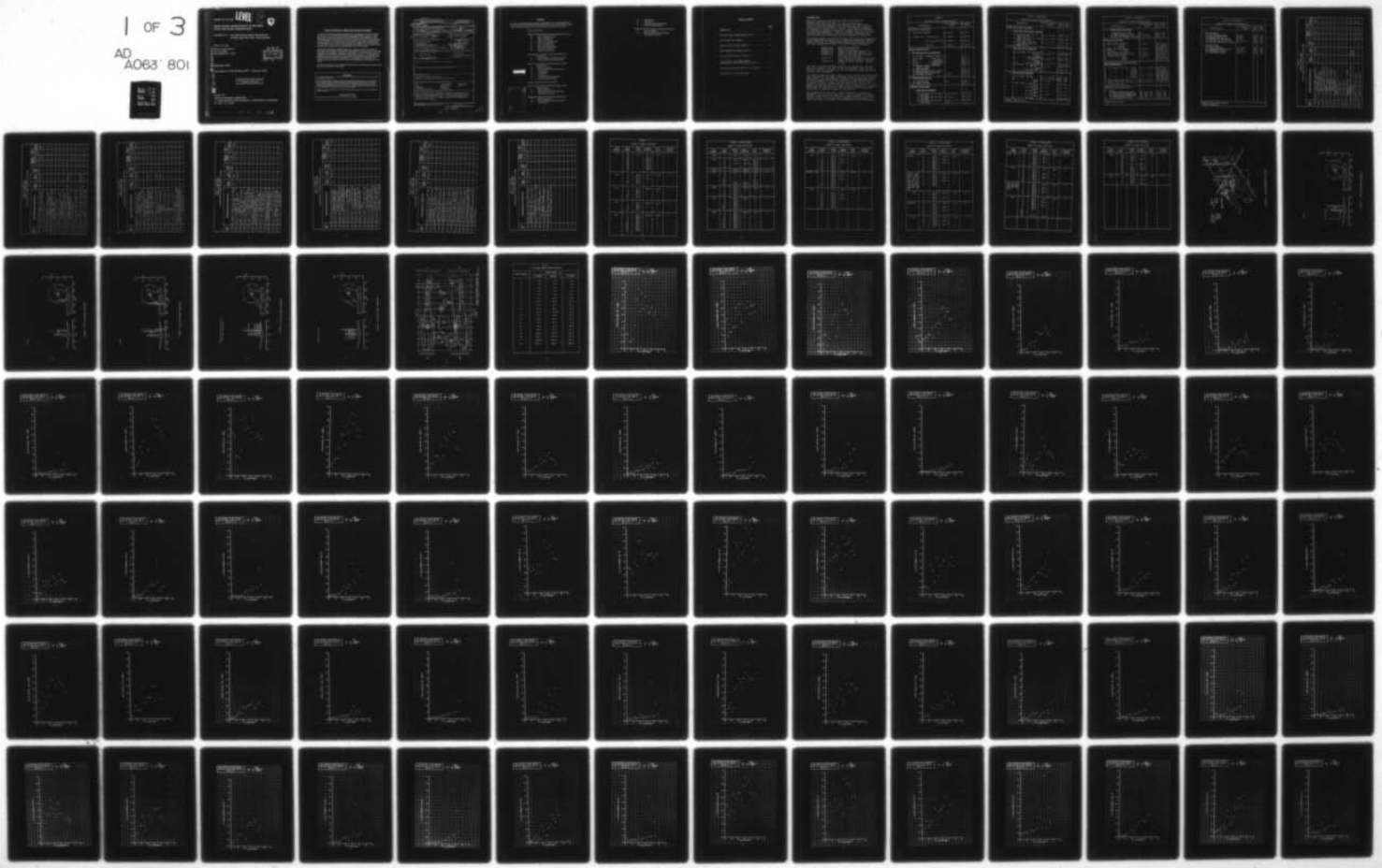
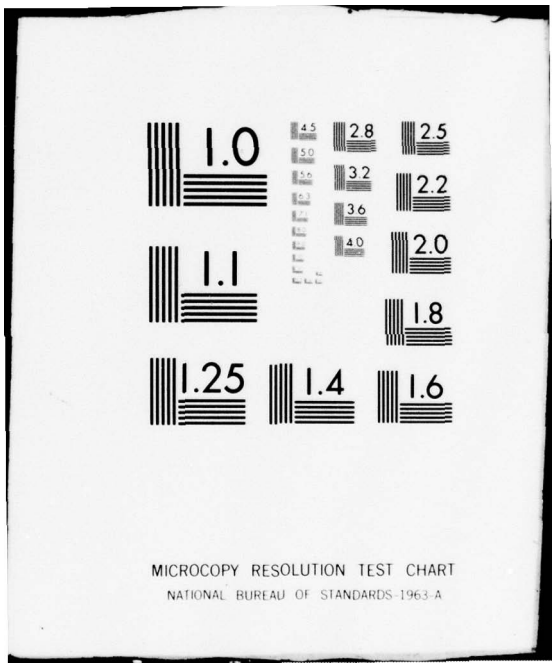
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LEVEL II

INTERACTIONAL AERODYNAMICS OF THE SINGLE ROTOR HELICOPTER CONFIGURATION

VOLUME IV-C - One-Third Octave Band Spectrograms of Wake Split-Film Data, Solid Hubcaps

4D - A063 214

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September 1978

Final Report for Period March 1977 - February 1978

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Prepared for

APPLIED TECHNOLOGY LABORATORY
U. S. ARMY RESEARCH AND TECHNOLOGY LABORATORIES (AVRADCOM)
Fort Eustis, Va. 23604

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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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Volume IV of an eight volume report
Volume IV is comprised of seven sub-volumes (A thru G)

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

Wake	Flow Environment	Powered Model
Flow	Configuration	Hub Cap
Interaction	Empennage	
Aerodynamic Interaction	Flow Modifier	

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

This is the third of 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 solid hub caps. Here the cap underside is flat and does not share the upperside camber.

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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

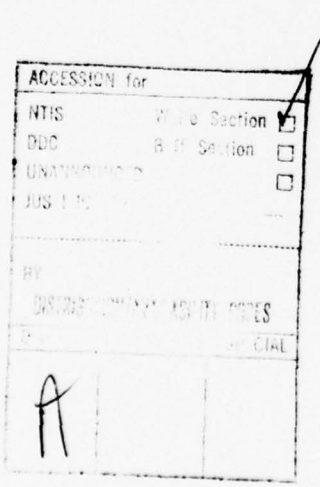
Volume IV, One-Third Octave Band Spectrograms of Wake Split-Film Data
- A – Buildup to Baseline
- B – Basic Configuration Wake Explorations
- C – Solid Hubcaps
- D – Open Hubcaps
- E – Air Ejectors
- F – Air Ejectors With Hubcaps; Wings
- G – Fairings and Surface Devices

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	$H_{1.0}+E_{3.5.2}$	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
					$\alpha°$	$\psi°$	/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
					α°	ψ°	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	"	

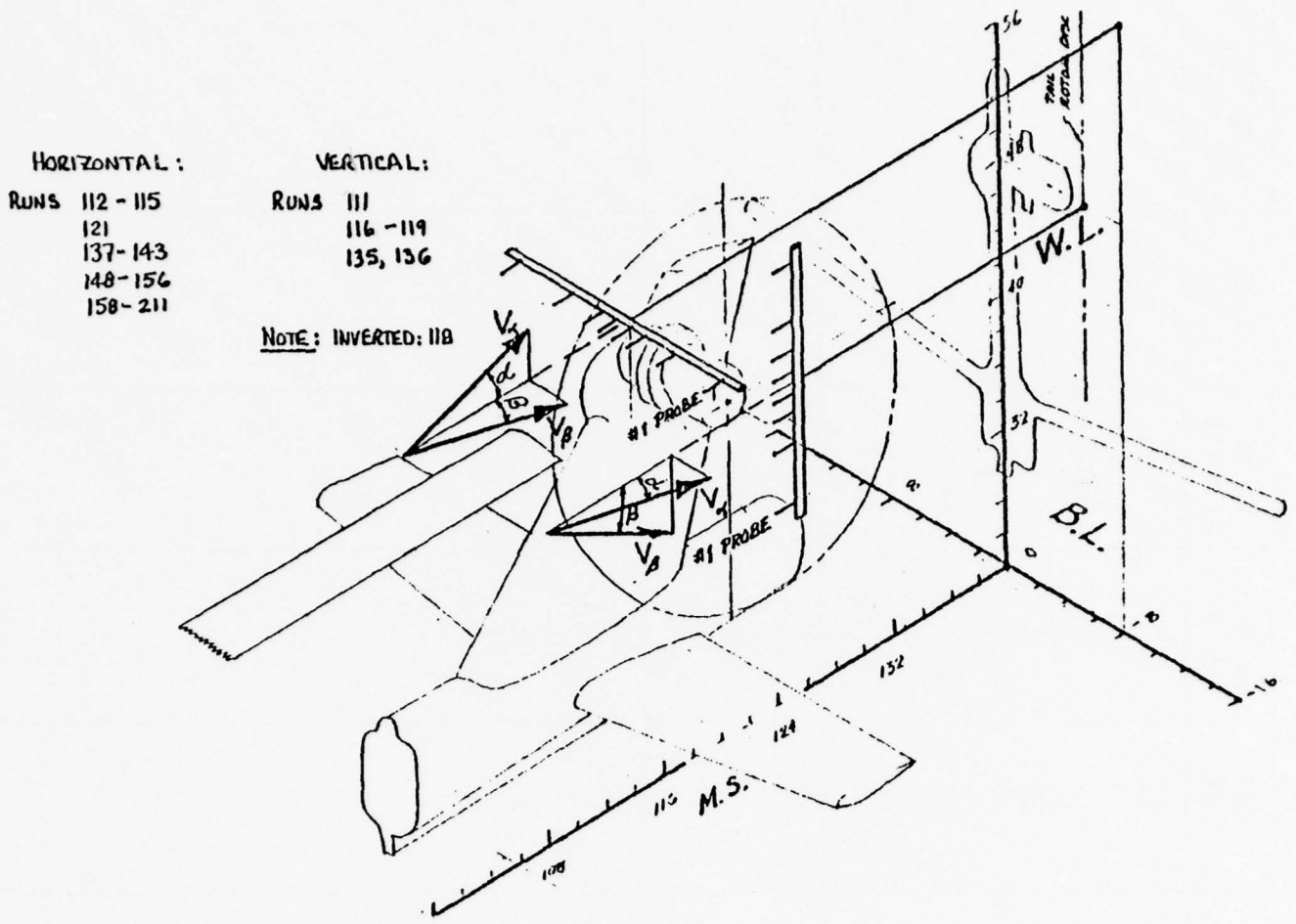


FIGURE 1 - RAKE ORIENTATION DIAGRAM

RUN 121

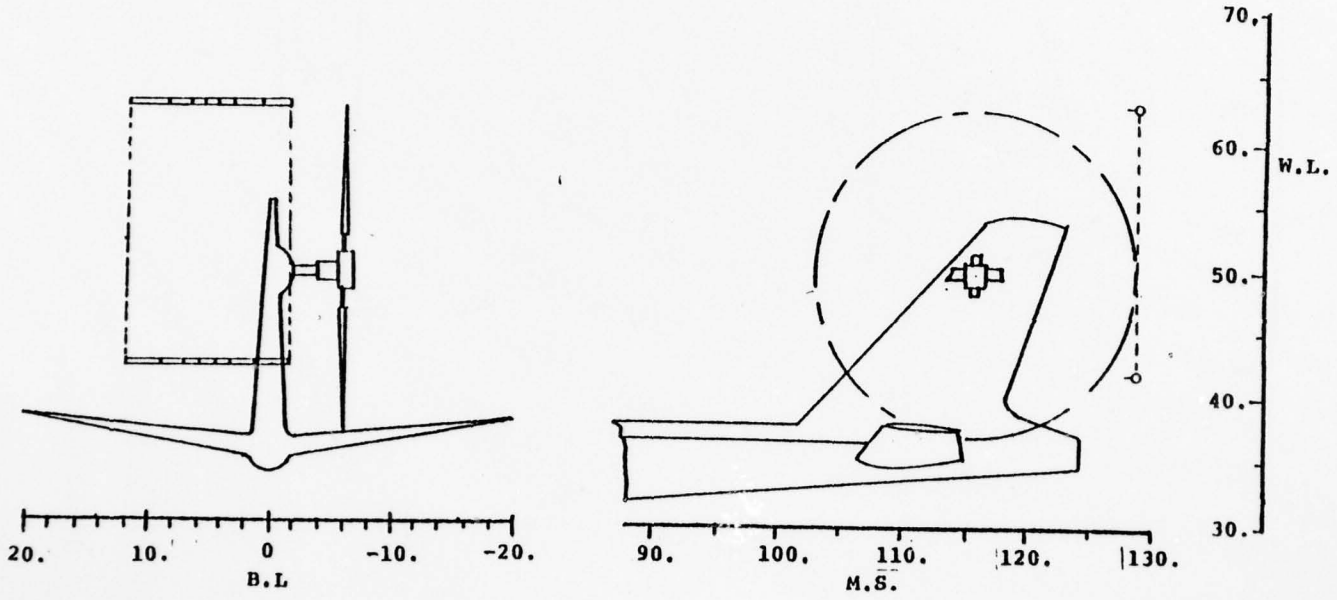


FIGURE 2 -HOT FILM RAKE LOCATIONS

RUN 135

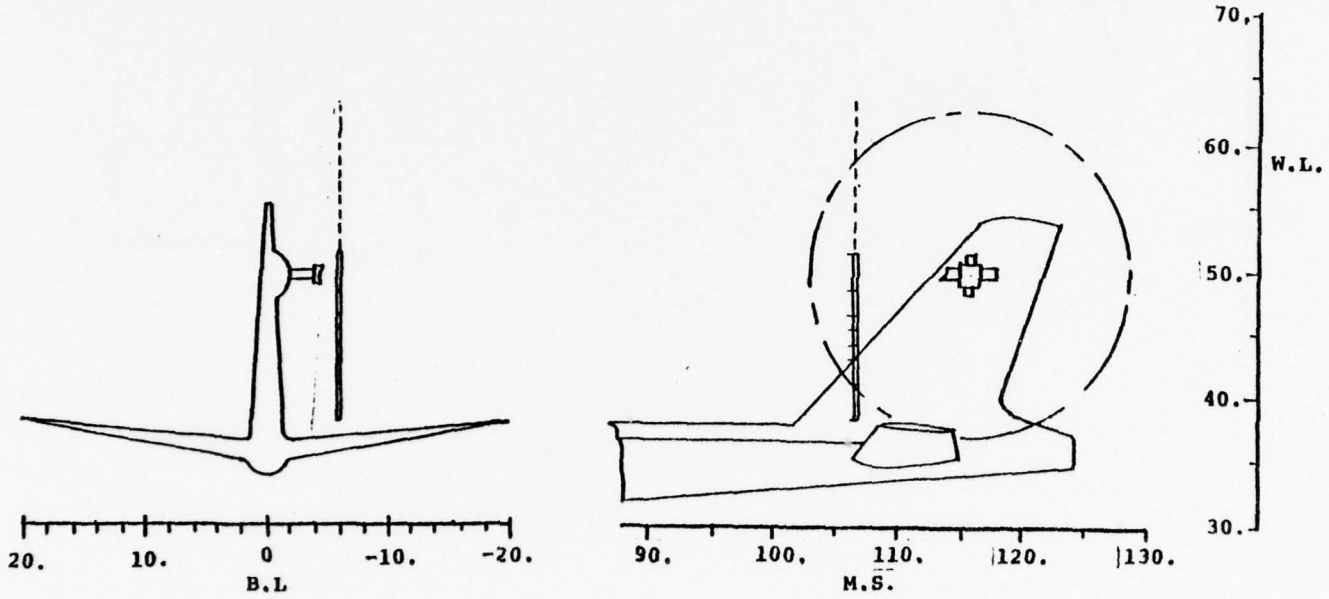


FIGURE 3 -HOT FILM RAKE LOCATIONS

RUN 136

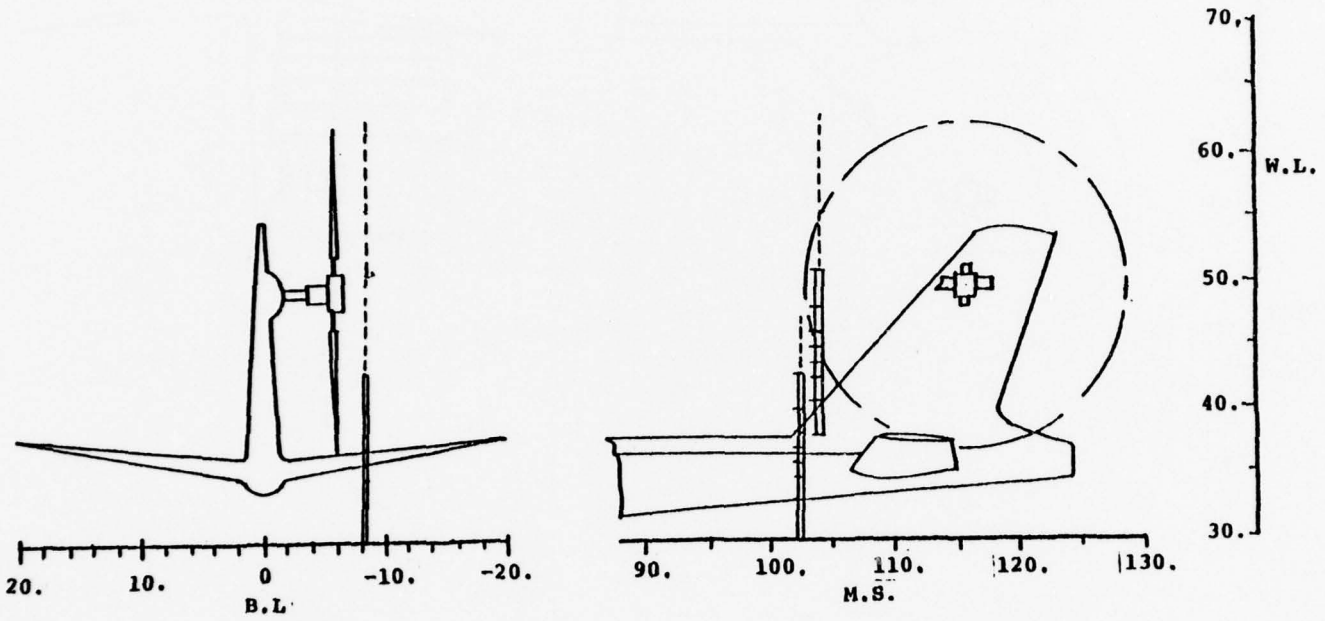


FIGURE 4 -HOT FILM RAKE LOCATIONS

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

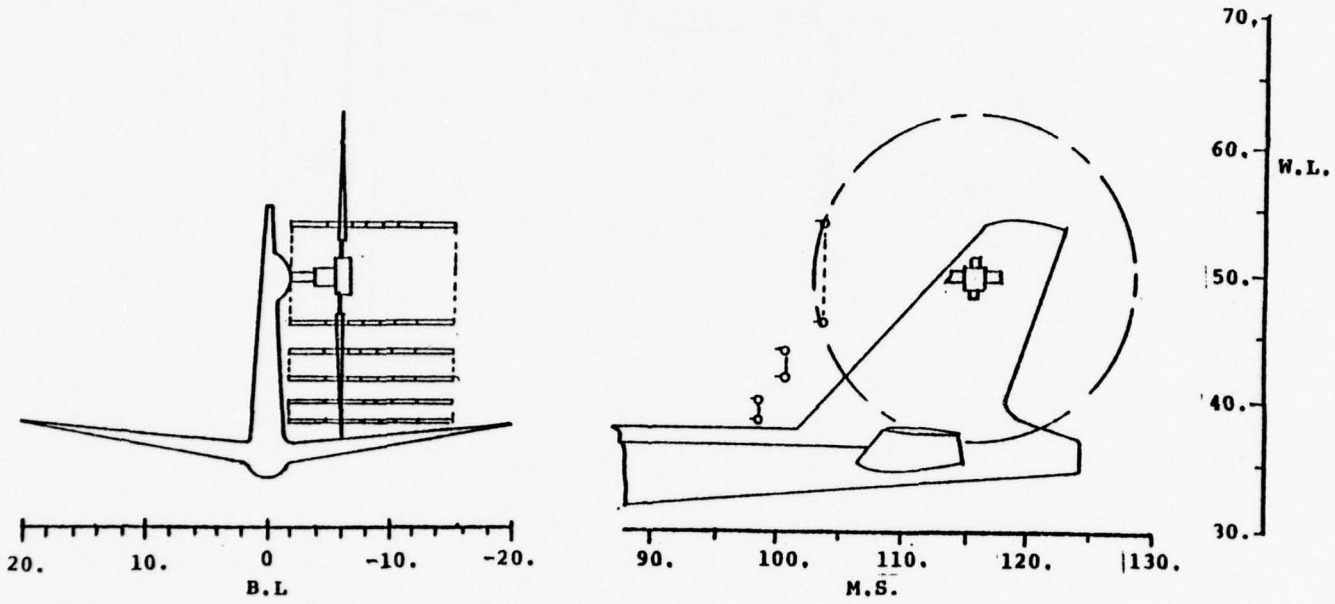


FIGURE 5 -HOT FILM RAKE LOCATIONS

RUN 152-156, 158-211

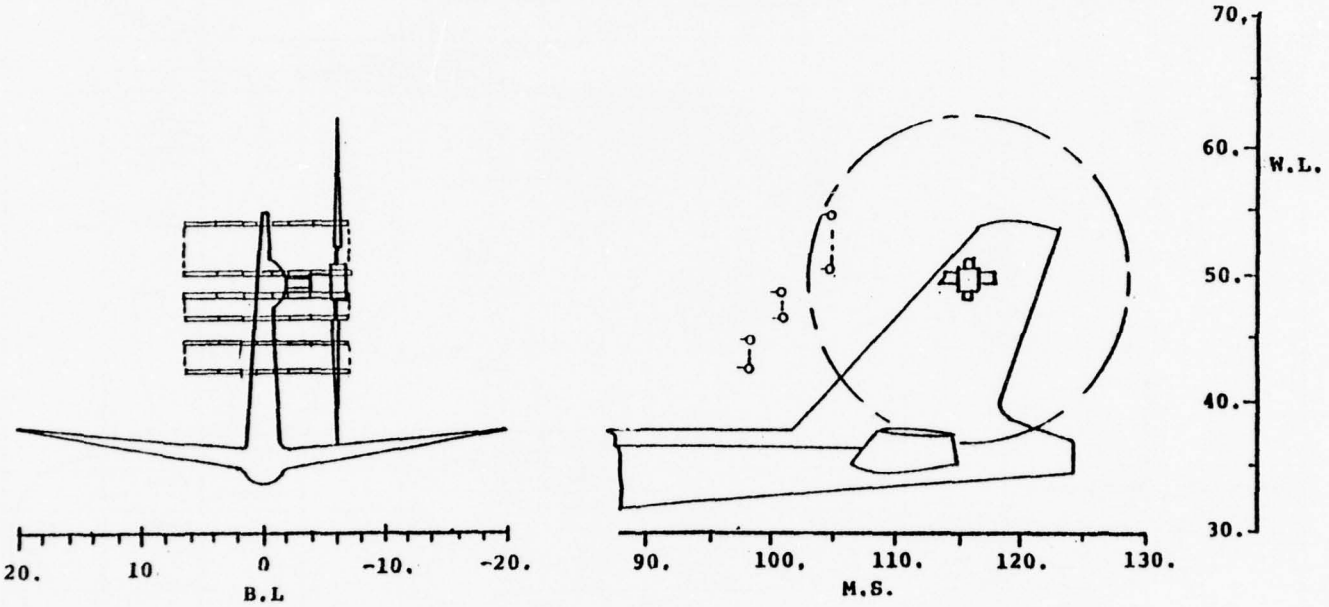


FIGURE 6 -HOT FILM RAKE LOCATIONS

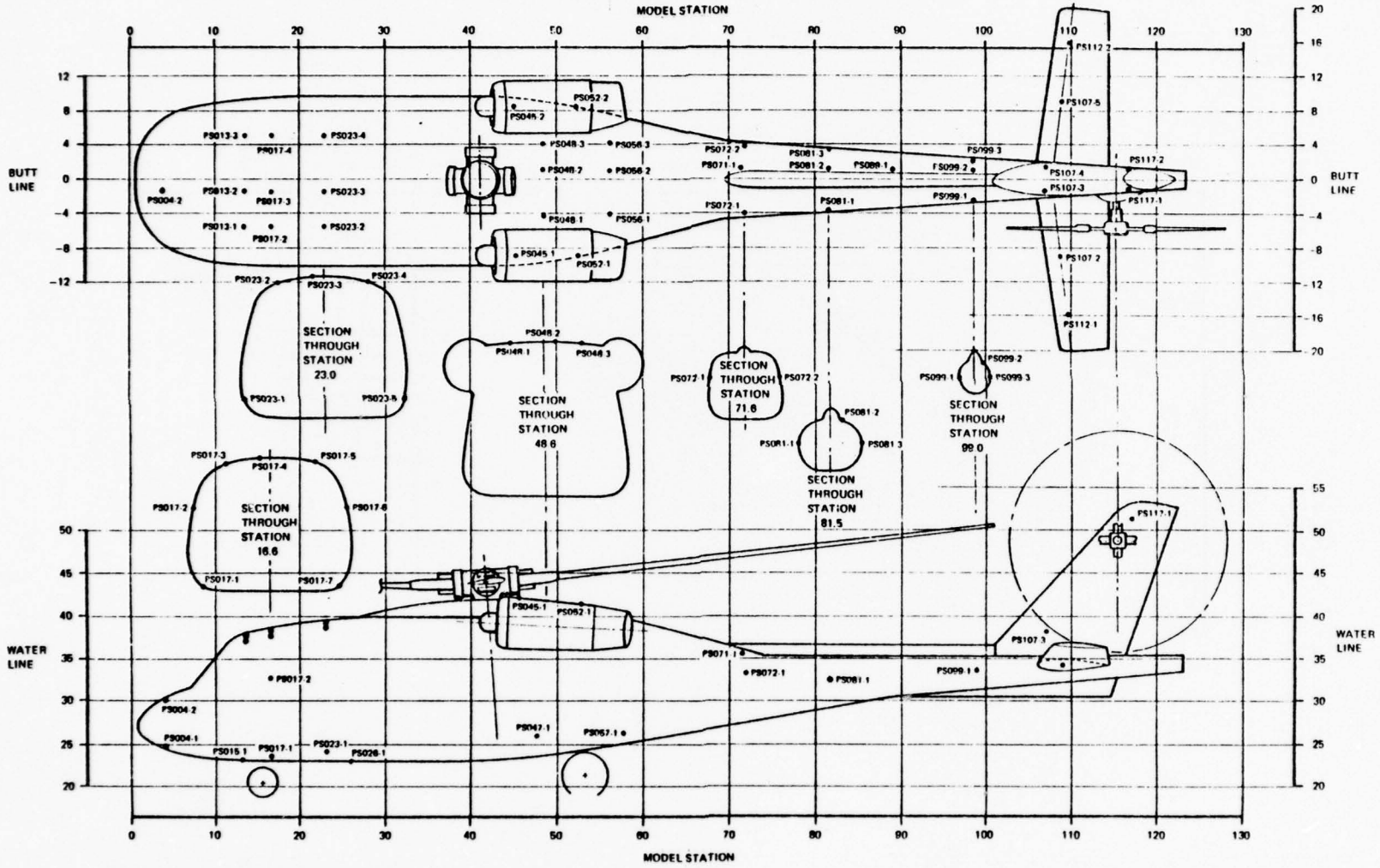
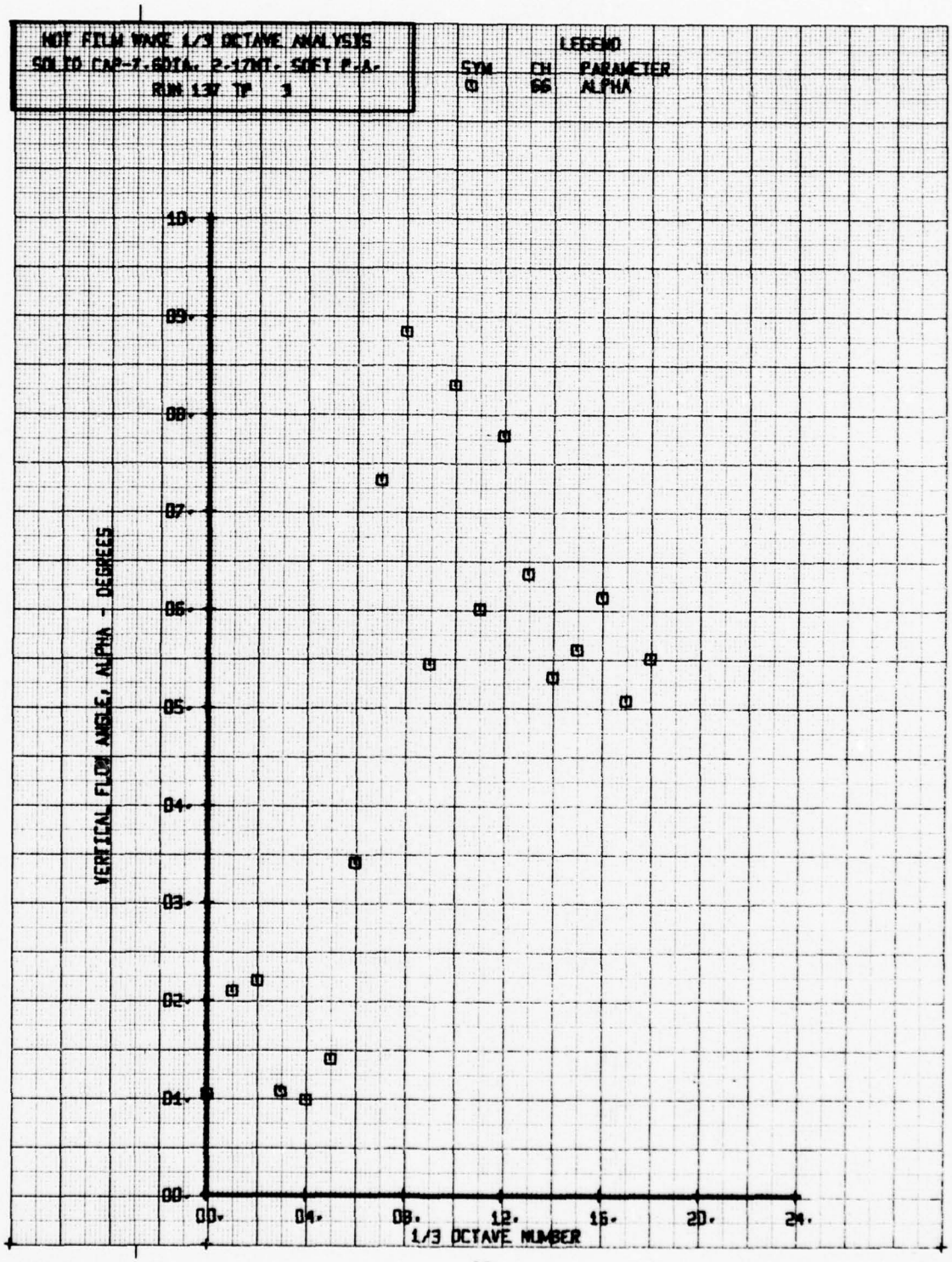
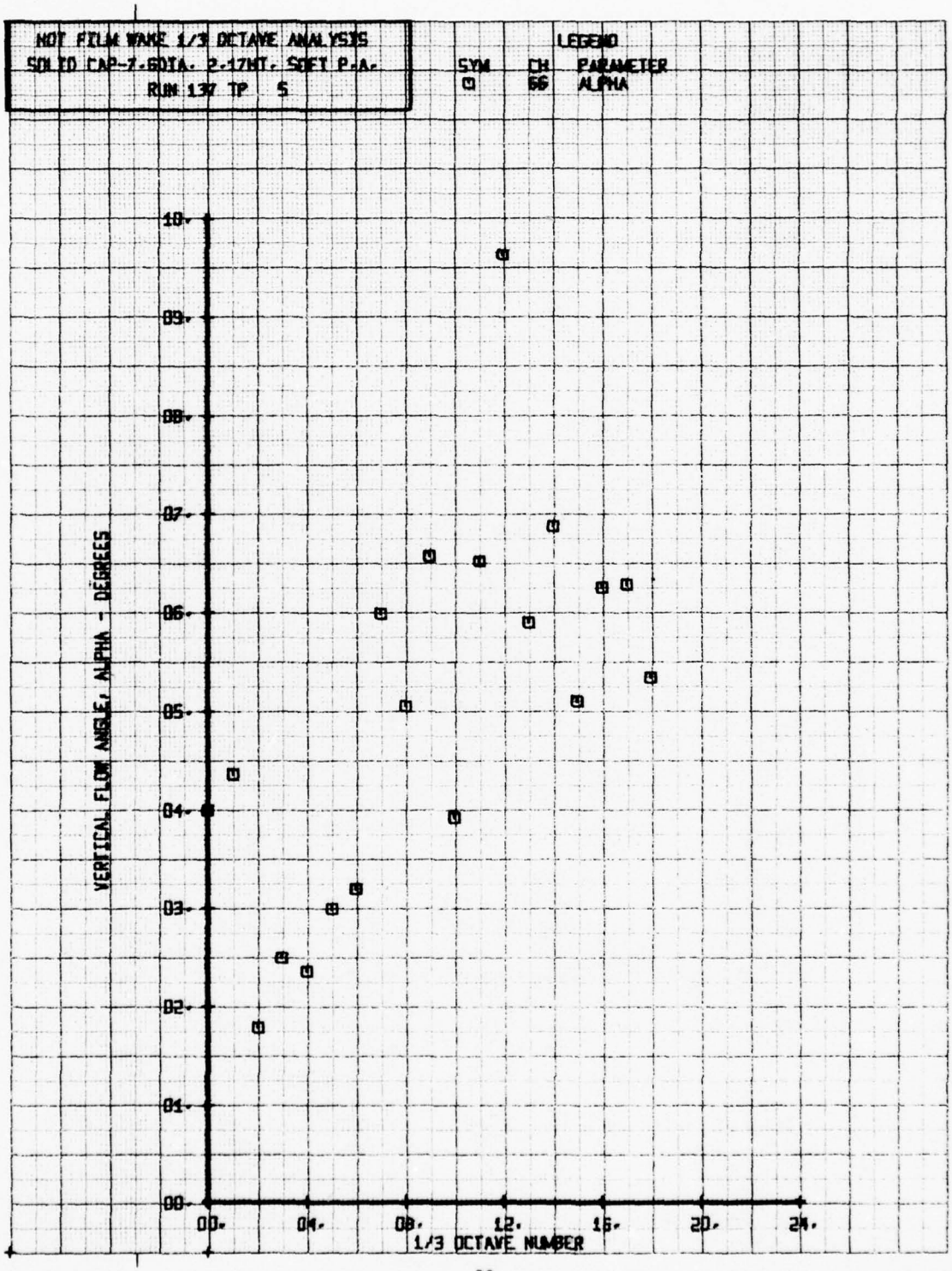


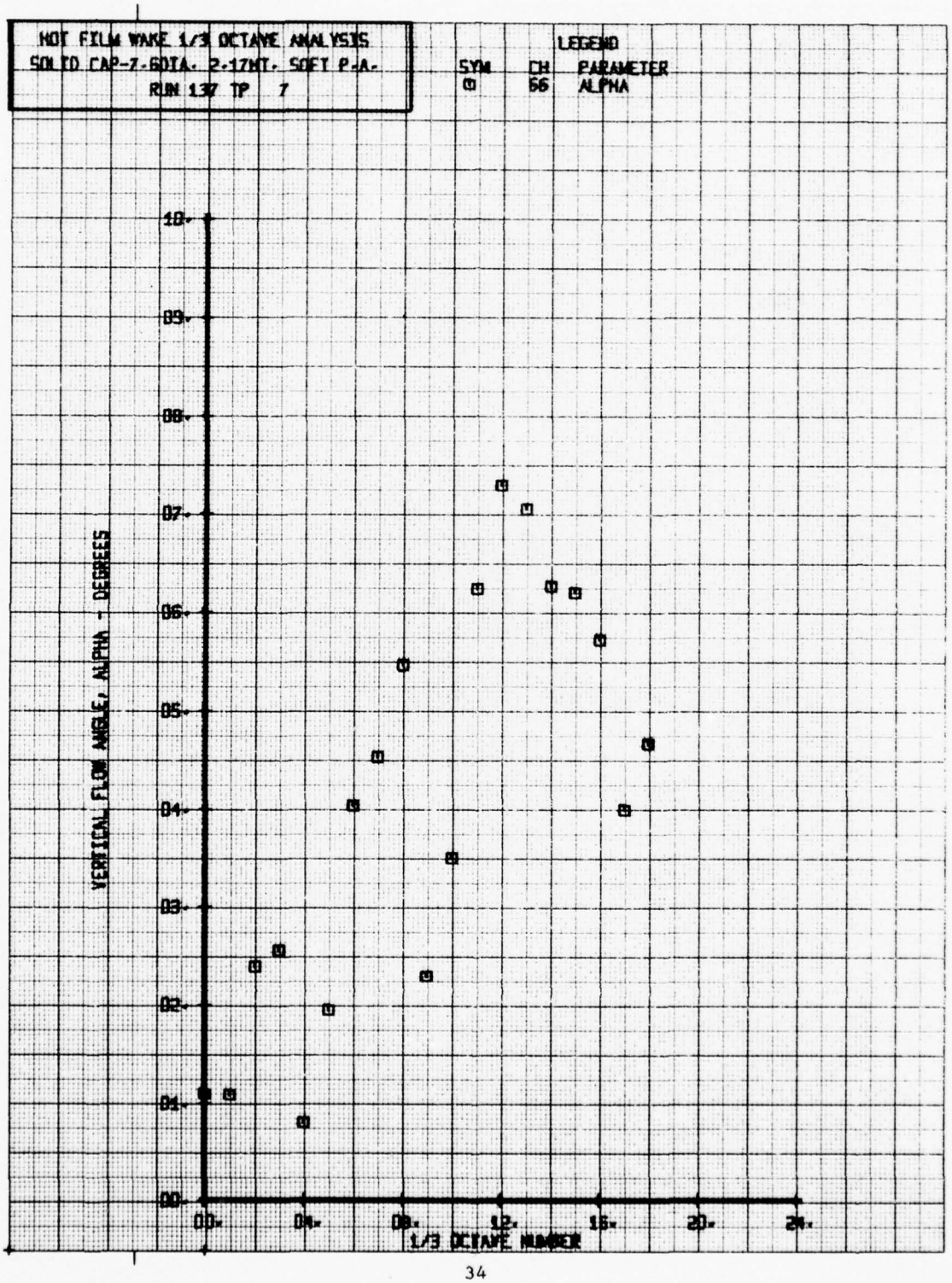
FIGURE 7 -1/4.85 SCALE MODEL GEOMETRY AND SURFACE PRESSURE TRANSDUCER LOCATIONS

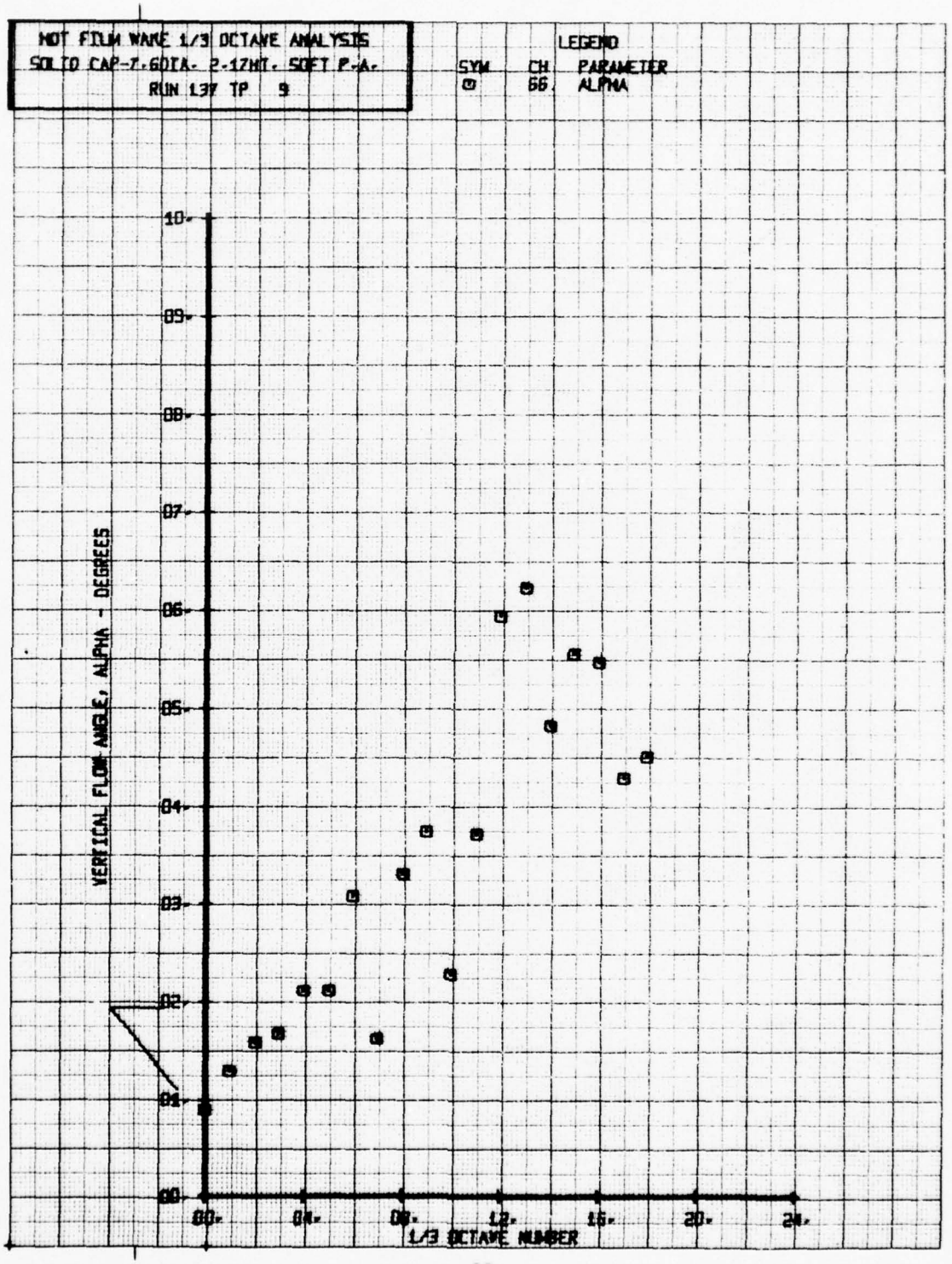
TABLE 4
1/3 OCTAVE BAND IDENTIFICATION

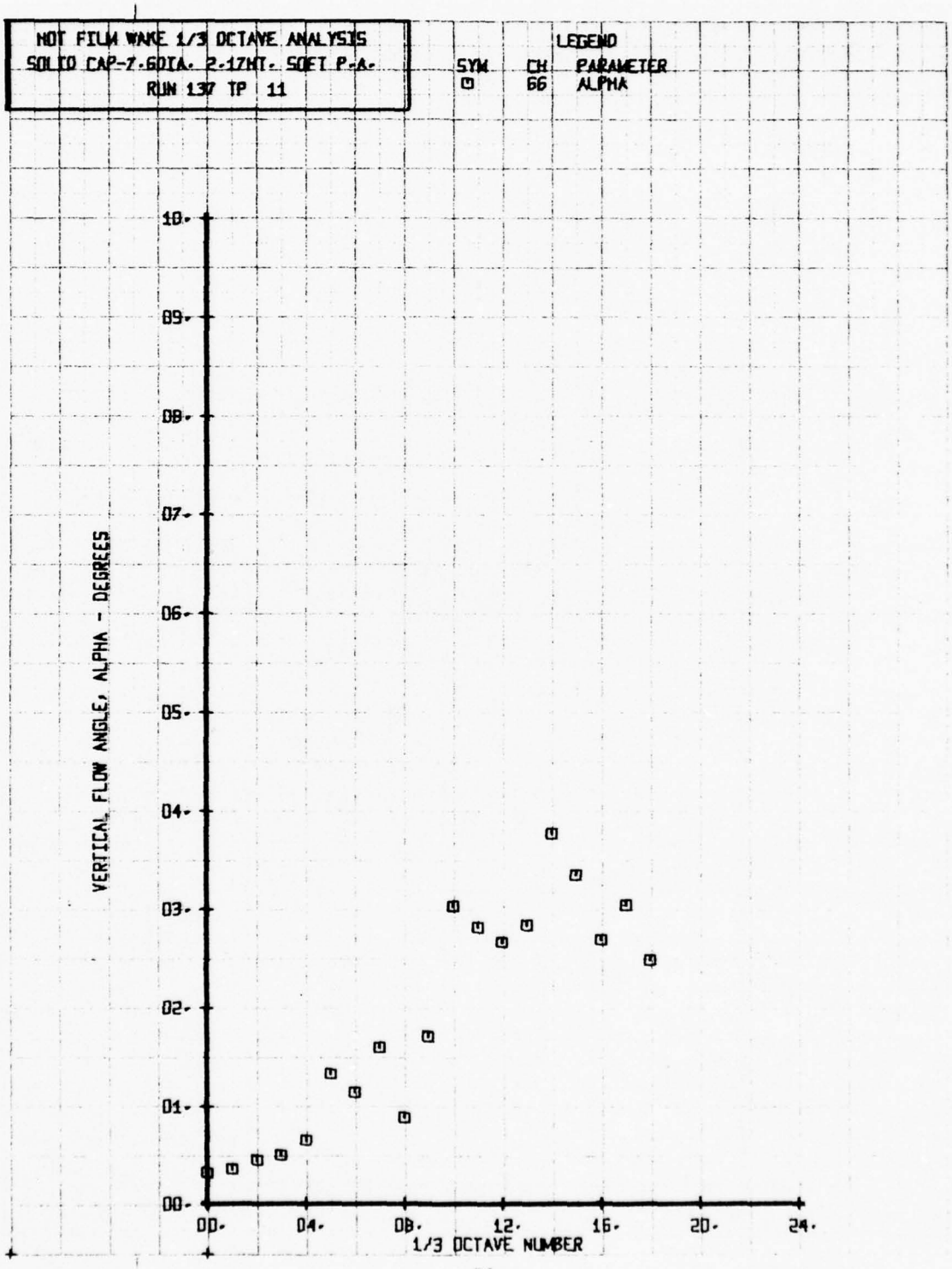
BAND NUMBER	BAND WIDTH - Hz		
	MINIMUM	CENTER	MAXIMUM
0	3.5	3.4	4.4
1	4.4	4.9	5.5
2	5.5	6.2	7.0
3	7.0	7.8	8.7
4	8.7	9.8	11.0
5	11.0	12.4	13.9
6	13.4	15.6	17.5
7	17.5	19.7	22.1
8	22.1	24.8	27.8
9	27.8	31.25	35.1
10	35.1	39.4	44.2
11	44.2	49.6	55.7
12	55.7	62.5	70.2
13	70.2	78.7	88.9
14	88.9	99.2	111.4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

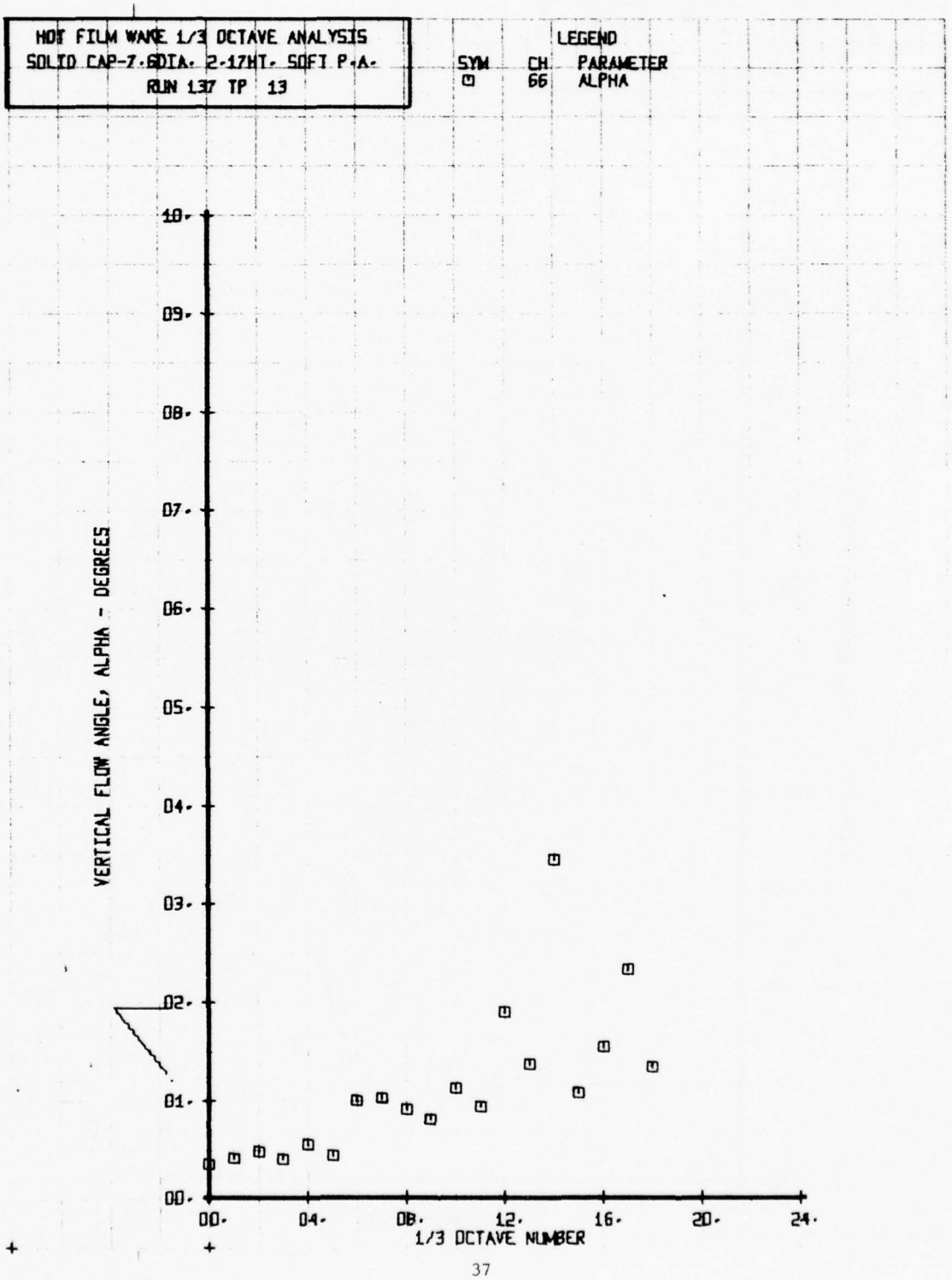

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.6DIA. 2.17MT. SOFT P.A.
RUN 137 TP 1
LEGEND
SYM CH PARAMETER
66 ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
10.
09.
08.
07.
06.
05.
04.
03.
02.
01.
00.
00.
04.
08.
12.
16.
20.
24.
1/3 OCTAVE NUMBER

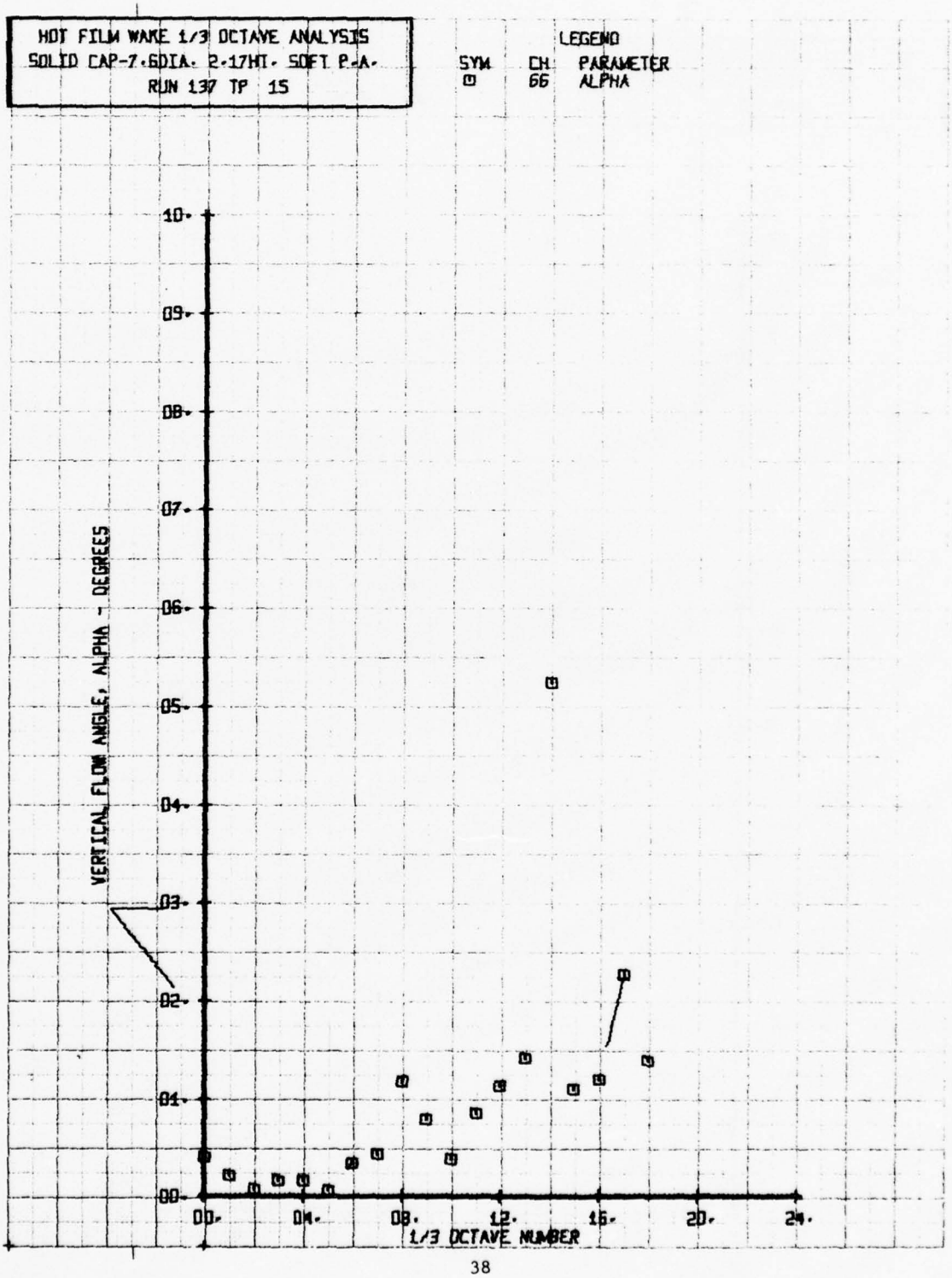

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.6DIA. 2.17HT. SOFT P.A.
RUN 137 TP 5
LEGEND
SYM CH PARAMETER
66 ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
10.
09.
08.
07.
06.
05.
04.
03.
02.
01.
00.
00. 04. 08. 12. 16. 20. 24.
1/3 OCTAVE NUMBER

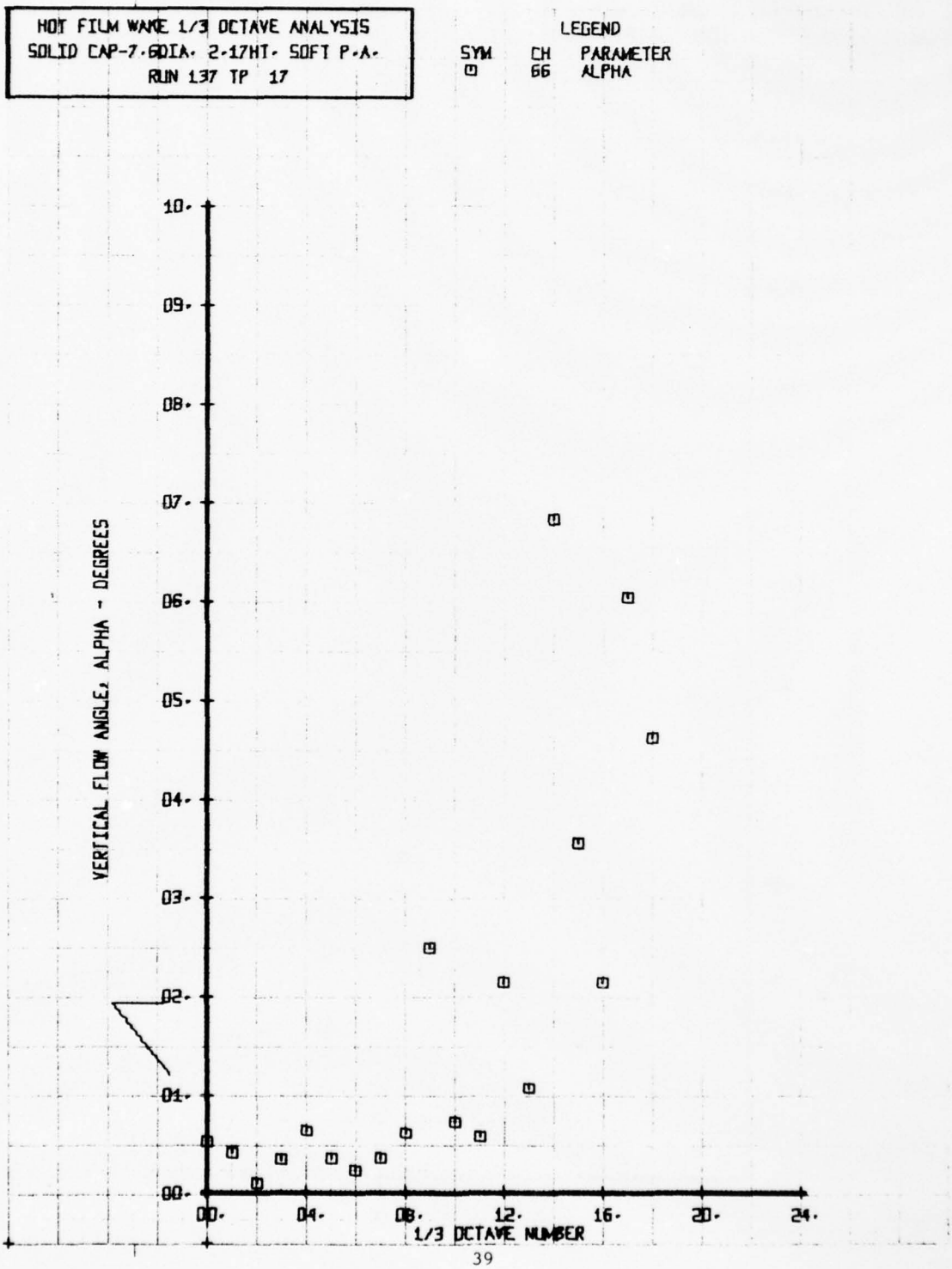

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.6DIA. 2.17MT. SOFT P.A.
RUN 137 TP 7
LEGEND
SYM CH PARAMETER
56 ALPHA
10.
09.
08.
07.
06.
05.
04.
03.
02.
01.
00.
00.
04.
08.
12.
16.
20.
24.
VERTICAL FLOW ANGLE, ALPHA - DEGREES
1/3 OCTAVE NUMBER

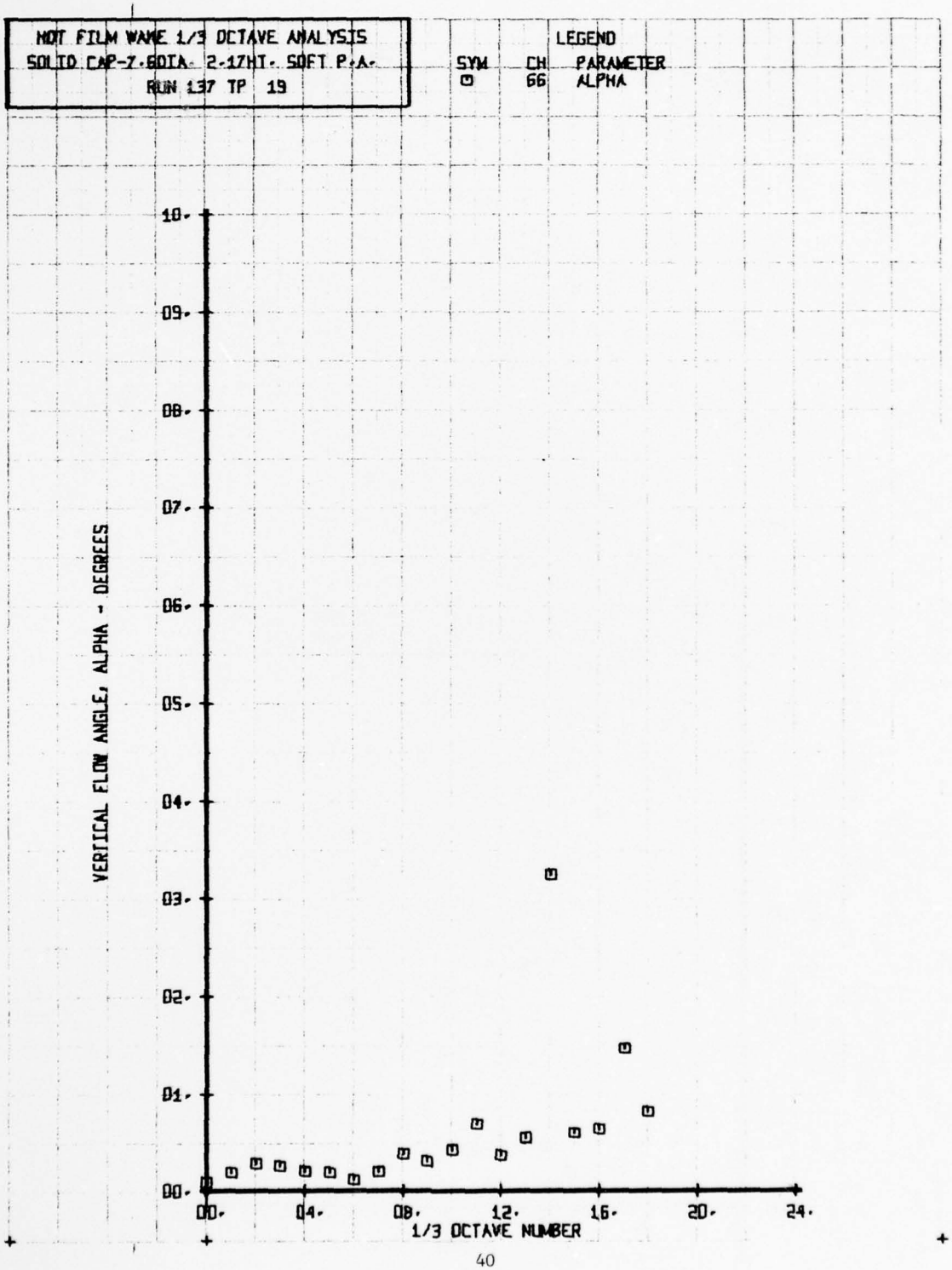

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.6DIA. 2.17HT. SOFT P.A.
RUN 137 TP 9
LEGEND
SYM CH PARAMETER
66 ALPHA
10.
09.
08.
07.
06.
05.
04.
03.
02.
01.
00.
VERTICAL FLOW ANGLE, ALPHA - DEGREES
00.
04.
08.
12.
16.
20.
24.
1/3 OCTAVE NUMBER

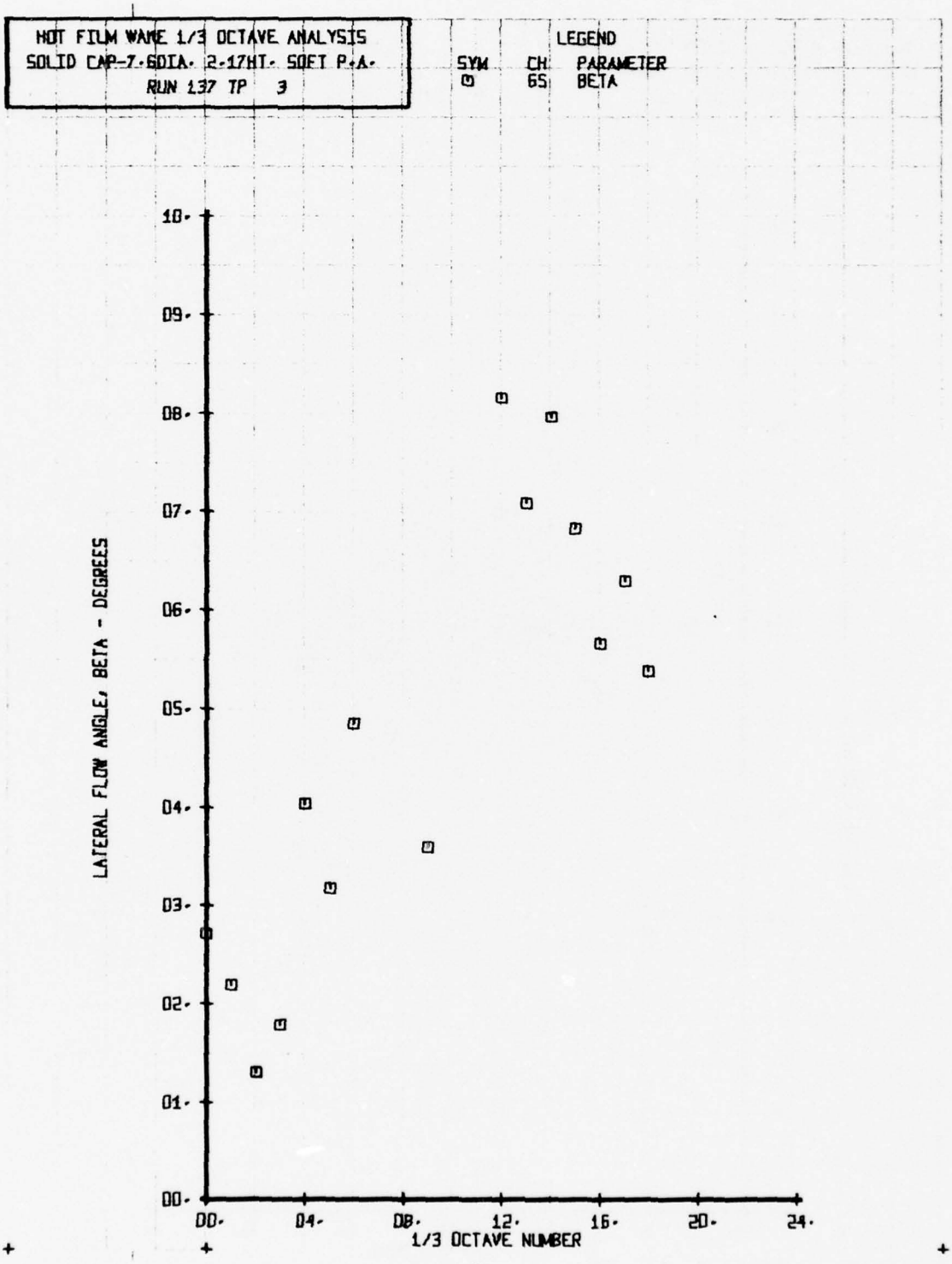

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.6DIA. 2.17HT. SOFT P.A.
RUN 137 TP 11
LEGEND
SYM CH PARAMETER
66 ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
10.
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24.
1/3 OCTAVE NUMBER

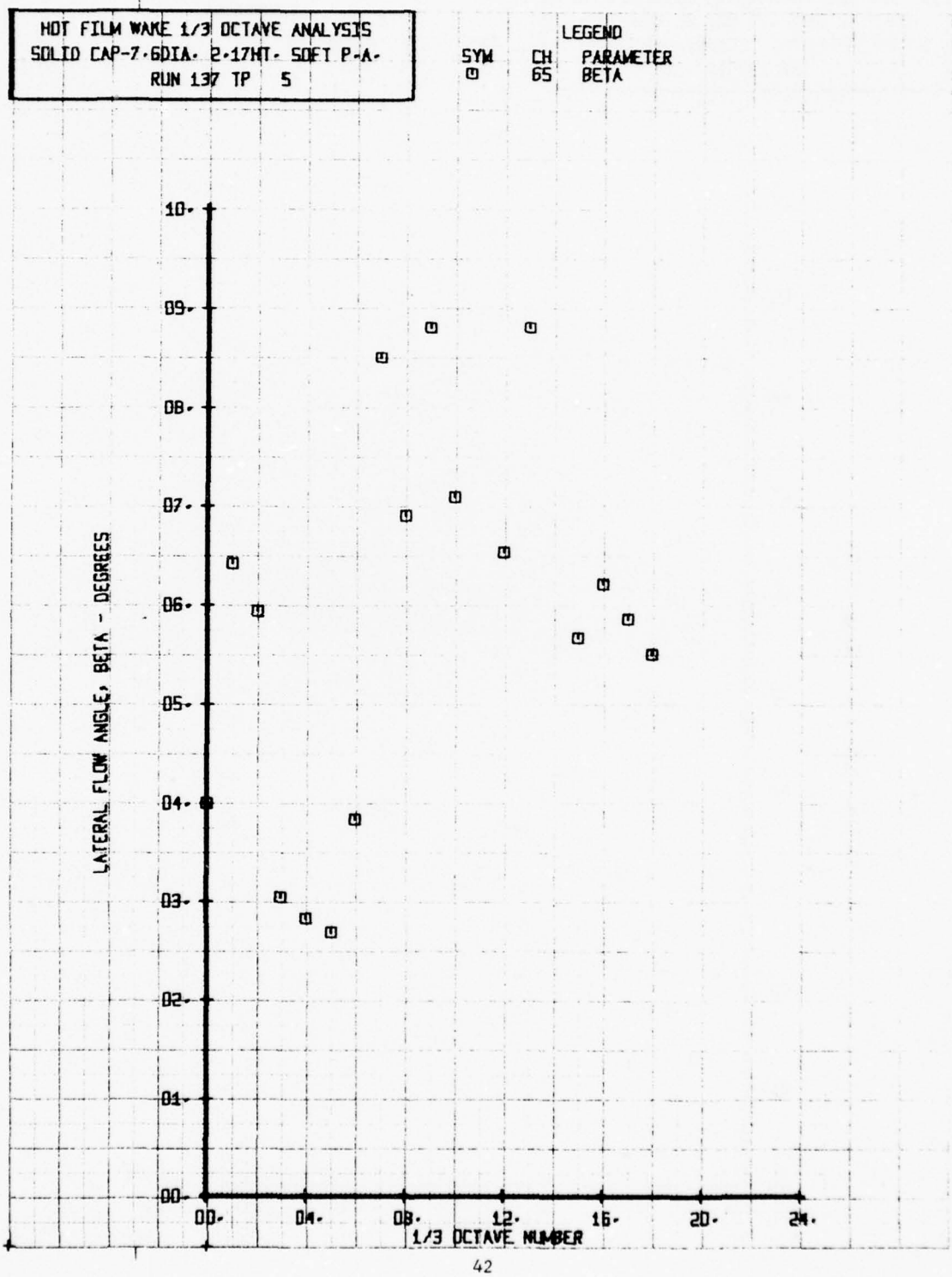

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.6DIA. 2.17HT. SOFI P.A.
RUN 137 TP 13
LEGEND
SYM CH PARAMETER
66 ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
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24.
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.6DIA. 2.17HT. SOFT P.A.
RUN 137 TP 15
LEGEND
SYM CH PARAMETER
66 ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
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24.
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.6DIA. 2.17HT. SOFT P.A.
RUN 137 TP 17
LEGEND
SYM CH PARAMETER
66 ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
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24.
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.6DIA. 2.17HT. SOFT P.A.
RUN 137 TP 19
LEGEND
SYM CH PARAMETER
66 ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
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1/3 OCTAVE NUMBER

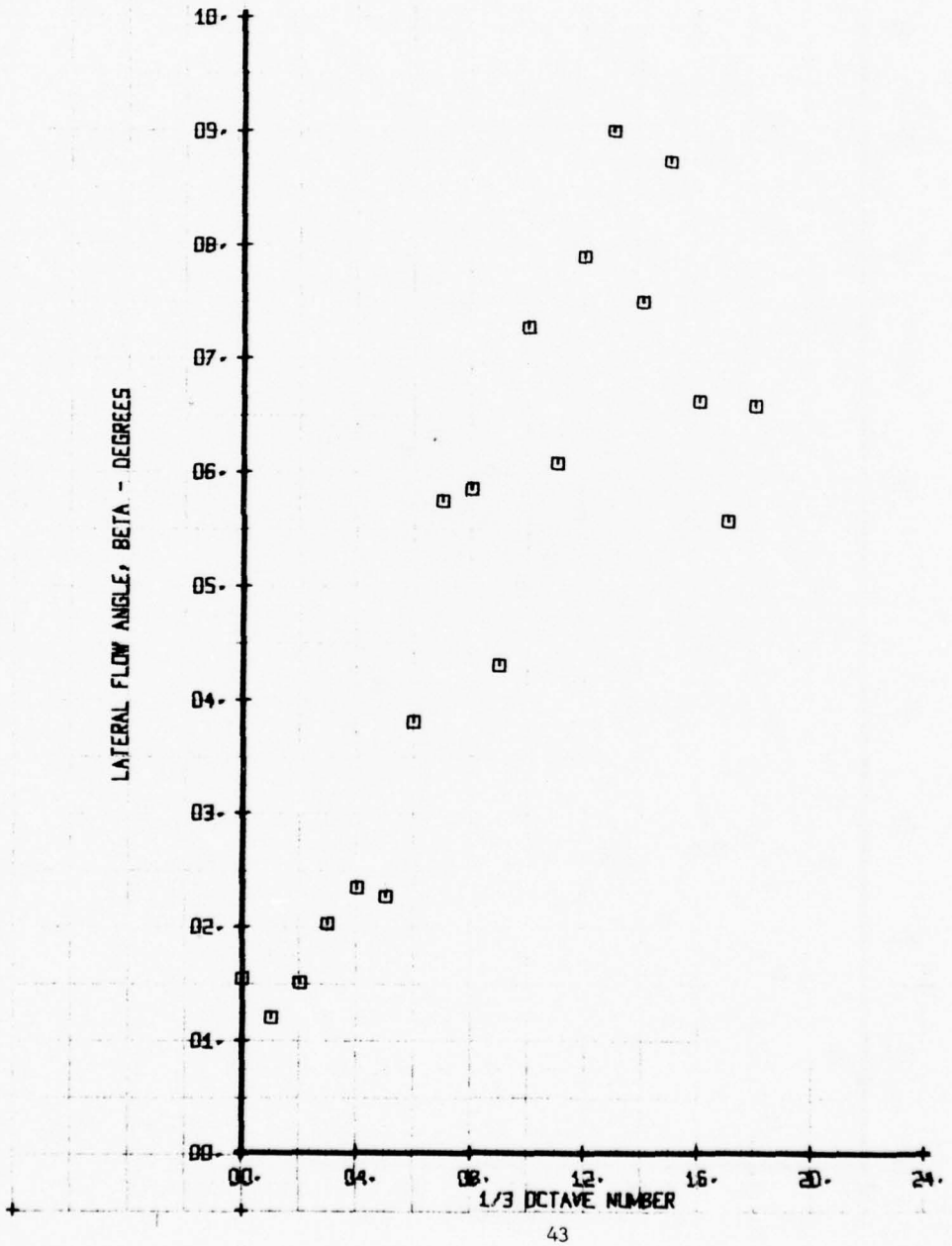

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.6DIA. 2.17HT. SQFT P.A.
RUN 137 TP 3
LEGEND
SYM CH PARAMETER
65 BETA
10.
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LATERAL FLOW ANGLE, BETA - DEGREES
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24.
1/3 OCTAVE NUMBER

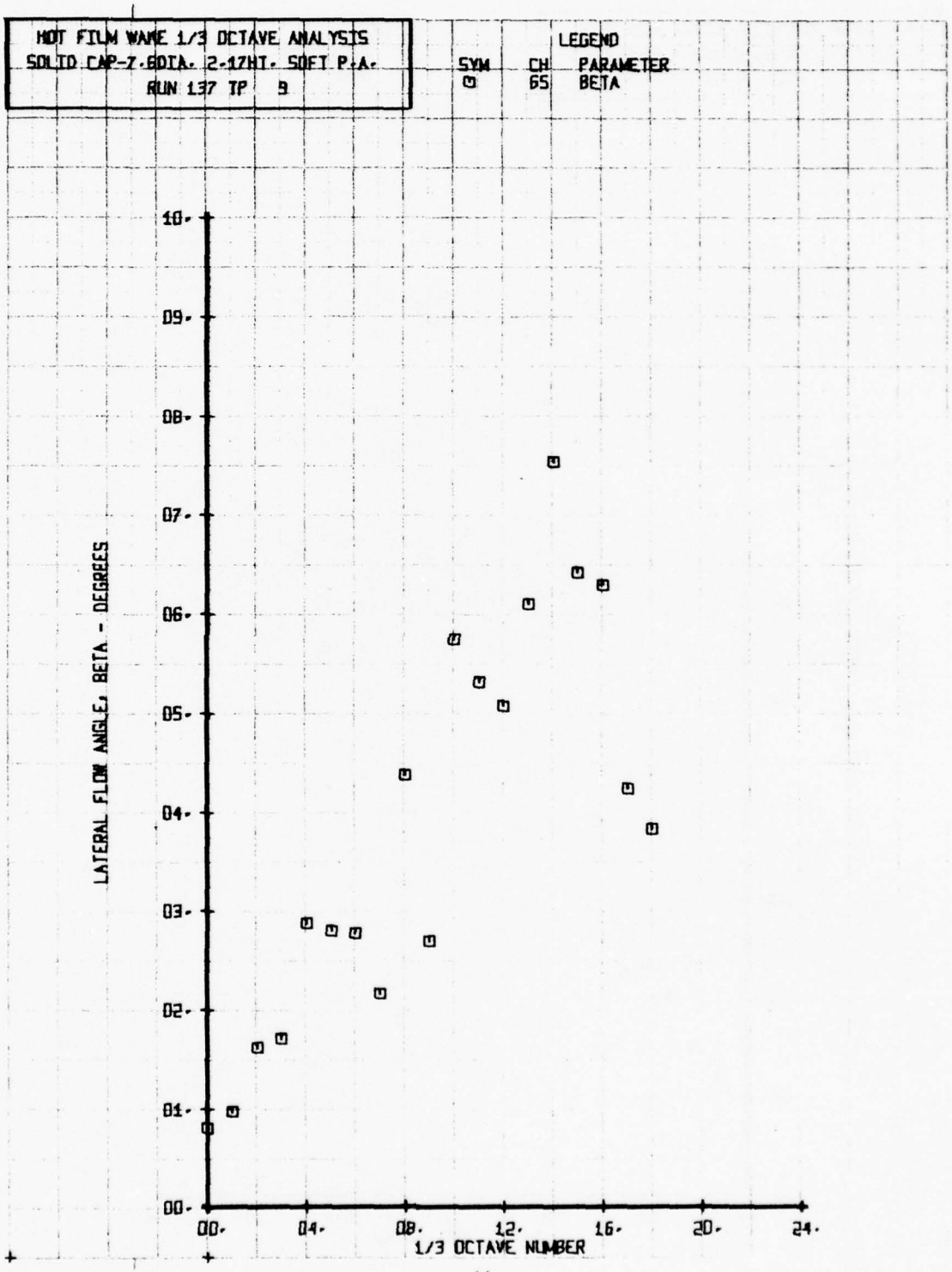

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.6DIA. 2.17HT. SOFT P-A.
RUN 137 TP 5
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
1/3 OCTAVE NUMBER
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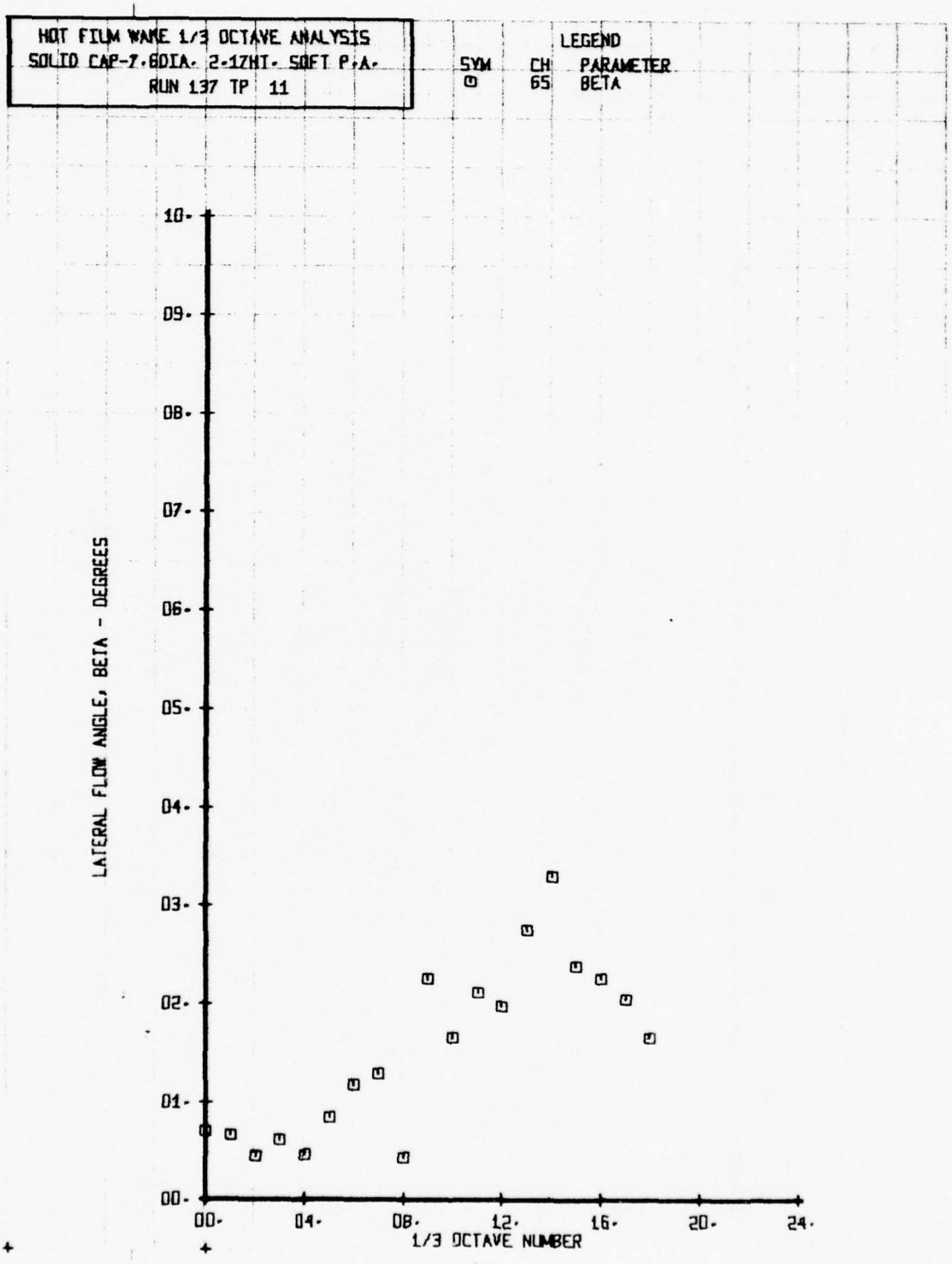
HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.6DIA. 2-17HT. SOFT P.A.
RUN 137 TP 7

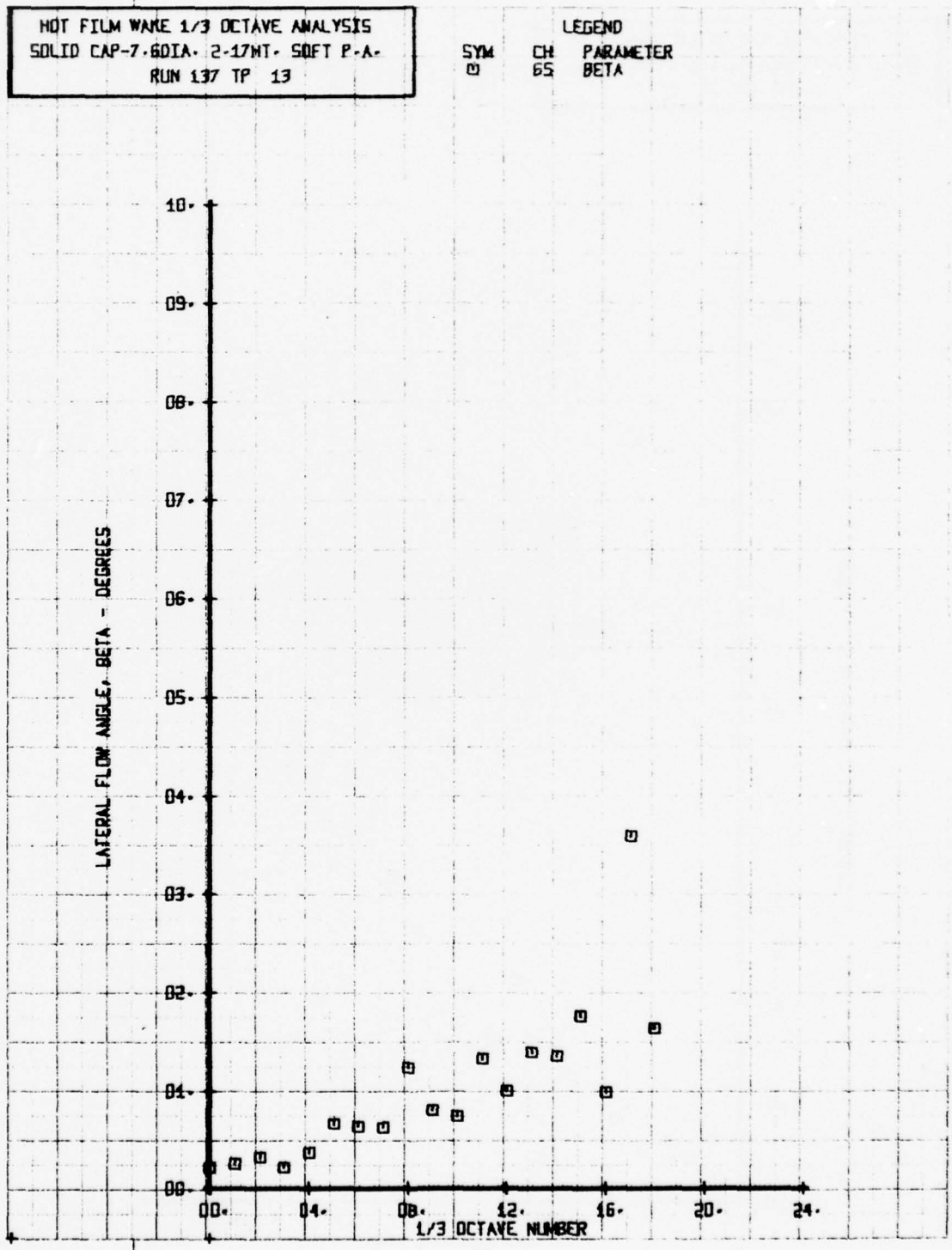
LEGEND

SYM	CH	PARAMETER
□	65	BETA




HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.6DIA. 2.17HT. SOFT P.A.
RUN 137 TP 9
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
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1/3 OCTAVE NUMBER

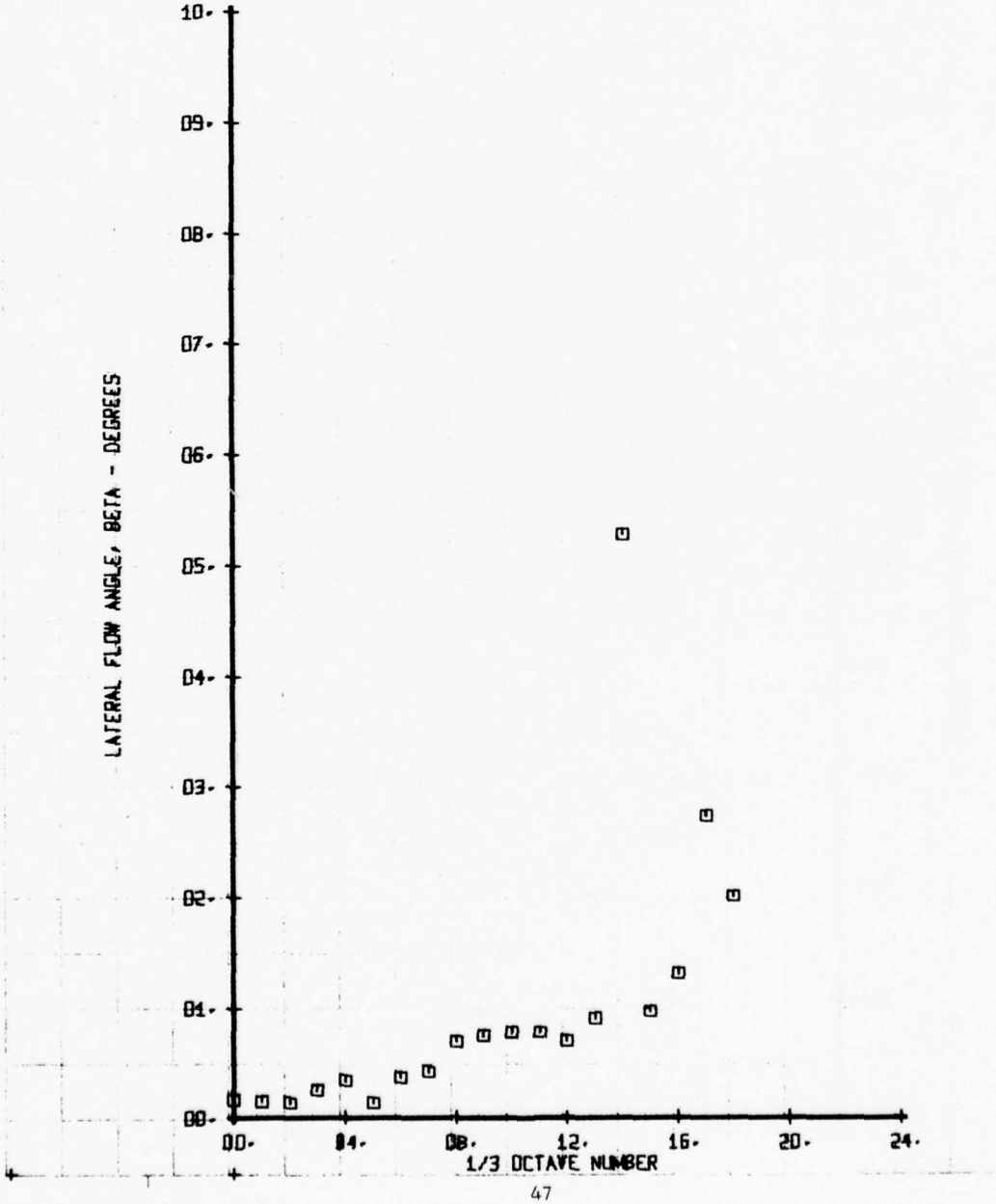

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.6DIA. 2-17MI. SQFT P.A.
RUN 137 TP 11
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
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1/3 OCTAVE NUMBER

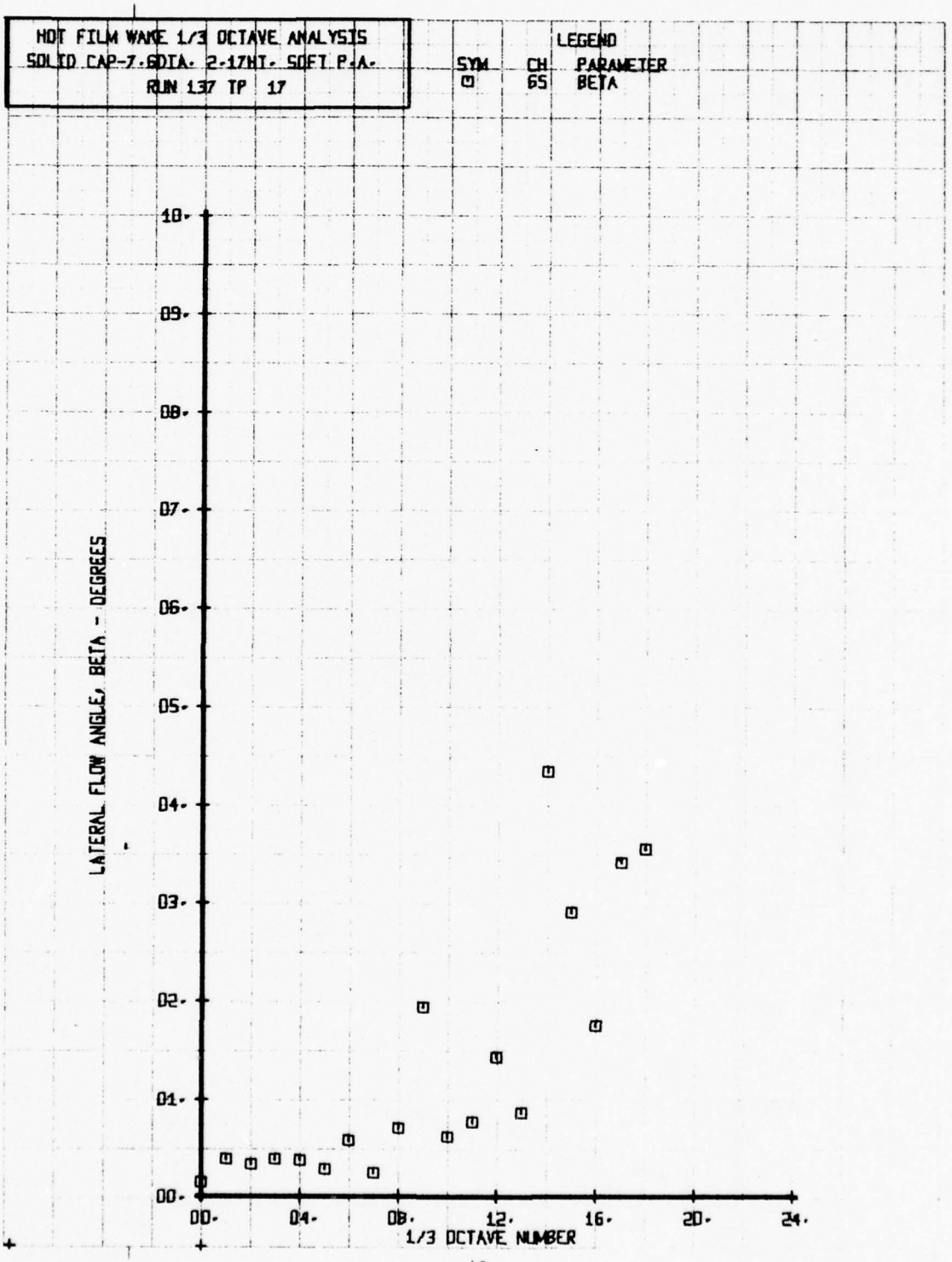

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.6DIA. 2-17MT. SOFT P.A.
RUN 137 TP 13
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
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1/3 OCTAVE NUMBER

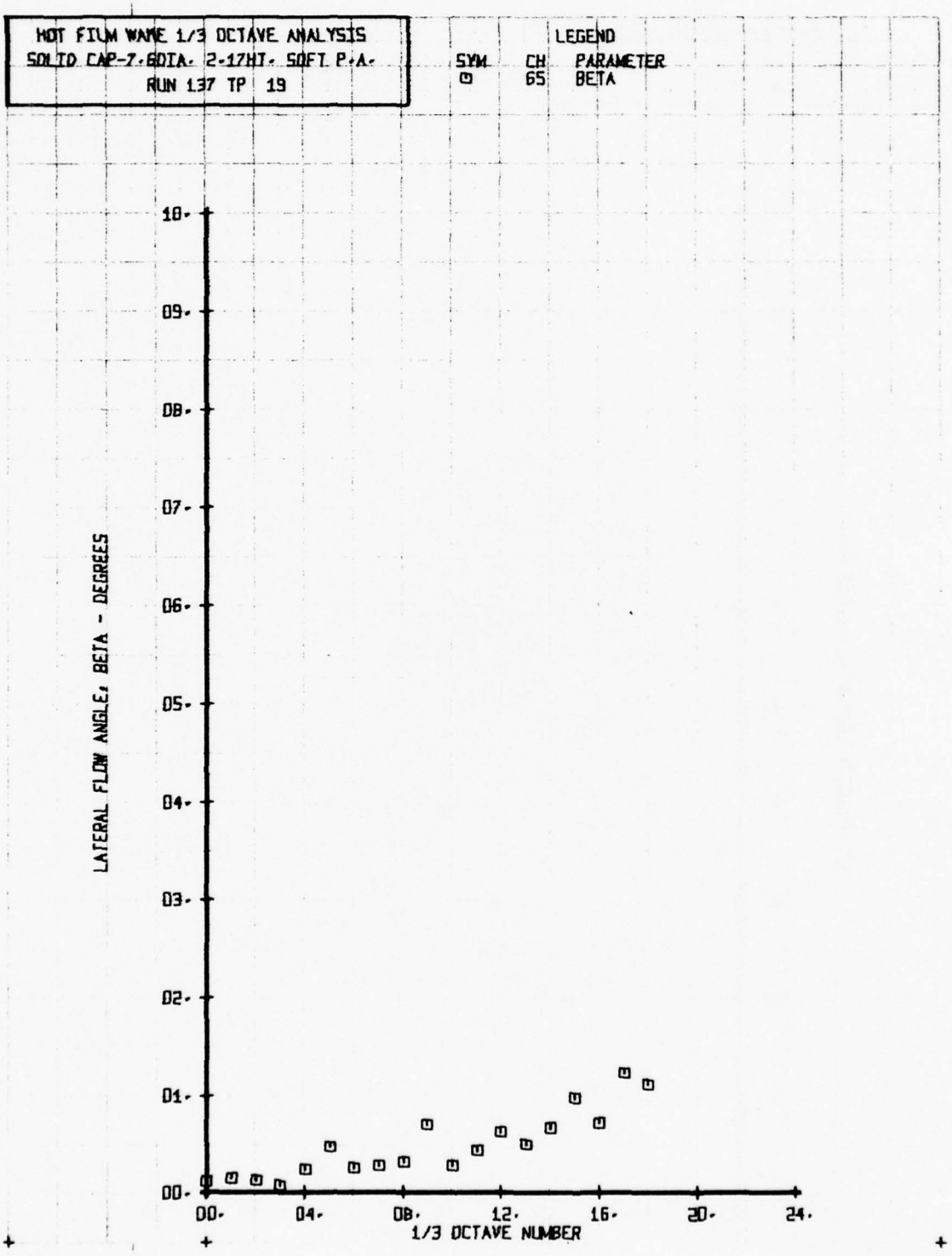
HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.6DIA. 2.17HT. SOFT P.A.
RUN 137 TP 15

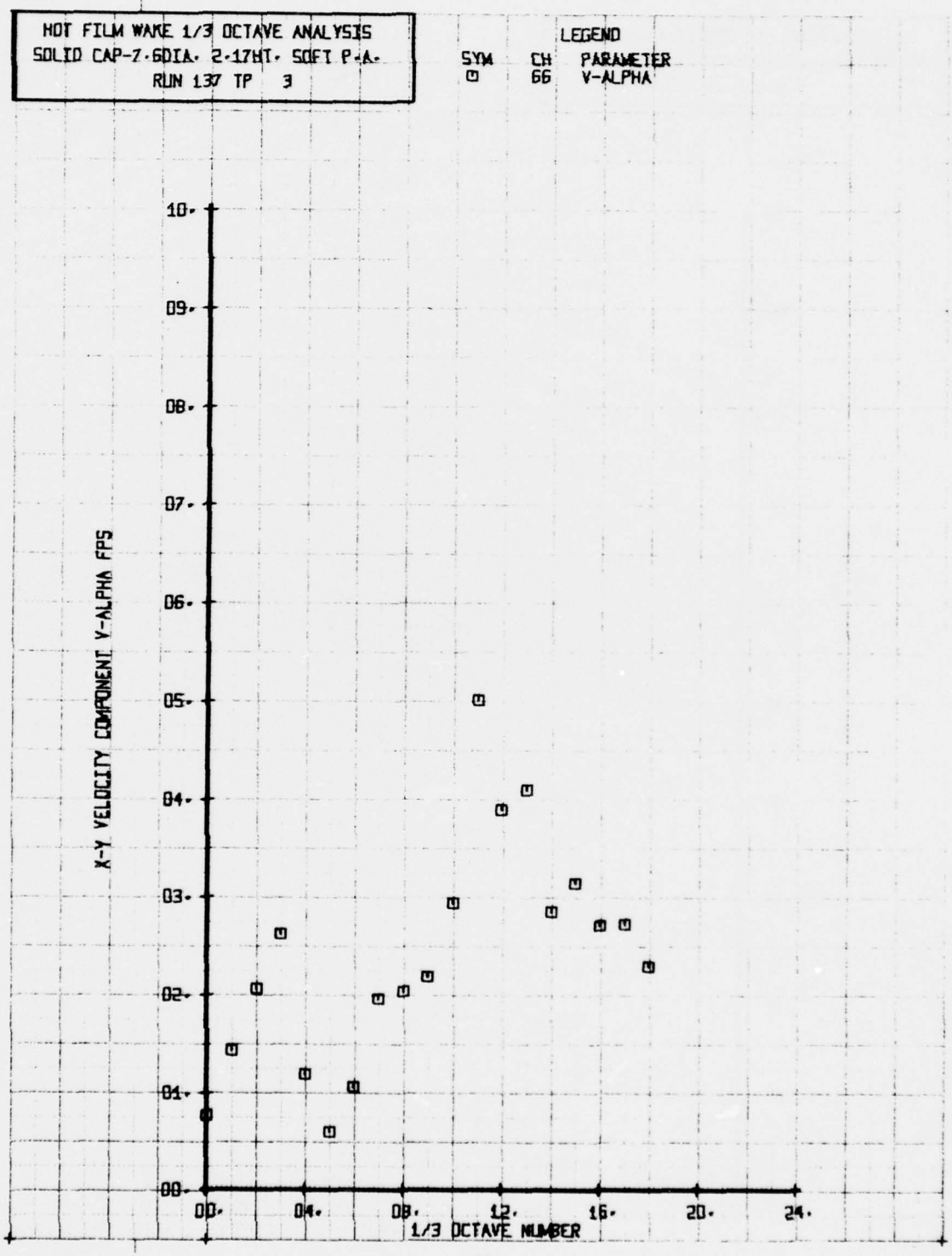
LEGEND

SYM	CH	PARAMETER
□	65	BETA




HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.6DIA. 2.17HI. SOFT P.A.
RUN 137 TP 17
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
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1/3 OCTAVE NUMBER

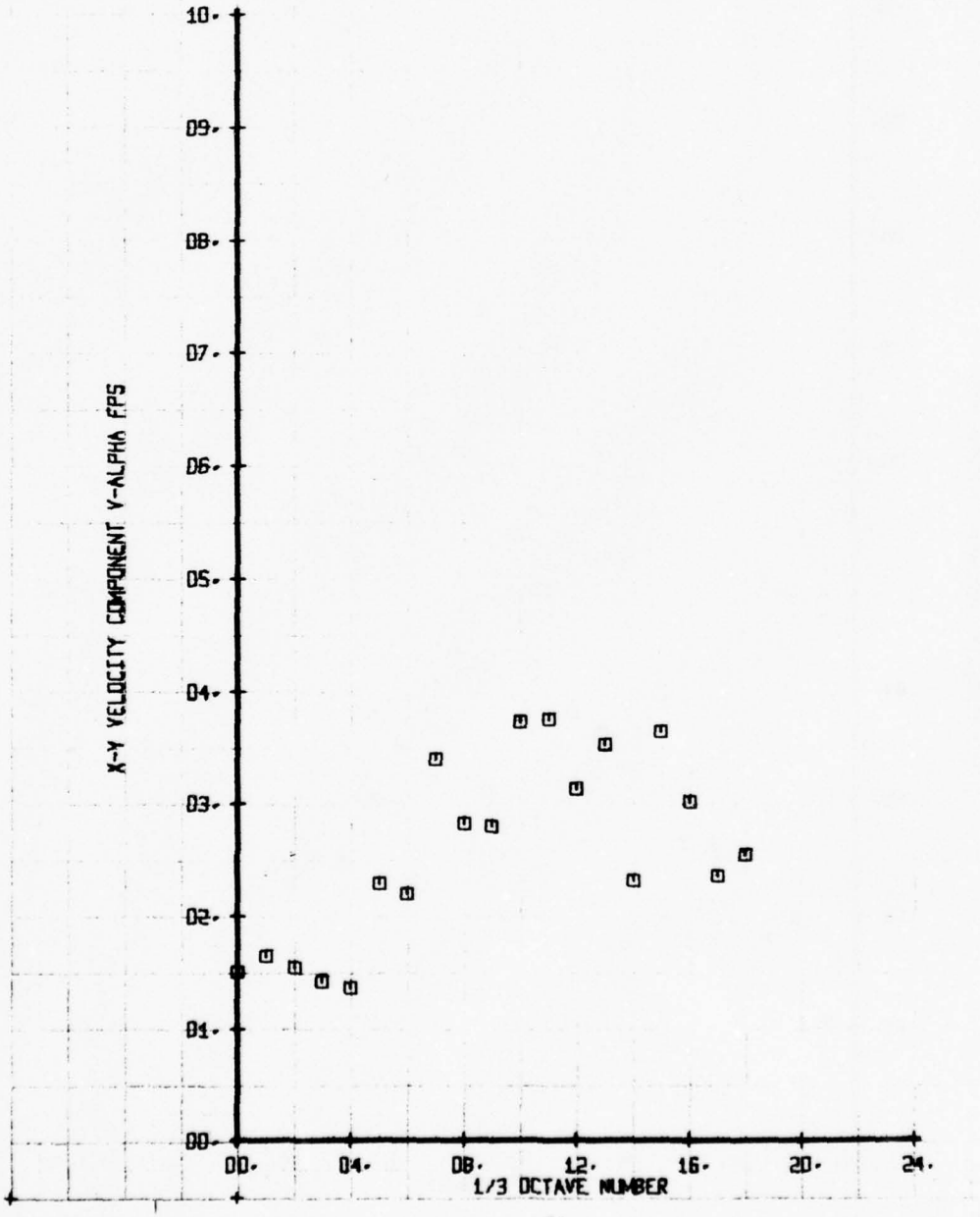

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.6DIA. 2.17HI. SOFT P.A.
RUN 137 TP 19
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
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1/3 OCTAVE NUMBER

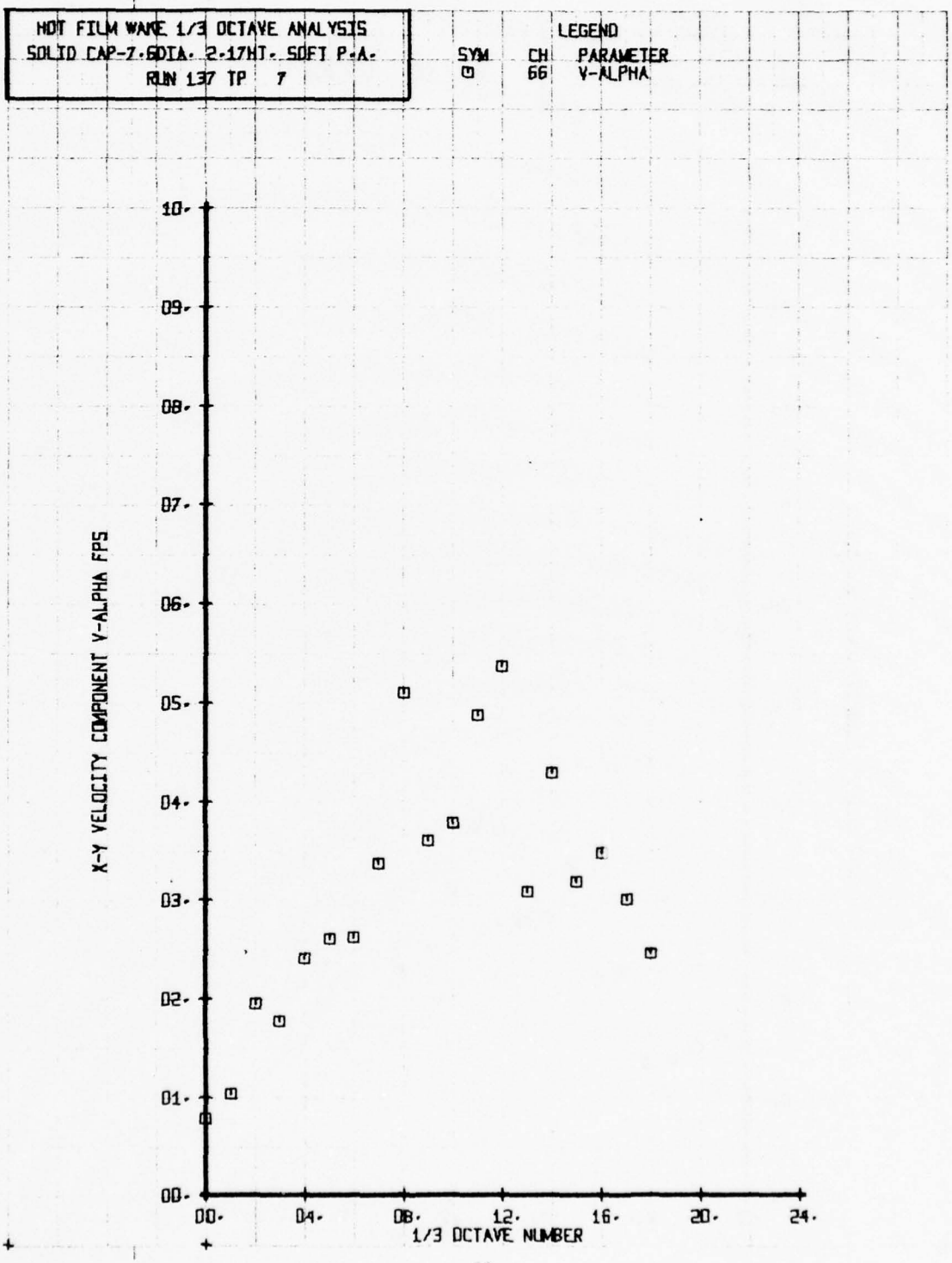

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.6DIA. 2.17HT. SOFT P-A.
RUN 137 TP 3
LEGEND
SYM CH PARAMETER
66 V-ALPHA
X-Y VELOCITY COMPONENT V-ALPHA FPS
1/3 OCTAVE NUMBER
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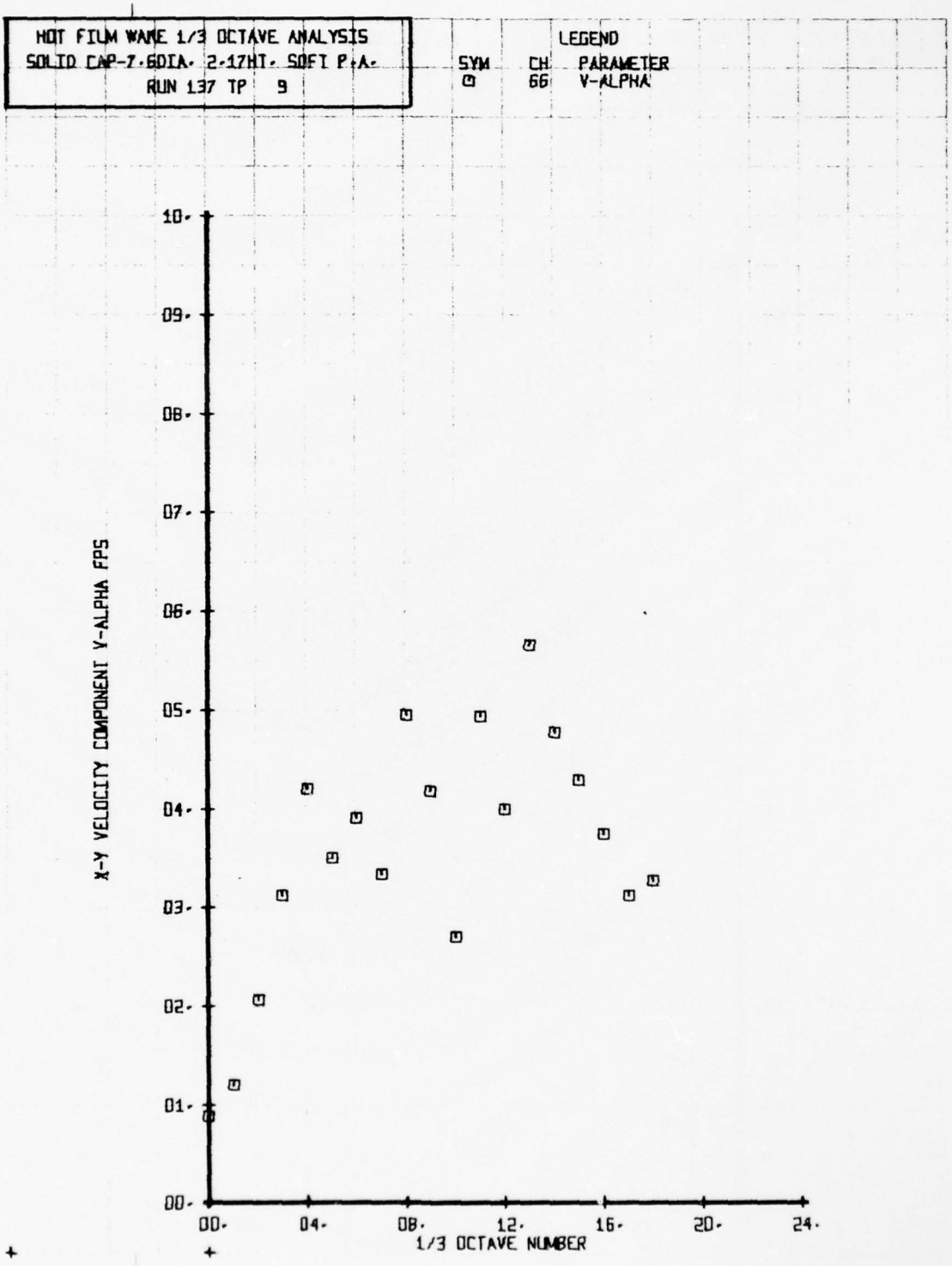
HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.6DIA. 2-17HT. SOFT P-A.
RUN 137 TP 5

