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APPLIED TECHNOLOGY LABORATORY POSITION STATEMENT

In 1975 a wind tunnel test program was conducted in the Boeing-Vertol 20-foot V/STOL Wind Tunnel on a 1/5th-scale UTTAS model to investigate and find solutions for several aerodynamic problems encountered during the UTTAS flight-testing. Specifically, these tests focused upon (a) the structure of the hub/rotor wake in the vicinity of the empennage, (b) the formulation of the ground vortex and its relation to hub loads and fuselage loads during transition, and (c) the occurrence of vibratory air pressures from the blade passing over the fuselage. Only portions of the above-mentioned wind tunnel test data were reduced and analyzed in addressing the flight-test problems of the UTTAS aircraft.

Under Contract DAAJ02-77-C-0020, Boeing-Vertol completed analyses on the data to understand more completely the aerodynamic interactions that are involved and to formulate instructions for the guidance of designers in these respects. The results of these studies are applicable to all existing and future single-rotor/tail rotor helicopters. The data have been segregated according to aerodynamic interactions and associated phenomena/problem areas. From this body of knowledge, a generalized set of design guidelines meaningful to the single-rotor helicopter design concept formulation were developed and are included in these reports.

Mr. Robert P. Smith of the Aeronautical Technology Division, Aeromechanics Technical Area, served as project engineer for this effort.

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

This is the sixth of the seven sub-volumes of Volume IV containing one-third octave band spectrographs of the model helicopter hub/rotor wake as it was modified by various aerodynamic devices. This sub-volume deals with the effects of air ejector systems in configurations already possessing hub caps and also of several wing configurations mounted variously to alter the wake.

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PREFACE

The entire report describing the investigation of INTERACTIONAL AERODYNAMICS OF THE SINGLE-ROTOR HELICOPTER CONFIGURATION comprises eight numbered volumes bound as 33 separate documents. The complete list of these documents is as follows:

Volume I, Final Report

Volume II, Harmonic Analyses of Airframe Surface Pressure Data
- A – Runs 7-14, Forward Section
- B – Runs 7-14, Mid Section
- C – Runs 7-14, Aft Section
- D – Runs 15-22, Forward Section
- E – Runs 15-22, Mid Section
- F – Runs 15-22, Aft Section
- G – Runs 23-33, Forward Section
- H – Runs 23-33, Mid Section
- I – Runs 23-33, Aft Section

Volume III, Flow Angle and Velocity Wake Profiles in Low-Frequency Band
- A – Basic Investigations and Hubcap Variations
- B – Air Ejector Systems and Other Devices

Volume IV, One-Third Octave Band Spectrograms of Wake Split-Film Data
- A – Buildup to Baseline
- B – Basic Configuration Wake Explorations
- C – Solid Hubcaps
- D – Open Hubcaps
- E – Air Ejectors
- F – Air Ejectors With Hubcaps; Wings
- G – Fairings and Surface Devices

This volume is

Volume V, Harmonic Analyses of Hub Wake

Volume VI, One-Third Octave Band Spectrograms of Wake Single Film Data
- A – Buildup to Baseline
- B – Basic Configuration Wake Exploration
- C – Hubcaps and Air Ejectors

Volume VII, Frequency Analyses of Wake Split-Film Data
- A – Buildup to Baseline
- B – Basic Configuration Wake Explorations
- C – Solid Hubcaps

D – Open Hubcaps
E – Air Ejectors
F – Air Ejectors With Hubcaps; Wings
G – Fairings and Surface Devices

Volume VIII, Frequency Analyses of Wake Single Film Data
A – Buildup to Baseline
B – Basic Configuration Wake Exploration
C – Hubcaps and Air Ejectors

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INTRODUCTION

Volume IV presents spectrograms of the flow angles and velocity components for each run and its test points. Specifically, these machine plots show the root mean square value of each wake parameter over discrete frequency intervals one-third of an octave band in width. The octave arrangement is selected to provide 19 spectral increments from 3.9 to 250.0 Hz centerband frequency. A special computer program is employed to derive wake parameters within these bands consistent with corresponding basic spectral functions depicted in Volume VII.

The graphs showing the one-third octave band values are sequenced in the same order as the Outline of Wake Investigations (Table 1). These graphs are distributed among Volumes IV-A through IV-G by the major categories of Table I in the following arrangement:

Volume IV-A	Build-up to Baseline
Volume IV-B	Basic Configuration
Volume IV-C	Effect of Hub Caps Section 1 & 2
Volume IV-D	Effect of Hub Caps Section 3 & 4
Volume IV-E	Effect of Hub Caps Section 5 and Effect of Air Ejectors
Volume IV-F	Air Ejectors with Open Hub Caps and Effect of Wings and Misc. Section
Volume IV-G	Effect of Wings and Misc. Sections 2 and 3

The Table I outline and other material is included for reference and as a context to the work of each sub-volume. Table 2, the List of Test Runs, arranges the runs in numerical order and gives pertinent text parameters.

The Index of Rake Positions, Table 3, lists the hot film transducer rake positions in the model coordinate system for each run and its test points. The main feature of Table 3 is the indexing of the test point number to the model waterline station and butt line as it varied from run to run. The table groups the runs as they shared the indexing correspondence of point with position. It is emphasized that the runs in a group do not necessarily all share the same number of test points but they do have same correspondence within their respective ranges of test points.

The orientation of the rake is shown pictorially in Figures 1 through 6 for the various test runs. Figure 7 presents a scaled drawing of the model with reference to the three-axis coordinate system. Table 4 lists the center frequency and the upper and lower band limits for each of the numbered one-third octave bands.

TABLE 1

OUTLINE OF WAKE INVESTIGATIONS

Description	Configuration Code	Run No.	Base-line
Build-up to Baseline			
1. Nacelles removed	$K_{13}+H_1-N$	149	150
2. Blades off, rotating hub	$K_{13}-M+H_{1.0}$	160	156
3. " " , non-rotating hub	$K_{13}-M+H_{1.0}$	158	156
4. " " , hub off	$K_{13}-M-H_{1.0}$	159	156
Basic Configuration			
1. Wake Explorations near Empennage			
(a) 15" Long. + traverse at T/R C.L.	K_{11}	111	---
(b) 9" Vert. + " above T/R "	"	112	---
(c) 2" " " in vortex	"	113	---
(d) 8" " " (continue 112)	"	114	---
(e) 13" " " behind stab.	"	115	---
(f) Lateral traverse, left stab. (One T.P. only)	"	116	---
(g) Same continued	"	117	---
(h) Same continued (One T.P. only)	"	118	---
(i) Lateral traverse right stab.	"	119	---
(j) T/R effect on wake	$K_{11}+T_2^0$	121	115
2. Climb/Descent Studies			
(a) Climb 900 FPM	K_{11}	135	---
(b) Descent 800 FPM	"	136	---
Effect Of Hub Caps			
1. Solid Caps on Canister			
(a) 7.6" diam. 2.17" ht. soft Pitch Arms	$K_{11}-H_{1.0}+H_{1.2}$	137	136
(b) 7.6" diam. 2.17" ht. stiff Pitch Arms	$K_{13}+H_{1.2}$	153	156
(b) 7.6" diam. 2.45" ht. flt. test config.	$K_{13}+H_{1.2.1}+I_1+E_{1.0}$	207	188

TABLE 1 (CONTINUED)

OUTLINE OF WAKE INVESTIGATIONS

Description	Configuration Code*	Run No.	Base-line
Effect of Hub Caps (Continued)			
2. Solid Caps Raised Above Canister			
(a) 7.6" diam. 2.45" ht. 70" depth, .55 gap	$H_{1.2.2}+I_1+E_{1.0}$	208	188
(b) 10.0" diam. 3.25" ht. 1.55" depth, .50" gap	$H_{1.8.1}+I_1+E_{1.0}$	189	188
(c) 10.0" diam. 4.125" ht. 2.05" depth, .875" gap	$H_{1.8.2}+I_1+E_{1.0}$	190	188
(d) Repeat of 189	" " "	210	188
3. Open Caps Without Underbody			
(a) 10.0" diam. 1.25" gap,blades	$H_{1.0.2}+I_1+E_{1.0}$	193	188/166
(b) " " " gap, no blades	$H_{1.0.1}-M$	166	158
(c) " " 2.05" gap,blades	$H_{1.14.1}+I_1+E_{1.0}$	211	188
(d) " " 1.75" gap, no blades	$H_{1.0.1}-M$	165	158
(e) " " 1.87" gap,blades	$H_{1.0.3}+I_1+E_{1.0}$	191	188
(f) 16" diam. 2.00" gap,blades	$H_{1.7.1}$	168	156/167
(g) " " " gap, no blades	$H_{1.7.1}-M$	167	158
(h) " " 4.00" gap,blades	$H_{1.7.2}$	169	156
4. Open Caps with Underbody			
(a) 7.6" diam. 1.25" gap	$H_{1.11.1}+I_2+E_{1.0}$	194	188
(b) " " " "	$H_{1.11.1}+I_2+E_{4.0}$	198	188
(c) " " " " center post	$H_{1.11.2}+I_2$	202	194
(d) 10.0" diam. .5" gap, no blades	$H_{1.5.1}-M$	164	158
(e) " " 1.25" gap, no blades	$H_{1.5.2}-M$	161	158
(f) " " 2.0" gap, no blades	$H_{1.5.4}-M$	163	158
(g) " " 4.0" gap, no blades	$H_{1.5.3}-M$	162	158
(h) " " 1.25" gap	$H_{1.5.2}$	154	156/161

*Basic Code is K13.

TABLE 1 (CONTINUED)

OUTLINE OF WAKE INVESTIGATIONS

Description	Configuration Code*	Run No.	Base-line
5. Miscellaneous Hub Covers			
(a) Hub fairing 16" diam.	$H_{1.3}$	151	150
(b) Wham-O-Frisbee 10" diam.	$H_{1.9.0}+E_{1.2}$	182	181
(c) Fab. glass Frisbee 16" diam.	$H_{1.9.1}+E_{1.2}$	183	181
Effect of Air Ejectors			
1. Basic system no blowing	$H_{1.0}+E_{1.0}$	172	156
2. " " 40 psi	" "	173	156/172
3. " " 150 psi	" "	174	156/172
4. Wide chord shroud 40 psi	$H_{1.0}+E_{2.5.1}$	175	156/173
5. Wide " " 150 psi	" "	176	156/174
6. W/C shroud w. lip 40 psi	$H_{I.0}+E_{3.5.2}$	184	156/173
7. Same Contoured Parallel 150 psi	$H_{1.0}+E_{3.5.4}$	187	156/174
8. Bifurcated duct 0 psi	$H_{1.0}+E_{5.0}$	203	156
9. " " 40 psi	" "	204	156/203
10. " " 150 psi	" "	205	156/203
Air Ejectors with Open Hub Caps with Underbodies			
1. 7.6" diam. 1.25" gap, 0 psi	$H_{1.11.1}+I_2+E_{1.0}$	194	188/172
2. " " " " 20 psi	" " "	195	188
3. " " " " 40 psi	" " "	196	188/173
4. " " " " 150 psi	" " "	197	188/174
5. " " " " 0 psi	$H_{1.11.1}+I_2+E_{4.0}$	198	188/194
6. " " " " 40 psi	" " "	199	188/196
7. " " " " 150 psi	" " "	200	188/196
8. Same with center post	$H_{1.11.2}+I_2+E_{4.6}$	201	188/200
9. 10.0" diam. 2.0" gap wide ch'd. shroud (150 psi)	$H_{1.5.4}+E_{2.5.1}$	177	156/176
Effect of Wings and Misc.			
1. Wings			
(a) Nacelle-mounted stub wing	$H_{1.0}+W_{1.0}+E_{1.1}$	178	181
(b) Single slotted flapped wing	$H_{1.0}+W_{3.0}+E_{1.0}$	180	181
(c) Dougle slotted flapped wing	$H_{1.0}+W_{2.0}+E_{1.0}$	179	181
(d) Boom-mounted stub wing	$H_{1.0}+W_{4.0}$	186	156

*Basic Code is K13.

TABLE 1 (CONTINUED)

OUTLINE OF WAKE INVESTIGATIONS

Description	Configuration Code*	Run No.	Base-line
2. Crown Fairings			
(a) Flat top behind shaft	$K_{11}+D_1$	140	138
(b) Round top behind shaft	$K_{11}+D_2$	141	138
(c) Extended flat top fairing	H_1+D_4	170	156
(d) Flat top + 16" cap, 4" gap	$H_{1.7.2}+D_4$	171	170
(e) Forward fairing/nacelle fairing	$P_{1.0}$	152	156
3. Surface Devices			
(a) Vortex generators	$K_{11}+VG_{2.1}$	139	138
(b) Guidevane between nacelles	$K_{11}+FV_1$	142	138
(c) Longitudinal strakes	$H_{1.5.3}+S_4$	155	156
(d) 14% porosity spoiler	$K_{11}+X_1$	143	138

*Basic Code is K13 unless noted otherwise.

TABLE 2

LIST OF TEST RUNS

BASIC INVESTIGATIONS OF THE HUB WAKE

RUN NO.	CONFIGURATION/CONDITION	V_{TUN} KNOTS	RPM MR/TR	DISK LDG. psf	MODEL ANGLES		MR HT.	TAIL ROTOR
					α°	ψ°	h/d	
111	K_{11}/15" Long. wake traverse at TR center line	80	1433/0	8	6.0	-2.0	∞	Off
112	" /9" Vert. wake traverse above TR center line	"	"	"	"	"	"	"
113	" /2" Vert traverse through MR vortex	"	"	"	"	"	"	"
114	" /8" Vert. traverse below TR center line	"	"	"	"	"	"	"
115	" /13" Vert. traverse behind stabilizer	"	"	"	"	"	"	"
116	" /Lateral traverse - left stabilizer	"	"	"	"	"	"	"
117	" /116 continued	"	"	"	"	"	"	"
118	" /116 continued	"	"	"	"	"	"	"
119	" /Lateral traverse - right stabilizer	"	"	"	"	"	"	"
121	$K_{11}+T_2$/Effect of tail rotor flow on wake	"	1433/ 4500	"	"	"	"	On
135	K_{11}/Wake in 900 fpm climb	"	"	"	-6.0	-4.5	"	Off
136	" /Wake in 800 fpm descent	"	"	"	6.0	-2.0	"	"

TABLE 2(CONTINUED)

LIST OF TEST RUNS

EVALUATION OF WAKE-ALTERING DEVICES

RUN NO.	CONFIGURATION/CONDITION	V_{TUN} KNOTS	RPM MR/TR	DISK LDG. psf	MODEL ANGLES		MR HT.	TAIL ROTOR
					α°	ψ°	h/d	
137	K_{11}-$H_{1.0}$+$H_{1.2}$/Effect of 7.6 inch diam. solid hub cap	80	1433/0	8	6	-3.8	∞	Off
138	K_{11}/Repeat of base run	"	"	"	"	"	"	"
139	K_{11}+$VG_{2.1}$/Effect of vortex generators on aft crown	"	"	"	"	"	"	"
140	K_{11}+D_1/Flat-topped "doghouse" fairing on aft crown	"	"	"	"	"	"	"
141	K_{11}+D_2/Rounded-top fairing	"	"	"	"	"	"	"
142	K_{11}+FV_1/Deflection vane on crown between nacelles	"	"	"	"	"	"	"
143	K_{11}+X_1/Variable porosity spoiler	"	"	"	"	"	"	"
149	K_{13}+H_1-N_1/Effect of nacelles off also add stiff pitch arms (K_{13})	60	1075/0	4.5	"	"	"	"
150	K_{13}+H_1/60 knot baseline	"	"	"	"	"	"	"
151	K_{13}+$H_{1.3}$/16 inch diam. helmet fairing	"	"	"	"	"	"	"
152	K_{13}+$P_{1.0}$/Pylon and intake fairings	80	1433/0	8	"	"	"	"
153	K_{13}+$H_{1.2}$/Repeat 137 with K_{13} pitch arms	"	"	"	"	"	"	"

TABLE 2 (CONTINUED)

LIST OF TEST RUNS

EVALUATION OF WAKE-ALTERING DEVICES

RUN NO.	CONFIGURATION/CONDITION	V_{TUN} KNOTS	RPM MR/TR	DISK LDG. psf	MODEL ANGLES		MR HT.	TAIL ROTOR
					α°	ψ°	h/d	
154	$K_{13}+H_{1.5.2}$/10" open hub cap, 7" underbody, 1.25"gap	80	1433/0	8	6	-3.8	∞	Off
155	$K_{13}+H_{1.5.2}+S_4$/Same as 154 except strakes on aft crown	"	"	"	"	"	"	"
156	$K_{13}+H_{1.0}$/Baseline with K_{13},i.e., stiff pitch arms	"	"	"	"	"	"	"
158	$K_{13}-M+H_{1.0}$/Wake studies with blades off, hub not rotating	"	0/0	"	"	"	"	"
159	$K_{13}-M-H_{1.0}$/Wake studies with hub off	"	"	"	"	"	"	"
160	$K_{13}-M+H_{1.0}$/Same as 158 except hub is rotating	"	1433/0	"	"	"	"	"
161	$K_{13}-M+H_{1.5.2}$/Repeat of 154 without blades	"	0/0	"	"	"	"	"
162	$K_{13}-M+H_{1.5.3}$/Same as 161 except 4" gap	"	"	"	"	"	"	"
163	$K_{13}-M+H_{1.5.4}$/Same as 161 except 2" gap	"	"	"	"	"	"	"
164	$K_{13}-M+H_{1.5.1}$/Same as 161 except 0.5" gap	"	"	"	"	"	"	"
165	$K_{13}-M+H_{1.0.1}$/ 10" open hub cap,no underbody,same cap vert.position as Run 154	"	"	"	"	"	"	"
166	$K_{13}-M+H_{1.0.2}$/Same as 165 with cap lowered by 0.5"	"	"	"	"	"	"	"

TABLE 2 (CONTINUED)
LIST OF TEST RUNS
EVALUATION OF WAKE-ALTERING DEVICES

RUN NO.	CONFIGURATION/CONDITION	V_{TUN} KNOTS	RPM MR/TR	DISK LDG. psf	MODEL ANGLES		MR HT.	TAIL ROTOR
					α°	ψ°	h/d	
167	K_{13}-M+$H_{1.7.1}$/16" open cap, no underbody, 2" gap	80	0/0	8	6	-3.8	∞	Off
168	K_{13}+$H_{1.7.1}$/Blades on, same cap config. as 167	"	1433/0	"	"	"	"	"
169	K_{13}+$H_{1.7.2}$/16" open cap, no underbody, 4" gap	"	"	"	"	"	"	"
170	K_{13}+$H_{1.0}$+$D_{4.0}$/Extended flat top fairing on aft crown	"	"	"	"	"	"	"
171	K_{13}+$H_{1.7.2}$+$D_{4.0}$/Same fairing as 170, same cap as 169	"	"	"	"	"	"	"
172	K_{13}+$H_{1.0}$+$E_{1.0}$(0psi)/Basic air ejector zero blowing baseline	"	"	"	"	"	"	"
173	K_{13}+$H_{1.0}$+$E_{1.0}$(40 psi)/Same as 172 with 40 psi supply	"	"	"	"	"	"	"
174	K_{13}+$H_{1.0}$+$E_{1.0}$(150 psi)/Same as 172 with 150 psi supply	"	"	"	"	"	"	"
175	K_{13}+$H_{1.0}$+$E_{2.5.1}$(40 psi)/Ejector with wide chord shroud at 40 psi	"	"	"	"	"	"	"
176	K_{13}+$H_{1.0}$+$E_{2.5.1}$(150 psi)/Same as 174 with 150 psi supply	"	"	"	"	"	"	"
177	K_{13}+$H_{1.5.4}$+$E_{2.5.1}$(150 psi)/Same as 176 with 10" cap like 163	"	"	"	"	"	"	"
178	K_{13}+$H_{1.0}$+$W_{1.0}$+$E_{1.1}$(0 psi)/Nacelle mounted wing	"	"	"	"	"	"	"

TABLE 2(CONTINUED)

LIST OF TEST RUNS

EVALUATION OF WAKE-ALTERING DEVICES

RUN NO.	CONFIGURATION/CONDITION	V_{TUN} KNOTS	RPM MR/TR	DISK LDG. psf	MODEL ANGLES		MR HT.	TAIL ROTOR
					α°	ψ°	h/d	
179	$K_{13}+H_{1.0}+W_{2.0}+E_{1.0}$ (0 psi)/Double slotted flapped wing	80	1433/0	8	6	-3.8	∞	Off
180	$K_{13}+H_{1.0}+W_{3.0}+E_{1.0}$ (0 psi)/Single slotted flapped wing	"	"	"	"	"	"	"
181	$K_{13}+H_{1.0}+E_{1.2}$ (0 psi)/Baseline with ejector tube moved aft	"	"	"	"	"	"	"
182	$K_{13}+H_{1.9.0}+E_{1.2}$ (0 psi)/Standard 10" frisbee	"	"	"	"	"	"	"
183	$K_{13}+H_{1.9.1}+E_{1.2}$ (0 psi)/16" fabricated frisbee	"	"	"	"	"	"	"
184	$K_{13}+H_{1.0}+E_{3.5.2}$ (40 psi)/Wide chord with lip at 40 psi	"	"	"	"	"	"	"
185	$K_{13}+H_{1.0}+E_{3.5.2}$ (150 psi)/Same as 184 with 150 psi air	"	"	"	"	"	"	"
186	$K_{13}+H_{1.0}+W_{4.0}$/Boom mounted stub wing	"	"	"	"	"	"	"
187	$K_{13}+H_{1.0}+E_{3.5.4}$ (150 psi)/Like 185 with modified shroud	"	"	"	"	"	"	"
188	$K_{13}+H_{1.0}+I_1+E_{1.0}$ (0 psi)/Baseline with I_1 instr. ring	"	"	"	"	"	"	"
189	$K_{13}+H_{1.8.1}+I_1+E_{1.0}$ (0 psi)/Solid cap, 10" diam. 3.25" height	"	"	"	"	"	"	"
190	$K_{13}+H_{1.8.2}+I_1+E_{1.0}$ (0 psi)/Same as 190 except + 4.12" height	"	"	"	"	"	"	"

TABLE 2(CONTINUED)

LIST OF TEST RUNS

EVALUATION OF WAKE-ALTERING DEVICES

RUN NO.	CONFIGURATION/CONDITION	V_{TUN} KNOTS	RPM MR/TR	DISK LDG. psf	MODEL ANGLES		MR HT.	TAIL ROTOR
					α°	ψ°	h/d	
191	$K_{13}+H_{1.0.2}+I_1+E_{1.0}$ (0 psi)/10" cap, no underbody, 1.87" gap	80	1433/0	8	6	-3.8	∞	Off
193	$K_{13}+H_{1.0.2}+I_1+E_{1.0}$ (0 psi)/10" cap, no underbody, 1.25" gap	"	"	"	"	"	"	"
194	$K_{13}+H_{1.11.1}+I_2+E_{1.0}$ (0 psi)/7.6" cap, underbody, 1.25" gap	"	"	"	"	"	"	"
195	$K_{13}+H_{1.11.1}+I_2+E_{1.0}$ (20 psi)/Same as 194 with 20 psi air	"	"	"	"	"	"	"
196	$K_{13}+H_{1.11.1}+I_2+E_{1.0}$ (40 psi)/Same as 194 with 40 psi air	"	"	"	"	"	"	"
197	$K_{13}+H_{1.11.1}+I_2+E_{1.0}$ (150 psi)/Same as 194 with 150 psi air	"	"	"	"	"	"	"
198	$K_{13}+H_{1.11.1}+I_2+E_{4.0}$ (0 psi)/Same as 194 except blowing tube 2" aft	"	"	"	"	"	"	"
199	$K_{13}+H_{1.11.1}+I_2+E_{4.0}$ (40 psi)/Same as 198 with 40 psi air	"	"	"	"	"	"	"
200	$K_{13}+H_{1.11.1}+I_2+E_{4.0}$ (150 psi)/Same as 198 with 150 psi air	"	"	"	"	"	"	"
201	$K_{13}+H_{1.11.2}+I_2+E_{4.0}$ (150 psi)/Same as 200 except center support cap	"	"	"	"	"	"	"
202	$K_{13}+H_{1.11.2}+I_2$/Baseline with I_2 and no blowing tube	"	"	"	"	"	"	"
203	$K_{13}+H_{1.0}+E_{5.0}$ (0 psi)/Bifurcated air duct baseline	"	"	"	"	"	"	"

TABLE 2(CONTINUED)

LIST OF TEST RUNS

EVALUATION OF WAKE-ALTERING DEVICES

RUN NO.	CONFIGURATION/CONDITION	V_{TUN} KNOTS	RPM MR/TR	DISK LDG. psf	MODEL ANGLES		MR HT.	TAIL ROTOR
					$\alpha°$	$\psi°$	h/d	
204	$K_{13}+H_{1.0}+E_{5.0}$ (150 psi)/Bifurcated duct with 150 psi air	80	1433/0	8	6	-3.8	∞	Off
205	$K_{13}+H_{1.0}+E_{5.0}$ (40 psi)/Same as 204 with 40 psi air	"	"	"	"	"	"	"
207	$K_{13}+H_{1.2.1}+I_1+E_{1.0}$ (0 psi)/7.6" solid cap, no gap	"	"	"	"	"	"	"
208	$K_{13}+H_{1.2.2}+I_1+E_{1.0}$ (0 psi)/Same as 207 except 0.55" gap	"	"	"	"	"	"	"
210	$K_{13}+H_{1.15.1}+I_1+E_{1.0}$ (0 psi)/Repeat of 189	"	"	"	"	"	"	"
211	$K_{13}+H_{1.14.1}+I_1+E_{1.0}$ (0 psi)/Like 189 and 210 except cap is open	"	"	"	"	"	"	"

TABLE 3

INDEX TO RAKE POSITIONS

RUN NUMBER	TEST POINT	WATER LINE	MODEL STATION	BUTT LINE	LOCATION FIGURE
111	20	53.5	103.1	-7.25	1
	21	"	"	"	
	22	"	105.0	"	
	24	"	107.0	"	
	26	"	109.0	"	
	28	"	111.0	"	
	30	"	112.9	"	
	32	"	114.9	"	
	34	"	116.9	"	
	36	"	118.9	"	
112	2	48.9	107.3	-7.25	1
	4	50.8	"	"	
	6	52.7	103.3	"	
	8	54.5	"	"	
	10	56.2	"	"	
	12	57.2	"	"	
113	2	51.7	103.3	-3.25	1
	4	52.3	"	"	
	6	52.8	"	"	
	8	53.3	"	"	
	10	53.9	"	"	
	11	53.3	"	"	
114	2	44.5	103.0	-3.25	1
	4	46.4	"	"	
	6	48.2	"	"	
	8	50.0	"	"	
	10	51.9	"	"	
115	3	52.9	124.7	-3.25	1
	4	52.0	"	"	
	6	50.0	"	"	
	9	48.0	"	"	
	10	46.0	"	"	
	12	44.1	"	"	
	14	42.1	"	"	
	16	53.0	"	"	
	18	54.0	"	"	
	20	55.0	"	"	

TABLE 3 (CONTINUED)

INDEX TO RAKE POSITIONS

RUN NUMBER	TEST POINT	WATER LINE	MODEL STATION	BUTT LINE	LOCATION FIGURE
116	7	36.9	100.5	-17.5	1
117	2	37.6	100.5	-16.0	1
	4	"	"	-14.0	
	6	37.3	99.6	-12.0	
	8	"	"	-10.0	
	10	"	"	- 8.0	
118	2	37.6	100.5	- 6.0	1
119	2	37.3	99.6	+ 6.0	1
	5	"	"	8	
	8	"	"	10	
	9	"	"	"	
	14	"	"	14	
	16	"	"	16	
	20	51.5	102.5	17.5	
	25	52.3	101.7	-17.5	
121	3	62.9	129.0	+ 5.7	2
	4	53.5	"	"	
	6	50.1	"	"	
	8	46.0	"	"	
	10	42.1	"	"	
135	2	56.9	106.3	- 5.7	3
	4	54.5	"	"	
	6	52.5	"	"	
	8	50.5	"	"	
	10	48.5	"	"	
	12	46.5	"	"	
	14	44.5	"	"	
136	2	56.5	104.0	- 8.0	4
	4	54.5	"	"	
	6	52.5	"	"	
	8	50.6	"	"	
	10	48.5	"	"	
	12	46.5	"	"	
	14	44.5	"	"	
	17	37.1	"	"	
	18	39.0	"	"	
	19	41.0	"	"	

TABLE 3 (CONTINUED)

INDEX TO RAKE POSITIONS

RUN NUMBER	TEST POINT	WATER LINE	MODEL STATION	BUTT LINE	LOCATION FIGURE
137	3	38.7	98.4	- 8.0	5
	5	39.9	"	"	
	7	42.0	100.5	"	
	9	44.0	"	"	
	11	46.0	103.6	"	
	13	48.0	"	"	
	15	50.0	"	"	
	17	52.0	"	"	
	19	54.0	"	"	
138-41, 143	2	38.8	98.4	- 8.0	5
	3	40.0	"	"	
	4	42.0	100.5	"	
	5	44.0	"	"	
	6	46.0	103.6	"	
	7	48.0	"	"	
	8	50.0	"	"	
	9	52.0	"	"	
	10	54.0	"	"	
142	7	37.8	98.4	- 8.0	5
	8	"	"	"	
	9	40.2	"	"	
	10	42.0	100.5	"	
	11	44.0	"	"	
	12	46.0	103.6	"	
	13	48.0	"	"	
	14	50.0	"	"	
	15	52.0	"	"	
	16	54.0	"	"	
	17	56.8	"	"	

TABLE 3 (CONTINUED)

INDEX TO RAKE POSITIONS

RUN NUMBER	TEST POINT	WATER LINE	MODEL STATION	BUTT LINE	LOCATION FIGURE
149-151	2	38.8	98.5	- 8.0	5
	3	40.0	"	"	
	4	42.0	100.6	"	
	5	44.0	"	"	
	6	46.0	103.5	"	
	7	48.0	"	"	
	8	50.0	"	"	
	9	52.0	"	"	
	10	54.0	"	"	
152-6, 158 161-4, 166 167, 169-71 175, 177-9 180,182,184 186-8, 190 191,193,194 196,198,201 204,207,208 211	2	42.9	97.9	0.0	6
	3	44.9	"	"	
	4	46.9	100.6	"	
	5	48.9	"	"	
	6	50.9	104.6	"	
	7	52.9	"	"	
	8	54.9	"	"	
	9	56.9	"	"	
159	1	54.9	104.6	0.0	6
	2	52.9	"	"	
	3	50.7	"	"	
	4	48.6	100.6	"	
	5	46.7	"	"	
160,203	5	42.9	97.9	0.0	6
	6	44.9	"	"	
	7	46.9	100.6	"	
	8	48.9	"	"	
	9	50.9	104.6	"	
	10	52.9	"	"	
	11	54.9	"	"	
165	3	44.9	97.9	0.0	6
	4	42.9	"	"	
	5	46.9	100.6	"	
	6	48.9	"	"	
	7	50.9	104.6	"	
	8	52.9	"	"	

TABLE 3 (CONTINUED)

INDEX TO RAKE POSITIONS

RUN NUMBER	TEST POINT	WATER LINE	MODEL STATION	BUTT LINE	LOCATION FIGURE
168, 183	4	42.9	97.9	0.0	6
	5	44.9	"	"	
	6	46.9	100.6	"	
	7	48.9	"	"	
	8	50.9	104.6	"	
	9	52.9	"	"	
	10	54.9	"	"	
172	3	42.9	97.9	0.0	6
	4	44.9	"	"	
	6	44.9	"	"	
	7	46.9	100.6	"	
	8	48.9	"	"	
	9	50.9	104.6	"	
	10	52.9	"	"	
	11	54.9	"	"	
173,174,176	1	42.9	97.9	0.0	6
185,195,197	2	44.9	"	"	
199,200,205	3	46.9	100.6	"	
210	4	48.9	"	"	
	5	50.9	104.6	"	
	6	52.9	"	"	
	7	54.9	"	"	
181	2	42.9	97.9	0.0	6
	3	44.9	"	"	
	4	46.9	100.6	"	
	5	48.9	"	"	
	6	50.9	104.6	"	
	7	52.9	"	"	
	9	54.9	"	"	
	10	"	"	"	
	11	"	"	"	
	12	"	"	"	
	13	42.9	97.9	"	

TABLE 3 (CONTINUED)

INDEX TO RAKE POSITIONS

RUN NUMBER	TEST POINT	WATER LINE	MODEL STATION	BUTT LINE	LOCATION FIGURE
189	29	42.9	97.9	0.0	6
	30	44.9	"	"	
	31	46.9	100.6	"	
	32	48.9	"	"	
	33	"	"	"	
	34	50.9	104.6	"	
	35	"	"	"	
	36	48.9	100.6	"	
	37	50.9	104.6	"	
	38	52.9	"	"	
	39	54.9	"	"	
202	3	43.4	97.9	0.0	6
	4	44.9	"	"	
	5	46.9	100.6	"	
	6	48.9	"	"	
	7	50.9	104.6	"	

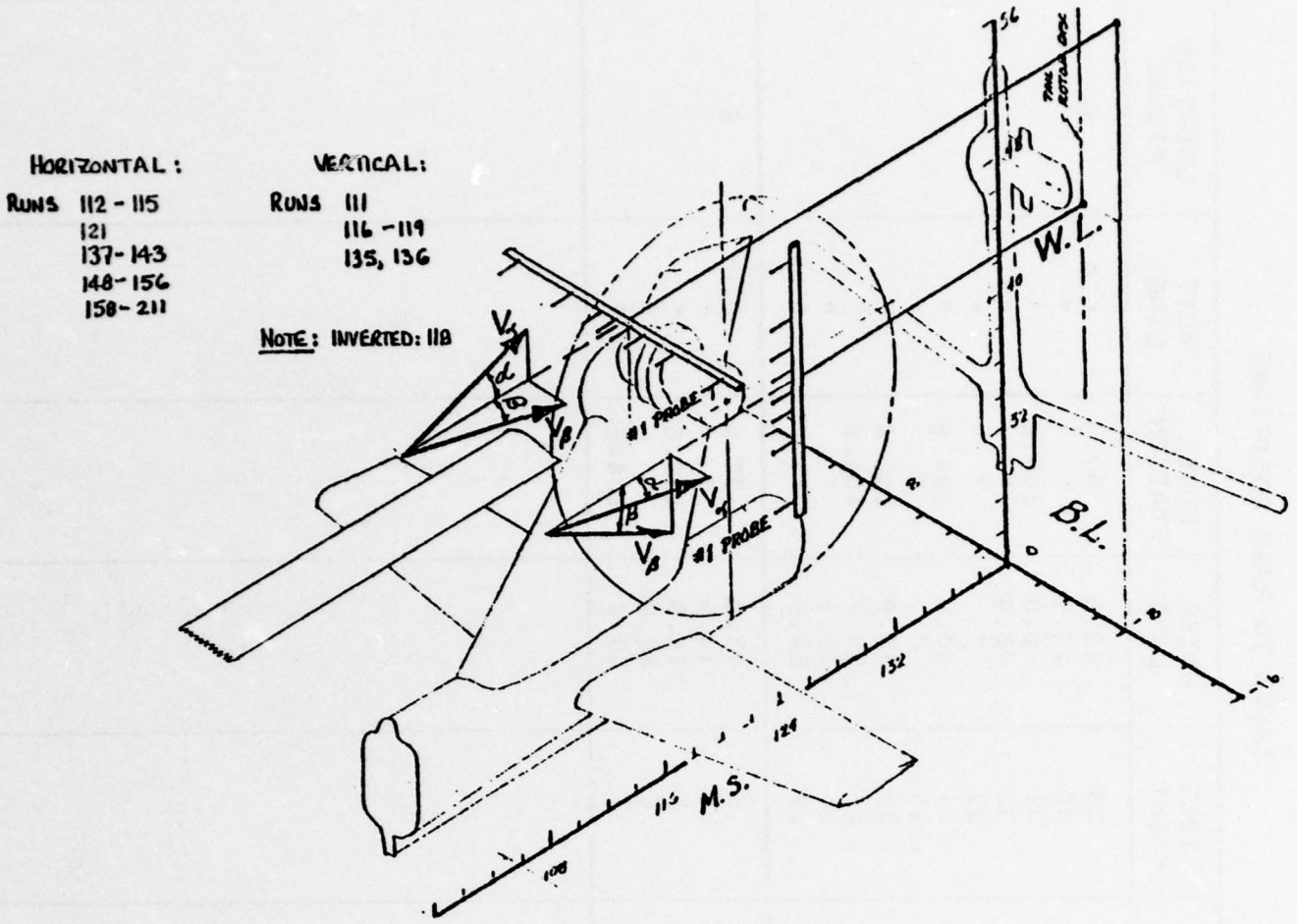


FIGURE 1 - RAKE ORIENTATION DIAGRAM

RUN 121

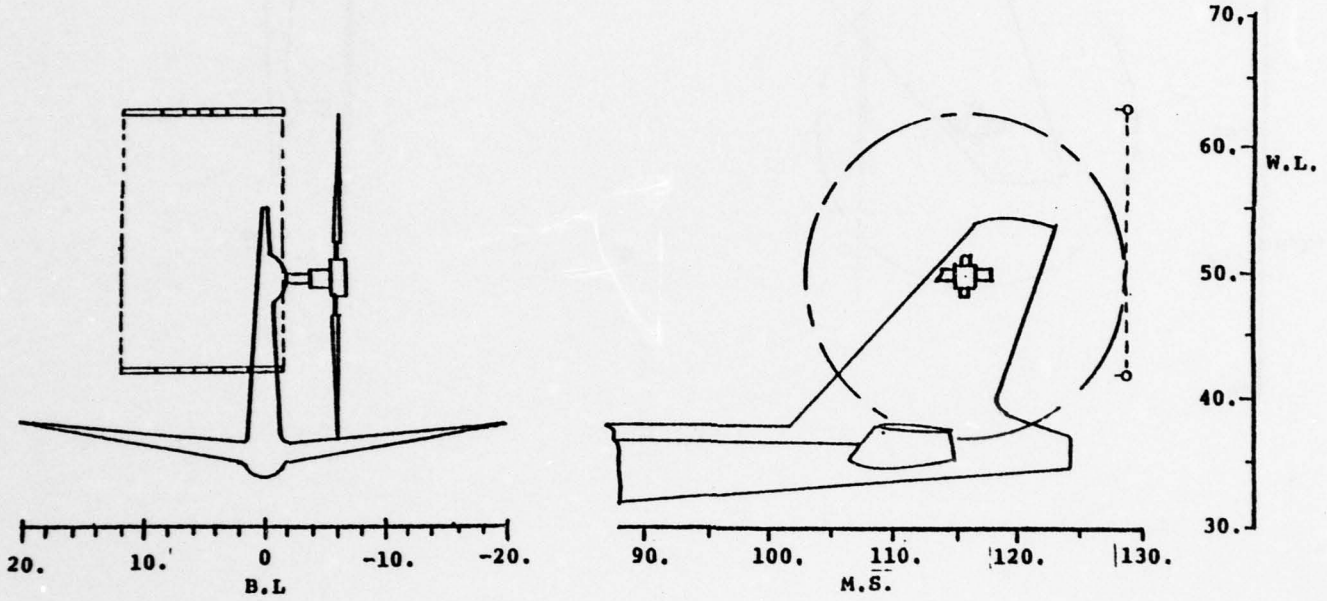


FIGURE 2 -HOT FILM RAKE LOCATIONS

RUN 135

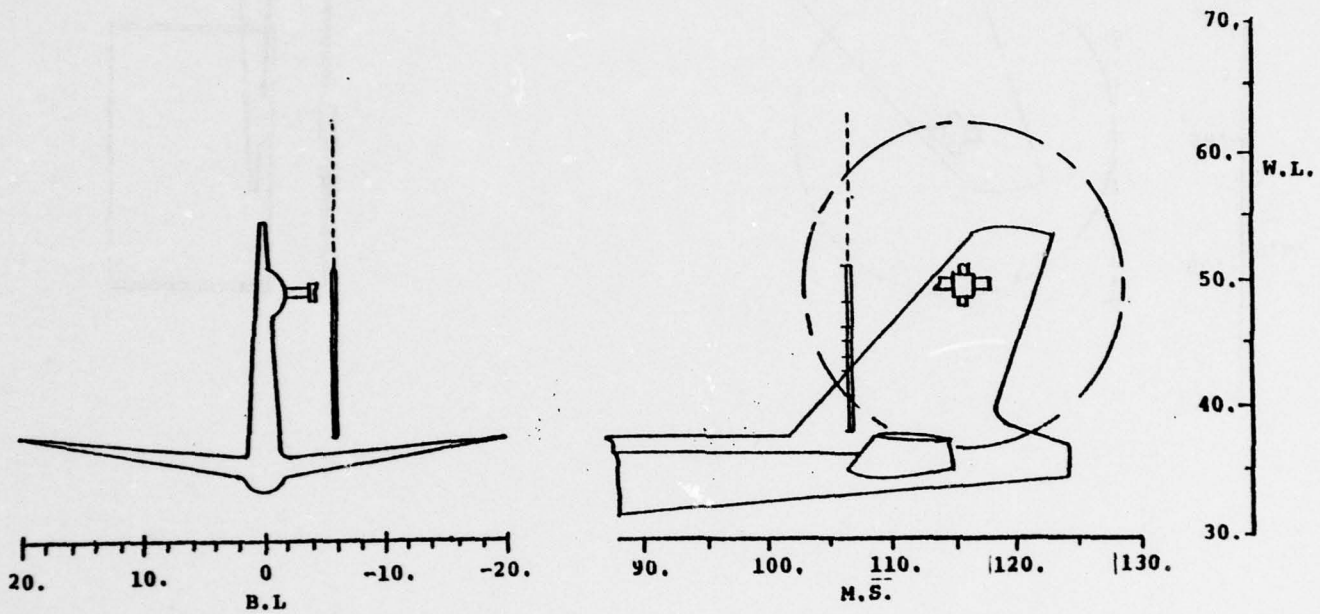


FIGURE 3 -HOT FILM RAKE LOCATIONS

RUN 136

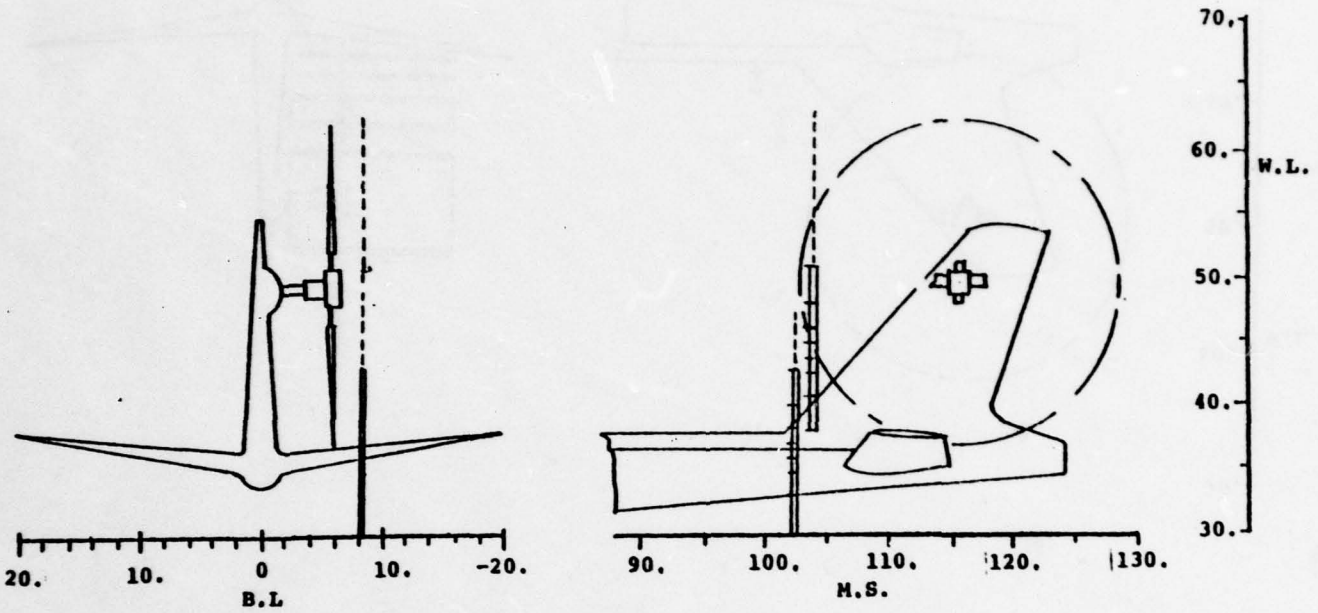


FIGURE 4 -HOT FILM RAKE LOCATIONS

RUN 137, 138, 139, 140, 141, 142,
143, 148, 149, 150, 151

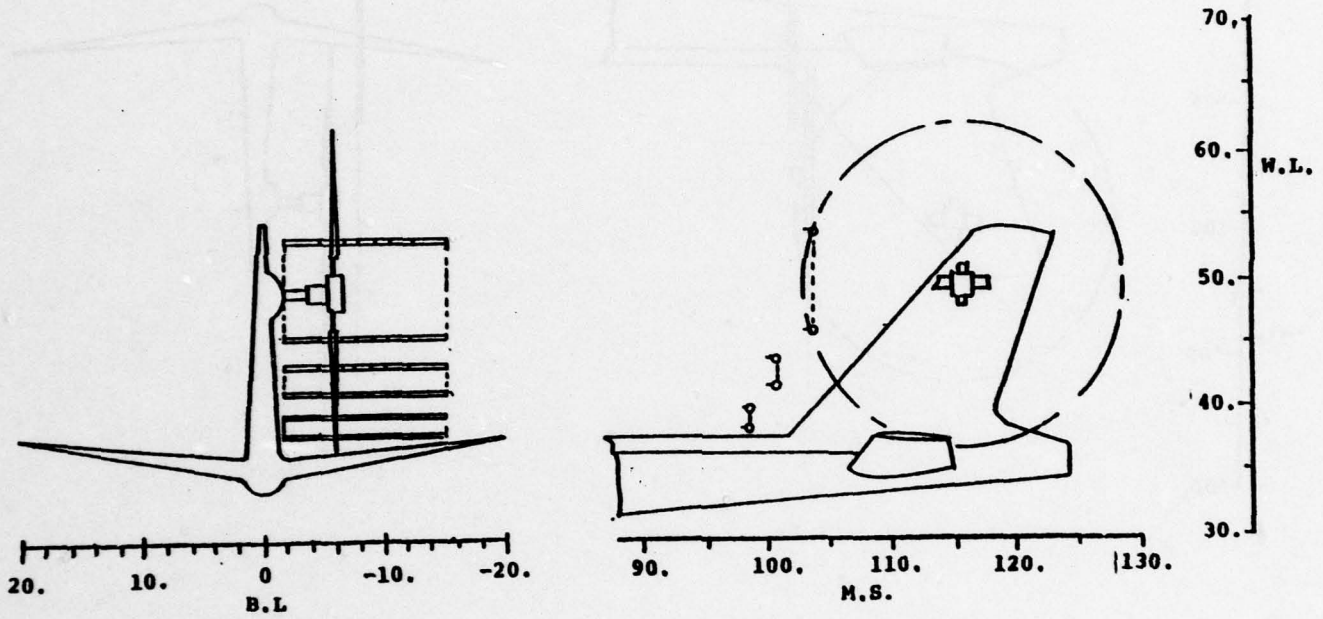


FIGURE 5 -HOT FILM RAKE LOCATIONS

RUN 152-156, 158-211

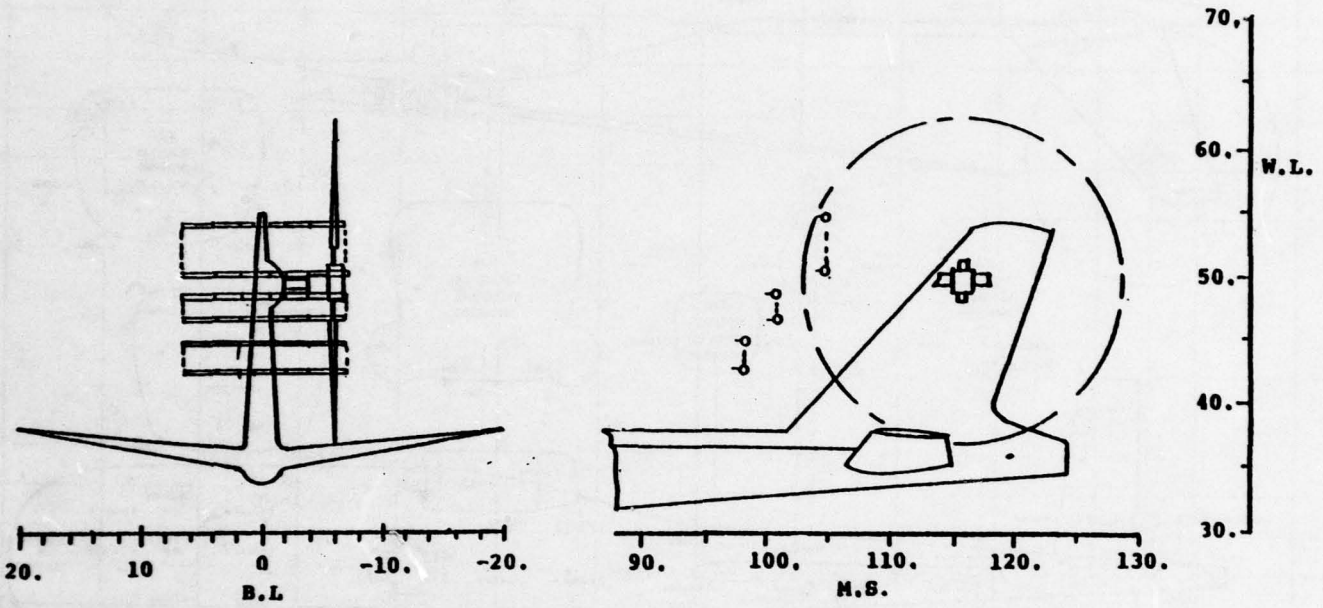


FIGURE 6 -HOT FILM RAKE LOCATIONS

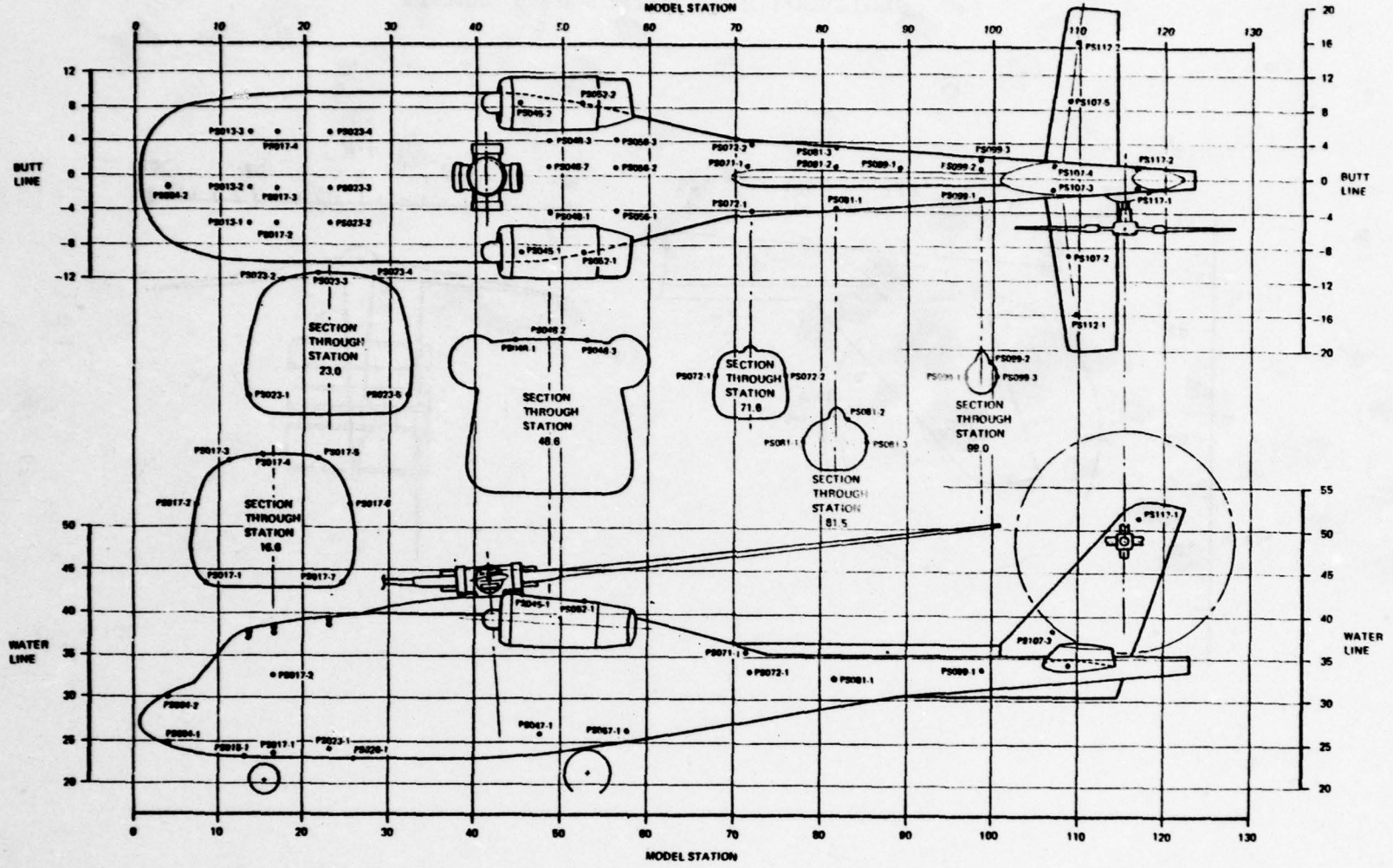
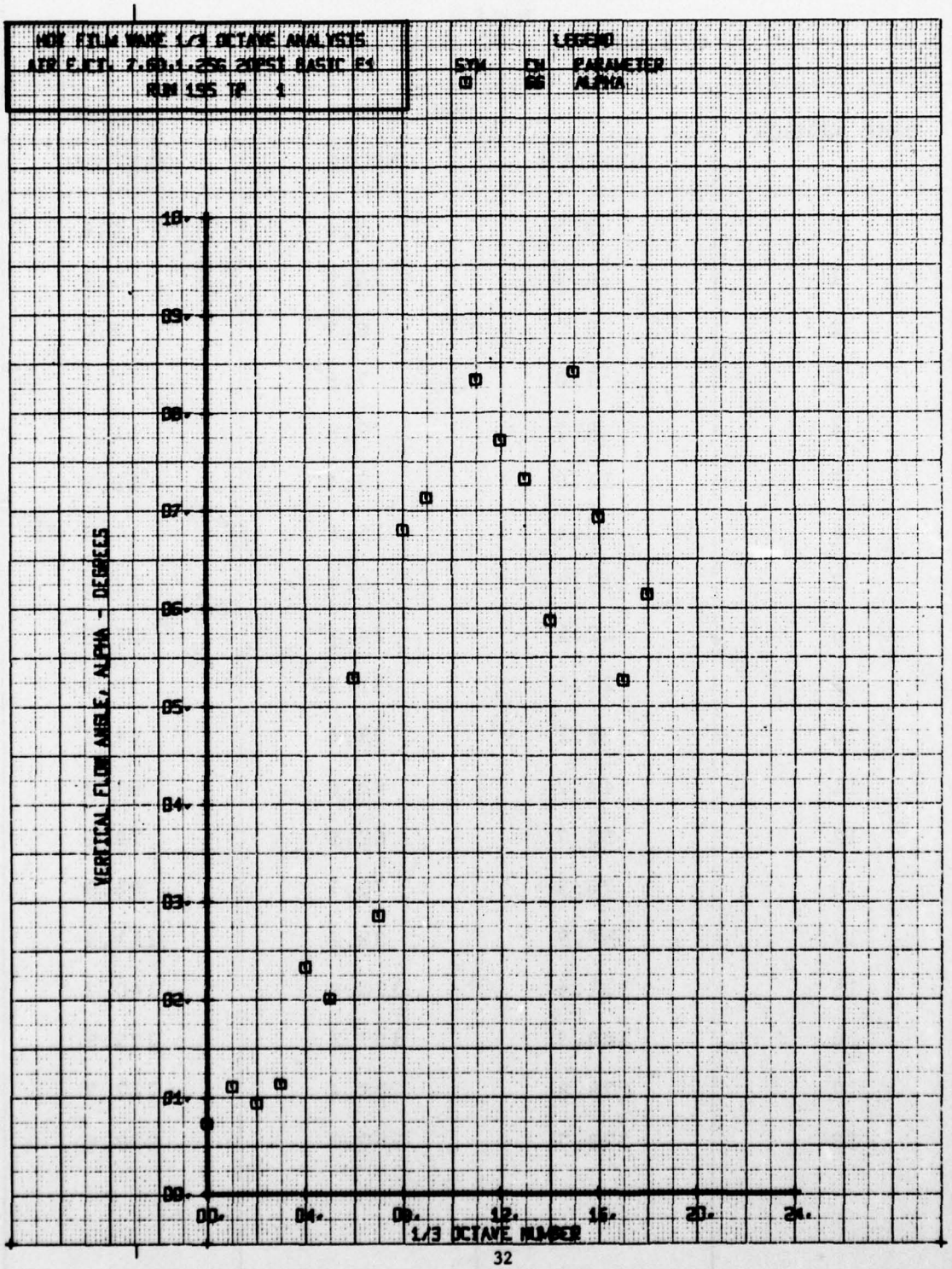
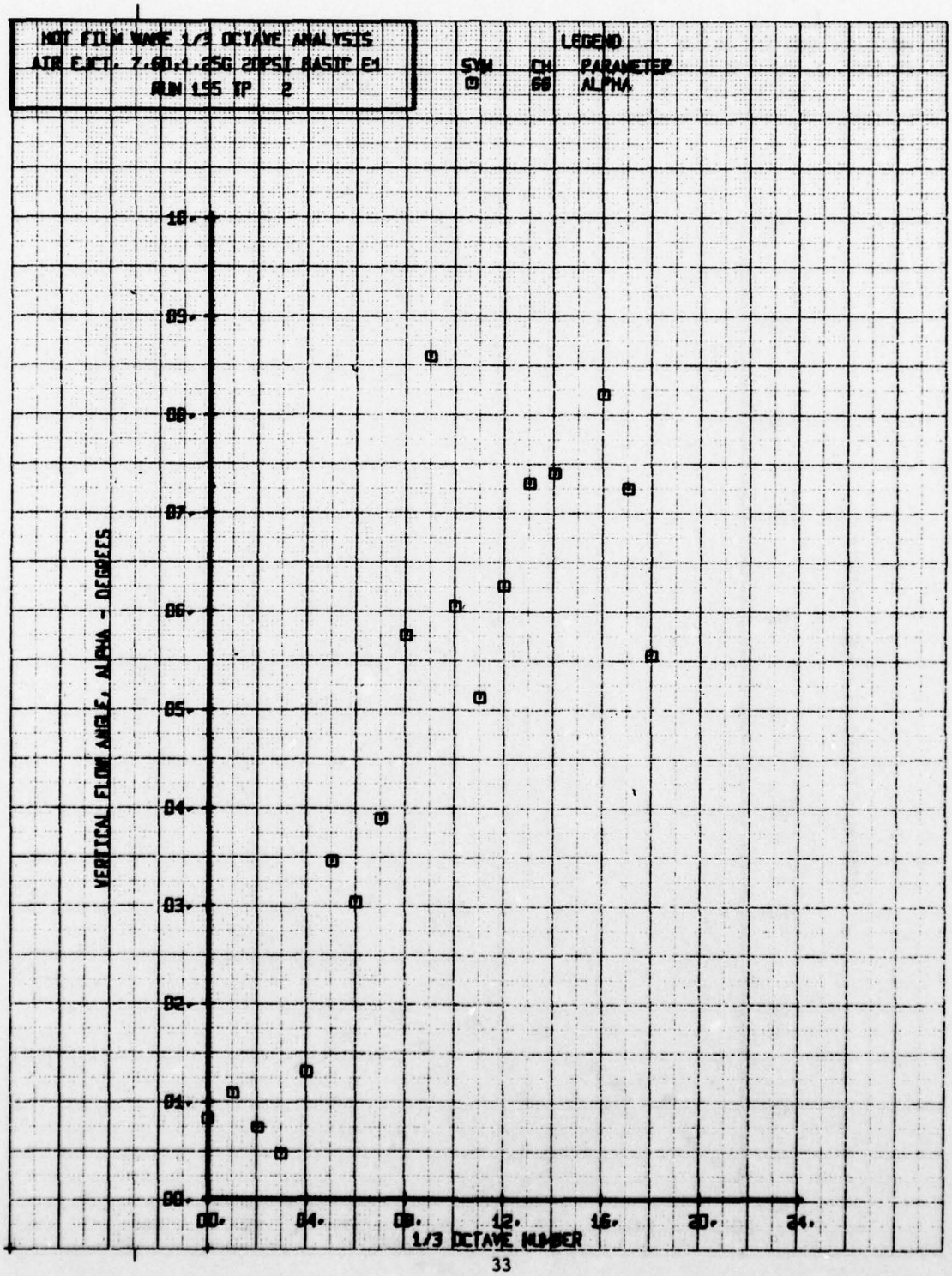


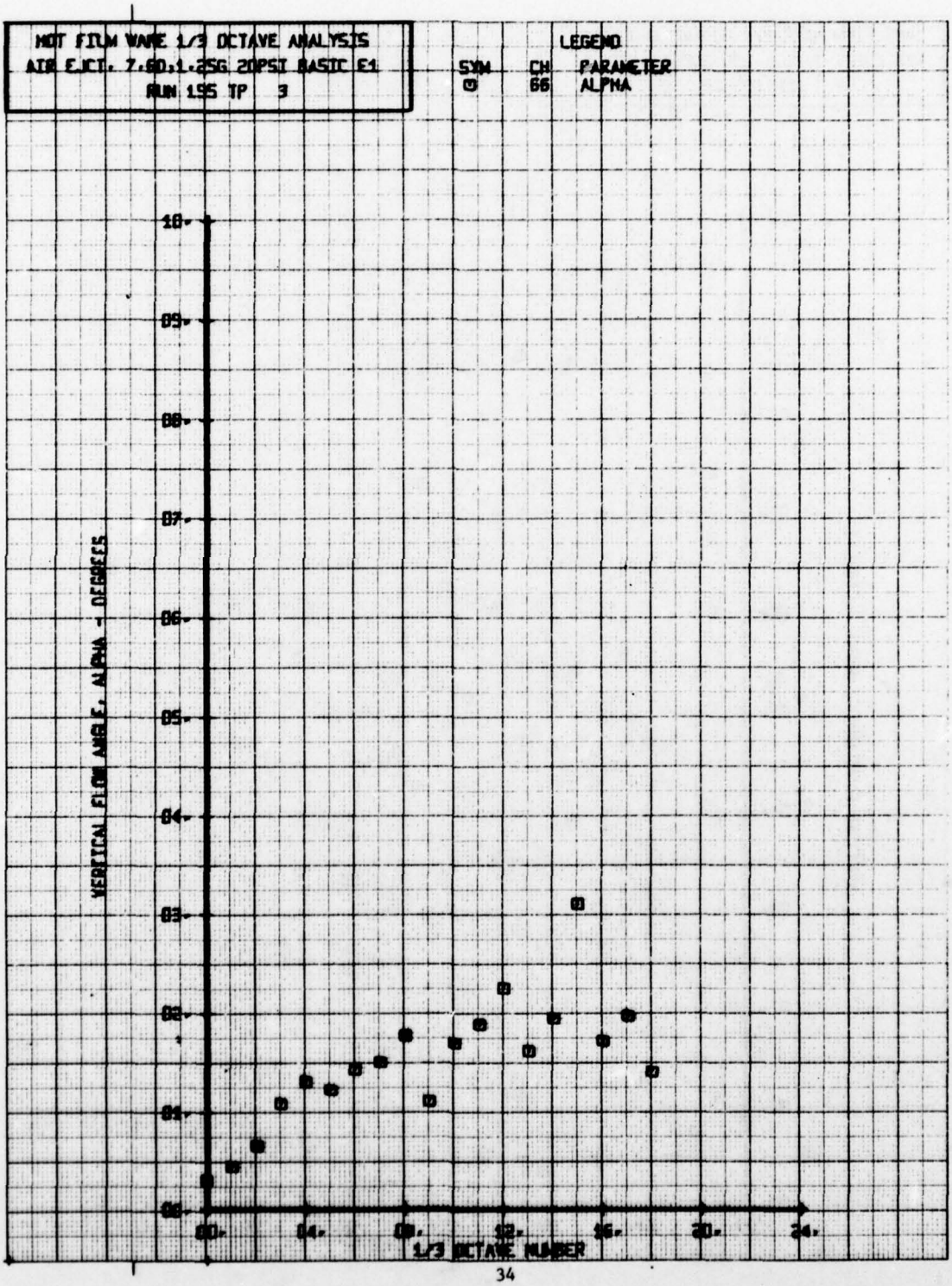
FIGURE 7 -1/4.85 SCALE MODEL GEOMETRY AND SURFACE PRESSURE TRANSDUCER LOCATIONS

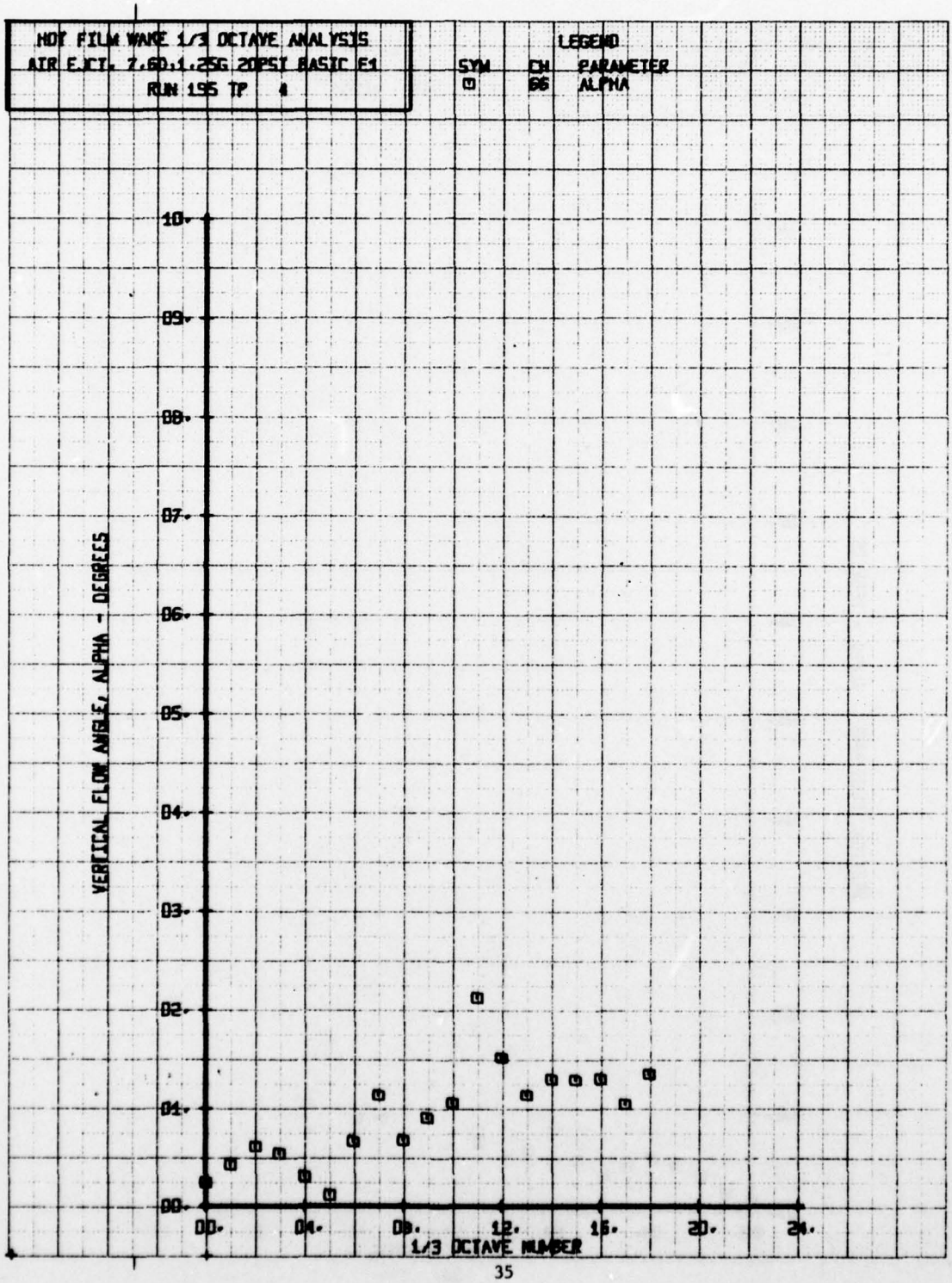
TABLE 4
1/3 OCTAVE BAND IDENTIFICATION

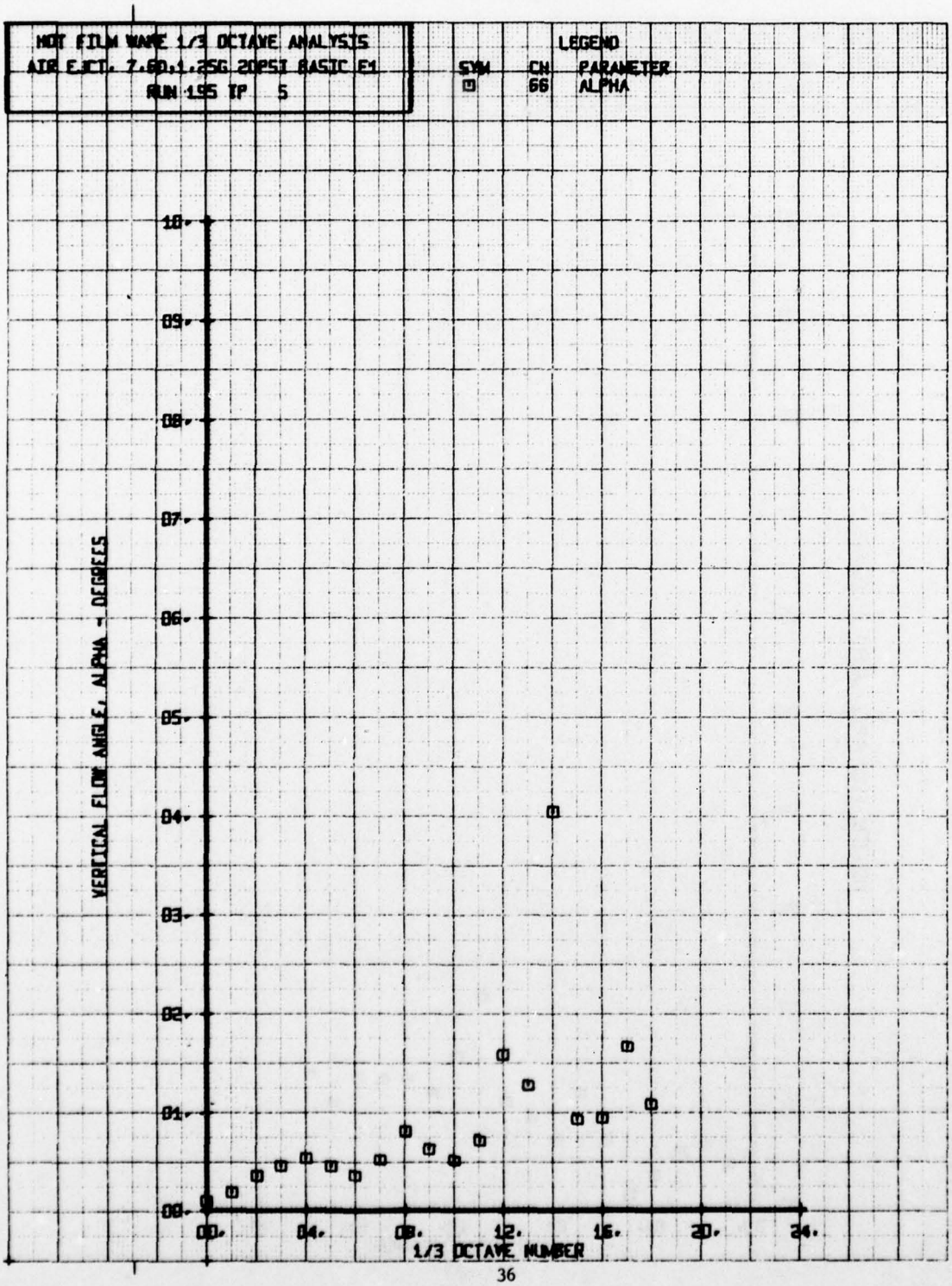
BAND NUMBER	BAND WIDTH - Hz		
	MINIMUM	CENTER	MAXIMUM
0	3.5	3.4	4.4
1	4.4	4.9	5.5
2	5.5	6.2	7.0
3	7.0	7.8	8.7
4	8.7	9.8	11.0
5	11.0	12.4	13.9
6	13.4	15.6	17.5
7	17.5	19.7	22.1
8	22.1	24.8	27.8
9	27.8	31.25	35.1
10	35.1	39.4	44.2
11	44.2	49.6	55.7
12	55.7	62.5	70.2
13	70.2	78.7	88.9
14	88.9	99.2	111.4
15	111.4	125.0	140.3
16	140.3	157.5	176.8
17	176.8	198.4	222.7
18	222.7	250.0	280.6

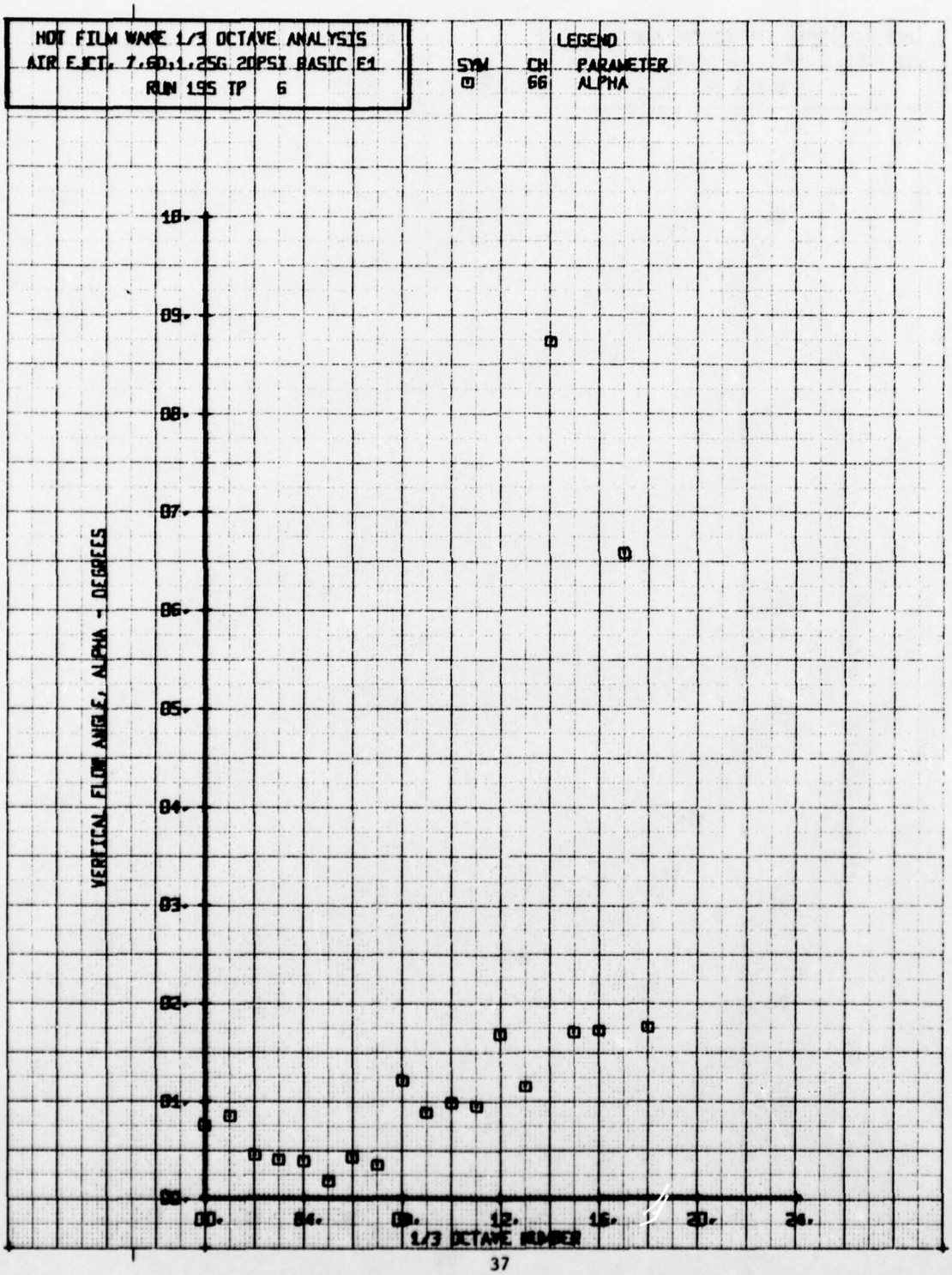

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR E.JET. 7.5D.1.25G 20PSI BASIC E1
RUN 155 TP 1
LEGEND
SYM DH PARAMETER
ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
1/3 OCTAVE NUMBER

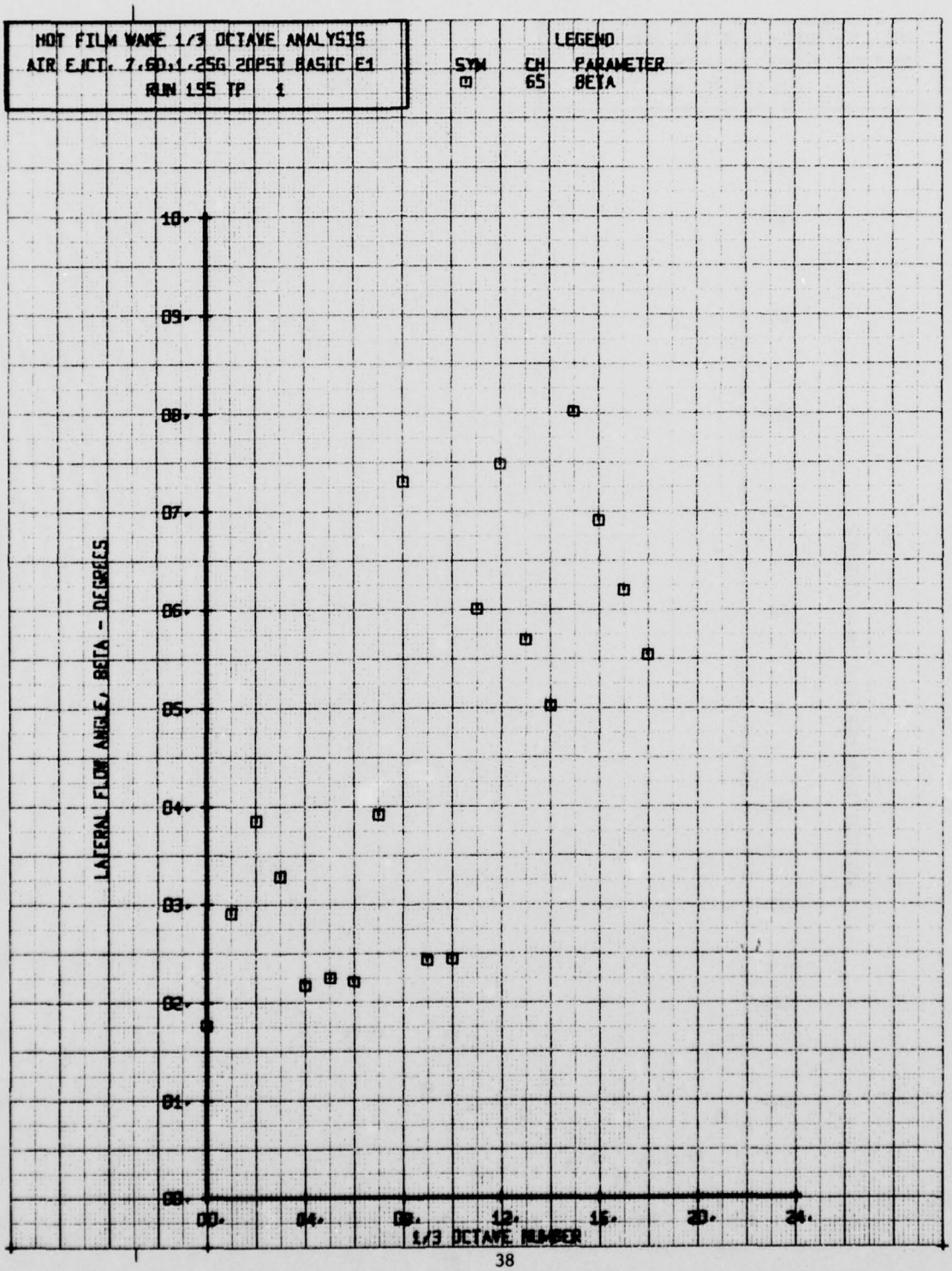

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.60,1.25G 20PSI BASIC E1
RUN 155 TP 2
LEGEND
SYM CH PARAMETER
68 ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
1/3 OCTAVE NUMBER
18.
09.
08.
07.
06.
05.
04.
03.
02.
01.
00.
00.
04.
08.
12.
16.
20.
24.

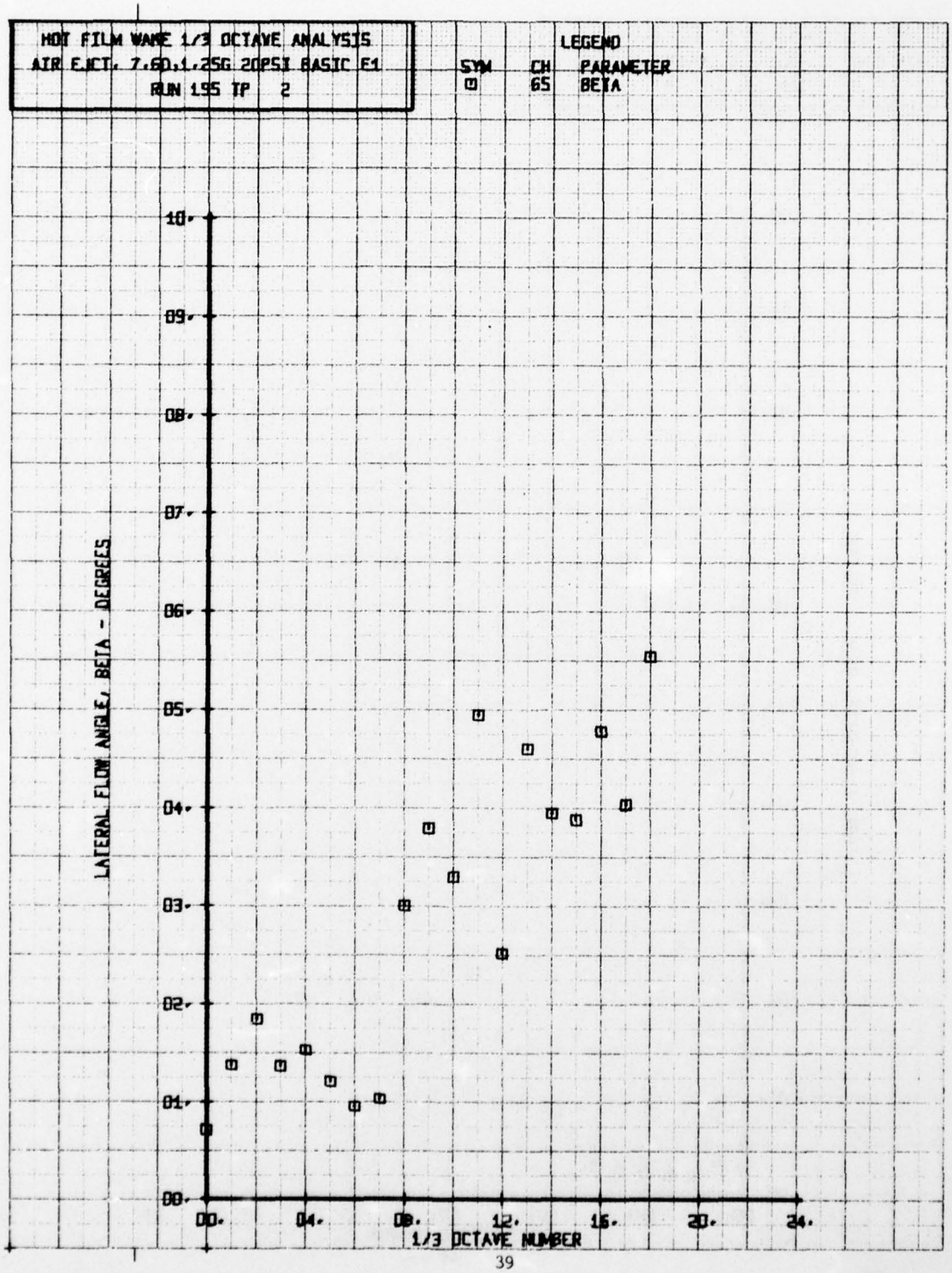

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.60,1.25G 20PSI BASIC E1
RUN 195 TP 3
LEGEND
SYM CH PARAMETER
66 ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
1/3 OCTAVE NUMBER

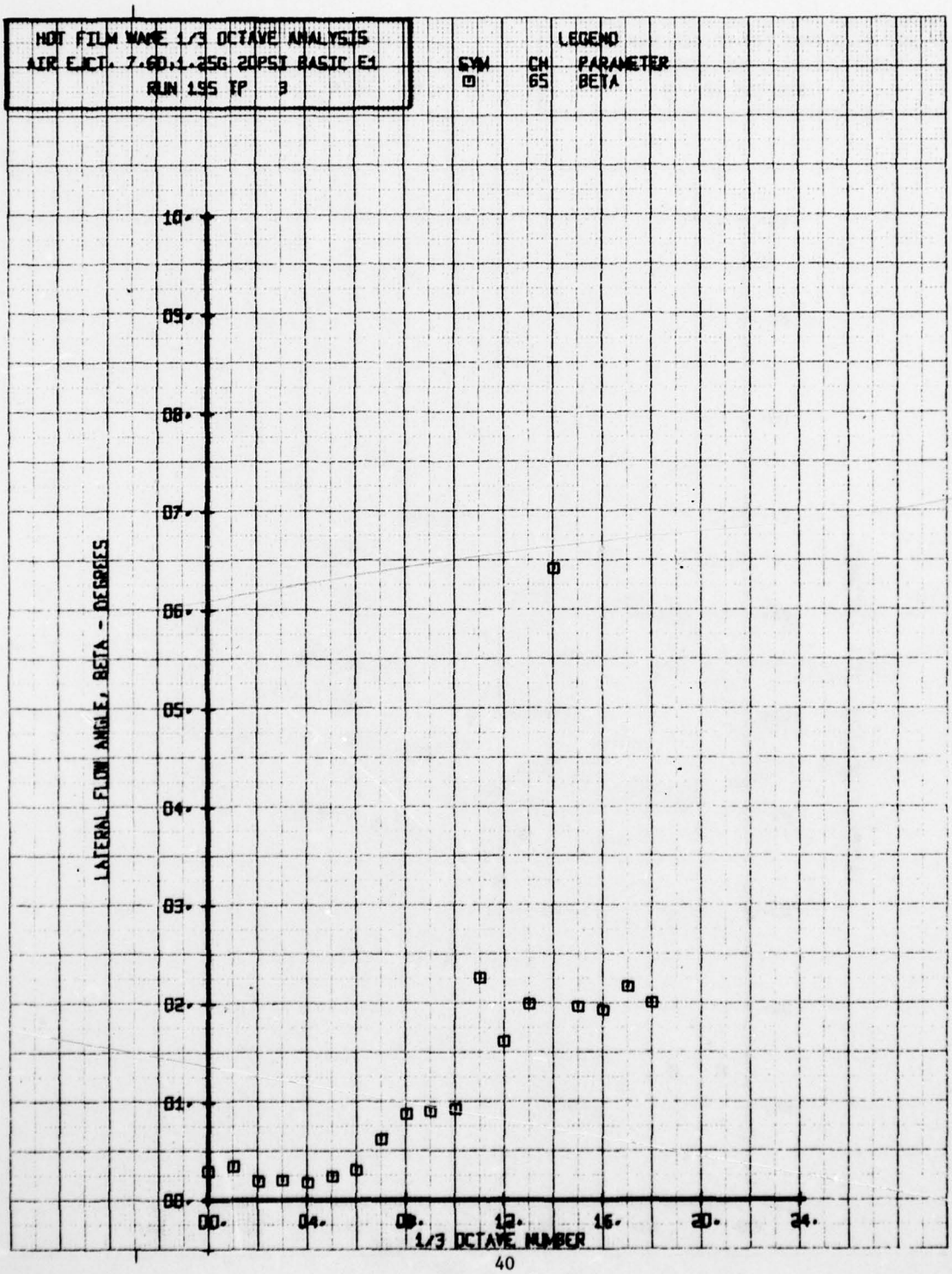

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.6D,1.25G 20PSI BASIC E1
RUN 195 TP 4
LEGEND
SYM CH PARAMETER
66 ALPHA
10.
09.
08.
07.
06.
05.
04.
03.
02.
01.
00.
VERTICAL FLOW ANGLE, ALPHA - DEGREES
00.
04.
08.
12.
16.
20.
24.
1/3 OCTAVE NUMBER

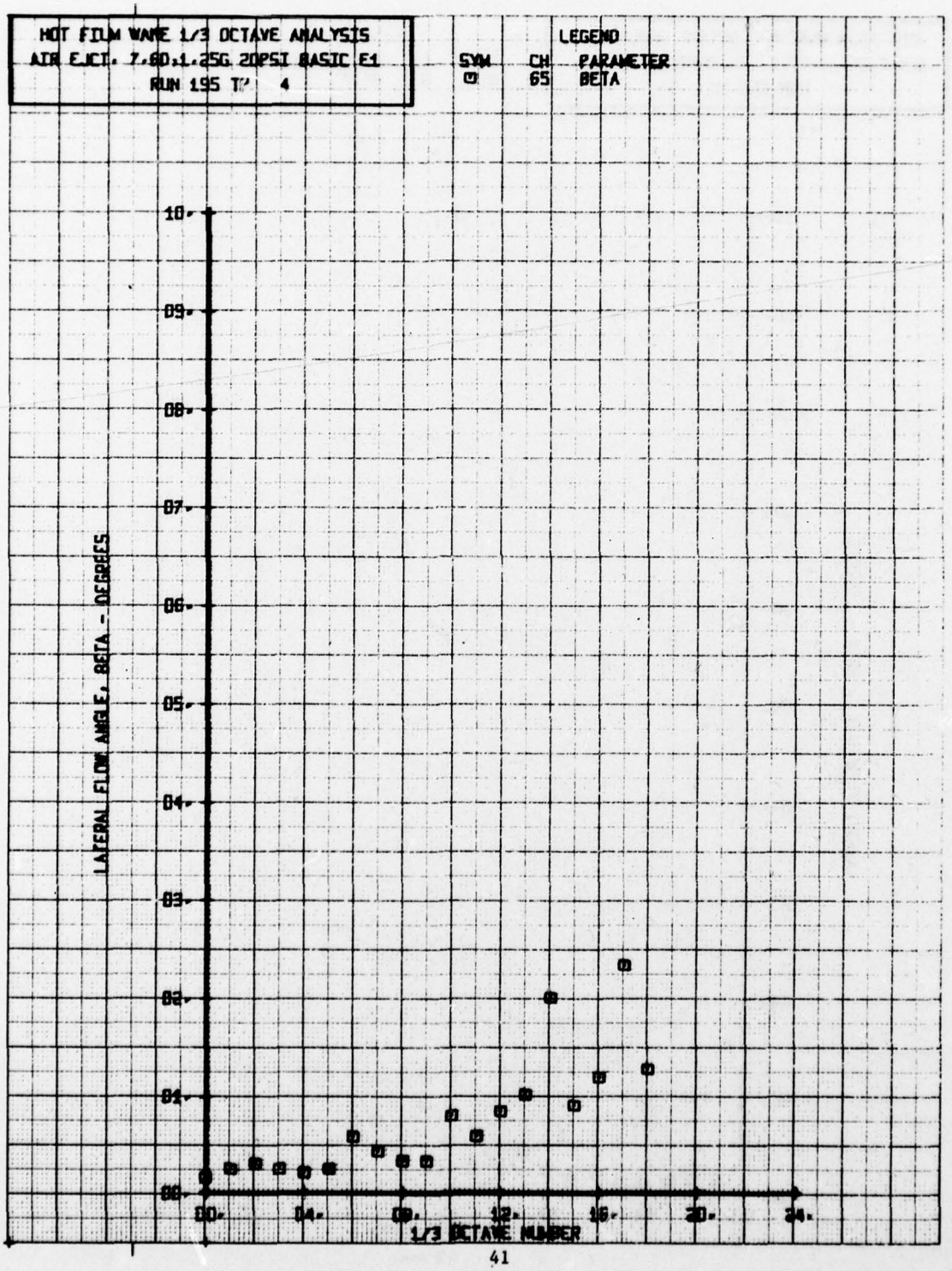

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.6D,1.25G 20PSI BASIC E1
RUN 195 TP 5
LEGEND
SYM CH PARAMETER
66 ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
1/3 OCTAVE NUMBER
10.
09.
08.
07.
06.
05.
04.
03.
02.
01.
00.
00.
04.
08.
12.
16.
20.
24.


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.60,1.25G 20PSI BASIC E1
RUN 195 TP 6
LEGEND
SYM CH PARAMETER
66 ALPHA
10.
09.
08.
07.
06.
05.
04.
03.
02.
01.
00.
04.
08.
12.
16.
20.
24.
VERTICAL FLOW ANGLE, ALPHA - DEGREES
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.6D,1.25G 20PSI BASIC E1
RUN 195 TP 1
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
1/3 OCTAVE NUMBER
00.
04.
08.
12.
16.
20.
24.


