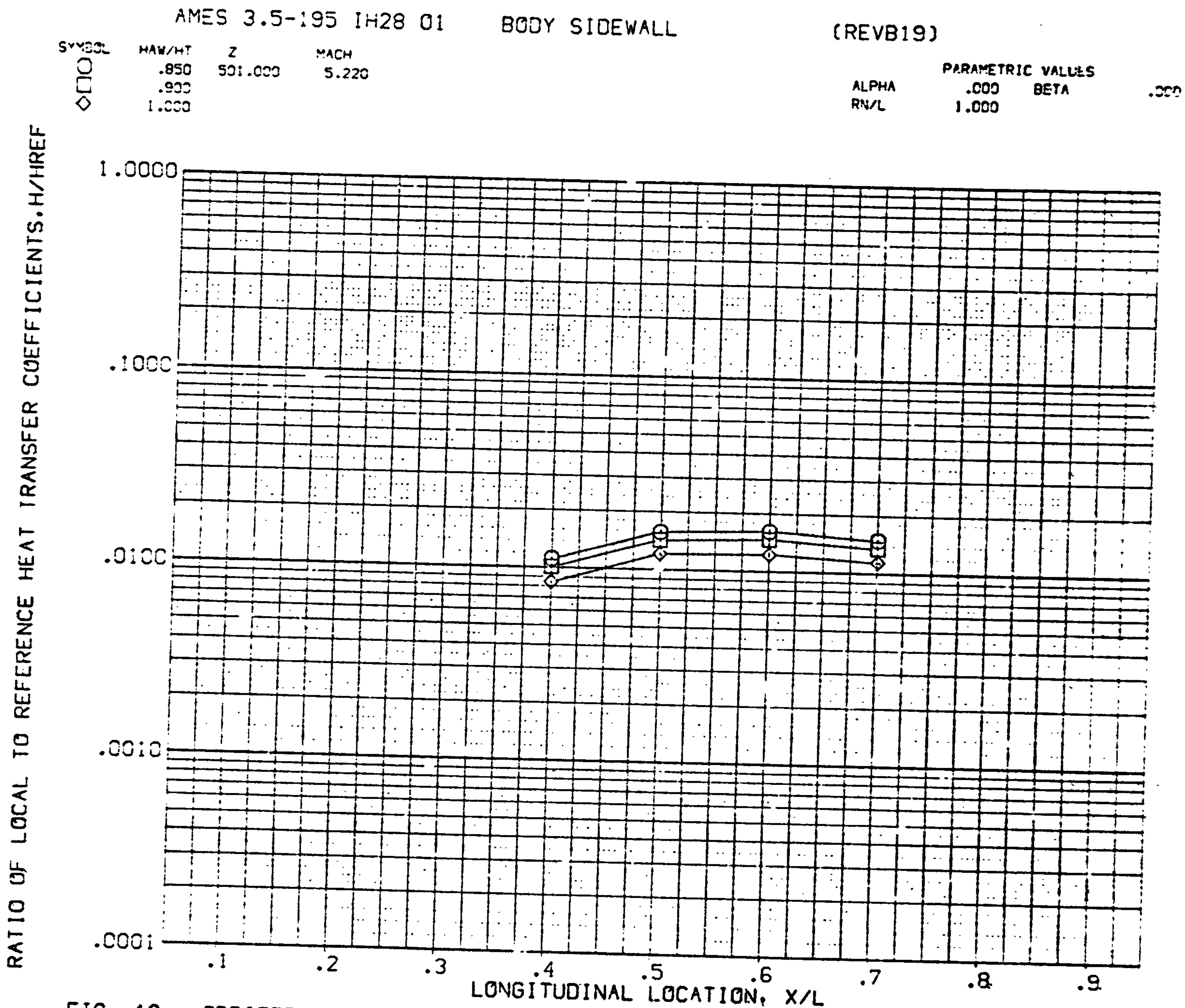


FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

AMES 3.5-195 IH28 01 BODY SIDEWALL (REVB20)

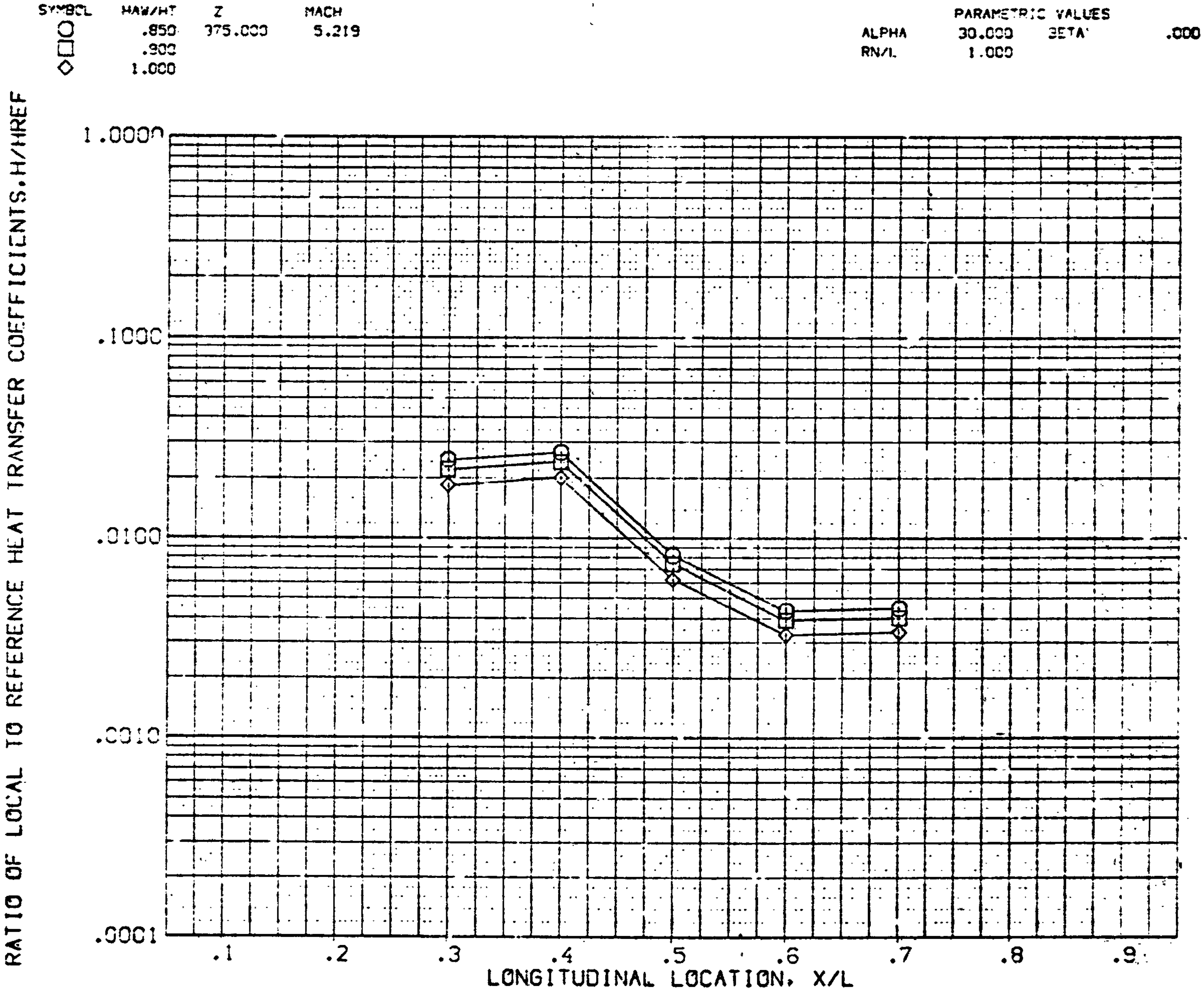


FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

AMES 3.5-195 IH28 01 BODY SIDEWALL (REVB20)

SYMBOL	HAW/HT	Z	MACH
○	.850	425.000	5.219
□	.900		
◇	1.000		

PARAMETRIC VALUES
ALPHA 30.000 BETA .000
RN/L 1.000

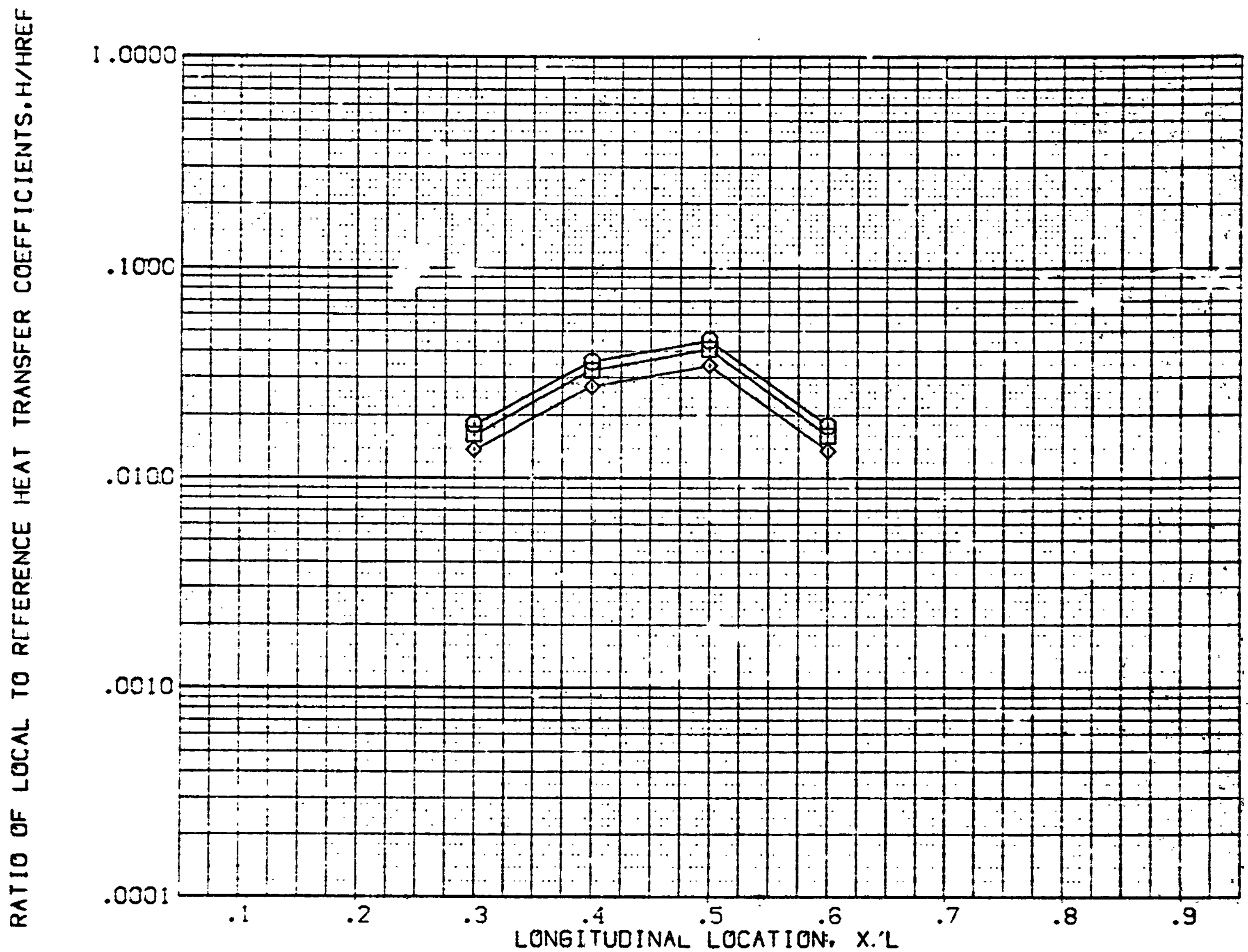


FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

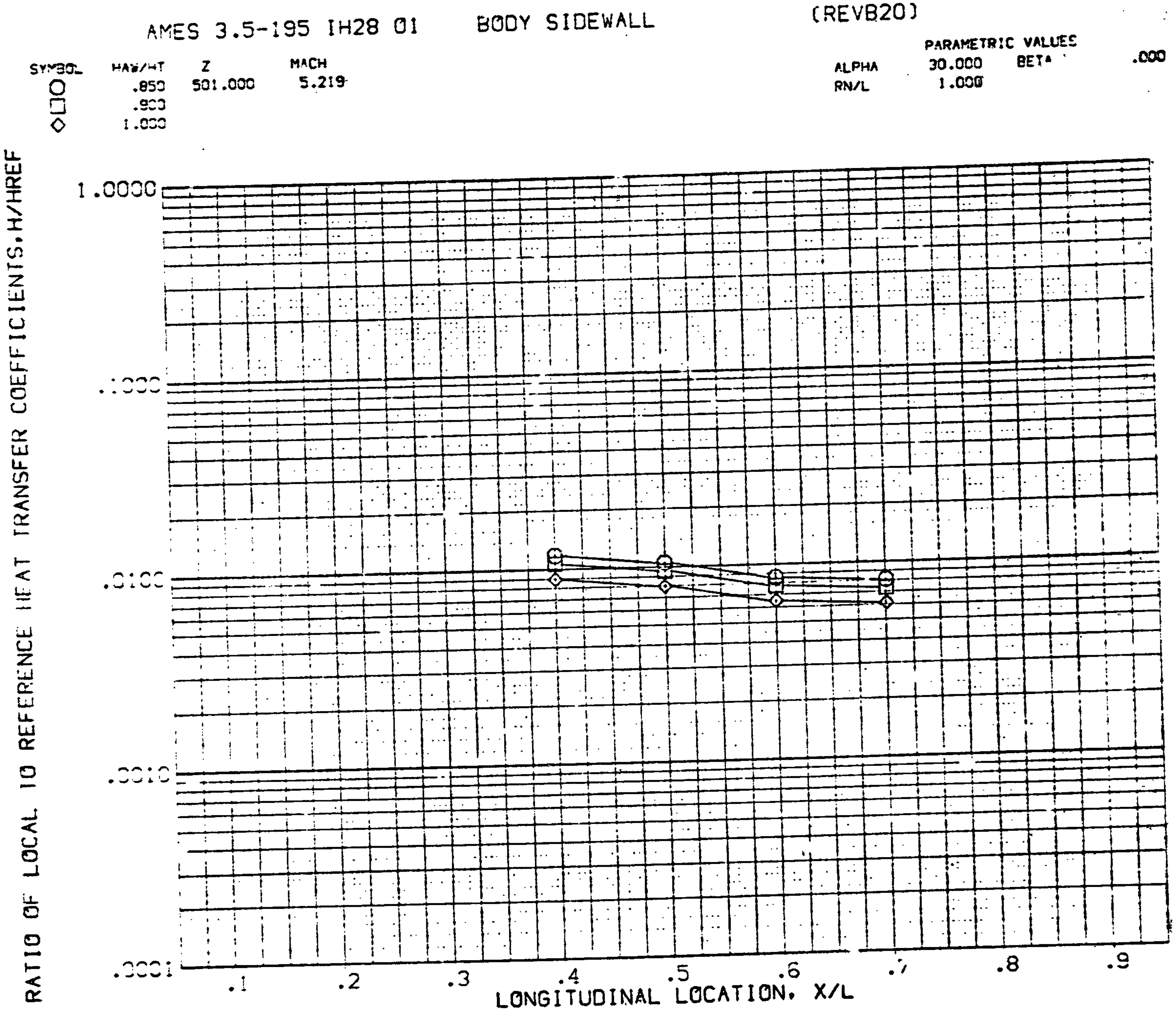


FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

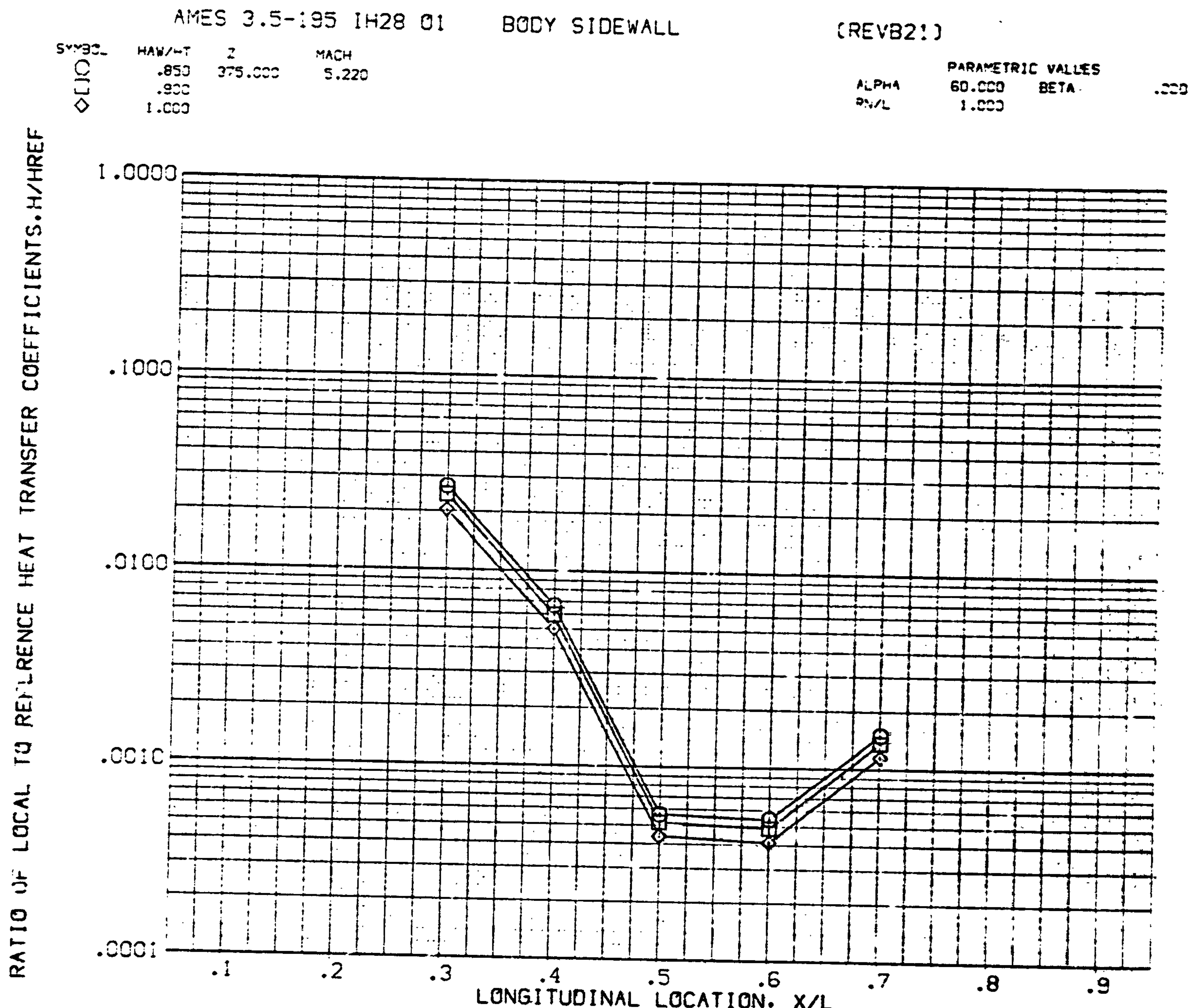


FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

AMES 3.5-195 IH28 01 BODY SIDEWALL (REVB21)

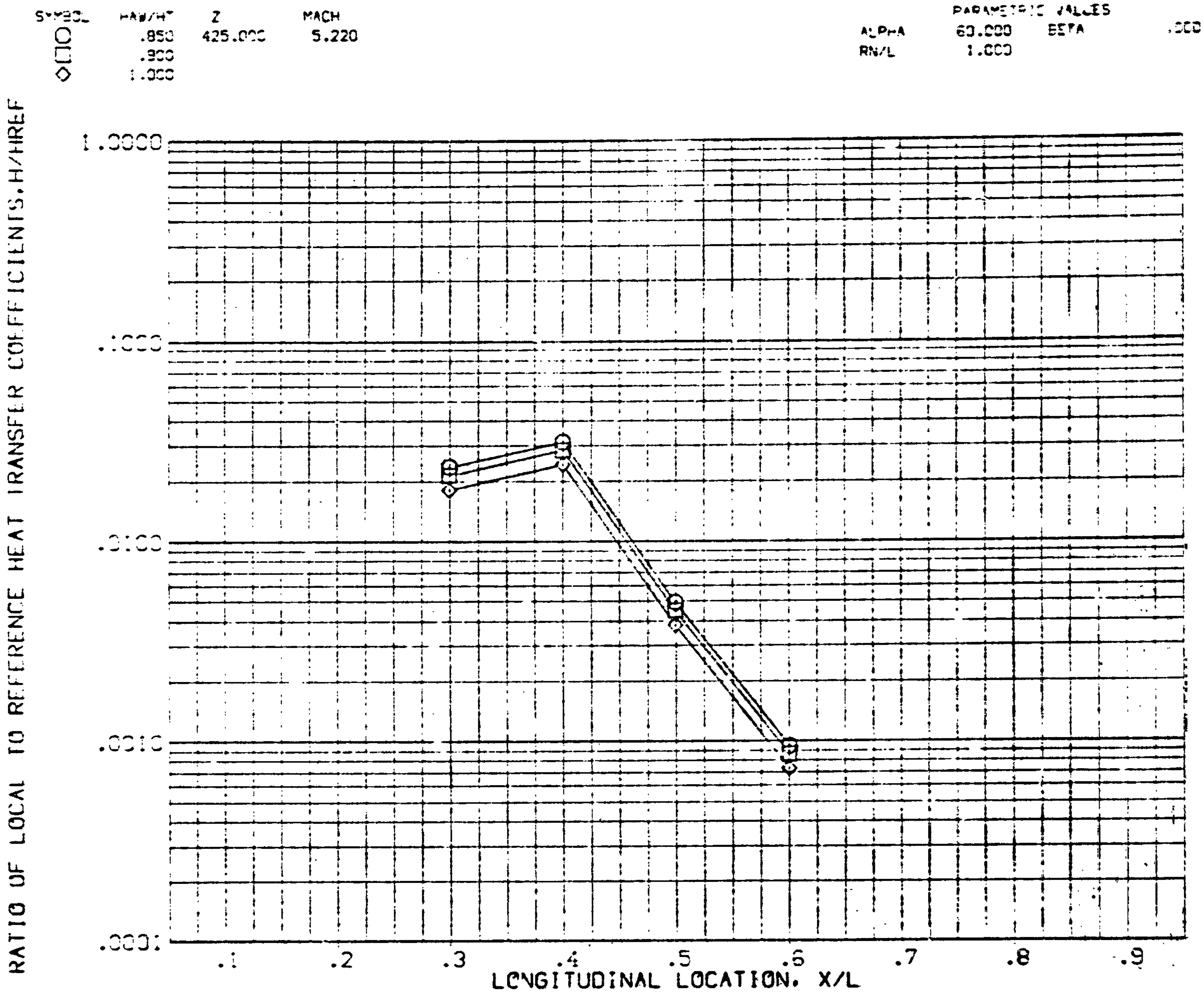


FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

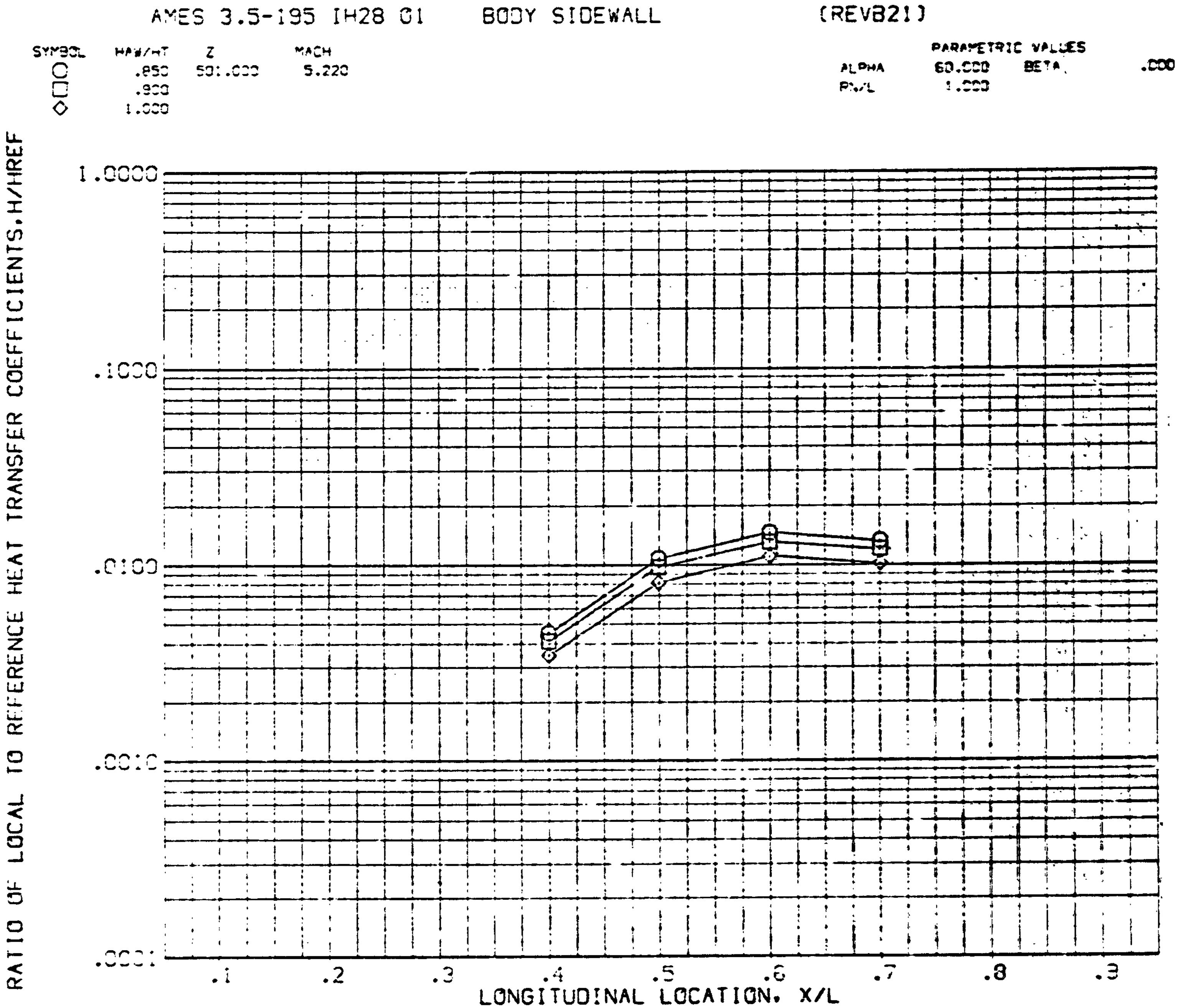


FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

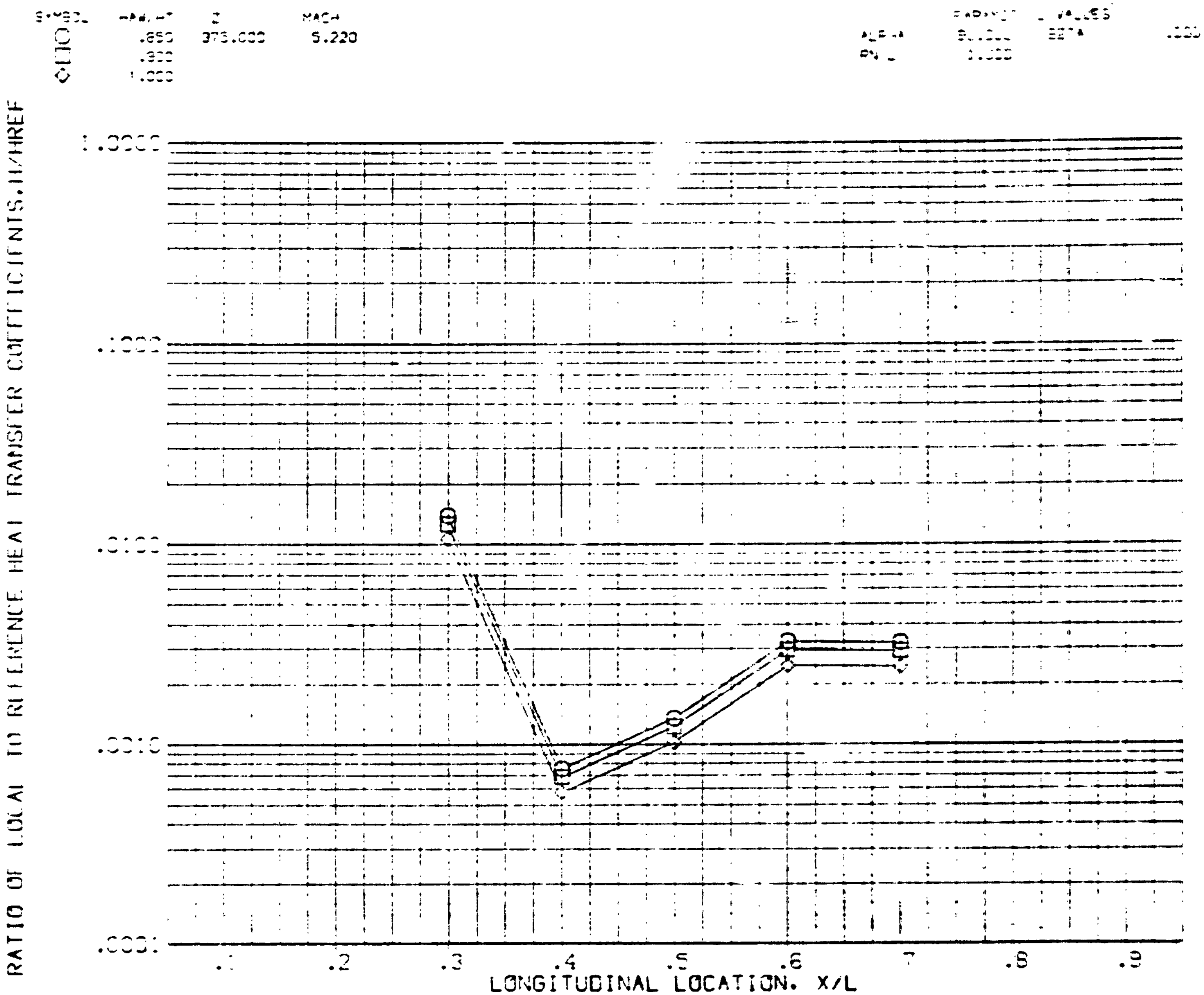


FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

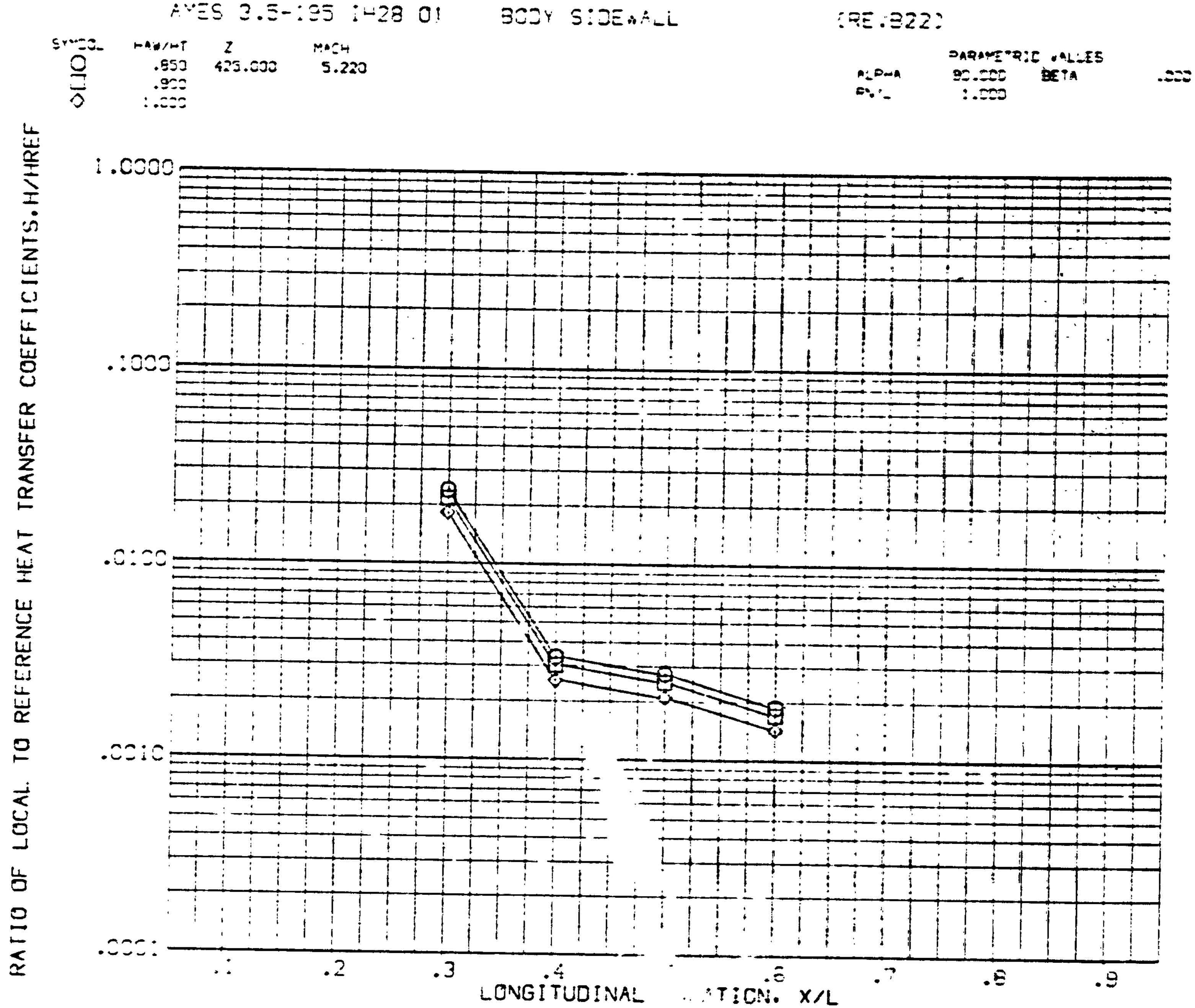


FIG. 10 ORBITER BODY SIDEWALL, ORBITER AL

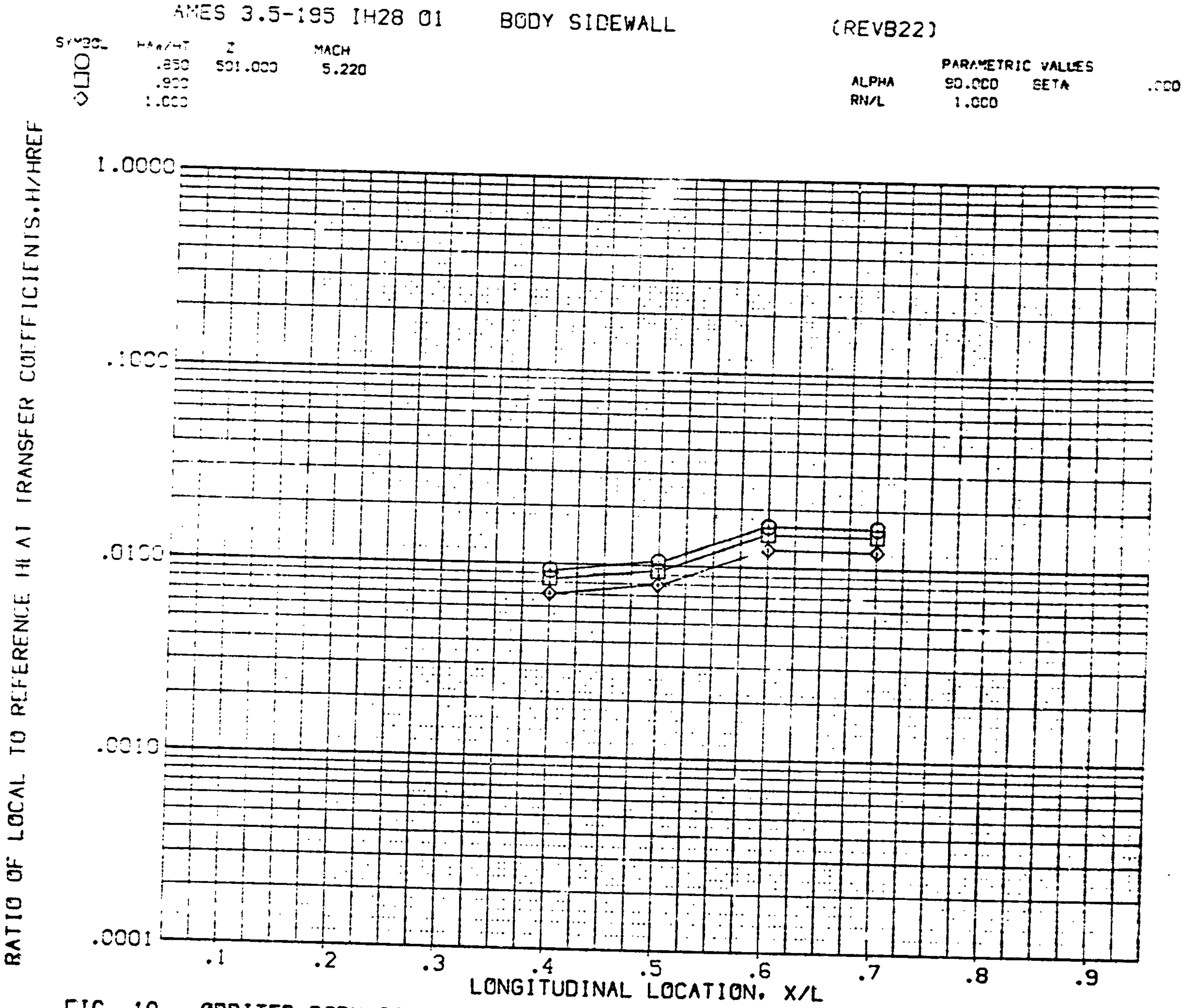


FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

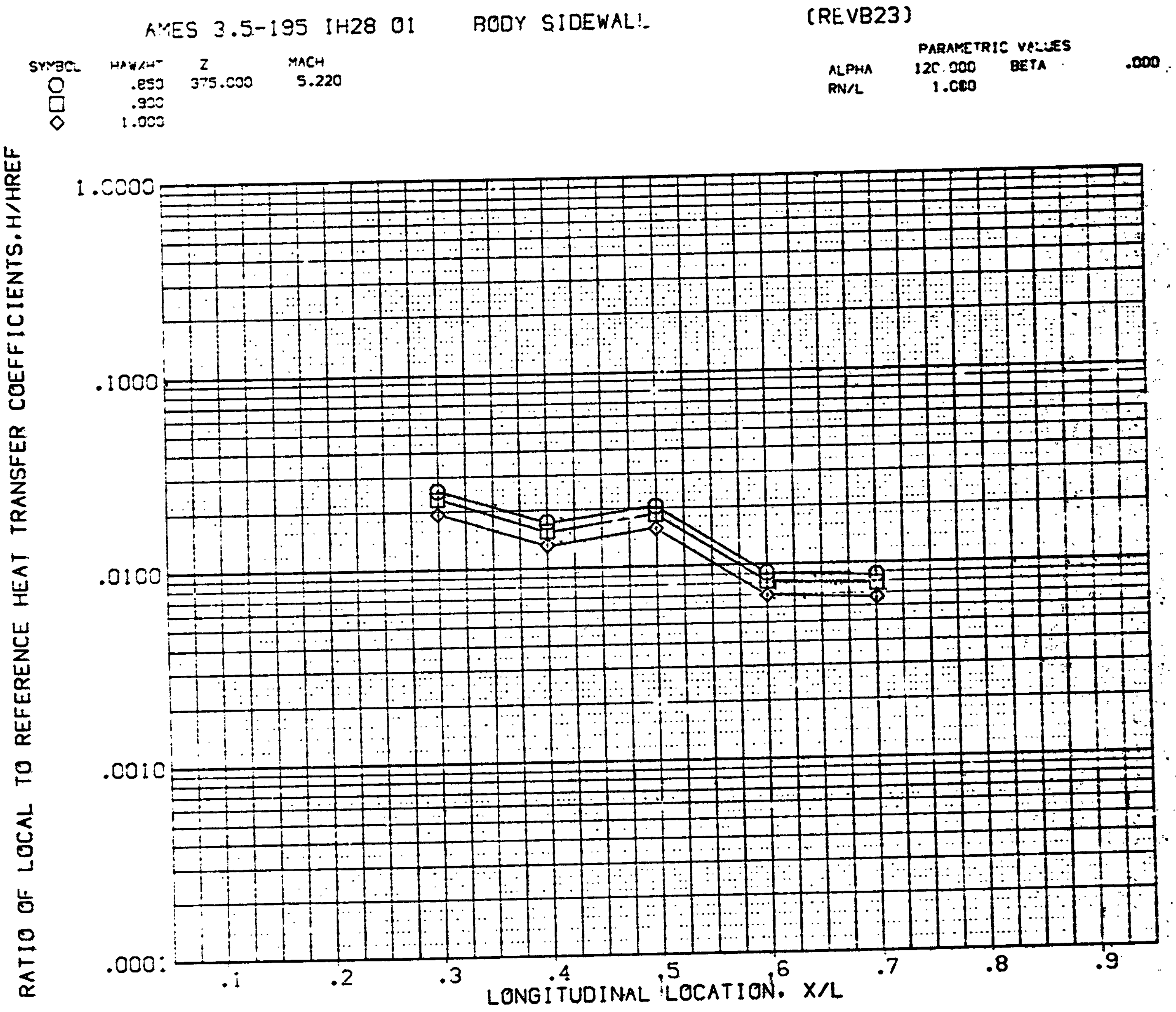


FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

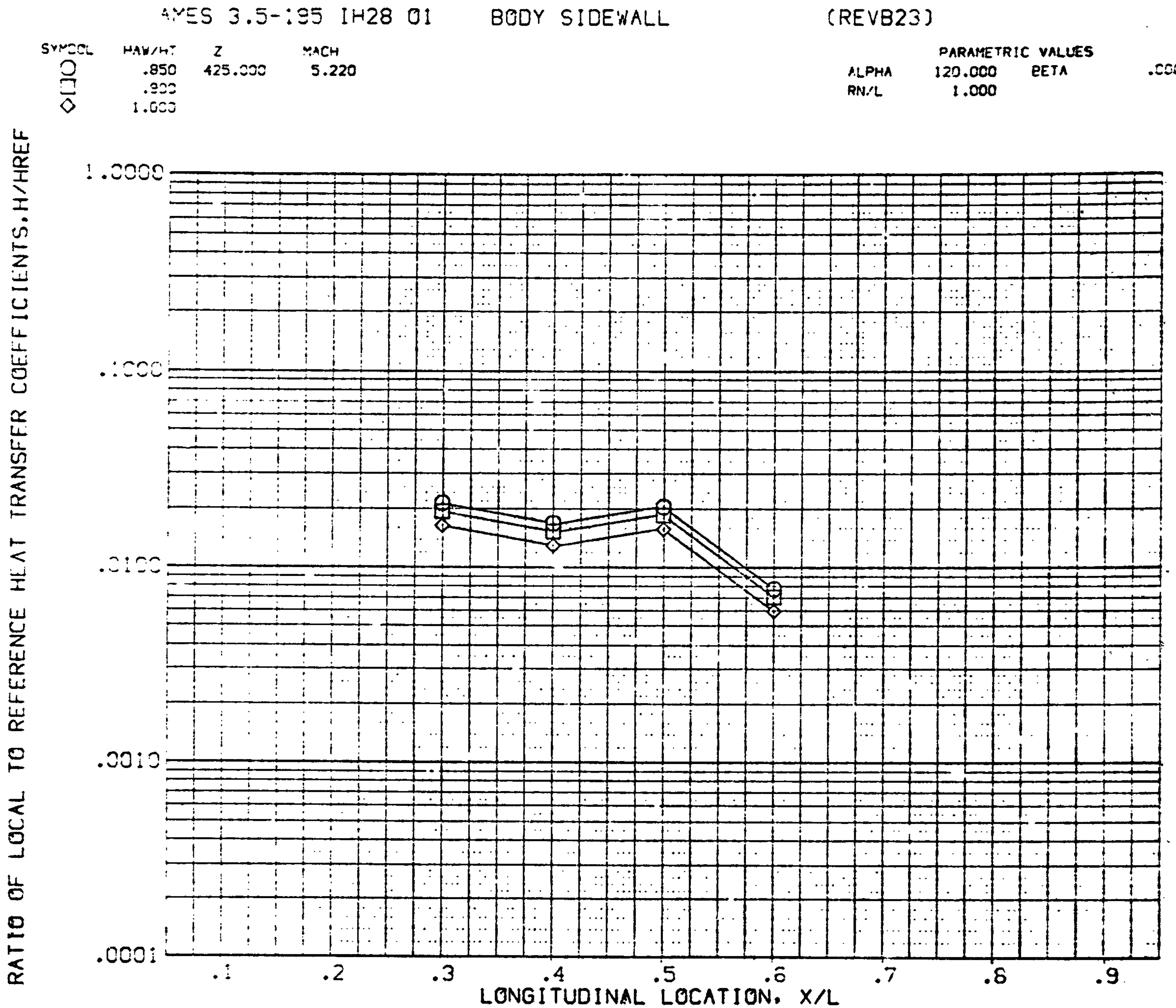


FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

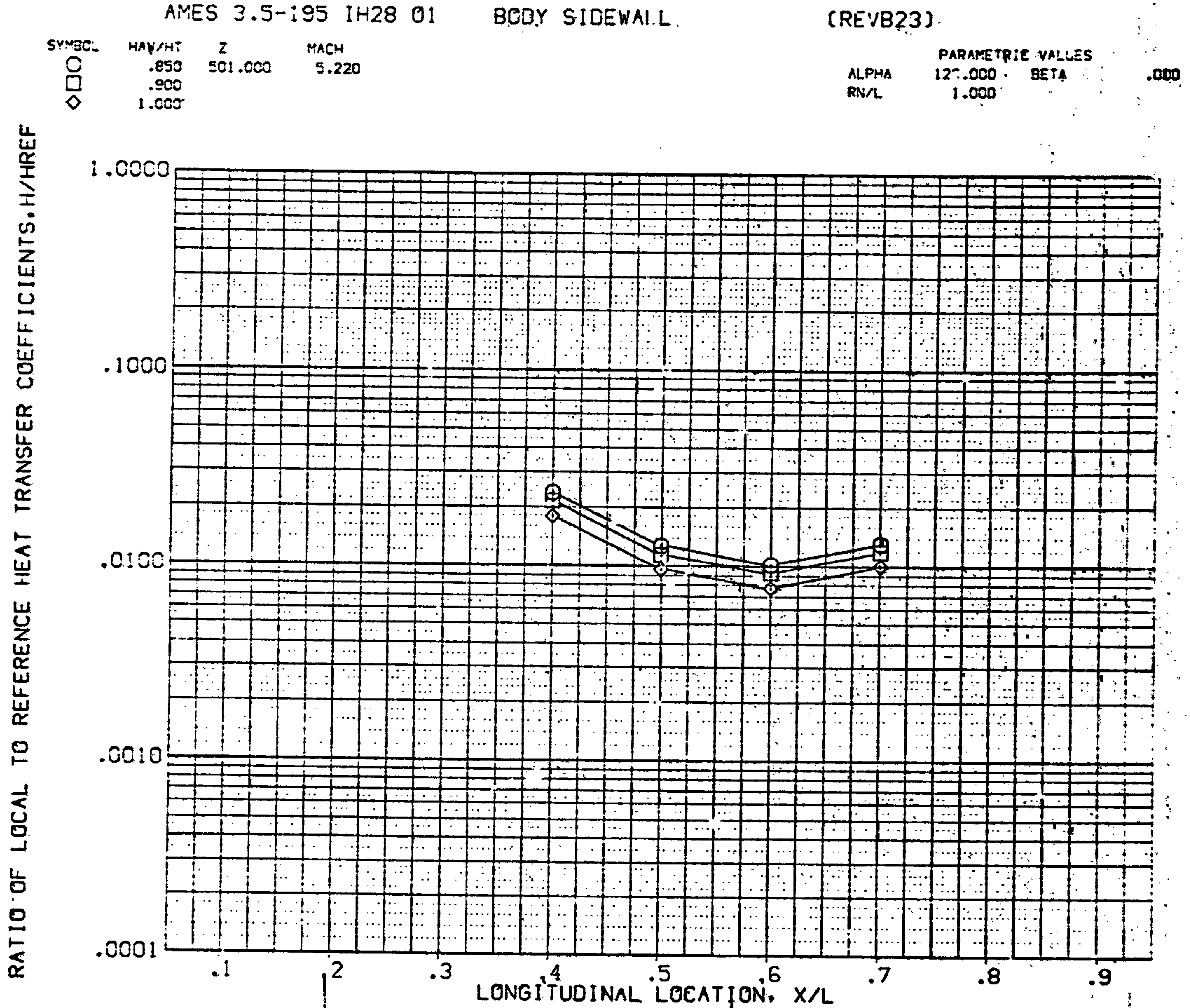


FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

SYMBOL	HAW/HT	Z	MACH
○	.850	375.000	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES
ALPHA -120.000 BETA .000
RN/L 1.000

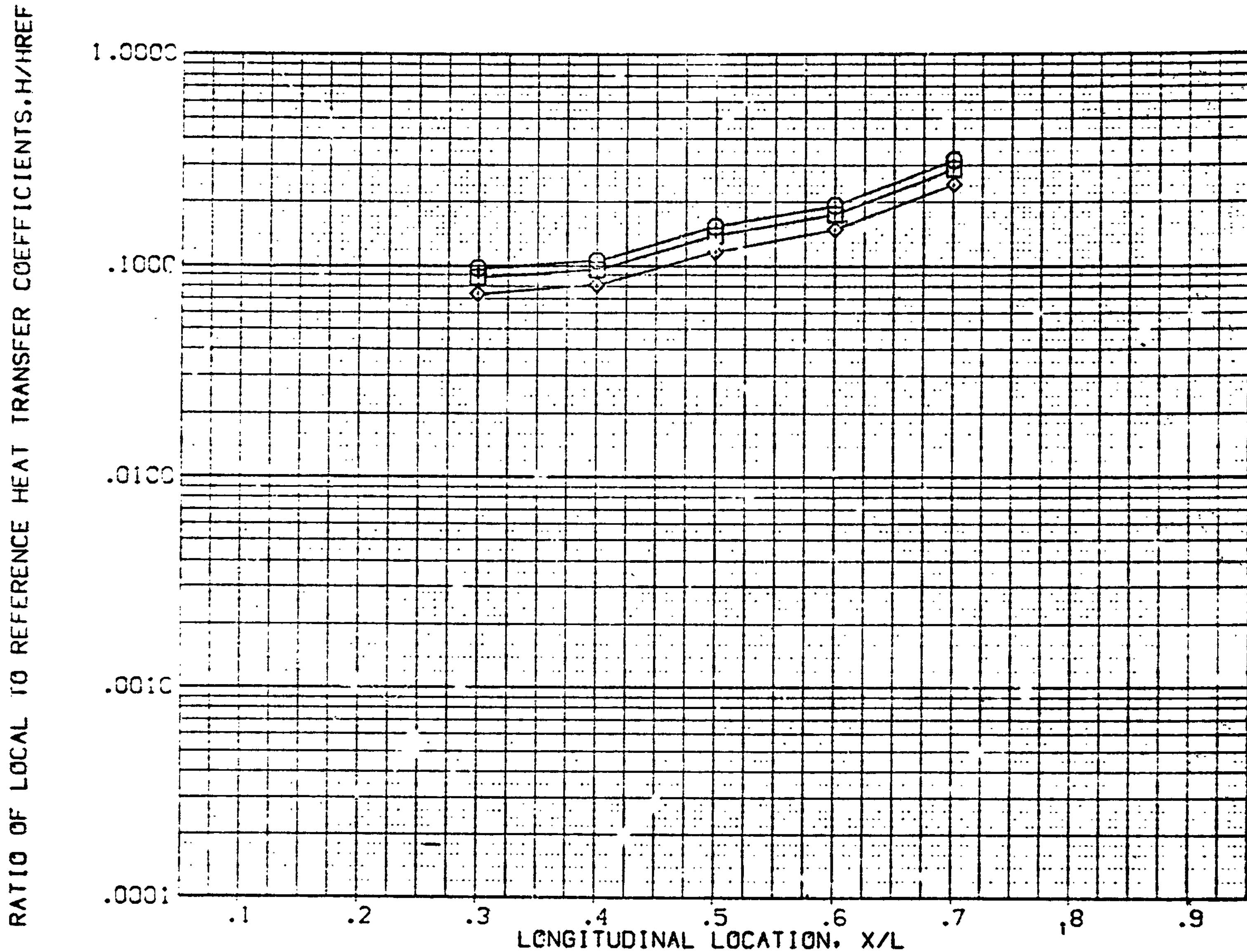


FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

AMES 3.5-195 IH28 01 BODY SIDEWALL (REVB24)

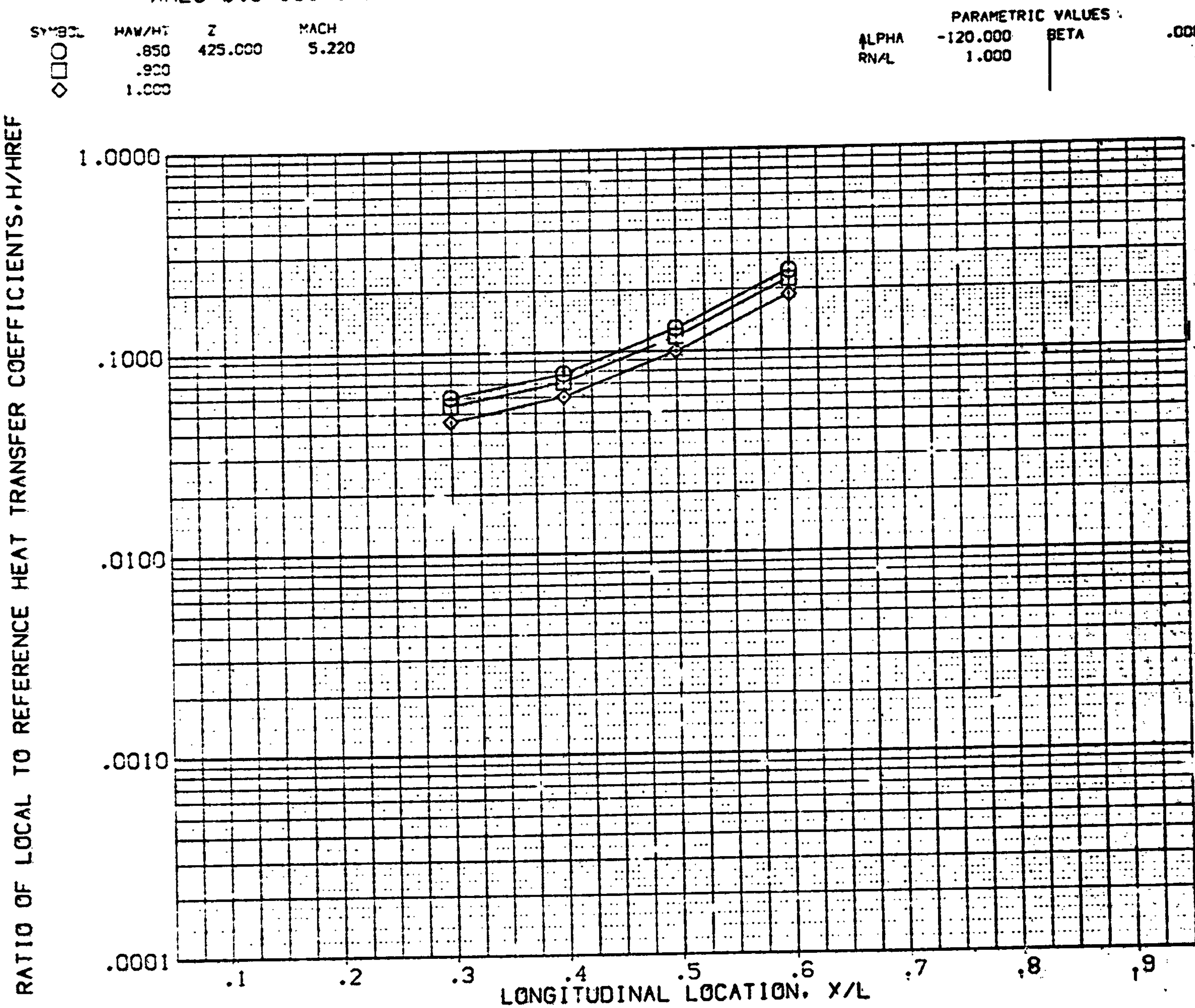


FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

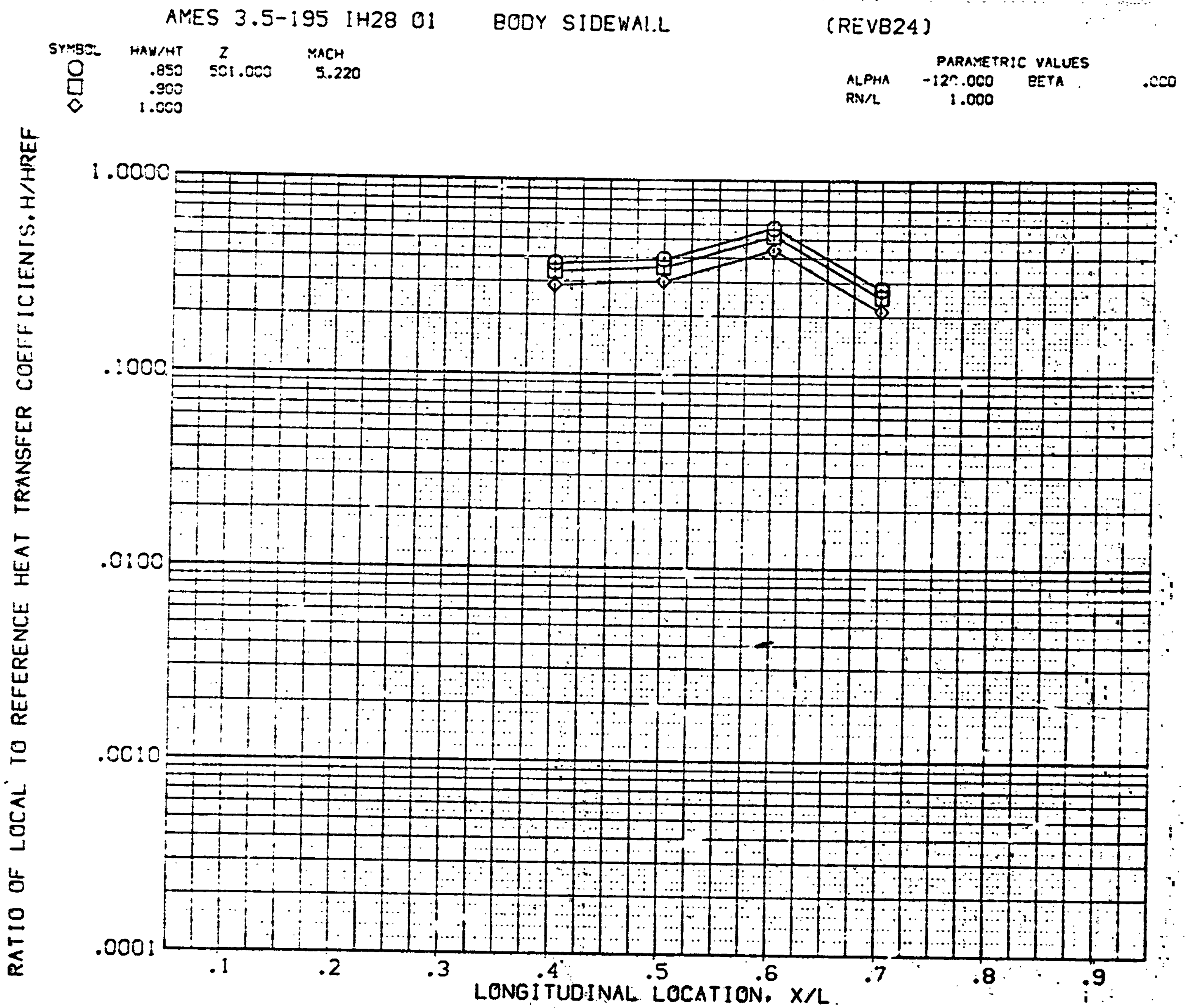


FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

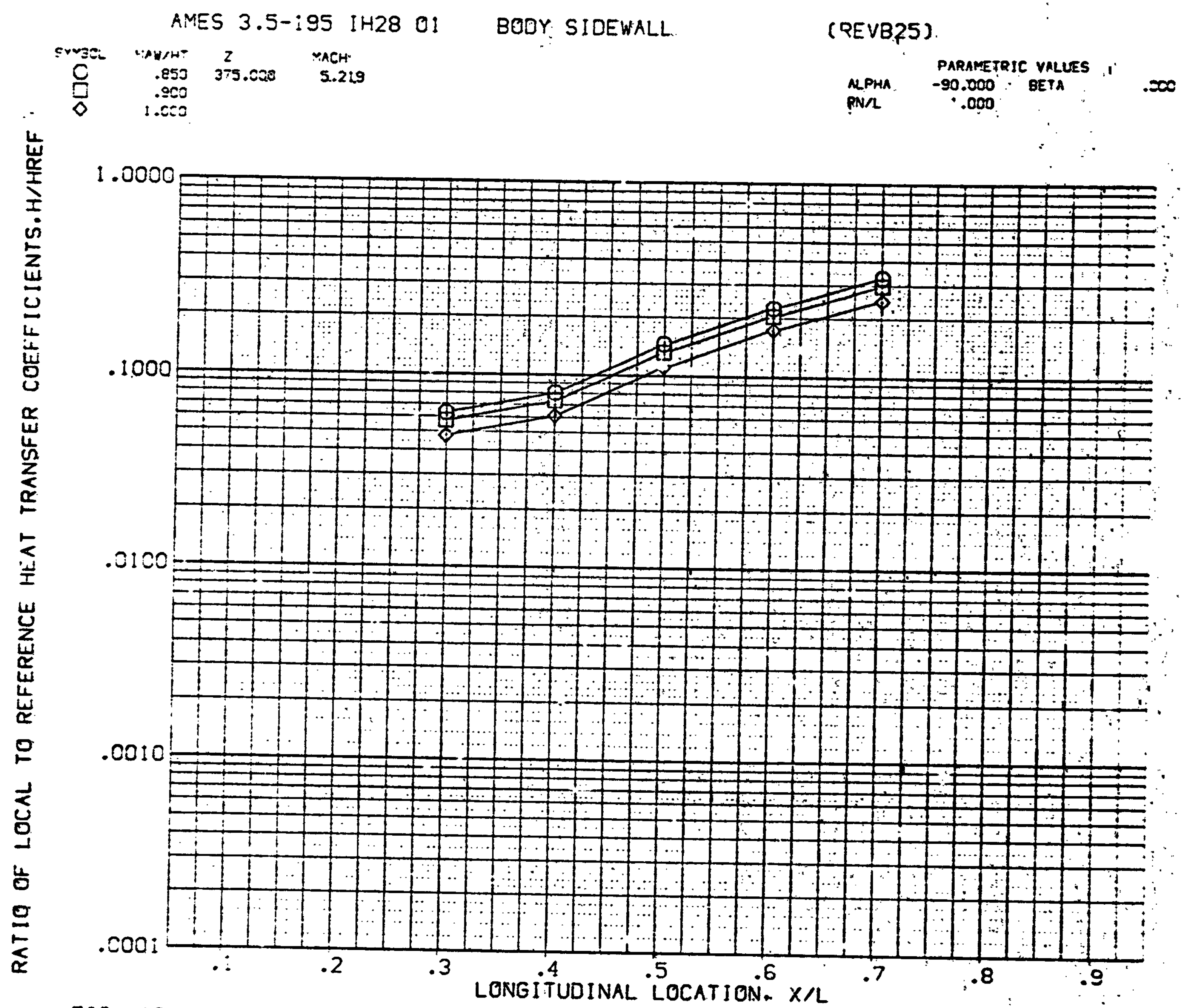


FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

AMES 3.5-195 IH28 01 BODY SIDEWALL (REVB25)

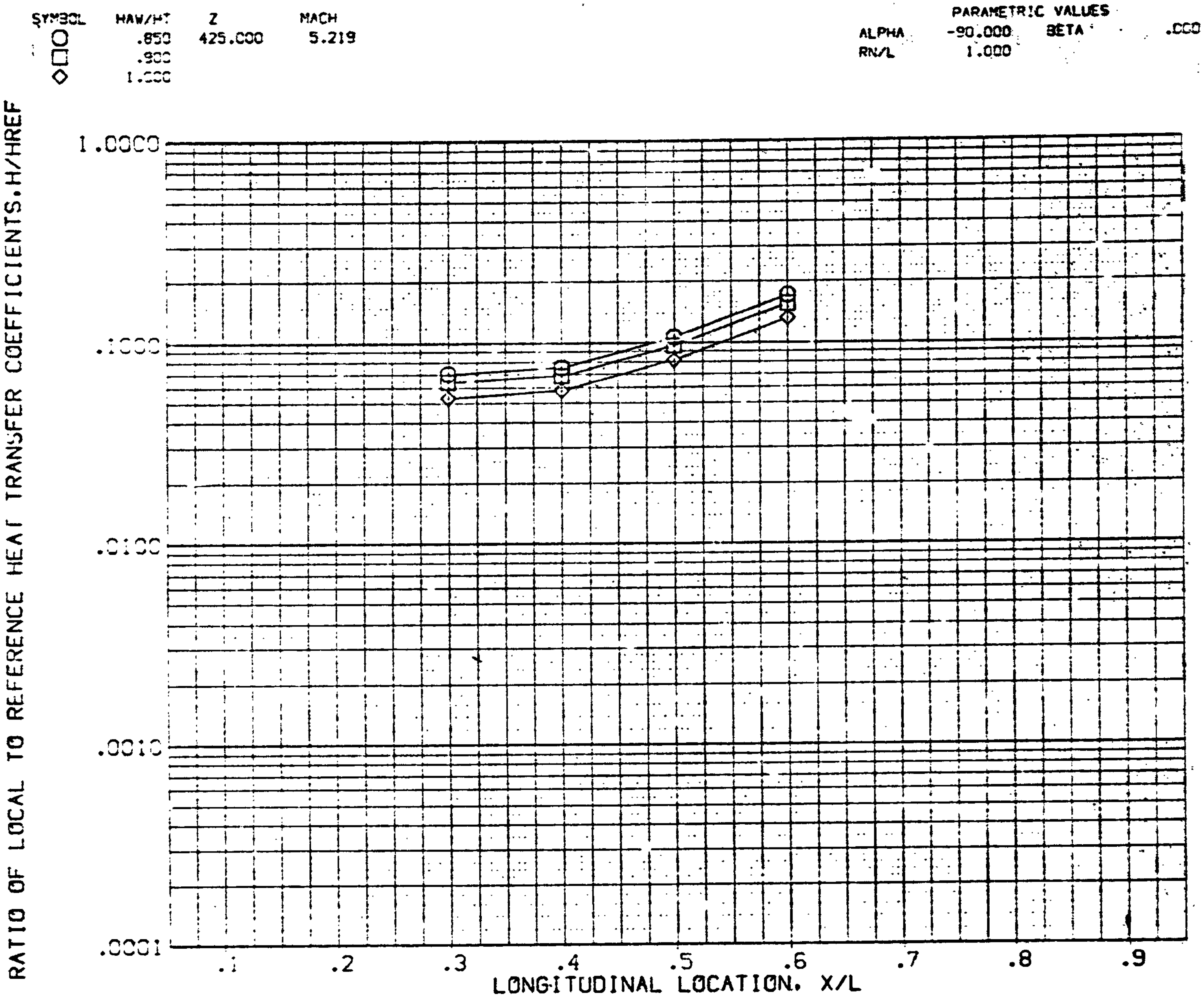


FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

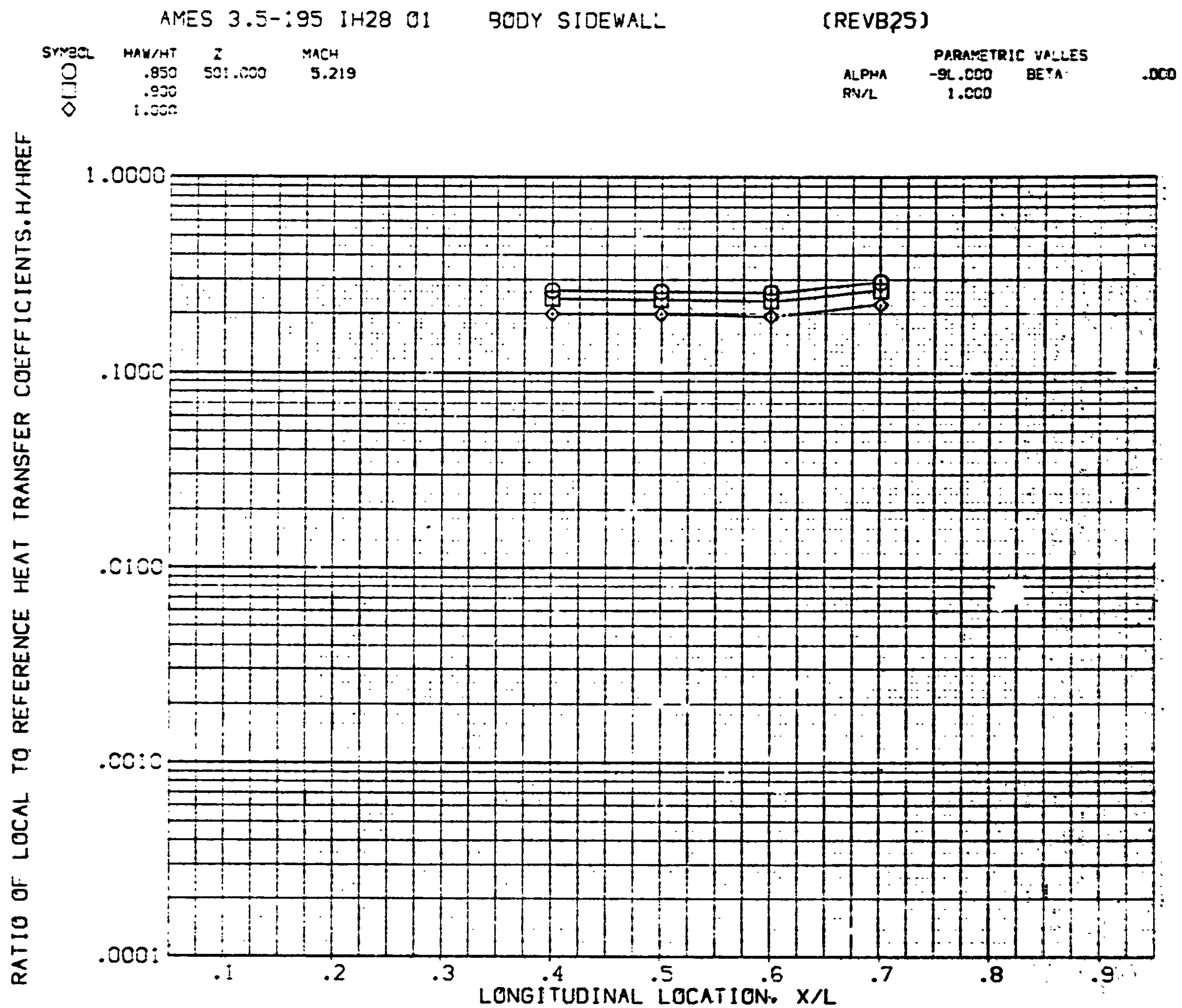


FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

AMES 3.5-135 IH28 01 BODY SIDEWALL (REVB26)

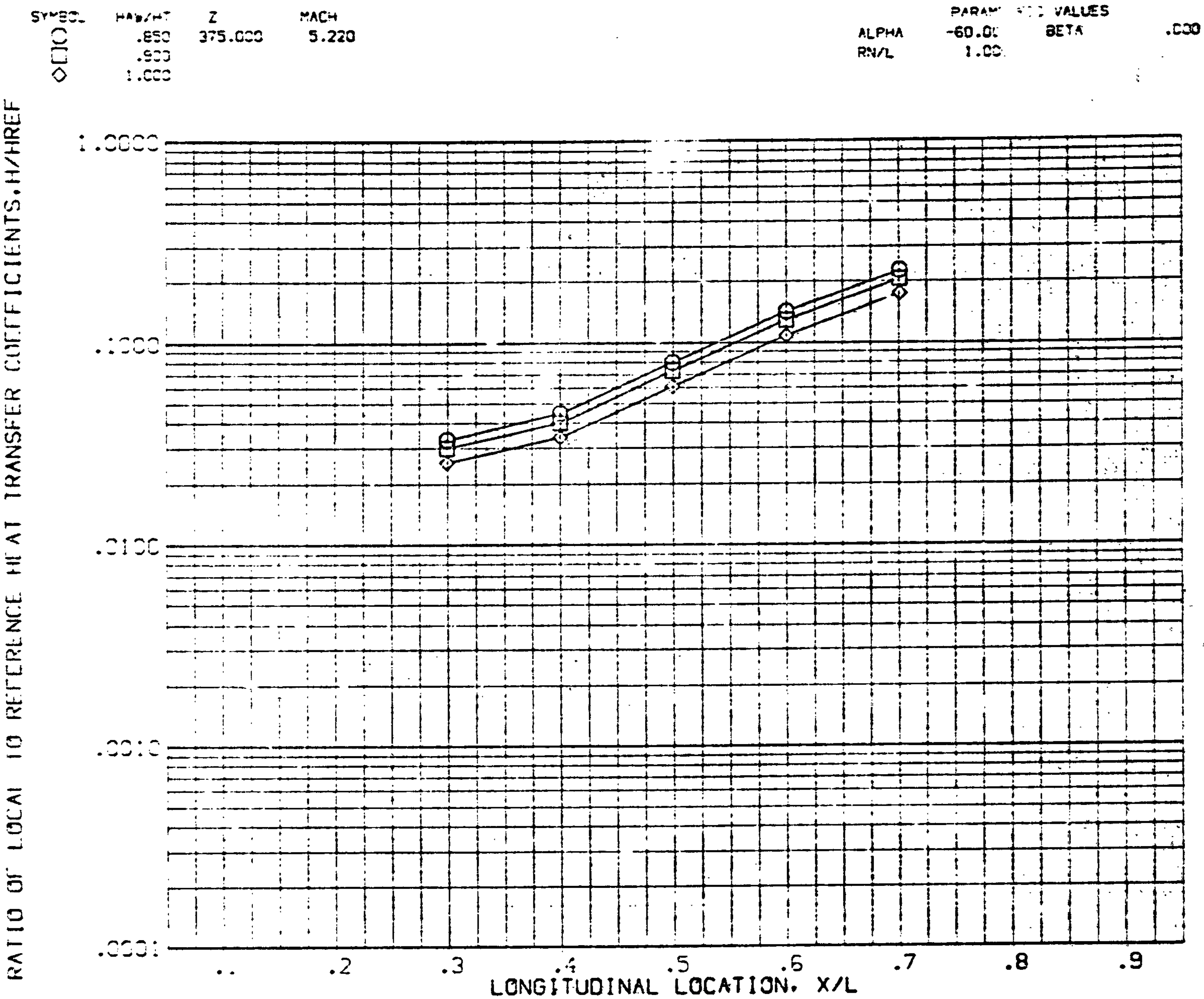


FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

SYMBOL	HAW/HT	Z	MACH
○	.850	425.000	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA -6.000 BETA .000

RN/L 1.000

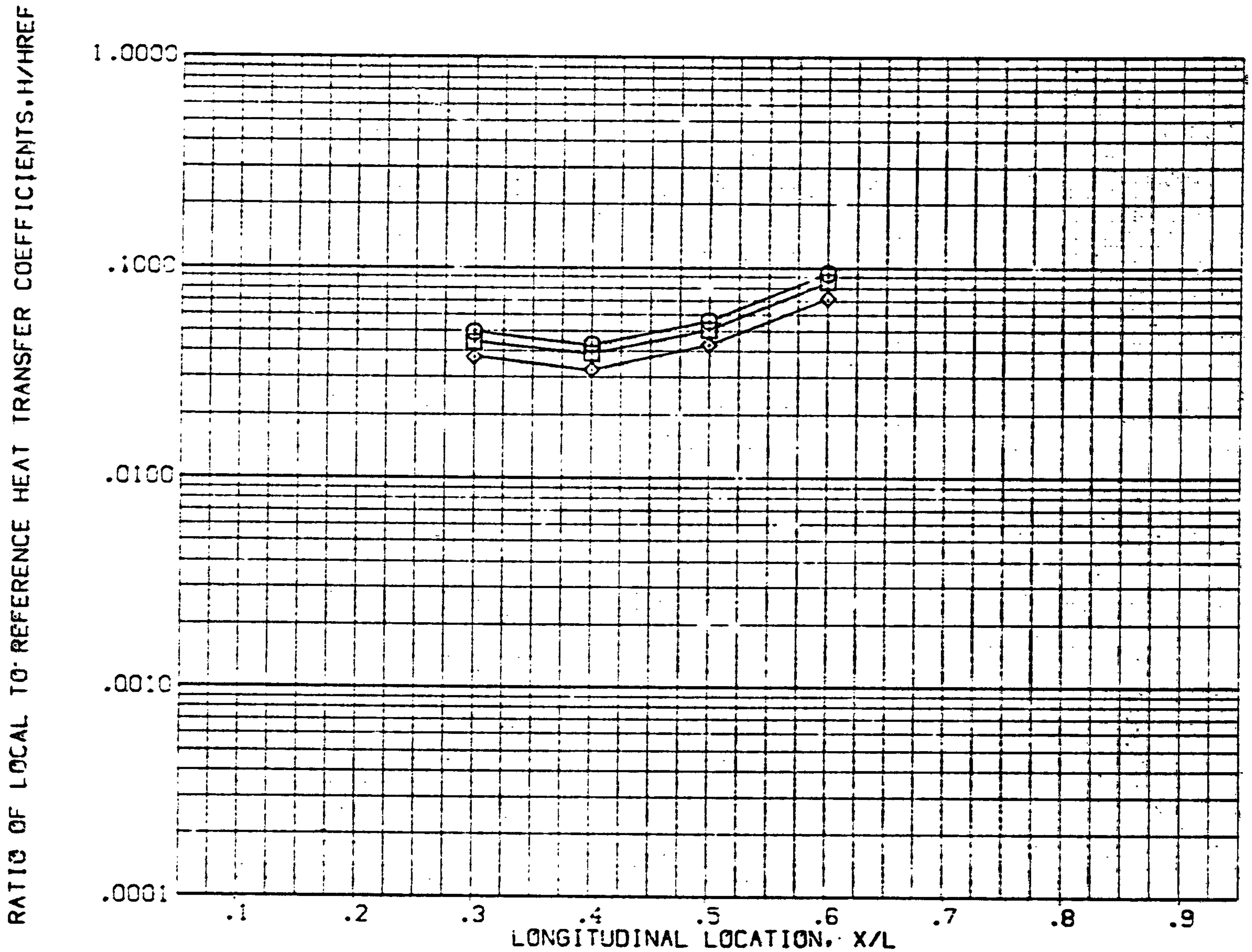


FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

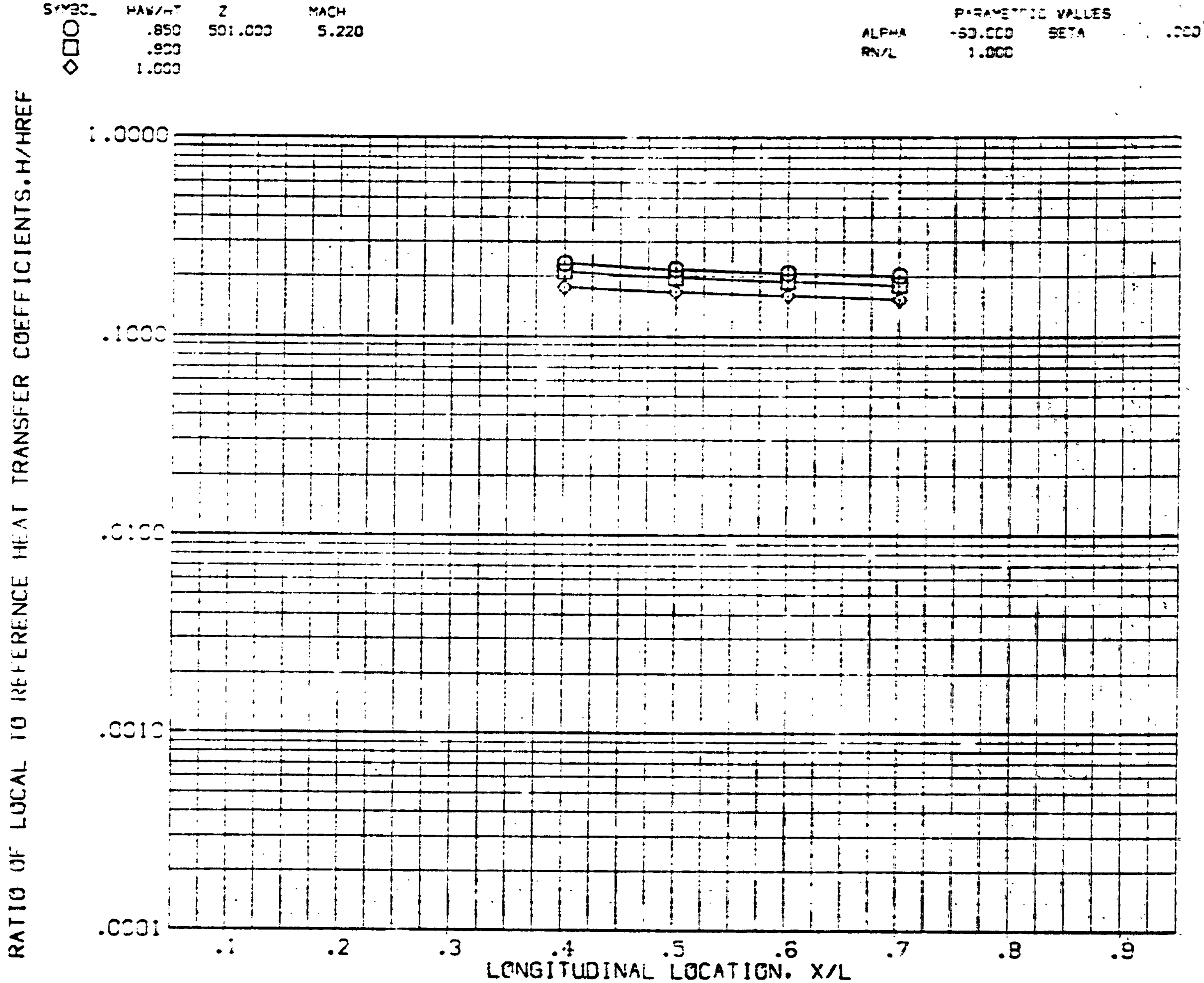


FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

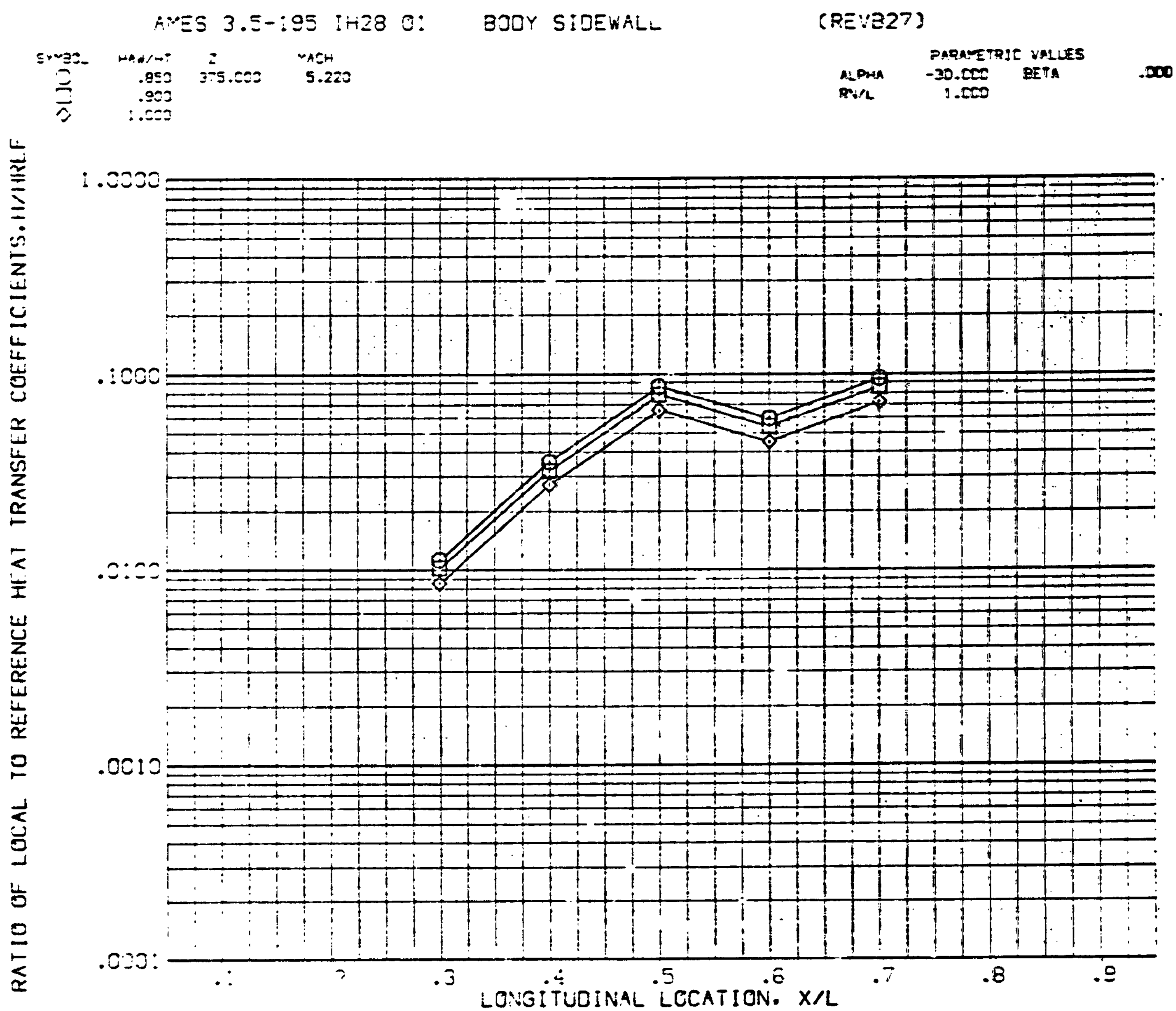


FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

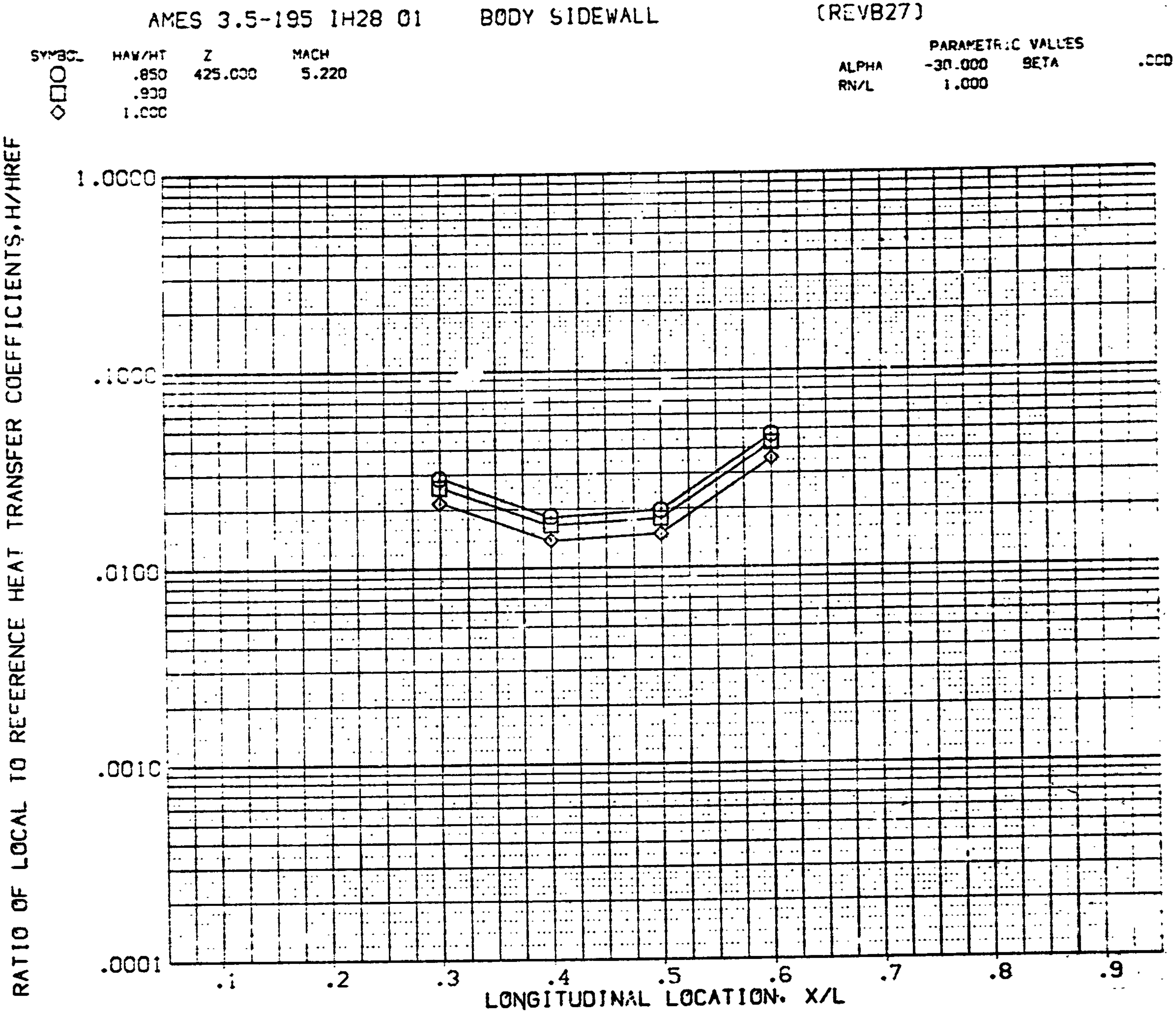


FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

AMES 3.5-195 IH28 01 BODY SIDEWALL (REVB27)

SYMBOL	HAW/HT	Z	MACH
○	.850	501.600	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA -30.000 BETA .000

RN/L 1.000

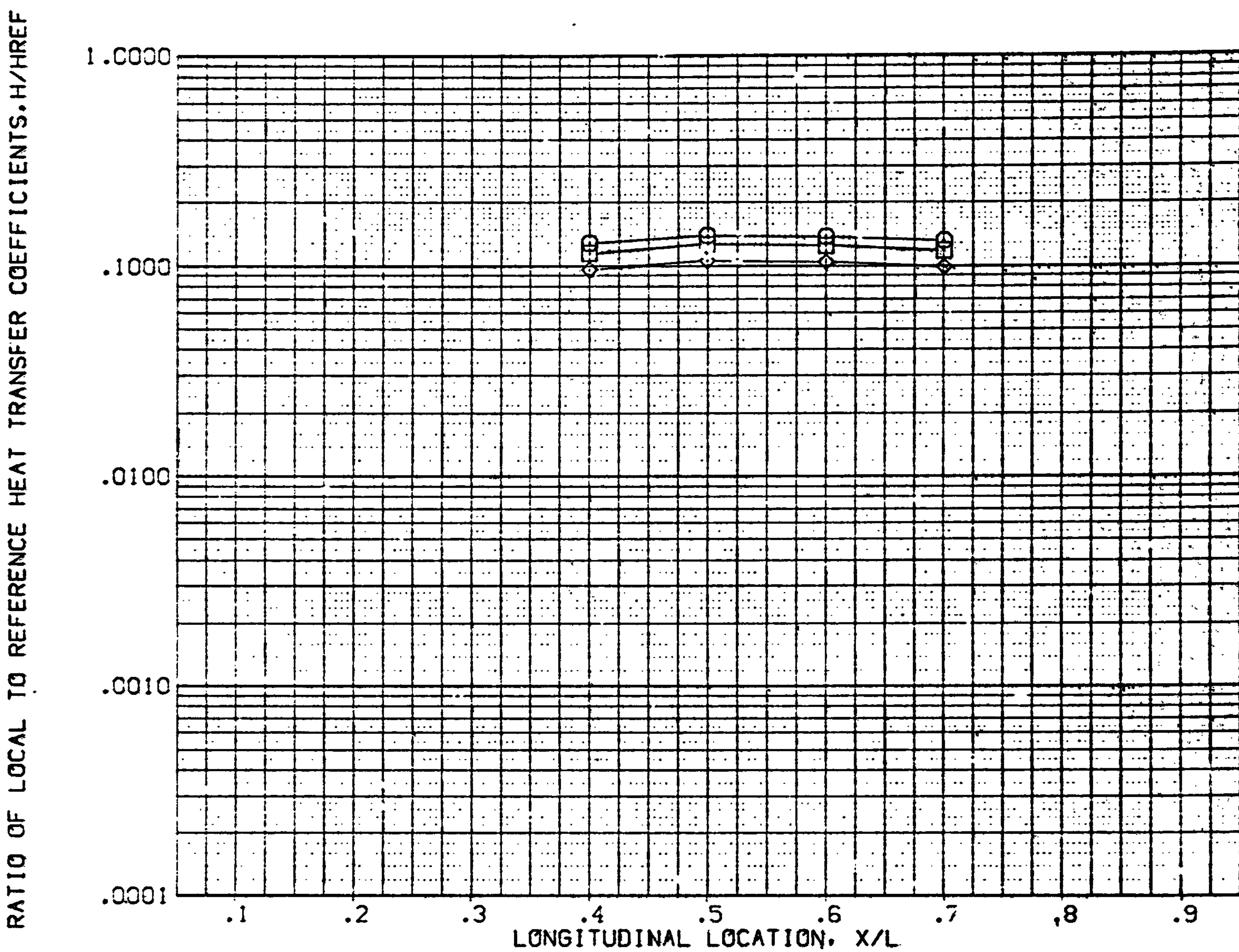


FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

AMES 3.5-195 IH28 01 BODY SIDEWALL (REVB19)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.300	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA .000 BETA .000
RN/L 1.000

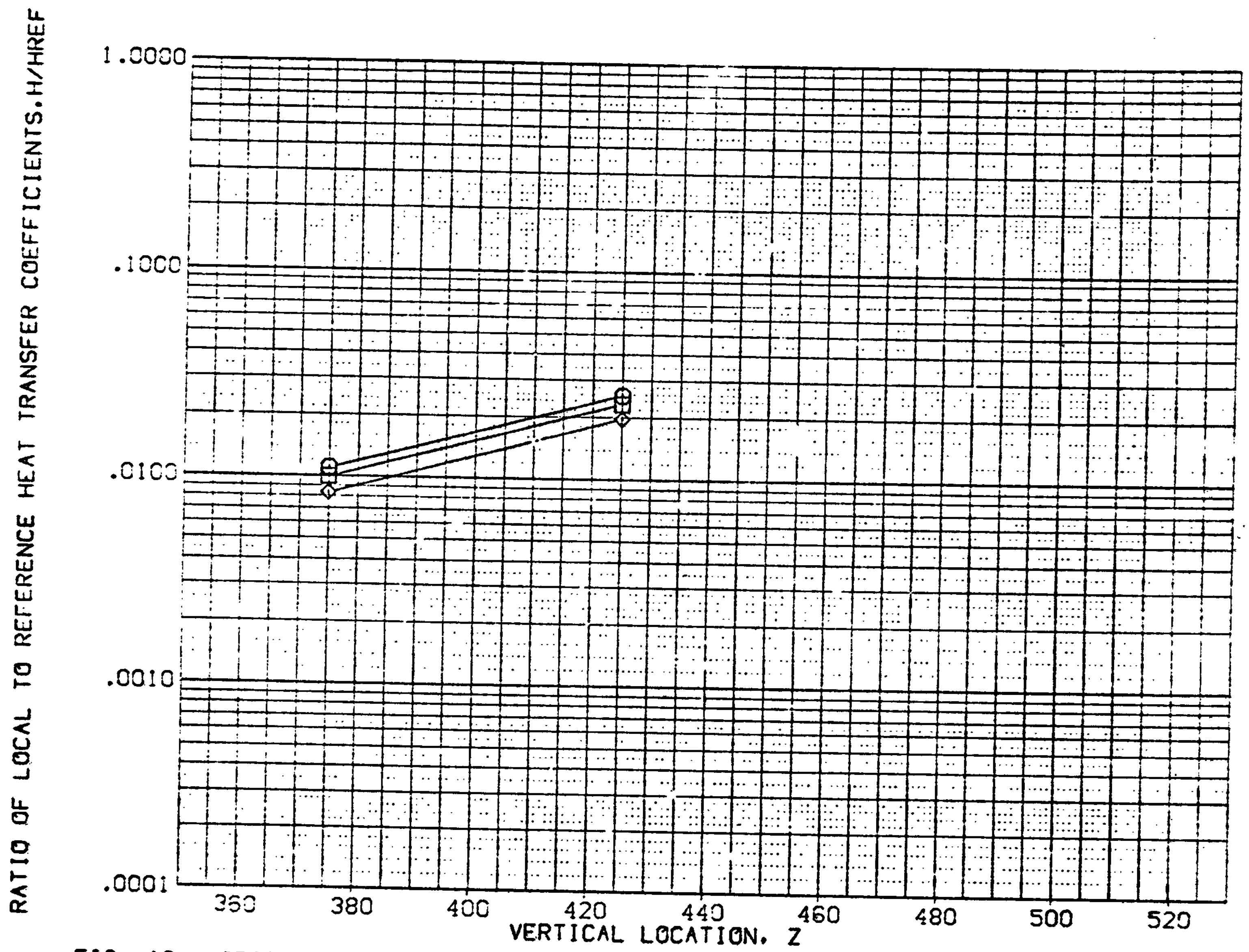


FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

AMES 3.5-195 IH28 01   BODY SIDEWALL   (REVB19)

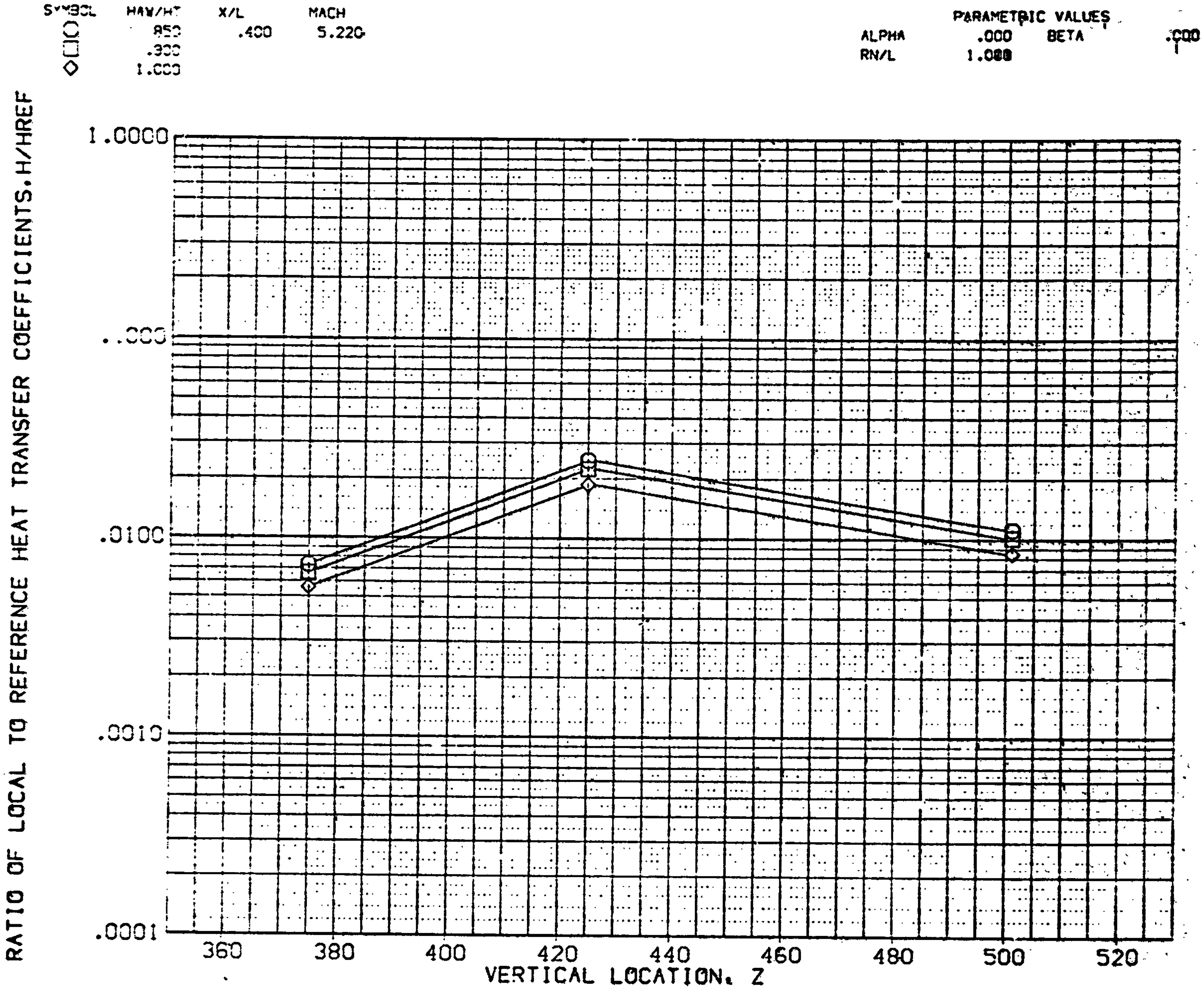


FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

AMES 3.5-195 IH28 01 BODY SIDEWALL (REVB19)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.500	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA .000 BETA .000
RN/L 1.000

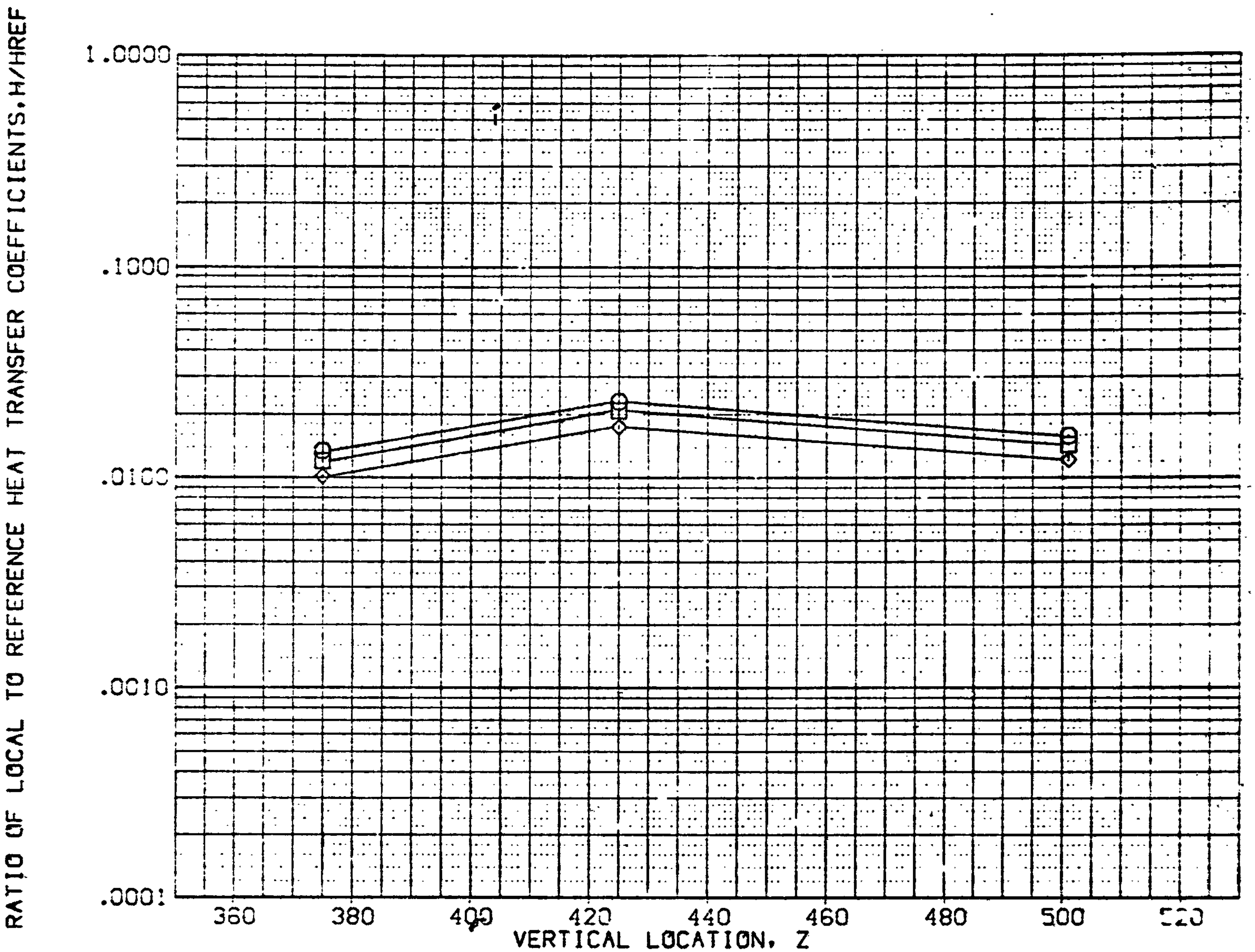


FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

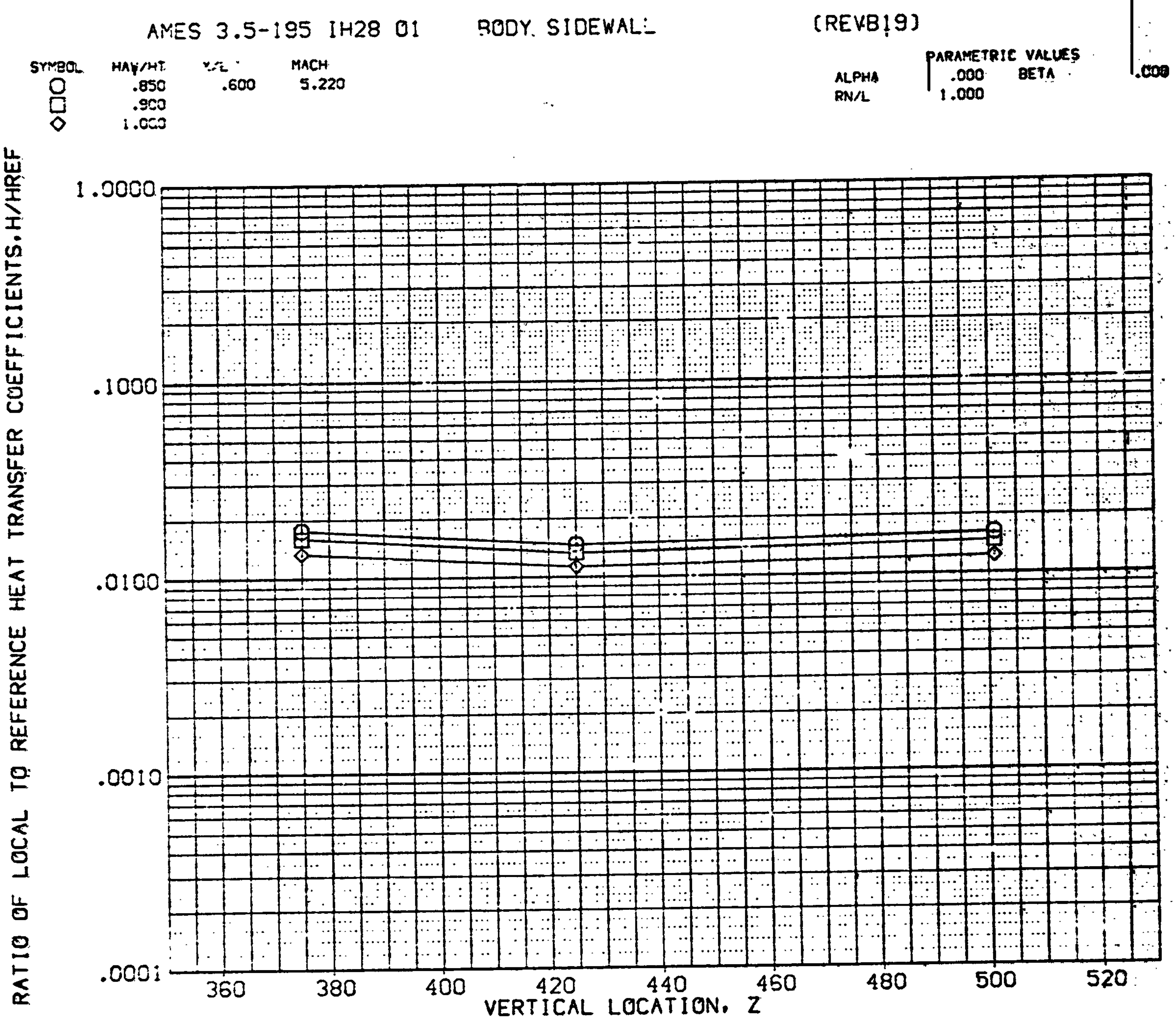


FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

AMES 3.5-135 IH28 01 BODY SIDEWALL (REVB19)

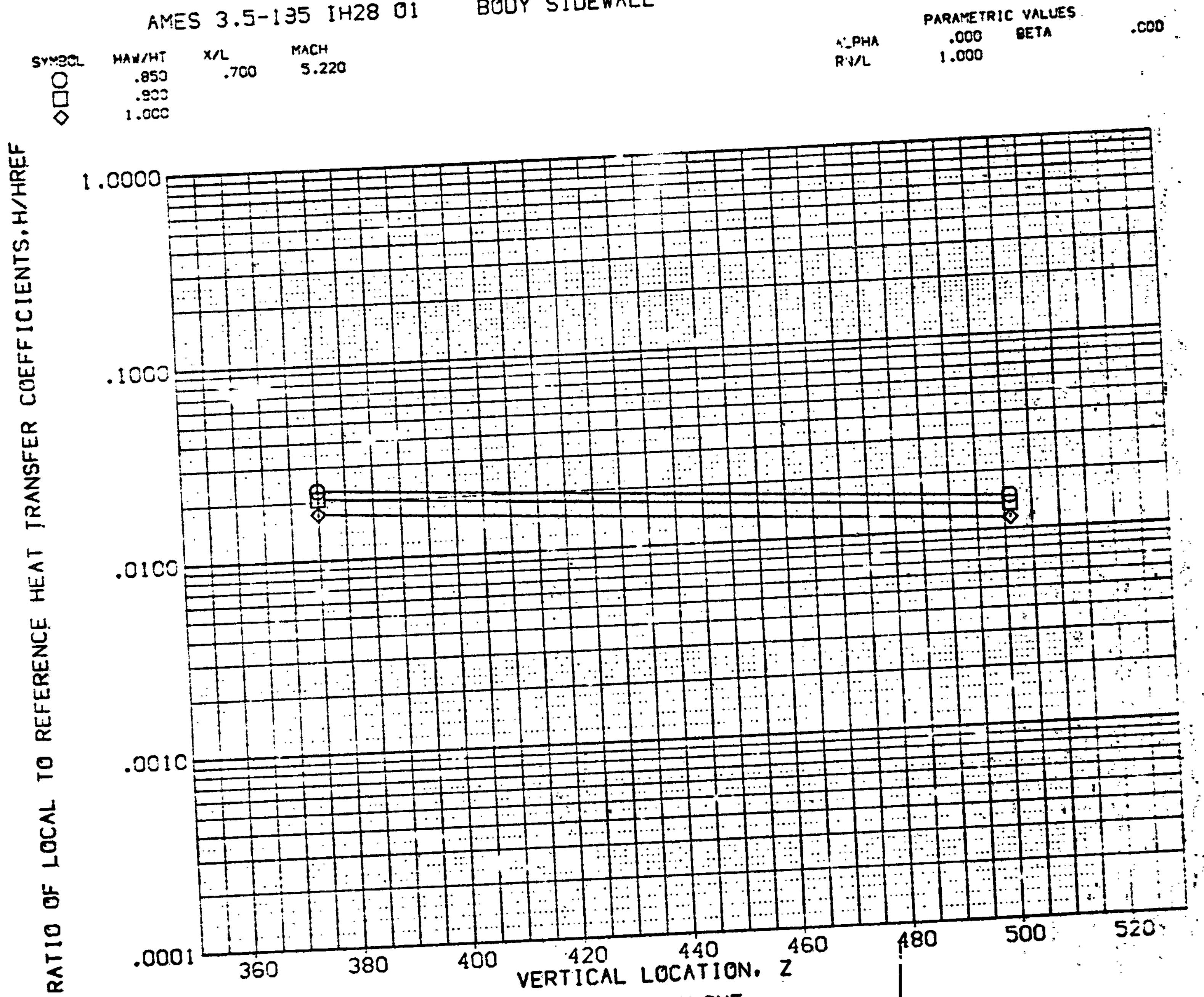


FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

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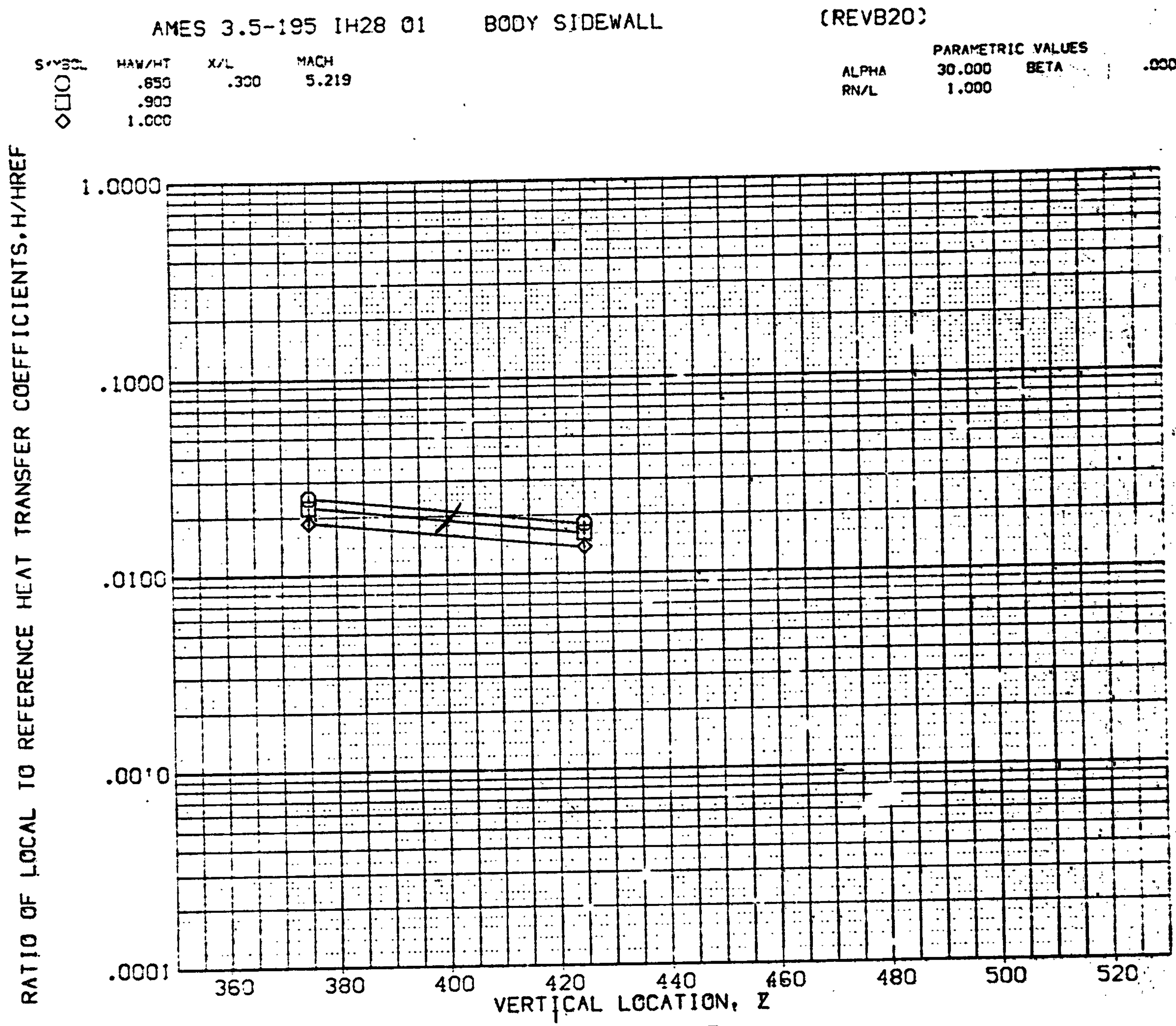

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

AMES 3.5-195 IH28 01 BODY SIDEWALL (REVB20)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.400	5.219
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA	30.000	BETA	.000
RN/L	1.000		

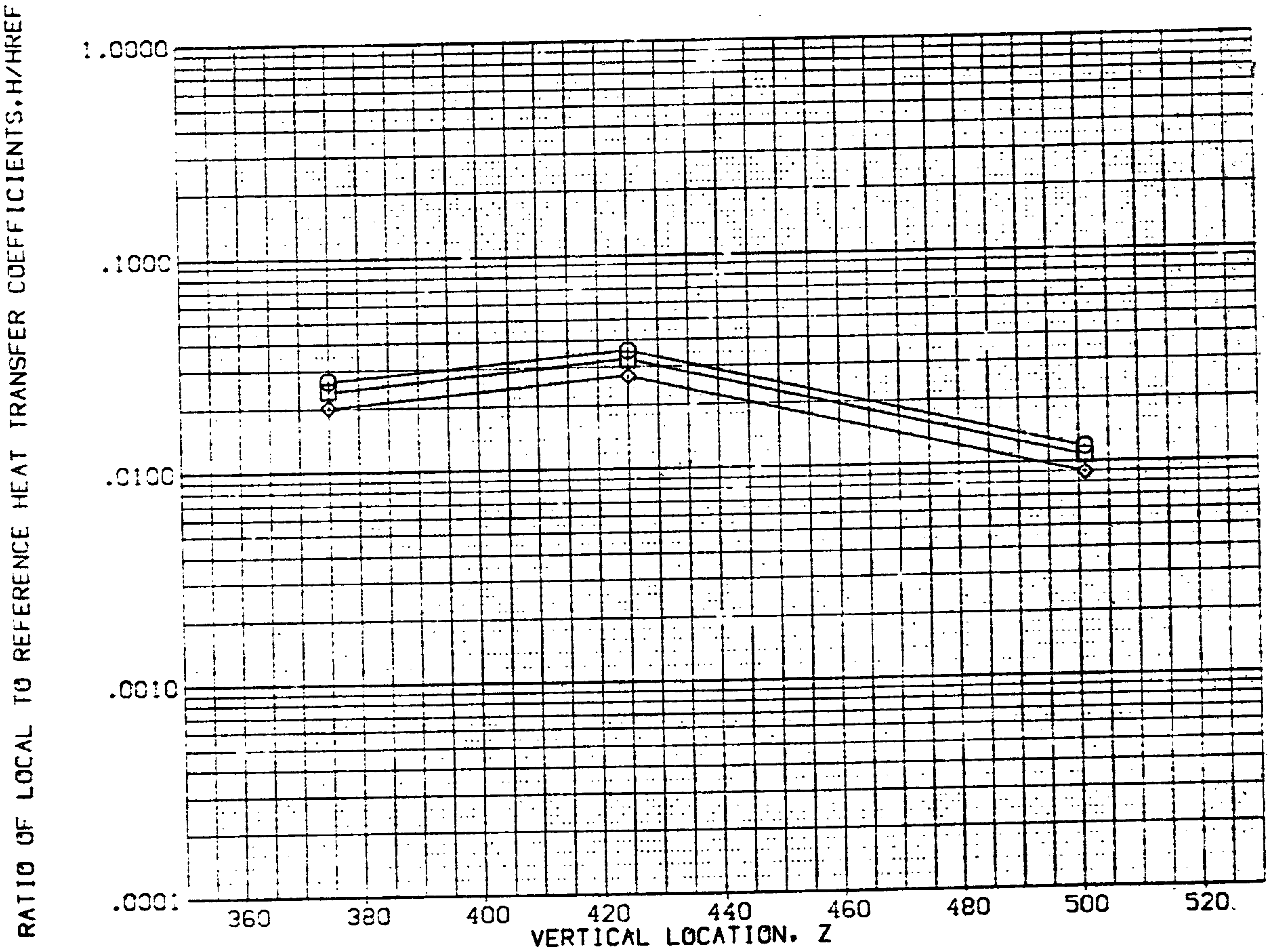

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

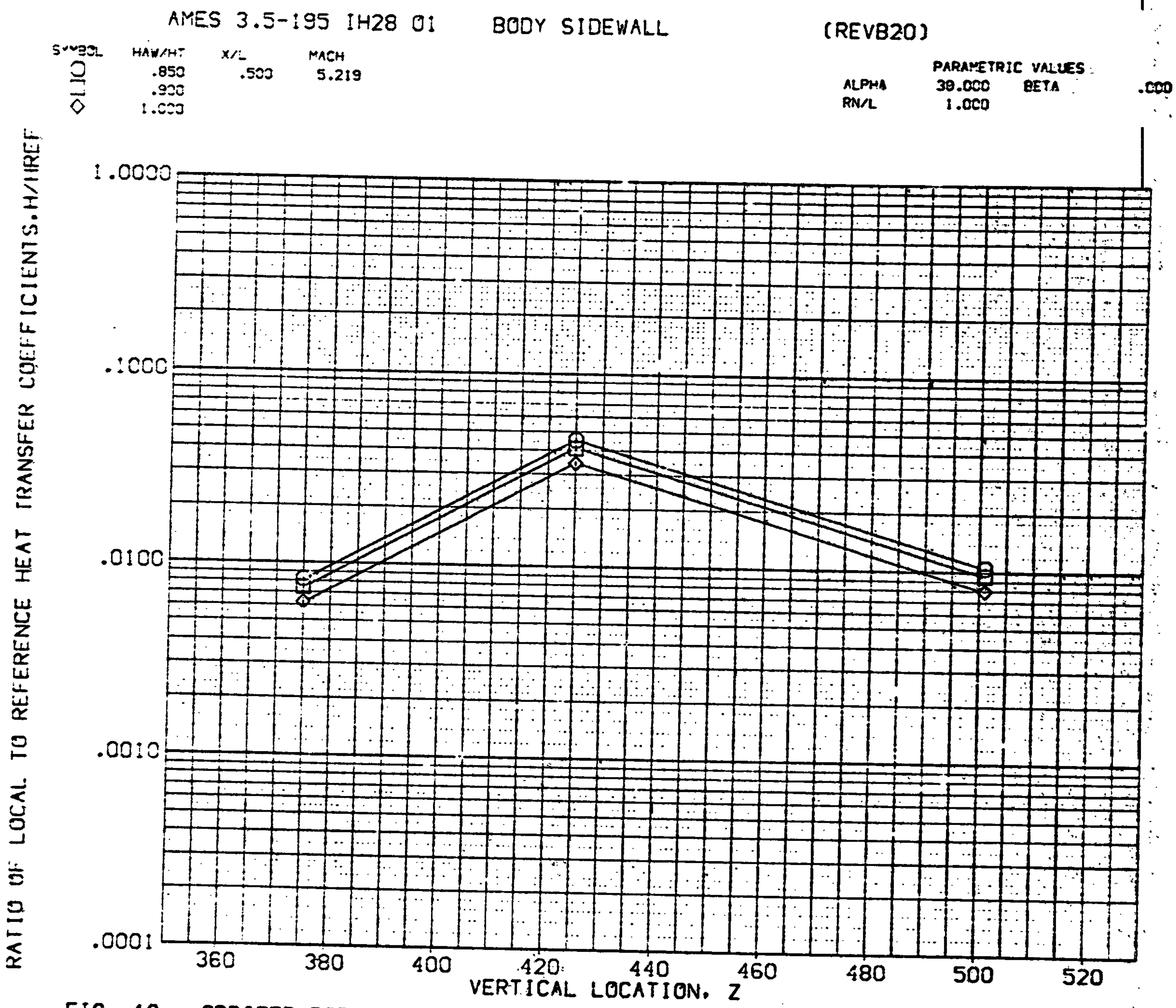

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

AMES 3.5-195 IH28 01 BODY SIDEWALL (REVB20)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.600	5.219
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA 30.000 BETA .000
RN/L 1.000

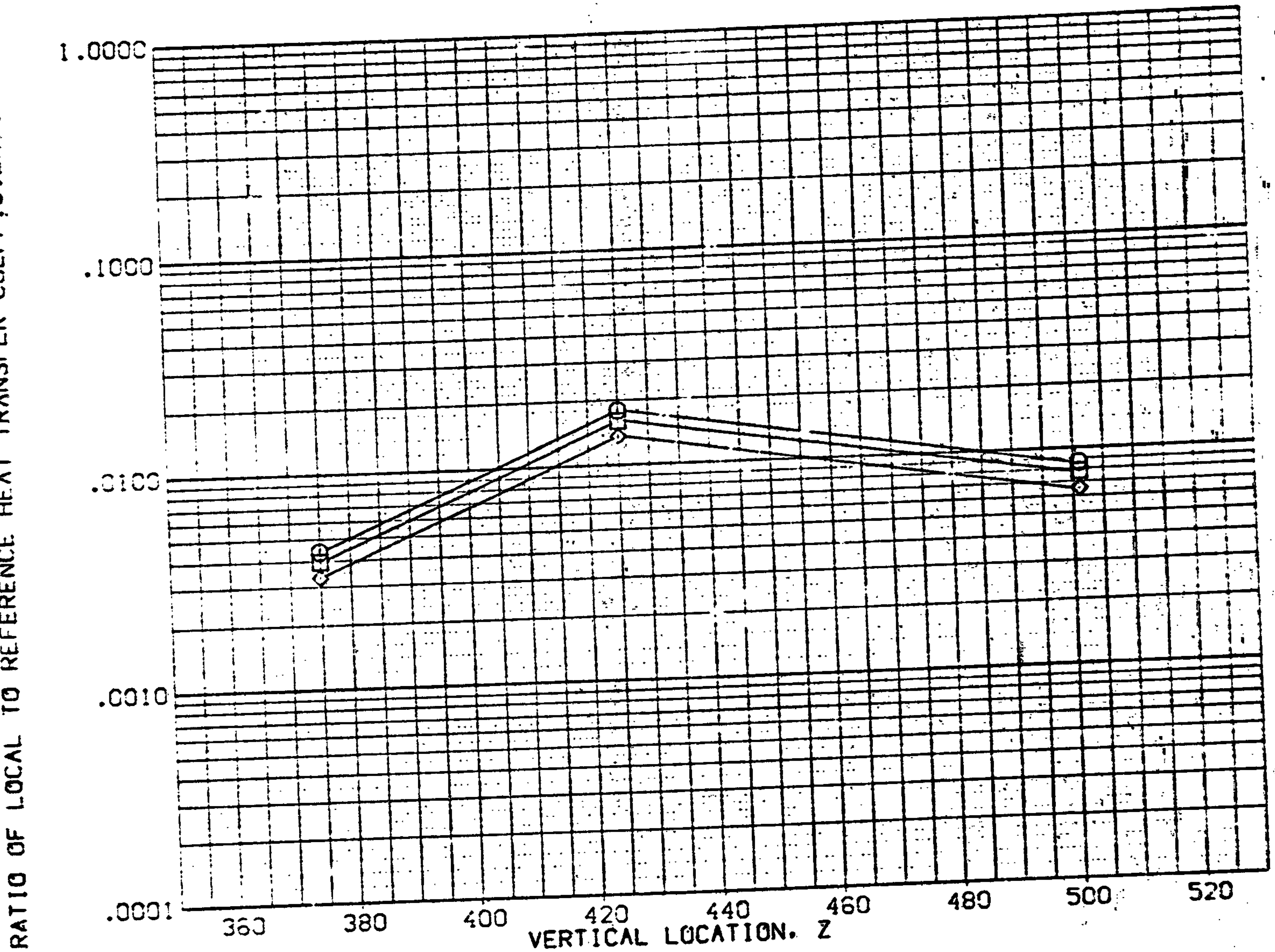

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

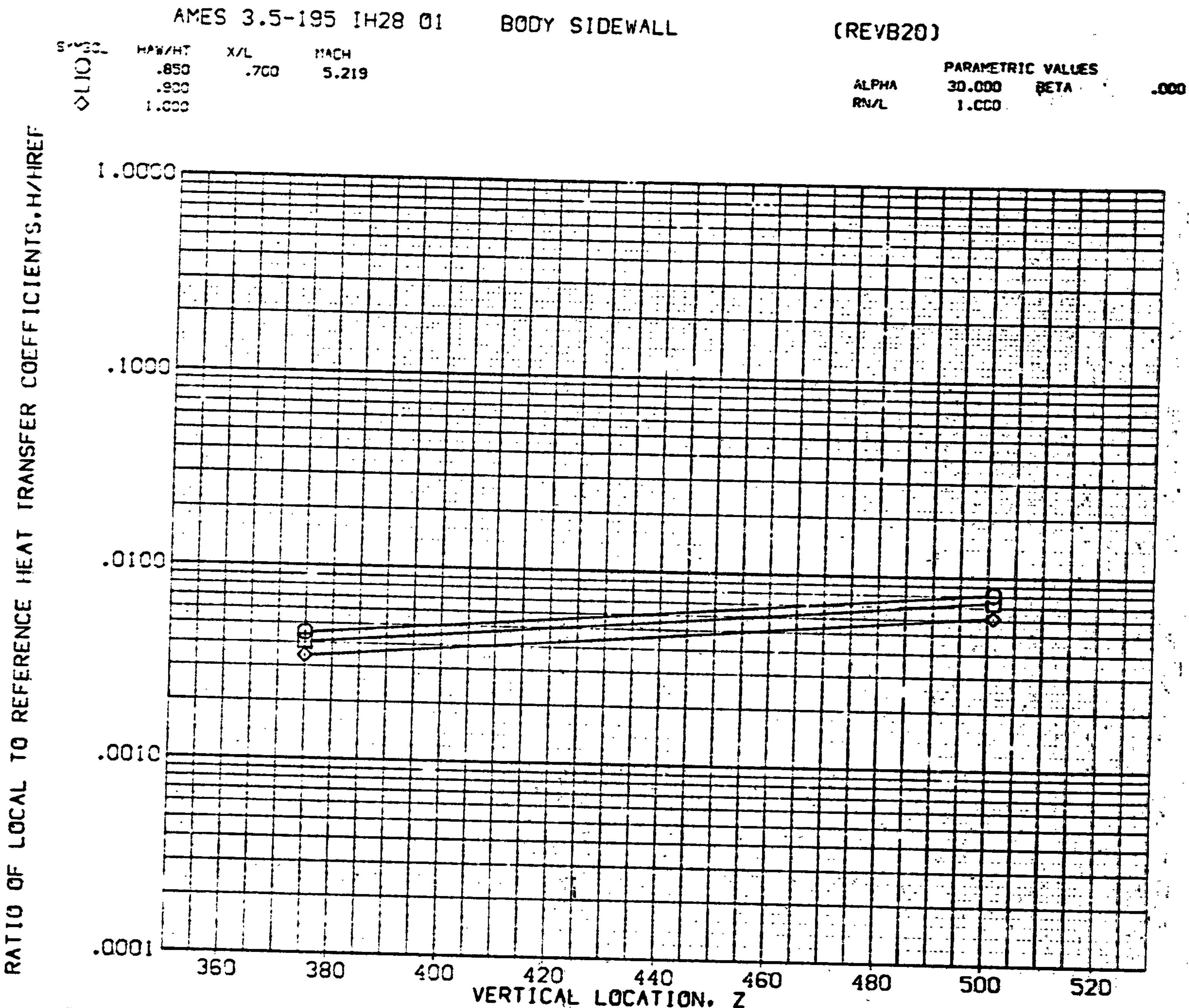

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

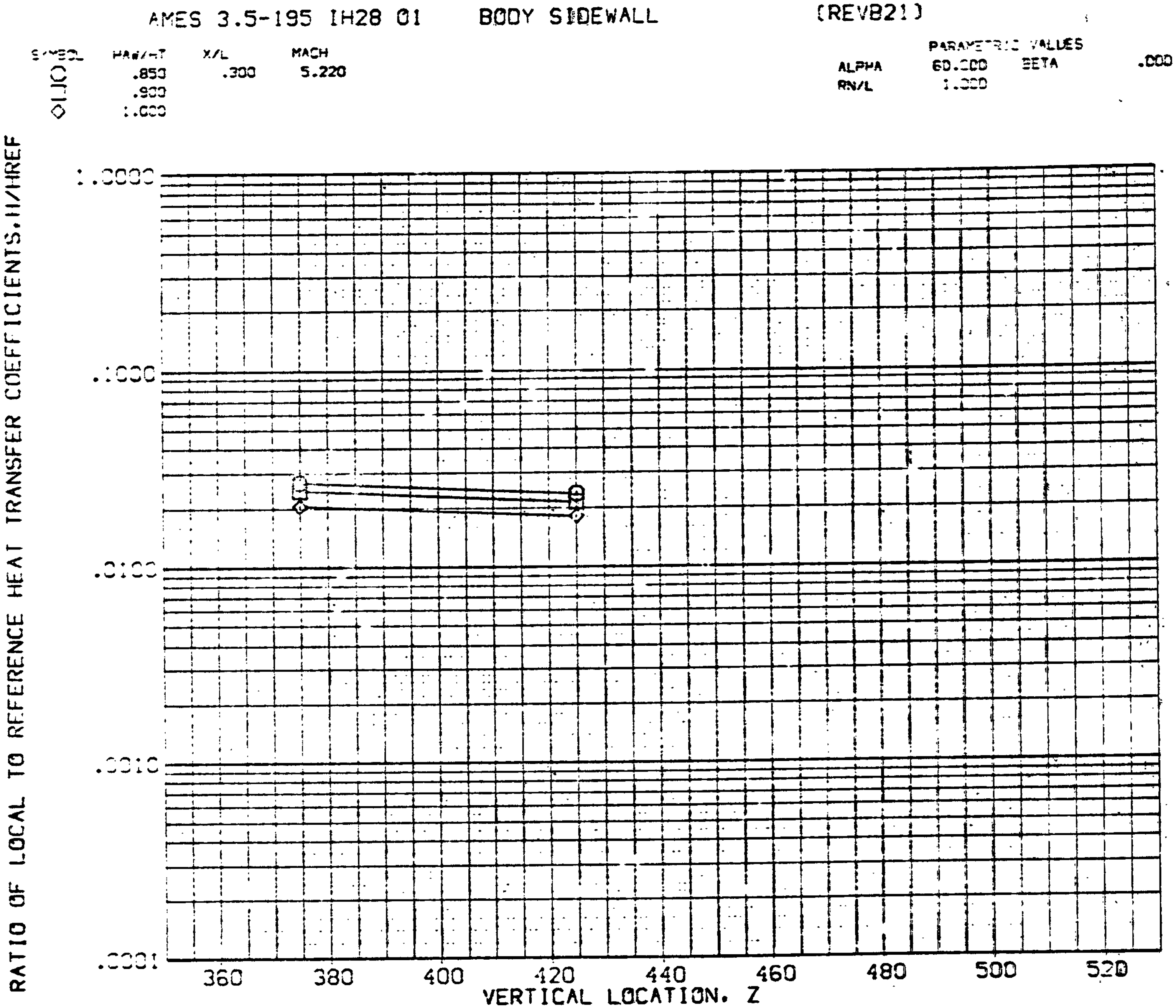

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

AMES 3.5-195 IH28 01 BODY SIDEWALL (REVB21)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.400	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA 60.000 BETA .000
RN/L 1.000

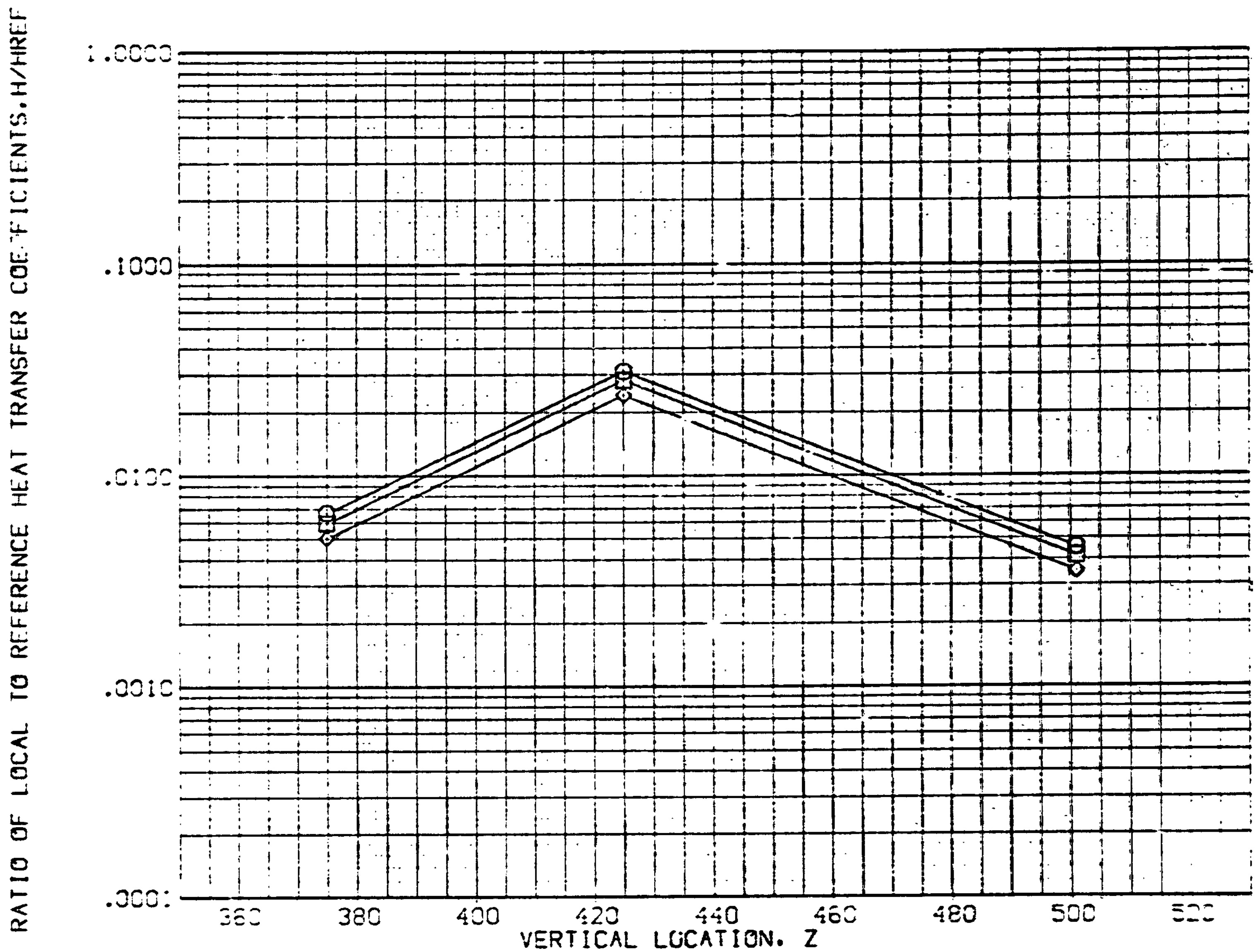

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

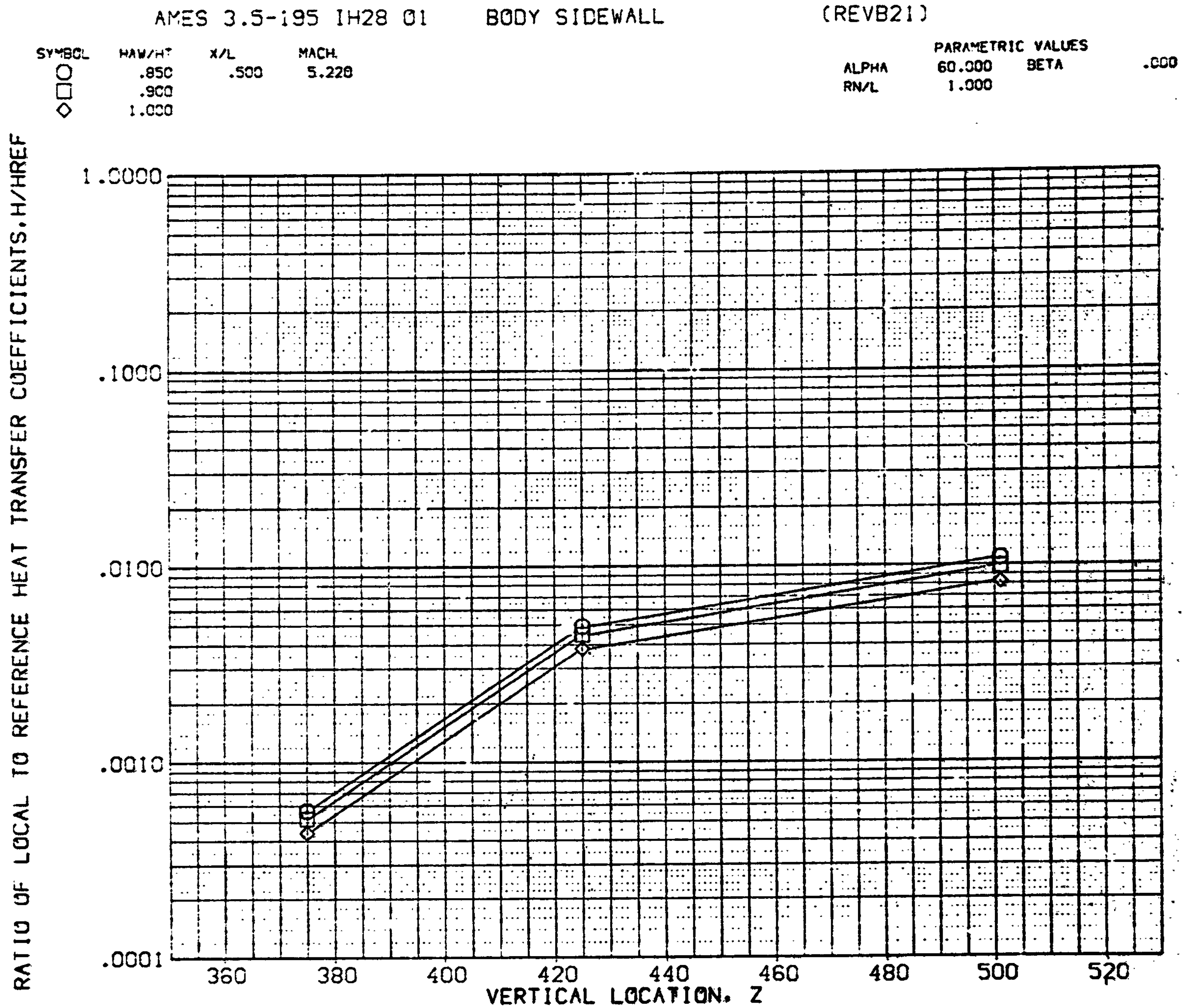

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

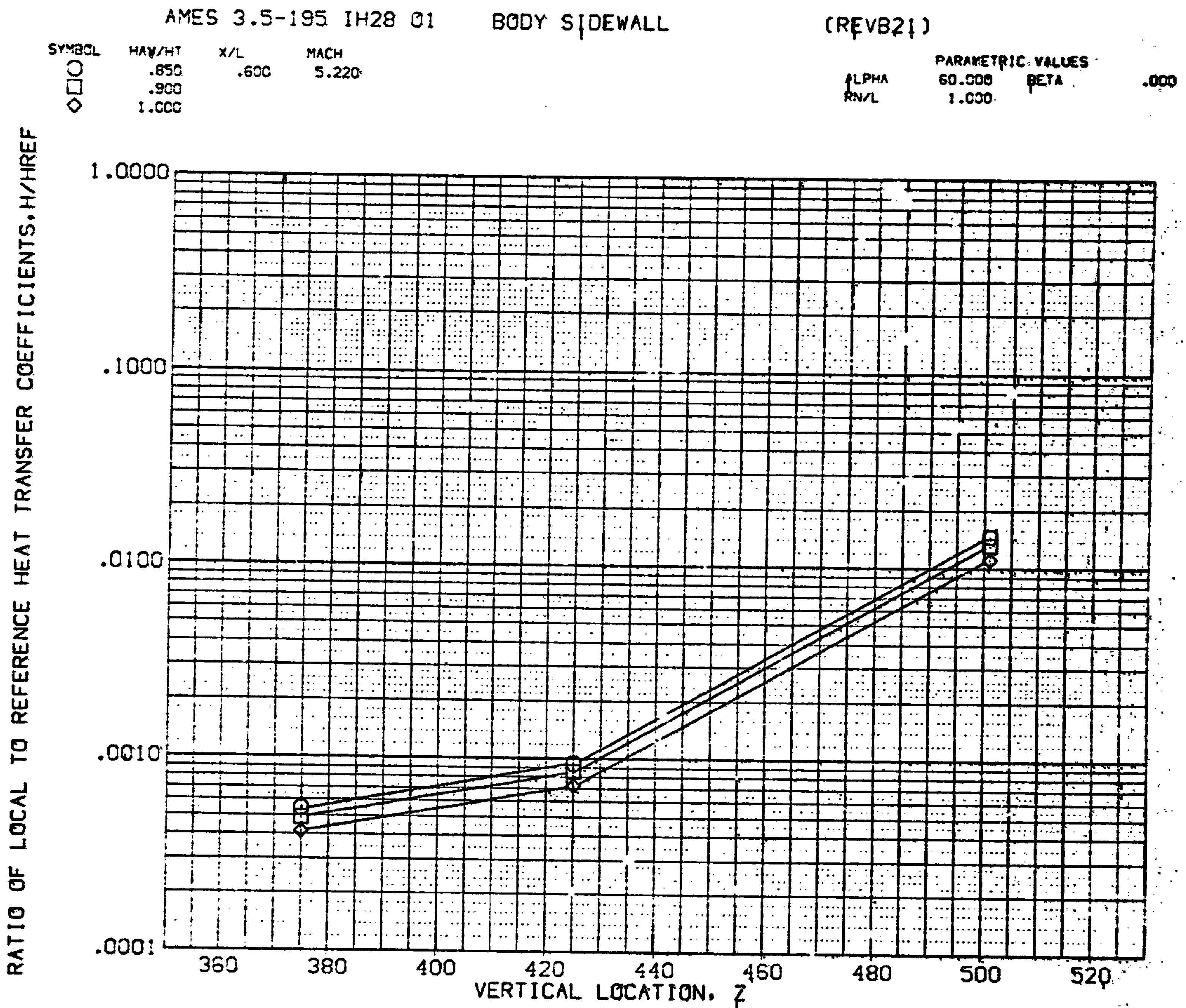

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

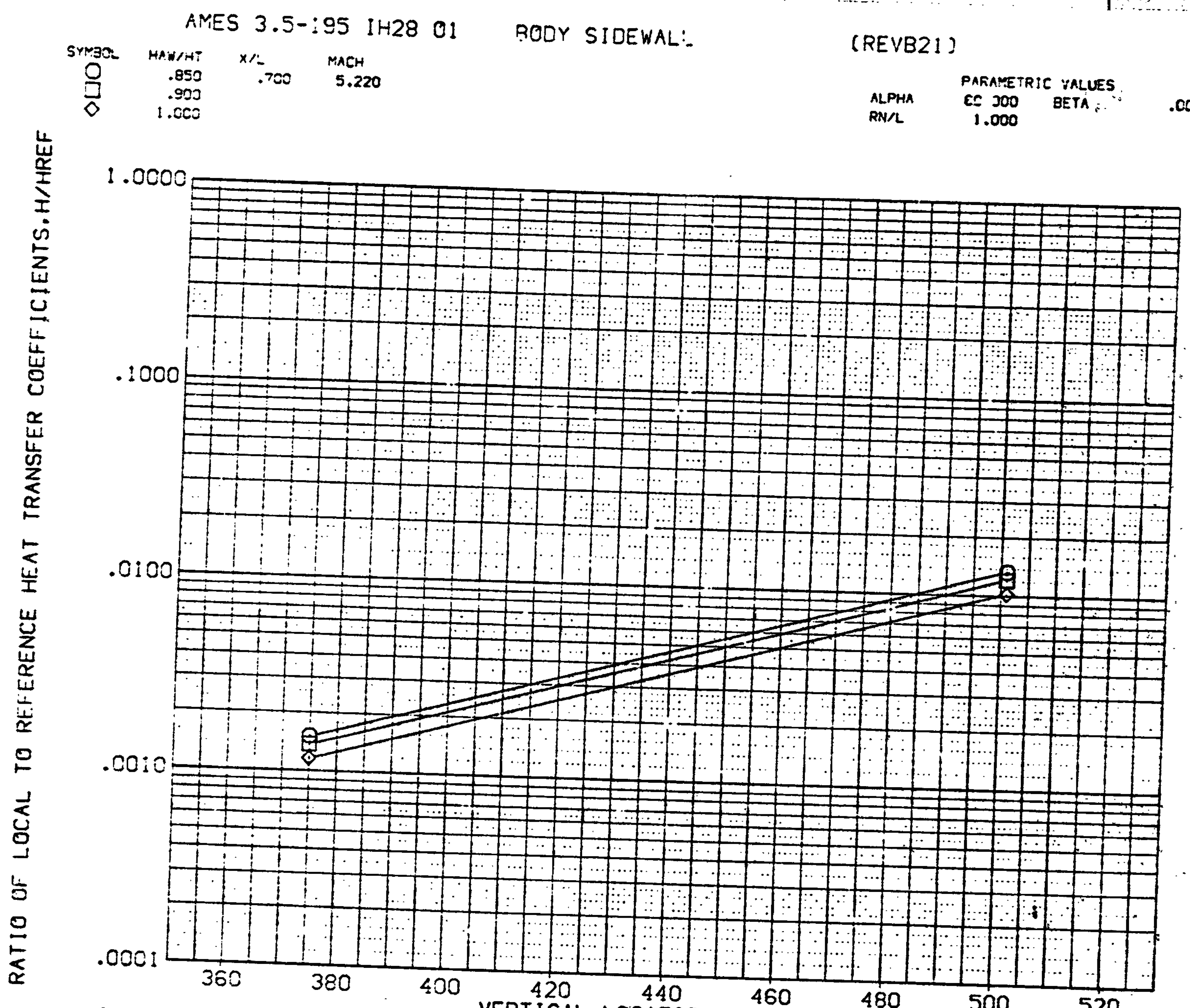

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

AMES 3.5-195 IH28 01 BODY SIDEWALL (REVB22)

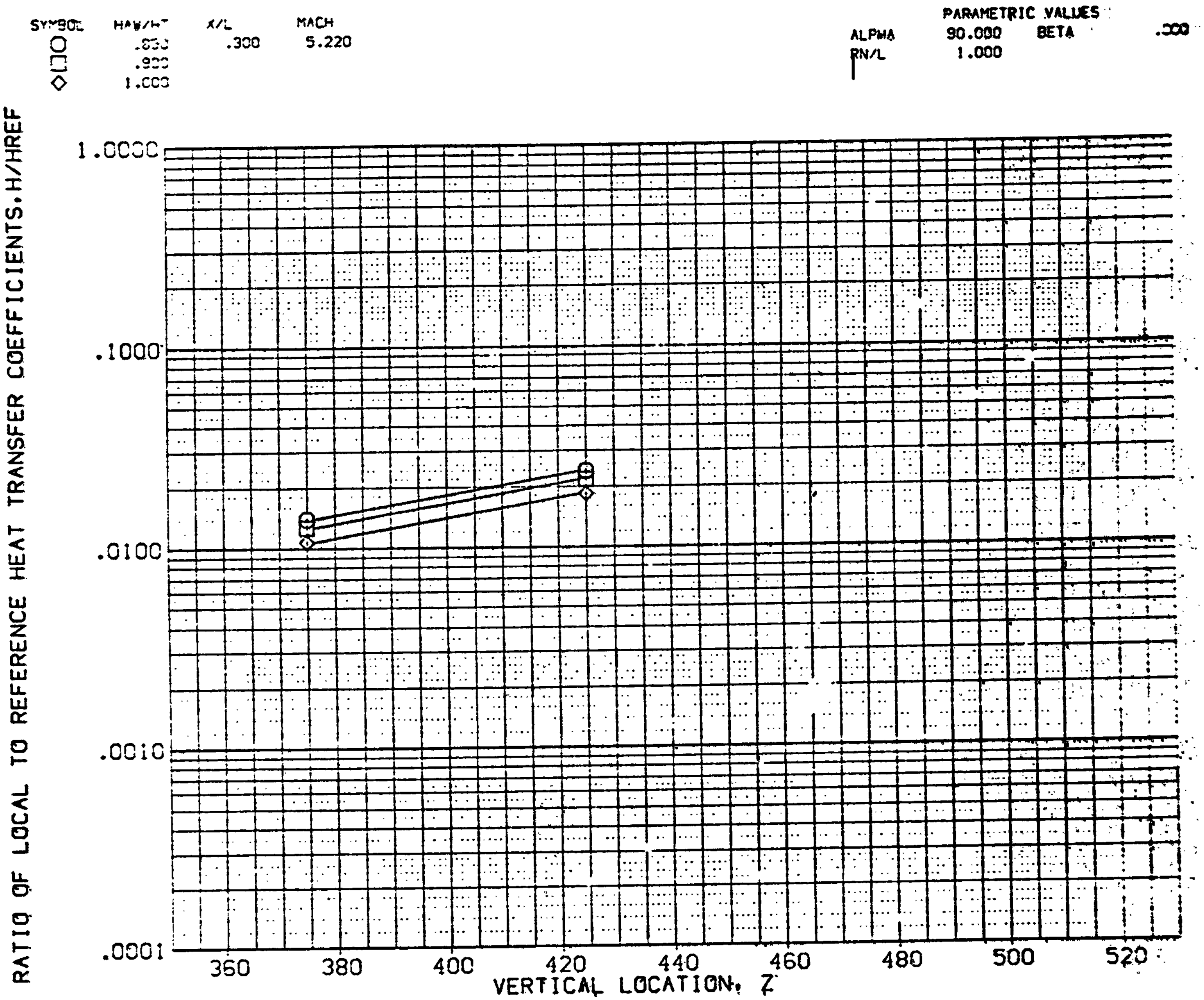

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

AMES 3.5-195 IH28 01 BODY SIDEWALL (REVB22)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.400	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA 90.000 BETA .000
RN/L 1.000

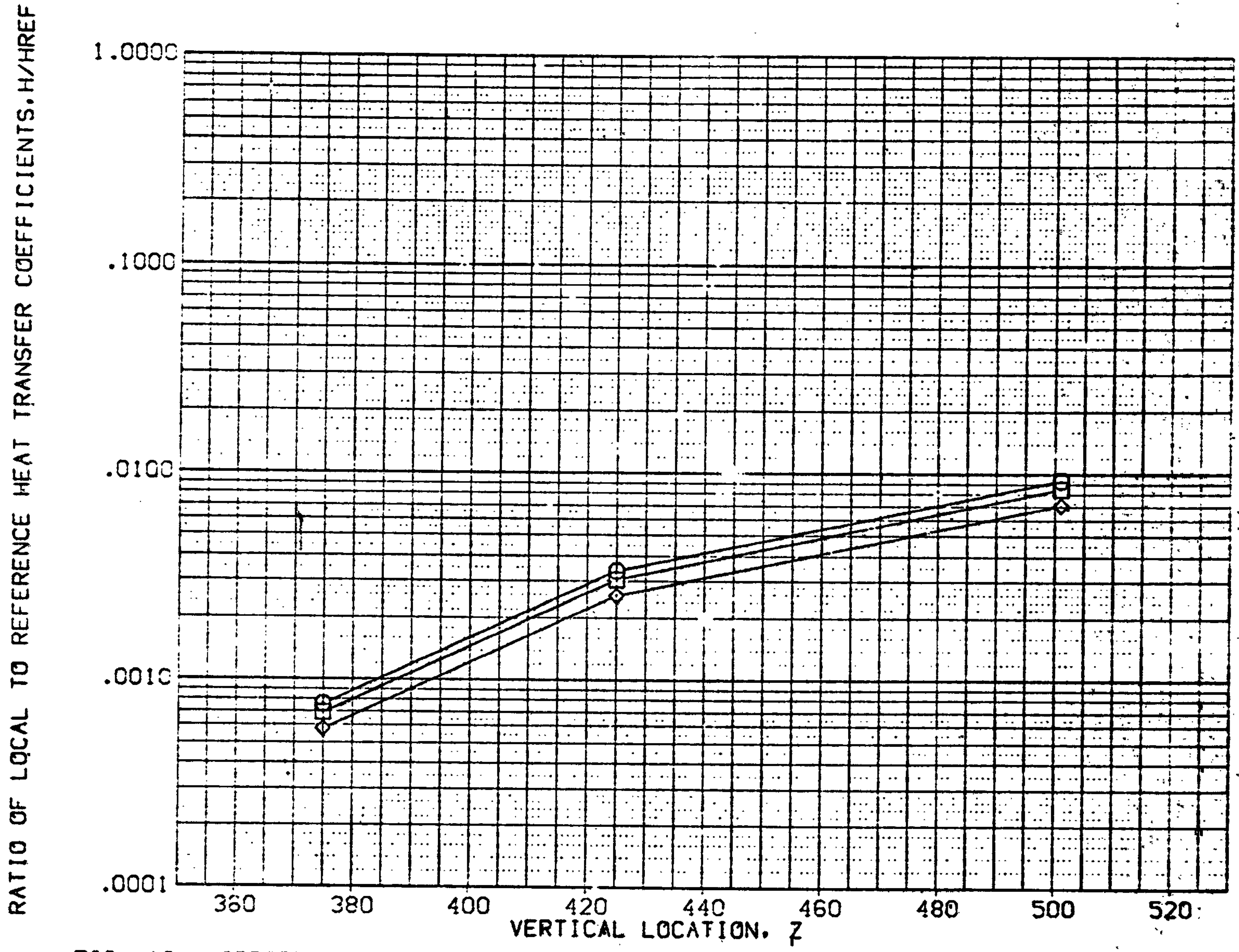

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

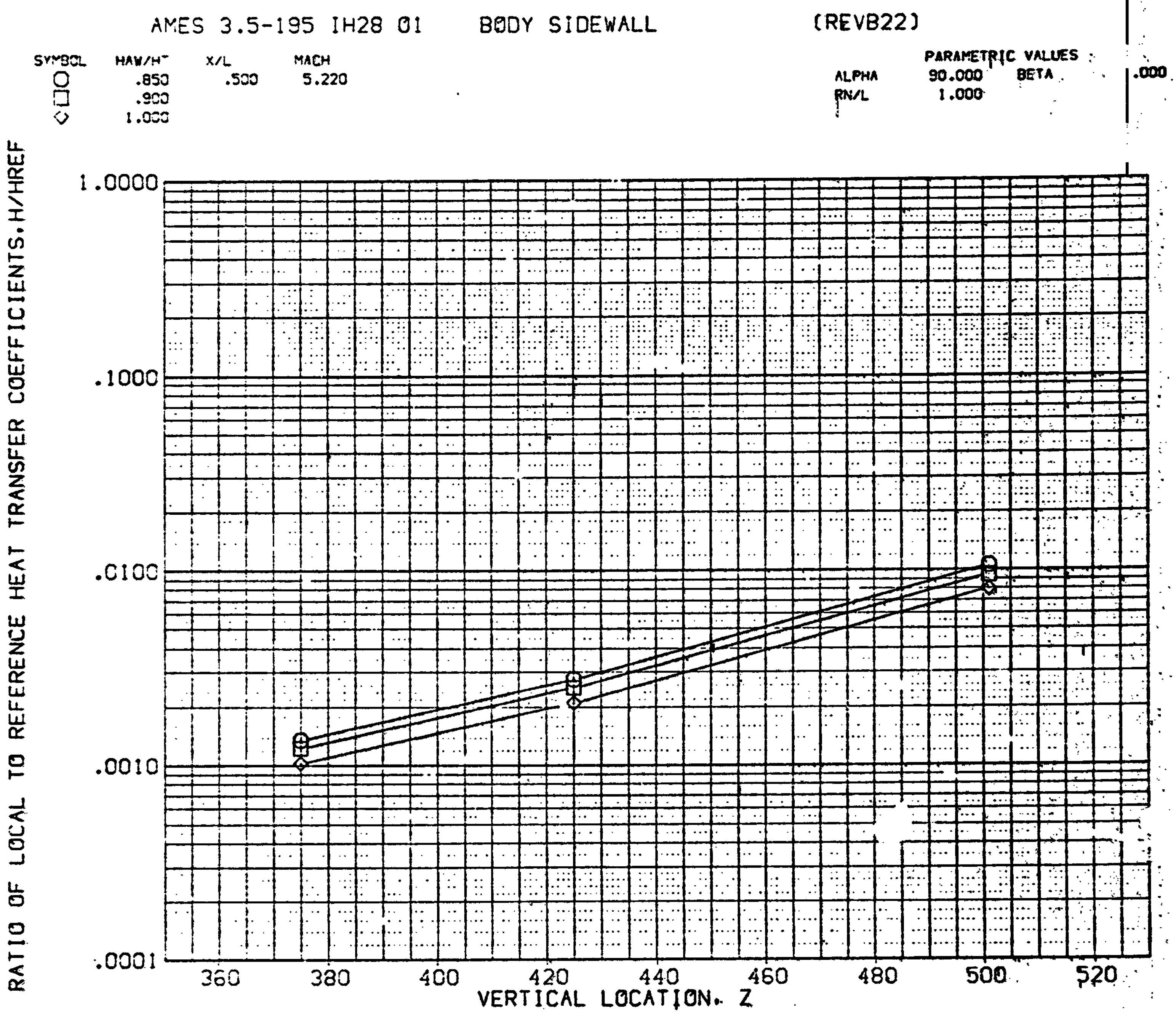

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

AMES 3.5-195 IH28 01 BODY SIDEWALL (REVB22)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.600	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA 90.000 BETA .000

RN/L 1.000

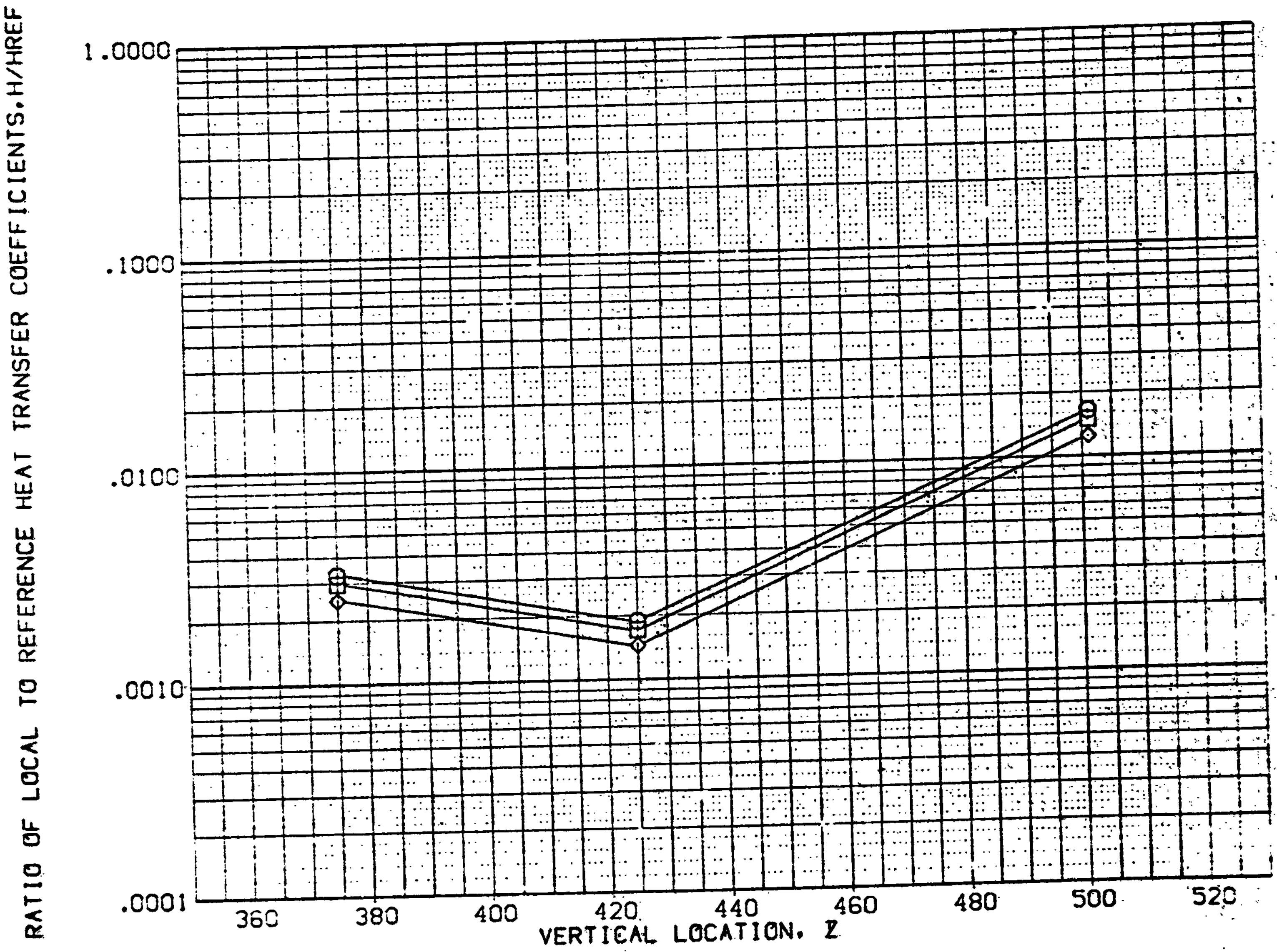

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

AMES 3.5-195 IH28 01 BODY SIDEWALL (REVB22)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.700	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES
ALPHA 90.000 BETA .000
1.000