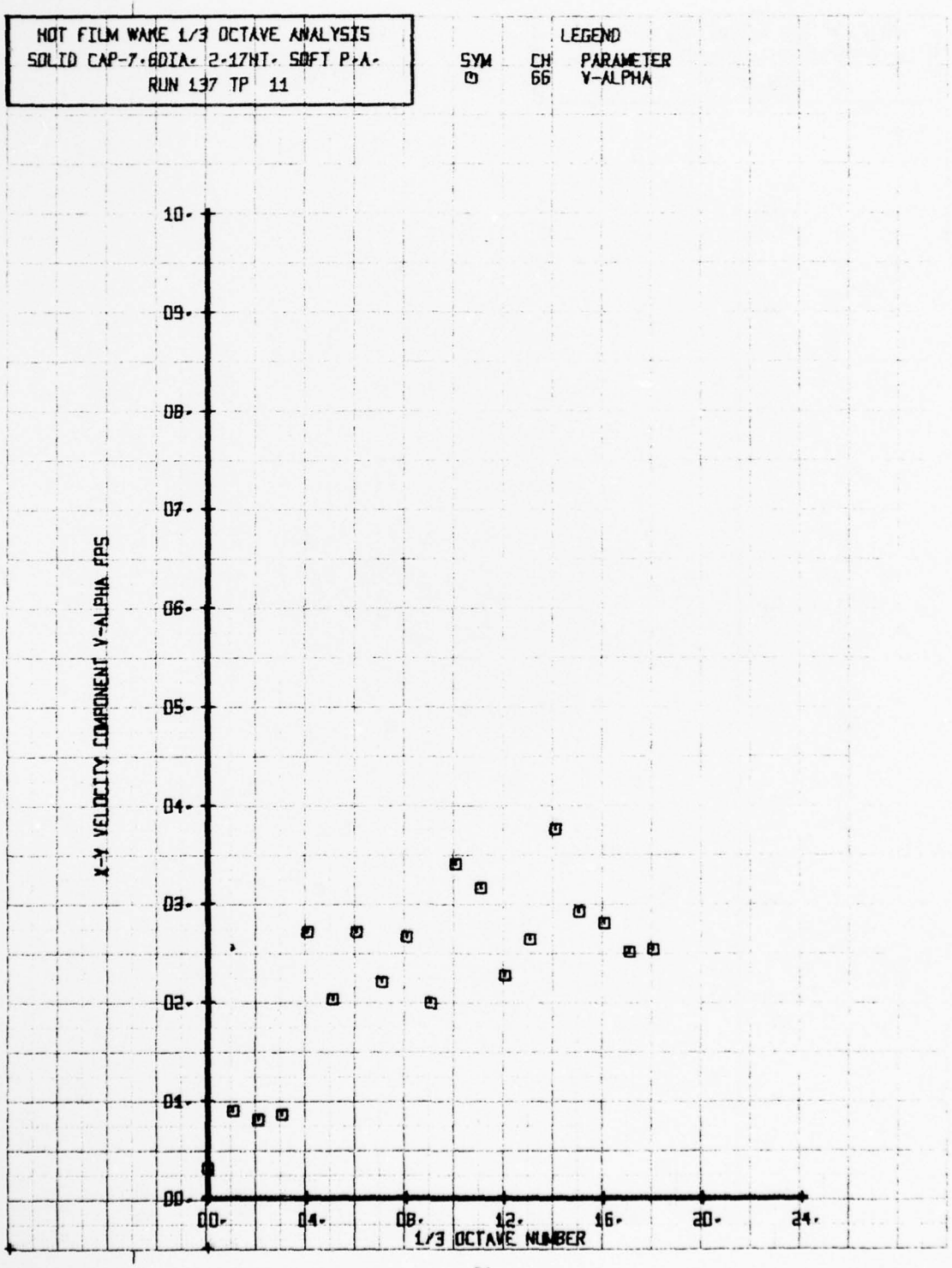
LEGEND

SYM	CH	PARAMETER
□	66	V-ALPHA




HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.6DIA. 2.17HT. SOFT P.A.
RUN 137 TP 7
LEGEND
SYM CH PARAMETER
66 V-ALPHA
X-Y VELOCITY COMPONENT V-ALPHA FPS
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1/3 OCTAVE NUMBER

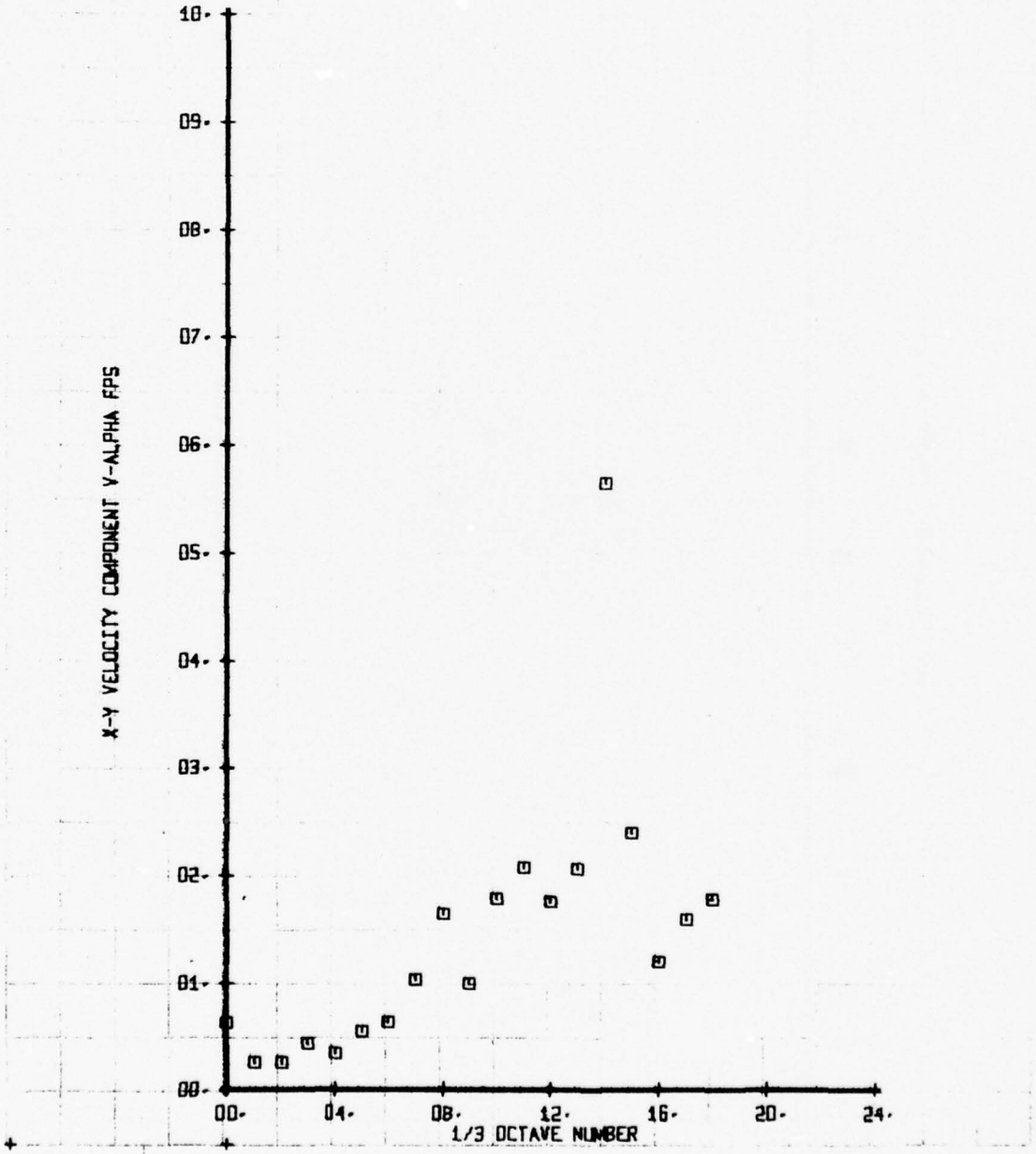

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.6DIA. 2.17HT. SOFT P.A.
RUN 137 TP 9
LEGEND
SYM CH PARAMETER
66 V-ALPHA
X-Y VELOCITY COMPONENT V-ALPHA FPS
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1/3 OCTAVE NUMBER

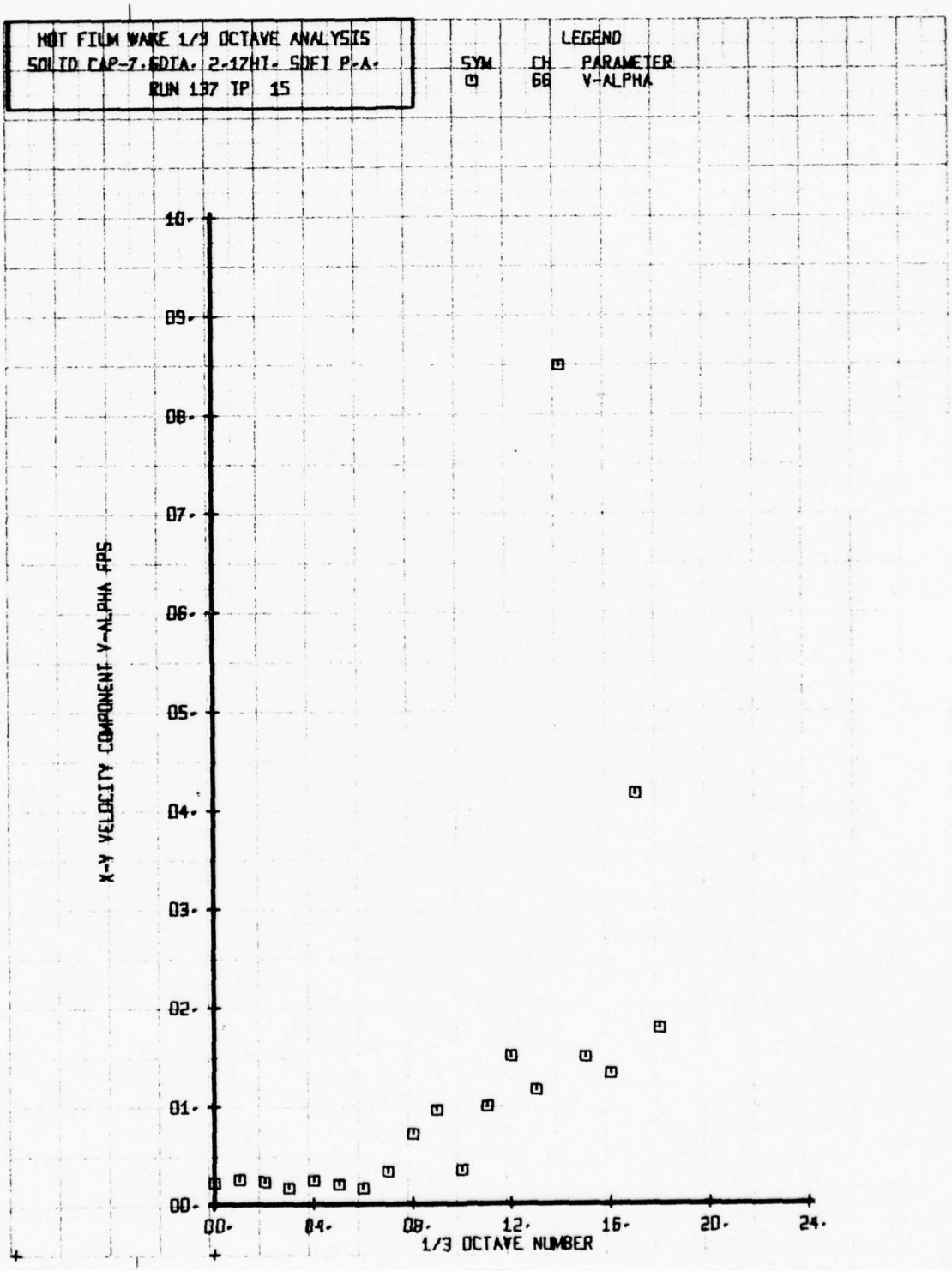

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.6DIA. 2.17HT. SOFT P.A.
RUN 137 TP 11
LEGEND
SYM CH PARAMETER
66 V-ALPHA
X-Y VELOCITY COMPONENT V-ALPHA FPS
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1/3 OCTAVE NUMBER

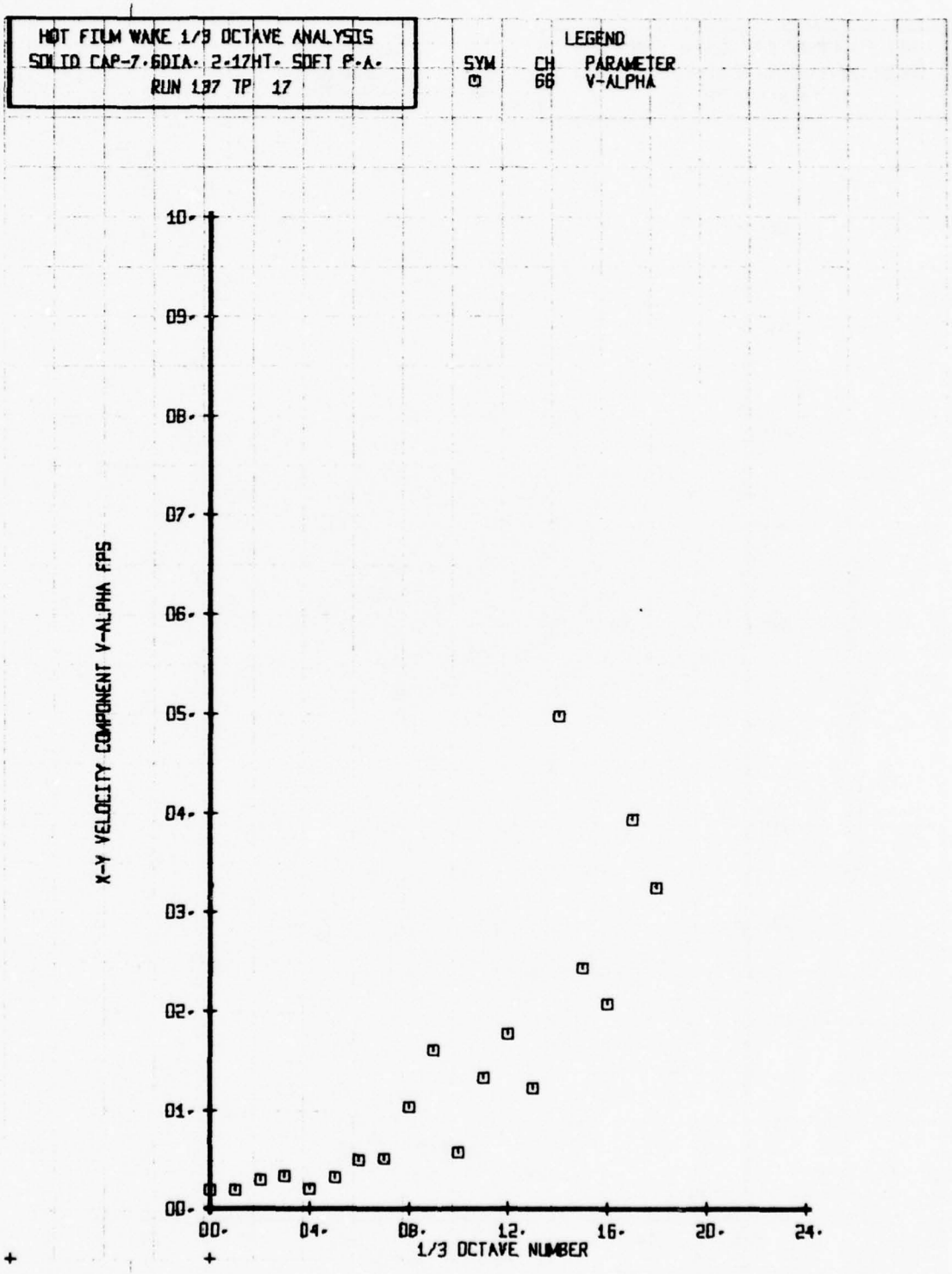
HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.6DIA. 2-17HT. SOFT P.A.
RUN 137 TP 13

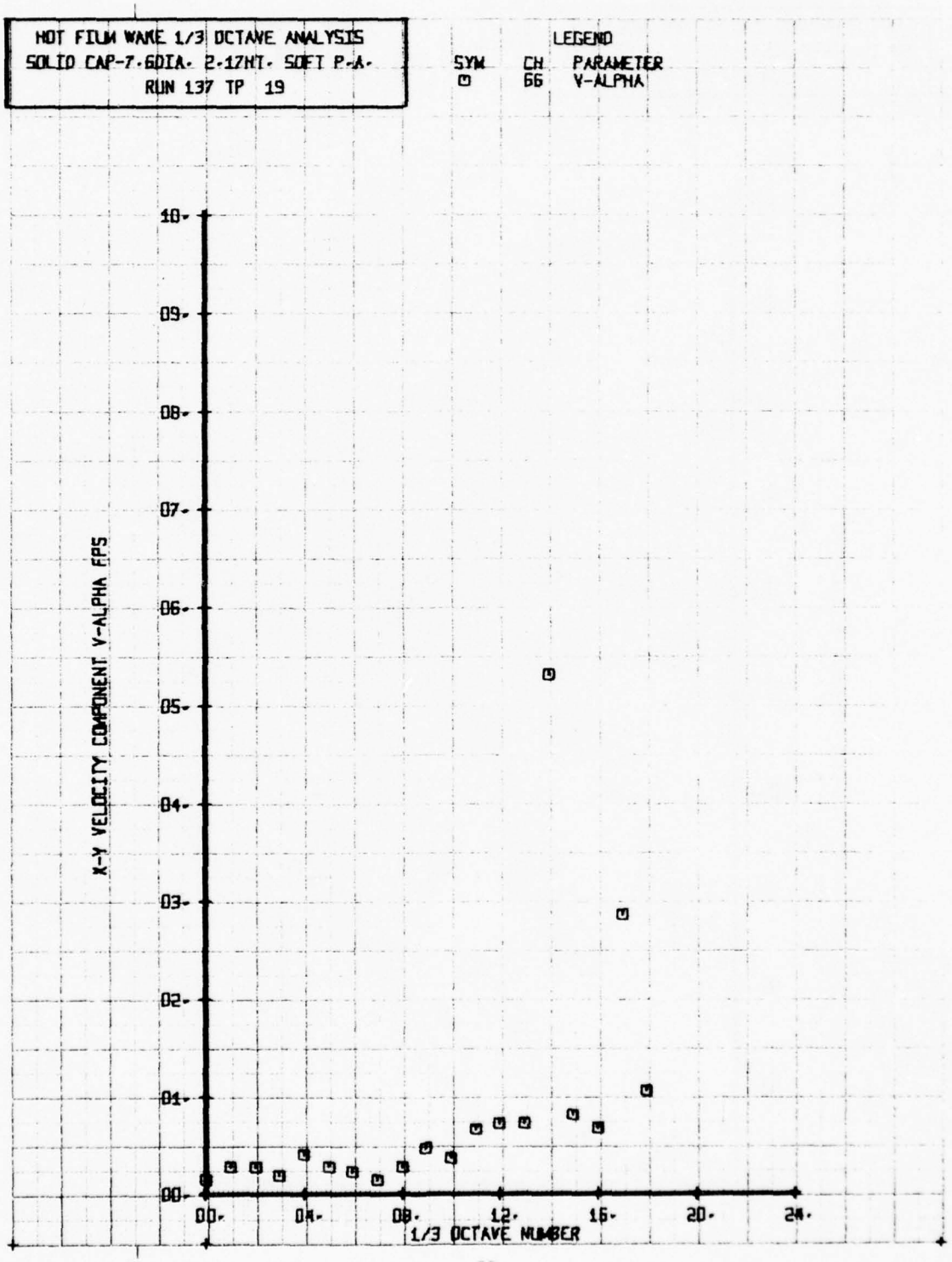
LEGEND

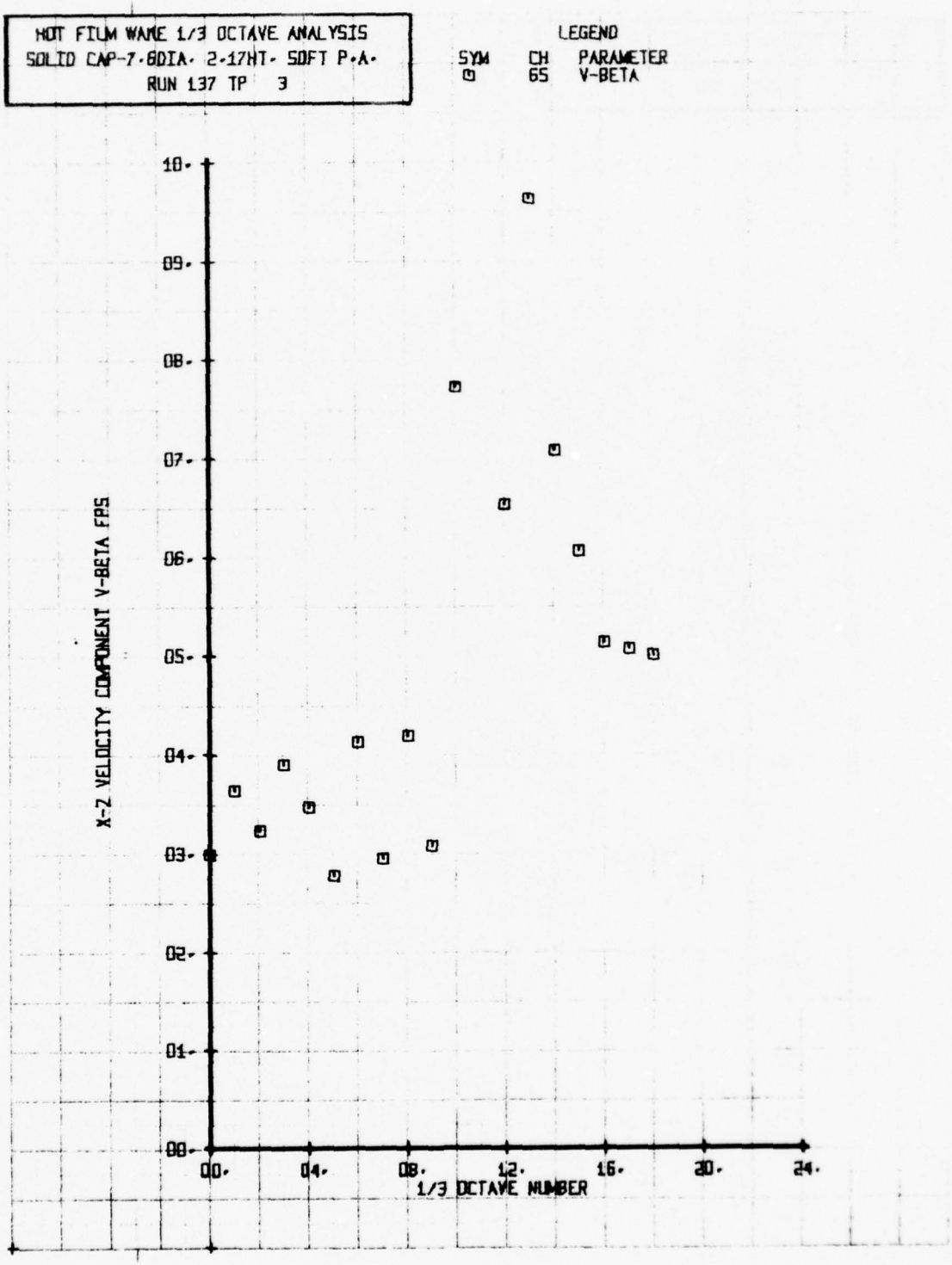
SYM	CH	PARAMETER
□	66	V-ALPHA

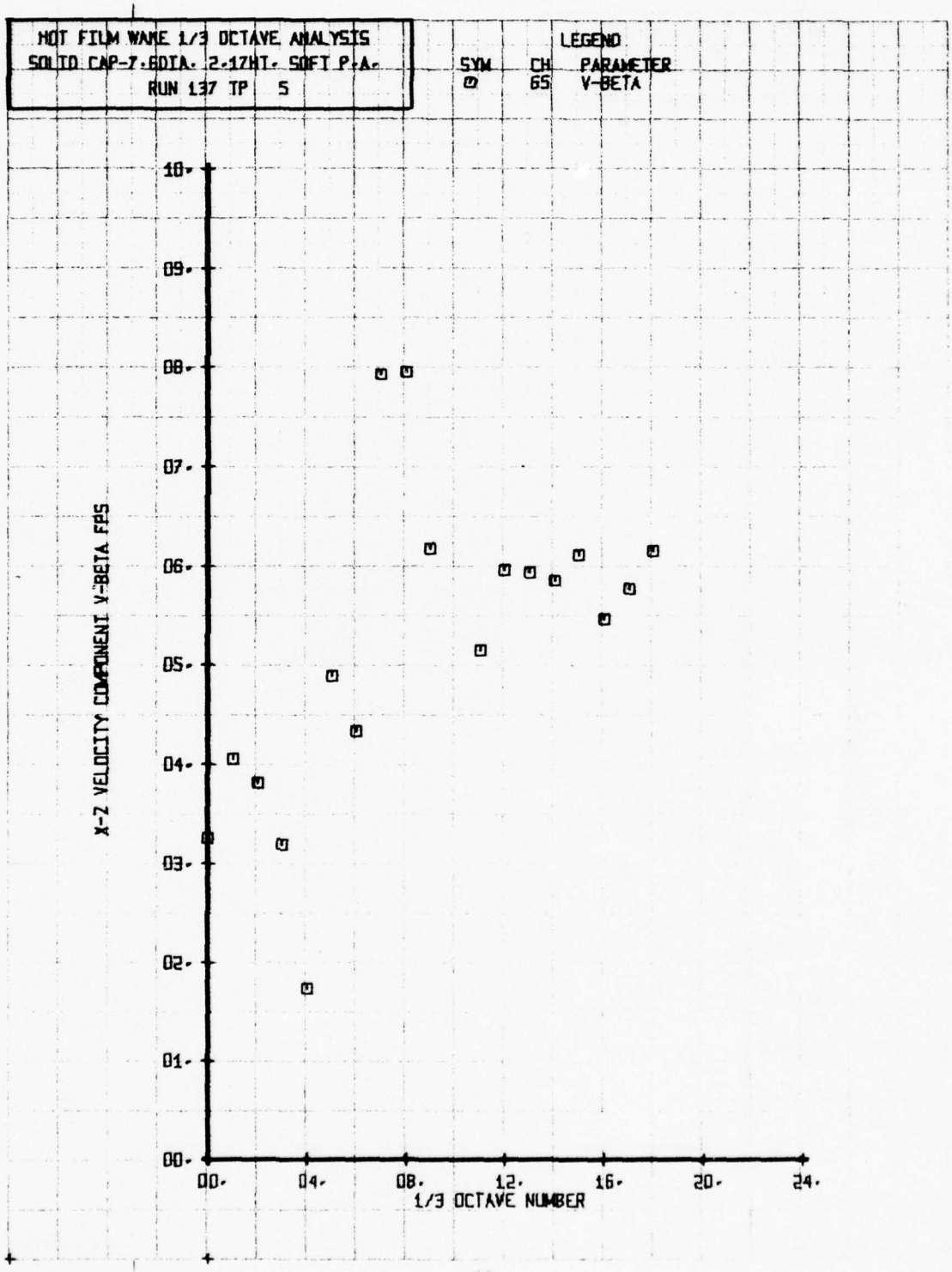


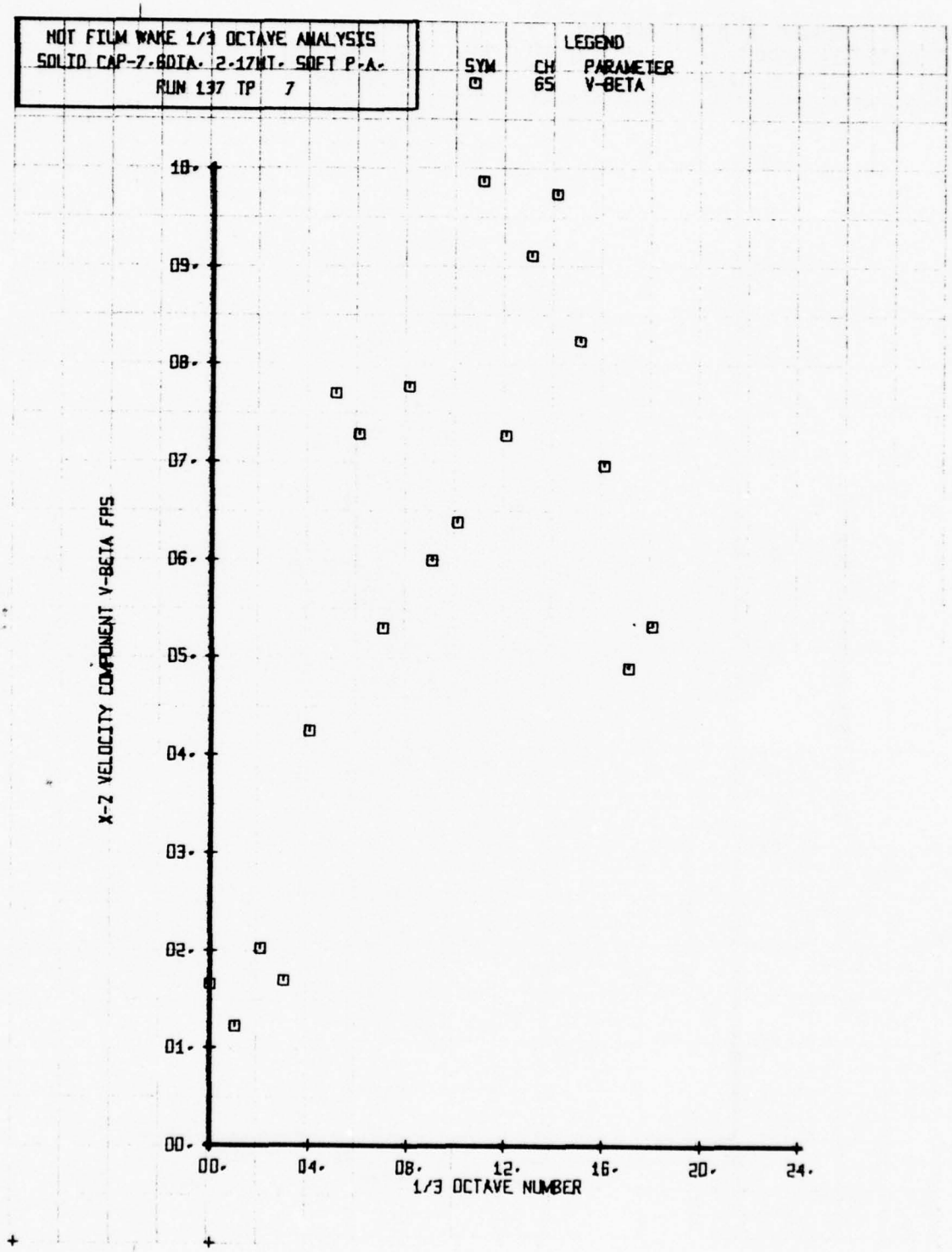

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.6DIA. 2.17HT. SOFI P.A.
RUN 137 TP 15
LEGEND
SYM CH PARAMETER
66 V-ALPHA
X-V VELOCITY COMPONENT V-ALPHA FPS
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1/3 OCTAVE NUMBER

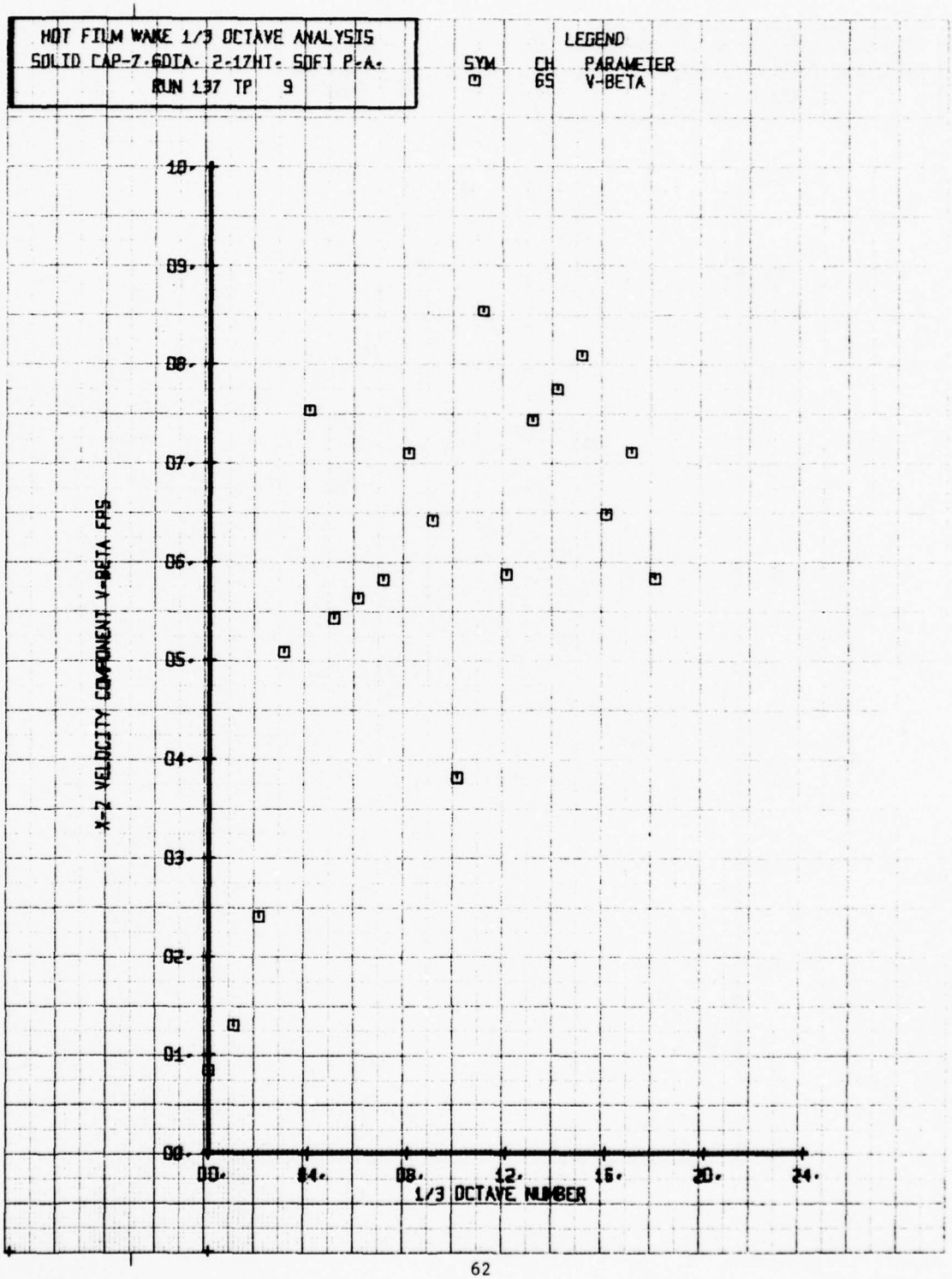

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.6DIA. 2.17HT. SOFT P.A.
RUN 137 TP 17
LEGEND
SYM CH PARAMETER
66 V-ALPHA
X-Y VELOCITY COMPONENT V-ALPHA FPS
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1/3 OCTAVE NUMBER

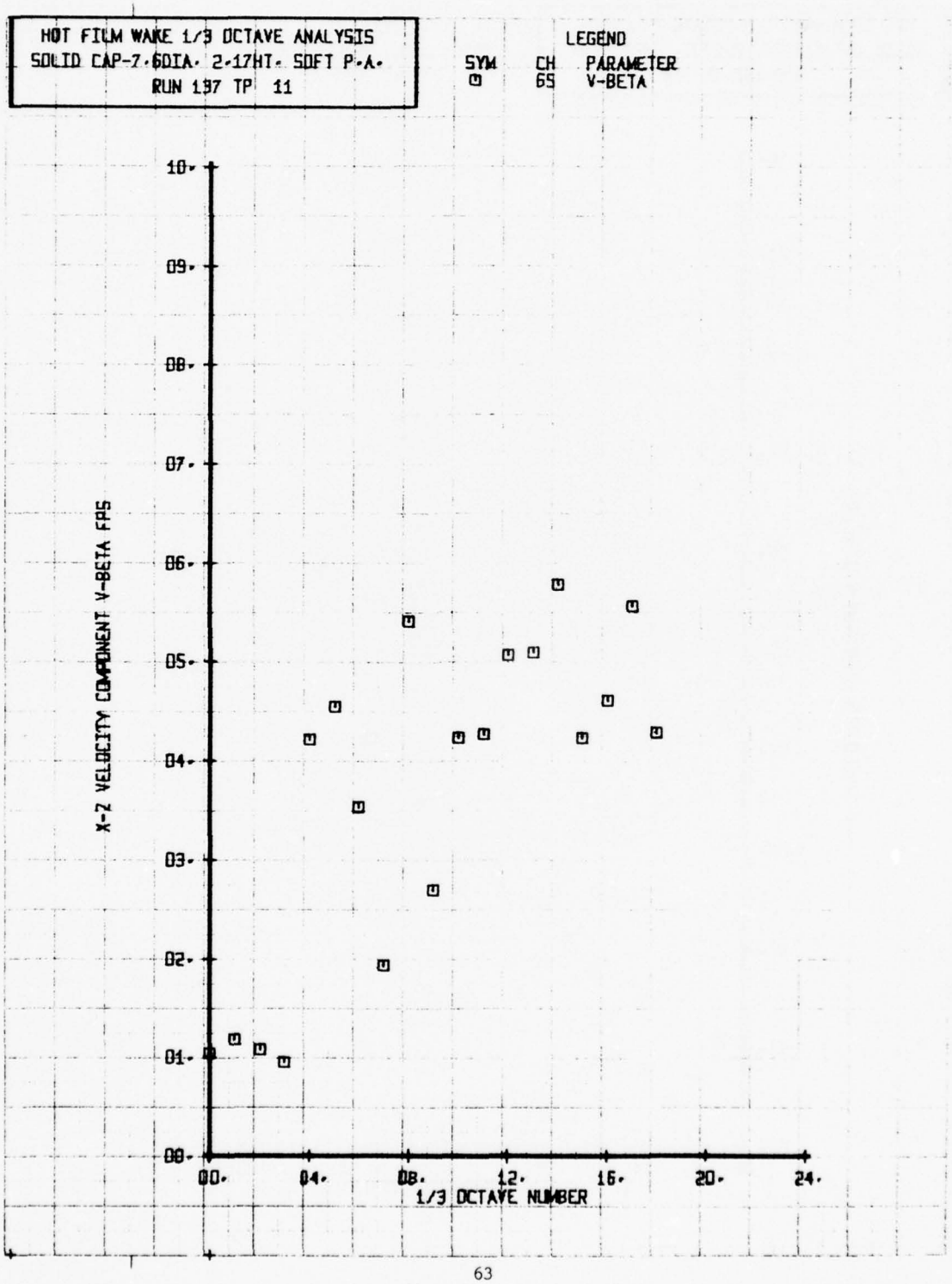

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.6DIA. 2.17HT. SOFT P.A.
RUN 137 TP 19
LEGEND
SYM CH PARAMETER
66 V-ALPHA
X-Y VELOCITY COMPONENT V-ALPHA FPS
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1/3 OCTAVE NUMBER

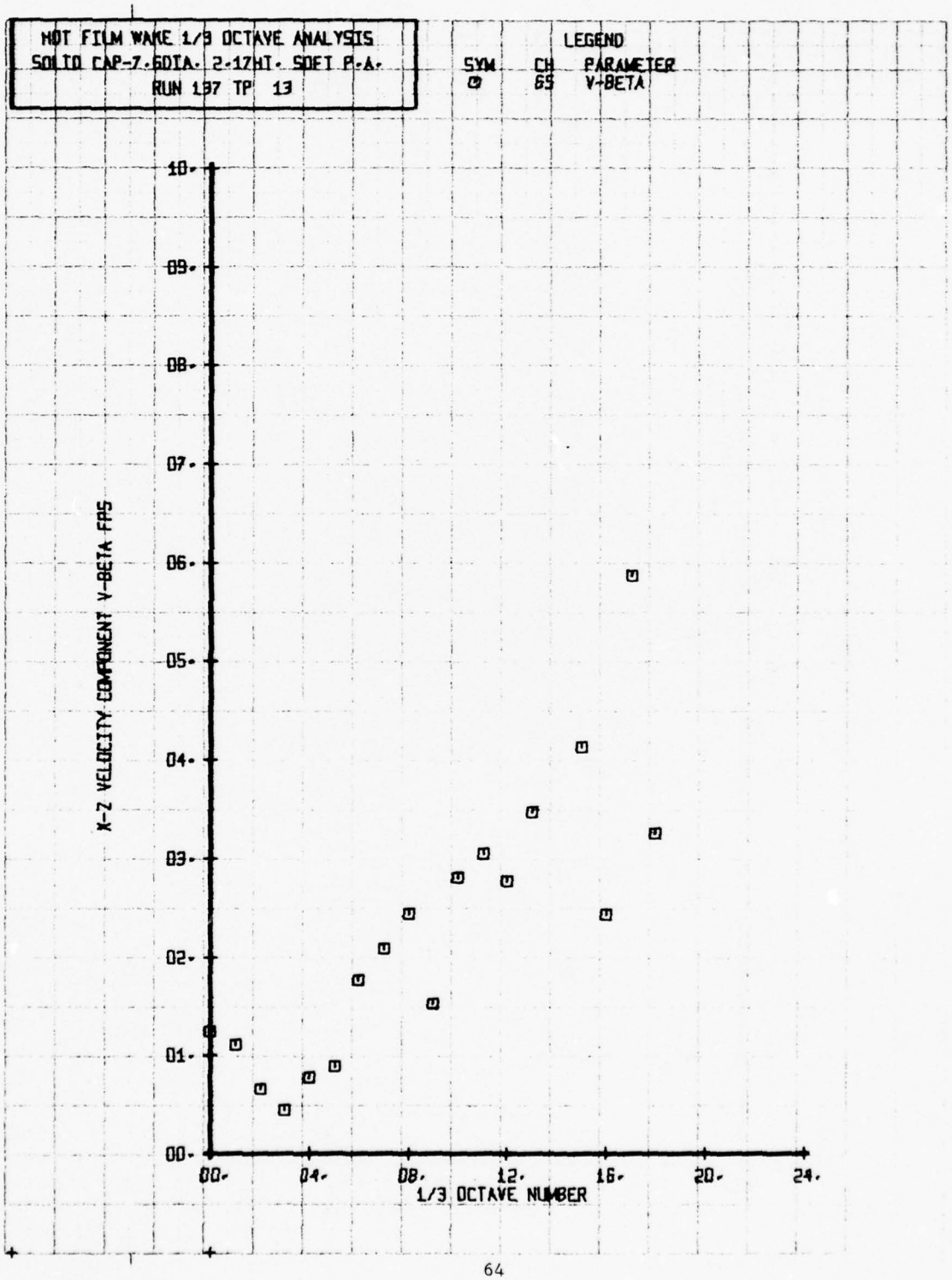

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.6DIA. 2.17HT. 50FT P.A.
RUN 137 TP 3
LEGEND
SYM CH PARAMETER
65 V-BETA
X-Z VELOCITY COMPONENT V-BETA FPS
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1/3 OCTAVE NUMBER

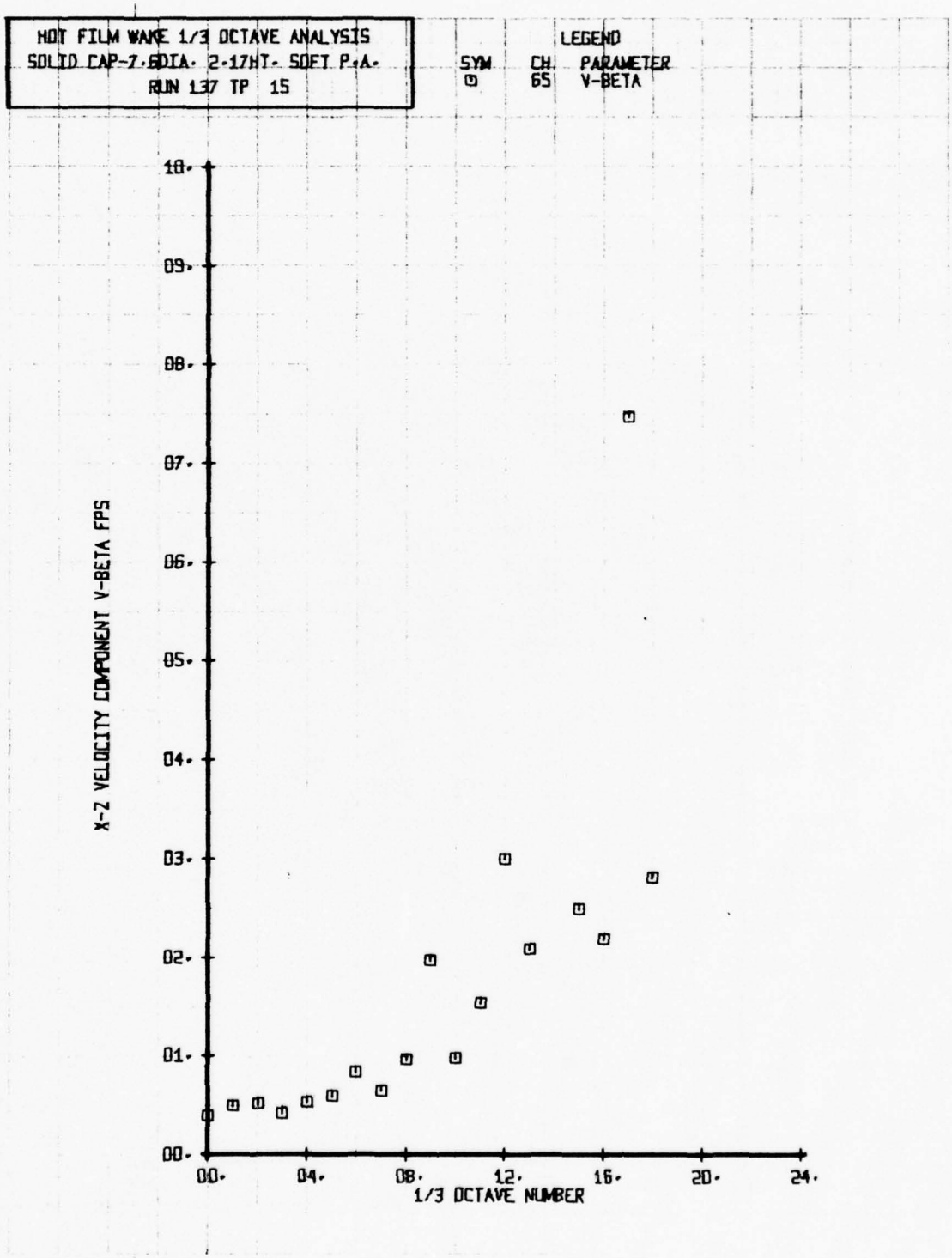

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.6DIA. 2.17HT. SOFT P.A.
RUN 137 TP 5
LEGEND
SYM CH PARAMETER
65 V-BETA
X-Z VELOCITY COMPONENT V-BETA FPS
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1/3 OCTAVE NUMBER

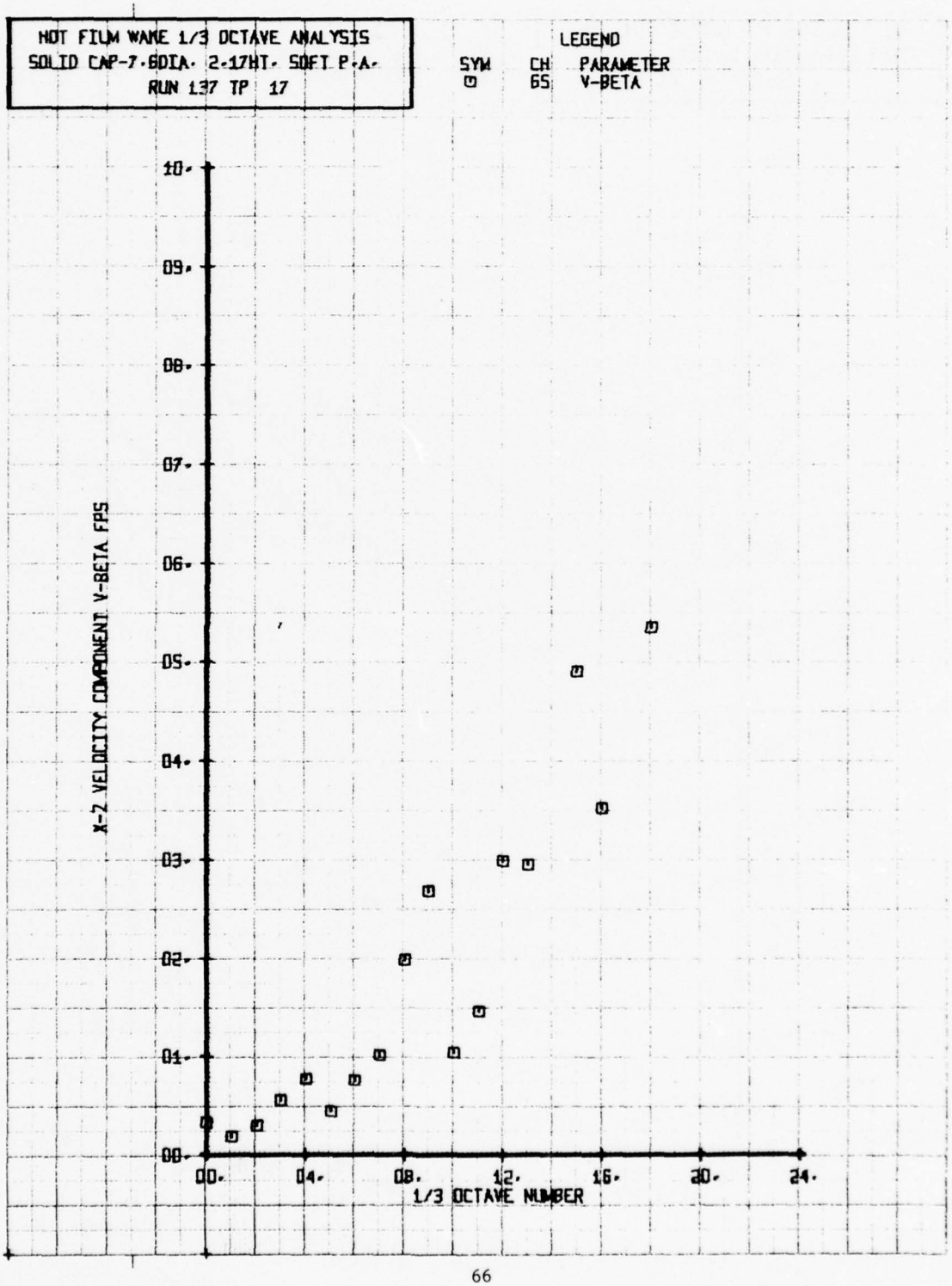

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.6DIA. 2.17MT. SOFT P.A.
RUN 137 TP 7
LEGEND
SYM CH PARAMETER
65 V-BETA
X-Z VELOCITY COMPONENT V-BETA FPS
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1/3 OCTAVE NUMBER

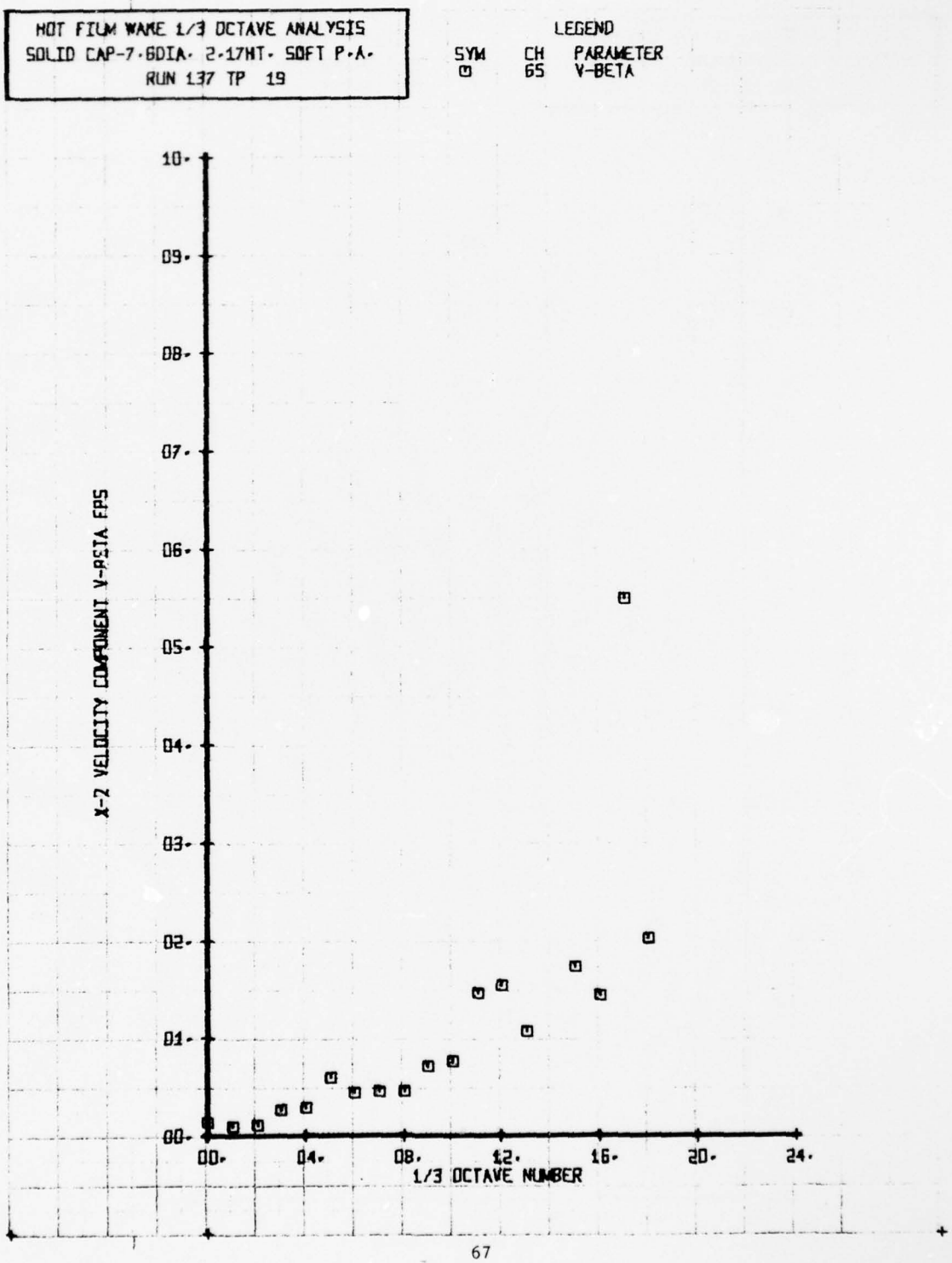

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.6DIA. 2-17HT. SOFT P-A.
RUN 137 TP 9
LEGEND
SYM CH PARAMETER
65 V-BETA
X-2 VELOCITY COMPONENT V-BETA FPS
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1/3 OCTAVE NUMBER

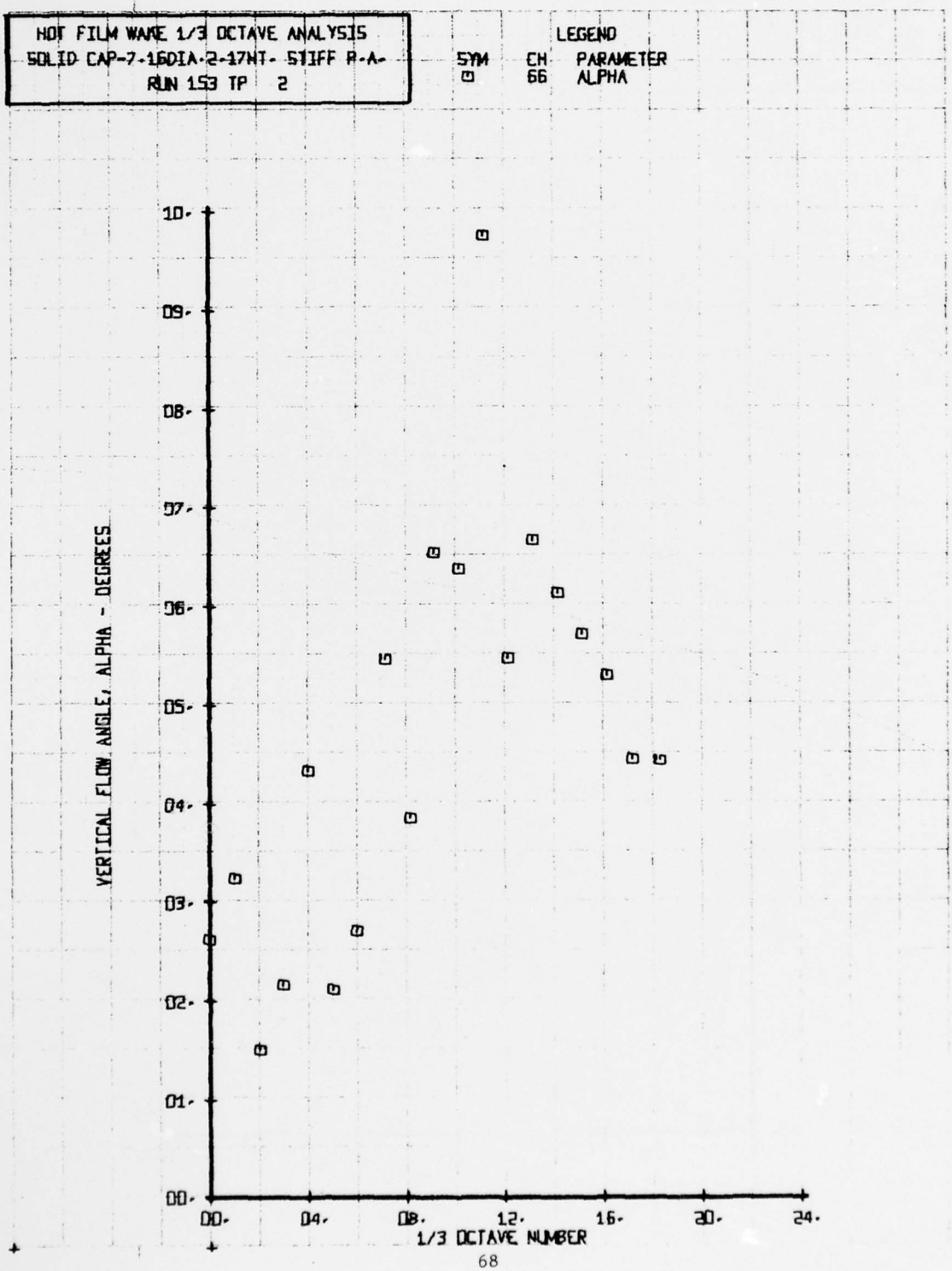

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.6DIA. 2.17HT. SOFT P.A.
RUN 137 TP 11
LEGEND
SYM CH PARAMETER
65 V-BETA
X-Z VELOCITY COMPONENT V-BETA FPS
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24.
1/3 OCTAVE NUMBER

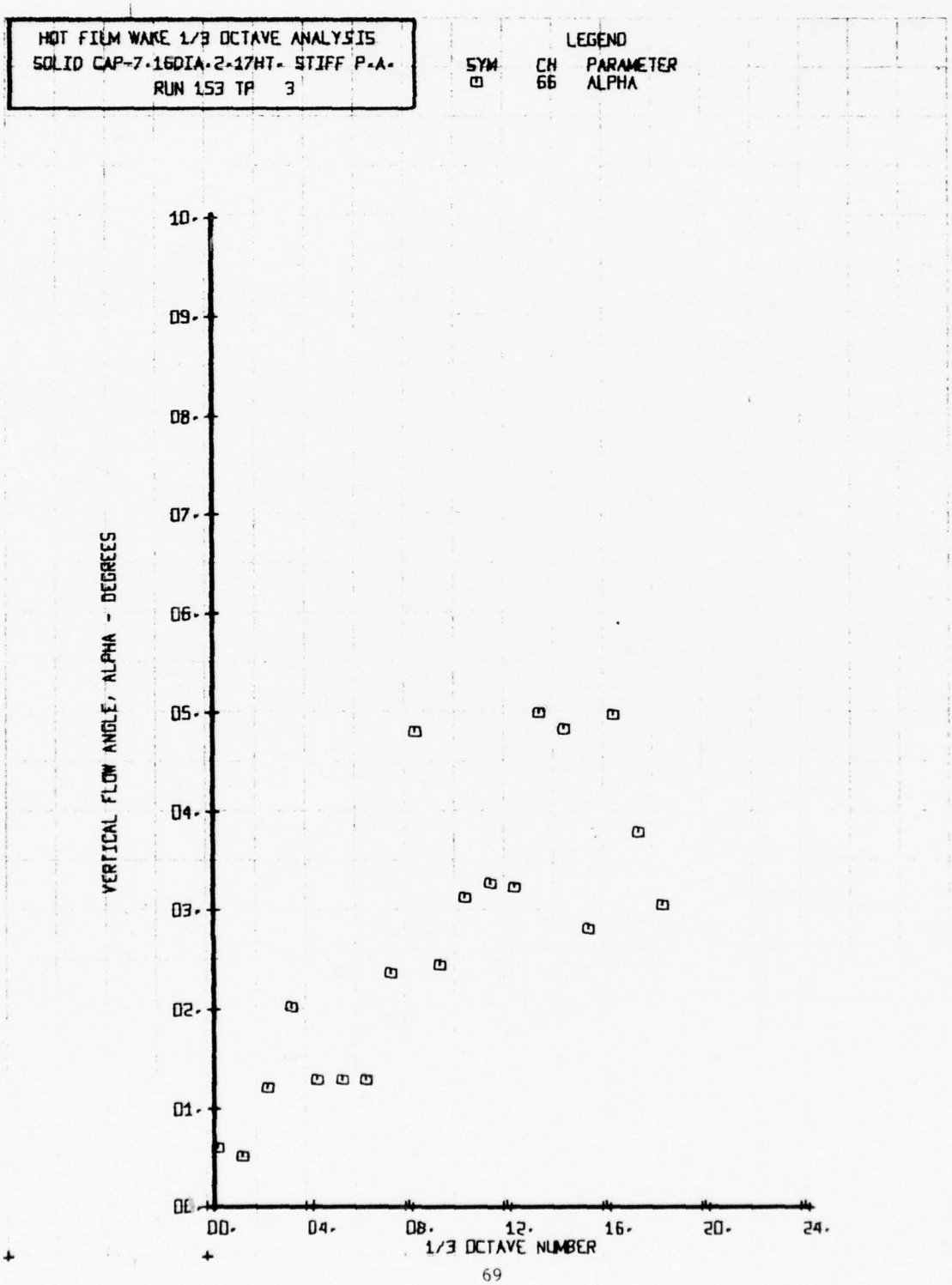

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.6DIA. 2.17HI. SOFI P.A.
RUN 137 TP 13
LEGEND
SYM CH PARAMETER
65 V-BETA
X-Z VELOCITY COMPONENT V-BETA FPS
1/3 OCTAVE NUMBER
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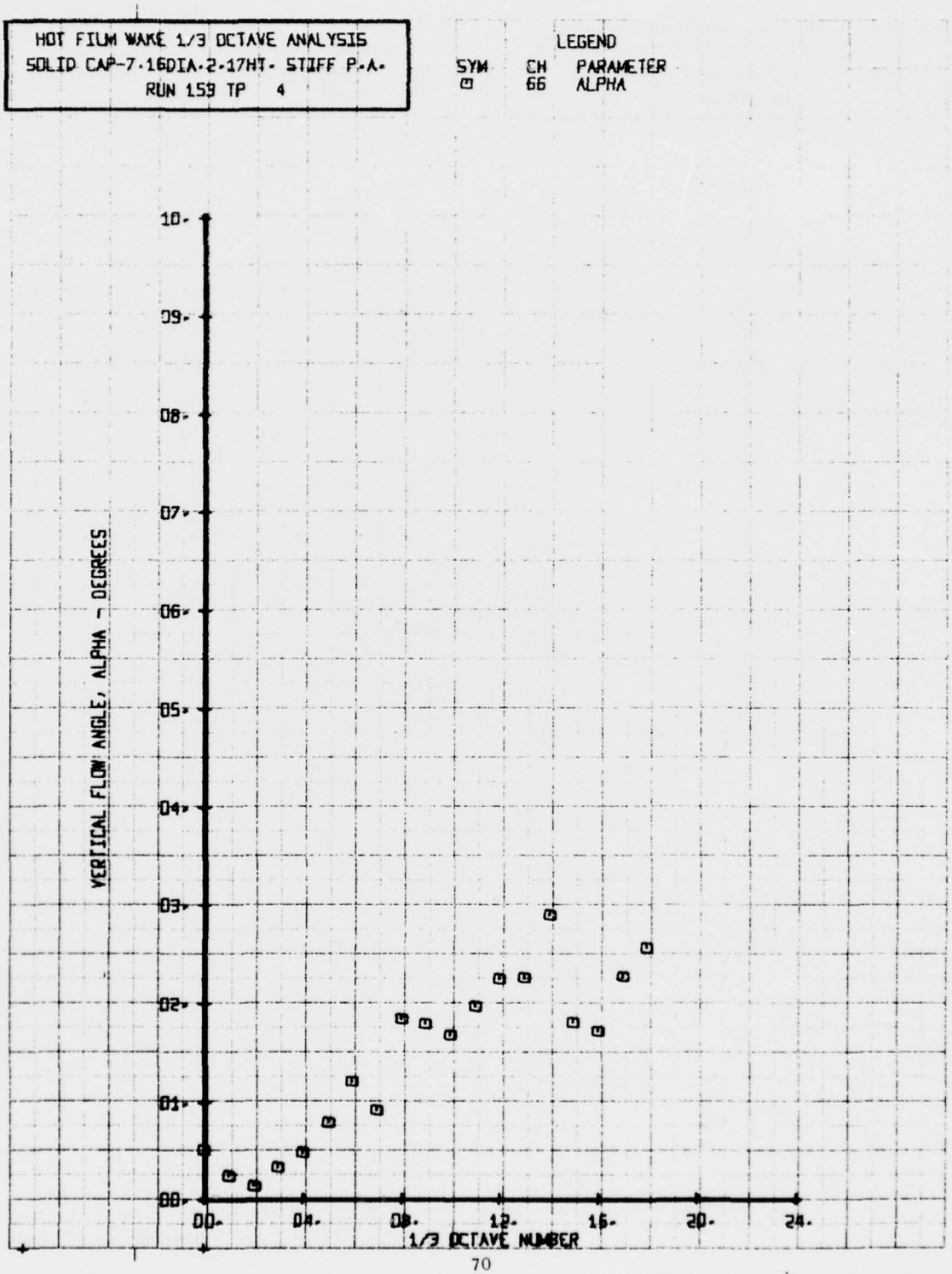

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.6DIA. 2.17HT. SOFT P.A.
RUN 137 TP 15
LEGEND
SYM CH PARAMETER
65 V-BETA
X-Z VELOCITY COMPONENT V-BETA FPS
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1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.6DIA. 2.17HT. SOFT P.A.
RUN 137 TP 17
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
SOLID CAP-7.6DIA. 2.17HT. SOFT P.A.
RUN 137 TP 19
LEGEND
SYM CH PARAMETER
65 V-BETA
X-2 VELOCITY COMPONENT V-RMS FPS
10.
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1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7-16DIA-2-17HT- STIFF P-A-
RUN 153 TP 2
LEGEND
SYM CH PARAMETER
66 ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
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1/3 OCTAVE NUMBER

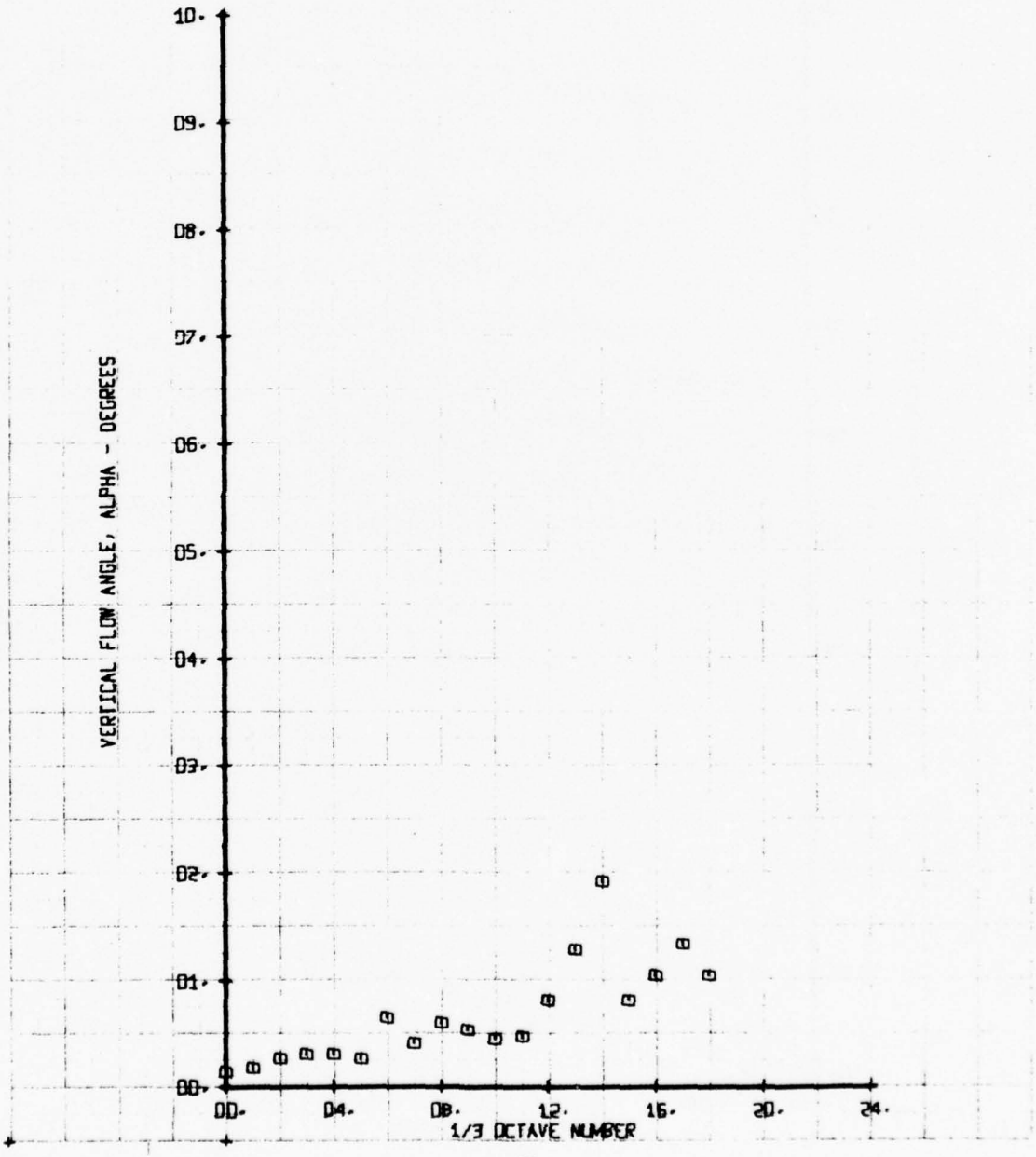

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.16DIA.2.17HT. STIFF P.A.
RUN 153 TP 3
LEGEND
SYM CH PARAMETER
66 ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
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1/3 OCTAVE NUMBER

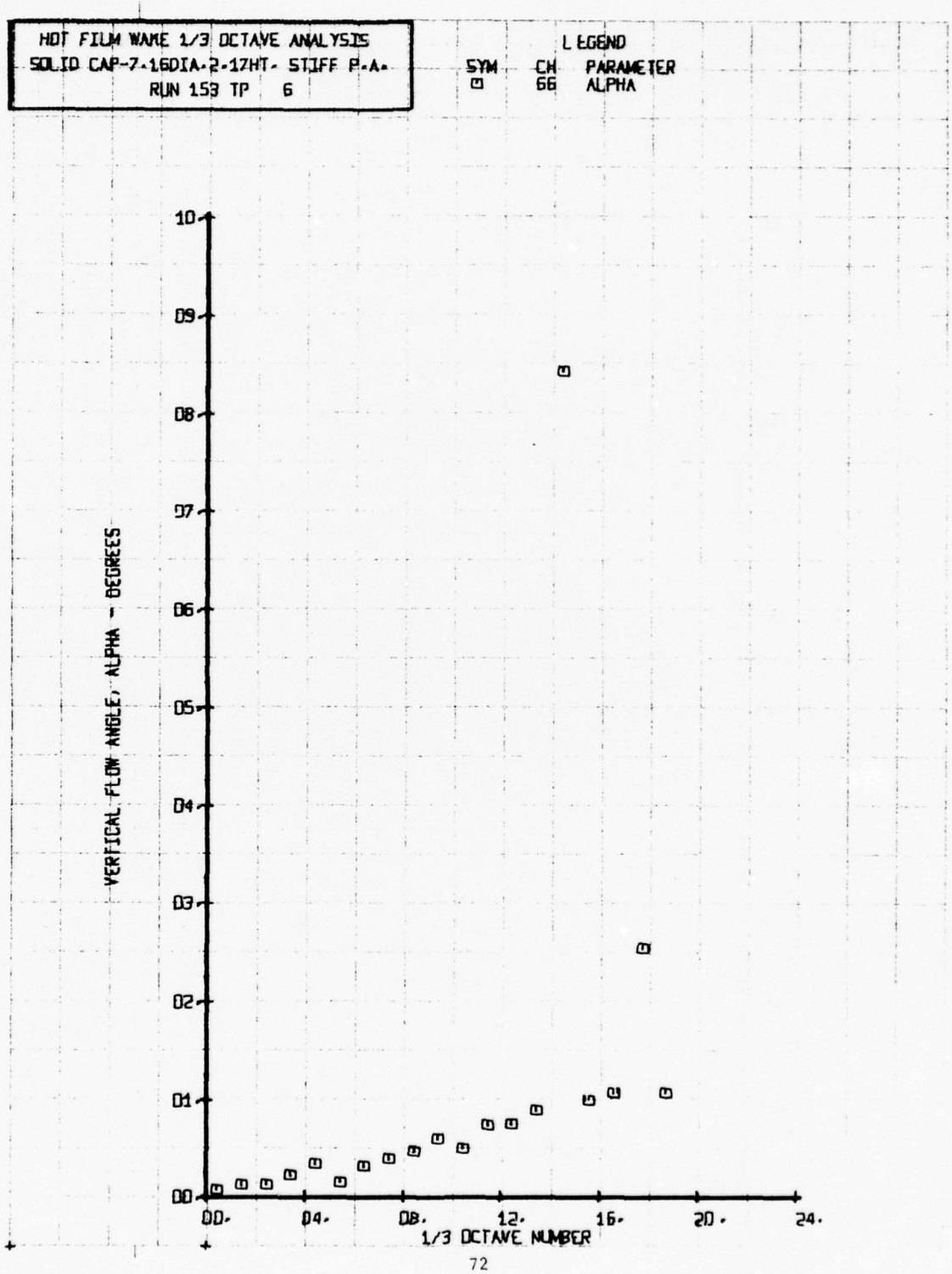

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.16DIA-2.17HT- STIFF P.A.
RUN 159 TP 4
LEGEND
SYM CH PARAMETER
66 ALPHA
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VERTICAL FLOW ANGLE, ALPHA - DEGREES
1/3 OCTAVE NUMBER

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.16DIA.2.17HT. STIFF P.A.
RUN 153 TP 5

LEGEND

SYM	CH	PARAMETER
□	66	ALPHA

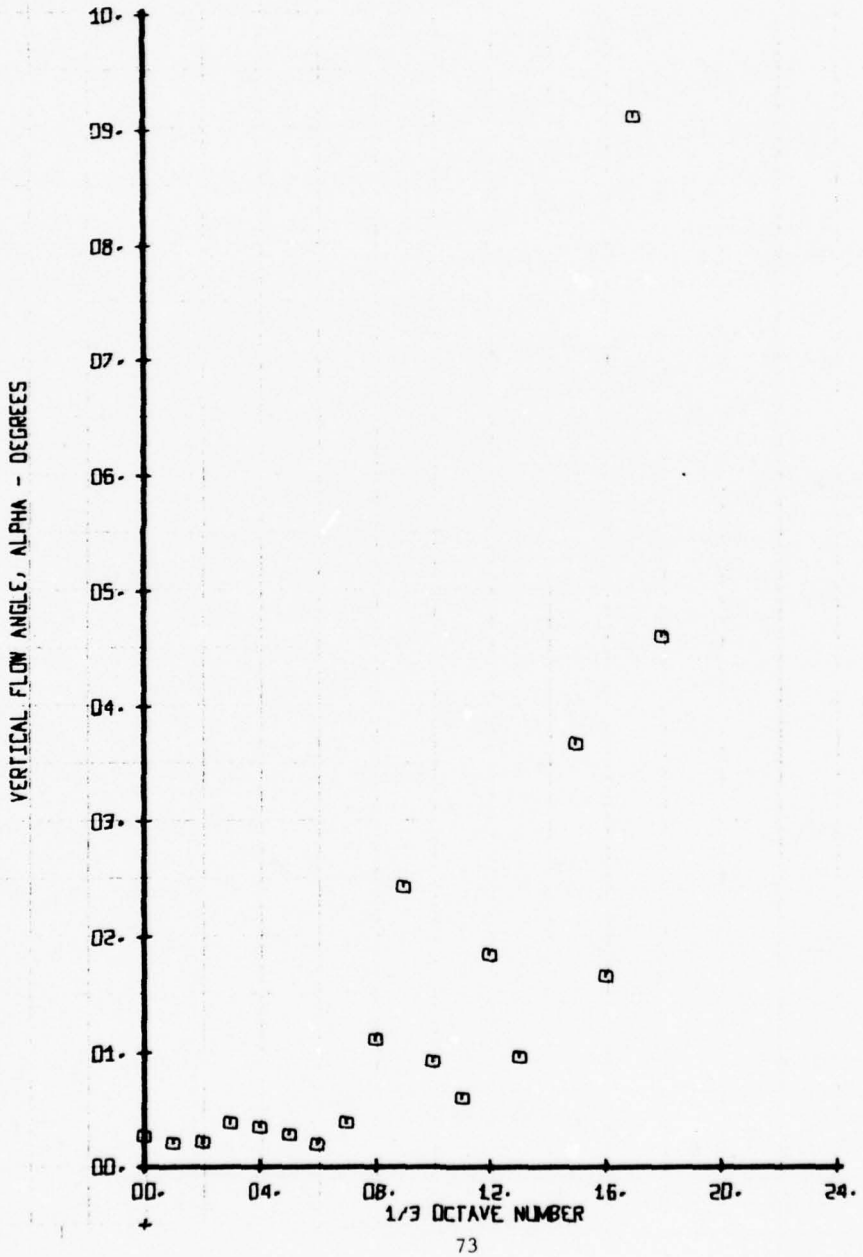


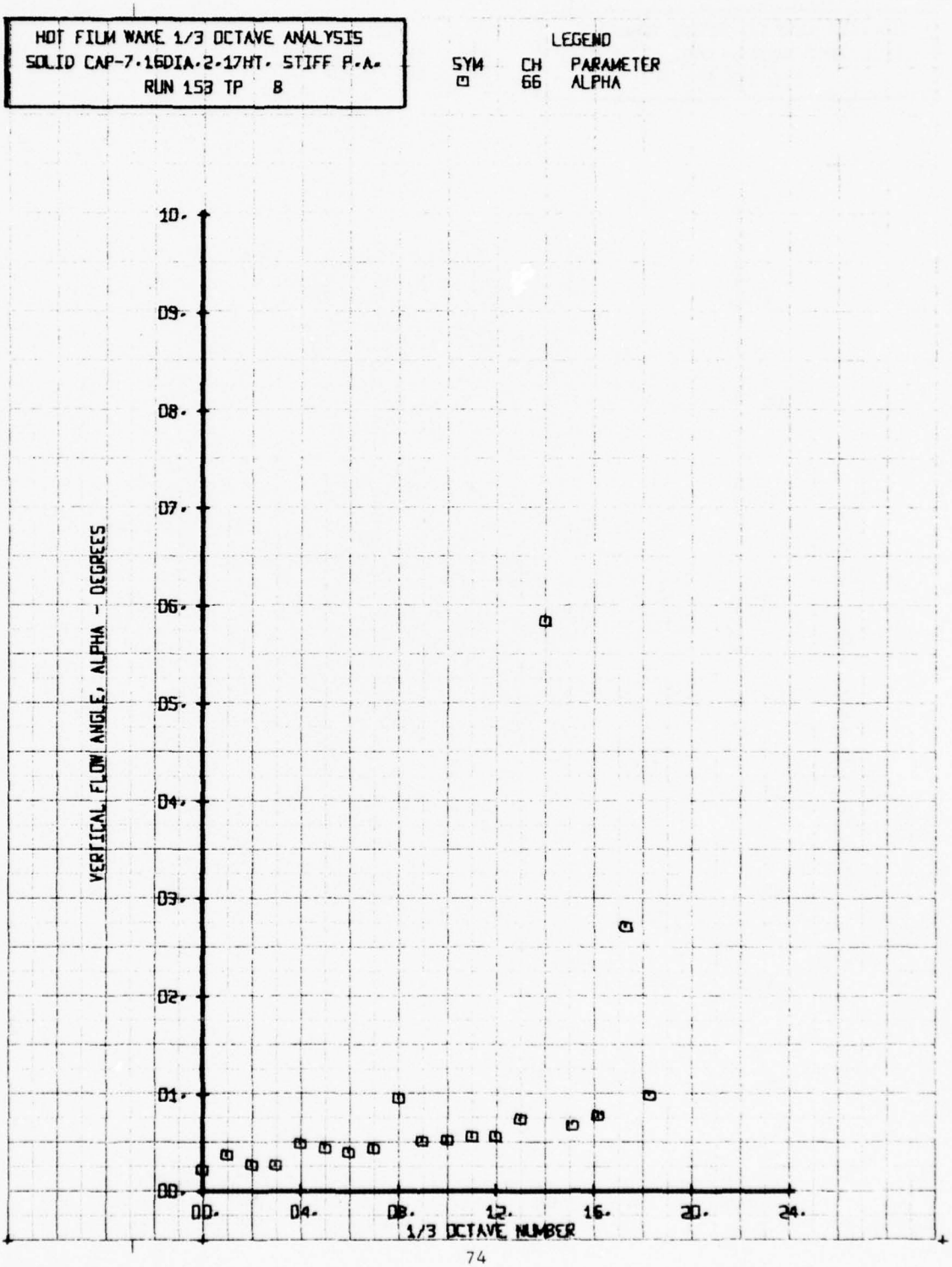

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.16DIA-2.17HT- STIFF P.A.
RUN 153 TP 6
LEGEND
SYM CH PARAMETER
66 ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
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1/3 OCTAVE NUMBER

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.16DIA.2.17HT. STIFF P.A.
RUN 153 TP 7

LEGEND

SYM	CH	PARAMETER
□	66	ALPHA

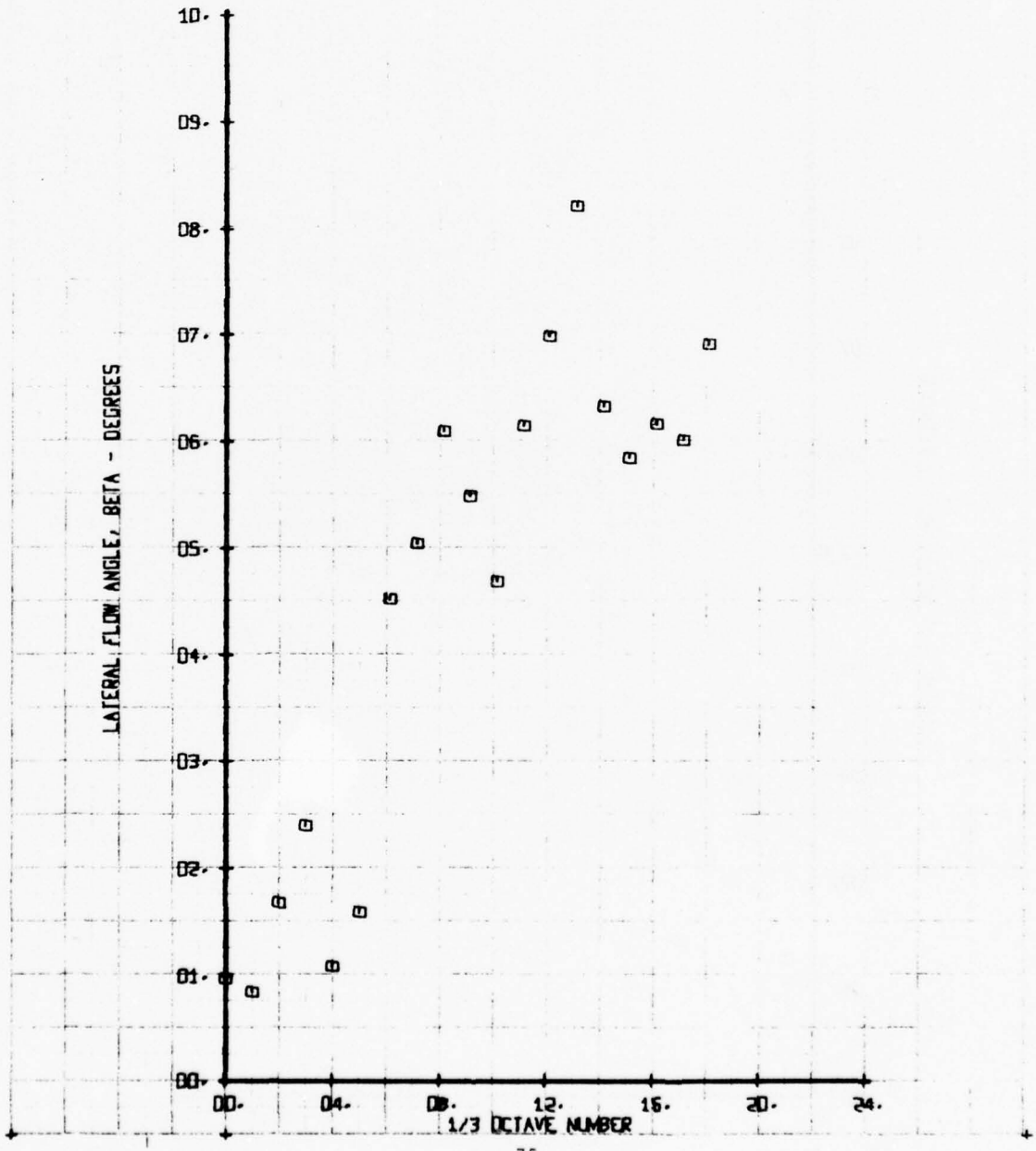


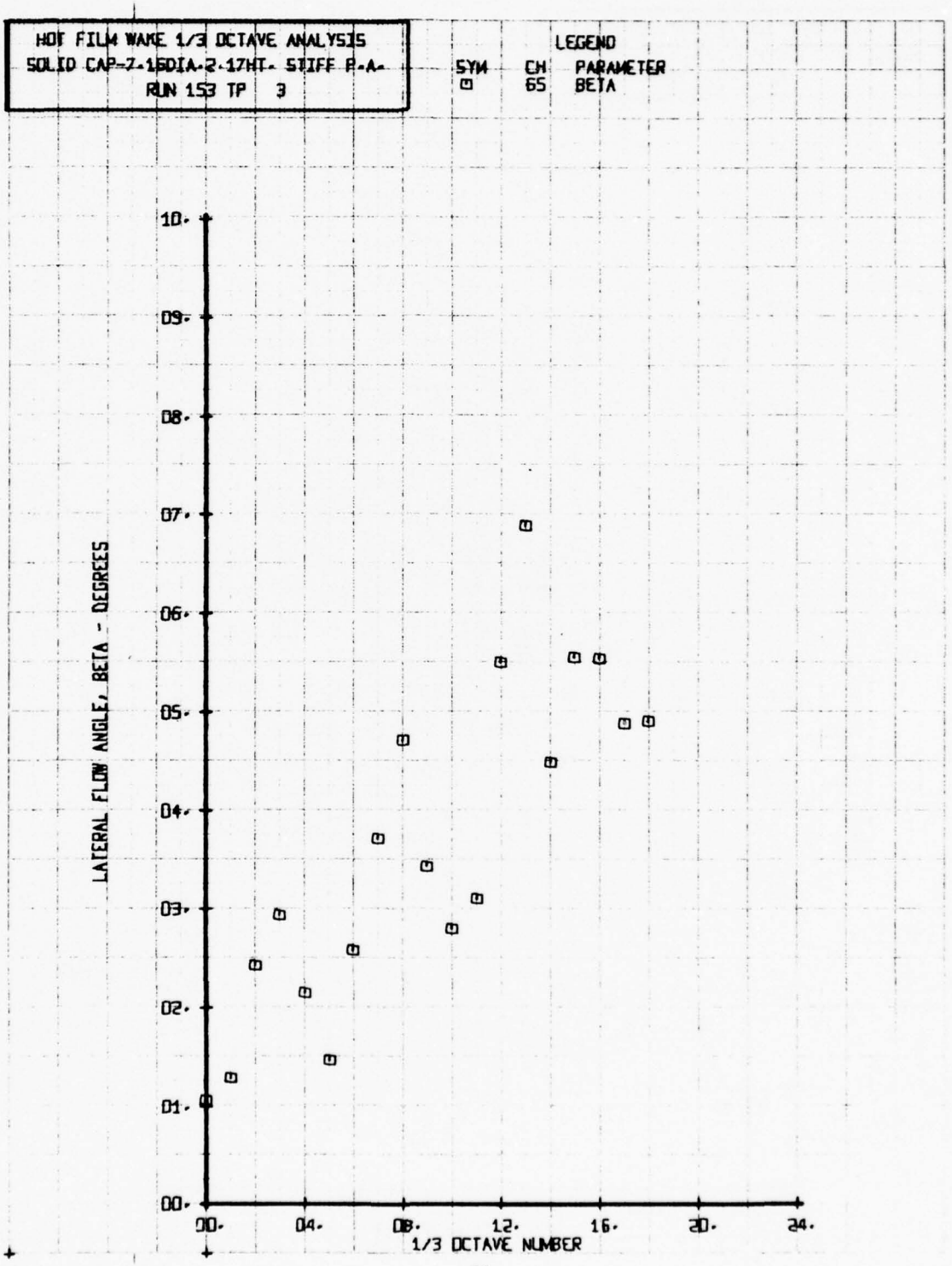

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.16DIA.2.17HT. STIFF P.A.
RUN 153 TP 8
LEGEND
SYM CH PARAMETER
66 ALPHA
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VERTICAL FLOW ANGLE, ALPHA - DEGREES
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1/3 OCTAVE NUMBER

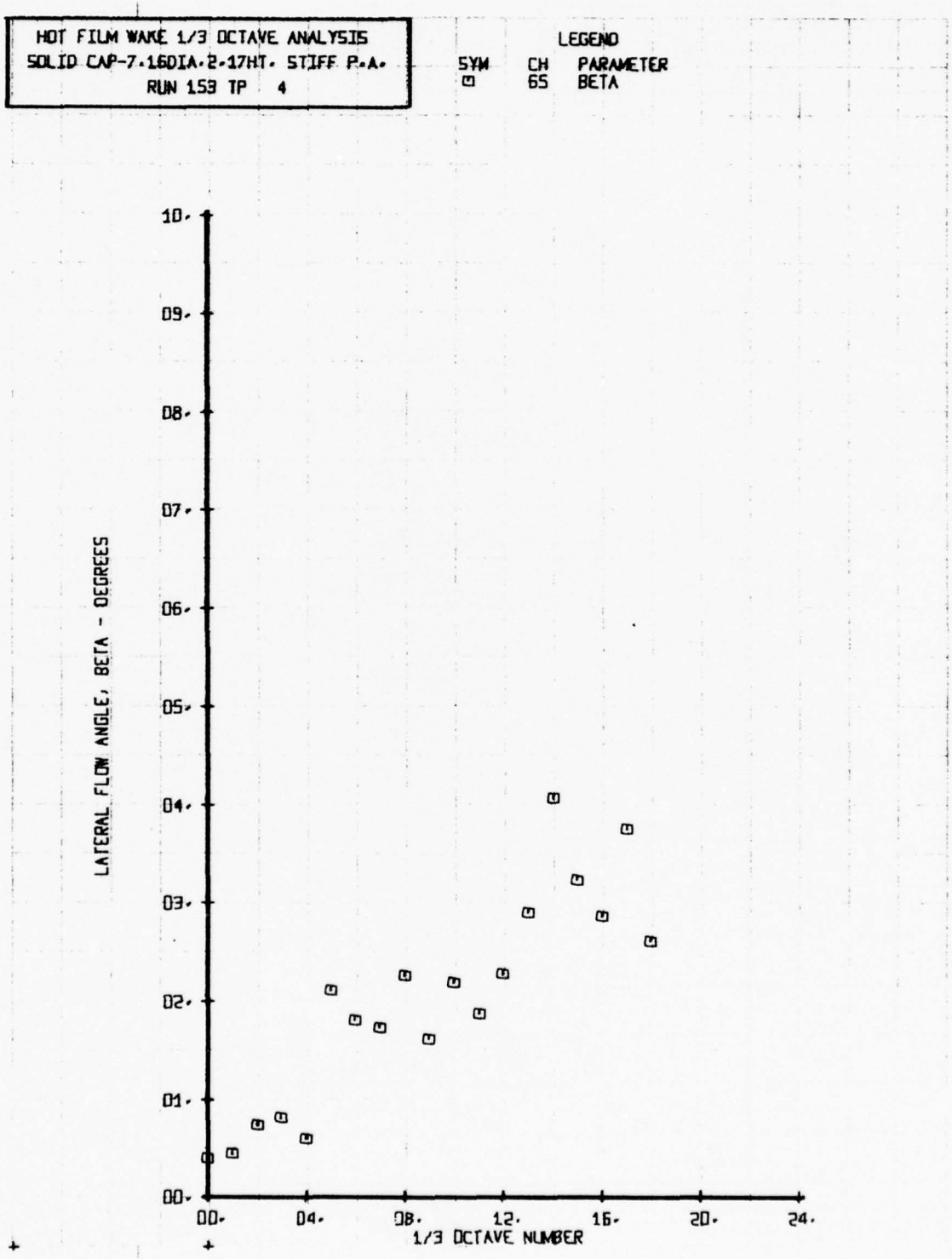
HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.16DIA.2.17HT. STIFF P.A.
RUN 153 TP 2

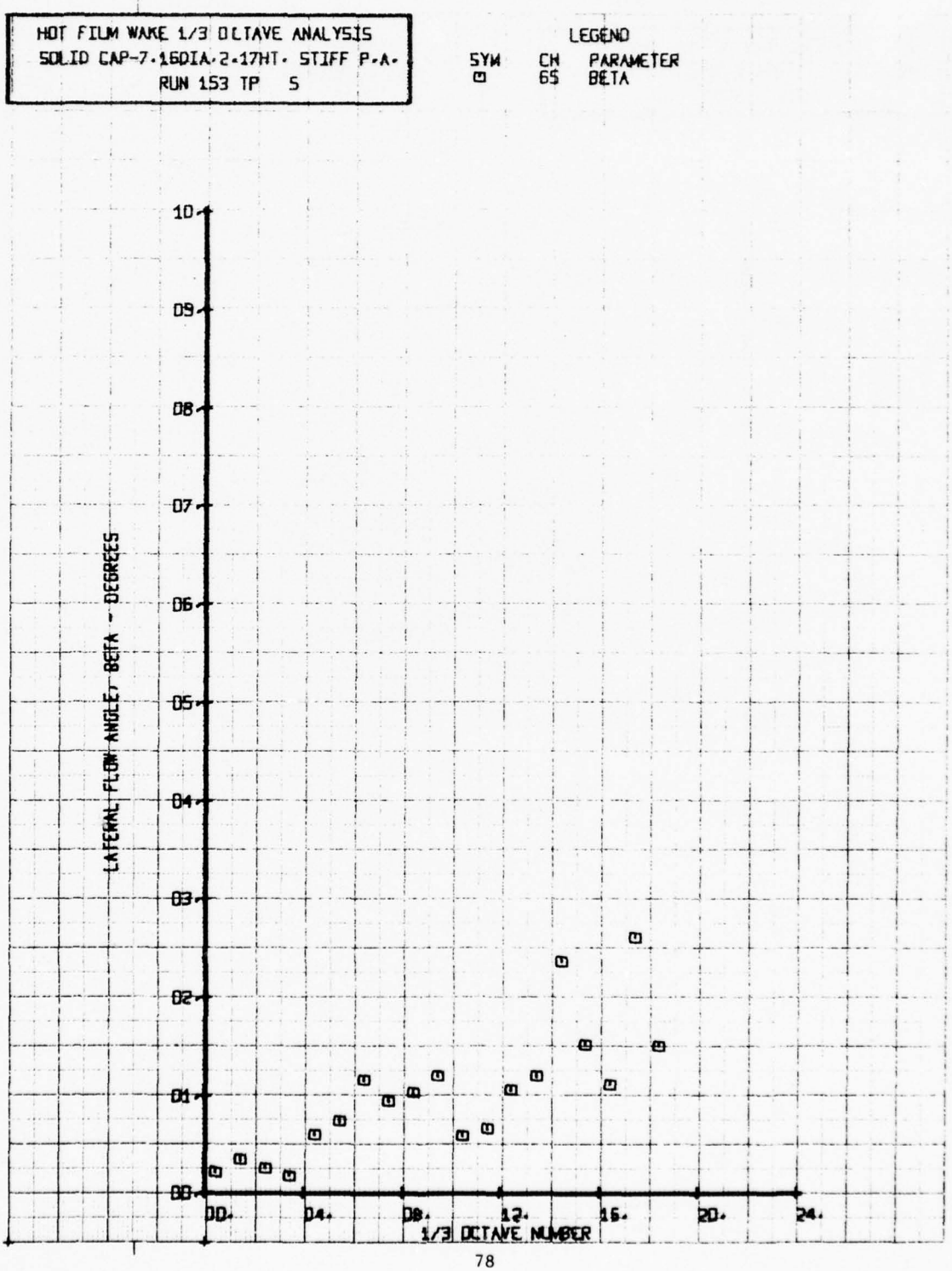
LEGEND

SYM	CH	PARAMETER
□	65	BETA




HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP=7.15DIA-2.17HT- STIFF P.A.
RUN 153 TP 3
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
10.
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1/3 OCTAVE NUMBER

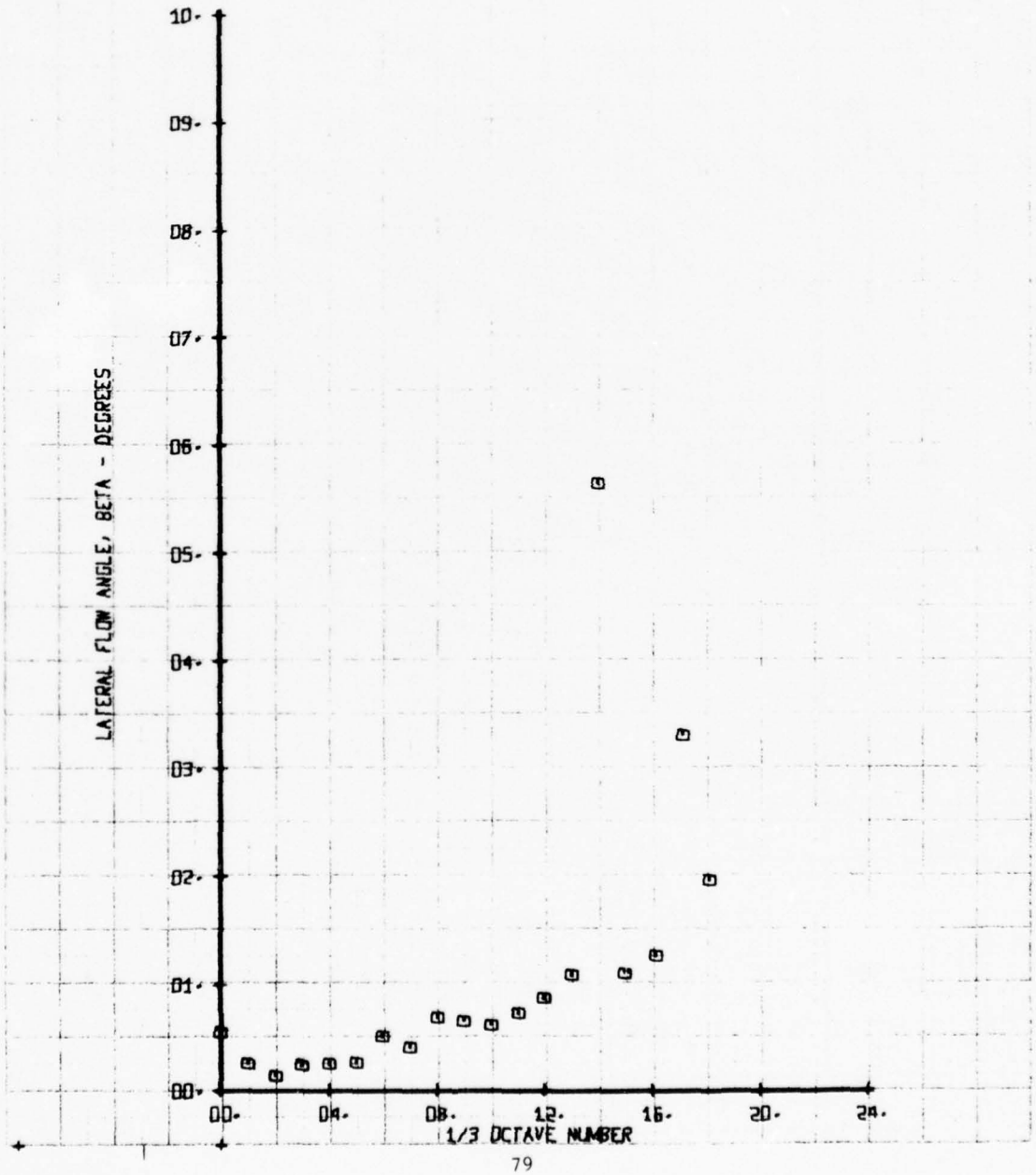

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.16DIA.2.17HT. STIFF P.A.
RUN 153 TP 4
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
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1/3 OCTAVE NUMBER

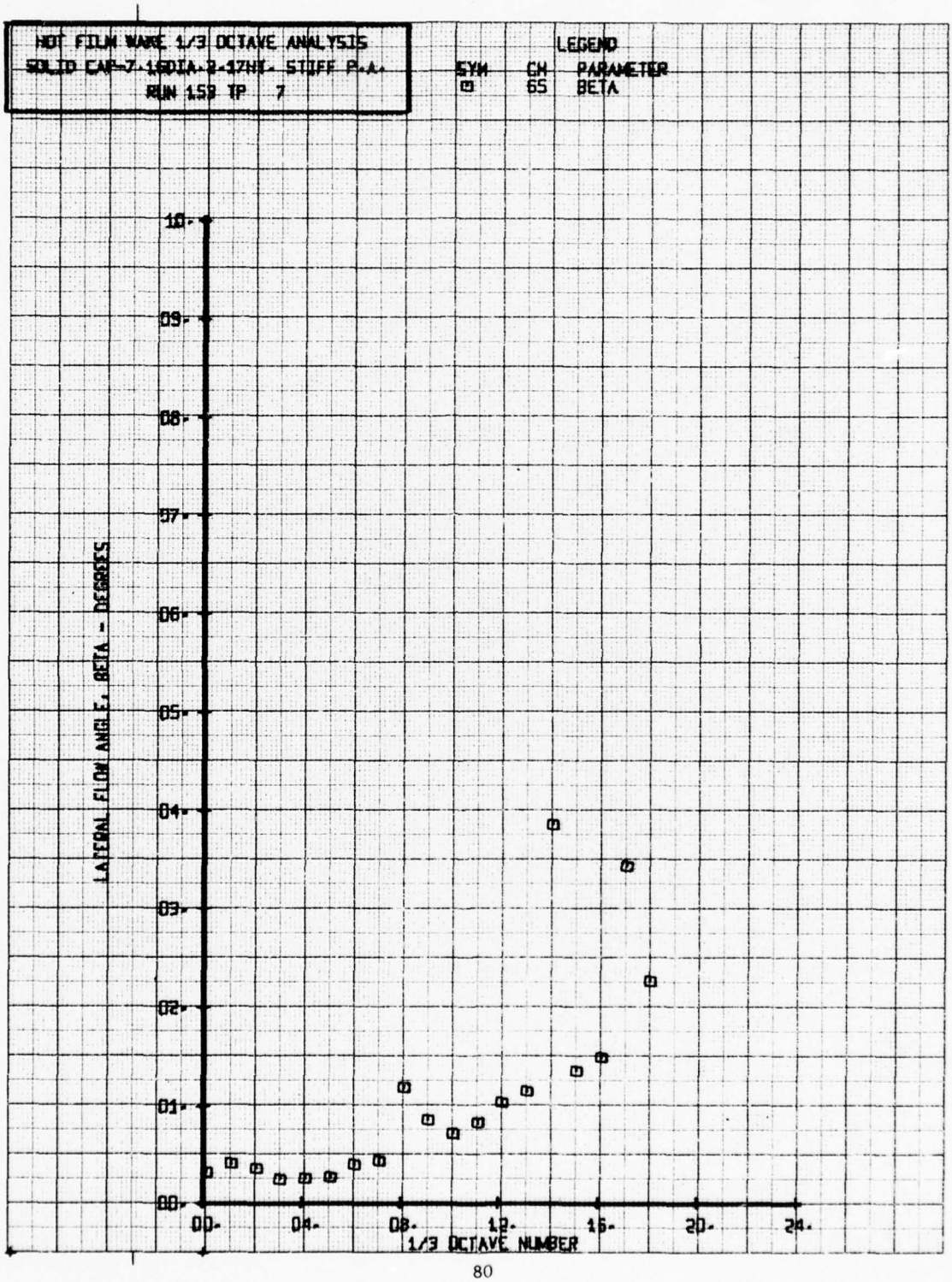

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.16DIA.2.17HT. STIFF P.A.
RUN 153 TP 5
LEGEND
SYM CH PARAMETER
65 BETA
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LATERAL FLOW ANGLE, BETA - DEGREES
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1/3 OCTAVE NUMBER

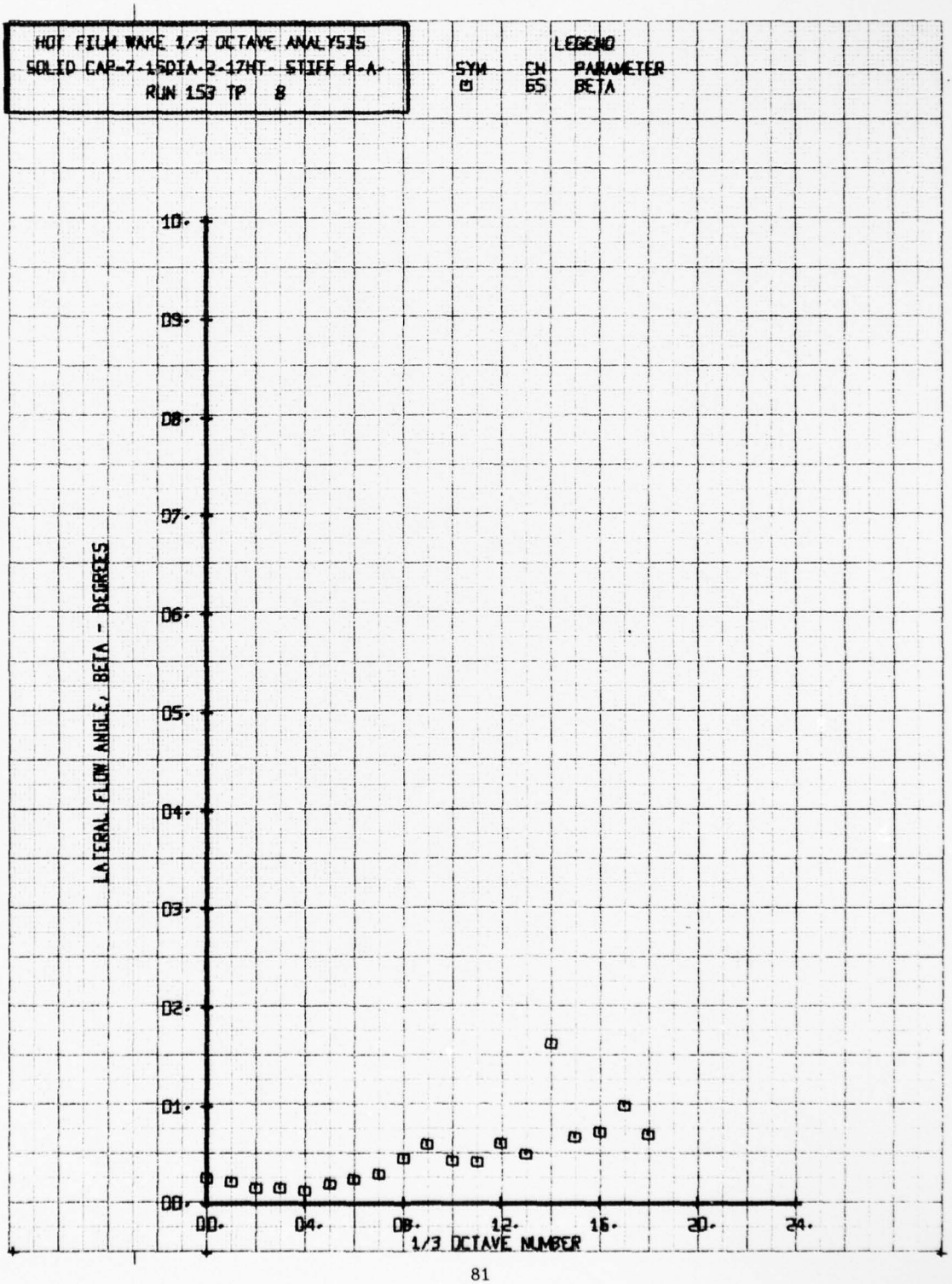
HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.16DIA.2-17HT. STIFF P.A.
RUN 153 TP 6