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.60,1.25G 20PSI BASIC E1
RUN 195 TP 2
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
10.
09.
08.
07.
06.
05.
04.
03.
02.
01.
00.
00.
04.
08.
12.
16.
20.
24.
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.6D.1.25G 20PSI BASIC E1
RUN 195 TP 3
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
10.
09.
08.
07.
06.
05.
04.
03.
02.
01.
00.
00.
04.
08.
12.
16.
20.
24.
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.60.1.25G 20PSI BASIC E1
RUN 195 T/ 4
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
10.
09.
08.
07.
06.
05.
04.
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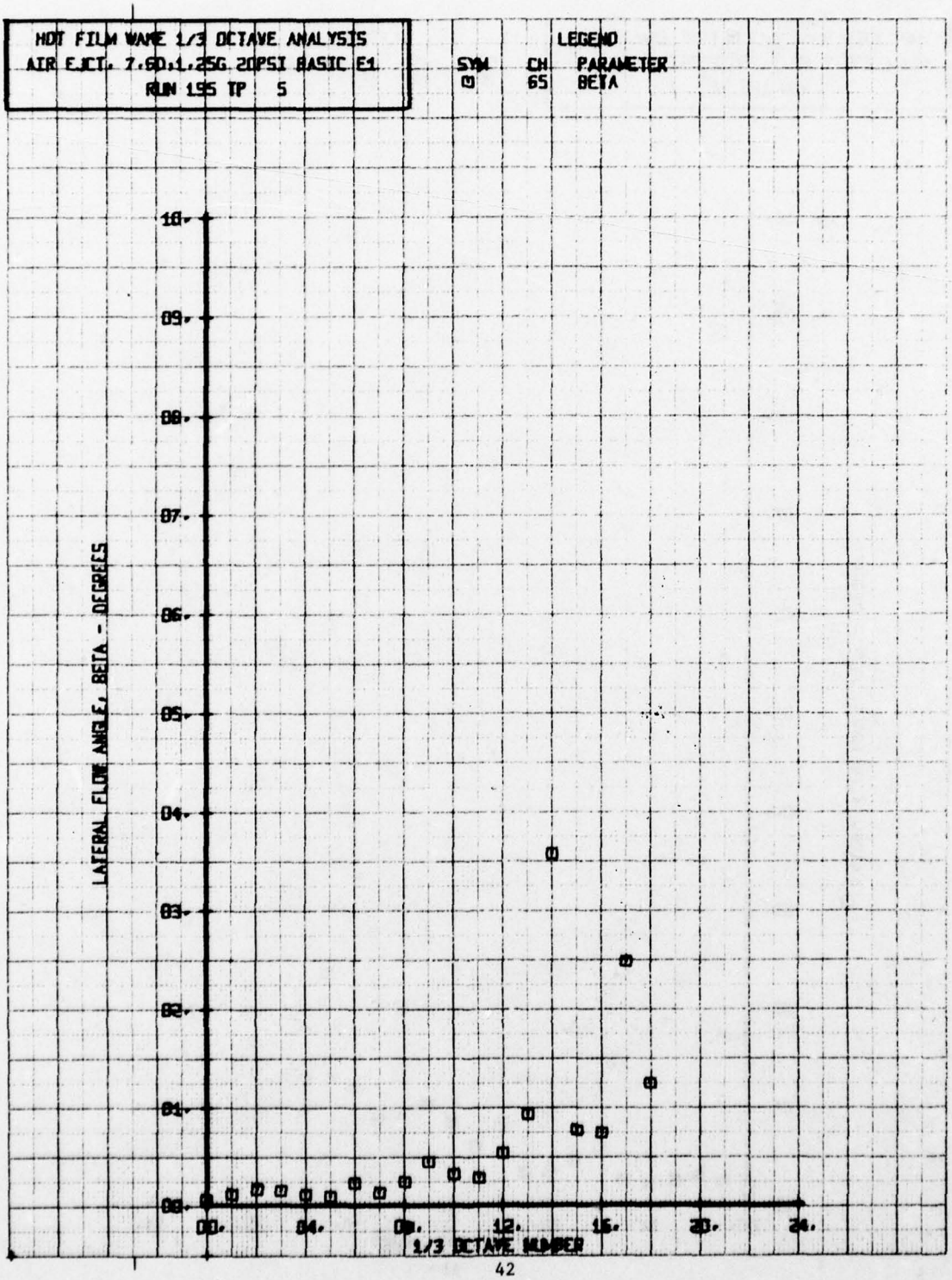
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.6D,1.25G 20PSI BASIC E1
RUN 195 TP 5
LEGEND
SYM CH PARAMETER
65 BETA
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LATERAL FLOW ANGLE, BETA - DEGREES
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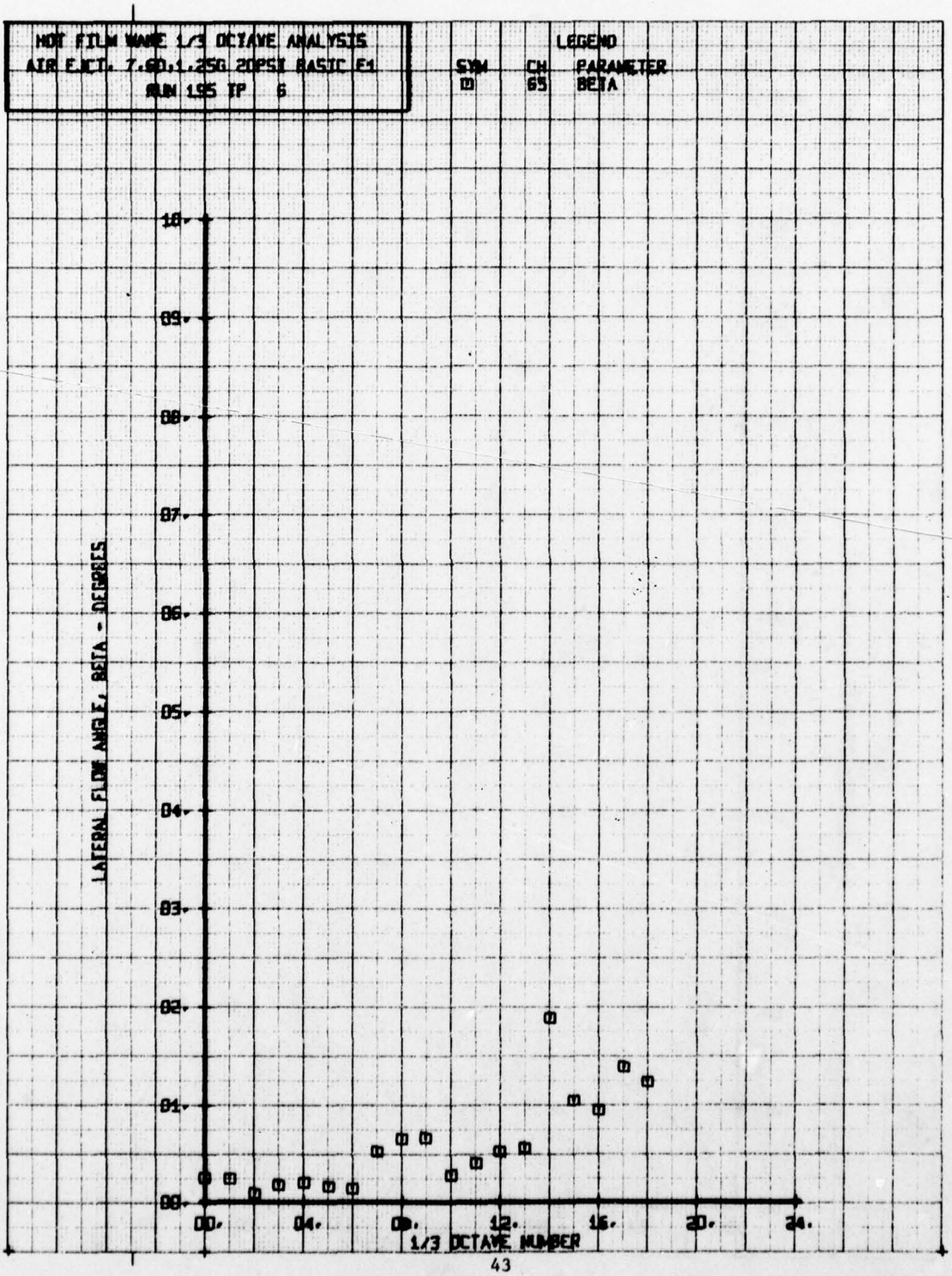
1/3 OCTAVE NUMBER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AIR EJCT. 7.5D,1.25G 20PSI BASIC E1
RUN 195 TP 6
LEGEND
SYM CH PARAMETER
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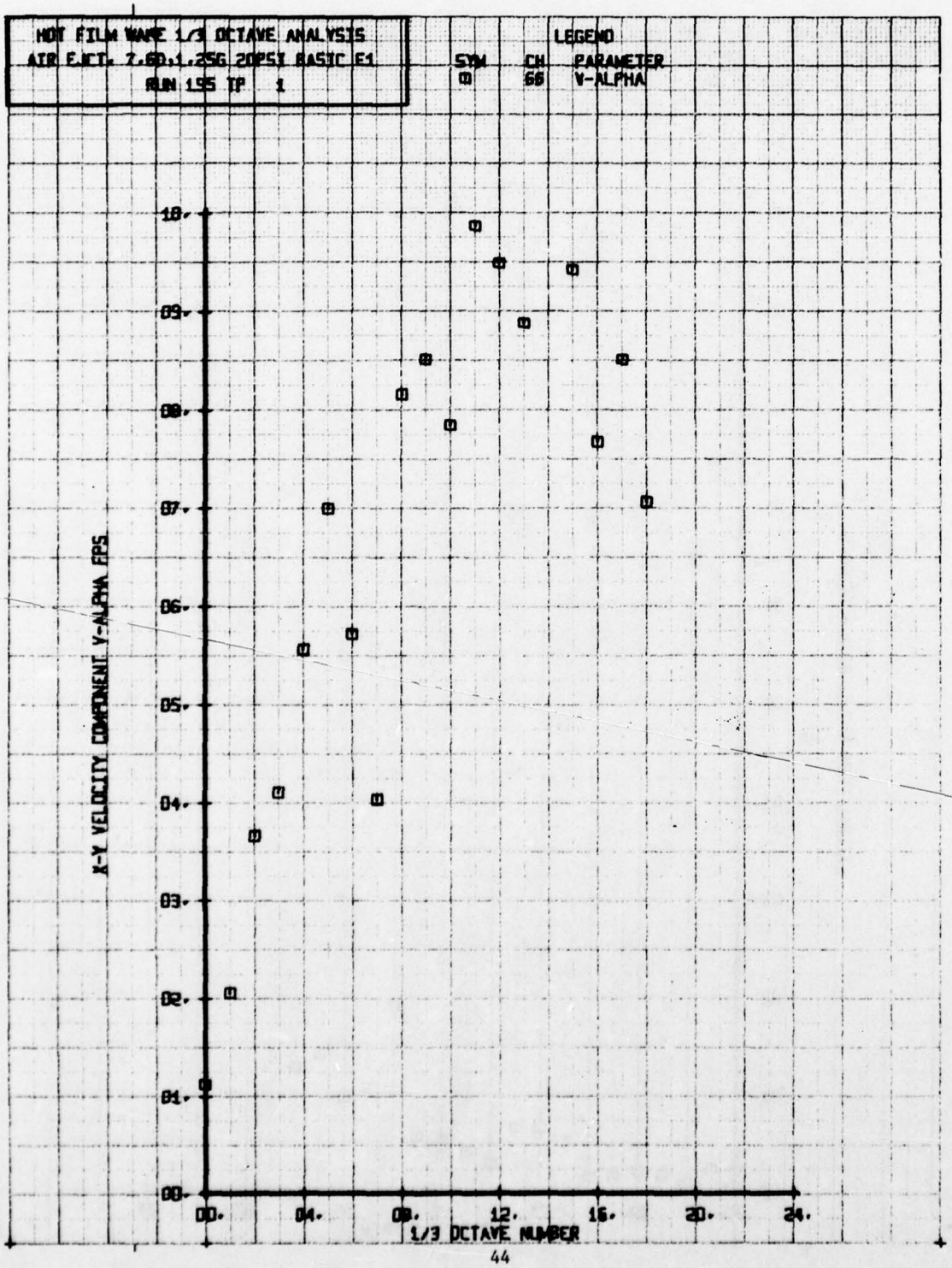
LATERAL FLOW ANGLE, BETA - DEGREES
1/3 OCTAVE NUMBER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AIR EJCT. 7.6D,1.25G 20PSI BASIC E1
RUN 195 TP 1
LEGEND
SYM CH PARAMETER
66 V-ALPHA
X-Y VELOCITY COMPONENT V-ALPHA FPS
1/3 OCTAVE NUMBER
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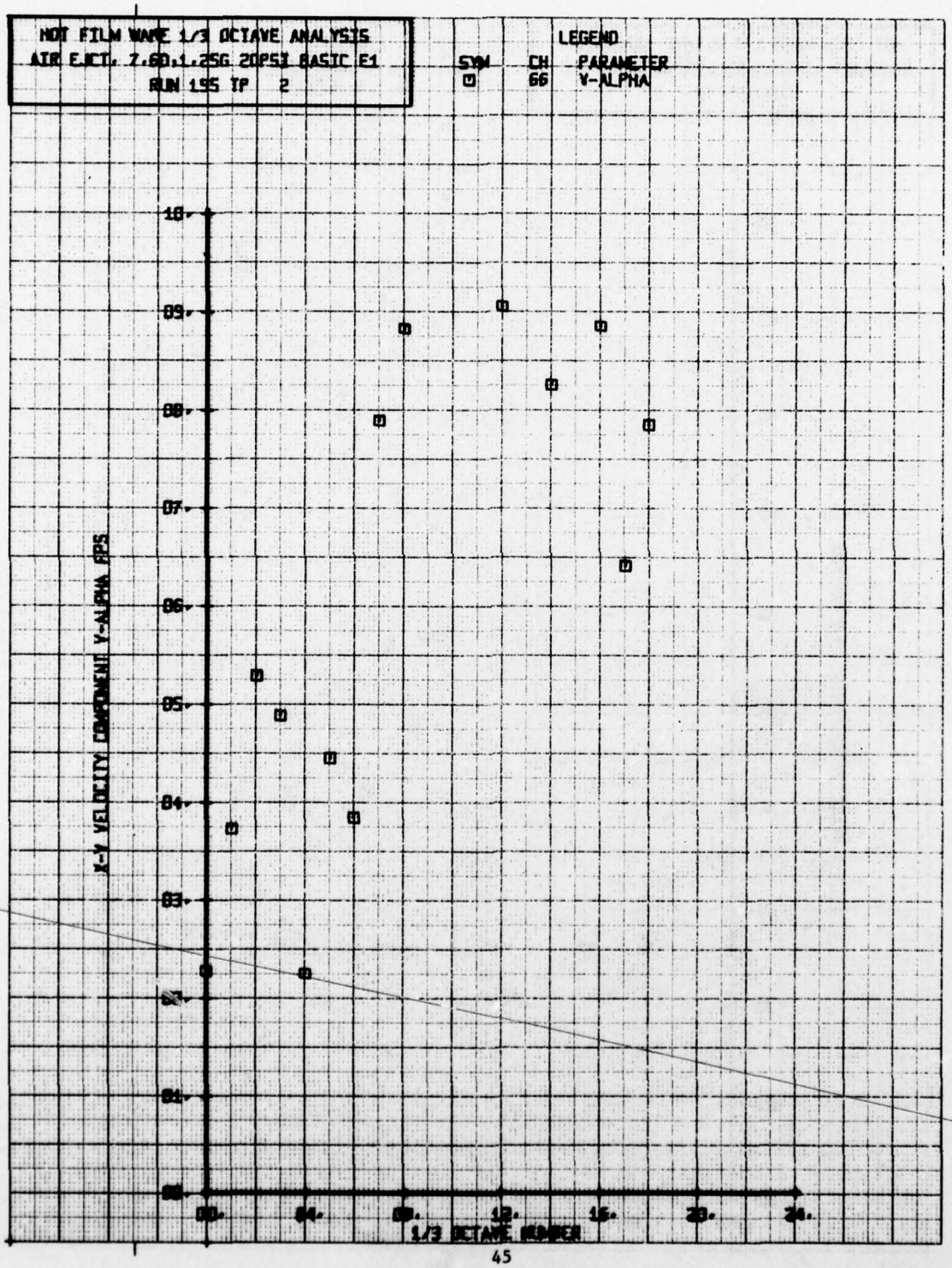
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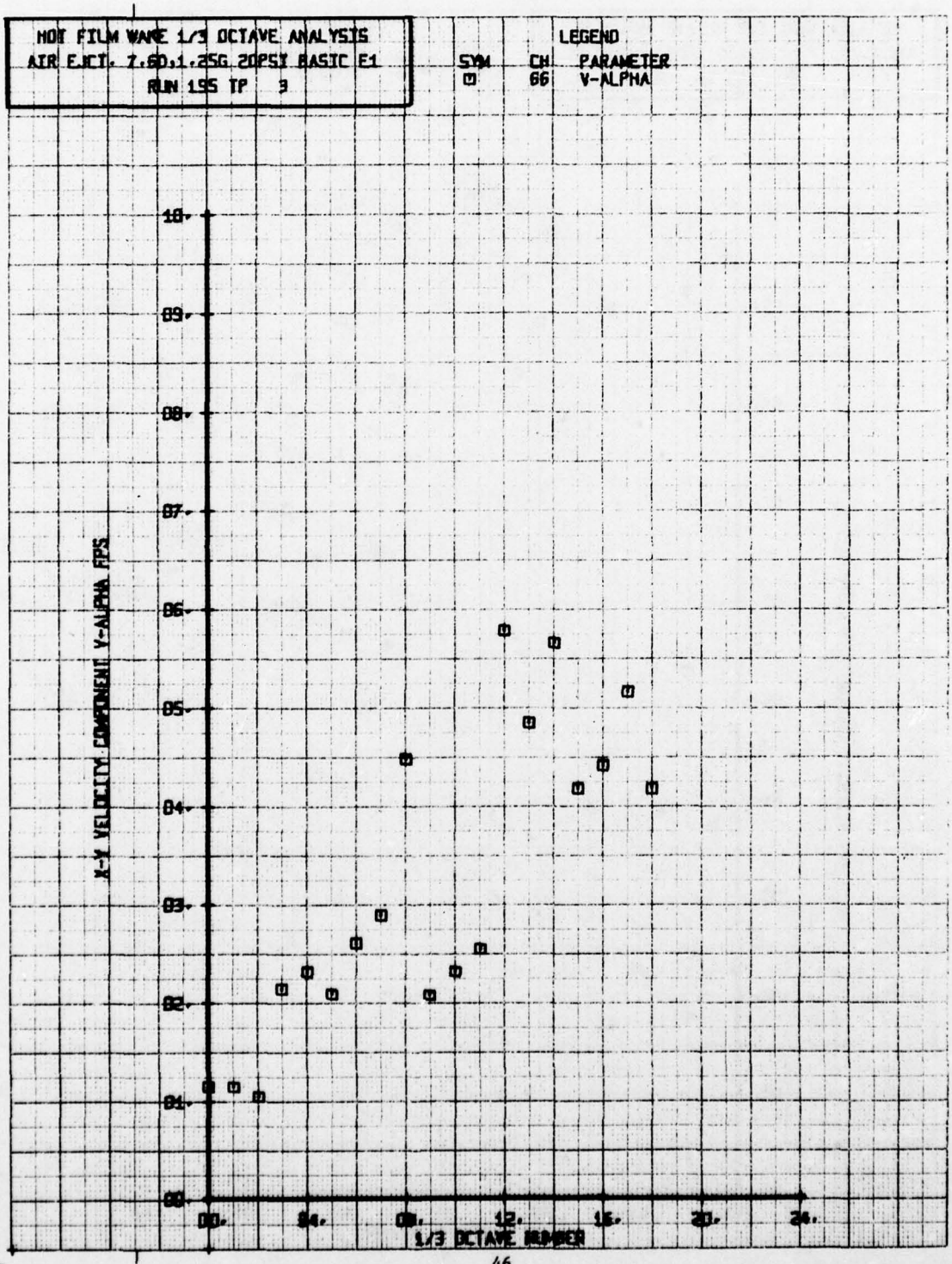
AIR EJCTI. 7.60,1.25G 20PSI BASIC E1
RUN 195 TP 2
LEGEND
SYM CH PARAMETER
66 Y-ALPHA
X-V VELOCITY COMPONENT Y-ALPHA FPS
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.6D,1.25G 20PSI BASIC E1
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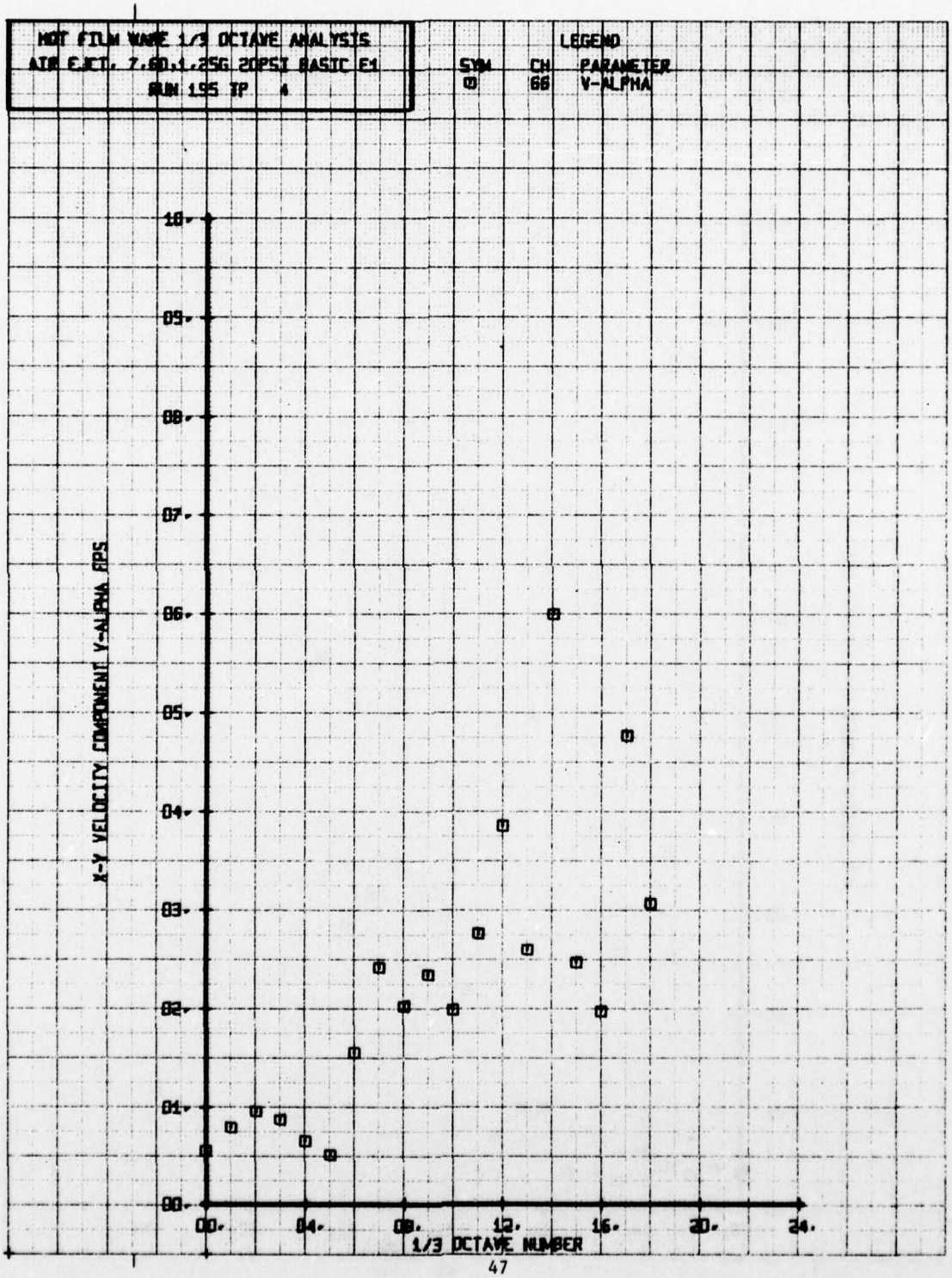
LEGEND
SYM CH PARAMETER
66 V-ALPHA
X-V VELOCITY COMPONENT V-ALPHA FPS
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.60,1.25G 20PSI BASIC E1
RUN 195 TP 4
LEGEND
SYM CH PARAMETER
68 V-ALPHA
X-Y VELOCITY COMPONENT Y-ALPHA FPS
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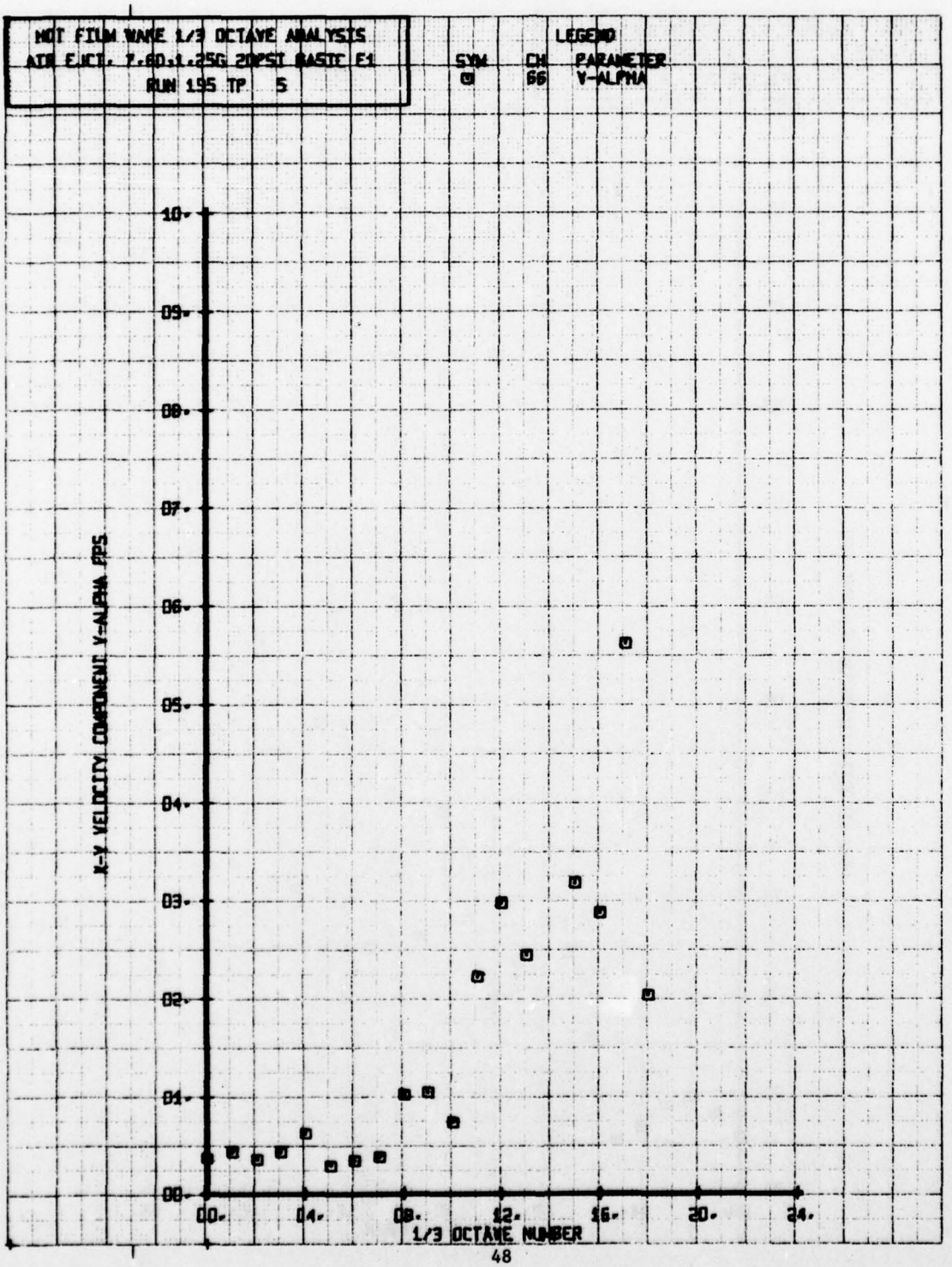
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.60,1.25G 20PSI BASIC E1
RUN 195 TP 5
LEGEND
SYM CH PARAMETER
66 V-ALPHA
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X-V VELOCITY COMPONENT V-ALPHA FPS
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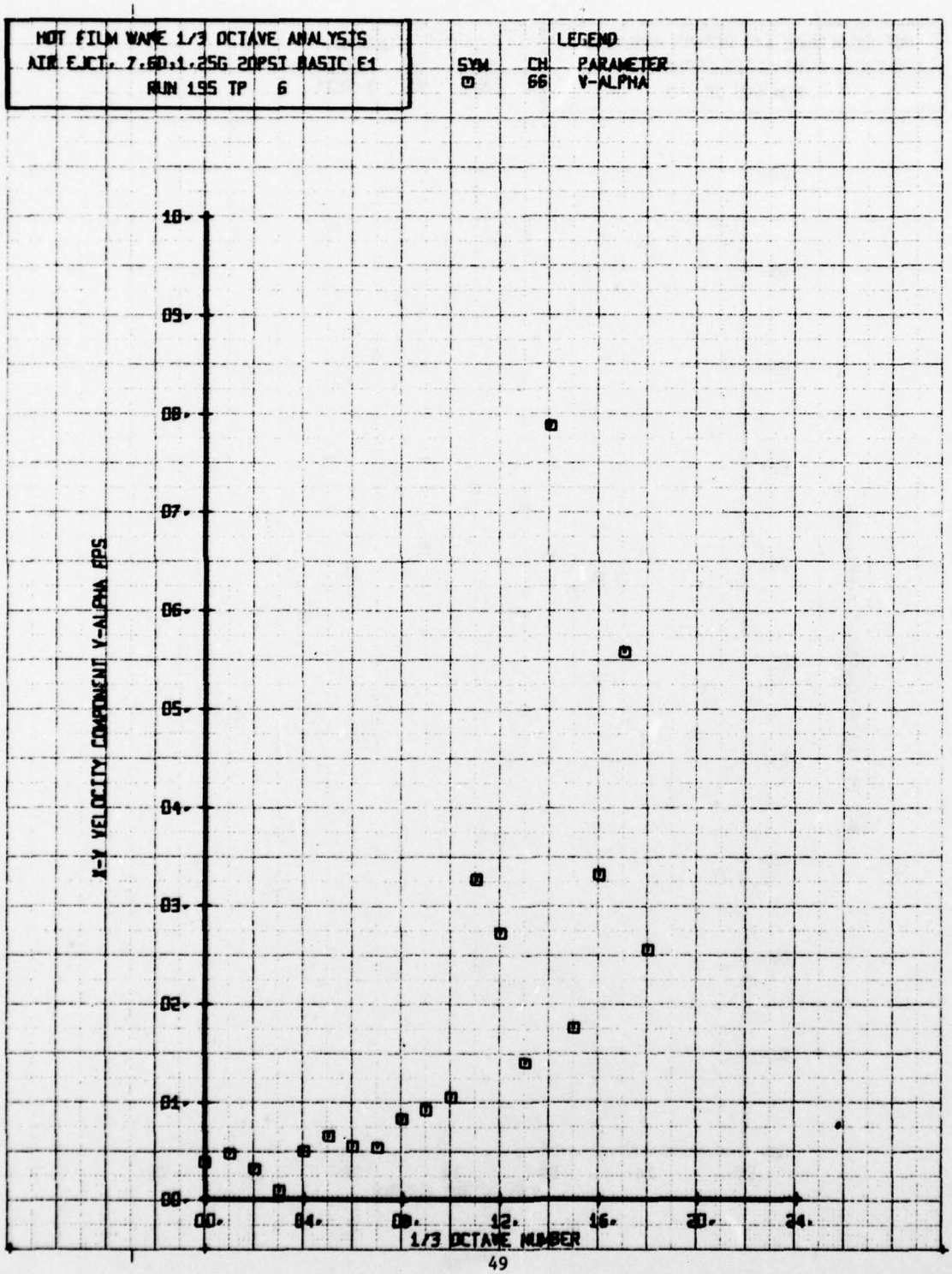
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.60,1.25G 20PSI BASIC E1
RUN 195 TP 6
LEGEND
SYM CH PARAMETER
66 V-ALPHA
X-Y VELOCITY COMPONENT V-ALPHA #PS
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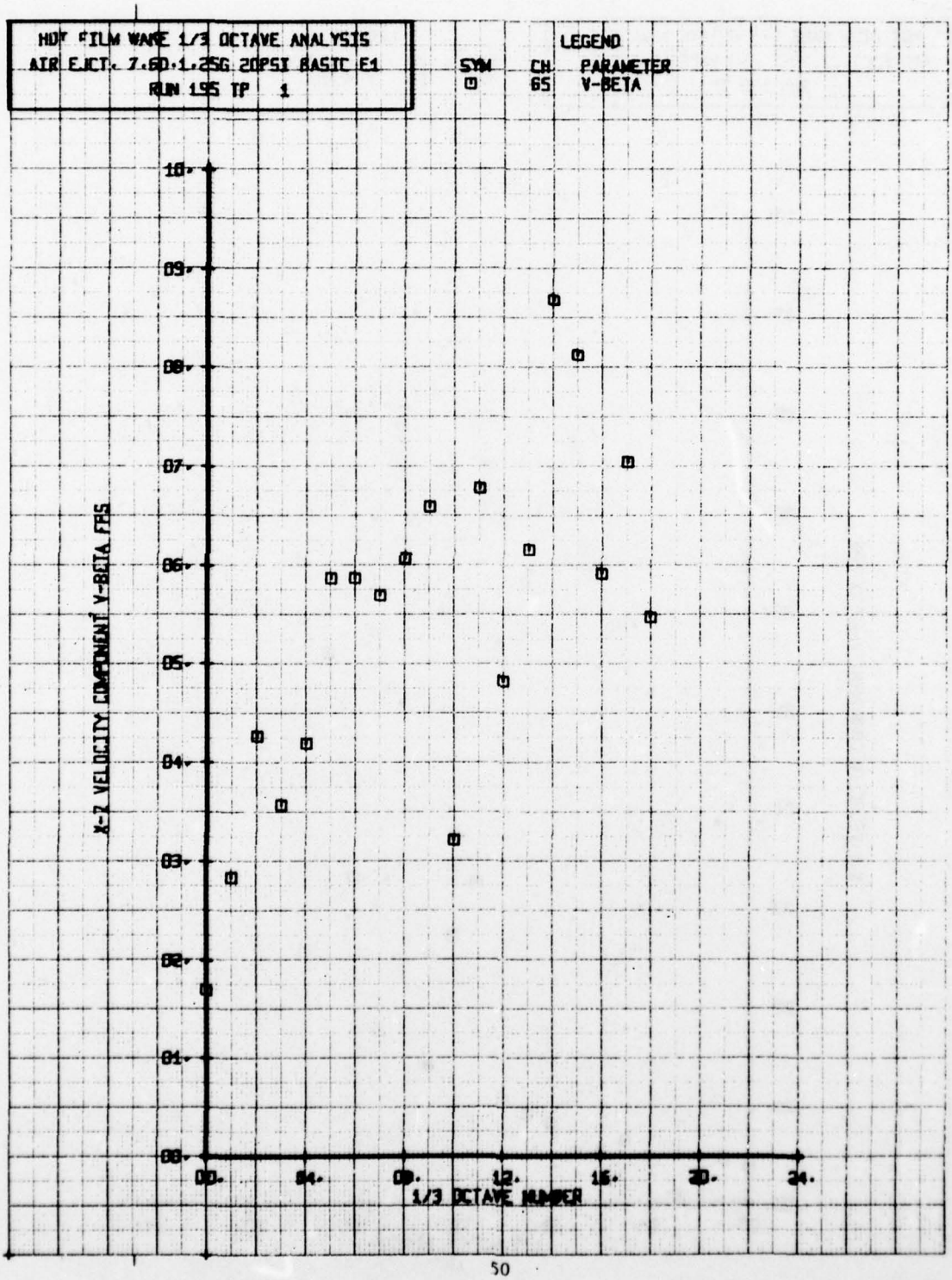
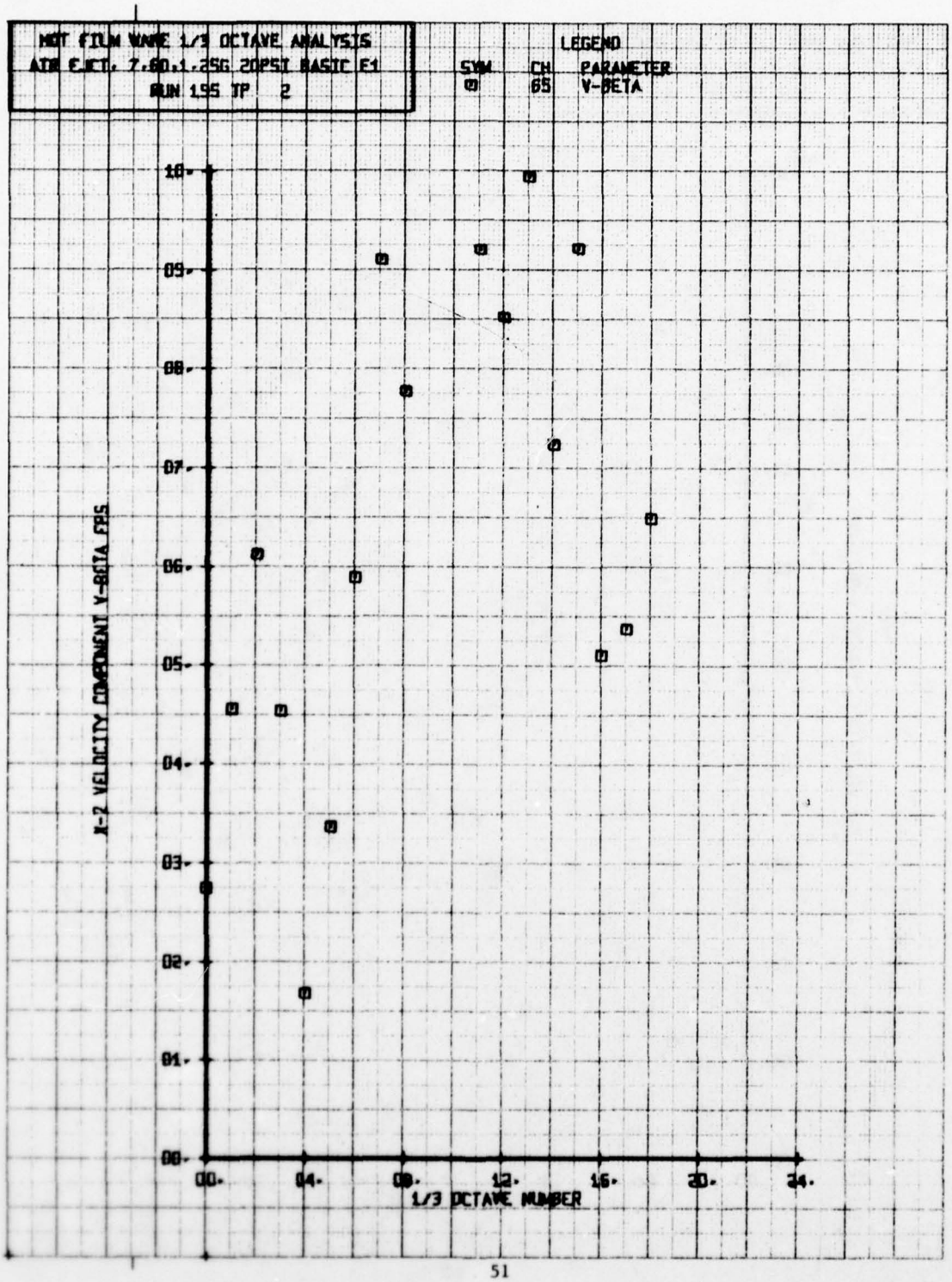

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.60.1.25G 20PSI BASIC E1
RUN 195 TP 1
LEGEND
SYM CH PARAMETER
65 V-BETA
X-Z VELOCITY COMPONENT V-BETA FPS
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.60,1.25G 20PSI BASIC E1
RUN 155 TP 2
LEGEND
SYM CH PARAMETER
65 V-BETA
X-2 VELOCITY COMPONENT V-BETA FPS
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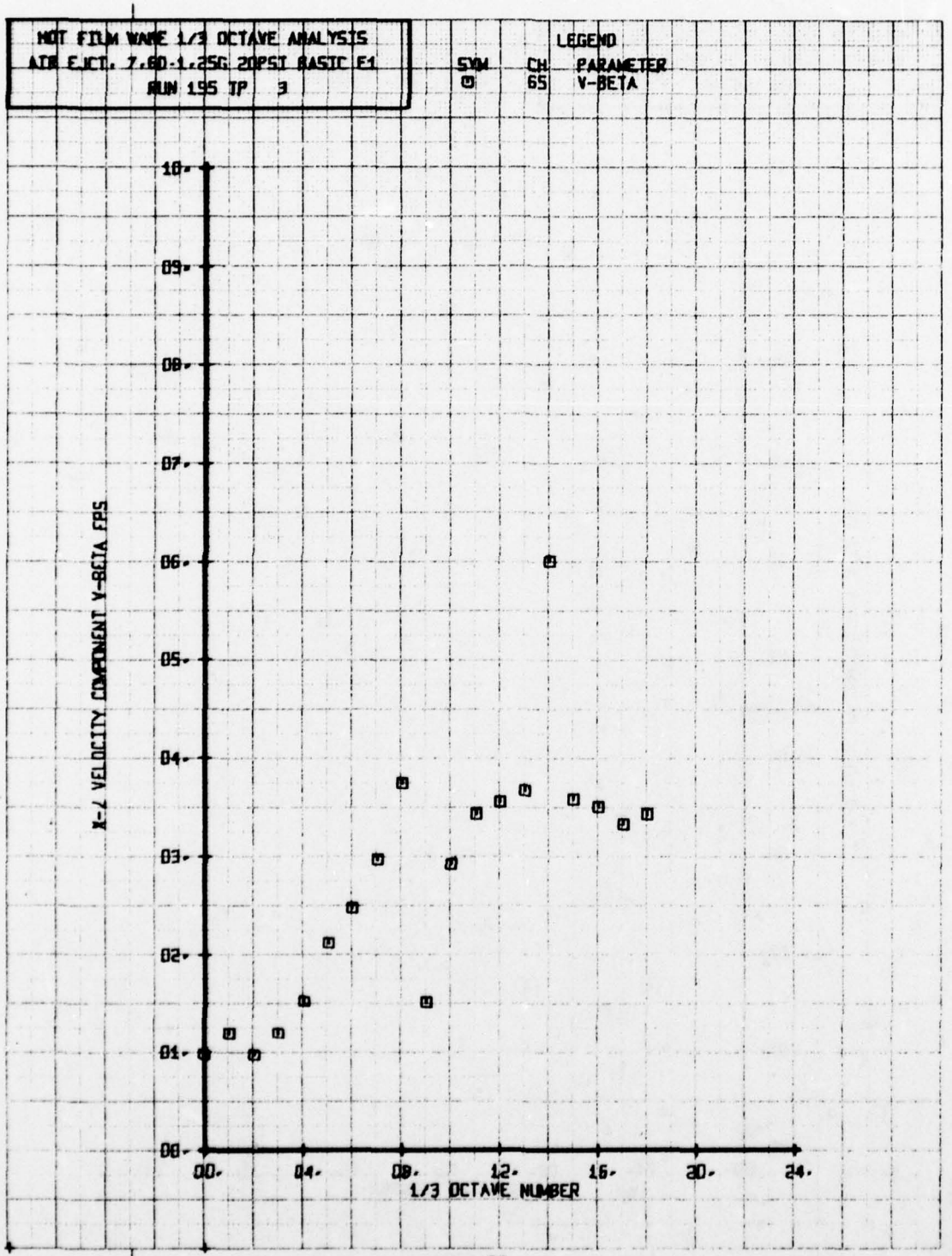
HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.80-1.25G 20PSI BASIC E1
RUN 195 TP 3
LEGEND
SYM CH PARAMETER
65 V-BETA
X-Z VELOCITY COMPONENT V-BETA FPS
1/3 OCTAVE NUMBER
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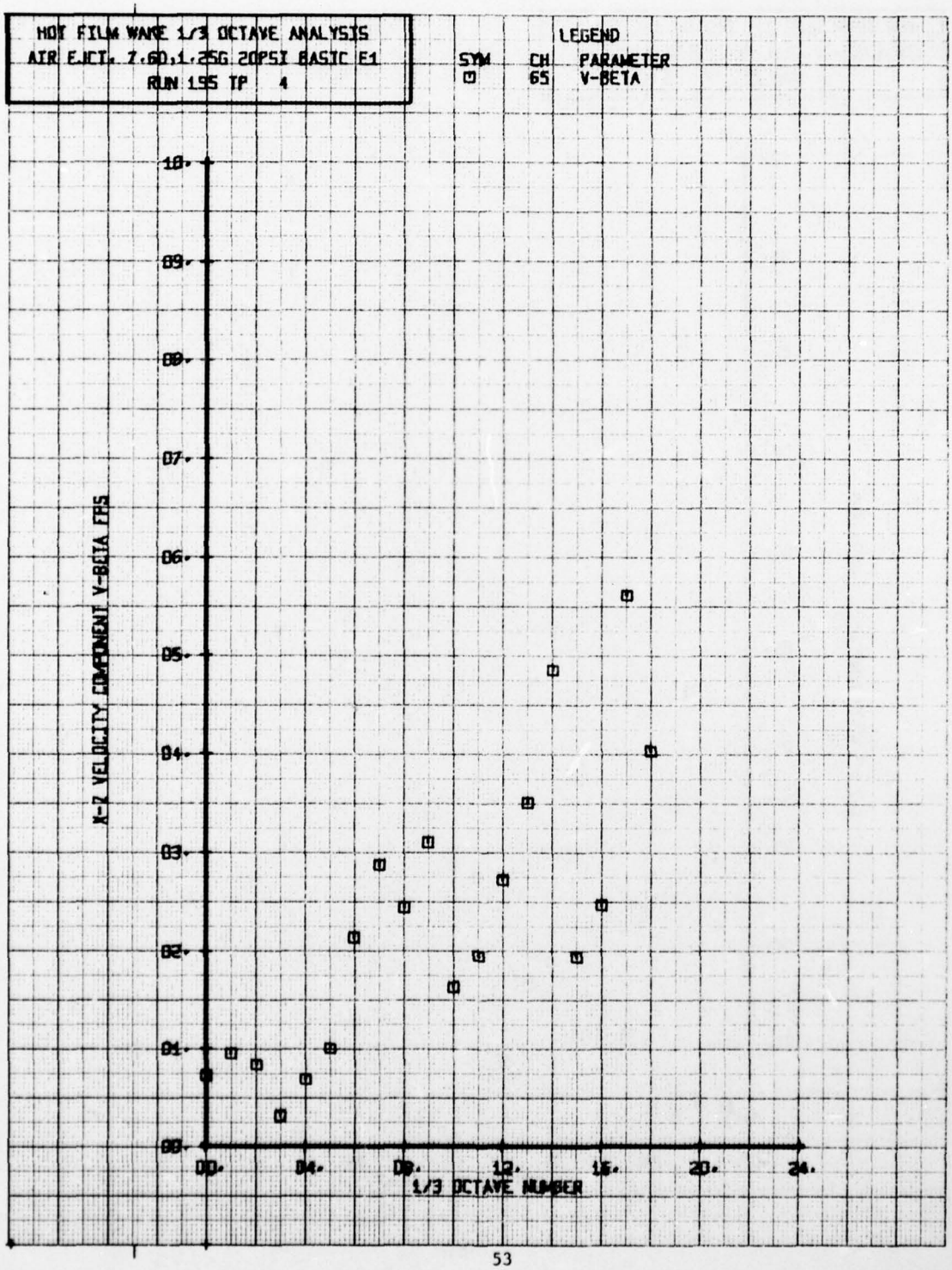
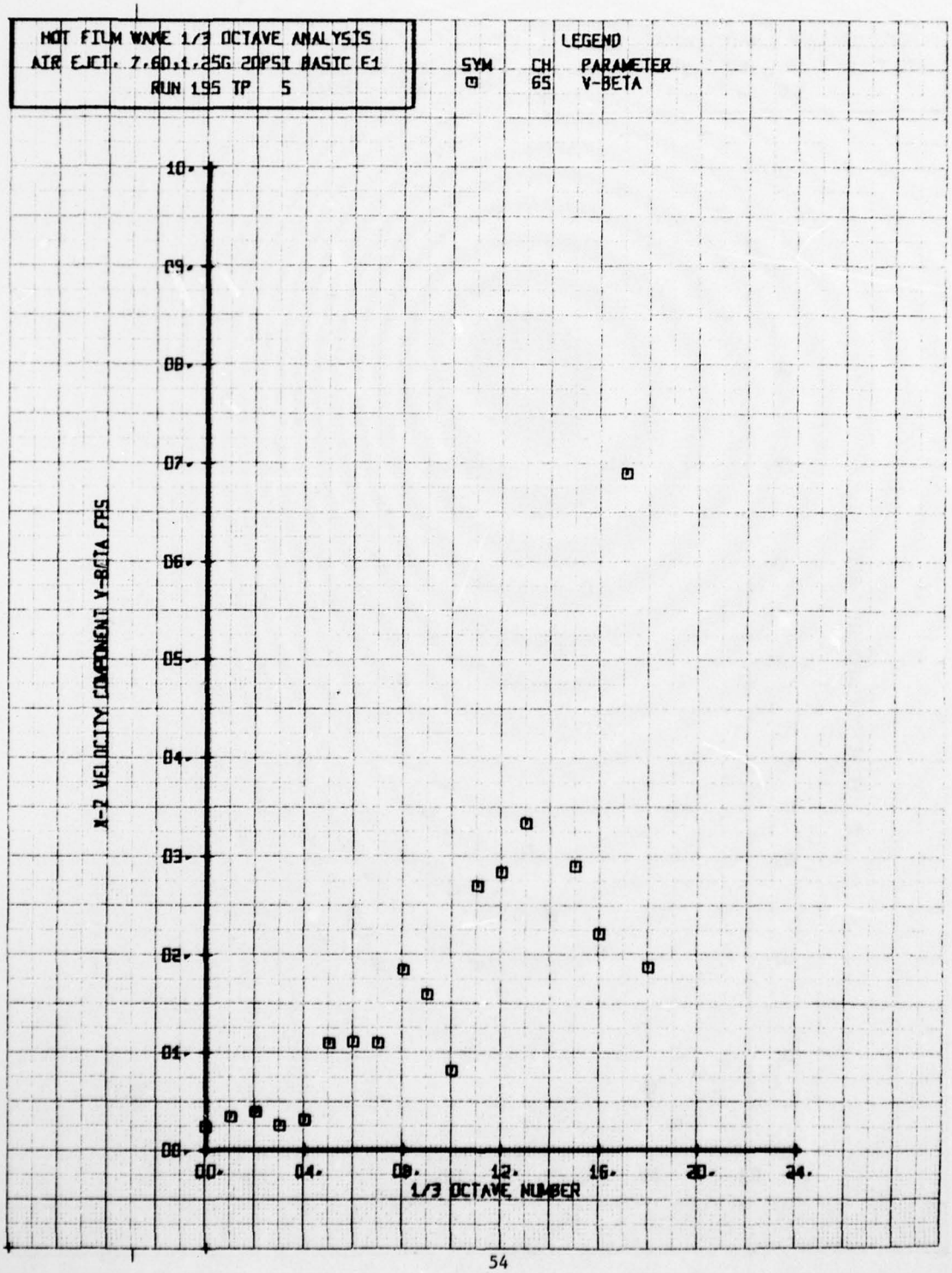

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.60,1.25G 20PSI BASIC F1
RUN 195 TP 4
LEGEND
SYM CH PARAMETER
65 V-BETA
X-Z VELOCITY COMPONENT V-BETA FPS
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.60,1.25G 20PSI BASIC E1
RUN 195 TP 5
LEGEND
SYM CH PARAMETER
65 V-BETA
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X-Z VELOCITY COMPONENT V-BETA FPS
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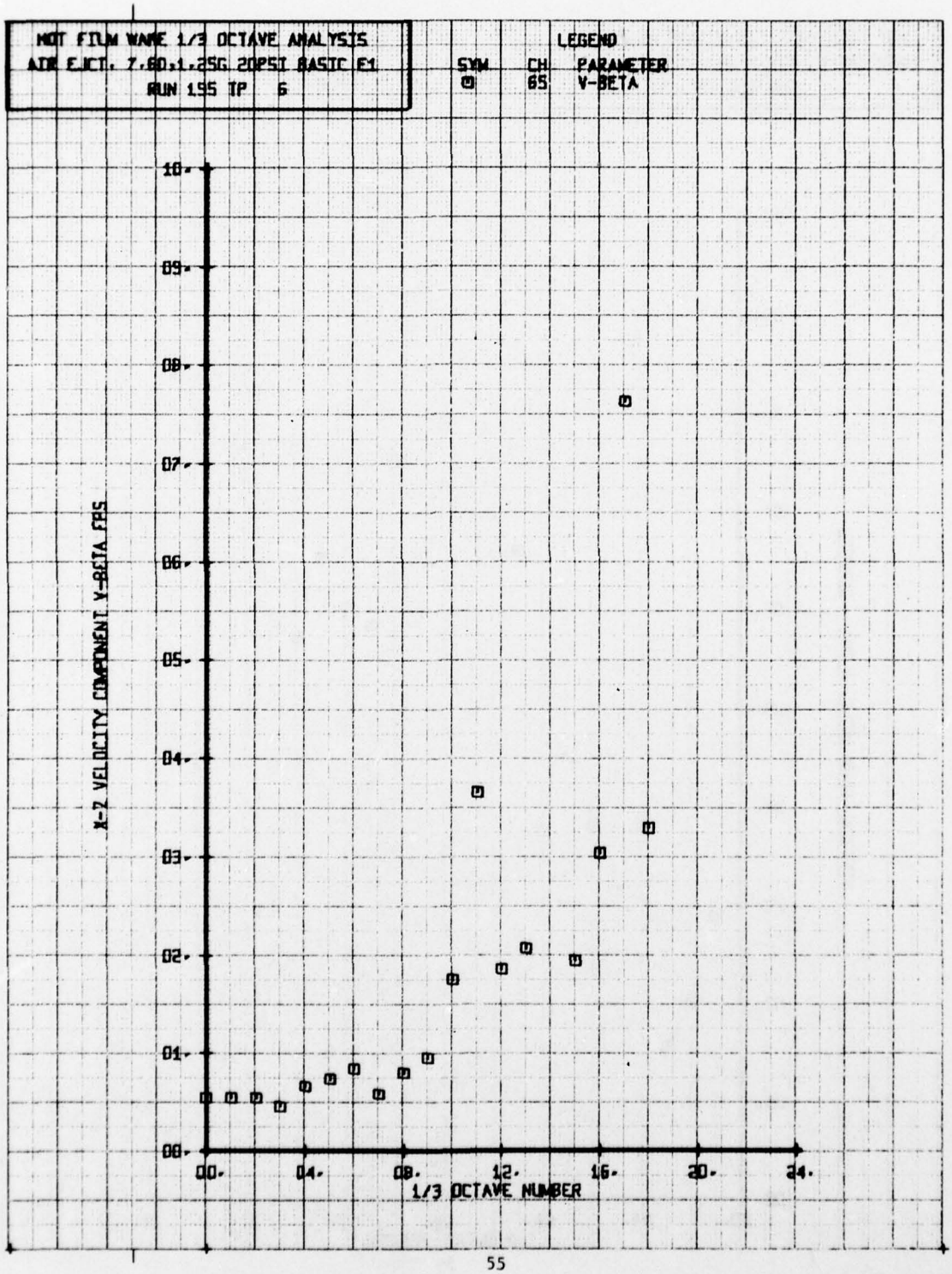
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.60,1.25G 20PSI BASIC E1
RUN 195 TP 6
LEGEND
SYM CH PARAMETER
65 V-BETA
X-Z VELOCITY COMPONENT V-BETA FPS
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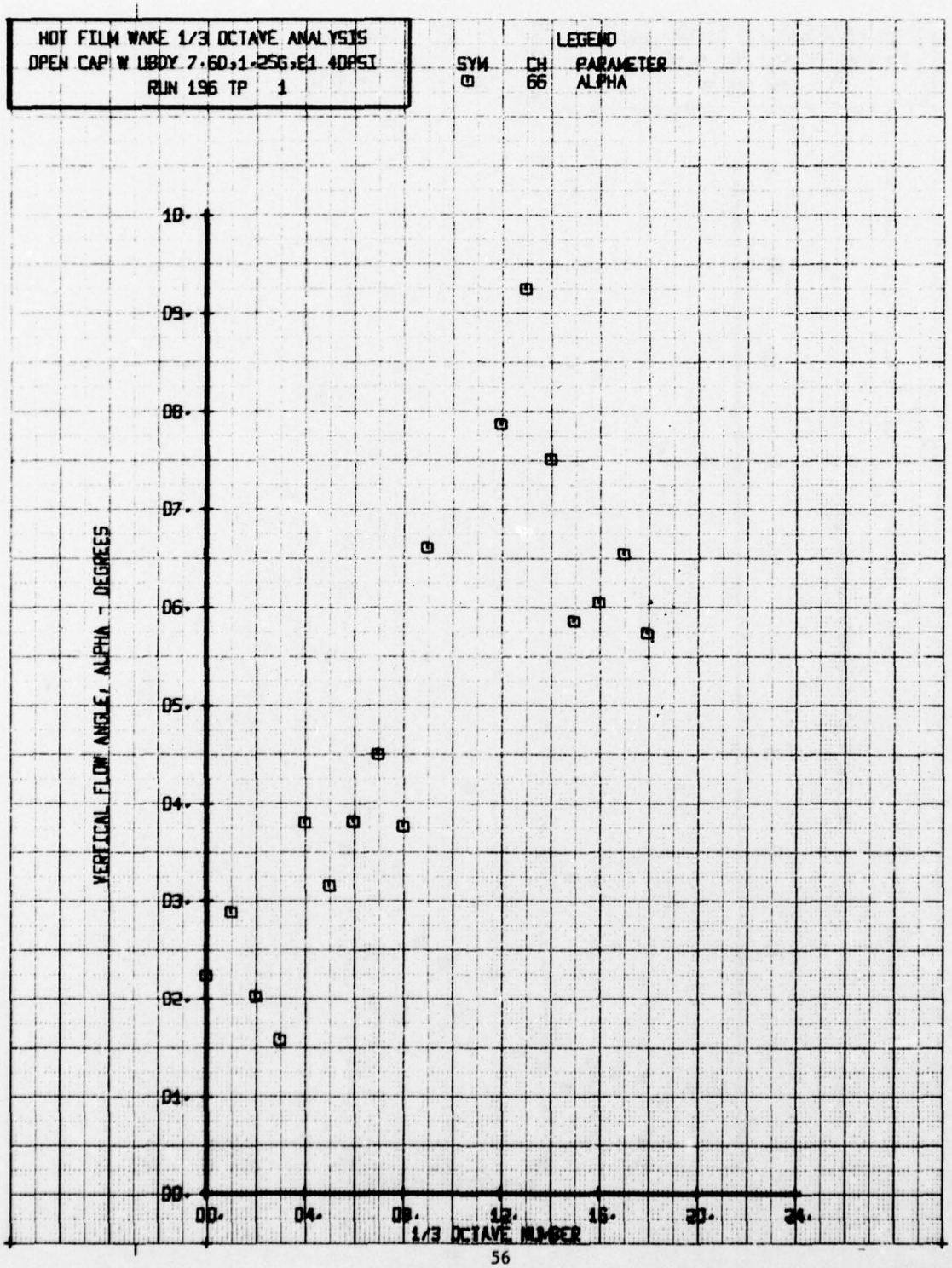
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W UBDY 7.60,1.256,E1 40PSI
RUN 196 TP 1
LEGEND
SYM CH PARAMETER
66 ALPHA
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VERTICAL FLOW ANGLE, ALPHA - DEGREES
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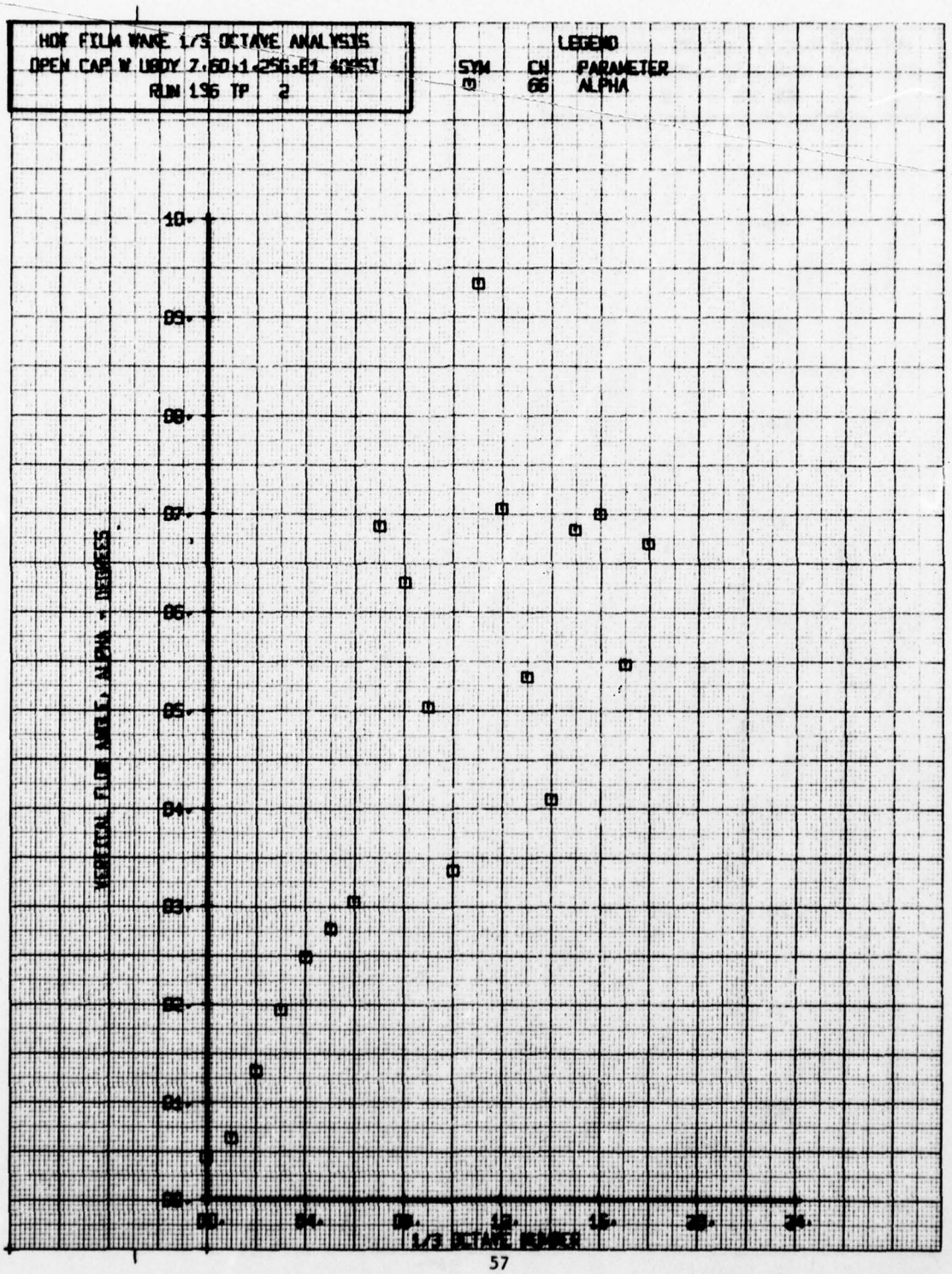
HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W.UBDY 7.60,1.256,E1 40ESI
RUN 196 TP 2
LEGEND
SYM CH PARAMETER
66 ALPHA
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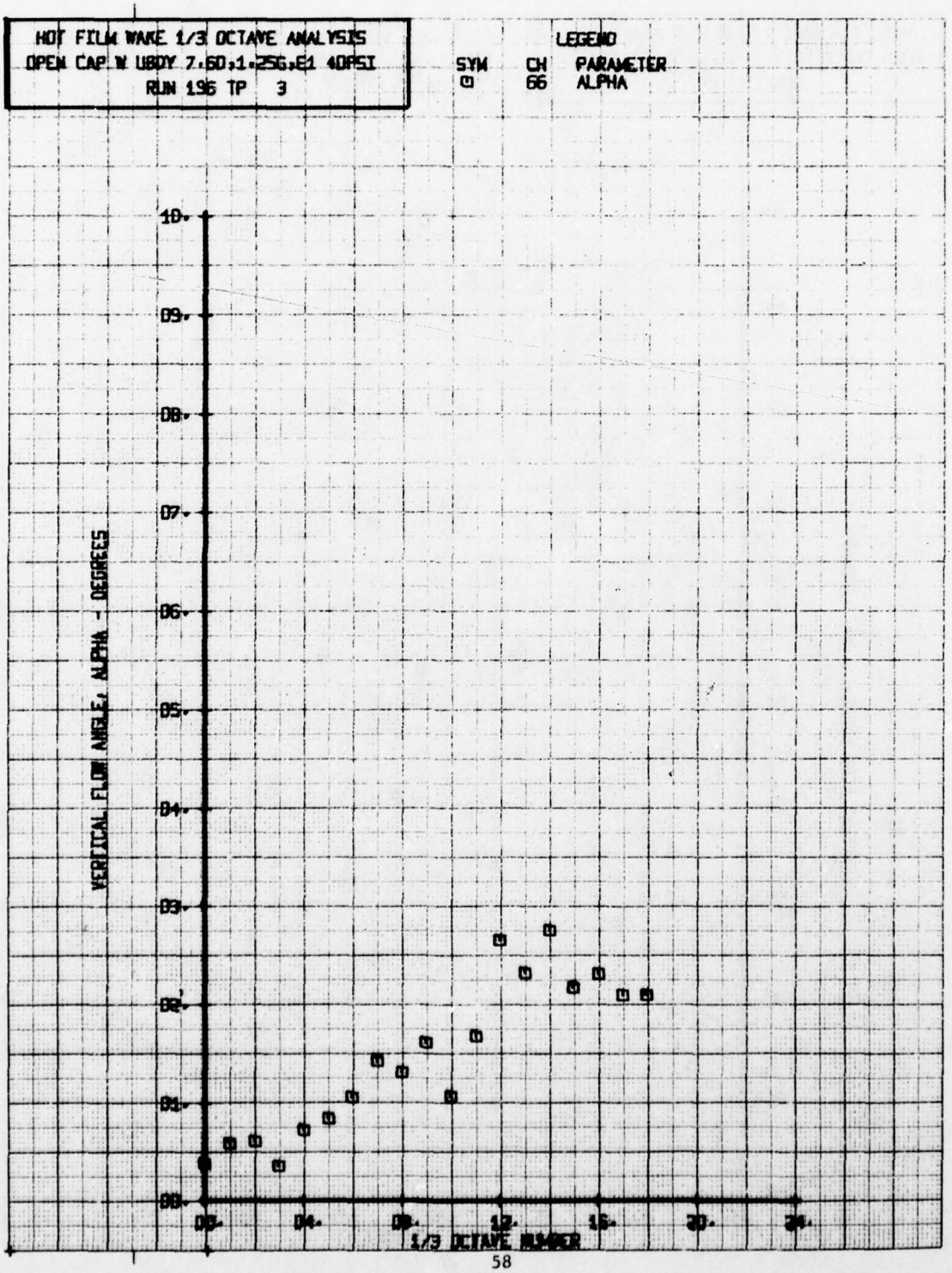
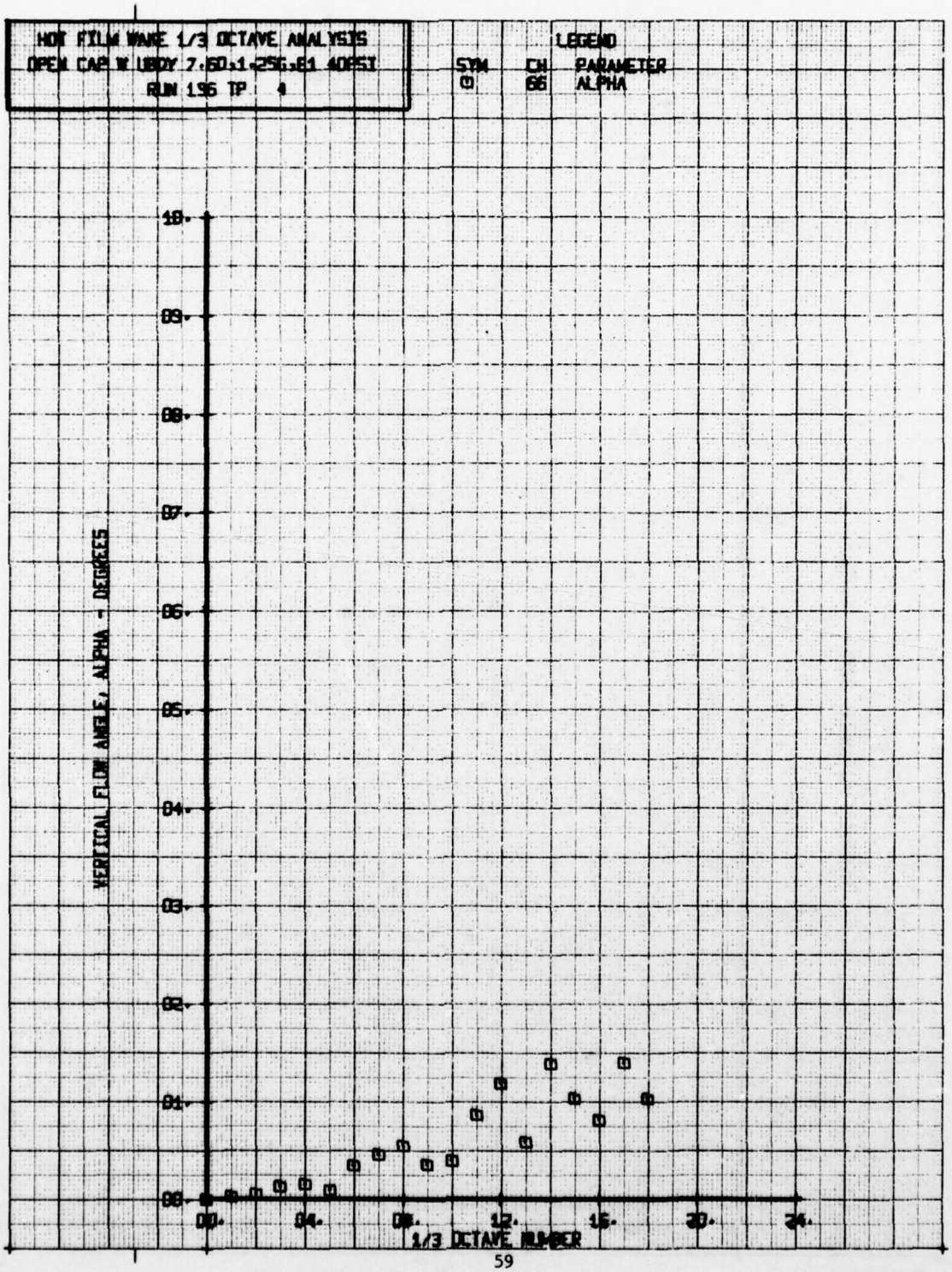
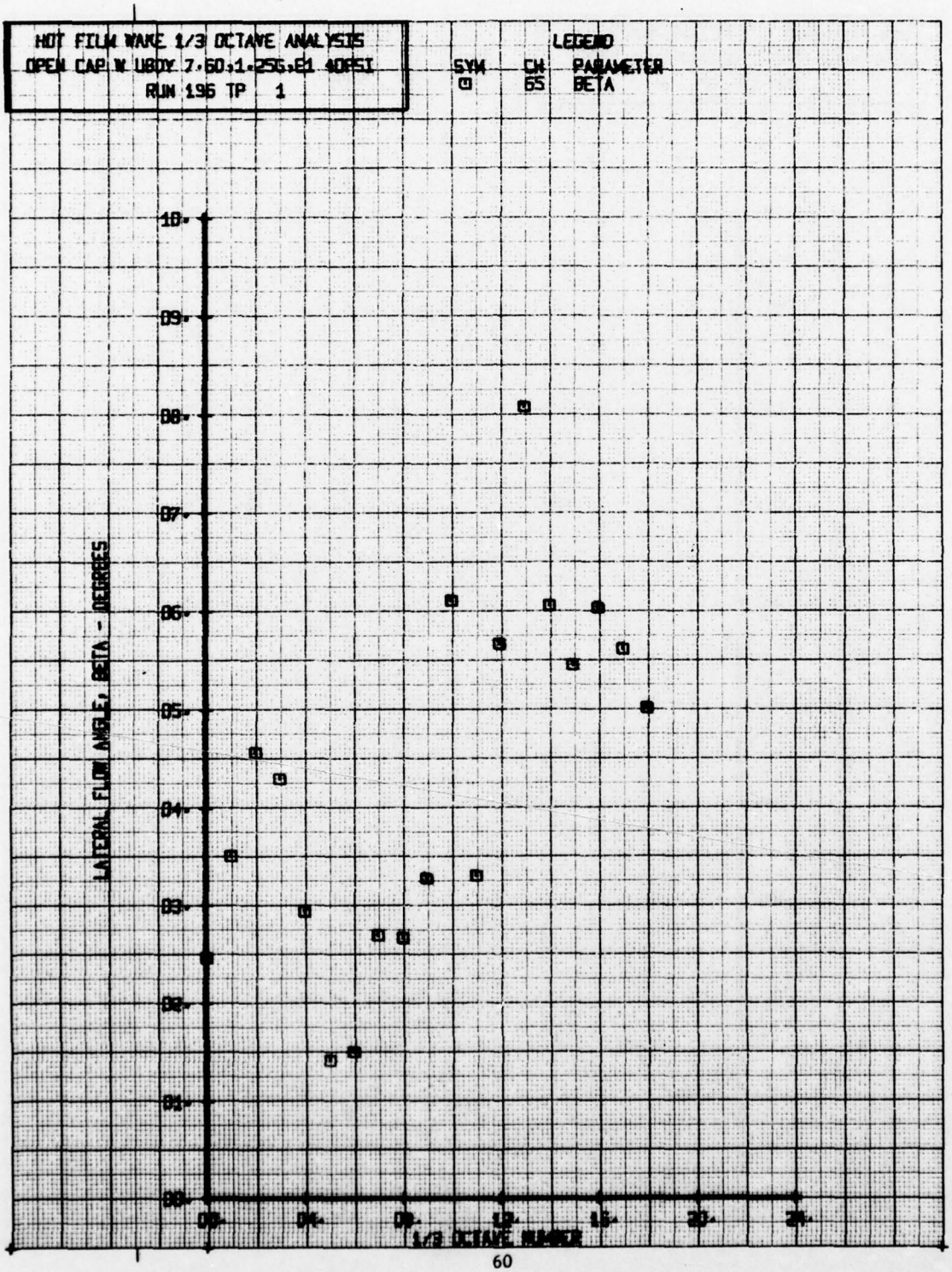
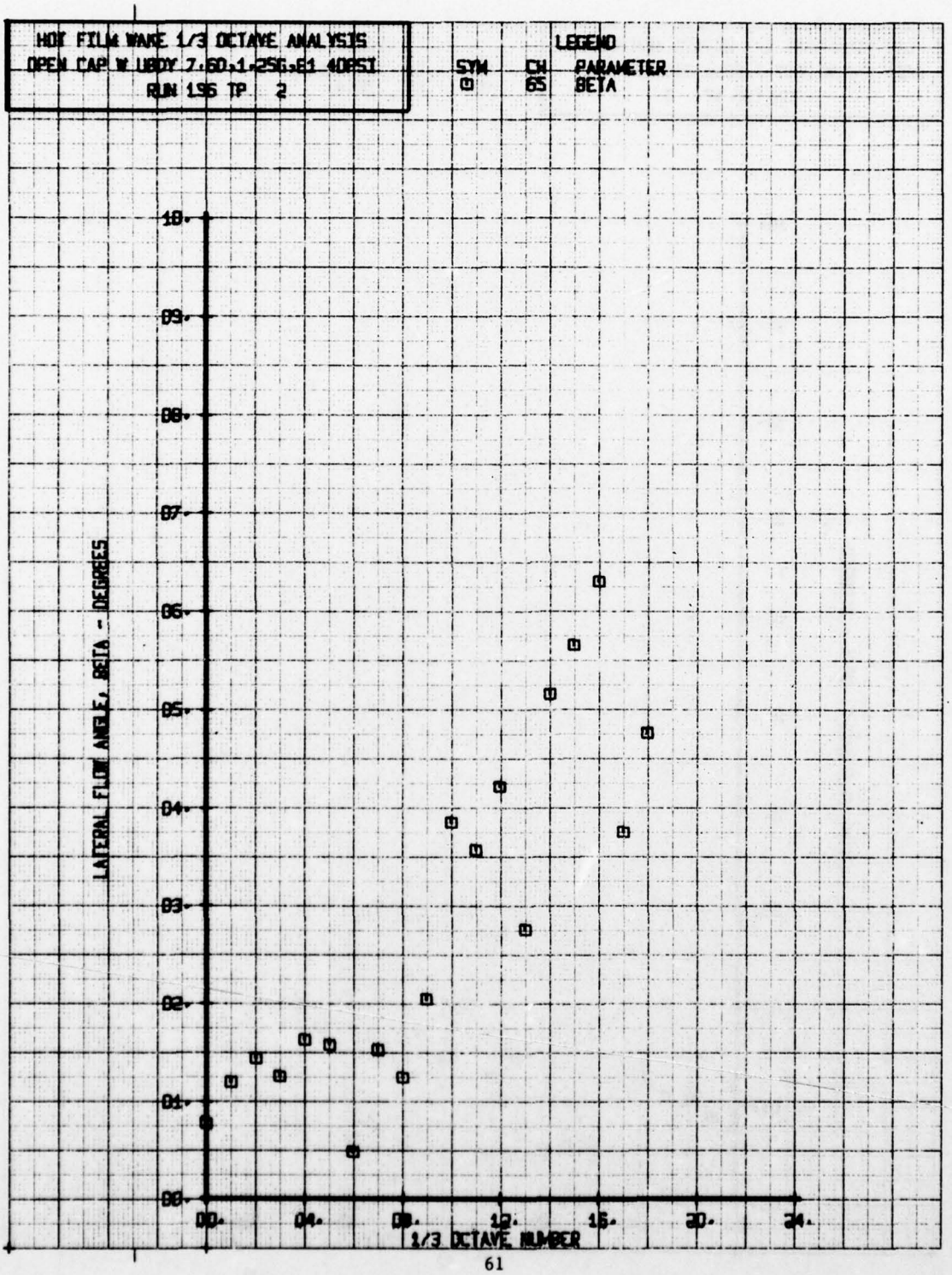
VERTICAL FLOW ANGLE, ALPHA - DEGREES
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W UBDY 7.60,1.25G,E1 40PSI
RUN 196 TP 3
LEGEND
SYM CH PARAMETER
66 ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W UBDY 7.60,1.256,81 40PSI
RUN 196 TP 4
LEGEND
SYM CH PARAMETER
66 ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W UBDY 7.60,1.256,E1 40PSI
RUN 196 TP 1
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W UBDY 7.60,1.25G,81 40PSI
RUN 196 TP 2
LEGEND
SYM CH PARAMETER
65 BETA
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LATERAL FLOW ANGLE, BETA - DEGREES
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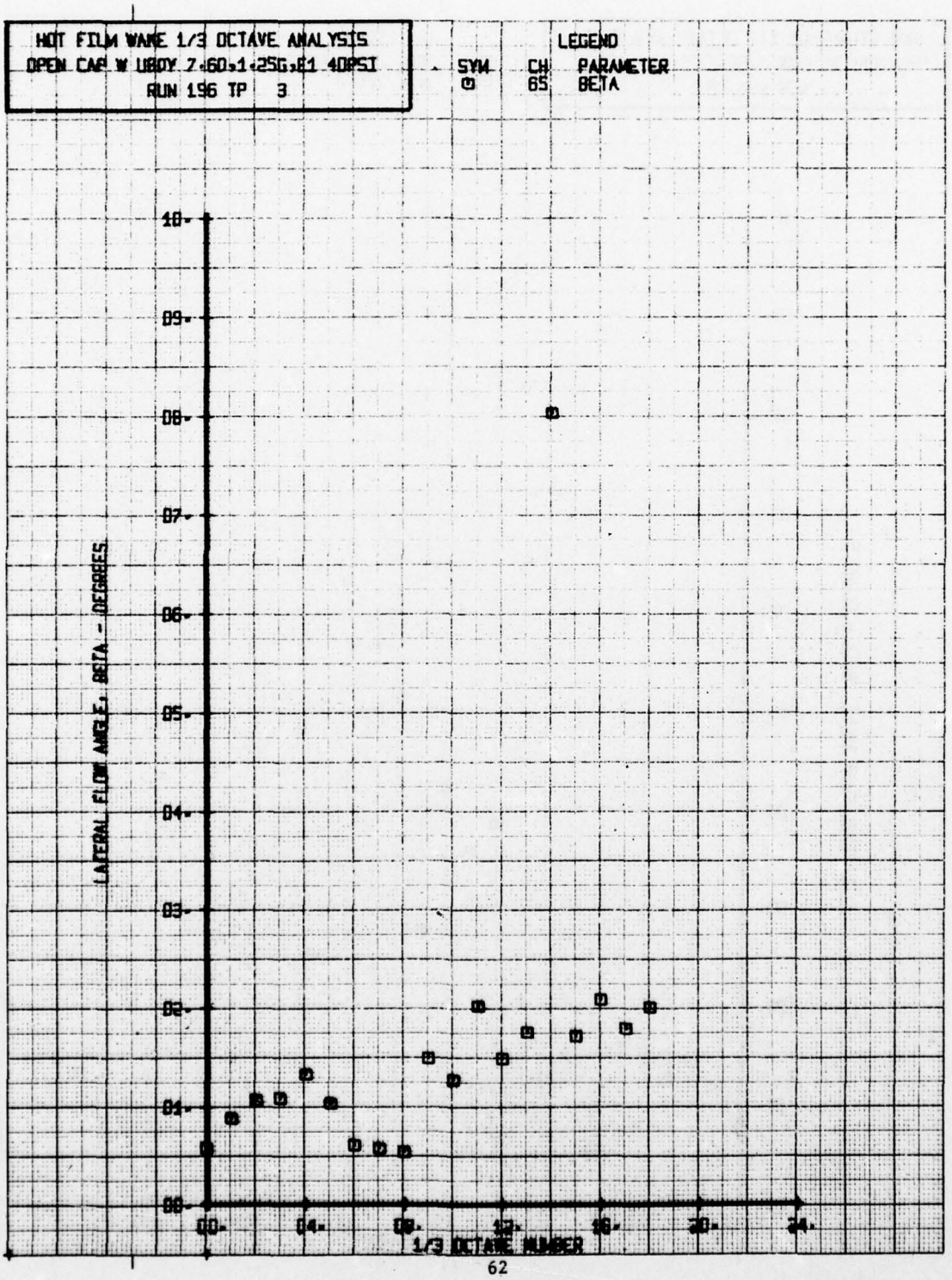
1/3 OCTAVE NUMBER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OPEN CAB W UBDY 7.60,1.25G,81 40PSI
RUN 196 TP 3
LEGEND
SYM CH PARAMETER
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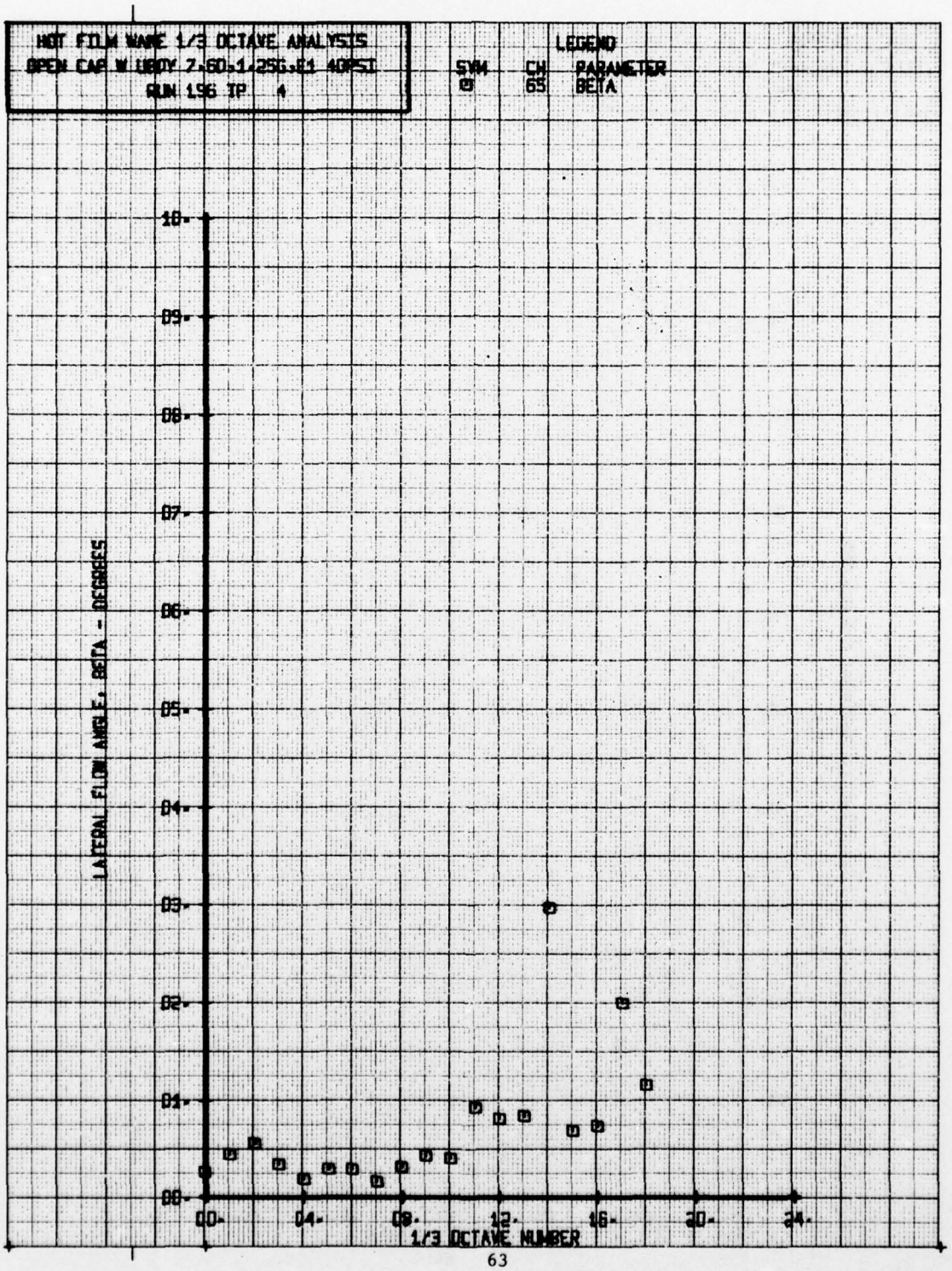
LATERAL FLOW ANGLE, BETA - DEGREES
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W UBODY 7.60-1.25G-E1 40PSI
RUN 196 TP 4
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
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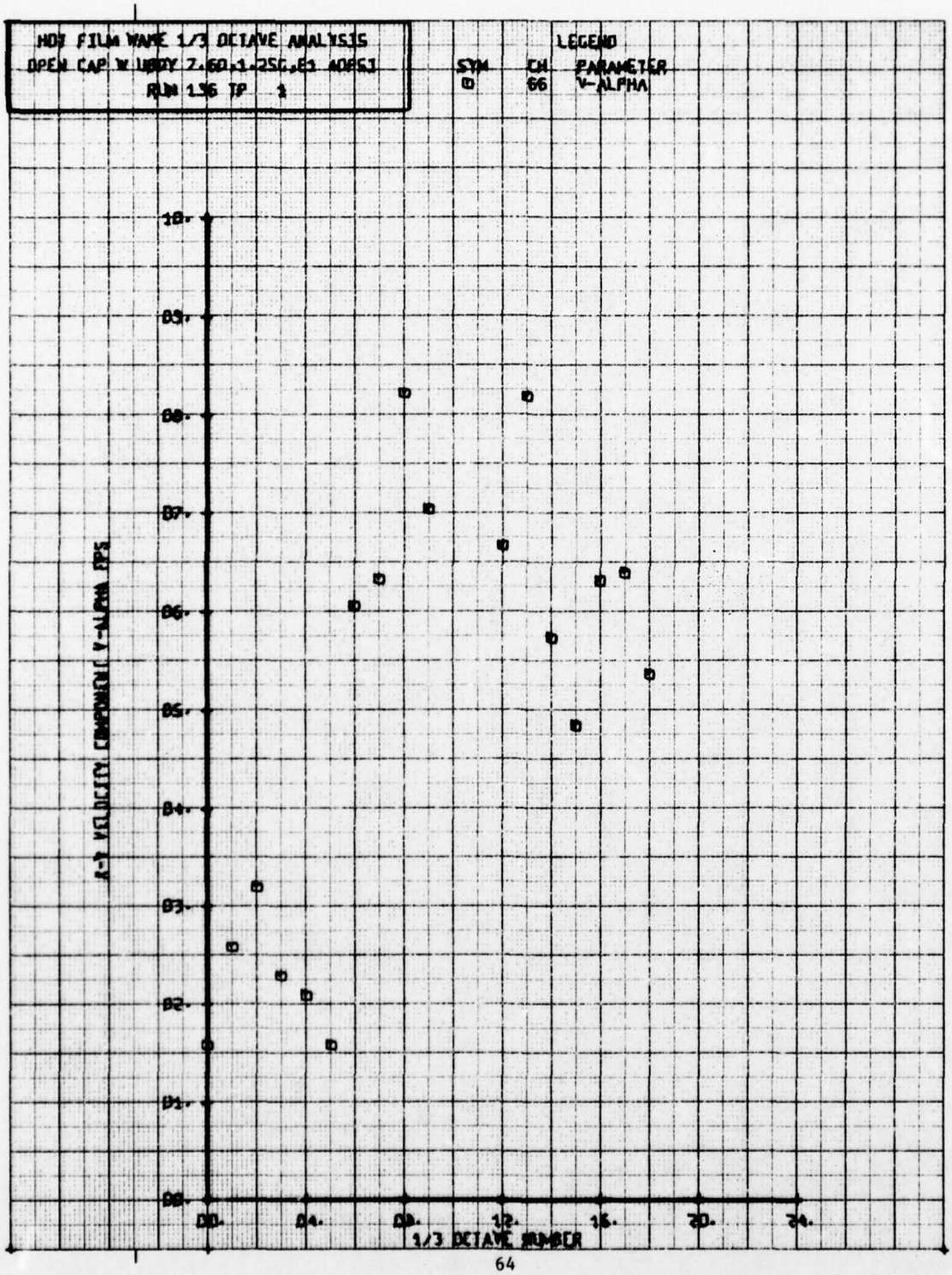
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W UBDY 7.60,1.25G,E1 40PSI
RUN 156 TP 1
LEGEND
SYM CH PARAMETER
66 V-ALFHA
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A-P VELOCITY COMPONENT V-ALPHA FPS
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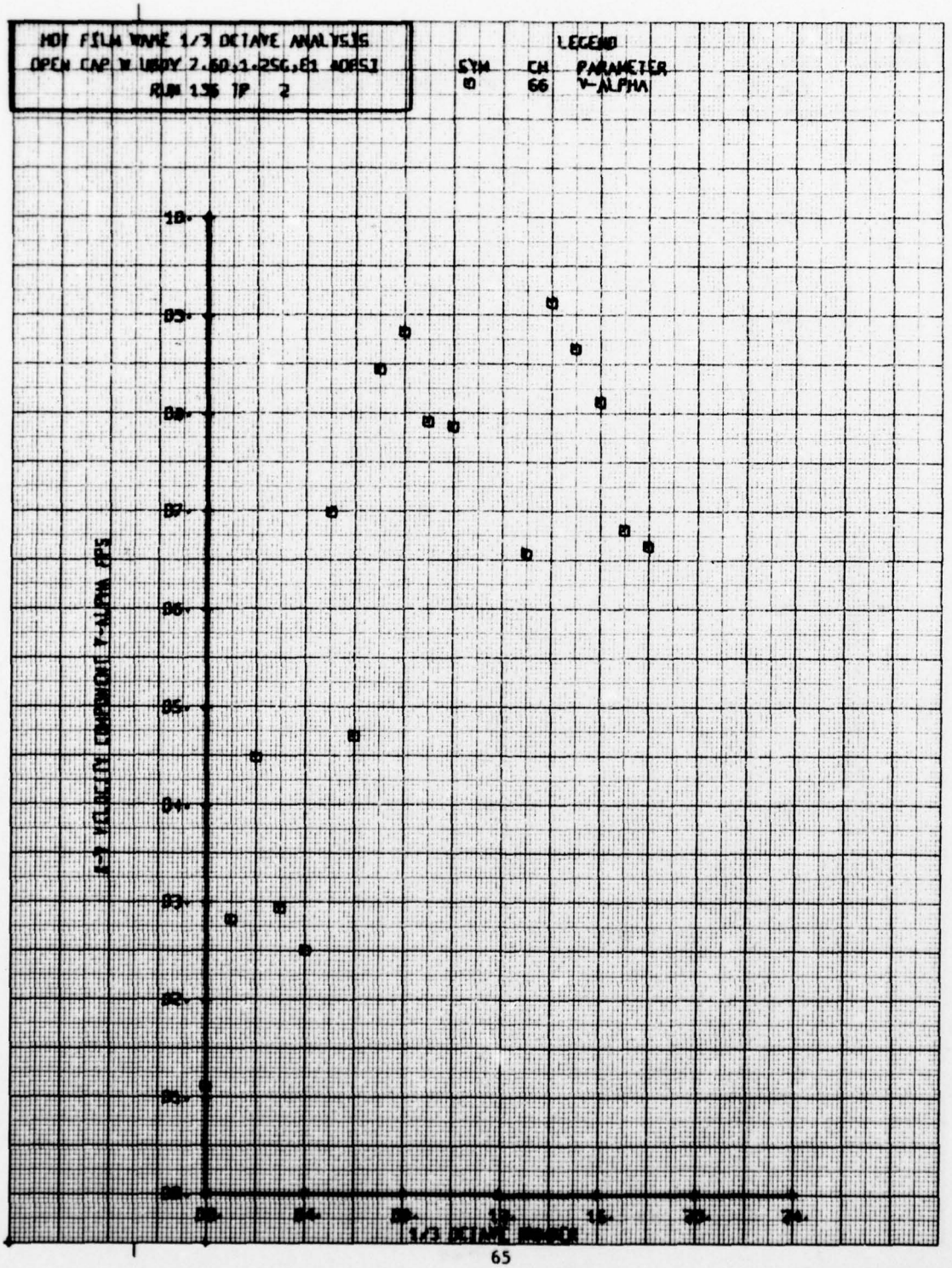
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W BODY 2.60,1.25G,81 AOBSJ
RUN 156 TP 2
LEGEND
SYM CH PARAMETER
0 66 V-ALPHA
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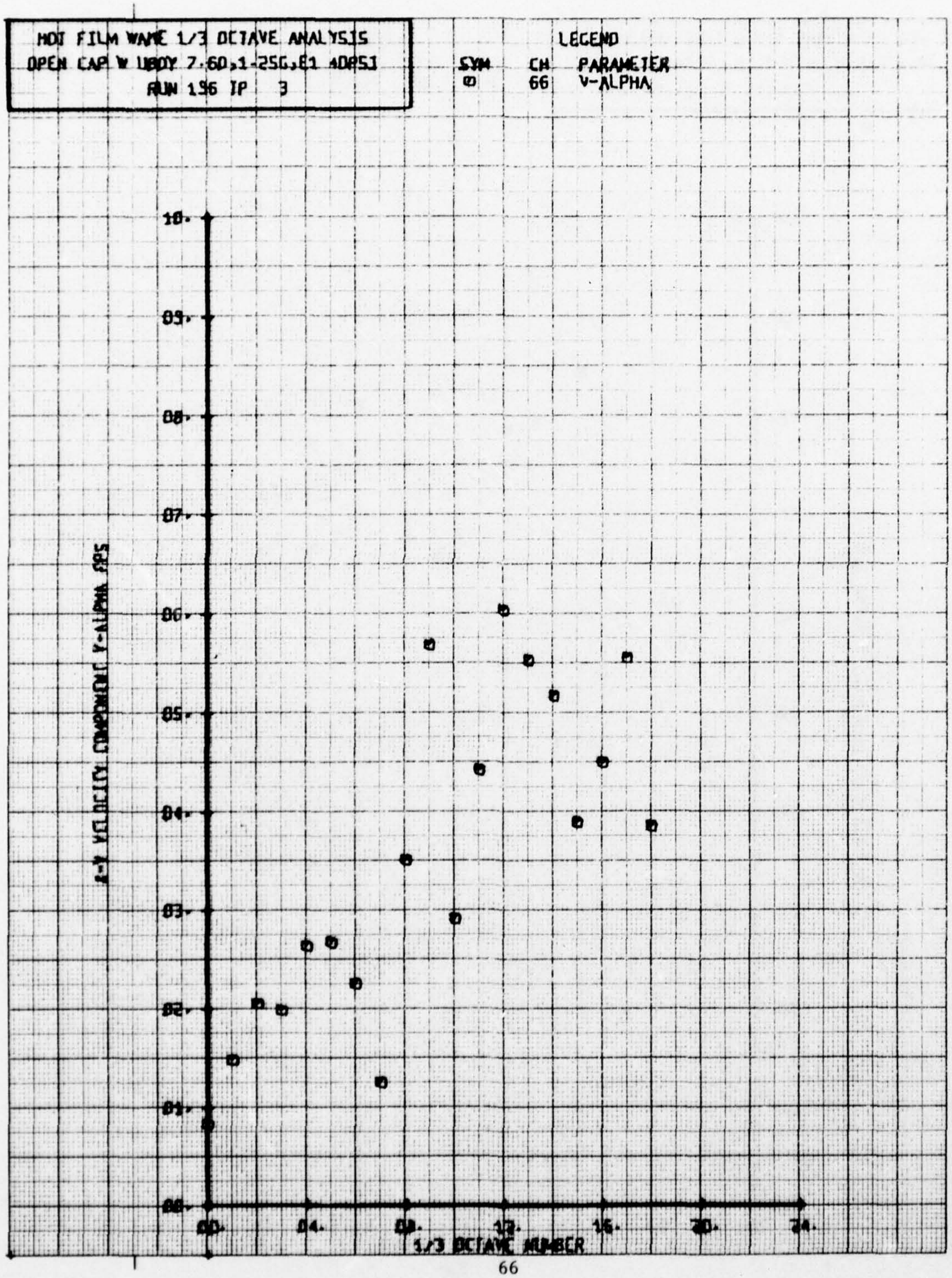
A-P VELOCITY COMPONENT V-ALPHA RMS
1/3 OCTAVE BANDS


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W UBDY 7.60,1-25G,E1 40PSI
RUN 196 TP 3
LEGEND
SYM CH PARAMETER
66 V-ALPHA
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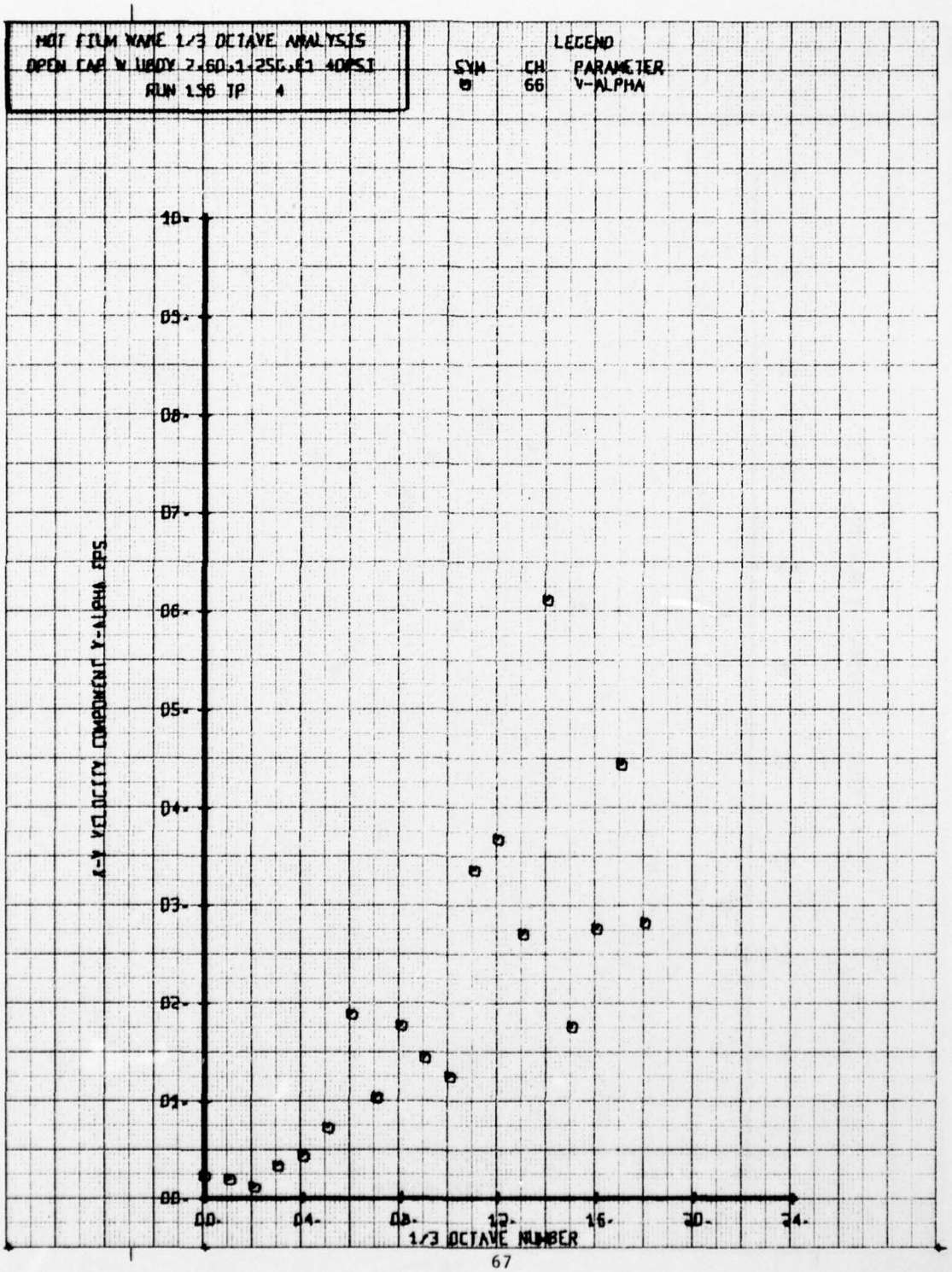
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W UBDY 2.60,1.25G,61 40PSI
RUN 156 TP 4
LEGEND
SYM CH PARAMETER
66 V-ALPHA
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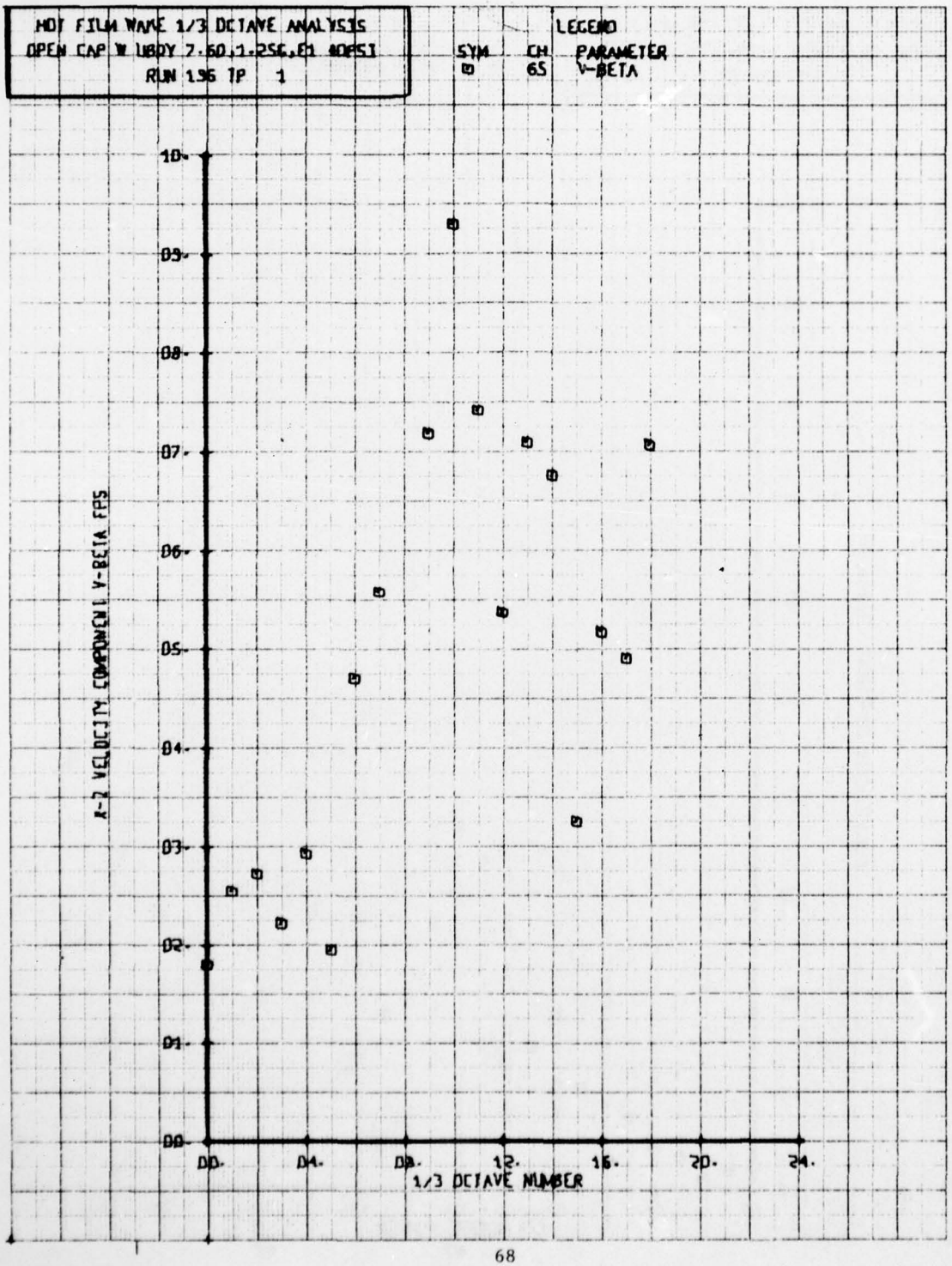
1/3 OCTAVE NUMBER


HOT FILM WAVE 1/3 OCTAVE ANALYSIS
OPEN CAP W UBDY 7.60,1.256,E1 40PSI
RUN 196 TP 1
LEGEND
SYM CH PARAMETER
65 V-BETA
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X-2 VELOCITY COMPONENT V-BETA FPS
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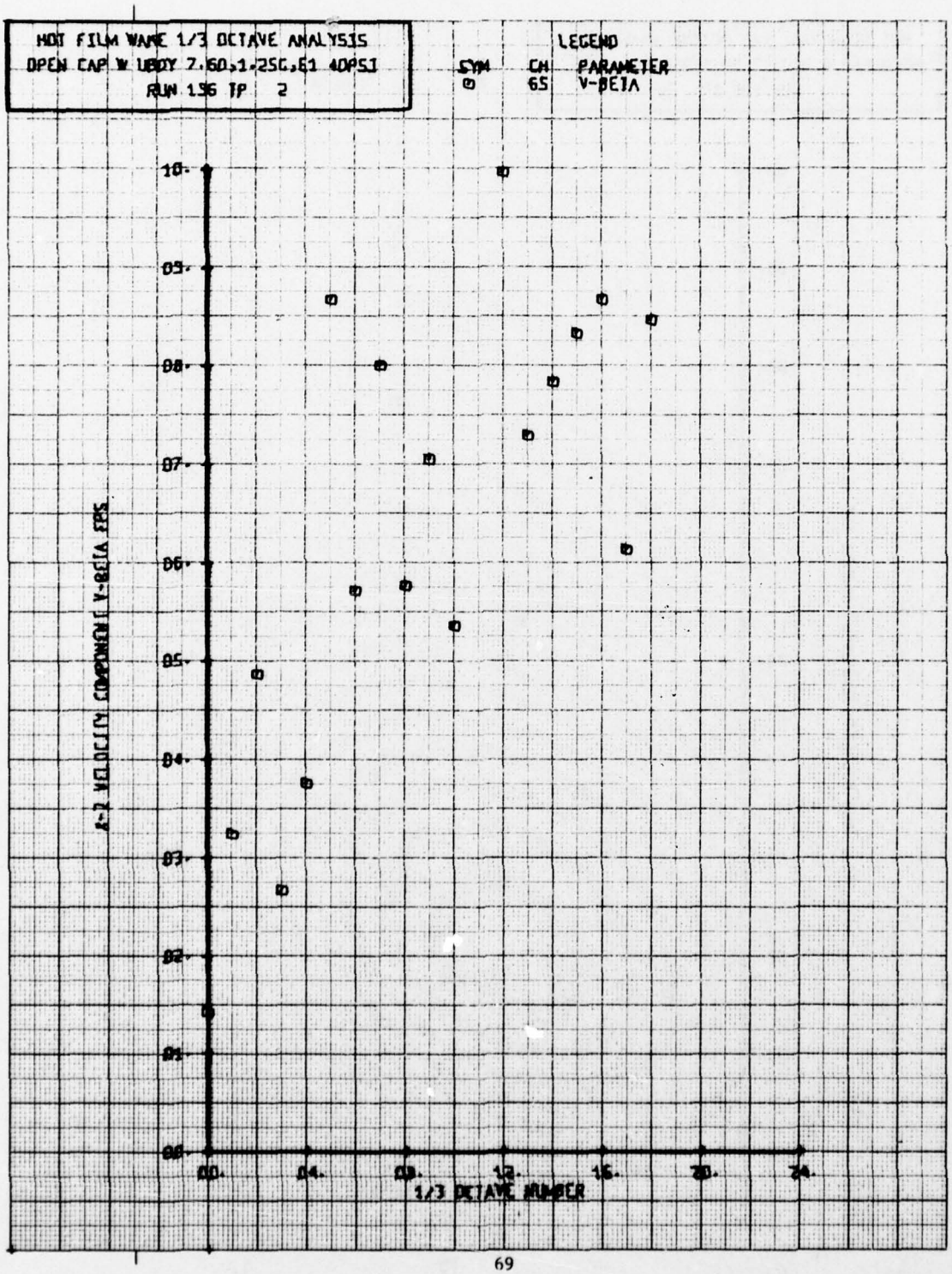
HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W UBDY 2.60,1.25G,61 40PSI
RUN 136 TP 2
LEGEND
SYM CH PARAMETER
65 V-BETA
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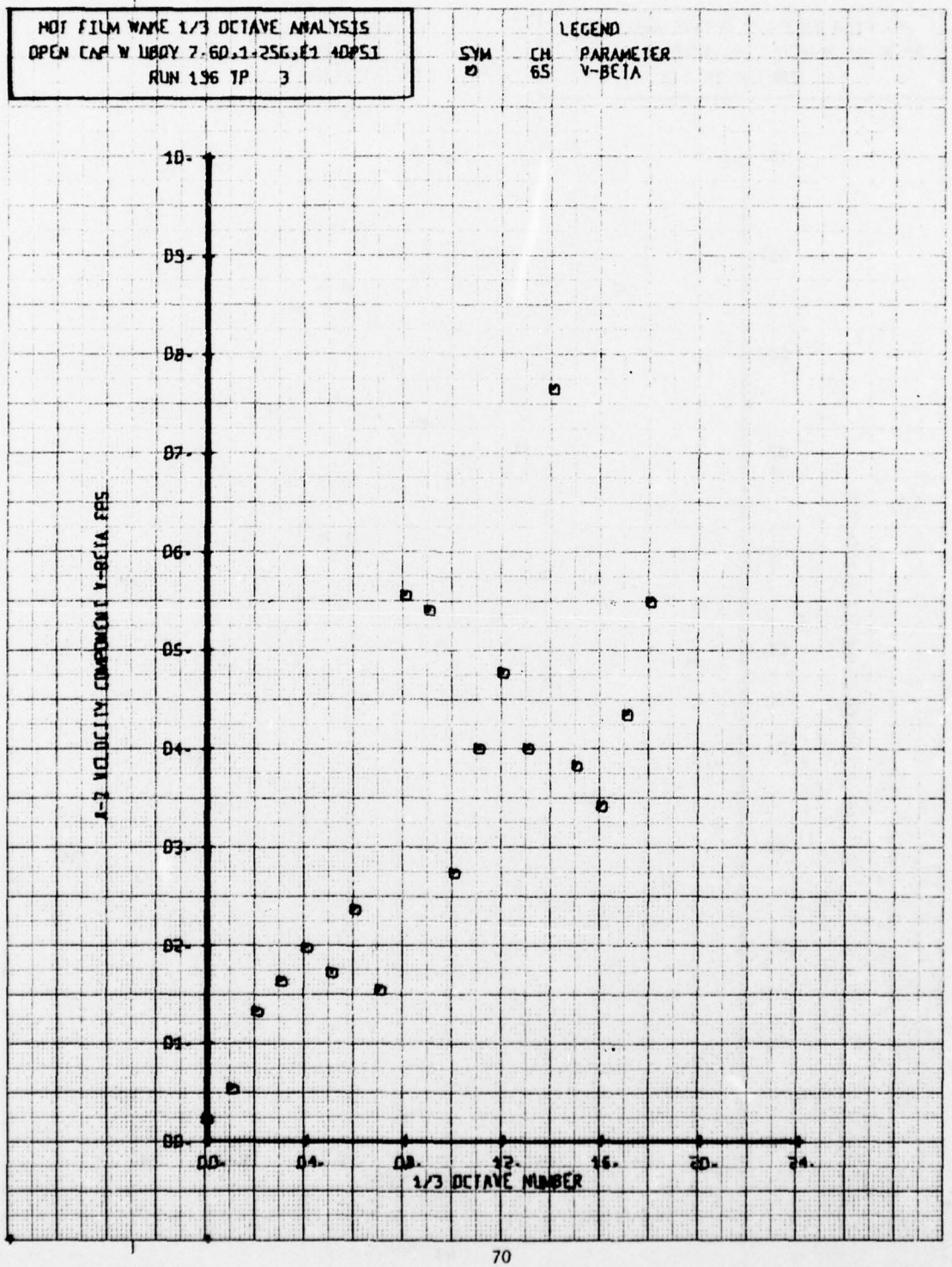
1/3 OCTAVE NUMBER
K-2 VELOCITY COMPONENT V-BETA FPS


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W UBOY 7-60,1-25G,E1 40PSI
RUN 196 TP 3
LEGEND
SYM CH PARAMETER
65 V-BETA
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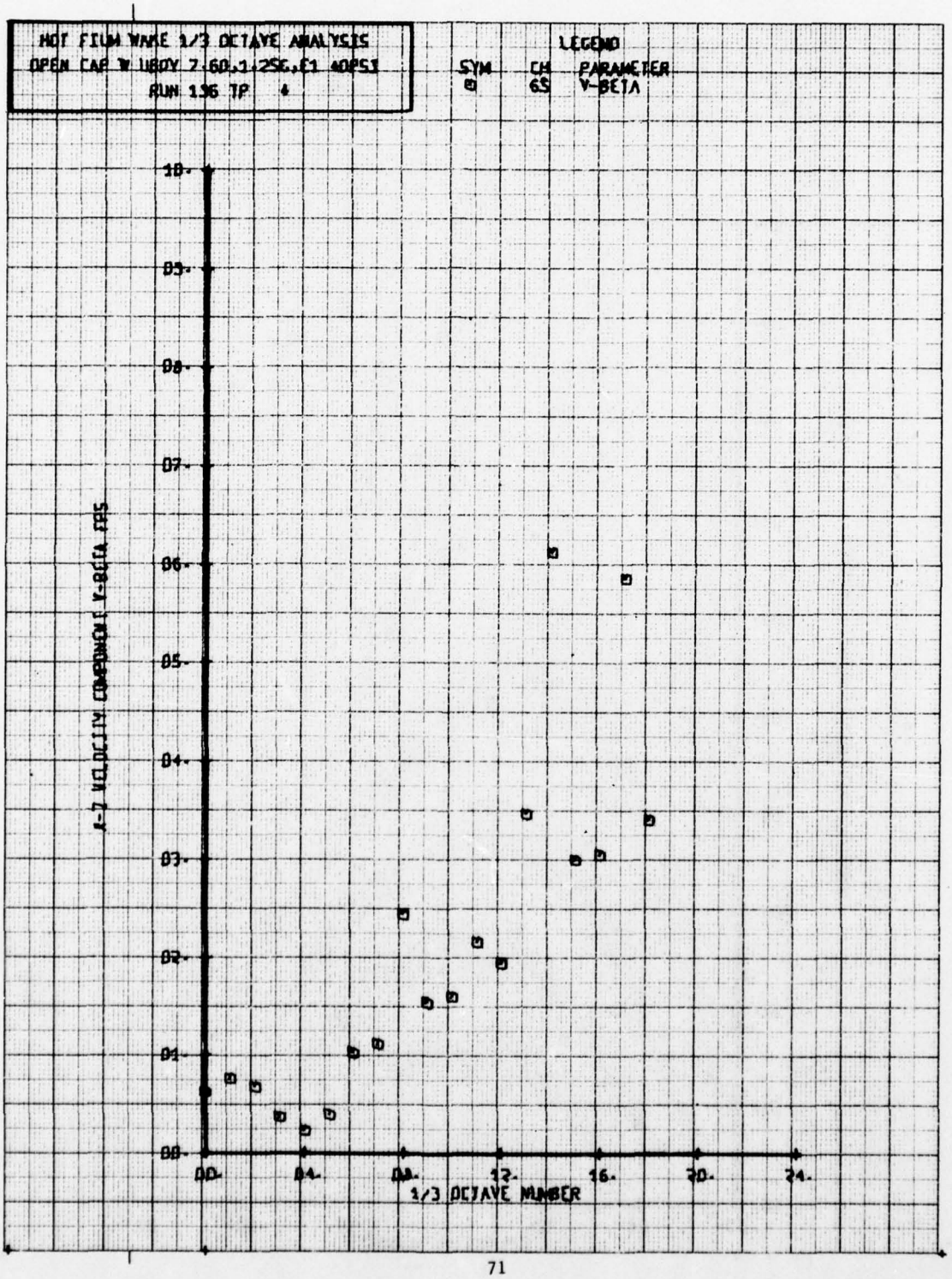
1/3 OCTAVE NUMBER
SEA VELOCITY COMPONENT V-BETA FPS