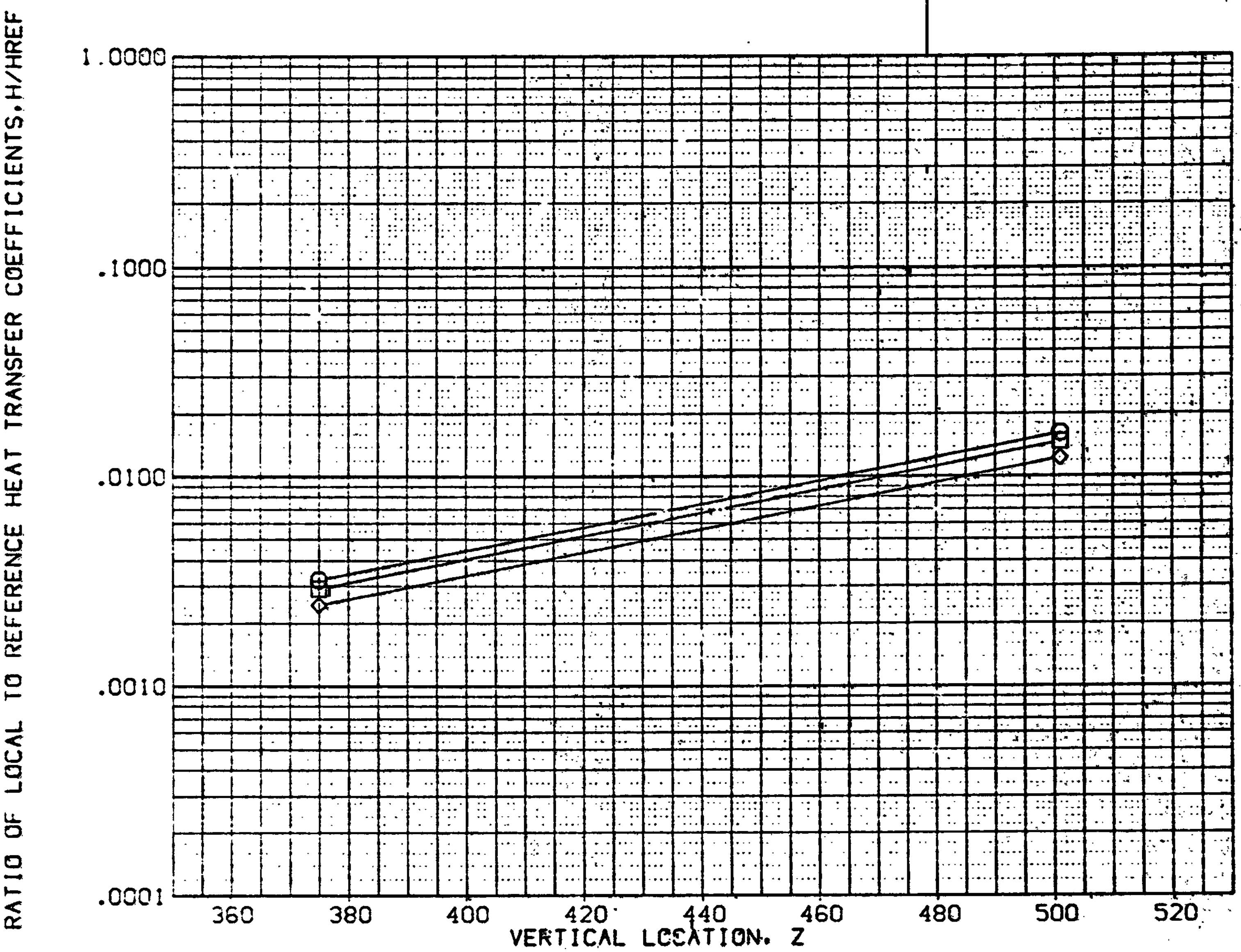

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

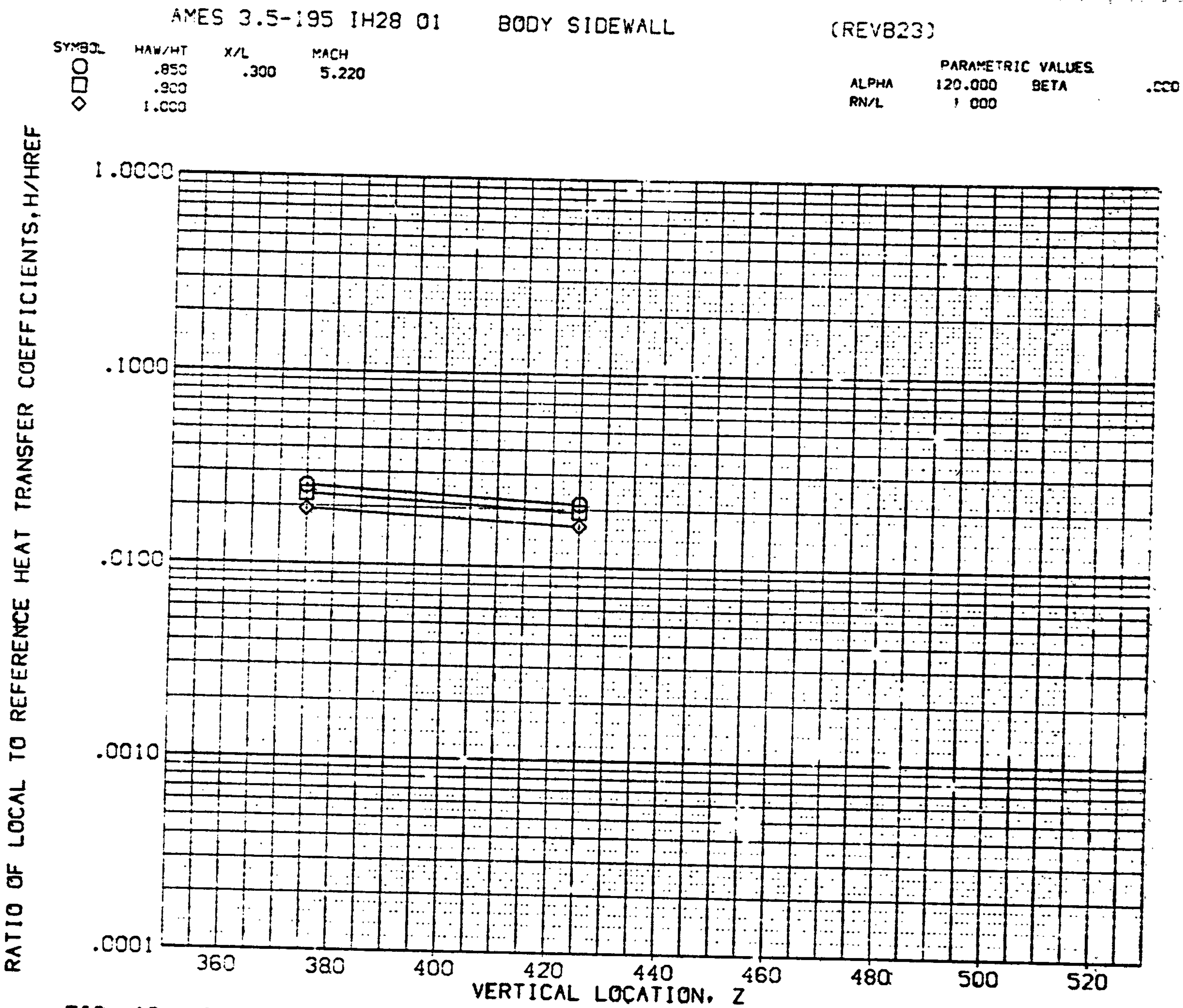

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

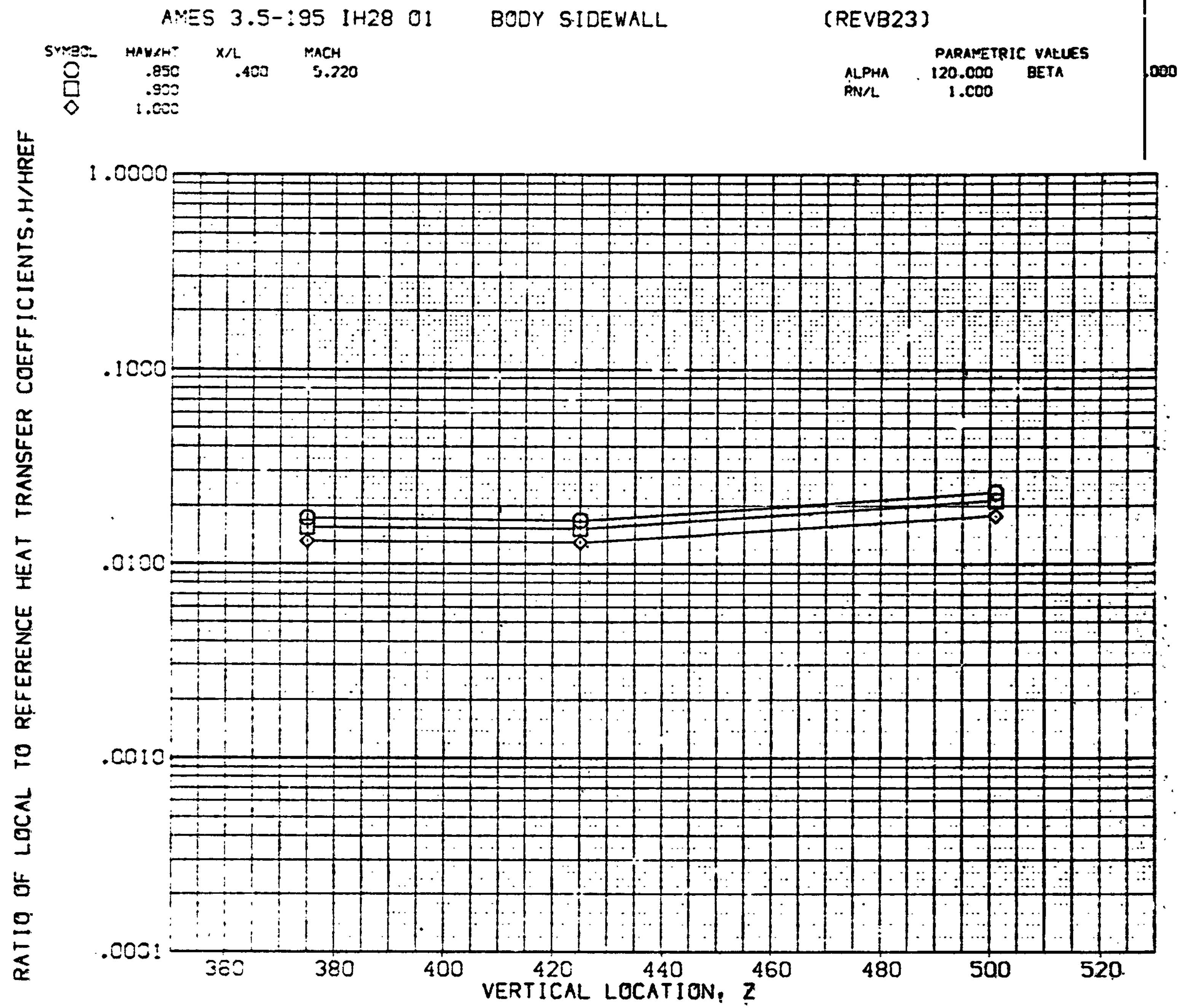

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

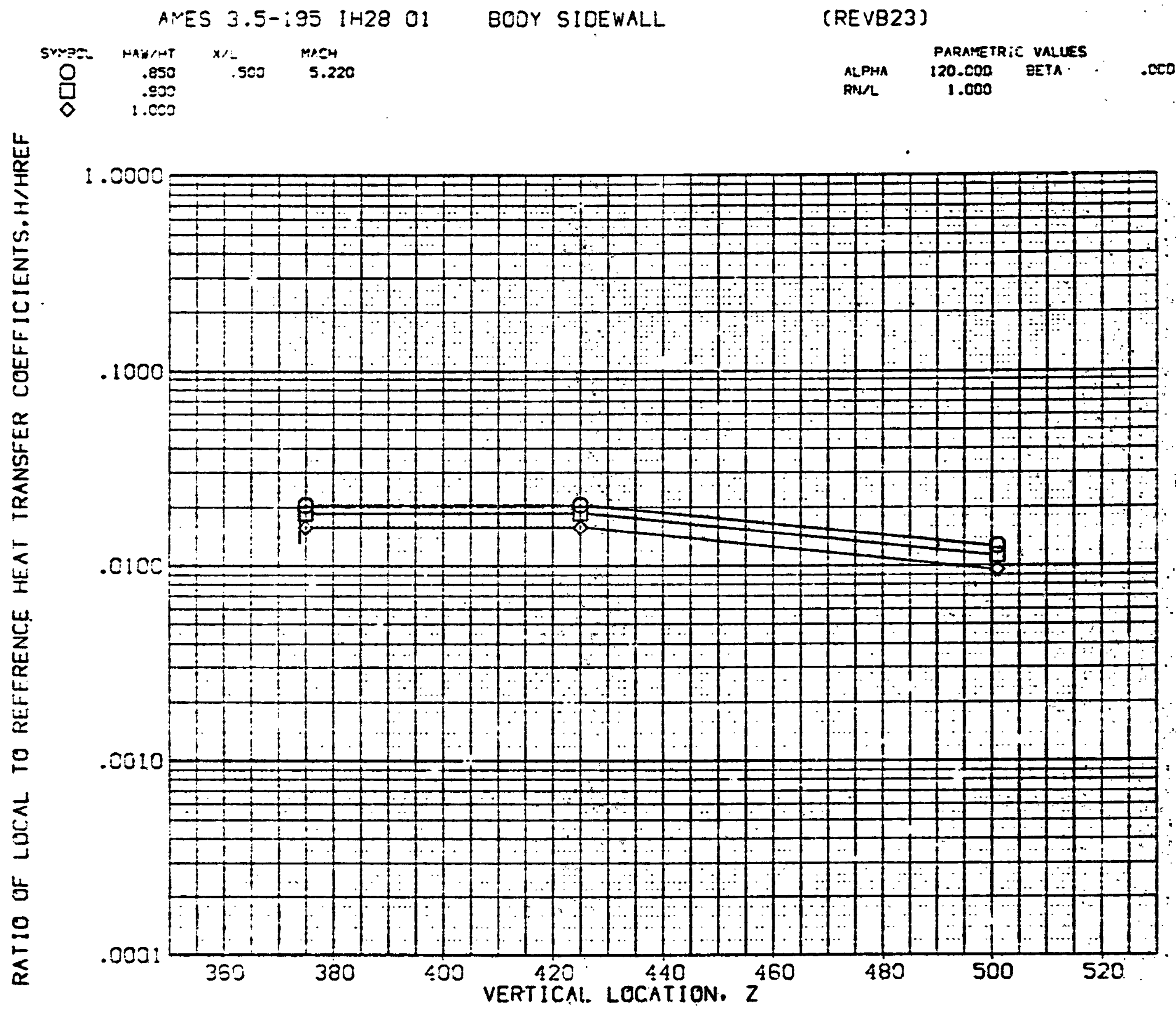

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

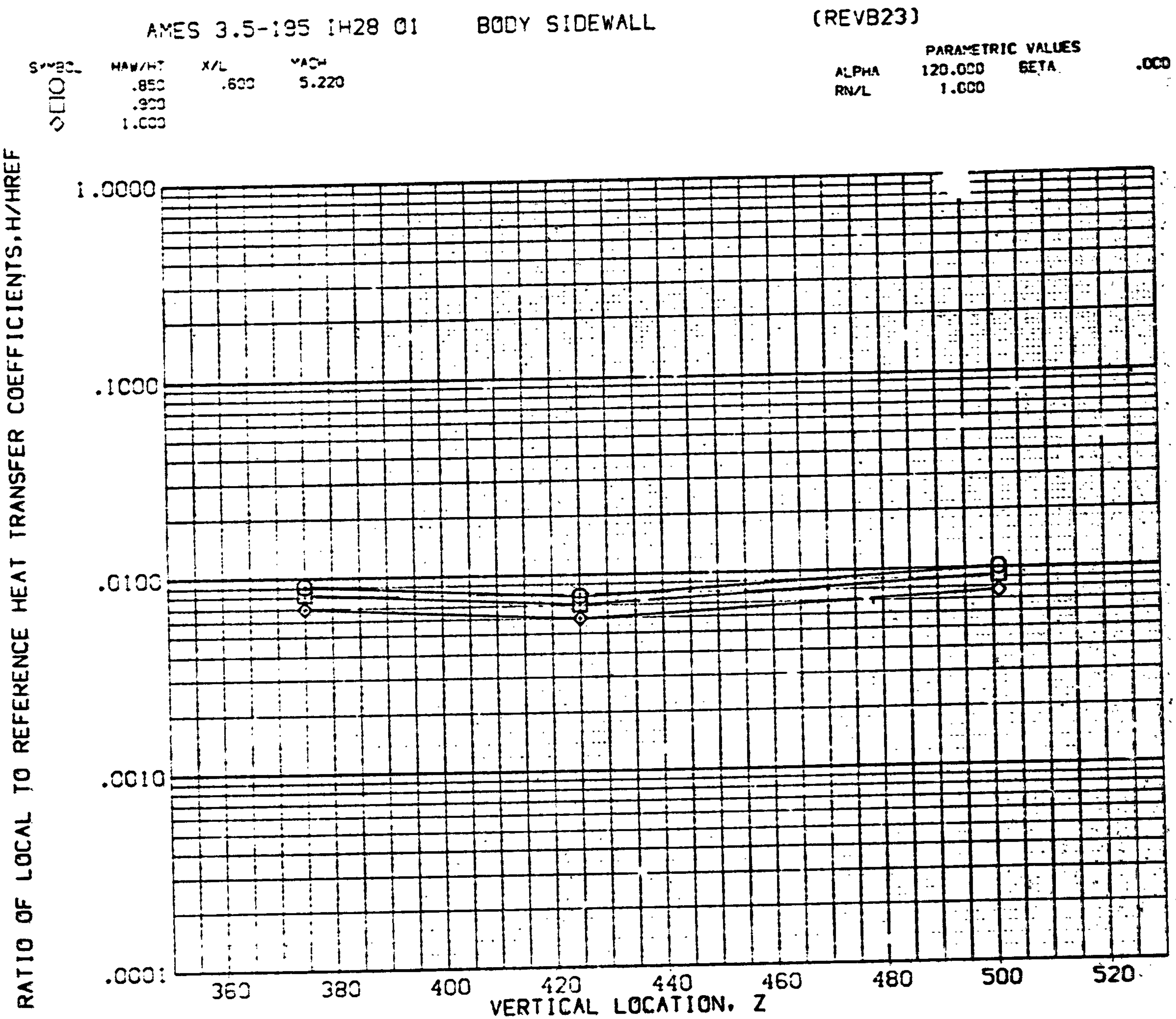

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

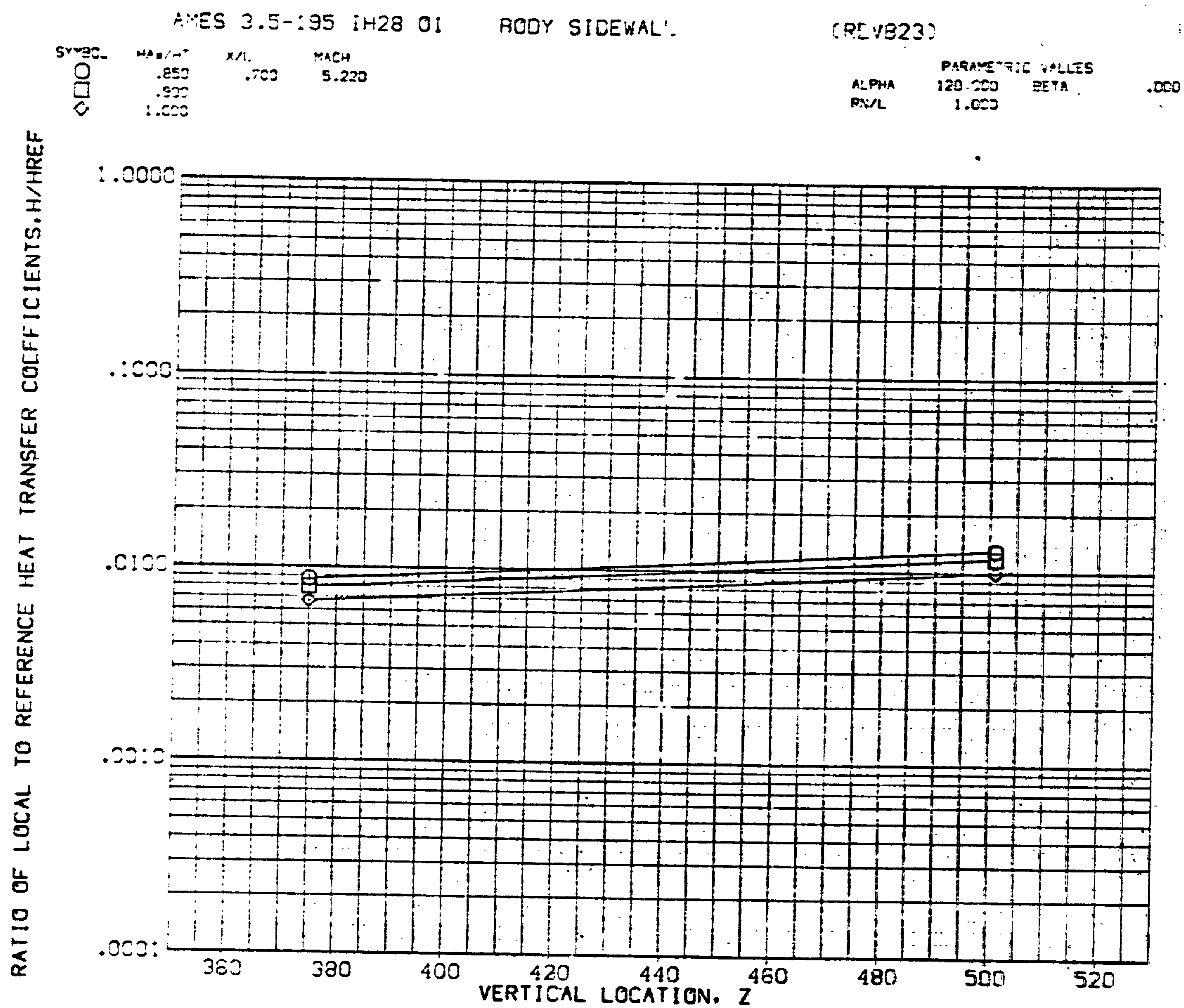

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

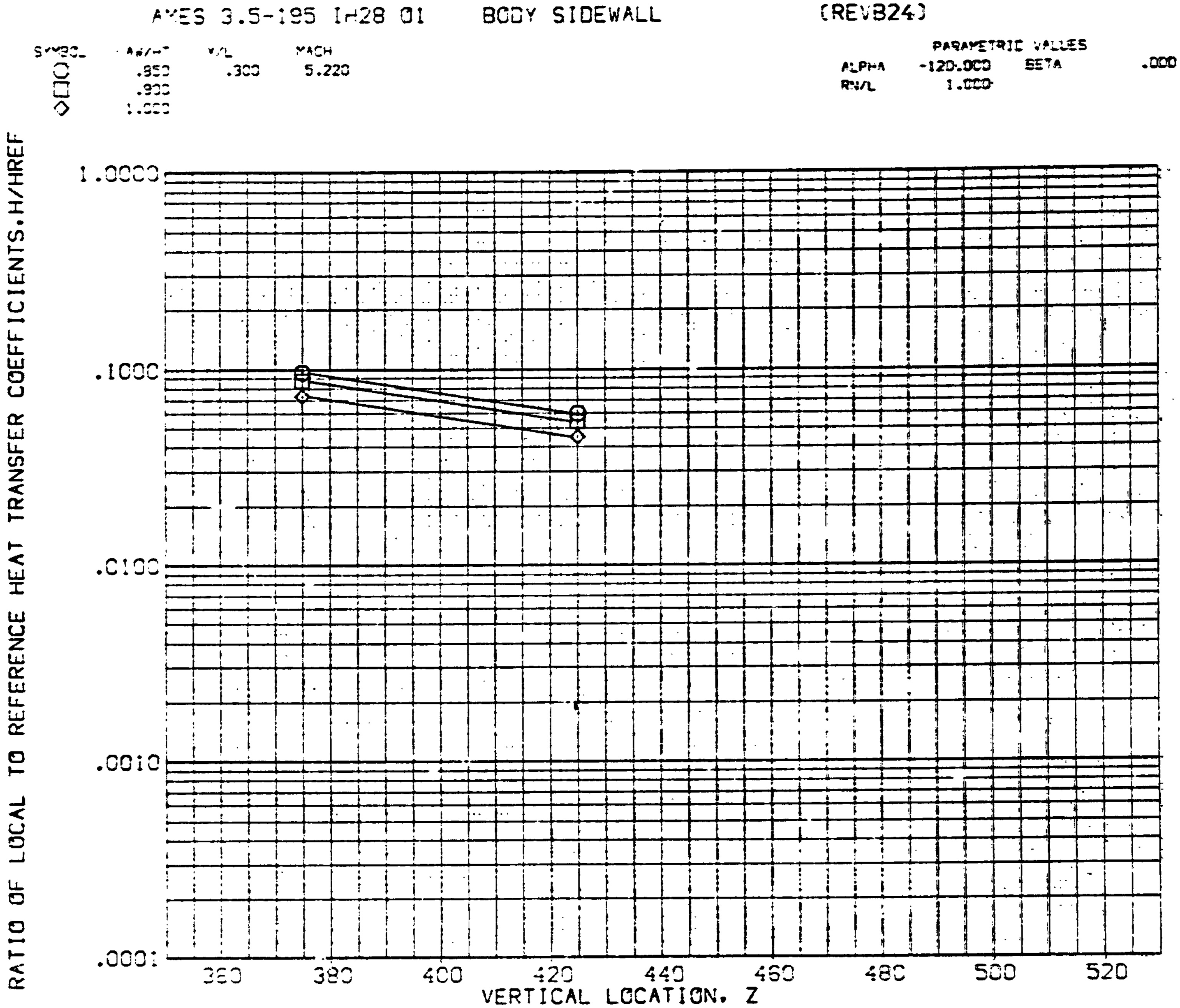

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

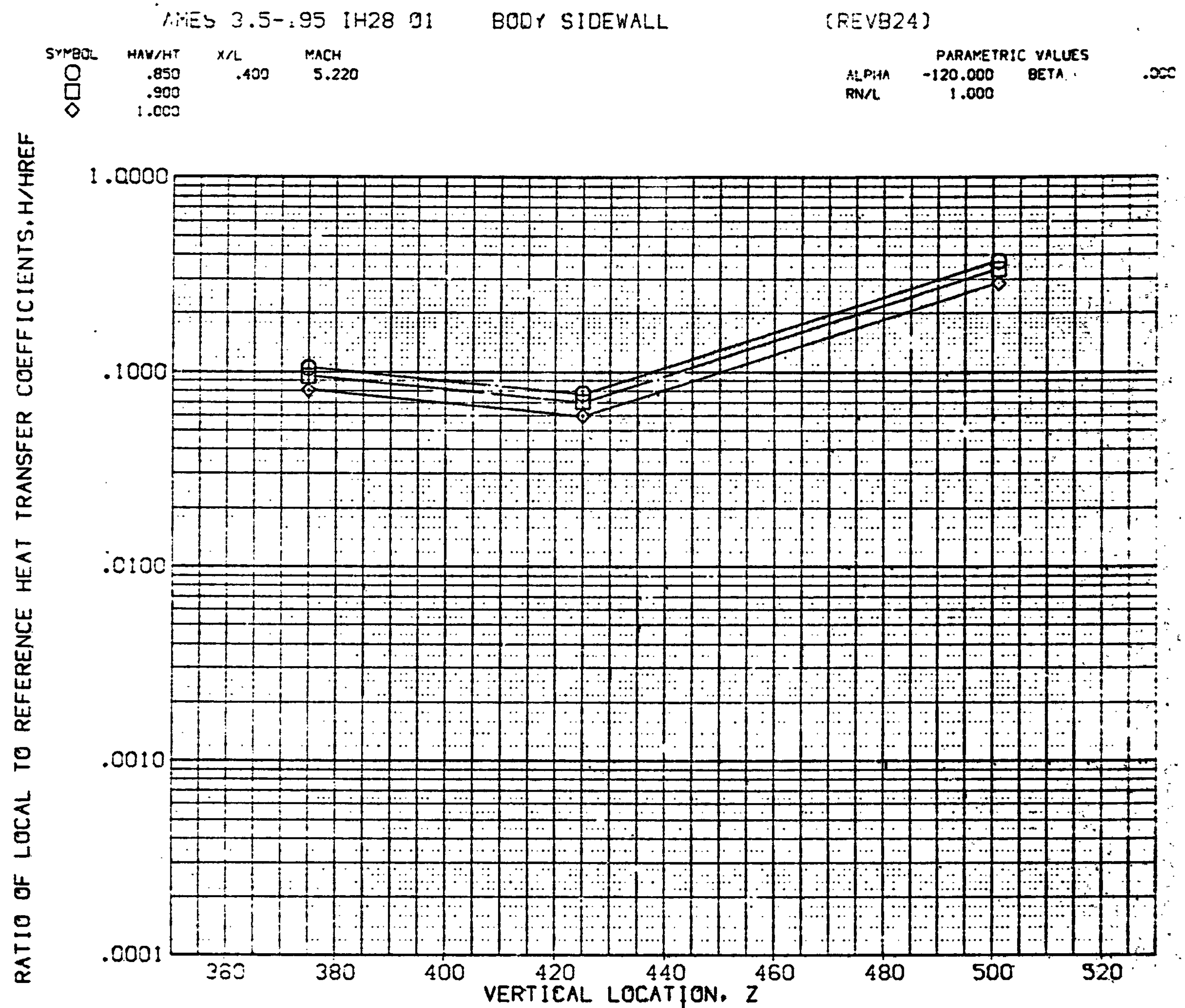

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

AMES 3.5-195 IH28 01 BODY SIDEWALL (REVB24)

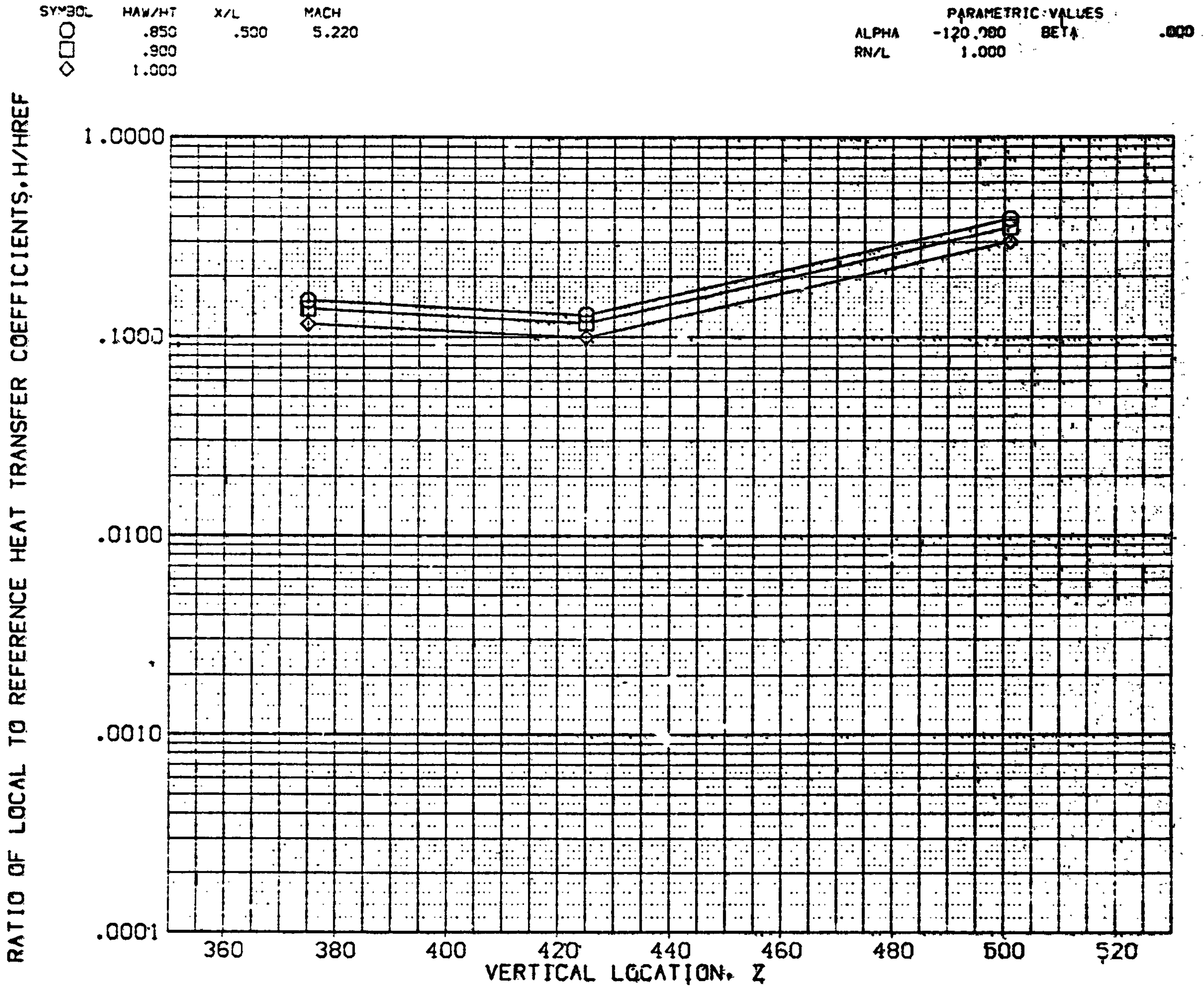

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

AMES 3.5-195 IH28 01 BODY SIDEWALL (REVB24)

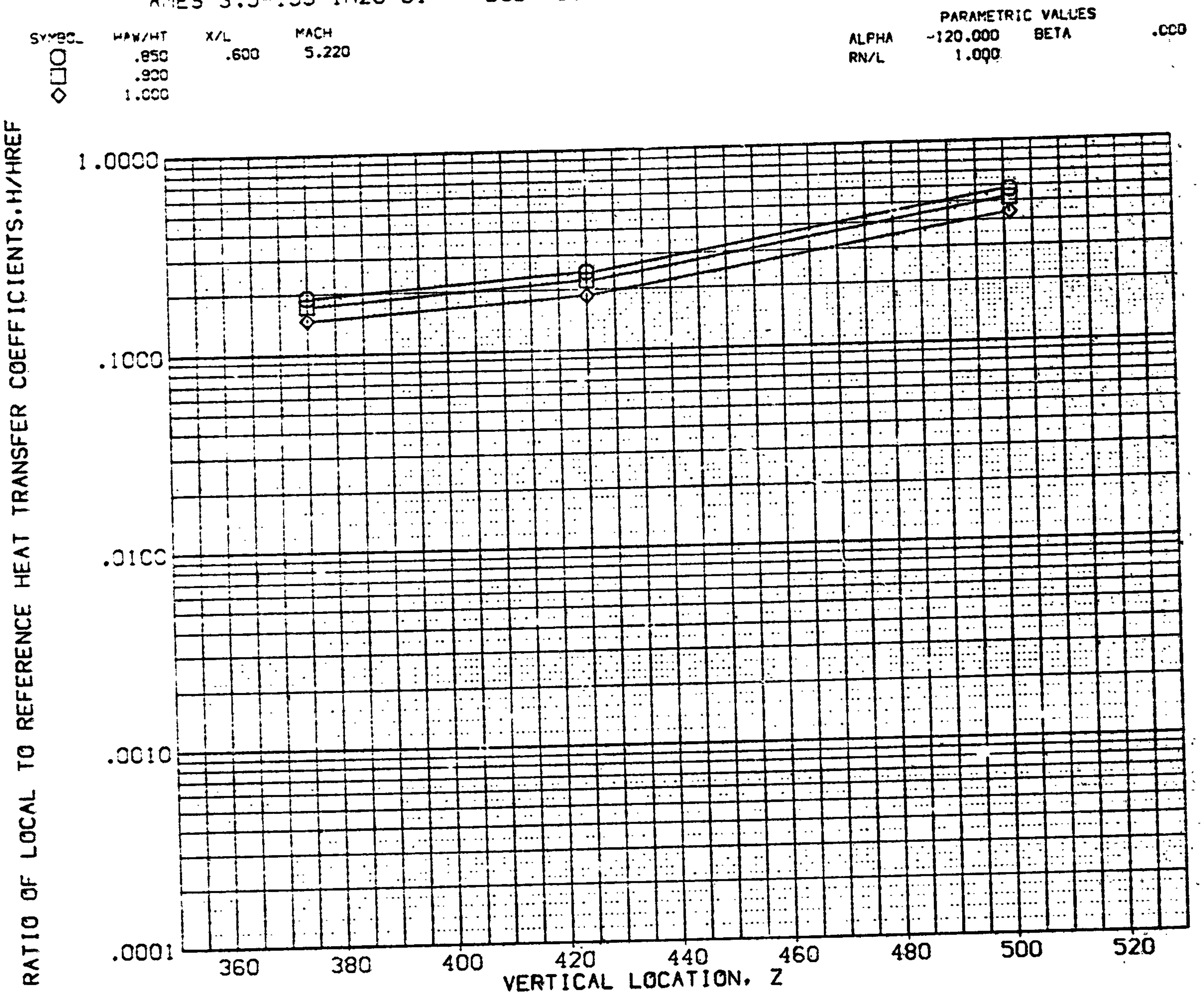

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

AMES 3.5-195 IH28 01 BODY SIDEWALL (REVB24)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.700	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA	-120.000	BETA	.000
RN/L	1.000		

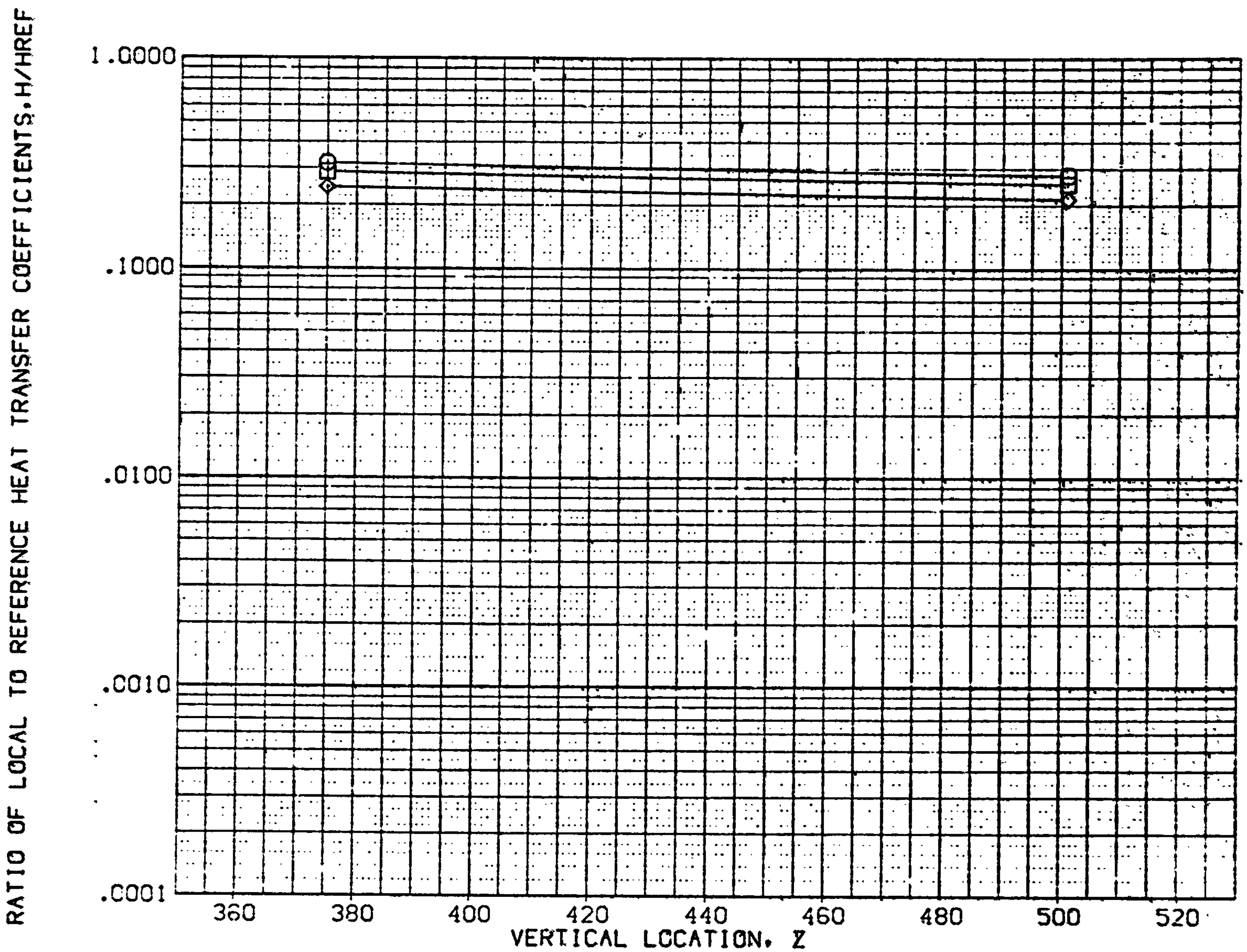

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

AMES 3.5-195 IH28 01 BODY SIDEWALL (REVB25)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.300	5.219
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA -90.000 BETA .000

RN/L 1.000

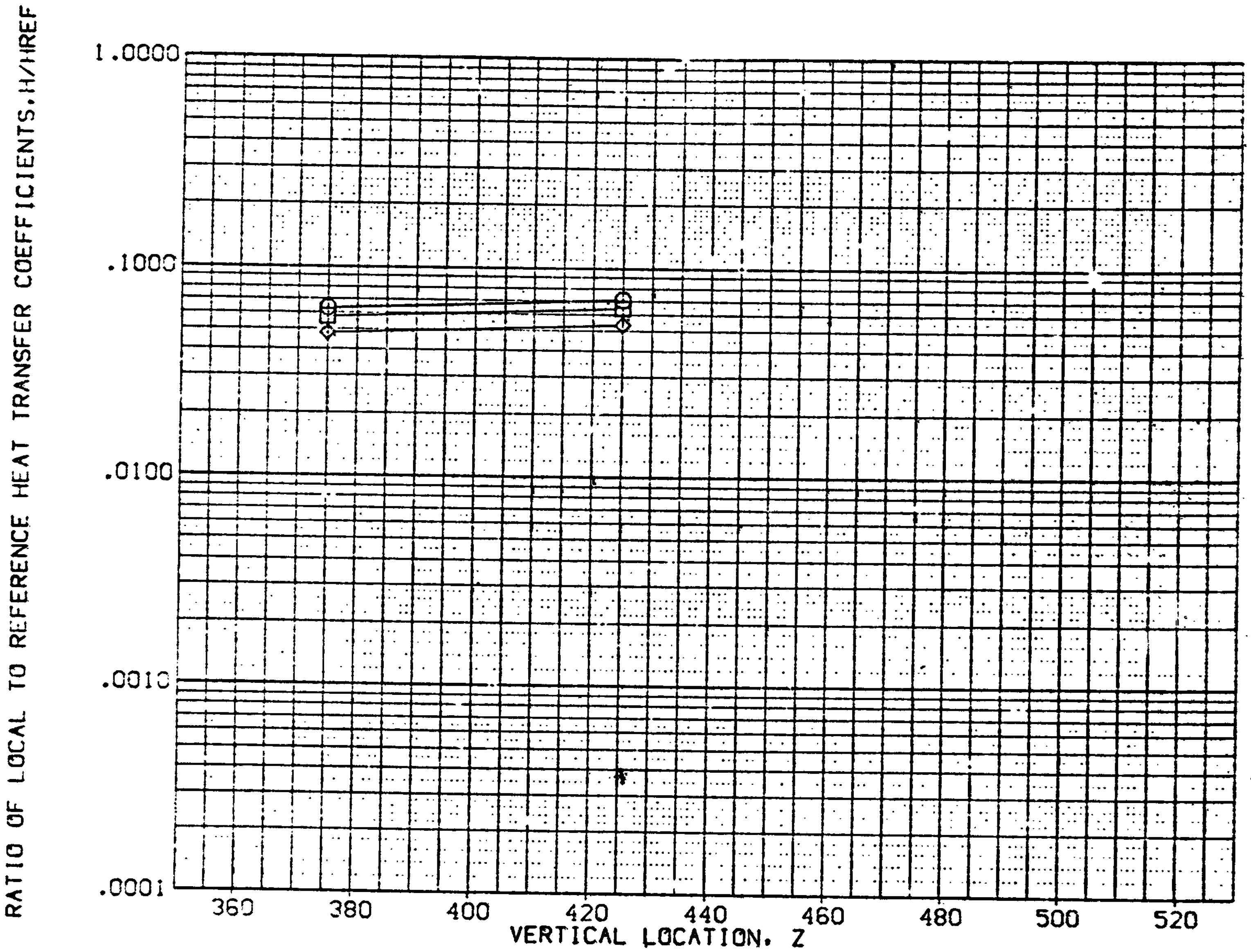

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

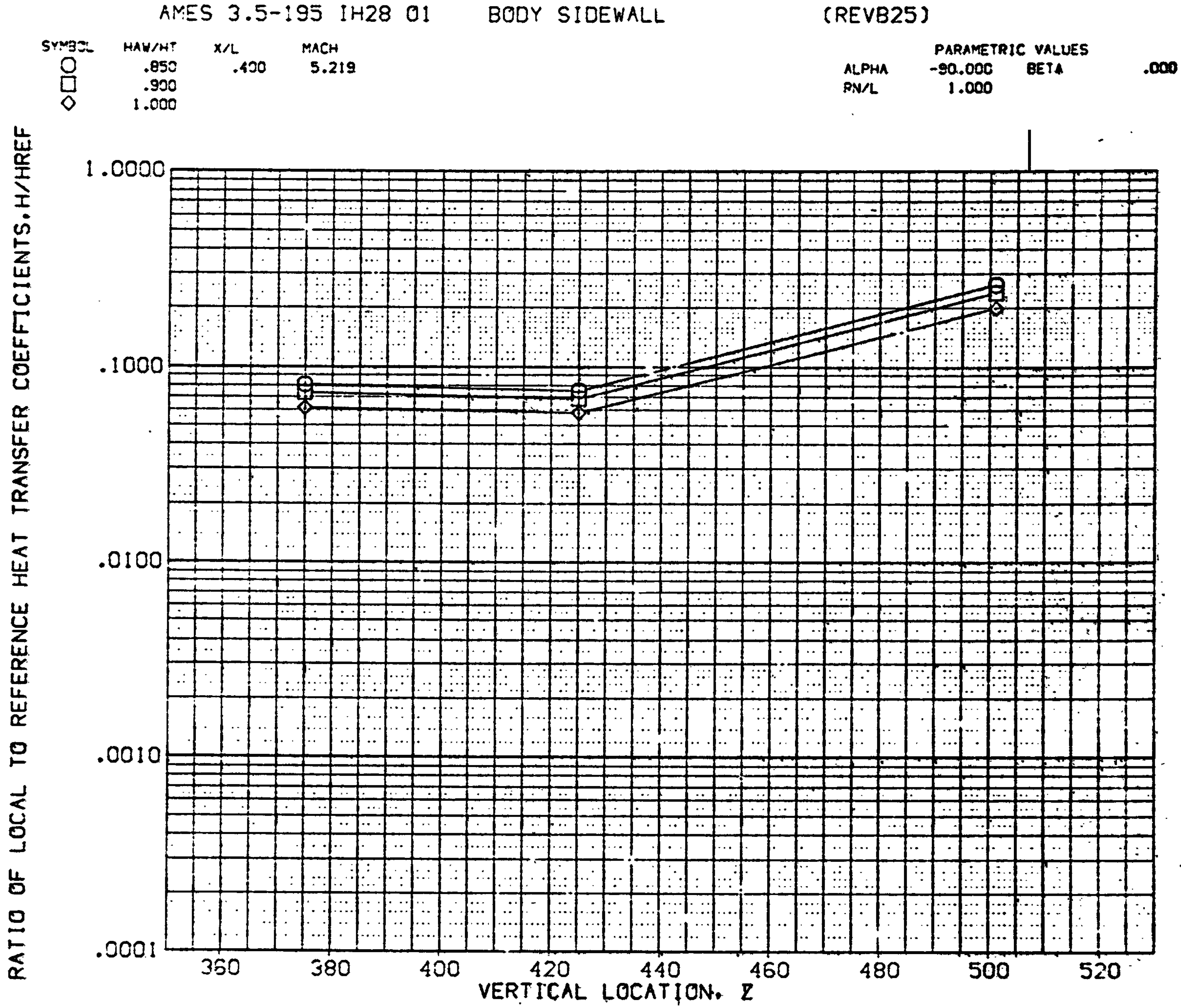

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

AMES 3.5-195 IH28 01   BODY SIDEWALL   (REVB25)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.500	5.219
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA	-90.000	BETA	.000
RN/L	1.000		

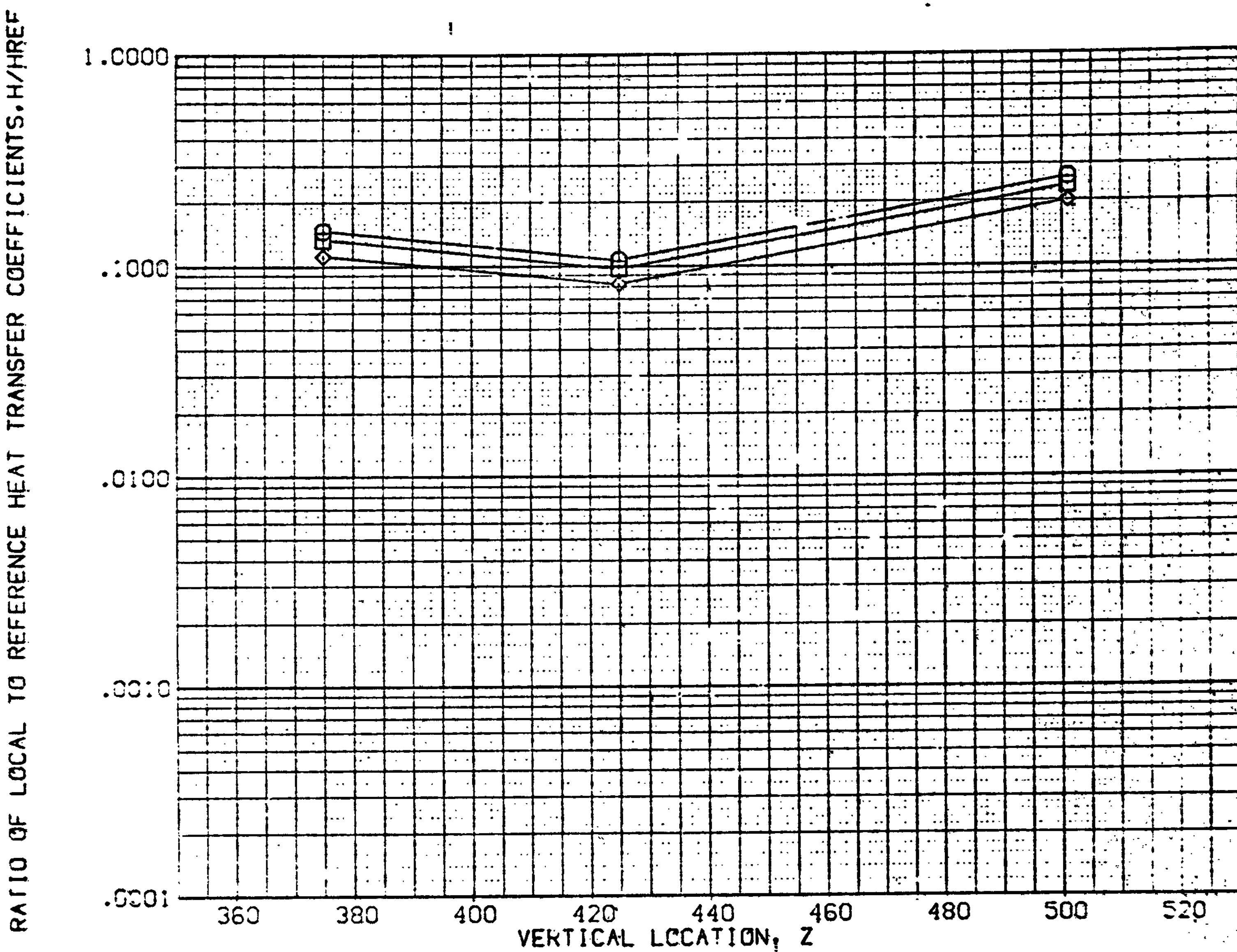

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

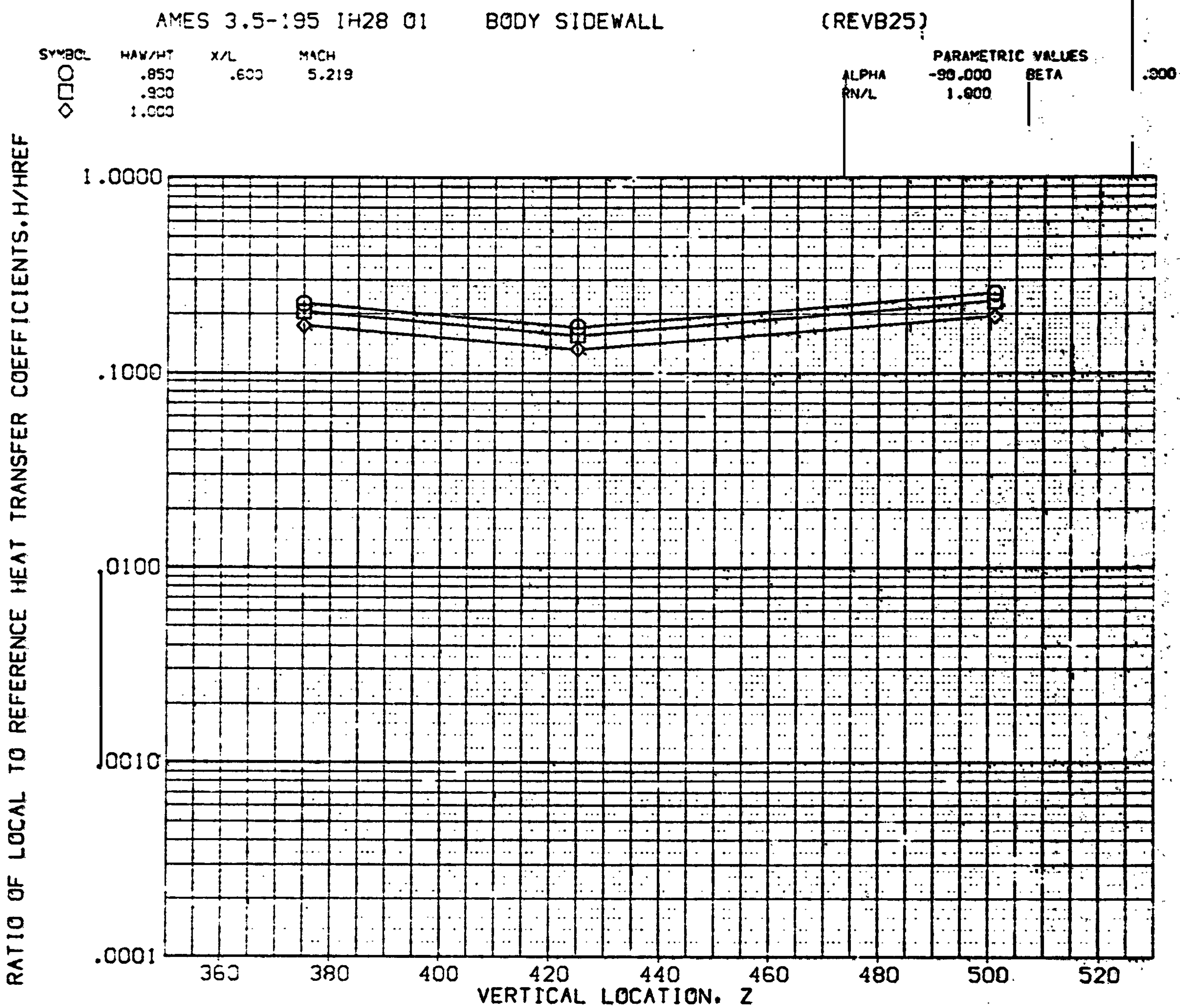

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

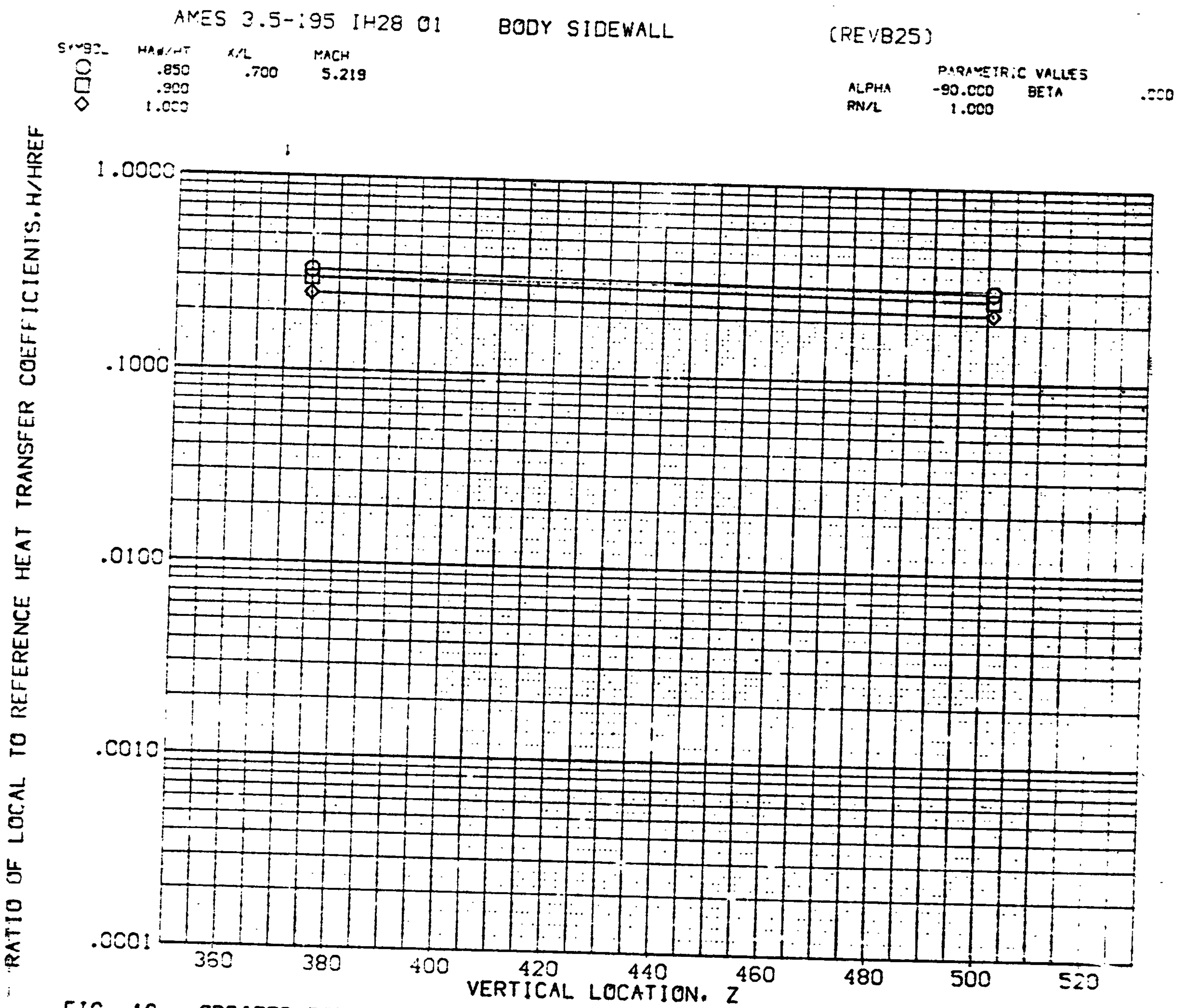

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

AMES 3.5-195 IH28 01 BODY SIDEWALL (REVB26)

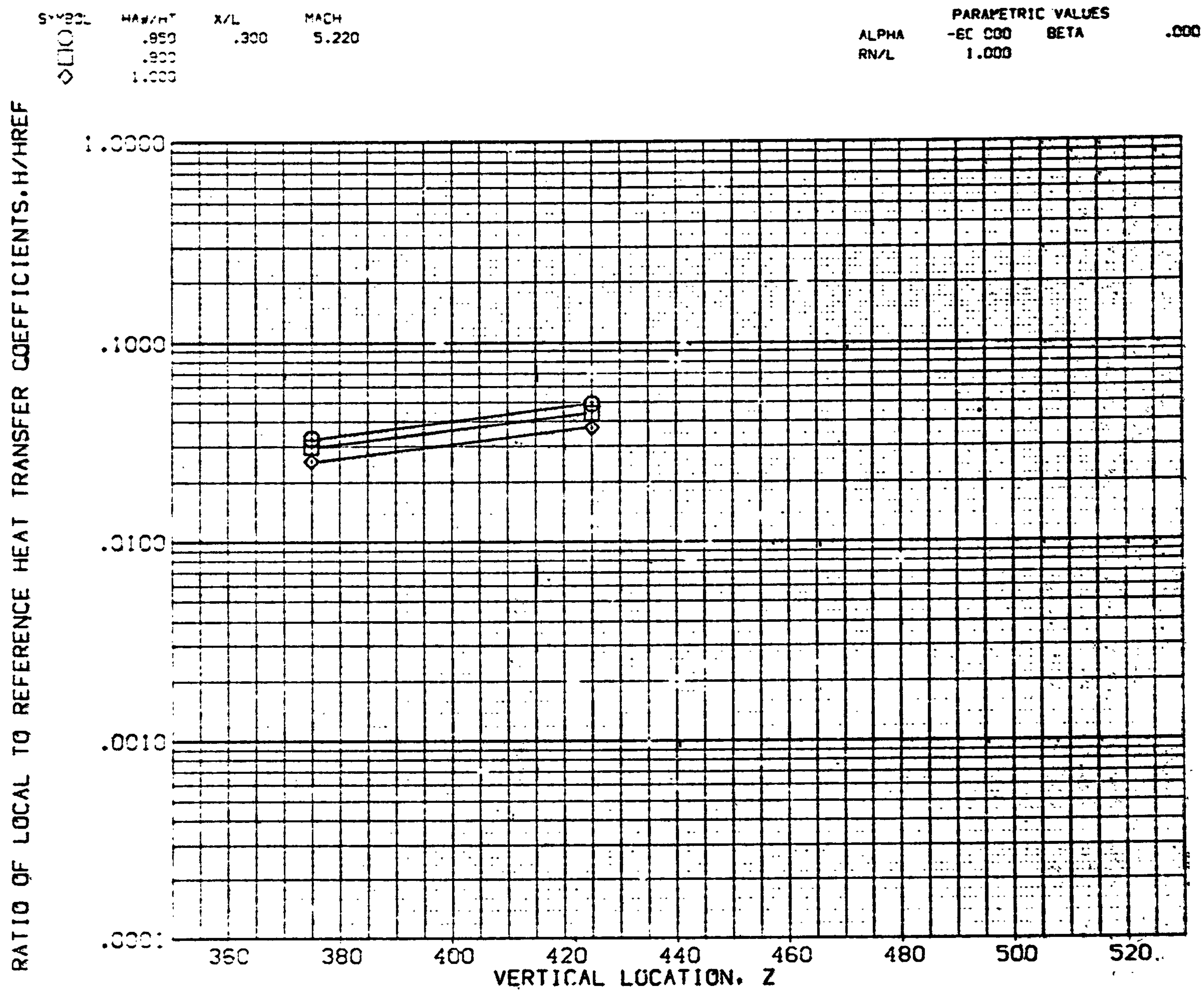

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

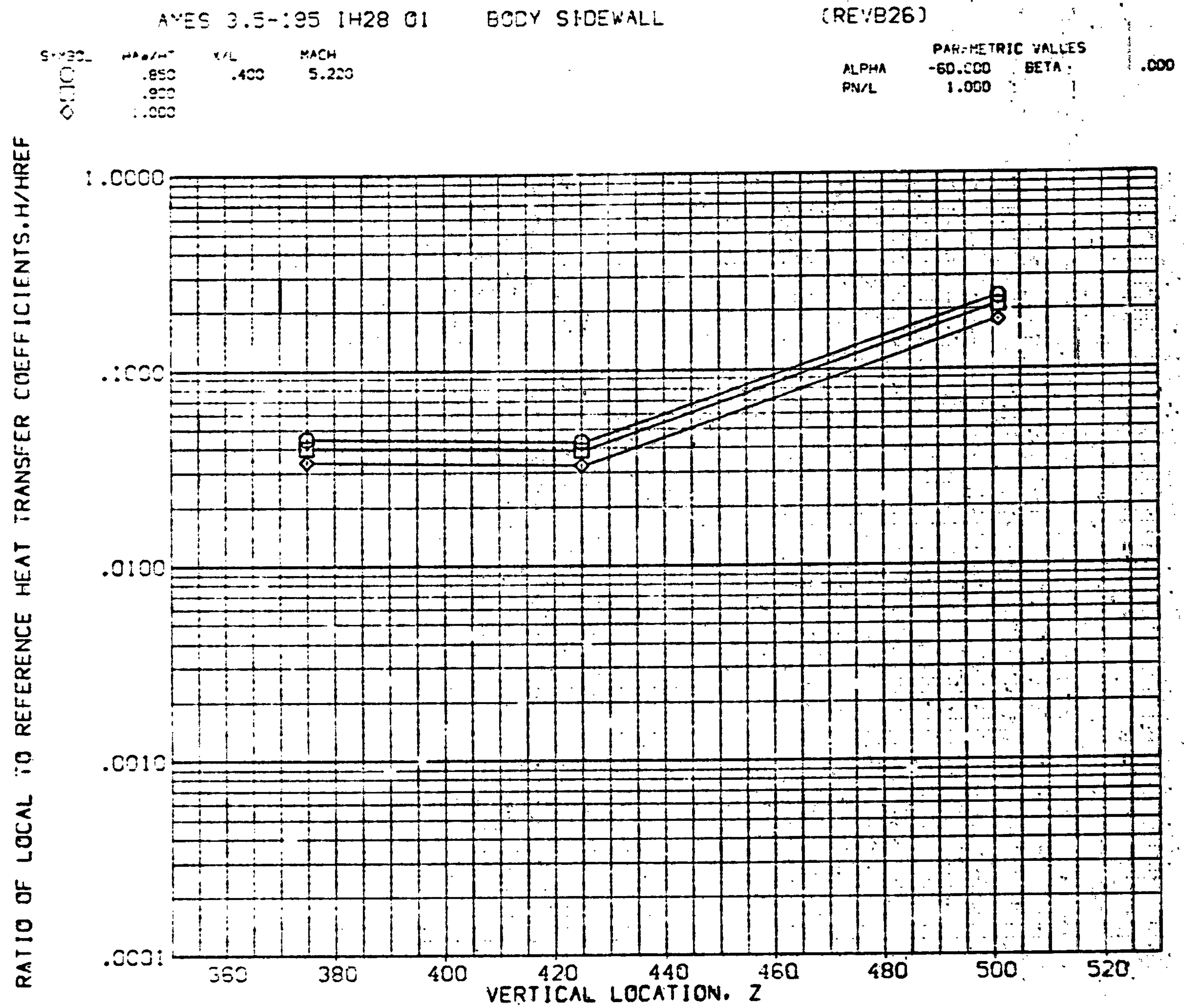

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

AMES 3.5-195 IH28 01 BODY SIDEWALL (REVB26)

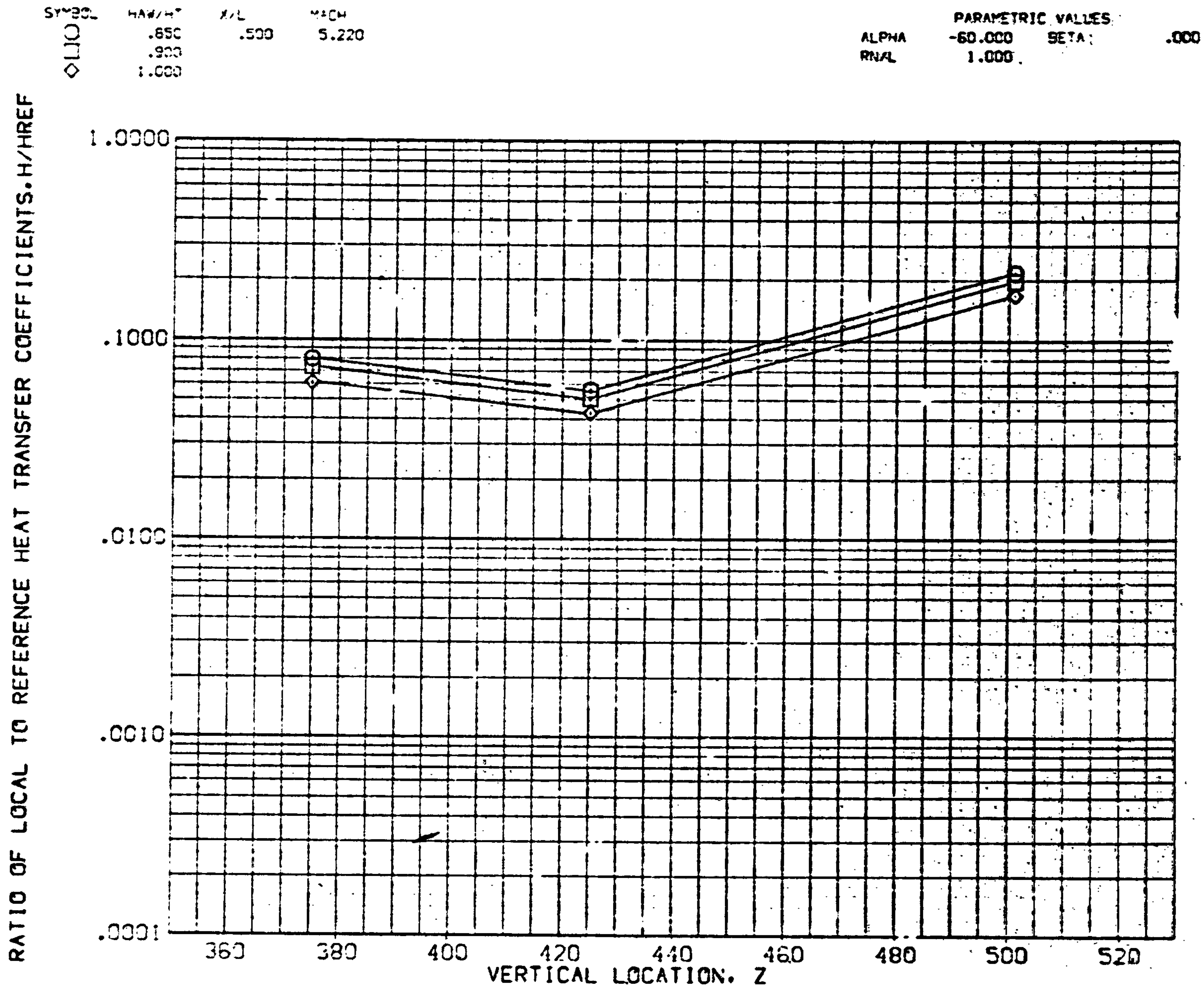

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

AMES 3.5-195 IH28 01 BODY SIDEWALL (RE.326)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.600	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES
ALPHA -60.000 BETA .000
RN/L 1.000

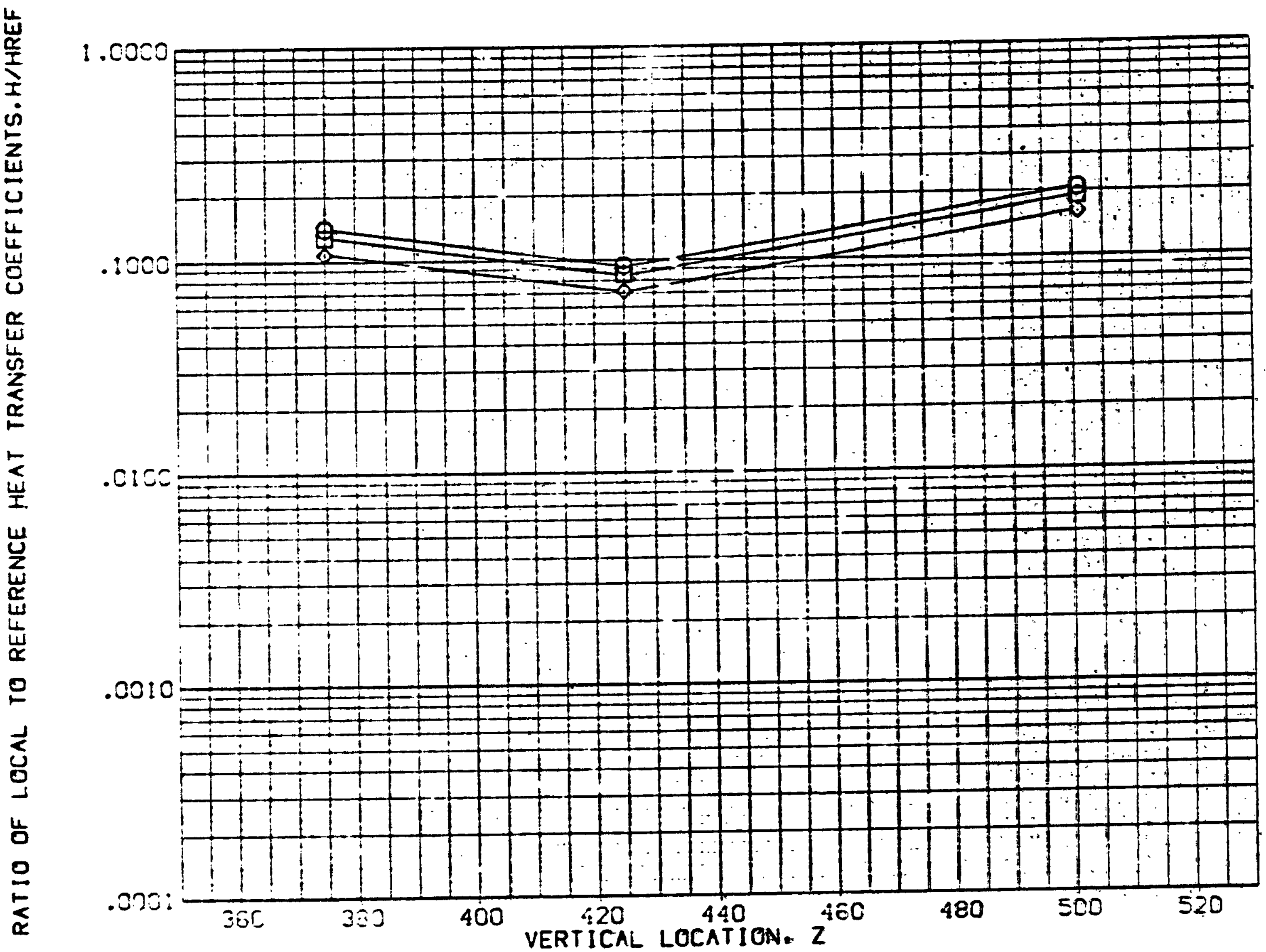

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

AMES 0.5-135 I-28 01 BODY SIDEWALL (REVB26)

PARAMETRIC VALUES
ALPHA -60.000 BETA .000
RN/L 1.030

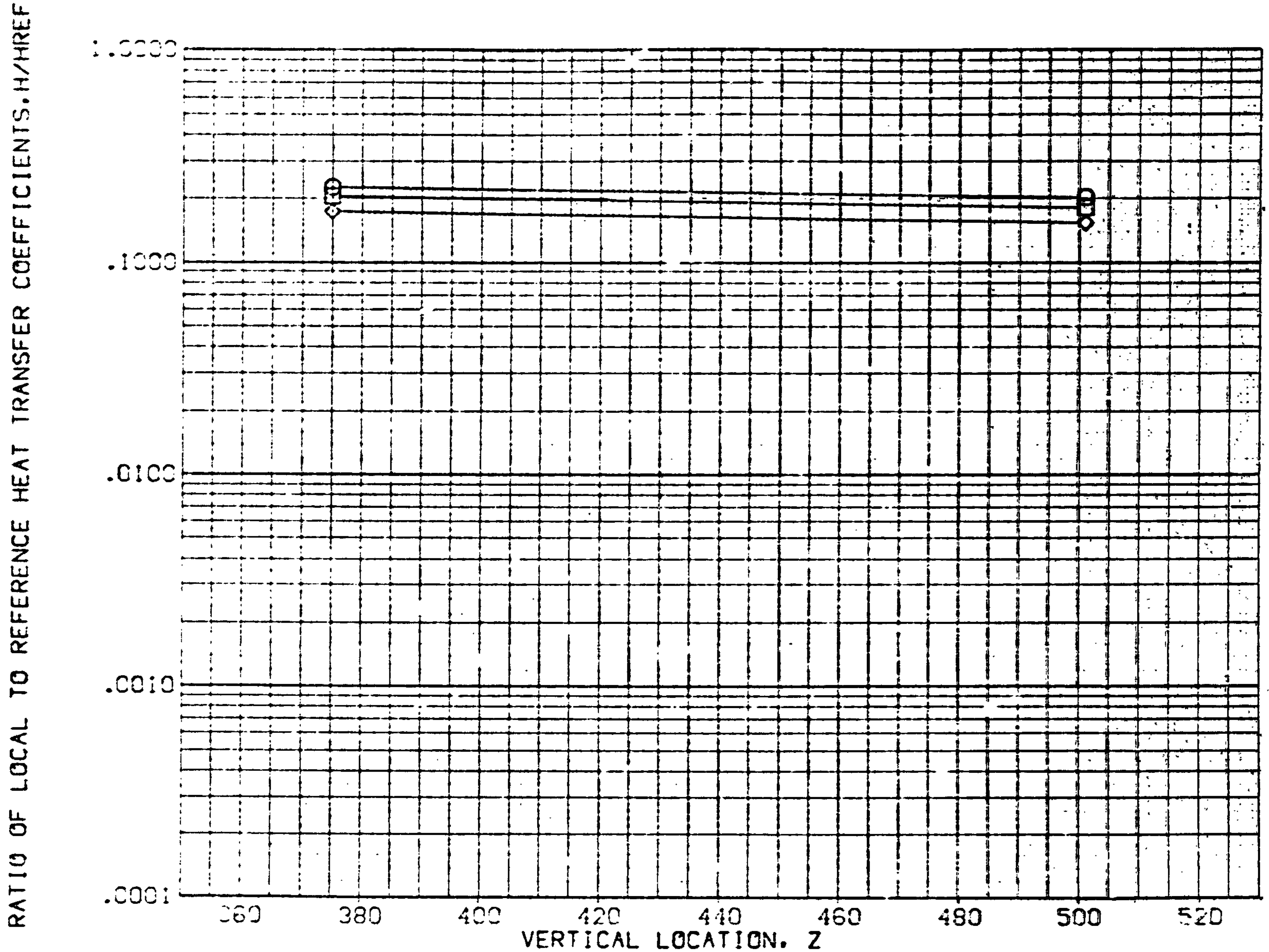

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

AMES 3.5-195 IH28 01   BODY SIDEWALL   (REVB27)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.300	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA -30.000 BETA .000

RN/L 1.000

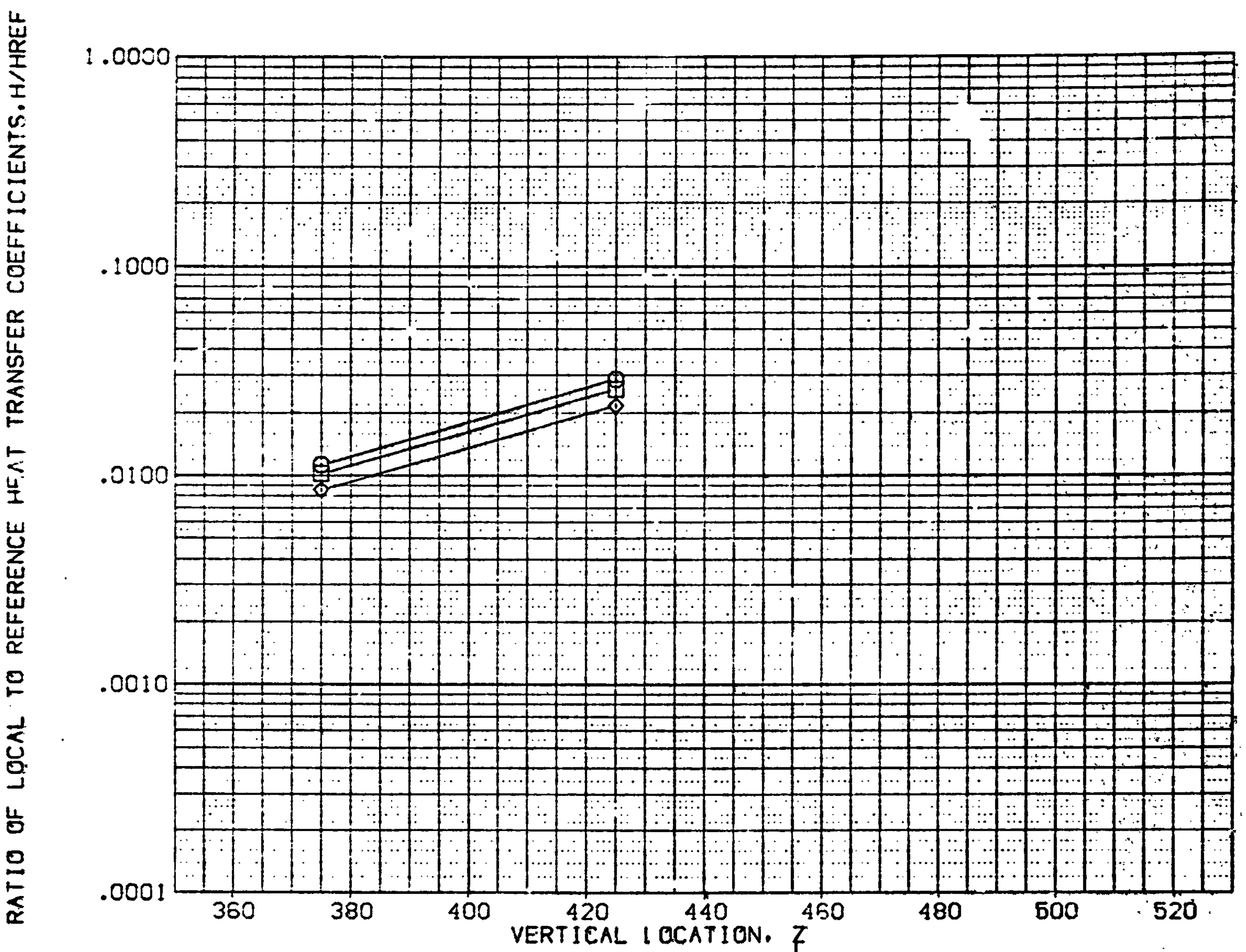

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

AMES 3.5-195 IH28 01 BODY SIDEWALL (REVB27)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.400	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA -30.000 BETA .000
RN/L 1.000

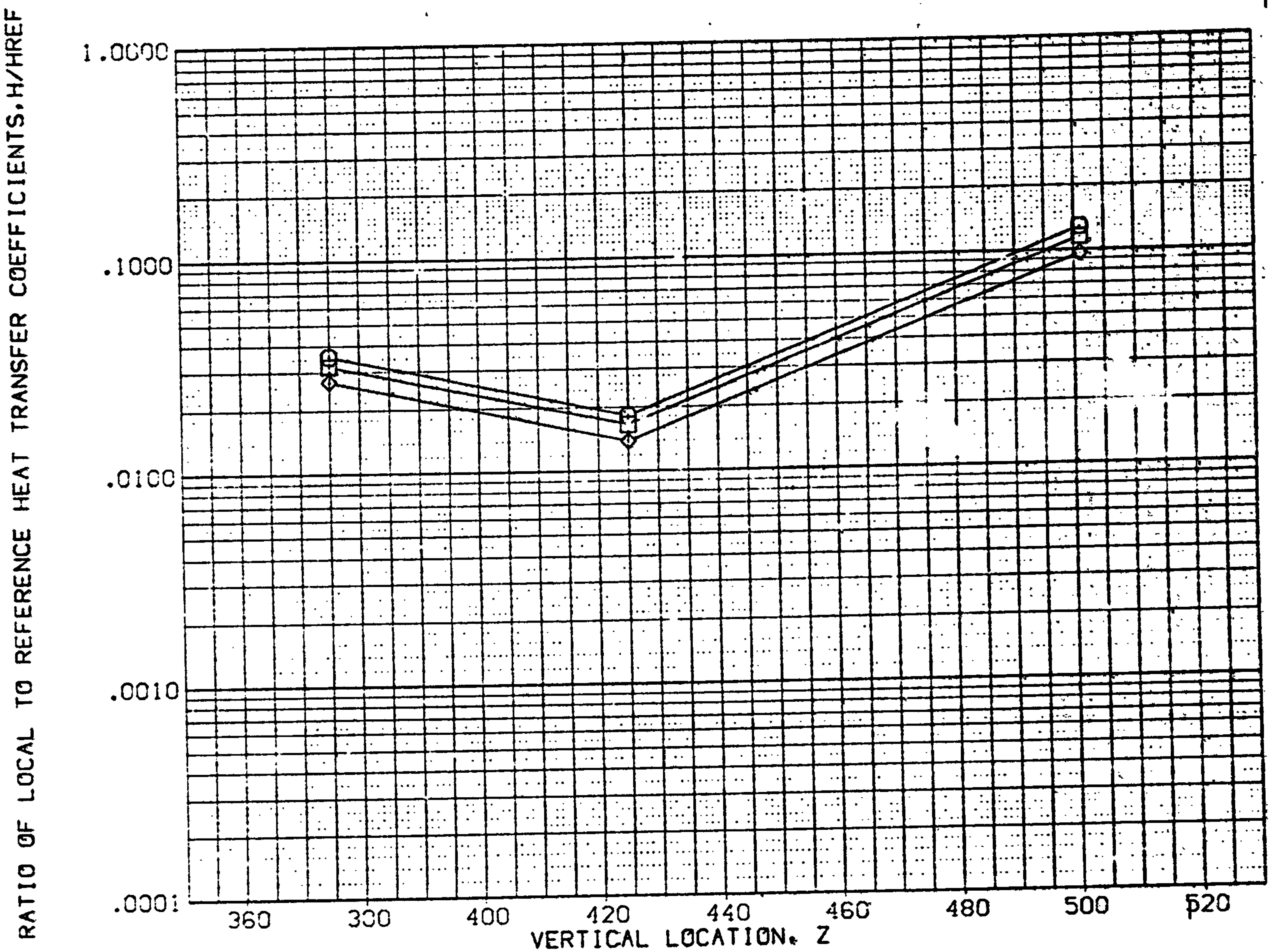

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

AMES 3.5-195 IH28 01   BODY SIDEWALL   (REVB27)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.500	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES
ALPHA -30.000 BETA .000
RN/L 1.000

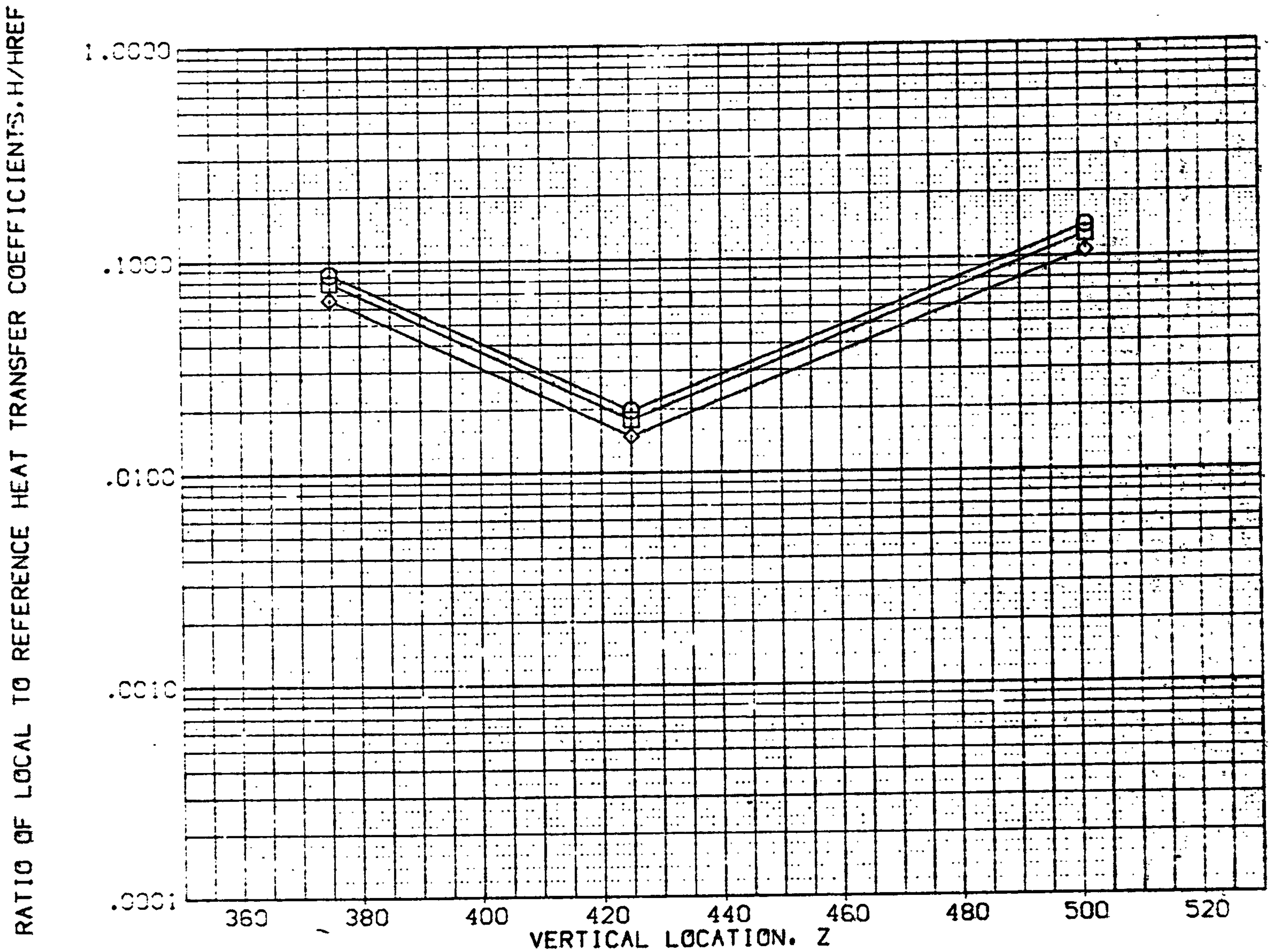

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

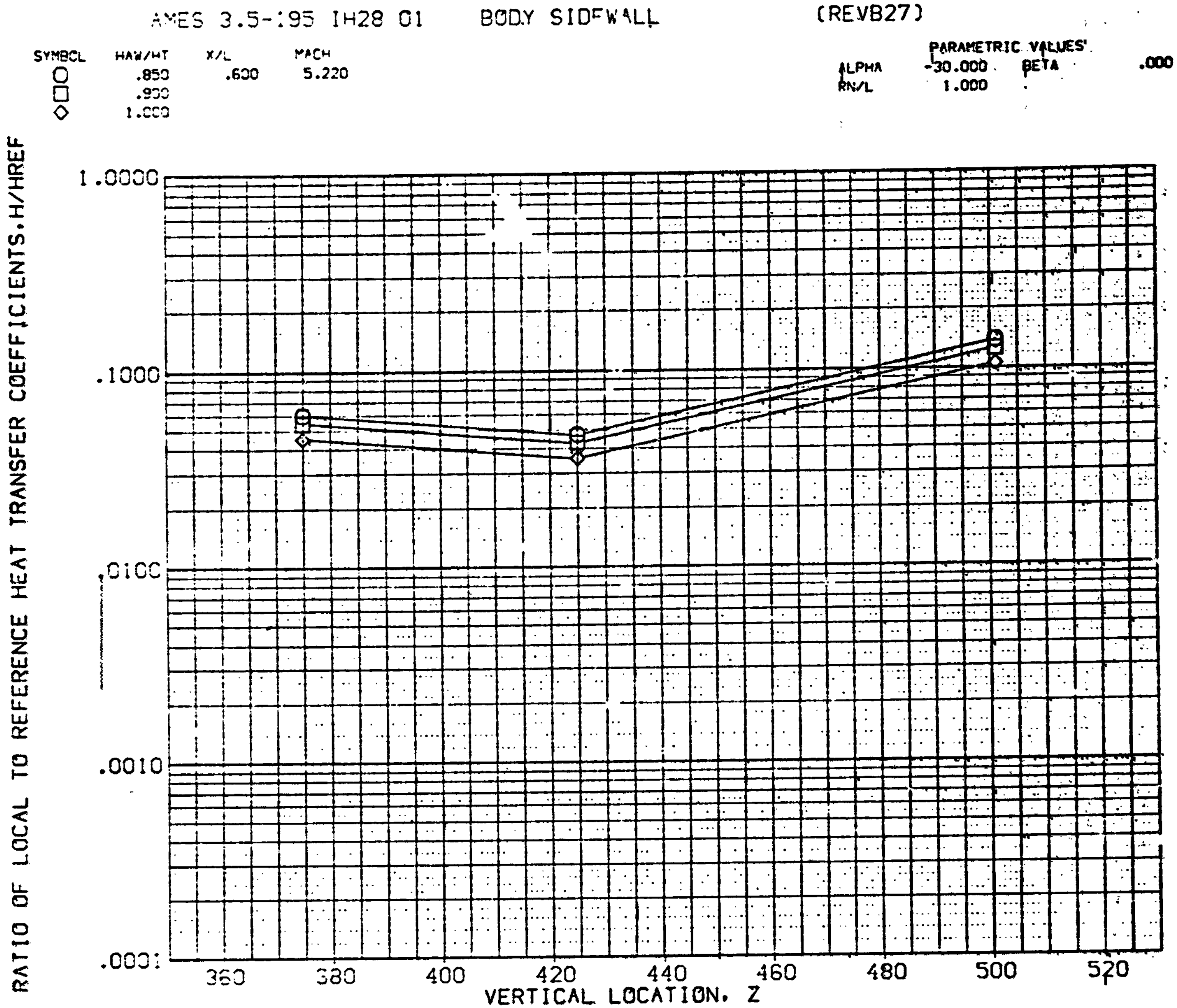

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

AMES 3.5-195 IH28 01 BODY SIDEWALL (REVB27)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.700	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA -30.000 BETA .000

RN/L 1.000

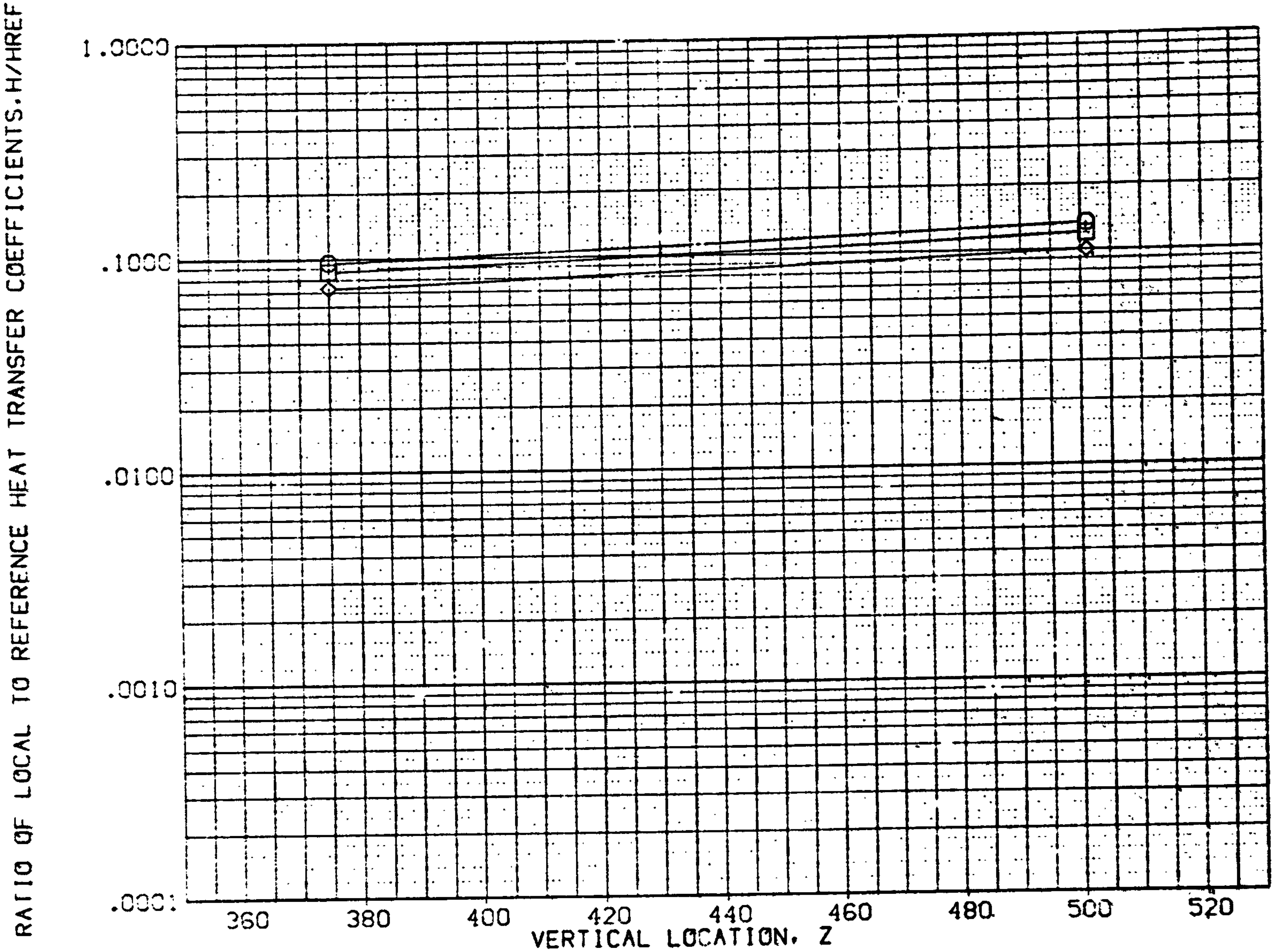

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

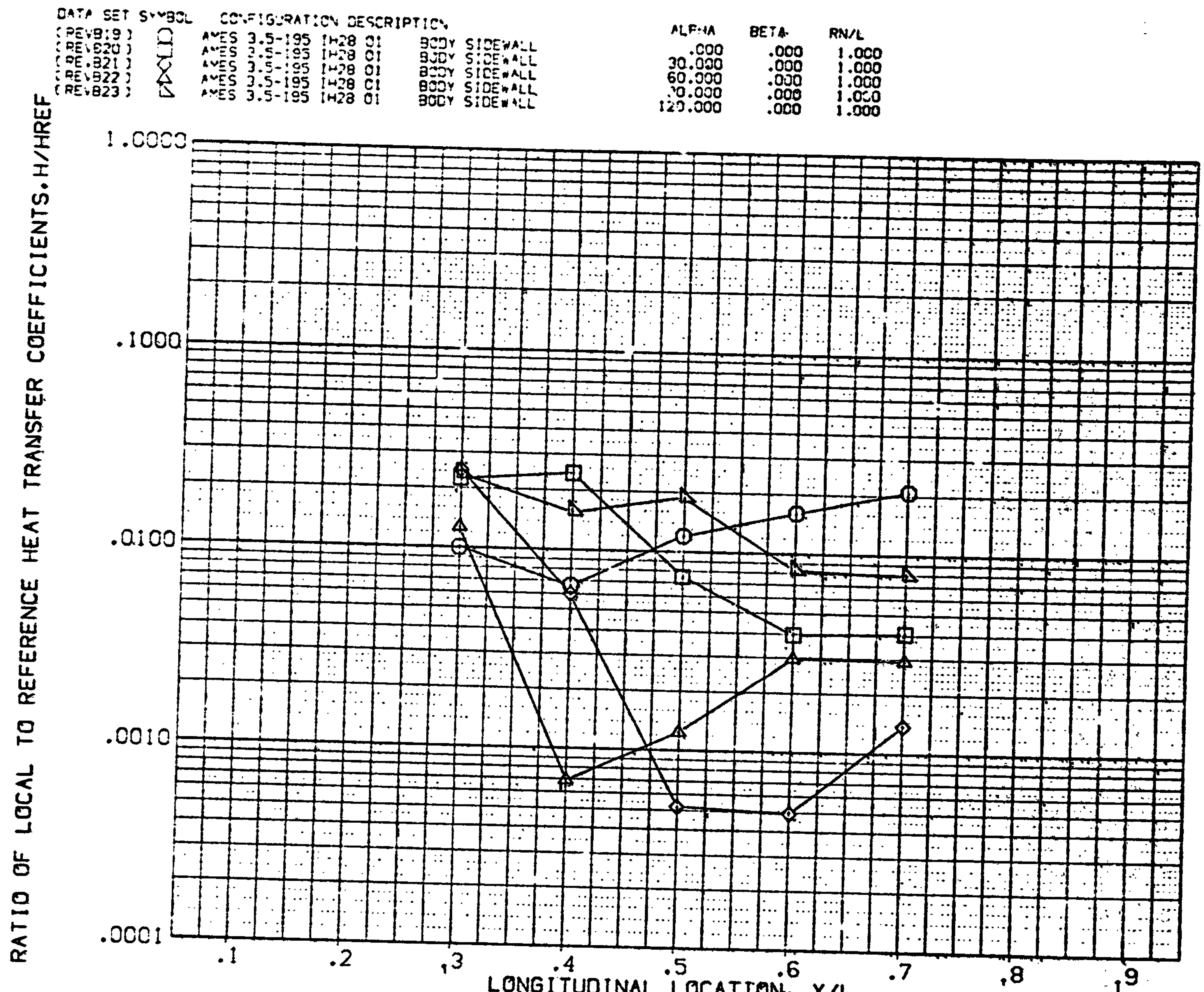

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

MACH = 5.300 HAW/HT= .900 Z = 375.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ALPHA	BETA	RN/L
(REVB19)	○	AMES 3.5-195 IH28 01	BODY SIDEWALL	.000	.000	1.000
(REVB20)	□	AMES 3.5-195 IH28 01	BODY SIDEWALL	30.000	.000	1.000
(REVB21)	◇	AMES 3.5-195 IH28 01	BODY SIDEWALL	60.000	.000	1.000
(REVB22)	△	AMES 3.5-195 IH28 01	BODY SIDEWALL	90.000	.000	1.000
(REVB23)	◁	AMES 3.5-195 IH28 01	BODY SIDEWALL	120.000	.000	1.000

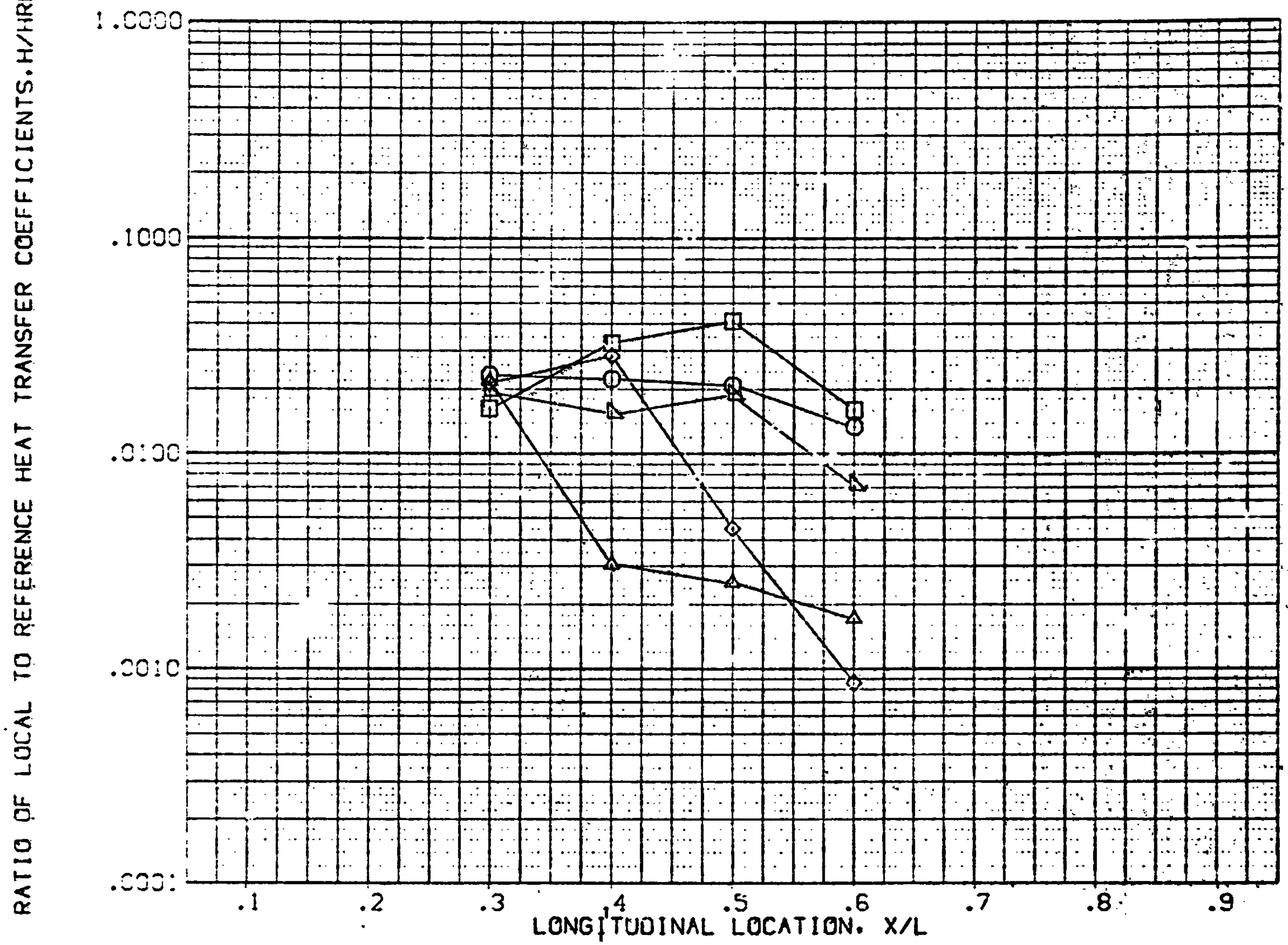

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

MACH = 5.300 HAW/HT= .900 Z = 425.000

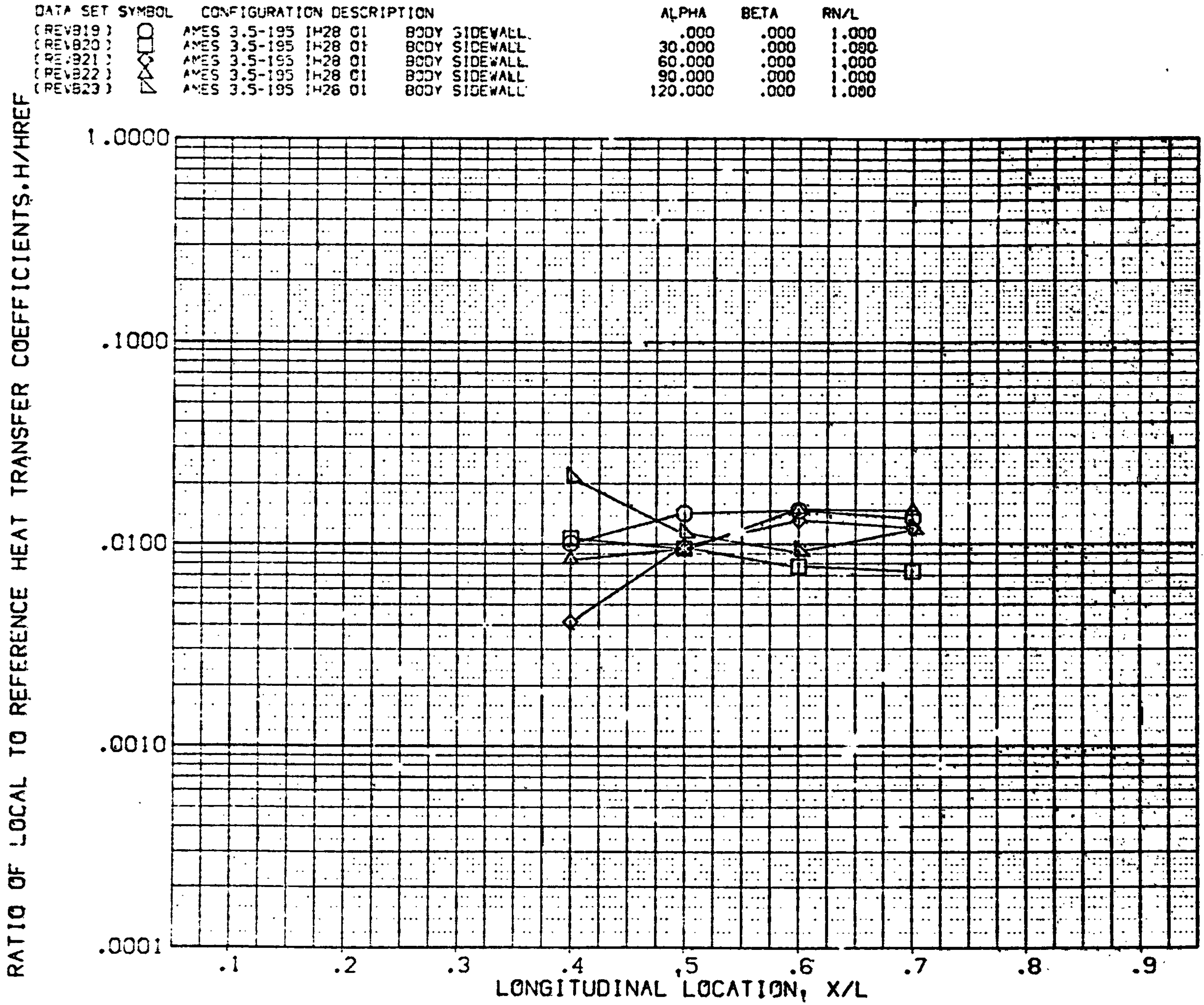

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

MACH = 5.300 HAW/HT= .900 Z = 501.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ALPHA	BETA	RN/L
(RE.819)	○	AMES 3.5-195 IH28 O1	BODY SIDEWALL	.000	.000	1.000
(RE.827)	□	AMES 3.5-195 IH28 O1	BODY SIDEWALL	-30.000	.000	1.000
(RE.826)	◇	AMES 3.5-195 IH28 O1	BODY SIDEWALL	-60.000	.000	1.000
(RE.825)	△	AMES 3.5-195 IH28 O1	BODY SIDEWALL	-90.000	.000	1.000
(RE.824)	⊿	AMES 3.5-195 IH28 O1	BODY SIDEWALL	-120.000	.000	1.000

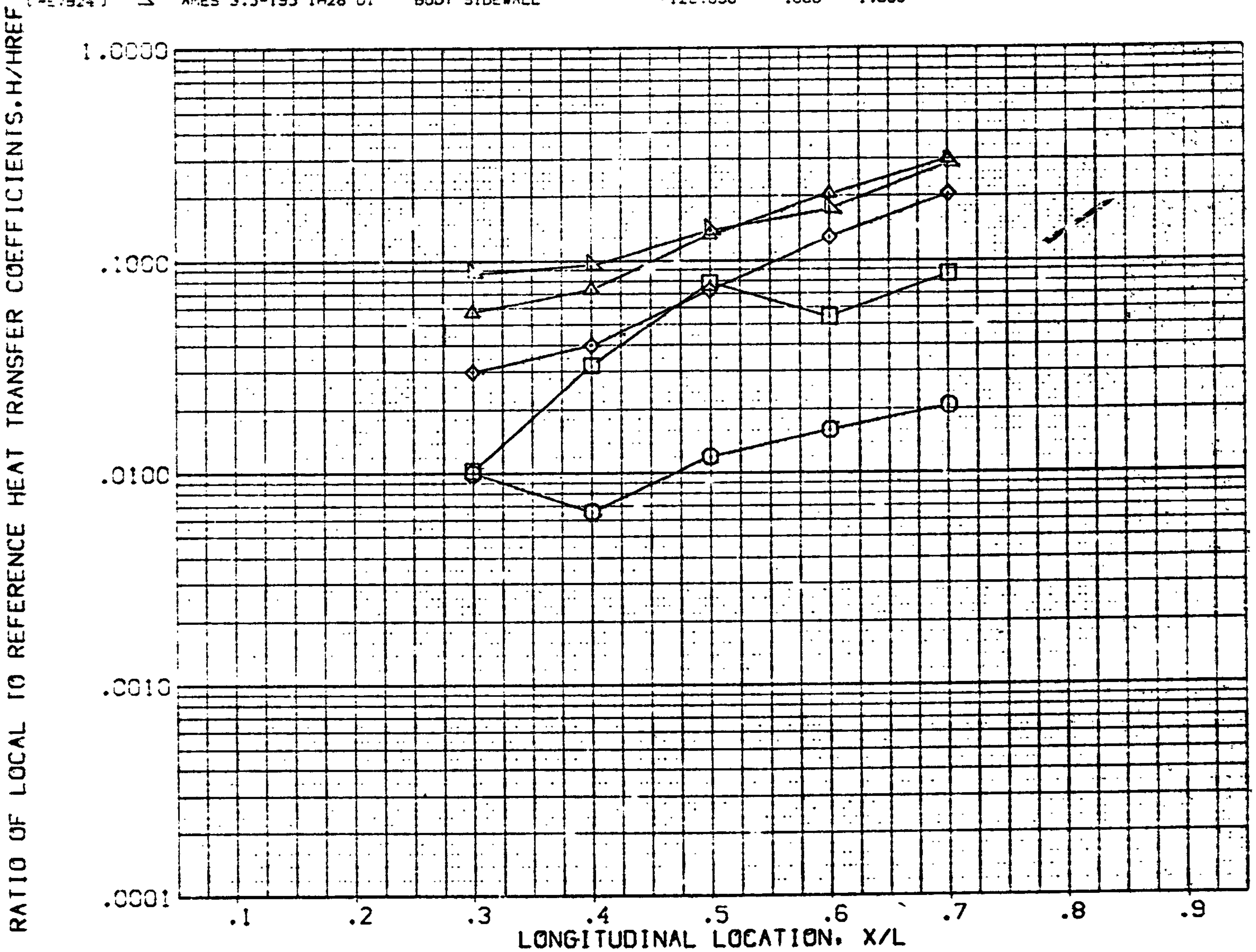

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

MACH = 5.300 HAW/HT= .900 Z = 375.000

REPRODUCIBILITY OF THE ORIGINAL PAGE IS POOR

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ALPHA	BETA	RN/L
(REV819)	○	AMES 3.5-195 IH28 01	BODY SIDEWALL	.000	.000	1.000
(REV827)	□	AMES 3.5-195 IH28 01	BODY SIDEWALL	-30.000	.000	1.000
(REV826)	◇	AMES 3.5-195 IH28 01	BODY SIDEWALL	-60.000	.000	1.000
(REV825)	△	AMES 3.5-195 IH28 01	BODY SIDEWALL	-90.000	.000	1.000
(REV824)	◁	AMES 3.5-195 IH28 01	BODY SIDEWALL	-120.000	.000	1.000

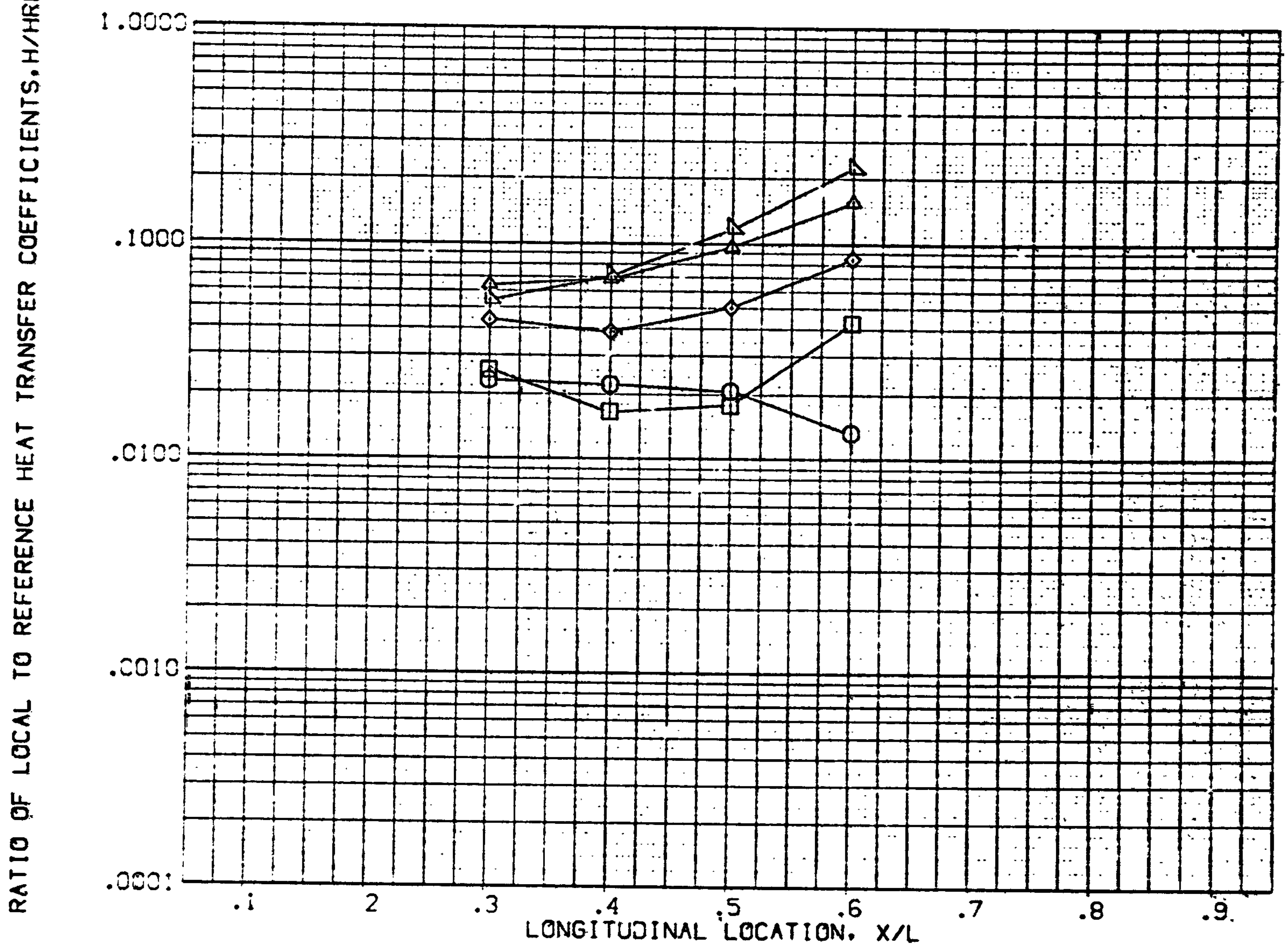

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

MACH = 5.300 HAW/HT = .900 Z = 425.000

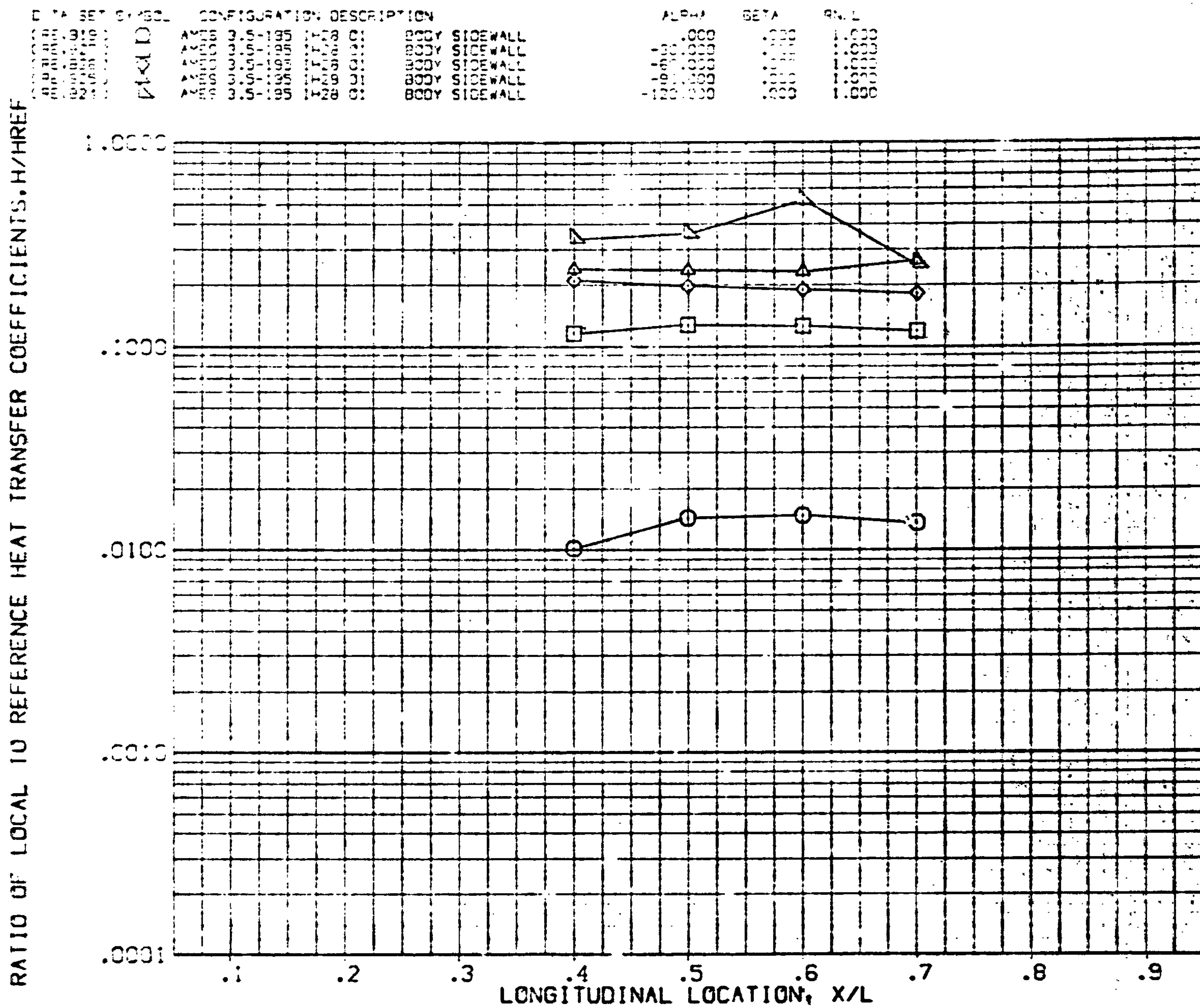

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

MACH = 5.300 HAW/HT= .900 Z = 501.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ALPHA	BETA	RN/L
(RE.B19)	○	AMES 3.5-195 IH28 OI	BODY SIDEWALL	.000	.000	1.000
(REVB20)	□	AMES 3.5-195 IH28 OI	BODY SIDEWALL	30.000	.000	1.000
(REVB21)	◇	AMES 3.5-195 IH28 OI	BODY SIDEWALL	60.000	.000	1.000
(RE.B22)	△	AMES 3.5-195 IH28 OI	BODY SIDEWALL	90.000	.000	1.000
(RE.B23)	◁	AMES 3.5-195 IH28 OI	BODY SIDEWALL	120.000	.000	1.000

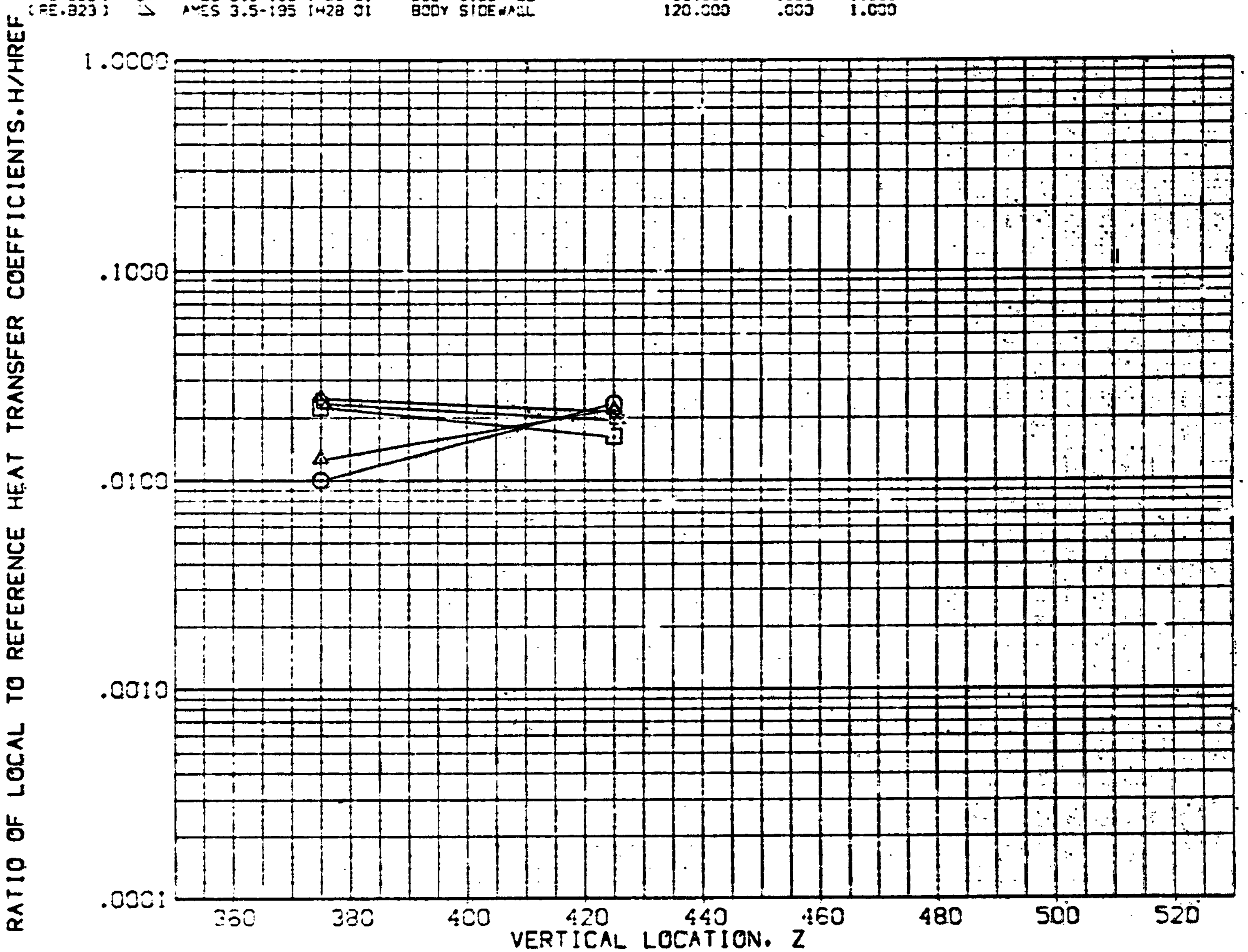

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

MACH = 5.300 HAW/HT= .900 X/L = .300

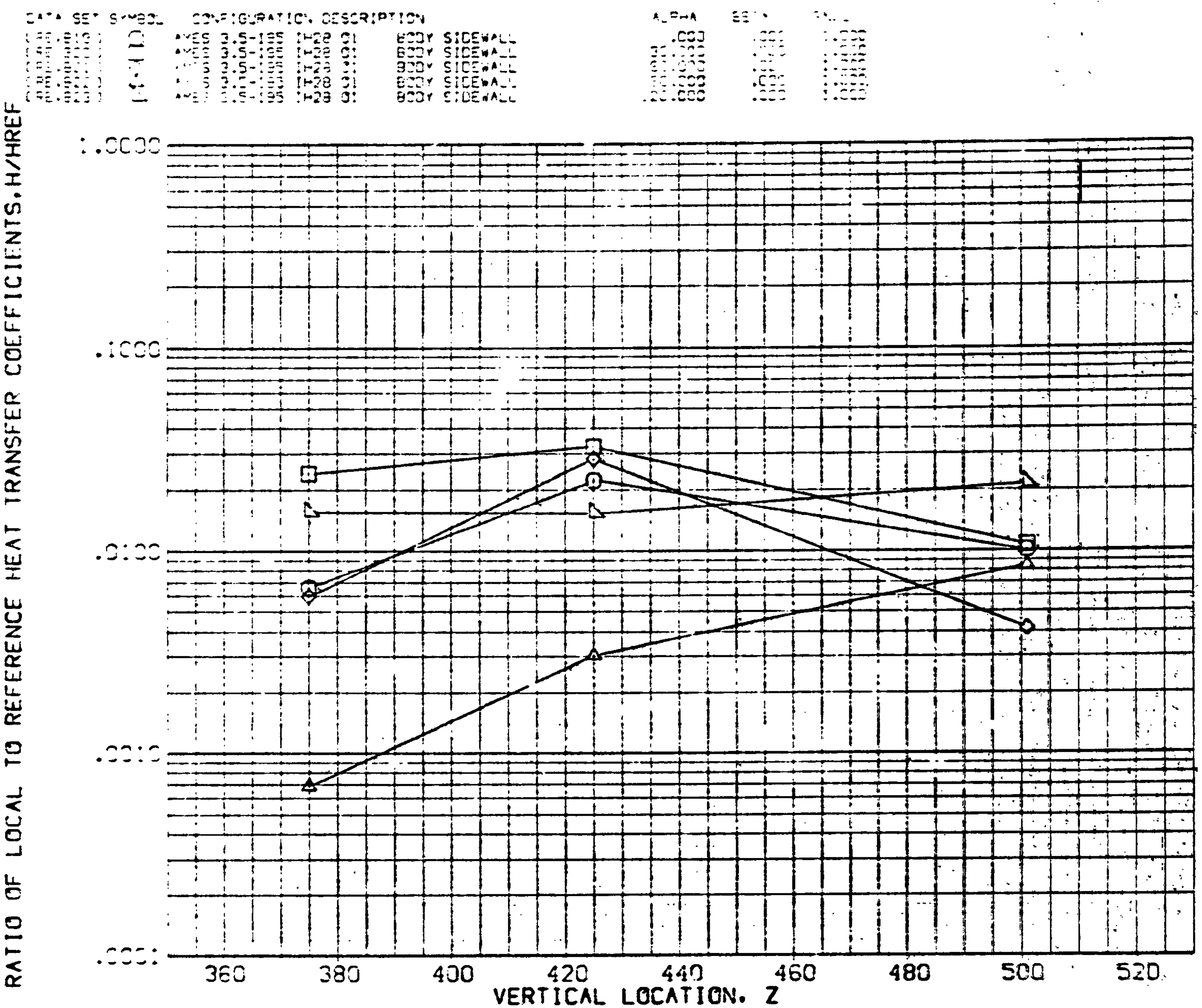

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

MACH = 5.300 HAW/HT= .900 X/L = .400

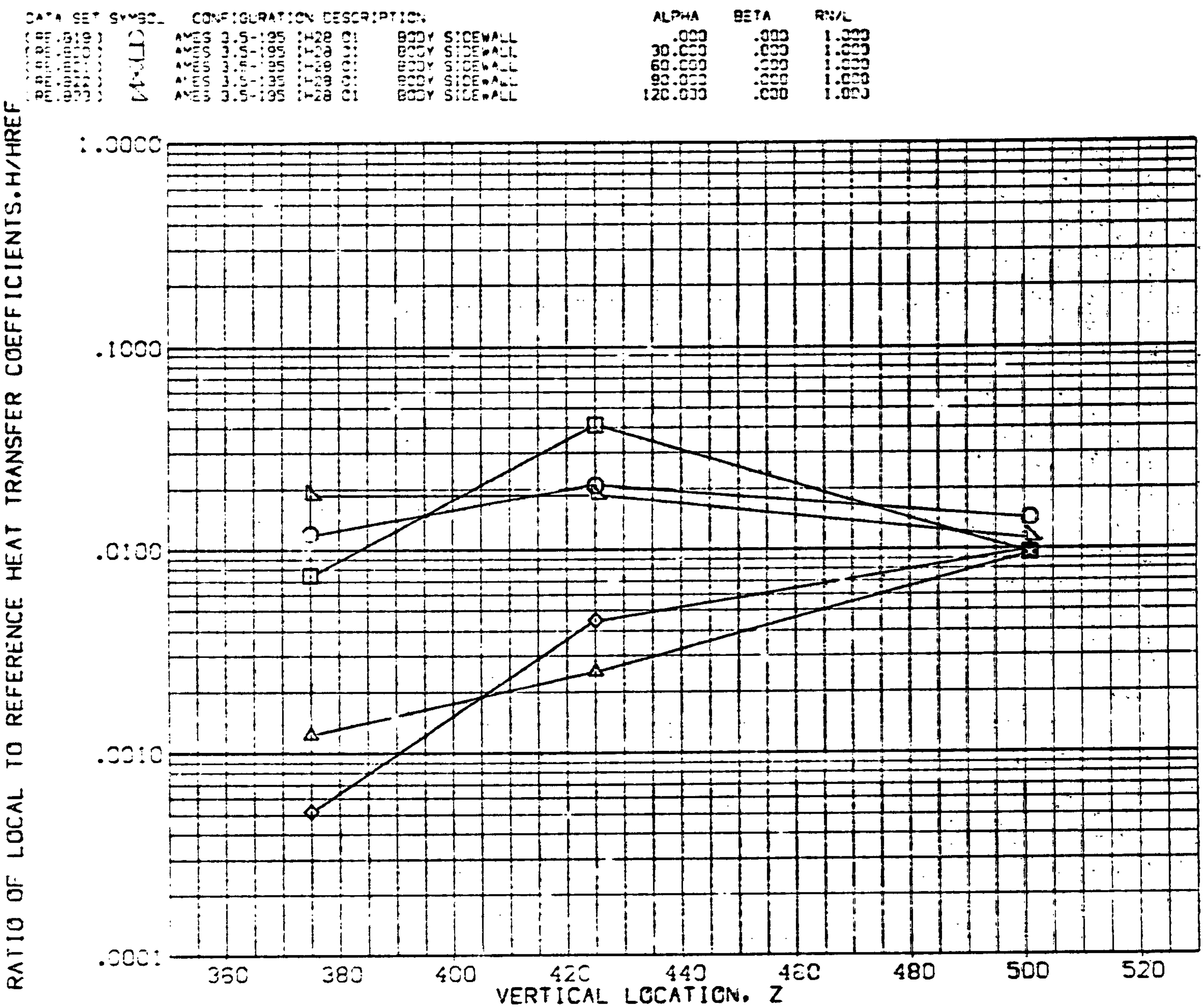

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

MACH = 5.300 HA/HT= .800 X/L = .500

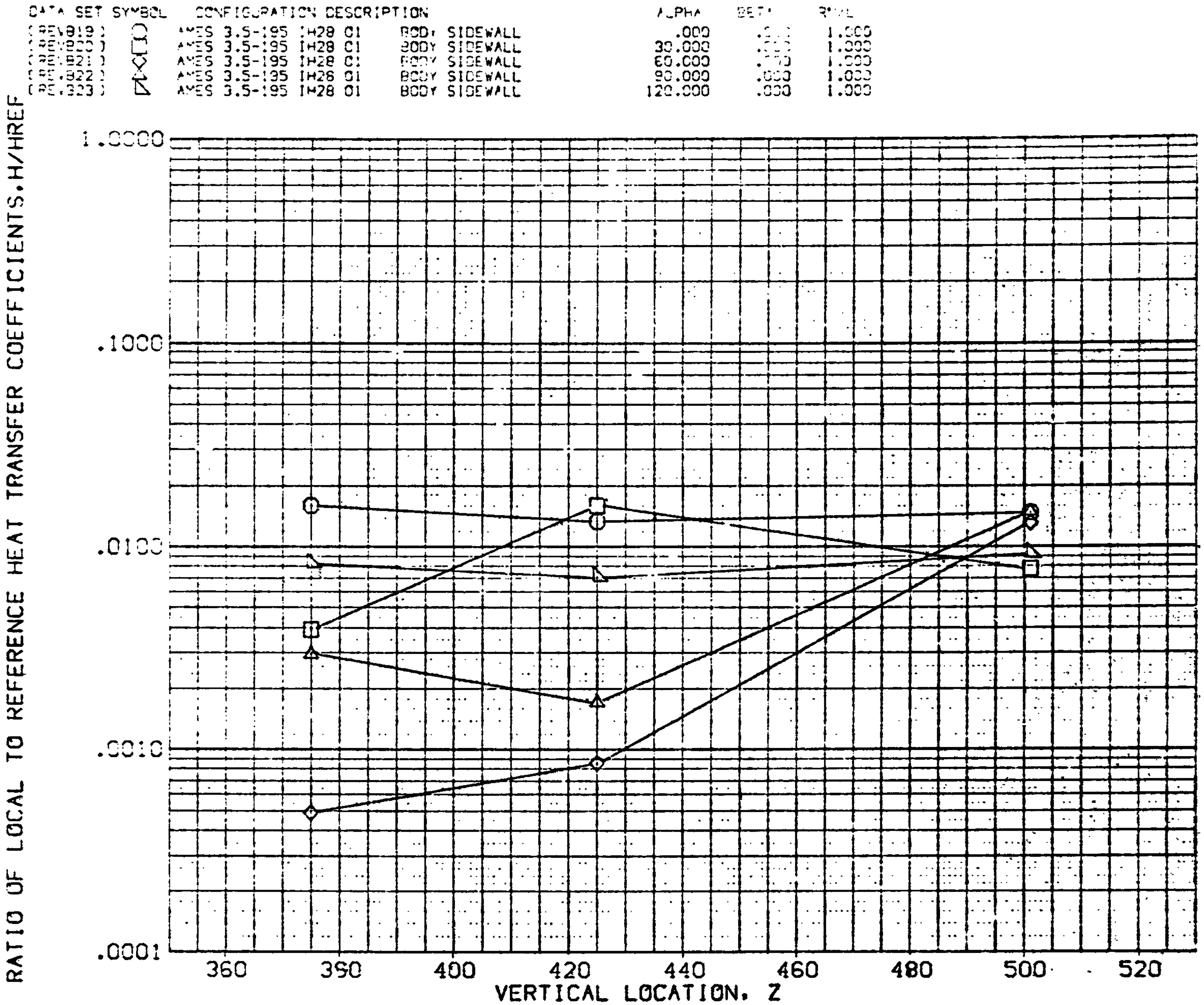

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

MACH = 5.300 HAW/HT= .900 X/L = .600

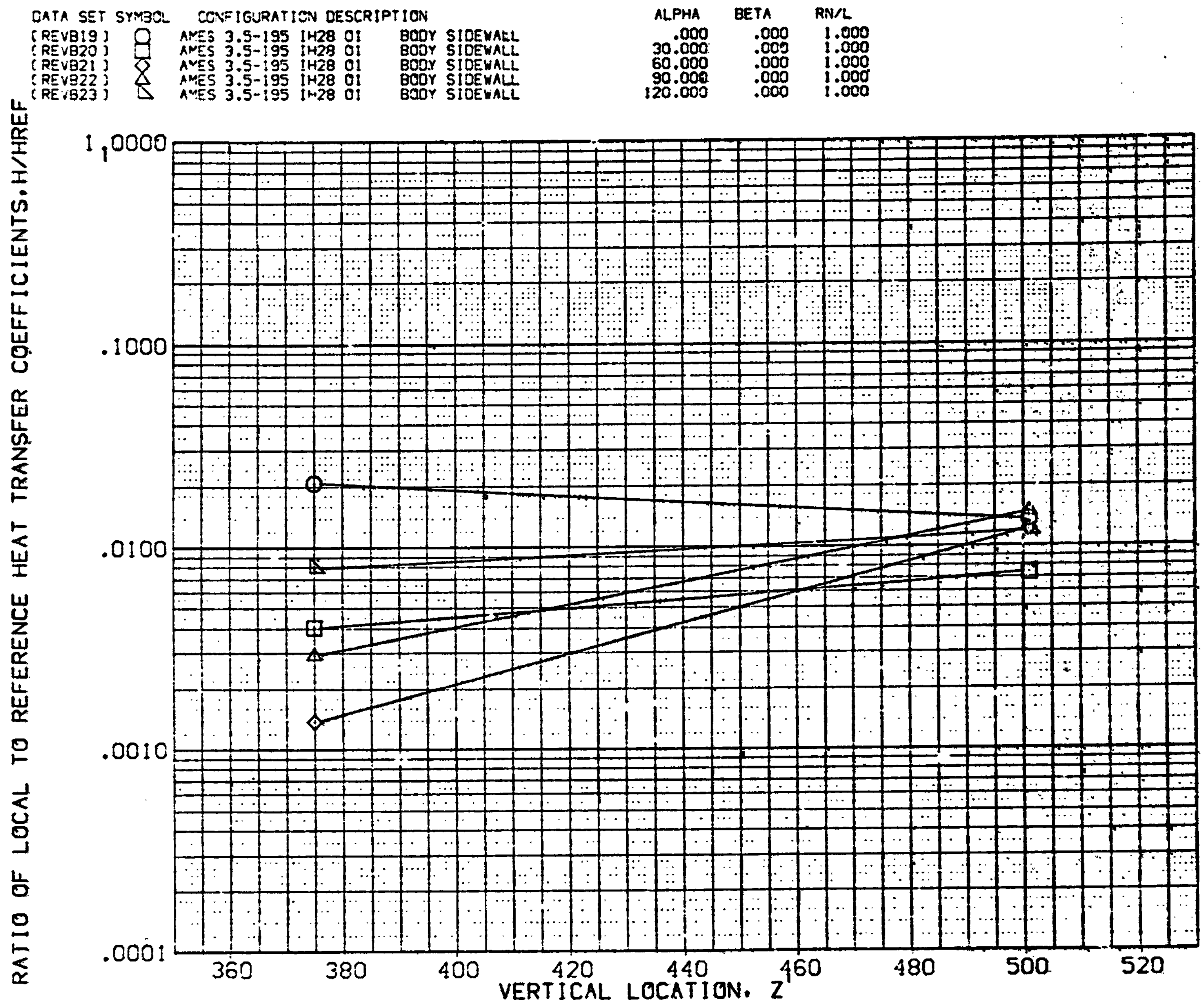

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

MACH = 5.300 HAW/HT= .900 X/L = .700

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ALPHA	BETA	RN/L
(RE.B19)	○	AMES 3.5-195 IH28 01	BODY SIDEWALL	.000	.000	1.000
(RE.B27)	□	AMES 3.5-195 IH28 01	BODY SIDEWALL	-30.000	.000	1.000
(RE.B26)	◇	AMES 3.5-195 IH28 01	BODY SIDEWALL	-60.000	.000	1.000
(RE.B25)	△	AMES 3.5-195 IH28 01	BODY SIDEWALL	-90.000	.000	1.000
(RE.B24)	⊿	AMES 3.5-195 IH28 01	BODY SIDEWALL	-120.000	.000	1.000

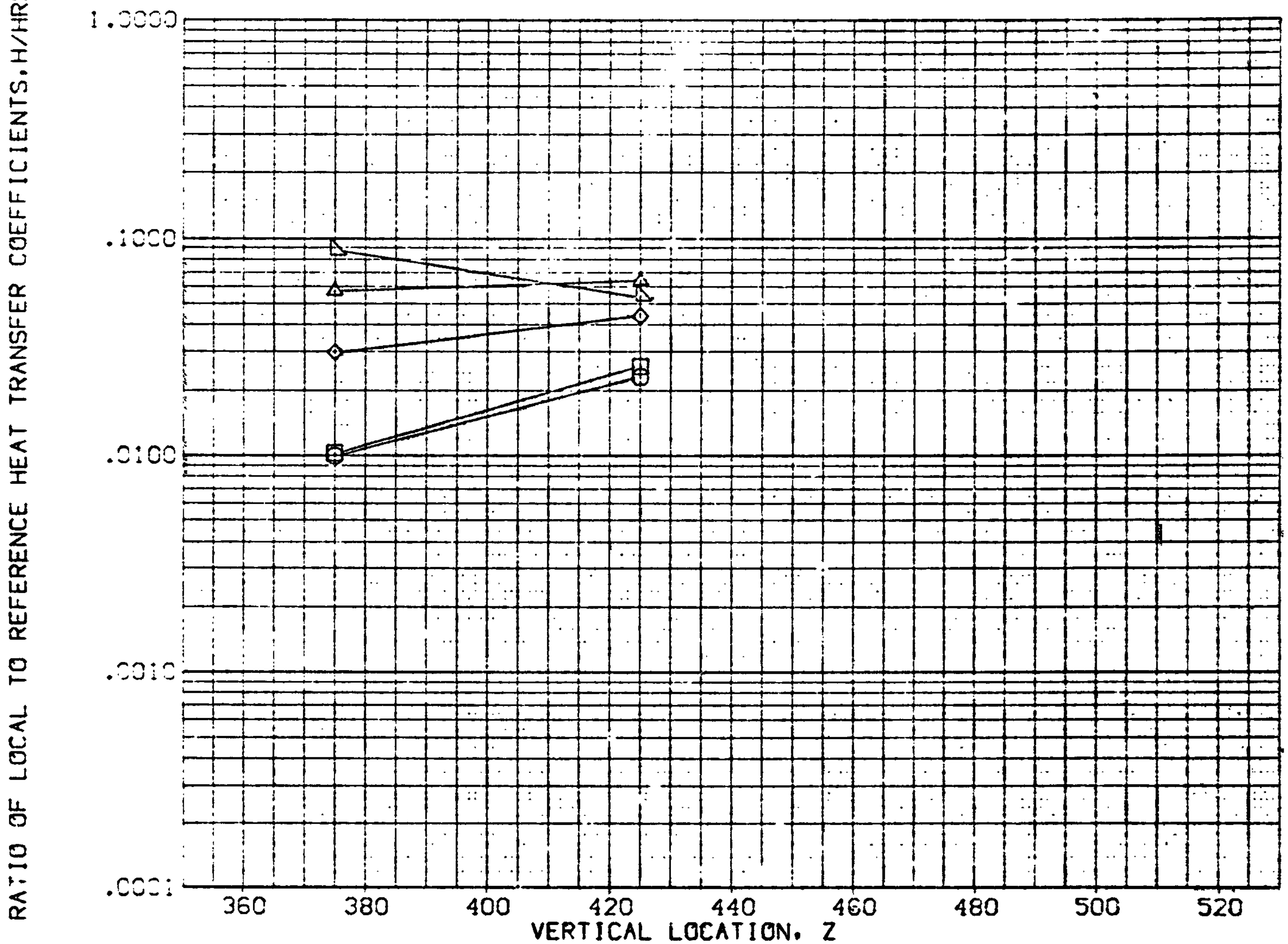

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

MACH = 5.300 HAW/HT= .900 X/L = .300

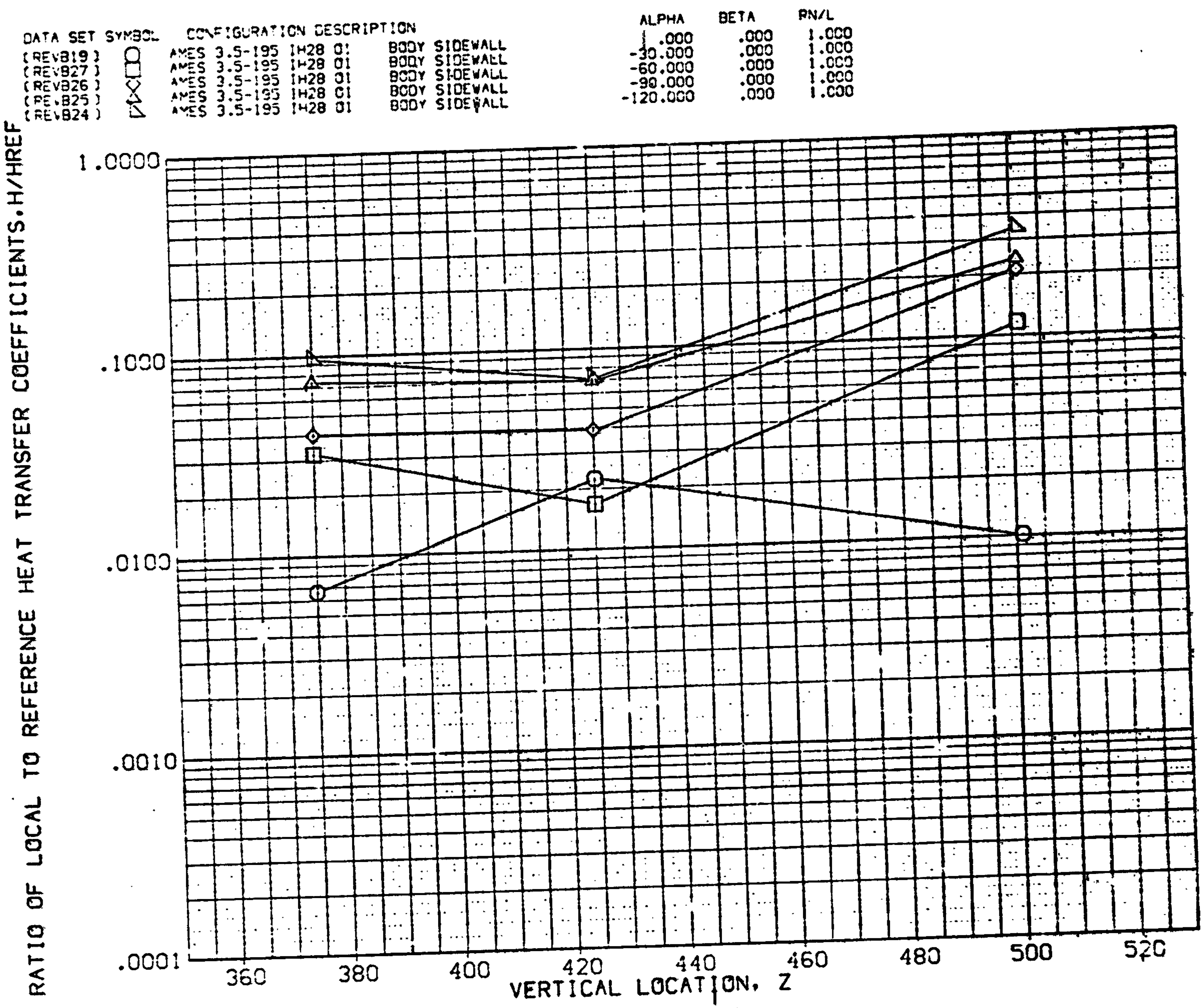

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

MACH = 5.300 HAW/HT= .900 X/L = .400

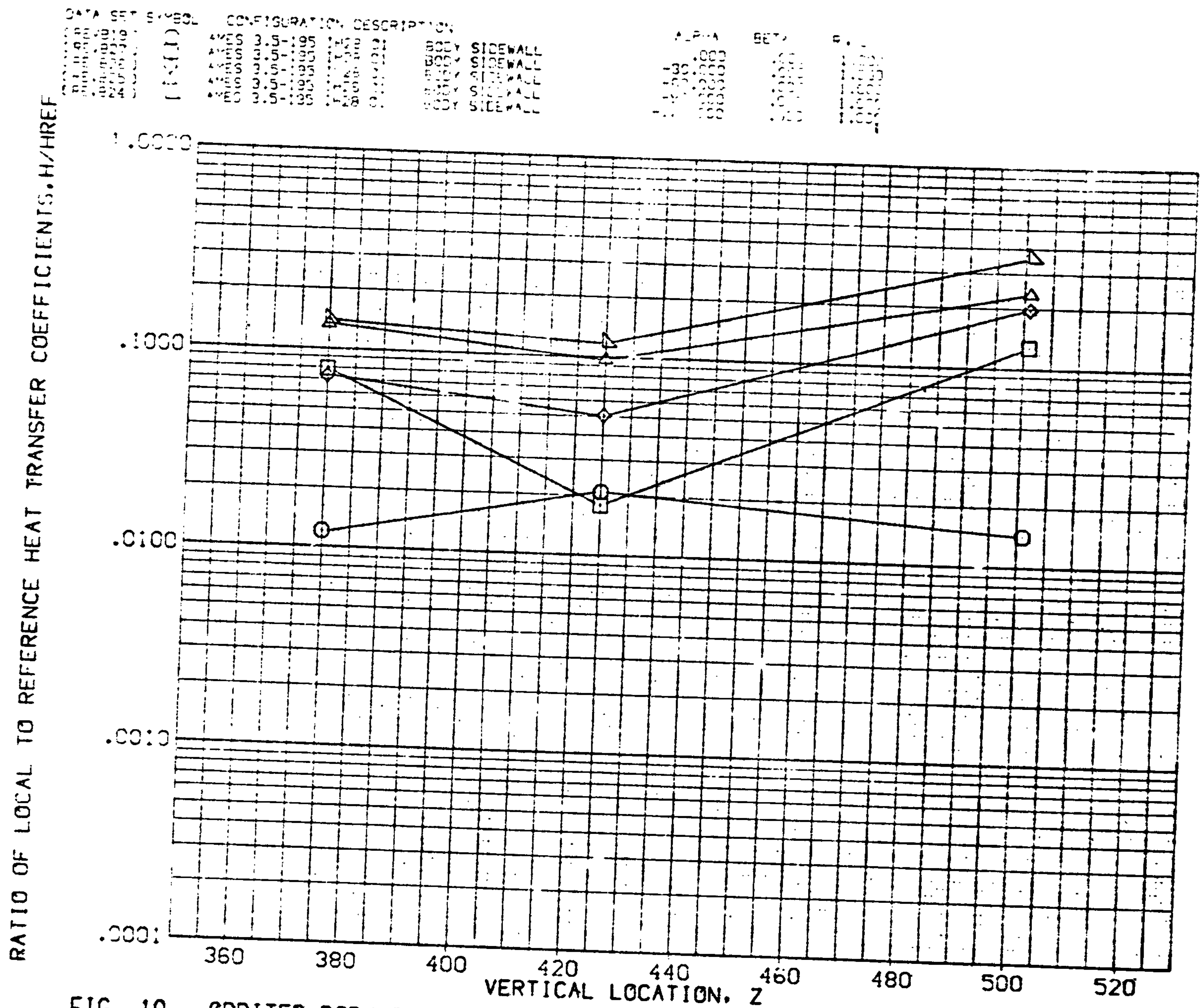

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

MACH = 5.300 HAW/HT= .900 X/L = .500

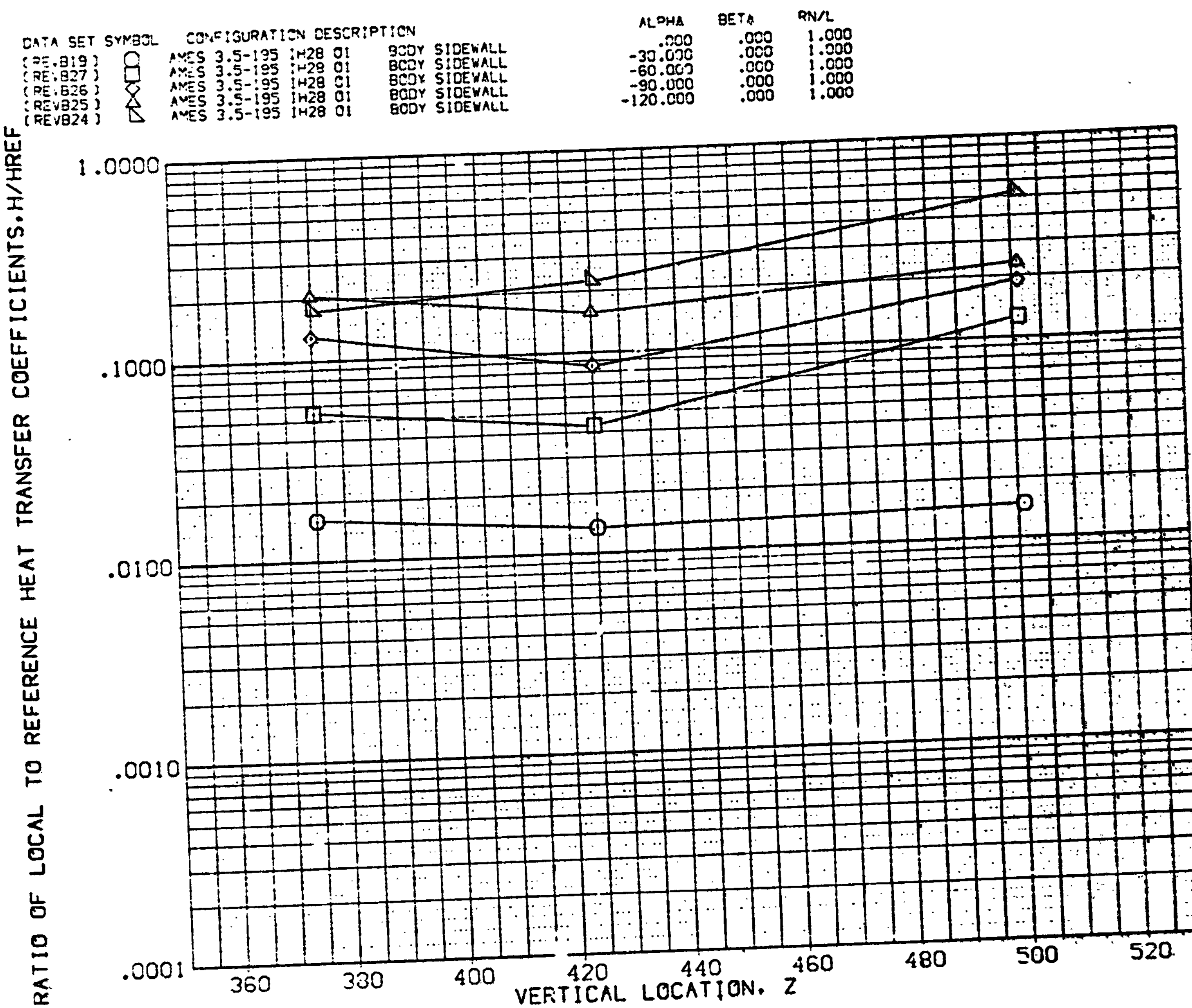

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

MACH = 5.300 HAW/HT= .900 X/L = .600

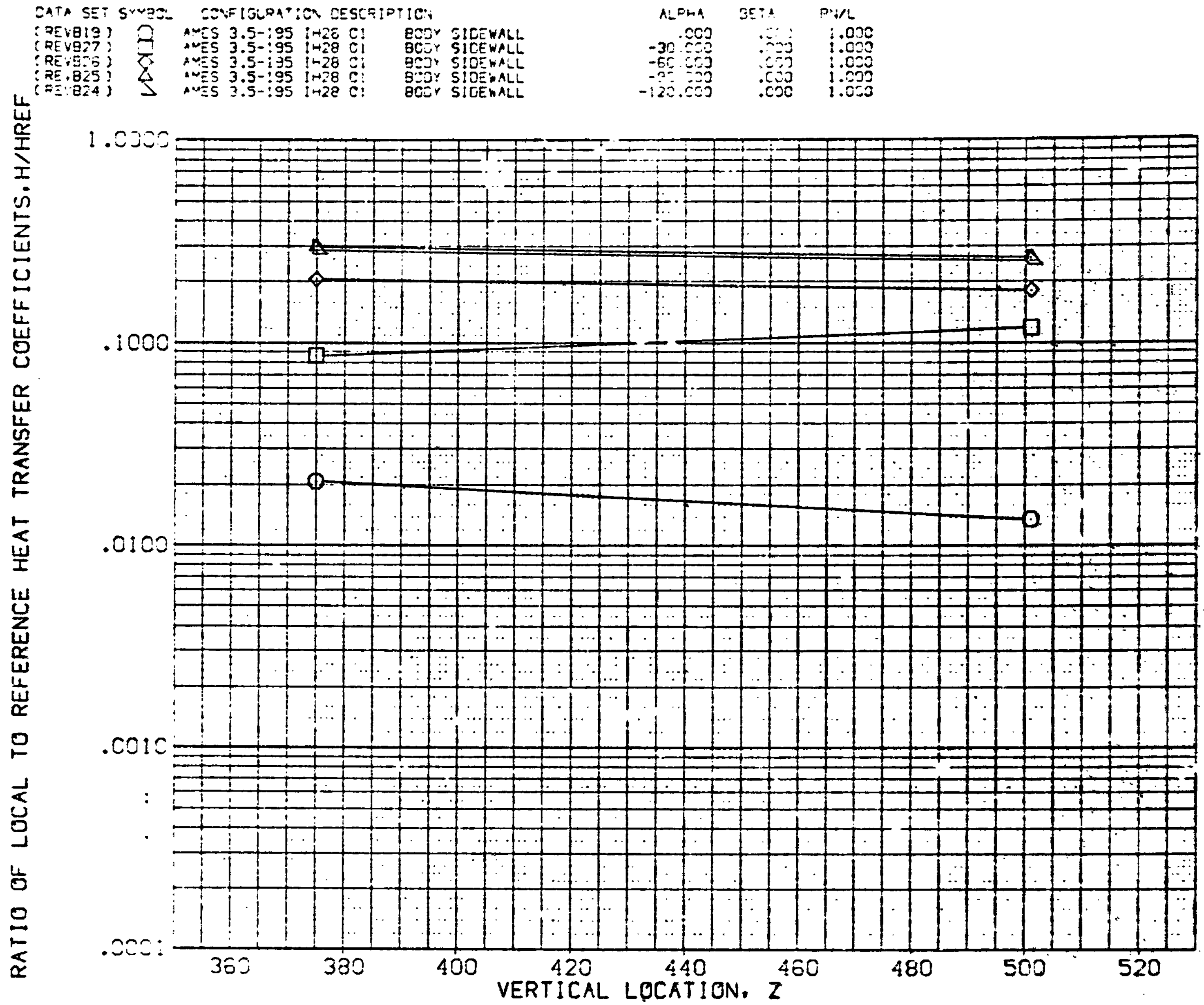

FIG. 10 ORBITER BODY SIDEWALL, ORBITER ALONE

MACH = 5.300 HAW/HT= .900 X/L = .700

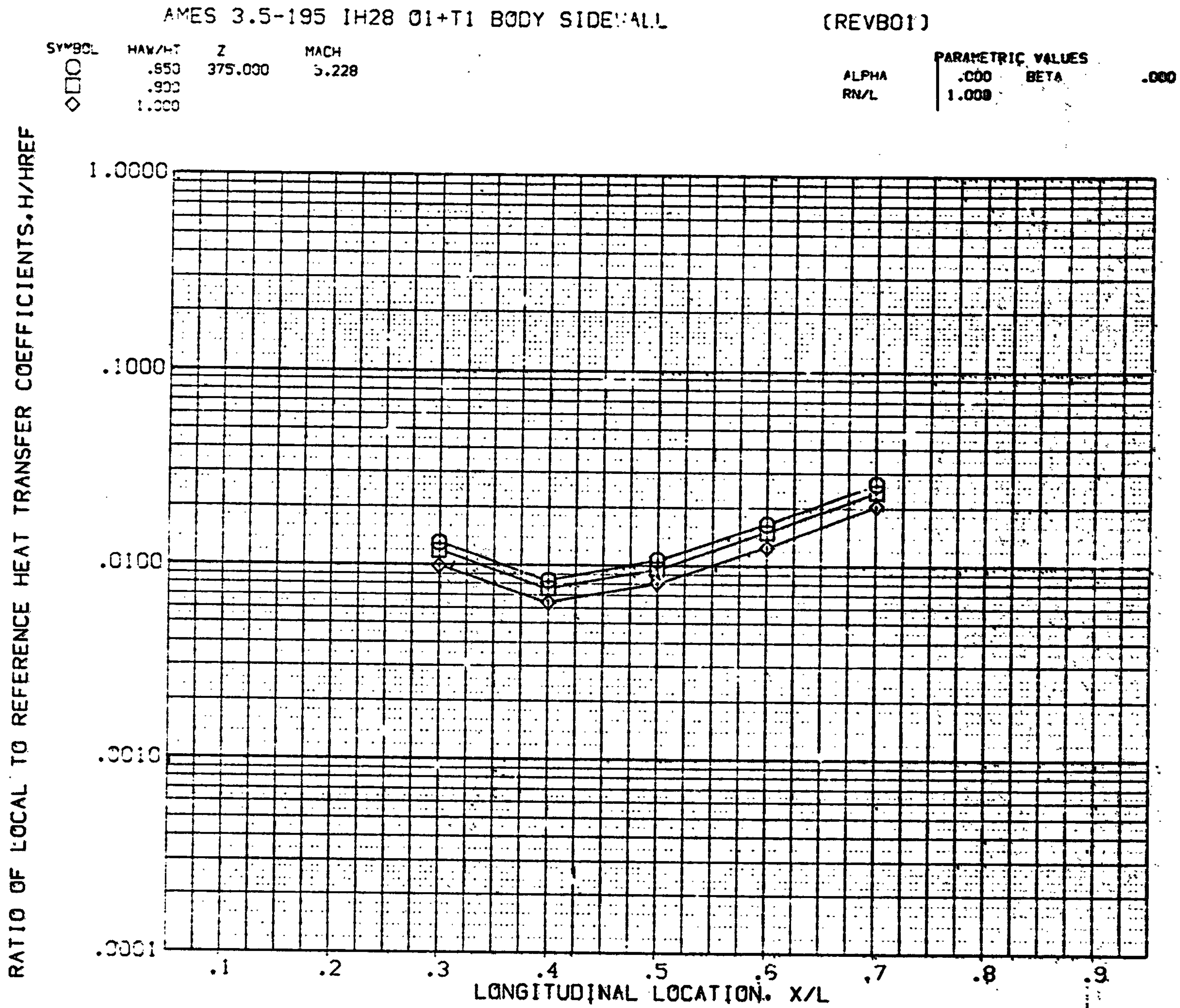

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-195 IH28 OI+TI BODY SIDEWALL (REVB01)

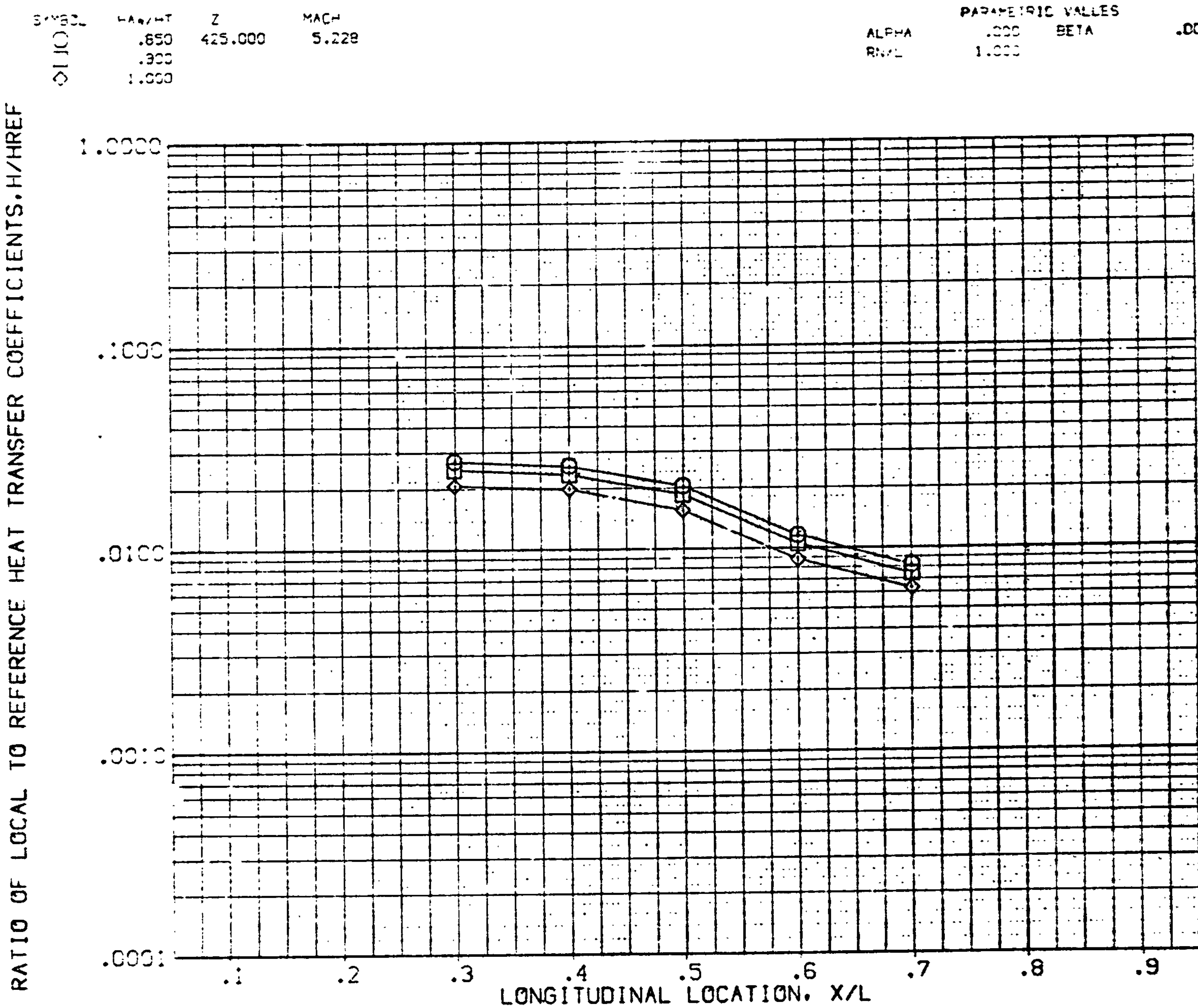

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

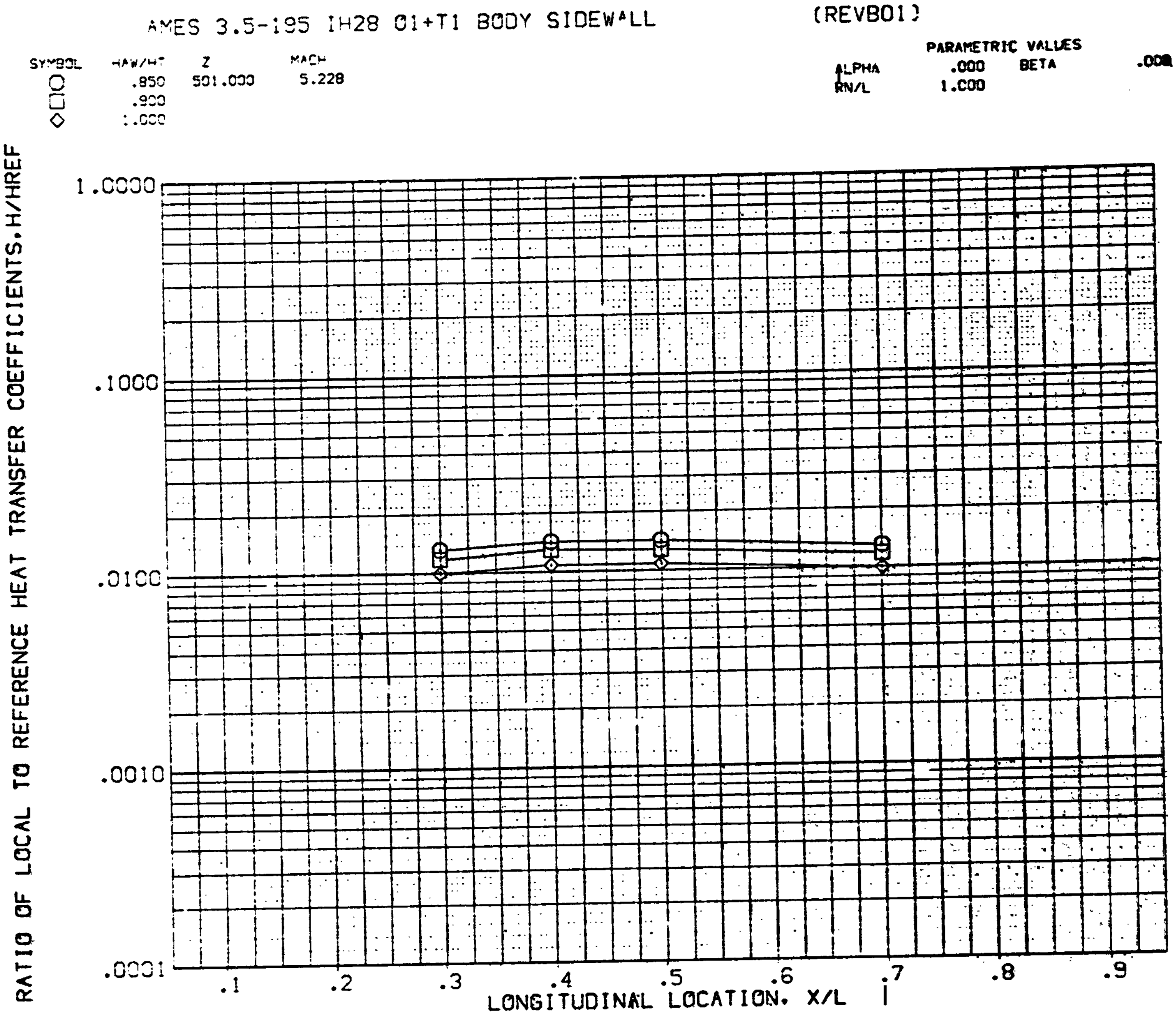

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK.