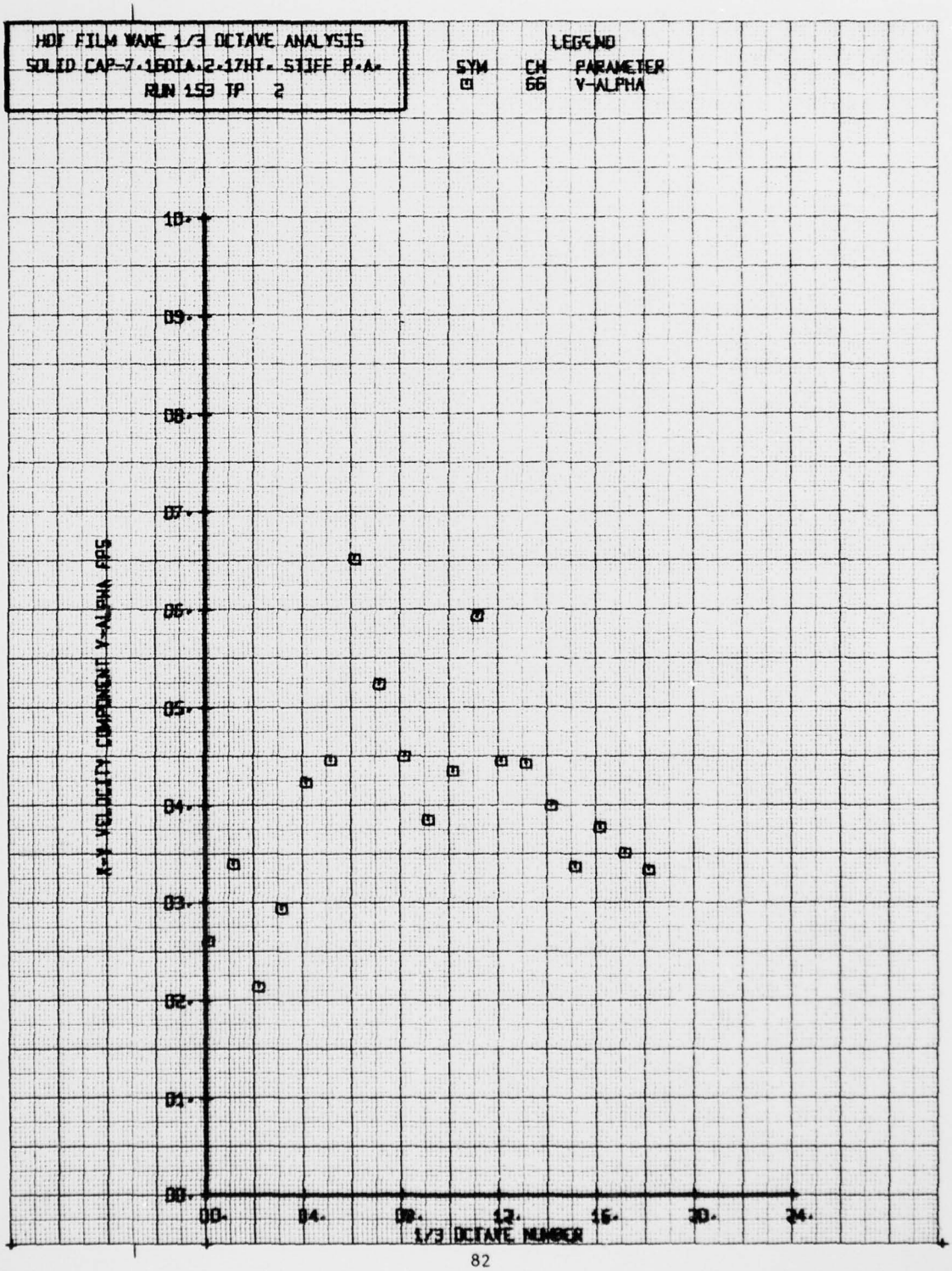
LEGEND

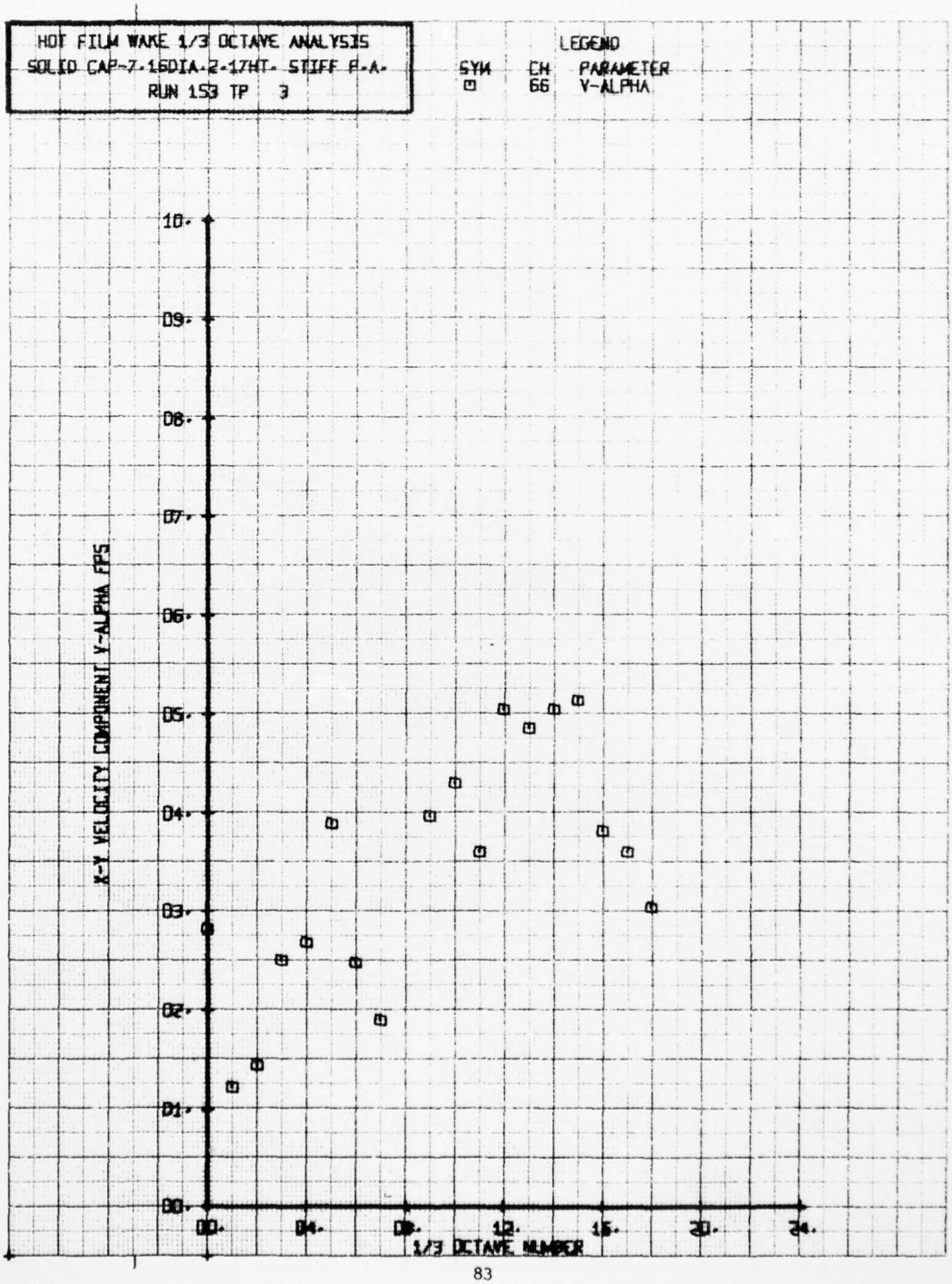
SYM	CH	PARAMETER
⊡	65	BETA

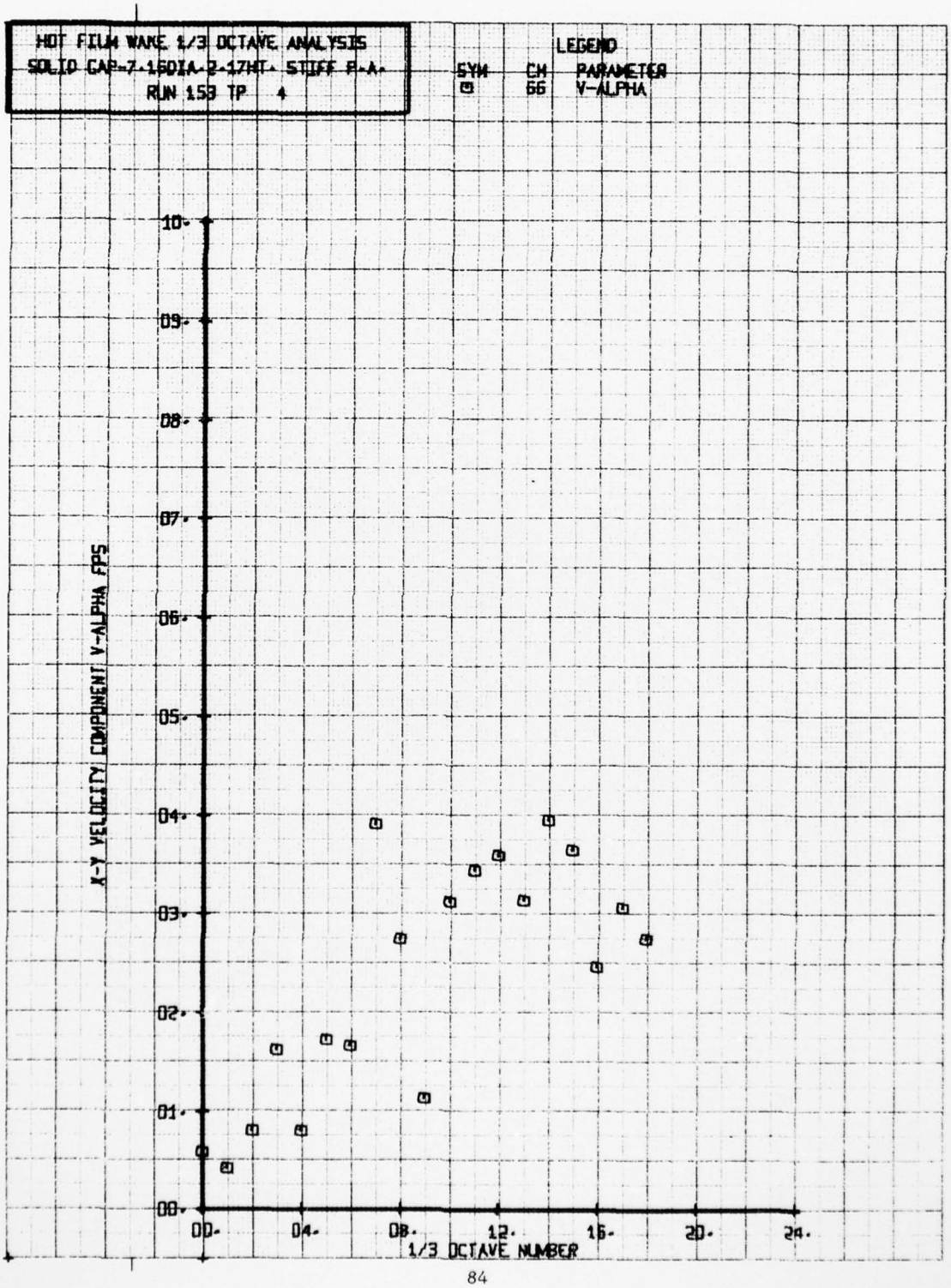


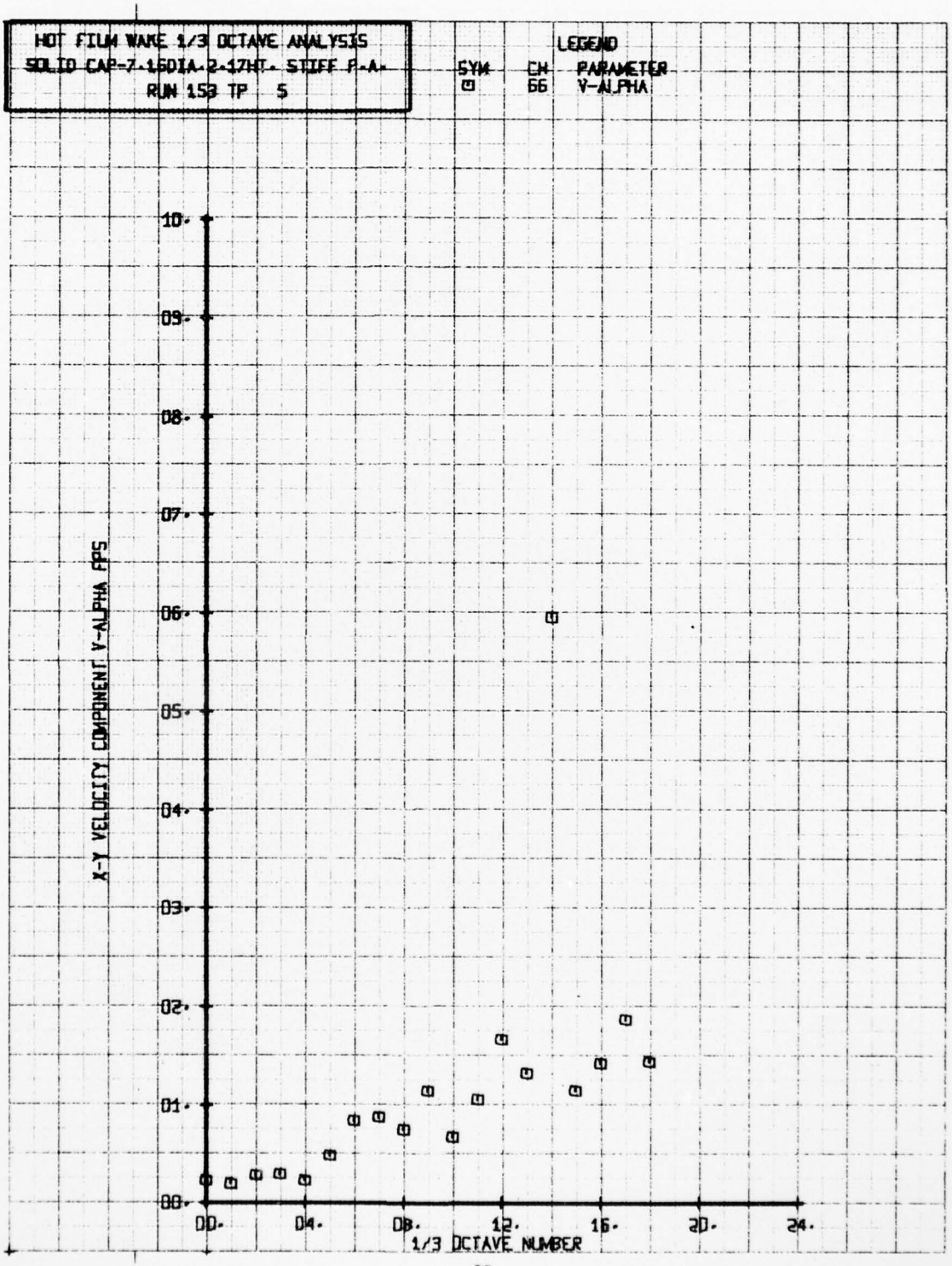

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.16DIA-2.17HT- STIFF P.A.
RUN 153 TP 7
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
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1/3 OCTAVE NUMBER

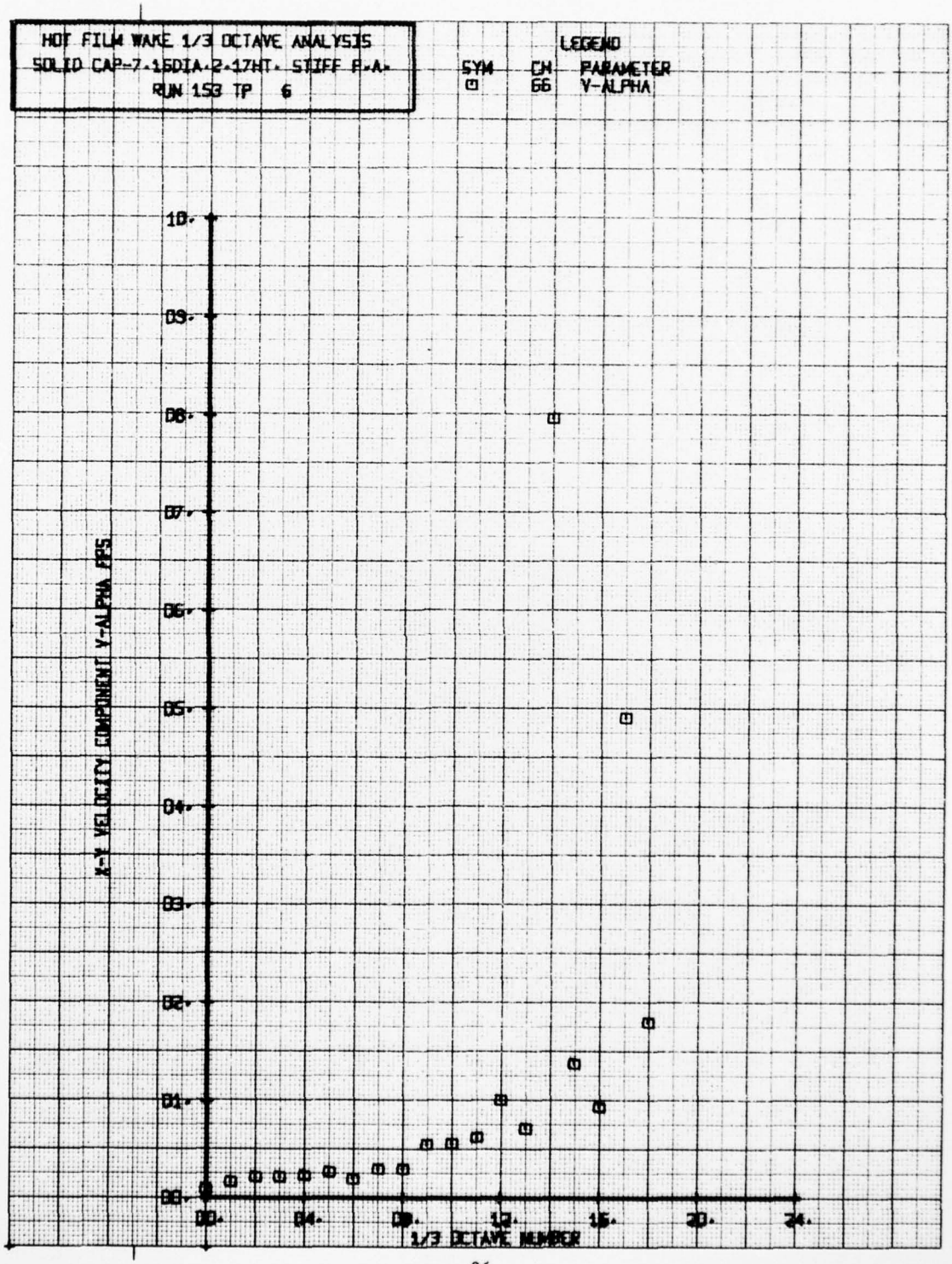

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7-15DIA-2-17HT- STIFF P-A-
RUN 153 TP 8
LEGEND
SYM CH PARAMETER
65 BETA
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LATERAL FLOW ANGLE, BETA - DEGREES
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1/3 OCTAVE NUMBER

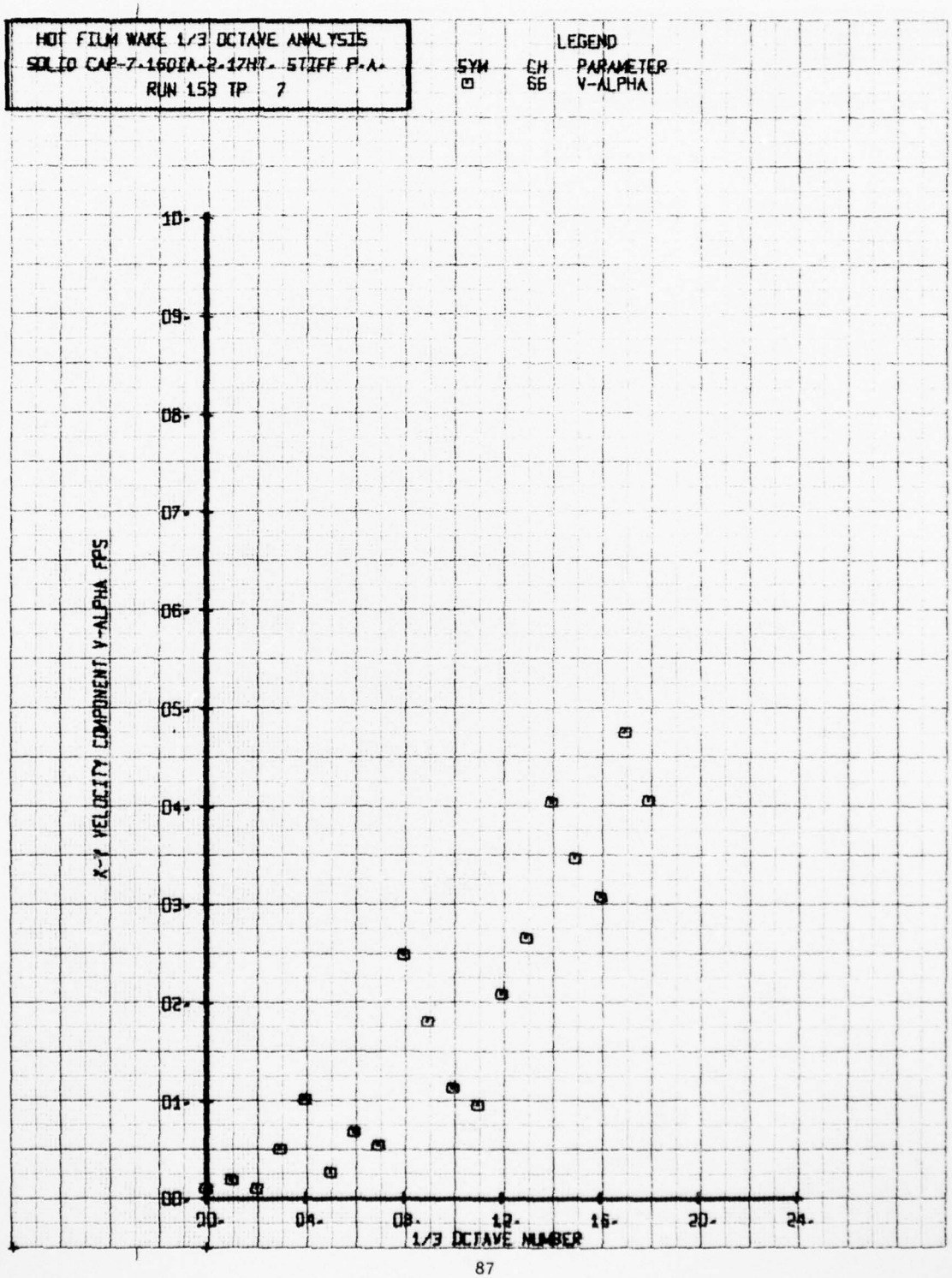

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.160DIA.2.17HT. STIFF P.A.
RUN 153 TP 2
LEGEND
SYM CH PARAMETER
66 V-ALPHA
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1/3 OCTAVE NUMBER
R.M.S. VELOCITY COMPONENT V-ALPHA FPS

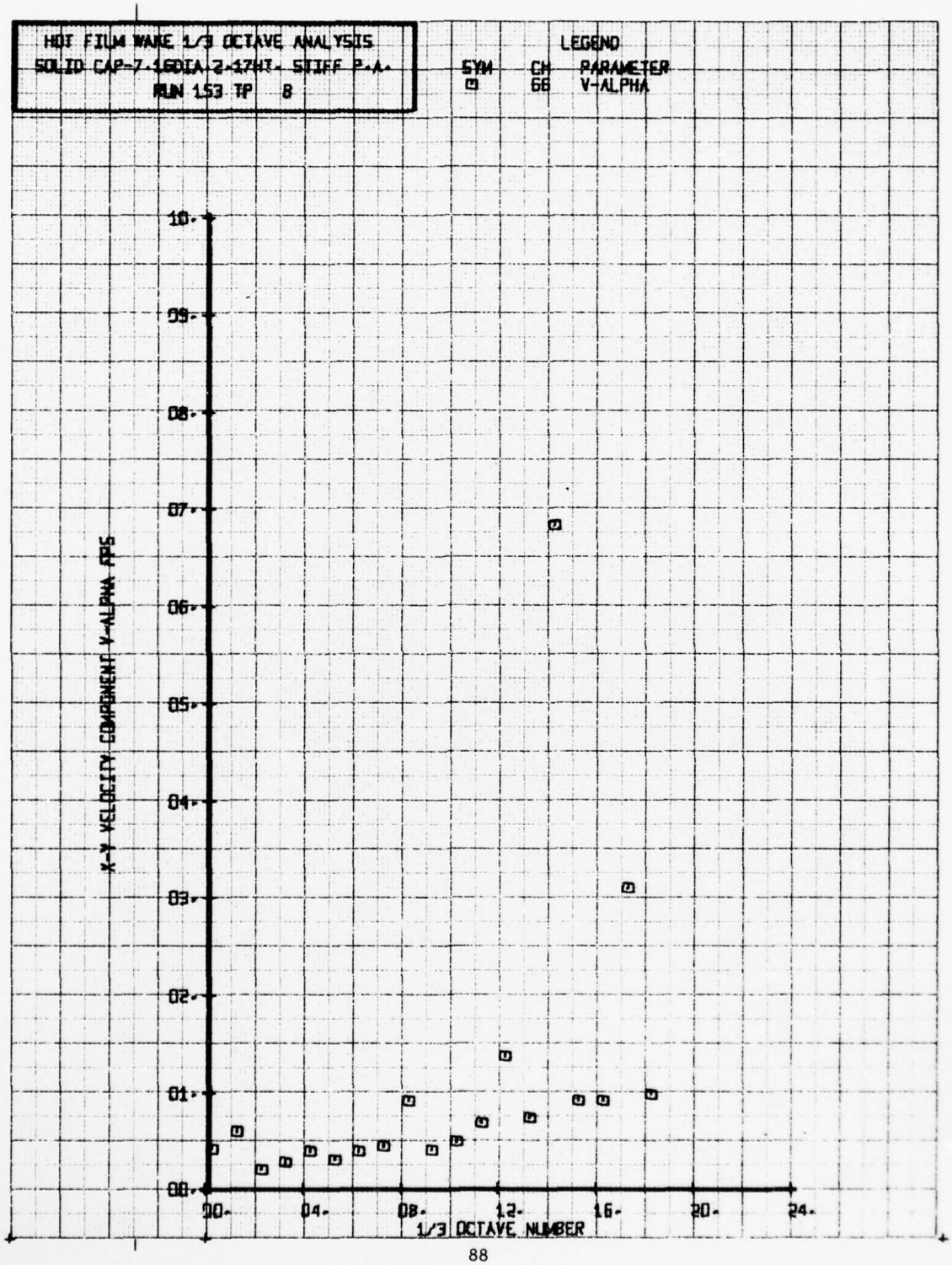

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.16DIA-2.17HT- STIFF F.A.
RUN 153 TP 3
LEGEND
SYM CH PARAMETER
66 V-ALPHA
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X-Y VELOCITY COMPONENT V-ALPHA FPS
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1/3 OCTAVE NUMBER

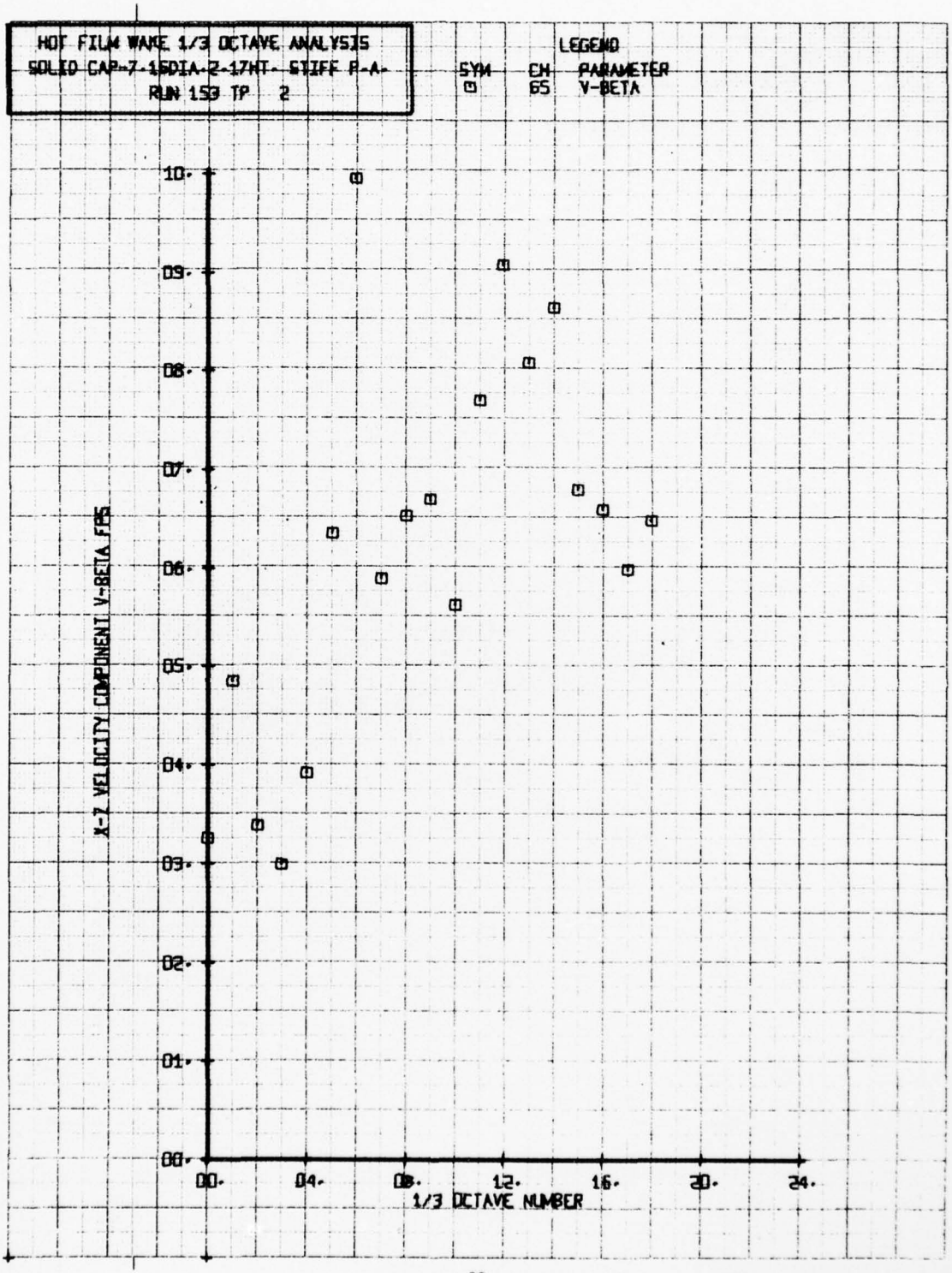

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.16DIA-2.17HT. STIFF F.A.
RUN 153 TP 4
LEGEND
SYM CH PARAMETER
66 V-ALPHA
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X-Y VELOCITY COMPONENT V-ALPHA FPS
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1/3 OCTAVE NUMBER

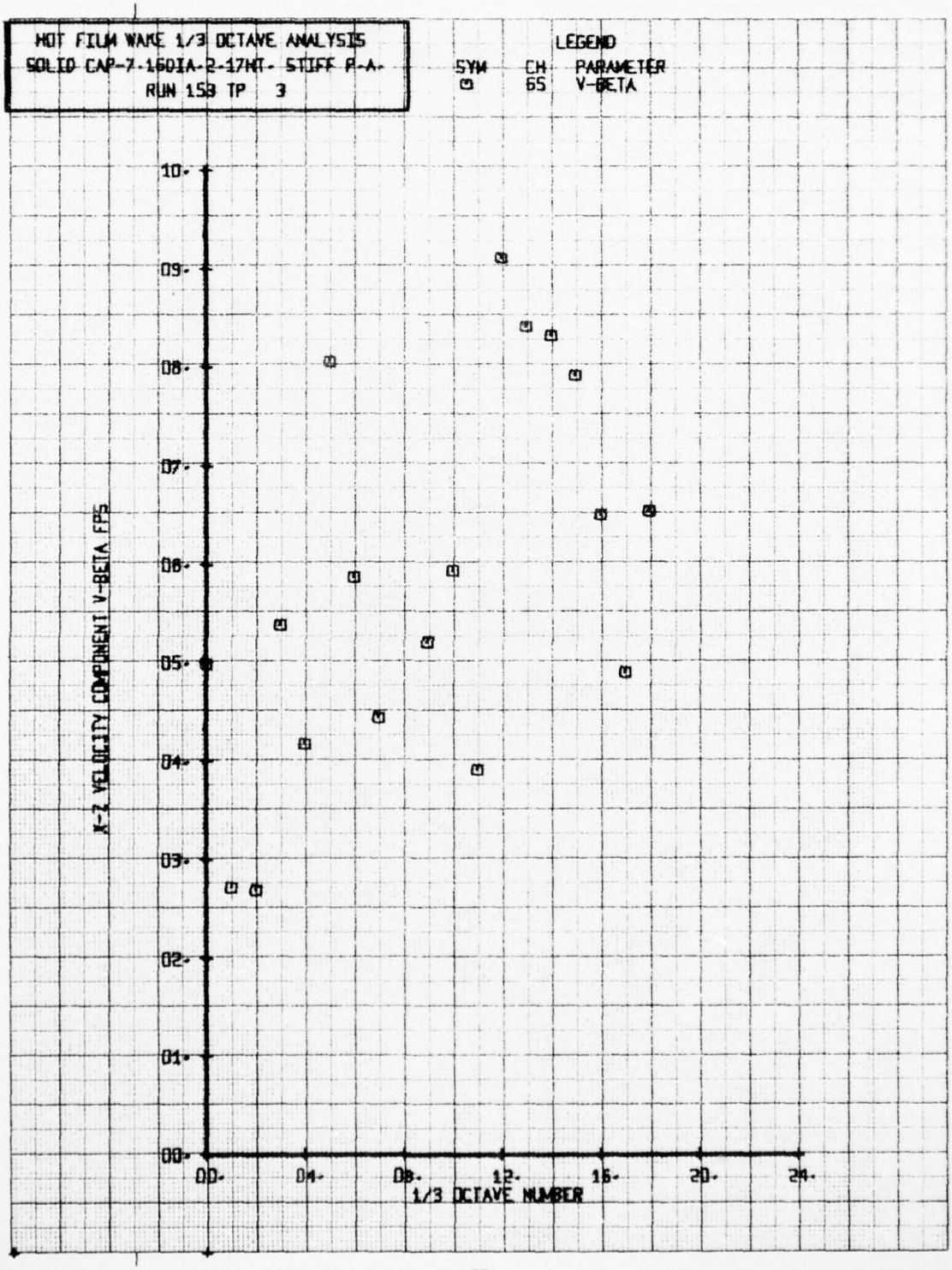

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.160IA-2.17HT.- STIFF P.A.-
RUN 153 TP 5
LEGEND
SYM CH PARAMETER
66 V-ALPHA
X-Y VELOCITY COMPONENT V-ALPHA FPS
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1/3 OCTAVE NUMBER

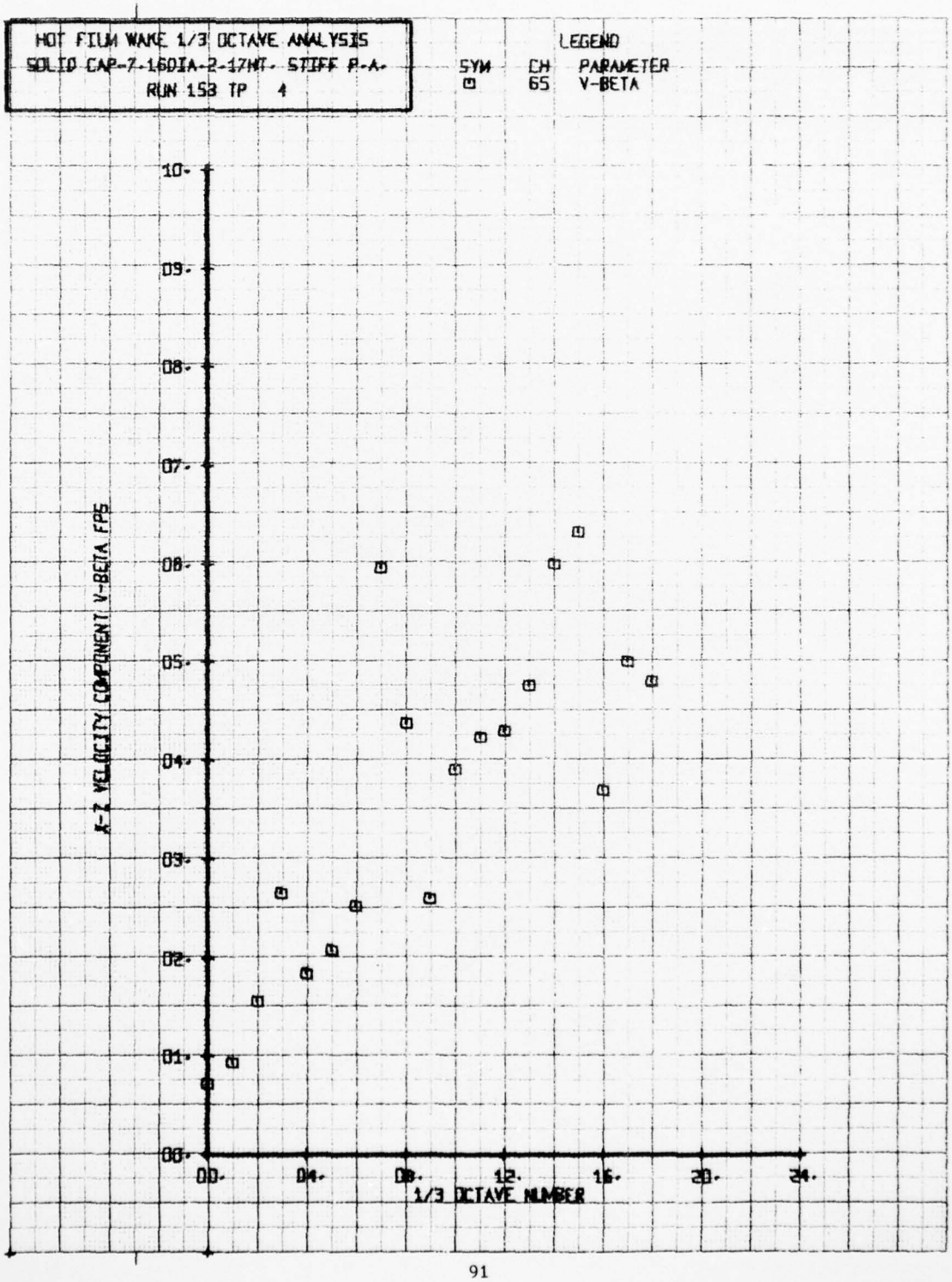

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.16DIA-2.17HT. STIFF P.A.
RUN 153 TP 6
LEGEND
SYM CN PARAMETER
66 V-ALPHA
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X-Y VELOCITY COMPONENT Y-ALPHA FPS
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1/3 OCTAVE NUMBER

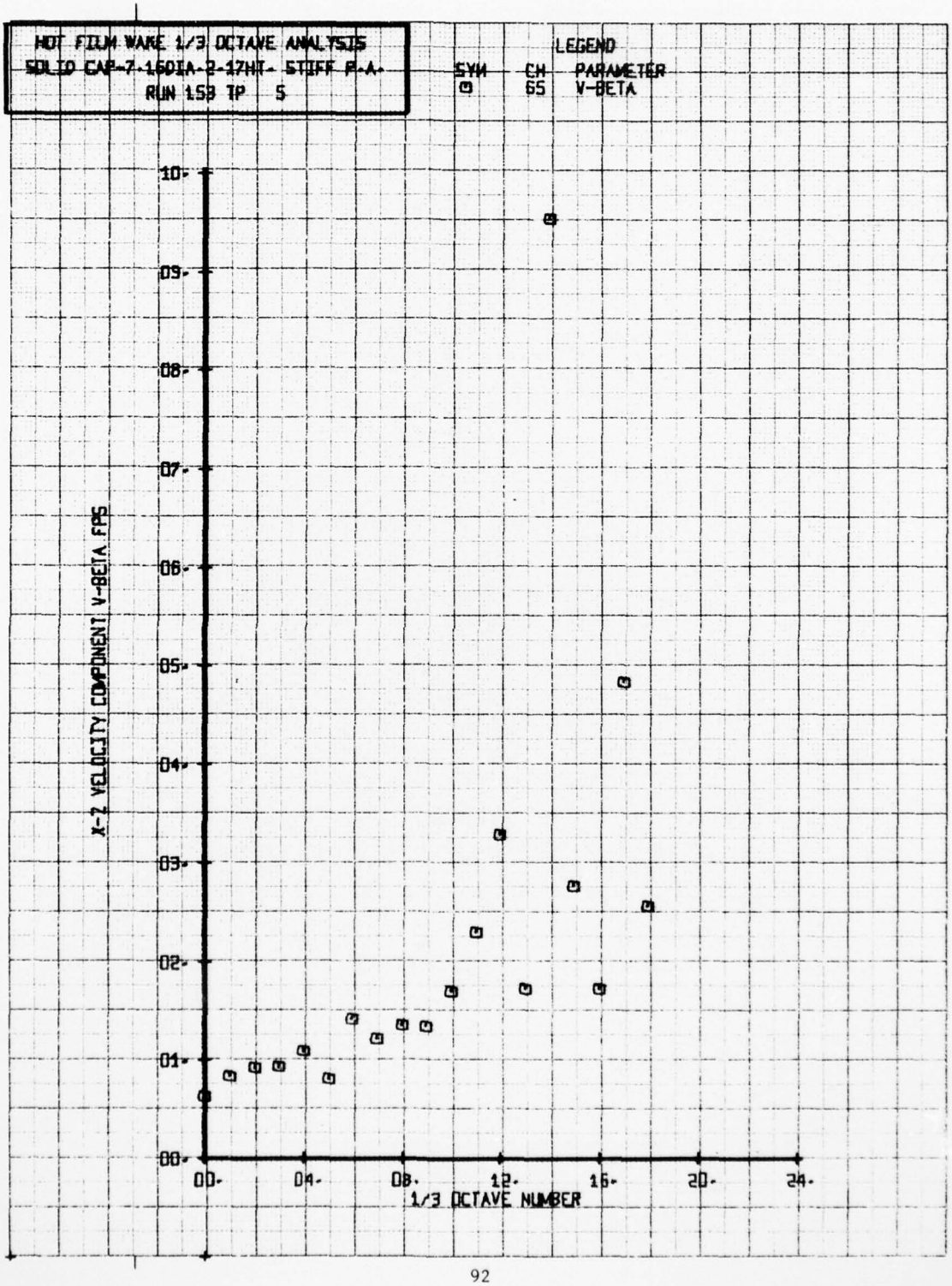

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7-160IA-2-17HT- STIFF P.A.
RUN 153 TP 7
LEGEND
SYM CH PARAMETER
66 V-ALPHA
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X-Y VELOCITY COMPONENT V-ALPHA FPS
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1/3 OCTAVE NUMBER

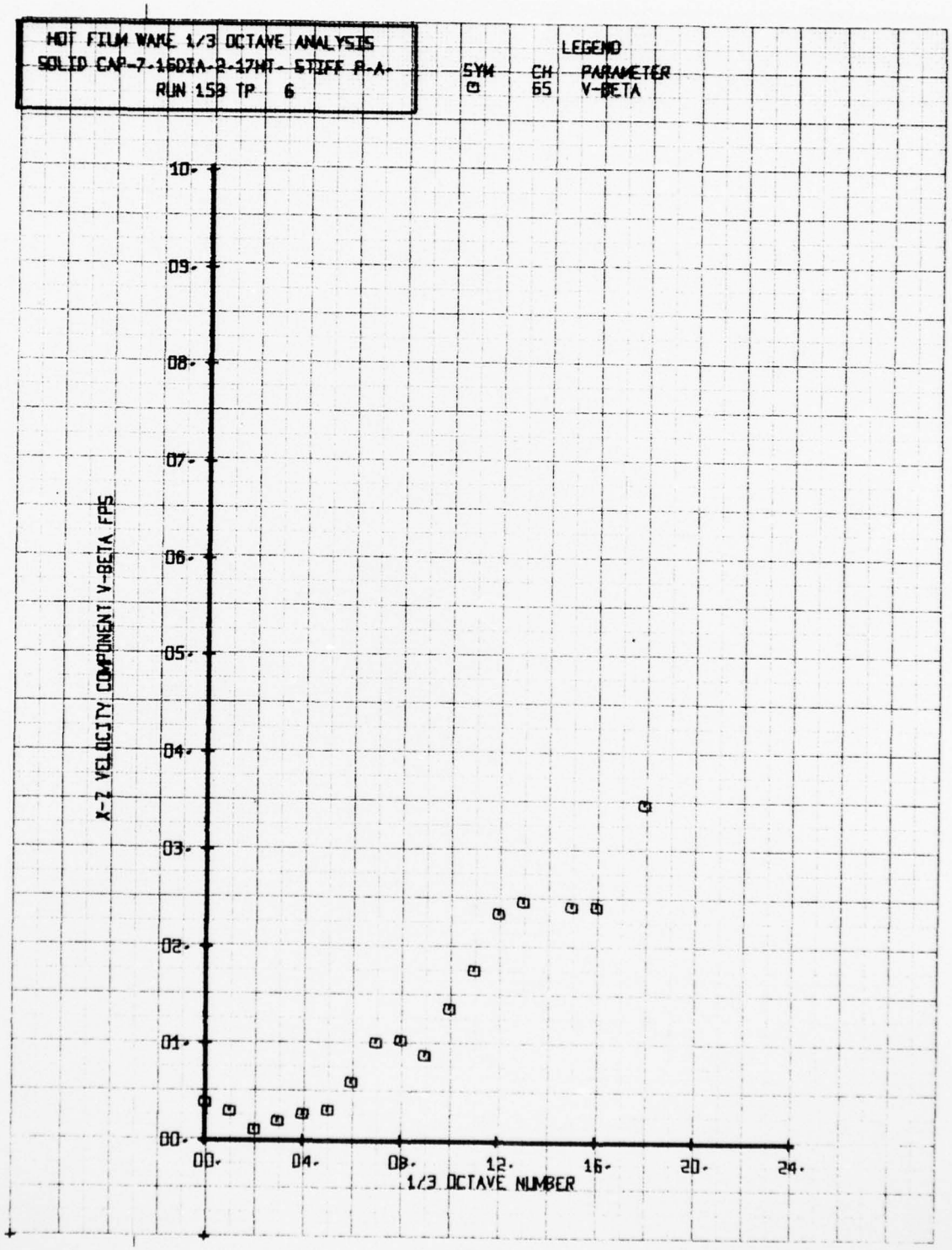

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.16DIA 2.17HT. STIFF P.A.
RUN 153 TP 8
LEGEND
SYM CH PARAMETER
66 V-ALPHA
X-Y VELOCITY COMPONENT V-ALPHA RMS
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1/3 OCTAVE NUMBER

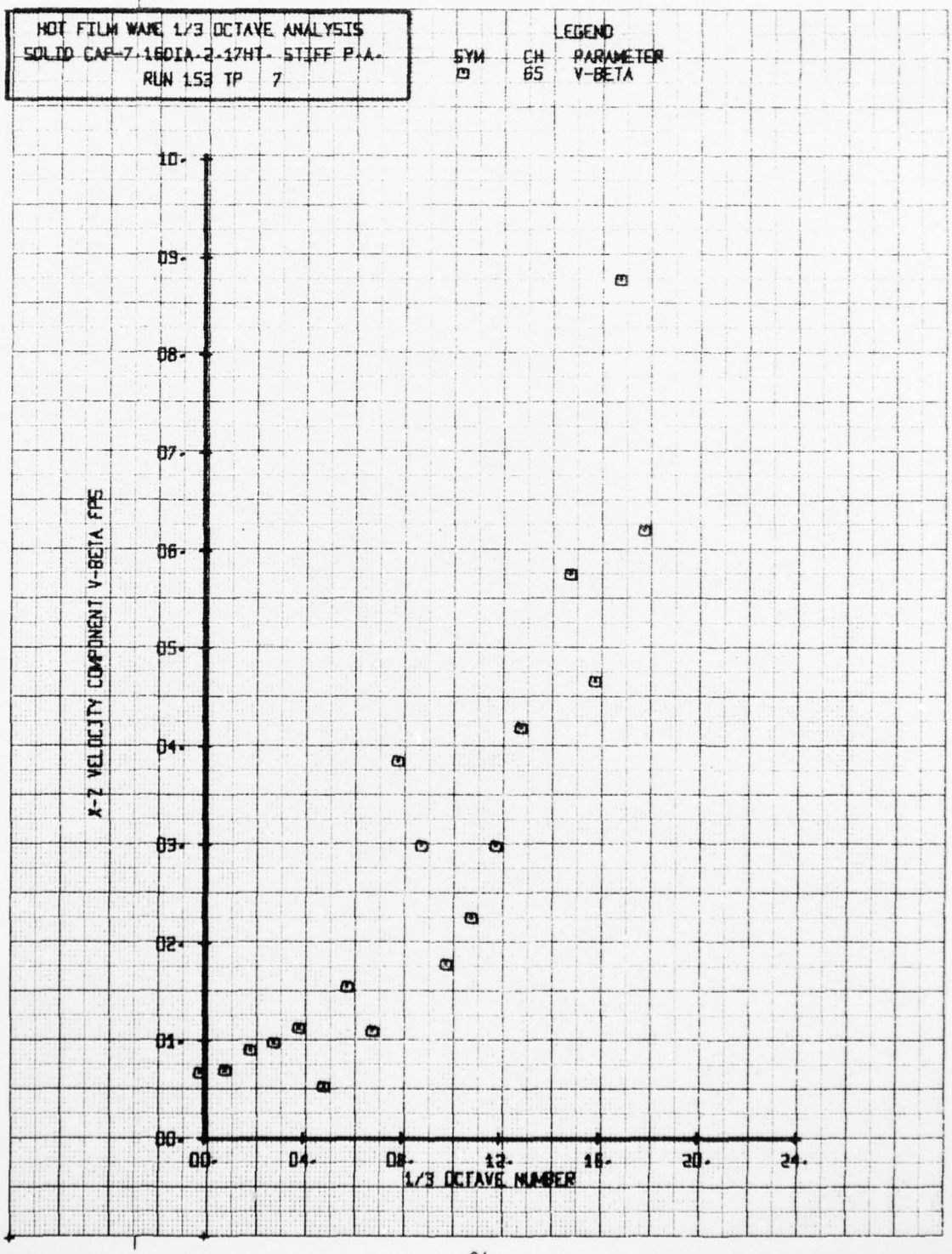

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7-1SDIA-2-17HT- STIFF P-A-
RUN 153 TP 2
LEGEND
SYM CH PARAMETER
65 V-BETA
X-Z VELOCITY COMPONENT V-BETA FPS
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1/3 OCTAVE NUMBER

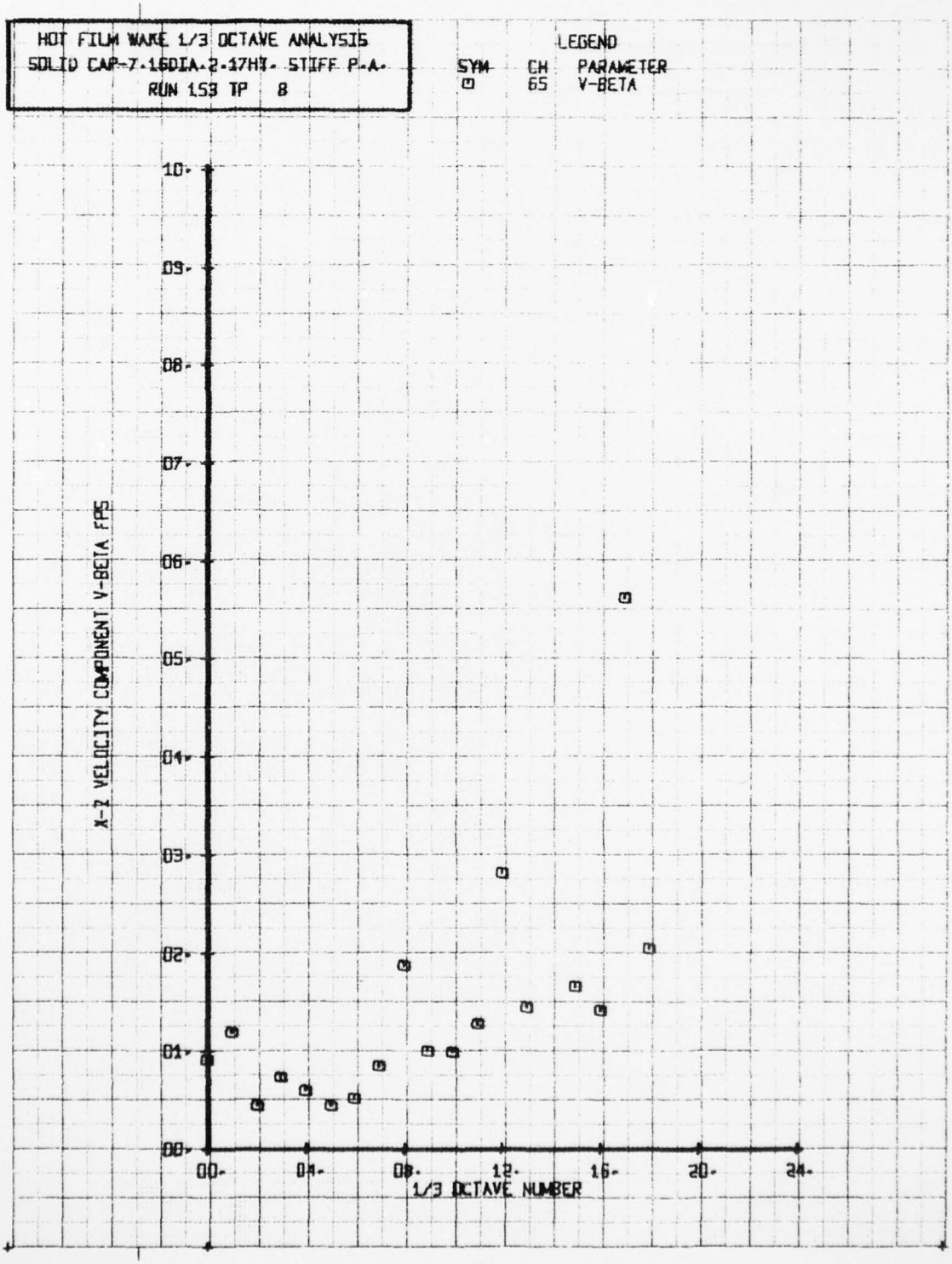

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7-160IA-2-17HT- STIFF P-A-
RUN 153 TP 3
LEGEND
SYM CH PARAMETER
65 V-BETA
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X-Z VELOCITY COMPONENT V-BETA FPS
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1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7-16DIA-2-17HT. STIFF P-A.
RUN 153 TP 4
LEGEND
SYM CH PARAMETER
65 V-BETA
10.
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1/3 OCTAVE NUMBER
X-Z VELOCITY COMPONENT V-BETA FPS


HOT FILM WARE 1/3 OCTAVE ANALYSIS
SOLID CAP-7-160IA-2-17HT- STIFF P.A.
RUN 153 TP 5
LEGEND
SYM CH PARAMETER
65 V-BETA
X-2 VELOCITY COMPONENT V-BETA FPS
10.
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1/3 OCTAVE NUMBER

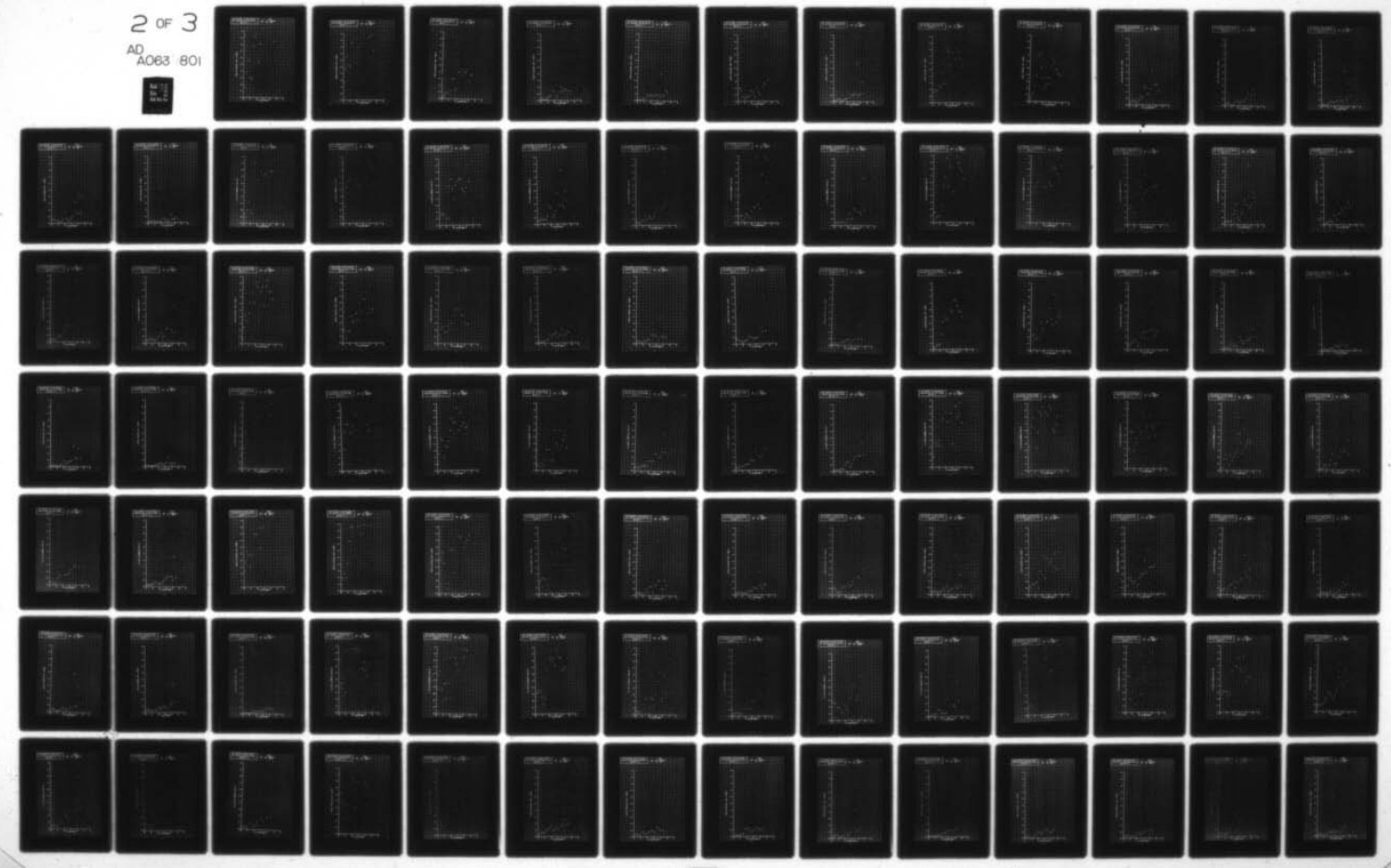

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7-16DIA-2-17HT- STIFF A-A-
RUN 153 TP 6
LEGEND
SYM CH PARAMETER
65 V-BETA
X-Z VELOCITY COMPONENT V-BETA FPS
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1/3 OCTAVE NUMBER

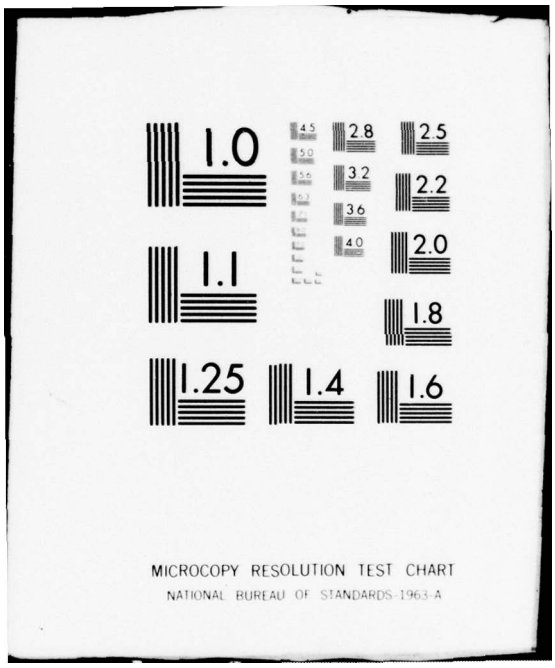

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.16DIA-2.17HT- STIFF P.A.
RUN 153 TP 7
LEGEND
SYM CH PARAMETER
65 V-BETA
X-Z VELOCITY COMPONENT V-BETA FPS
1/3 OCTAVE NUMBER
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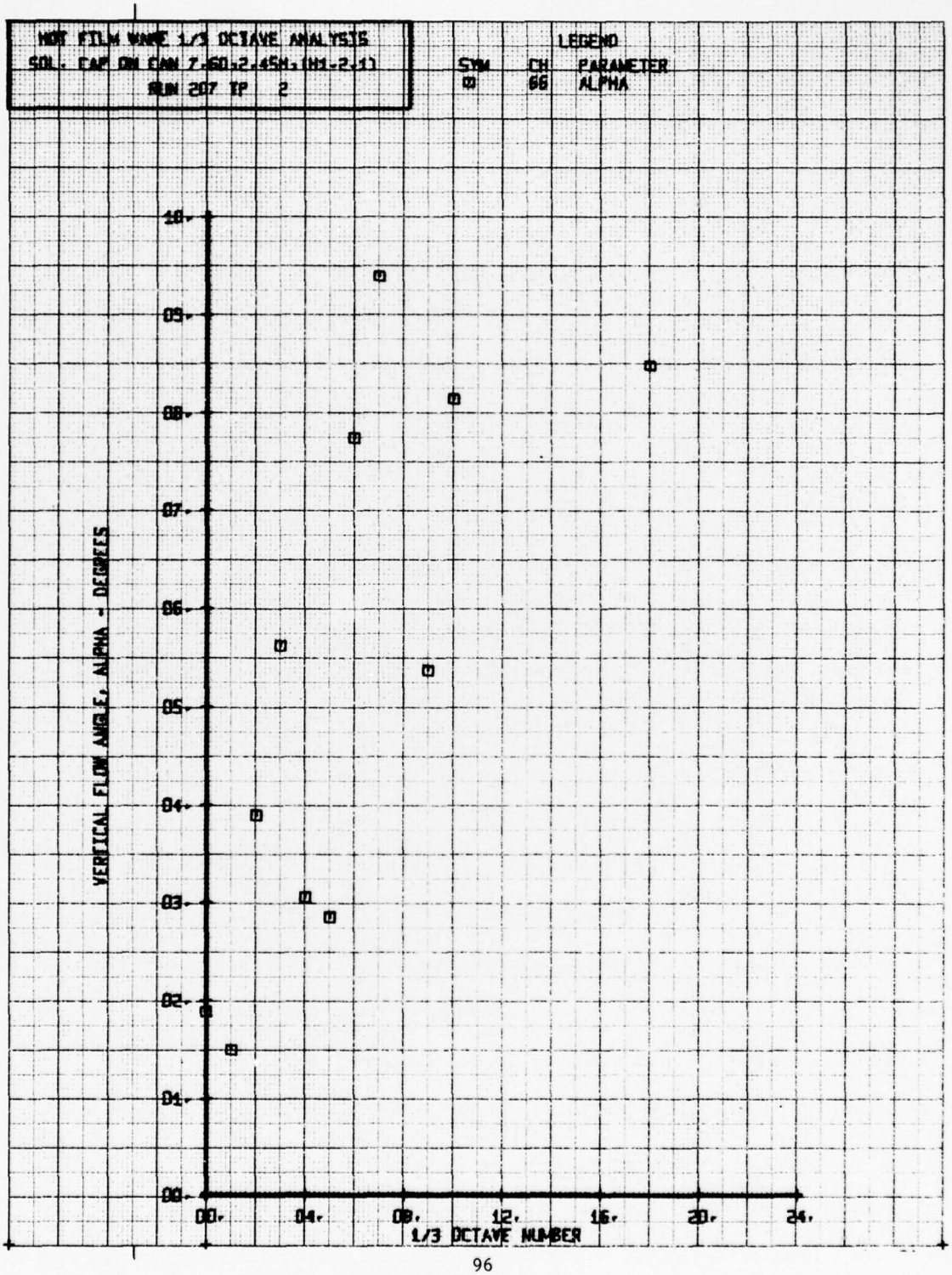

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOLID CAP-7.16DIA-2.17HT- STIFF P-A-
RUN 153 TP 8
LEGEND
SYM CH PARAMETER
65 V-BETA
X-Z VELOCITY COMPONENT V-BETA FPS
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1/3 OCTAVE NUMBER

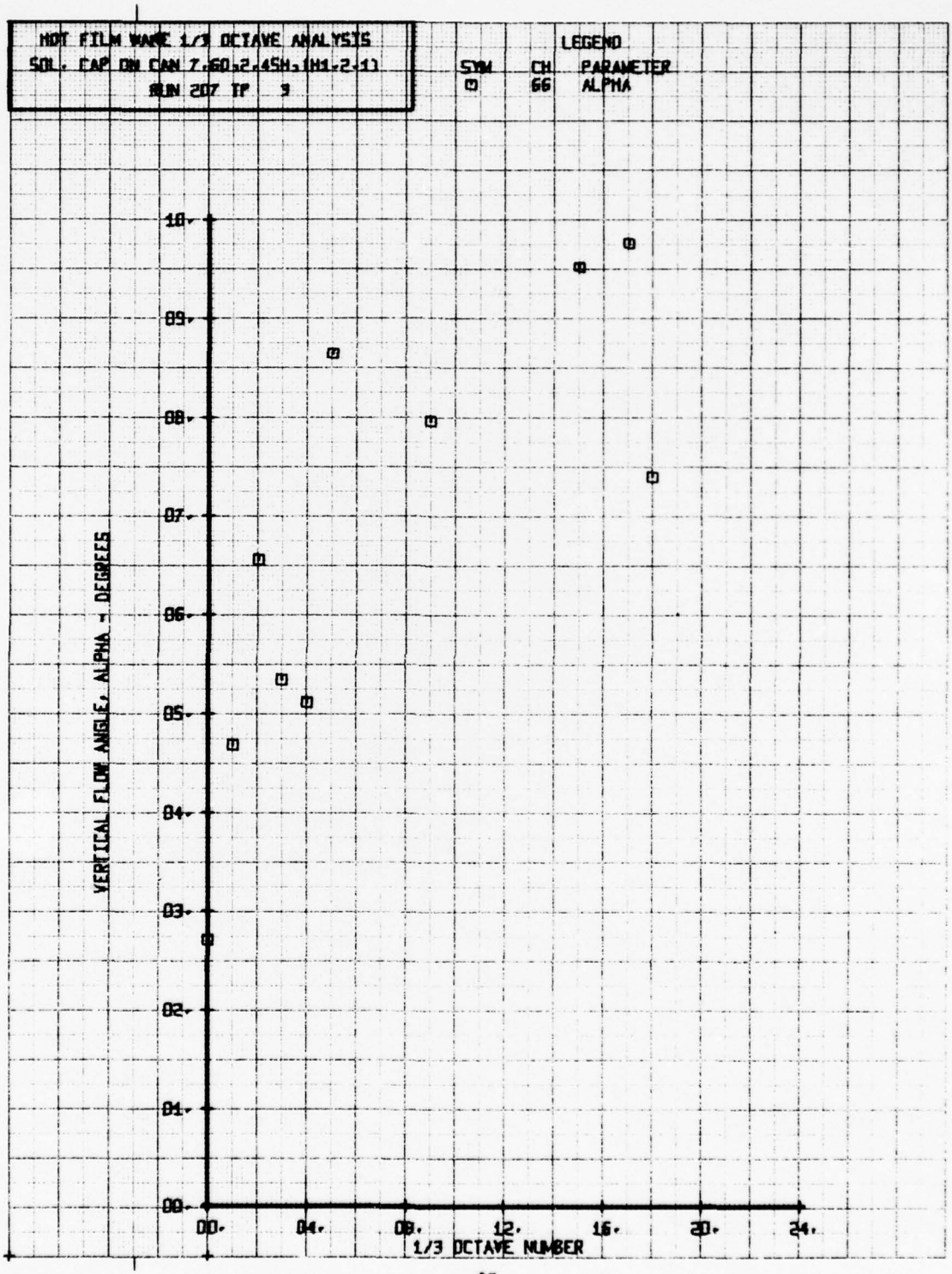
AD-A063 801 BOEING VERTOL CO PHILADELPHIA PA F/G 20/4
INTERACTIONAL AERODYNAMICS OF THE SINGLE ROTOR HELICOPTER CONFI--ETC(U)
SEP 78 P F SHERIDAN DAAJ02-77-C-0020
UNCLASSIFIED USARTL-TR-78-23D NL

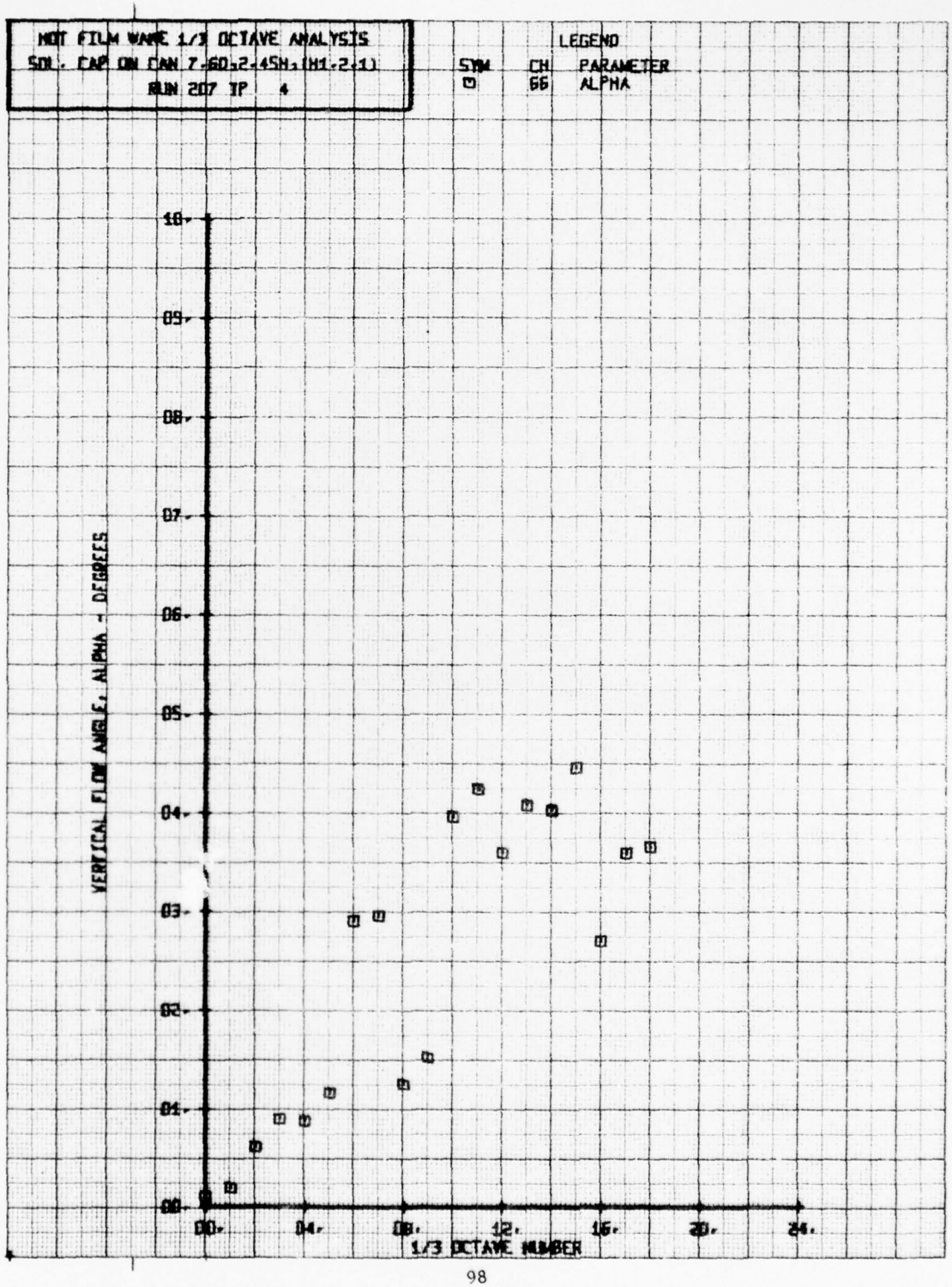
2 OF 3
AD A063 801

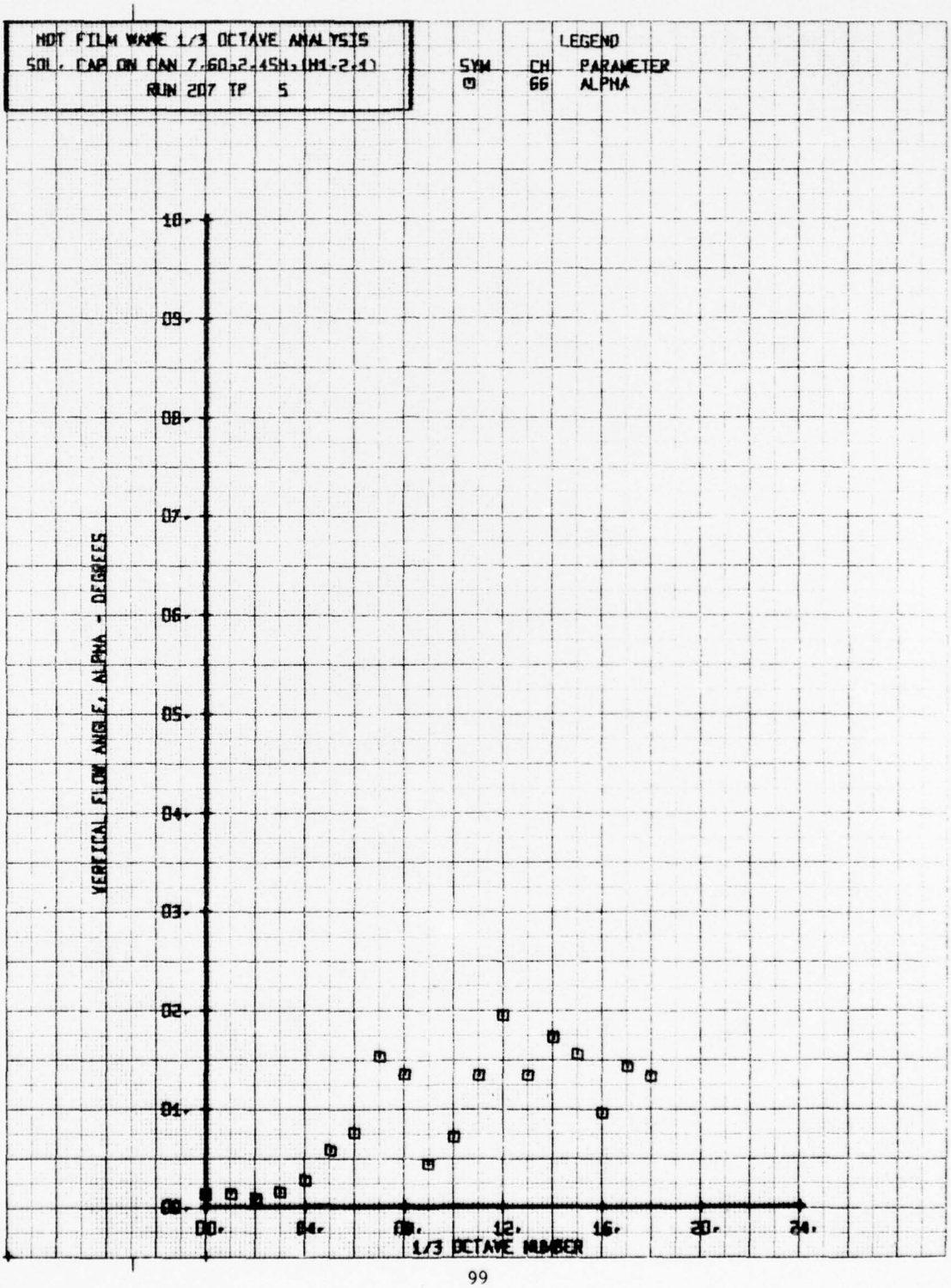


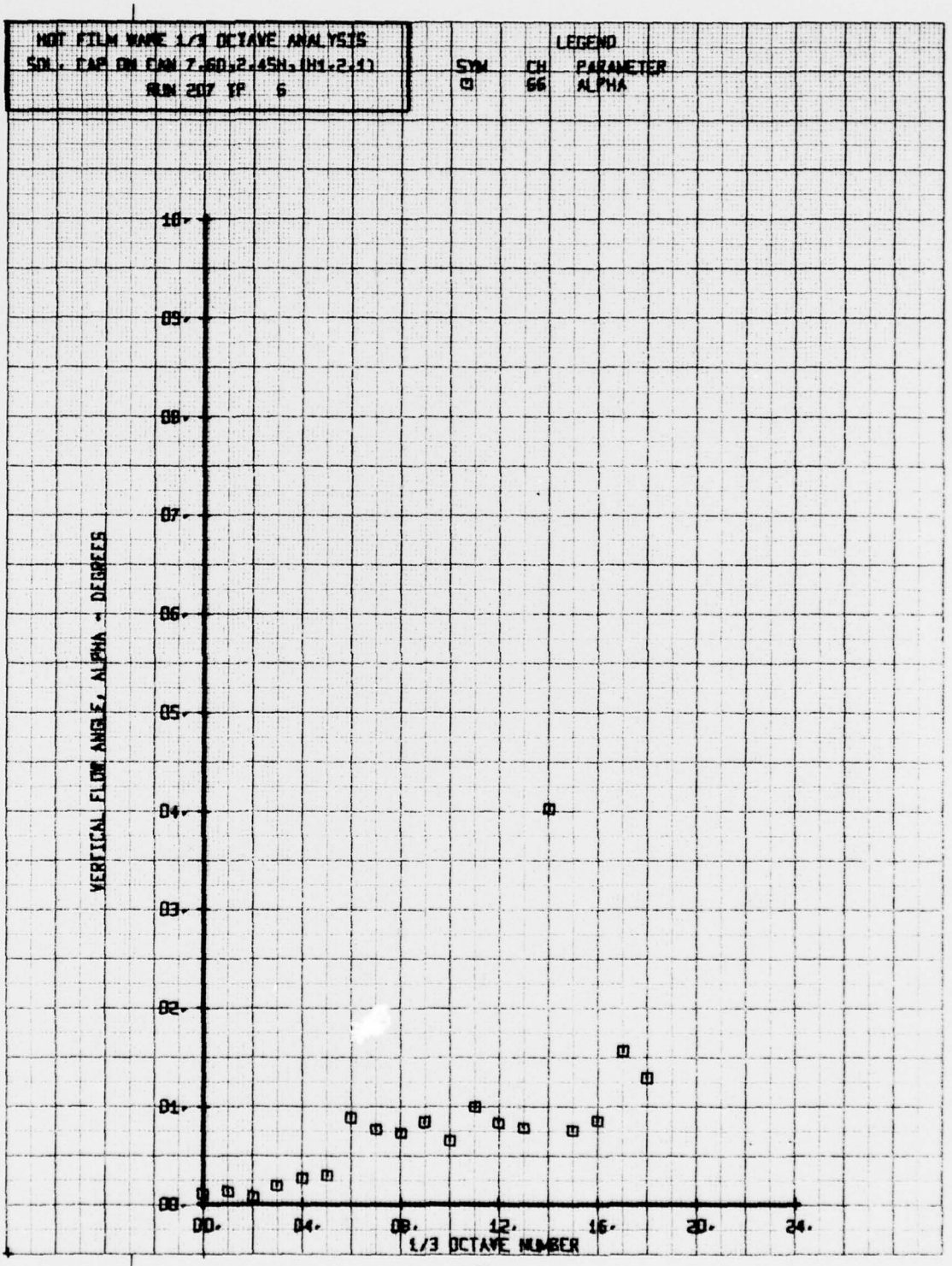

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MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

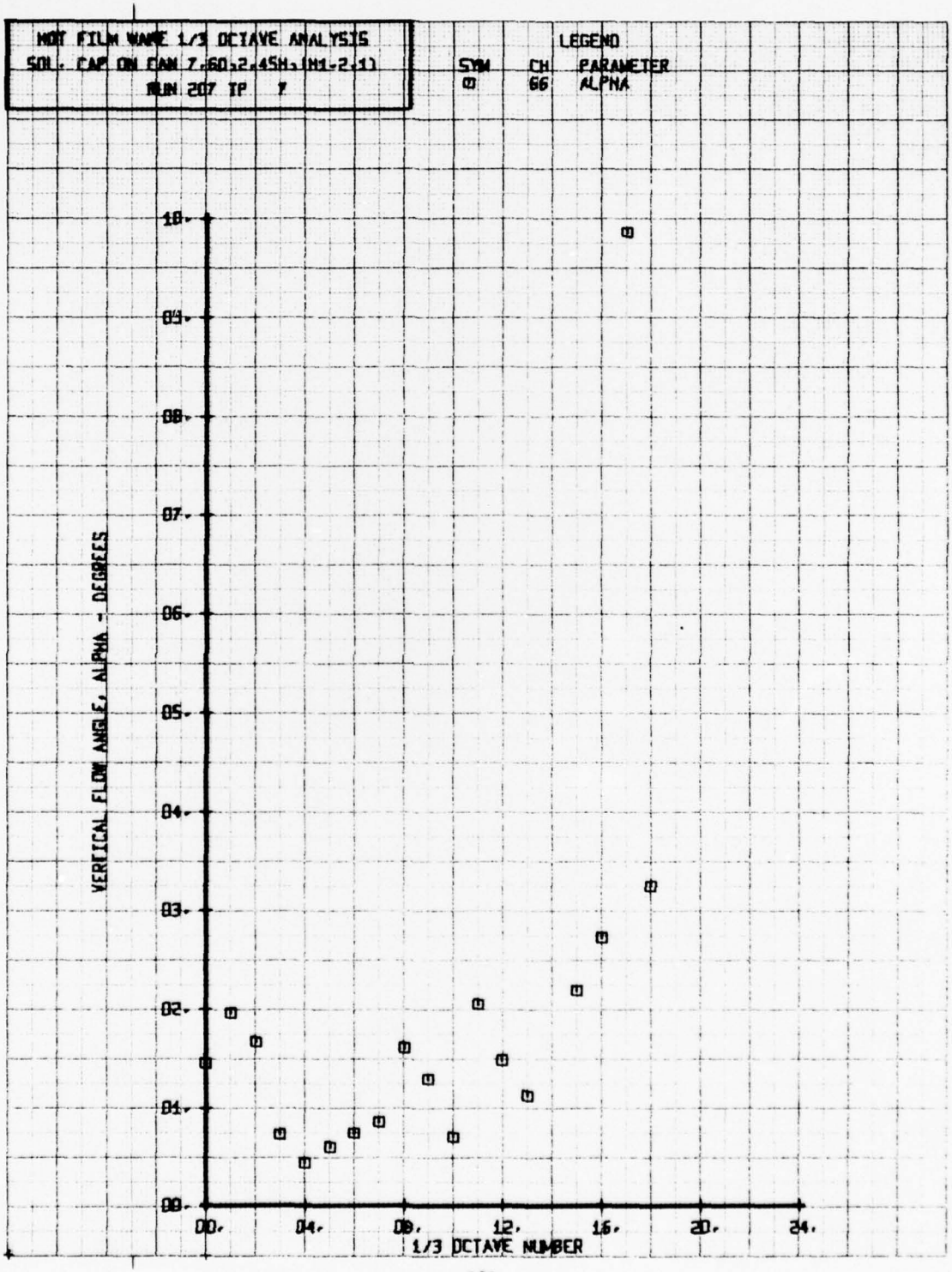

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL. CAP ON CAN 7.60,2.45M,(H1-2.1)
RUN 207 TP 2
LEGEND
SYM CH PARAMETER
66 ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
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1/3 OCTAVE NUMBER

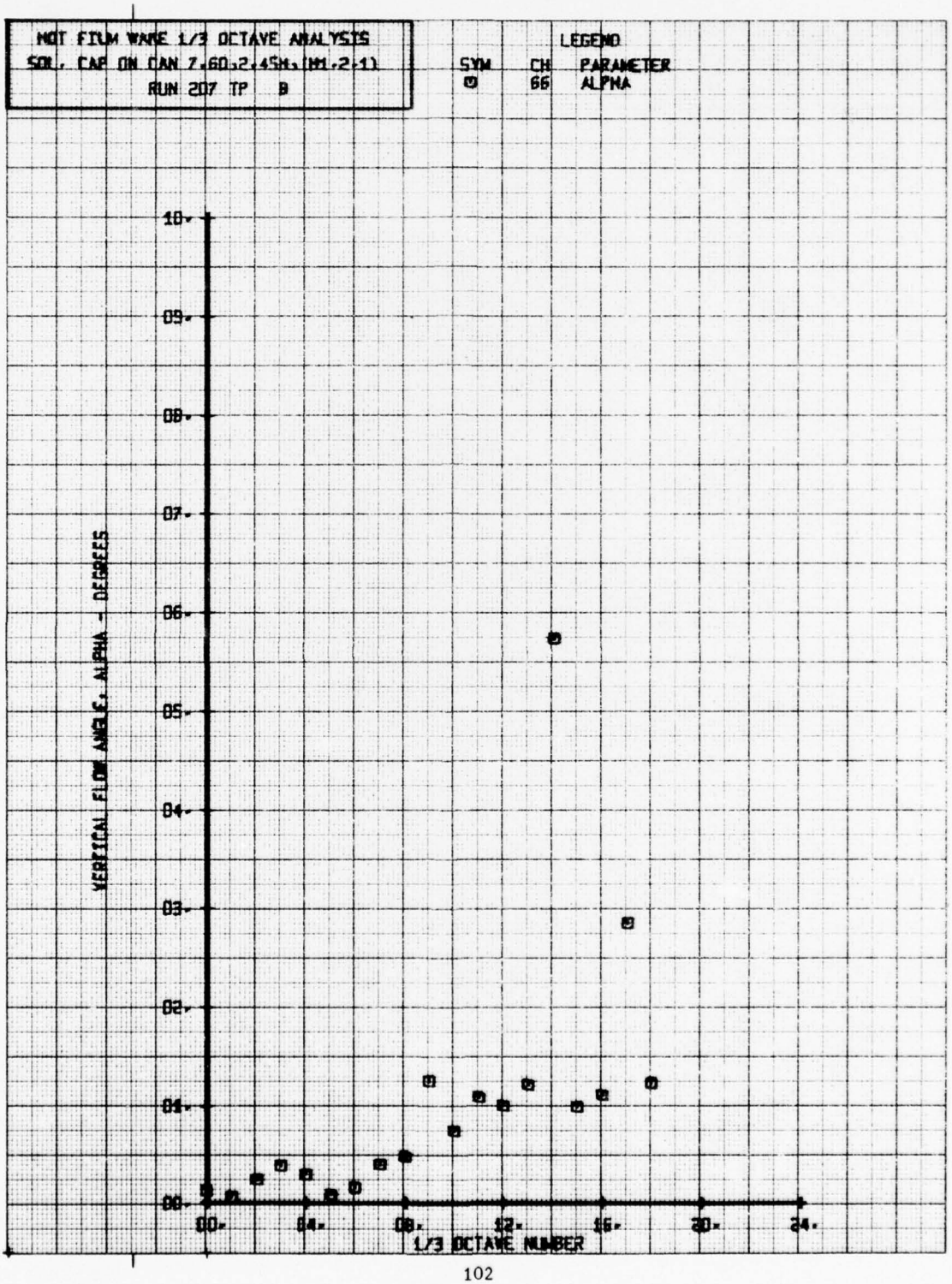

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL. CAP ON CAN 7.60,2.45H,1H1.2.1)
RUN 207 TP 3
LEGEND
SYM CH PARAMETER
66 ALPHA
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VERTICAL FLOW ANGLE, ALPHA - DEGREES
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1/3 OCTAVE NUMBER

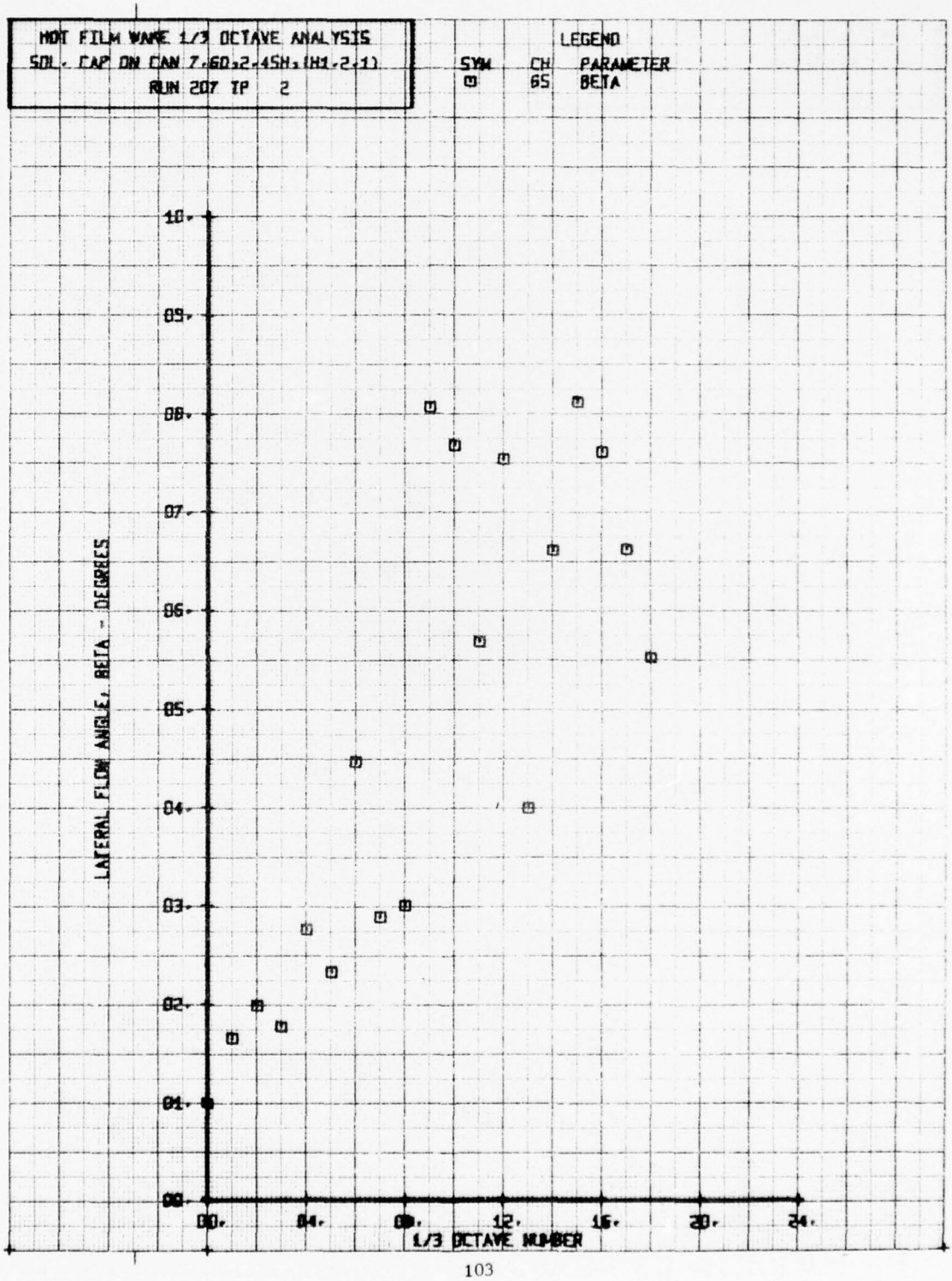

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL. CAP ON CAN 7.60,2.45H,(H1.2.1)
RUN 207 TP 4
LEGEND
SYM CH PARAMETER
66 ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
1/3 OCTAVE NUMBER

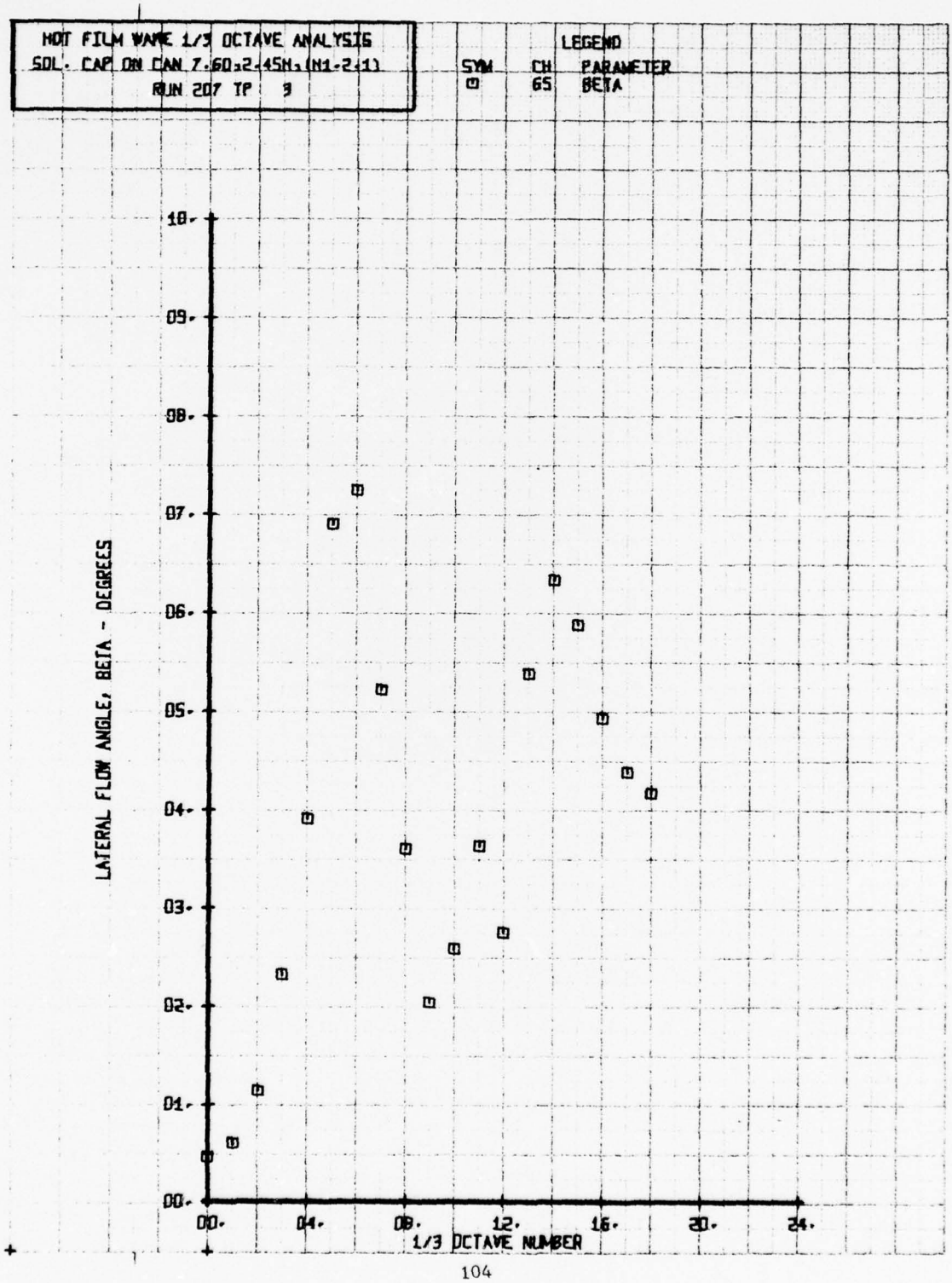

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL. CAP ON CAN 7.60,2.45H,(H1.2.1)
RUN 207 TP 5
LEGEND
SYM CH PARAMETER
66 ALPHA
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VERTICAL FLOW ANGLE, ALPHA - DEGREES
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1/3 OCTAVE NUMBER

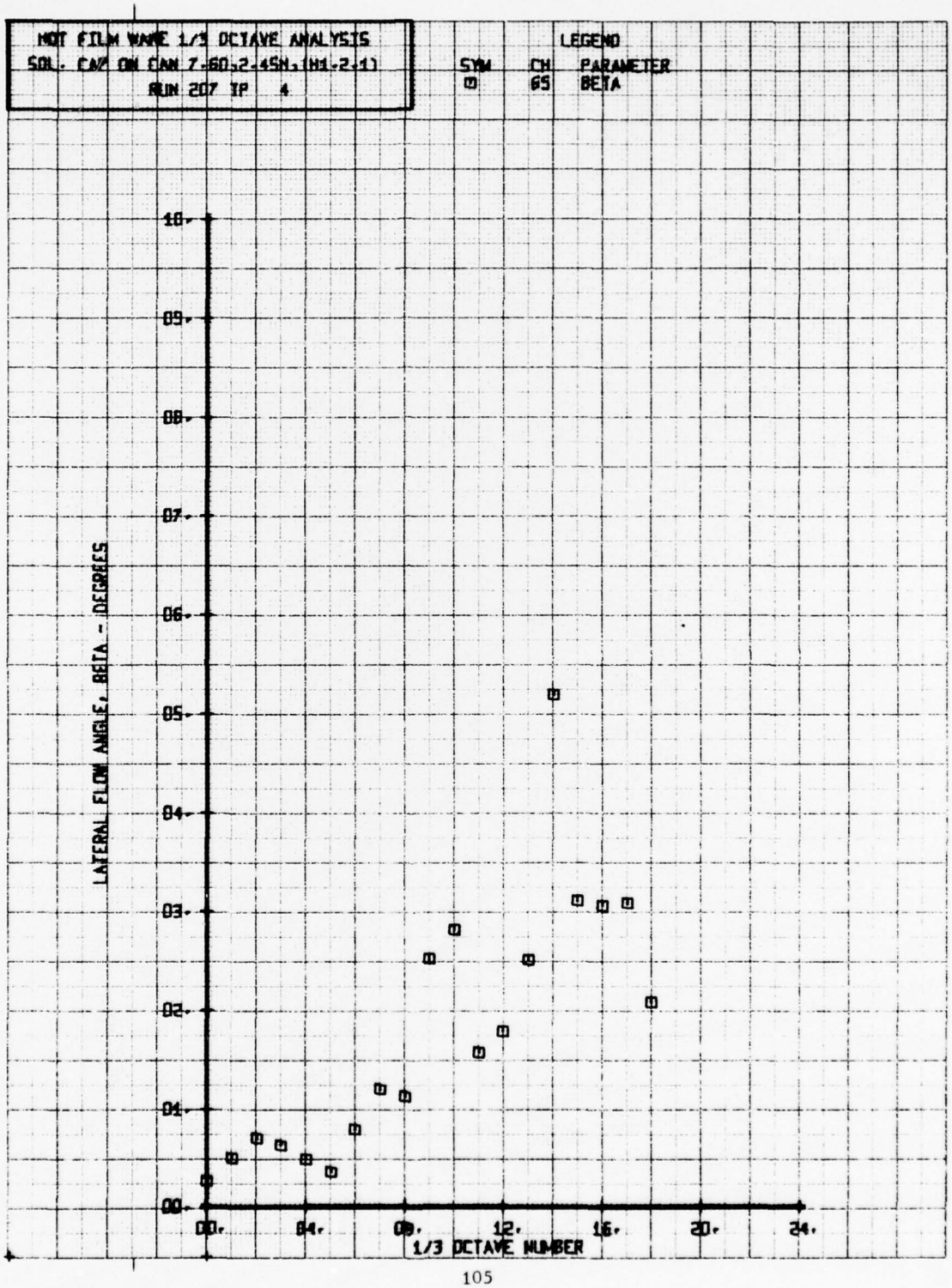

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SQL. CAP ON CAN 7.60,2.45H,1H1.2,1)
RUN 207 TP 6
LEGEND
SYM CH PARAMETER
66 ALPHA
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VERTICAL FLOW ANGLE, ALPHA - DEGREES
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1/3 OCTAVE NUMBER

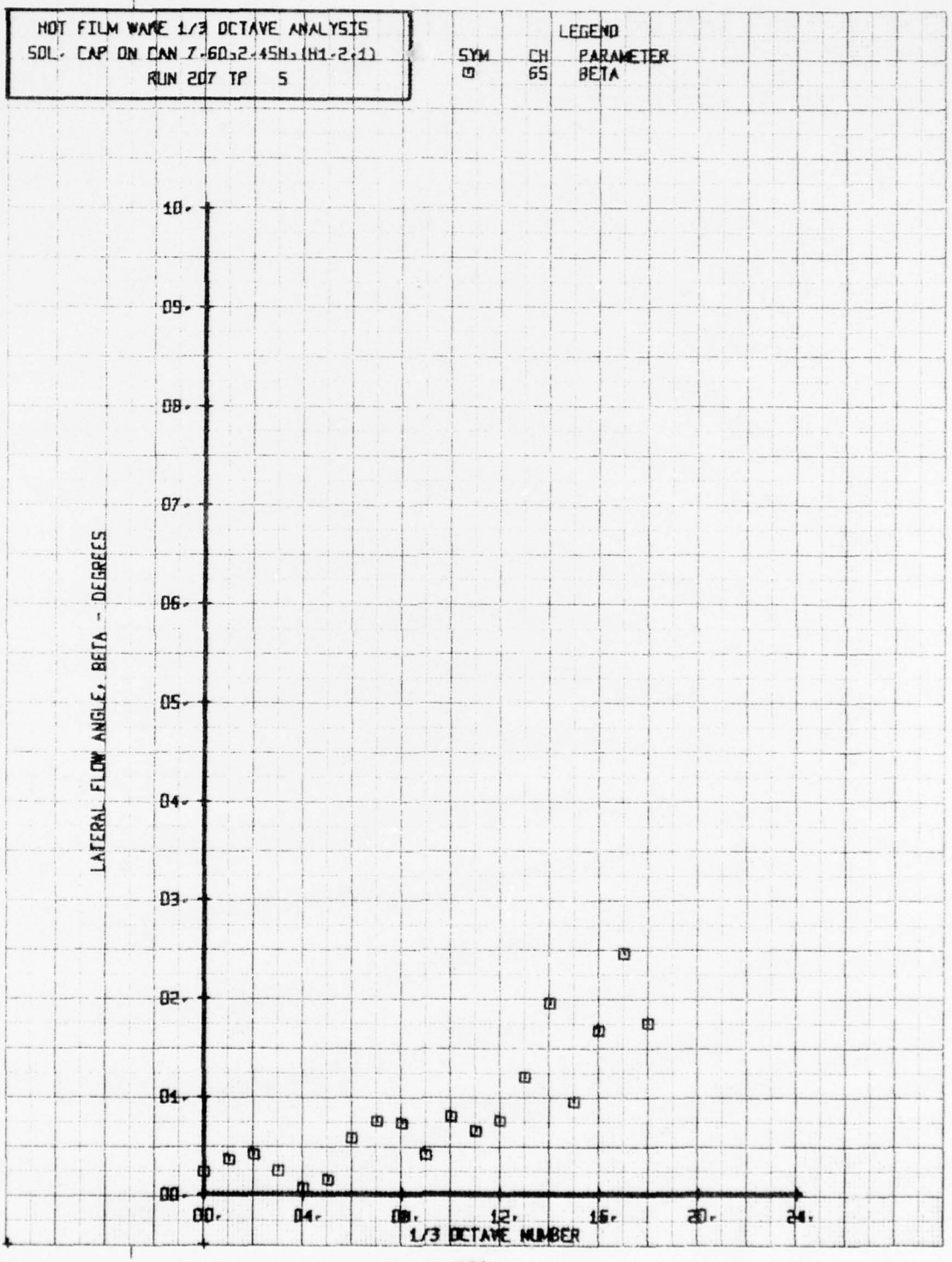

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL. CAP ON CAM 7.60,2.45H,1M1-2,1)
RUN 207 TP 7
LEGEND
SYM CH PARAMETER
66 ALPHA
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VERTICAL FLOW ANGLE, ALPHA - DEGREES
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1/3 OCTAVE NUMBER

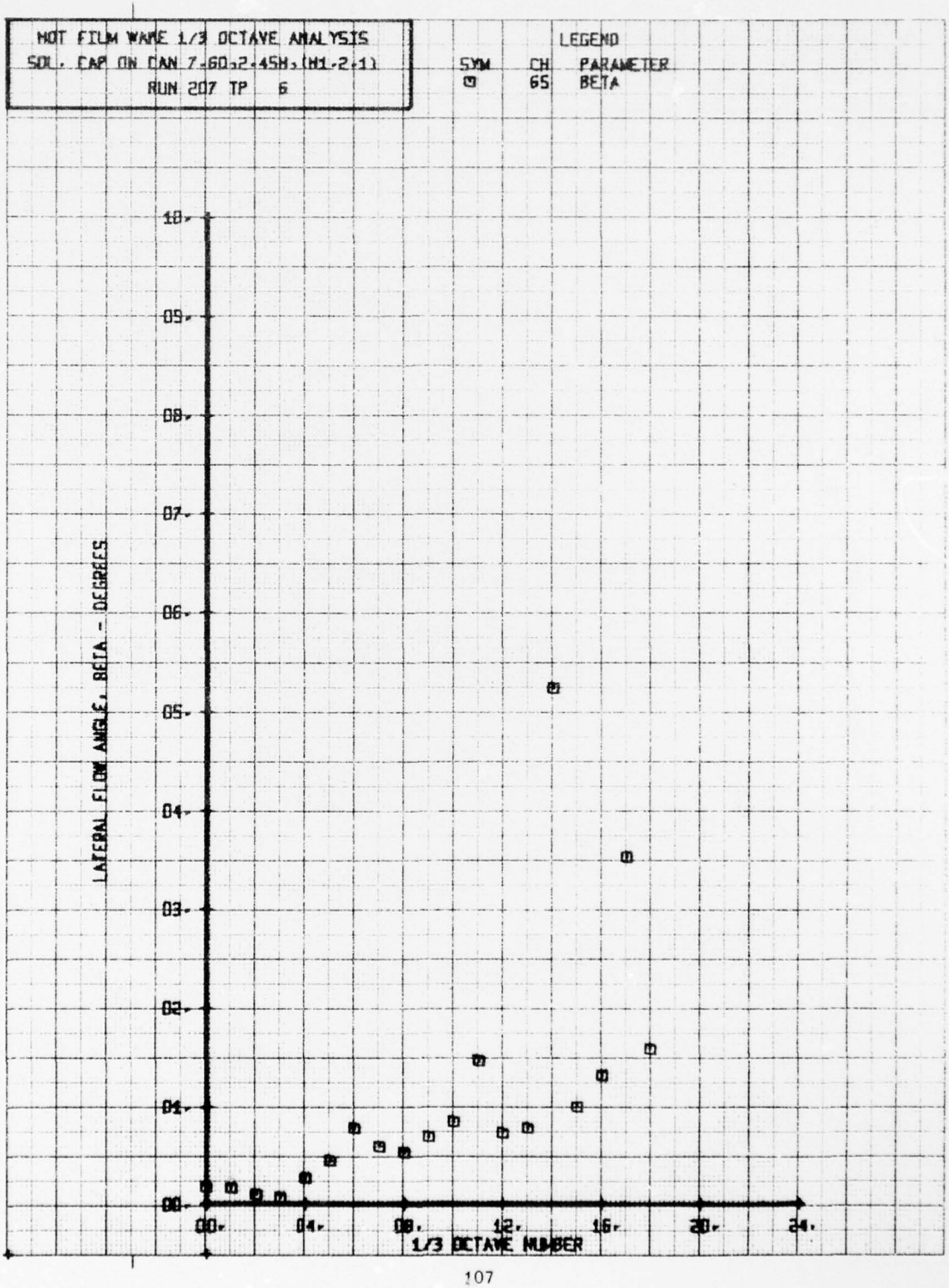

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL, CAP ON CAN 7,60,2,45H,(M1,2,1)
RUN 207 TP 8
LEGEND
SYM CH PARAMETER
66 ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
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1/3 OCTAVE NUMBER

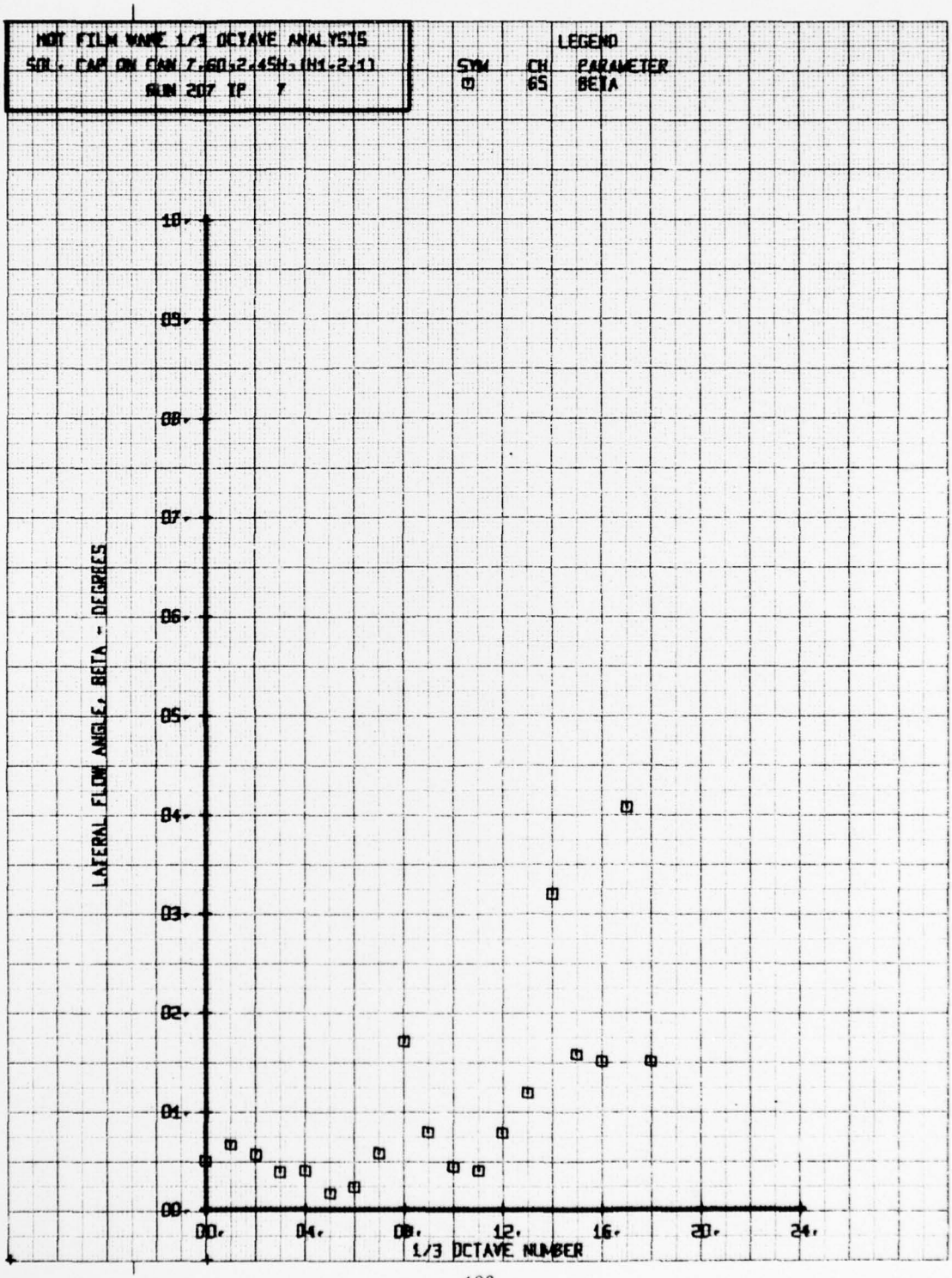

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL. CAP ON CAN 7.60,2.45H,(H1,2,1)
RUN 207 TP 2
LEGEND
SYM CH PARAMETER
65 BETA
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LATERAL FLOW ANGLE, BETA - DEGREES
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1/3 OCTAVE NUMBER

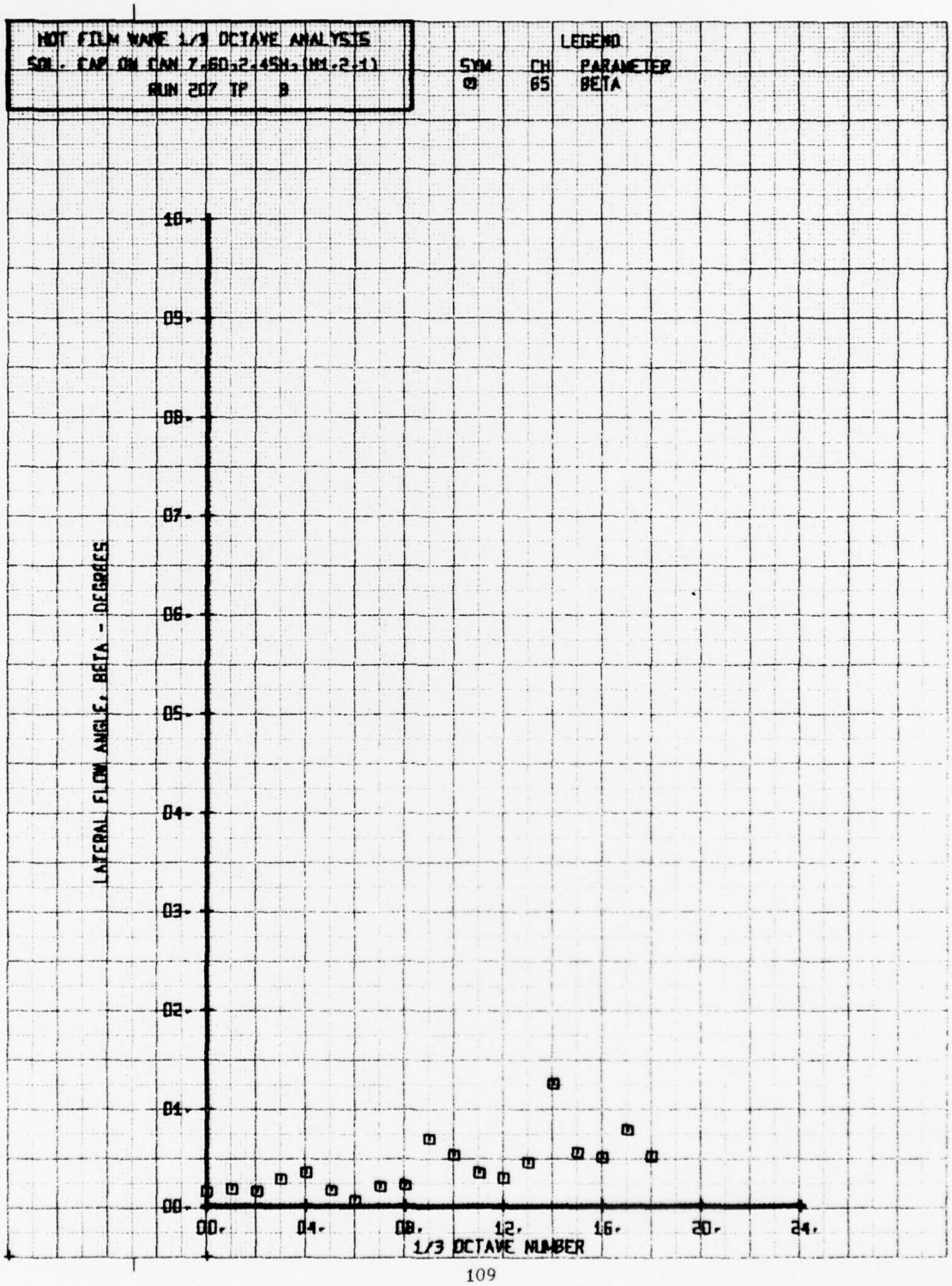

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL. CAP ON CAN 7.60,2.45M,(N1-2,1)
RUN 207 TP 9
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
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1/3 OCTAVE NUMBER

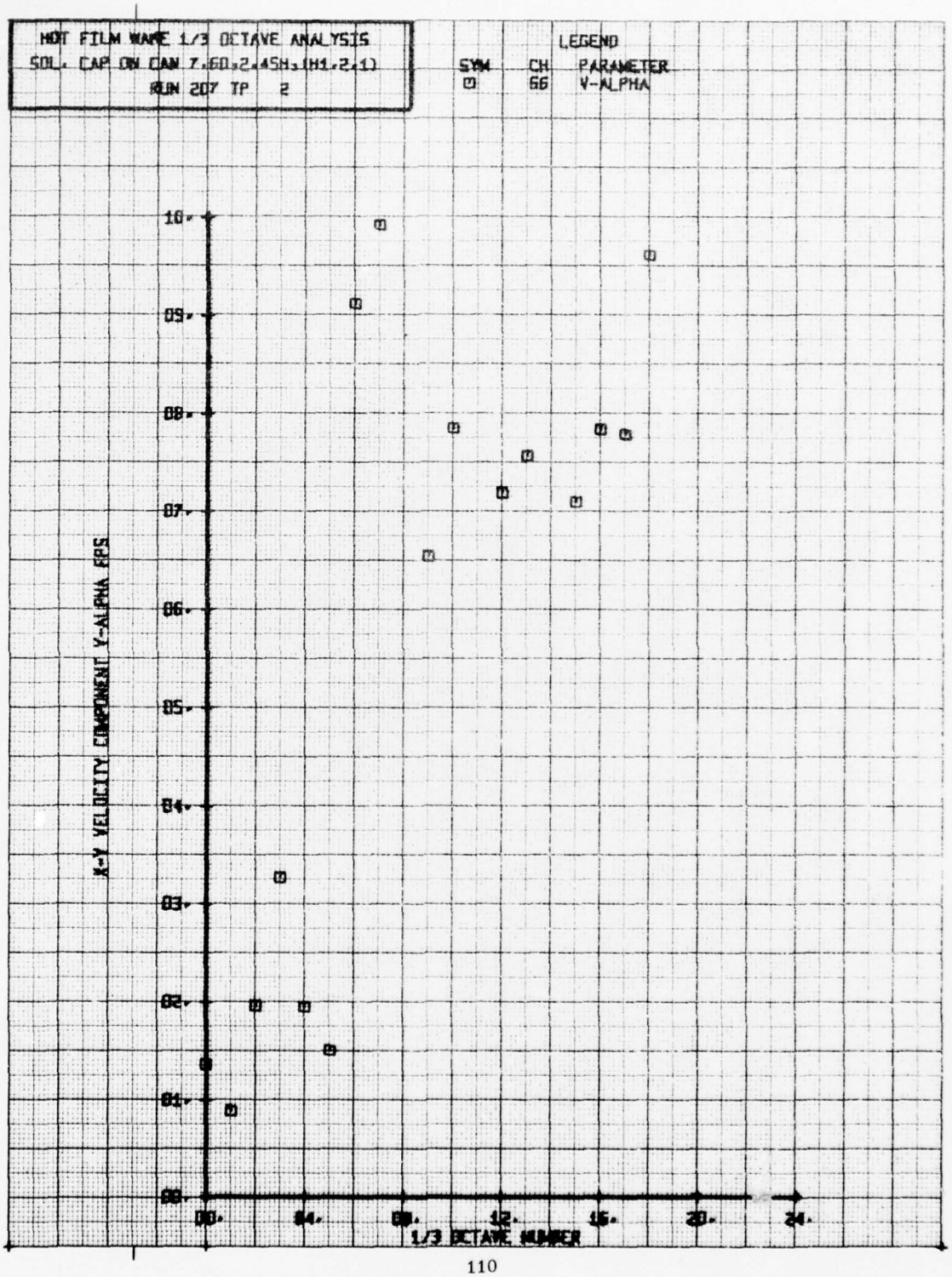

MDT FILM WAVE 1/3 OCTAVE ANALYSIS
SOL. CA7 ON CAN 7-60,2-45N,(H1-2-1)
RUN 207 TP 4
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
1/3 OCTAVE NUMBER
10.
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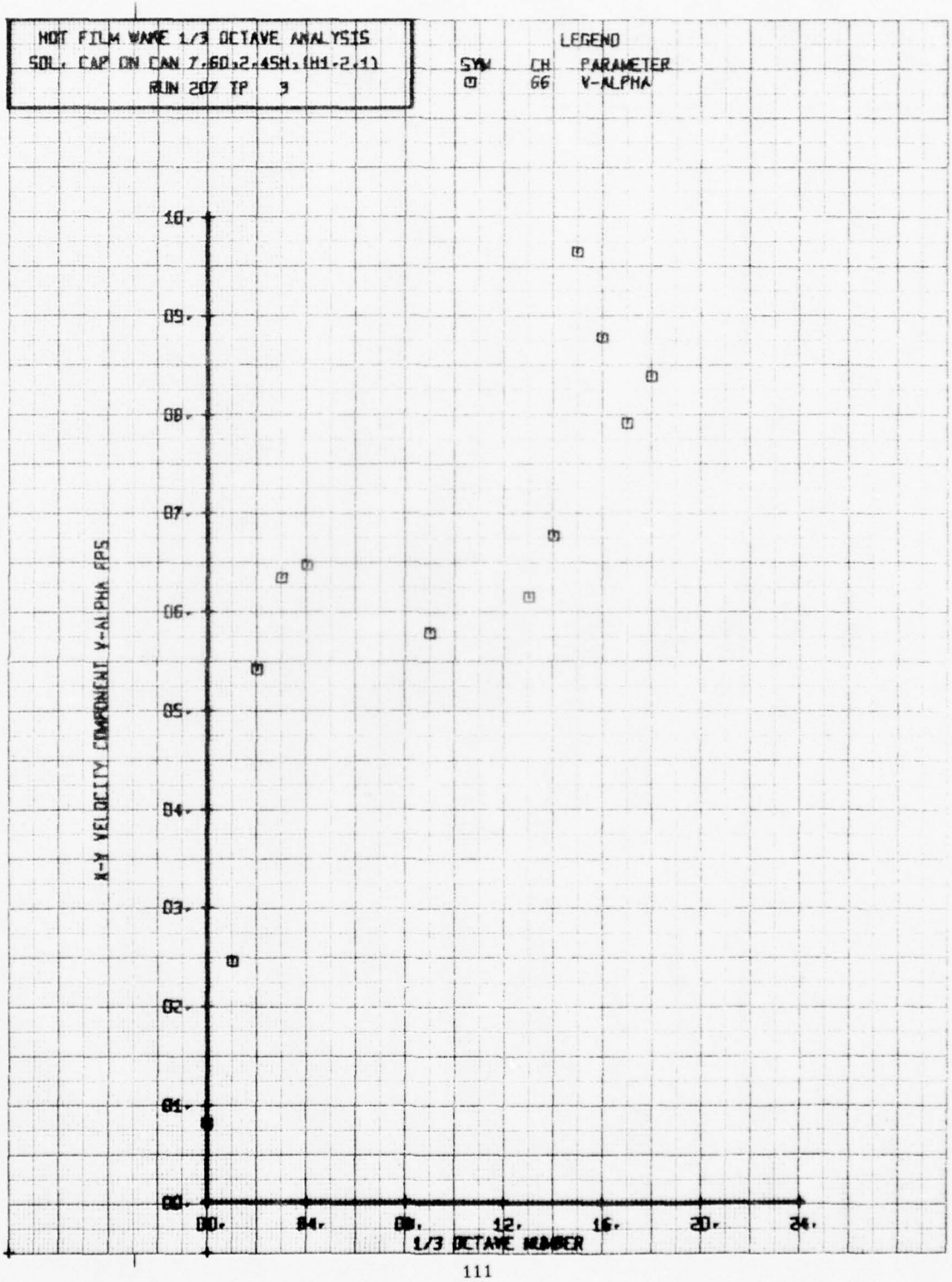