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W UBOY 7.60,1.25E,E1 40PSI
RUN 136 TP 4
LEGEND
SYM CH PARAMETER
6S V-BETA
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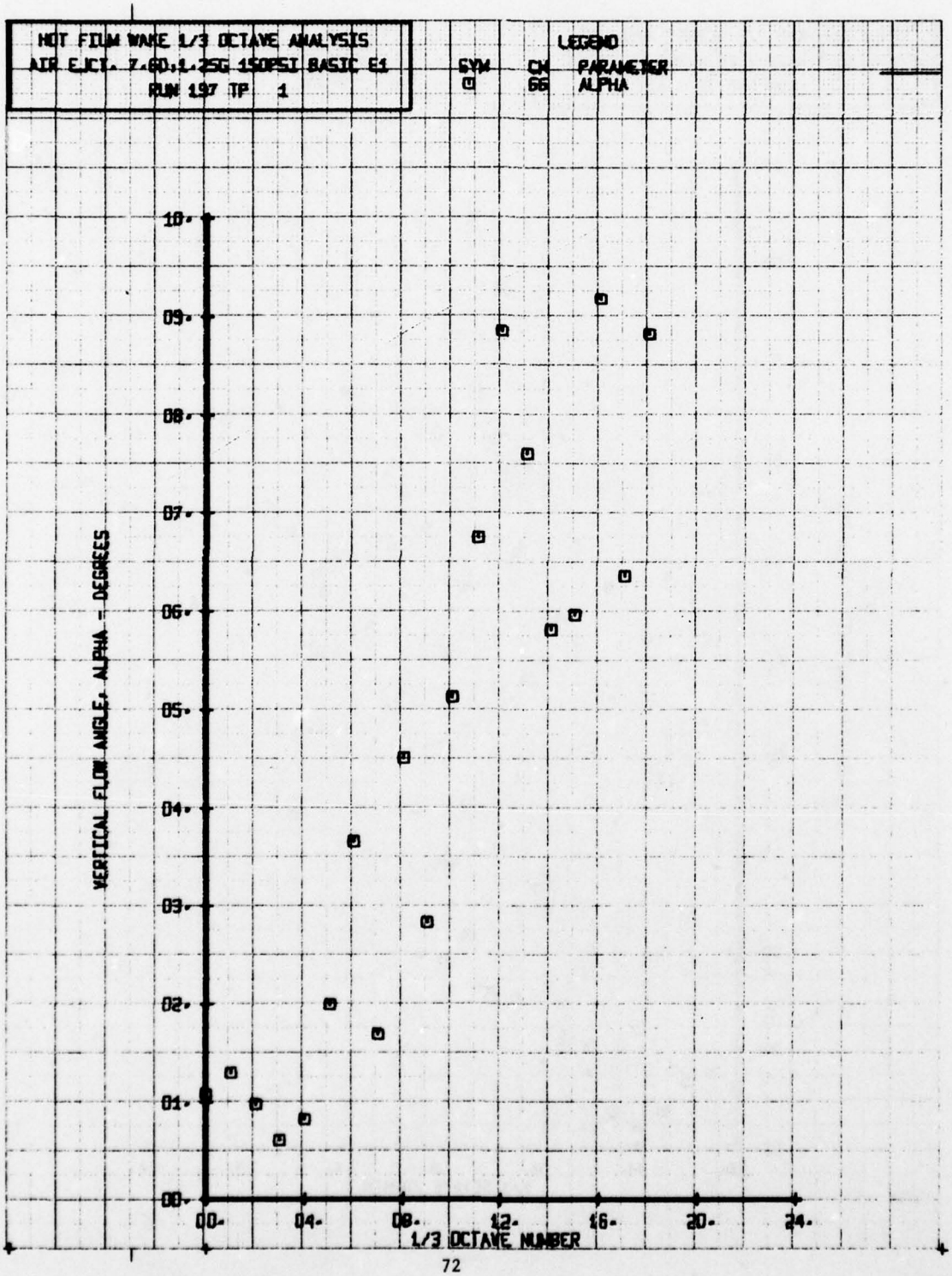
1/3 OCTAVE NUMBER
V-7 VELOCITY COMPONENT V-BETA FPS


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.60,1.25G 150PSI BASIC E1
RUN 197 TP 1
LEGEND
SYM CH PARAMETER
66 ALPHA
VERTICAL FLOW ANGLE, ALPHA = DEGREES
10.
09.
08.
07.
06.
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02.
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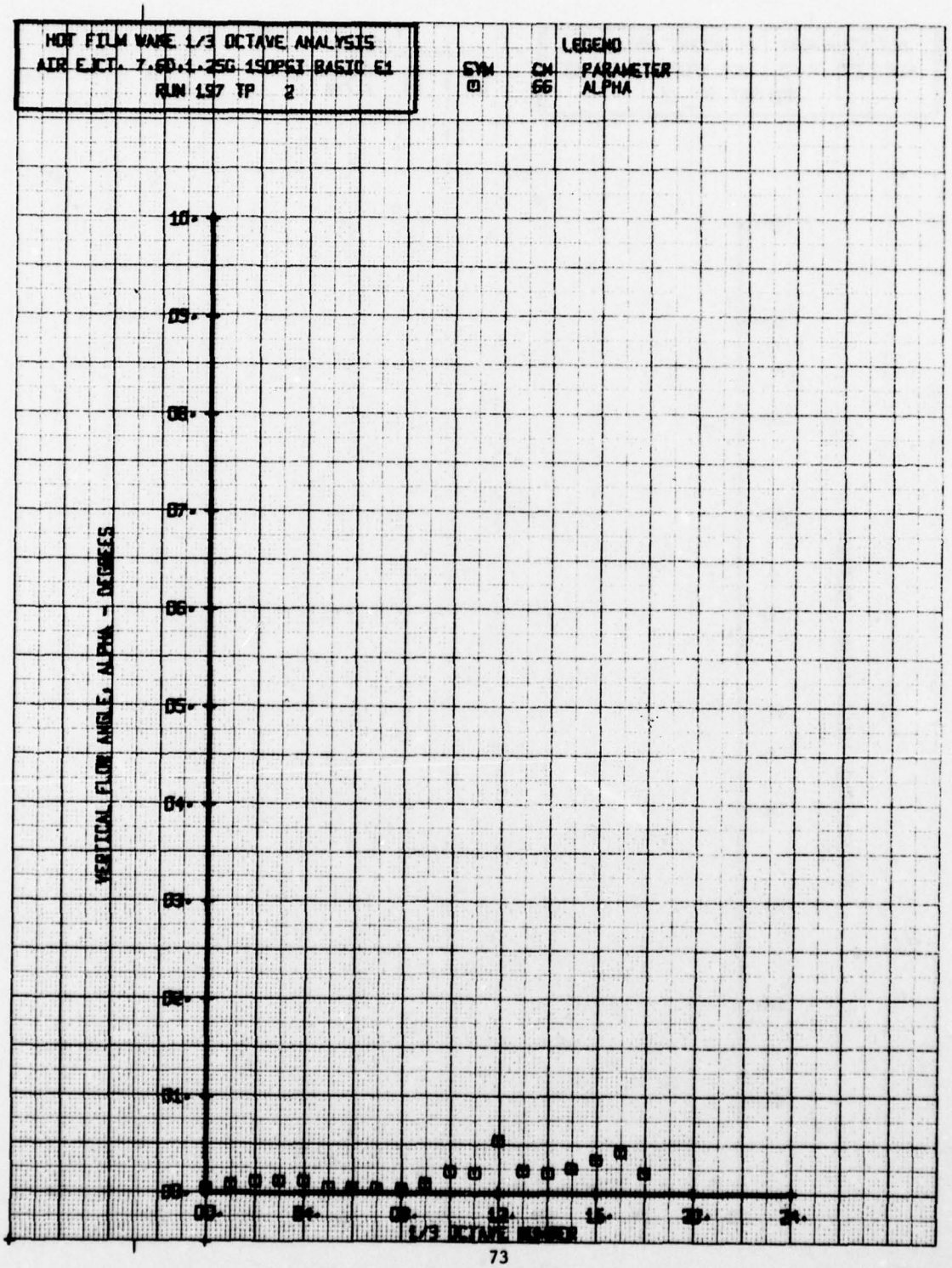
12.
16.
20.
24.
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.60.1.25G 150PSI BASIC E1
RUN 197 TP 2
LEGEND
SYM CH PARAMETER
66 ALPHA
10.
09.
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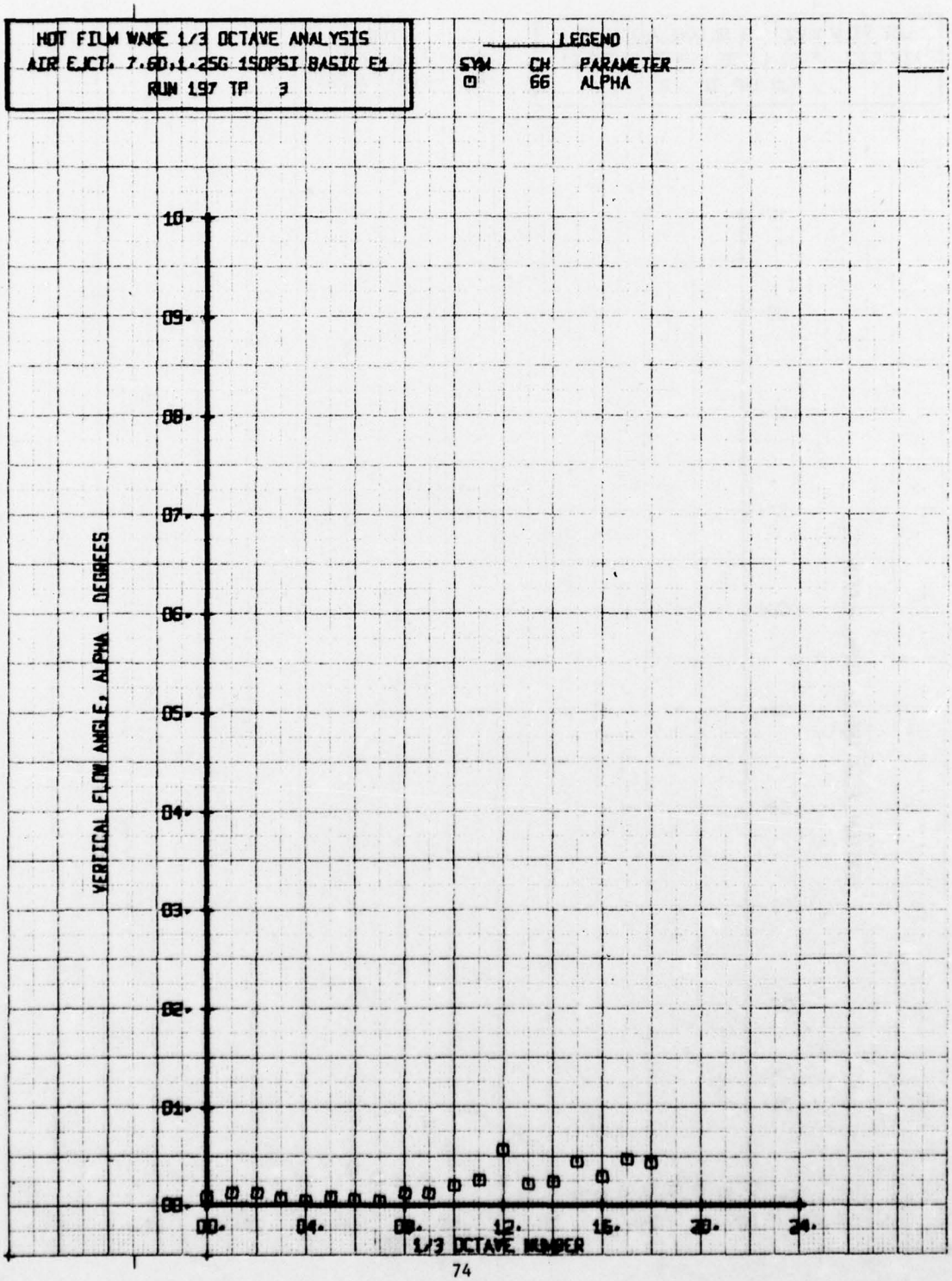
00.
VERTICAL FLOW ANGLE, ALPHA - DEGREES
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.60,1.25G 150PSI BASIC E1
RUN 197 TP 3
LEGEND
SYM CH PARAMETER
66 ALPHA
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VERTICAL FLOW ANGLE, ALPHA - DEGREES
00.
04.
08.
12.
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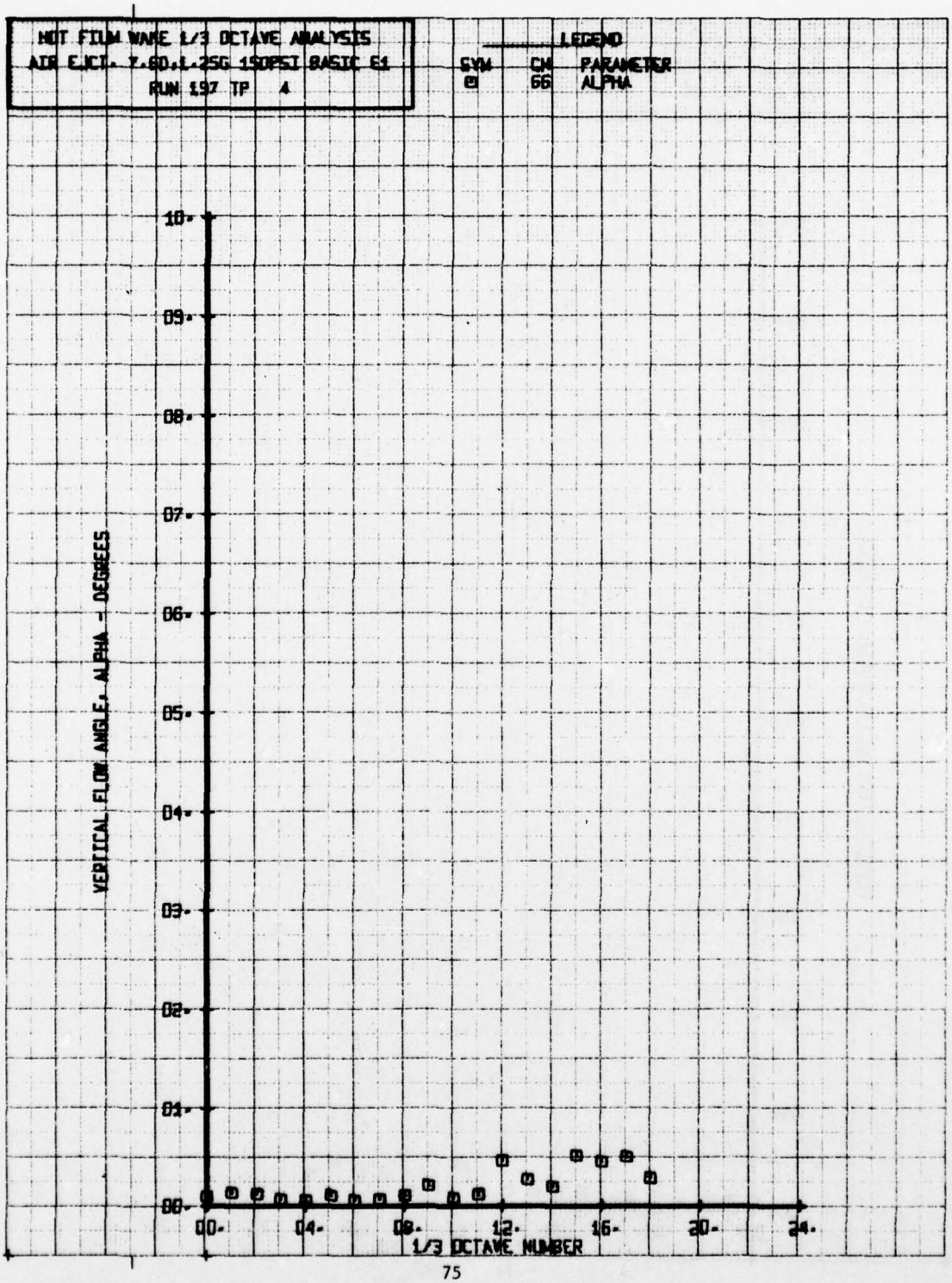
24.
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. Y.60.1.25G 150PSI BASIC 61
RUN 197 TP 4
LEGEND
SYM CM PARAMETER
66 ALPHA
10.
09.
08.
07.
06.
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04.
03.
02.
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VERTICAL FLOW ANGLE, ALPHA - DEGREES
00.
04.
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12.
16.
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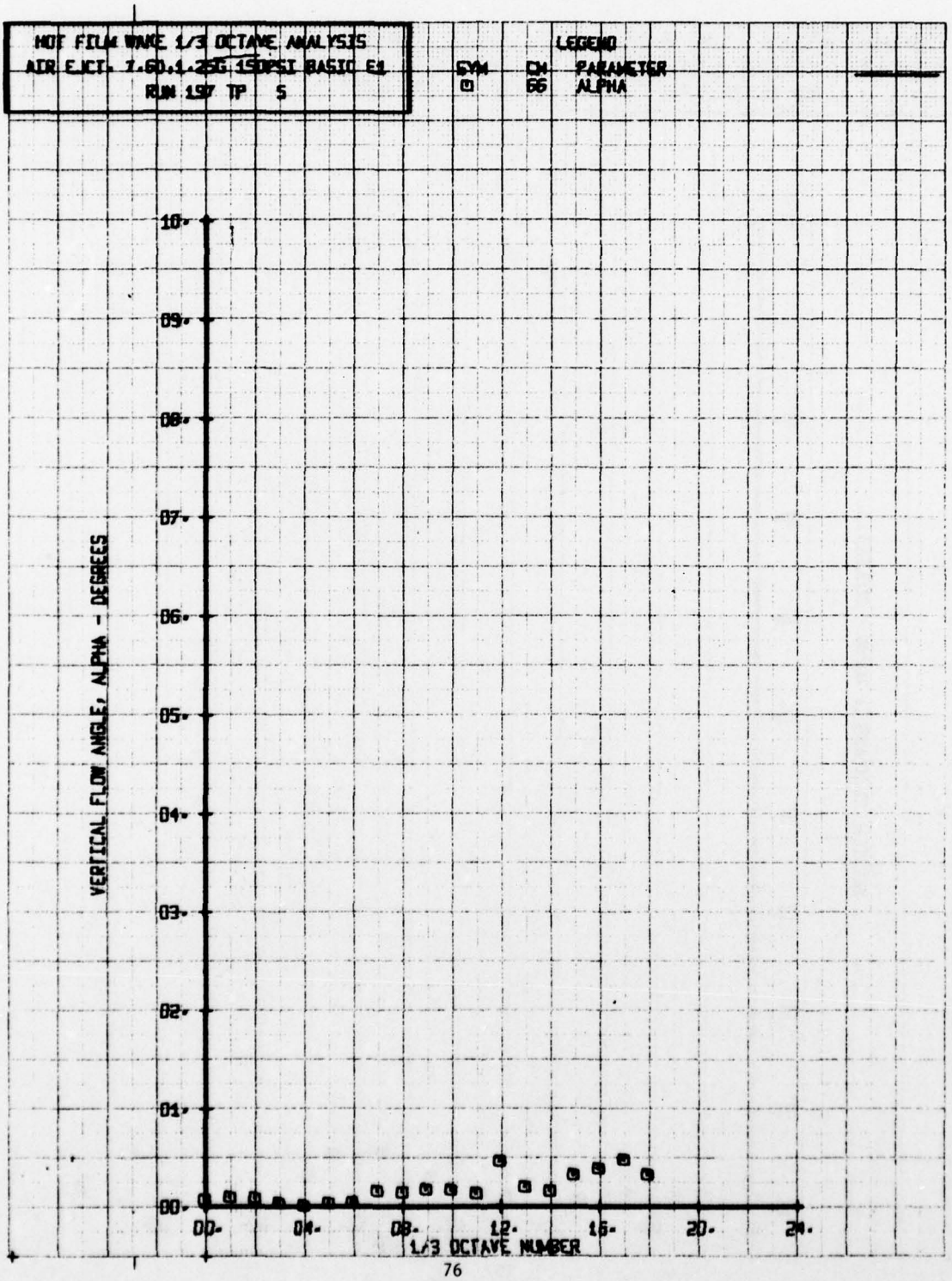
24.
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 1.60,1.25G 150PSI BASIC E1
RUN 197 TP 5
LEGEND
SYM CH PARAMETER
66 ALPHA
10.
09.
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03.
02.
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VERTICAL FLOW ANGLE, ALPHA - DEGREES
00.
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16.
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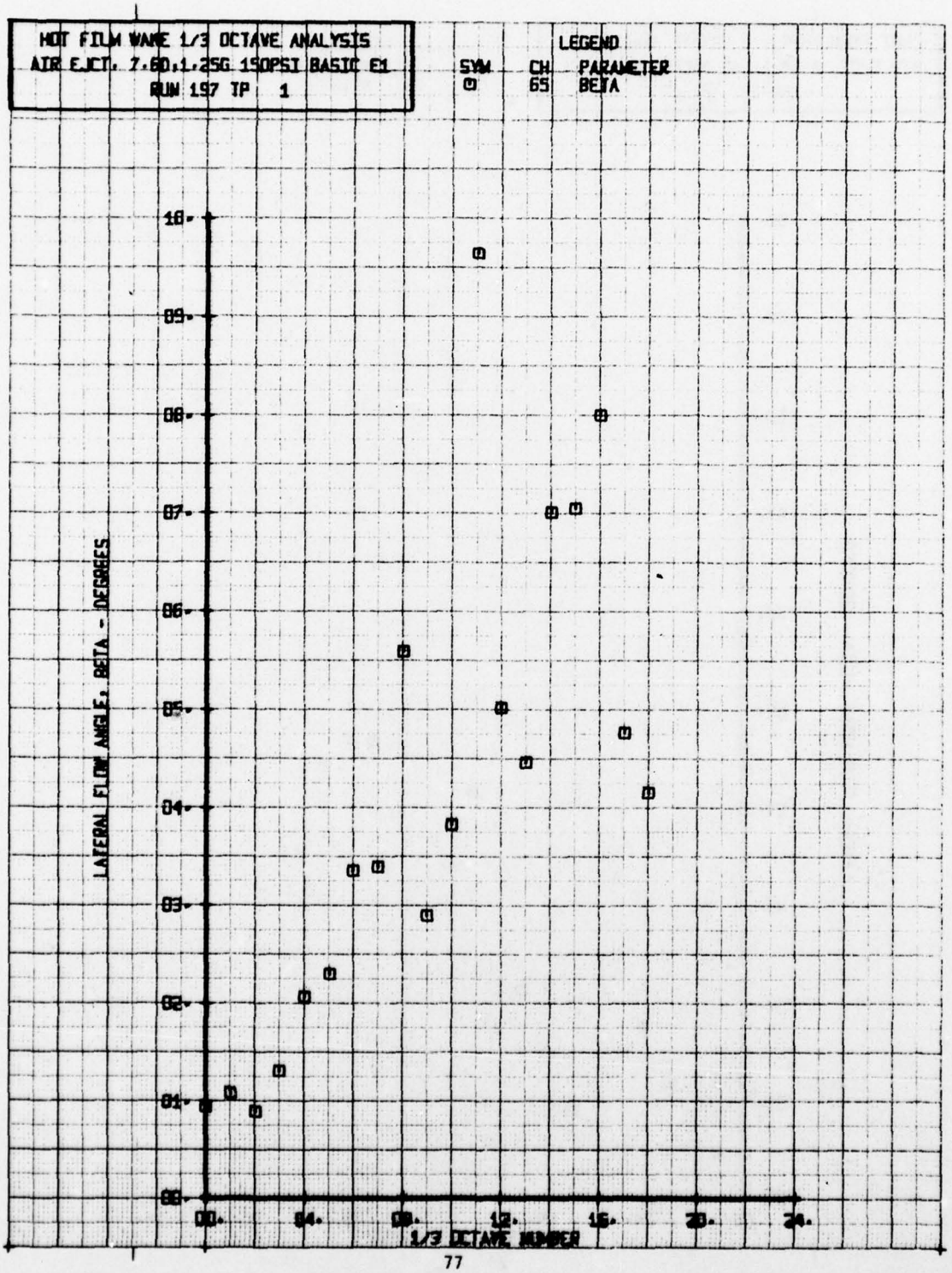
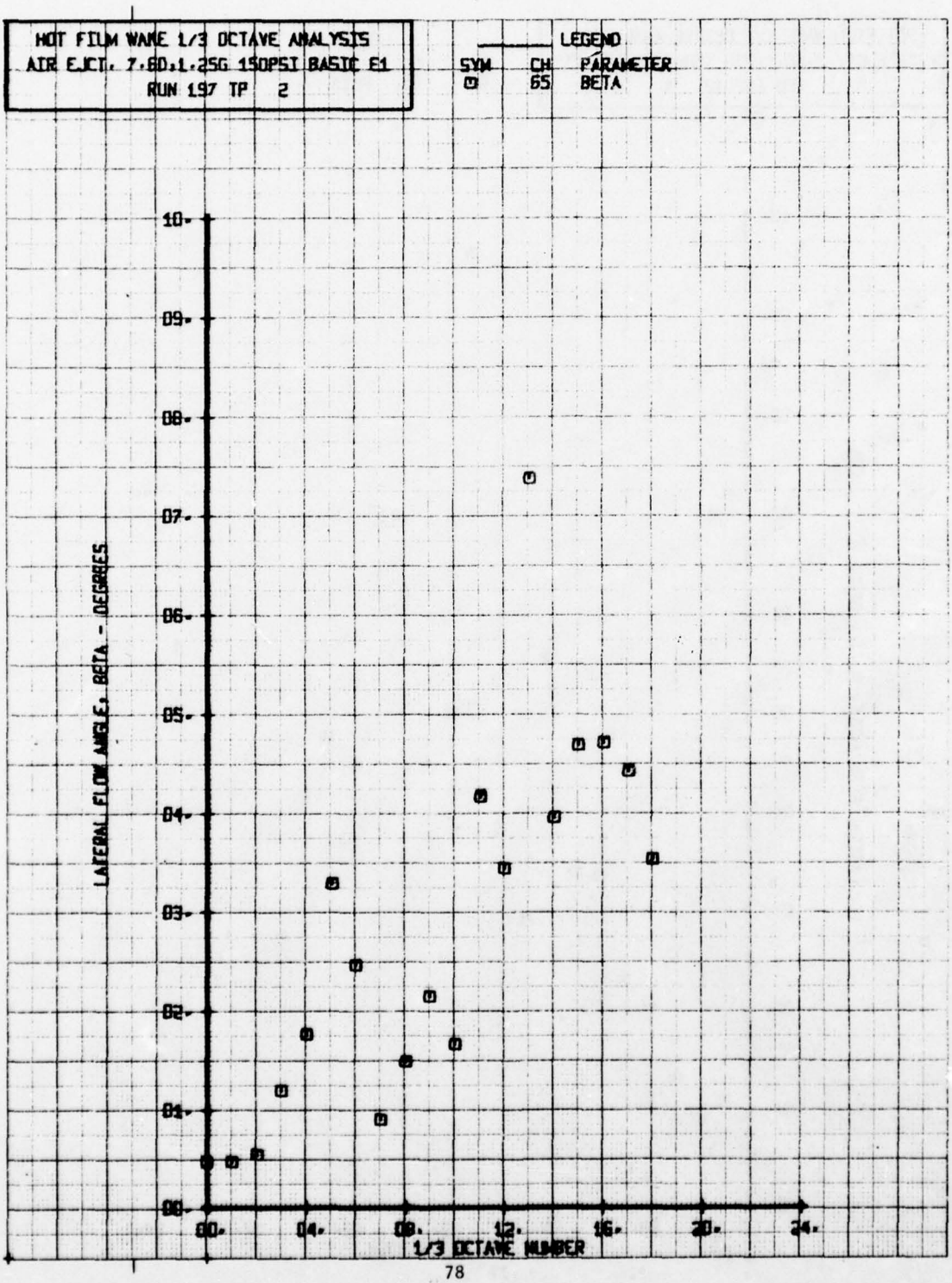
24.
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.60,1.25G 150PSI BASIC E1
RUN 197 TP 1
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.80,1.25G 150PSI BASIC E1
RUN 197 TP 2
LEGEND
SYM CH PARAMETER
65 BETA
10.
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LATERAL FLOW ANGLE, BETA - DEGREES
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16.
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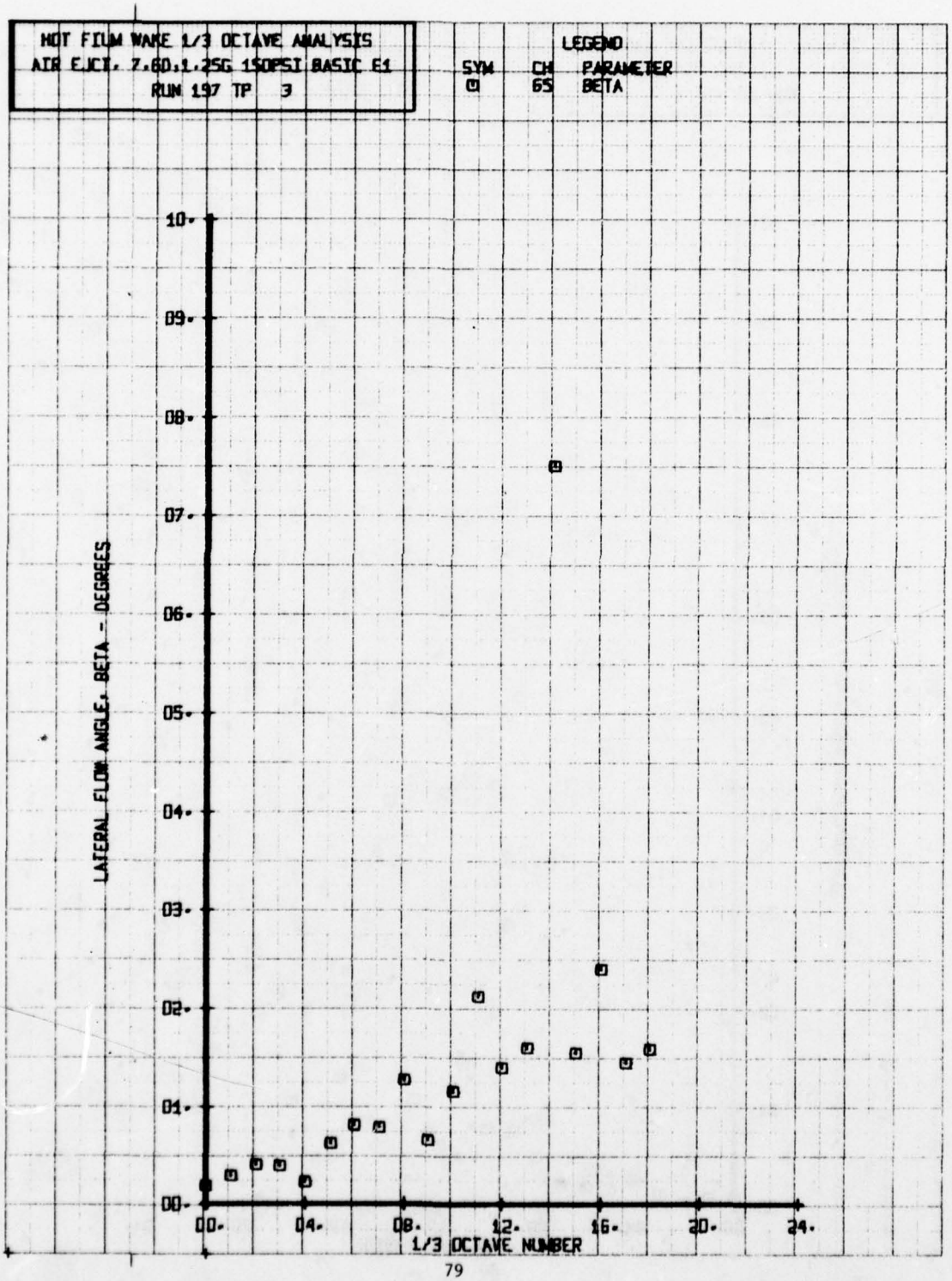
24.
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.60,1.25G 150PSI BASIC E1
RUN 197 TP 3
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
10.
09.
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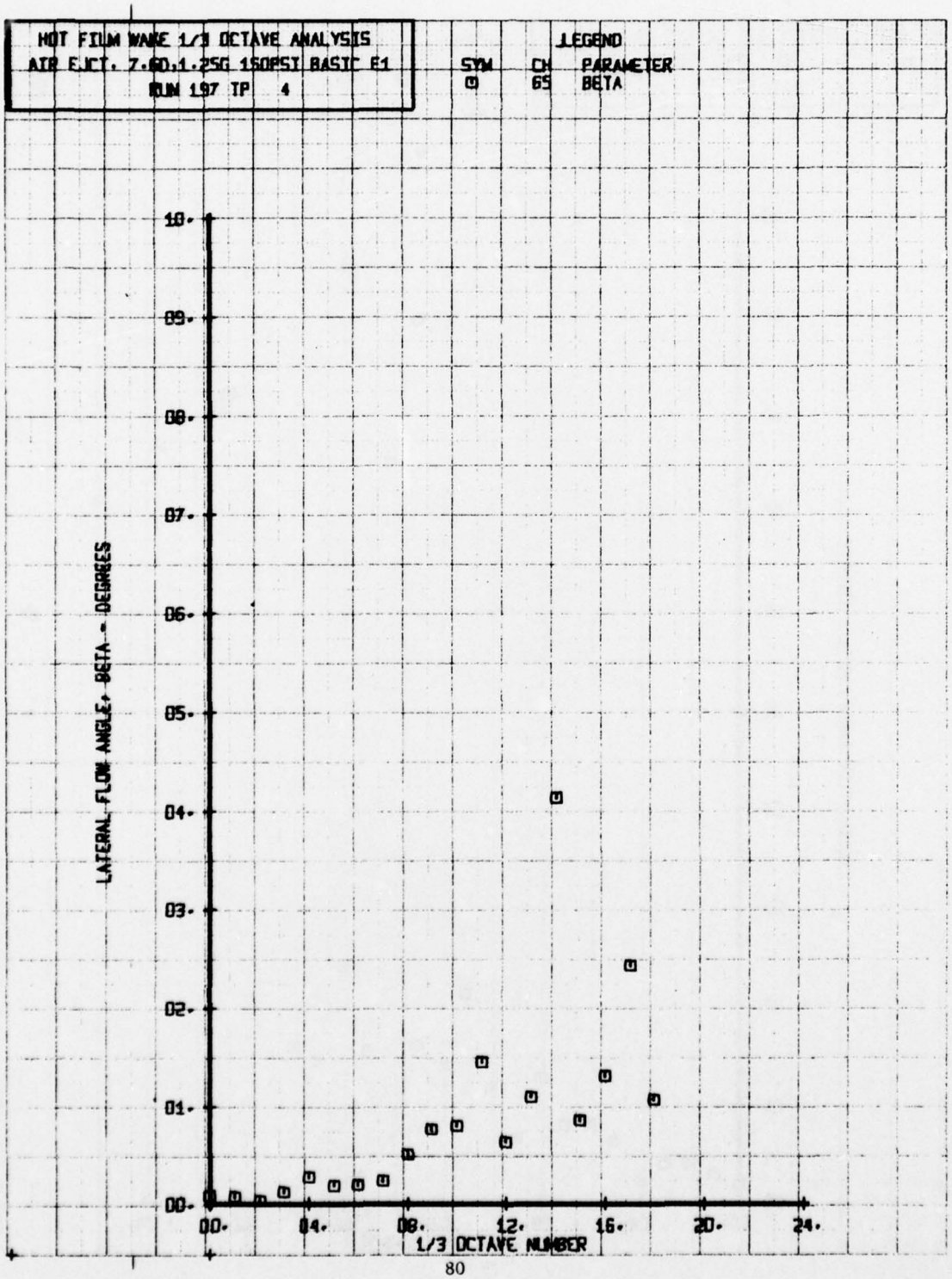
24.
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.60,1.25G 150PSI BASIC E1
RUN 197 TP 4
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
10.
09.
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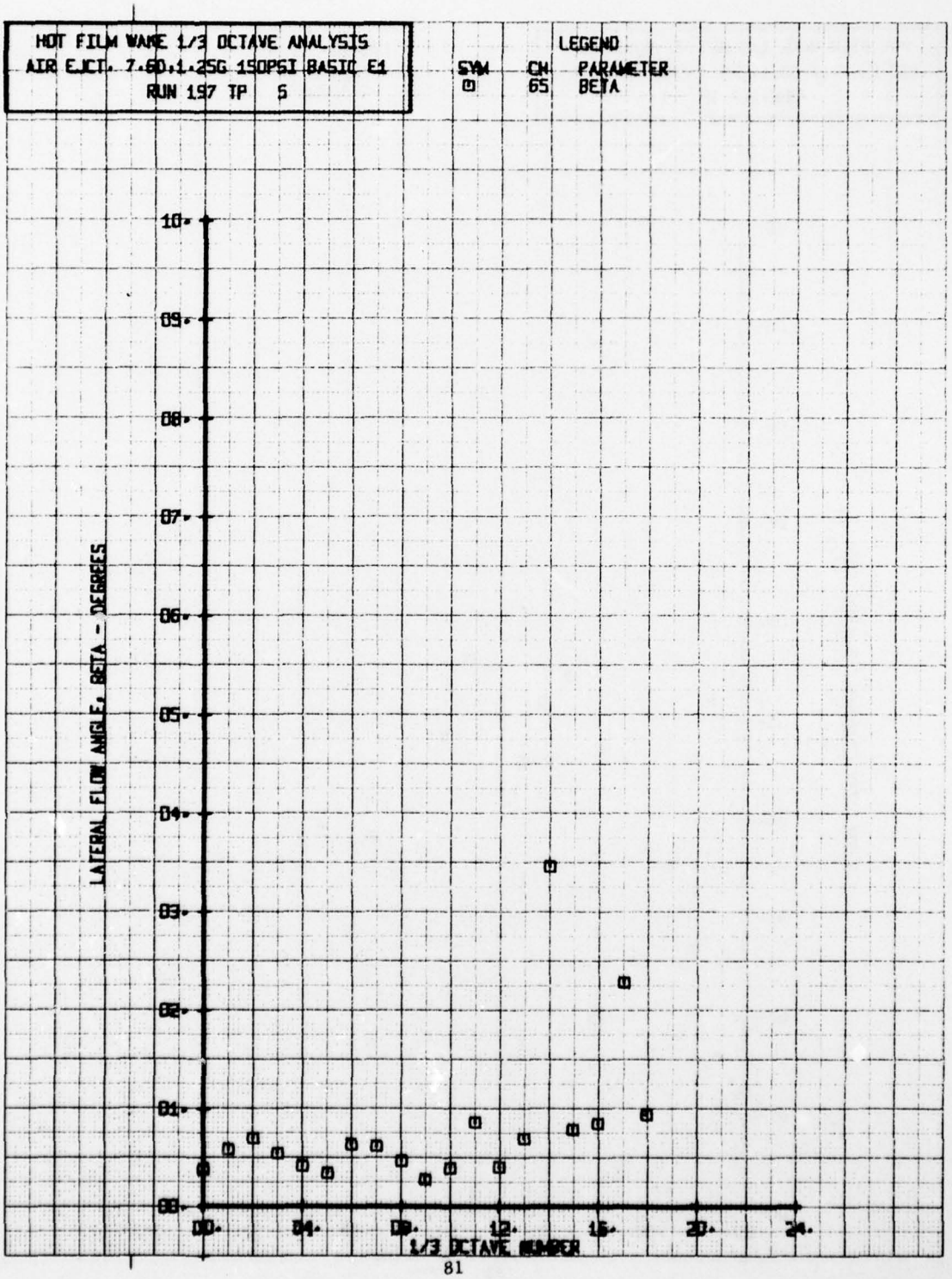
16.
20.
24.
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.60.1.25G 150PSI BASIC E1
RUN 197 TP 5
LEGEND
SYM CH PARAMETER
65 BETA
10.
09.
08.
07.
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LATERAL FLOW ANGLE, BETA - DEGREES
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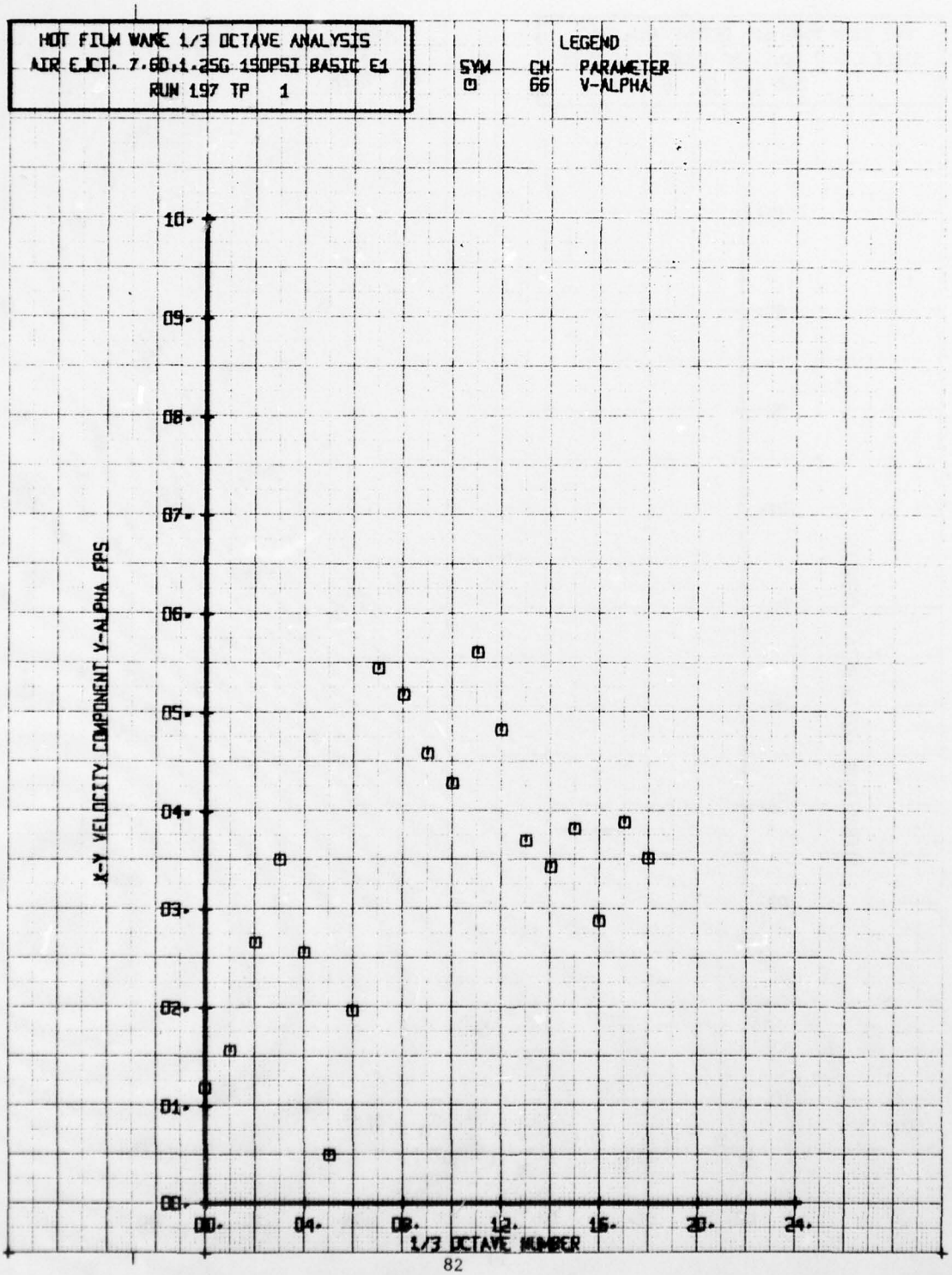
24.
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.60.1.25G 150PSI BASIC E1
RUN 197 TP 1
LEGEND
SYM CH PARAMETER
66 V-ALPHA
X-Y VELOCITY COMPONENT V-ALPHA FPS
1/3 OCTAVE NUMBER
10.
09.
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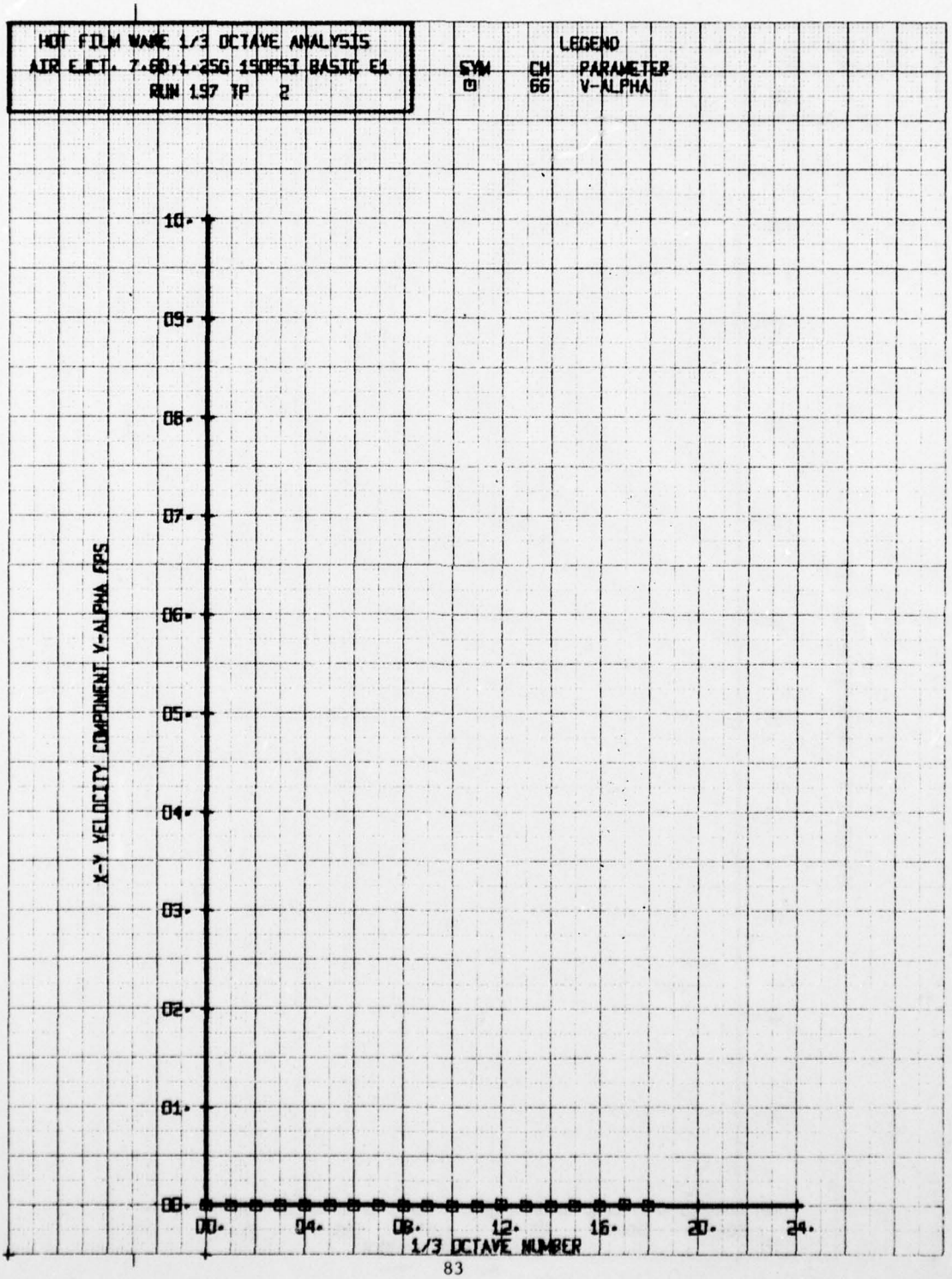
HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.6D,1.25G 150PSI BASIC E1
RUN 197 TP 2
LEGEND
SYM CH PARAMETER
66 V-ALPHA
10.
09.
08.
07.
06.
05.
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03.
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X-Y VELOCITY COMPONENT Y-ALPHA FPS
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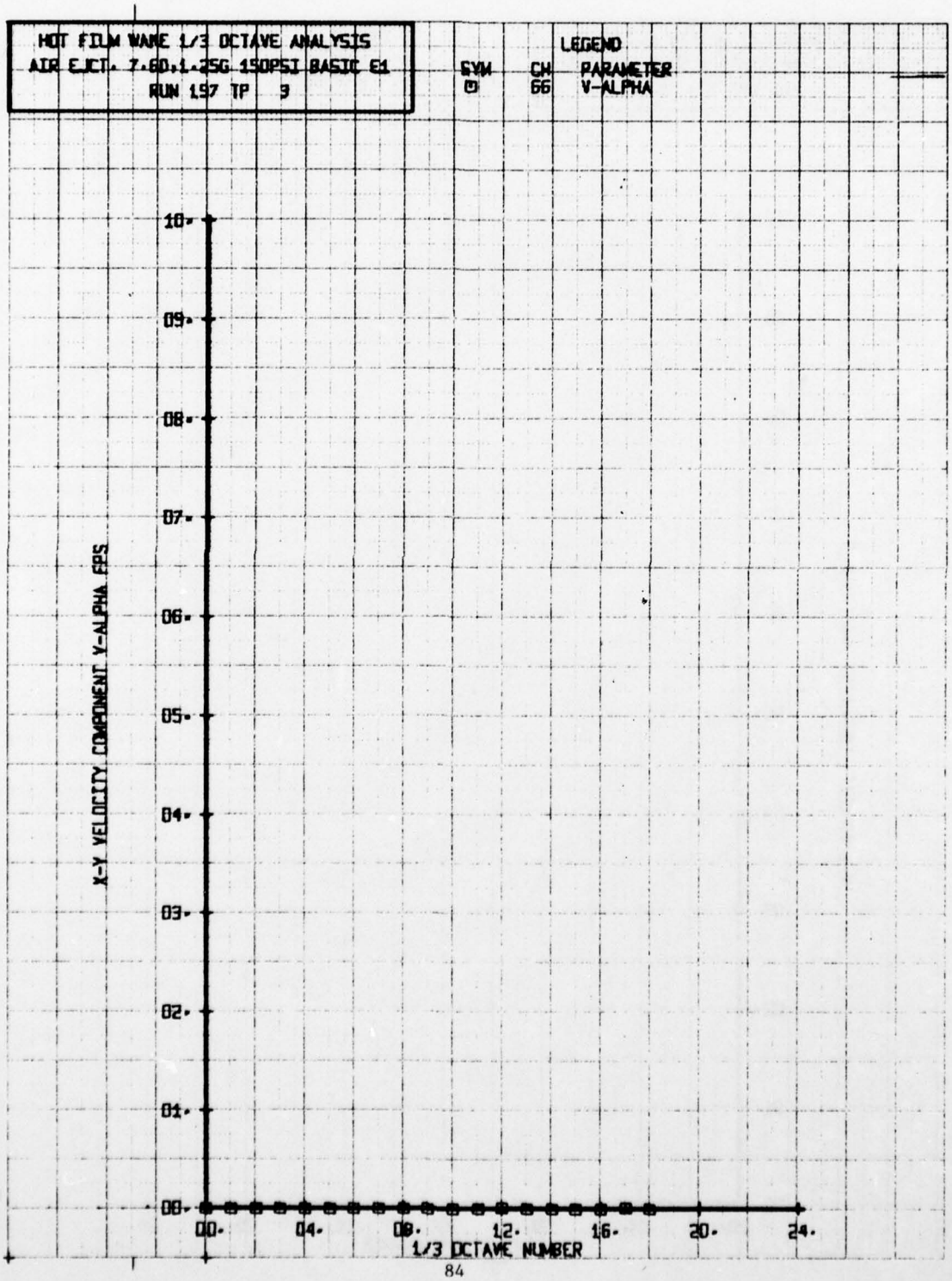
04.
08.
12.
16.
20.
24.
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.60.1.25G 150PSI BASIC E1
RUN 157 TP 3
LEGEND
SYM CH PARAMETER
66 V-ALPHA
10.
09.
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06.
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X-Y VELOCITY COMPONENT Y-ALPHA FPS
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04.
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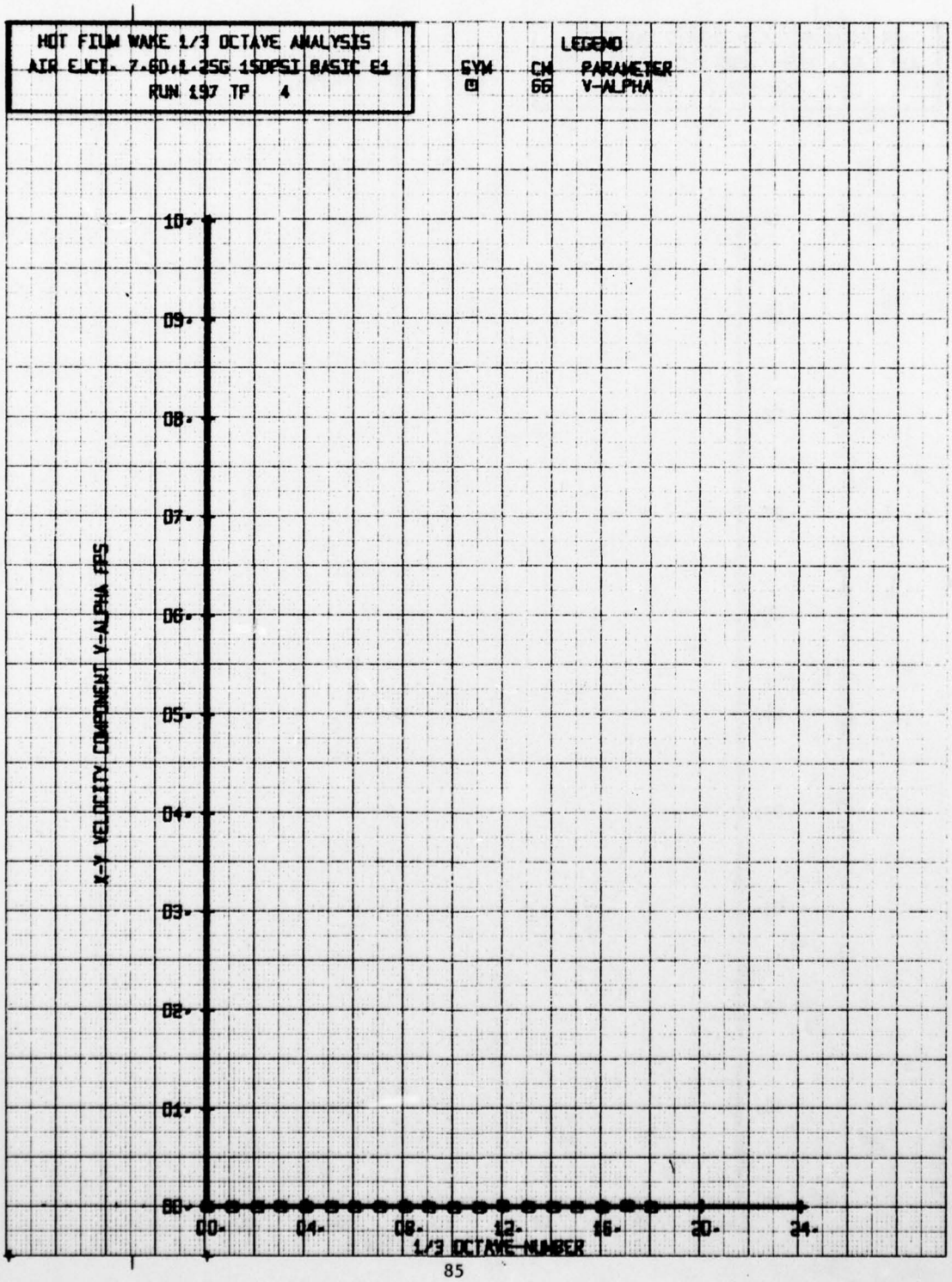
20.
24.
1/3 OCTAVE NUMBER


HOT FIUM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.6D.1.25G 150PSI BASIC E1
RUN 197 TP 4
LEGEND
SYM CM PARAMETER
66 V-ALPHA
10.
09.
08.
07.
06.
05.
04.
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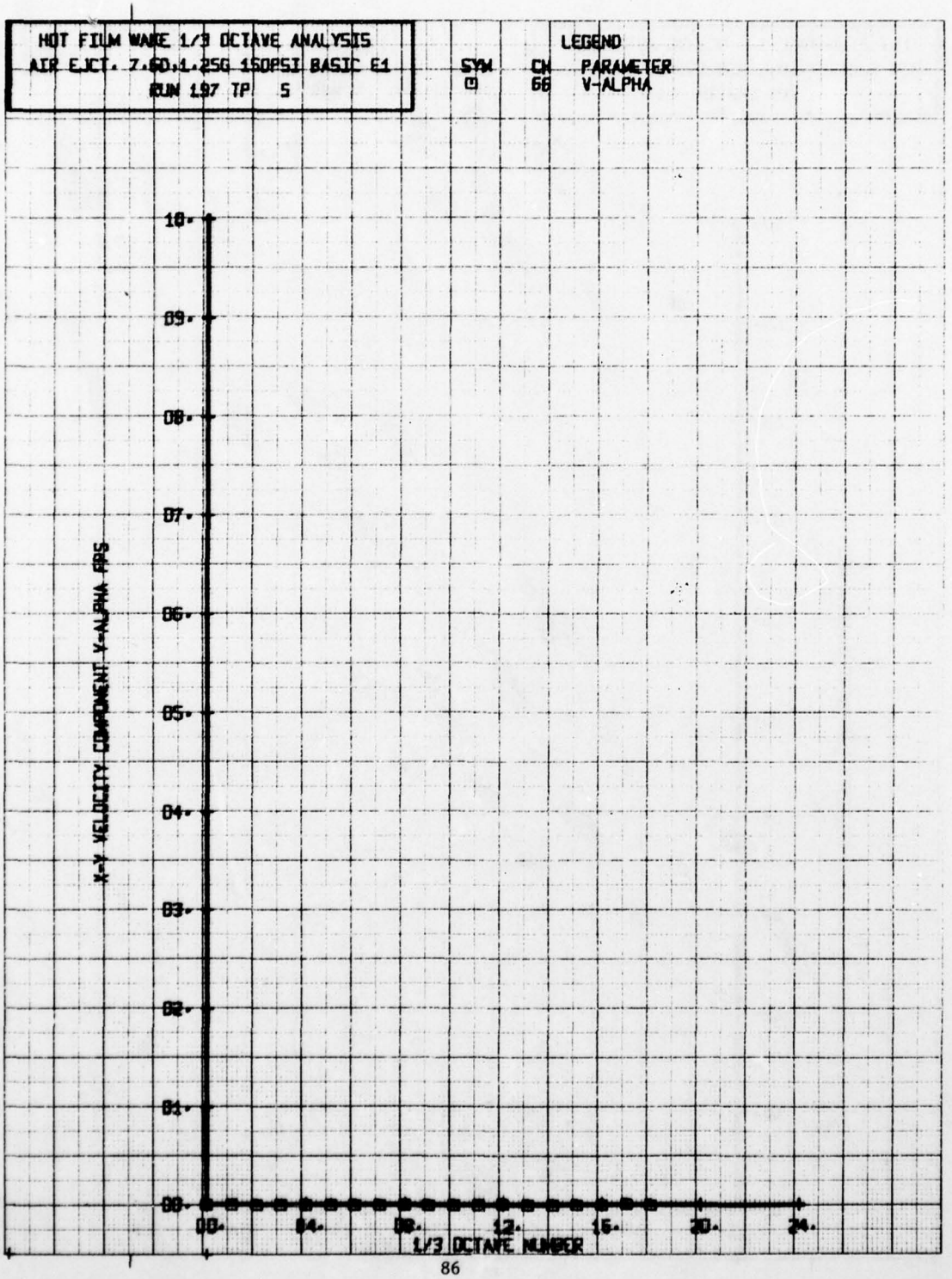
00. 04. 08. 12. 16. 20. 24.
1/3 OCTAVE NUMBER
X-X VELOCITY COMPONENT V-ALPHA FPS


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.60.1.25G 150PSI BASIC E1
RUN 197 TP 5
LEGEND
SYM CH PARAMETER
66 V-ALPHA
10.
09.
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X-Y VELOCITY COMPONENT Y-ALPHA FPS
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16.
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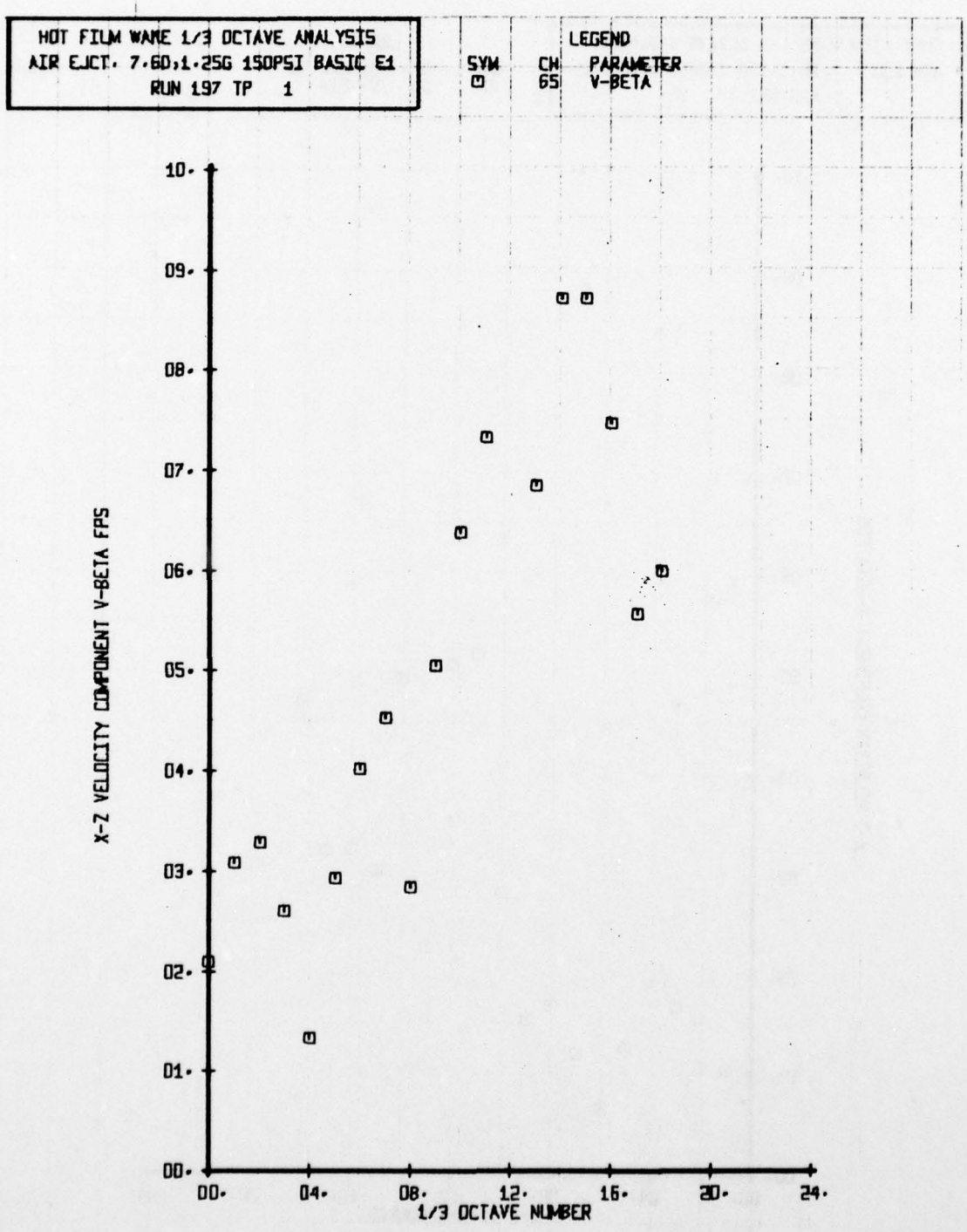
24.
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.6D,1.25G 150PSI BASIC E1
RUN 197 TP 1
LEGEND
SYM CH PARAMETER
65 V-BETA
X-Z VELOCITY COMPONENT V-BETA FPS
10.
09.
08.
07.
06.
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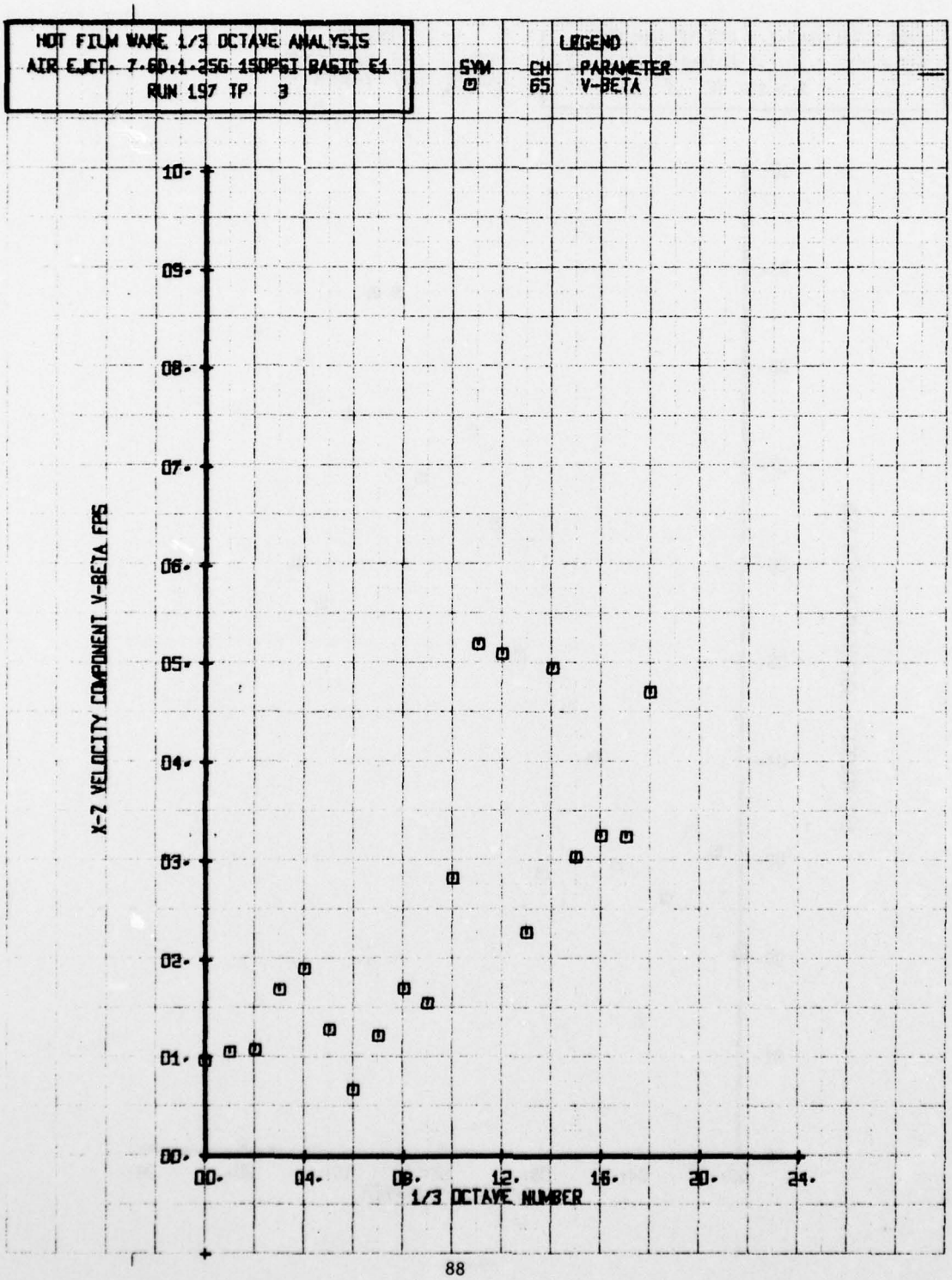
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT- 7-60,1-25G 150PSI BASIC E1
RUN 197 TP 3
LEGEND
SYM CH PARAMETER
65 V-BETA
X-Z VELOCITY COMPONENT V-BETA FPS
10.
09.
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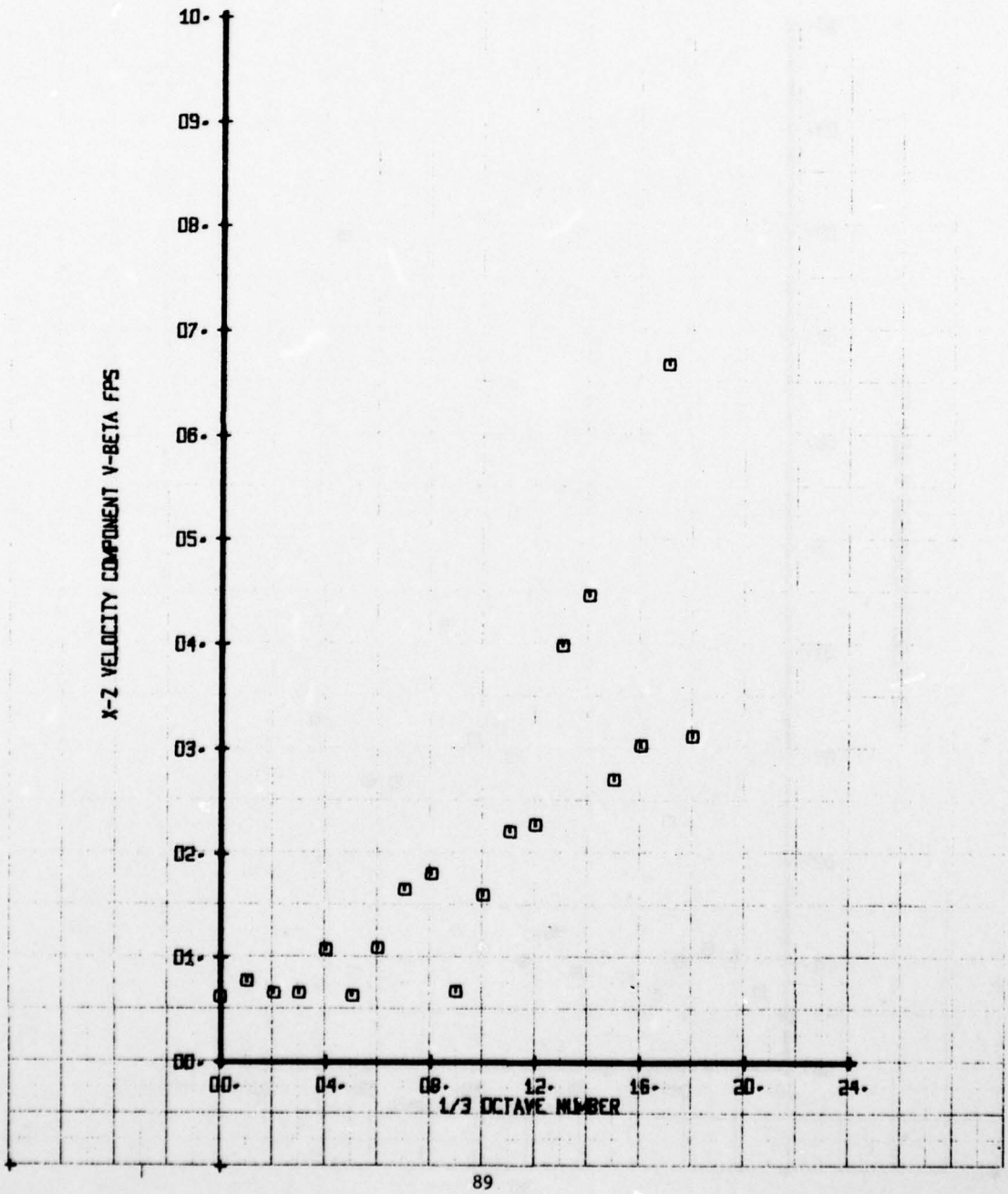
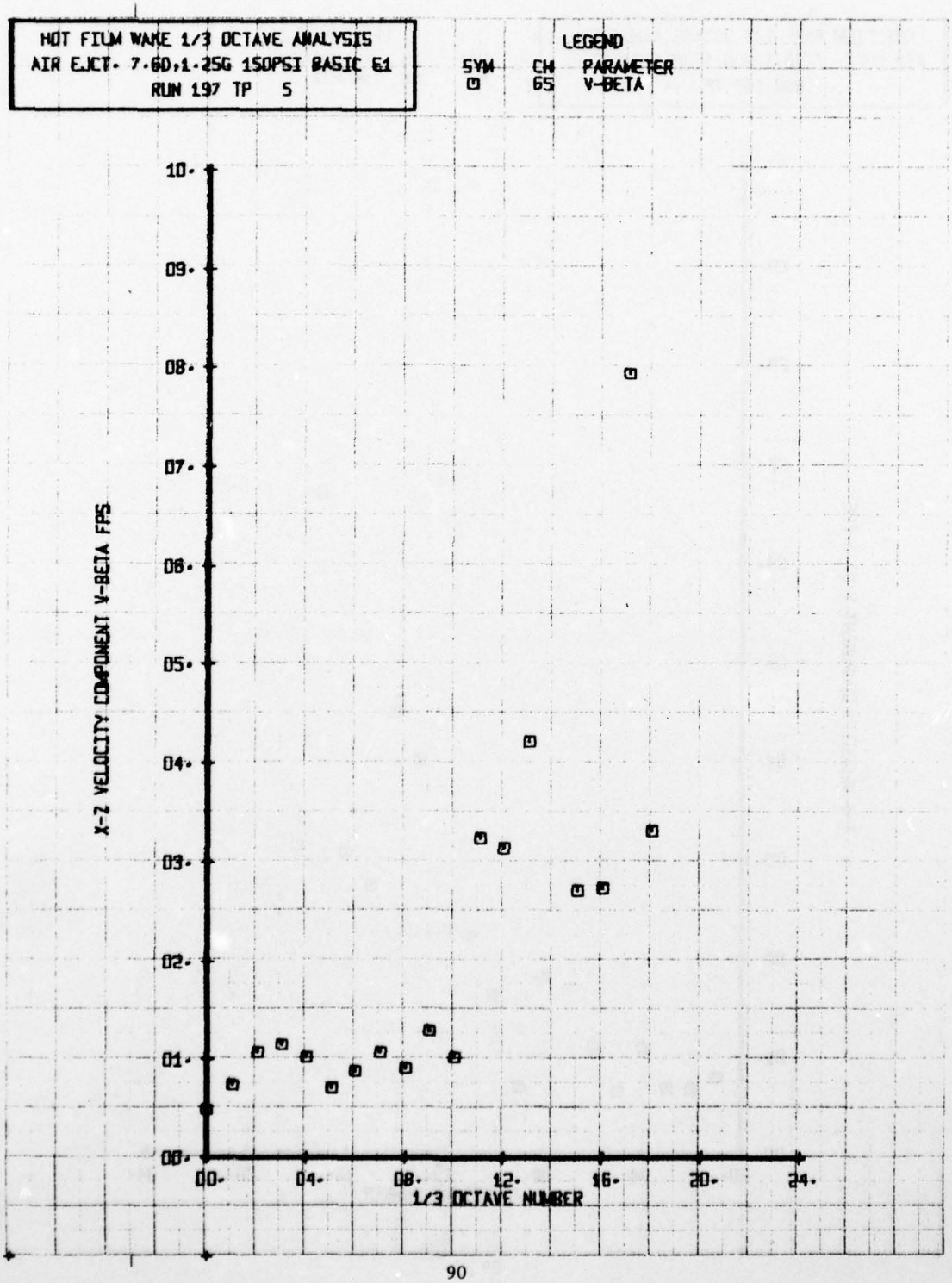
20.
24.
1/3 OCTAVE NUMBER

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.6D,1.25G 150PSI BASIC E1
RUN 197 TP 4

LEGEND

SYM	CH	PARAMETER
□	65	V-BETA




HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.6D,1.25G 150PSI BASIC 61
RUN 197 TP 5
LEGEND
SYM CH PARAMETER
65 V-BETA
X-Z VELOCITY COMPONENT V-BETA FPS
10.
09.
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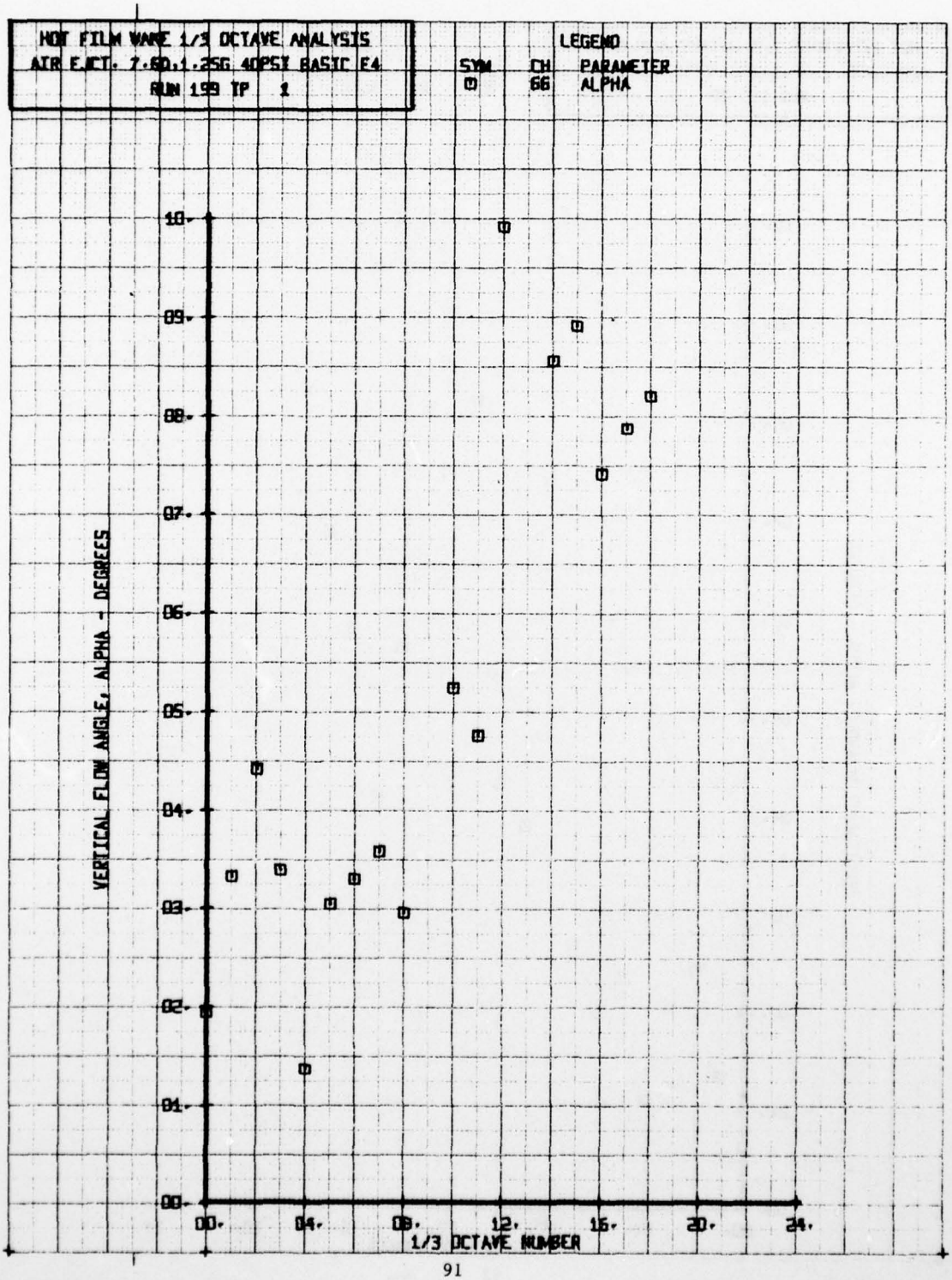
24.
1/3 OCTAVE NUMBER


HOT FILM VANE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.6D,1.25G 40PSI BASIC E4
RUN 199 TP 1
LEGEND
SYM CH PARAMETER
66 ALPHA
10.
09.
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07.
06.
05.
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03.
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VERTICAL FLOW ANGLE, ALPHA - DEGREES
00.
04.
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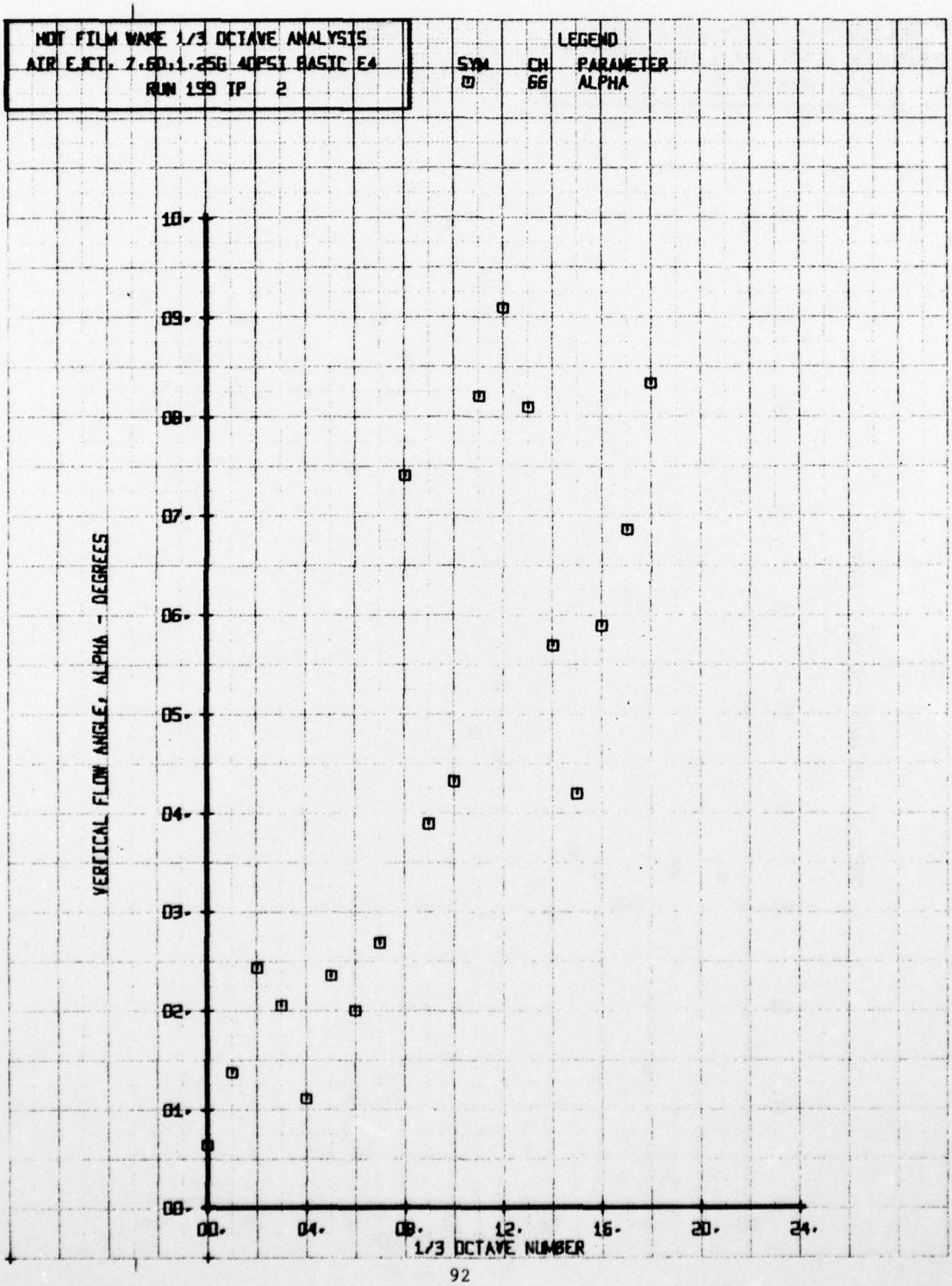
24.
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.60,1.25G 40PSI BASIC E4
RUN 199 TP 2
LEGEND
SYM CH PARAMETER
66 ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
10.
09.
08.
07.
06.
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04.
03.
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04.
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12.
16.
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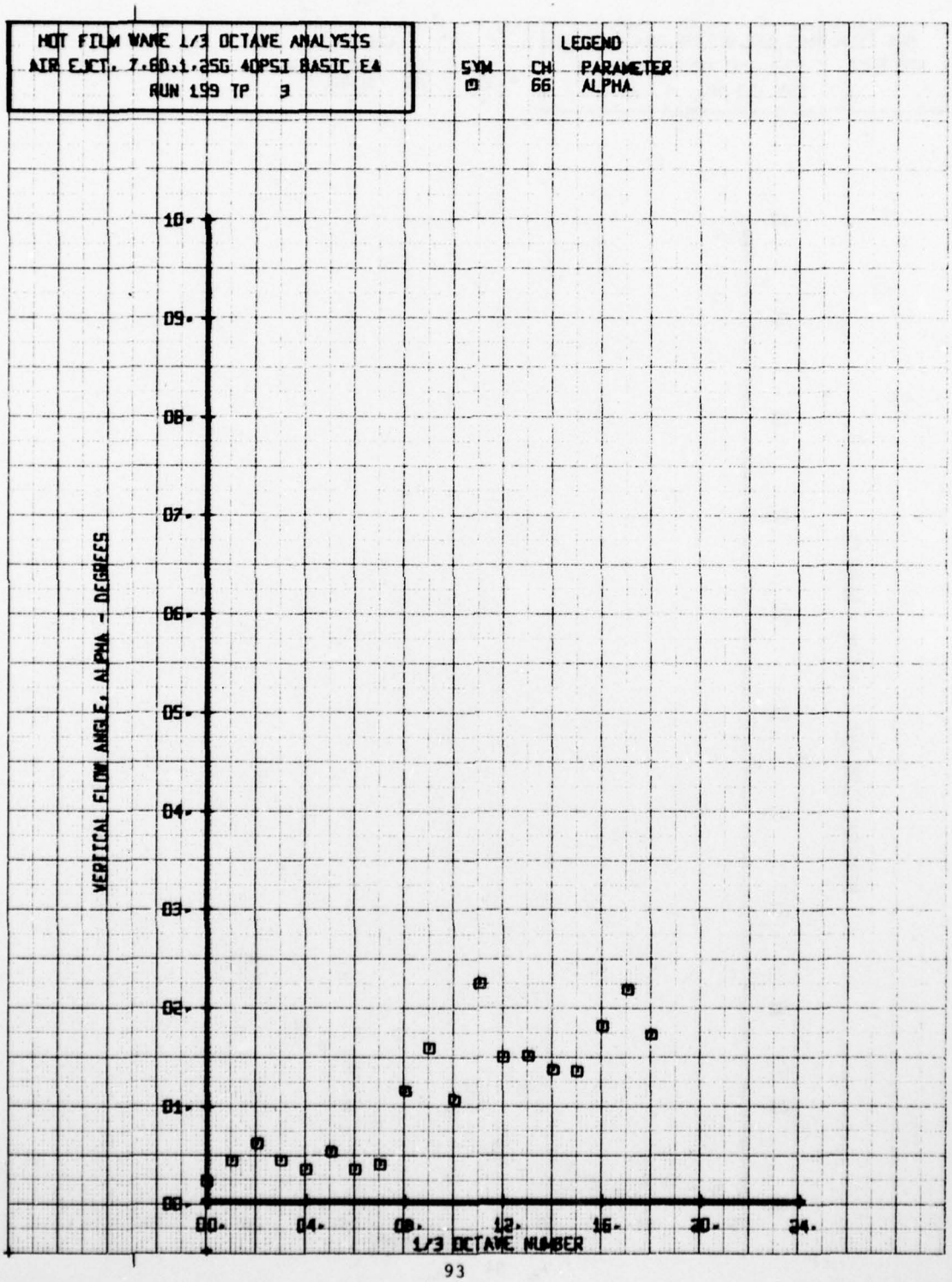
24.
1/3 OCTAVE NUMBER


HOT FILM VANE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.60,1.25G 40PSI BASIC E4
RUN 199 TP 3
LEGEND
SYM CH PARAMETER
66 ALPHA
10.
09.
08.
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06.
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VERTICAL FLOW ANGLE, ALPHA - DEGREES
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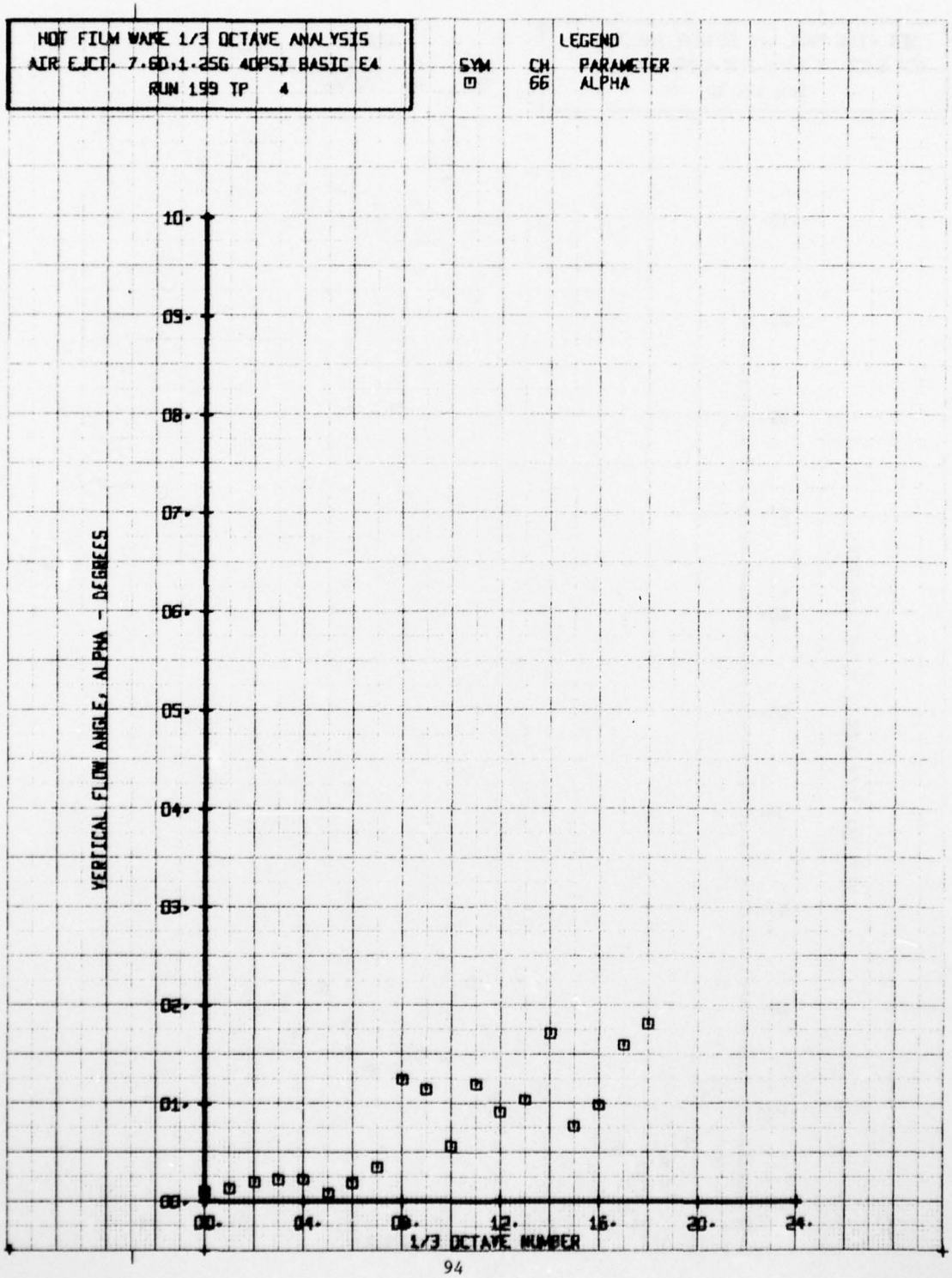
24.
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.6D,1.25G 40PSI BASIC E4
RUN 199 TP 4
LEGEND
SYM CH PARAMETER
66 ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
10.
09.
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07.
06.
05.
04.
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02.
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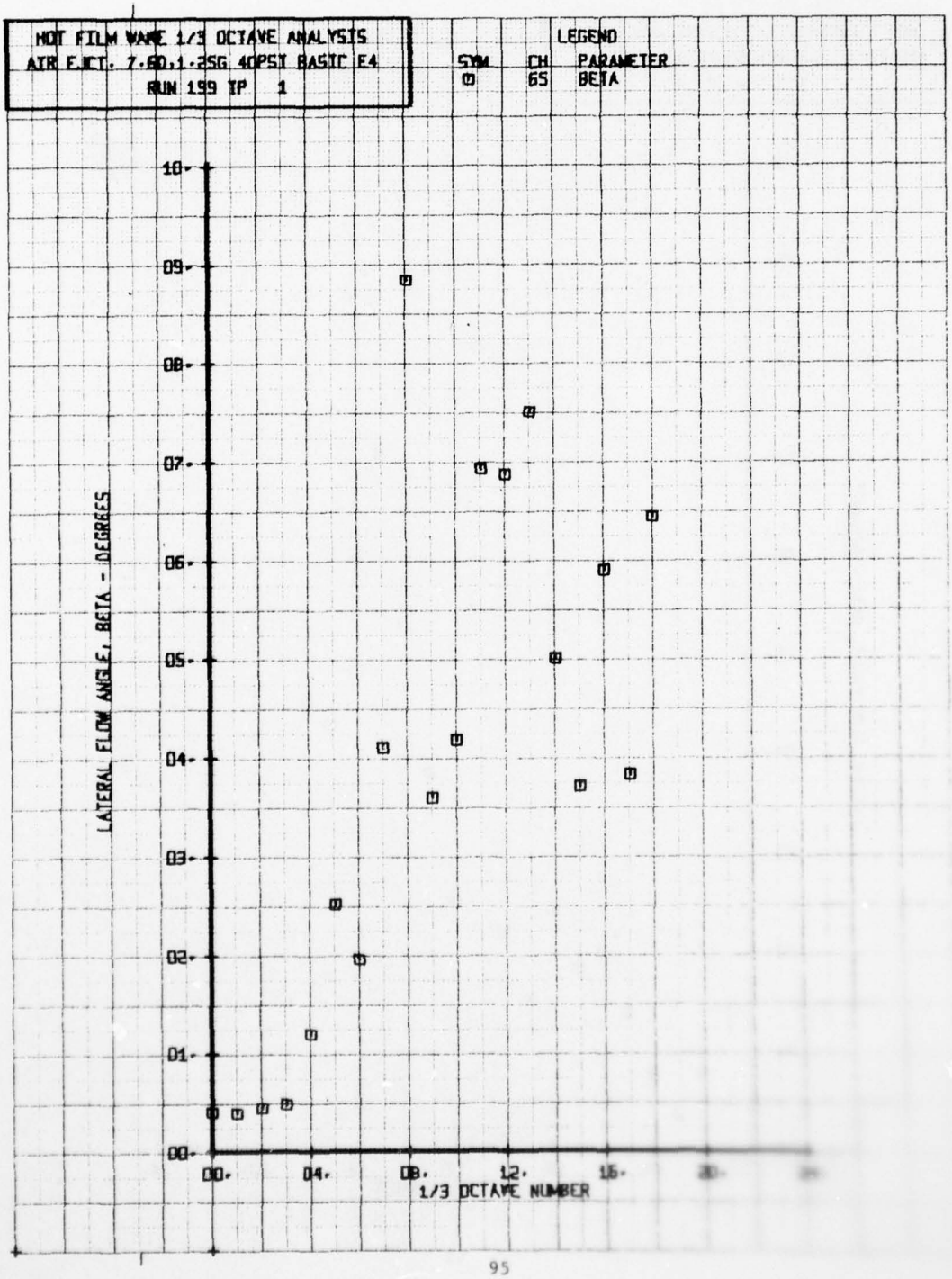
24.
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.50,1.25G 40PSI BASIC E4
RUN 199 TP 1
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
10.
09.
08.
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06.
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16.
1/3 OCTAVE NUMBER

AD-A063 244 BOEING VERTOL CO PHILADELPHIA PA F/G 1/3
INTERACTIONAL AERODYNAMICS OF THE SINGLE ROTOR HELICOPTER CONFI--ETC(U)
SEP 78 P F SHERIDAN DAAJ02-77-C-0020
UNCLASSIFIED USARTL-TR-78-23D NL