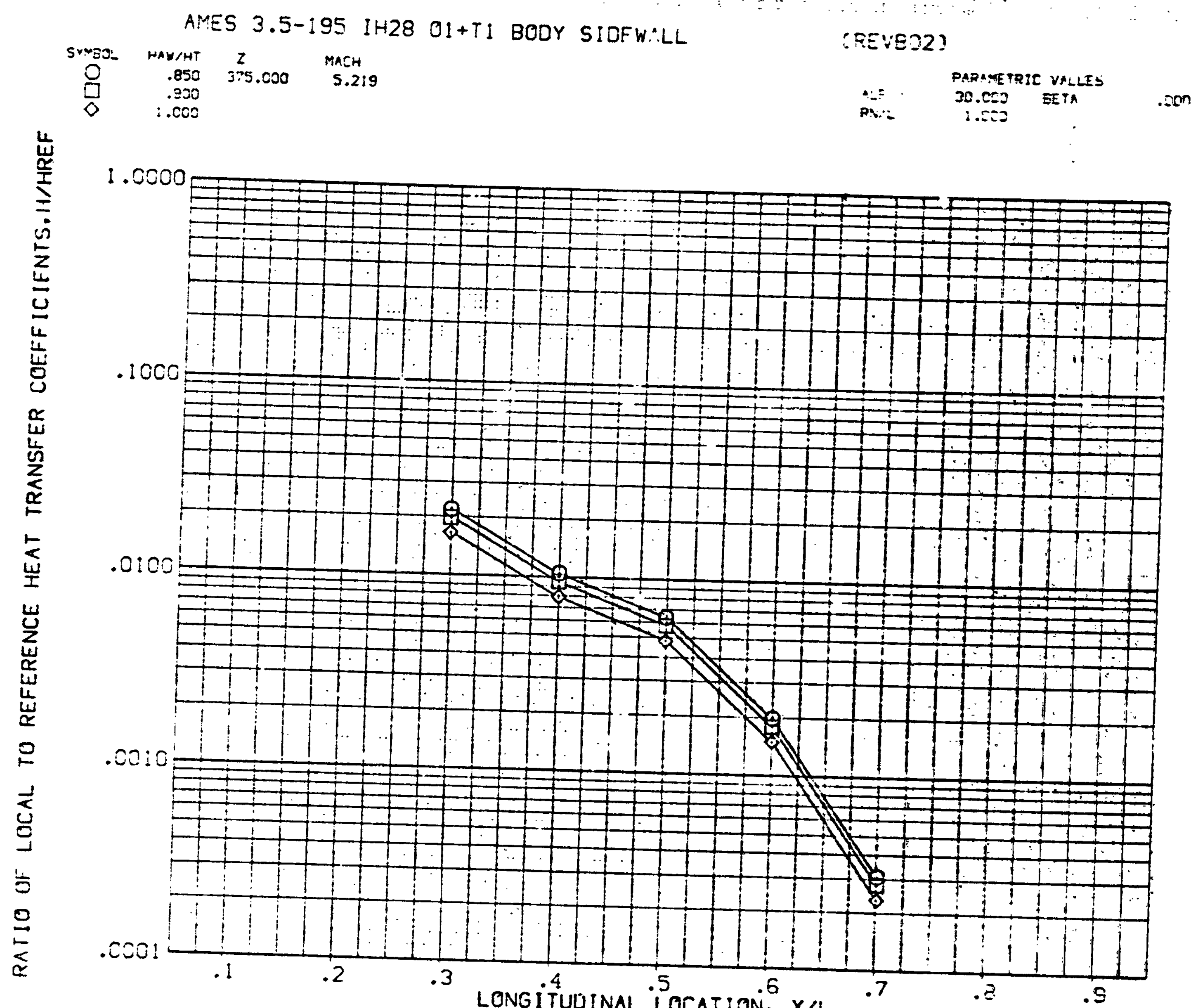

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

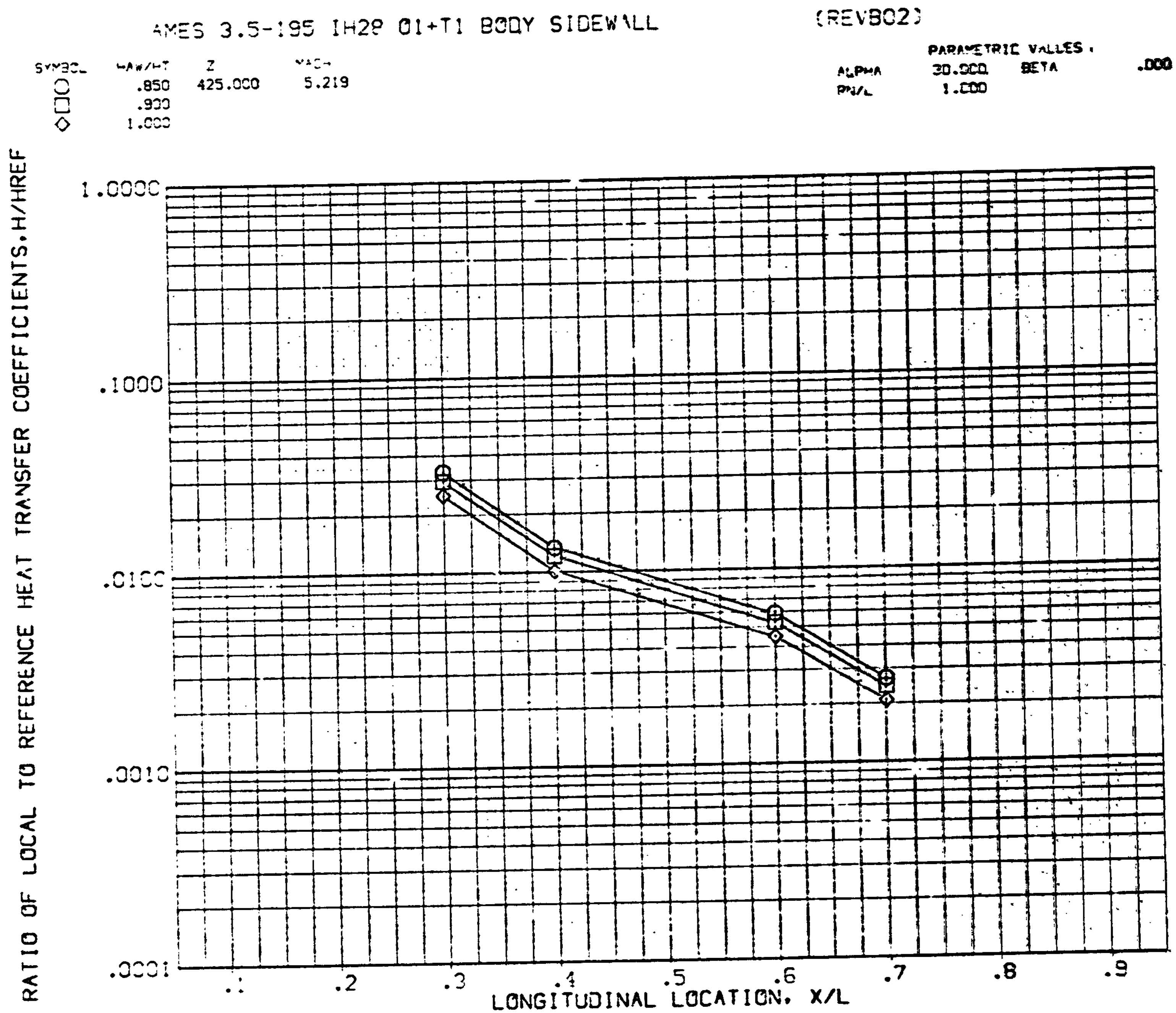

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

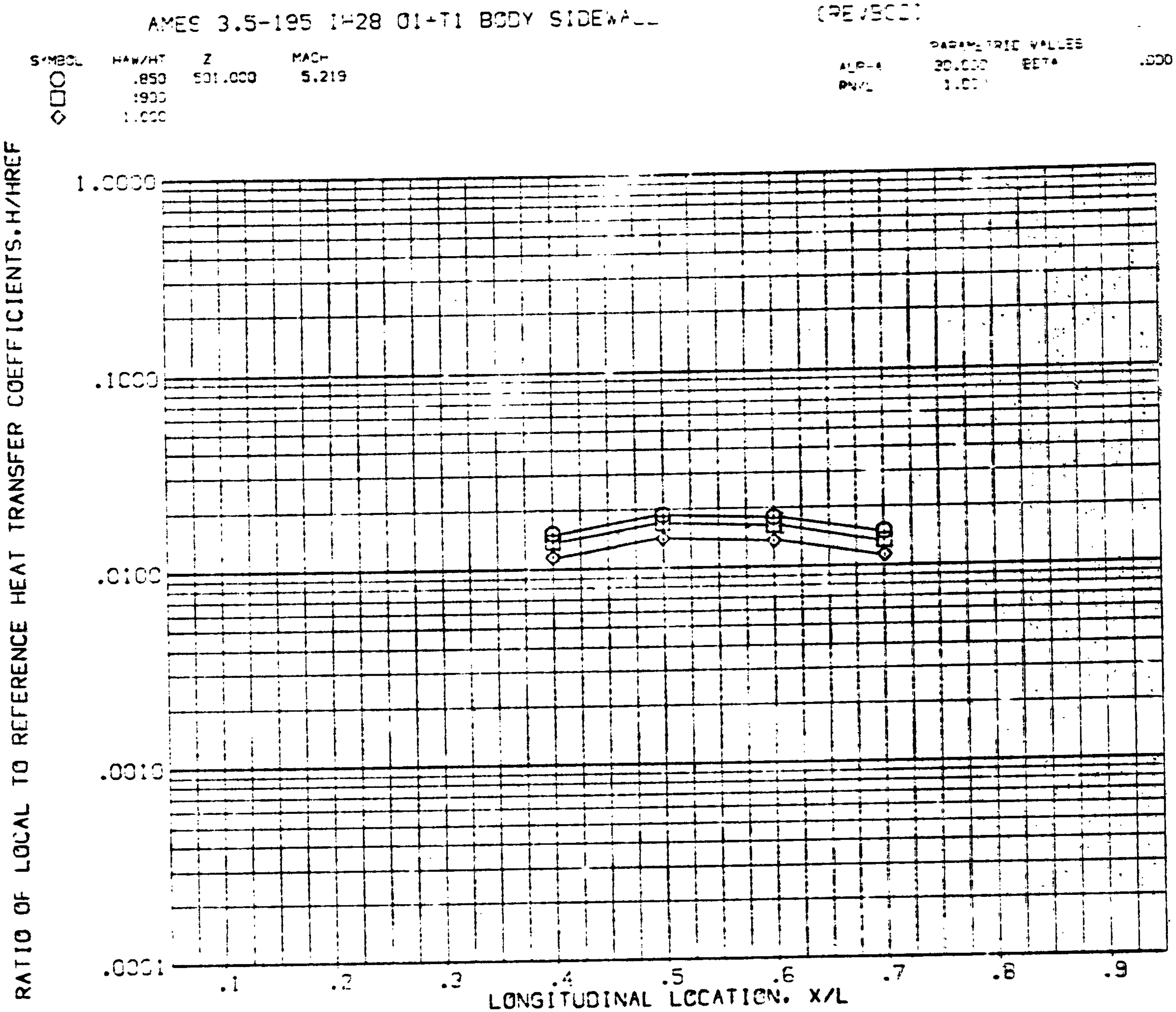

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

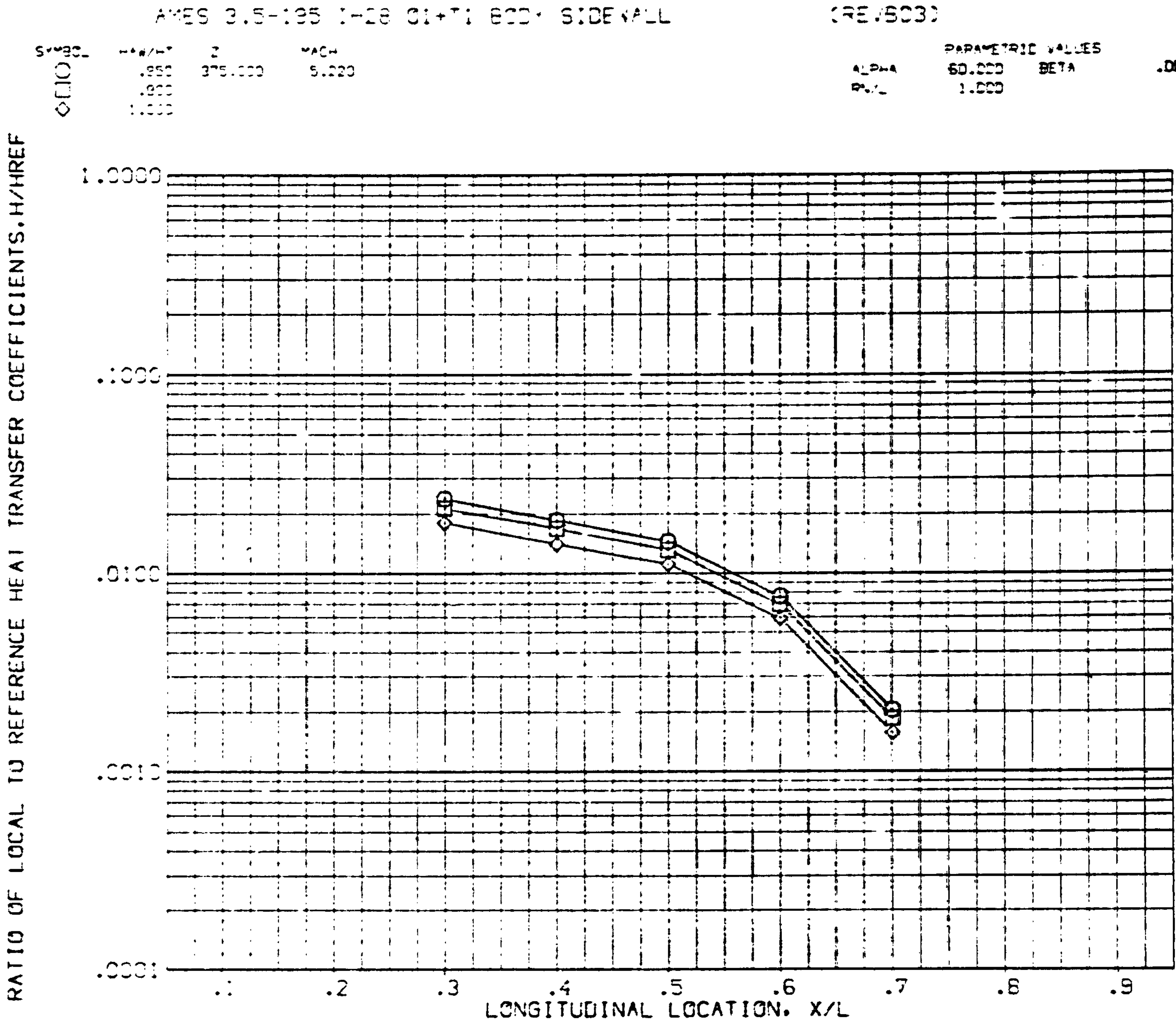

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-195 IH28 O1+T1 BODY SIDEWALL (PEVB03)

SYMBOL	HAW/HT	Z	MACH
○	.850	425.000	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA 60.000 BETA .000

RN/L 1.0

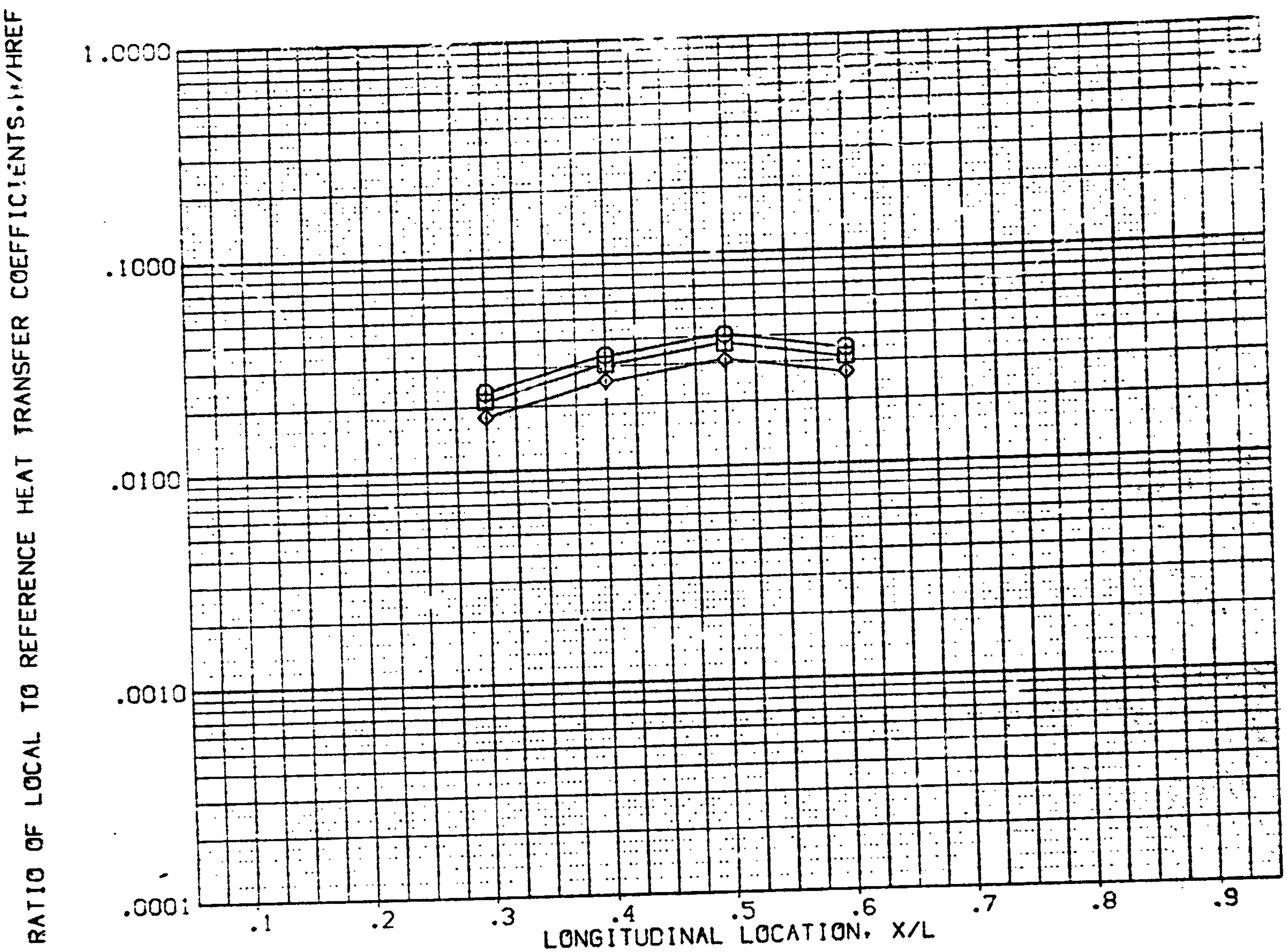

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

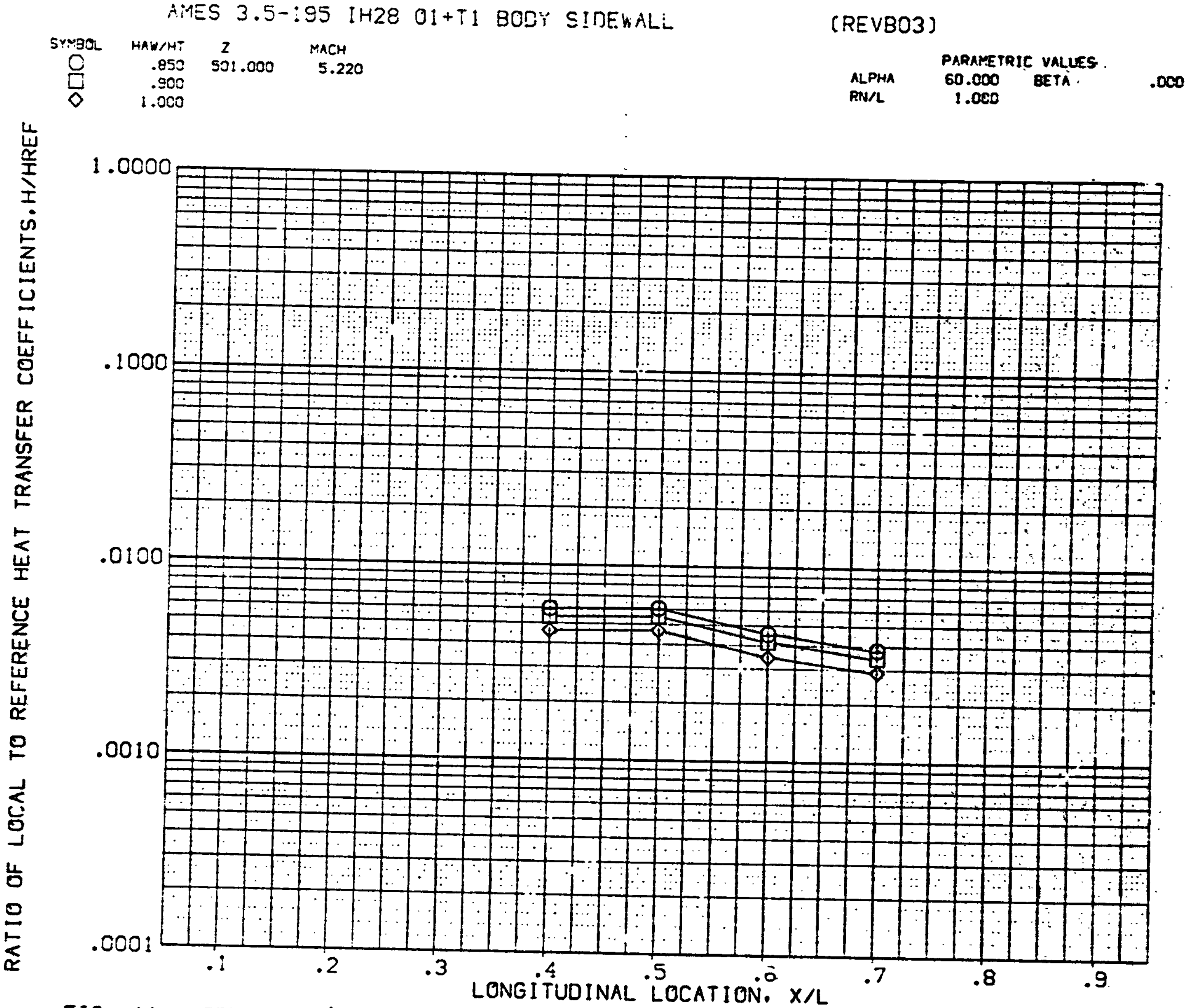

FIG. 11 ØRBITER BØDY SIDEWALL, ØRBITER IN PRESENCE OF THE TANK

AMES 3.5-195 IH28 O1+T1 BODY SIDEWALL (REVB04)

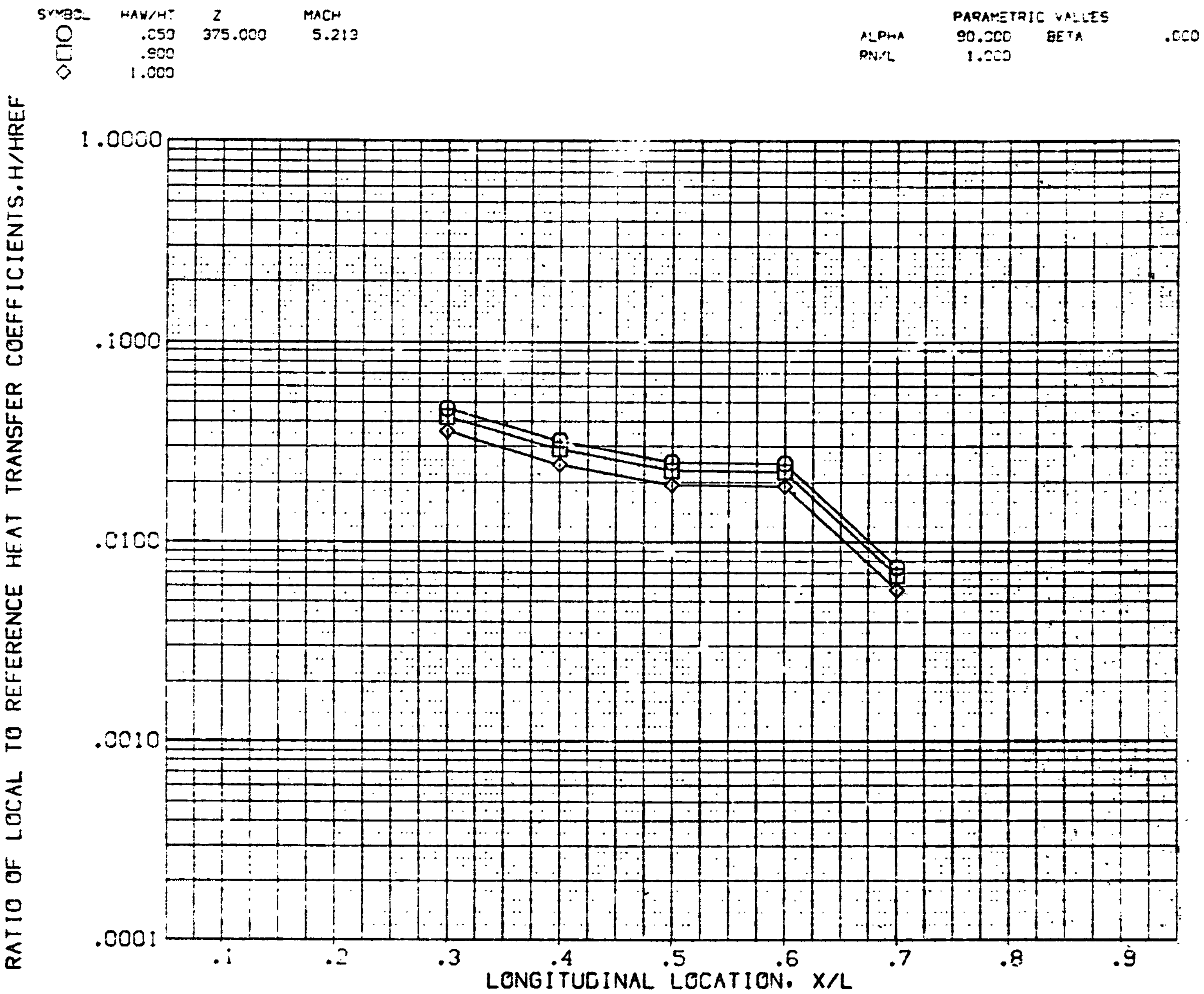

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

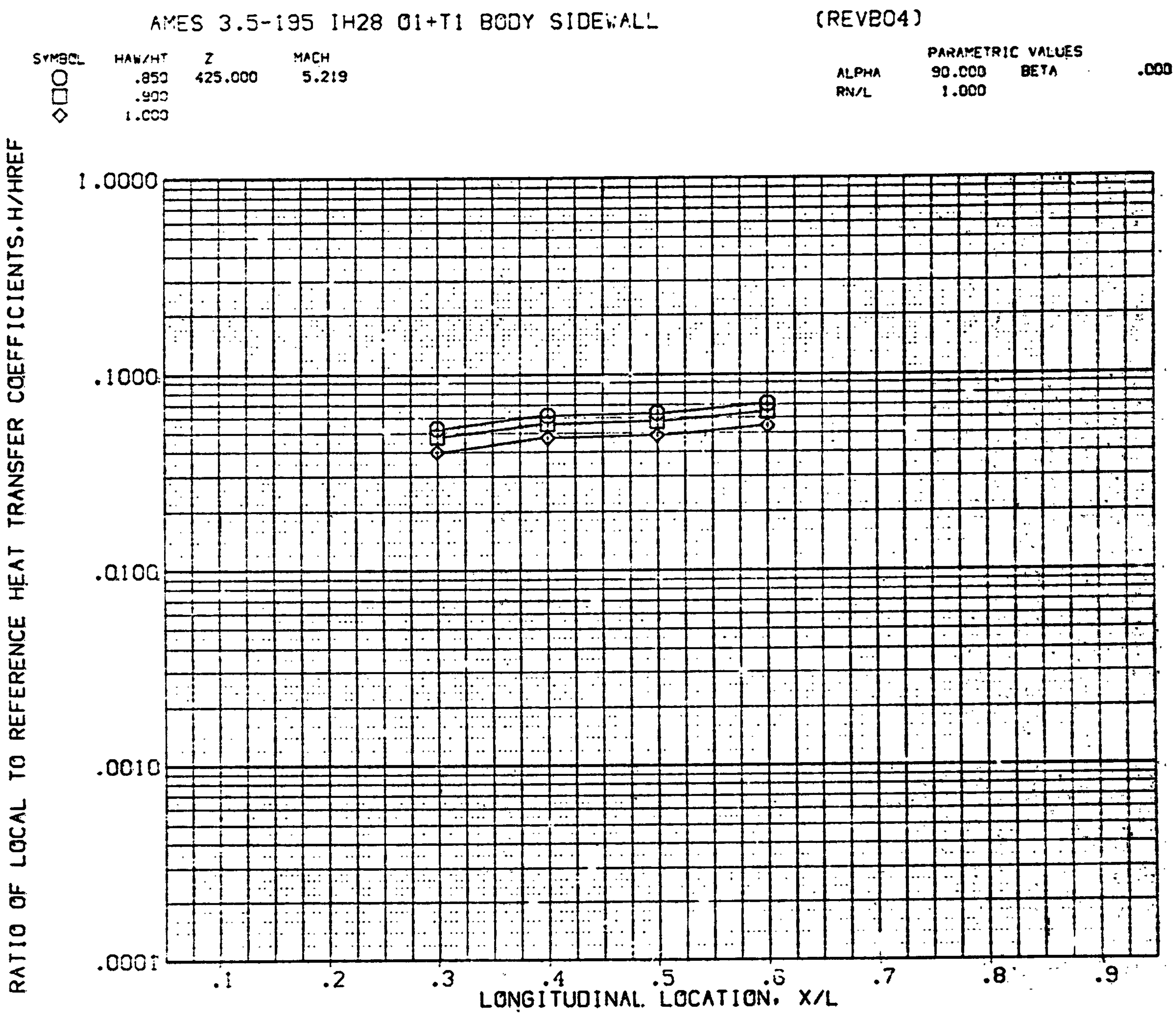

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

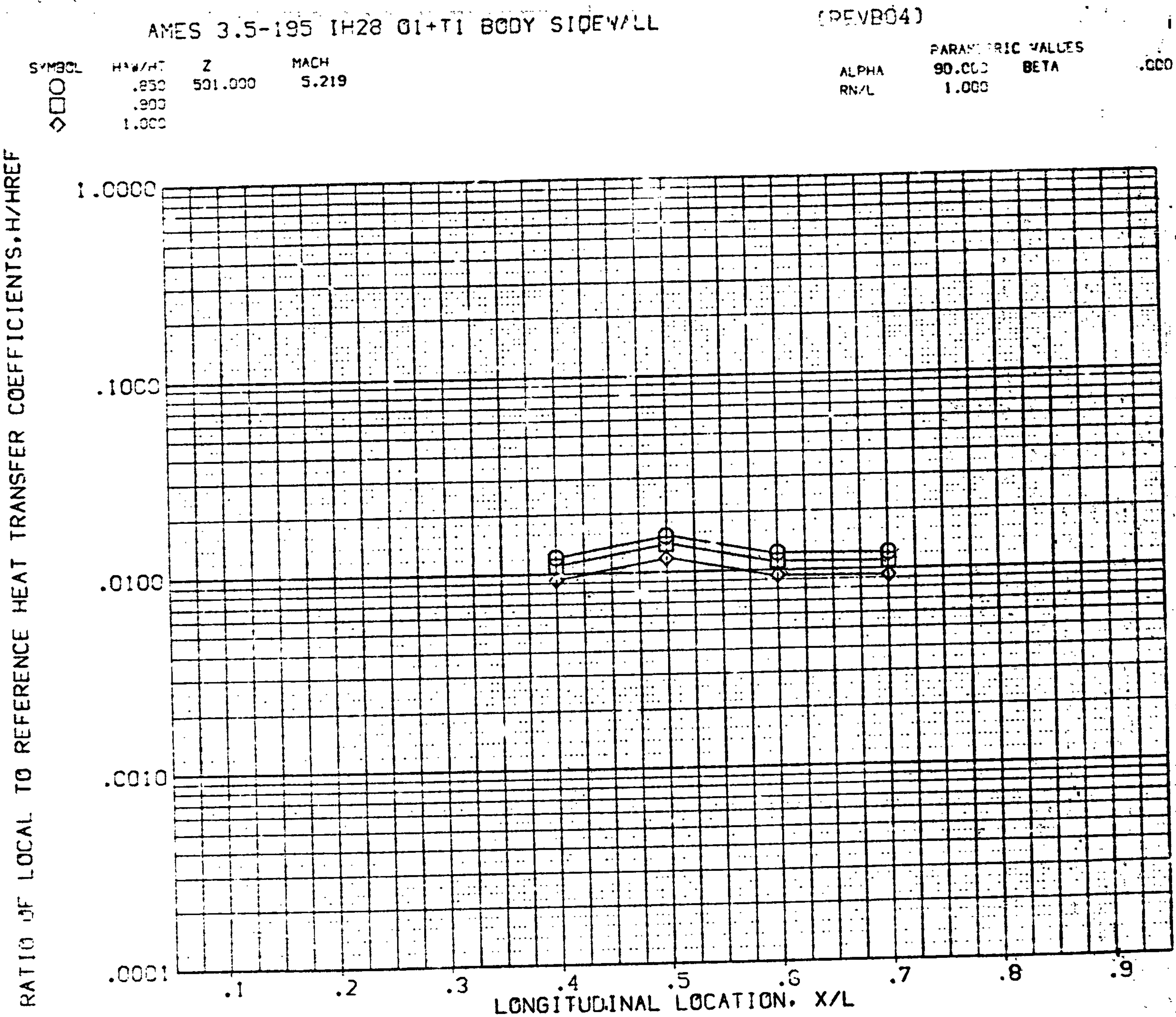

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

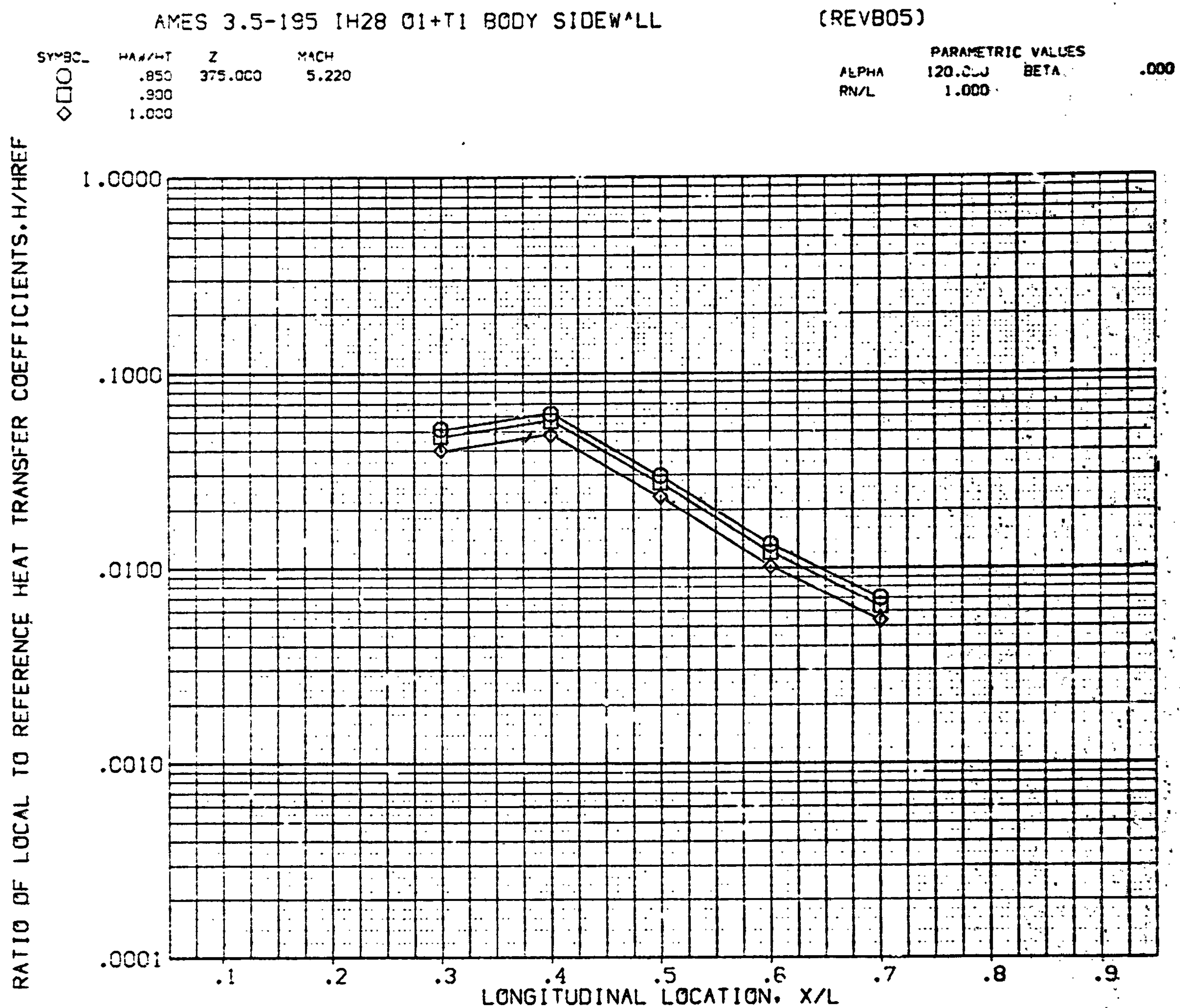

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-1.5 IH28 O1+T1 BODY SIDEWALL (REVBO5)

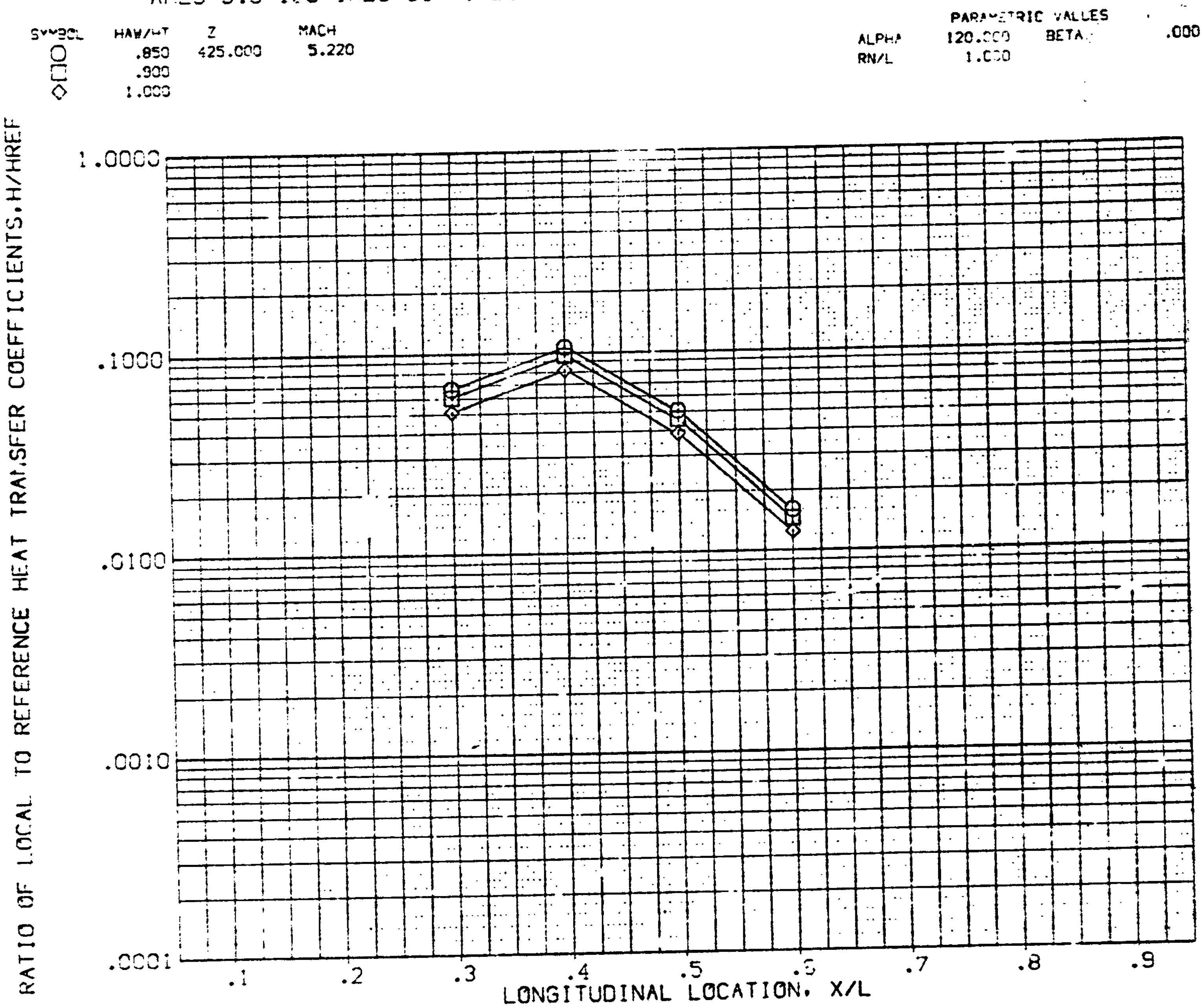

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-195 IH28 O1+T1 BODY SIDEWALL (PEVB05)

SYMBOL	HAW/HT	Z	MACH
○	.850	501.000	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA 120.000 BETA .000

RN/L 1.000

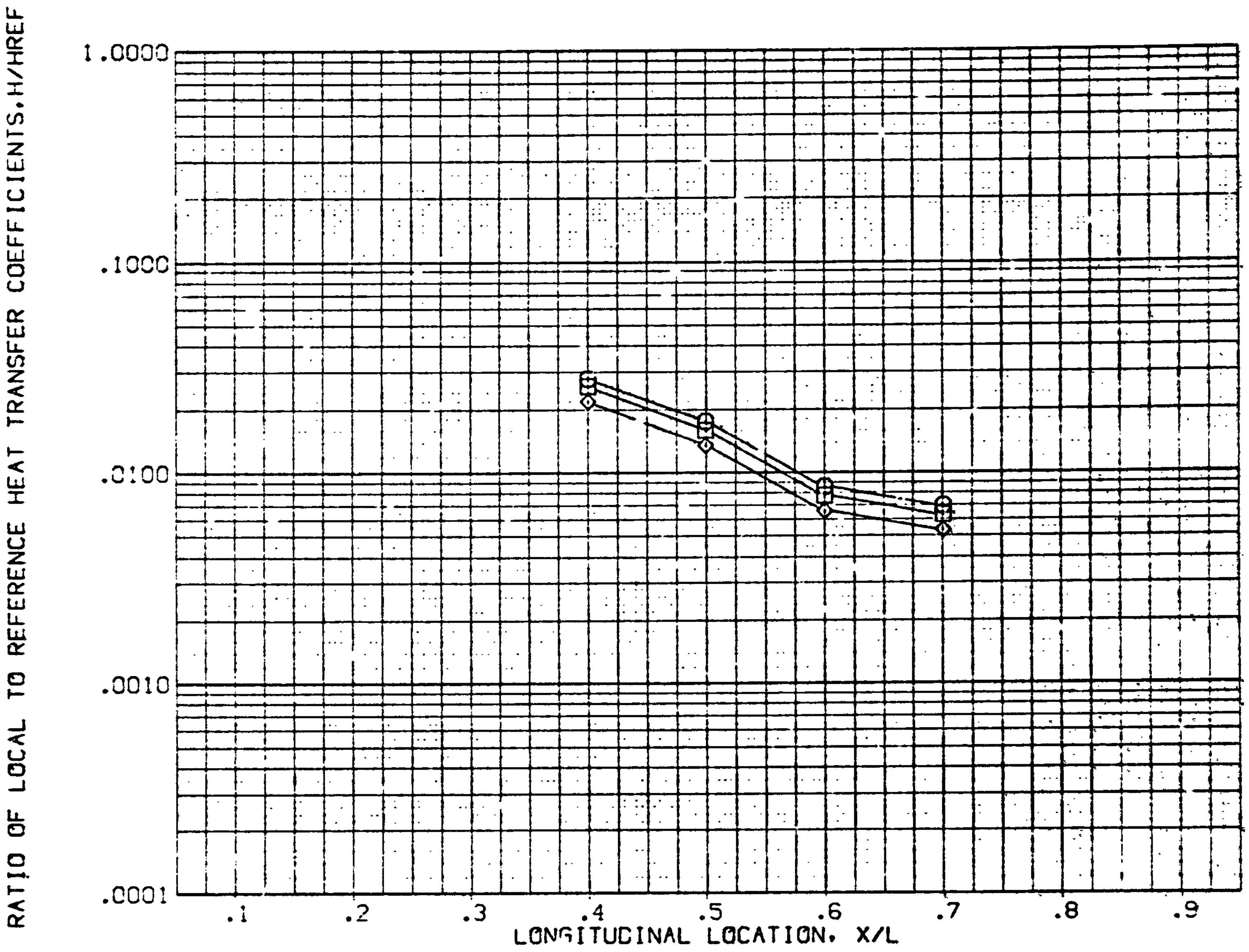

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

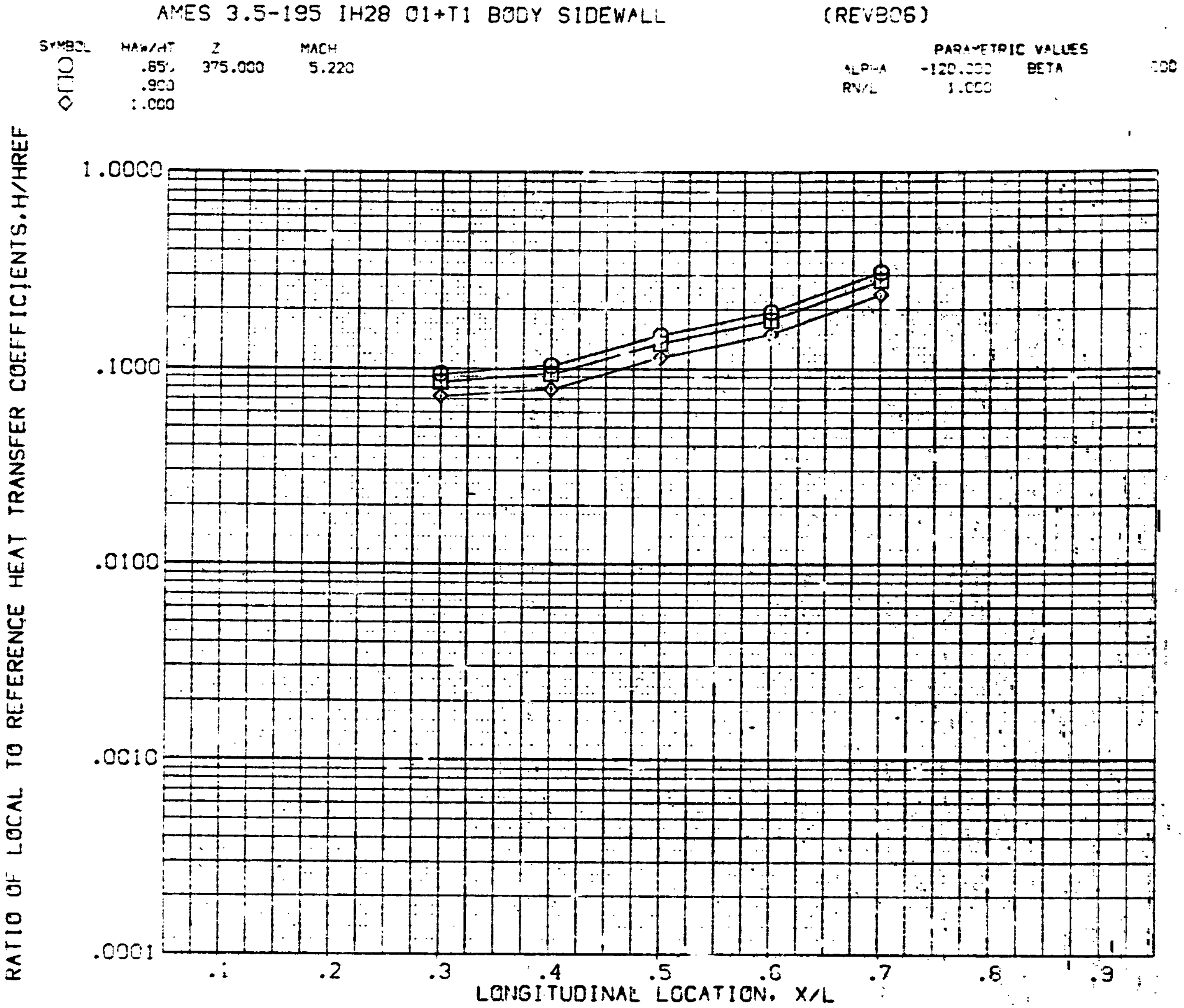

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

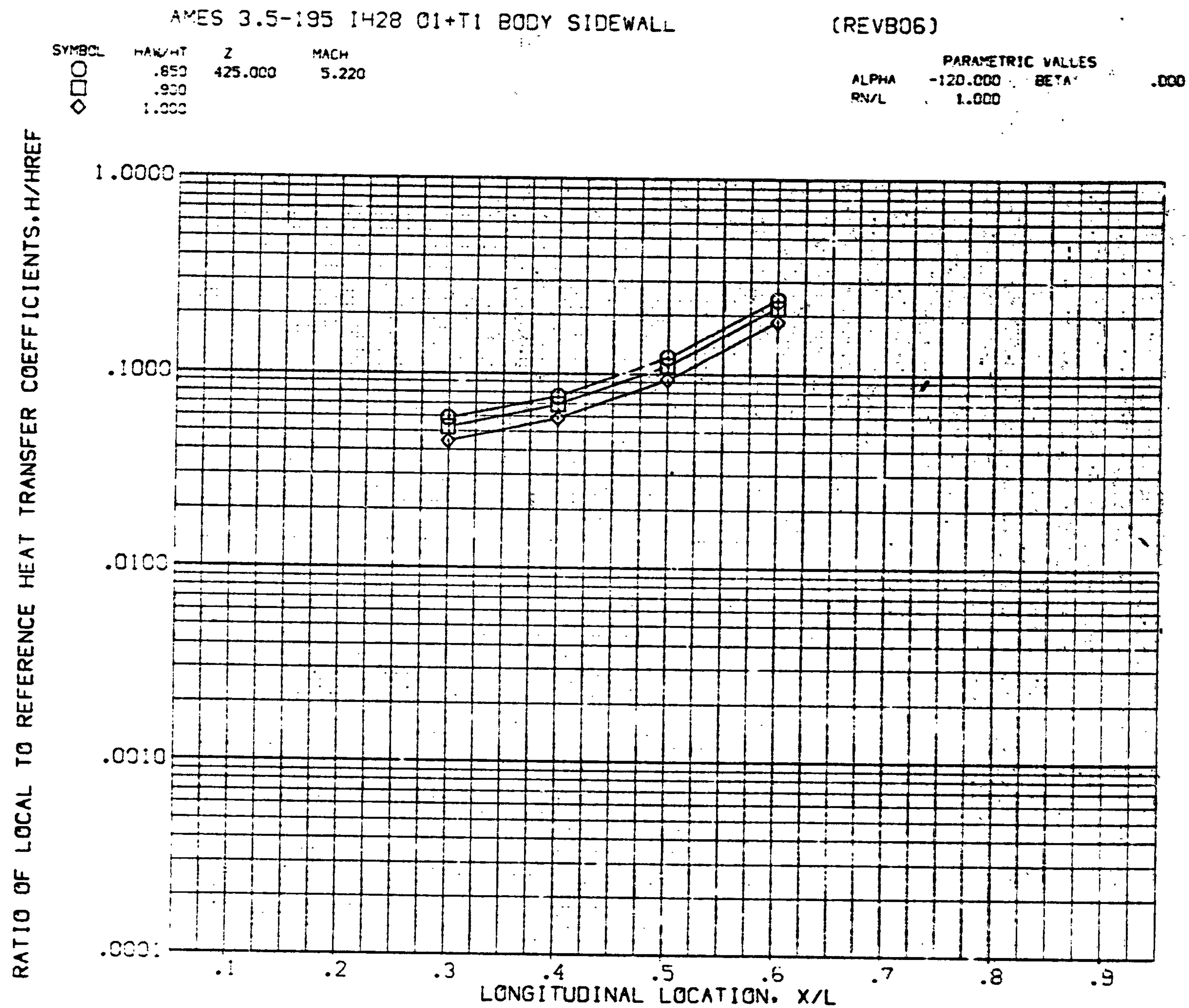

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

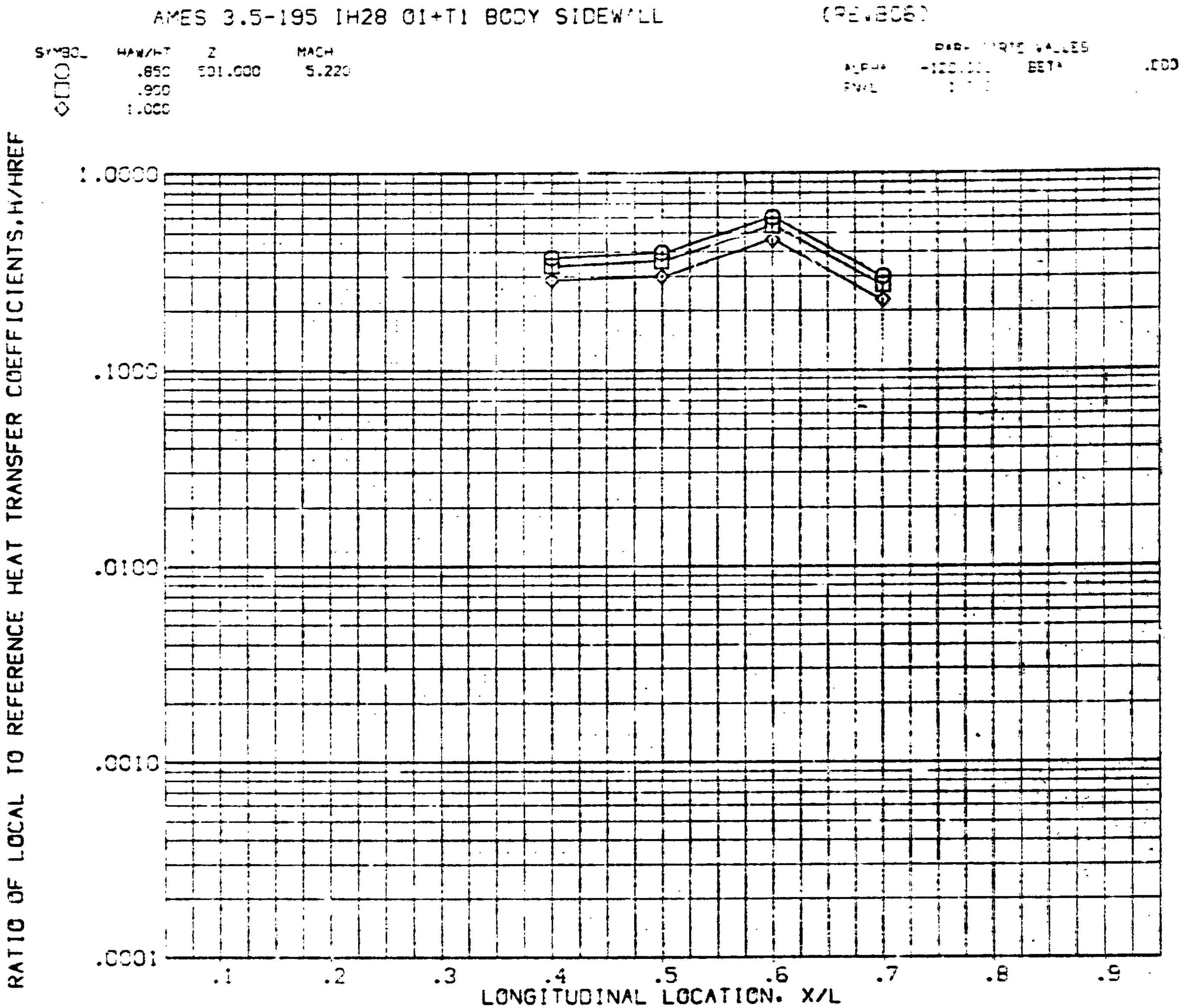

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-195 IH28 OI+TI BODY SIDEWALL (REV307)

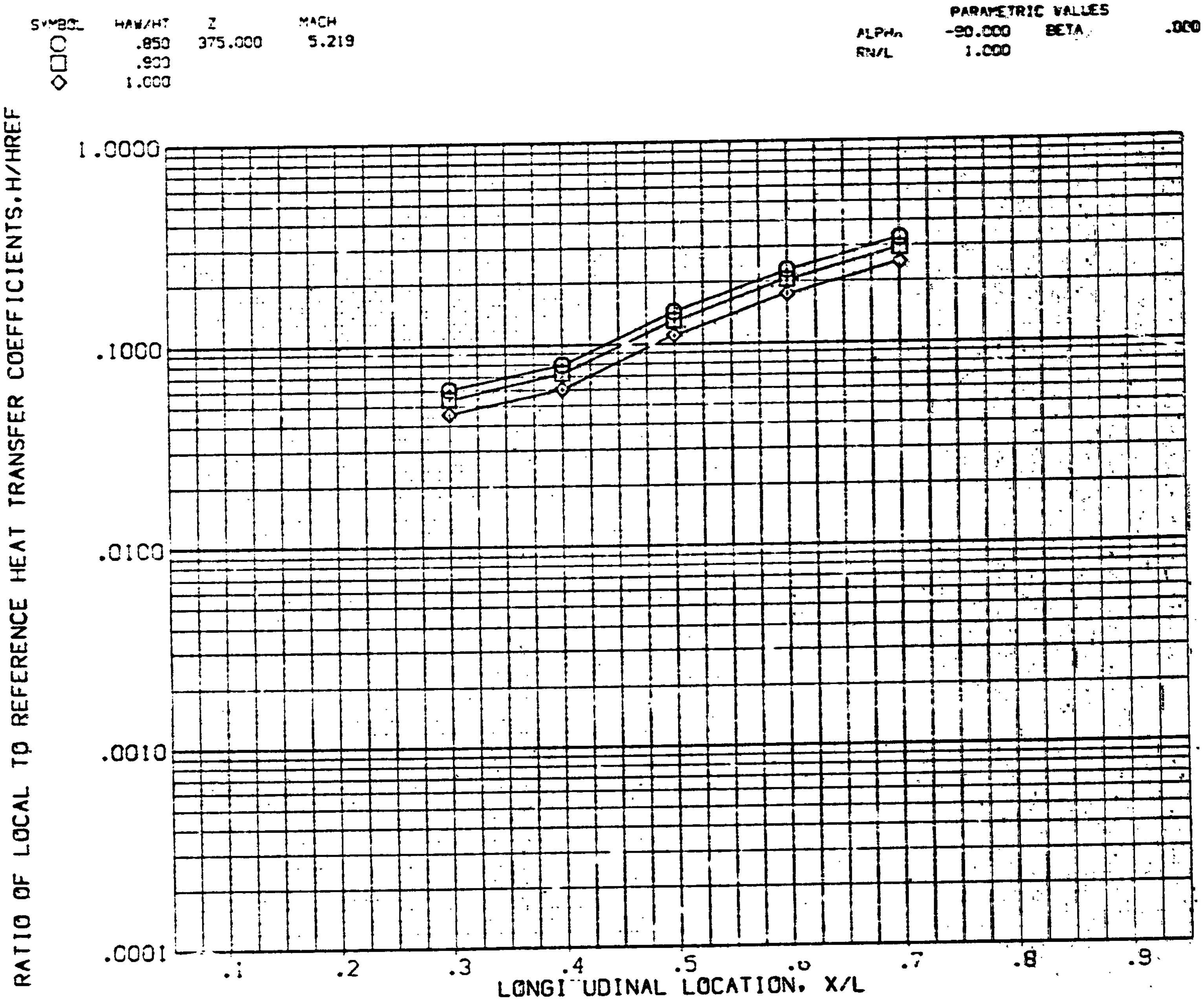

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

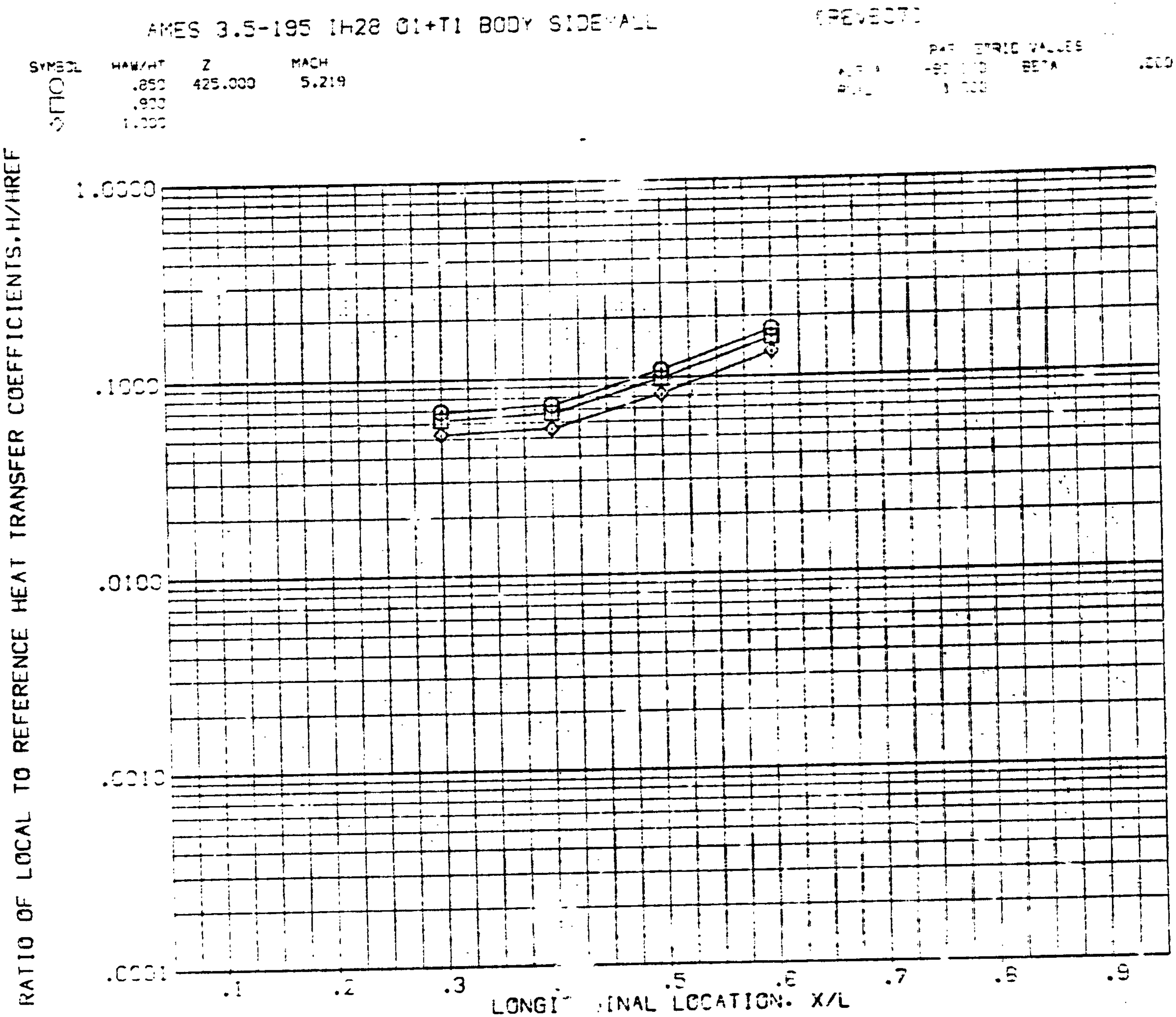

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

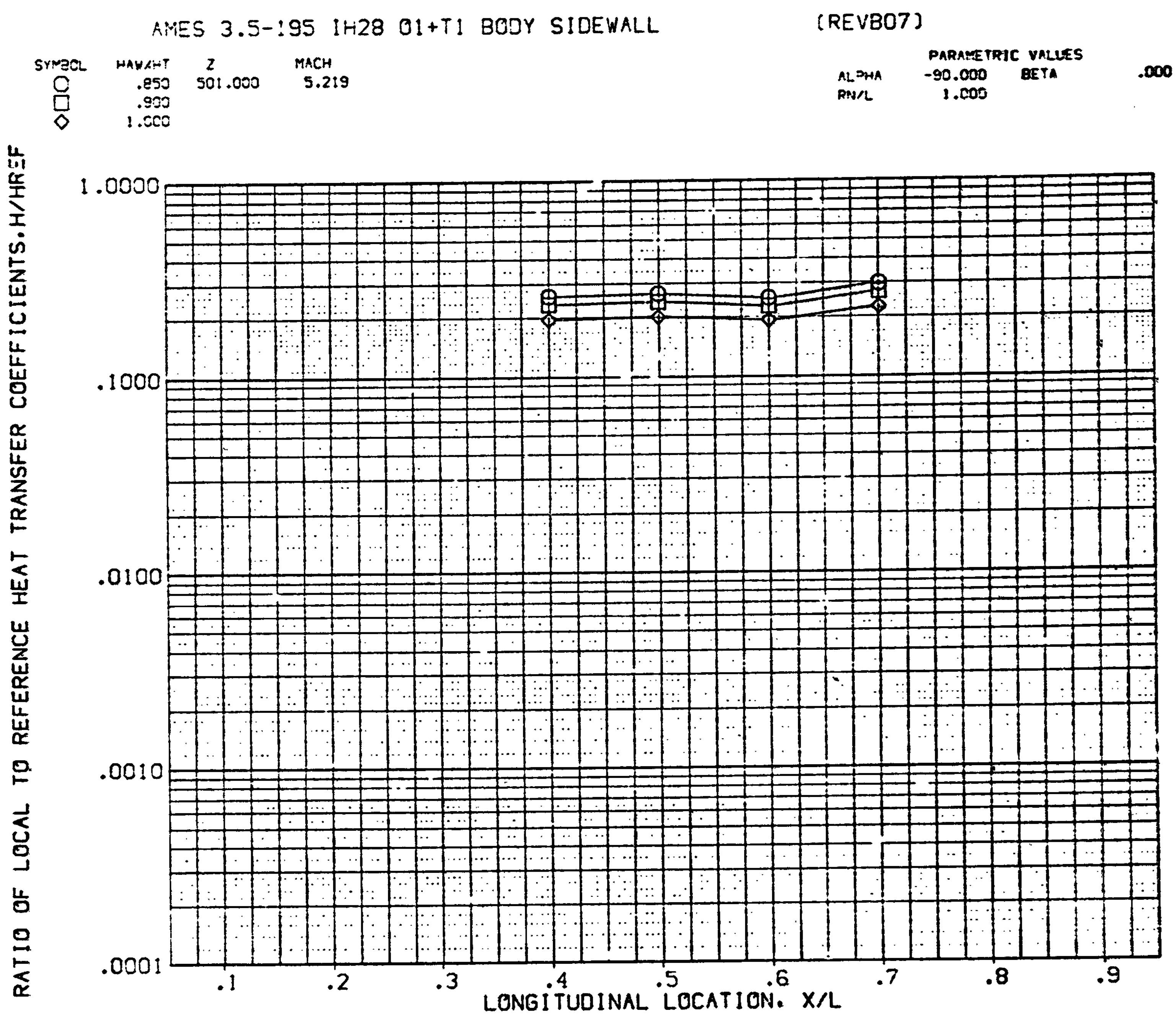

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-195 IH28 O1+T1 BODY SIDEWALL (REVBC8)

SYMBOL	HAW/HT	Z	MACH
○	.850	375.000	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES
ALPHA -60.000 BETA .000
RN/L 1.000

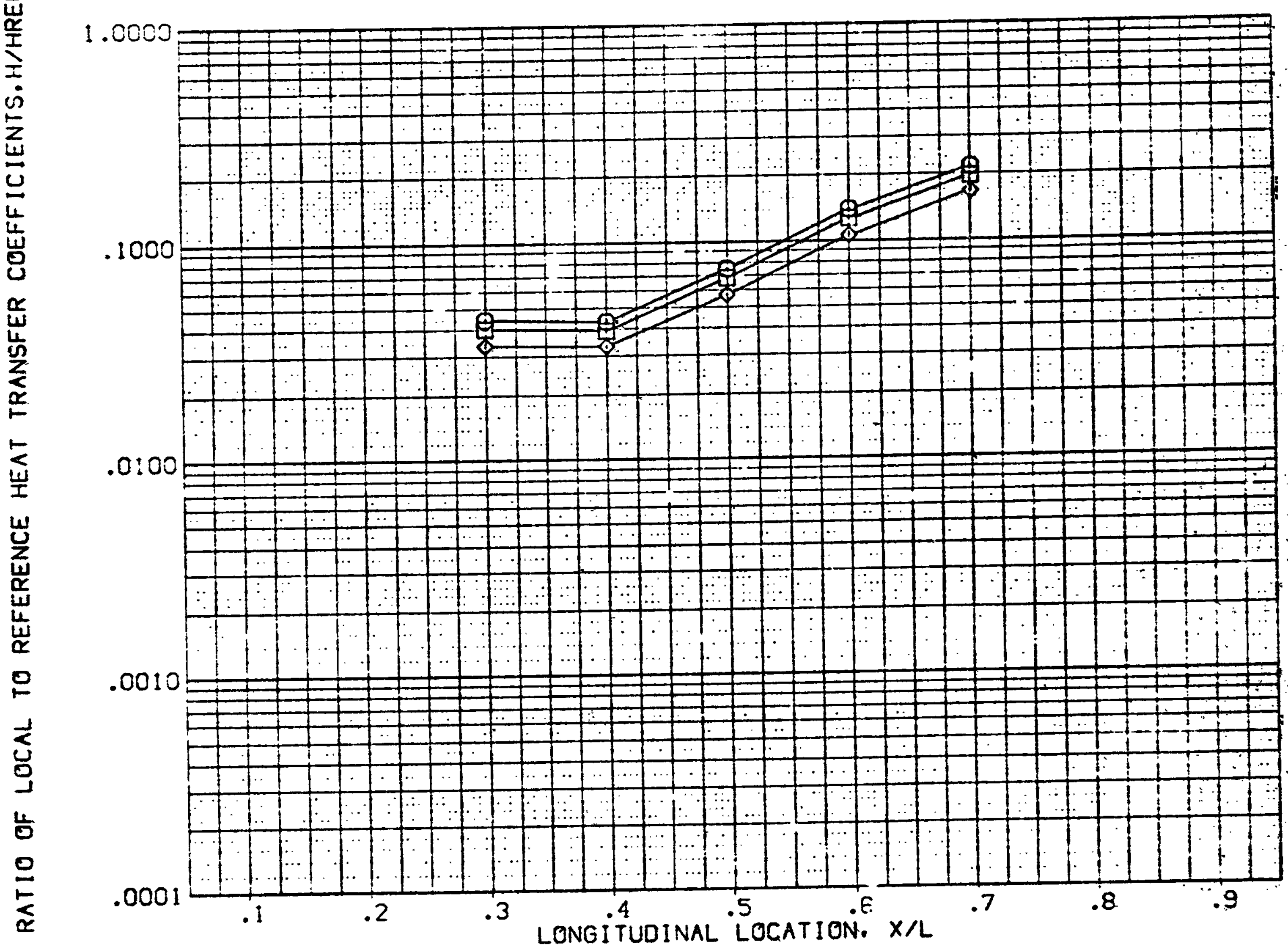

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

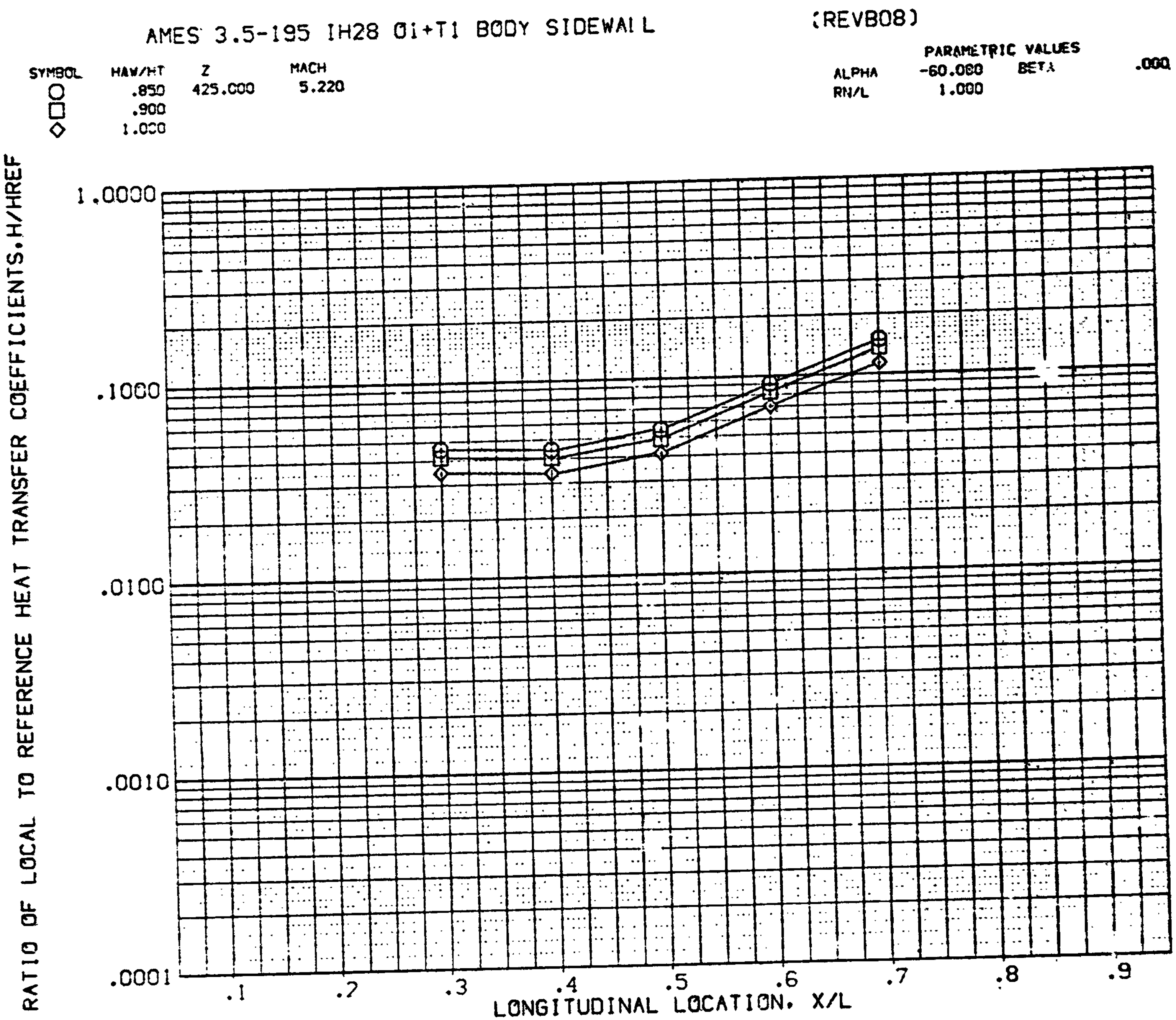

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-195 IH28 O1+T1 BODY SIDEWALL (REVB08)

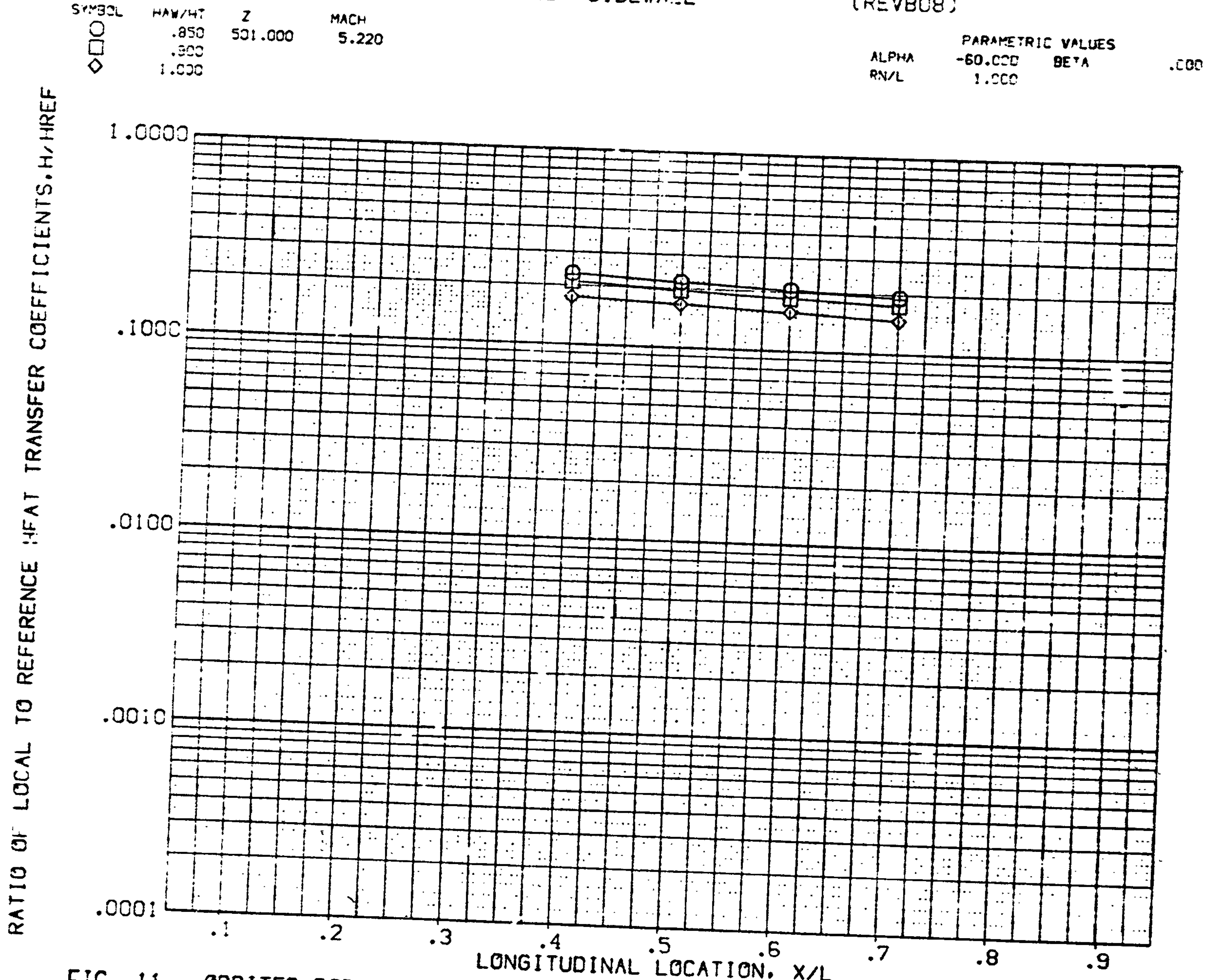

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-195 IH?? 01+T1 BODY SIDEWALL (REVB09)

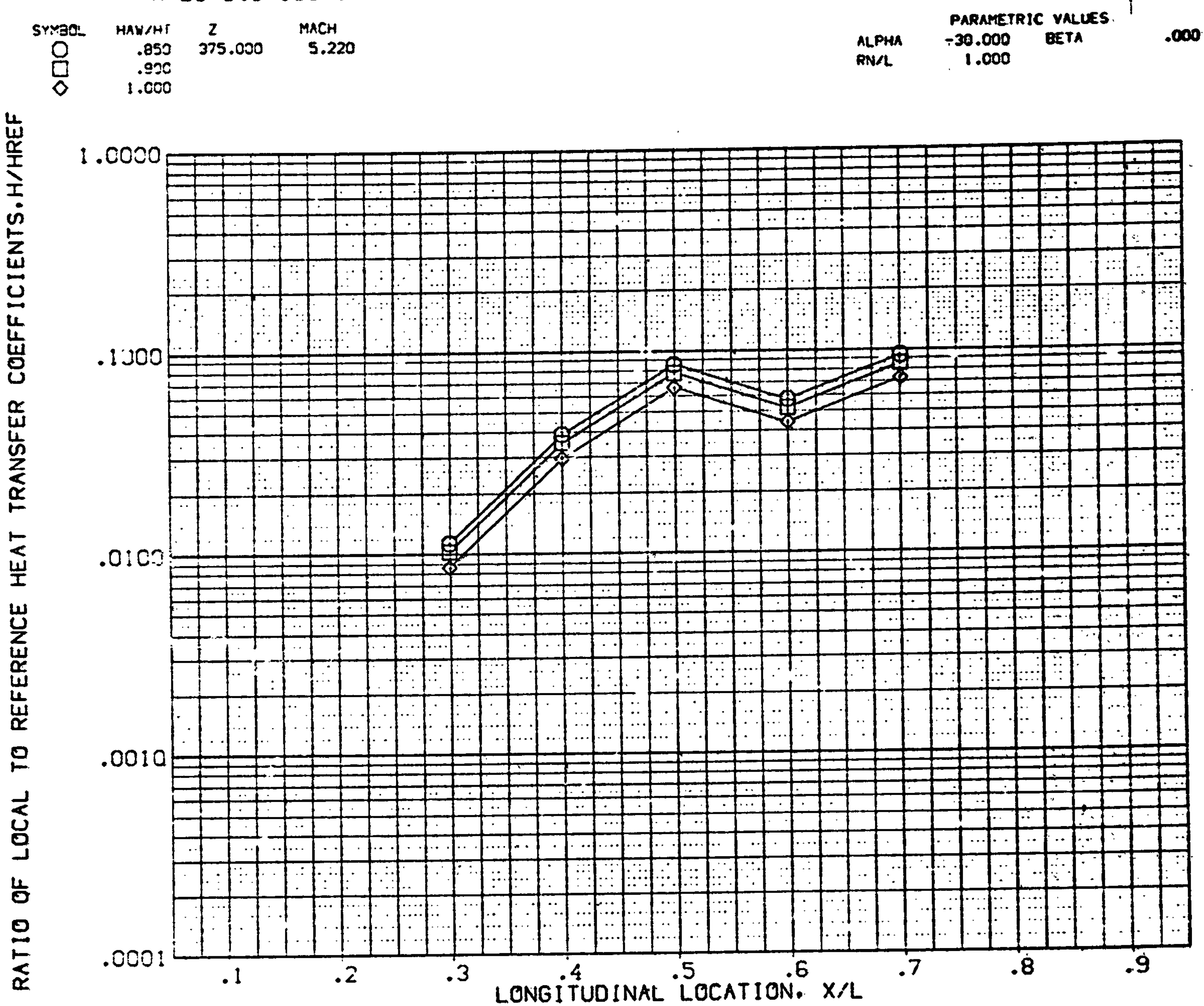

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-195 IH28 01+T1 BODY SIDEWALL (REVB09)

SYMBOL	HAW/HT	Z	MACH
○	.850	425.000	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA -30.000 BETA .000

RN/L 1.000

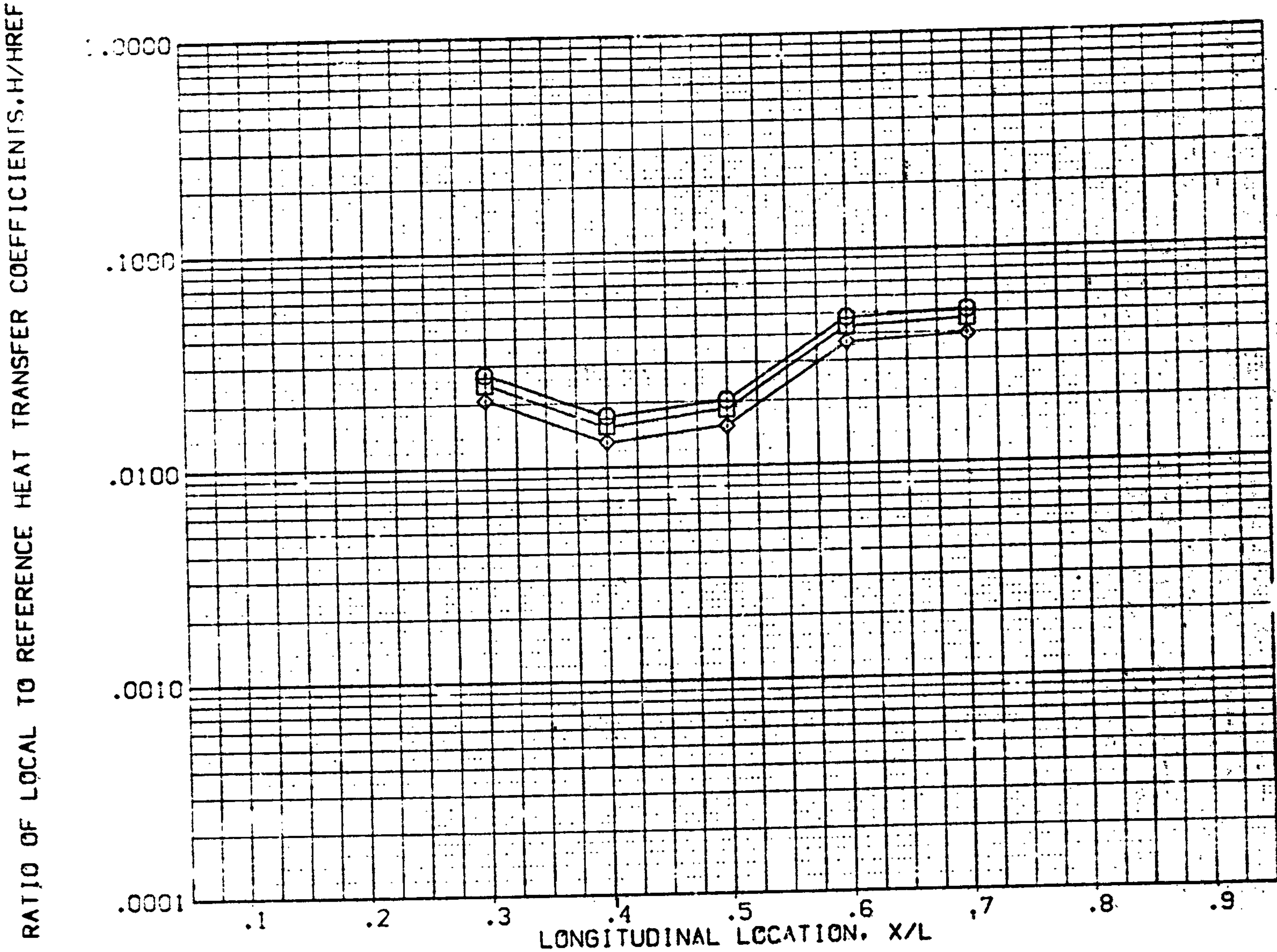

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

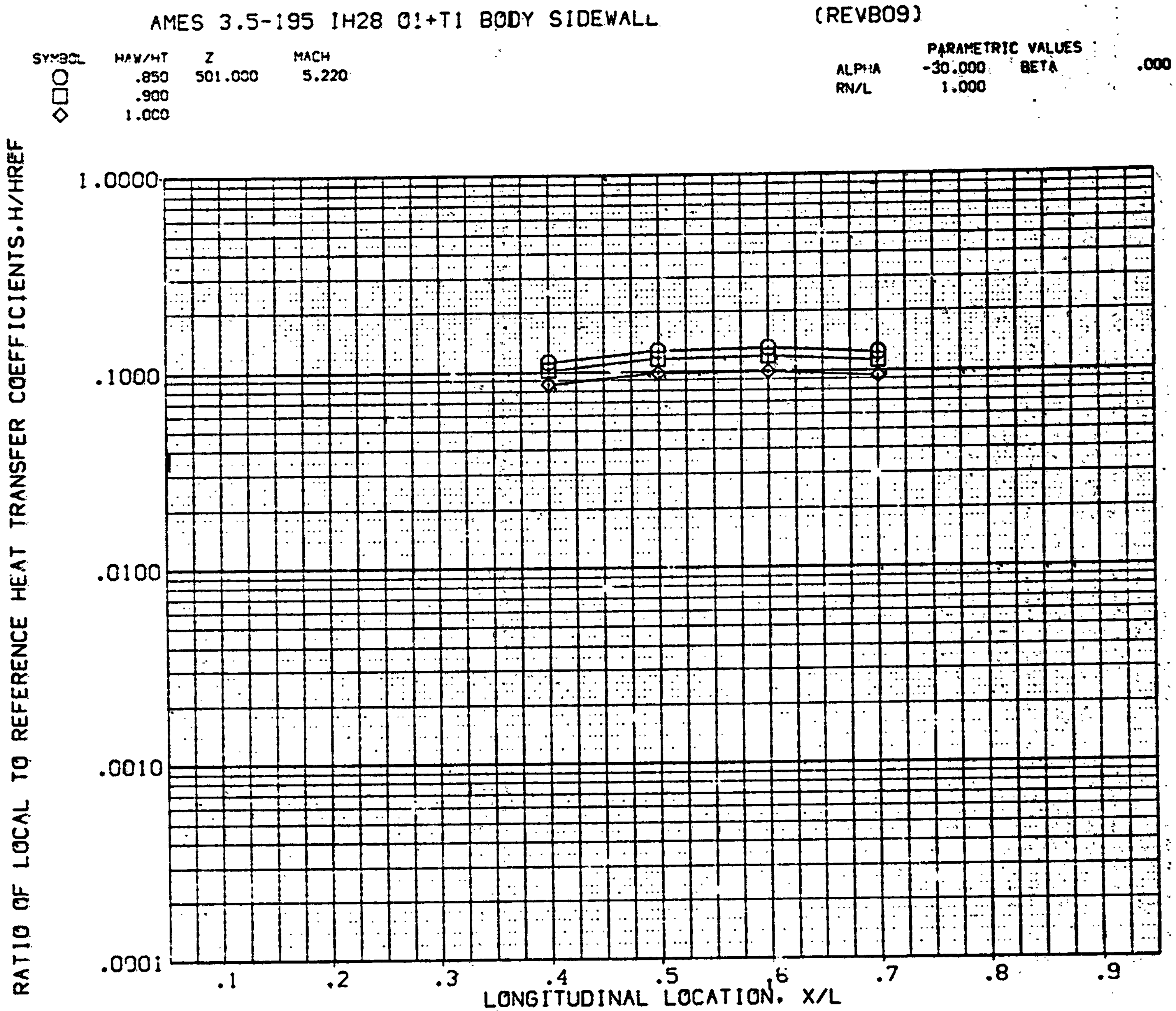

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

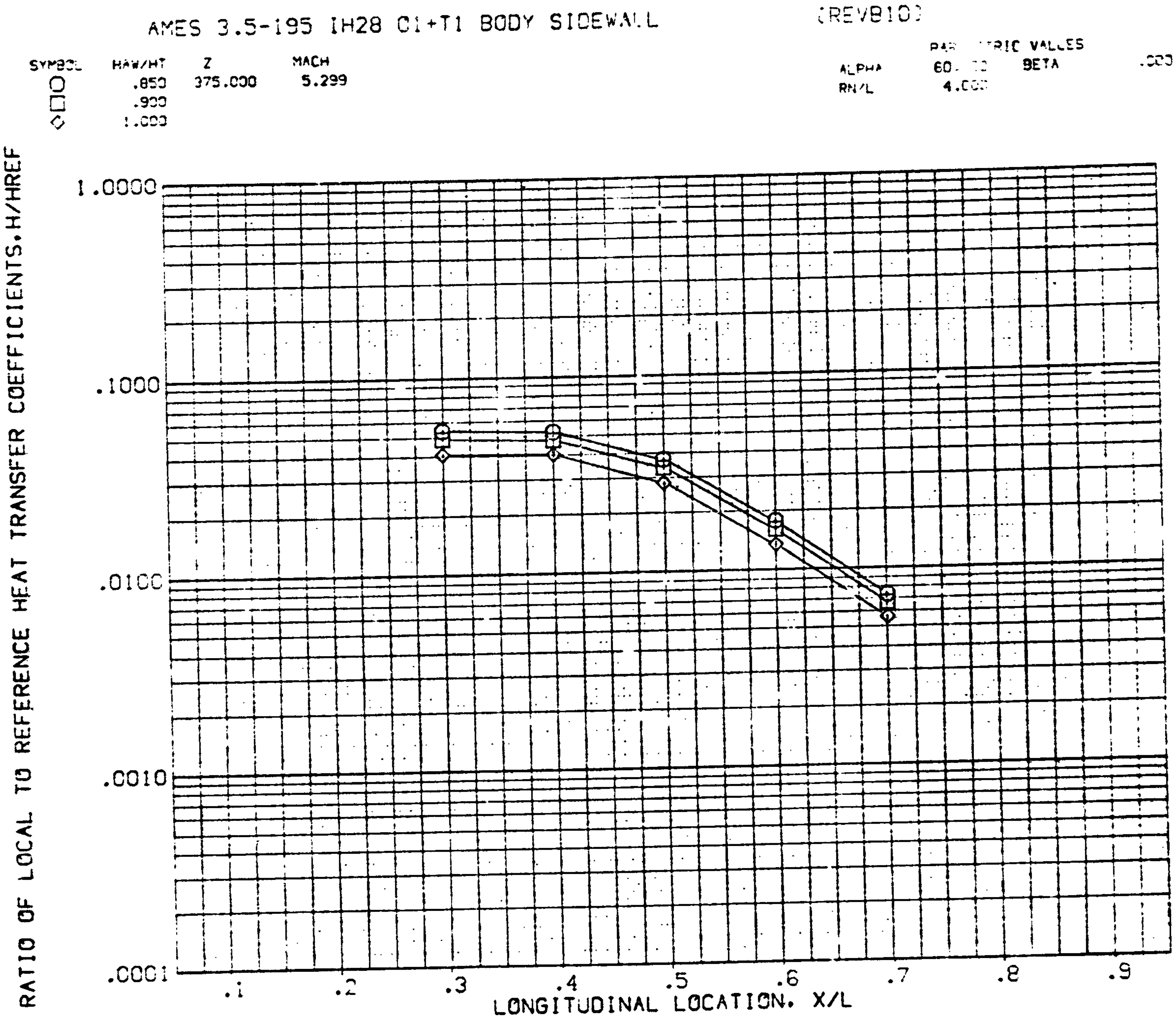

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

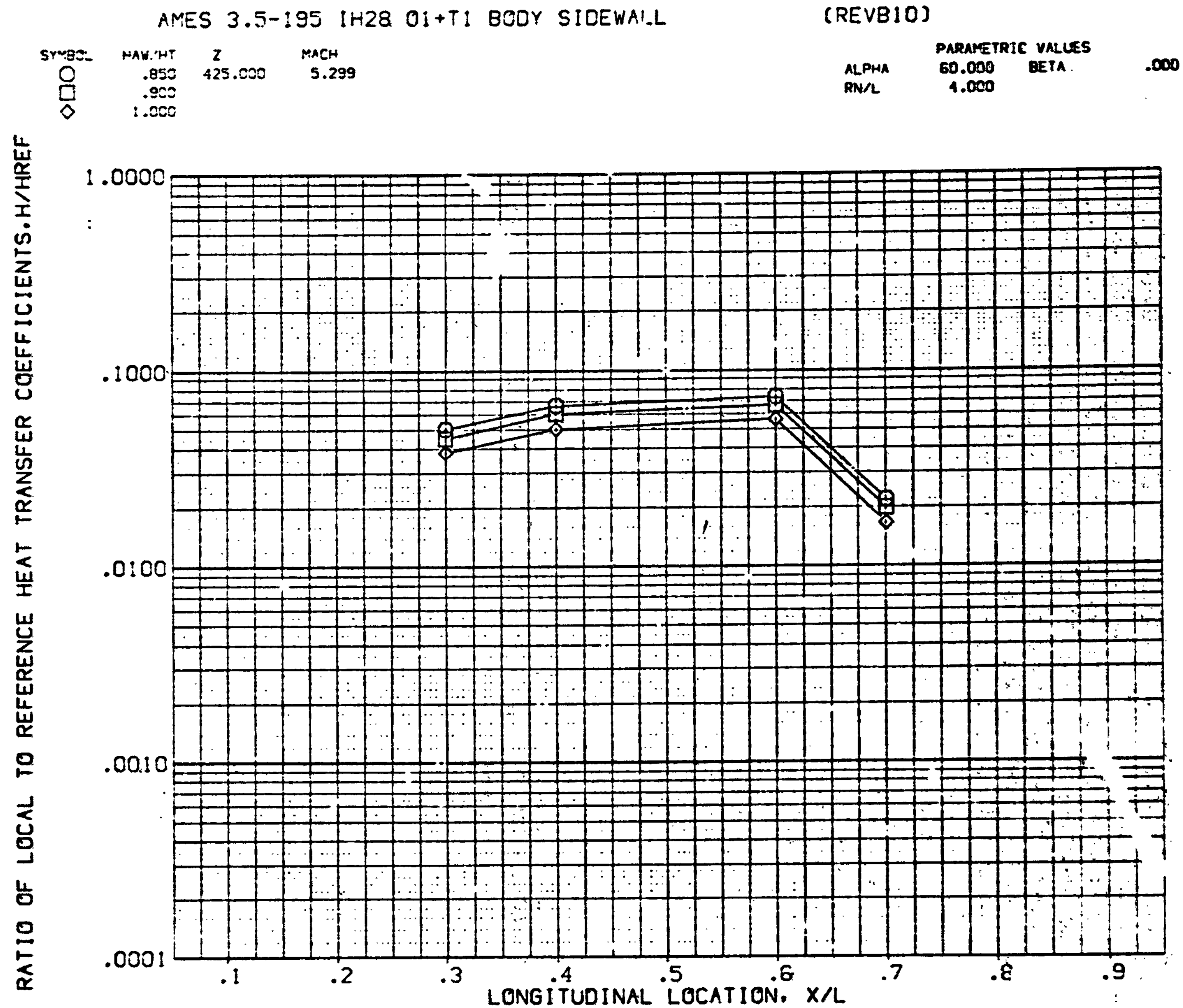

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

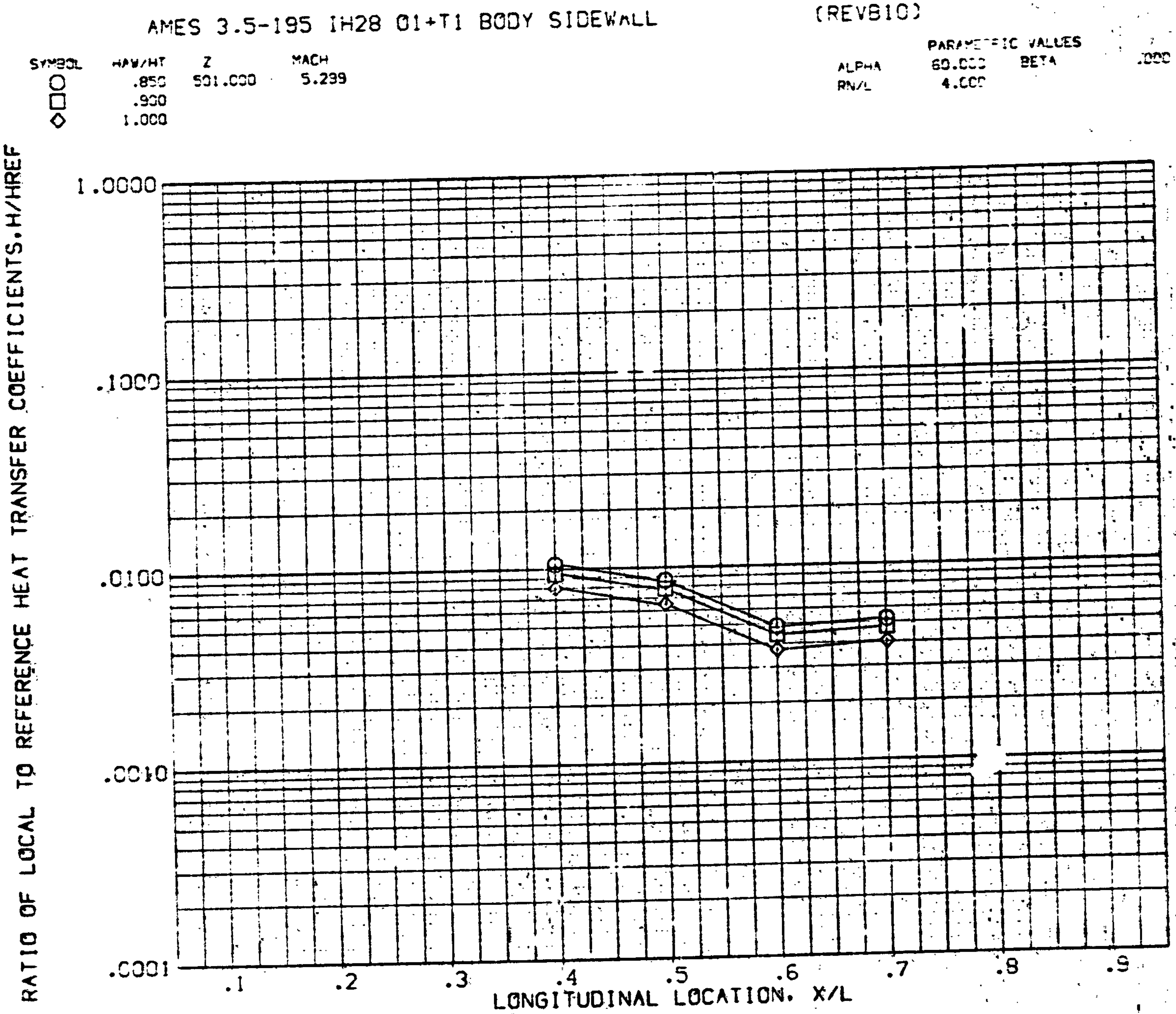

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

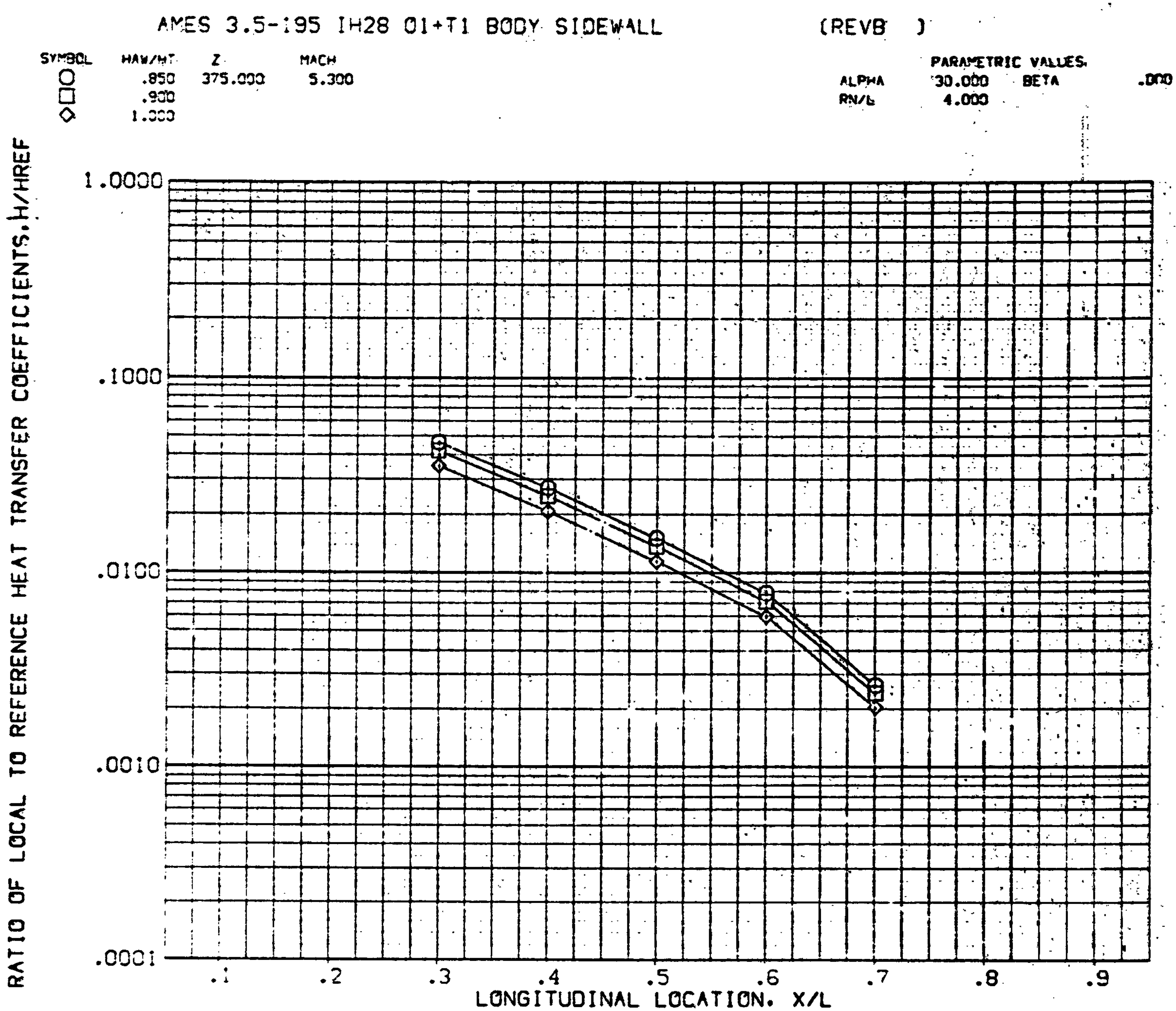

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-195 IH28 OI+T1 BODY SIDEWALL (REVSII)

SYMBOL	HAW/HT	Z	MACH		PARAMETRIC VALUES		
○	.850	425.000	5.300	ALPHA	30.000	BETA	.000
□	.900			RN/L	4.000		
◇	1.000						

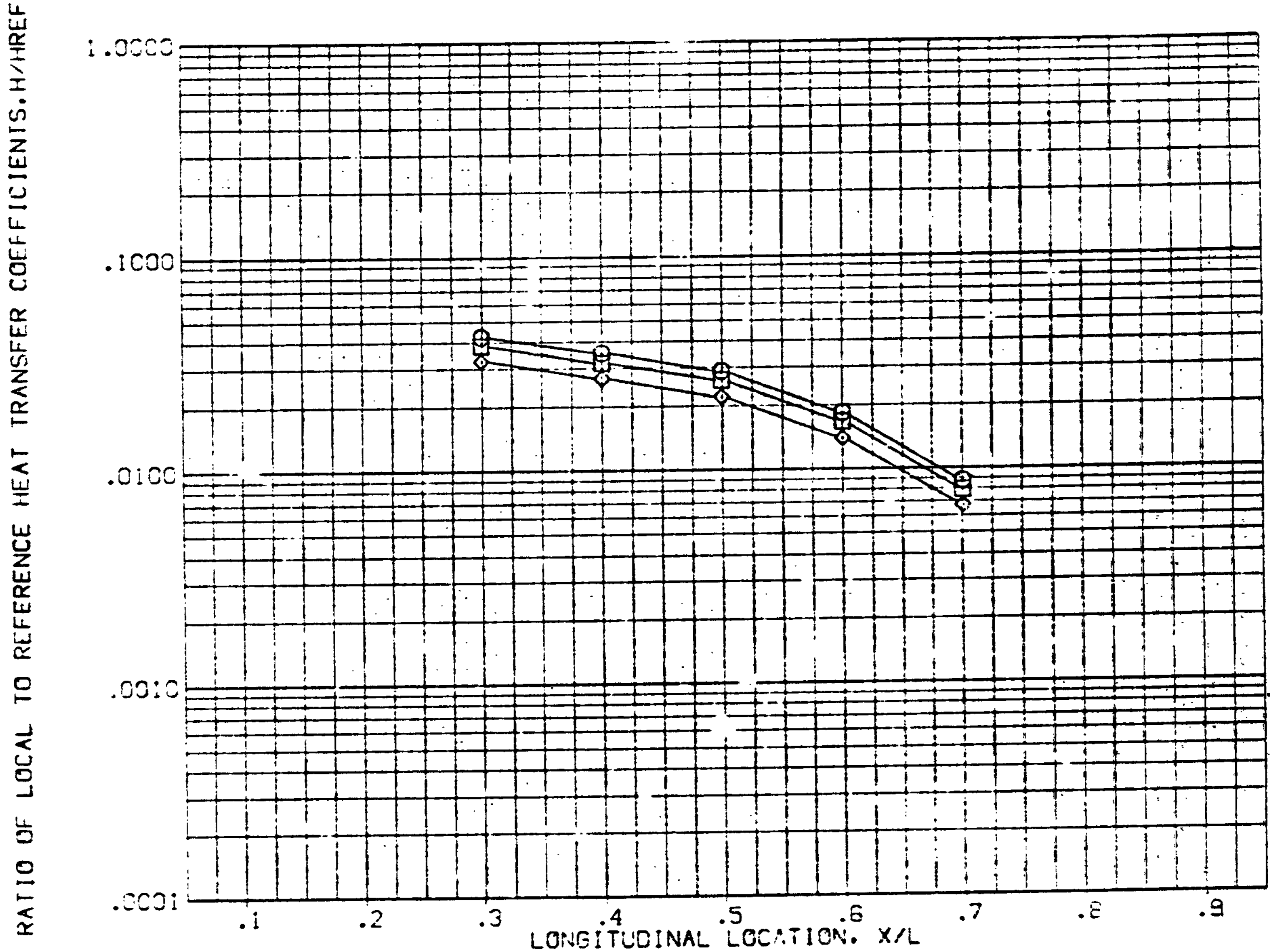

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-195 IH28 01+T1 BODY SIDEWALL (REVB11)

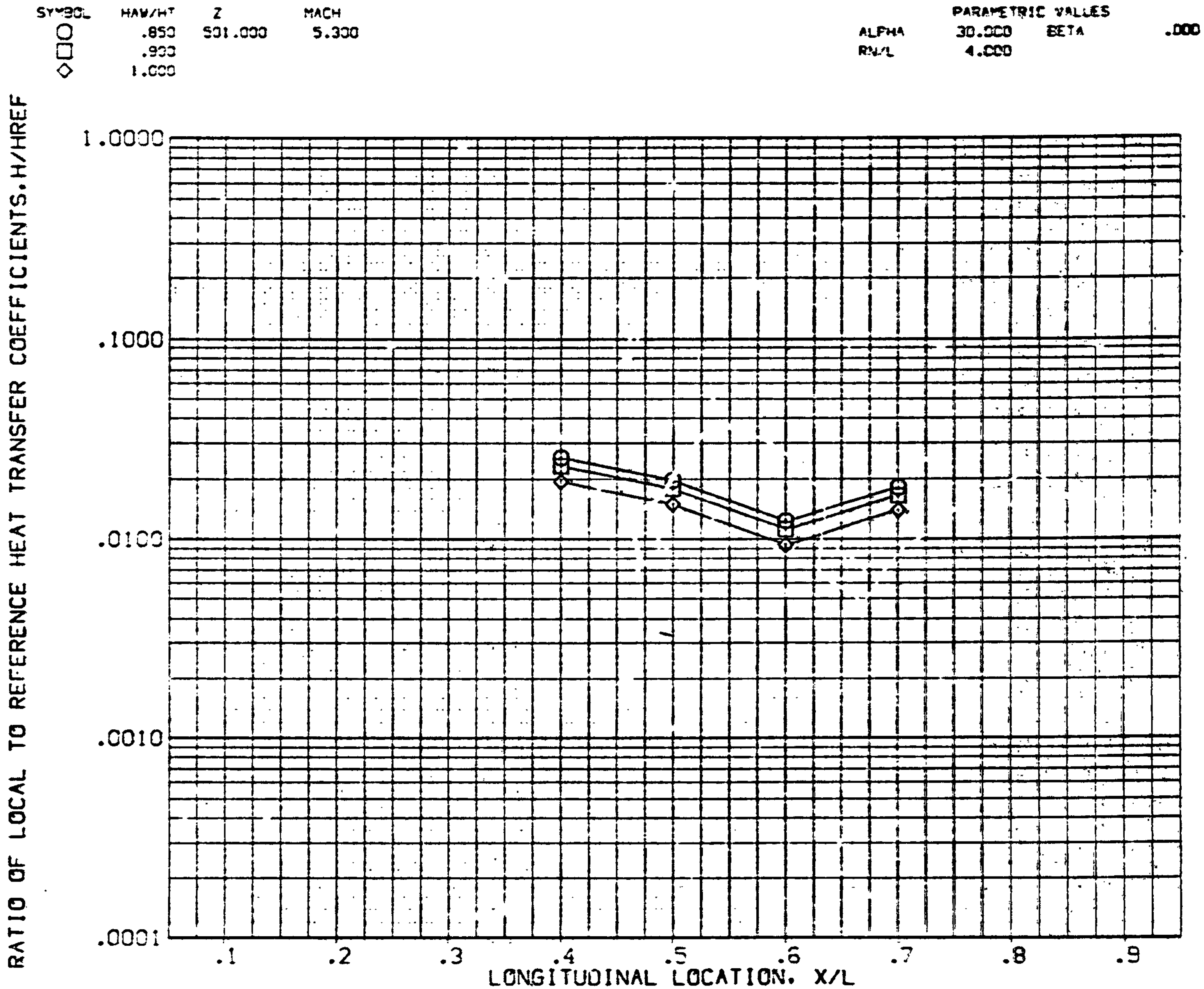

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

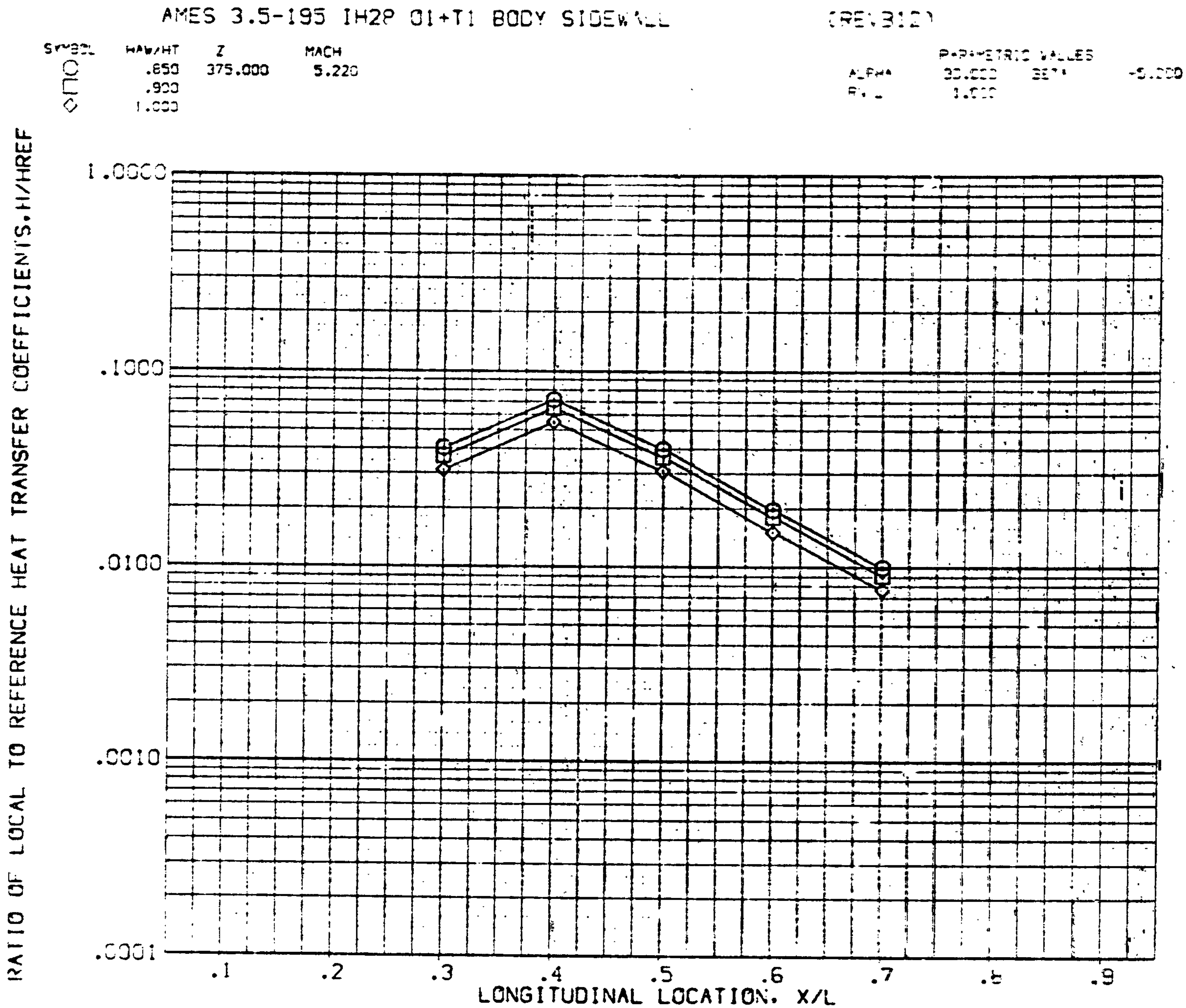

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

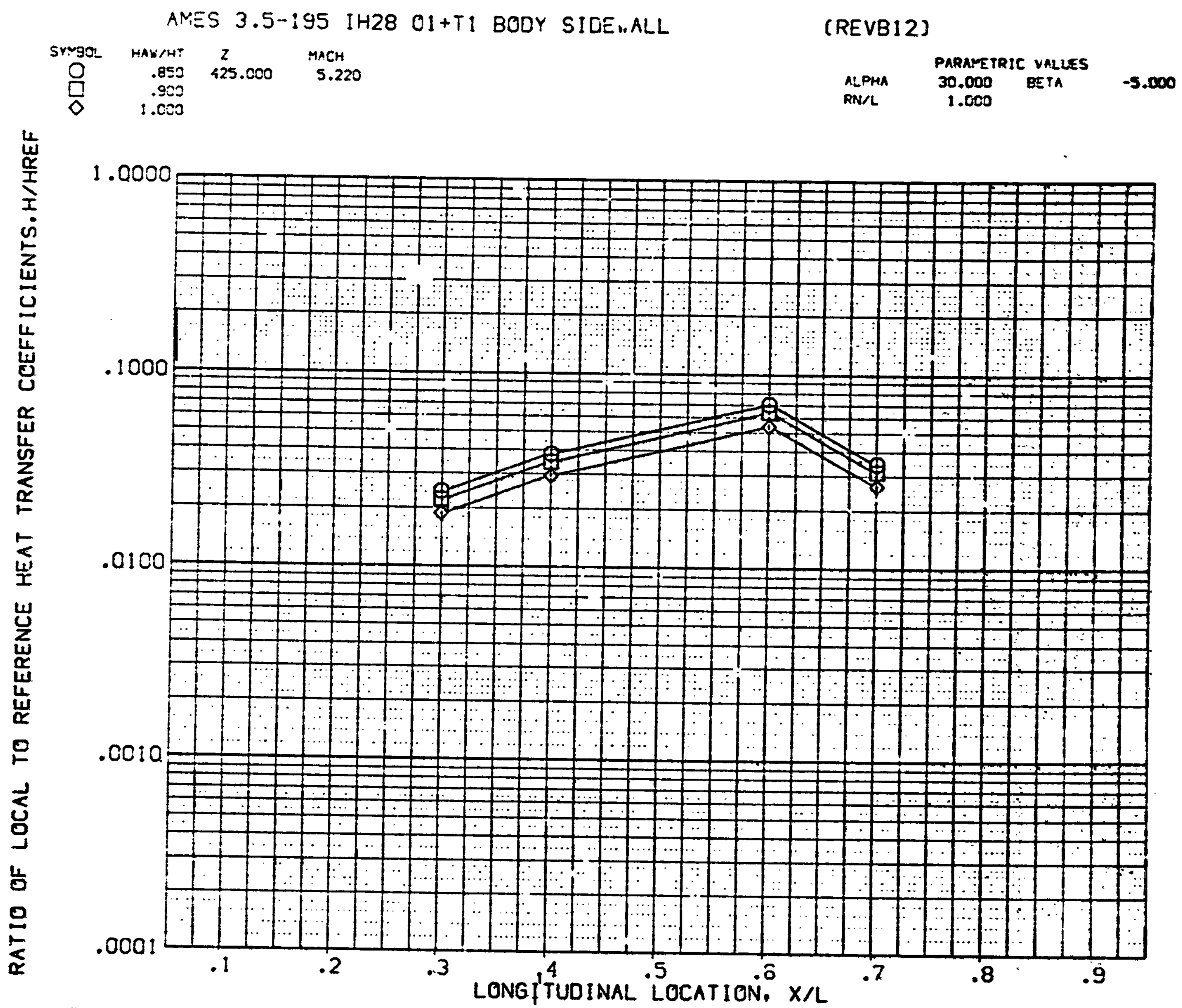

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

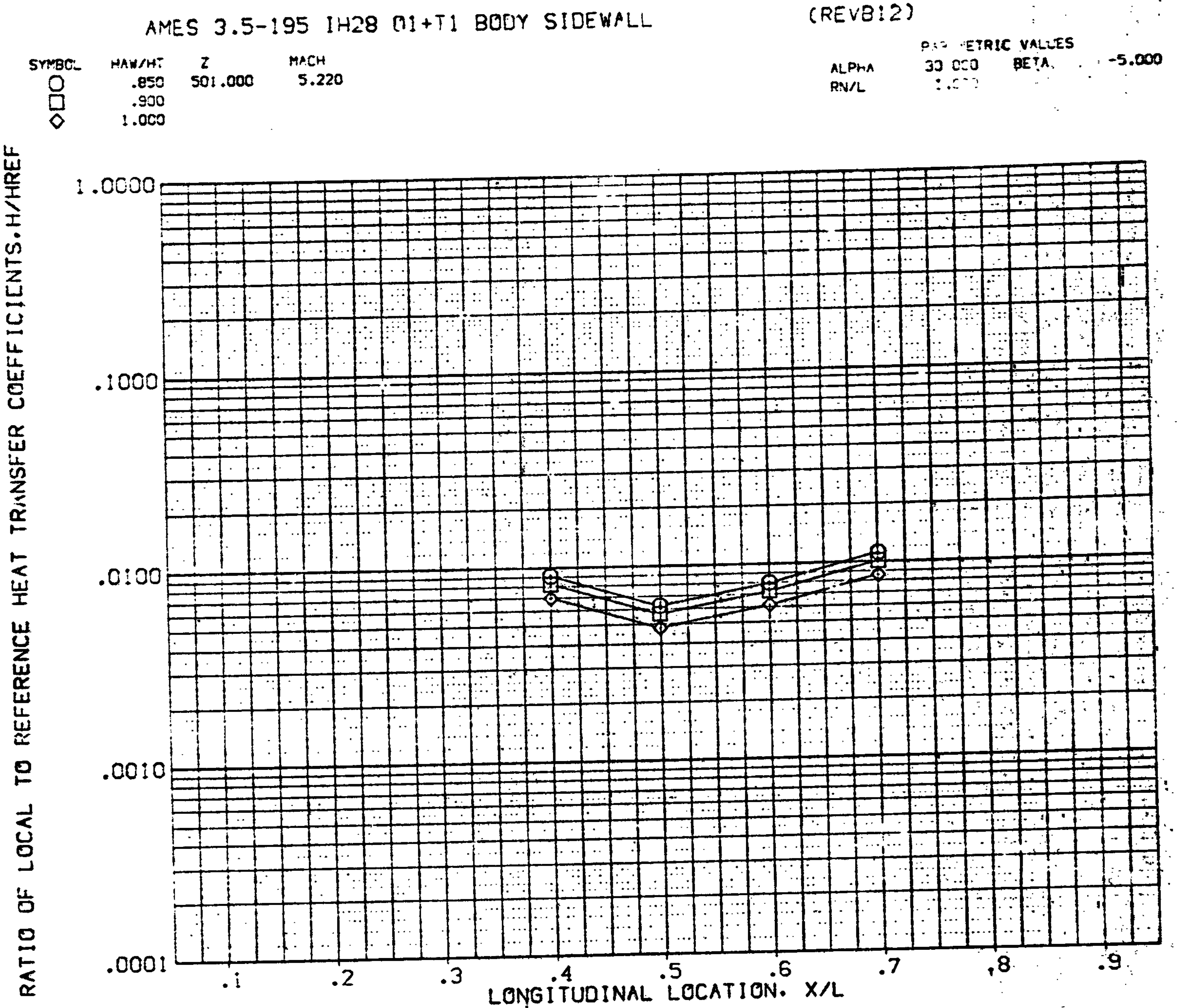

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

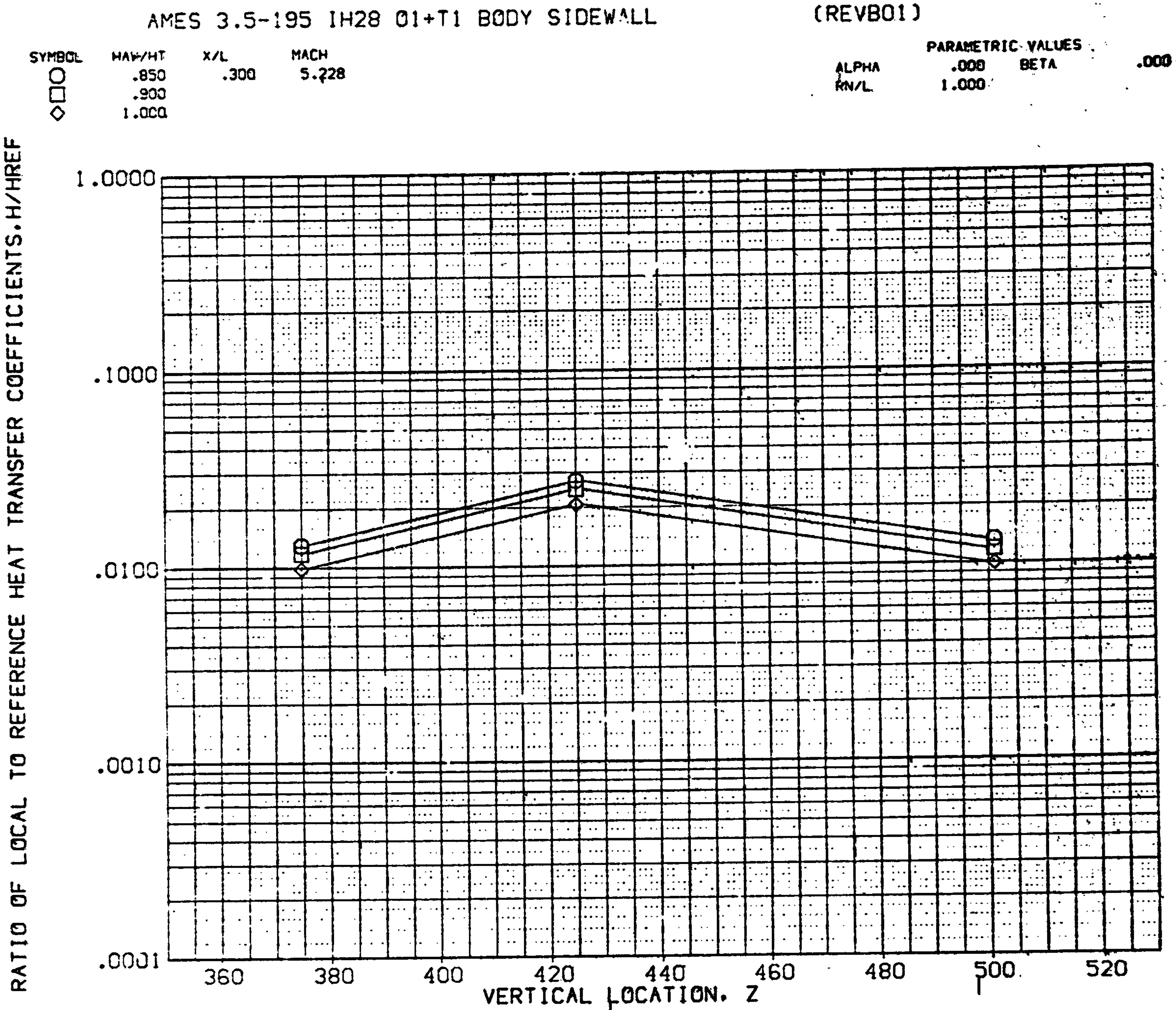

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-195 IH28 O1+T1 BODY SIDEWALL (REVB01)

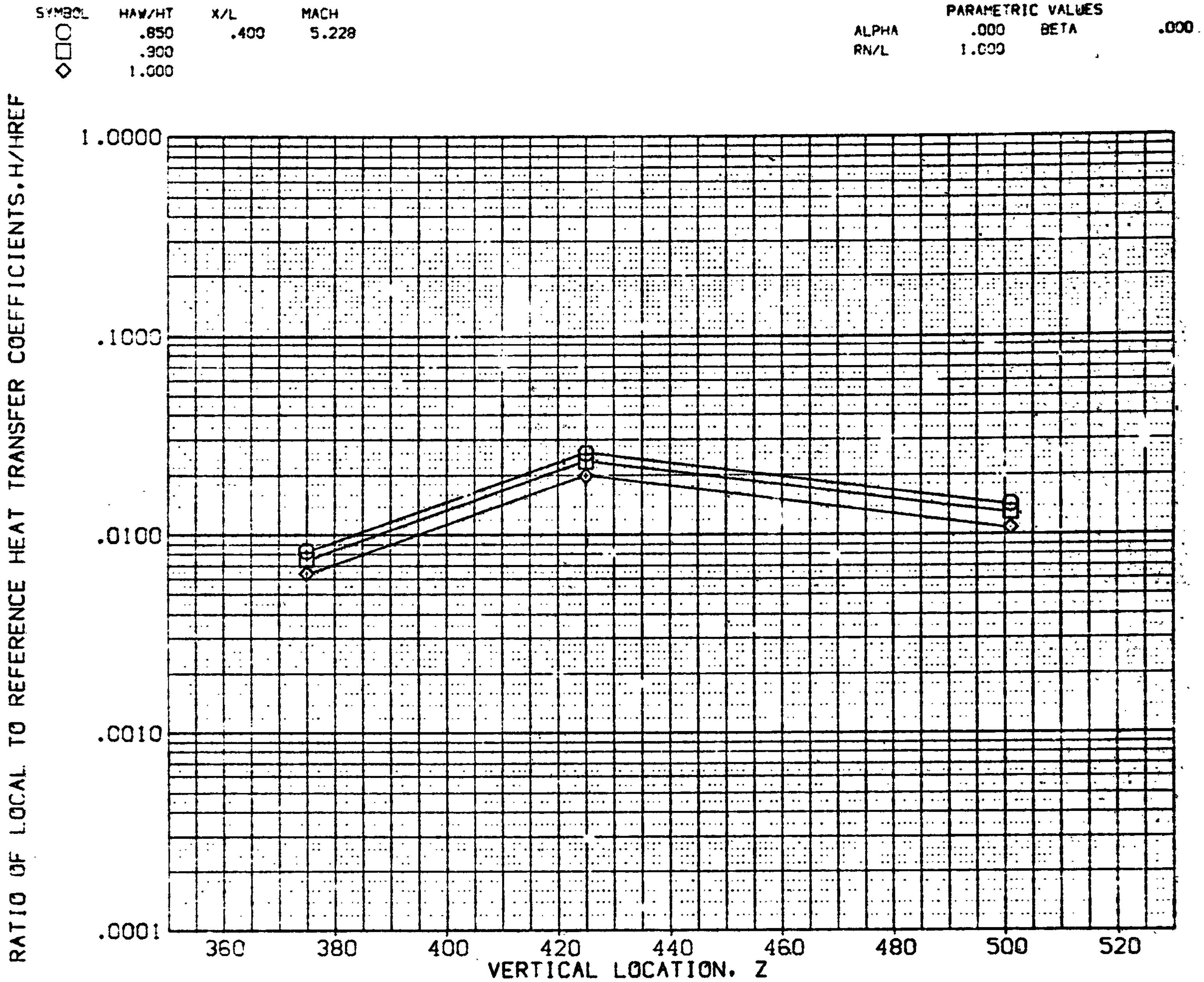

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

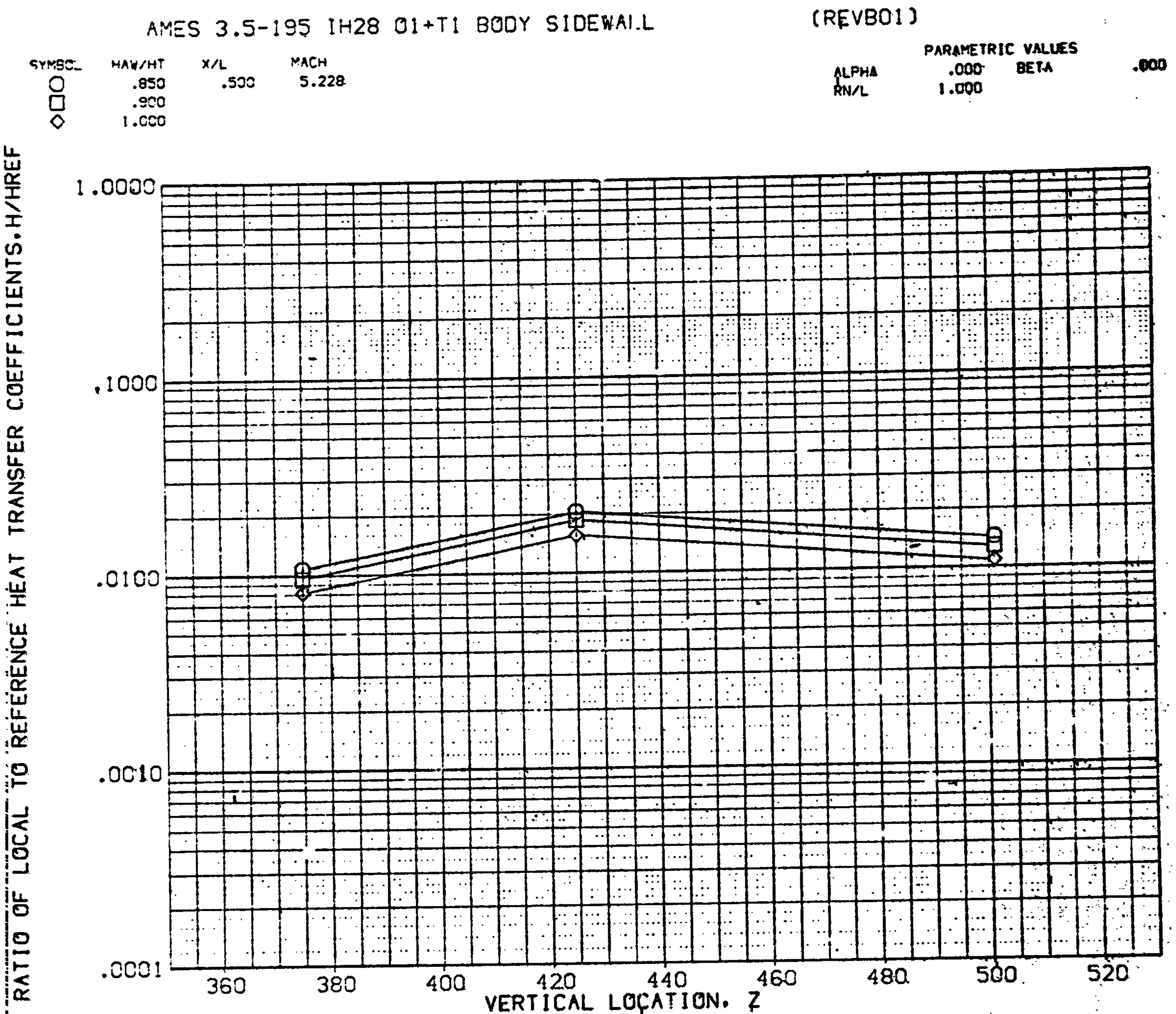

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-195 IH28 01+T1 BODY SIDEWALL (REVB01)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.600	5.228
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA .000 BETA .000

RN/L 1.000

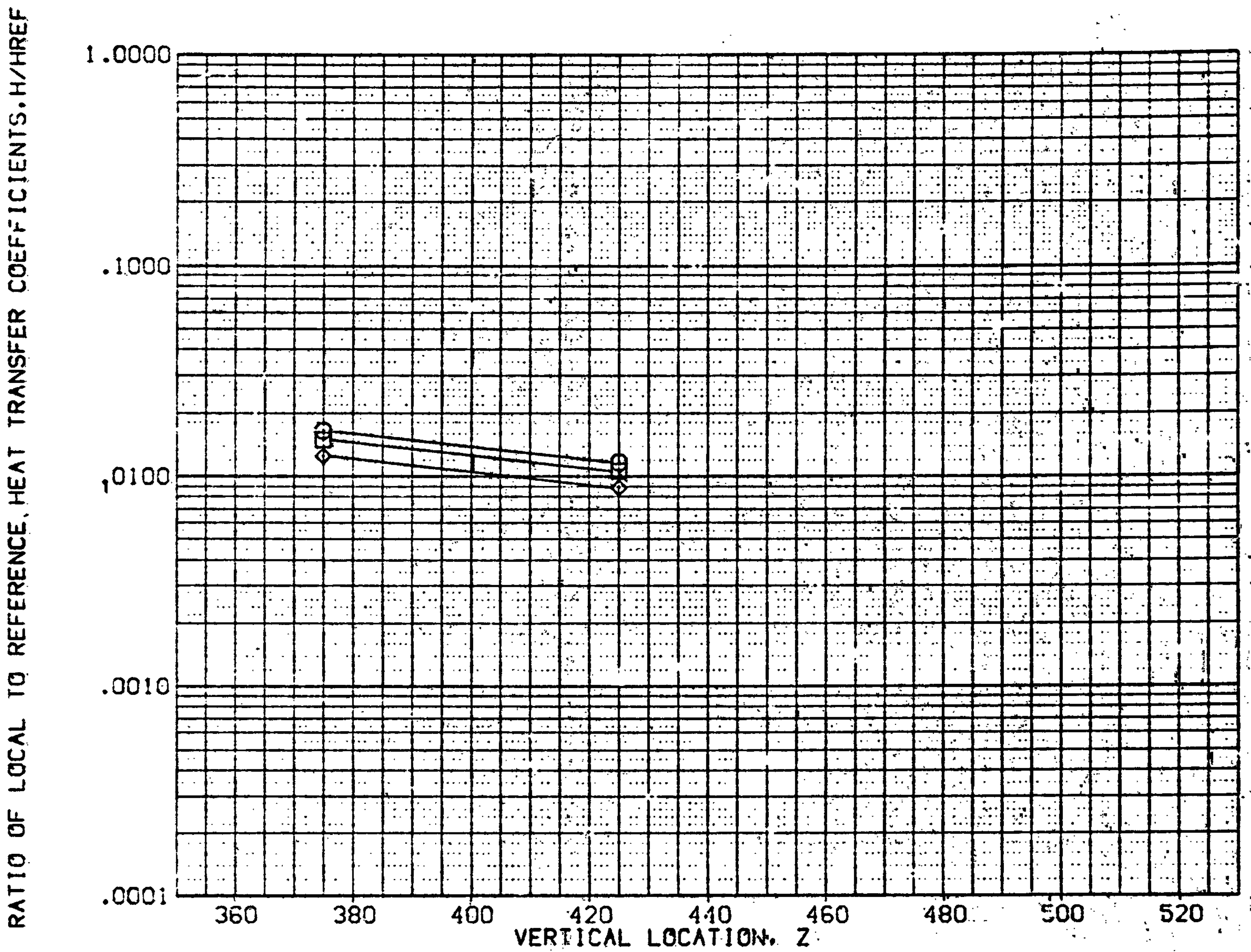

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

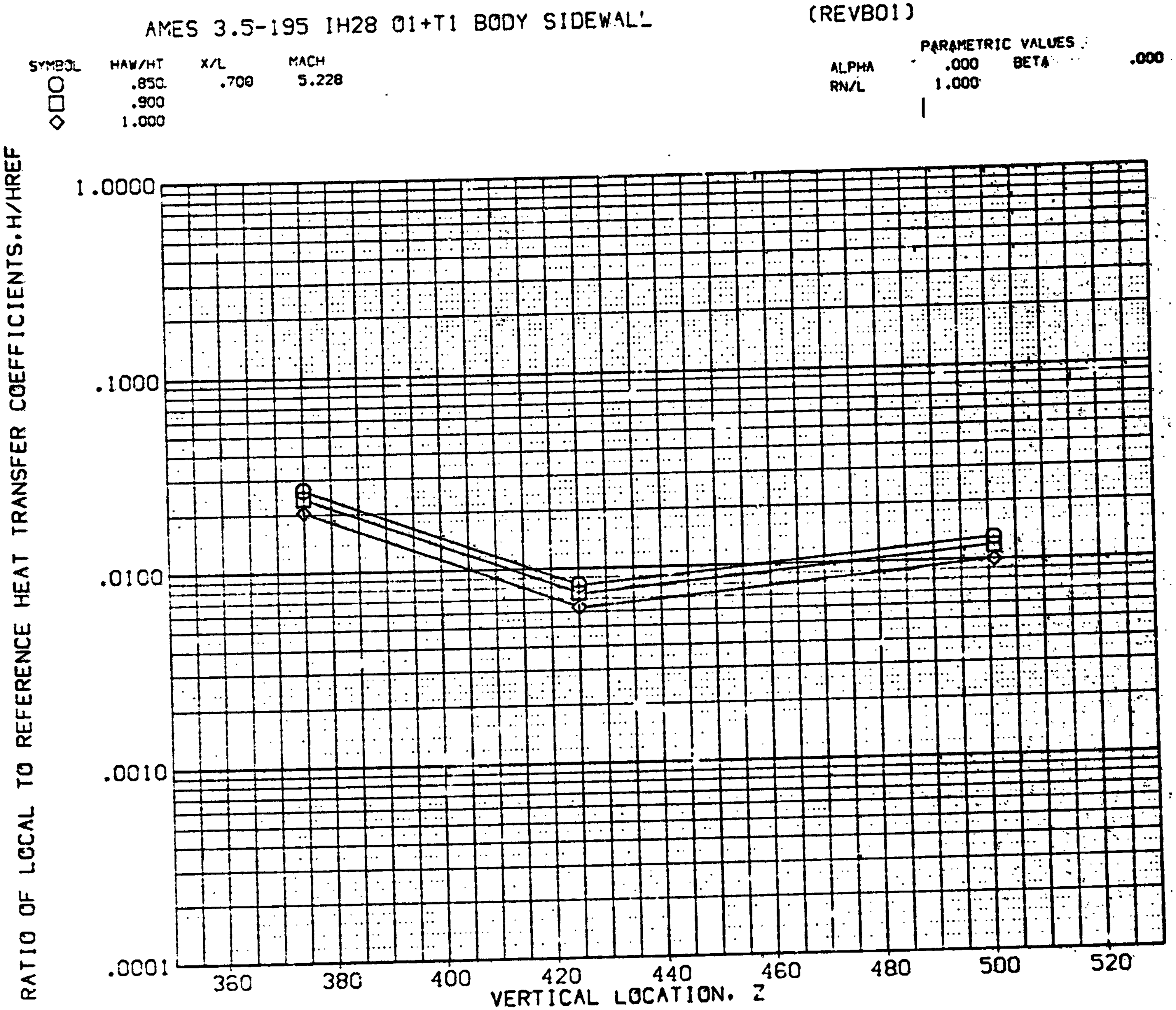

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-195 IH28 01+T1 BODY SIDEWALL (REVB02)

SYMBOL	HAW/HT	X/L	MACH
○	.950	.300	5.219
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA 30.000 BETA .000
RN/L 1.000

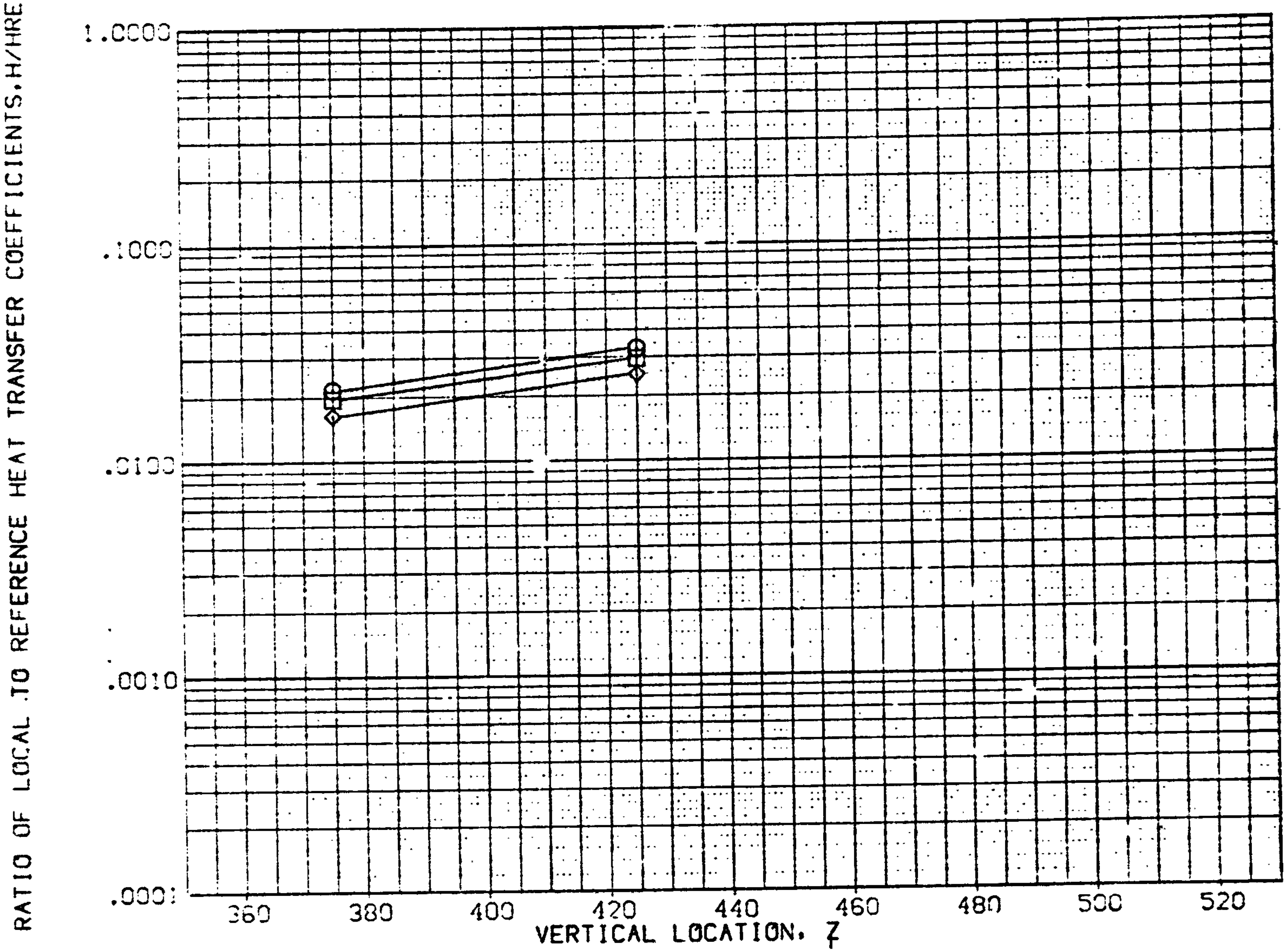

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

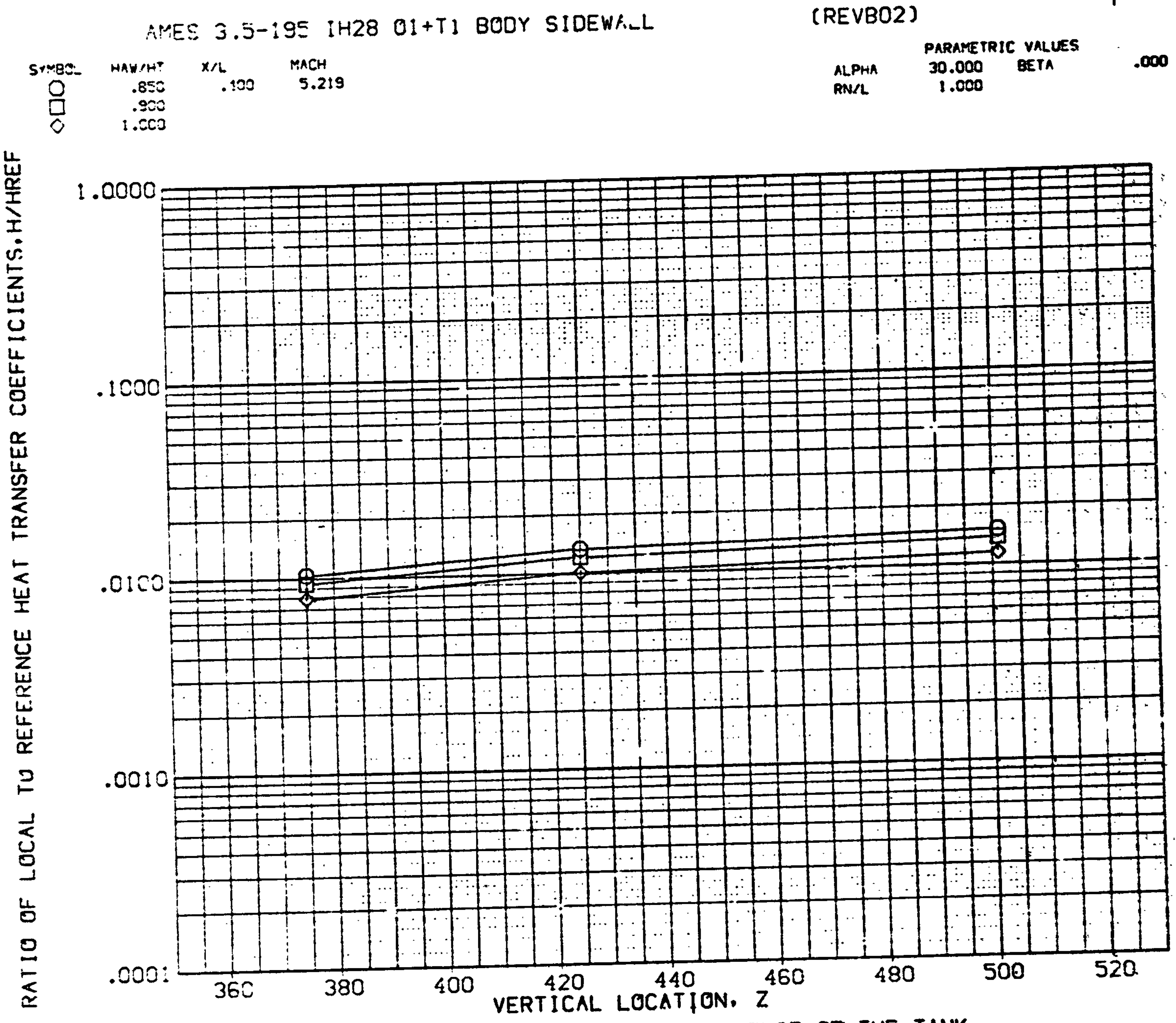

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-195 IH28 O1+T1 BODY SIDEWALL (REVB02)

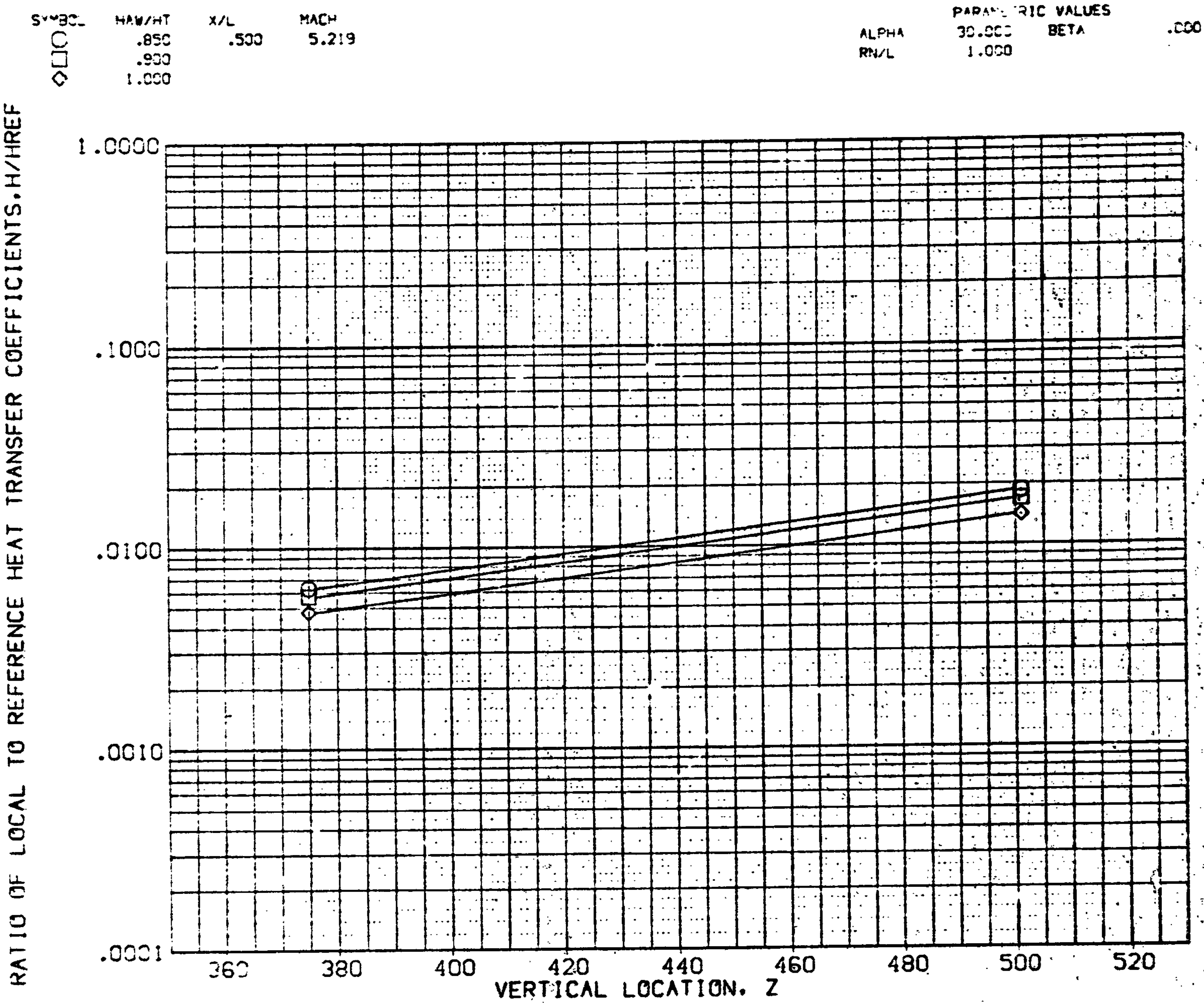

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-195 IH28 O1+T1 BODY SIDEWALL (REVB02)

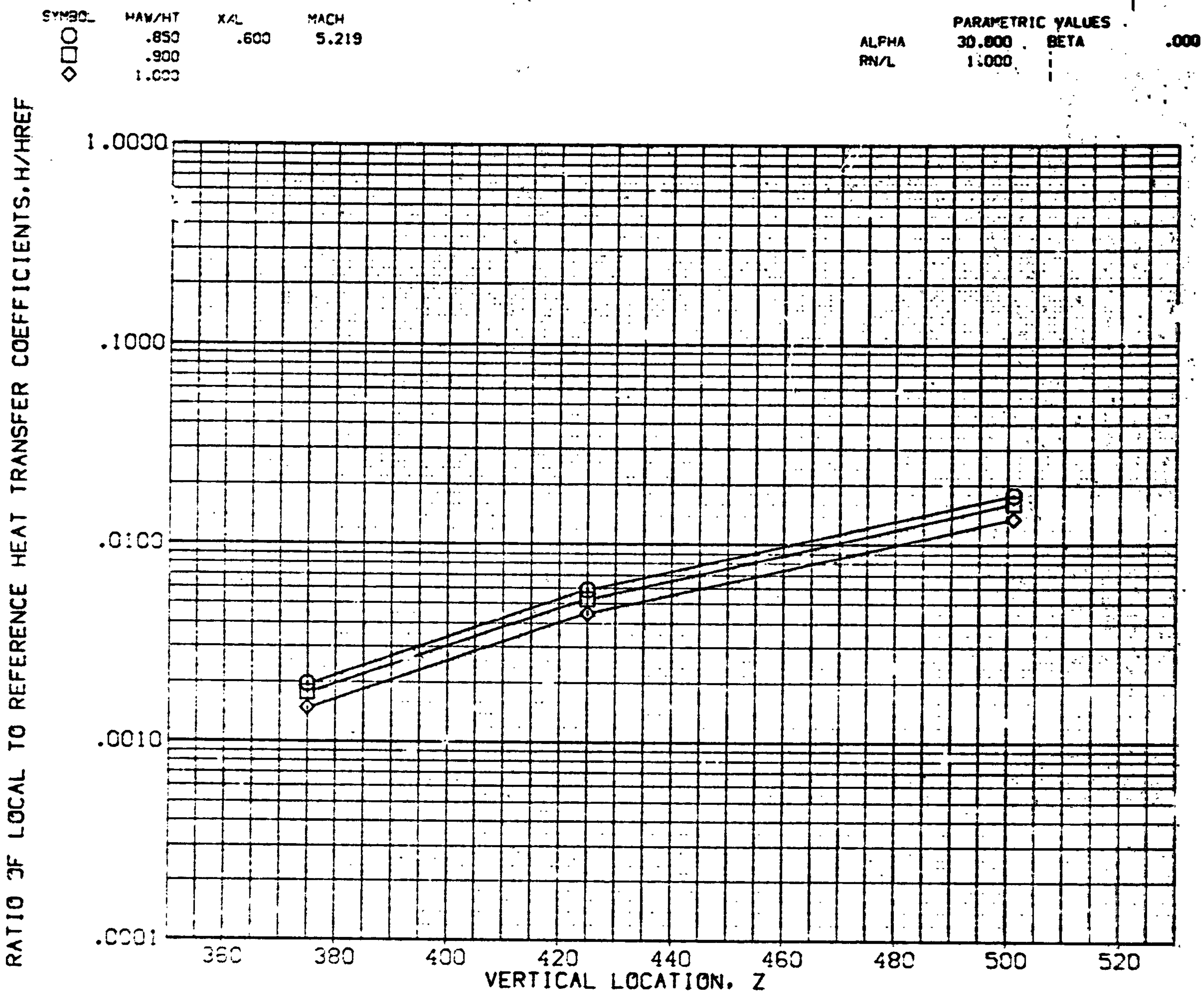

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

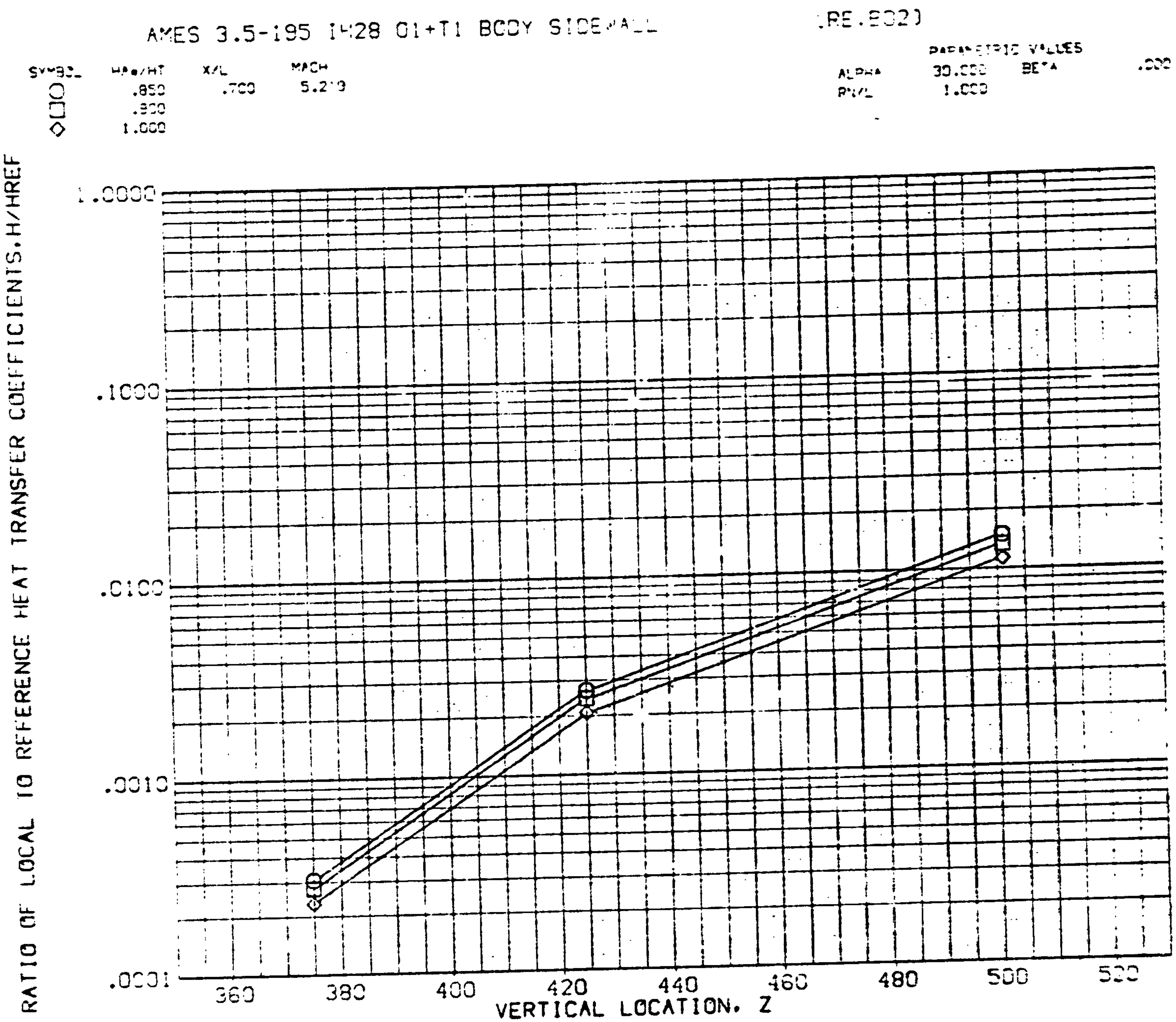

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-195 IH28 01+T1 BODY SIDEWALL (REVB03)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.300	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA 60.000 BETA .000