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL. CAP ON CAN 7-60,2-45H,(H1-2,1)
RUN 207 TP 5
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
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1/3 OCTAVE NUMBER

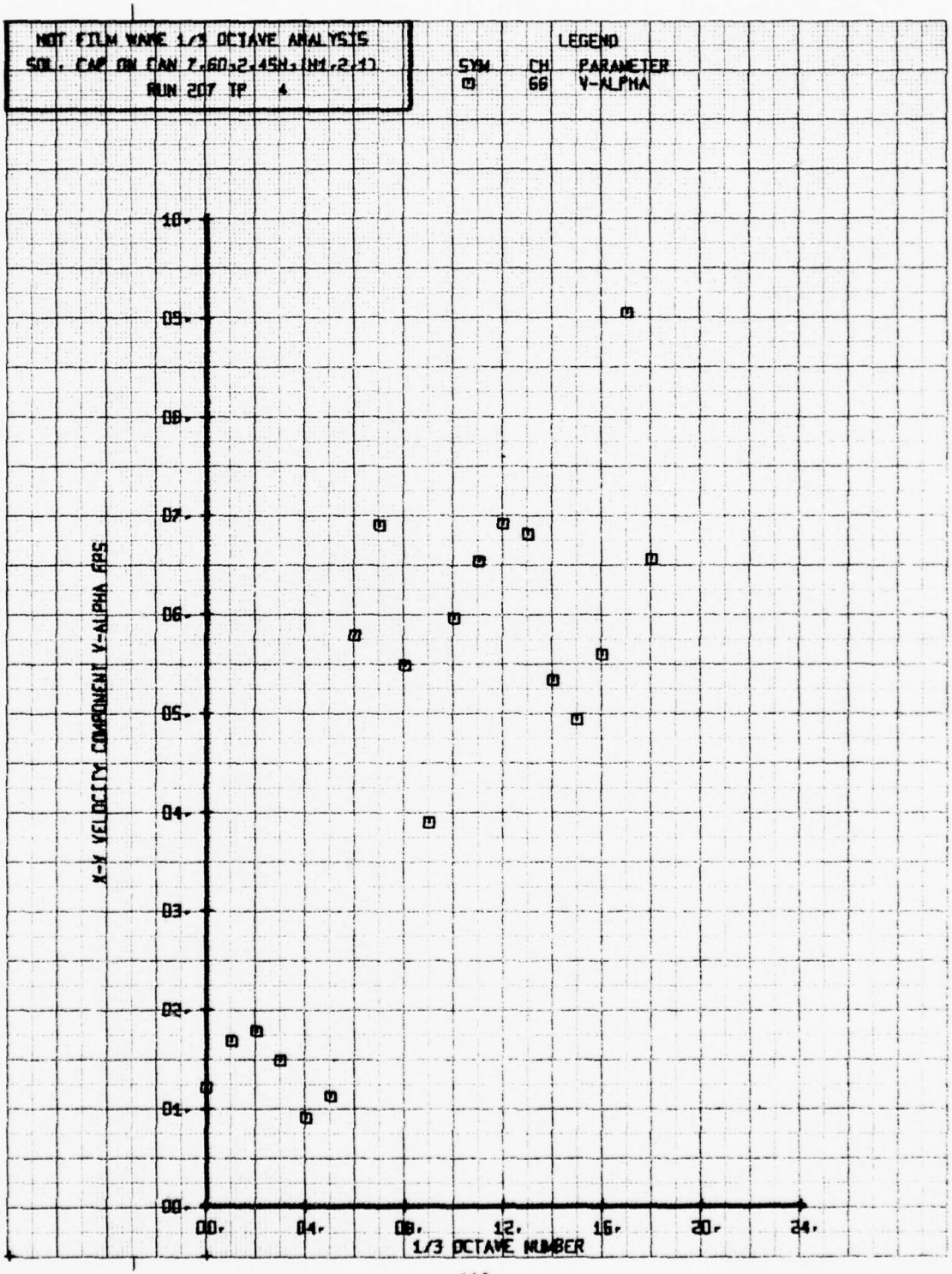

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL. CAP ON CAN 7.60,2.45H,(M1.2,1)
RUN 207 TP 6
LEGEND
SYM CH PARAMETER
65 BETA
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LATERAL FLOW ANGLE, BETA - DEGREES
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1/3 OCTAVE NUMBER

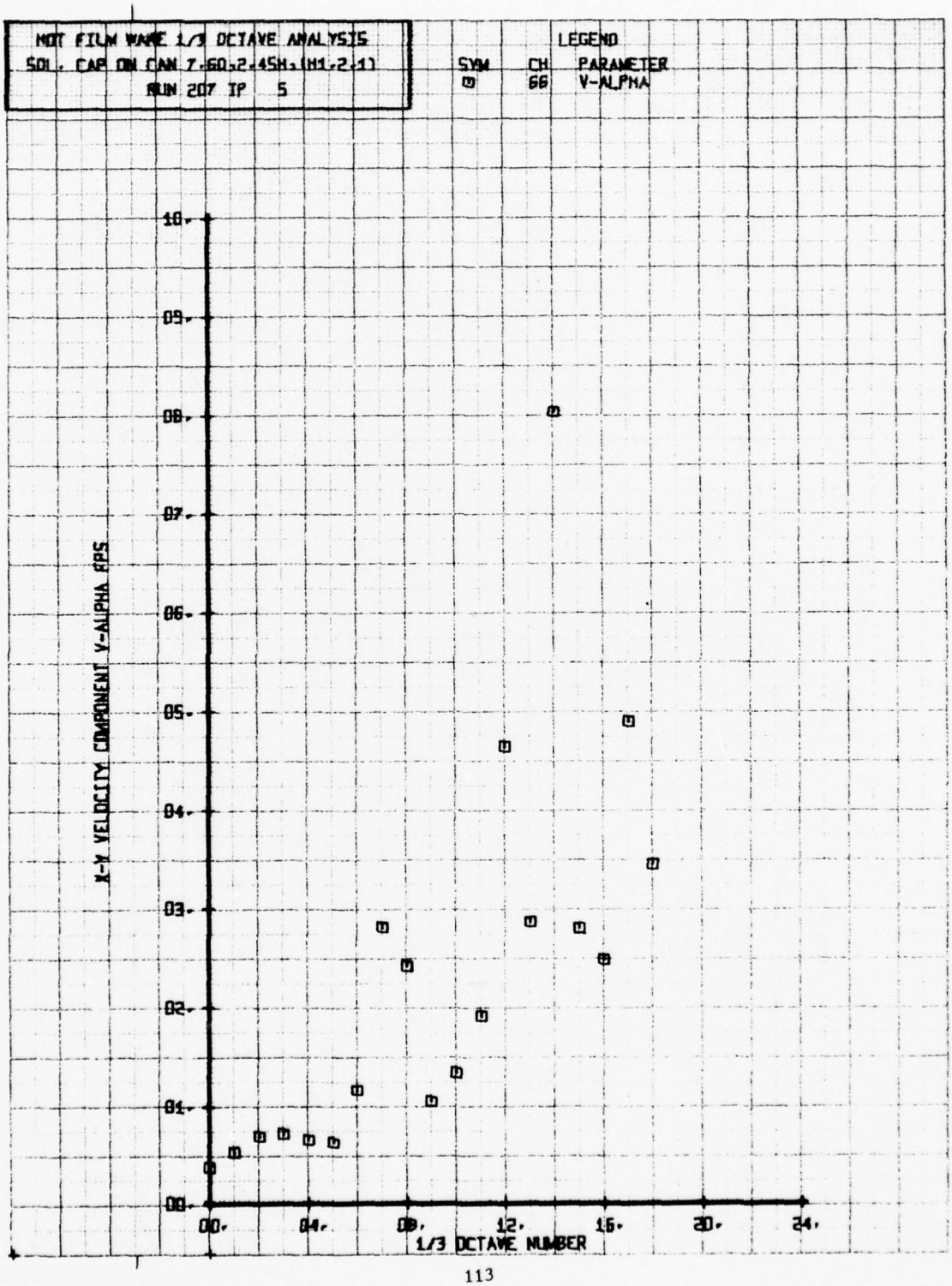

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL. CAP ON CAN 7.60,2.45H,(H1.2.1)
RUN 207 TP 7
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
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1/3 OCTAVE NUMBER

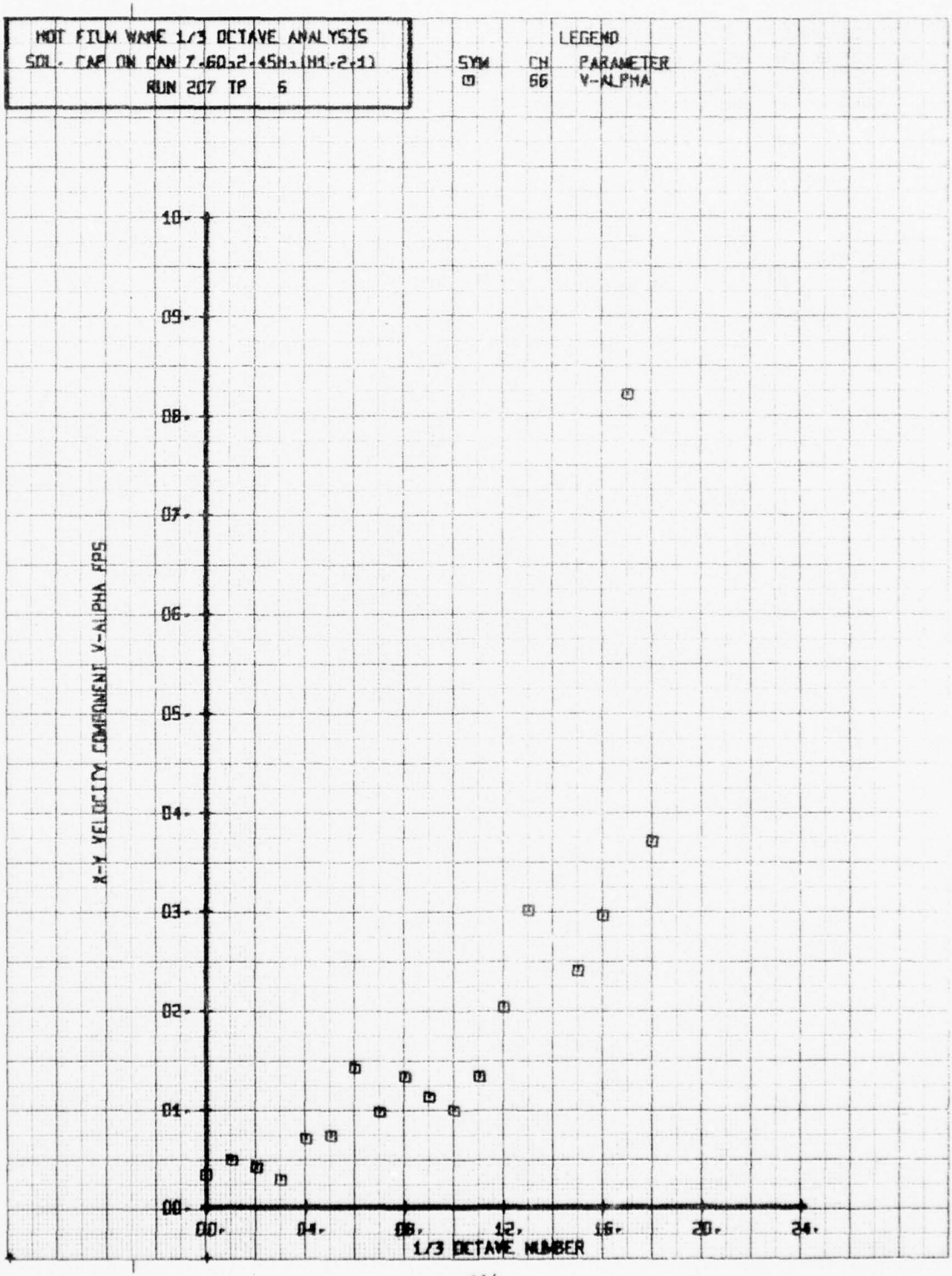

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL. CAP ON CAN 7.60,2.45H, (M1.2-1)
RUN 207 TP 9
LEGEND
SYM CH PARAMETER
65 BETA
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LATERAL FLOW ANGLE, BETA - DEGREES
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1/3 OCTAVE NUMBER

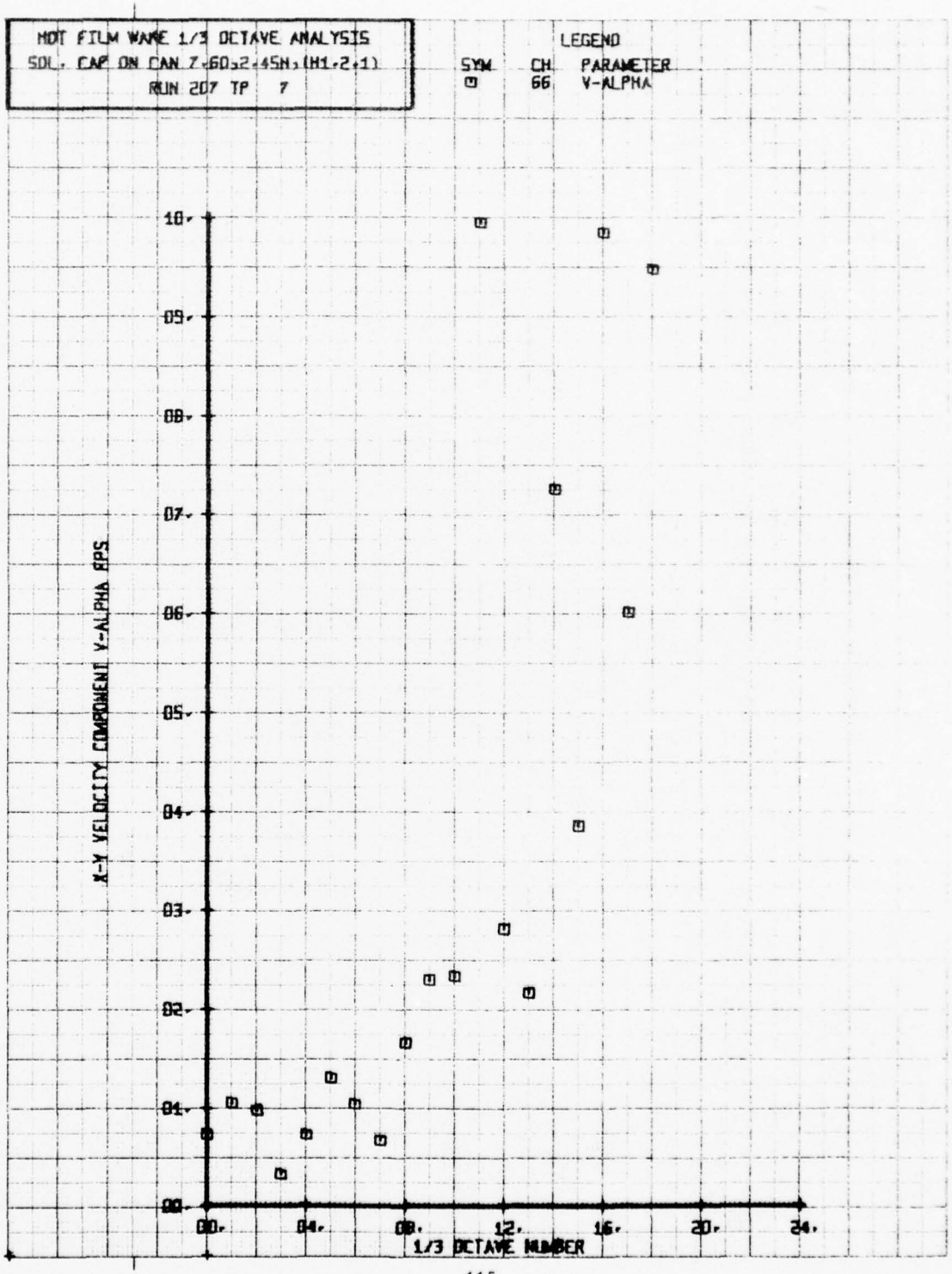

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL. CAP ON CAN 7.60,2.45H,(H1.2.1)
RUN 207 TP 2
LEGEND
SYM CH PARAMETER
66 V-ALPHA
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X-Y VELOCITY COMPONENT Y-ALPHA FPS
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1/3 OCTAVE NUMBER

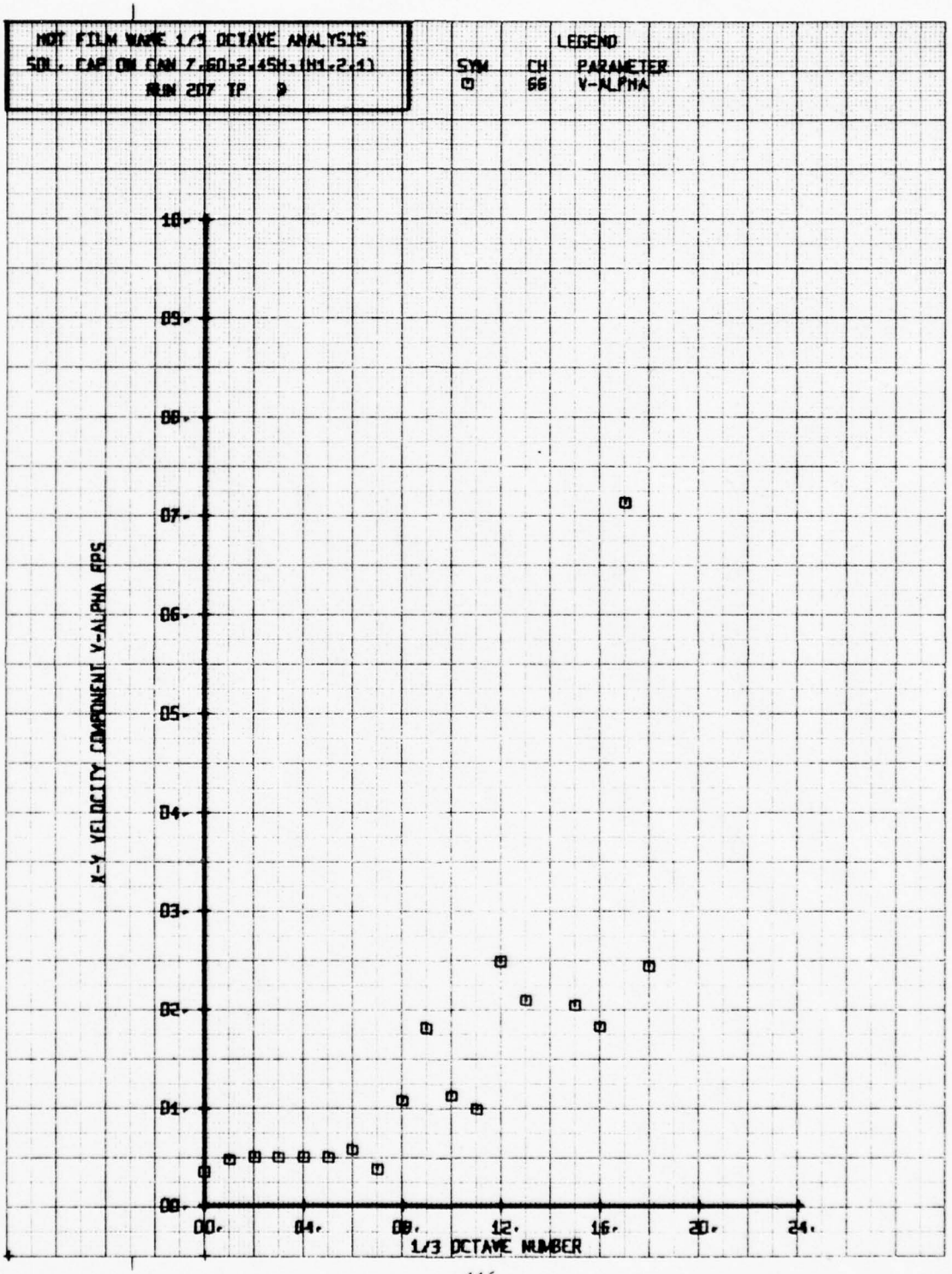

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL. CAP ON CAN 7.60,2.45H,(H1-2.1)
RUN 207 TP 9
LEGEND
SYM CH PARAMETER
66 V-ALPHA
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X-Y VELOCITY COMPONENT V-ALPHA FPS
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1/3 OCTAVE NUMBER

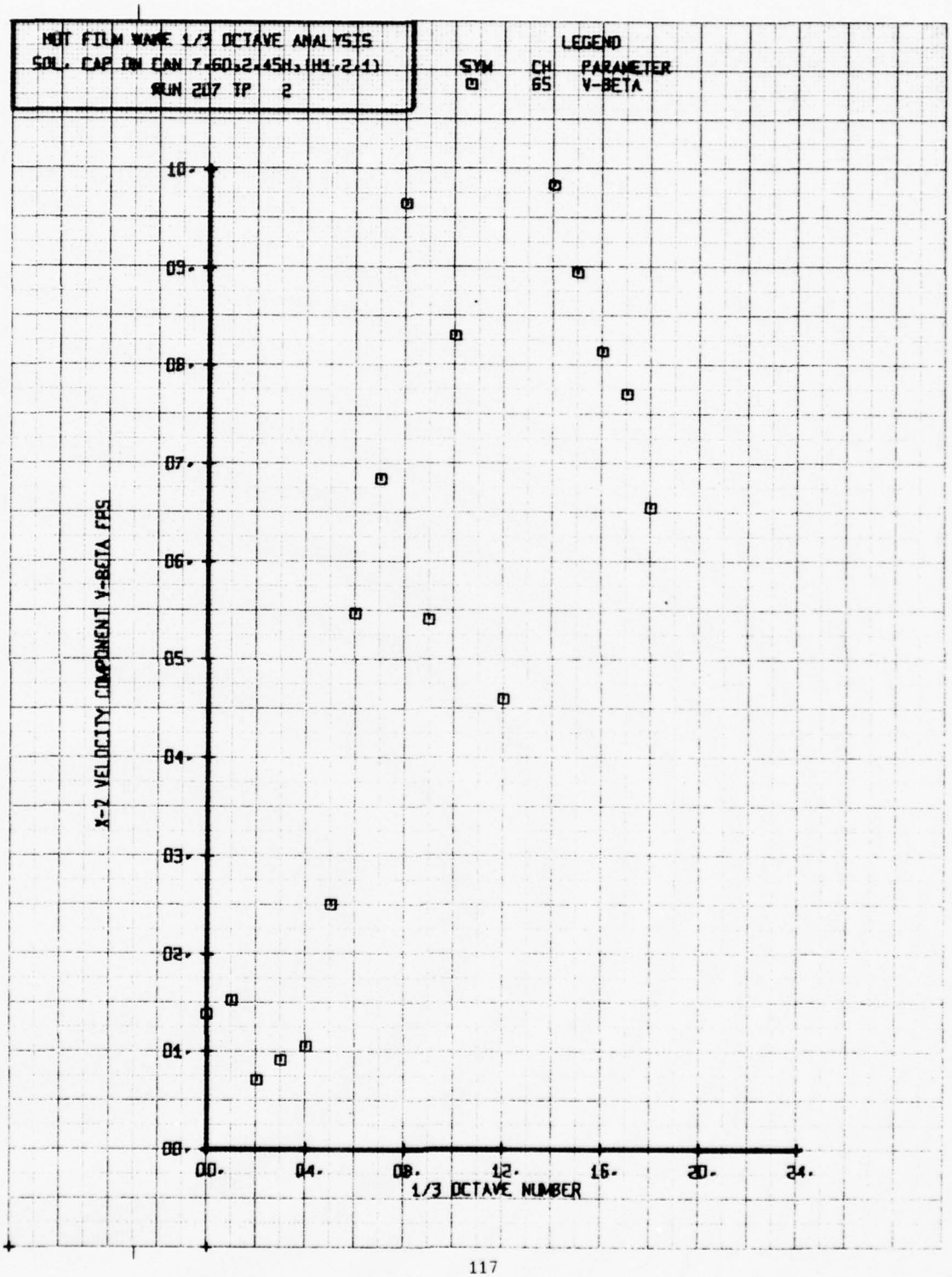

NOT FILM WAVE 1/3 OCTAVE ANALYSIS
SOL. CAP ON CAN 7.60,2.45N,(N1,2,1)
RUN 207 TP 4
LEGEND
SYM CH PARAMETER
66 V-ALPHA
SDV ALPHA-X COMPONENT VELOCITY X-X
1/3 OCTAVE NUMBER
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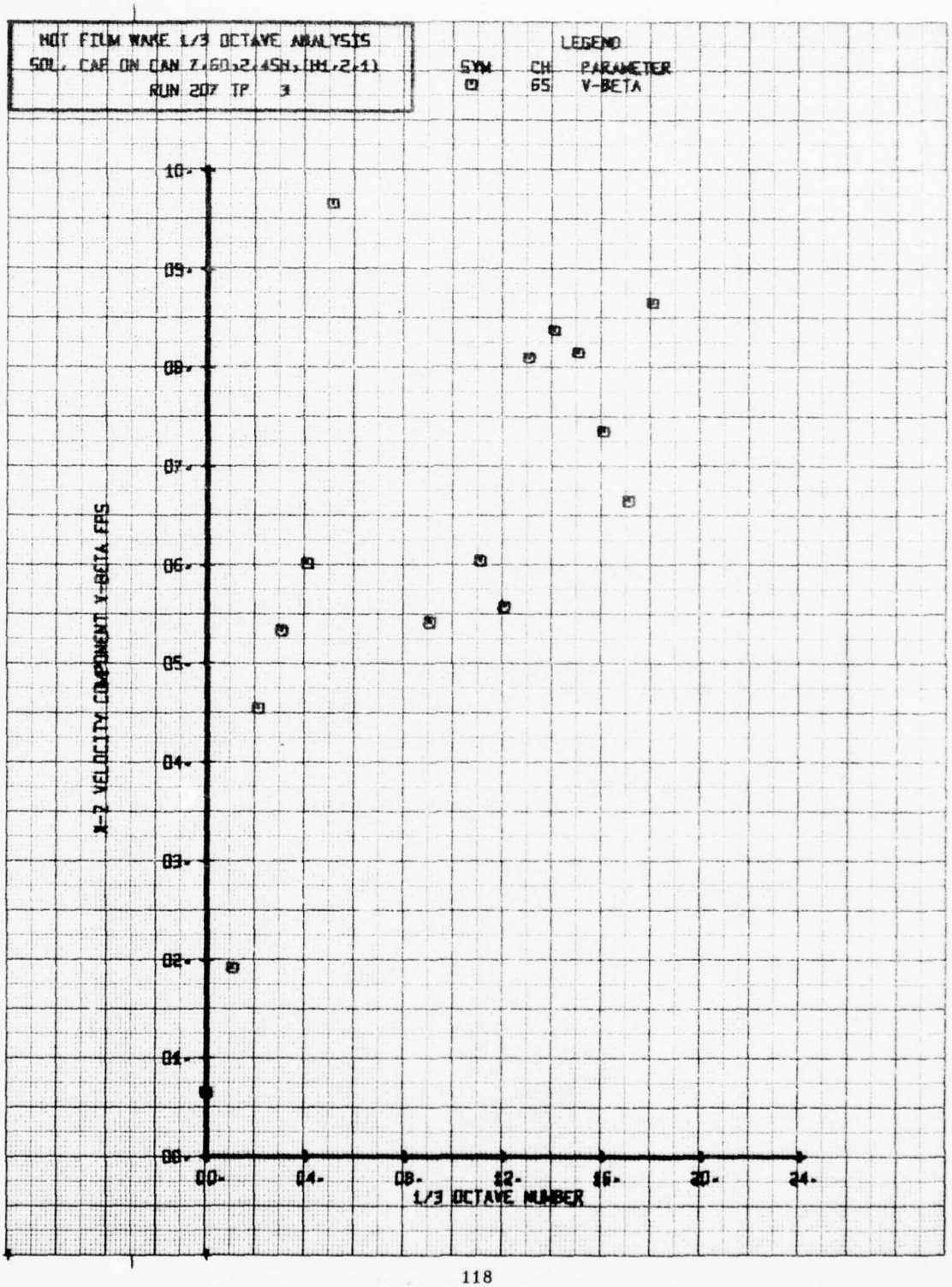

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL. CAP ON CAN 7.60,2.45H,(M1.2.1)
RUN 207 IP 5
LEGEND
SYM CH PARAMETER
66 V-ALPHA
SUB ALPHA COMPONENT VELOCITY X-X
1/3 OCTAVE NUMBER
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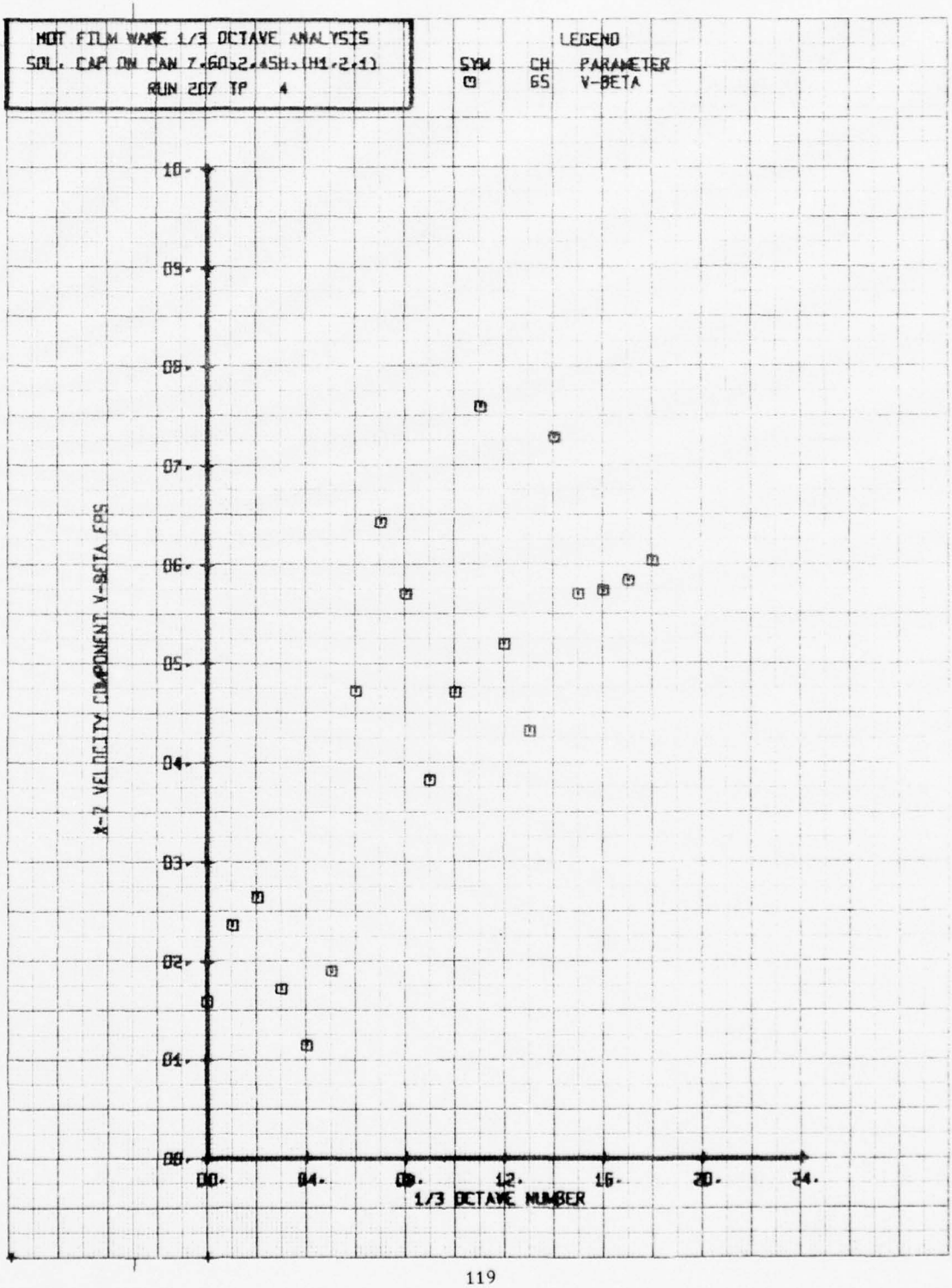

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL. CAP ON CAN 7-60,2-45H,(H1-2-1)
RUN 207 TP 6
LEGEND
SYM CH PARAMETER
66 V-ALPHA
X-Y VELOCITY COMPONENT V-ALPHA FPS
1/3 OCTAVE NUMBER
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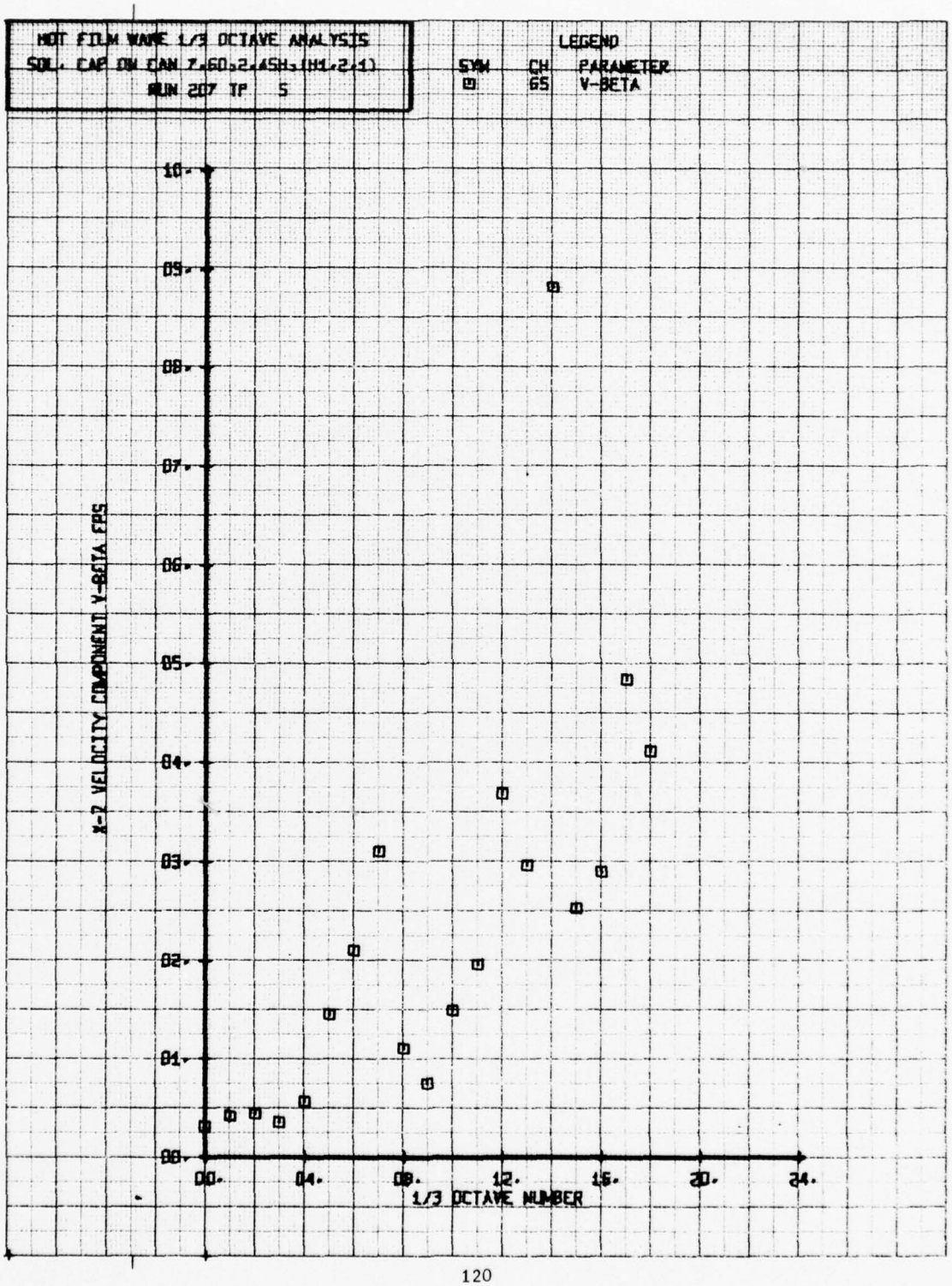

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL. CAP ON CAN Z=60,X2=45N,(H1,2,1)
RUN 207 TP 7
LEGEND
SYM CH PARAMETER
66 V-ALPHA
X-Y VELOCITY COMPONENT V-ALPHA FPS
1/3 OCTAVE NUMBER
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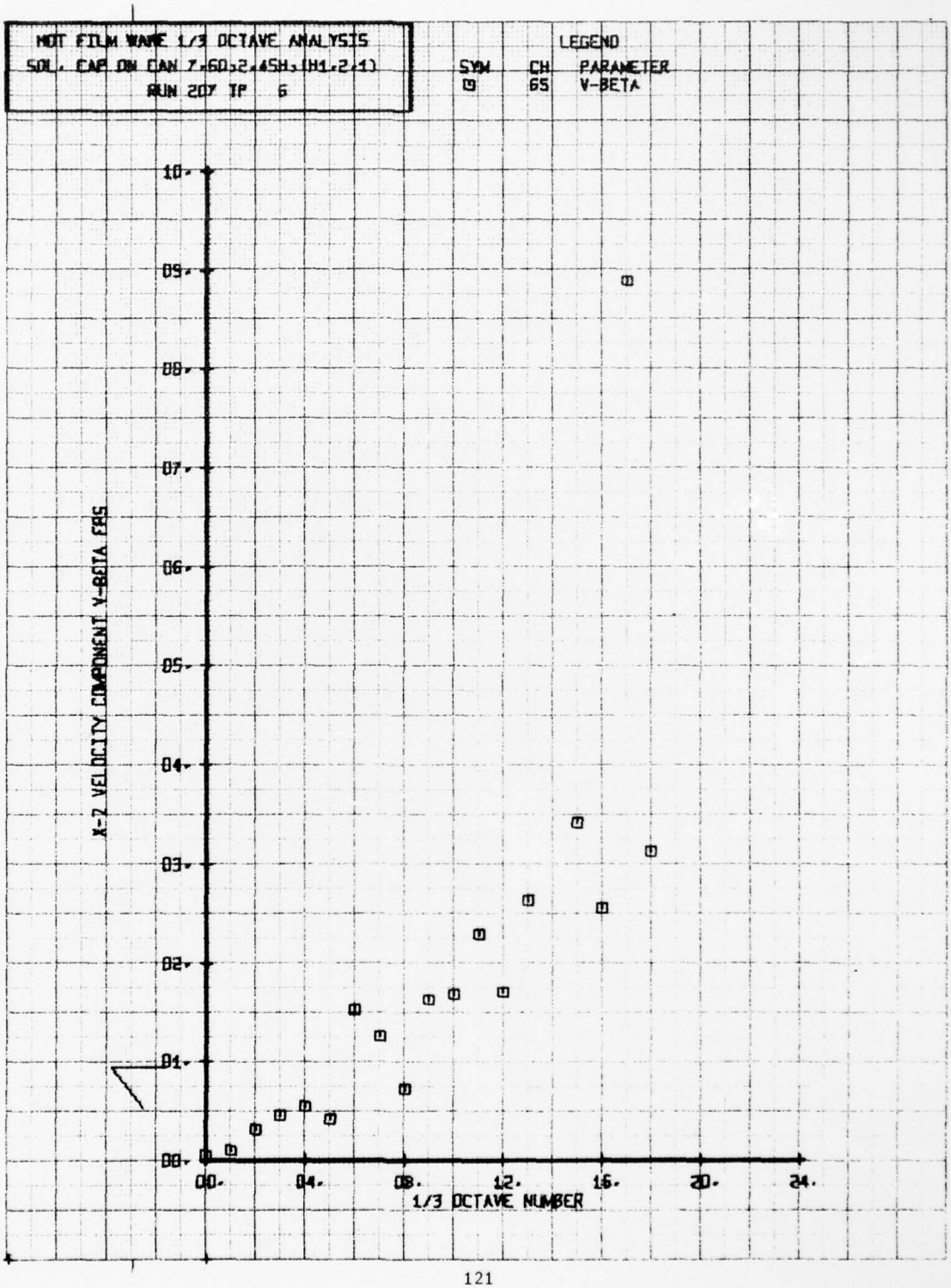

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
50L. CAP ON CAN 7.60,2.45H,(H1,2,1)
RUN 207 TP 9
LEGEND
SYM CH PARAMETER
66 V-ALPHA
X-Y VELOCITY COMPONENT Y-ALPHA FPS
1/3 OCTAVE NUMBER
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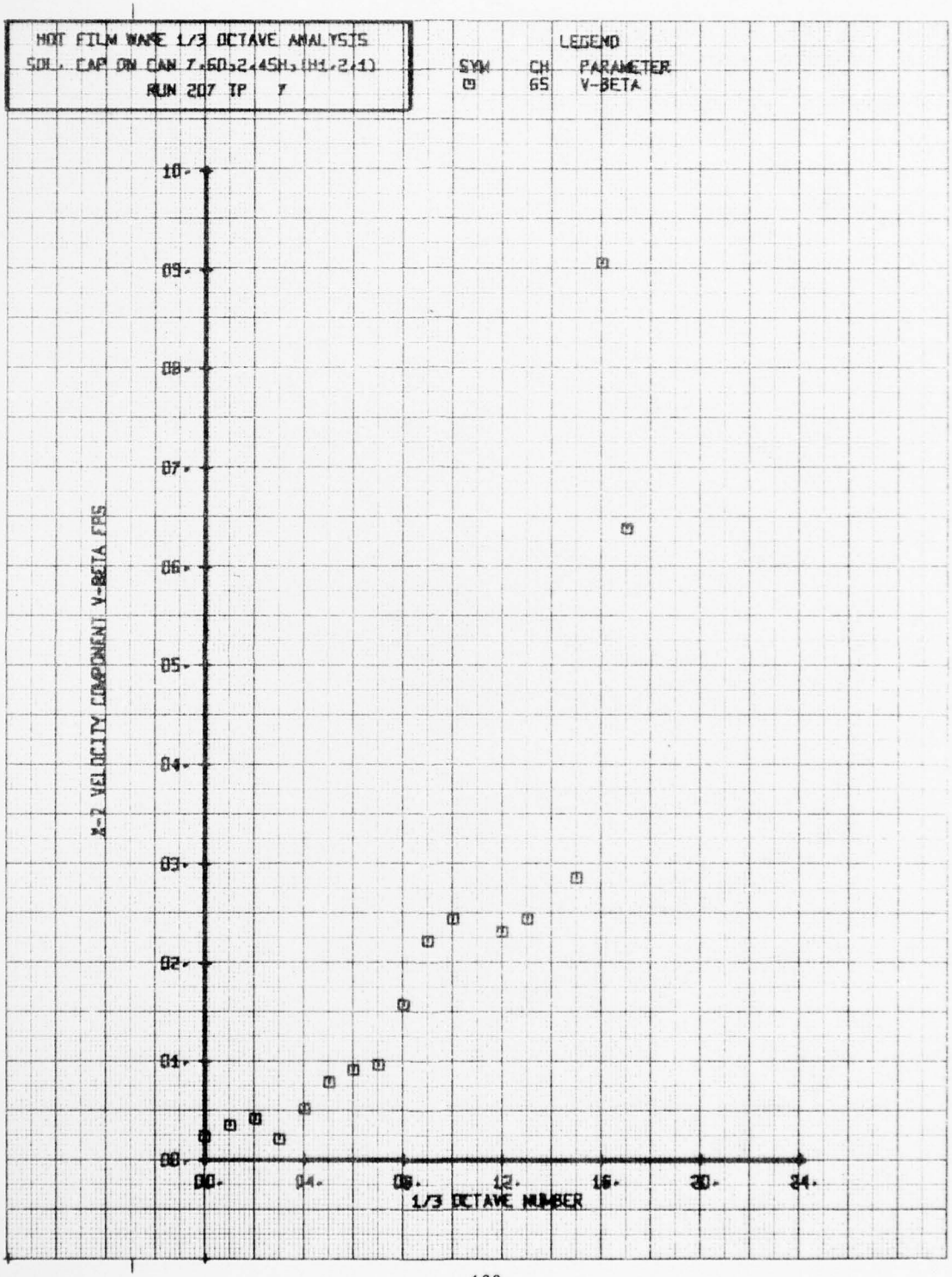

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL. CAP ON CAN 7.60,2.45H,(H1.2.1)
RUN 207 TP 2
LEGEND
SYM CH PARAMETER
65 V-BETA
X-2 VELOCITY COMPONENT V-BETA FPS
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1/3 OCTAVE NUMBER

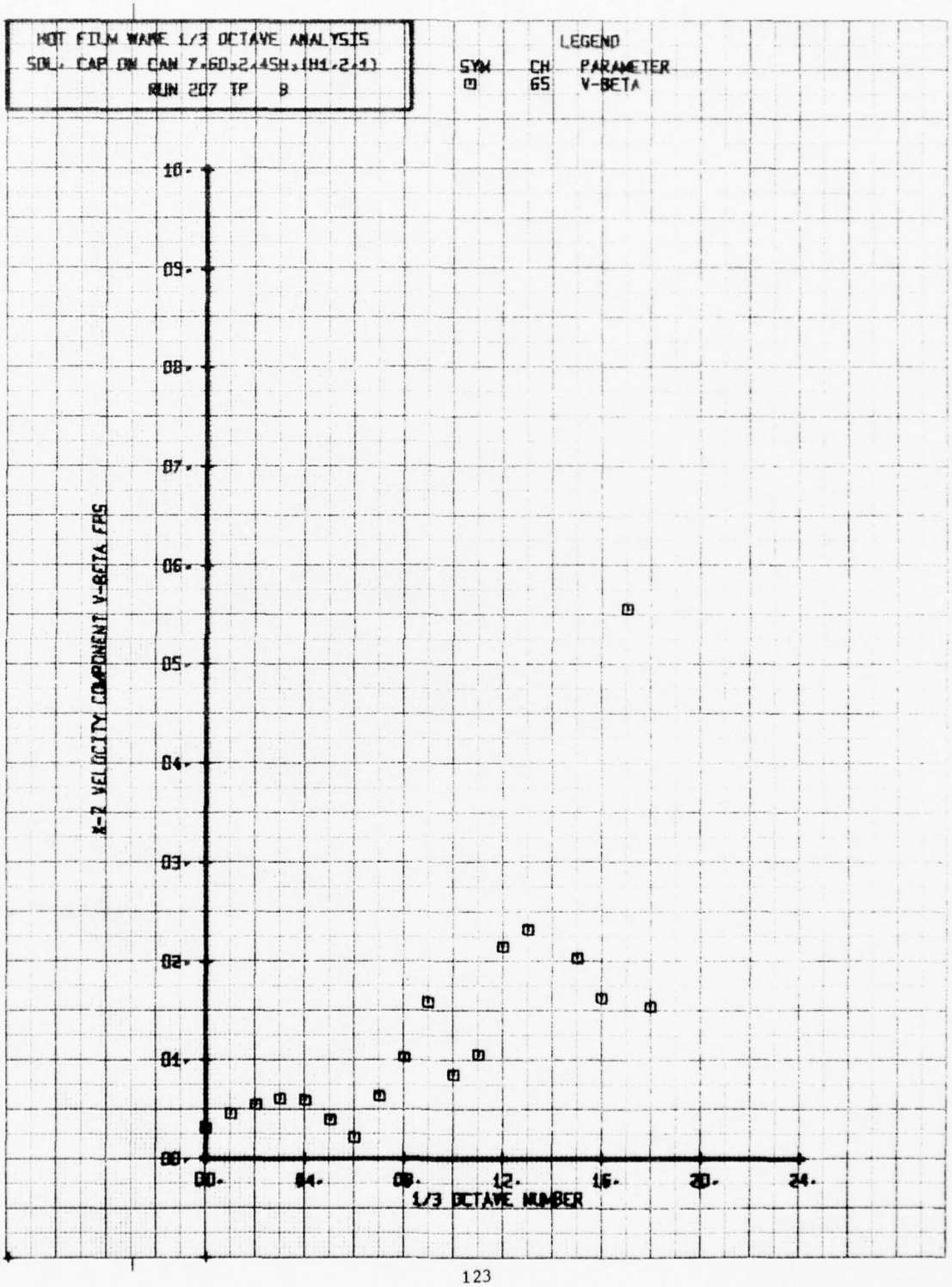

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL, CAP ON CAN Z,60,2,4SH,(H1,2,1)
RUN 207 TP 3
LEGEND
SYM CH PARAMETER
65 V-BETA
10.
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16.
20.
24.
1/3 OCTAVE NUMBER
X-Z VELOCITY COMPONENT V-BETA FPS

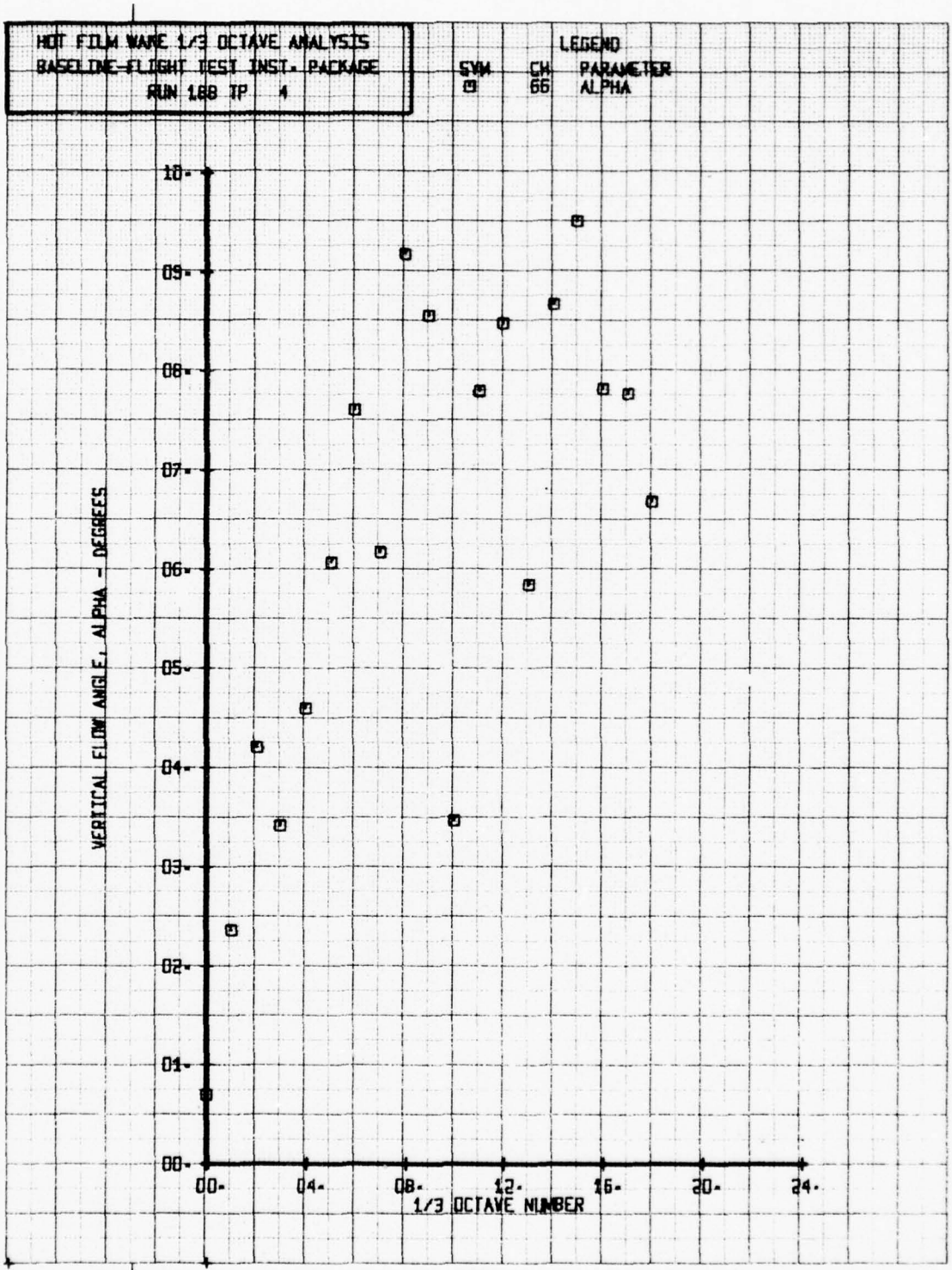

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL. CAP ON CAN 7.60,2.45H,(H1.2.1)
RUN 207 TP 4
LEGEND
SYM CH PARAMETER
65 V-BETA
X-2 VELOCITY COMPONENT V-BETA FPS
1/3 OCTAVE NUMBER
10.
09.
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04.
08.
12.
16.
20.
24.

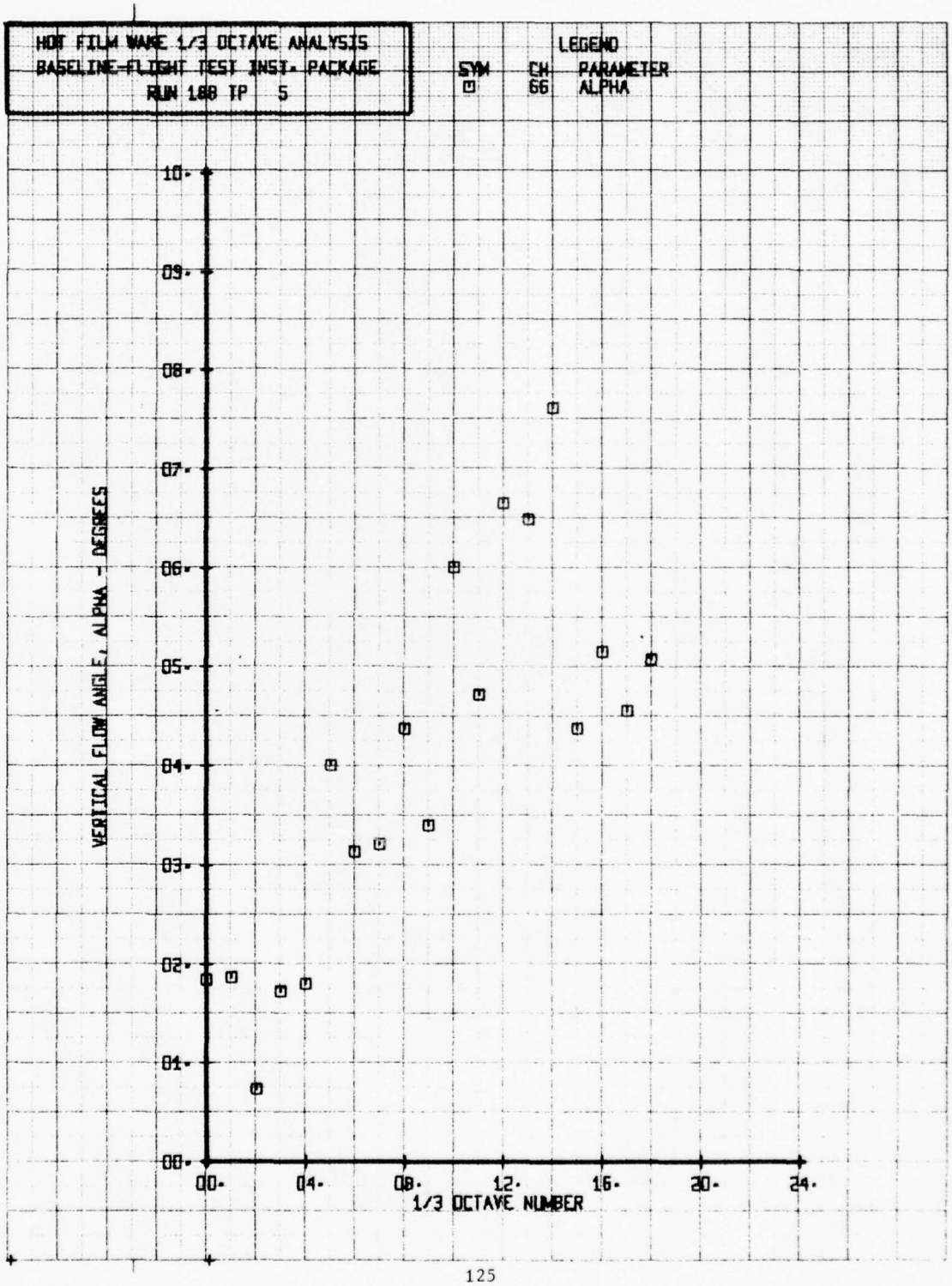

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL. CAP ON CAN Z=60.2,45H=(H1.2.1)
RUN 207 TP 5
LEGEND
SYM CH PARAMETER
65 V-BETA
10.
09.
08.
07.
06.
05.
04.
03.
02.
01.
00.
X-2 VELOCITY COMPONENT Y-BETA FPS
00. 04. 08. 12. 16. 20. 24.
1/3 OCTAVE NUMBER

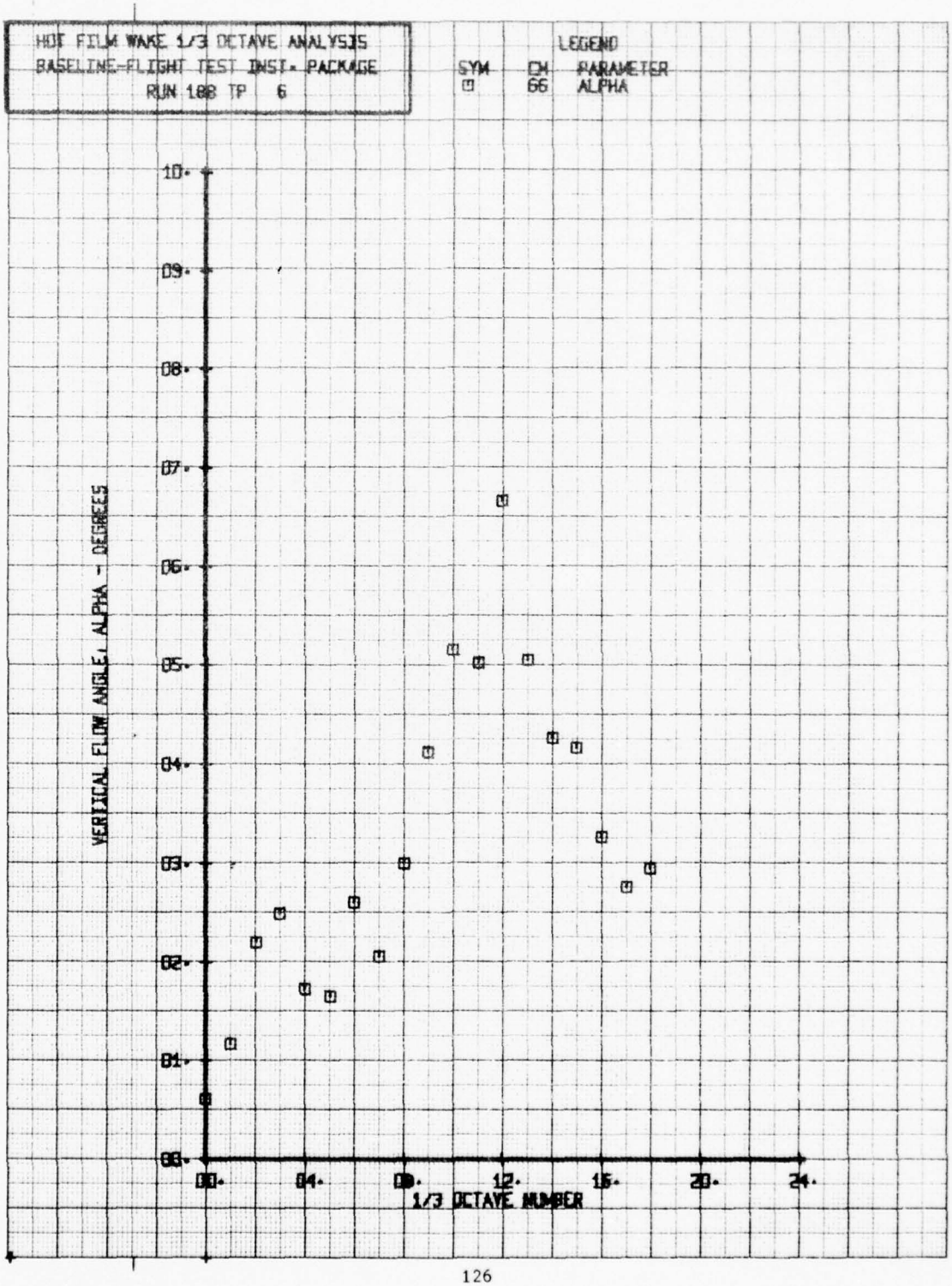

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL. CAP ON CAN 7.60,2.45H,(H1.2.1)
RUN 207 TP 6
LEGEND
SYM CH PARAMETER
65 V-BETA
10.
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01.
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X-2 VELOCITY COMPONENT V-BETA FPS
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04.
08.
12.
16.
20.
24.
1/3 OCTAVE NUMBER

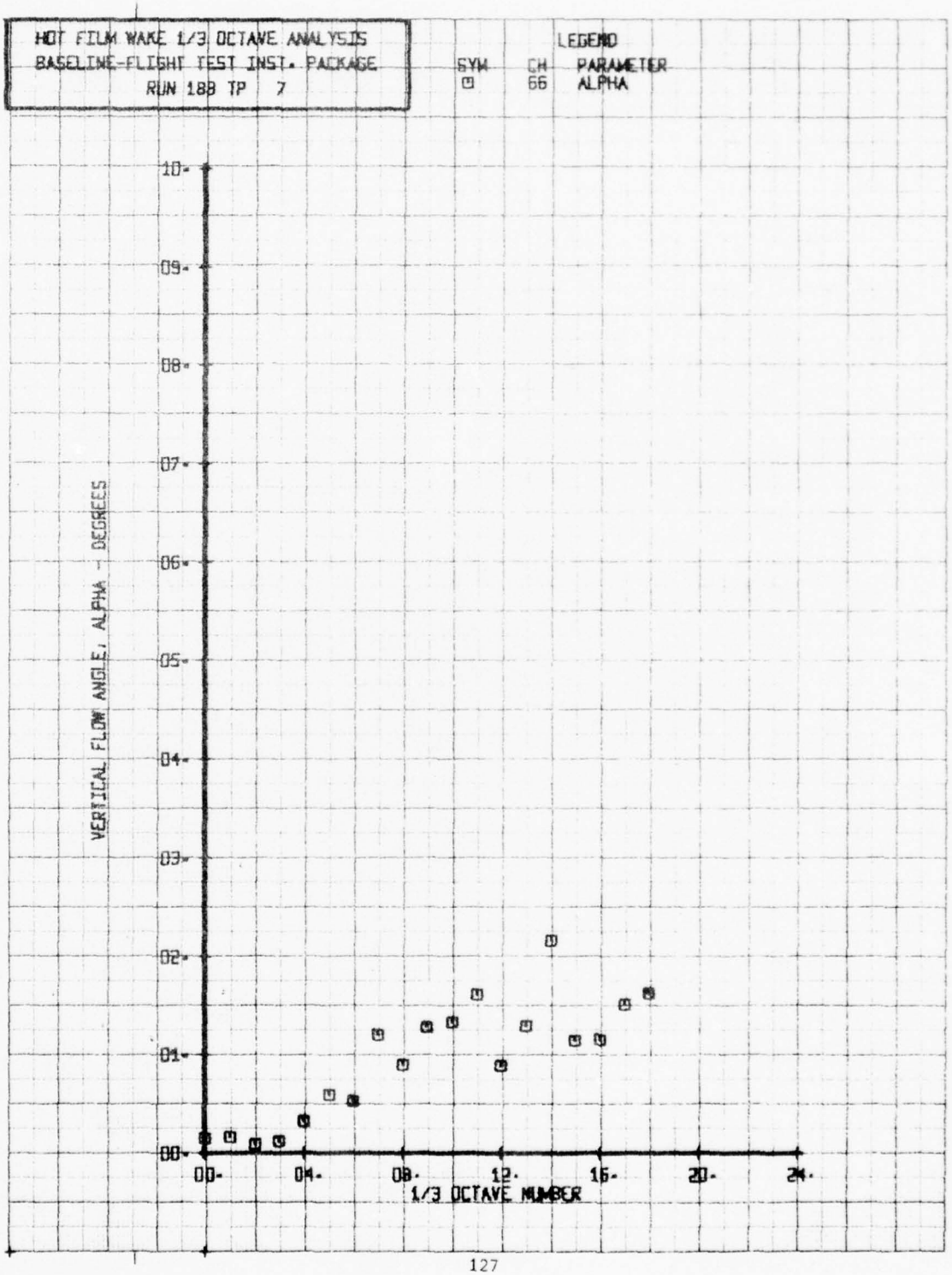

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOIL CAP ON CAN 7.60,2.45H,(H1.2.1)
RUN 207 TP 7
LEGEND
SYM CH PARAMETER
65 V-BETA
X-2 VELOCITY COMPONENT V-BETA FPS
1/3 OCTAVE NUMBER
10.
09.
08.
07.
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04.
08.
12.
16.
20.
24.

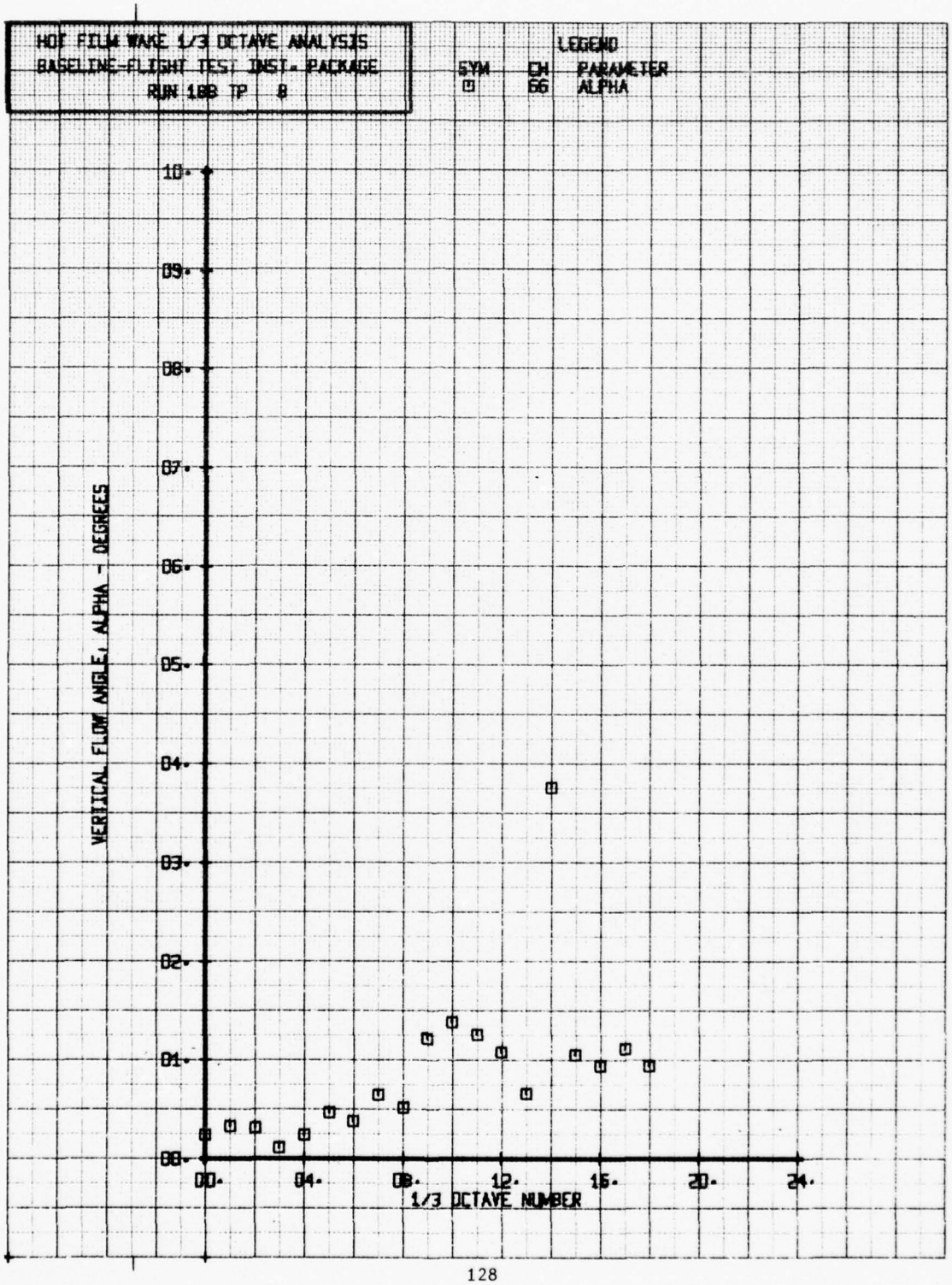

HOT FILM WARE 1/3 OCTAVE ANALYSIS
SOL. CAP ON CAN 7.60,2.45H,(H1.2.1)
RUN 207 TP 8
LEGEND
SYM CH PARAMETER
65 V-BETA
10.
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X-2 VELOCITY COMPONENT V-BETA FPS
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24.
1/3 OCTAVE NUMBER

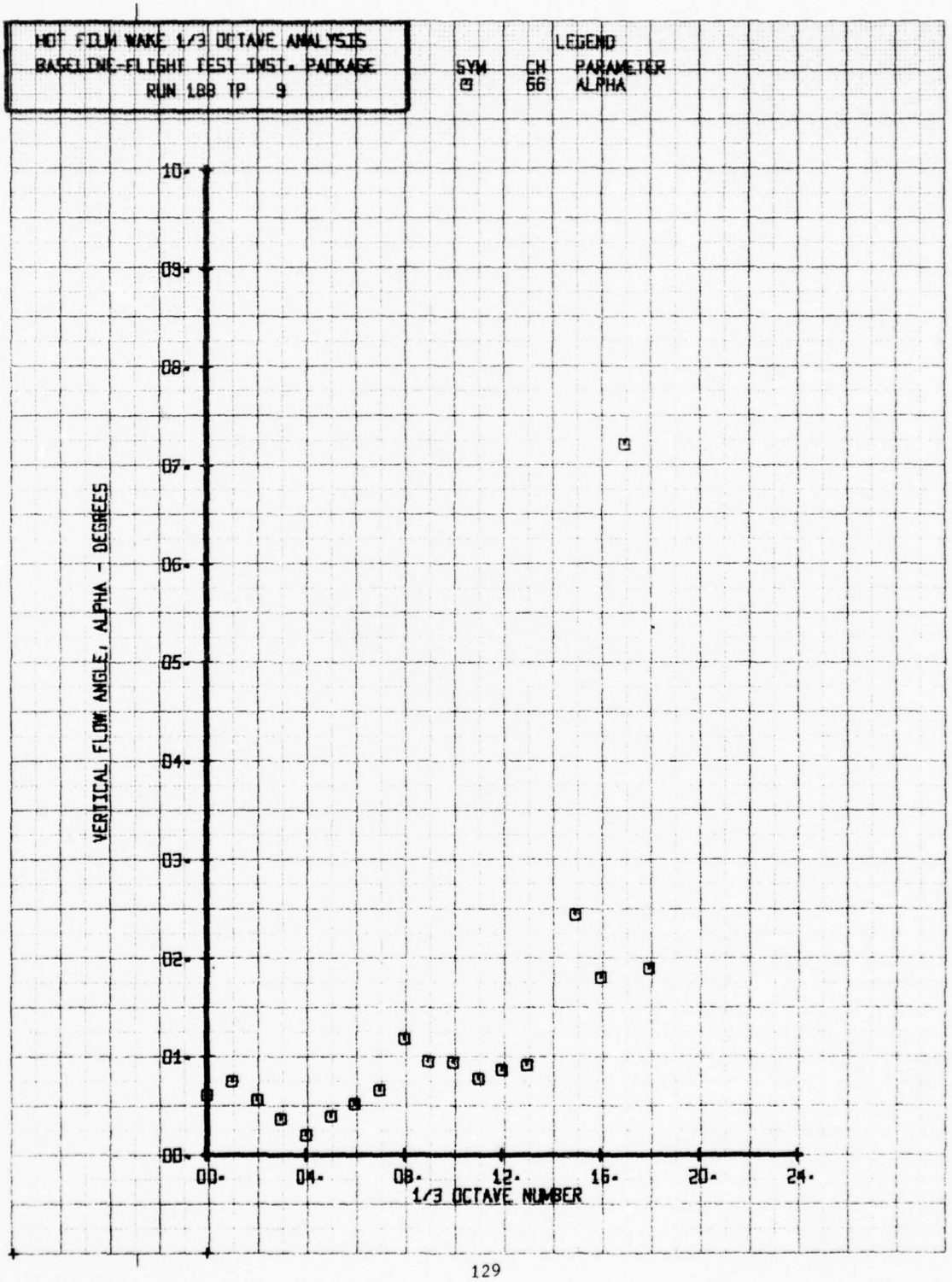

HOT FILM WARE 1/3 OCTAVE ANALYSIS
BASELINE-FLIGHT TEST INST. PACKAGE
RUN 188 TP 4
LEGEND
SYM CH PARAMETER
66 ALPHA
10.
09.
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00.
VERTICAL FLOW ANGLE, ALPHA - DEGREES
00.
04.
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12.
16.
20.
24.
1/3 OCTAVE NUMBER

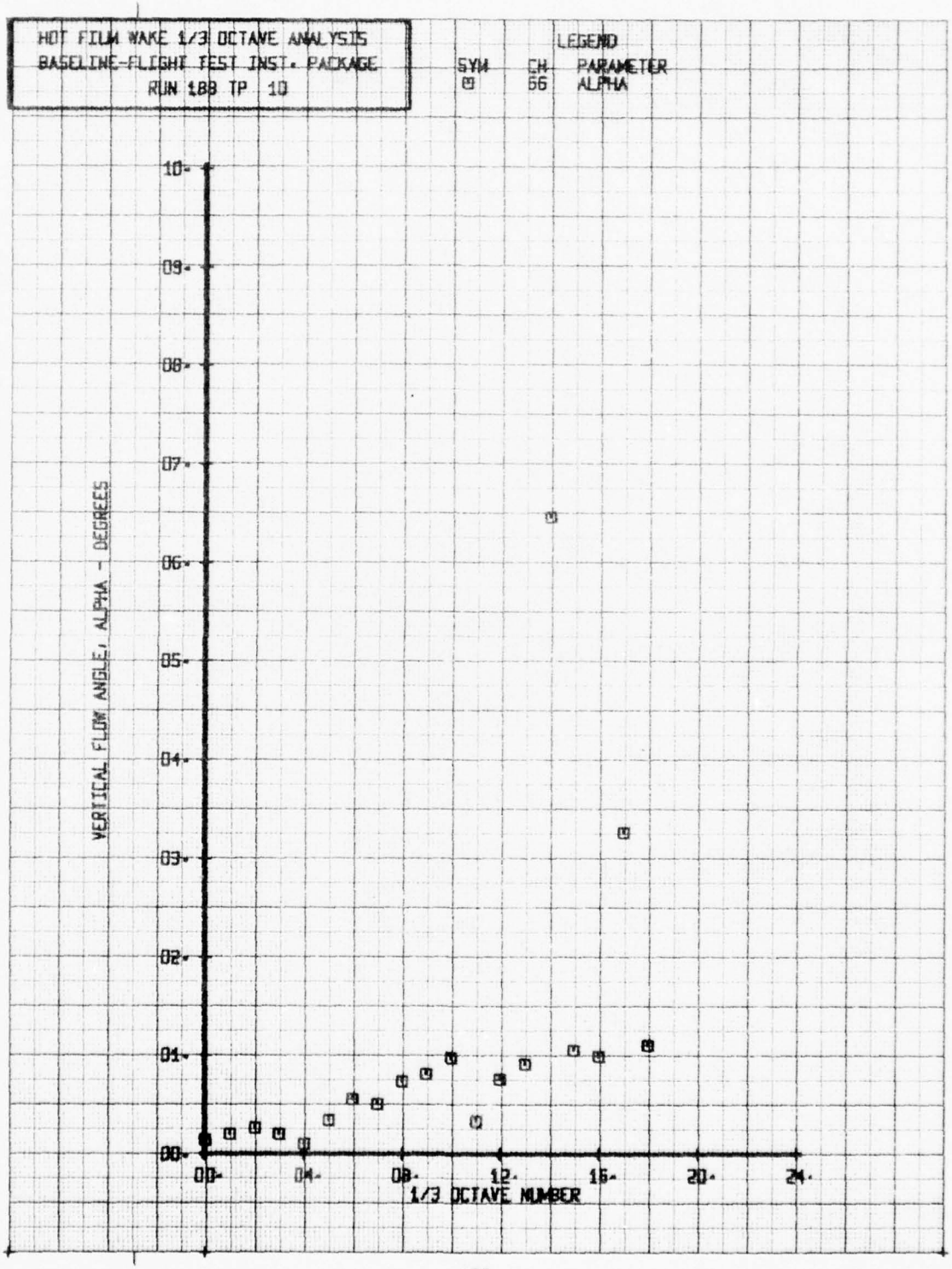

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
BASELINE-FLIGHT TEST INST. PACKAGE
RUN 188 TP 5
LEGEND
SYM CH PARAMETER
66 ALPHA
10.
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VERTICAL FLOW ANGLE, ALPHA - DEGREES
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04.
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24.
1/3 OCTAVE NUMBER

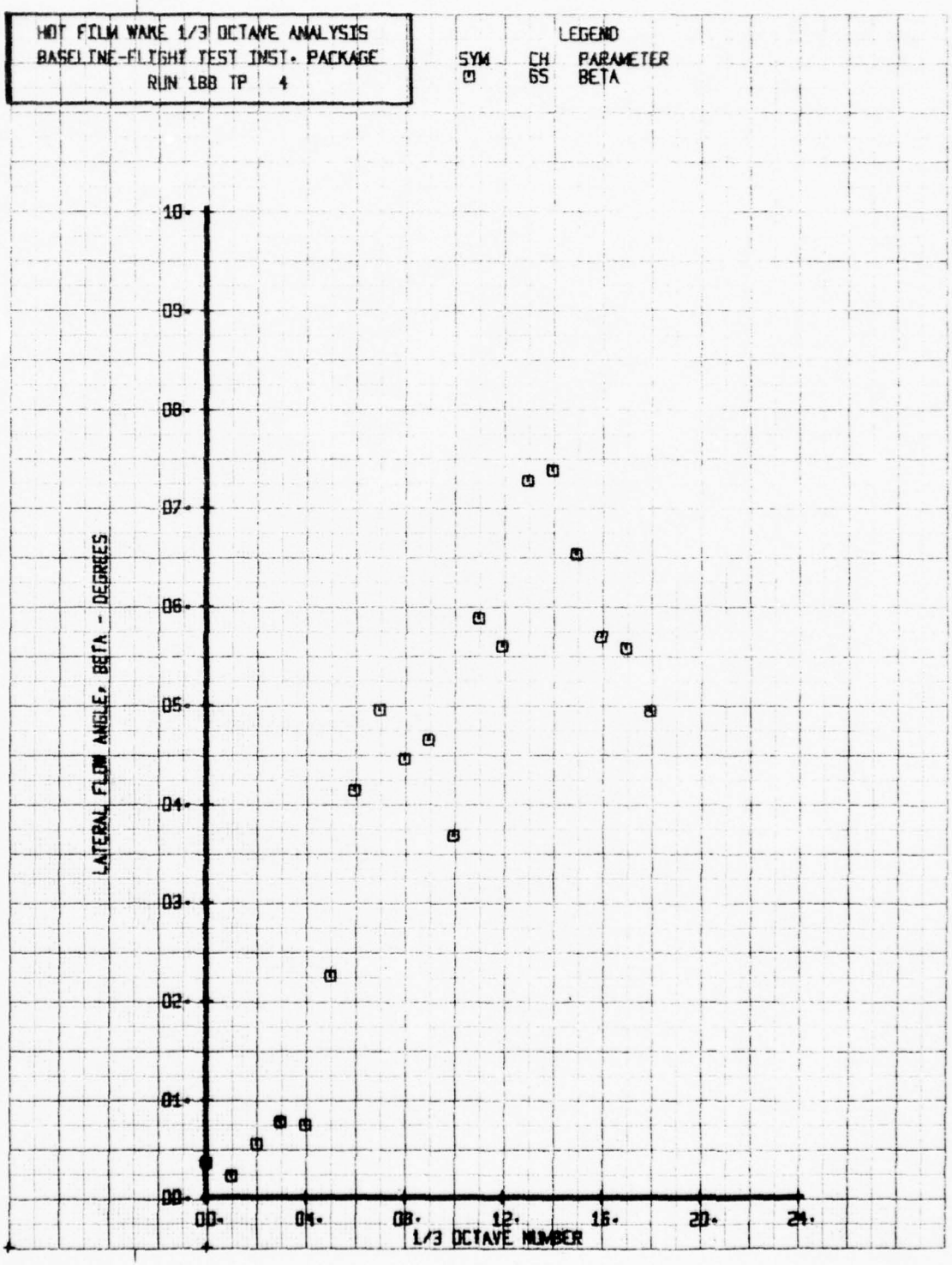

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
BASELINE-FLIGHT TEST INST. PACKAGE
RUN 108 TP 6
LEGEND
SYM CH PARAMETER
66 ALPHA
10.
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VERTICAL FLOW ANGLE, ALPHA - DEGREES
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1/3 OCTAVE NUMBER

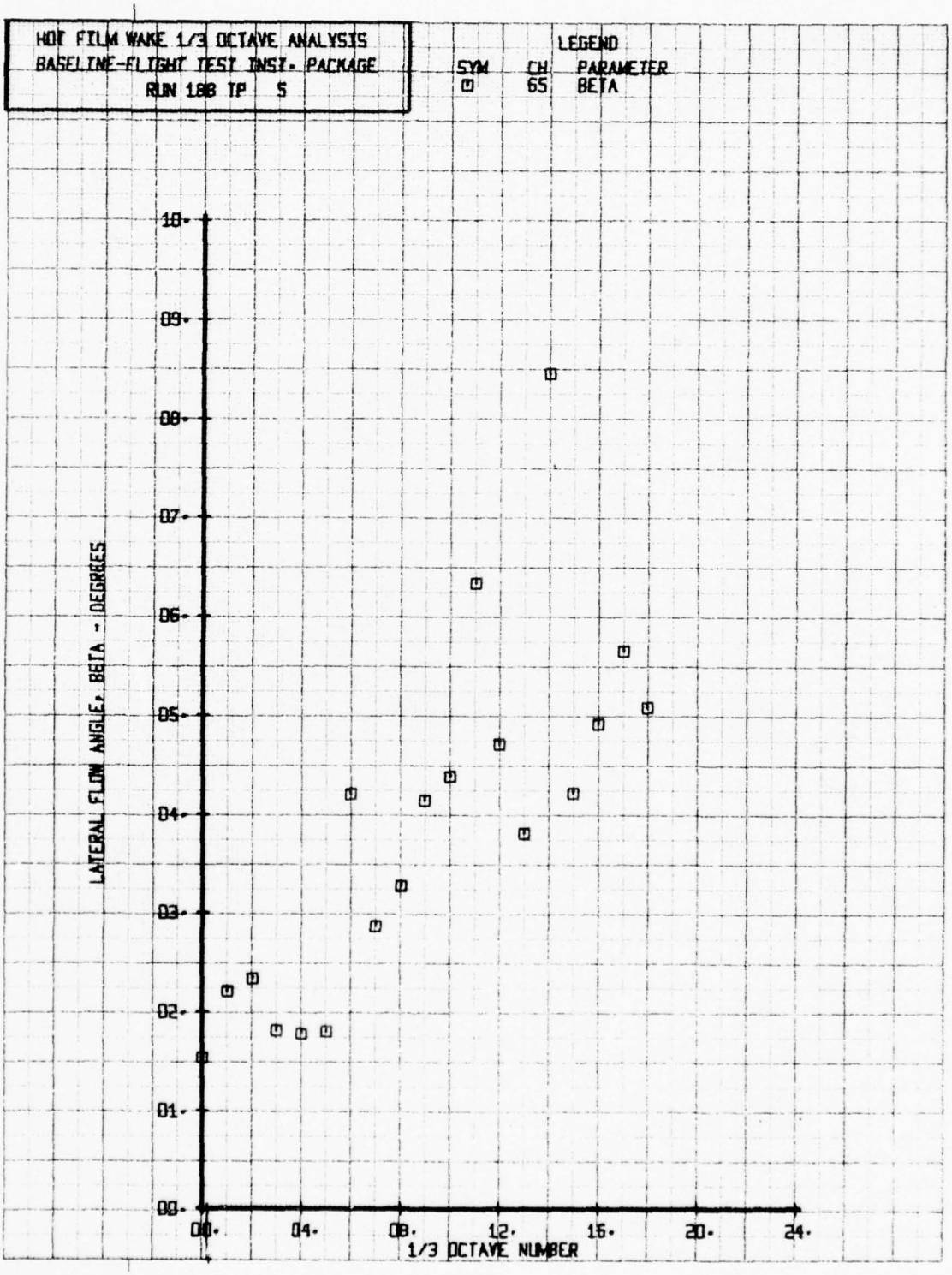

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
BASELINE-FLIGHT TEST INST. PACKAGE
RUN 188 TP 7
LEGEND
SYM CH PARAMETER
66 ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
10.
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24.
1/3 OCTAVE NUMBER

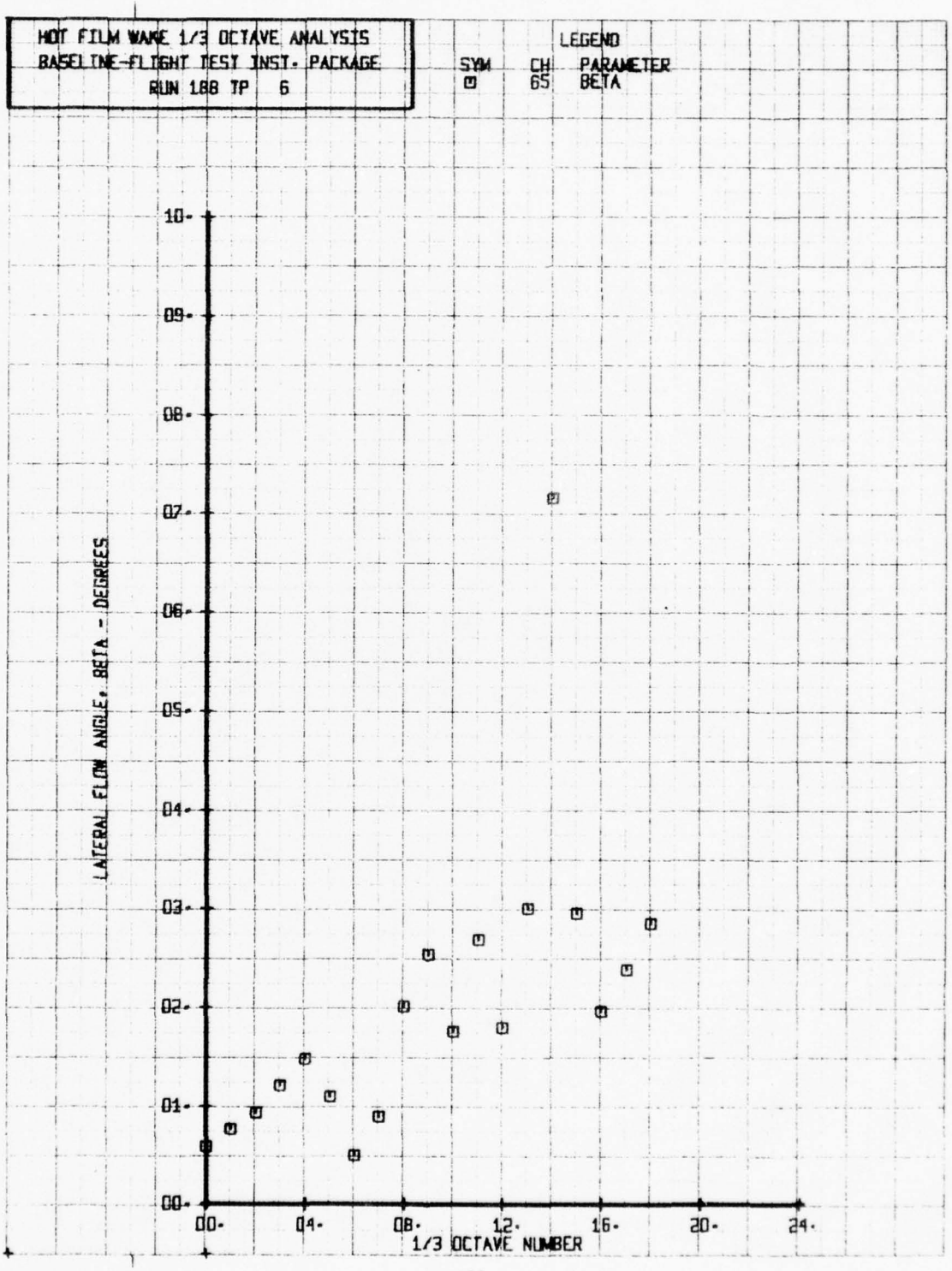

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
BASELINE-FLIGHT TEST INST. PACKAGE
RUN 188 TP 8
LEGEND
SYM CH PARAMETER
66 ALPHA
10.
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VERTICAL FLOW ANGLE, ALPHA - DEGREES
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24.
1/3 OCTAVE NUMBER

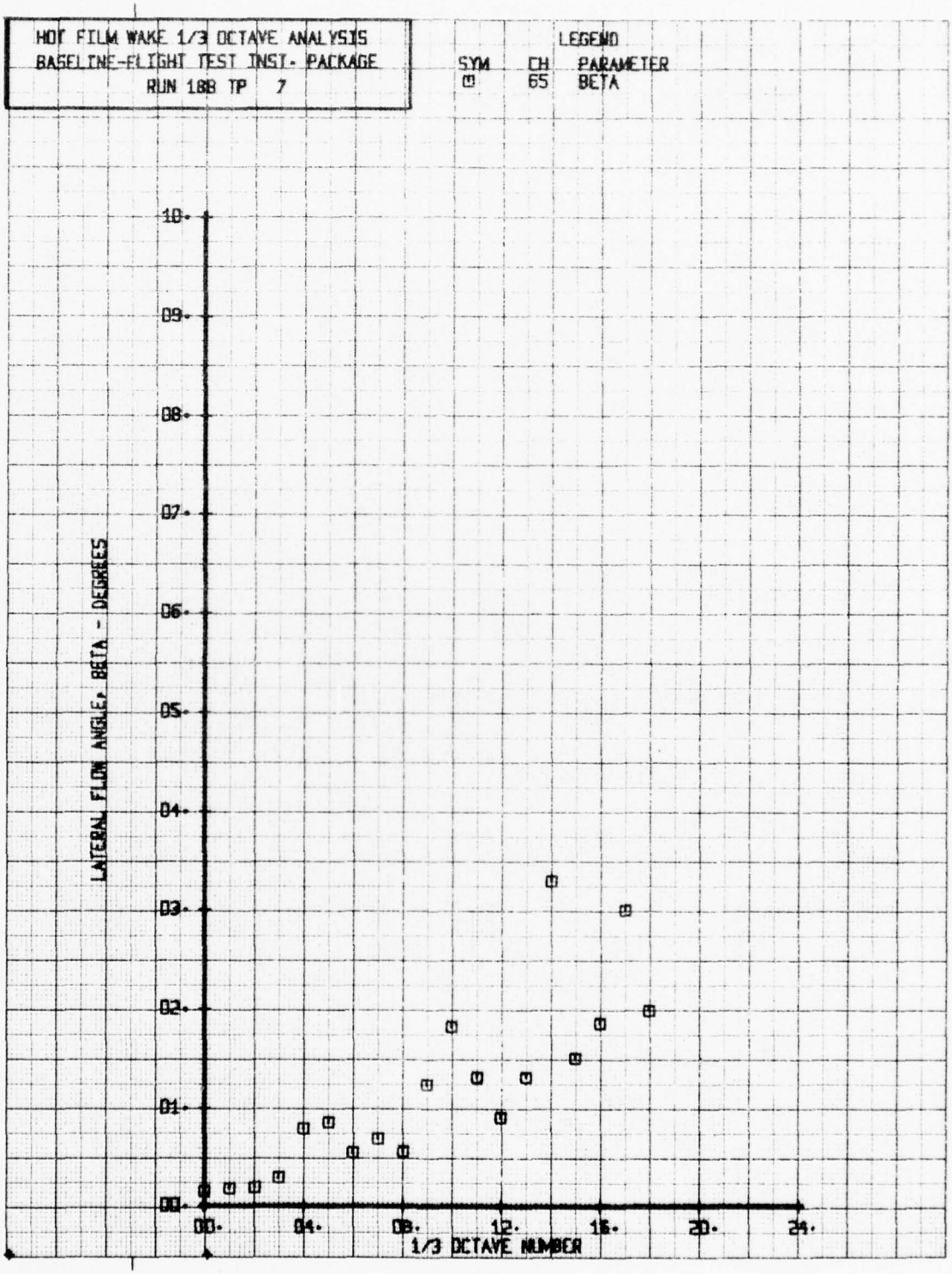

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
BASELINE-FLIGHT TEST INST. PACKAGE
RUN 188 TP 9
LEGEND
SYM CH PARAMETER
66 ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
1/3 OCTAVE NUMBER
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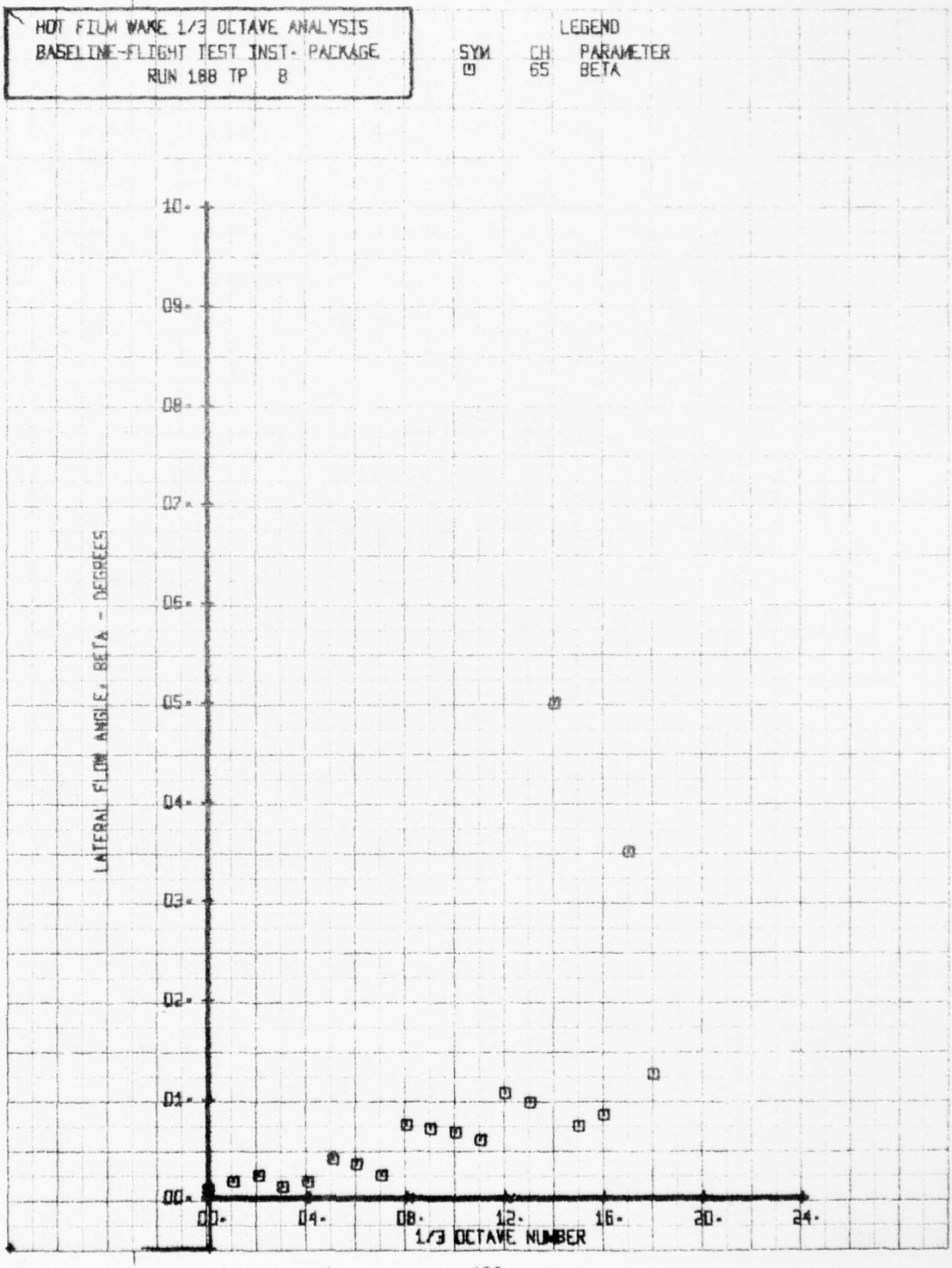

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
BASELINE-FLIGHT TEST INST. PACKAGE
RUN 188 TP 10
LEGEND
SYM CH PARAMETER
66 ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
10.
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1/3 OCTAVE NUMBER

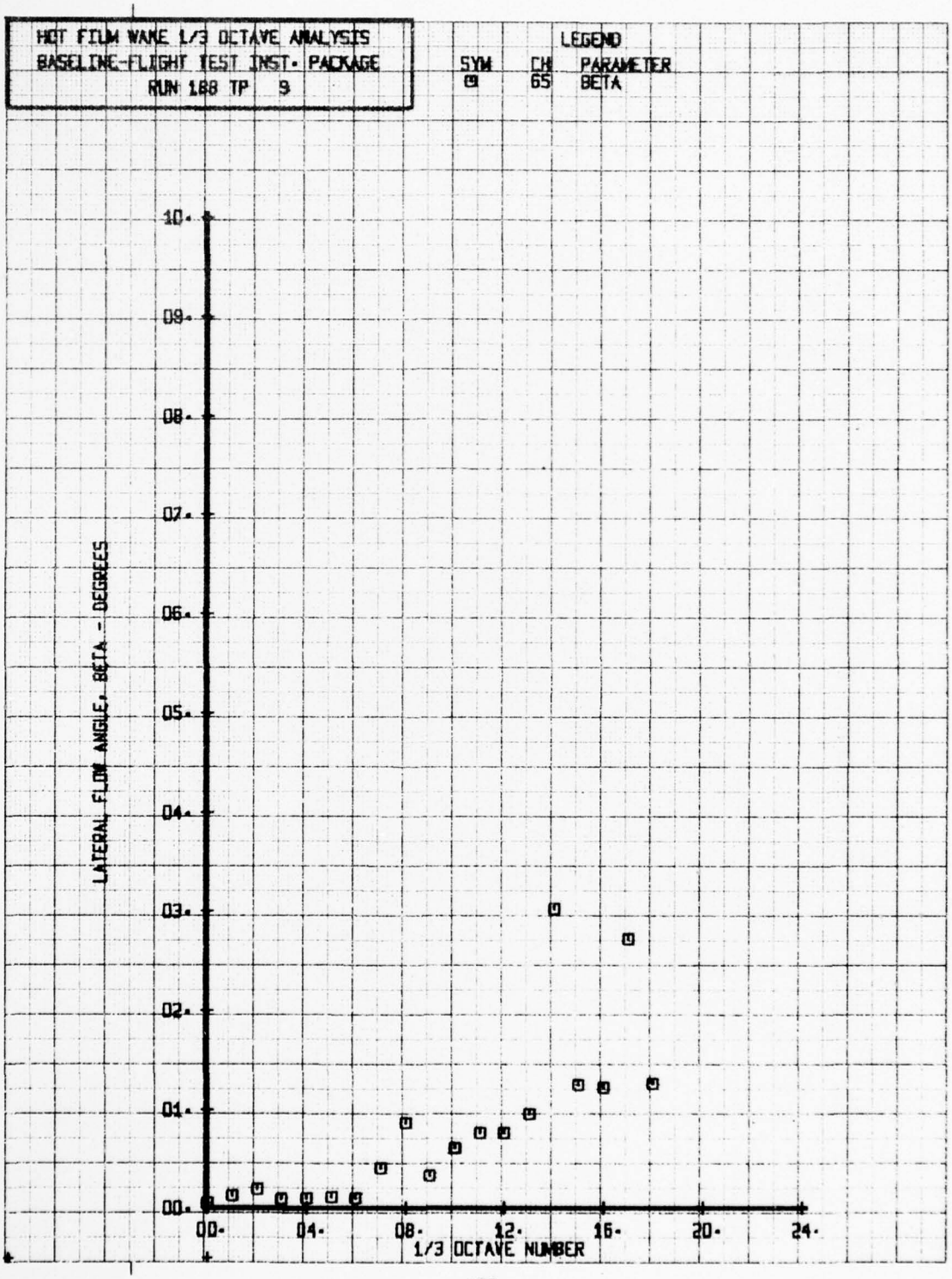

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
BASELINE-FLIGHT TEST INST. PACKAGE
RUN 188 TP 4
LEGEND
SYM CH PARAMETER
65 BETA
10.
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LATERAL FLOW ANGLE, BETA - DEGREES
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1/3 OCTAVE NUMBER

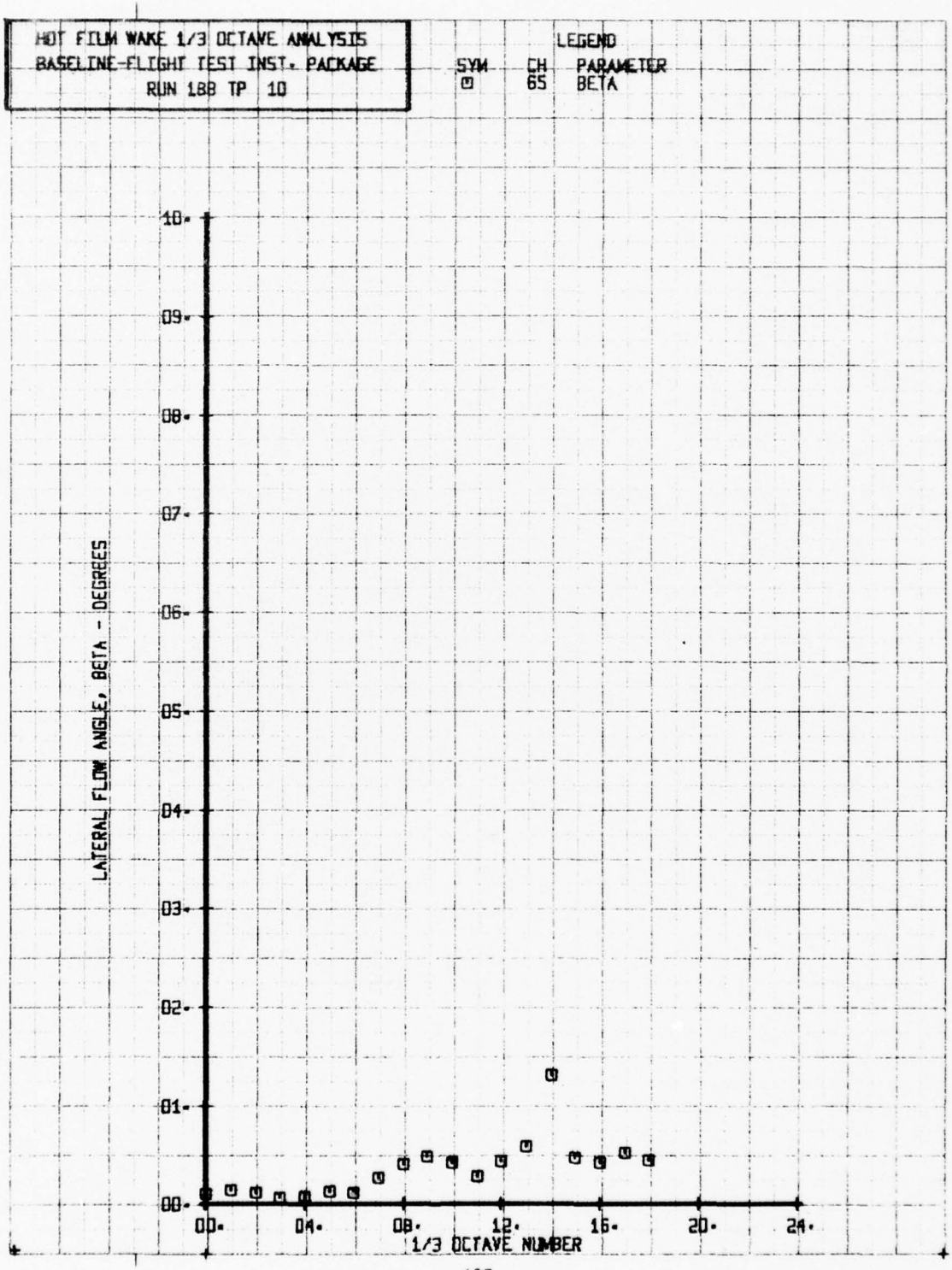

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
BASELINE-FLIGHT TEST INST. PACKAGE
RUN 188 TP 5
LEGEND
SYM CH PARAMETER
65 BETA
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LATERAL FLOW ANGLE, BETA - DEGREES
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1/3 OCTAVE NUMBER

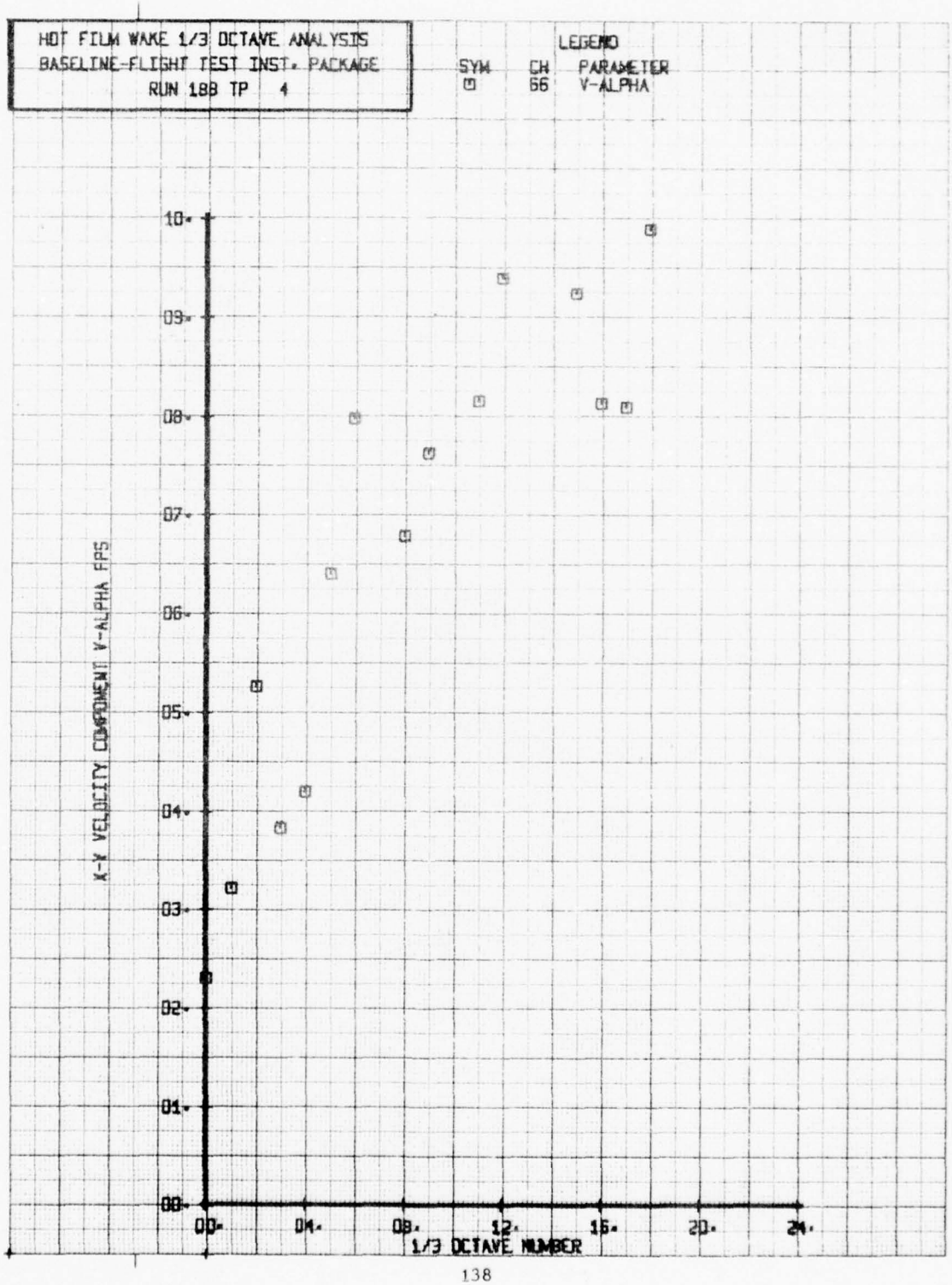

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
BASELINE-FLIGHT TEST INST. PACKAGE
RUN 188 TP 6
LEGEND
SYM CH PARAMETER
65 BETA
10.
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LATERAL FLOW ANGLE, BETA - DEGREES
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1/3 OCTAVE NUMBER

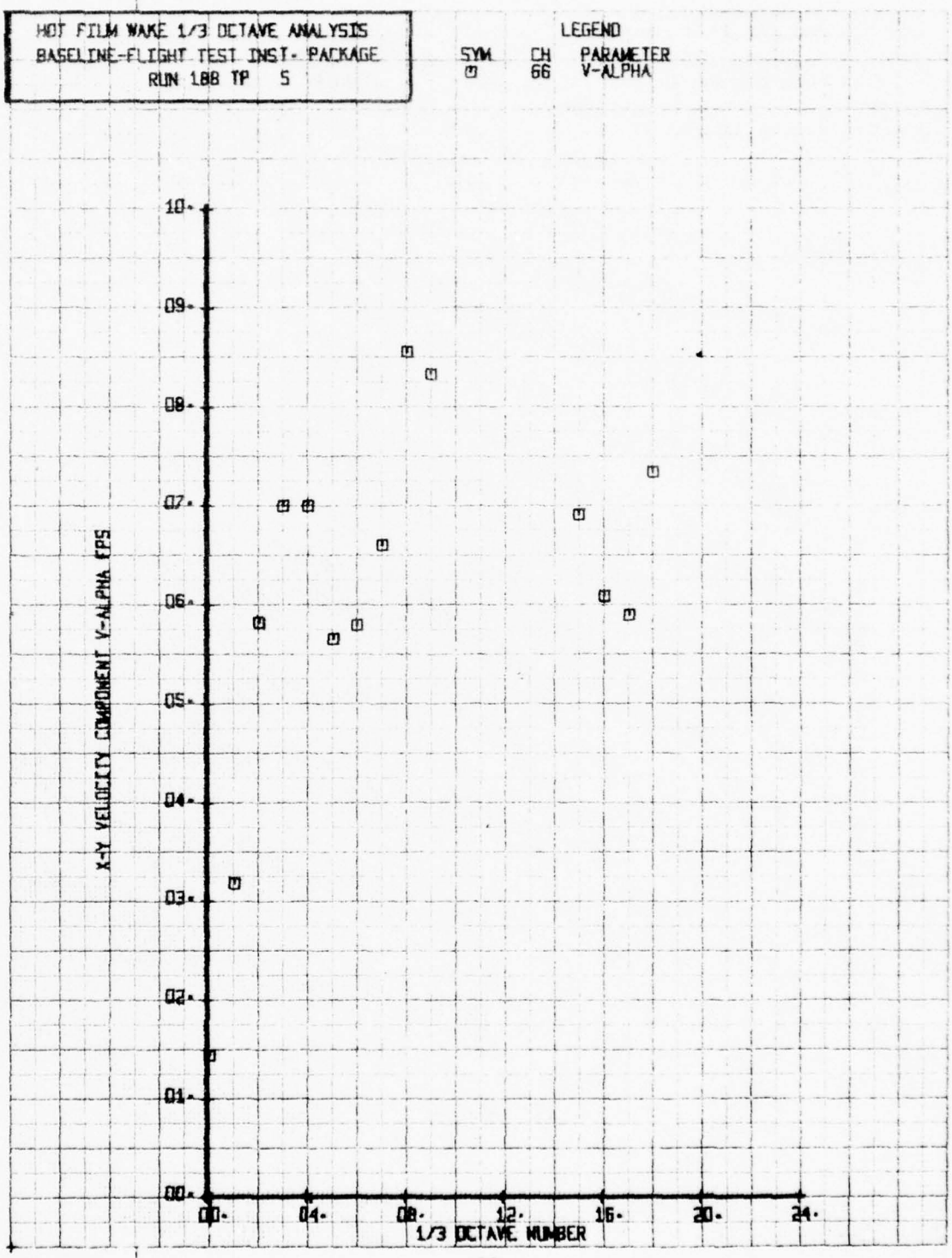

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
BASELINE-FLIGHT TEST INST. PACKAGE
RUN 188 TP 7
LEGEND
SYM CH PARAMETER
65 BETA
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LATERAL FLOW ANGLE, BETA - DEGREES
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1/3 OCTAVE NUMBER