2 OF 3
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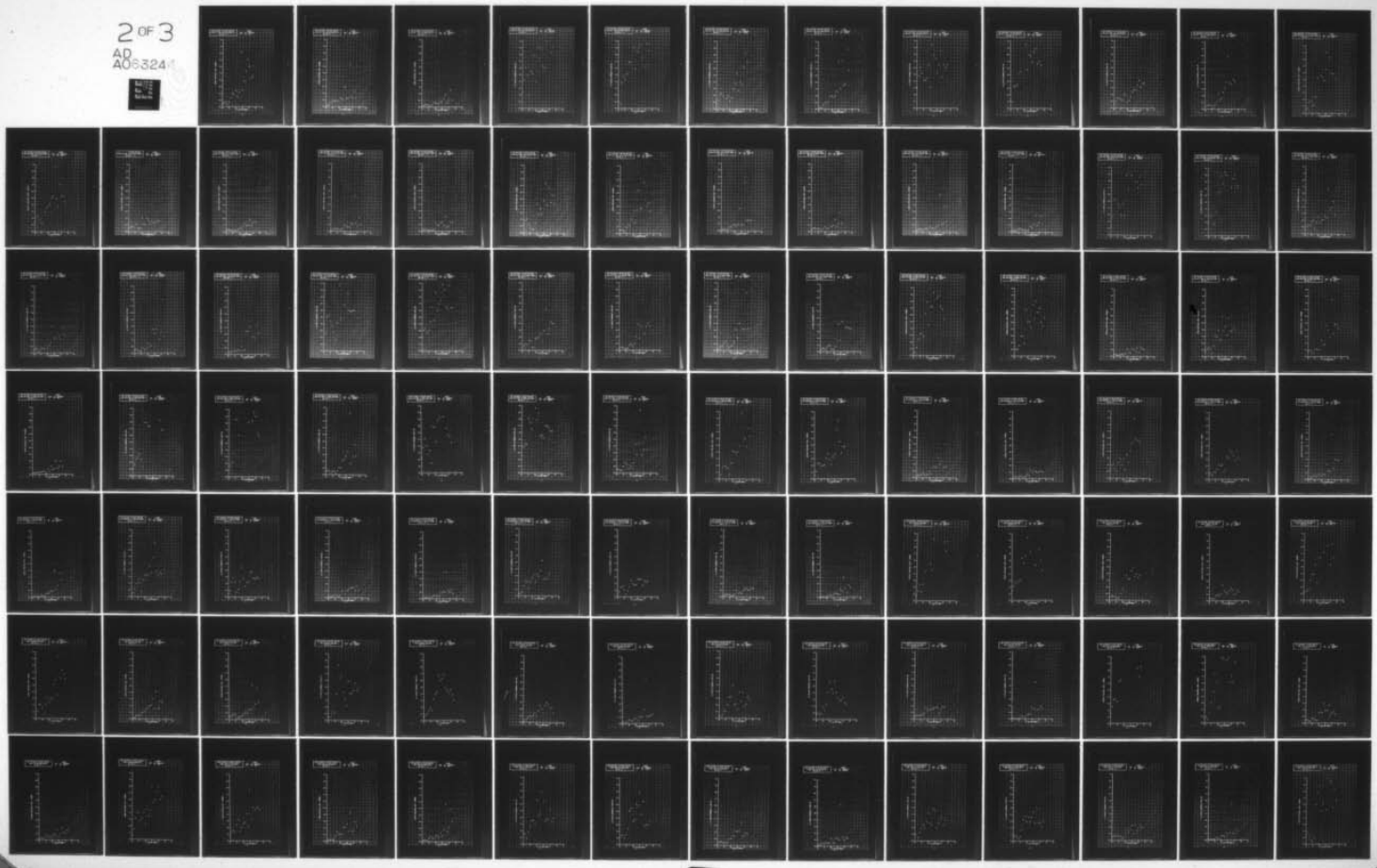

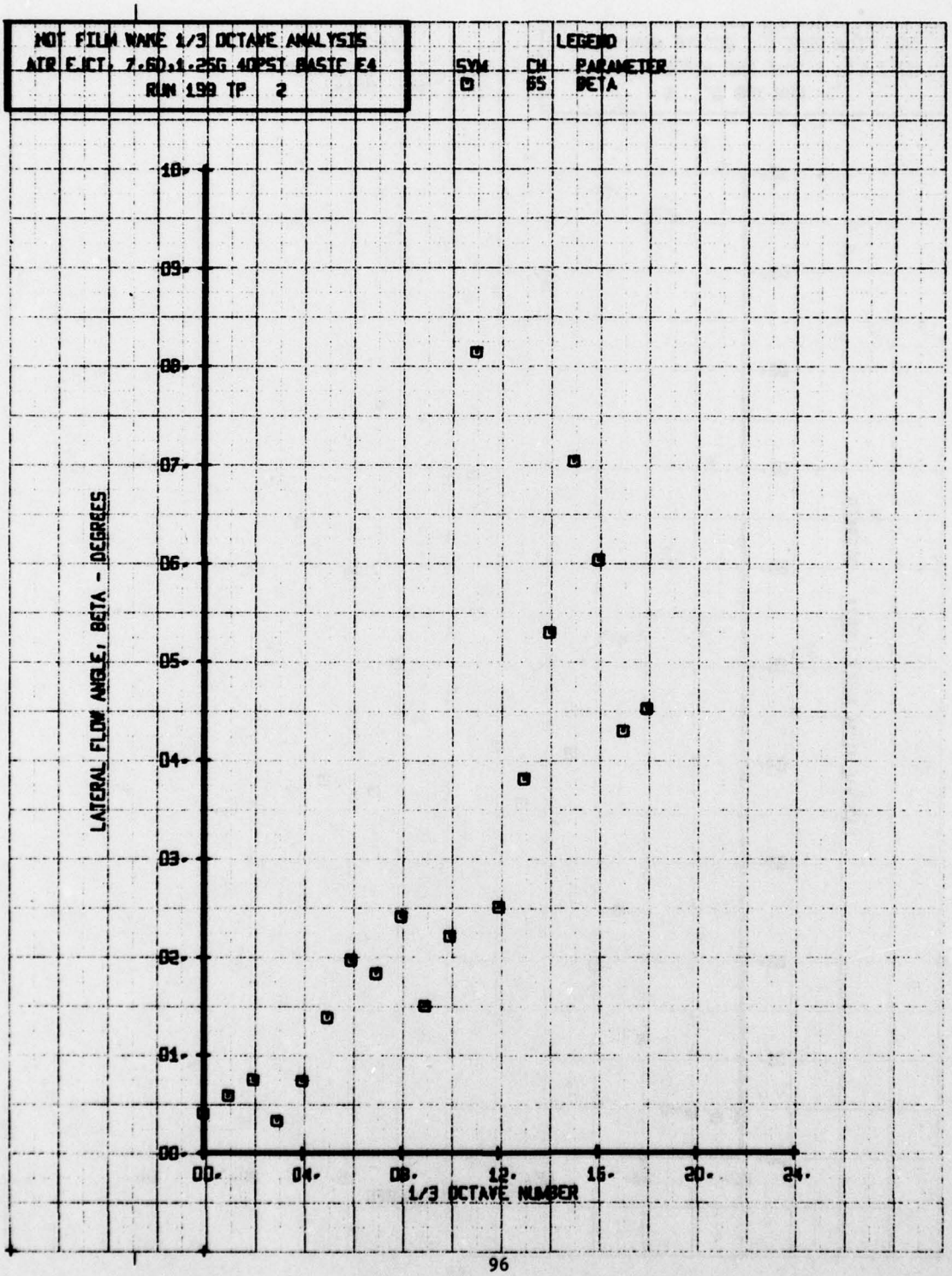
HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT, 7.6D,1.25G 40PSI BASIC E4
RUN 199 TP 2
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
10.
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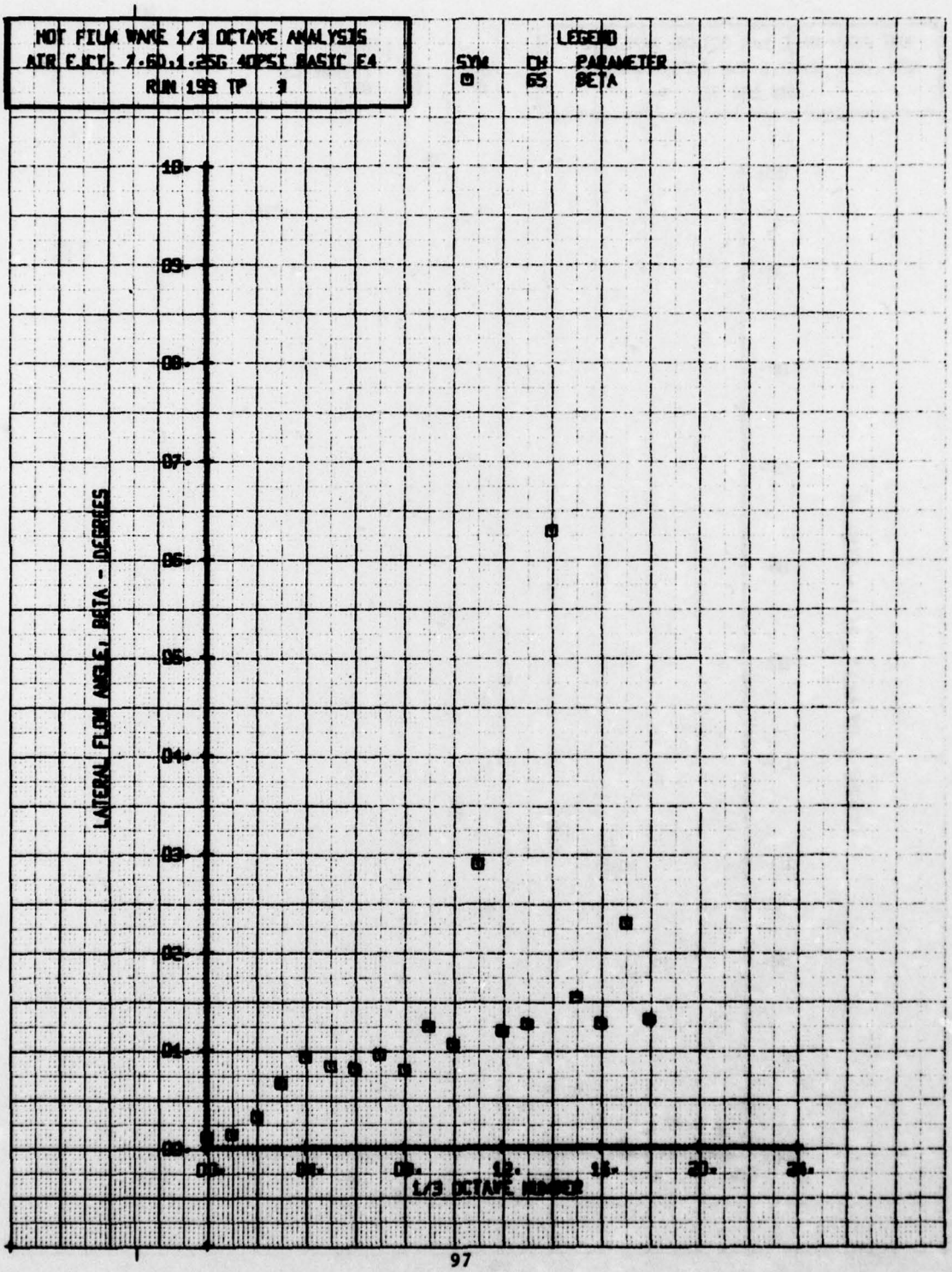
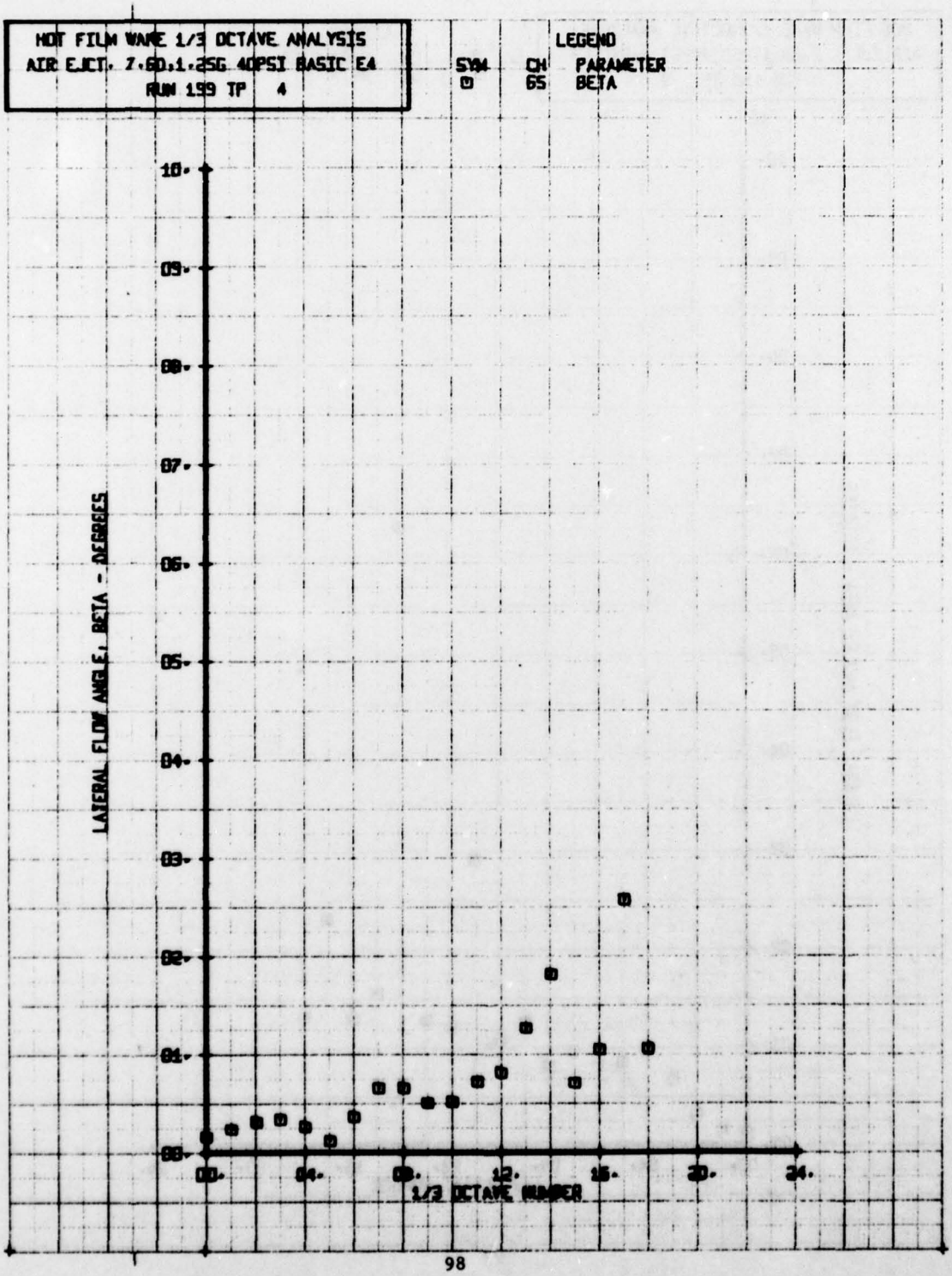
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT- 2.60,1.25G 40PSI BASIC E4
RUN 193 TP 3
LEGEND
SYM CH PARAMETER
BETA
LATERAL FLOW ANGLE, BETA - DEGREES
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.60,1.25G 40PSI BASIC E4
RUN 199 TP 4
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
10.
09.
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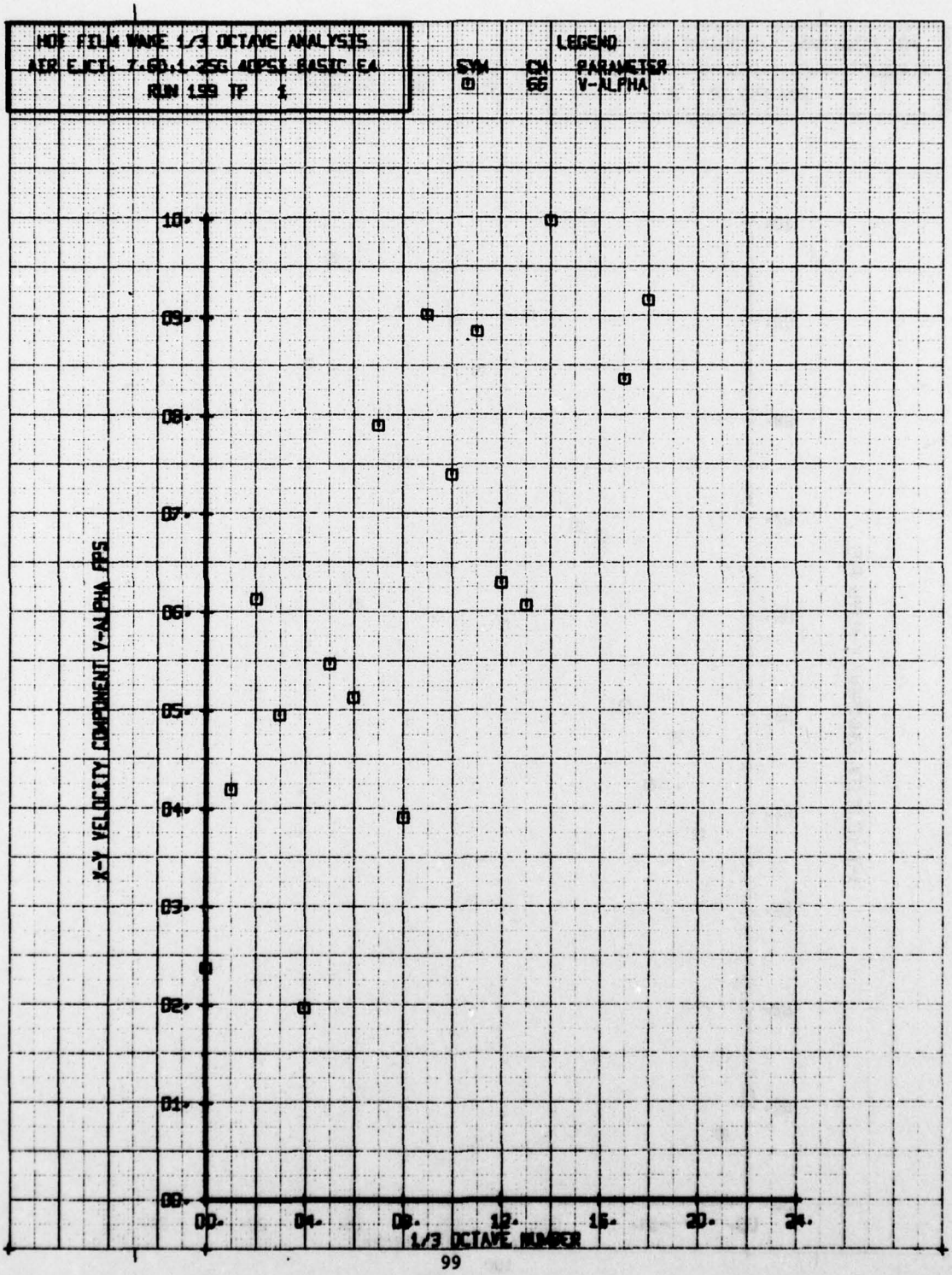
1/3 OCTAVE NUMBER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AIR EJCT. 7.60,1.25G 40PSI BASIC E4
RUN 159 TP 1
LEGEND
SYM CH PARAMETER
66 V-ALPHA
10.
09.
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X-Y VELOCITY COMPONENT V-ALPHA FPS
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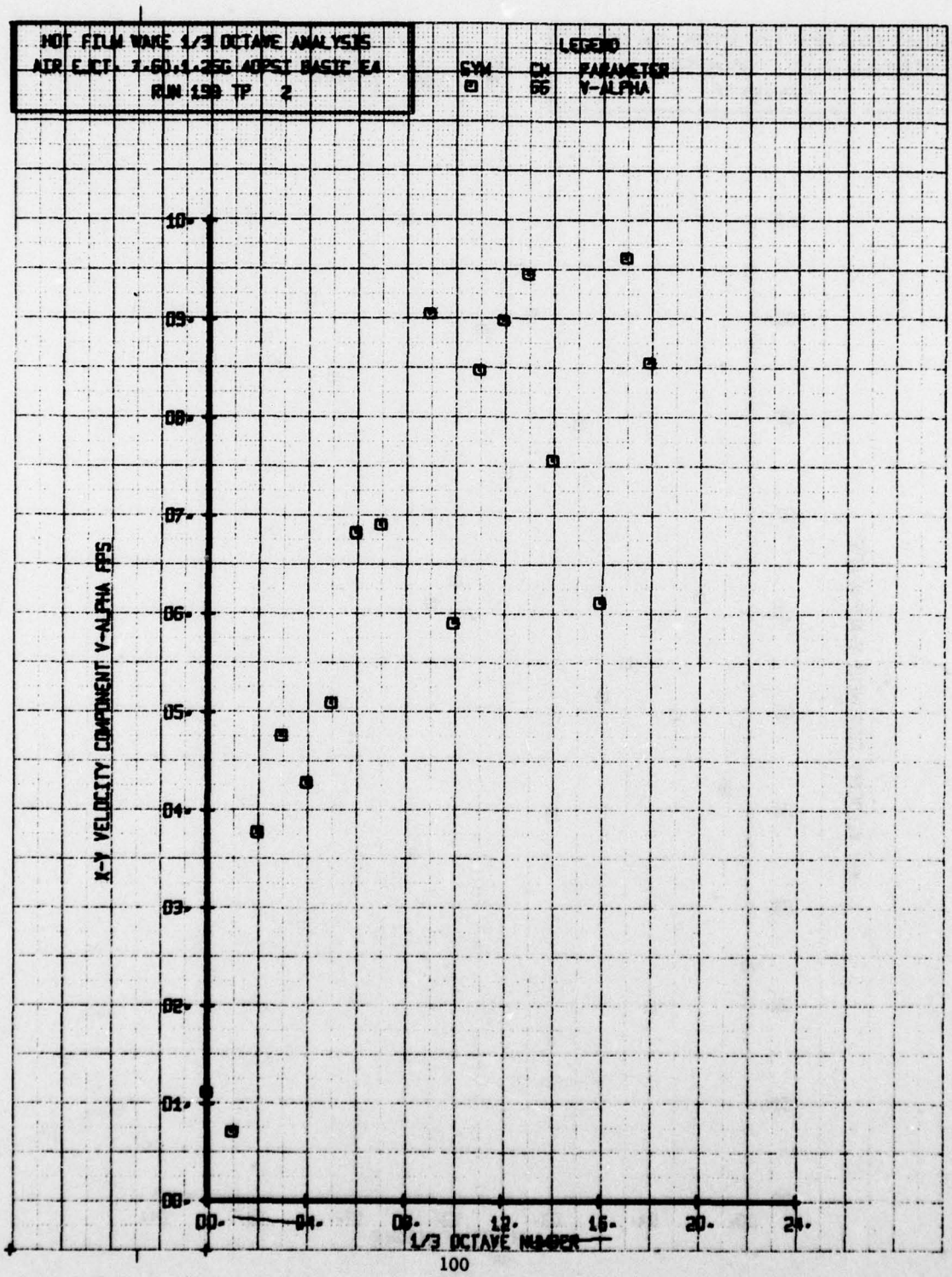
24.
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.60,1.25G 40PSI BASIC E4
RUN 199 TP 2
LEGEND
SYM CH PARAMETER
66 V-ALPHA
10.
09.
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X-V VELOCITY COMPONENT V-ALPHA FPS
00.
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12.
16.
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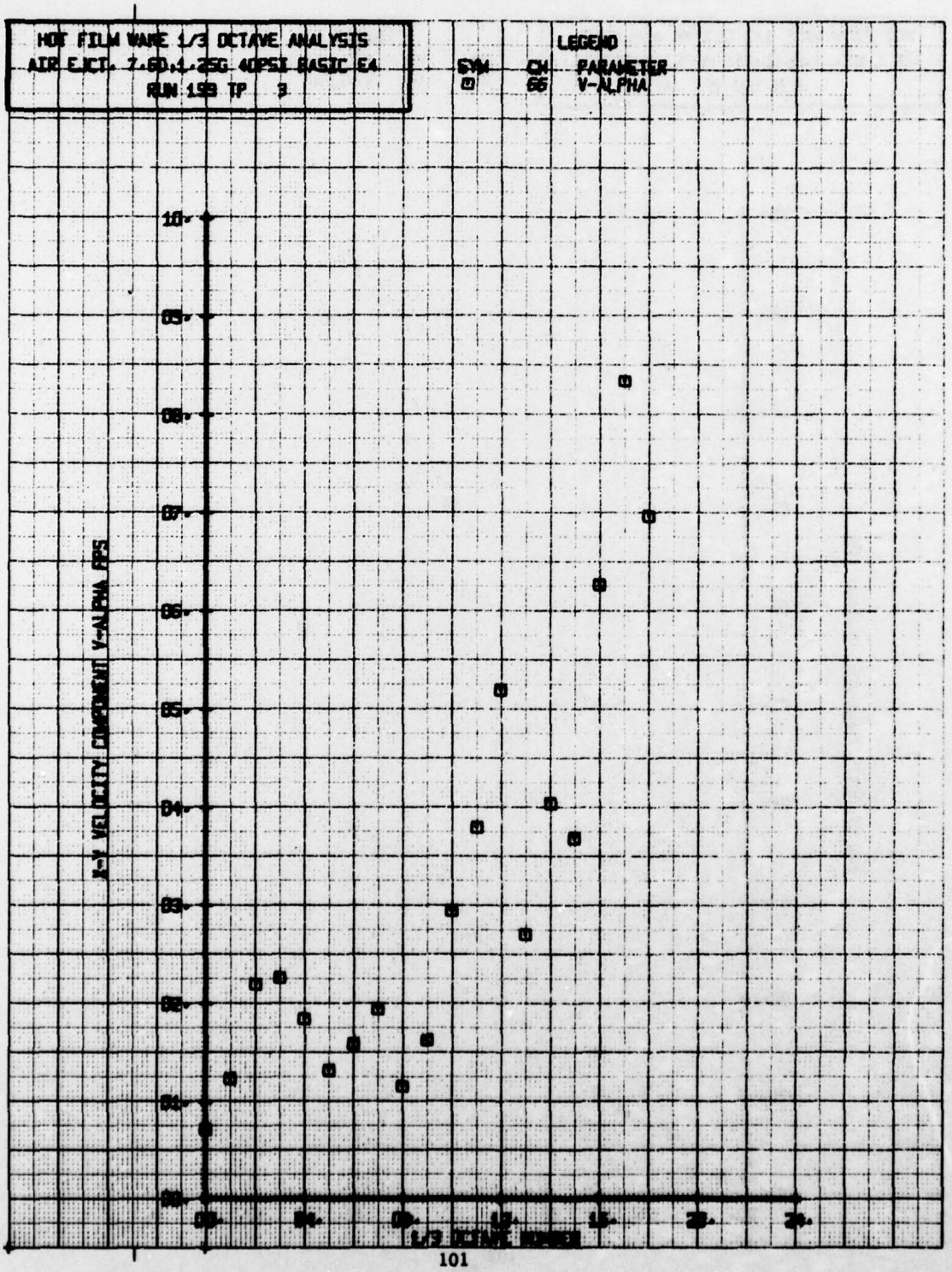
24.
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.6D,1.25G 40PSI BASIC E4
RUN 193 TP 3
LEGEND
SYM CH PARAMETER
@ 66 V-ALPHA
10
09
08
07
06
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02
01
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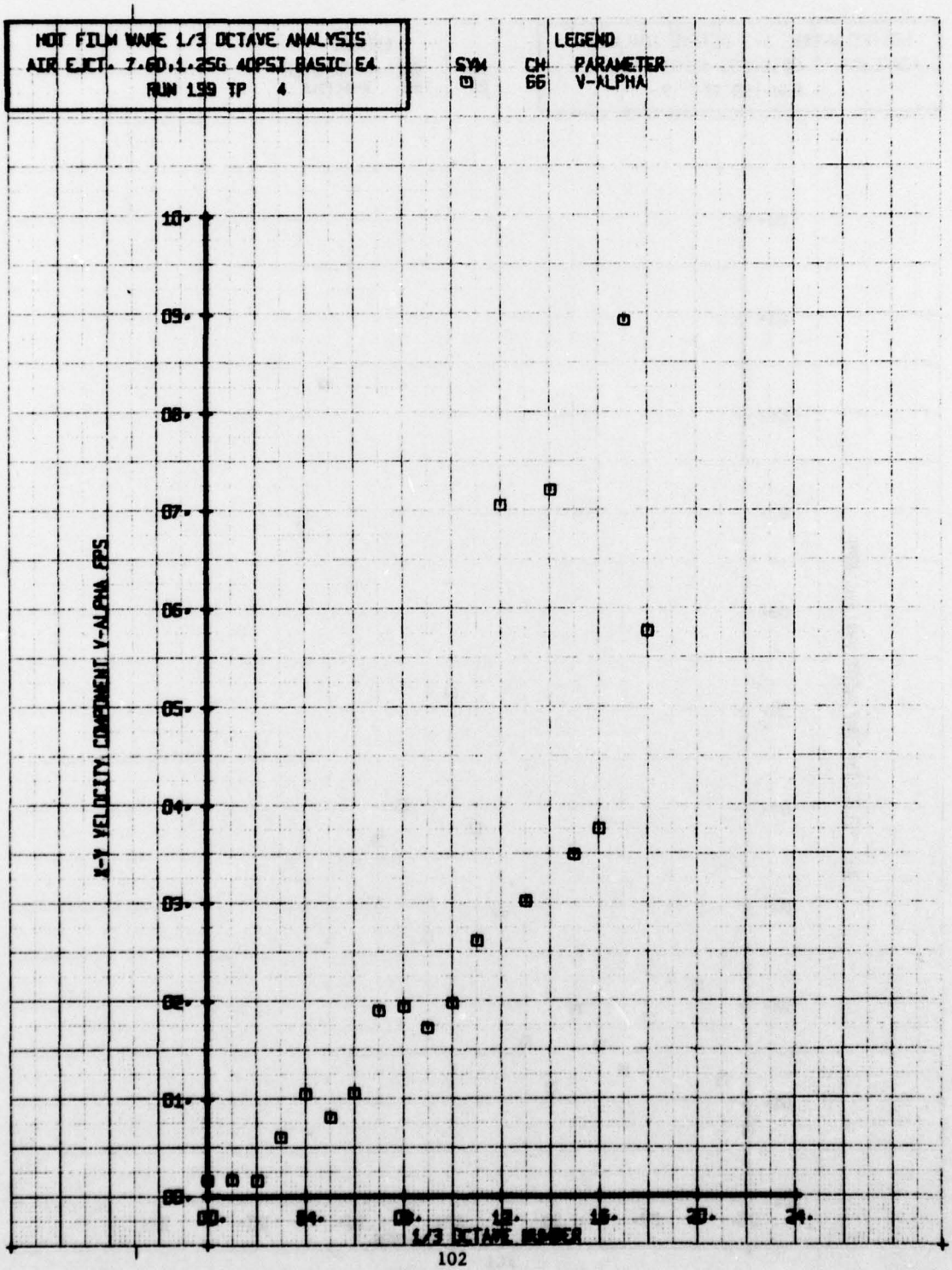
X-V VELOCITY COMPONENT V-ALPHA FPS
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.6D,1.25G 40PSI BASIC E4
RUN 159 TP 4
LEGEND
SYM CH PARAMETER
66 V-ALPHA
10.
09.
08.
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X-Y VELOCITY COMPONENT Y-ALPHA FPS
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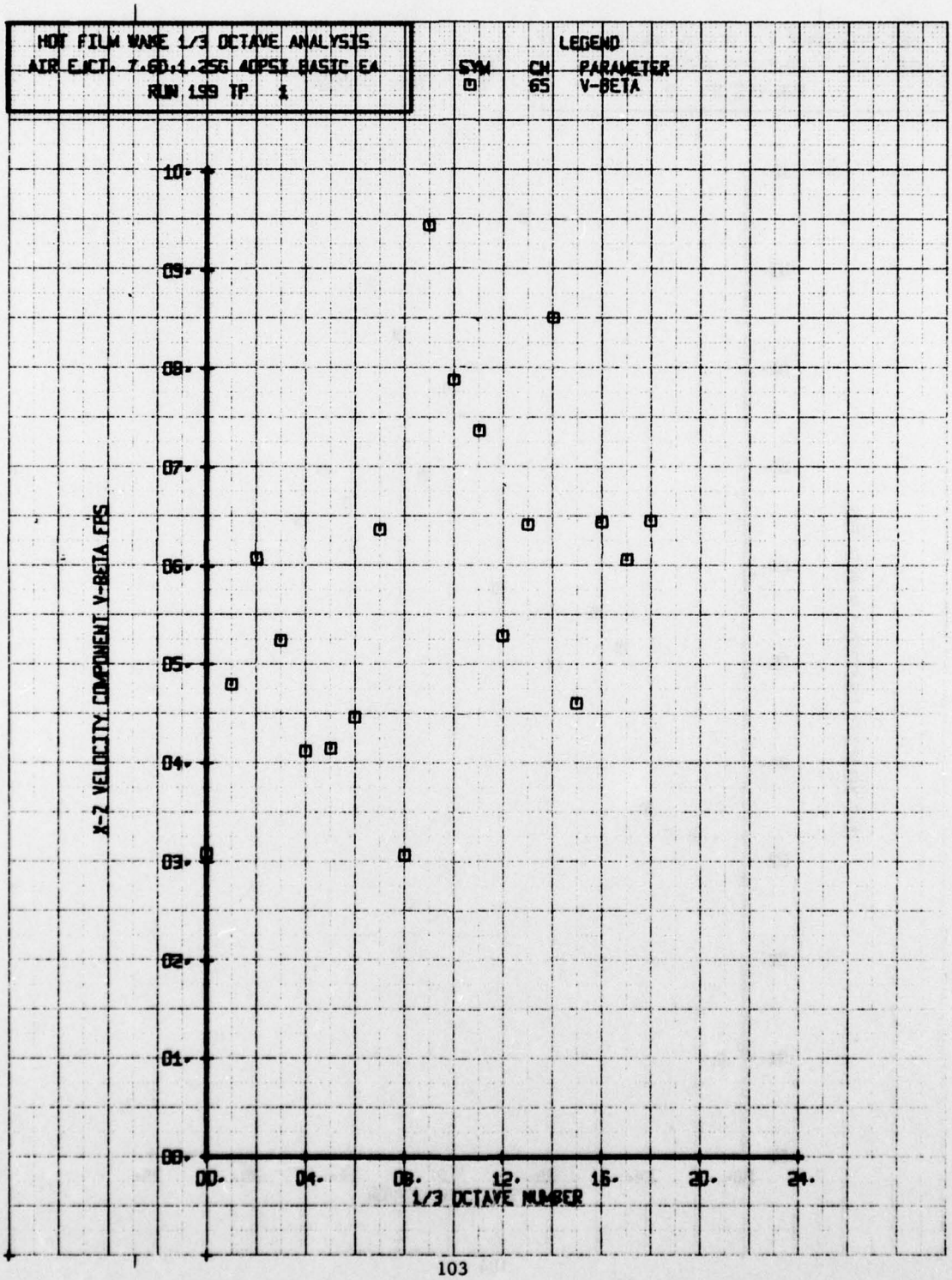
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.60,1.25G 40PSI BASIC EA
RUN 199 TP 1
LEGEND
SYM CH PARAMETER
65 V-BETA
X-2 VELOCITY COMPONENT V-BETA FPS
1/3 OCTAVE NUMBER
10.
09.
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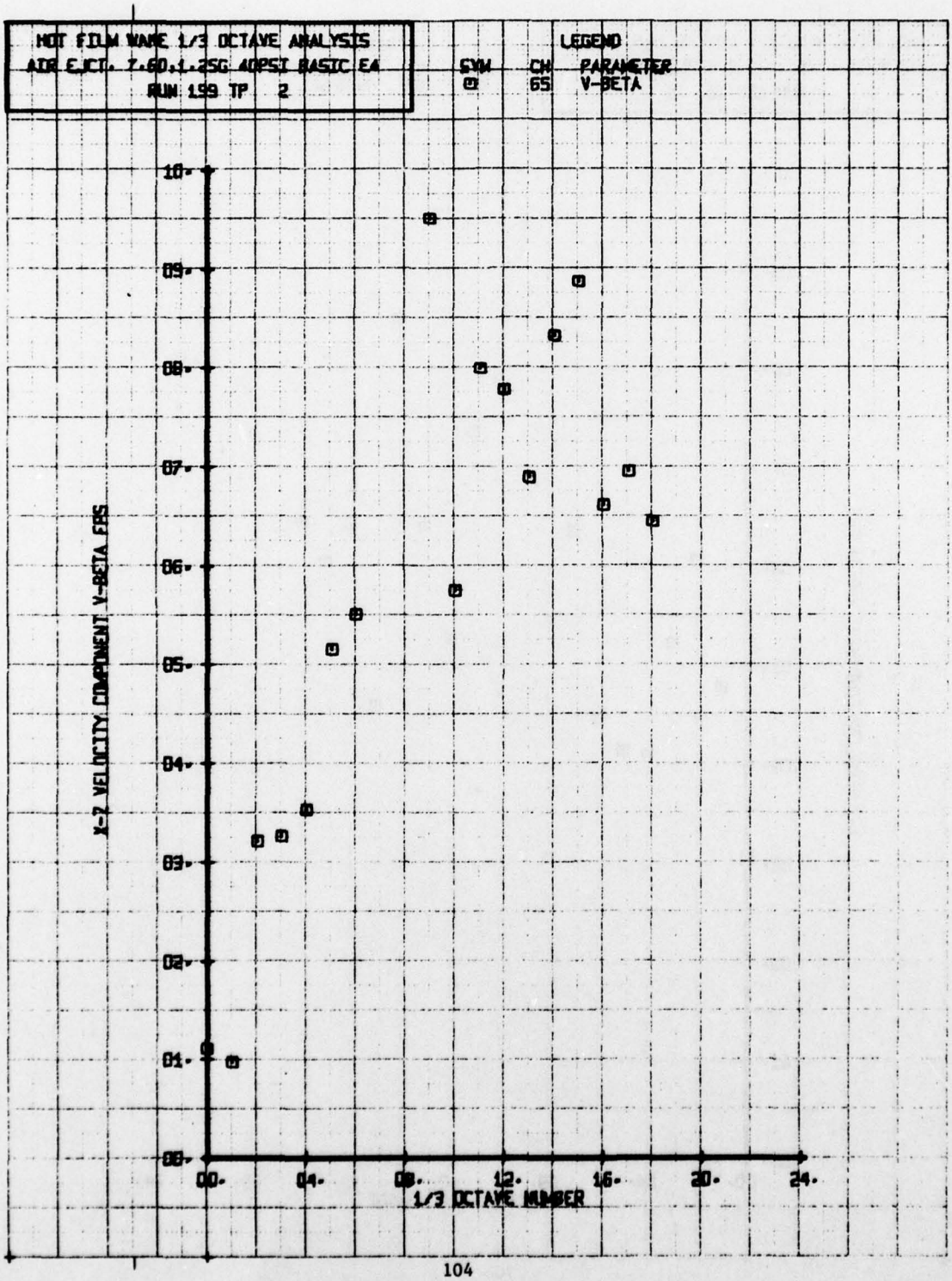
HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.60,1.25G 40PSI BASIC E4
RUN 199 TP 2
LEGEND
SYM CH PARAMETER
65 V-BETA
10.
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X-Z VELOCITY COMPONENT V-BETA FPS
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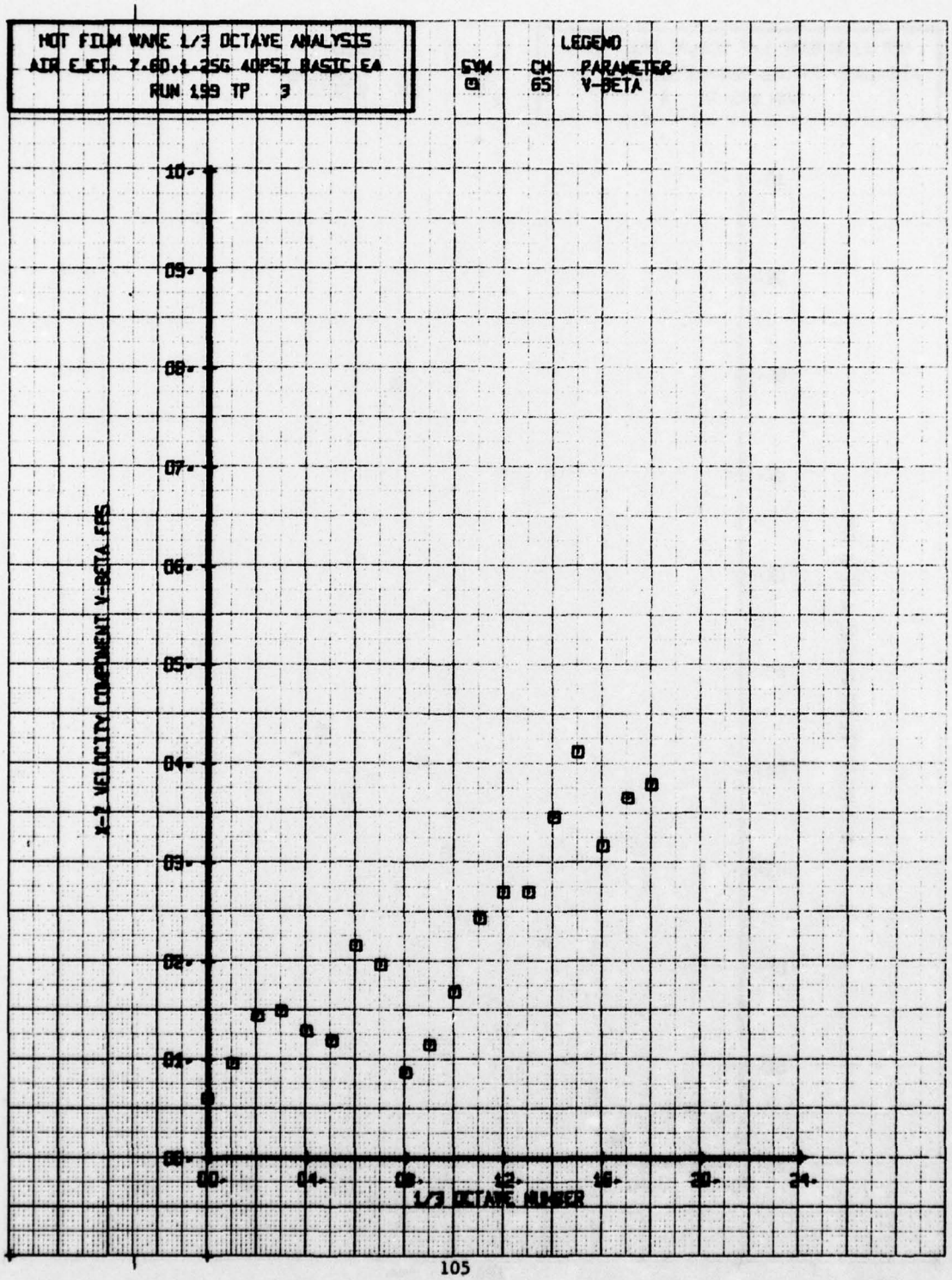
24.
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.60,1.25G 40PSI BASIC EA
RUN 199 TP 3
LEGEND
SYM CH PARAMETER
0 65 V-BETA
10.
09.
08.
07.
06.
05.
04.
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X-2 VELOCITY COMPONENT V-BETA FPS
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04.
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12.
16.
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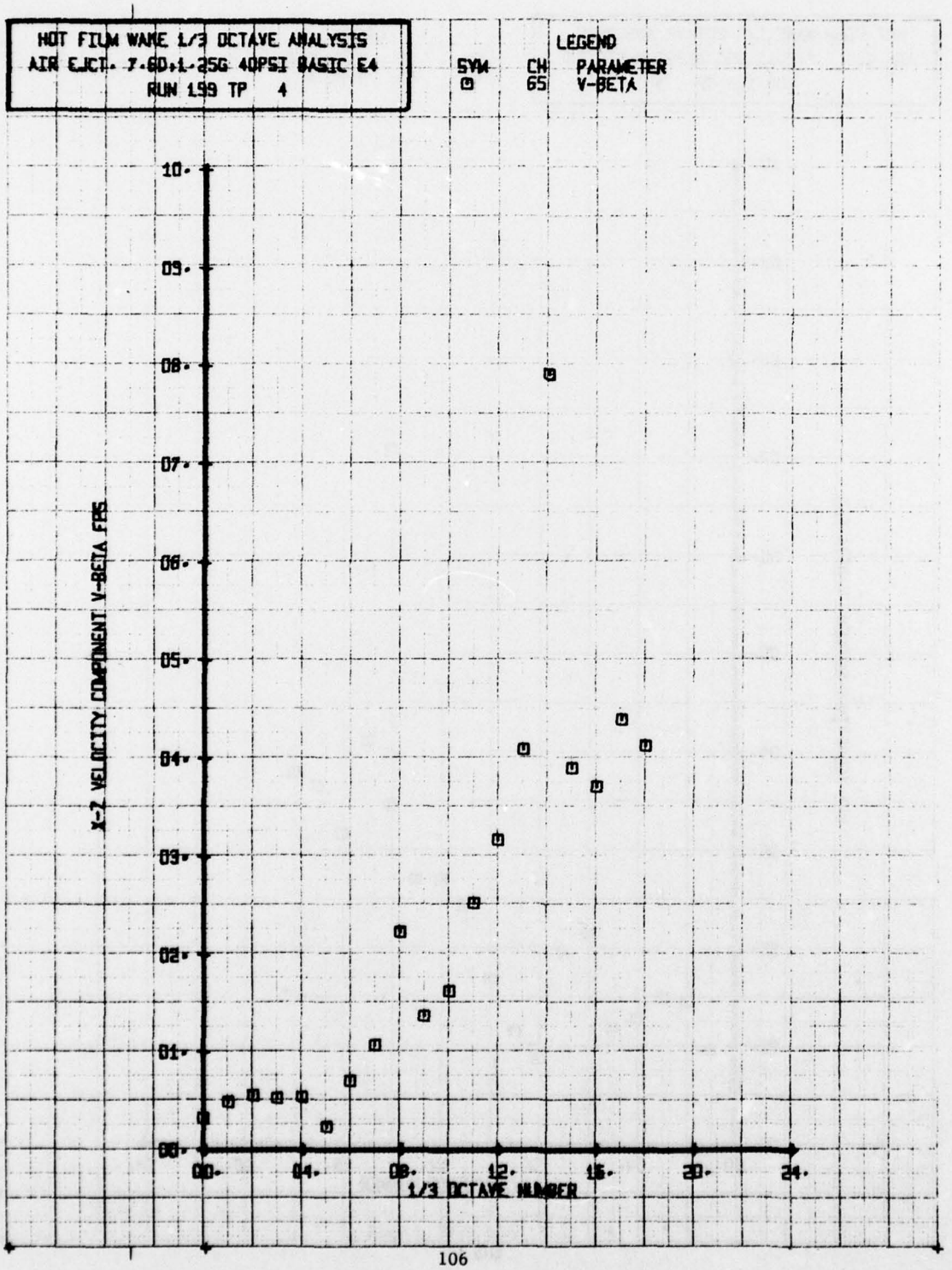
24.
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJCT. 7.80+1.25G 40PSI BASIC E4
RUN 199 TP 4
LEGEND
SYM CH PARAMETER
65 V-BETA
X-Z VELOCITY COMPONENT V-BETA FPS
1/3 OCTAVE NUMBER
10.
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16.
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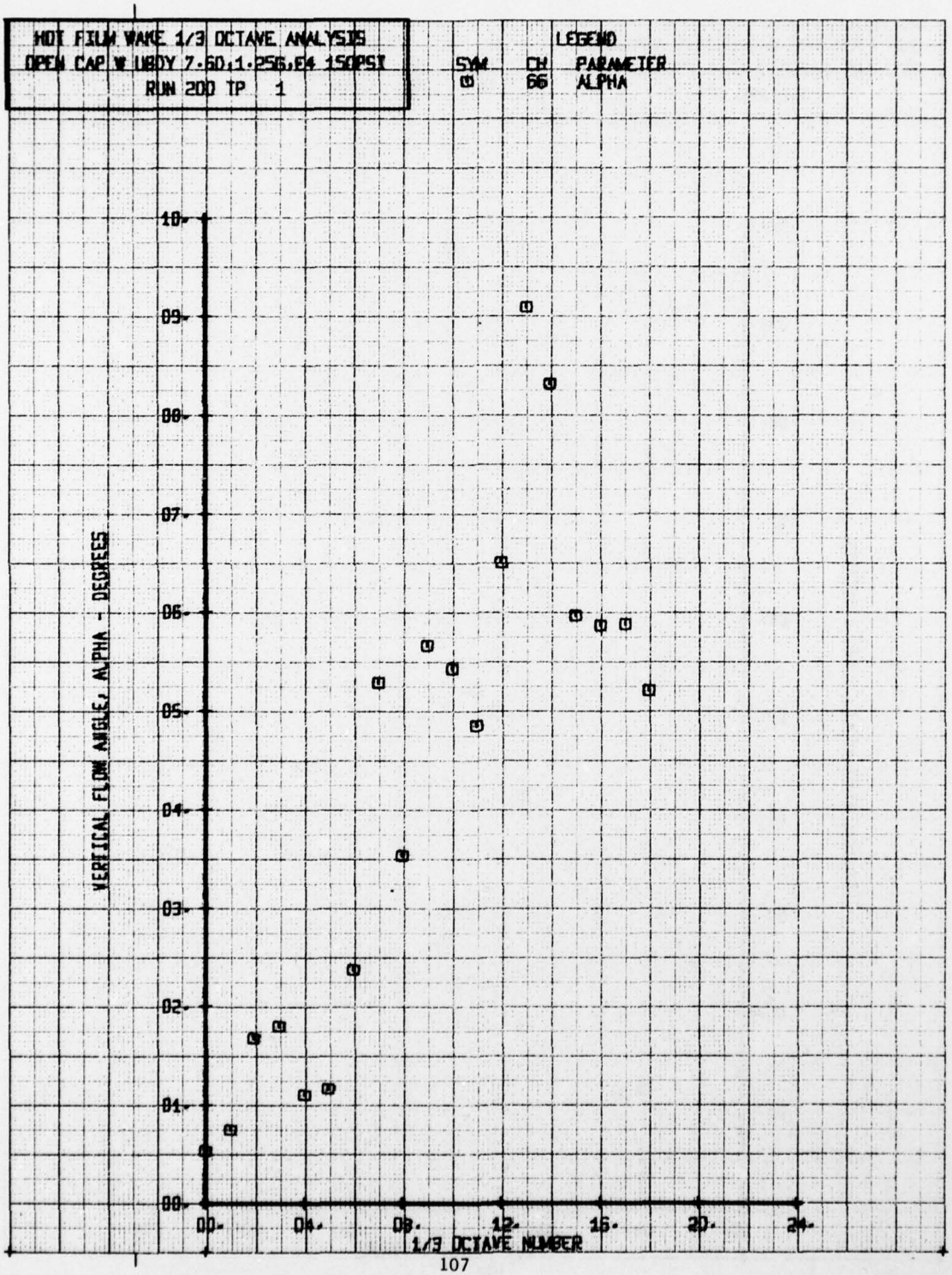
24.


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W UBDY 7.60,1.256,E4 150PSI
RUN 200 TP 1
LEGEND
SYM CH PARAMETER
66 ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
10.
09.
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06.
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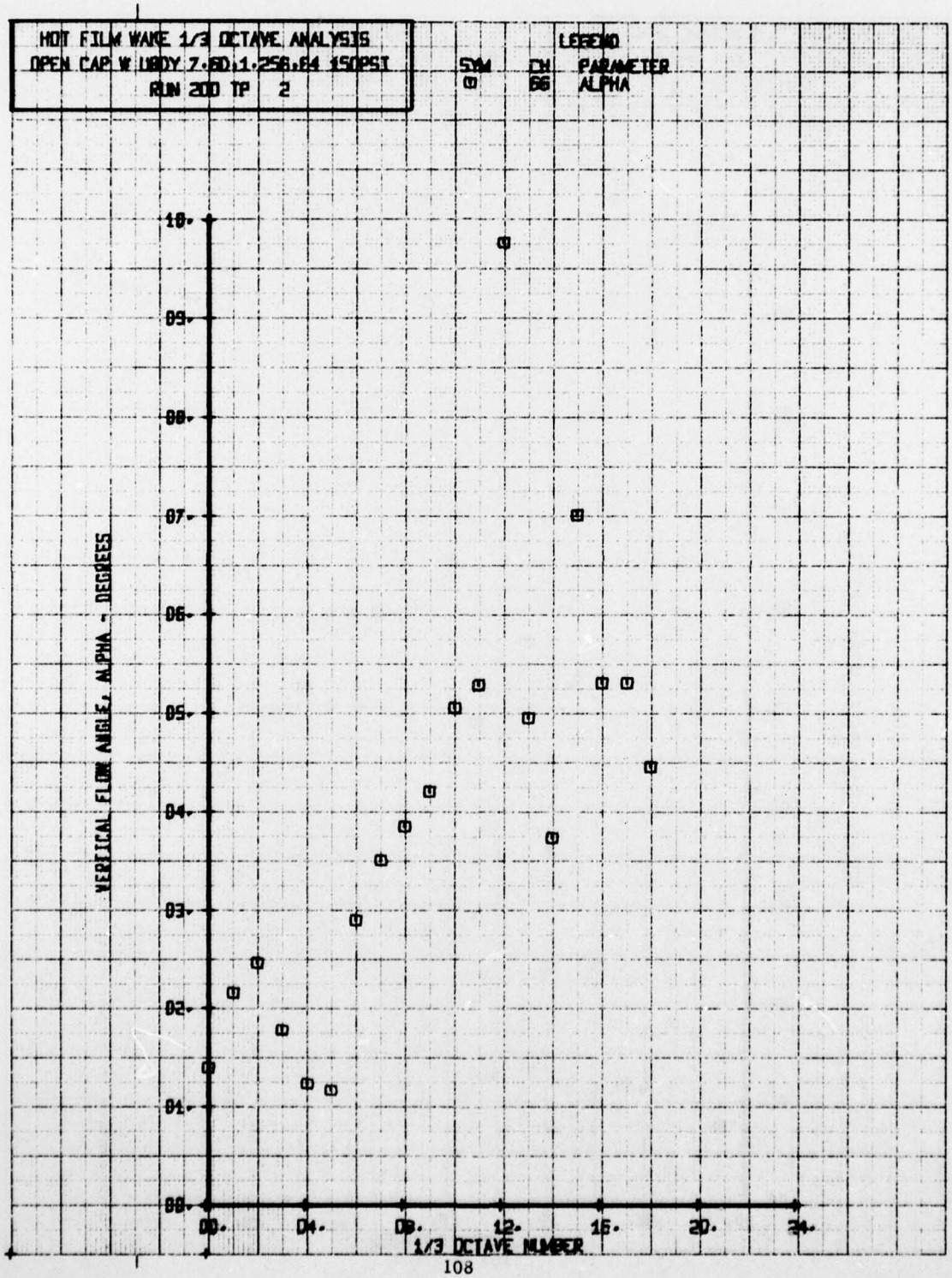
24.
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W HBDY 7.6D,1.25B,84 150PSI
RUN 200 TP 2
LEGEND
SYM CH PARAMETER
66 ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
10.
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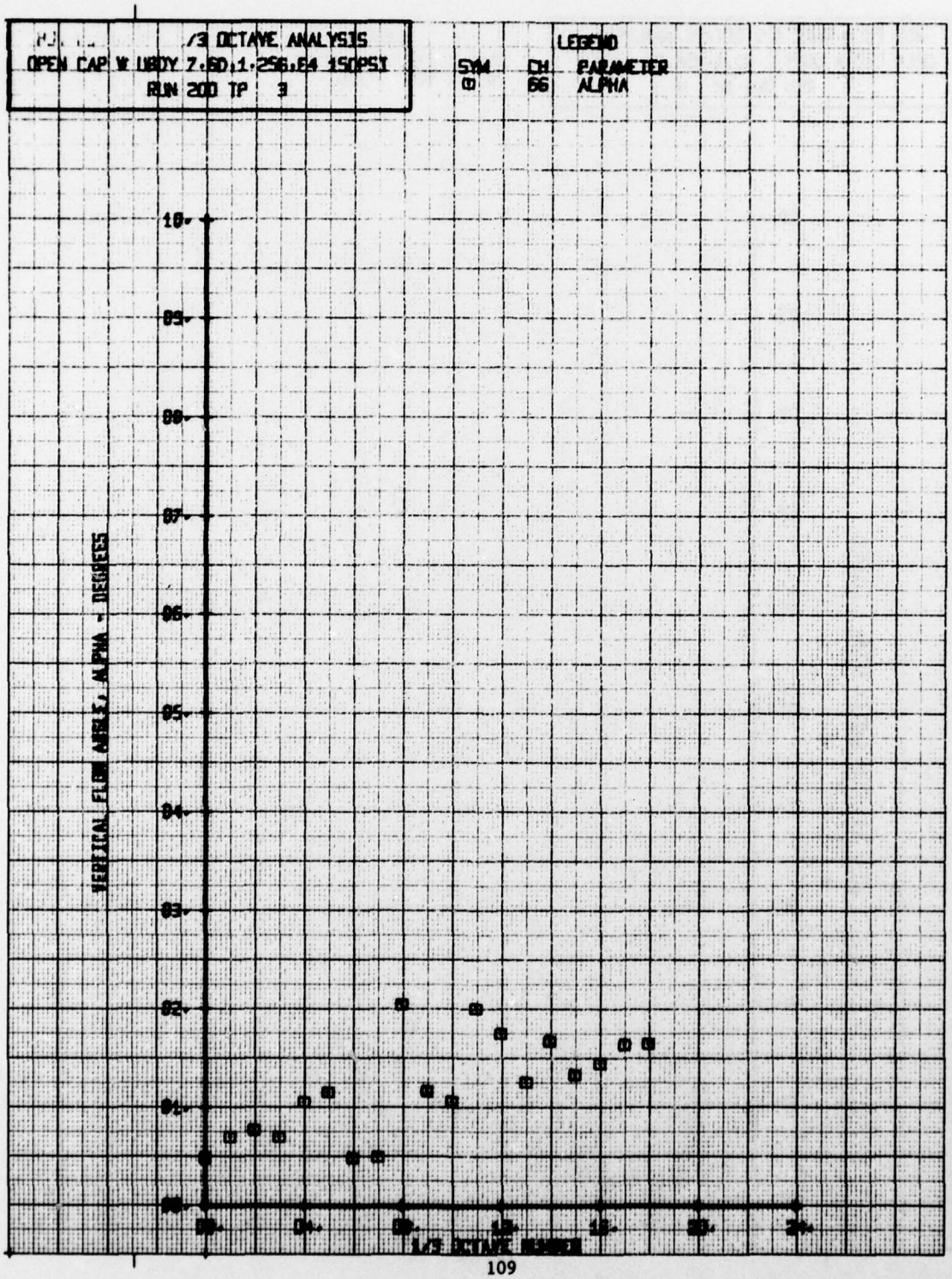
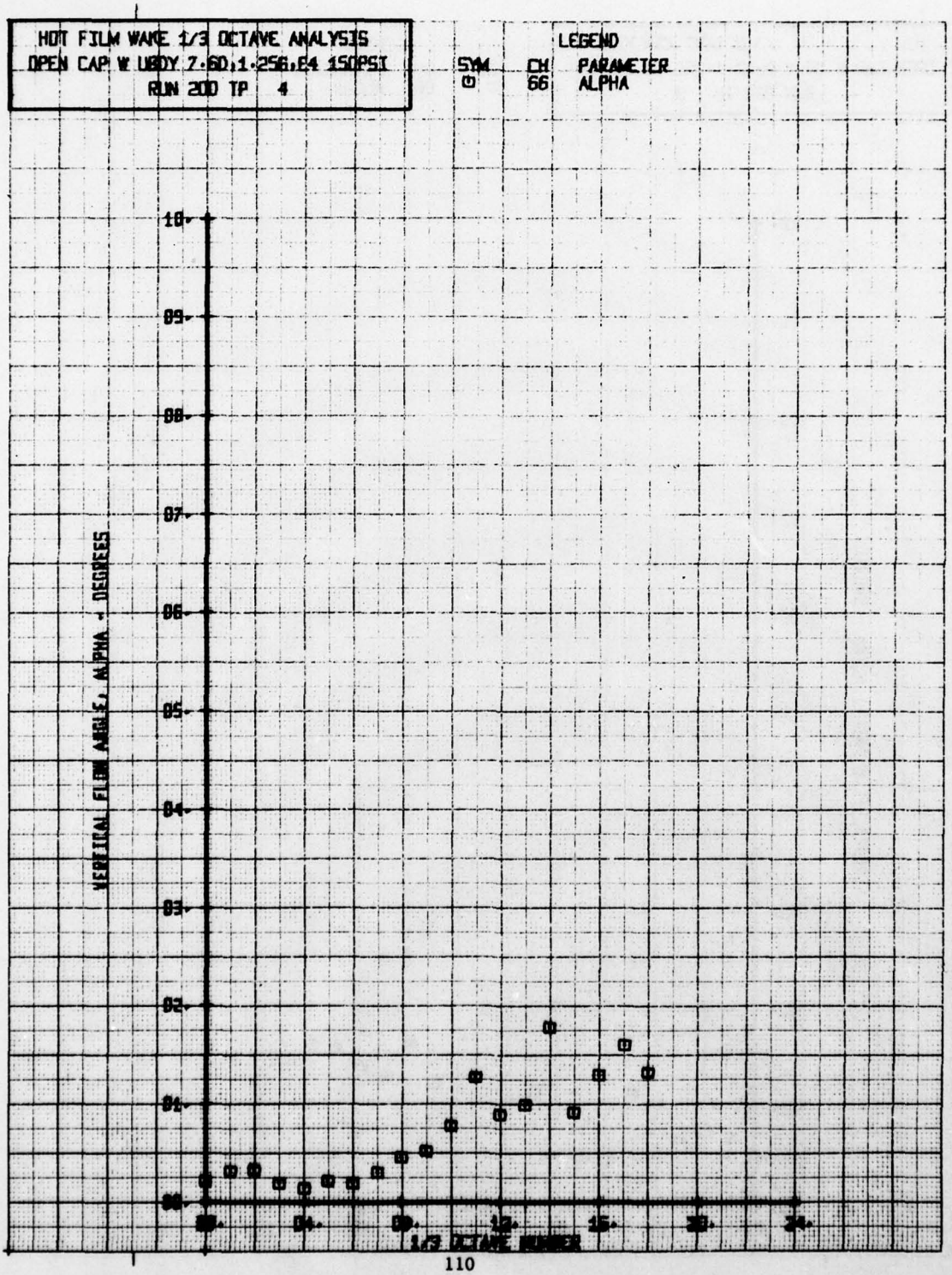
24.
1/3 OCTAVE NUMBER


1/3 OCTAVE ANALYSIS
OPEN CAP W WBDY 7.60,1.256,E4 150PSI
RUN 200 TP 3
LEGEND
SYM CH PARAMETER
66 ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
1/3 OCTAVE BAND


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W UBDY 7.60,1.256,E4 150PSI
RUN 200 TP 4
LEGEND
SYM CH PARAMETER
66 ALPHA
10
09
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04
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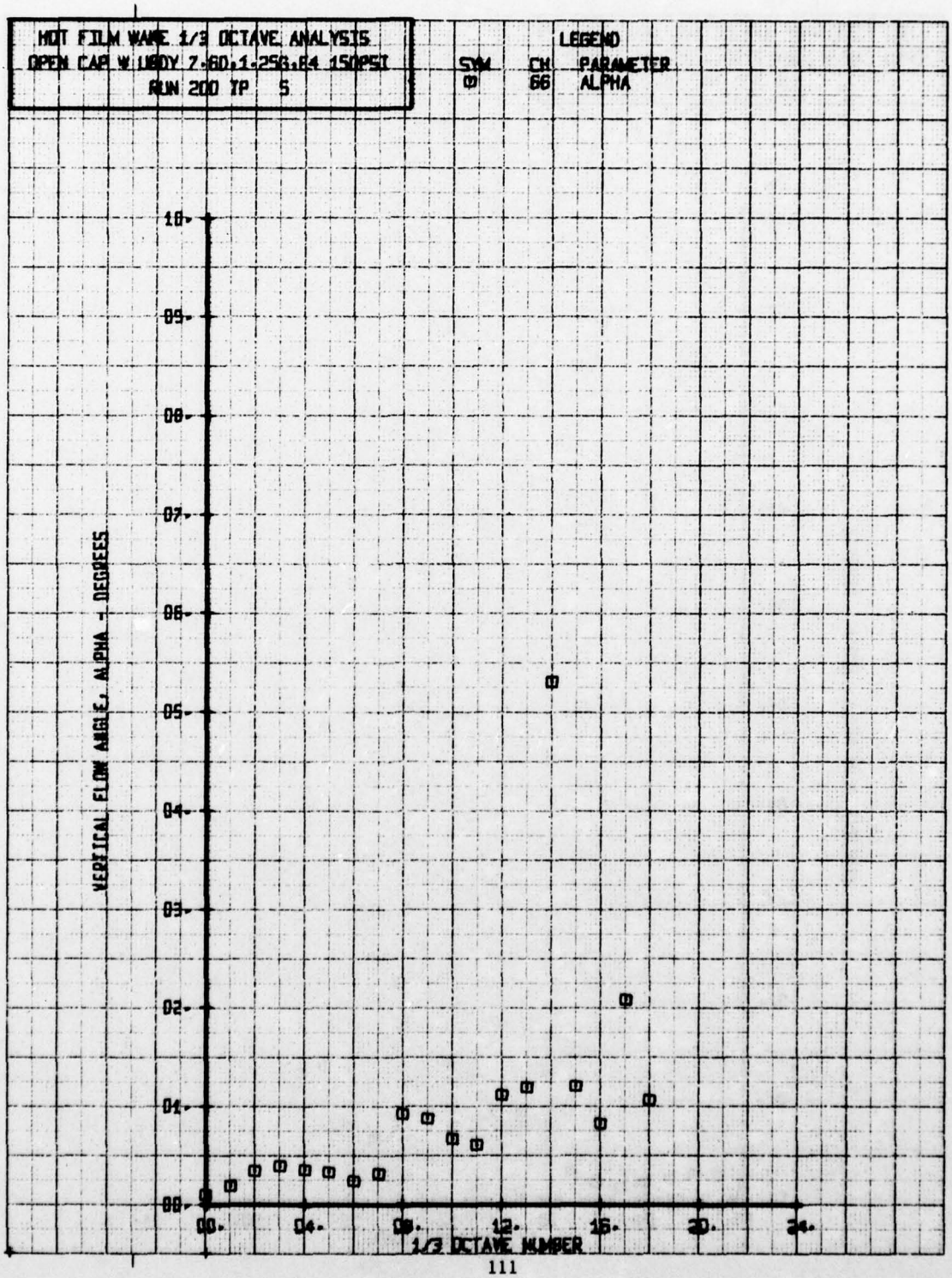
00
VERTICAL FLOW ANGLE, ALPHA - DEGREES
04
08
12
16
20
24
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W LBODY 7.60,1.256,.64 150PSI
RUN 200 TP 5
LEGEND
SYM CH PARAMETER
66 ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
1/3 OCTAVE NUMBER
10.
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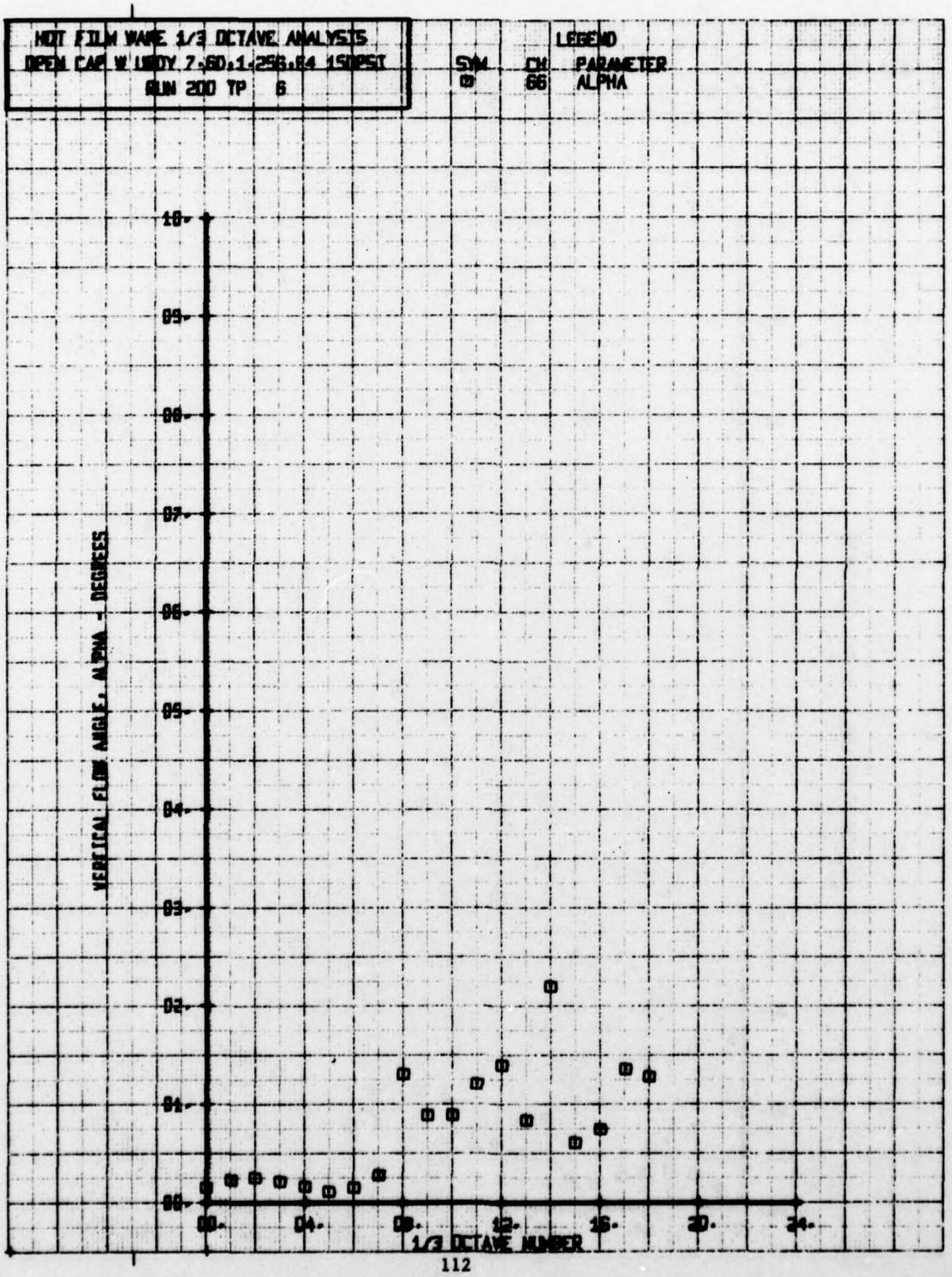
HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W UNIDY 7.60,1.256,84 150PSI
RUN 200 TP 6
LEGEND
SYM CH PARAMETER
66 ALPHA
10.
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VERTICAL FLOW ANGLE, ALPHA - DEGREES
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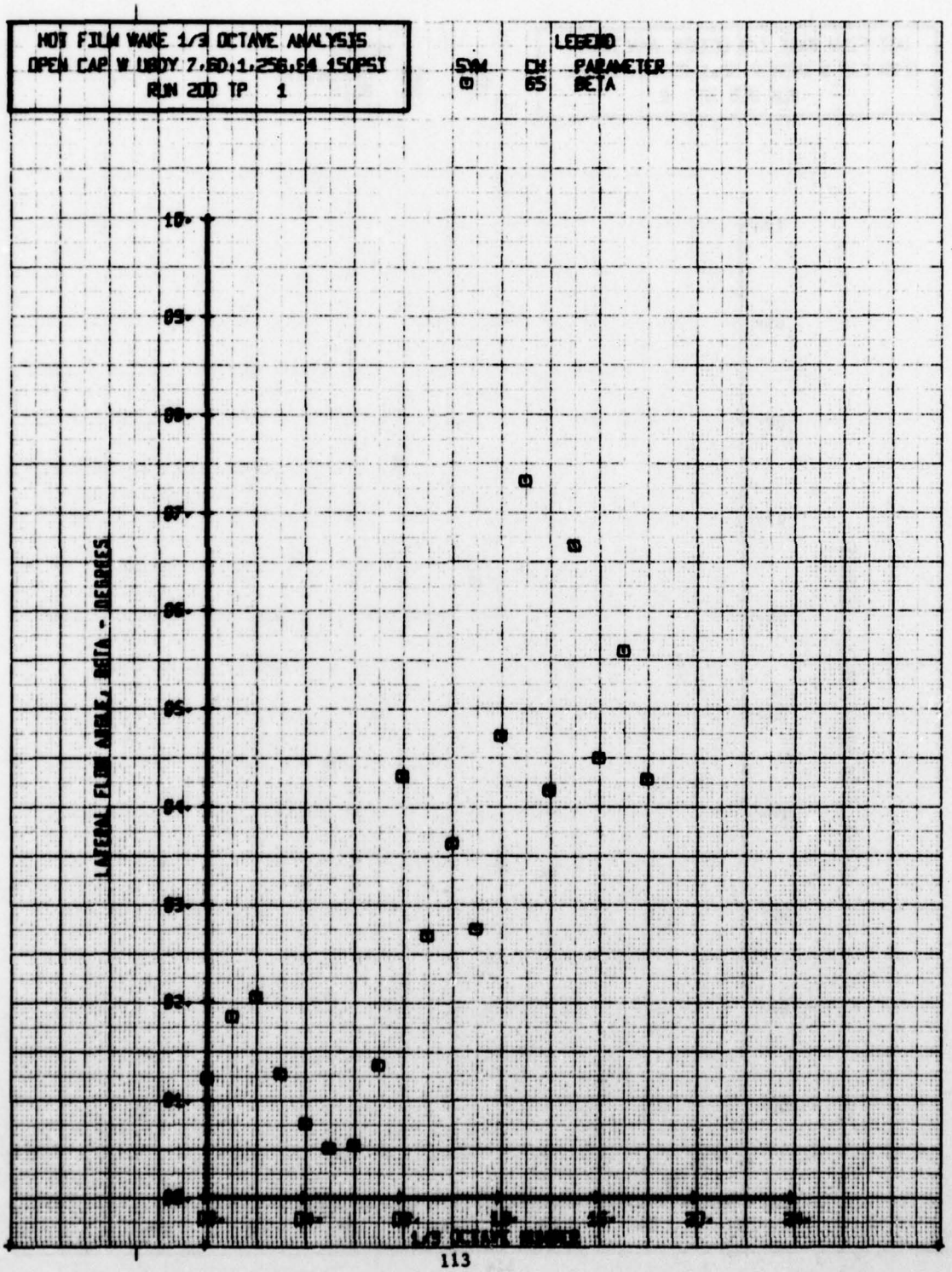
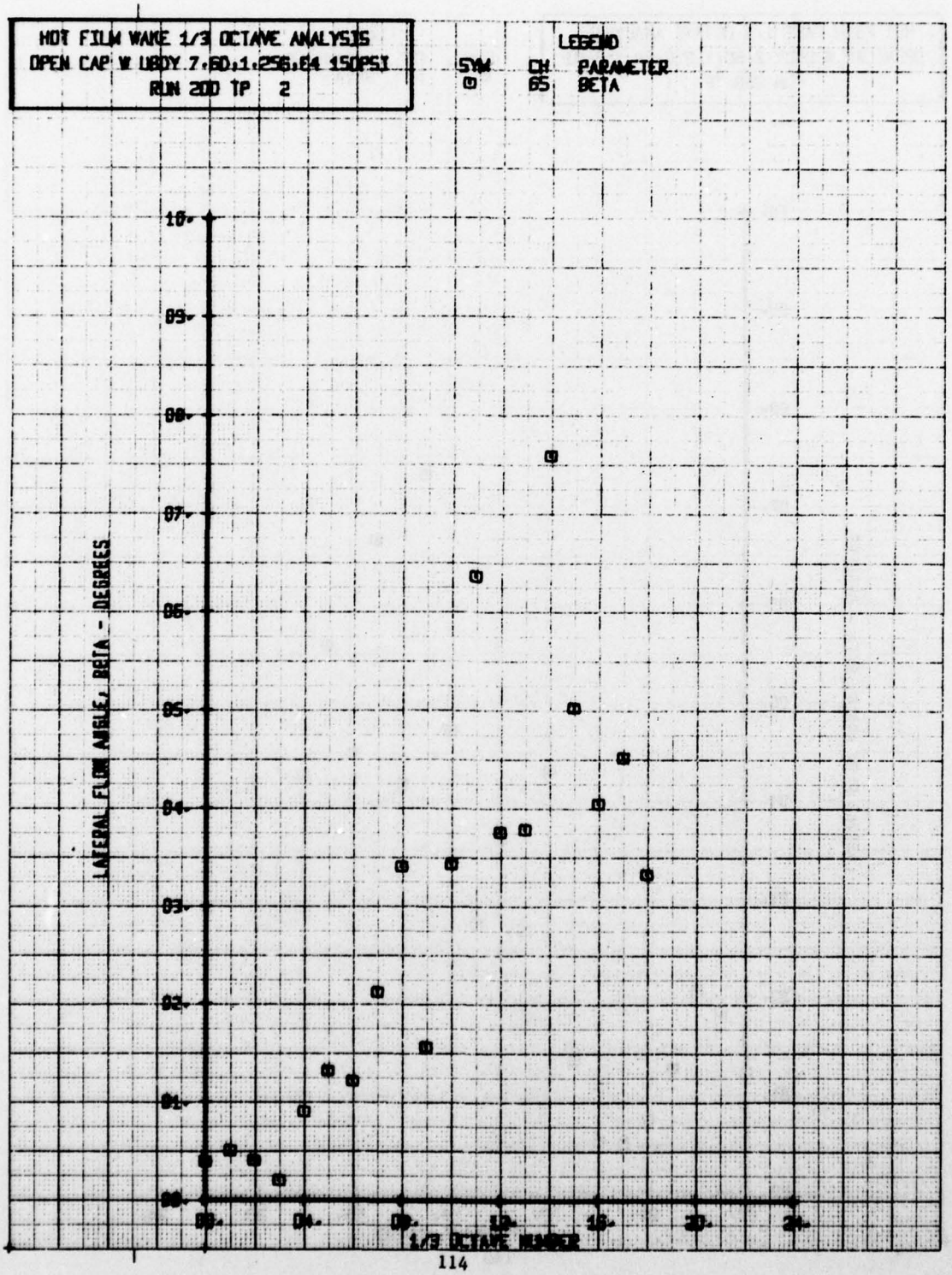
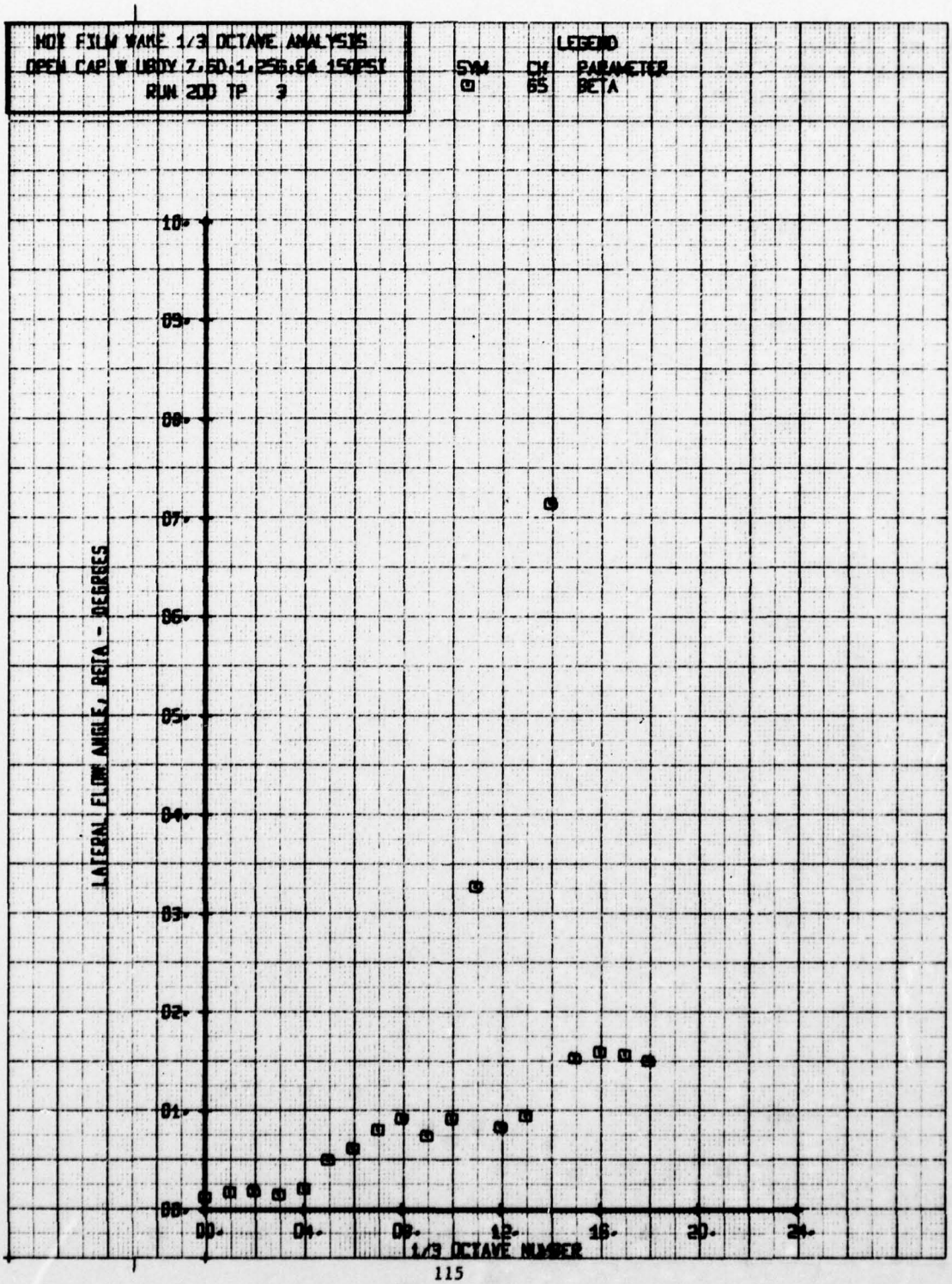
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W UBDY 7.6D,1.256,E4 150PSI
RUN 200 TP 1
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
1/3 OCTAVE BANDS


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W UBDY 7.60,1.256,84 150PSI
RUN 200 TP 2
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W UBDY 7.60.1.256.E4 150PSI
RUN 200 TP 3
LEGEND
SYM CH PARAMETER
65 BETA
10.
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LATERAL FLOW ANGLE, BETA - DEGREES
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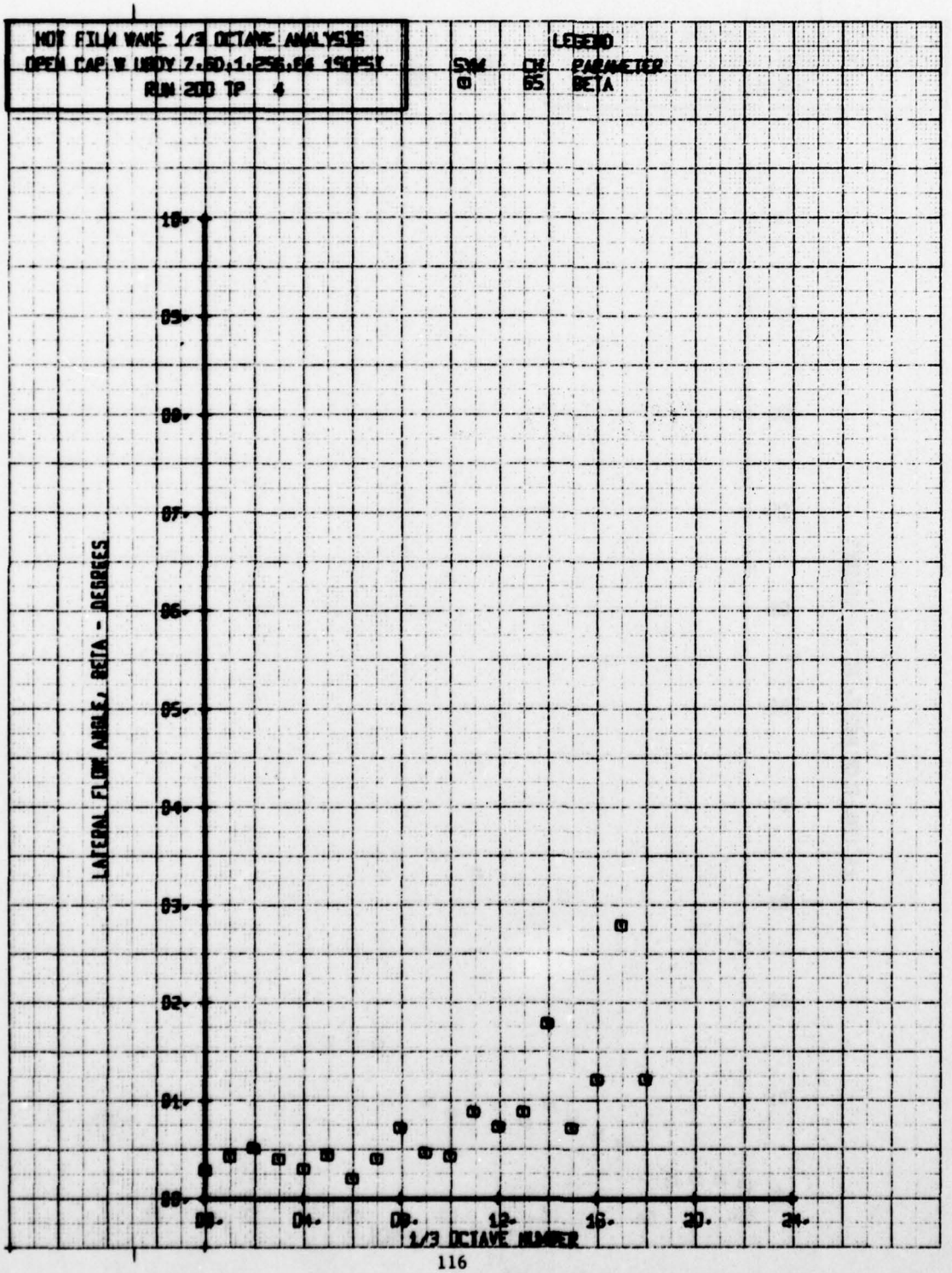
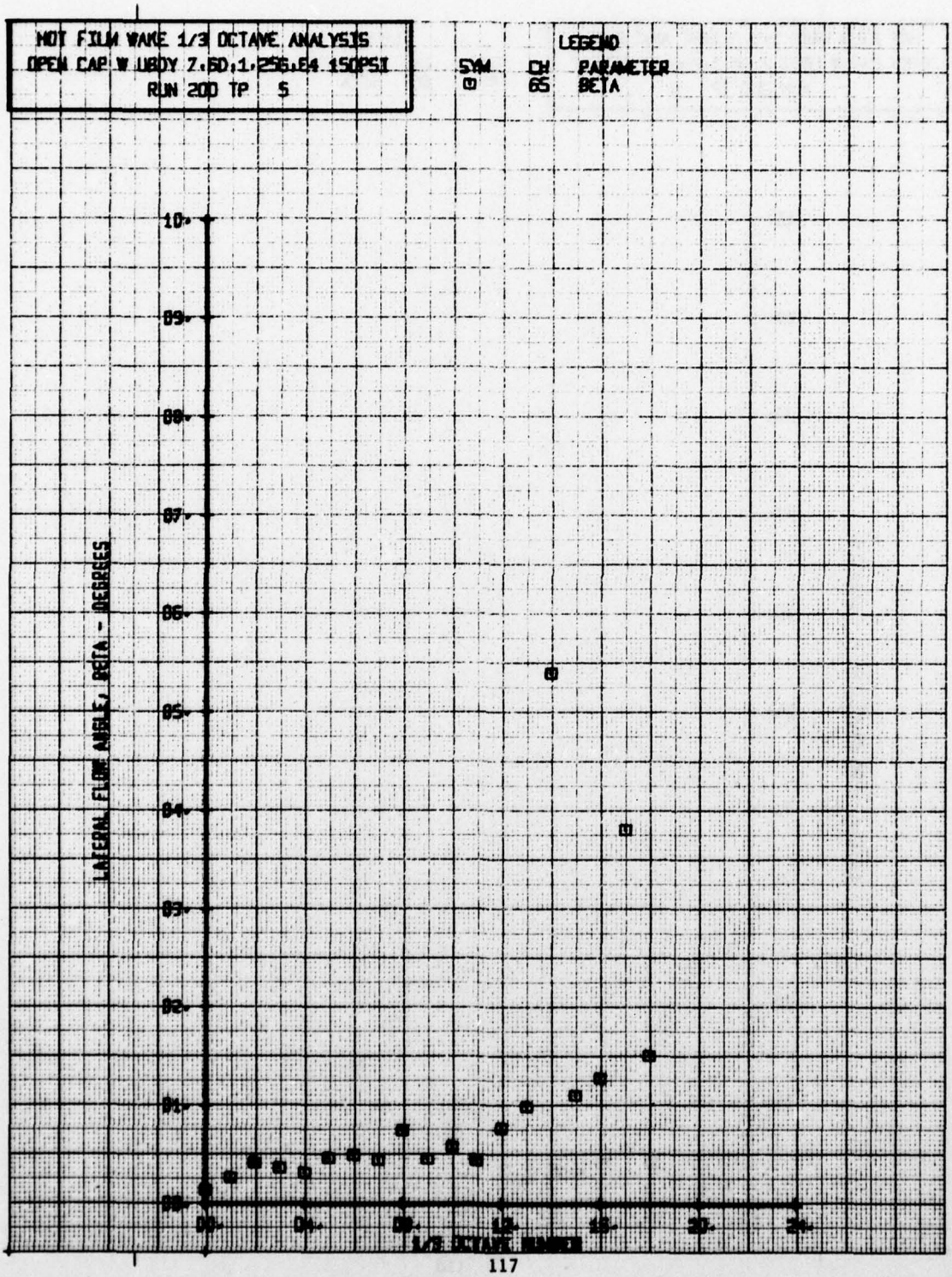
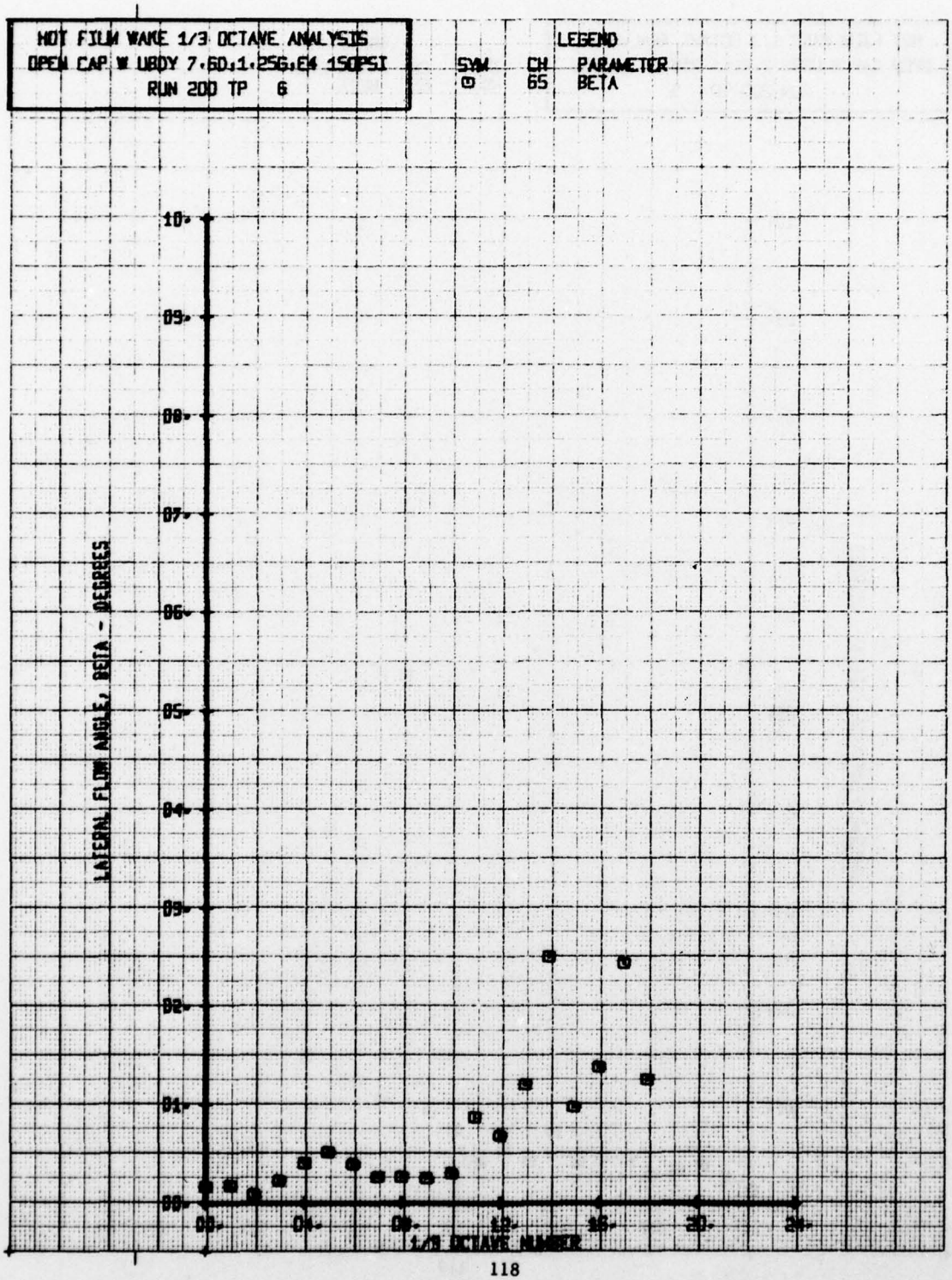
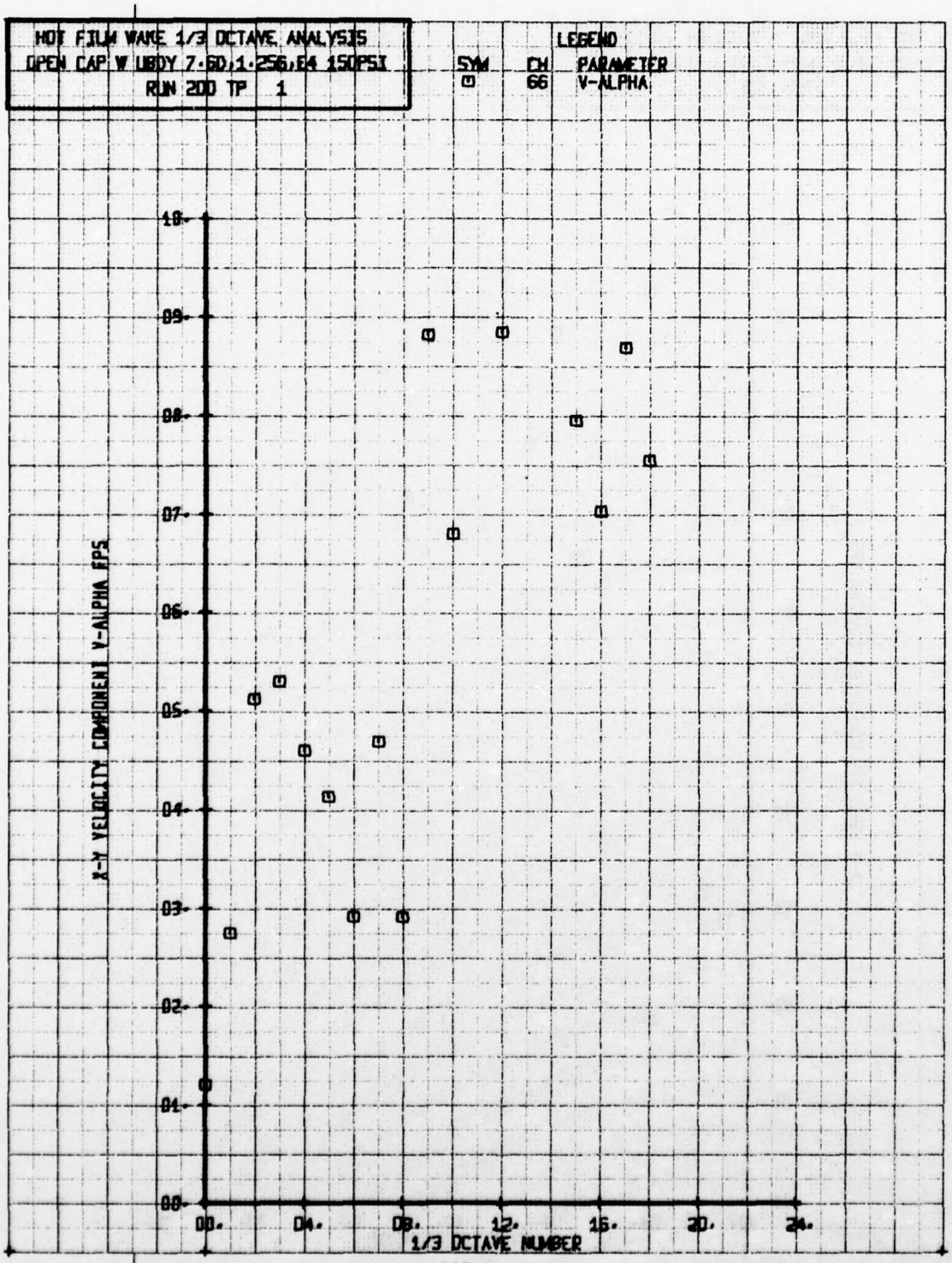
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W BODY 7.60,1.256,66 150PSI
RUN 200 TP 4
LEGEND
SYM CH PARAMETER
BETA
LATERAL FLOW ANGLE, BETA - DEGREES
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W UBDY 7.60,1.256.64 150PSI
RUN 200 TP 5
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W UBDY 7.6D,1.25G,E4 150PSI
RUN 200 TP 6
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W UBDY 7.6D,1.256,E4 150PSI
RUN 200 TP 1
LEGEND
SYM CH PARAMETER
66 V-ALPHA
X-Y VELOCITY COMPONENT V-ALPHA FPS
1/3 OCTAVE NUMBER
10.
09.
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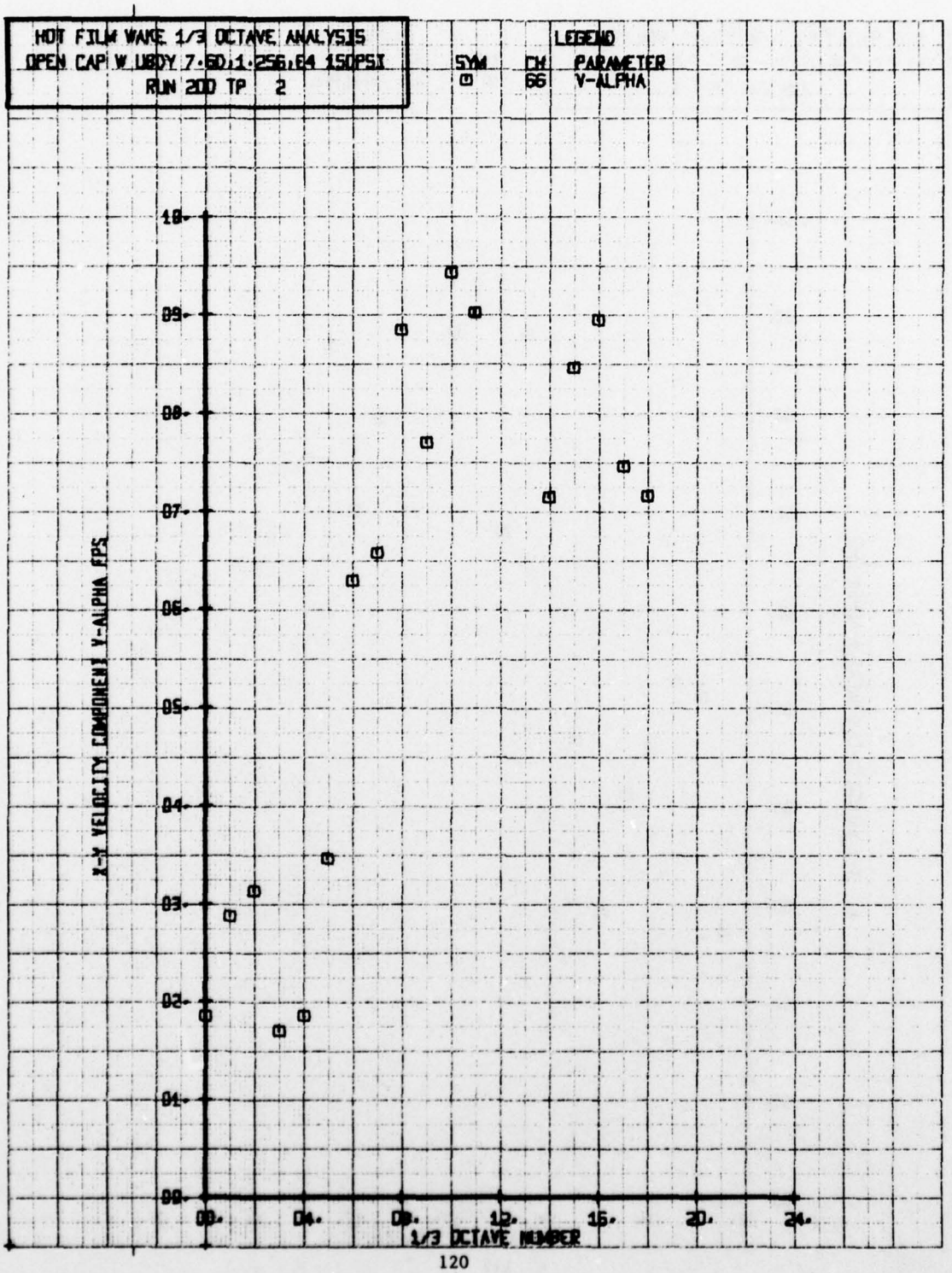
HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W UBDY 7.60/1.256.64 150PSI
RUN 200 TP 2
LEGEND
SYM CH PARAMETER
66 V-ALPHA
X-Y VELOCITY COMPONENT Y-ALPHA FPS
1/3 OCTAVE NUMBER
10.
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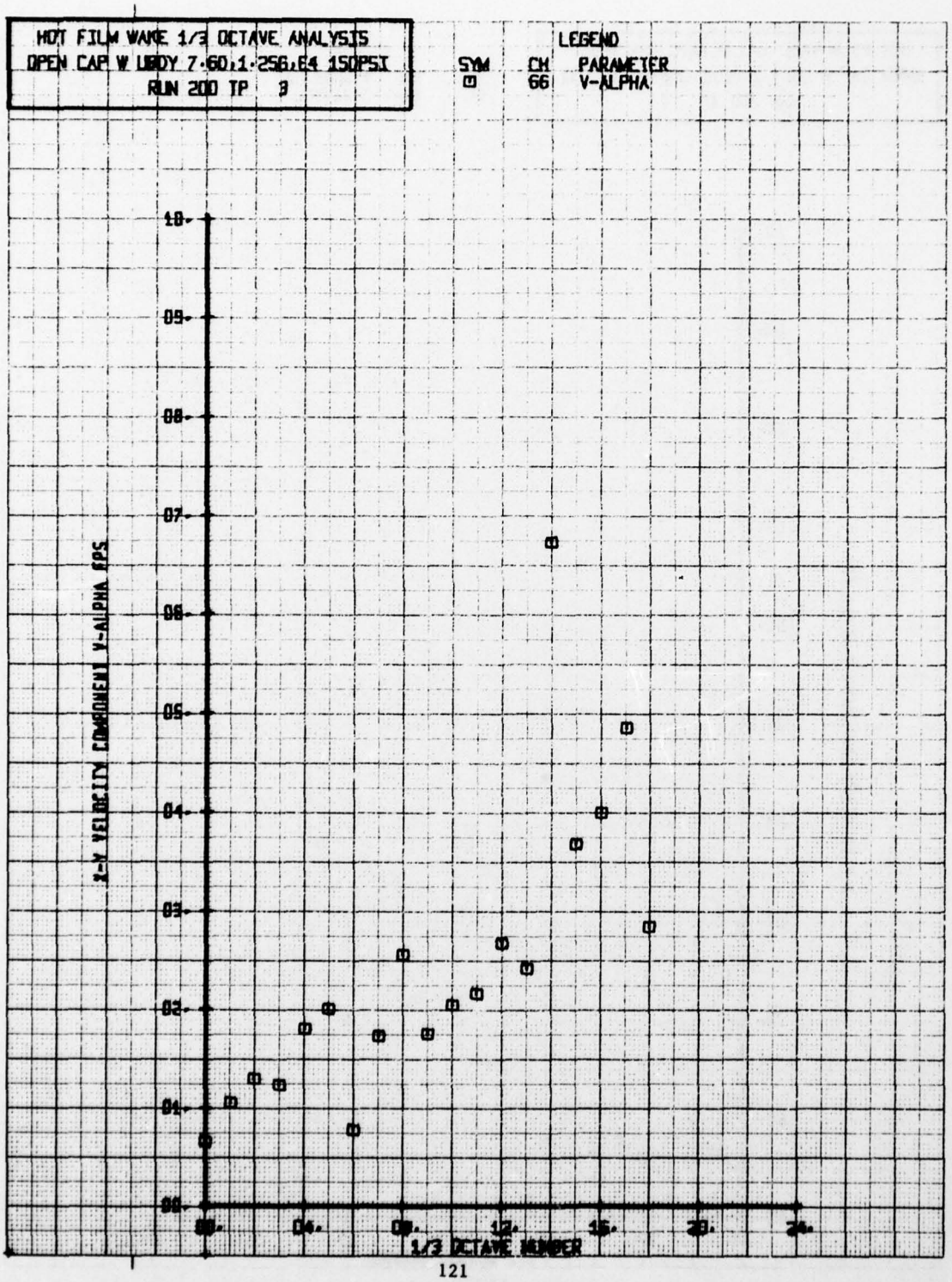
HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W UBDY 7-60,1-256,84 150PSI
RUN 200 TP 3
LEGEND
SYM CH PARAMETER
66 V-ALPHA
10.
09.
08.
07.
06.
05.
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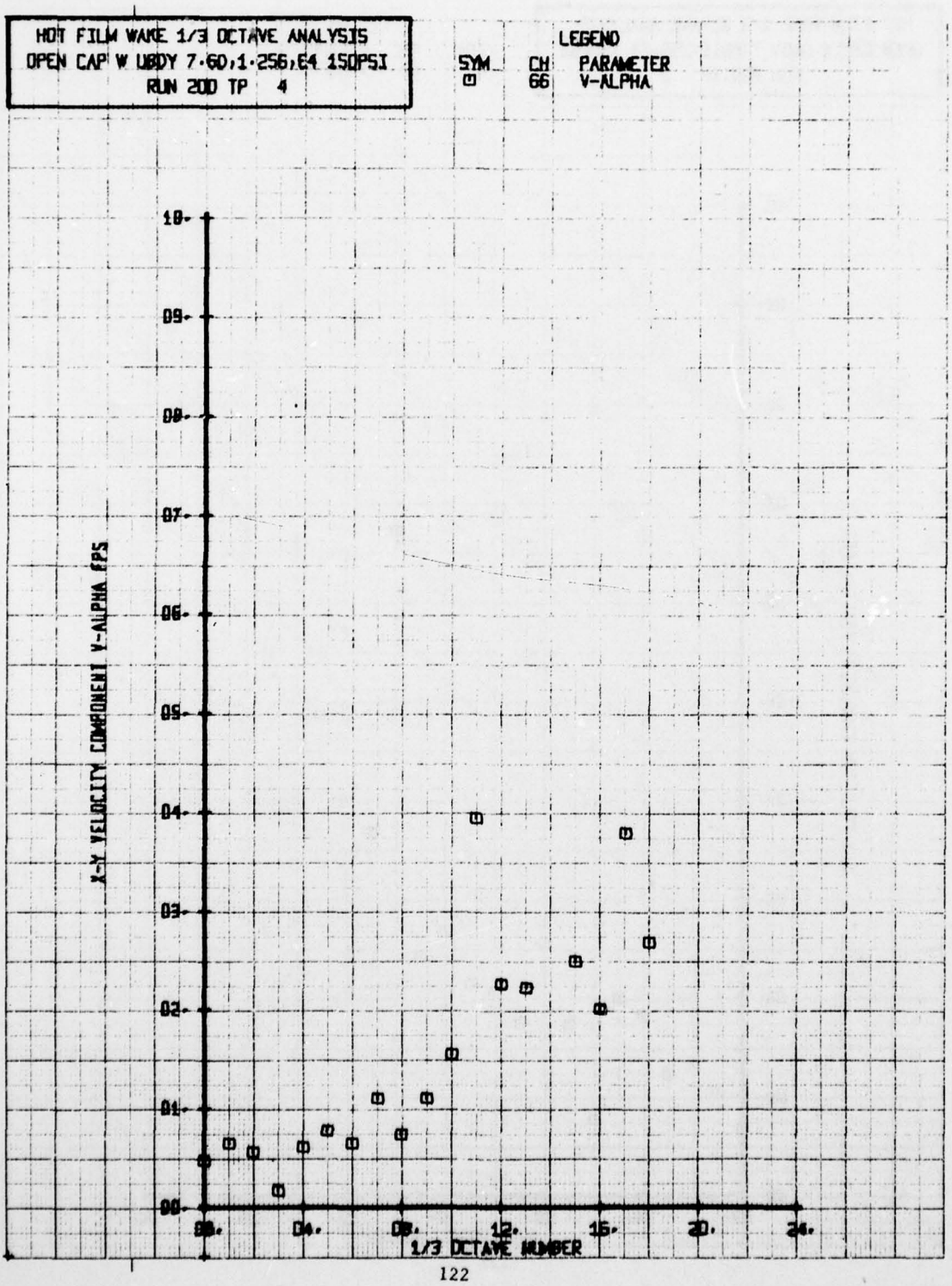
24.
1/3 OCTAVE NUMBER
X-Y VELOCITY COMPONENT V-ALPHA FPS