RN/L 1.000

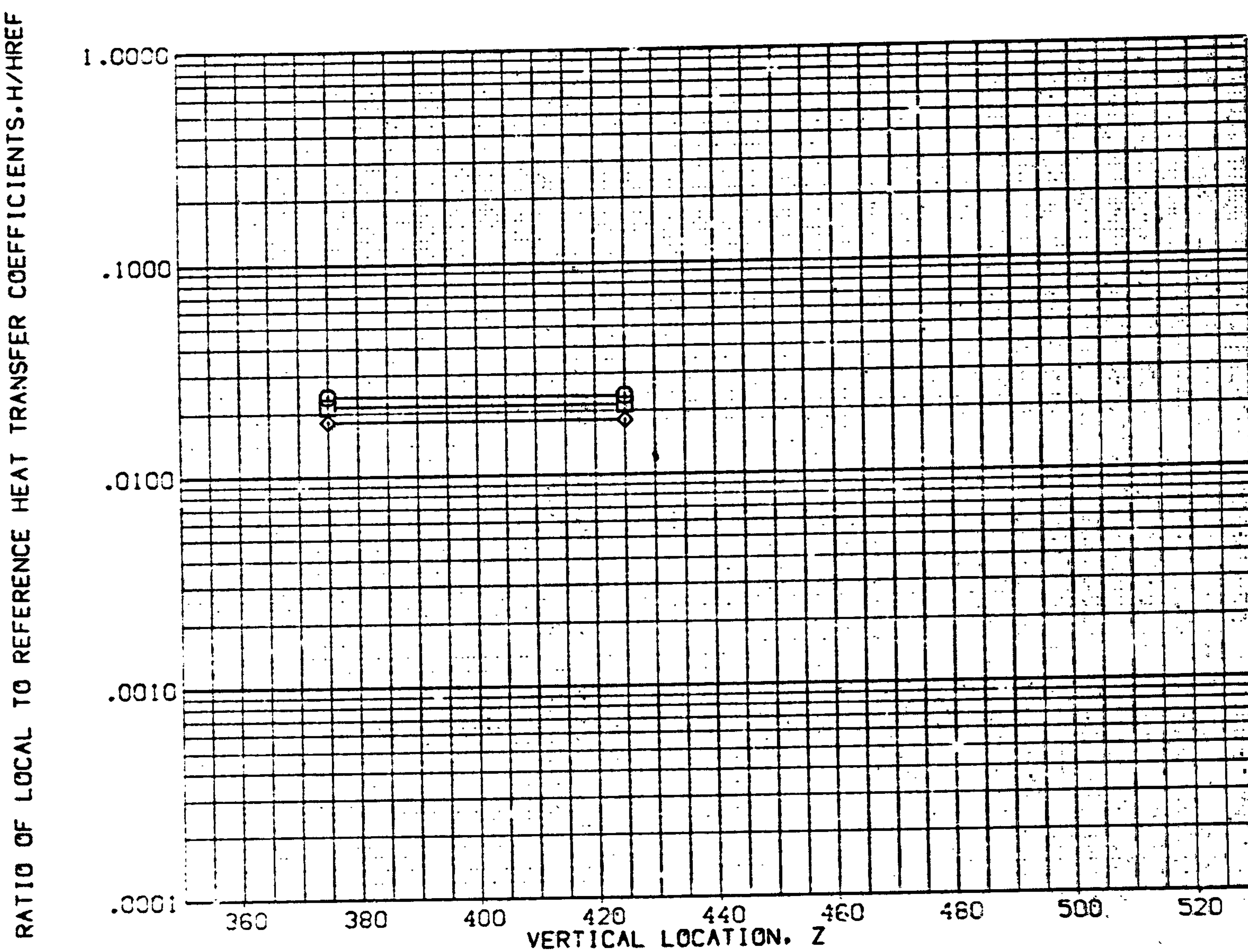

FIG. 11 ORBITER BODY SIDEWALL. ORBITER IN PRESENCE OF THE TANK

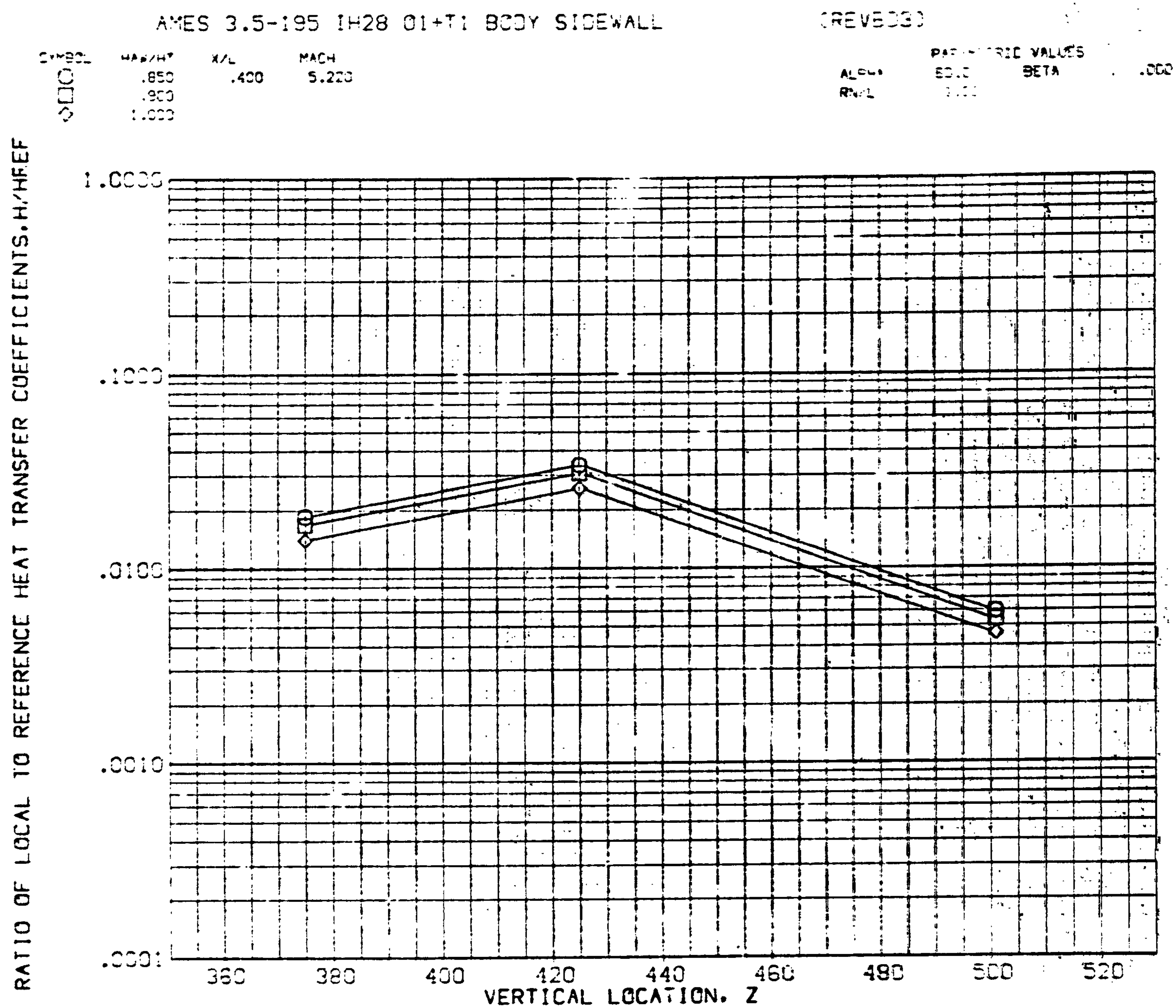

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-195 IH28 O1+T1 BODY SIDEWALL (REVB03)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.500	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES
ALPHA 60.000 BETA .000
RN/L 1.000

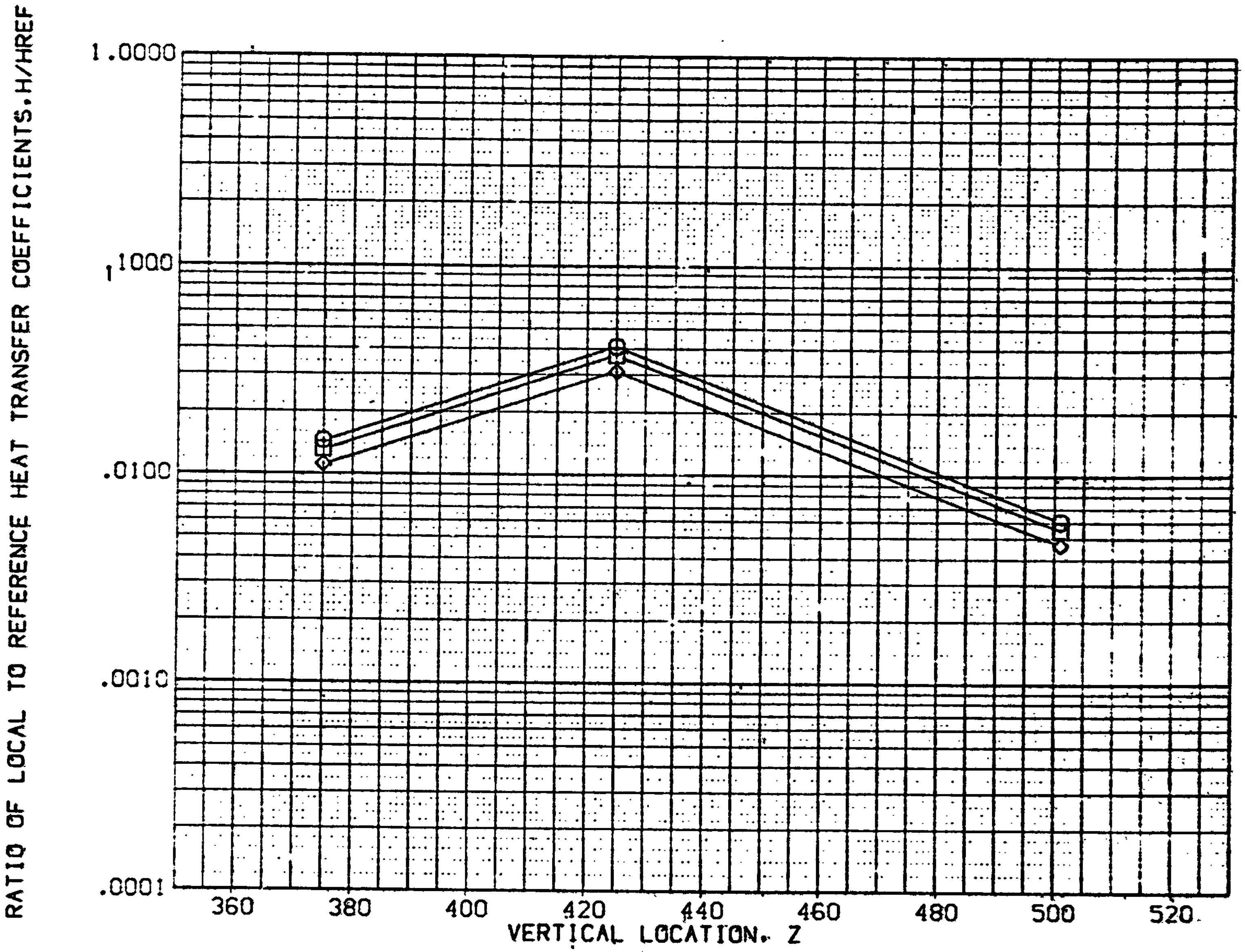

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-195 IH28 01+T1 BODY SIDEWALL (REVB03)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.600	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA	60.000	BETA	.000
RN/L	1.000		

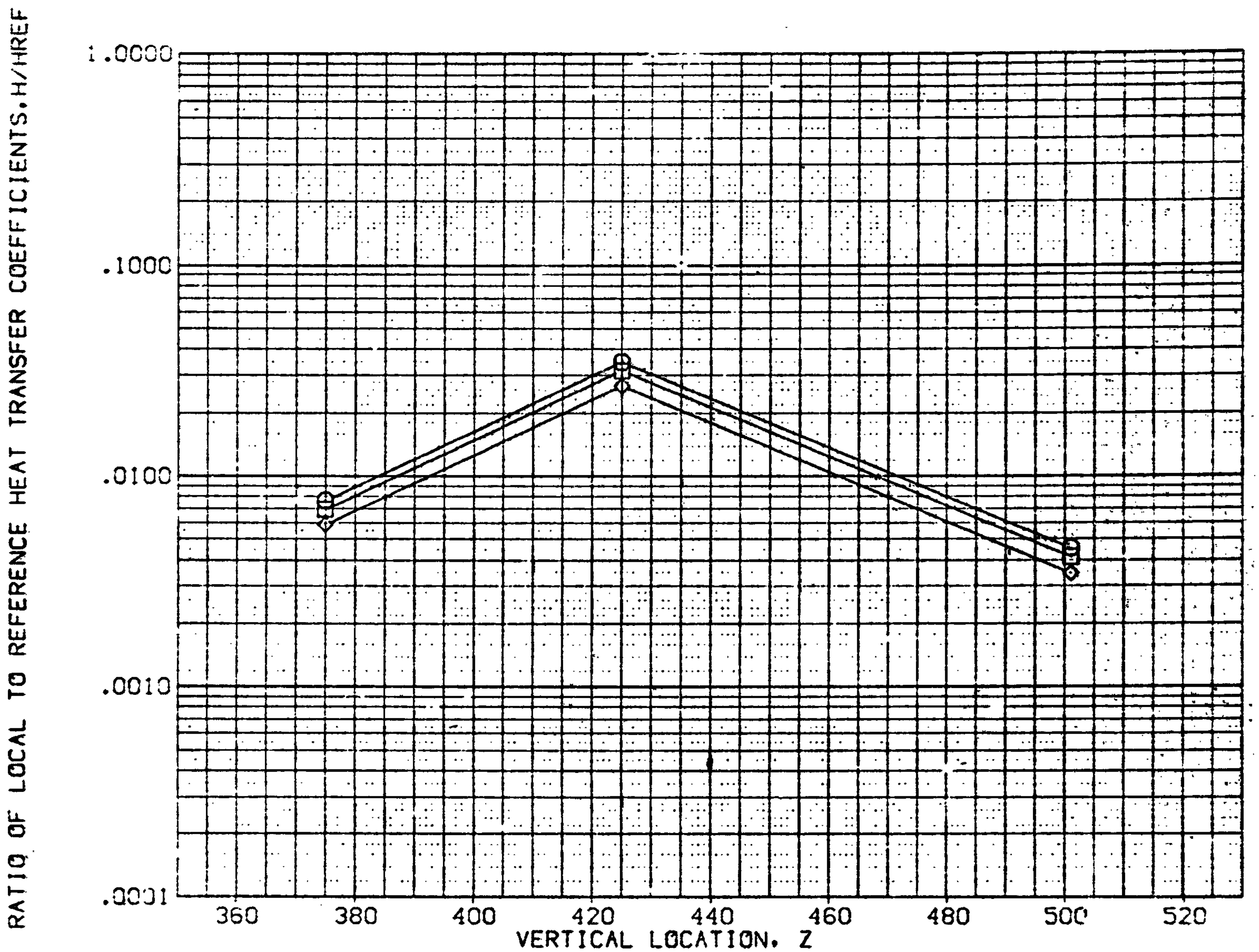

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

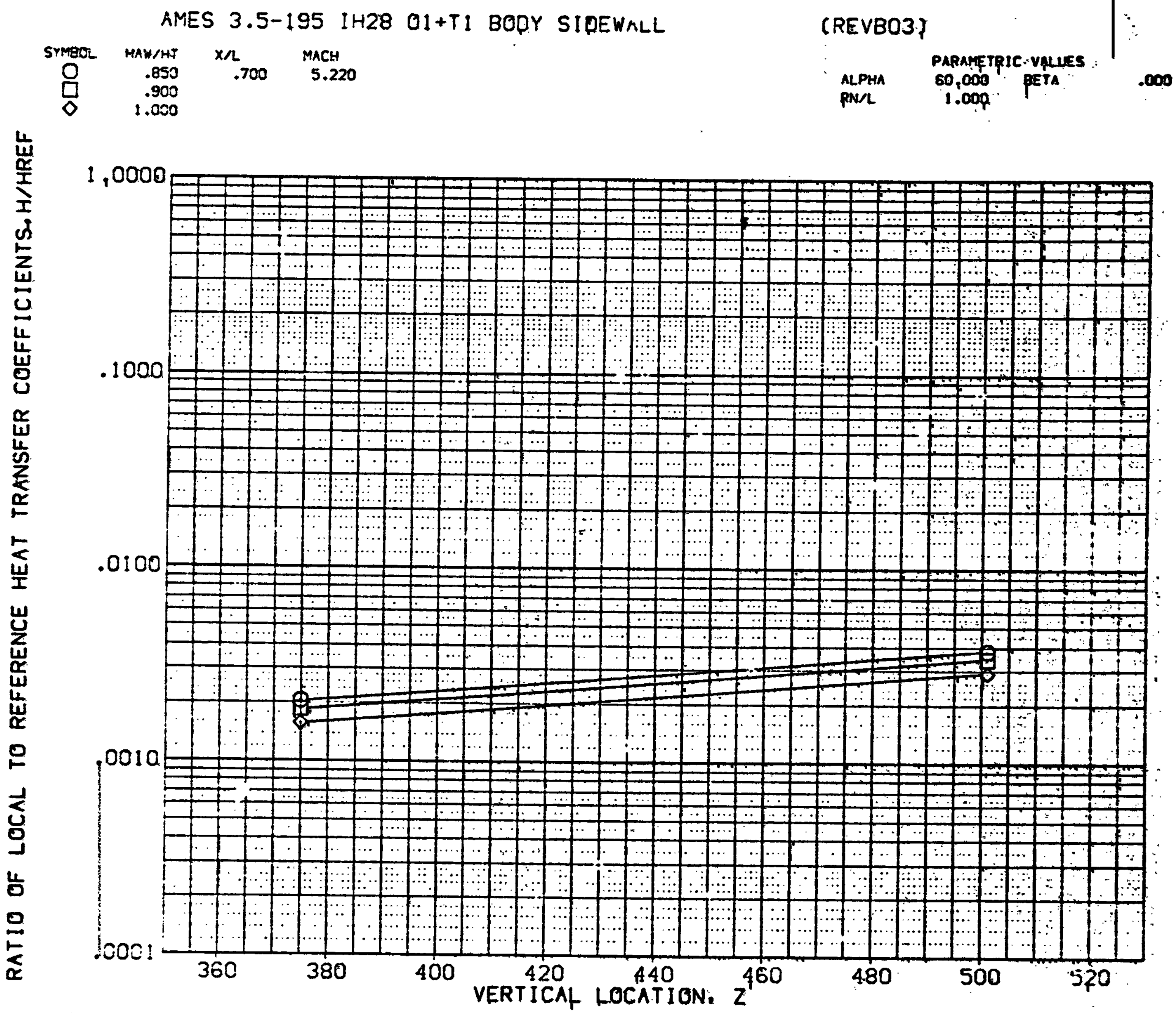

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

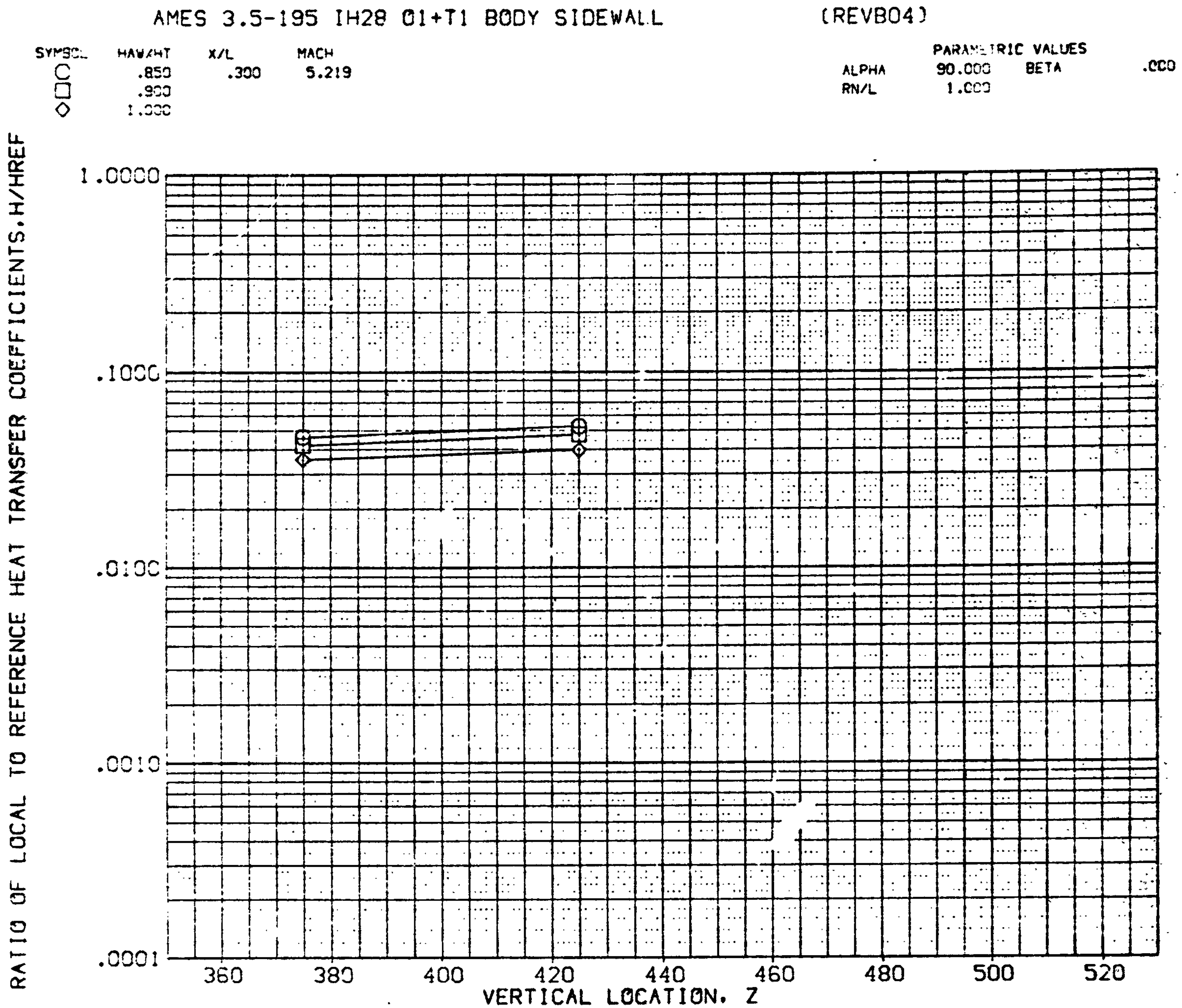

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

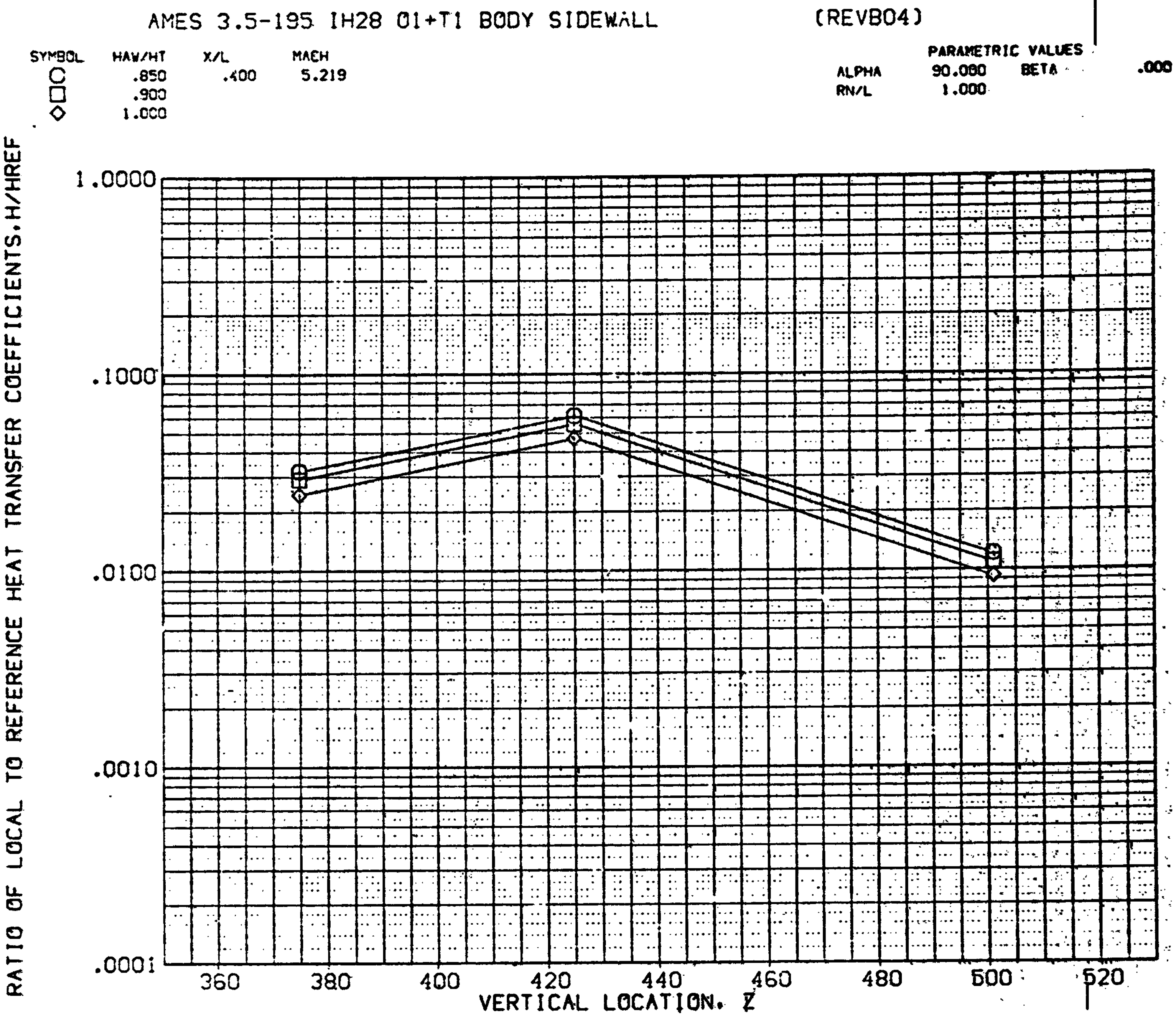

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

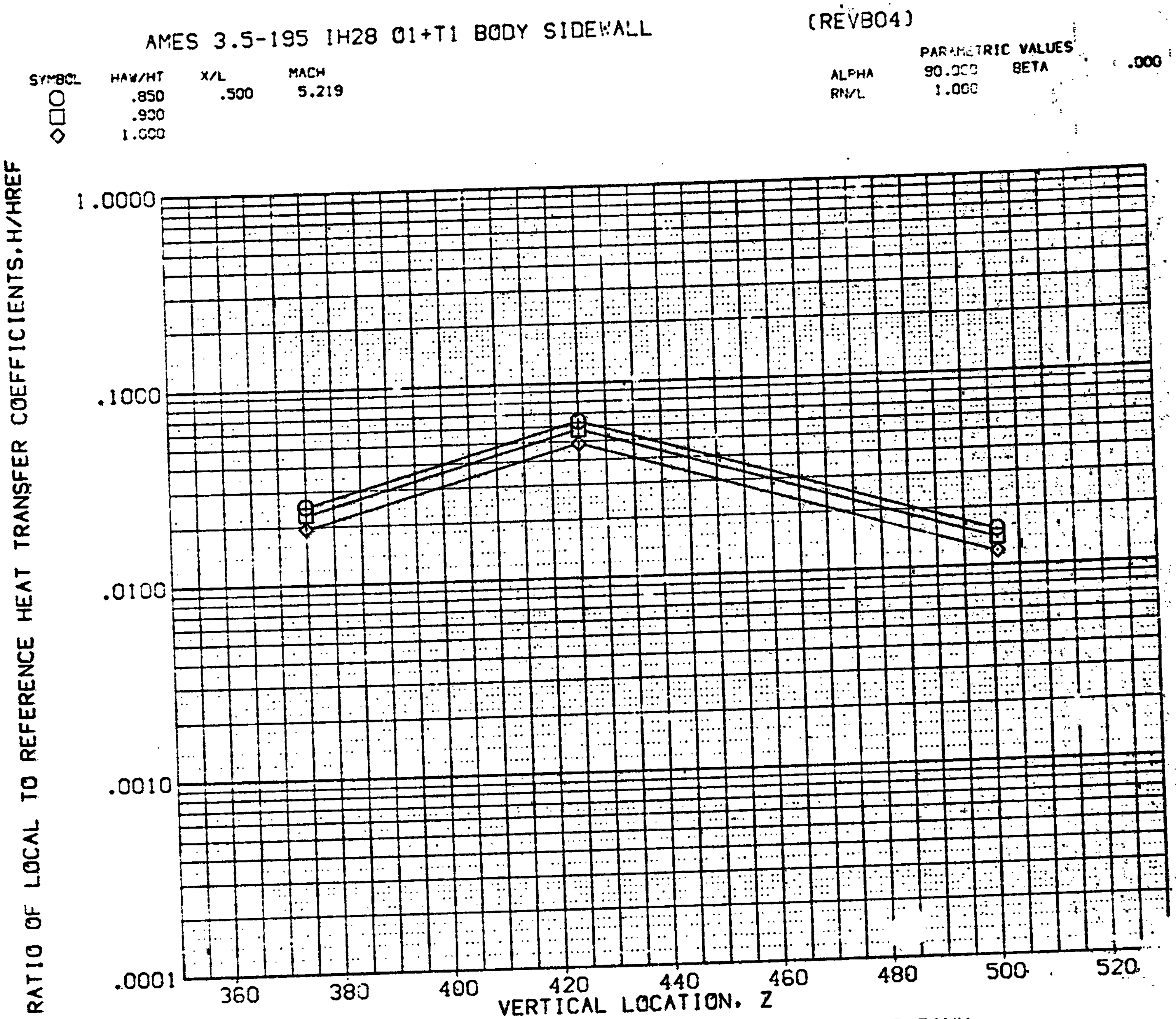

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

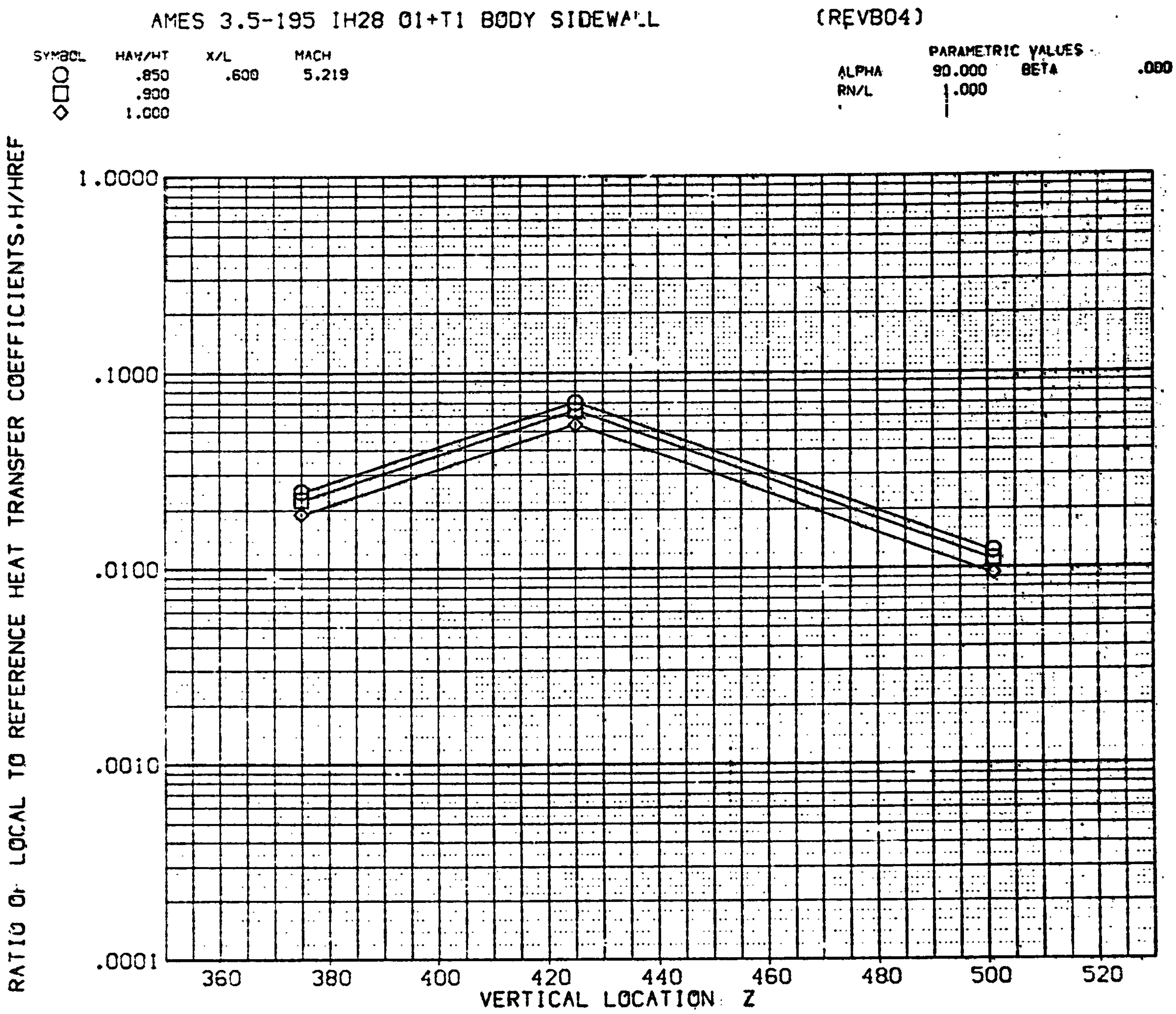

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-195 IH28 O1+T1 BODY SIDEWALL (REVB04)

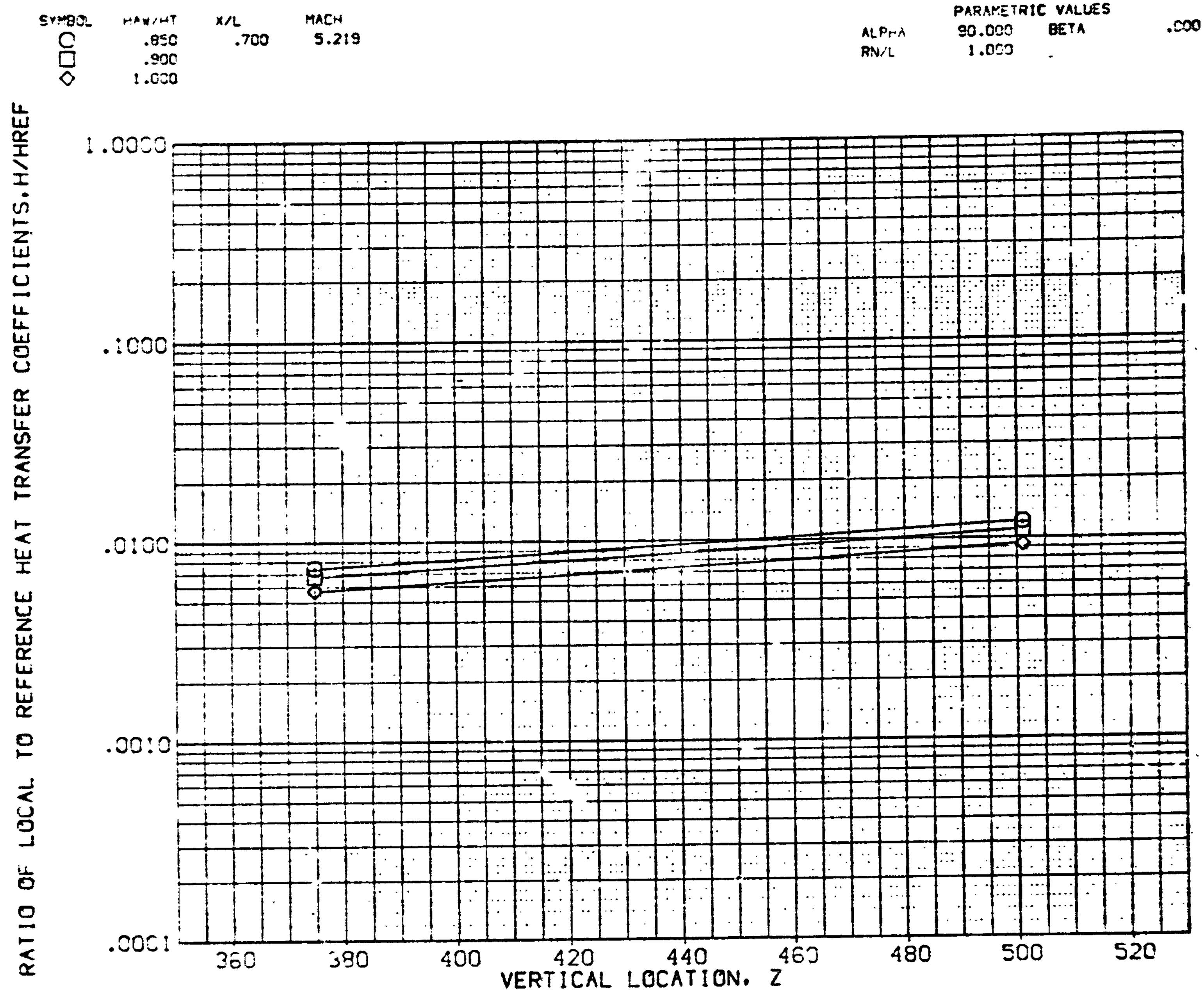

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

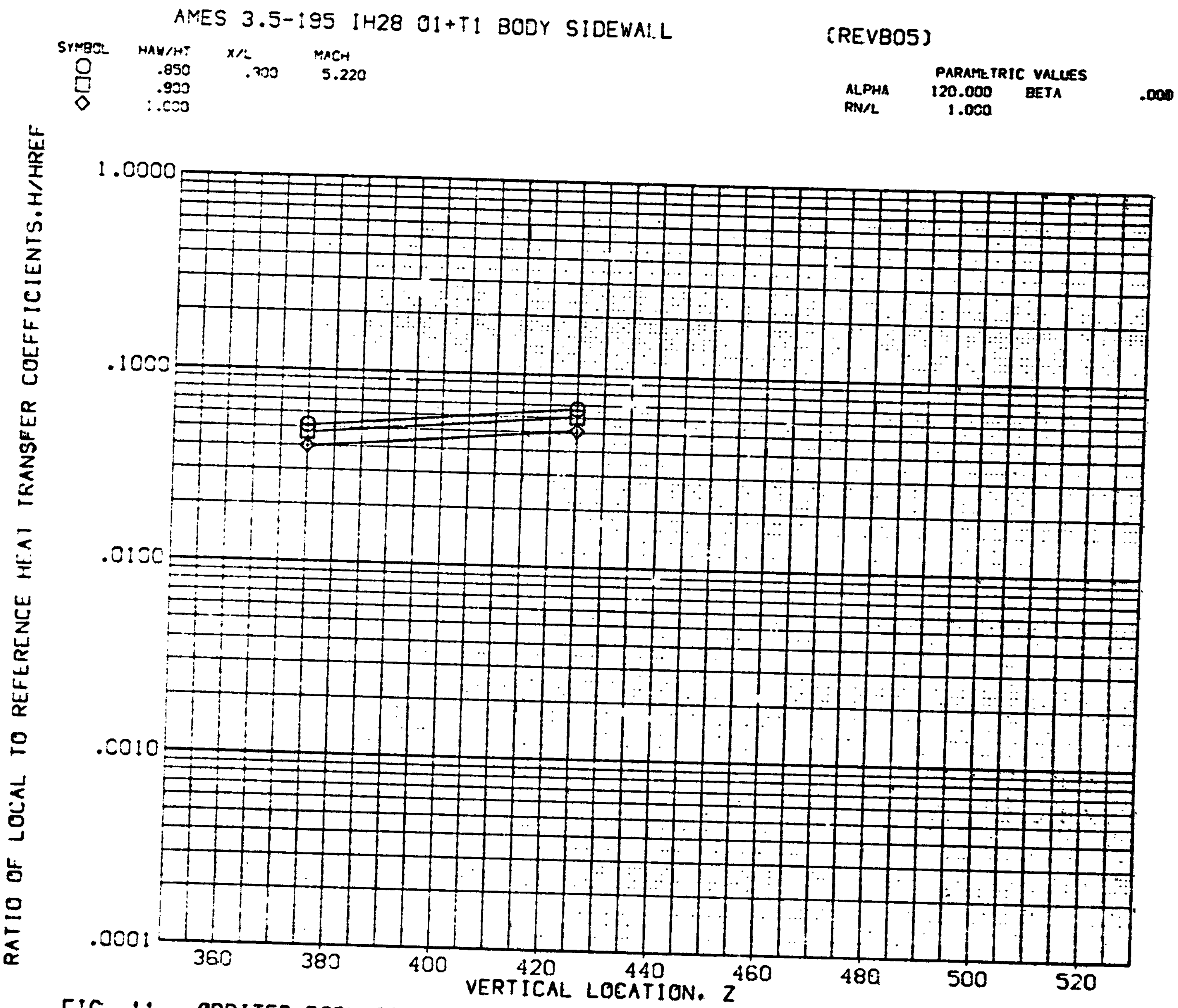

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-195 IH28 01+T1 BODY SIDEWALL (REVB05)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.400	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA 120.000 BETA .000
RN/L 1.000

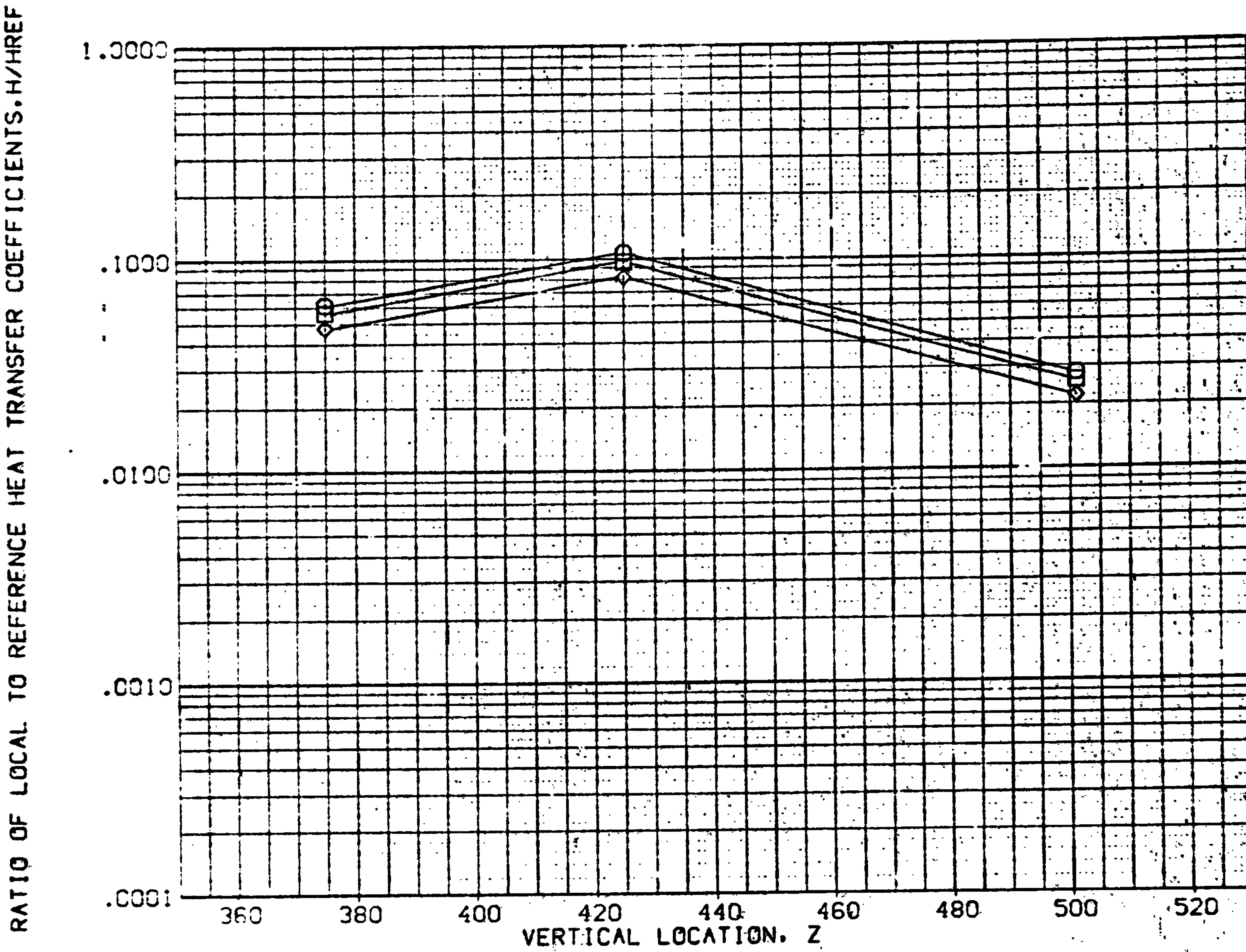

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-195 IH28 O1+T1 BODY SIDEWALL (REVB05)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.500	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA	120.000	BETA	.000
RN/L	1.000		

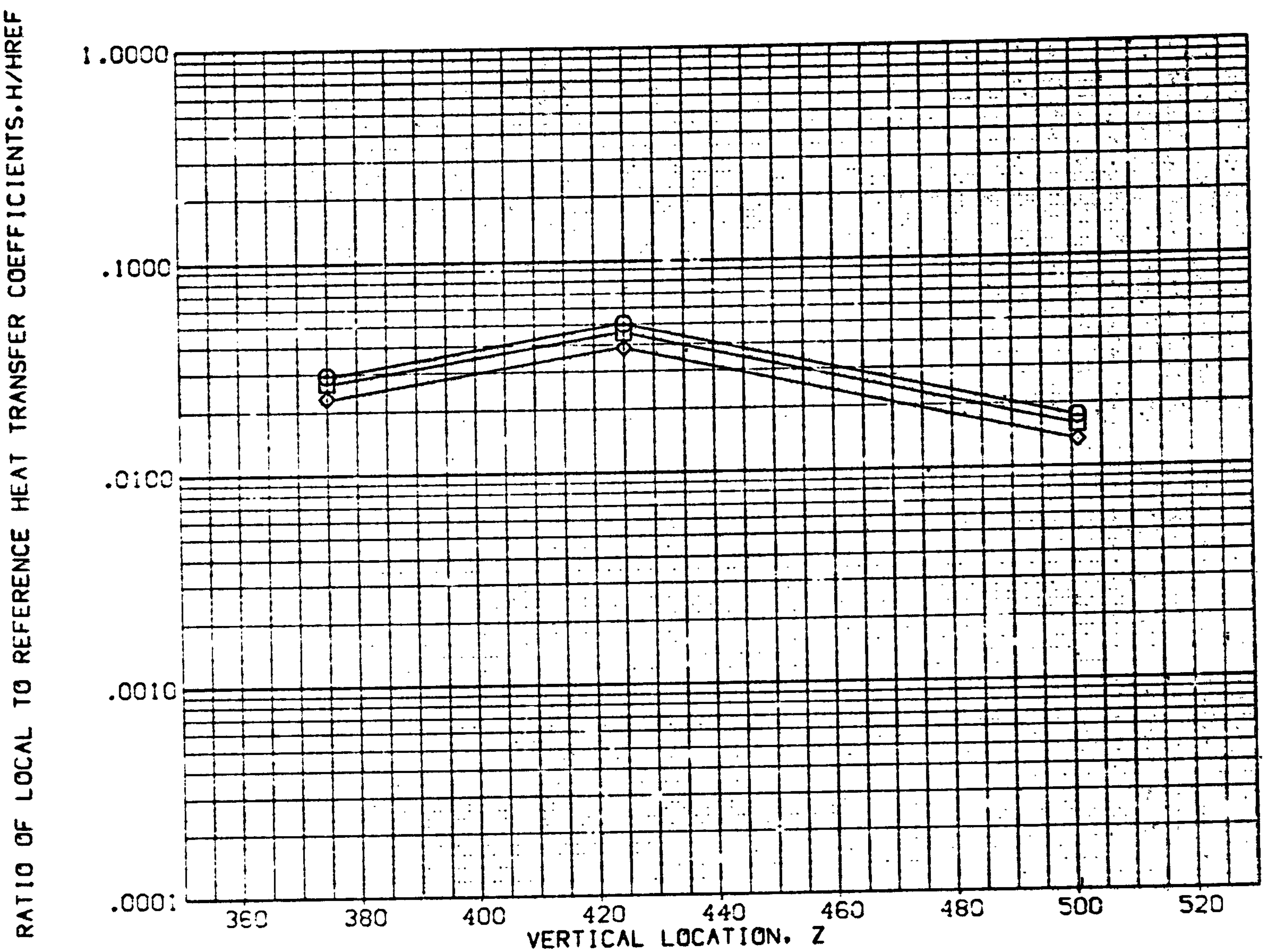

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

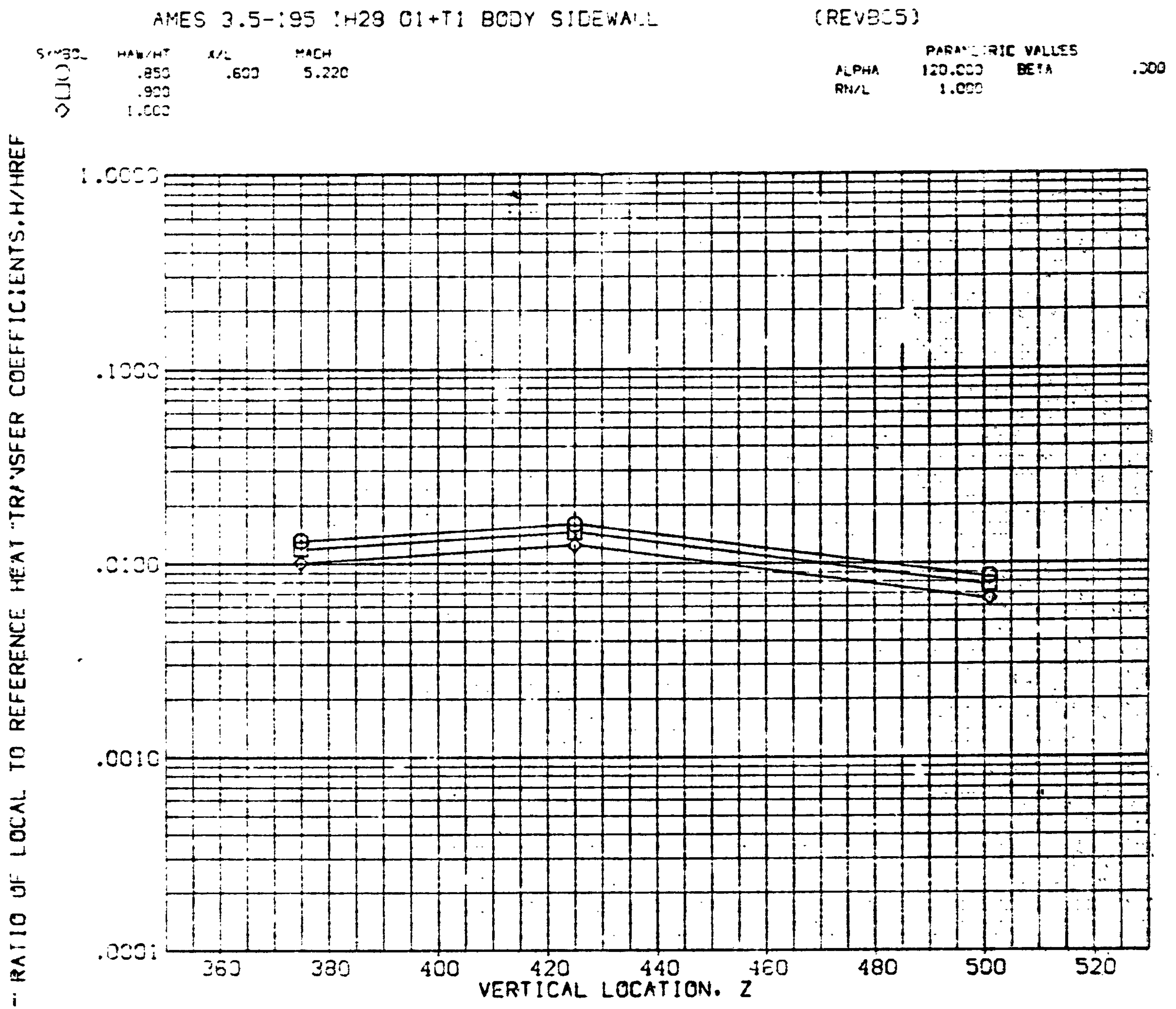

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

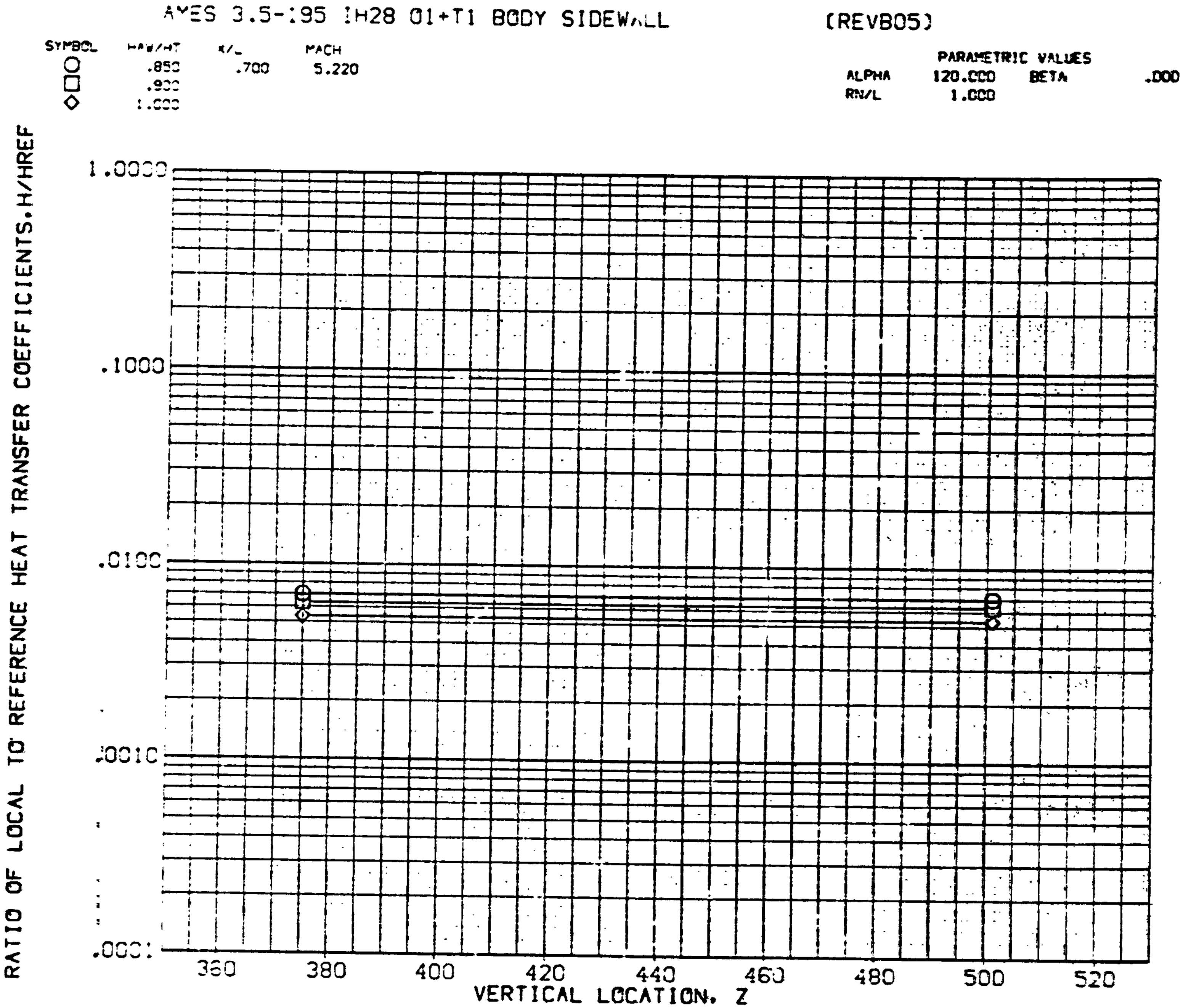

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-195 I-28 O1+T1 BODY SIDEWALL (REV806)

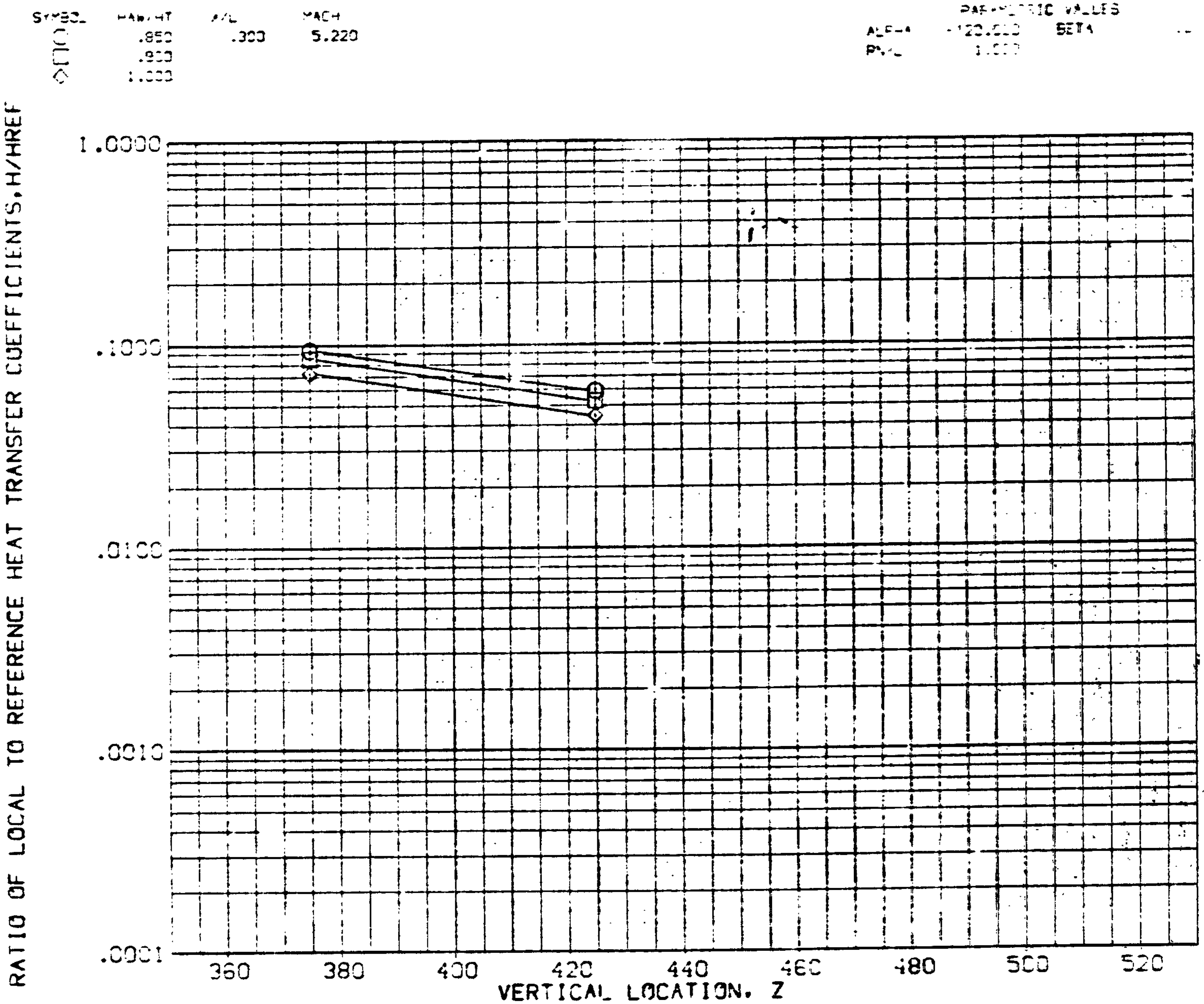

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

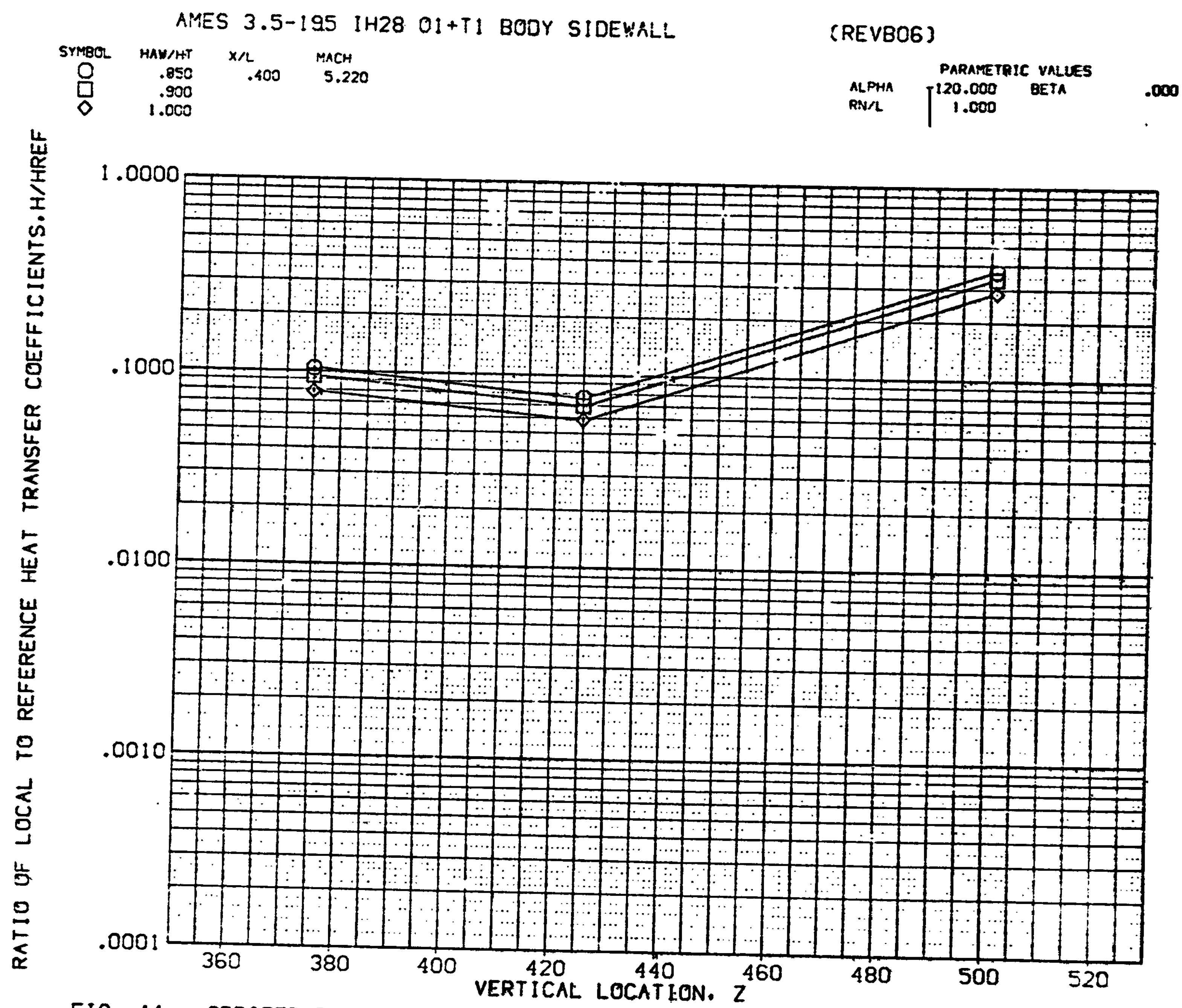

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-195 IH28 01+T1 BODY SIDEWALL (REVB06)

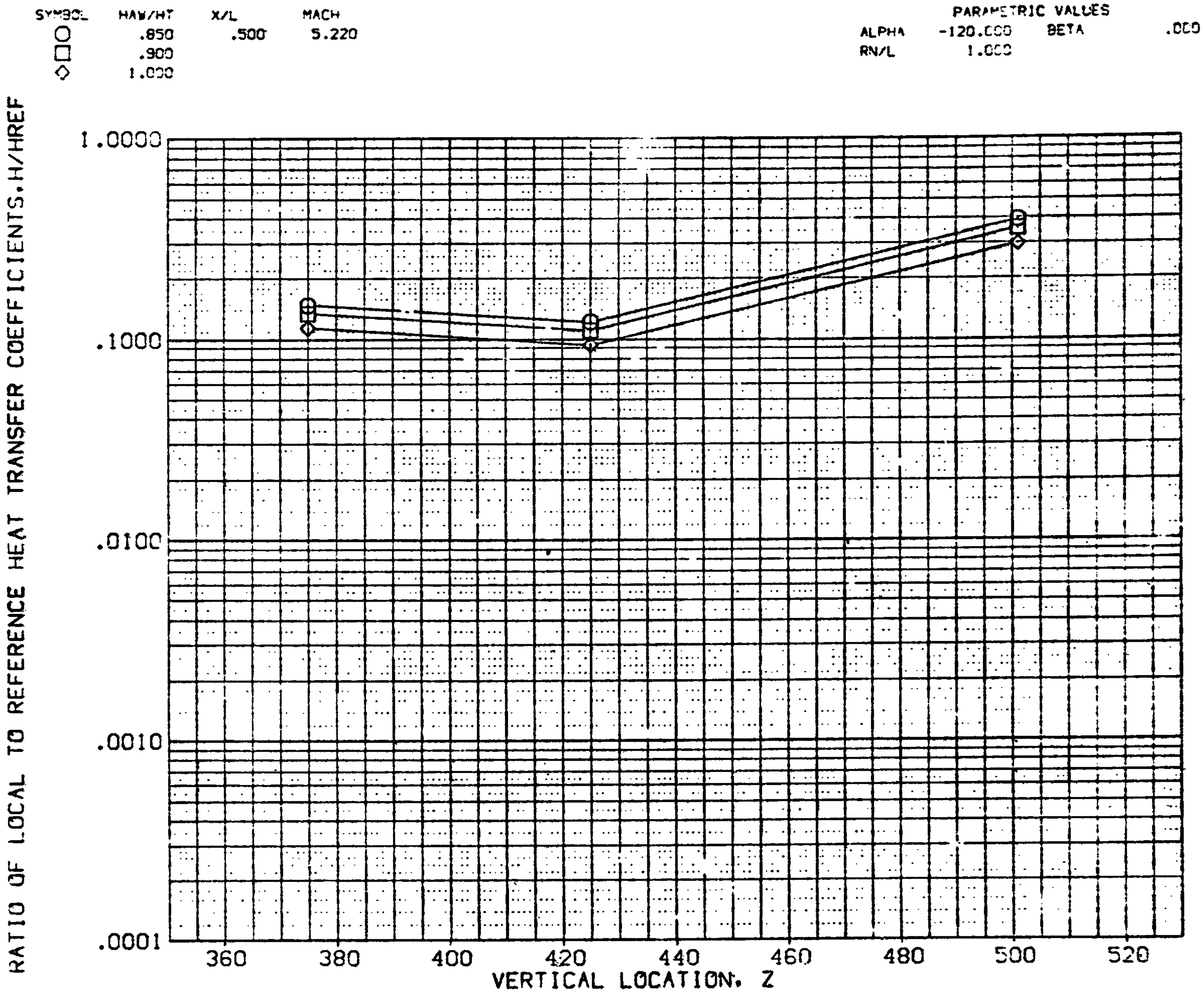

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-195 IH28 O1+T1 BODY SIDEWALL (REVB06)

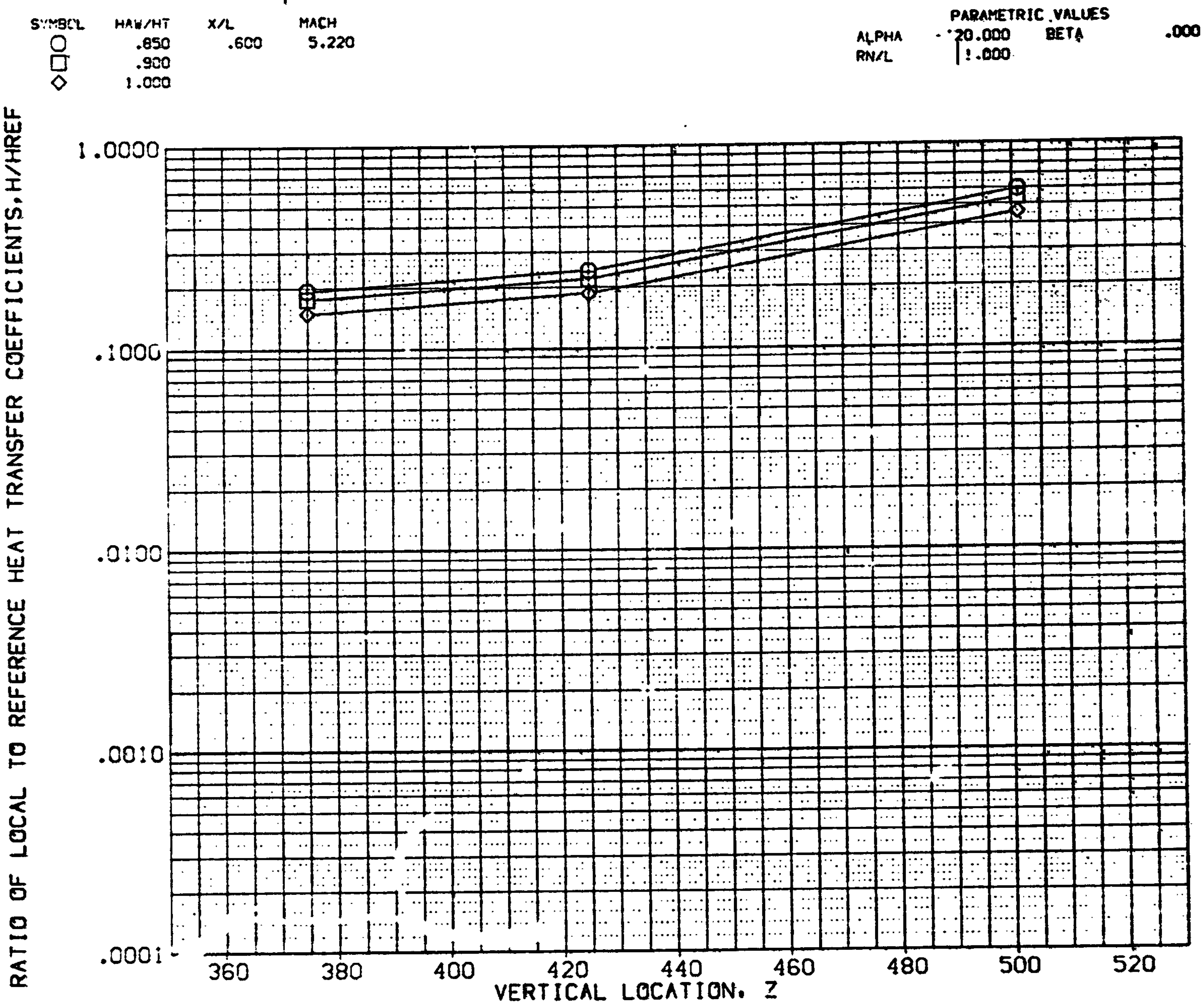

FIG 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

AMES 3.5 195 IH28 C1+T1 BODY SIDEWALL (REVB06)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.700	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA -120.000 BETA .000

RN/L 1.000

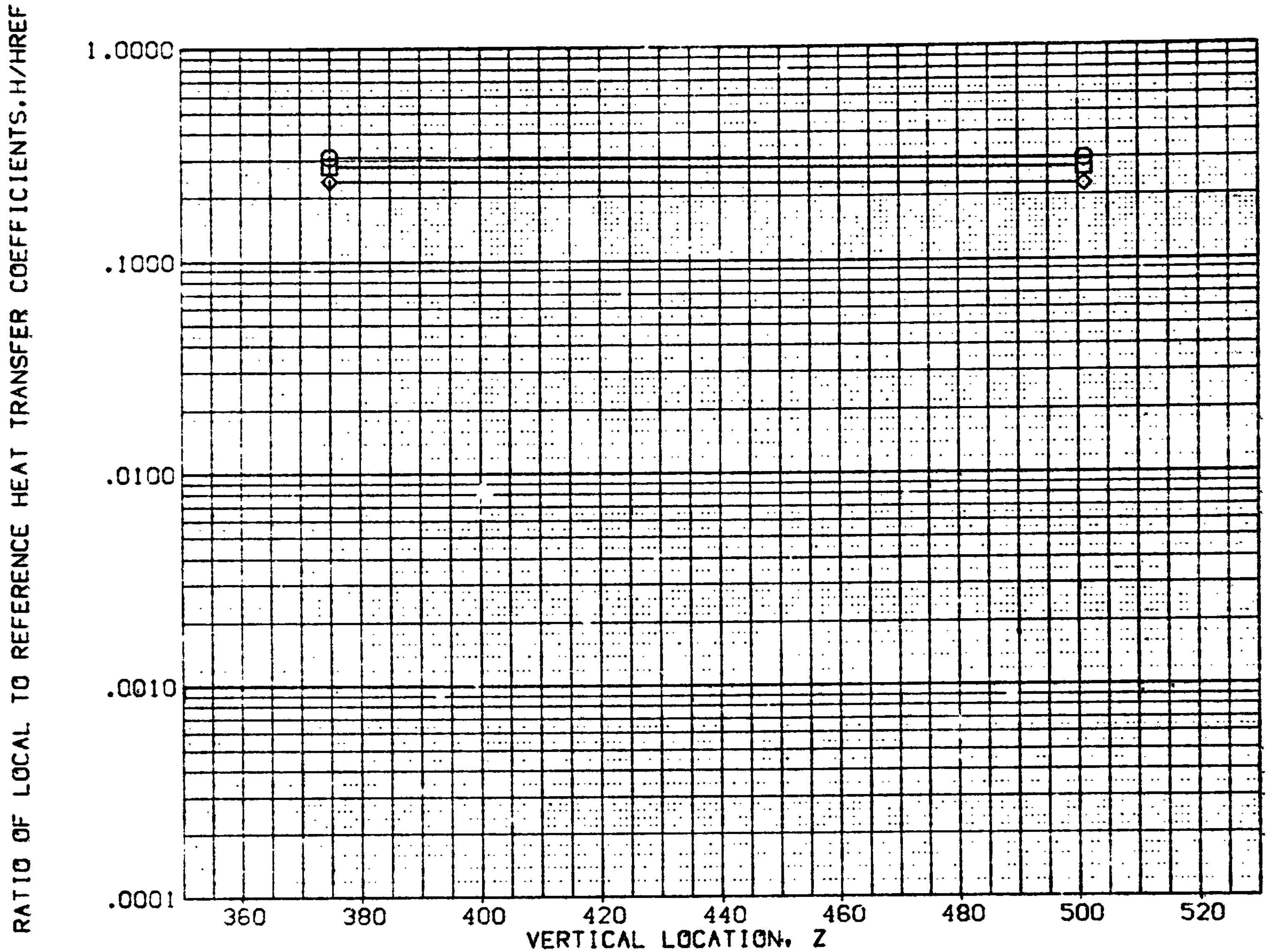

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-195 IH28 O1+T1 BODY SIDEWALL (REVB07)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.300	5.219
□	.900		
◇	1.000		

PARAMETRIC VALUES
ALPHA -90.000 BETA .000
RN/L 1.000

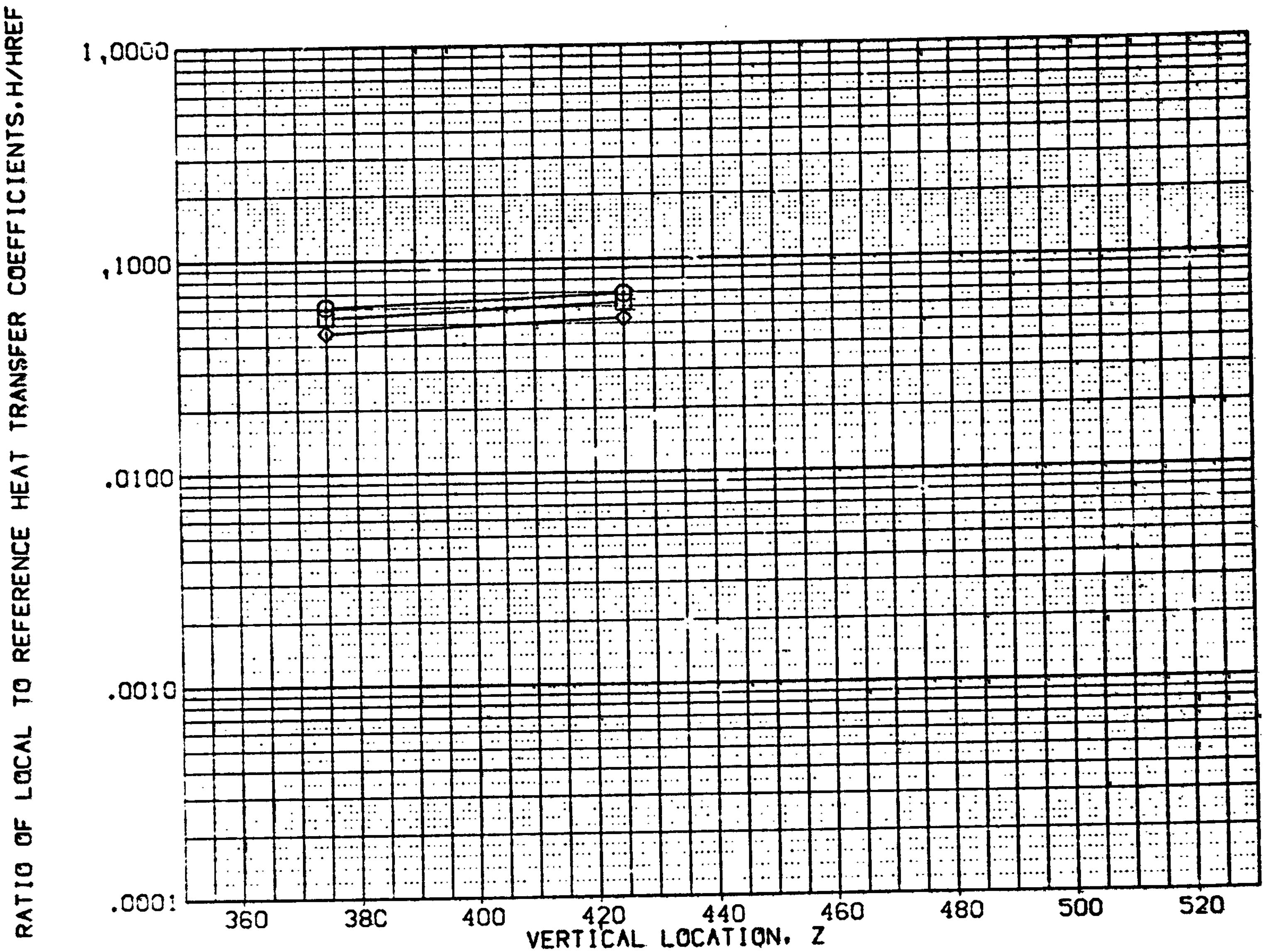

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

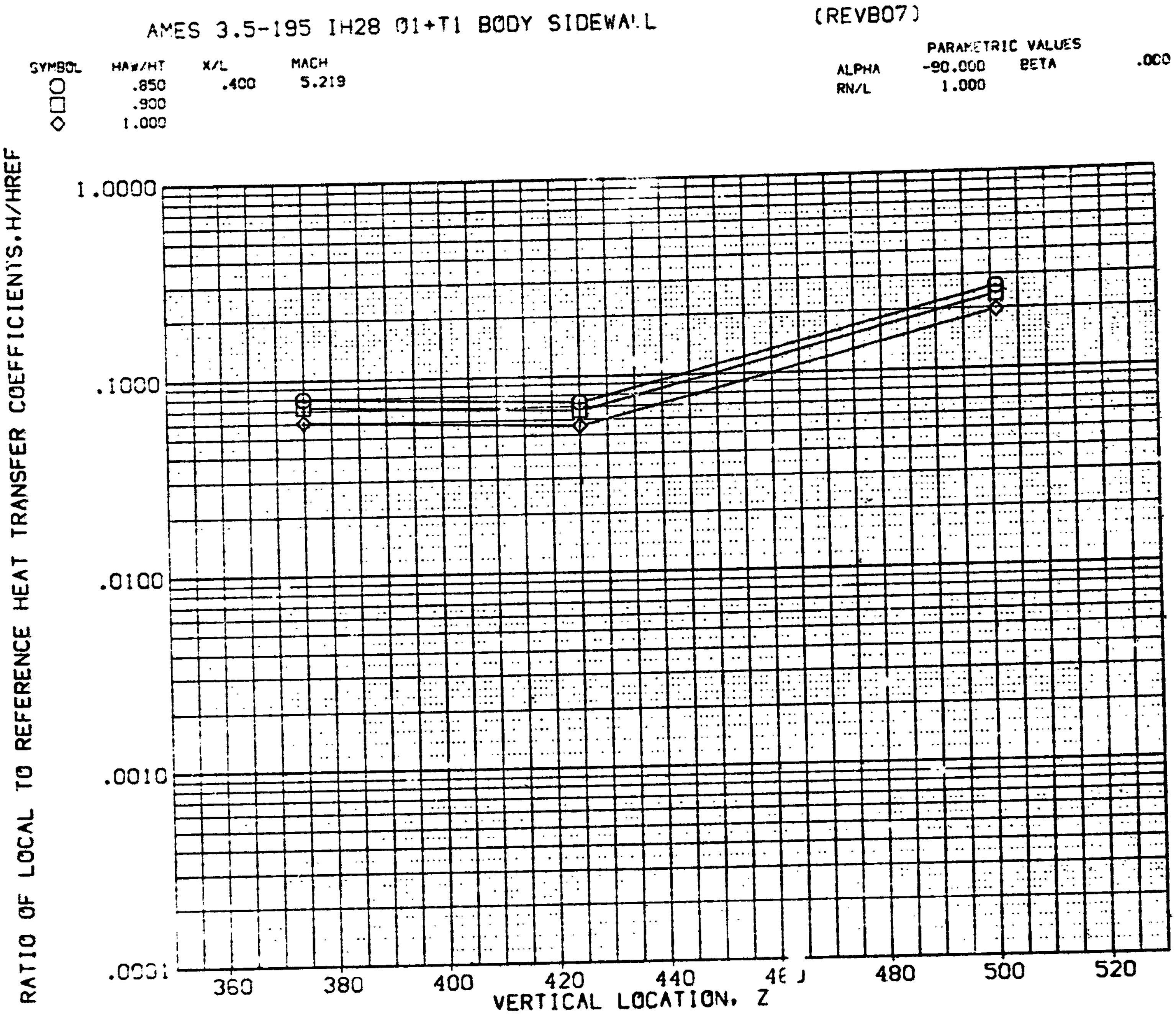

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-195 IH28 01+T1 BODY SIDEWALL (REVB07)

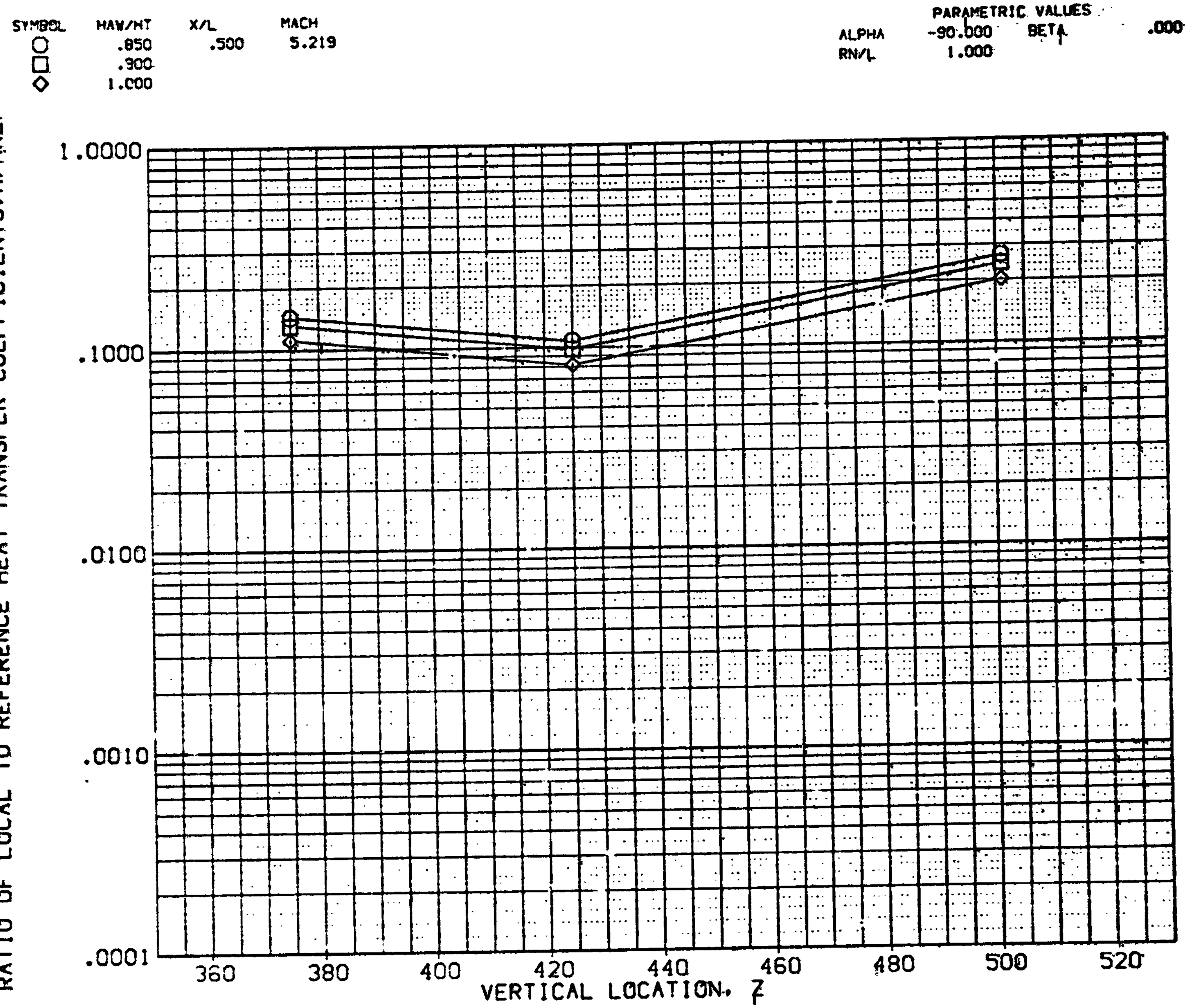

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-195 IH28 01+T1 BODY SIDEWALL (REVB07)

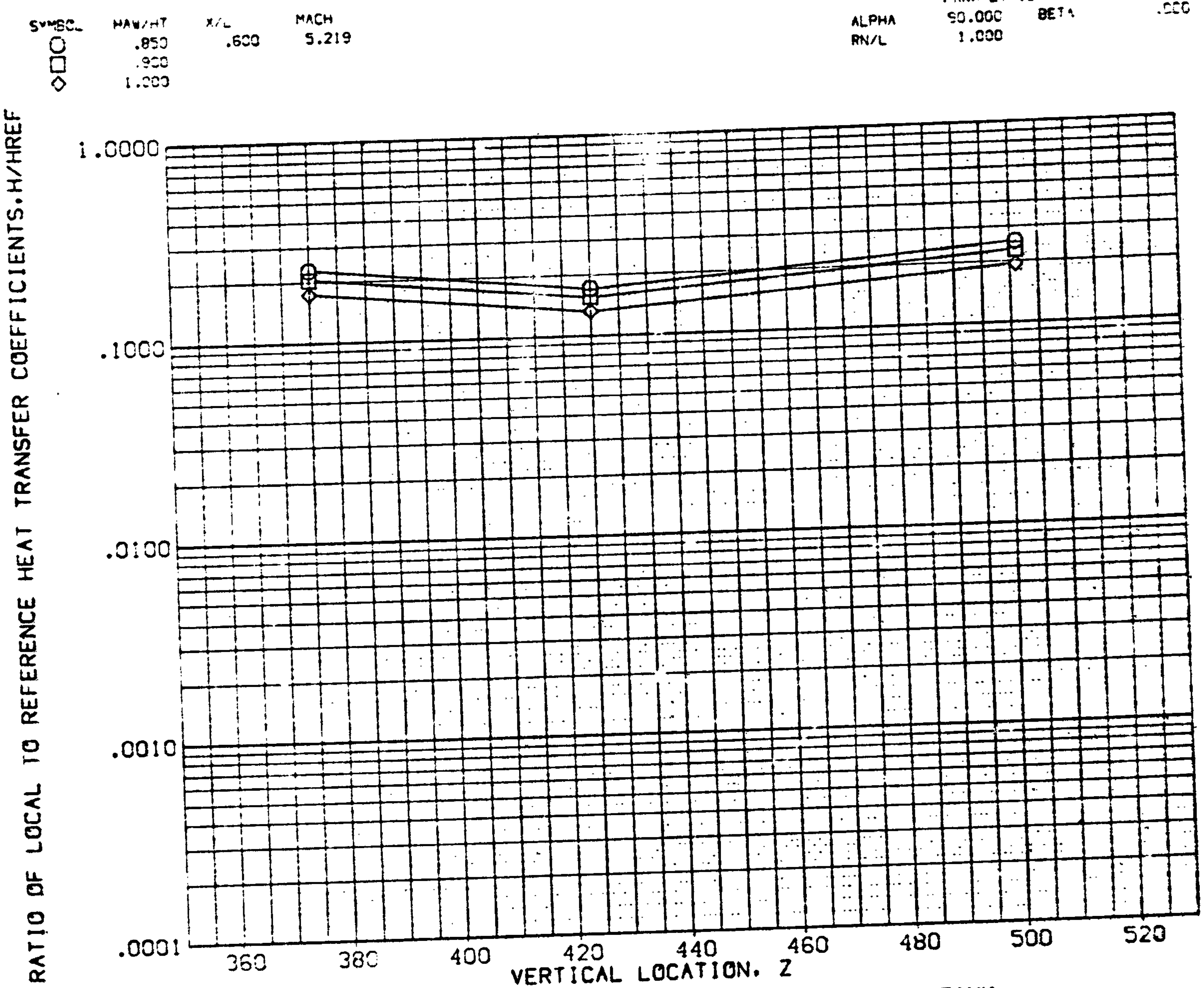

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-195 IH28 01+T1 BODY SIDEWALL (REVB07)

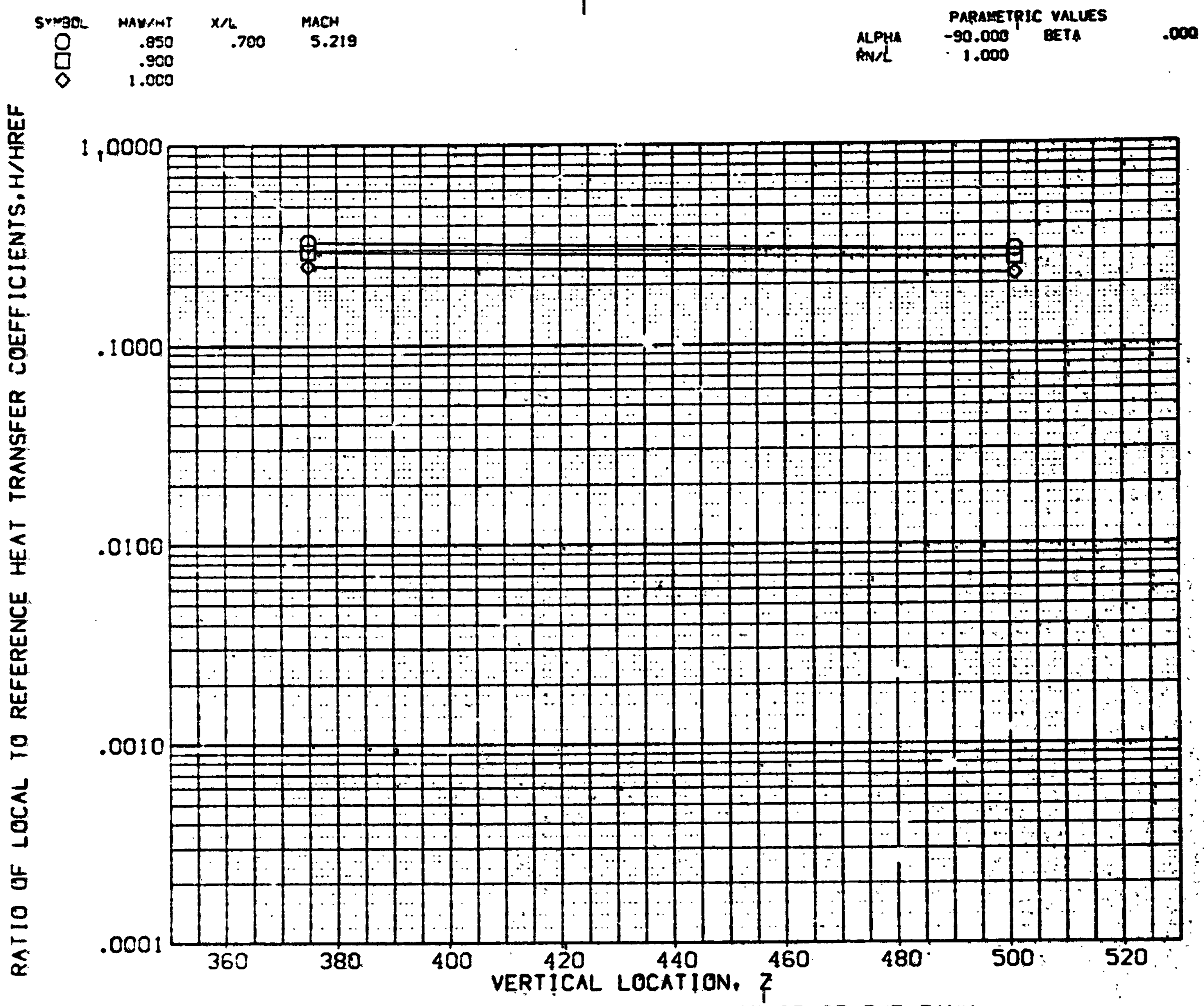

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-195 IH28 O1+T1 BODY SIDEWALL (REVBC8)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.300	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA -60.000 BETA .000

RN/L 1.000

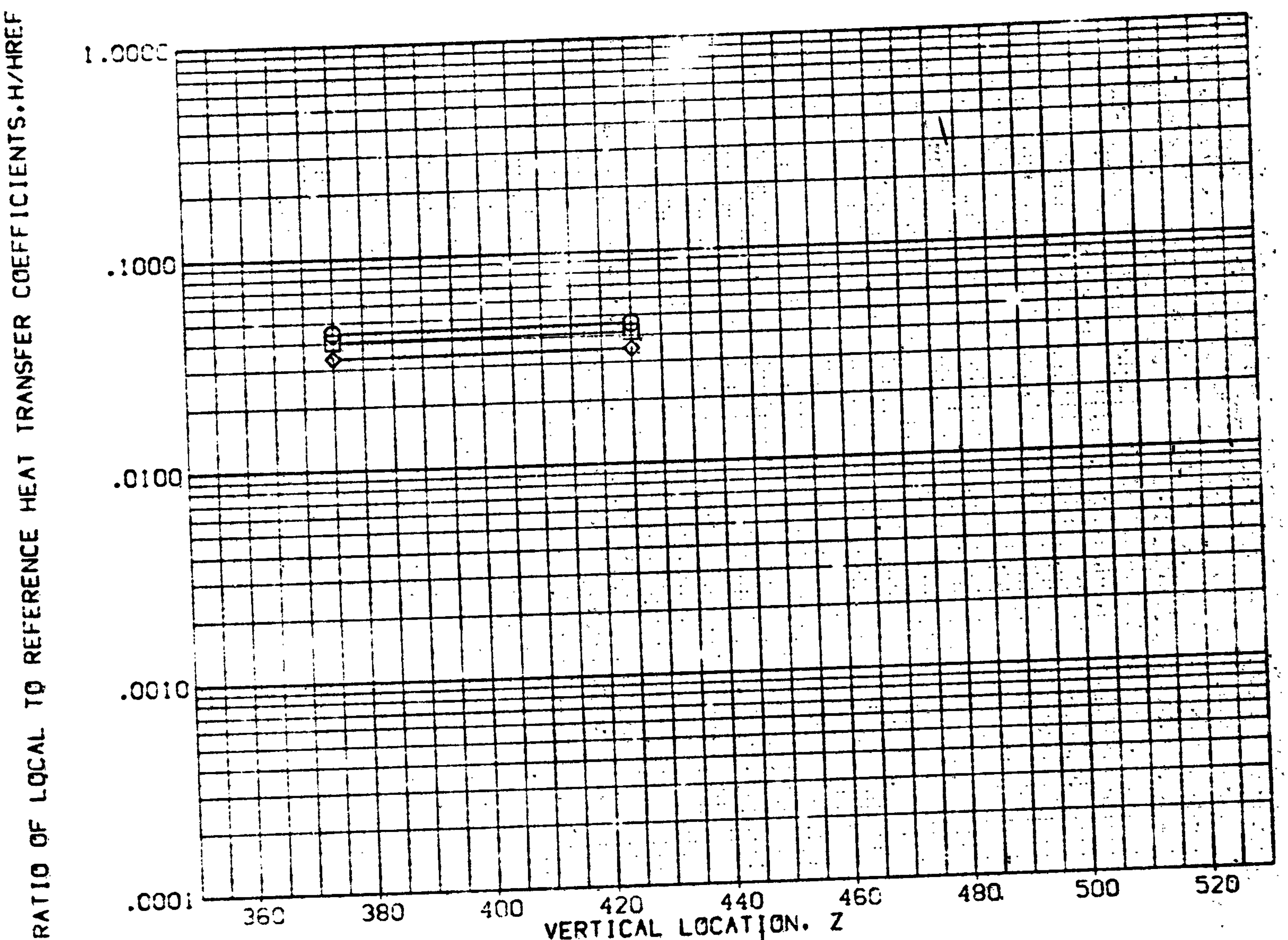

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

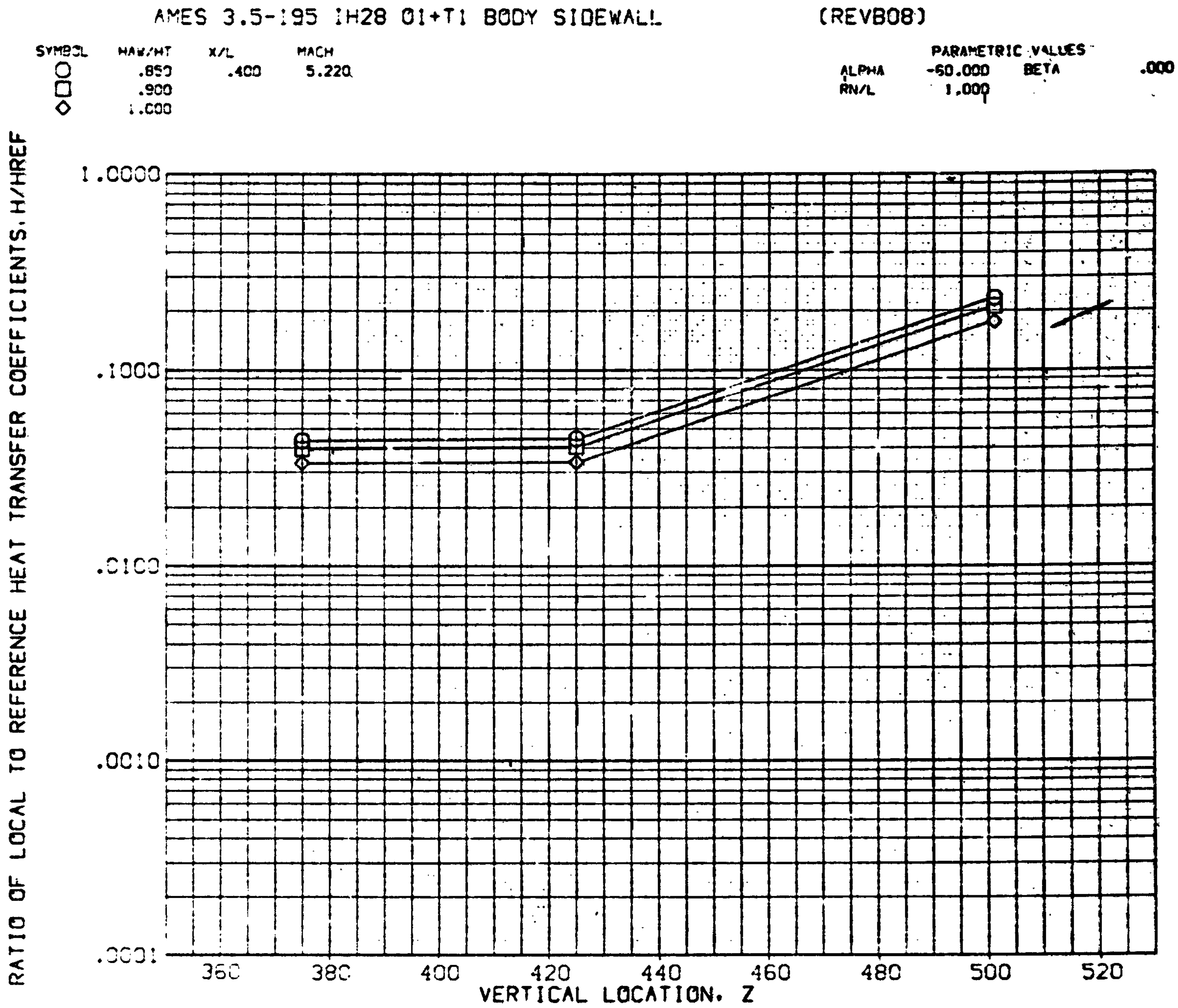

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-195 IH28 O1+T1 BODY SIDEWALL (PEVB08)

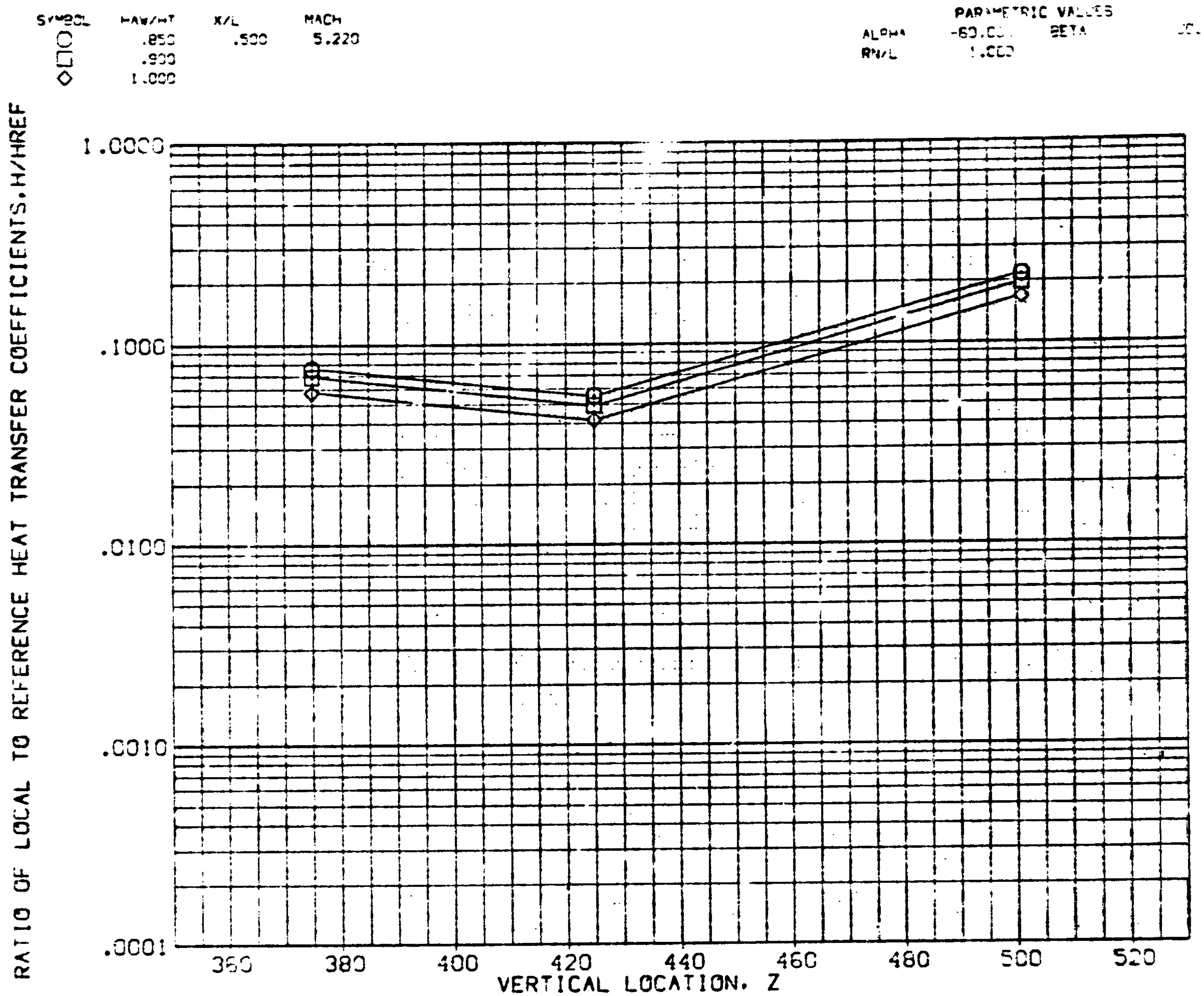

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

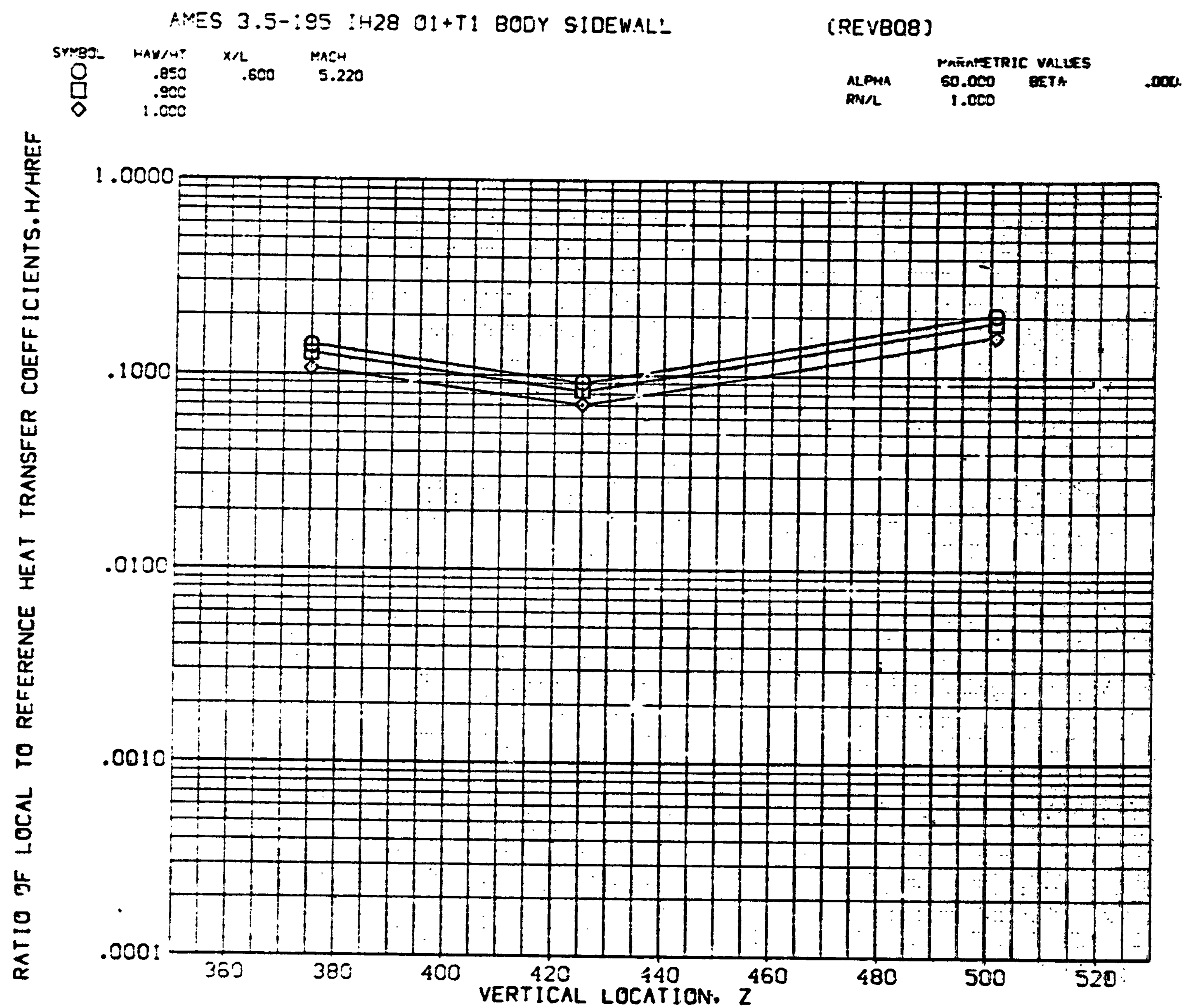

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-195 IH28 O1+T1 BODY SIDEWALL (REVSOB)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.700	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA -60.000 BETA .000
RN/L 1.000

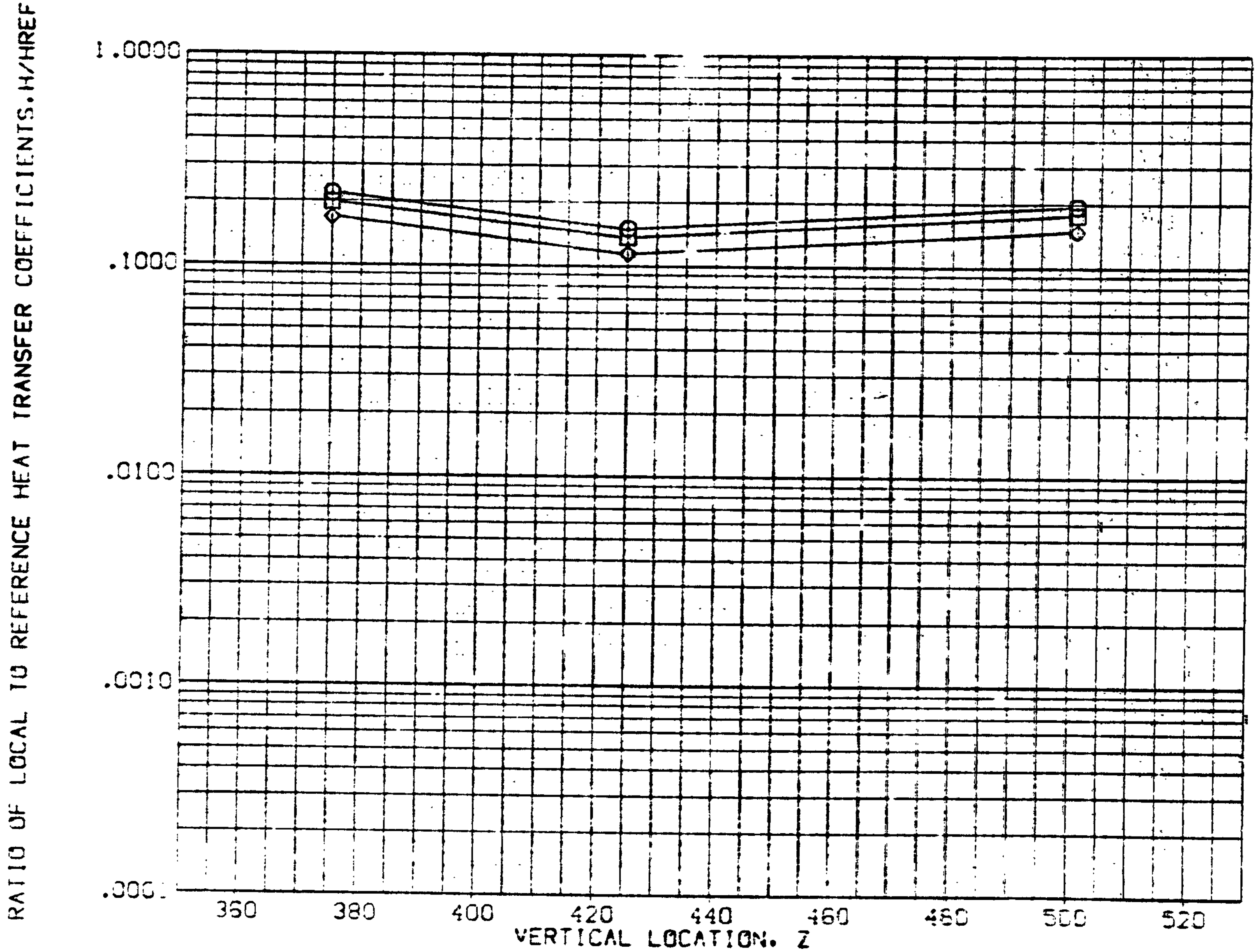

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-195 IH28 01+T1 BODY SIDEWALL (REVB09)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.300	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA	-30.000	BETA	.000
RN/L	1.000		

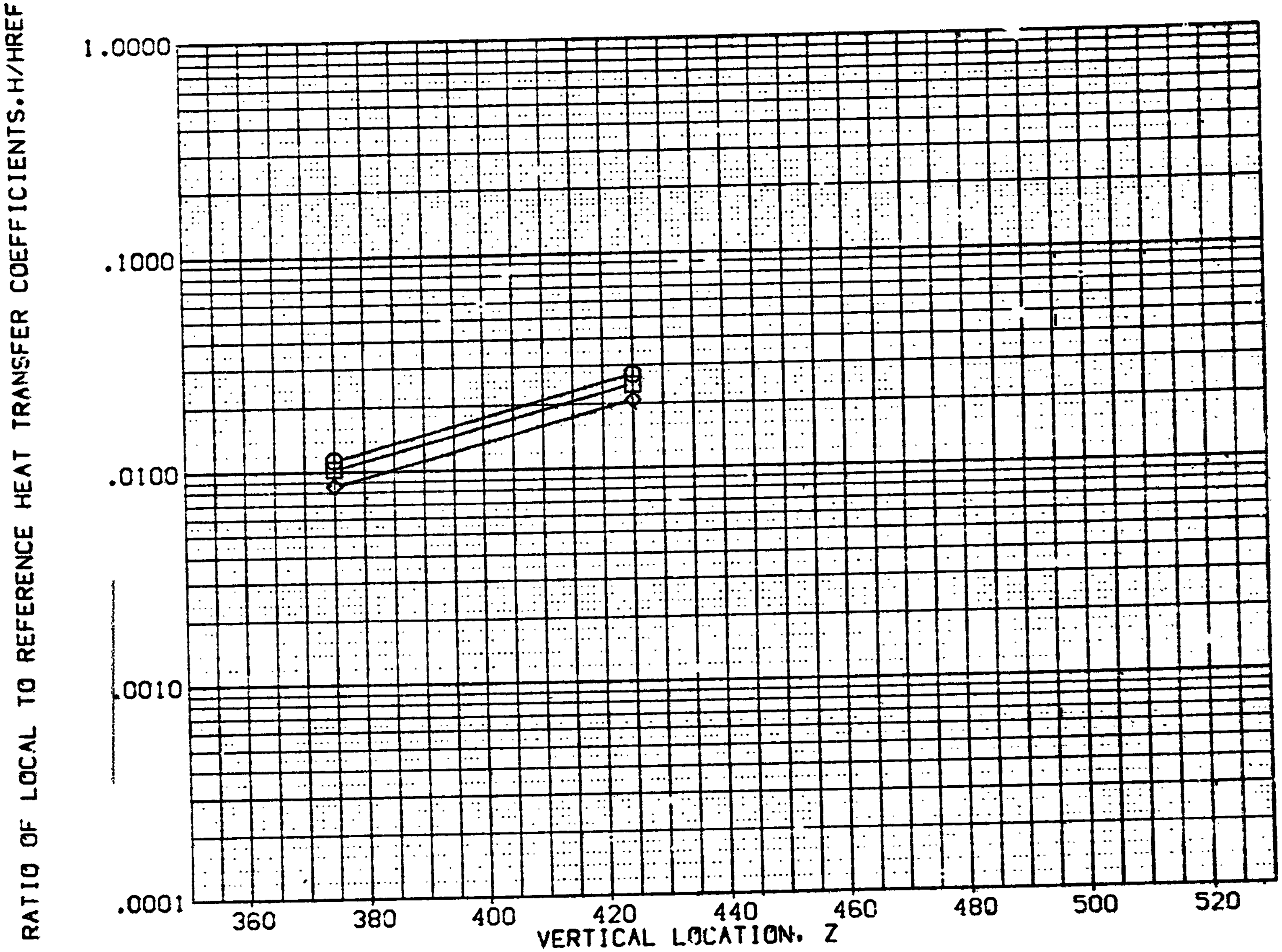

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

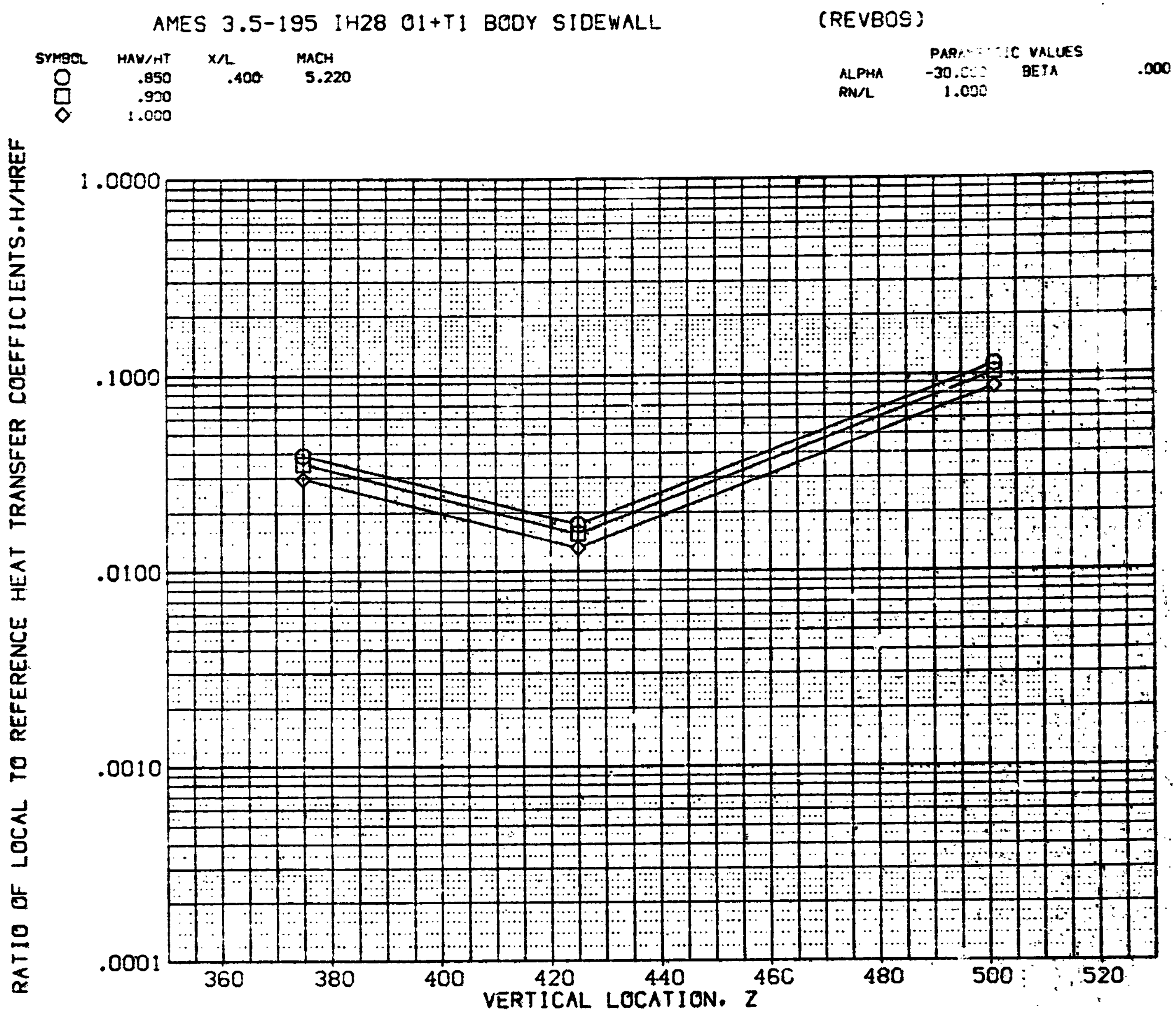

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

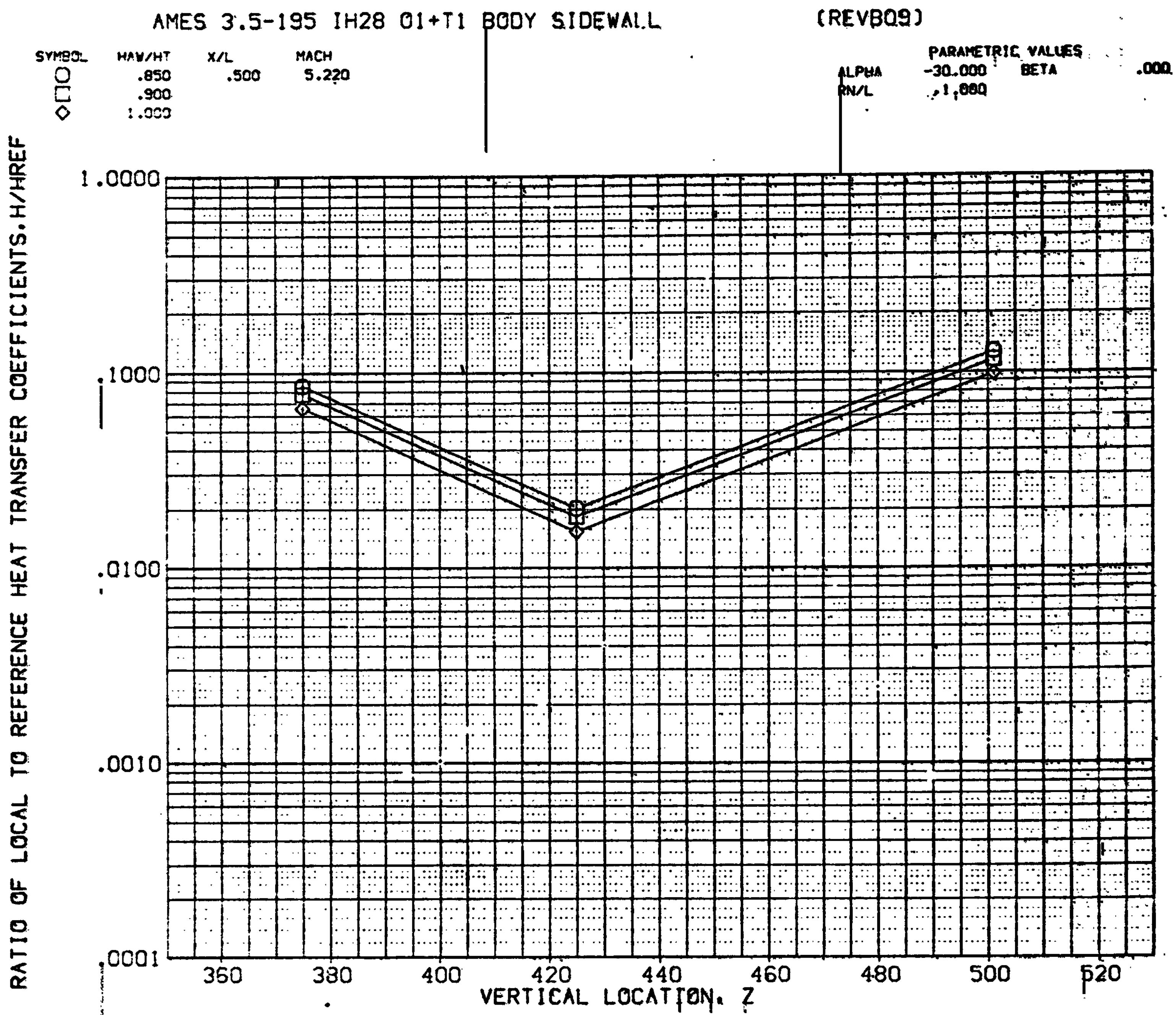

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-195 IH28 01+T1 BODY SIDEWALL (REVB09)

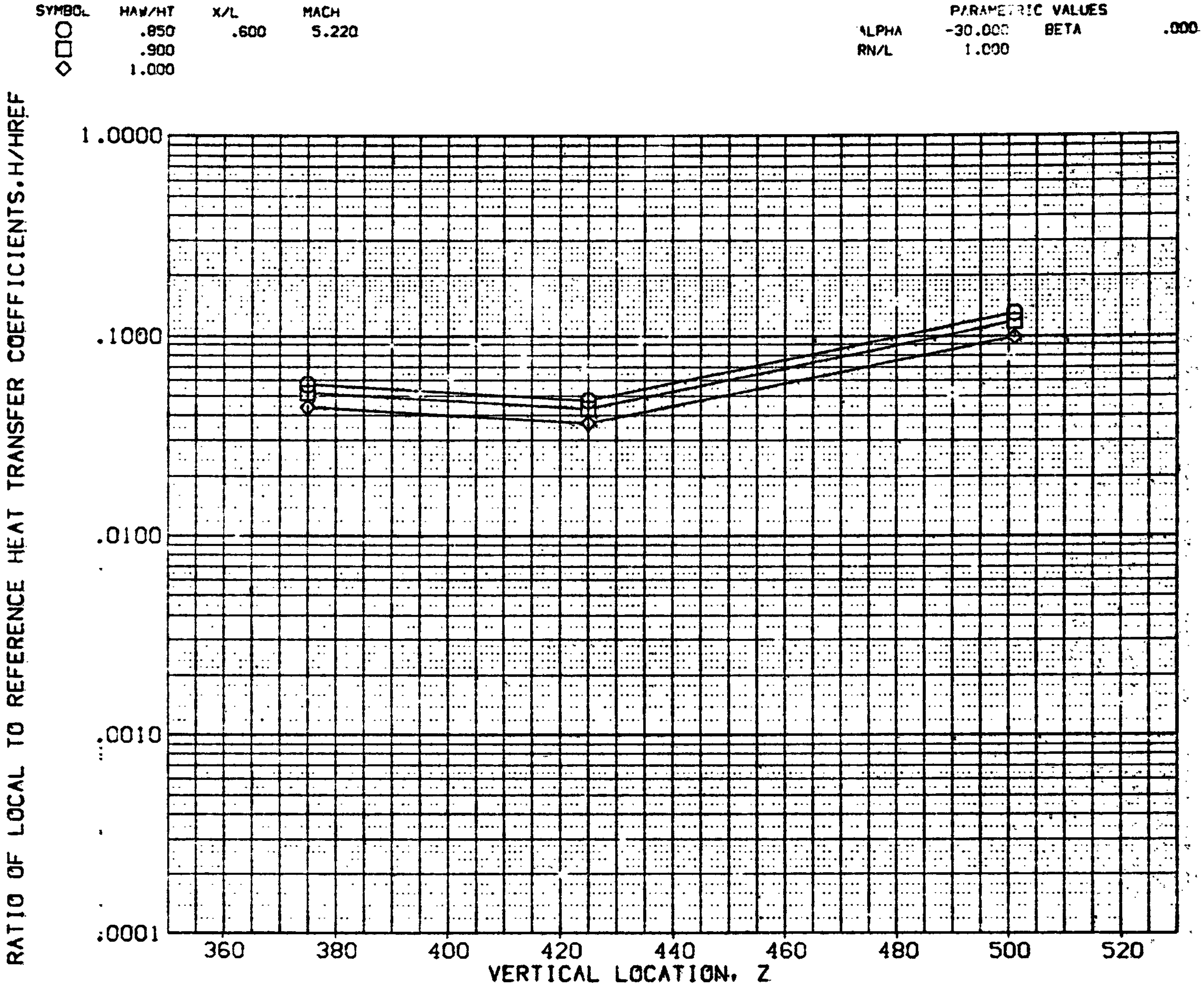

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-195 IH28 O1+T1 BODY SIDEWALL (REVB09)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.700	5.228
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA	-30.000	BETA	.000
RN/L	1.000		

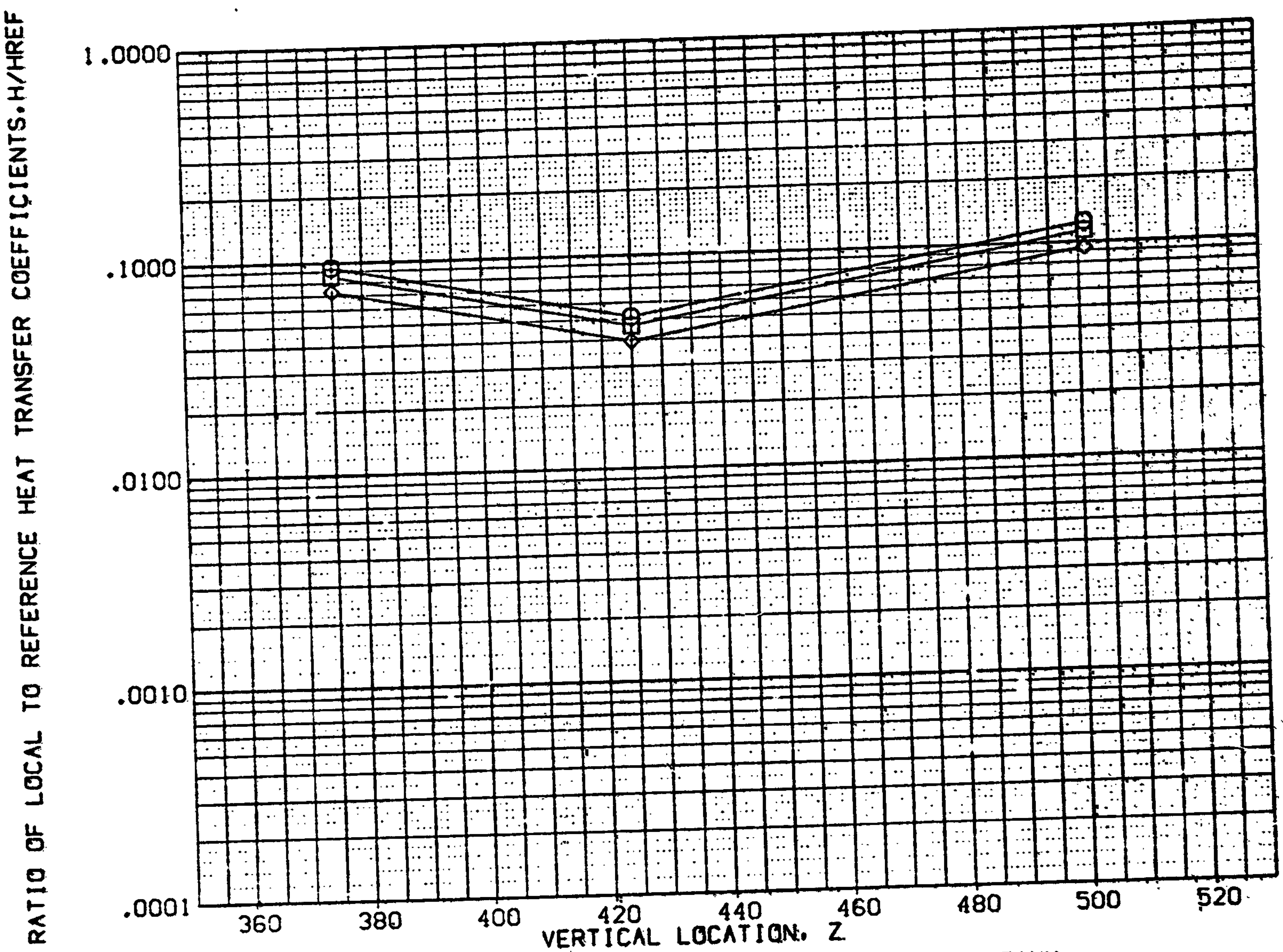

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-195 IH28 01+T1 BODY SIDEWALL (REVB10)

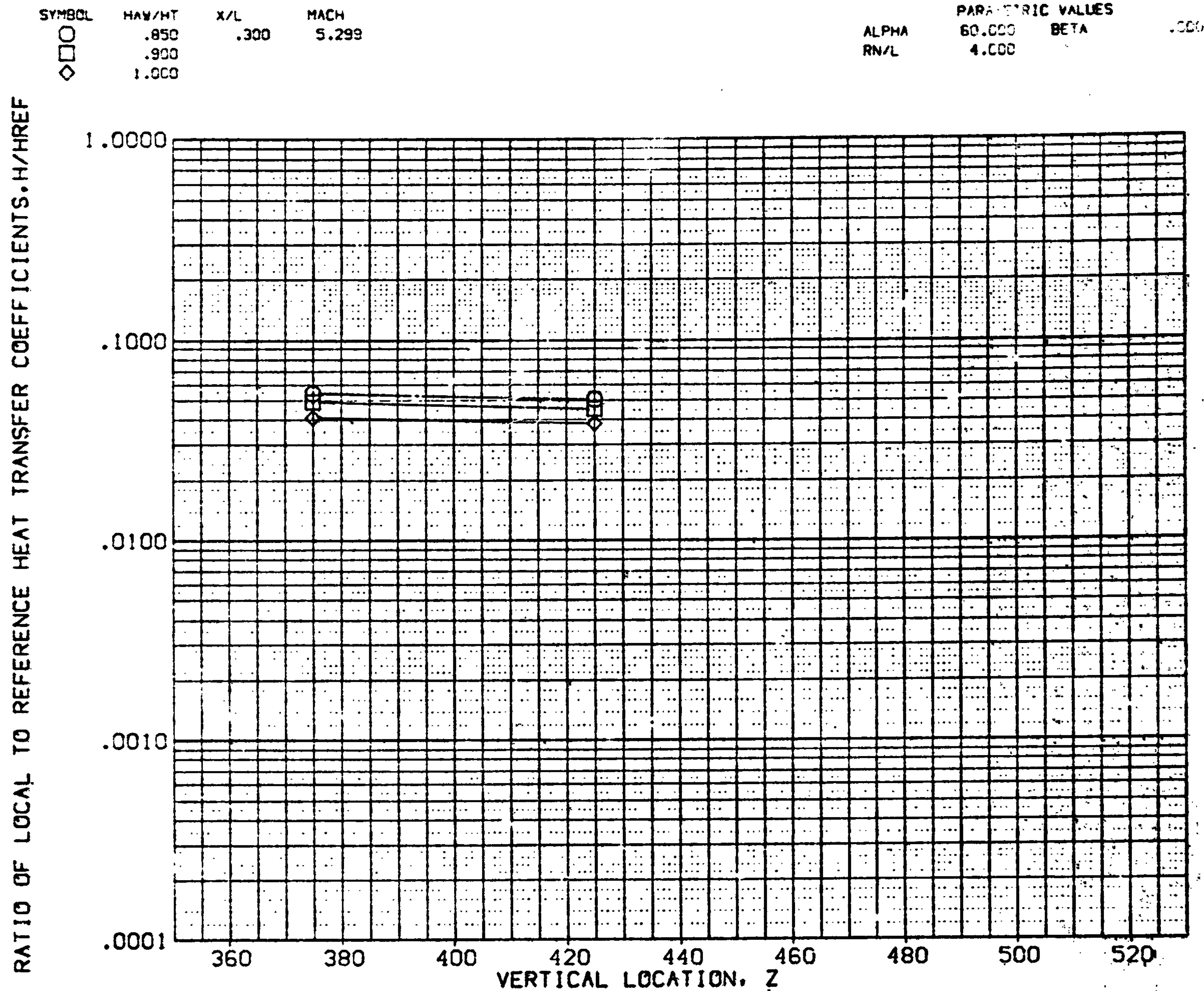

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

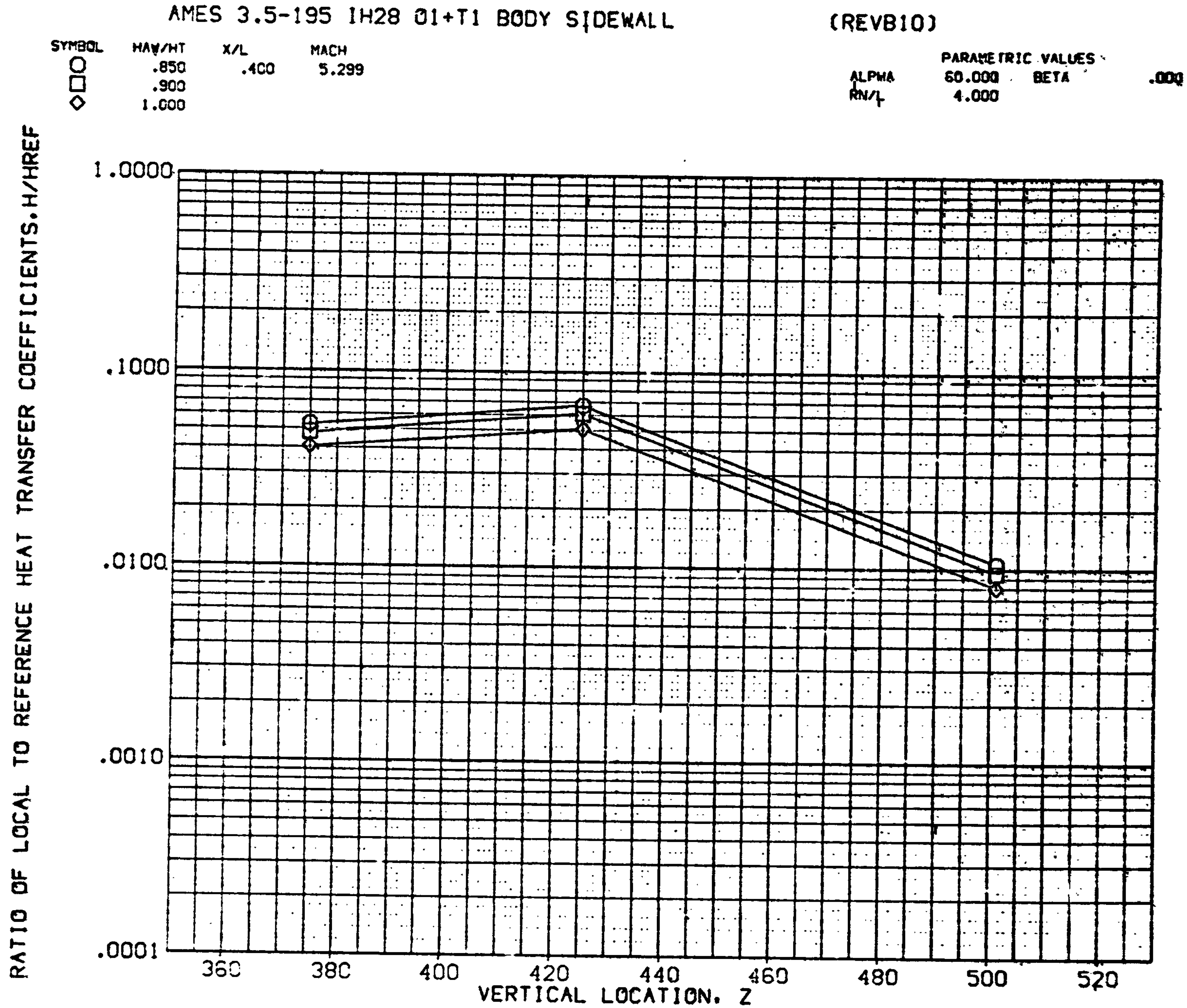

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

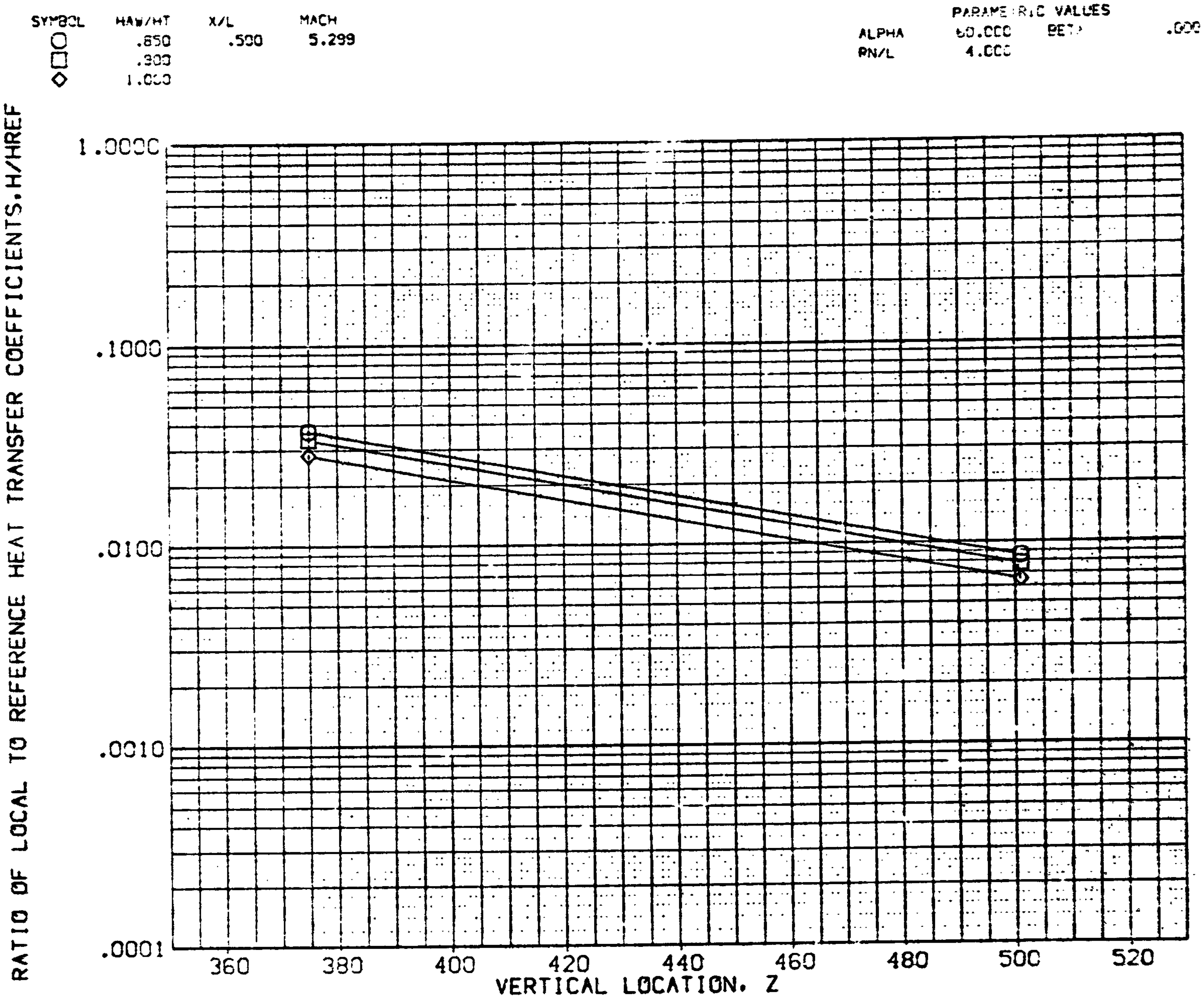

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-195 IH28 01+T1 BODY SIDEWALL (REVB10)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.600	5.299
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA	60.000	BETA	.000
RN/L	4.000		

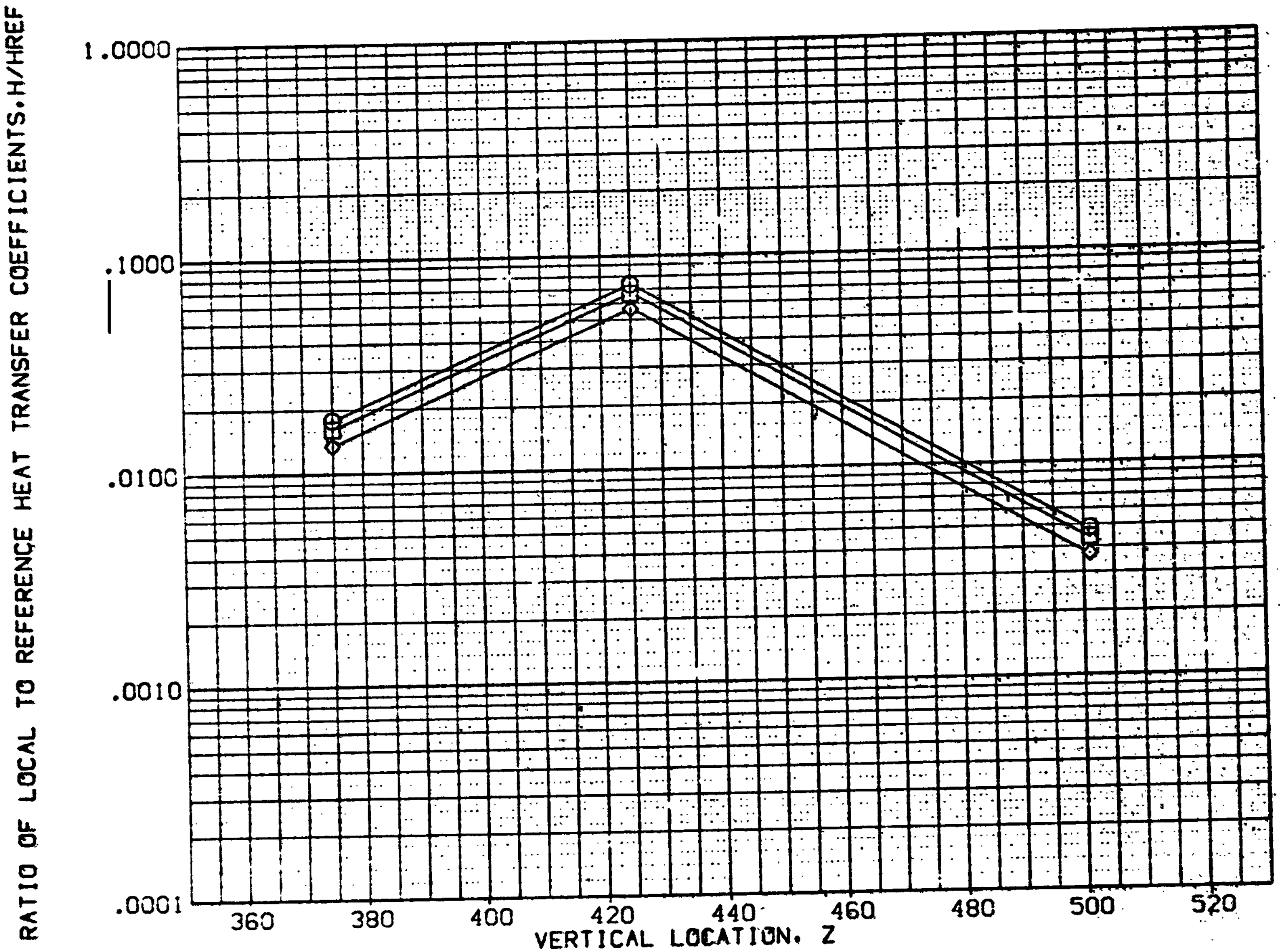

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

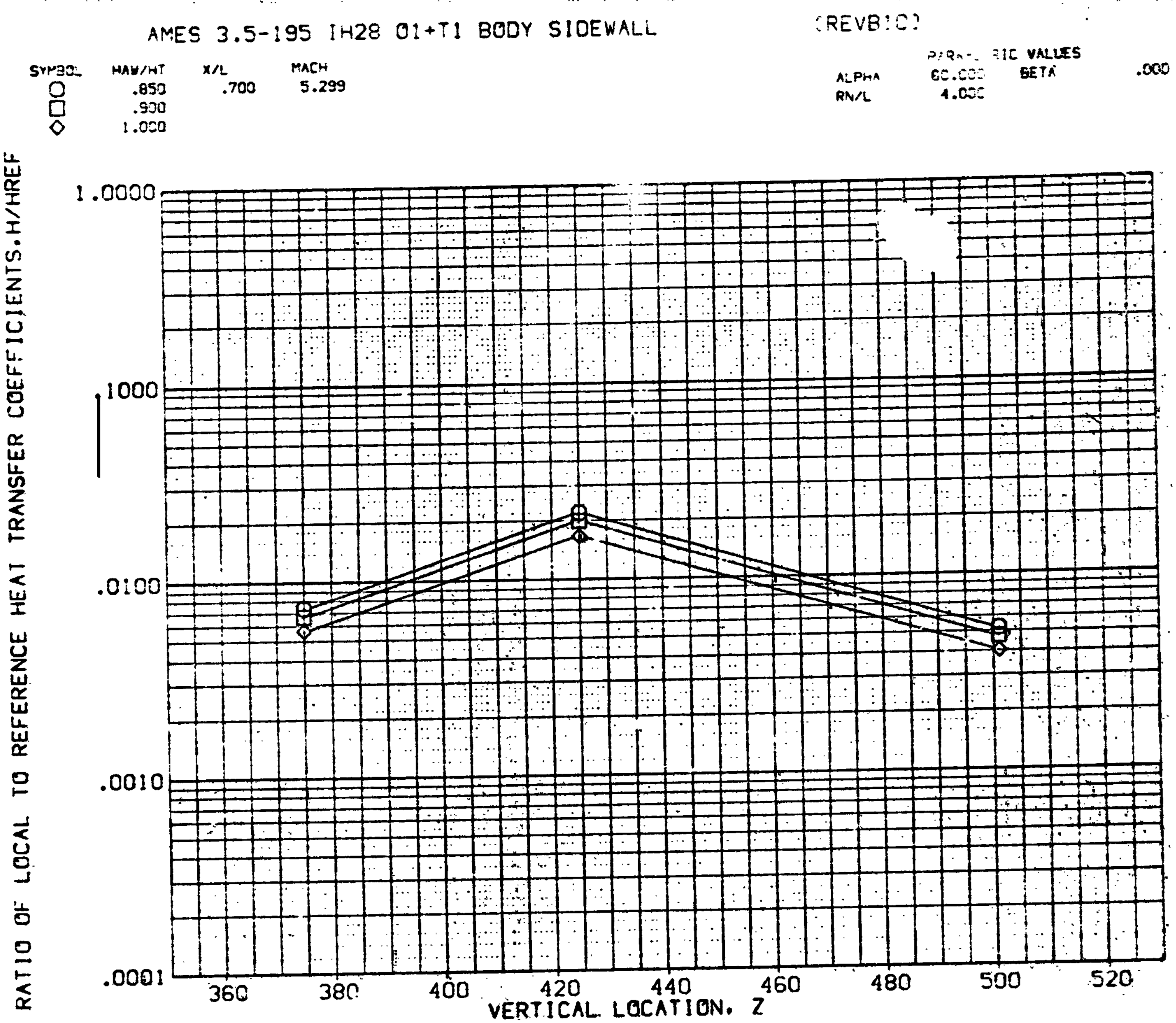

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-195 IH28 01+T1 BODY SIDEWALL (REVB11)

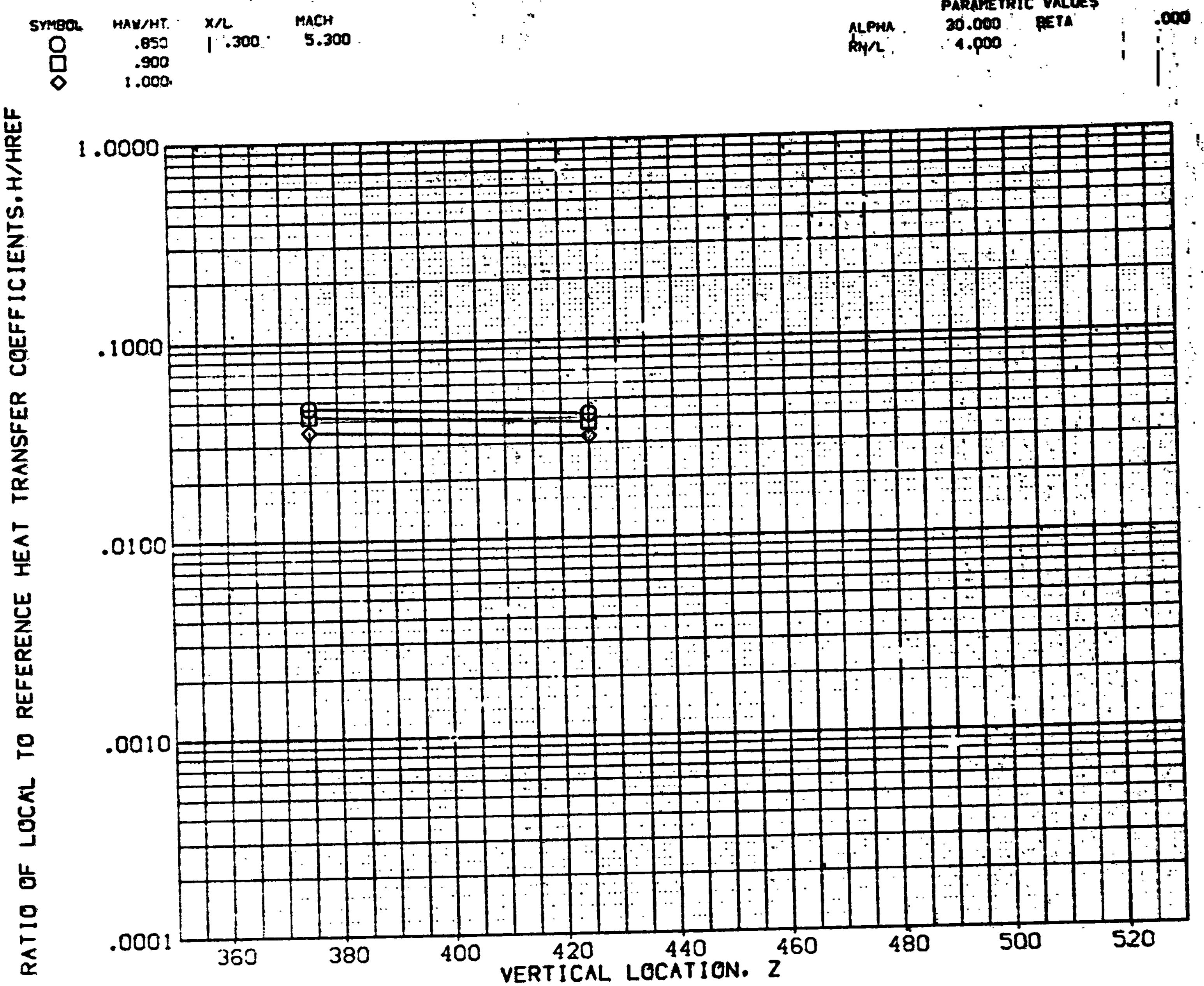

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-195 IH28 01+T1 BODY SIDEWALL (REVB11)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.400	5.300
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA	30.000	BETA	.000
RN/L	4.000		

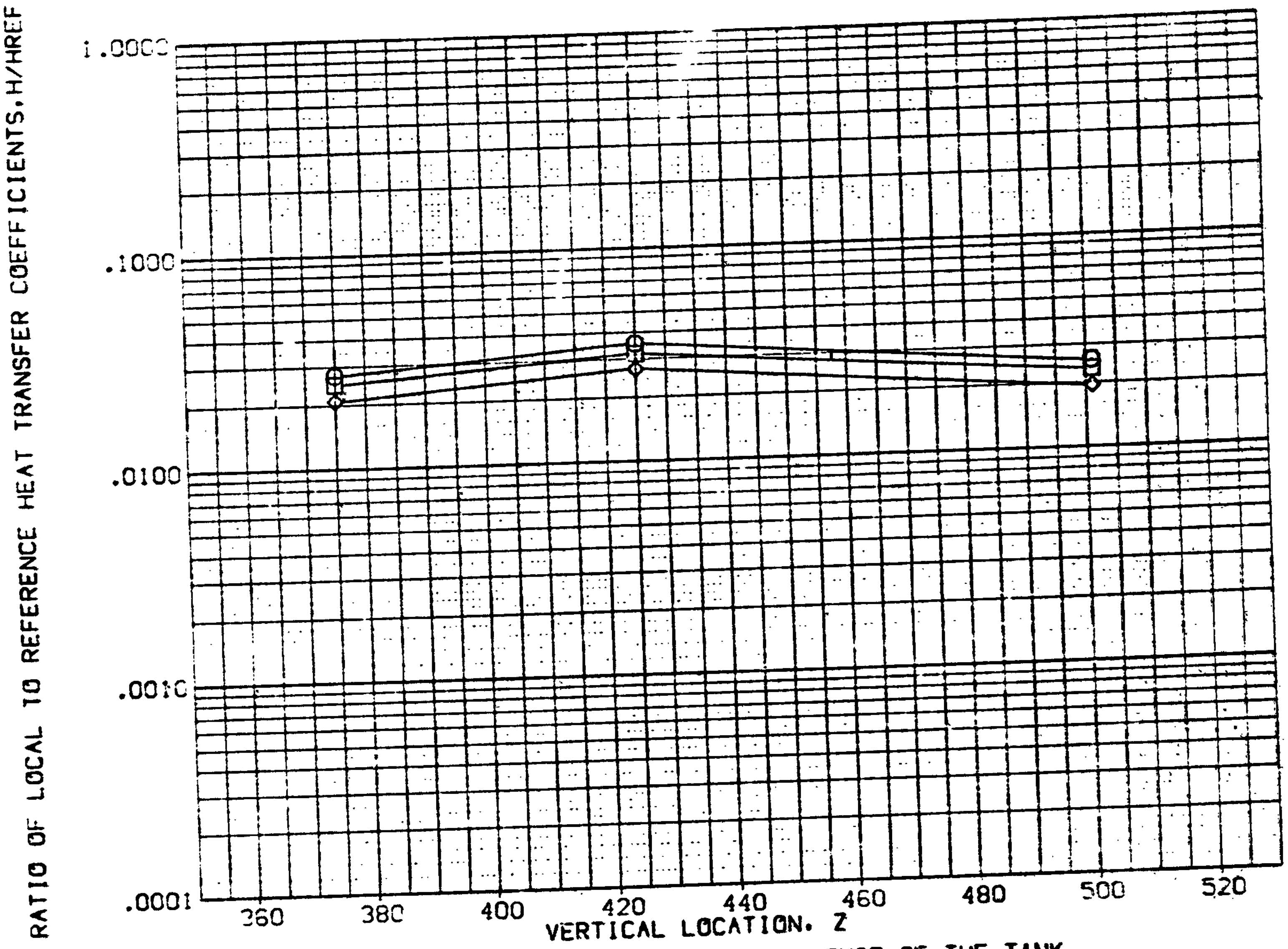

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

ORIGINAL PAGE IS

AMES 3.5-195 IH28 O1+T1 BODY SIDEWALL (REVB11)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.500	5.300
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA 30.000 BETA .000