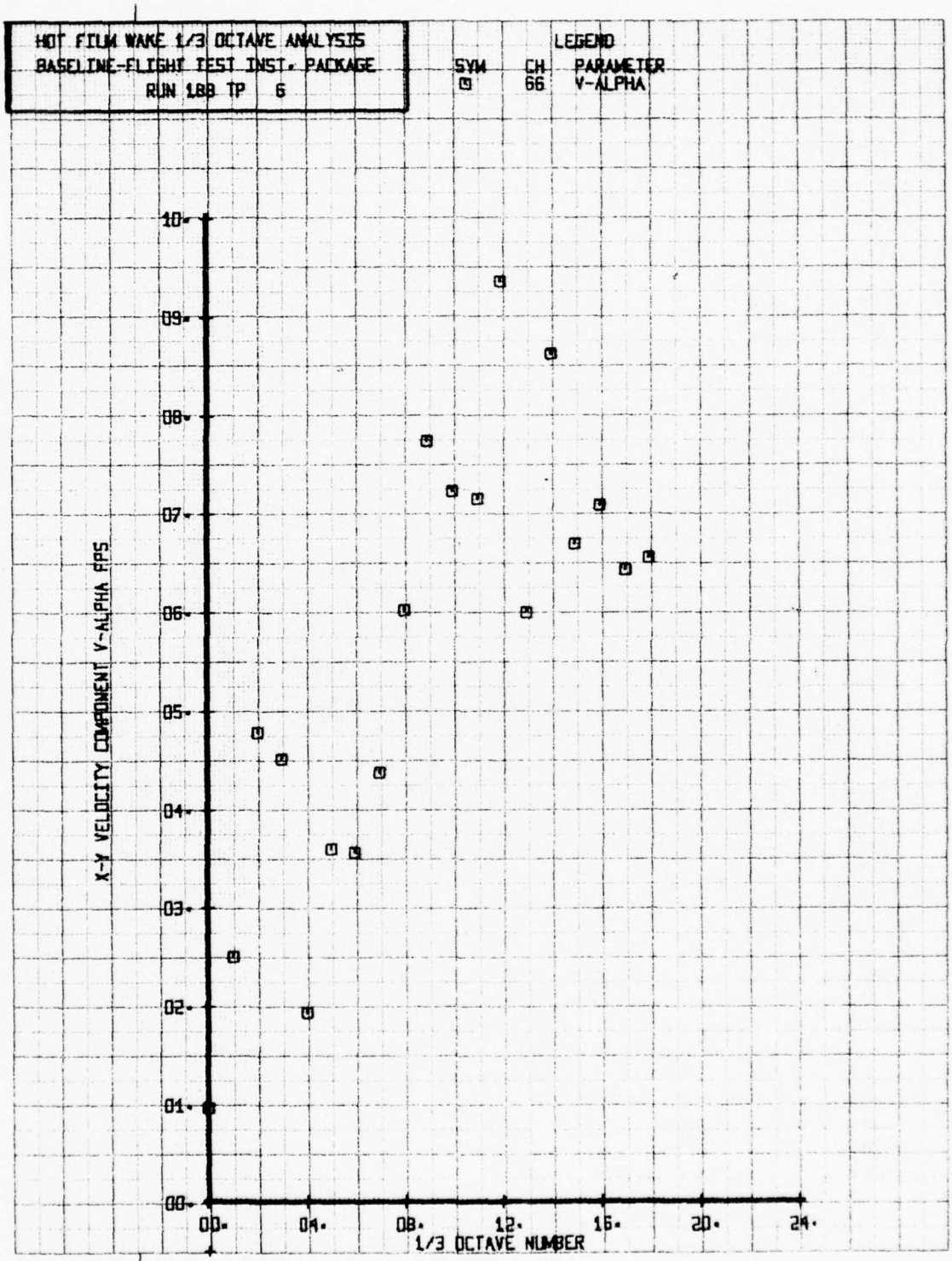

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
BASELINE-FLIGHT TEST INST. PACKAGE
RUN 188 TP 8
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
1/3 OCTAVE NUMBER
10.
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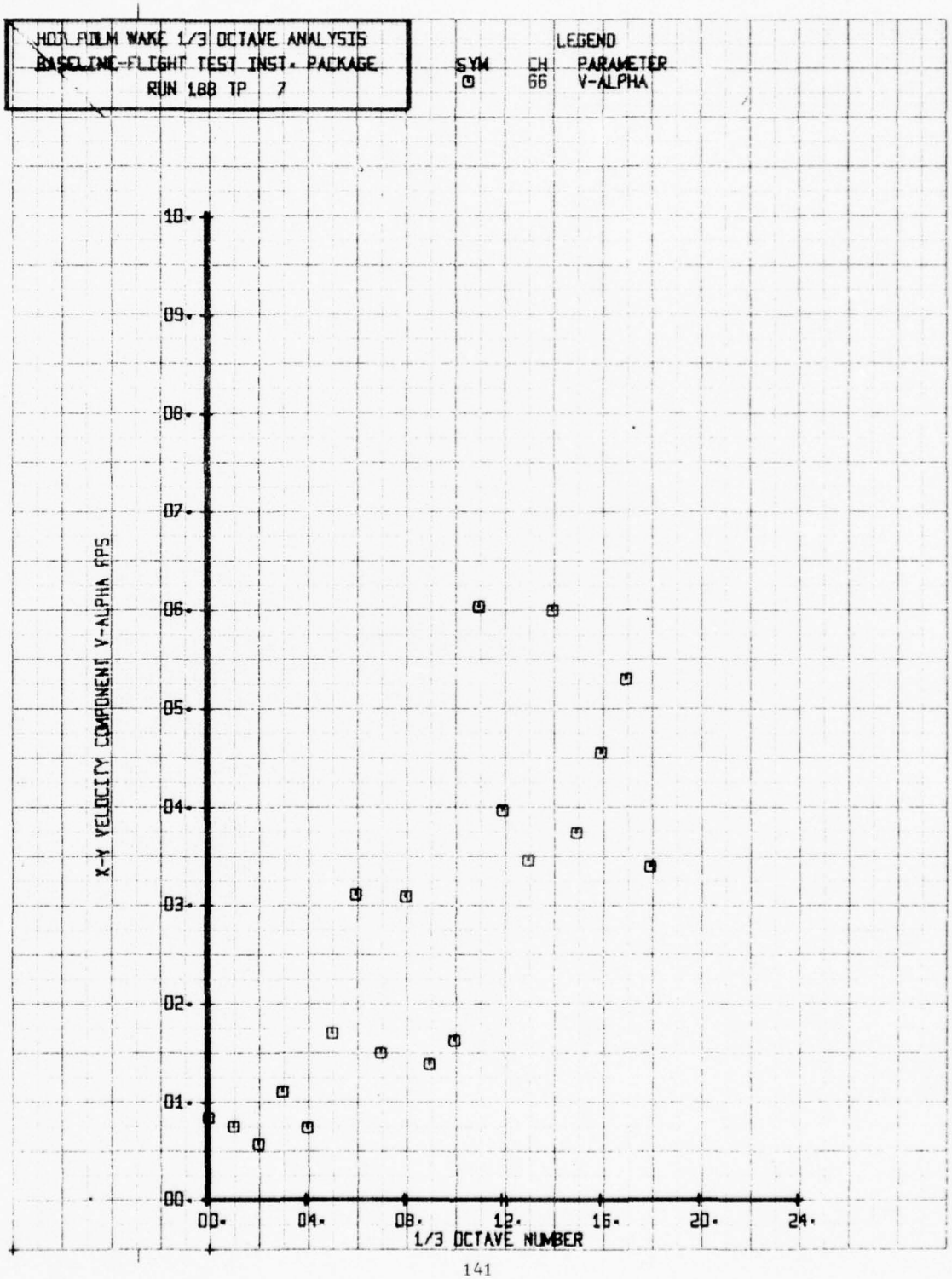

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
BASELINE-FLIGHT TEST INST. PACKAGE
RUN 188 TP 9
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
10.
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24.
1/3 OCTAVE NUMBER

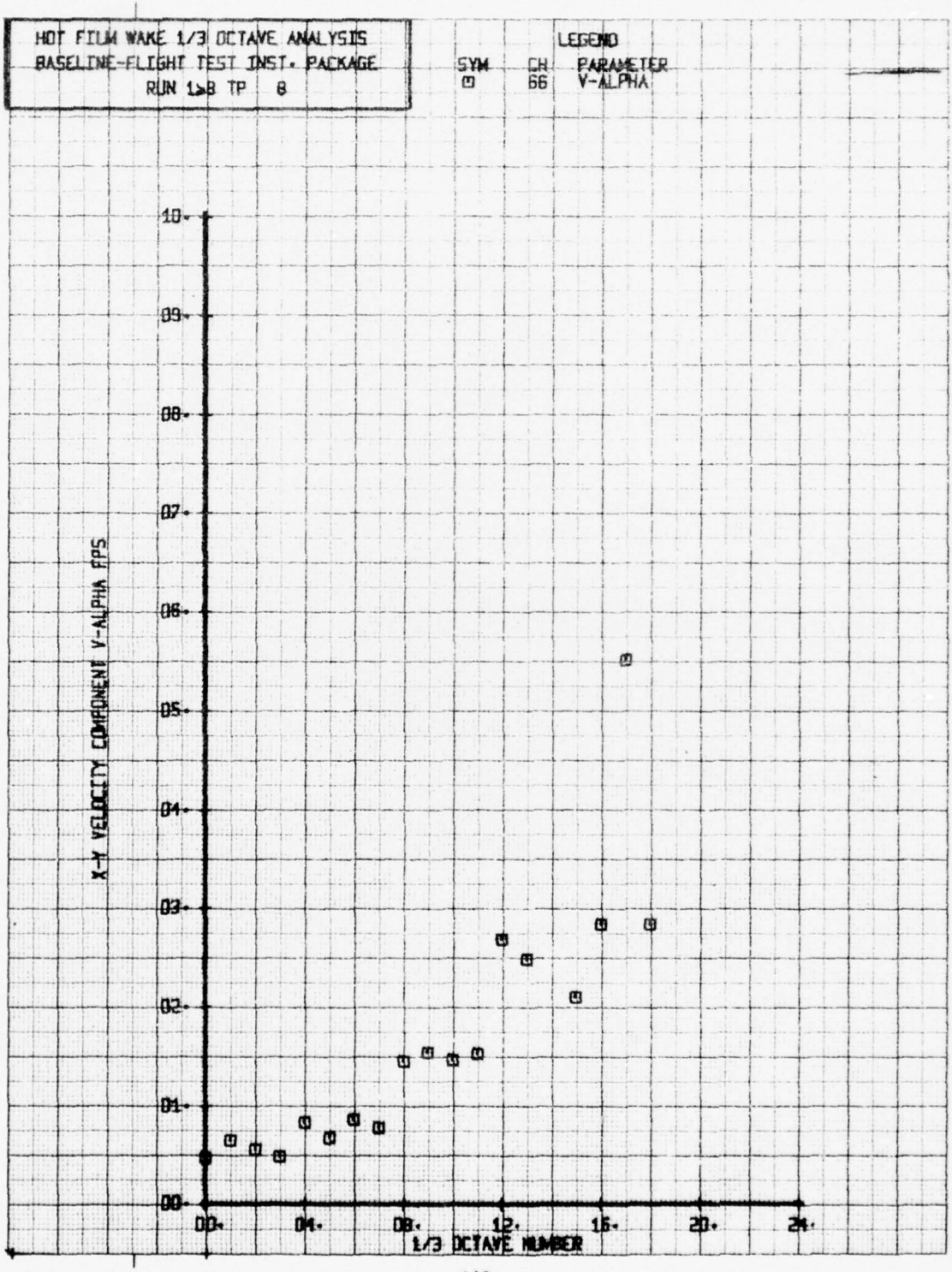

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
BASELINE-FLIGHT TEST INST. PACKAGE
RUN 188 TP 10
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
10.
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1/3 OCTAVE NUMBER

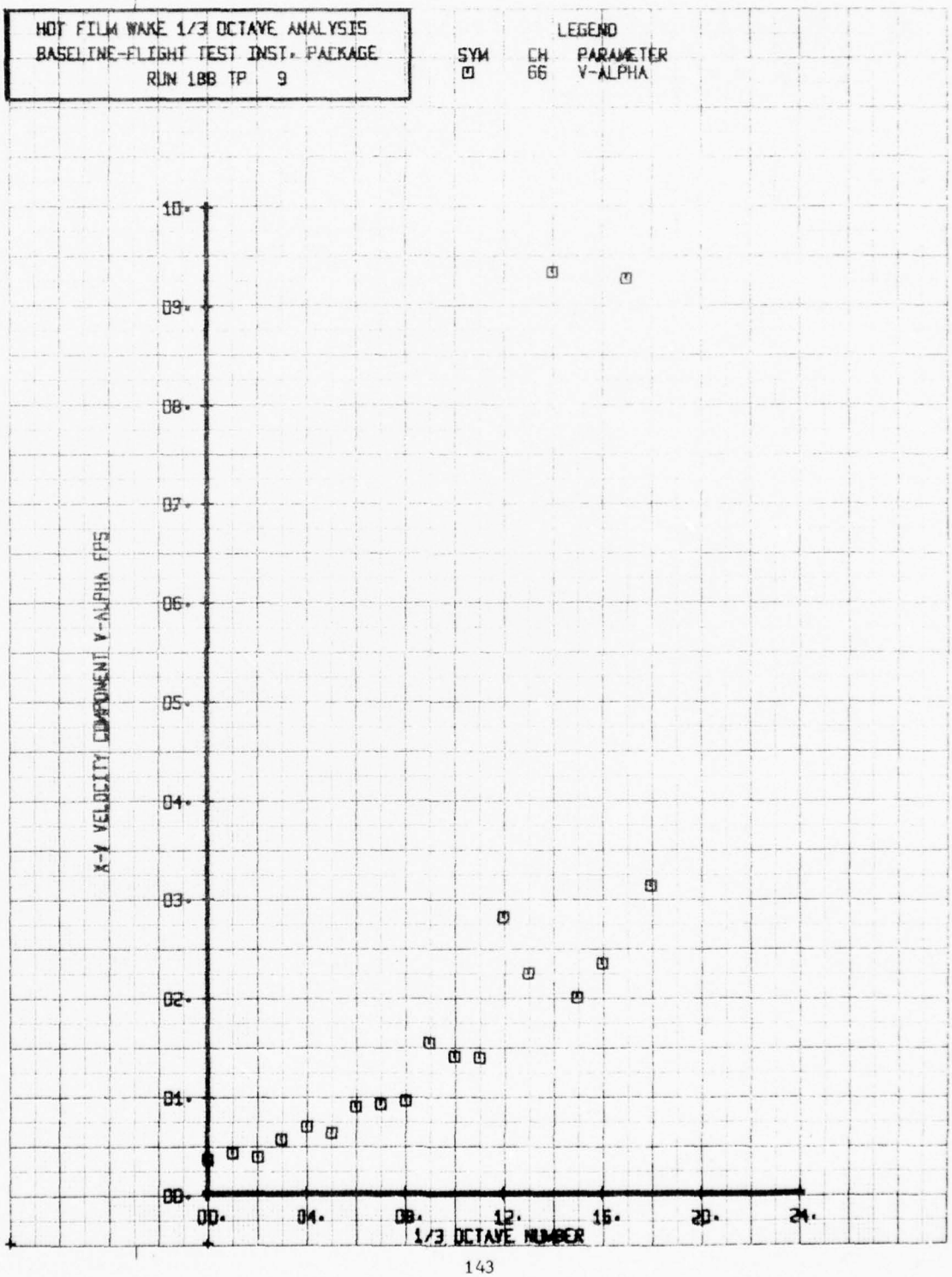

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
BASELINE-FLIGHT TEST INST. PACKAGE
RUN 188 TP 4
LEGEND
SYM CH PARAMETER
66 V-ALPHA
10.
09.
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X-Y VELOCITY COMPONENT V-ALPHA FPS
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1/3 OCTAVE NUMBER

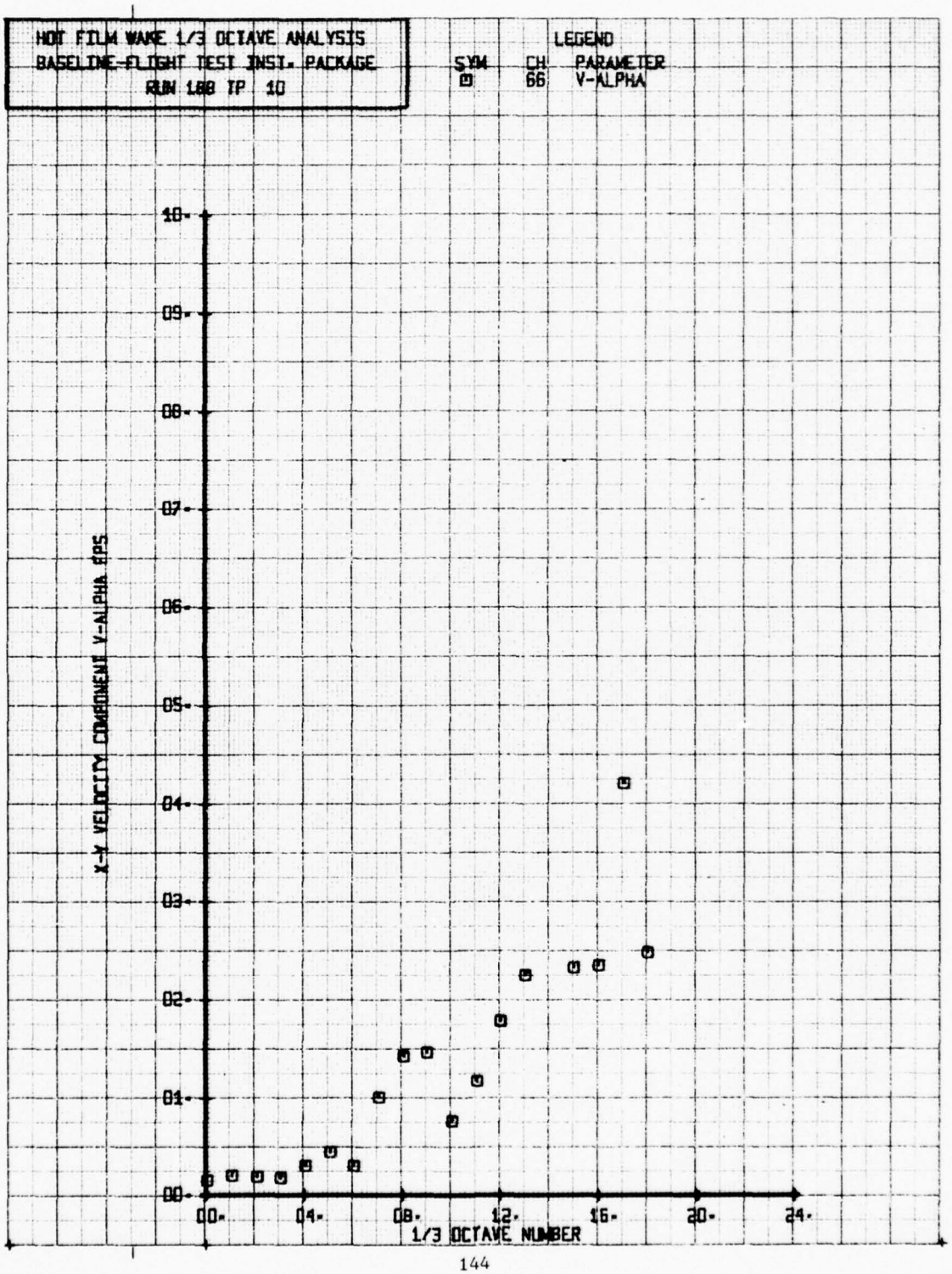

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
BASELINE-FLIGHT TEST INST. PACKAGE
RUN 188 TP 5
LEGEND
SYM CH PARAMETER
66 V-ALPHA
X-Y VELOCITY COMPONENT V-ALPHA EPS
1/3 OCTAVE NUMBER
10.
09.
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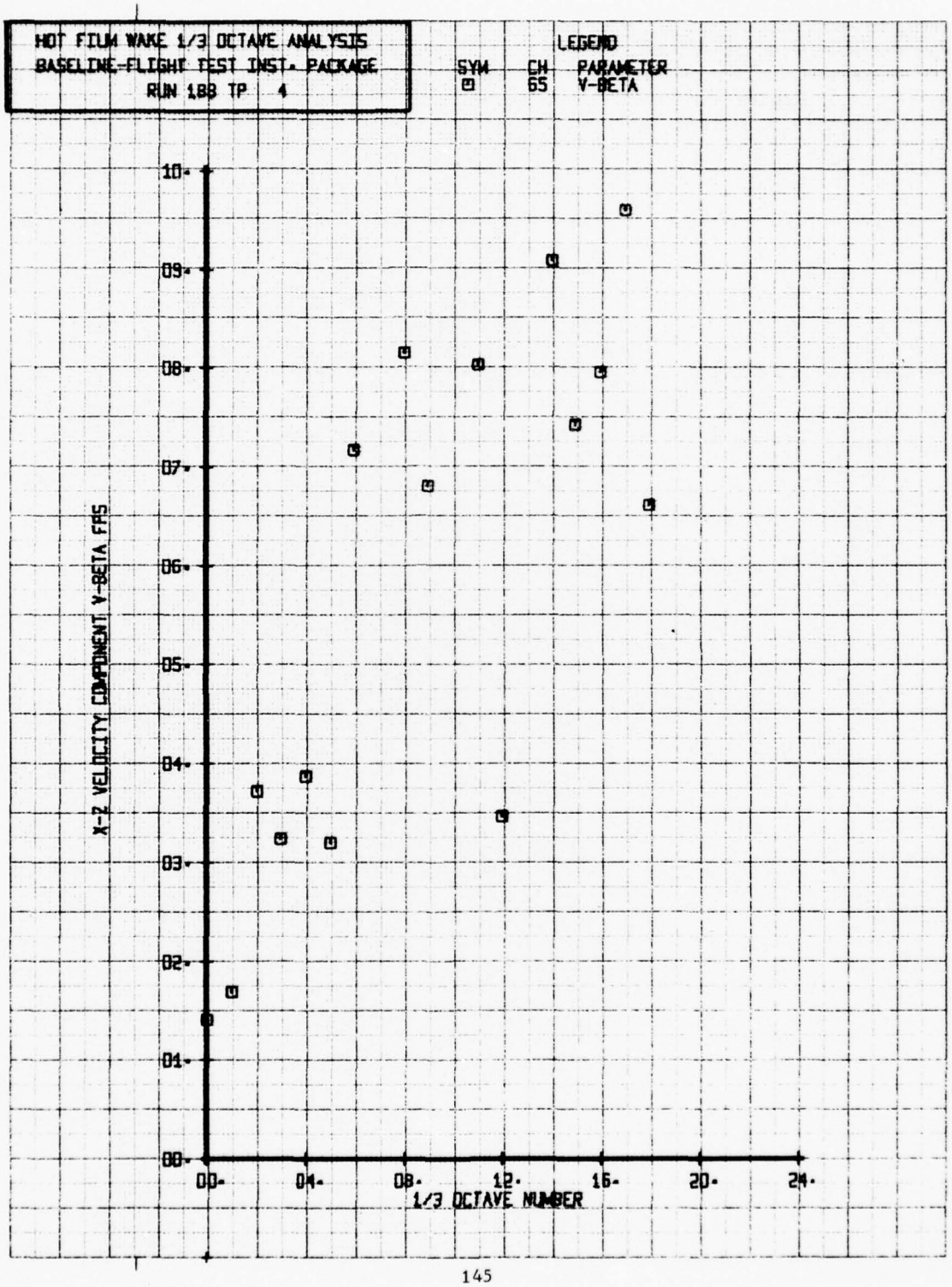

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
BASELINE-FLIGHT TEST INST. PACKAGE
RUN 188 TP 6
LEGEND
SYM CH PARAMETER
66 V-ALPHA
10.
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X-Y VELOCITY COMPONENT V-ALPHA FPS
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1/3 OCTAVE NUMBER

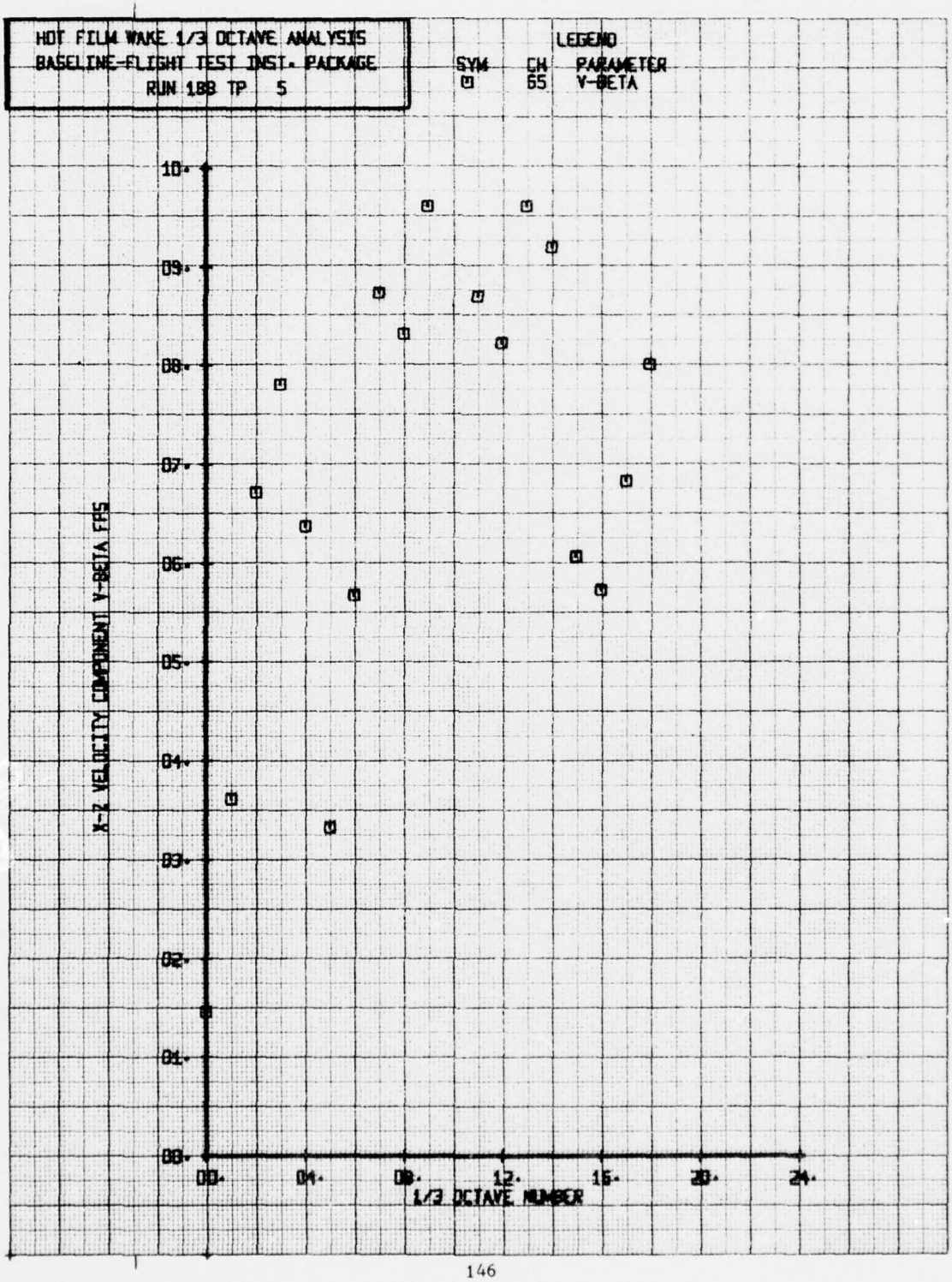

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
BASELINE-FLIGHT TEST INST. PACKAGE
RUN 188 TP 7
LEGEND
SYM CH PARAMETER
66 V-ALPHA
X-Y VELOCITY COMPONENT V-ALPHA FPS
10.
09.
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00. 04. 08. 12. 16. 20. 24.
1/3 OCTAVE NUMBER

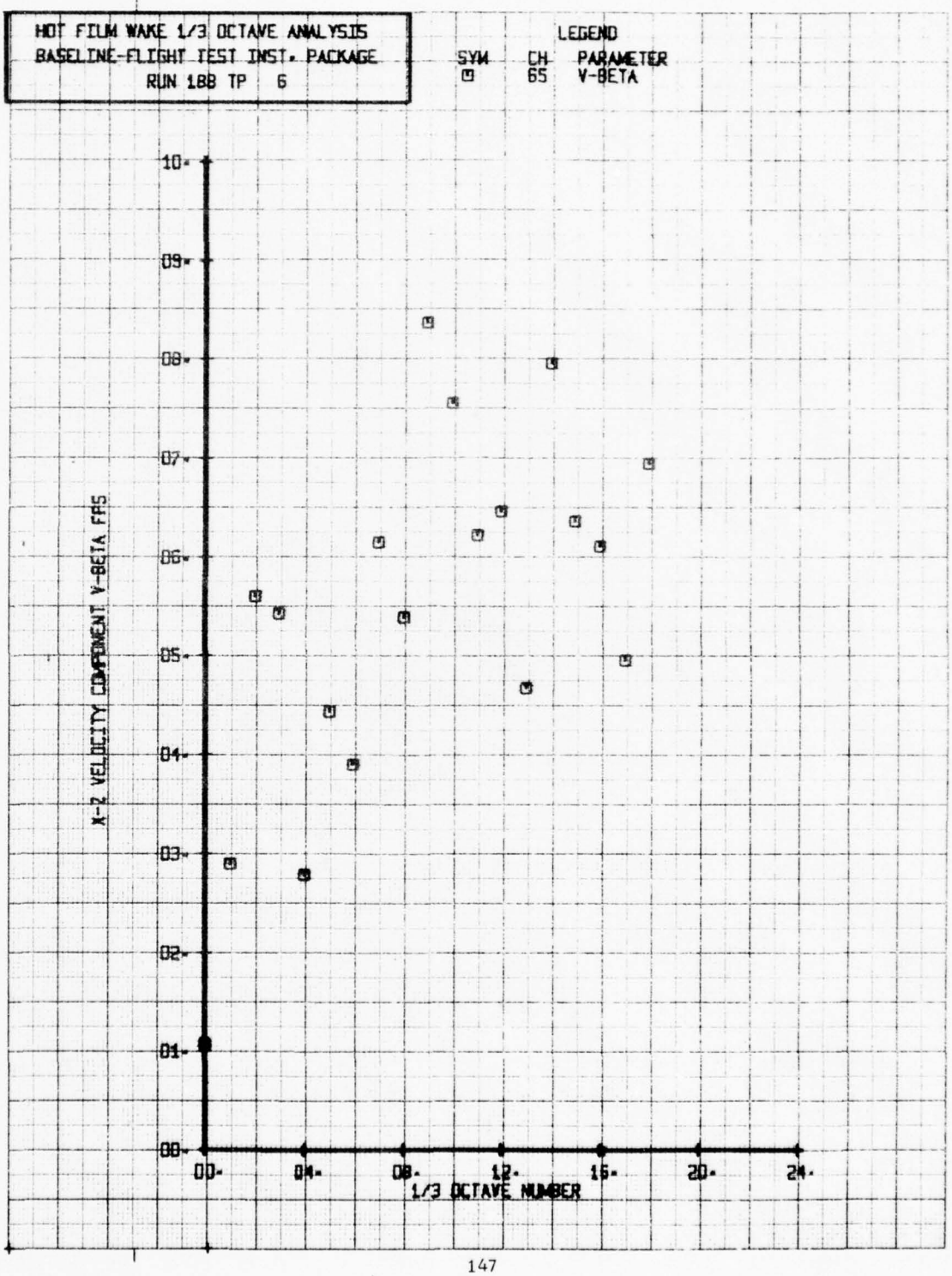

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
BASELINE-FLIGHT TEST INST. PACKAGE
RUN 1>8 TP 8
LEGEND
SYM CH PARAMETER
66 V-ALPHA
10.
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X-Y VELOCITY COMPONENT V-ALPHA FPS
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1/3 OCTAVE NUMBER

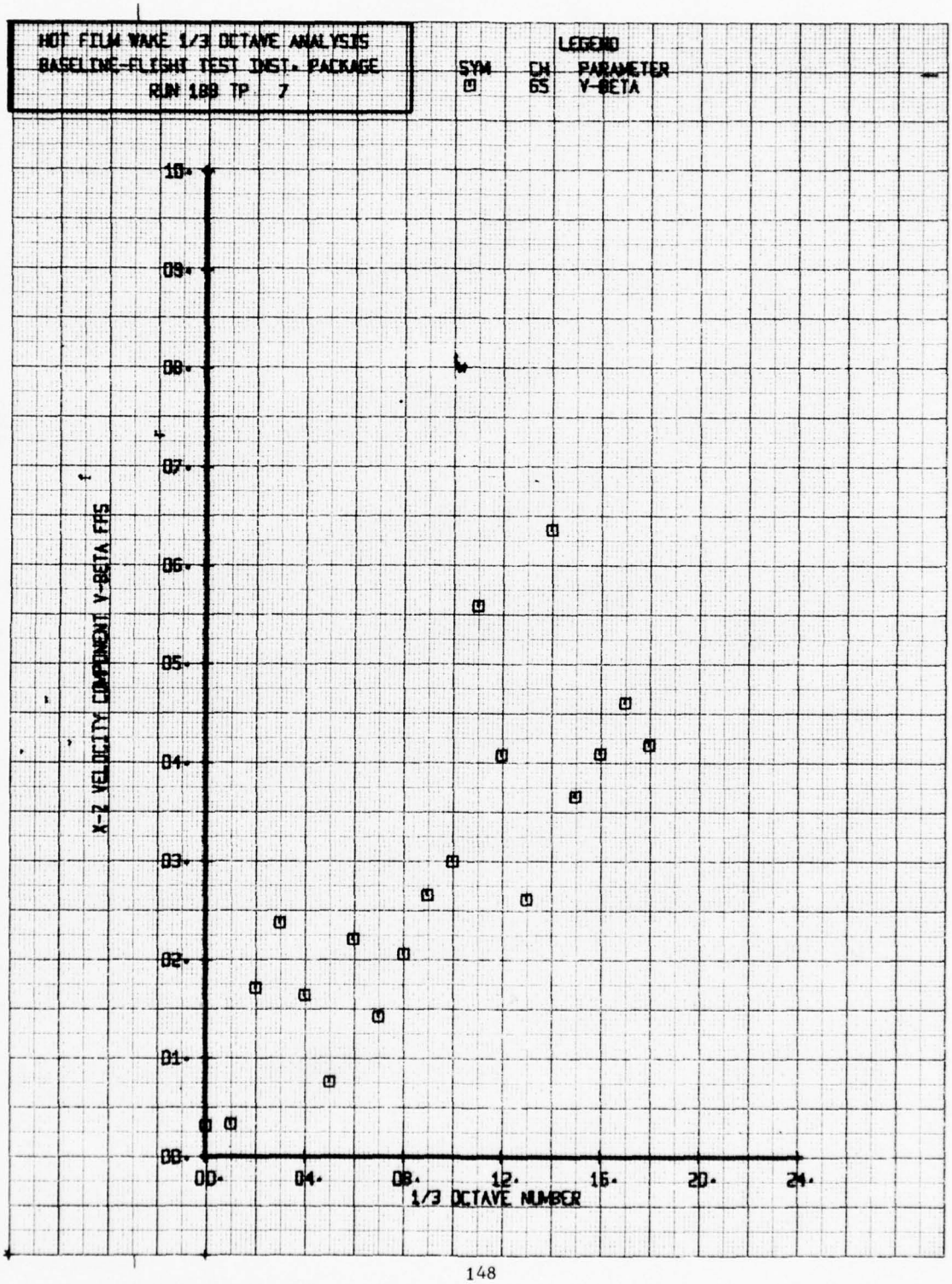

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
BASELINE-FLIGHT TEST INST. PACKAGE
RUN 18B TP 9
LEGEND
SYM CH PARAMETER
66 V-ALPHA
10.
09.
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X-Y VELOCITY COMPONENT V-ALPHA FPS
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1/3 OCTAVE NUMBER

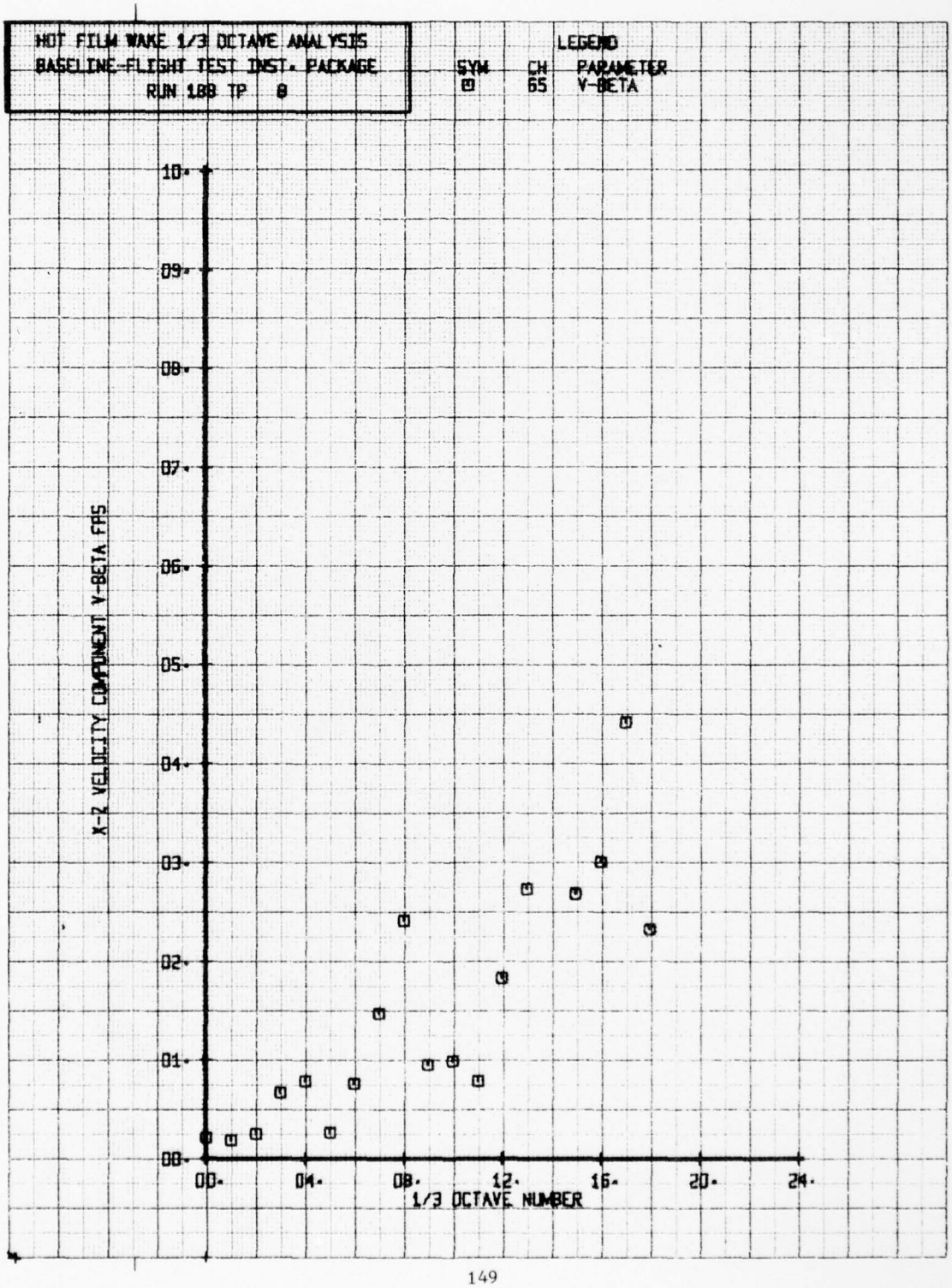

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
BASELINE-FLIGHT TEST INST. PACKAGE
RUN 188 TP 10
LEGEND
SYM CH PARAMETER
66 V-ALPHA
X-Y VELOCITY COMPONENT V-ALPHA FPS
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24.
1/3 OCTAVE NUMBER

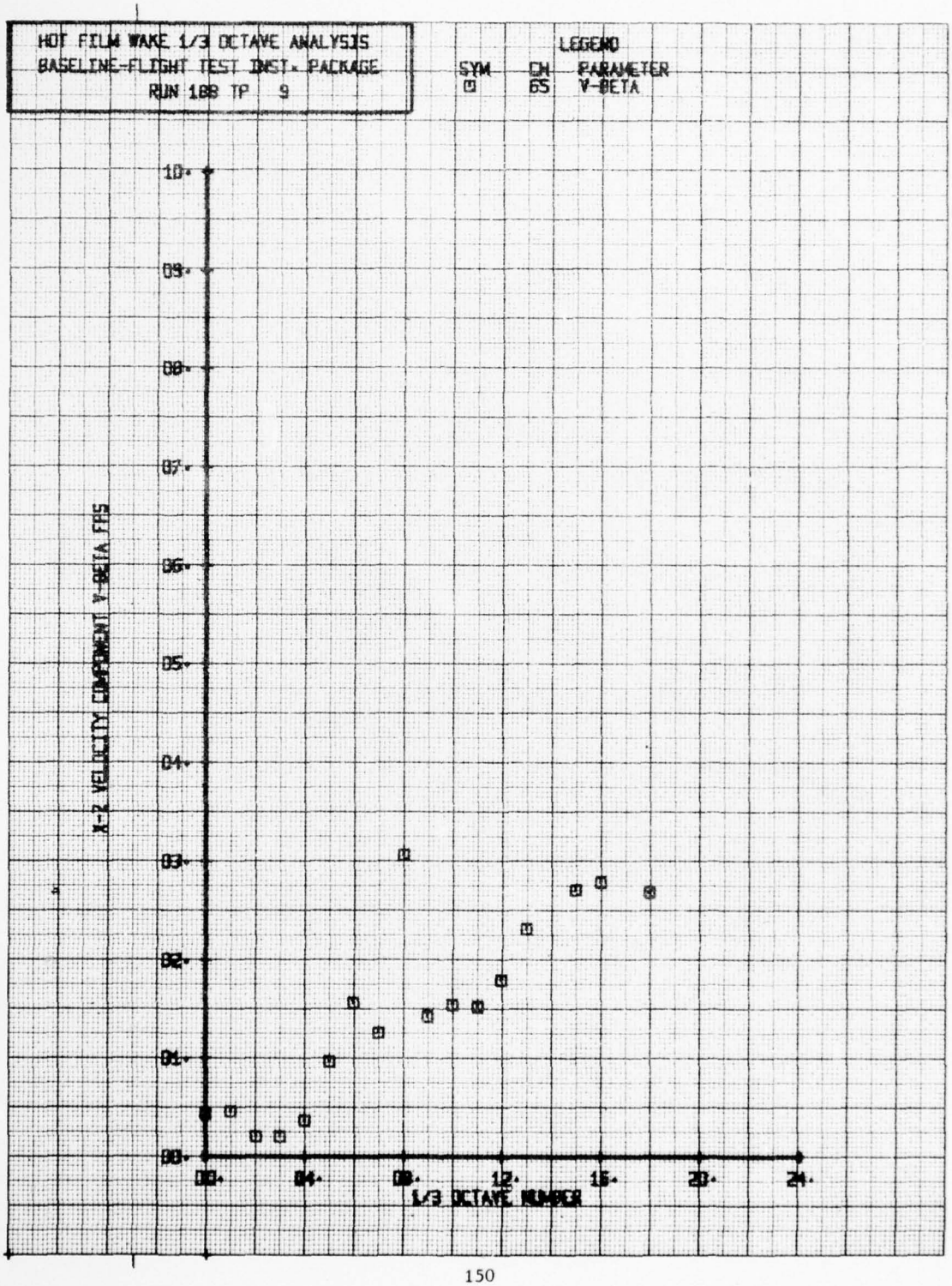

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
BASELINE-FLIGHT TEST INST. PACKAGE
RUN 188 TP 4
LEGEND
SYM CH PARAMETER
65 V-BETA
10.
09.
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X-Z VELOCITY COMPONENT V-BETA FPS
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1/3 OCTAVE NUMBER

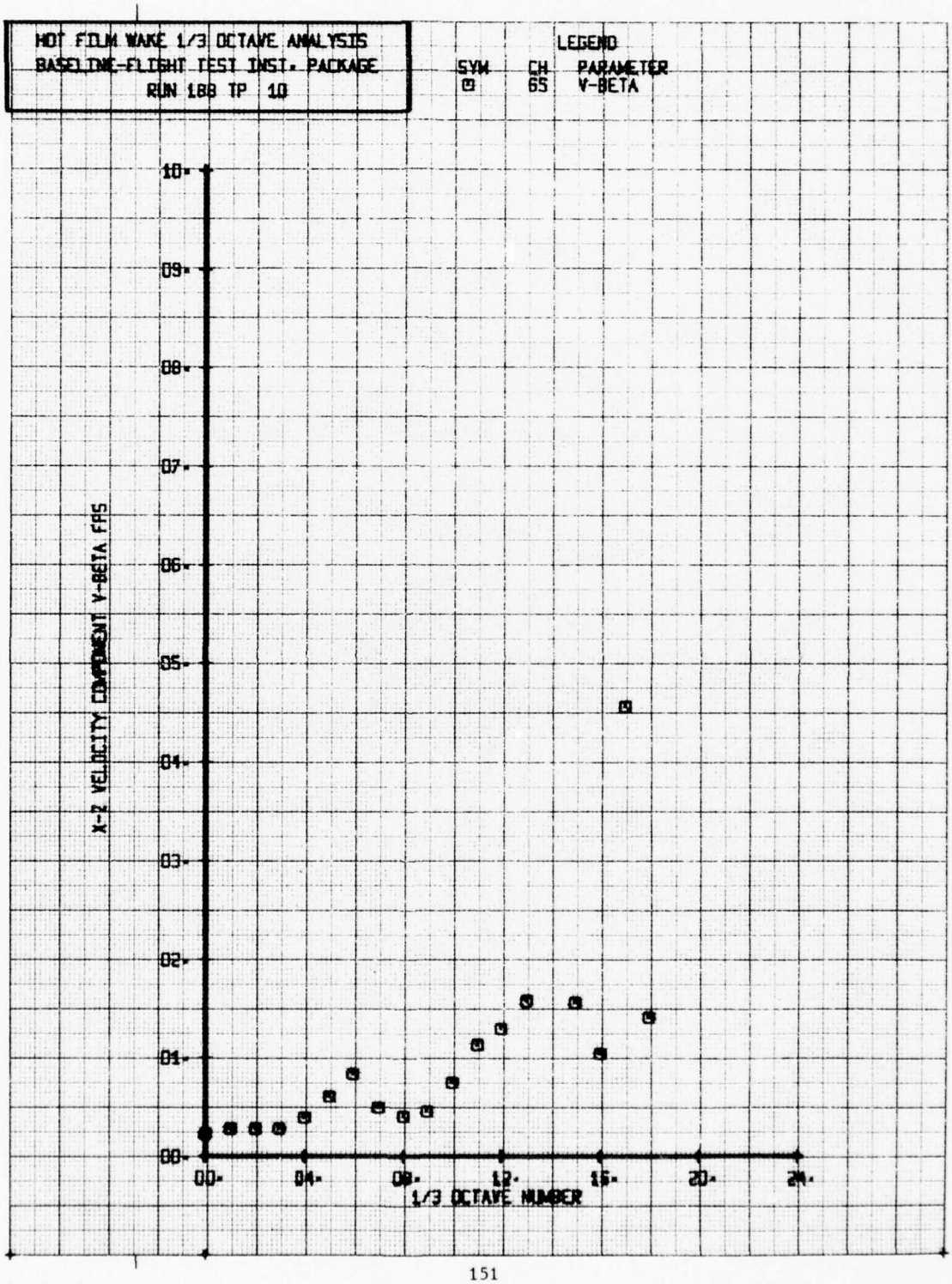

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
BASELINE-FLIGHT TEST INST. PACKAGE
RUN 188 TP 5
LEGEND
SYM CH PARAMETER
65 V-BETA
X-2 VELOCITY COMPONENT V-BETA FPS
10.
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1/3 OCTAVE NUMBER

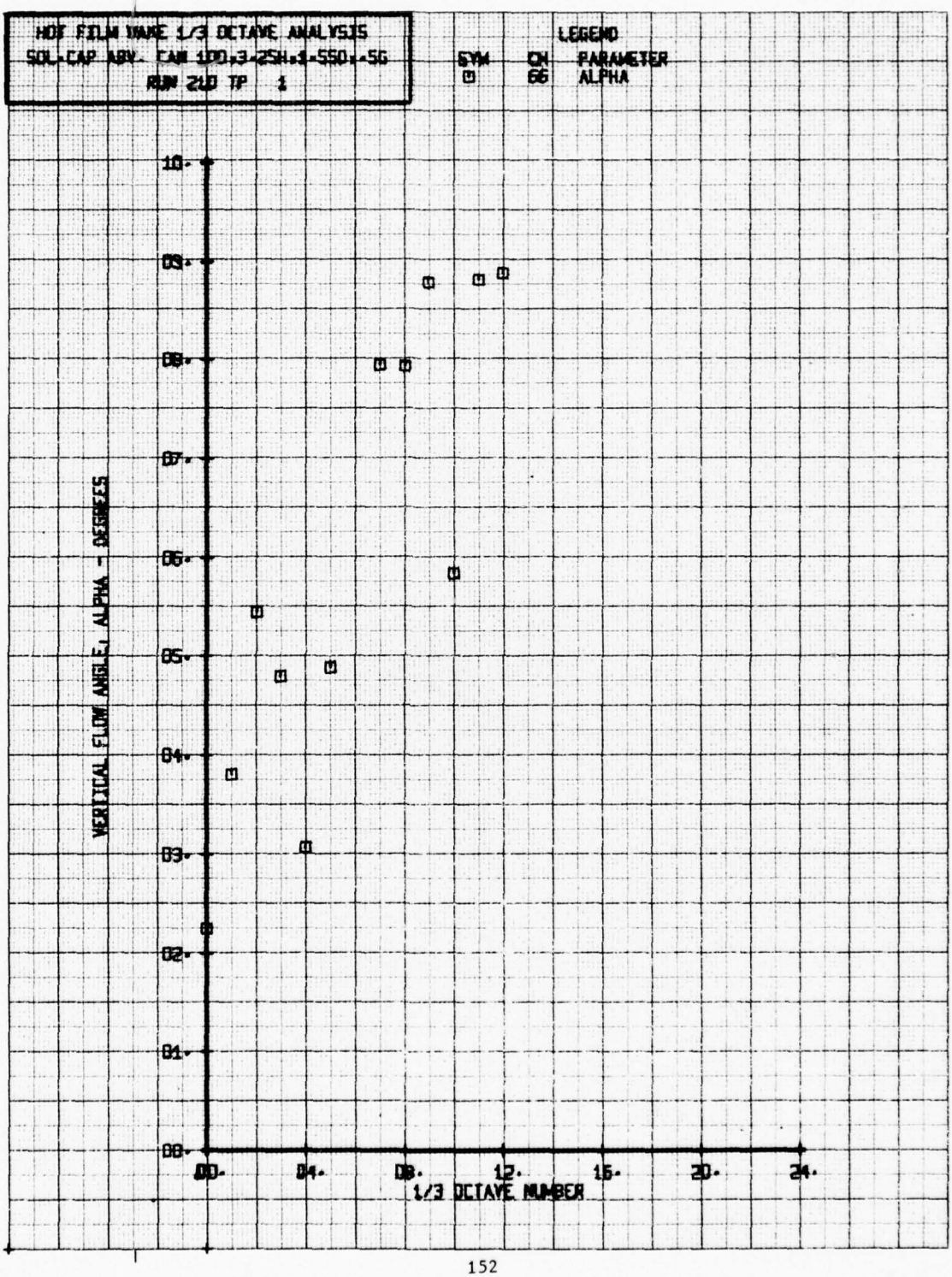

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
BASELINE-FLIGHT TEST INST. PACKAGE
RUN 188 TP 6
LEGEND
SYM CH PARAMETER
65 V-BETA
X-2 VELOCITY COMPONENT V-BETA FPS
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1/3 OCTAVE NUMBER

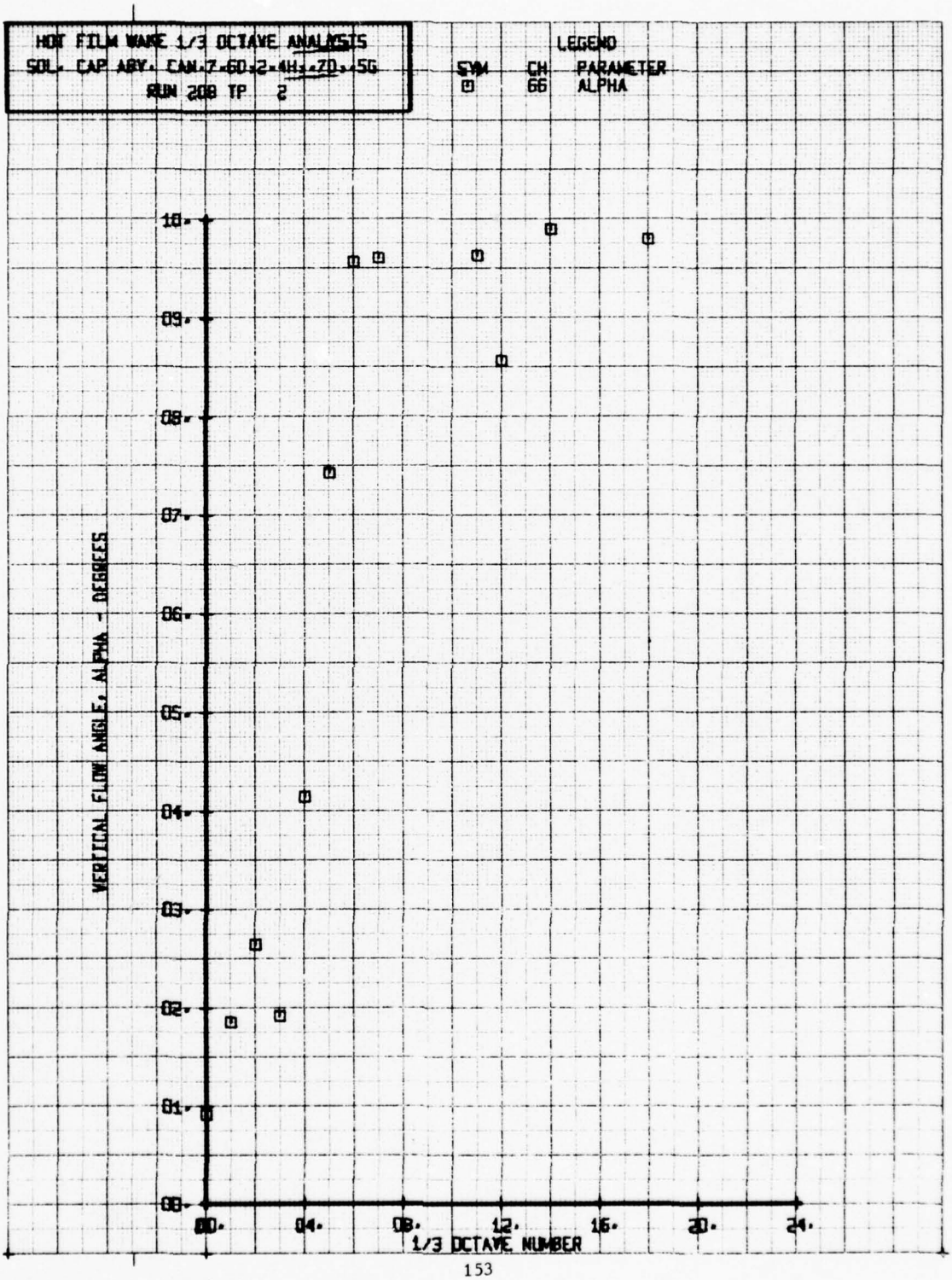

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
BASELINE-FLIGHT TEST INST. PACKAGE
RUN 188 TP 7
LEGEND
SYM CH PARAMETER
65 V-BETA
X-Z VELOCITY COMPONENT V-BETA FPS
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1/3 OCTAVE NUMBER

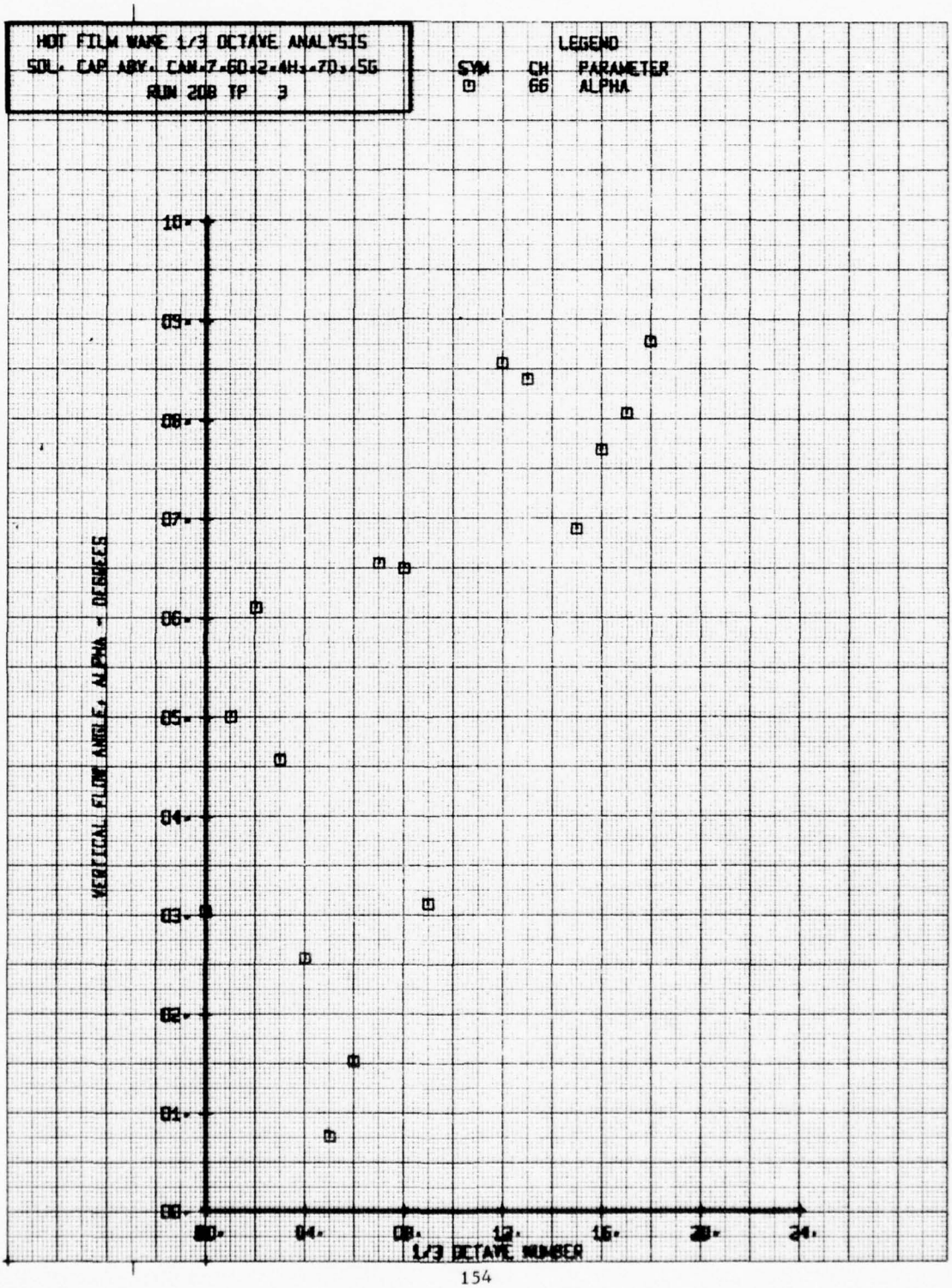

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
BASELINE-FLIGHT TEST INST. PACKAGE
RUN 188 TP 8
LEGEND
SYM CH PARAMETER
65 V-BETA
X-2 VELOCITY COMPONENT V-BETA FPS
1/3 OCTAVE NUMBER
10.
09.
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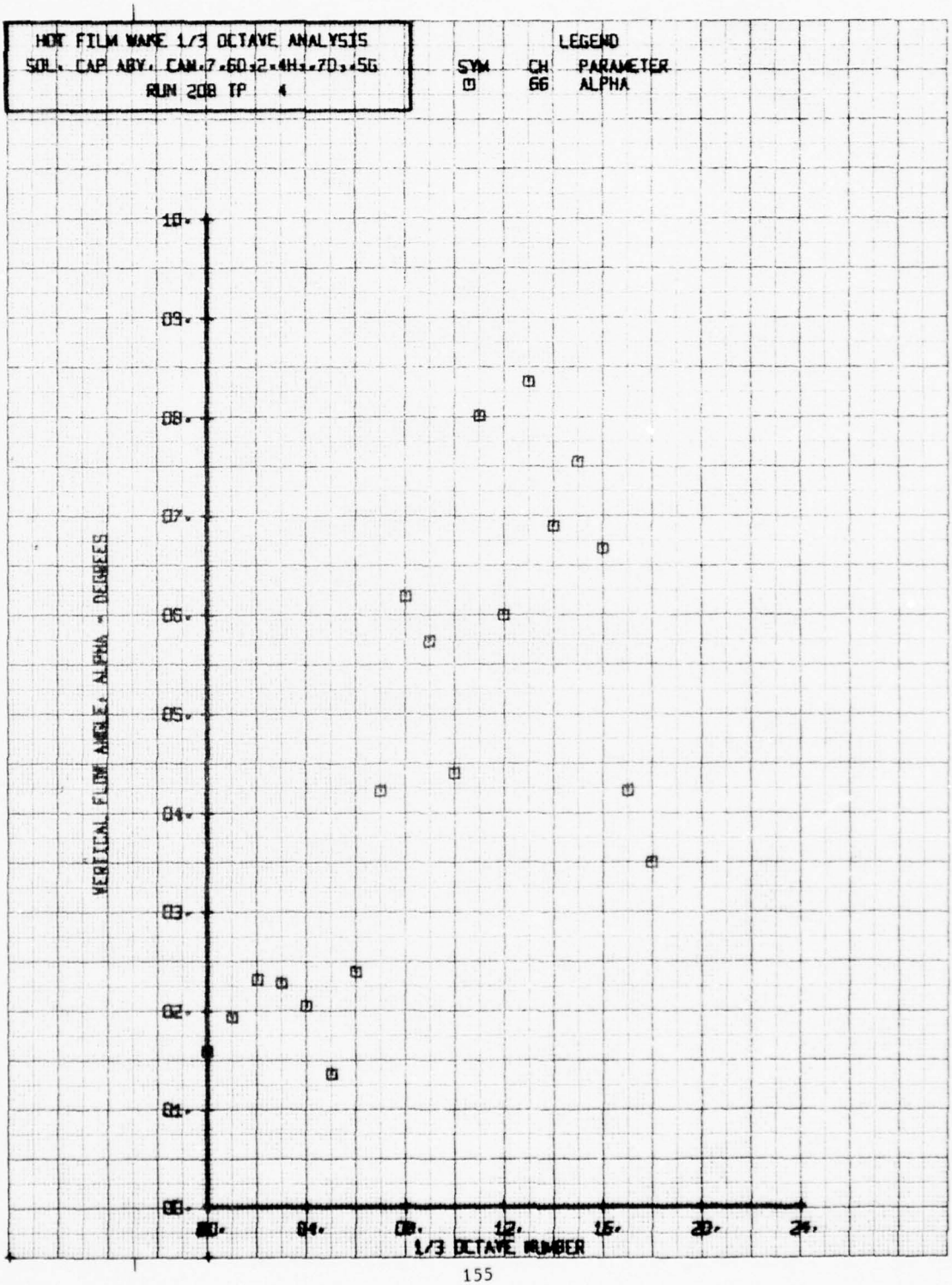

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
BASELINE-FLIGHT TEST INST. PACKAGE
RUN 188 TP 9
LEGEND
SYM CH PARAMETER
65 V-BETA
10.
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X-2 VELOCITY COMPONENT V-BETA FPS
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1/3 OCTAVE NUMBER

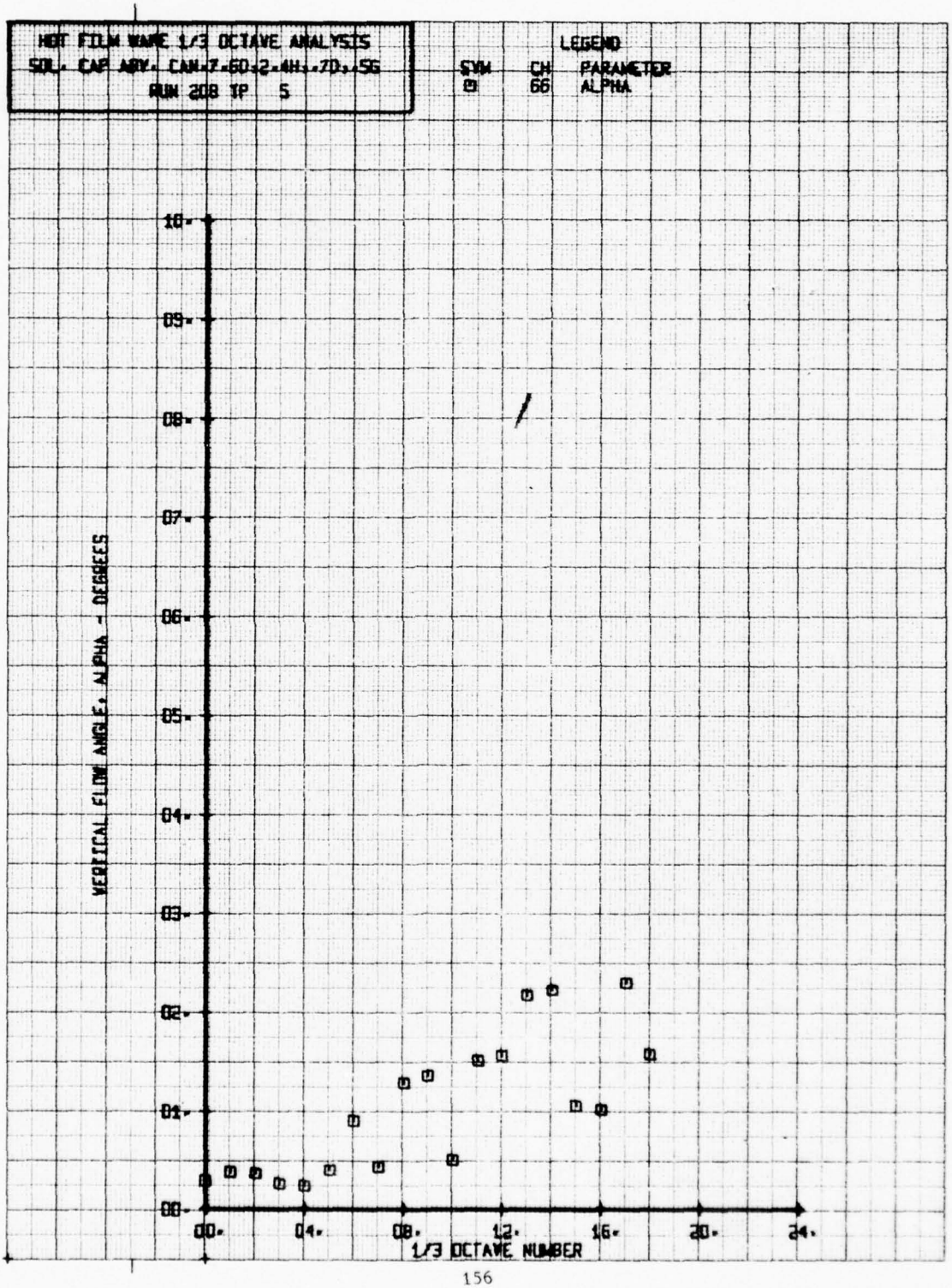

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
BASELINE-FLIGHT TEST INST. PACKAGE
RUN 188 TP 10
LEGEND
SYM CH PARAMETER
65 V-BETA
X-2 VELOCITY COMPONENT V-BETA FPS
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24
1/3 OCTAVE NUMBER

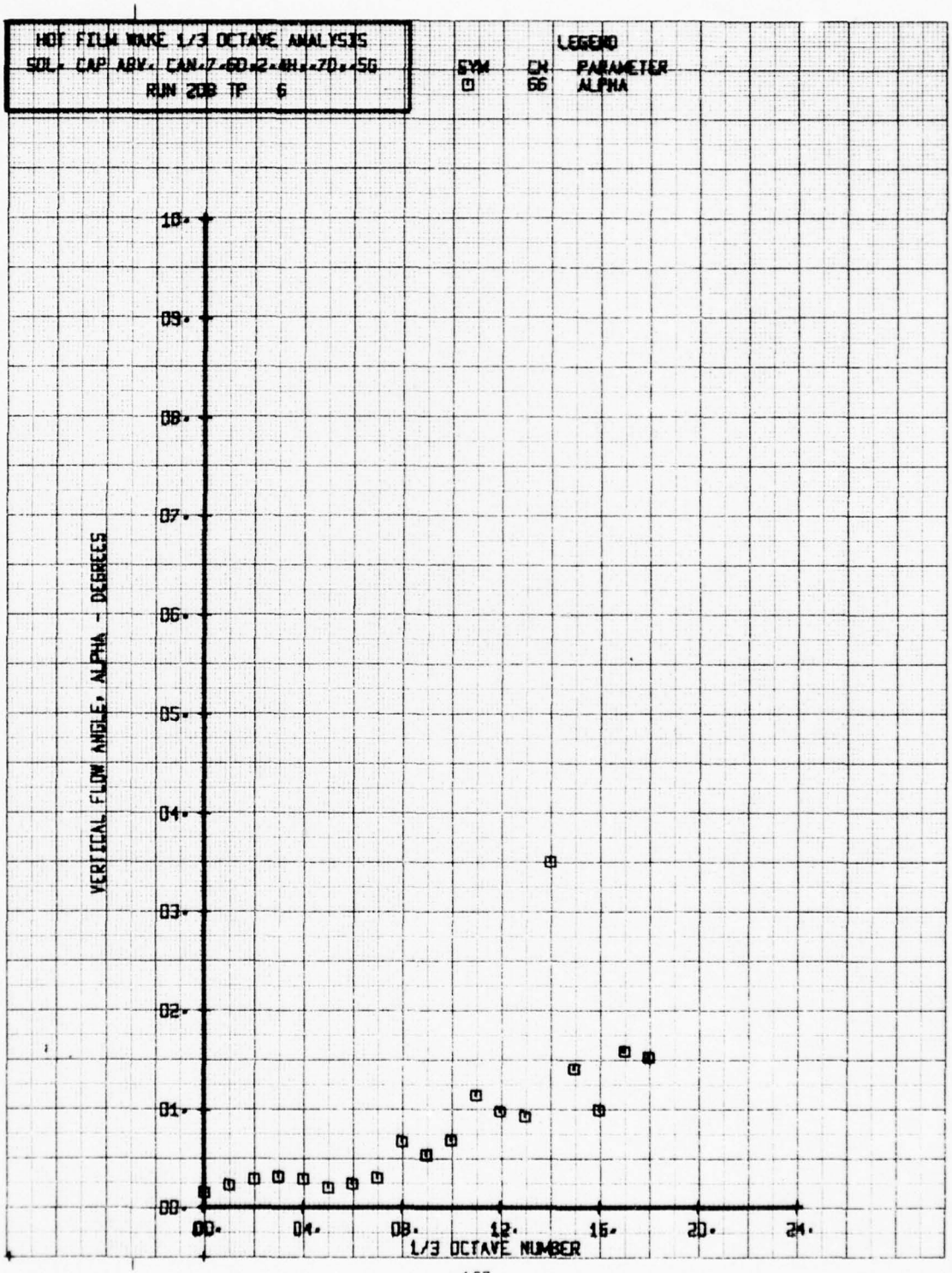

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL-CAP ABV. CAM 100-3-25H-1-550-.5G
RUN 210 TP 1
LEGEND
SYM CH PARAMETER
66 ALPHA
10.
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VERTICAL FLOW ANGLE, ALPHA - DEGREES
1/3 OCTAVE NUMBER

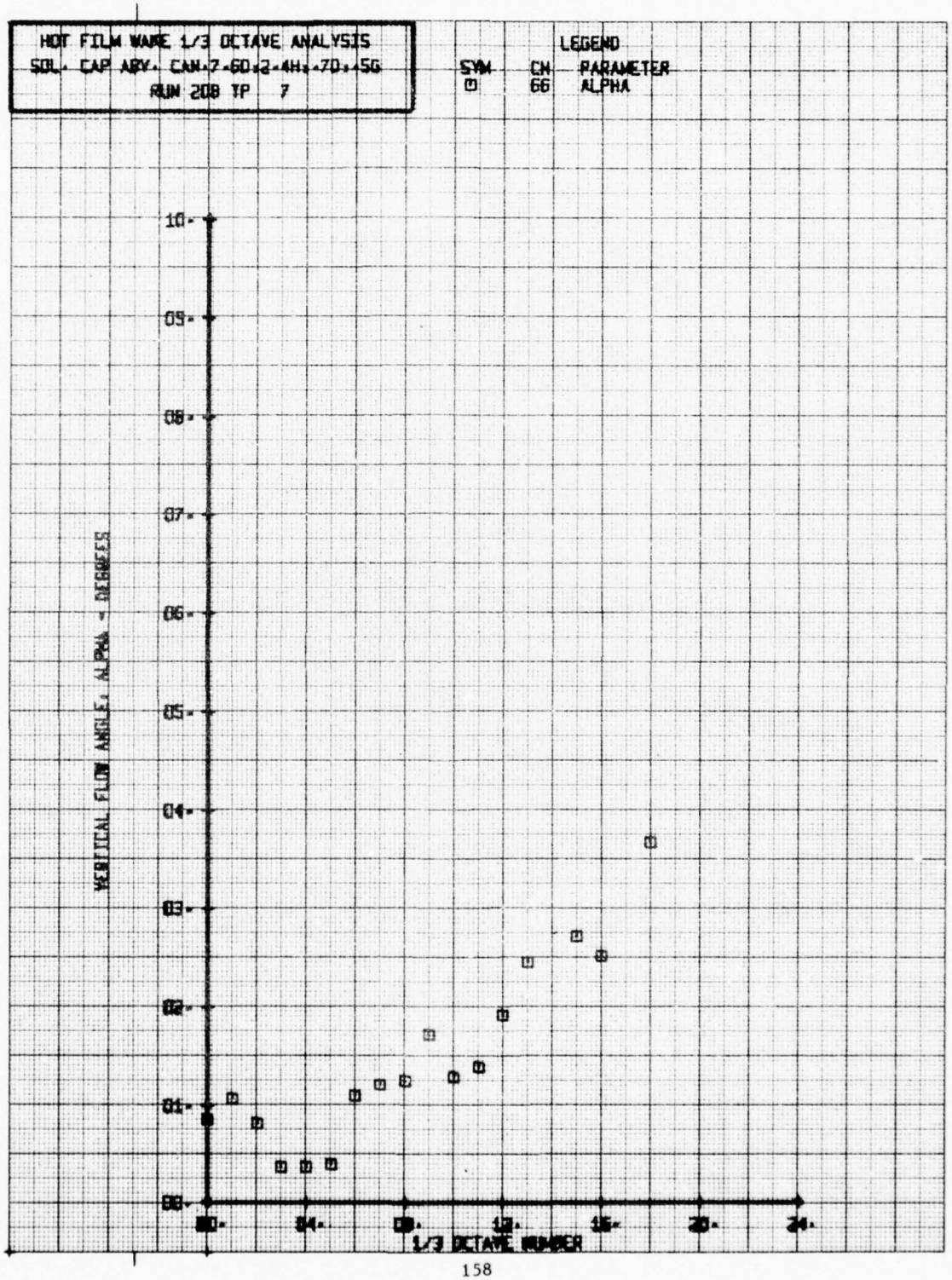

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL. CAP ABV. CAN.7-60.2-4H.-70.-5G
RUN 208 TP 2
LEGEND
SYM CH PARAMETER
66 ALPHA
10.
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VERTICAL FLOW ANGLE, ALPHA - DEGREES
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24.
1/3 OCTAVE NUMBER

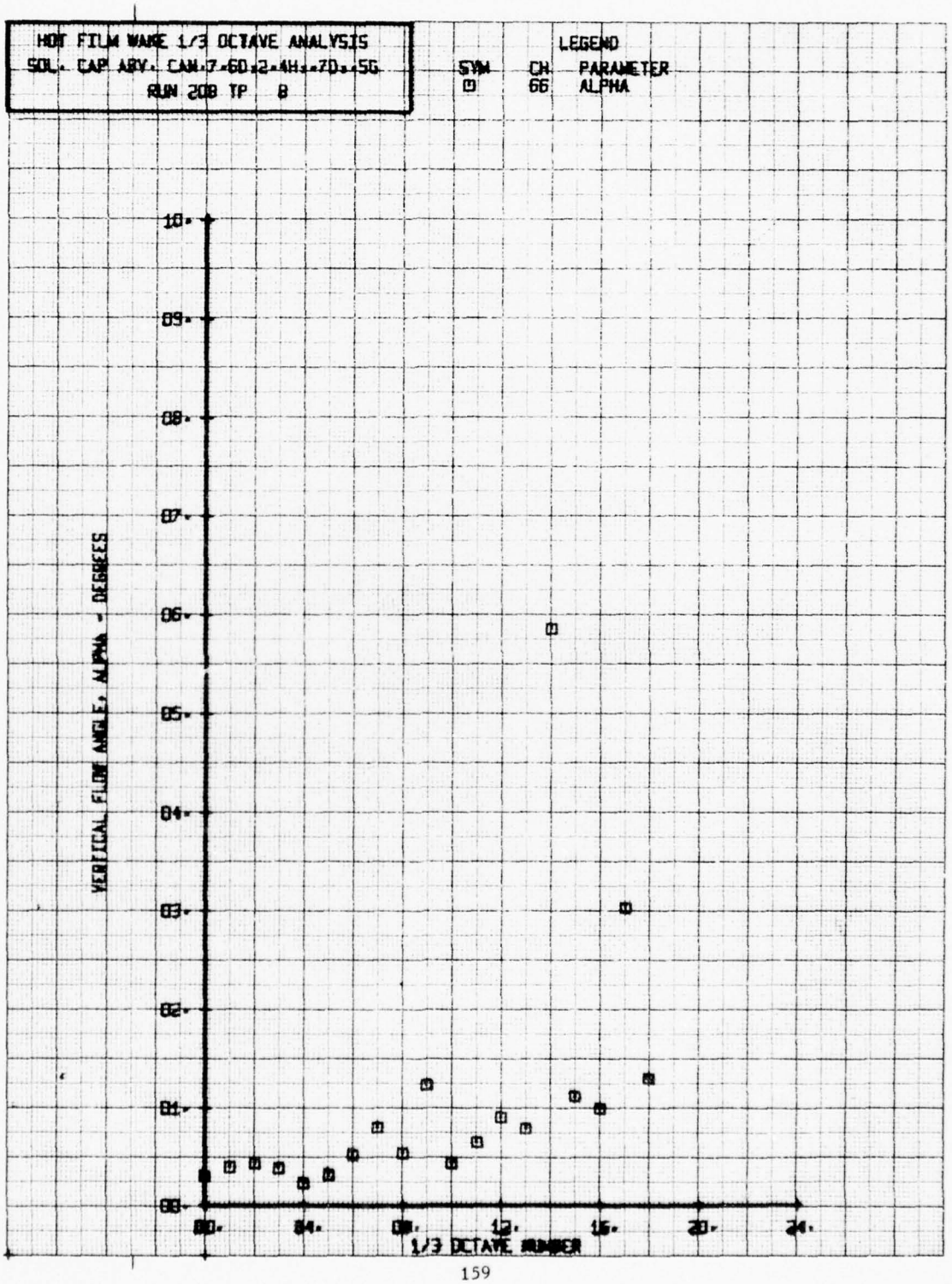

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL. CAP ABY. CAN-7-60-2-4H3-7D3-5G
RUN 208 TP 3
LEGEND
SYM CH PARAMETER
66 ALPHA
10.
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VERTICAL FLOW ANGLE, ALPHA - DEGREES
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24.
1/3 OCTAVE NUMBER

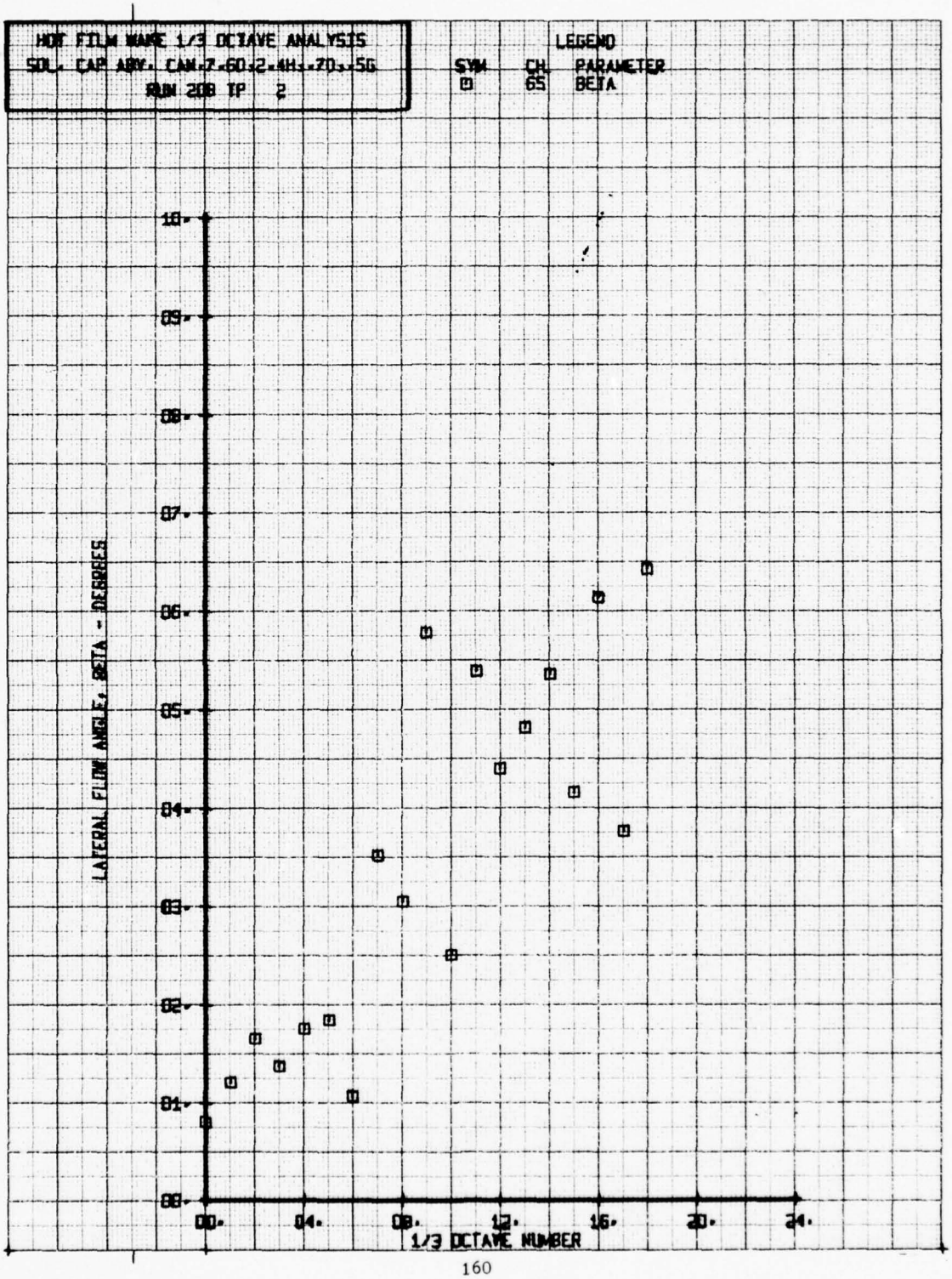

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL. CAP ABV. CAN.7.60.2.4H.7D.5G
RUN 208 TP 4
LEGEND
SYM CH PARAMETER
66 ALPHA
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VERTICAL FLOW ANGLE, ALPHA - DEGREES
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1/3 OCTAVE NUMBER

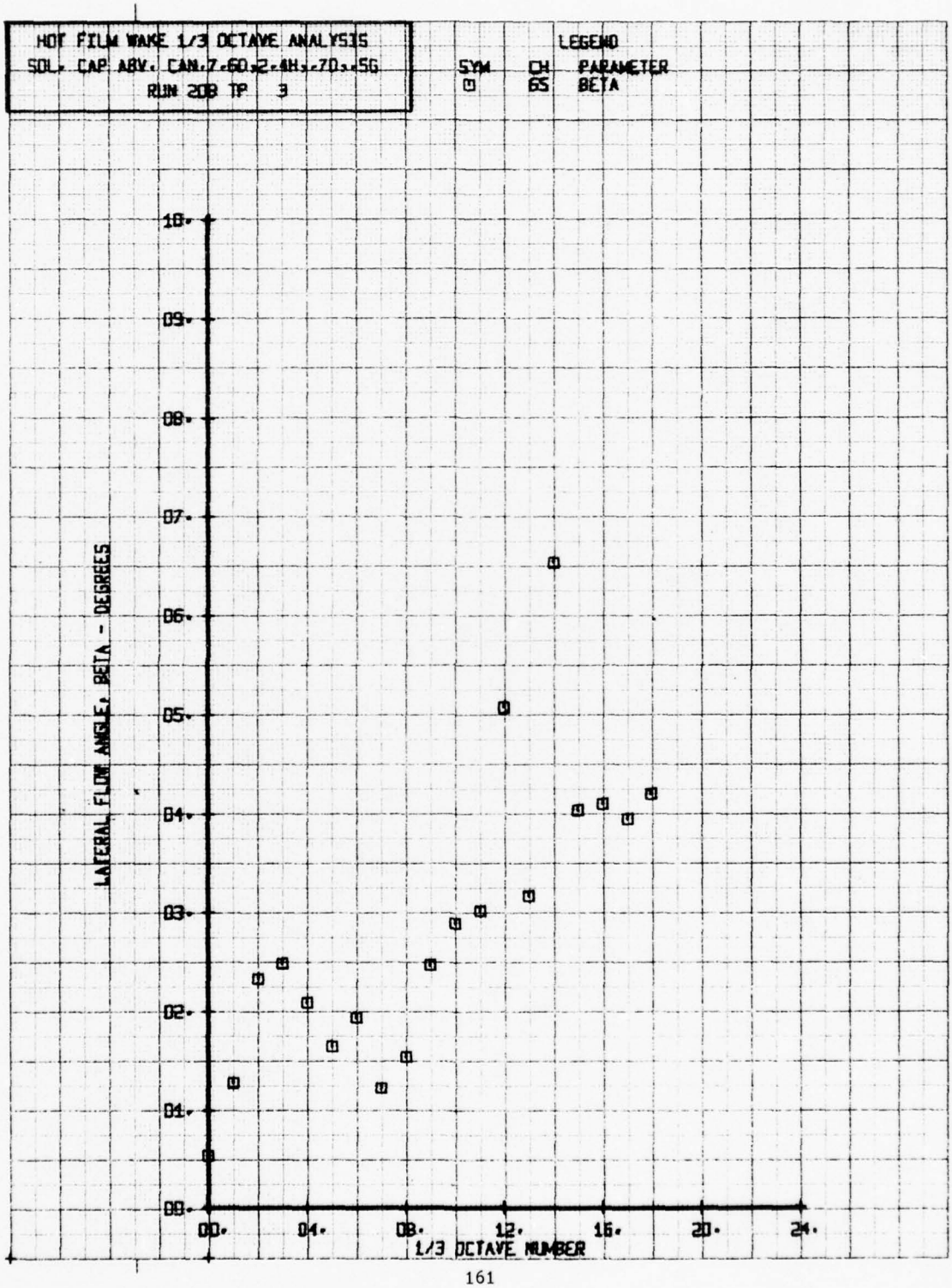

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL. CAP ABV. CAN.7.60.2.4H..7D..5G
RUN 208 TP 5
LEGEND
SYM CH PARAMETER
66 ALPHA
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VERTICAL FLOW ANGLE, ALPHA - DEGREES
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24.
1/3 OCTAVE NUMBER

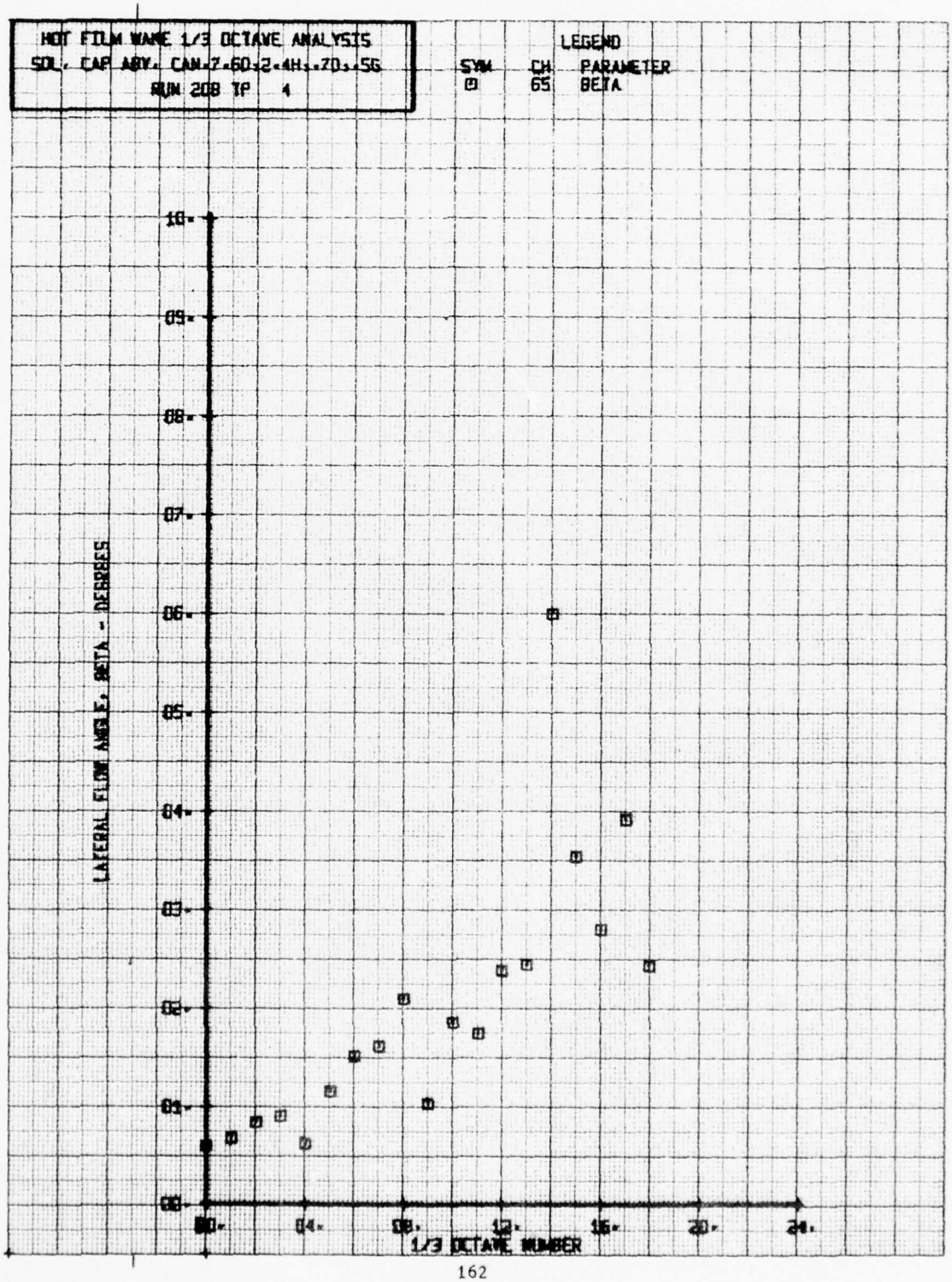

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL. CAP ABV. CAN.7.6D.2.4H..7D..5G
RUN 208 TP 6
LEGEND
SYM CH PARAMETER
66 ALPHA
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VERTICAL FLOW ANGLE, ALPHA - DEGREES
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24.
1/3 OCTAVE NUMBER

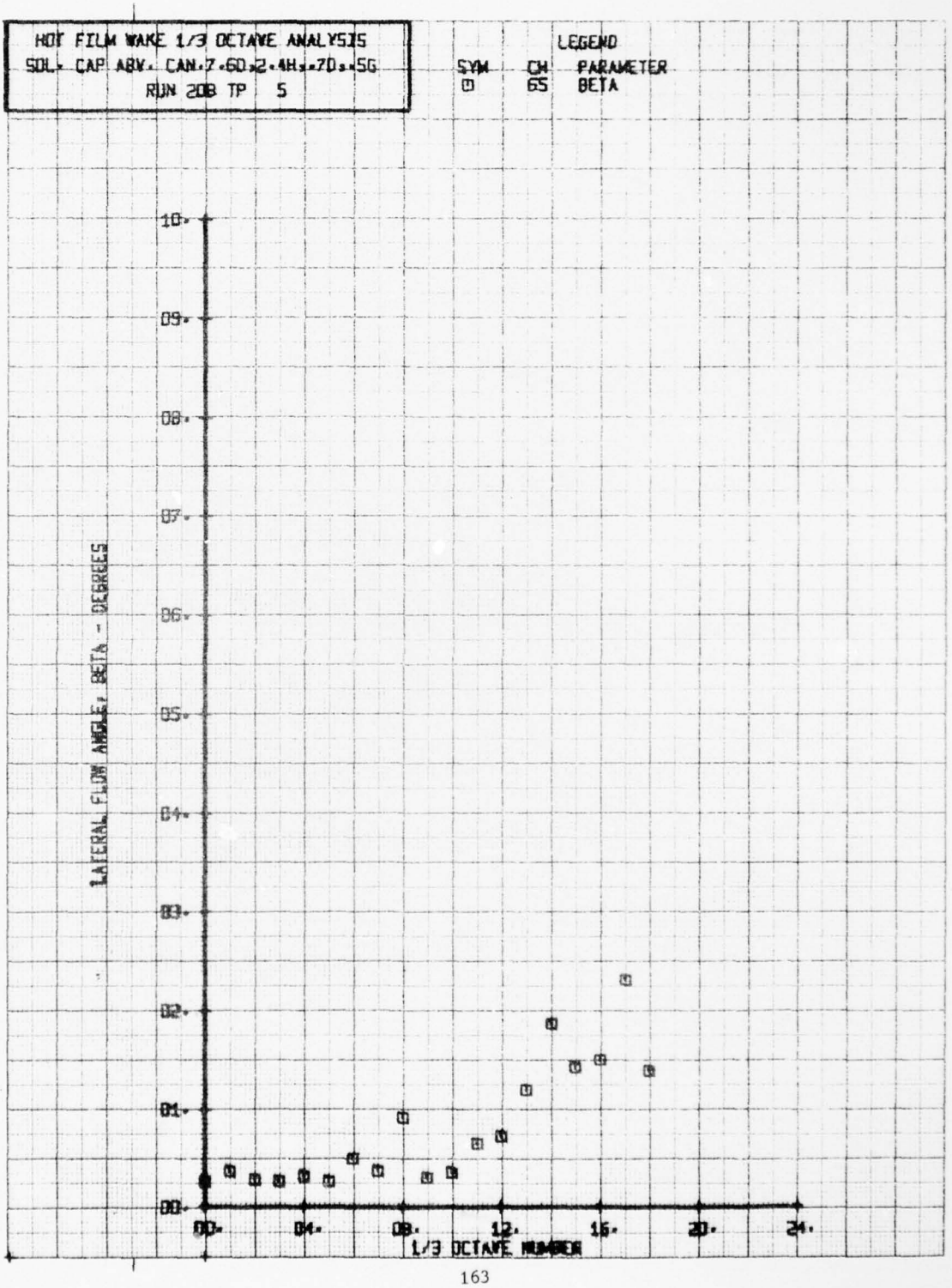

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL, CAP ARV, CAN-7-60-2-4H-70-5G
RUN 208 TP 7
LEGEND
SYM CH PARAMETER
66 ALPHA
10
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VERTICAL FLOW ANGLE, ALPHA - DEGREES
1/3 OCTAVE NUMBER

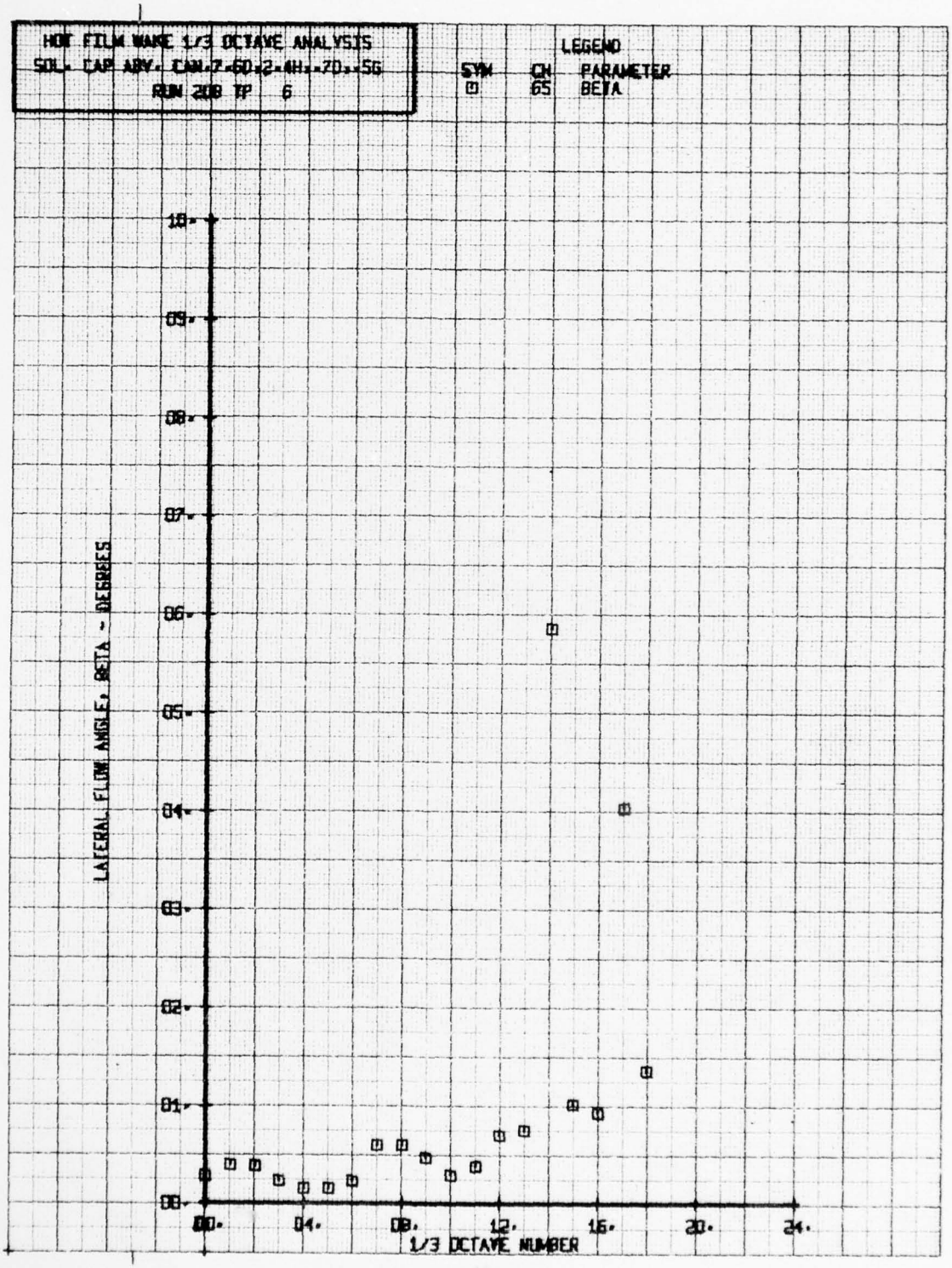

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL. CAP ARV. CAN.7-60.2-4H.-7D.-5G
RUN 208 TP 8
LEGEND
SYM CH PARAMETER
66 ALPHA
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VERTICAL FLOW ANGLE, ALPHA - DEGREES
04.
08.
12.
16.
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24.
1/3 OCTAVE NUMBER

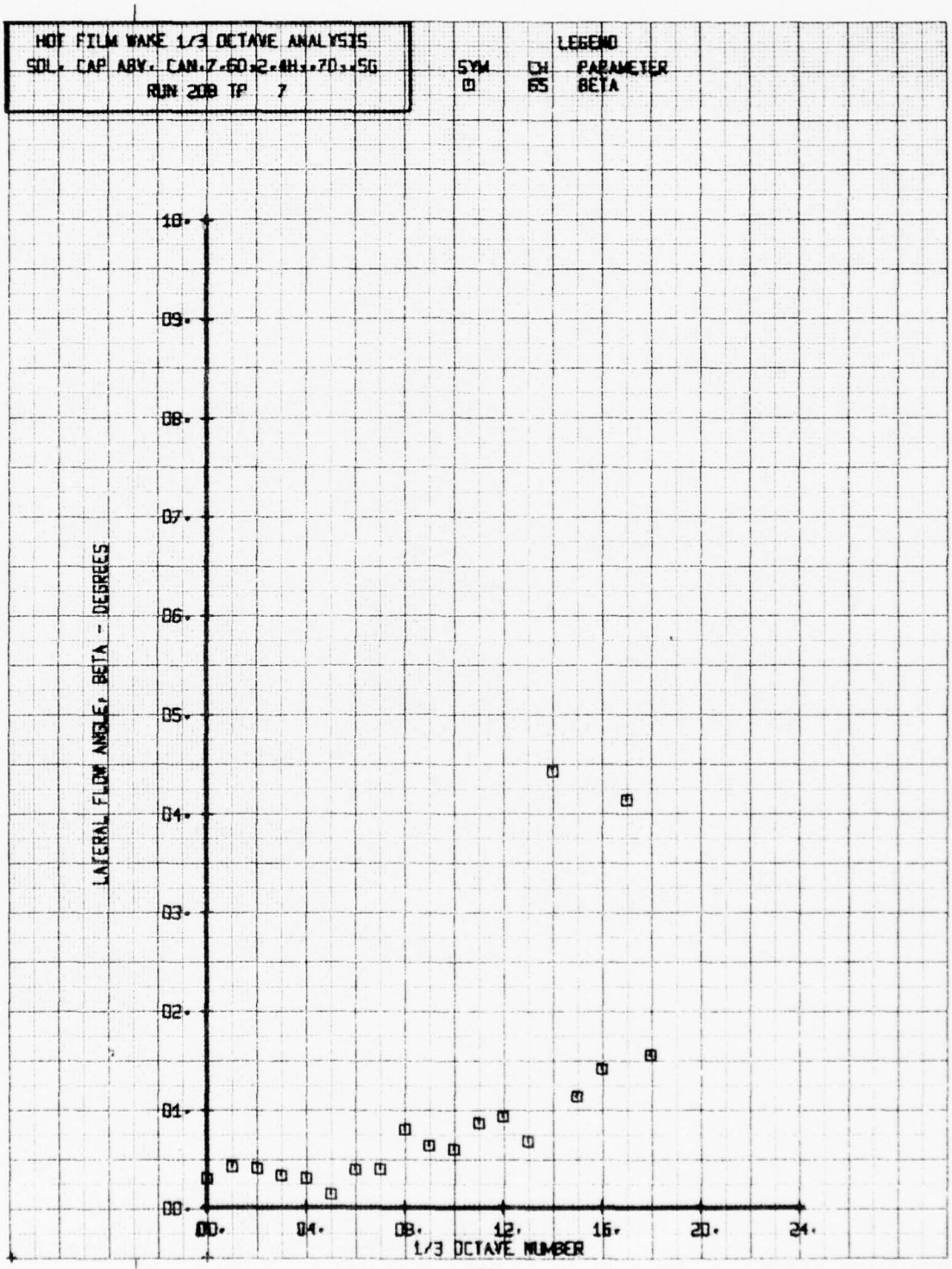

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL. CAP ARM. CAN.7.60.2.4H.=70.=56
RUN 208 TP 2
LEGEND
SYM CH. PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
1/3 OCTAVE NUMBER
10.
09.
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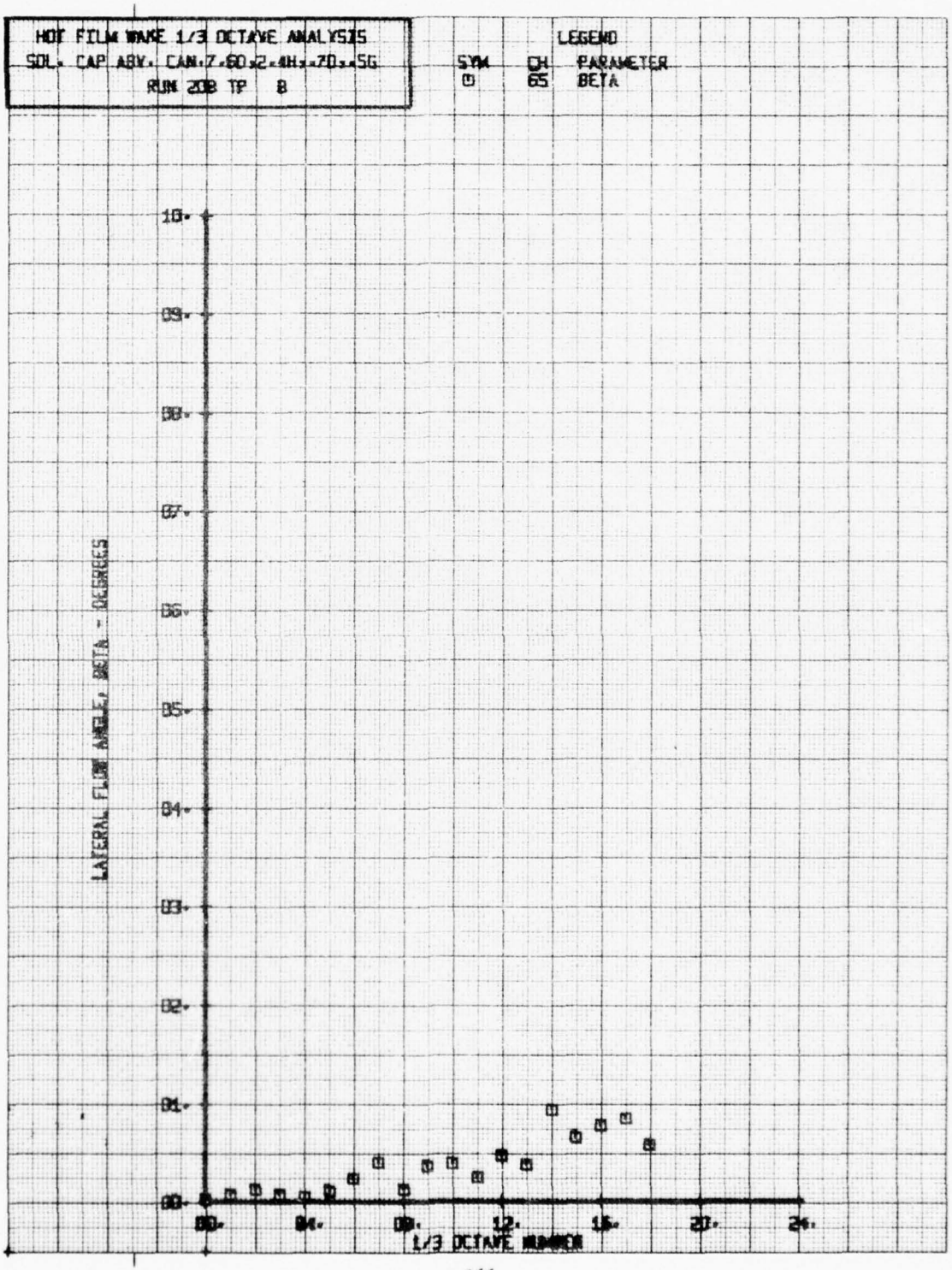

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL. CAP ABV. CAN.7.60,2.4H,.70,.56
RUN 208 TP 3
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
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1/3 OCTAVE NUMBER

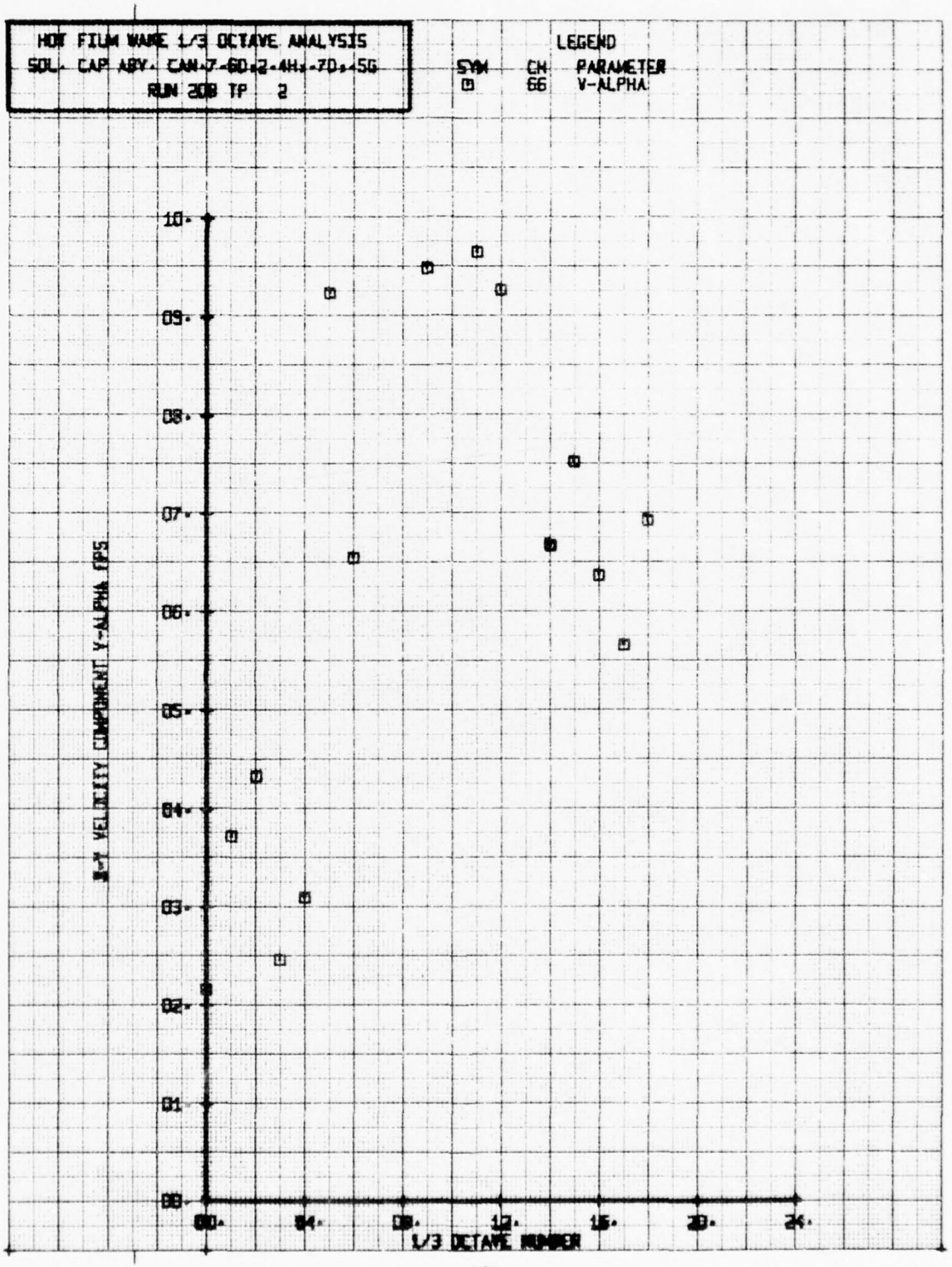

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL, CAP ABY, CAN,7,60,2,4H,,7D,,5G
RUN 208 TP 4
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
1/3 OCTAVE NUMBER

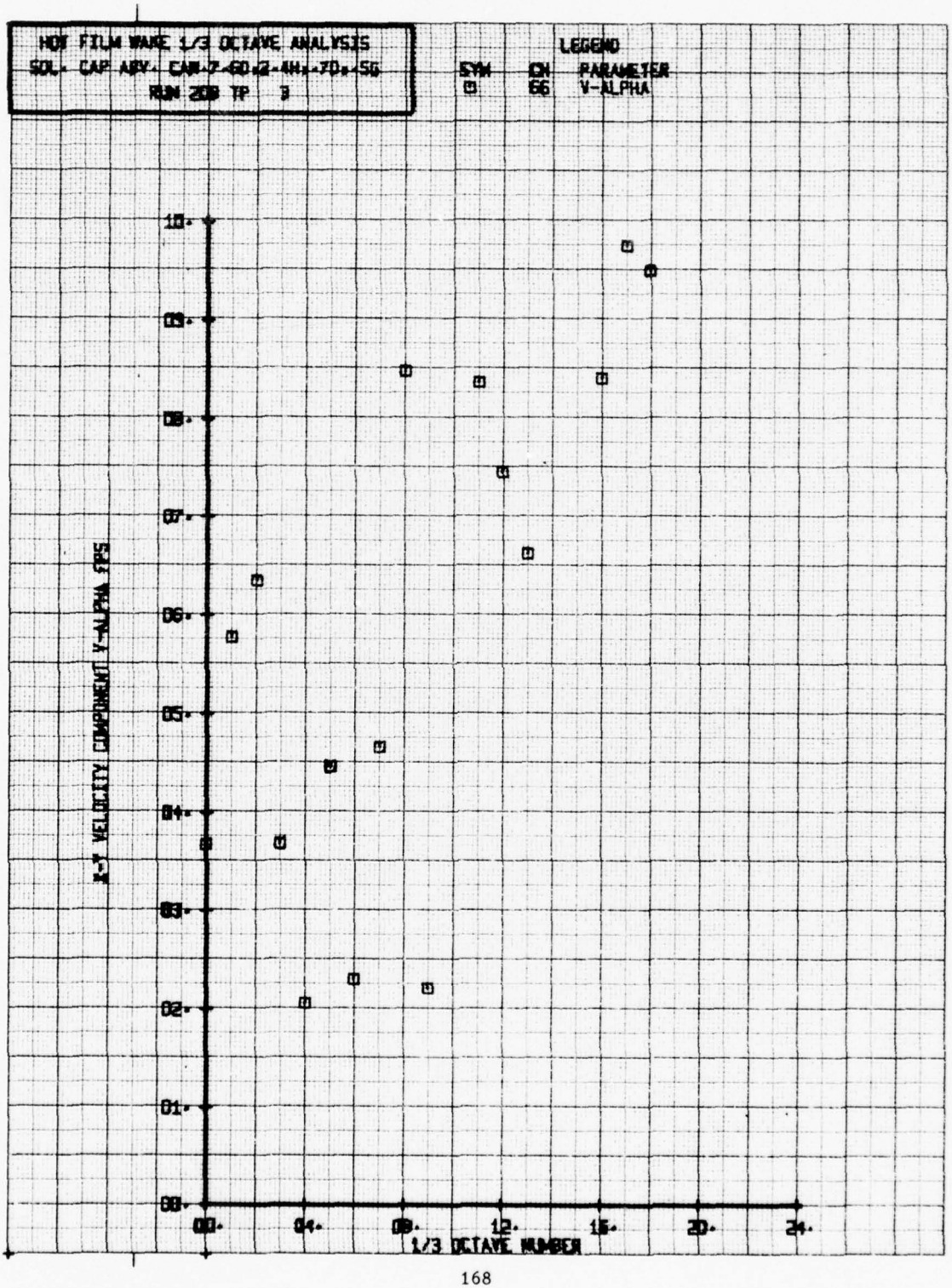

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL. CAP ABV. CAN. Z=.60, Z=.4H, =.7D, =.5G
RUN 208 TP 5
LEGEND
SYM CH PARAMETER
65 BETA
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LATERAL FLOW ANGLE, BETA - DEGREES
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1/3 OCTAVE NUMBER

