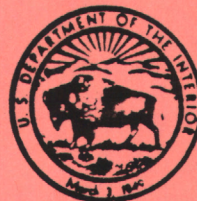


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PROCESSED DATA FROM THE GILROY ARRAY
AND COYOTE CREEK RECORDS,
COYOTE LAKE, CALIFORNIA EARTHQUAKE
6 AUGUST 1979

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

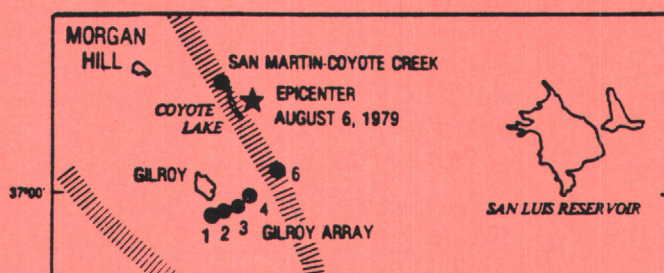
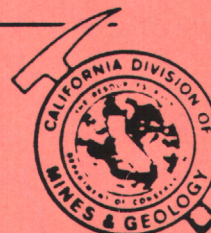
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CALIFORNIA DIVISION OF MINES AND GEOLOGY

PRELIMINARY REPORT 24



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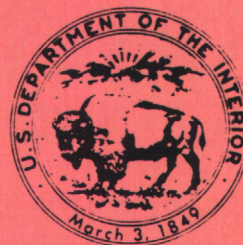
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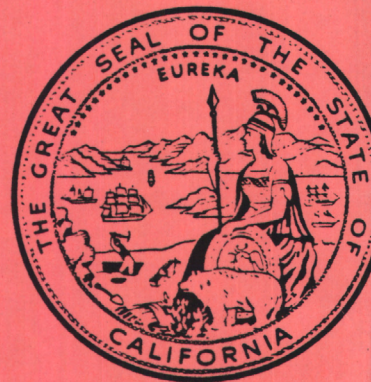
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PROCESSED DATA FROM THE GILROY ARRAY
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6 AUGUST 1979

OPEN-FILE REPORT 81-42
U.S. GEOLOGICAL SURVEY
MENLO PARK, CALIFORNIA 94025

PRELIMINARY REPORT 24
OFFICE OF STRONG-MOTION STUDIES
CALIFORNIA DIVISION OF MINES AND GEOLOGY
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PREFACE

This joint report is published by both the U.S. Geological Survey (USGS) and the California Division of Mines and Geology (CDMG) and describes the results of the processing of the six close-in records obtained from the Coyote Lake earthquake of 6 August 1979. The report represents a cooperative effort by the personnel of both government agencies.

The San Martin -- Coyote Creek instrument is part of the CDMG network of strong-motion instruments on dams, in buildings, and at free-field sites throughout the State of California. The six-station Gilroy array, first established by the USGS in November, 1971, is to become part of the CDMG network after the final checkout of new instrumentation is completed. Array stations 1, 2, 3, 4, and 6 were installed and operational at the time of the August 6 earthquake; the processing of the records from these five and the San Martin--Coyote Creek stations is the subject of this report.

Throughout the development of the California Strong-Motion Instrumentation Program within CDMG, cooperation with the USGS national program has benefited the operations of both networks. Areas where such joint efforts have been made include network planning, installations, maintenance, record collection, digitization, analysis and, finally, a report such as this.

Additional joint studies of the Coyote Lake earthquake recordings are in preparation or in the planning stage. "Compilation of Strong-Motion Records from the August 6, 1979 Coyote Lake Earthquake" (Porcella and others, 1979) describing all the records and the stations from which they came has been published as a USGS Open-File Report 79-385, and CDMG Preliminary Report 25. Significant ground level records and structural records are being analyzed.

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INTRODUCTION

This report contains plots of the results of completed processing performed on the six close-in records obtained from the Coyote Lake earthquake of 6 August 1979. Additional copies may be obtained from the Open-File Services Section, Branch of Distribution, USGS, Box 25425, Federal Center, Denver, Colorado 80225. Digital data corresponding to the plots of the analysis sections 1, 2, and 3 (uncorrected data, corrected data, and response spectra, respectively), may be obtained on magnetic tape from the Environmental Data and Information Service, NOAA, Mail Stop D62, Boulder, Colorado 80302.

Previous data compilations and reports and their corresponding tapes prepared by the USGS since 1971 are listed below:

Open-File Report No.	Tape No.	Description
76-609	71	1971 records
77-587	PP	Lima, Peru: 1951-74
78-941	72	1972 records
79-929	74	1974-75 records
-	67	1967-75 records
78-1022	-	Romanian and Greek records
80-703	IV	Imperial Valley earthquake, 1979

Previous compilations and data reports prepared by CDMG are as follows:

	Description
Preliminary Report	22 Record compilation for Santa Barbara, 13 Aug 1978
Preliminary Report	23 Processed data for Santa Barbara, 13 Aug 1978
Special Report	144 Processed data for Santa Barbara, 13 Aug 1978, Final Results.

EARTHQUAKE CHARACTERISTICS

The following information is based on the preliminary report by Lee and others (1979), describing the August 6 earthquake and its major aftershocks. The earthquake was of moderate size, predominantly right-lateral strike-slip, with a magnitude of 5.7 ± 0.2 , and an origin time of August 6, 1979, 17h05m22.3 \pm 0.1s (UTC). The epicenter was located at 37°6.7'N and 121°32.0'W, (\pm 1 km), with a focal depth of 9.6 (\pm 2.0 km). The calculated location places the epicenter about 1 km to the east of the Calaveras fault trace in the vicinity of Coyote Lake, about 10 km NNE of Gilroy (figure 1). From calculated aftershock locations it has been estimated that faulting during the main shock extended 20 km to the southeast of the epicenter along the Calaveras fault at depths of between 4 and 12 km. No evidence of significant surface faulting has been found. Uhrhammer (1980) reports on the major seismological data obtained from the Seismographic Station network of the University of California at Berkeley: origin time, 17:05:22.71; epicenter, 37°6.12'N, 121°30.20'W; depth, 6.3 km; M_L = 5.9.

Minor damage was reported in Gilroy, Hollister, and other nearby communities, where preliminary estimates of Modified Mercalli Intensity (MMI) reach VII. This will probably be the maximum MMI for the earthquake (C. W. Stover, personal communication). An isolated case of damage to a wooden structure, occurring near the southeast end of the rupture zone, indicates an MMI of VIII (R. D. Nason, personal communication). It is possible, therefore, that Gilroy Array Station 6, included in this report, might also have reached MMI VIII, but this point cannot be verified. Final intensity descriptions and isoseismal maps when available, will be found in the USGS Circular "Earthquakes in the United States", and in the annual joint NOAA and USGS publication "United States Earthquakes".

STATION DESCRIPTIONS

The Gilroy array of six instruments, five of which are shown in figure 1, was first installed in November, 1971 by the USGS subsequent to the instruments' use in aftershock studies of the San Fernando earthquake of February 9, 1971. The instruments were upgraded to 1 g acceleration range several years ago. In the months preceding the August 6 earthquake they were being replaced with CDMG instruments; Station 5 was not reinstalled at the time of the earthquake.

The array spans 10 km across the Santa Clara Valley in a northeast direction. Station 6 (San Ysidro, Canada Telemetry Site), at the northeast end, is located within the Calaveras fault zone (table 1). The array is roughly perpendicular to the general trend of the fault. Station 6, 10 km to the southeast of the epicenter, lies at the center of the 20 km fault rupture, as it is defined by the aftershock locations but perhaps 1 km to the east. The San Martin -- Coyote Creek instrument is located on the southwest abutment of the Coyote Creek dam.

Detailed descriptions of the site geology at the stations will have to await further investigations. Briefly, San Martin -- Coyote Creek and Gilroy Station 6 are rock sites: Cretaceous, Berryessa Formation (Oakland conglomerate, sandstone, and shale). Station 1 is a rock site: Cretaceous-Jurassic, Franciscan Formation (sandstone, shale, and chert). Stations 4, 3, and 2 are on alluvium, of unknown depth.

At the present time, drilling is being carried out by the USGS in the vicinity of Stations 6, 4, 3, 2, and 1 with a view to determine, among other things, the bedrock depth at Station 2, and the physical properties of the

subsurface material at all five sites (T. E. Fumal and J. F. Gibbs, 1980). Downhole seismic surveys are also under consideration for the array in order to obtain S-wave velocities. Mooney and Luetgert (1980) have reported on a seismic-refraction study in the area to examine the velocity-depth structure.

The station characteristics are summarized in table 2. The station coordinates have been remeasured to one thousandth of a degree, or about 110 m.

RECORDS AND DIGITIZATIONS

The six records analyzed in this report were recovered from the instruments within a few days of the event and developed at both Sacramento (San Martin -- Coyote Creek) and Menlo Park (Gilroy array). Copies were made for initial studies and for digitizing. Table 3 lists the data for the records and instruments. Table 4 includes the S-wave minus trigger time and maximum accelerations, both scaled from the original records. The component directions for San Martin -- Coyote Creek and Gilroy Array Station 6 have been corrected for this publication. Preliminary versions in titles of plots have been in error. Components are designated as the direction (azimuthal if horizontal) of positive instrument case acceleration (that is, ground acceleration if the instrument is measuring ground motion). Positive accelerations, together with positive velocity and displacement in later analyses, are located above the time axis on the original recording and in all plots. Positive directions of horizontal components are plotted in figure 2.

WWVB radio time on Gilroy Stations 6 and 1 is sufficient to identify the trigger times at these two stations:

Origin time	17 hr 05 min	22.3 ± 0.1 sec (Lee and others, 1979)
Gilroy Sta 6	17 hr 05 min	25.15 ± 0.1 sec
Gilroy Sta 1	17 hr 05 min	26.00 ± 0.1 sec

The six records were digitized from contact prints of the originals by IOM-TOWILL of Santa Clara, California, on a trace-following laser scanner. The digitizer's least count is one micrometer (10^{-6}m) and its RMS error in digitizing a straight line of the photographic quality of the traces on these records is approximately 10 micrometer. (Fletcher and others, 1979). For comparative purposes, the largest peak-to-peak excursions on the original records are approximately 1.5 cm. Each record was digitized in three sections, or frames, of about 9 cm length, and subsequently reassembled to recover the record of 27 sec total duration (Porter and others, 1979). Computer processing of the digitized records, including this reassembly, was performed at the Lawrence Berkeley Laboratory computing center.

PROCESSING

Much of the analysis in the first four of the following sections is similar to that of the Caltech data reports (Hudson, 1976) and the data reports of the USGS since 1971 listed in the Introduction. A brief description is included here of analysis steps or of notations that are not covered in the above.

1. Uncorrected accelerograms

The digitized reference traces are subtracted from the data traces, and the digitized time marks are used to determine the time scale. The instrument sensitivities scale the ordinates to accelerations. The components are specified by the direction of positive acceleration of the instrument case (that is, ground acceleration, for a ground-level instrument) and this

positive acceleration is both recorded, and plotted herein, above the time axis. This convention, using azimuthal bearings for horizontal components, has been in effect with the USGS since 1978. Table 4 contains the maximum accelerations for each component from this digitized data.

Discrepancies between values for the peak acceleration when scaled from the original record or from the digitized version are due to two reasons, namely the different interpretation given to the peak's shape by the staff and the laser digitizer (or its operator), and the different placement of the zero acceleration axis by the staff and the computer program removing the mean acceleration value. The maximum discrepancy of 0.02 g corresponds to 0.036 cm on the original film.

2. Corrected Accelerations, Velocities, Displacements

The corrections performed include the following:

- (a) high frequency Ormsby filtering (low pass) on data at 200 pts/sec with a ramp falling linearly from 23 to 25 Hz,
- (b) instrument correction using the natural period and damping, performed on 100 pts/sec data,
- (c) the baseline correction using a low frequency Ormsby filter (high-pass) with a ramp rising linearly from 0.05 to 0.25 Hz,
- (d) corrected velocity and displacement, including initial values, are derived during the baseline correction.

The selection of the filter parameters, namely the cutoff frequency f_c and the roll-off termination frequency f_T , in the low-frequency filtering in (c) above, was performed with the following considerations (Basili and Brady, 1978):

1. All the records are within a 16 km epicentral distance and within 10 km of the fault. Hence the same filter parameters may be used for all.
2. The faulting duration has been initially estimated at approximately 2 sec, although the duration of the strong motion arriving at most of the stations is evidently in excess of this. Our initial consideration was to allow the content up to 4 sec to remain, and to start eliminating the longer periods above 4 sec. Hence set $f_C = 0.25$ Hz.
3. The digitized record length is 27 sec. Initially, we completely remove periods longer than one half this duration. Hence set $f_T = 0.074$ Hz.
4. The shortest S-t time (or trigger to shear arrival) is 1.3 sec. We require initially that the filter window when applied to the record at time zero be not so wide that its extremities reach the larger amplitudes of the shear wave train. Hence set the filter window length, L , to 2.6 sec.
5. The required relationship between L and the ramp width, $Df = f_C - f_T$, is $Df = 2/L$, for an approximate 1 percent accuracy in the filtering process. Hence set $Df = 0.77$ Hz.
6. The conflict between 2, 3, and 5 above was resolved by selection of the following values:

$$f_C = 0.25 \text{ Hz}$$

$$f_T = 0.05 \text{ Hz}$$

$$Df = 0.20 \text{ Hz}$$

$$L = 10 \text{ sec.}$$

7. For the most part, and particularly for the horizontal components which are plotted in the appendix, the results of these filter parameters pass the following criteria:

- (a) There is no unacceptable "ringing" at the beginning or end of the records.
- (b) There is no spurious 4-sec content.
- (c) There is no significant signal content with periods between 4 and 20 sec, where the ramp chosen in 6 above would have reduced such content.

The corrected accelerations, velocities, and displacements in the plotted data are positive when in the direction of the listed component names. The peak values are listed in table 4.

3. Response Spectra

The linear plots and the tripartite log-log plots of response spectra have been calculated from data at 100 pts/sec for the slight advantage to be gained in the accuracy of the high frequency components. The Fourier amplitude spectrum appears in the linear plots, calculated at the same period values as the response spectra. The long period content is removed with a ramp starting at 4 sec and finishing at 20 sec.

4. Fourier Spectra by FFT

These spectra are plotted on linear and log-log axes to accent the particular characteristics at each end of the spectrum. The location of both the low and high frequency ramps are indicated by the positions of f_c and f_T in each case. Corrected data at 50 pts/sec were used in calculating these spectra.

5. Duration Spectra

The contour plot of the velocity response envelope spectrum indicates at which times the envelope of the velocity response of a 5 percent-damped oscillator passes through various levels of velocity. The oscillators chosen have periods in the range of 0.05 to 4 sec. Their response for the entire duration of the record are studied. The discrete velocity levels chosen, defined by the contour interval, are suitable fractions of the peak velocity response.

The duration spectrum is obtained from this velocity response envelope spectrum by adding up the total time for which the velocity envelope is greater than each of the velocity levels. On this spectrum is drawn a series of radial straight lines indicating the number of cycles of oscillation for any oscillator, so that the duration can be quoted in cycles. Although not labelled specifically, these lines represent 1, 2, 4, 8,... cycles, as can be readily checked against the axes.

6. Amplitudes Sustained for Specified Cycles

The calculations for the duration spectra in section 5 above can be arranged so as to answer questions similar to the following: "What is the relative displacement response amplitude, or more specifically the envelope amplitude, that is sustained or exceeded for a duration equal to a particular number of cycles, say four, and what fraction is this amplitude of the maximum amplitude?" The required amplitudes are picked off from the envelope plot when a horizontal line drawn on the plot has a cumulative length, below the envelope, equal to the number of cycles desired (Perez, 1979). A tripartite description of displacement, velocity, and acceleration amplitudes is possible, in the same way as the response spectrum is portrayed, assuming only that the response is approximately sinusoidal.

In the plots reproduced here the topmost curve is the maximum response, directly from the response spectra of section 3 for 5 percent damping, while under this are drawn the curves for the amplitudes sustained for one complete cycle, and for 2, 4, 8, 16 and 32 cycles. These additional six spectral curves give a fairly comprehensive coverage for most of the amplitudes that occur during the history of the response.

PRELIMINARY COMMENTS ON P AND S WAVE VELOCITIES

The origin time, P-wave arrival (at triggering), and S-wave arrivals (from the corrected acceleration, velocity and displacement plots) allow the calculation of wave velocities for Gilroy No. 6 and No. 1 where the WWVB radio signal was received. The results are indicated in table 5 and show the following: (a) values of approximately 5 km/sec and 3 km/sec for P and S waves, respectively; (b) the slight difference in P-wave velocities at No. 6 and No. 1 is reasonably consistent with the location of these stations with respect to the epicenter, the P-wave travelling somewhat slower along the fault zone.

ACKNOWLEDGEMENTS

The technical staff of both the Seismic Engineering Branch of the U.S. Geological Survey (E. Etheredge, L. Foote, R. Forshee, D. Johnson, and M. Salsman) and the Office of Strong-Motion Studies of the California Division of Mines and Geology (G. Guyer) recovered the records from the Gilroy array, the San Martin -- Coyote Creek station, and, over a period of a few weeks following the earthquake, most of the remaining records from stations as far as 127 km from the epicenter.

W. R. Roseman of IOM-TOWILL provided welcome assistance in the design of the butting procedures for computer reassembly of multiframe digitized records.

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TABLE 1: EPICENTRAL, FOCAL, AND FAULT DISTANCES (km)

Station	Epicalentral distance	Focal ¹ distance	Fault ² distance
San Martin --			
Coyote Creek	2	10	0
Gilroy Sta 6	10	14	1
Gilroy Sta 4	12	15	3
Gilroy Sta 3	13	16	5
Gilroy Sta 2	14	17	7
Gilroy Sta 1	16	18	8

¹ focal depth = 9.6 km (±2 km, Lee and others, 1979)

² distance to mapped surface features from earlier ruptures on Calaveras fault.

TABLE 2. STATION CHARACTERISTICS

Station No.	Identification name	Coords.	Type, owner, S/N	Structure type/size	Instr. location	Data source
1445	San Martin --	37.118N	SMA1	Instr.	dam	CDMG
(C217)	Coyote Creek	121.550W	CDMG	shelter ¹	abutment	
			2494			
1413	Gilroy Array: Sta. 6	37.026N	SMAT-1	Instr.	ground	USGS
	San Ysidro	121.484W	CDMG	shelter ²	level	
	Canada Telem. Site		2606			
1411	Gilroy Array: Sta. 4	37.000N	SMAT-1	1-story	ground	USGS
	San Ysidro School	121.521W	CDMG	building	level	
			2759			
1410	Gilroy Array: Sta. 3	36.991N	SMAT-1	Instr.	ground	USGS
	Sewage Treatment Plant	121.536W	CDMG	shelter ²	level	
			2757			
1409	Gilroy Array: Sta. 2	36.982N	SMAT-1	Small	ground	USGS
	Mission Trails Motel	121.556W	CDMG	wooden shed	level	
			2603			
1408	Gilroy Array: Sta. 1	36.973N	SMAT-1	Instr.	ground	USGS
	Gavilan College	121.572W	CDMG	shelter ²	level	
	Water Tower		2602			

¹ small prefabricated shelter

² small fiberglass shelter

TABLE 3. RECORD DATA AND INSTRUMENTAL CONSTANTS

6 AUGUST 1979 EARTHQUAKE

Station Name	Station No.	Epic. dist. (km)	MMI ¹	Comp ²	Sens. (cm/g)	Period (sec)	Damping fraction	Digitized length (sec)
San Martin--	1445	2	VII	250 ⁰	1.71	.039	0.60	29
Coyote Creek	(C217)			Up	1.68	.037	0.60	
				160 ⁰	1.84	.037	0.60	
Gilroy Sta. 6	1413	10	VII	320 ⁰	1.80	.038	0.60	27
				Up	1.74	.037	0.57	
				230 ⁰	1.79	.039	0.60	
Gilroy Sta. 4	1411	12	VII	360 ⁰	1.75	.038	0.57	27
				Up	1.68	.037	0.63	
				270 ⁰	1.74	.038	0.59	
Gilroy Sta. 3	1410	13	VII	140 ⁰	1.87	.039	0.56	27
				Up	1.73	.038	0.57	
				50 ⁰	1.73	.038	0.64	
Gilroy Sta. 2	1409	14	VII	140 ⁰	1.75	.038	0.60	27
				Up	1.70	.037	0.58	
				50 ⁰	1.79	.038	0.60	
Gilroy Sta. 1	1408	16	VII	320 ⁰	1.81	.040	0.60	27
				Up	1.71	.038	0.58	
				230 ⁰	1.80	.038	0.57	

¹ Preliminary modified Mercalli intensities at site. See text.

² Vertical and azimuthal directions of positive ground (or instrument case) acceleration.

TABLE 4. PEAK VALUES OF PROCESSED DATA

Station	<u>S-t</u> ¹ (sec)	<u>Comp.</u> ²	<u>Max. accel.</u>			<u>Max. vel.</u> (cm/sec)	<u>Max. disp.</u> (cm)
			scaled (g)	digitized (g)	corrected (100 pts/sec) (cm/sec ²)		
San Martin --	1.3	250 ⁰	.23	.250	245	20.5	2.4
Coyote Creek		Up	.10	.105	101	7.2	0.7
		160 ⁰	.16	.141	138	11.5	1.1
Gilroy Sta. 6	1.5	320 ⁰	.34	.319	315	25.1	3.6
		Up	.17	.153	147	16.5	3.1
		230 ⁰	.42	.422	409	43.8	9.3
Gilroy Sta. 4	2.2	360 ⁰	.26	.253	246	32.2	5.2
		Up	.44	.430	409	15.4	2.5
		270 ⁰	.24	.234	228	25.2	3.0
Gilroy Sta. 3	2.6	140 ⁰	.27	.259	246	29.4	5.7
		Up	.15	.152	136	7.0	1.2
		50 ⁰	.26	.253	252	16.9	3.7
Gilroy Sta. 2	2.7	140 ⁰	.26	.255	249	31.9	5.3
		Up	.18	.176	162	6.6	1.0
		50 ⁰	.20	.195	186	10.2	2.2
Gilroy Sta. 1	2.5	320 ⁰	.13	.118	111	10.3	1.7
		Up	.08	.067	58	2.6	.5
		230 ⁰	.10	.095	84	4.0	.7

¹ S-wave minus trigger time estimated from original record.

² From Table 3.

TABLE 5. CALCULATIONS FOR P AND S WAVE VELOCITIES:

GILROY NOS. 6 AND 1

	Gilroy No. 6	Gilroy No. 1
Trigger (P-wave)	25.15 ± 0.1 sec	26.0 ± 0.1 sec
P-wave travel time (origin: 22.3 ± 0.1 sec)	2.85 ± 0.2	3.7 ± 0.2 sec
focal distance	14.0 ± 2 km	18.4 ± 2 km
P-wave velocity	4.9 ± 1 km/sec	5.0 ± 1 km/sec
S-t*	1.9 ± 0.1 sec*	2.5 ± 0.2 sec*
S-wave travel time	4.75 ± 0.2 sec	6.2 ± 0.3 sec
S-wave velocity	3.0 ± 0.5 km/sec	3.0 ± 0.5 km/sec

* S-wave minus trigger time. S-wave arrival estimated from corrected data. See text. Note the precision is less at Gilroy No. 1.

Figure Captions

1. Location map for 6 August 1979 Coyote Lake Earthquake. The Coyote Creek and Gilroy Array stations are indicated. From Porcella and others, 1979.
2. Component directions for the six instruments. Five are aligned so that their horizontal components are closely parallel and perpendicular to the Calaveras fault.

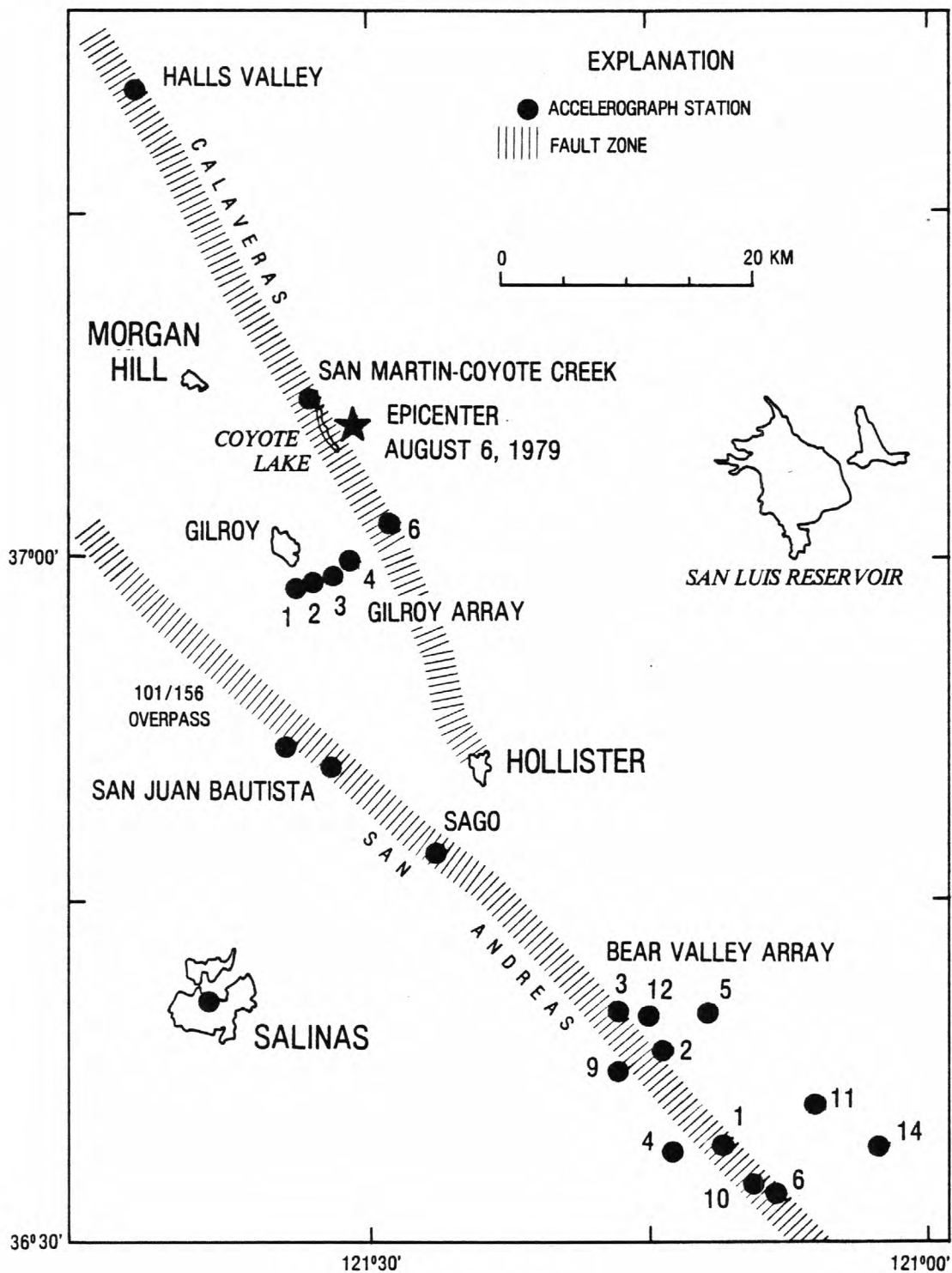


Figure 1

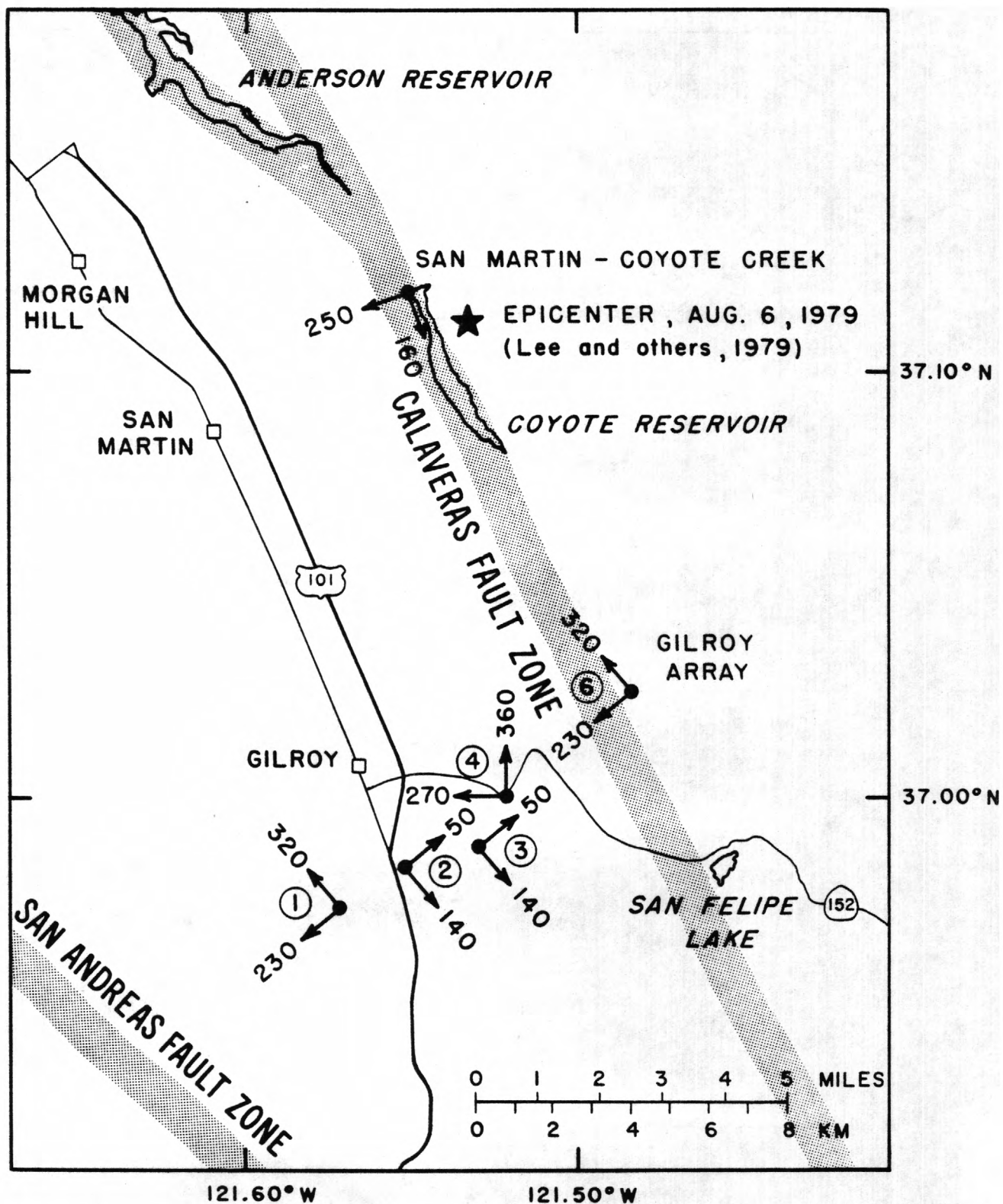


Figure 2

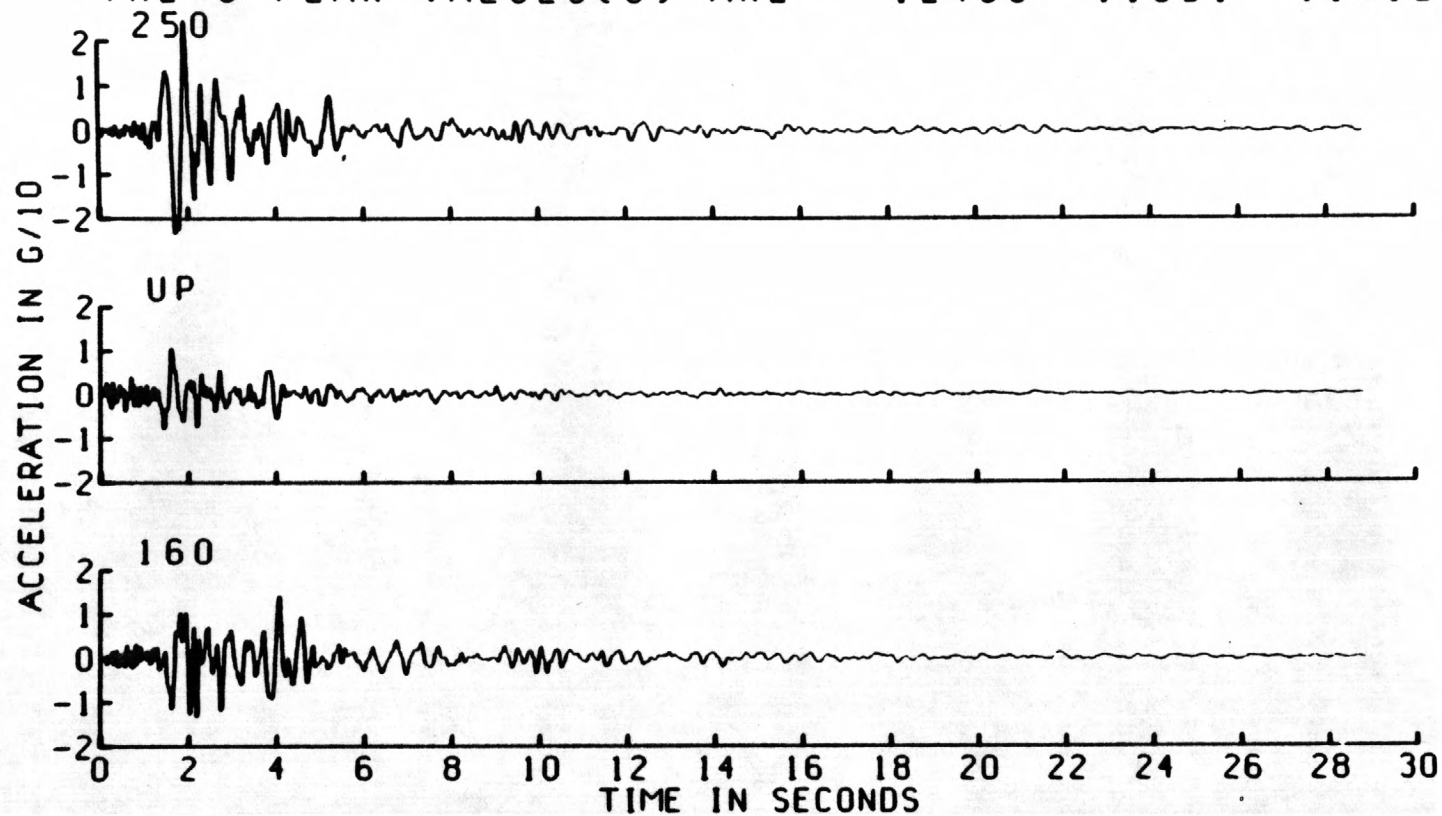
APPENDIX

The appendix contains computer plots of the following processing: uncorrected accelerogram; corrected acceleration, velocity and displacement; relative velocity response spectrum; response spectrum; Fourier amplitude spectrum; duration spectrum of the velocity response envelope; and spectrum of amplitudes sustained for a given number of cycles. The records are processed in the following order: San Martin - Coyote Creek, Gilroy Array Stations 6, 4, 3, 2, and 1.

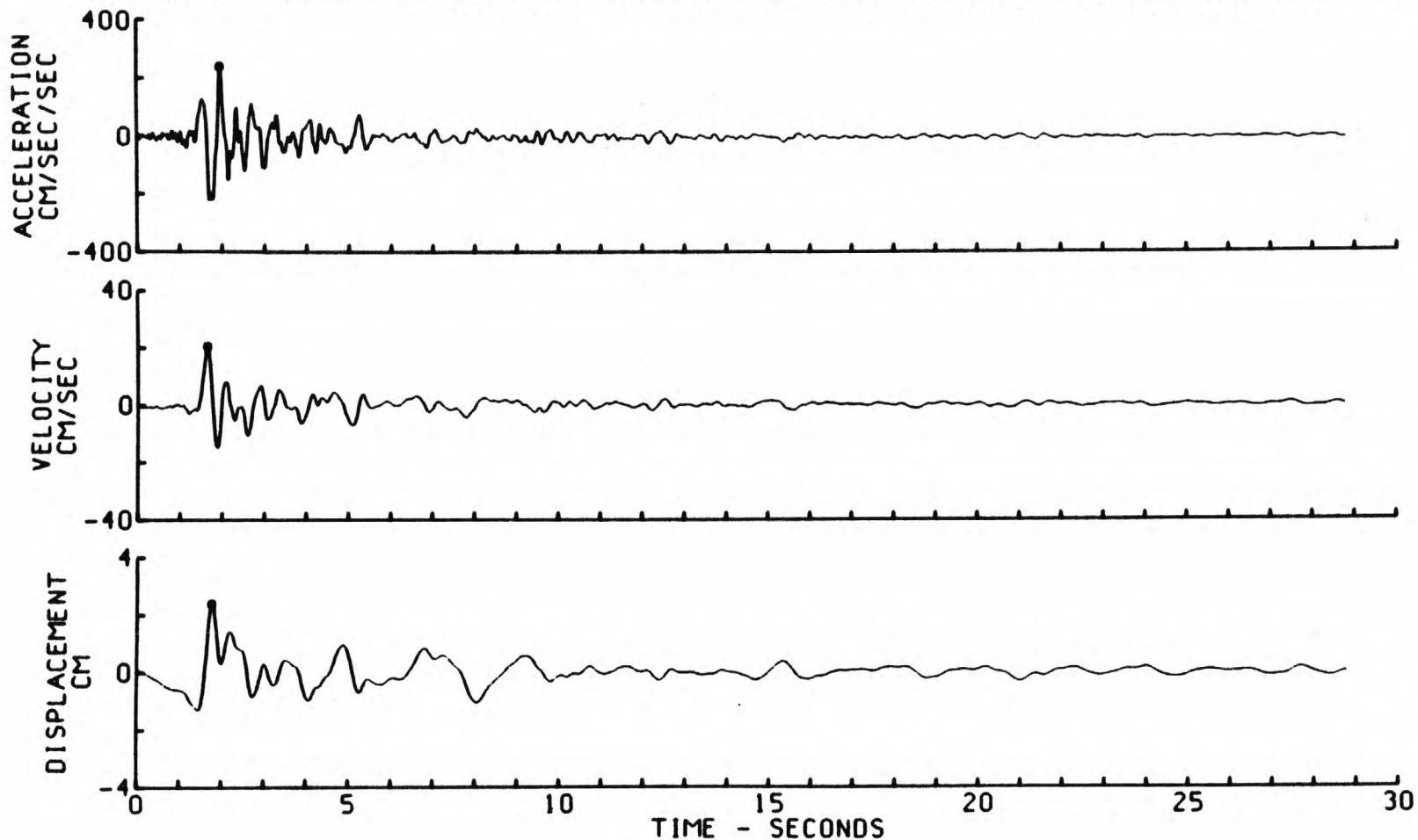
UNCORRECTED ACCELEROGRAM

SAN MARTIN, COYOTE CREEK.08/06/79.1705

THE 3 PEAK VALUES(G) ARE .2499 .1051 .1412



CORRECTED ACCELERATION, VELOCITY, DISPLACEMENT
 COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705
 SAN MARTIN, COYOTE CREEK, 08/06/79, 250 DEGREES
 DATA IS PLOTTED AT EQUAL TIME INCREMENTS OF .01000 SEC
 ACCELEROGRAM IS BAND PASSED, WITH RAMPS OF .050 - .250 AND 23.00 - 25.00 CYC/SEC
 • PEAK VALUES ACCEL=244.6 CM/SEC/SEC, VELOCITY=20.49 CM/SEC, DISPL=2.380 CM



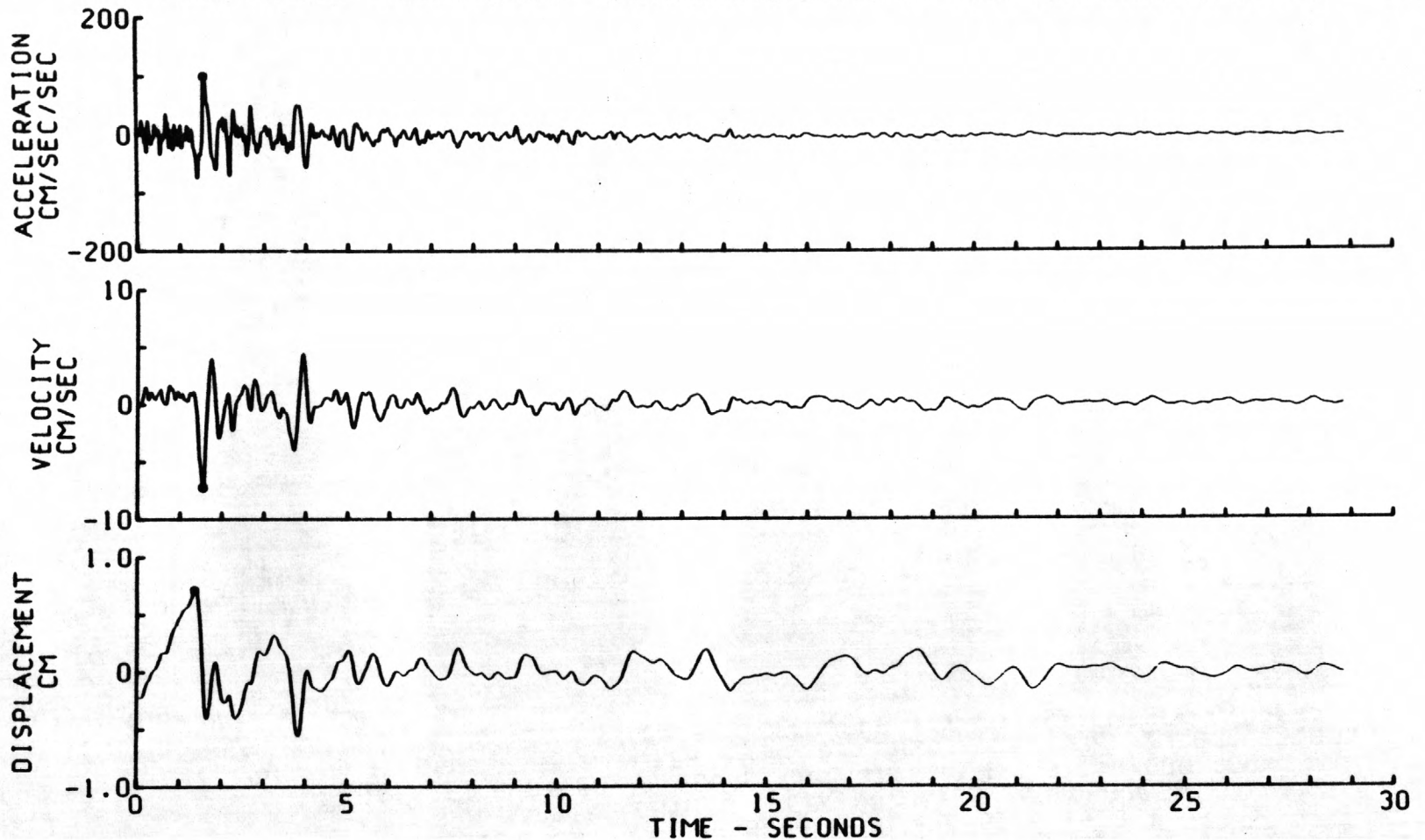
CORRECTED ACCELERATION, VELOCITY, DISPLACEMENT
COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705

SAN MARTIN, COYOTE CREEK, 08/06/79, UP

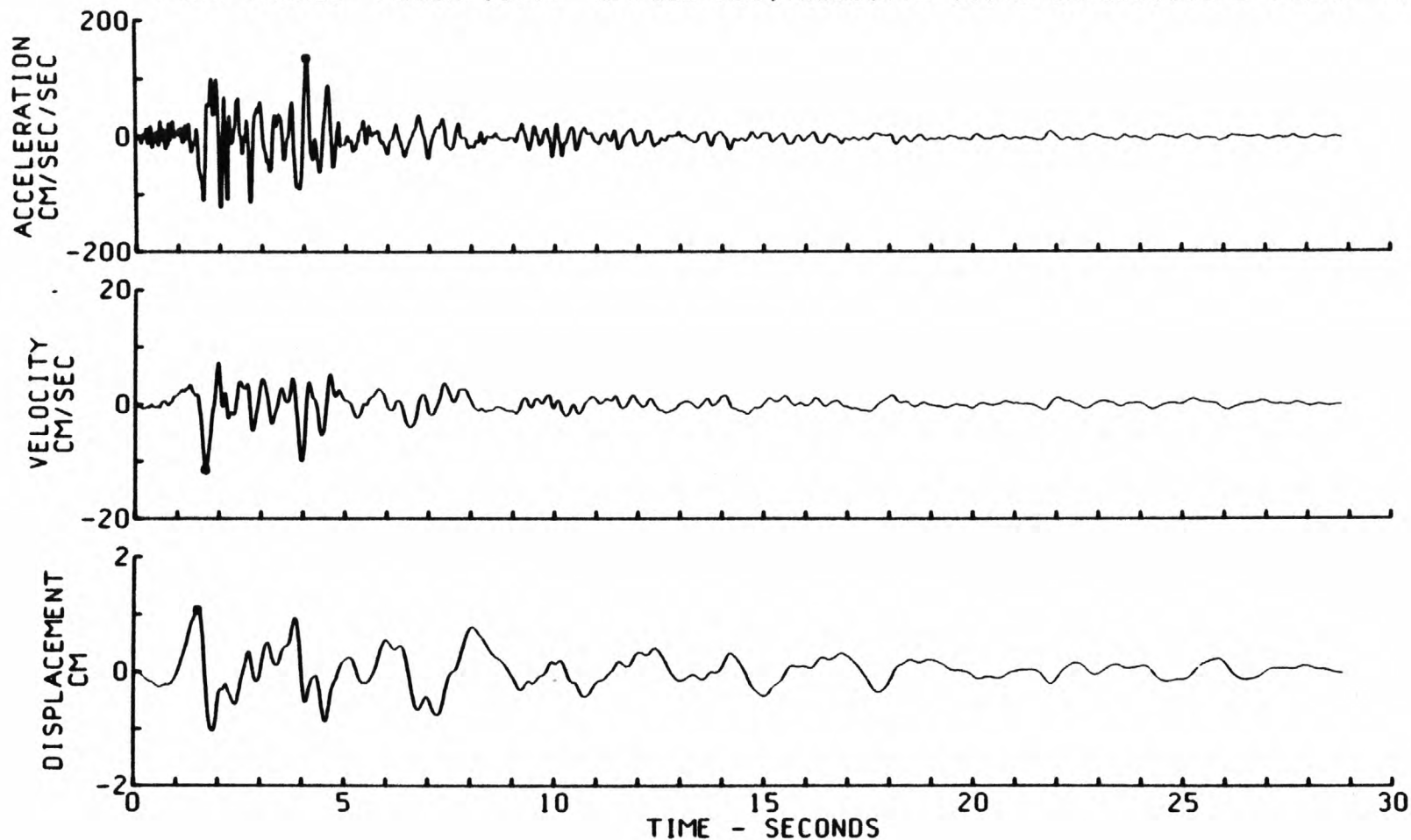
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ACCELEROGRAM IS BAND PASSED, WITH RAMPS OF .050 - .250 AND 23.00 - 25.00 CYC/SEC

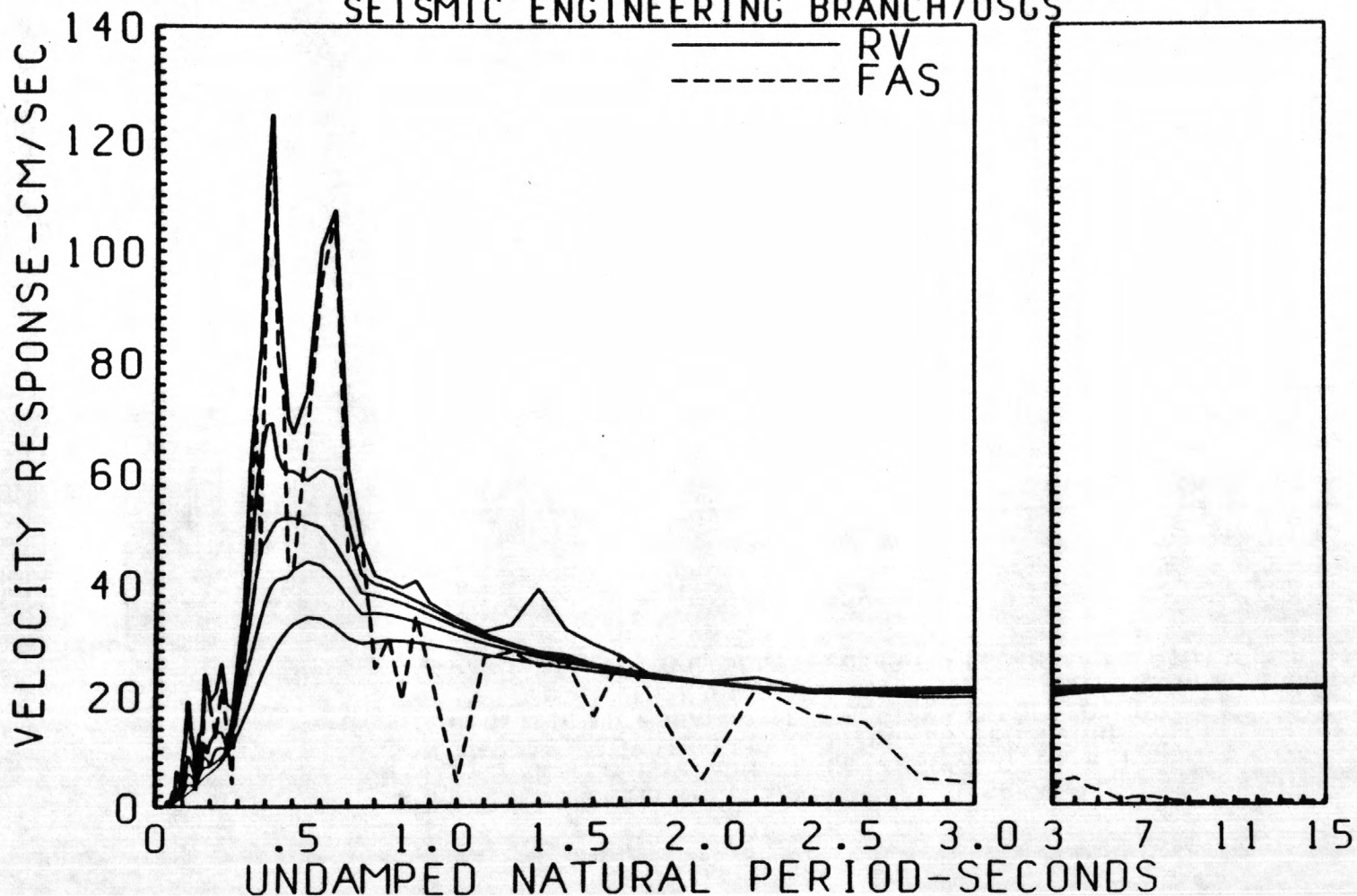
• PEAK VALUES ACCEL=101.2 CM/SEC/SEC, VELOCITY=-7.230 CM/SEC, DISPL=.710 CM



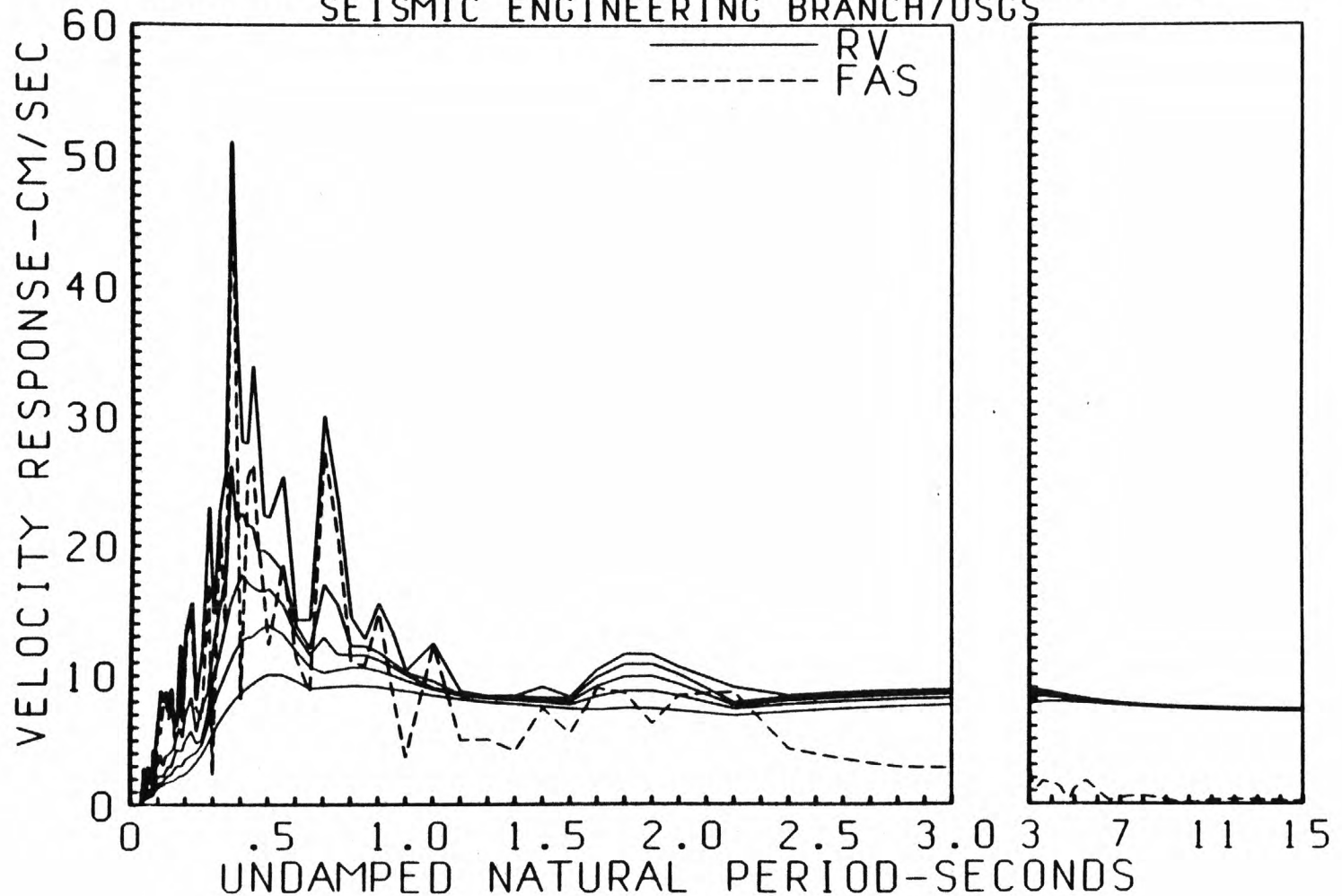
CORRECTED ACCELERATION, VELOCITY, DISPLACEMENT
 COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705
 SAN MARTIN, COYOTE CREEK, 08/06/79, 160 DEGREES
 DATA IS PLOTTED AT EQUAL TIME INCREMENTS OF .01000 SEC
 ACCELEROGRAM IS BAND PASSED, WITH RAMPS OF .050 - .250 AND 23.00 - 25.00 CYC/SEC
 • PEAK VALUES ACCEL=137.7 CM/SEC/SEC, VELOCITY=-11.48 CM/SEC, DISPL=1.070 CM