RN/L 4.000

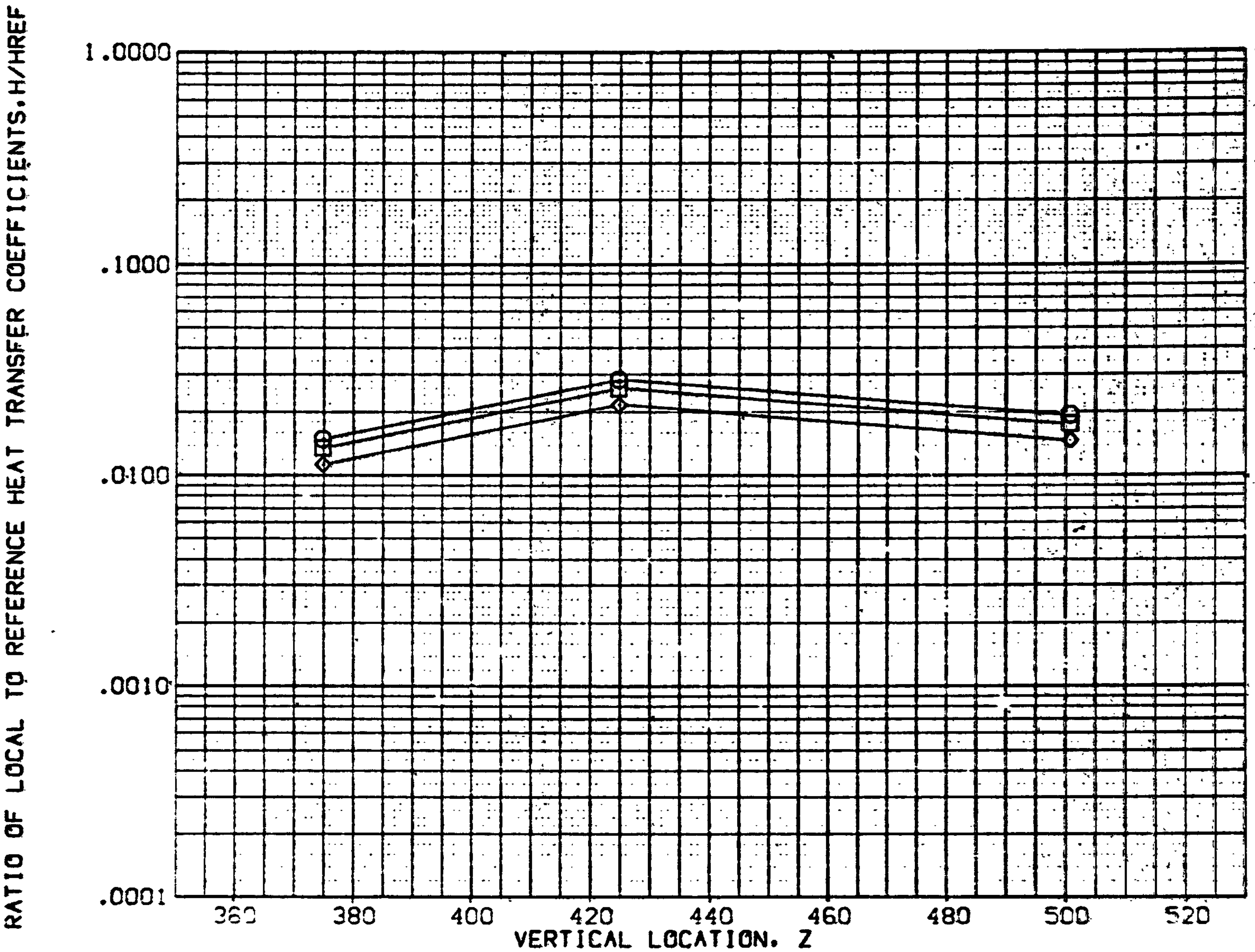

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

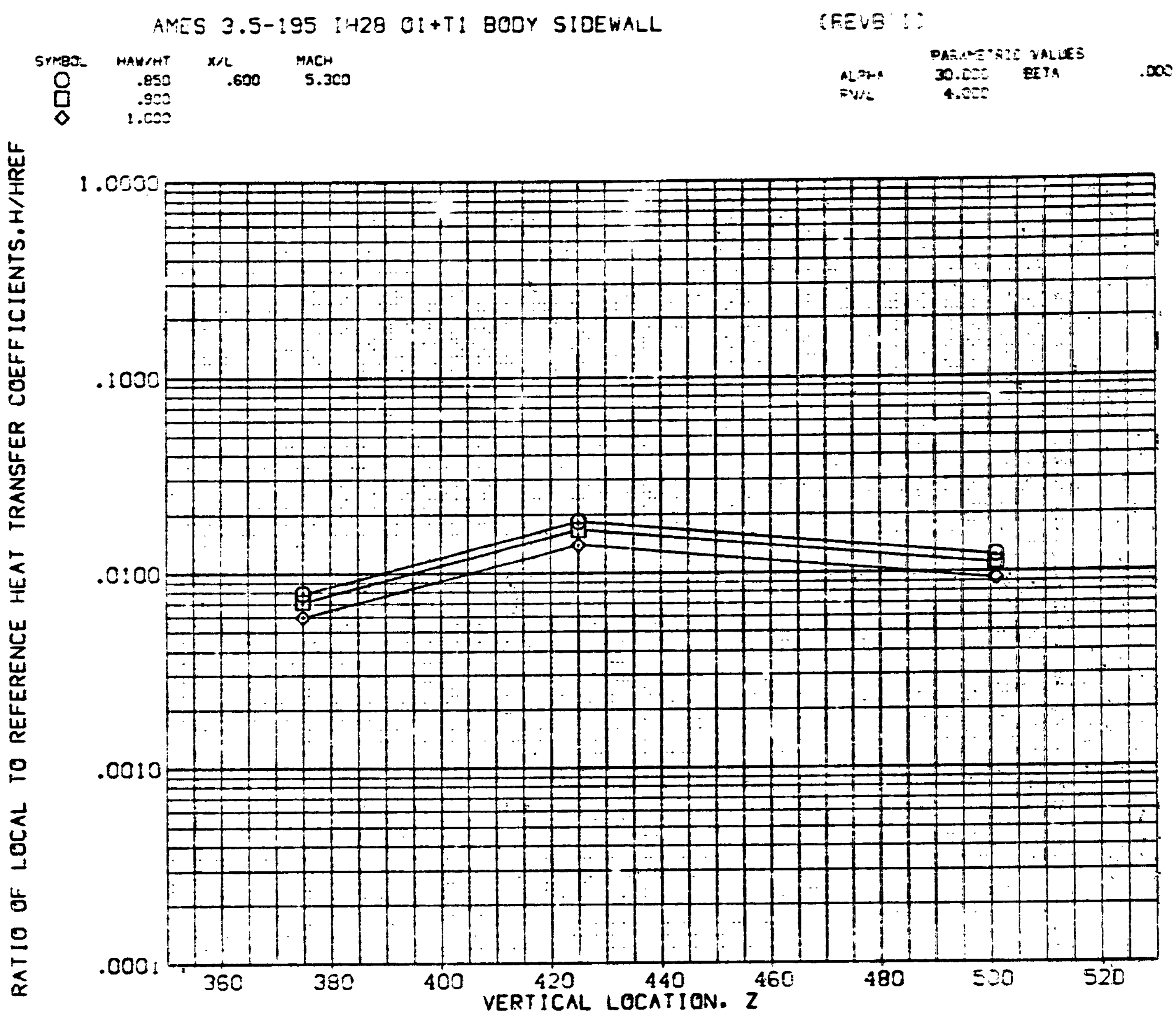

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

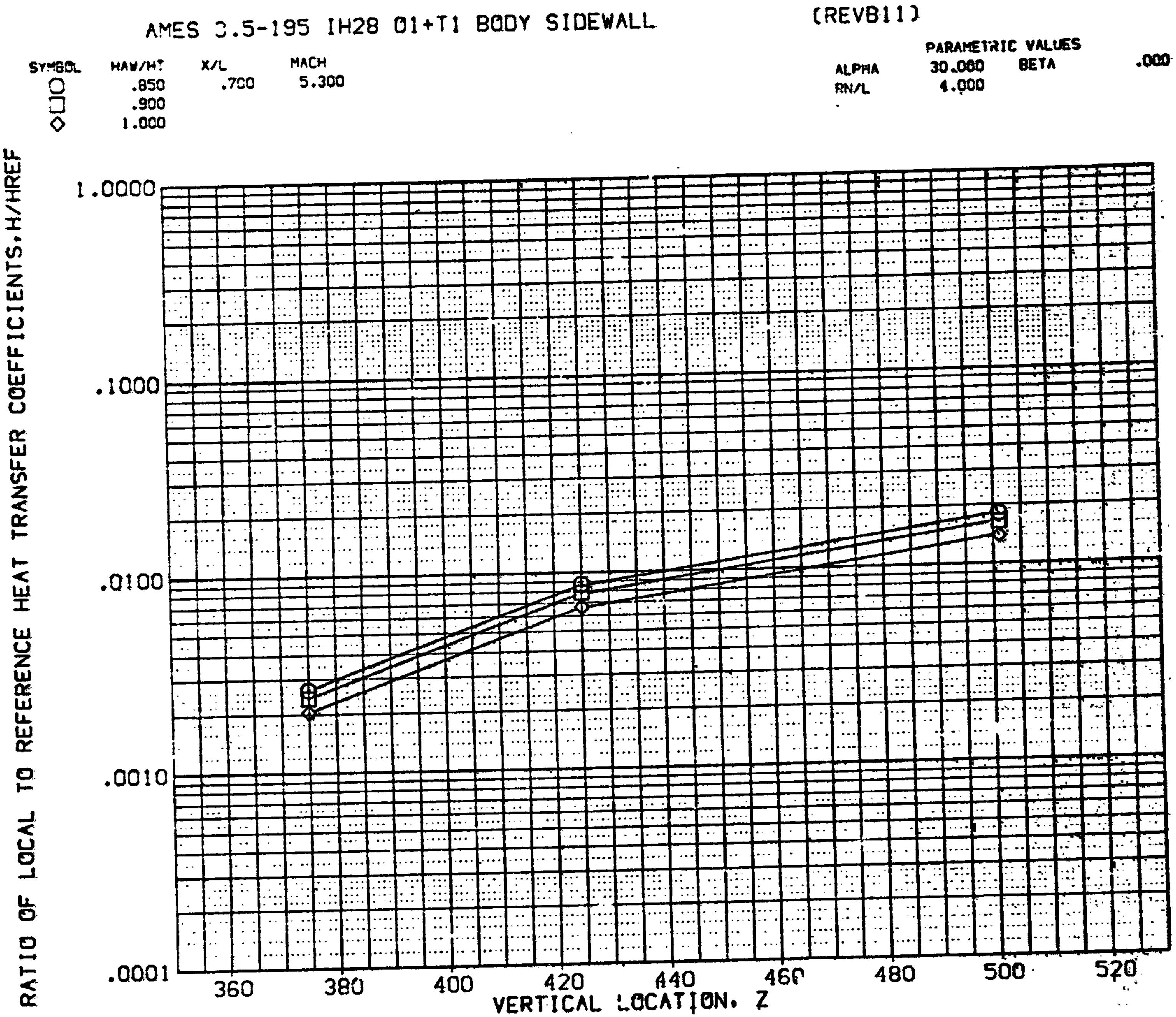

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

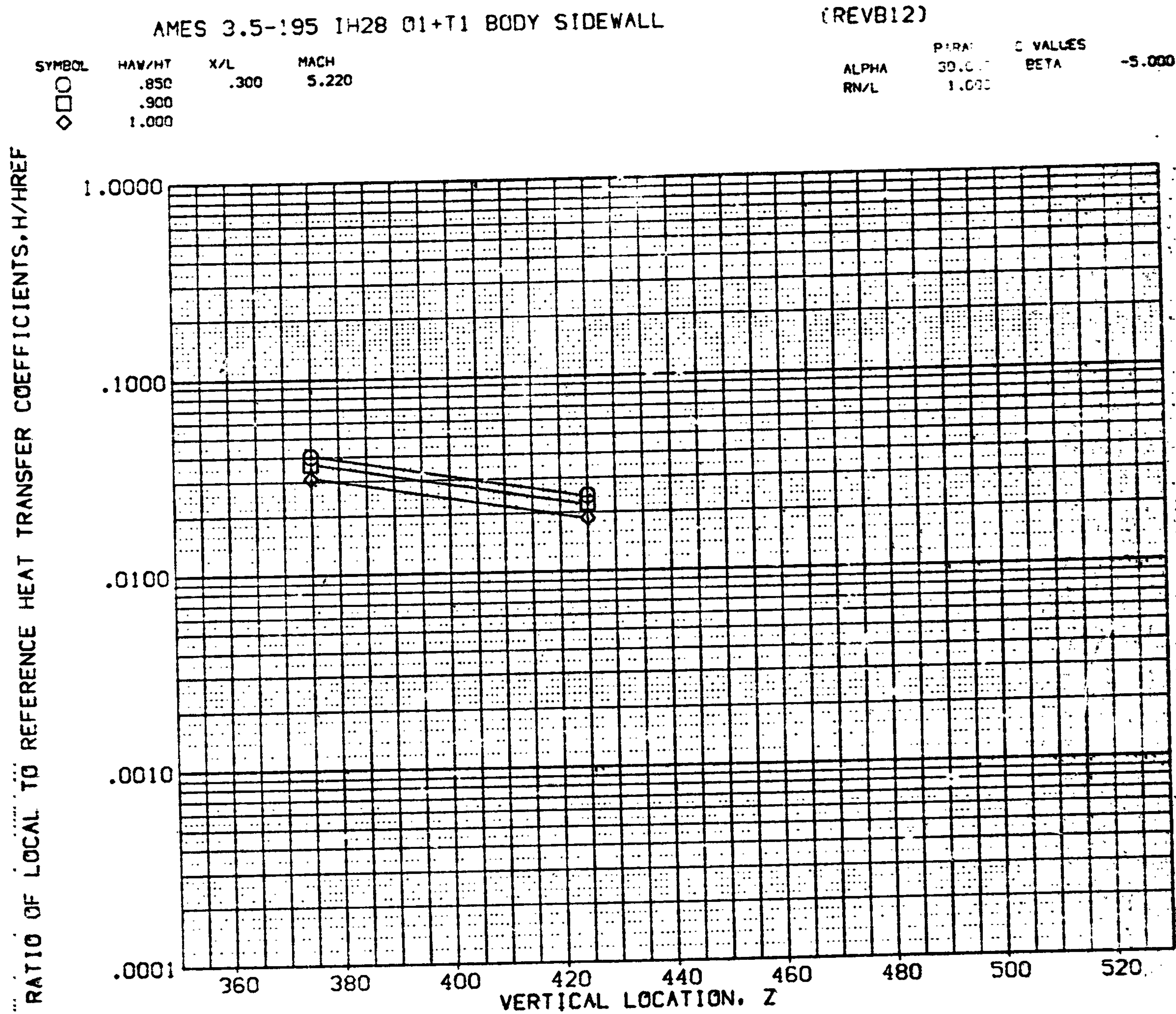

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-195 IH28 01+T1 BODY SIDEWALL (REVB12)

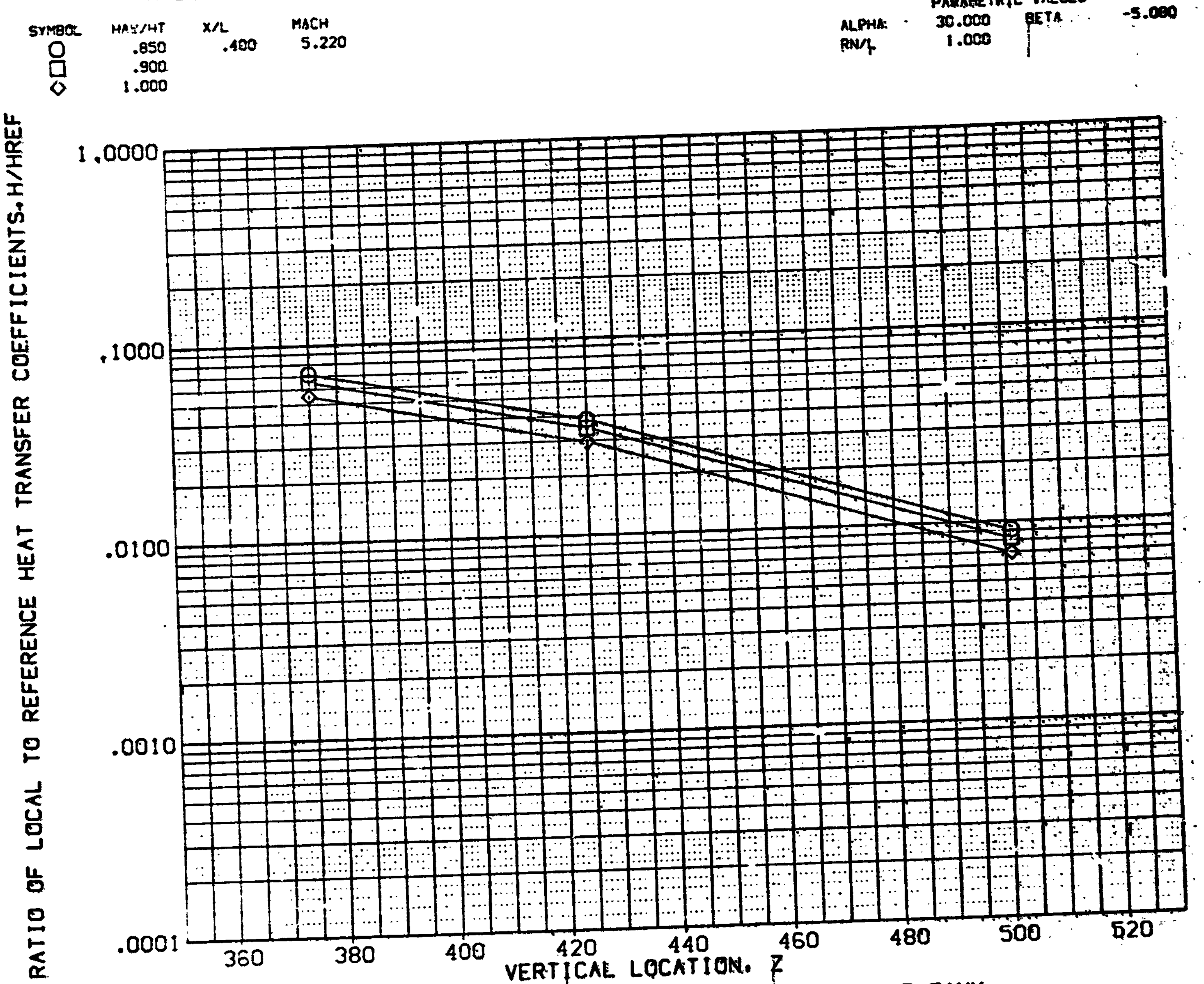

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-195 IH28 01+T1 BODY SIDEWALL (REVB12)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.500	5.220
□	.900		
◇	1.000		

	PARAMET	C VALUES	
ALPHA	30.000	BETA	-5.000
RN/L	1.000		

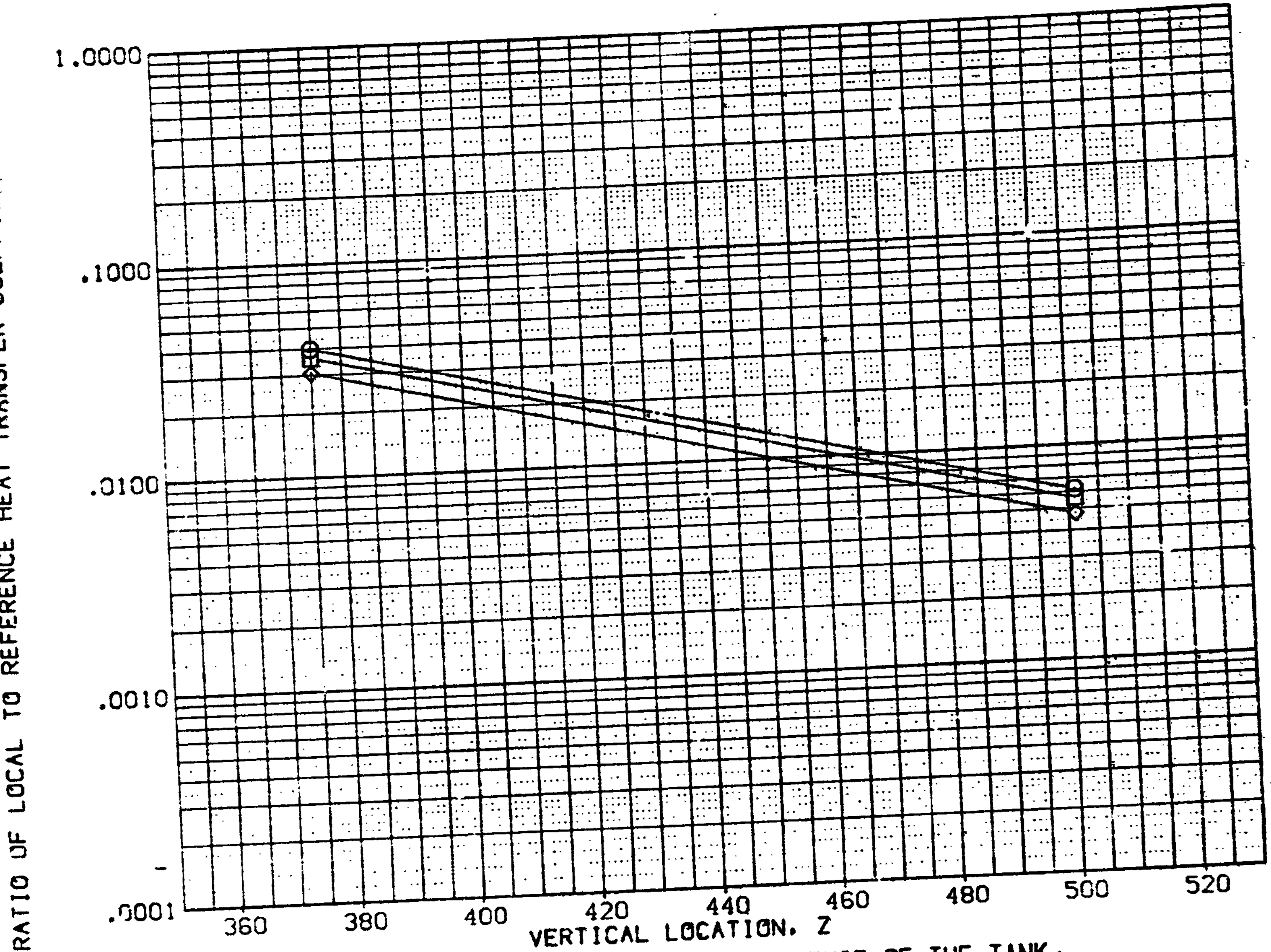

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

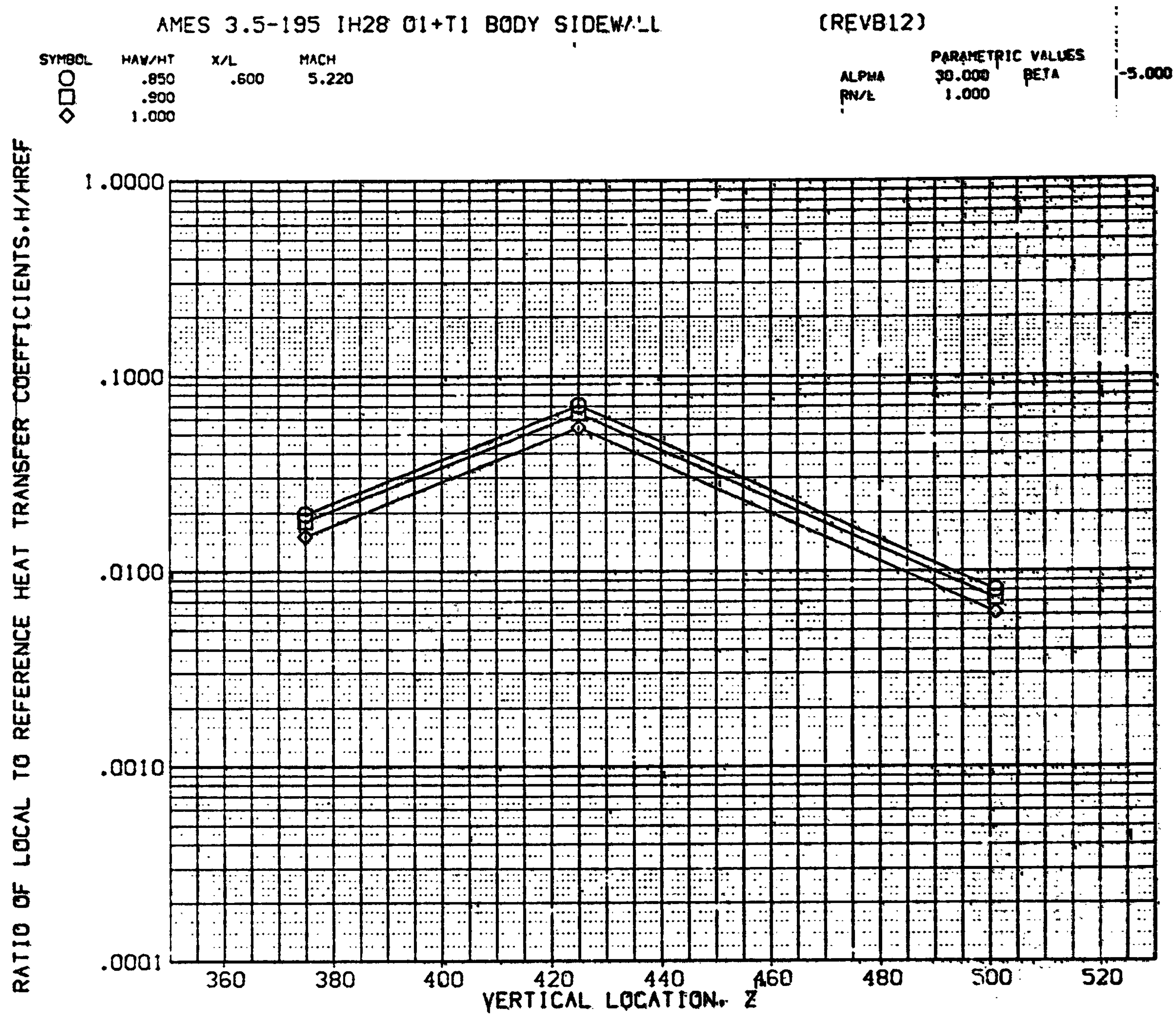

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-195 IH28 01+T1 BODY SIDEWALL (REVB12)

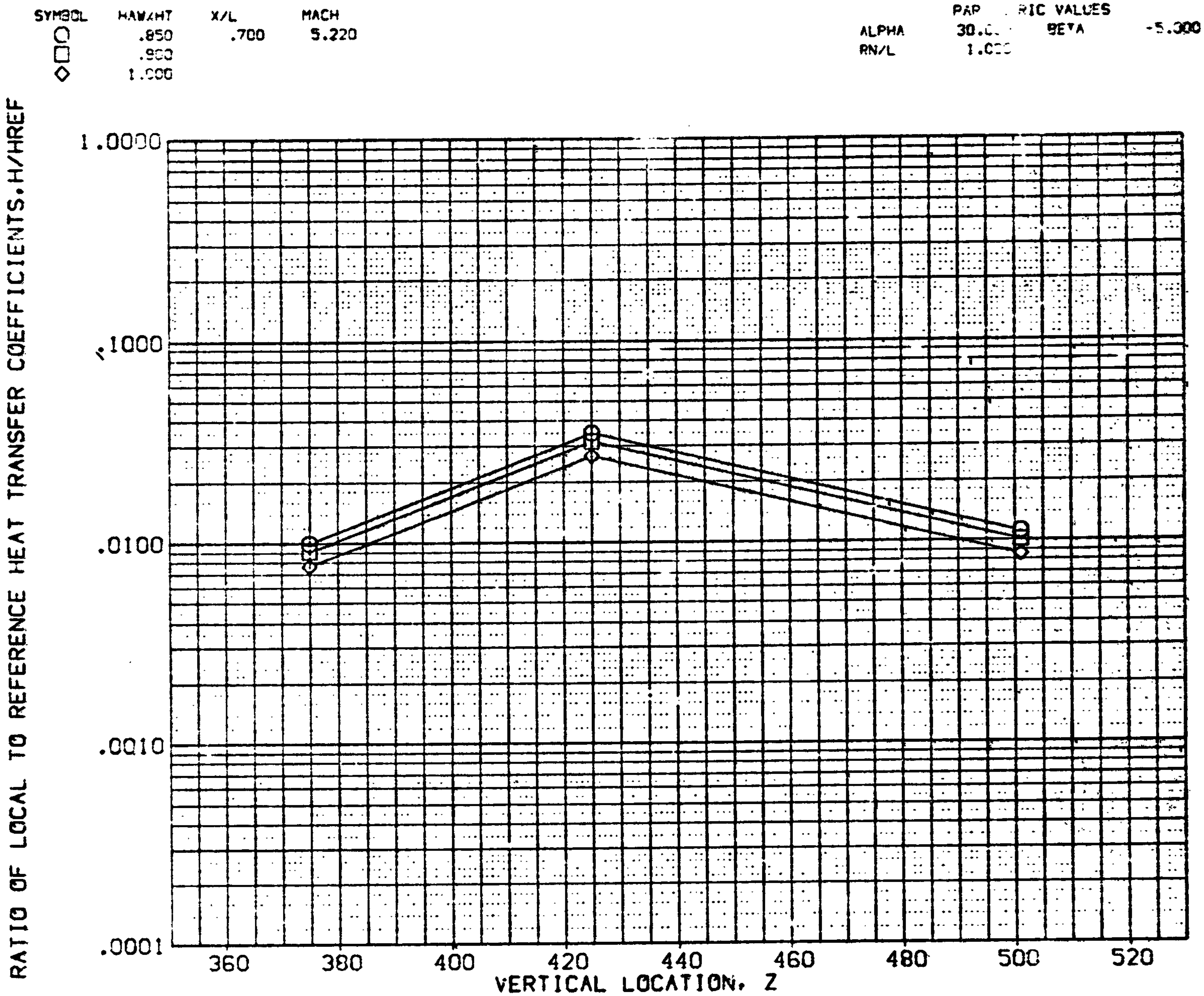

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

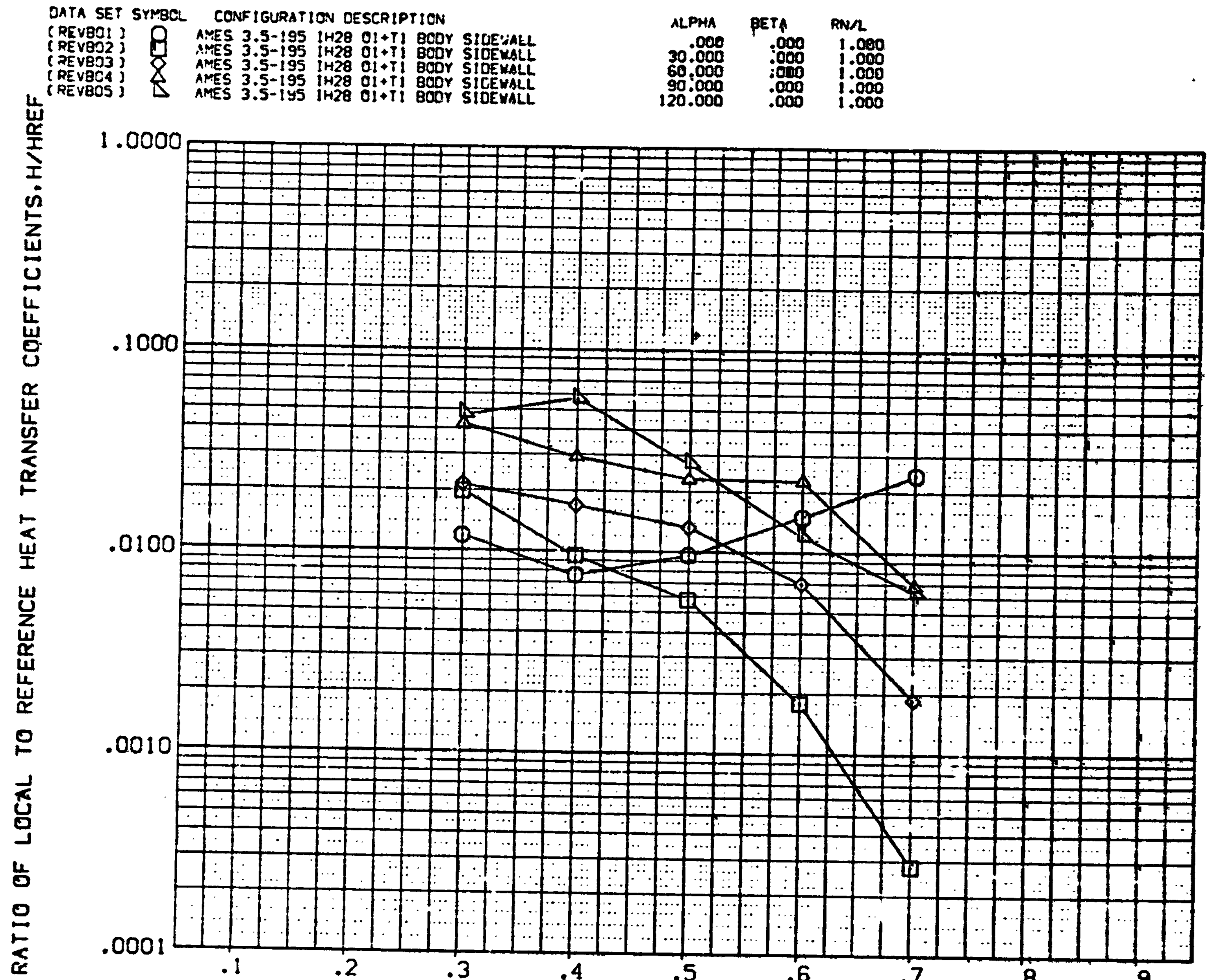

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

MACH = 5.300 HAW/HT= .900 Z = 375.000

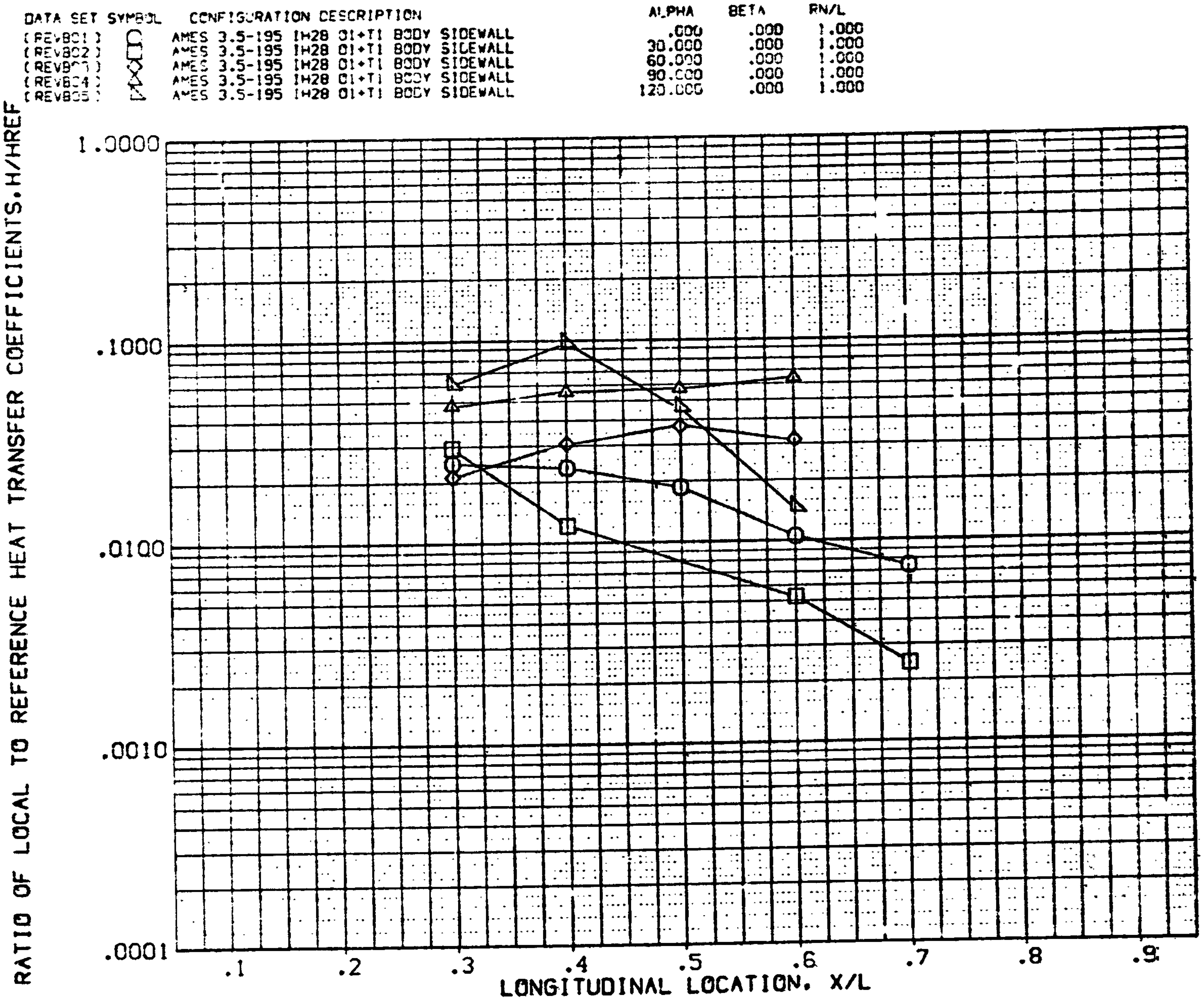

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

MACH = 5.300 HAW/HT= .900 Z = 425 000

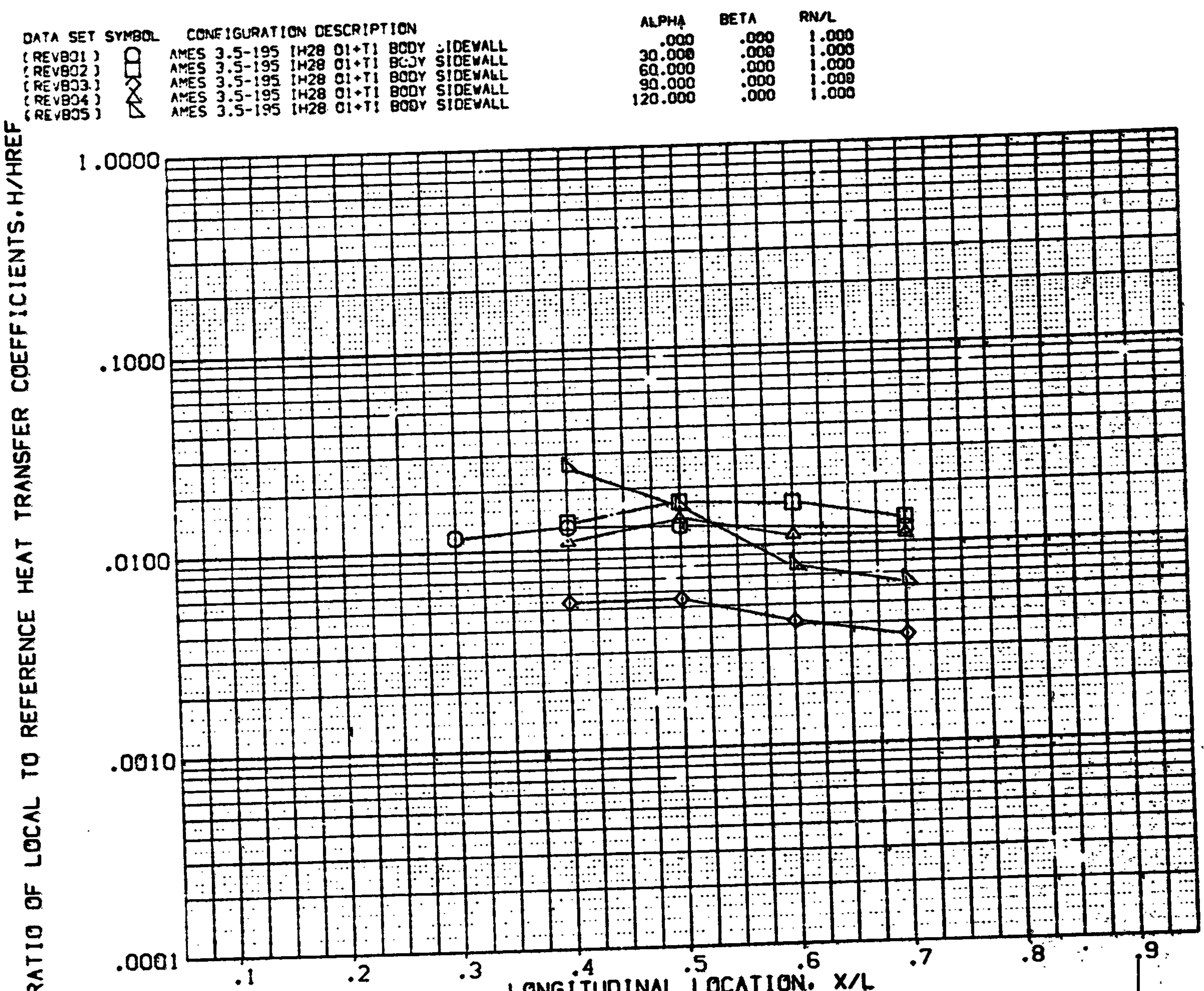

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

MACH = 5.300 HAW/HT= .900 Z = 501.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	RN/L
(REVB01)	○	AMES 3.5-195 IH28 01+T1 BODY SIDEWALL	.000	.000	1.000
(REVB09)	□	AMES 3.5-195 IH28 01+T1 BODY SIDEWALL	-30.000	.000	1.000
(REVB08)	◇	AMES 3.5-195 IH28 01+T1 BODY SIDEWALL	-60.000	.000	1.000
(REVB07)	△	AMES 3.5-195 IH28 01+T1 BODY SIDEWALL	-90.000	.000	1.000
(REVB06)	⊿	AMES 3.5-195 IH28 01+T1 BODY SIDEWALL	-120.000	.000	1.000

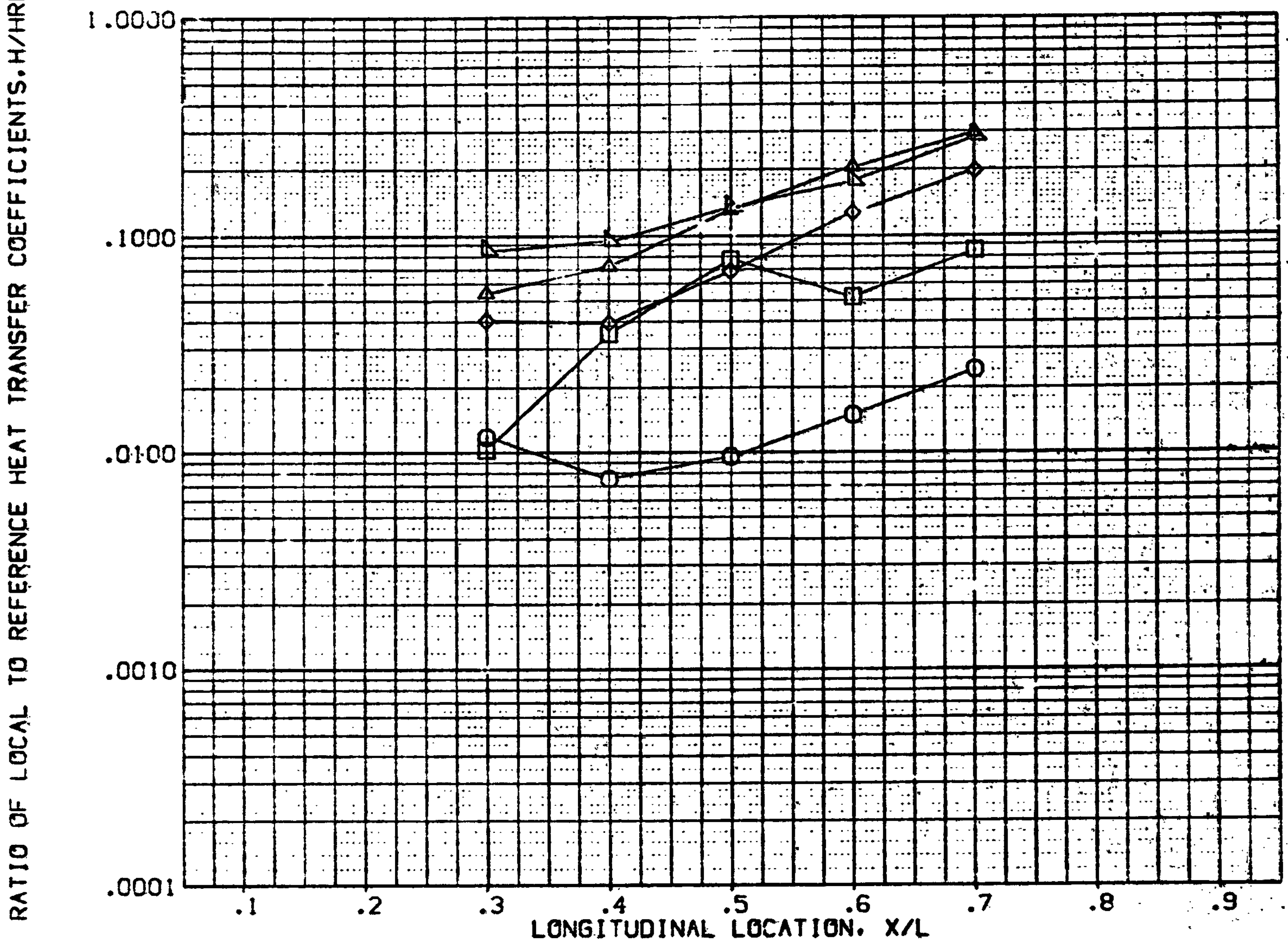

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

MACH = 5.300 HAW/HT= .900 Z = 375.000

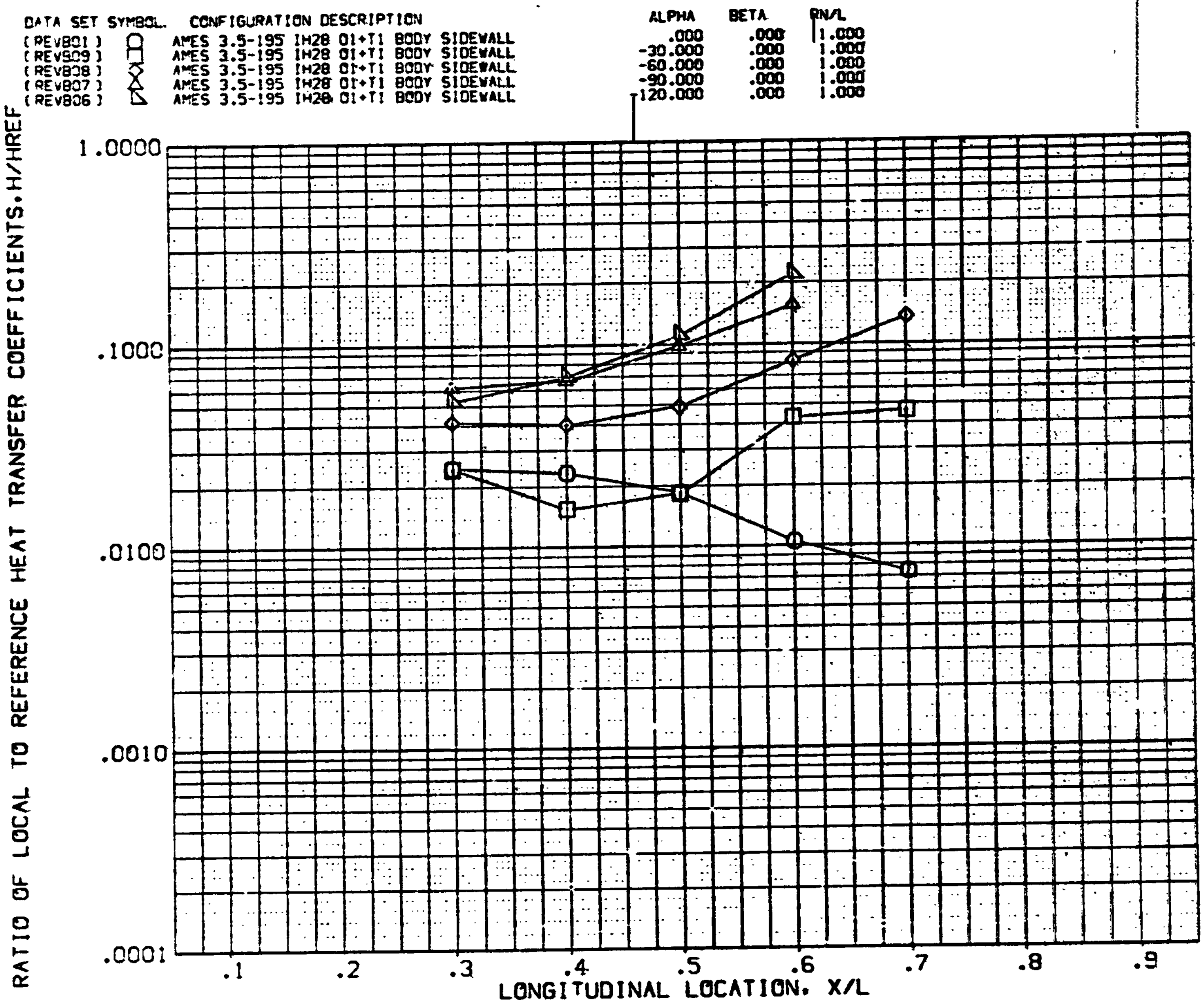

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

MACH = 5.300 HAW/HT= .900 Z = 425.000

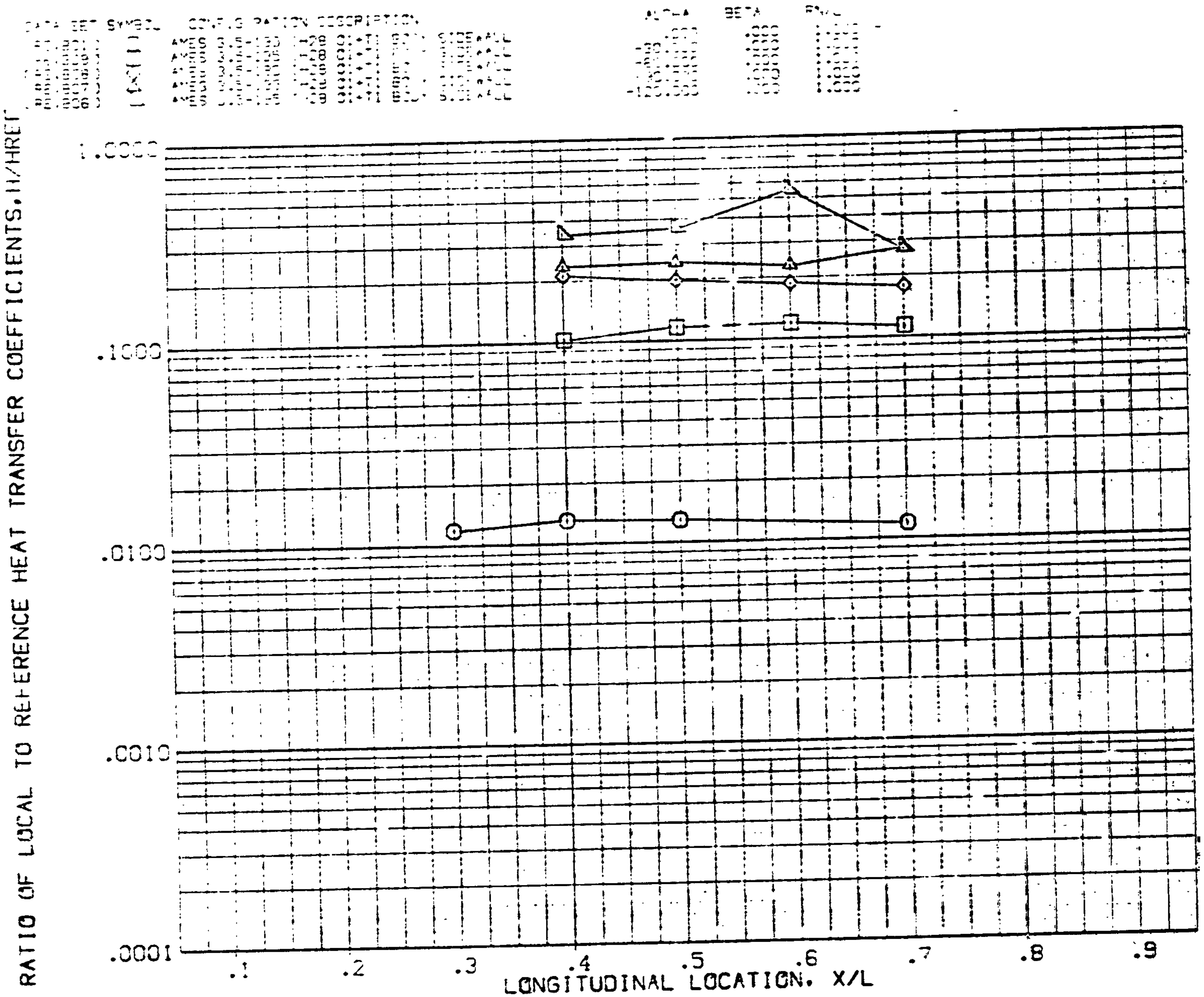

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

MACH = 5.300 Z = 501.000

REPRODUCIBILITY OF THE ORIGINAL PAGE IS POOR

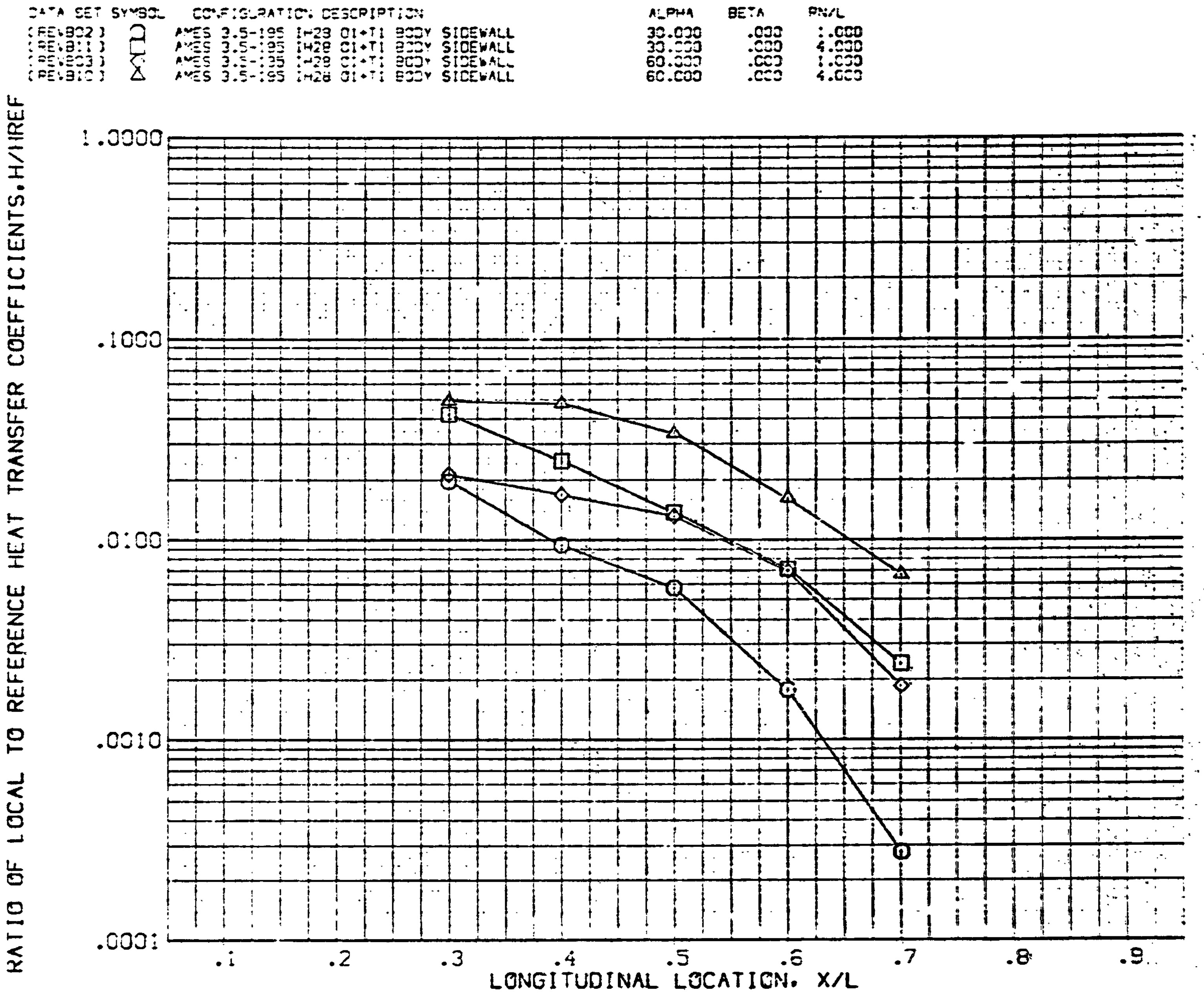

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

MACH = 5.300 HW/HT= .900 Z = 375.000

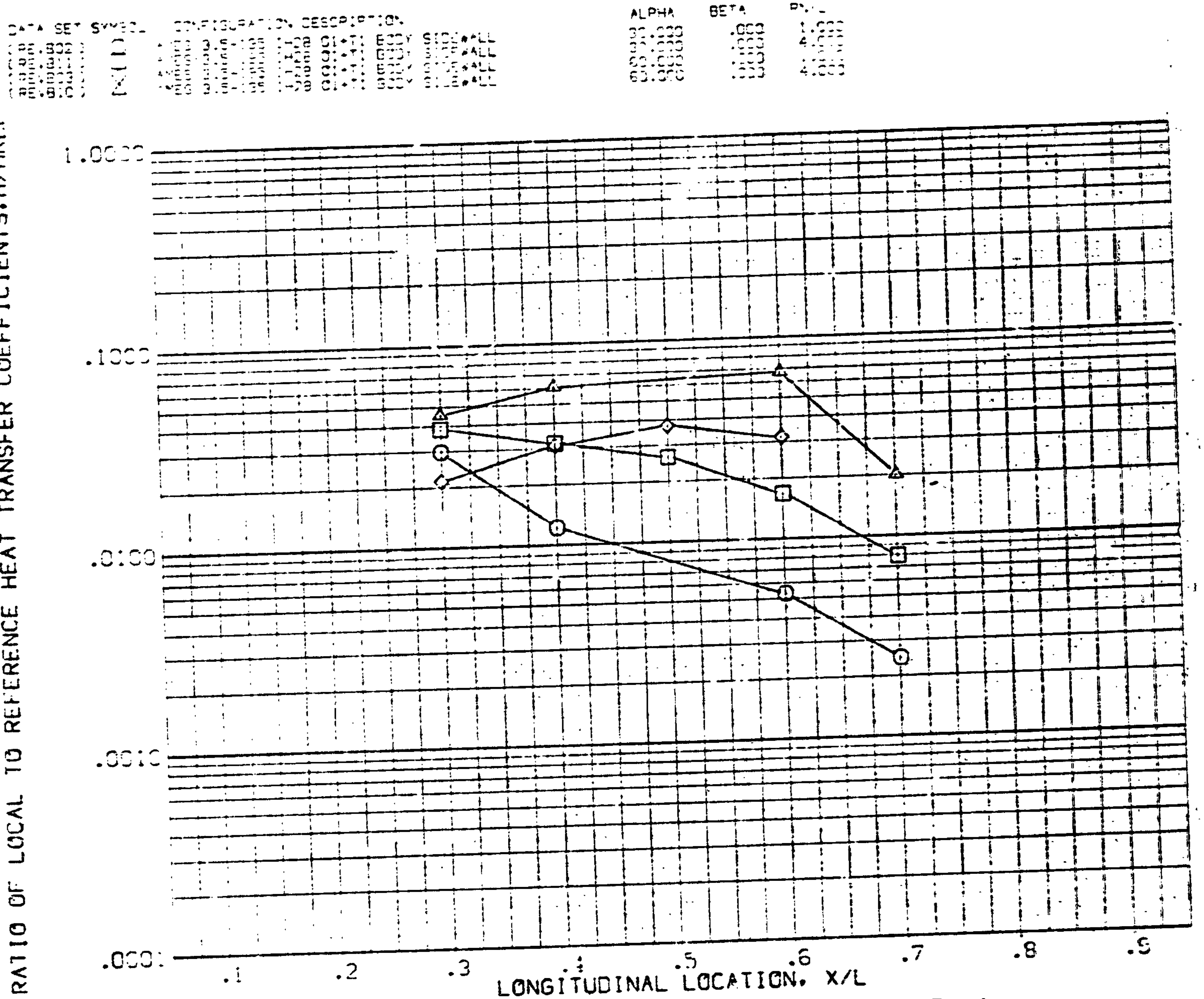

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

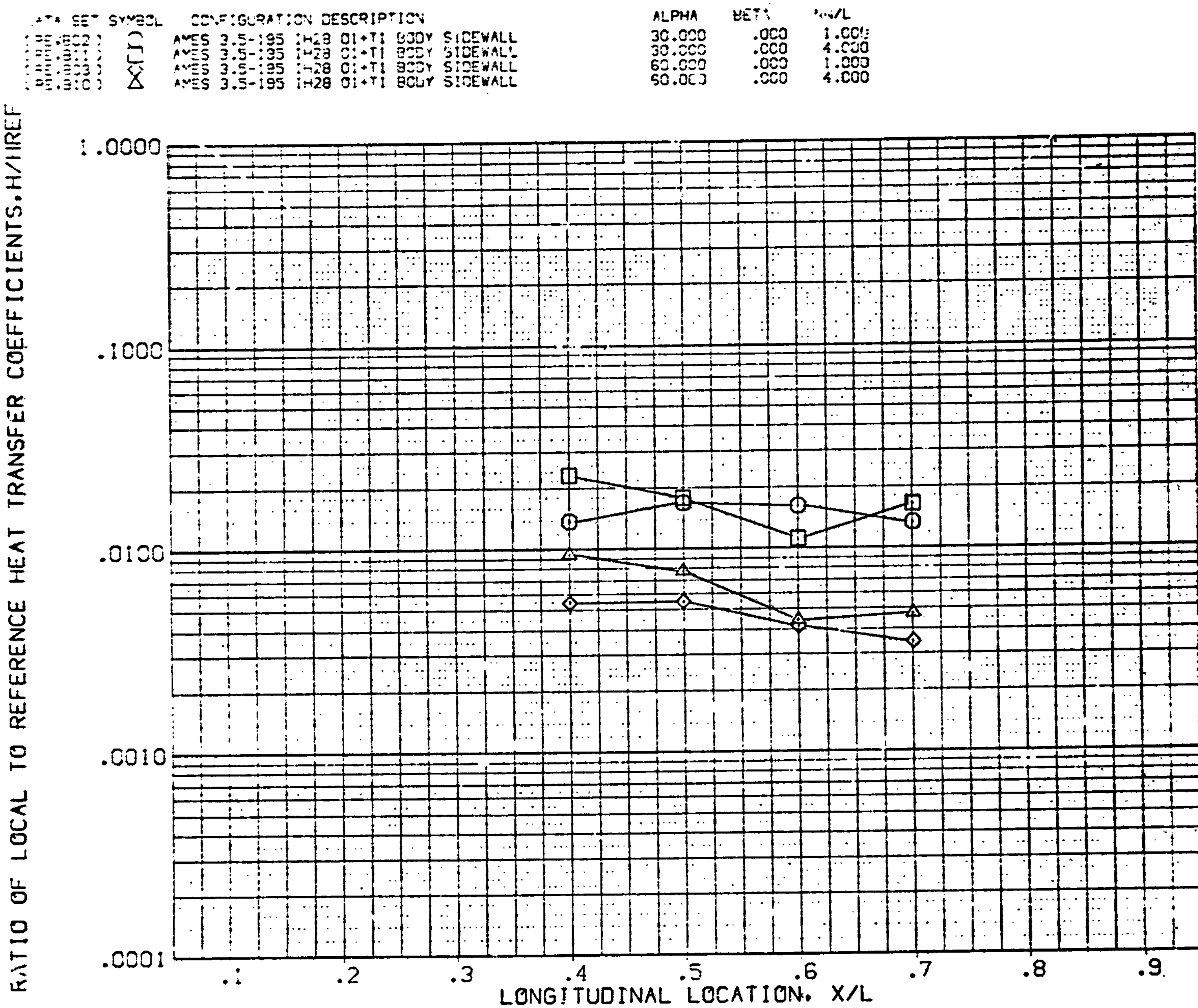

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

MACH = 5.300 HAW/HT= .900 Z = 501.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	RN/L
(RE.802)	○	AMES 3.5-195 IH28 O1+T1 BODY SIDEWALL	30.000	.000	1.000
(REV812)	□	AMES 3.5-195 IH28 O1+T1 BODY SIDEWALL	30.000	-5.000	1.000

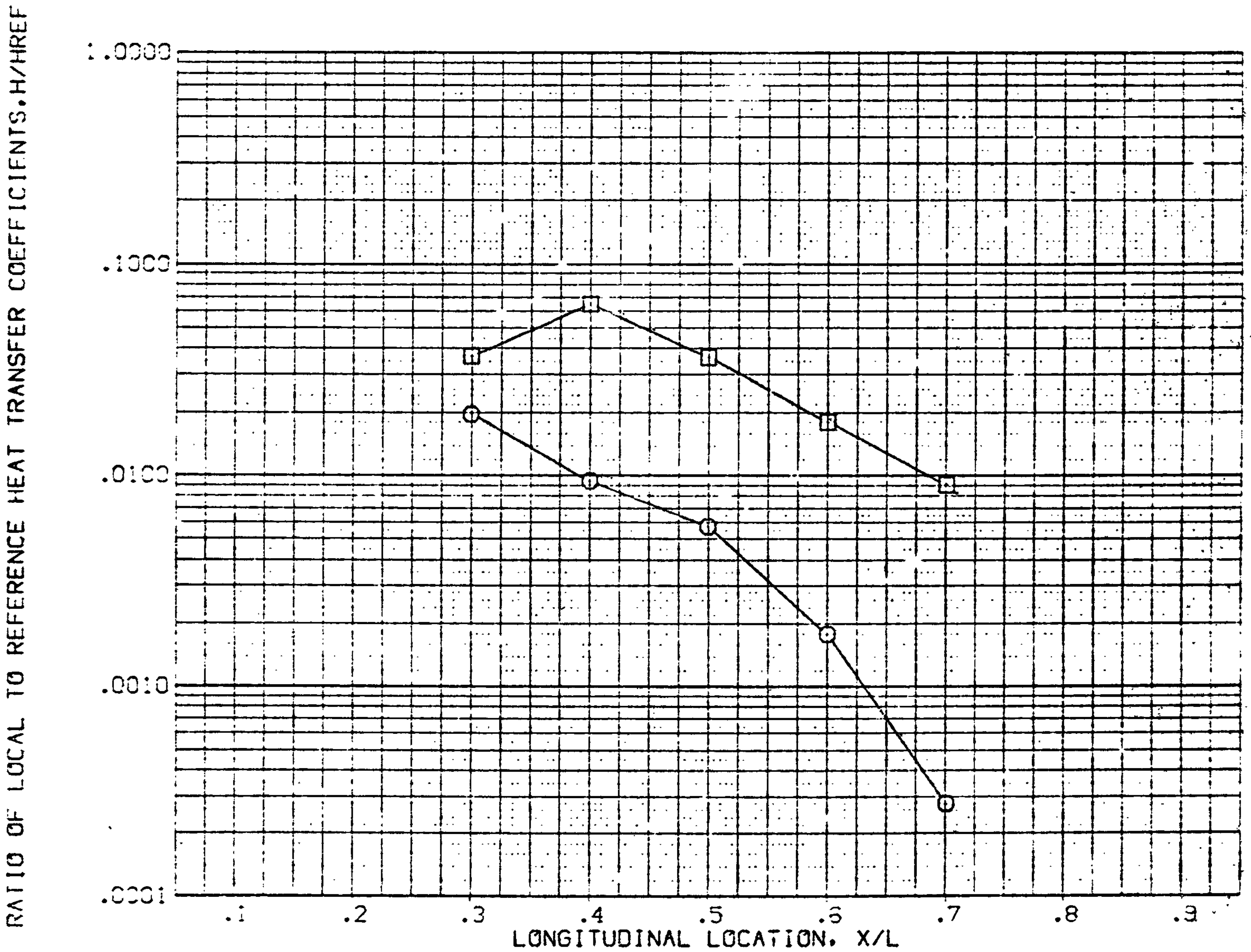

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

MACH = 5.300 HAW/HT = .900 Z = 375.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	RN/L
(REVB02)	○	AMES 3.5-195 IH28 O1+T1 BODY SIDEWALL	30.000	.000	1.000
(REVB12)	□	AMES 3.5-195 IH28 O1+T1 BODY SIDEWALL	30.000	-5.000	1.000

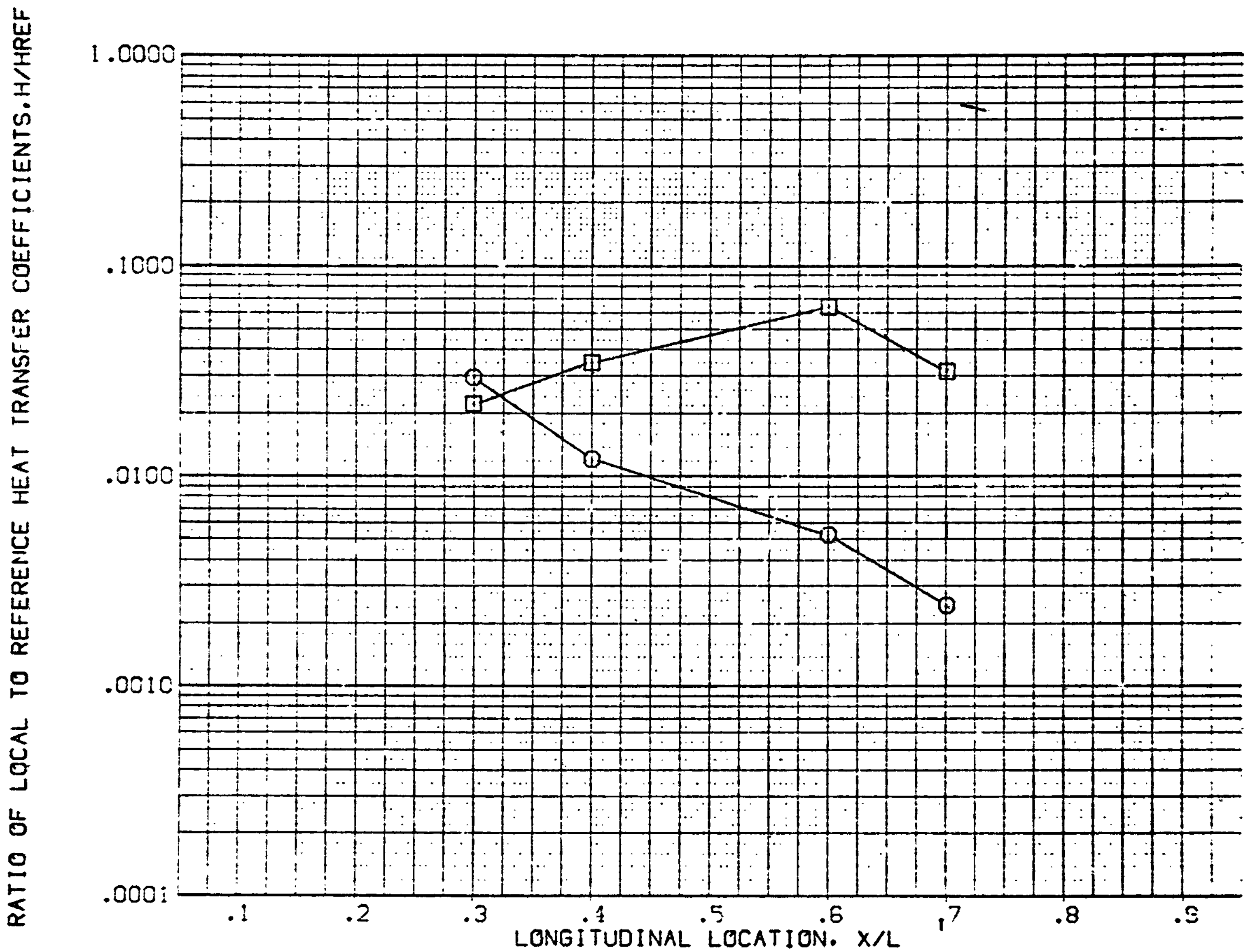

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

MACH = 5.300 HAW/HT= .900 Z = 425.000

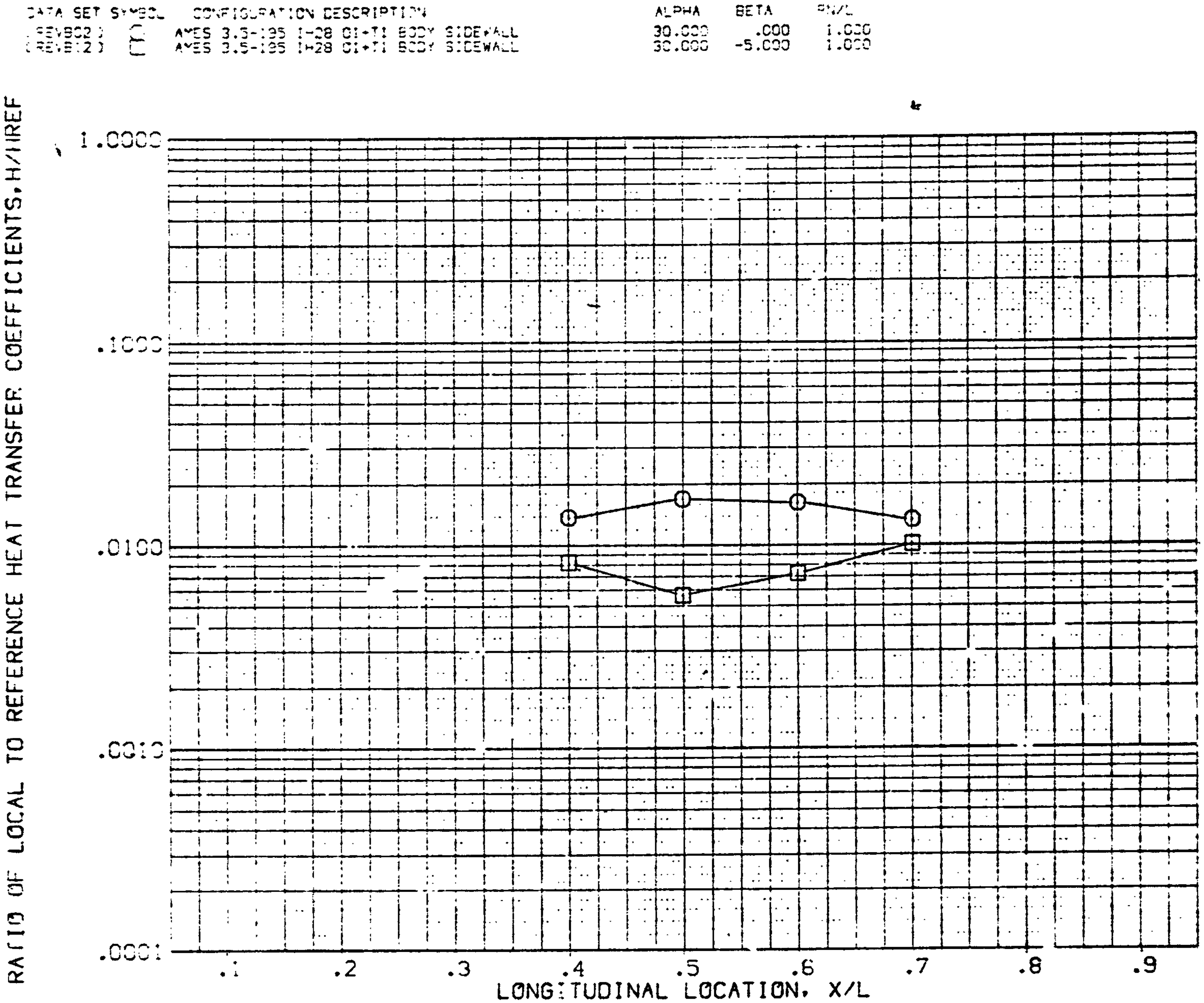

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

MACH = 5.300 HAW/HT= .900 Z = 501.000

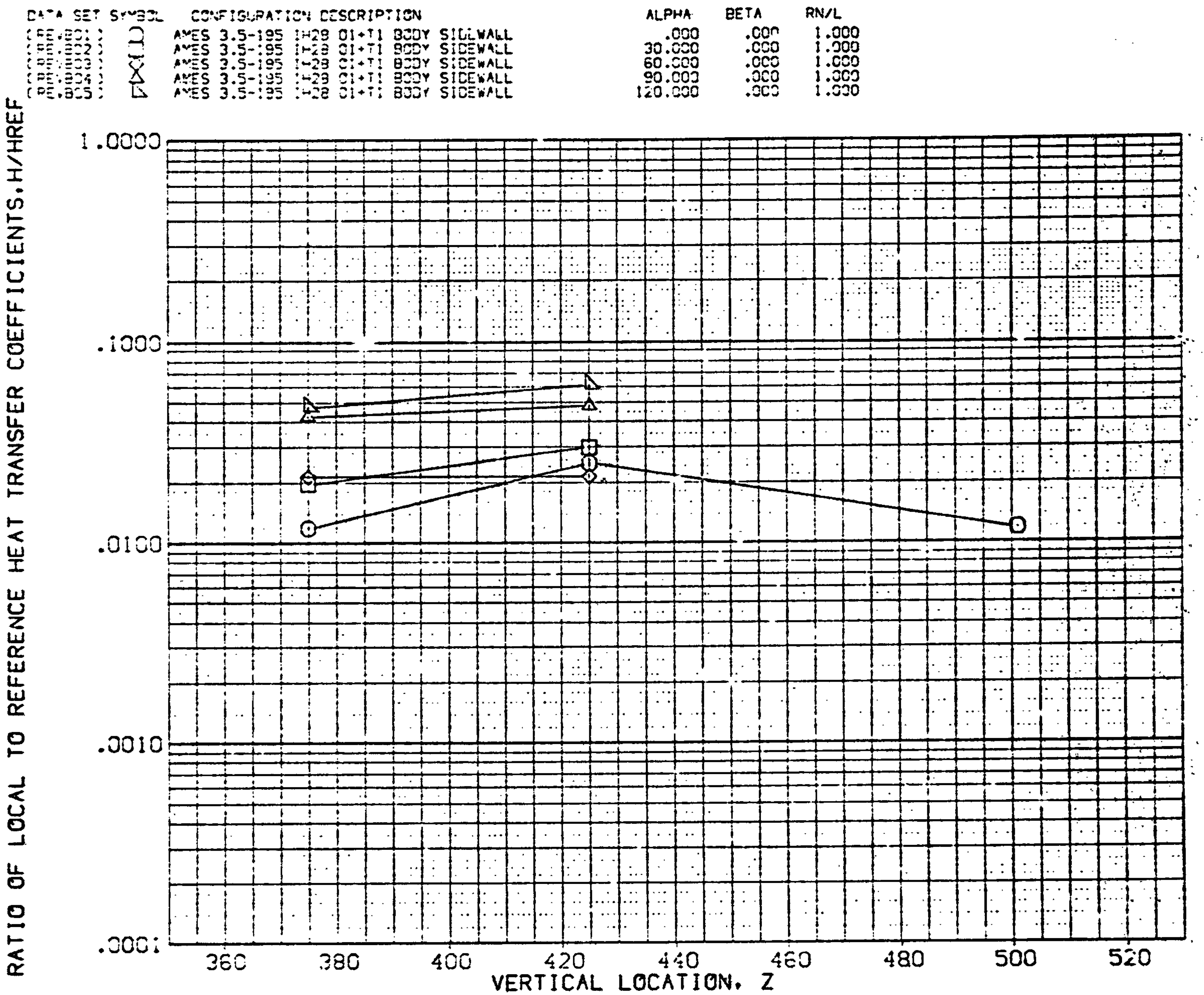

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

MACH = 5.300 HAW/HT= .900 Y/L = .000

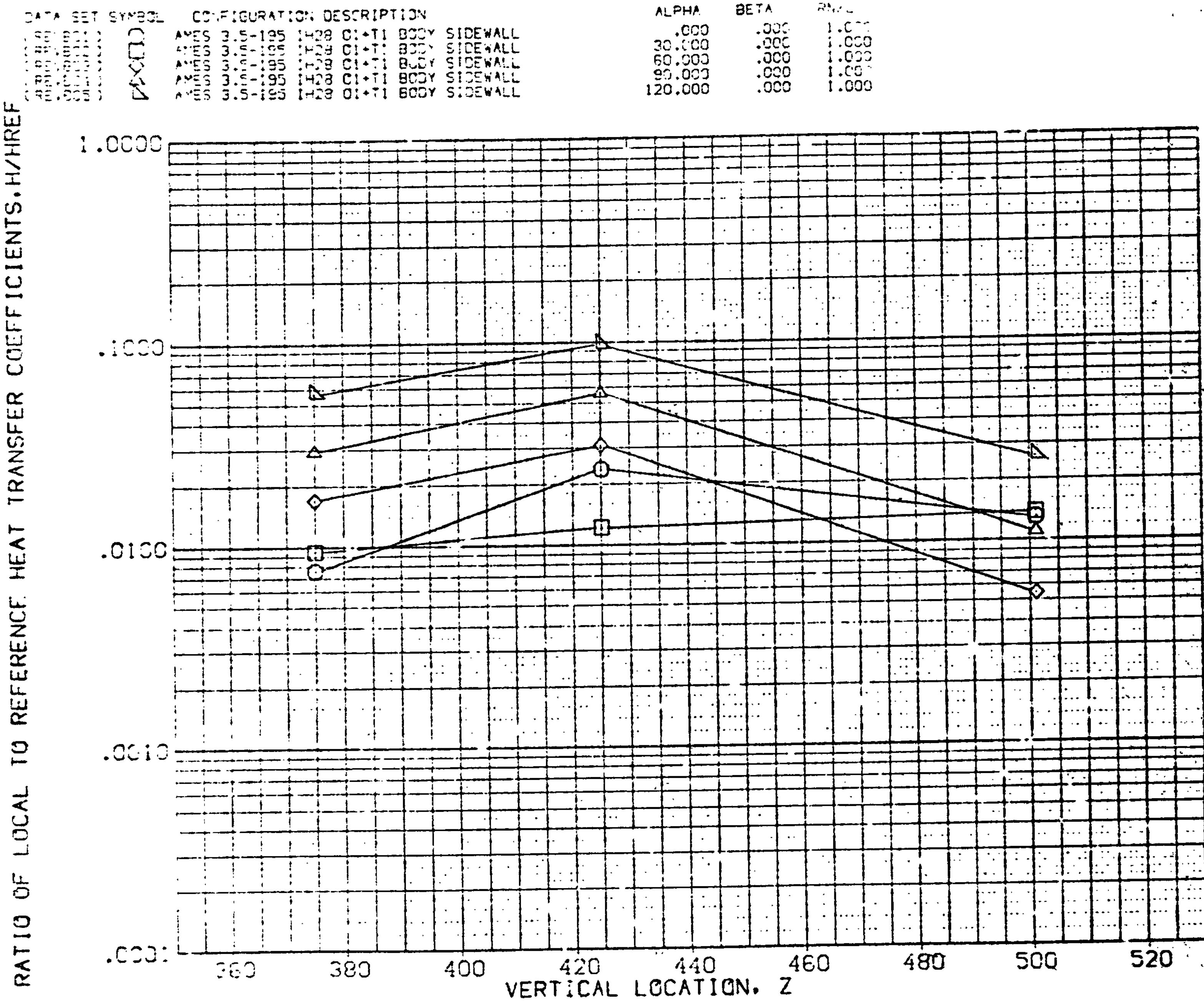

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

MACH = 5.300 HAW/HT= .300 X/L = .400

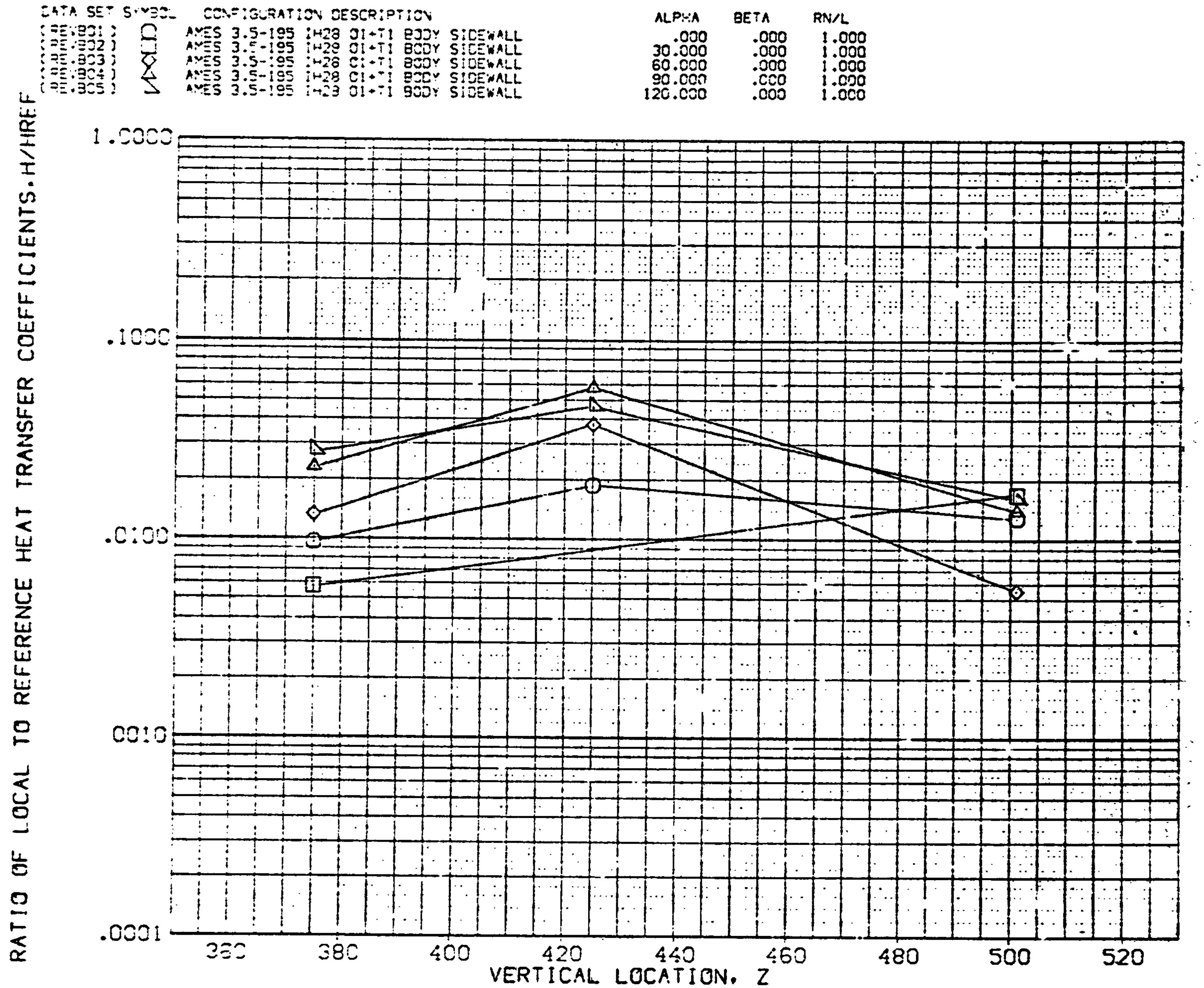

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

MACH = 5.300 HAW/HT= .900 X/L = .500

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	
(RE.B01)	○	AMES 3.5-195 IH28 O1+T1 BODY SIDEWALL	.000	.000	1.000
(RE.B02)	□	AMES 3.5-195 IH28 O1+T1 BODY SIDEWALL	30.000	.000	1.000
(RE.B03)	◇	AMES 3.5-195 IH28 O1+T1 BODY SIDEWALL	60.000	.000	1.000
(RE.B04)	△	AMES 3.5-195 IH28 O1+T1 BODY SIDEWALL	90.000	.000	1.000
(RE.B05)	◺	AMES 3.5-195 IH28 O1+T1 BODY SIDEWALL	120.000	.000	1.000

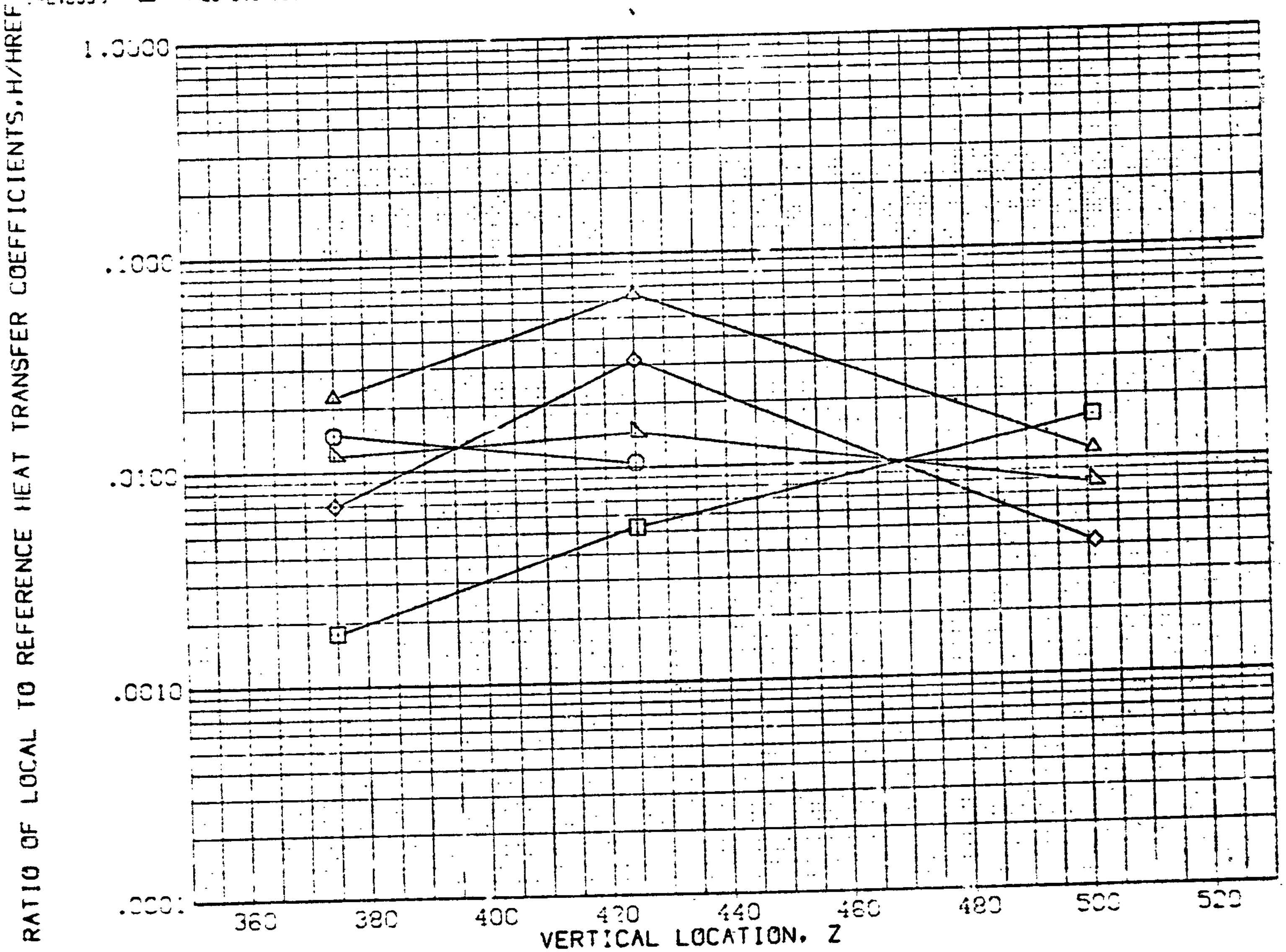

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

MACH = 5.300 HAW/HT= .900 Y/L = .300

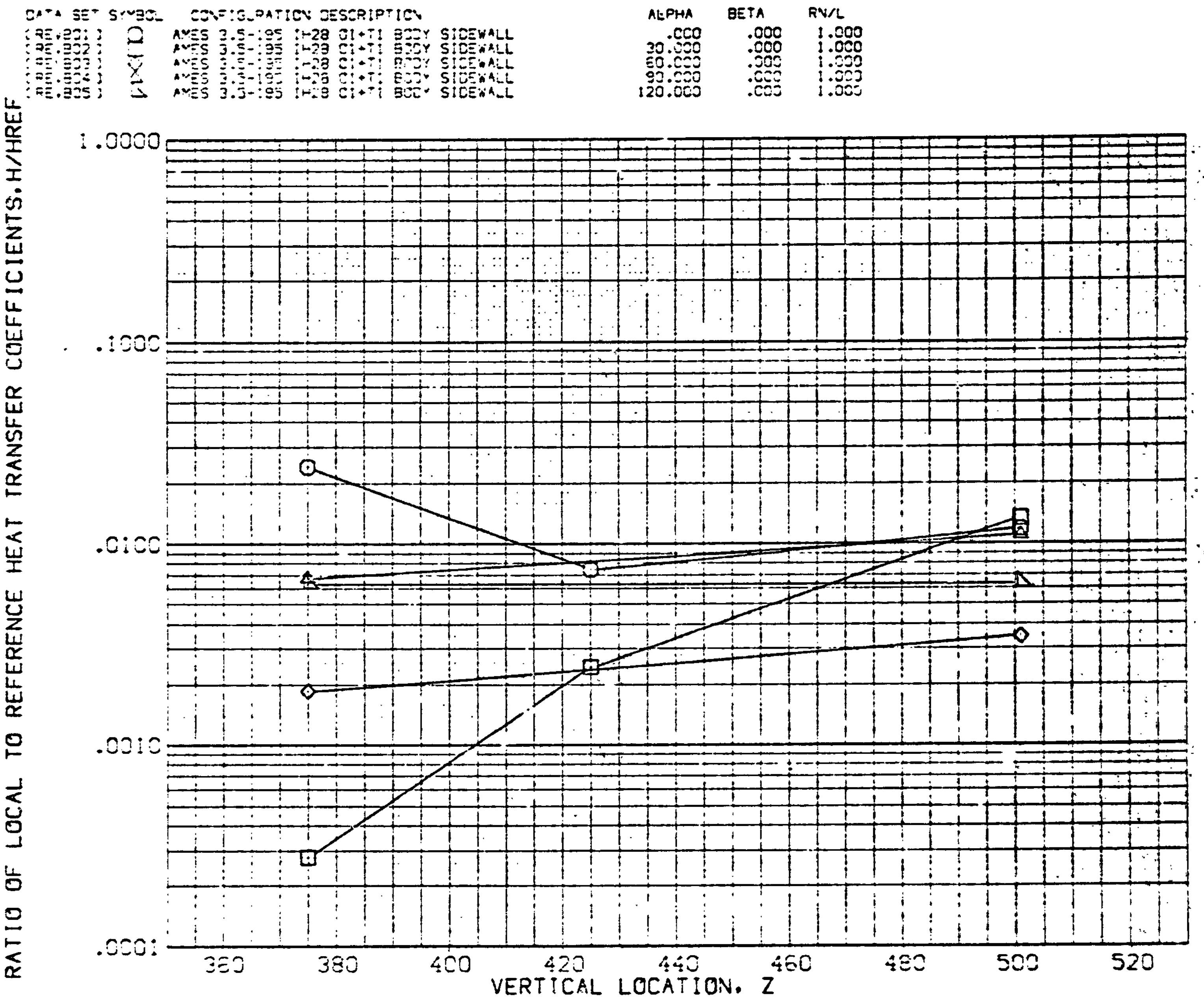

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

MACH = 5.300 HW/HT= .800 X/L = .700

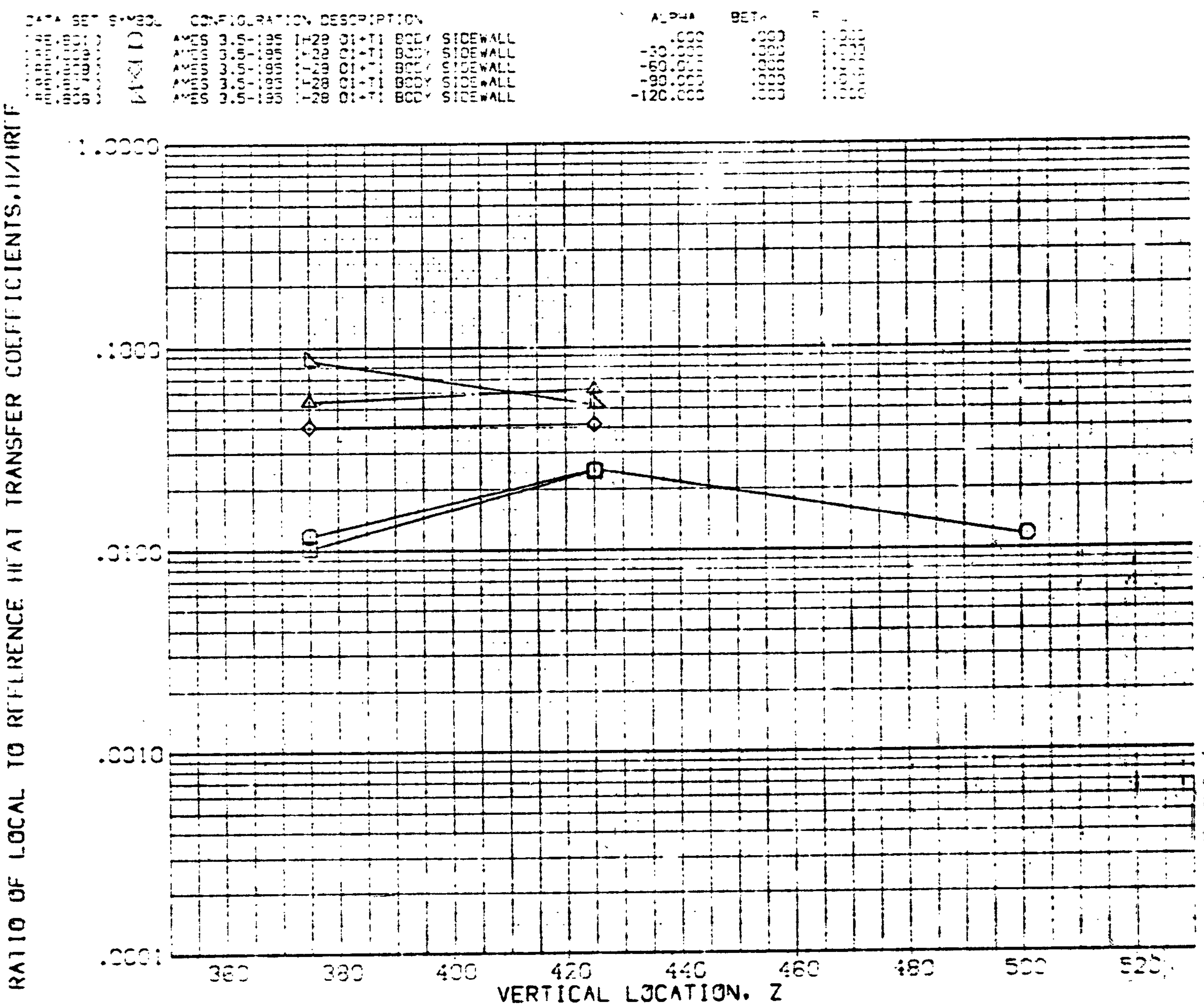

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

MACH = 5.000 .900 Y/L = .300

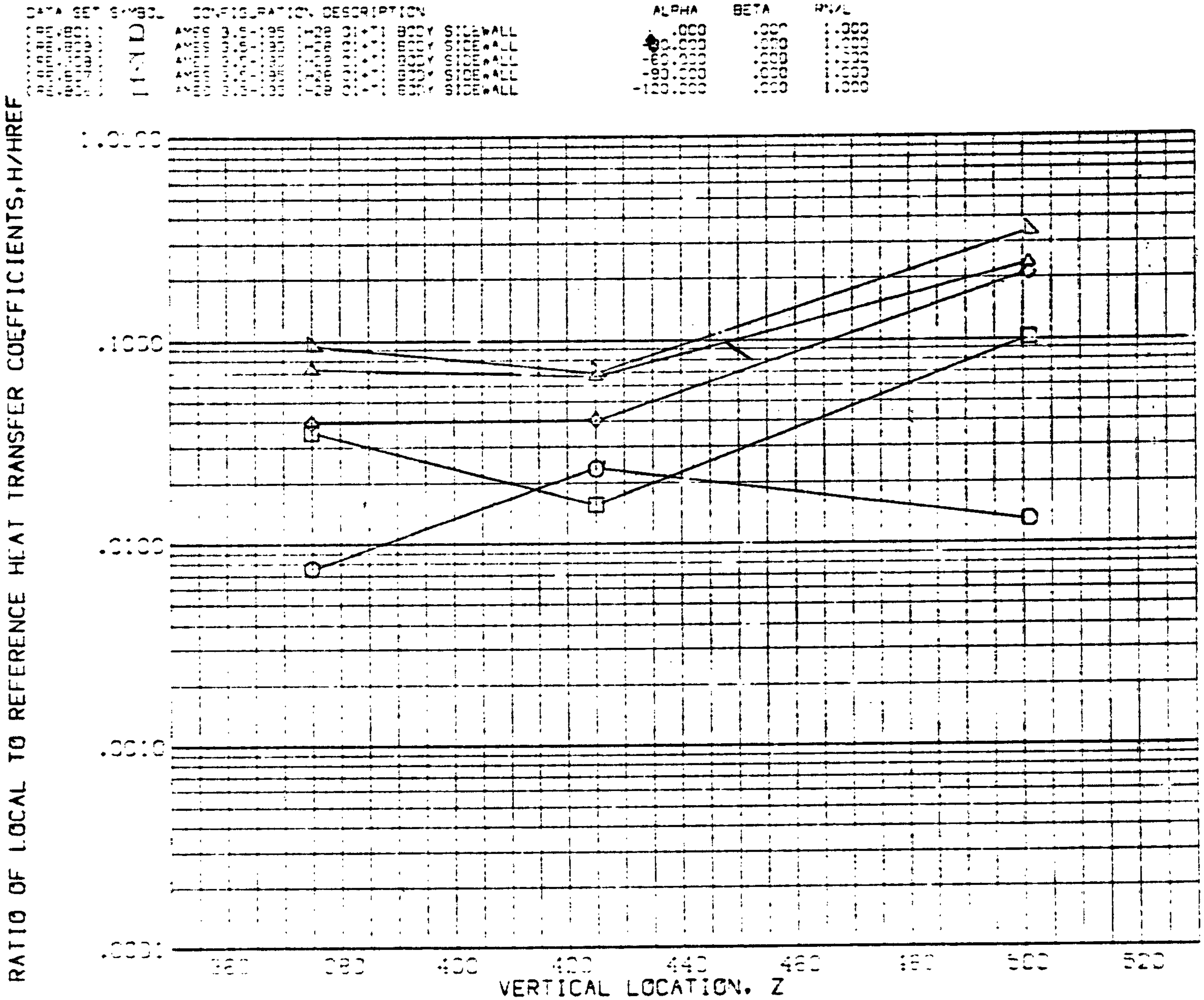

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

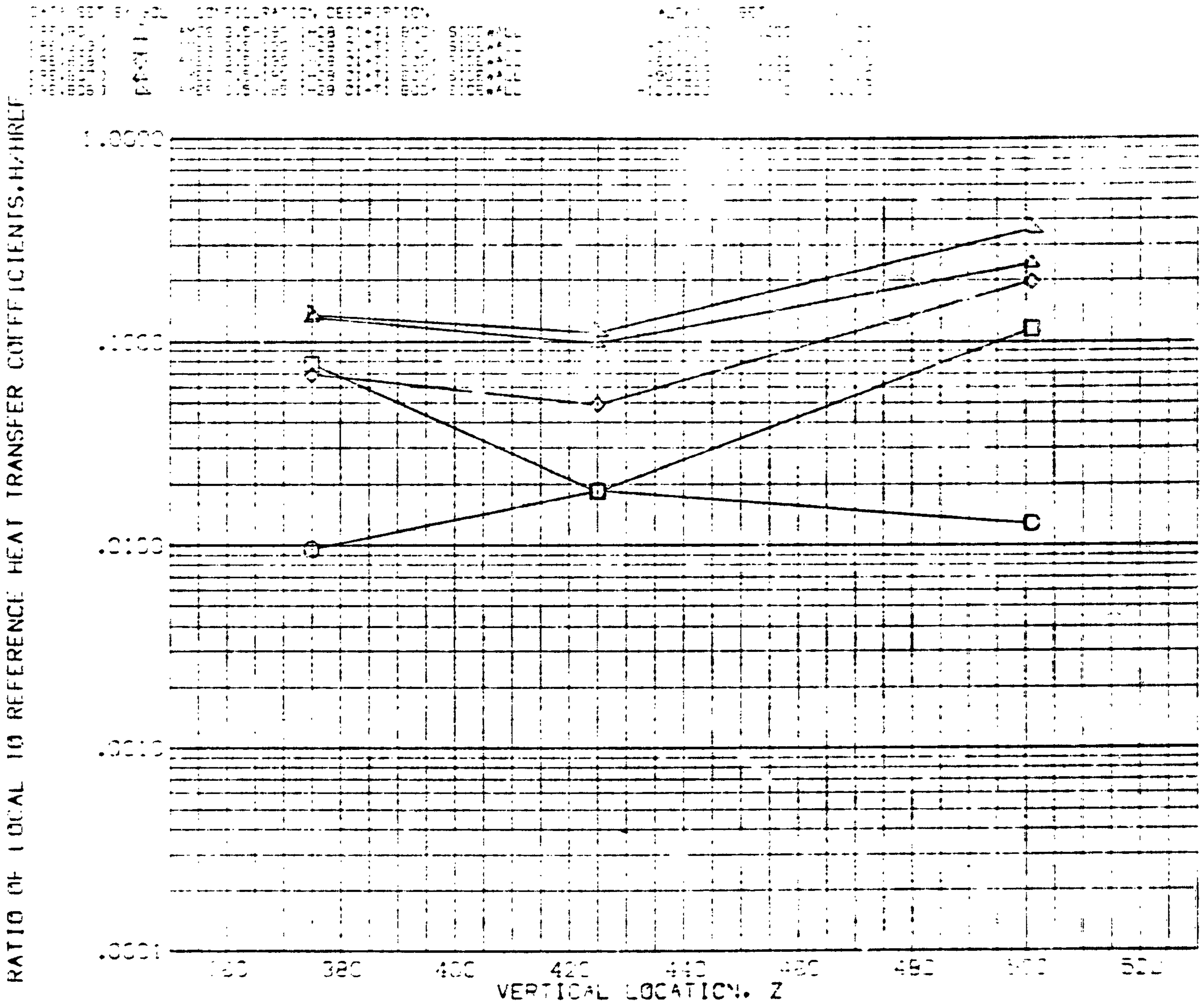

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

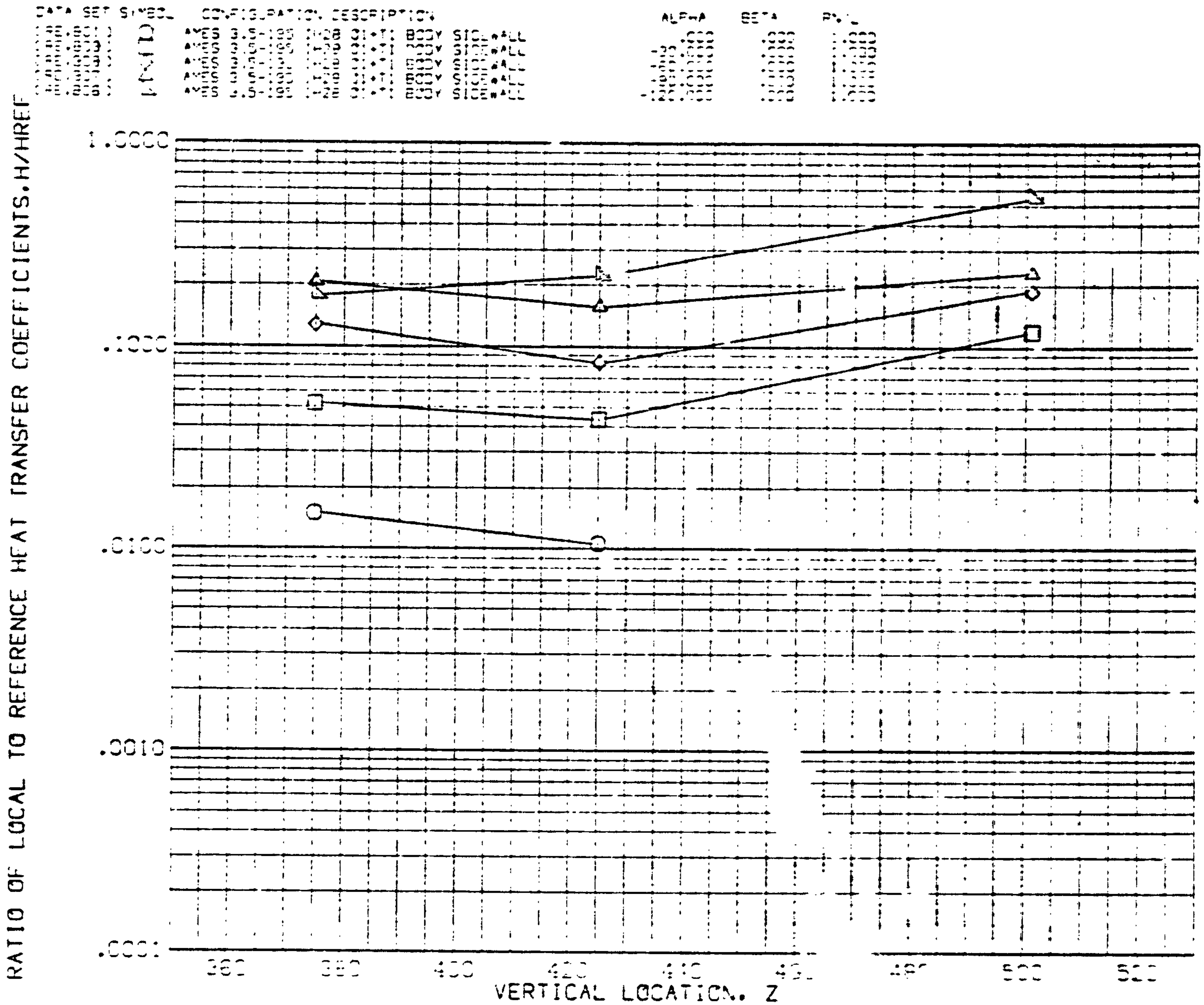

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

MACH = 5.300 PAGE 645

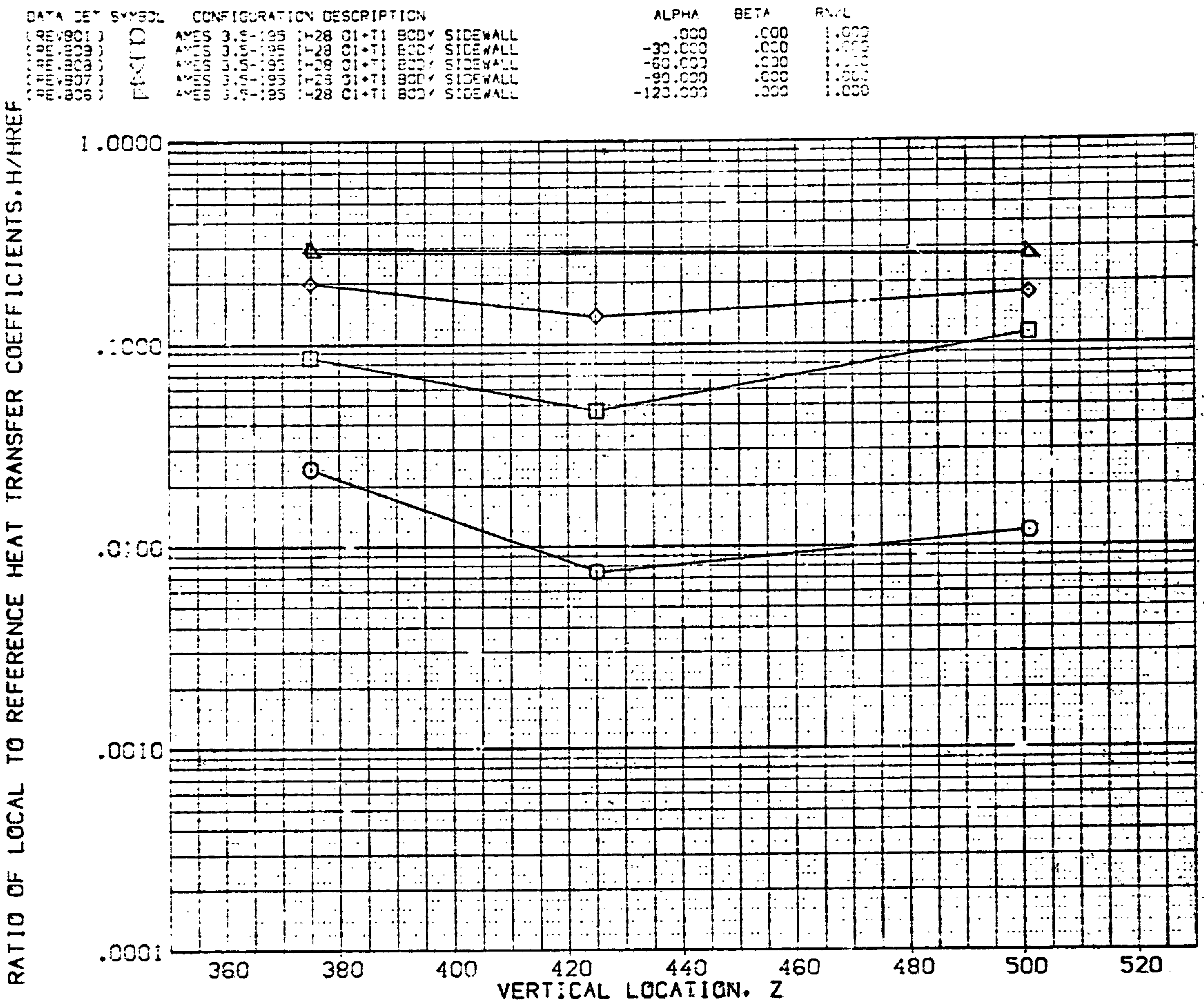

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

MACH = 5.300 HAW/HT= .900 X/L = .750

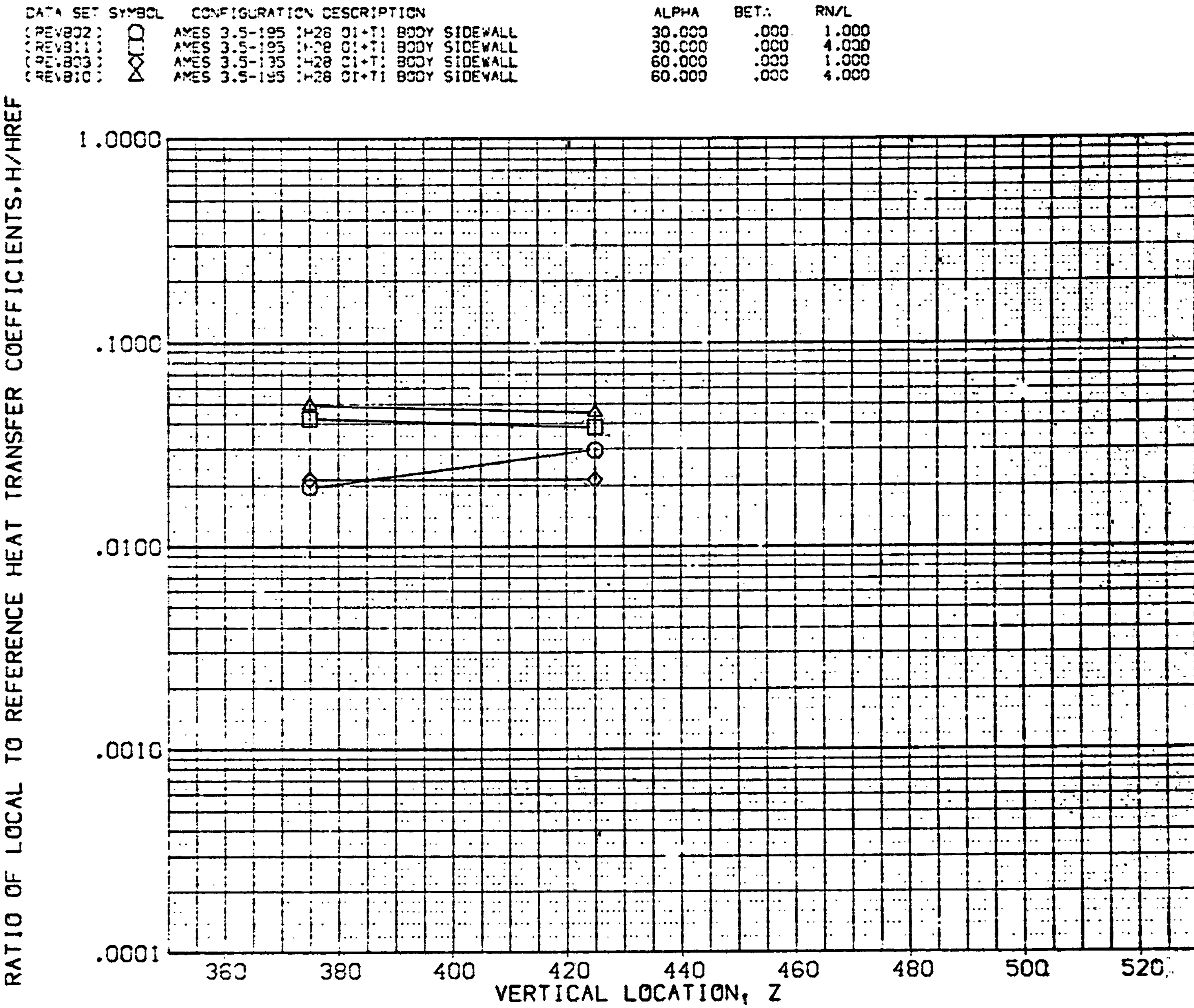

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

MACH = 5.300 HAW/HT= .900 X/L = .300

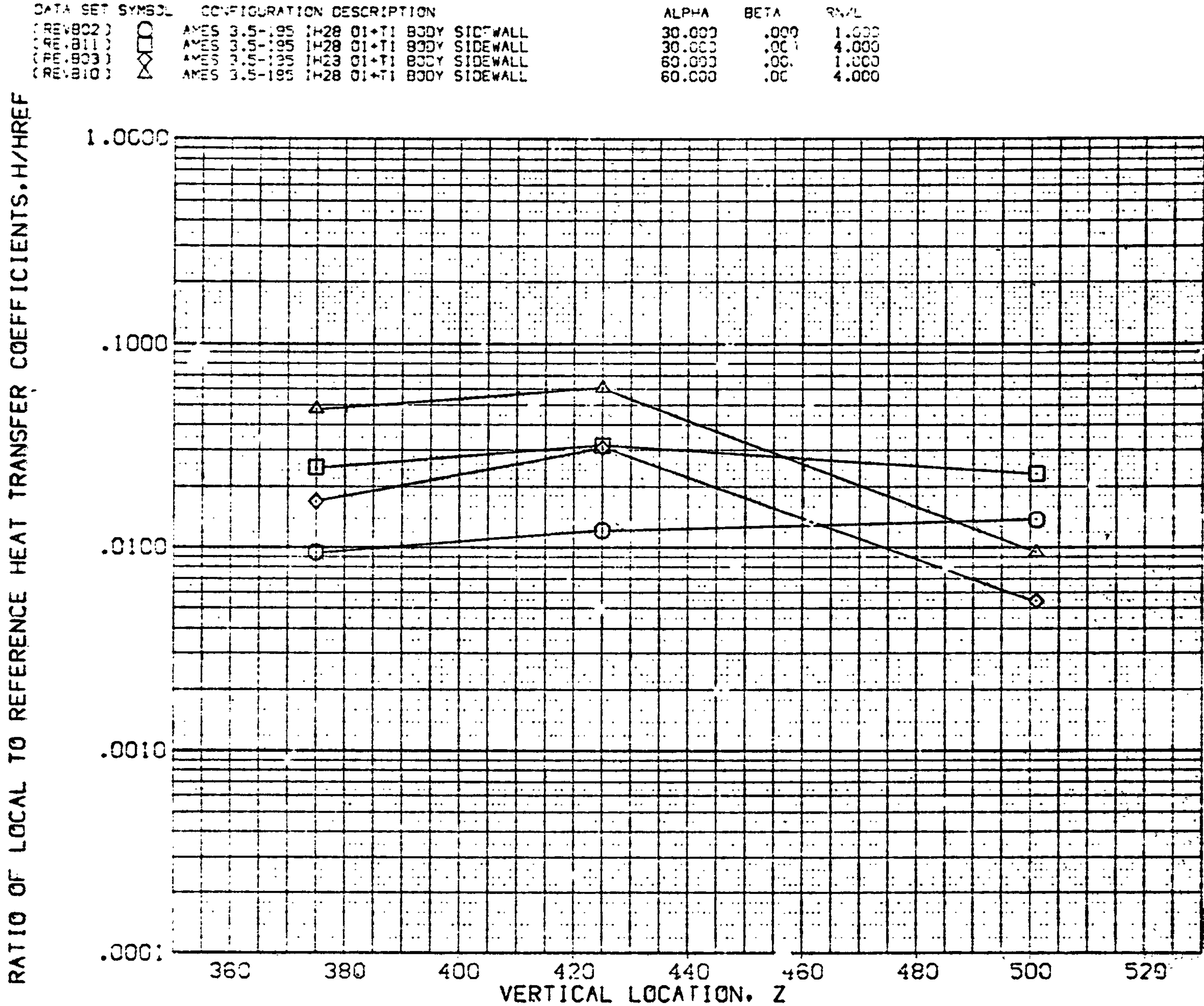

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

MACH = 5.300 HAW/HT= .900 X/L = .400

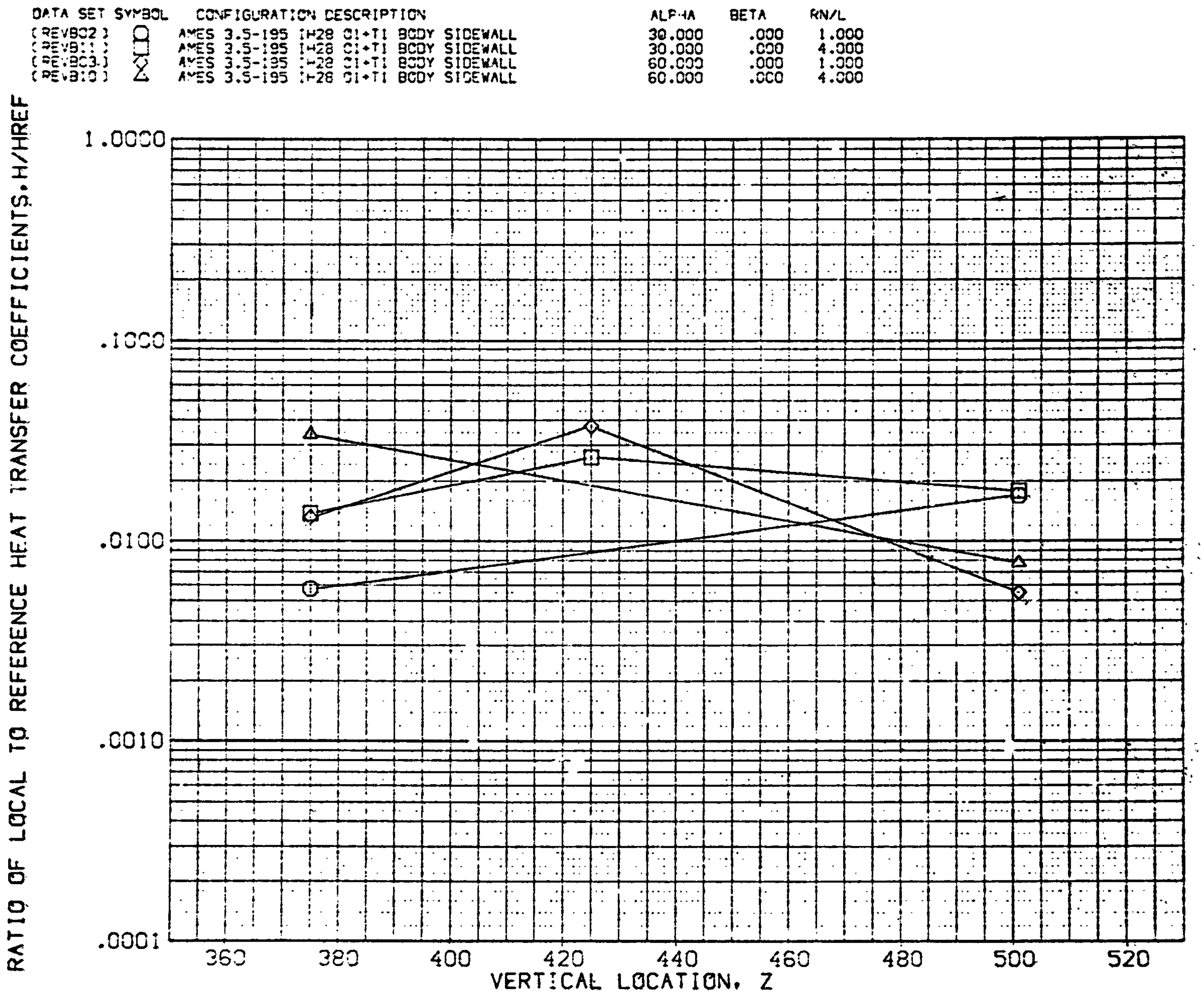

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

MACH = 5.300 ... = .900 X/L = .500

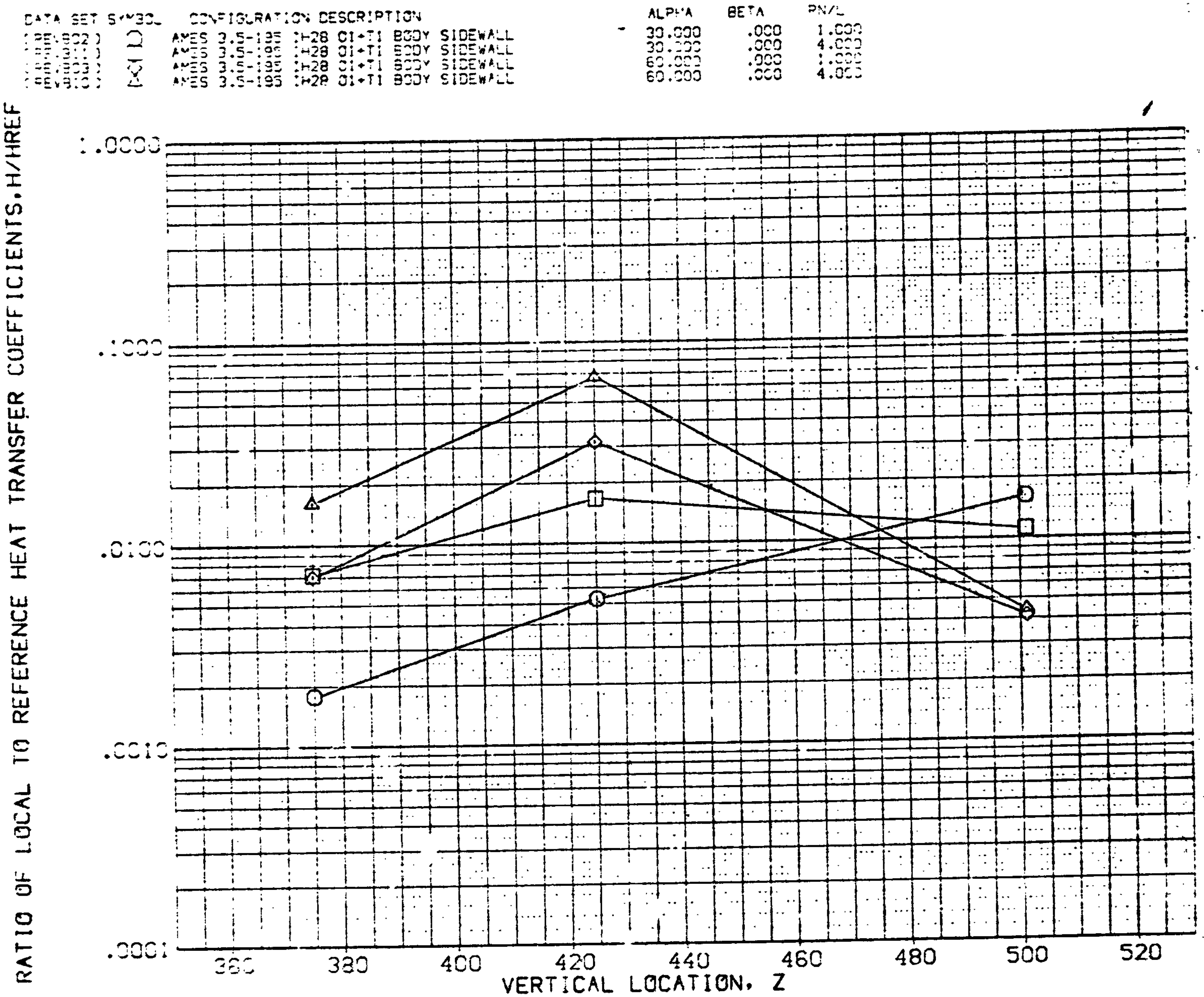

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

MACH = 5.300 HAW/HT= .900 X/L = .600

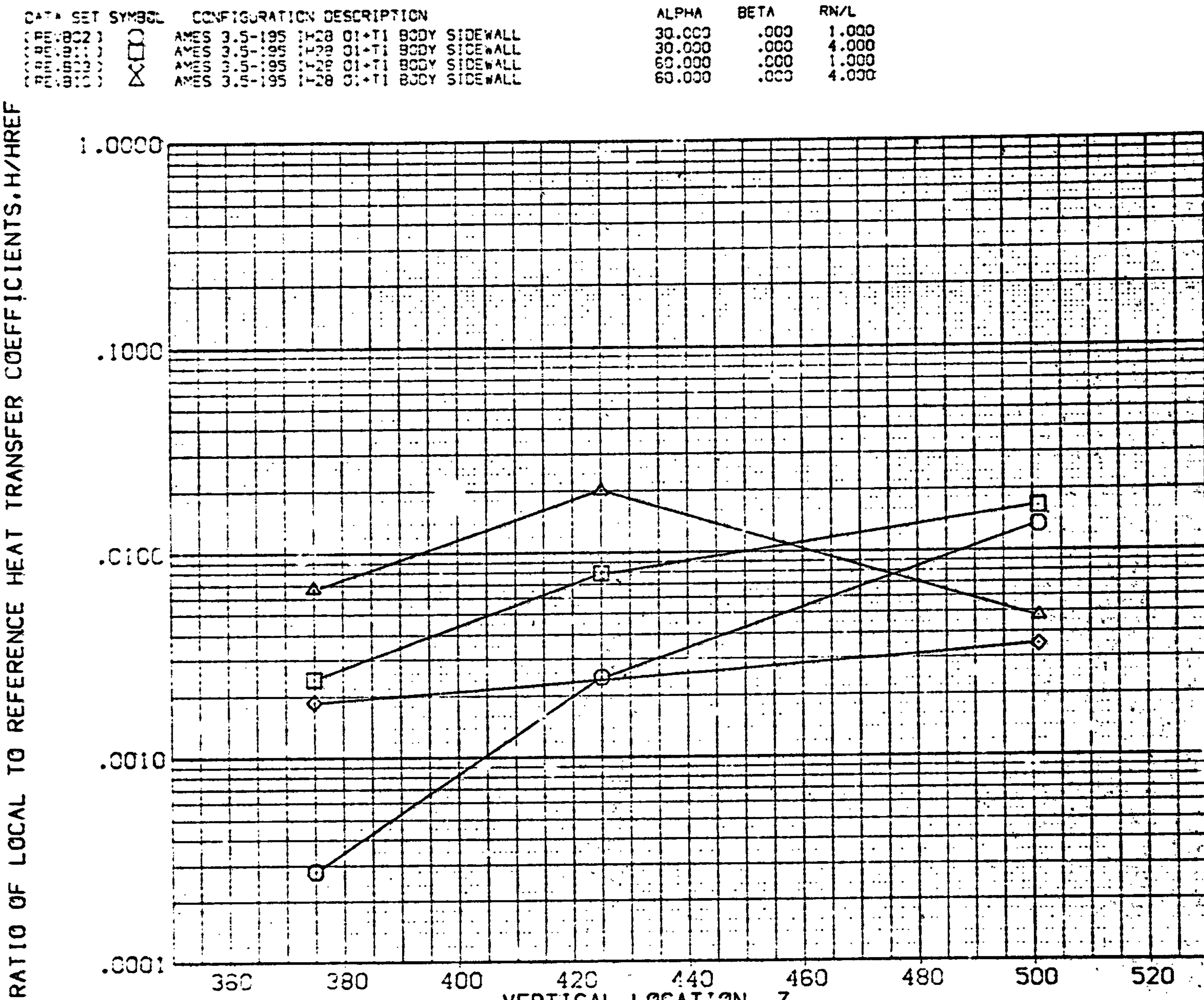

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

MACH = 5.300 HAW/HT = .900 X/L = .700

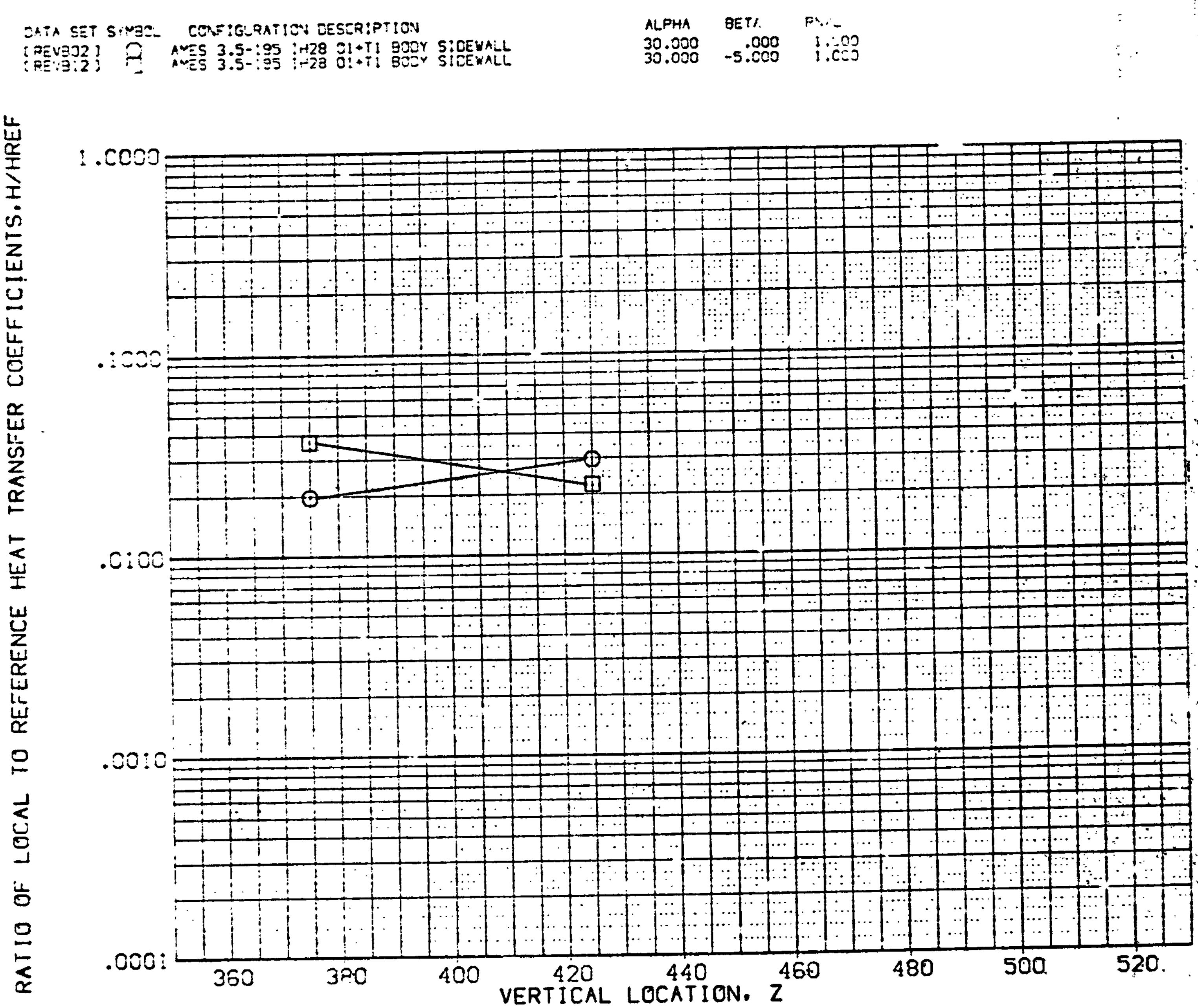

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

MACH = 5.300 HAW/HT= .900 X/L = .300

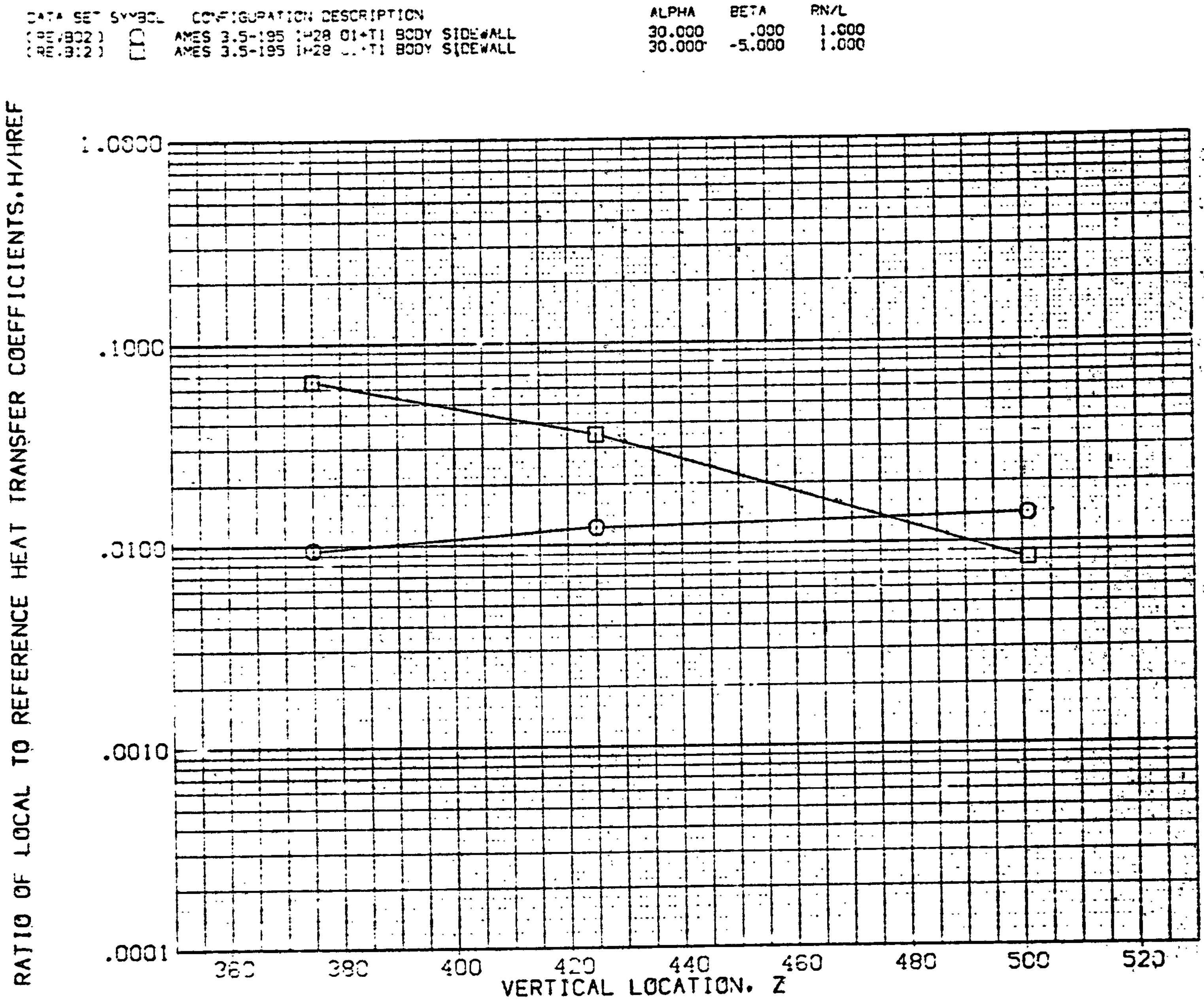

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

MACH = 5.300 HAV/HT= .900 X/L = .400

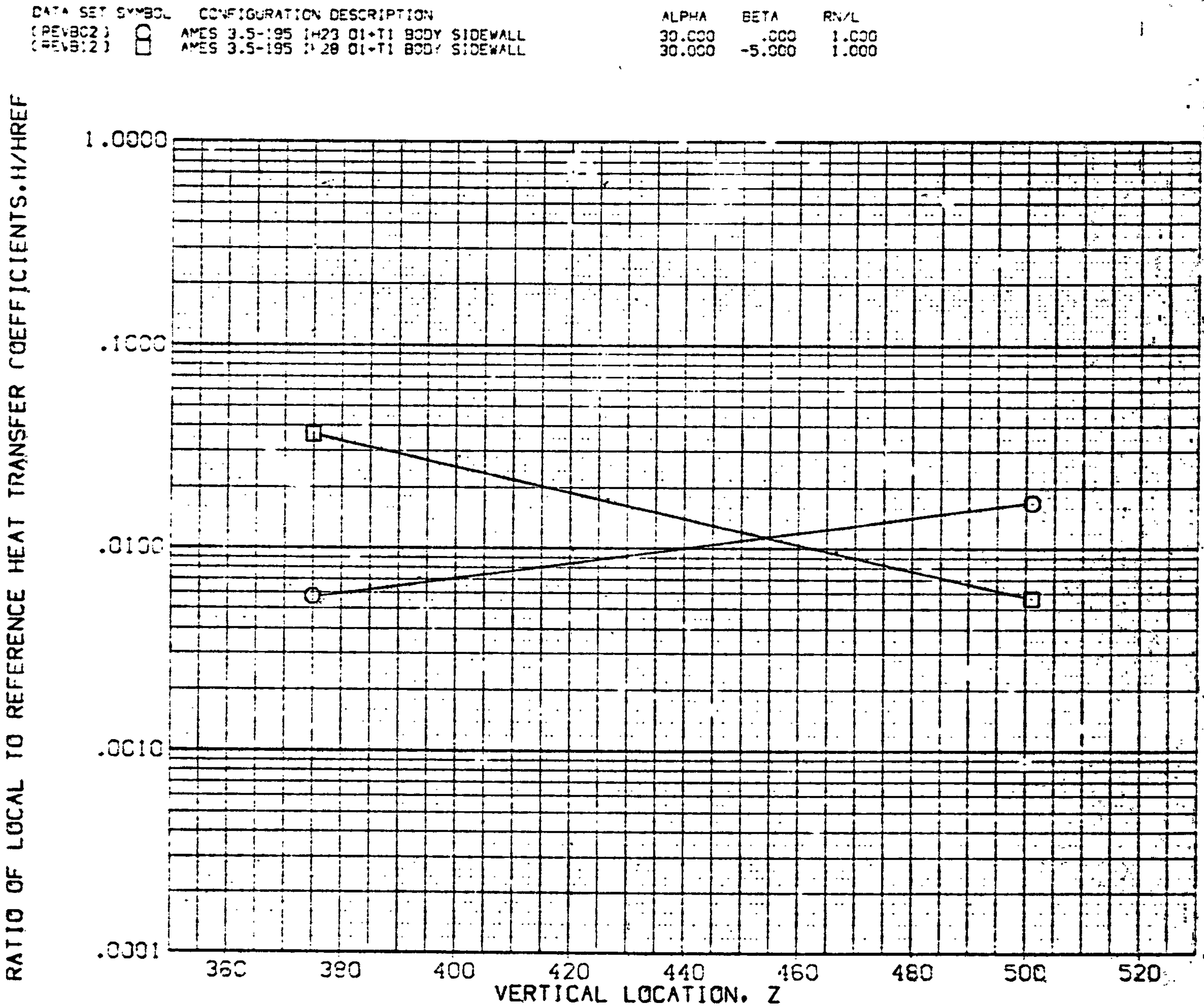

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

MACH = 5.300 HAW/HT= .900 X/L = .500

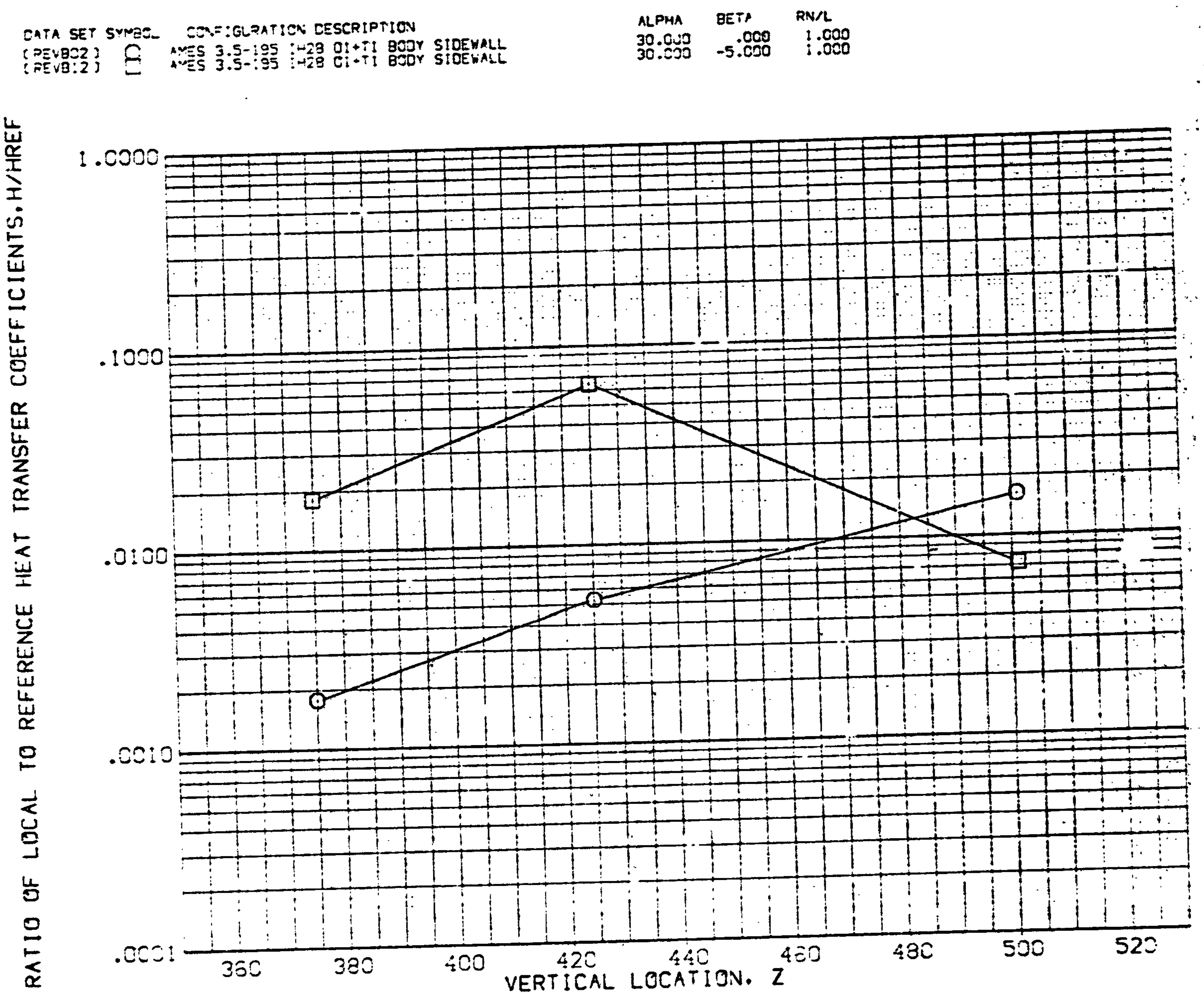

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

MACH = 5.300 HAW/HT= .900 X/L = .600

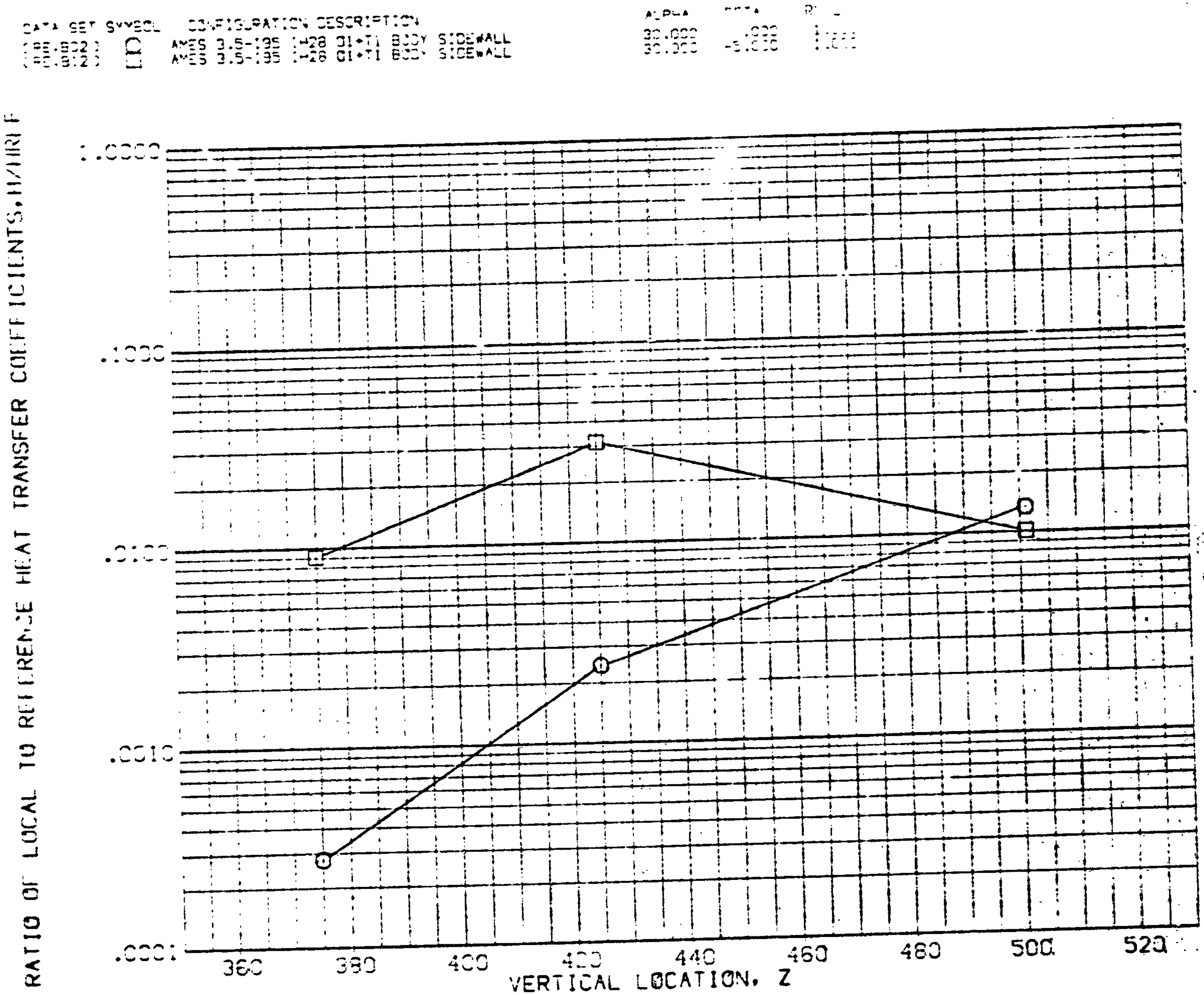

FIG. 11 ORBITER BODY SIDEWALL, ORBITER IN PRESENCE OF THE TANK

MACH = 5.300 HAW/HT= .900 X/L = .700

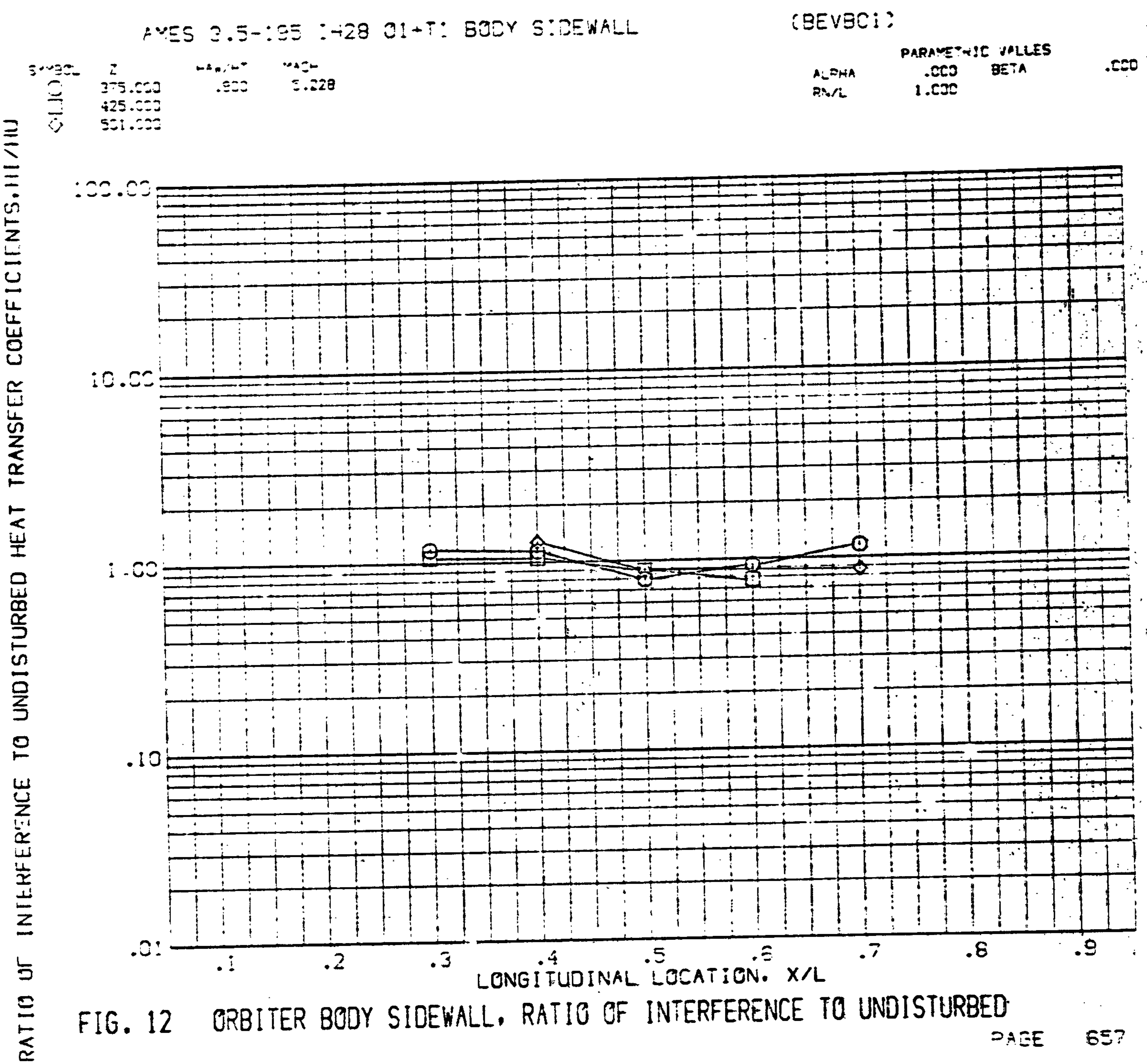

FIG. 12 ORBITER BODY SIDEWALL, RATIO OF INTERFERENCE TO UNDISTURBED

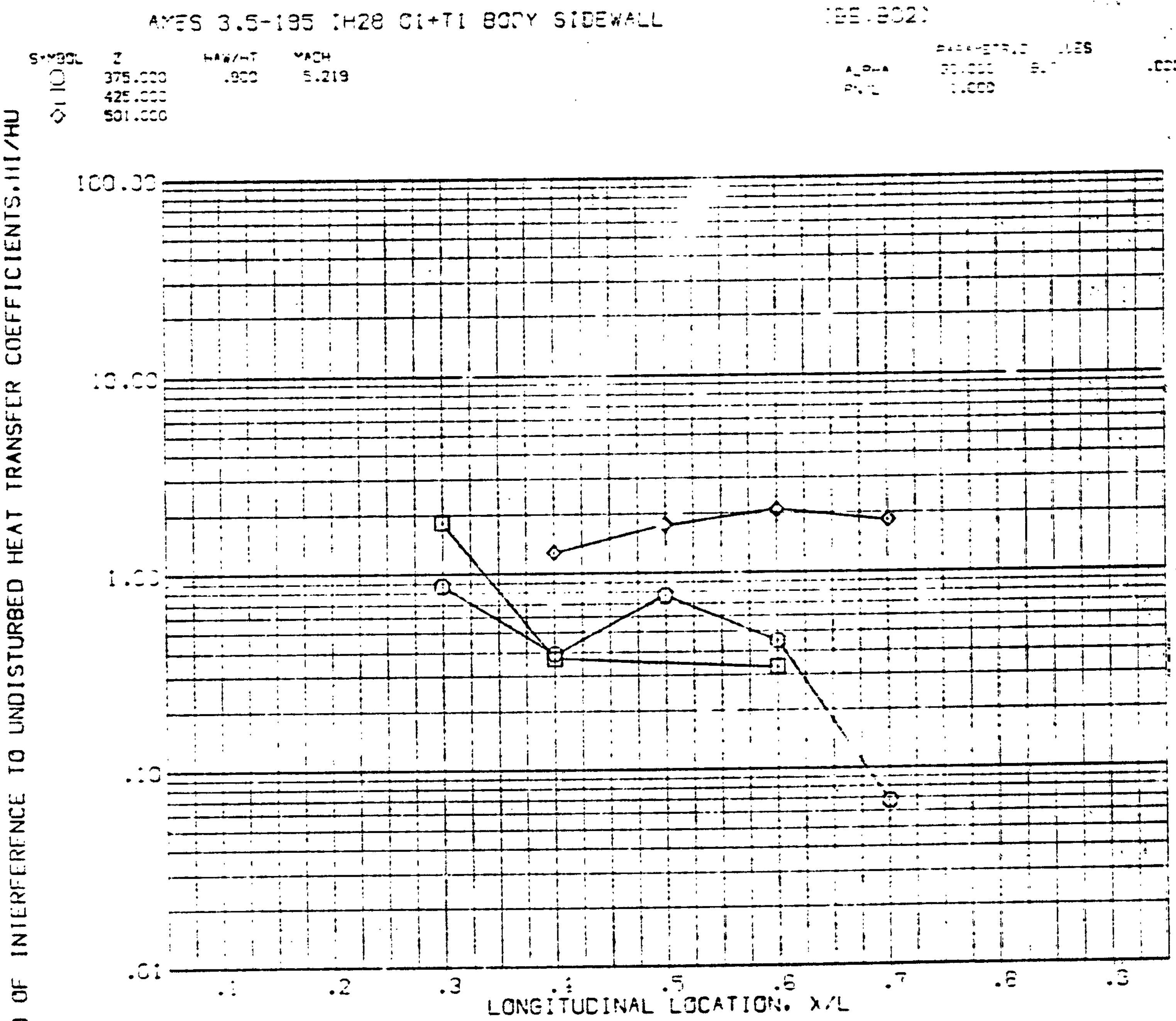

FIG. 12 ORBITER BODY SIDEWALL, RATIO OF INTERFERENCE TO UNDISTURBED

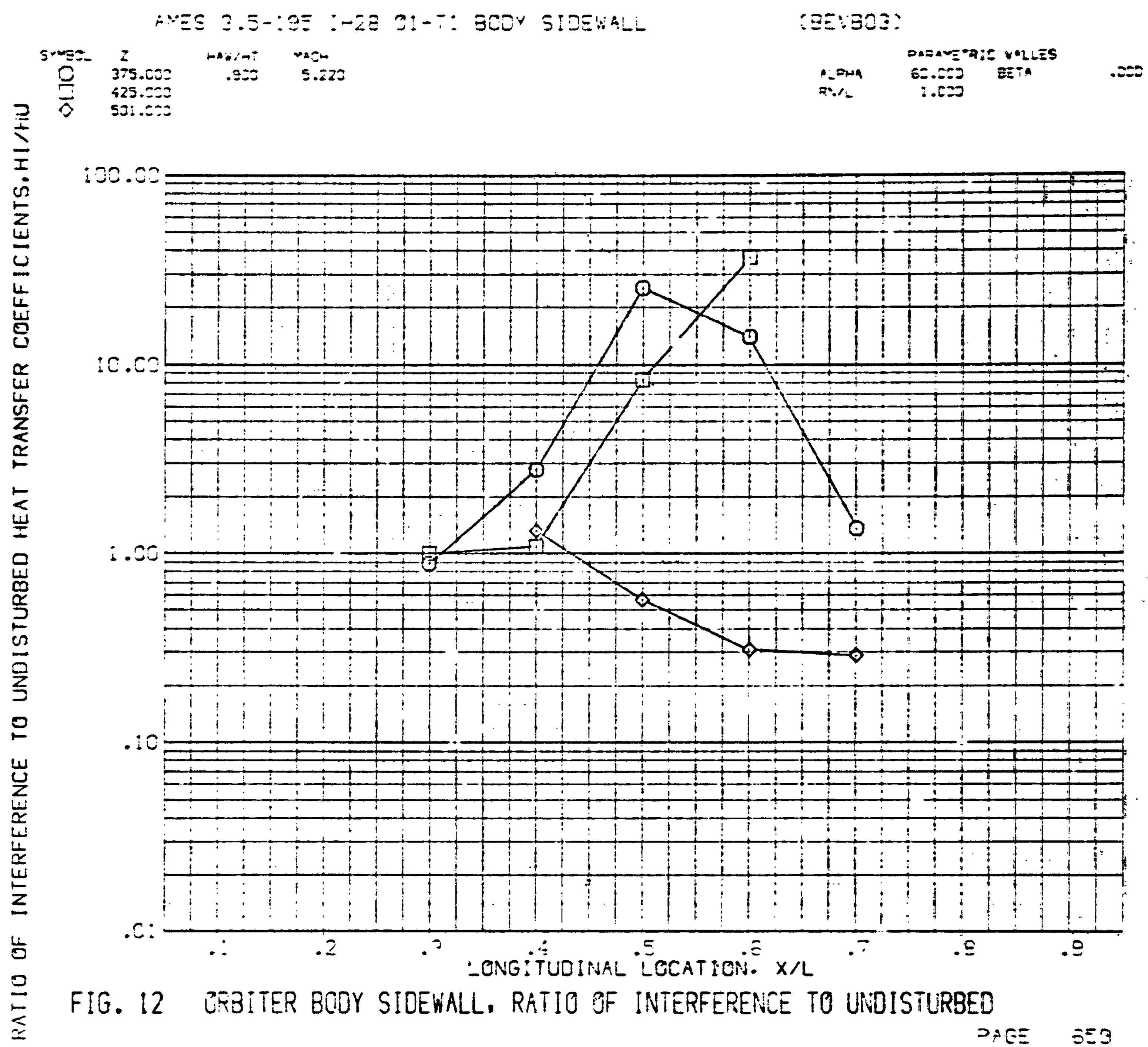

FIG. 12 ORBITER BODY SIDEWALL, RATIO OF INTERFERENCE TO UNDISTURBED

AMES 3.5-195 IH28 01+T1 BODY SIDEWALL (BEVB04)

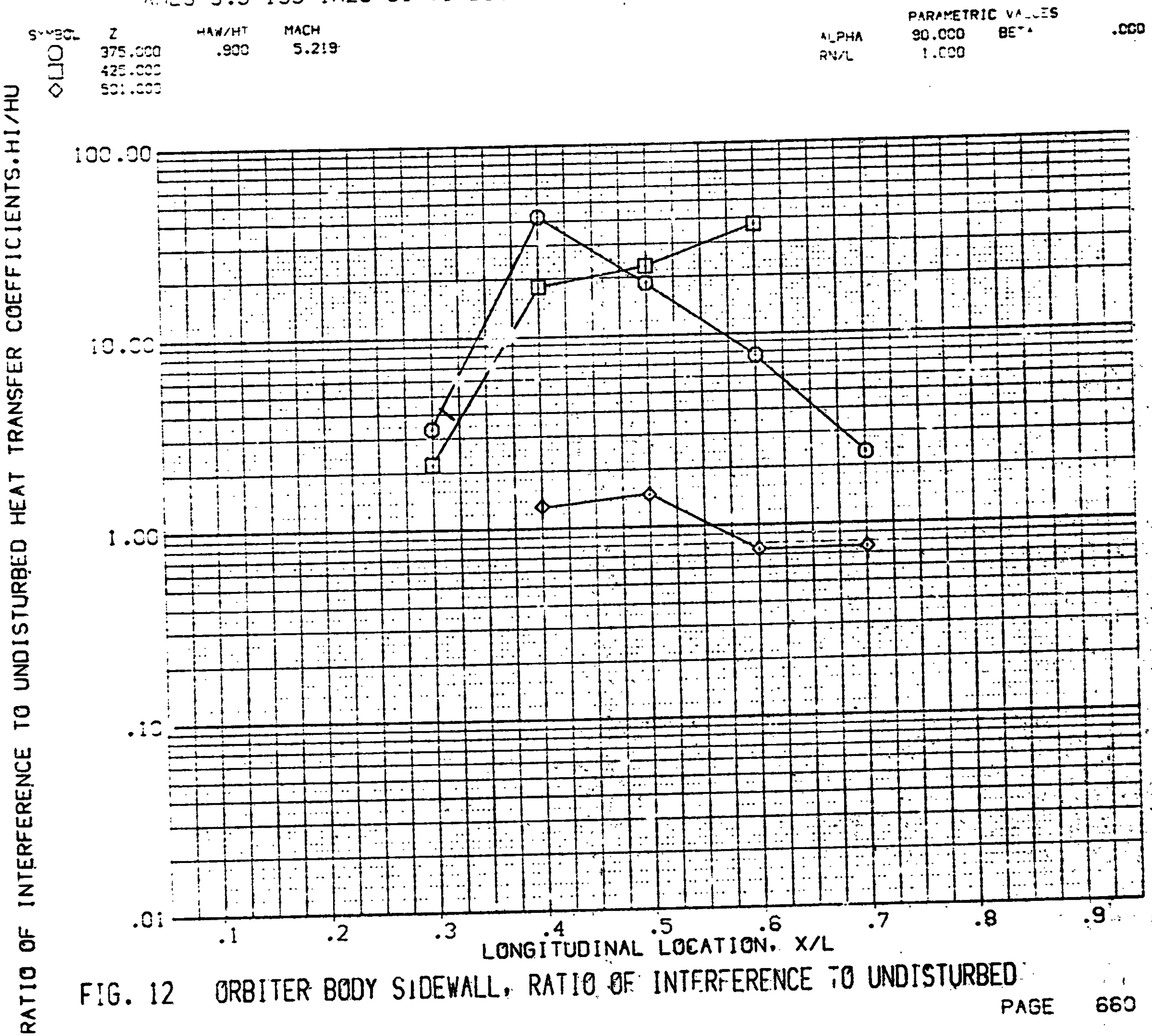

FIG. 12 ORBITER BODY SIDEWALL, RATIO OF INTERFERENCE TO UNDISTURBED

AMES 3.5-195 IH28 O1+T1 BODY SIDEWALL (BEVB05)