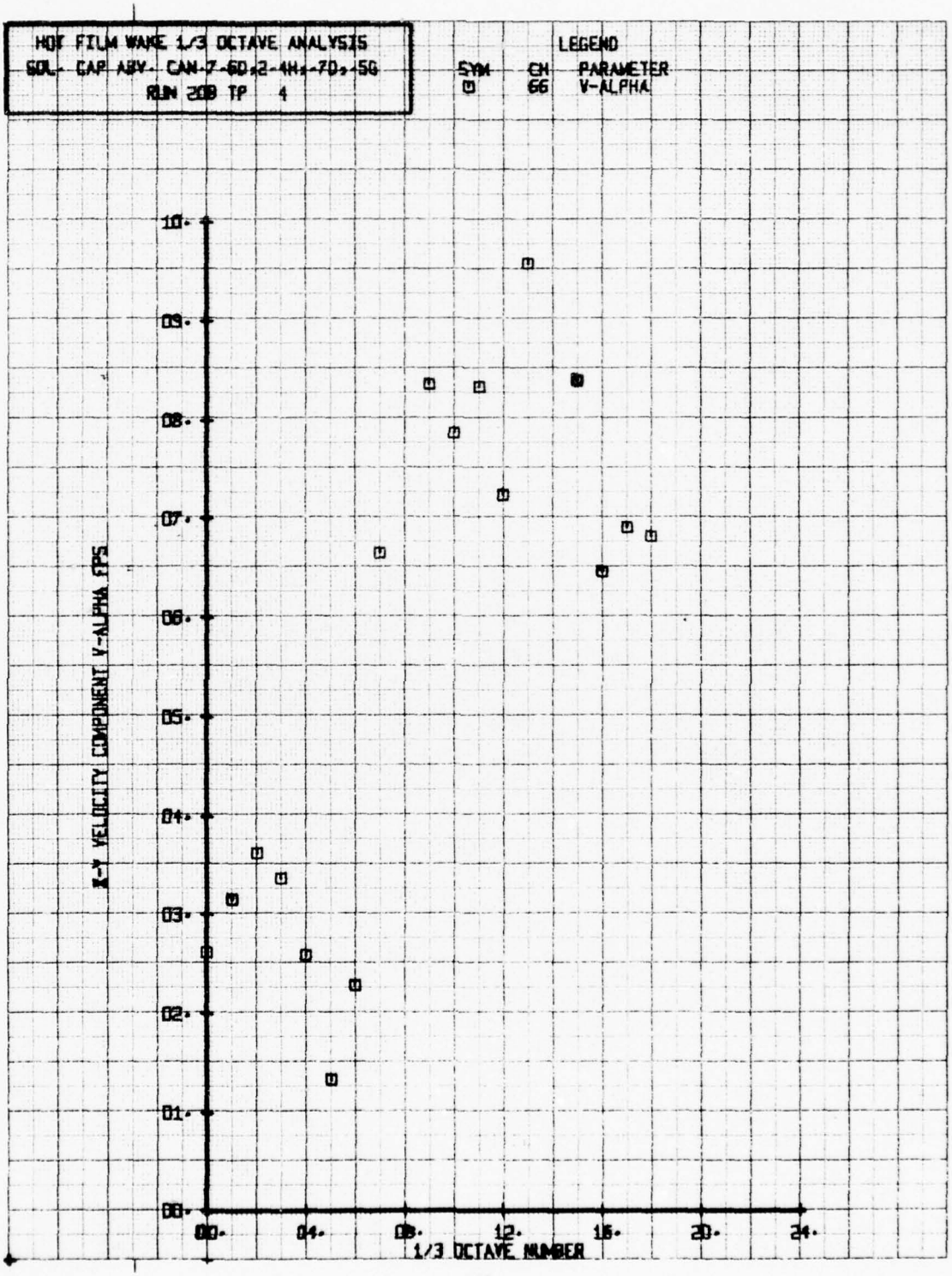

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL. CAP ARV. CAN.7-60.2-4H1..7D1..5G
RUN 208 TP 6
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
1/3 OCTAVE NUMBER
10.
09.
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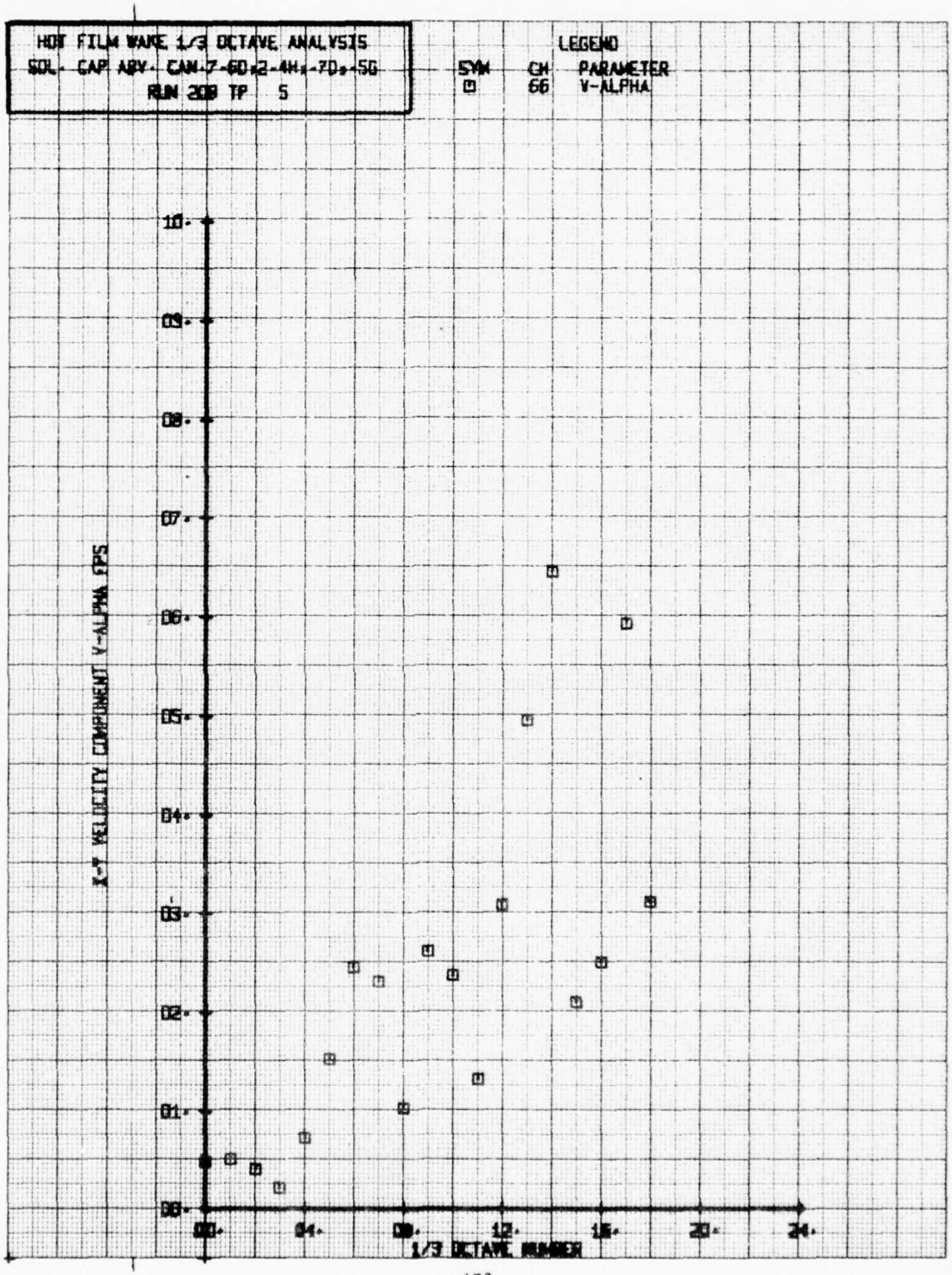

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL. CAP ABV. CAN.7.60.2.4H.70..5G
RUN 208 TP 7
LEGEND
SYM CH PARAMETER
65 BETA
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LATERAL FLOW ANGLE, BETA - DEGREES
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1/3 OCTAVE NUMBER

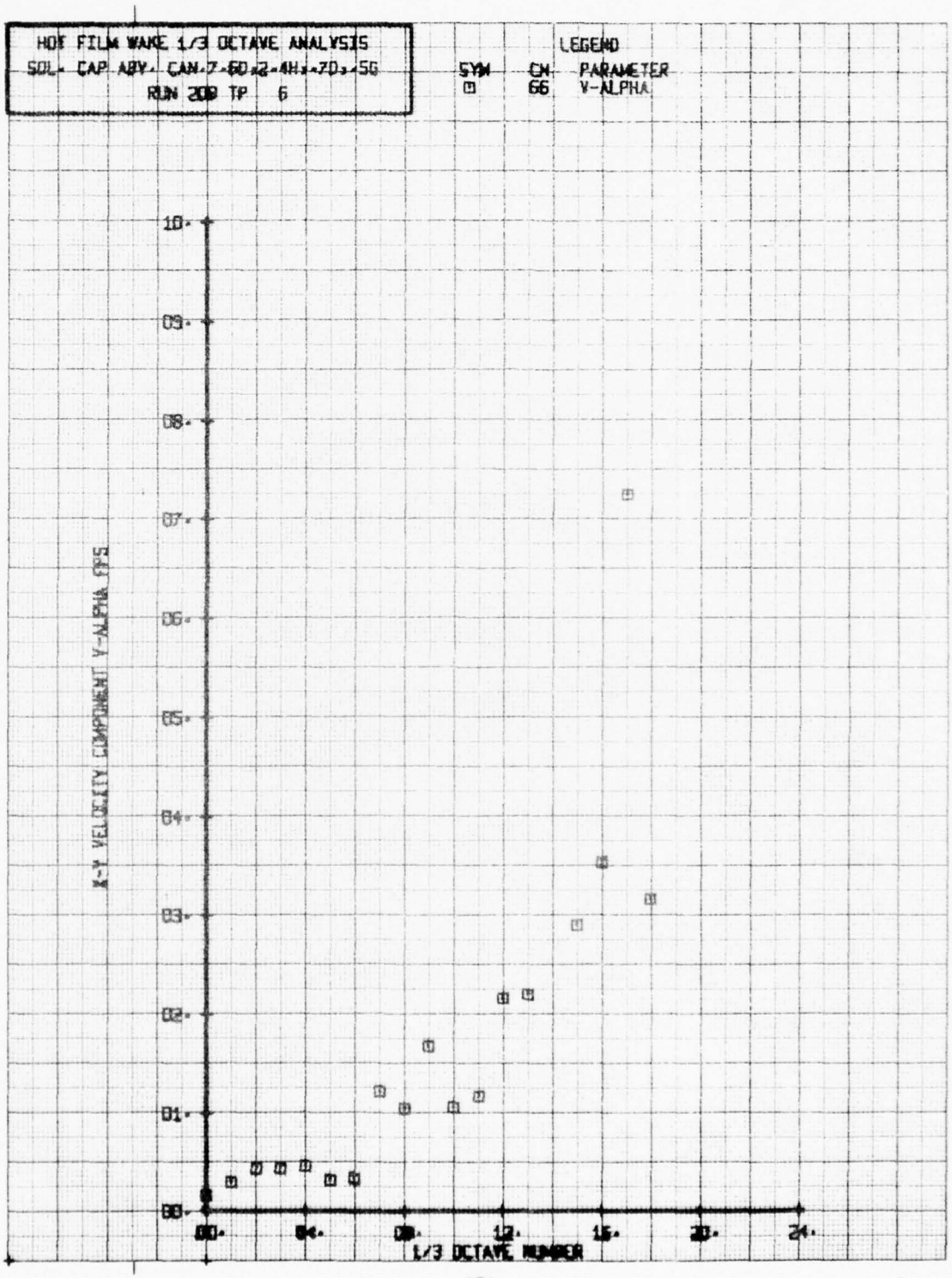

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL. CAP ABV. CAN.Z.60x2.4Hx.70x.5G
RUN 208 TP 8
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
L/3 OCTAVE NUMBER

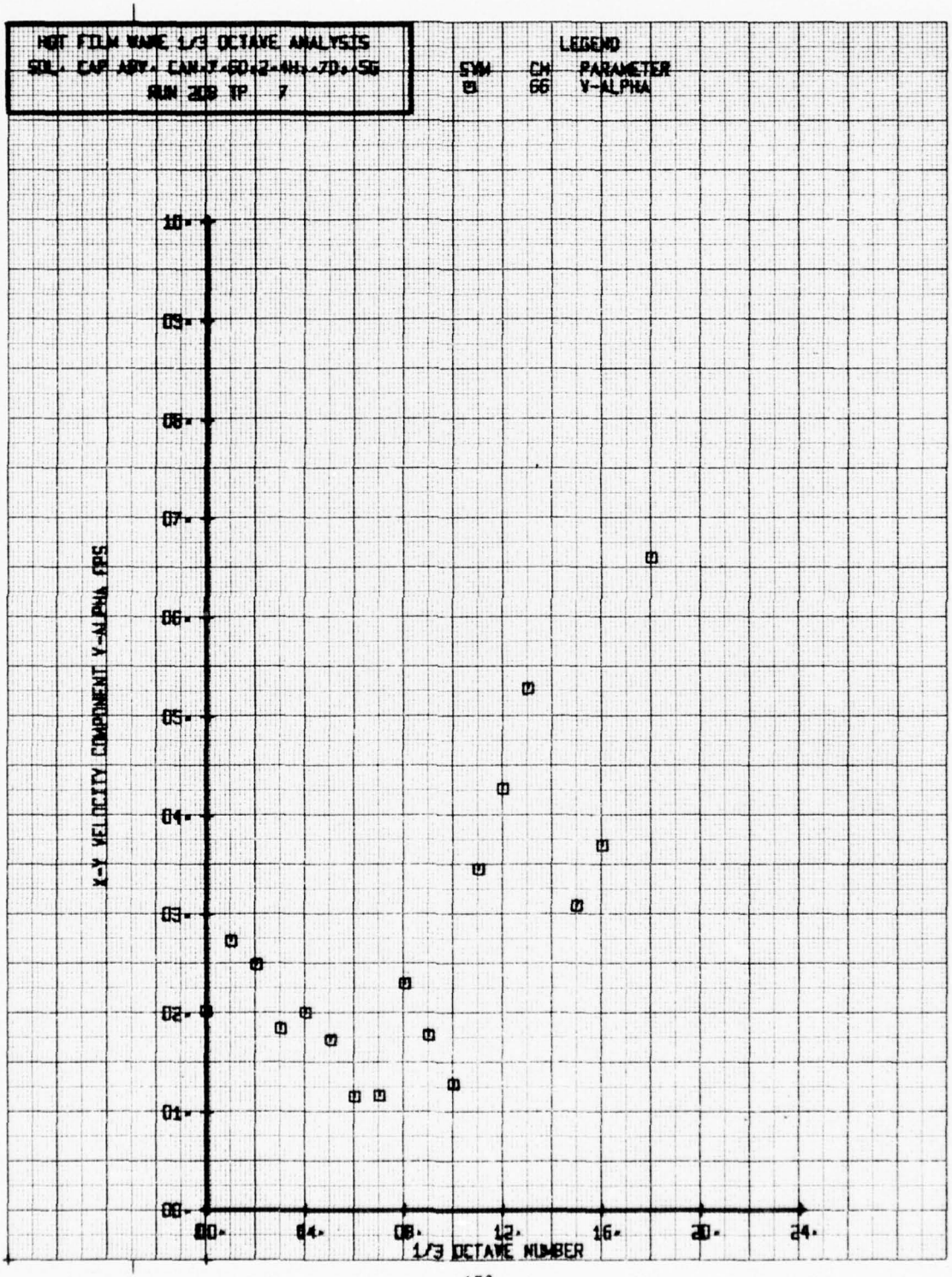

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL. CAP ABV. CAN-7-6D-2-4H-.7D-.5G
RUN 208 TP 2
LEGEND
SYM CH PARAMETER
66 V-ALPHA
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1/3 OCTAVE NUMBER
V VELOCITY COMPONENT V-ALPHA FPS

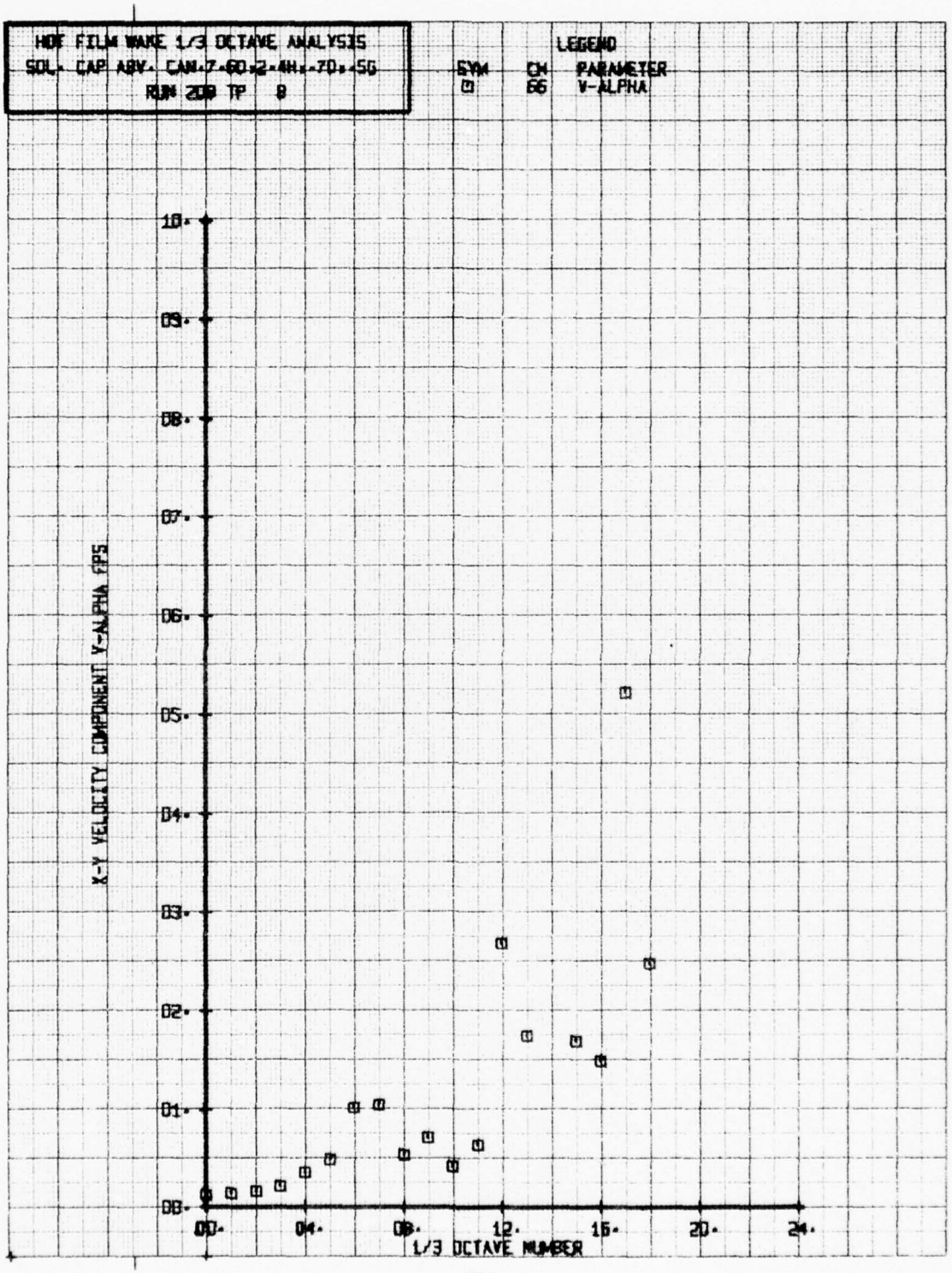

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL- CAP ABV- CAN-7-60,2-4H=-7D=-5G
RUN 208 TP 3
LEGEND
SYM ON PARAMETER
66 V-ALPHA
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24.
1/3 OCTAVE NUMBER
R-V VELOCITY COMPONENT V-ALPHA FPS

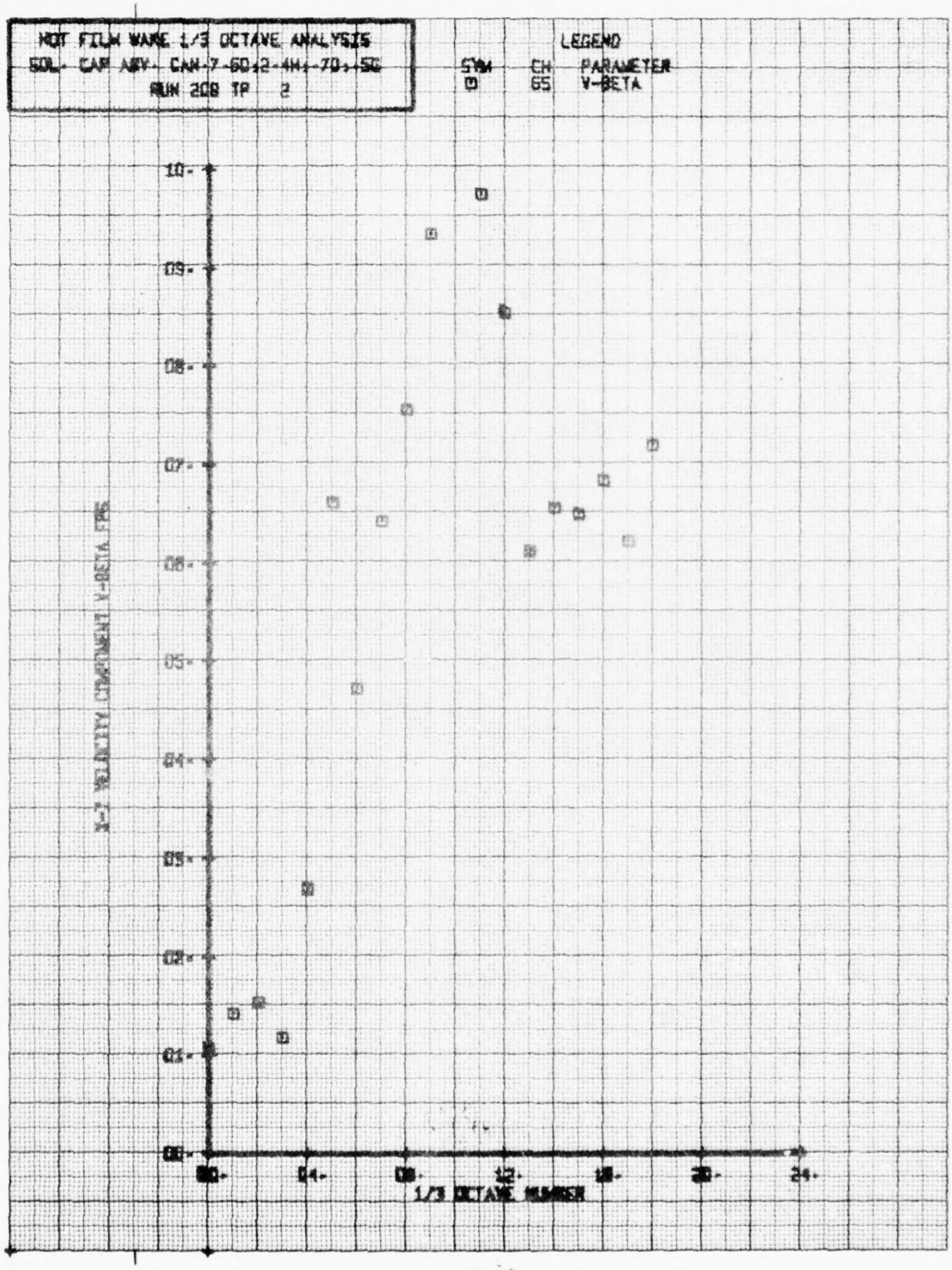

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL- CAP ABV- CAN-7-6D,2-4H,-7D,-5G
RUN 208 TP 4
LEGEND
SYM CH PARAMETER
66 V-ALPHA
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X-Y VELOCITY COMPONENT V-ALPHA FPS
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1/3 OCTAVE NUMBER

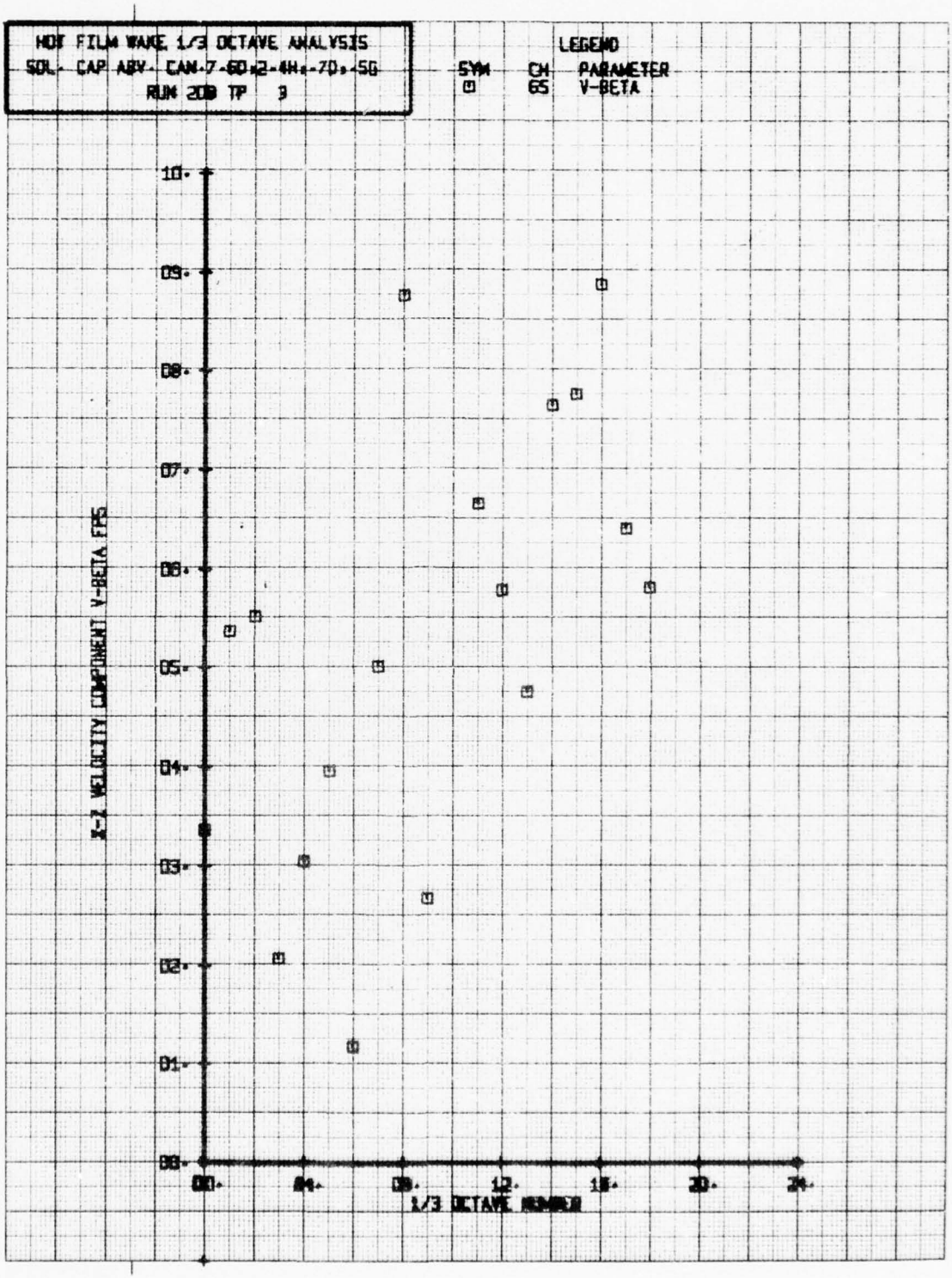

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL- CAP ARV- CAN-7-60-2-4H-7D-5G
RUN 208 TP 5
LEGEND
SYM CH PARAMETER
66 V-ALPHA
10.
09.
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X-F VELOCITY COMPONENT V-ALPHA FPS
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24.
1/3 OCTAVE NUMBER

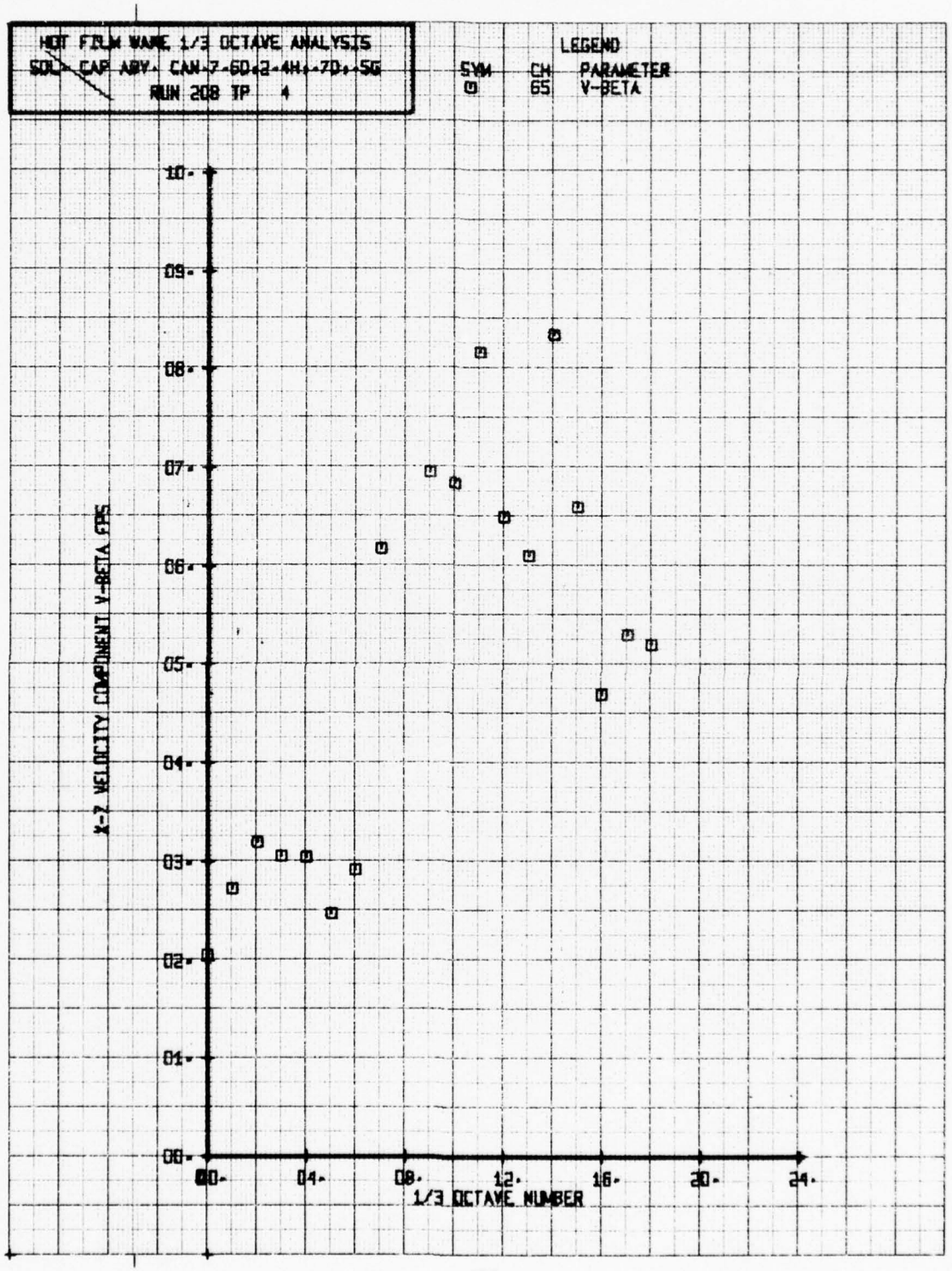

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL. CAP ABV. CAN.7.60,2.4H,.7D,.5G
RUN 208 TP 6
LEGEND
SYM CN. PARAMETER
66 V-ALPHA
10.
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U-V VELOCITY COMPONENT V-ALPHA FPS
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1/3 OCTAVE NUMBER

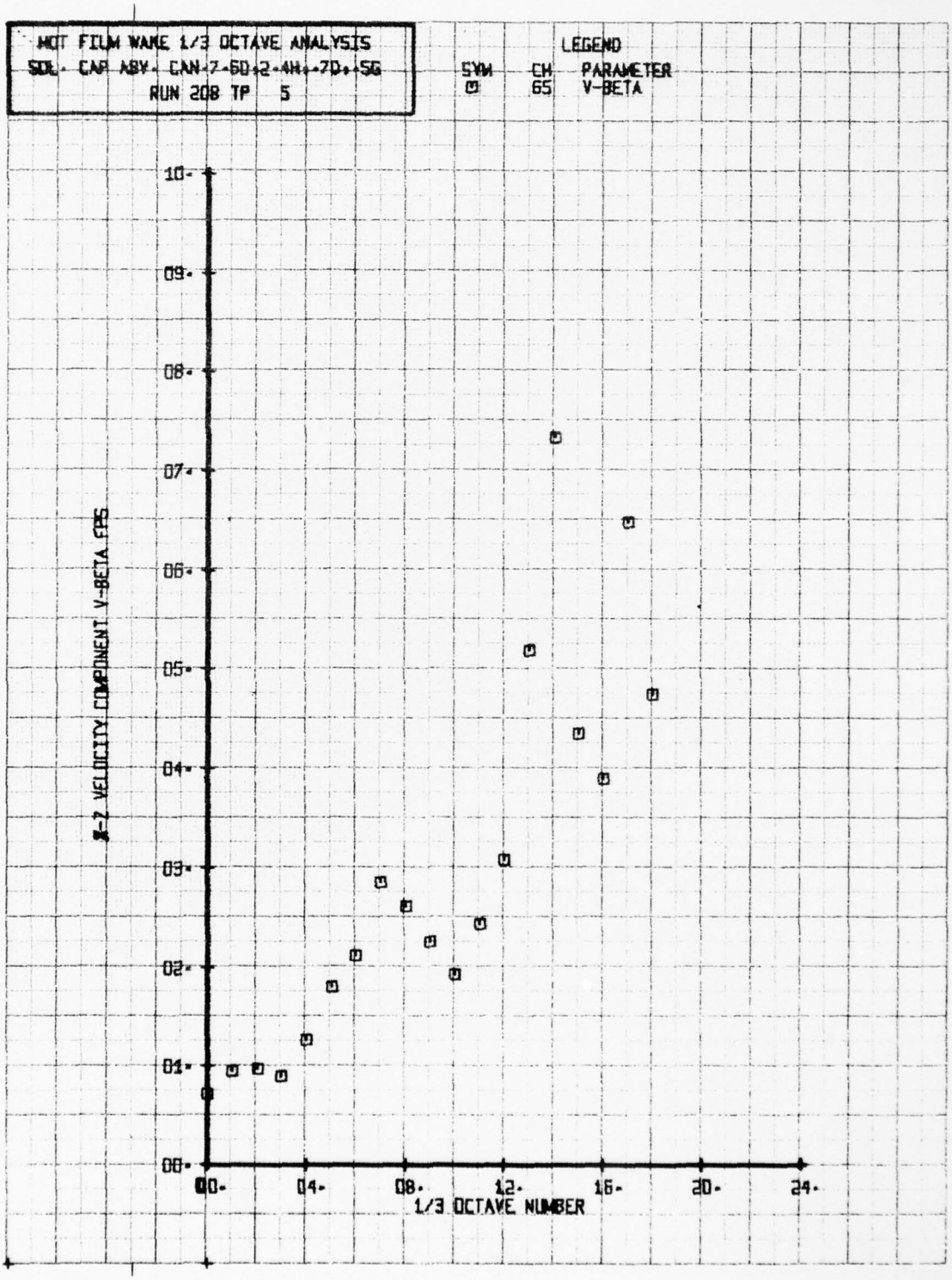

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL. CAP ARY. CAN.7.60.2.4H..7D..5G
RUN 208 TP 7
LEGEND
SYM CH PARAMETER
66 V-ALPHA
10.
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X-Y VELOCITY COMPONENT Y-ALPHA GPS
00. 04. 08. 12. 16. 20. 24.
1/3 OCTAVE NUMBER

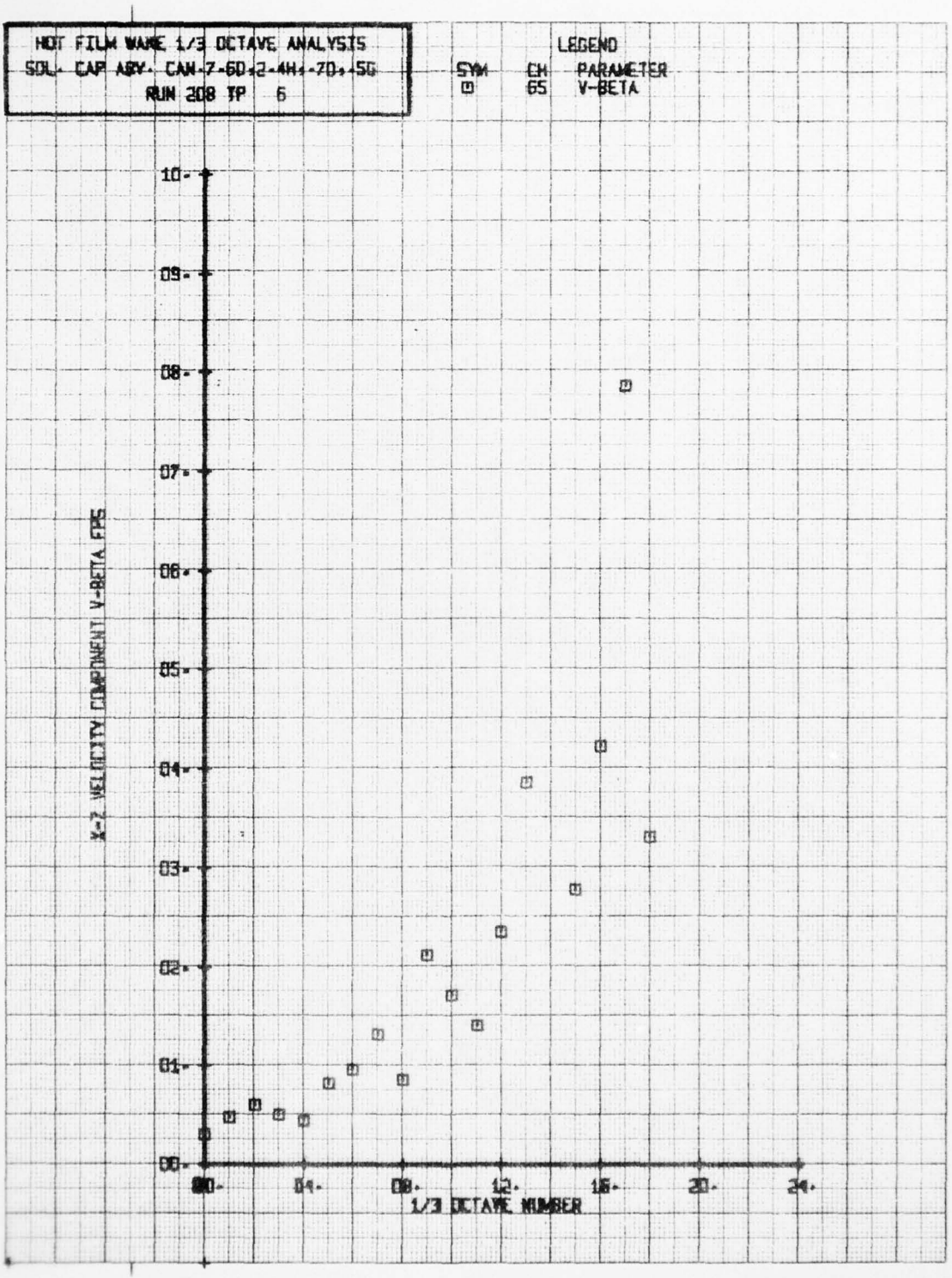

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL. CAP ARV. CAN.7.60.2.4H.-70.-5G
RUN 209 TP 8
LEGEND
SYM CH PARAMETER
66 V-ALPHA
X-Y VELOCITY COMPONENT V-ALPHA FPS
1/3 OCTAVE NUMBER
10.
09.
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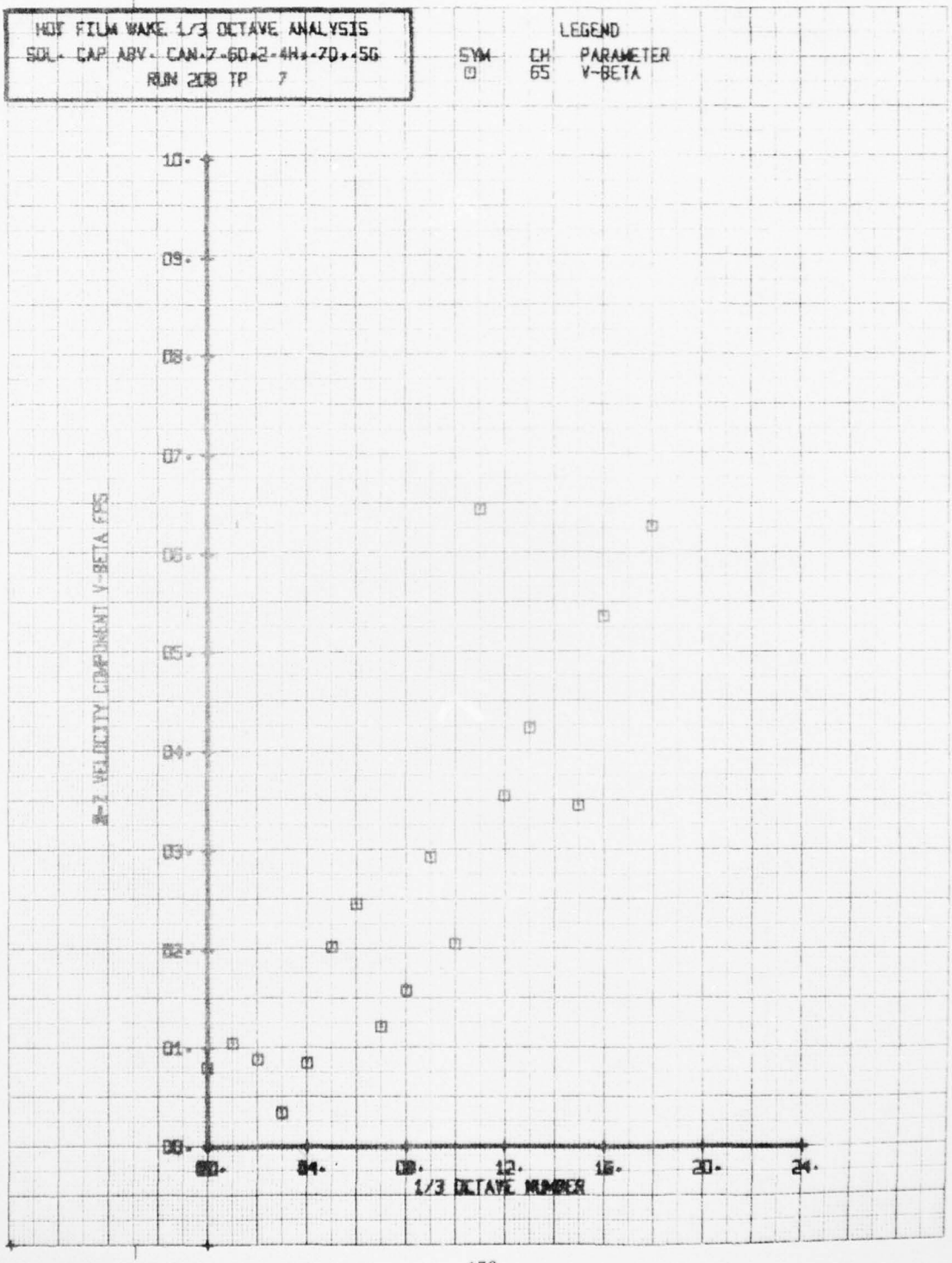

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL- CAR ASY- CAR-7-60;2-4H;-70;-SC
RUN 208 TP 2
LEGEND
SYM CH PARAMETER
65 V-BETA
10-
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24-
1/3 OCTAVE NUMBER

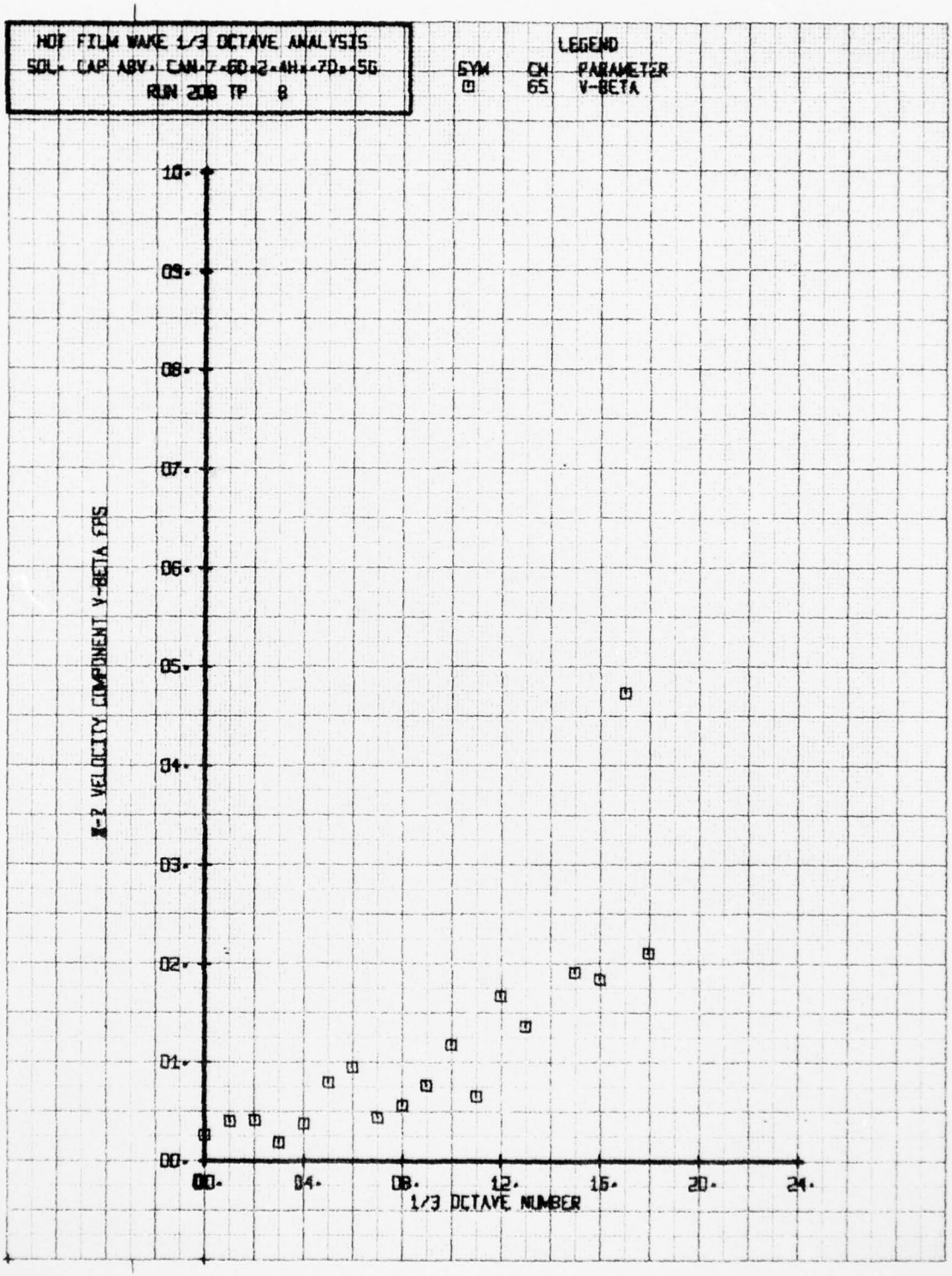

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL. CAP ABV. CAN-7-60-2-4Hz-70s-5G
RUN 208 TP 3
LEGEND
SYM CH PARAMETER
65 V-BETA
10.
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X-Z VELOCITY COMPONENT V-BETA FPS
1/3 OCTAVE

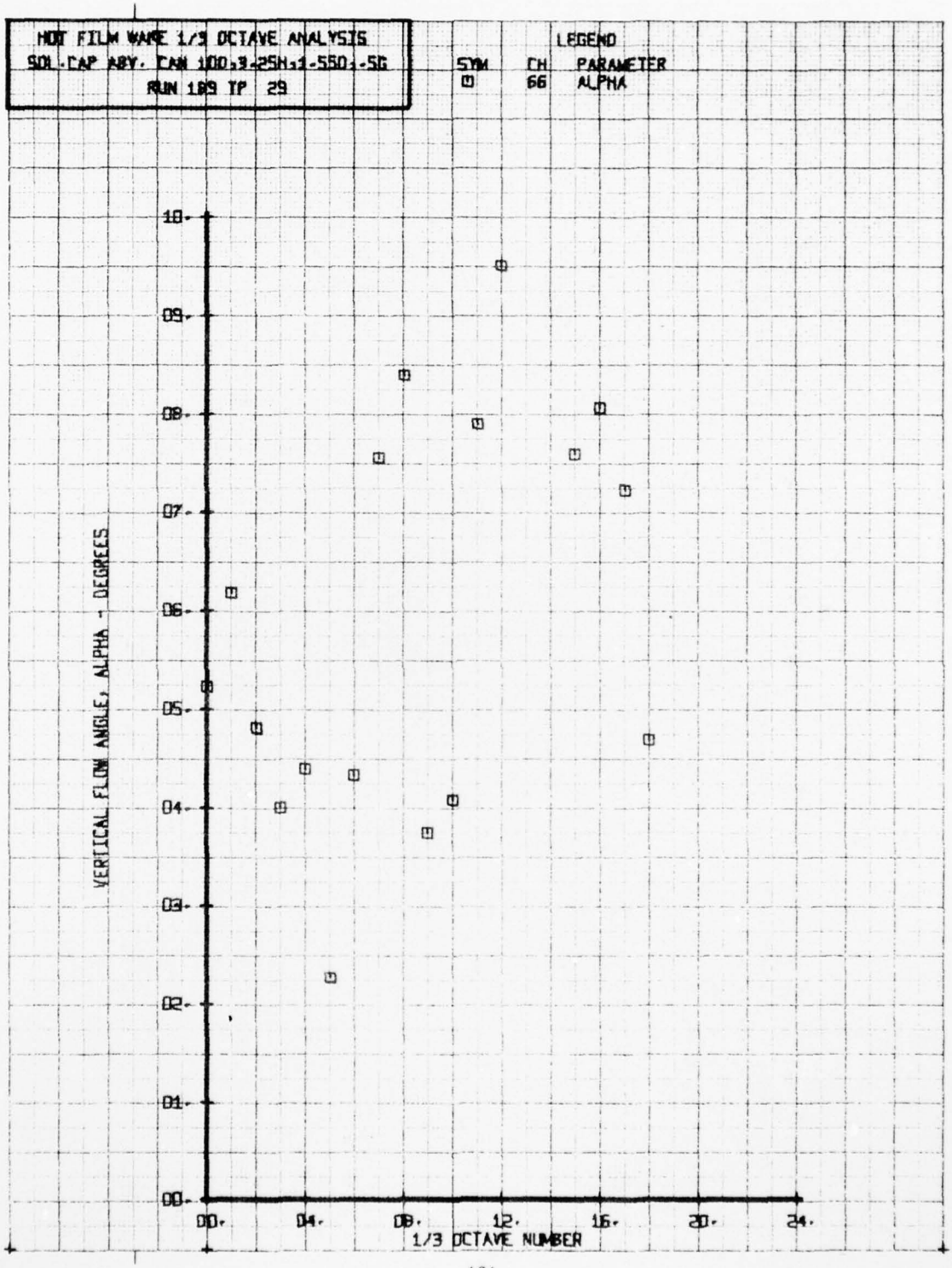

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL- CAP ABV. CAN-7-6D,-2-4H,-7D,-5G
RUN 208 TP 4
LEGEND
SYM CH PARAMETER
65 V-BETA
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1/3 OCTAVE NUMBER
SQRT(V-BETA) COMPONENT VELOCITY X-Z

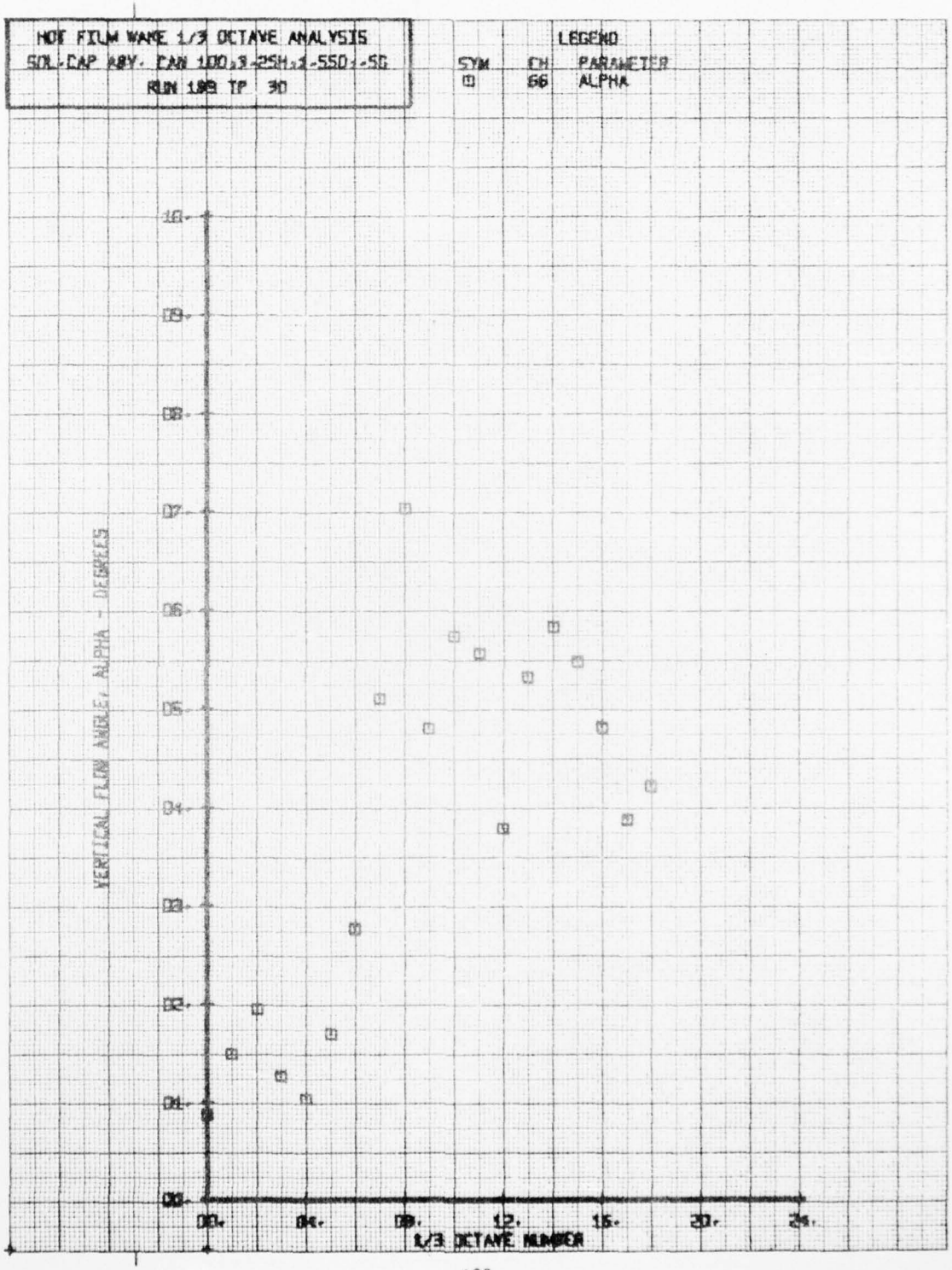

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SDL- CAP ABV- CAN-7-6D-2-4H--7D--5G
RUN 208 TP 5
LEGEND
SYM CH PARAMETER
65 V-BETA
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X-Z VELOCITY COMPONENT V-BETA FPS
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20-
24-
1/3 OCTAVE NUMBER

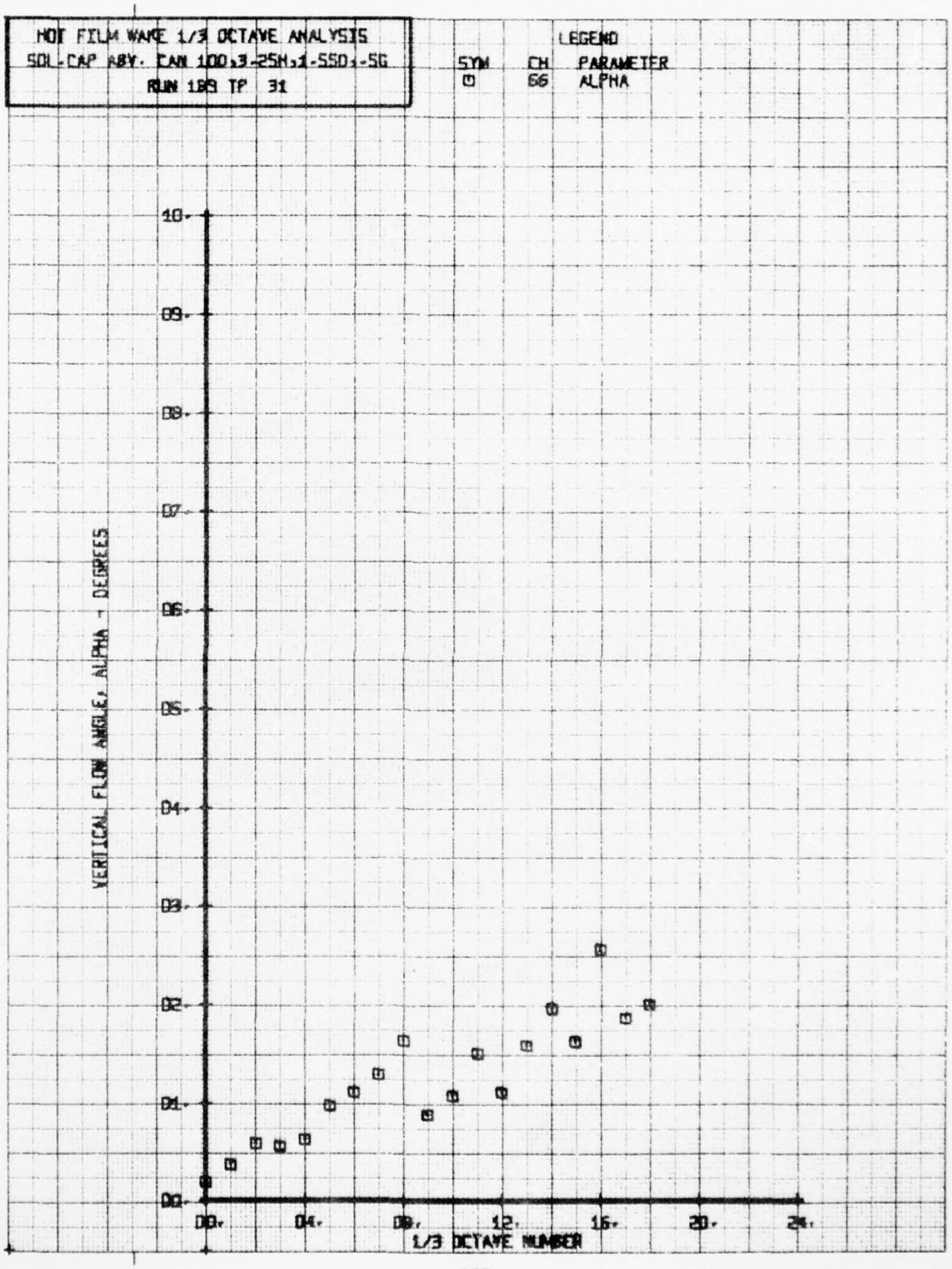

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL- CAP ABV- CAN-7-6D,2-4H,-7D,-5G
RUN 208 TP 6
LEGEND
SYM CH PARAMETER
65 V-BETA
X-Z VELOCITY COMPONENT V-BETA FPS
1/3 OCTAVE NUMBER

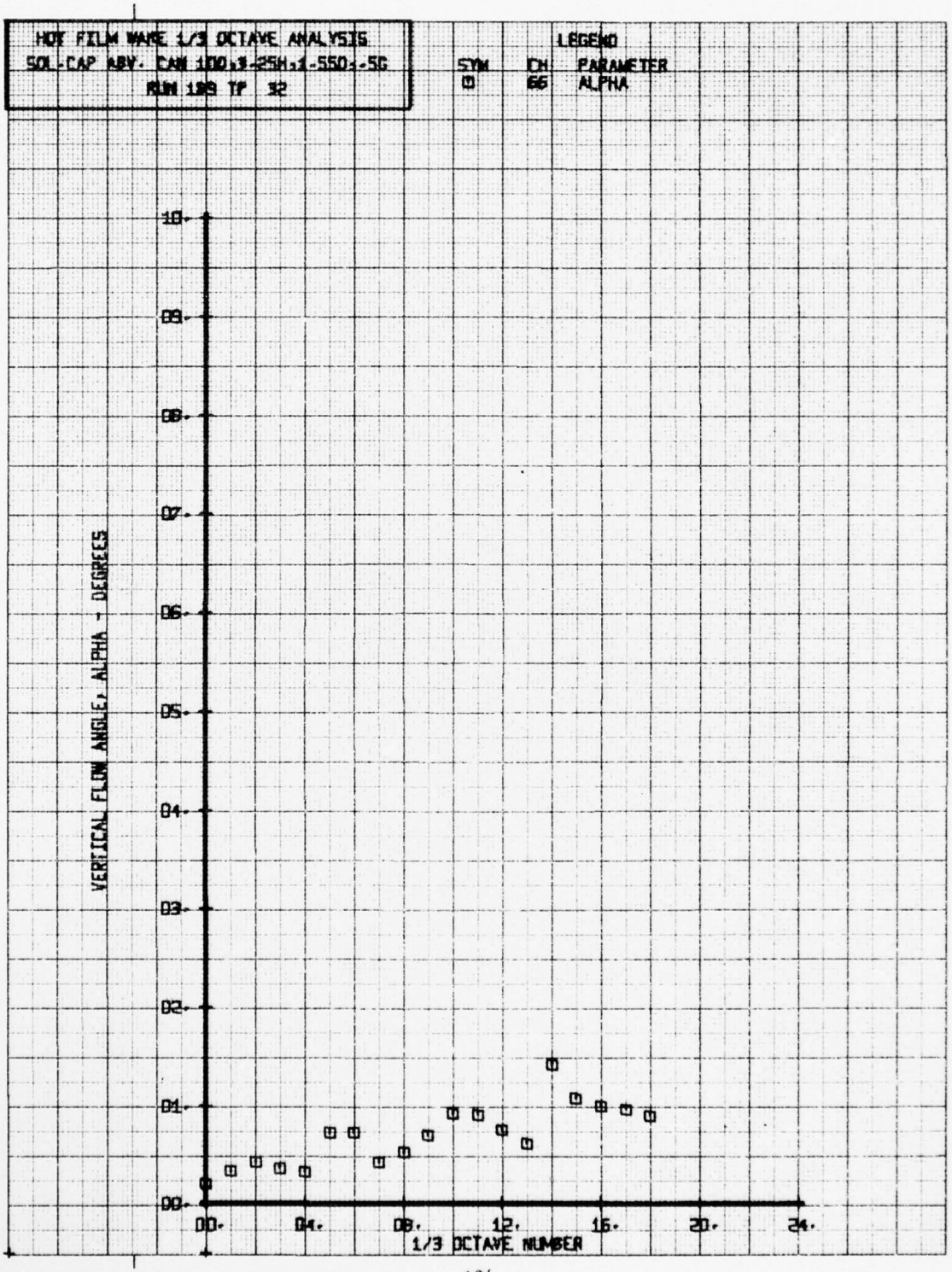

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL- CAP ABV- CAN-Z-60-2-4H--ZD--5G
RUN 208 TP 7
LEGEND
SYM CH PARAMETER
65 V-BETA
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1/3 OCTAVE NUMBER
U-Z VELOCITY COMPONENT V-BETA FPS

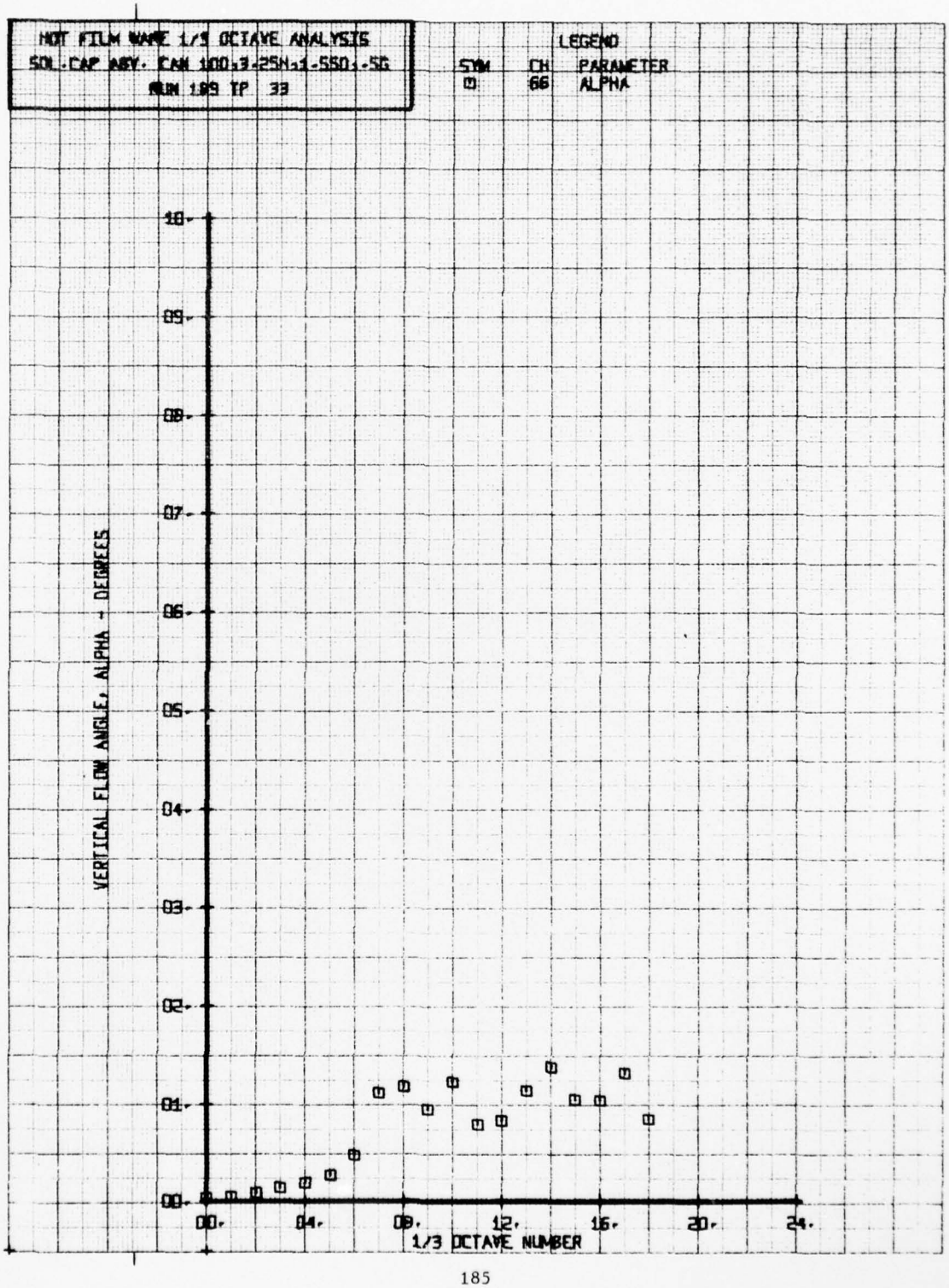

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL. CAP ABV. CAN-7-6D-2-4H-1-7D-1-5G
RUN 208 TP 8
LEGEND
SYM CH PARAMETER
65 V-BETA
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X-2 VELOCITY COMPONENT V-BETA FPS
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1/3 OCTAVE NUMBER

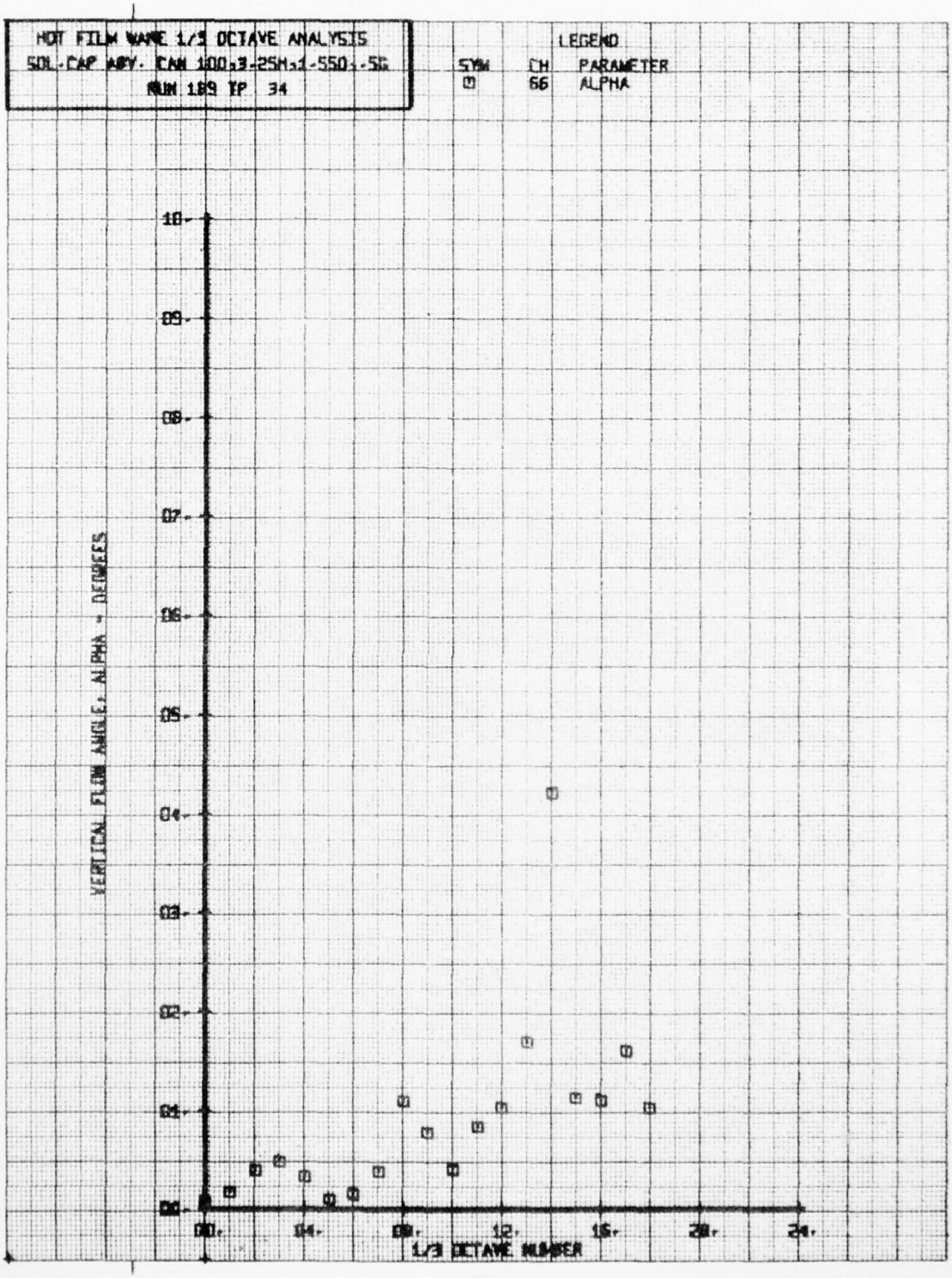

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL-CAP ABY. CAN 100,3-25H,1-550,-5G
RUN 189 TP 29
LEGEND
SYM CH PARAMETER
66 ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
1/3 OCTAVE NUMBER
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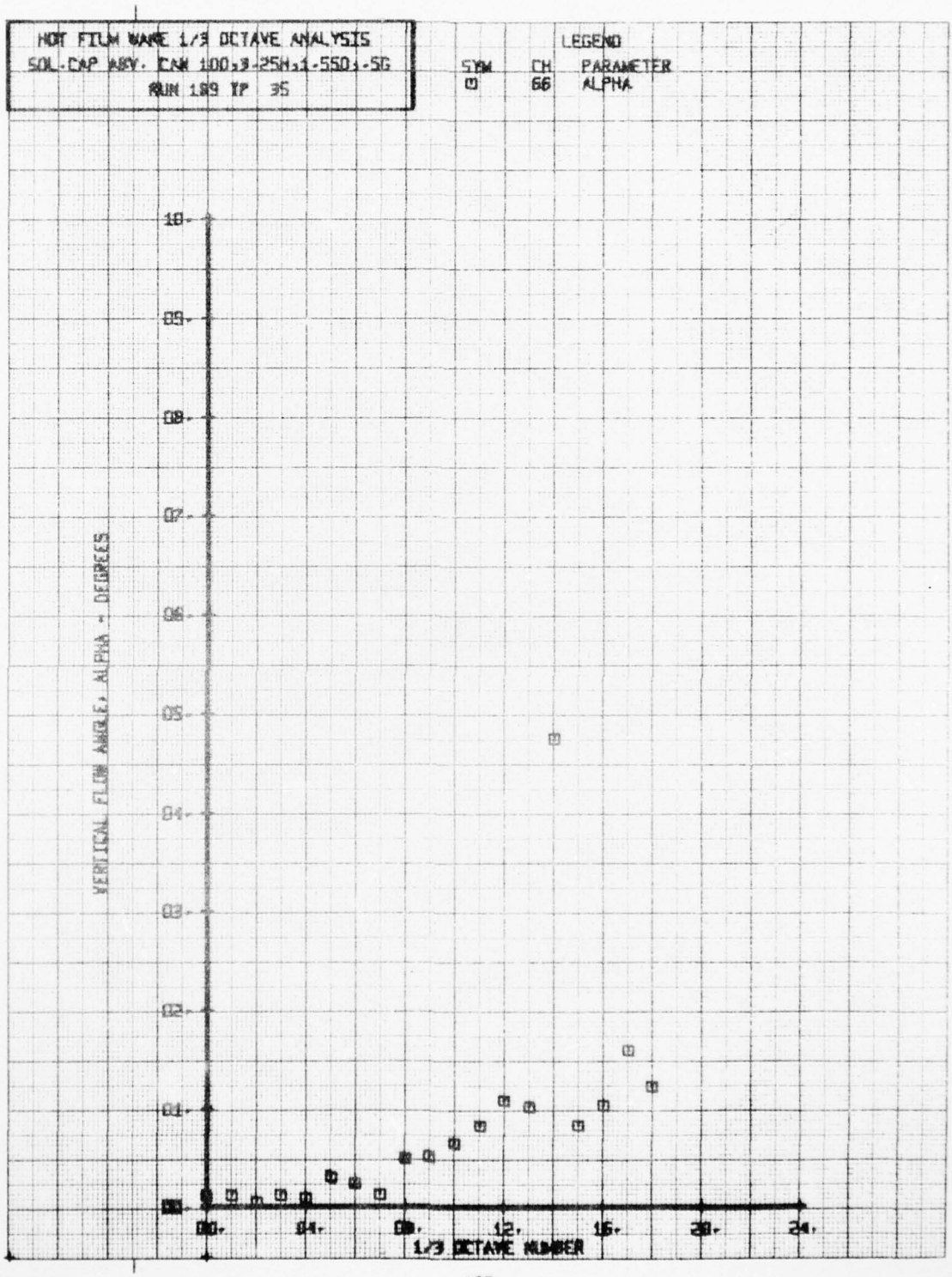

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL-CAP ABY. CAN 100,3-25H,1-550,-5G
RUN 188 TP 30
LEGEND
SYM CH PARAMETER
66 ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
1/3 OCTAVE NUMBER

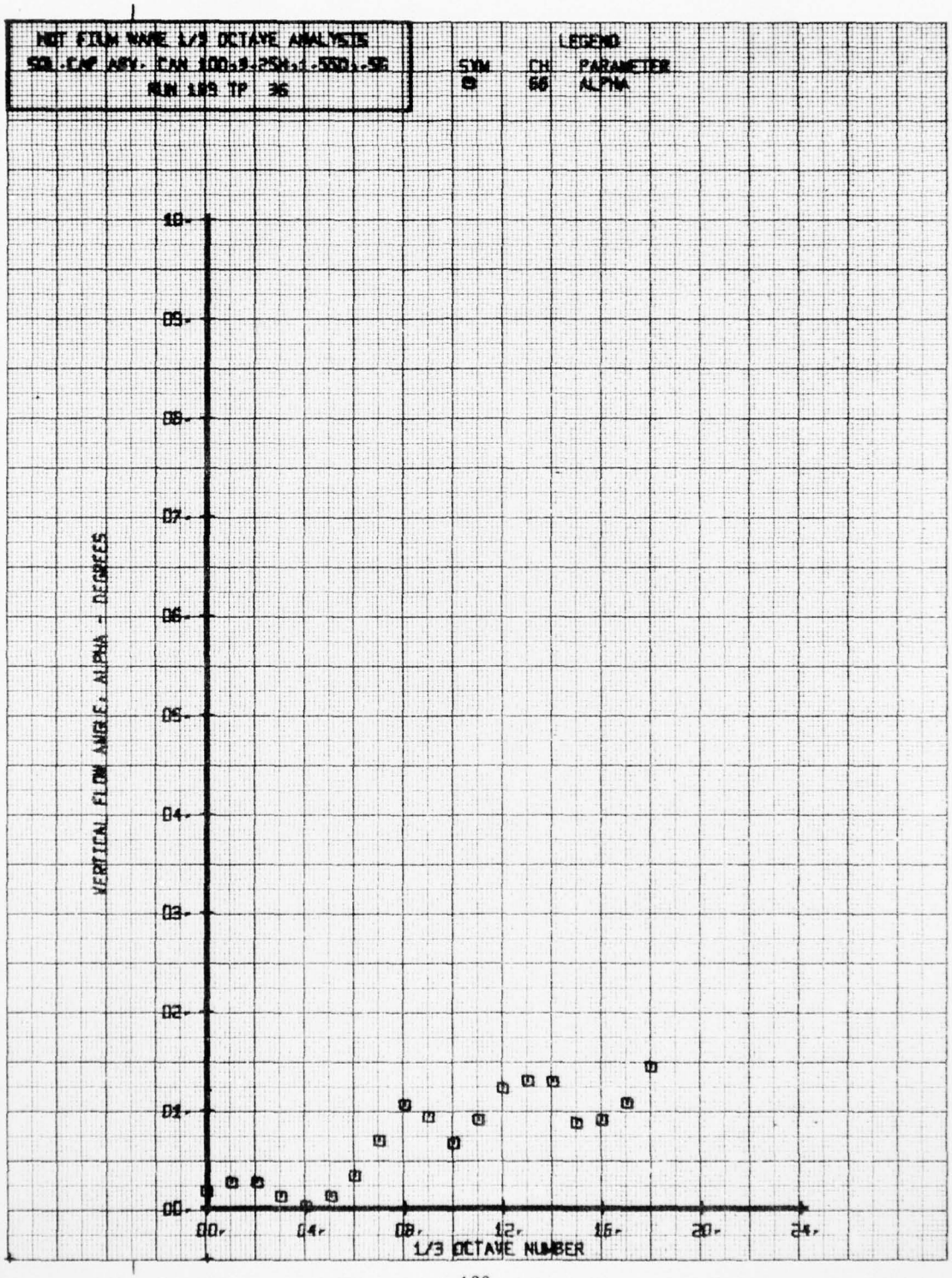

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SDL-CAP A8Y. CAN 100,3-25M,1-550,-5G
RUN 183 TP 31
LEGEND
SYM CH PARAMETER
66 ALPHA
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VERTICAL FLOW ANGLE, ALPHA - DEGREES
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24.
1/3 OCTAVE NUMBER

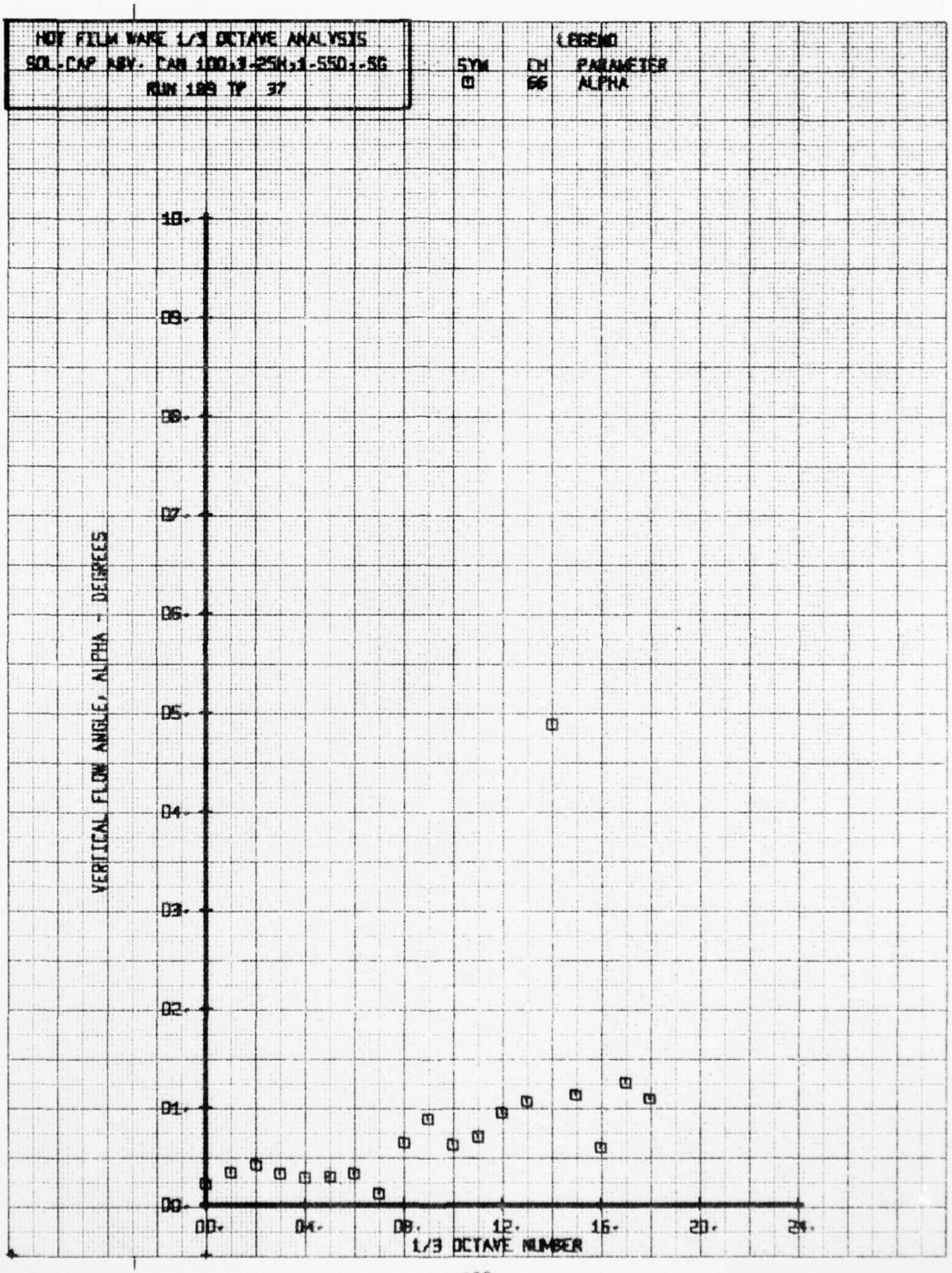

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL-CAP ABV. CAN 100,1-25H,1-550,-5G
RUN 189 TP 32
LEGEND
SYM CH PARAMETER
66 ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
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1/3 OCTAVE NUMBER

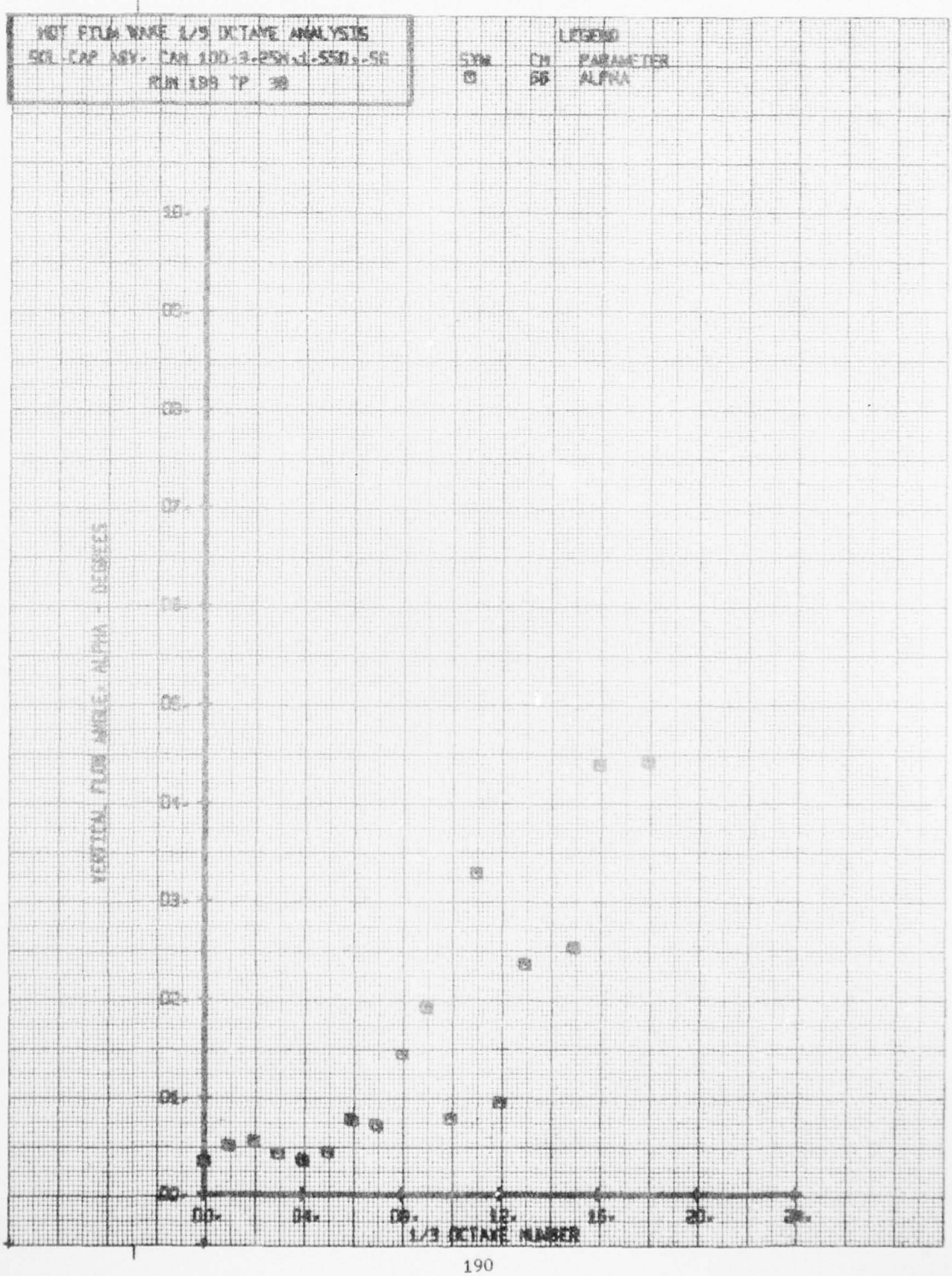

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL.CAP ASY. CAN 100,3-25N,1-550,-SG
RUN 189 TP 33
LEGEND
SYM CH PARAMETER
66 ALPHA
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VERTICAL FLOW ANGLE, ALPHA - DEGREES
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1/3 OCTAVE NUMBER

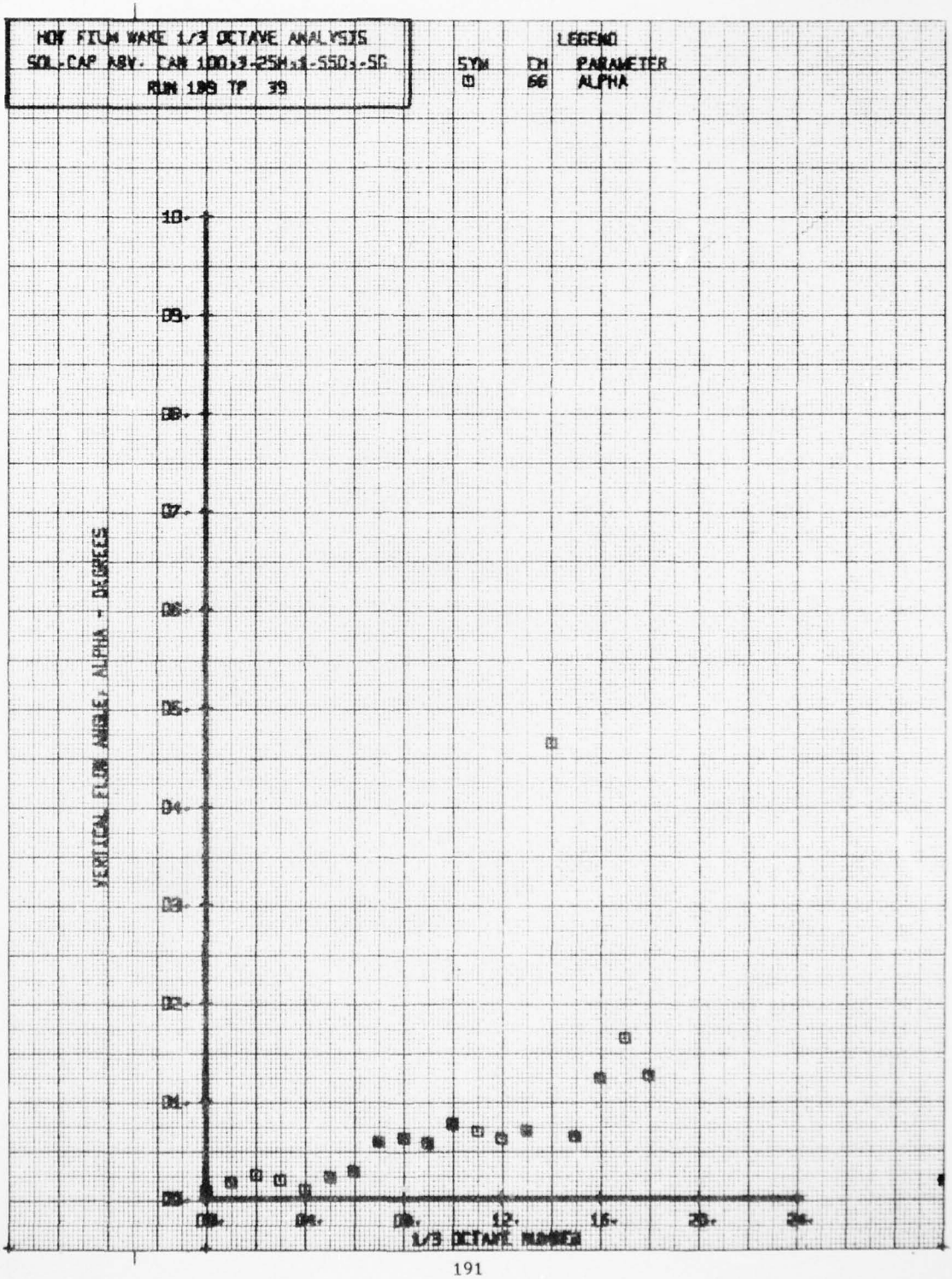

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL.-CAP ABY. CAN 100,3.25M,1-550,-56
RUN 189 TP 34
LEGEND
SYM CH PARAMETER
66 ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL-CAP ASSY. CAN 100,3-25H,1-550,-5G
RUN 189 TP 35
LEGEND
SYM CH PARAMETER
66 ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SQL-CAP ARY- CAN 100,9.25H,1.-500,-SR
RUN 185 TP 36
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
SOL-CAP ABV. CAN 100,1-25H,1-550,-5G
RUN 188 TP 37
LEGEND
SYM CH PARAMETER
66 ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
1/3 OCTAVE NUMBER
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HOT PLUM WAKE 1/3 OCTAVE ANALYSIS
SCL CAP ASY- CAN 100-3-25N-1-550-5-SG
RUN 199 TP 38
LEGEND
SYM CM PARAMETER
ALPHA
VERTICAL PLUM ANGLE- ALPHA - DEGREES
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1/3 OCTAVE NUMBER

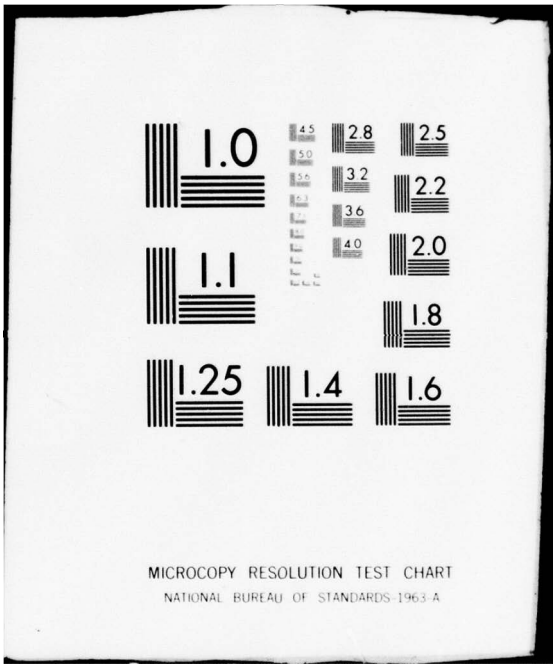

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL-CAP ABV. CAN 100,3.25M,1-550,-SC
RUN 189 TP 39
LEGEND
SYM CH PARAMETER
66 ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
1/3 OCTAVE NUMBER

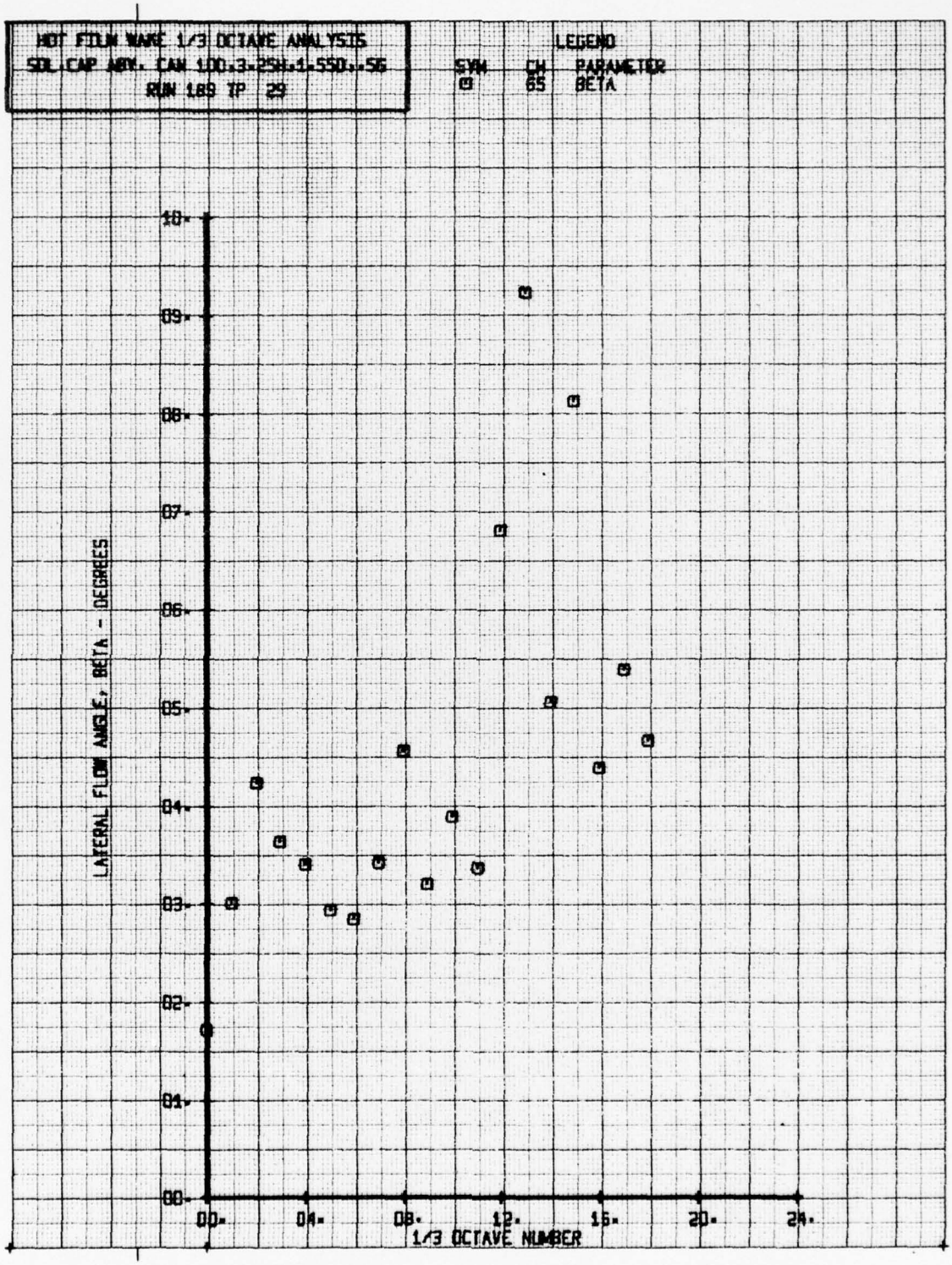
AD-A063 801 BOEING VERTOL CO PHILADELPHIA PA F/G 20/4
INTERACTIONAL AERODYNAMICS OF THE SINGLE ROTOR HELICOPTER CONFI--ETC(U)
SEP 78 P F SHERIDAN DAAJ02-77-C-0020
UNCLASSIFIED USARTL-TR-78-23D NL

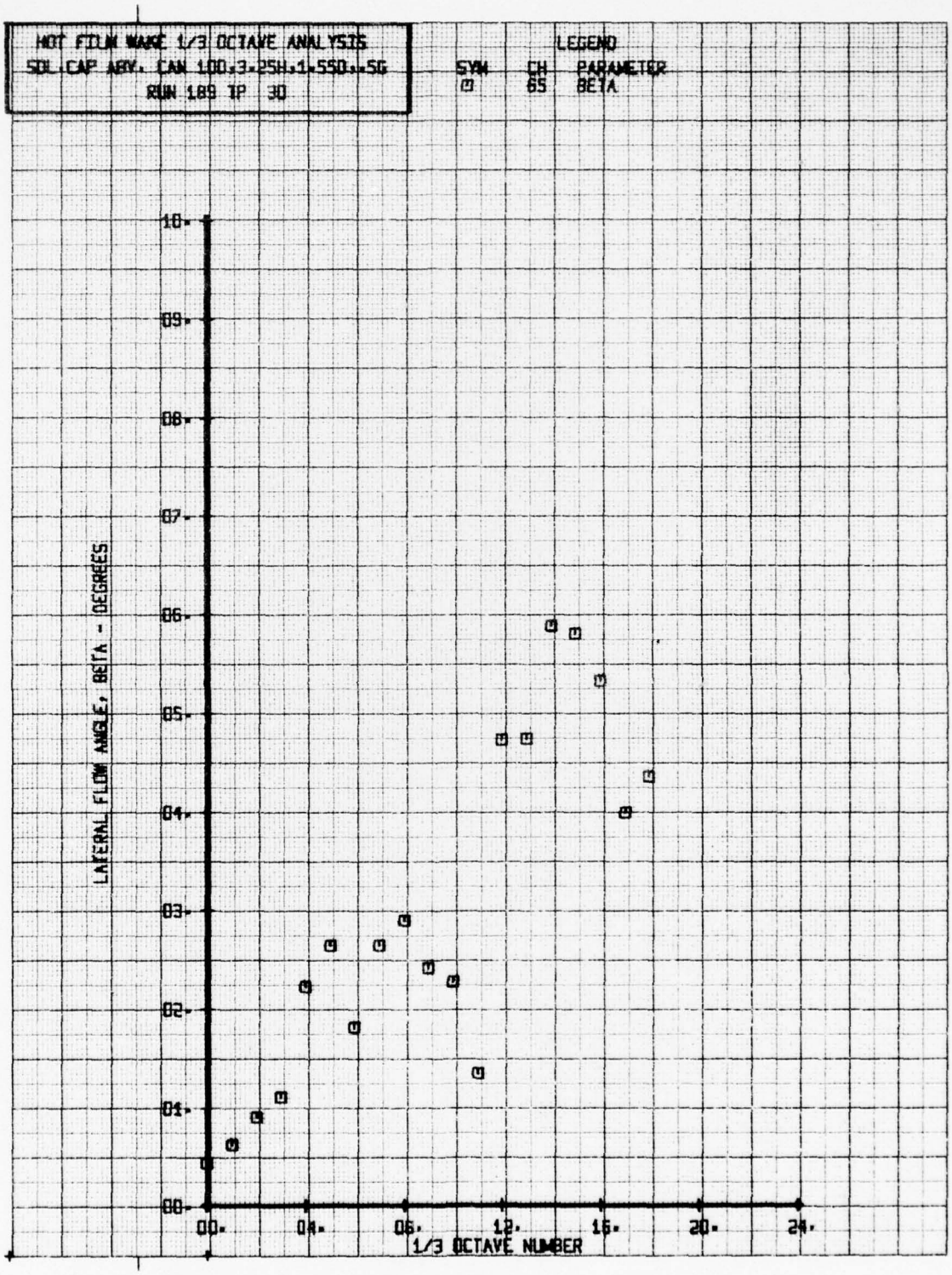
3 OF 3
AD A063 801

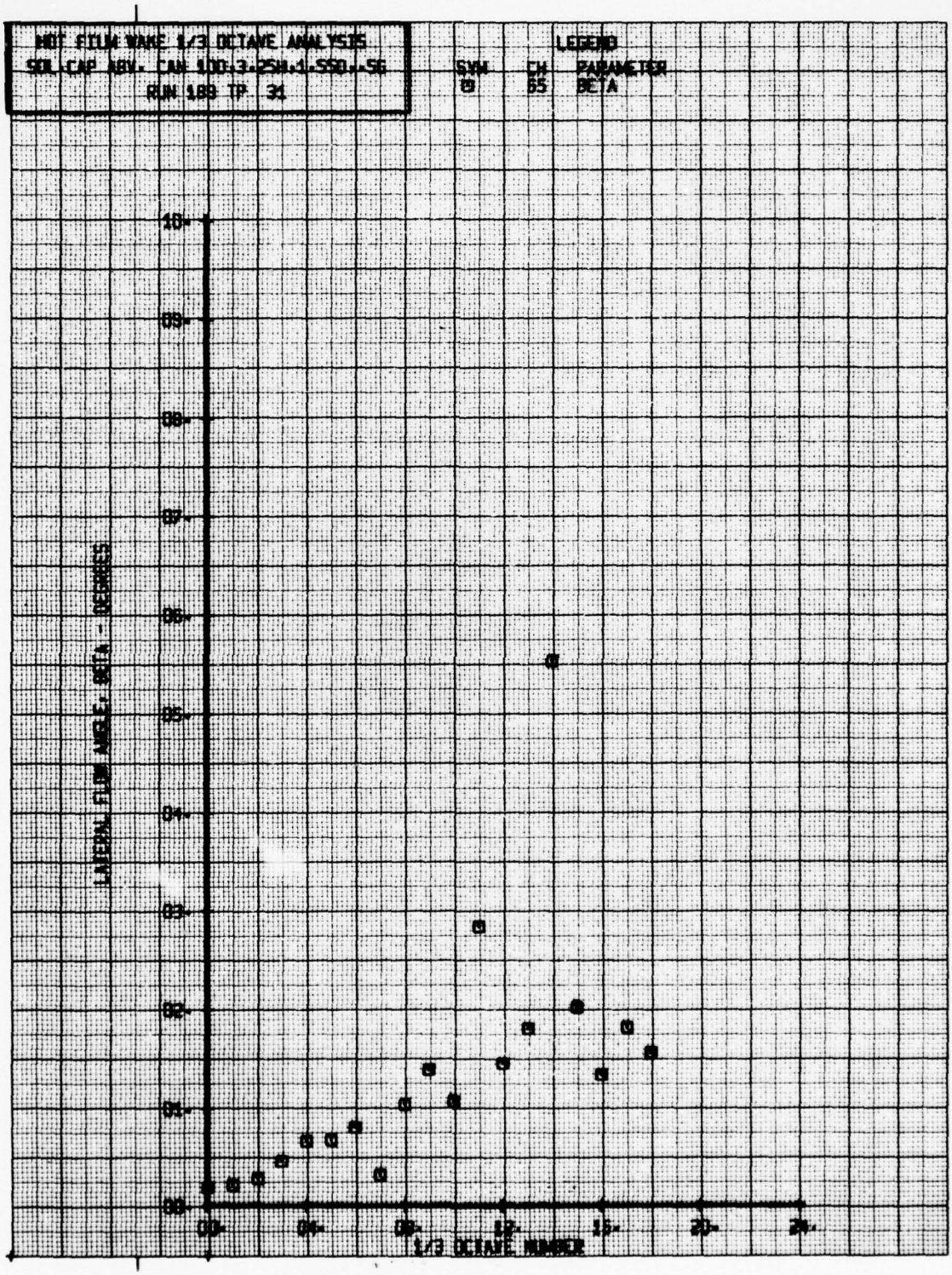


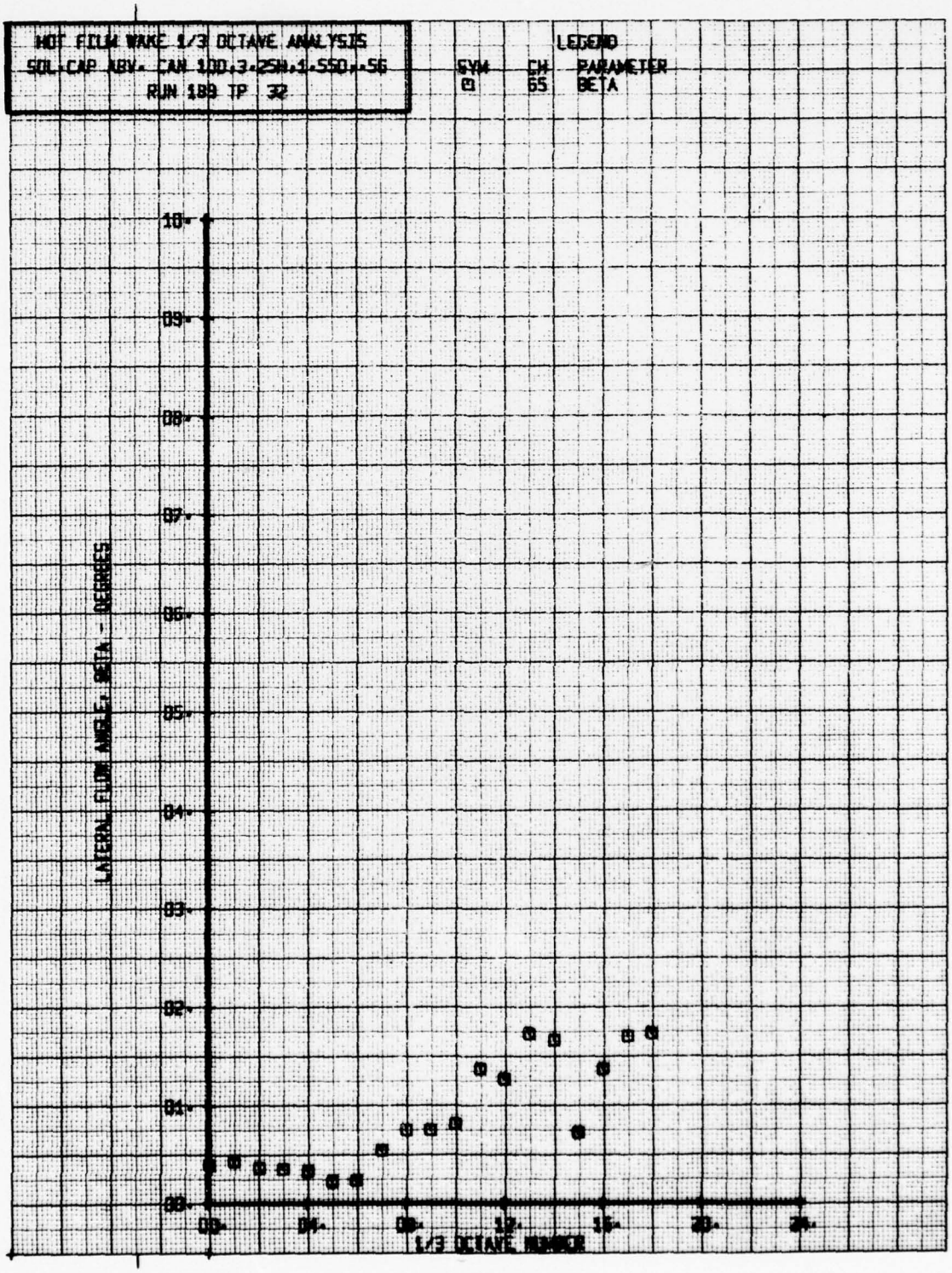
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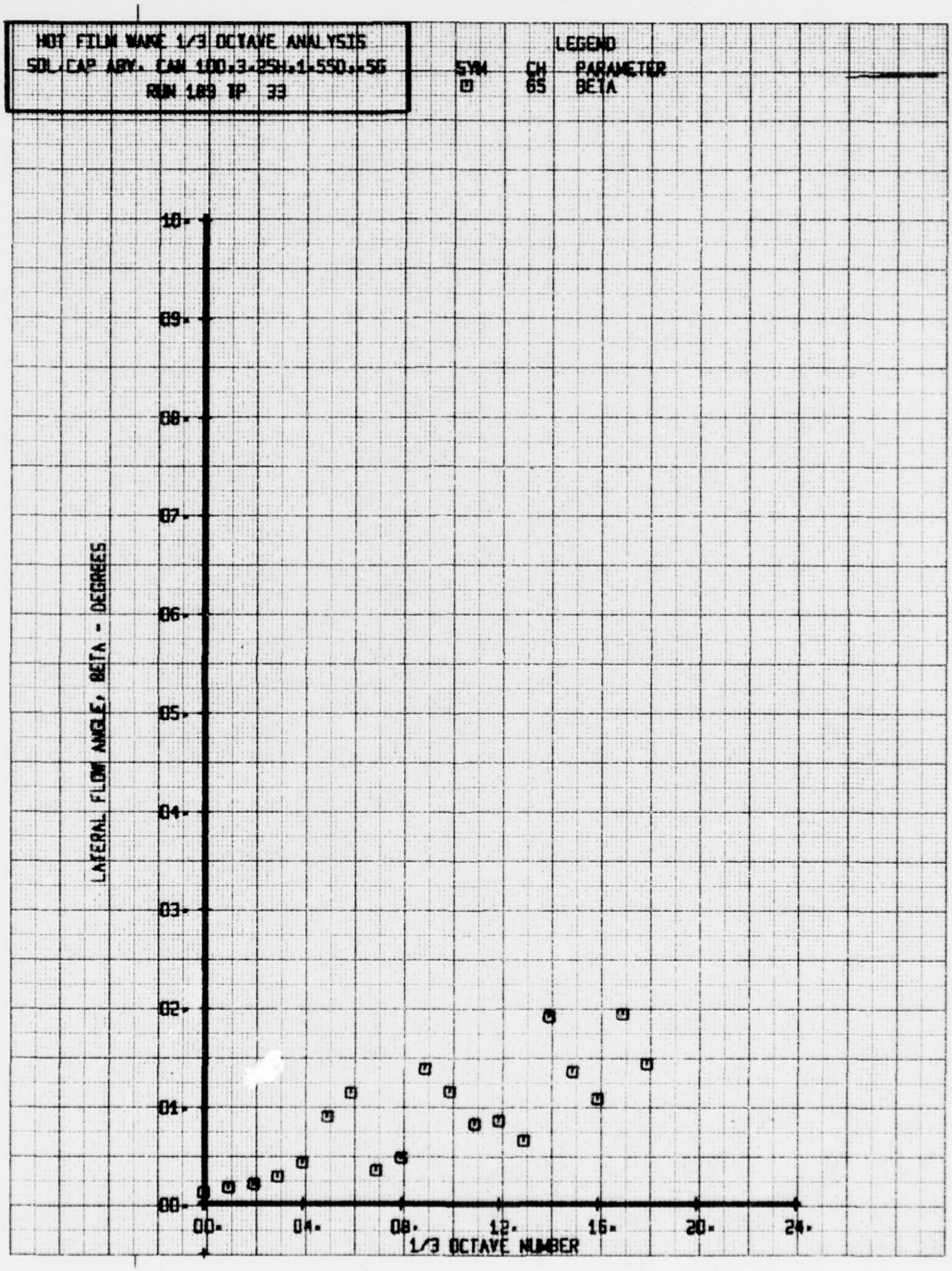

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5.6
MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

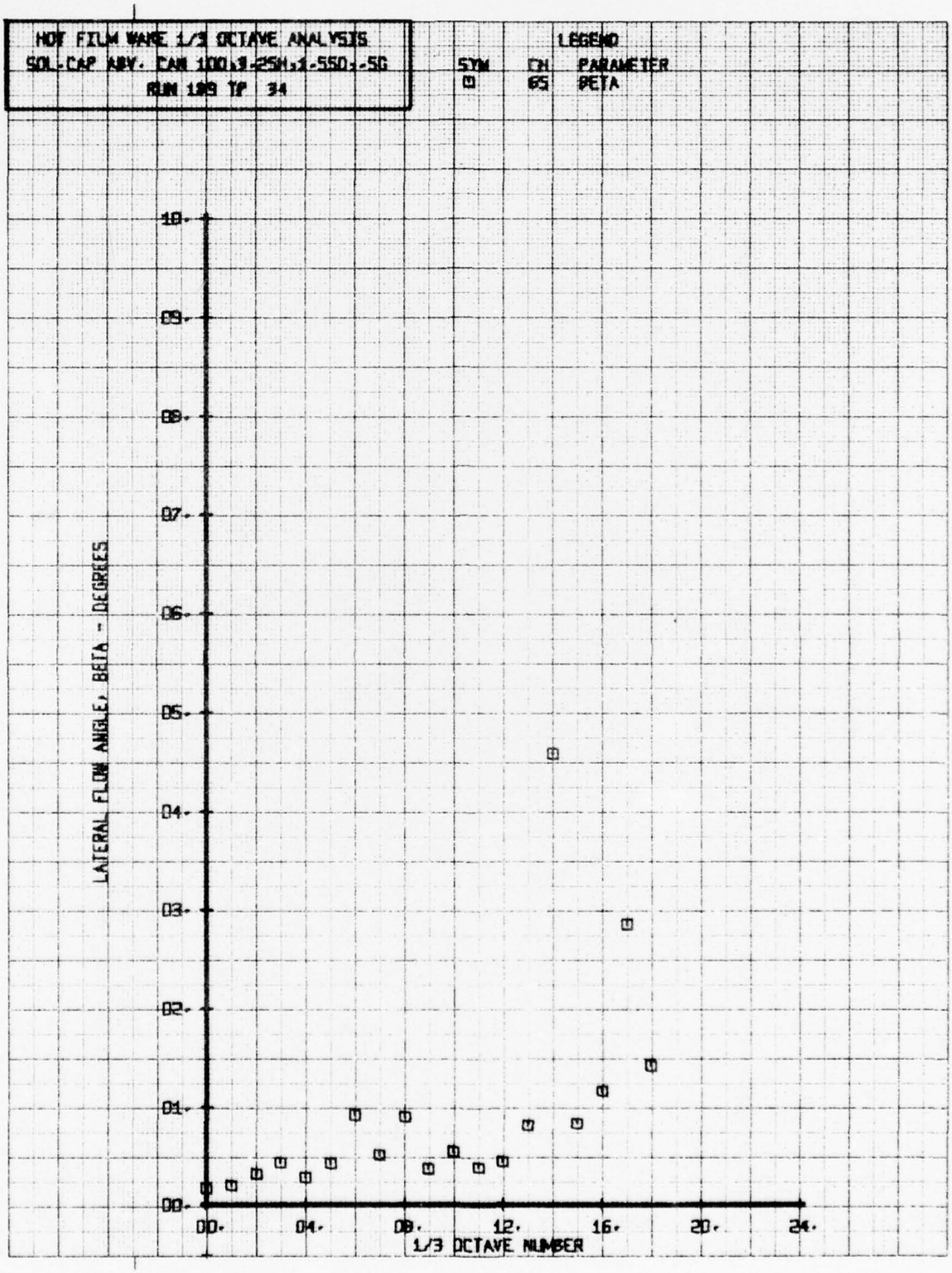

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SDL,CAP ARM, CAN 100,3.25H,1.55D,.56
RUN 189 TP 29
LEGEND
SYM CH PARAMETER
65 BETA
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1/3 OCTAVE NUMBER