RELATIVE VELOCITY RESPONSE SPECTRUM
 SAN MARTIN, 08/06/79, 250 DEGREES
 0.2, 5, 10, 20 PERCENT CRITICAL DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS



RELATIVE VELOCITY RESPONSE SPECTRUM
 SAN MARTIN, 08/06/79, UP
 0.2, 5, 10, 20 PERCENT CRITICAL DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS



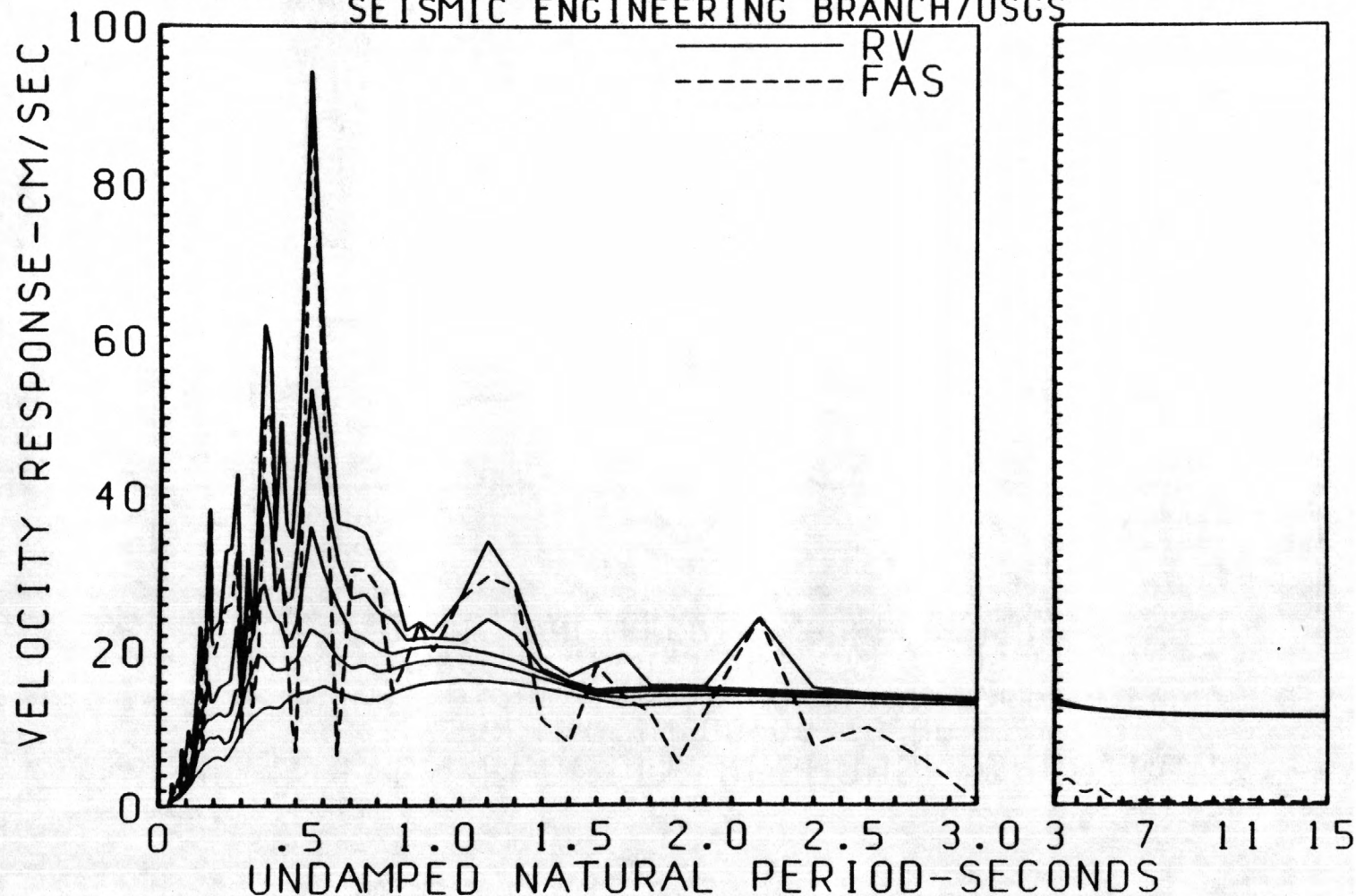
RELATIVE VELOCITY RESPONSE SPECTRUM

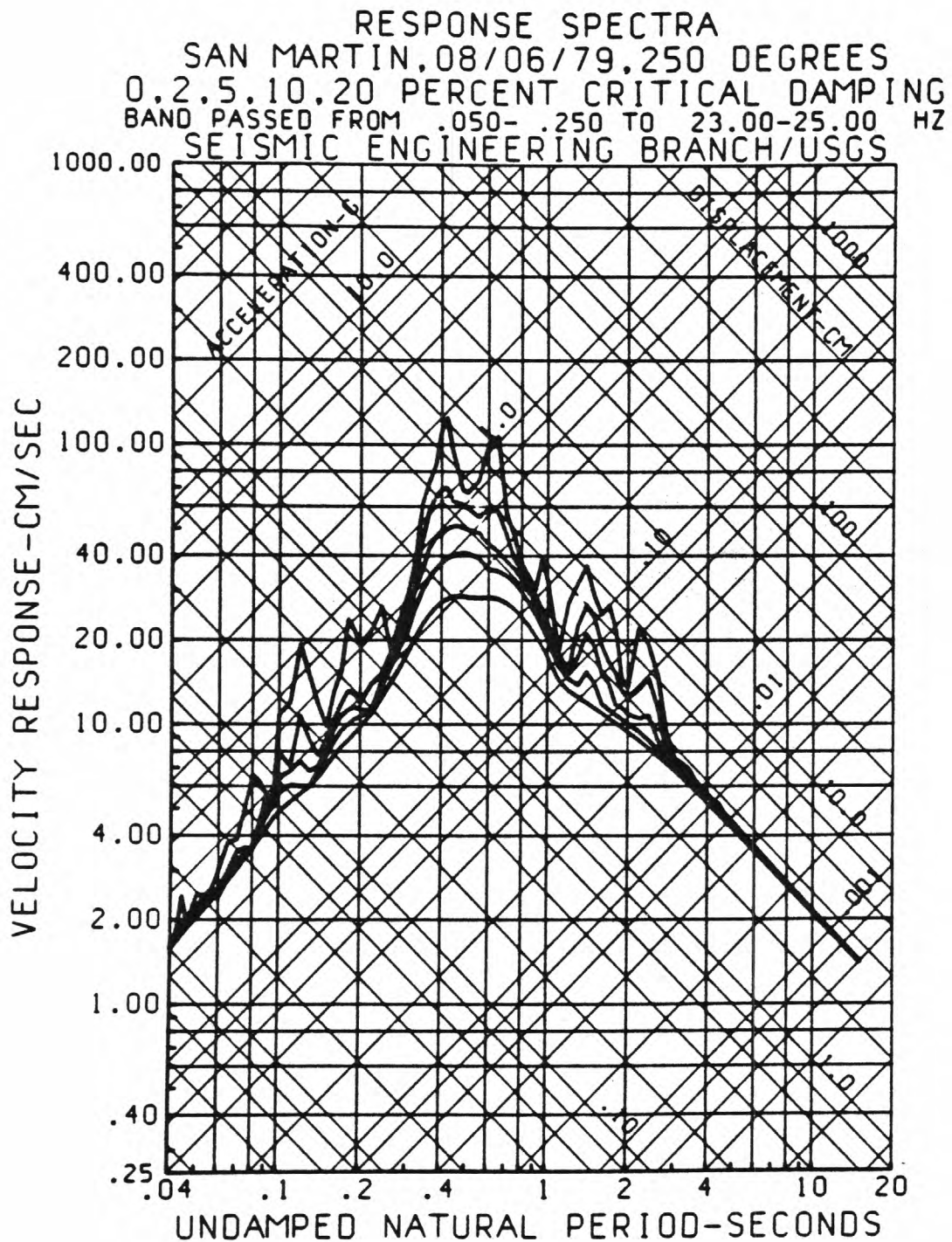
SAN MARTIN, 08/06/79, 160 DEGREES

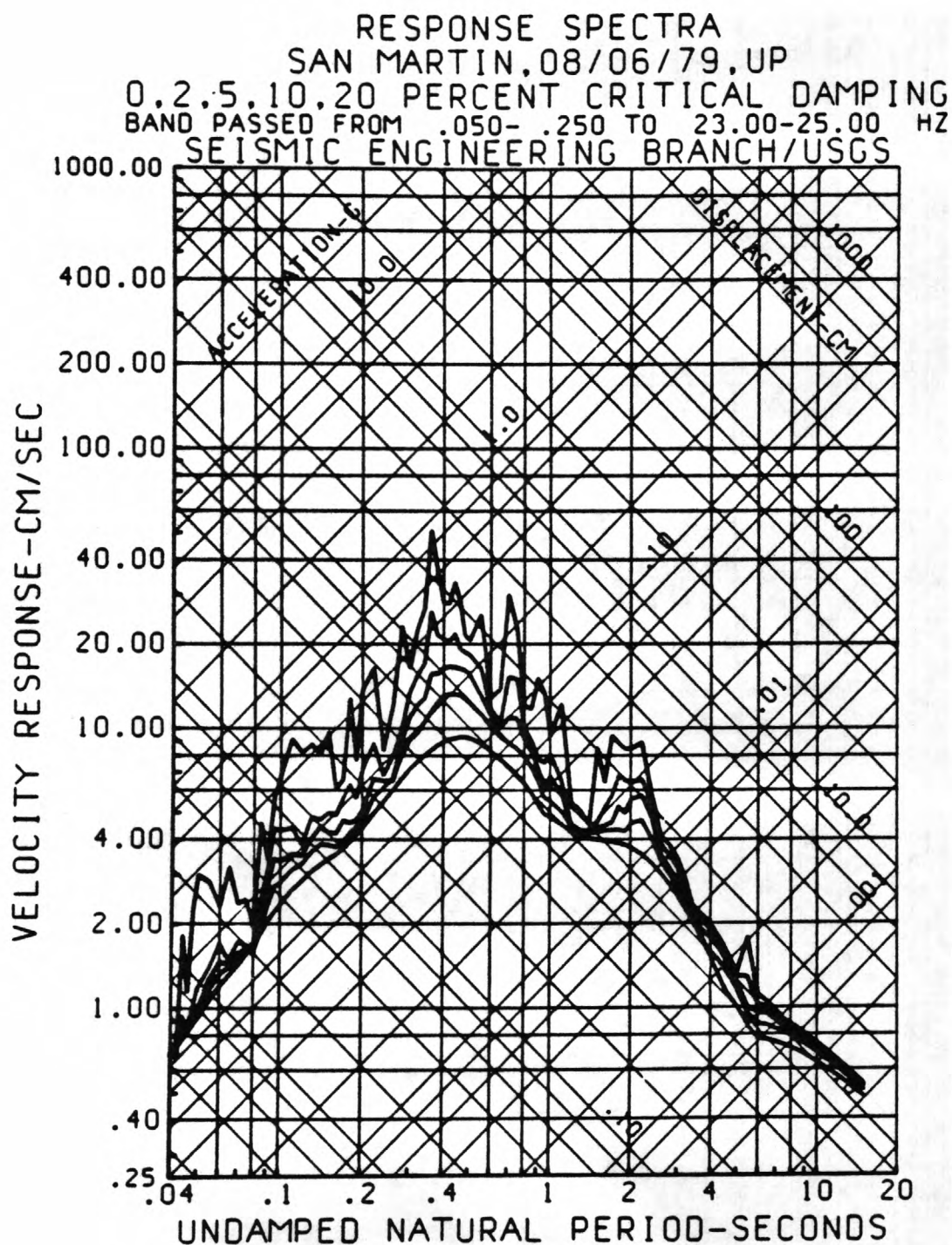
0.2, 5, 10, 20 PERCENT CRITICAL DAMPING

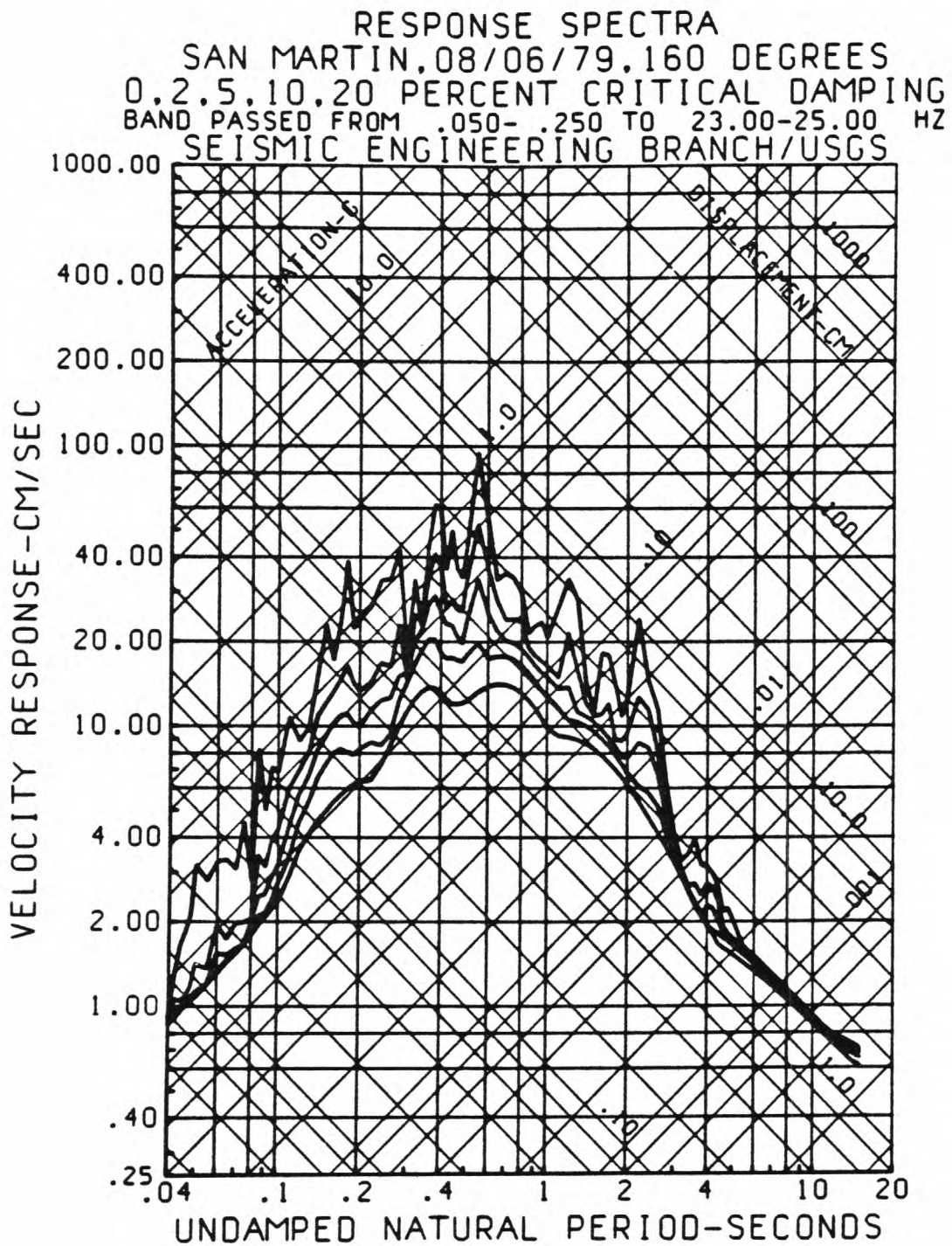
BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ

SEISMIC ENGINEERING BRANCH/USGS

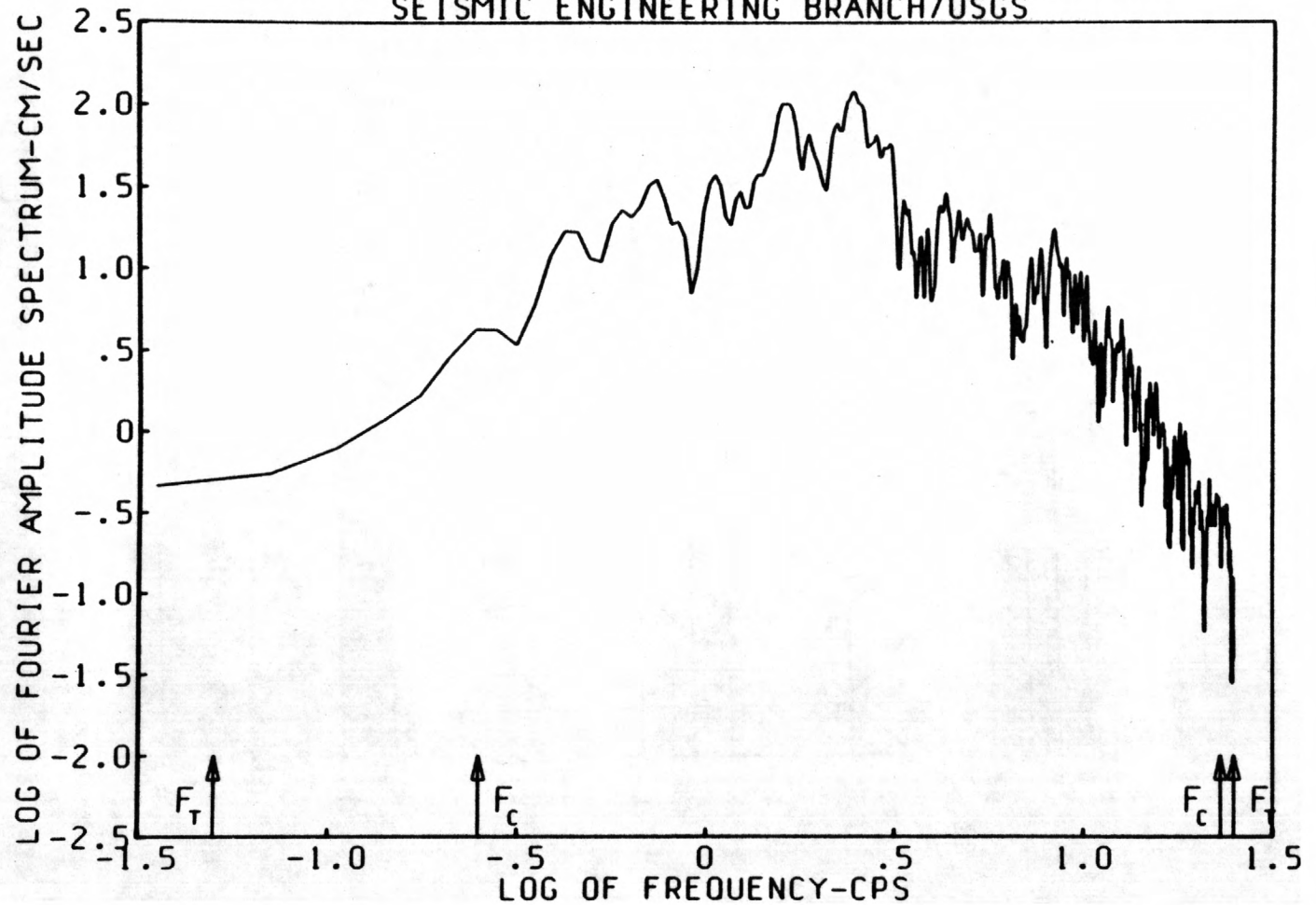




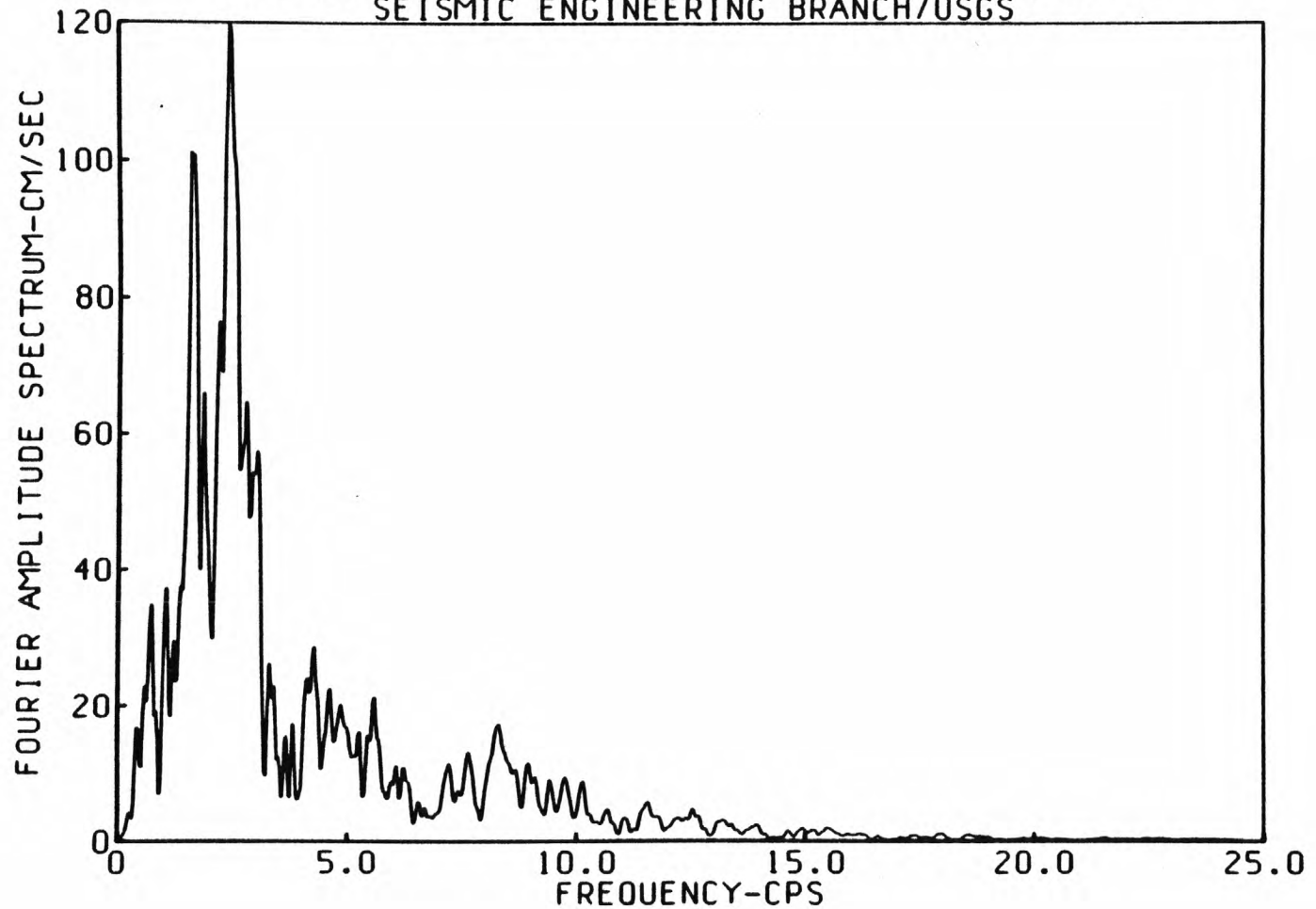




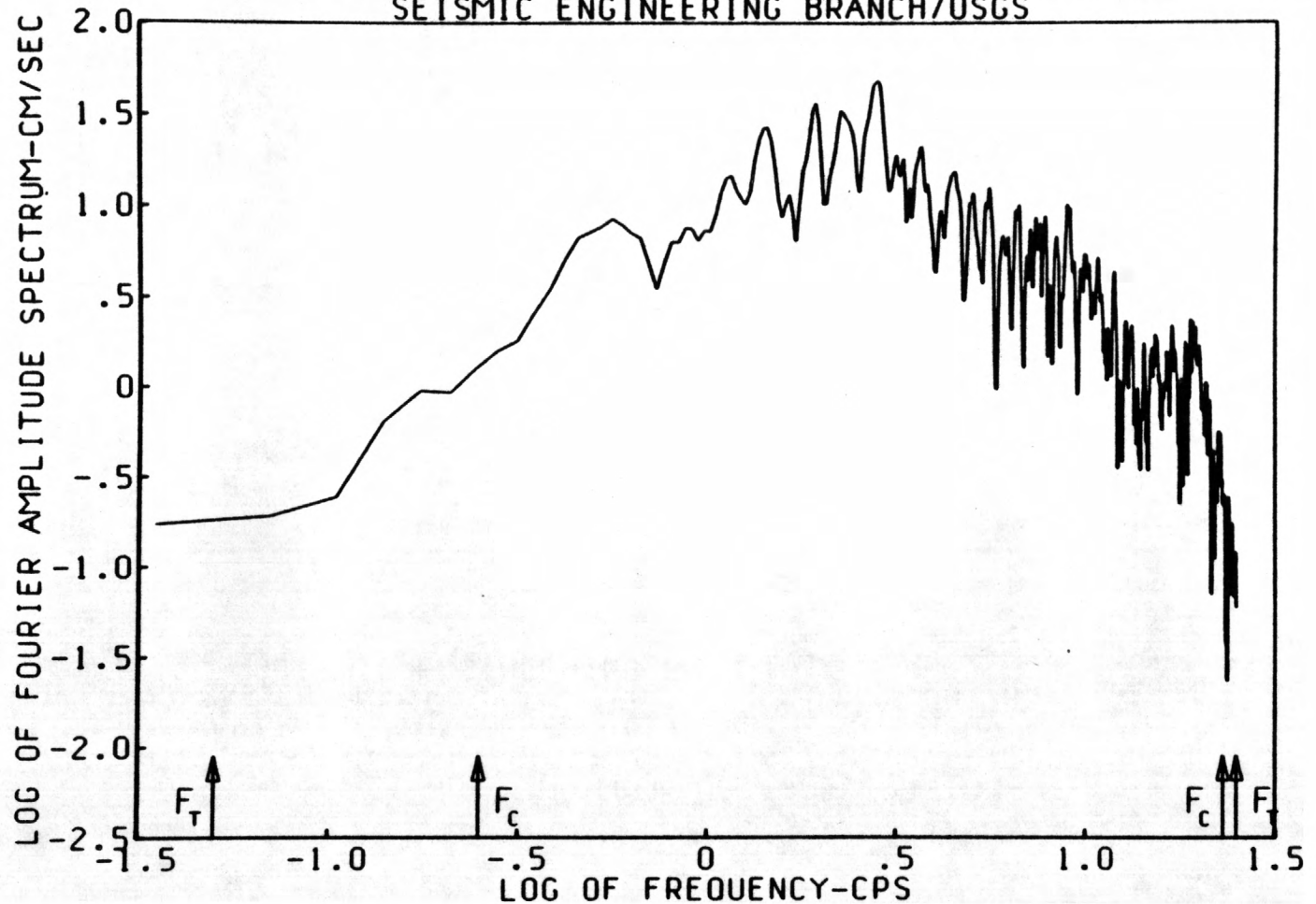
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
 COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705
 SAN MARTIN, COYOTE CREEK, 08/06/79, 250 DEGREES
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS



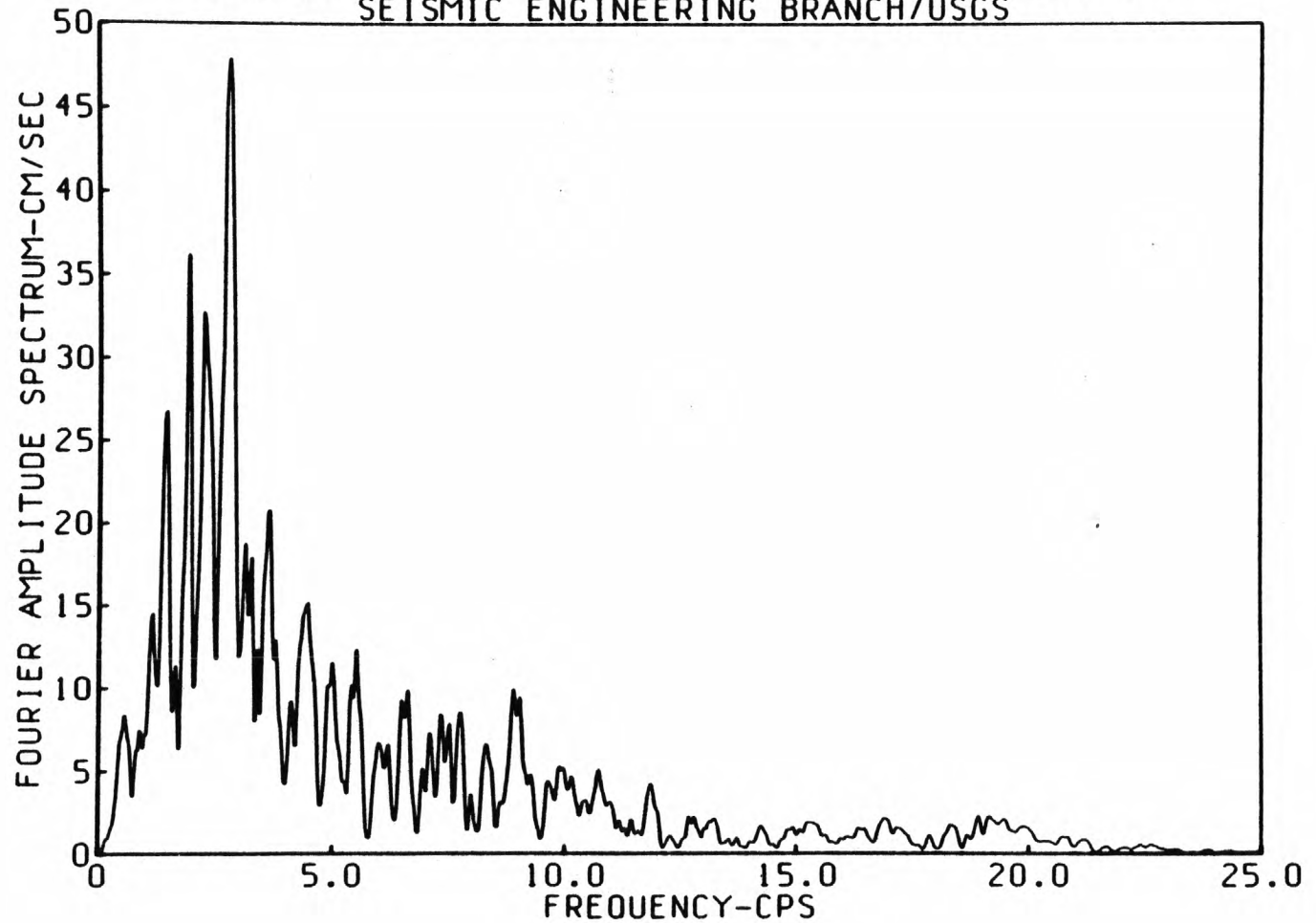
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705
SAN MARTIN, COYOTE CREEK, 08/06/79, 250 DEGREES
BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
SEISMIC ENGINEERING BRANCH/USGS



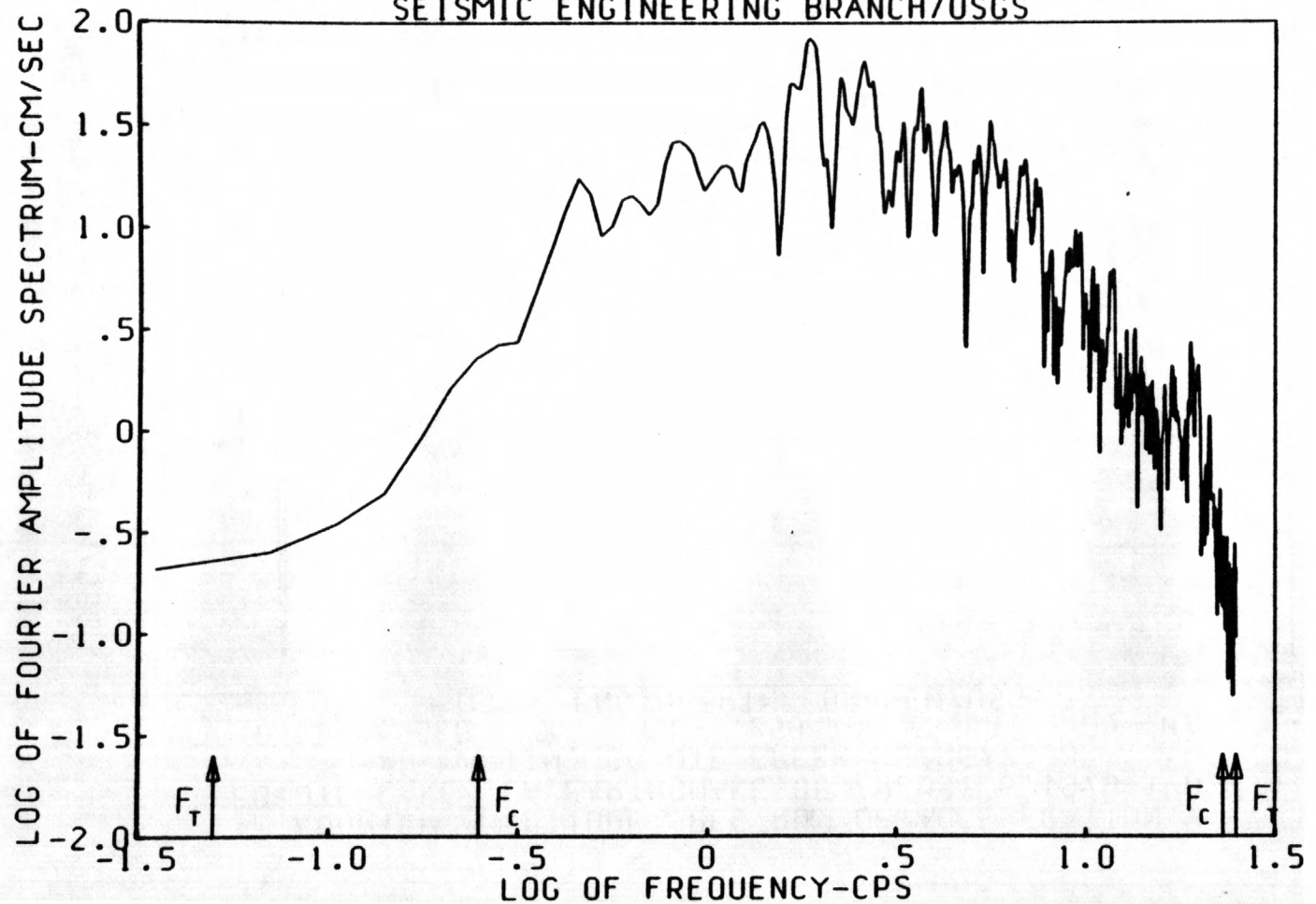
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
 COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705
 SAN MARTIN, COYOTE CREEK, 08/06/79, UP
 BAND PASSED FROM .050-.250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS



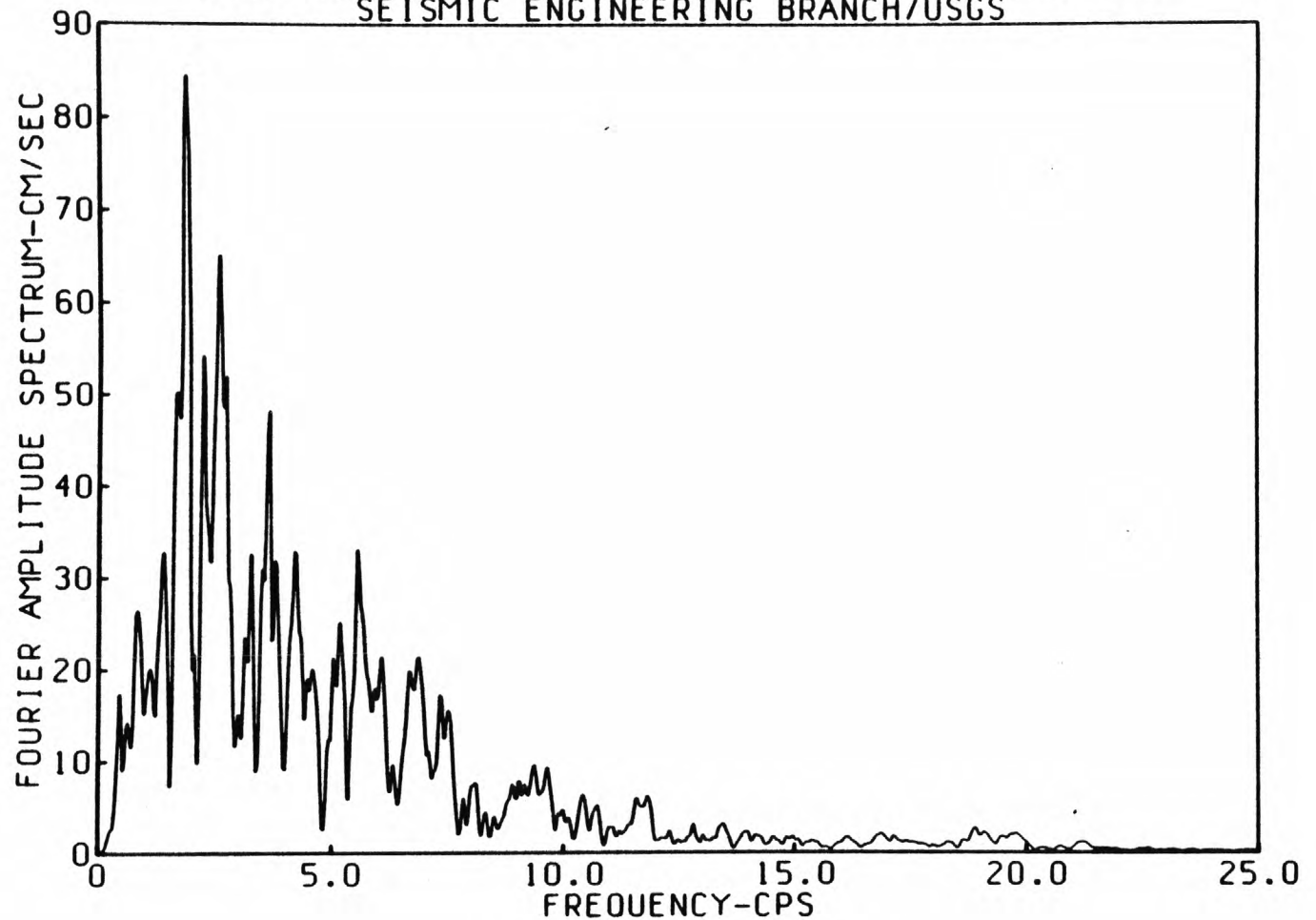
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705
SAN MARTIN, COYOTE CREEK, 08/06/79, UP
BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
SEISMIC ENGINEERING BRANCH/USGS



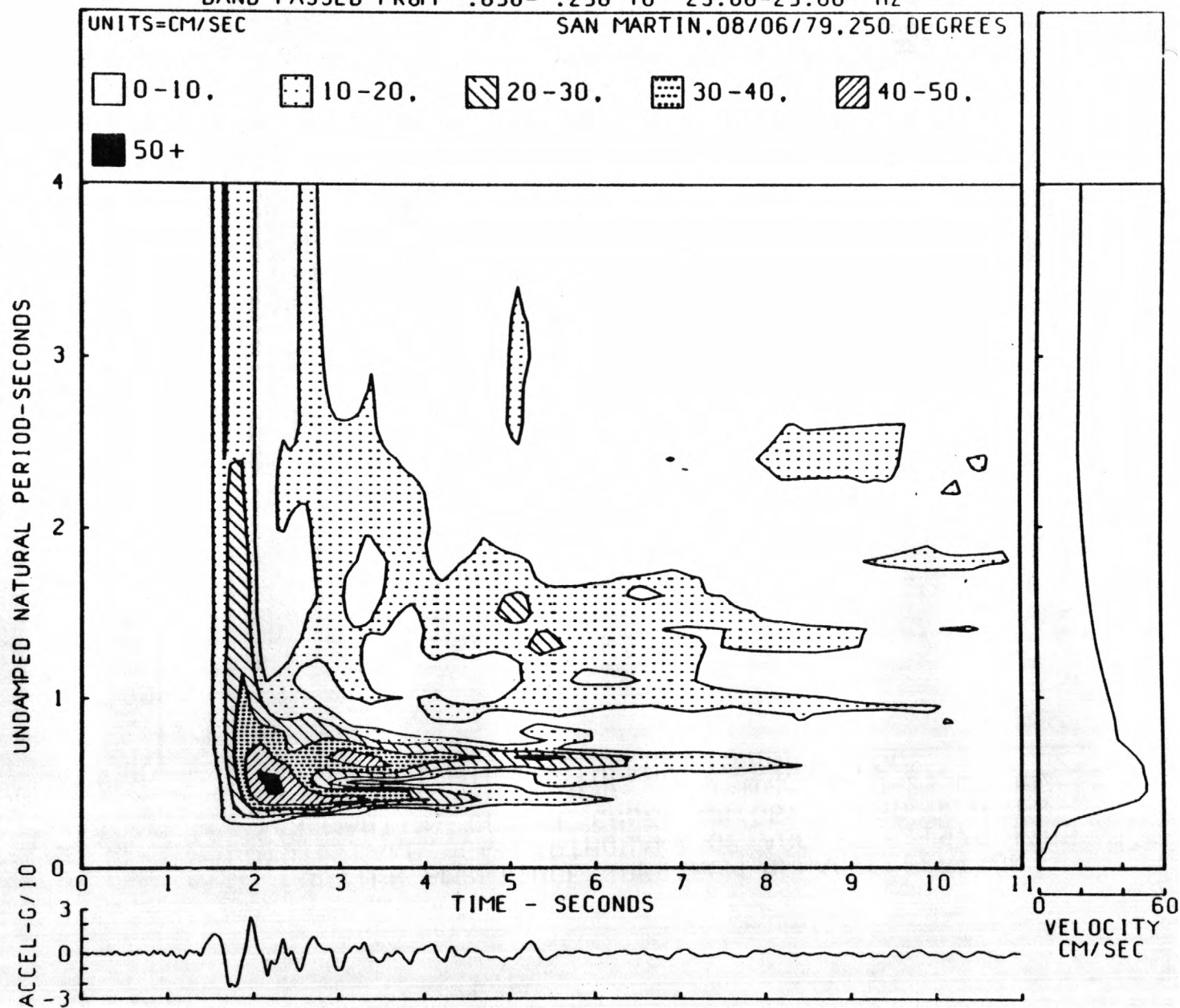
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
 COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705
 SAN MARTIN, COYOTE CREEK, 08/06/79, 160 DEGREES
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS



FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
 COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705
 SAN MARTIN, COYOTE CREEK, 08/06/79, 160 DEGREES
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS



VELOCITY RESPONSE ENVELOPE SPECTRUM, 5 PERCENT CRITICAL DAMPING
BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ

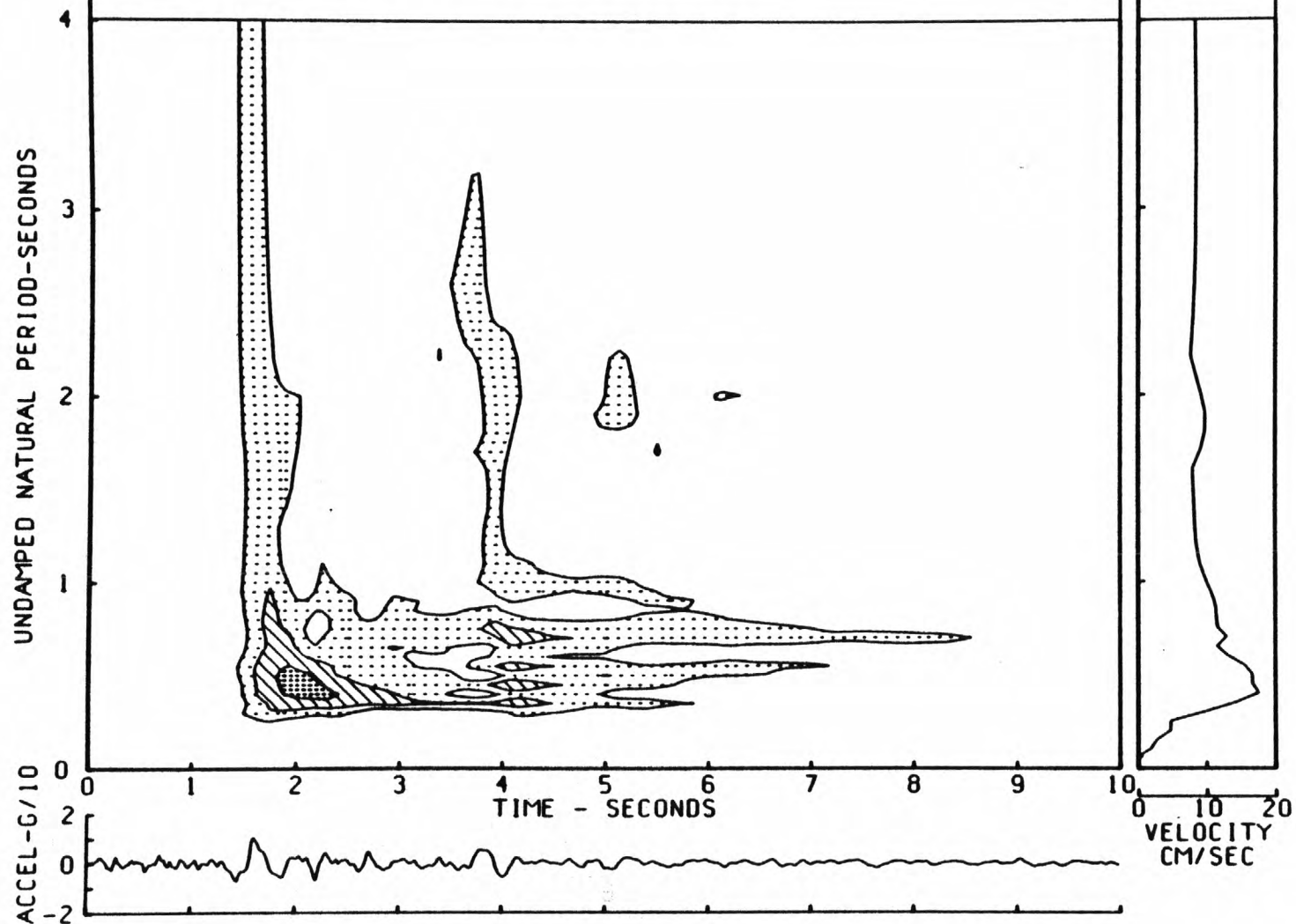


VELOCITY RESPONSE ENVELOPE SPECTRUM, 5 PERCENT CRITICAL DAMPING
BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ

UNITS=CM/SEC

SAN MARTIN, 08/06/79, UP

0-5. 5-10. 10-15. 15+

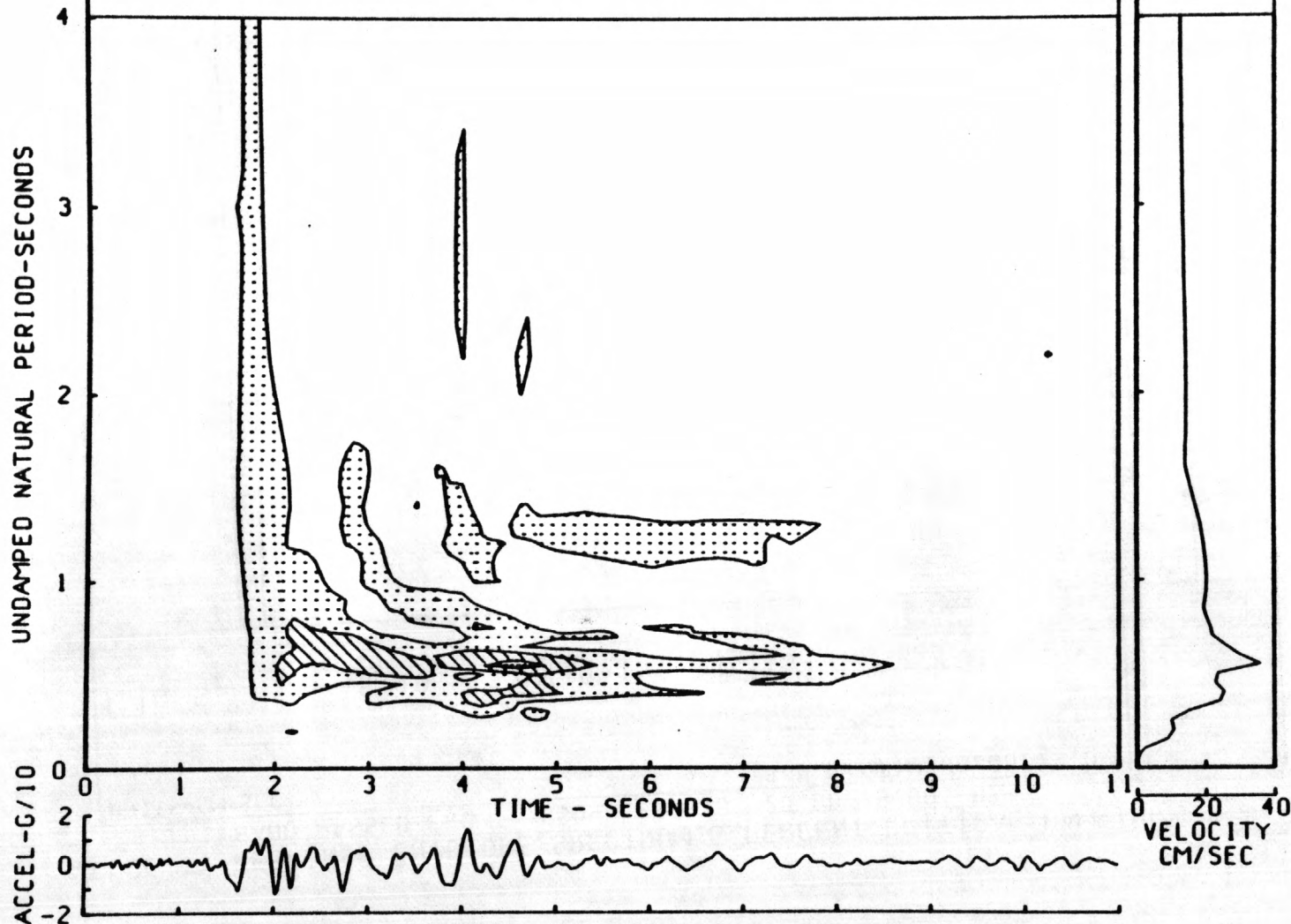


VELOCITY RESPONSE ENVELOPE SPECTRUM, 5 PERCENT CRITICAL DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ

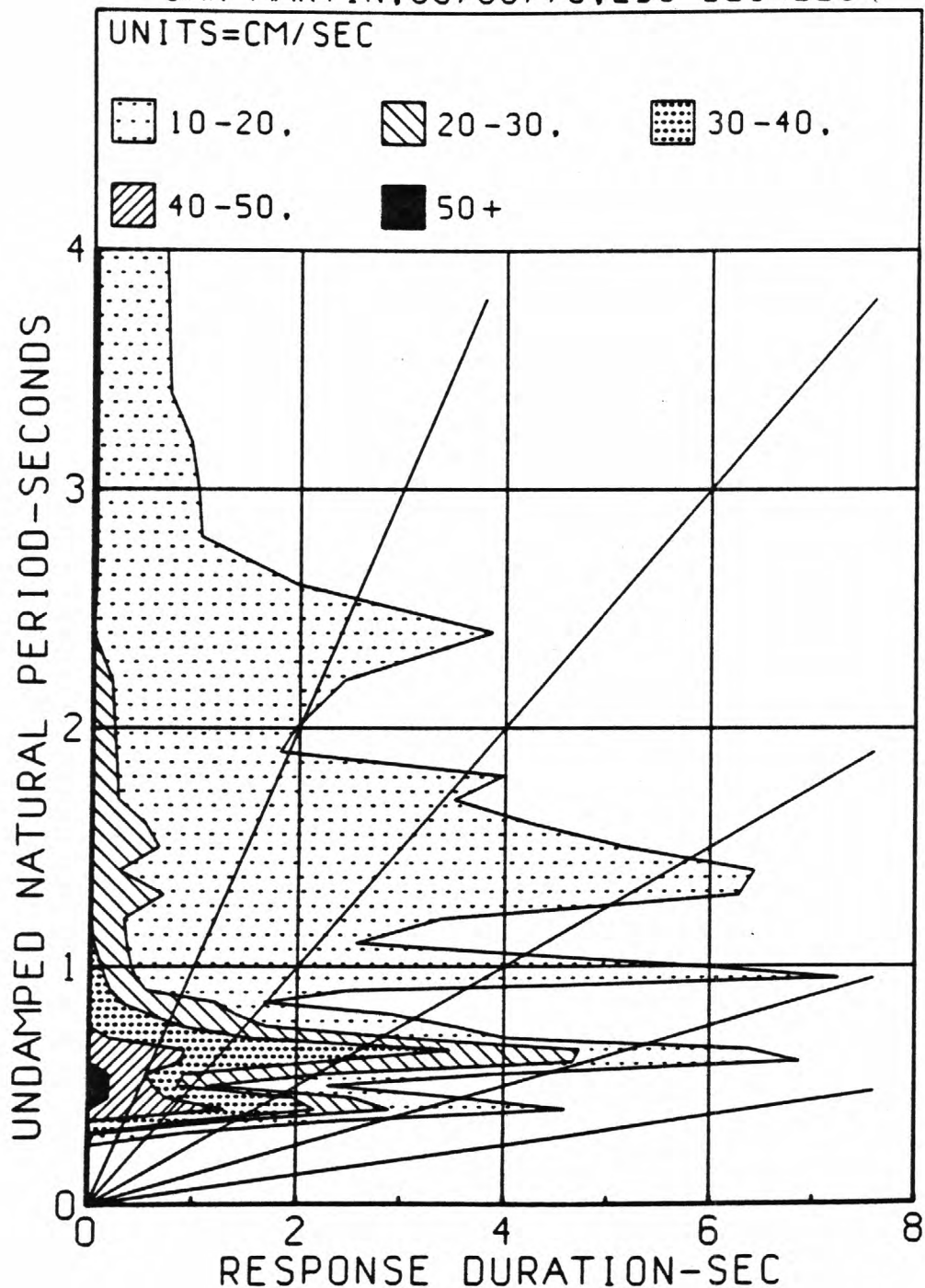
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SAN MARTIN, 08/06/79, 160 DEGREES