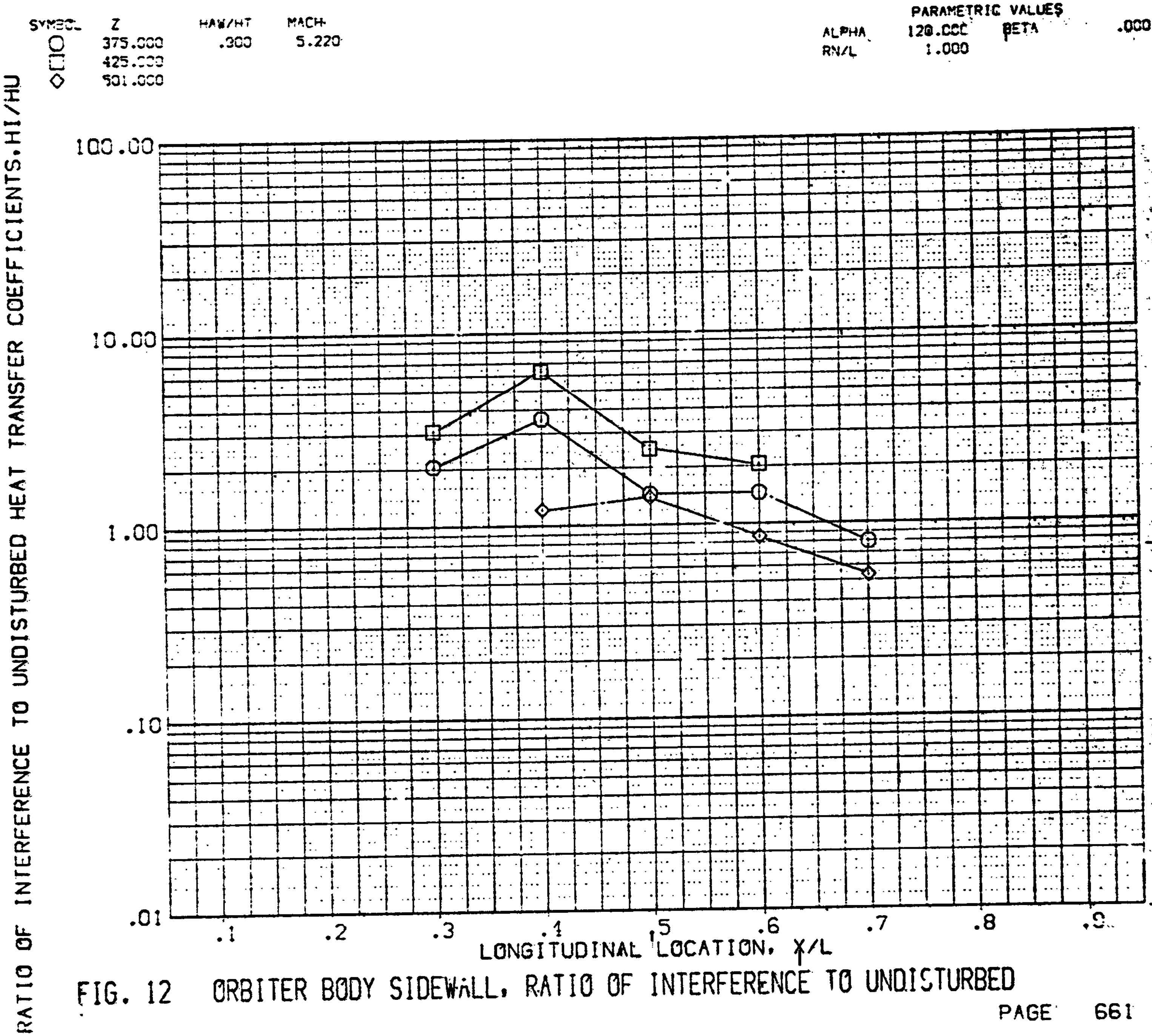

FIG. 12 ORBITER BODY SIDEWALL, RATIO OF INTERFERENCE TO UNDISTURBED

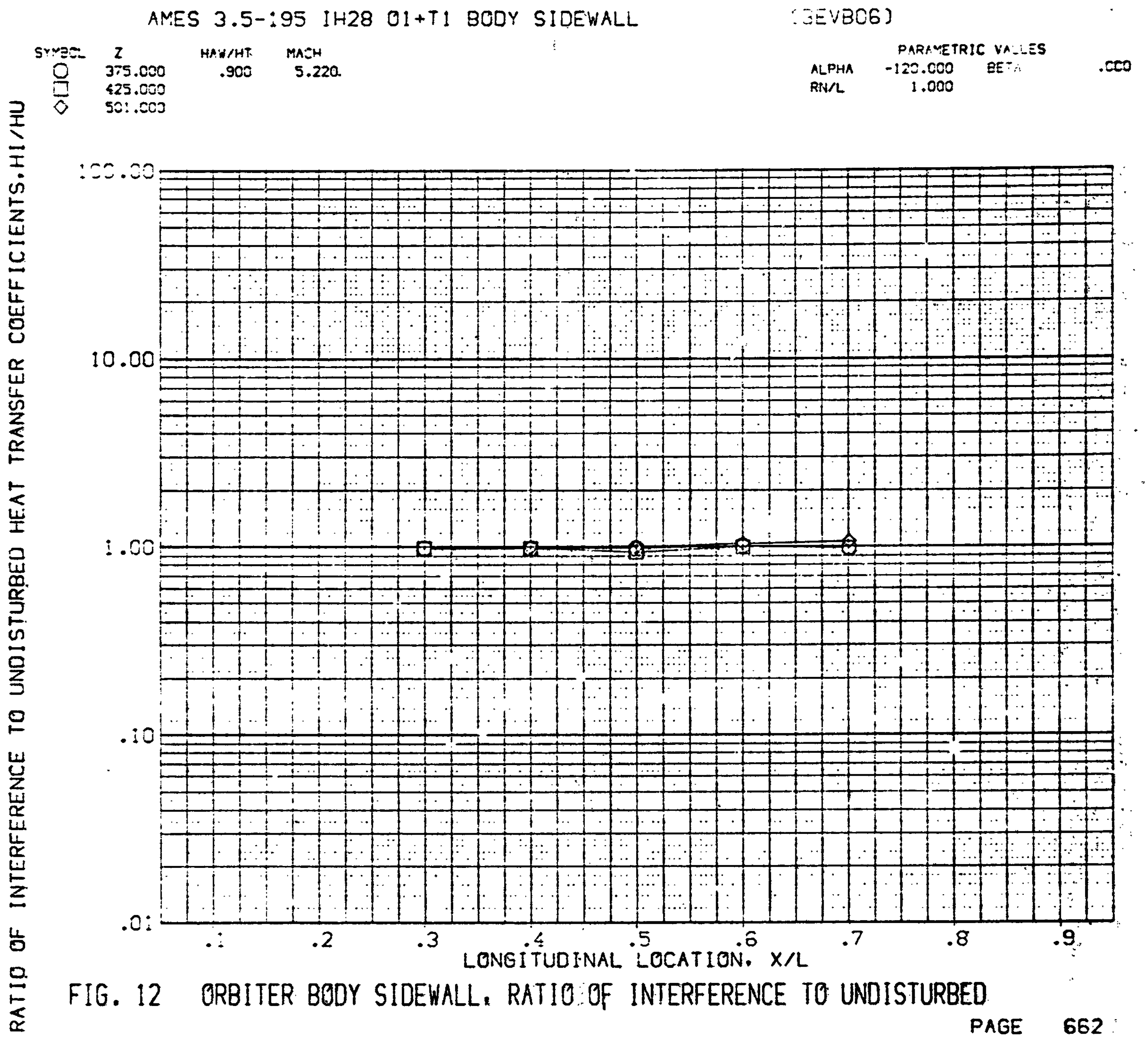

FIG. 12 ORBITER BODY SIDEWALL, RATIO OF INTERFERENCE TO UNDISTURBED

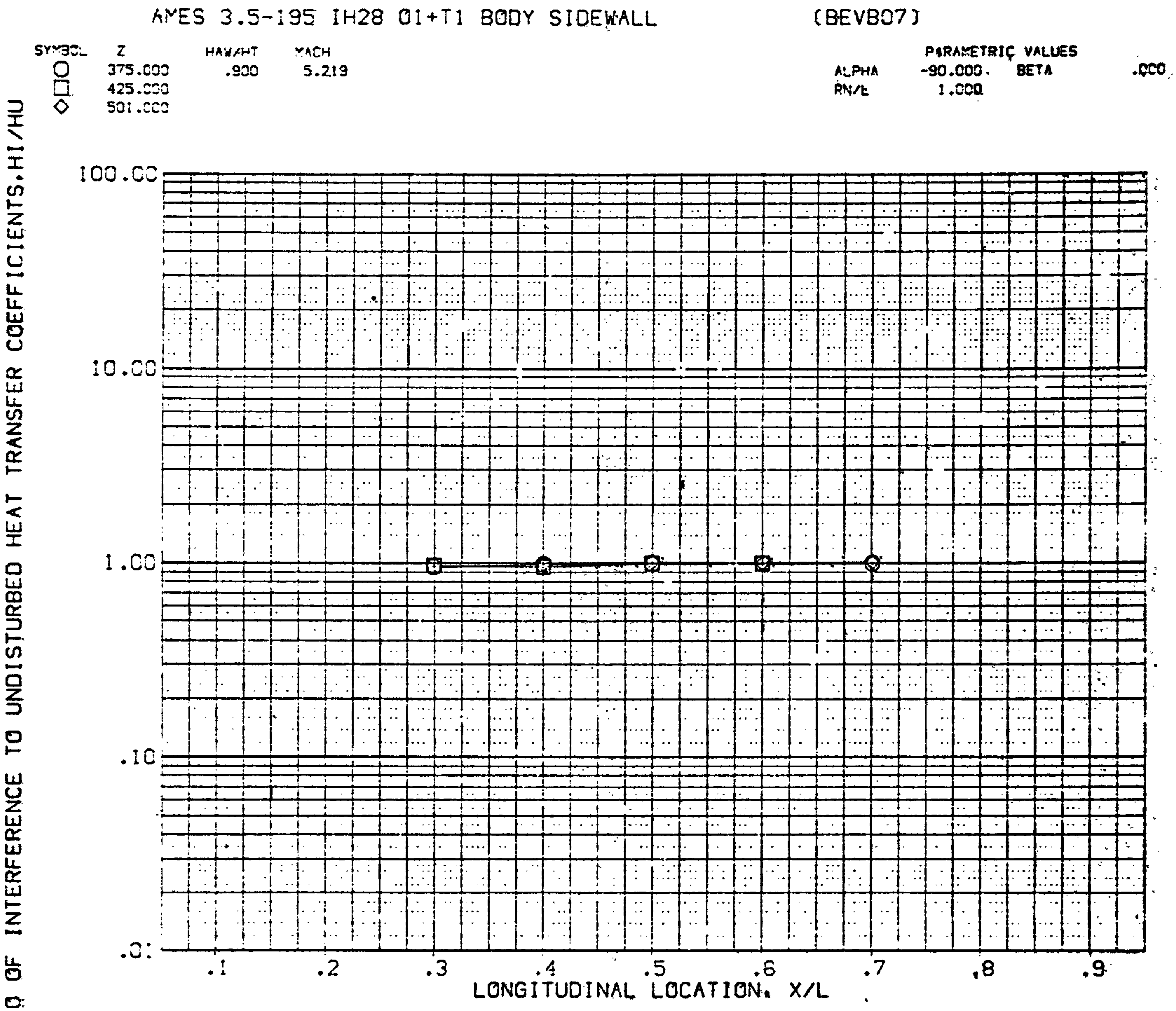

FIG. 12 ORBITER BODY SIDEWALL, RATIO OF INTERFERENCE TO UNDISTURBED

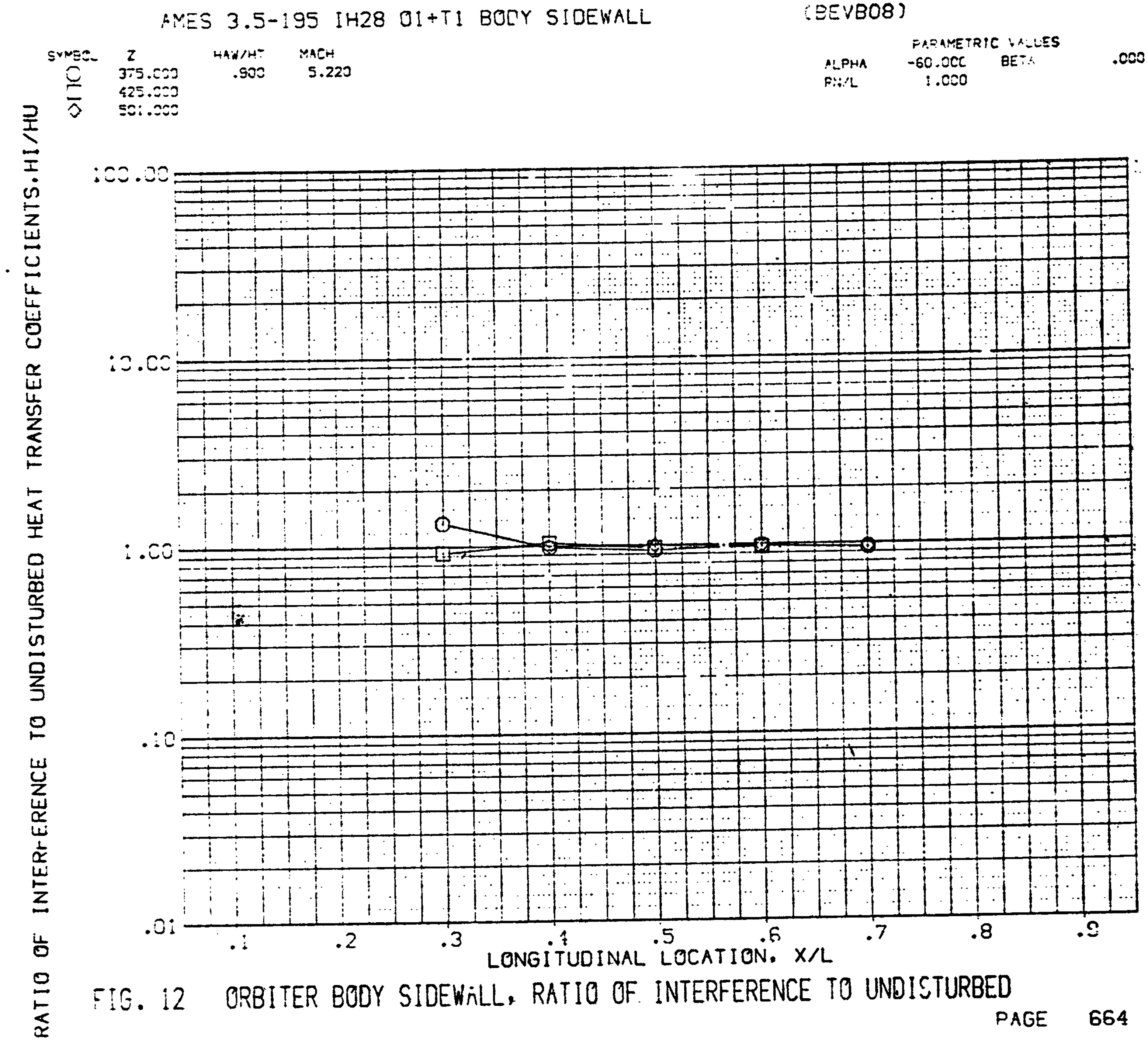

FIG. 12 ORBITER BODY SIDEWALL, RATIO OF INTERFERENCE TO UNDISTURBED

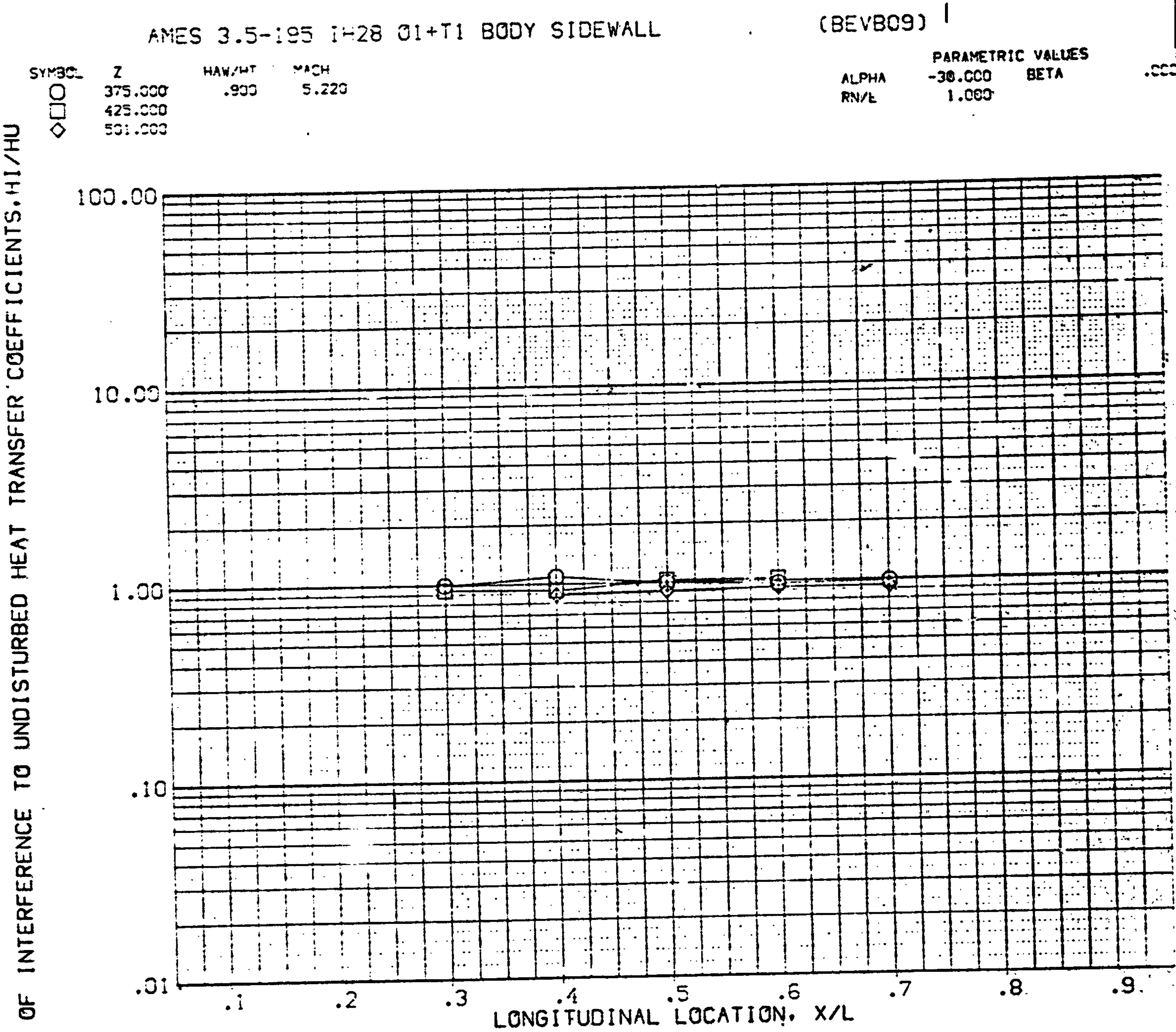

FIG. 12 ORBITER BODY SIDEWALL, RATIO OF INTERFERENCE TO UNDISTURBED

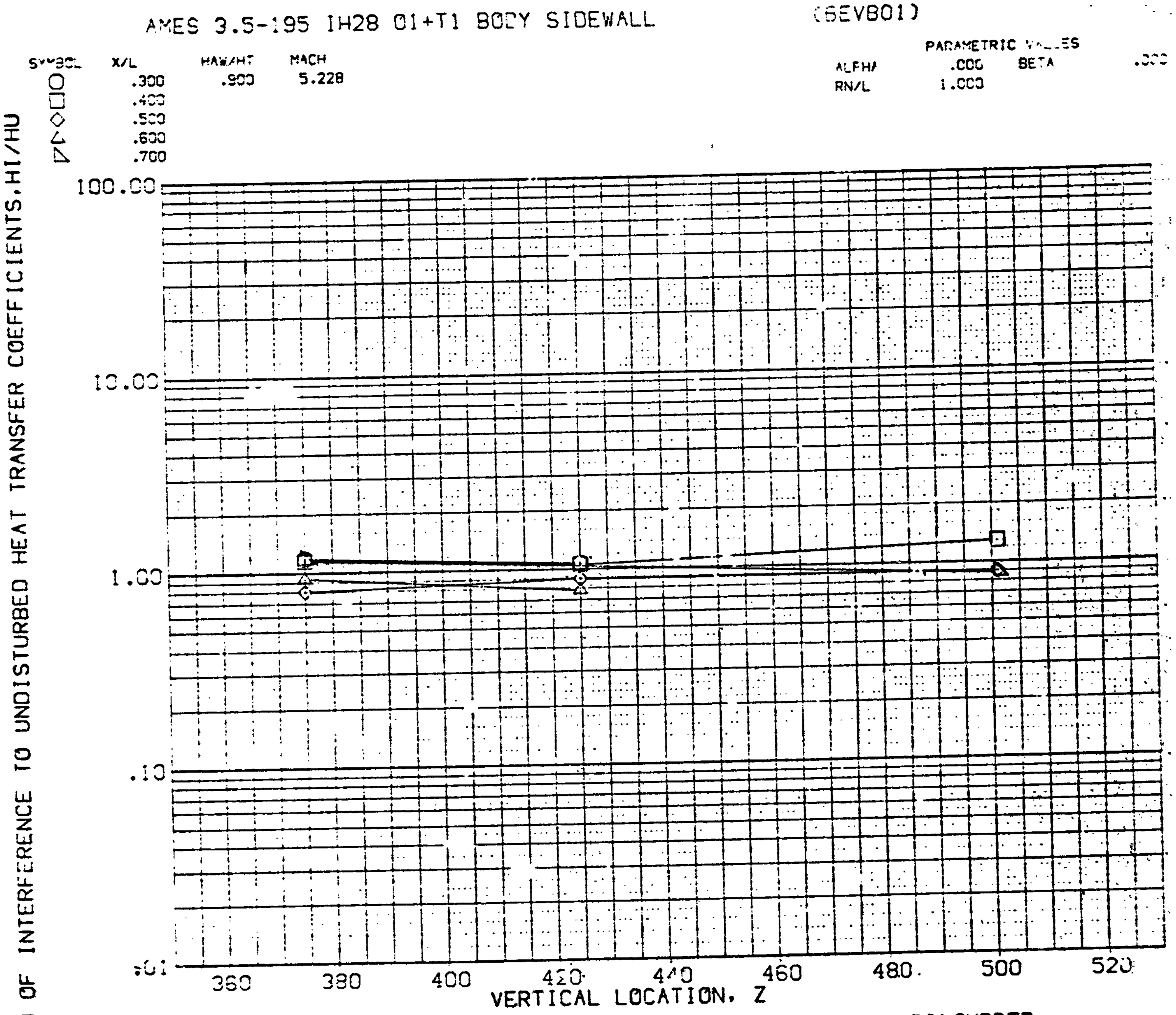

FIG. 12 ORBITER BODY SIDEWALL, RATIO OF INTERFERENCE TO UNDISTURBED

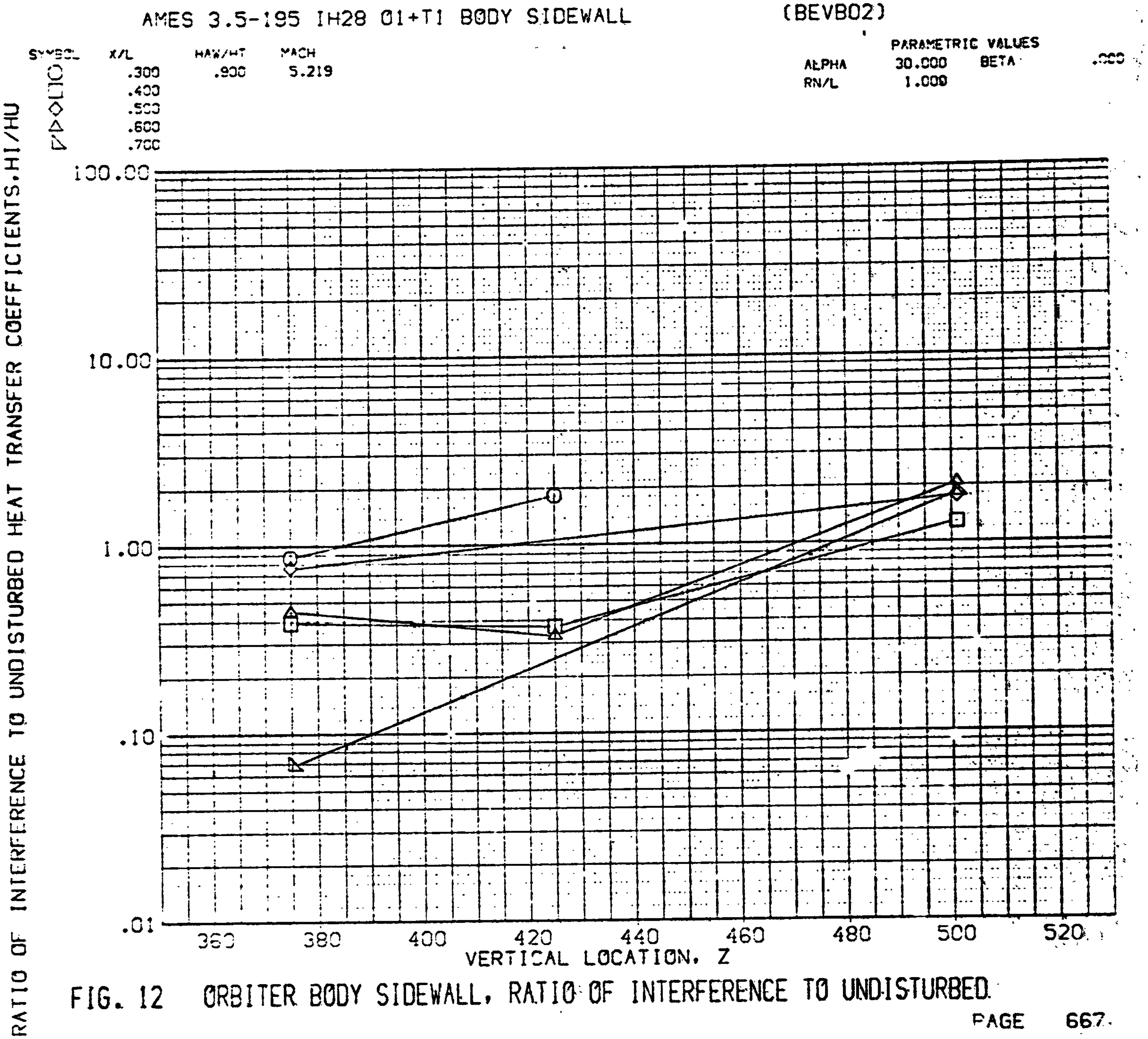

FIG. 12 ORBITER BODY SIDEWALL, RATIO OF INTERFERENCE TO UNDISTURBED

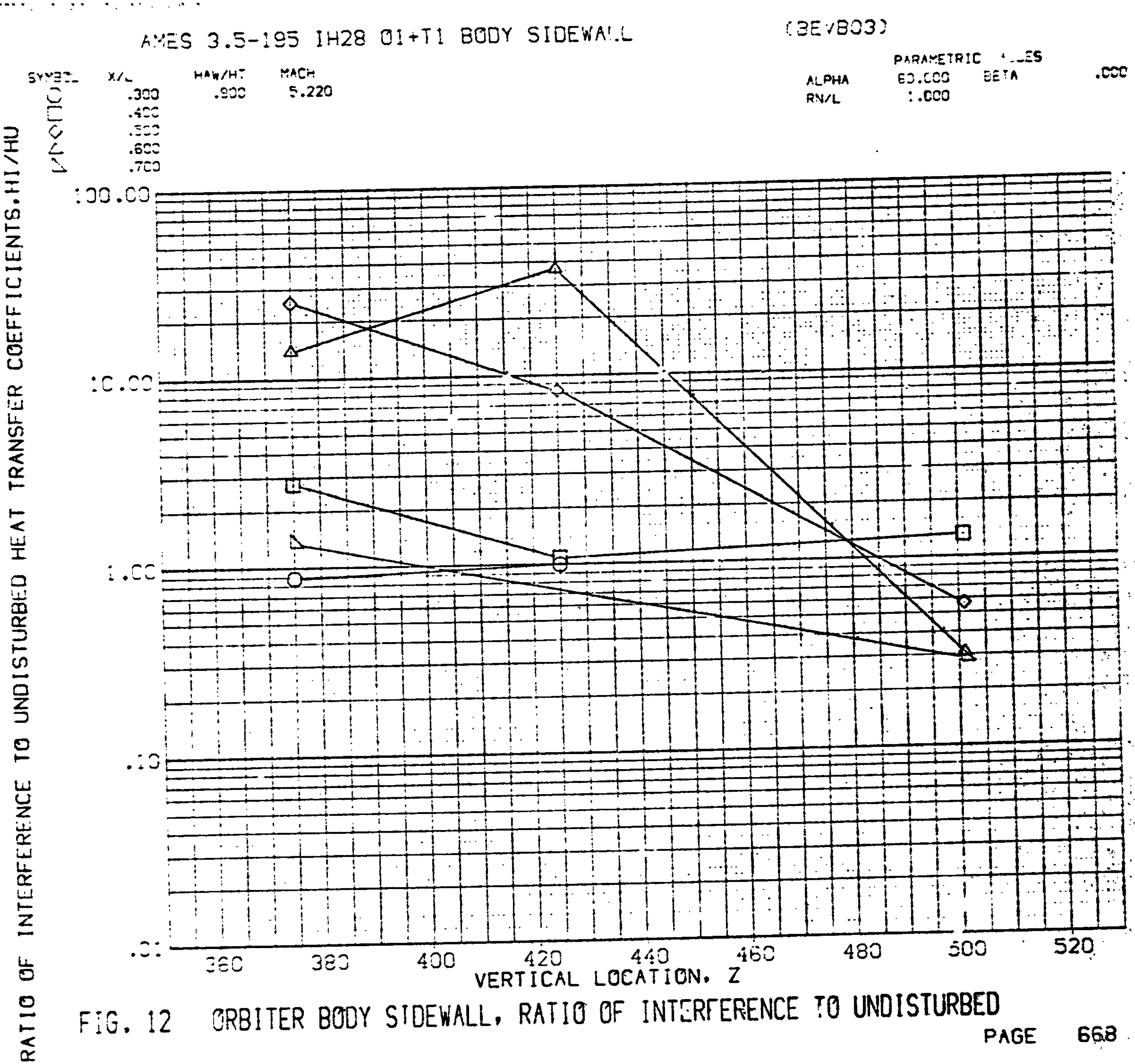

FIG. 12 ORBITER BODY SIDEWALL, RATIO OF INTERFERENCE TO UNDISTURBED

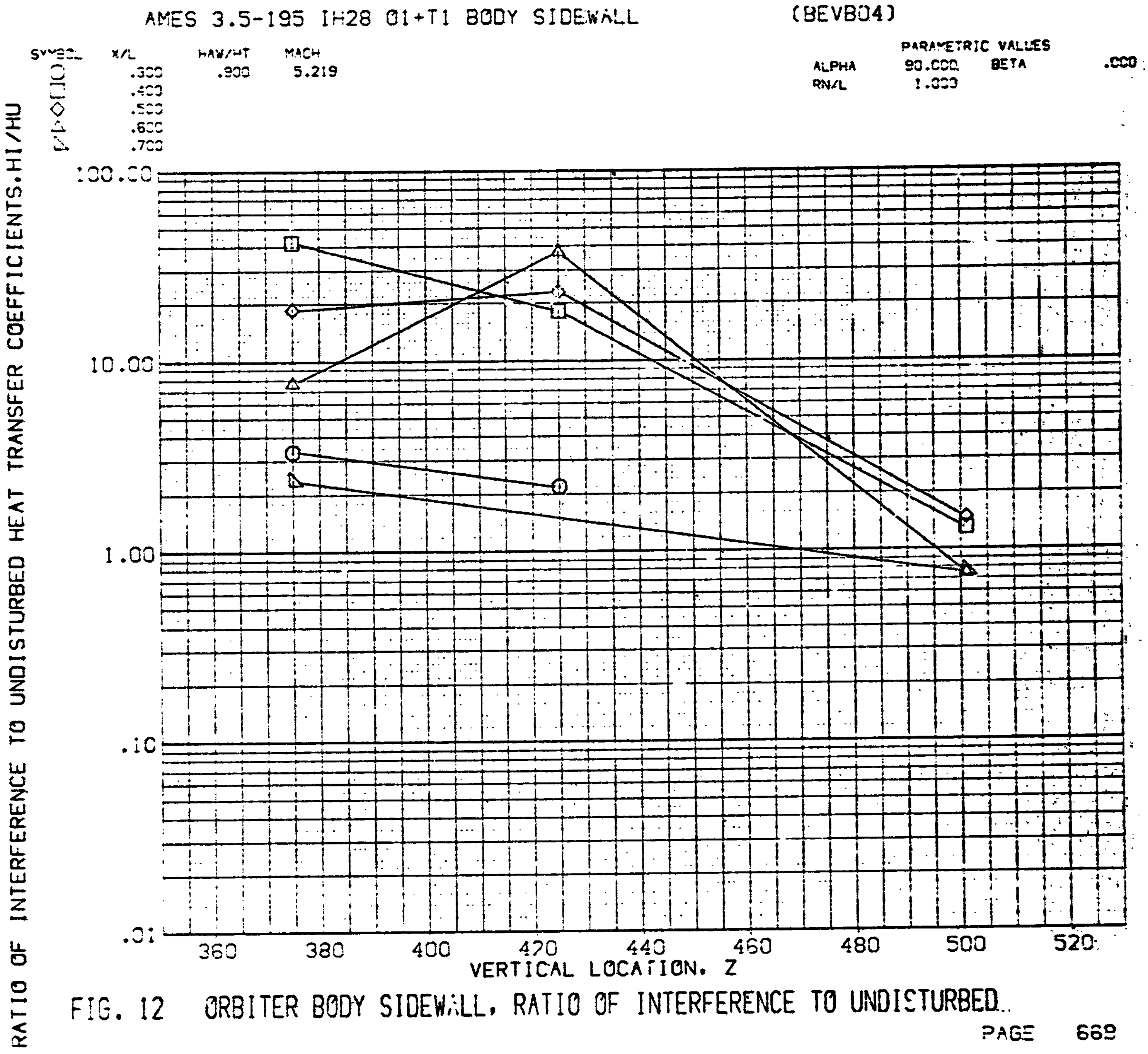

FIG. 12 ORBITER BODY SIDEWALL, RATIO OF INTERFERENCE TO UNDISTURBED..

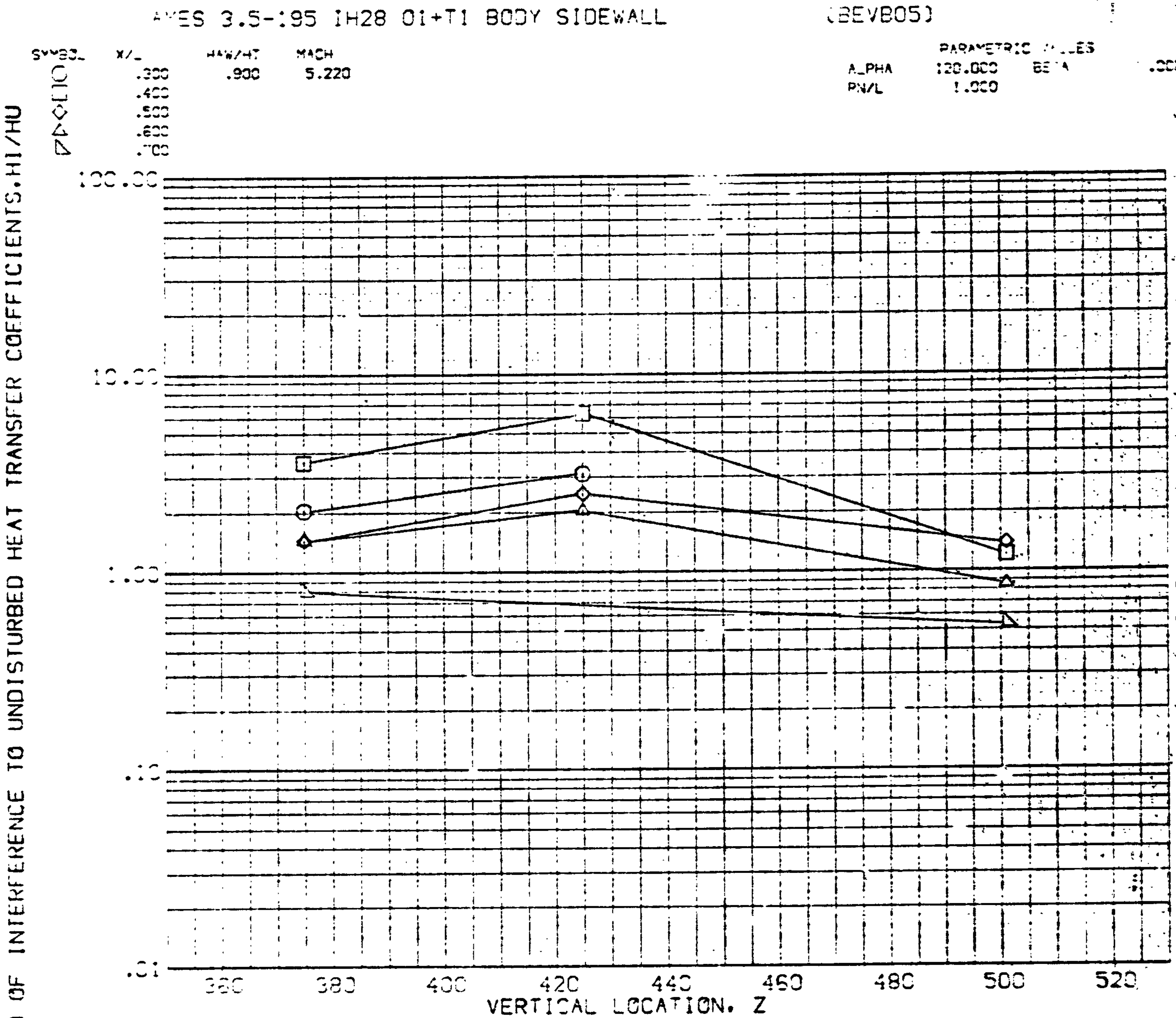

FIG. 12 ORBITER BODY SIDEWALL, RATIO OF INTERFERENCE TO UNDISTURBED

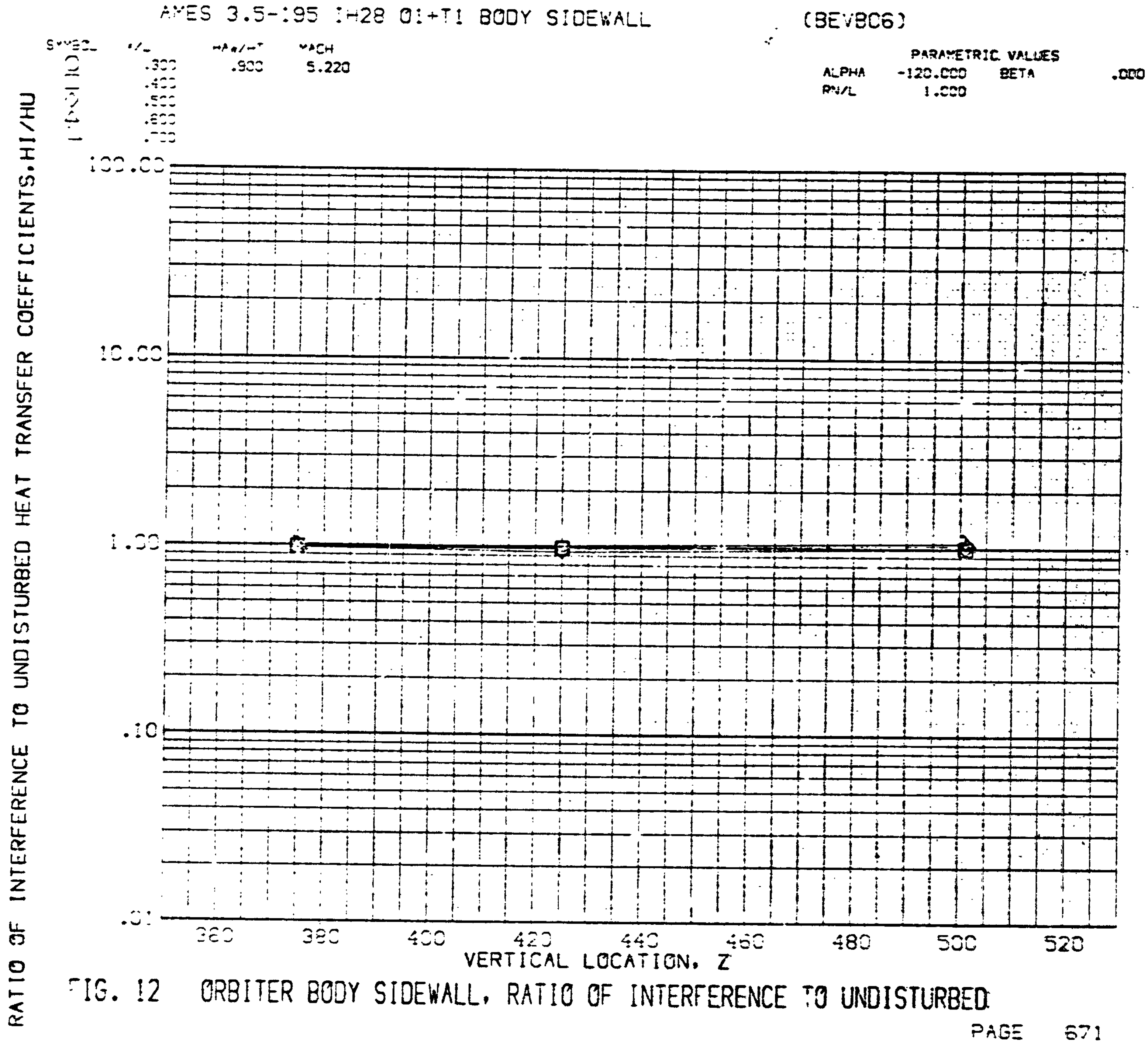

FIG. 12 ORBITER BODY SIDEWALL, RATIO OF INTERFERENCE TO UNDISTURBED

AMES 3.5-195 IA28 O1+T1 BODY SIDEWALL (SEVB07)

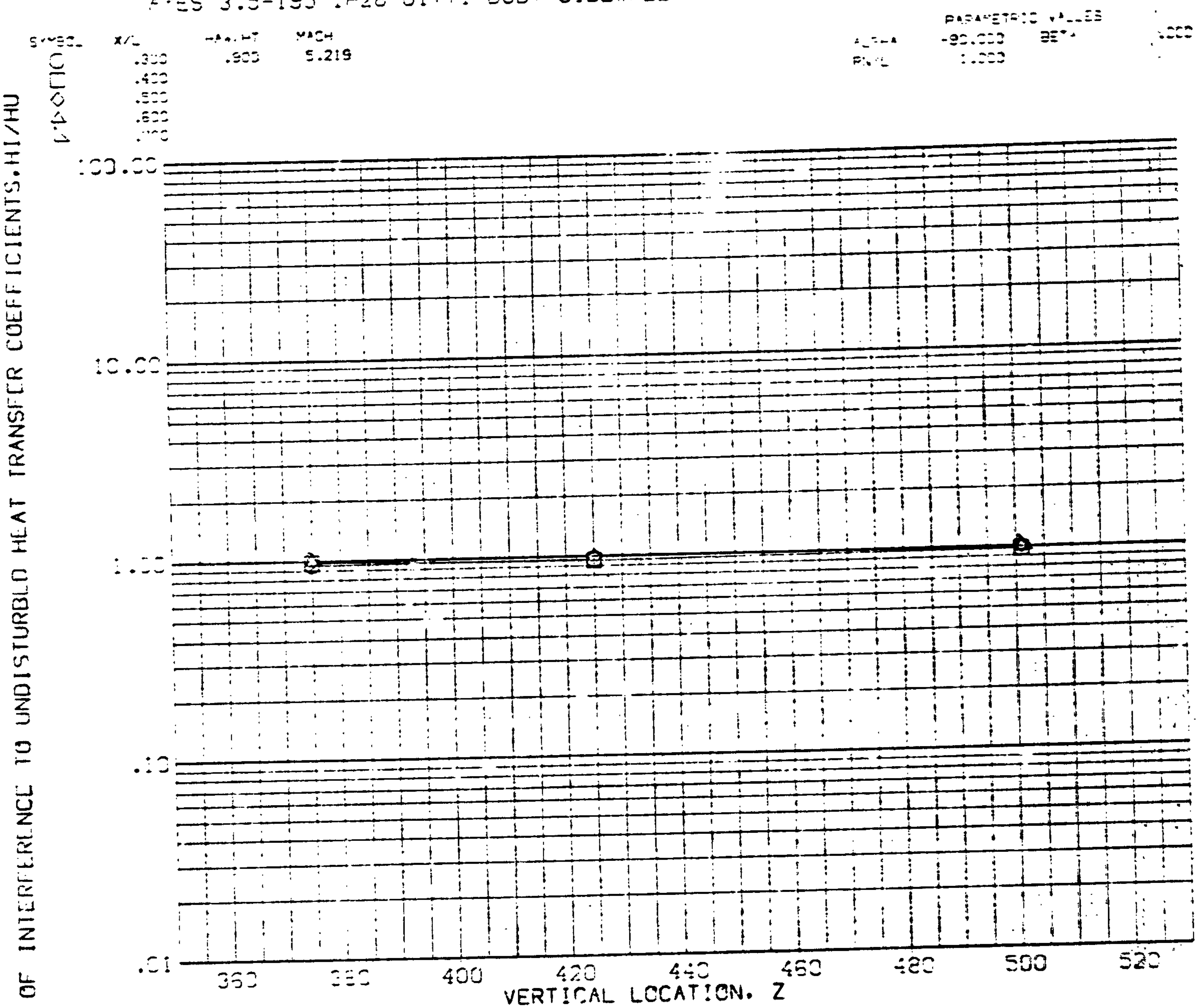

FIG. 12 ORBITER BODY SIDEWALL, RATIO OF INTERFERENCE TO UNDISTURBED

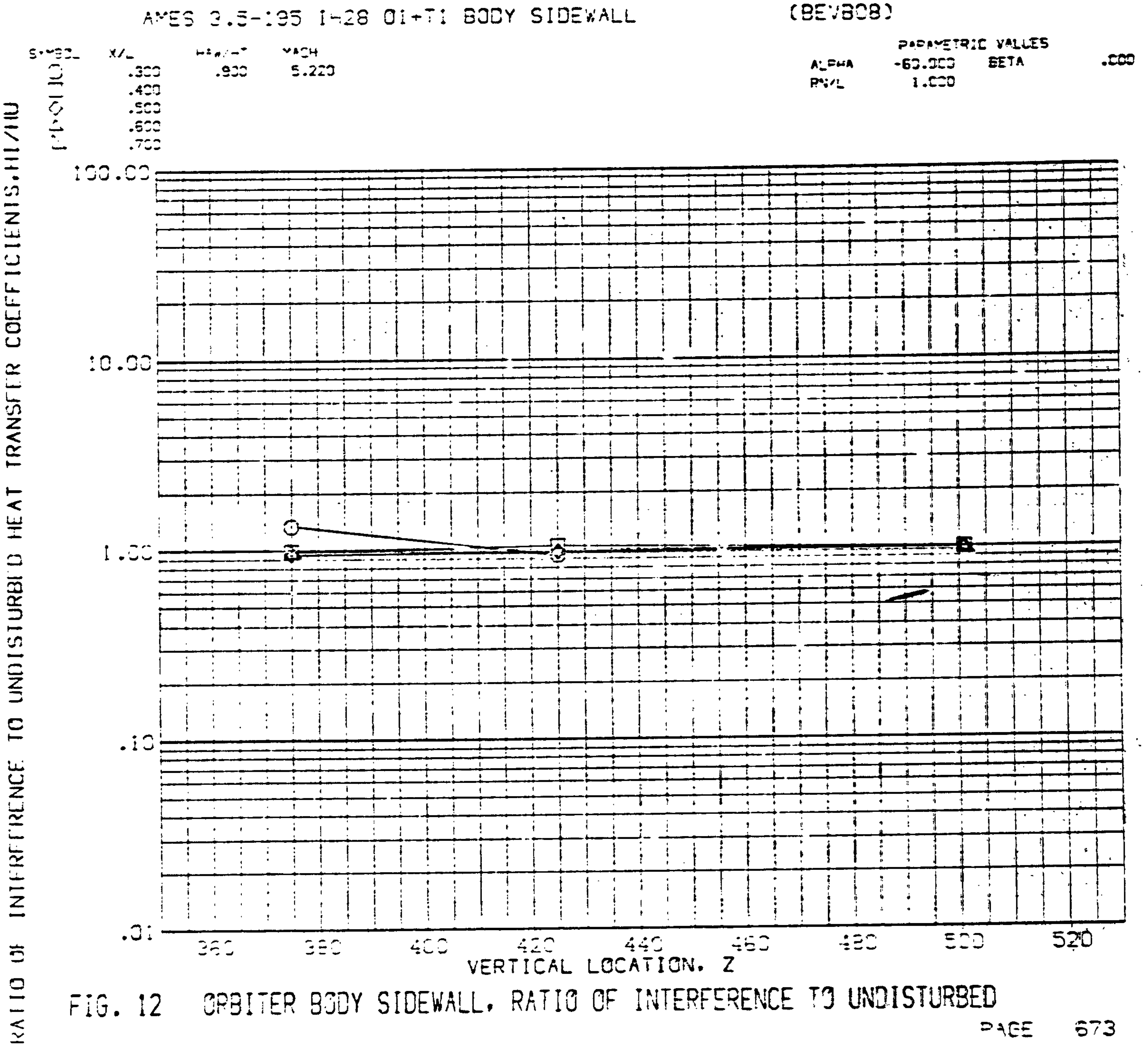

FIG. 12 ORBITER BODY SIDEWALL, RATIO OF INTERFERENCE TO UNDISTURBED

AMES 3.5-195 IH28 01+T1 BODY SIDEWALL

(BEVB09)

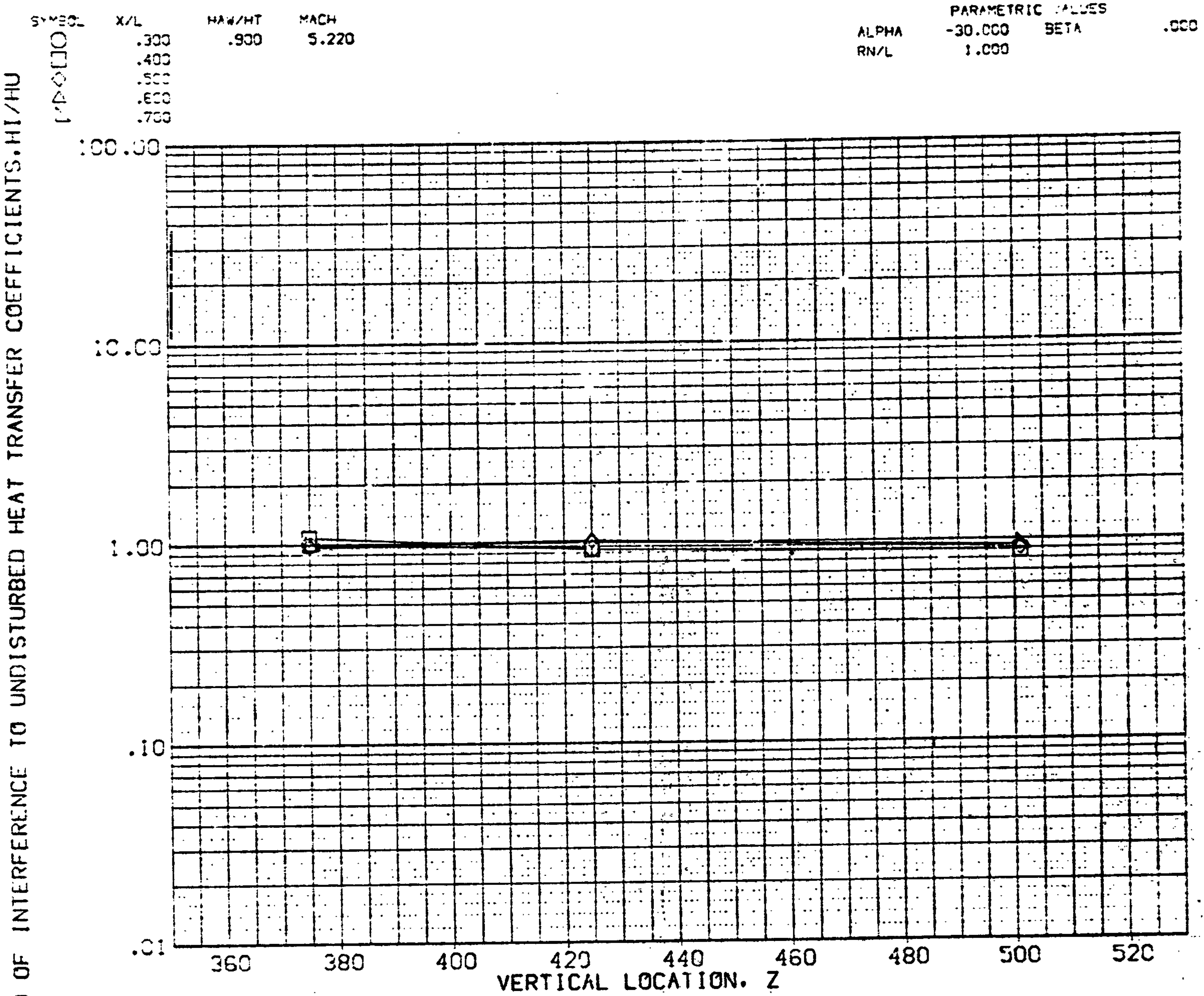

FIG. 12 ORBITER BODY SIDEWALL, RATIO OF INTERFERENCE TO UNDISTURBED

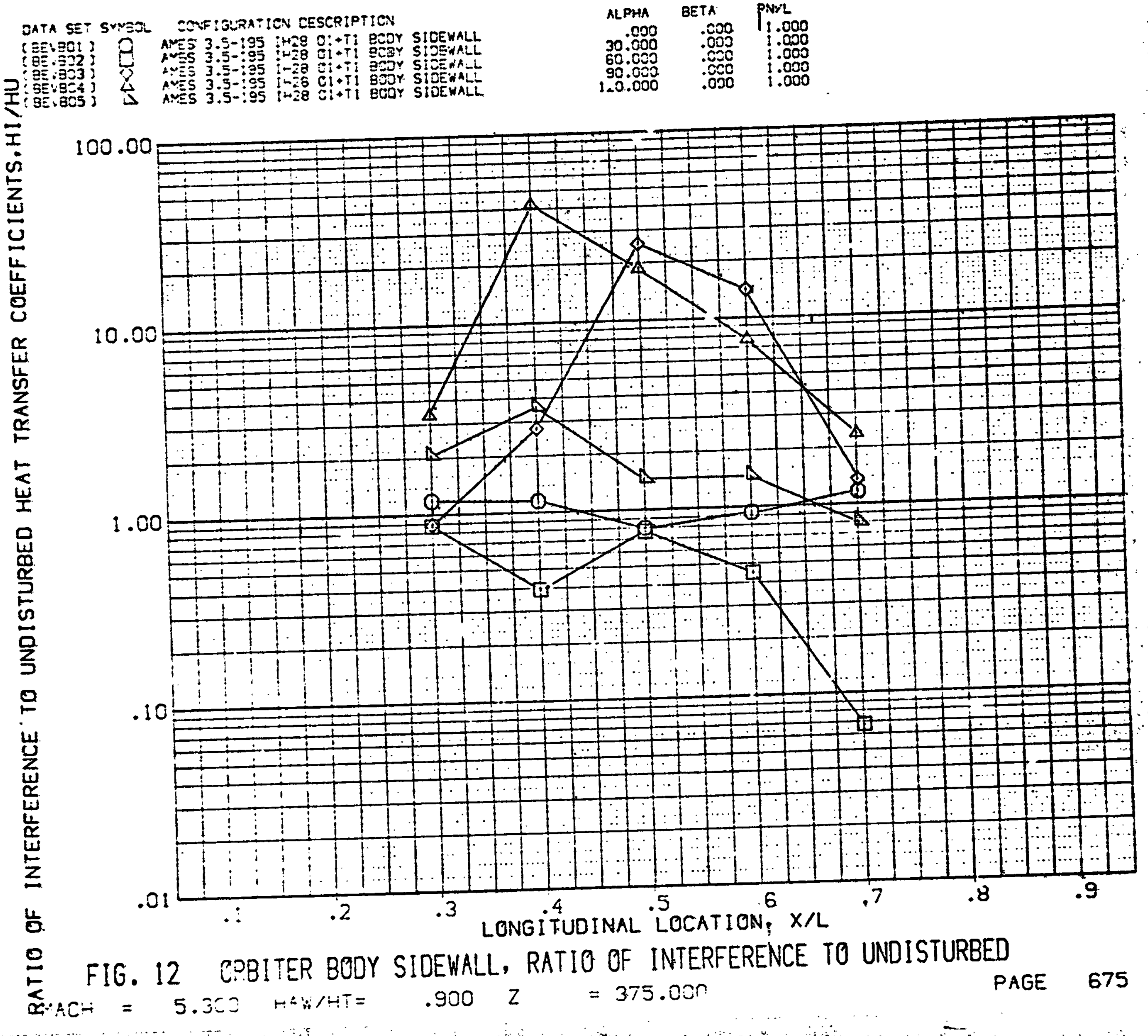

FIG. 12 ORBITER BODY SIDEWALL, RATIO OF INTERFERENCE TO UNDISTURBED

MACH = 5.300 HAW/HT= .900 Z = 375.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	RN/L
(BEVB01)	○	AMES 3.5-195 IH28 O1+T1 BODY SIDEWALL	.000	.000	1.000
(BEVB02)	□	AMES 3.5-195 IH28 O1+T1 BODY SIDEWALL	30.000	.000	1.000
(BEVB03)	◇	AMES 3.5-195 IH28 O1+T1 BODY SIDEWALL	60.000	.000	1.000
(BEVB04)	△	AMES 3.5-195 IH28 O1+T1 BODY SIDEWALL	90.000	.000	1.000
(BEVB05)	◁	AMES 3.5-195 IH28 O1+T1 BODY SIDEWALL	120.000	.000	1.000

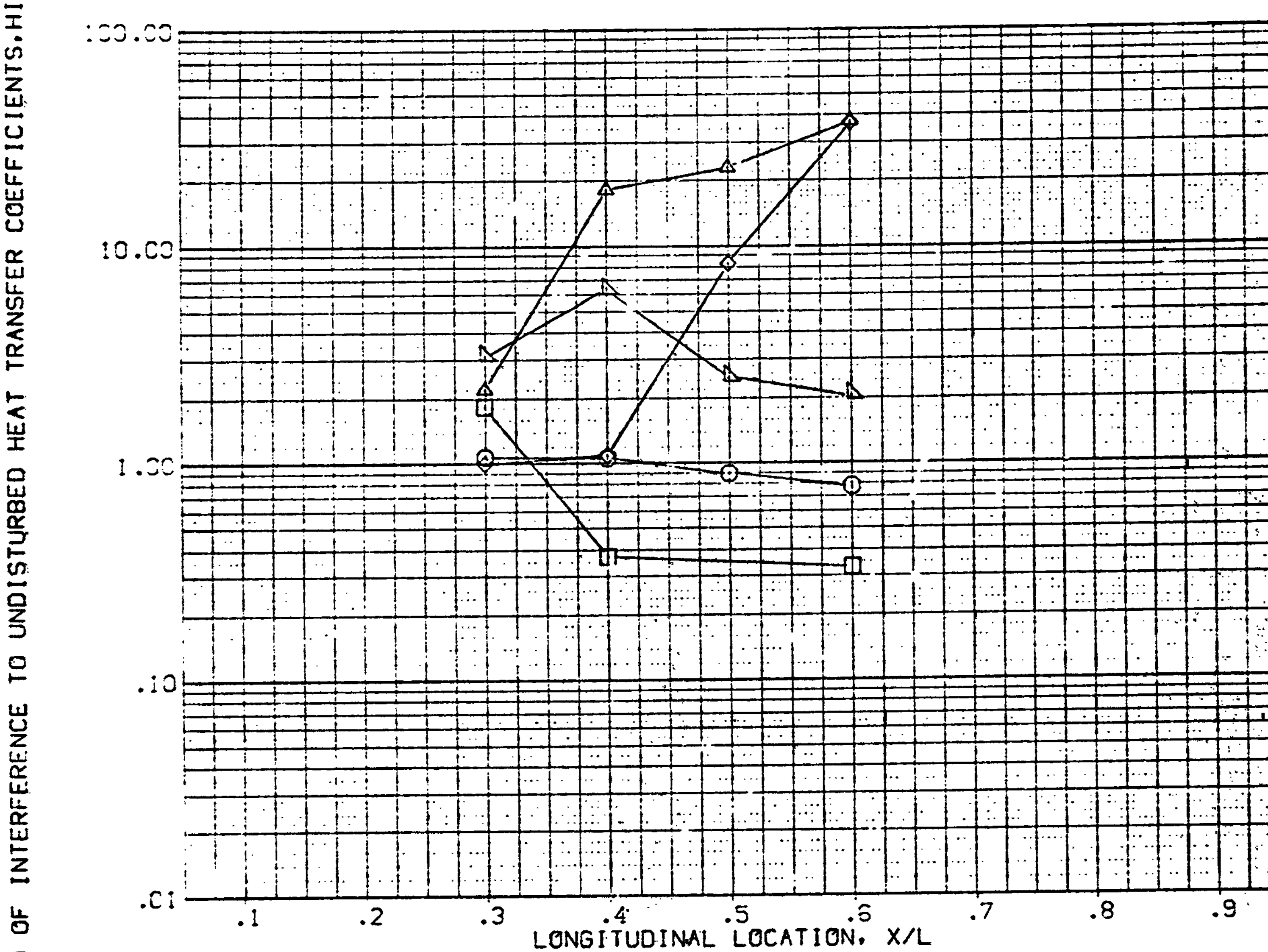

FIG. 12 ORBITER BODY SIDEWALL, RATIO OF INTERFERENCE TO UNDISTURBED

MACH = 5.300 HAW/HT= .900 Z = 425.000

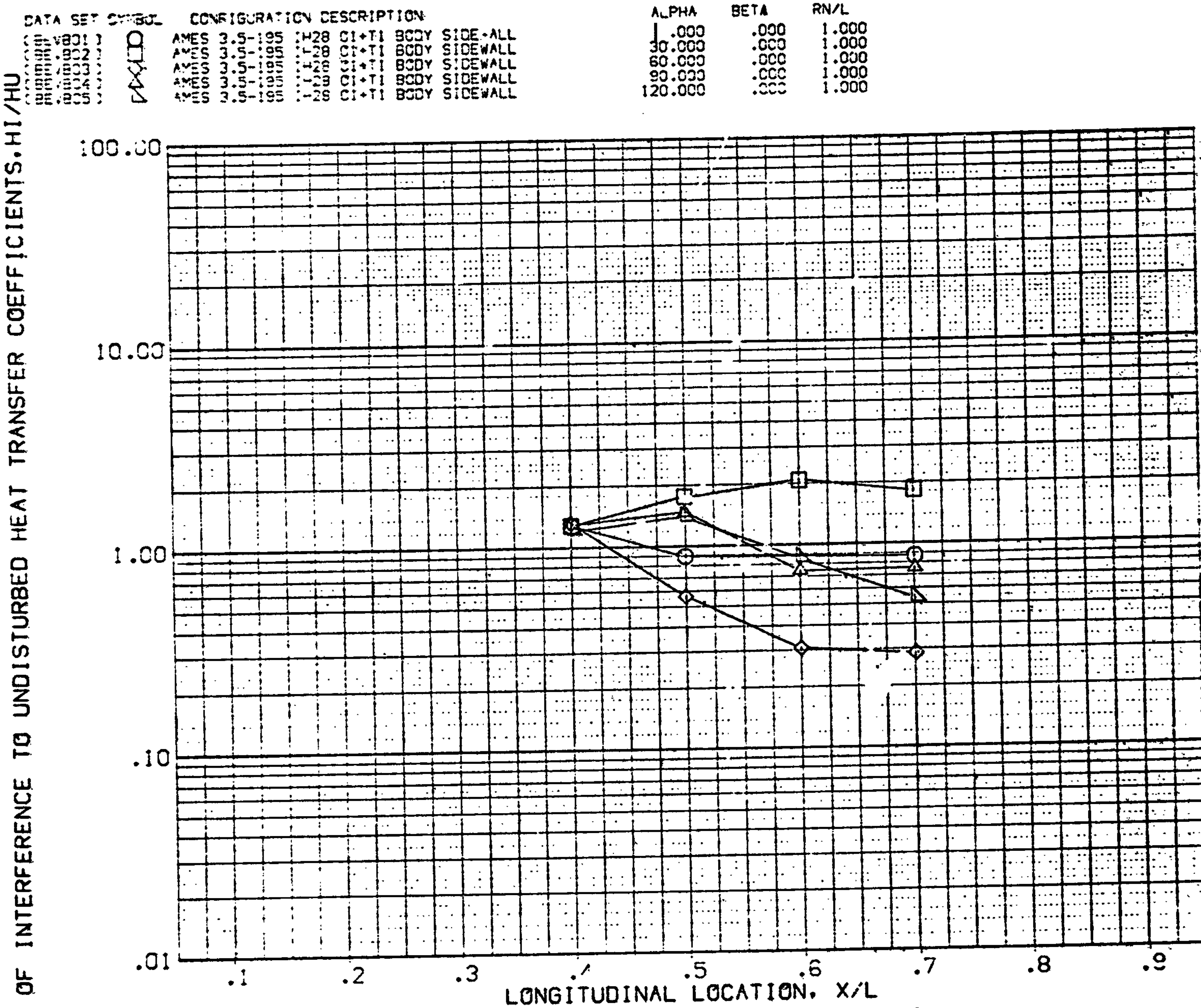

FIG. 12 ORBITER BODY SIDEWALL, RATIO OF INTERFERENCE TO UNDISTURBED

MACH = 5.300 HAW/HT= .900 Z = 501.000

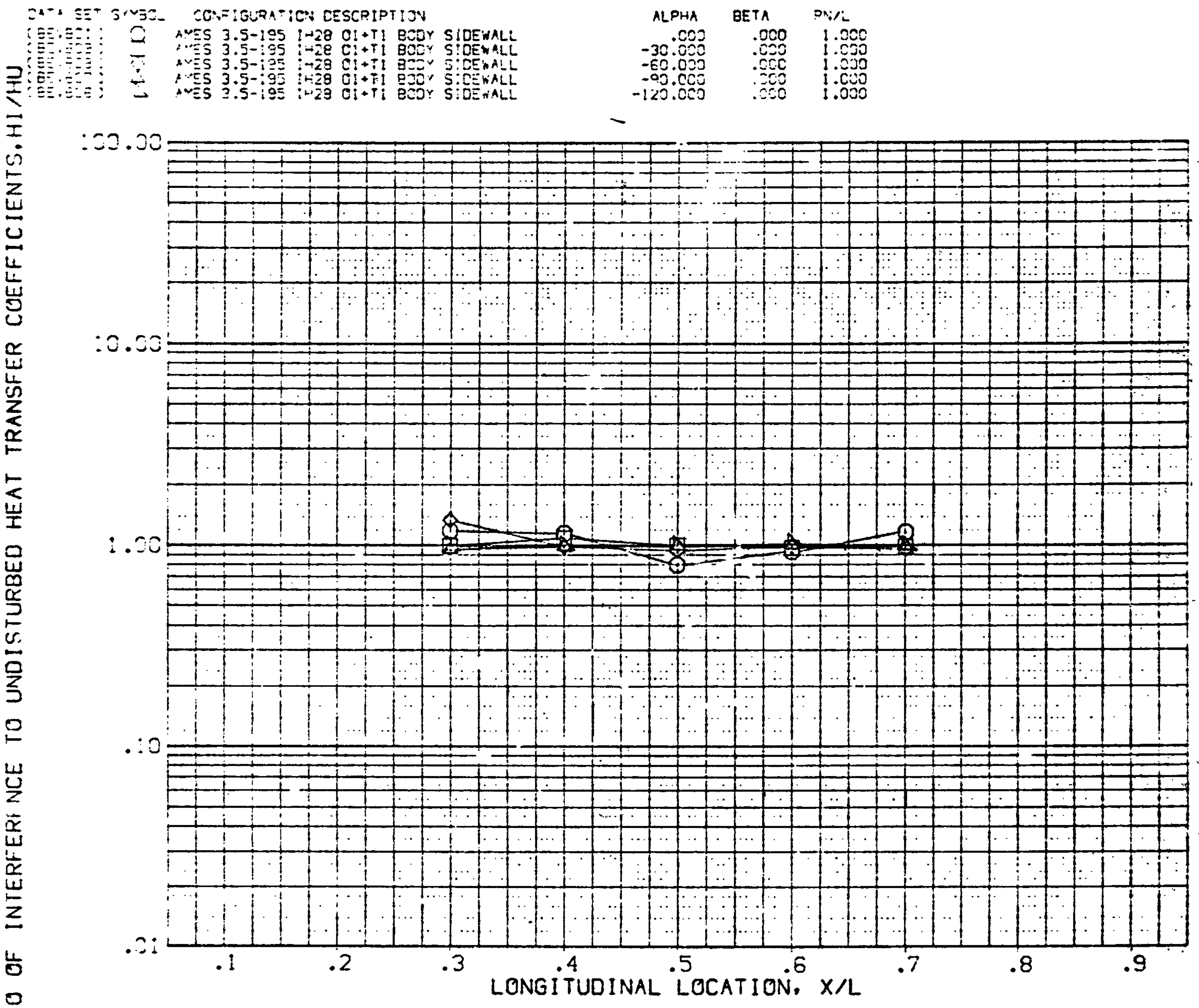

FIG. 12 ORBITER BODY SIDEWALL, RATIO OF INTERFERENCE TO UNDISTURBED

MACH = 5.300 HAW/HT= .900 Z = 375.000

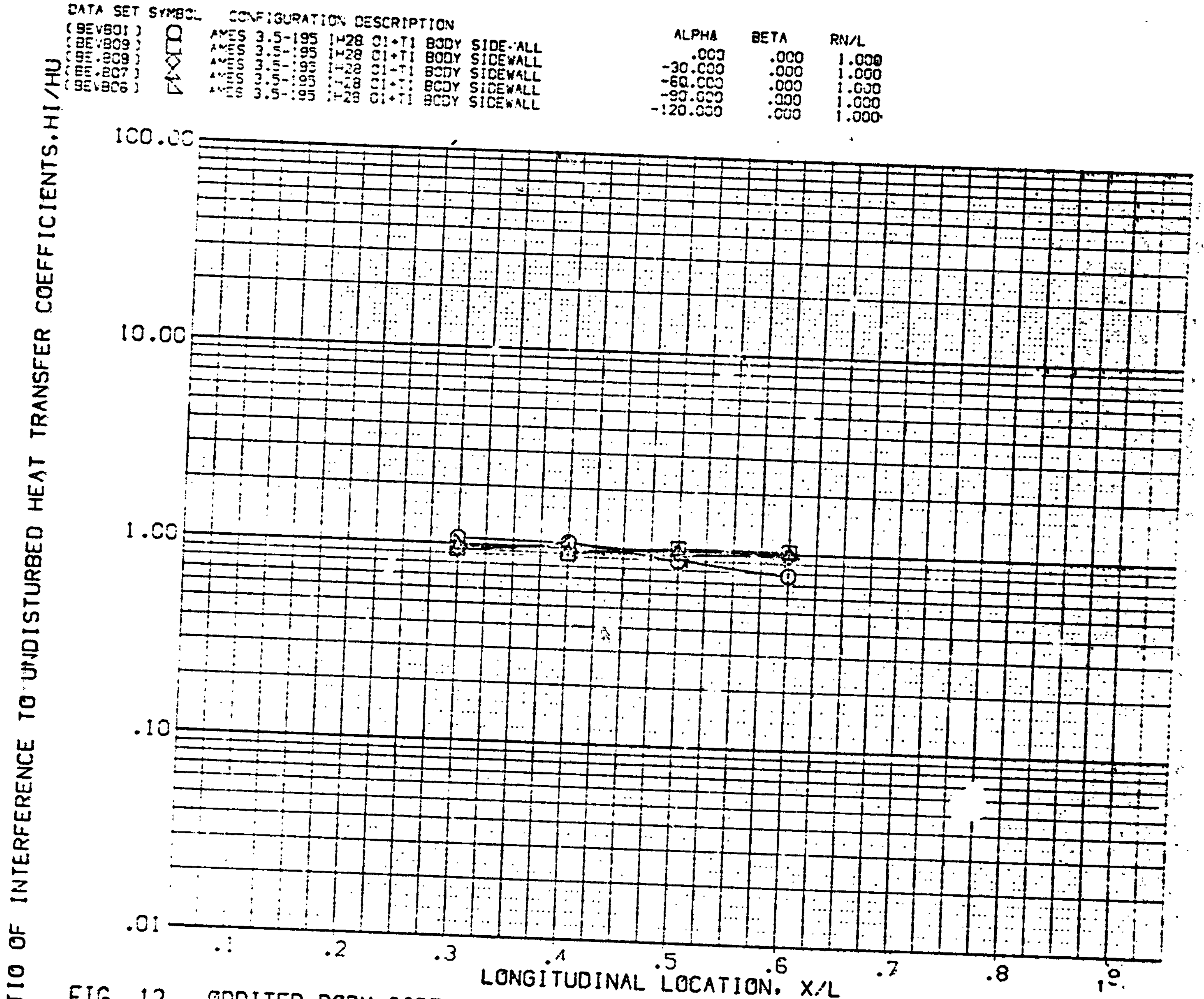

FIG. 12 ORBITER BODY SIDEWALL, RATIO OF INTERFERENCE TO UNDISTURBED

MACH = 5.300 HAW/HT= .900 Z = 425.000

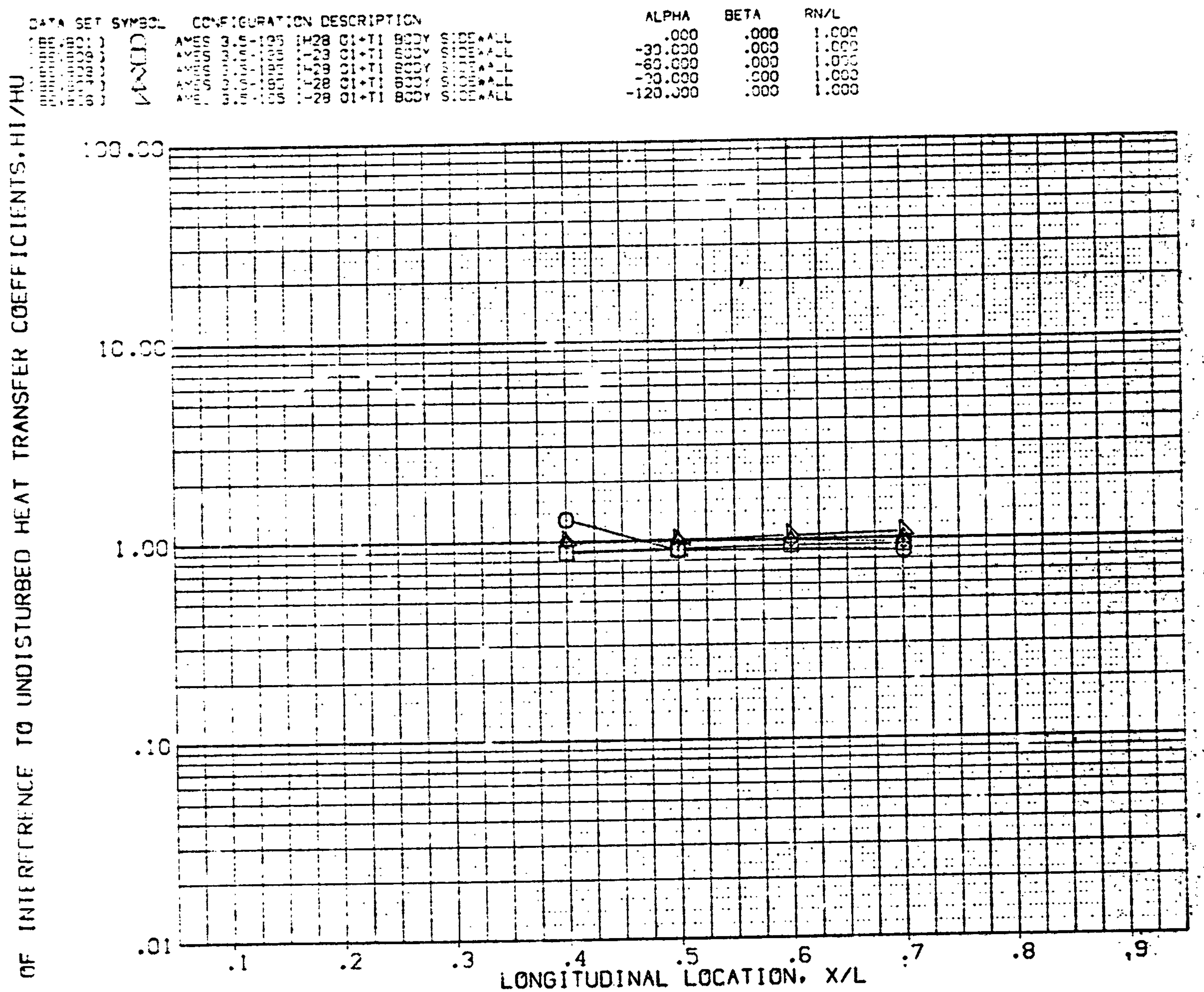

FIG. 12 ORBITER BODY SIDEWALL, RATIO OF INTERFERENCE TO UNDISTURBED

MACH = 5.300 HW/HT= .300 Z = 501.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	RN/L
(BEVB01)	○	AMES 3.5-195 (-28 O1+T1 BODY SIDEWALL	.000	.000	1.000
(BEVB02)	□	AMES 3.5-195 (-28 O1+T1 BODY SIDEWALL	30.000	.000	1.000
(BEVB03)	◇	AMES 3.5-195 (-28 O1+T1 BODY SIDEWALL	60.000	.000	1.000
(BEVB04)	△	AMES 3.5-195 (-28 O1+T1 BODY SIDEWALL	90.000	.000	1.000
(BEVB05)	◺	AMES 3.5-195 (-28 O1+T1 BODY SIDEWALL	120.000	.000	1.000

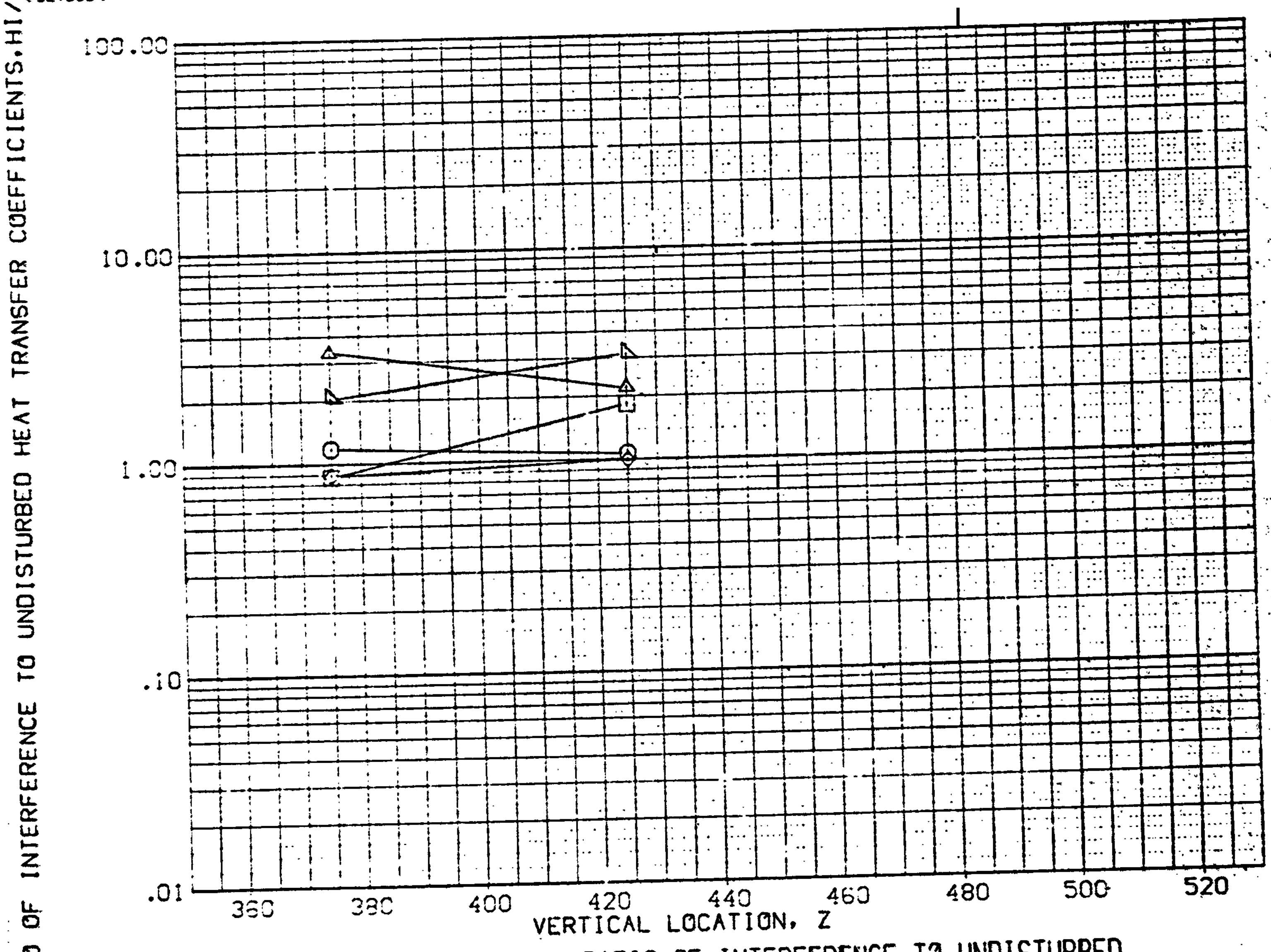

FIG. 12 ORBITER BODY SIDEWALL, RATIO OF INTERFERENCE TO UNDISTURBED

MACH = 5.300 HAW/HT= .900 X/L = .300

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	RN/L
(BEV601)	○	AMES 3.5-195 IH28 O1+T1 BODY SIDEWALL	.000	.000	1.000
(BEV602)	□	AMES 3.5-195 IH28 O1+T1 BODY SIDEWALL	30.000	.000	1.080
(BEV603)	◇	AMES 3.5-195 IH28 O1+T1 BODY SIDEWALL	60.000	.000	1.000
(BEV604)	△	AMES 3.5-195 IH28 O1+T1 BODY SIDEWALL	90.000	.000	1.000
(BEV605)	◺	AMES 3.5-195 IH28 O1+T1 BODY SIDEWALL	120.000	.000	1.000

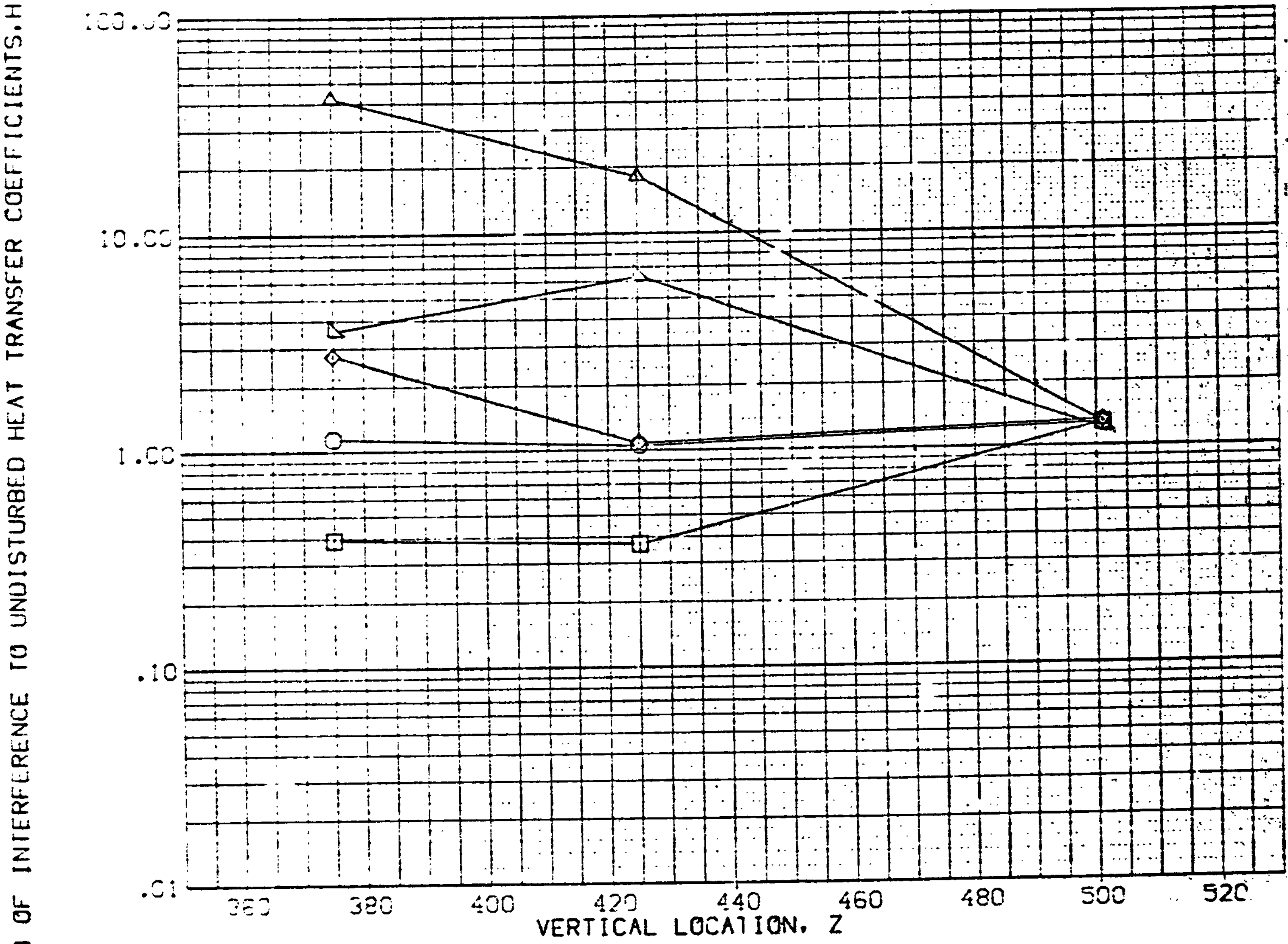

FIG. 12 ORBITER BODY SIDEWALL, RATIO OF INTERFERENCE TO UNDISTURBED

MACH = 5.300 HAW/HT = .900 X/L = .400

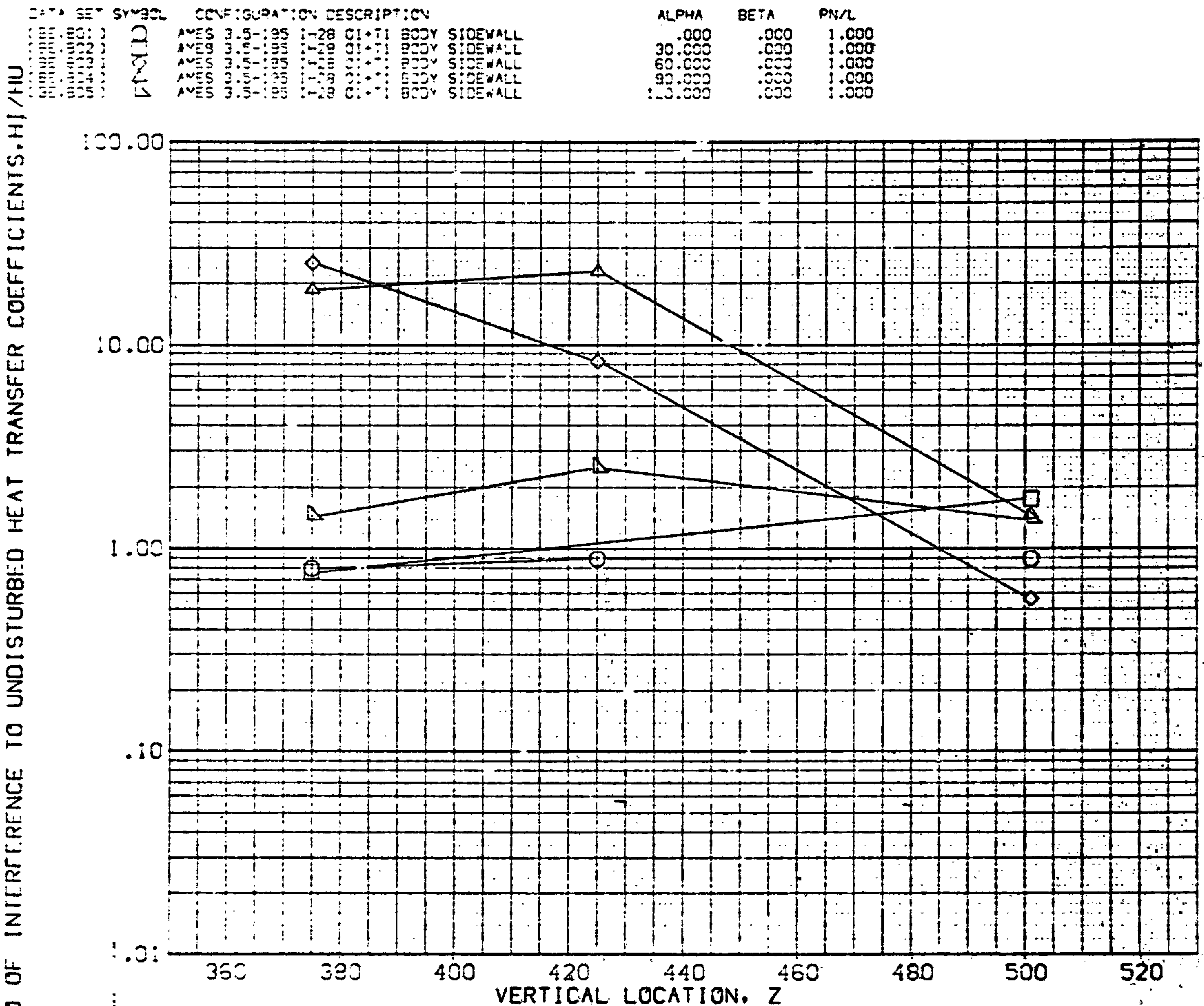

FIG. 12 ORBITER BODY SIDEWALL, RATIO OF INTERFERENCE TO UNDISTURBED

= 5.300 HW/HT= .900 X/L = .500

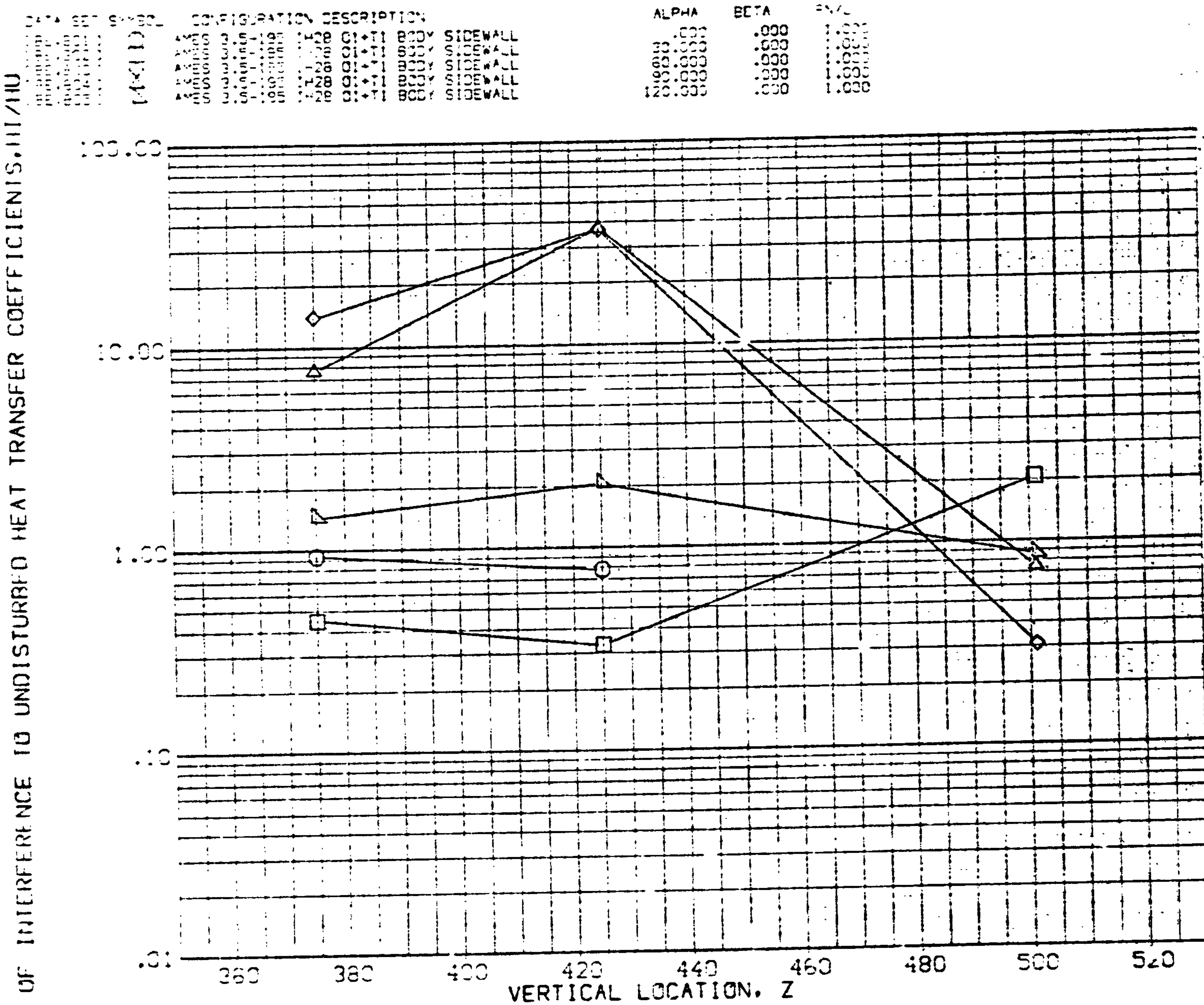

FIG. 12 ORBITER BODY SIDEWALL, RATIO OF INTERFERENCE TO UNDISTURBED

MACH = 5.300 HAW/HT= .900 X/L = .600

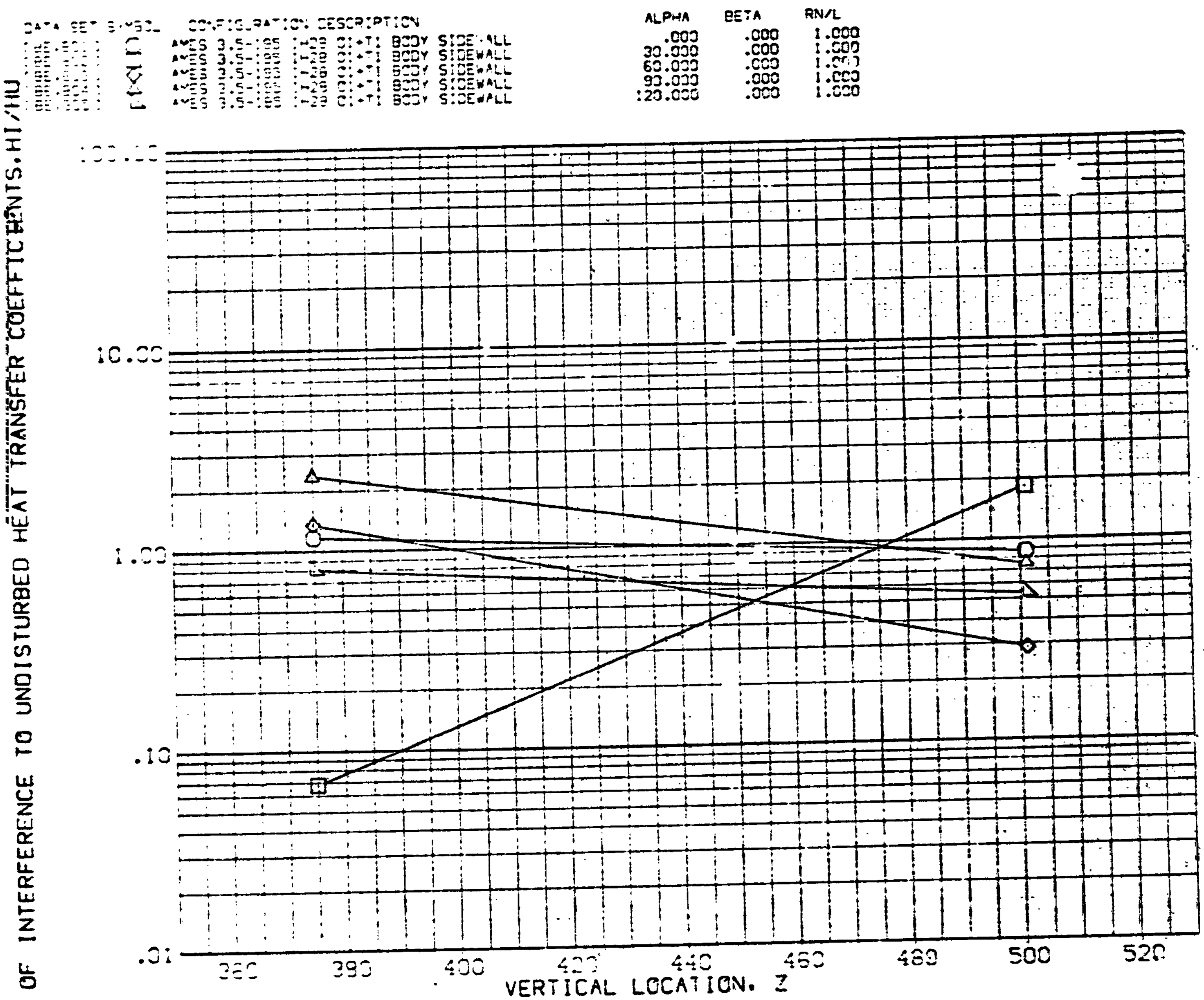

FIG. 12 ORBITER BODY SIDEWALL, RATIO OF INTERFERENCE TO UNDISTURBED

MACH = 5.300 TW/TT = .900 X/L = .700

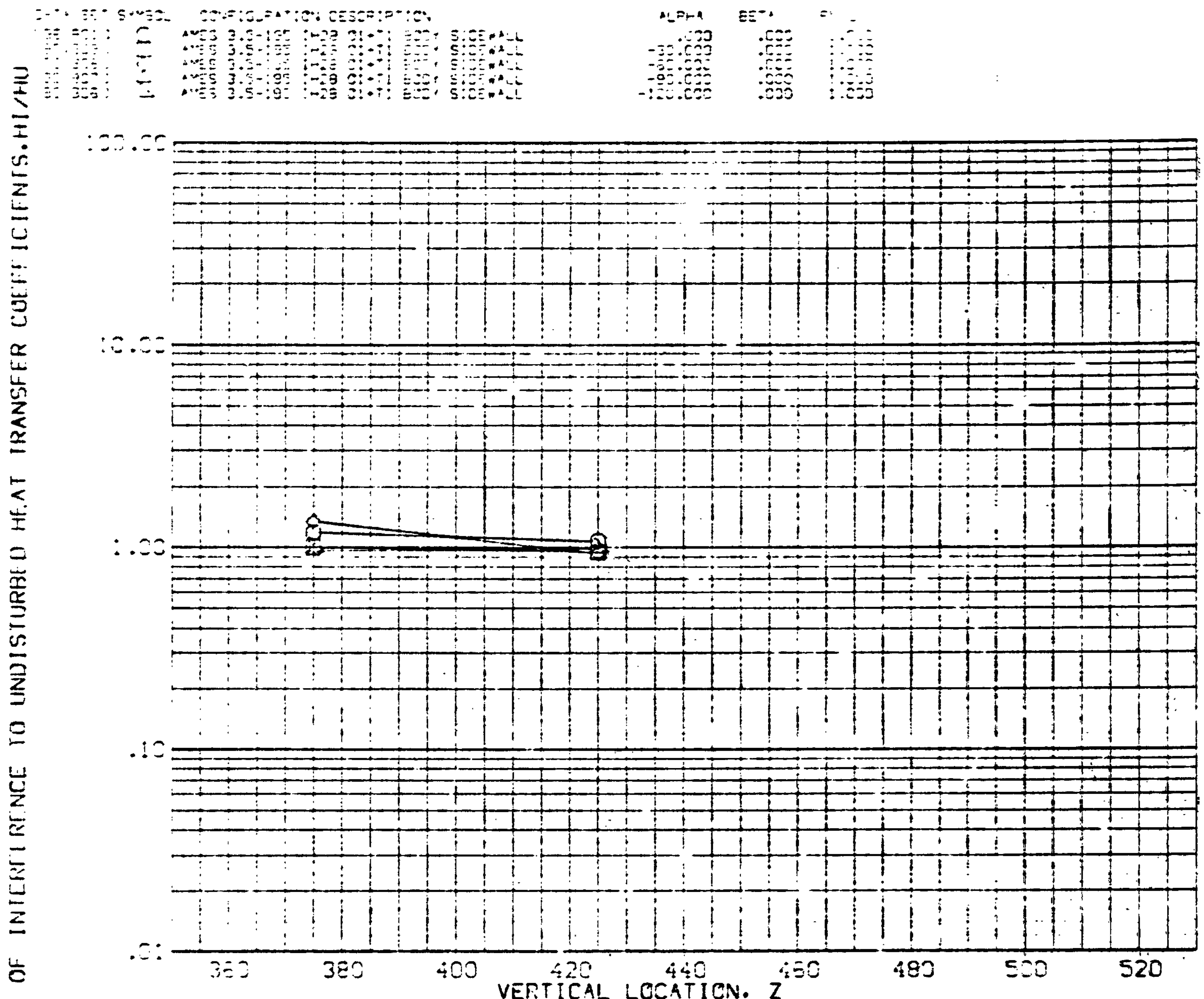

FIG. 12 ORBITER BODY SIDEWALL. RATIO OF INTERFERENCE TO UNDISTURBED

MACH = 5.300 HAW/HT= .800 X/L = .300

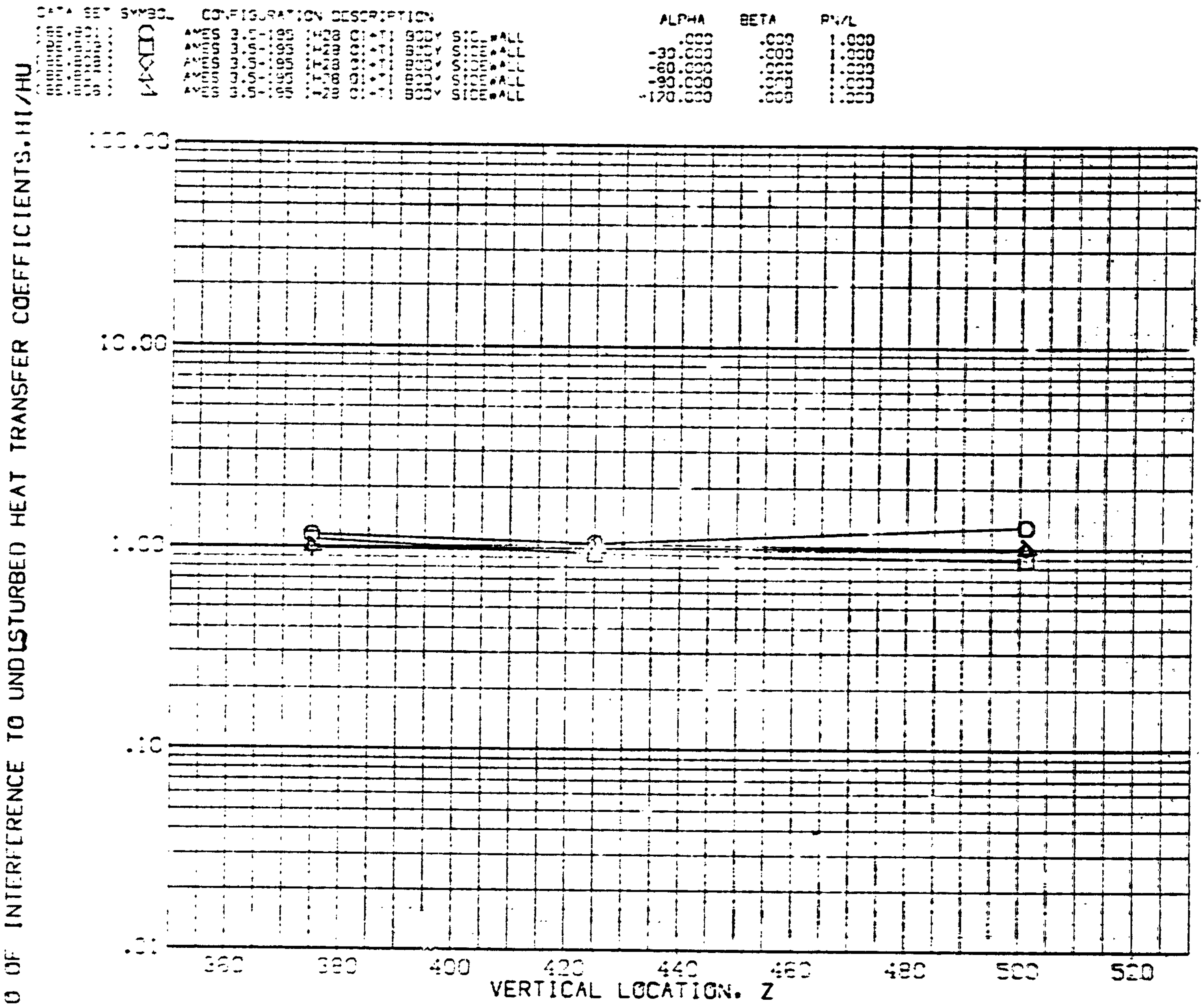

FIG. 12 ORBITER BODY SIDEWALL, RATIO OF INTERFERENCE TO UNDISTURBED

MACH = 5.300 H/L = .900 Y/L = .000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	RN/L
(BEB801)	○	AMES 3.5-195 IH28 O1+T1 BODY SIDEWALL	.000	.000	1.000
(BEB809)	□	AMES 3.5-195 IH28 O1+T1 BODY SIDEWALL	-30.000	.000	1.000
(BEB808)	◇	AMES 3.5-195 IH28 O1+T1 BODY SIDEWALL	-60.000	.000	1.000
(BEB807)	△	AMES 3.5-195 IH28 O1+T1 BODY SIDEWALL	-90.000	.000	1.000
(BEB806)	◁	AMES 3.5-195 IH28 O1+T1 BODY SIDEWALL	-120.000	.000	1.000

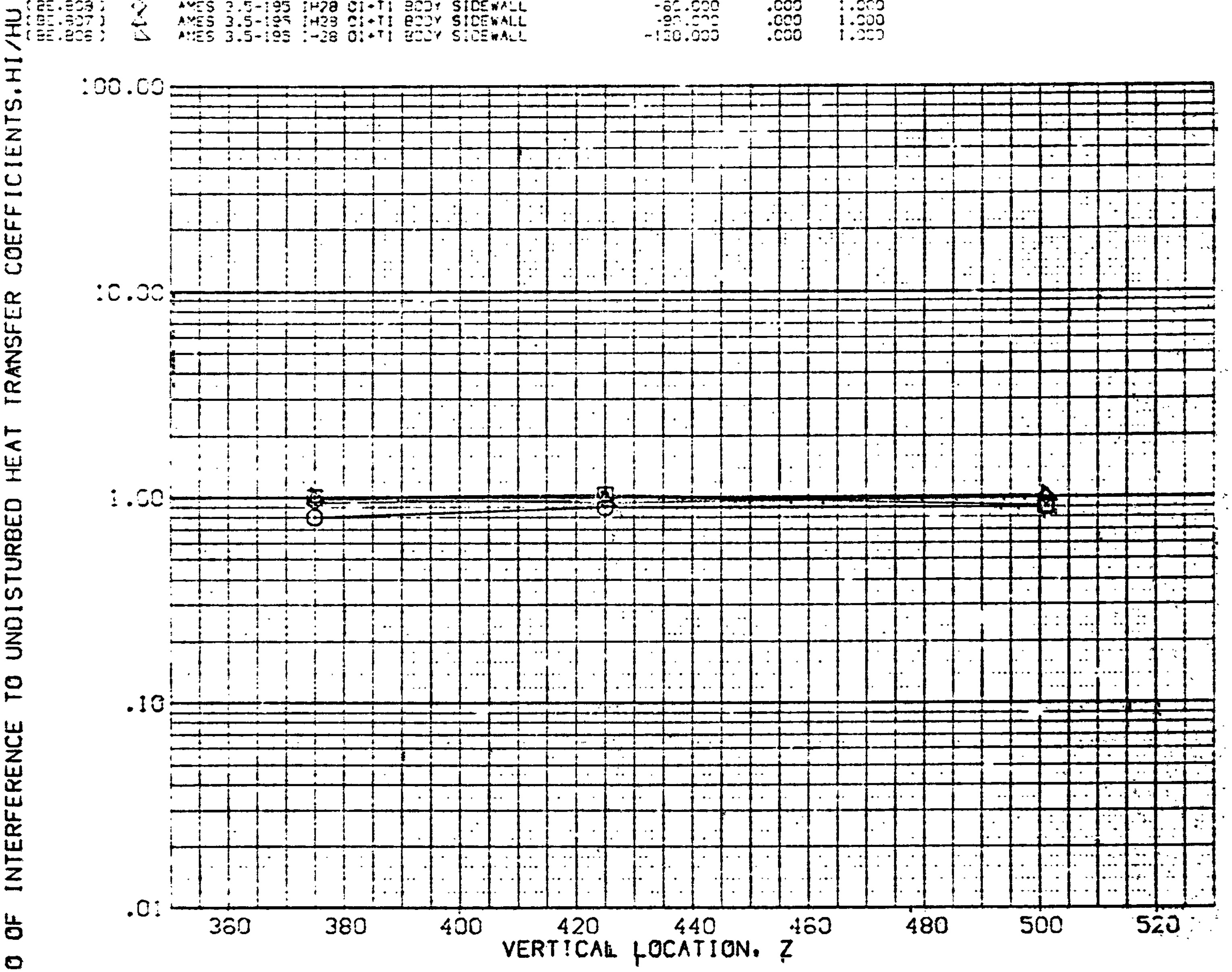

FIG. 12 ORBITER BODY SIDEWALL, RATIO OF INTERFERENCE TO UNDISTURBED

MACH = 5.300 HAW/HT= .900 X/L = .500

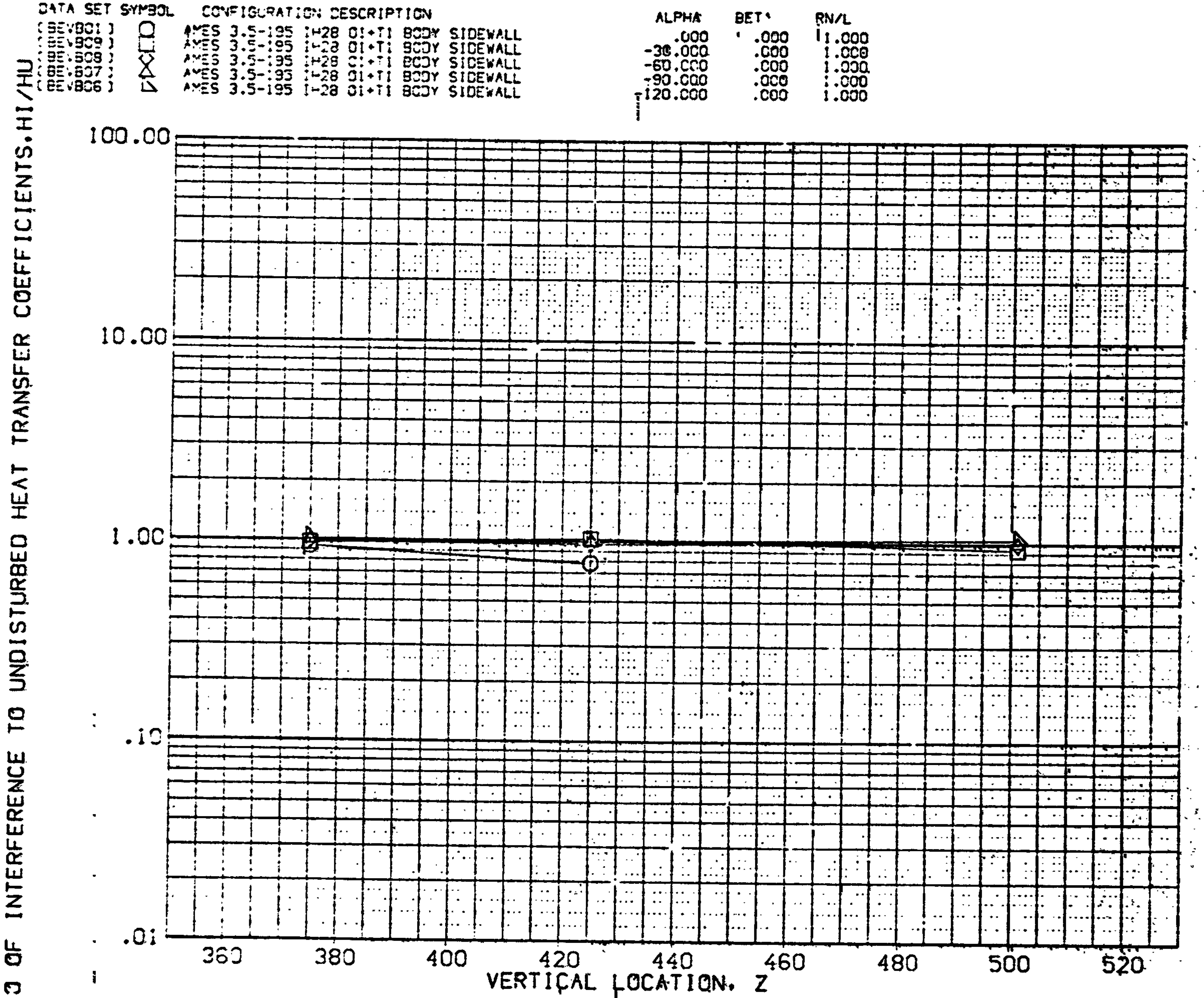

FIG. 12 ORBITER BODY SIDEWALL, RATIO OF INTERFERENCE TO UNDISTURBED

MACH = 5.300 HAW/HT= .900 X/L = .600

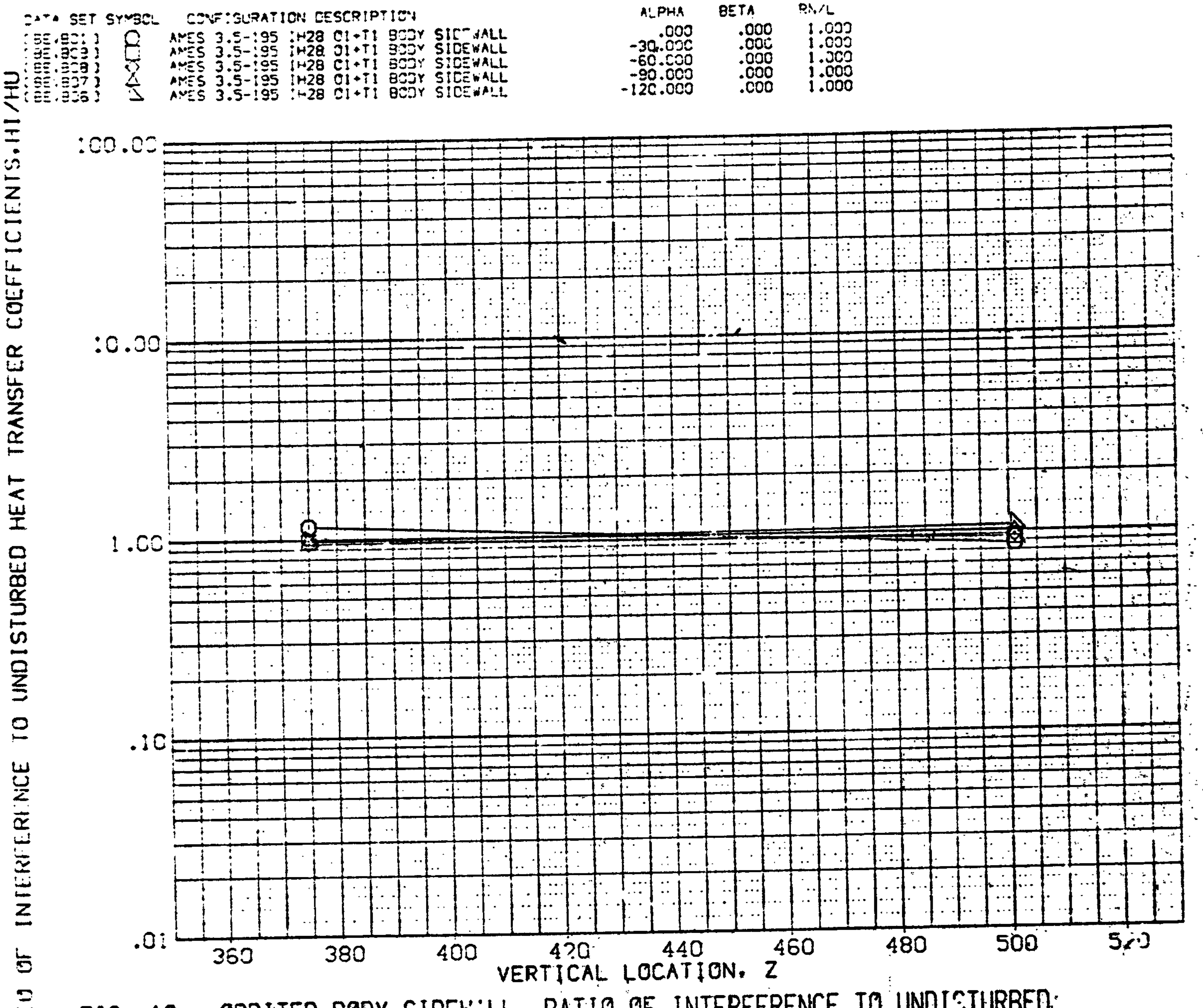

FIG. 12 ORBITER BODY SIDEWALL, RATIO OF INTERFERENCE TO UNDISTURBED

MACH = 5.300 HAW/HT= .900 X/L = .700

AMES 3.5-195 IH28 01 OMS PODS (REVC19)

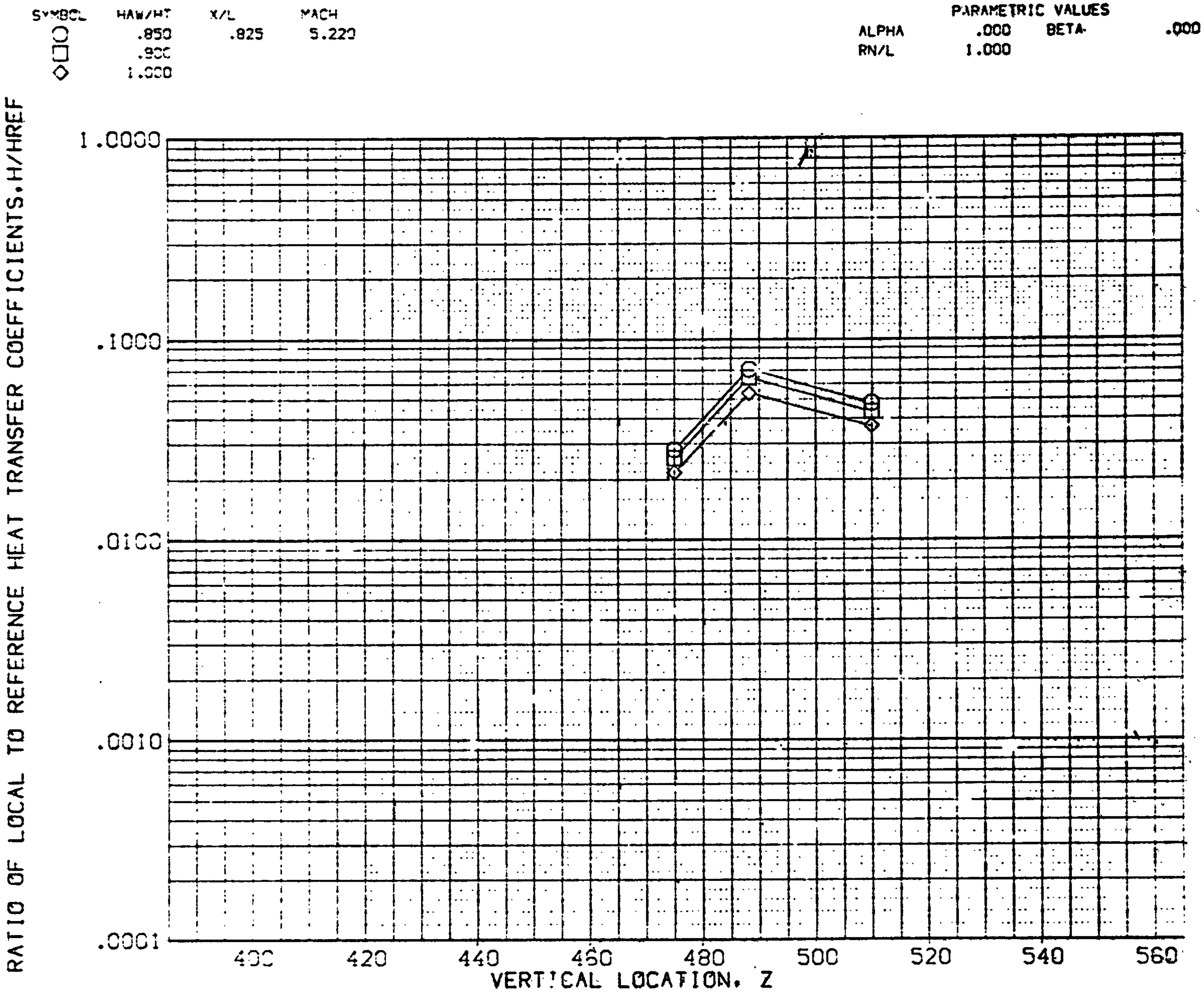

FIG. 13 OMS PODS, ORBITER ALONE

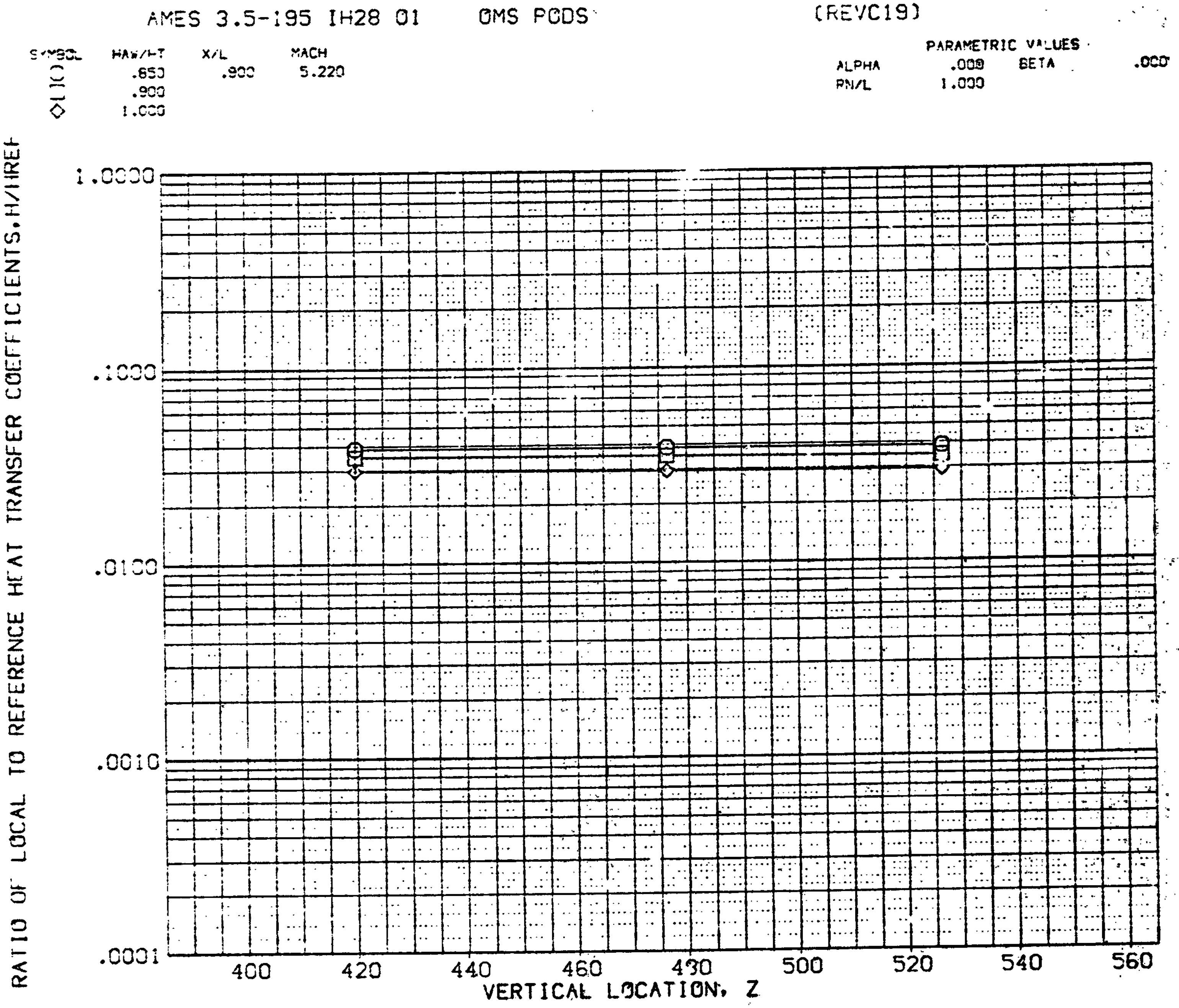

FIG. 13 OMS PODS, ORBITER ALONE

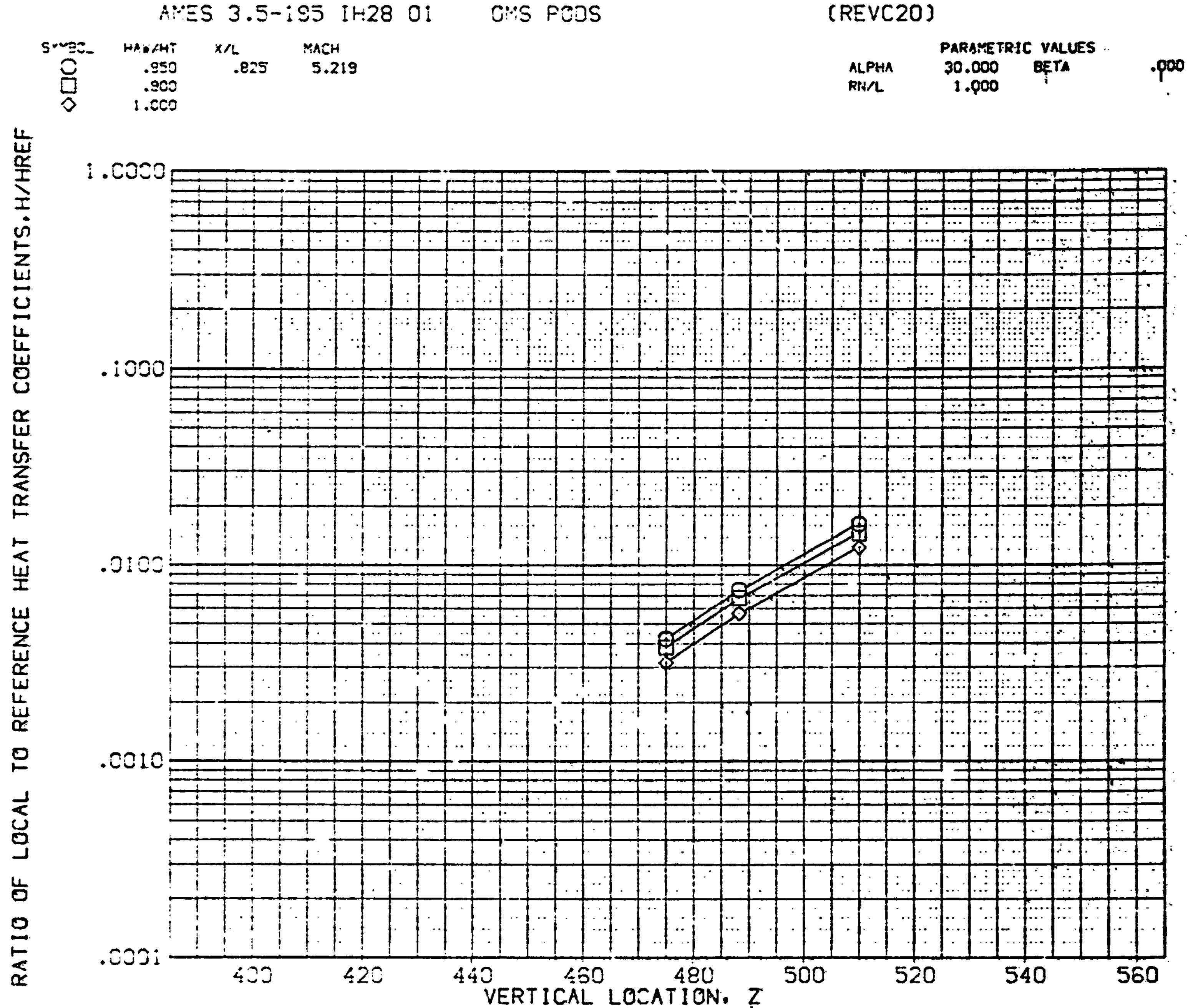

FIG. 13 OMS PODS, ORBITER ALONE

AMES 3.5-195 IH28 01 OMS PODS (REVC20)

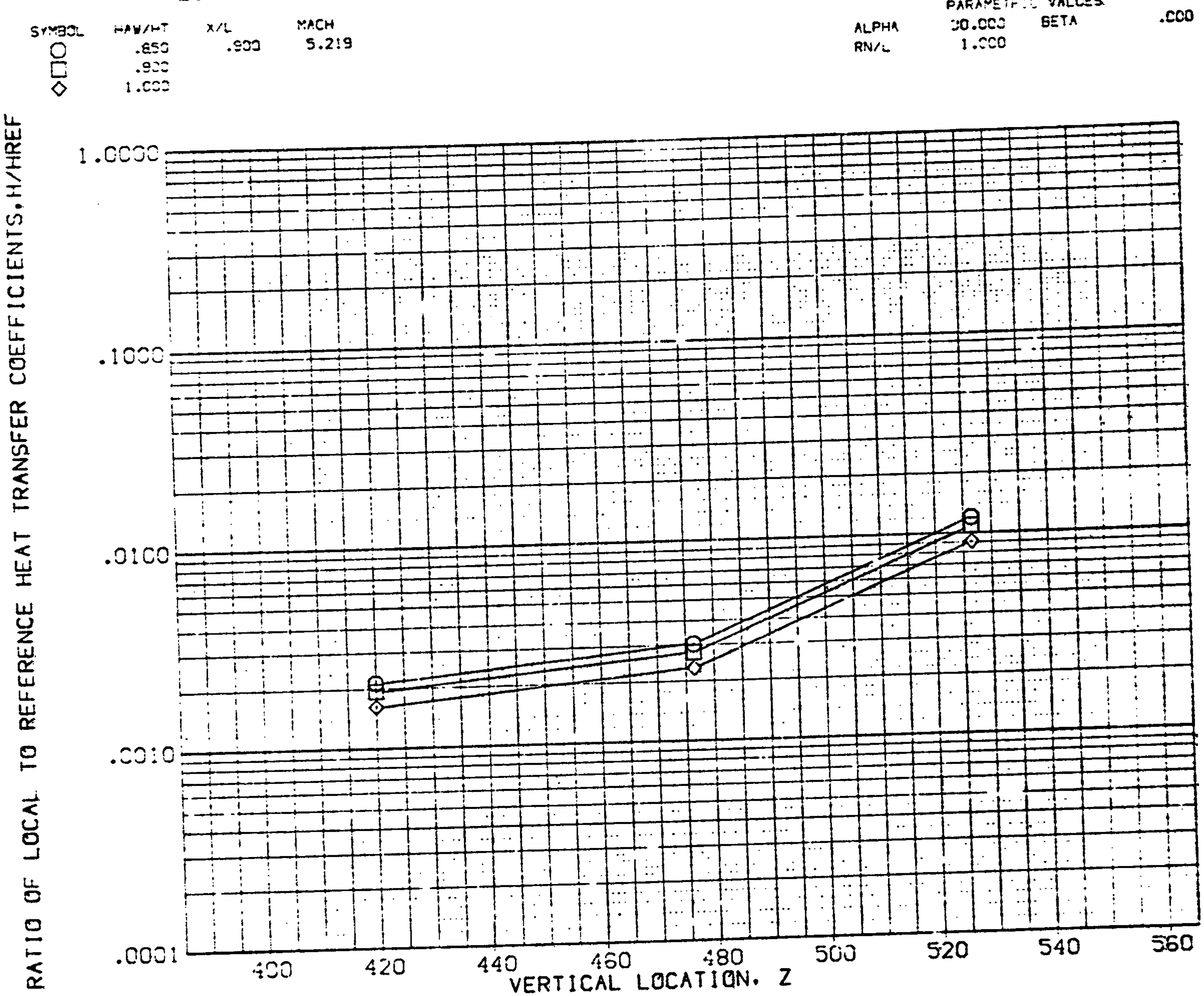

FIG. 13 OMS PODS, ORBITER ALONE

AMES 3.5-195 IH28 01 OMS PODS (REVC21)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.825	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA	0.000	BETA	.000
RN/L	1.000		

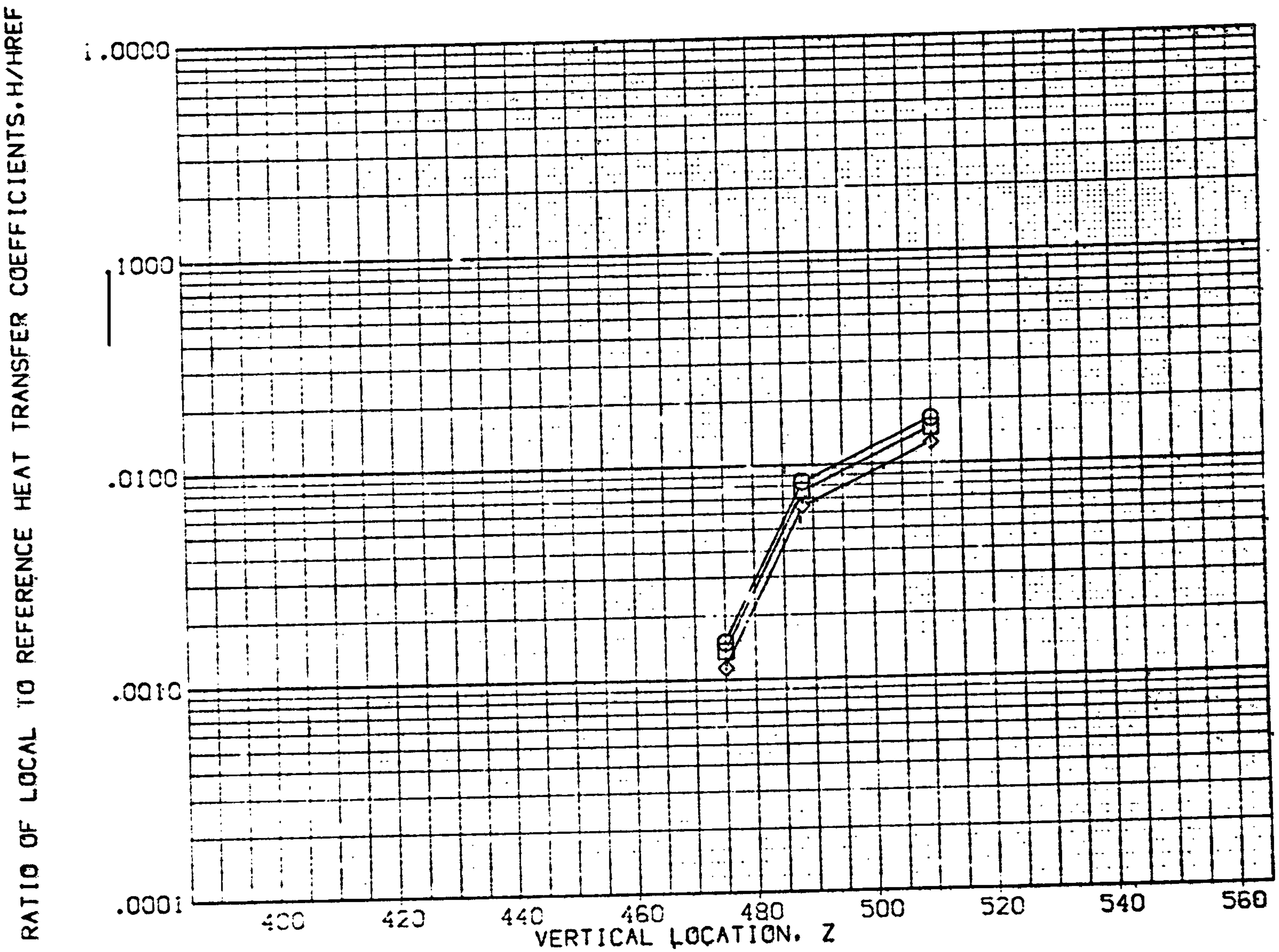

FIG. 13 OMS PODS, ORBITER ALONE

AMES 3.5-195 IH28 01 OMS PODS (REVC21)

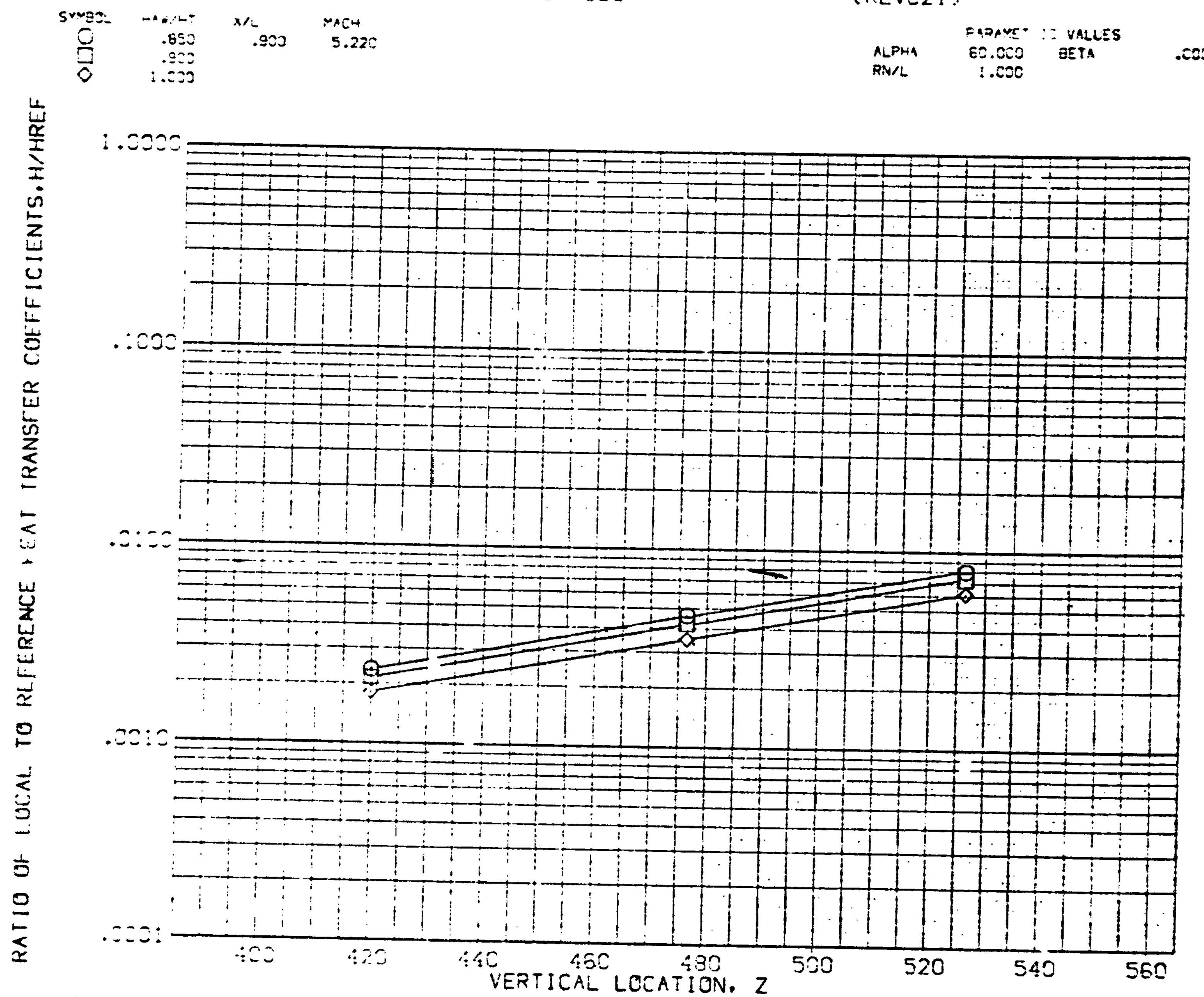

FIG. 13 OMS PODS, ORBITER ALONE

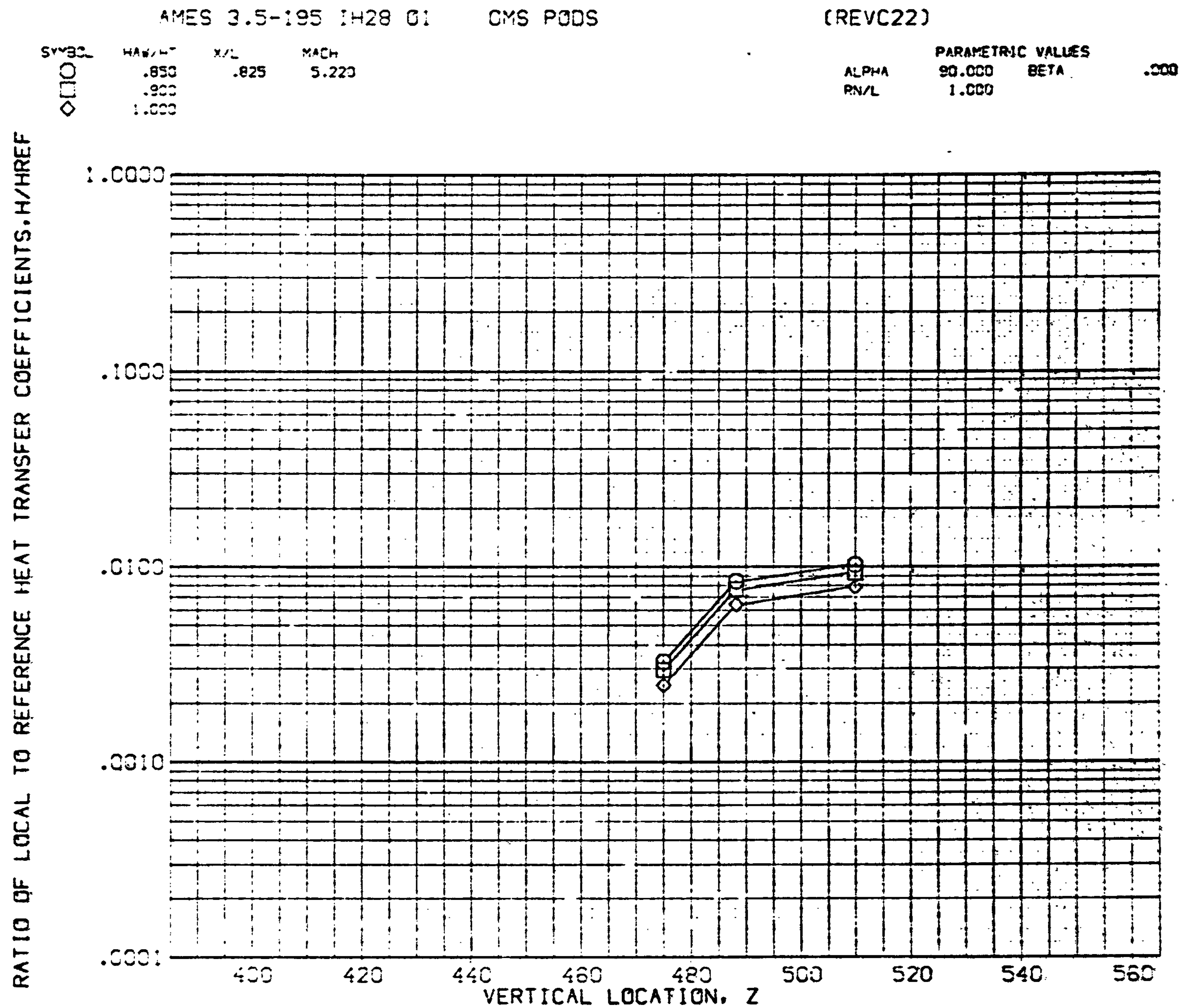

FIG. 13 OMS PODS, ORBITER ALONE

AMES 3.5-195 I-28 01 OMS PODS (REV022)

SYMBOL	HW/ZHT	Y/L	MACH
○	.850	.900	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA	90.000	BETA	.000
RN/L	1.000		

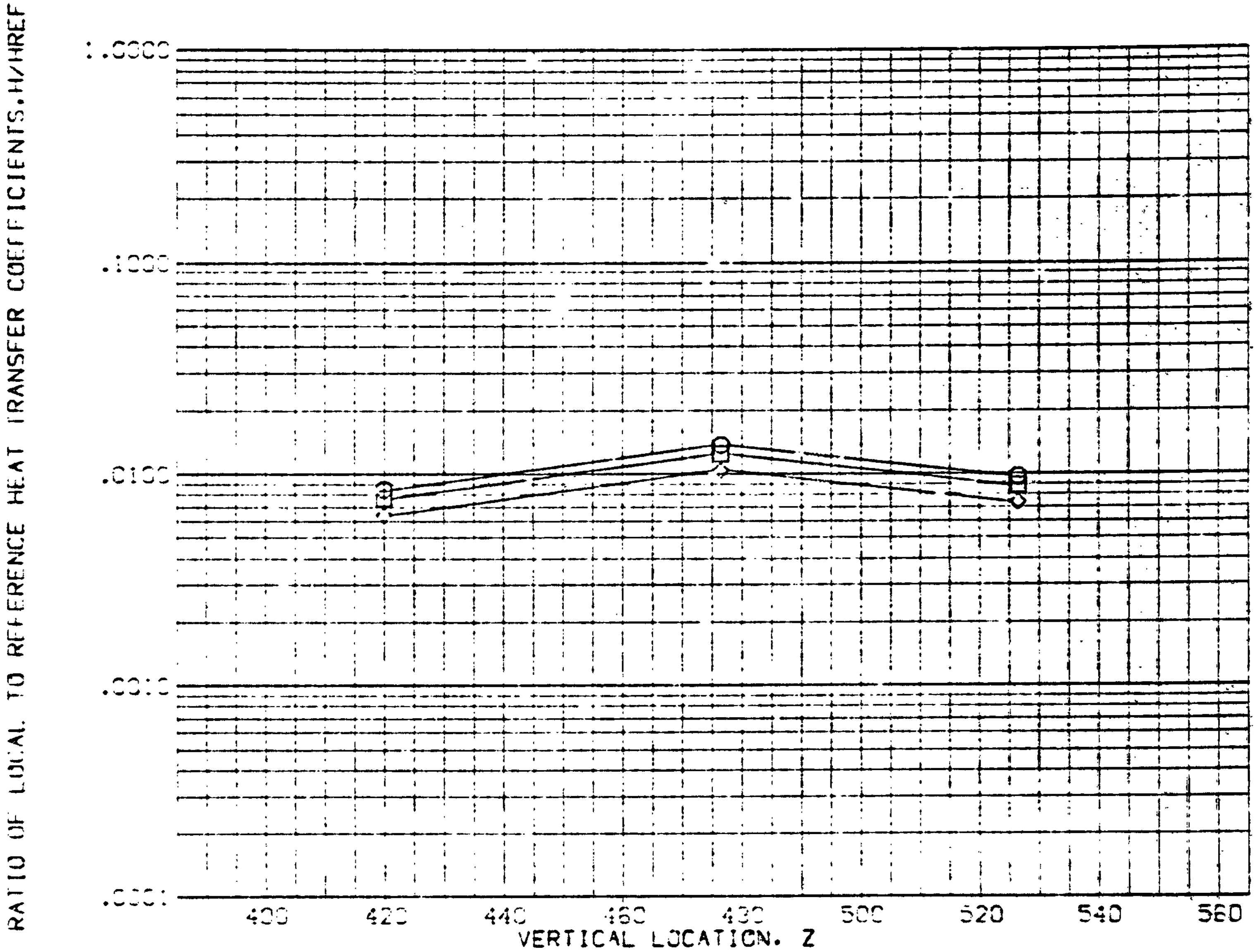

FIG. 13 OMS PODS. ORBITER ALONE

AMES 3.5-195 IH28 O1   OMS PODS   (REVC23)

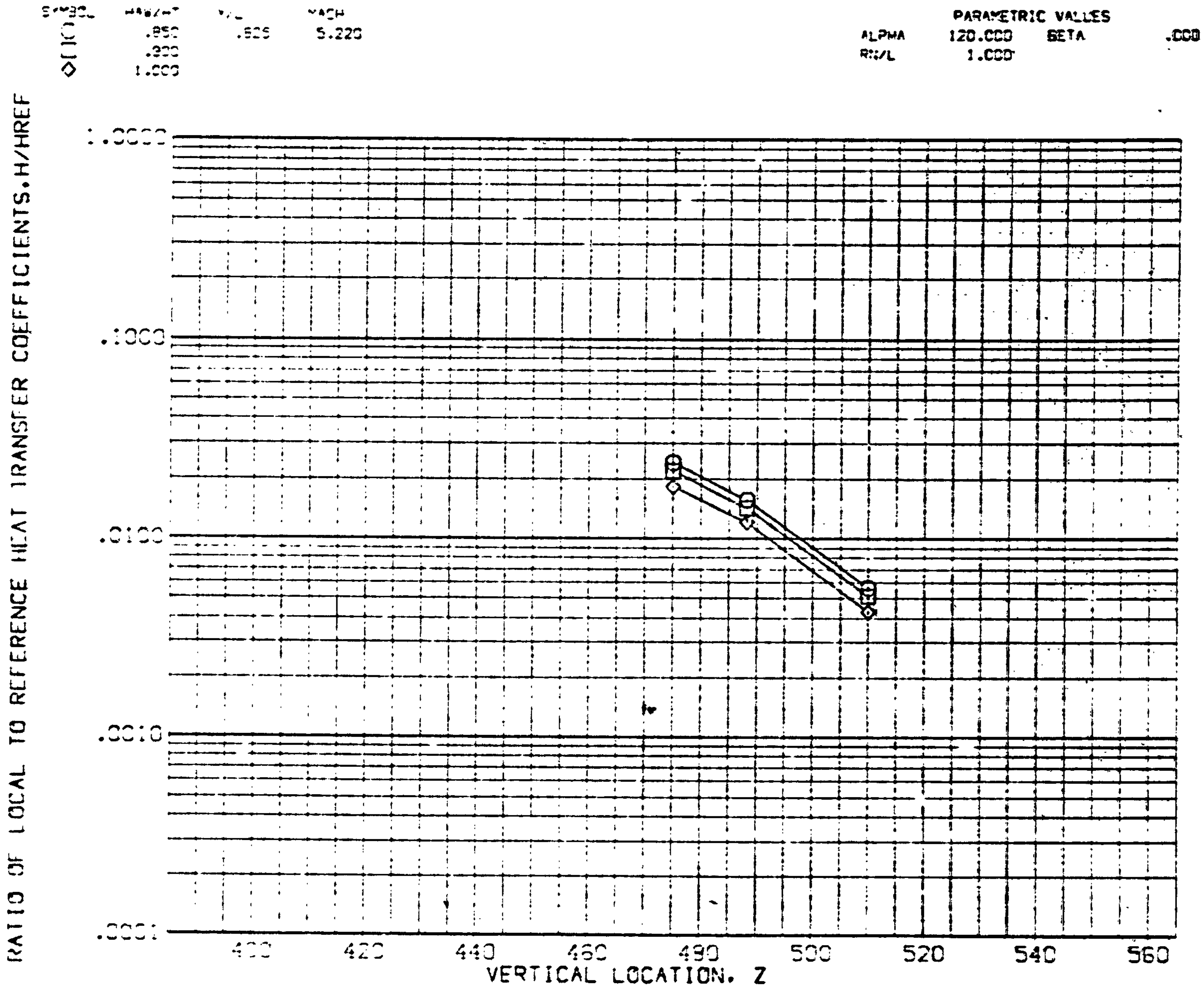

FIG. 13 OMS PODS, ORBITER ALONE

AMES 3.5-155 IH28 01 OMS PODS (RE.C23)

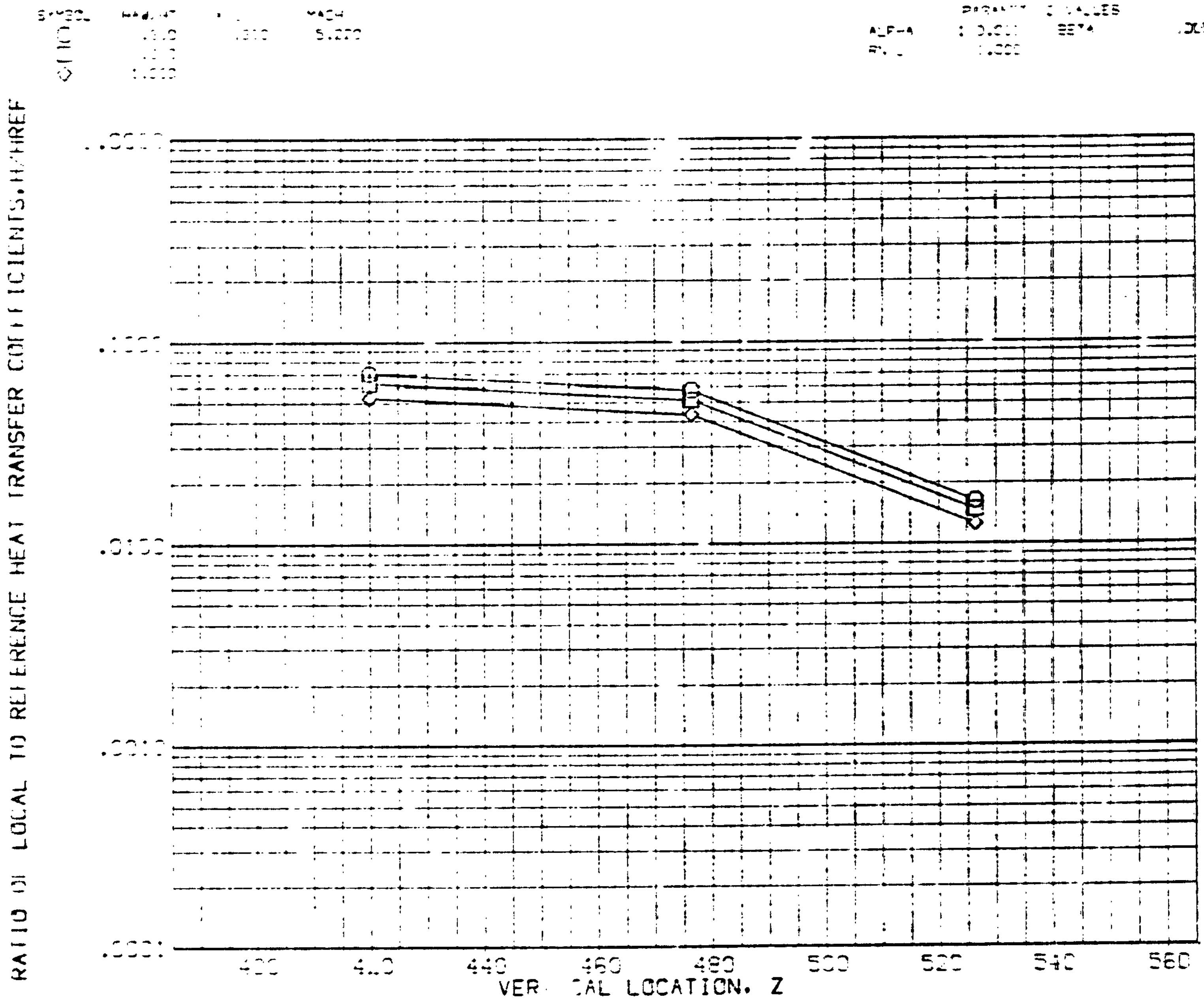

FIG. 13 OMS PODS, ORBITER ALONE

AMES 3.5-195 IH28 C1 OMS PODS (REVC24)

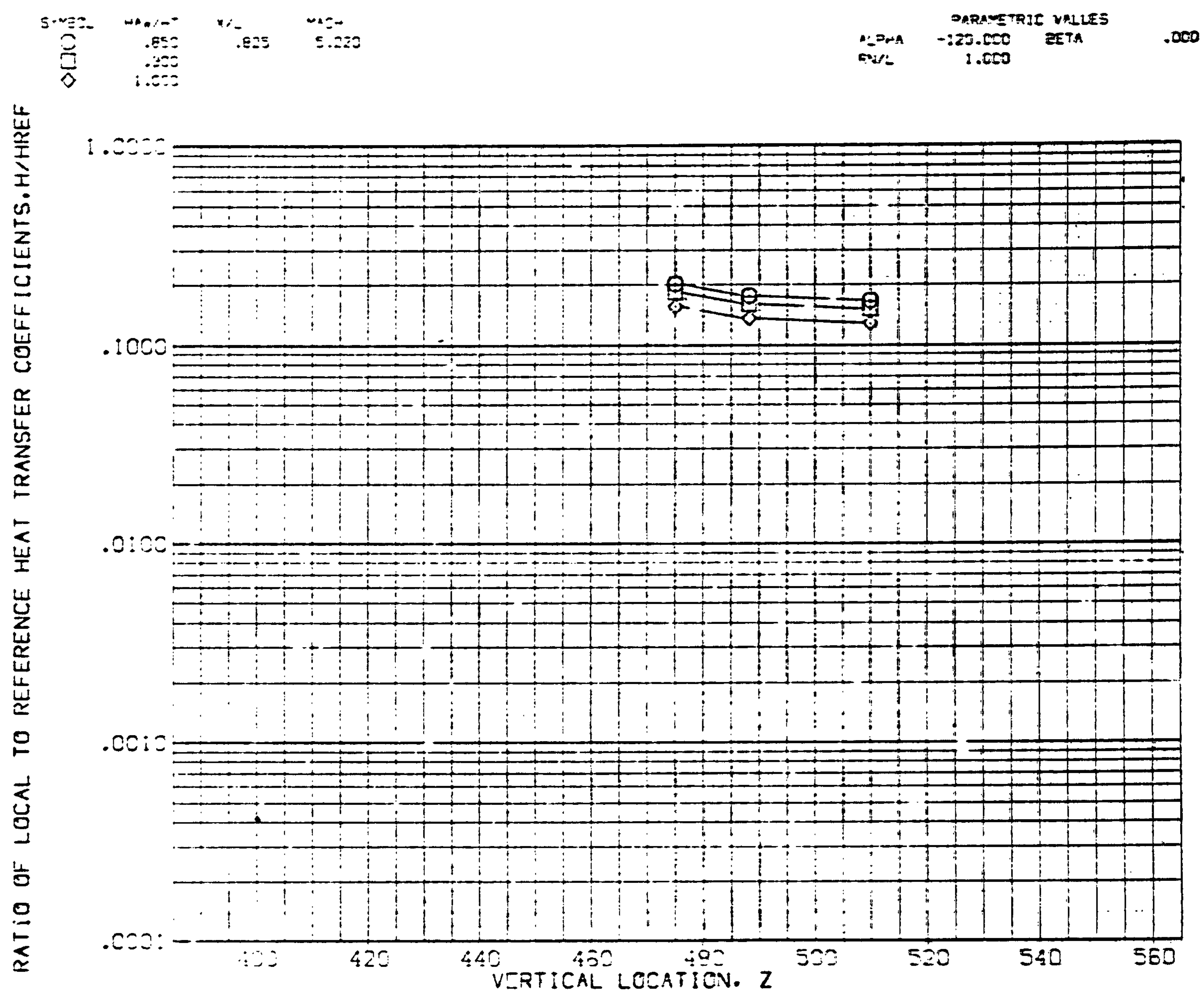

FIG. 13 OMS PODS, ORBITER ALONE

AMES 3.5-195 IH28 01 OMS PODS (REVC24)

SYMBOL	HAB/HT	X/L	MACH
○	.850	.900	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA -120.000 BETA .000

RN/L 1.000

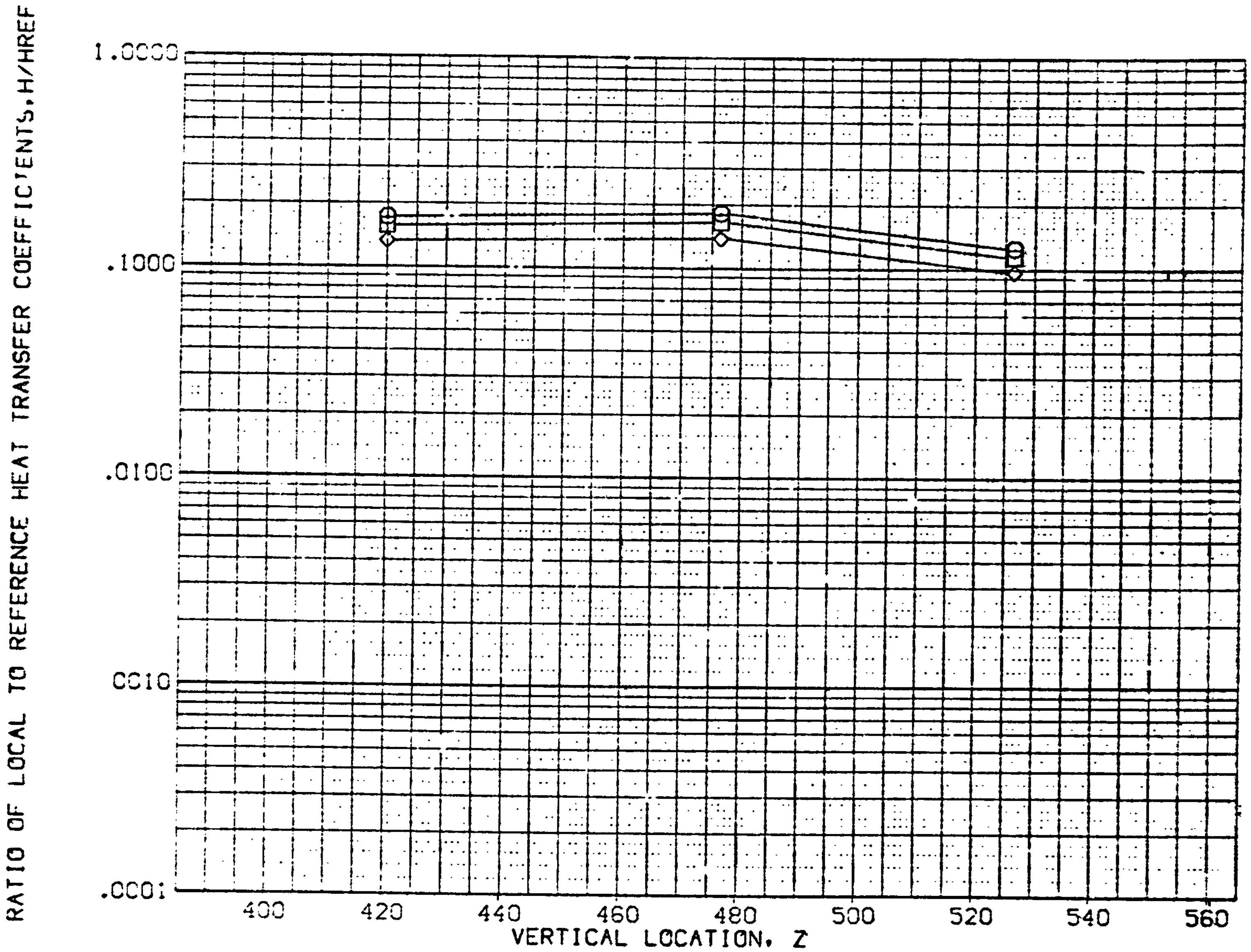

FIG. 13 OMS PODS, ORBITER ALONE

REPRODUCIBILITY OF THE ORIGINAL PAGE IS POOR

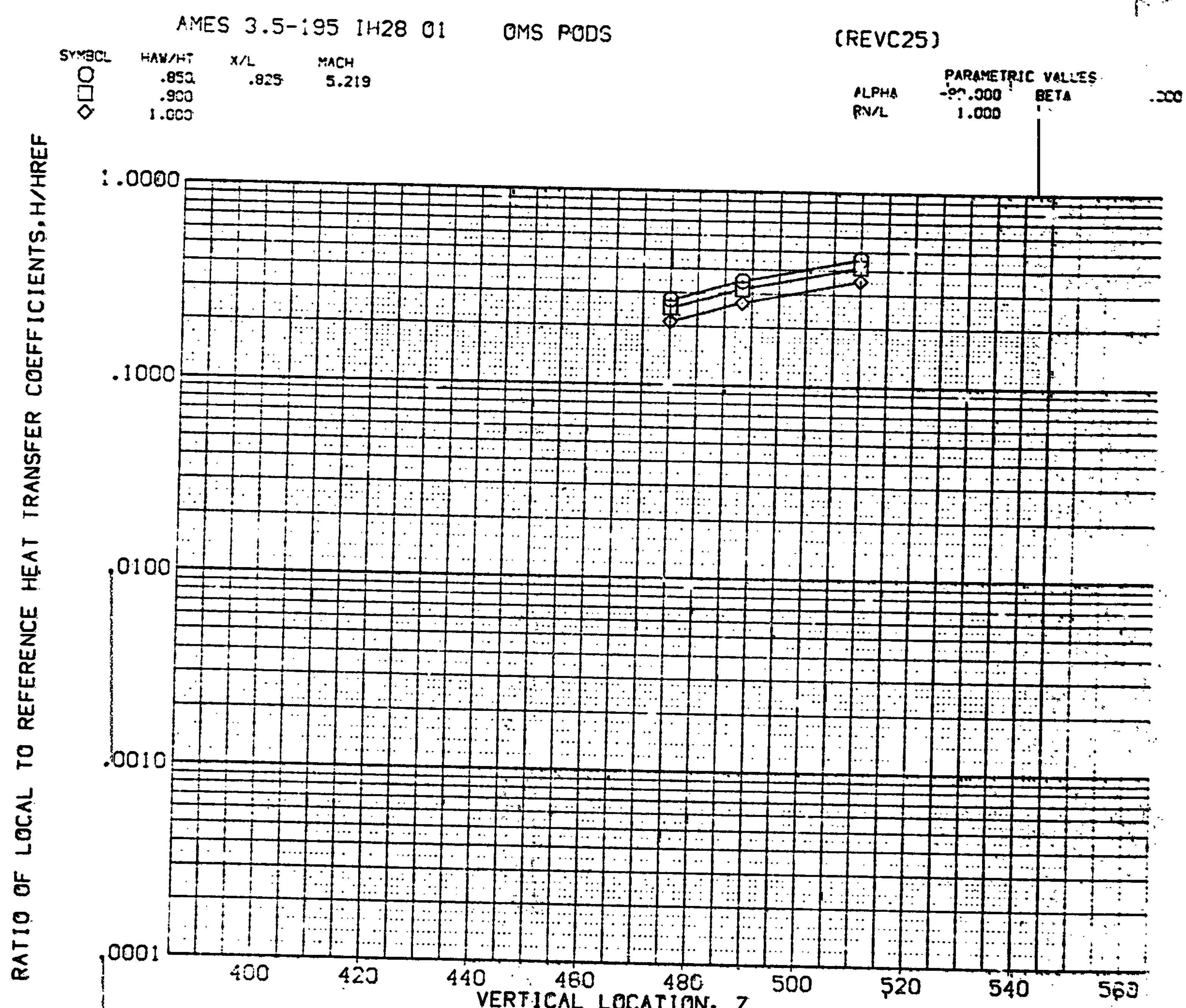

FIG. 13 OMS PODS, ORBITER ALONE

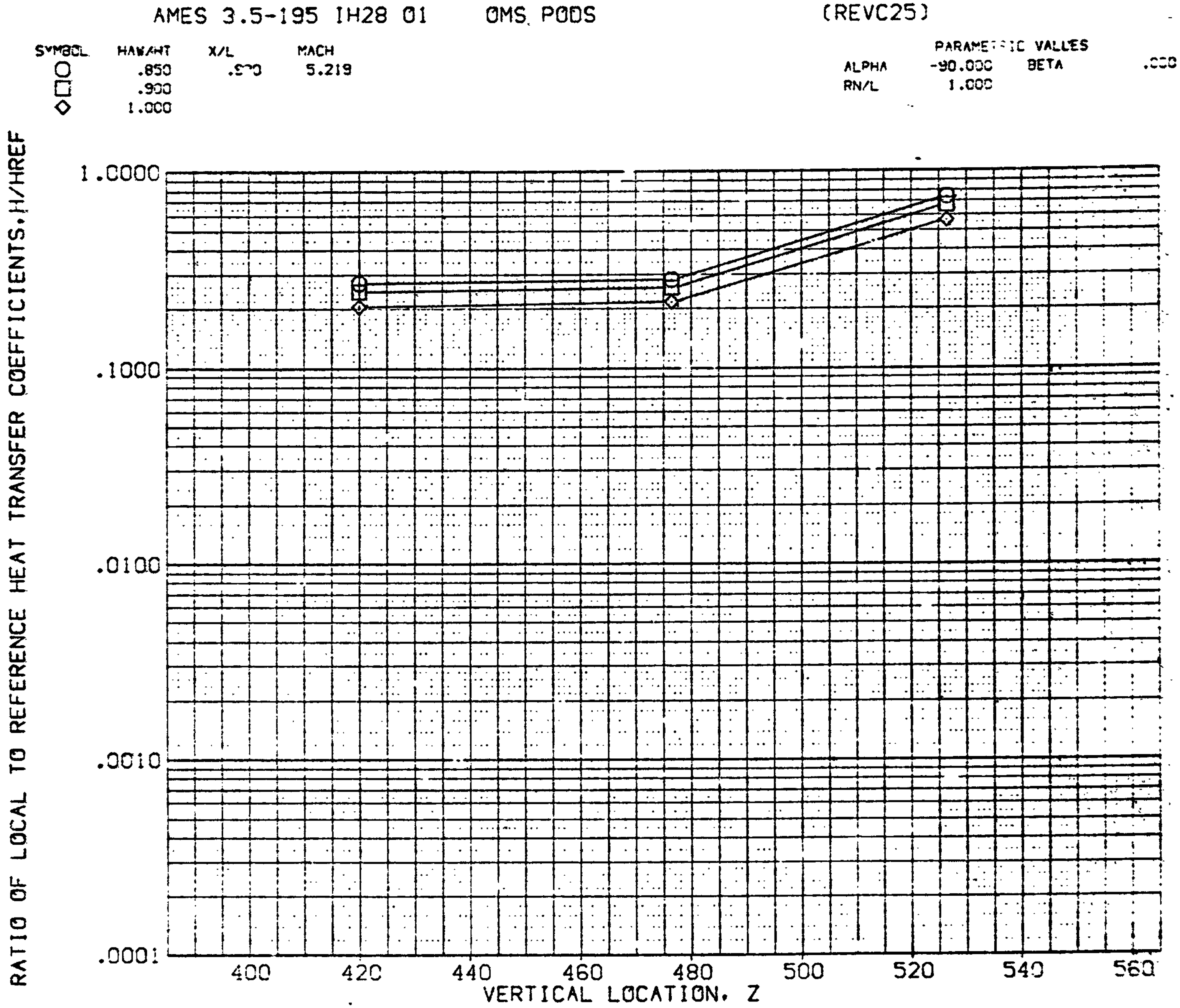

FIG. 13 OMS PODS, ORBITER ALONE

AMES 3.5-195 IH28 01 OMS PODS (REVC26)