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W UBDY 7.60,1.256,E4 150PSI
RUN 200 TP 4
LEGEND
SYM CH PARAMETER
66 V-ALPHA
X-Y VELOCITY COMPONENT V-ALPHA FPS
1/3 OCTAVE NUMBER
10.
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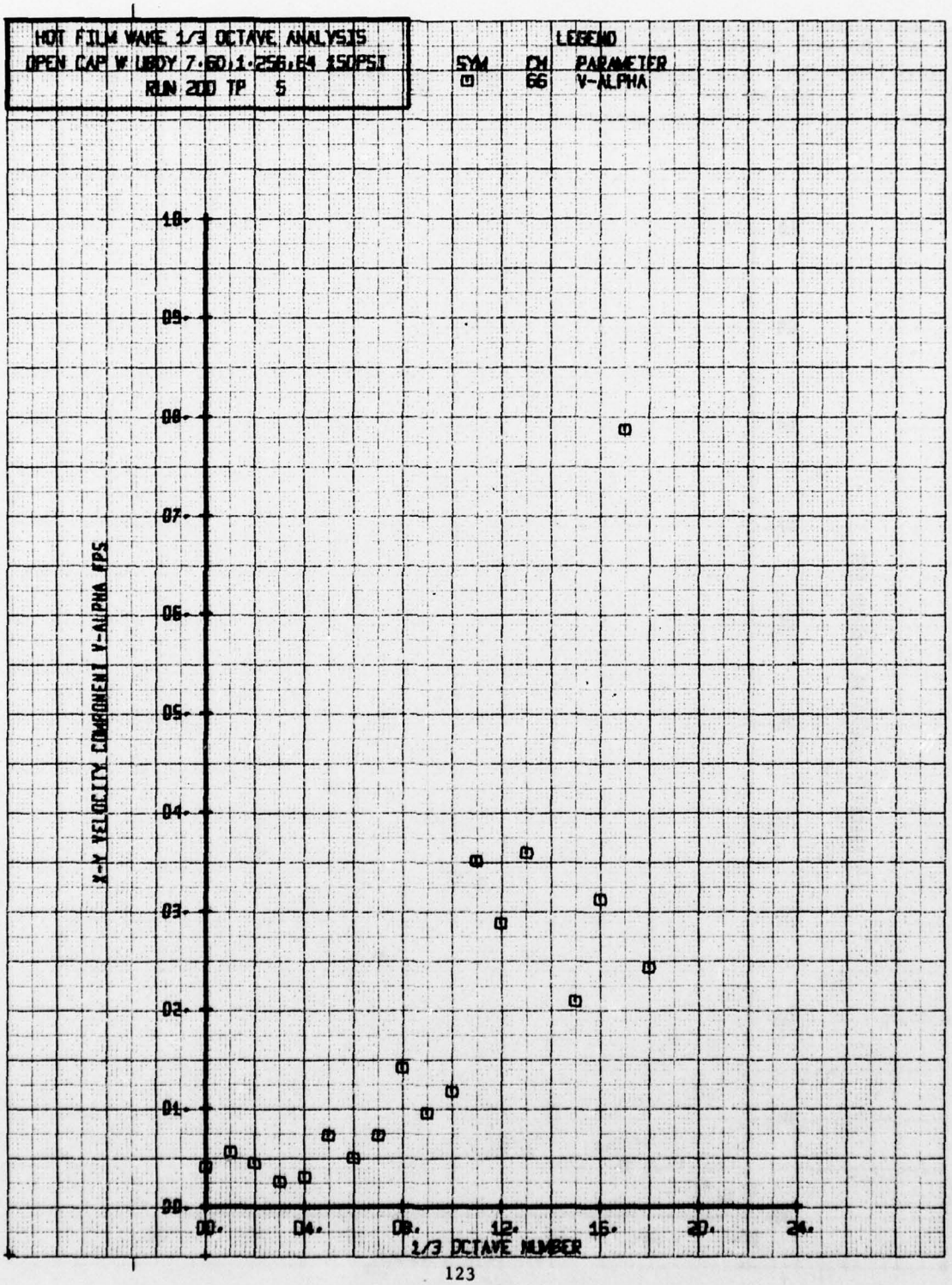
HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W UBDY 7.60,1.256,E4 150PSI
RUN 200 TP 5
LEGEND
SYM CM PARAMETER
66 V-ALPHA
X-V VELOCITY COMPONENT V-ALPHA FPS
1/3 OCTAVE NUMBER
10.
09.
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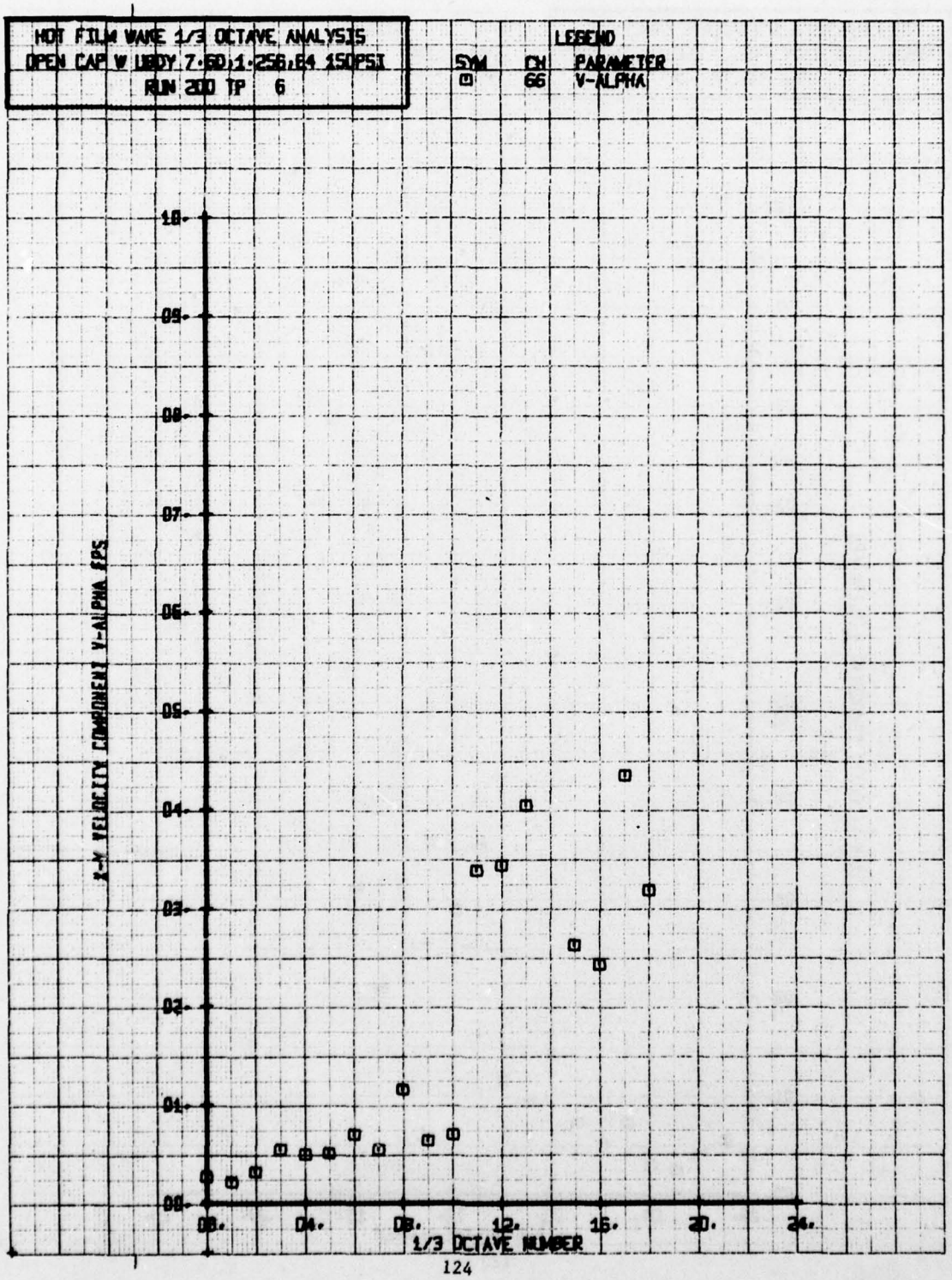
HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W BODY 7.6D,1.256,84 150PSI
RUN 200 TP 6
LEGEND
SYM CH PARAMETER
66 V-ALPHA
1.0
.9
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.7
.6
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.4
.3
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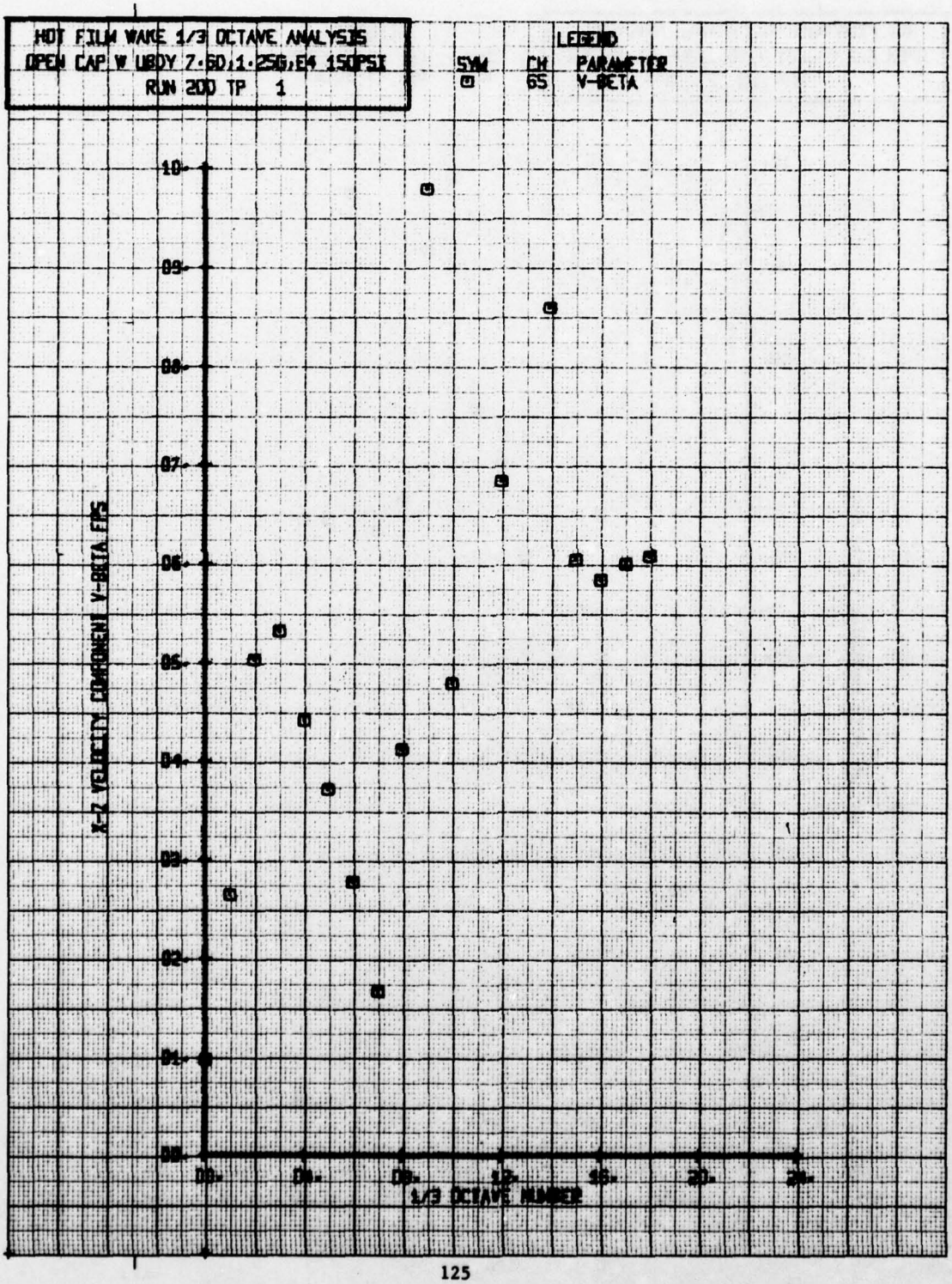
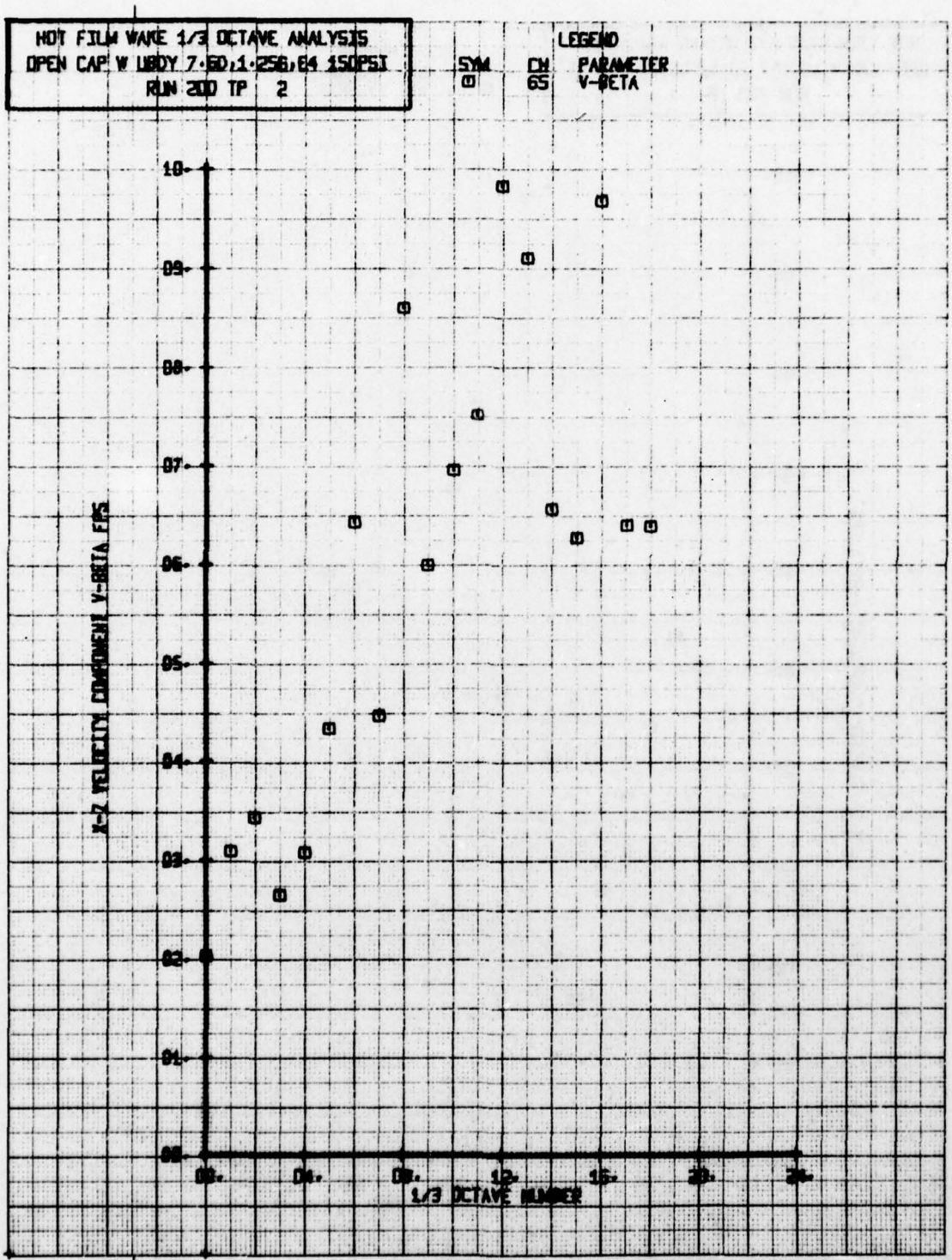
X-V VELOCITY COMPONENT V-ALPHA EPS
4.
8.
12.
16.
20.
24.
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W UBDY 7.6D,1.25G,E4 150PSI
RUN 200 TP 1
LEGEND
SYM CH PARAMETER
65 V-BETA
X-Z VELOCITY COMPONENT V-BETA FPS
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W UBDY 7.6D,1.256,84 150PSI
RUN 200 TP 2
LEGEND
SYM CH PARAMETER
65 V-BETA
10.
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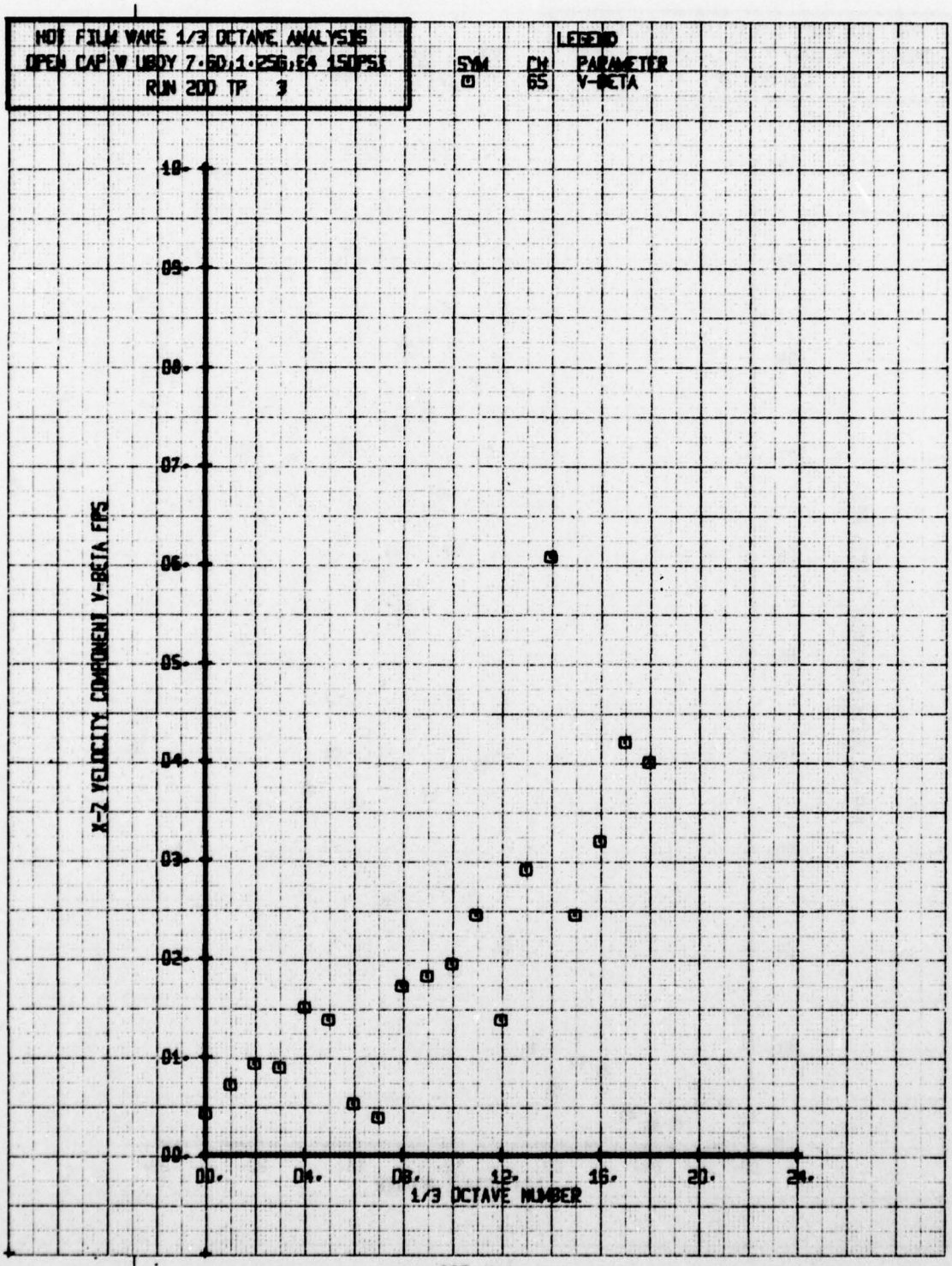
00.
X-Z VELOCITY COMPONENT V-BETA FPS
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W UBDY 7.60;1.256;E4 150PSI
RUN 200 TP 3
LEGEND
SYM CH PARAMETER
65 V-BETA
X-Z VELOCITY COMPONENT V-BETA FPS
1/3 OCTAVE NUMBER
00.
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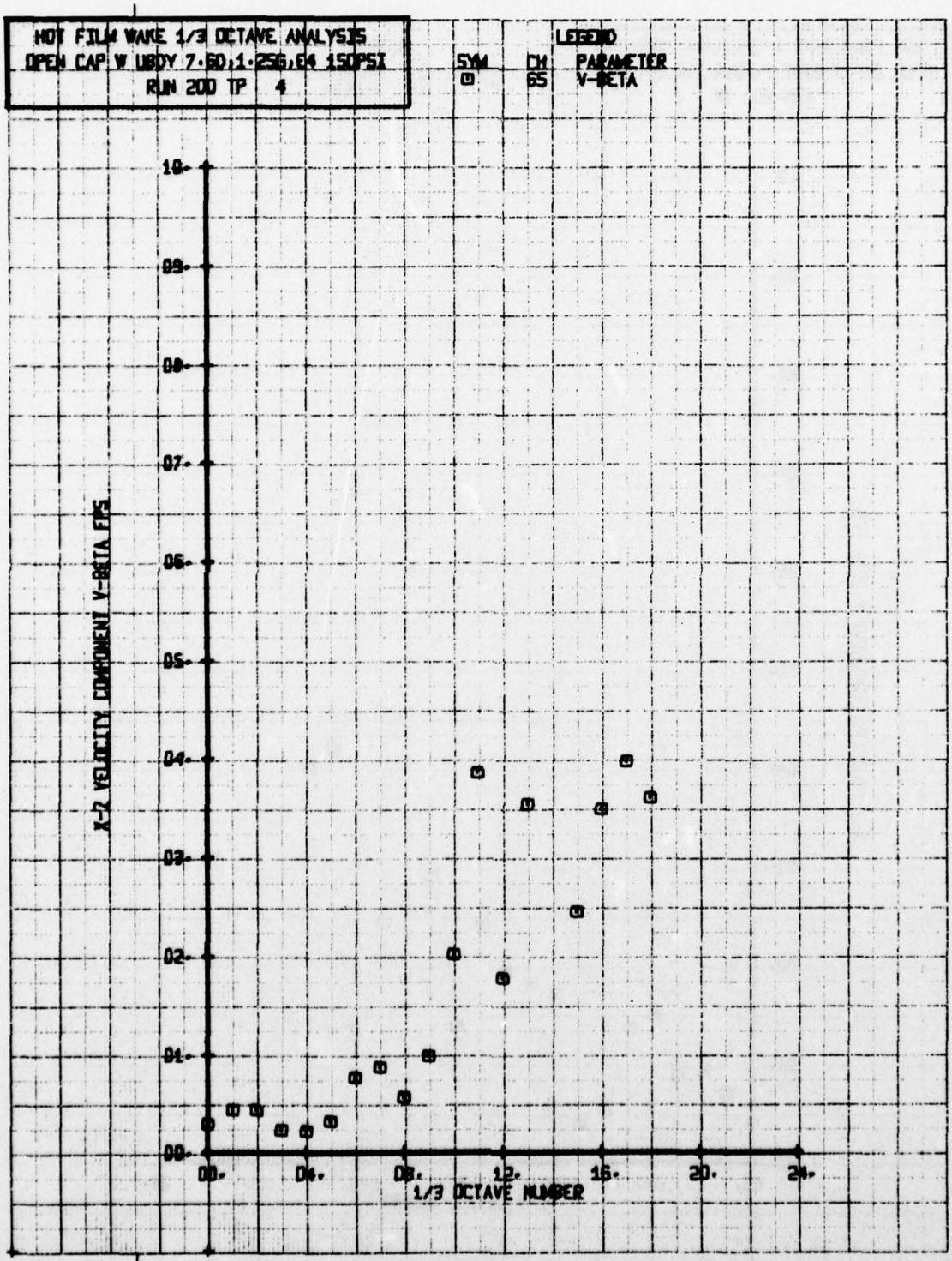
HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W UBDY 7.60,1.25G,E4 150PSI
RUN 200 TP 4
LEGEND
SYM CH PARAMETER
65 V-BETA
X-Z VELOCITY COMPONENT V-BETA FPS
1/3 OCTAVE NUMBER
10.
09.
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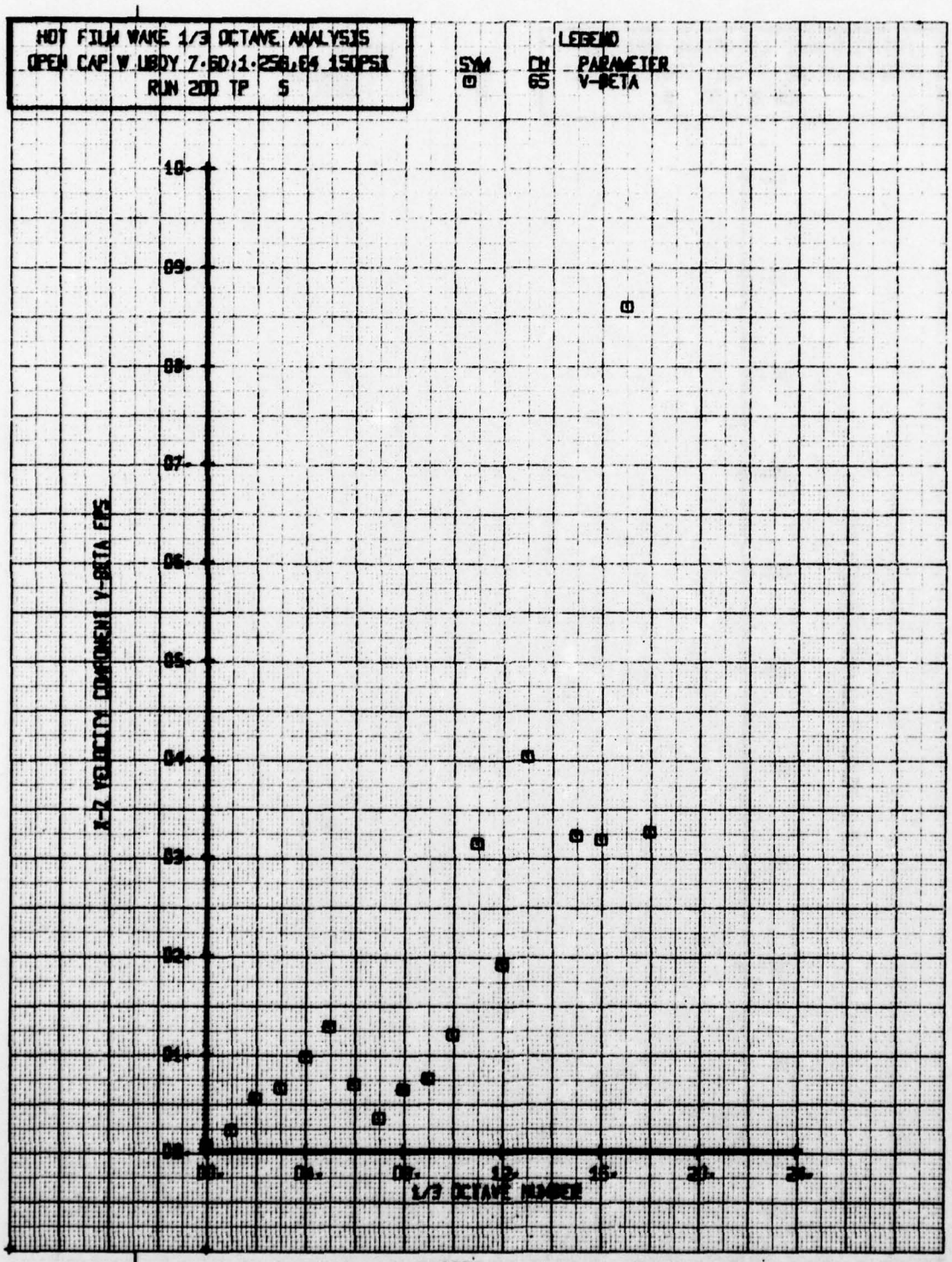
HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W UBDY 7·6D,1·25B,64 150PSI
RUN 200 TP 5
LEGEND
SYM CH PARAMETER
65 V-BETA
1.0
0.9
0.8
0.7
0.6
0.5
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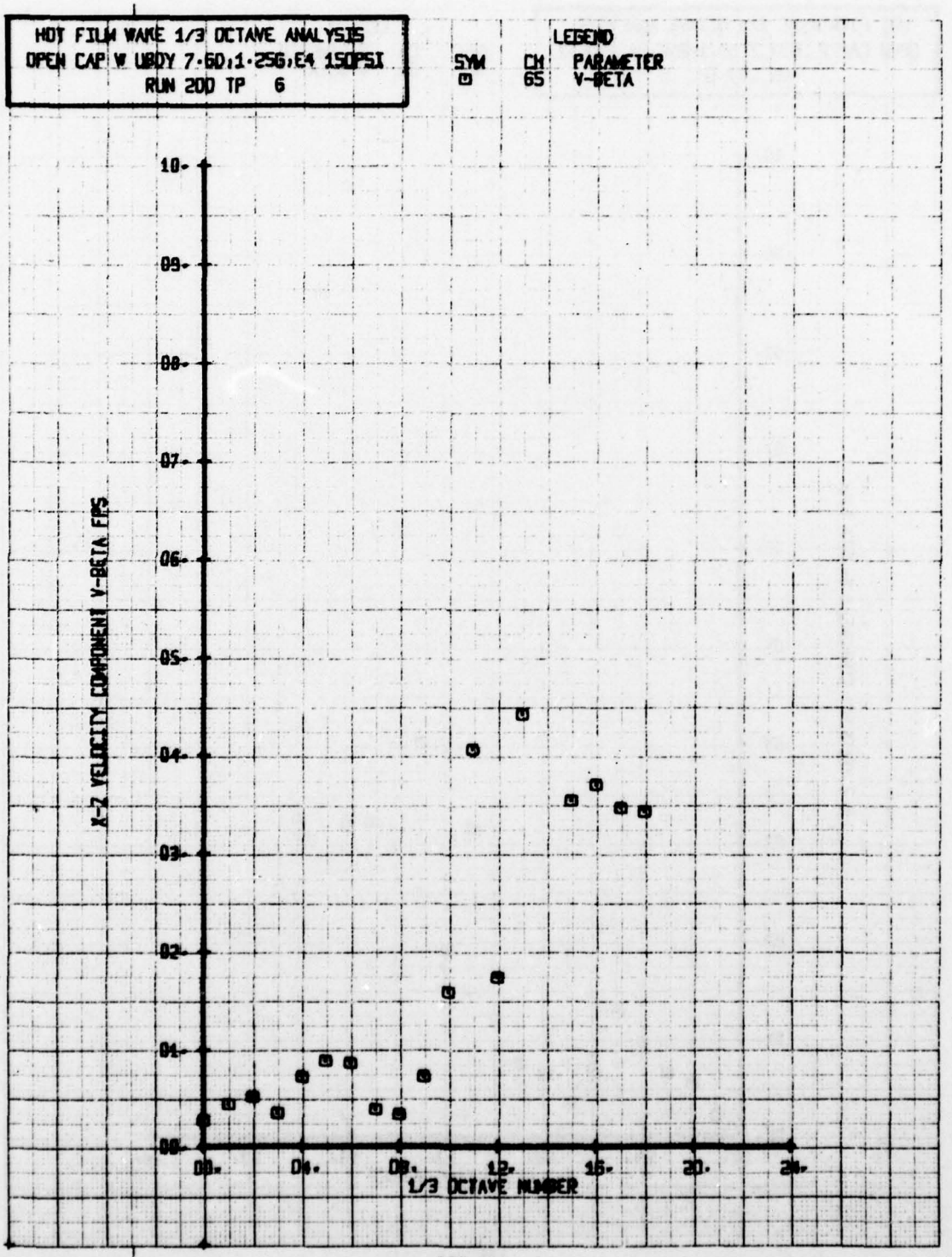
0.2
0.1
0.0
X-Z VELOCITY COMPONENT V-BETA FPS
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W UBDY 7·6D;1·25G;E4 150PSI
RUN 200 TP 6
LEGEND
SYM CH PARAMETER
65 V-BETA
X-Z VELOCITY COMPONENT V-BETA FPS
1/3 OCTAVE NUMBER
10.
09.
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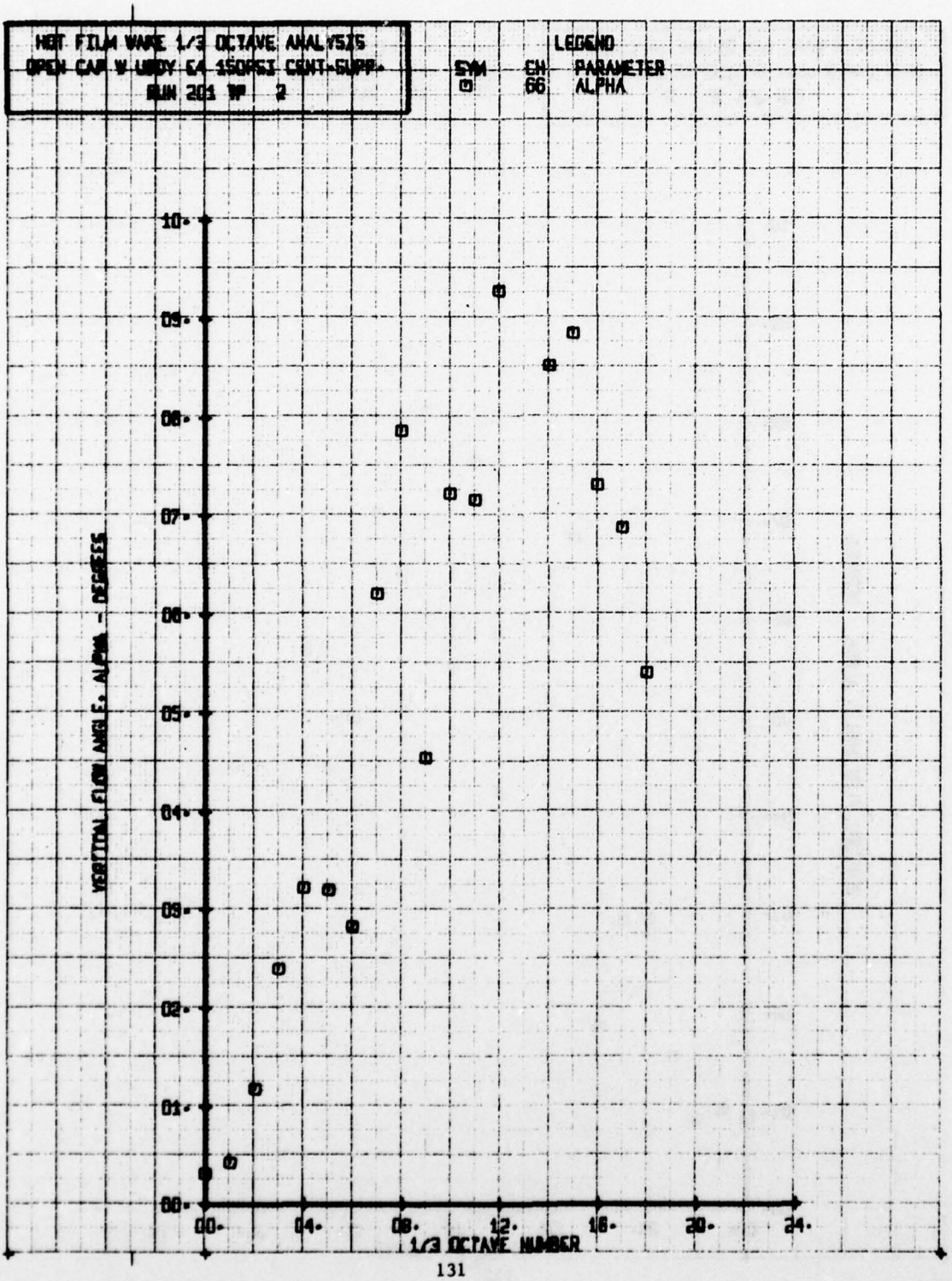
HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W UBDY 64 150PSI CENT-SUPP.
RUN 201 WP 2
LEGEND
SYM CH PARAMETER
66 ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
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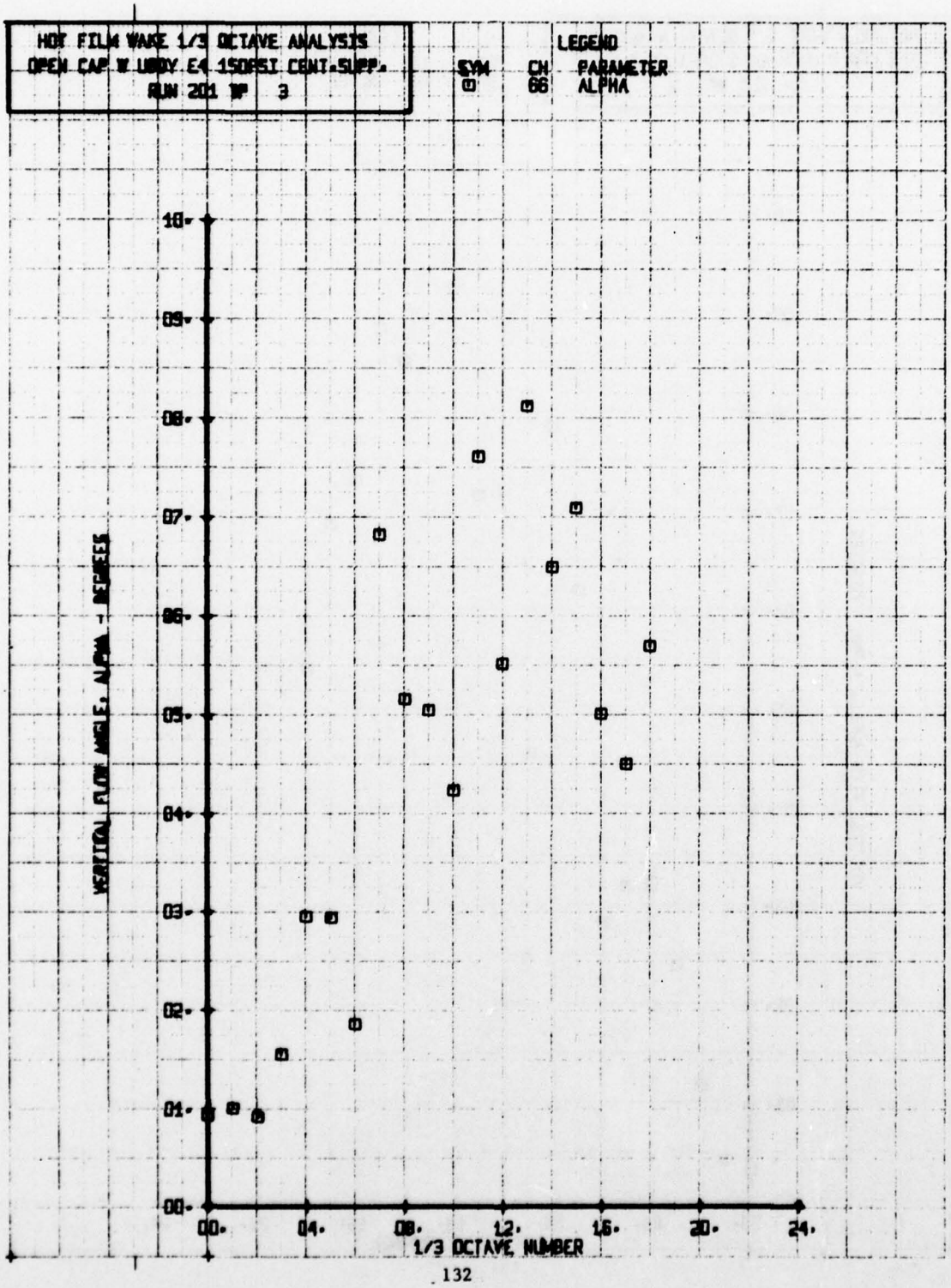
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W UNDY E4 150PSI CENT.SUPP.
RUN 201 WP 3
LEGEND
SYM CH PARAMETER
66 ALPHA
10
09
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VERTICAL FLOW ANGLE, ALPHA - DEGREES
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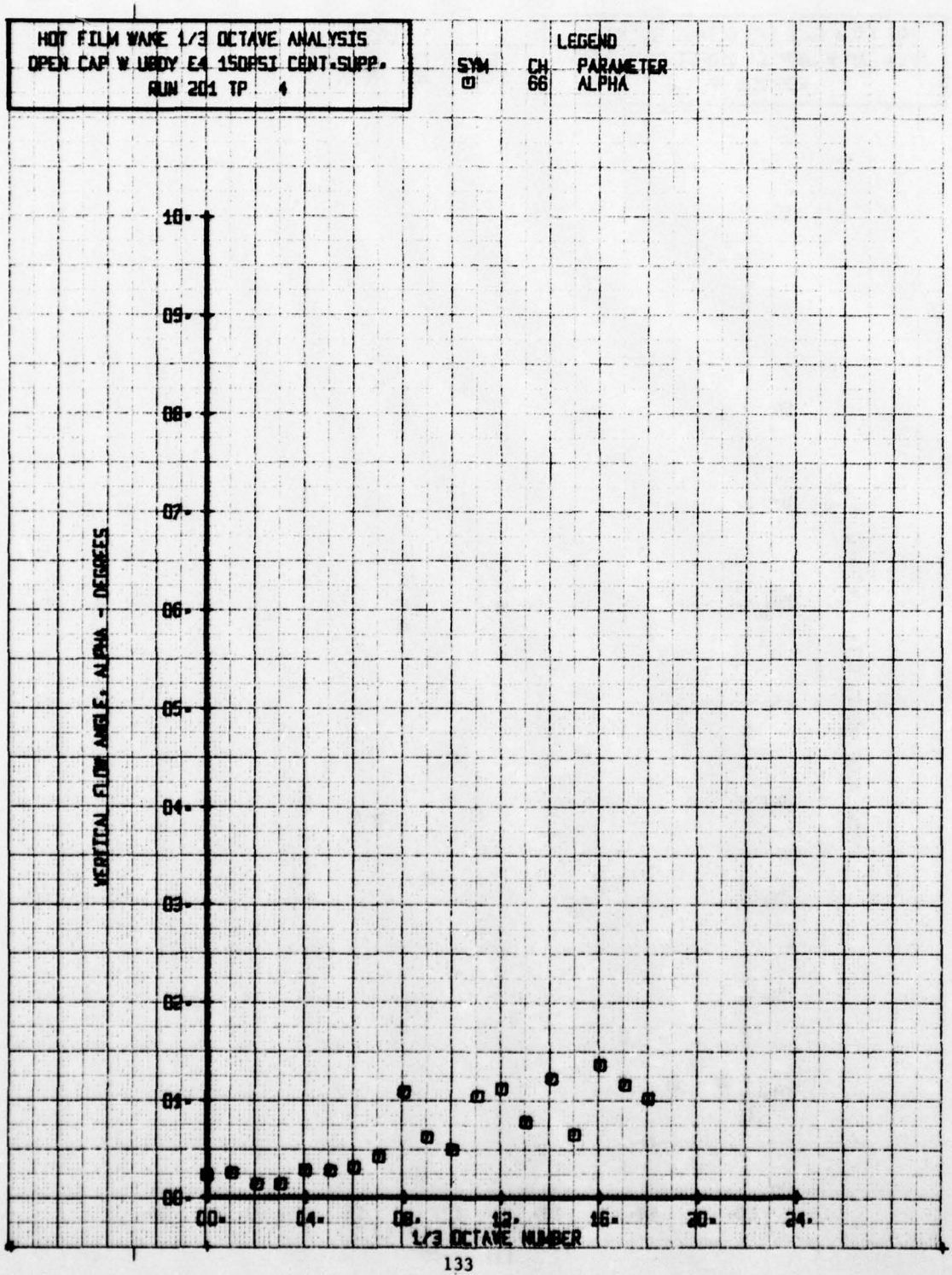
24
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W UBDY E4 150PSI CENT.SUPP.
RUN 201 TP 4
LEGEND
SYM CH PARAMETER
66 ALPHA
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VERTICAL FLOW ANGLE, ALPHA - DEGREES
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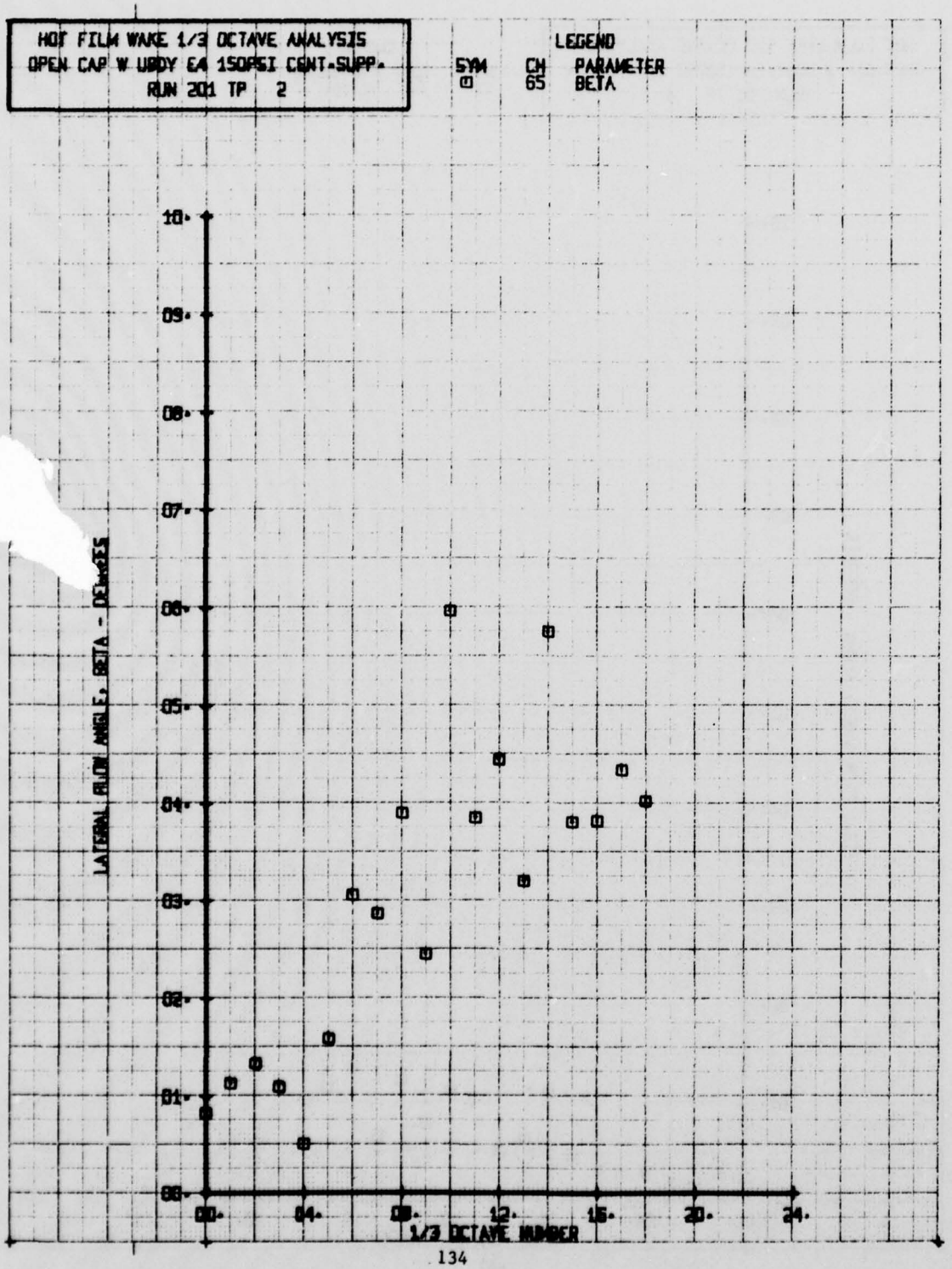
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W UBDY EA 150PSI CONT-SUPP.
RUN 201 TP 2
LEGEND
SYM CH PARAMETER
65 BETA
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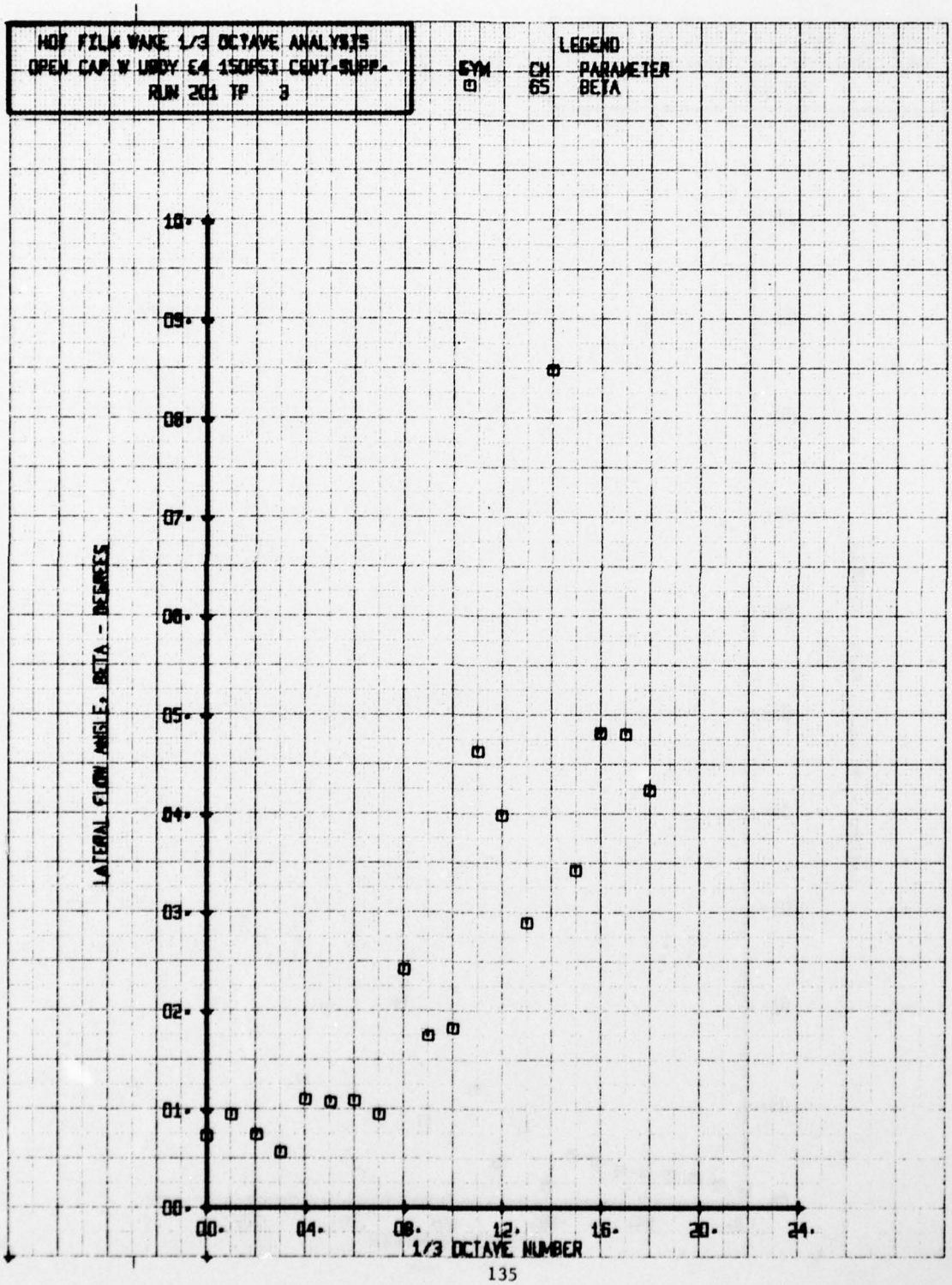
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W UBDY E4 150PSI CENT-SUPP.
RUN 201 TP 3
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
1/3 OCTAVE NUMBER
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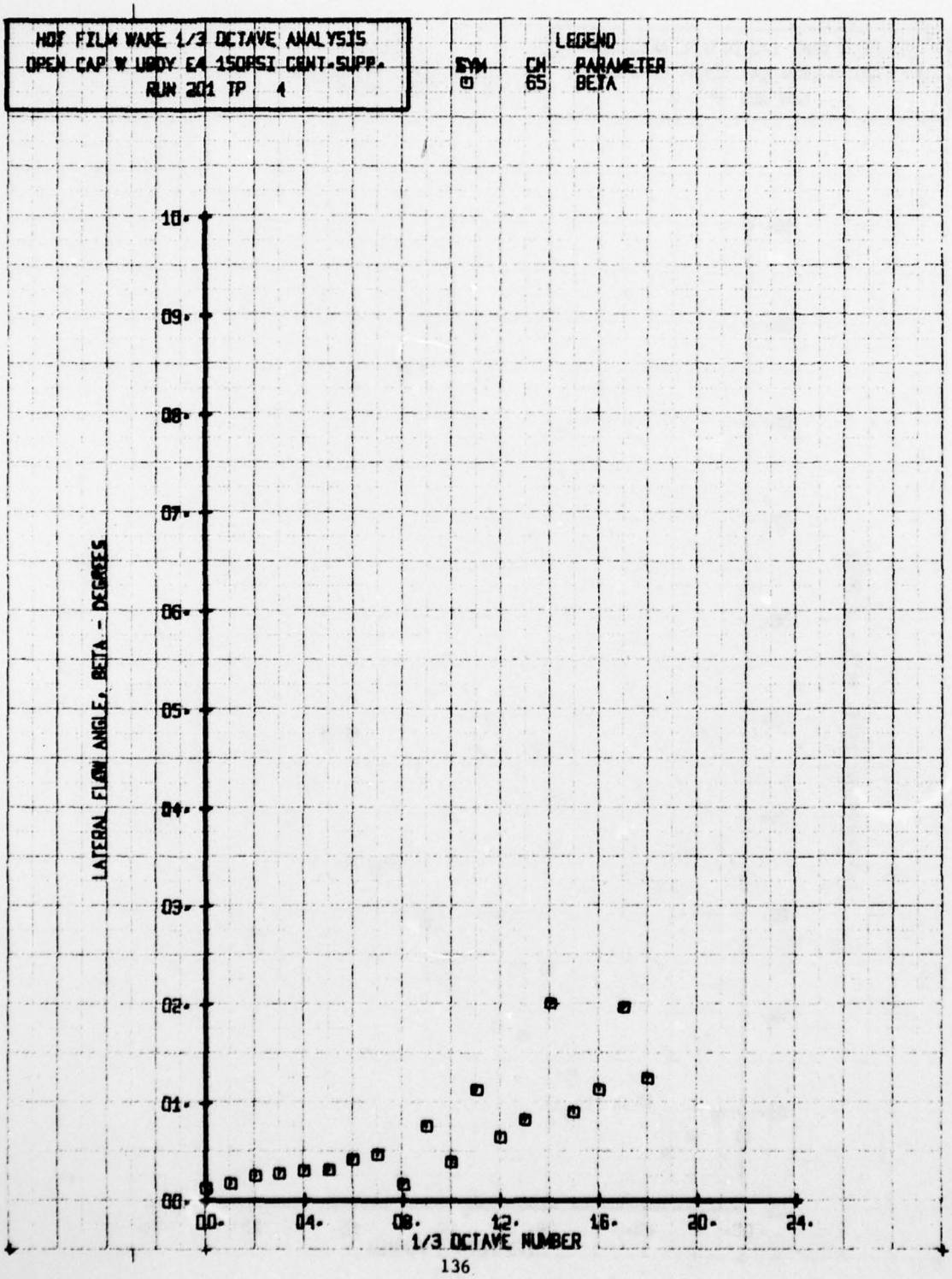
HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W UBDY EA 150PSI CENT-SUPP.
RUN 201 TP 4
LEGEND
SYM CH PARAMETER
65 BETA
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LATERAL FLOW ANGLE, BETA - DEGREES
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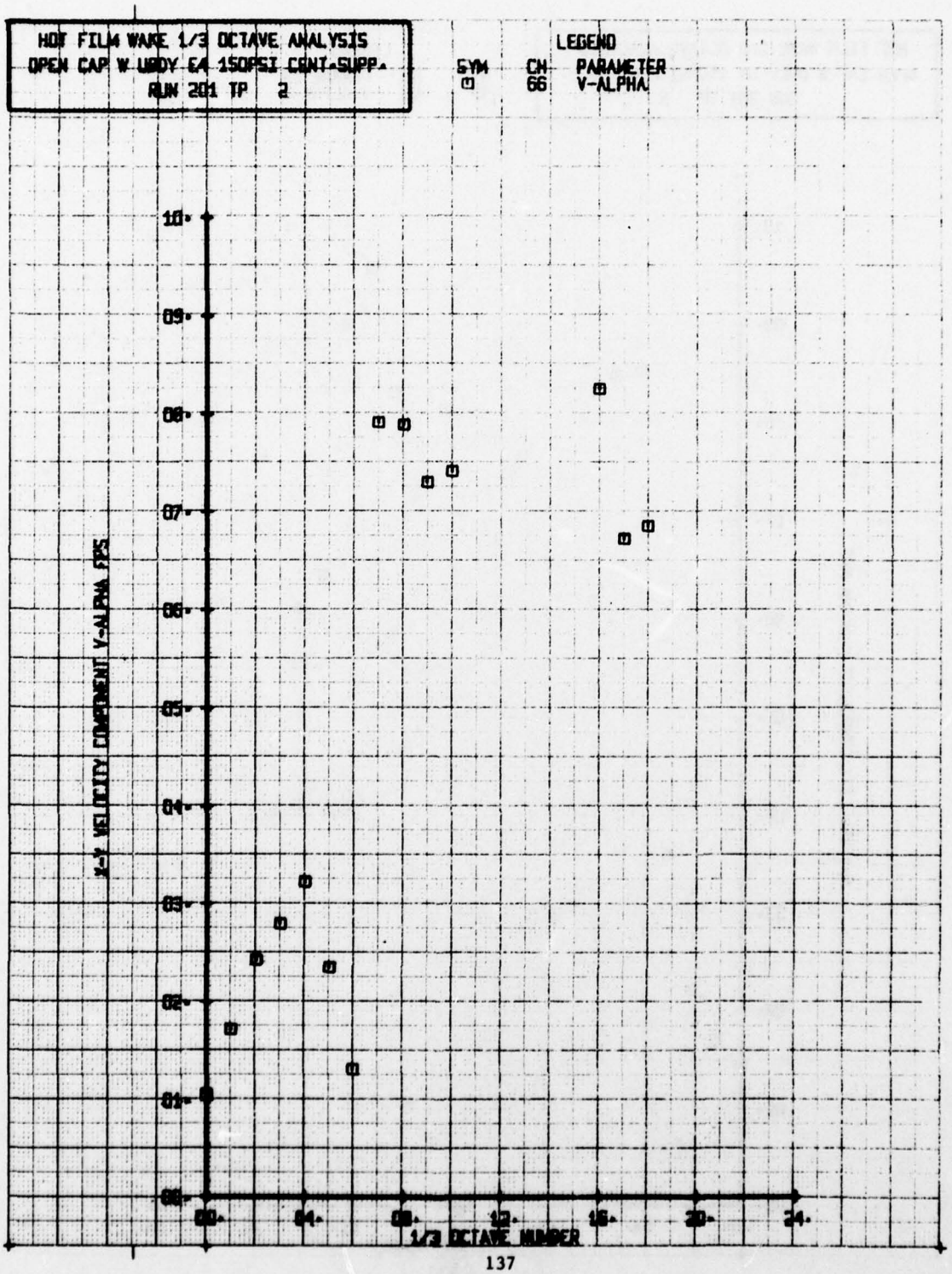
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W UBDY EA 150PSI CONT-SUPP.
RUN 201 TP 2
LEGEND
SYM CH PARAMETER
66 V-ALPHA
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X-Y VELOCITY COMPONENT V-ALPHA FPS
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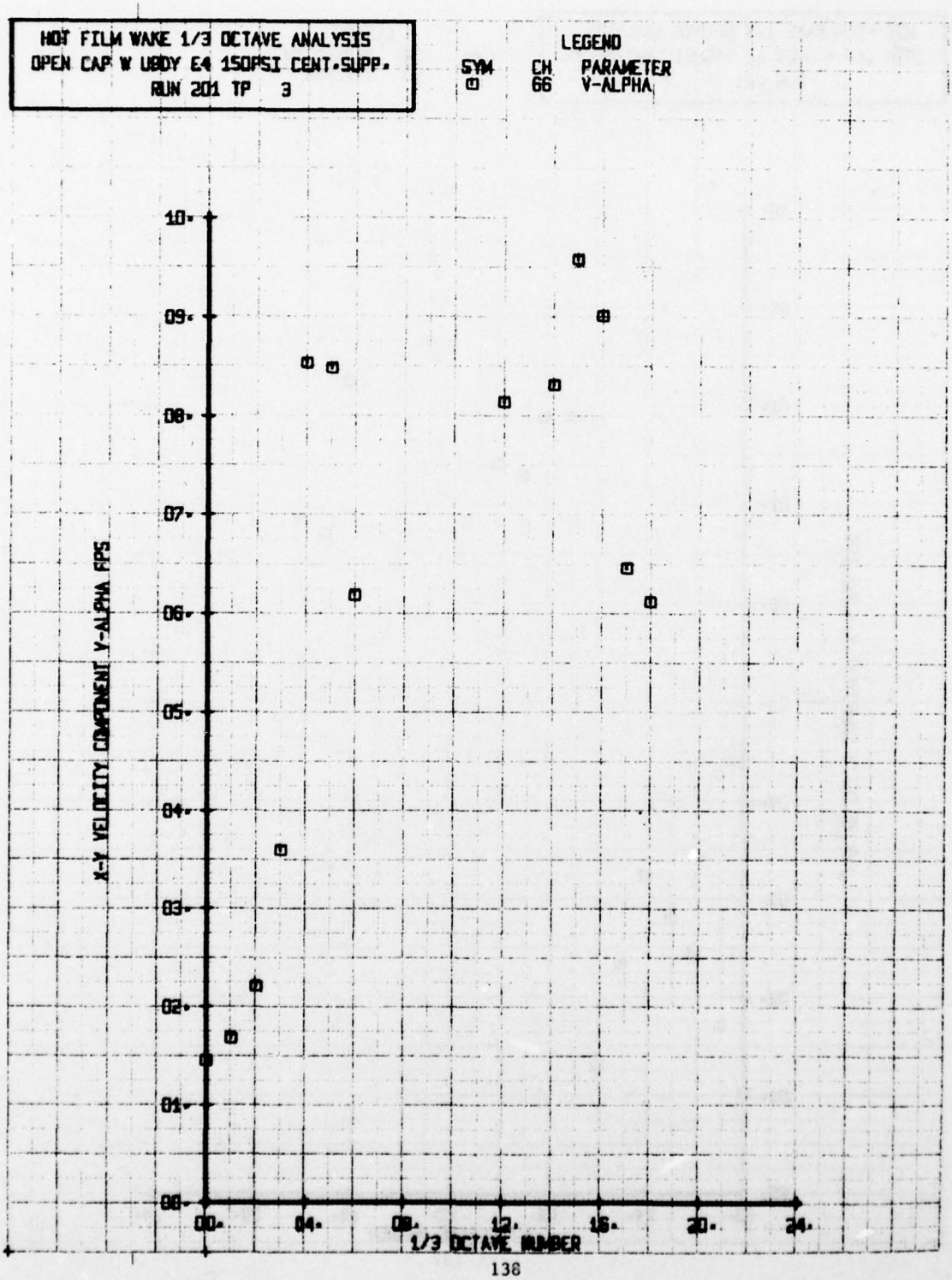
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W UBDY E4 150PSI CENT.SUPP.
RUN 201 TP 3
LEGEND
SYM CH PARAMETER
66 V-ALPHA
X-Y VELOCITY COMPONENT V-ALPHA FPS
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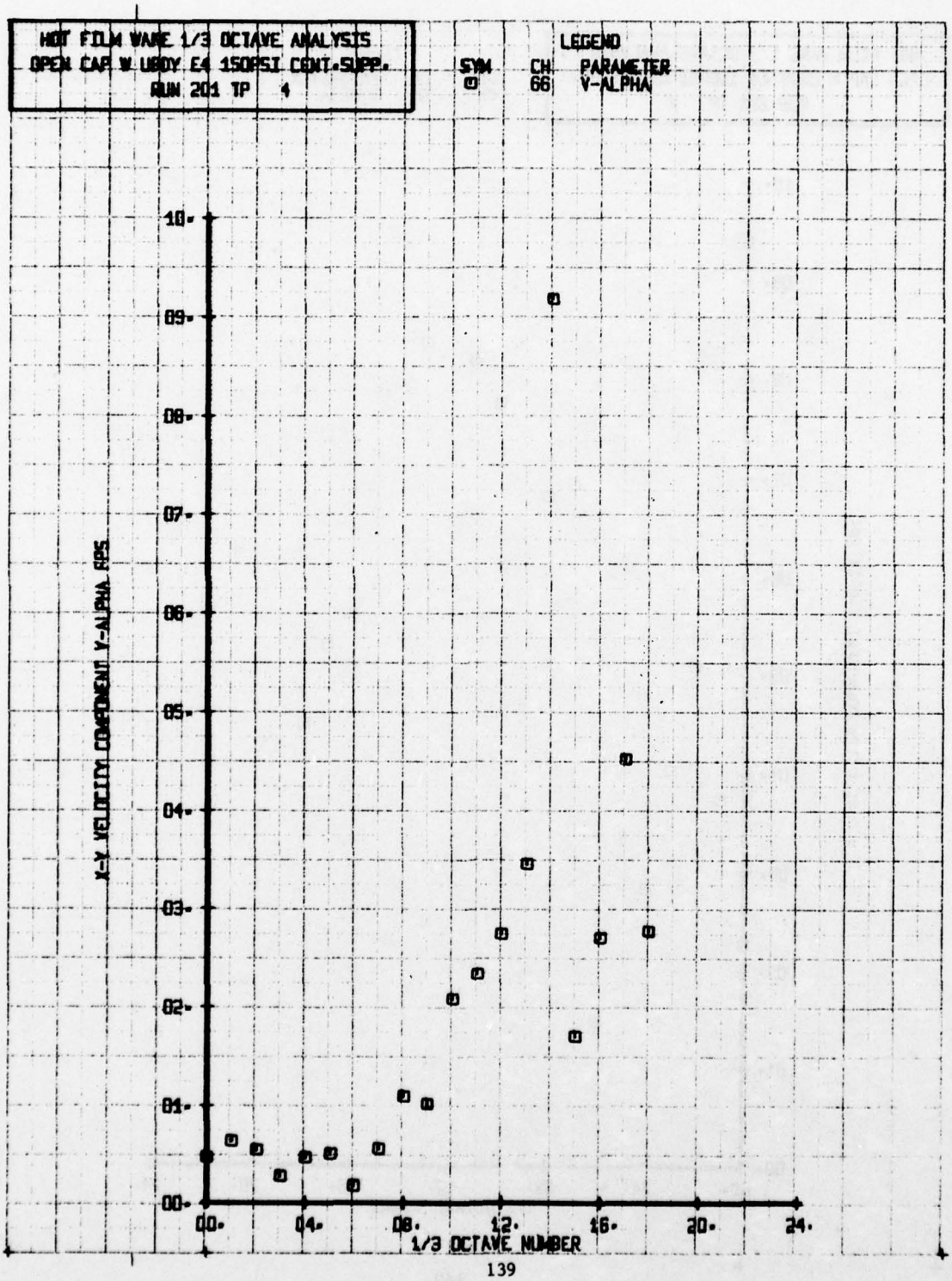
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W UBODY E4 150PSI CONT.SUPP.
RUN 201 TP 4
LEGEND
SYM CH PARAMETER
66 V-ALPHA
X-Y VELOCITY COMPONENT Y-ALPHA RMS
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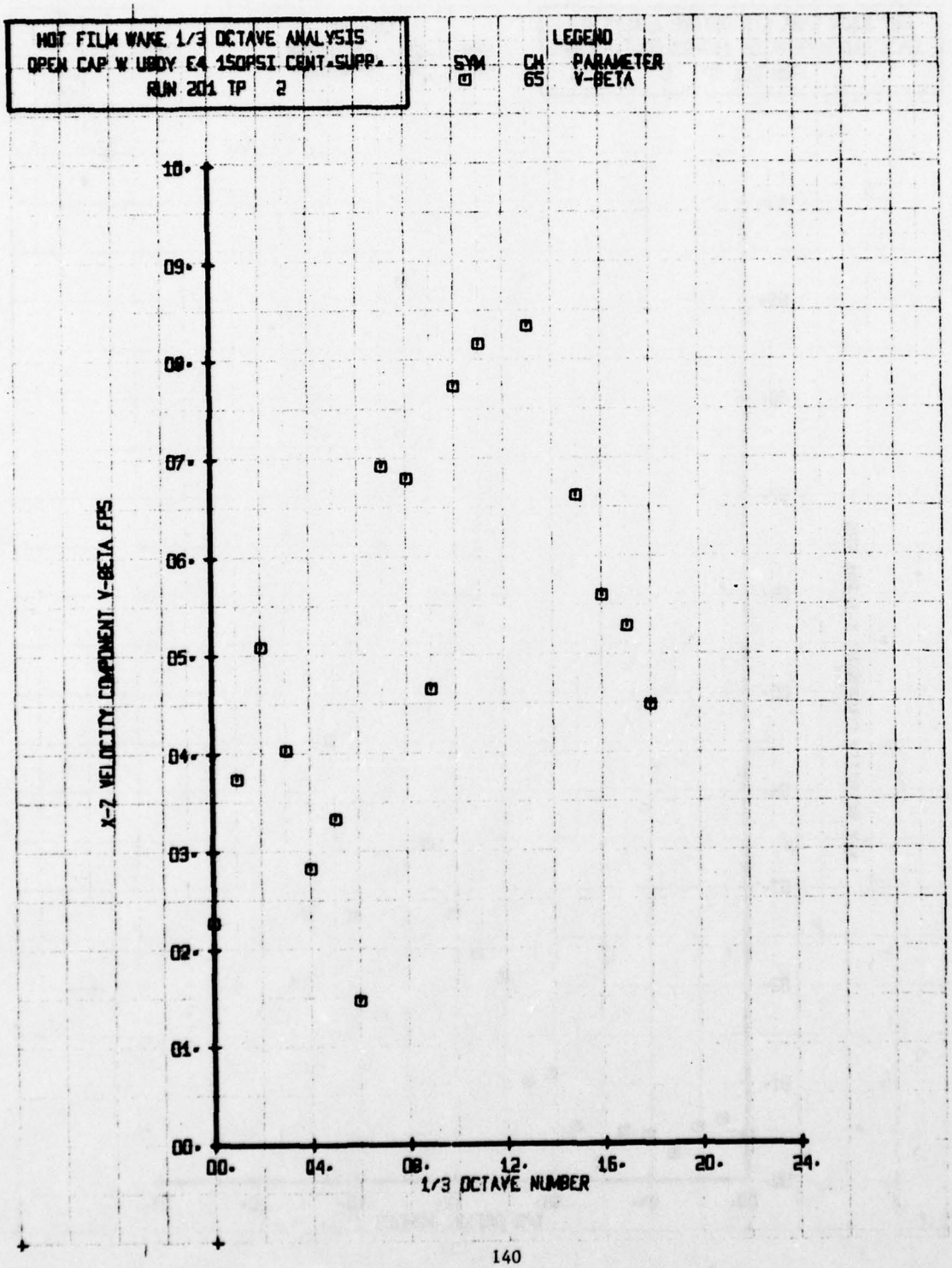
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W USDY E4 150PSI CENT-SUPP.
RUN 201 TP 2
LEGEND
SYM CH PARAMETER
65 V-BETA
X-Z VELOCITY COMPONENT V-BETA FPS
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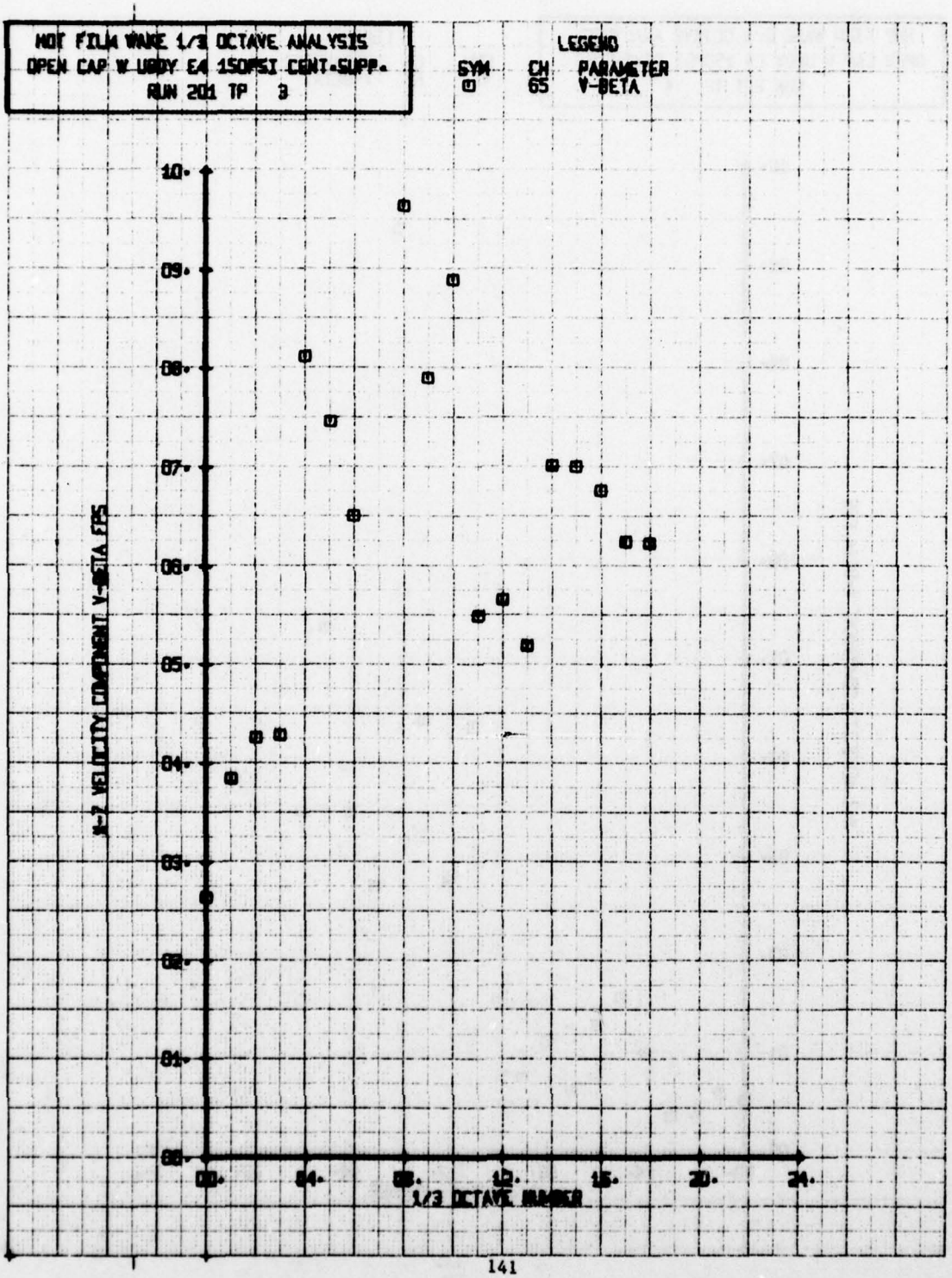
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W UBDY EA 150PSI CENT-SUPP.
RUN 201 TP 3
LEGEND
SYM CH PARAMETER
65 V-BETA
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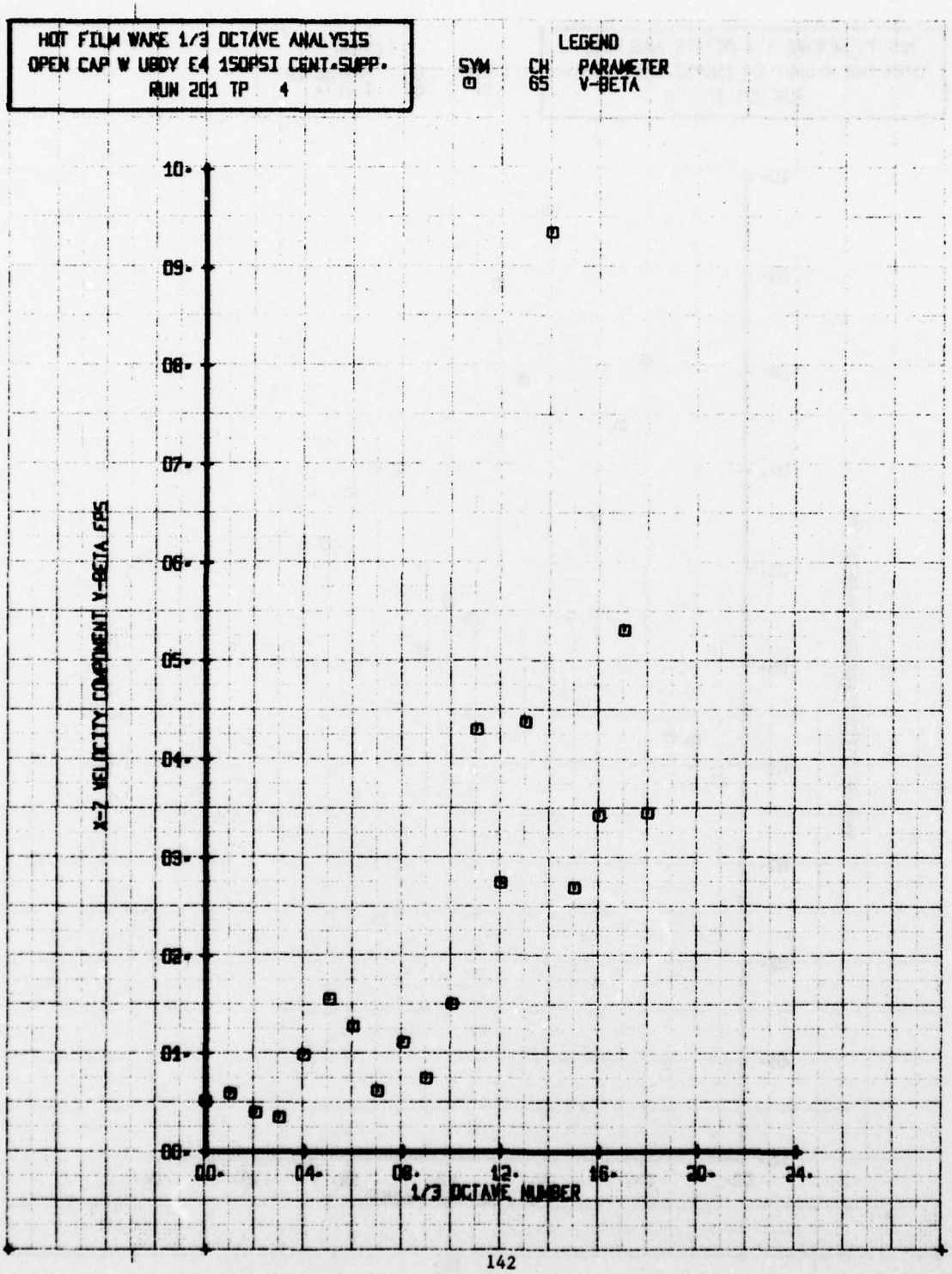
1/3 OCTAVE BAND


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
OPEN CAP W UBDY E4 150PSI CENT-SUPP.
RUN 201 TP 4
LEGEND
SYM CH PARAMETER
65 V-BETA
X-2 VELOCITY COMPONENT V-BETA FPS
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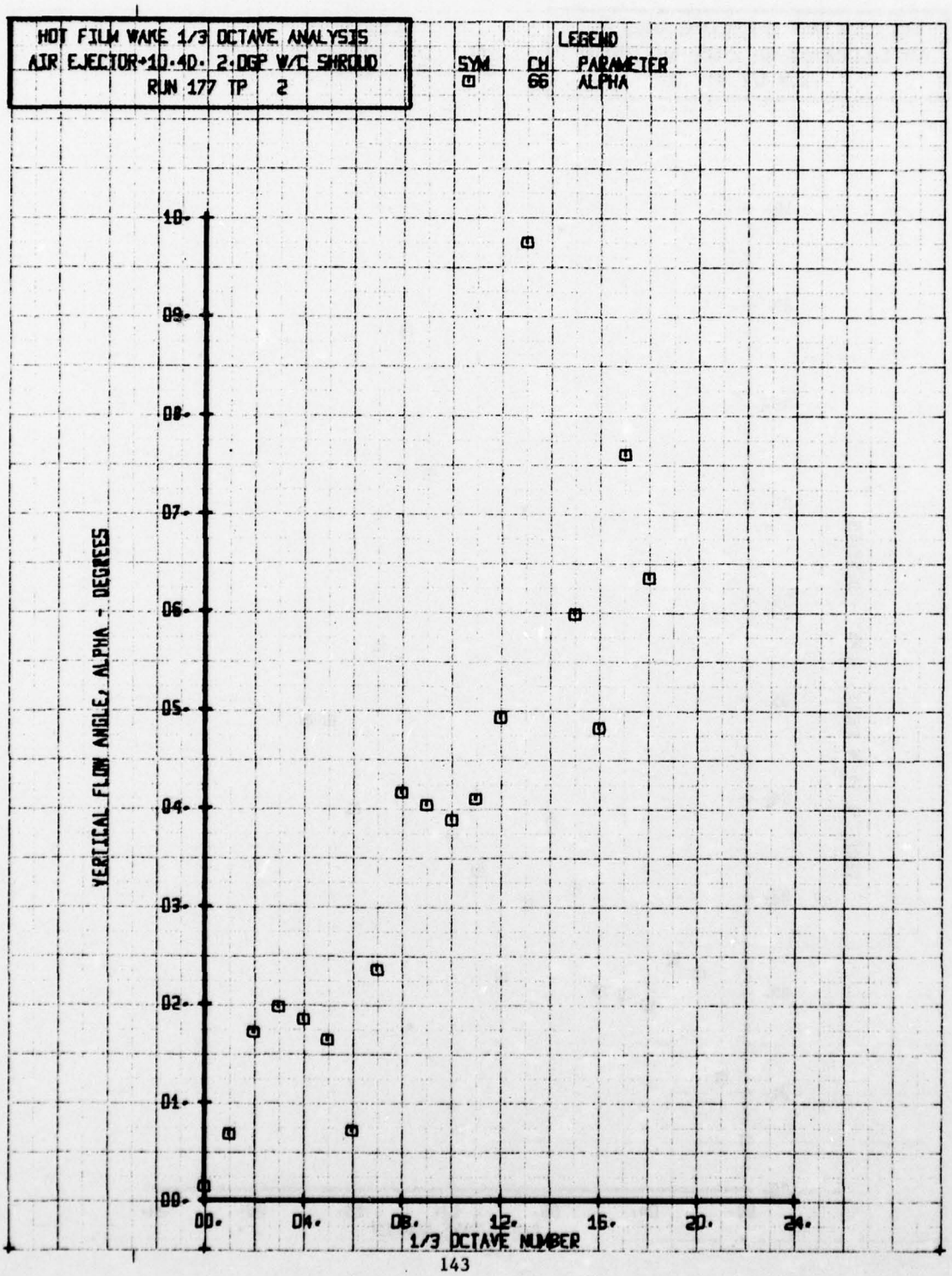
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJECTOR+10.4D. 2.DEP W/C SHROUD
RUN 177 TP 2
LEGEND
SYM CH PARAMETER
66 ALPHA
10.
09.
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VERTICAL FLOW ANGLE, ALPHA - DEGREES
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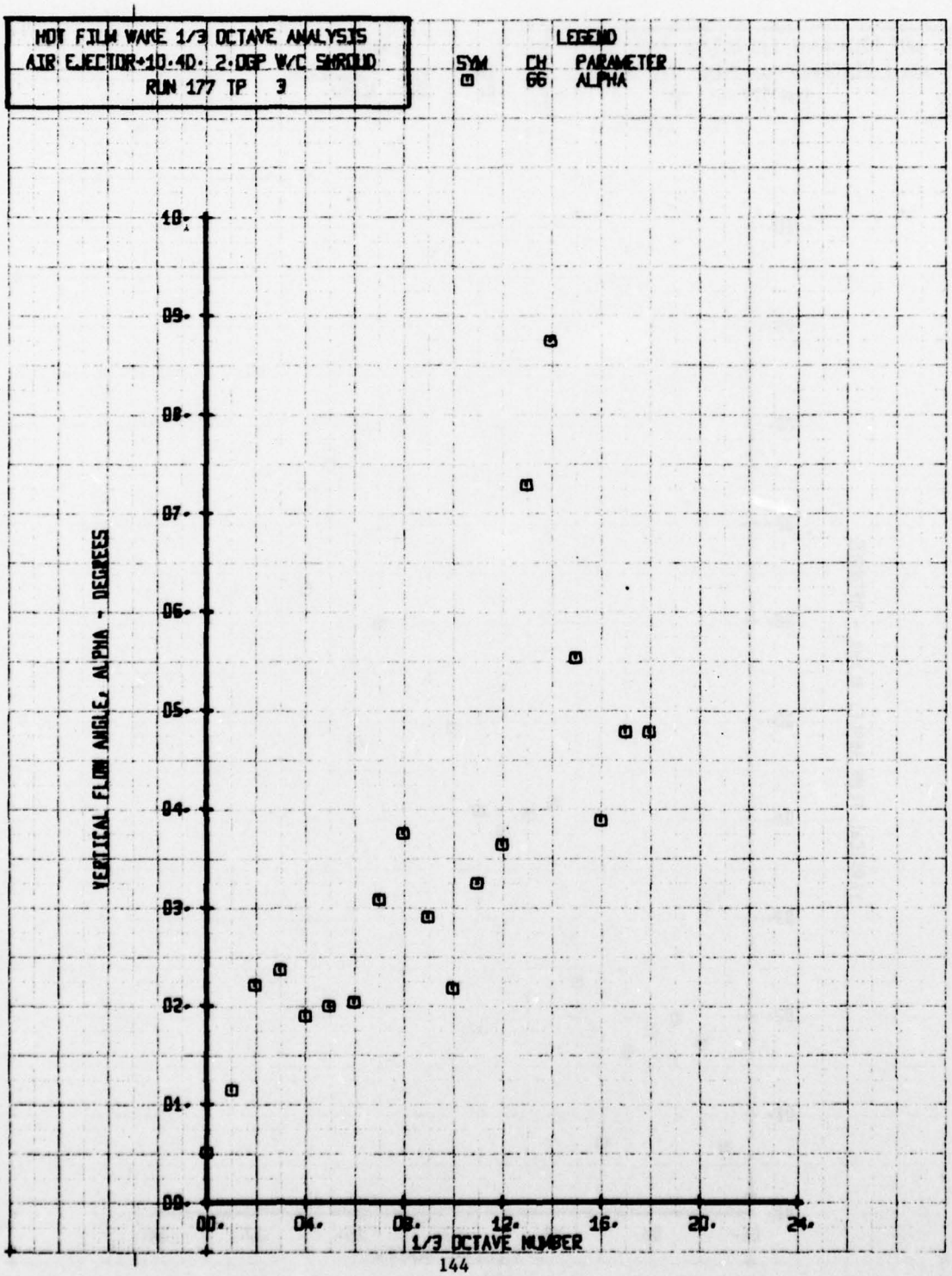
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJECTOR+10.4D. 2.DEP W/C SHROUD
RUN 177 TP 3
LEGEND
SYM CH PARAMETER
66 ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
10.
09.
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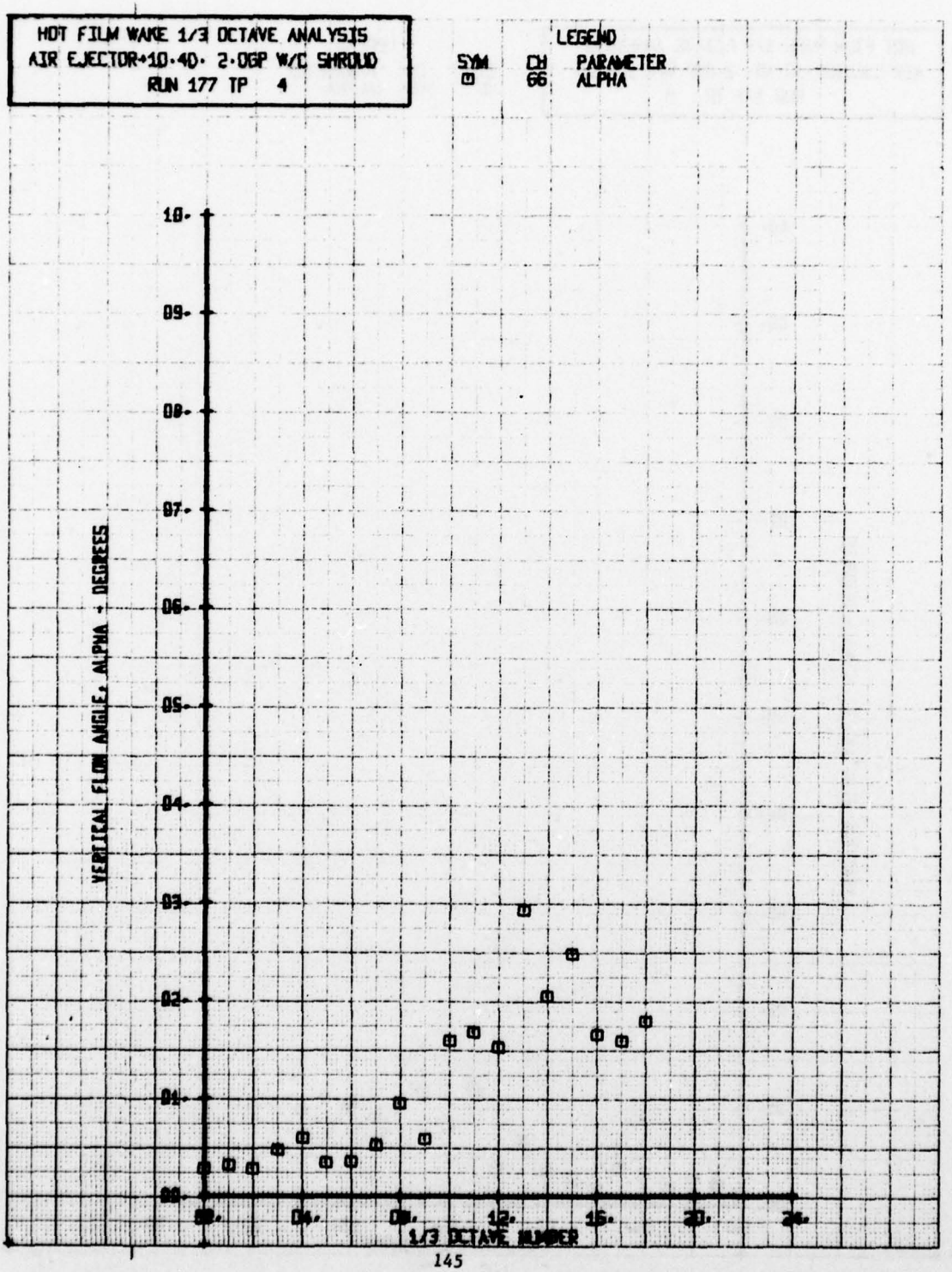
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJECTOR+10.40. 2.0GP W/C SHROUD
RUN 177 TP 4
LEGEND
SYM CH PARAMETER
66 ALPHA
10.
09.
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VERTICAL FLOW ANGLE, ALPHA + DEGREES
04.
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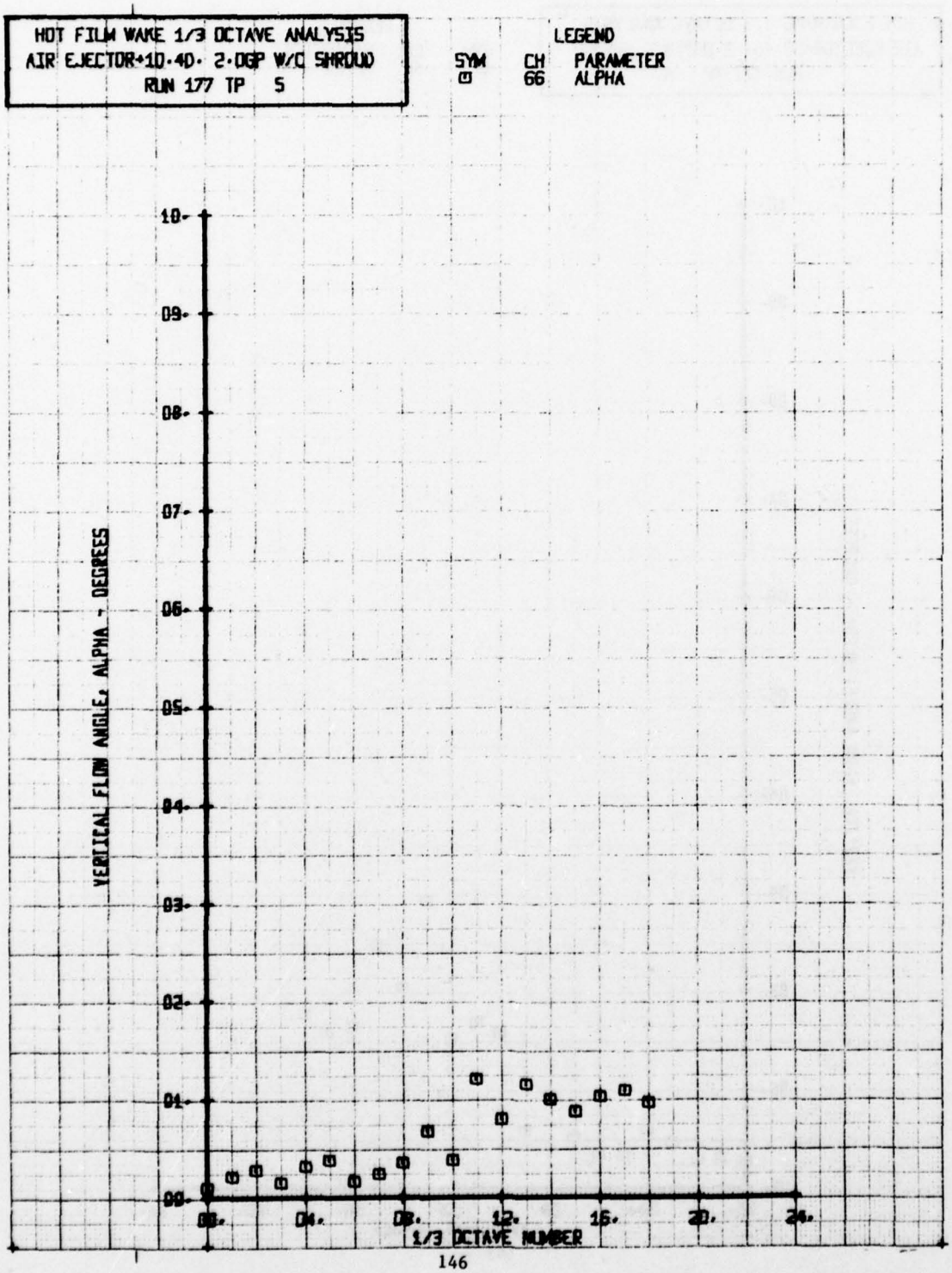
24.
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJECTOR•1D•4D• 2•DGP W/O SHROUD
RUN 177 TP 5
LEGEND
SYM CH PARAMETER
66 ALPHA
10.
09.
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VERTICAL FLOW ANGLE, ALPHA - DEGREES
04.
08.
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16.
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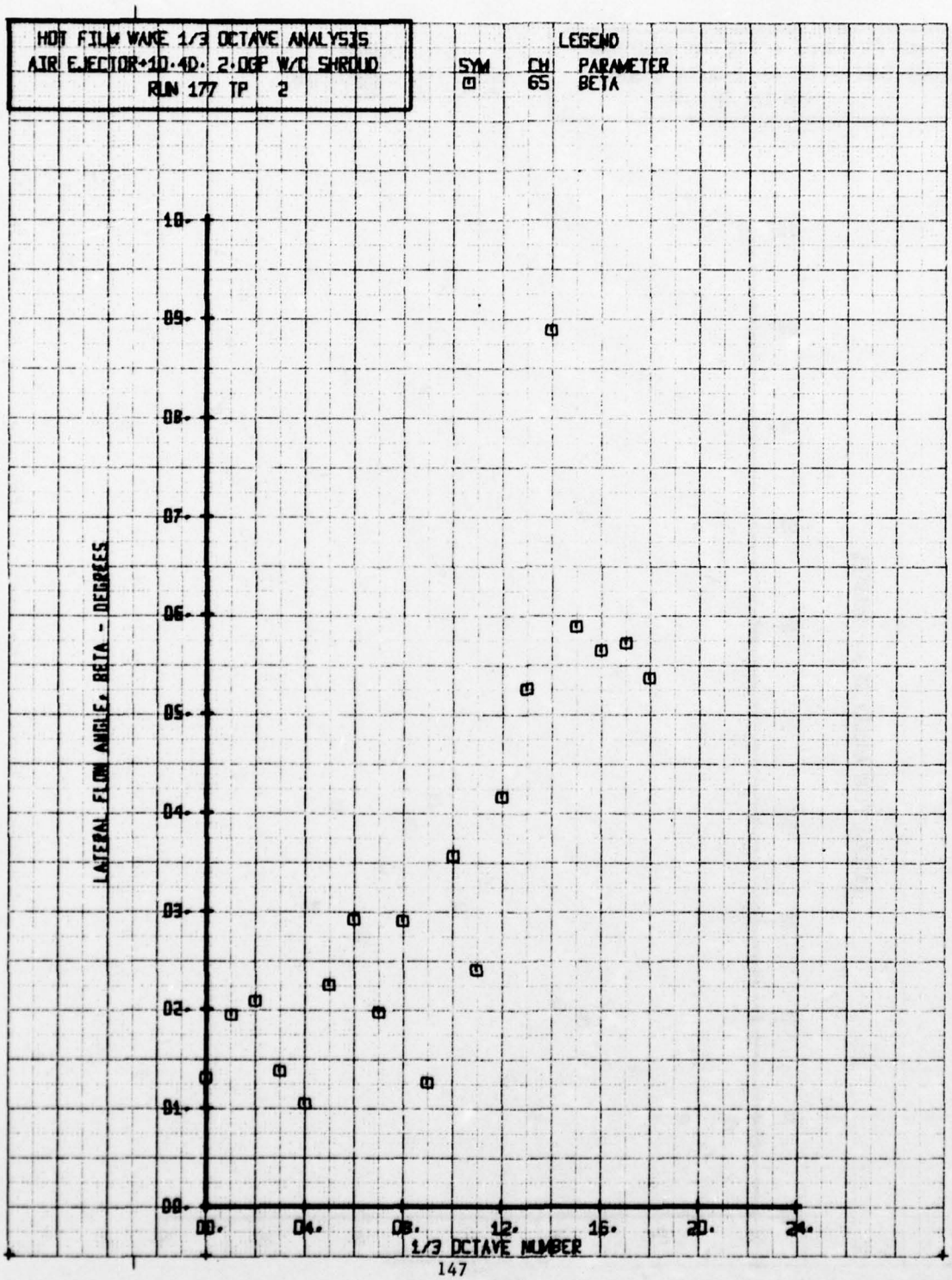
24.
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJECTOR+1D+4D+ 2+DGP W/O SHROUD
RUN 177 TP 2
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
1/3 OCTAVE NUMBER
10.
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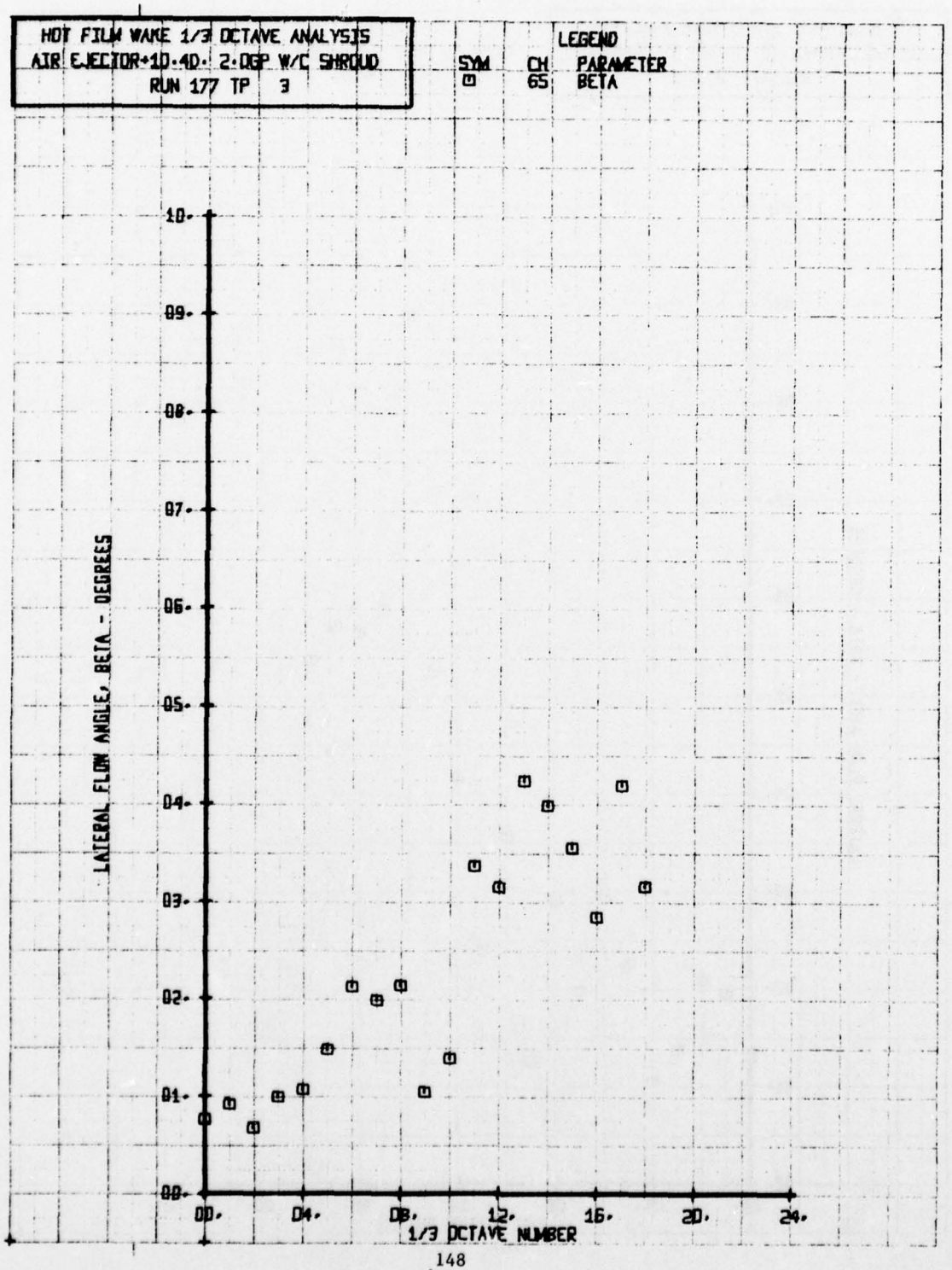
HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJECTOR+1D.4D. 2.DGP W/C SHROUD
RUN 177 TP 3
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
1/3 OCTAVE NUMBER
10.
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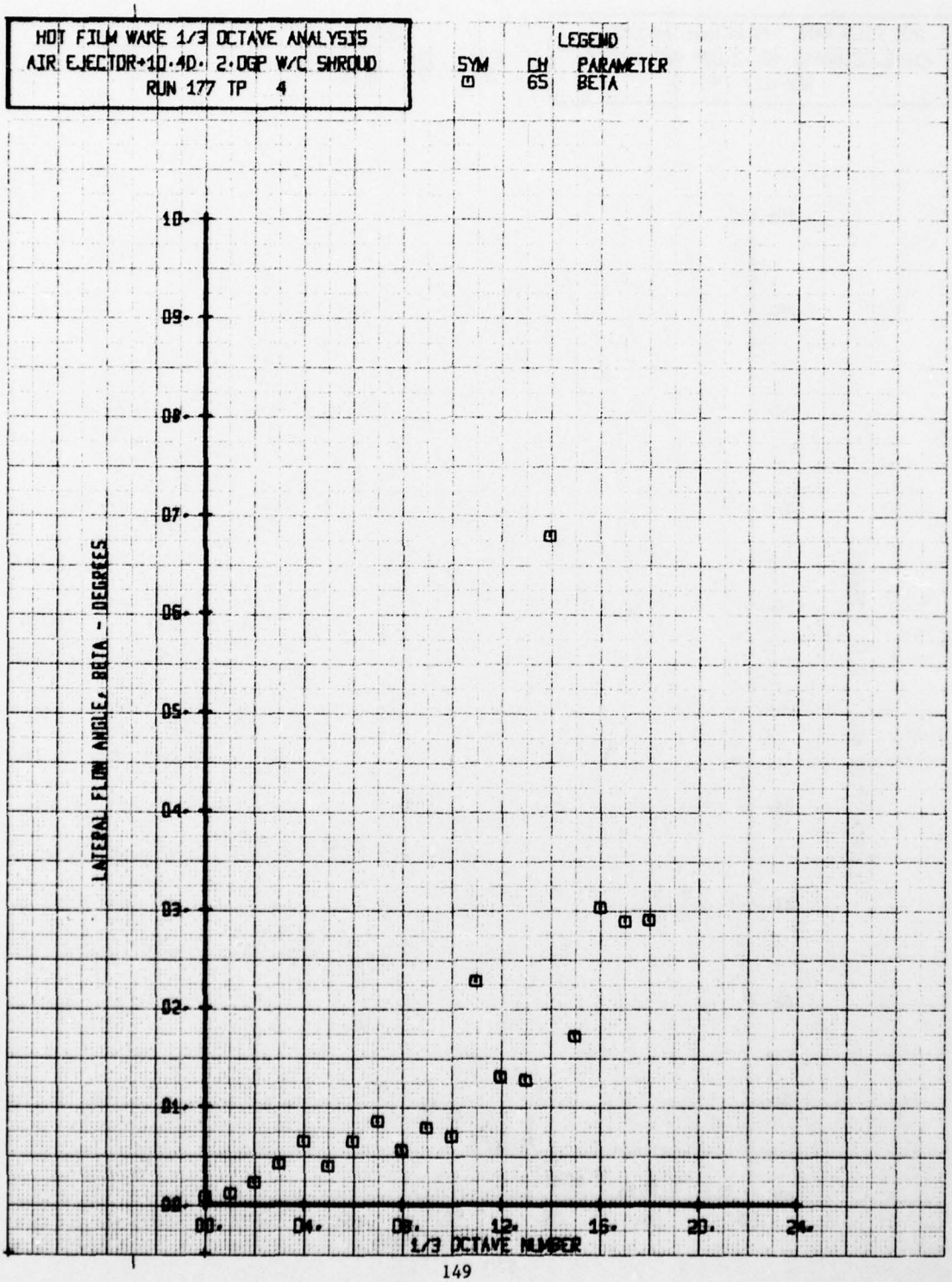
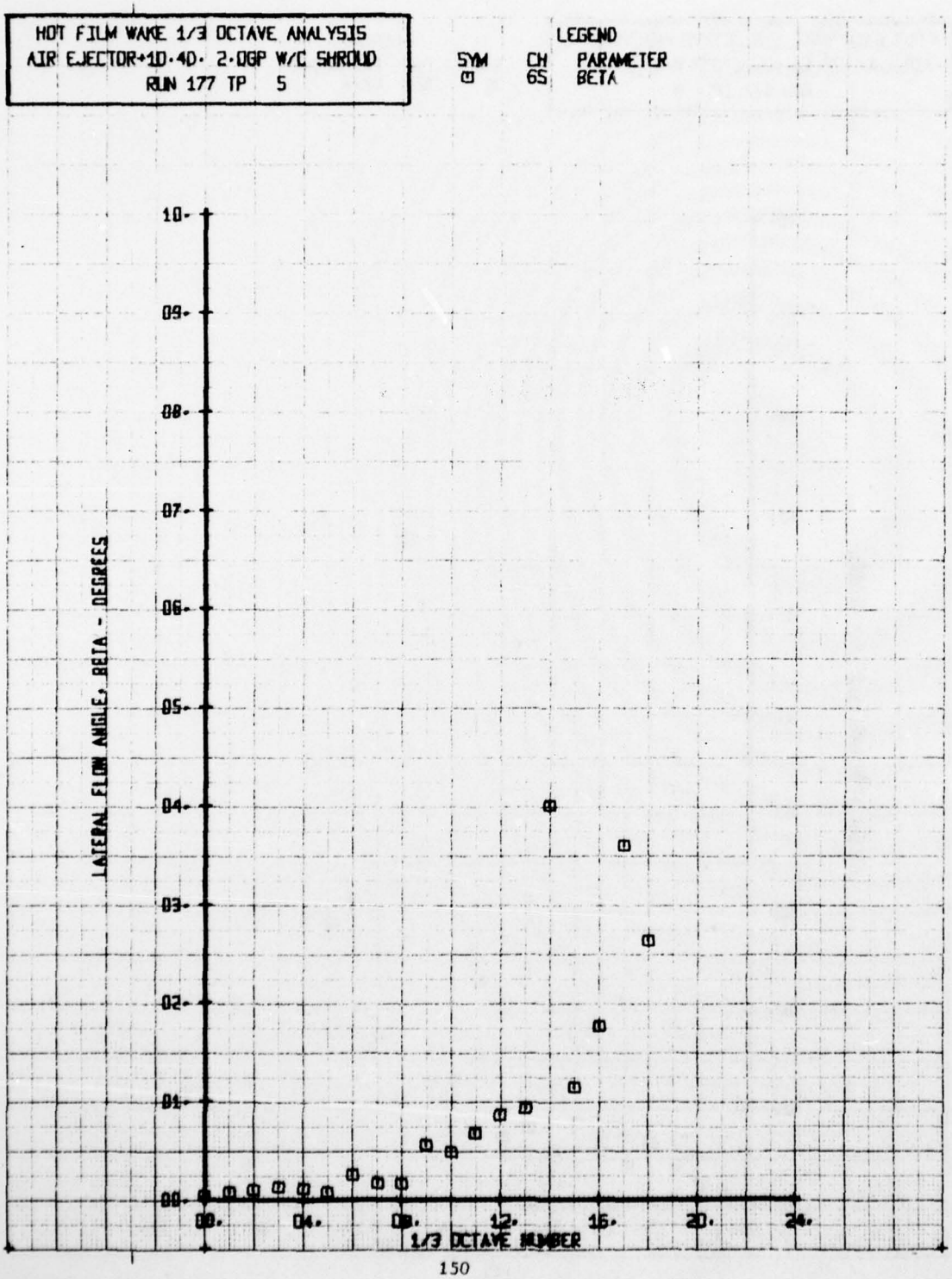