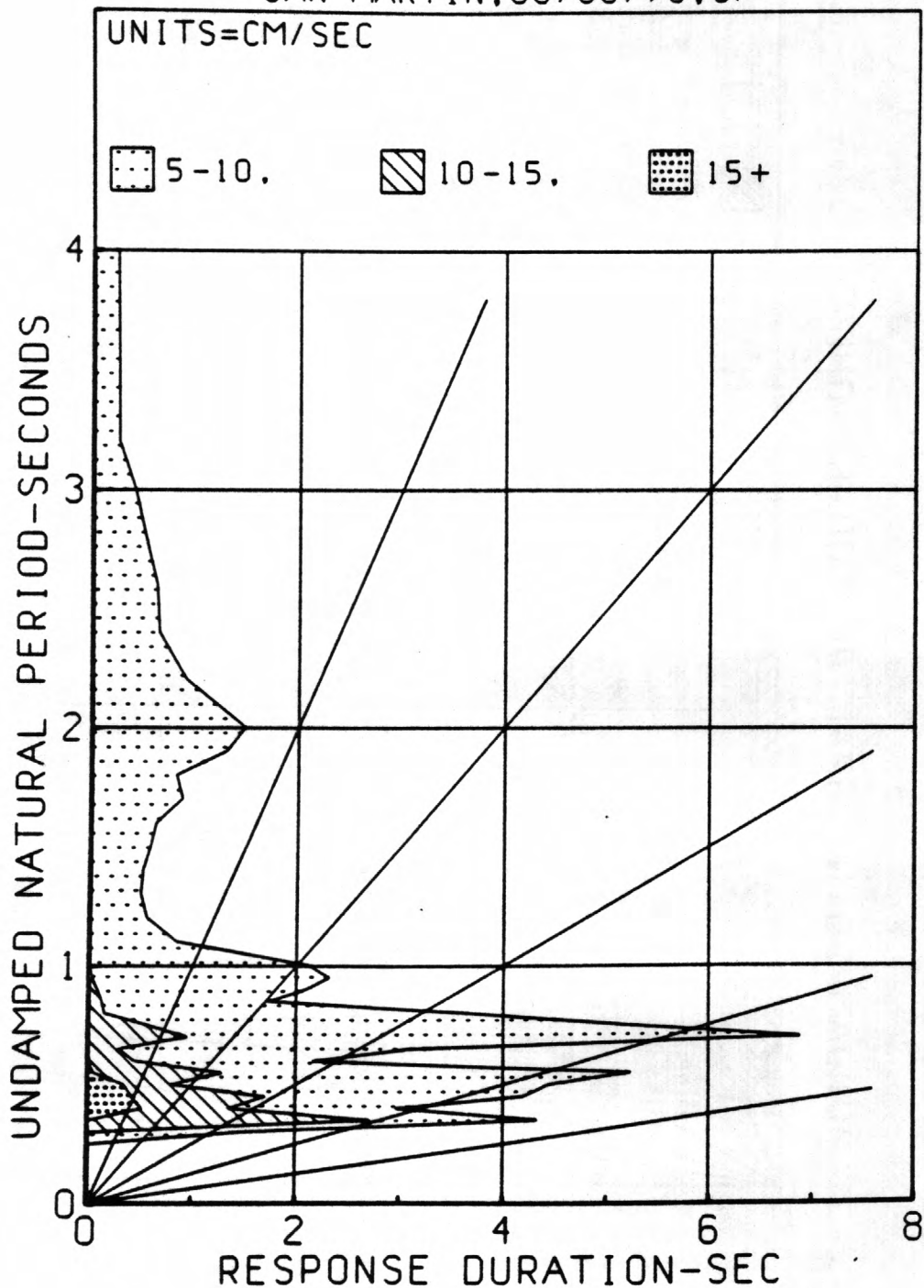
0-10. 10-20. 20-30. 30+



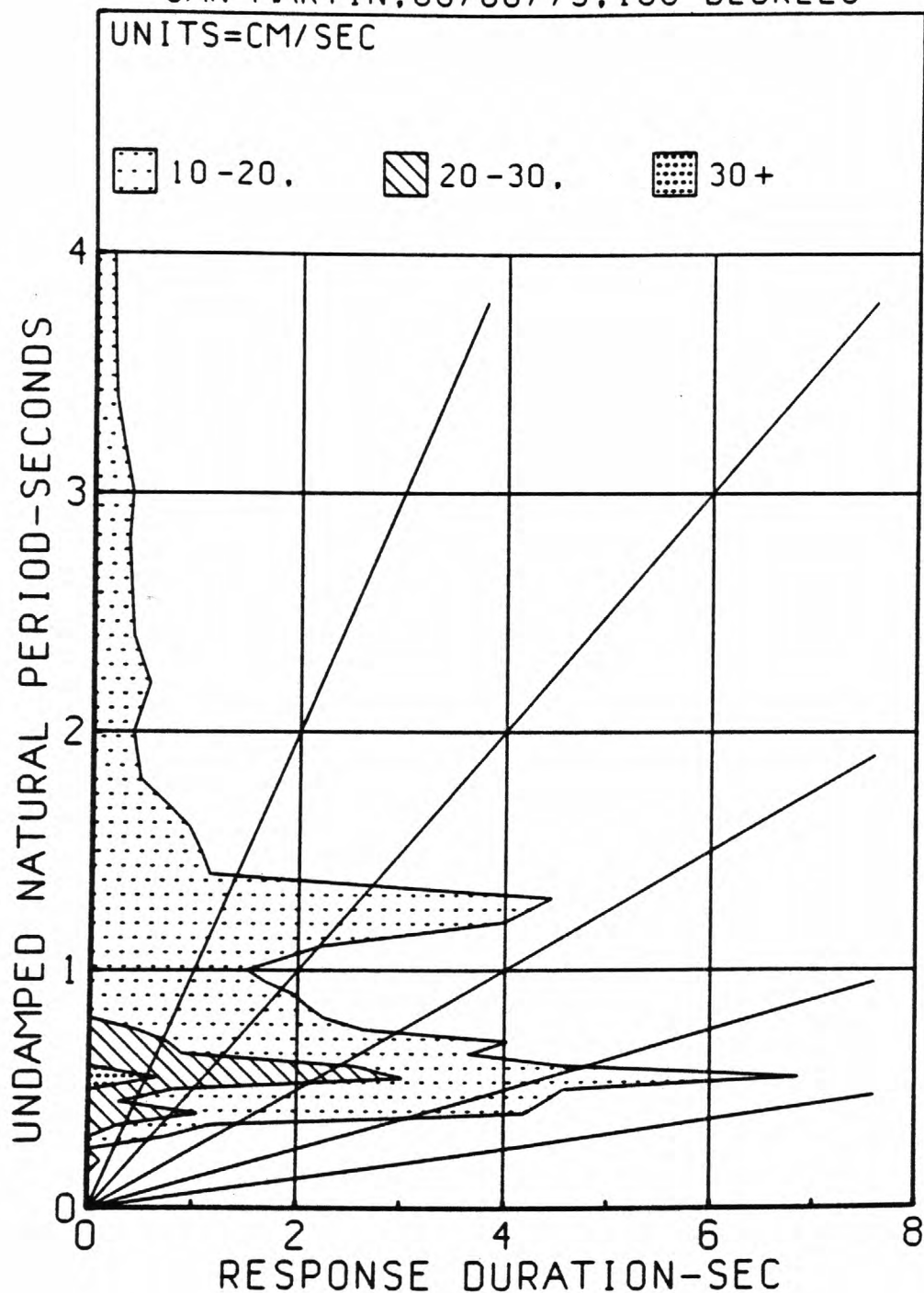
DURATION SPECTRUM OF THE VELOCITY
 RESPONSE ENVELOPE, 5 PERCENT DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SAN MARTIN, 08/06/79, 250 DEGREES



DURATION SPECTRUM OF THE VELOCITY
 RESPONSE ENVELOPE, 5 PERCENT DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SAN MARTIN, 08/06/79, UP

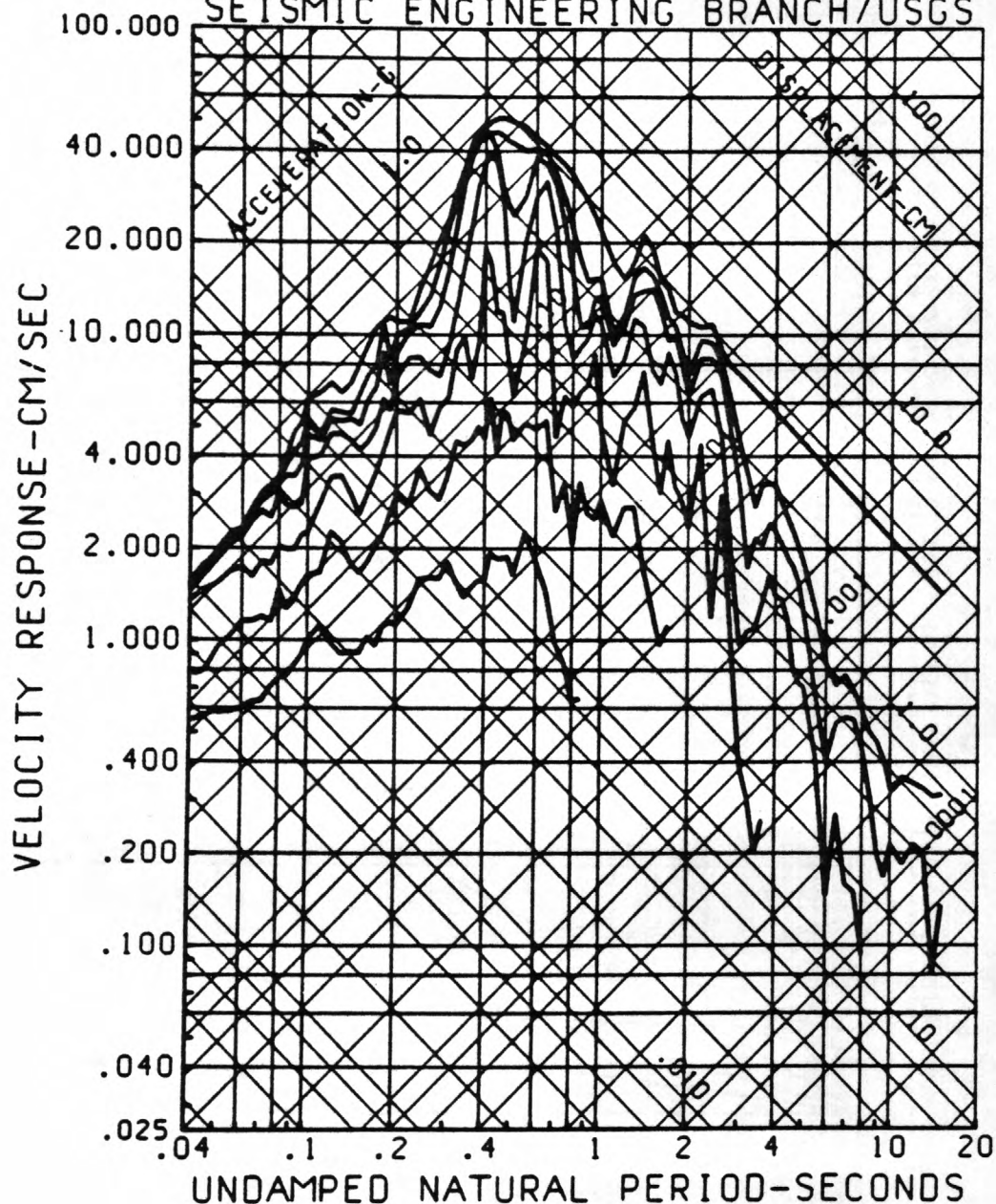


DURATION SPECTRUM OF THE VELOCITY
 RESPONSE ENVELOPE, 5 PERCENT DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SAN MARTIN, 08/06/79, 160 DEGREES



SPECTRA OF AMPLITUDES SUSTAINED
 FOR ANY GIVEN NUMBER OF CYCLES
 SAN MARTIN, 08/06/79, 250 DEGREES
 5 PERCENT CRITICAL DAMPING

BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS

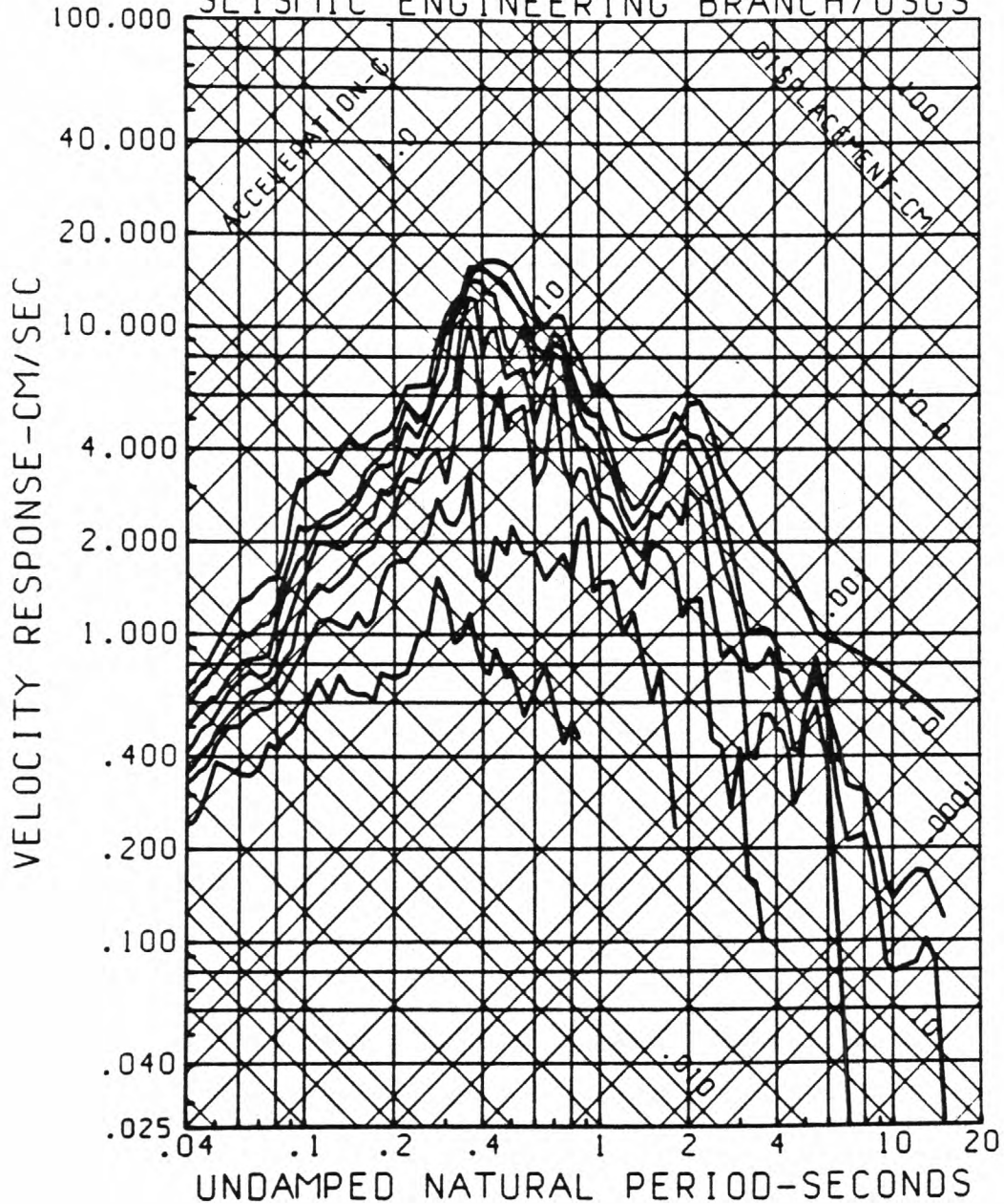


SPECTRA OF AMPLITUDES SUSTAINED
FOR ANY GIVEN NUMBER OF CYCLES
SAN MARTIN.08/06/79.UP

5 PERCENT CRITICAL DAMPING

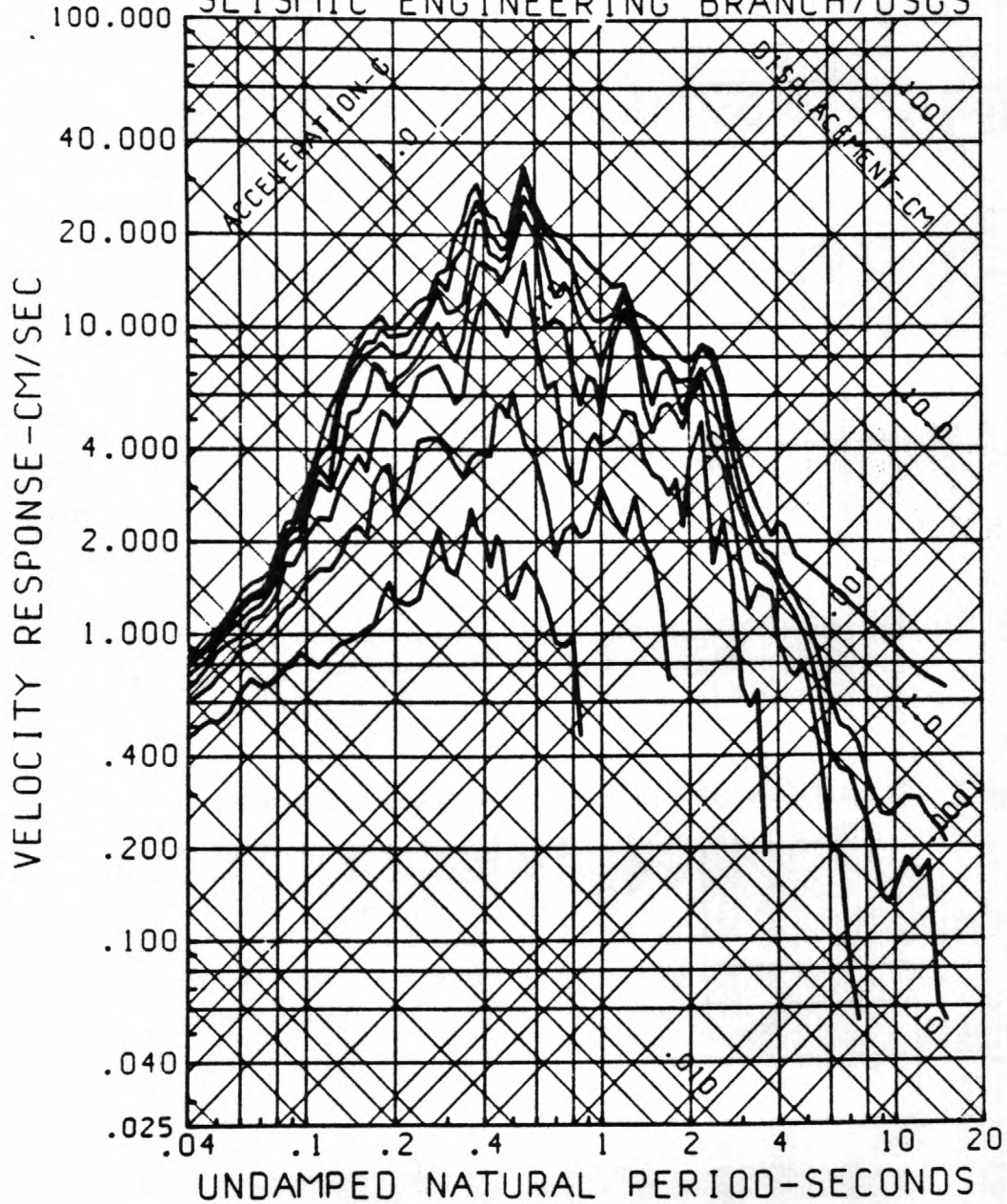
BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ

SEISMIC ENGINEERING BRANCH/USGS



SPECTRA OF AMPLITUDES SUSTAINED
FOR ANY GIVEN NUMBER OF CYCLES
SAN MARTIN, 08/06/79, 160 DEGREES
5 PERCENT CRITICAL DAMPING

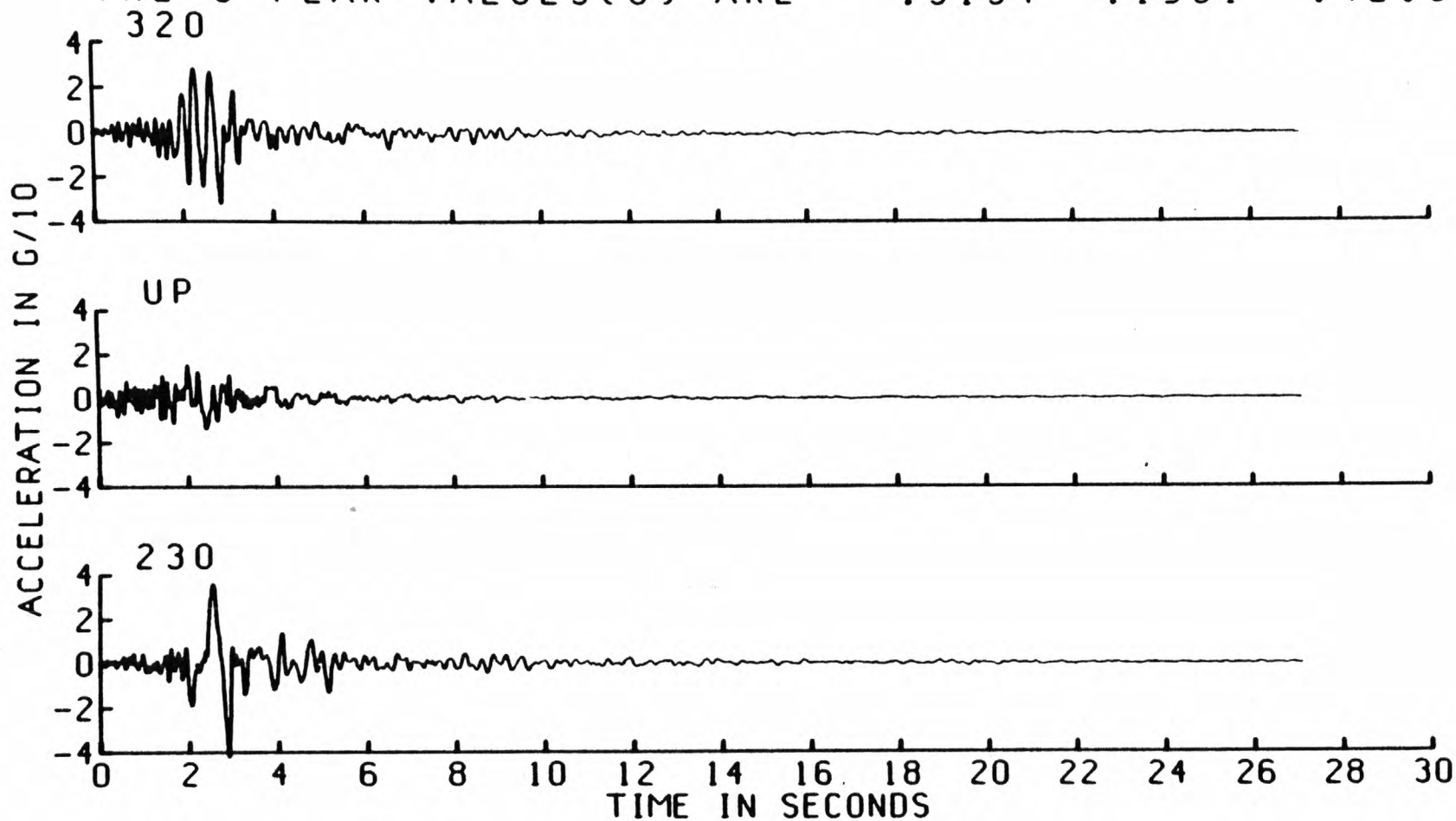
BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
SEISMIC ENGINEERING BRANCH/USGS



UNCORRECTED ACCELEROGRAM

GILROY ARRAY NO. 6.08/06/79-1704

THE 3 PEAK VALUES(G) ARE .3194 .1531 .4219



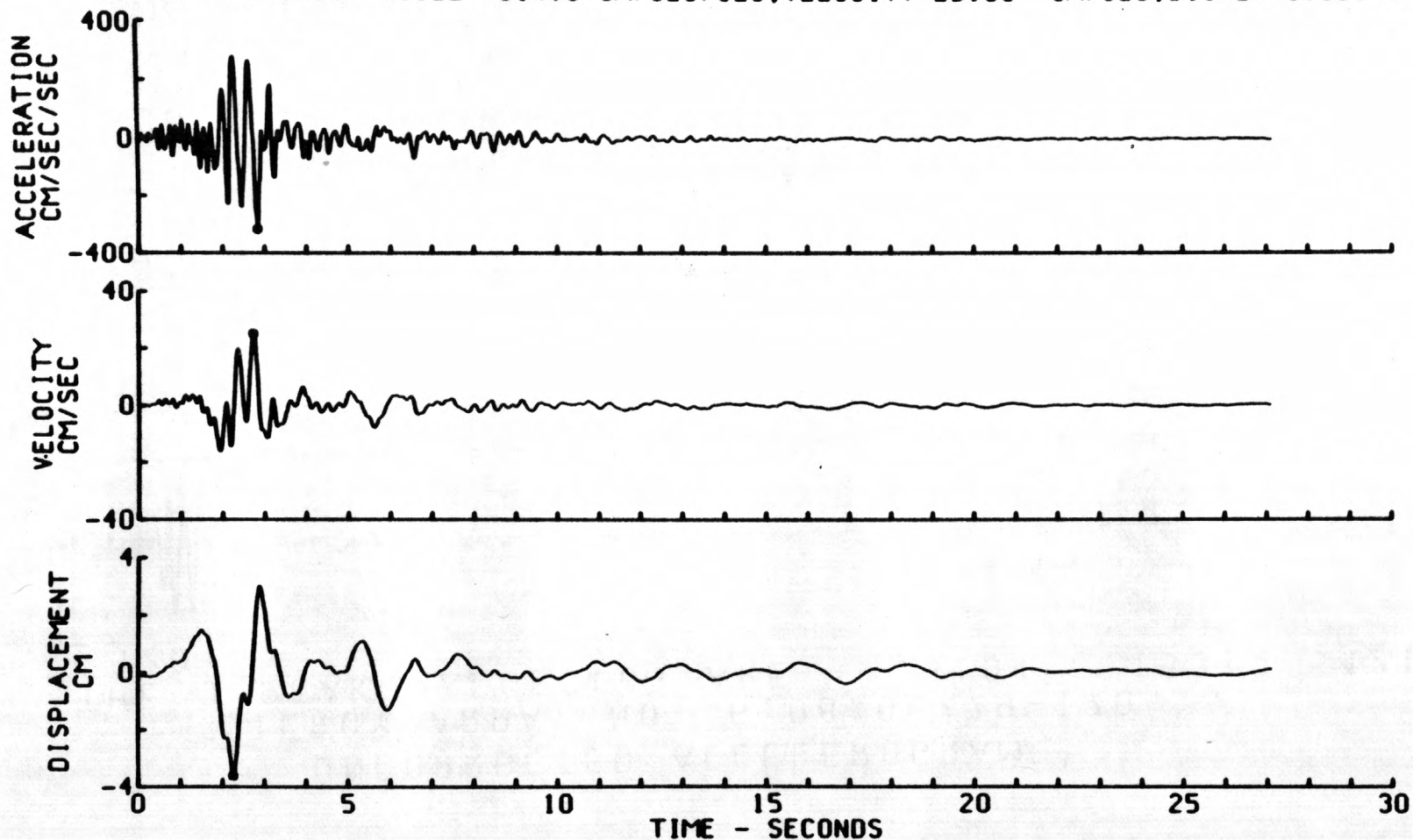
CORRECTED ACCELERATION, VELOCITY, DISPLACEMENT
COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705

GILROY ARRAY NO. 6, SAN YSIDRO, 320 DEGREES

DATA IS PLOTTED AT EQUAL TIME INCREMENTS OF .01000 SEC

ACCELEROGRAM IS BAND PASSED, WITH RAMPS OF .050 - .250 AND 23.00 - 25.00 CYC/SEC

• PEAK VALUES ACCEL=-314.6 CM/SEC/SEC, VELOCITY=25.06 CM/SEC, DISPL=-3.620 CM



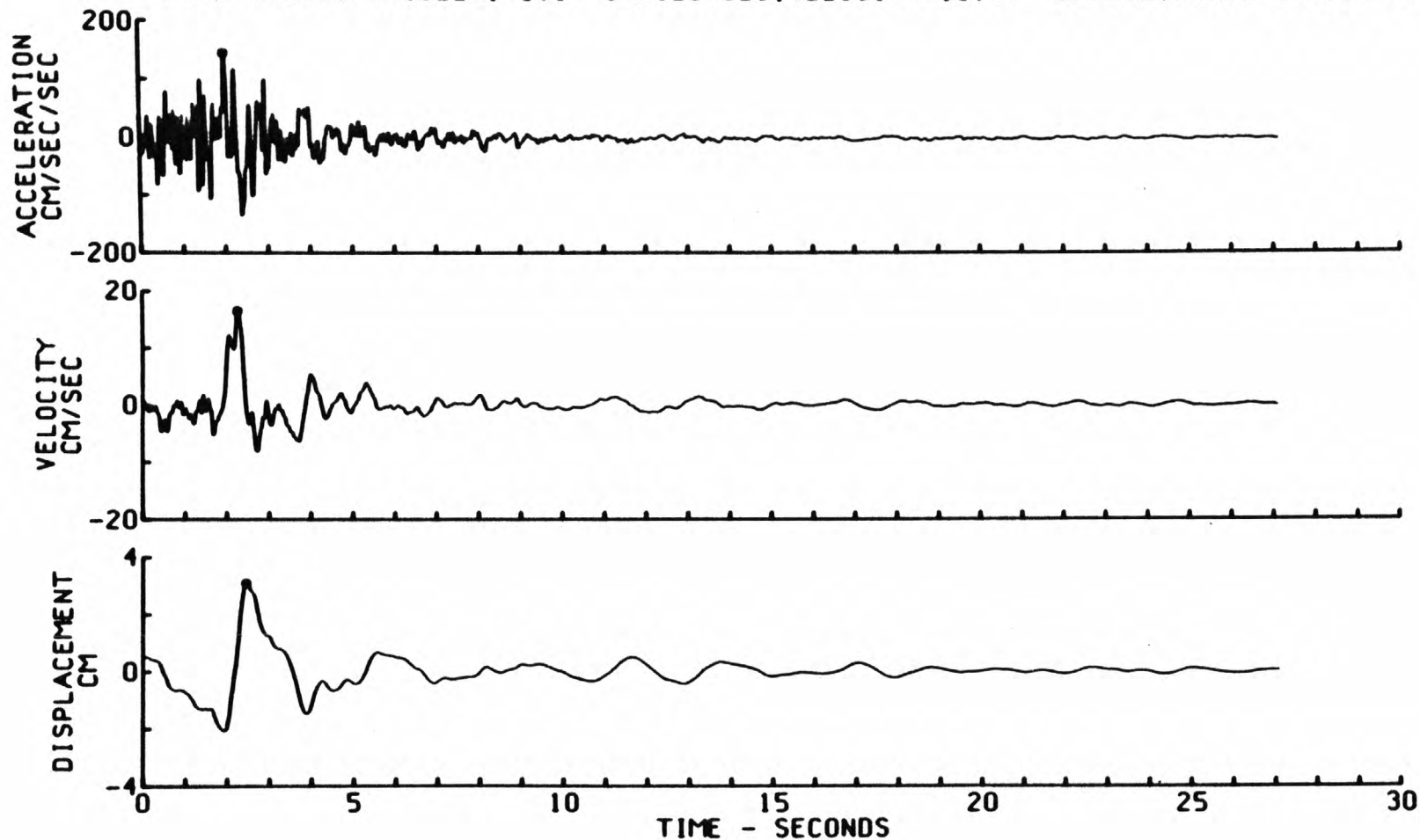
CORRECTED ACCELERATION, VELOCITY, DISPLACEMENT
COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705

GILROY ARRAY NO. 6, SAN YSIDRO, UP

DATA IS PLOTTED AT EQUAL TIME INCREMENTS OF .01000 SEC

ACCELEROGRAM IS BAND PASSED, WITH RAMPS OF .050 - .250 AND 23.00 - 25.00 CYC/SEC

• PEAK VALUES ACCEL=146.9 CM/SEC/SEC, VELOCITY=16.47 CM/SEC, DISPL=3.080 CM



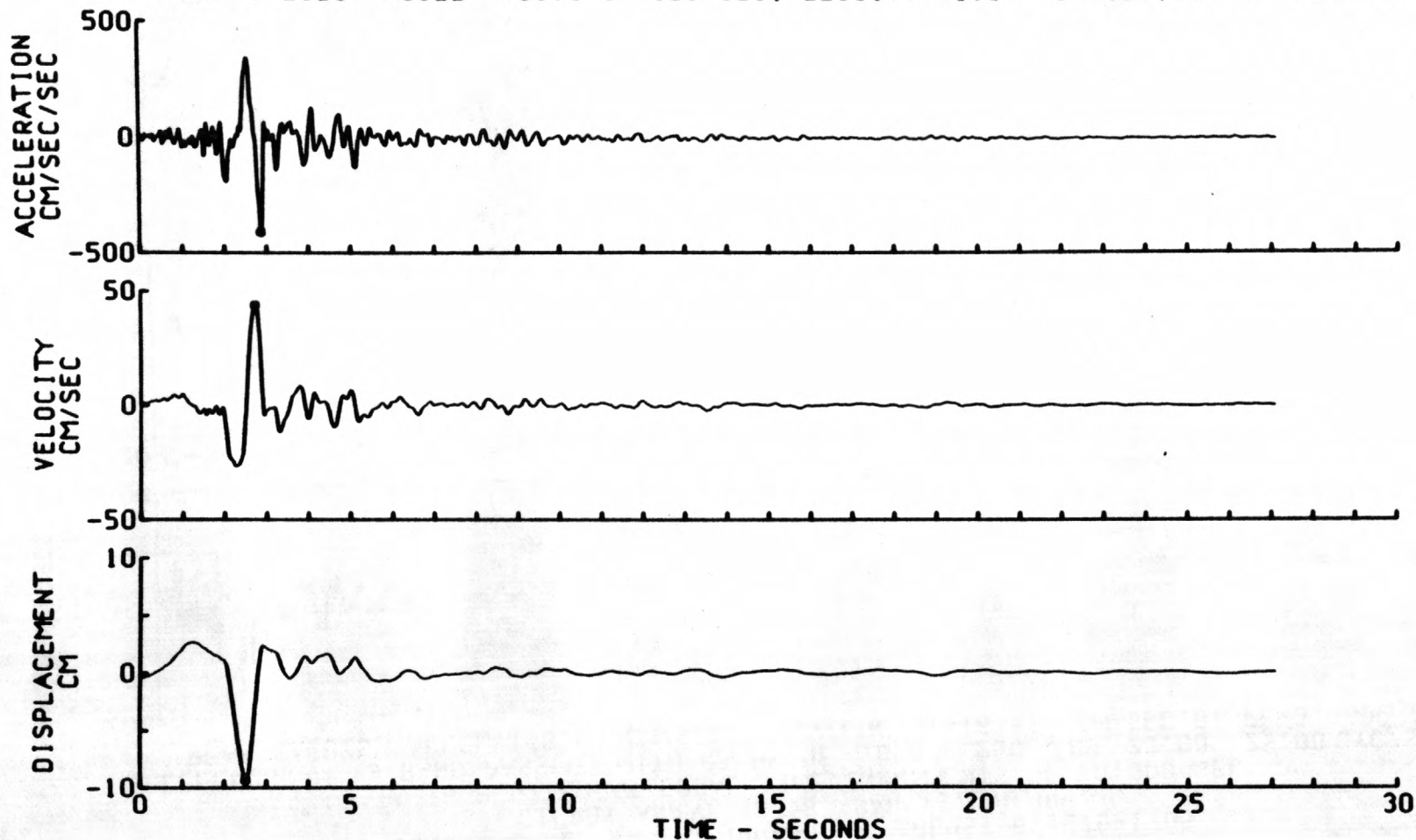
CORRECTED ACCELERATION, VELOCITY, DISPLACEMENT
COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705

GILROY ARRAY NO. 6, SAN YSIDRO, 230 DEGREES

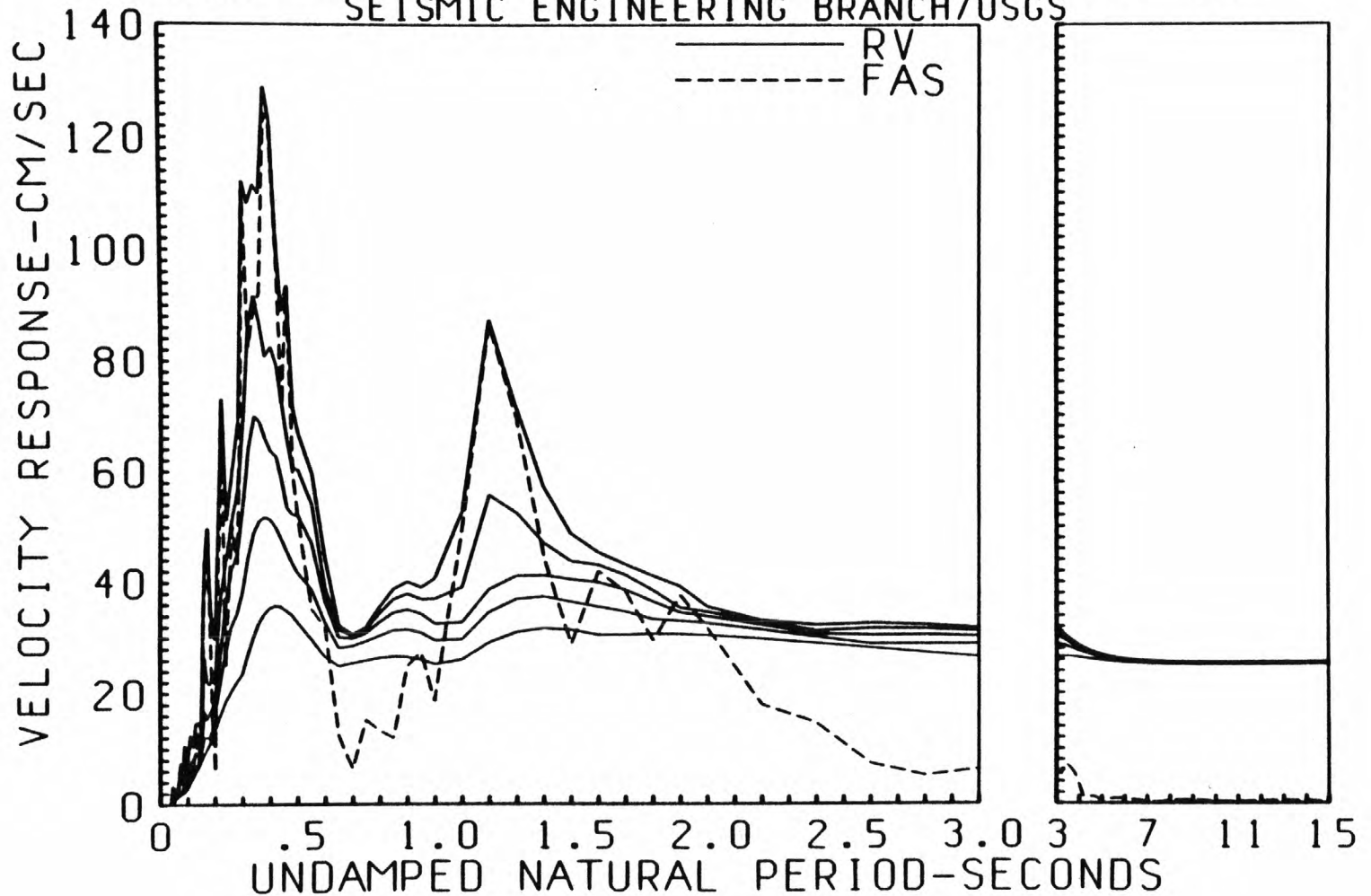
DATA IS PLOTTED AT EQUAL TIME INCREMENTS OF .01000 SEC

ACCELEROGRAM IS BAND PASSED, WITH RAMPS OF .050 - .250 AND 23.00 - 25.00 CYC/SEC

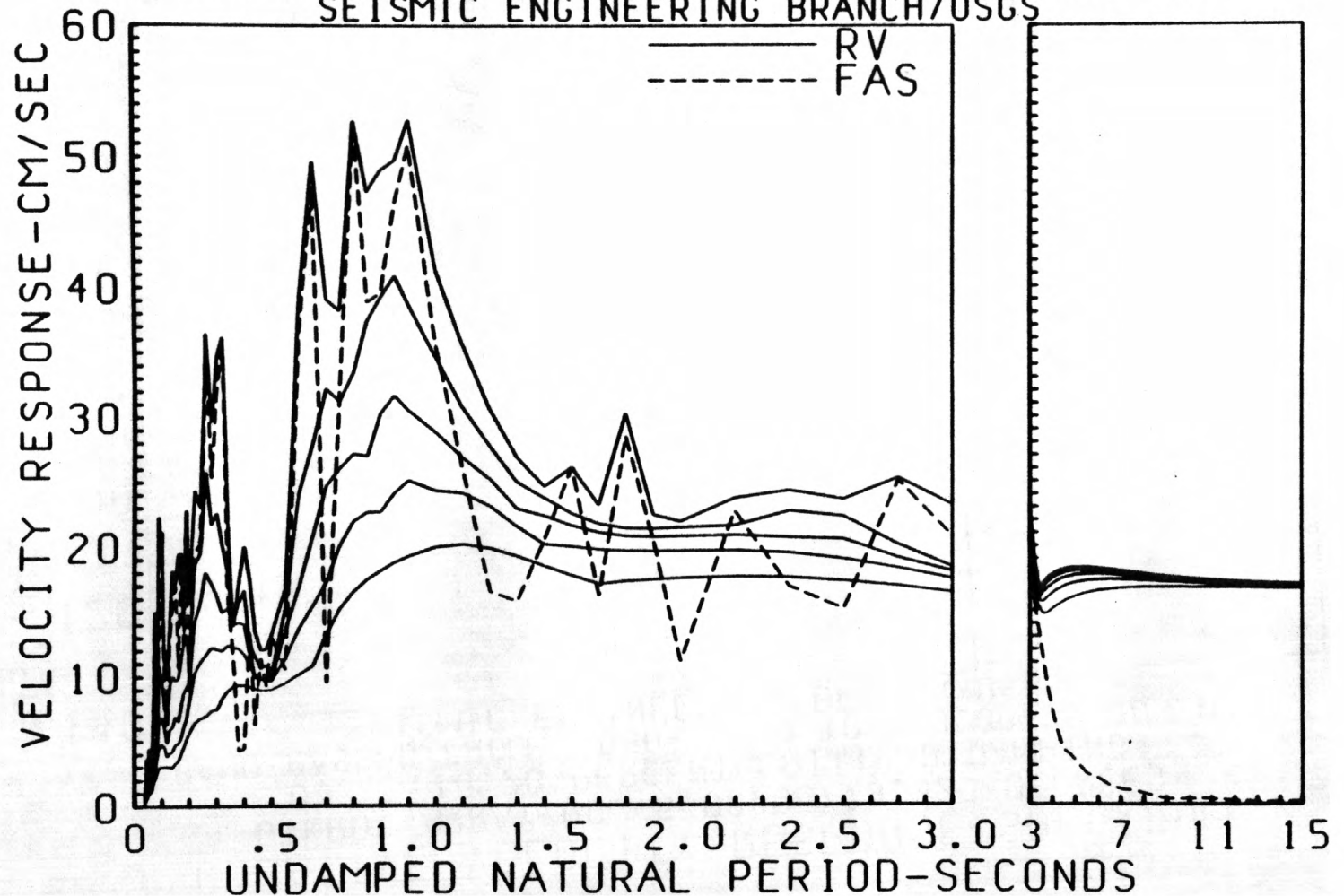
• PEAK VALUES ACCEL=-408.8 CM/SEC/SEC, VELOCITY=43.84 CM/SEC, DISPL=-9.340 CM



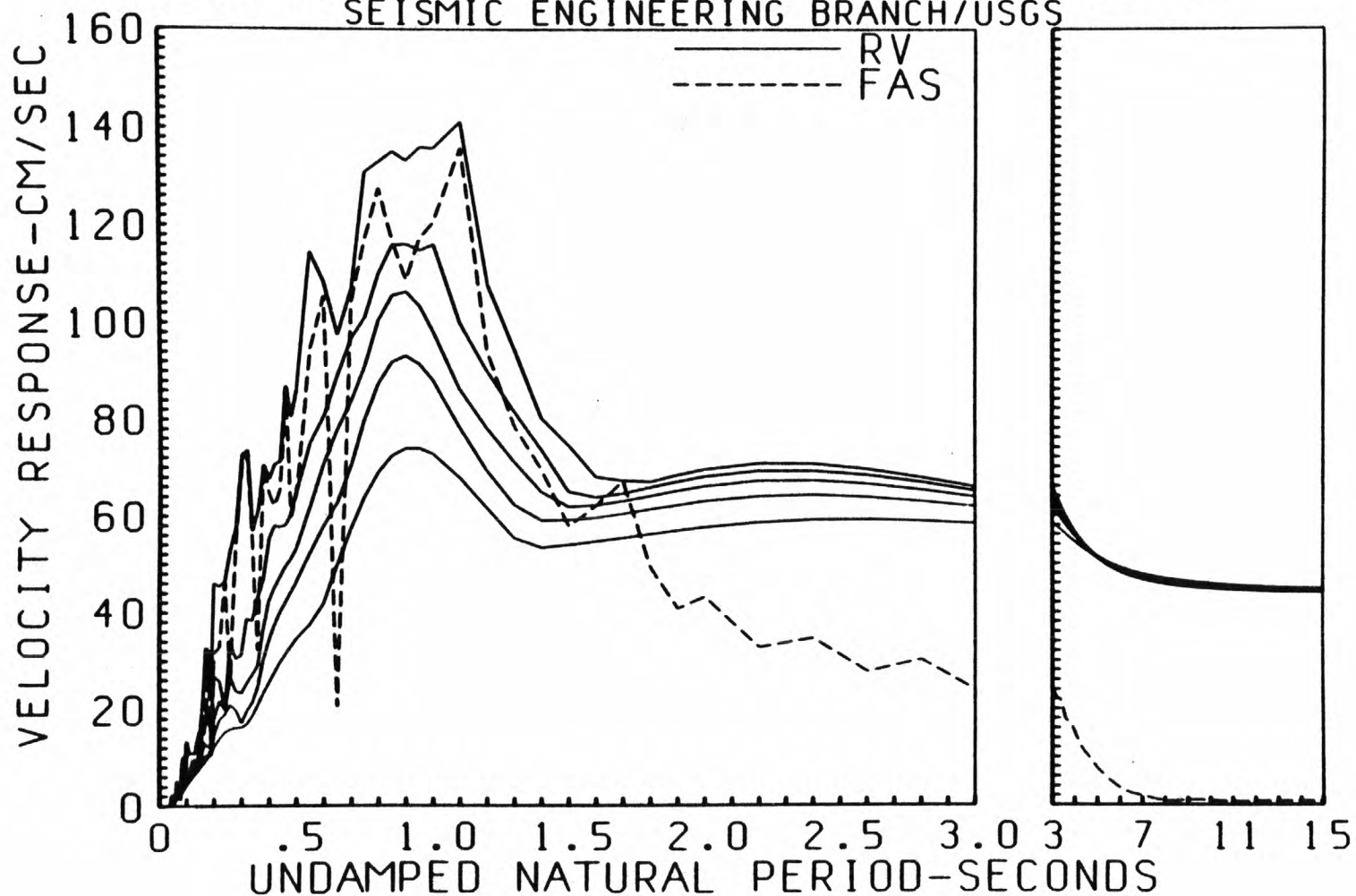
RELATIVE VELOCITY RESPONSE SPECTRUM
 GILROY ARRAY NO. 6,08/06/79,320 DEGREES
 0.2,5,10,20 PERCENT CRITICAL DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS



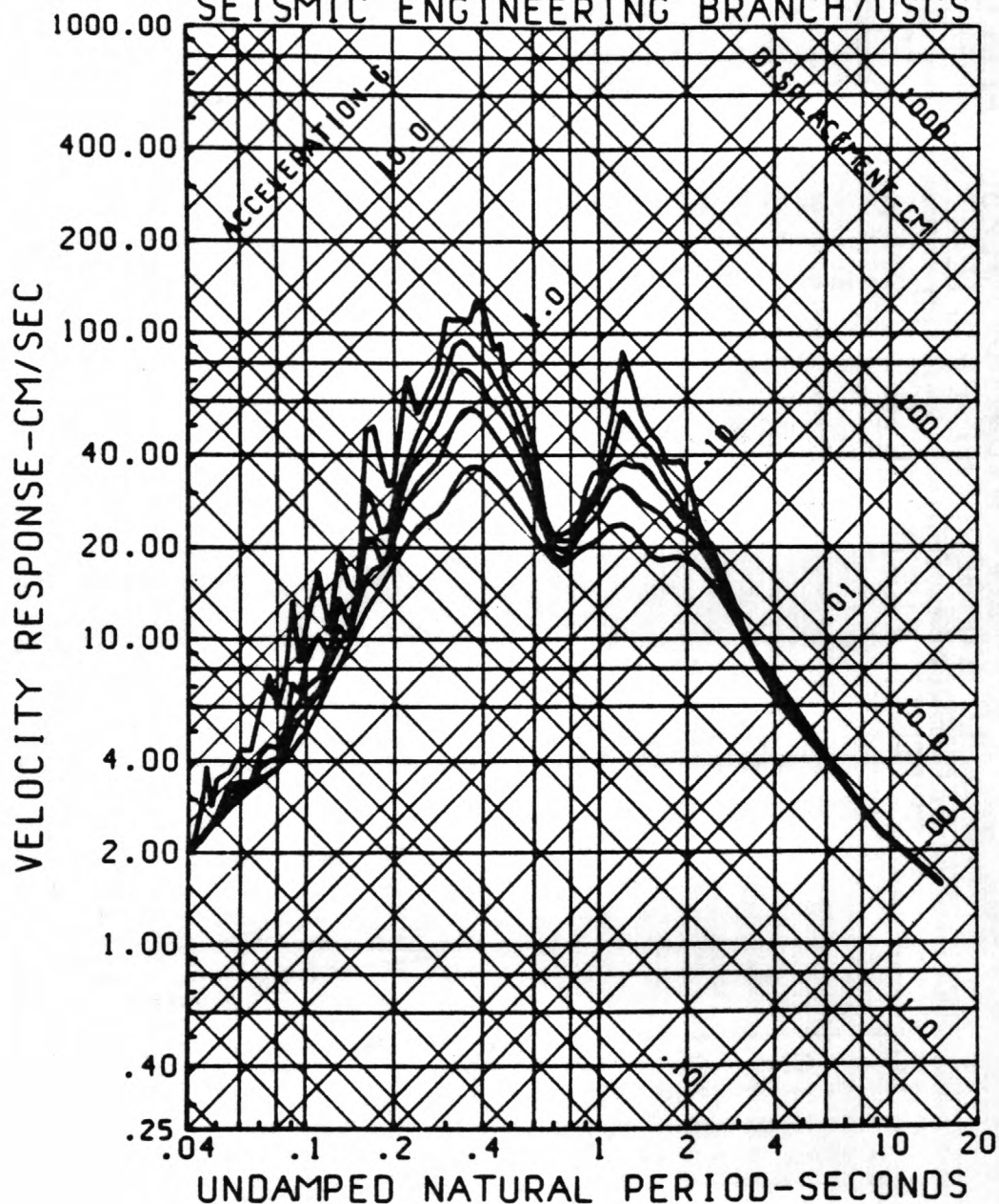
RELATIVE VELOCITY RESPONSE SPECTRUM
 GILROY ARRAY NO. 6.08/06/79.UP
 0.2,5,10,20 PERCENT CRITICAL DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS



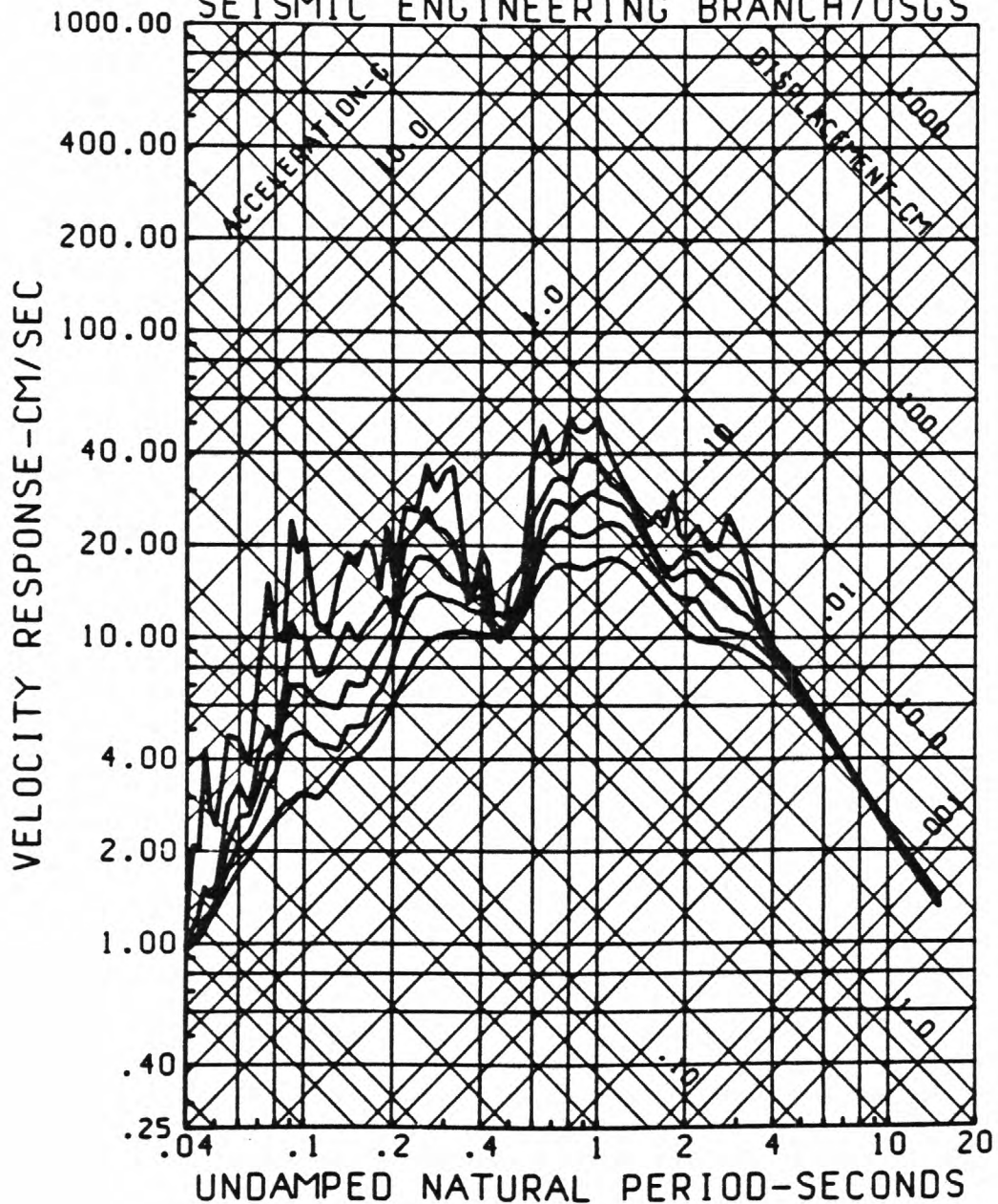
RELATIVE VELOCITY RESPONSE SPECTRUM
 GILROY ARRAY NO. 6, 08/06/79, 230 DEGREES
 0.2, 5, 10, 20 PERCENT CRITICAL DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS



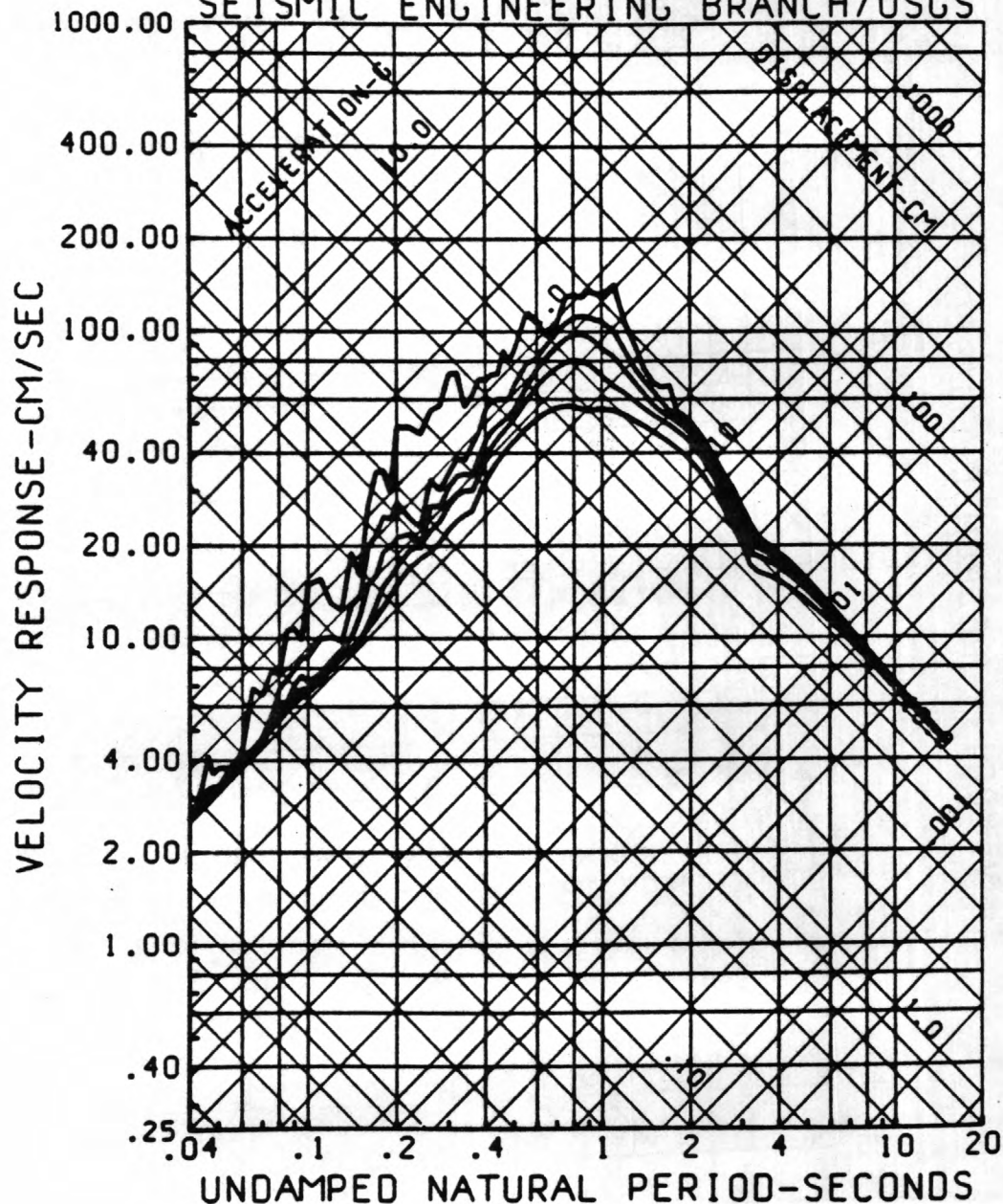
RESPONSE SPECTRA
 GILROY ARRAY NO. 6.08/06/79.320 DEGREES
 0.2,5,10,20 PERCENT CRITICAL DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS



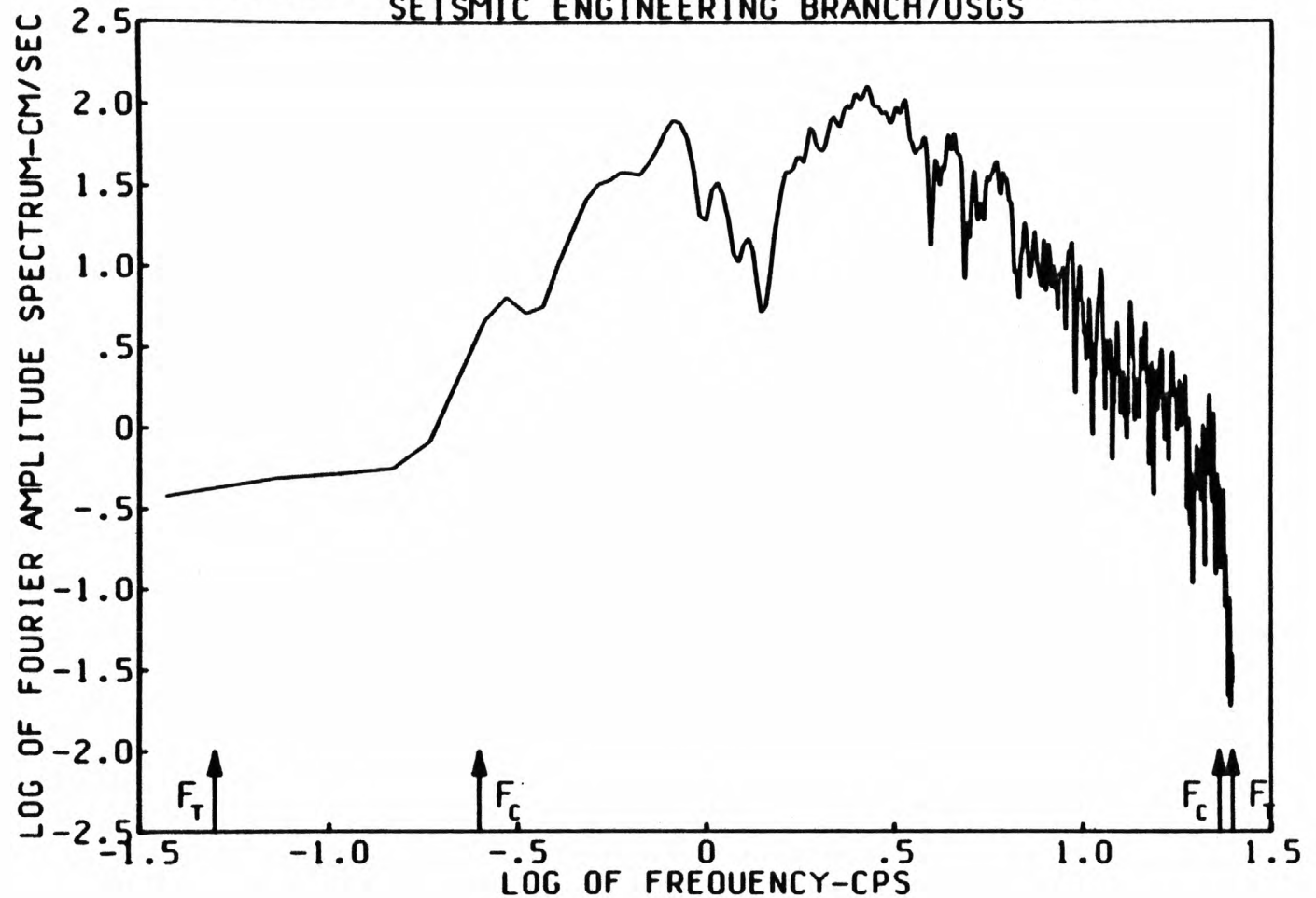
RESPONSE SPECTRA
GILROY ARRAY NO. 6.08/06/79. UP
0.2, 5, 10, 20 PERCENT CRITICAL DAMPING
BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
SEISMIC ENGINEERING BRANCH/USGS



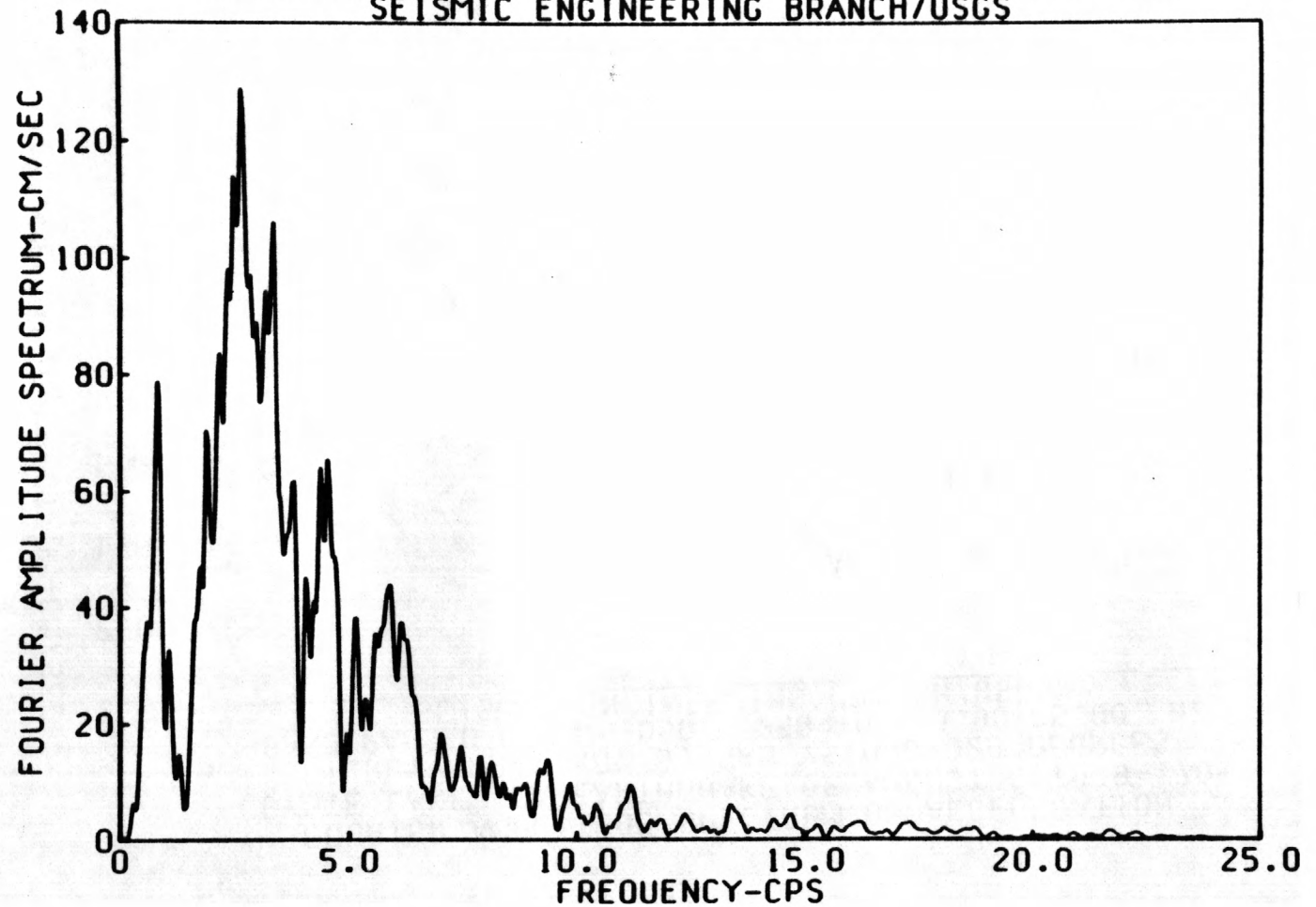
RESPONSE SPECTRA
 GILROY ARRAY NO. 6.08/06/79.230 DEGREES
 0.2, 5, 10, 20 PERCENT CRITICAL DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS



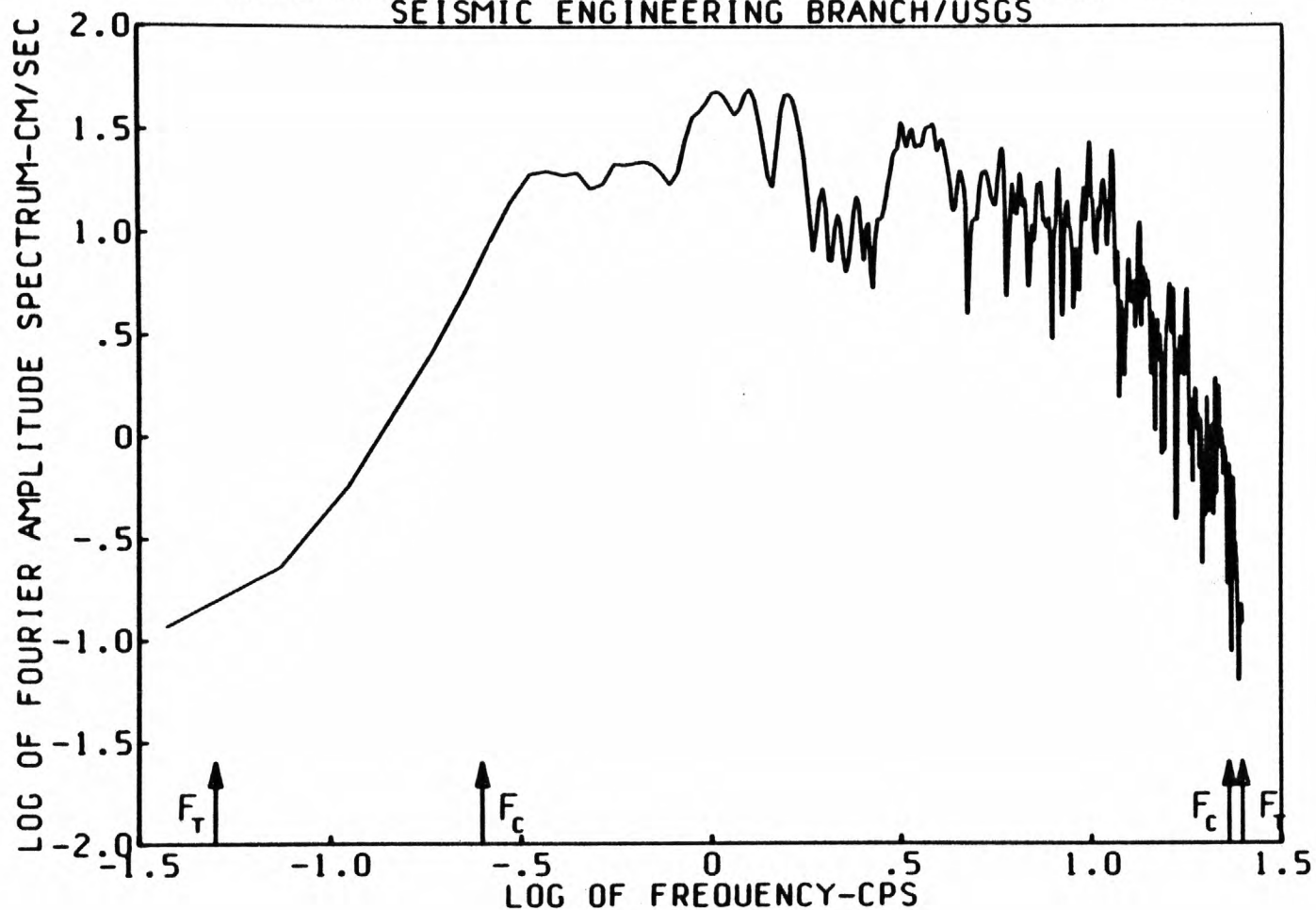
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
 COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705
 GILROY ARRAY NO. 6, SAN YSIDRO, 320 DEGREES
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS



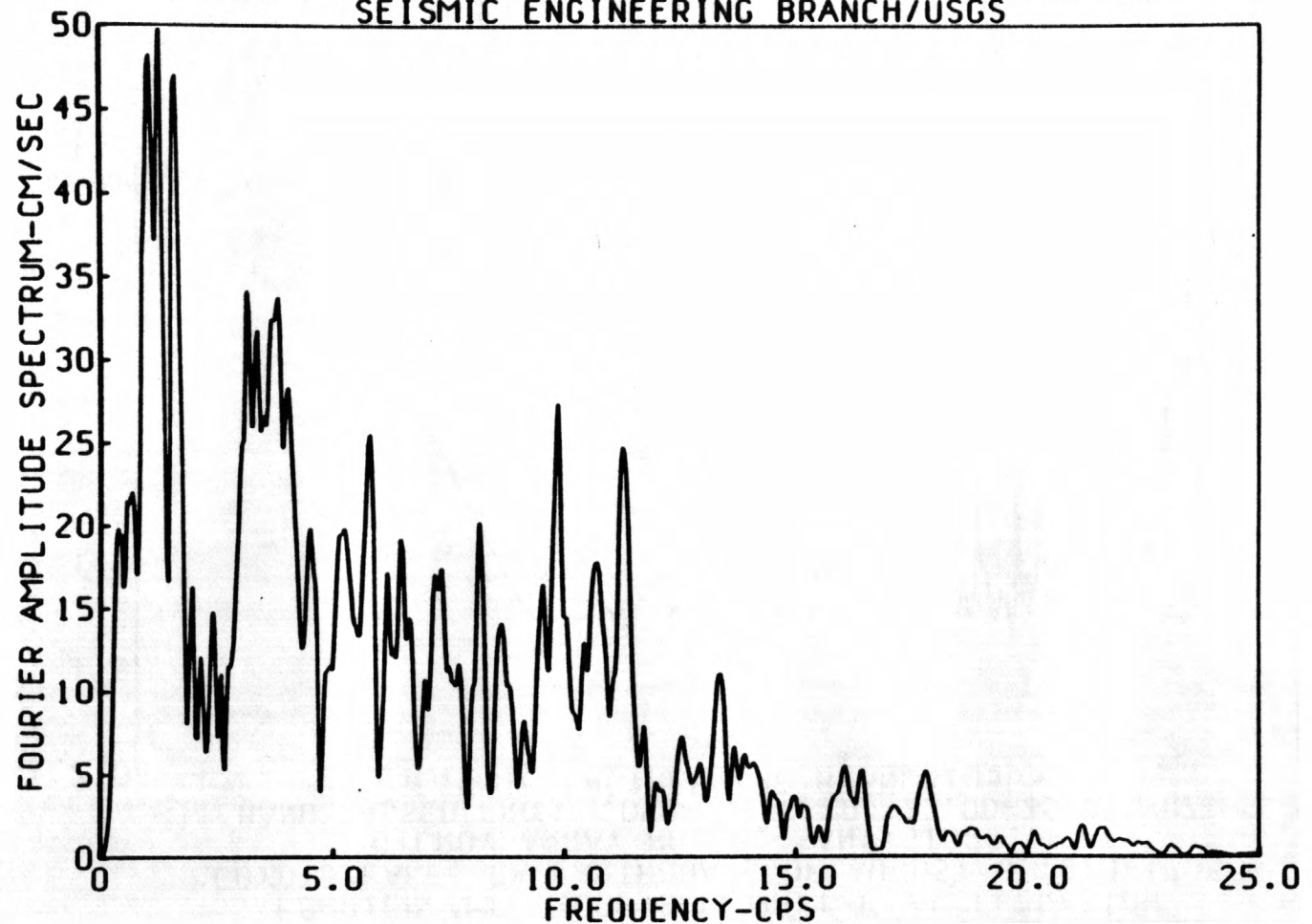
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705
GILROY ARRAY NO. 6, SAN YSIDRO, 320 DEGREES
BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
SEISMIC ENGINEERING BRANCH/USGS



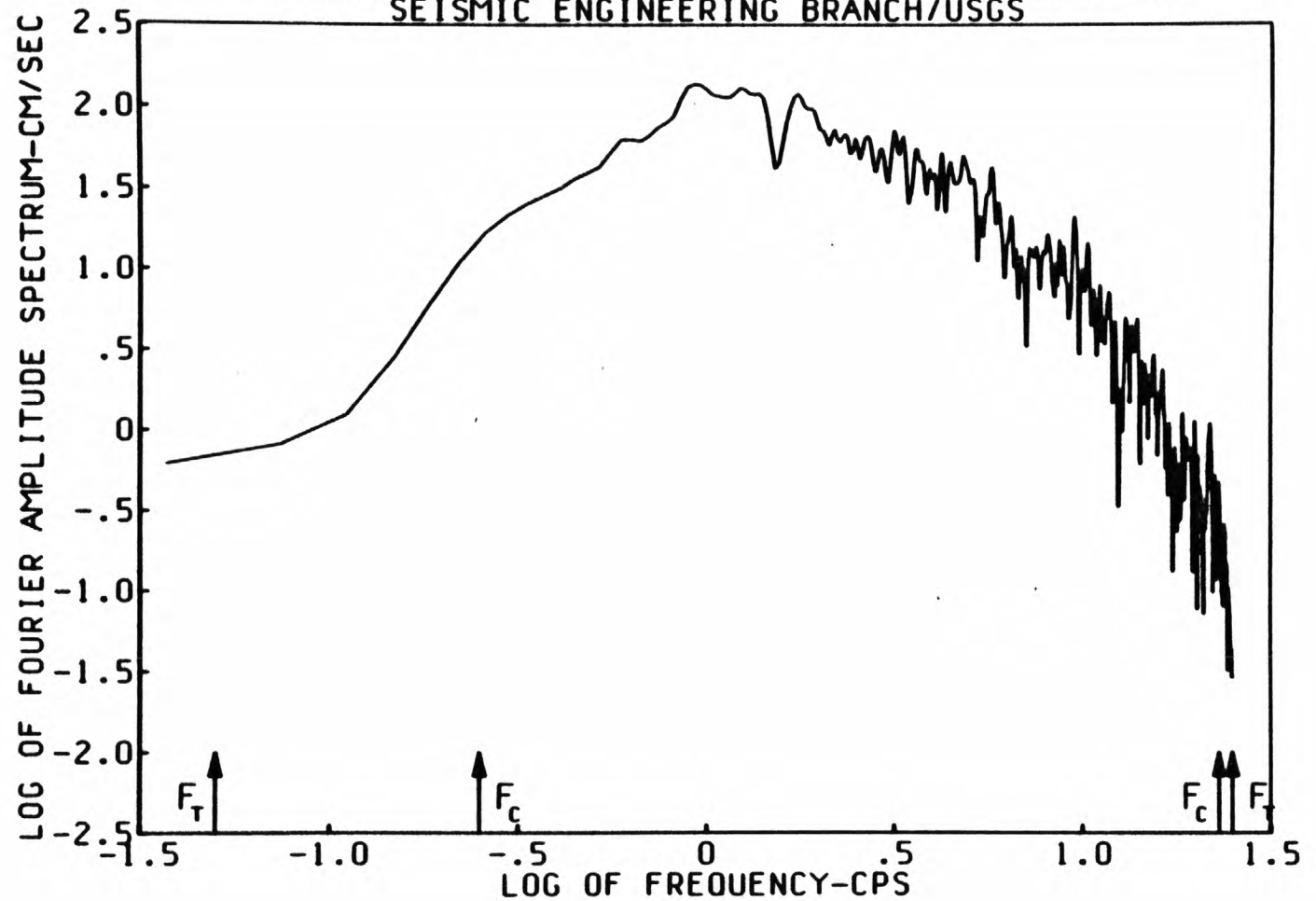
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
 COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705
 GILROY ARRAY NO. 6, SAN YSIDRO, UP
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS



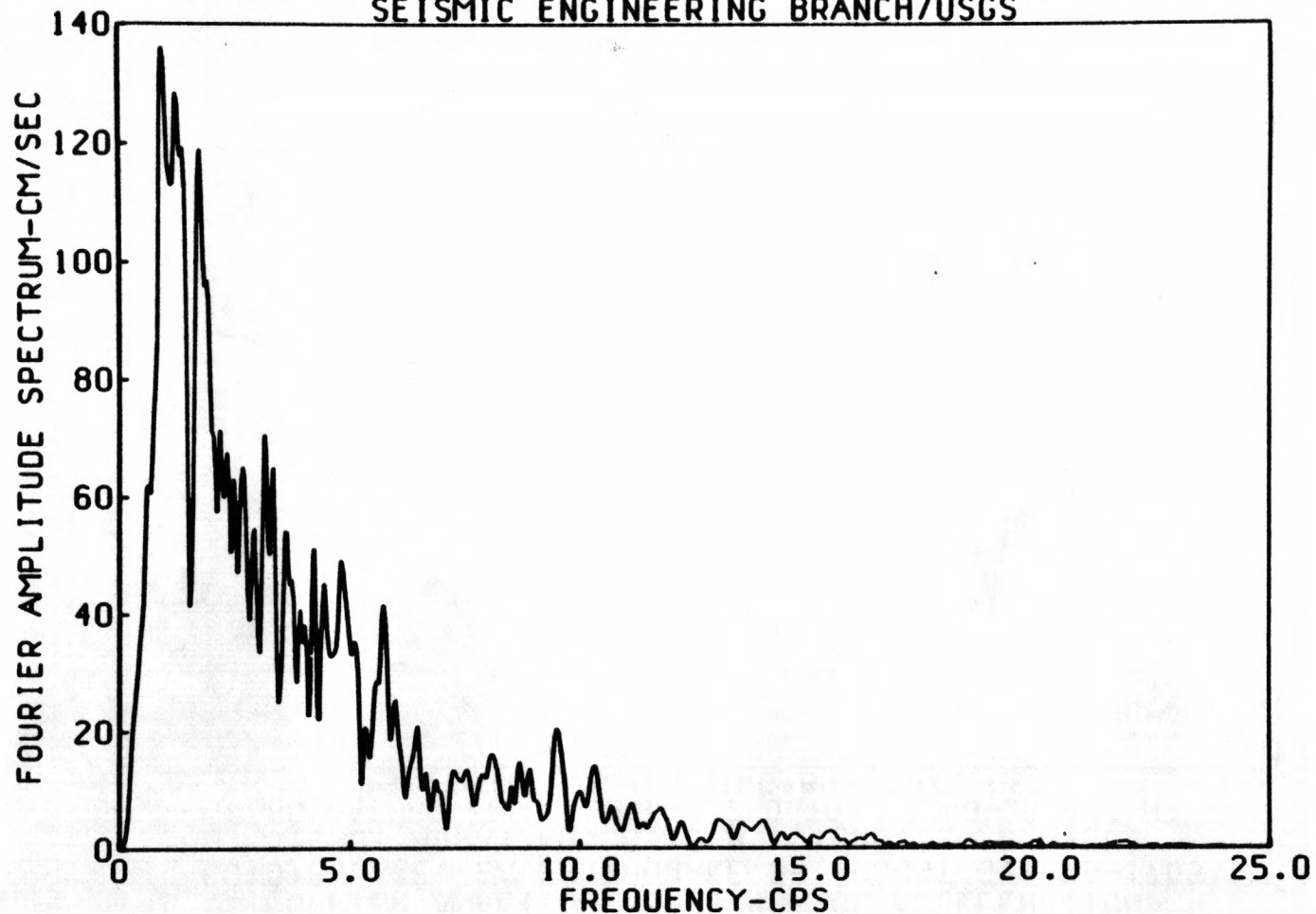
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705
GILROY ARRAY NO. 6, SAN YSIDRO, UP
BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
SEISMIC ENGINEERING BRANCH/USGS



FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
 COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705
 GILROY ARRAY NO. 6, SAN YSIDRO, 230 DEGREES
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS



FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705
GILROY ARRAY NO. 6, SAN YSIDRO, 230 DEGREES
BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
SEISMIC ENGINEERING BRANCH/USGS

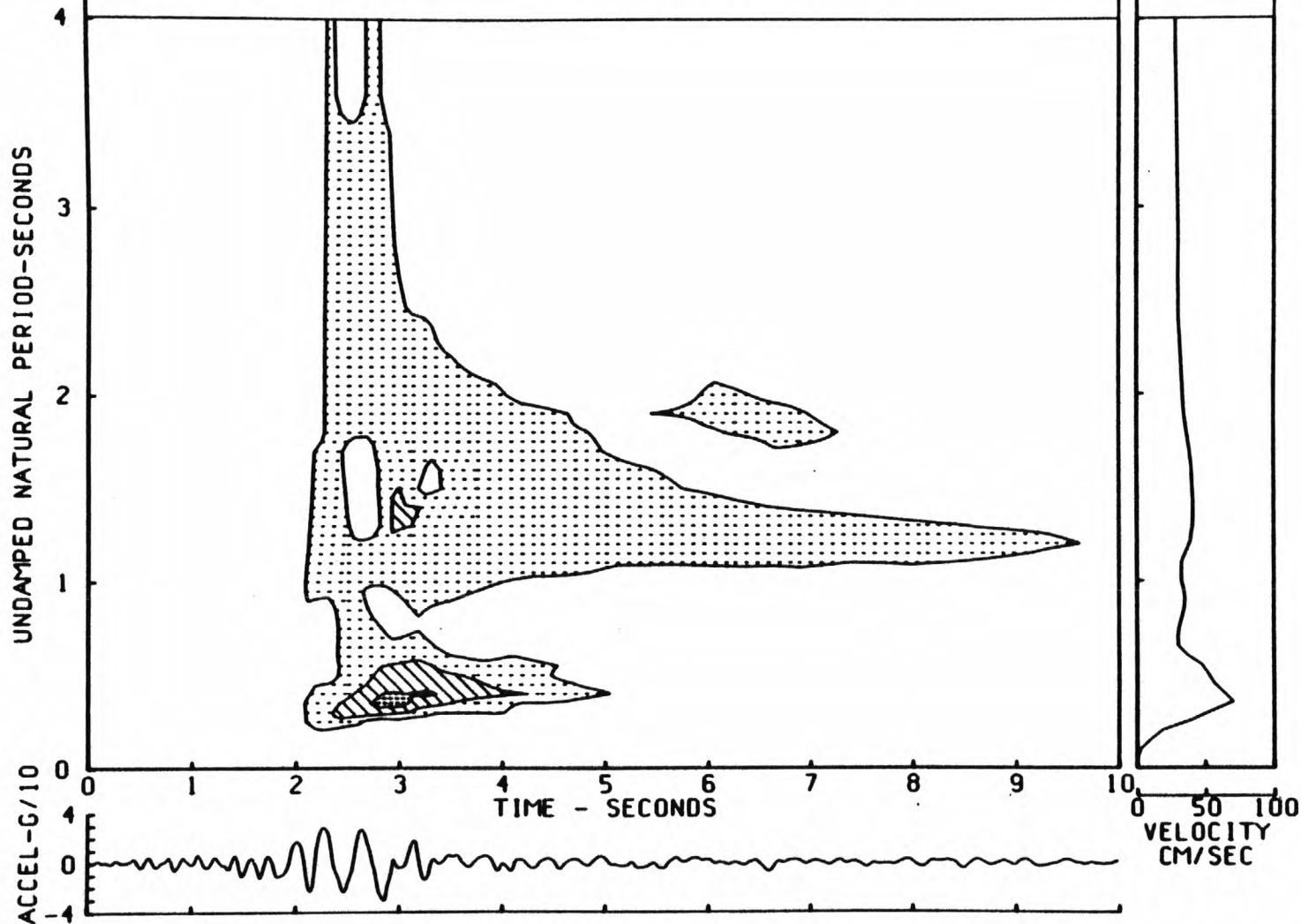


VELOCITY RESPONSE ENVELOPE SPECTRUM, 5 PERCENT CRITICAL DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ

UNITS=CM/SEC

GILROY ARRAY NO. 6.08/06/79.320 DEGREES

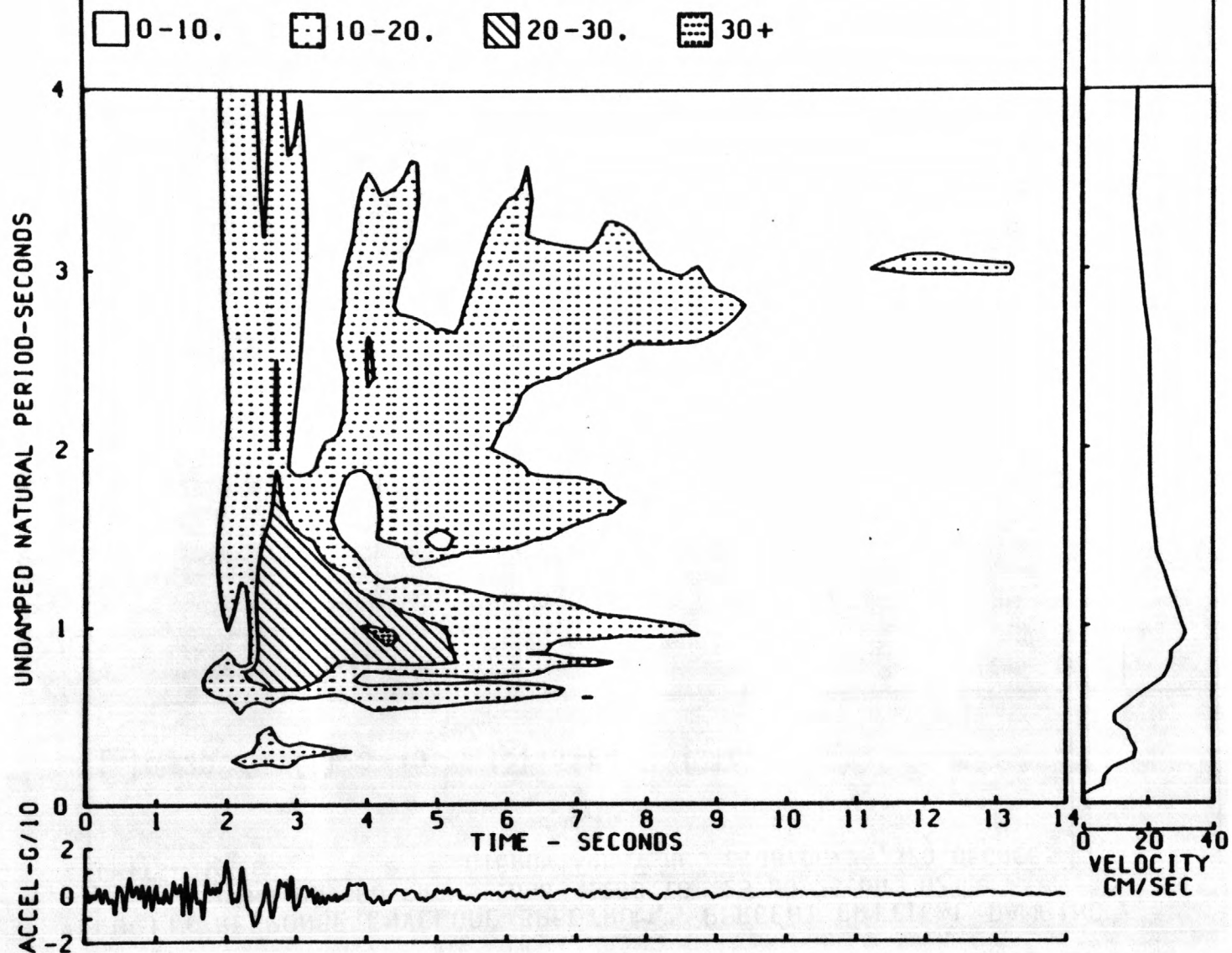
0-20. 20-40. 40-60. 60+



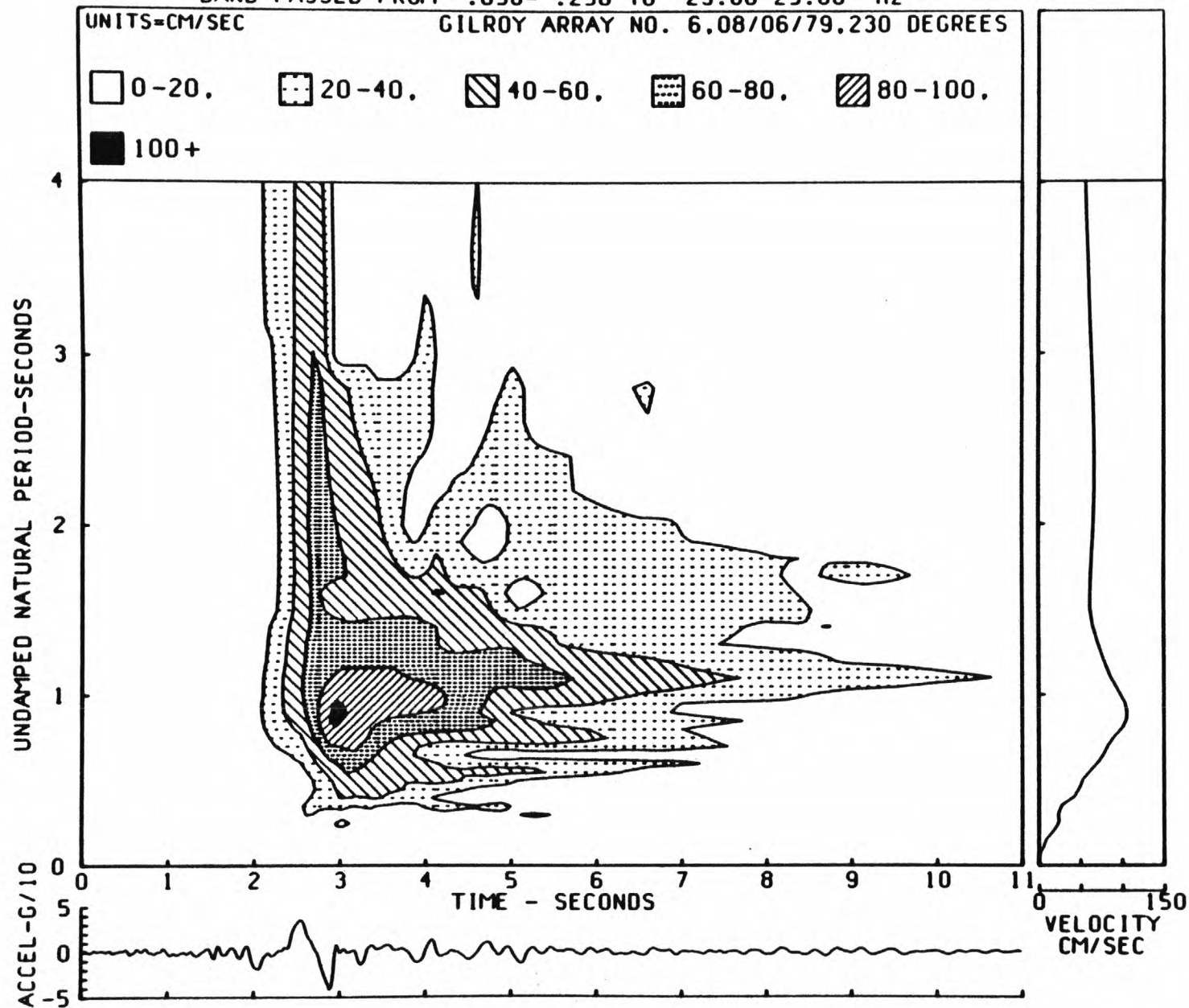
VELOCITY RESPONSE ENVELOPE SPECTRUM, 5 PERCENT CRITICAL DAMPING
BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ

UNITS=CM/SEC

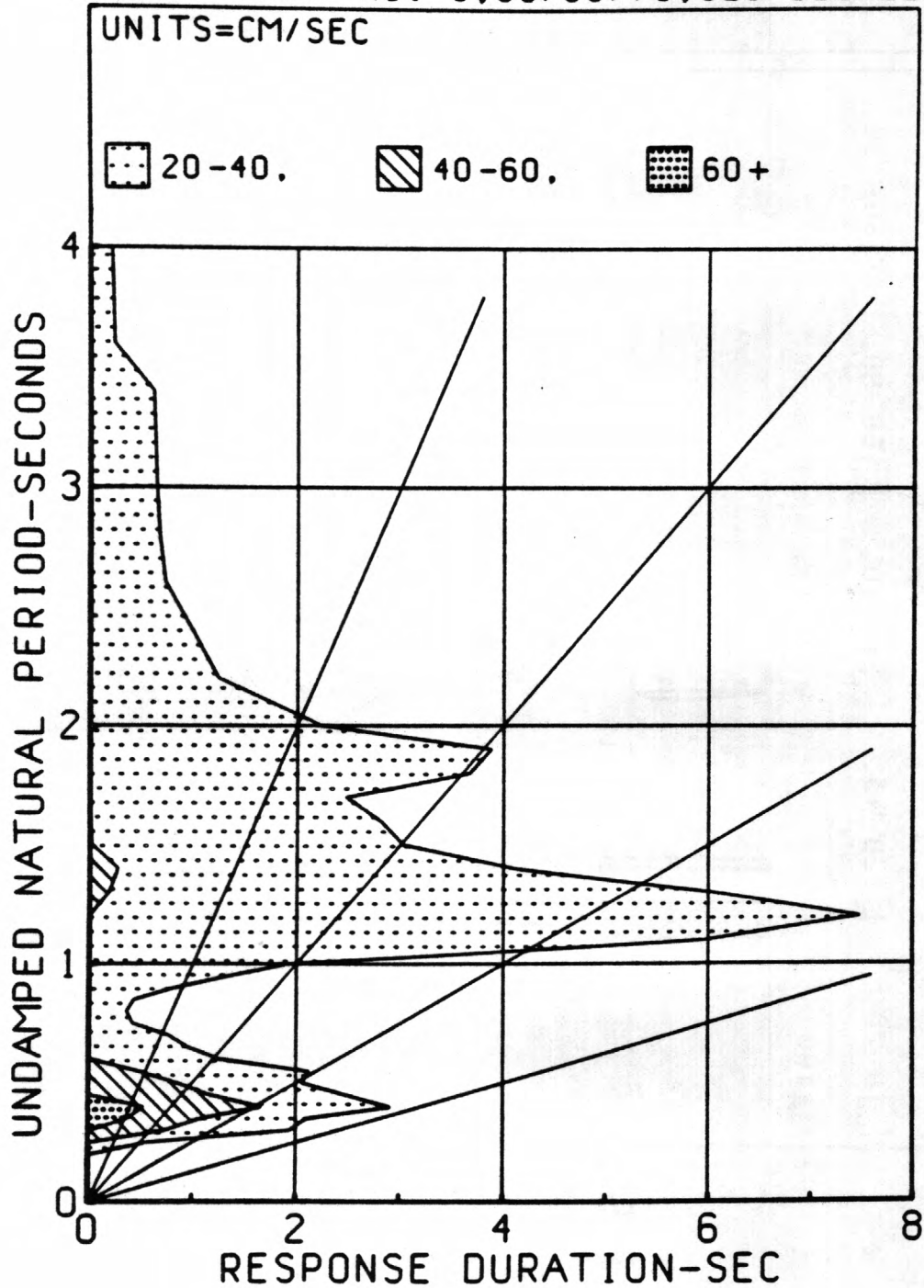
GILROY ARRAY NO. 6, 08/06/79, UP



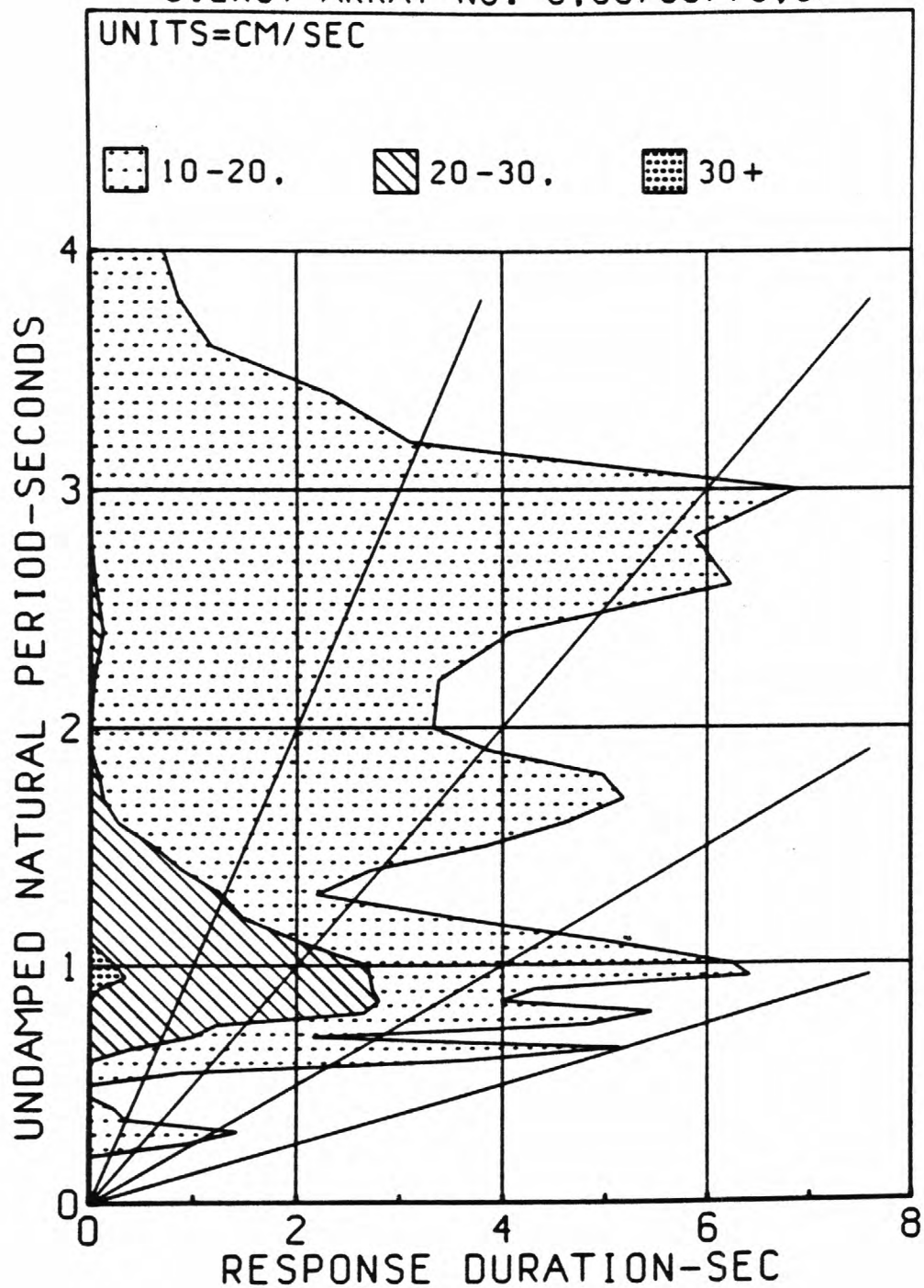
VELOCITY RESPONSE ENVELOPE SPECTRUM, 5 PERCENT CRITICAL DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ



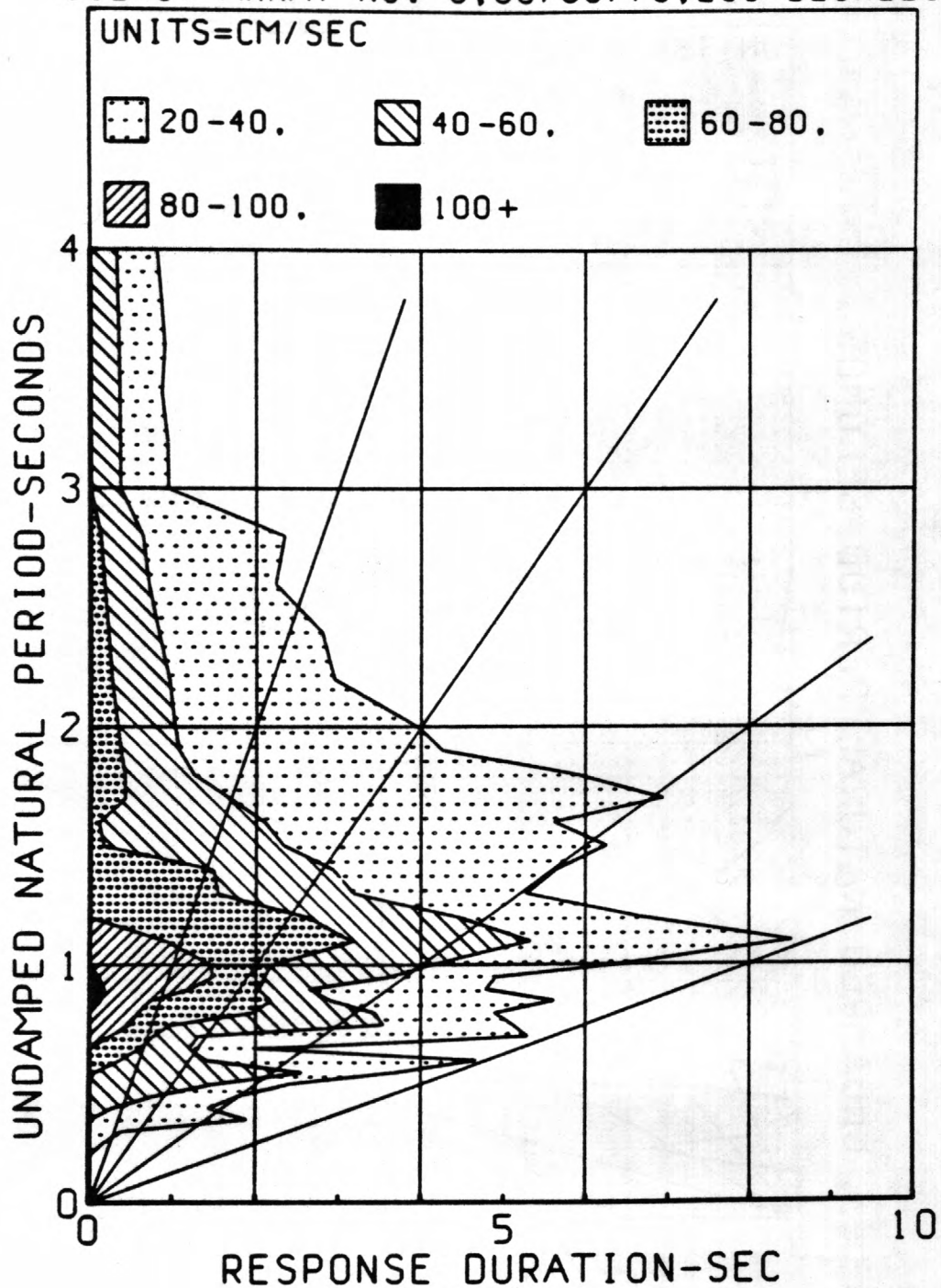
DURATION SPECTRUM OF THE VELOCITY
 RESPONSE ENVELOPE, 5 PERCENT DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 GILROY ARRAY NO. 6.08/06/79.320 DEGREES