SYMBOL	HAV/HT	X/L	MACH
○	.850	.825	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES
ALPHA -60.000 BETA .000
RN/L 1.000

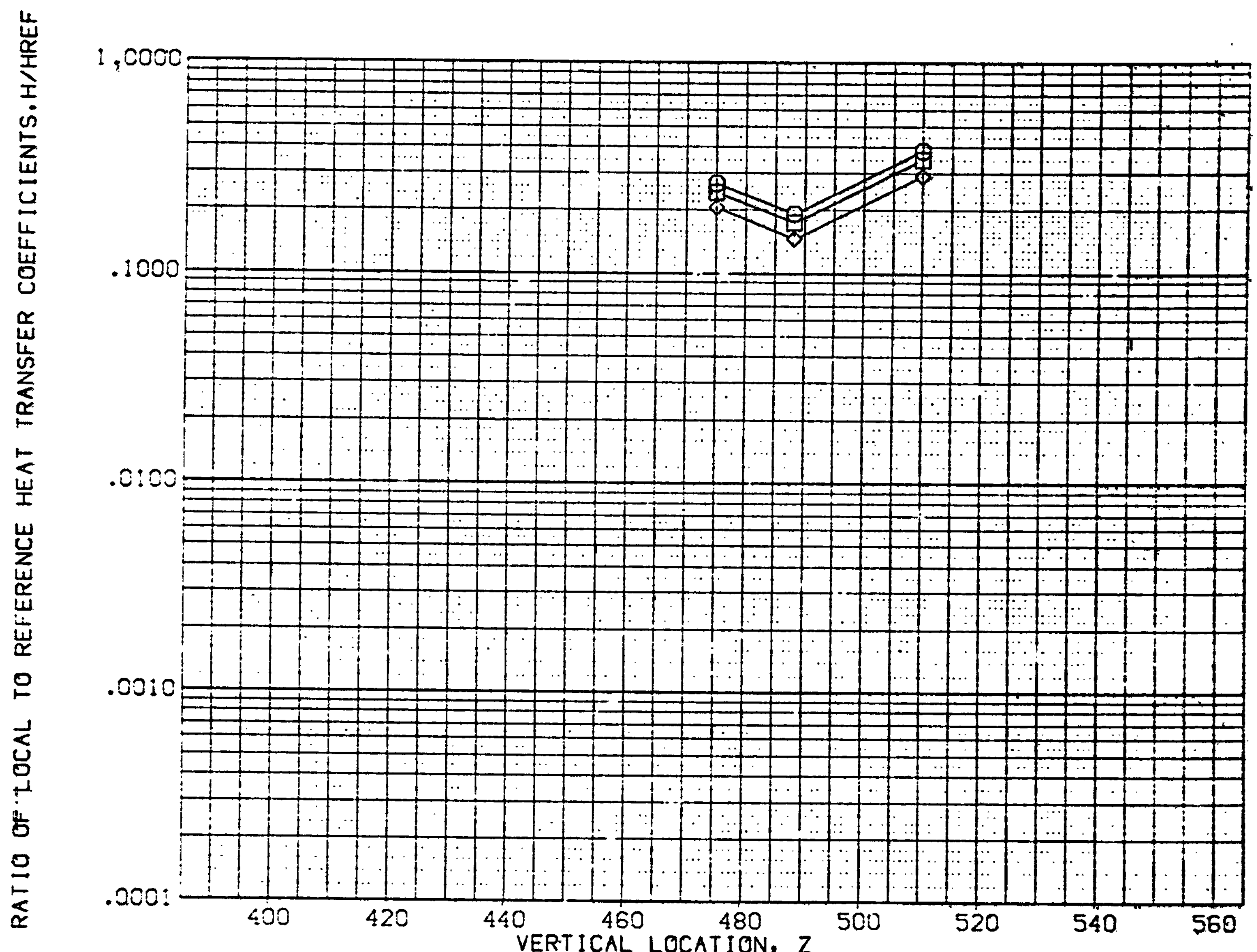

FIG. 13 OMS PODS, ORBITER ALONE

SYMBOL	HAW/HT	X/L	MACH
○	.850	.900	5.220
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA -60.000 BETA .000
RN/L 1.000

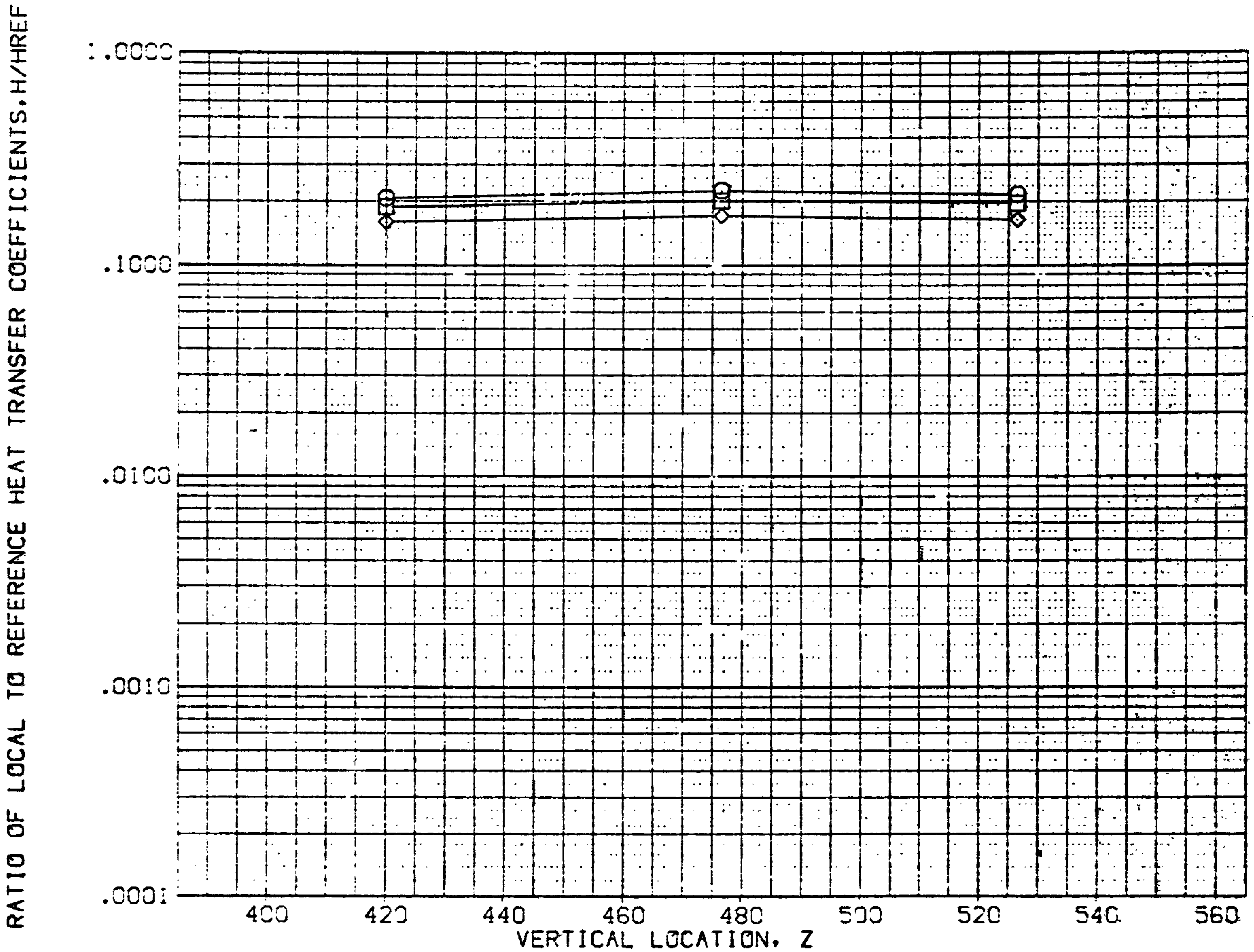

FIG. 13 OMS PODS, ORBITER ALONE

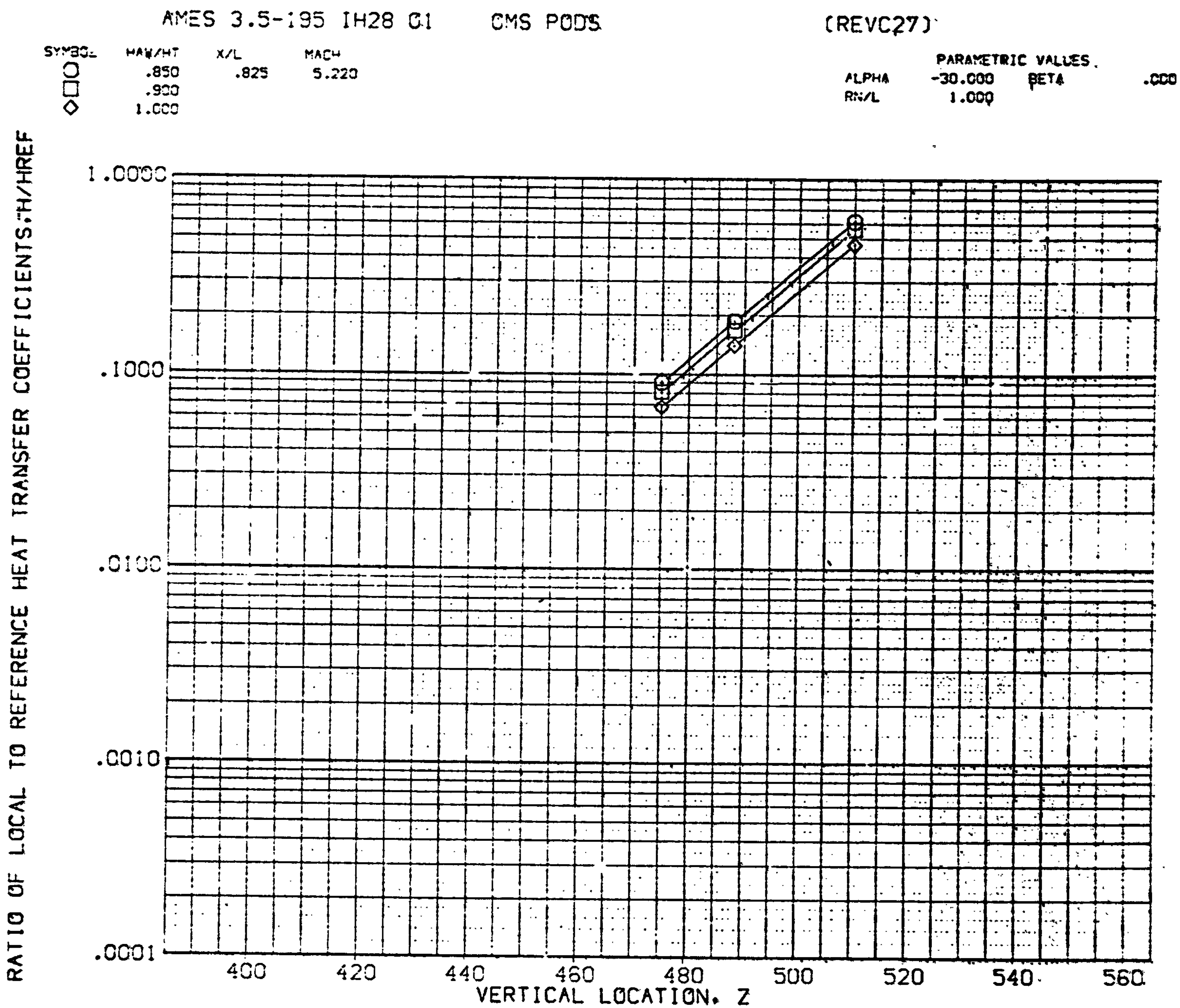

FIG. 13 OMS PODS, ORBITER ALONE

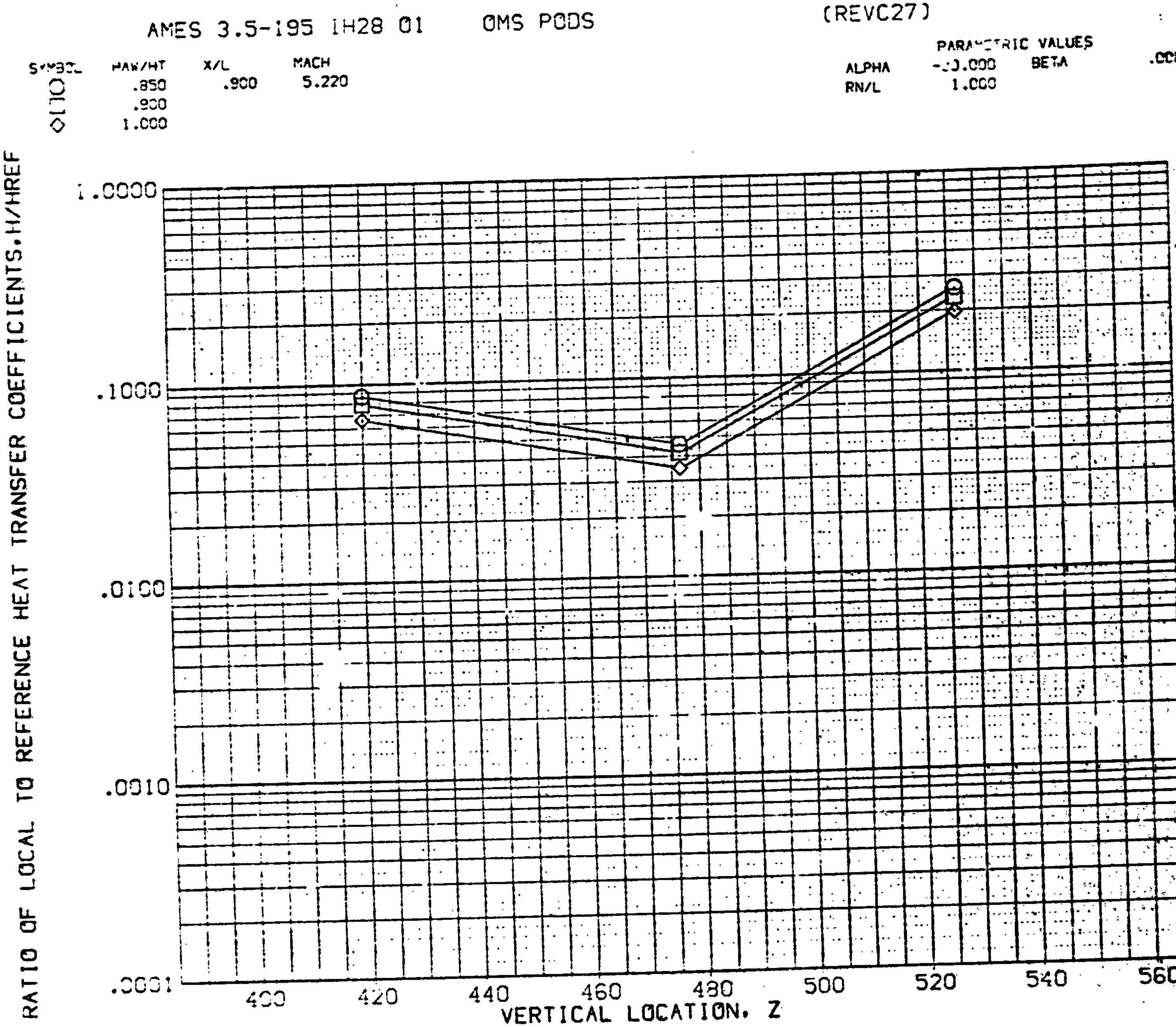

FIG. 13 OMS PODS, ORBITER ALONE

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ALPHA	BETA	RN/L
(REVC19)	○	AMES 3.5-195 IH28 01	OMS PODS	.000	.000	1.000
(REVC20)	□	AMES 3.5-195 IH28 01	OMS PODS	30.000	.000	1.000
(REVC21)	◇	AMES 3.5-195 IH28 01	OMS PODS	60.000	.000	1.000
(REVC22)	△	AMES 3.5-195 IH28 01	OMS PODS	90.000	.000	1.000
(REVC23)	◁	AMES 3.5-195 IH28 01	OMS PODS	120.000	.000	1.000

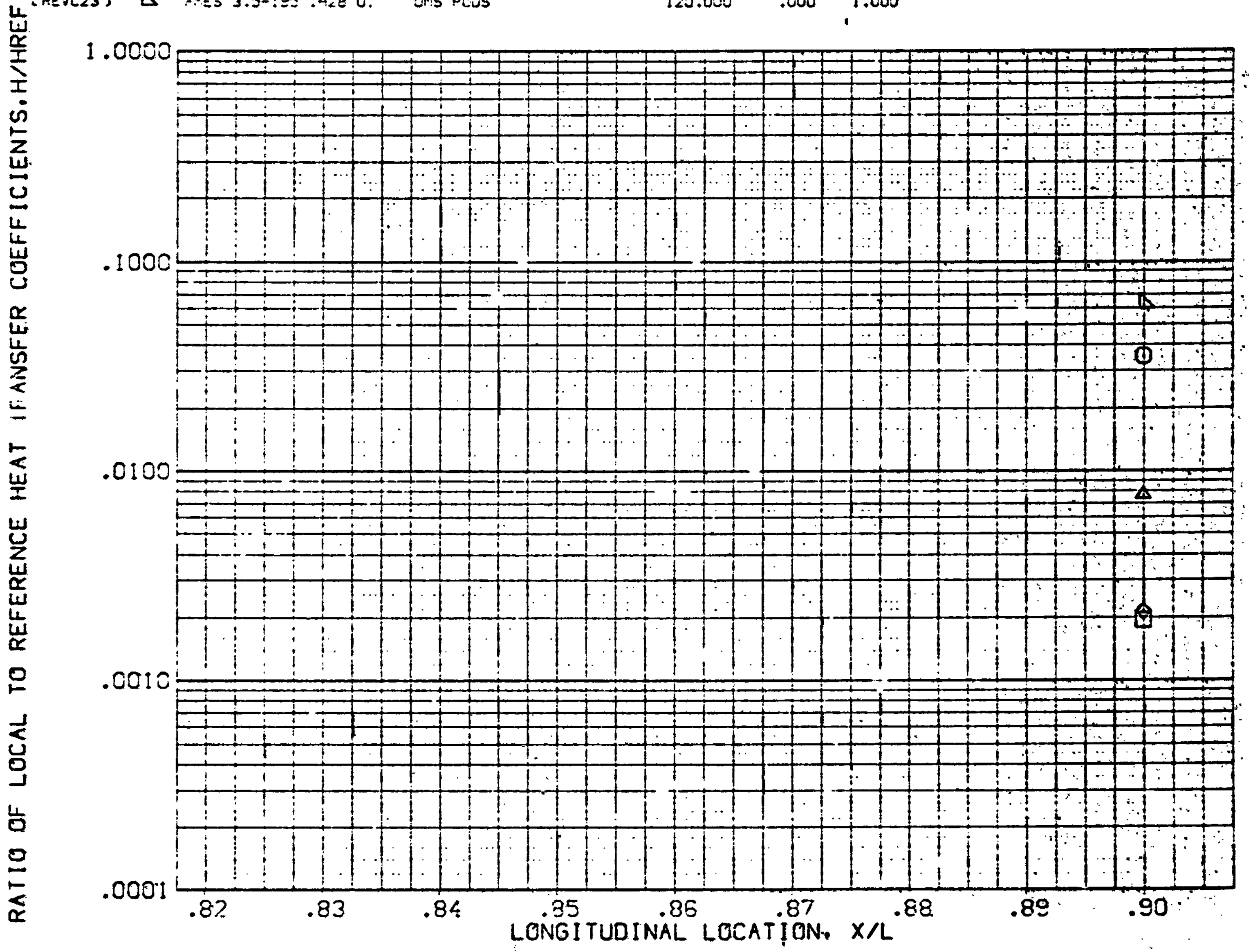

FIG. 13 OMS PODS, ORBITER ALONE

MACH = 5.300 HAW/HT= .900 Z = 420.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ALPHA	BETA	PN/L
(REVC19)	○	AMES 3.5-195 IH28 01	OMS PODS	.000	.000	1.000
(REVC20)	□	AMES 3.5-195 IH28 01	OMS PODS	30.000	.000	1.000
(REVC21)	◇	AMES 3.5-195 IH28 01	OMS PODS	60.000	.000	1.000
(REVC22)	△	AMES 3.5-195 IH28 01	OMS PODS	90.000	.000	1.000
(REVC23)	◁	AMES 3.5-195 IH28 01	OMS PODS	120.000	.000	1.000

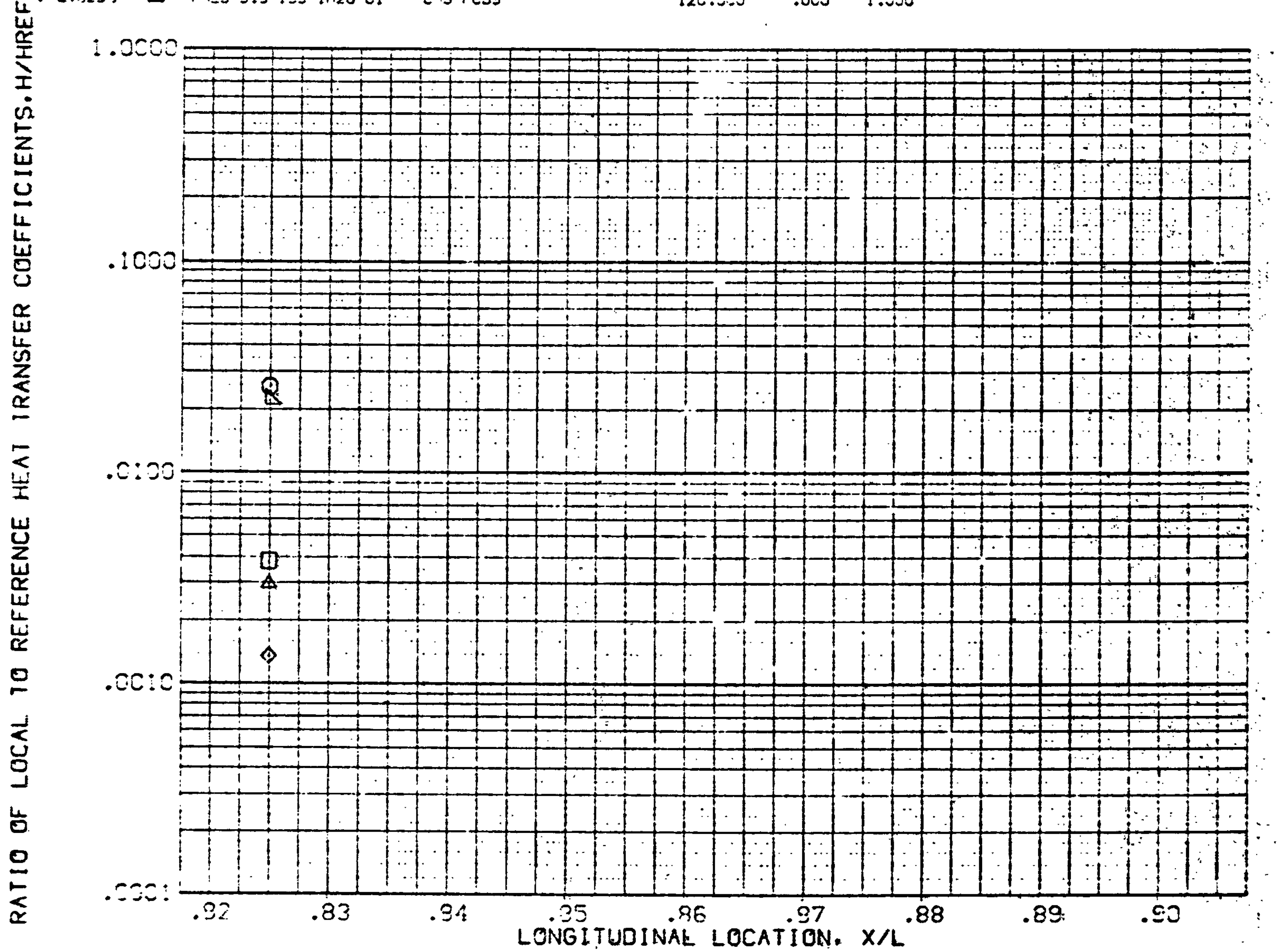

FIG. 13 OMS PODS, ORBITER ALONE

MACH = 5.300 HAW/HT= .900 Z = 475.000

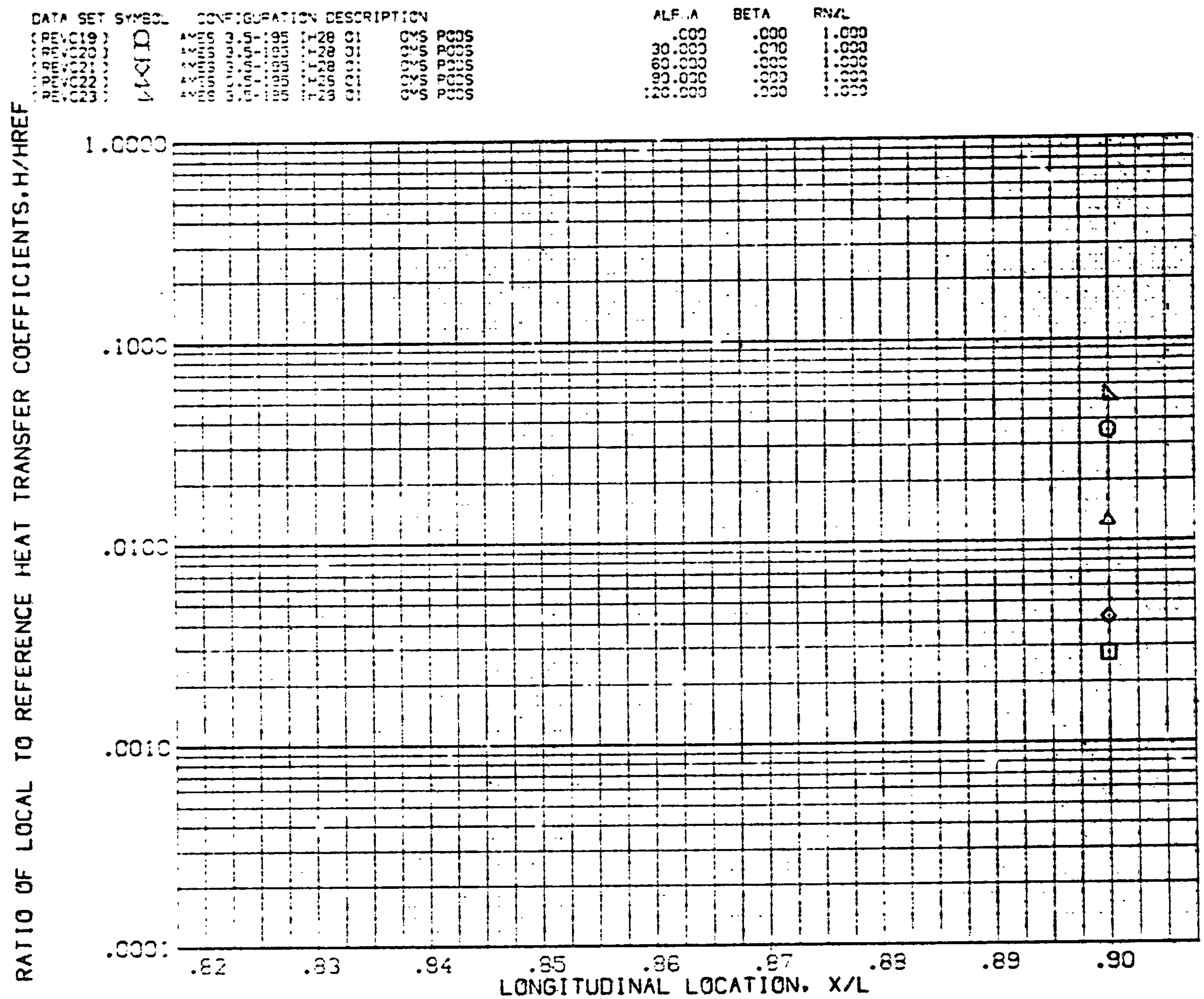

FIG. 13 OMS PODS, ORBITER ALONE

MACH = 5.300 HAW/HT = .900 Z = 476.660

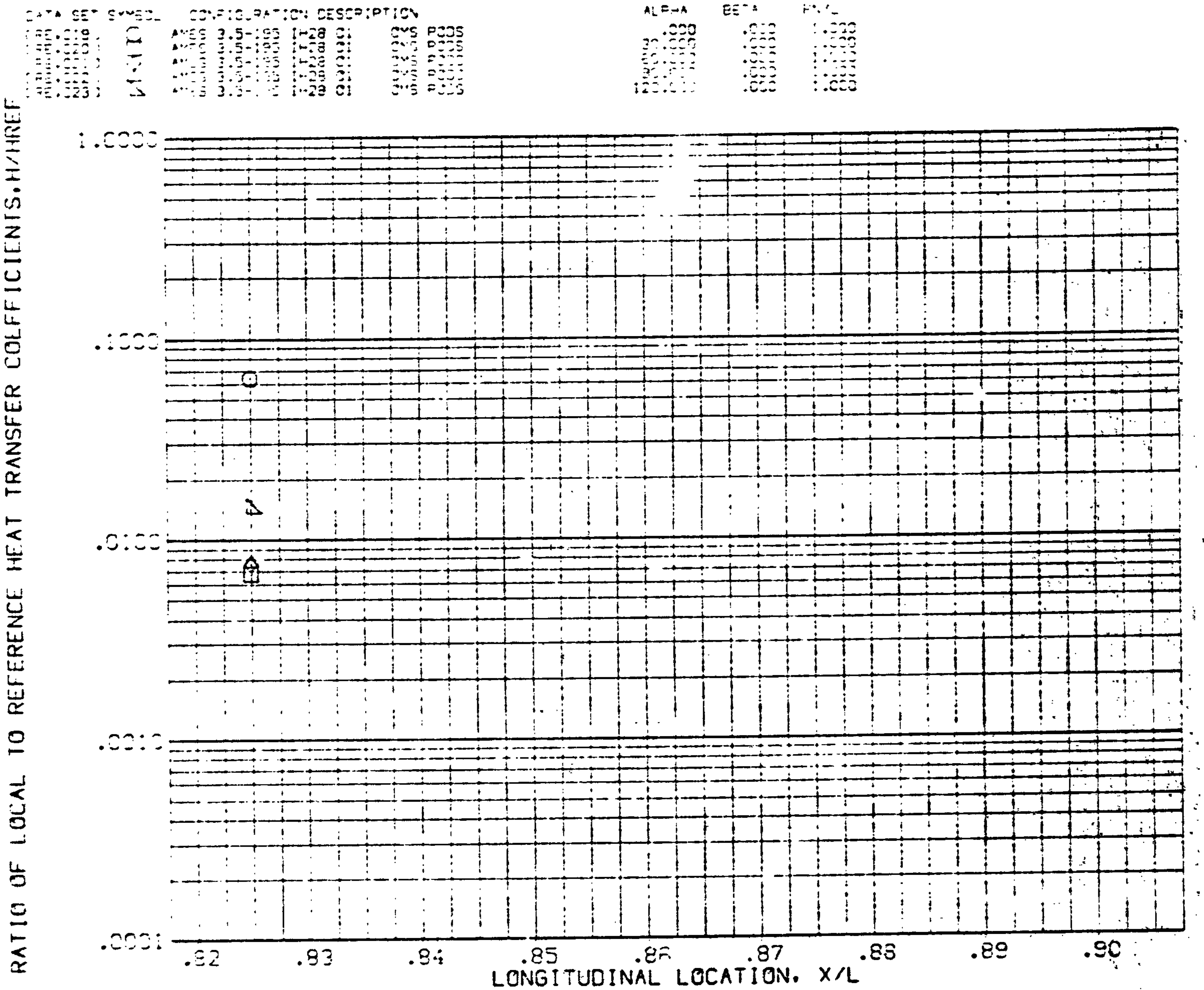

FIG. 13 OMS PODS, ORBITER ALONE

MACH = [illegible] [illegible] = .800 Z = 488.300

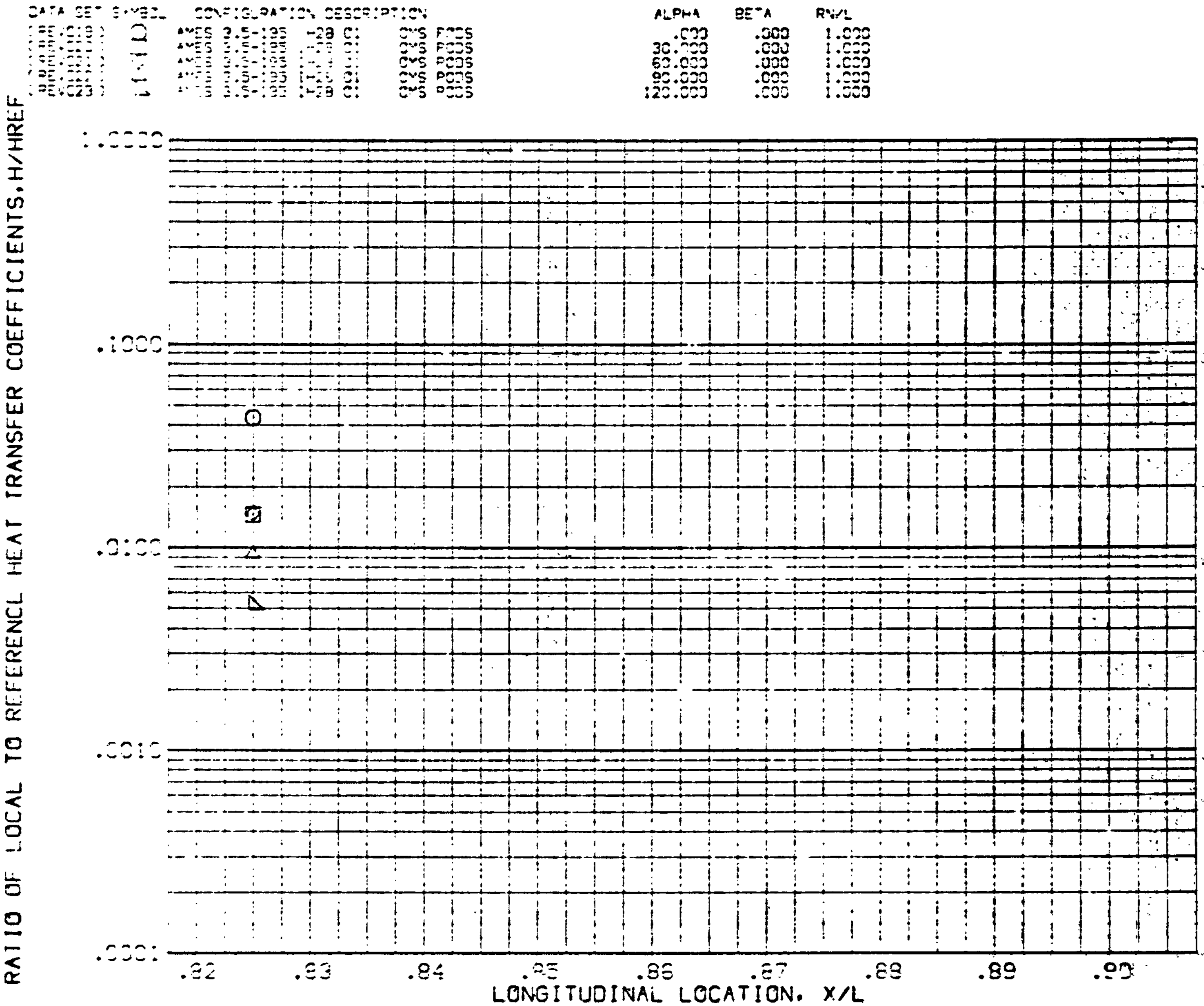

FIG. 13 OMS PODS, ORBITER ALONE

MACH = [illegible] .900 Z = 51[illegible].000

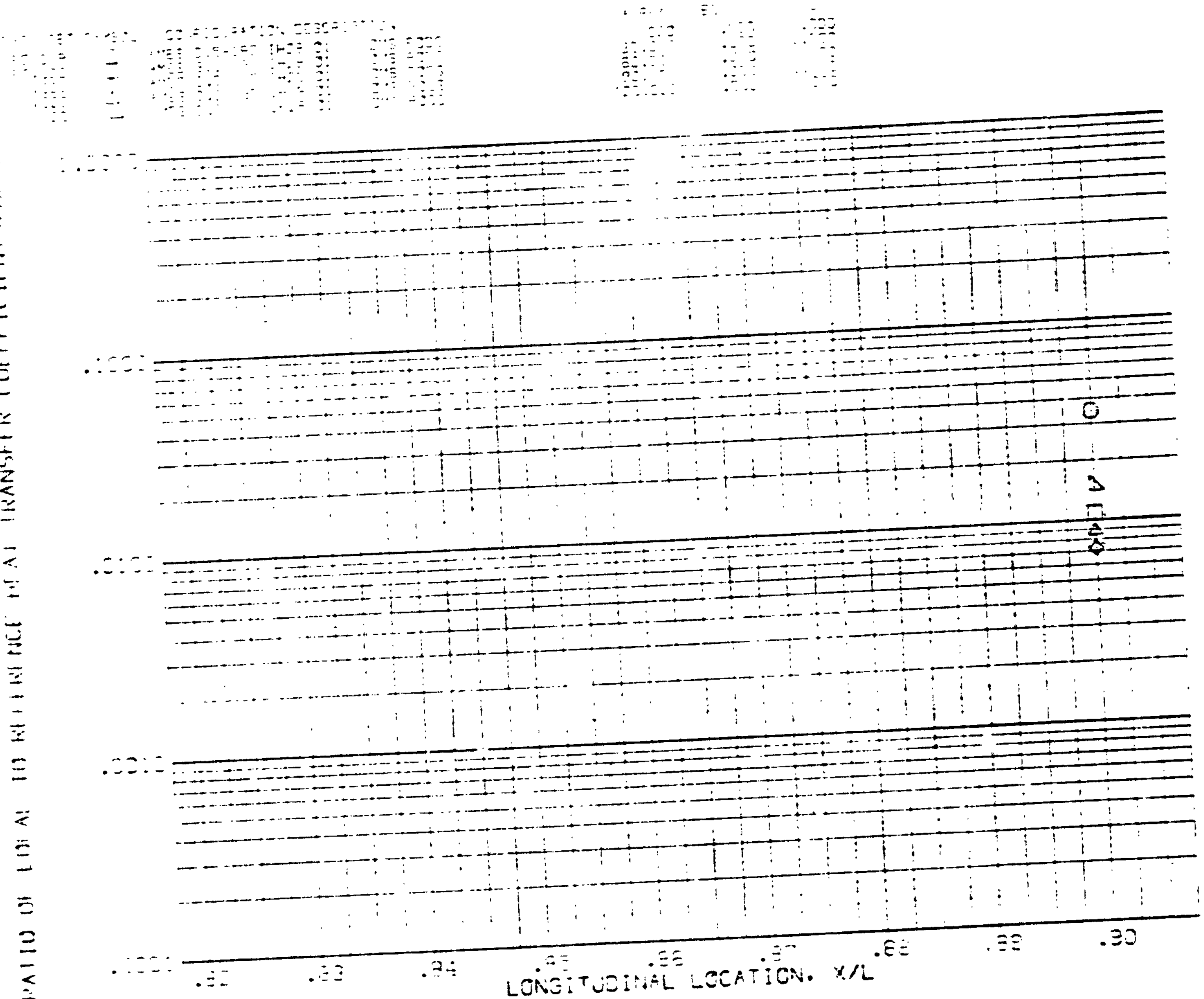

FIG. 13 OMS PODS. CREITER ALONE

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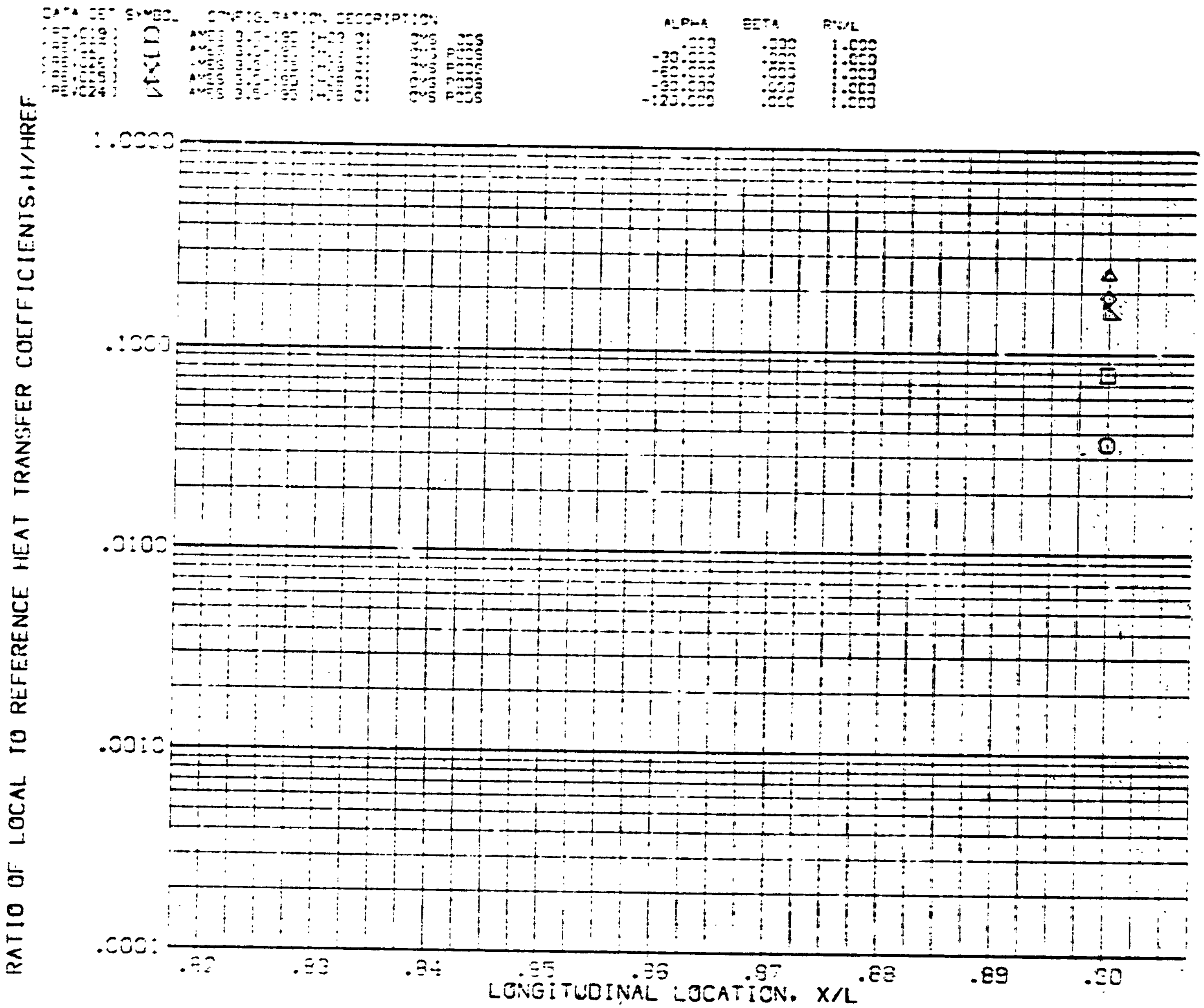

FIG. 13 OMS PODS, ORBITER ALONE

MACH = 5.300 HAW/HT= .900 Z = 420.000

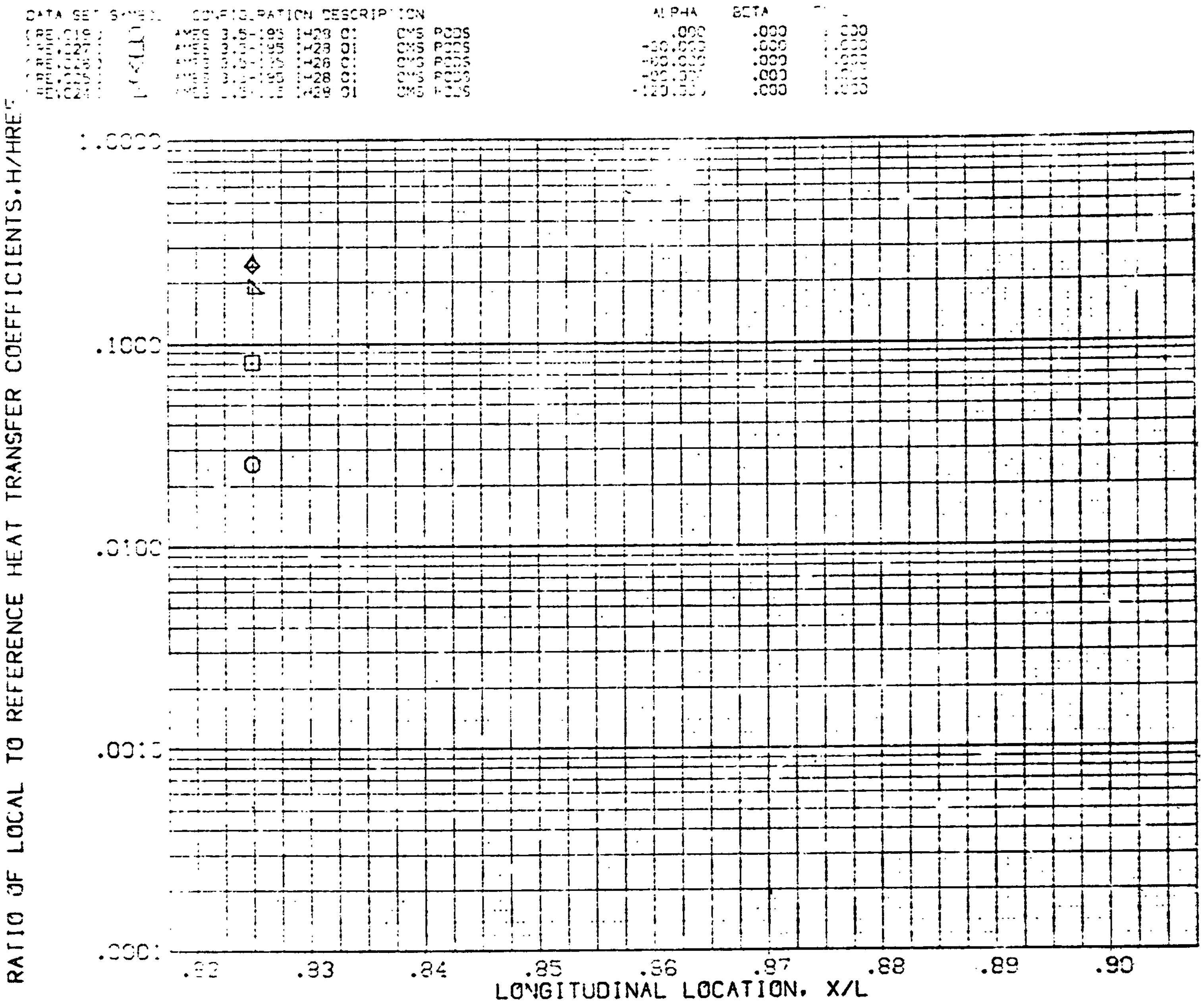

FIG. 13 OMS PODS, ORBITER ALONE

MACH = 5.300 HAW/HT= .900 Z = 475.000

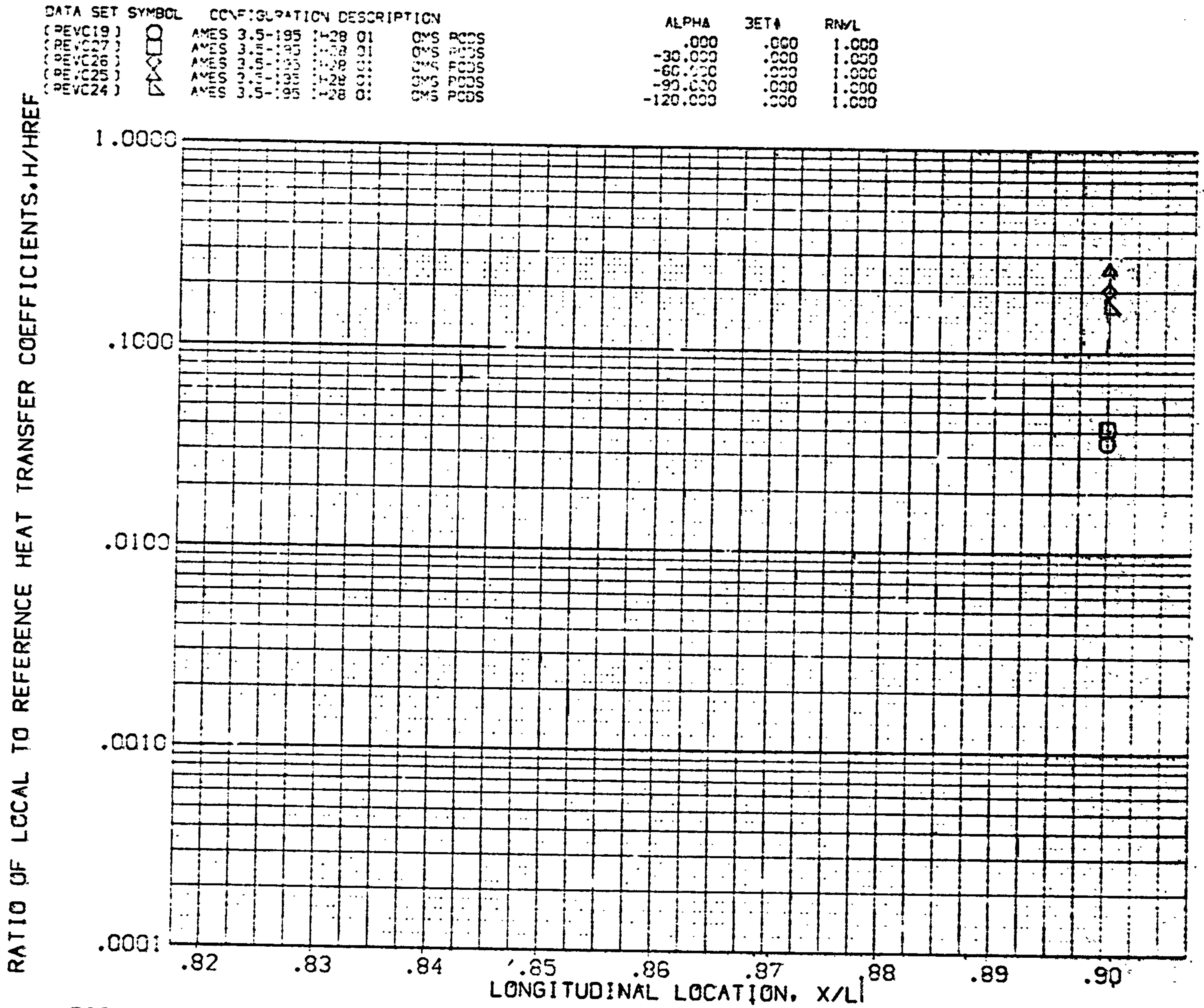

FIG. 13 OMS PODS, ORBITER ALONE

MACH = 5.300 HAW/HT= .900 Z = 476.660

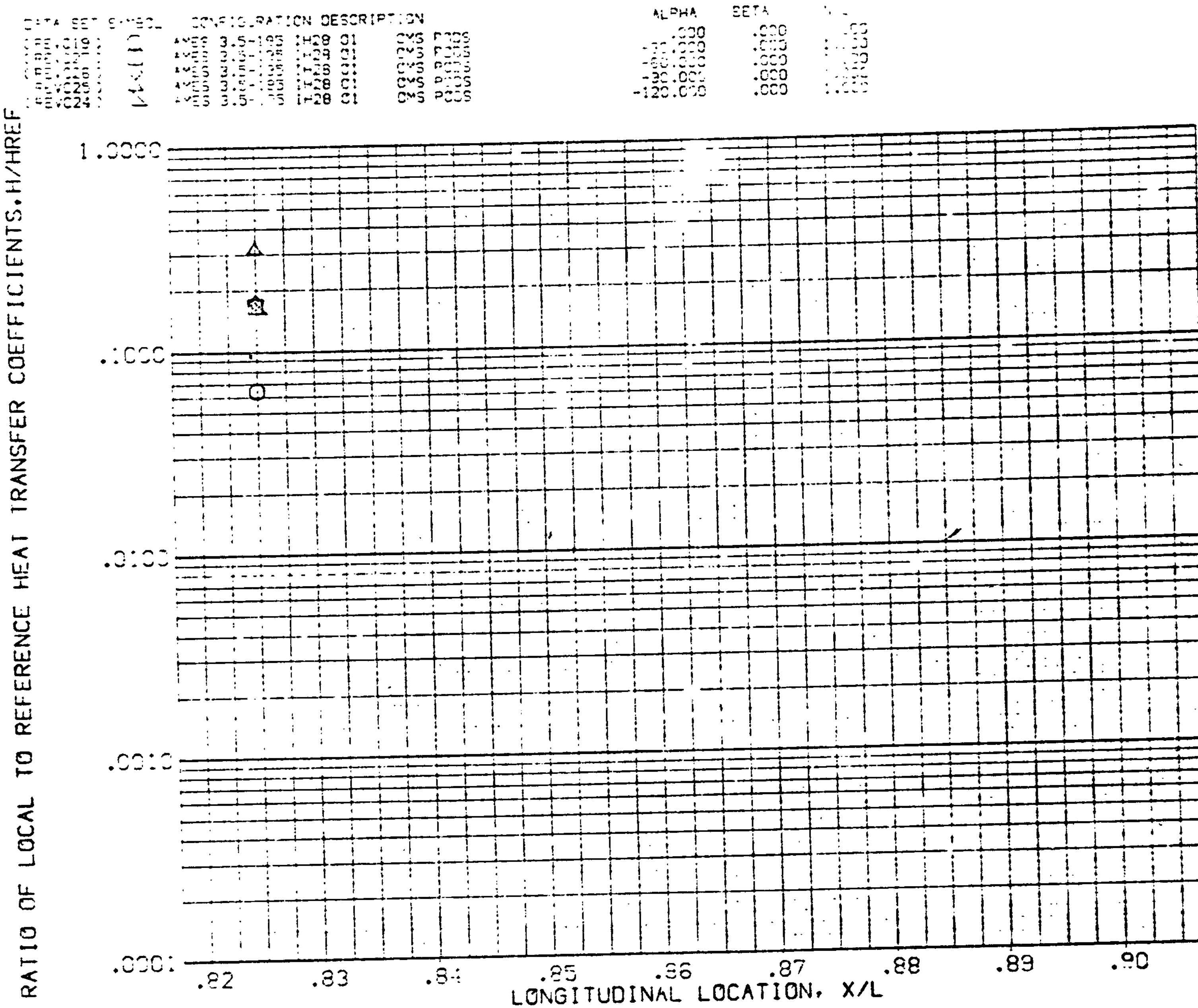

FIG. 13 OMS PODS, ORBITER ALONE

MACH = 5.300 HAW/HT= .900 Z = 48?.300

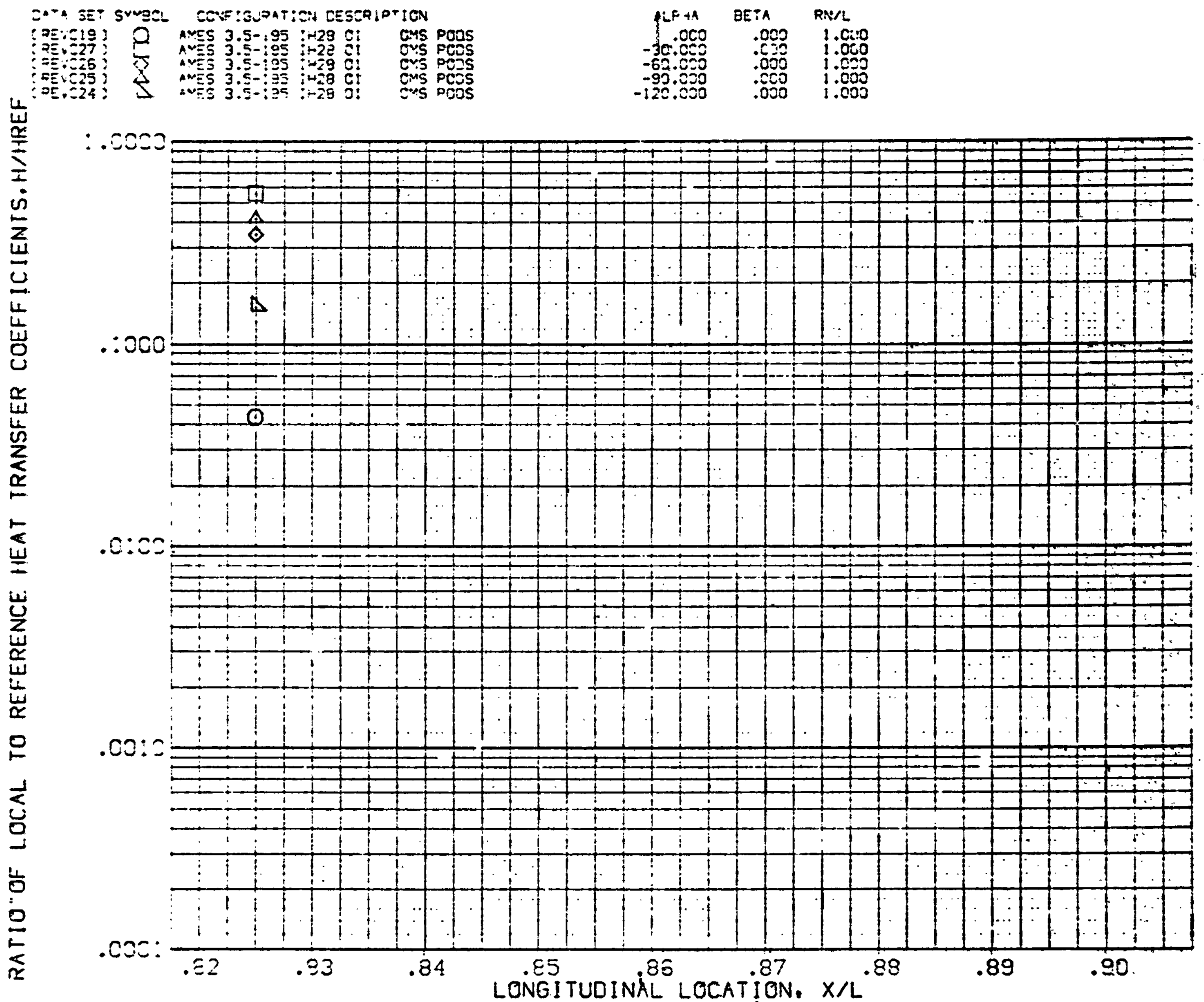

FIG. 13 OMS PODS, ORBITER ALONE

MACH = 5.300 HAW/HT= .900 Z = 510 000

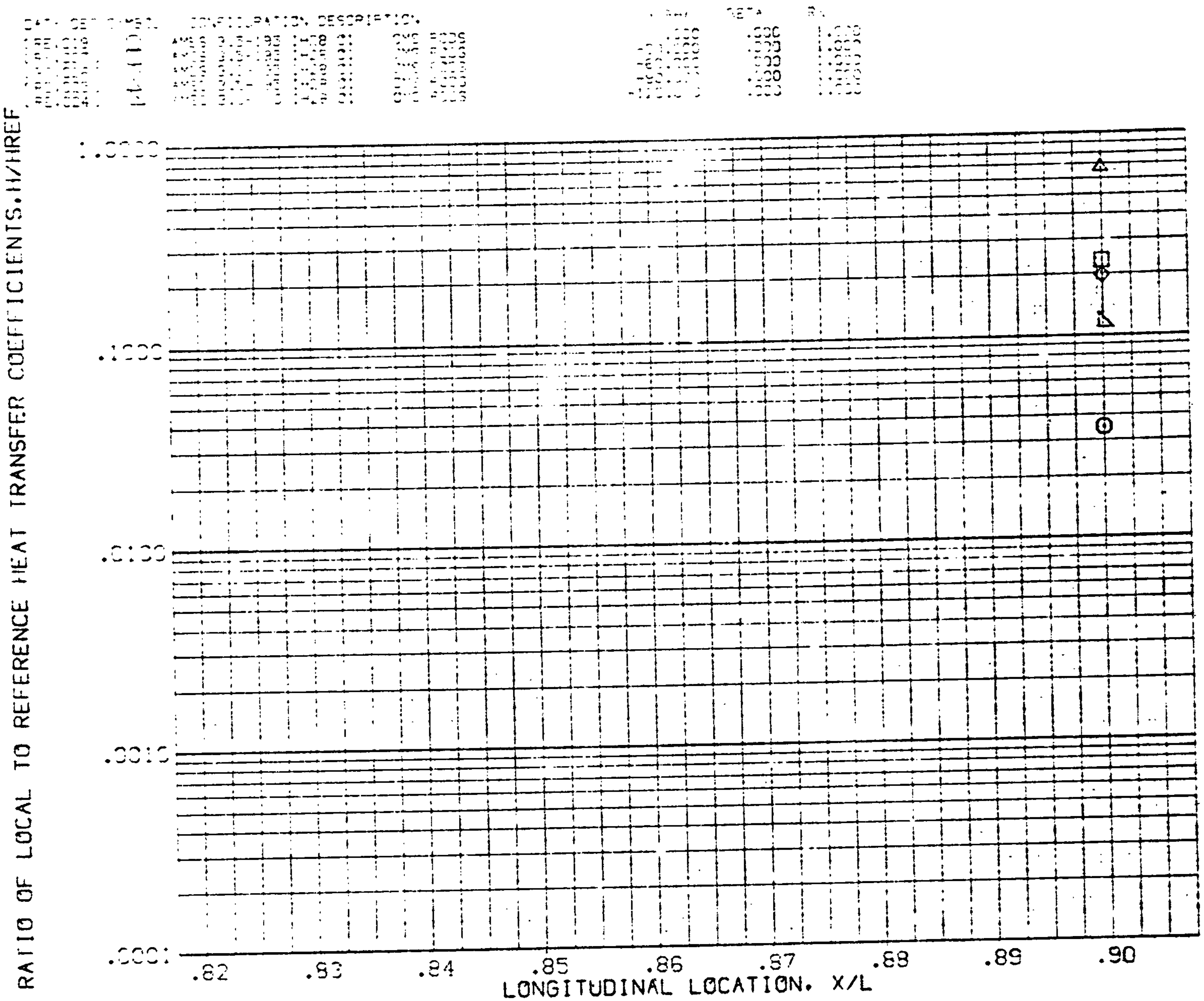

FIG. 13 OMS PODS, ORBITER ALONE

MACH = 5.300 HAW/HT = .900 Z = 526.660

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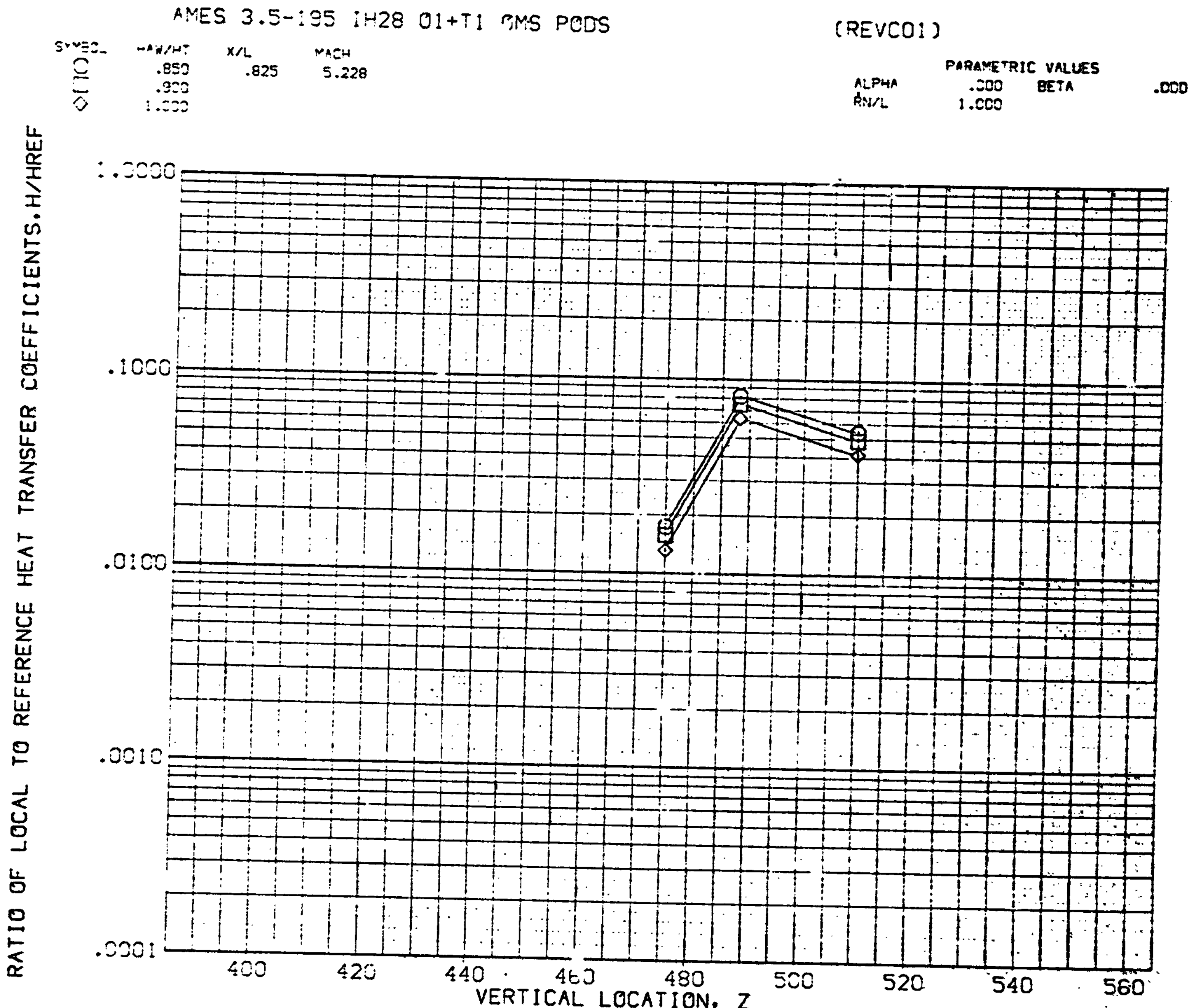

FIG. 14 OMS PODS, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-195 IH28 O1+T1 OMS PODS (REVC01)

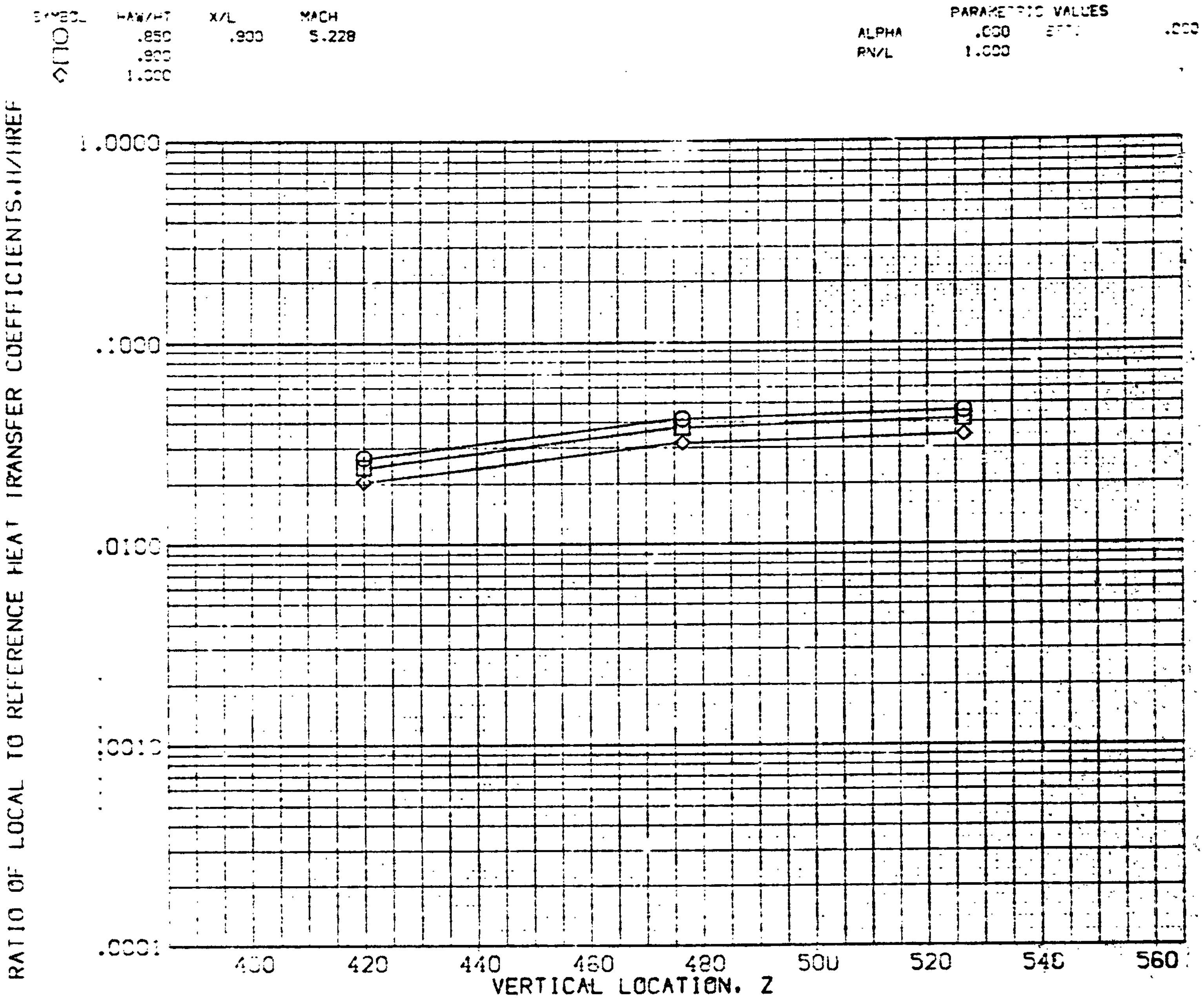

FIG. 14 OMS PODS, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-195 IH28 01+T1 OMS PODS (REVC02)

SYMBOL	HAW/HT	X/L	MACH
○	.850	.825	5.219
□	.900		
◇	1.000		

PARAMETRIC VALUES

ALPHA 30.000 BETA .000

RN/L 1.000

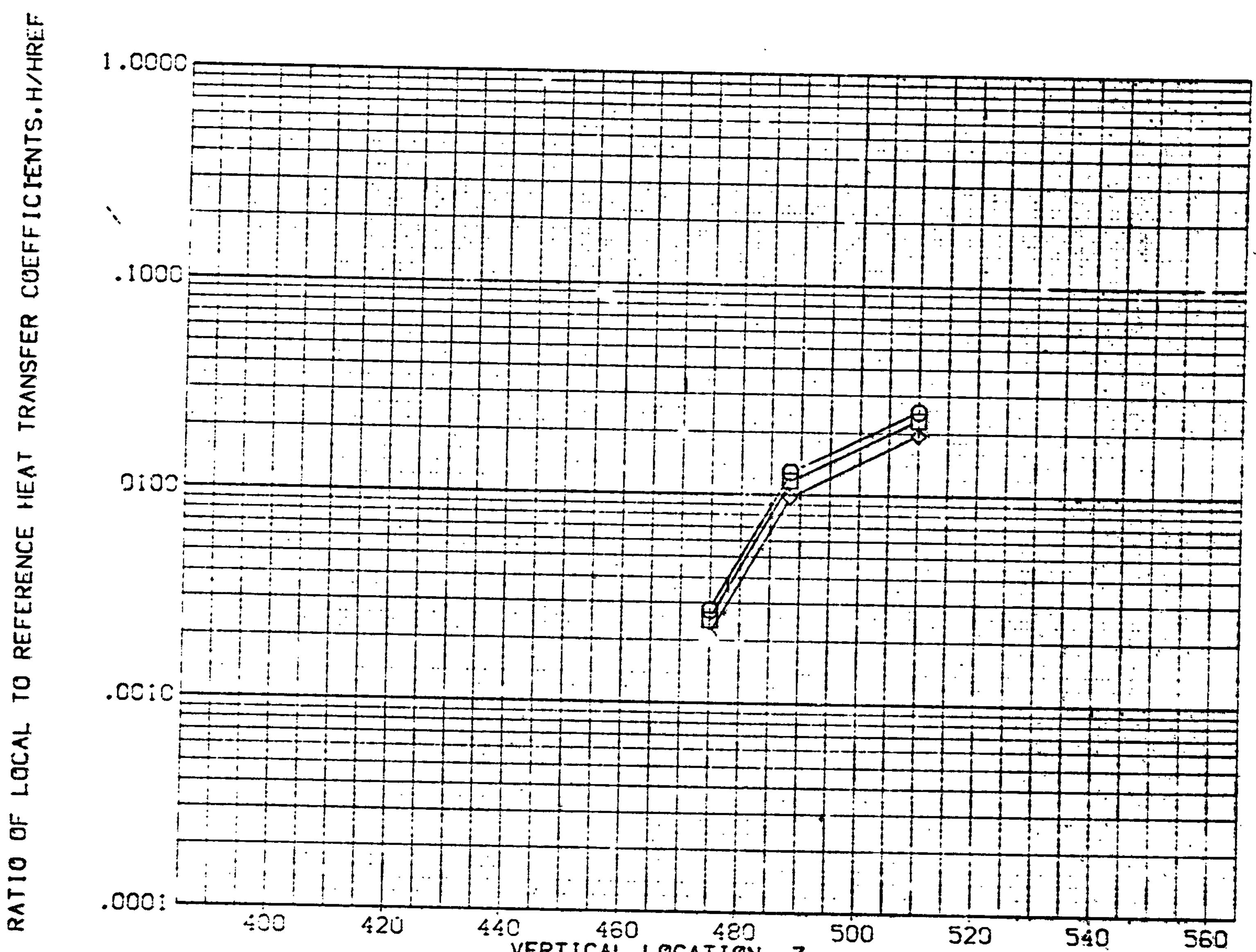

FIG. 14 OMS PODS, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-195 IH28 OI+T1 OMS PODS (REVC02)

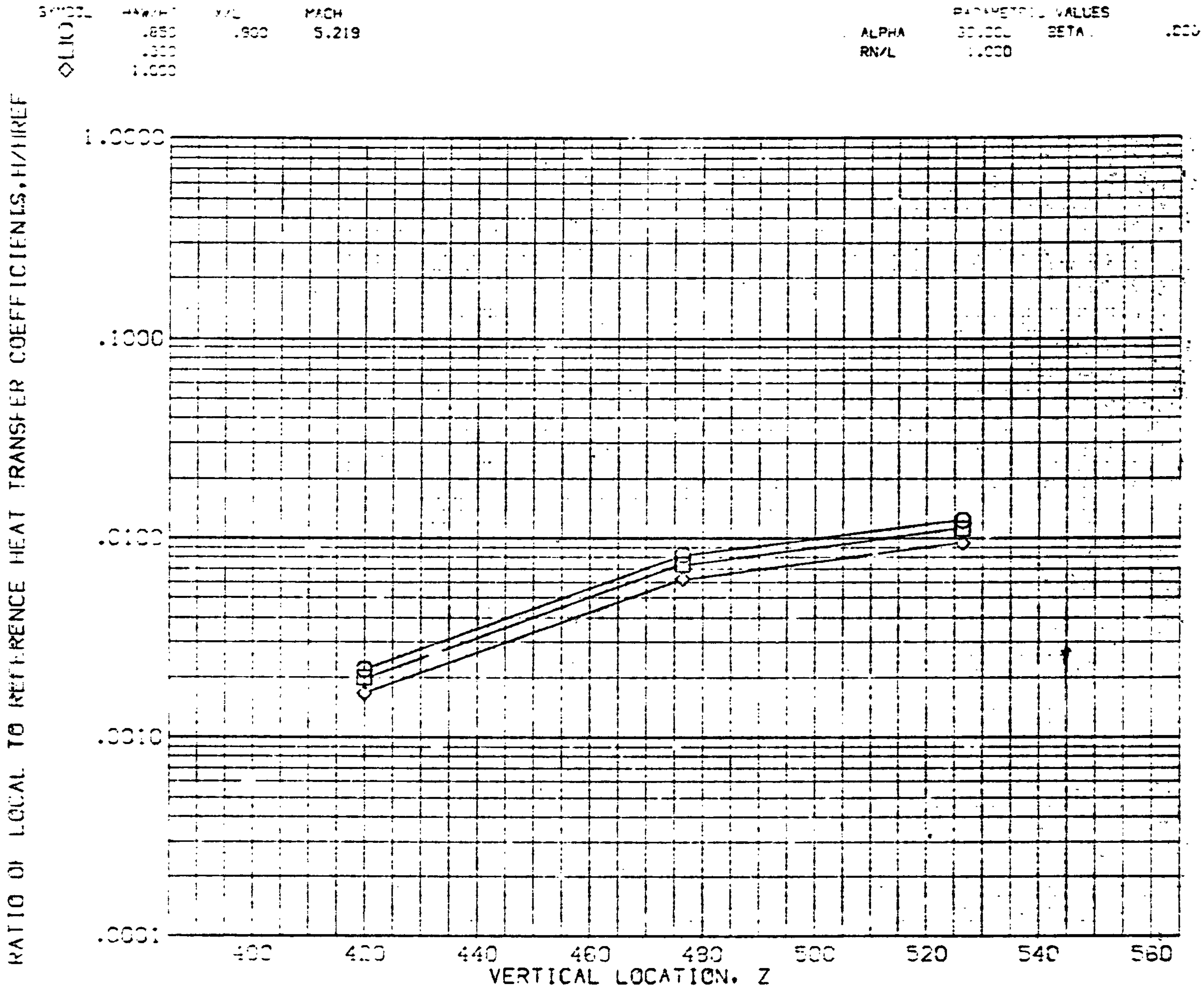

FIG. 14 OMS PODS, ORBITER IN PRESENCE OF THE TANK

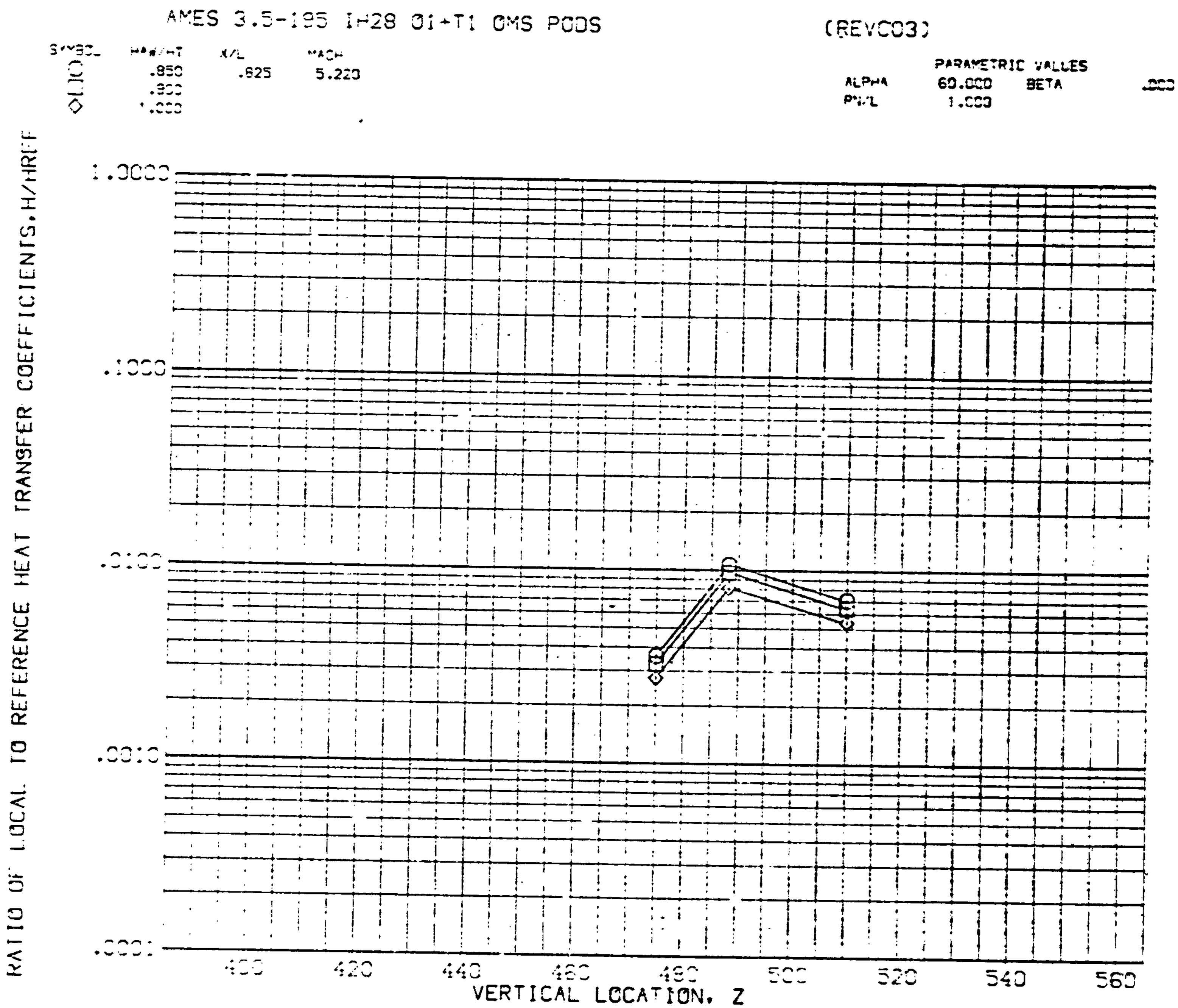

FIG. 14 OMS PODS, ORBITER IN PRESENCE OF THE TANK

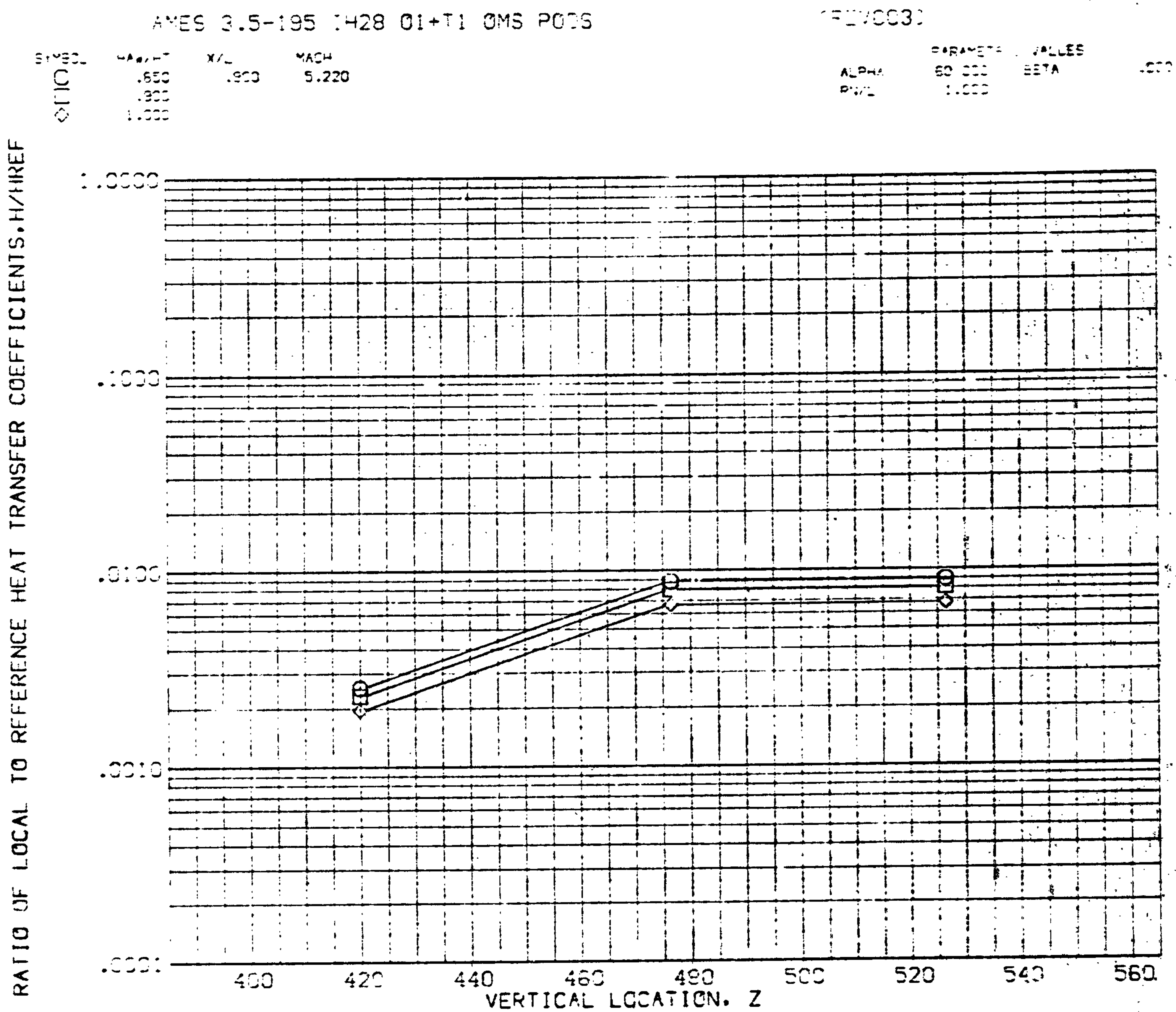

FIG. 14 OMS PODS, ORBITER IN PRESENCE OF THE TANK

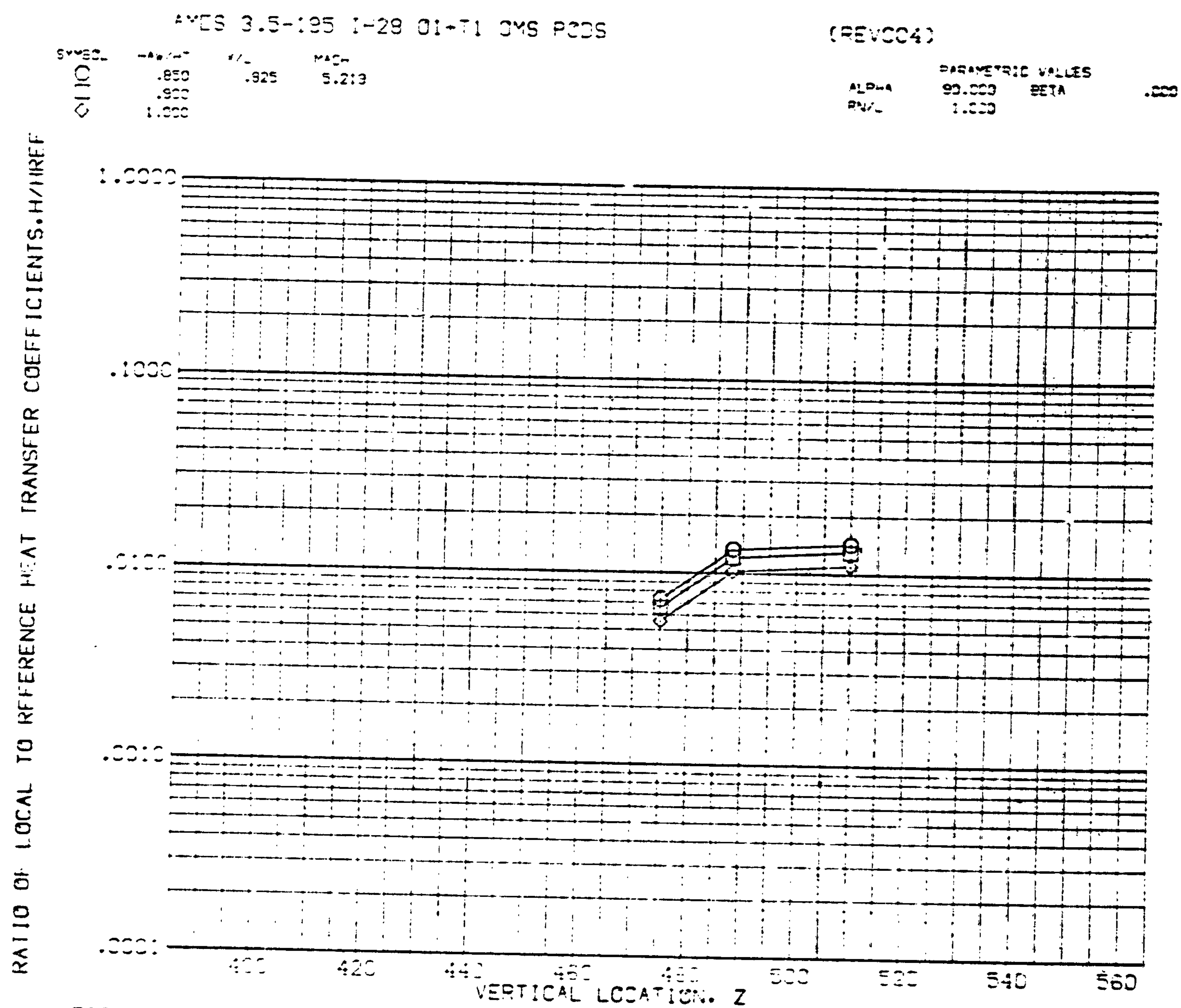

FIG. 14 OMS PODS, ORBITER IN PRESENCE OF THE TANK

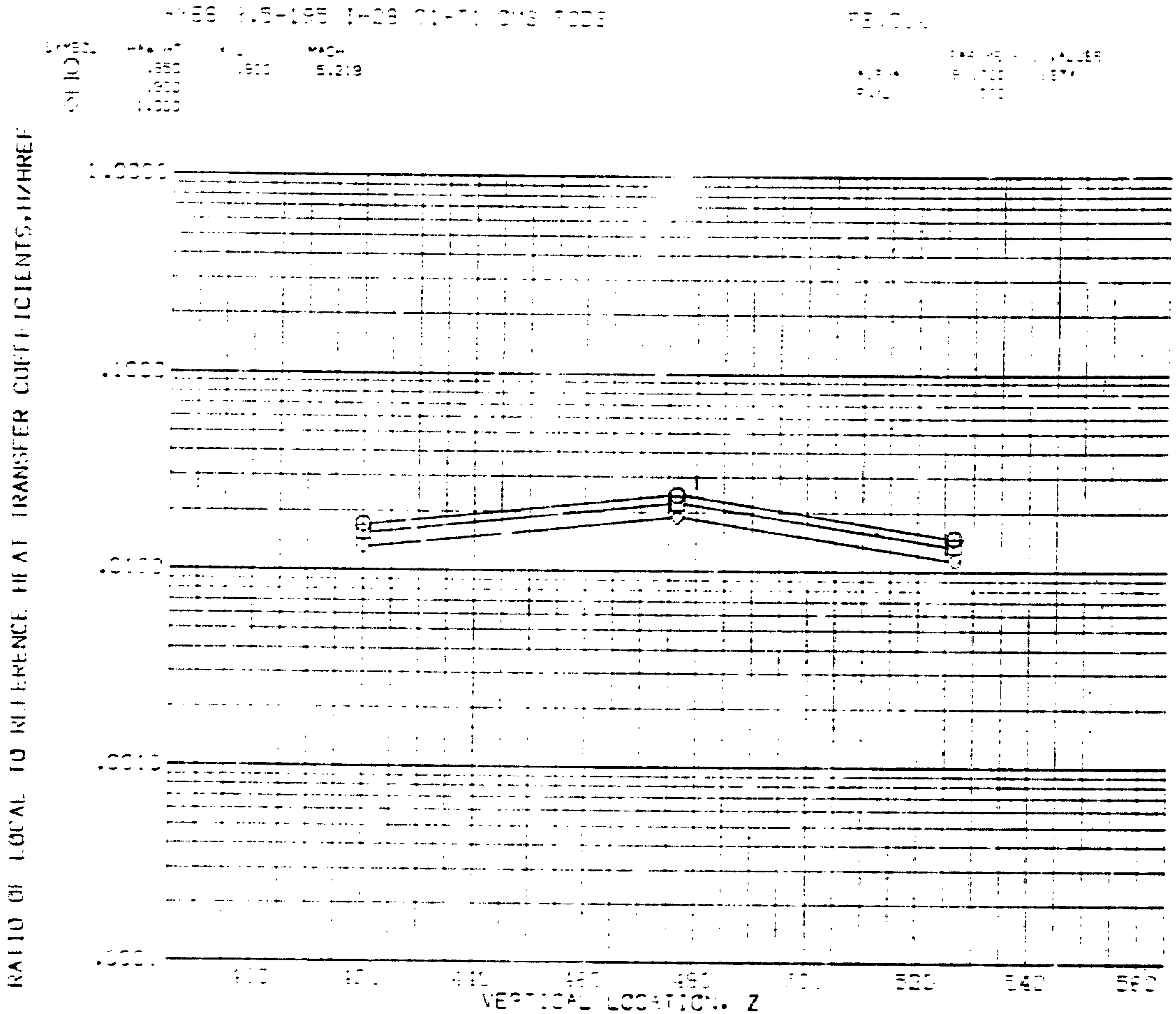

FIG. 14 OMS PODS, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-135 IH28 OT-T1 OMS PODS (PE.005)

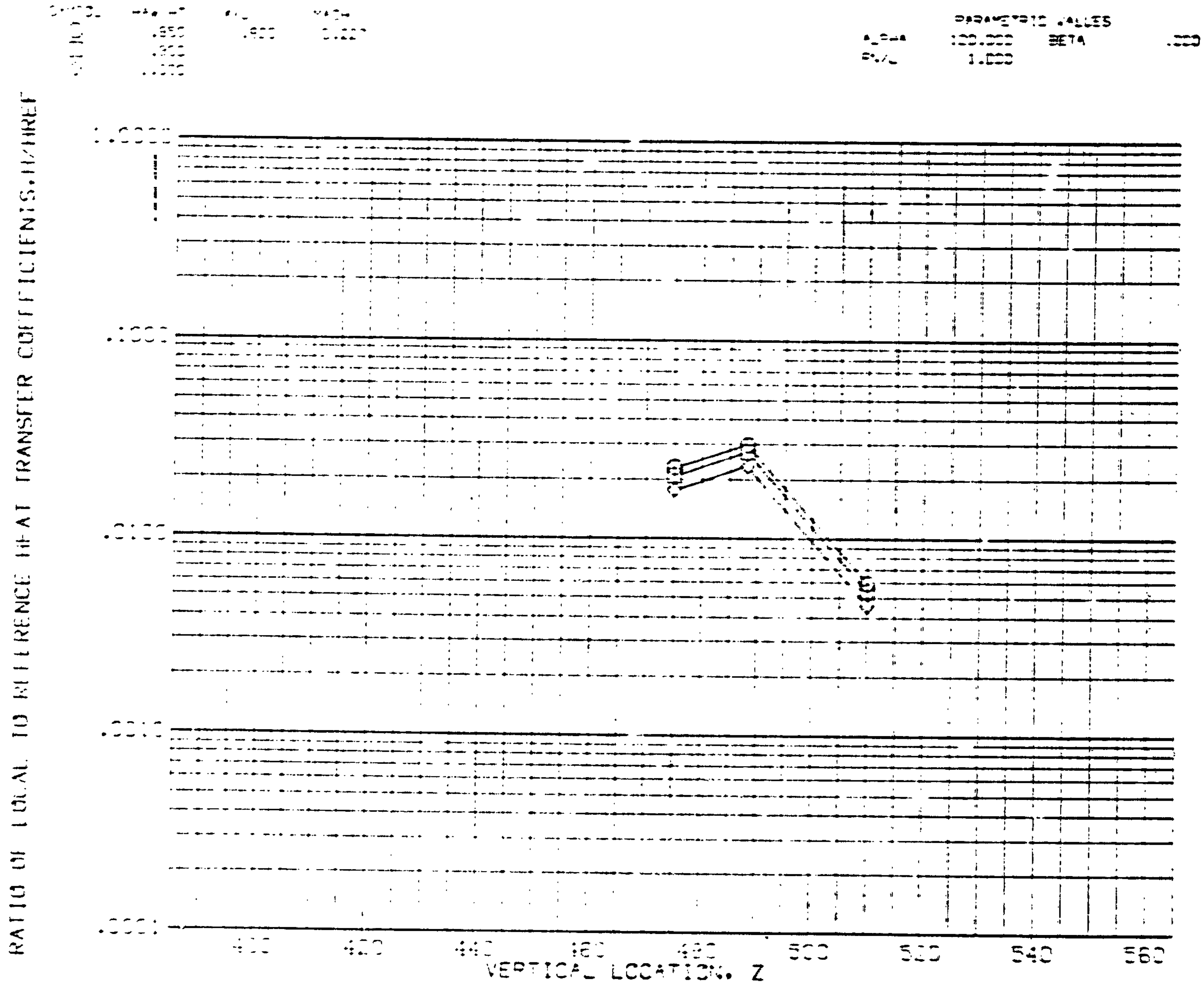

FIG. 14 OMS PODS, ORBITER IN PRESENCE OF THE TANK

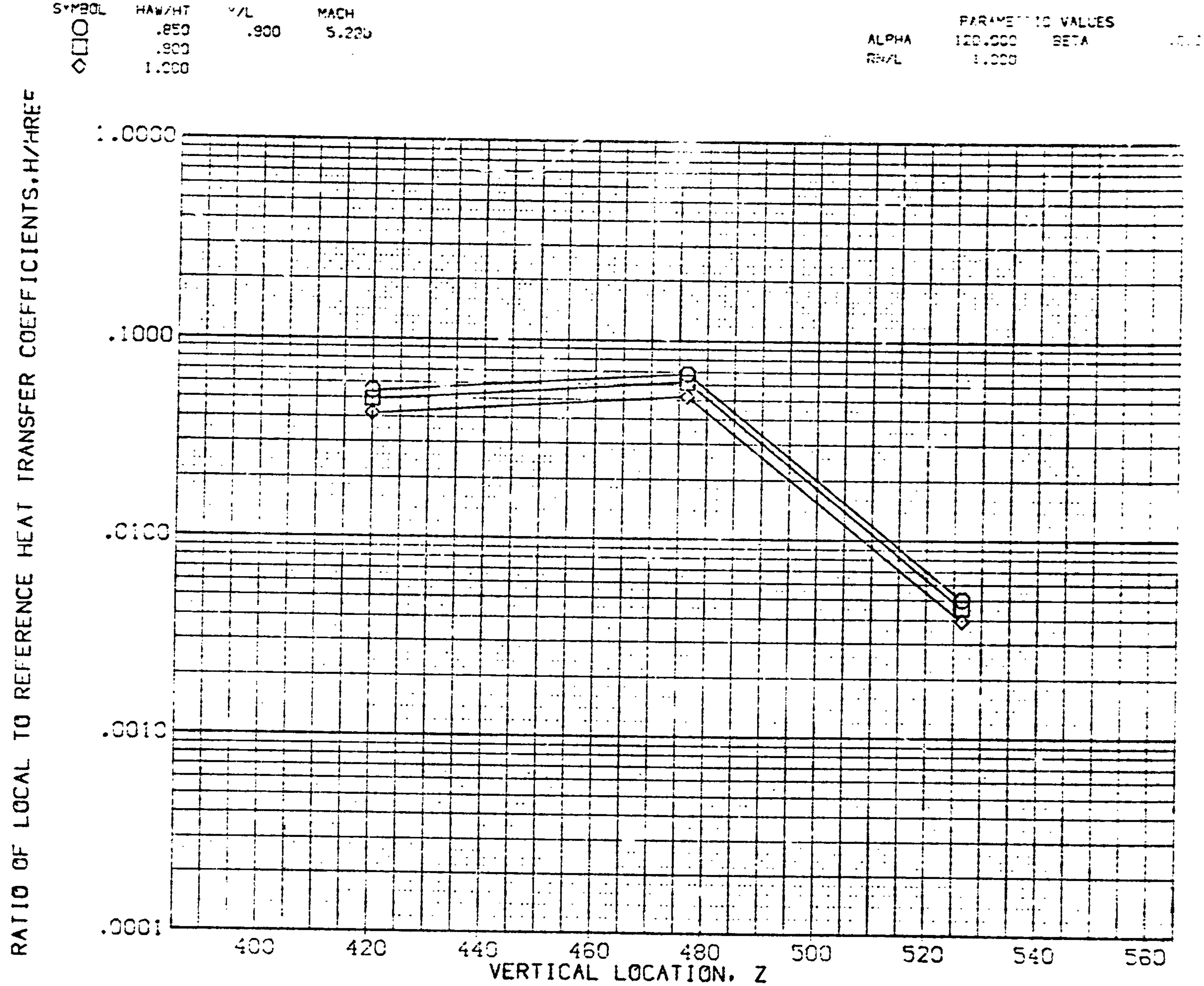

FIG. 14 OMS PODS, ORBITER IN PRESENCE OF THE TANK

C 9

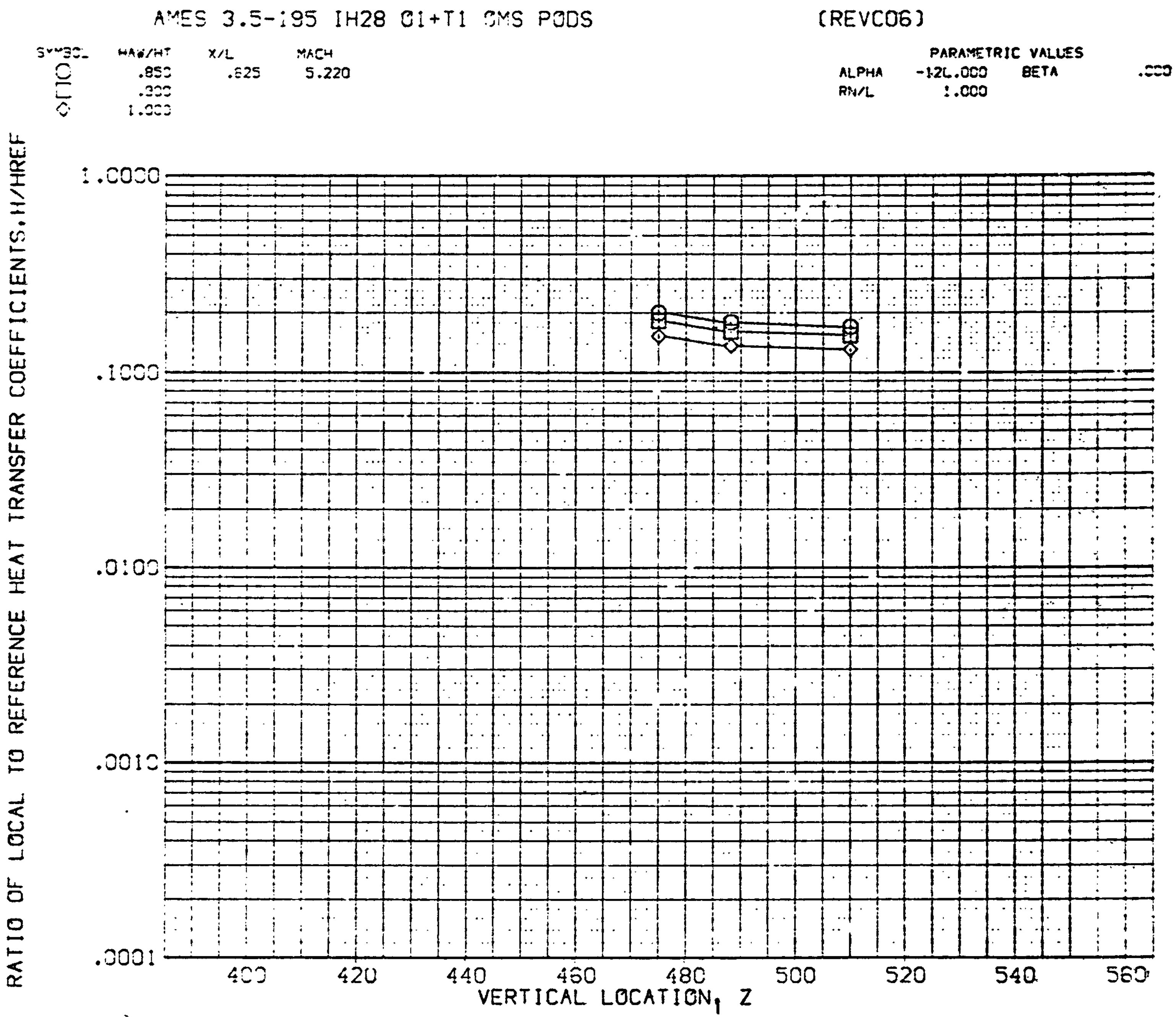

FIG. 14 OMS PODS, ORBITER IN PRESENCE OF THE TANK

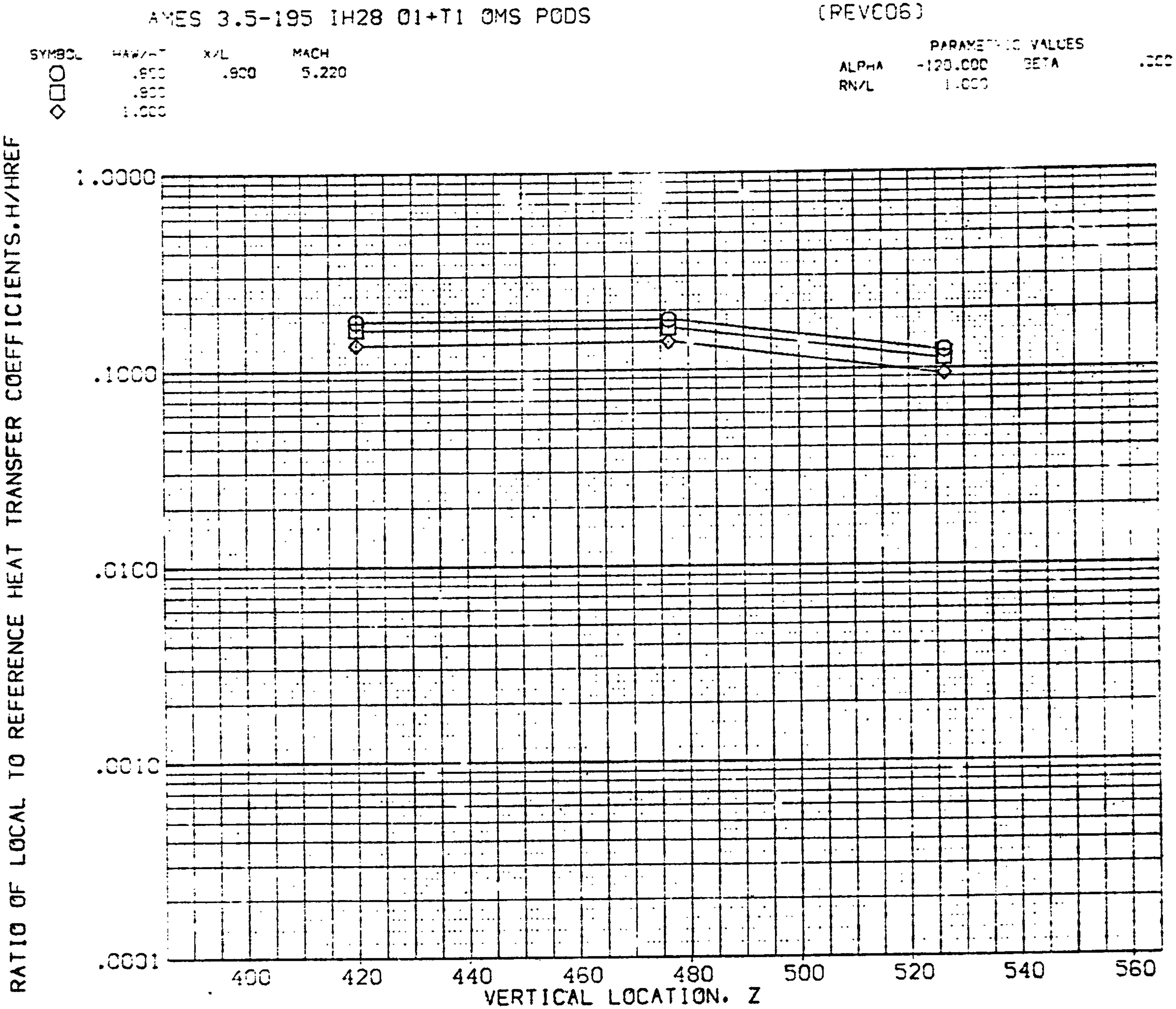

FIG. 14 OMS PODS, ORBITER IN PRESENCE OF THE TANK

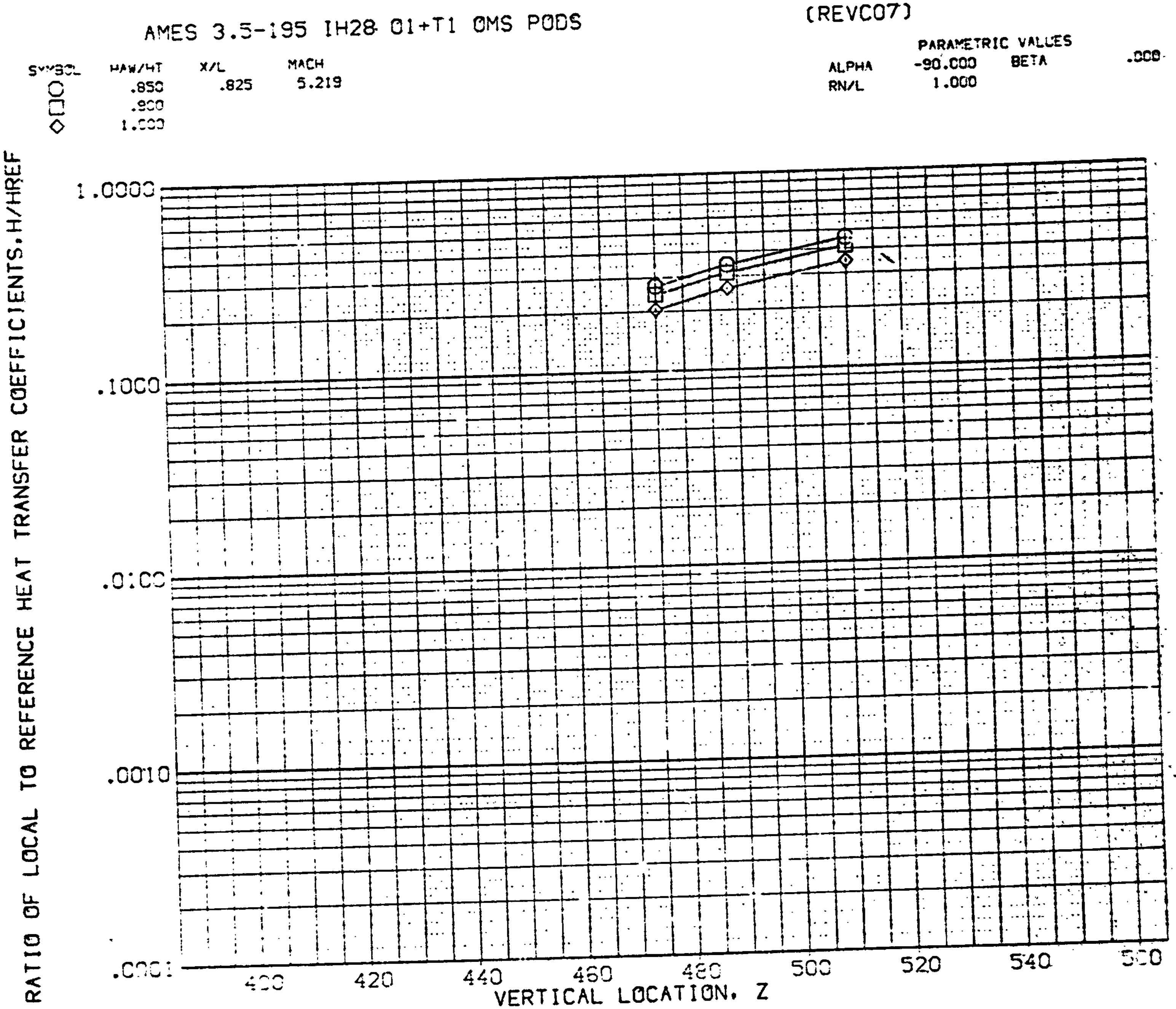

FIG. 14 OMS PODS, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-195 IH28 O1+T1 OMS PODS (REVC07)

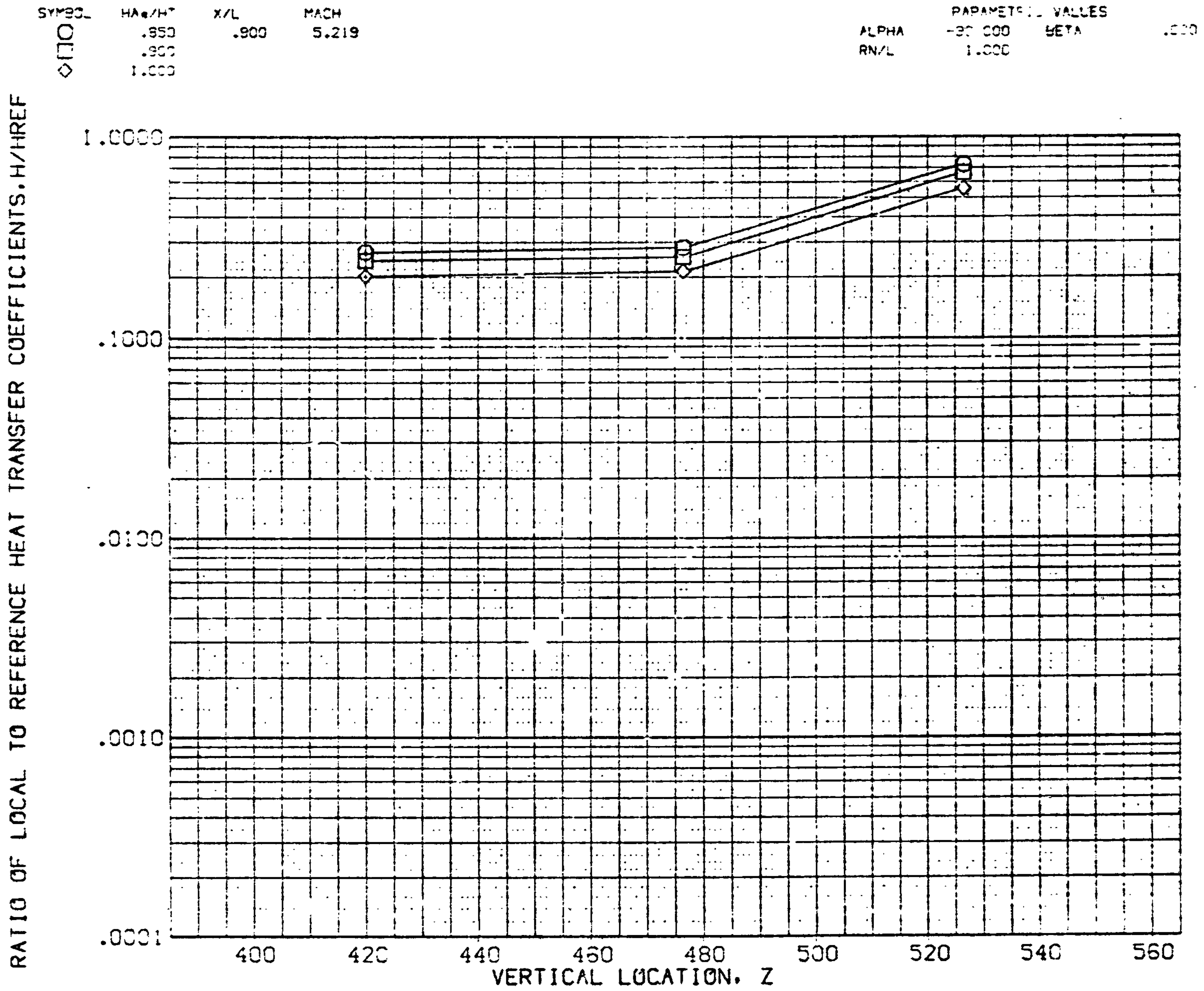

FIG. 14 OMS PODS, ORBITER IN PRESENCE OF THE TANK

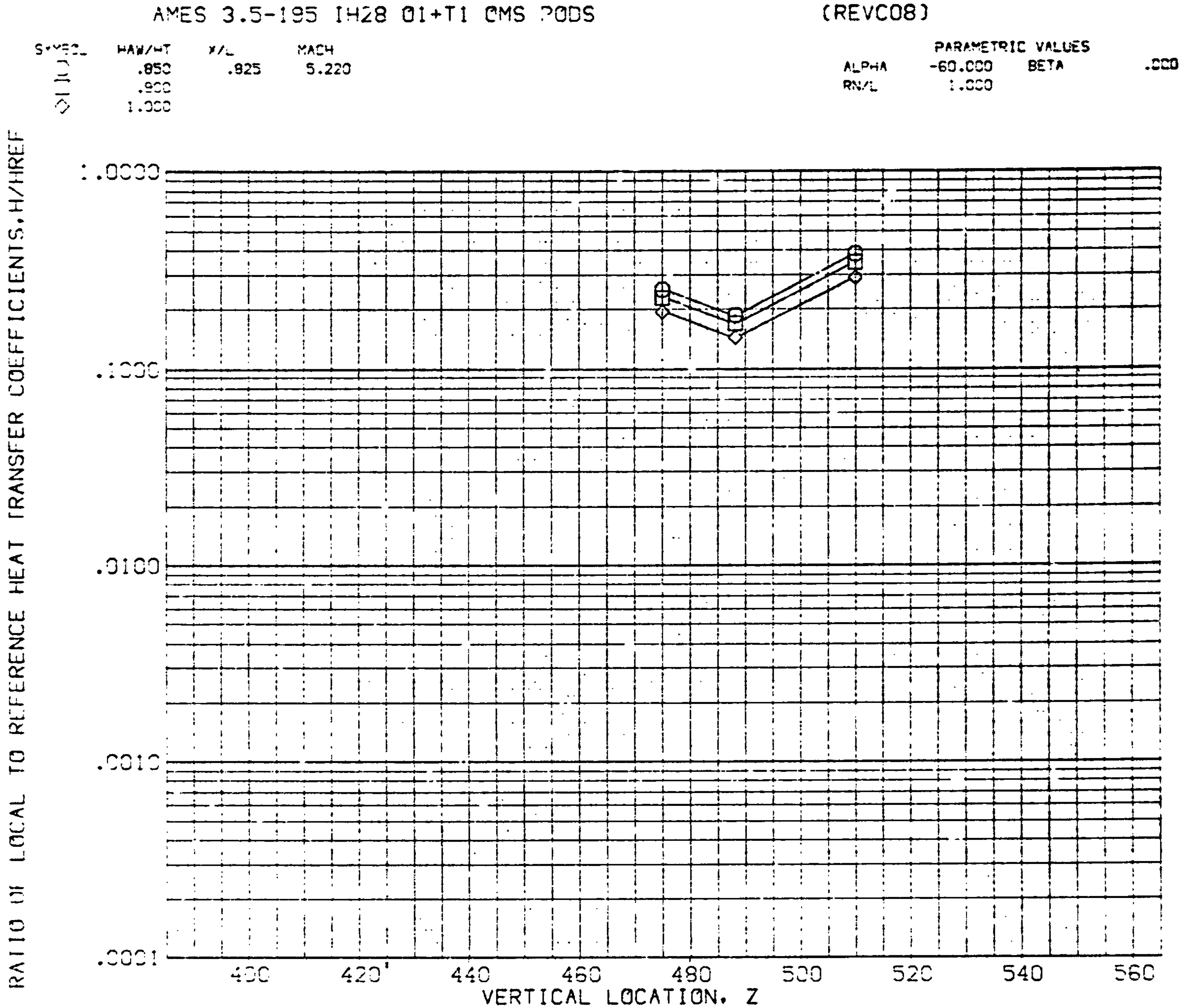

FIG. 14 OMS PODS, ORBITER IN PRESENCE OF THE TANK

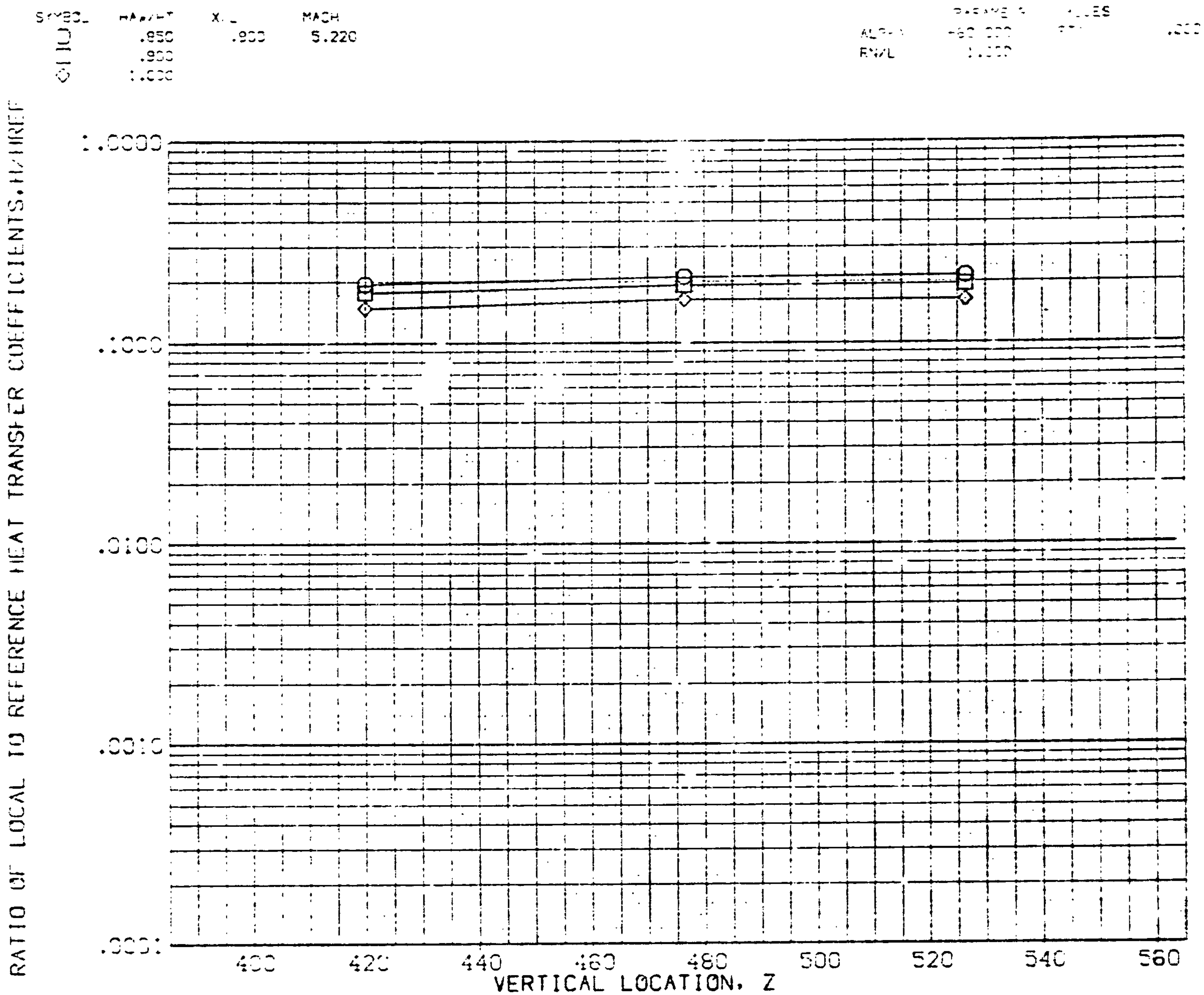

FIG. 14 OMS PODS, ORBITER IN PRESENCE OF THE TANK

AMES 3.5-195 IH28 01+T1 OMS PODS (REVC09)

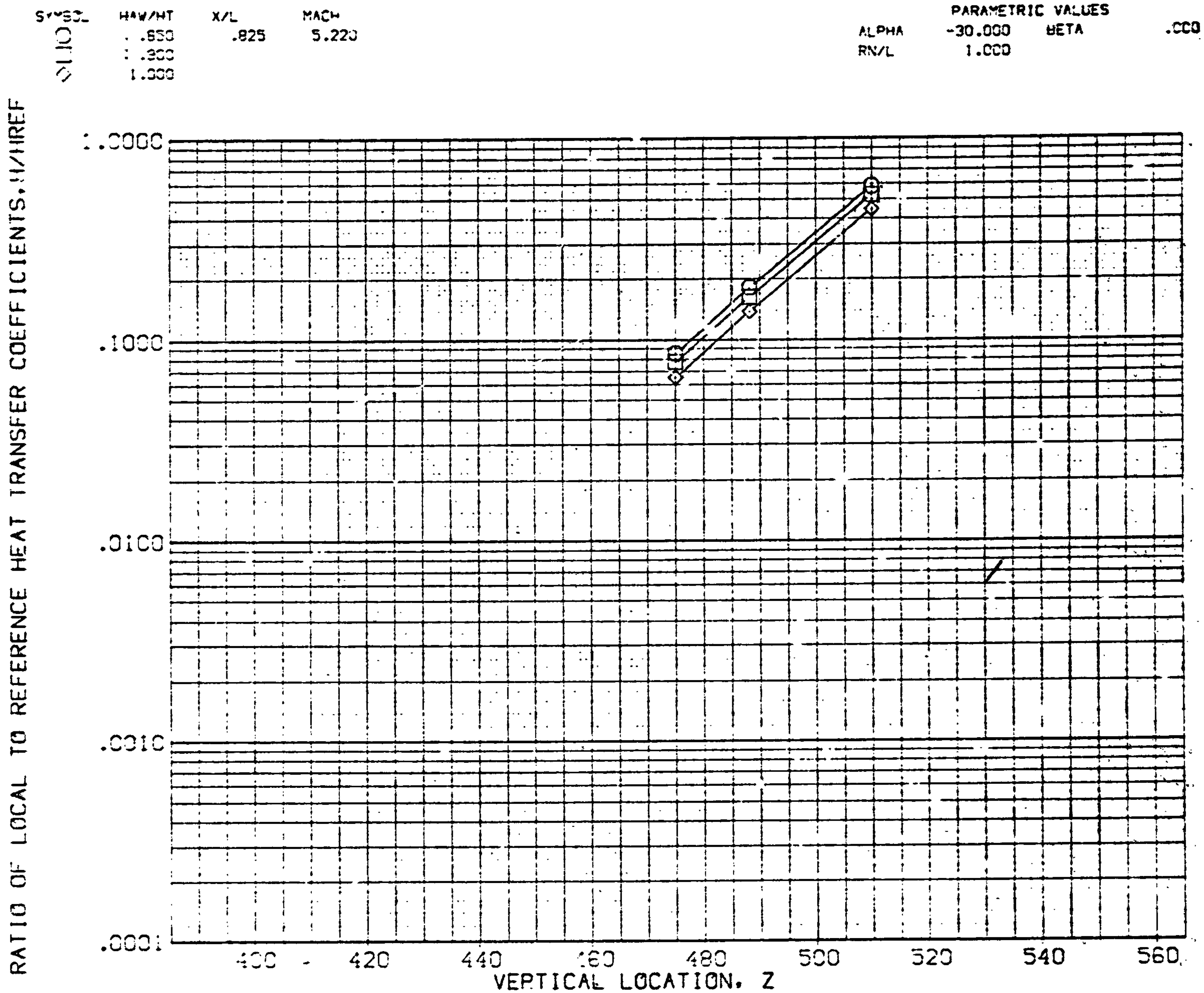

FIG. 14 OMS PODS, ORBITER IN PRESENCE OF THE TANK

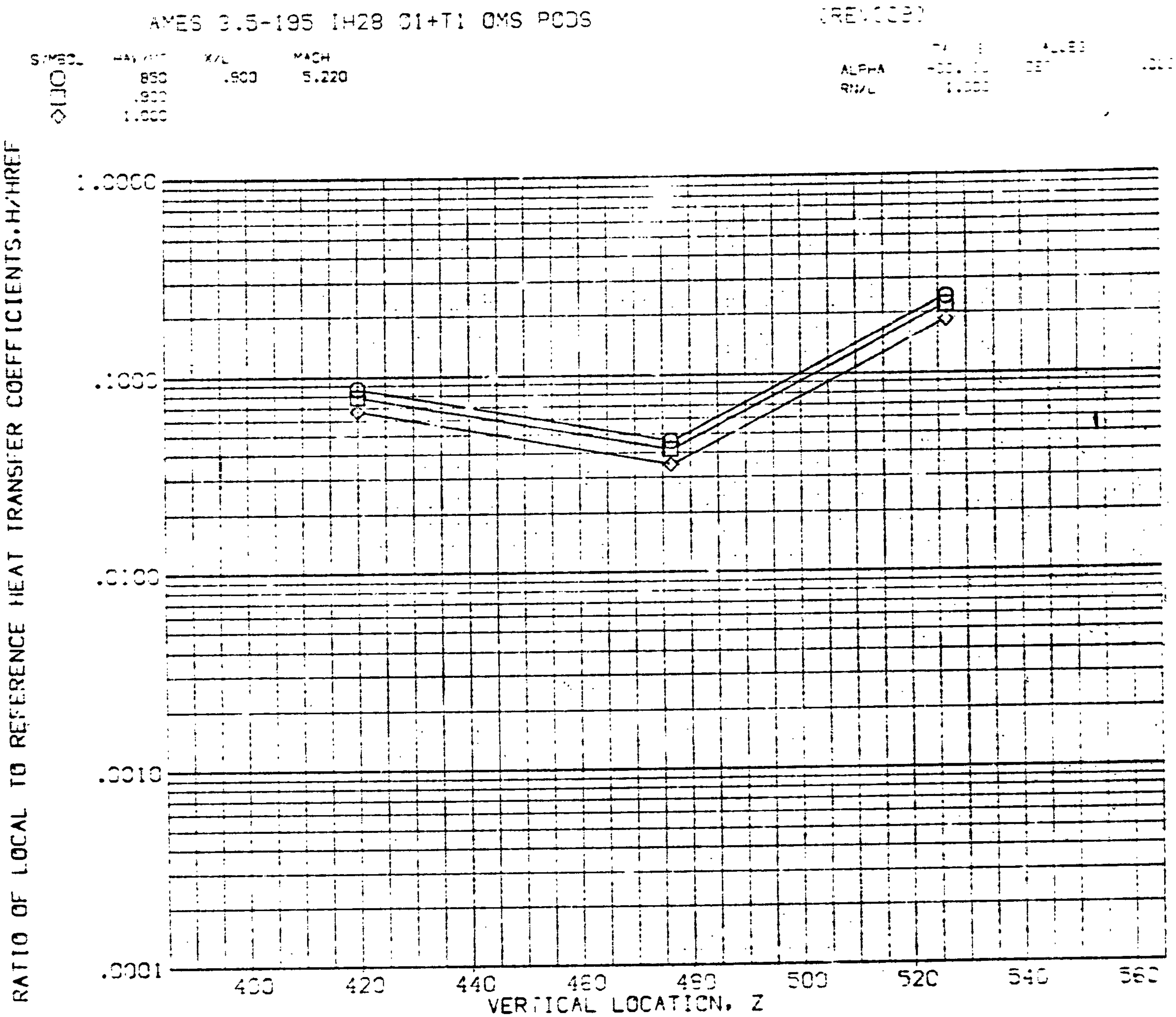

FIG. 14 OMS PODS, ORBITER IN PRESENCE OF THE TANK

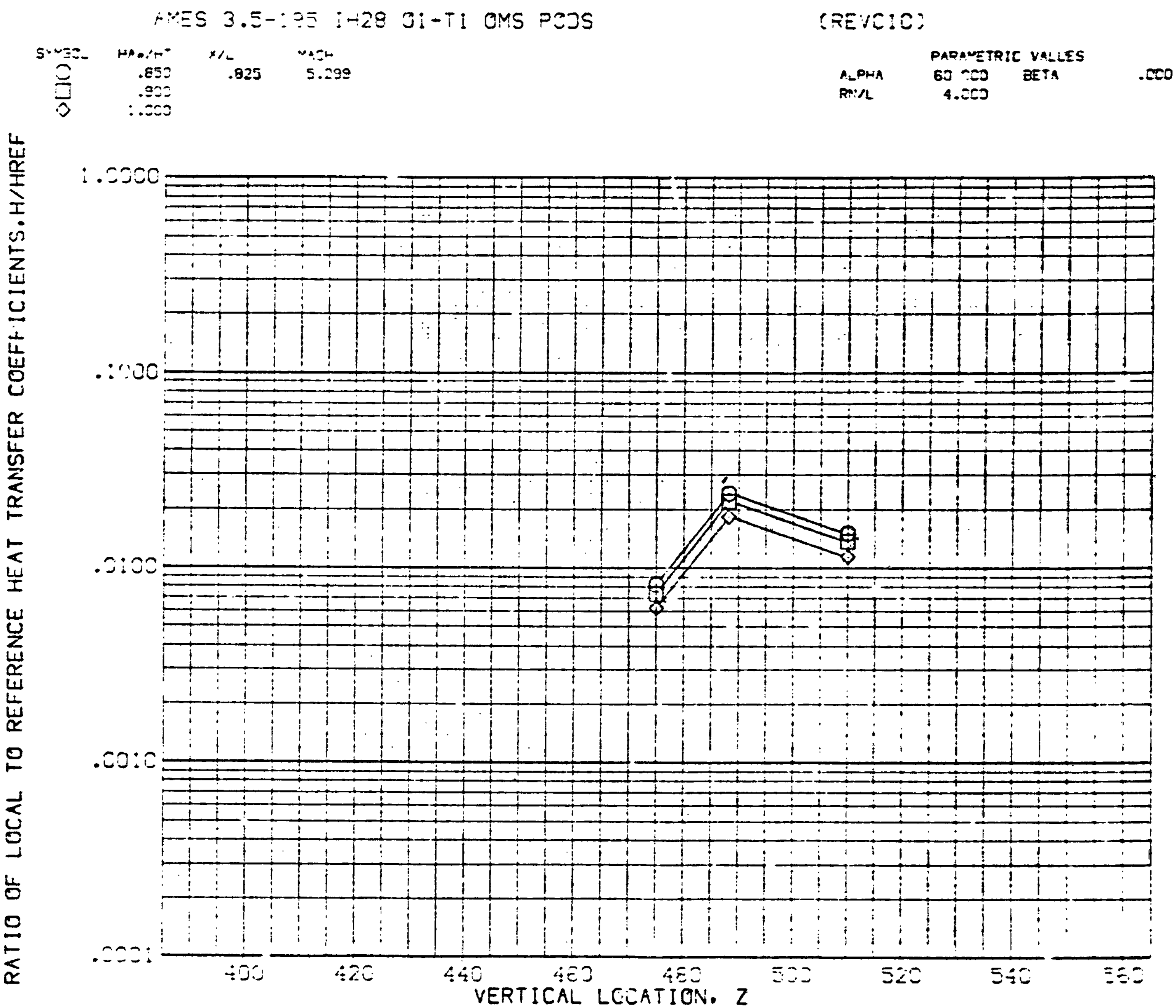

FIG. 14 OMS PODS, ORBITER IN PRESENCE OF THE TANK

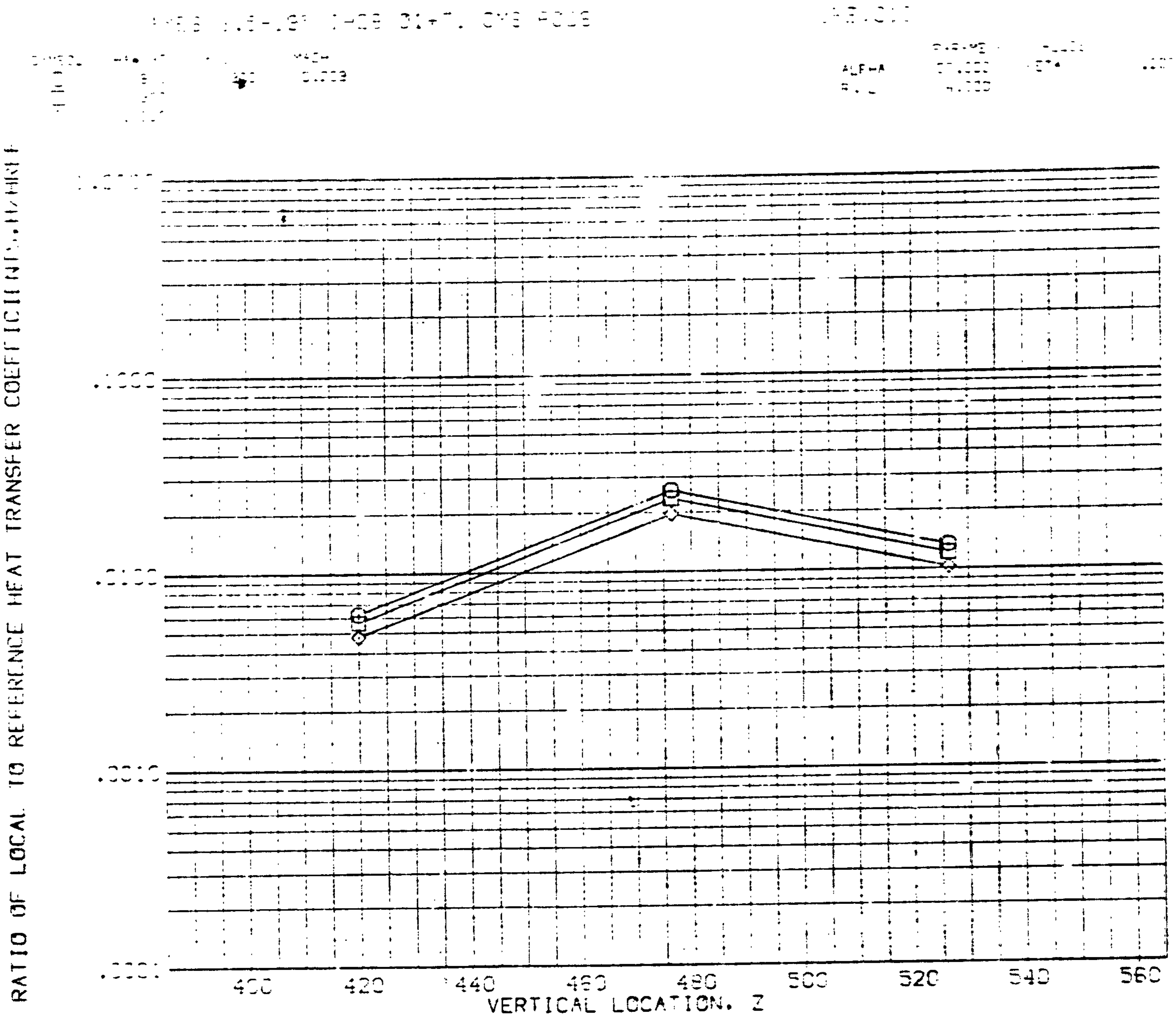

FIG. 14 OMS PODS, ORBITER IN PRESENCE OF THE TANK

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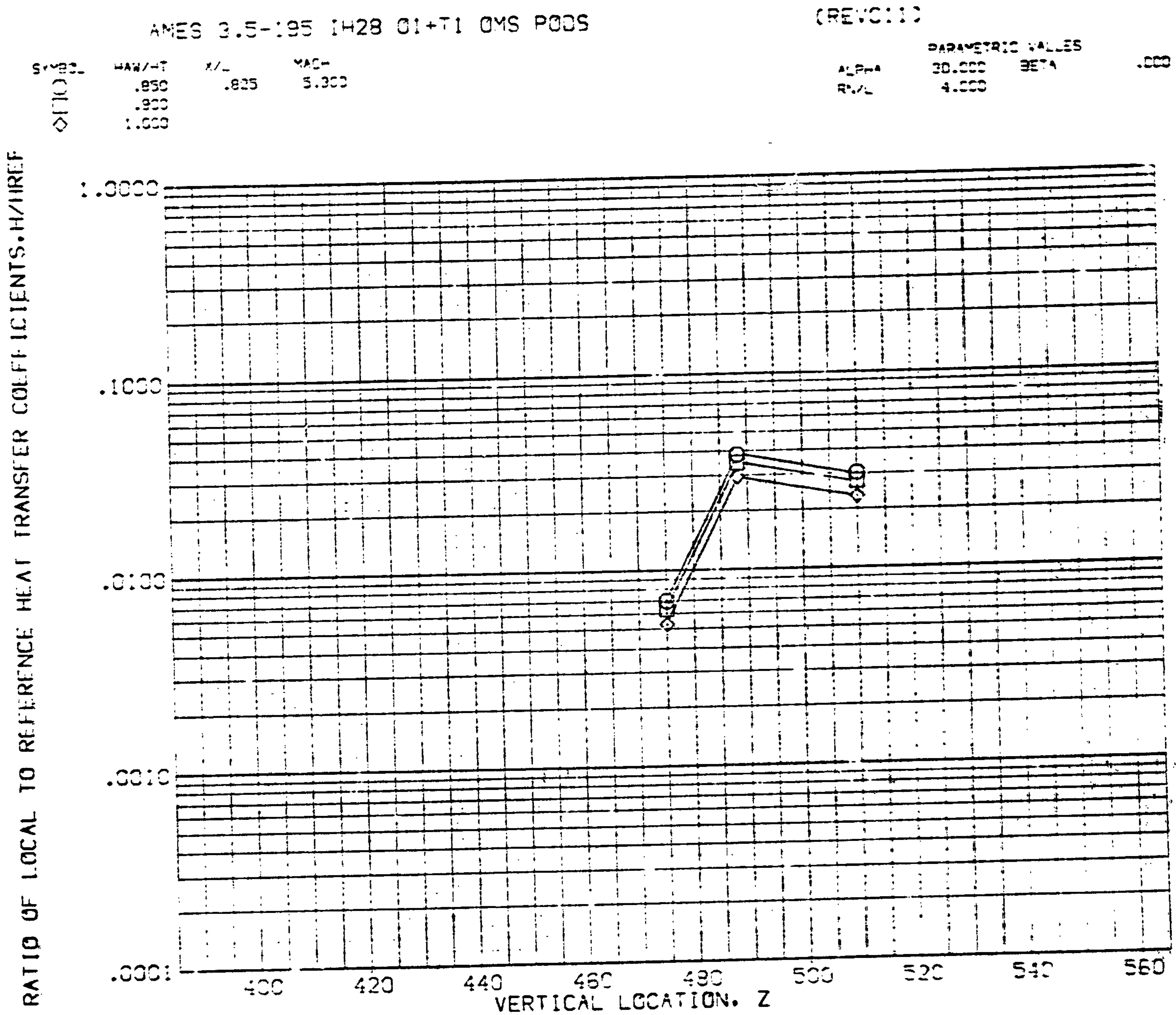