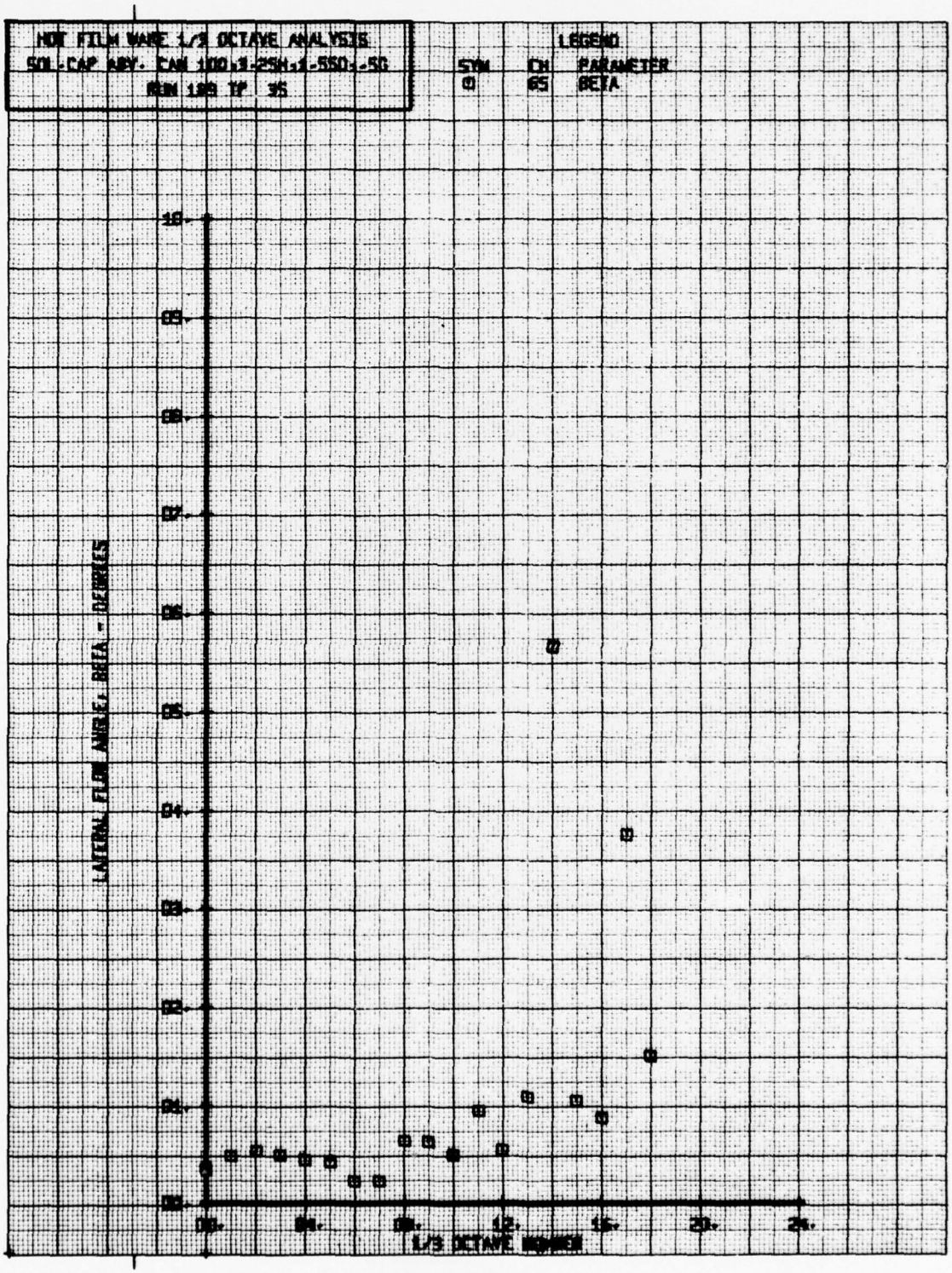

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SDL CAP ARY. CAN 100.3.25H.1.550.-5G
RUN 189 TP 30
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
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1/3 OCTAVE NUMBER

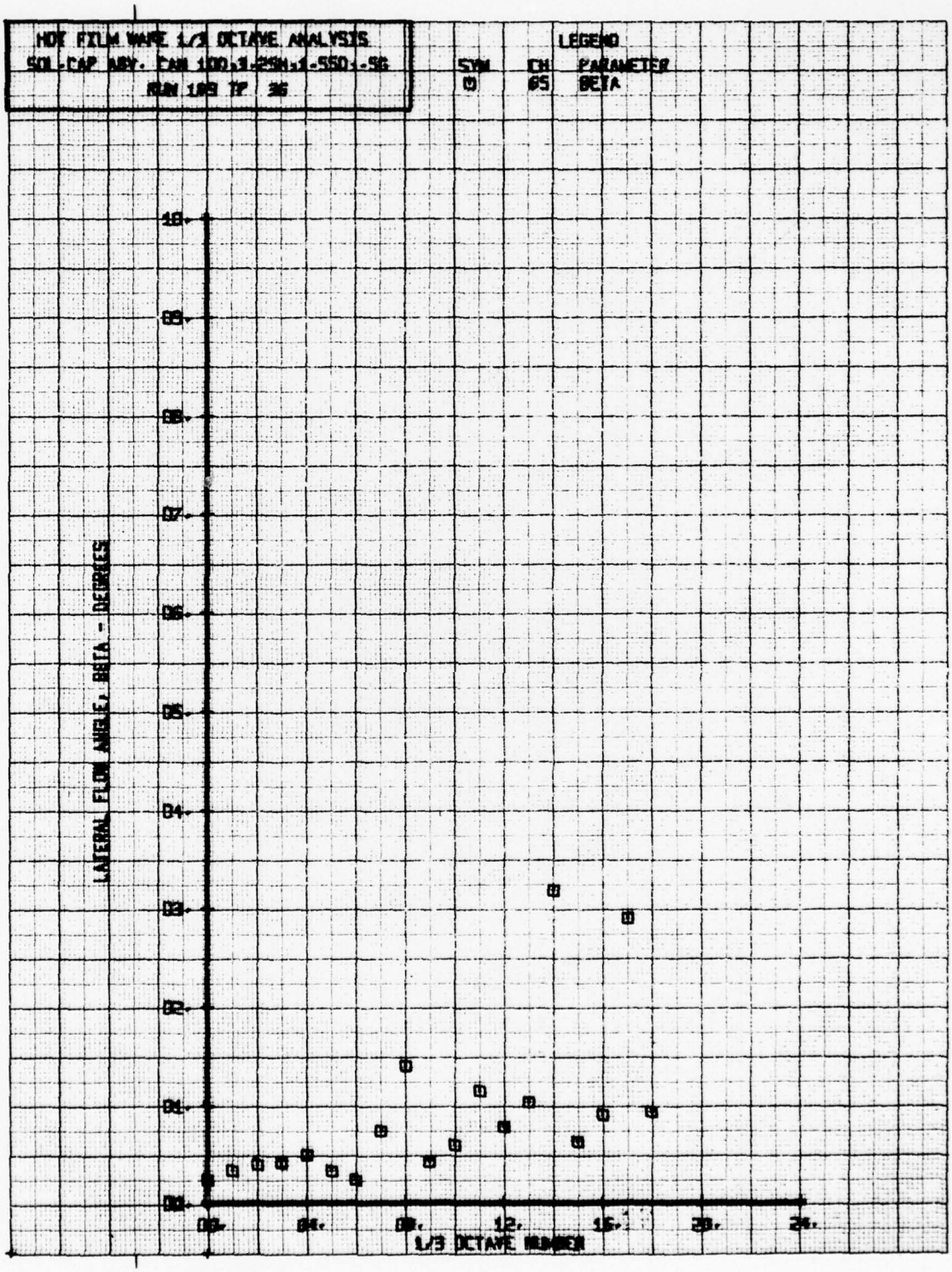

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL CAP ABV. CAN 100-3.25H-1.550--56
RUN 188 TP 31
LEGEND
SYM CH PARAMETER
55 BETA
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24
1/3 OCTAVE NUMBER

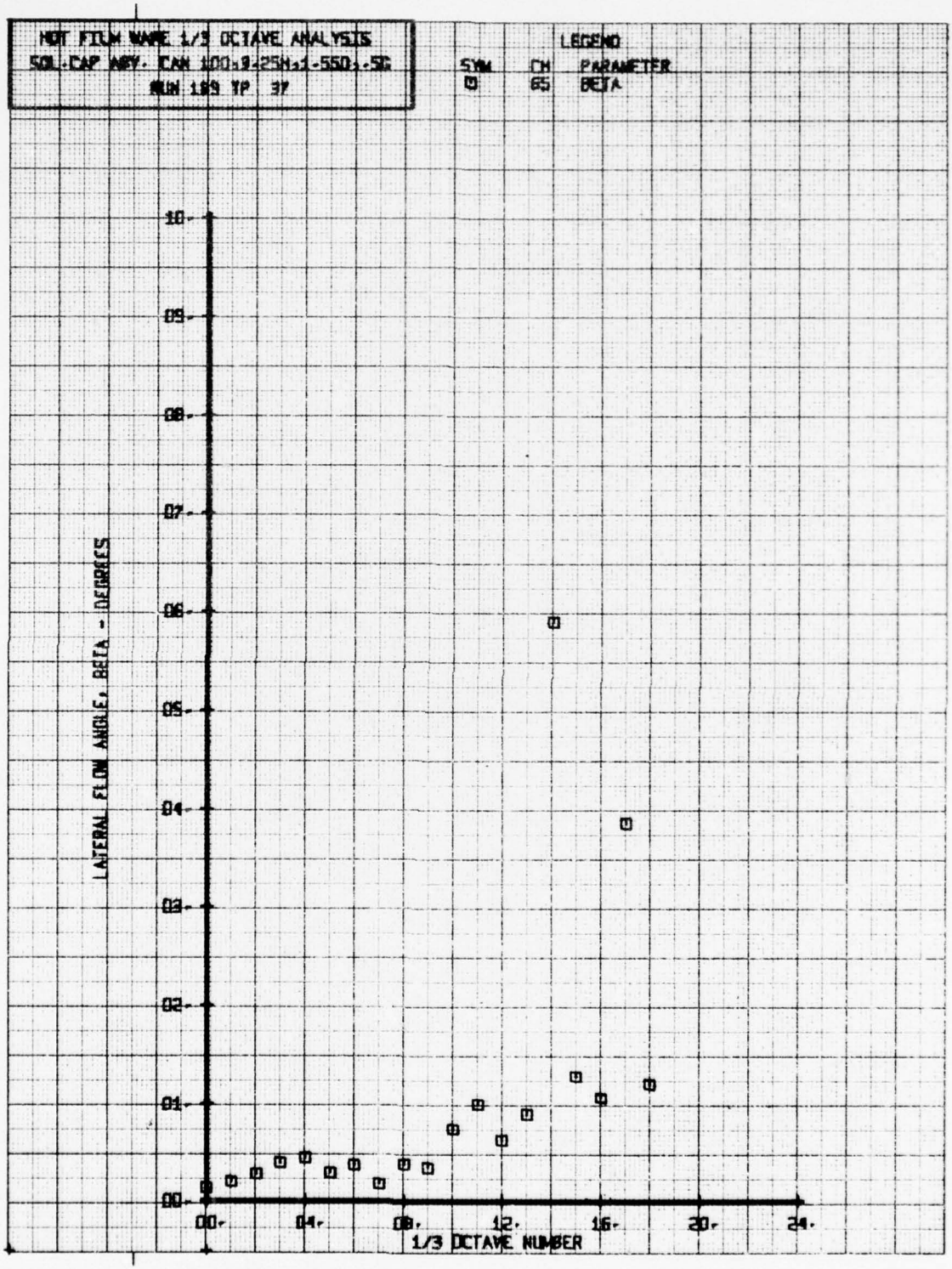

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SQL.CAP ABV. CAN 100.3.25W.1.550.+.56
RUN 189 TP 32
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
1/3 OCTAVE NUMBER

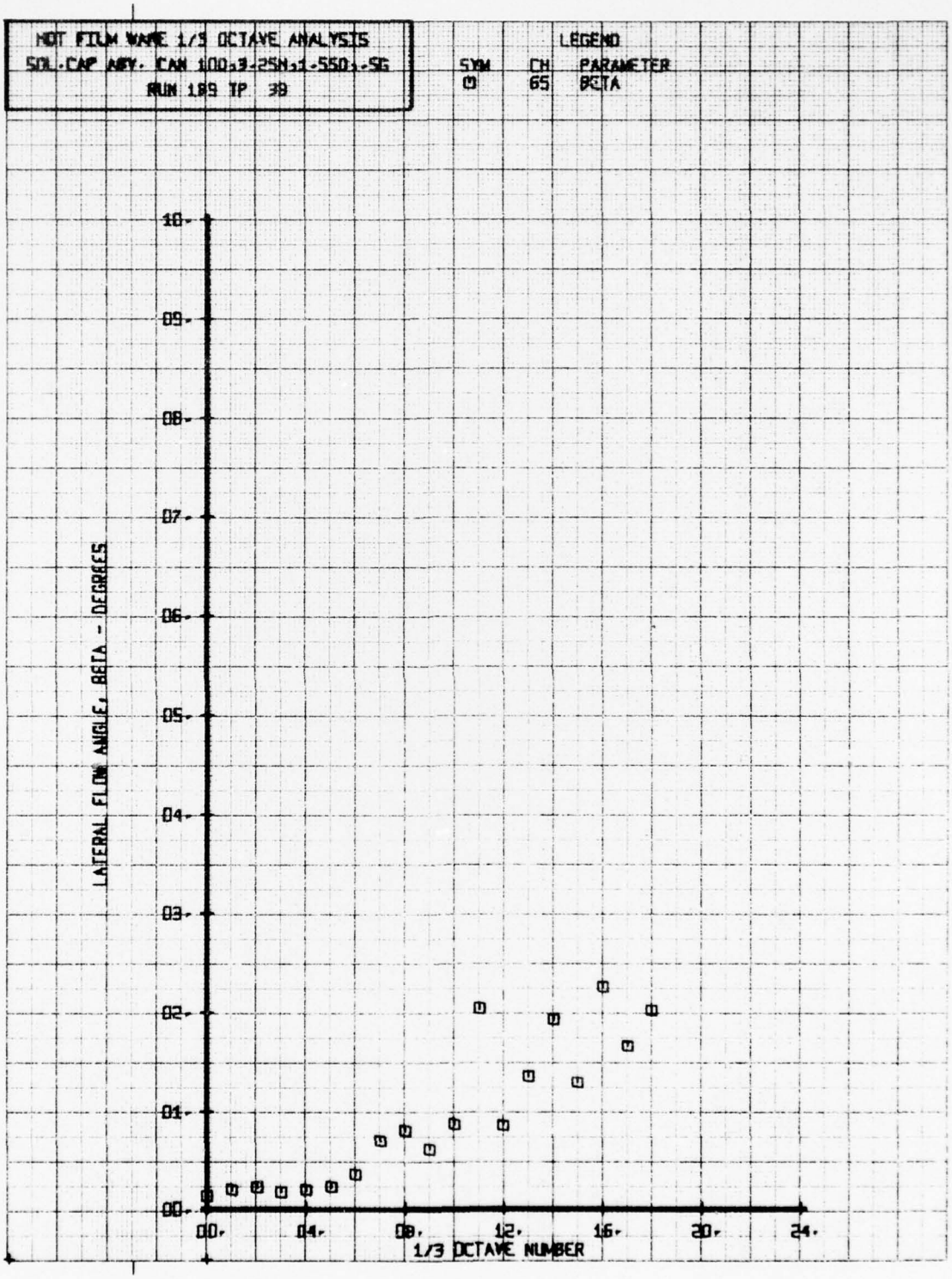

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SDL/CAP ABV. CAN 100.3-25H.1-550.-5G
RUN 189 RP 33
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
1/3 OCTAVE NUMBER
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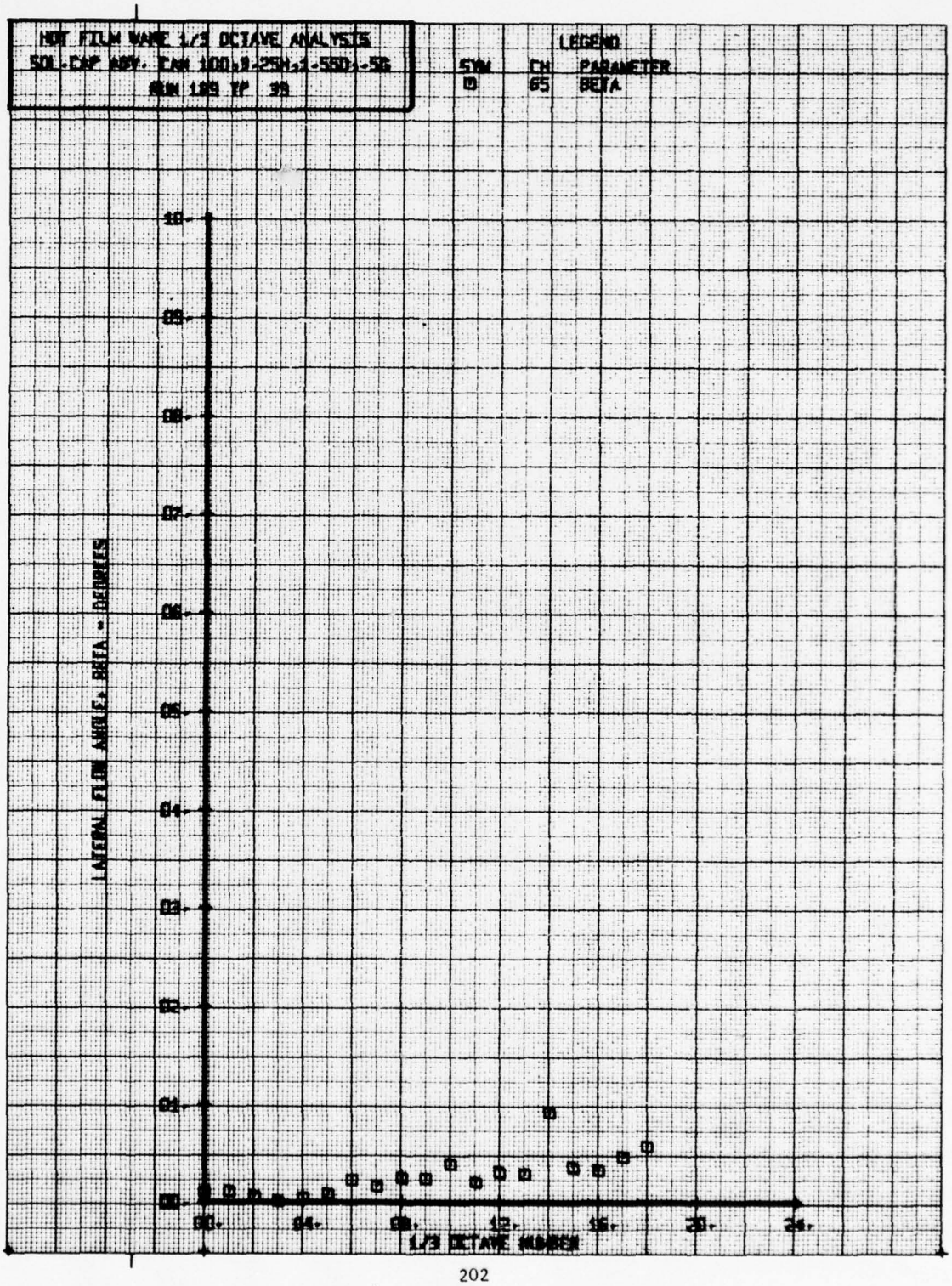

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL-CAP ABV. CAN 100,3.25M,1-550,-5G
RUN 189 TP 34
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
1/3 OCTAVE NUMBER
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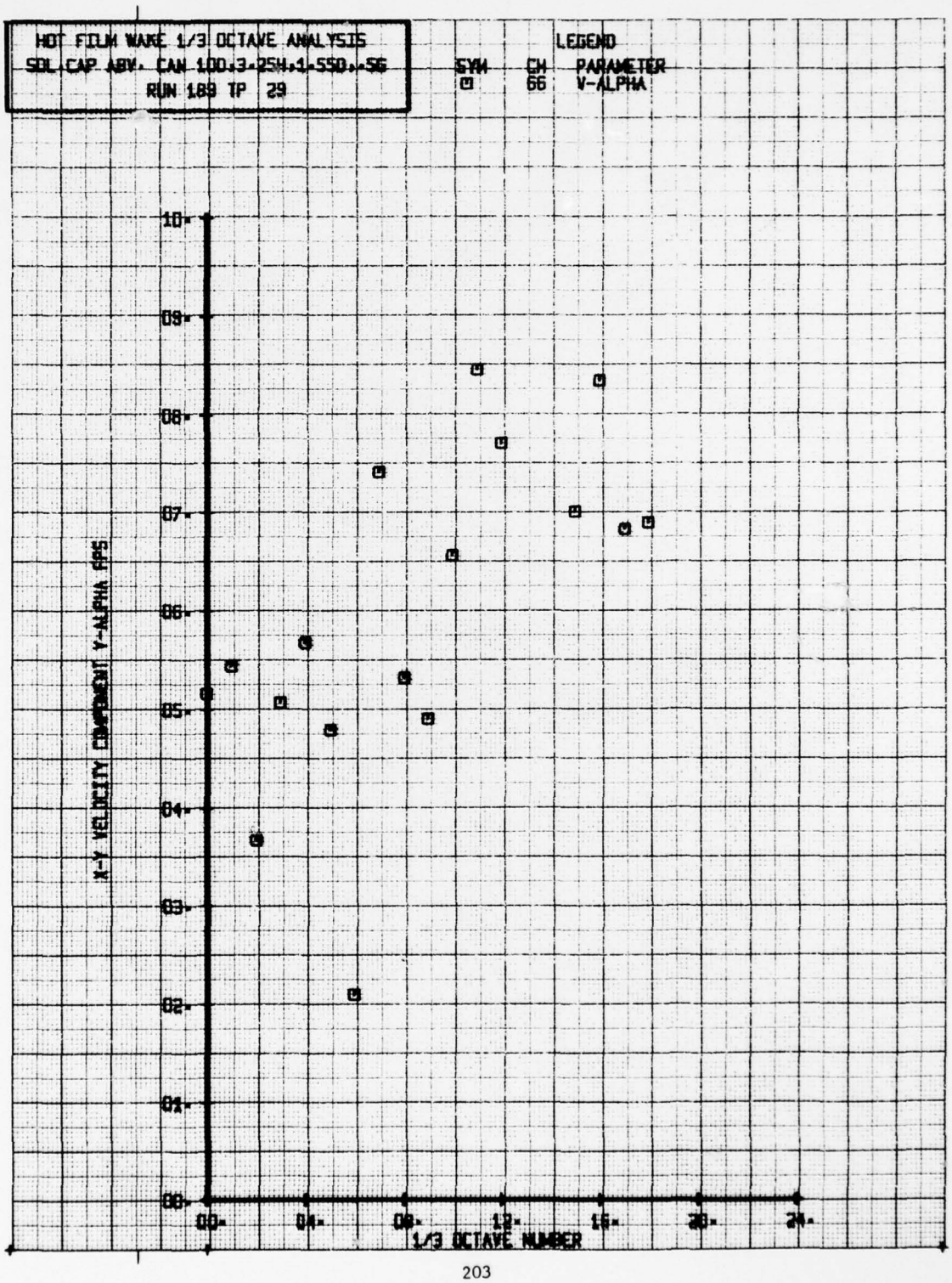

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL-CAP ABV. CAN 100;1.25H;1-550;-50
RUN 199 TP 95
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
1/3 OCTAVE NUMBER
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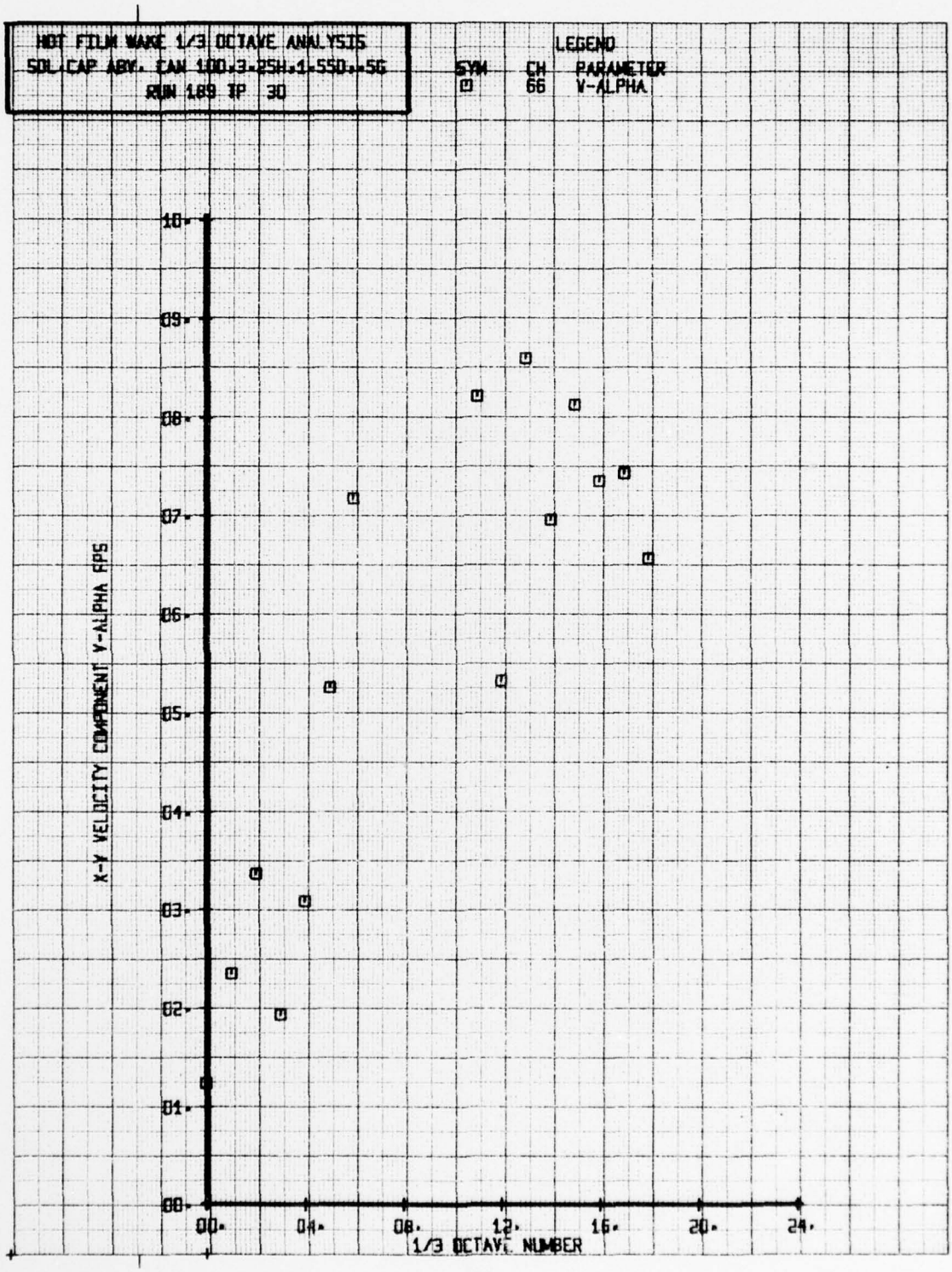

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL-CAP ABV. CAM 100,1-25M,1-55D,1-96
RUN 189 TP 36
LEGEND
SYM CH PARAMETER
0 05 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
1/3 OCTAVE NUMBER

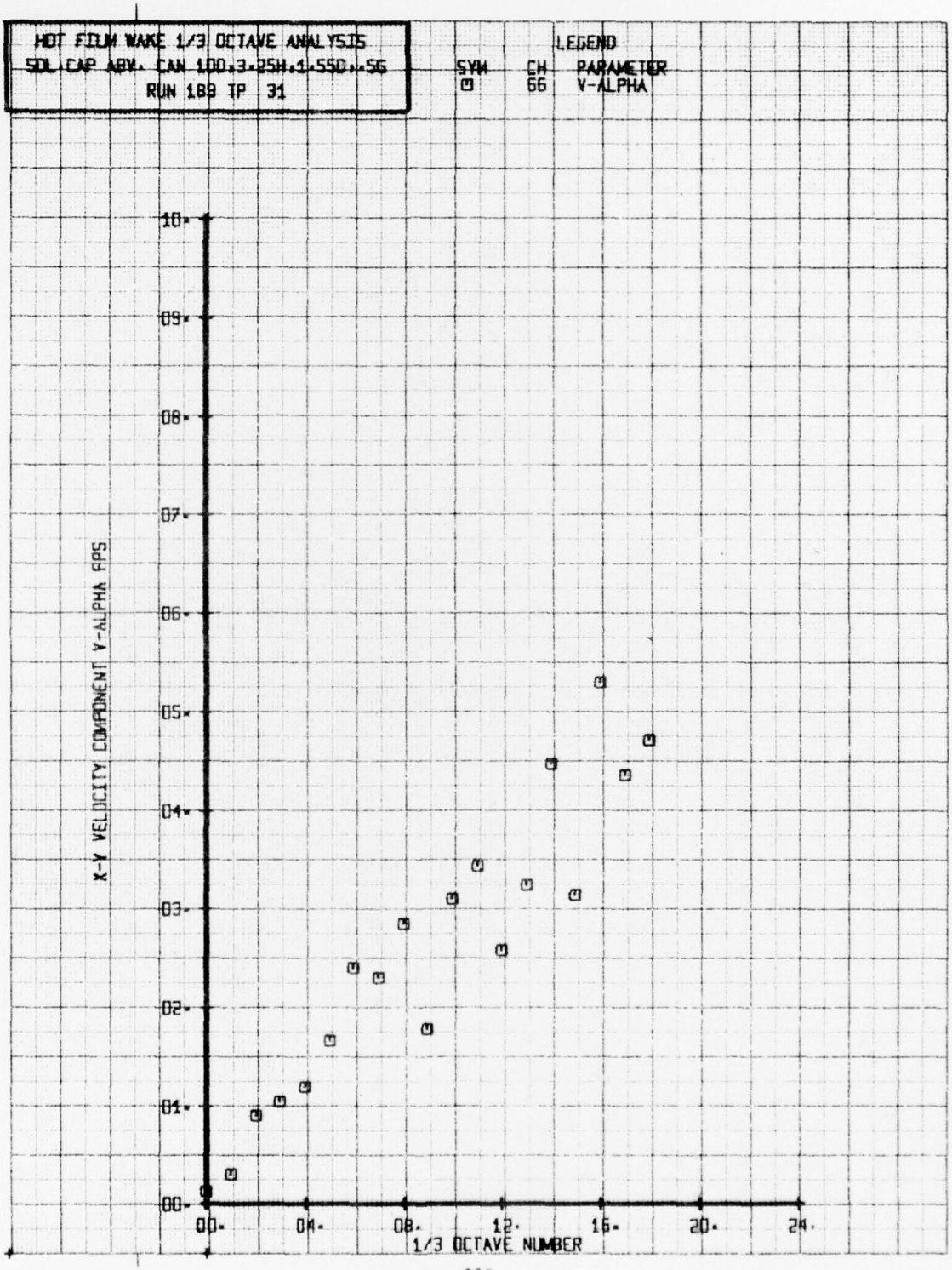

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL-CAP ARY. CAN 100;9.25H;1-550;-5D
RUN 189 TP 37
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
1/3 OCTAVE NUMBER
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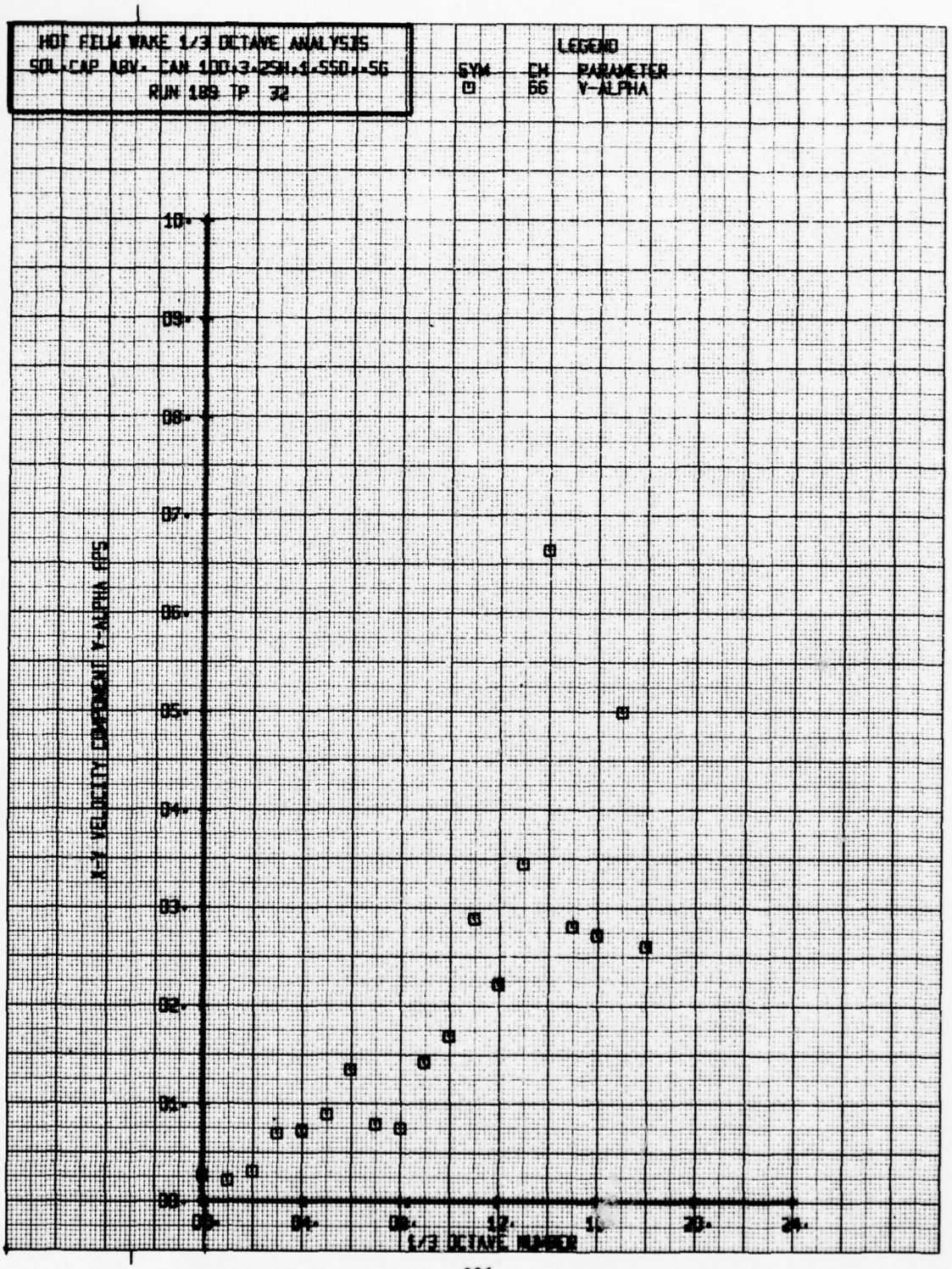

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL.-CAP ABY. CAN 100,3-25N,1-55D,-SG
RUN 189 TP 38
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
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24.
1/3 OCTAVE NUMBER

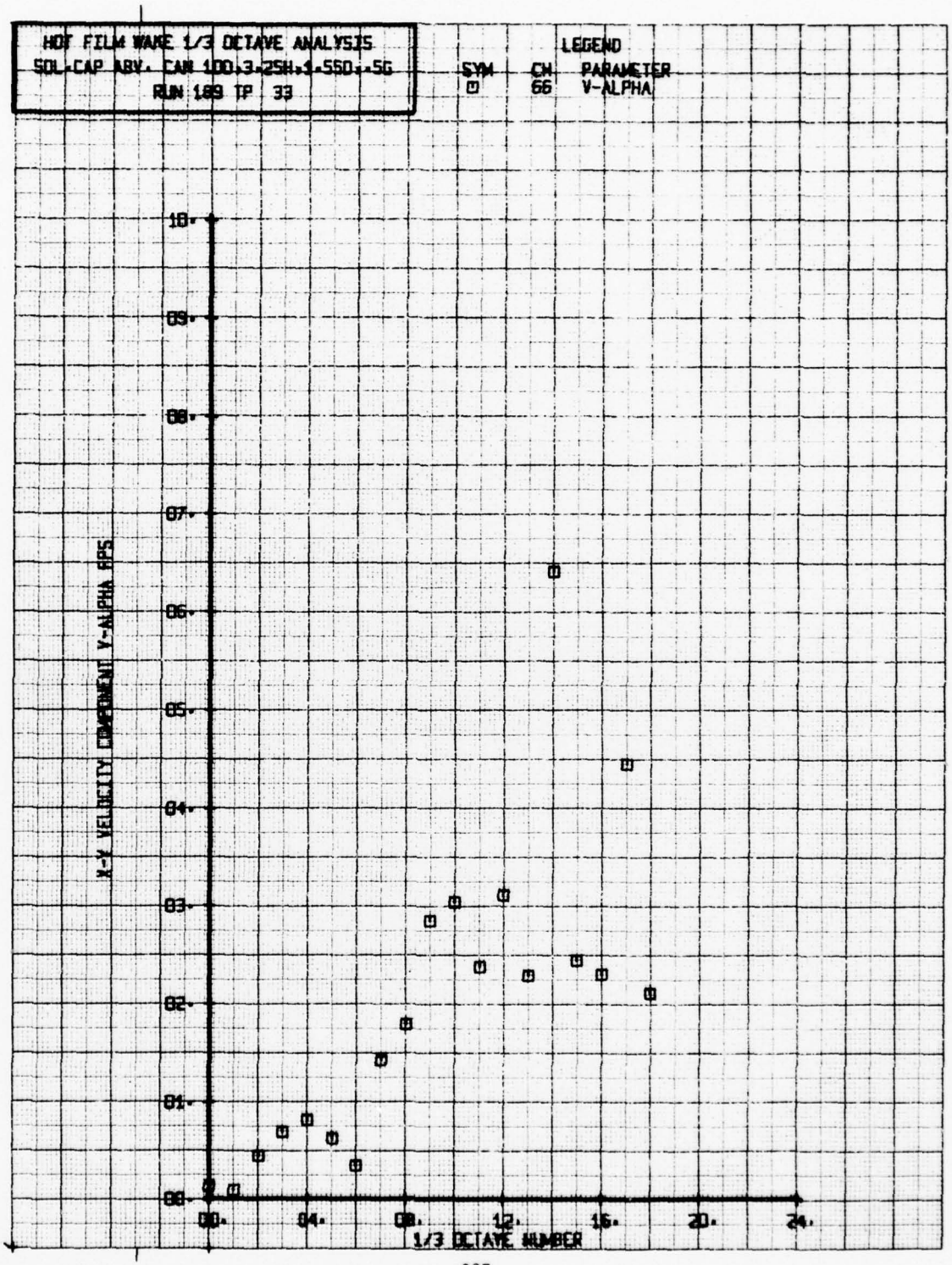

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL-CAP ASY. RUN 100,9:25Hz,1-55D,1-56
RUN 189 YP 39
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
1/3 OCTAVE NUMBER

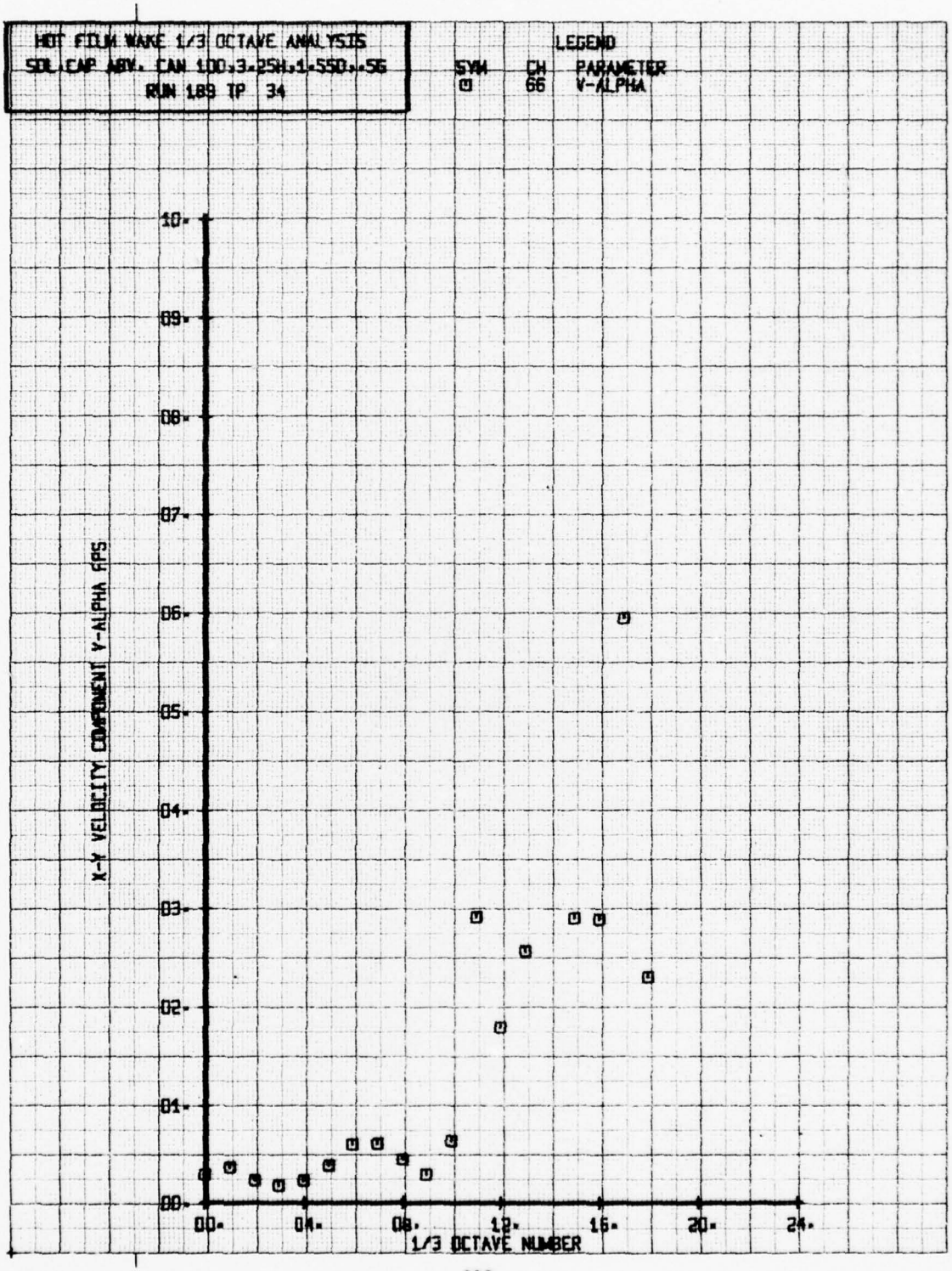

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SDL CAP ABV. CAN 100.3.25H.1.55D..56
RUN 189 TP 29
LEGEND
SYM CH PARAMETER
66 V-ALPHA
10.
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X-Y VELOCITY COMPONENT V-ALPHA RPS
00. 04. 08. 12. 16. 20. 24.
1/3 OCTAVE NUMBER

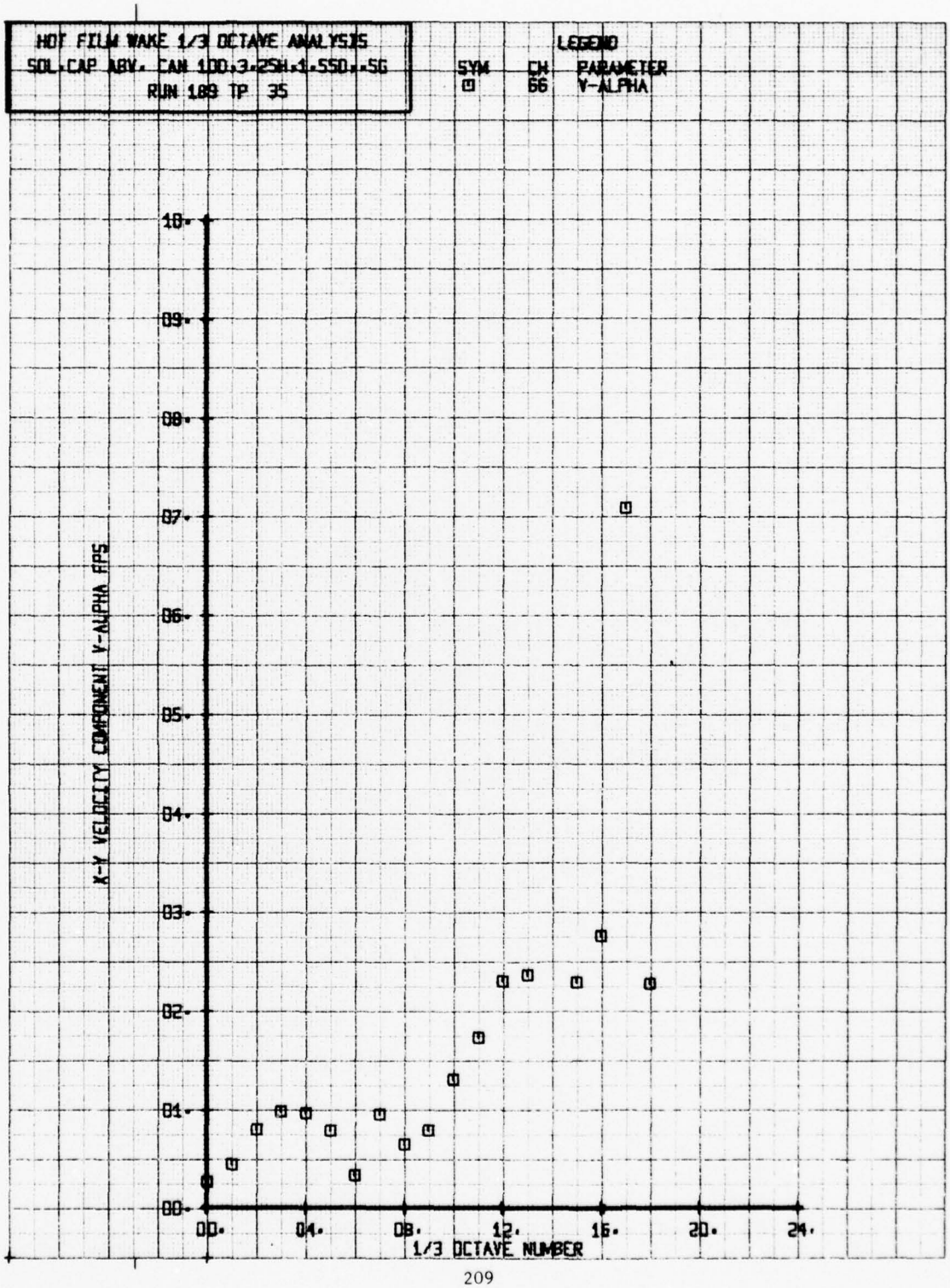

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SDL,CAP ABV. FAN 100.3.25H.1.550..5G
RUN 189 TP 30
LEGEND
SYM CH PARAMETER
66 V-ALPHA
X-Y VELOCITY COMPONENT V-ALPHA FPS
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1/3 OCTAVE NUMBER

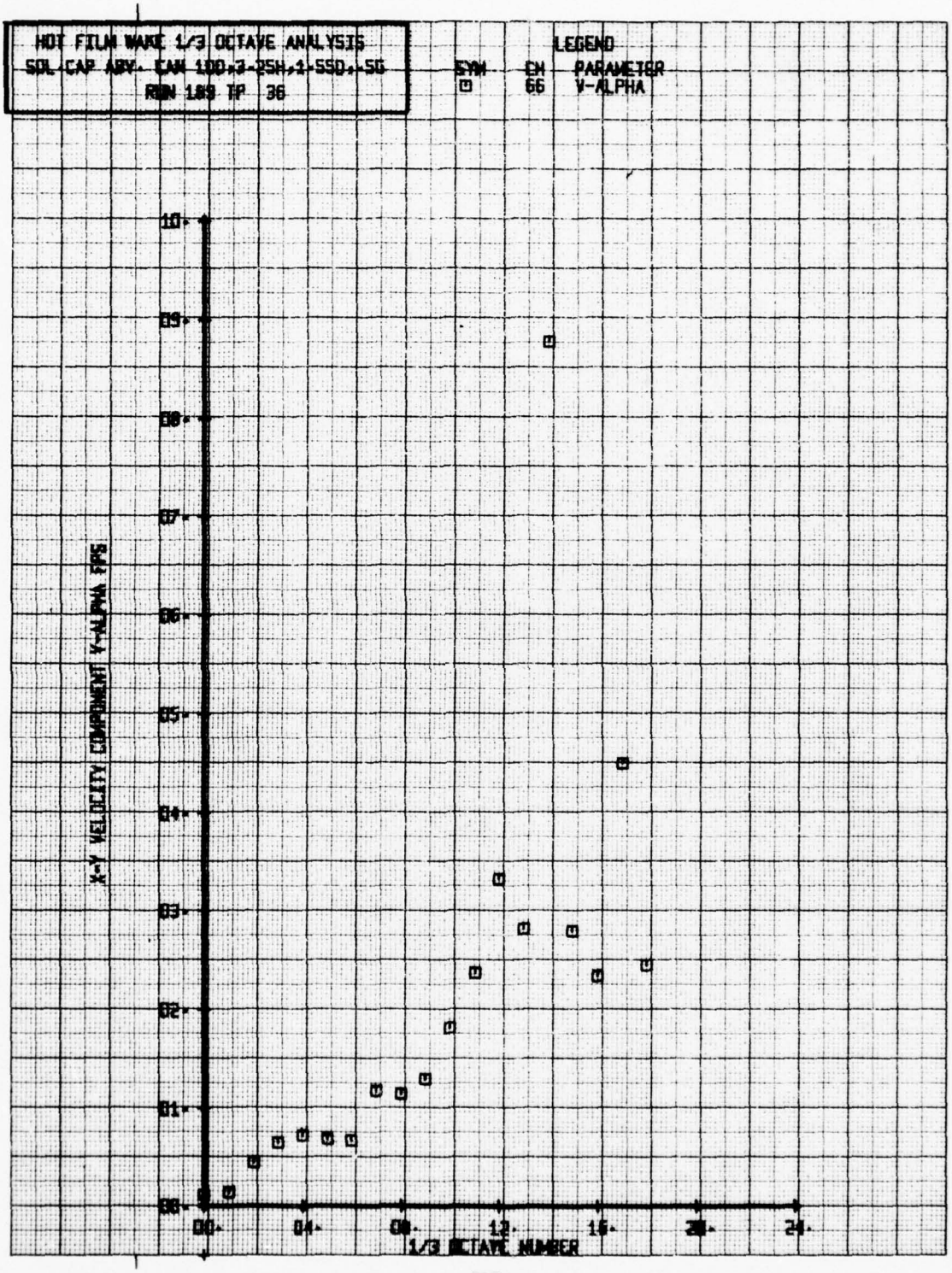

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SDL CAP ABV. CAN 100.3.25H.1.55D..56
RUN 189 IP 31
LEGEND
SYM CH PARAMETER
66 V-ALPHA
X-Y VELOCITY COMPONENT V-ALPHA APS
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1/3 OCTAVE NUMBER

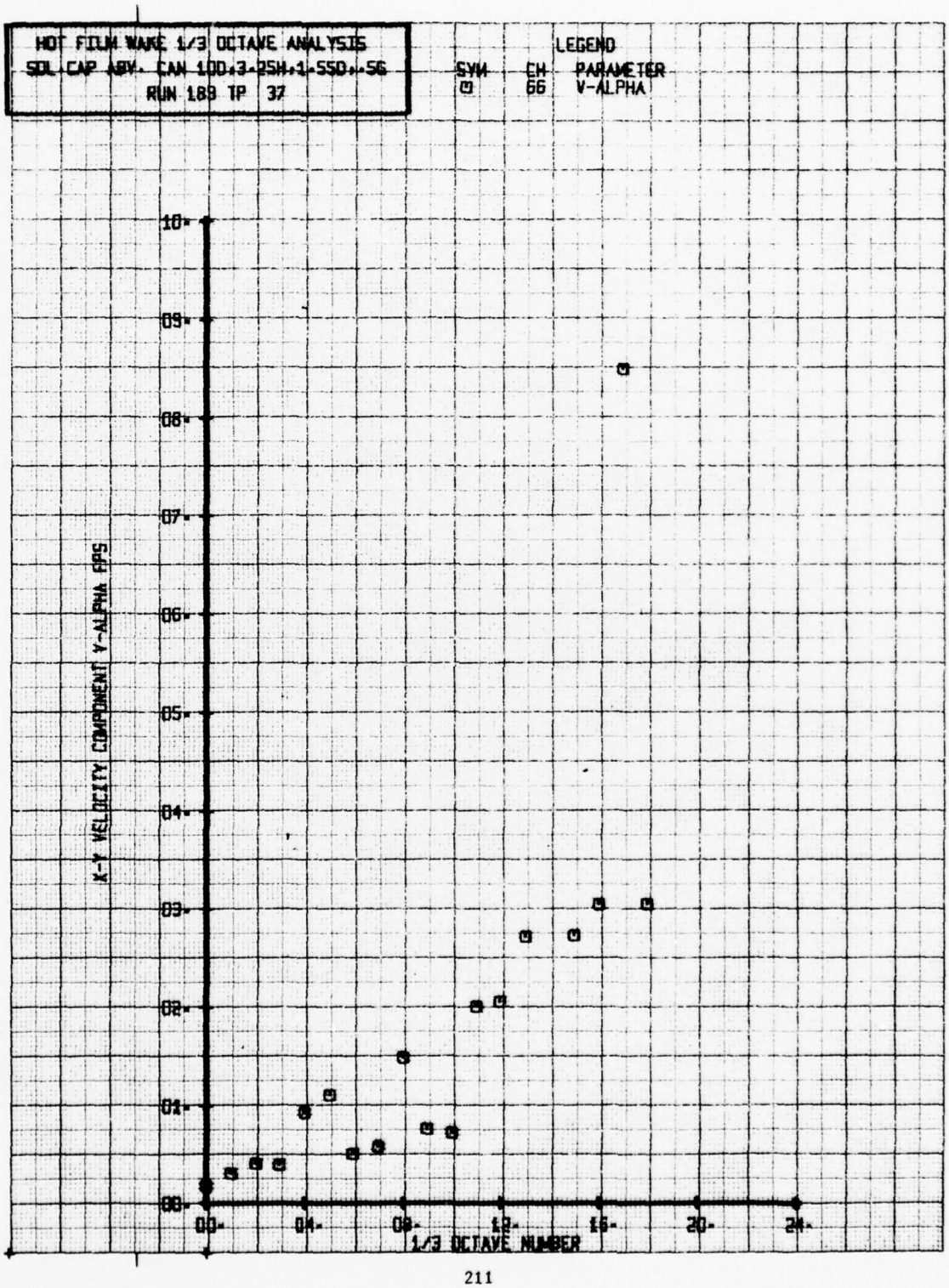

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL.CAP ABV. CAN 100.3.25H.1.550..56
RUN 189 TP 32
LEGEND
SYM CH PARAMETER
66 V-ALPHA
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X-Y VELOCITY COMPONENT V-ALPHA @PS
1/3 OCTAVE NUMBER

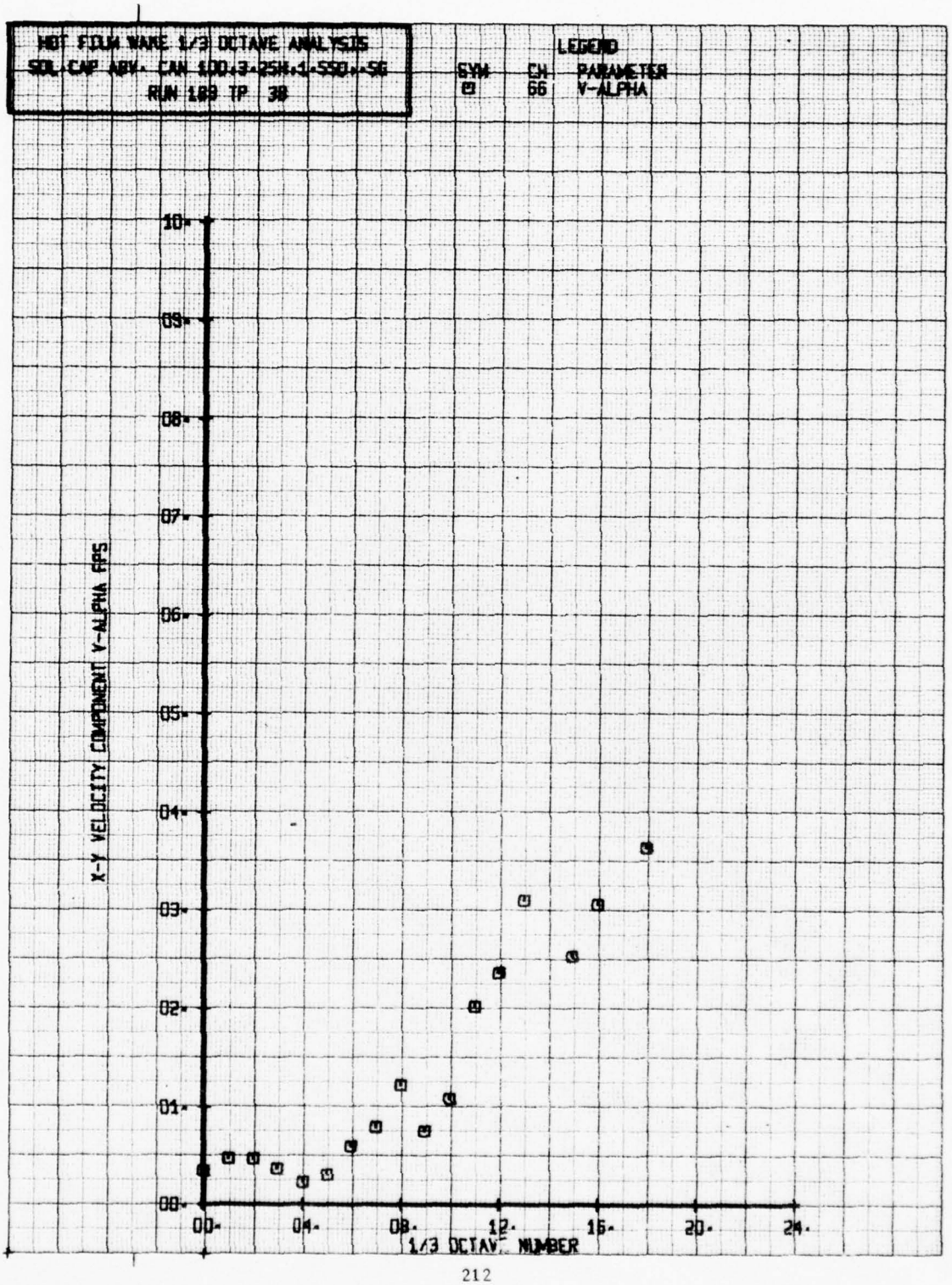

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL-CAP ABV. CAN 100.3.25H.1.550..5G
RUN 189 TP 33
LEGEND
SYM CH PARAMETER
66 V-ALPHA
X-V VELOCITY COMPONENT V-ALPHA FPS
1/3 OCTAVE NUMBER

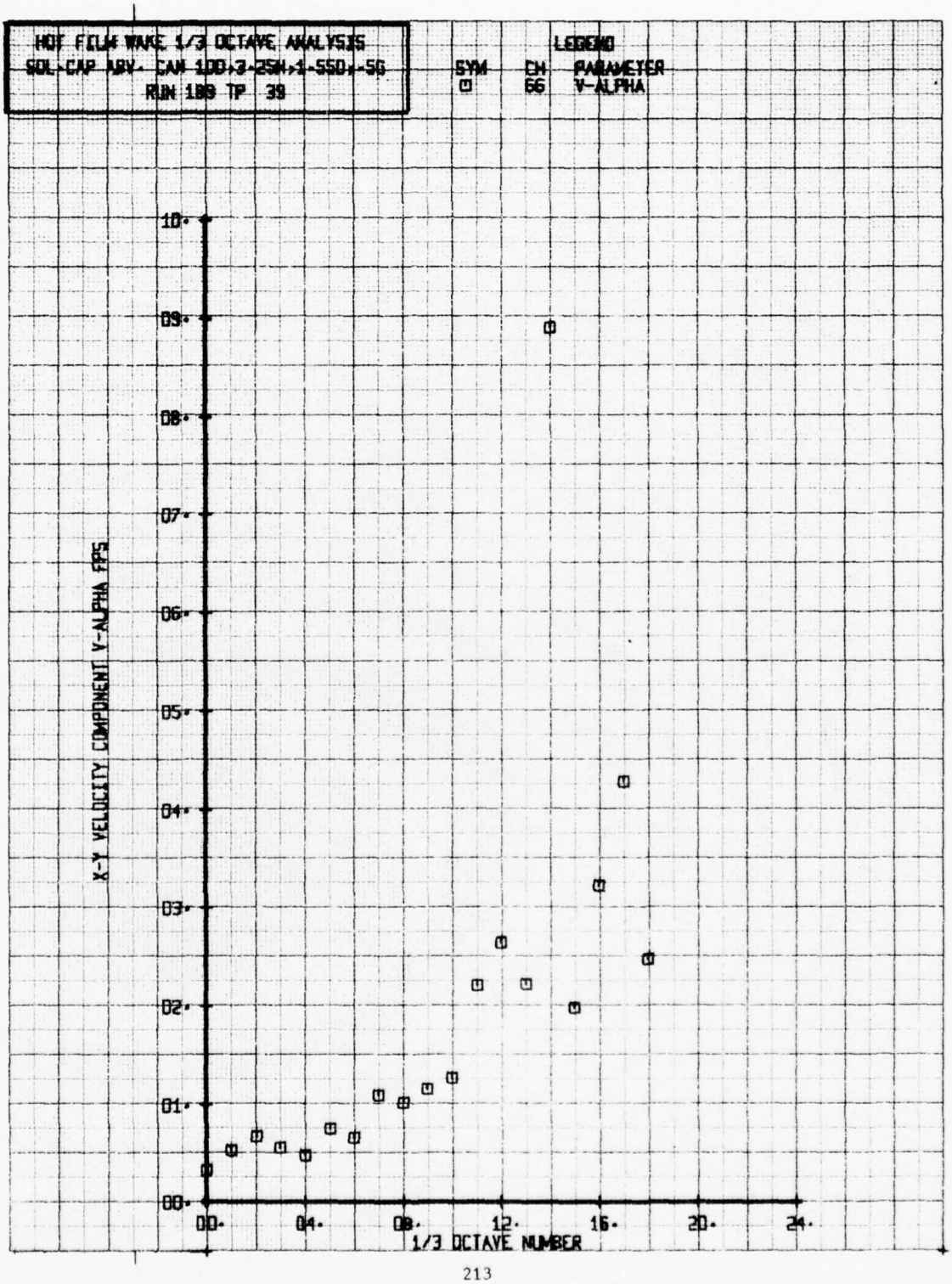

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SDL CAP ABV. CAN 100,3.25H,1.55D,.56
RUN 189 TP 34
LEGEND
SYM CH PARAMETER
66 V-ALPHA
X-Y VELOCITY COMPONENT V-ALPHA FPS
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24.
1/3 OCTAVE NUMBER

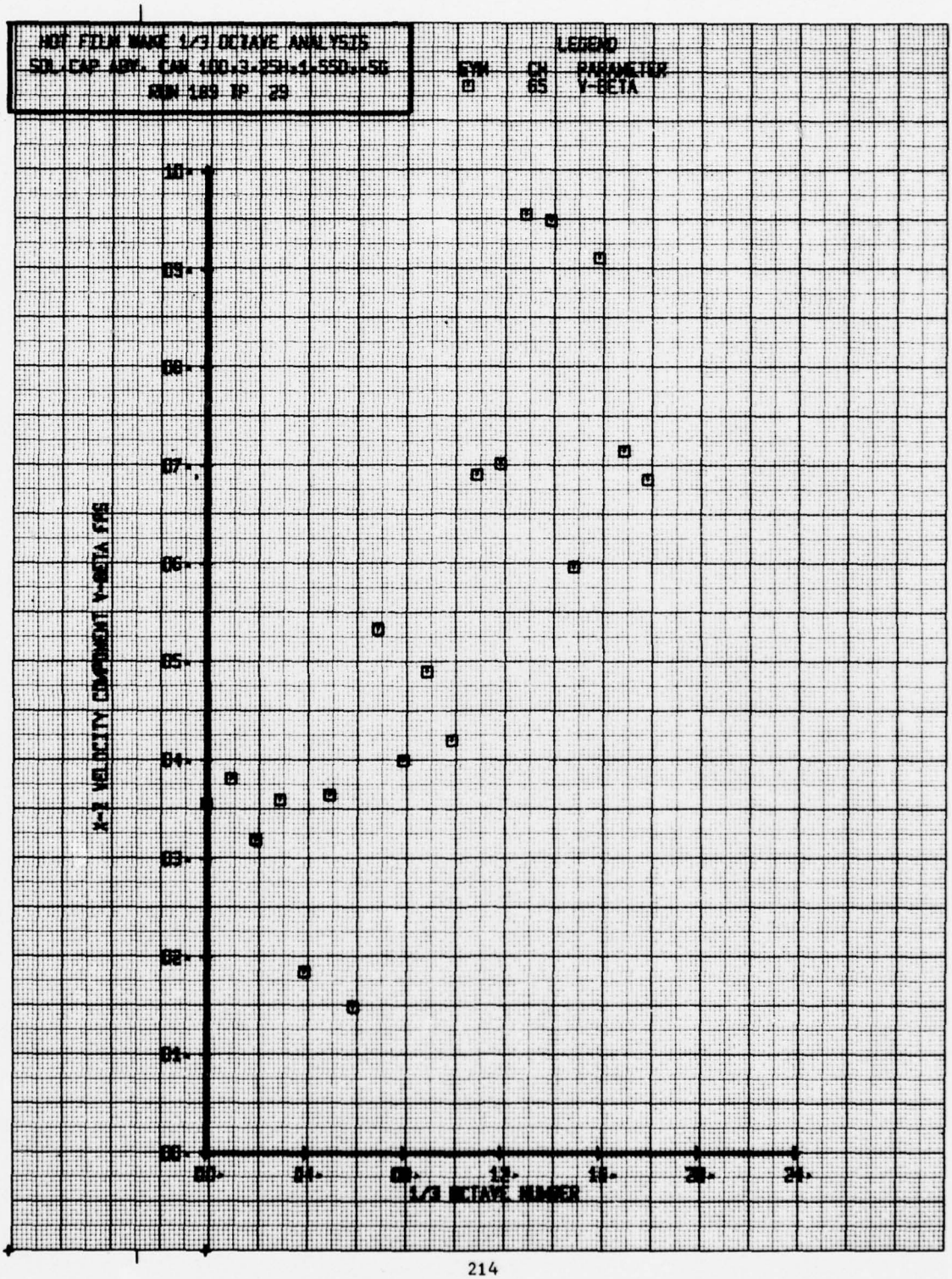

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL.CAP ABV. CAN 100.3.25H.1.550..5G
RUN 189 TP 35
LEGEND
SYM CH PARAMETER
66 V-ALPHA
X-Y VELOCITY COMPONENT V-ALPHA FPS
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16.
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1/3 OCTAVE NUMBER

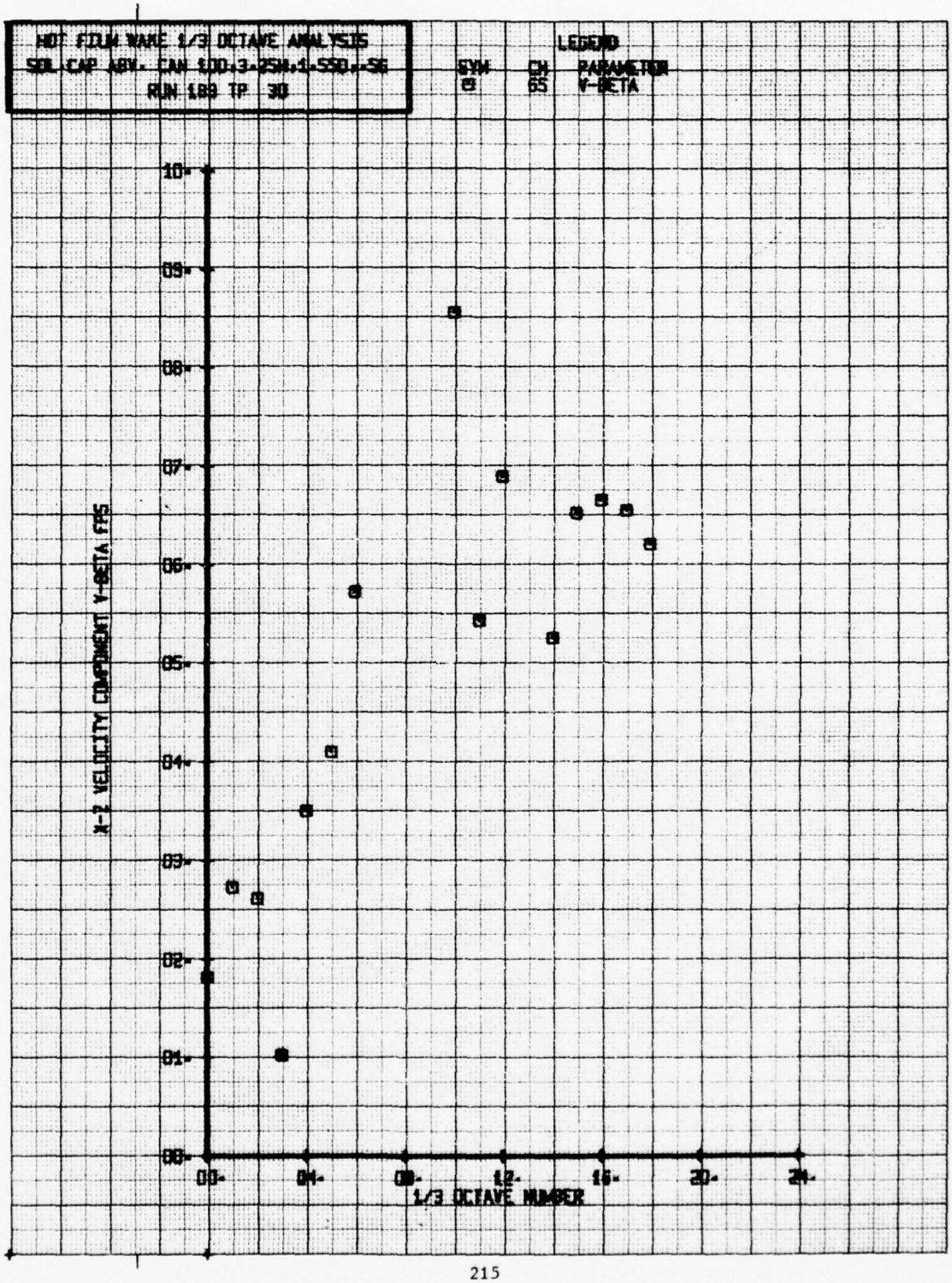

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL CAP ABV. CAN 100,3-25H,1-55D,-5G
RUN 189 TP 36
LEGEND
SYM CH PARAMETER
66 V-ALPHA
X-Y VELOCITY COMPONENT Y-ALPHA FPS
1/3 OCTAVE NUMBER

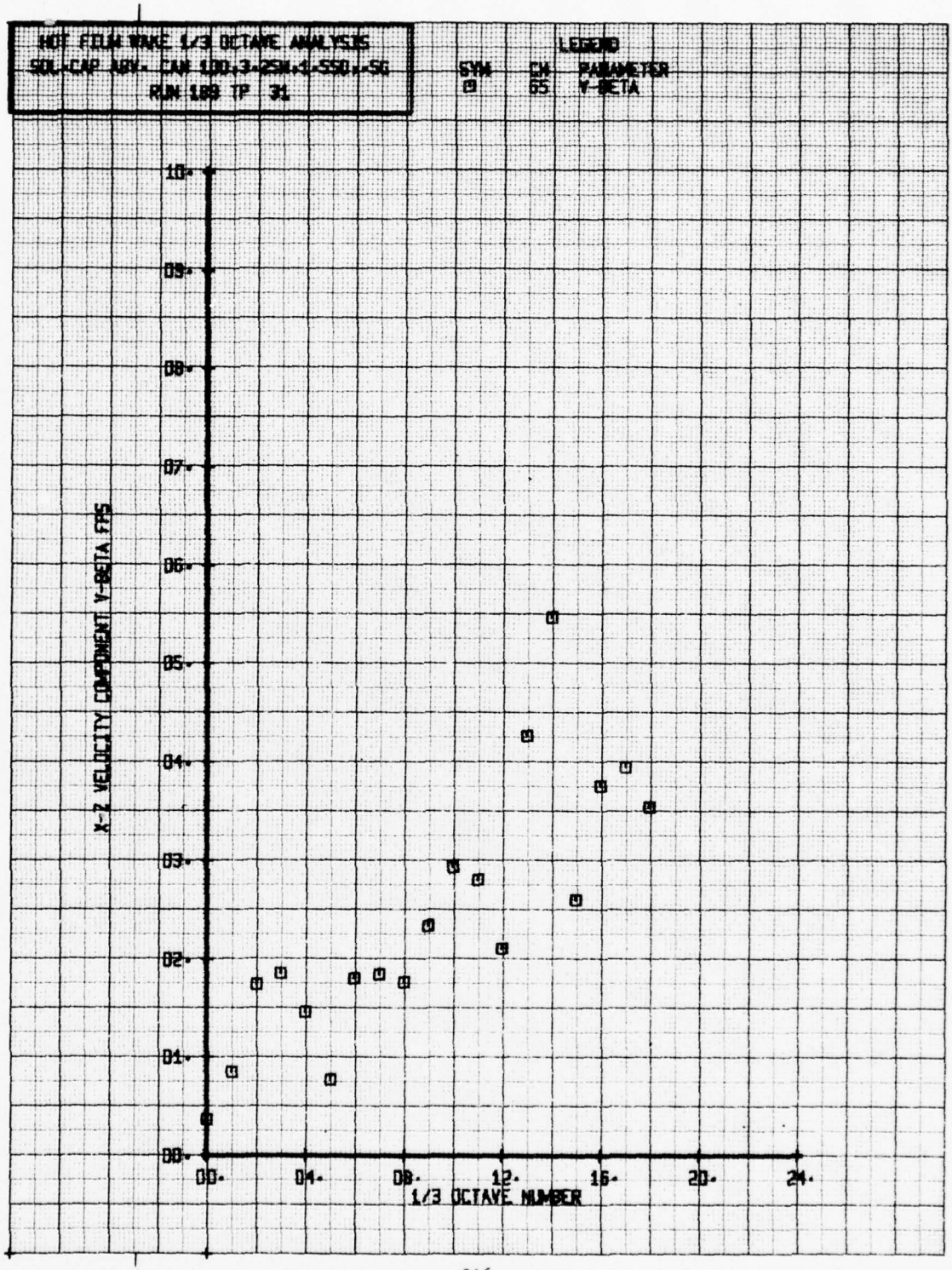

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SDL CAP ABV. CAN 100.3.25H.1.55D..5G
RUN 183 TP 37
LEGEND
SYM CH PARAMETER
66 V-ALPHA
X-Y VELOCITY COMPONENT Y-ALPHA APS
1/3 OCTAVE NUMBER
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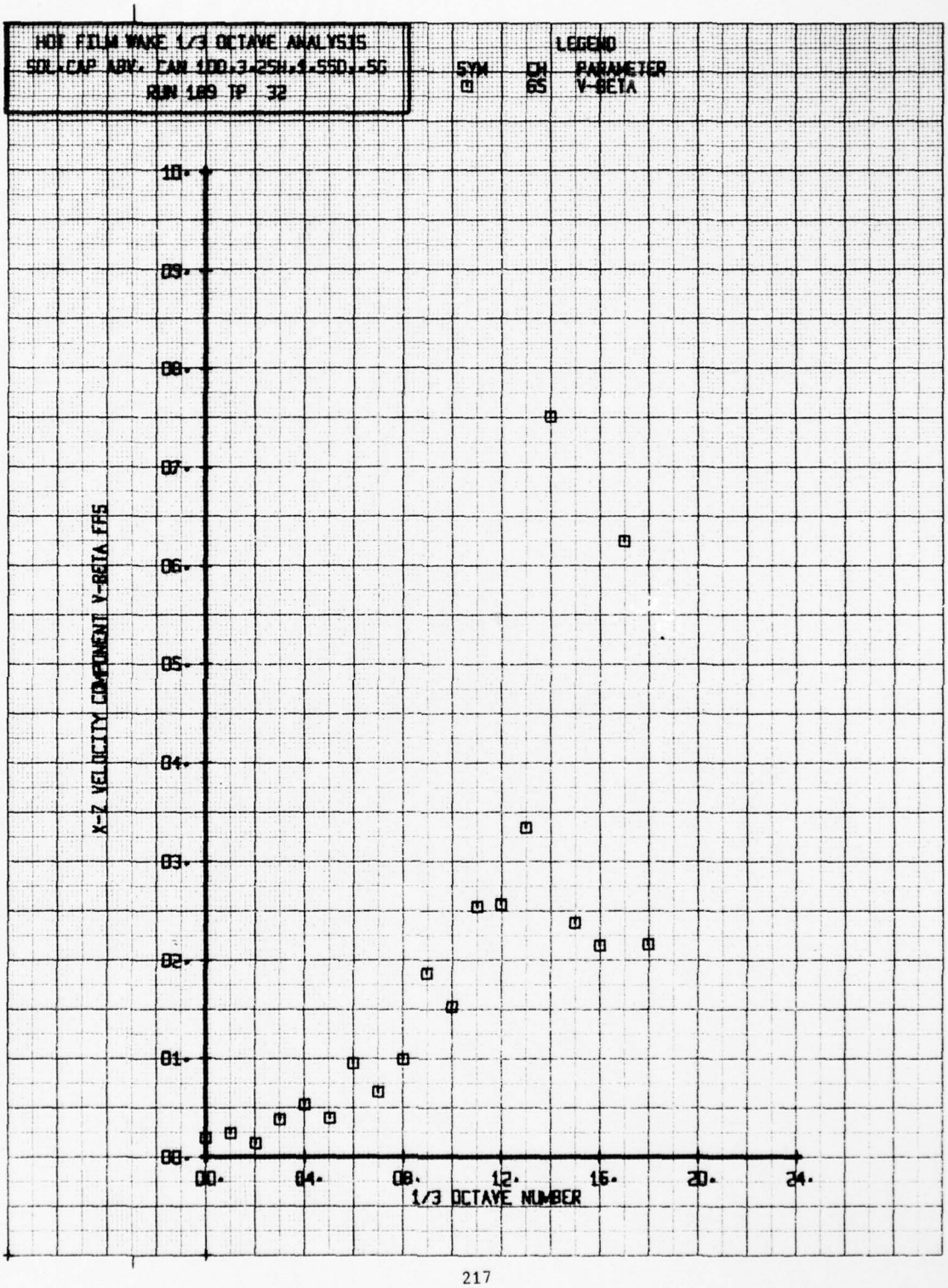

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL.CAP ABV. CAN 100.3.25H.1.550.-5G
RUN 189 TP 38
LEGEND
SYM CH PARAMETER
66 V-ALPHA
X-Y VELOCITY COMPONENT V-ALPHA FPS
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1/3 OCTAVE NUMBER

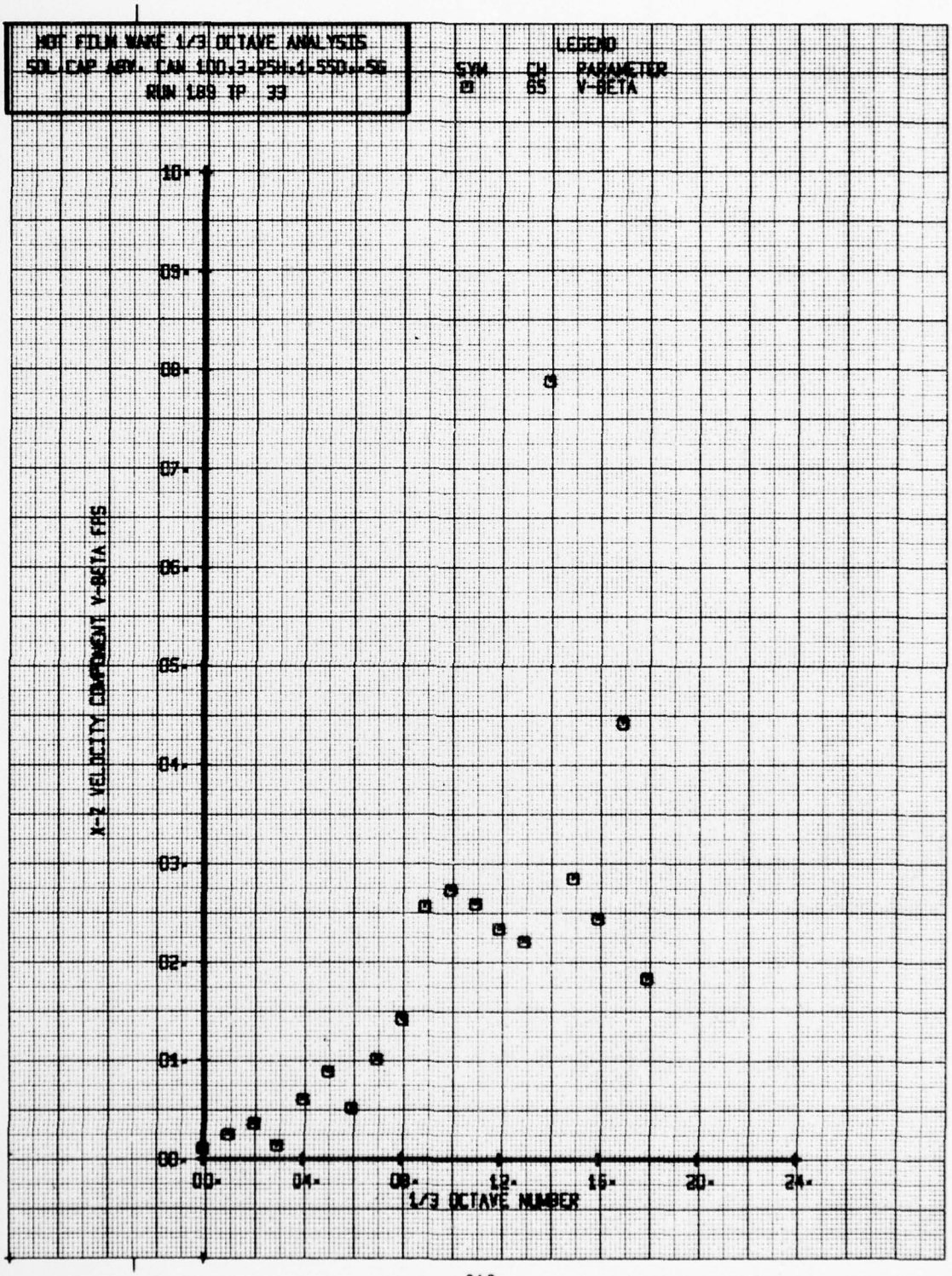

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL-CAP ARV. CAN 100,3-25M,1-550,-5G
RUN 189 TP 39
LEGEND
SYM CH PARAMETER
66 V-ALPHA
X-Y VELOCITY COMPONENT V-ALPHA FPS
1/3 OCTAVE NUMBER
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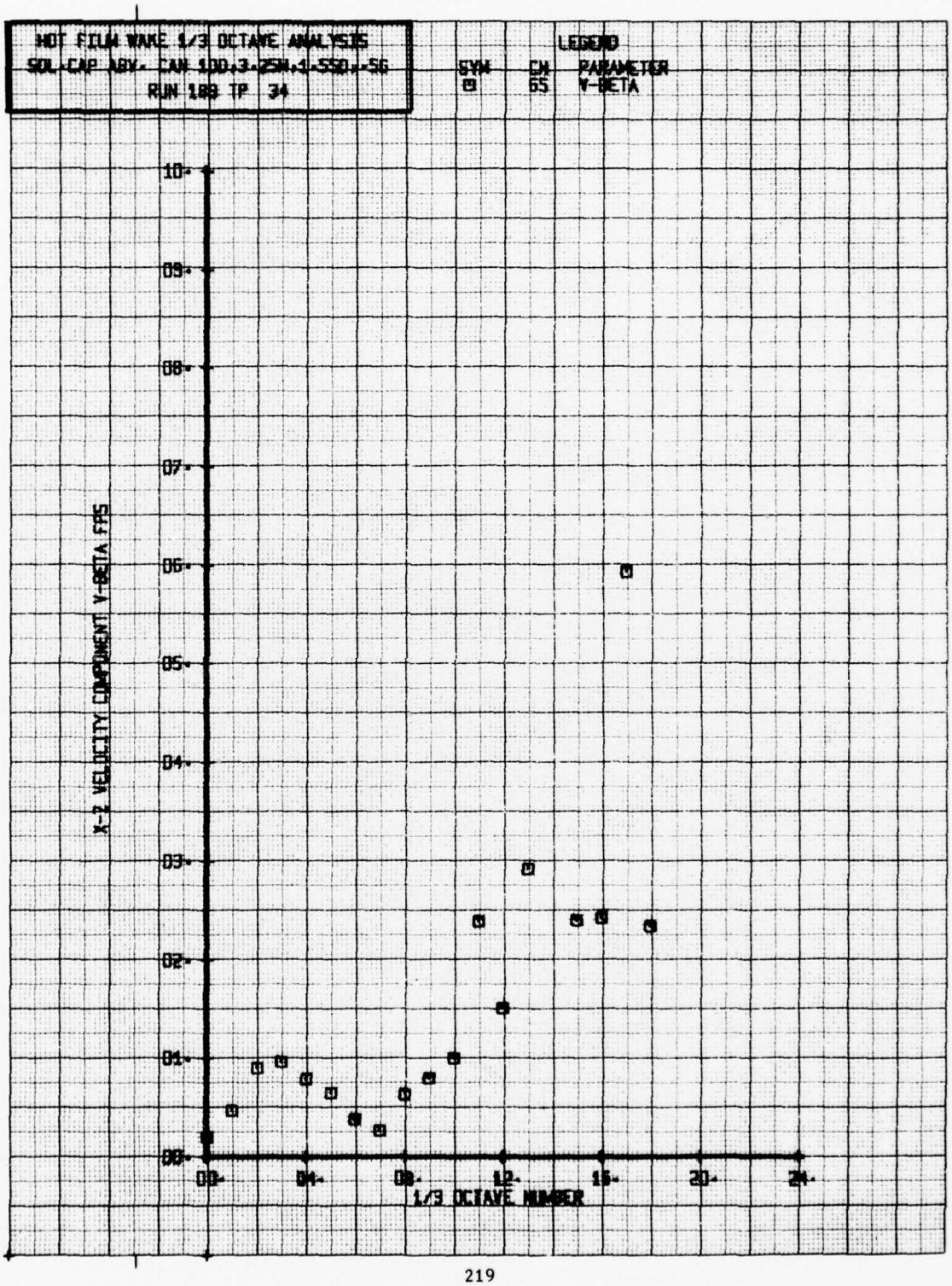

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL.CAP ADV. CAN 100.3-25H.1-550.-56
RUN 189 IP 29
LEGEND
SYM CH PARAMETER
65 V-BETA
X-1 VELOCITY COMPONENT V-BETA FMS
1/3 OCTAVE NUMBER

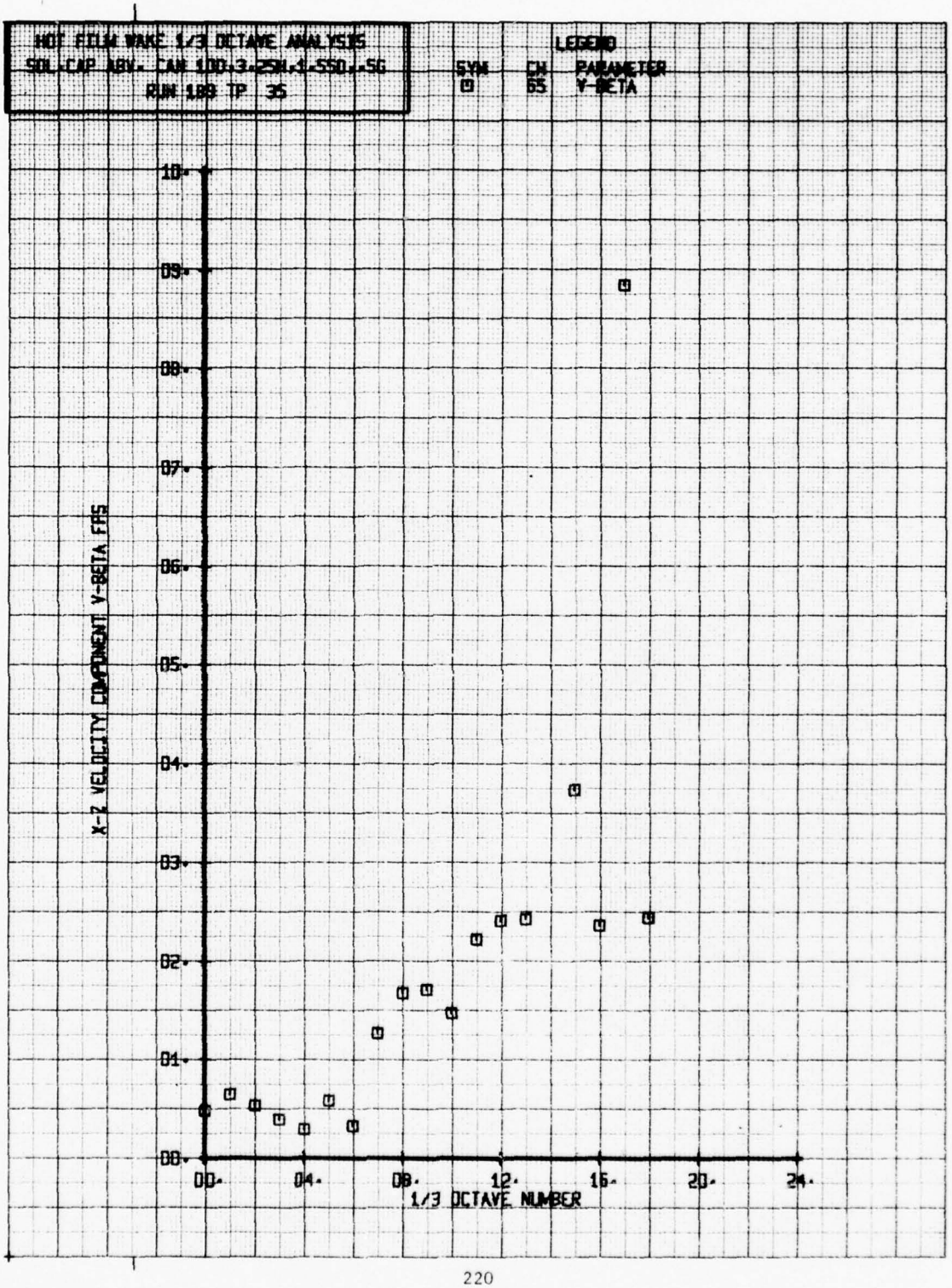

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SEA CAP ABV. CAN $00.3-25M.1-550.-SG
RUN 189 TP 30
LEGEND
SYM CH PARAMETER
65 V-BETA
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X-2 VELOCITY COMPONENT V-BETA FPS
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24
1/3 OCTAVE NUMBER

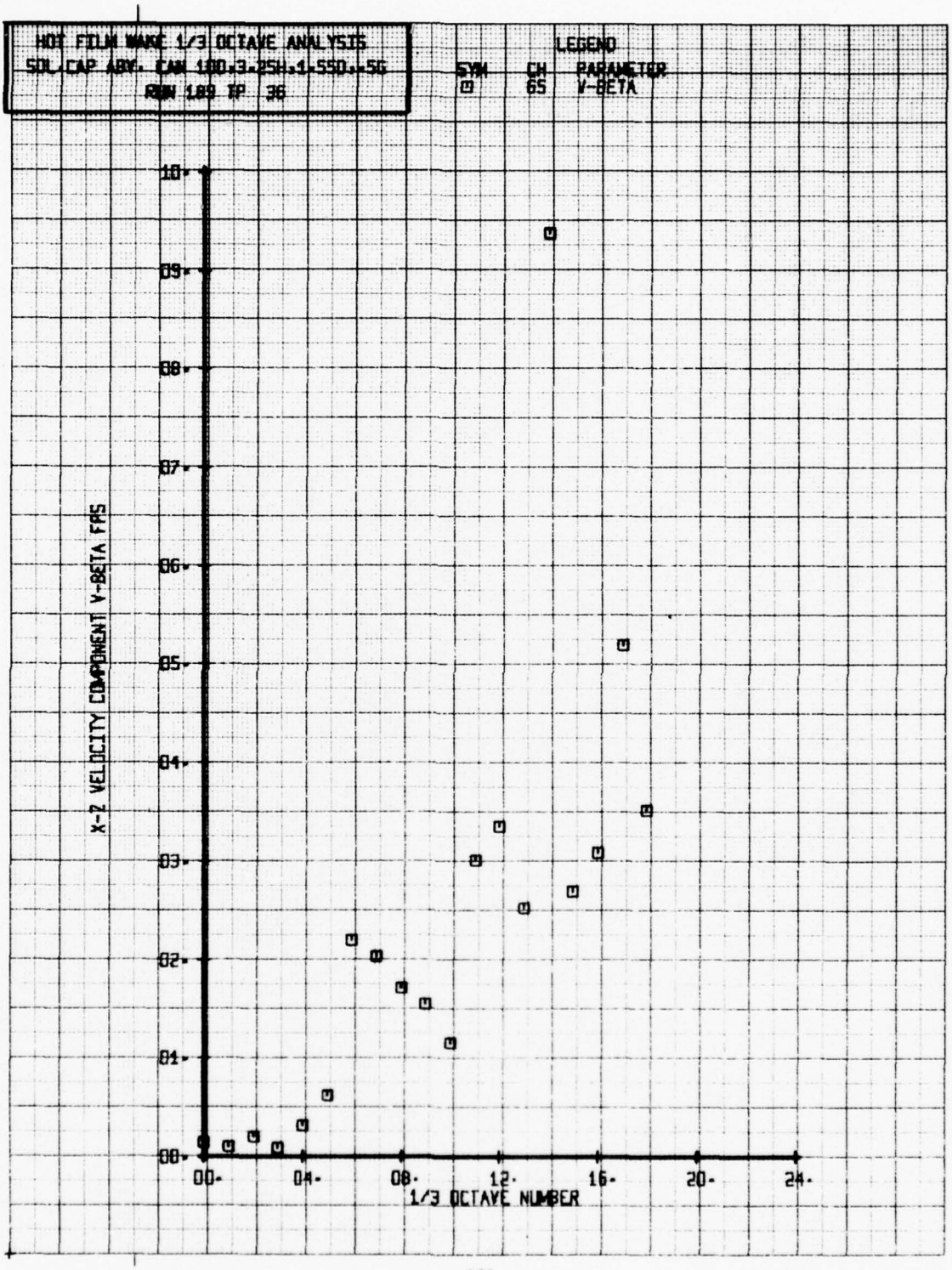

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL-CAP ABV- CAN 100,3-25W,4-550,-SG
RUN 189 TP 31
LEGEND
SYM CH PARAMETER
65 V-BETA
X-Z VELOCITY COMPONENT V-BETA FPS
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1/3 OCTAVE NUMBER

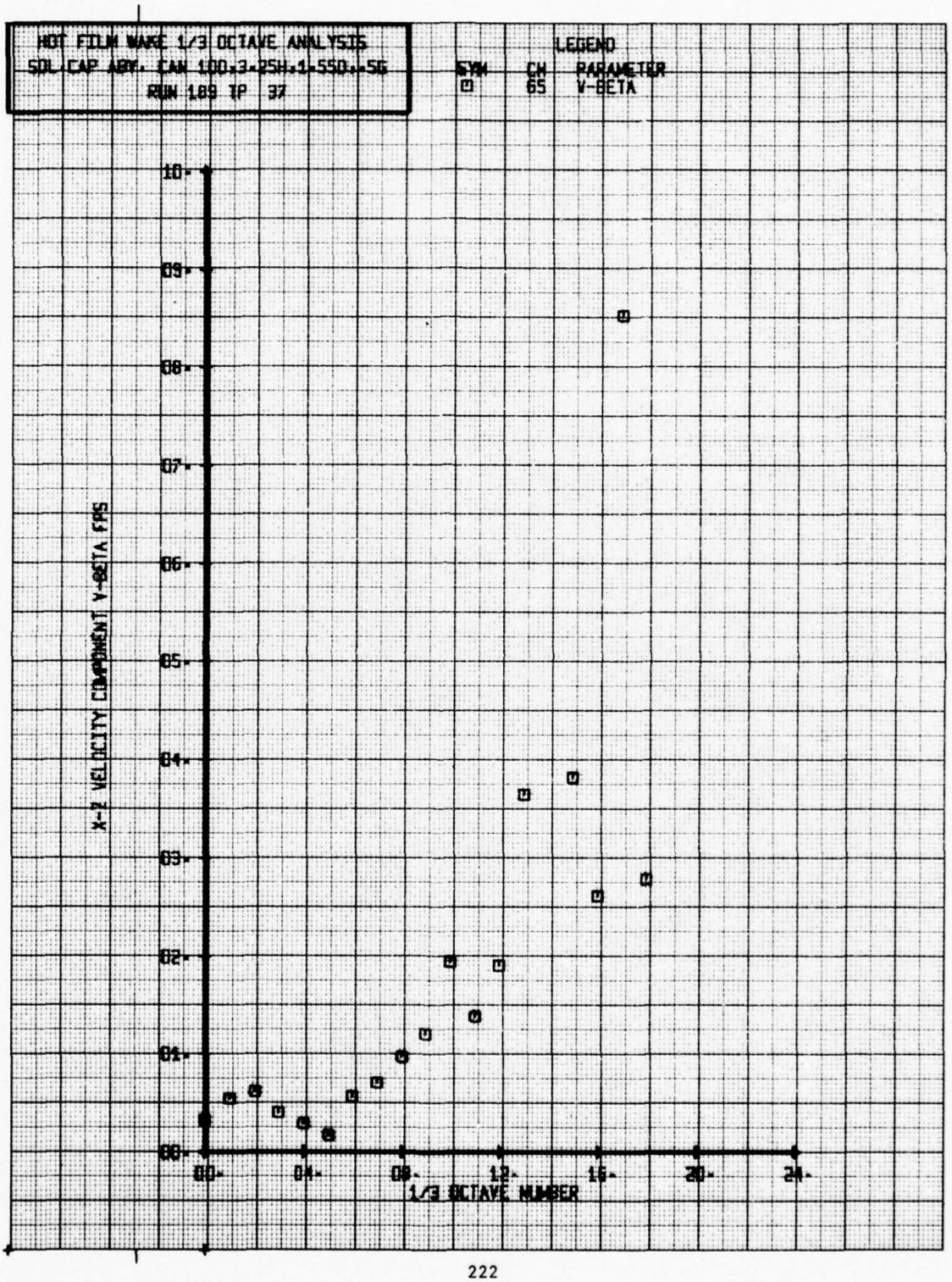

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL-CAP ADV. CAN 100.3-25H.1-55D.-5G
RUN 189 TP 32
LEGEND
SYM CH PARAMETER
65 V-BETA
X-Z VELOCITY COMPONENT V-BETA FRS
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1/3 OCTAVE NUMBER

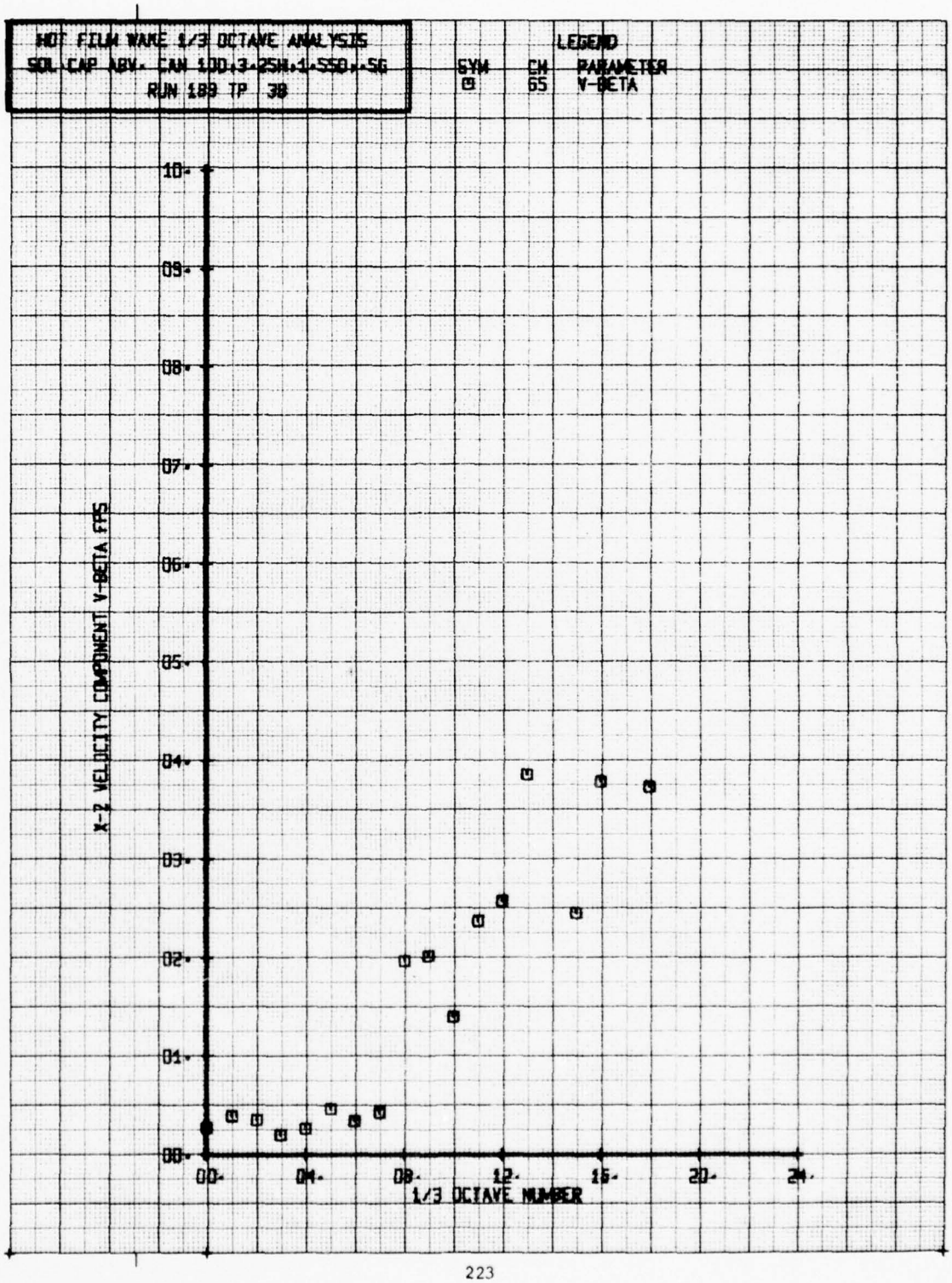

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL CAP AEV. CAN 100.3-25H.1-550--56
RUN 189 TP 33
LEGEND
SYM CH PARAMETER
65 V-BETA
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X-Z VELOCITY COMPONENT V-BETA FPS
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24
1/3 OCTAVE NUMBER

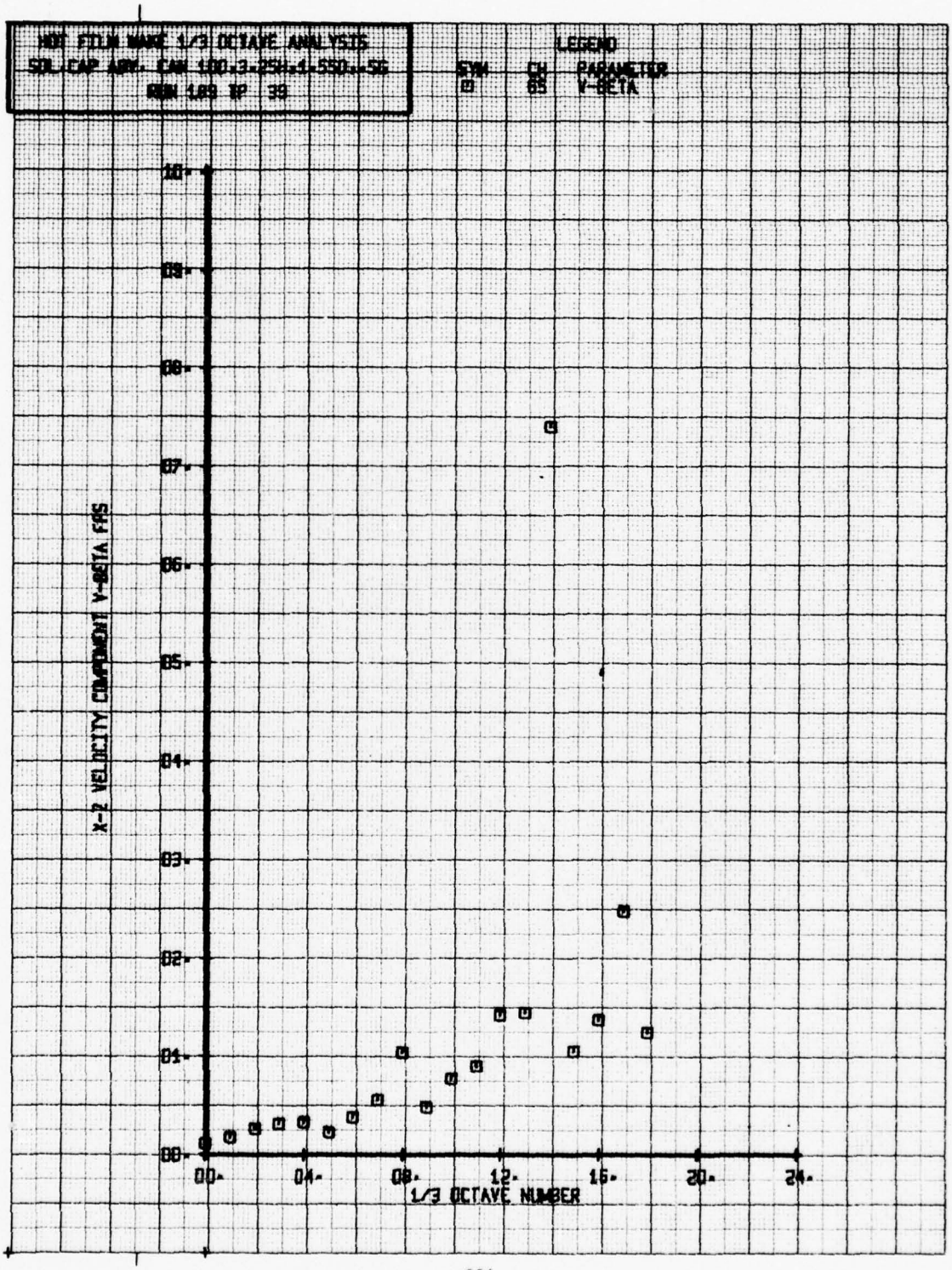

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL-CAP ABV- CAN 100,3.25M,1-550,-56
RUN 188 TP 34
LEGEND
SYM CH PARAMETER
65 V-BETA
X-Z VELOCITY COMPONENT V-BETA FPS
1/3 OCTAVE NUMBER
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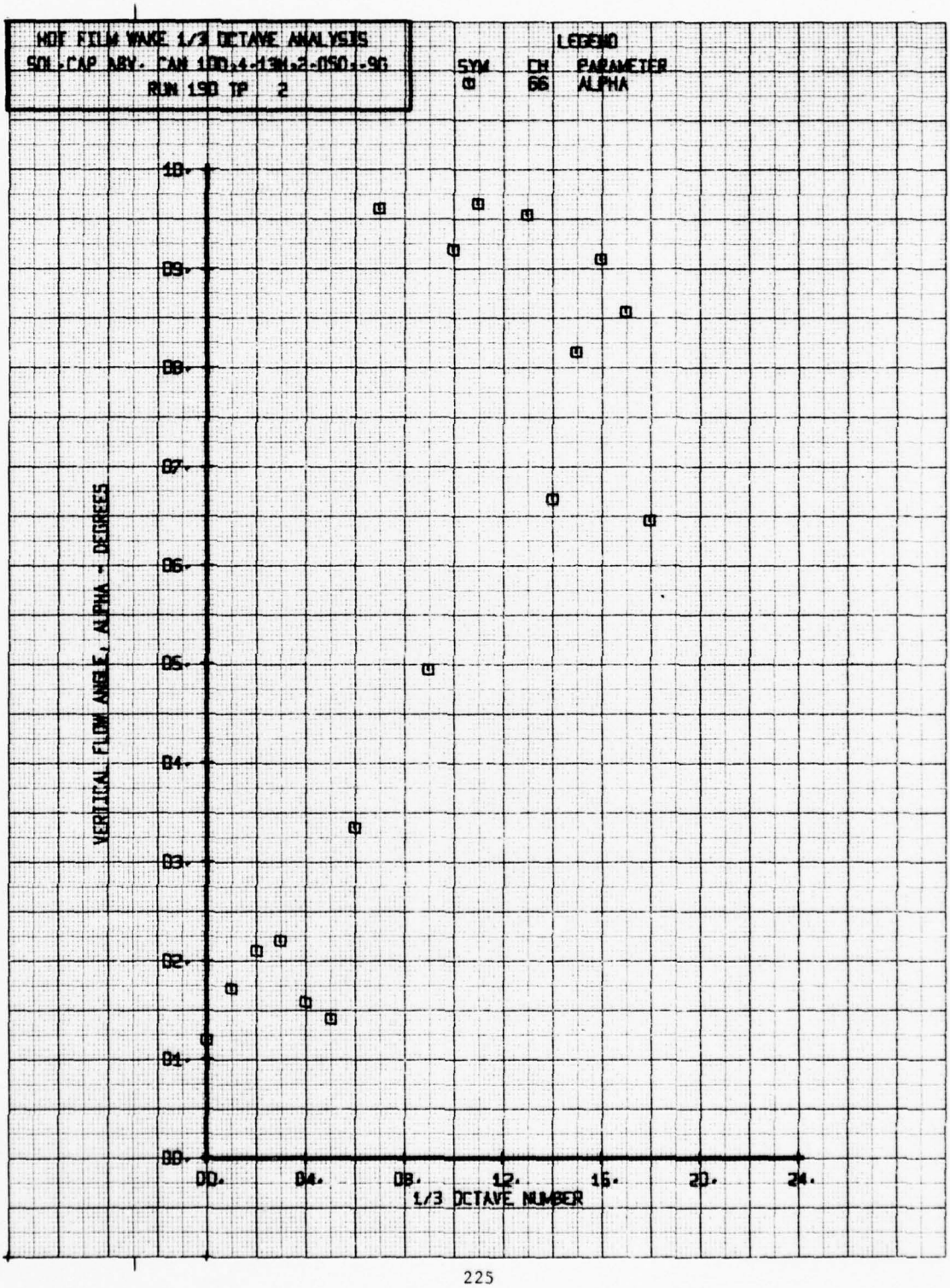

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL CAP ABV. CAN 100.3.25M.1-550.-SG
RUN 189 TP 35
LEGEND
SYM CH PARAMETER
65 V-BETA
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X-Z VELOCITY COMPONENT V-BETA FPS
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1/3 OCTAVE NUMBER

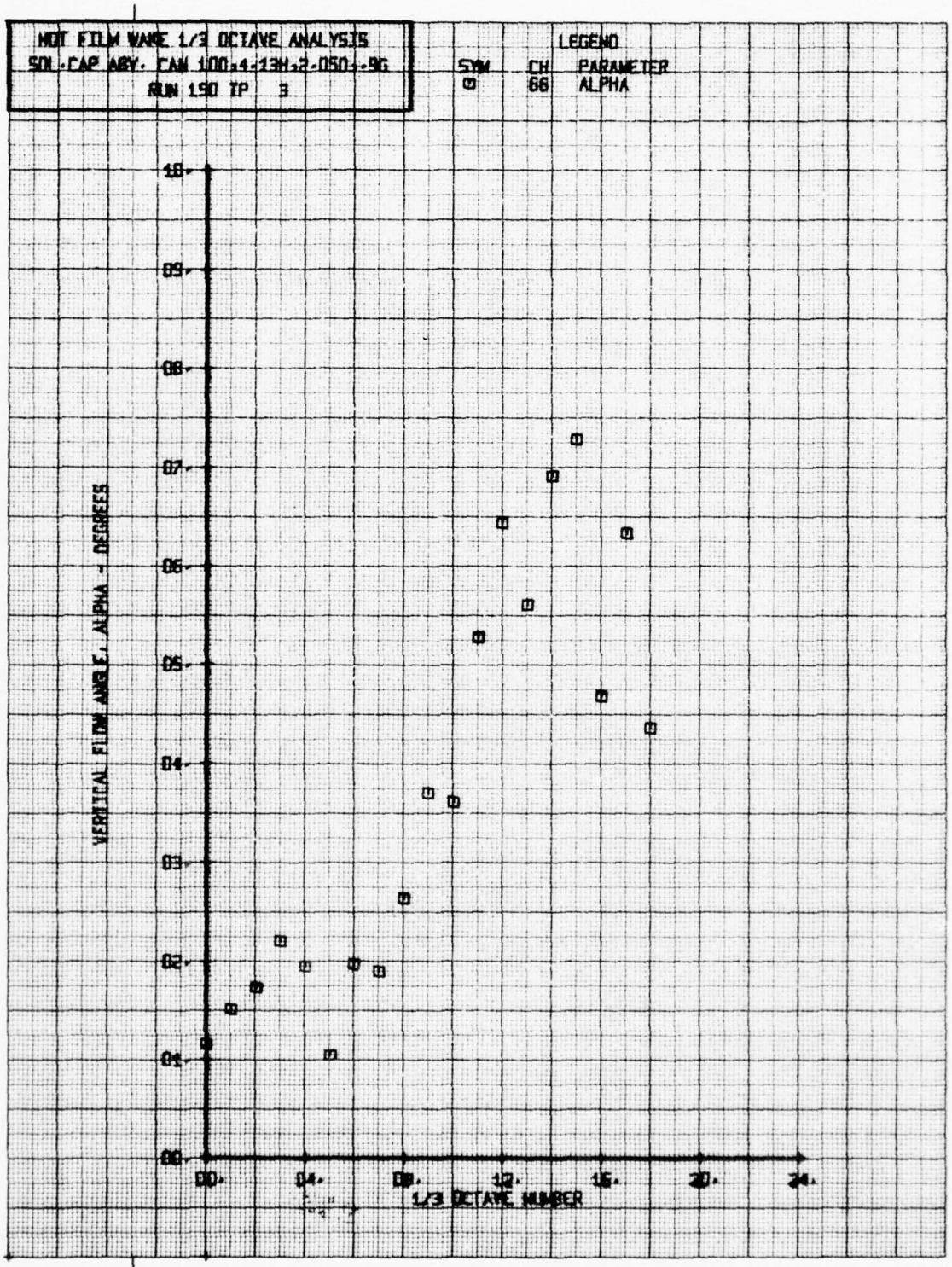

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL/CAP ABV. CAN 180.3.25H.1.550..5G
RUN 189 TP 36
LEGEND
SYM CH PARAMETER
65 V-BETA
X-Z VELOCITY COMPONENT V-BETA FPS
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00. 04. 08. 12. 16. 20. 24.
1/3 OCTAVE NUMBER