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJECTOR+1D+4D+ 2+DGP W/C SHROUD
RUN 177 TP 4
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJECTOR+1D·4D· 2·0GP W/C SHROUD
RUN 177 TP 5
LEGEND
SYM CH PARAMETER
6S BETA
LATERAL FLOW ANGLE, BETA - DEGREES
1/3 OCTAVE NUMBER
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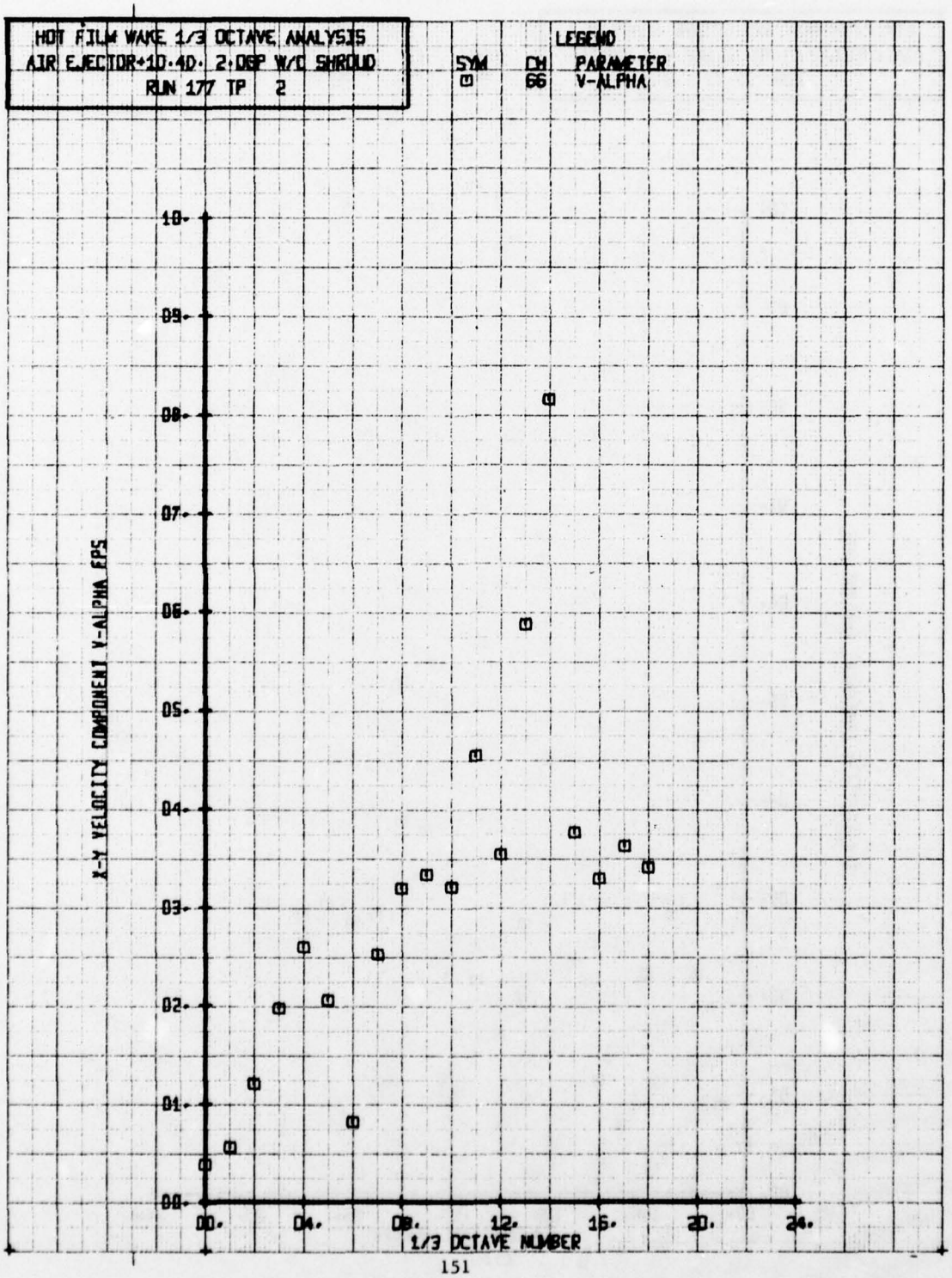
HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJECTOR+1D+4D+ 2+DSP W/C SHROUD
RUN 177 TP 2
LEGEND
SYM CH PARAMETER
66 V-ALPHA
X-Y VELOCITY COMPONENT V-ALPHA EPS
1/3 OCTAVE NUMBER
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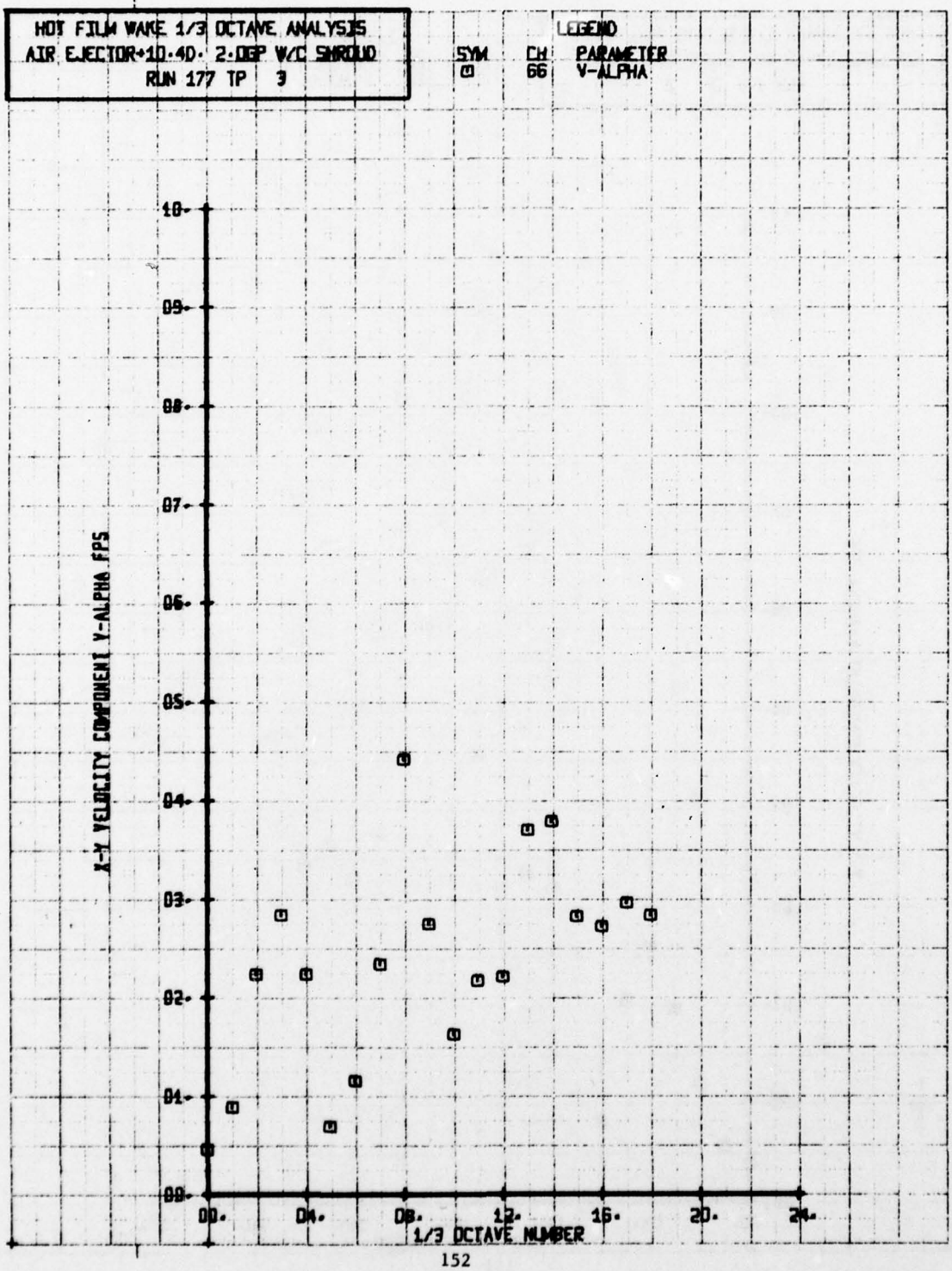
HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJECTOR+1D-4D- 2-DEP W/C SHROUD
RUN 177 TP 3
LEGEND
SYM CH PARAMETER
66 V-ALPHA
X-Y VELOCITY COMPONENT Y-ALPHA FPS
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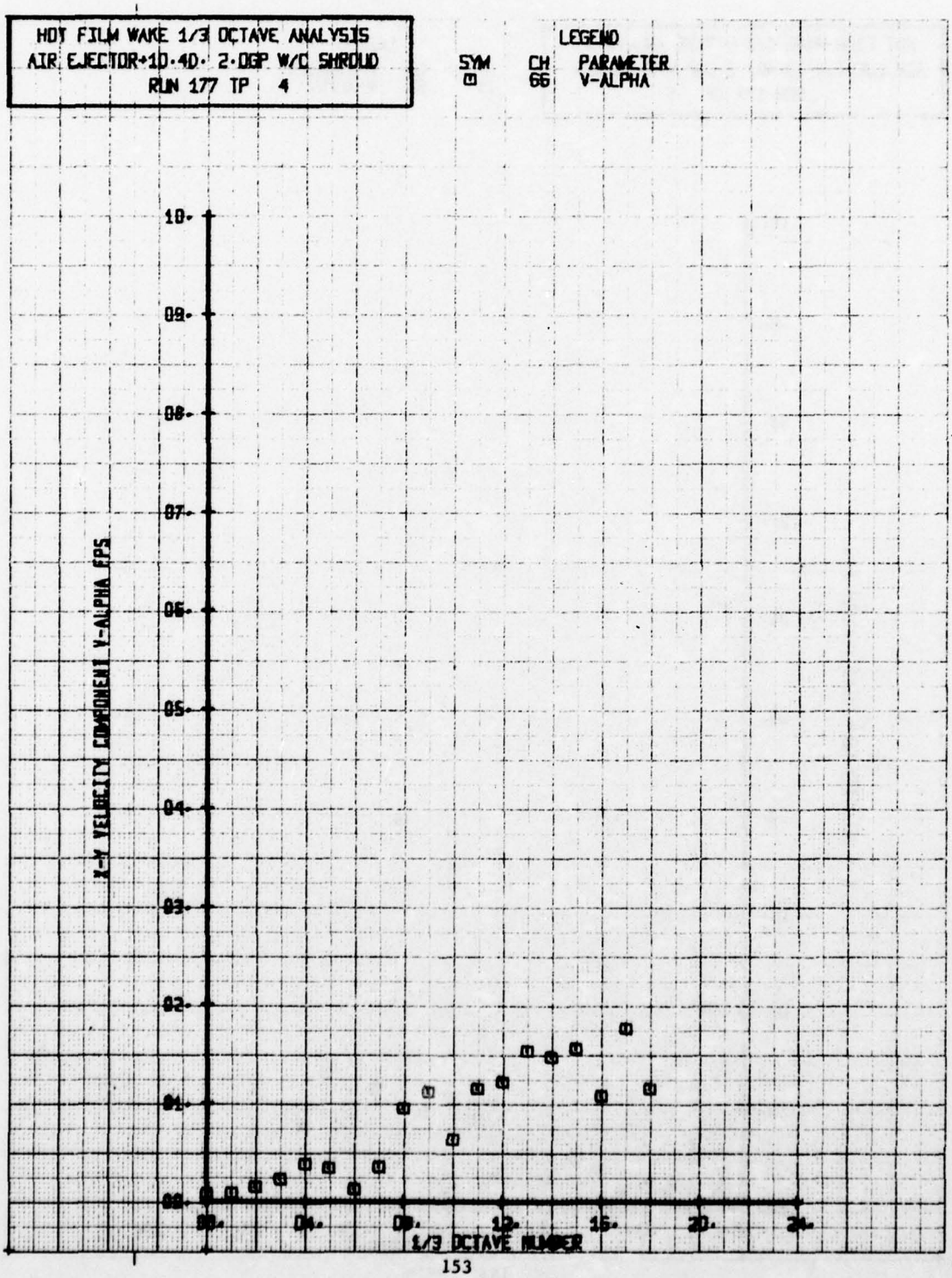
HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJECTOR+1D·4D· 2·DGP W/C SHROUD
RUN 177 TP 4
LEGEND
SYM CH PARAMETER
66 V-ALPHA
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X-Y VELOCITY COMPONENT V-ALPHA FPS
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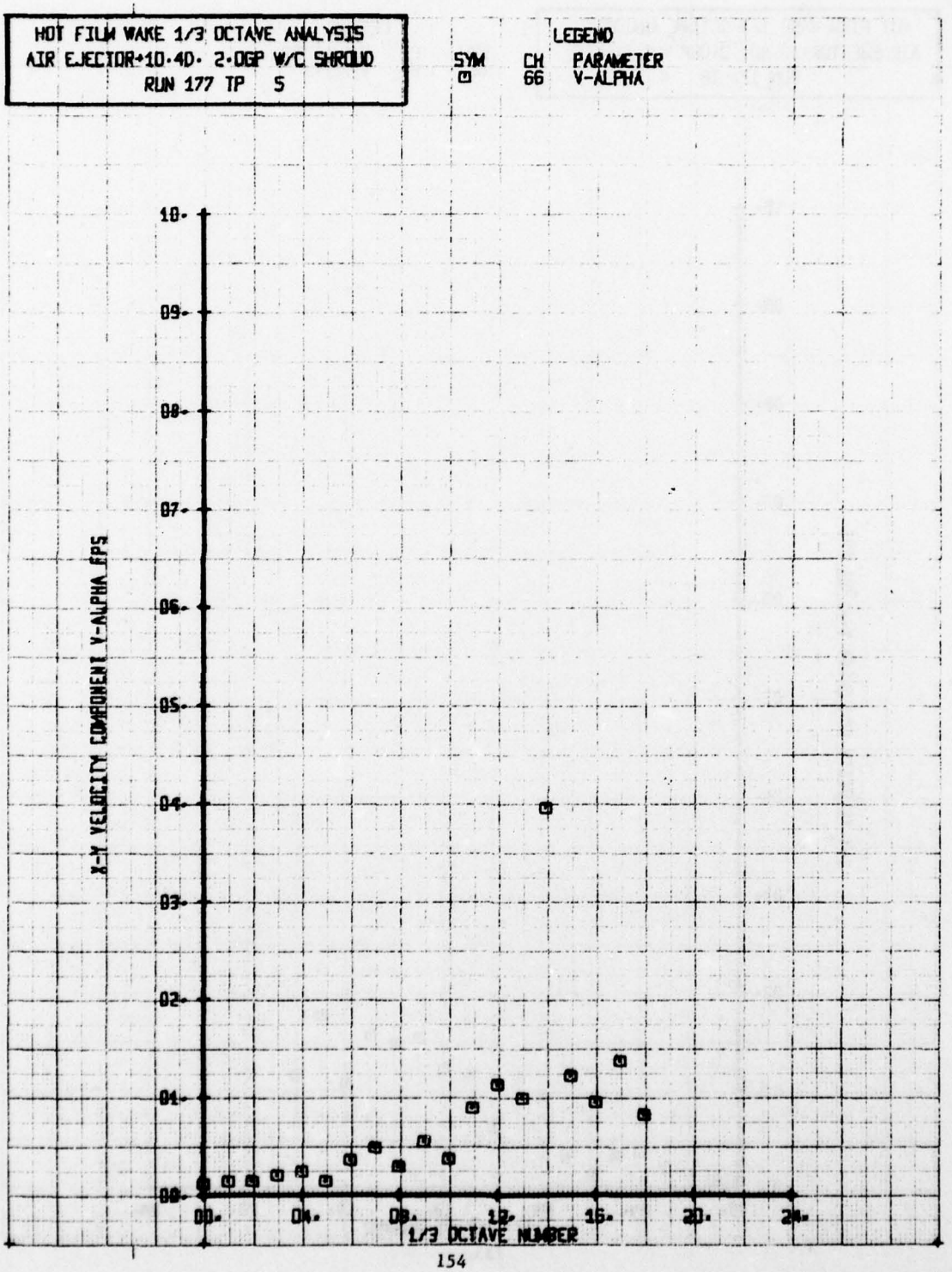
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJECTOR+10.4D. 2.0GP W/C SHROUD
RUN 177 TP 5
LEGEND
SYM CH PARAMETER
66 V-ALPHA
X-Y VELOCITY COMPONENT V-ALPHA FPS
1/3 OCTAVE NUMBER
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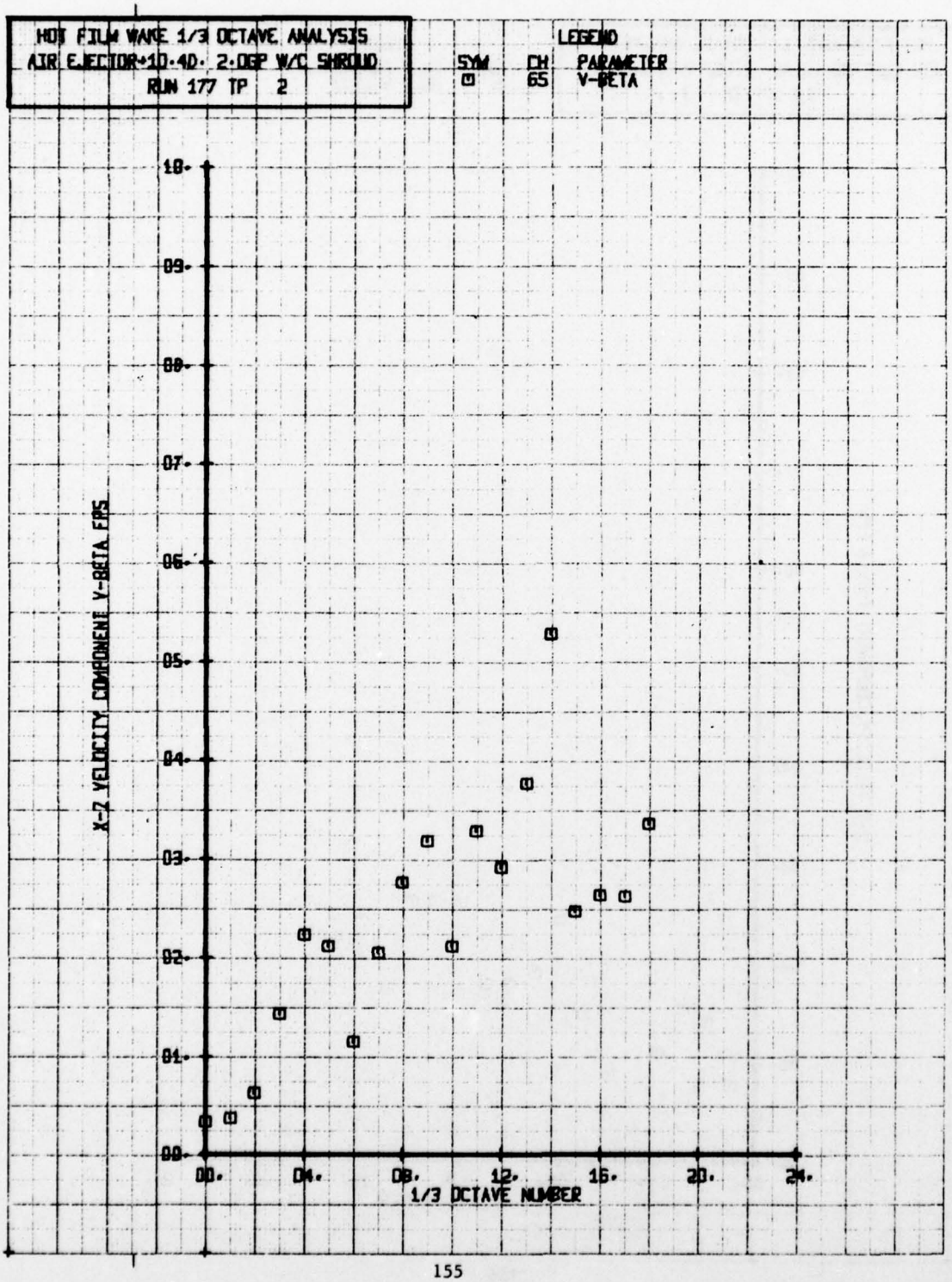
HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJECTOR=1D=4D= 2=DEP W/C SHROUD
RUN 177 TP 2
LEGEND
SYM CH PARAMETER
65 V-BETA
X-Z VELOCITY COMPONENT V-BETA FPS
1/3 OCTAVE NUMBER
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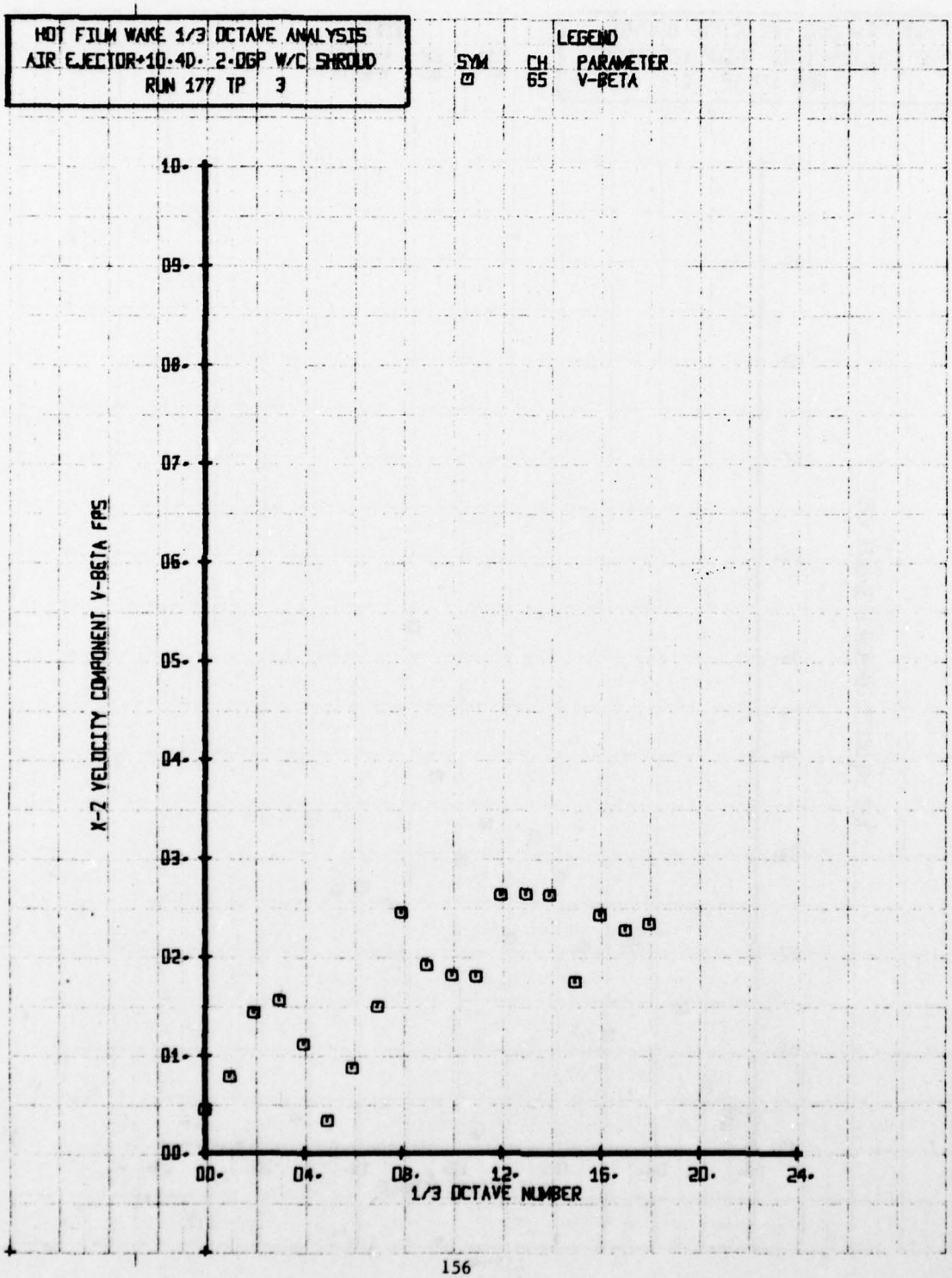
HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJECTOR+10.4D. 2.0GP W/C SHROUD
RUN 177 TP 3
LEGEND
SYM CH PARAMETER
65 V-BETA
X-Z VELOCITY COMPONENT V-BETA FPS
1/3 OCTAVE NUMBER
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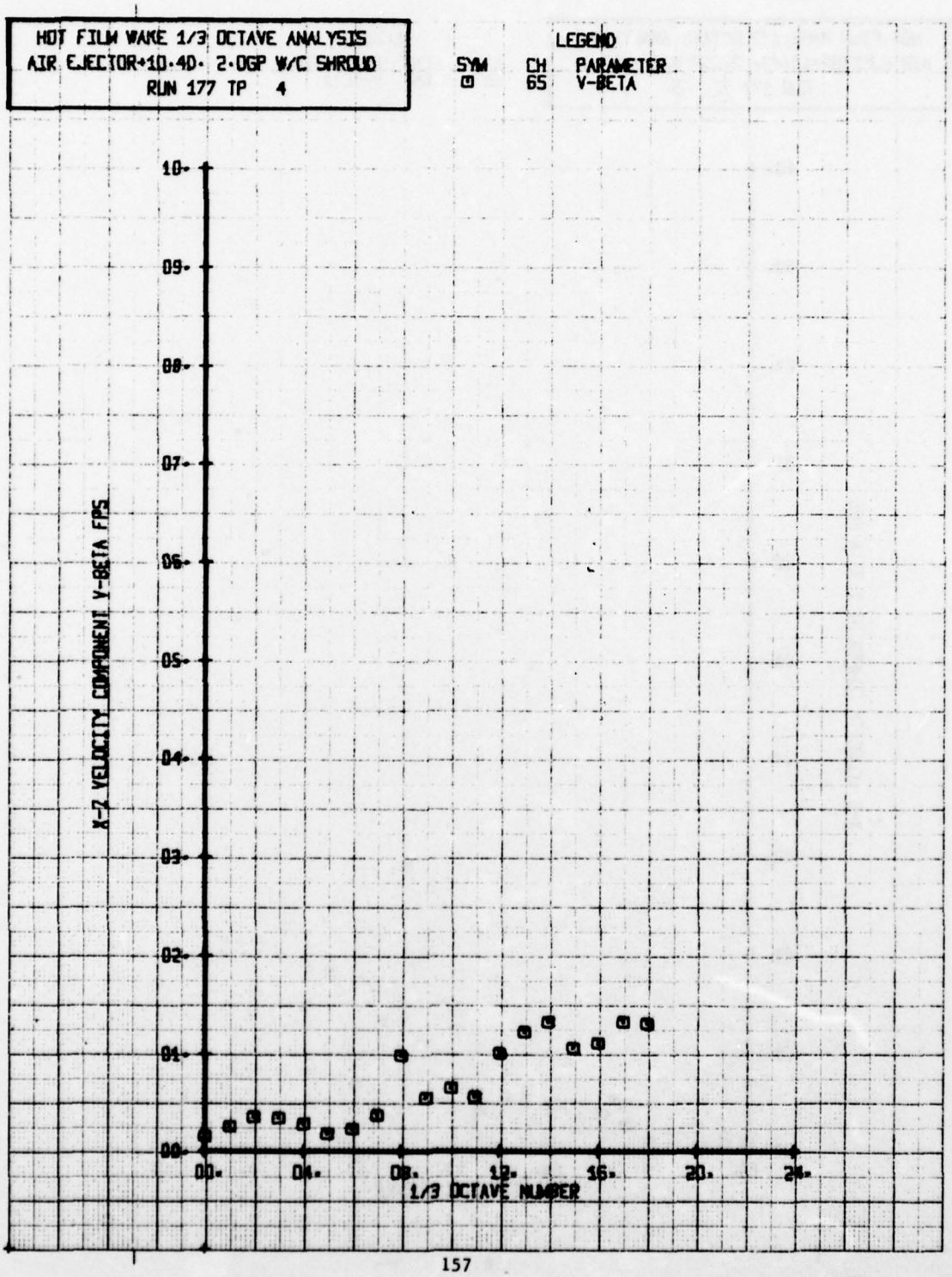
HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJECTOR+10.4D. 2.0GP W/C SHROUD
RUN 177 TP 4
LEGEND
SYM CH PARAMETER
65 V-BETA
X-Z VELOCITY COMPONENT V-BETA FPS
1/3 OCTAVE NUMBER
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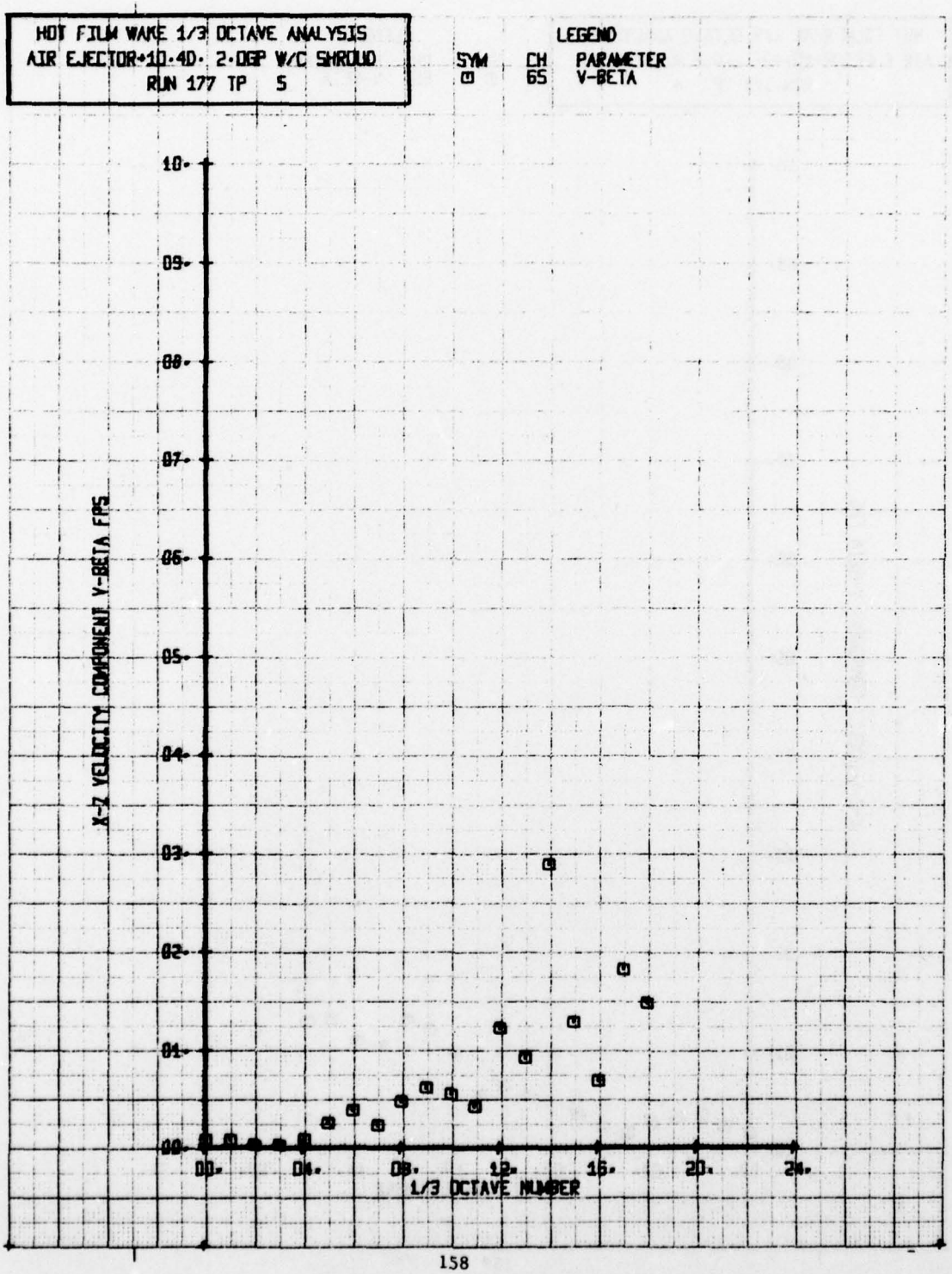
HOT FILM WAKE 1/3 OCTAVE ANALYSIS
AIR EJECTOR+10.4D. 2.0EP W/C SHROUD
RUN 177 TP 5
LEGEND
SYM CH PARAMETER
65 V-BETA
X-Z VELOCITY COMPONENT V-BETA FPS
1/3 OCTAVE NUMBER
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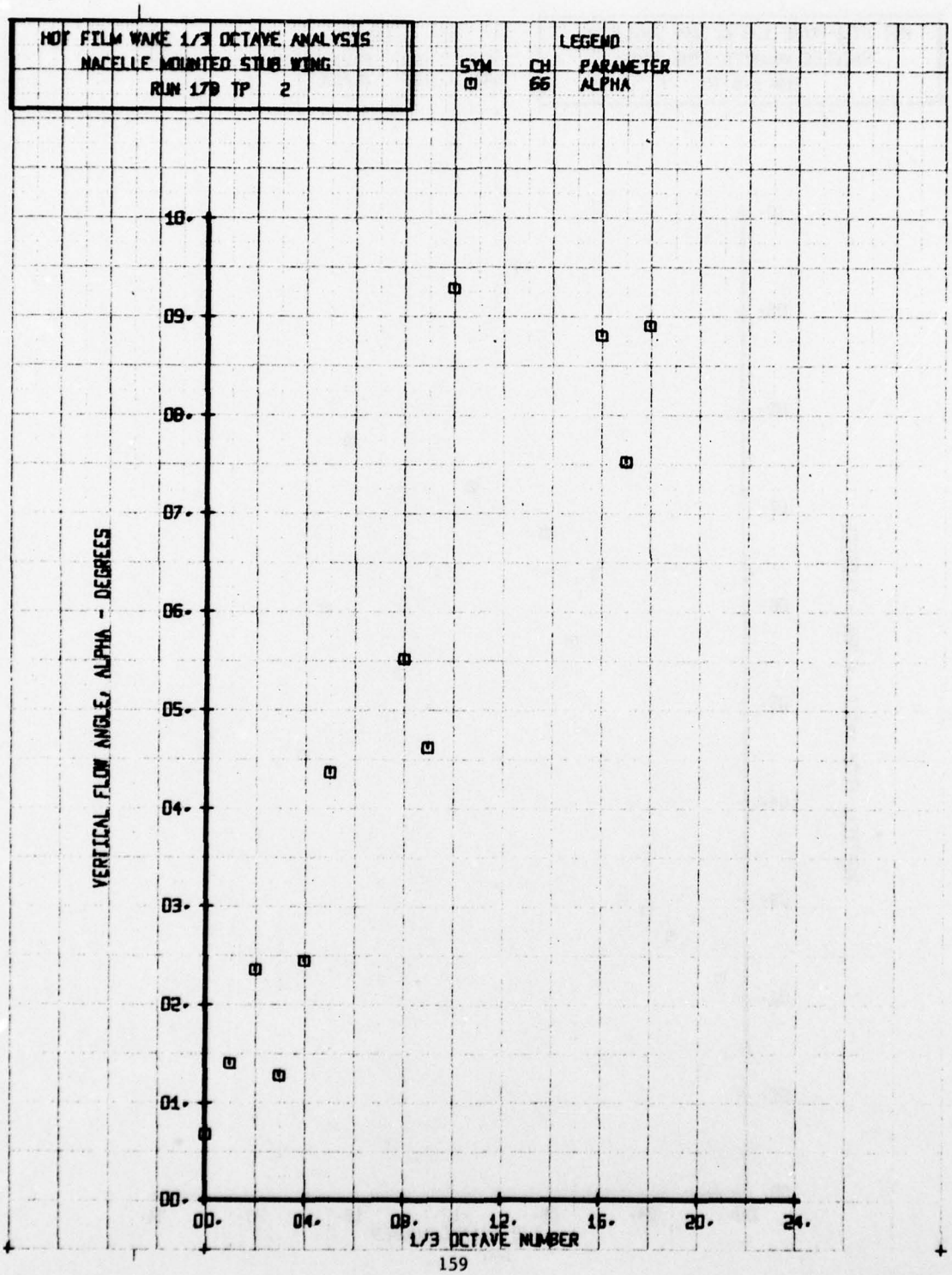
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NACELLE MOUNTED STUB WING
RUN 179 TP 2
LEGEND
SYM CH PARAMETER
66 ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
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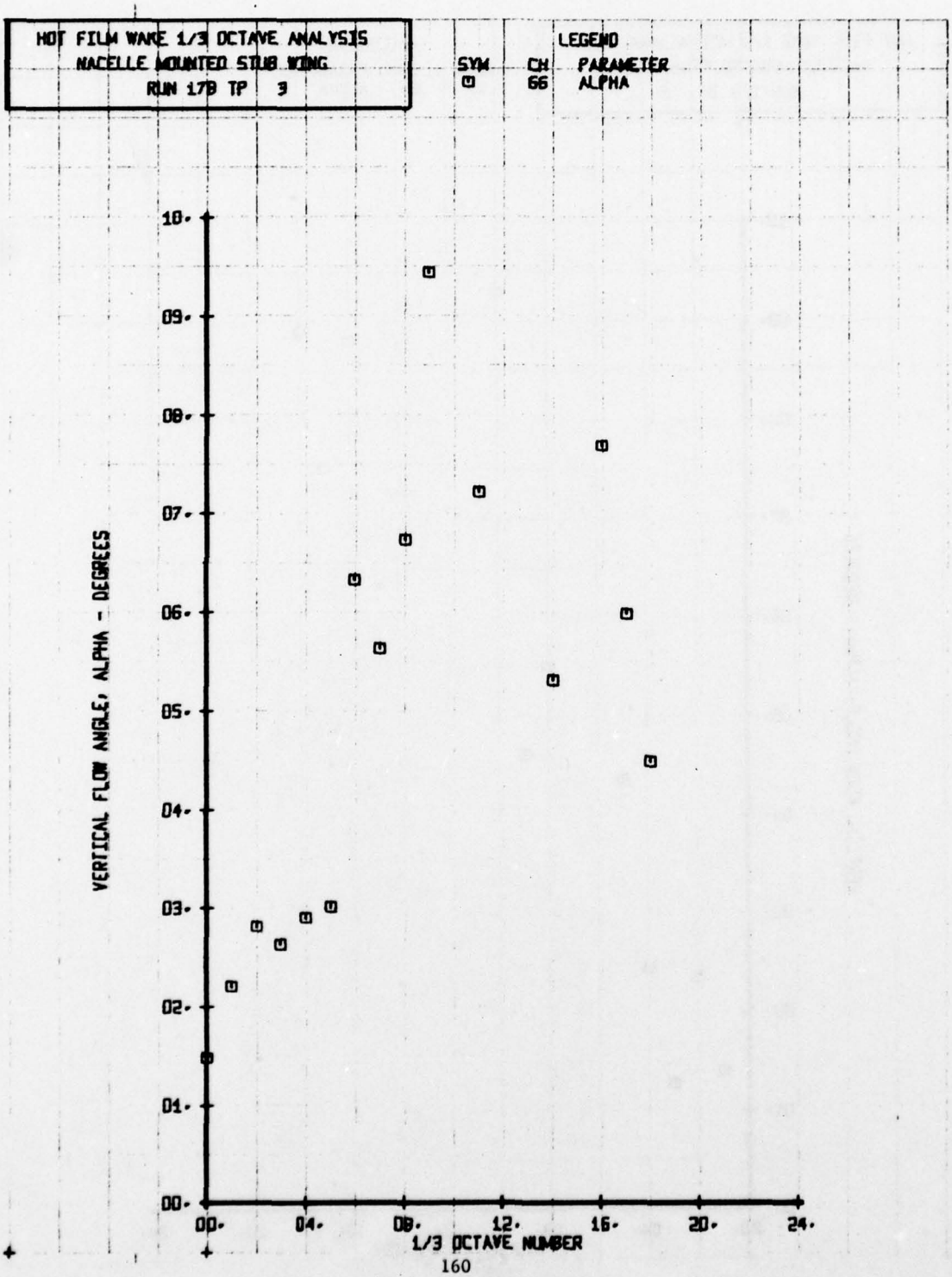
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NACELLE MOUNTED STUB WING
RUN 178 TP 3
LEGEND
SYM CH PARAMETER
66 ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
1/3 OCTAVE NUMBER
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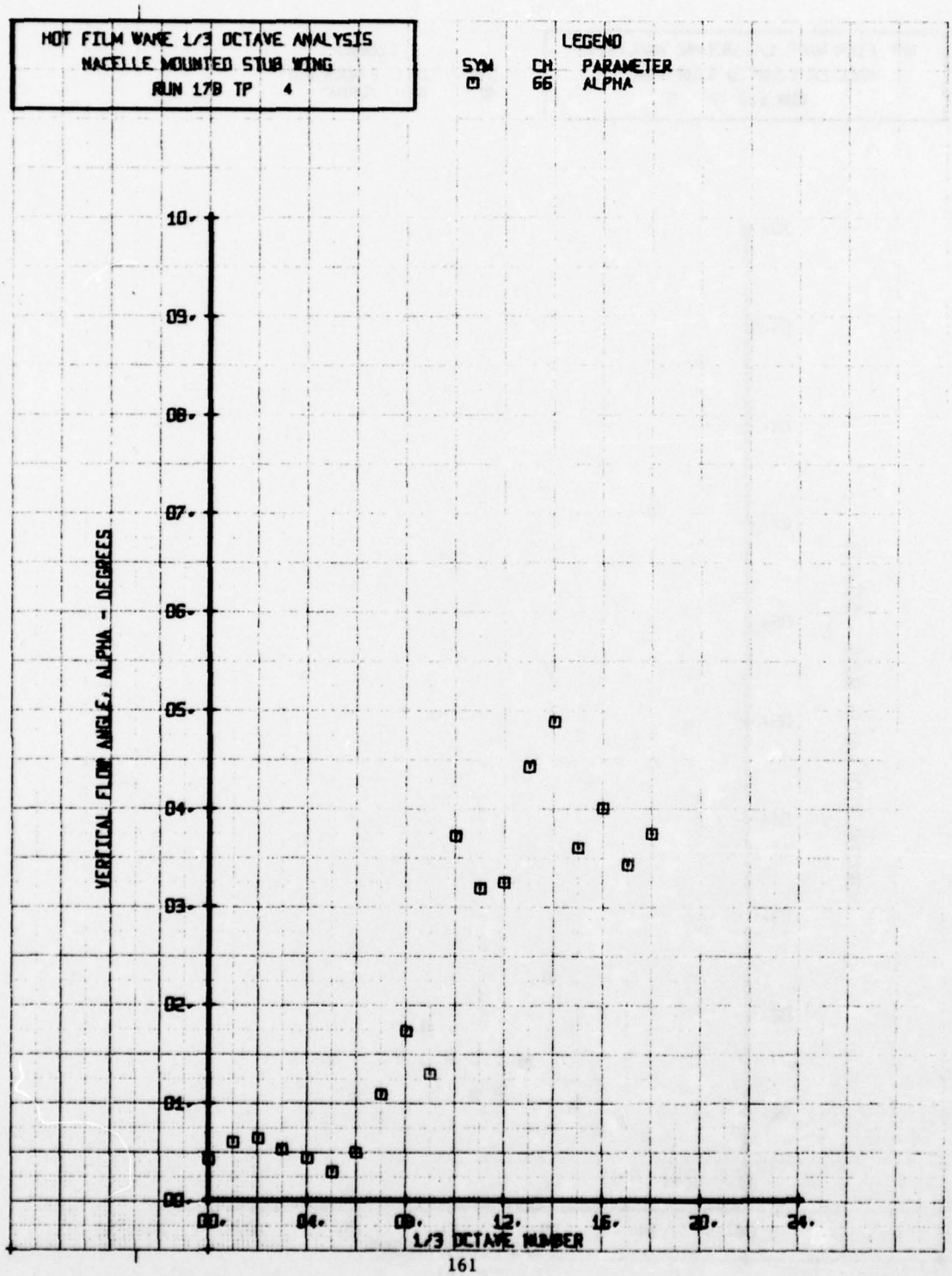
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RUN 178 TP 4
LEGEND
SYM CH PARAMETER
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VERTICAL FLOW ANGLE, ALPHA - DEGREES
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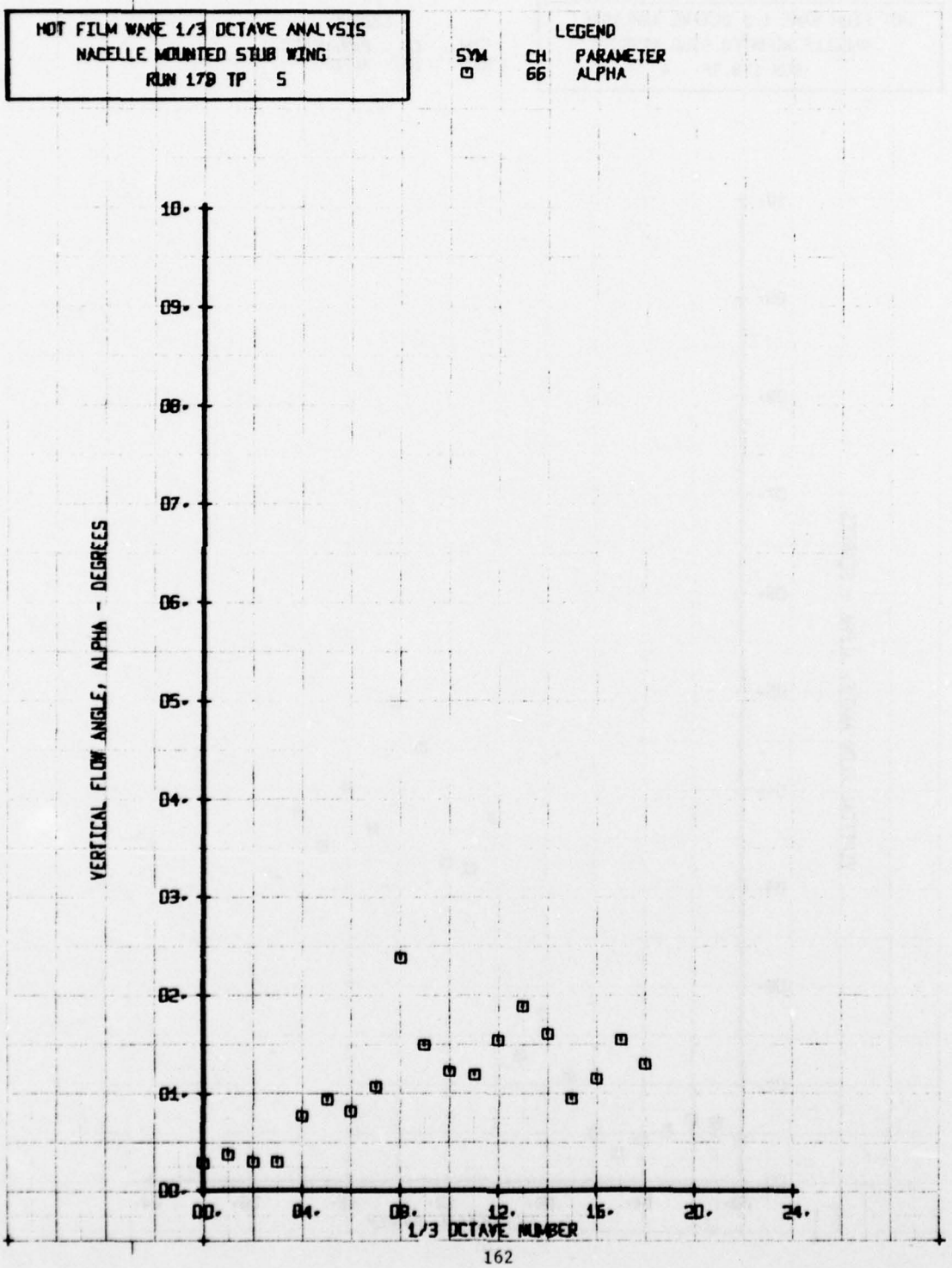
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RUN 179 TP 5
LEGEND
SYM CH PARAMETER
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VERTICAL FLOW ANGLE, ALPHA - DEGREES
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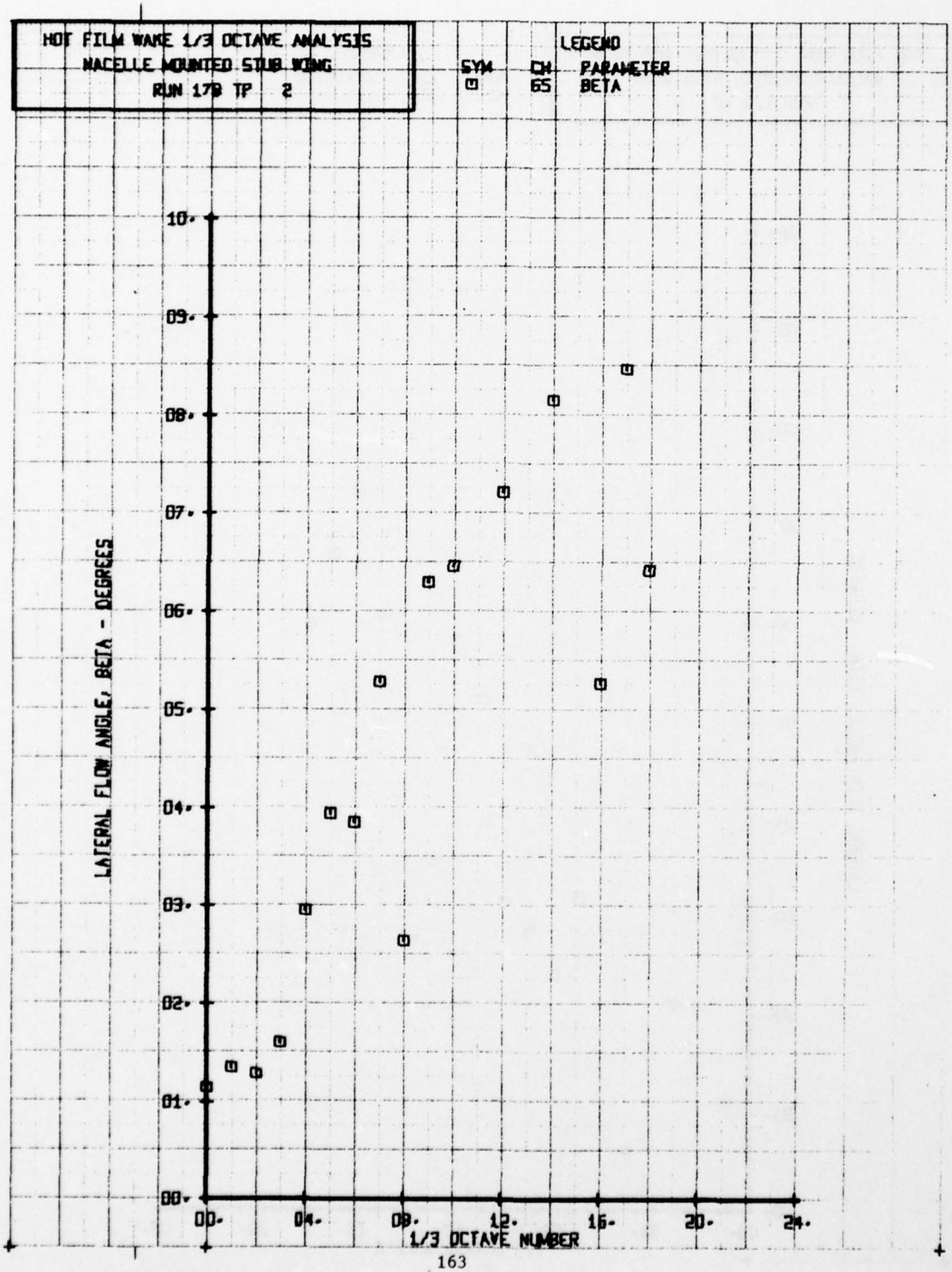
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NACELLE MOUNTED STUB WING
RUN 179 TP 2
LEGEND
SYM CH PARAMETER
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LATERAL FLOW ANGLE, BETA - DEGREES
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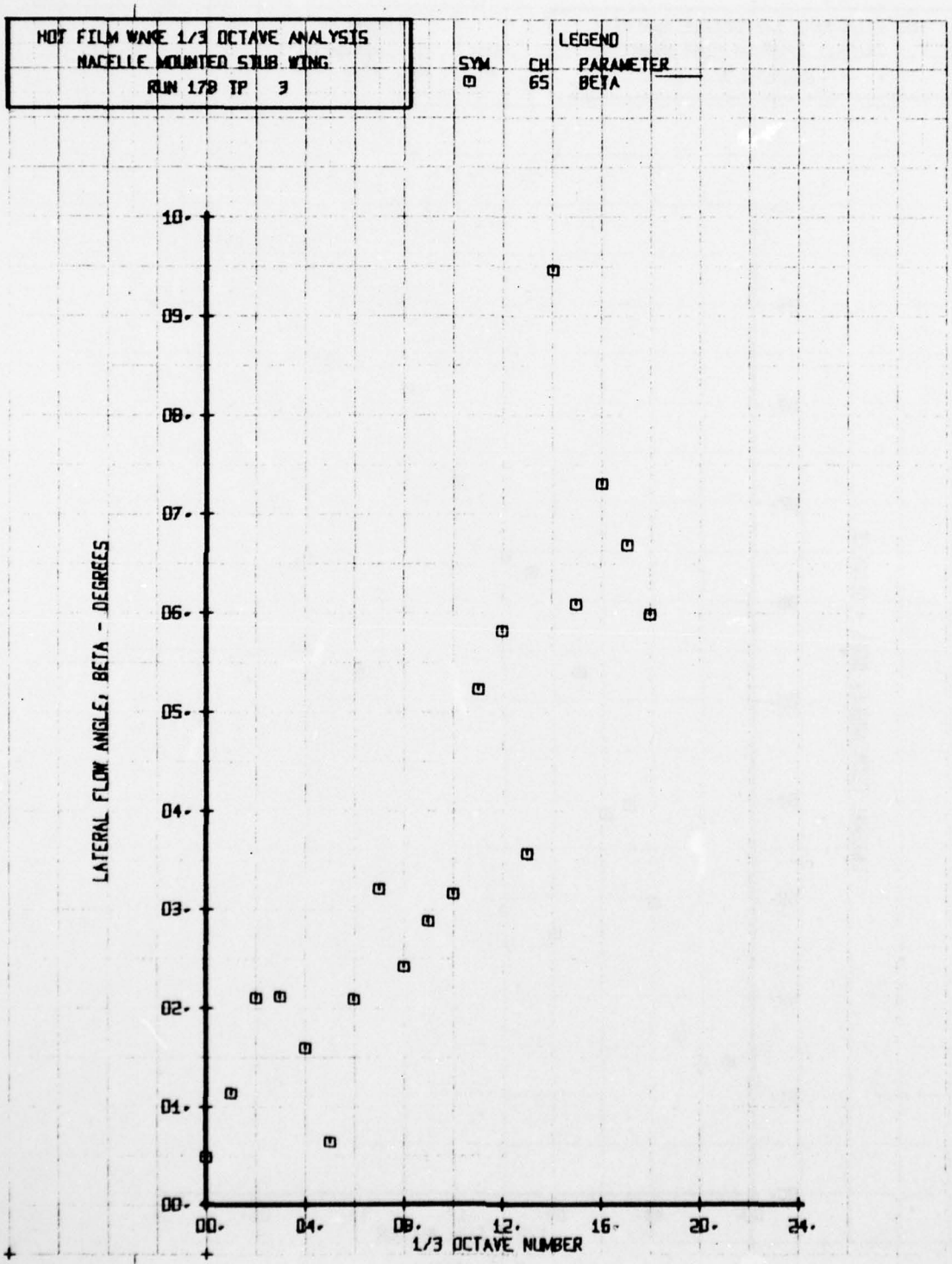
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NACELLE MOUNTED STUB WING
RUN 179 TP 3
LEGEND
SYM CH PARAMETER
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LATERAL FLOW ANGLE, BETA - DEGREES
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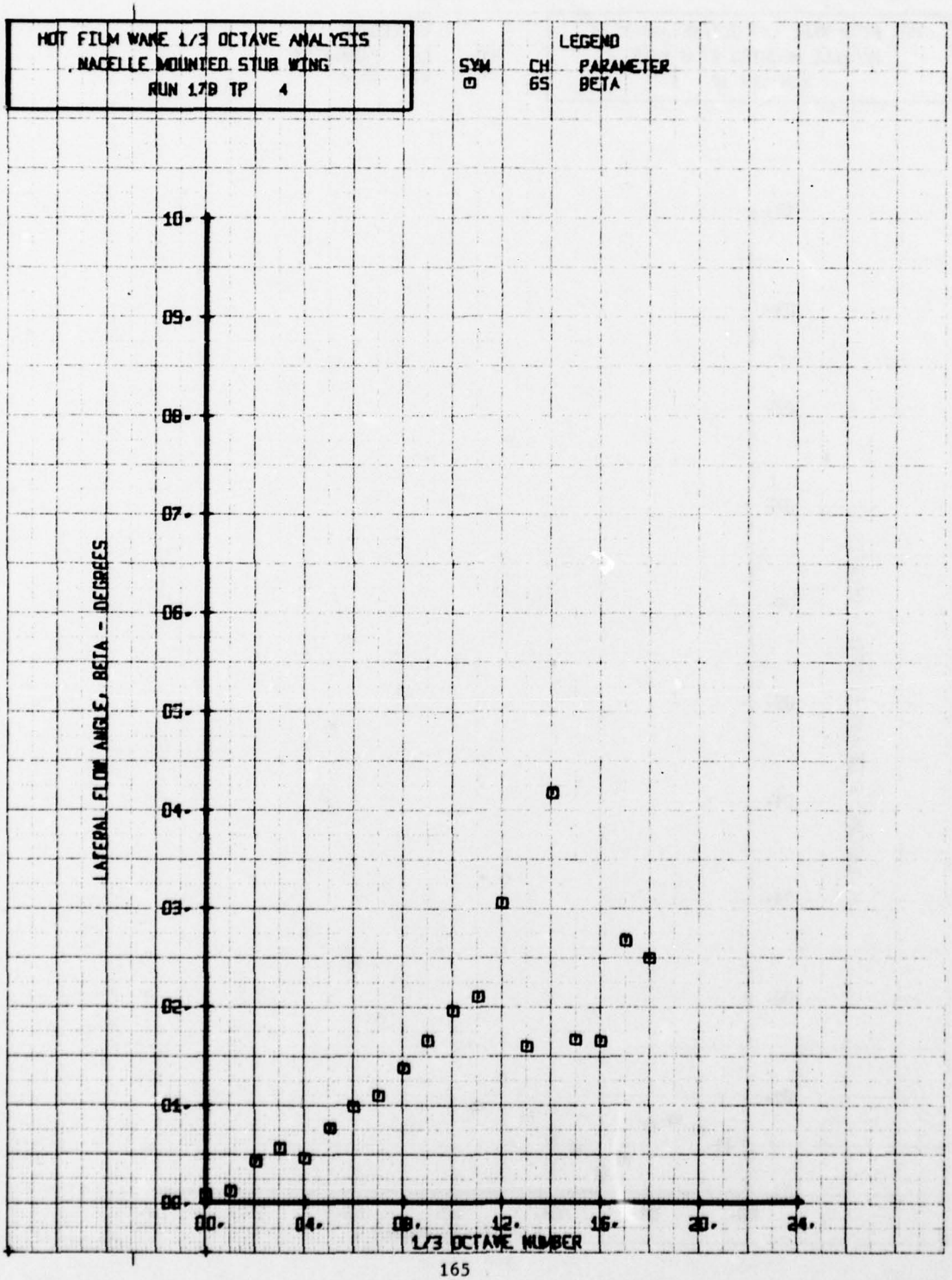
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NACELLE MOUNTED STUB WING
RUN 178 TP 4
LEGEND
SYM CH PARAMETER
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LATERAL FLOW ANGLE, BETA - DEGREES
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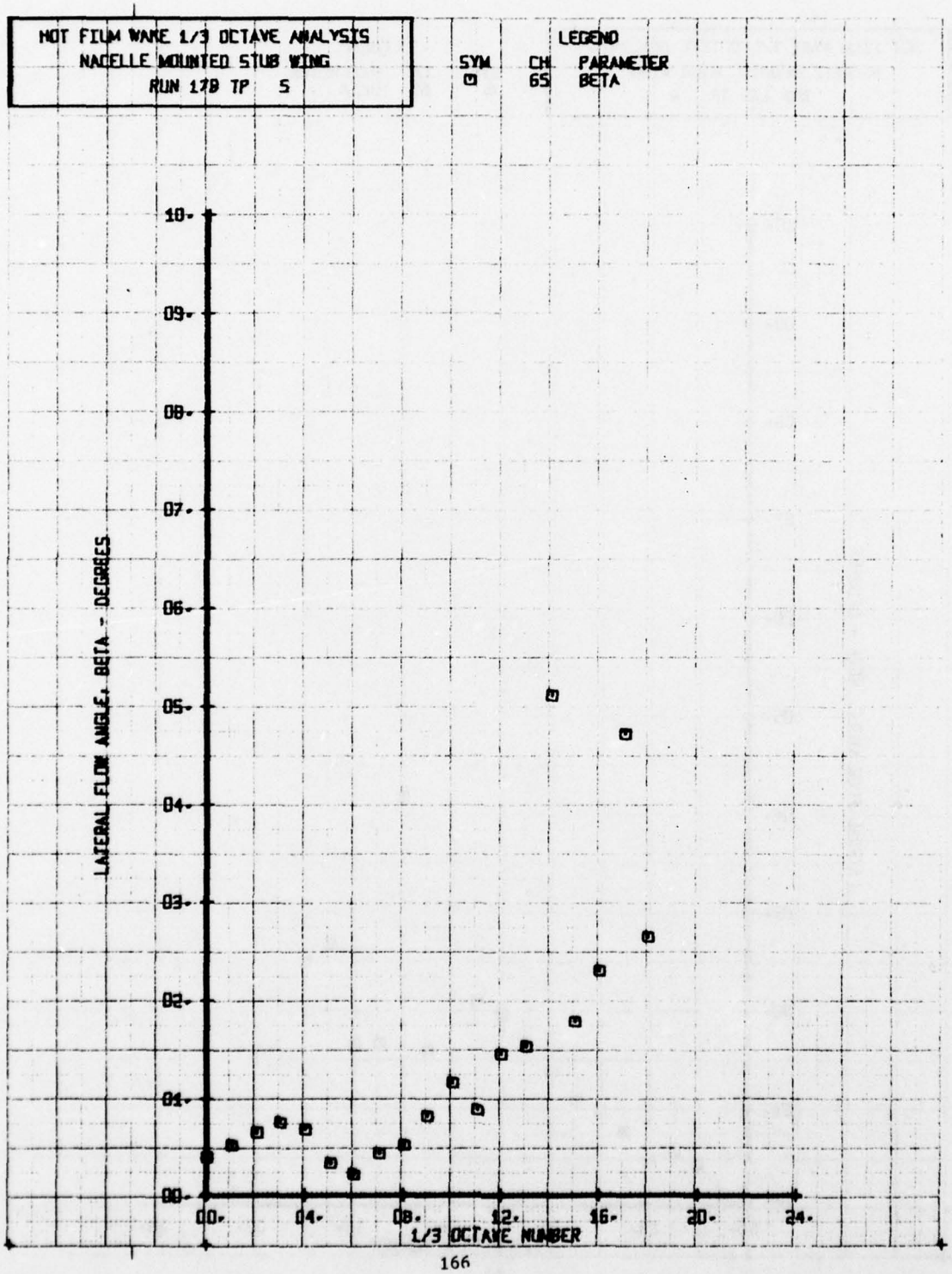
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NACELLE MOUNTED STUB WING
RUN 178 TP 5
LEGEND
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LATERAL FLOW ANGLE, BETA - DEGREES
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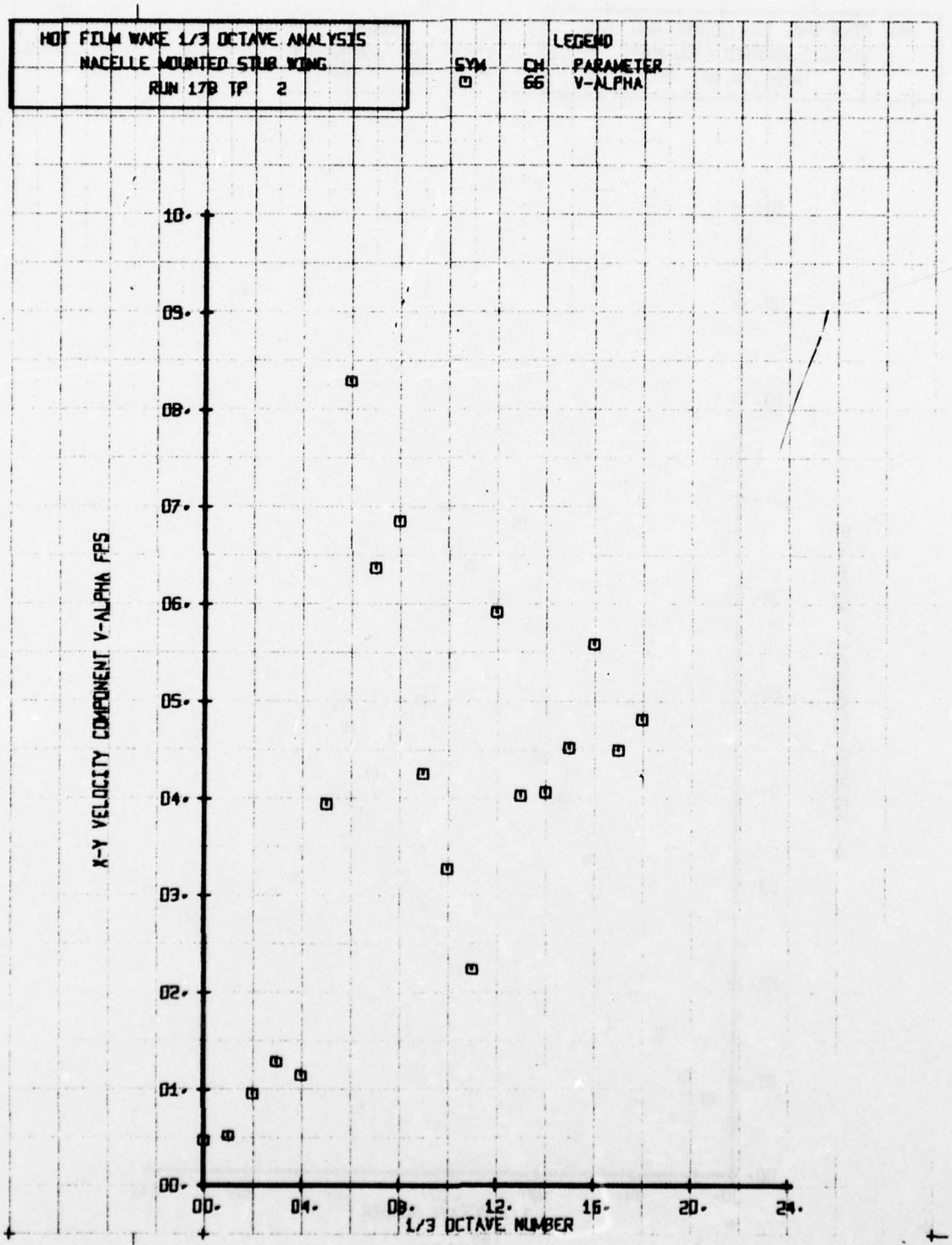
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NACELLE MOUNTED STUB WING
RUN 179 TP 2
LEGEND
SYM CH PARAMETER
66 V-ALPHA
X-Y VELOCITY COMPONENT V-ALPHA FPS
1/3 OCTAVE NUMBER
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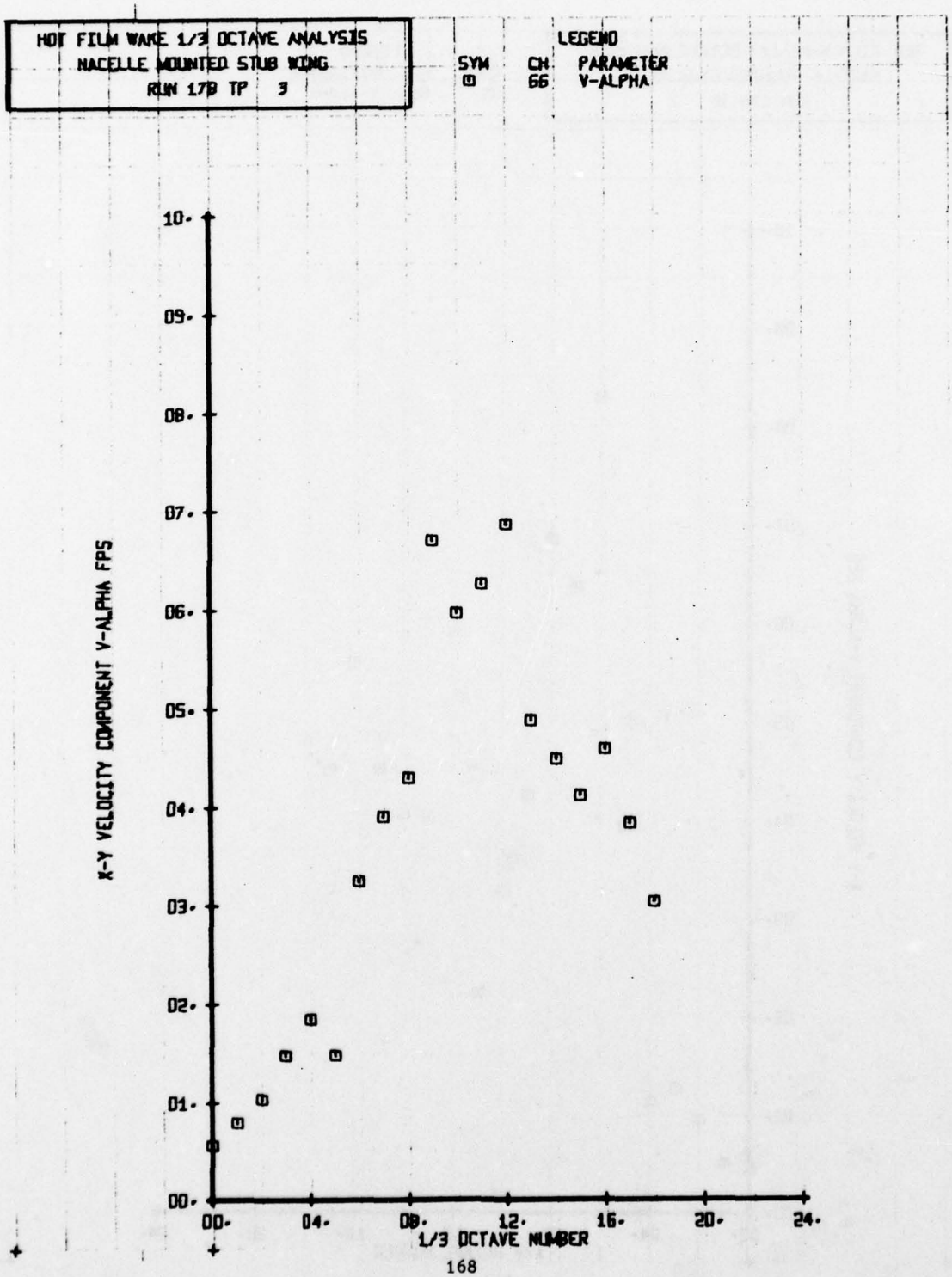
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NACELLE MOUNTED STUB WING
RUN 178 TP 3
LEGEND
SYM CH PARAMETER
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X-Y VELOCITY COMPONENT V-ALPHA FPS
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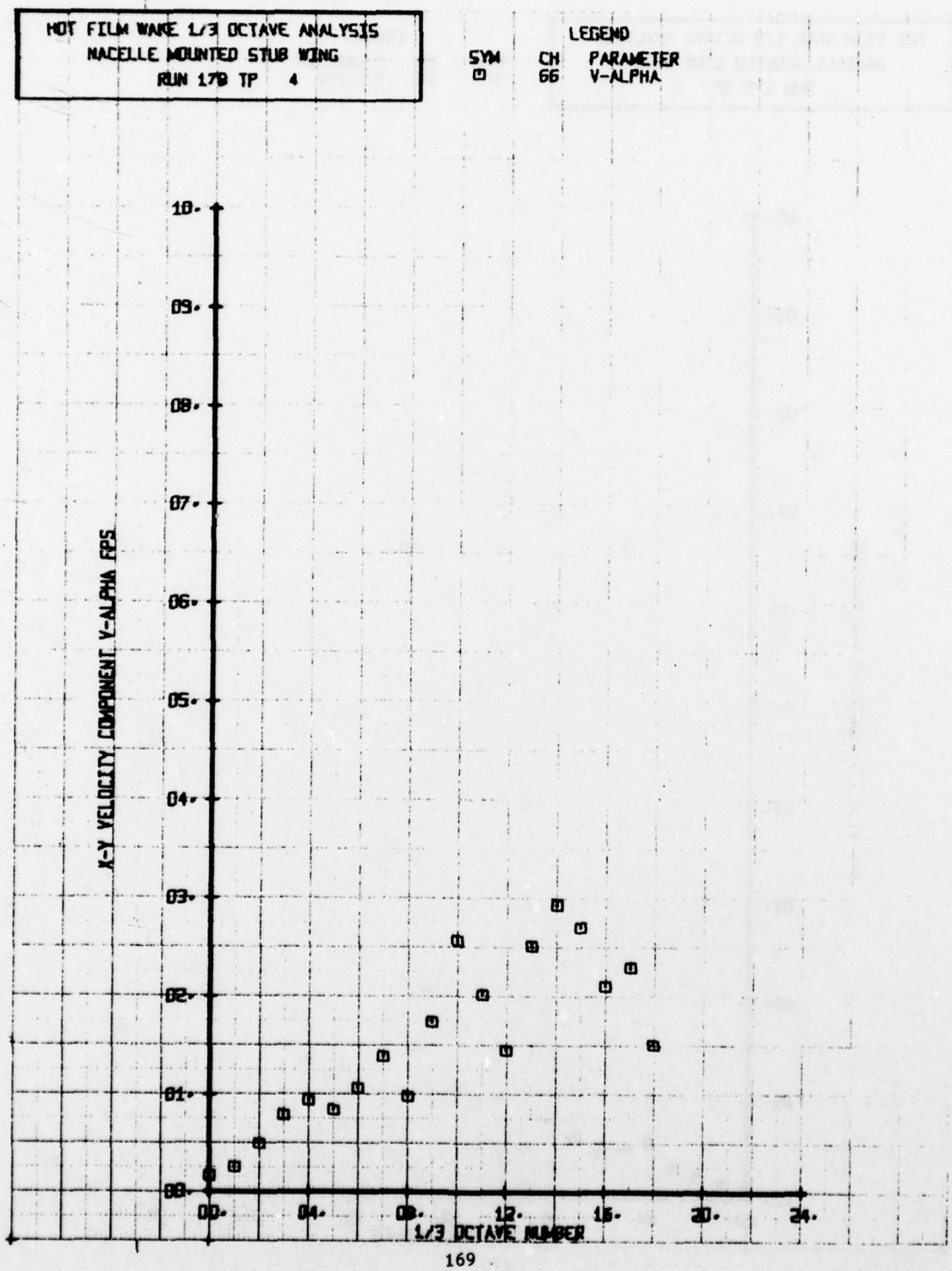
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NACELLE MOUNTED STUB WING
RUN 179 TP 4
LEGEND
SYM CH PARAMETER
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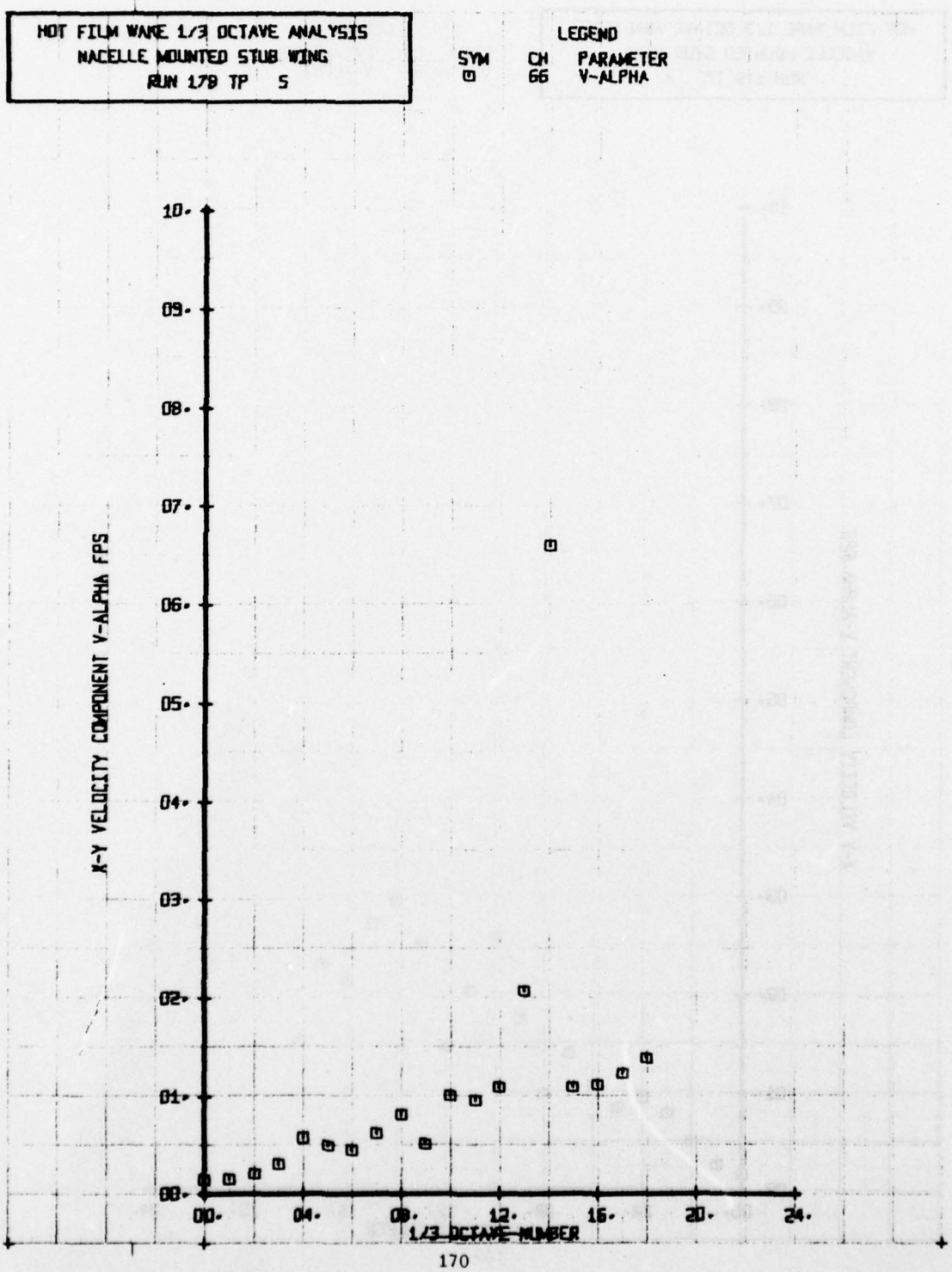
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NACELLE MOUNTED STUB WING
RUN 179 TP 5
LEGEND
SYM CH PARAMETER
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X-Y VELOCITY COMPONENT V-ALPHA FPS
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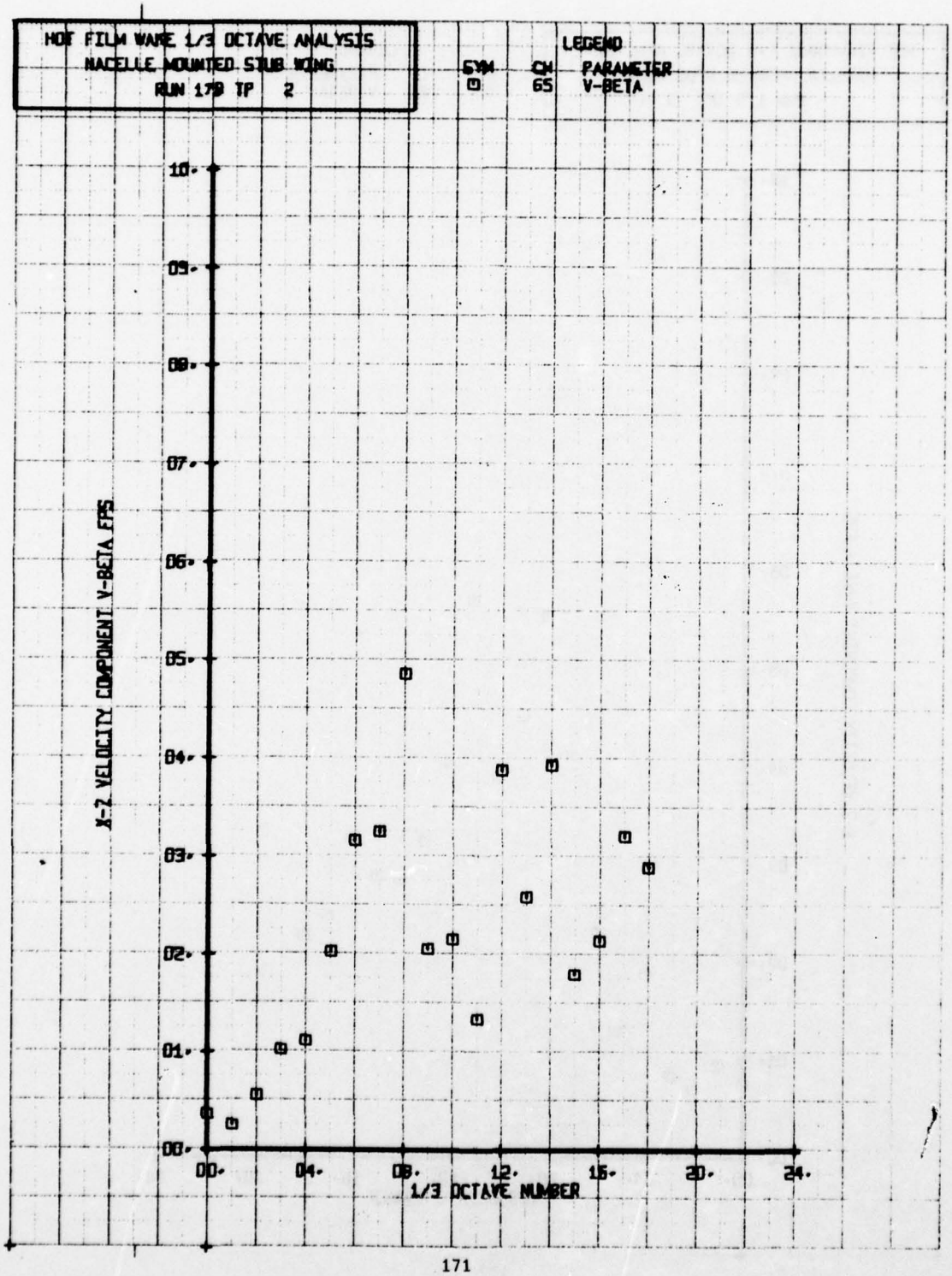
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NACELLE MOUNTED STUB WING
RUN 179 TP 2
LEGEND
SYM CH PARAMETER
65 V-BETA
X-Z VELOCITY COMPONENT V-BETA FPS
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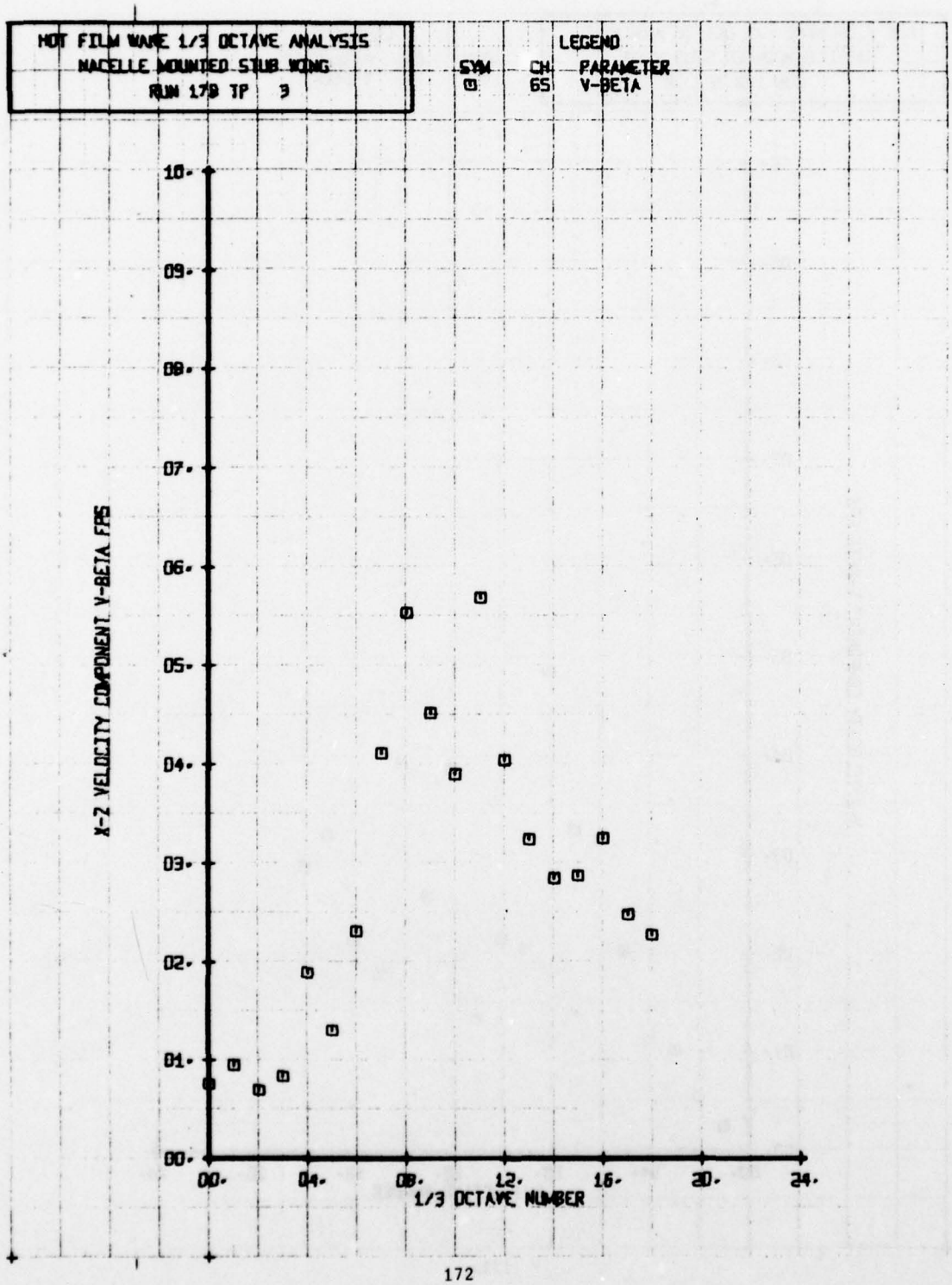
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NACELLE MOUNTED STUB WING
RUN 178 TP 3
LEGEND
SYM CH PARAMETER
65 V-BETA
X-2 VELOCITY COMPONENT V-BETA FPS
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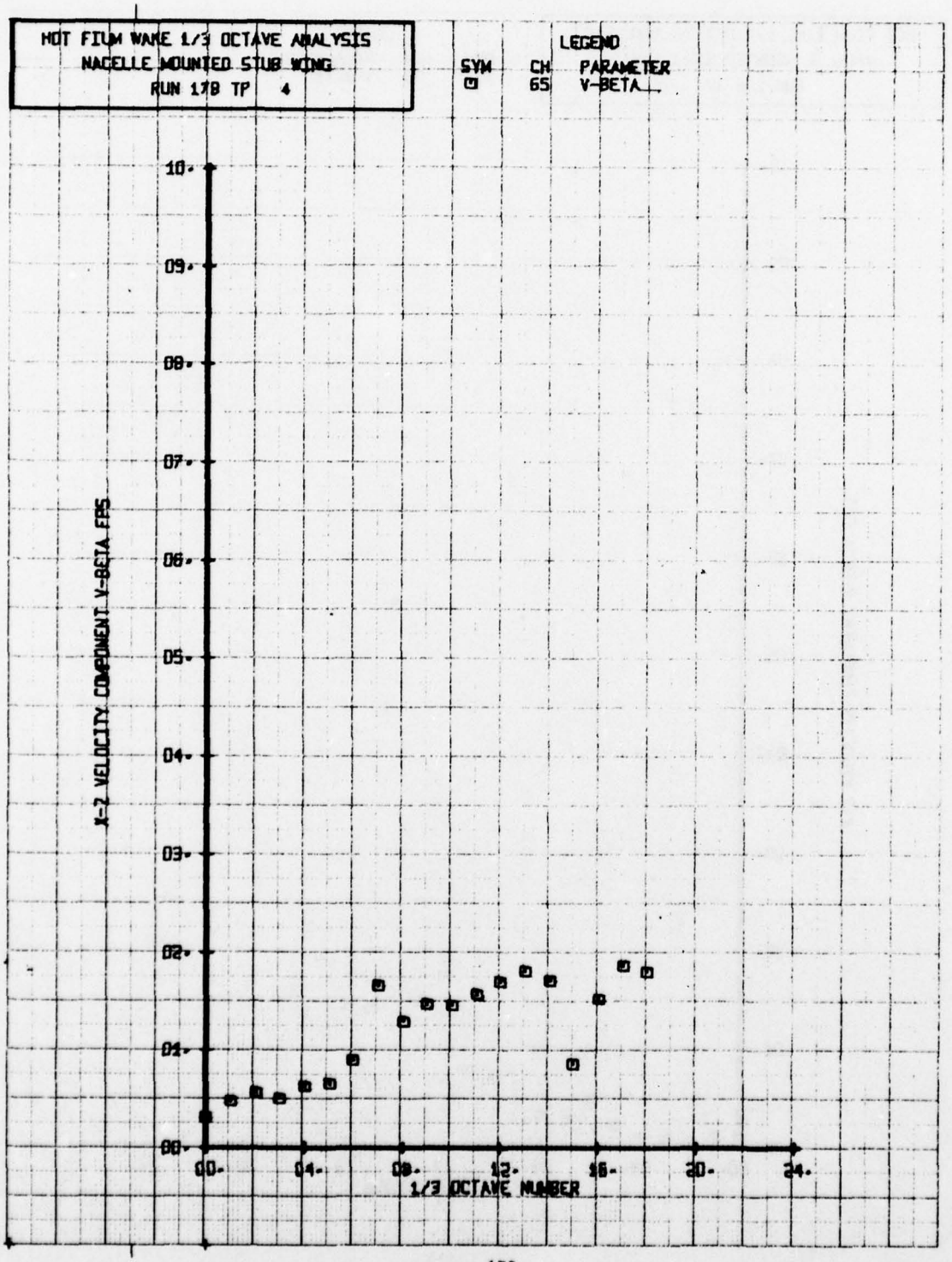
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NACELLE MOUNTED STUB WING
RUN 178 TP 4
LEGEND
SYM CH PARAMETER
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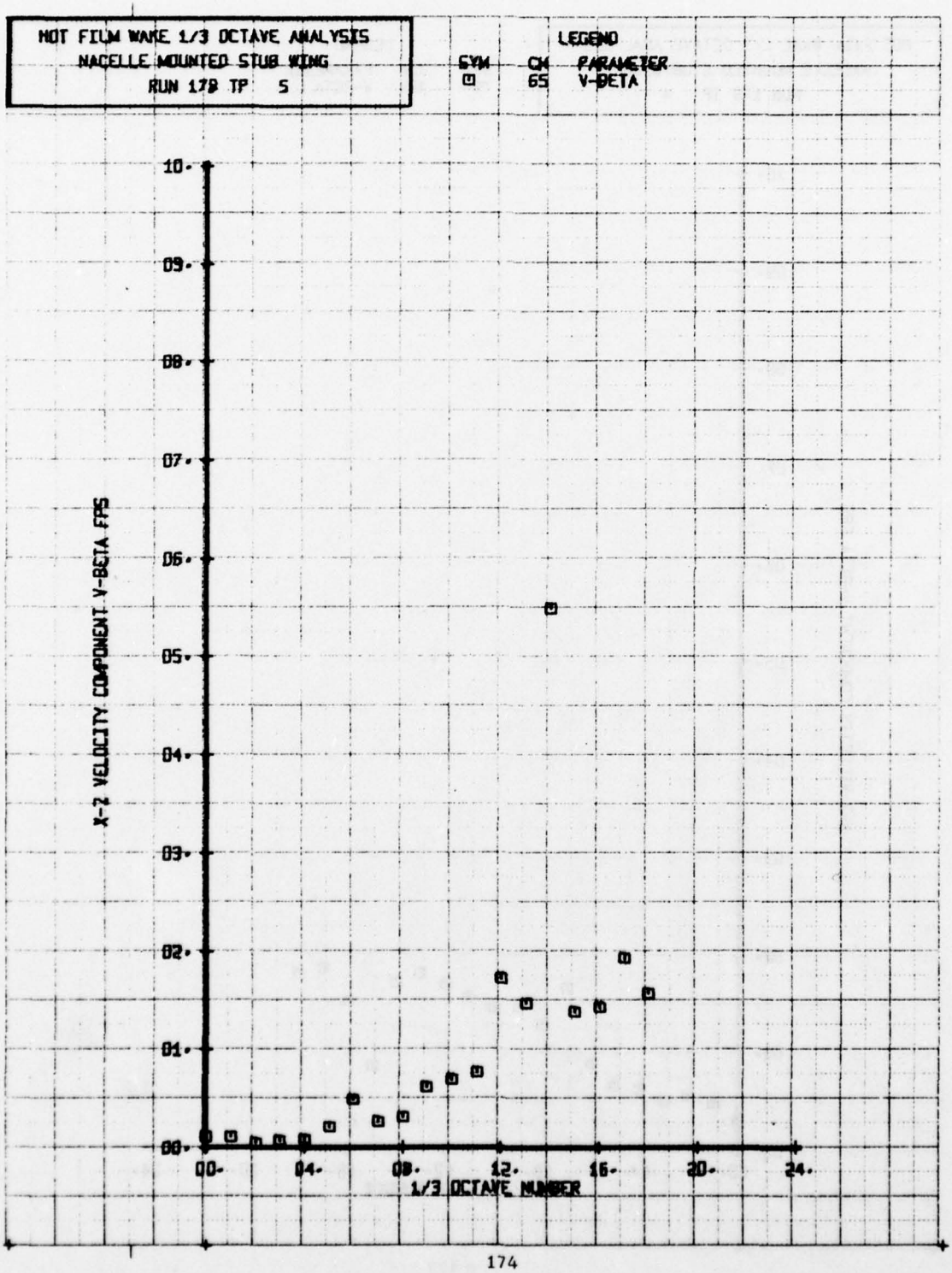
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NACELLE MOUNTED STUB WING
RUN 178 TP 5
LEGEND
SYM CH PARAMETER
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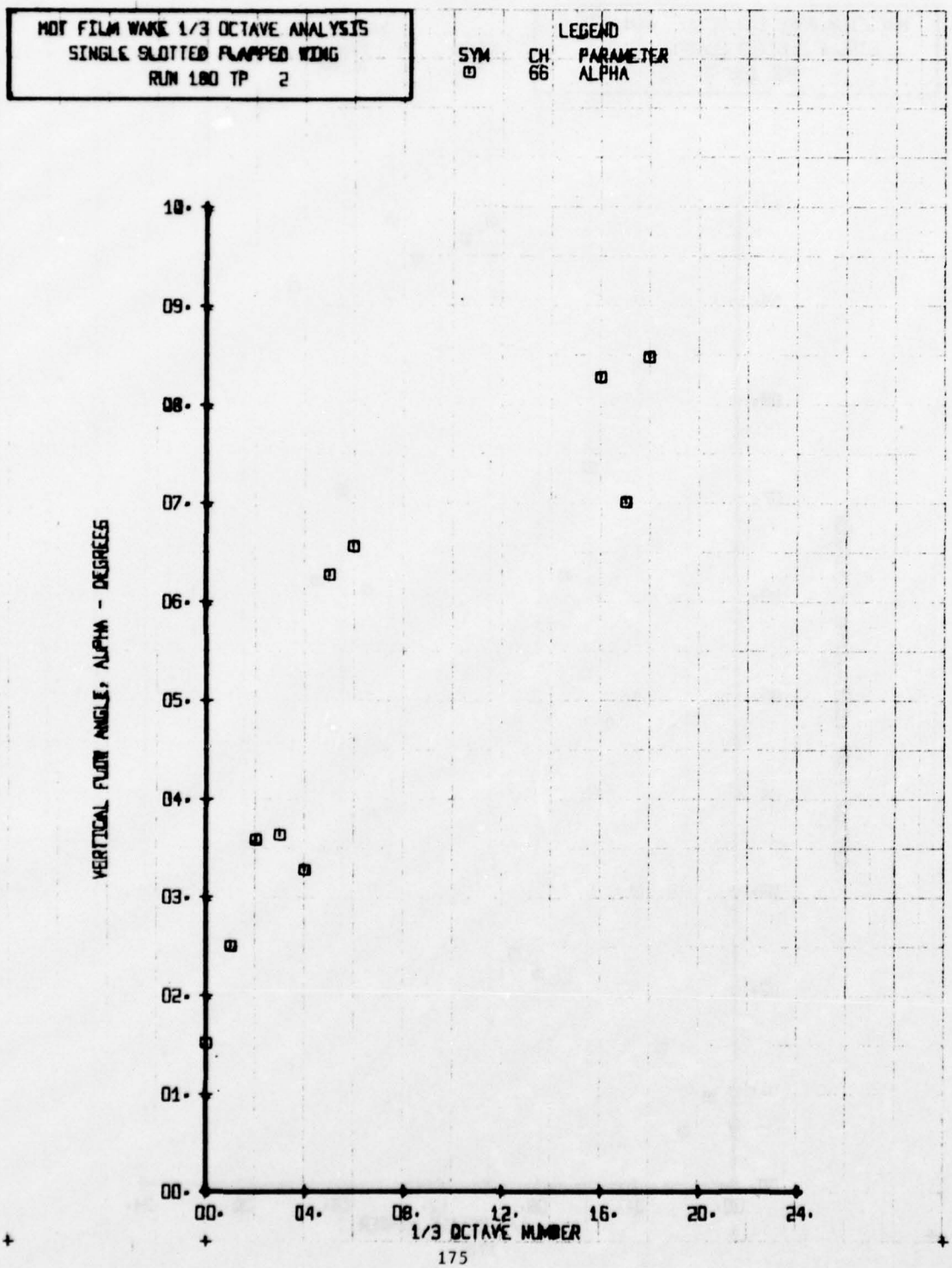
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SINGLE SLOTTED FLAPPED WING
RUN 180 TP 2
LEGEND
SYM CH PARAMETER
66 ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
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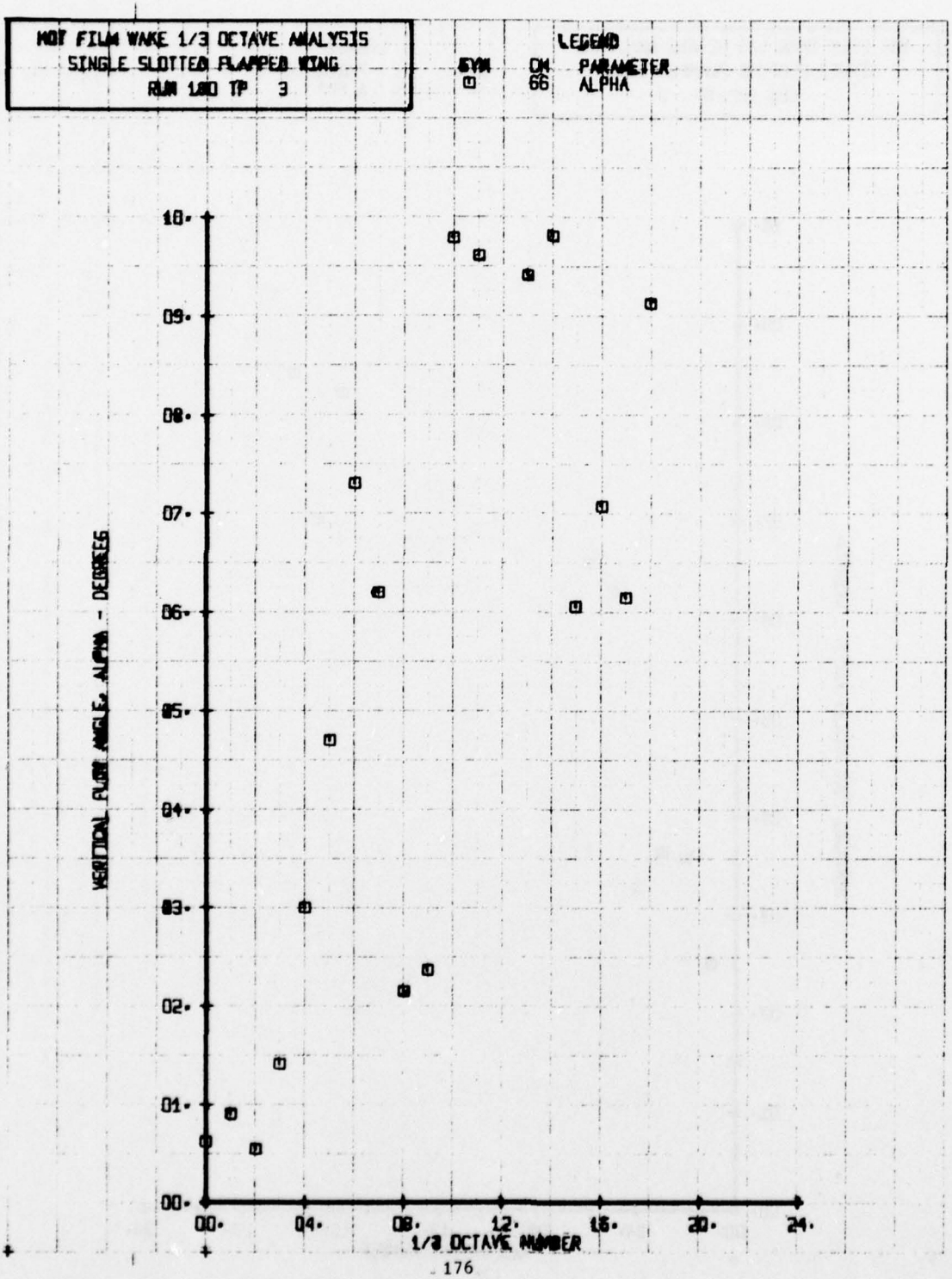
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SINGLE SLOTTED FLAPPED WING
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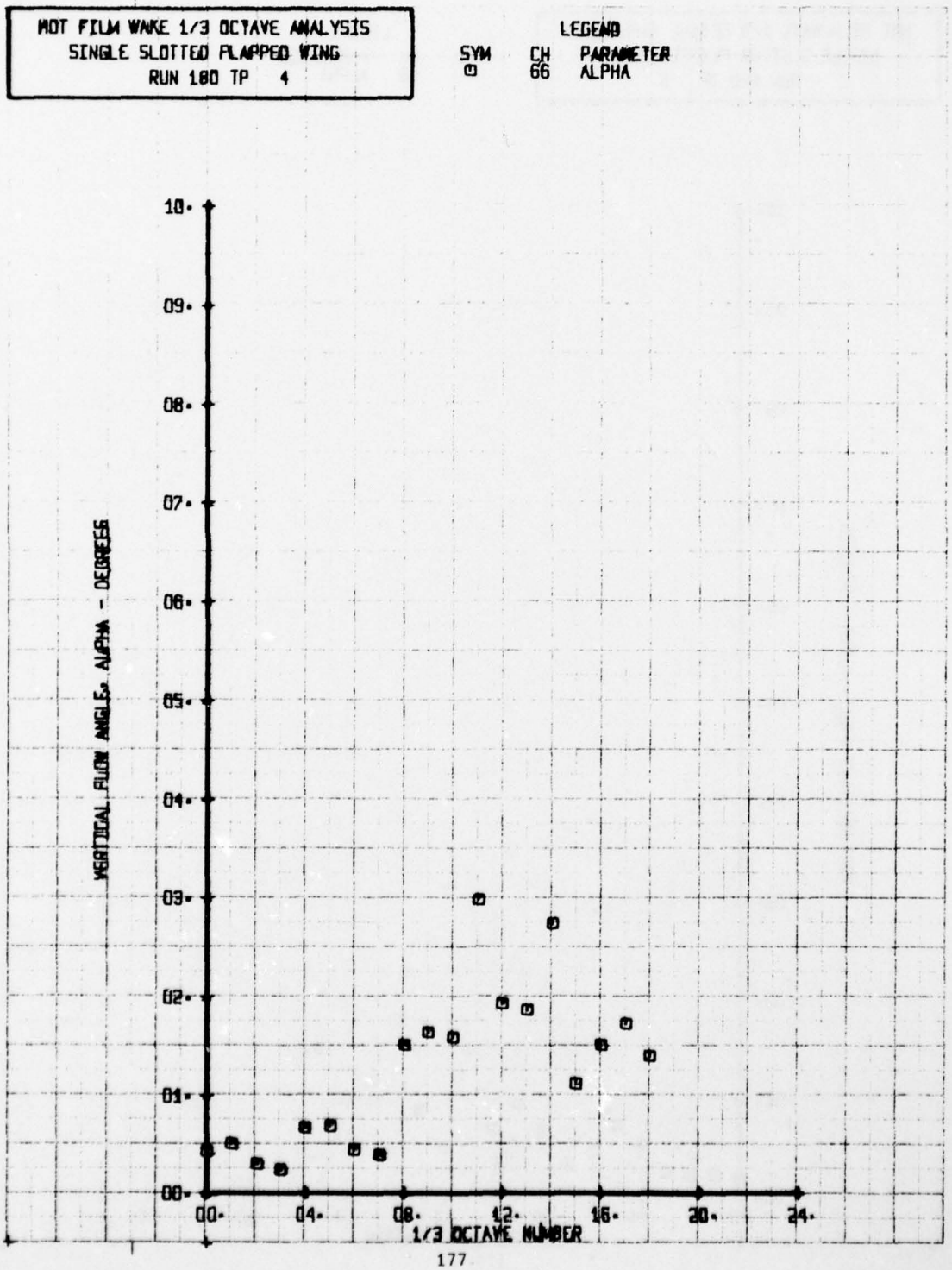
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SINGLE SLOTTED FLAPPED WING
RUN 180 TP 4
LEGEND
SYM CH PARAMETER
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VERTICAL FLOW ANGLE, ALPHA - DEGREES
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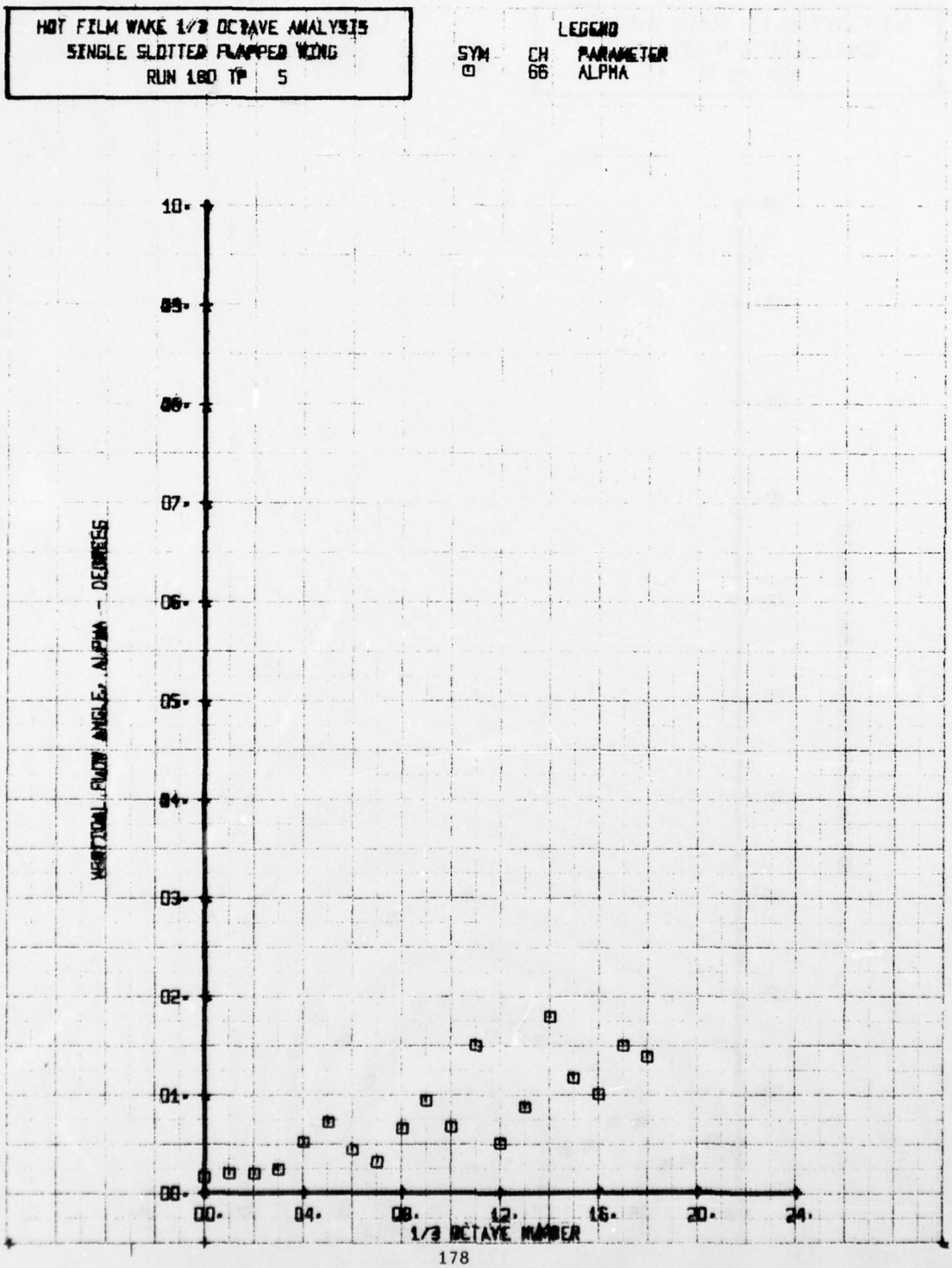
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SINGLE SLOTTED FLAPPED WING
RUN 180 TP 5
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SYM CH PARAMETER
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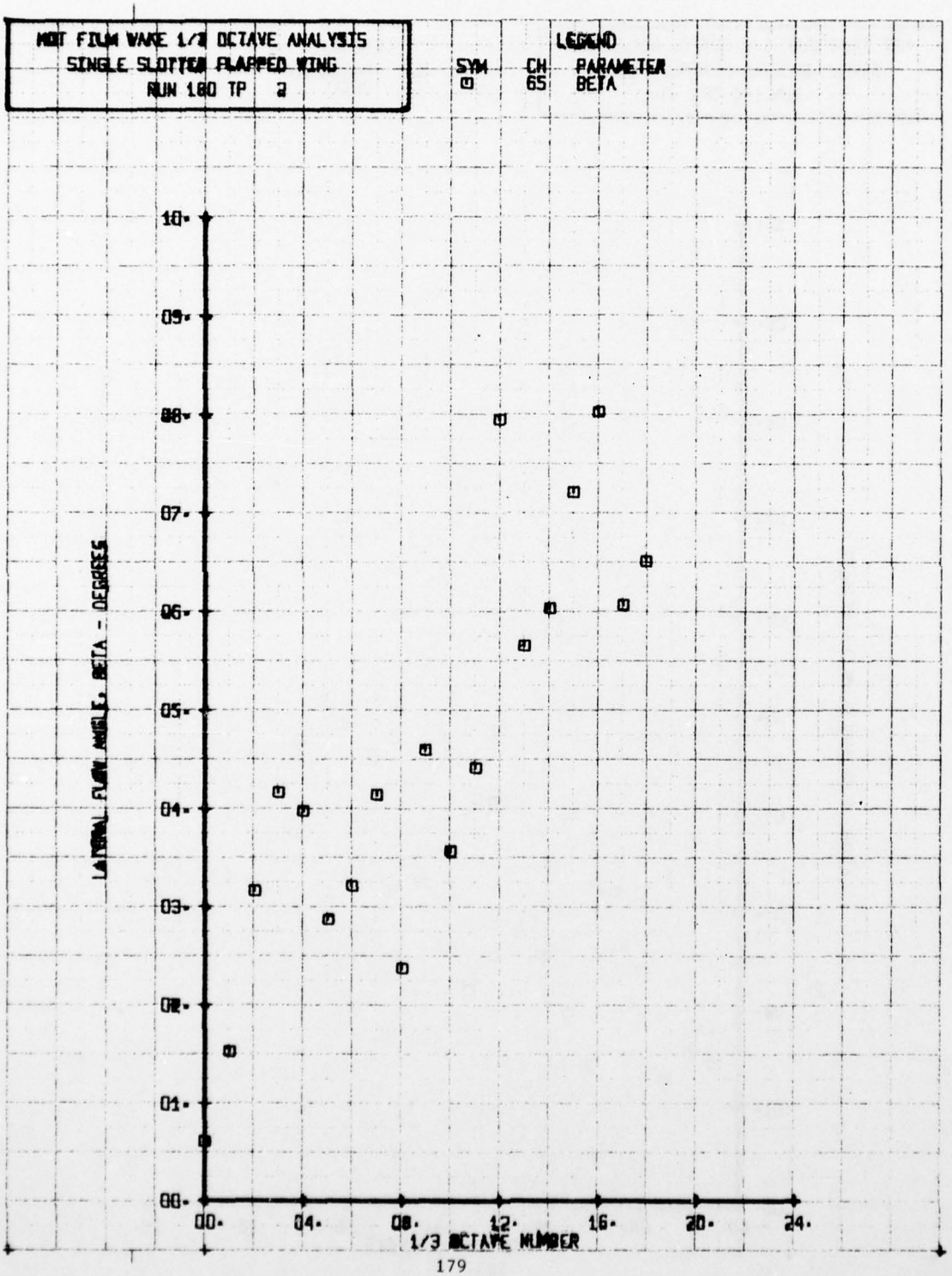
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SINGLE SLOTTED FLAPPED WING
RUN 180 TP 2
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
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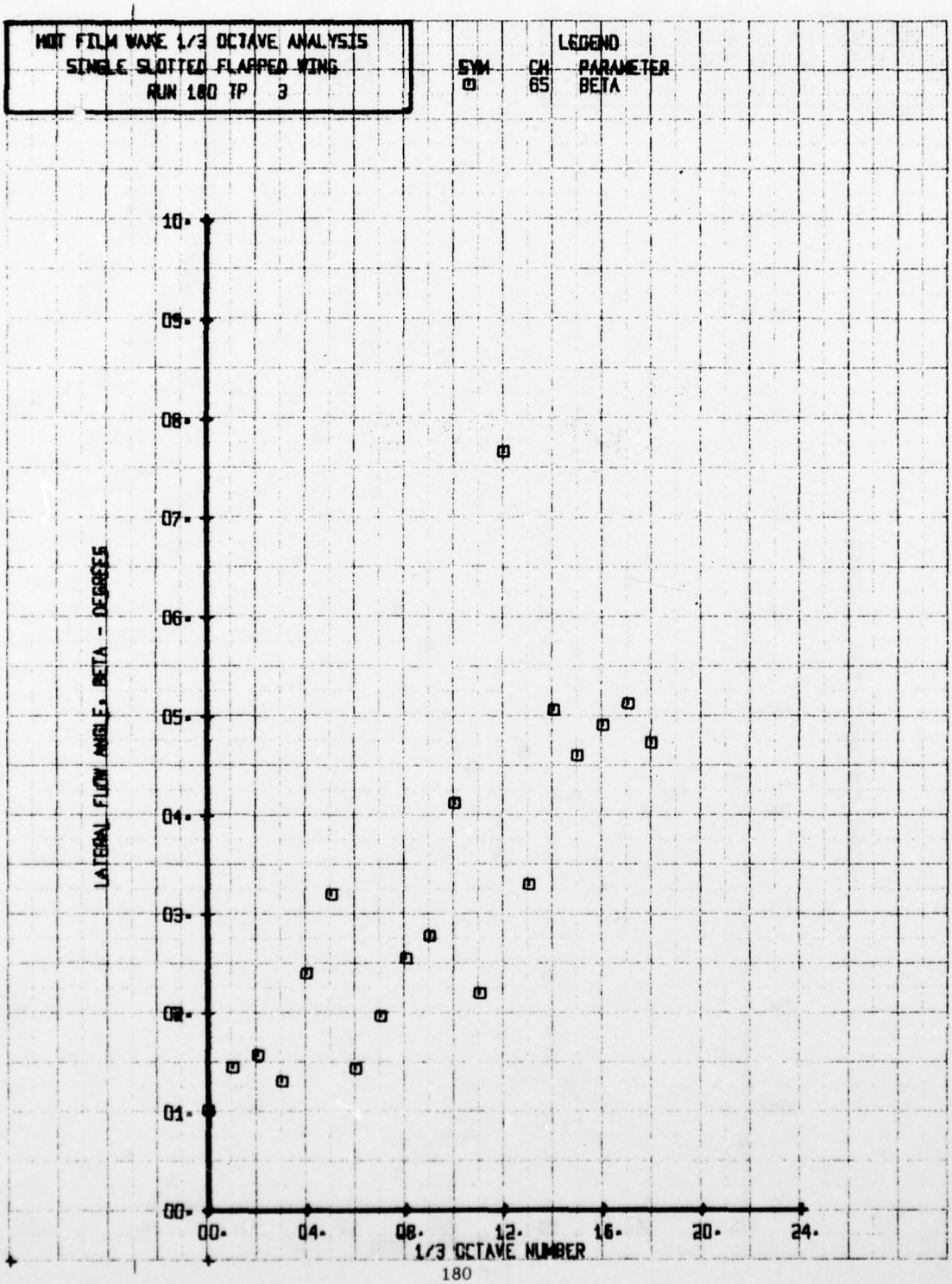
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SINGLE SLOTTED FLAPPED WING
RUN 180 TP 3
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
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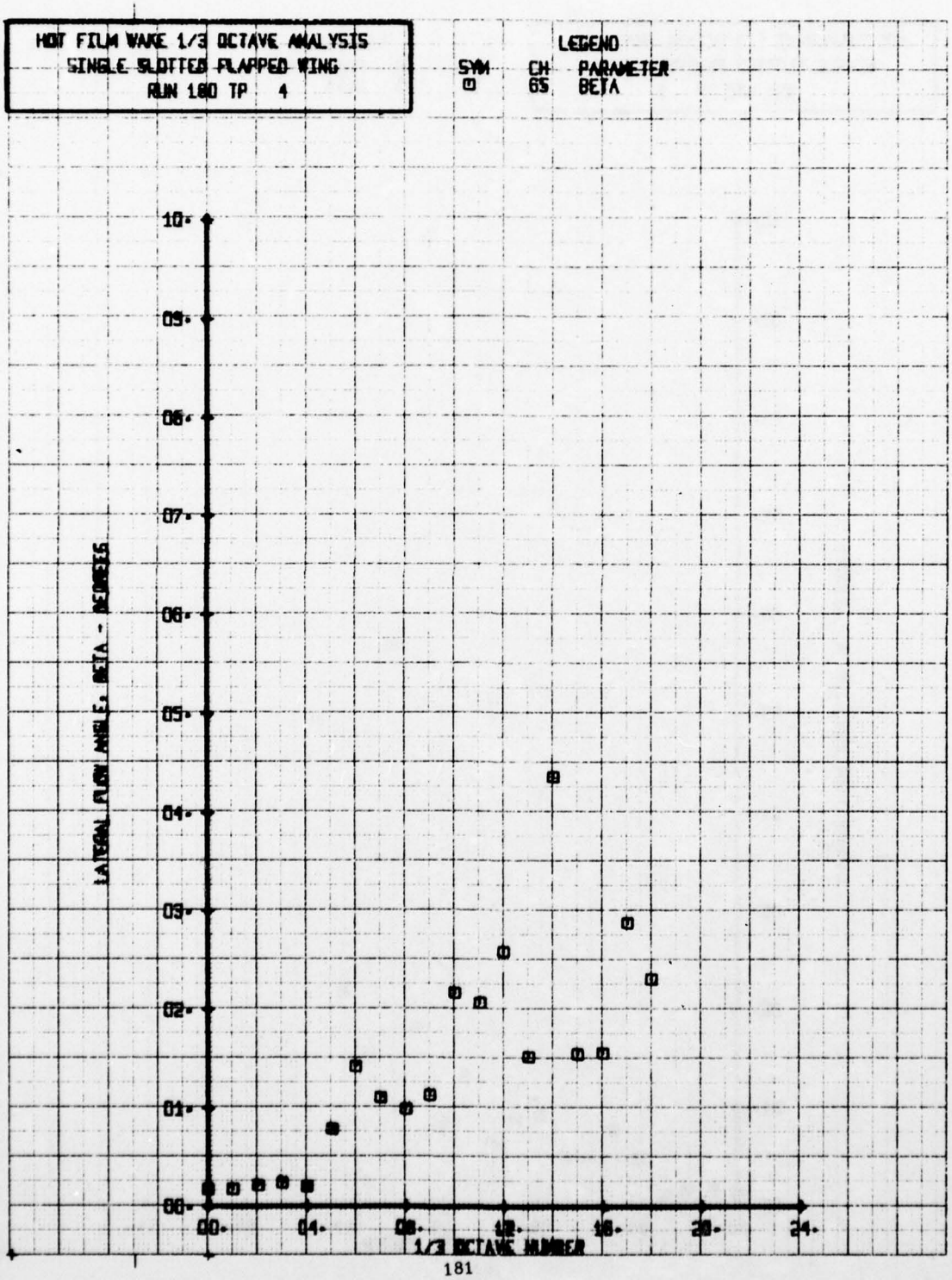
1/3 OCTAVE NUMBER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RUN 180 TP 4
LEGEND
SYM CH PARAMETER
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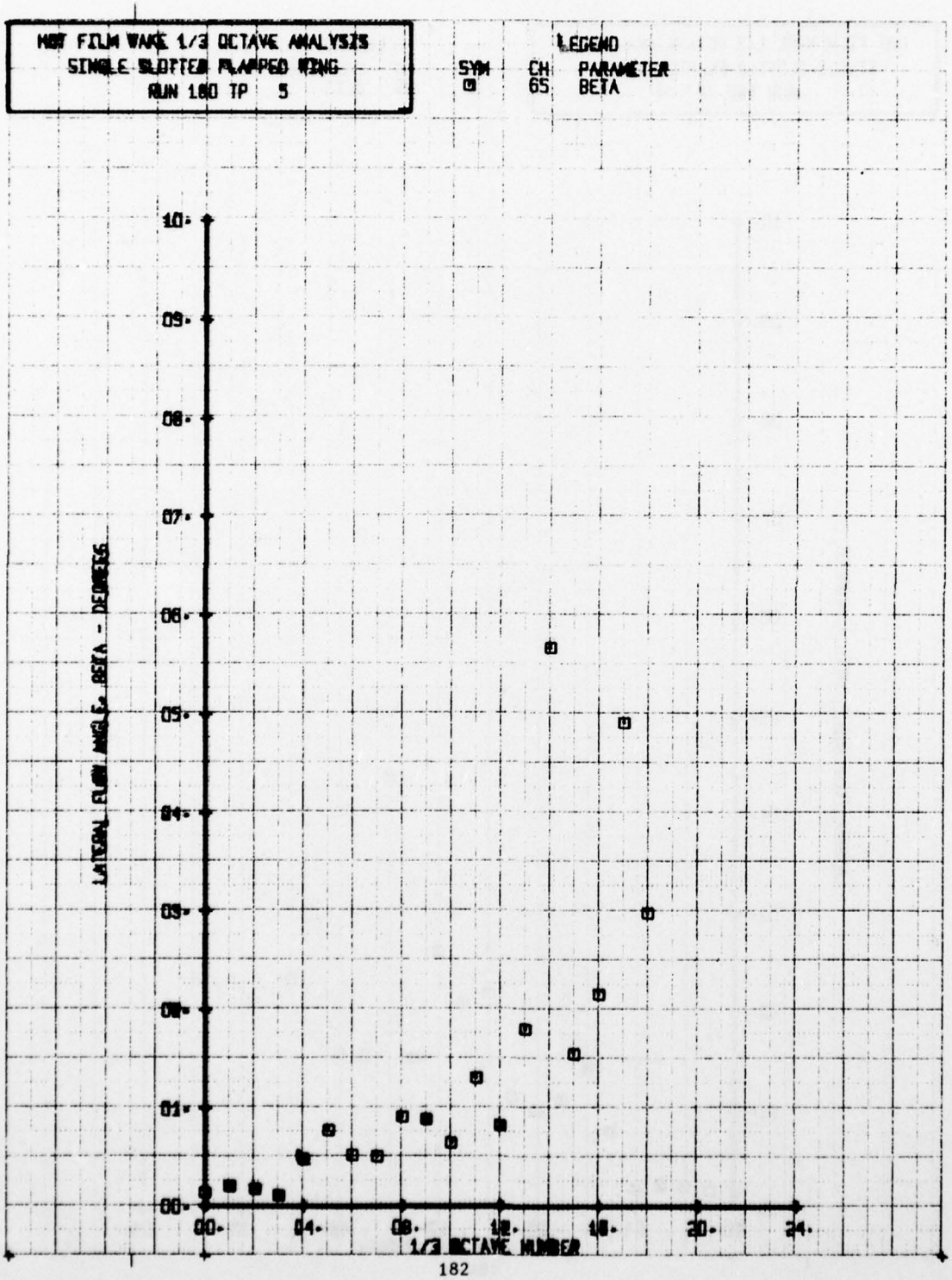
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SINGLE SLOTTED FLAPPED WING
RUN 180 TP 5
LEGEND
SYM CH PARAMETER
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LATERAL FLOW ANGLE, BETA - DEGREES
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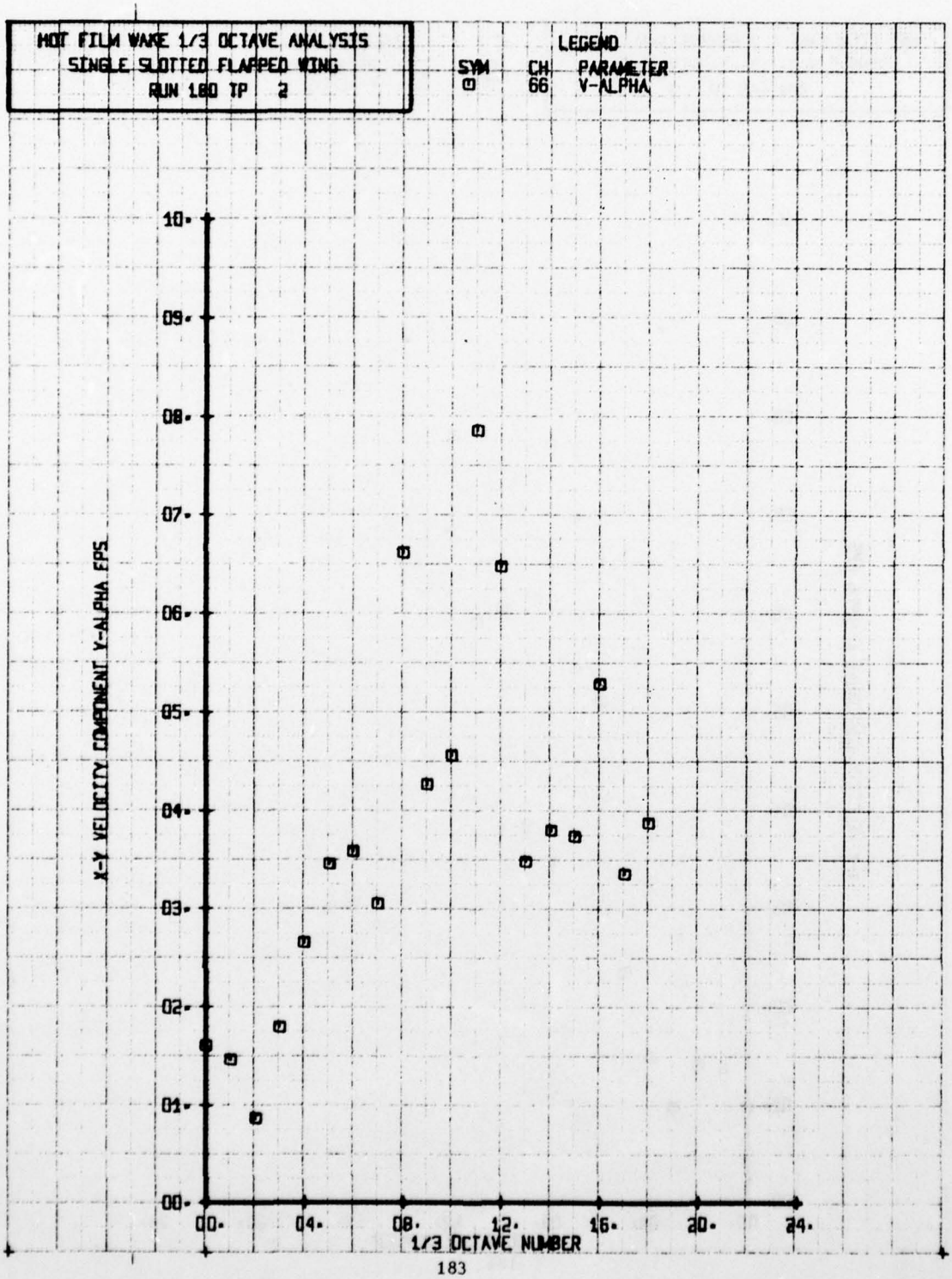
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SINGLE SLOTTED FLAPPED WING
RUN 180 TP 2
LEGEND
SYM CH PARAMETER
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X-Y VELOCITY COMPONENT Y-ALPHA FPS
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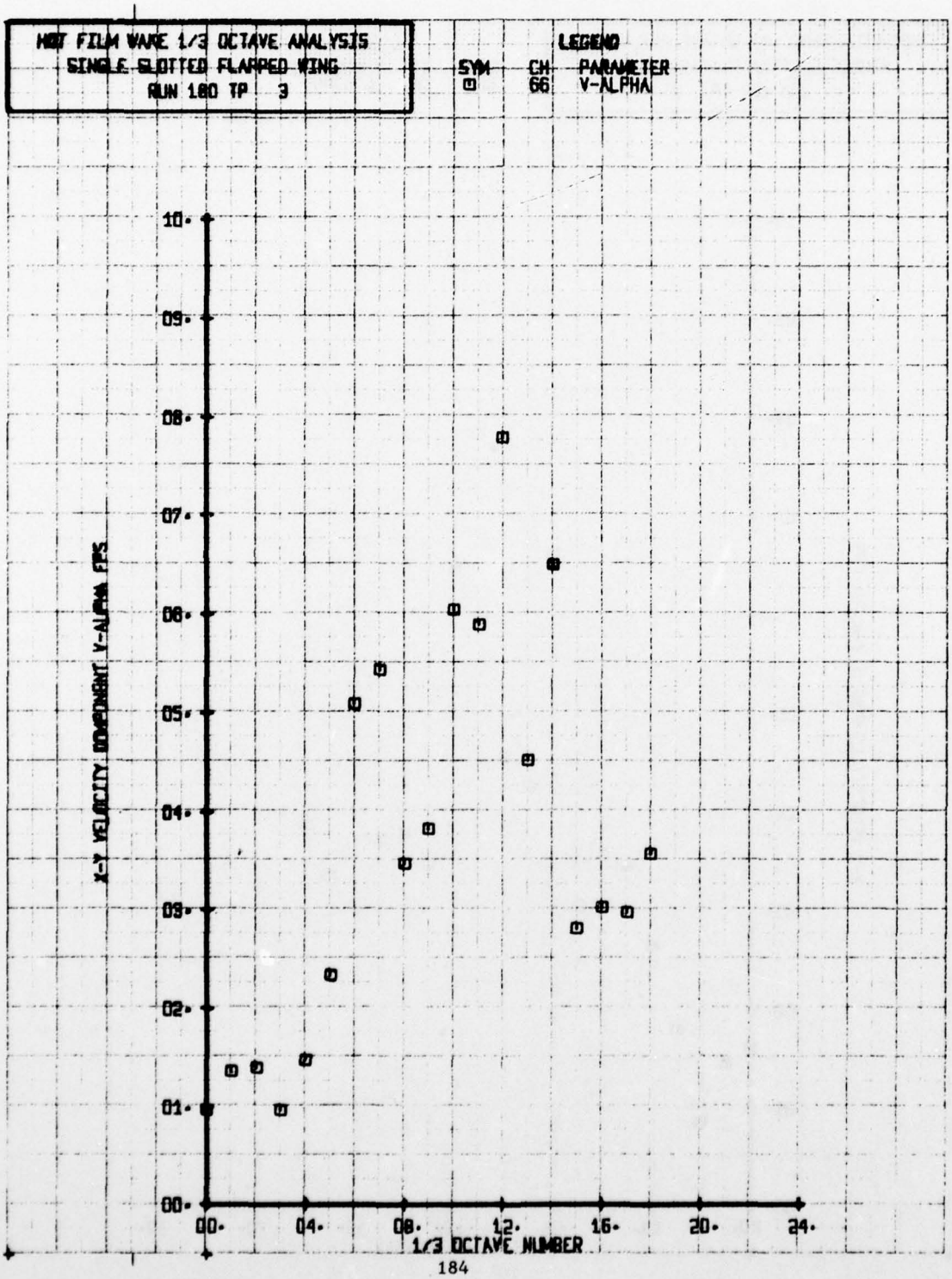
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RUN 180 TP 3
LEGEND
SYM CH PARAMETER
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X-Y VELOCITY DEPENDENT V-ALPHA FPS
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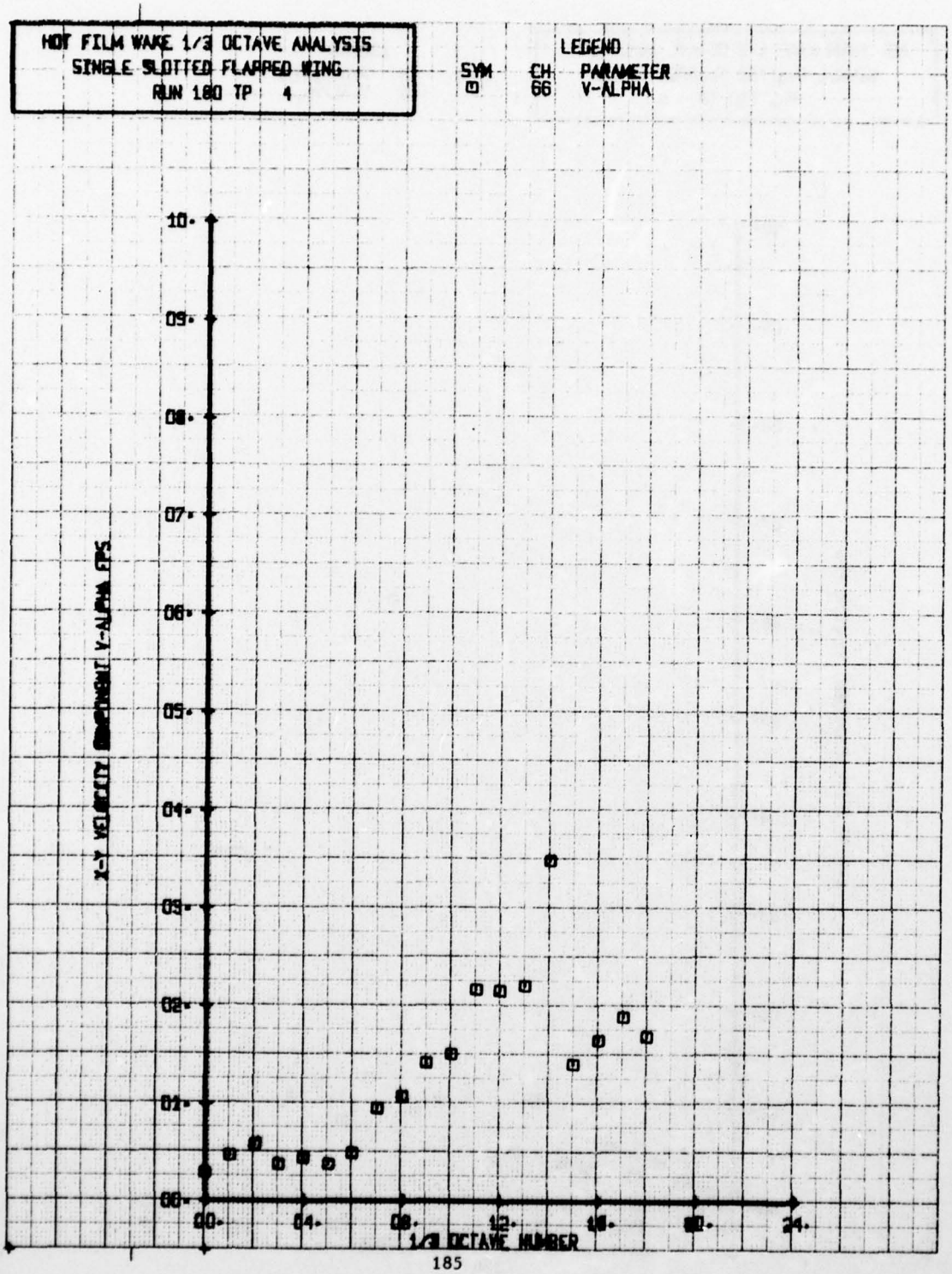
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SINGLE SLOTTED FLAPPED WING
RUN 180 TP 4
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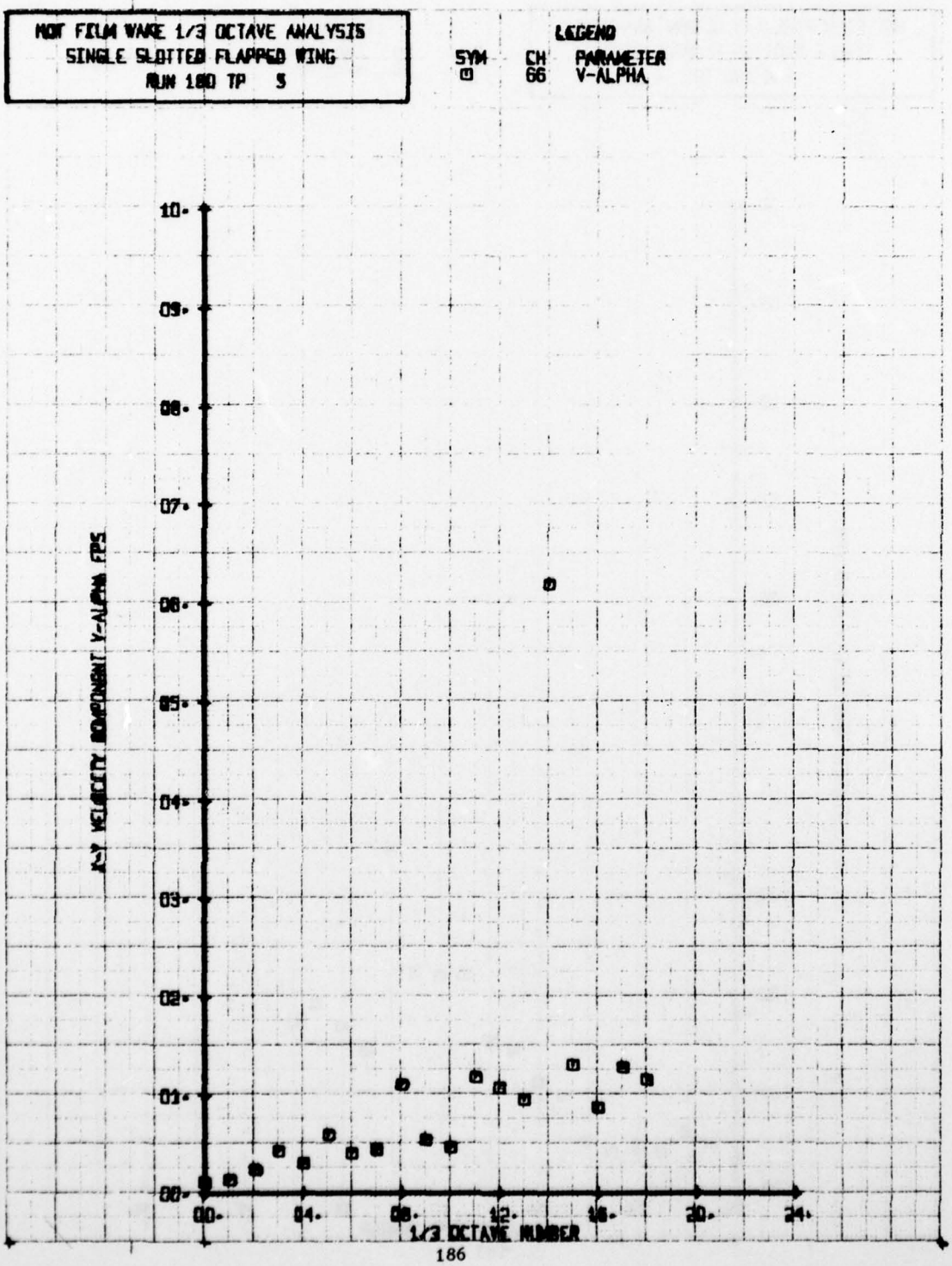
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SINGLE SLOTTED FLAPPED WING
RUN 180 TP 5
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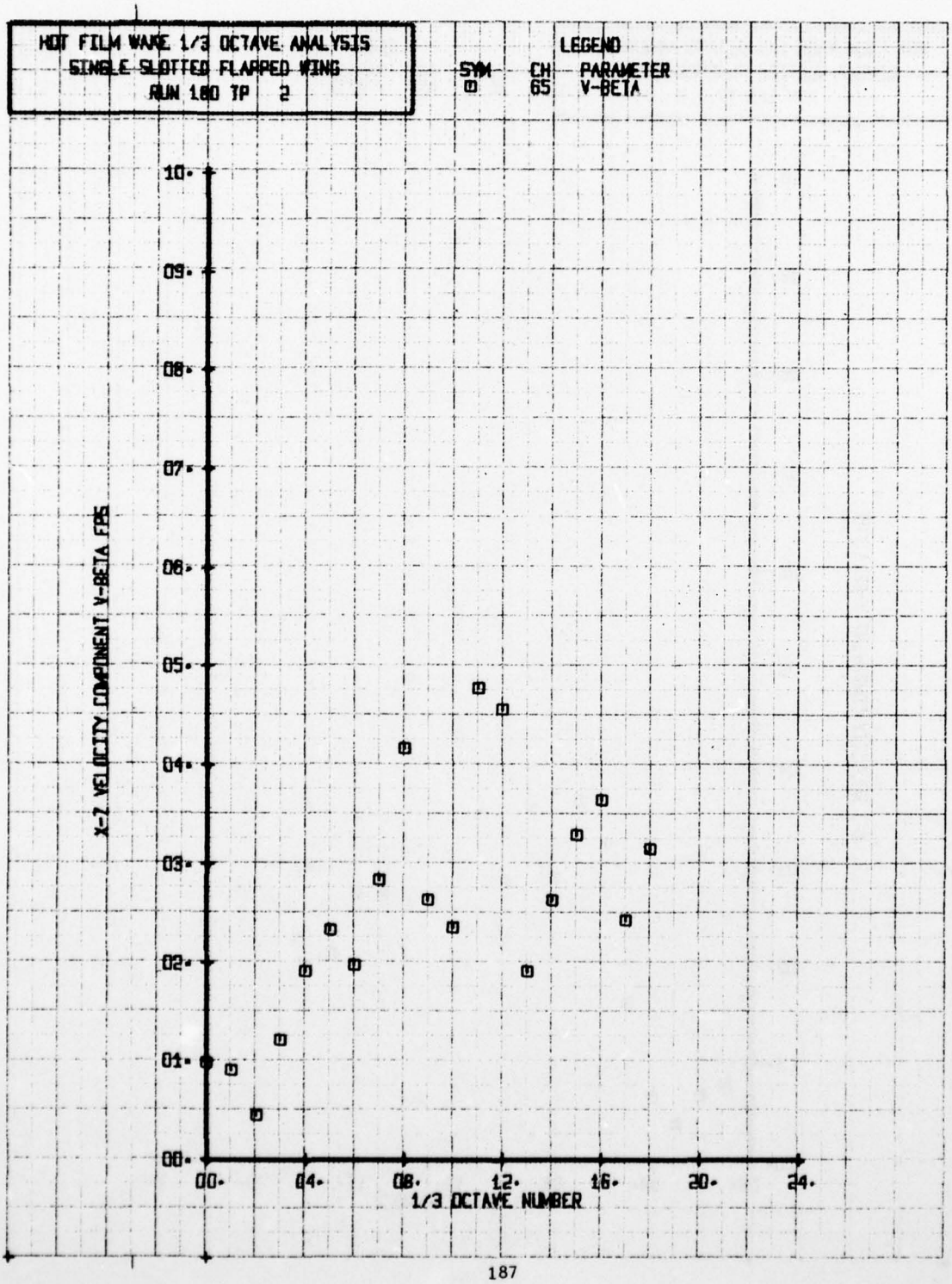
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SINGLE SLOTTED FLAPPED WING
RUN 180 TP 2
LEGEND
SYM CH PARAMETER
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X-Z VELOCITY COMPONENT V-BETA FPS
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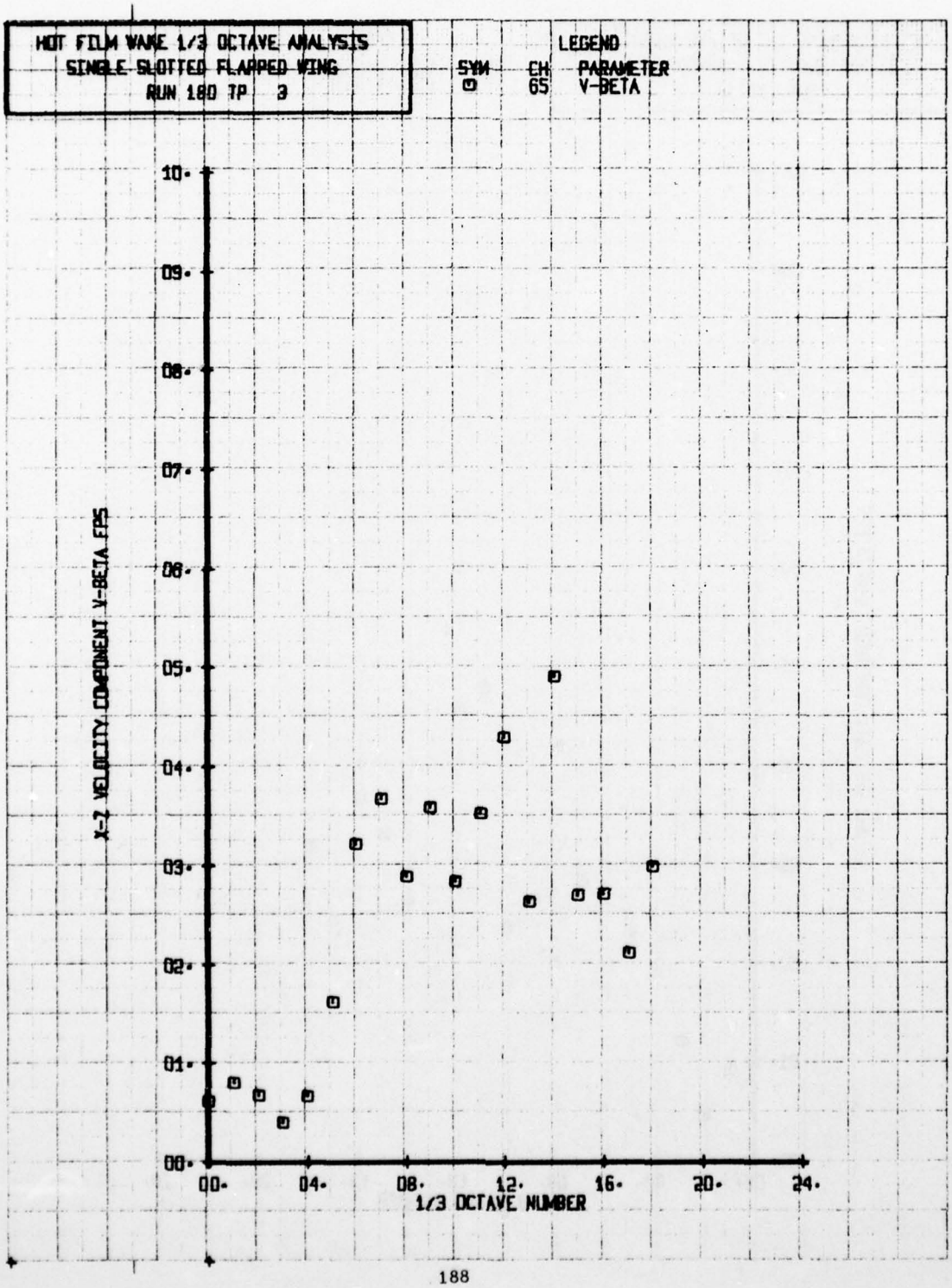
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SINGLE SLOTTED FLAPPED WING
RUN 180 TP 3
LEGEND
SYM CH PARAMETER
65 V-BETA
X-2 VELOCITY COMPONENT V-BETA FPS
10.
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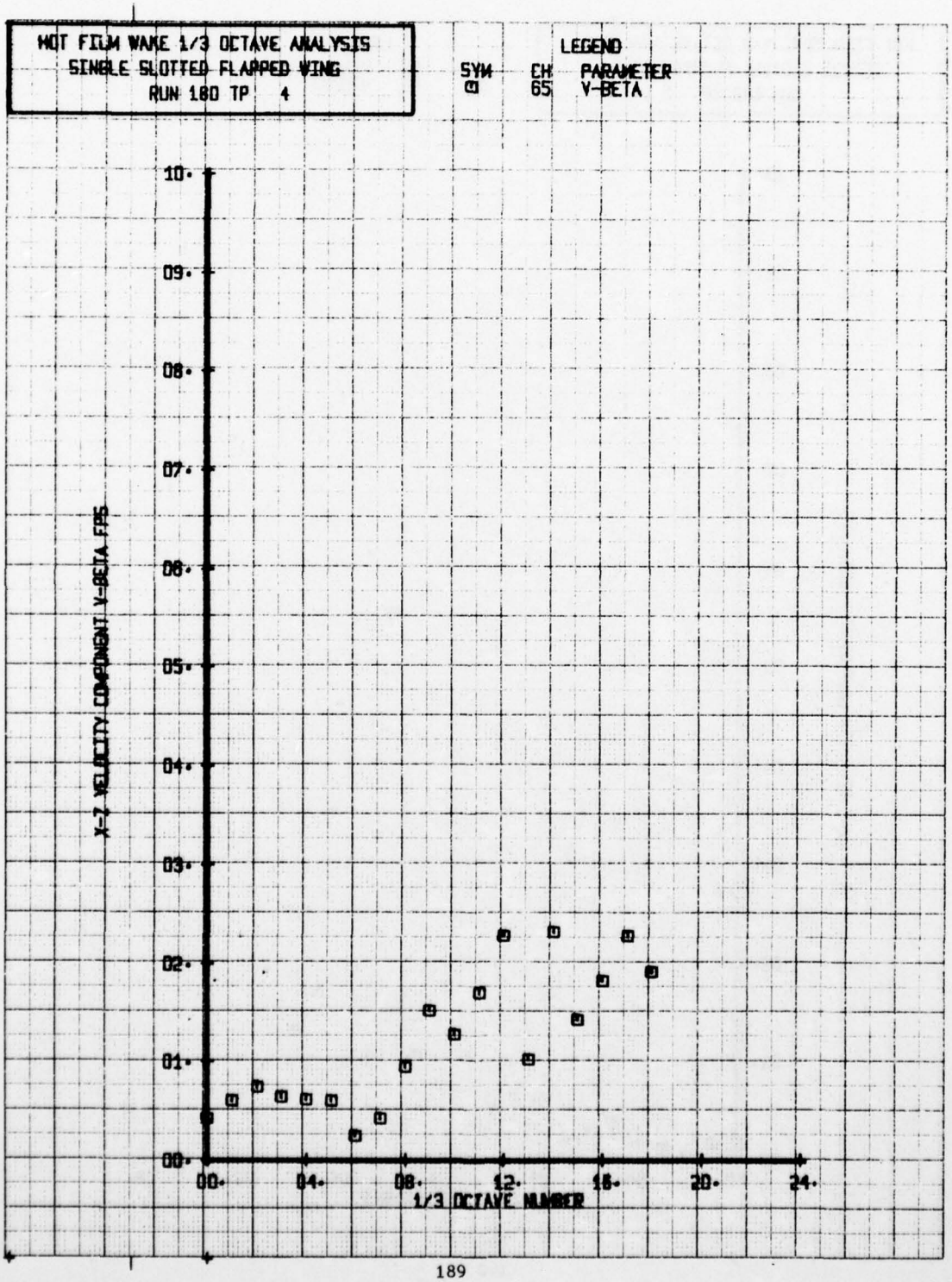
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SINGLE SLOTTED FLAPPED WING
RUN 180 TP 4
LEGEND
SYM CH PARAMETER
65 V-BETA
X-Z VELOCITY COMPONENT V-BETA FPS
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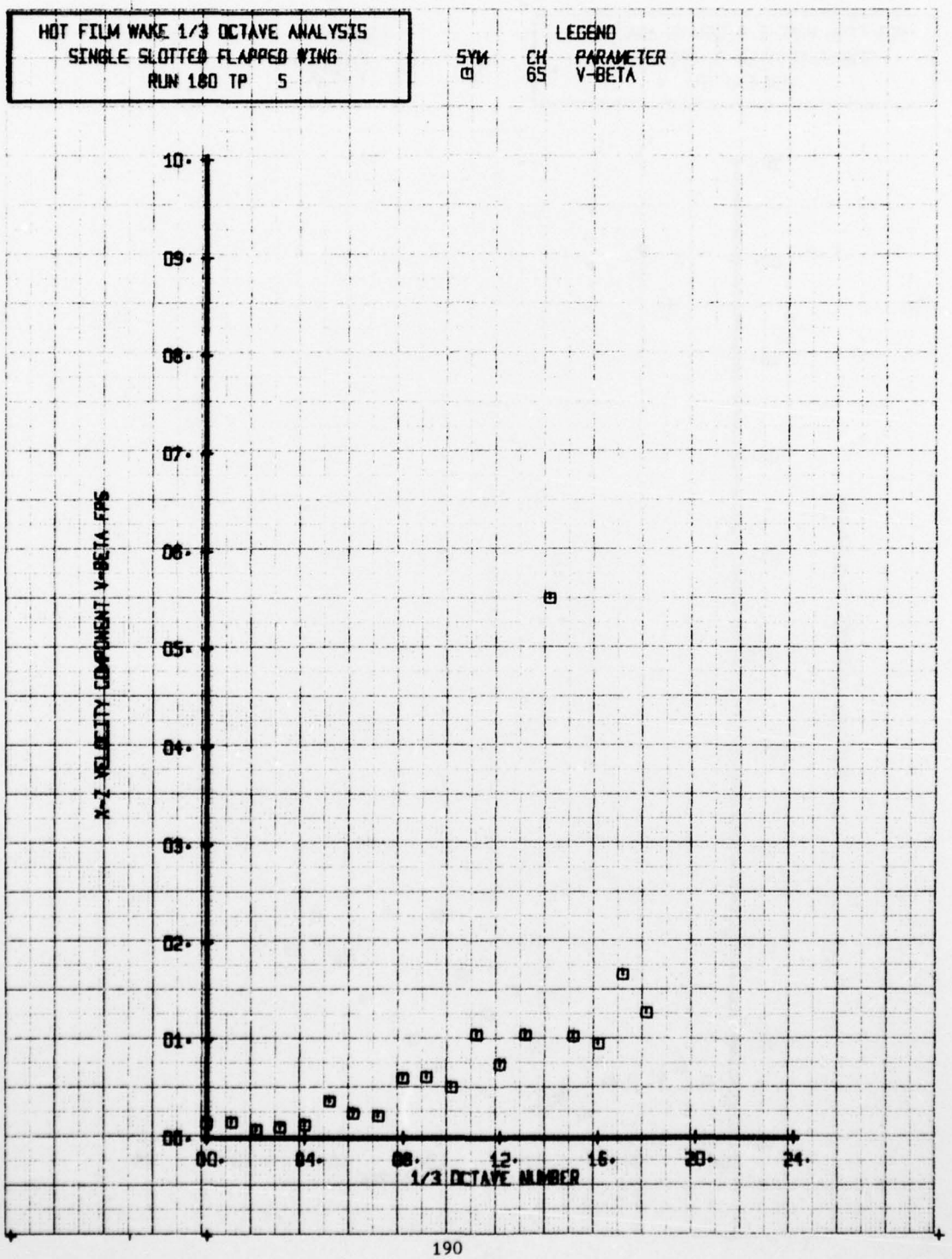
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SINGLE SLOTTED FLAPPED WING
RUN 180 TP 5
LEGEND
SYM CH PARAMETER
65 V-BETA
X-Z VELOCITY COMPONENT V-BETA FPS
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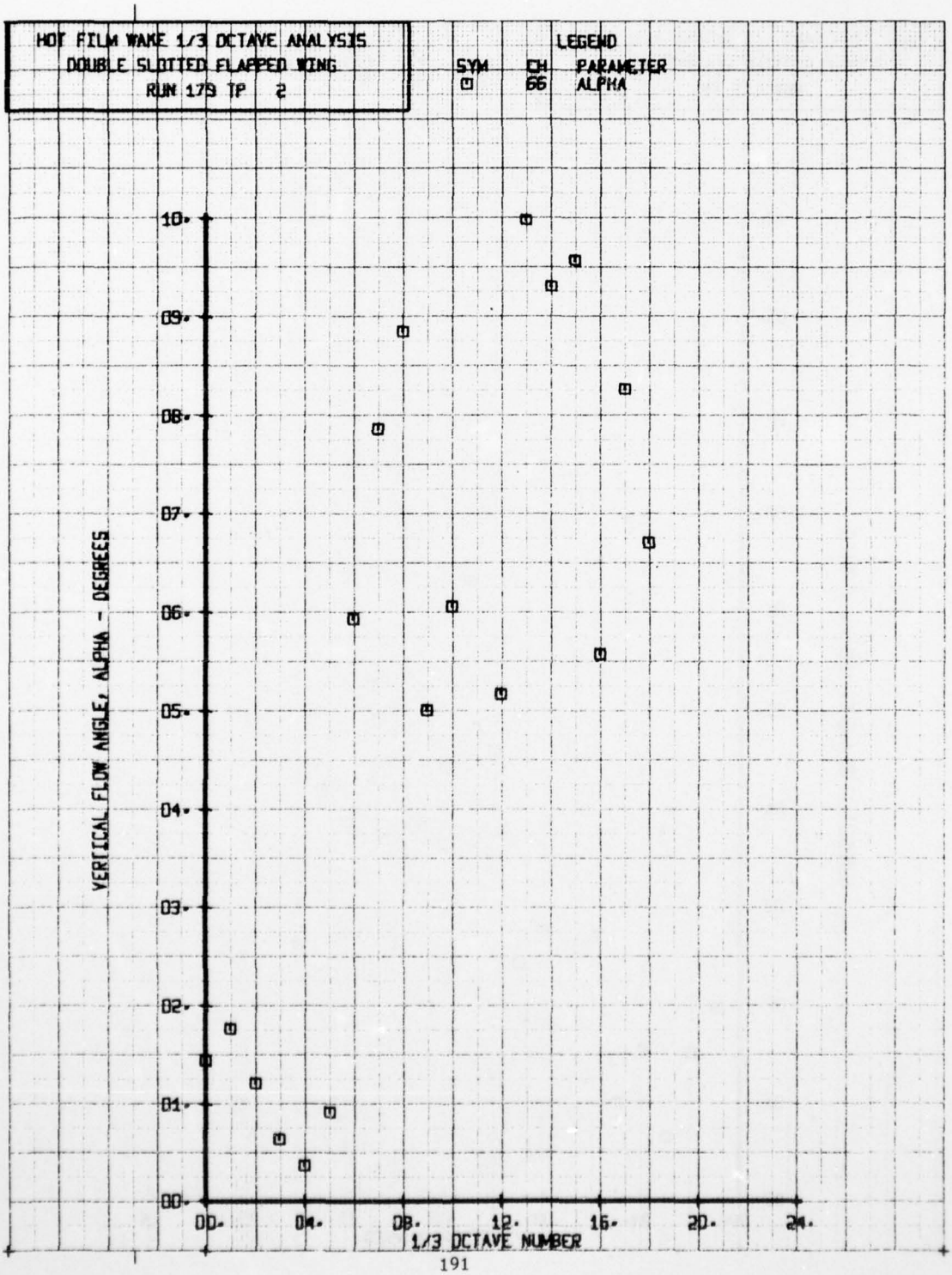
24.
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
DOUBLE SLOTTED FLAPPED WING
RUN 179 TP 2
LEGEND
SYM CH PARAMETER
66 ALPHA
10.
09.
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VERTICAL FLOW ANGLE, ALPHA - DEGREES
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24.
1/3 OCTAVE NUMBER