FIG. 14 OMS PODS, ORBITER IN PRESENCE OF THE TANK

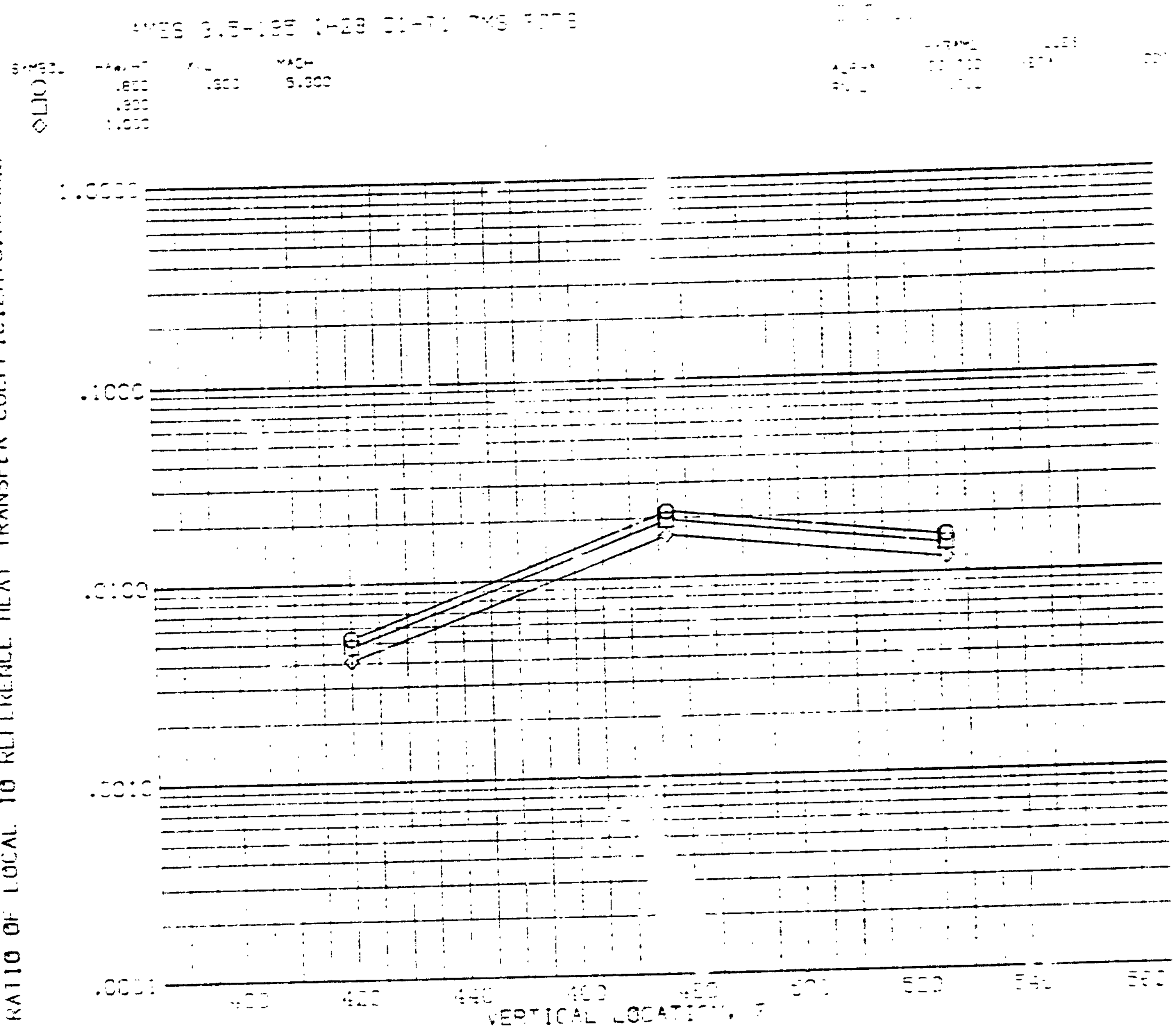

FIG. 14 OMS PODS, ORBITER IN PRESENCE OF T[illegible] TANK

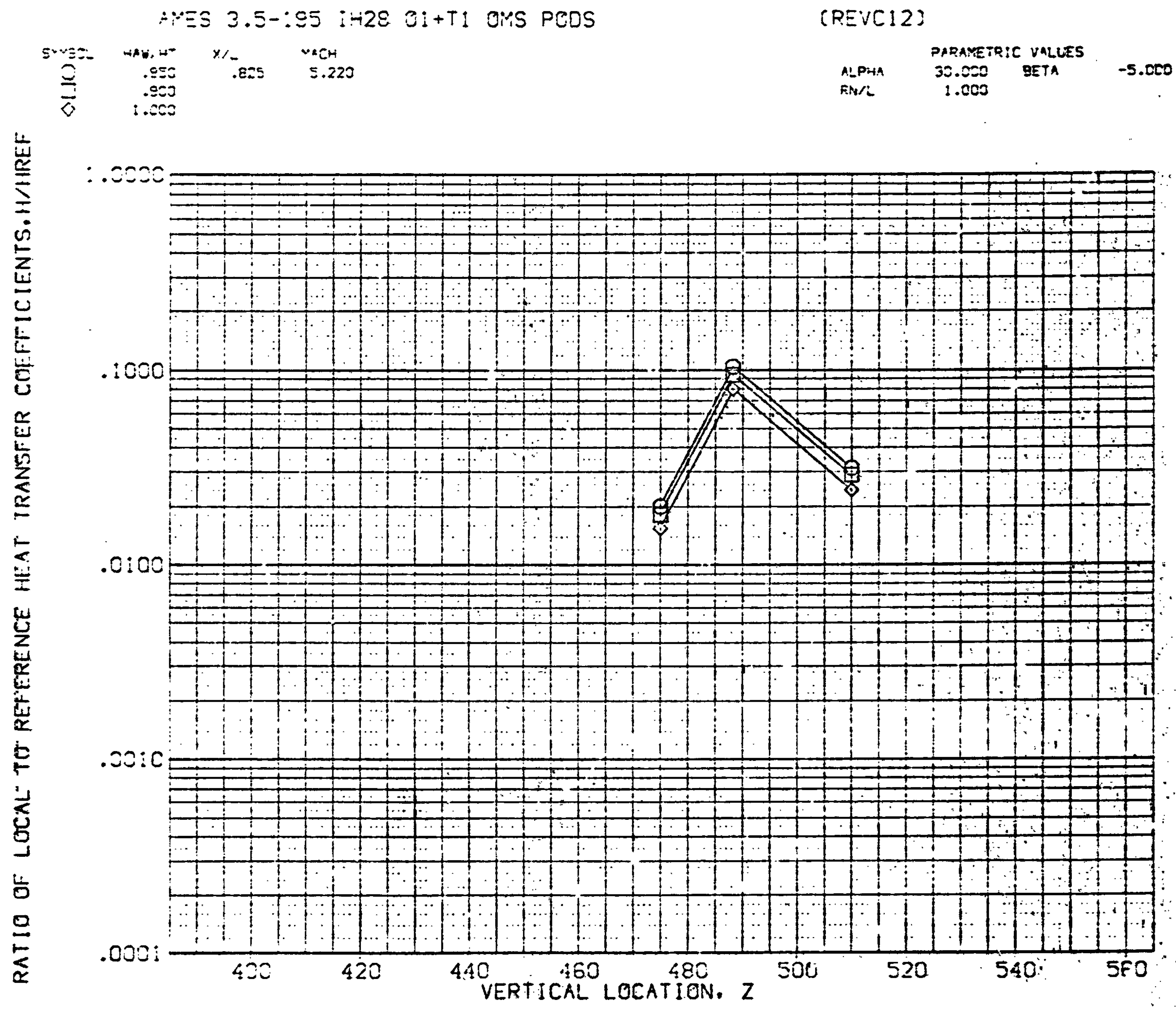

FIG. 14 OMS PODS, ORBITER IN PRESENCE OF THE TANK

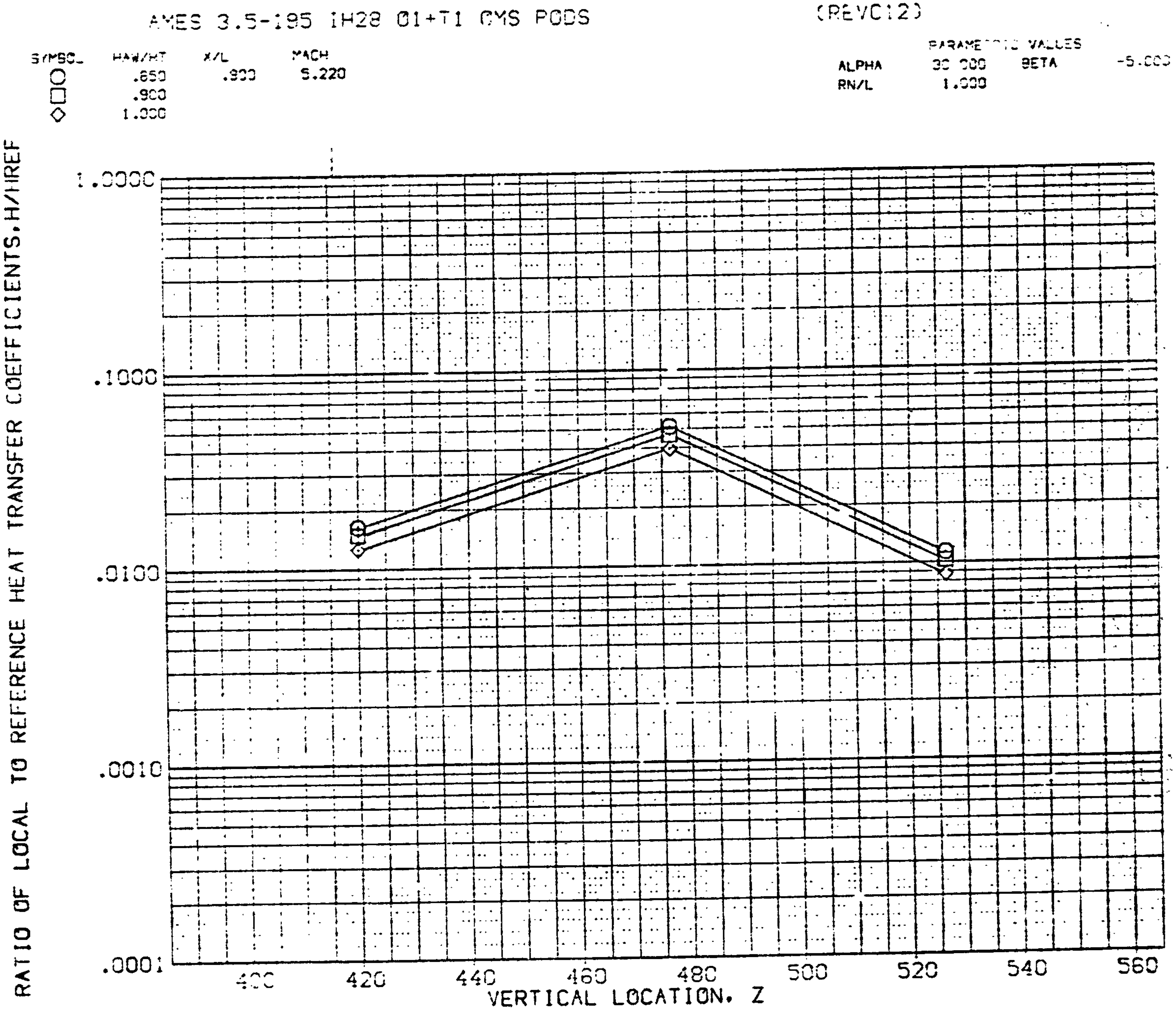

FIG. 14 OMS PODS, ORBITER IN PRESENCE OF THE TANK

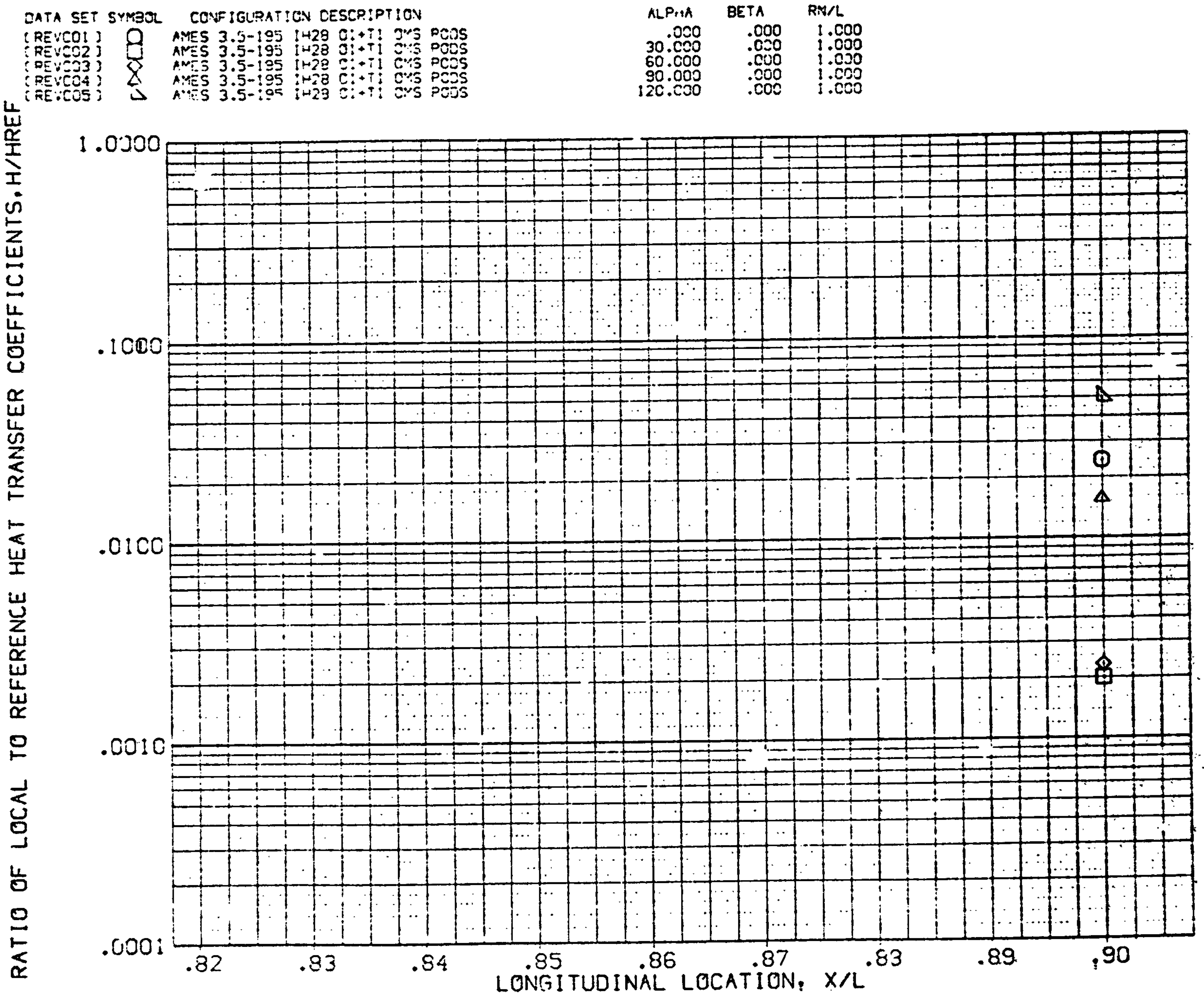

FIG. 14 OMS PODS, ORBITER IN PRESENCE OF THE TANK

MACH = 5.300 HAW/HT= .900 Z = 420 000

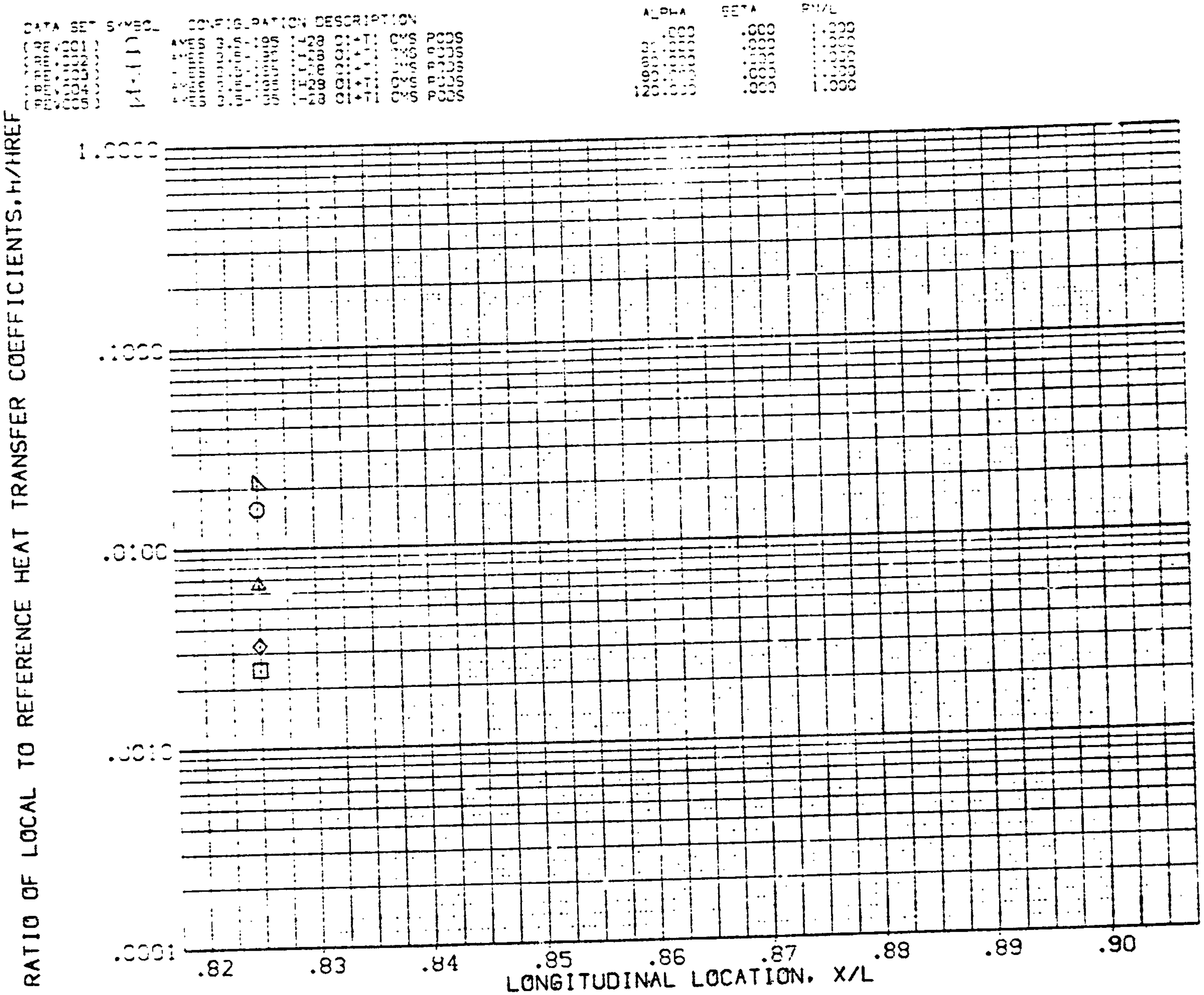

FIG. 14 OMS PODS, ORBITER IN PRESENCE OF THE TANK

MACH = 5.300 HAW/HT= .900 Z = 475.000

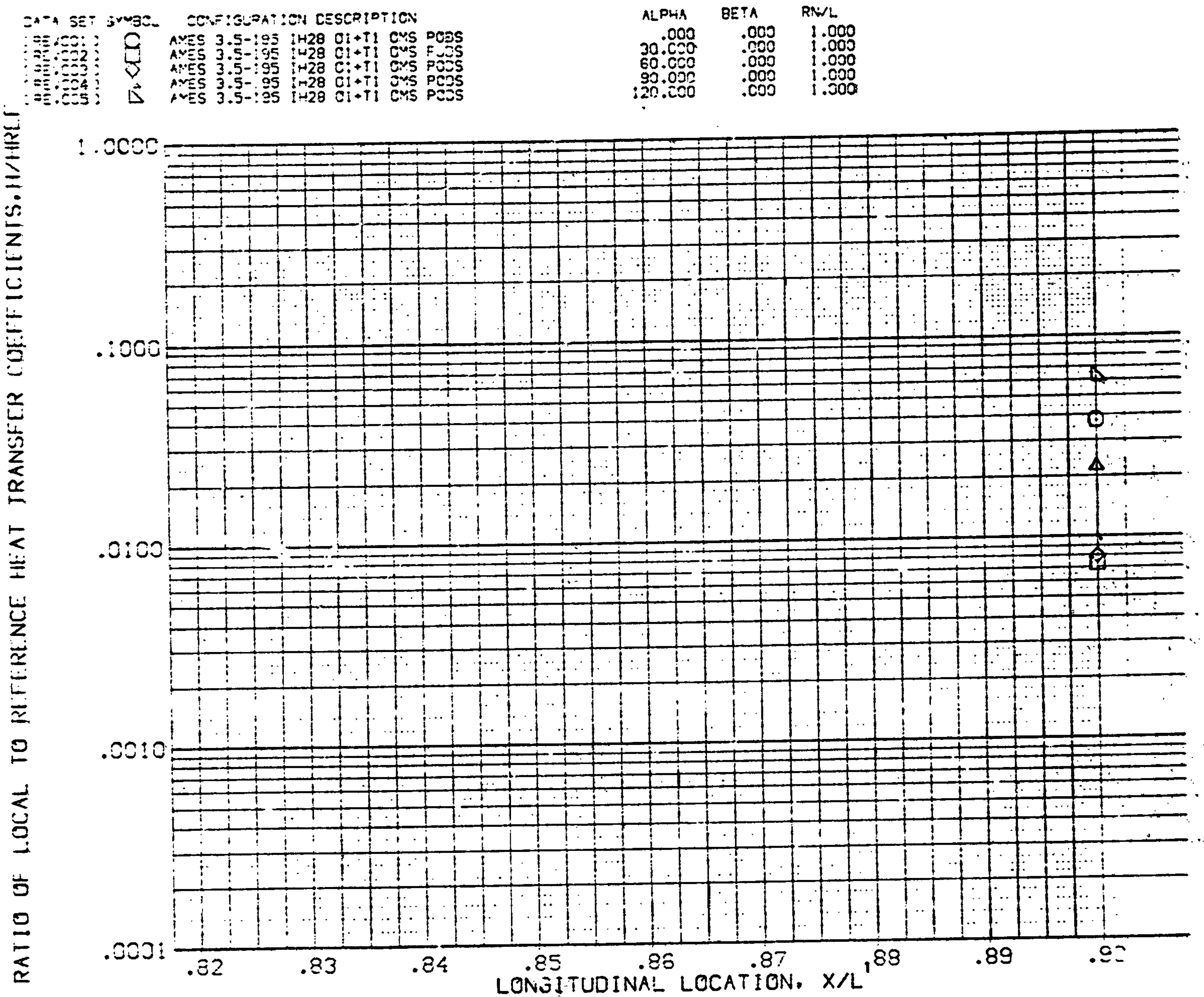

FIG. 14 OMS PODS, ORBITER IN PRESENCE OF THE TANK

MACH = 5.300 HAW/HT= .900 Z = 476.660

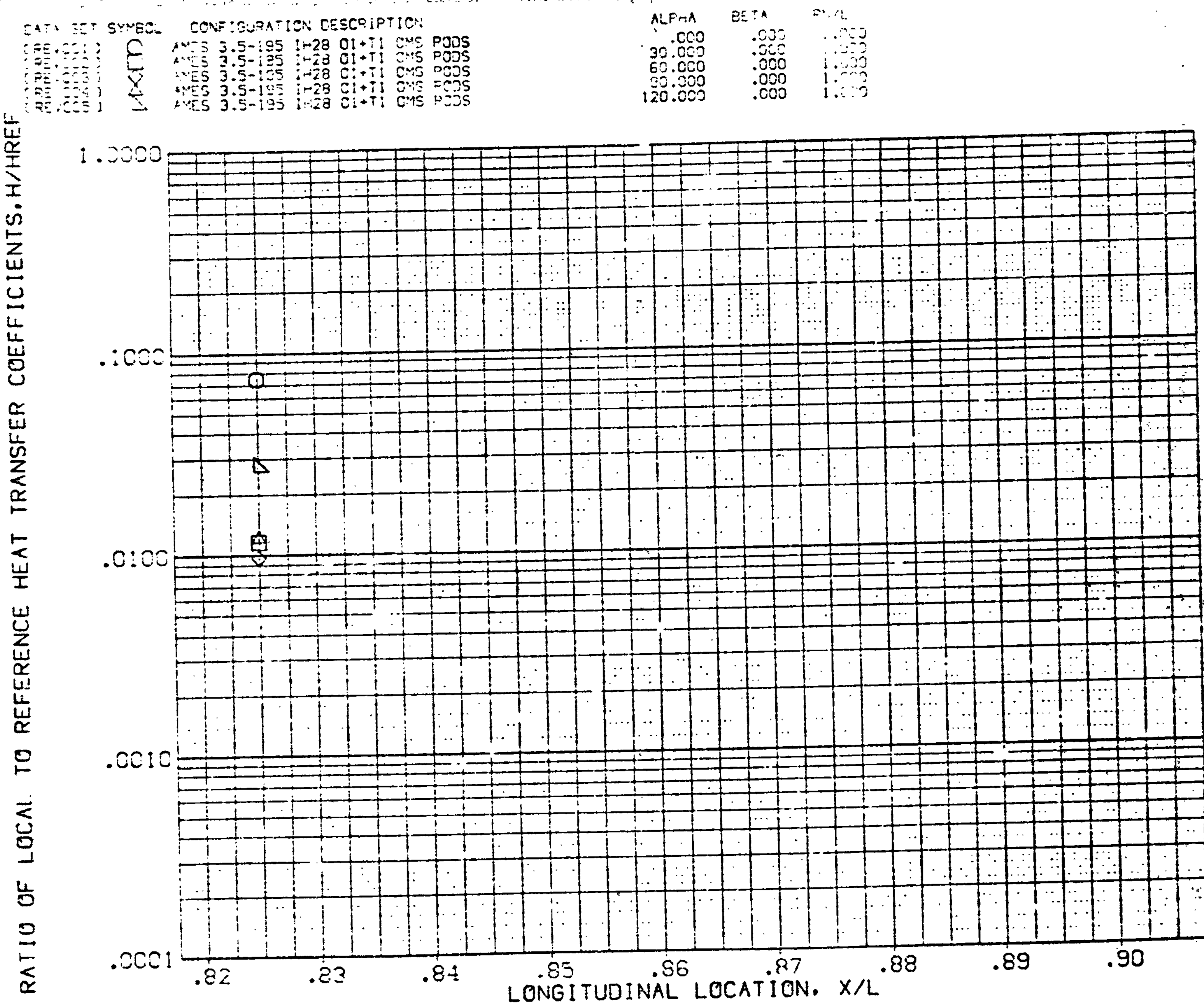

FIG. 14 OMS PODS, ORBITER IN PRESENCE OF THE TANK

MACH = 5.300 HAW/HT= .900 Z = 488.300

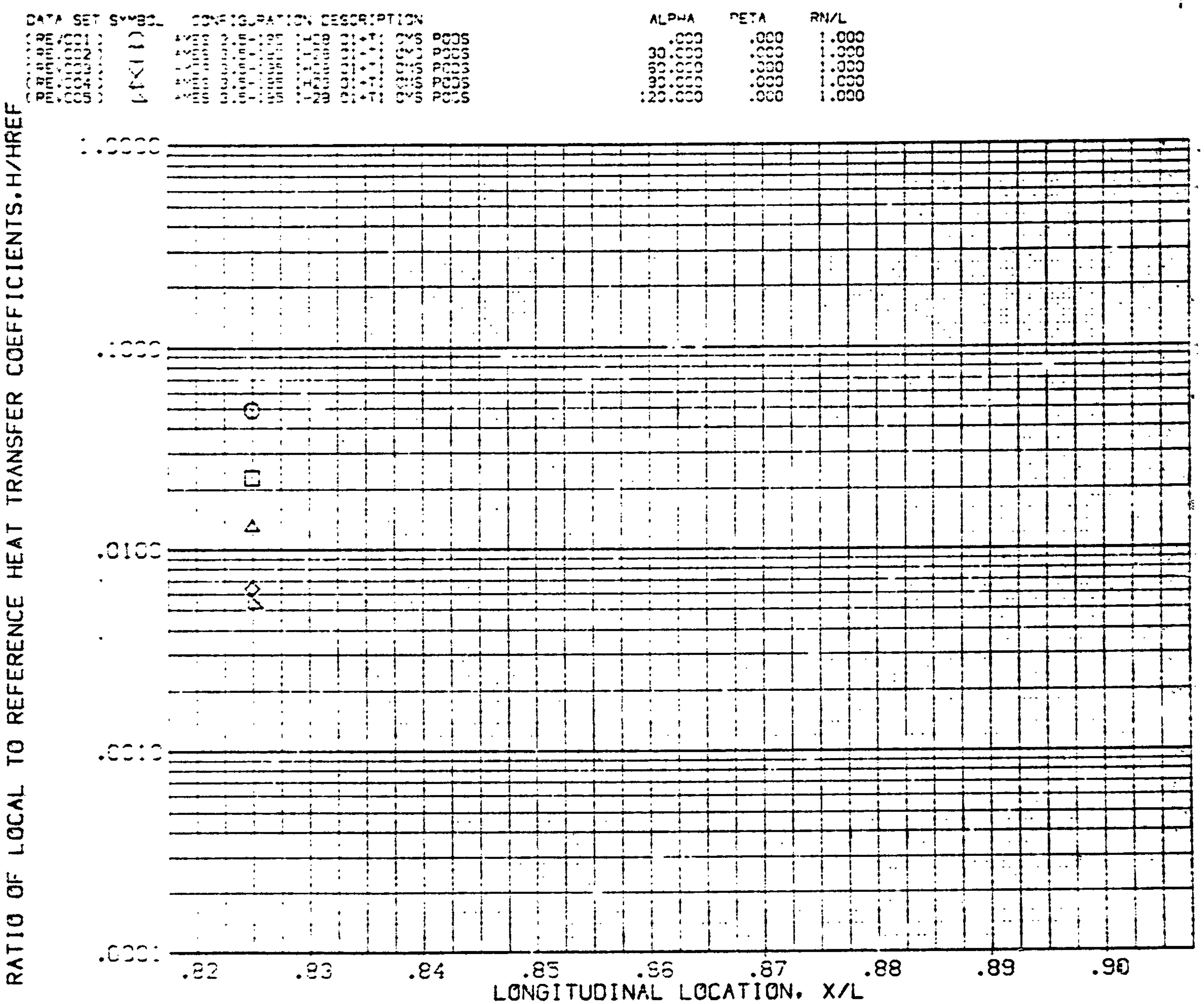

FIG. 14 OMS PODS, ORBITER IN PRESENCE OF THE TANK

MACH = 5.300 ... = .900 Z = 510.000

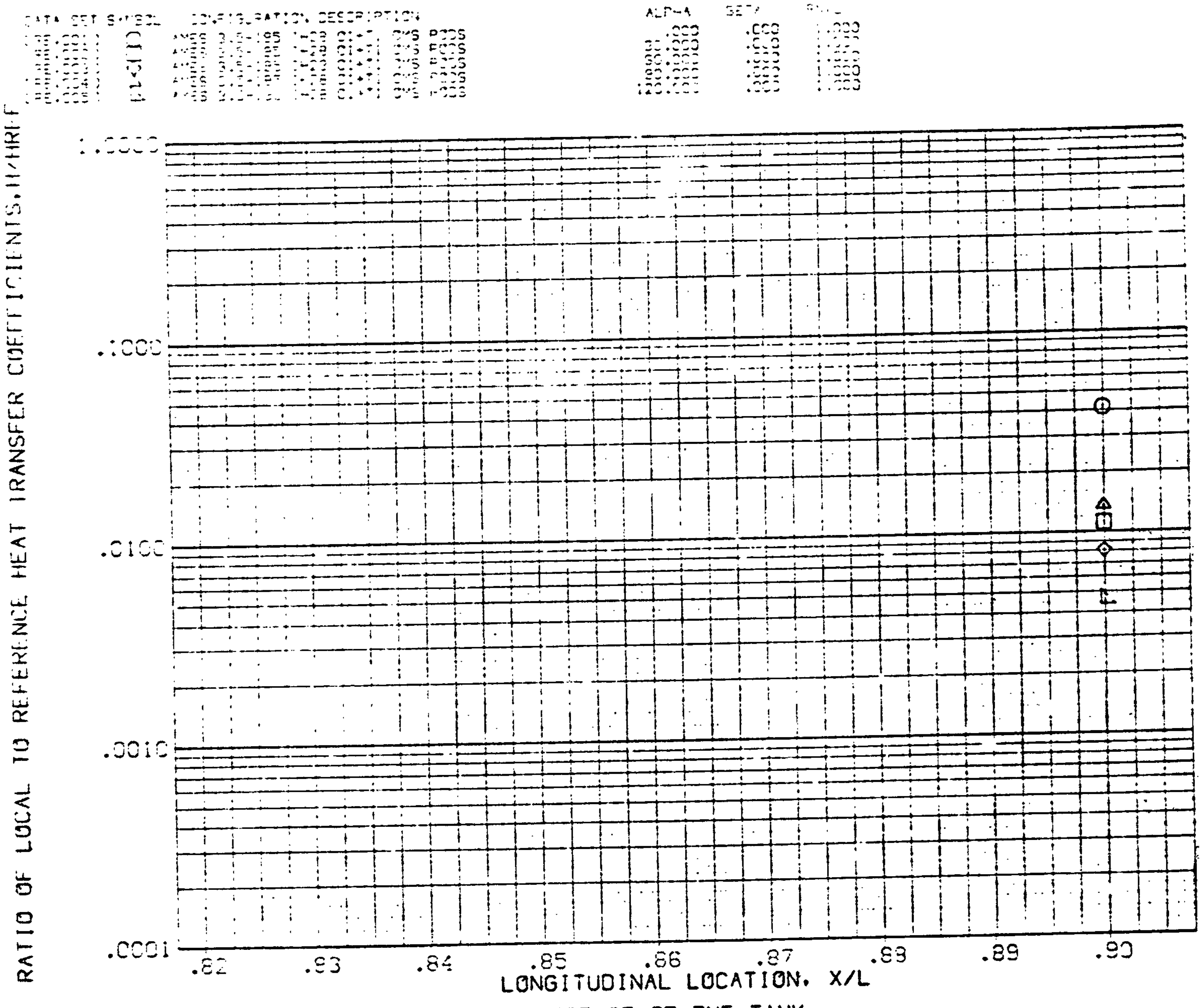

FIG. 14 OMS PODS, ORBITER IN PRESENCE OF THE TANK

MACH = 5.300 Z = 526.360

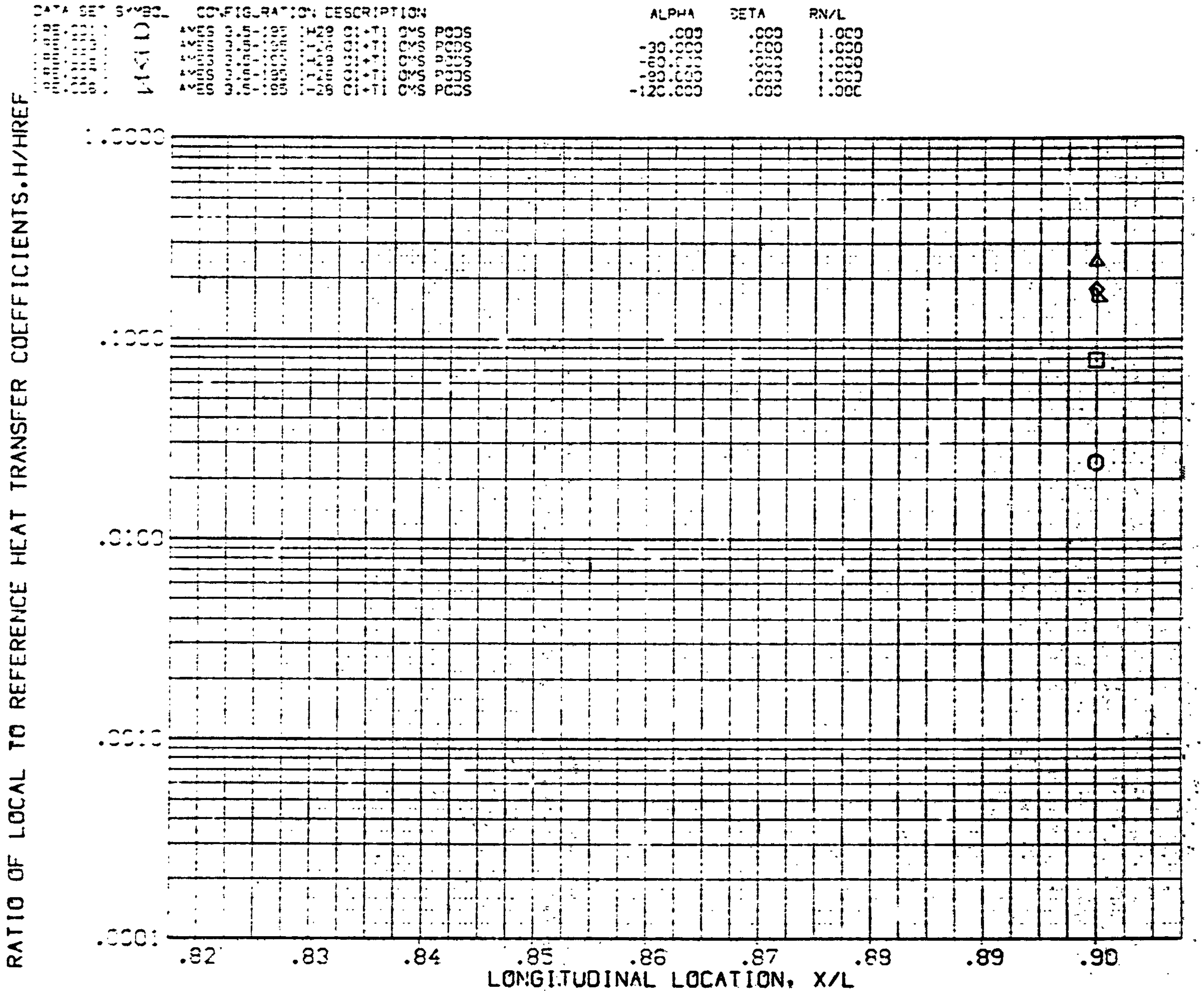

FIG. 14 OMS PODS, ORBITER IN PRESENCE OF THE TANK

MACH = 5.300 HW/HT= .900 Z = 420.000

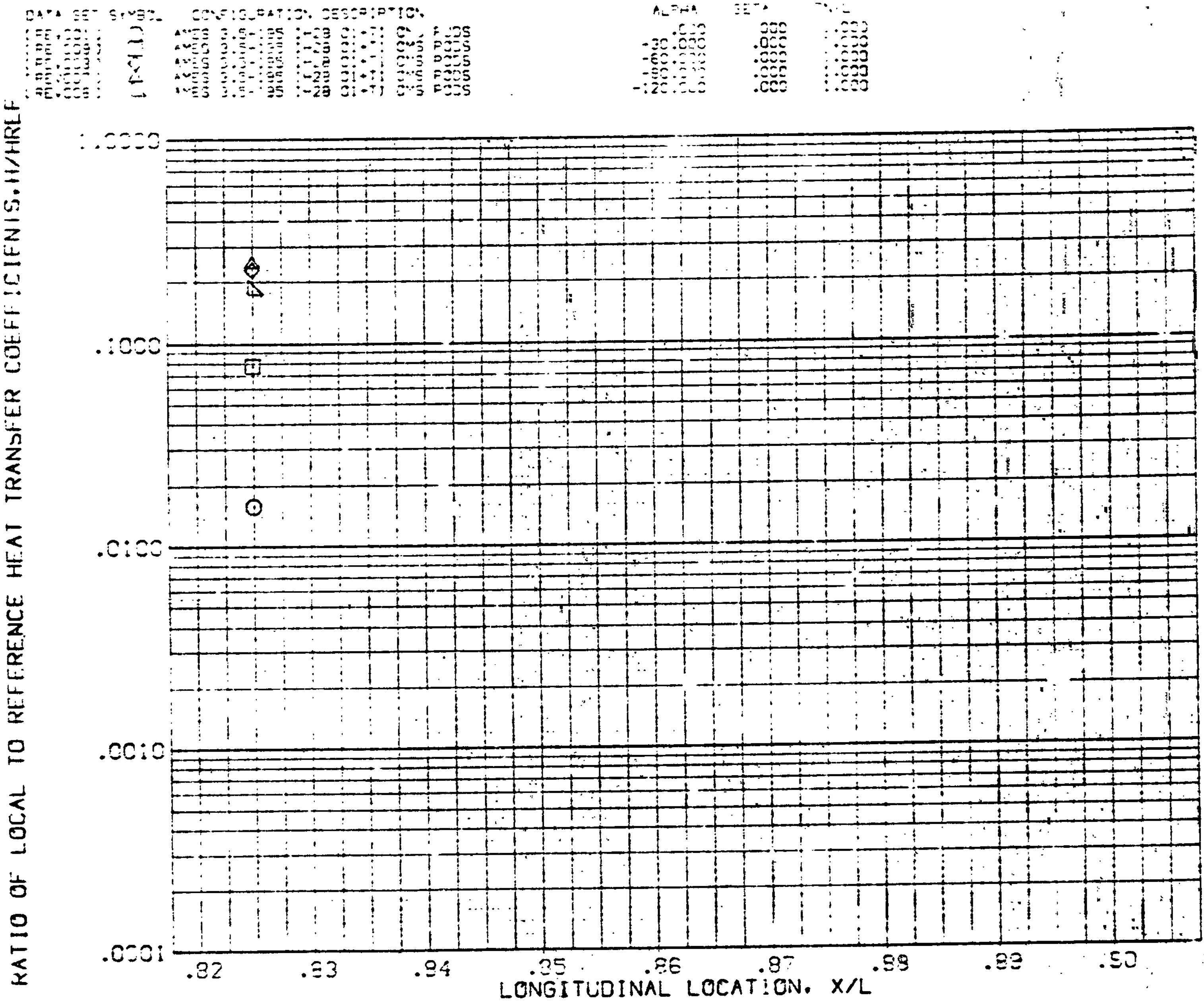

FIG. 14 OMS PODS, ORBITER IN PRESENCE OF THE TANK

MAC- = 5.300 .300 Z = 475.000

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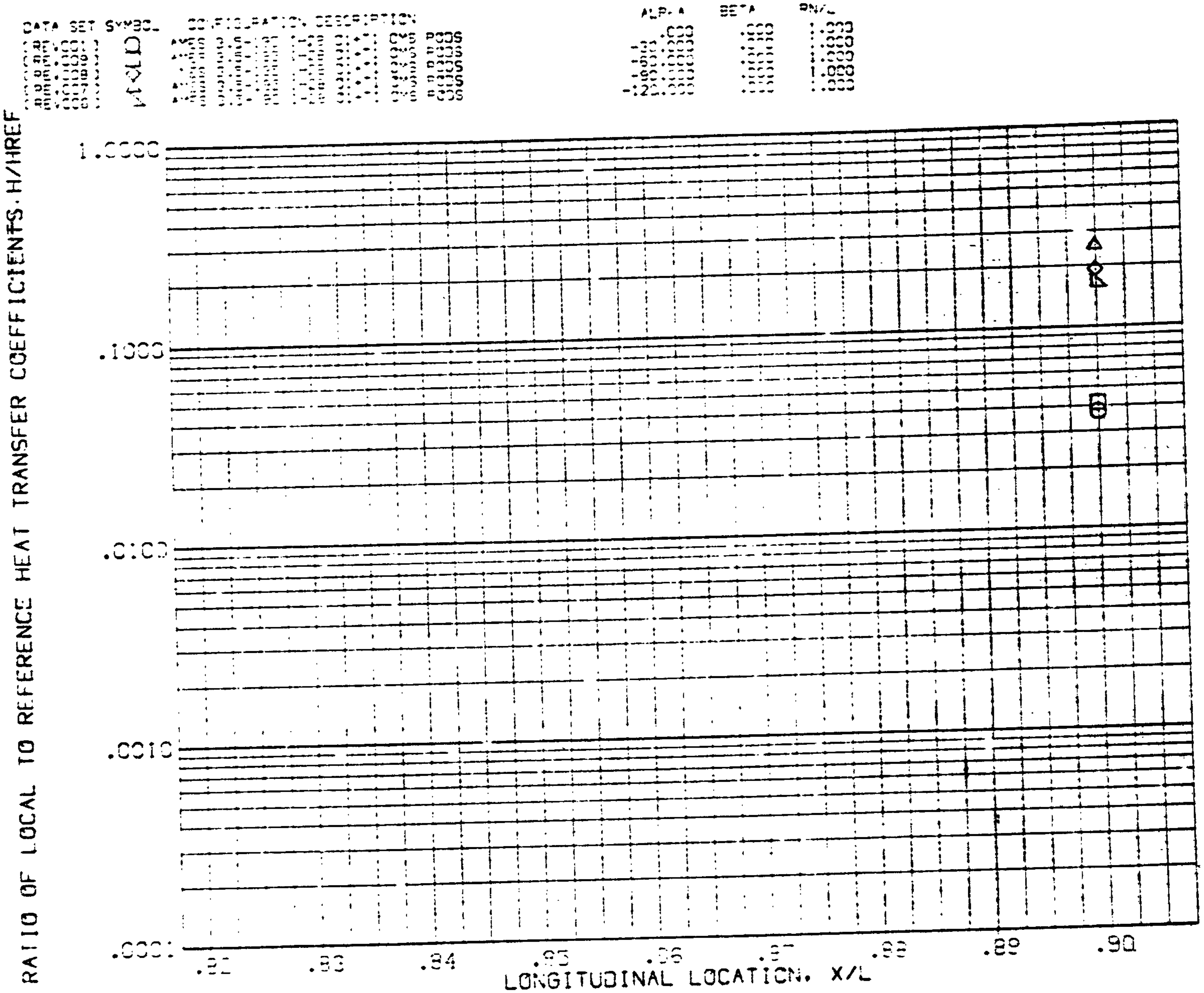

FIG. 14 OMS PODS, ORBITER IN PRESENCE OF THE TANK

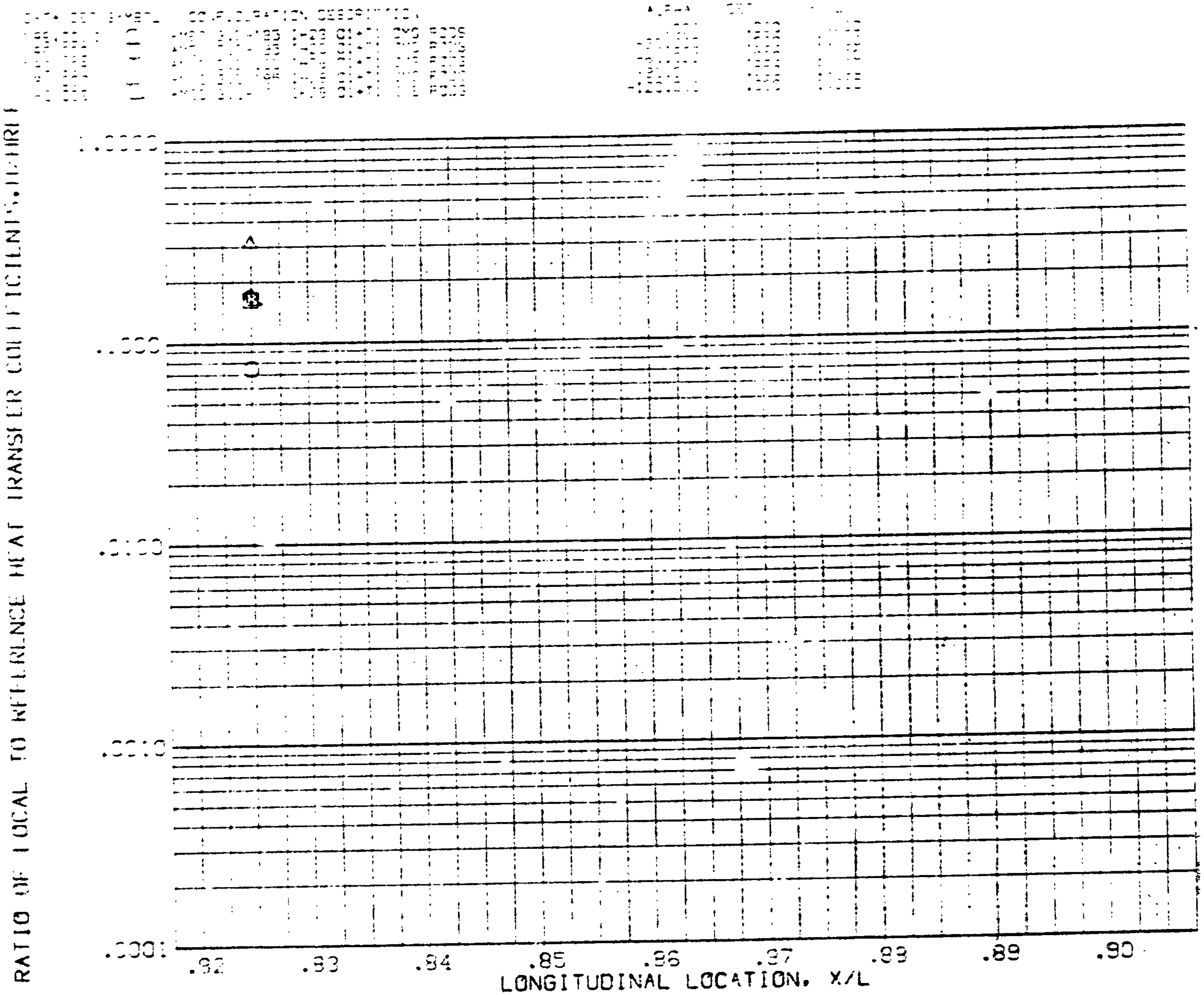

FIG. 14 CMS PODS, ORBITER IN PRESENCE OF THE TANK

MACH = 5.300 = 489.300

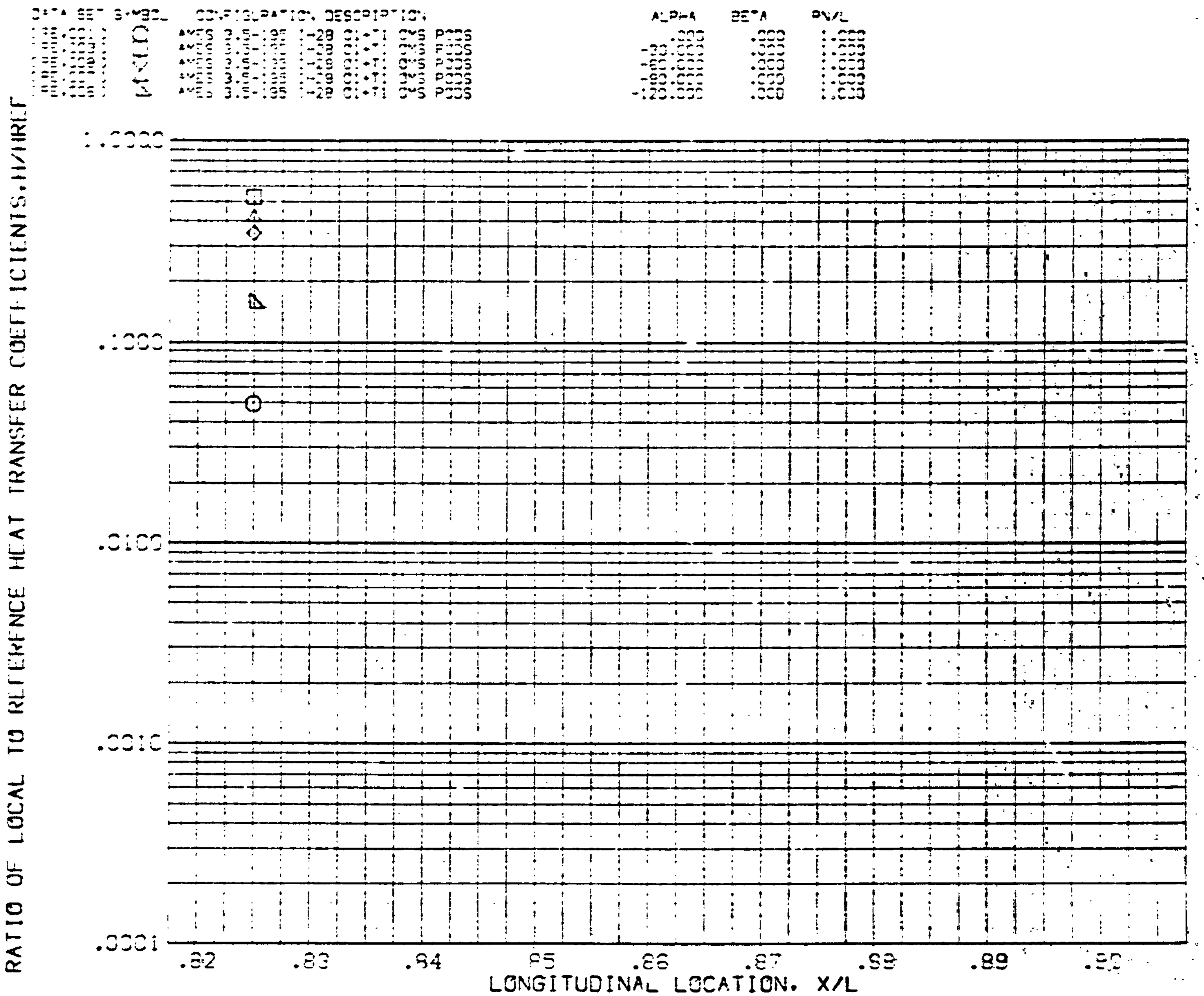

FIG. 14 OMS PODS, ORBITER IN PRESENCE OF THE TANK

MACH = 5.300 H/HT= .800 Z = 510.000

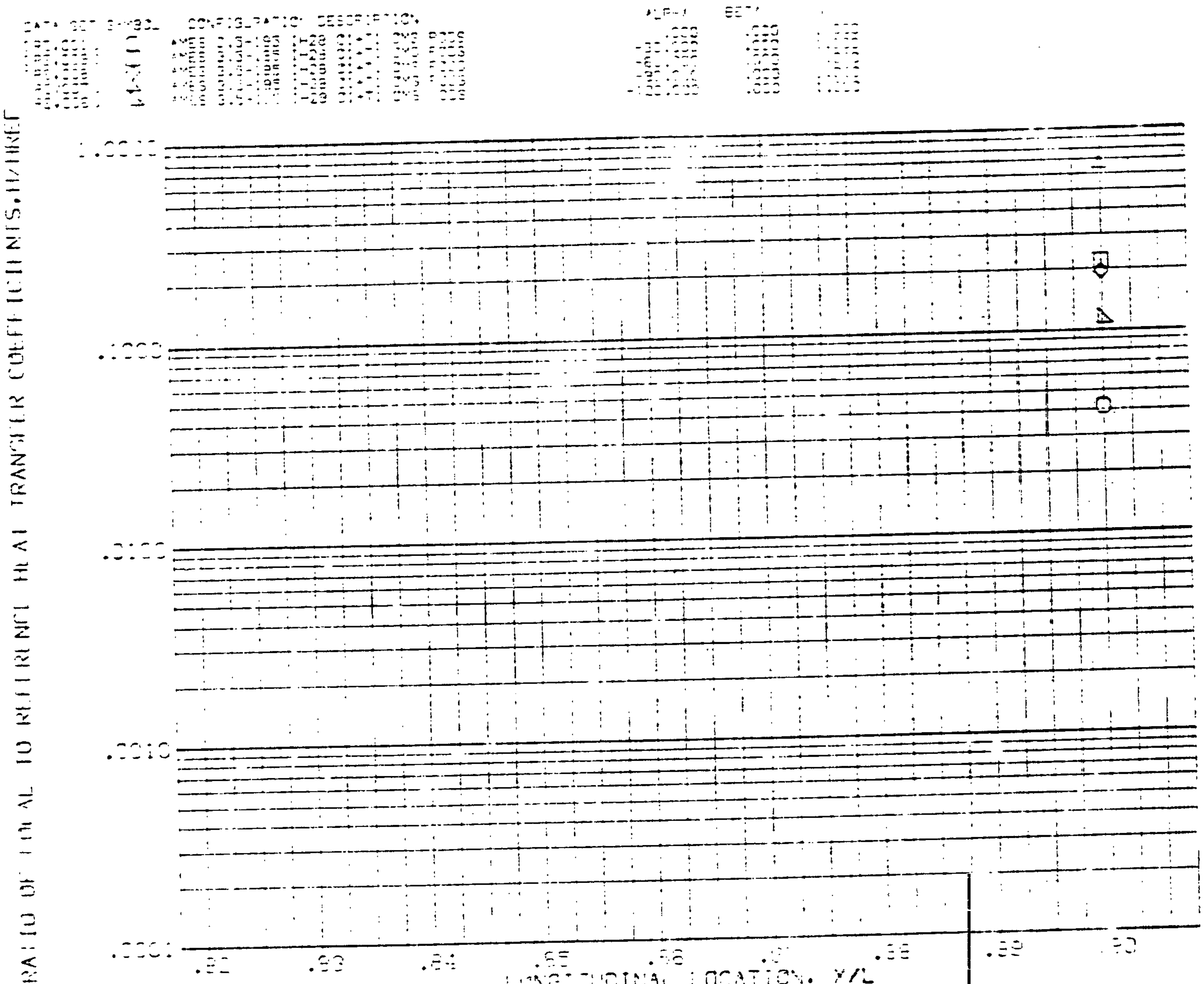

FIG. 14 CMS PODS, ORBITER IN PRESENCE OF THE TANK

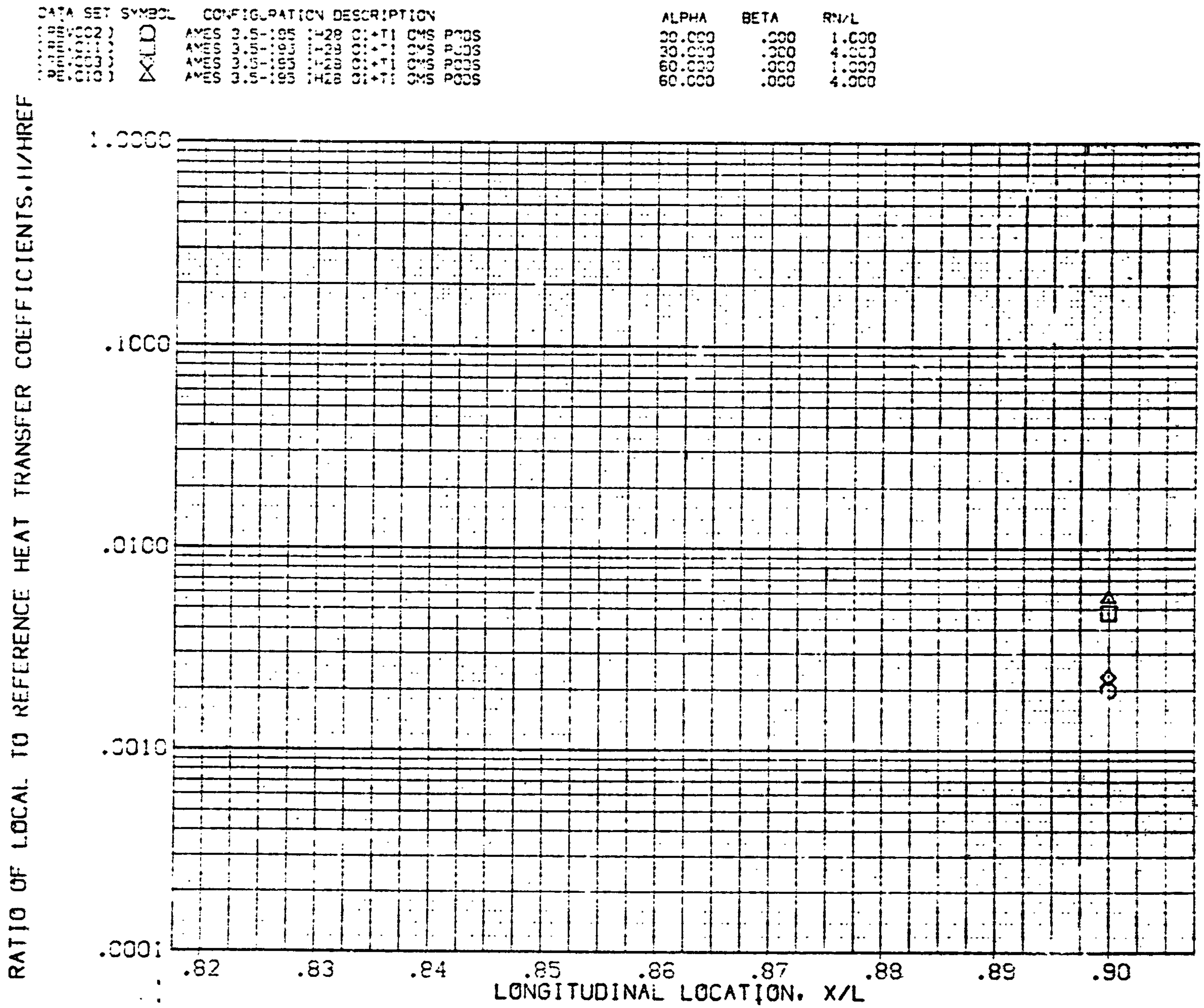

FIG. 14 OMS PODS, ORBITER IN PRESENCE OF THE TANK

MACH = 5.300 HAW/HT= .900 Z = 420.000

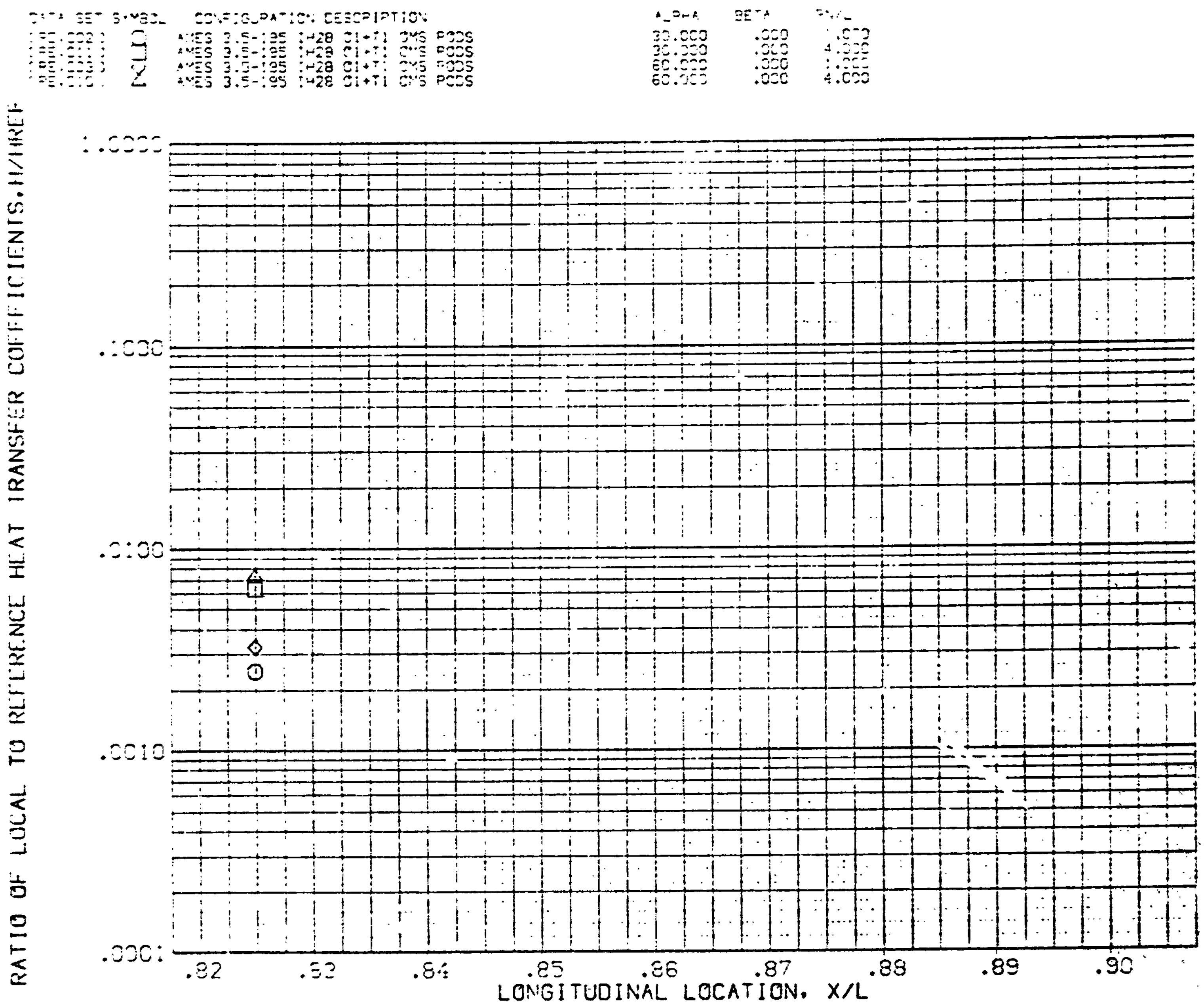

FIG. 14 OMS PODS, ORBITER IN PRESENCE OF THE TANK

MACH = 5.300 HAW/HT= .900 Z = 475.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	RN/L
(RE.002)	◻	AMES 3.5-195 IH28 O1+T1 OMS PODS	30.000	.000	1.000
(RE.011)	⊙	AMES 3.5-195 IH28 O1+T1 OMS PODS	30.000	.000	4.000
(RE.003)	△	AMES 3.5-195 IH28 O1+T1 OMS PODS	60.000	.000	1.000
(RE.010)	⨯	AMES 3.5-195 IH28 O1+T1 OMS PODS	60.000	.000	4.000

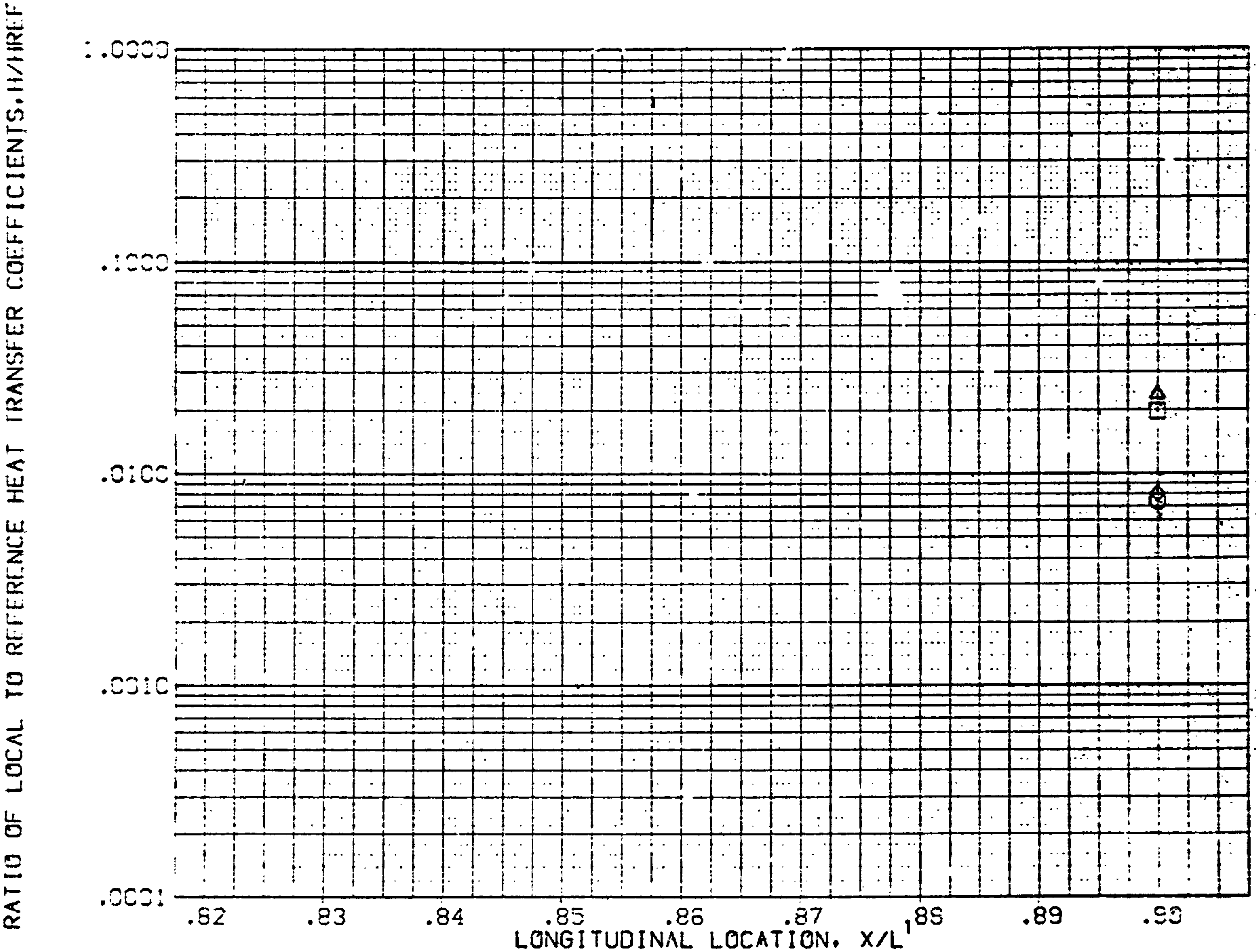

FIG. 14 OMS PODS, ORBITER IN PRESENCE OF THE TANK

MACH = 5.300 HAW/HT= .900 Z = 476.660

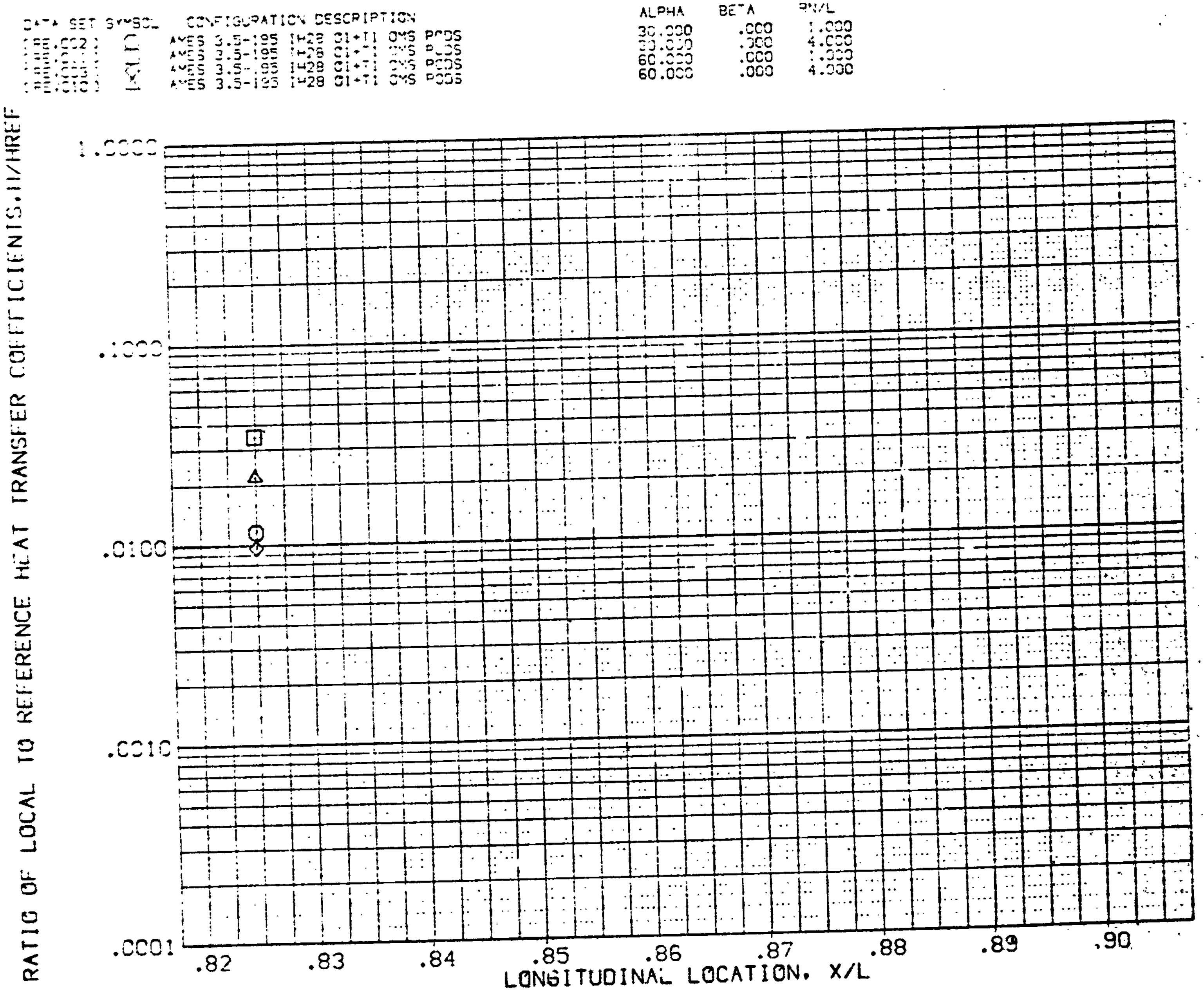

FIG. 14 OMS PODS, ORBITER IN PRESENCE OF THE TANK

MACH = 5.300 HAW/HT= .900 Z = 488.?00

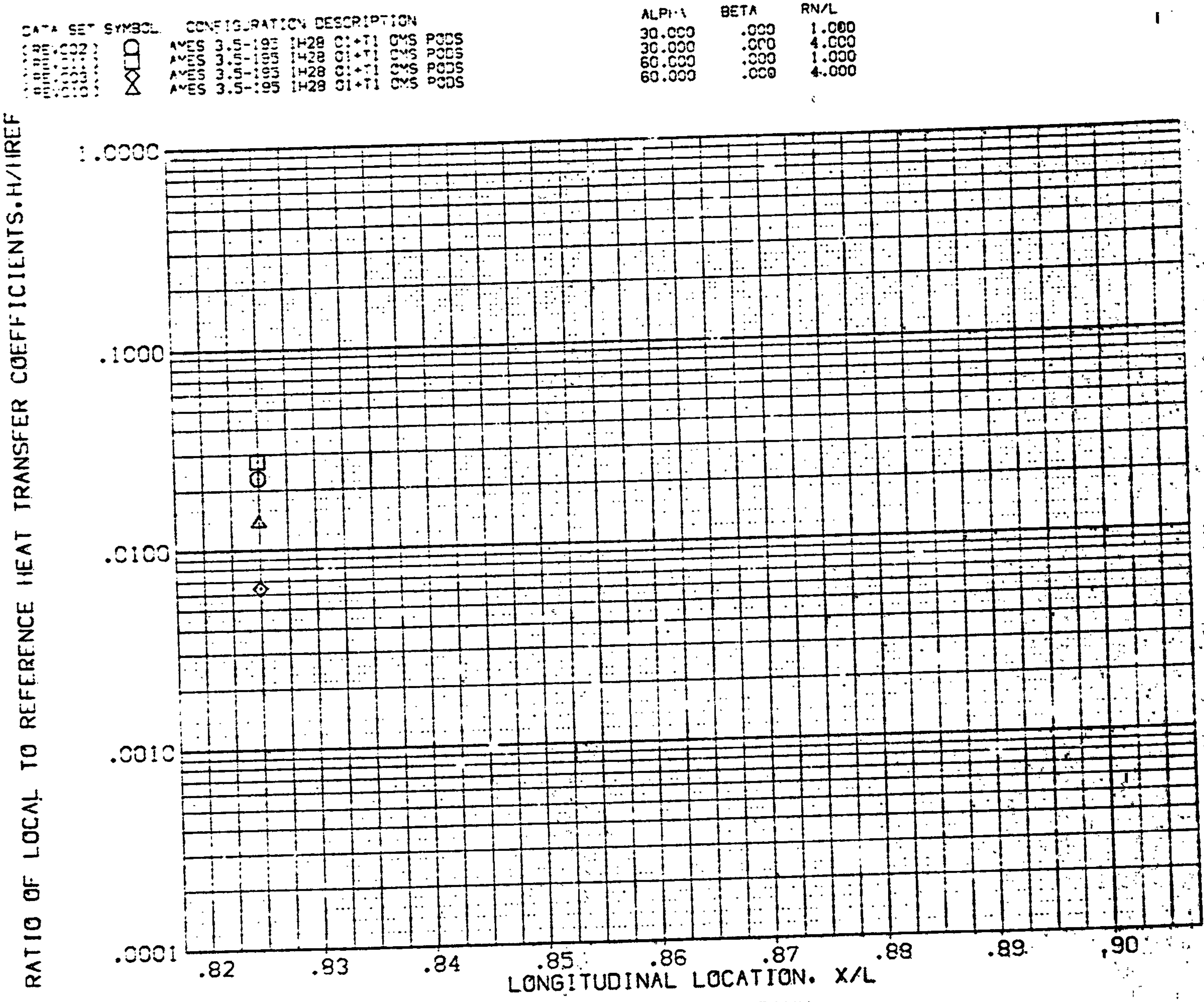

FIG. 14 OMS PODS, ORBITER IN PRESENCE OF THE TANK

MACH = 5.300 HAW/HT= .900 Z = 510.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	RN/L
(RE.002)		AMES 3.5-195 IH28 OI+TI OMS PODS	30.000	.000	1.000
(RE.011)		AMES 3.5-195 IH28 OI+TI OMS PODS	30.000	.000	4.000
(RE.003)		AMES 3.5-195 IH28 OI+TI OMS PODS	60.000	.000	1.000
(RE.010)		AMES 3.5-195 IH28 OI+TI OMS PODS	60.000	.000	4.000

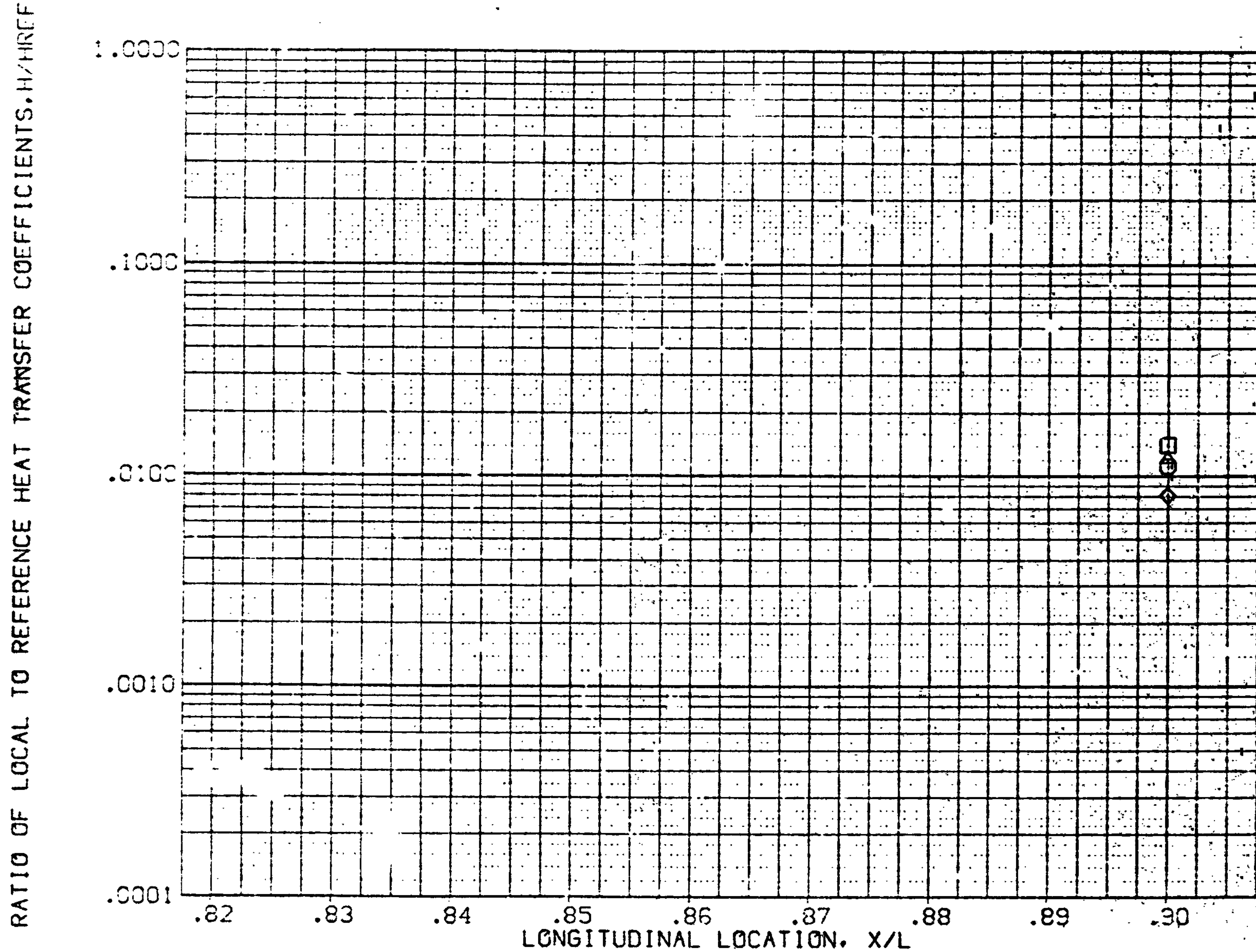

FIG. 14 OMS PODS, ORBITER IN PRESENCE OF THE TANK

MACH = 5.300 HAW/HT= .900 Z = 526.660

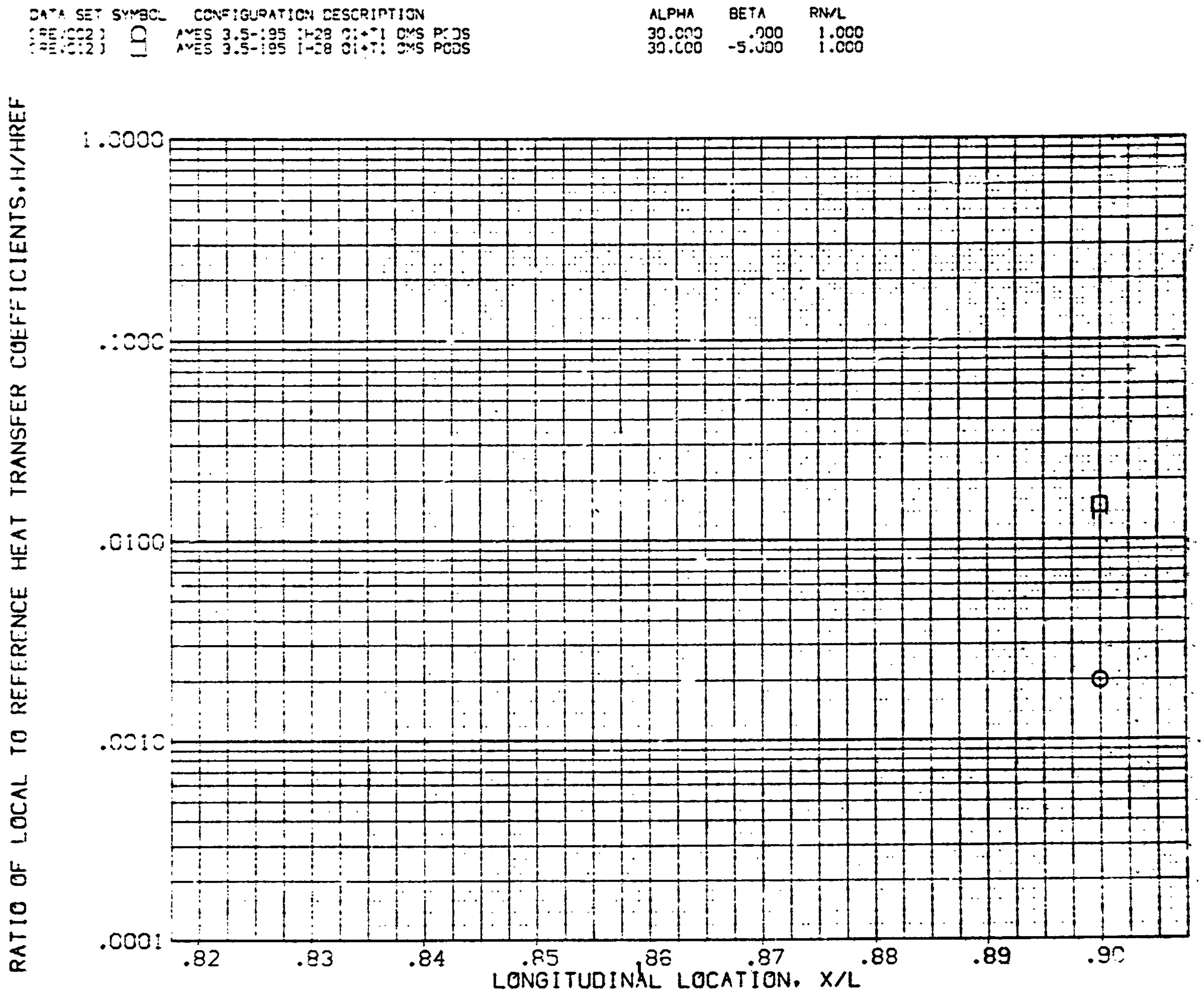

FIG. 14 OMS PODS, ORBITER IN PRESENCE OF THE TANK

MACH = 5.300 HAW/HT= .900 Z = 420.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	
(RE.002)	○	AMES 3.5-193 1H28 O1+T1 OMS PODS	30.000	.000	1.000
(RE.012)	□	AMES 3.5-193 1H28 O1+T1 OMS PODS	30.000	-5.000	1.000

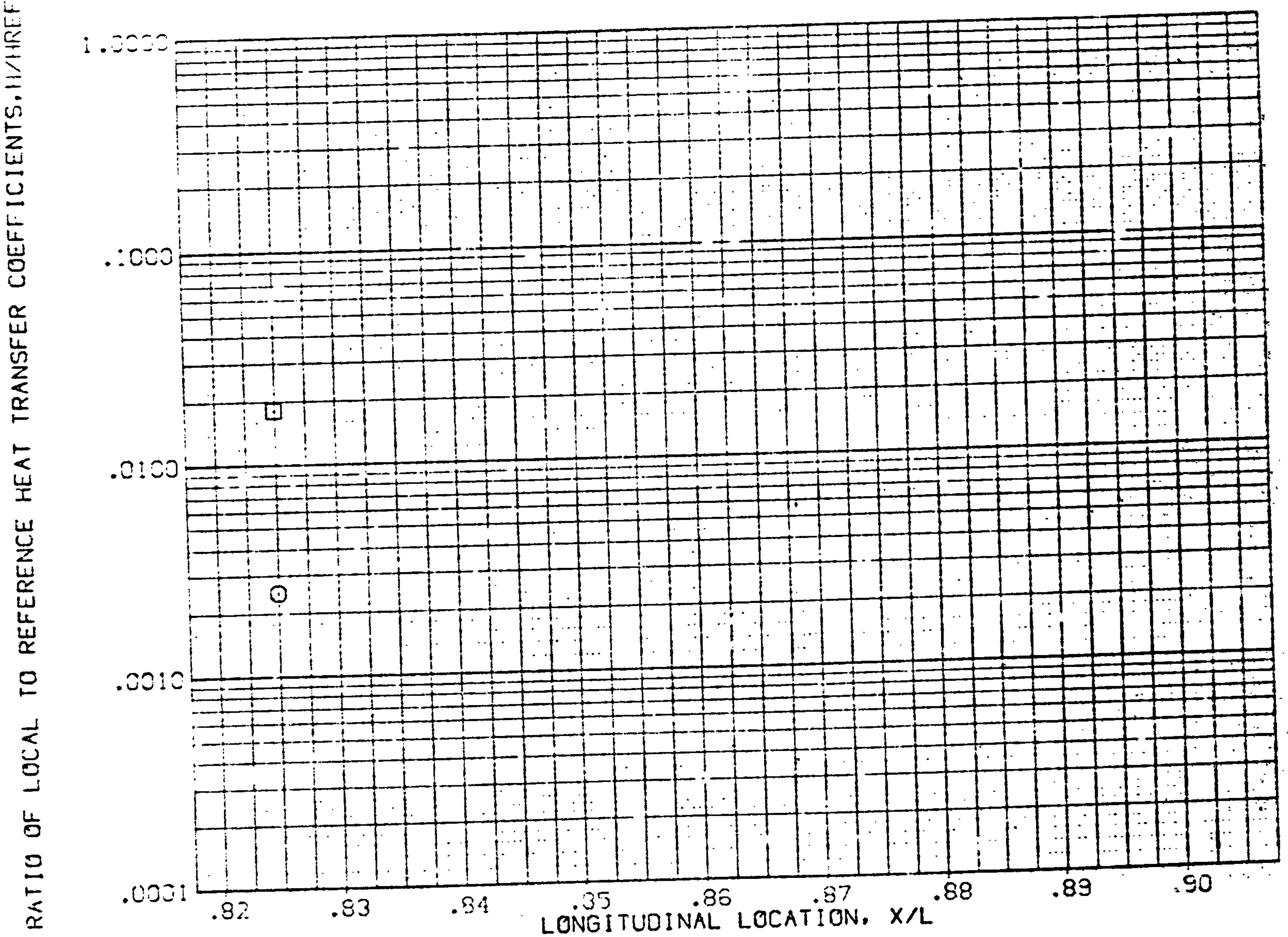

FIG. 14 OMS PODS, ORBITER IN PRESENCE OF THE TANK

MACH = 5.300 HAW/HT= .900 Z = 475.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	RN/L
(RE.002)	□	AMES 3.5-195 I-20 C1+T1 OMS PODS	30.000	.000	1.000
(RE.012)	▭	AMES 3.5-195 I-28 C1+T1 OMS PODS	30.000	-5.000	1.000

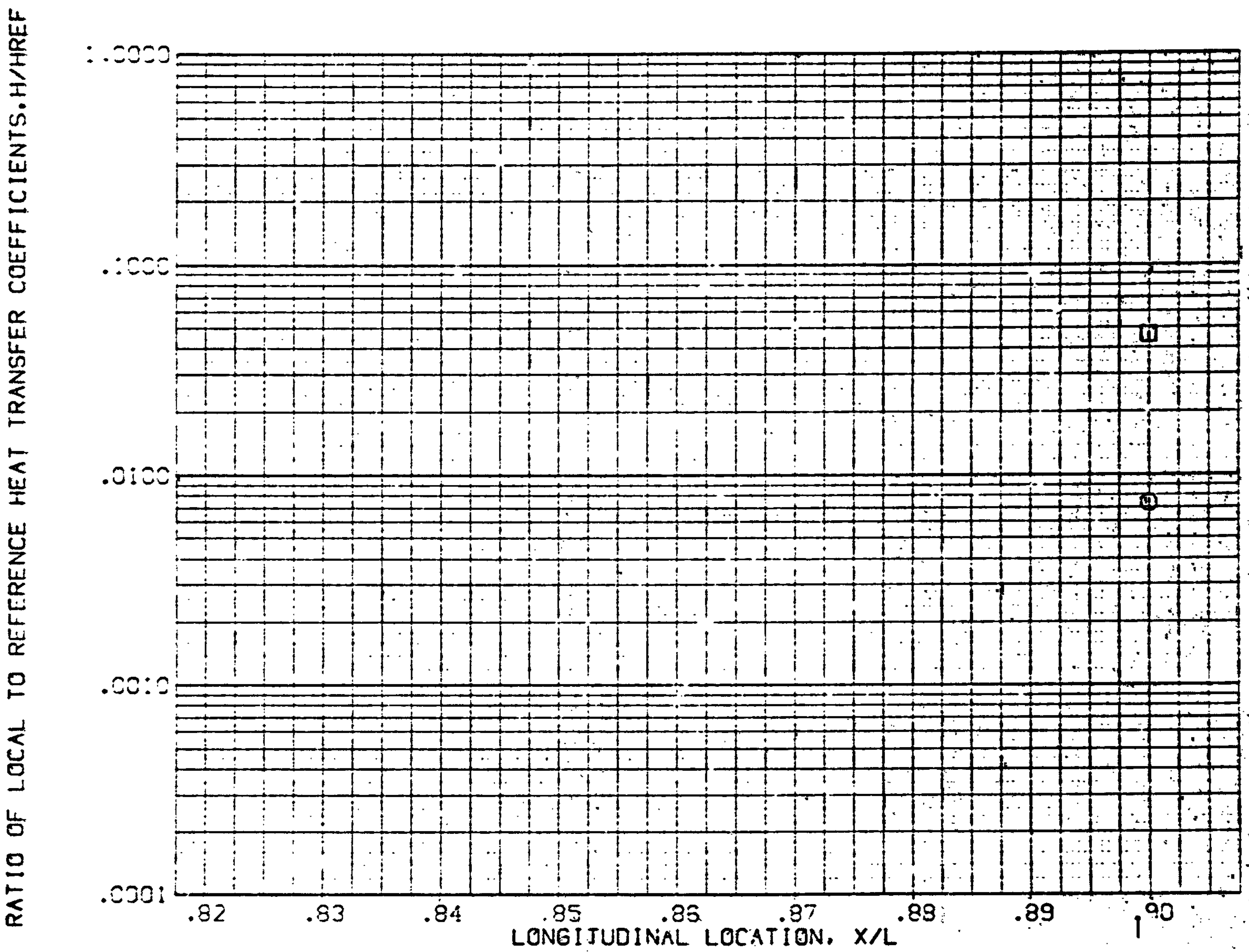

FIG. 14 OMS PODS, ORBITER IN PRESENCE OF THE TANK

MACH = 5.300 HW/HT= .900 Z = 477.360

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	RN/L
(RE:C03) ○	AMES 3.5-195 IH28 O1+T1 OMS PODS	30.000	.000	1.000
(RE:C12) □	AMES 3.5-195 I-28 O1+T1 OMS PODS	30.000	-5.000	1.000

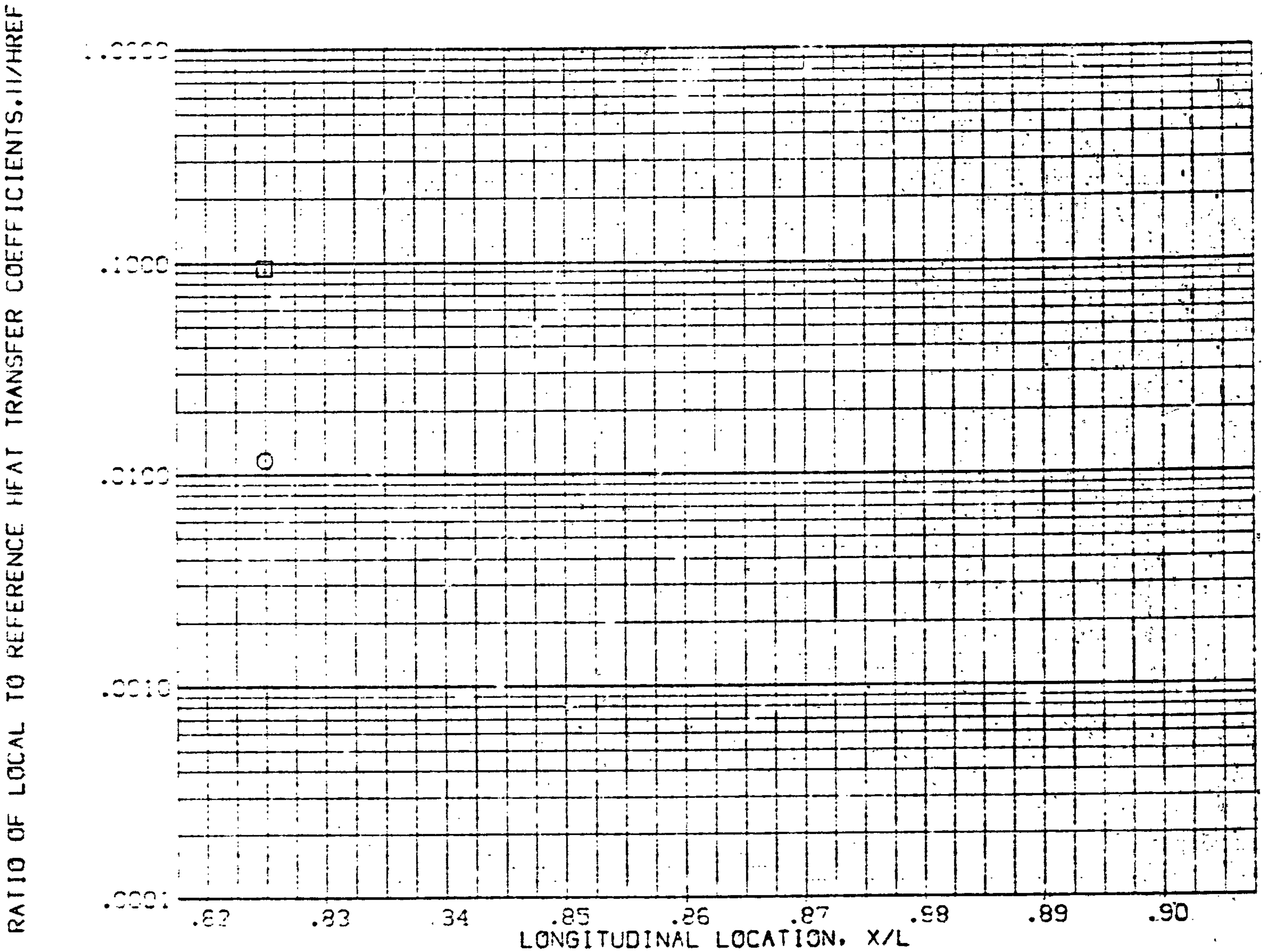

FIG. 14 OMS PODS, ORBITER IN PRESENCE OF THE TANK

MACH = 5.000 HW/HT= .800 Z = 488.300

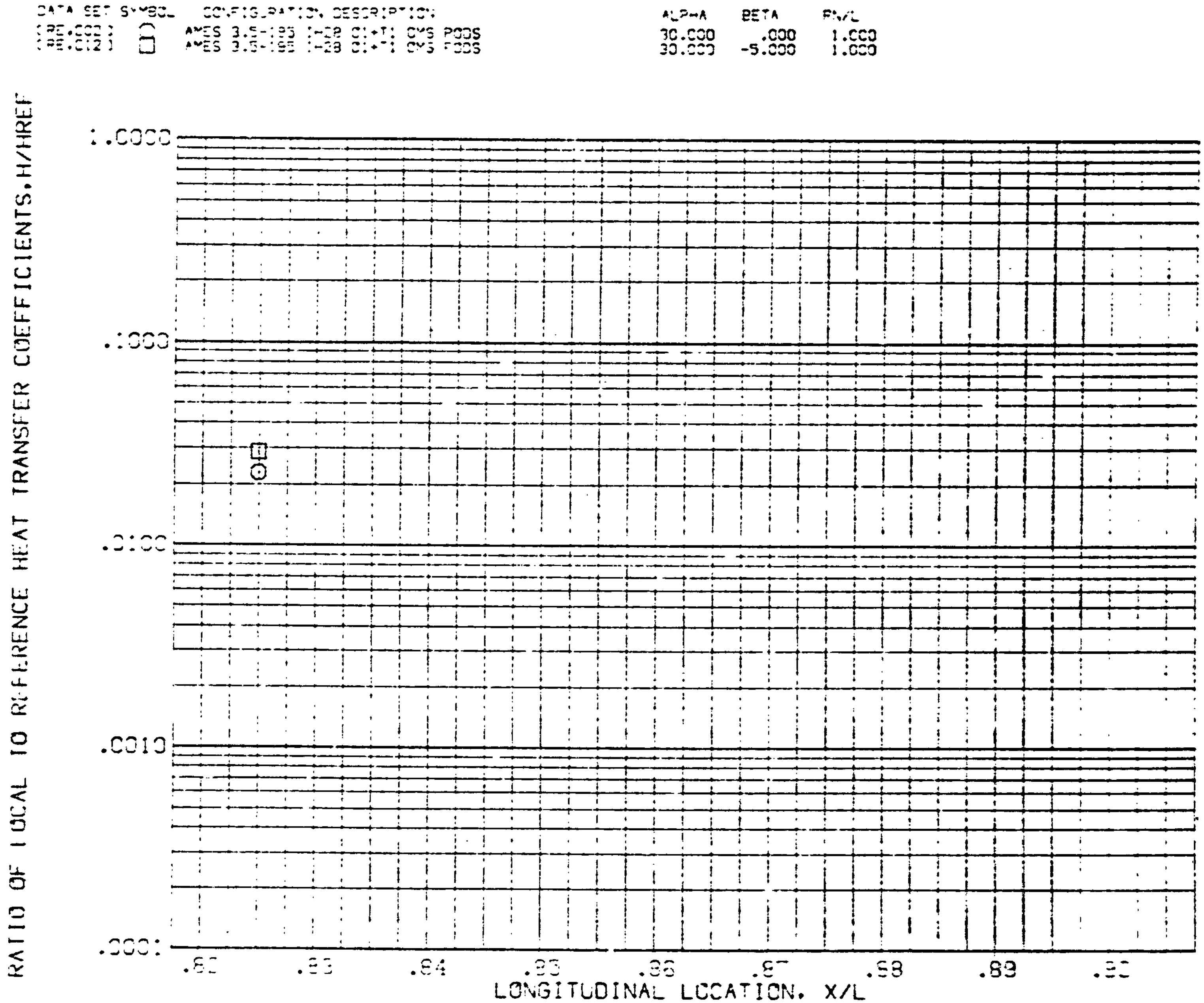

FIG. 14 OMS PODS, ORBITER IN PRESENCE OF THE TANK

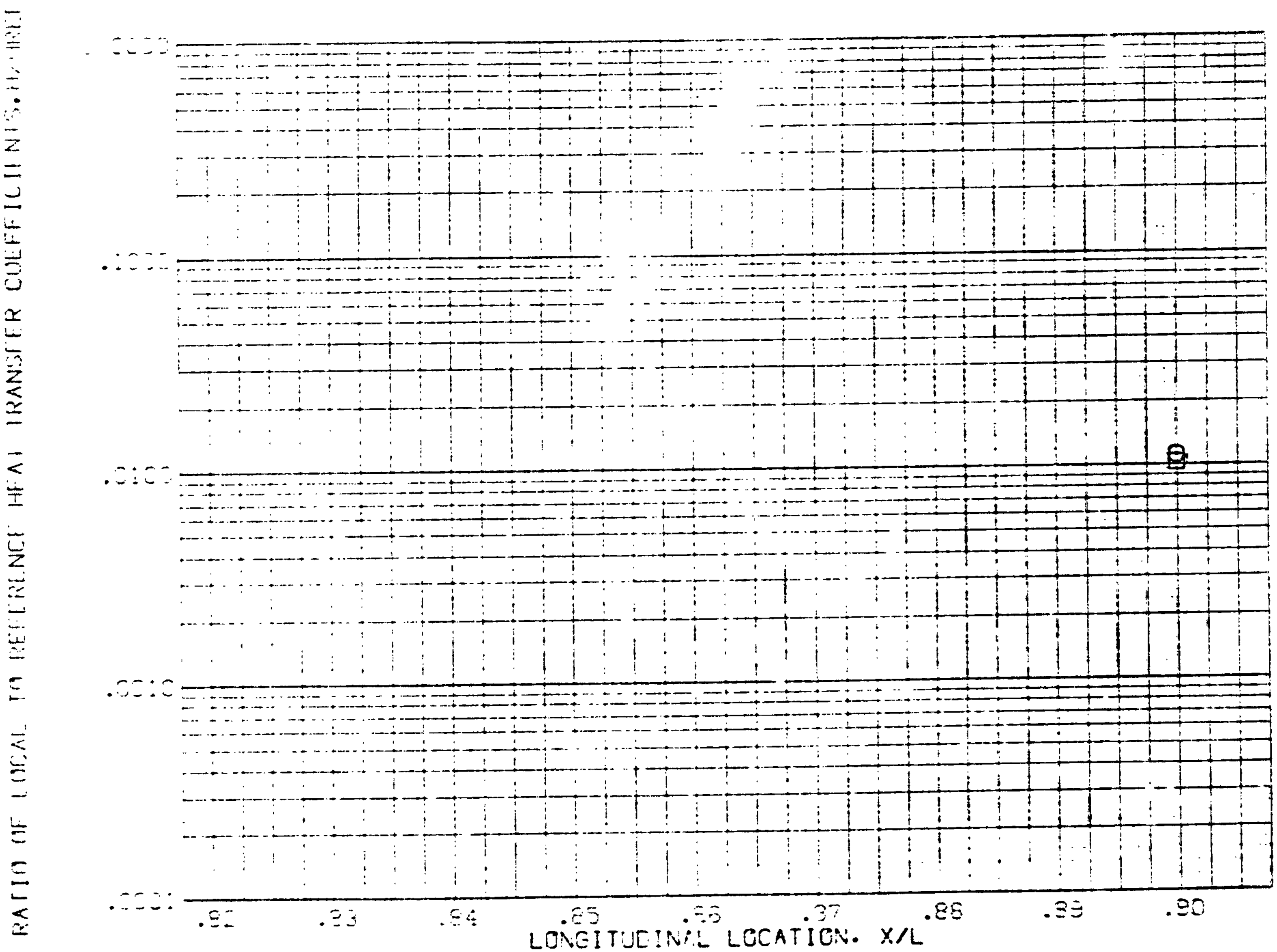

FIG. 14 OMS PODS, ORBITER IN PRESENCE OF THE TANK

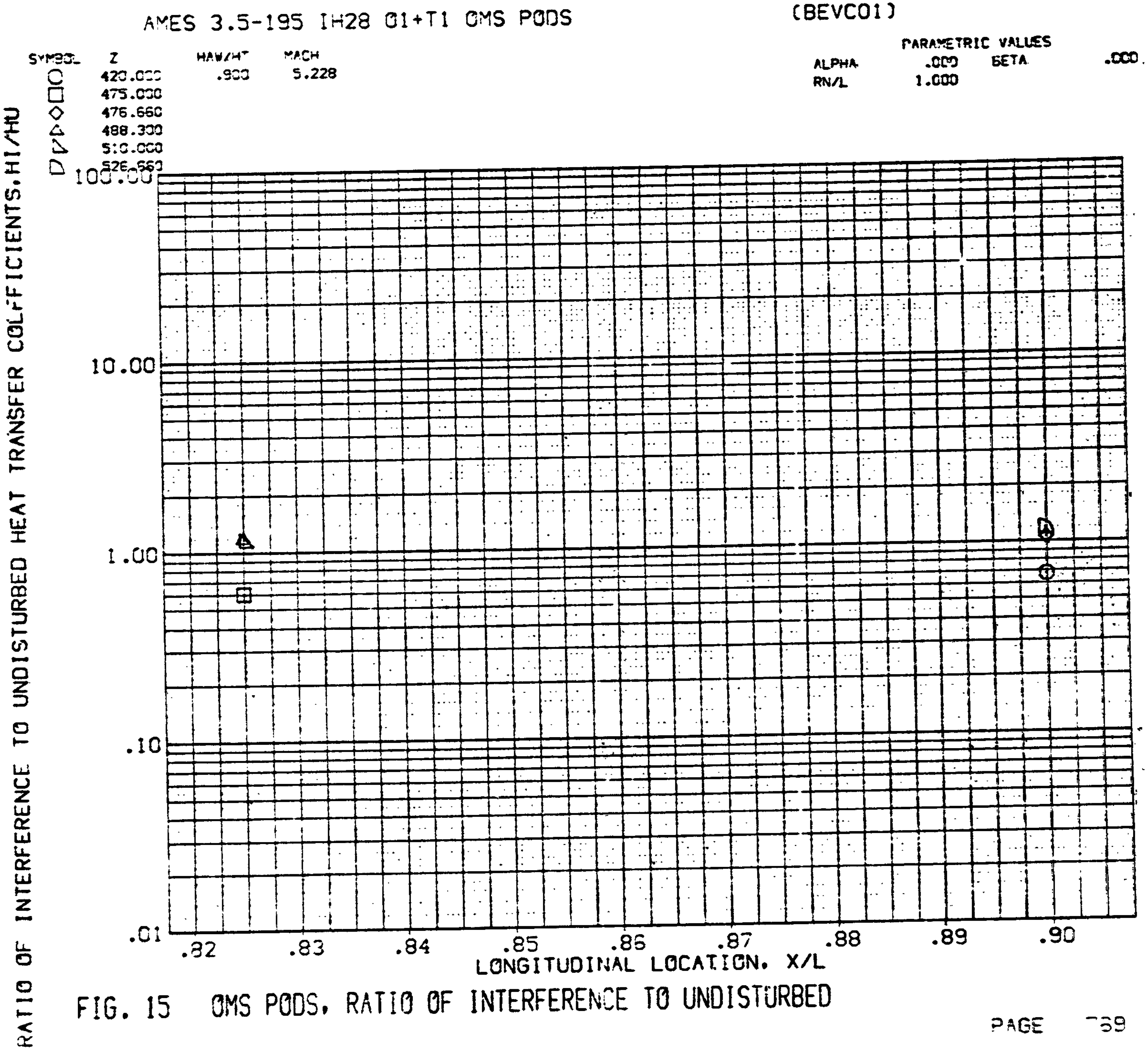

FIG. 15 OMS PODS, RATIO OF INTERFERENCE TO UNDISTURBED

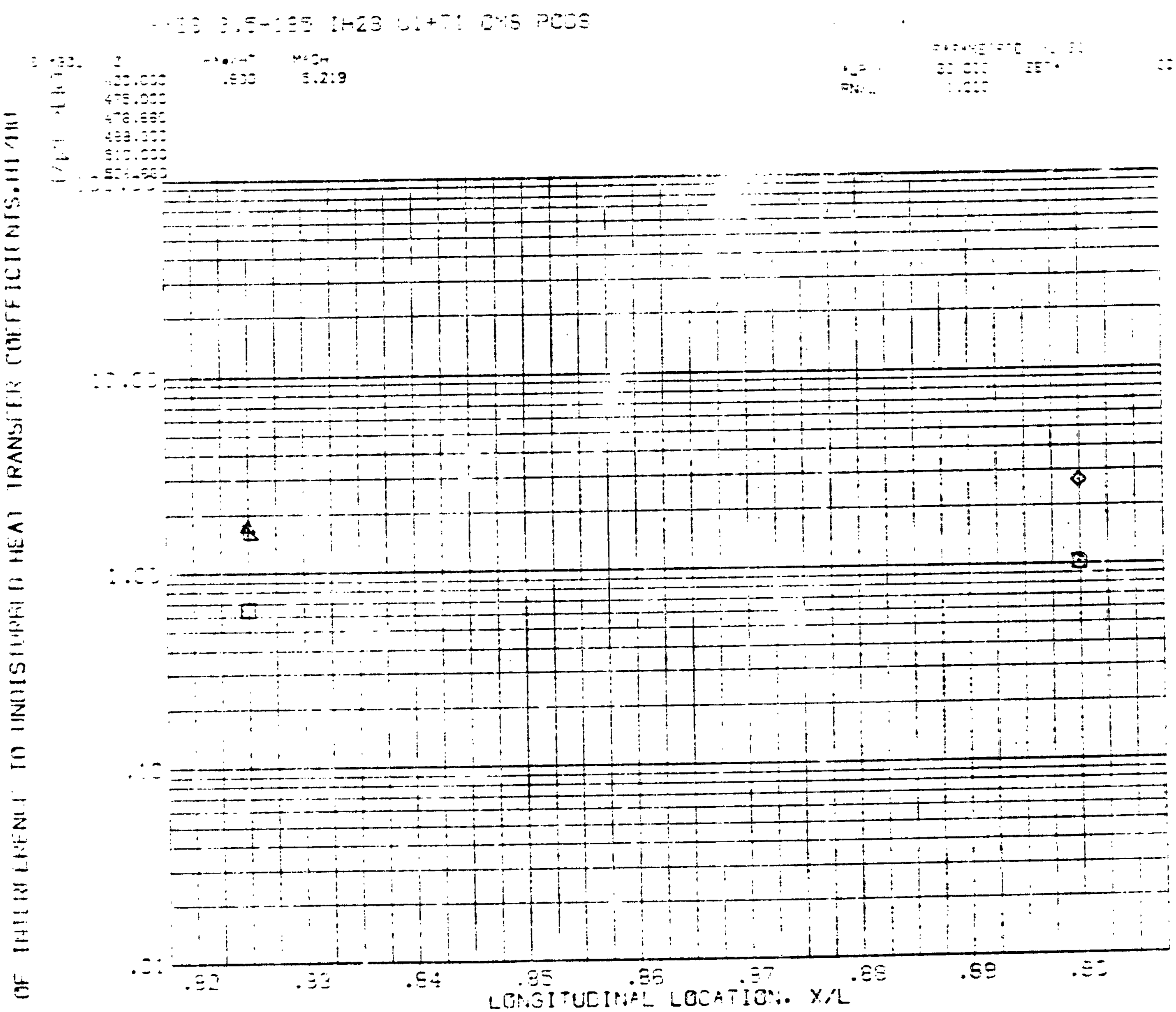

FIG. 15 OMS PODS. RATIO OF INTERFERENCE TO UNDISTURBED

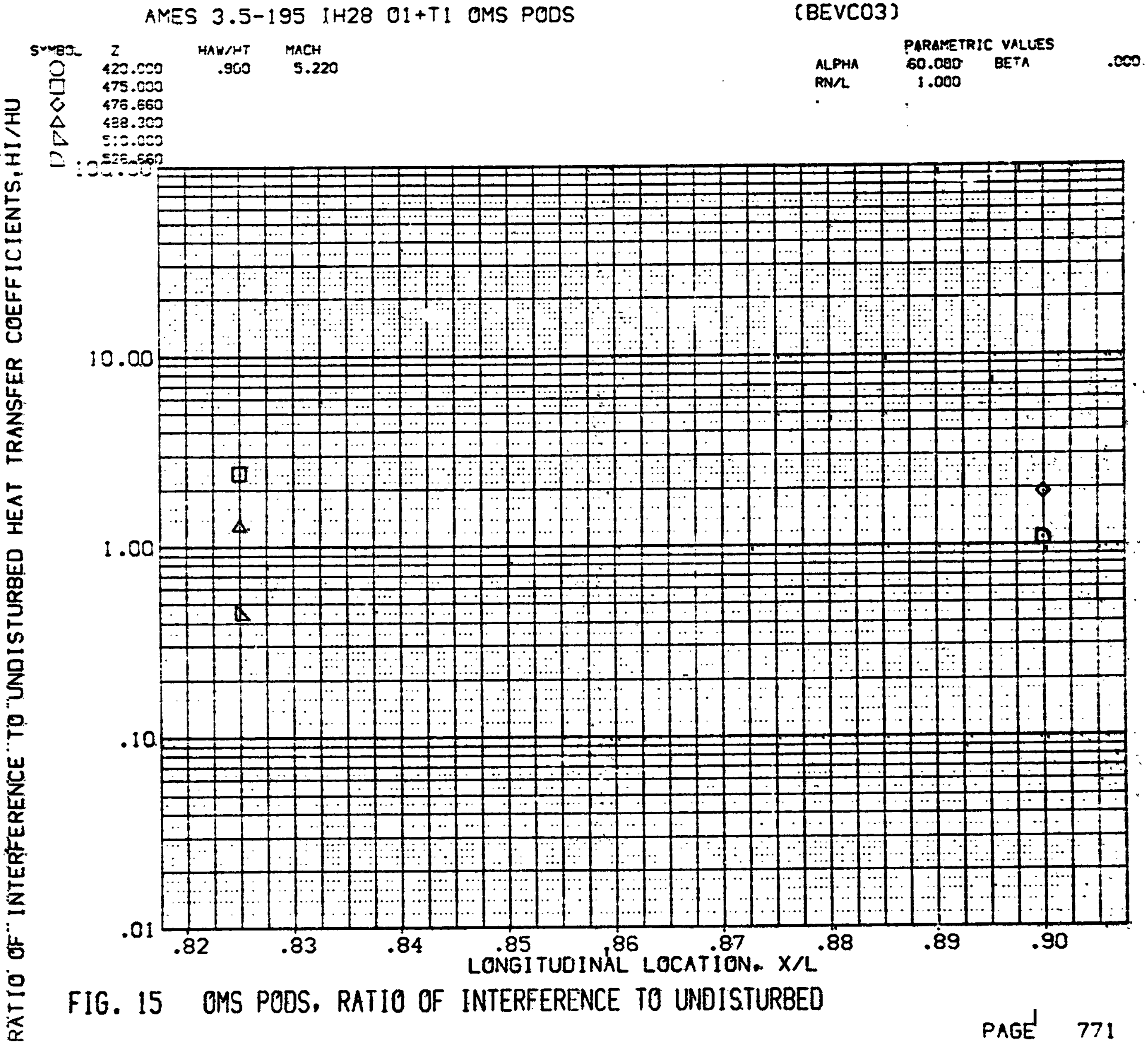

FIG. 15 OMS PODS, RATIO OF INTERFERENCE TO UNDISTURBED

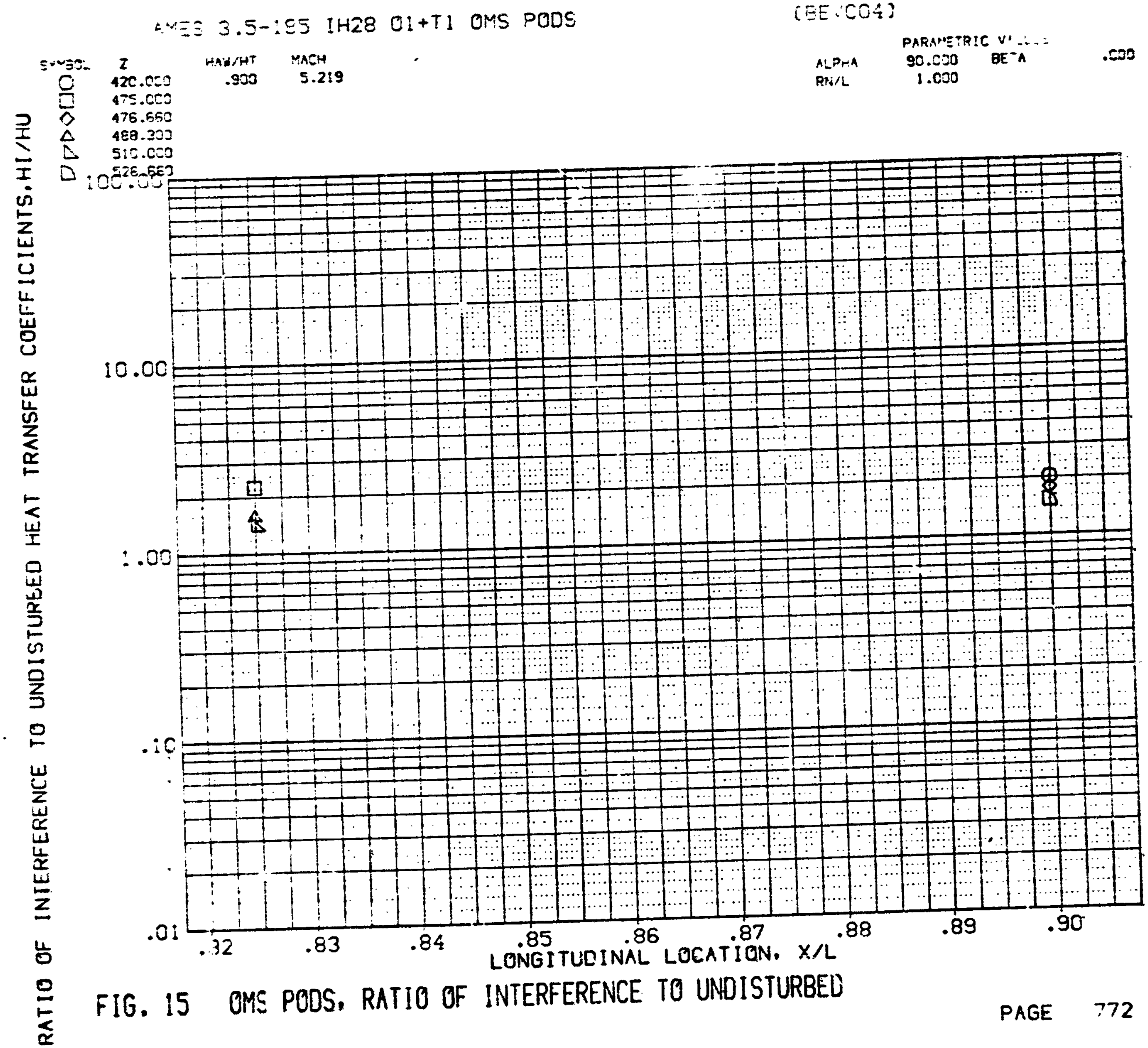

FIG. 15 OMS PODS, RATIO OF INTERFERENCE TO UNDISTURBED

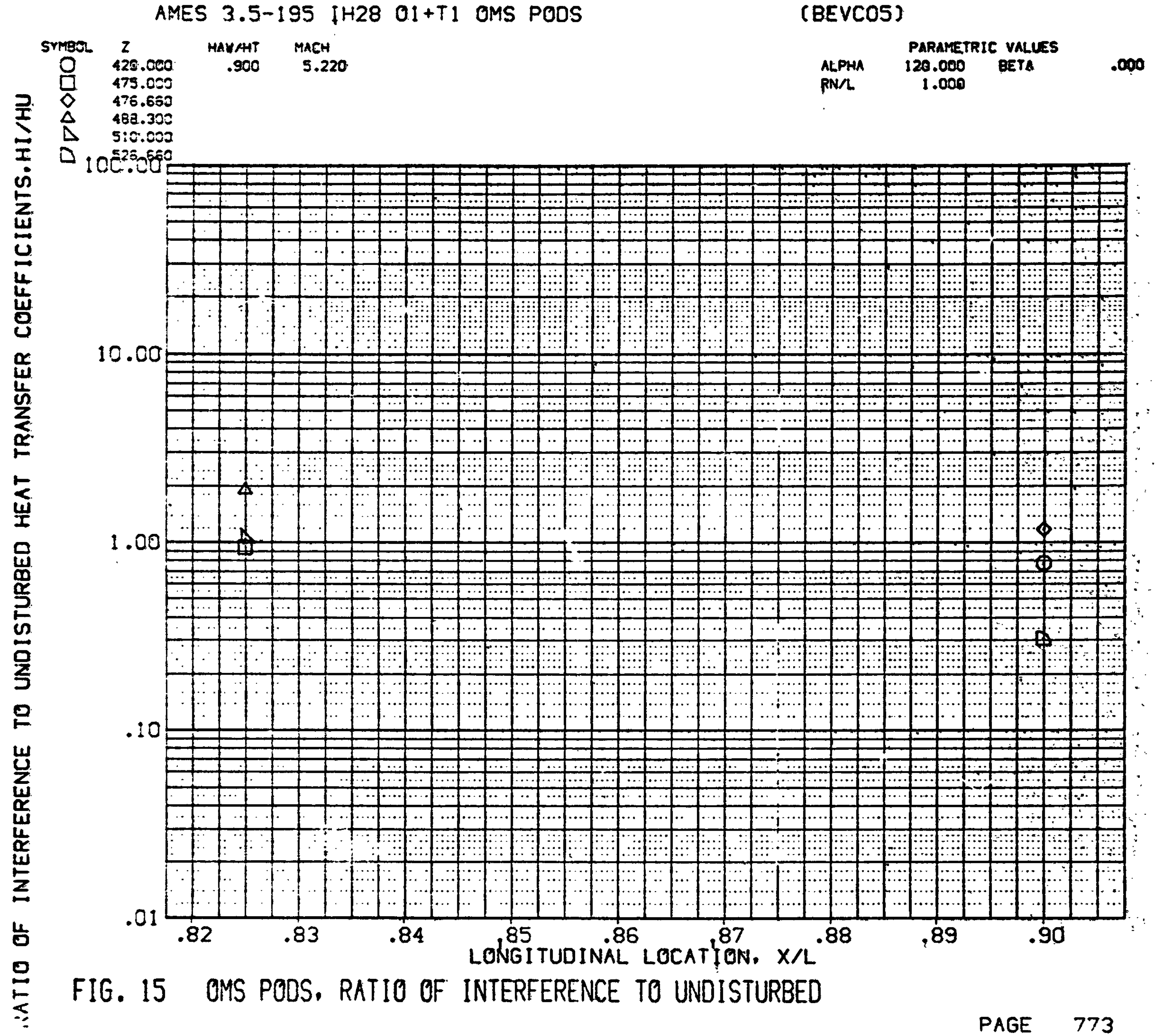

FIG. 15 OMS PODS, RATIO OF INTERFERENCE TO UNDISTURBED

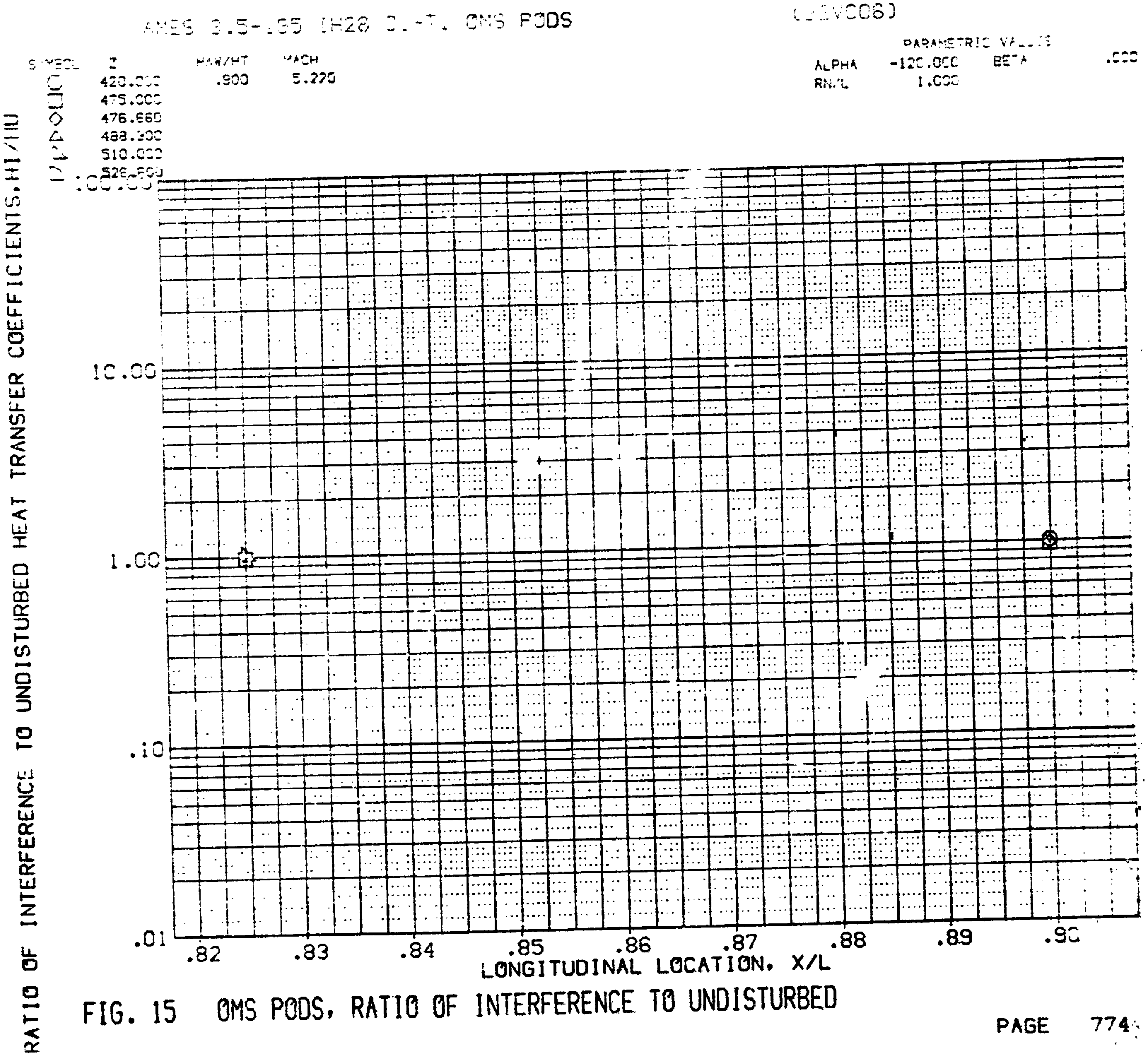

FIG. 15 OMS PODS, RATIO OF INTERFERENCE TO UNDISTURBED

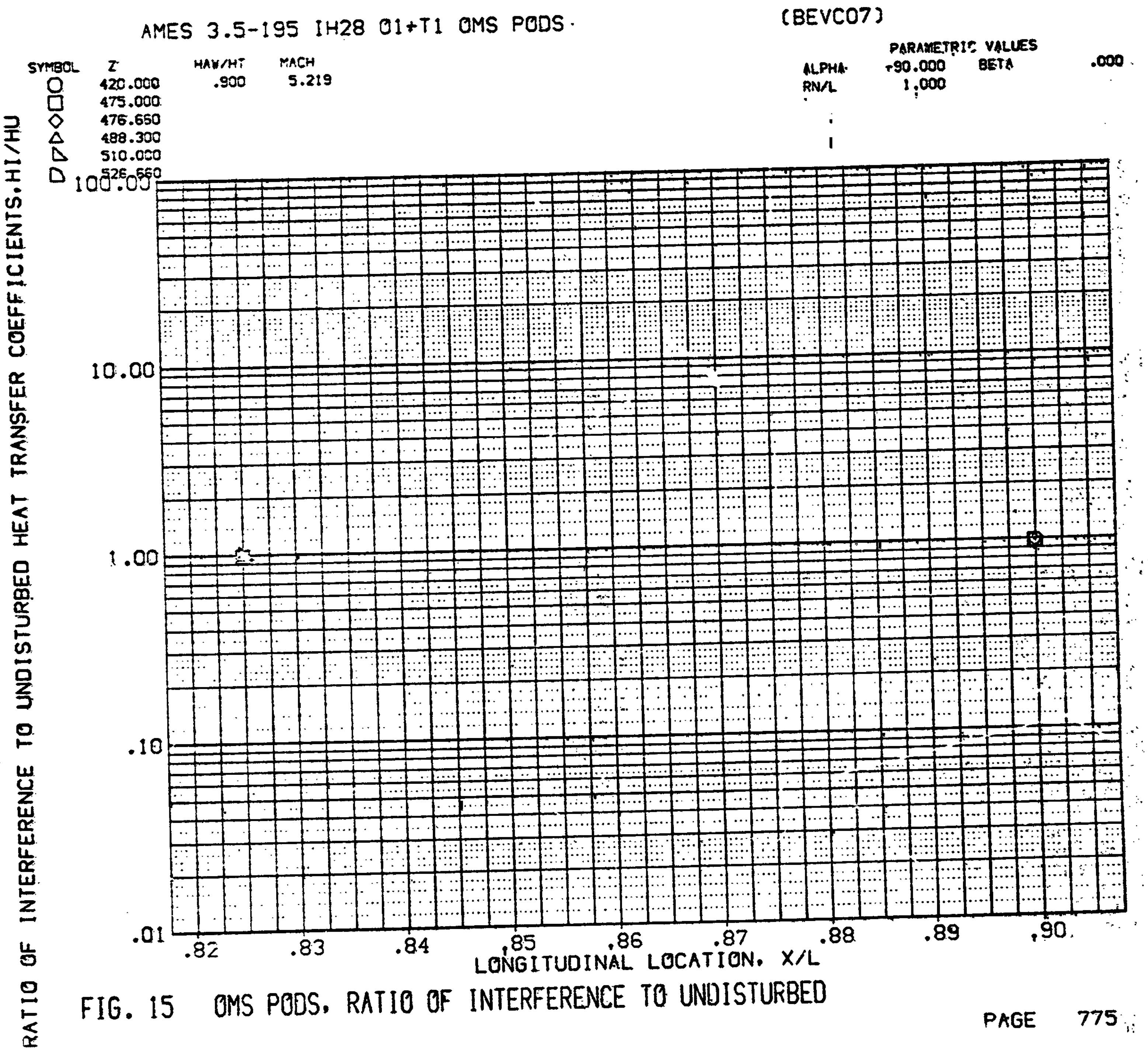

FIG. 15 OMS PODS, RATIO OF INTERFERENCE TO UNDISTURBED

AMES 3.5-195 IH28 O1+T1 OMS PODS (GE/CC8)

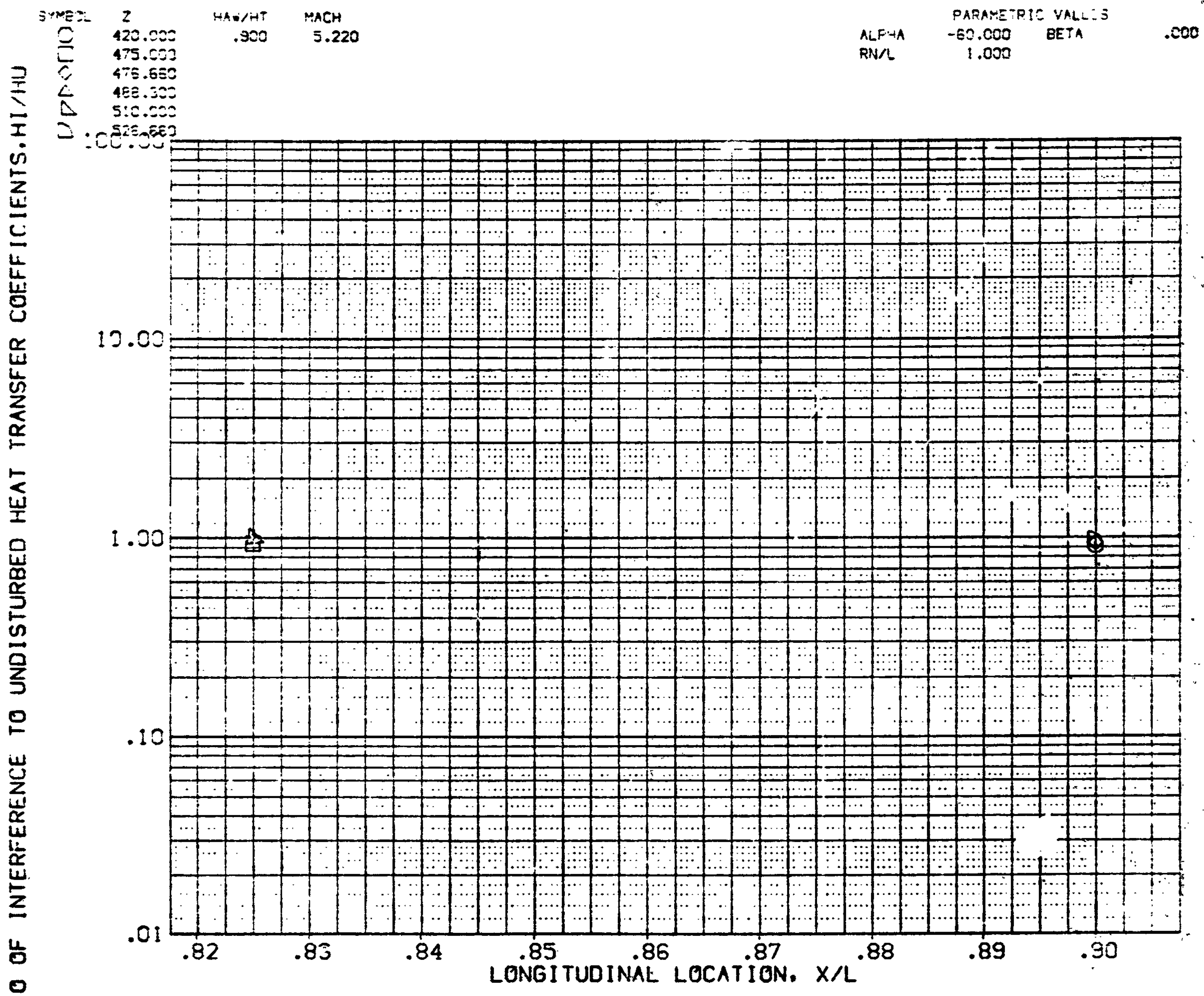

FIG. 15 OMS PODS, RATIO OF INTERFERENCE TO UNDISTURBED

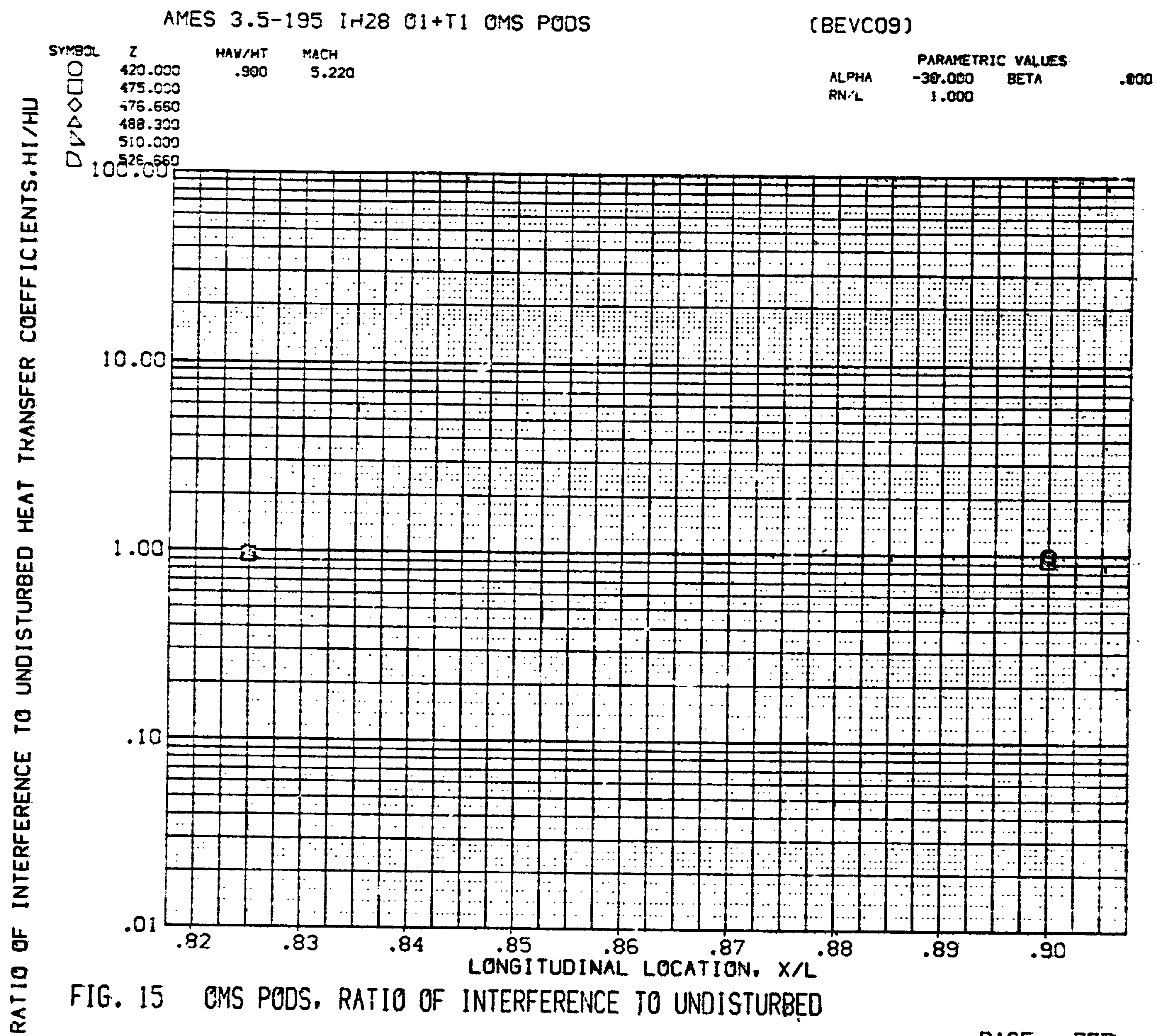

FIG. 15 OMS PODS, RATIO OF INTERFERENCE TO UNDISTURBED

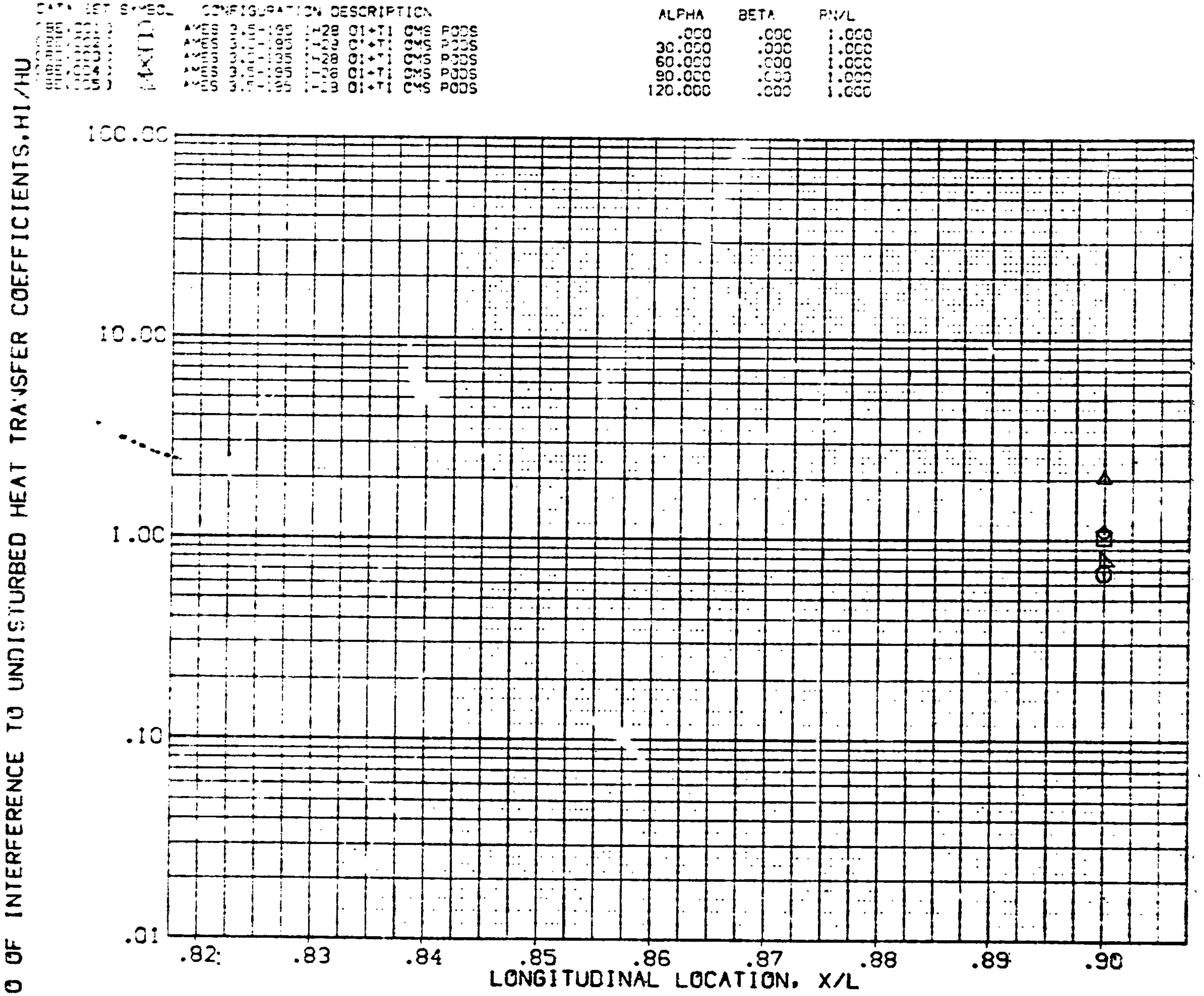

FIG. 15 OMS PODS, RATIO OF INTERFERENCE TO UNDISTURBED

MACH = 5.300 HAW/HT= .900 Z = 420.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	RN/L
(BEV001)	☐	AMES 3.5-195 IH28 O1+T1 OMS PODS	.000	.000	.000
(BEV002)	○	AMES 3.5-195 IH28 O1+T1 OMS PODS	30.000	.000	1.000
(BEV003)	△	AMES 3.5-195 IH28 O1+T1 OMS PODS	60.000	.000	1.000
(BEV004)	◇	AMES 3.5-195 IH28 O1+T1 OMS PODS	90.000	.000	1.000
(BEV005)	◁	AMES 3.5-195 IH28 O1+T1 OMS PODS	120.000	.000	1.000

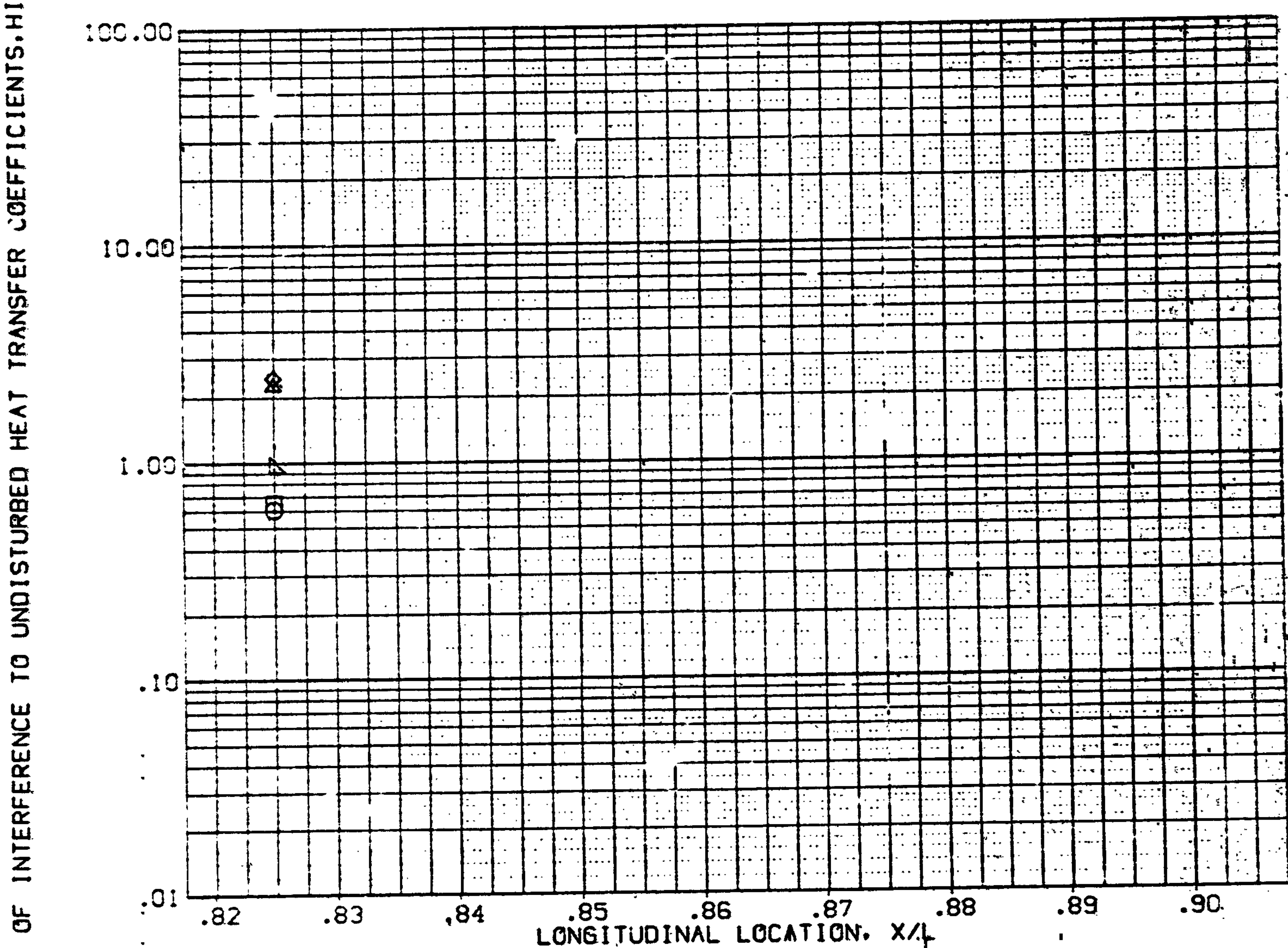

FIG. 15 OMS PODS, RATIO OF INTERFERENCE TO UNDISTURBED

MACH = 5.300 HAW/HT= .900 Z = 475.000

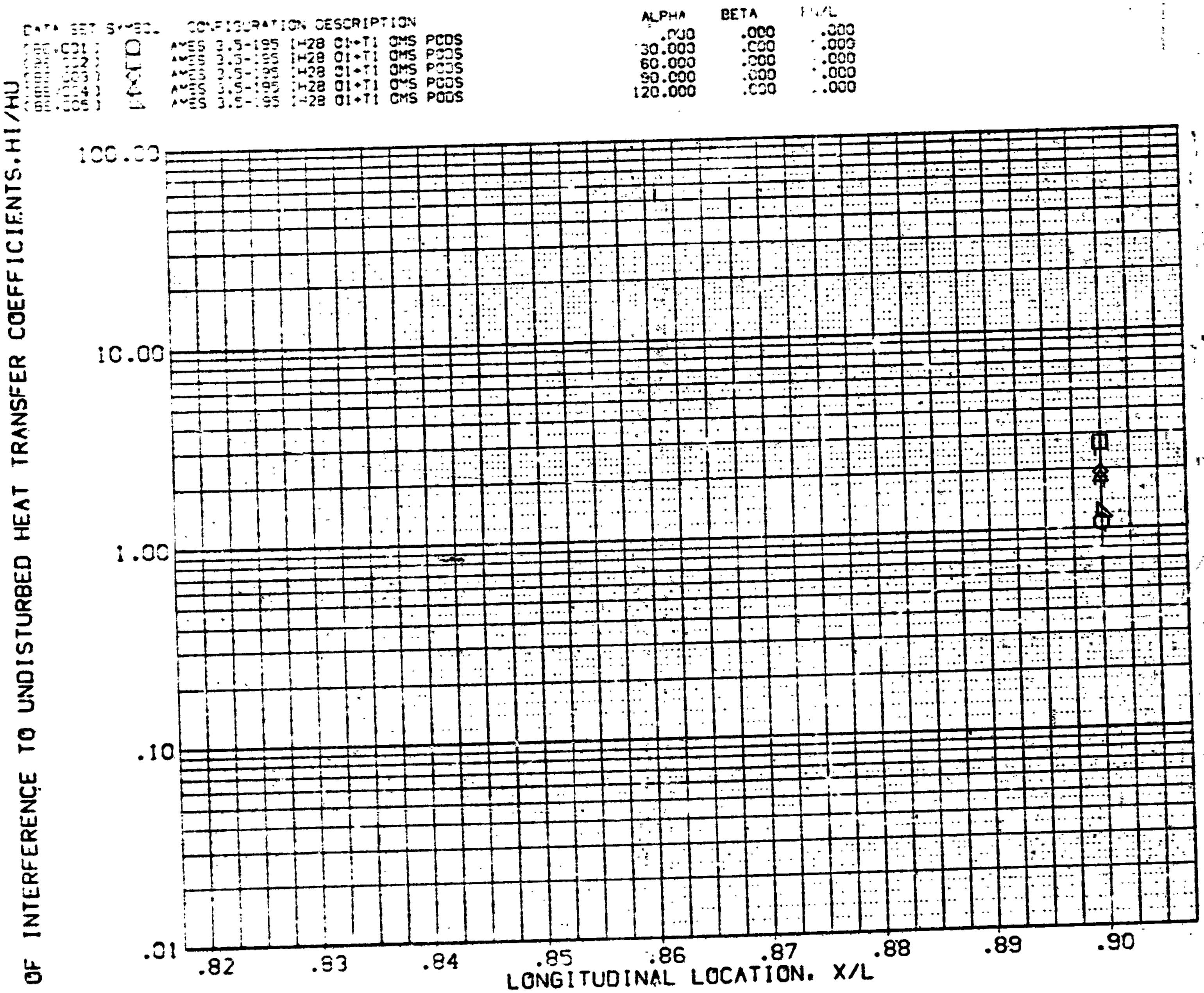

FIG. 15 OMS PODS, RATIO OF INTERFERENCE TO UNDISTURBED

MACH = 5.300 Z = 476.660

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	RN/L
(BEVC01)	☐	AMES 3.5-195 IH28 CI+TI OMS PODS	.000	.000	1.000
(BEVC02)	⊙	AMES 3.5-195 IH28 CI+TI OMS PODS	30.000	.000	1.000
(BEVC03)	◇	AMES 3.5-195 IH28 CI+TI OMS PODS	60.000	.000	1.000
(BEVC04)	△	AMES 3.5-195 IH28 CI+TI OMS PODS	90.000	.000	1.000
(BEVC05)	◁	AMES 3.5-195 IH28 CI+TI OMS PODS	120.000	.000	1.000

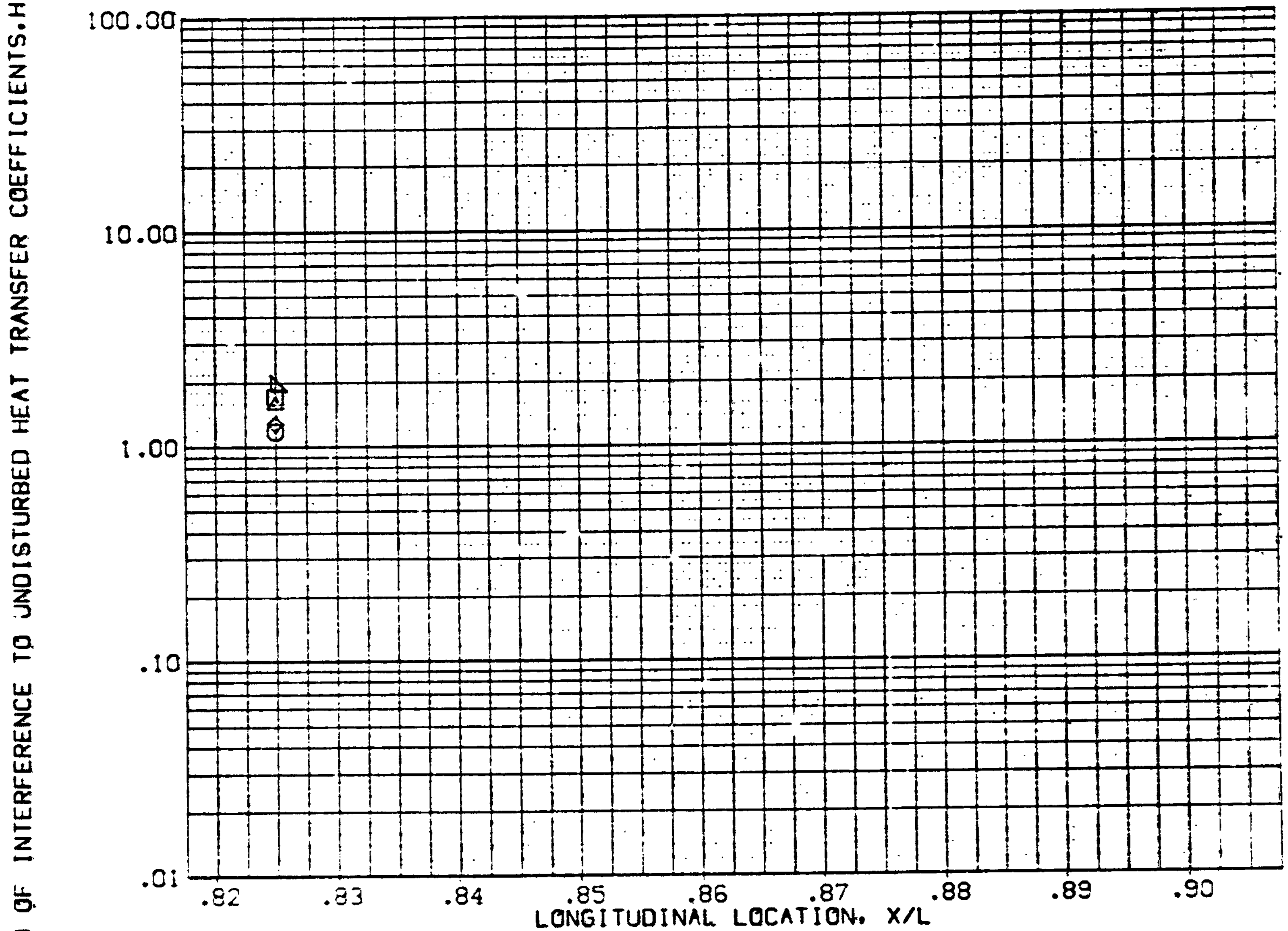

FIG. 15 OMS PODS, RATIO OF INTERFERENCE TO UNDISTURBED

(MACH = 5.300 ... = .800 Z = 488.300

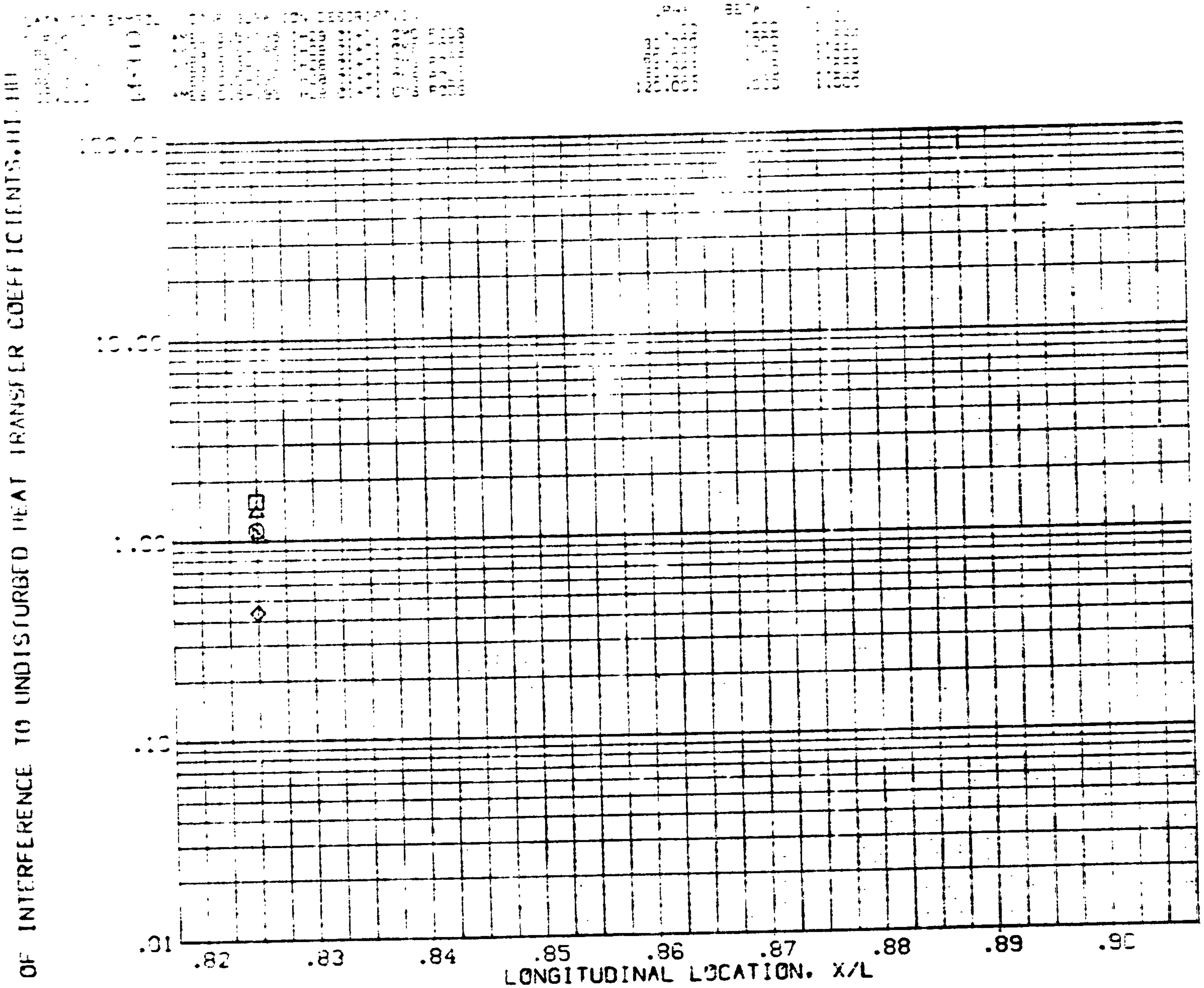

FIG. 15 OMS PODS, RATIO OF INTERFERENCE TO UNDISTURBED

MACH = 5.300 HAW/HT = .900 Z = 510.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	RN/L
(BE4001)	○	AMES 3.5-195 IH28 O1+T1 OMS PODS	.000	.000	1.000
(BE4002)	□	AMES 3.5-195 IH28 O1+T1 OMS PODS	30.000	.000	1.000
(BE4003)	◇	AMES 3.5-195 IH28 O1+T1 OMS PODS	60.000	.000	1.000
(BE4004)	△	AMES 3.5-195 IH28 O1+T1 OMS PODS	90.000	.000	1.000
(BE4005)	◺	AMES 3.5-195 IH28 O1+T1 OMS PODS	120.000	.000	1.000

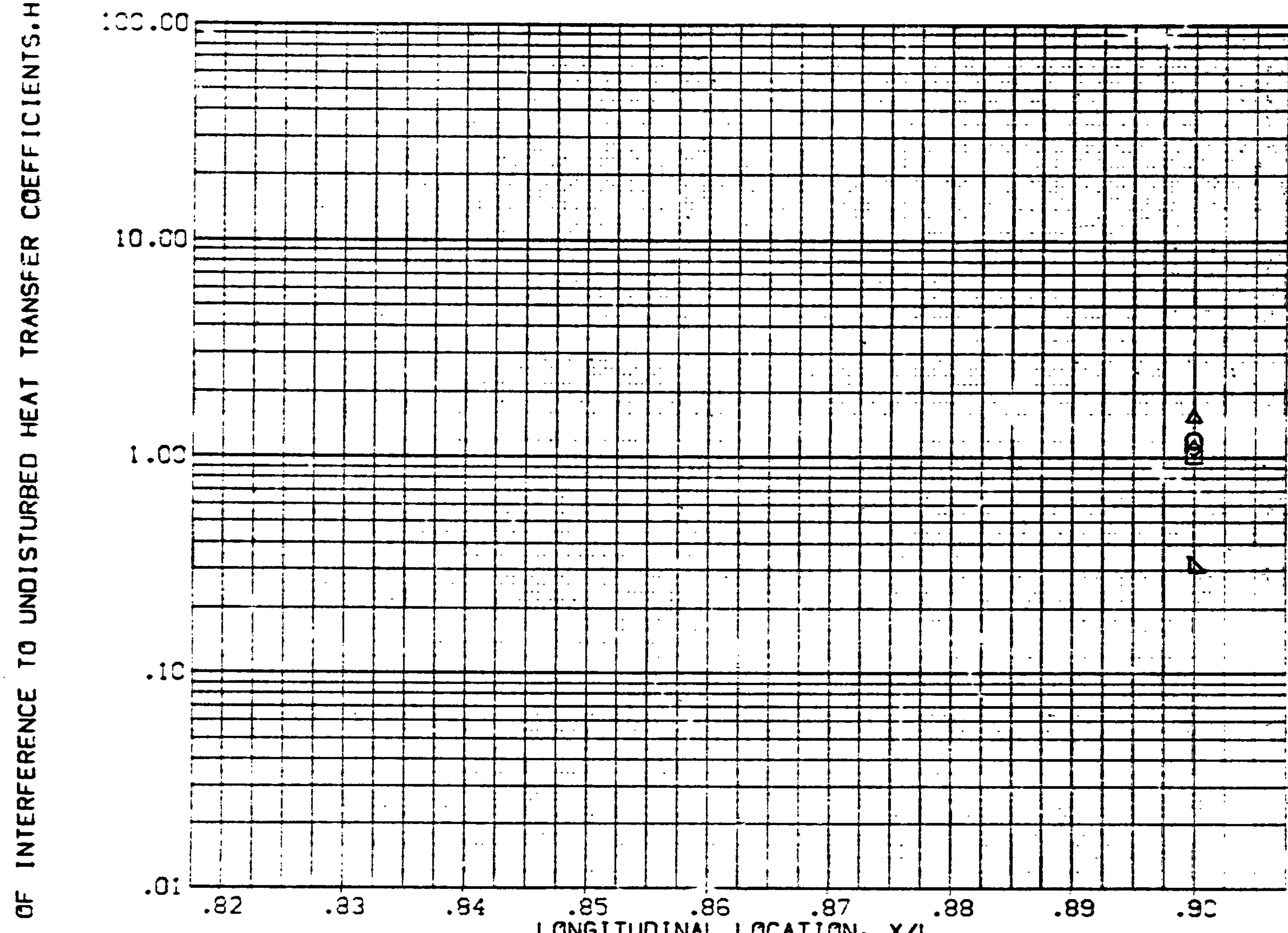

FIG. 15 OMS PODS, RATIO OF INTERFERENCE TO UNDISTURBED

MACH = 5.300 [illegible] .900 Z = 526.660

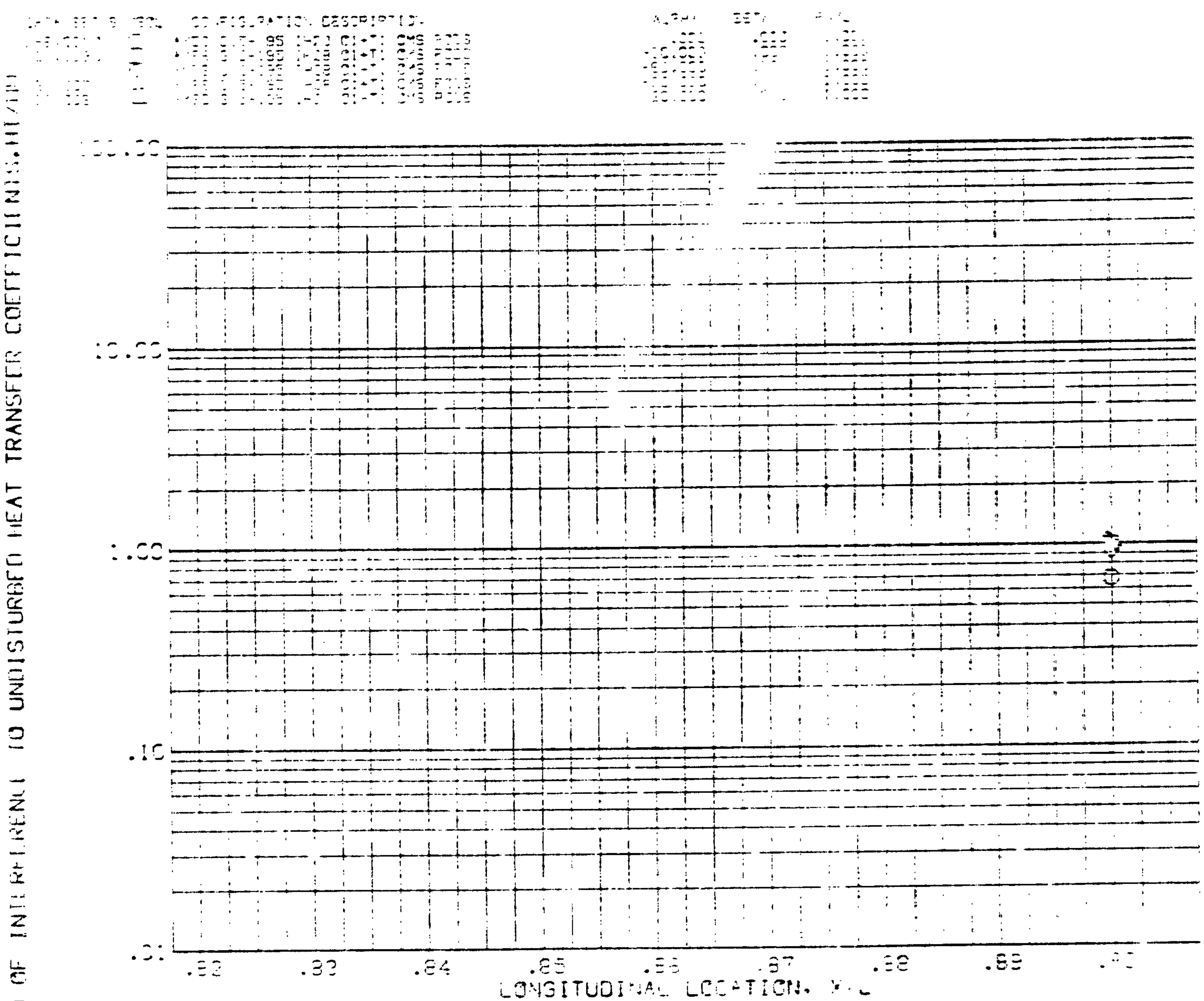

FIG. 15 OMS PODS, RATIO OF INTERFERENCE TO UNDISTURBED

PAGE

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	RN/L
(BEVCC1)	○	AMES 3.5-195 IH28 O1+T1 OMS PODS	.000	.000	1.000
(BEVCC9)	□	AMES 3.5-195 IH28 O1+T1 OMS PODS	-30.000	.000	1.000
(BEVCC8)	◇	AMES 3.5-195 IH28 O1+T1 OMS PODS	-60.000	.000	1.000
(BEVCC7)	△	AMES 3.5-195 IH28 O1+T1 OMS PODS	-90.000	.000	1.000
(BEVCC6)	◁	AMES 3.5-195 IH28 O1+T1 OMS PODS	-120.000	.000	1.000

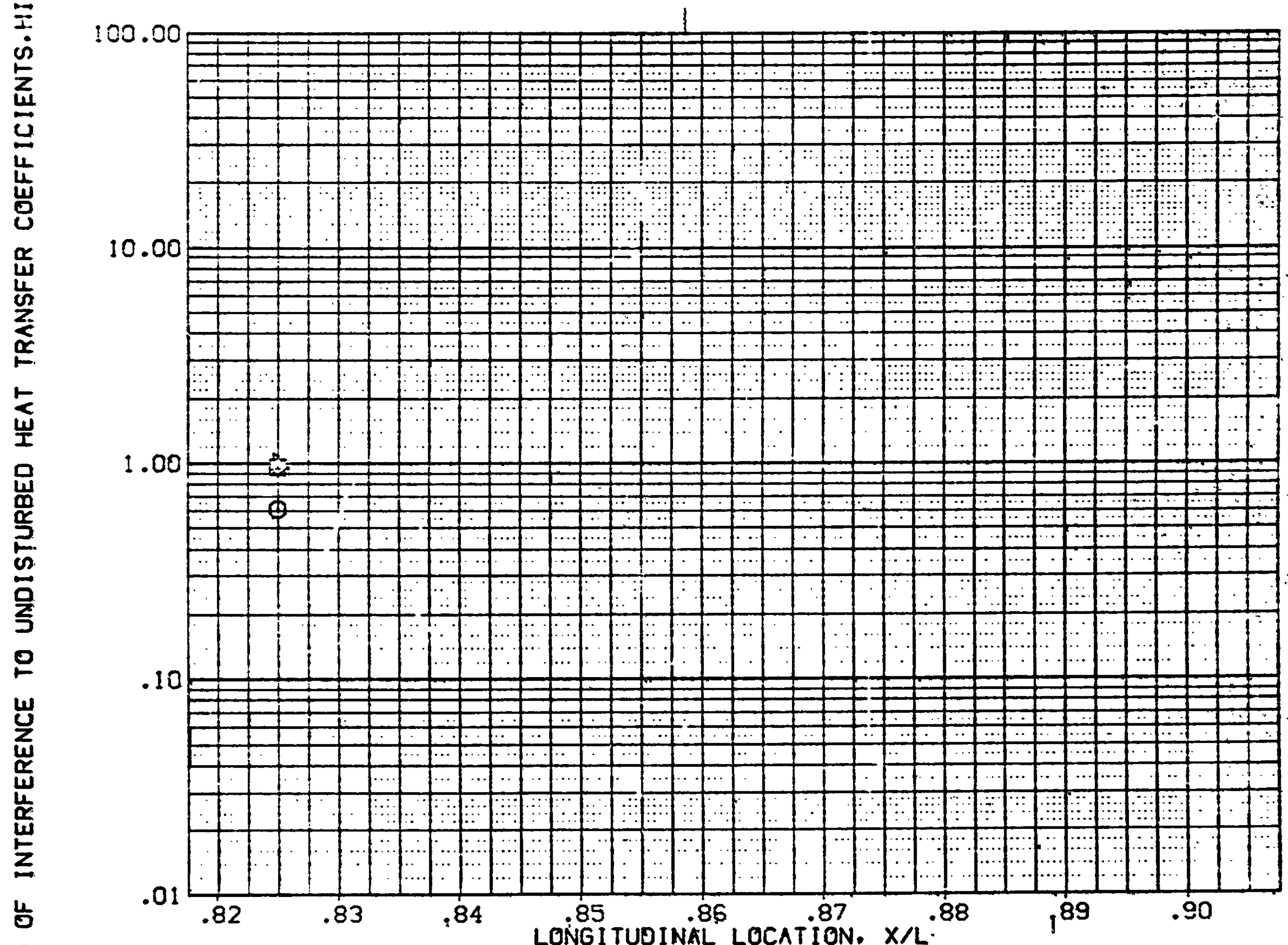

FIG. 15 OMS PODS, RATIO OF INTERFERENCE TO UNDISTURBED

MACH = 5.300 HAW/HT= .900 Z = 475.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	PN/L
(BEVC01)	◻	AMES 3.5-195 IH28 01+T1 OMS PODS	.000	.000	1.000
(BEVC09)	◯	AMES 3.5-195 IH28 01+T1 OMS PODS	-30.000	.000	1.000
(BEVC08)	◇	AMES 3.5-195 IH28 01+T1 OMS PODS	-60.000	.000	1.000
(BEVC07)	X	AMES 3.5-195 IH28 01+T1 OMS PODS	-90.000	.000	1.000
(BEVC06)	◁	AMES 3.5-195 IH28 01+T1 OMS PODS	-120.000	.000	1.000

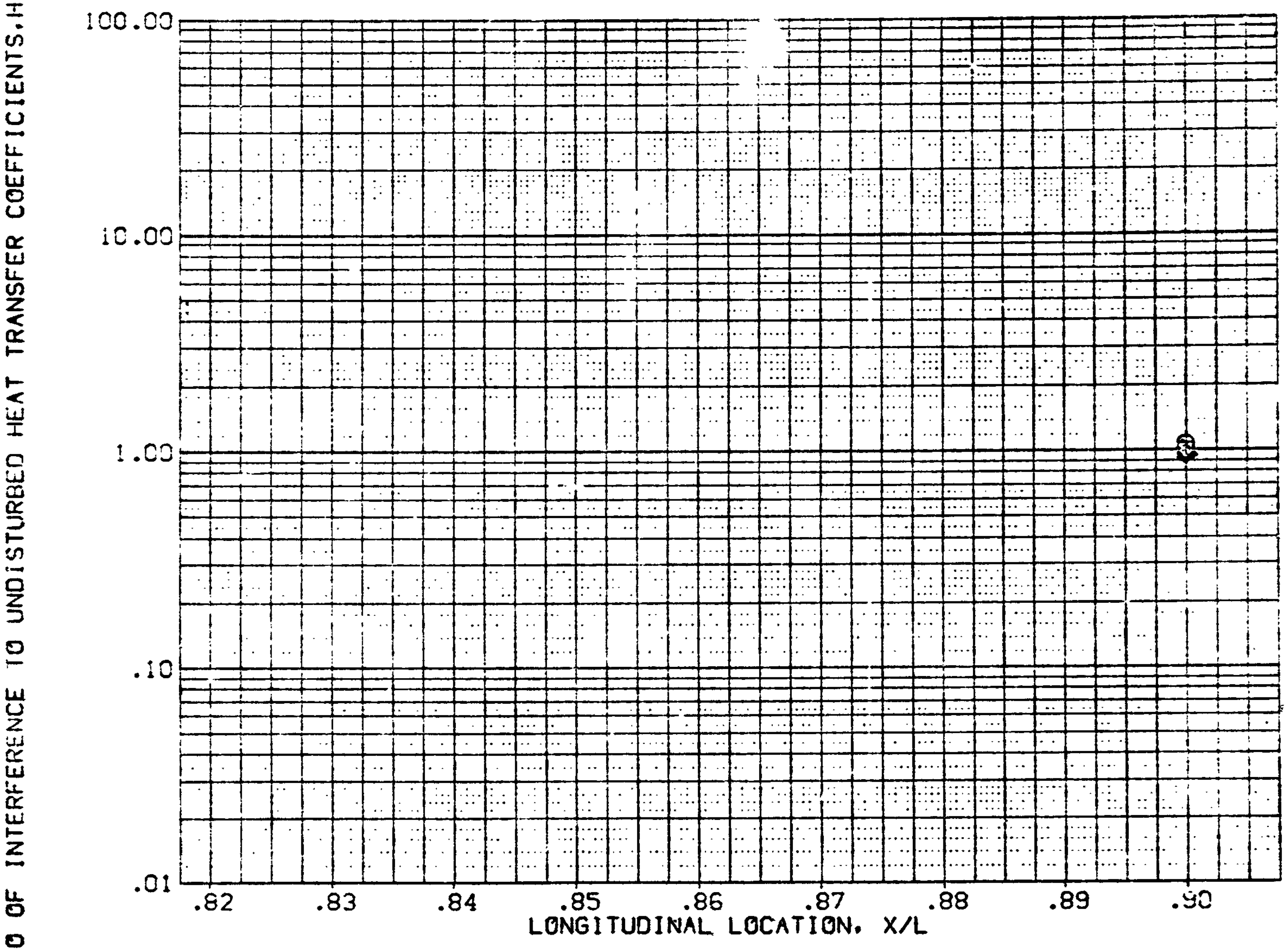

FIG. 15 OMS PODS, RATIO OF INTERFERENCE TO UNDISTURBED

MACH = 5.300 HAW/HT= .900 Z = 476.660

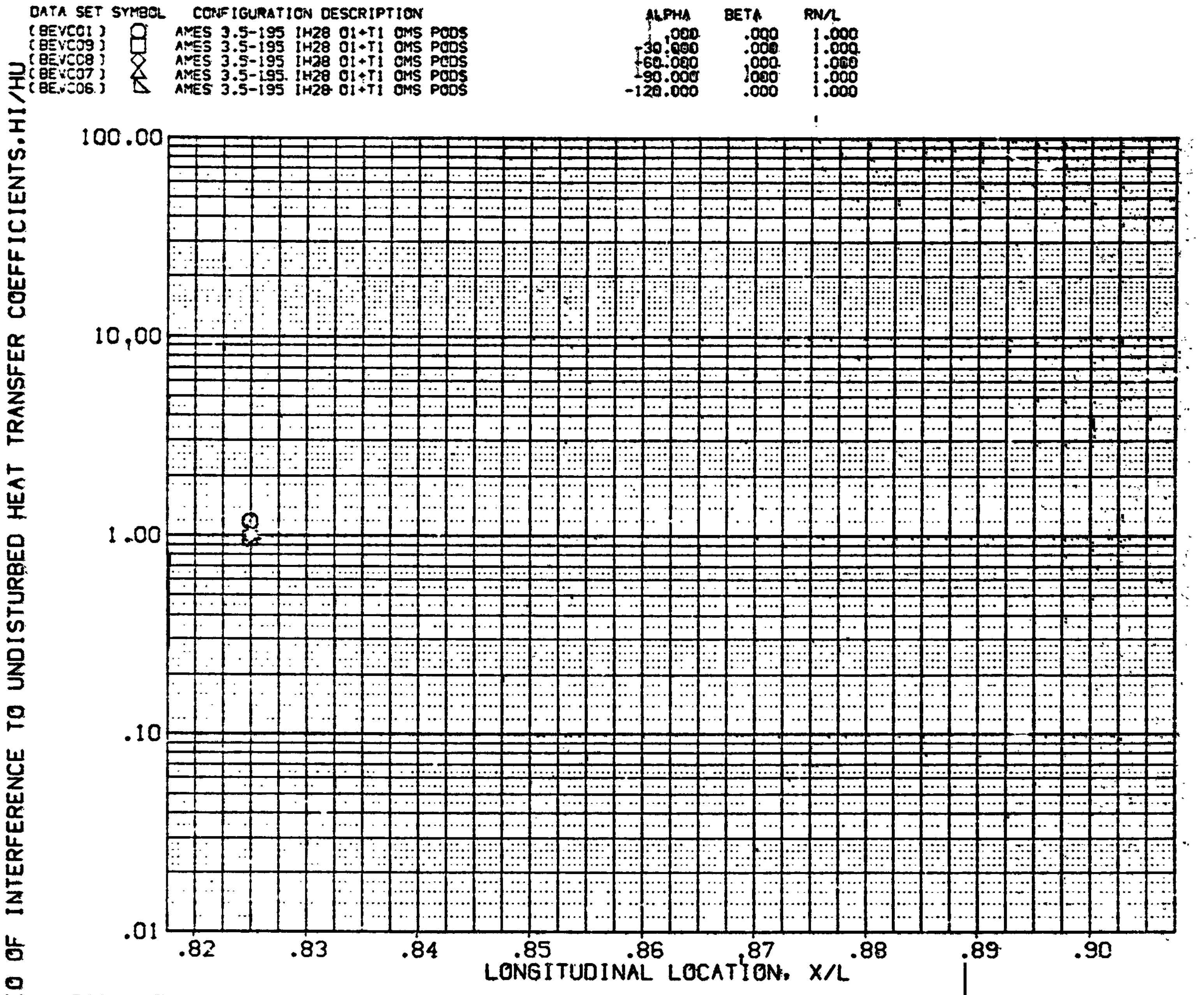

FIG. 15 OMS PODS, RATIO OF INTERFERENCE TO UNDISTURBED

MACH = 5.300 HAW/HT= .900 Z = 488.300

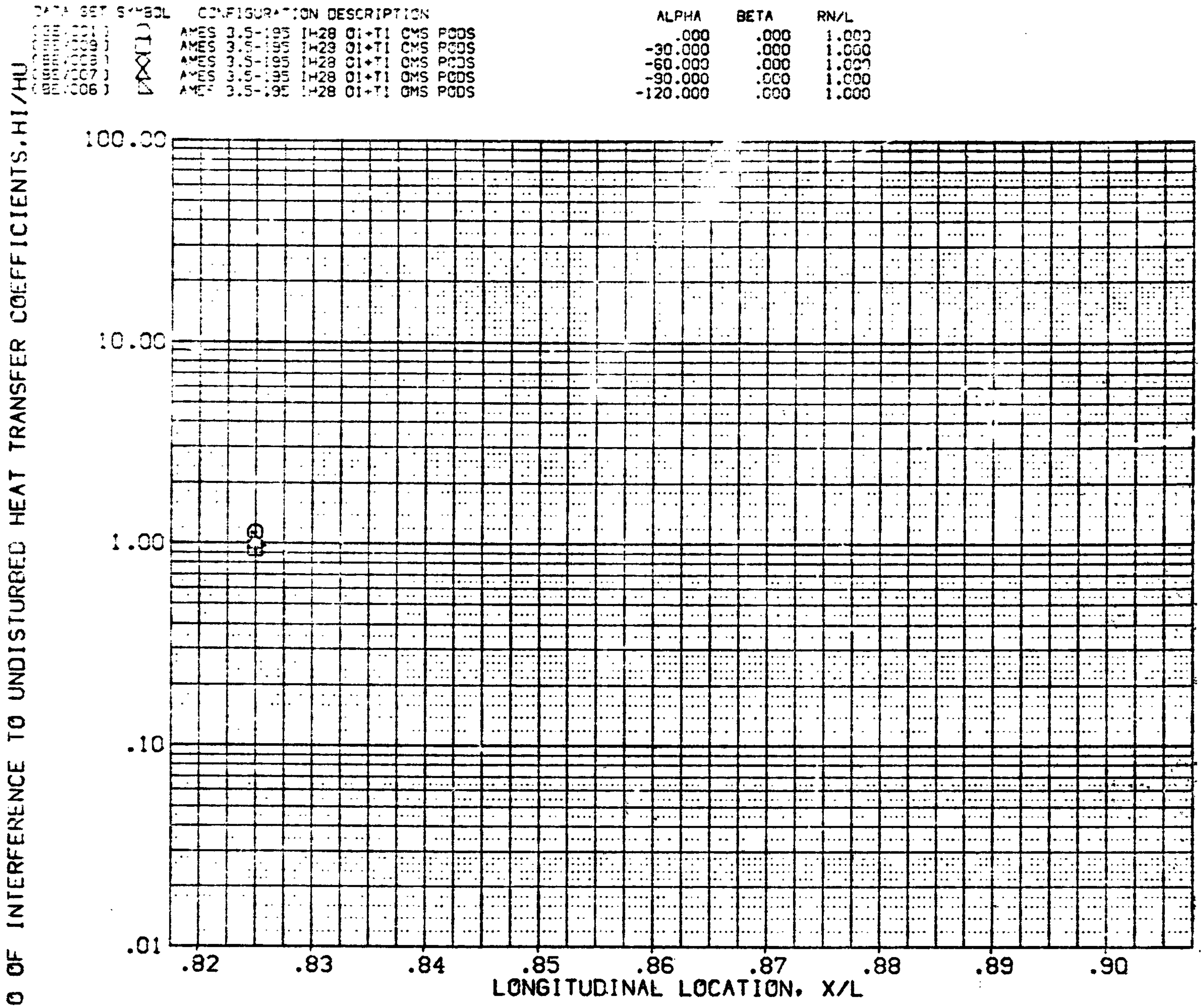

FIG. 15 OMS PODS, RATIO OF INTERFERENCE TO UNDISTURBED

MACH = 5.300 HAW/HT= .900 Z = 510.000

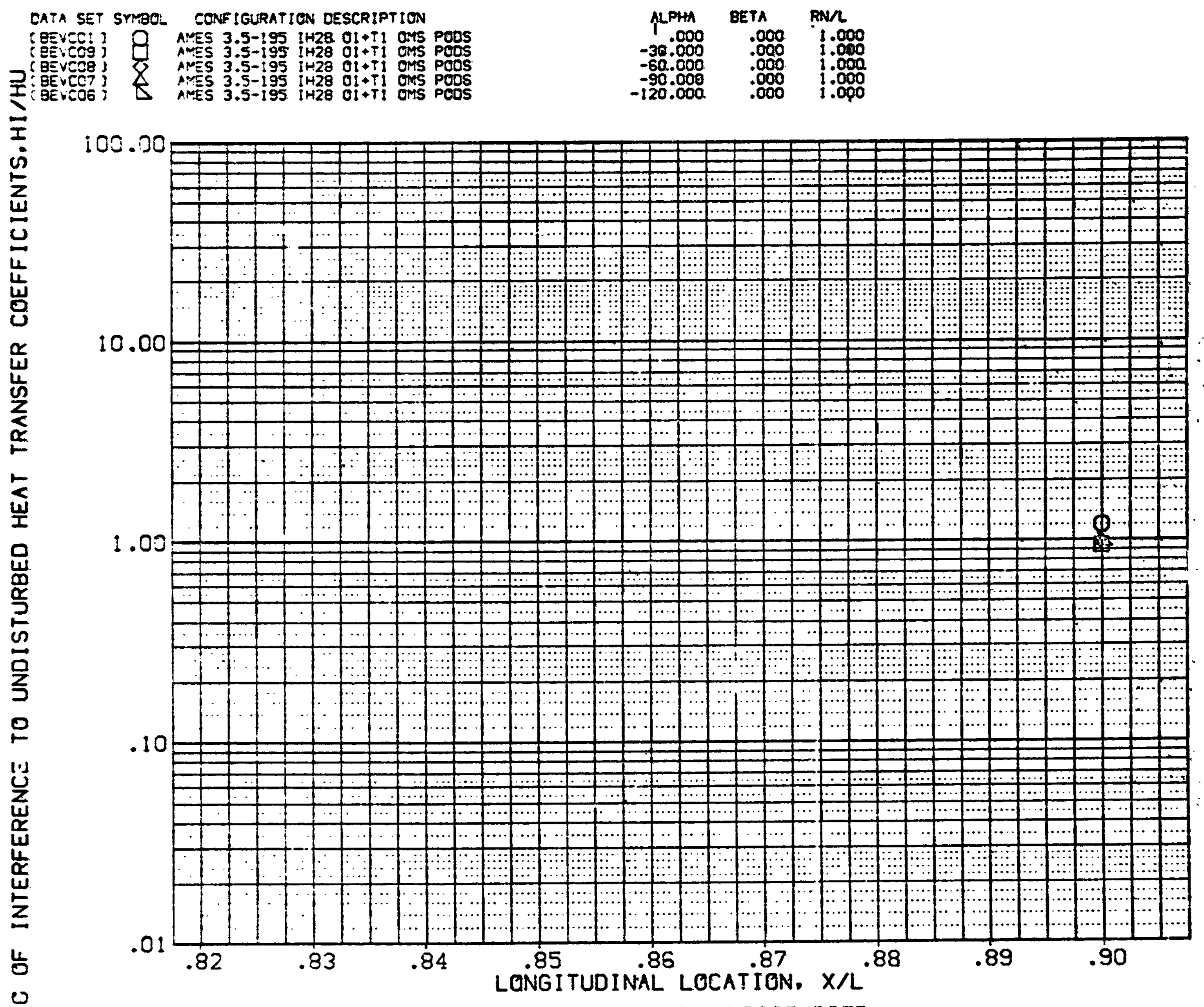

FIG. 15 OMS PODS, RATIO OF INTERFERENCE TO UNDISTURBED

MACH = 5.300 HAW/HT= .900 Z = 526.660