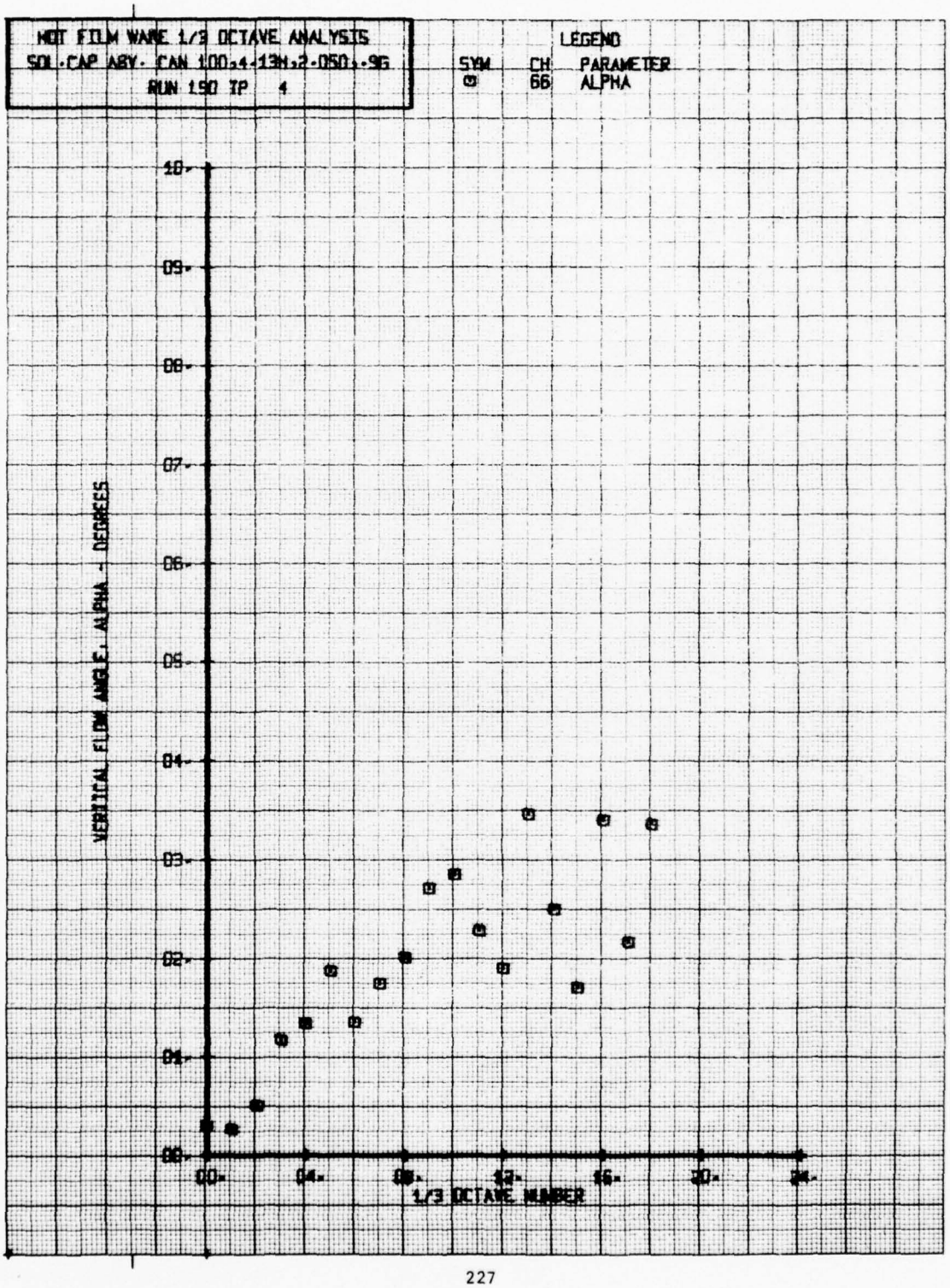

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SDL CAP ARM. CAN 100.3.25H.1.550..56
RUN 189 TP 37
LEGEND
SYM CH PARAMETER
65 V-BETA
X-2 VELOCITY COMPONENT V-BETA FPS
1/3 OCTAVE NUMBER
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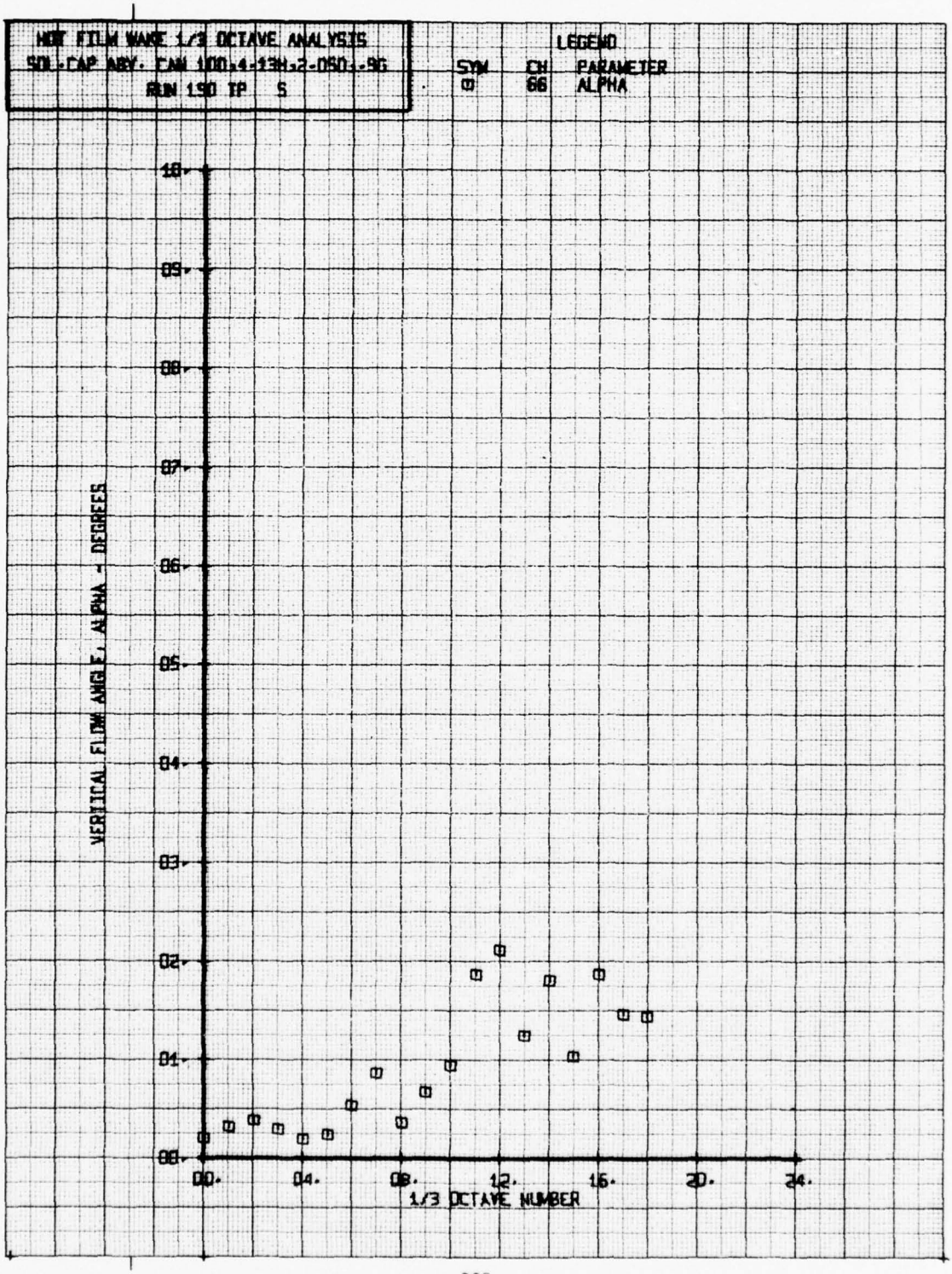

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL CAP ABV. CAN 100.3.25H.1.SSD.-SG
RUN 189 TP 38
LEGEND
SYM CM PARAMETER
65 V-BETA
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X-2 VELOCITY COMPONENT V-BETA FPS
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1/3 OCTAVE NUMBER

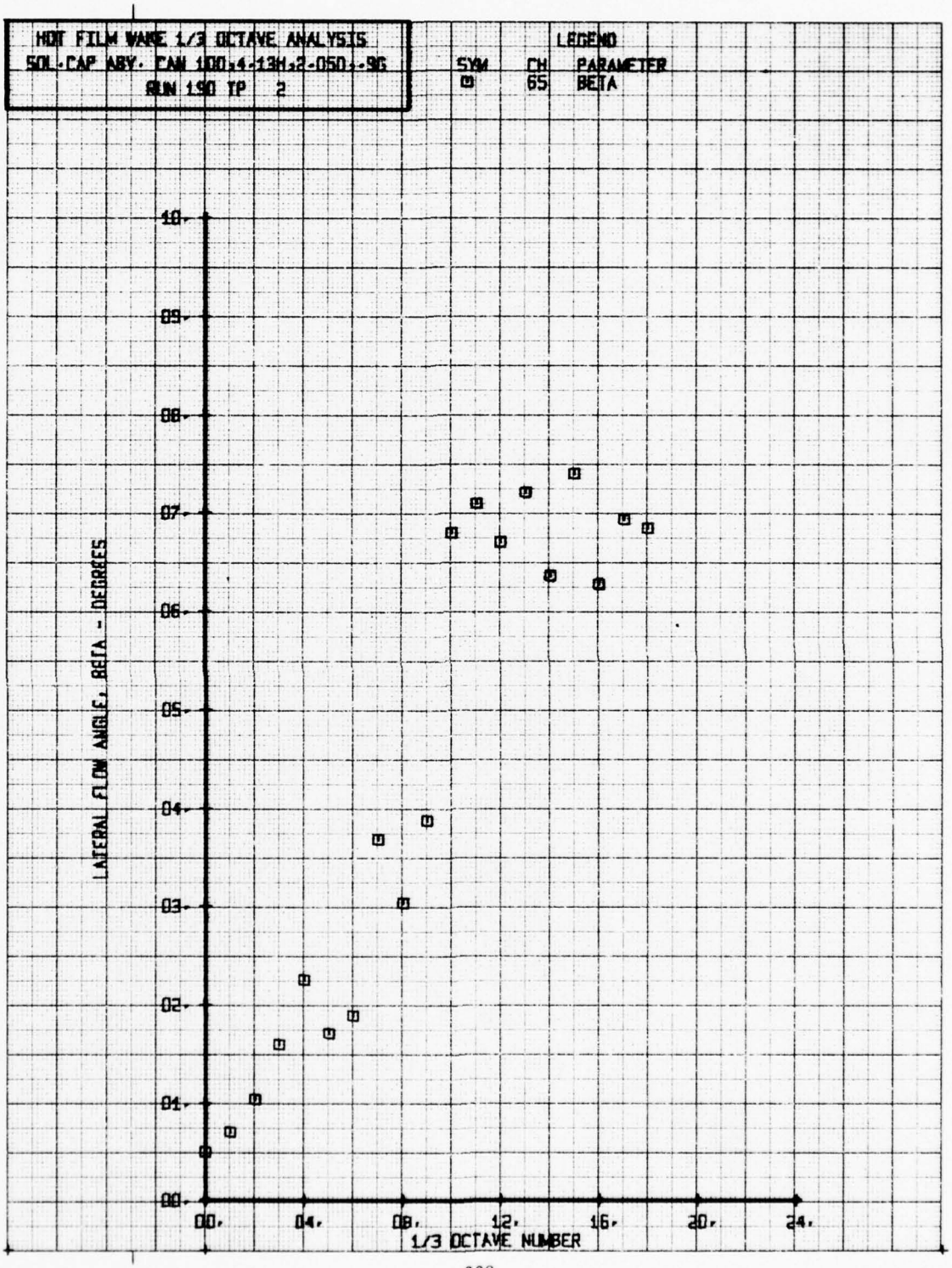

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SQL/CAP ARV. CAN 100.3.254.1.550..56
RUN 109 RP 38
LEGEND
SYM CH PARAMETER
65 V-BETA
X-2 VELOCITY COMPONENT V-BETA FAS
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1/3 OCTAVE NUMBER

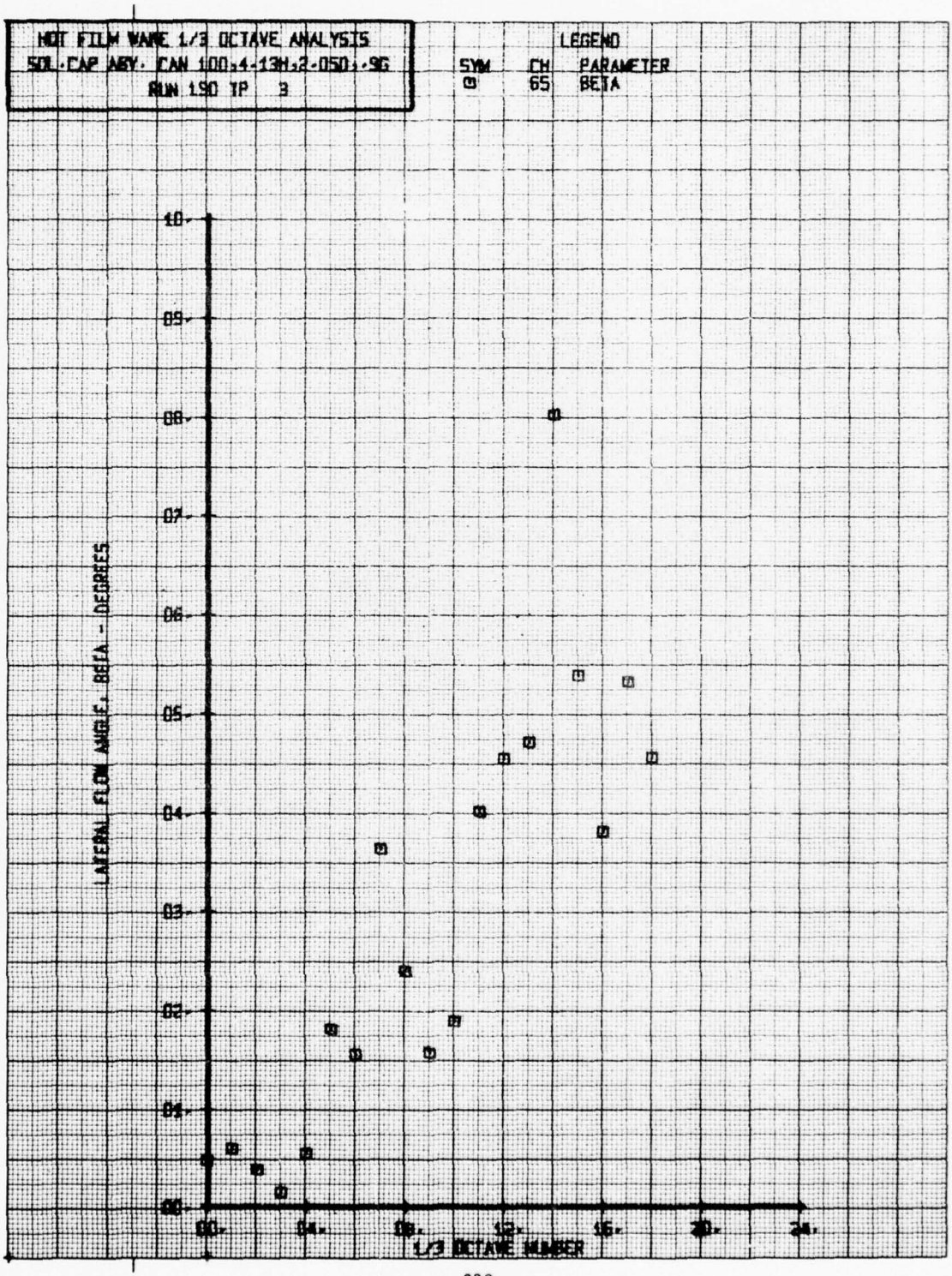

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL.CAP ABV. CAN 100,4-13M,2-050,-96
RUN 190 TP 2
LEGEND
SYM CH PARAMETER
66 ALPHA
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VERTICAL FLOW ANGLE, ALPHA - DEGREES
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1/3 OCTAVE NUMBER

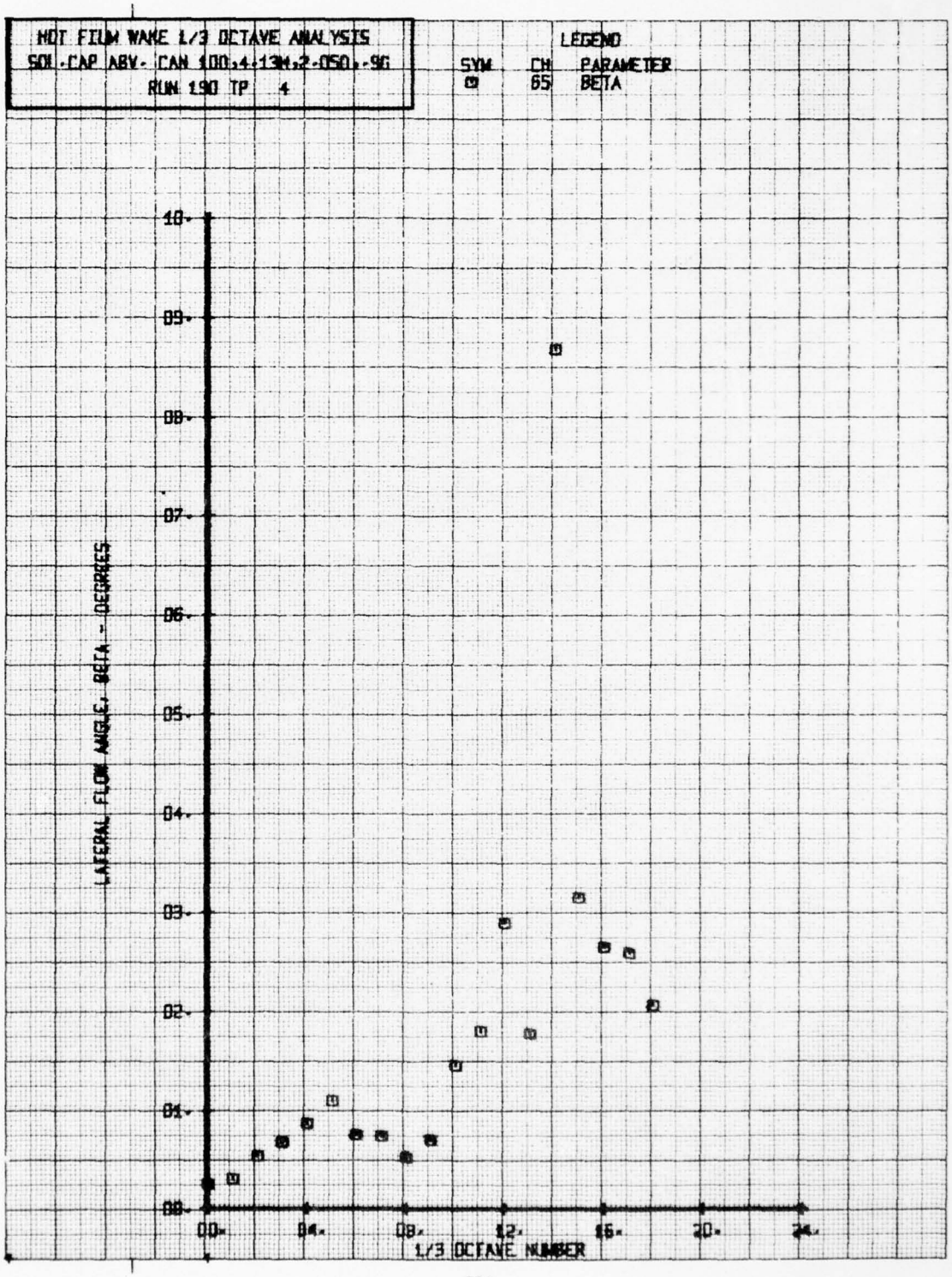

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SDL CAP ABV. CAM 100,+1.13H,-2.050,-.9G
RUN 190 TP 3
LEGEND
SYM CH PARAMETER
66 ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
1/3 OCTAVE NUMBER

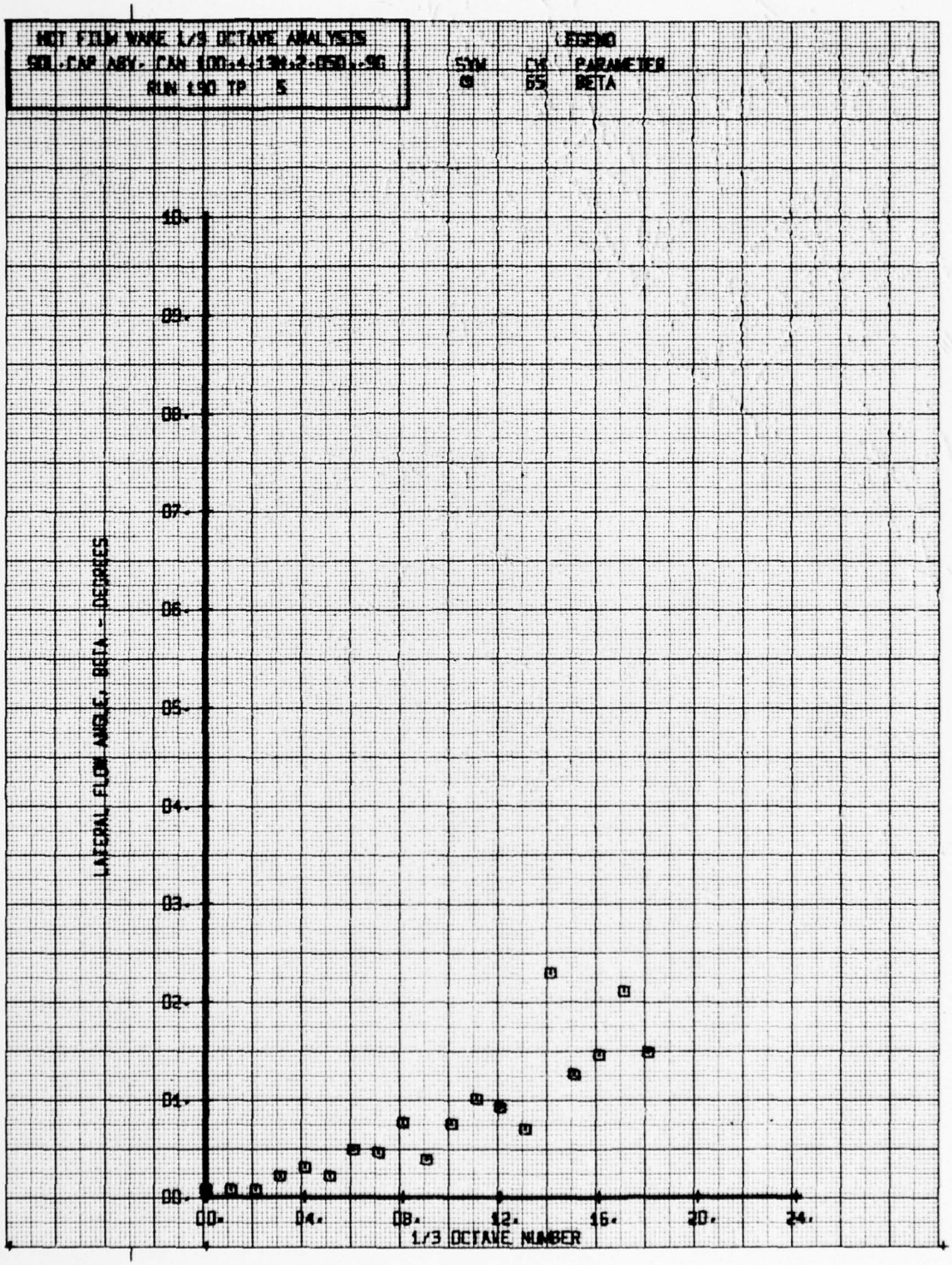

HOT FILM WARE 1/3 OCTAVE ANALYSIS
SOL-CAP ASY- CAN 100,4-13N,2-050,-96
RUN 190 TP 4
LEGEND
SYM CH PARAMETER
66 ALPHA
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VERTICAL FLOW ANGLE, ALPHA - DEGREES
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1/3 OCTAVE NUMBER

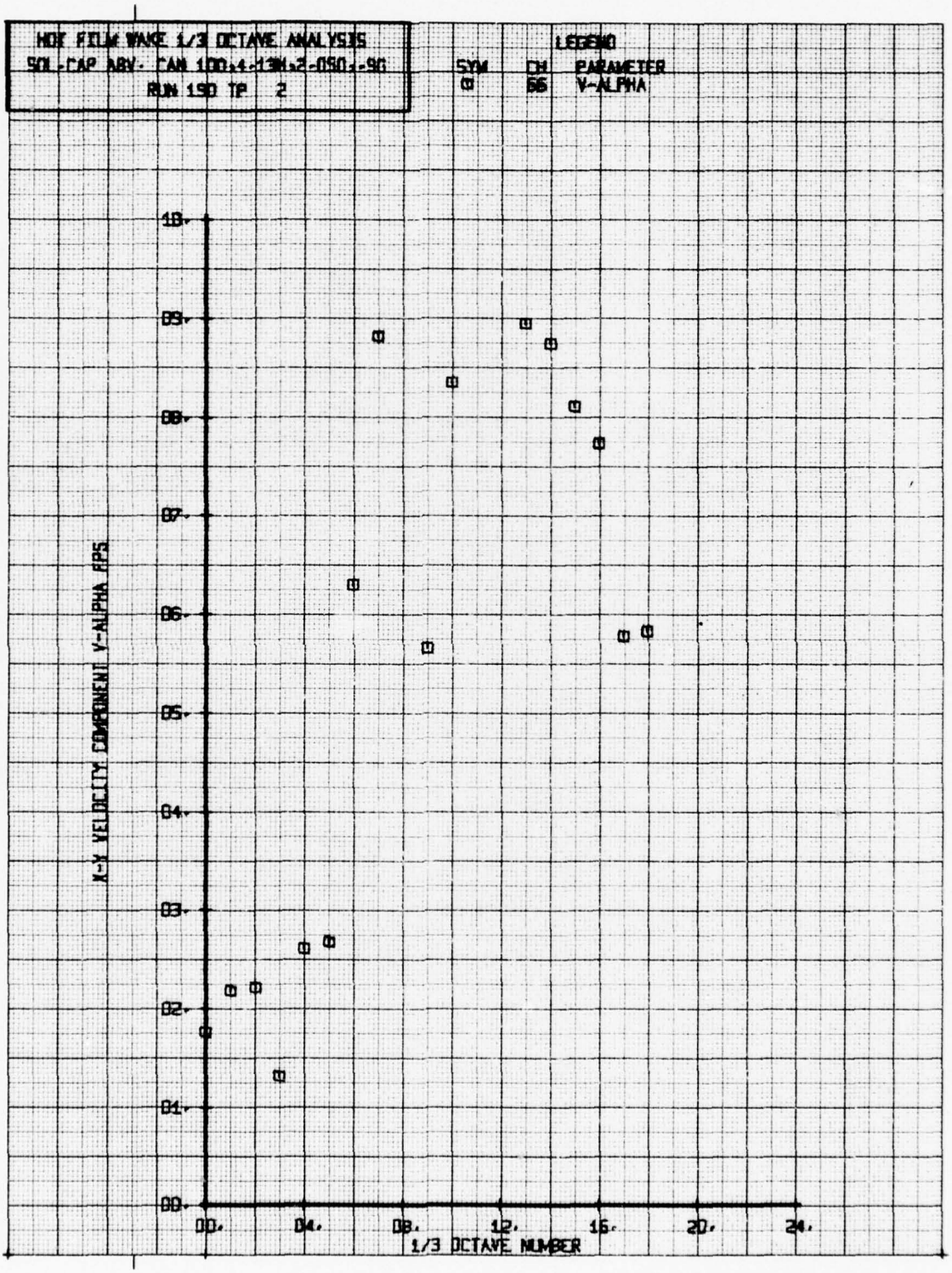

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SQL-CAP ABY. CAN 100,4-13H,2-050,-9G
RUN 190 TP 5
LEGEND
SYM CH PARAMETER
66 ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
1/3 OCTAVE NUMBER
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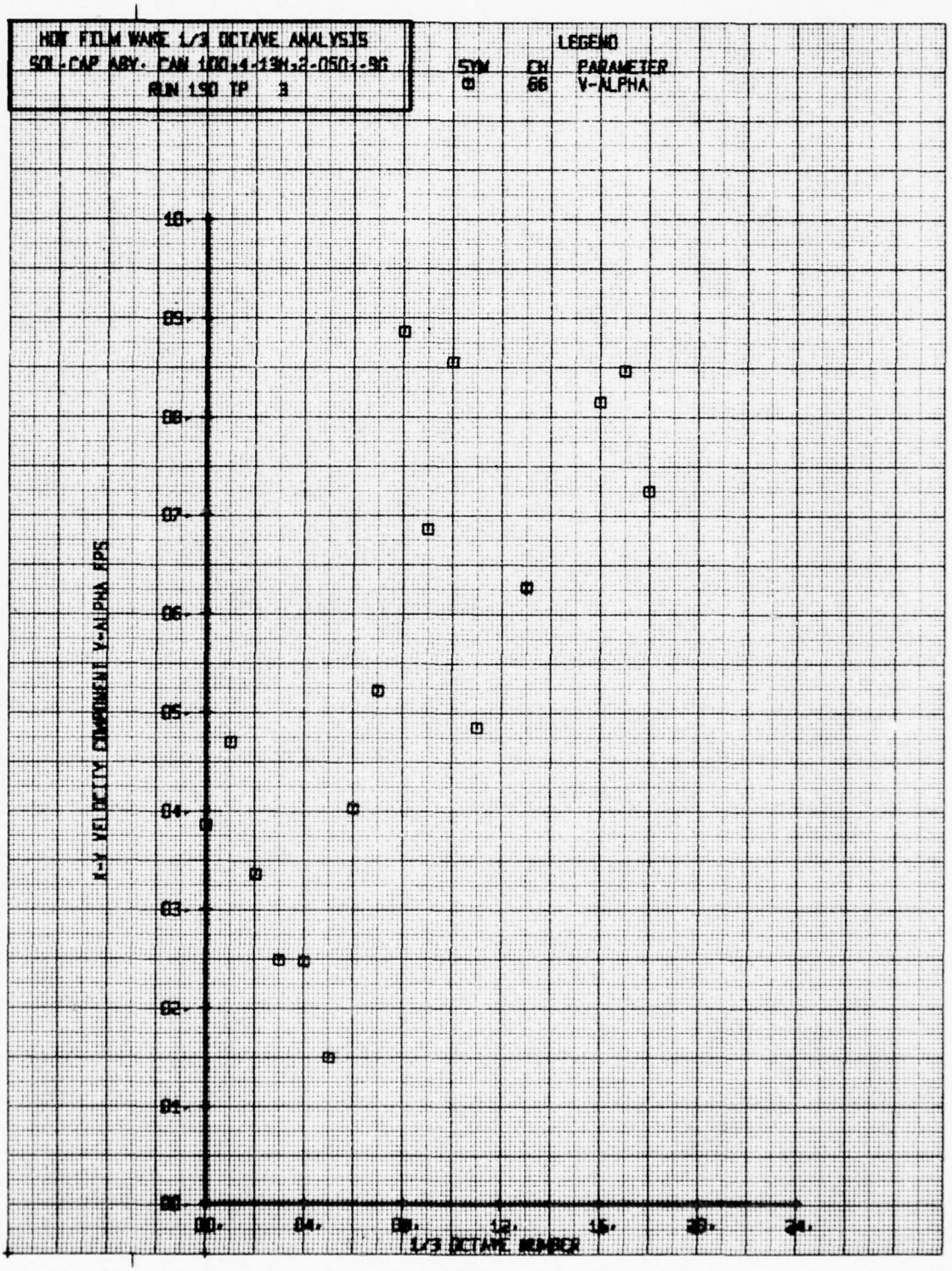

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL-CAP ABY. CAN 100,4-13H,2-050,-96
RUN 190 TP 2
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
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1/3 OCTAVE NUMBER

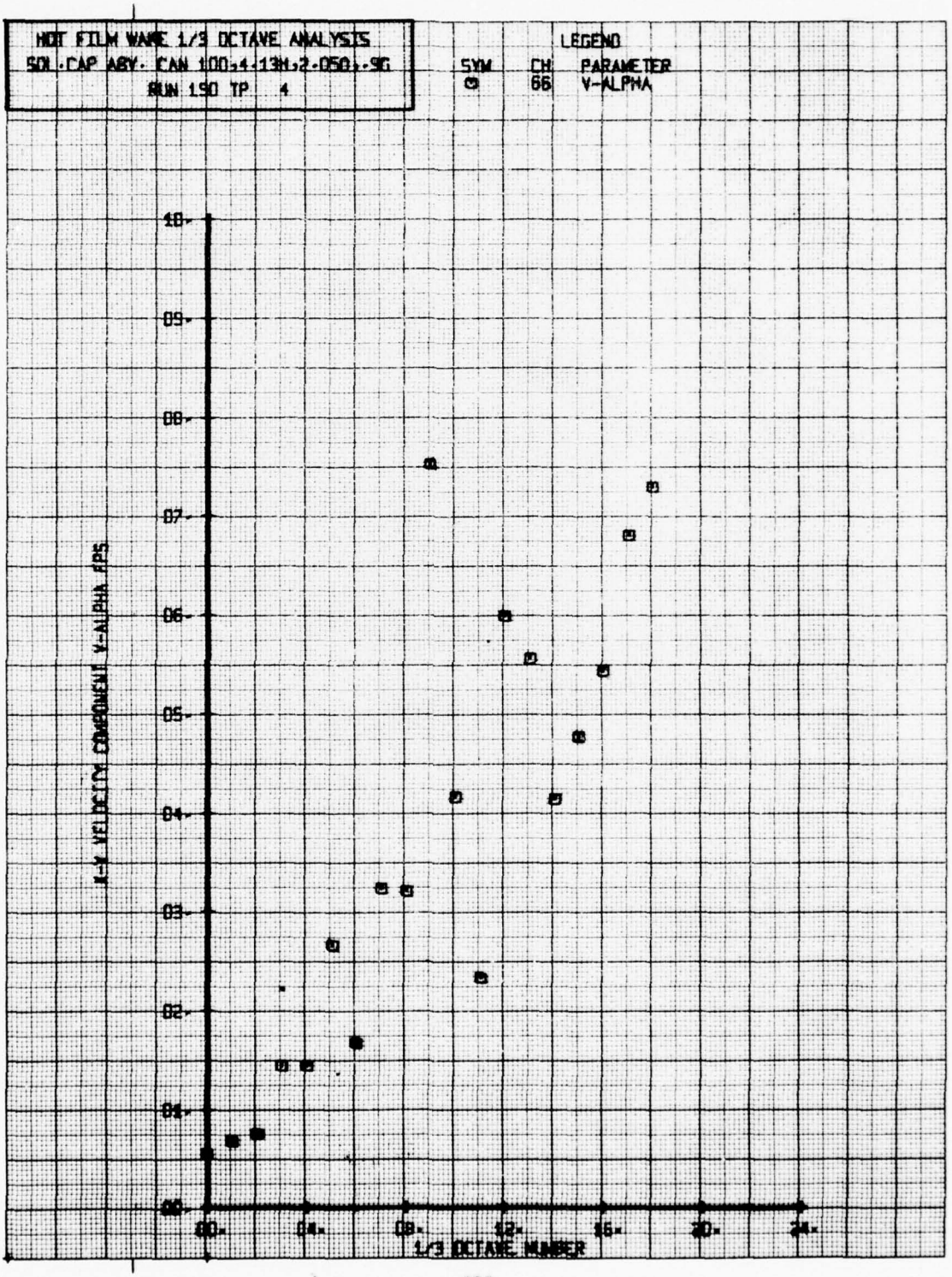

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL.-CAP ABY. CAN 100;4-13H;2-050;-9G
RUN 190 TP 3
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
1/3 OCTAVE NUMBER

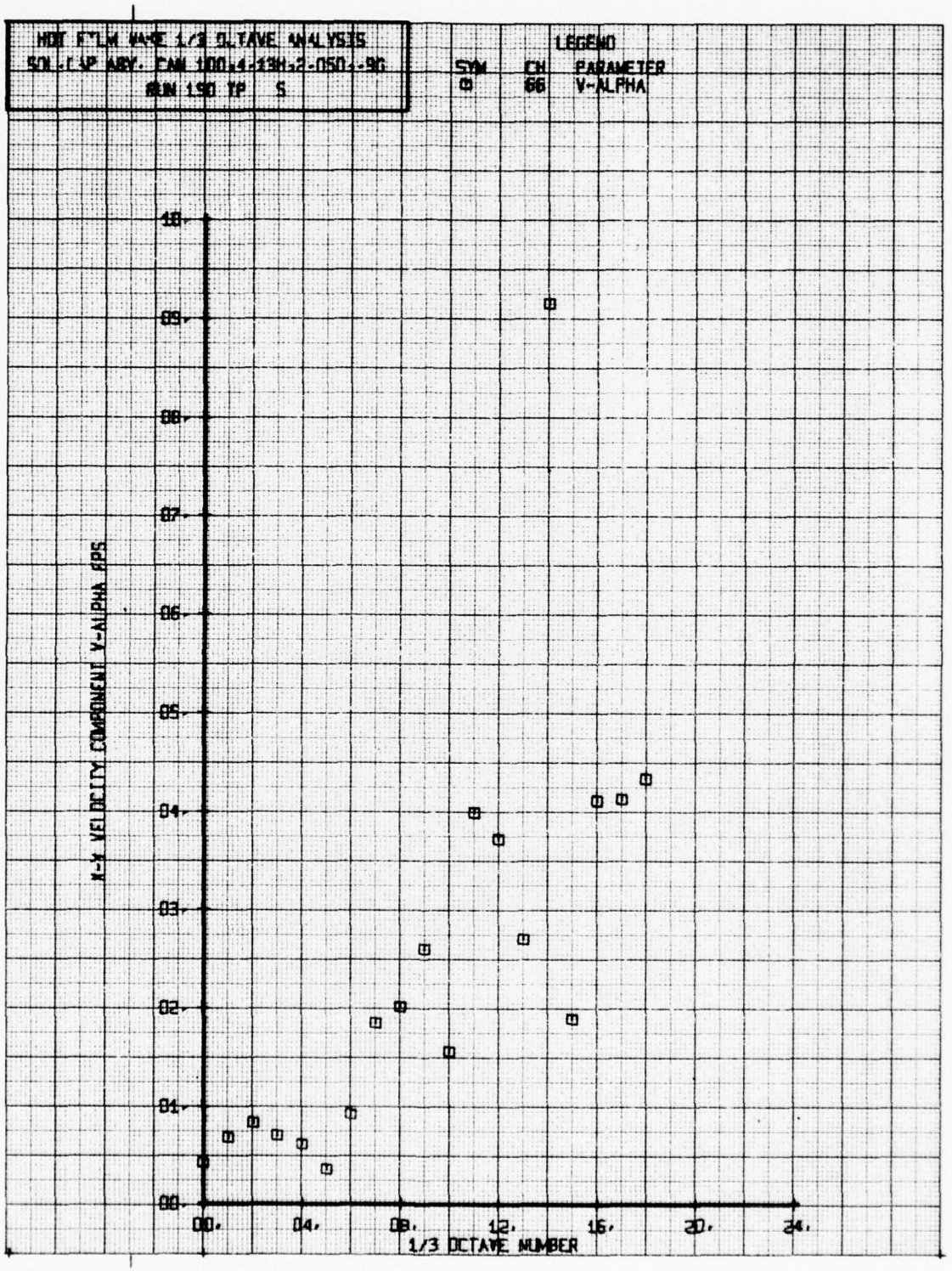

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL-CAP ABV- CAN 100,4-134,2-050,-96
RUN 190 TP 4
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
1/3 OCTAVE NUMBER

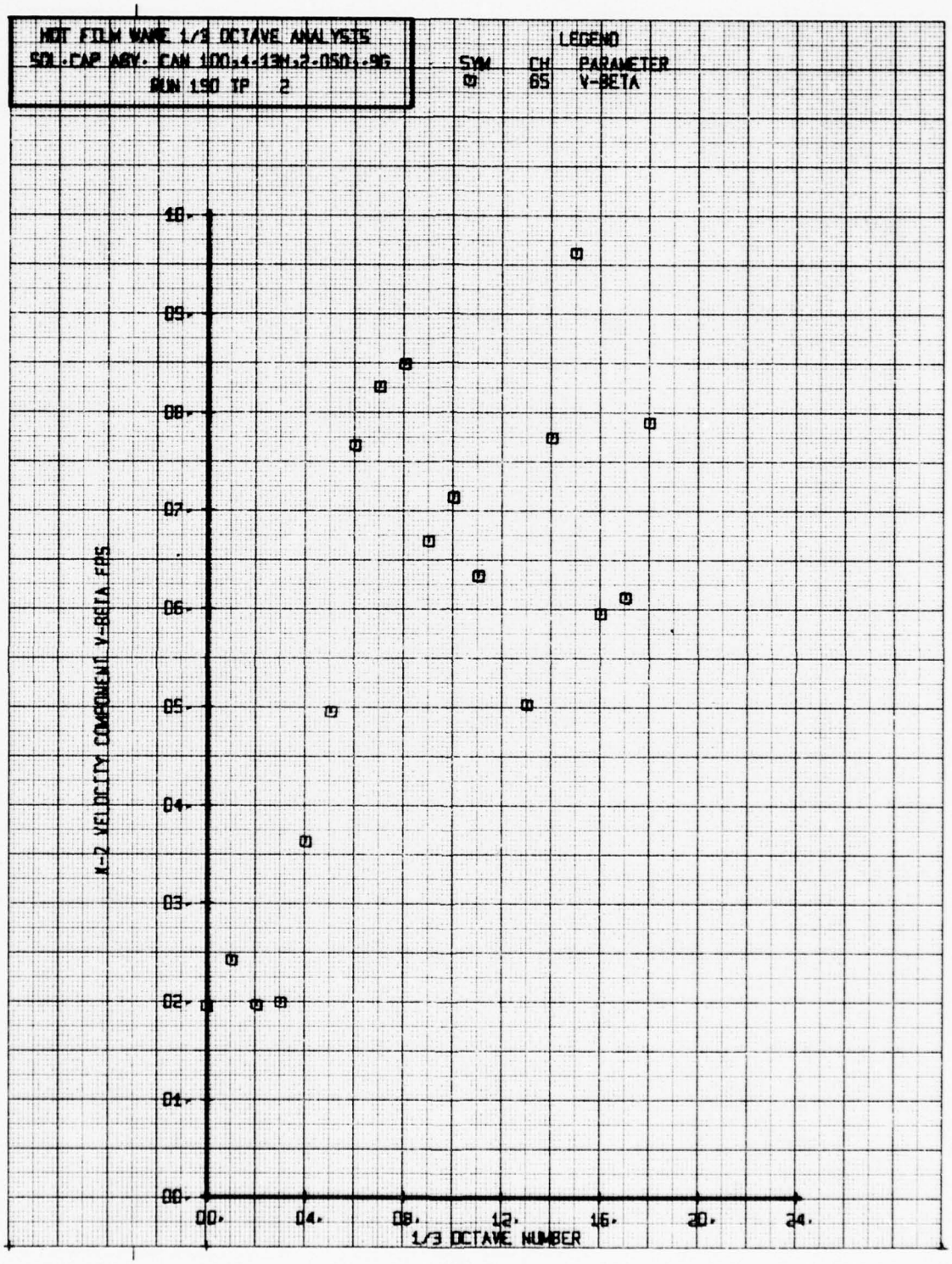

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SQL.CAP ASY. CAN 600.4-13W.2-050.-SG
RUN 190 TP 5
LEGEND
SYM CHS PARAMETER
65 BETA
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LATERAL FLOW ANGLE, BETA - DEGREES
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24.
1/3 OCTAVE NUMBER

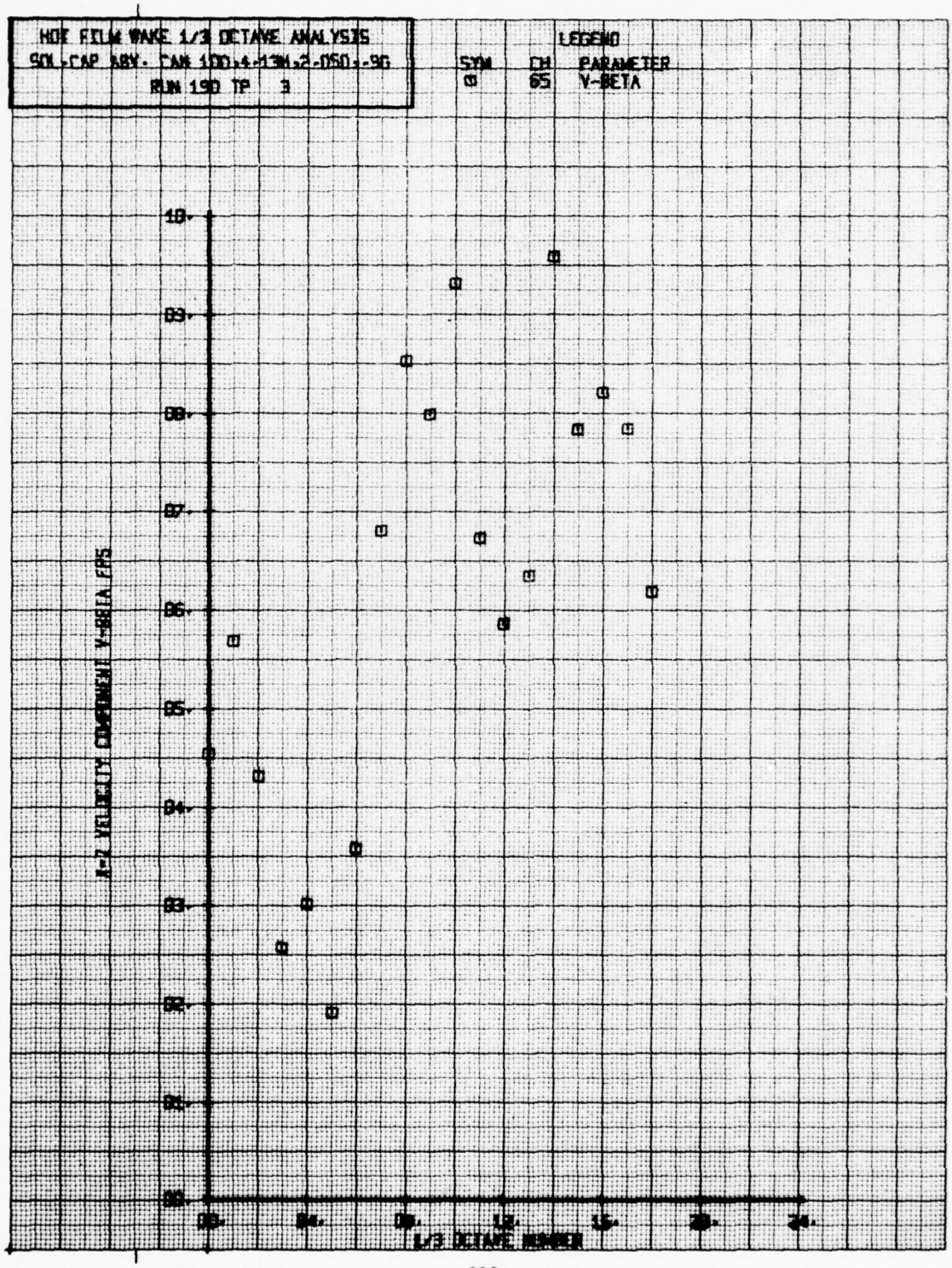

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL-CAP ARV- CAN 100,4-13M,2-050,-90
RUN 190 TP 2
LEGEND
SYM CH PARAMETER
06 V-ALPHA
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X-X VELOCITY COMPONENT V-ALPHA FPS
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1/3 OCTAVE NUMBER

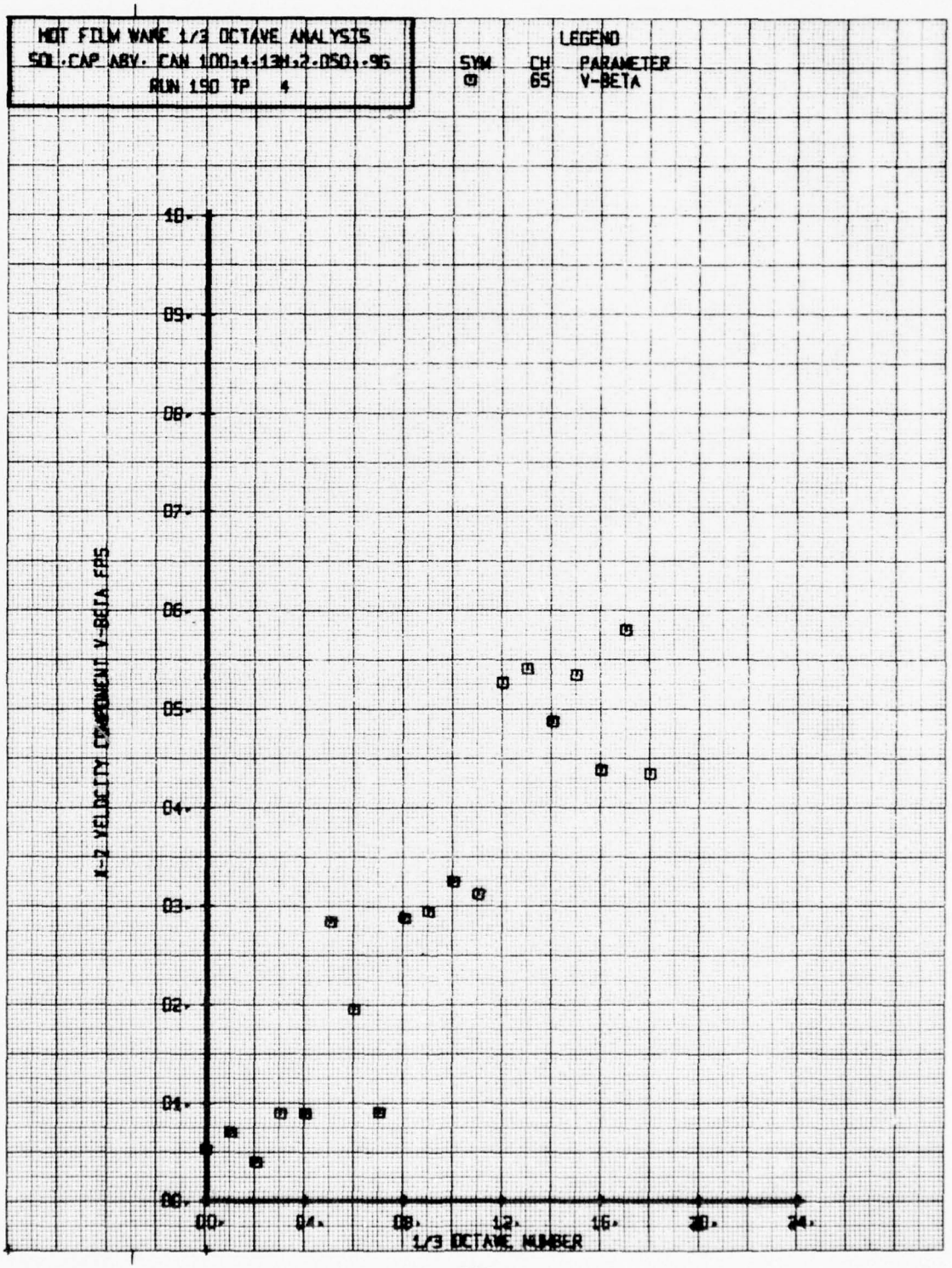

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL-CAP ABY- CAN 100;4-13H;2-050;-90
RUN 190 TP 3
LEGEND
SYM CH PARAMETER
66 V-ALPHA
RMS V-ALPHA FPS
1/3 OCTAVE NUMBER

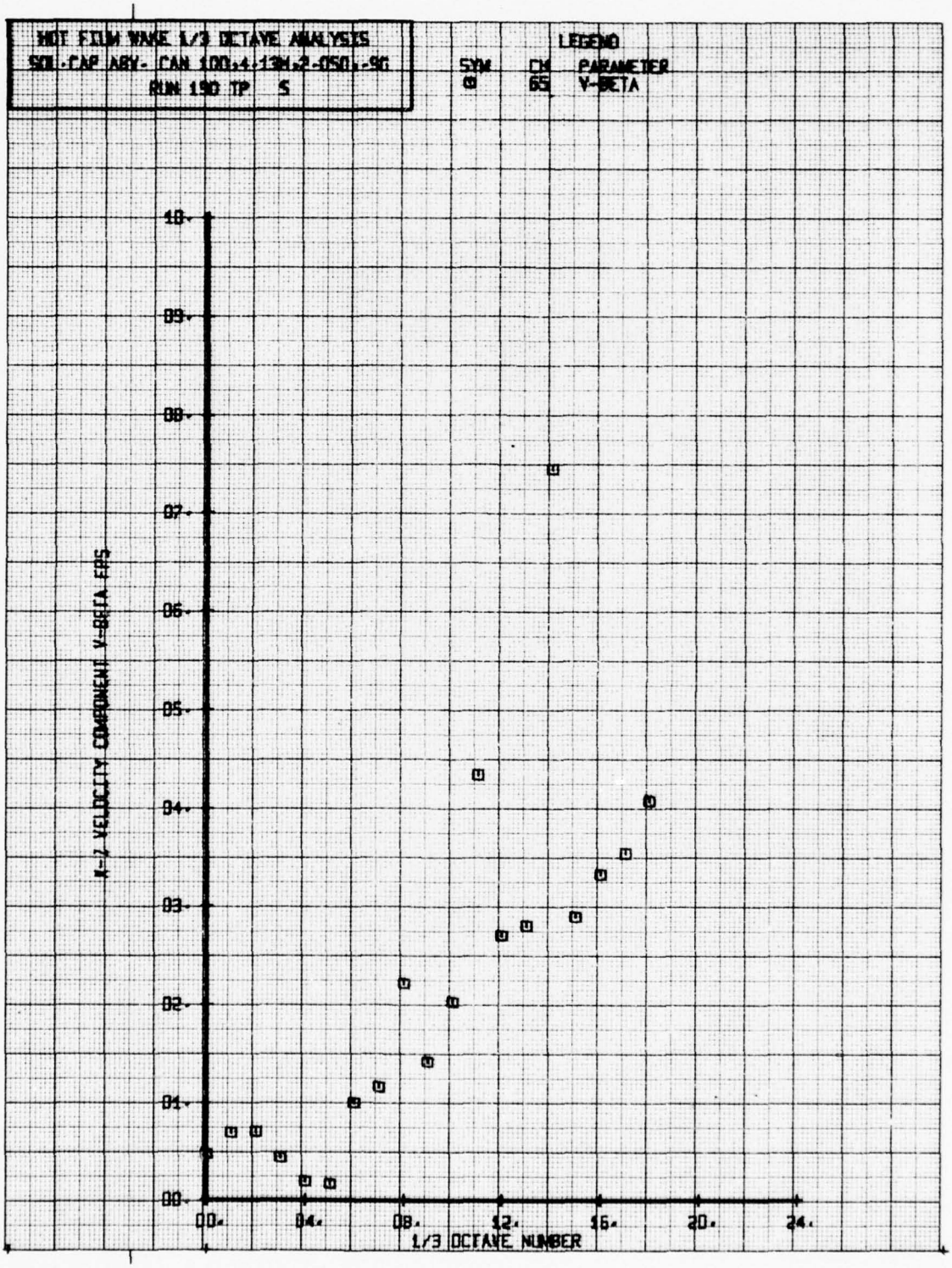

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SDL-CAP ASSY- CAN 100,4-13M,2-050,-9G
RUN 190 TP 4
LEGEND
SYM CH PARAMETER
66 V-ALPHA
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V-V VELOCITY COMPONENT V-ALPHA FPS
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1/3 OCTAVE NUMBER

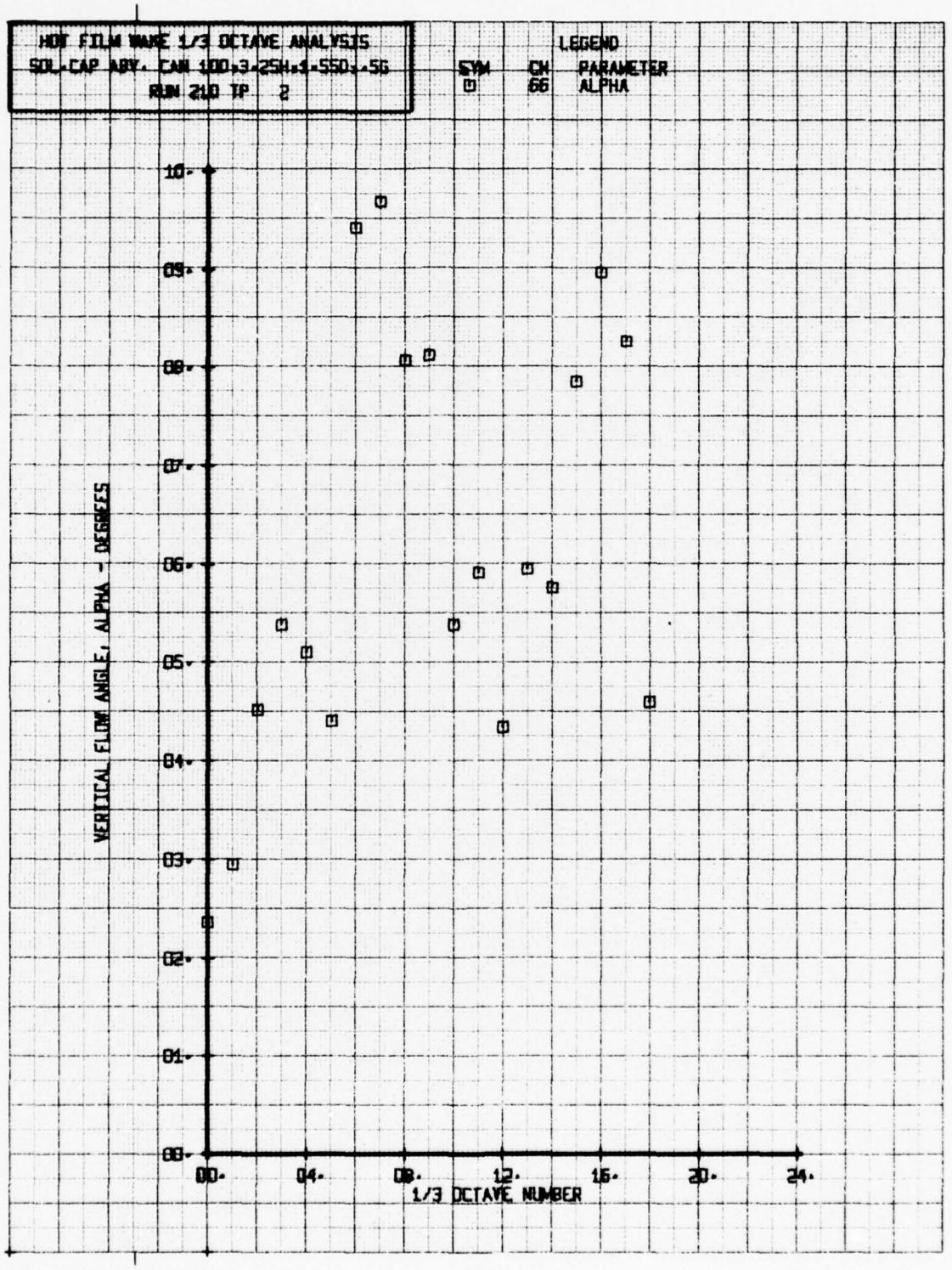

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL-LSP ABV. CAM 100,4-13H,2-050,-90
RUN 190 YP S
LEGEND
SYM CH PARAMETER
66 V-ALPHA
X-Y VELOCITY COMPONENT V-ALPHA FPS
1/3 OCTAVE NUMBER

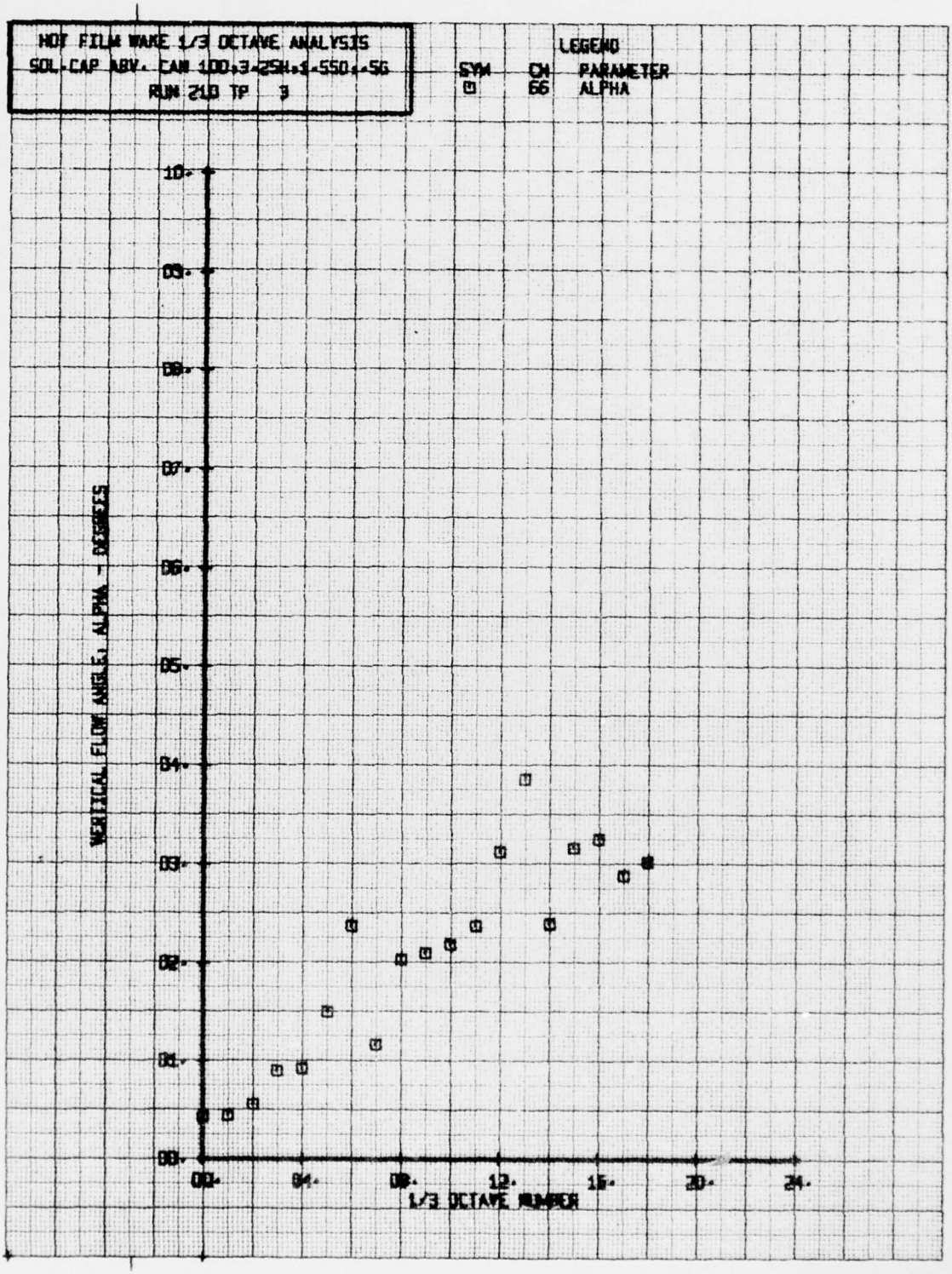

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SDL-CAP ARV. CAN 100,4-13N,2-050,-96
RUN 190 TP 2
LEGEND
SYM CH PARAMETER
65 V-BETA
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X-2 VELOCITY COMPONENT V-BETA FPS
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1/3 OCTAVE NUMBER

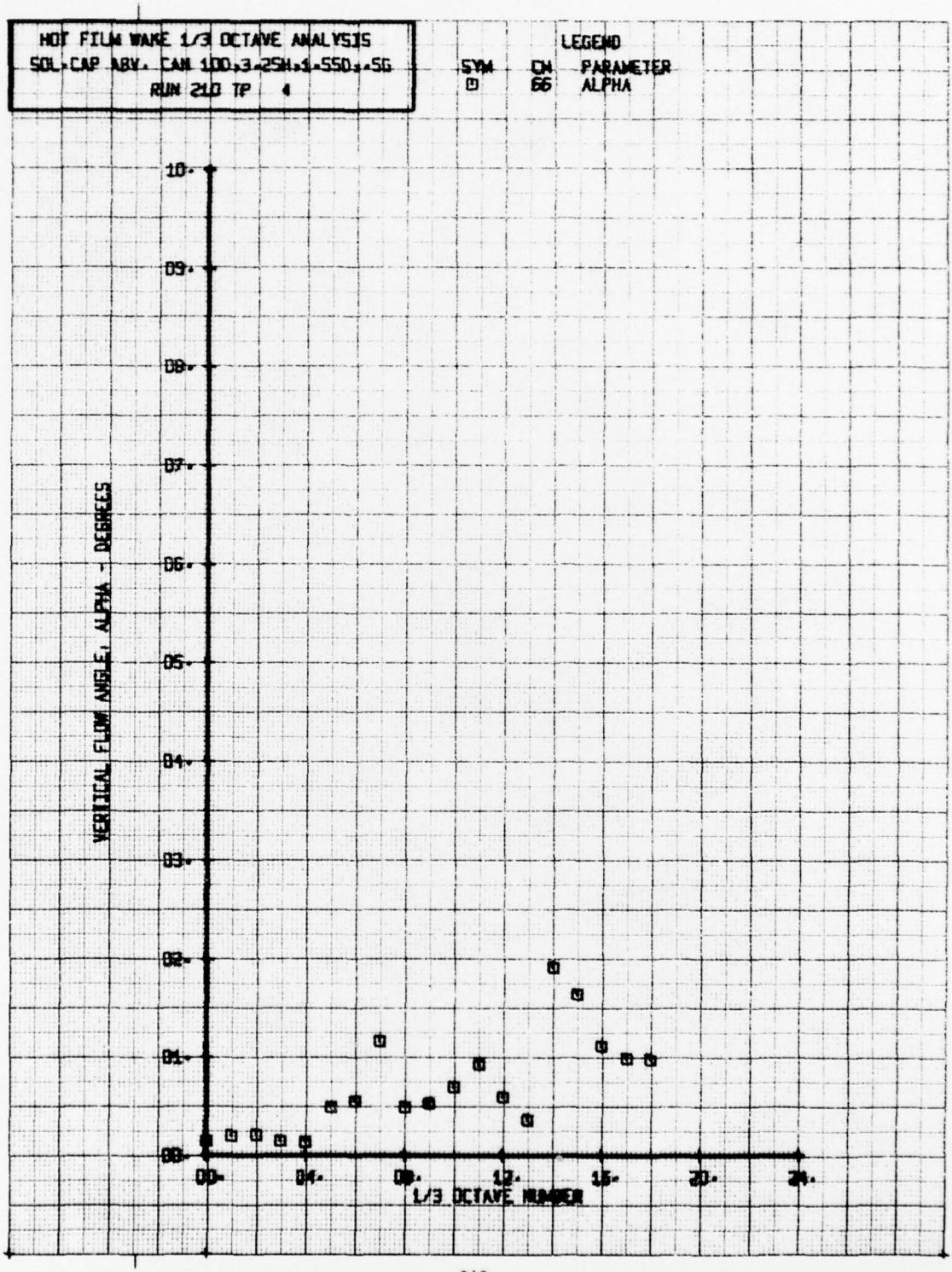

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SQL-CAP ABY- CAN 100-4-13M-2-050--96
RUN 190 TP 3
LEGEND
SYM CH PARAMETER
0 65 V-BETA
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M=2 VELOCITY COMPONENT V-BETA,FPS
1/3 OCTAVE NUMBER

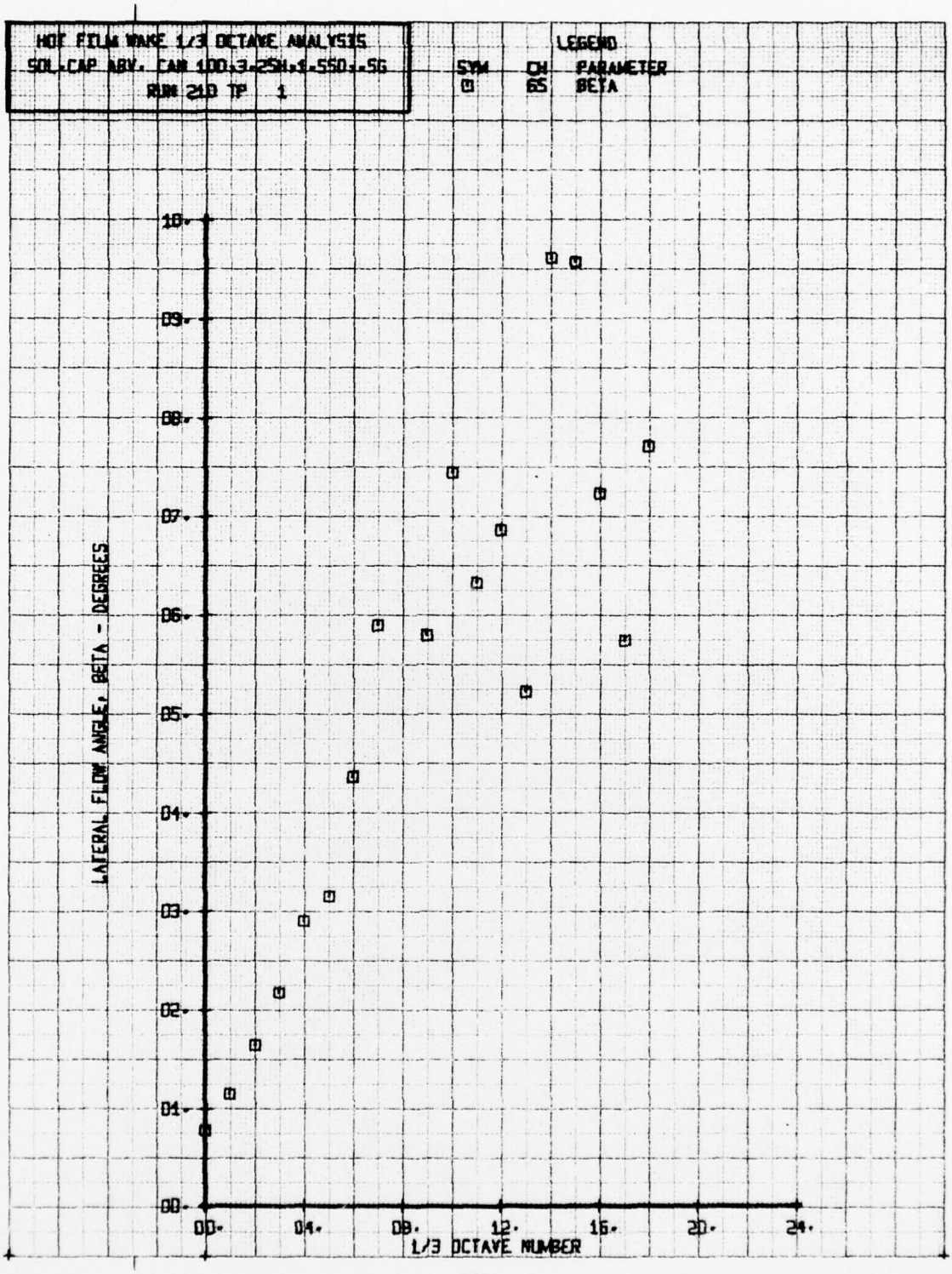

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL.CAP ABV. CAN 100,4.13N,2.050,.96
RUN 190 TP 4
LEGEND
SYM CH PARAMETER
65 V-BETA
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1/3 OCTAVE NUMBER

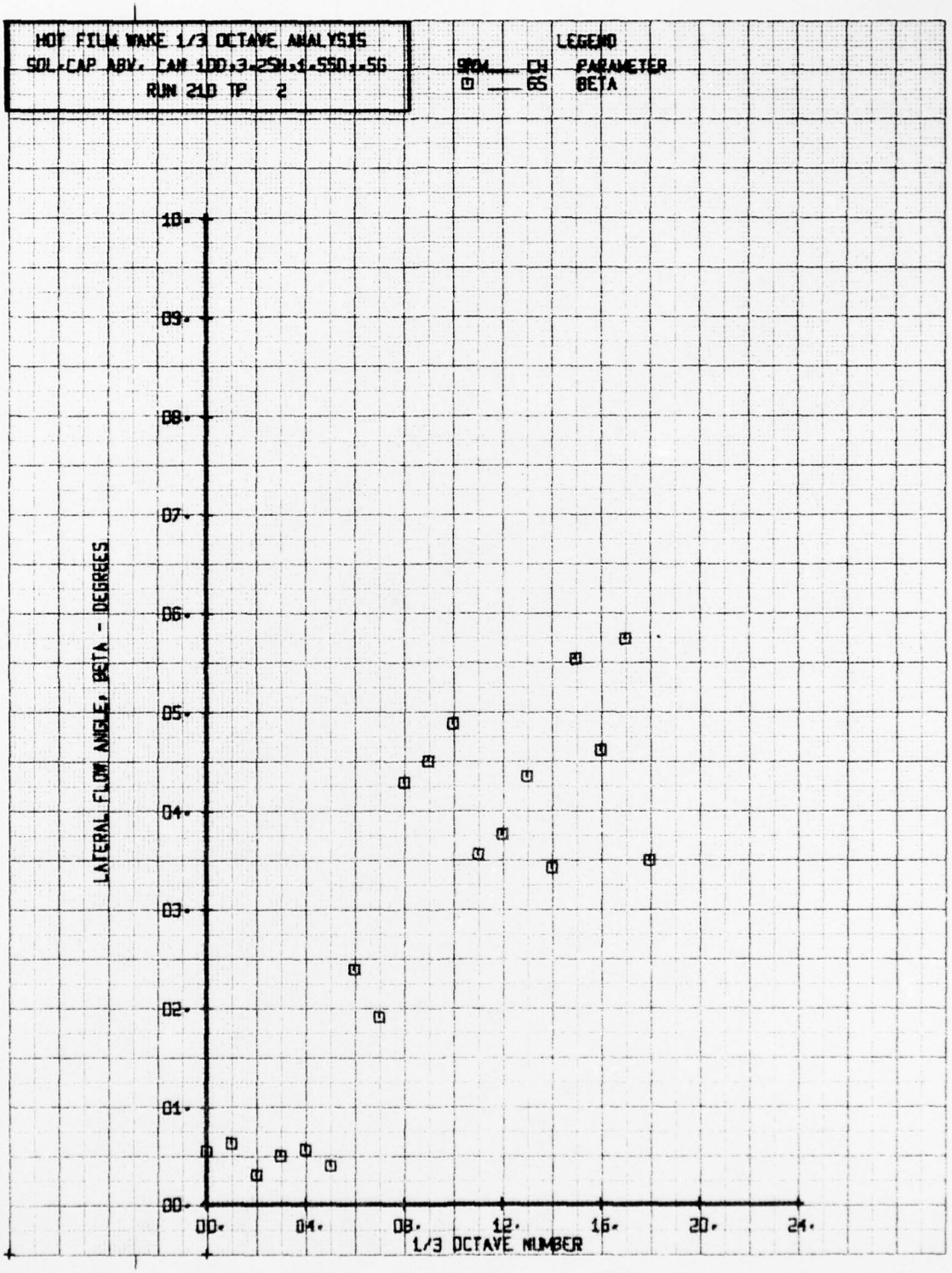

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL-CAP ABV- CAN 100.4-13H.2-050.-9G
RUN 190 TP 5
LEGEND
SYM CH PARAMETER
65 V-BETA
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X-Z VELOCITY COMPONENT V-BETA FPS
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1/3 OCTAVE NUMBER

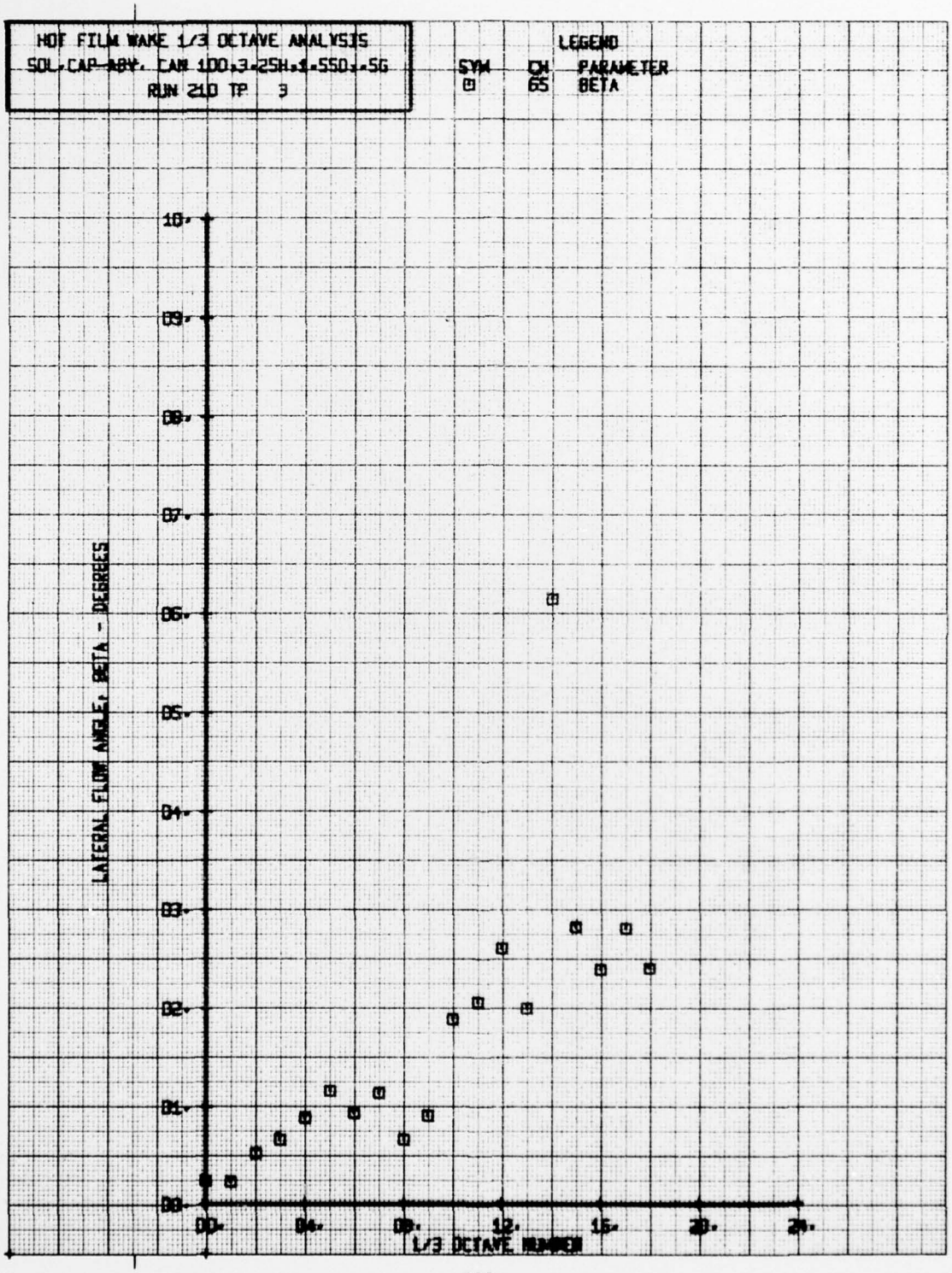

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL-CAP ABV. CAN 100-3-25H-1-550-.5G
RUN 210 TP 2
LEGEND
SYM CH PARAMETER
66 ALPHA
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VERTICAL FLOW ANGLE, ALPHA - DEGREES
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1/3 OCTAVE NUMBER

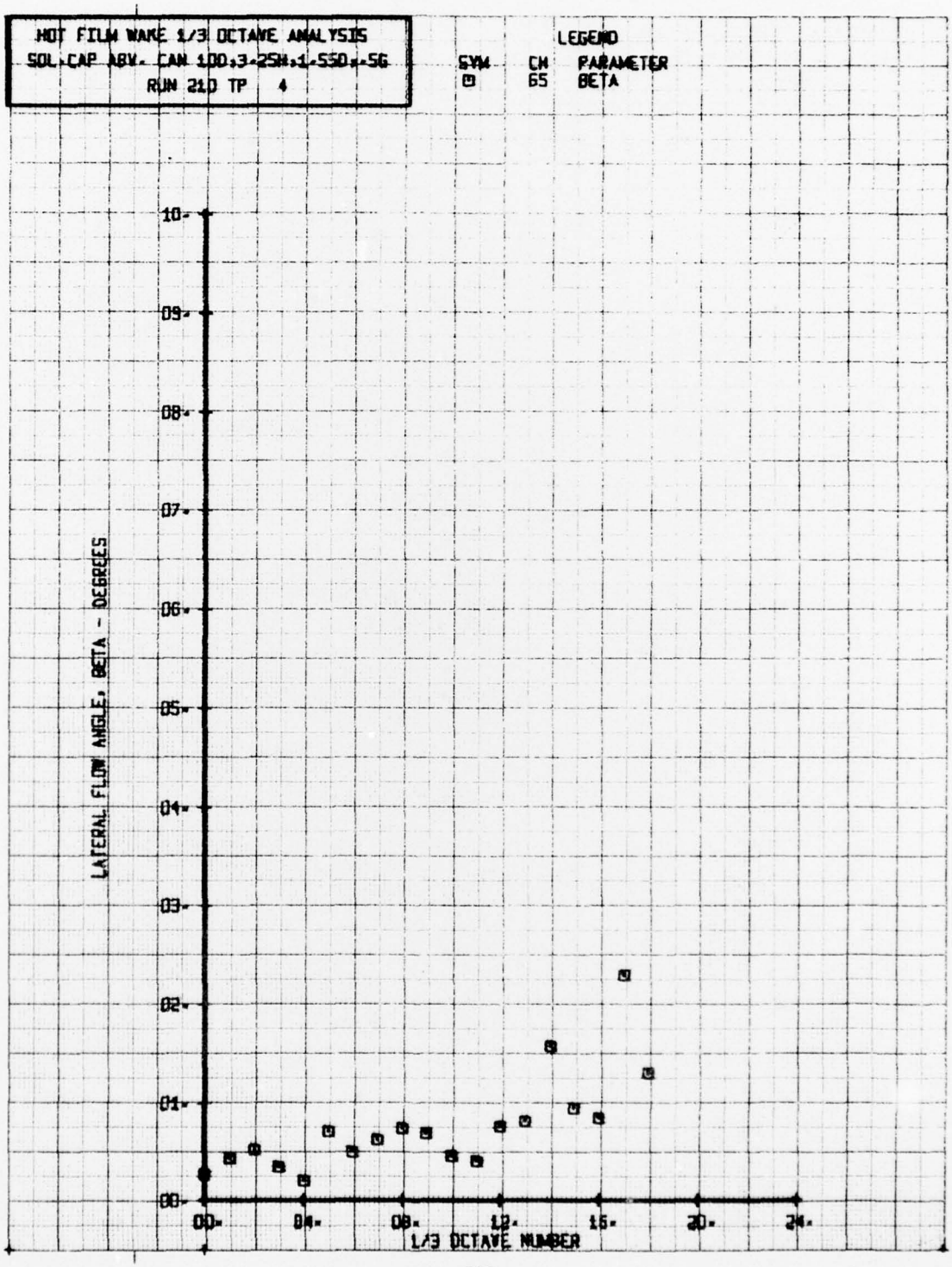

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL-CAP ABV. CAN 100+3-25H+1-550+-5G
RUN 210 TP 3
LEGEND
SYM CH PARAMETER
66 ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
1/3 OCTAVE NUMBER

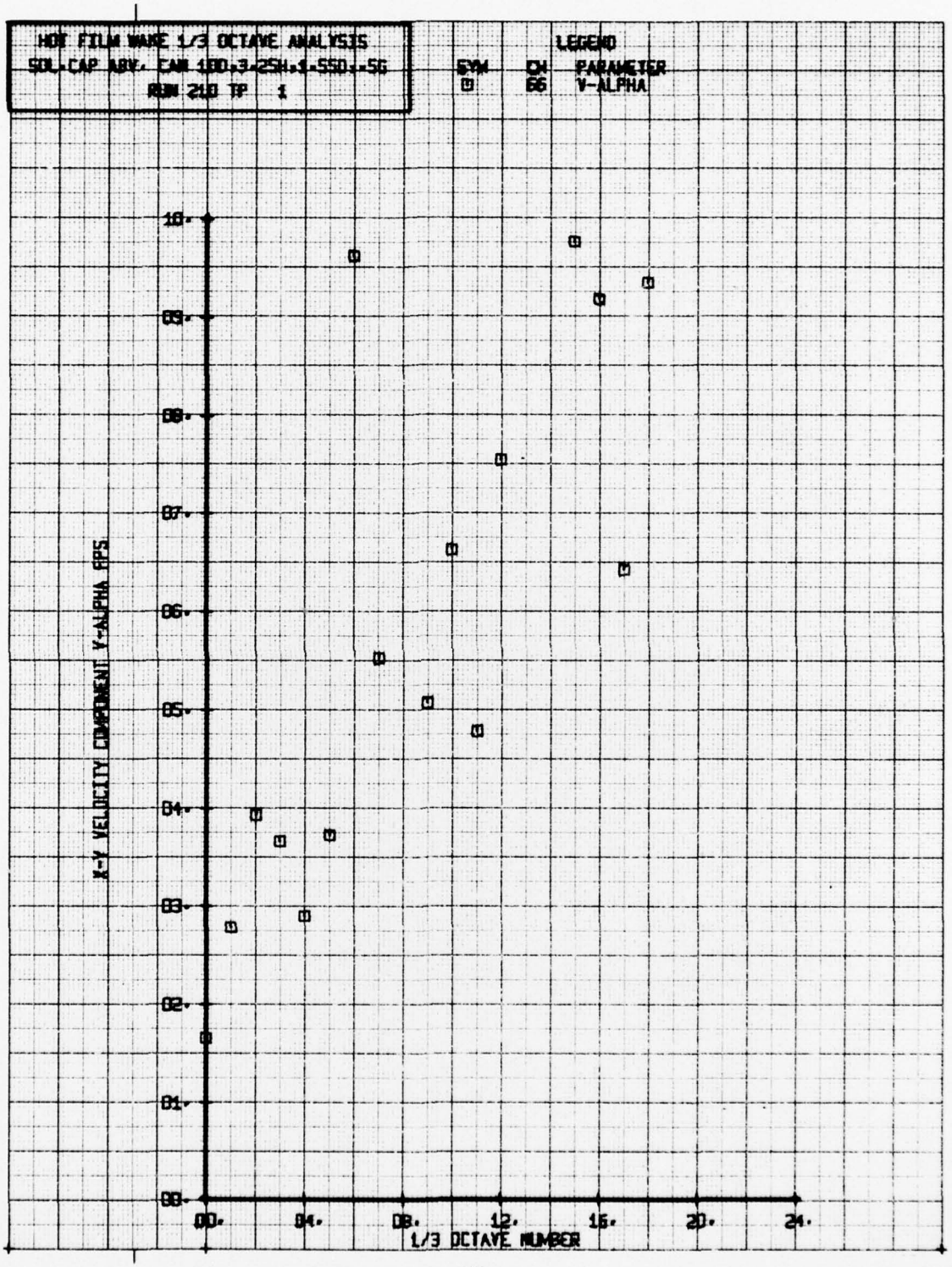

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL-CAP ABV. CAM 100-3-25H-1-550-.5G
RUN 210 TP 4
LEGEND
SYM CH PARAMETER
66 ALPHA
VERTICAL FLOW ANGLE, ALPHA - DEGREES
1/3 OCTAVE NUMBER

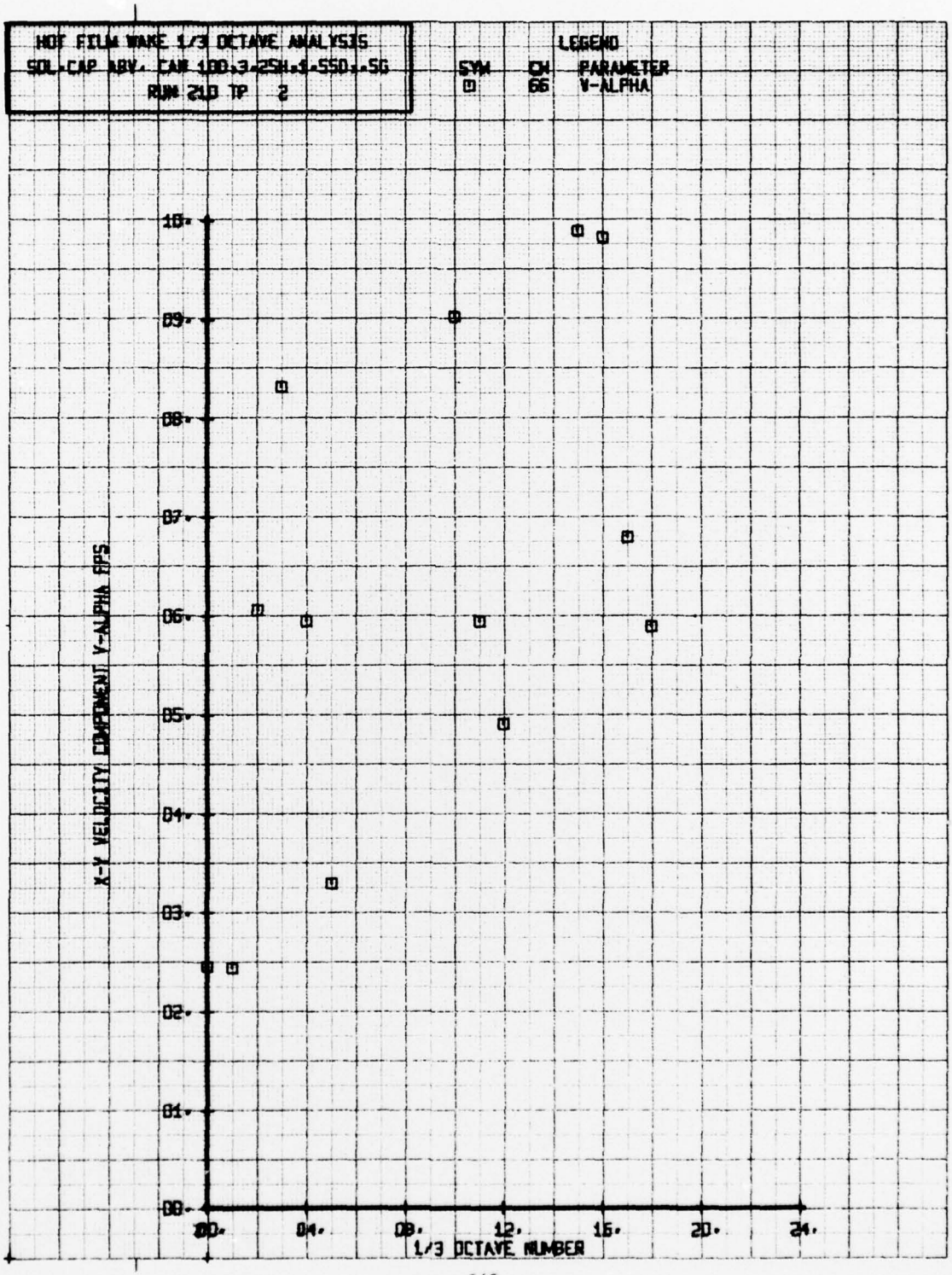

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL.CAP ABV. CAN 100,3.25H,1.550,.5G
RUN 210 TP 1
LEGEND
SYM CH PARAMETER
65 BETA
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LATERAL FLOW ANGLE, BETA - DEGREES
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1/3 OCTAVE NUMBER

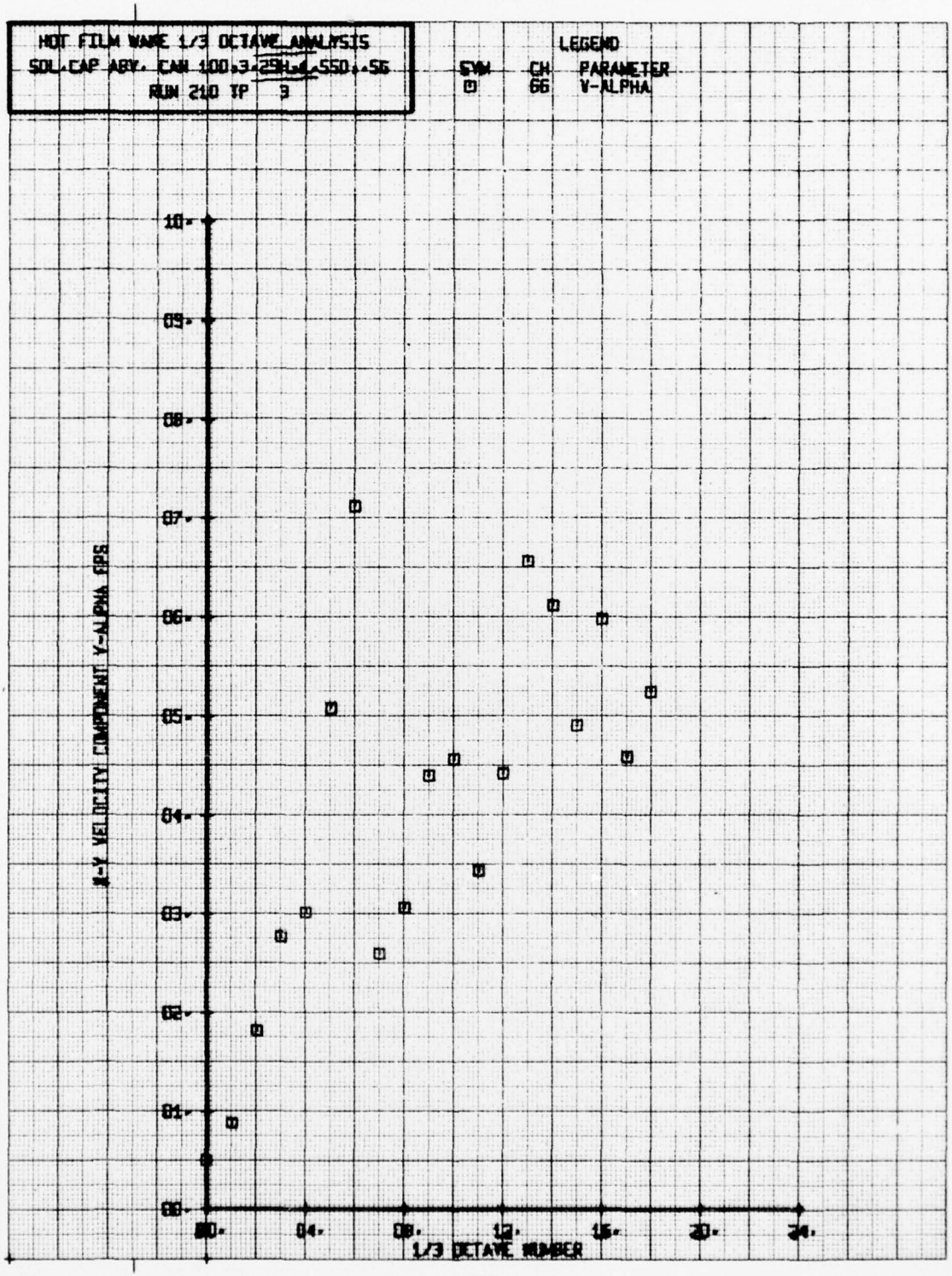

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL-CAP ABV. CAN 100.3-25M.1-550.-56
RUN 210 TP 2
LEGEND
SROM CH PARAMETER
65 BETA
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LATERAL FLOW ANGLE, BETA - DEGREES
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1/3 OCTAVE NUMBER

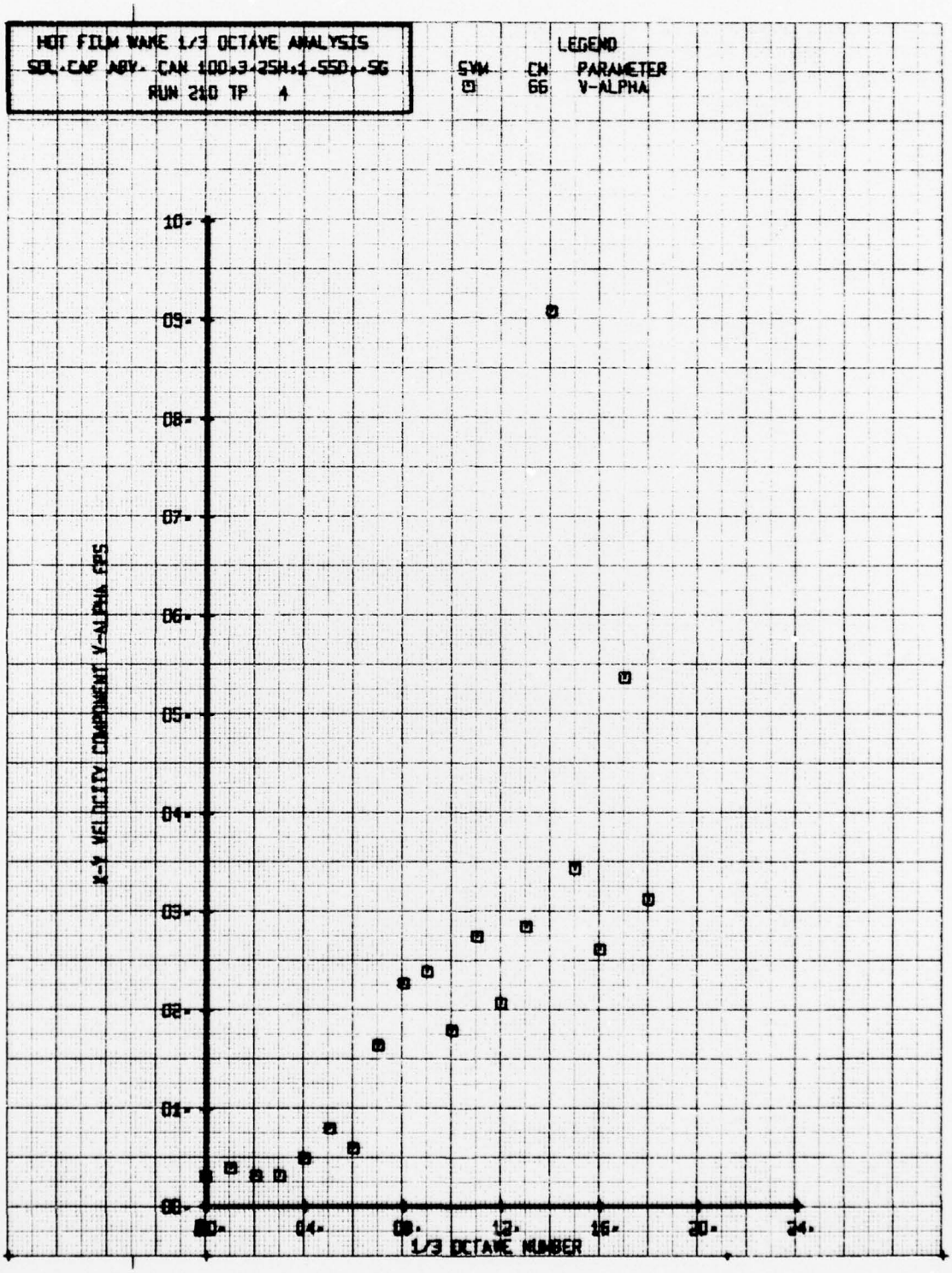

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL.CAP-ABY. CAM 100.3-25H.1-550.-5G
RUN 210 TP 3
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
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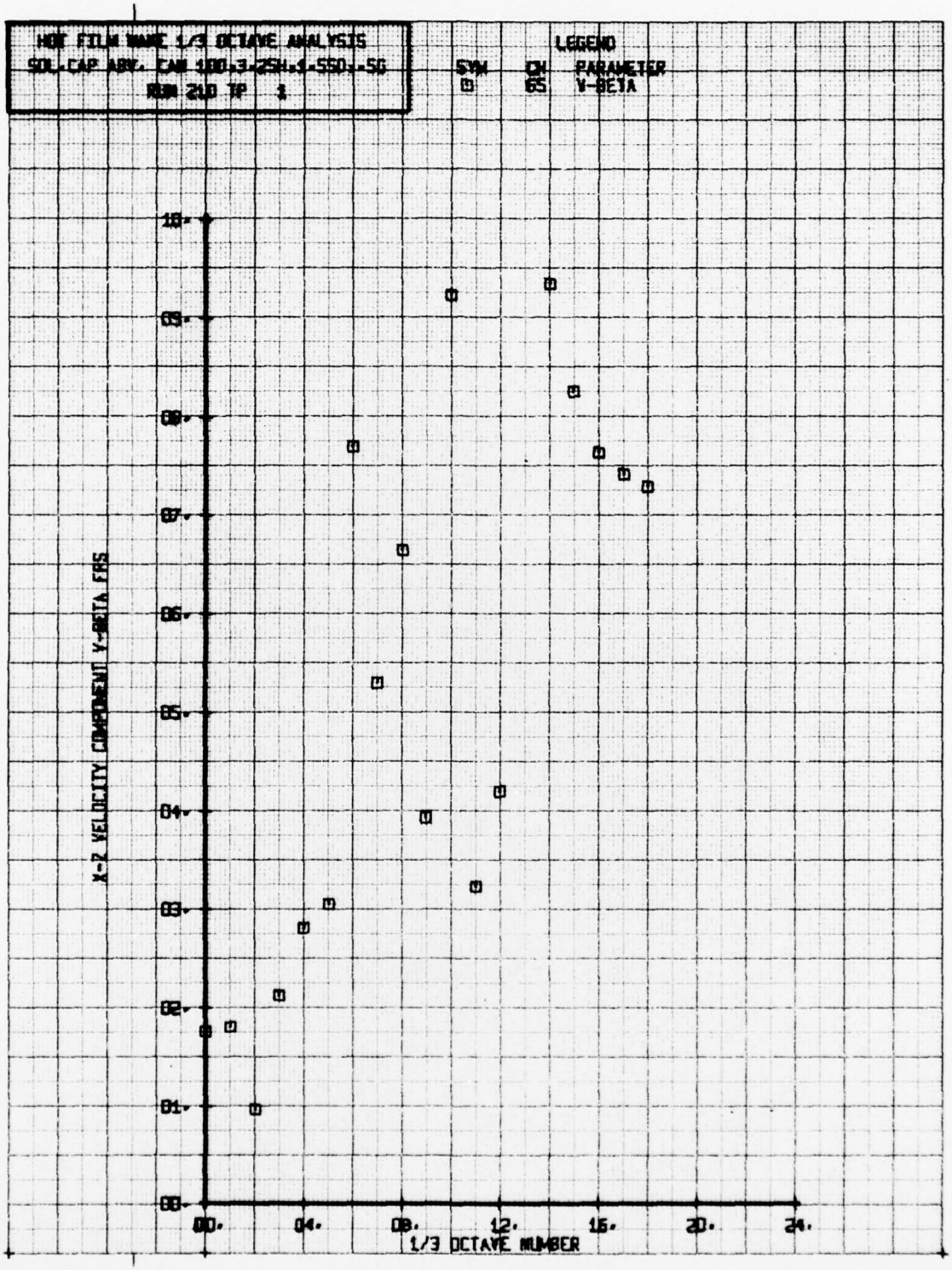

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL.CAP ABV. CAN 100;3.25M;1.550;.5G
RUN 210 TP 4
LEGEND
SYM CH PARAMETER
65 BETA
LATERAL FLOW ANGLE, BETA - DEGREES
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1/3 OCTAVE NUMBER

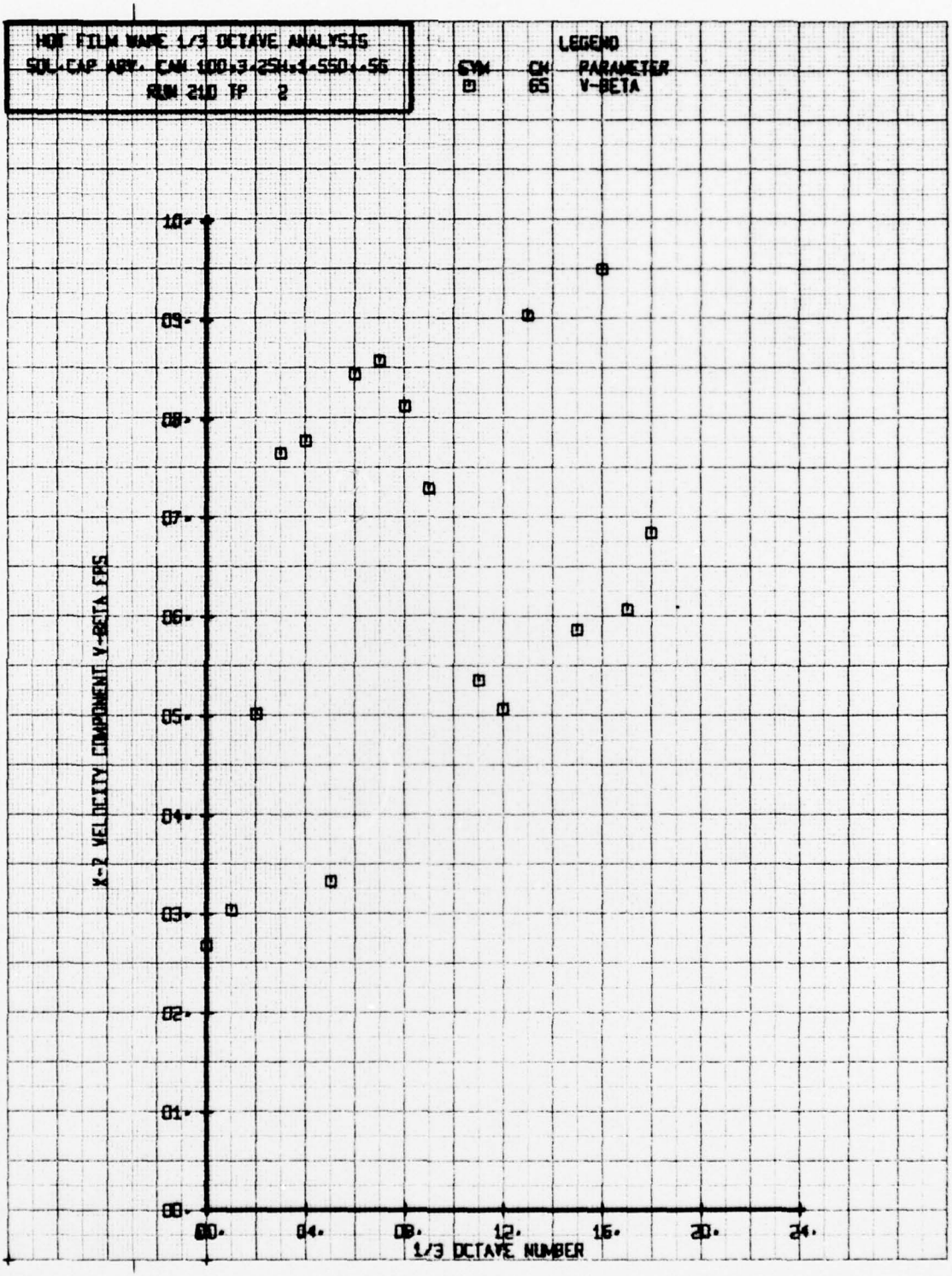

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL.-CAP ABV. CAM 100.3-25H.1-550.-56
RUN 210 TP 1
LEGEND
SYM CH PARAMETER
66 V-ALPHA
X-Y VELOCITY COMPONENT V-ALPHA FPS
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1/3 OCTAVE NUMBER

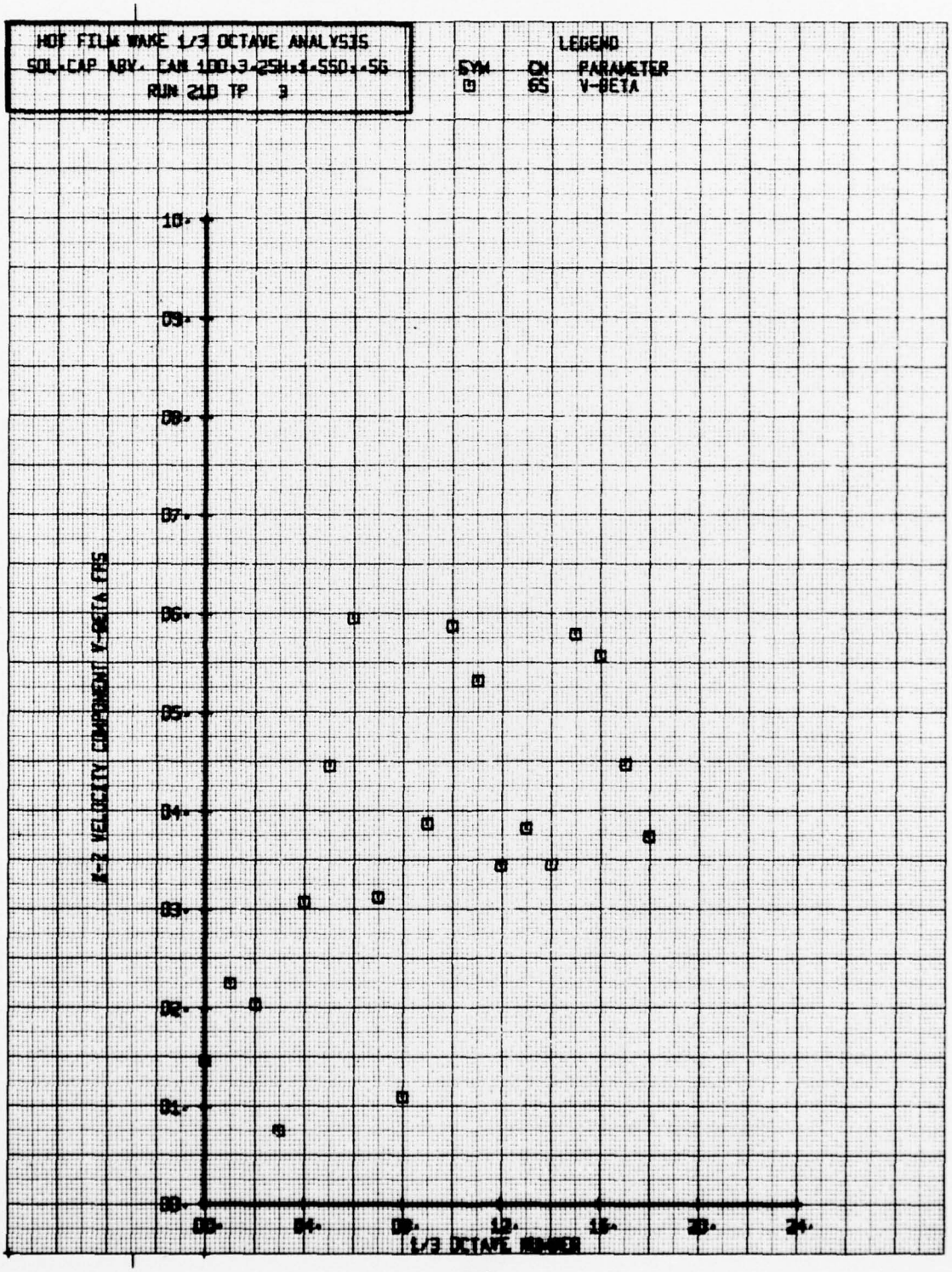

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL-CAP ABV. CAM 100.3-25H-1-550.-5G
RUN 210 TP 2
LEGEND
SYM CH PARAMETER
66 V-ALPHA
X-Y VELOCITY COMPONENT V-ALPHA FPS
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1/3 OCTAVE NUMBER

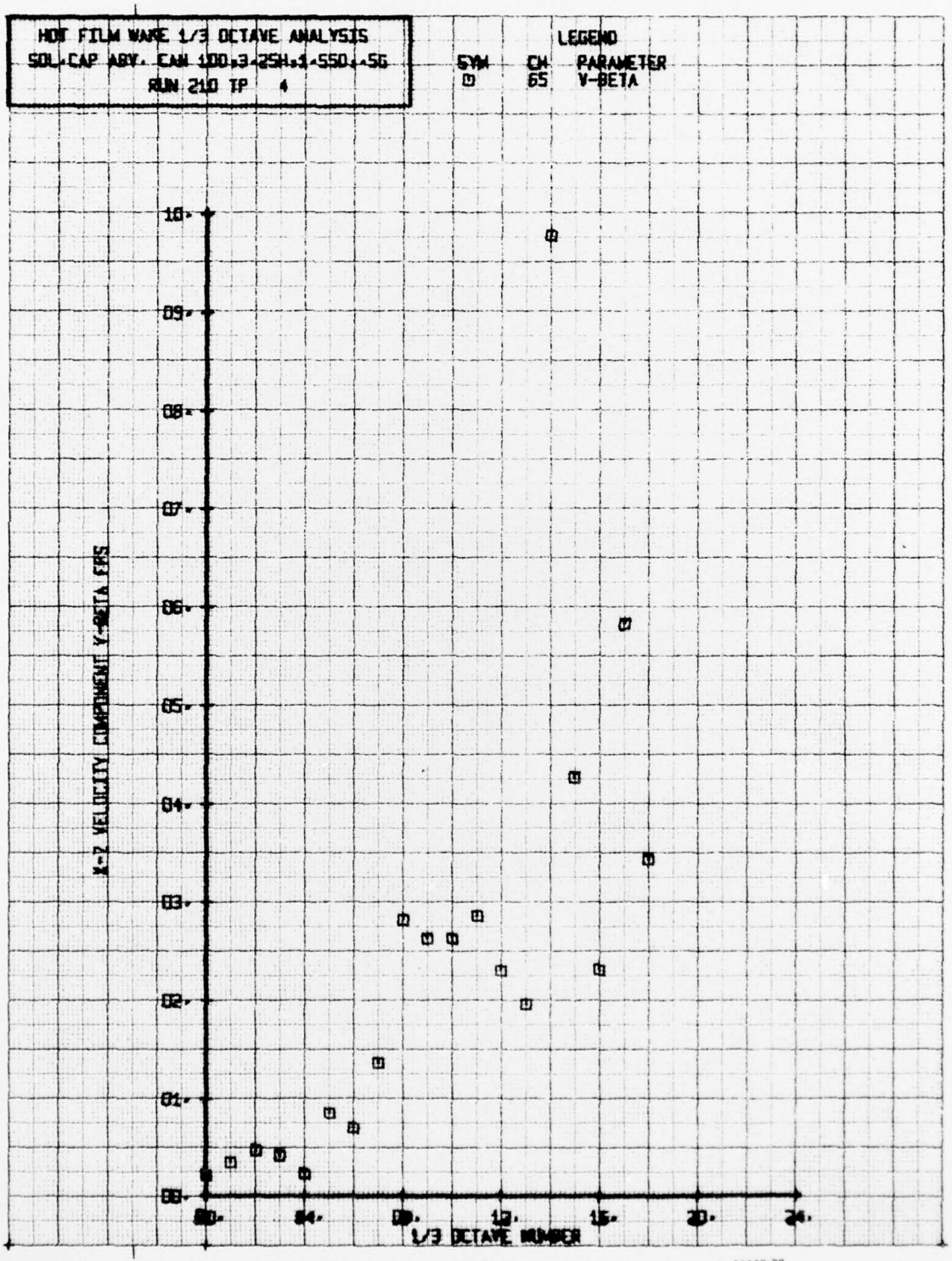

HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL.CAP ABV. CAN 100,3.25H,4.550,.56
RUN 210 TP 3
LEGEND
SYM CH PARAMETER
66 V-ALPHA
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V-Y VELOCITY COMPONENT V-ALPHA FPS
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1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SDL.CAP ABV. CAN 100,3.25H,1.550,-.96
RUN 210 TP 4
LEGEND
SYM CH PARAMETER
66 V-ALPHA
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K-V VELOCITY COMPONENT V-ALPHA FPS
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1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL.CAP ABV. CAM 100.3.25H.1.55D.-5G
RUN 210 TP 1
LEGEND
SYM CH PARAMETER
65 V-BETA
X-Z VELOCITY COMPONENT V-BETA FRS
1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL-CAP ARY. CAN 100,3.25H,1.550,.56
RUN 210 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
SQL.CAP ABV. CAN 100.3.25H.1.550.1.56
RUN 210 TP 3
LEGEND
SYM CN PARAMETER
65 V-BETA
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1/3 OCTAVE NUMBER


HOT FILM WAKE 1/3 OCTAVE ANALYSIS
SOL-CAP ABY. CAN 100-3-25H-1-550-.56
RUN 210 TP 4
LEGEND
SYM CH PARAMETER
65 V-BETA
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X-Z VELOCITY COMPONENT V-BETA FPS
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