AD-A063 244 BOEING VERTOL CO PHILADELPHIA PA F/G 1/3
INTERACTIONAL AERODYNAMICS OF THE SINGLE ROTOR HELICOPTER CONFI--ETC(U)
SEP 78 P F SHERIDAN DAAJ02-77-C-0020
UNCLASSIFIED USARTL-TR-78-23D NL

3 OF 3
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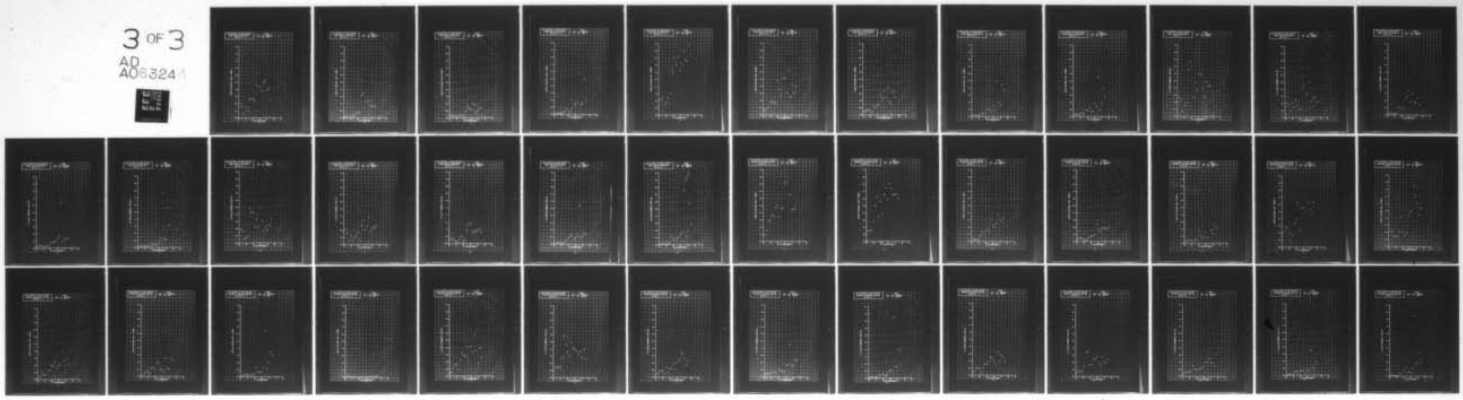

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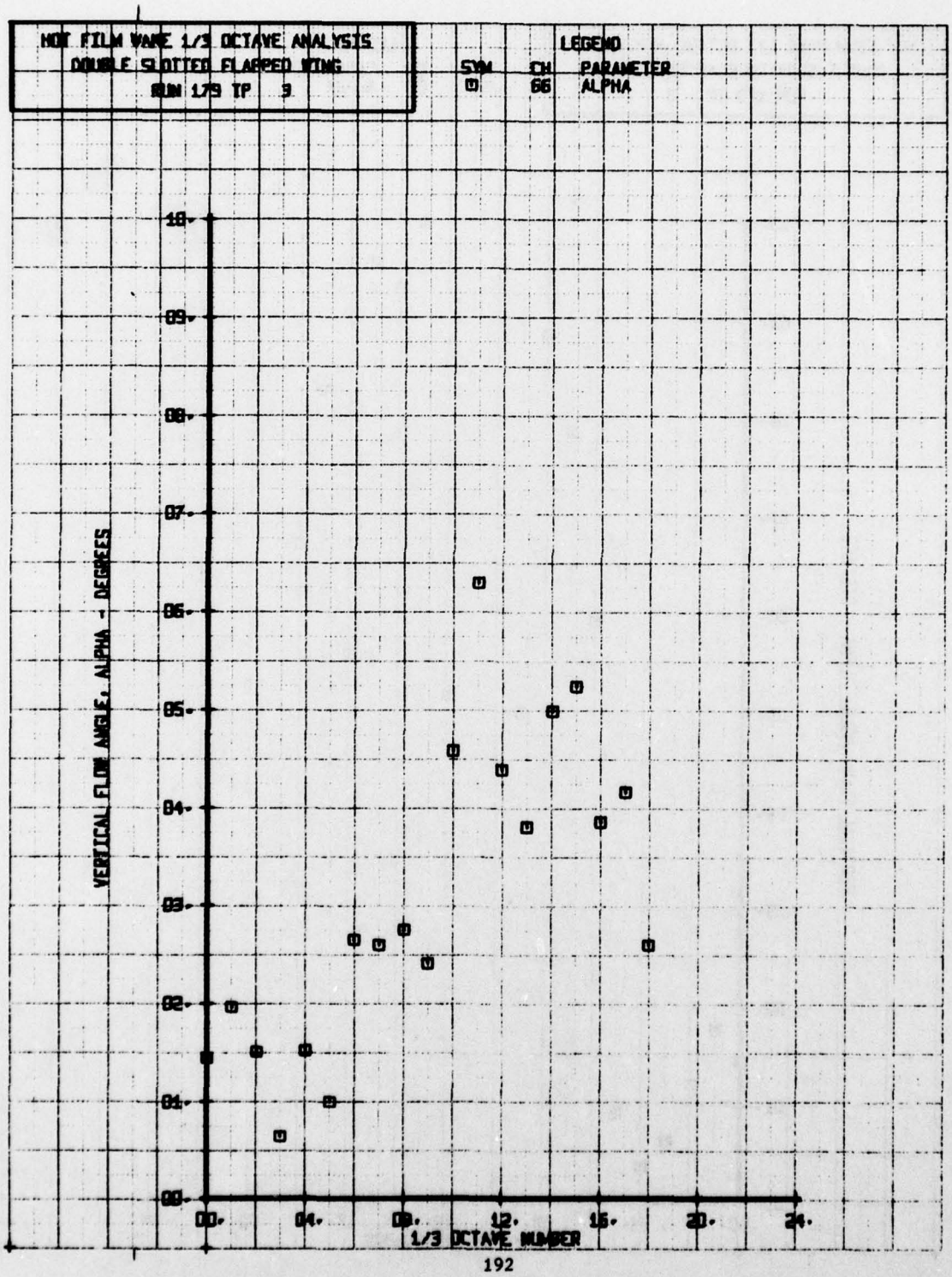
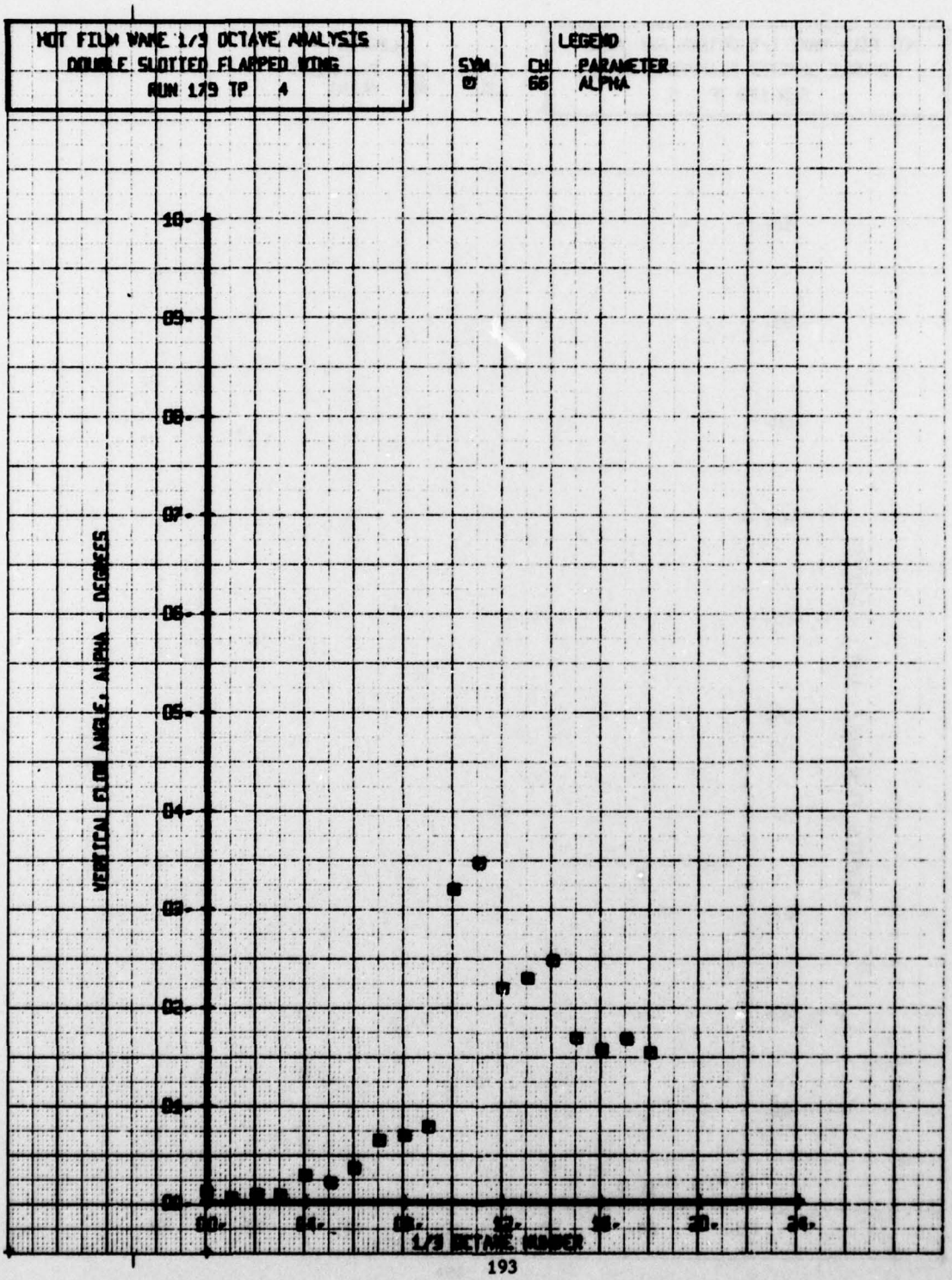

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
DOUBLE SLOTTED FLAPPED WING
RUN 179 TP 3
LEGEND
SYM CH PARAMETER
66 ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
1/3 OCTAVE NUMBER
00.
04.
08.
12.
16.
20.
24.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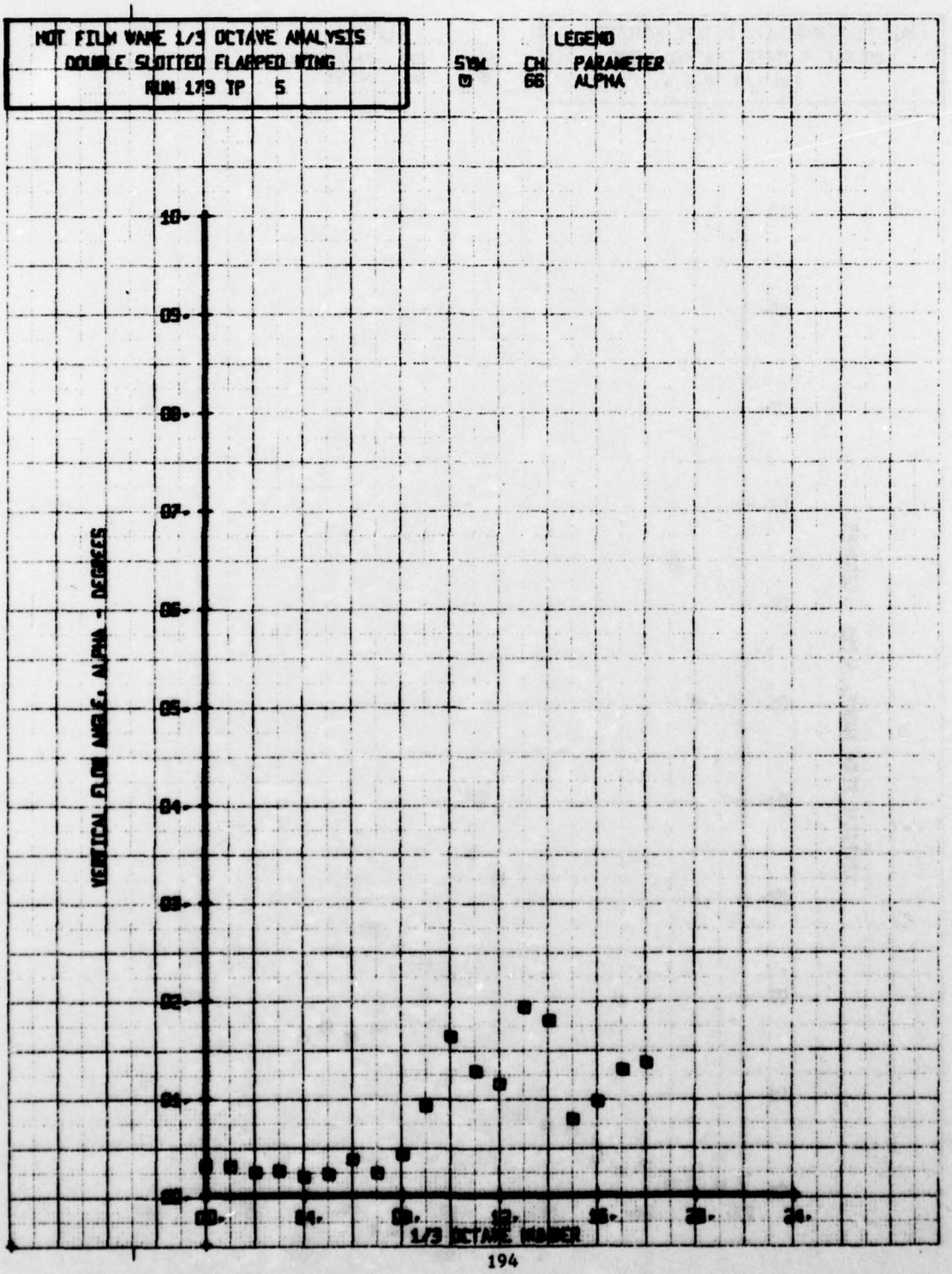
DOUBLE SLOTTED FLAPPED WING
RUN 179 TP 4
LEGEND
SYM CH PARAMETER
@ 66 ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
DOUBLE SLOTTED FLAPPED WING
RUN 179 TP 5
LEGEND
SYM CH PARAMETER
0 66 ALPHA
10.
09.
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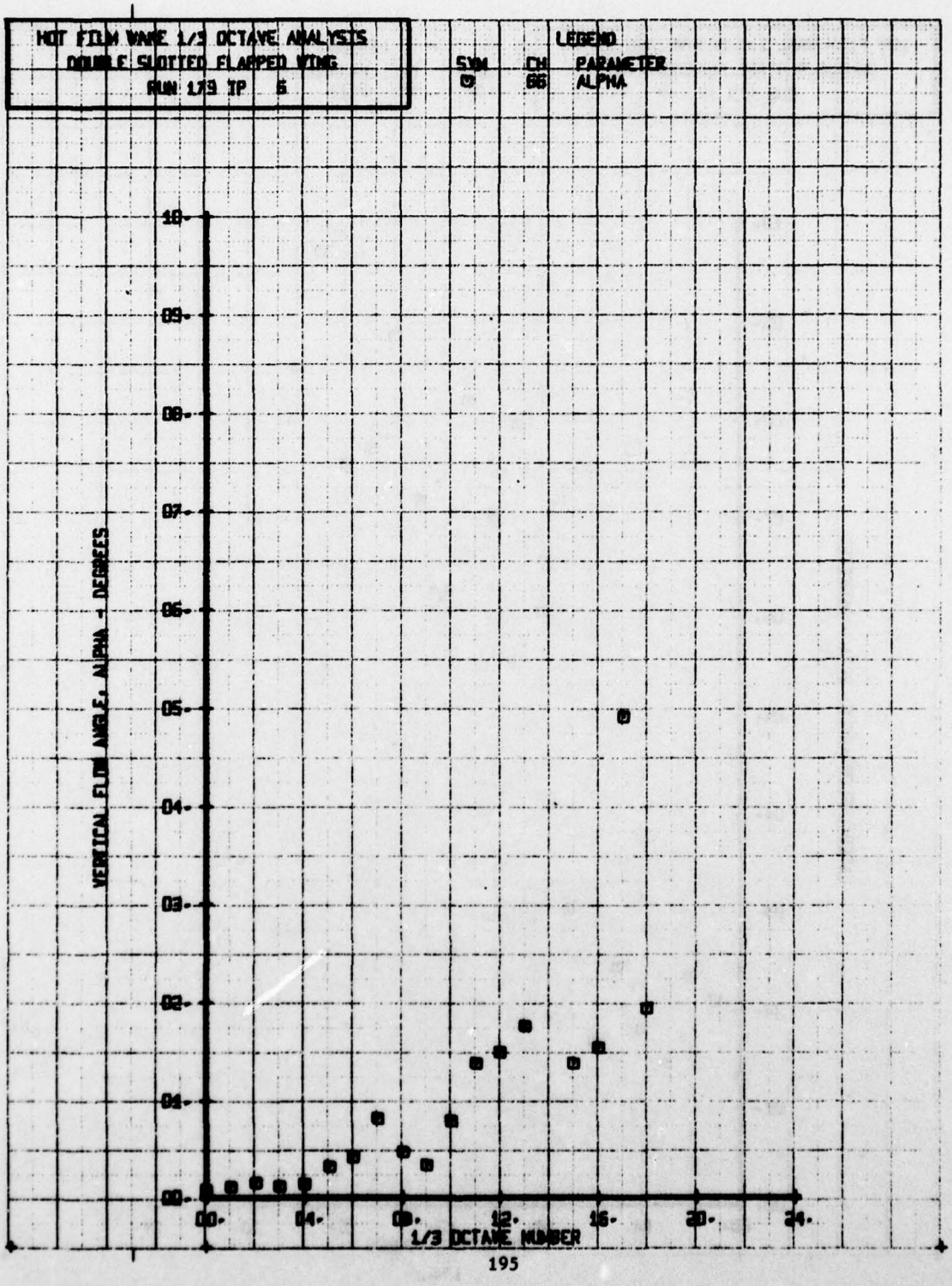
VERTICAL FLOW ANGLE, ALPHA - DEGREES
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
DOUBLE SLOTTED FLAPPED WING
RUN 173 TP 6
LEGEND
SYM CH PARAMETER
86 ALPHA
VERTICAL FLOW ANGLE, ALPHA + DEGREES
1/3 OCTAVE NUMBER
10.
09.
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06.
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12.
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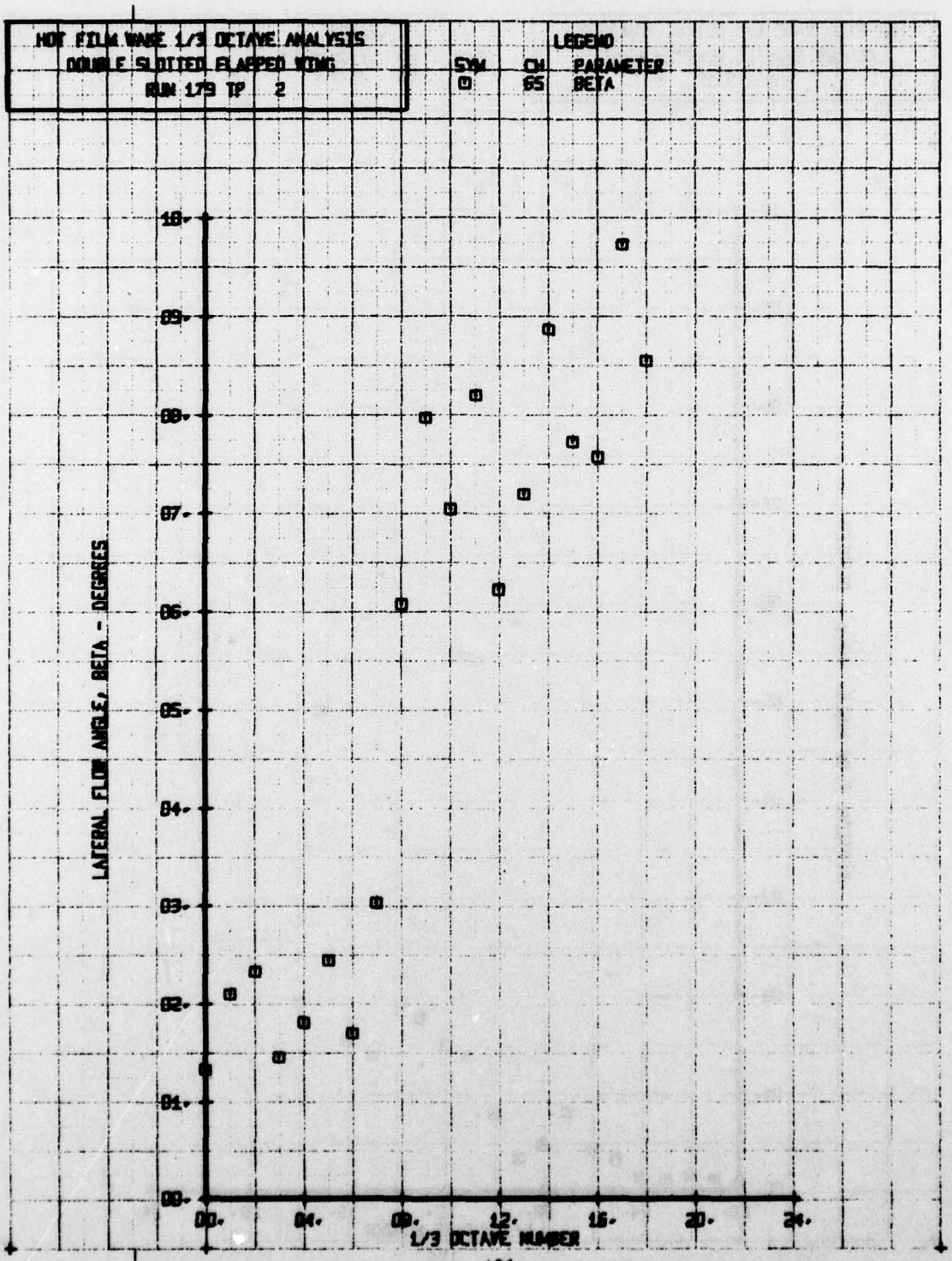
24.


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
DOUBLE SLOTTED FLAPPED WING
RUN 179 TP 2
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
1/3 OCTAVE NUMBER
00.
04.
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16.
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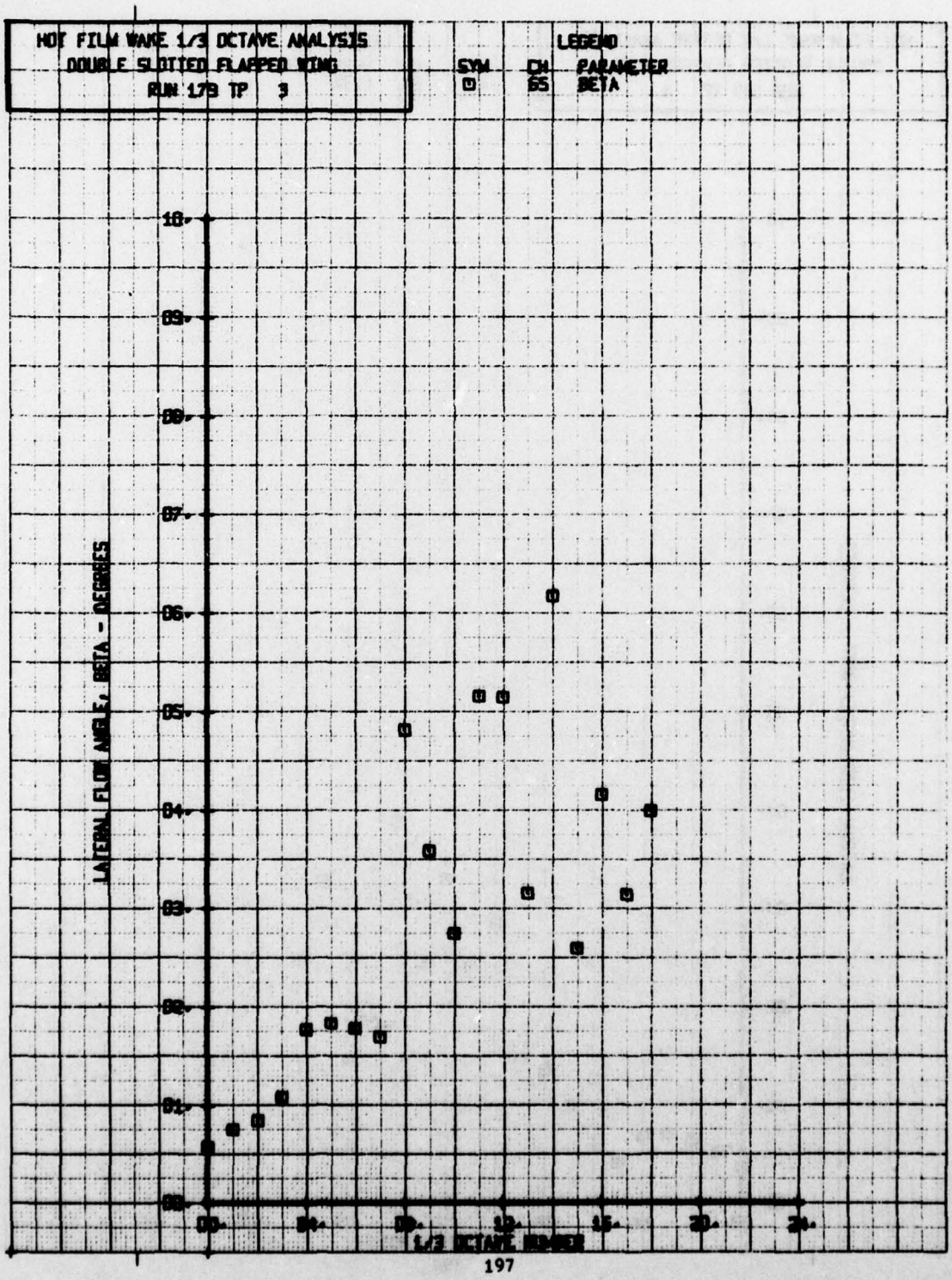
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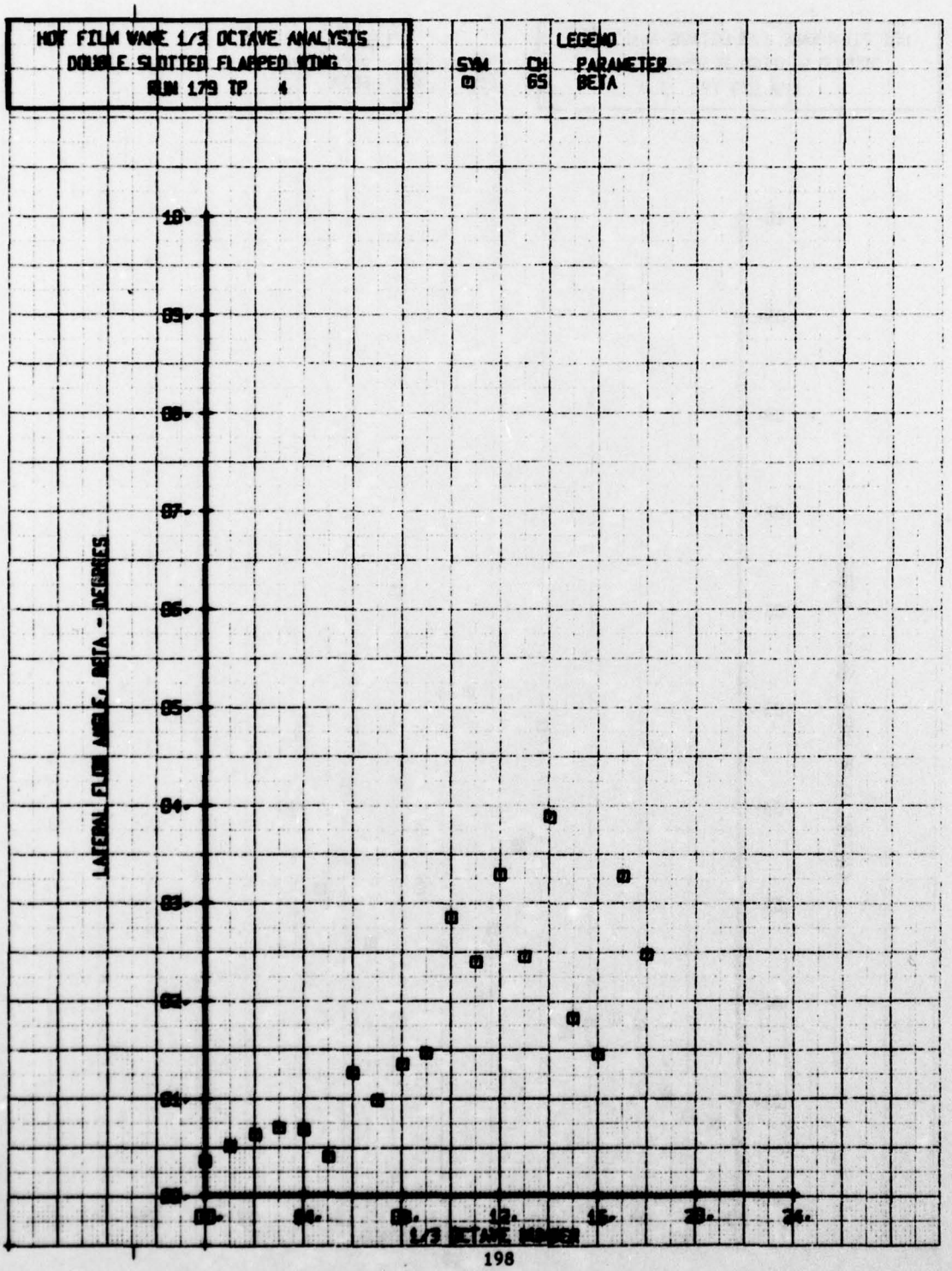
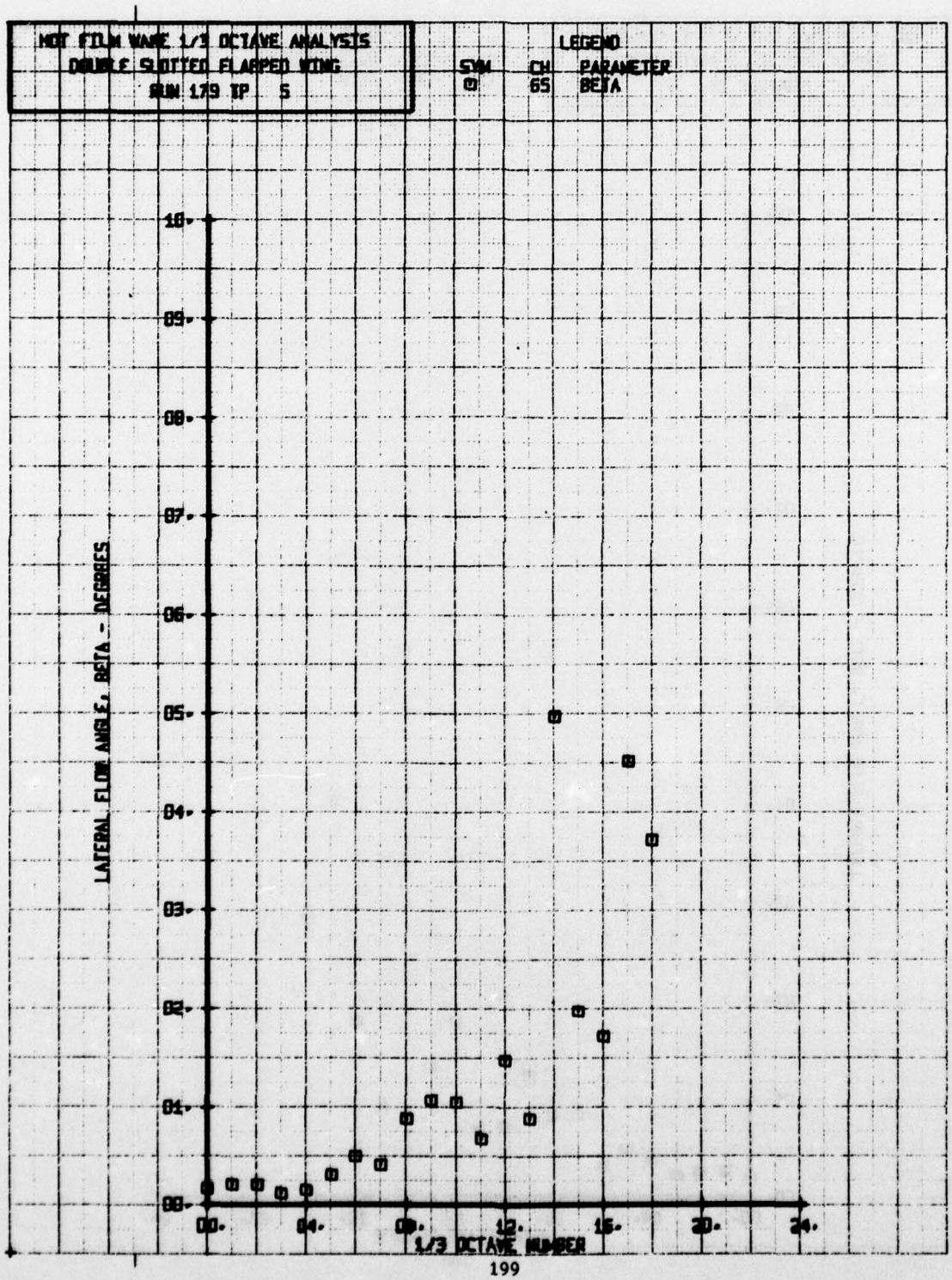
DOUBLE SLOTTED FLAPPED WING
RUN 179 TP 3
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
1/3 OCTAVE NUMBER


HOT FILM VANE 1/3 OCTAVE ANALYSIS
DOUBLE SLOTTED FLAPPED WING
RUN 179 TP 4
SYM
CH 65
LEGEND
PARAMETER
BETA
LATERAL FLOW ANGLE, BETA - DEGREES
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
DOUBLE SLOTTED FLAPPED WING
RUN 179 TP 5
LEGEND
SYM CH PARAMETER
65 BETA
10.
09.
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LATERAL FLOW ANGLE, BETA - DEGREES
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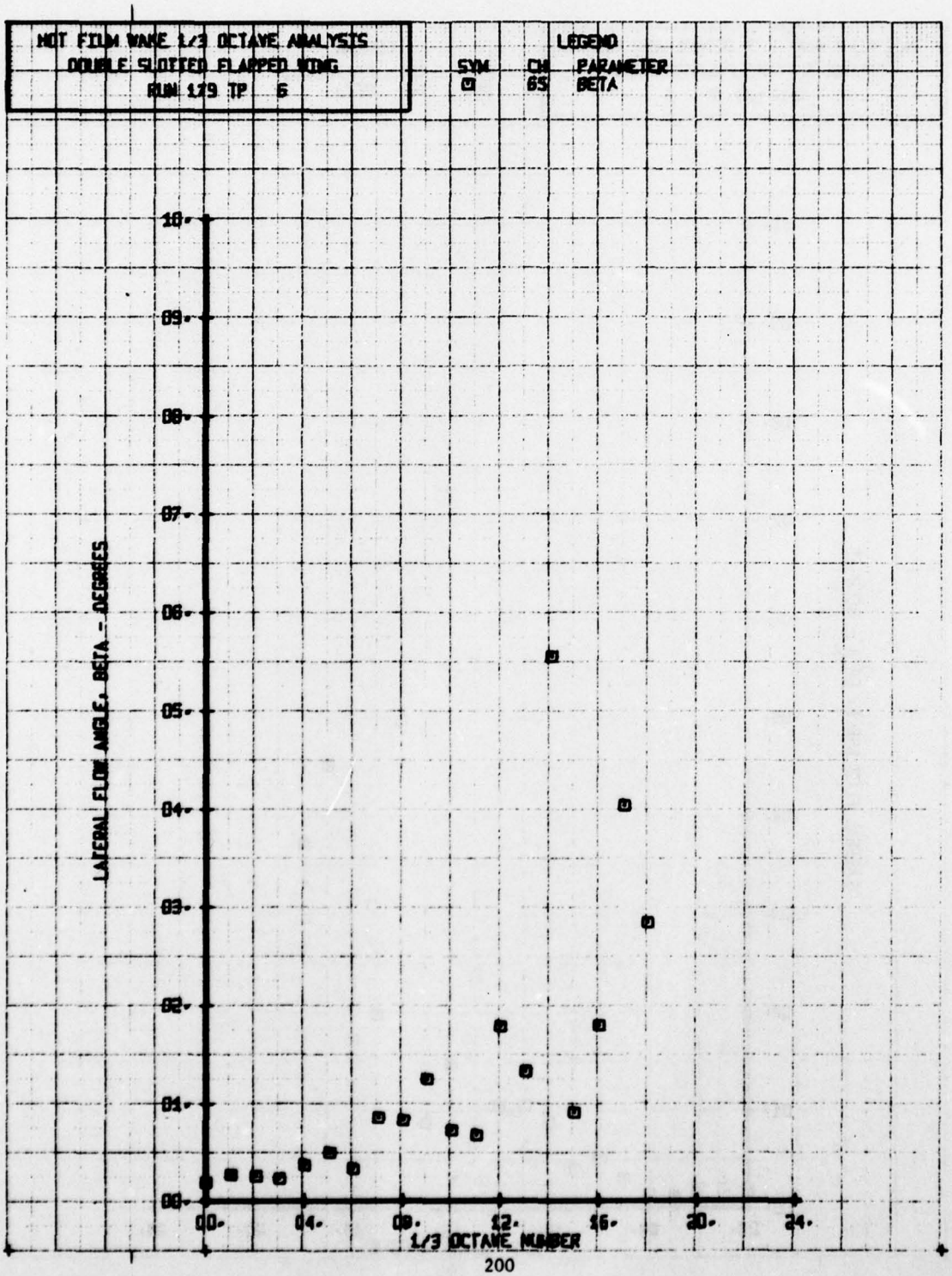
24.
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
DOUBLE SLOTTED FLAPPED WING
RUN 179 TP 6
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
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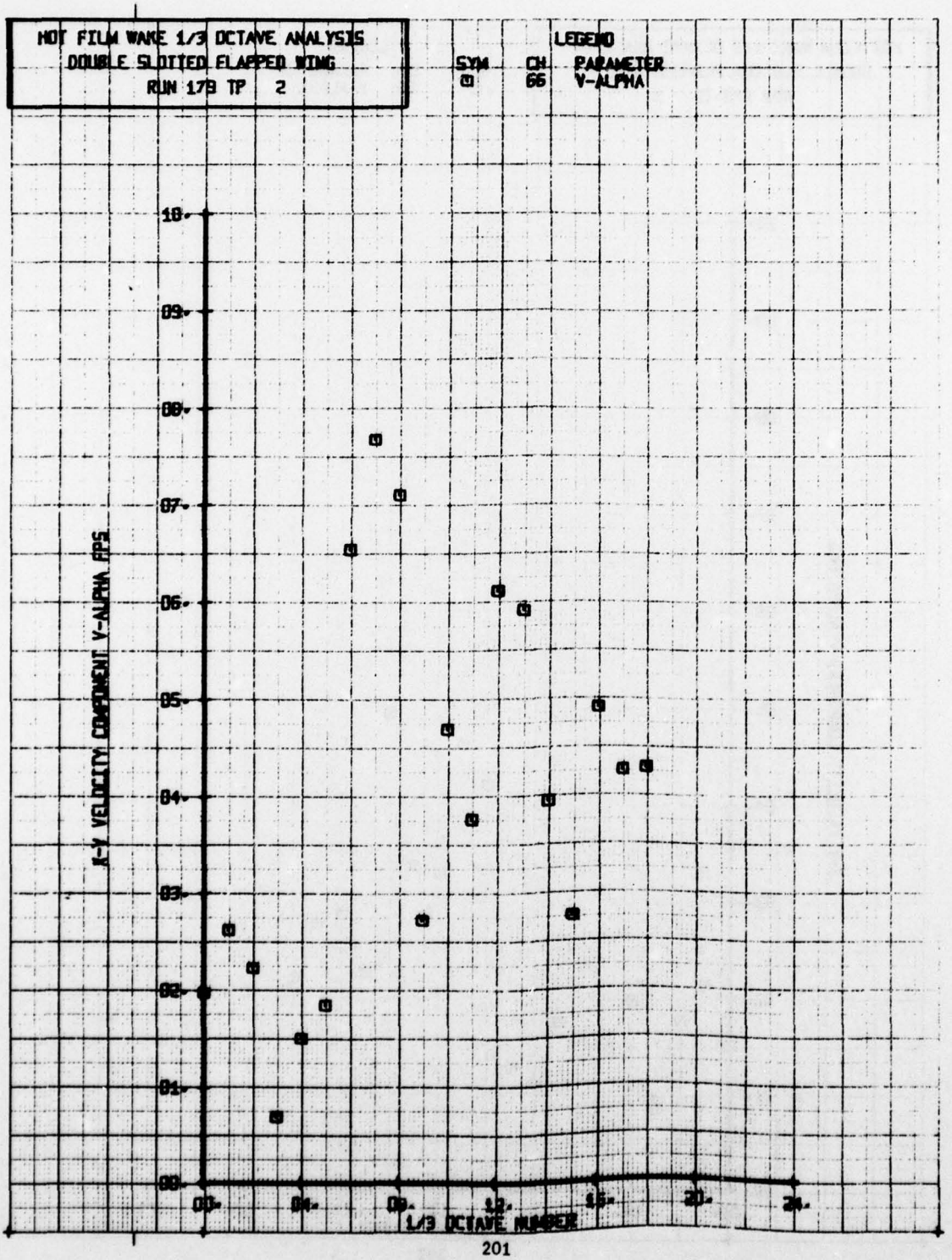
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
DOUBLE SLOTTED FLAPPED WING
RUN 179 TP 2
LEGEND
SYM CH PARAMETER
66 V-ALPHA
1.0
.9
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X-Y VELOCITY COMPONENT V-ALPHA FPS
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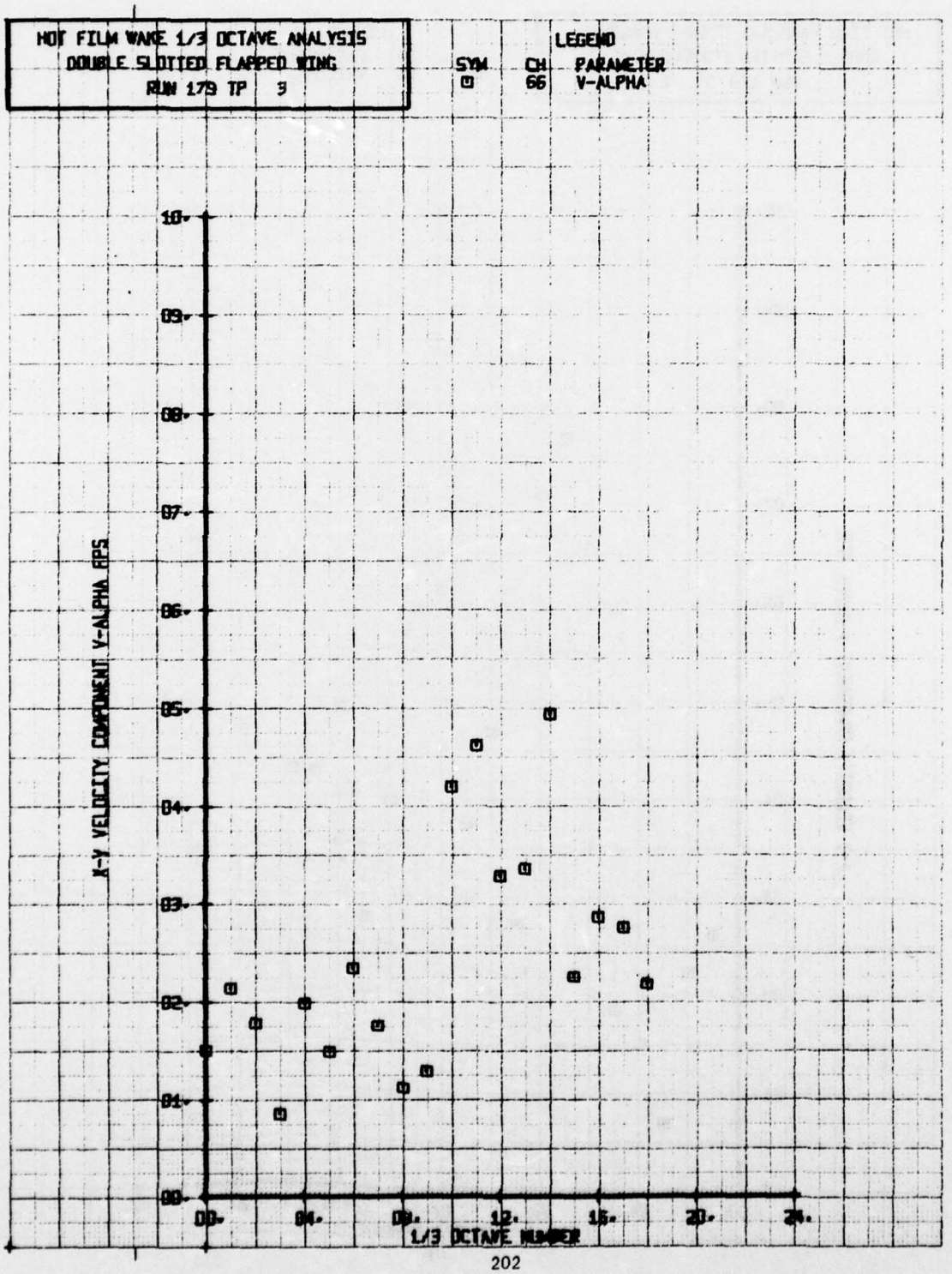
24.
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
DOUBLE SLOTTED FLAPPED WING
RUN 179 TP 3
LEGEND
SYM CH PARAMETER
66 V-ALPHA
X-Y VELOCITY COMPONENT V-ALPHA RPS
1/3 OCTAVE NUMBER
10.
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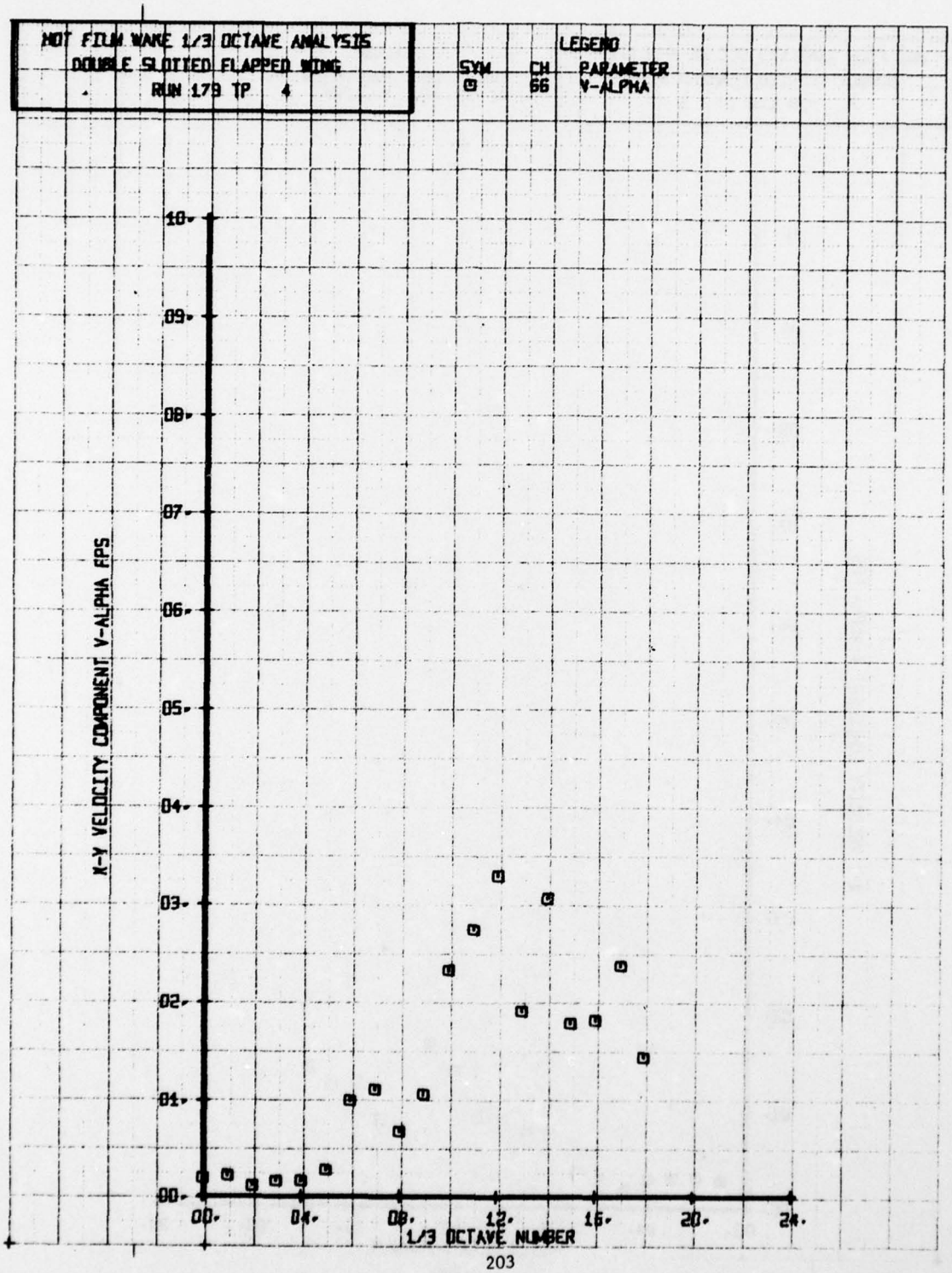
HOT FILM WAKE 1/3 OCTAVE ANALYSIS
DOUBLE SLOTTED FLAPPED WING
RUN 179 TP 4
LEGEND
SYM CH PARAMETER
66 V-ALPHA
X-Y VELOCITY COMPONENT V-ALPHA FPS
10.
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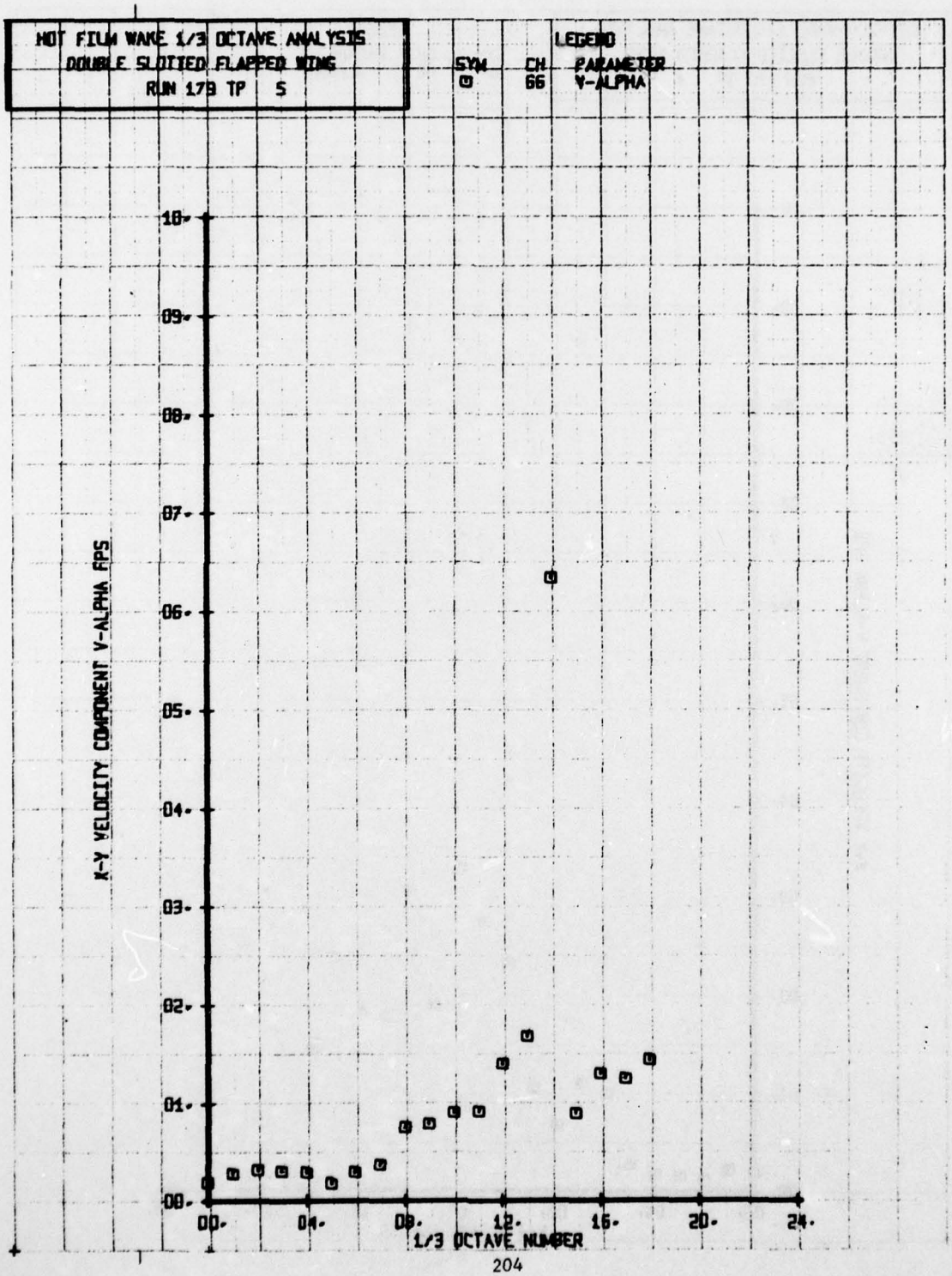
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
DOUBLE SLOTTED FLAPPED WING
RUN 179 TP 5
LEGEND
SYM CH PARAMETER
66 V-ALPHA
X-Y VELOCITY COMPONENT V-ALPHA FPS
1/3 OCTAVE NUMBER
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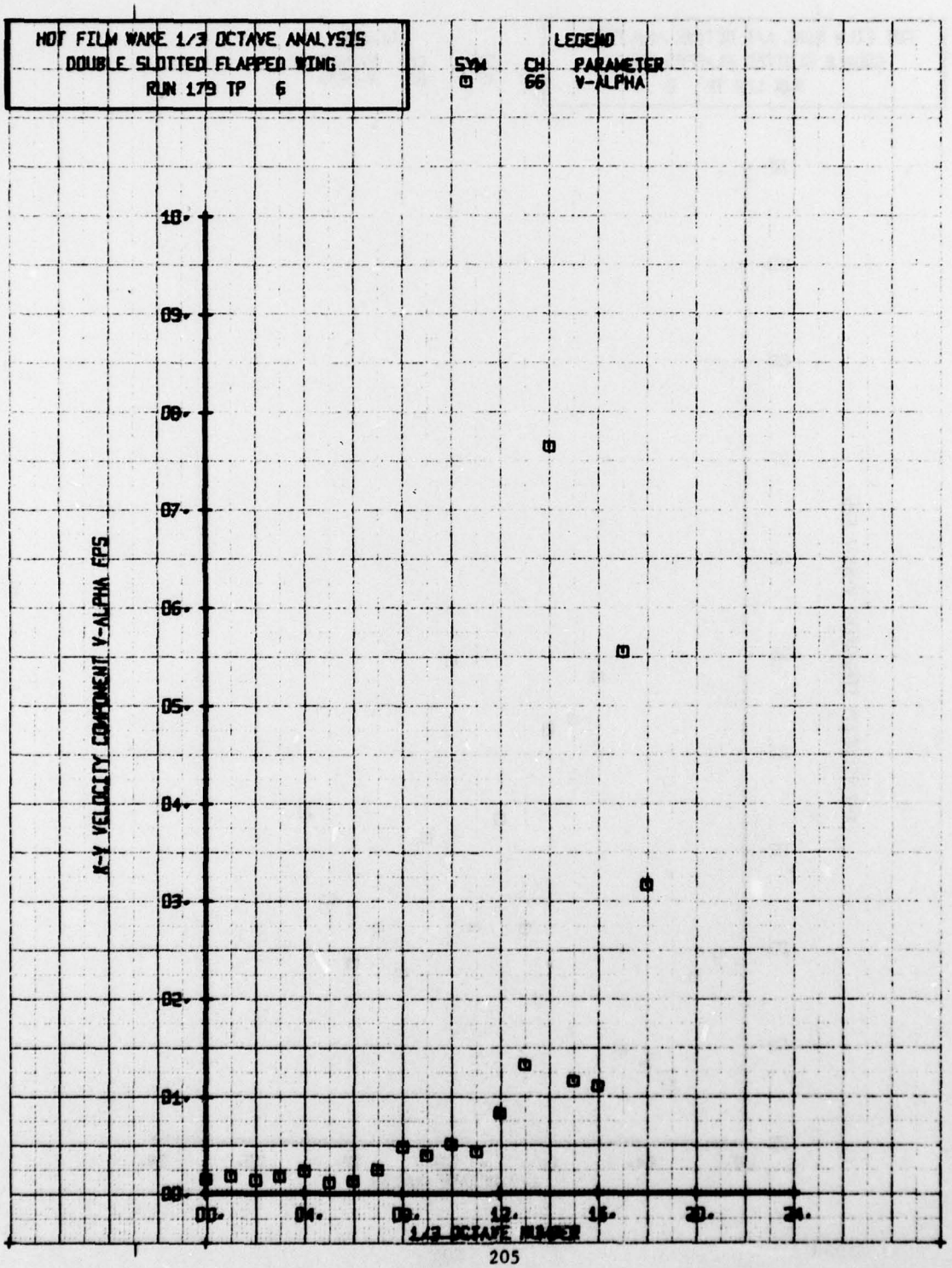
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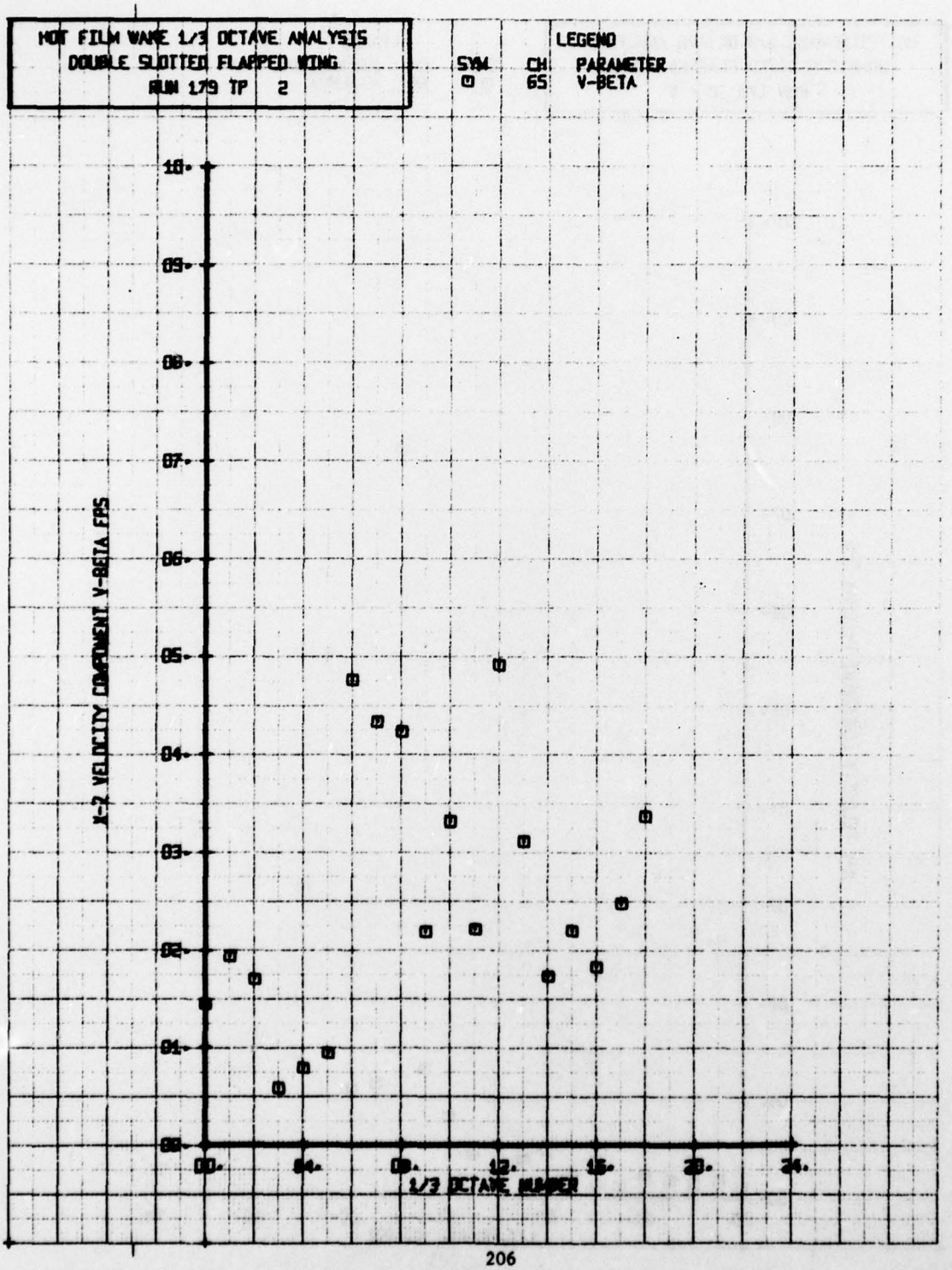
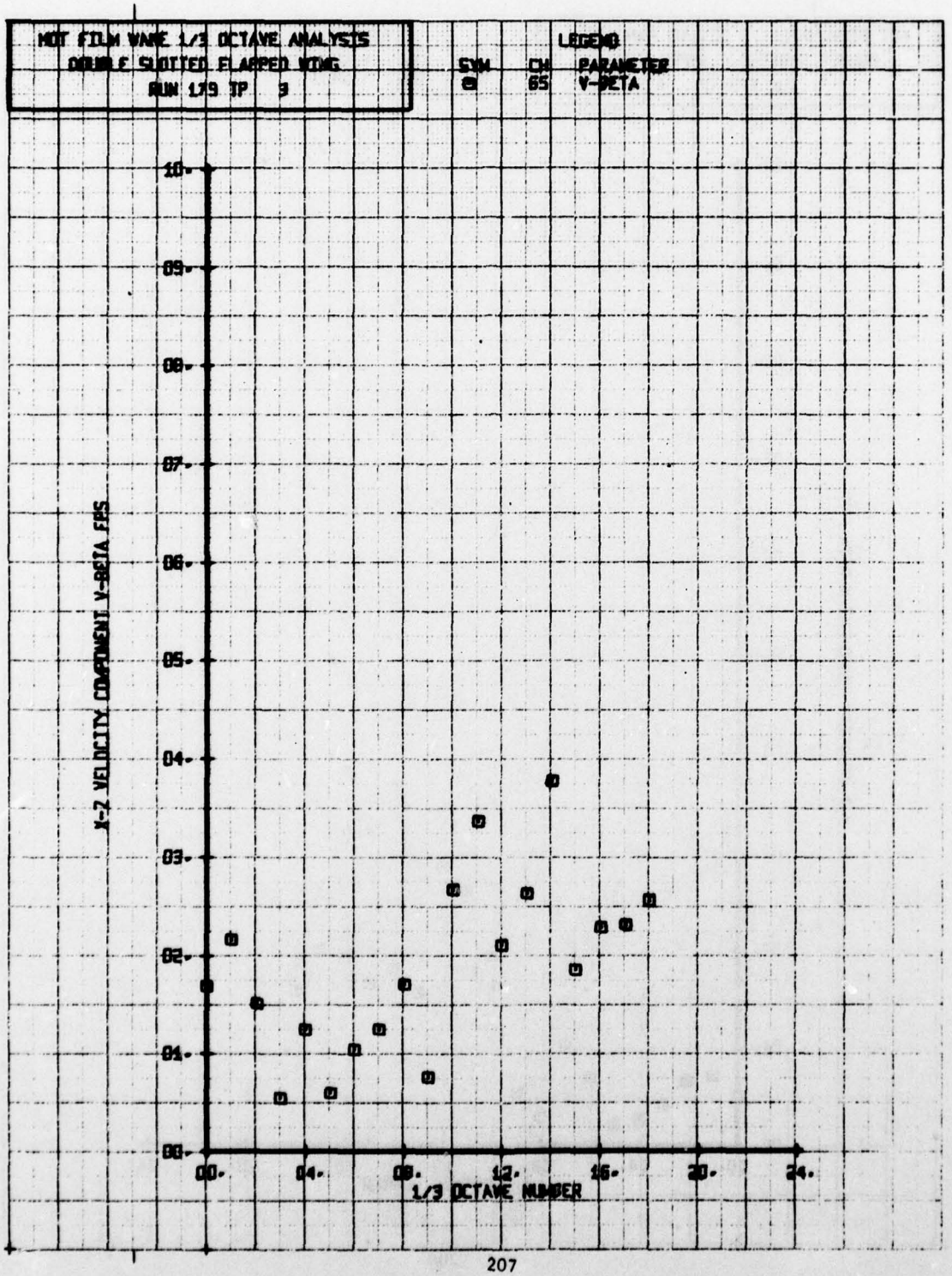
DOUBLE SLOTTED FLAPPED WING
RUN 179 TP 6
LEGEND
SYM CH PARAMETER
66 V-ALPHA
K-V VELOCITY COMPONENT V-ALPHA EPS
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
DOUBLE SLOTTED FLAPPED WING
RUN 179 TP 2
LEGEND
SYM CH PARAMETER
65 V-BETA
X-Z VELOCITY COMPONENT V-BETA FPS
1/3 OCTAVE NUMBER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DOUBLE SLOTTED FLAPPED WING
RUN 179 TP 3
LEGEND
SYM CH PARAMETER
65 V-BETA
10.
09.
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X-Z VELOCITY COMPONENT V-BETA FPS
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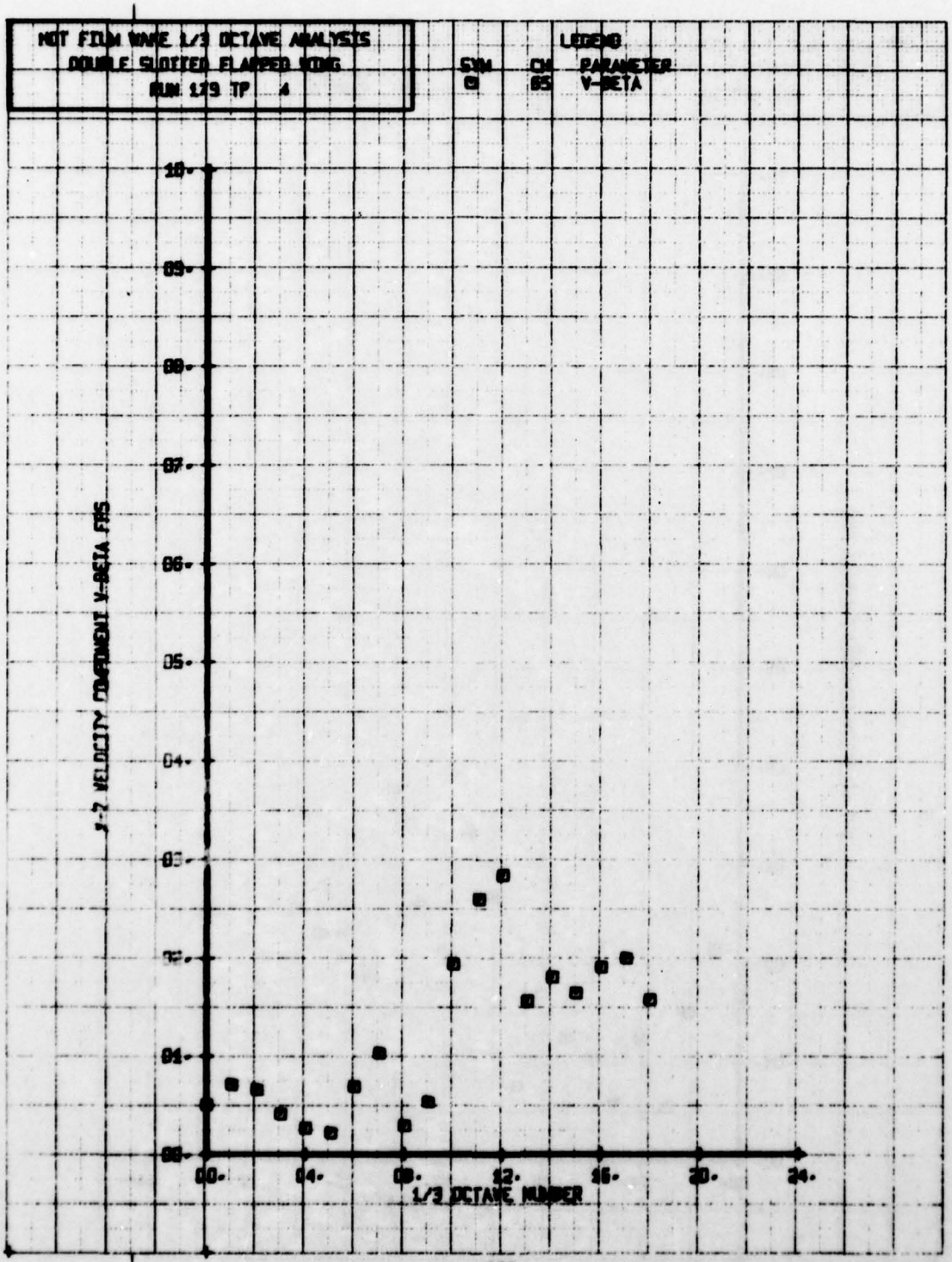
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
DOUBLE SLOTTED FLAPPED WING
RUN 179 TP 4
LEGEND
SYM CH PARAMETER
□ 65 V-BETA
1.0
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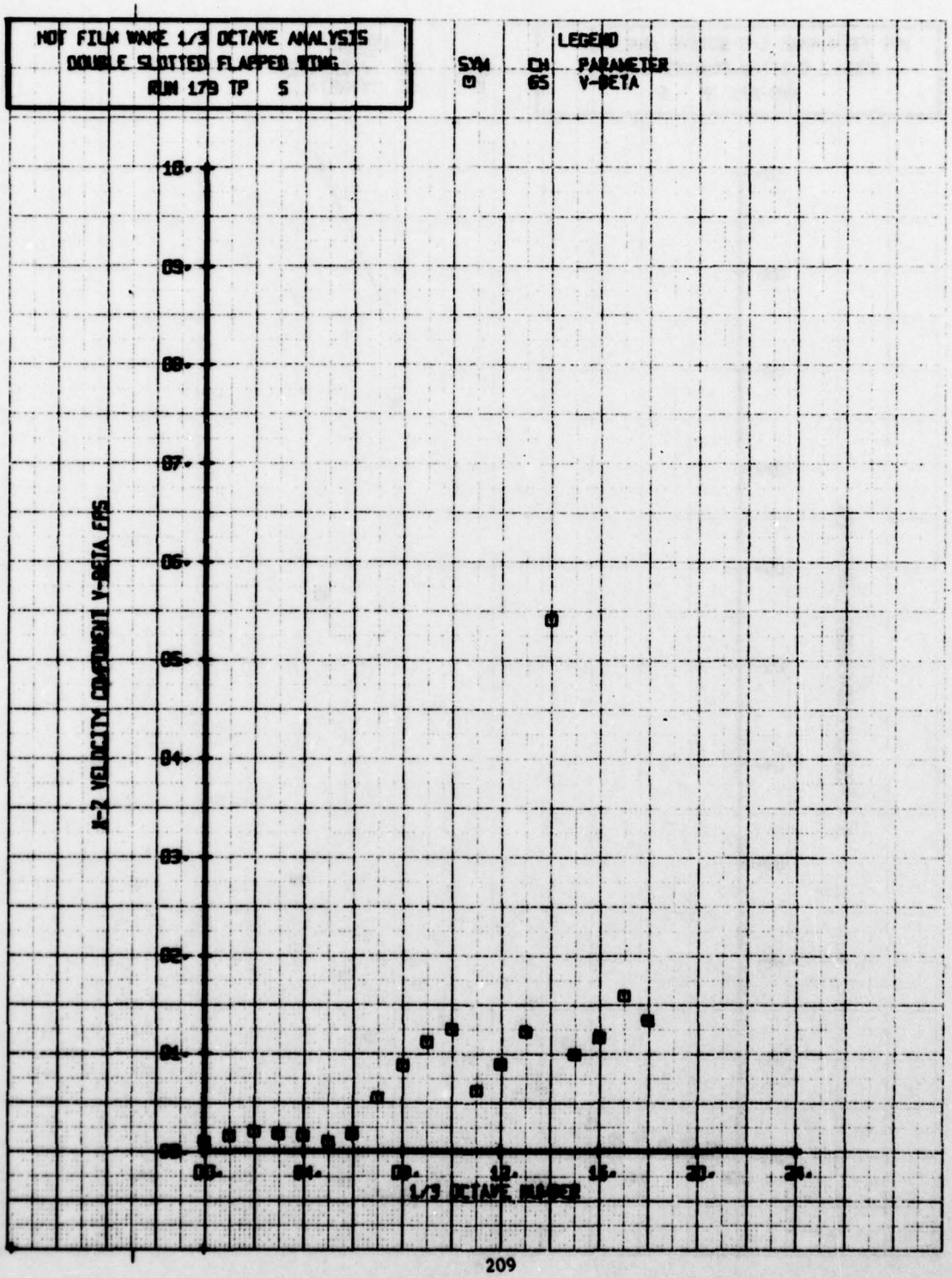
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
DOUBLE SLOTTED FLAPPED WING
RUN 179 TP 5
LEGEND
SYM CH PARAMETER
□ 65 V-BETA
1.0
0.9
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U-2 VELOCITY COMPONENT V-BETA FPS
03.
04.
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12.
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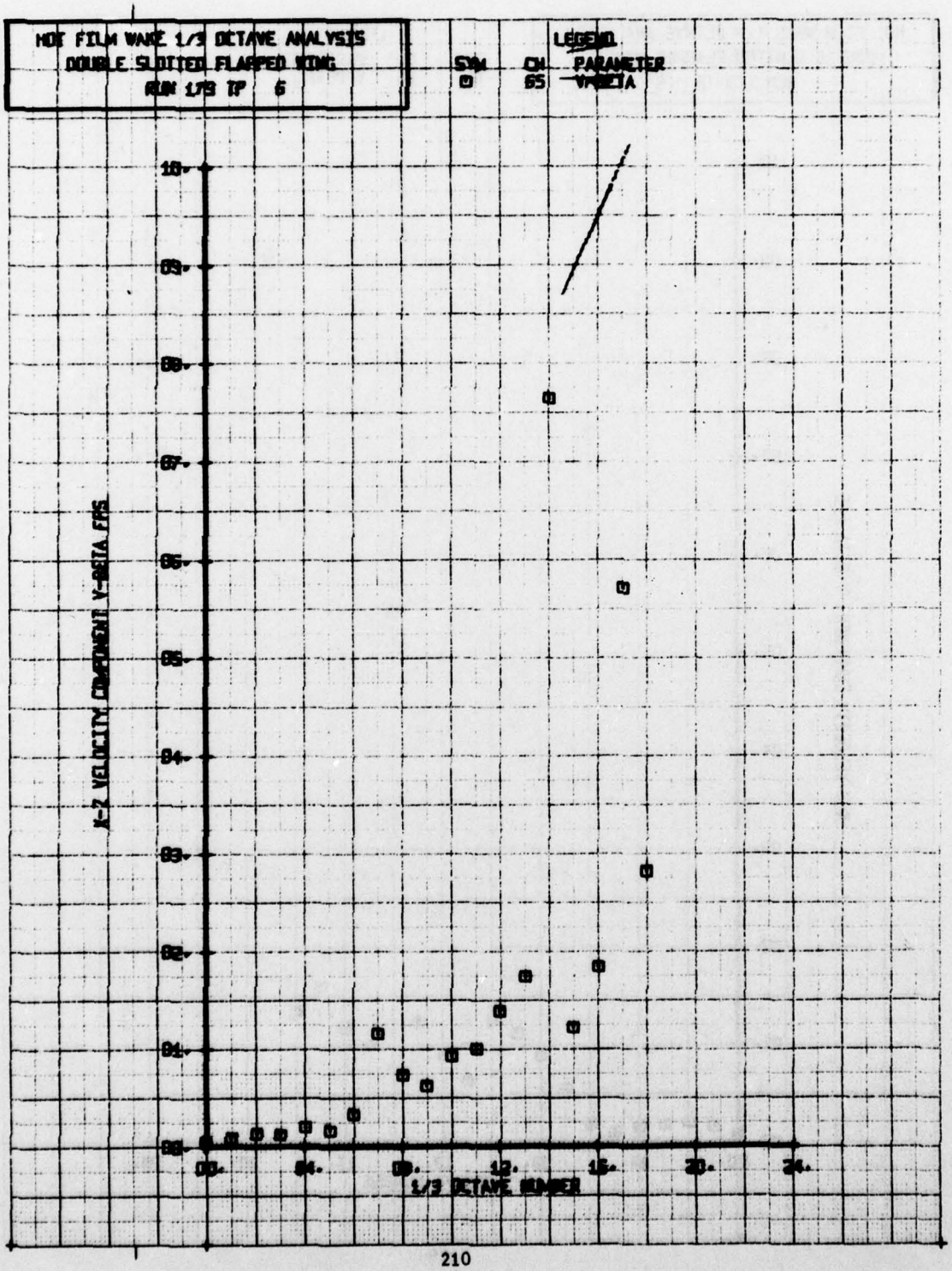
24.
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
DOUBLE SLOTTED FLAPPED WING
RUN 173 TP 6
LEGEND
SYM CH PARAMETER
65 V-BETA
1.0
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U-Z VELOCITY COMPONENT V-BETA FPS
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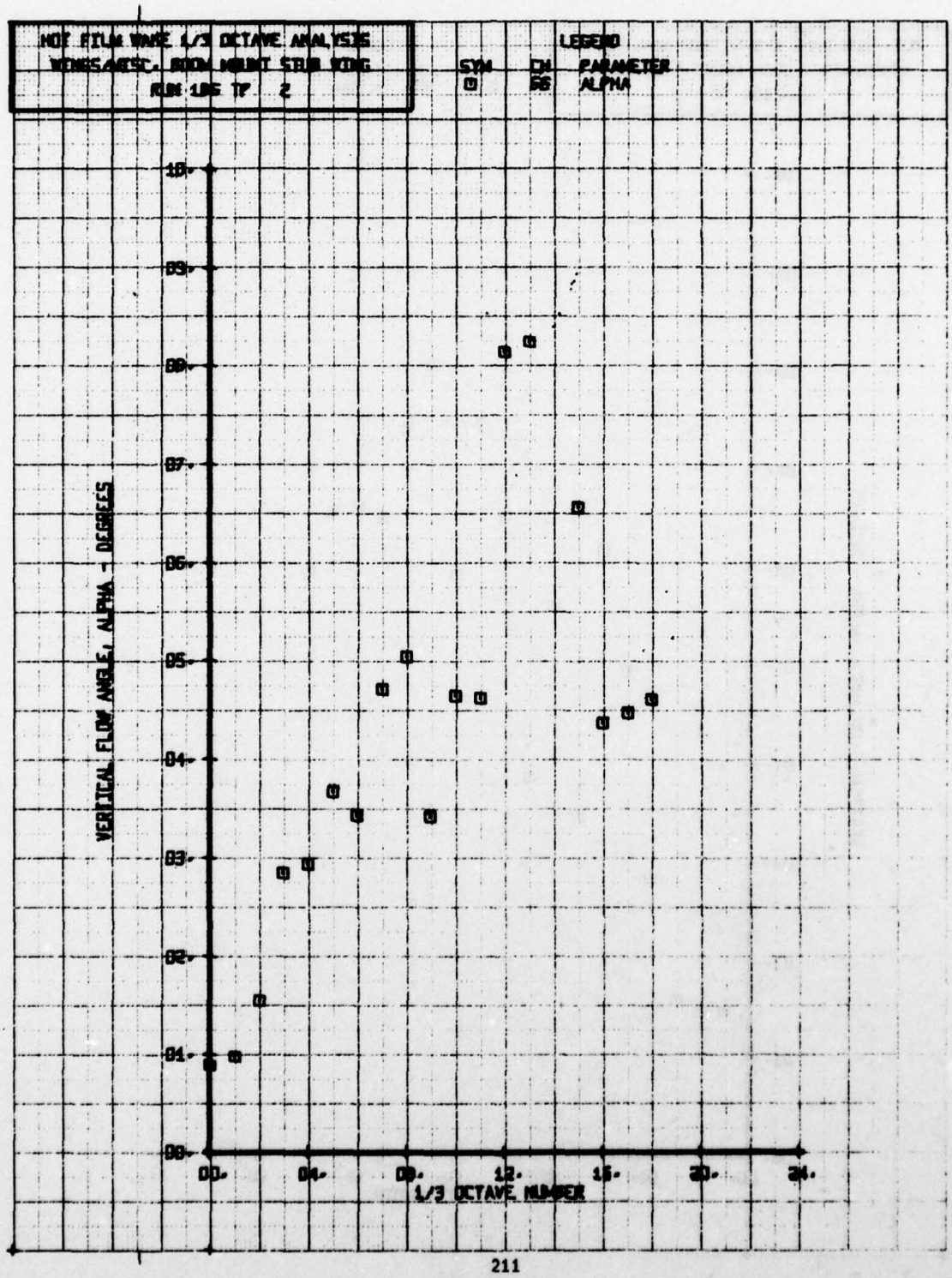
24.
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
WENSAMESC. BOOM MOUNT STUB WING
RUN 186 TP 2
LEGEND
SYM CN PARAMETER
DG ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
1/3 OCTAVE NUMBER
10.
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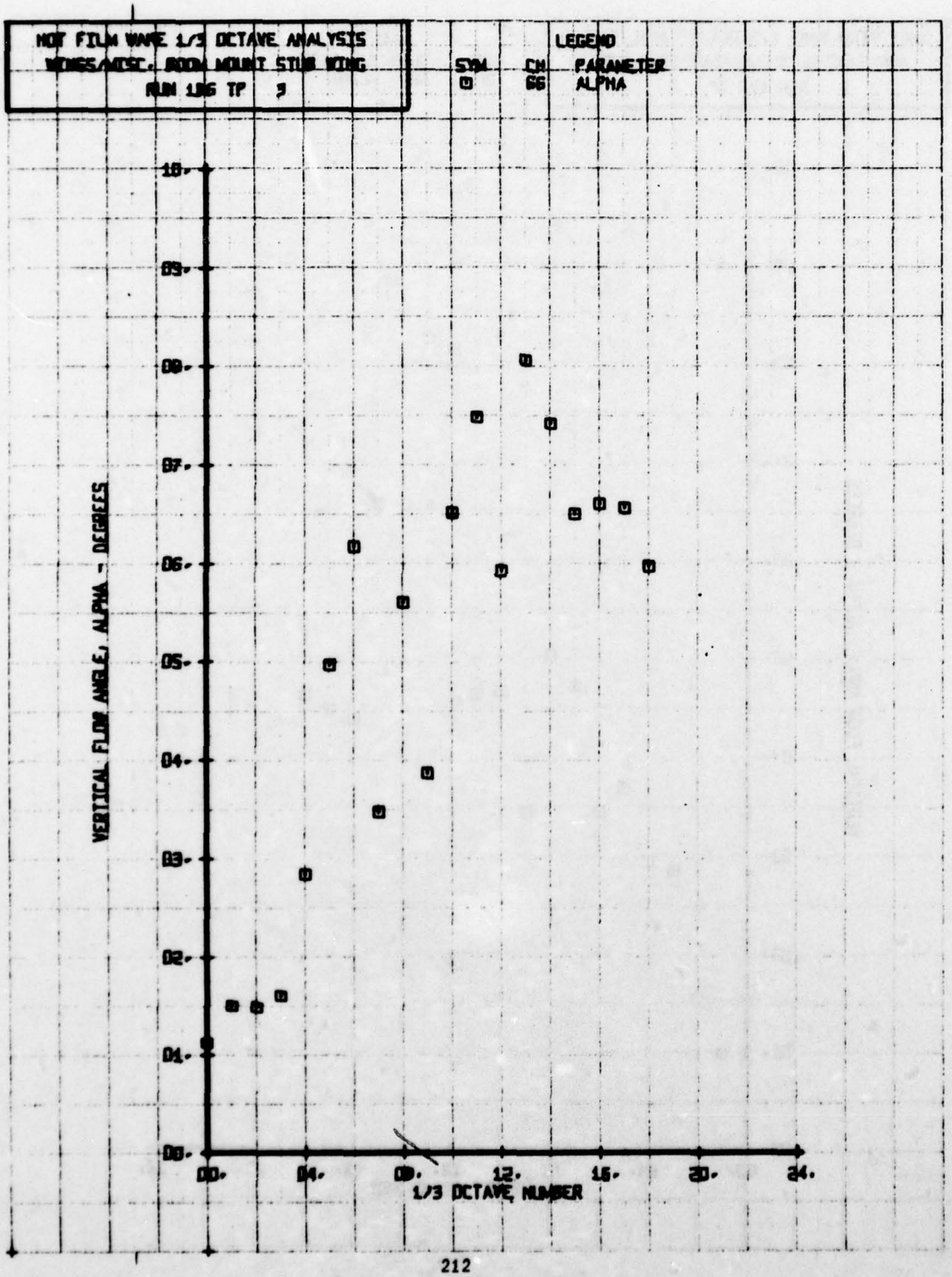
HOT FILM WAKE 1/3 OCTAVE ANALYSIS
WINGS/MISC. BOOM MOUNT STUB WING
RUN 186 TP 3
LEGEND
SYM CH PARAMETER
GG ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
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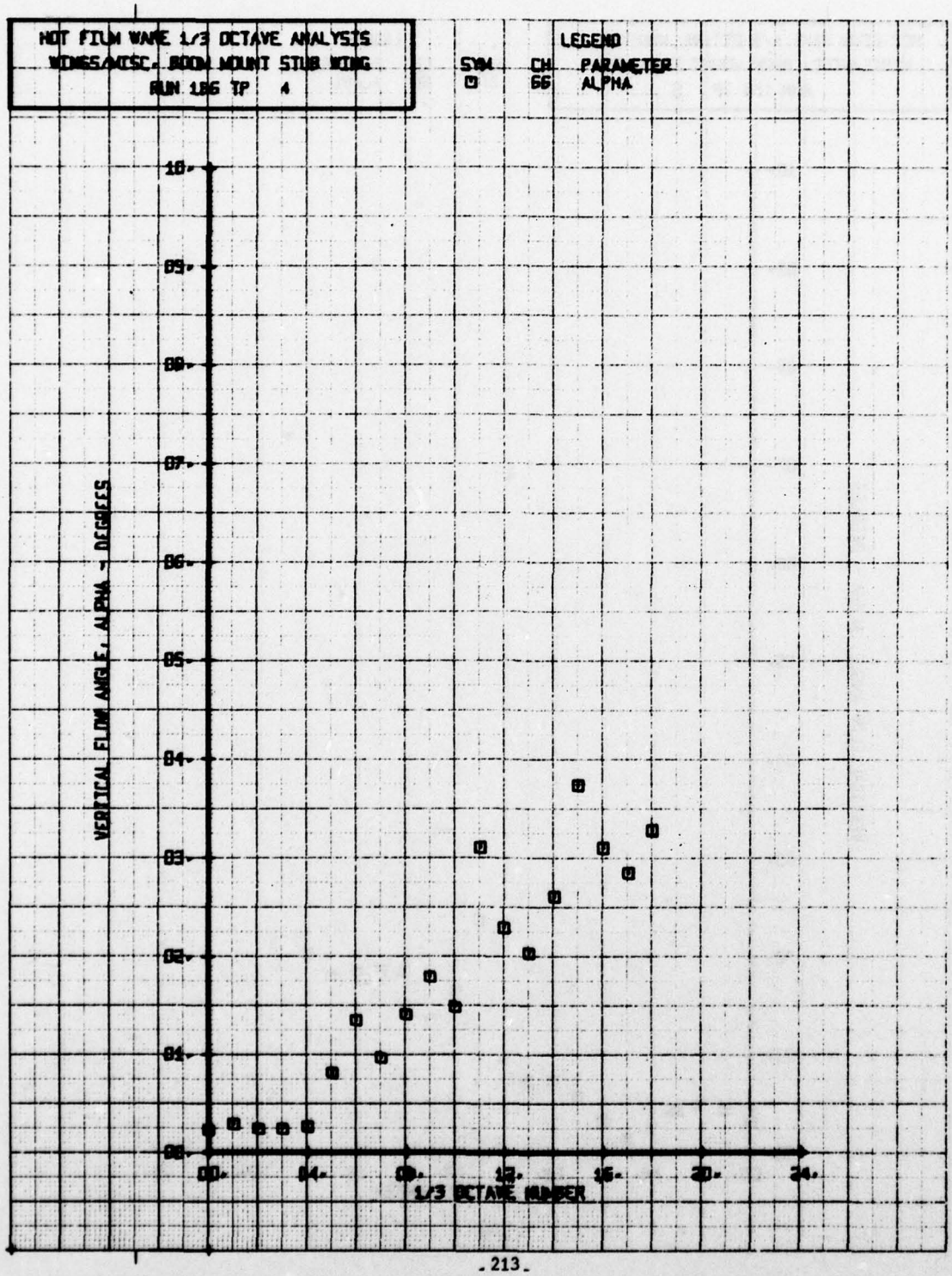
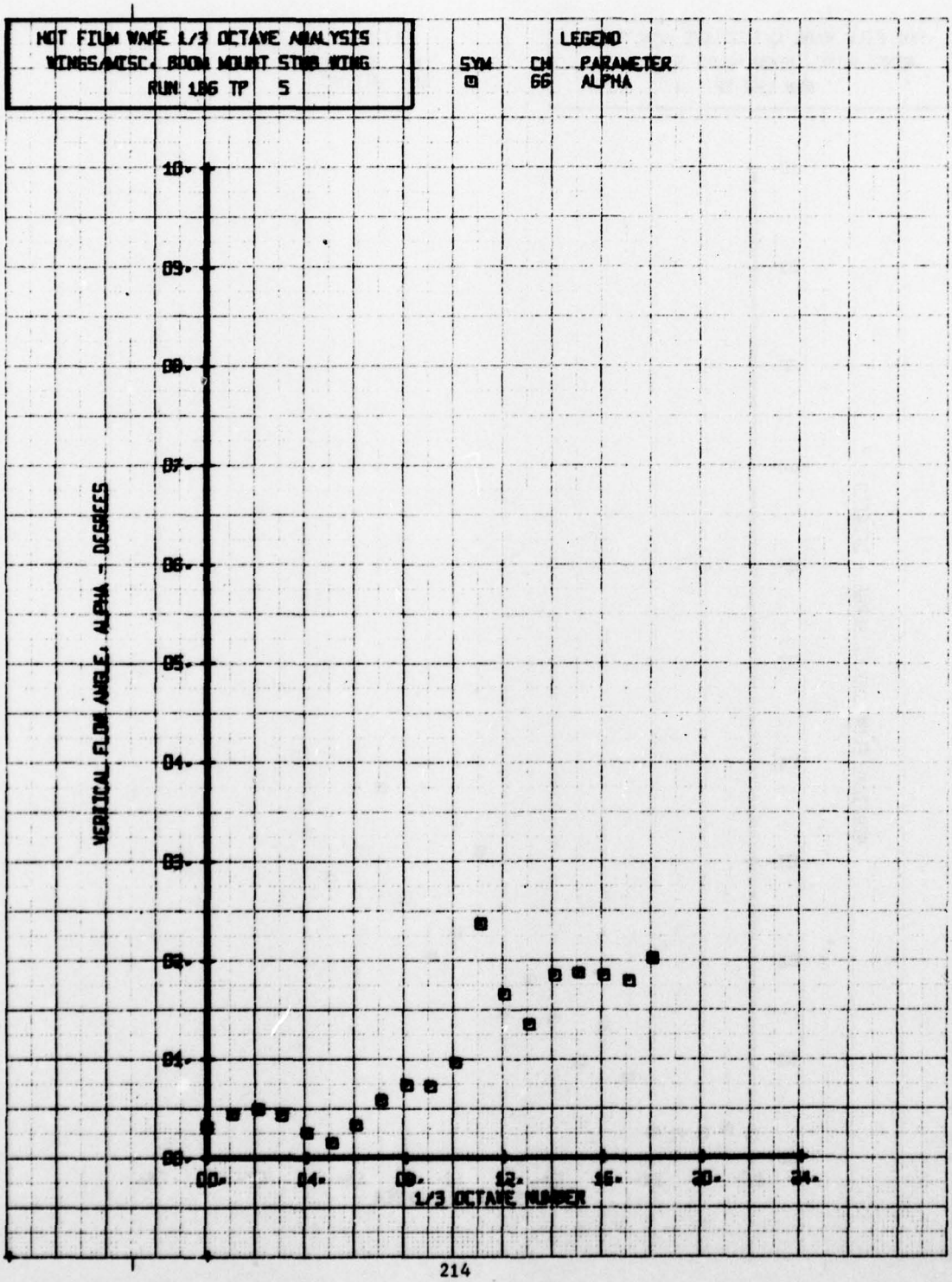
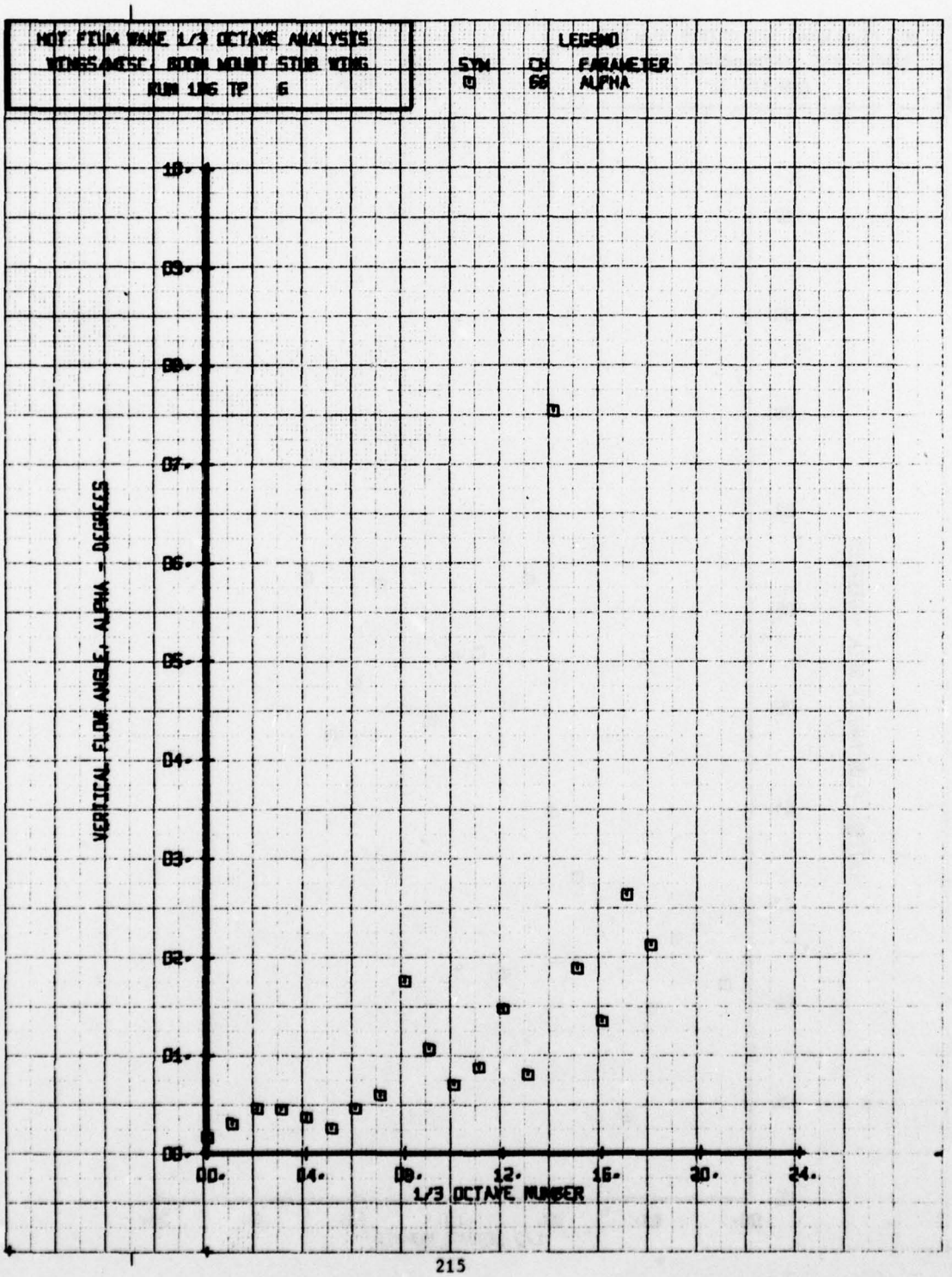
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
WINGS/MISC. BOOM MOUNT STUB WING
RUN 186 TP 4
LEGEND
SYM CH PARAMETER
66 ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
WINGS/MISC. BOOM MOUNT STUB WING
RUN 186 TP 5
LEGEND
SYM CH PARAMETER
66 ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
W1065A65C, BOOM MOUNT STUB WING
RUN 186 TP 6
LEGEND
SYM CH PARAMETER
0 66 ALPHA
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VERTICAL FLOW ANGLE, ALPHA - DEGREES
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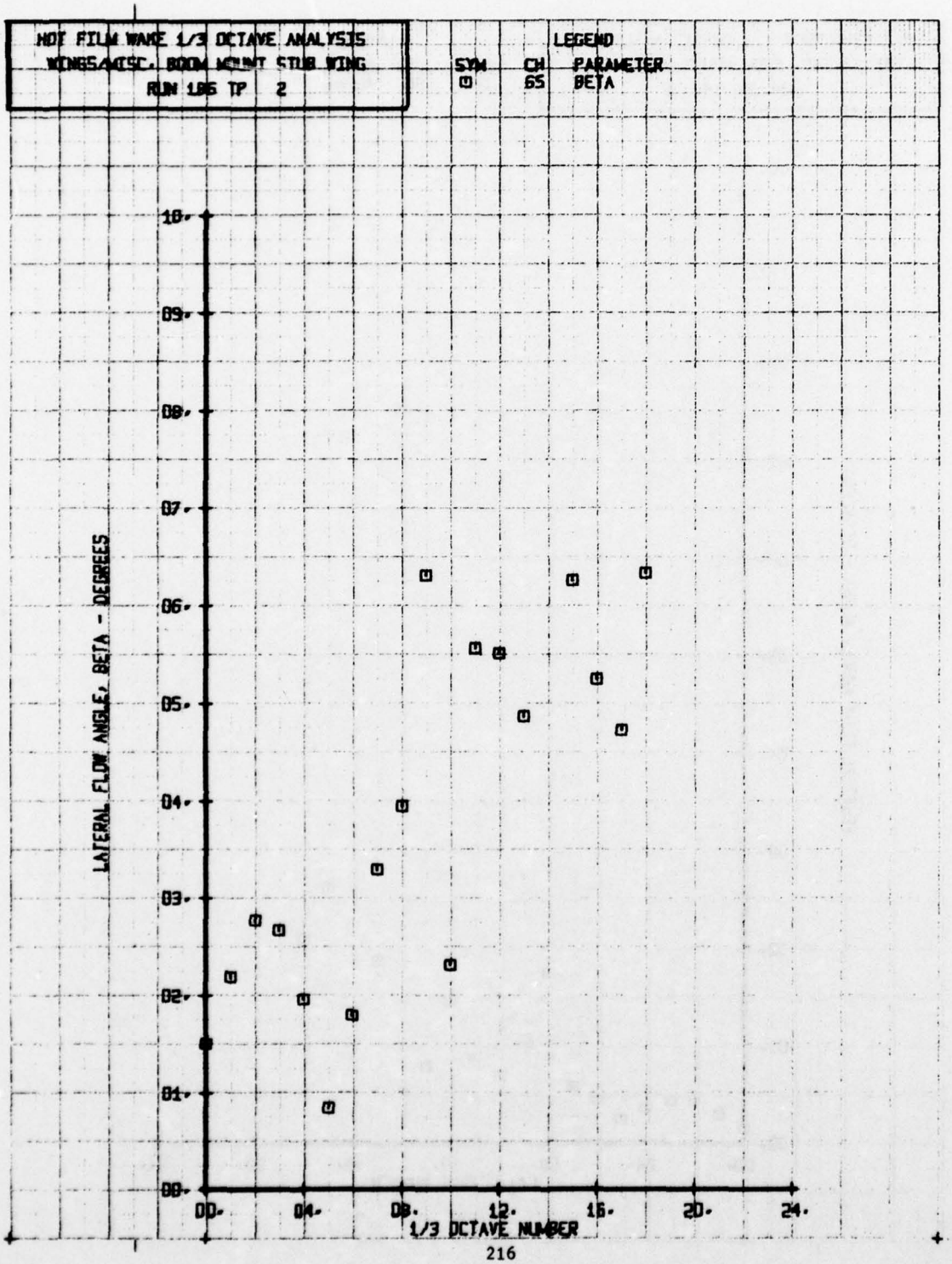
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
WINGS4CSC. BOOM MOUNT STUB WING
RUN 186 TP 2
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
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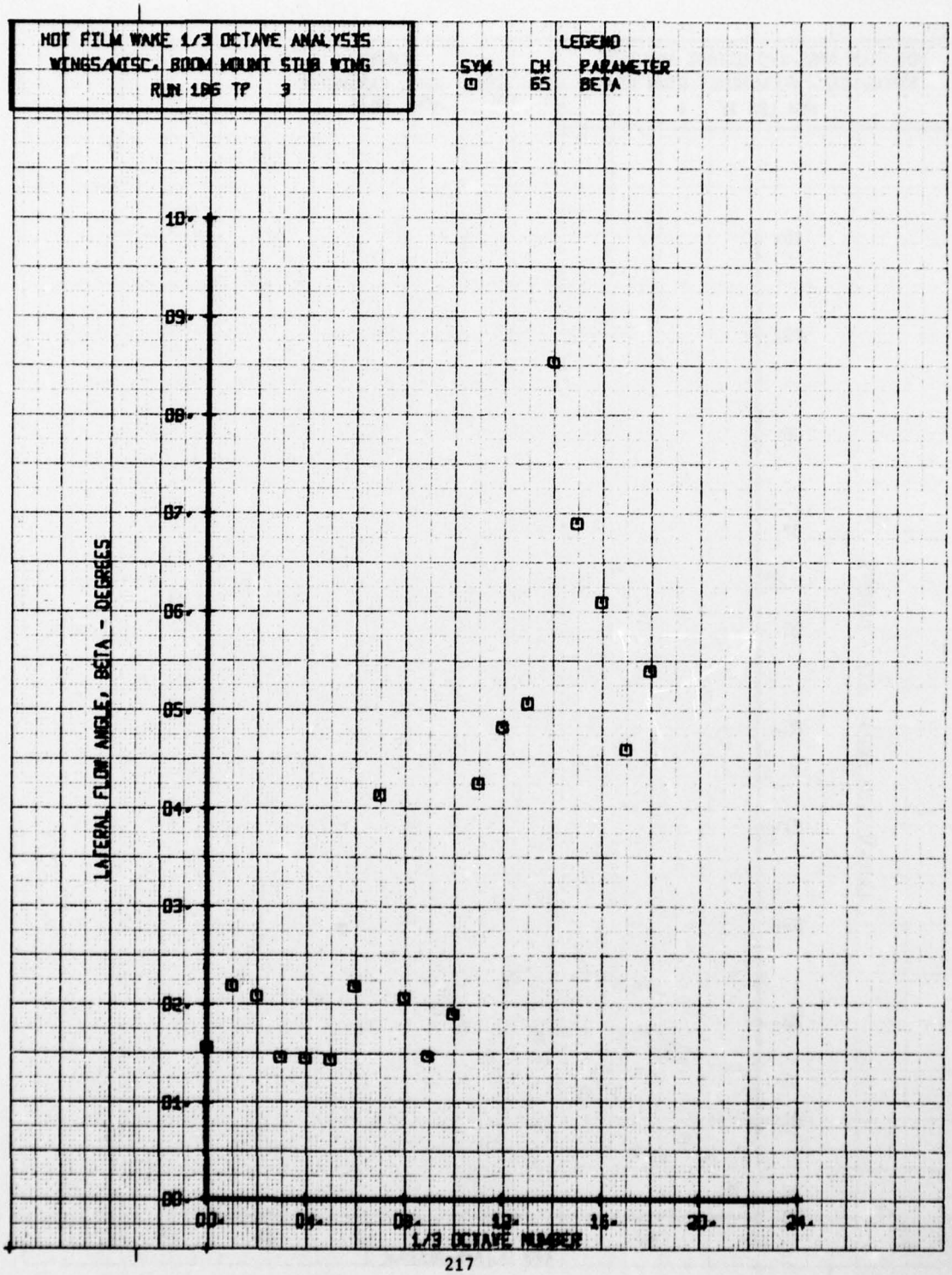
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
WINGS/MISC. BOOM MOUNT STUB WING
RUN 186 TP 3
LEGEND
SYM CH PARAMETER
65 BETA
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LATERAL FLOW ANGLE, BETA - DEGREES
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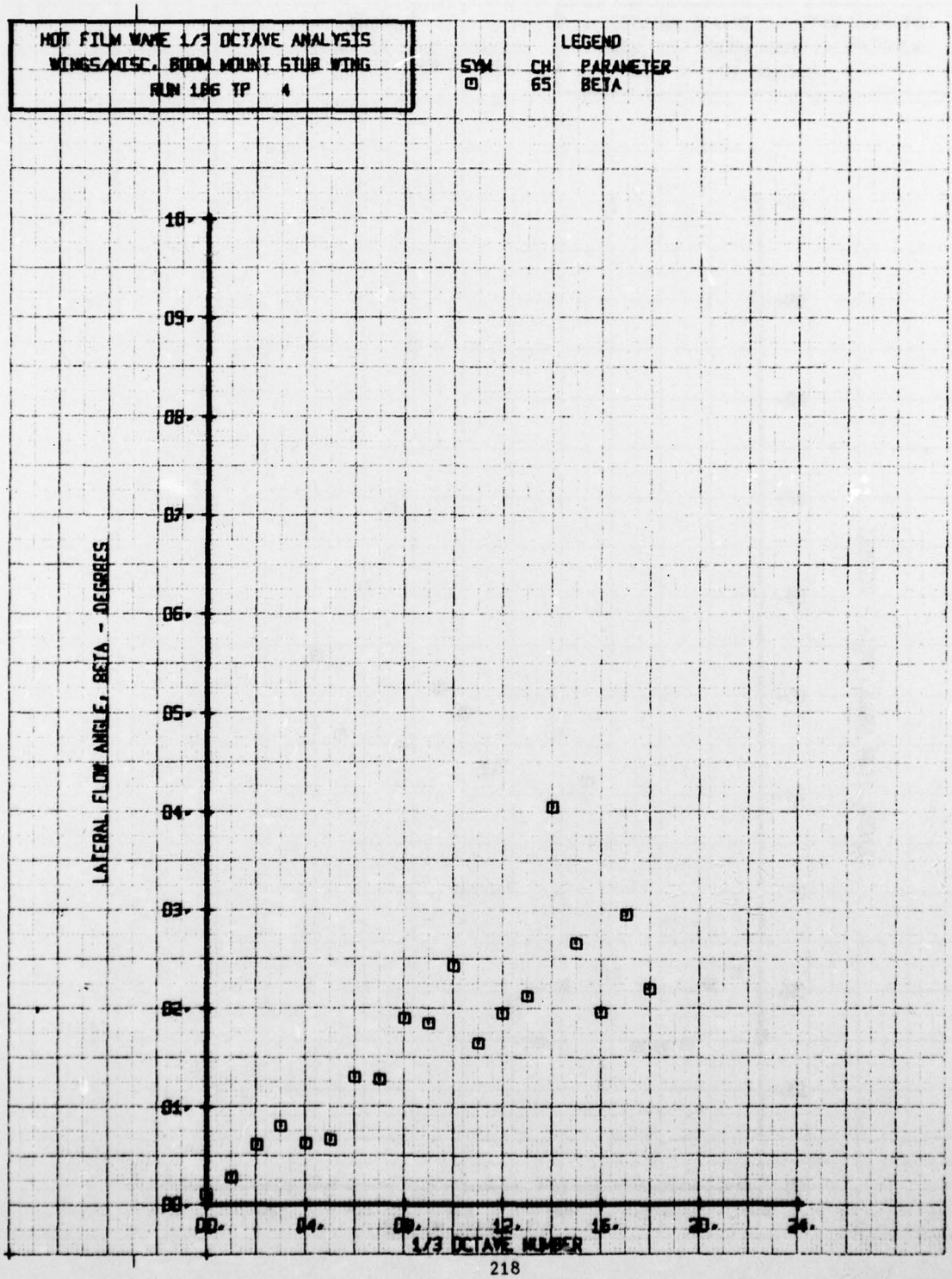
24
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
WINGS/MISC. BOOM MOUNT STUB WING
RUN 186 TP 4
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
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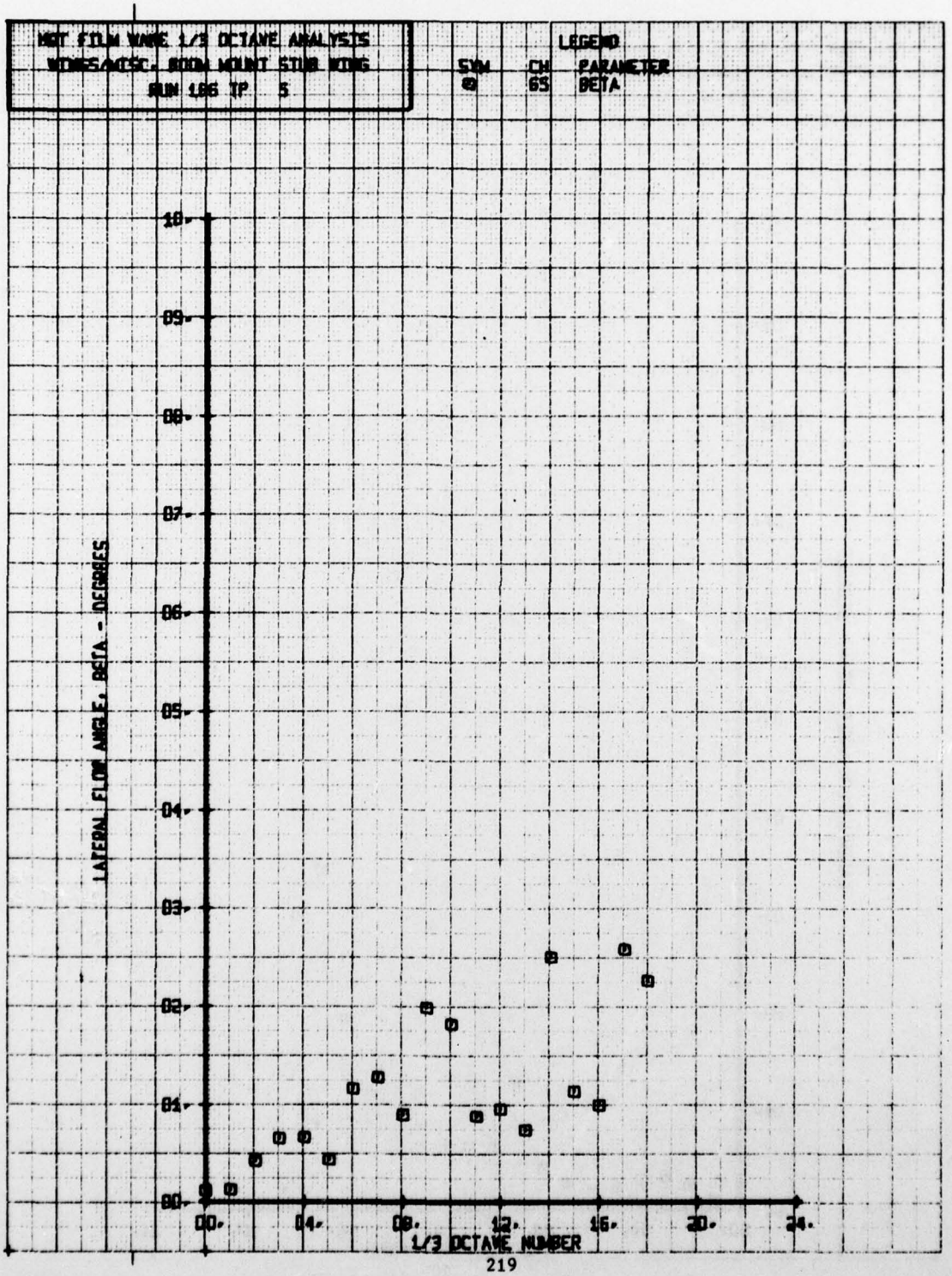
1/3 OCTAVE NUMBER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WINESA/CSC. BOOM MOUNT STUB WING
RUN 186 TP 5
LEGEND
SYM CH PARAMETER
@ 65 BETA
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LATERAL FLOW ANGLE, BETA - DEGREES
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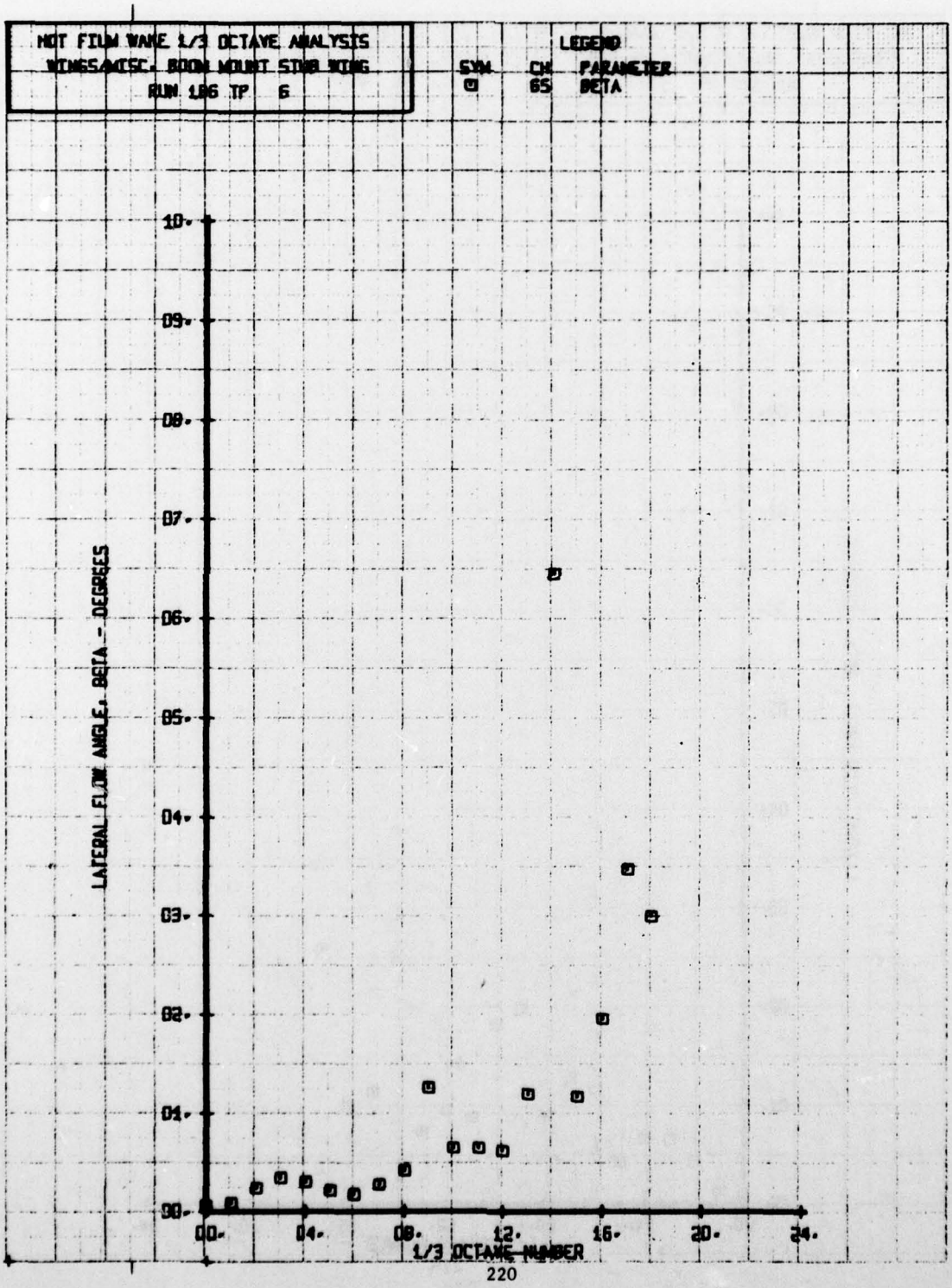
1/3 OCTAVE NUMBER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WINGS&MISC. BOOM MOUNT STUB WING
RUN 186 TP 6
LEGEND
SYM CH PARAMETER
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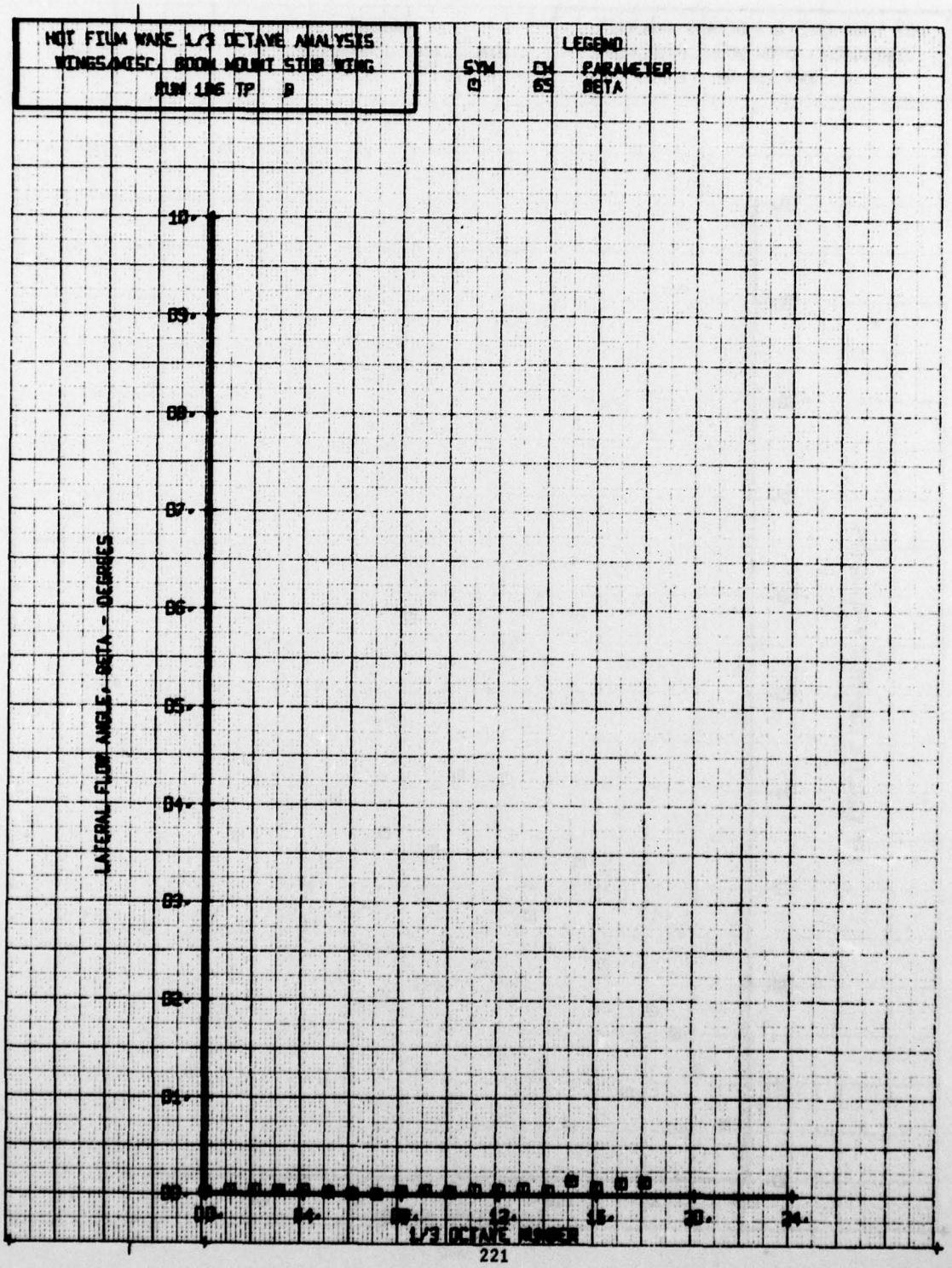
1/3 OCTAVE NUMBER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WINGS/ACISC BOOM MOUNT STUB WING
RUN 186 TP 8
LEGEND
SYM CH PARAMETER
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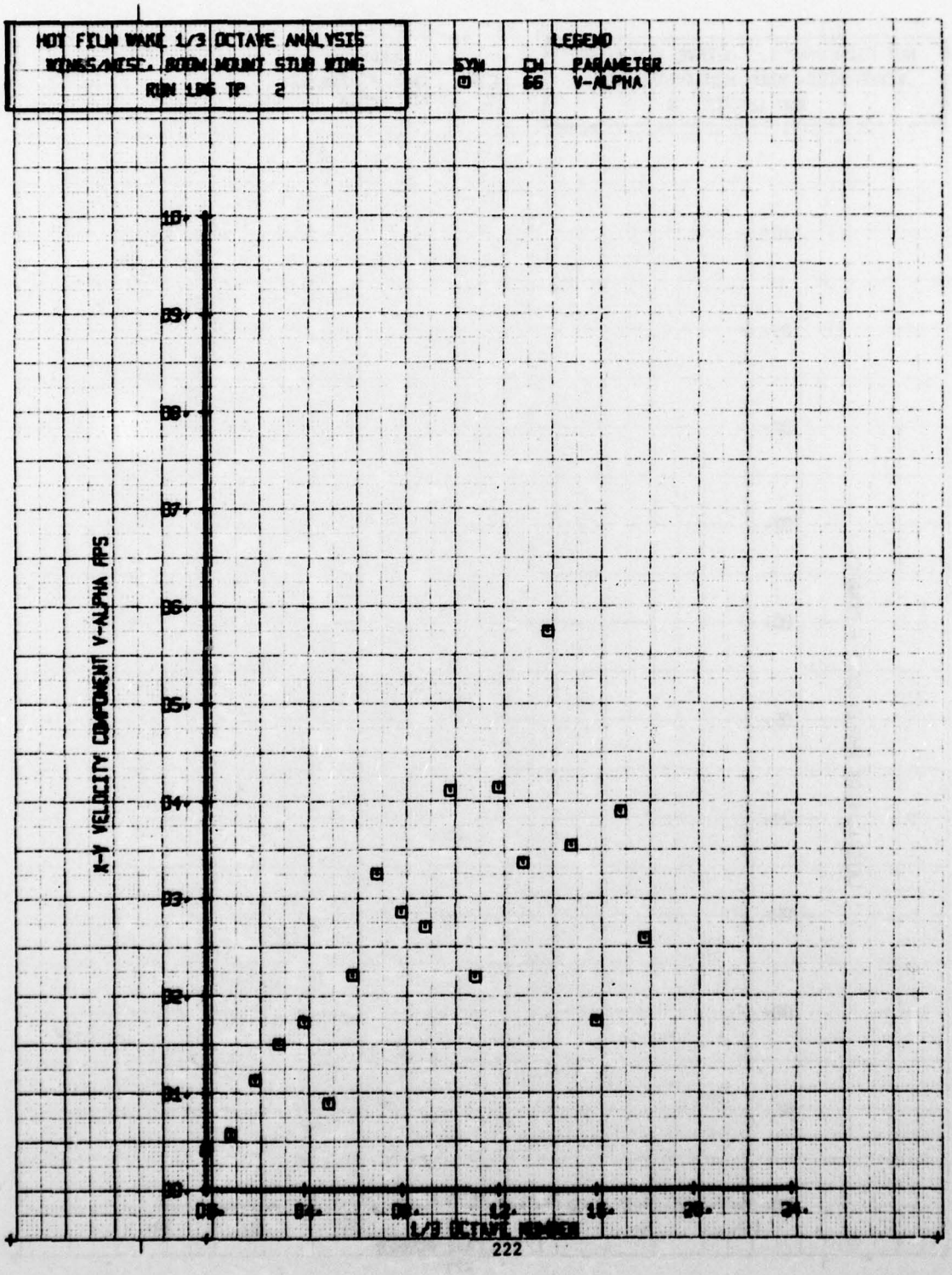
LATERAL FLOW ANGLE, BETA - DEGREES
1/3 OCTAVE NUMBER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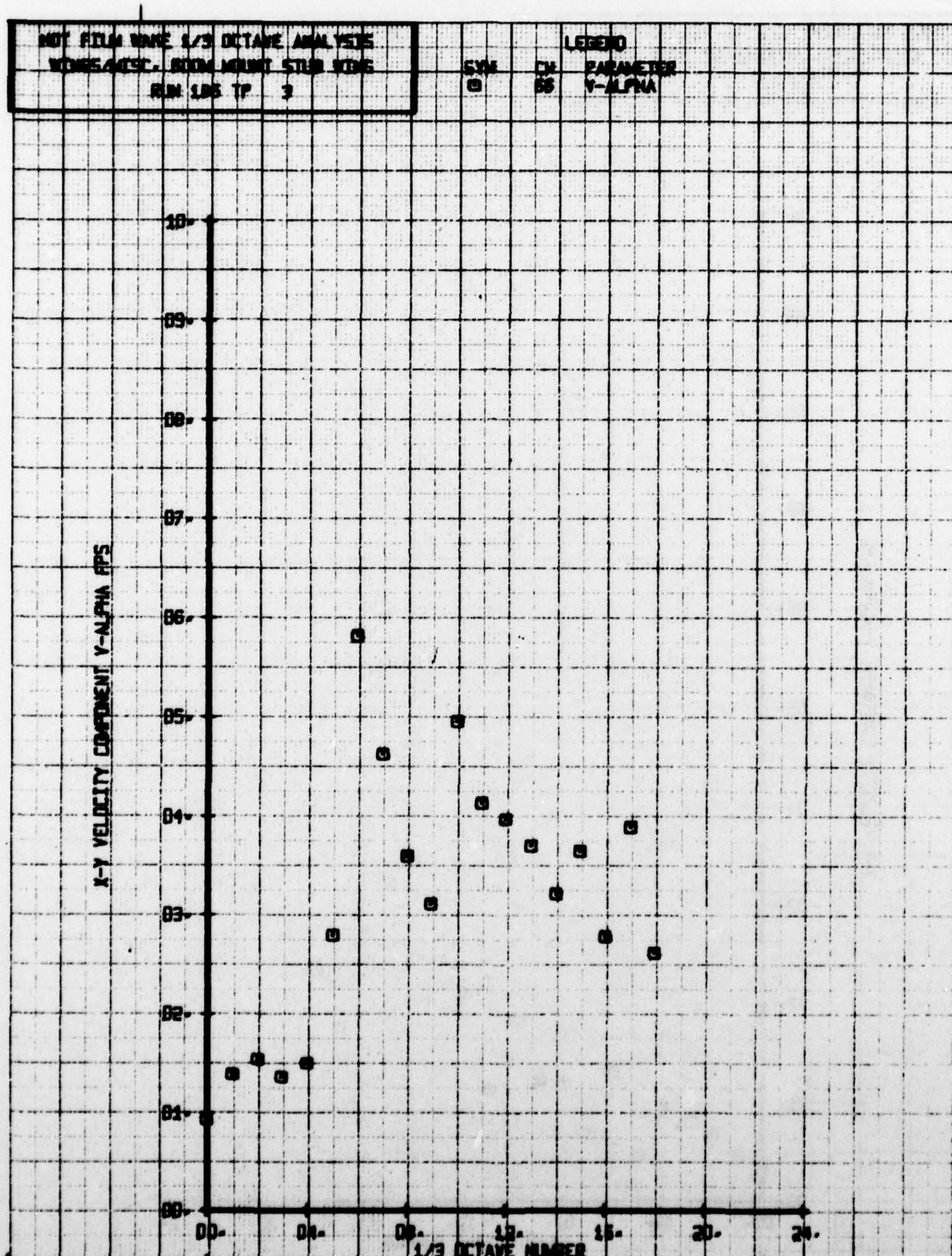
KONSAMSC. BOOM MOUNT STUB WING
RUN 186 TP 2
LEGEND
SYM CM PARAMETER
66 V-ALPHA
X-V VELOCITY COMPONENT V-ALPHA RPS
1/3 OCTAVE NUMBER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LEGEND
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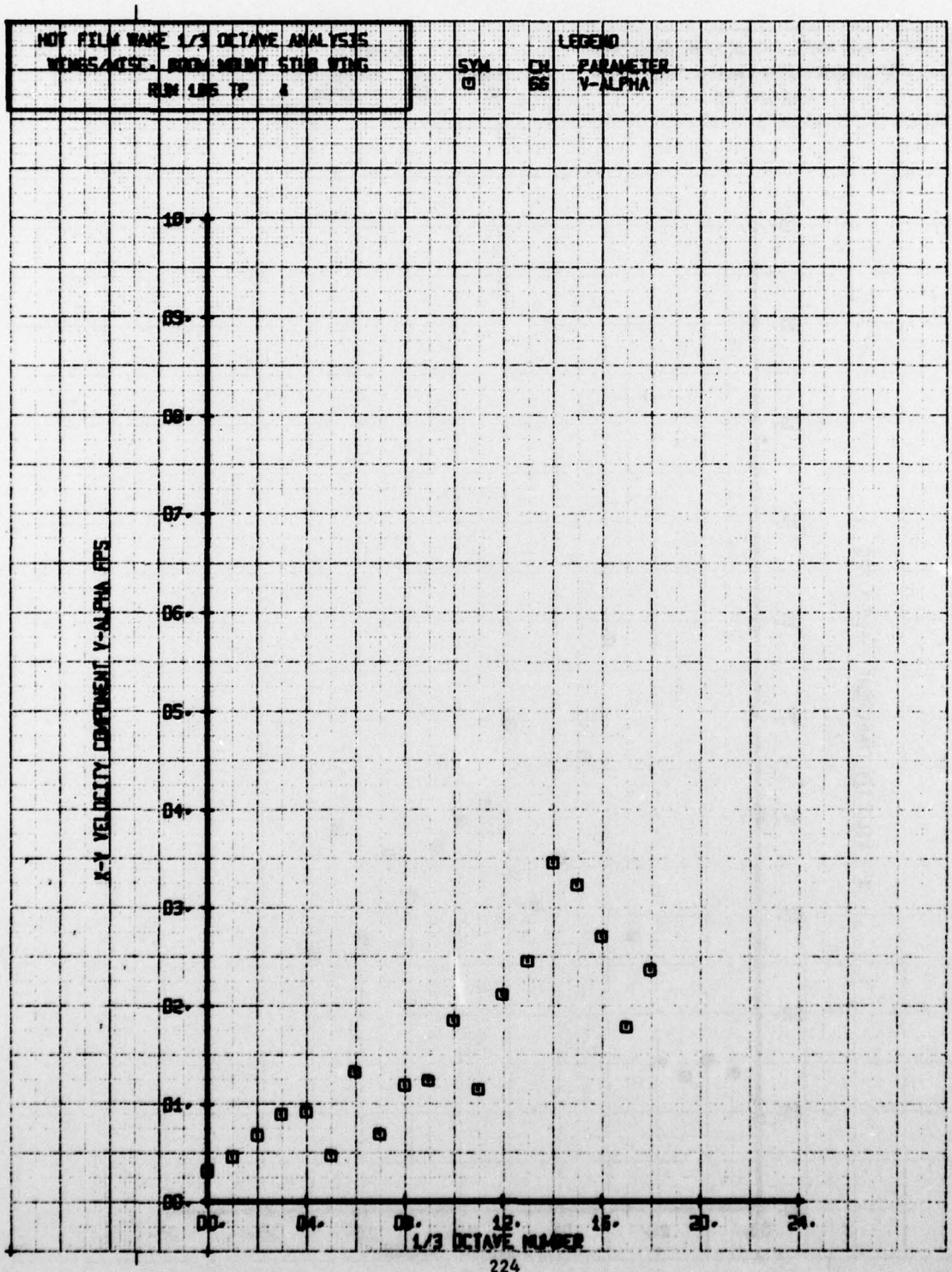
X-Y VELOCITY COMPONENT V-ALPHA FPS
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
WINGS/MISC. BOOM MOUNT STUB WING
RUN 186 TP 4
LEGEND
SYM CH PARAMETER
□ 66 V-ALPHA
X-V VELOCITY COMPONENT V-ALPHA FPS
1/3 OCTAVE NUMBER
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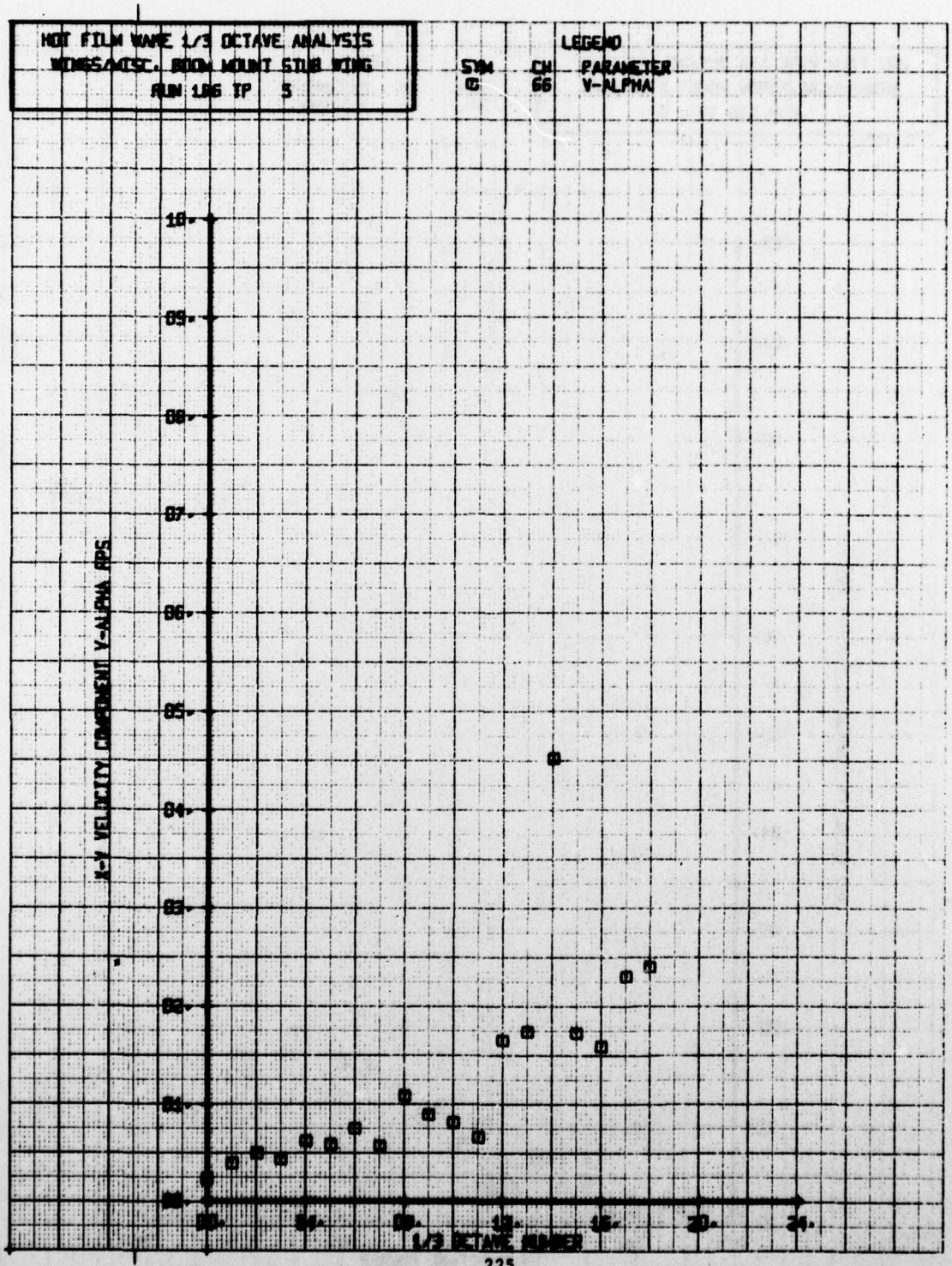
HOT FILM WAKE 1/3 OCTAVE ANALYSIS
WINGS/MISC. BOOM MOUNT SIDE WING
RUN 186 TP 5
LEGEND
SYM CH PARAMETER
G 66 V-ALPHA
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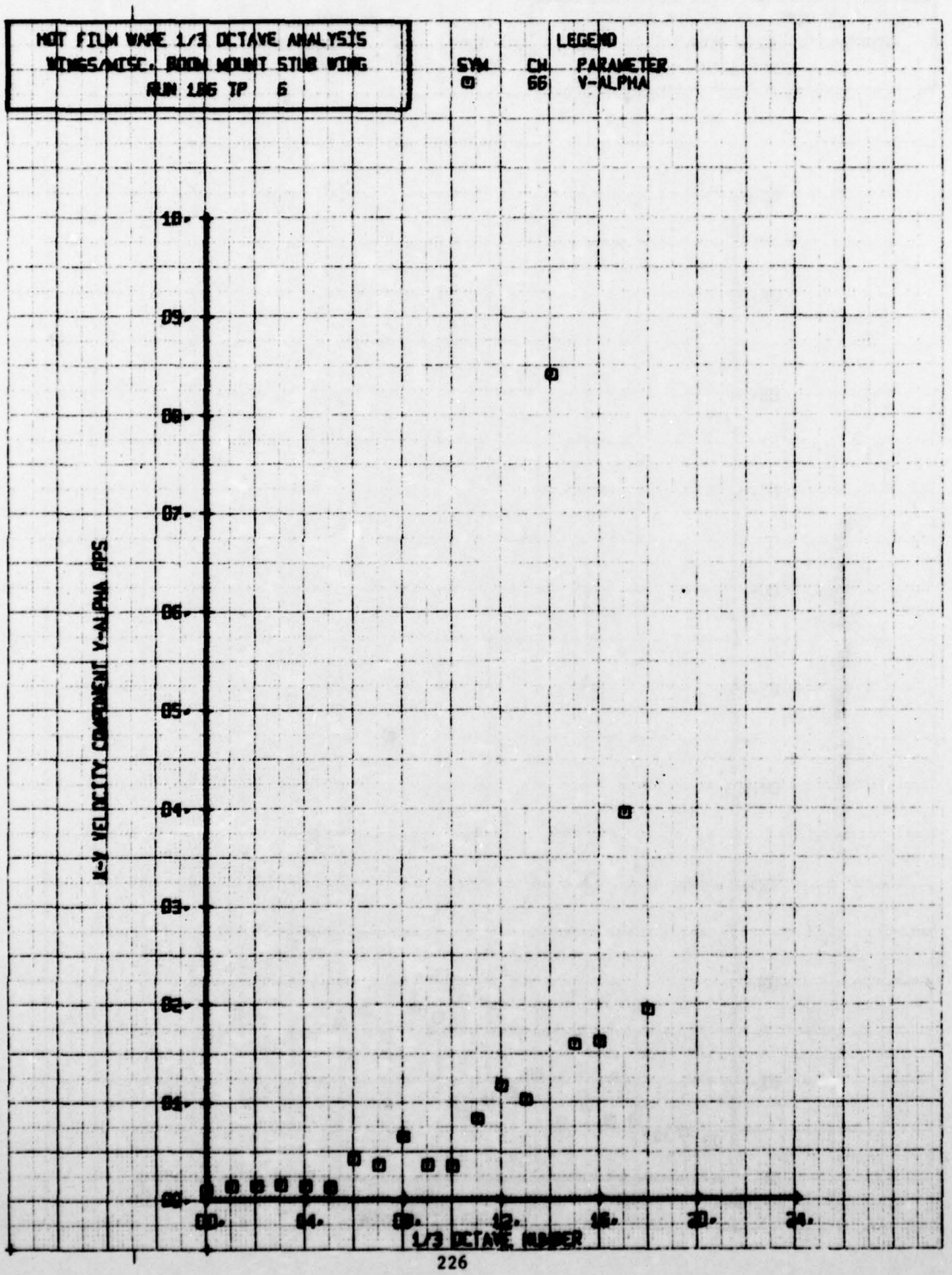
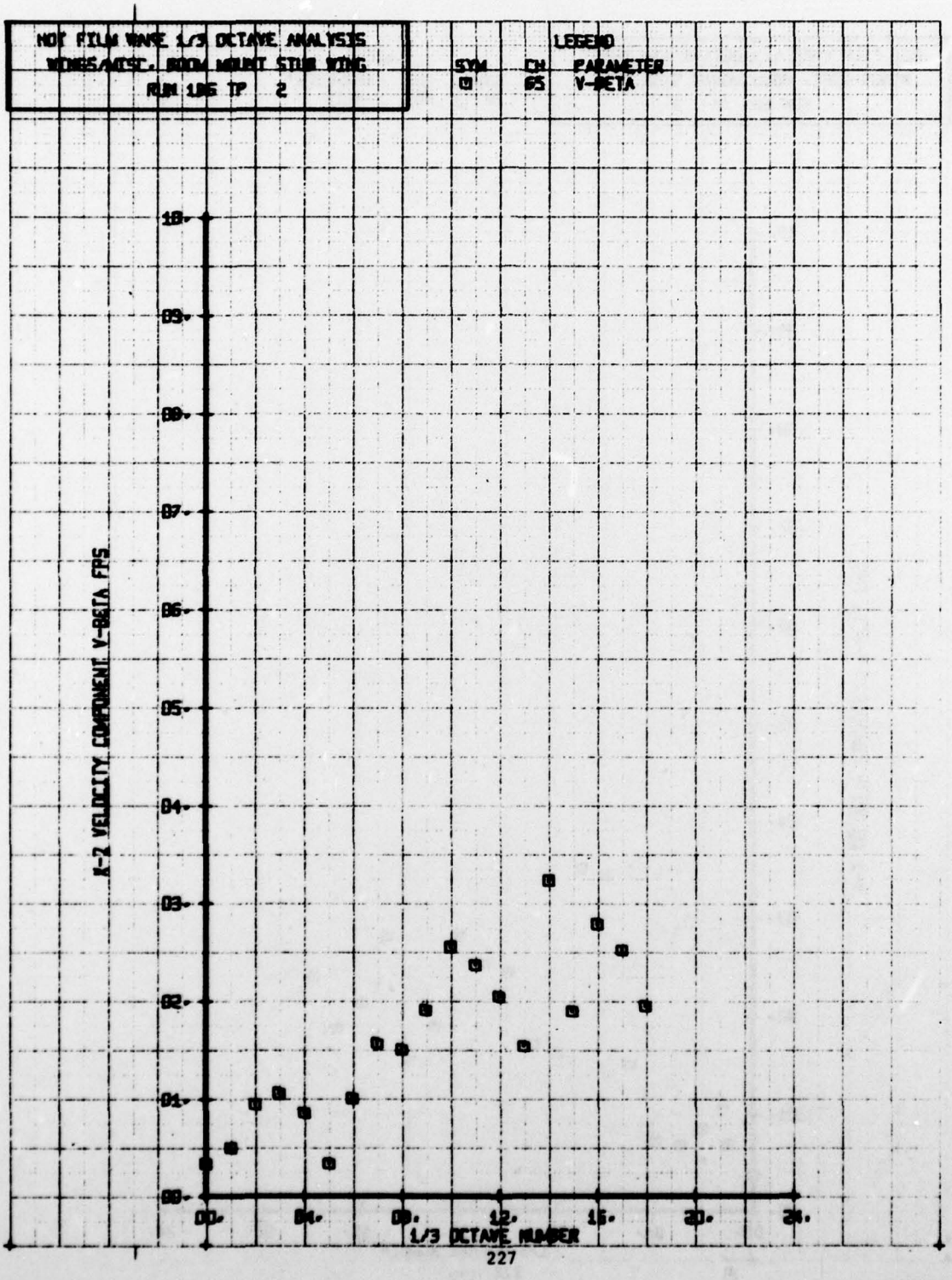
V-V VELOCITY COMPONENT V-ALPHA RMS
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
WINGS/MISC. BOOM MOUNT STUB WING
RUN 186 TP 6
LEGEND
SYM CH PARAMETER
66 V-ALPHA
X-V VELOCITY COMPONENT V-ALPHA RPS
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
WINGS/MISC. BOOM MOUNT STUB WING
RUN 186 TP 2
LEGEND
SYM CH PARAMETER
65 V-BETA
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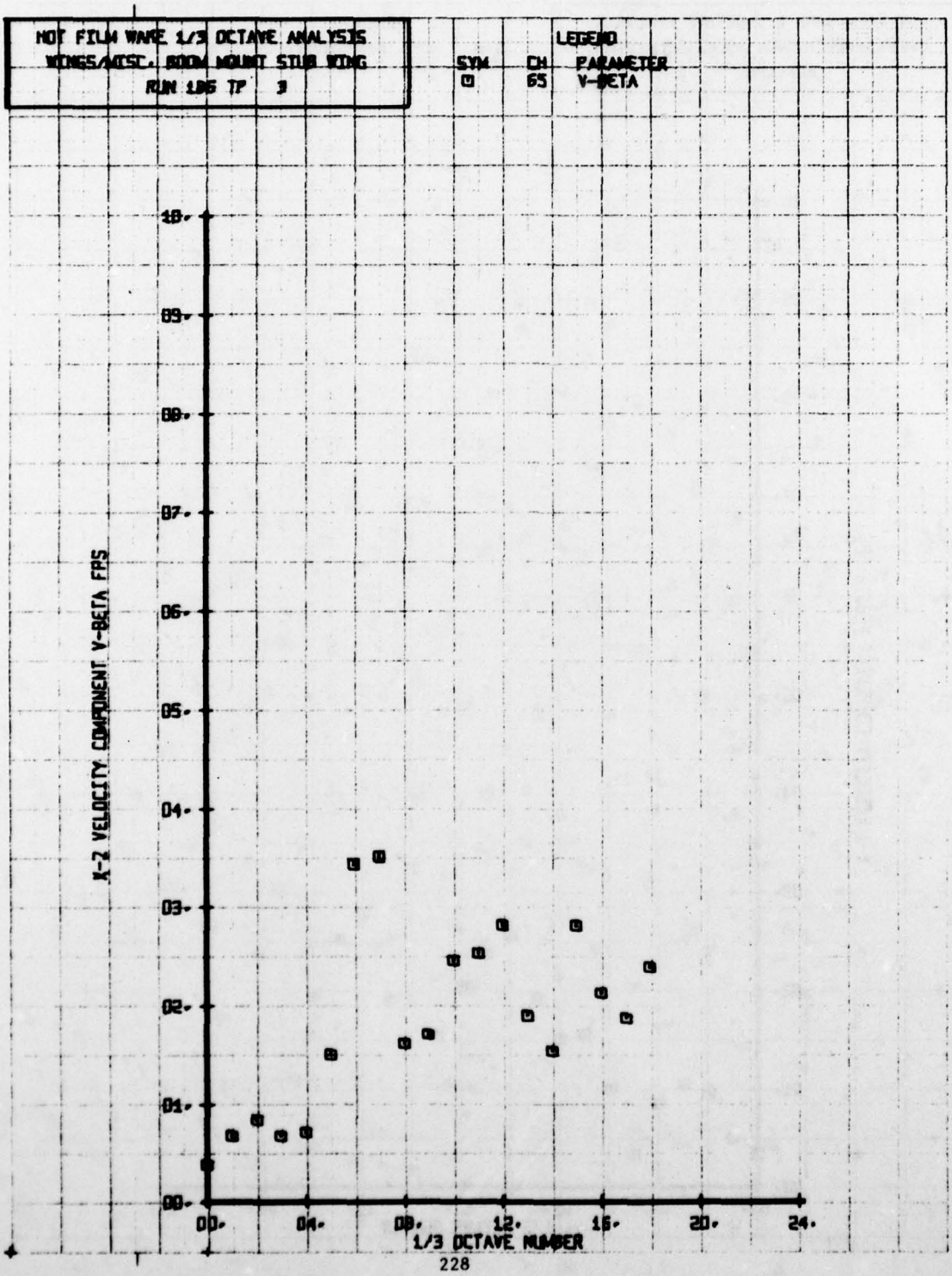
1/3 OCTAVE NUMBER
X-2 VELOCITY COMPONENT V-BETA FPS


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
WINGS/MISC. BOOM MOUNT STUB WING
RUN 186 TP 3
LEGEND
SYM CH PARAMETER
65 V-BETA
X-2 VELOCITY COMPONENT V-BETA FRS
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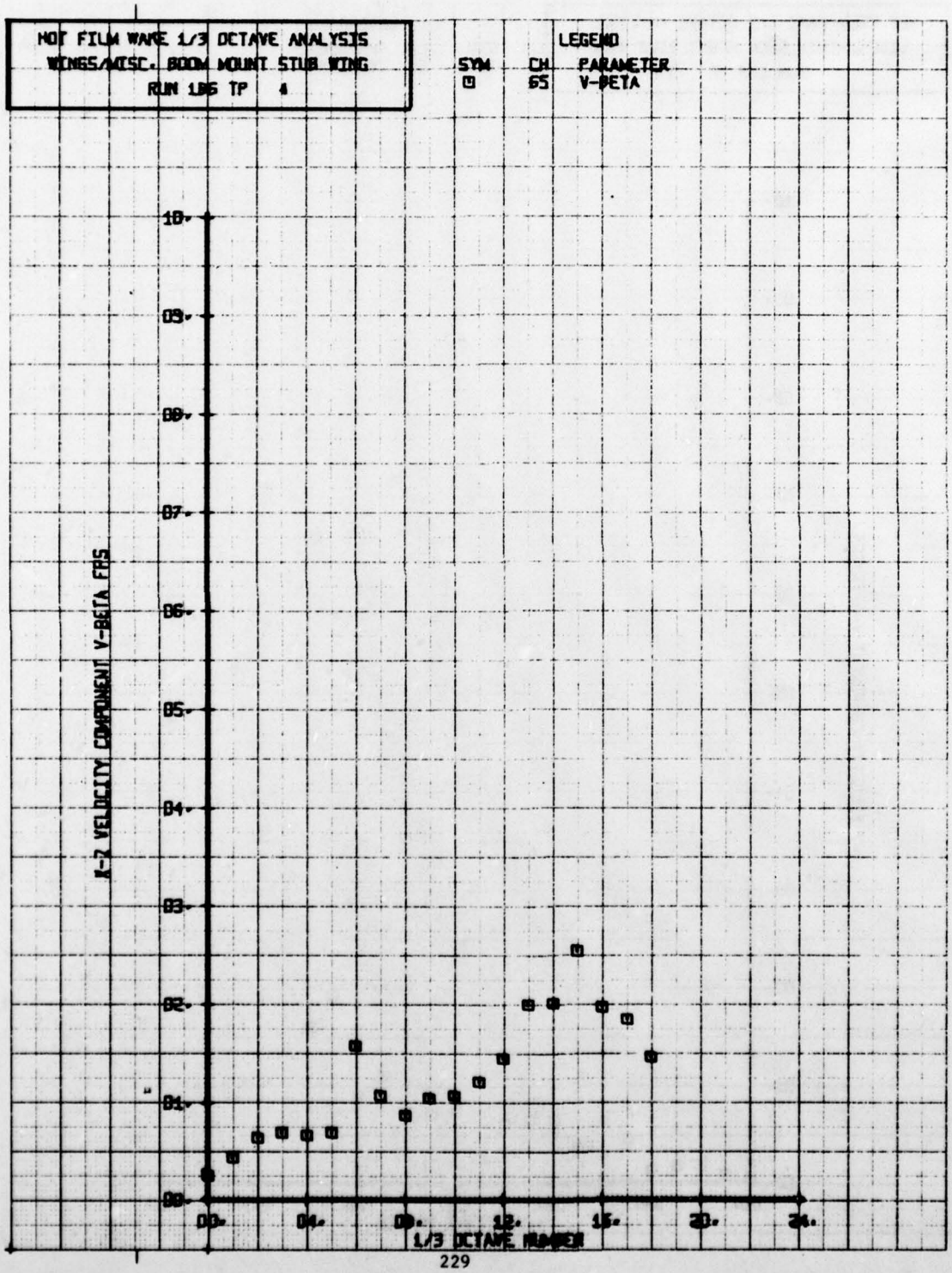
HOT FILM WAKE 1/3 OCTAVE ANALYSIS
WINGS/MISC. BOOM MOUNT STUB WING
RUN 186 TP 4
LEGEND
SYM CH PARAMETER
65 V-BETA
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X-Z VELOCITY COMPONENT V-BETA FRS
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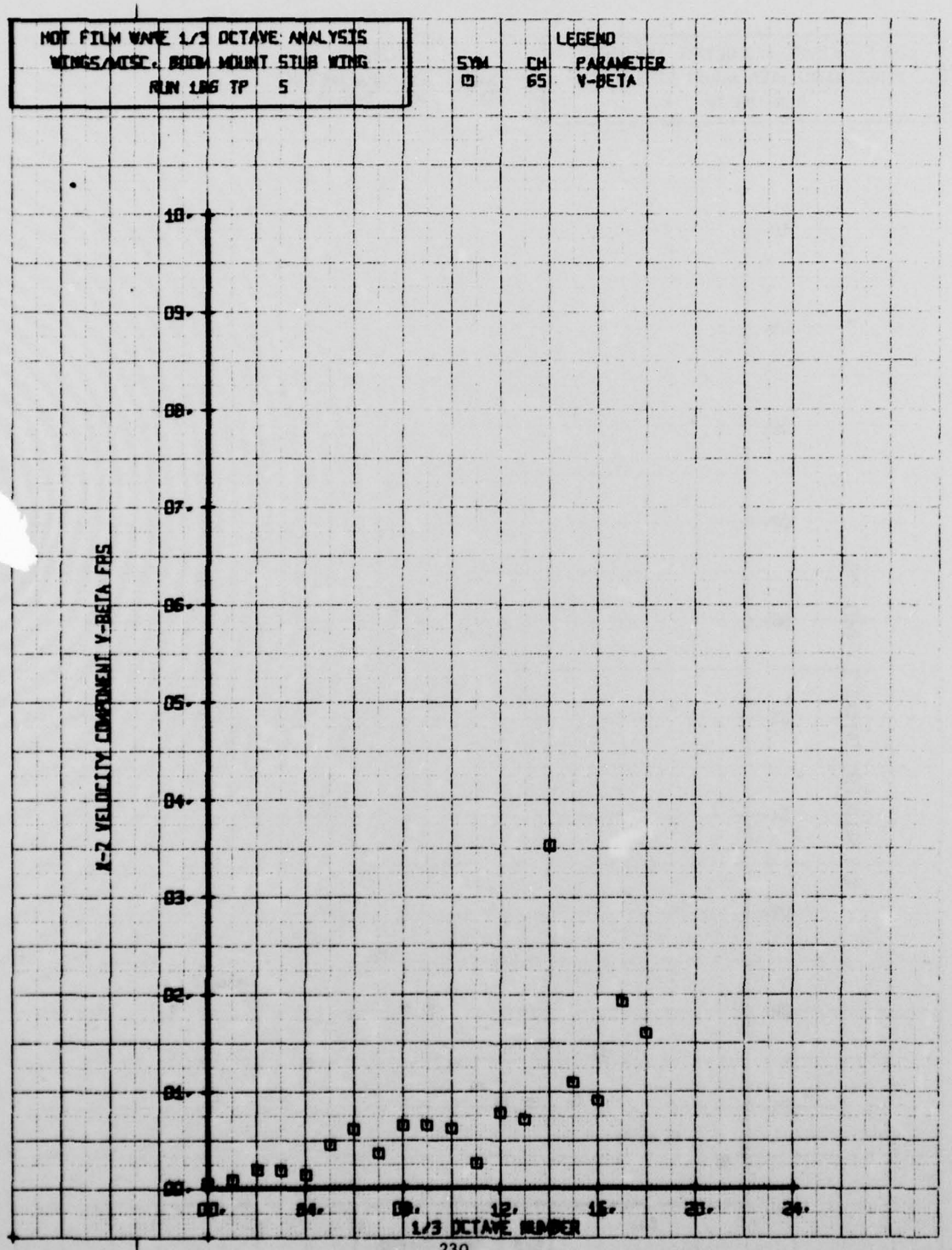
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
WINGS/MISC. BOOM MOUNT STUB WING
RUN 186 TP 5
LEGEND
SYM CH PARAMETER
65 V-BETA
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U-Z VELOCITY COMPONENT V-BETA FPS
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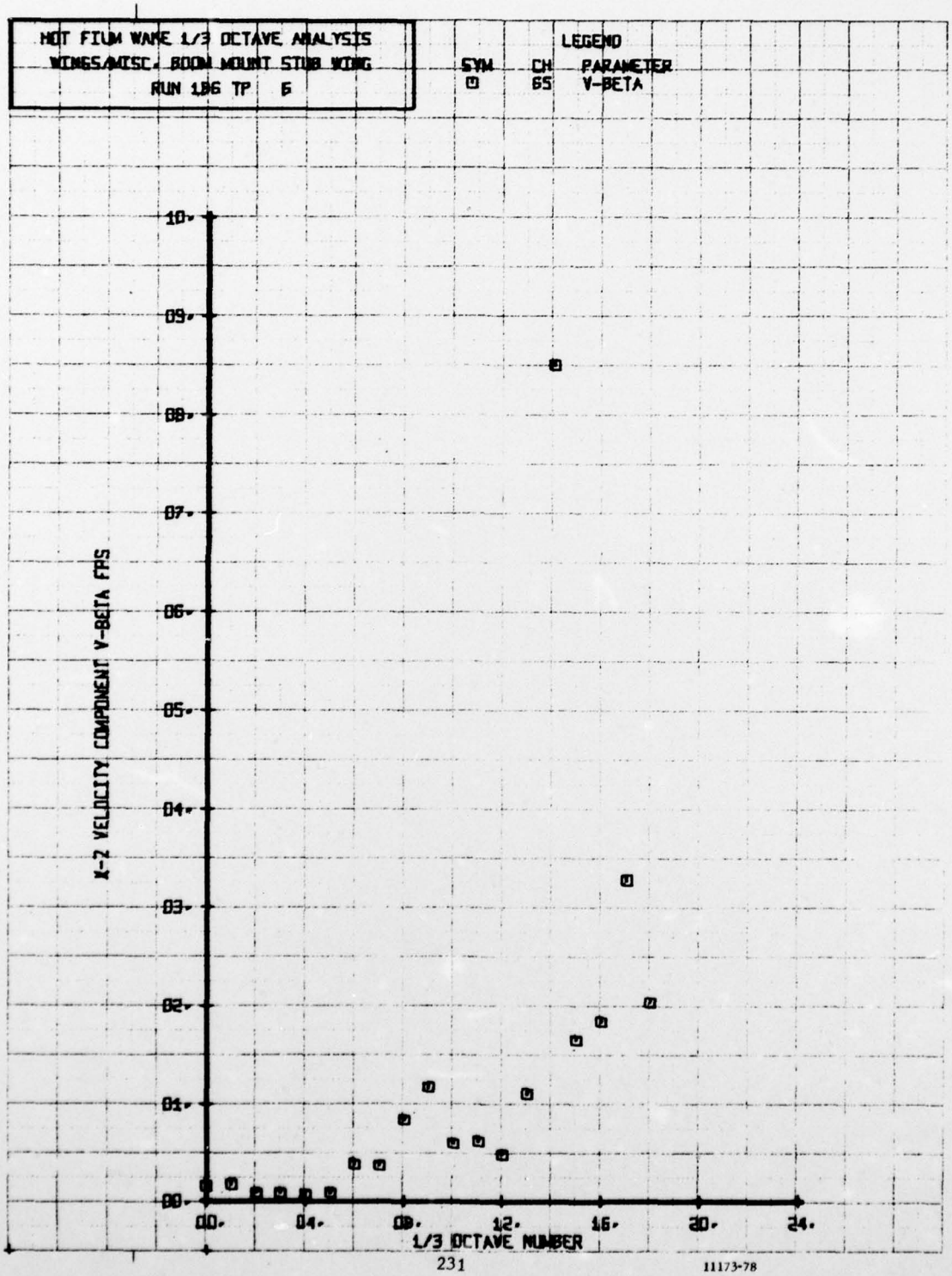
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
WINGS/MISC. BOOM MOUNT STUB WING
RUN 196 TP 6
LEGEND
SYM CH PARAMETER
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X-2 VELOCITY COMPONENT V-BETA FPS
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