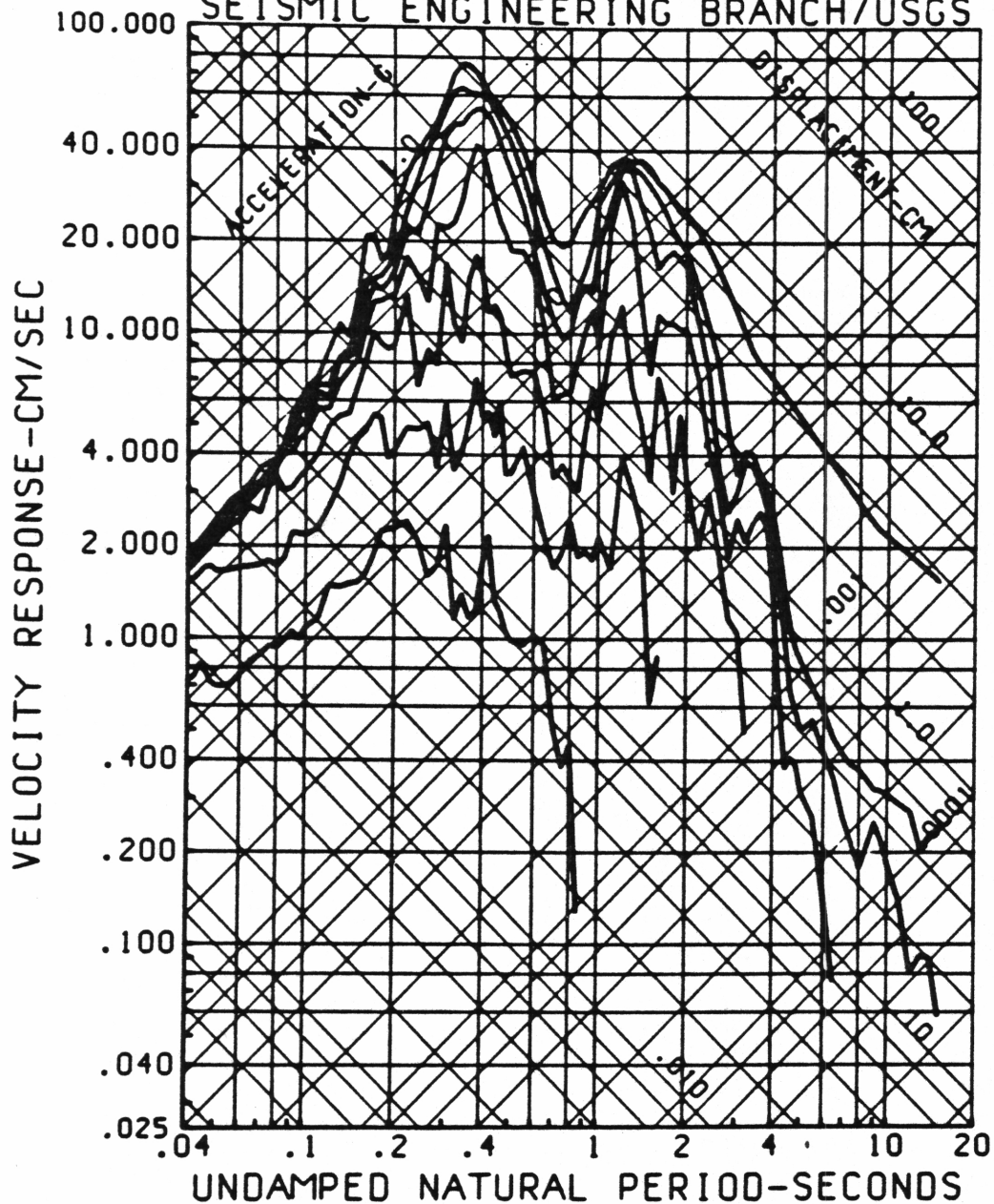
DURATION SPECTRUM OF THE VELOCITY
 RESPONSE ENVELOPE, 5 PERCENT DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 GILROY ARRAY NO. 6,08/06/79,UP



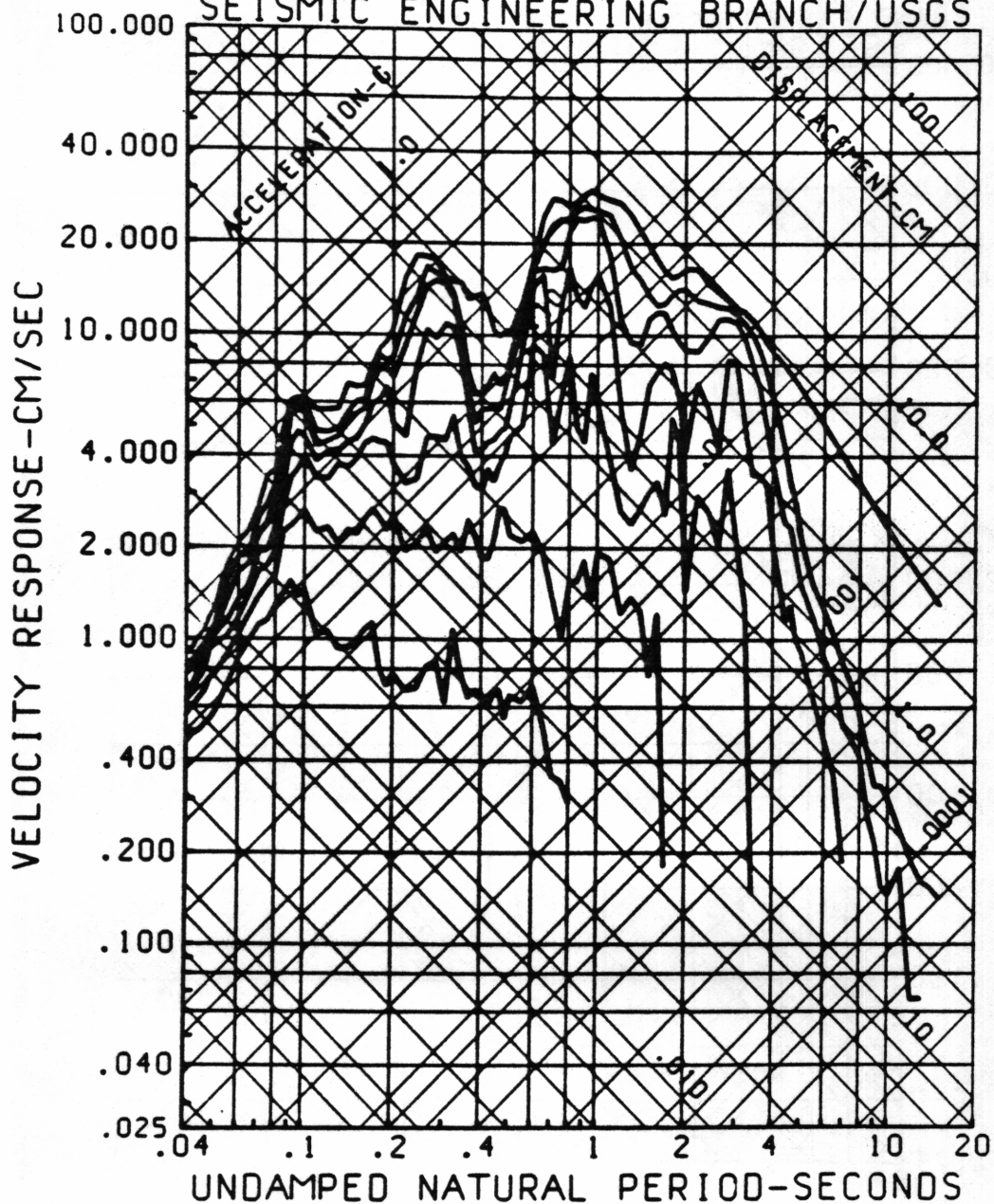
DURATION SPECTRUM OF THE VELOCITY
 RESPONSE ENVELOPE .5 PERCENT DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 GILROY ARRAY NO. 6, 08/06/79, 230 DEGREES



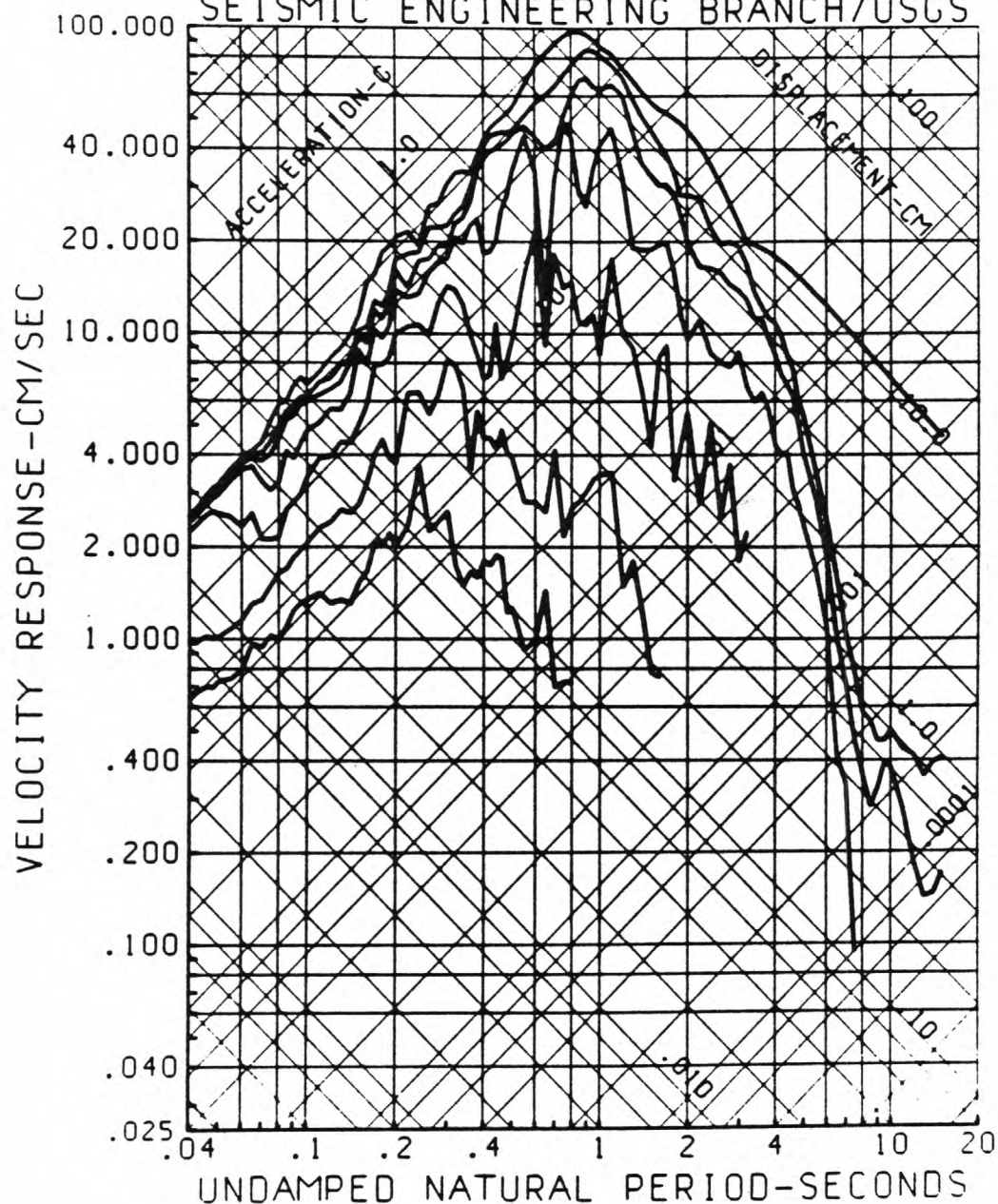
SPECTRA OF AMPLITUDES SUSTAINED
 FOR ANY GIVEN NUMBER OF CYCLES
 GILROY ARRAY NO. 6.08/06/79.320 DEGREES
 5 PERCENT CRITICAL DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS



SPECTRA OF AMPLITUDES SUSTAINED
 FOR ANY GIVEN NUMBER OF CYCLES
 GILROY ARRAY NO. 6.08/06/79. UP
 5 PERCENT CRITICAL DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS

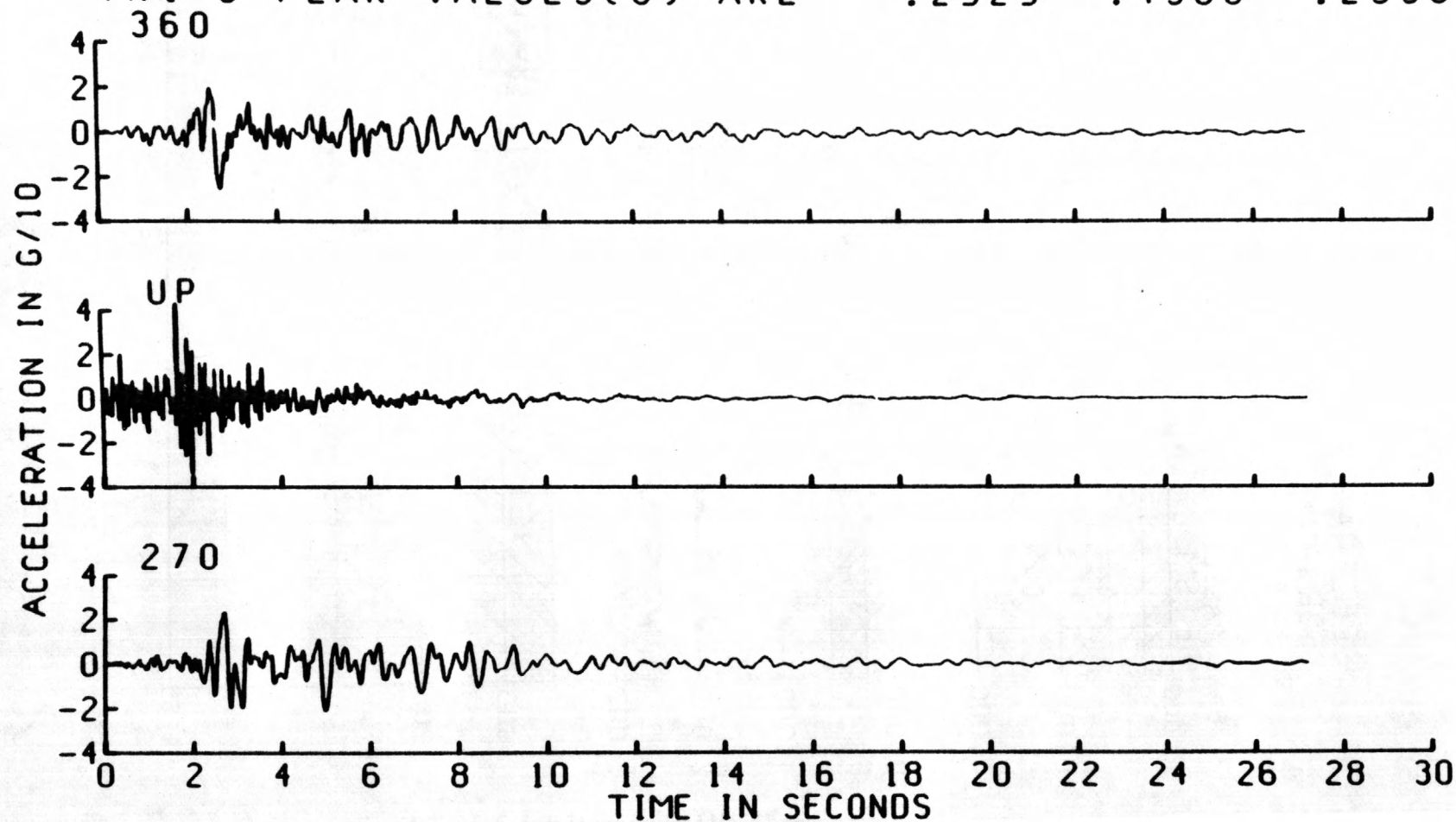


SPECTRA OF AMPLITUDES SUSTAINED
 FOR ANY GIVEN NUMBER OF CYCLES
 GILROY ARRAY NO. 6.08/06/79.230 DEGREES
 5 PERCENT CRITICAL DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USCS

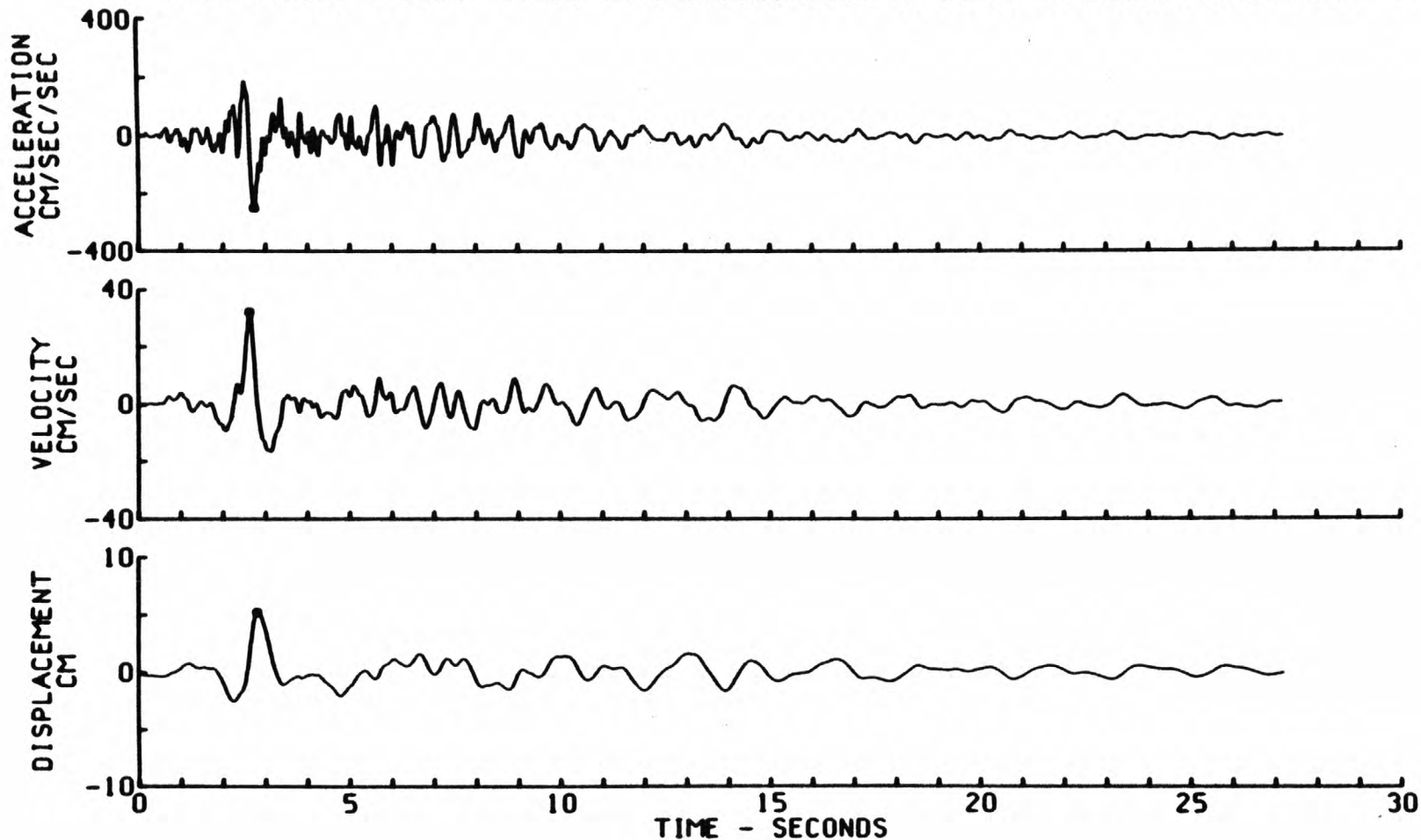


UNCORRECTED ACCELEROGRAM
GILROY ARRAY NO. 4.08/06/79-1704

THE 3 PEAK VALUES(G) ARE .2525 .4300 .2336



CORRECTED ACCELERATION, VELOCITY, DISPLACEMENT
COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705
GILROY ARRAY NO. 4, SAN YSIDRO SCHOOL, 360 DEGREES
DATA IS PLOTTED AT EQUAL TIME INCREMENTS OF .01000 SEC
ACCELEROGRAM IS BAND PASSED, WITH RAMPS OF .050 - .250 AND 23.00 - 25.00 CYC/SEC
• PEAK VALUES ACCEL=-246.2 CM/SEC/SEC, VELOCITY=32.19 CM/SEC, DISPL=5.200 CM



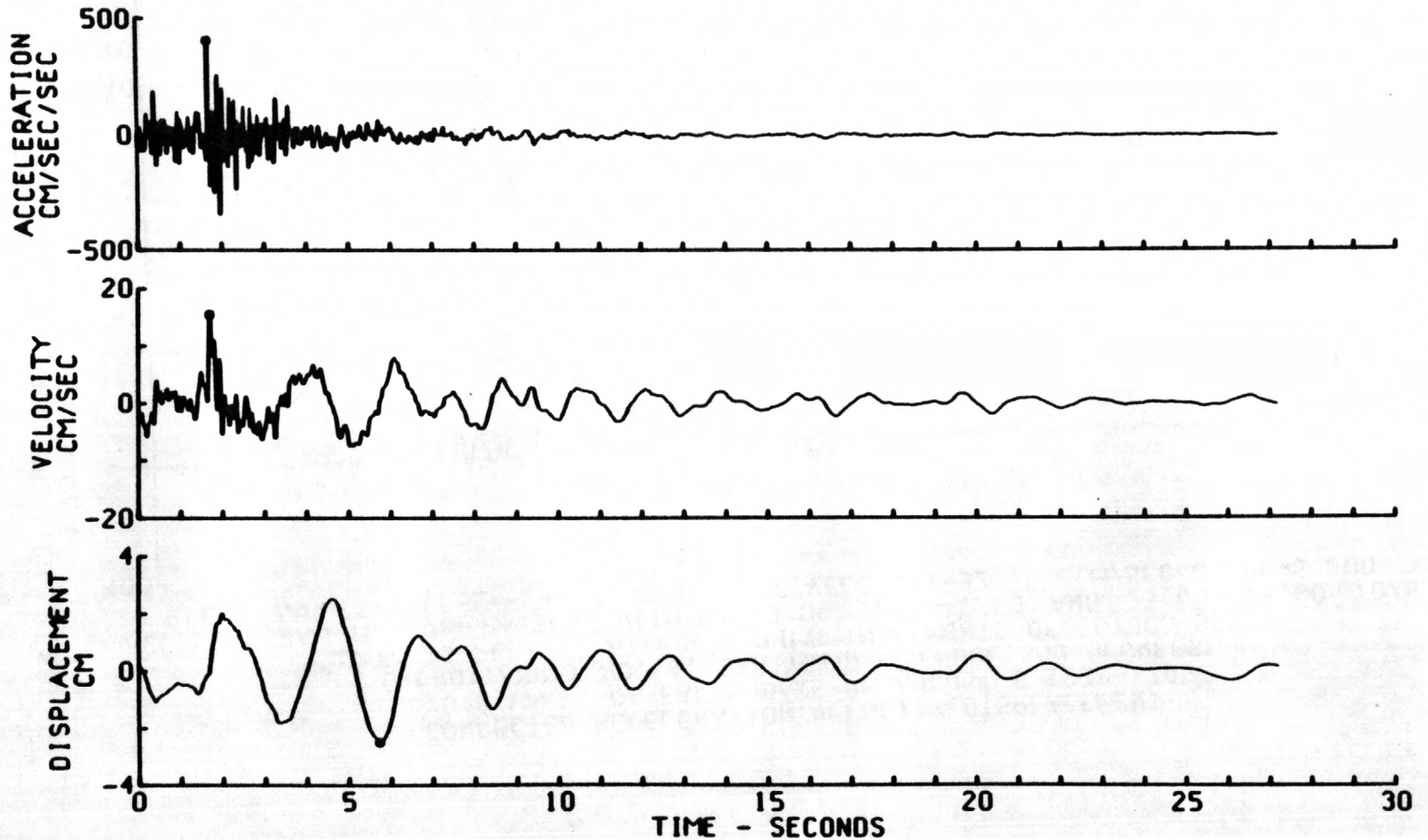
CORRECTED ACCELERATION, VELOCITY, DISPLACEMENT
COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705

GILROY ARRAY NO. 4, SAN YSIDRO SCHOOL, UP

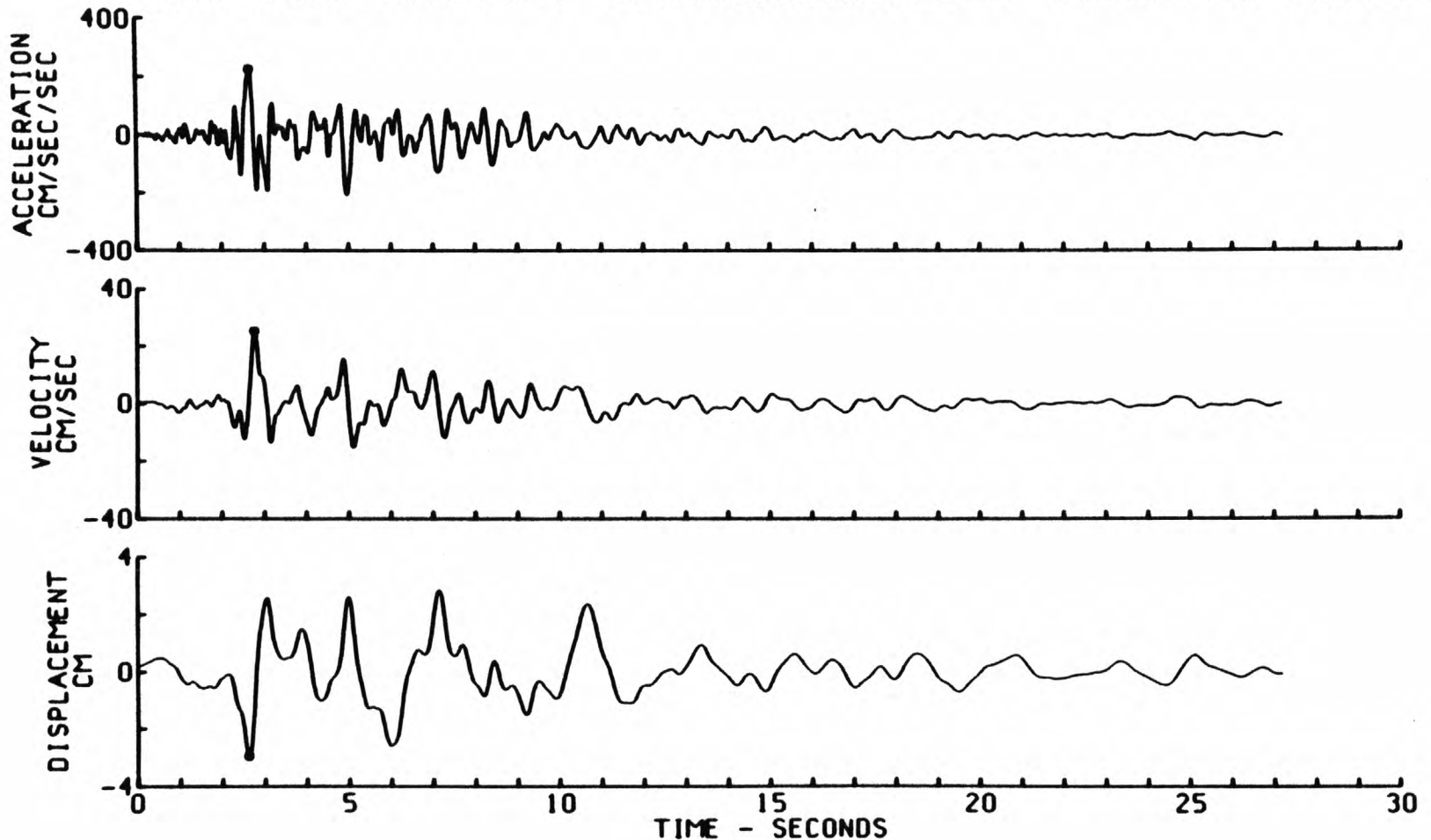
DATA IS PLOTTED AT EQUAL TIME INCREMENTS OF .01000 SEC

ACCELEROGRAM IS BAND PASSED, WITH RAMPS OF .050 - .250 AND 23.00 - 25.00 CYC/SEC

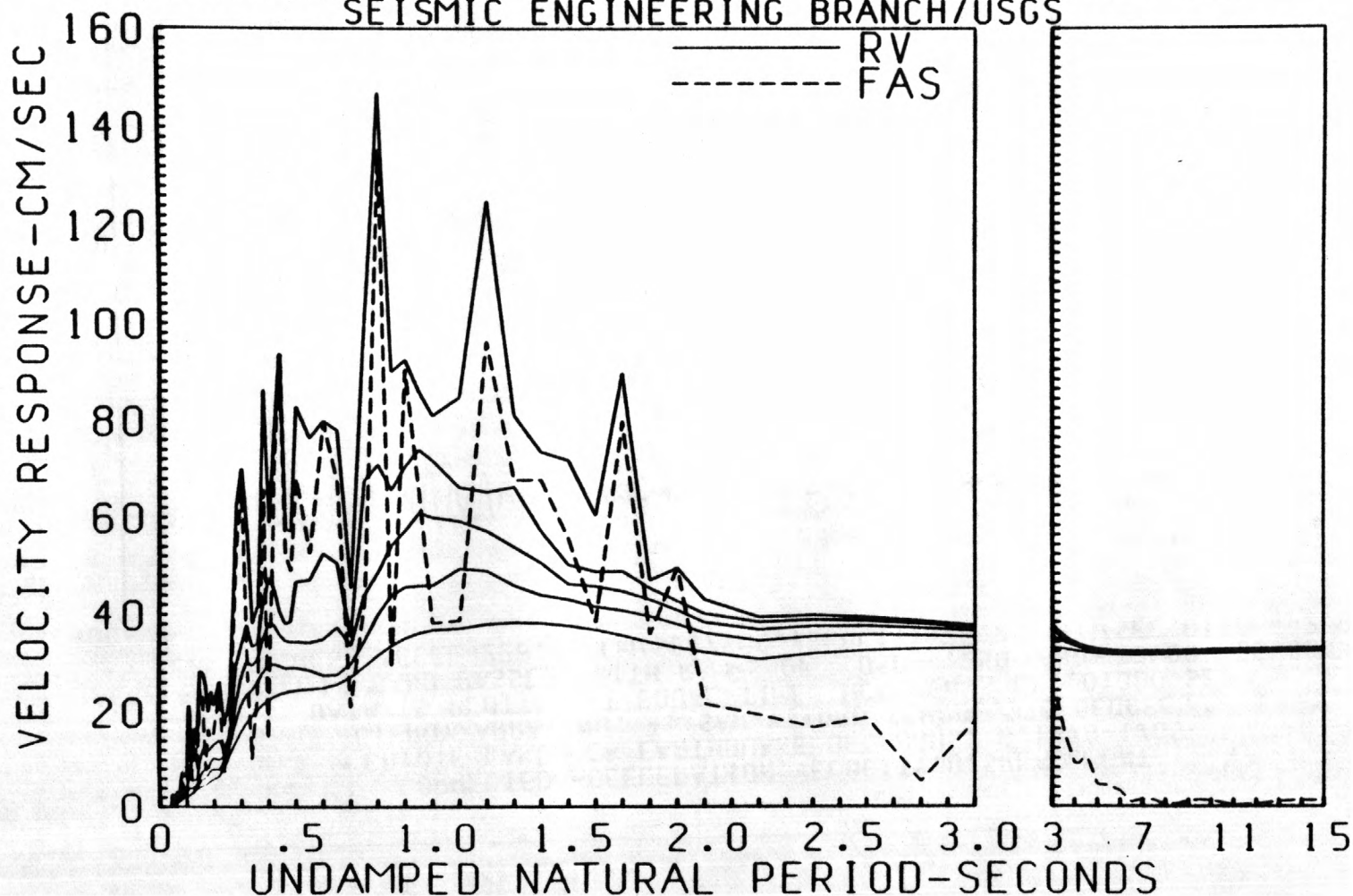
• PEAK VALUES ACCEL=409.2 CM/SEC/SEC, VELOCITY=15.42 CM/SEC, DISPL=-2.510 CM



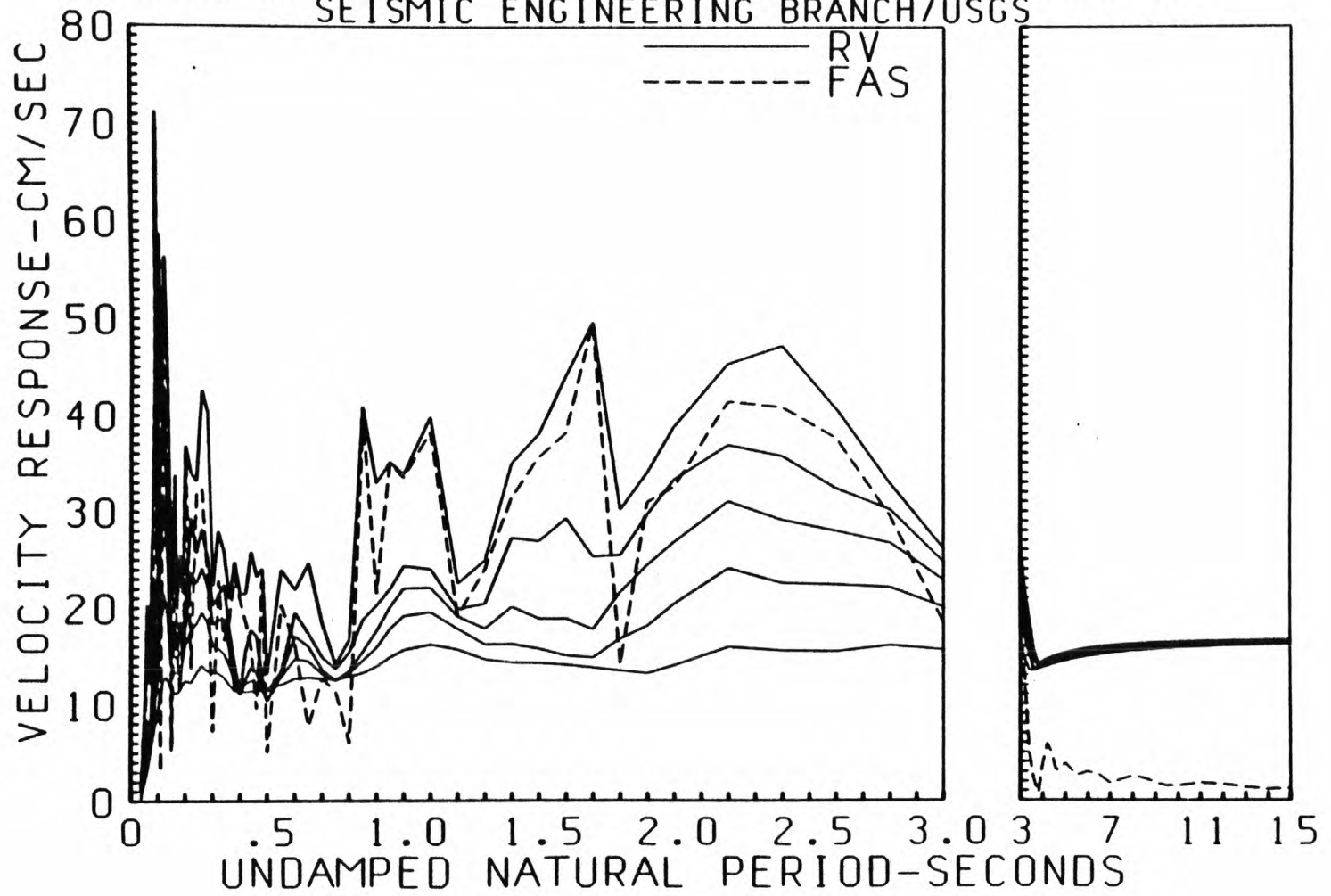
CORRECTED ACCELERATION, VELOCITY, DISPLACEMENT
COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705
GILROY ARRAY NO. 4, SAN YSIDRO SCHOOL, 270 DEGREES
DATA IS PLOTTED AT EQUAL TIME INCREMENTS OF .01000 SEC
ACCELEROGRAM IS BAND PASSED, WITH RAMPS OF .050 - .250 AND 23.00 - 25.00 CYC/SEC
• PEAK VALUES ACCEL=228.1 CM/SEC/SEC, VELOCITY=25.24 CM/SEC, DISPL=-2.950 CM



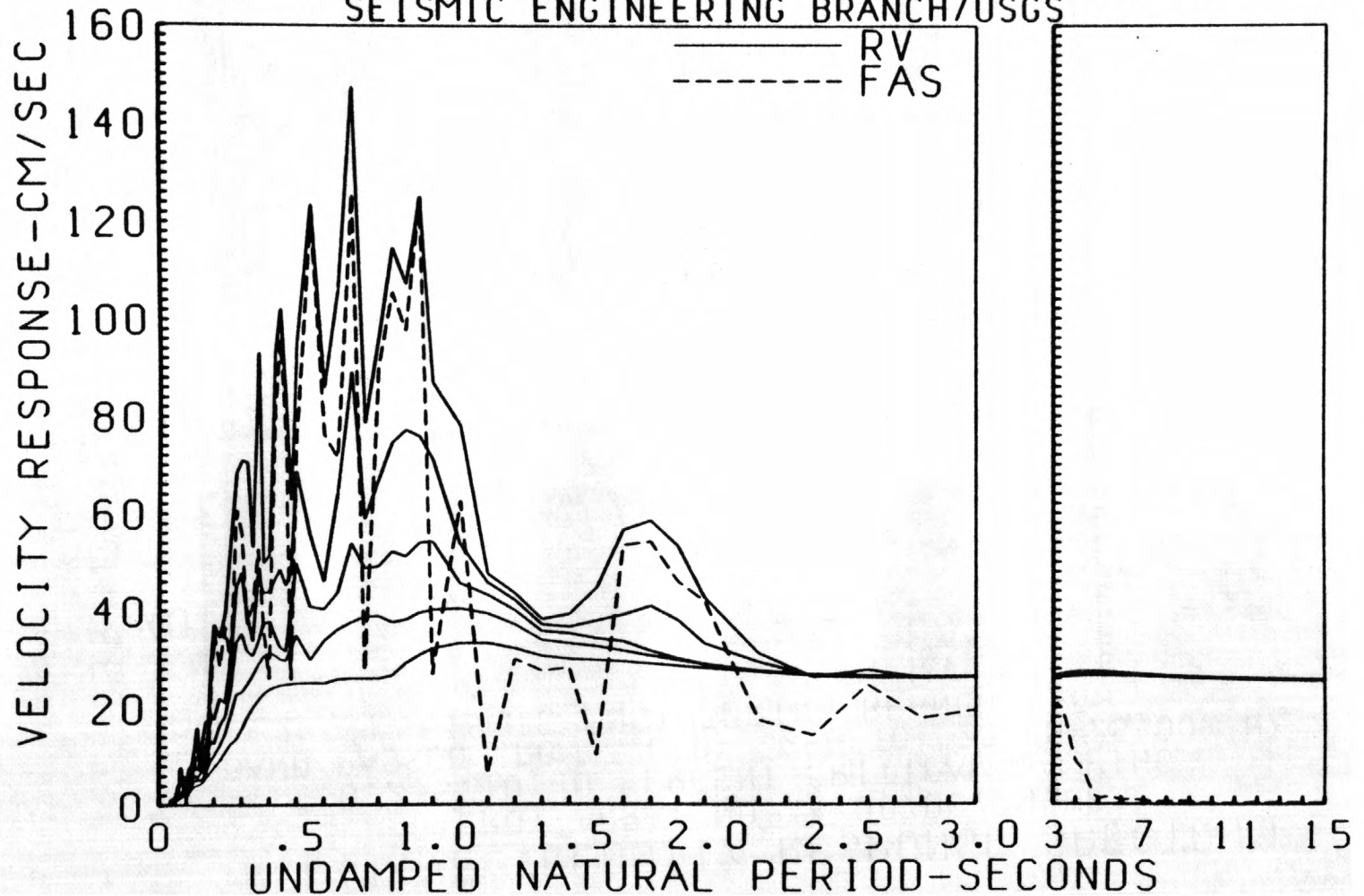
RELATIVE VELOCITY RESPONSE SPECTRUM
 GILROY ARRAY NO. 4, 08/06/79, 360 DEGREES
 0.2, 5, 10, 20 PERCENT CRITICAL DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS



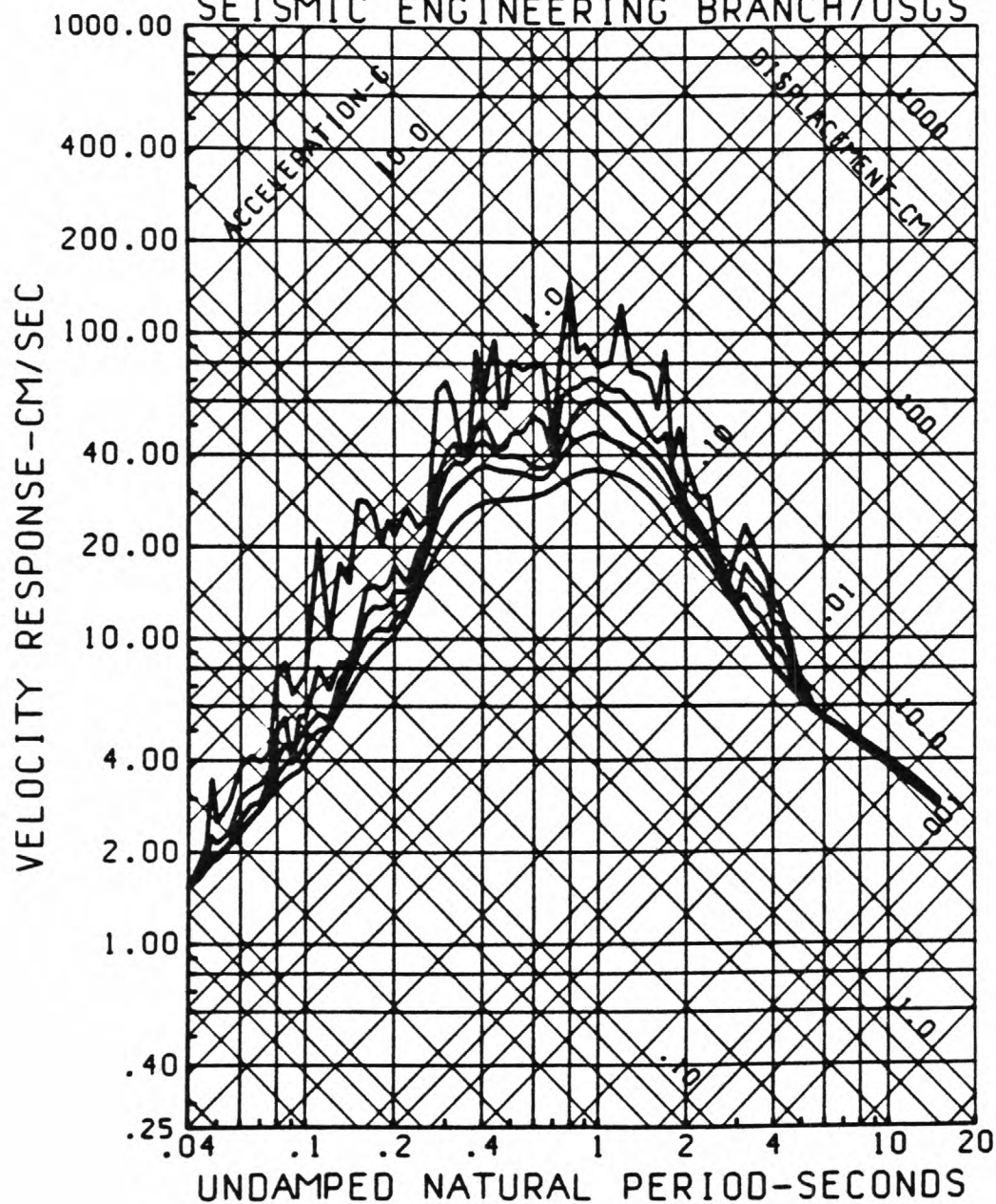
RELATIVE VELOCITY RESPONSE SPECTRUM
 GILROY ARRAY NO. 4, 08/06/79, UP
 0.2, 5, 10, 20 PERCENT CRITICAL DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS

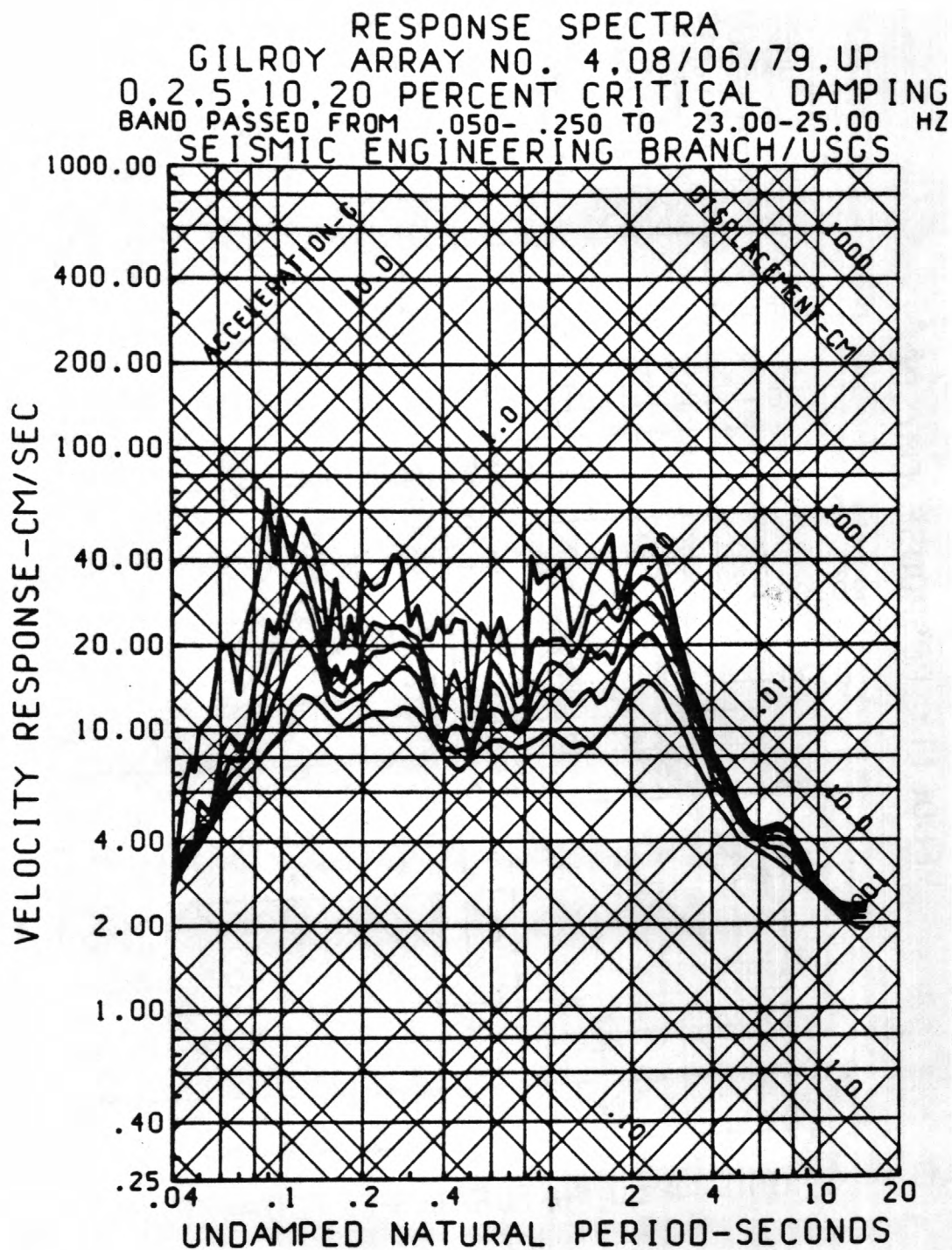


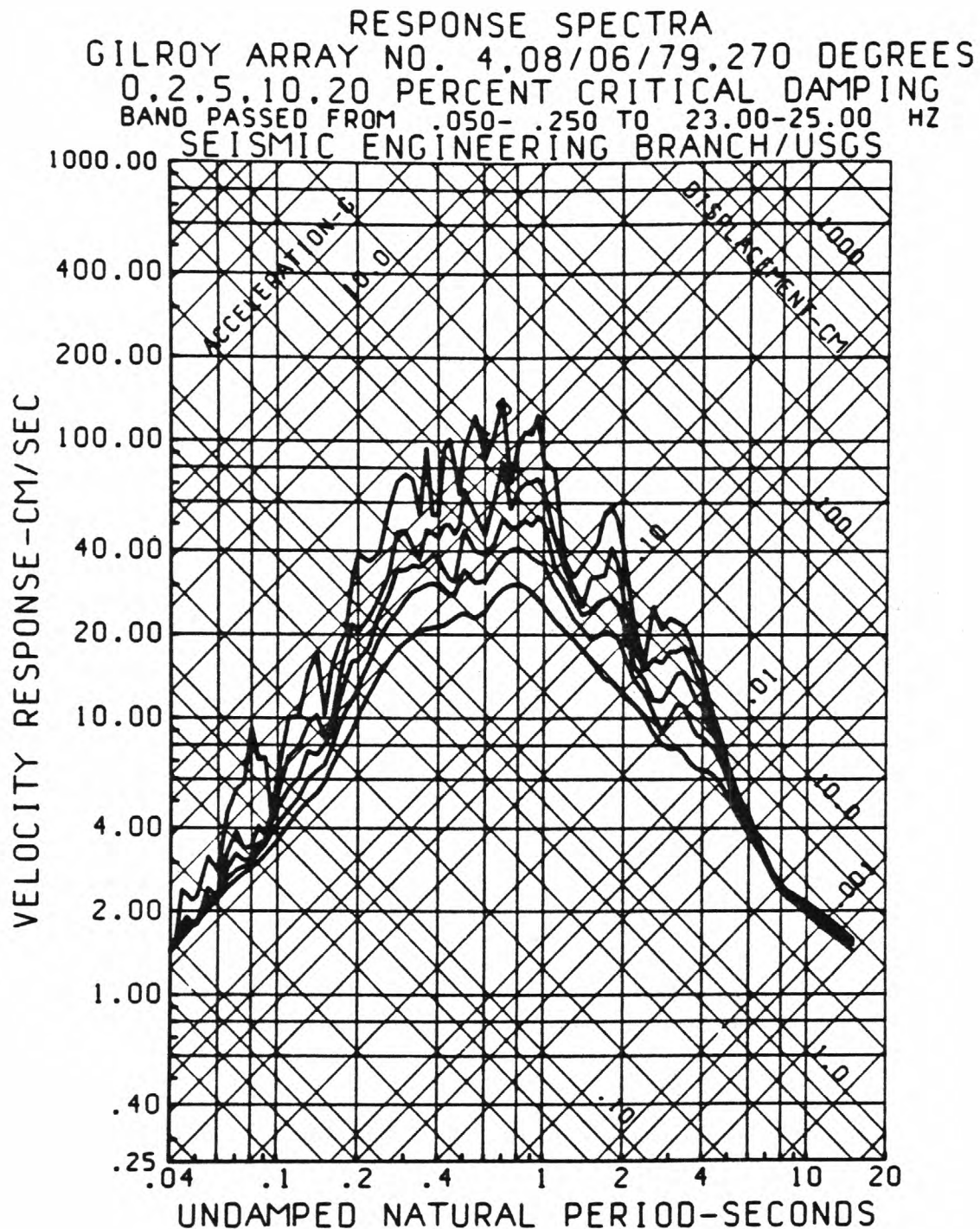
RELATIVE VELOCITY RESPONSE SPECTRUM
 GILROY ARRAY NO. 4, 08/06/79, 270 DEGREES
 0.2, 5, 10, 20 PERCENT CRITICAL DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS



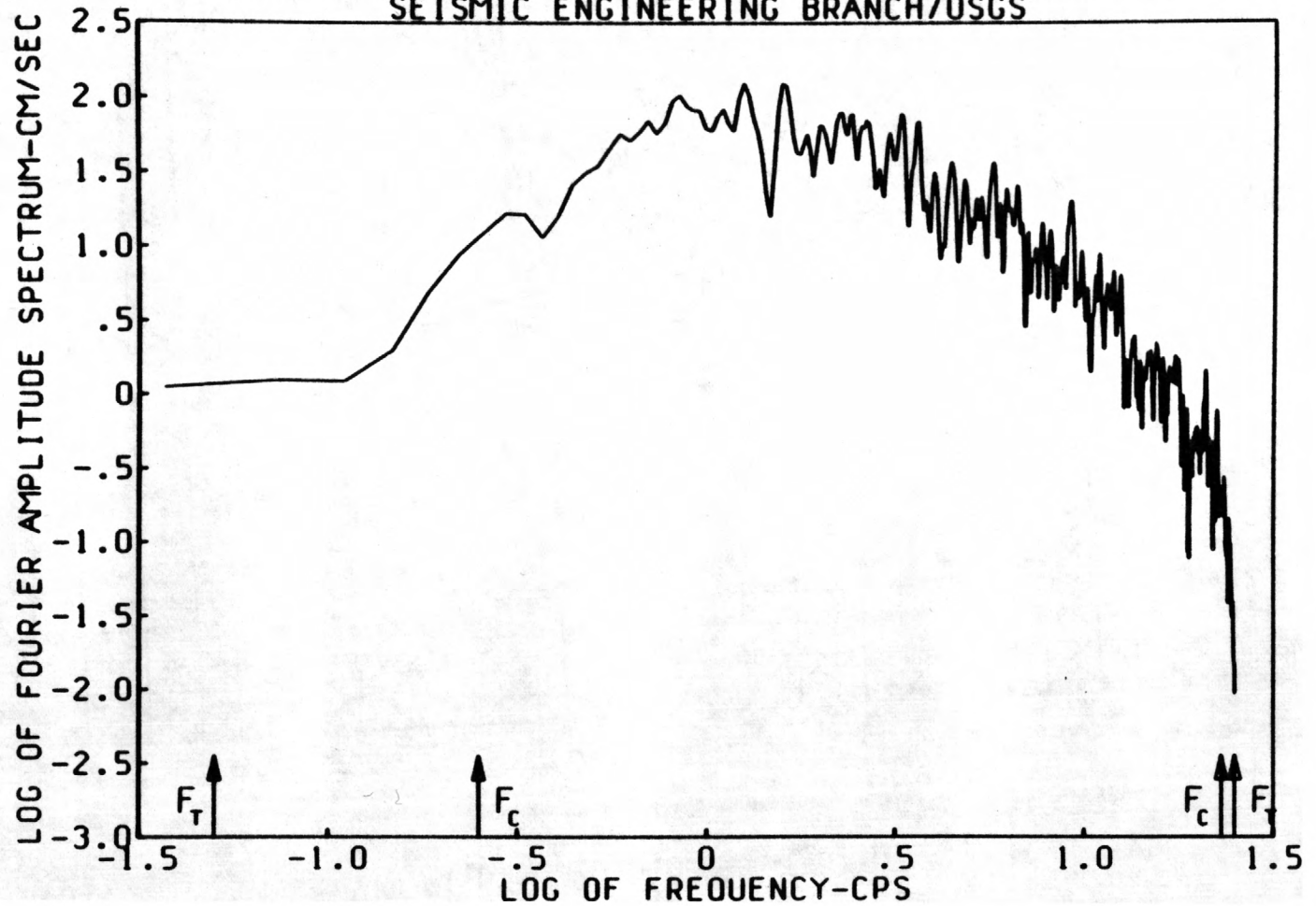
RESPONSE SPECTRA
 GILROY ARRAY NO. 4.08/06/79.360 DEGREES
 0.2,5,10,20 PERCENT CRITICAL DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS



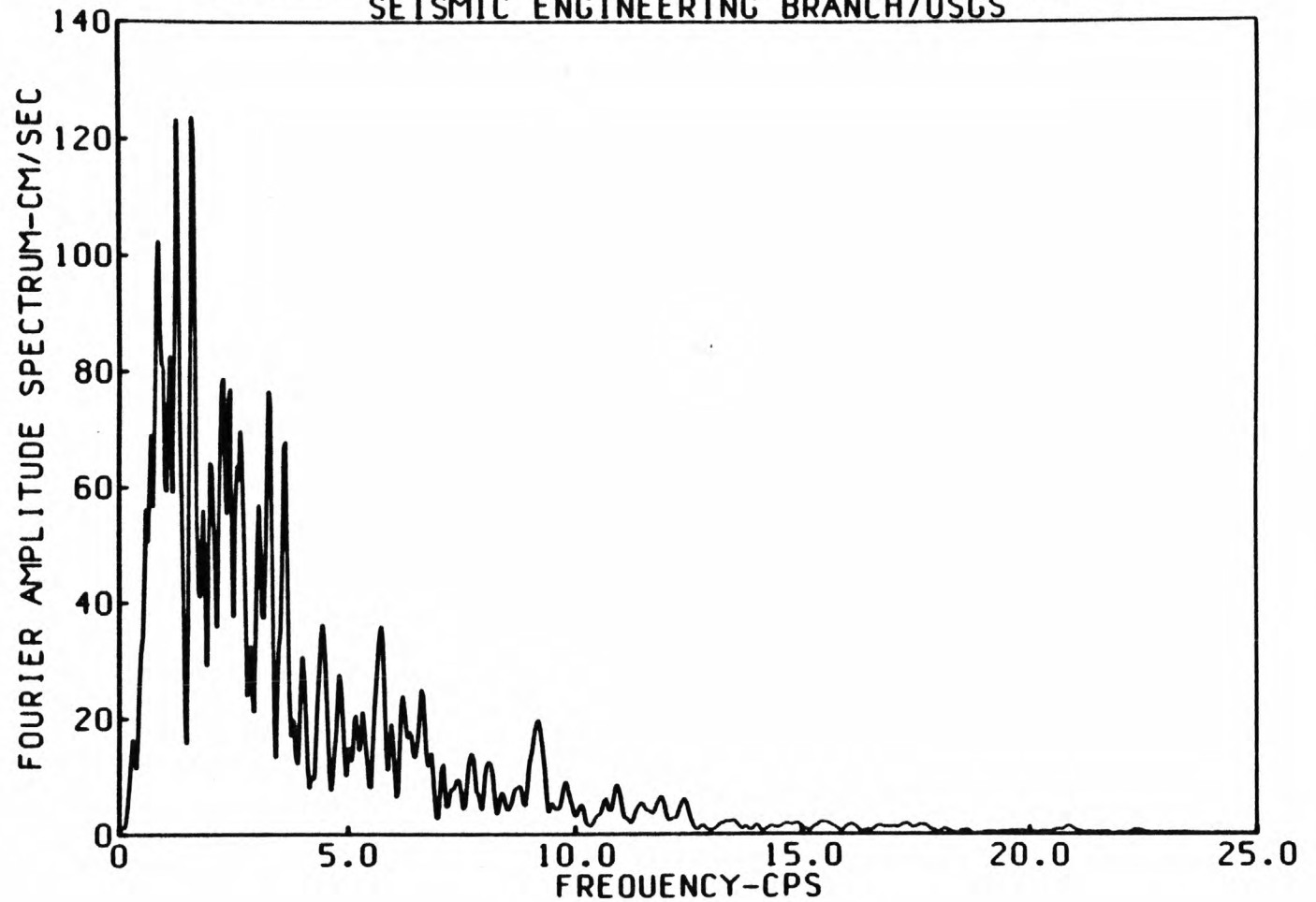




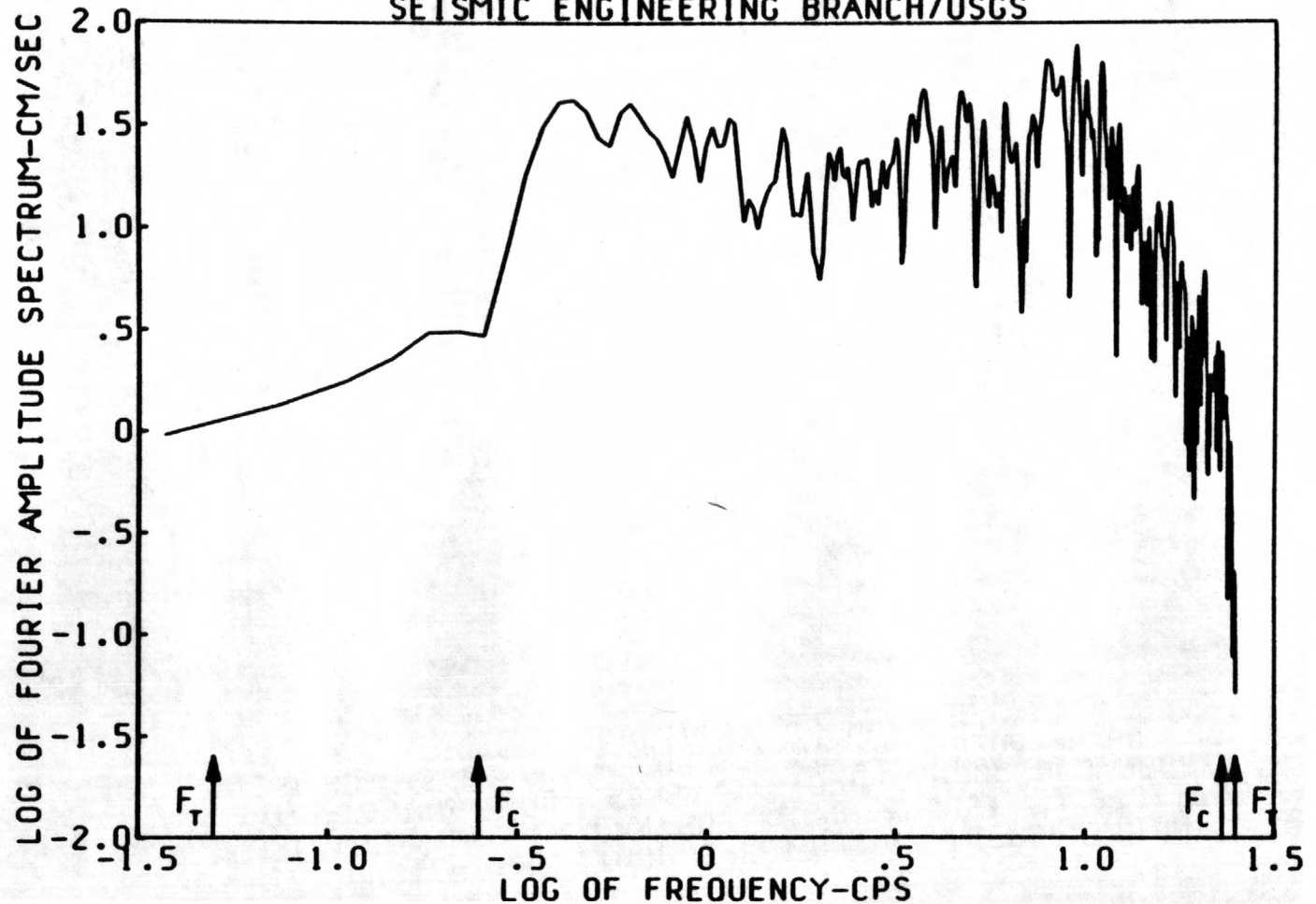
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
 COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705
 GILROY ARRAY NO. 4, SAN YSIDRO SCHOOL, 360 DEGREES
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS



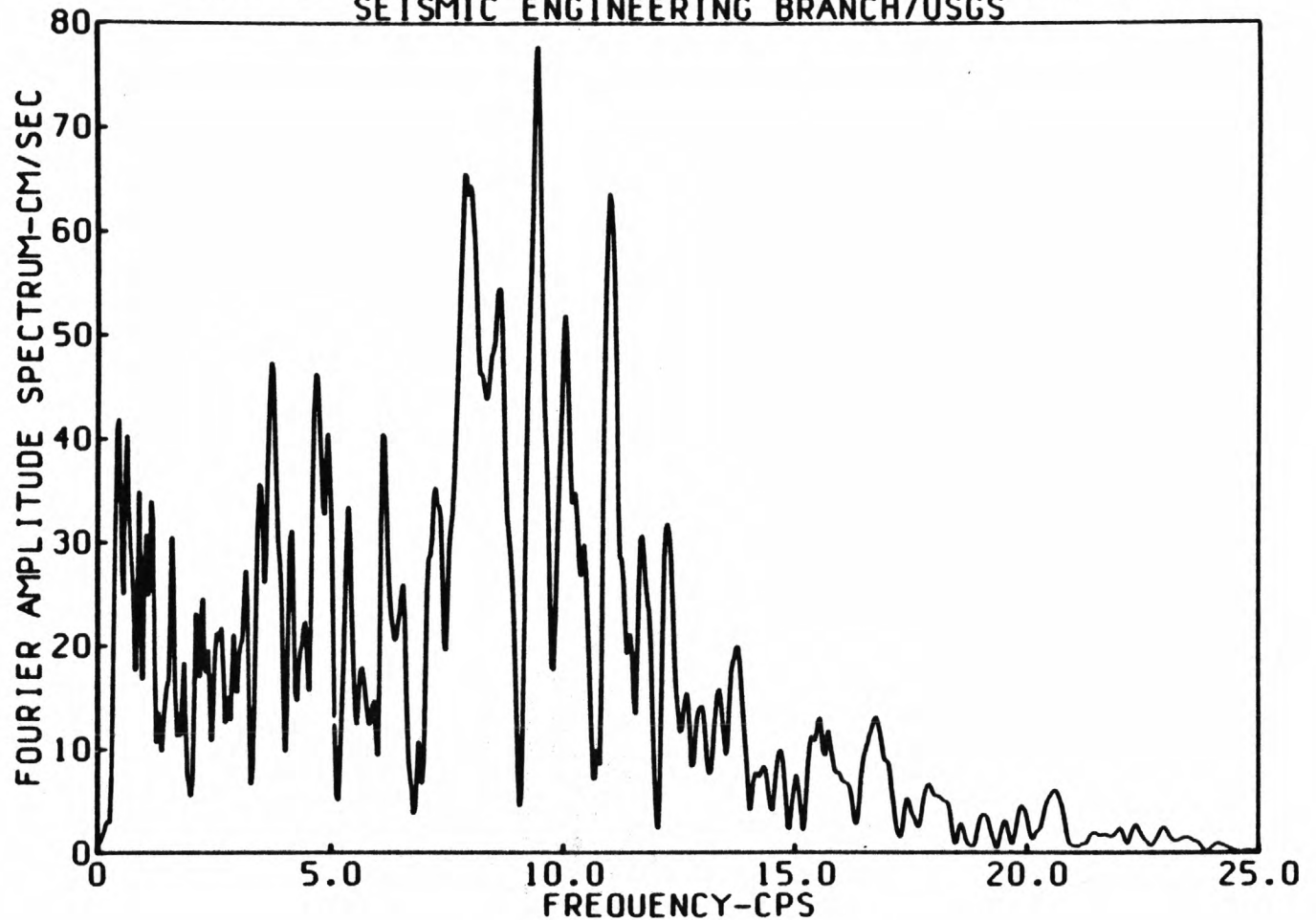
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705
GILROY ARRAY NO. 4, SAN YSIDRO SCHOOL, 360 DEGREES
BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
SEISMIC ENGINEERING BRANCH/USGS



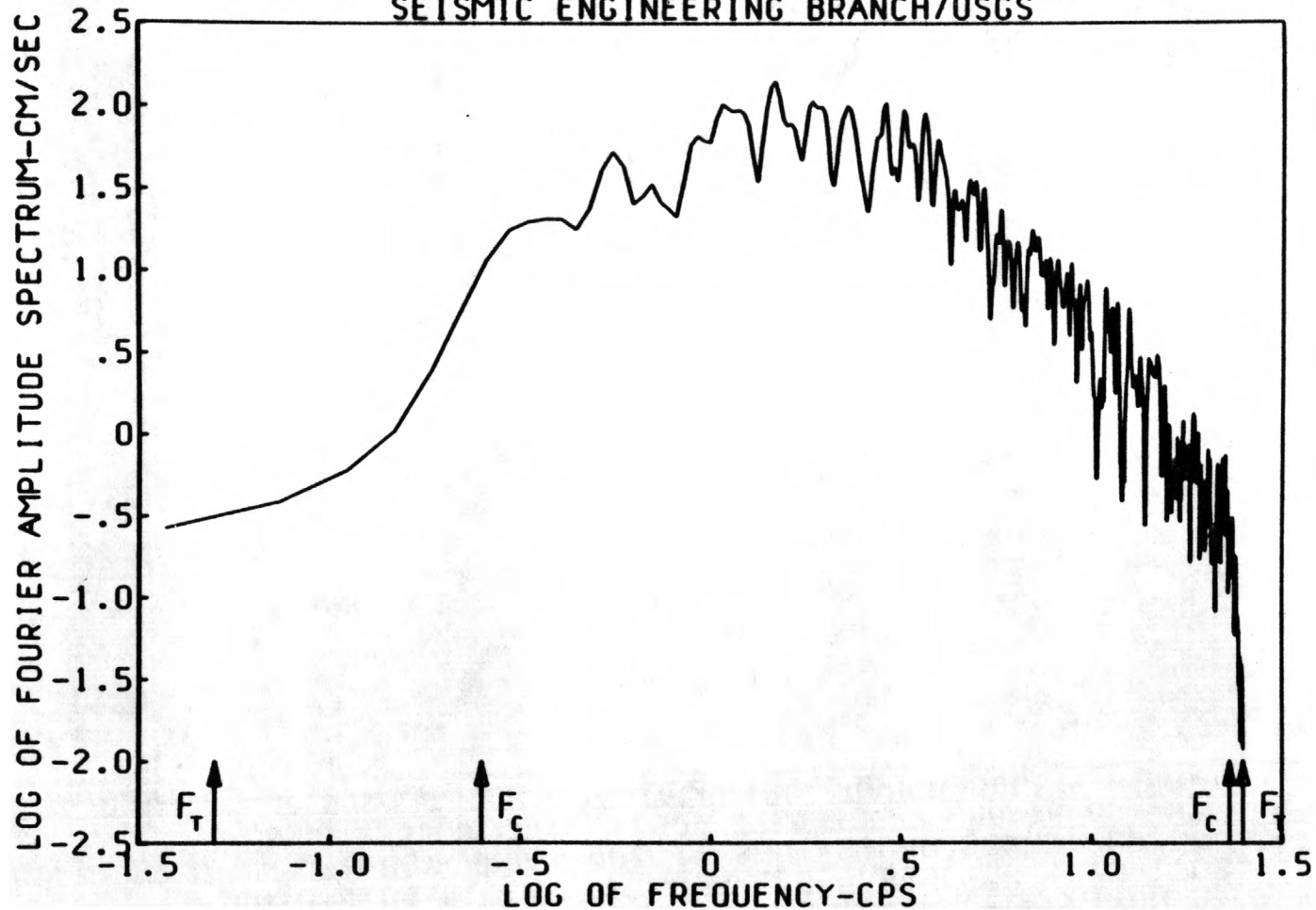
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
 COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705
 GILROY ARRAY NO. 4, SAN YSIDRO SCHOOL, UP
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS



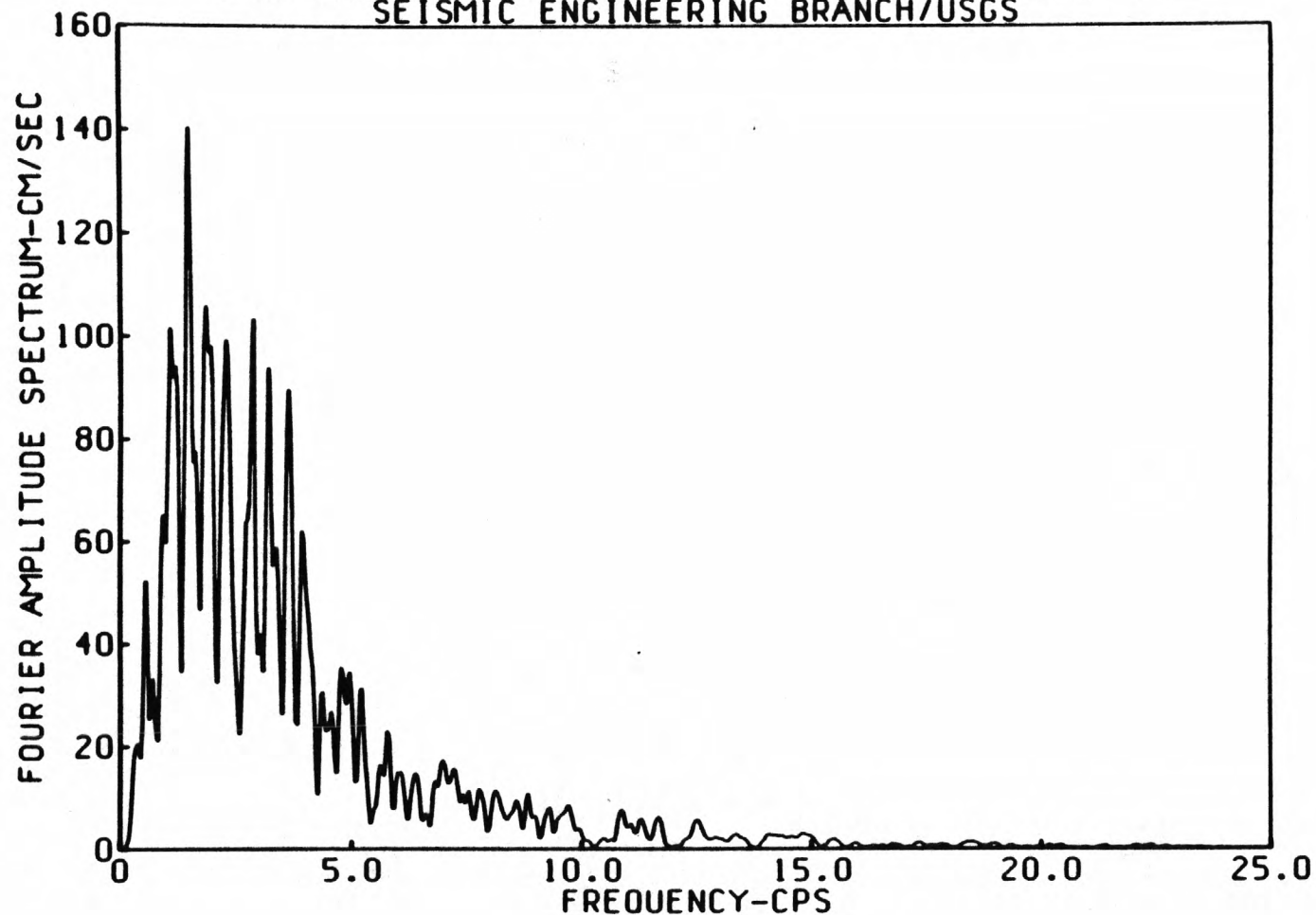
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
 COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705
 GILROY ARRAY NO. 4, SAN YSIDRO SCHOOL, UP
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS



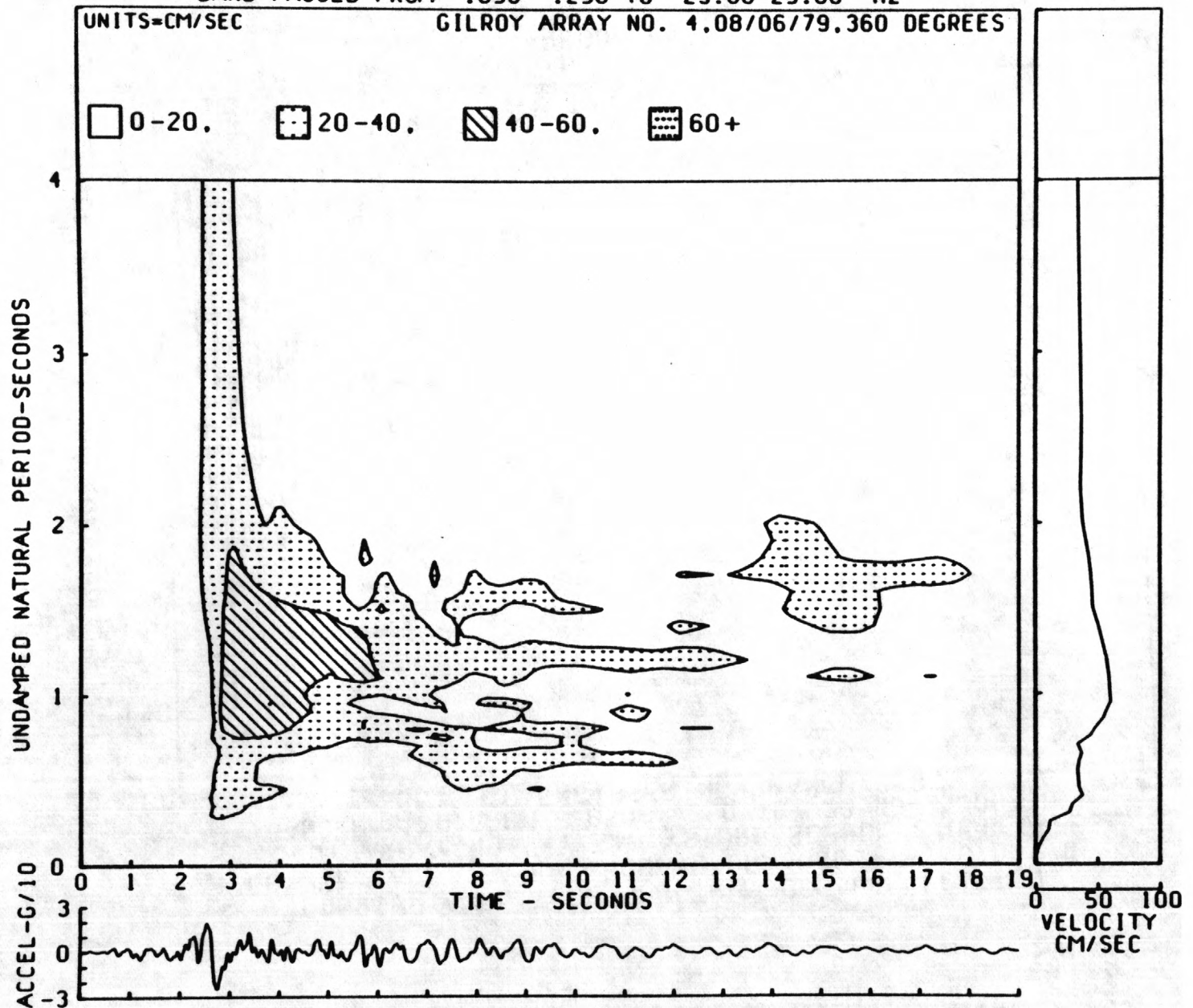
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
 COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705
 GILROY ARRAY NO. 4, SAN YSIDRO SCHOOL, 270 DEGREES
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS



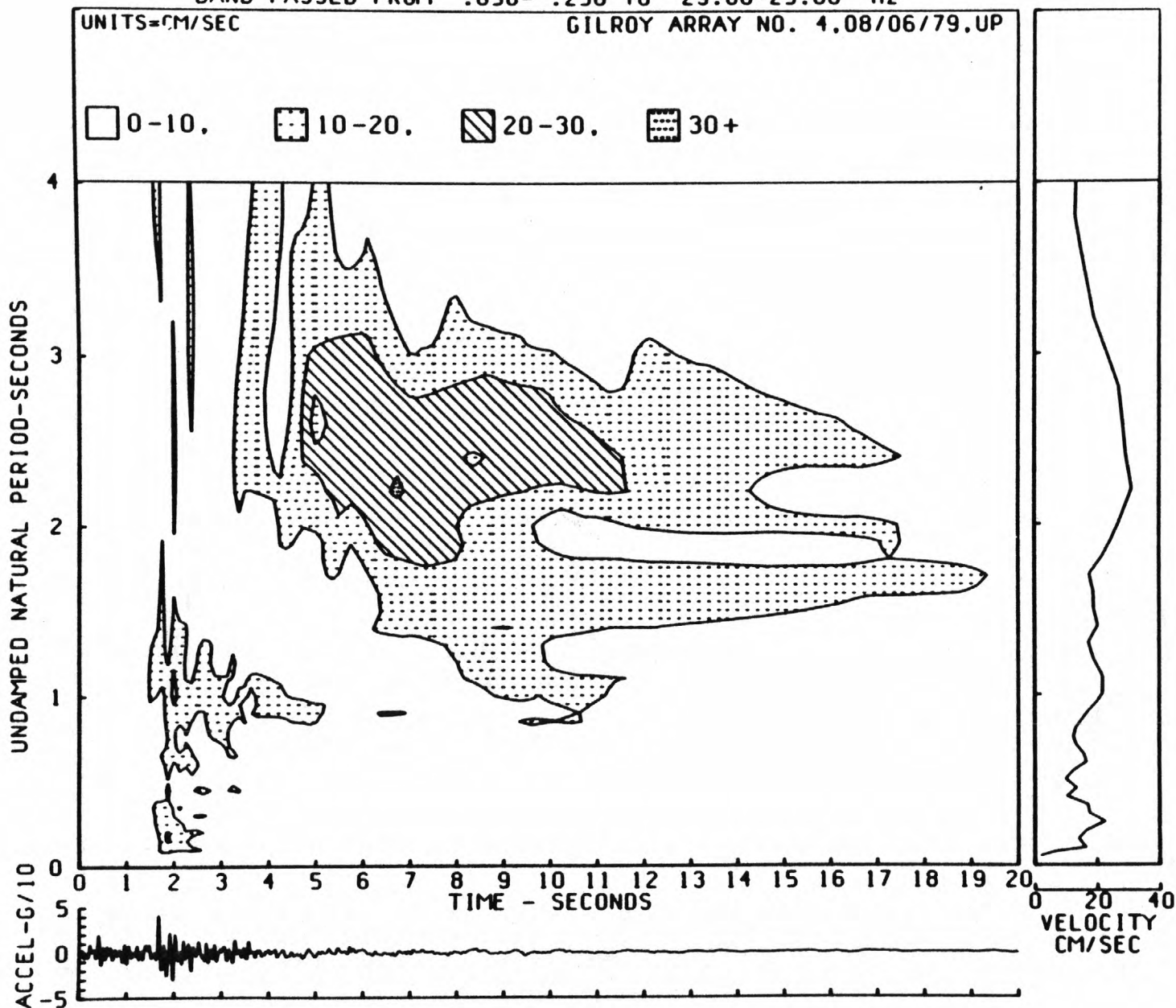
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
 COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705
 GILROY ARRAY NO. 4, SAN YSIDRO SCHOOL, 270 DEGREES
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS



VELOCITY RESPONSE ENVELOPE SPECTRUM, 5 PERCENT CRITICAL DAMPING
BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ



VELOCITY RESPONSE ENVELOPE SPECTRUM, 5 PERCENT CRITICAL DAMPING
BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ



VELOCITY RESPONSE ENVELOPE SPECTRUM, 5 PERCENT CRITICAL DAMPING
BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ

UNITS=CM/SEC

GILROY ARRAY NO. 4.08/06/79.270 DEGREES

0-10.

10-20.

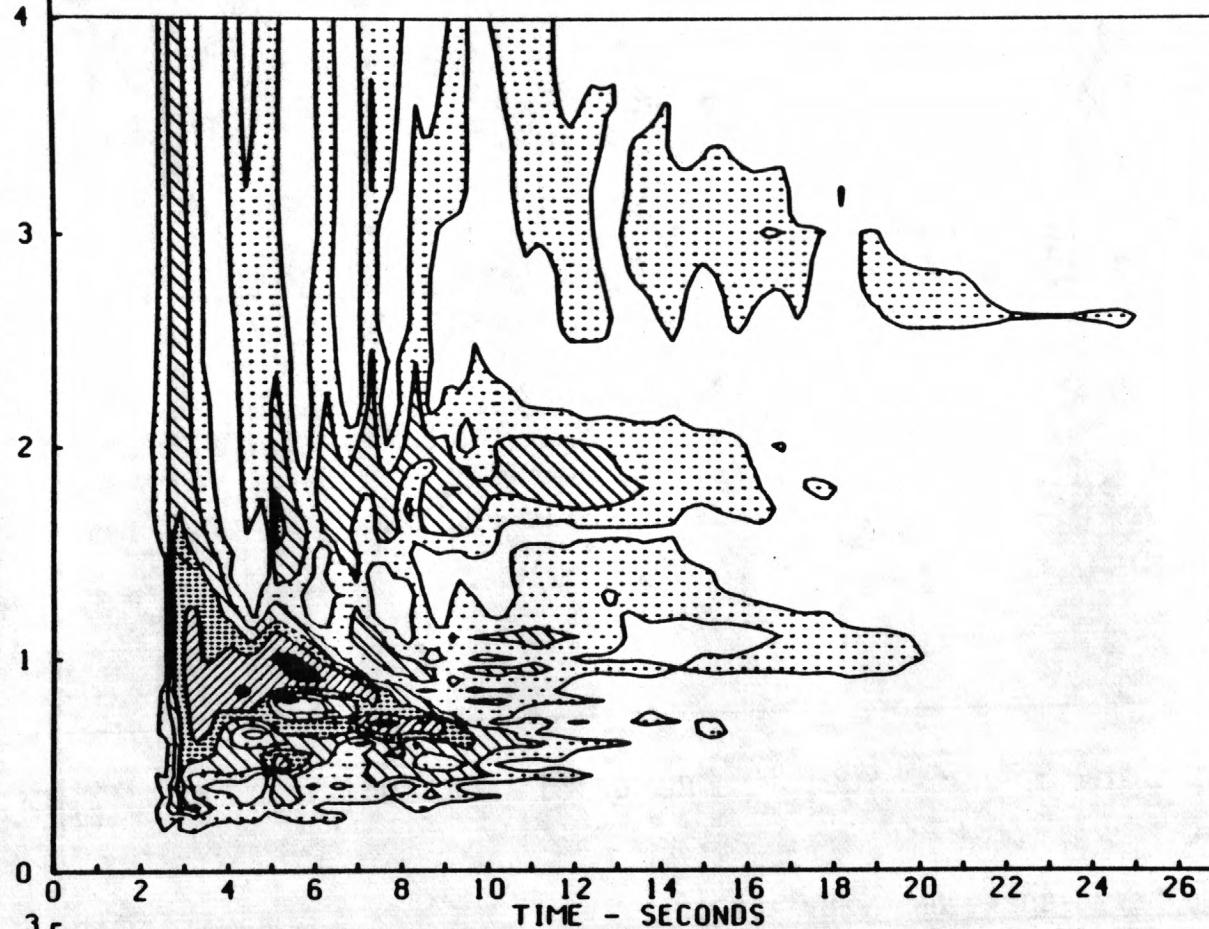
20-30.

30-40.

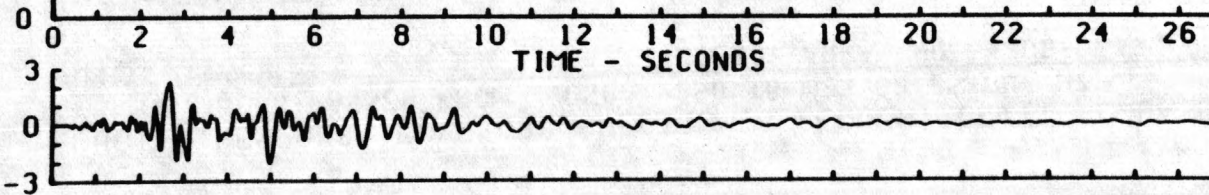
40-50.

50+

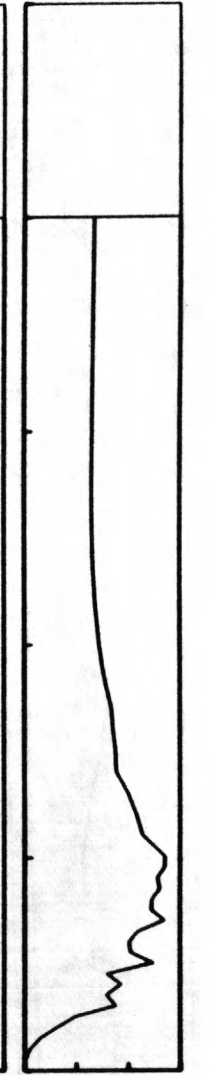
UNDAMPED NATURAL PERIOD-SECONDS



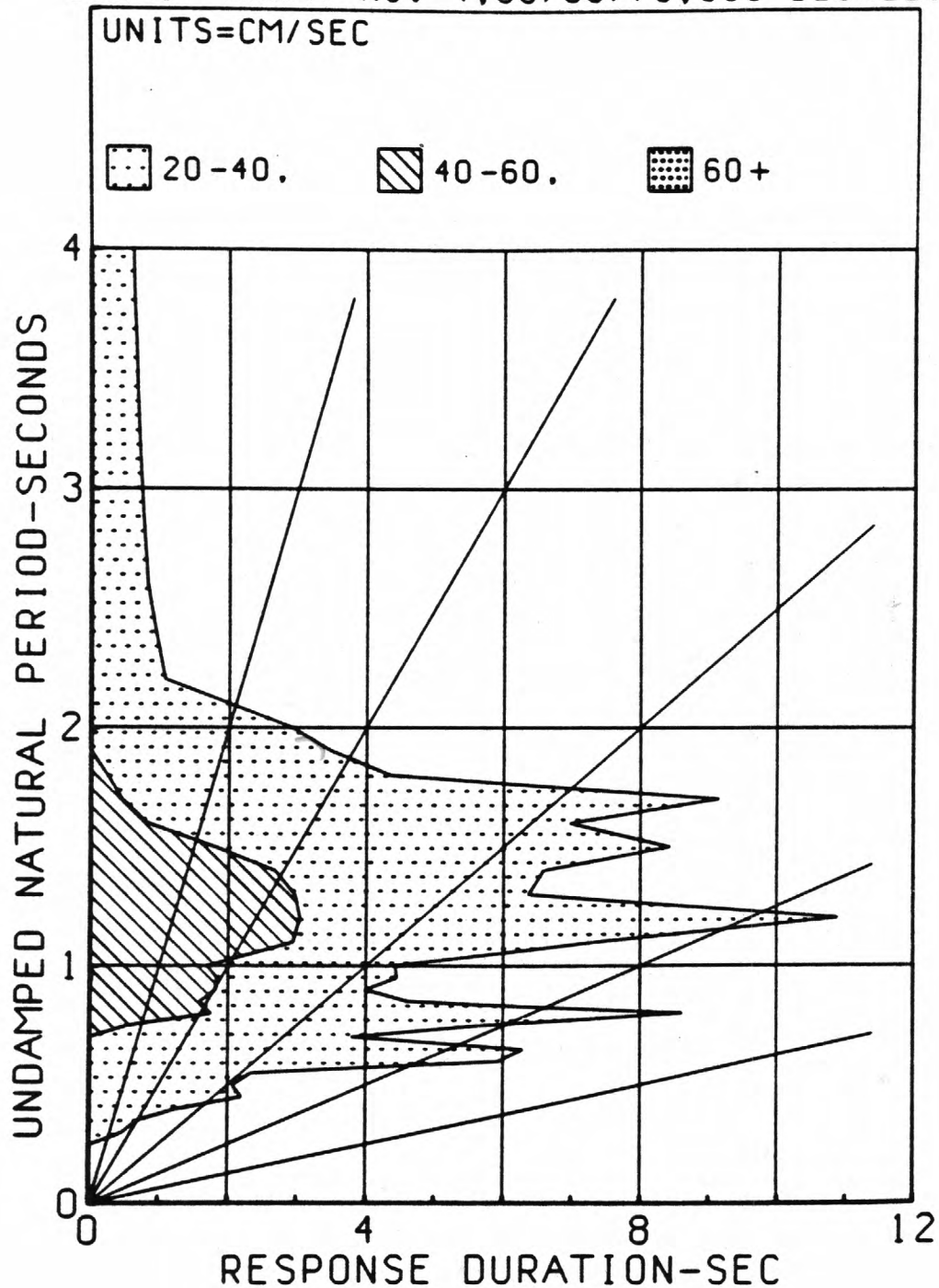
ACCEL-G/10



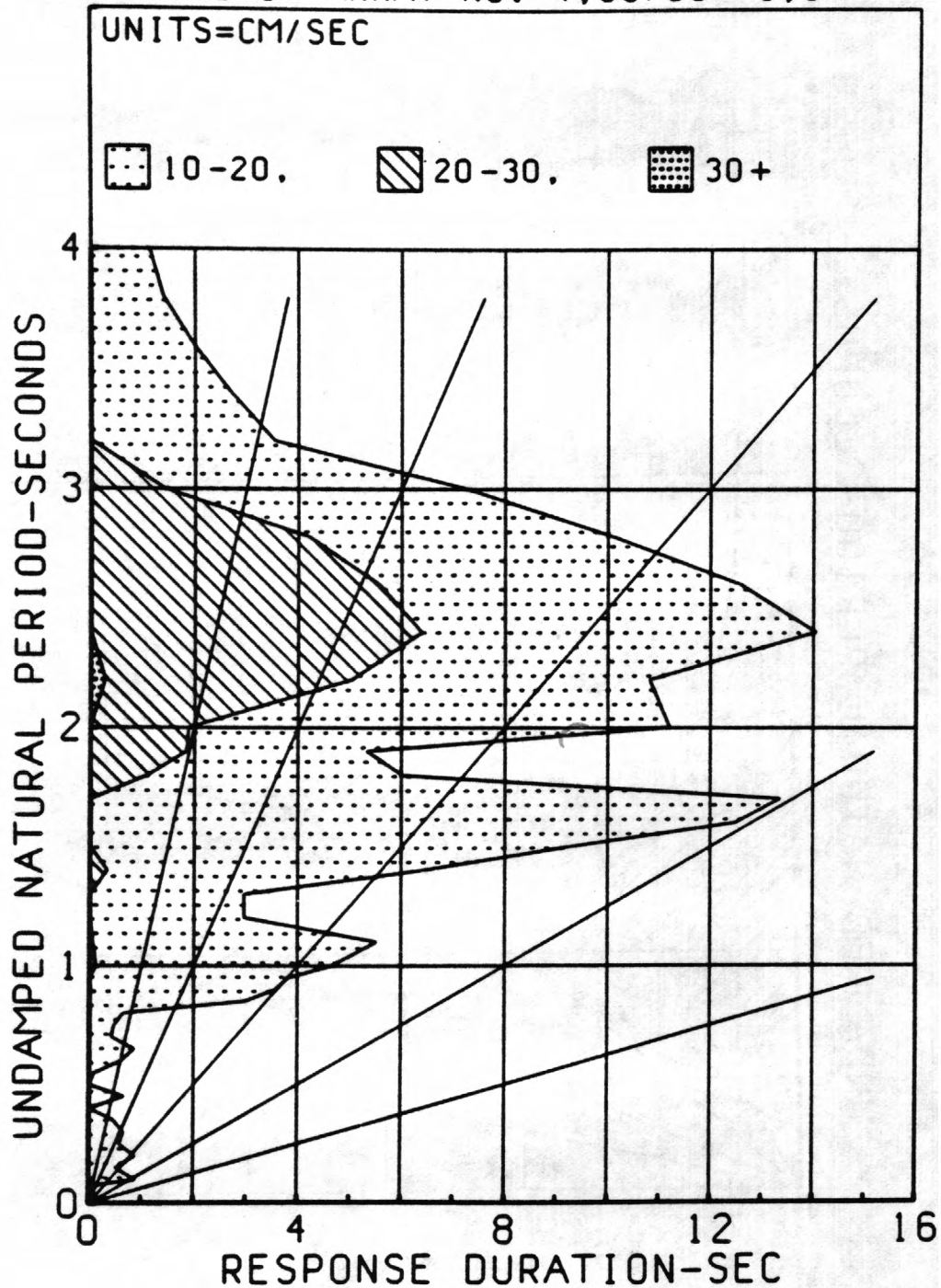
VELOCITY
CM/SEC



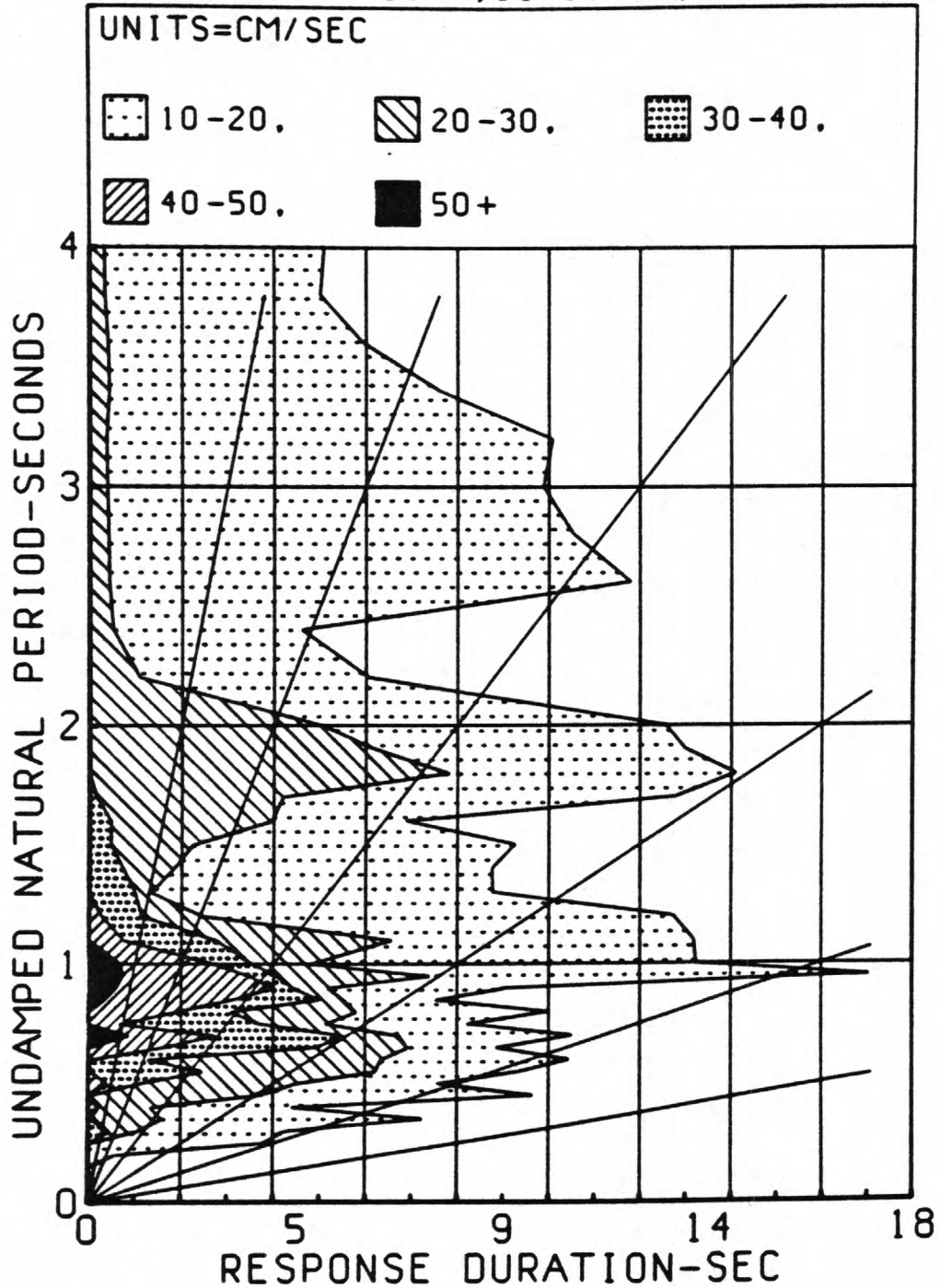
DURATION SPECTRUM OF THE VELOCITY
 RESPONSE ENVELOPE, 5 PERCENT DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 GILROY ARRAY NO. 4, 08/06/79, 360 DEGREES



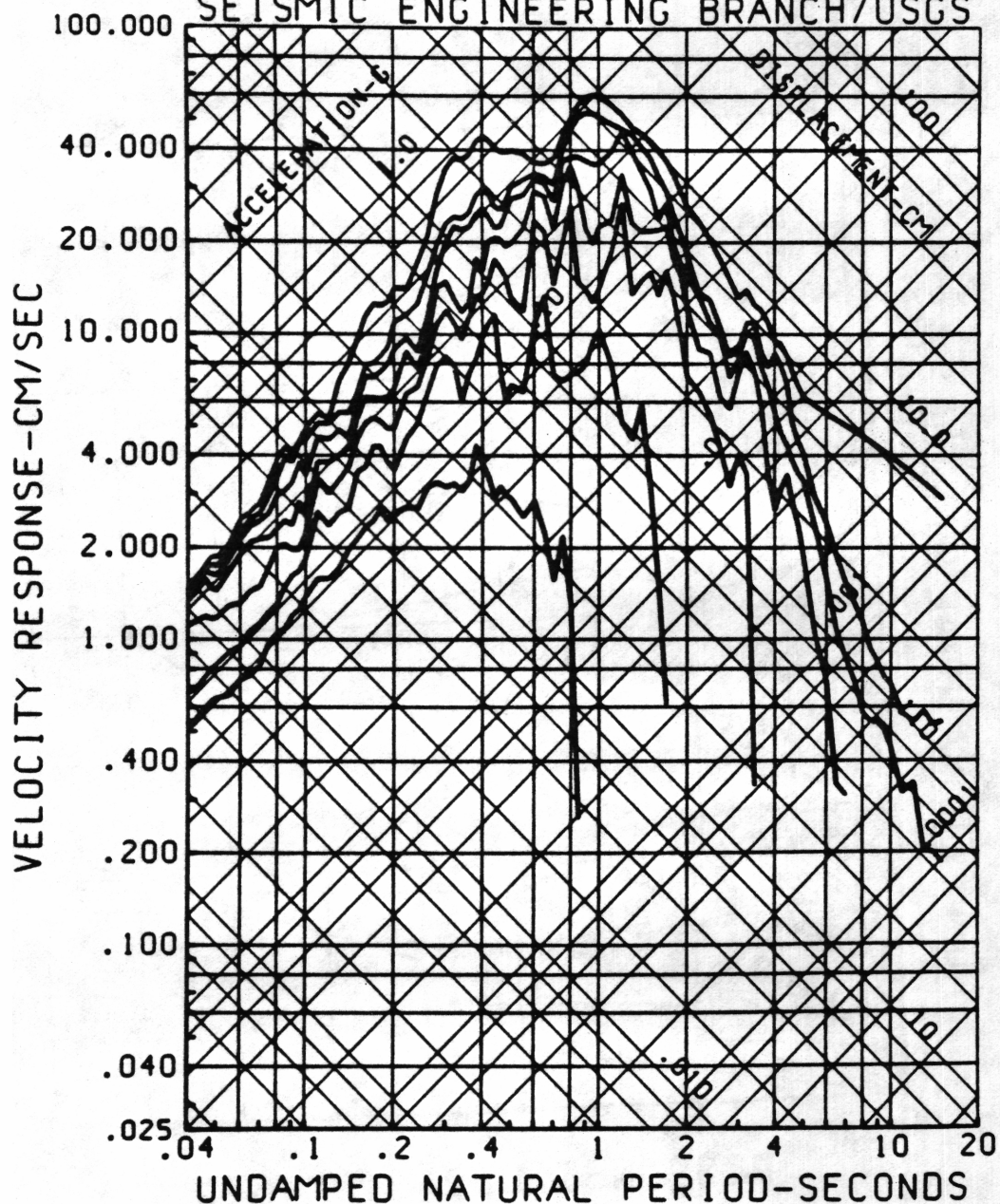
DURATION SPECTRUM OF THE VELOCITY
 RESPONSE ENVELOPE, 5 PERCENT DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 GILROY ARRAY NO. 4, 08/06/79, UP



DURATION SPECTRUM OF THE VELOCITY
 RESPONSE ENVELOPE, 5 PERCENT DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 GILROY ARRAY NO. 4, 08/06/79, 270 DEGREES



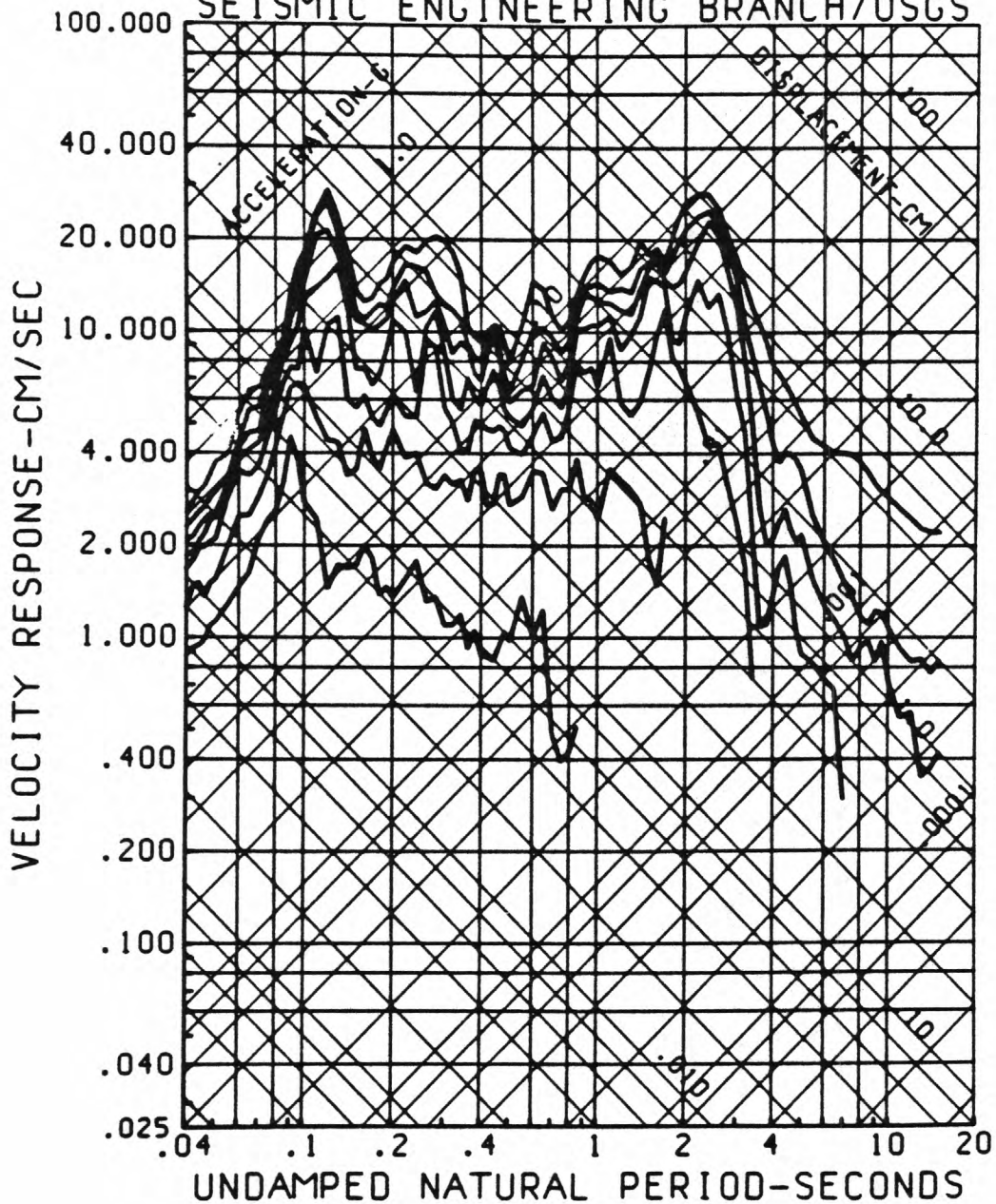
SPECTRA OF AMPLITUDES SUSTAINED
 FOR ANY GIVEN NUMBER OF CYCLES
 GILROY ARRAY NO. 4, 08/06/79, 360 DEGREES
 5 PERCENT CRITICAL DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS



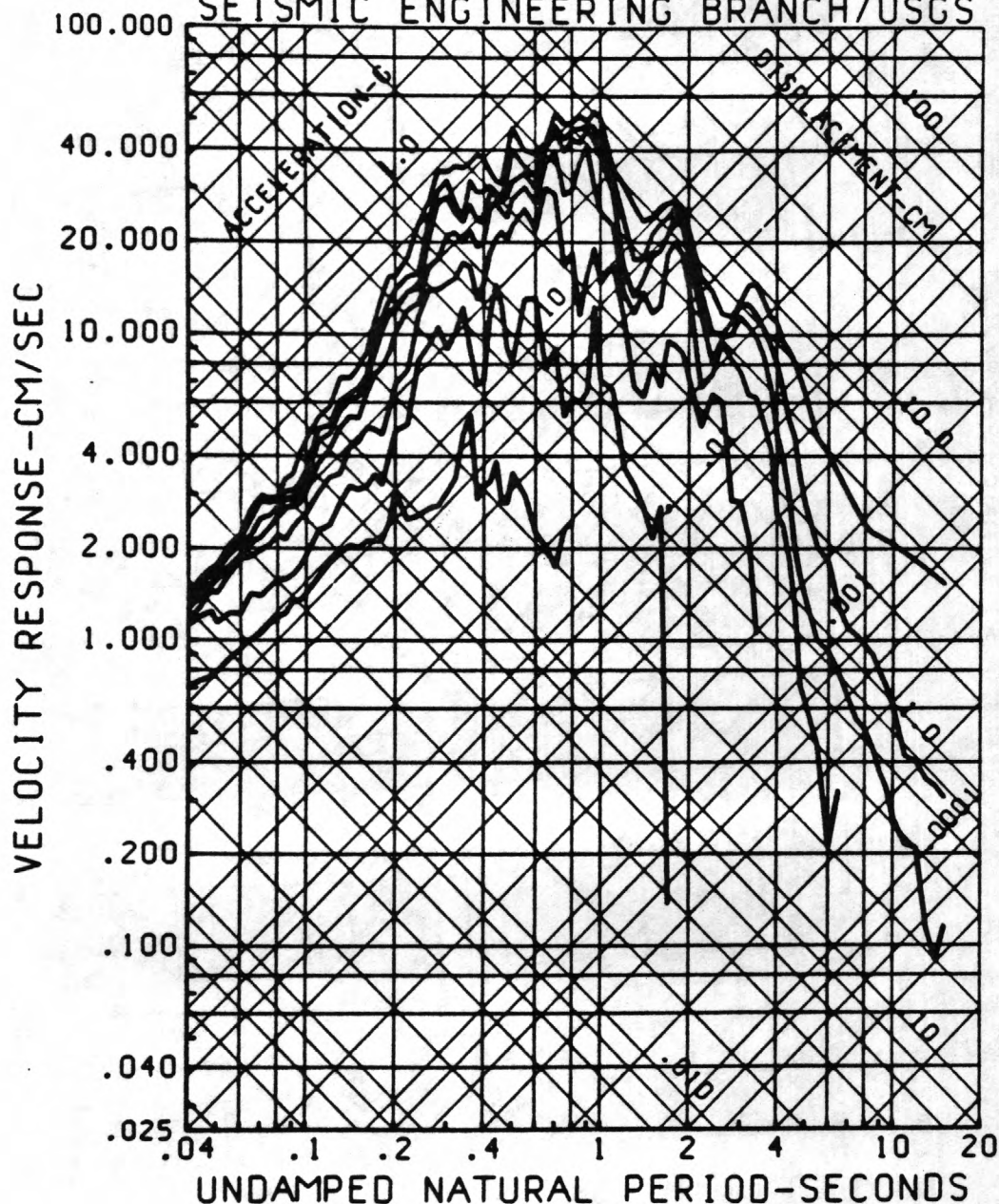
SPECTRA OF AMPLITUDES SUSTAINED
FOR ANY GIVEN NUMBER OF CYCLES
GILROY ARRAY NO. 4.08/06/79,UP
5 PERCENT CRITICAL DAMPING

BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ

SEISMIC ENGINEERING BRANCH/USGS



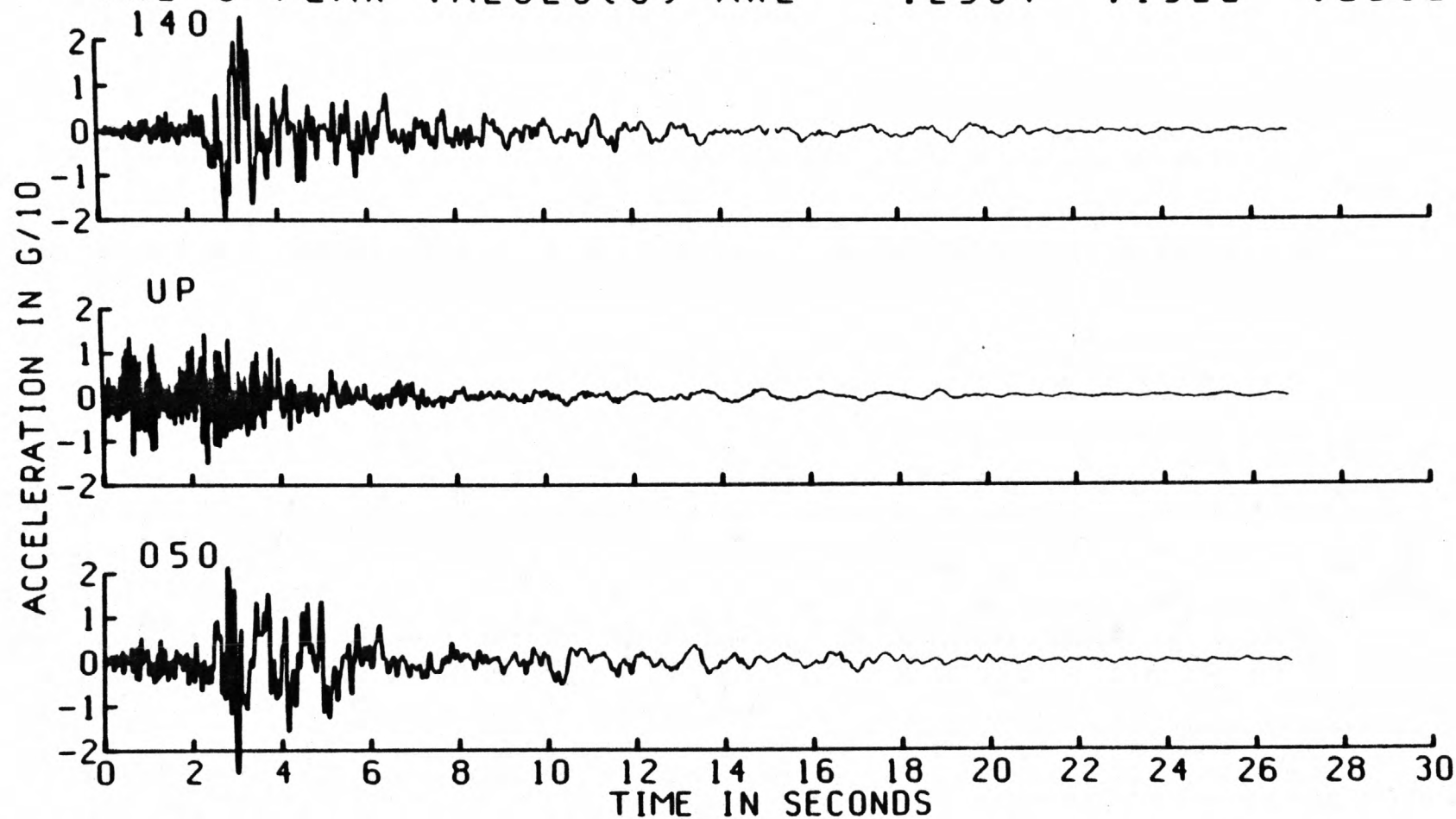
SPECTRA OF AMPLITUDES SUSTAINED
 FOR ANY GIVEN NUMBER OF CYCLES
 GILROY ARRAY NO. 4.08/06/79.270 DEGREES
 5 PERCENT CRITICAL DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS



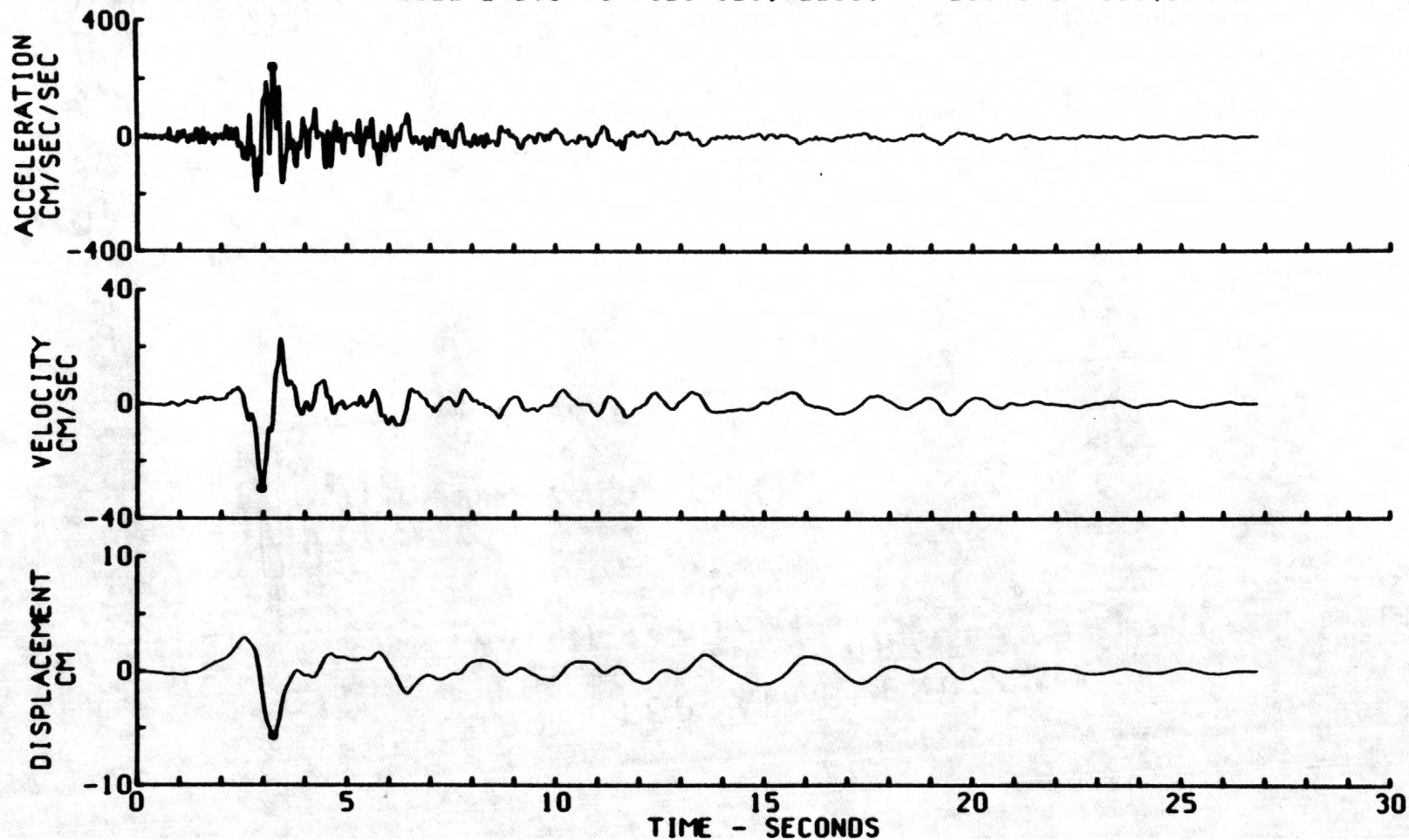
UNCORRECTED ACCELEROGRAM

GILROY ARRAY NO. 3.08/06/79-1705

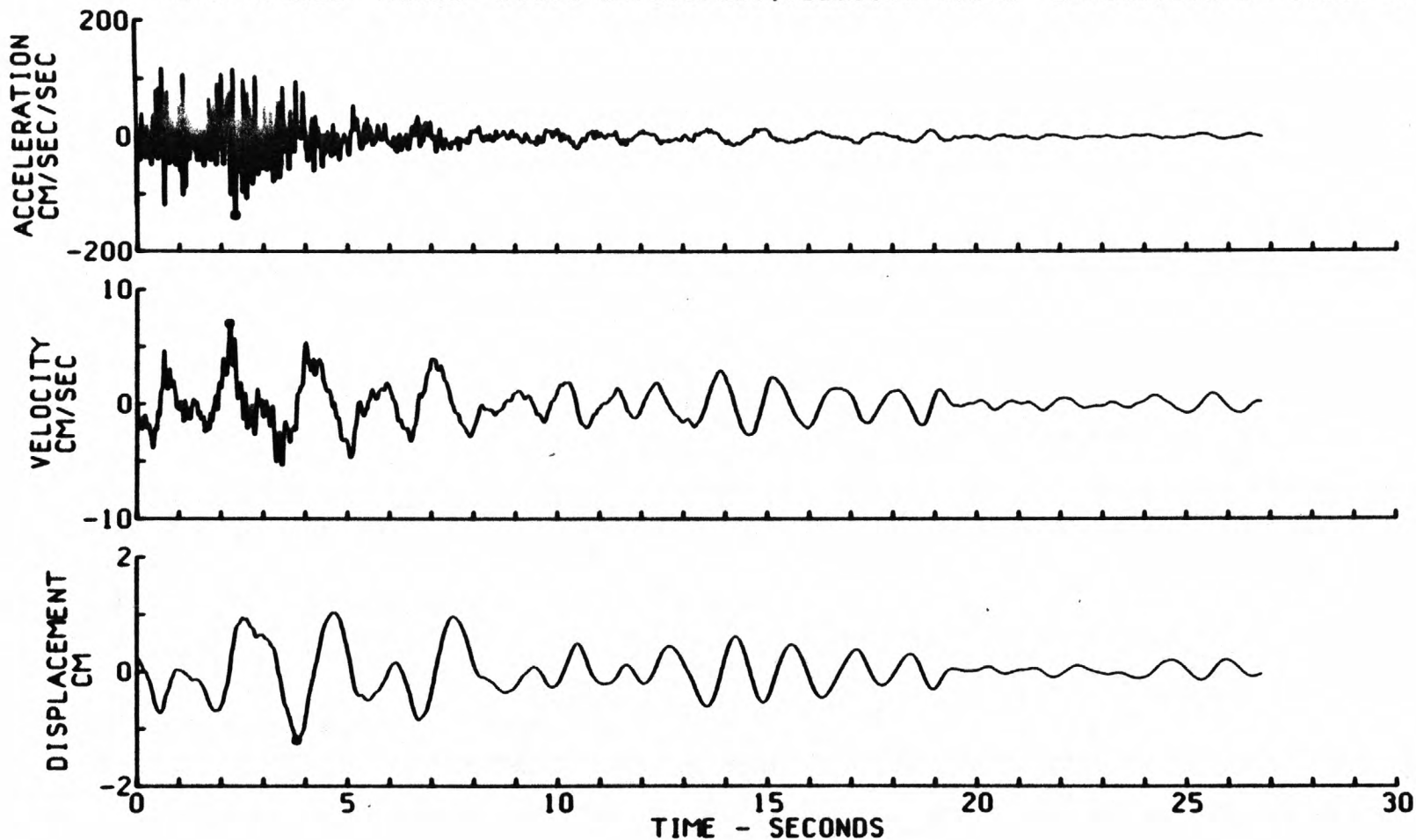
THE 3 PEAK VALUES(G) ARE .2594 .1522 .2532



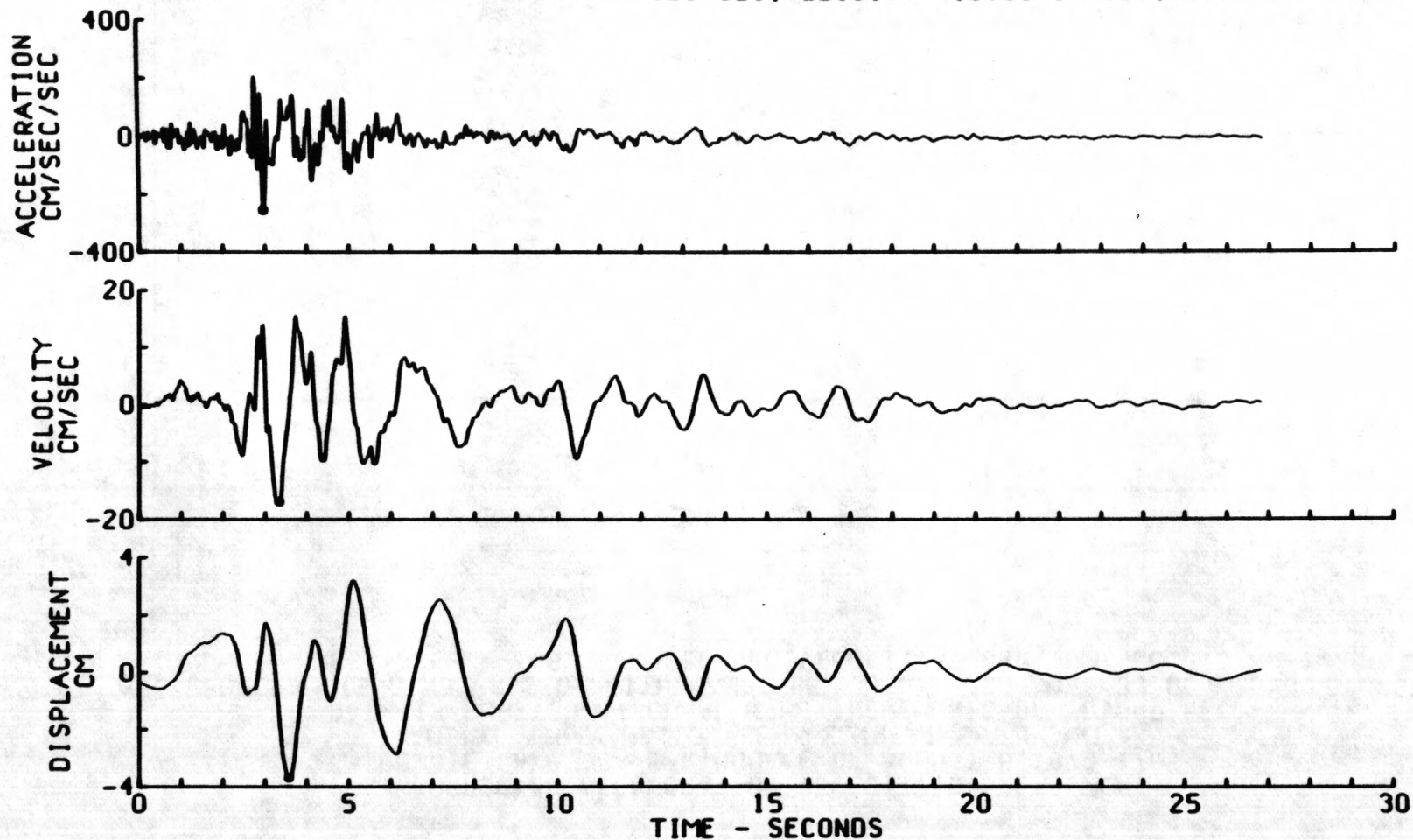
CORRECTED ACCELERATION, VELOCITY, DISPLACEMENT
COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705
GILROY ARRAY NO. 3, SEWAGE TREATMENT PLANT, 140 DEGREES
DATA IS PLOTTED AT EQUAL TIME INCREMENTS OF .01000 SEC
ACCELEROGRAM IS BAND PASSED, WITH RAMPS OF .050 - .250 AND 23.00 - 25.00 CYC/SEC
• PEAK VALUES ACCEL=245.6 CM/SEC/SEC, VELOCITY=-29.43 CM/SEC, DISPL=-5.660 CM



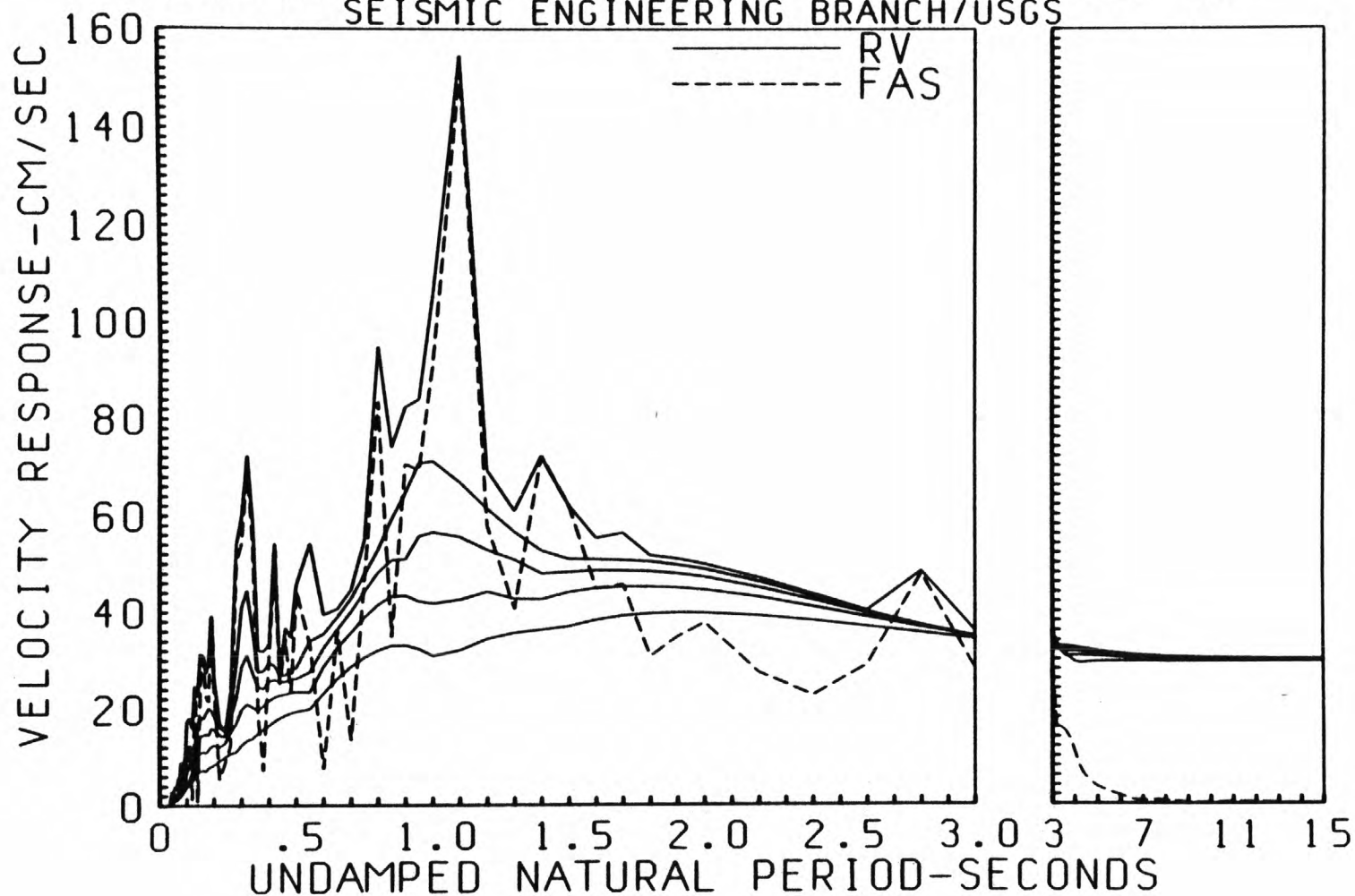
CORRECTED ACCELERATION, VELOCITY, DISPLACEMENT
COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705
GILROY ARRAY NO. 3, SEWAGE TREATMENT PLANT, UP
DATA IS PLOTTED AT EQUAL TIME INCREMENTS OF .01000 SEC
ACCELEROGRAM IS BAND PASSED, WITH RAMPS OF .050 - .250 AND 23.00 - 25.00 CYC/SEC
• PEAK VALUES ACCEL=-135.9 CM/SEC/SEC, VELOCITY=7.040 CM/SEC, DISPL=-1.200 CM



CORRECTED ACCELERATION, VELOCITY, DISPLACEMENT
 COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705
 GILROY ARRAY NO. 3, SEWAGE TREATMENT PLANT, 050 DEGREES
 DATA IS PLOTTED AT EQUAL TIME INCREMENTS OF .01000 SEC
 ACCELEROGRAM IS BAND PASSED, WITH RAMPS OF .050 - .250 AND 23.00 - 25.00 CYC/SEC
 • PEAK VALUES ACCEL=-252.4 CM/SEC/SEC, VELOCITY=-16.89 CM/SEC, DISPL=-3.680 CM



RELATIVE VELOCITY RESPONSE SPECTRUM
 GILROY ARRAY NO. 3, 08/06/79, 140 DEGREES
 0.2, 5, 10, 20 PERCENT CRITICAL DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS



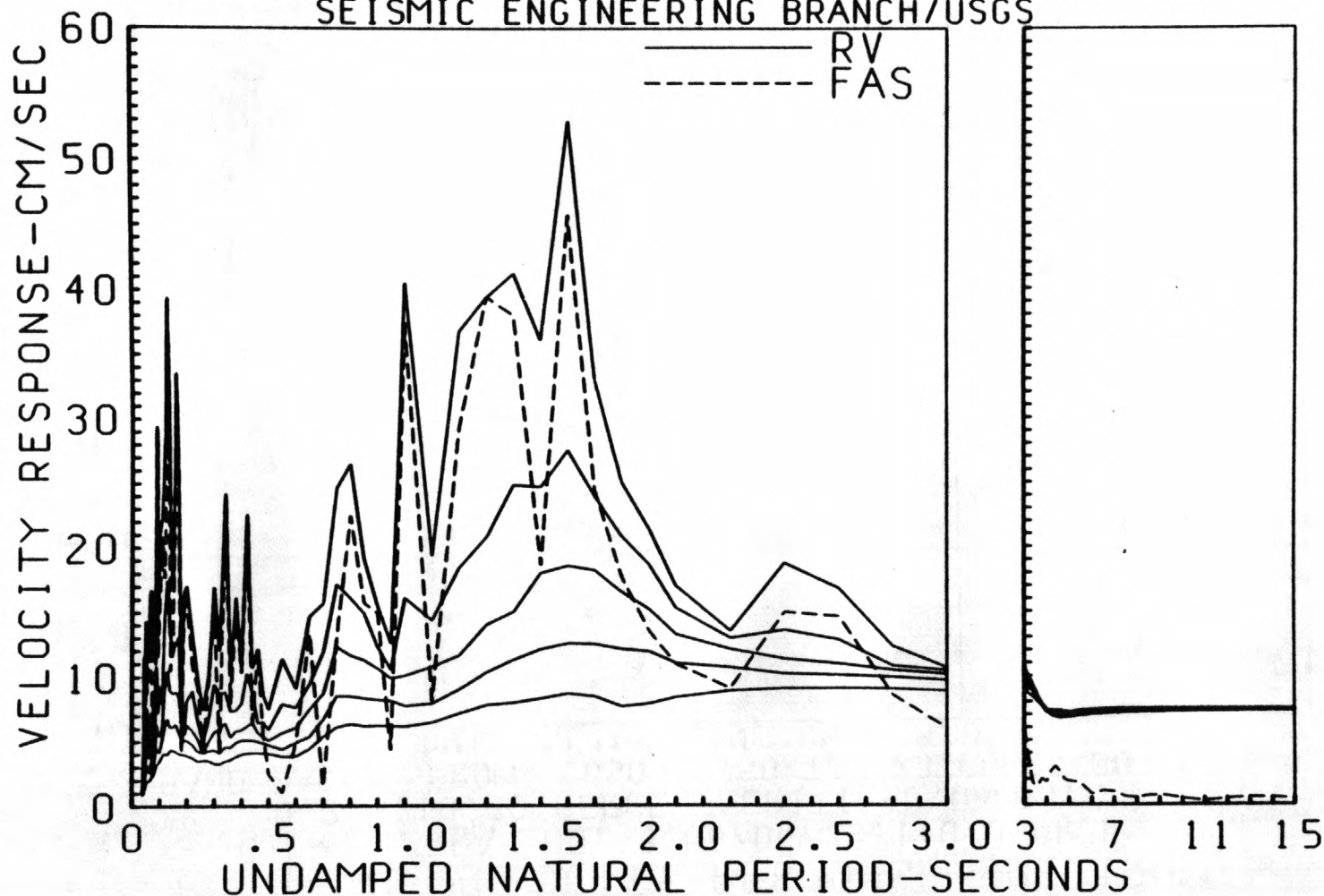
RELATIVE VELOCITY RESPONSE SPECTRUM

GILROY ARRAY NO. 3, 08/06/79, UP

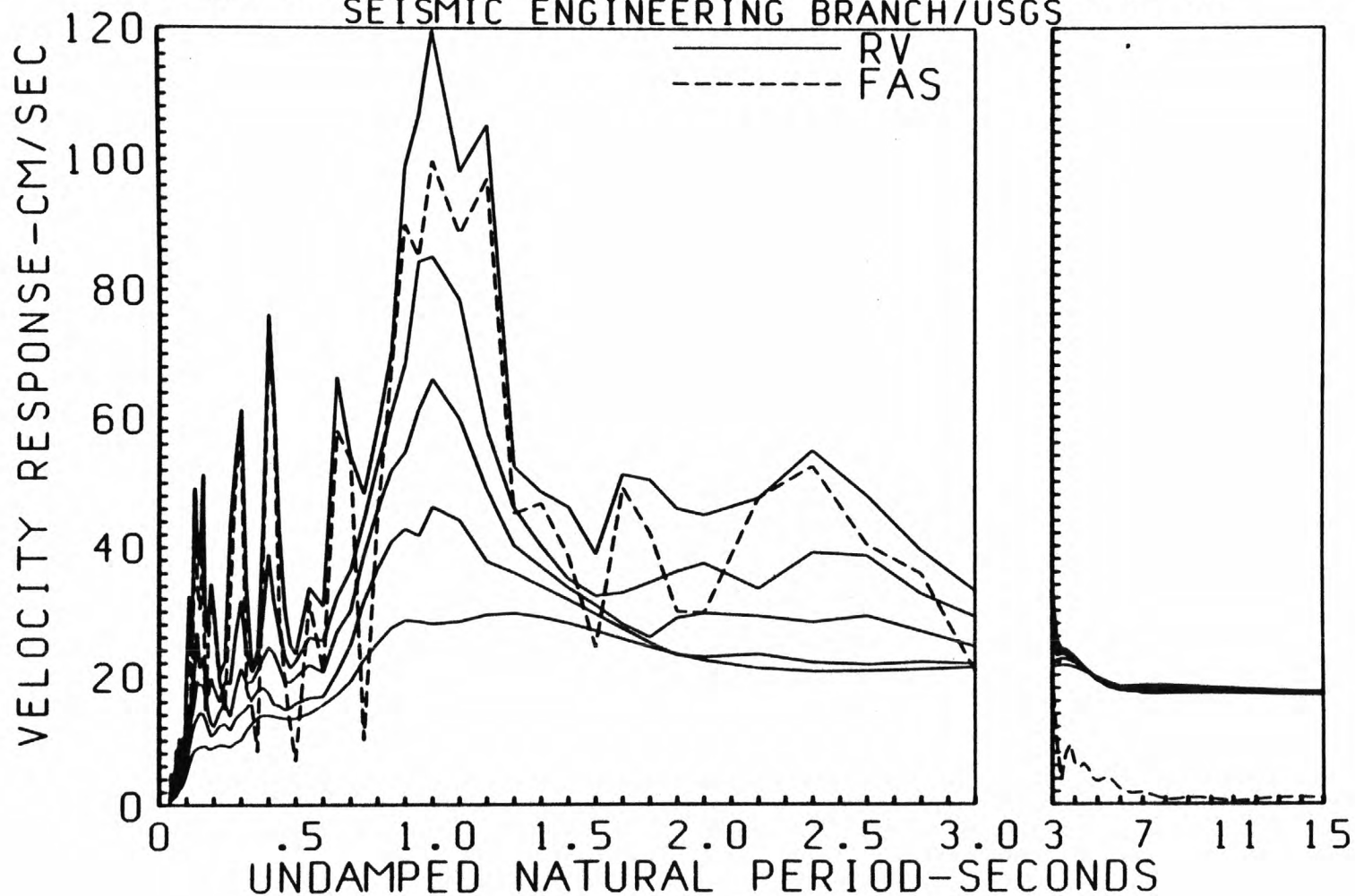
0.2, 5, 10, 20 PERCENT CRITICAL DAMPING

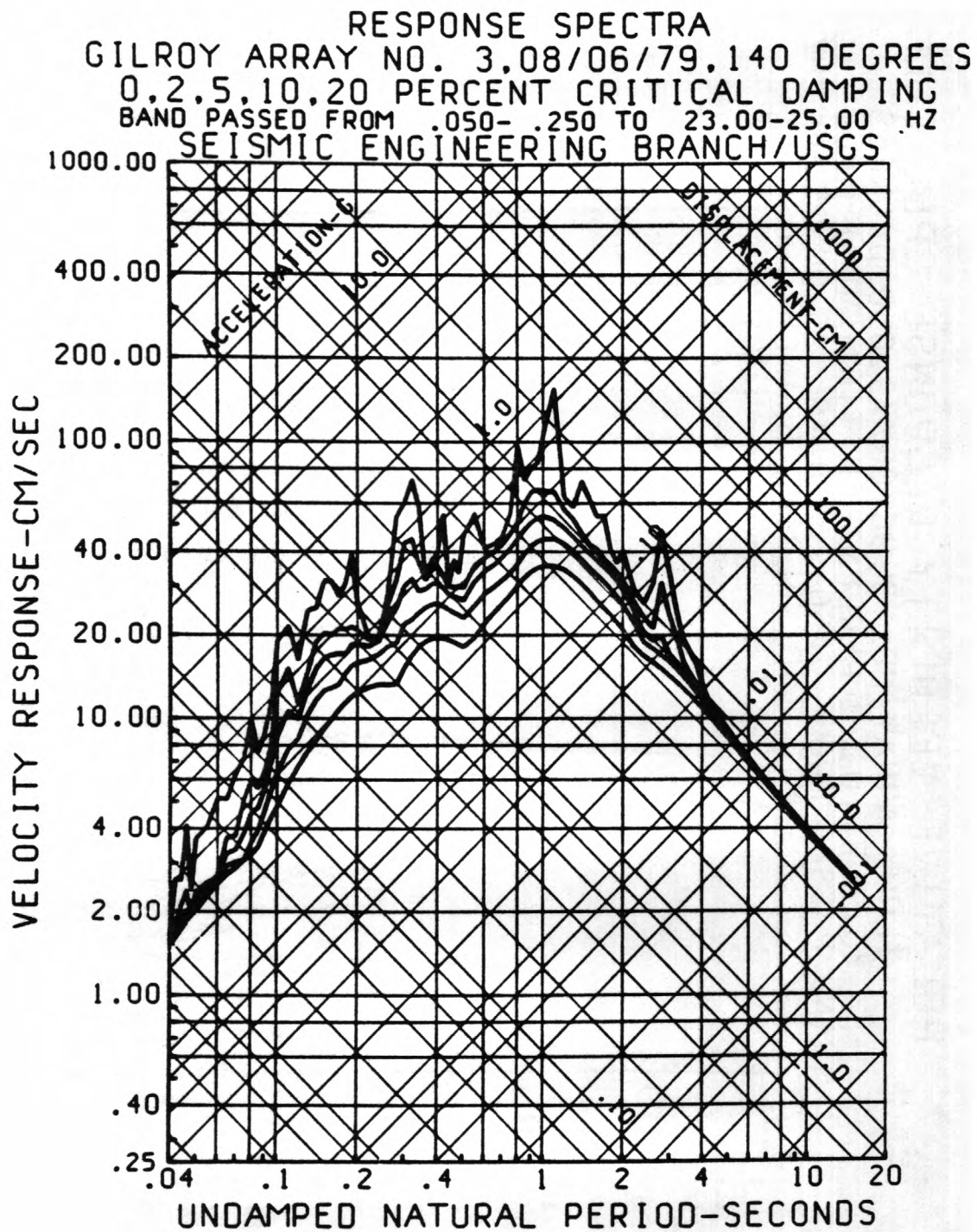
BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ

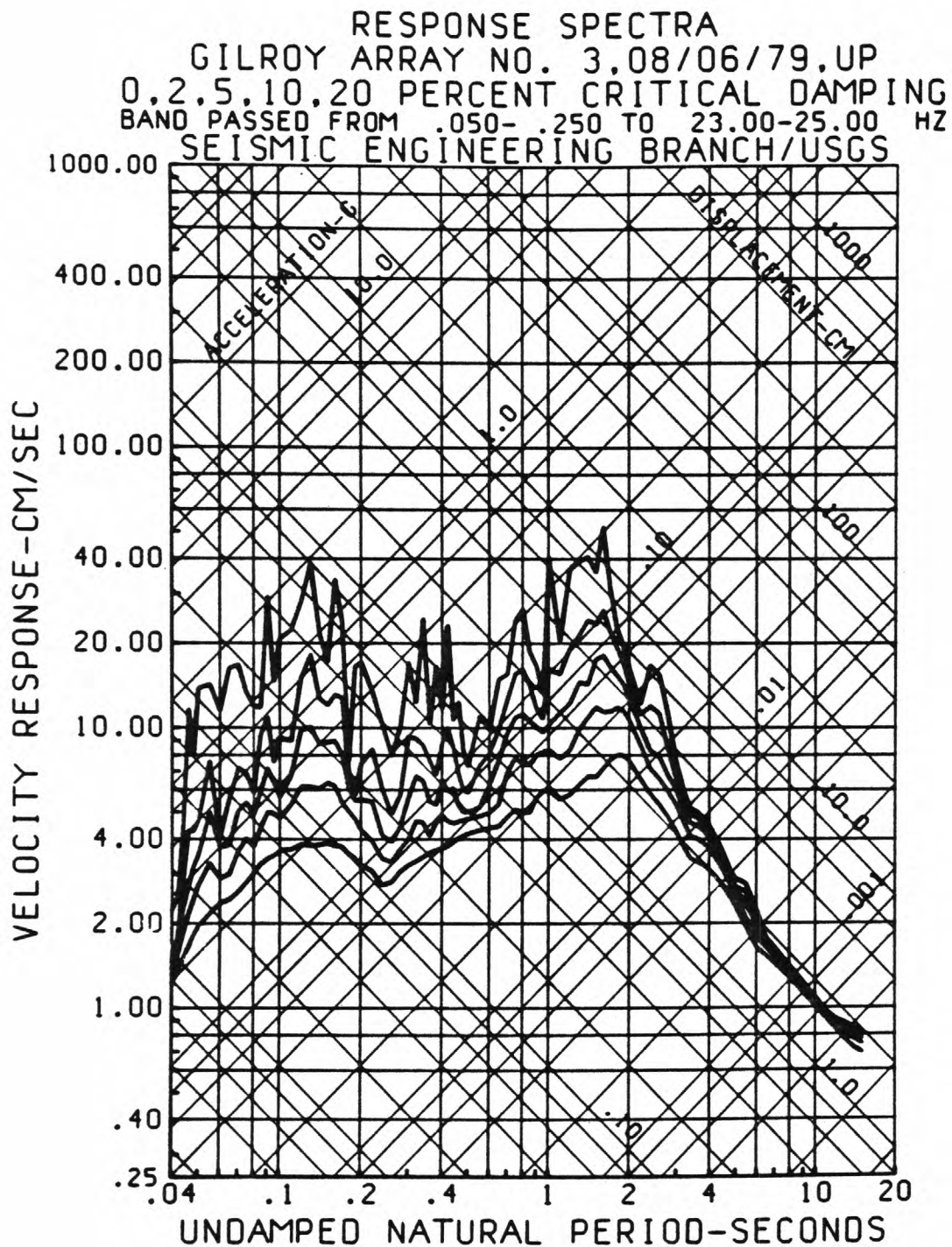
SEISMIC ENGINEERING BRANCH/USGS

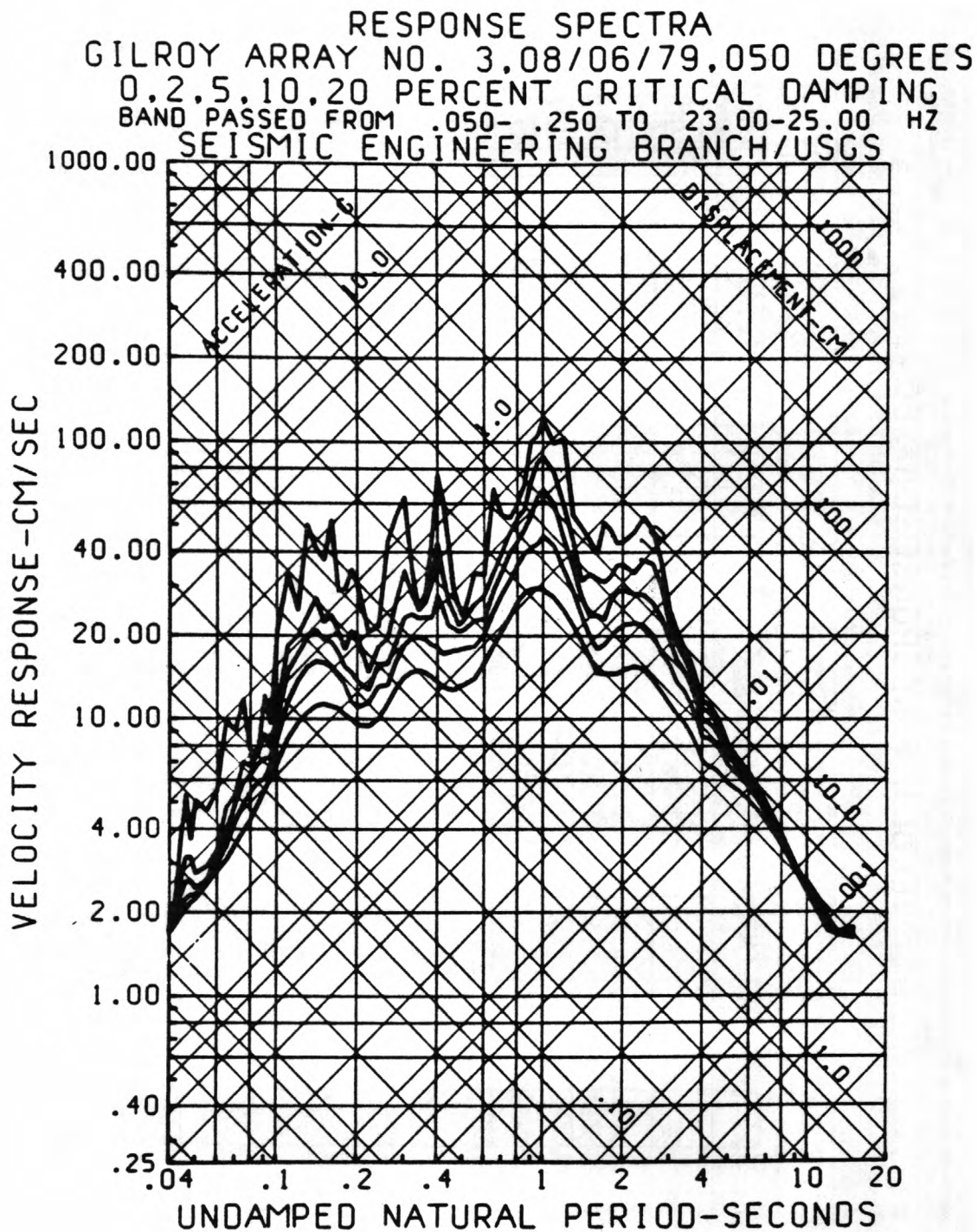


RELATIVE VELOCITY RESPONSE SPECTRUM
 GILROY ARRAY NO. 3, 08/06/79, 050 DEGREES
 0.2, 5, 10, 20 PERCENT CRITICAL DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS

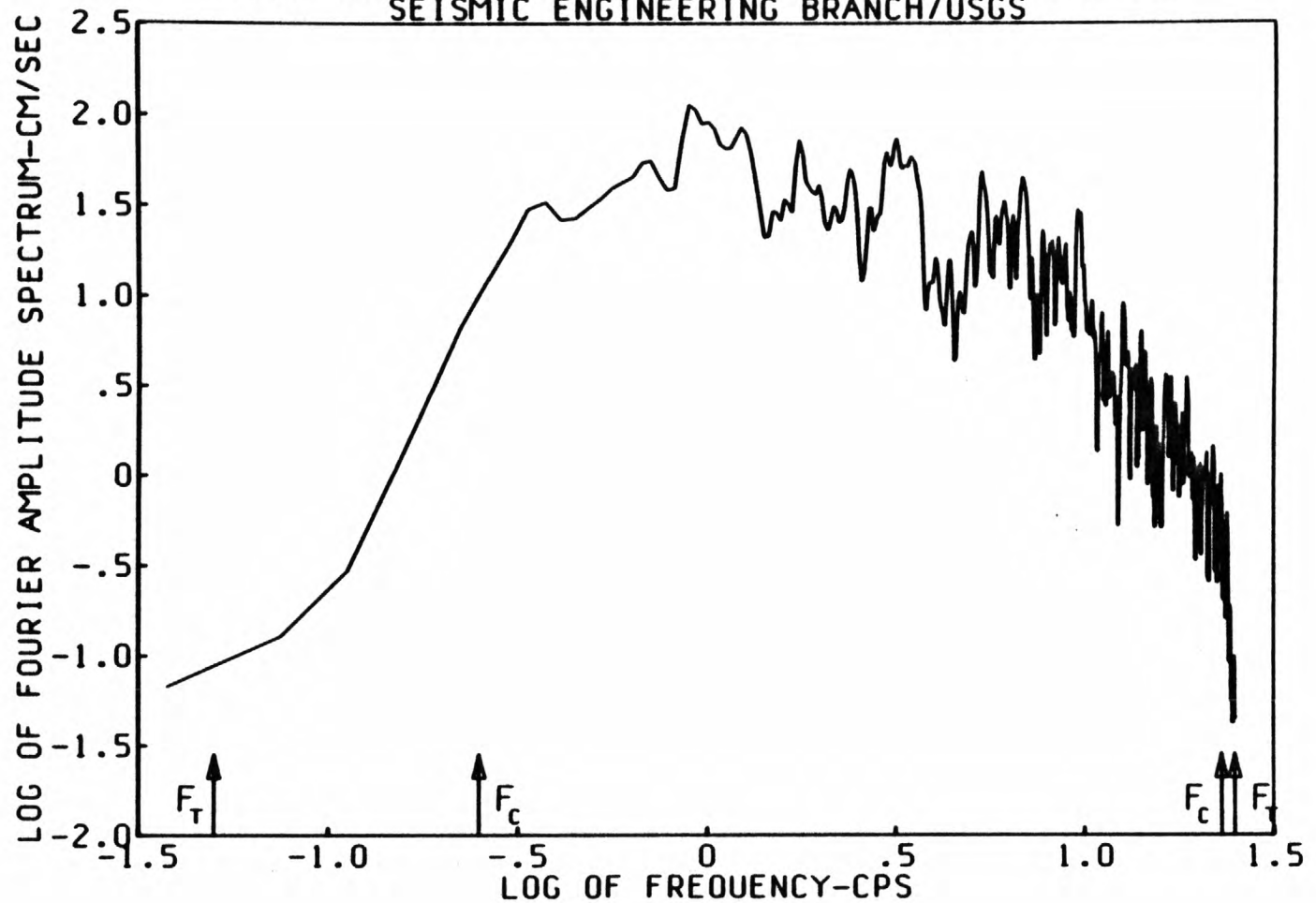




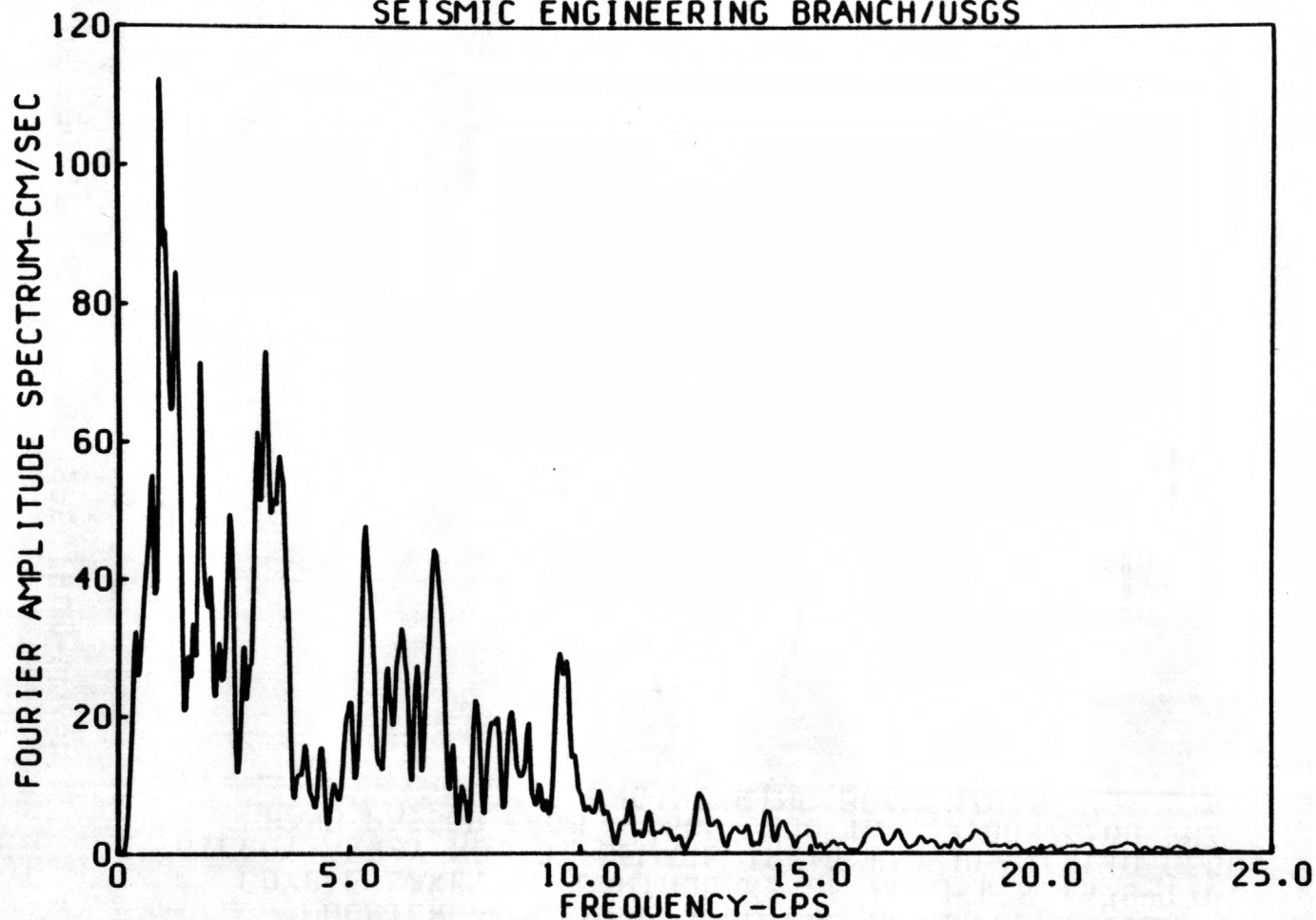




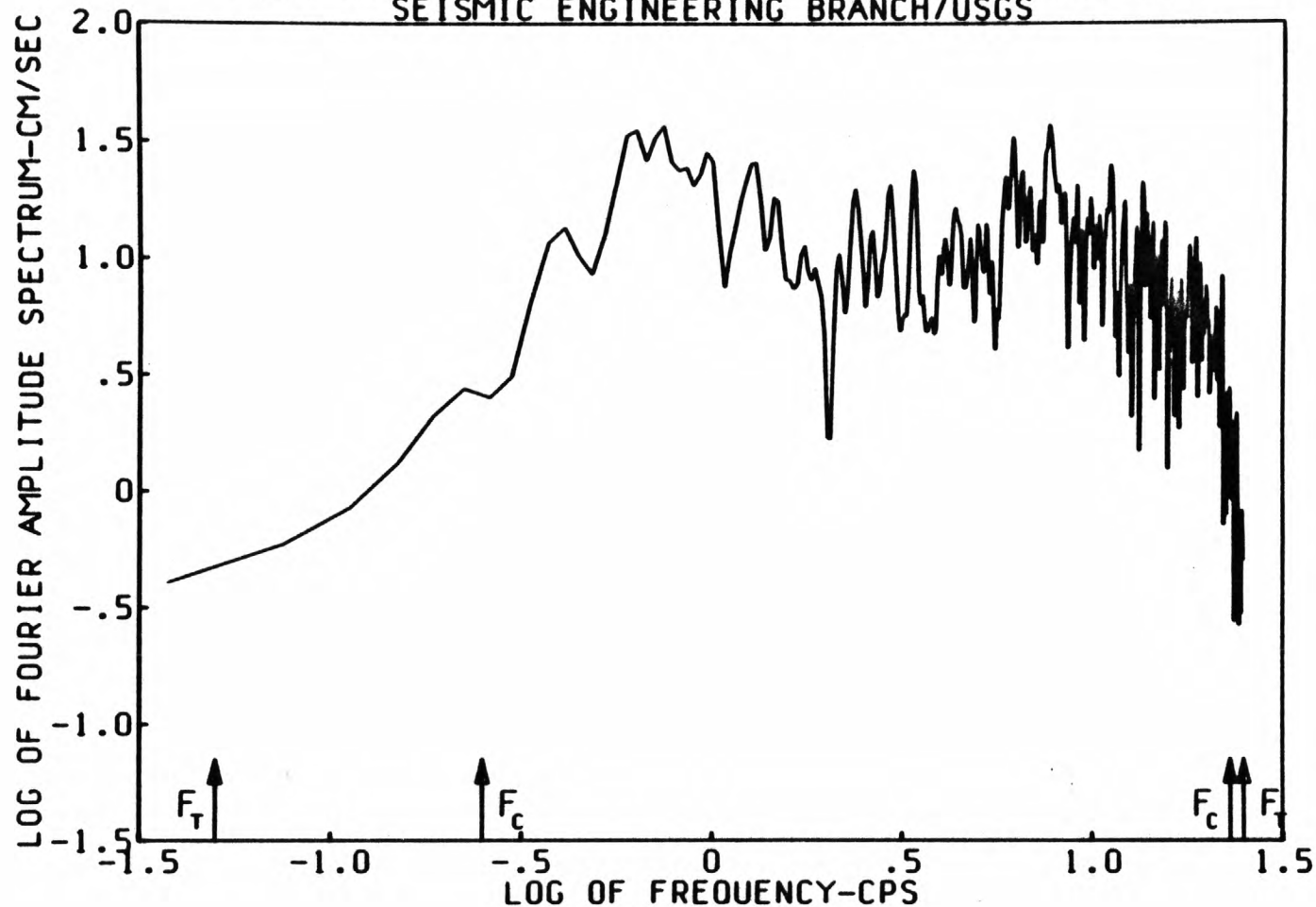
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
 COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705
 GILROY ARRAY NO. 3, SEWAGE TREATMENT PLANT, 140 DEGREES
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS



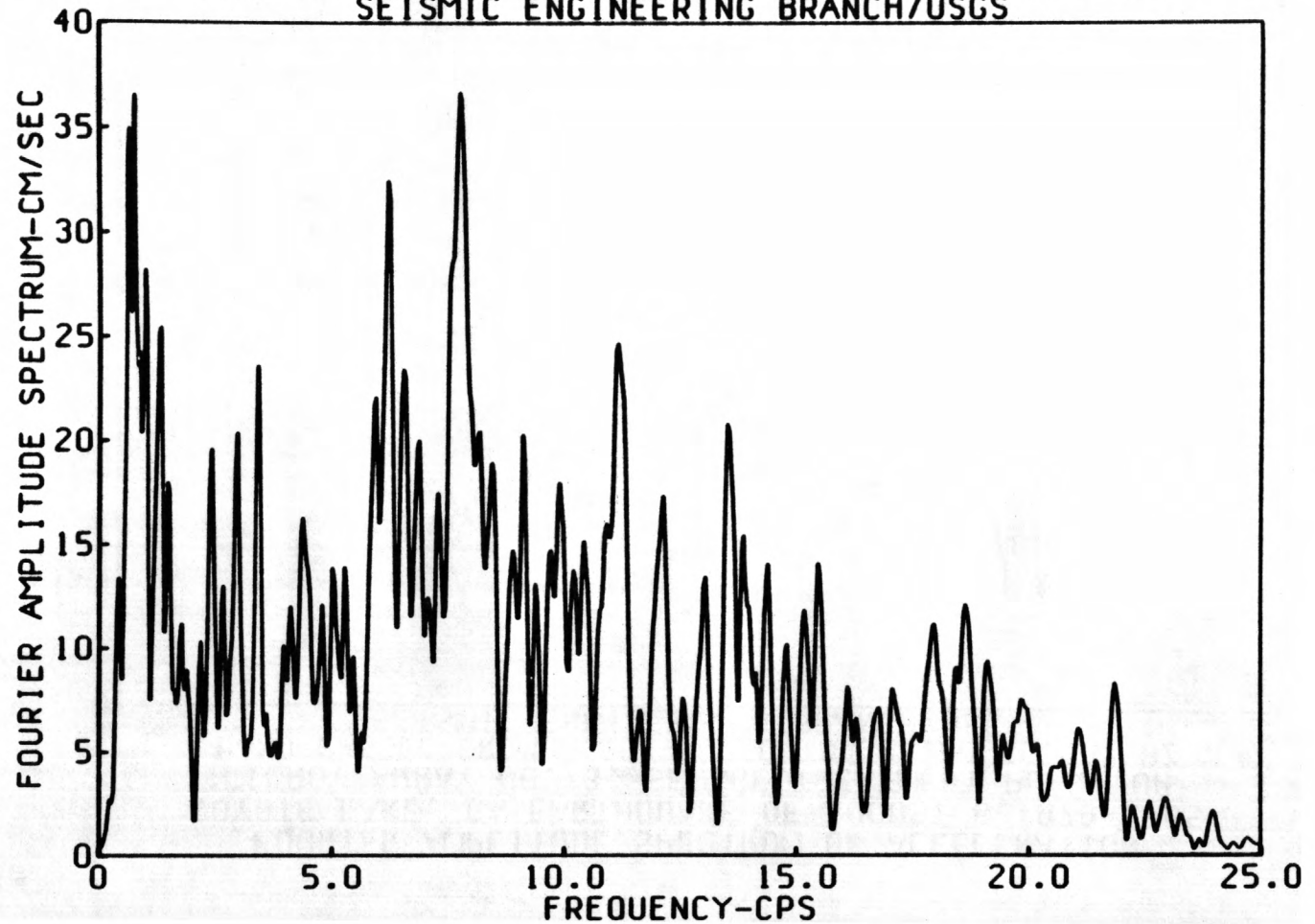
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
 COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705
 GILROY ARRAY NO. 3, SEWAGE TREATMENT PLANT, 140 DEGREES
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS



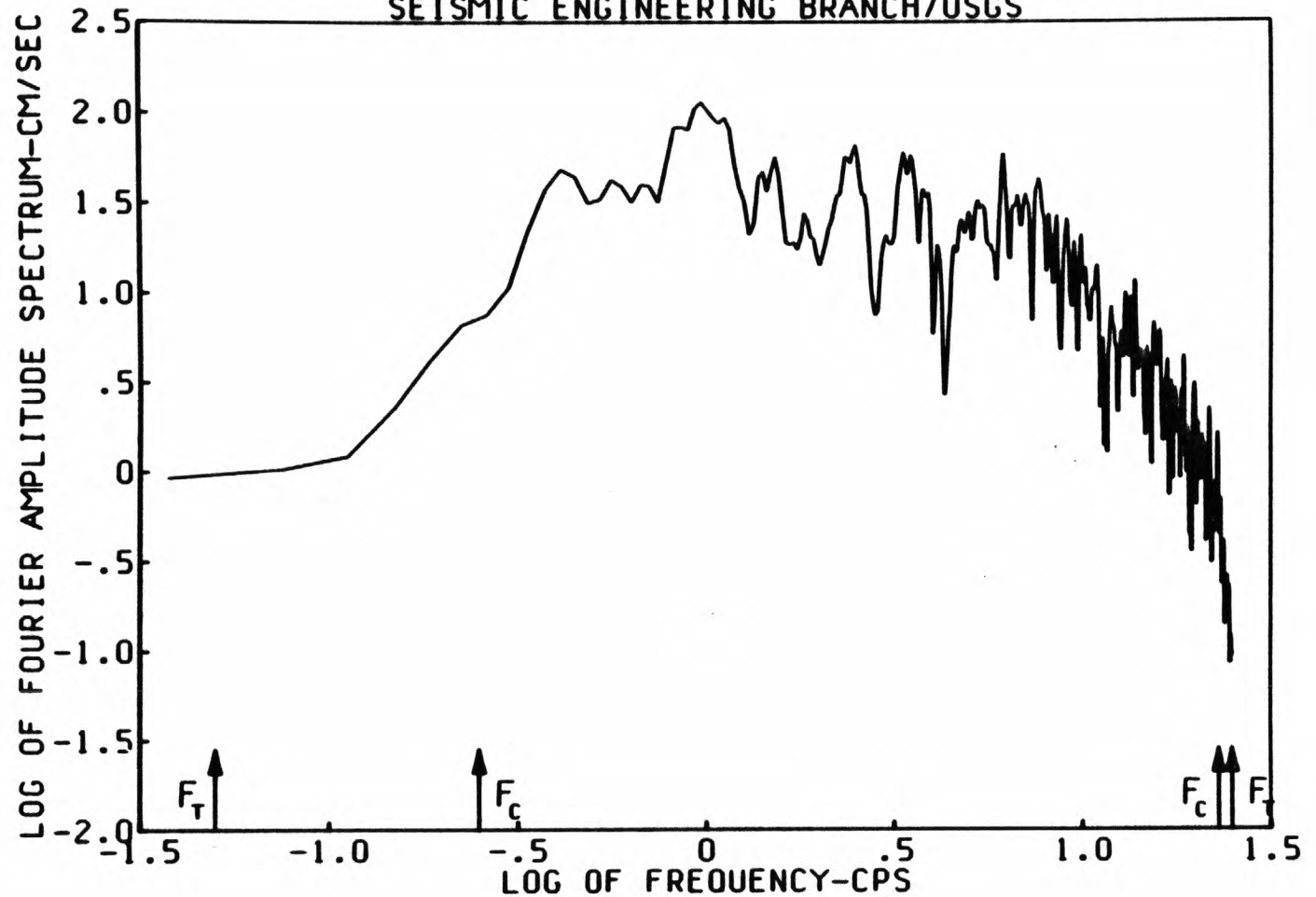
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
 COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705
 GILROY ARRAY NO. 3, SEWAGE TREATMENT PLANT, UP
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS



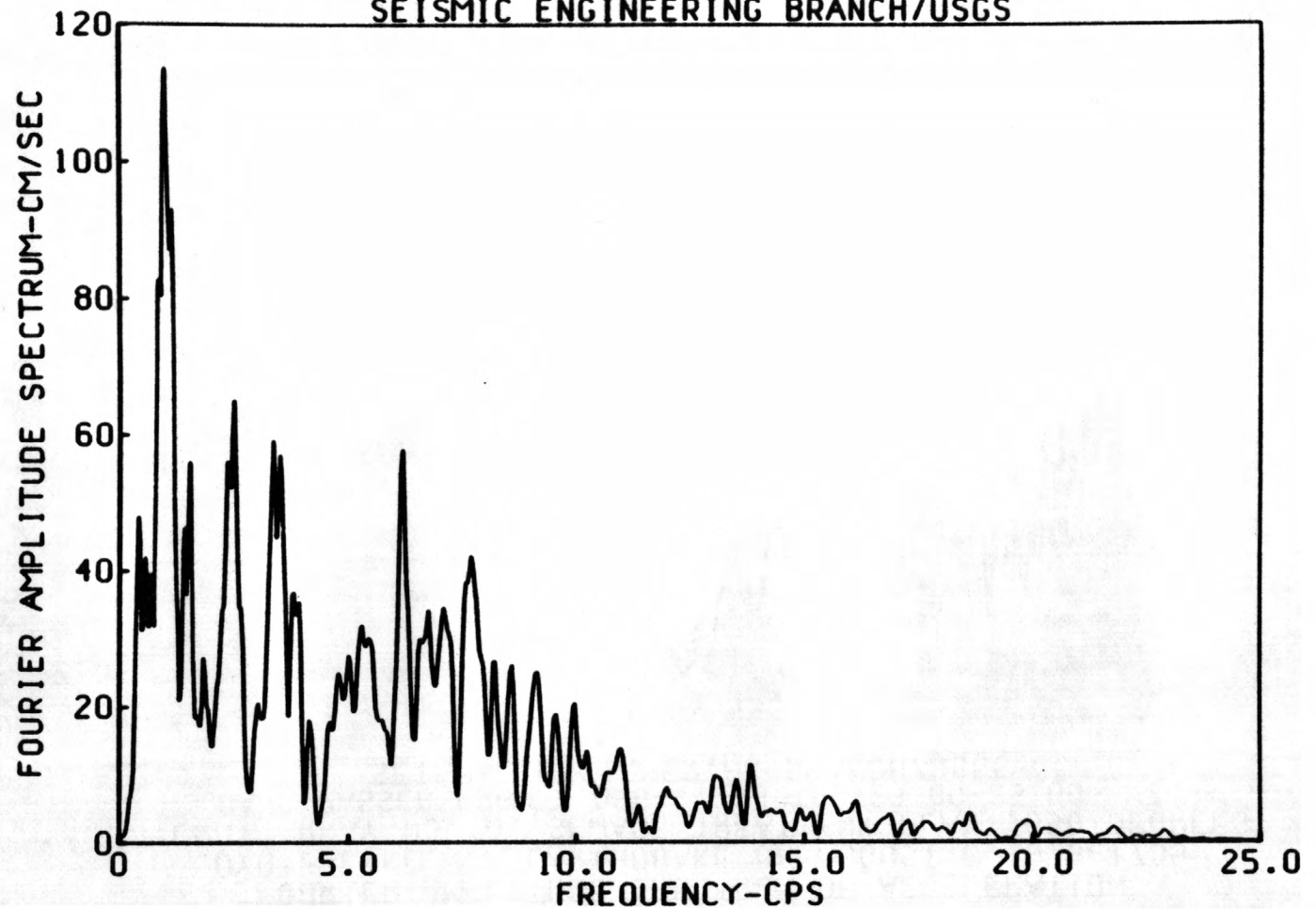
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705
GILROY ARRAY NO. 3, SEWAGE TREATMENT PLANT, UP
BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
SEISMIC ENGINEERING BRANCH/USGS



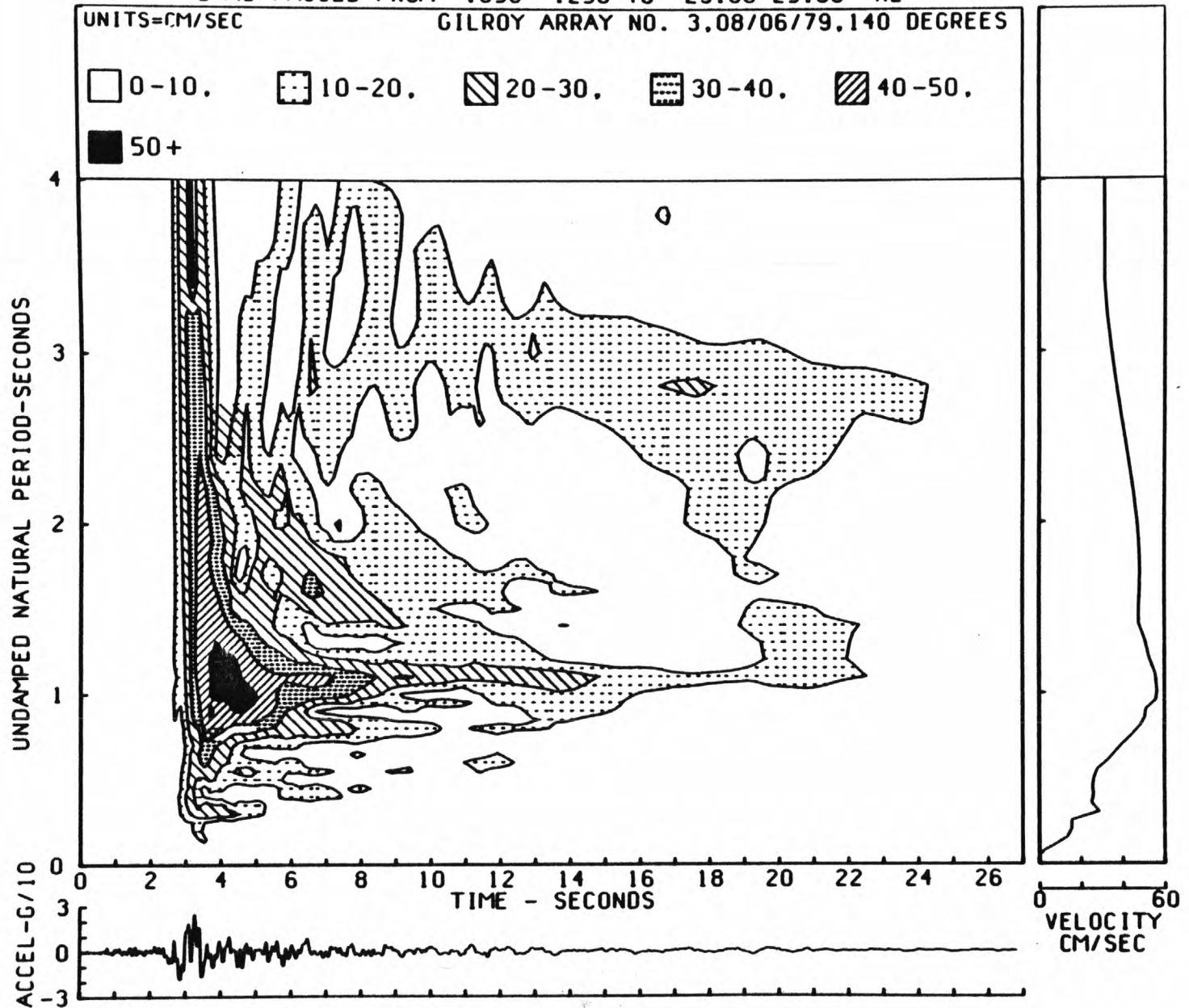
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
 COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705
 GILROY ARRAY NO. 3, SEWAGE TREATMENT PLANT, 050 DEGREES
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS



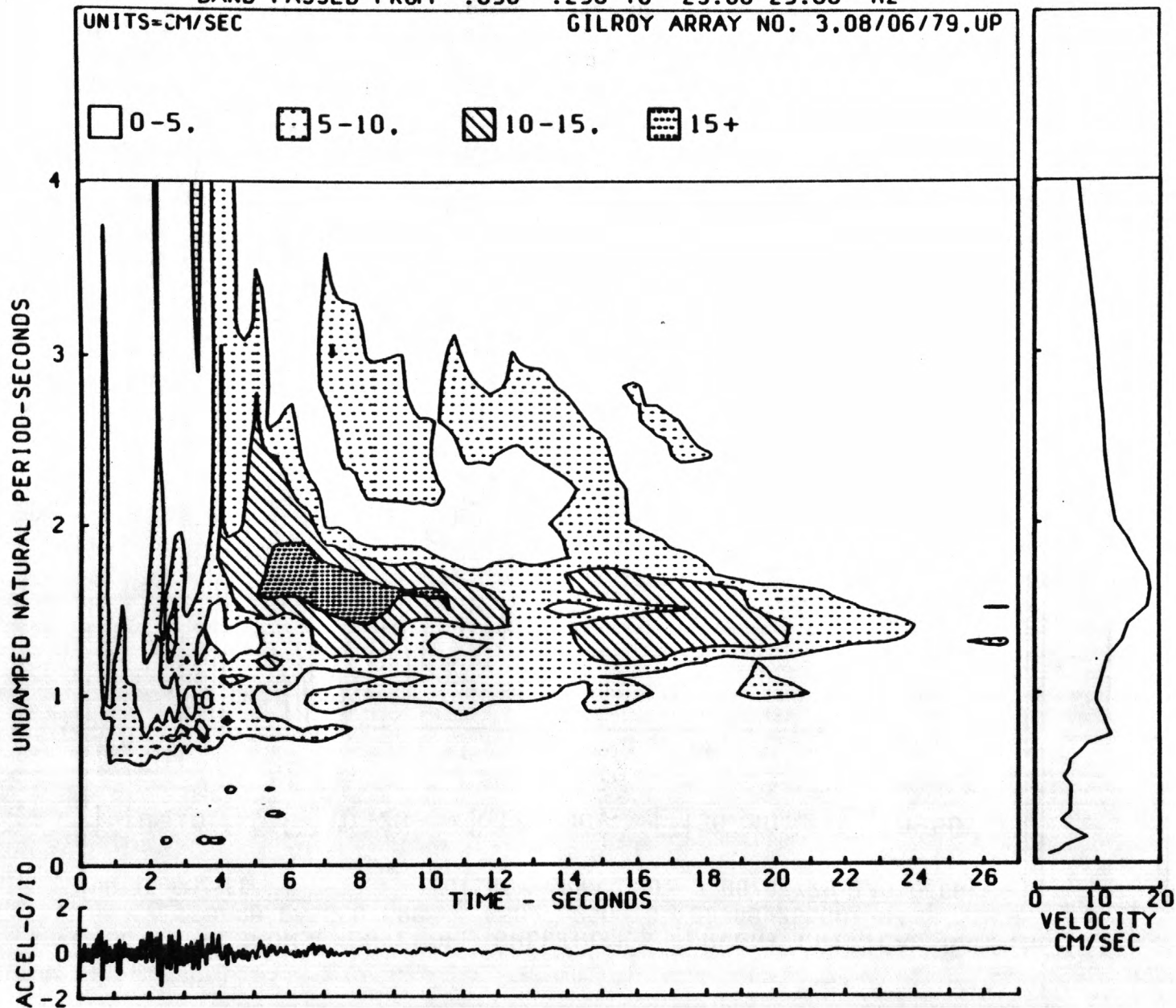
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
 COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705
 GILROY ARRAY NO. 3, SEWAGE TREATMENT PLANT, 050 DEGREES
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS



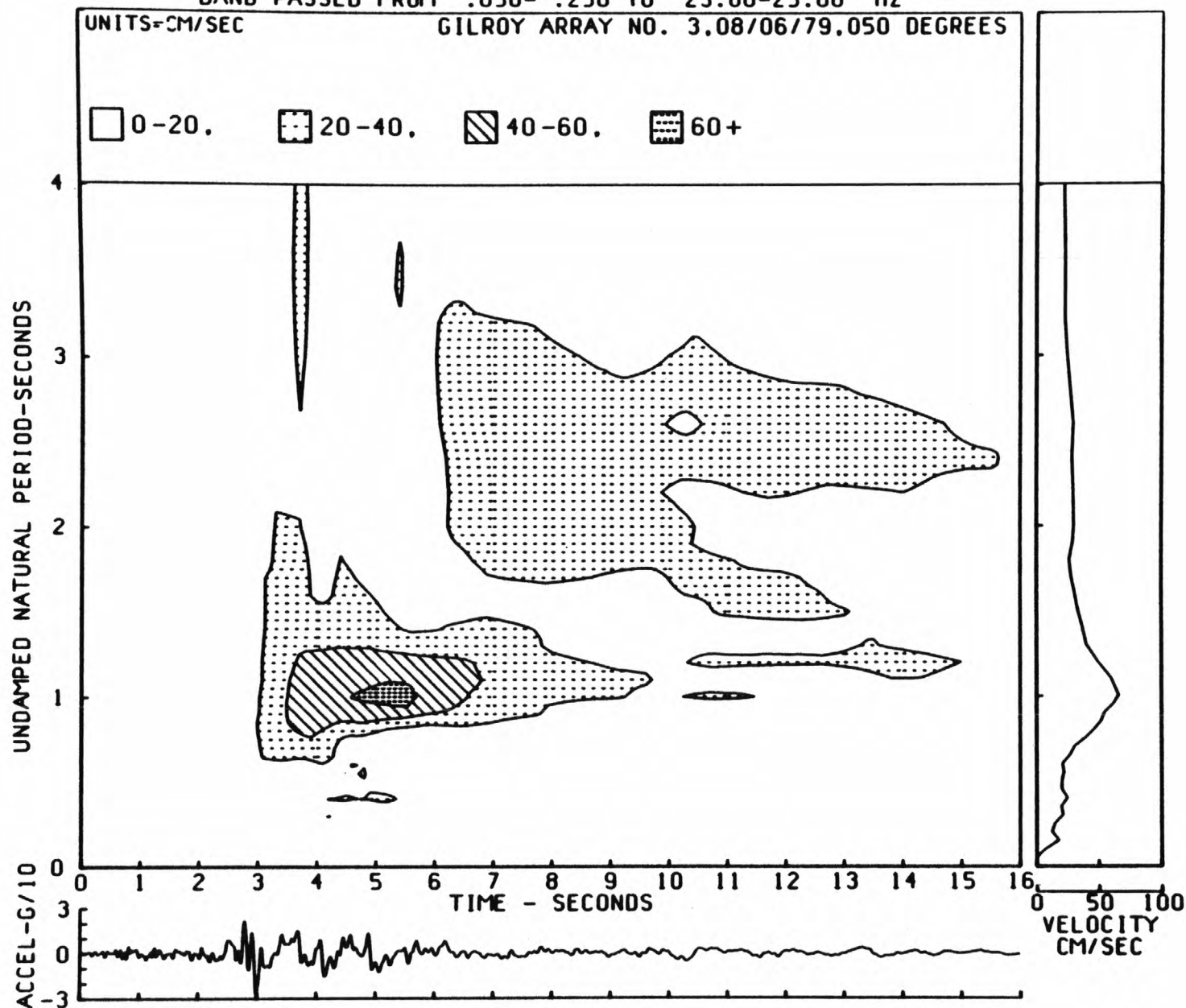
VELOCITY RESPONSE ENVELOPE SPECTRUM, 5 PERCENT CRITICAL DAMPING
BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ



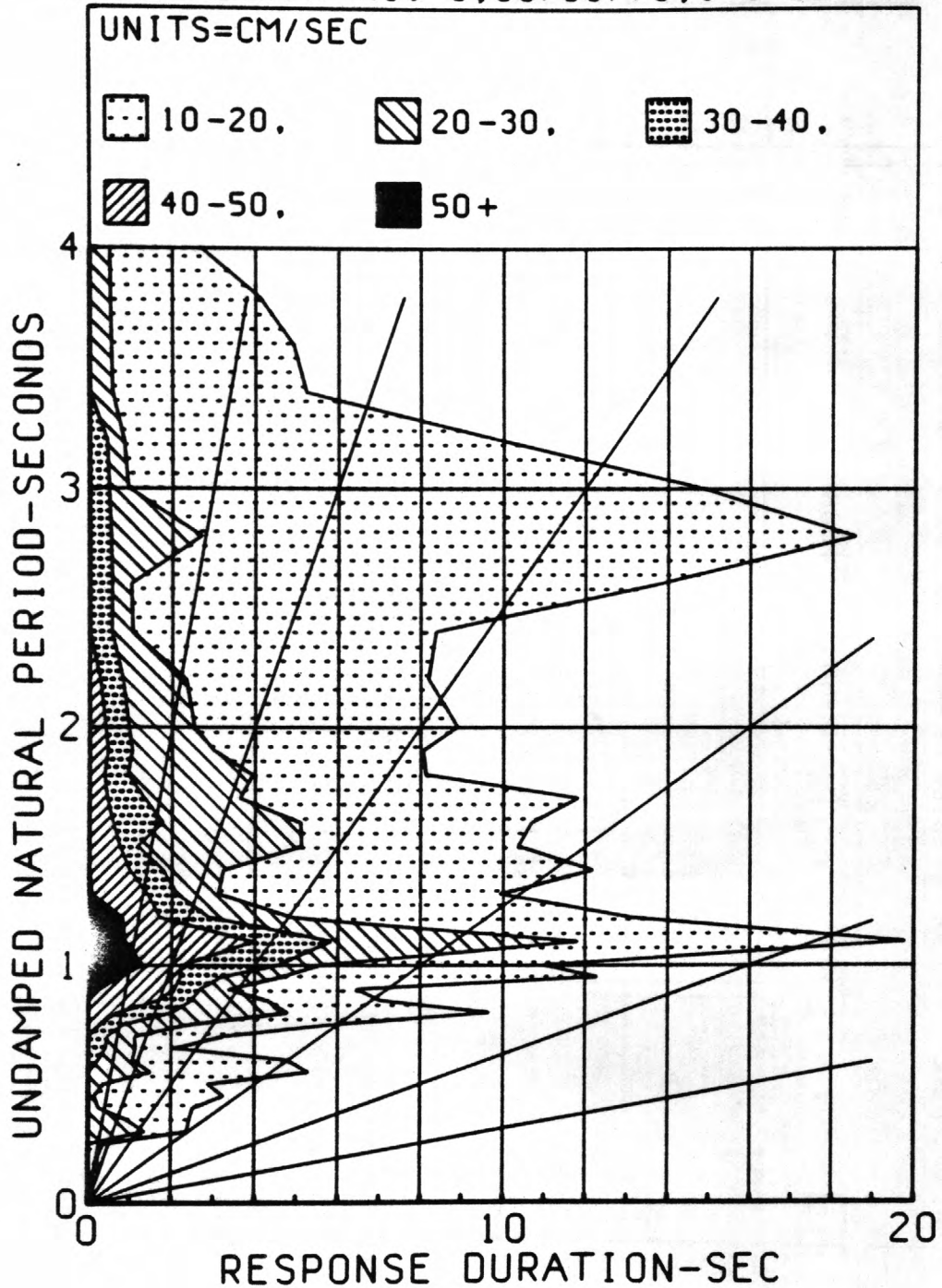
VELOCITY RESPONSE ENVELOPE SPECTRUM, 5 PERCENT CRITICAL DAMPING
BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ



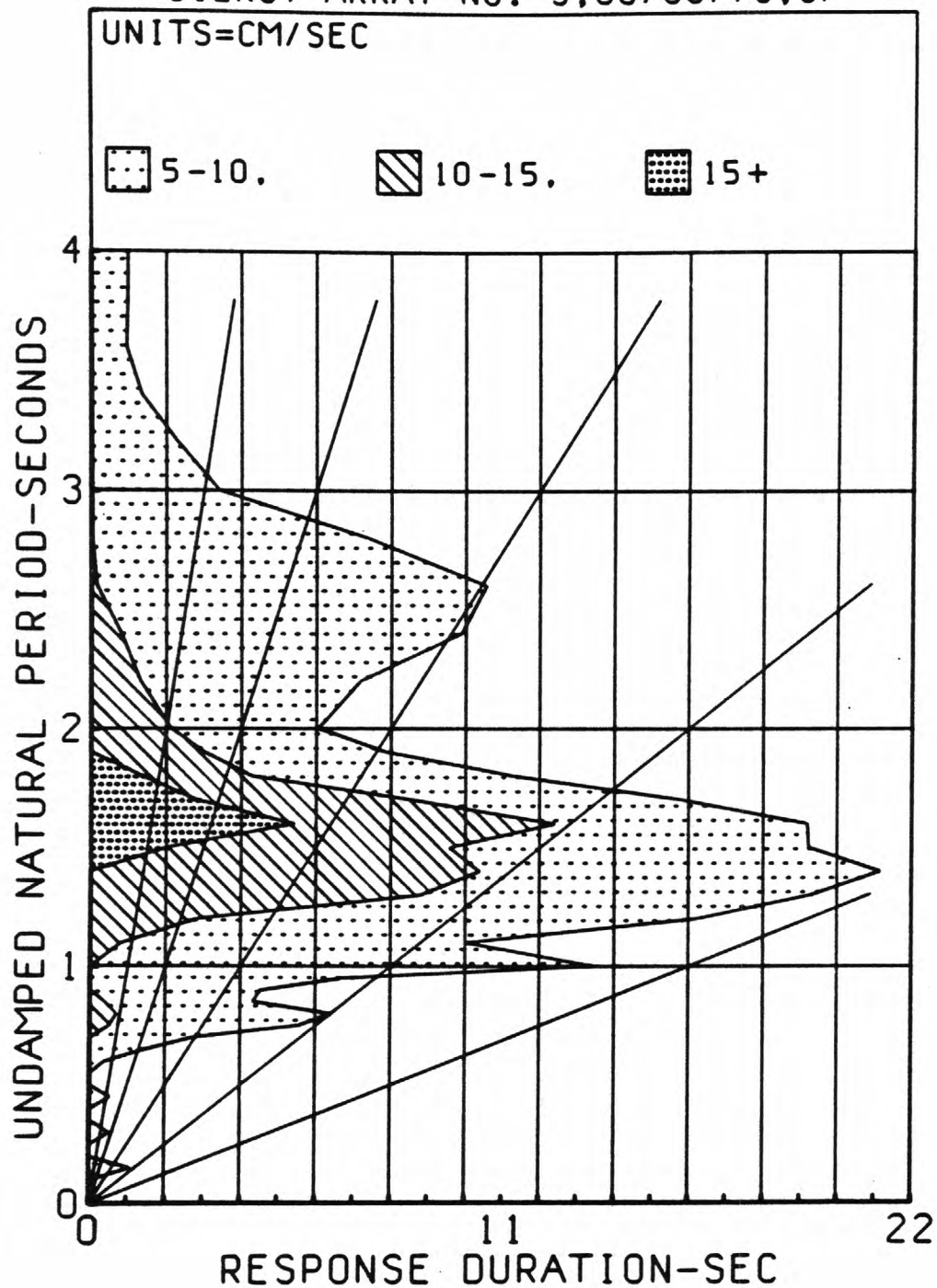
VELOCITY RESPONSE ENVELOPE SPECTRUM, 5 PERCENT CRITICAL DAMPING
BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ



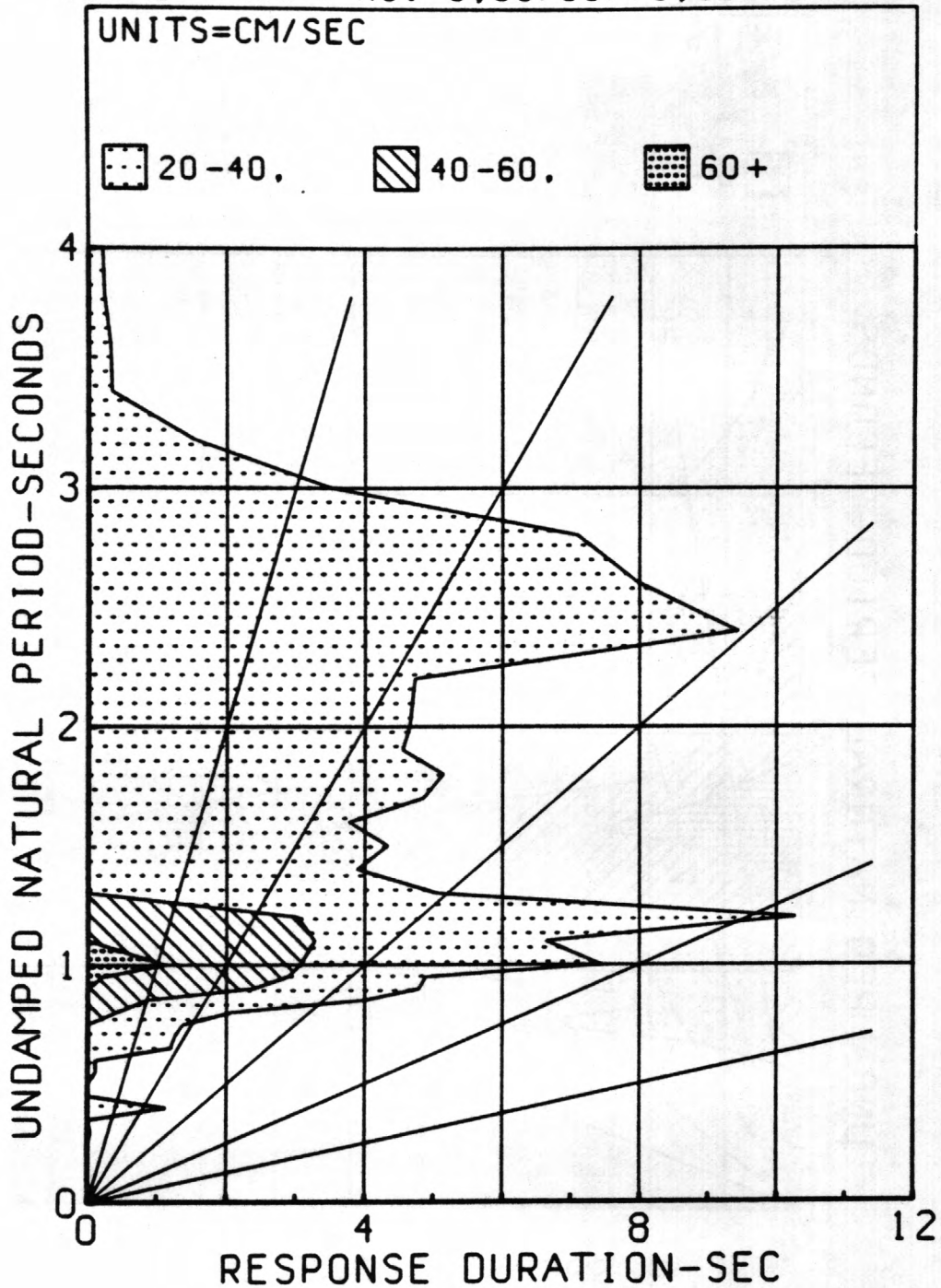
DURATION SPECTRUM OF THE VELOCITY
 RESPONSE ENVELOPE, 5 PERCENT DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 GILROY ARRAY NO. 3.08/06/79, 140 DEGREES



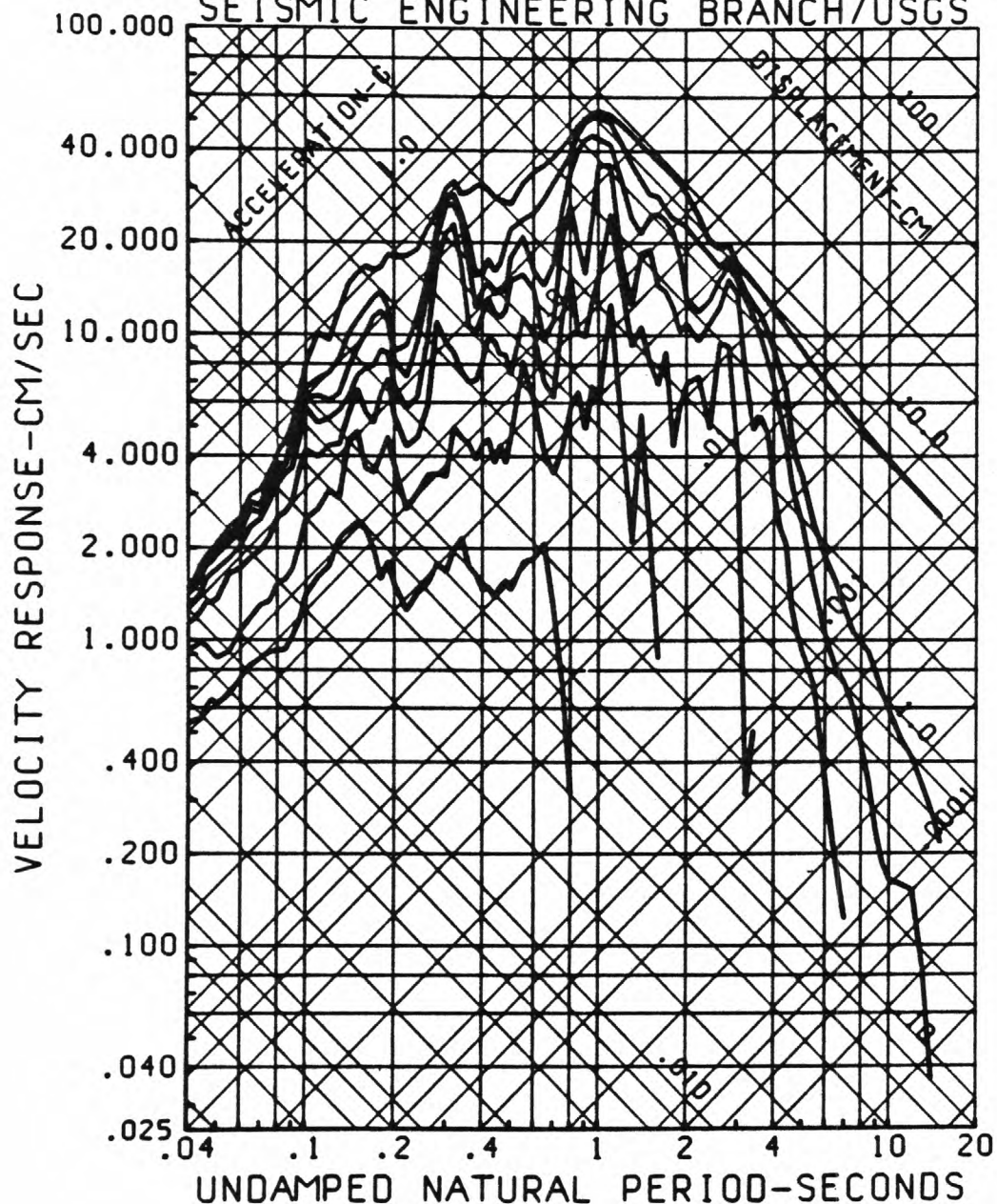
DURATION SPECTRUM OF THE VELOCITY
 RESPONSE ENVELOPE, 5 PERCENT DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 GILROY ARRAY NO. 3,08/06/79,UP



DURATION SPECTRUM OF THE VELOCITY
 RESPONSE ENVELOPE, 5 PERCENT DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 GILROY ARRAY NO. 3.08/06/79, 050 DEGREES



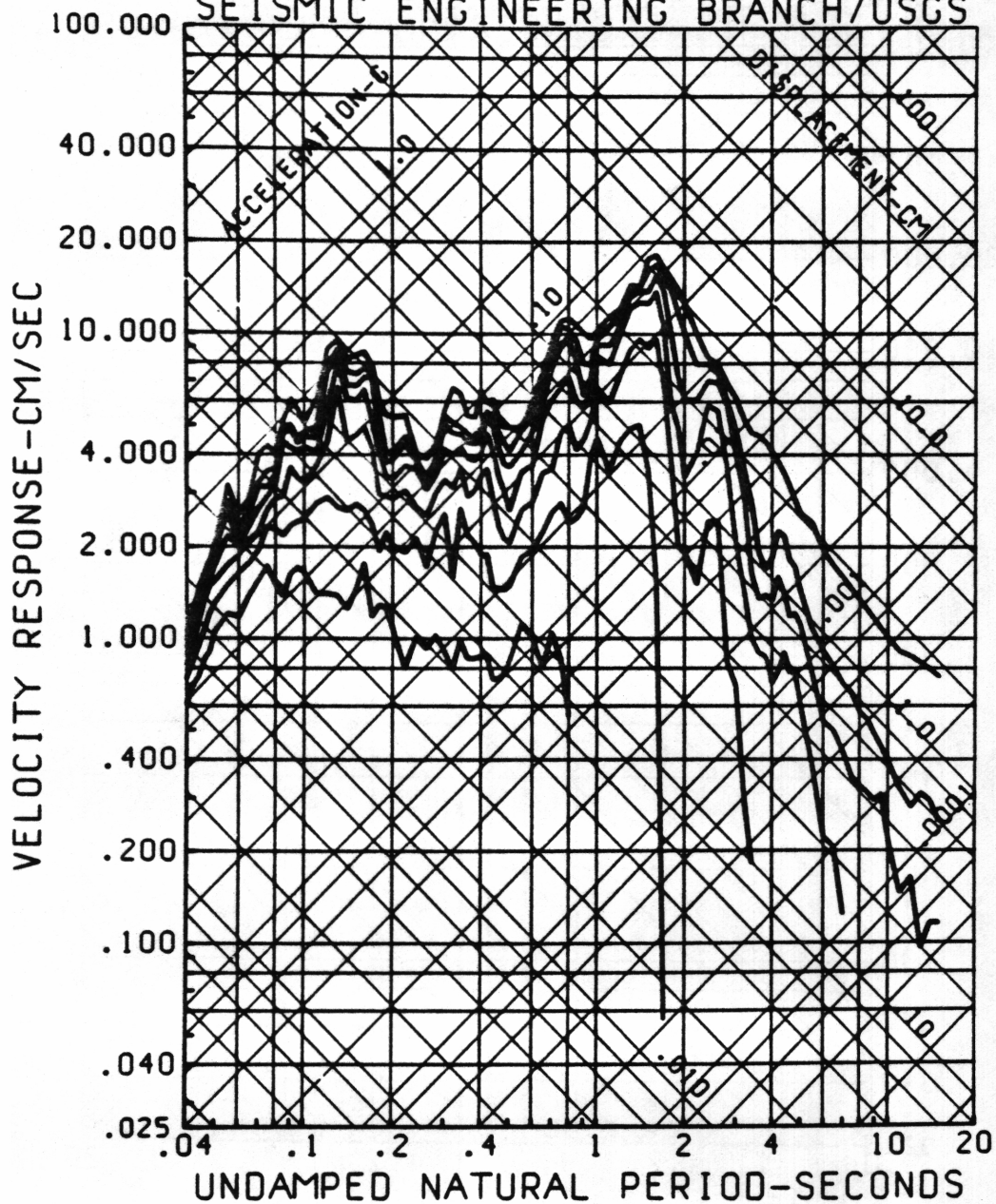
SPECTRA OF AMPLITUDES SUSTAINED
 FOR ANY GIVEN NUMBER OF CYCLES
 GILROY ARRAY NO. 3.08/06/79.140 DEGREES
 5 PERCENT CRITICAL DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS



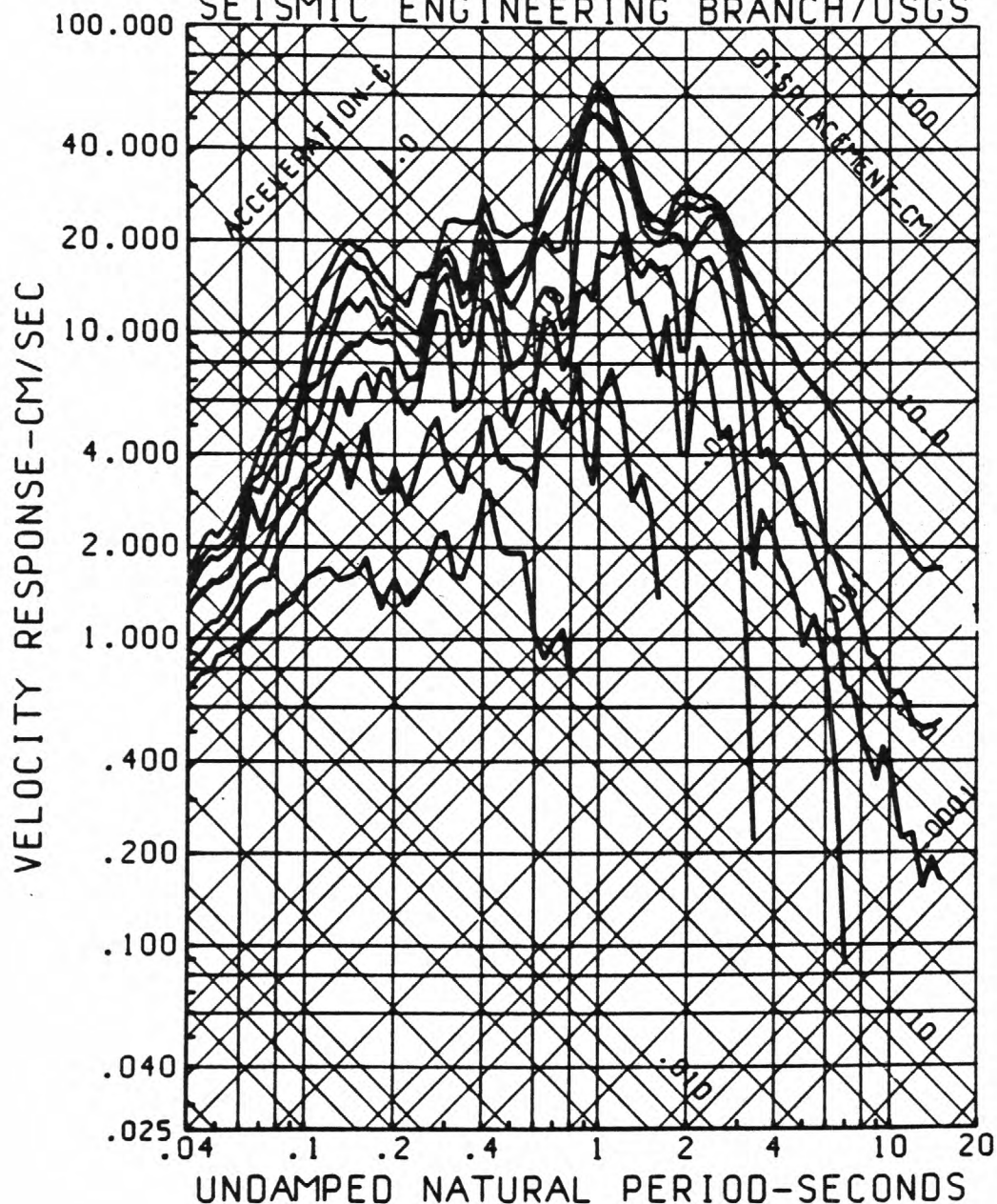
SPECTRA OF AMPLITUDES SUSTAINED
FOR ANY GIVEN NUMBER OF CYCLES
GILROY ARRAY NO. 3.08/06/79, UP
5 PERCENT CRITICAL DAMPING

BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ

SEISMIC ENGINEERING BRANCH/USGS



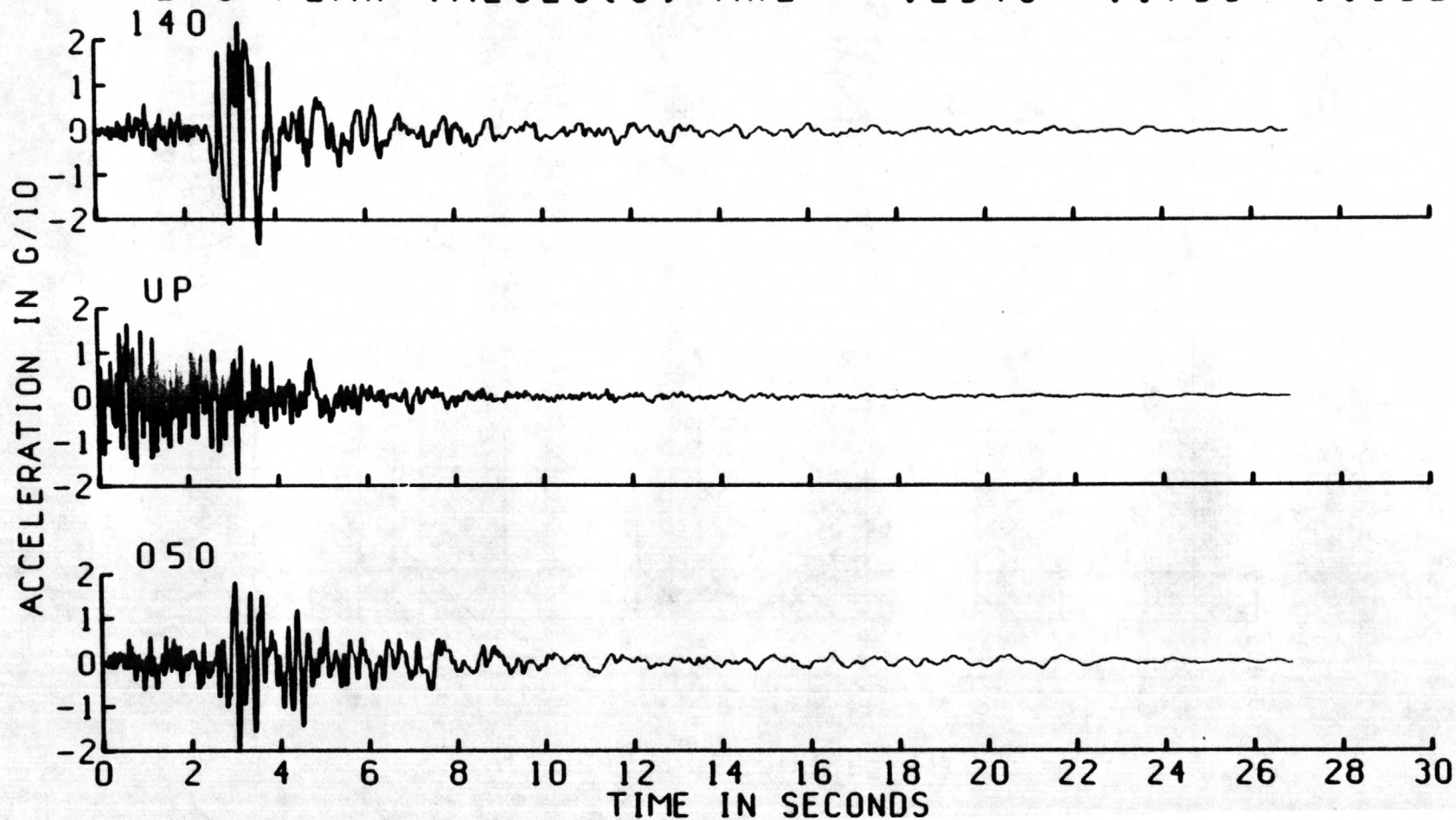
SPECTRA OF AMPLITUDES SUSTAINED
 FOR ANY GIVEN NUMBER OF CYCLES
 GILROY ARRAY NO. 3,08/06/79.050 DEGREES
 5 PERCENT CRITICAL DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS



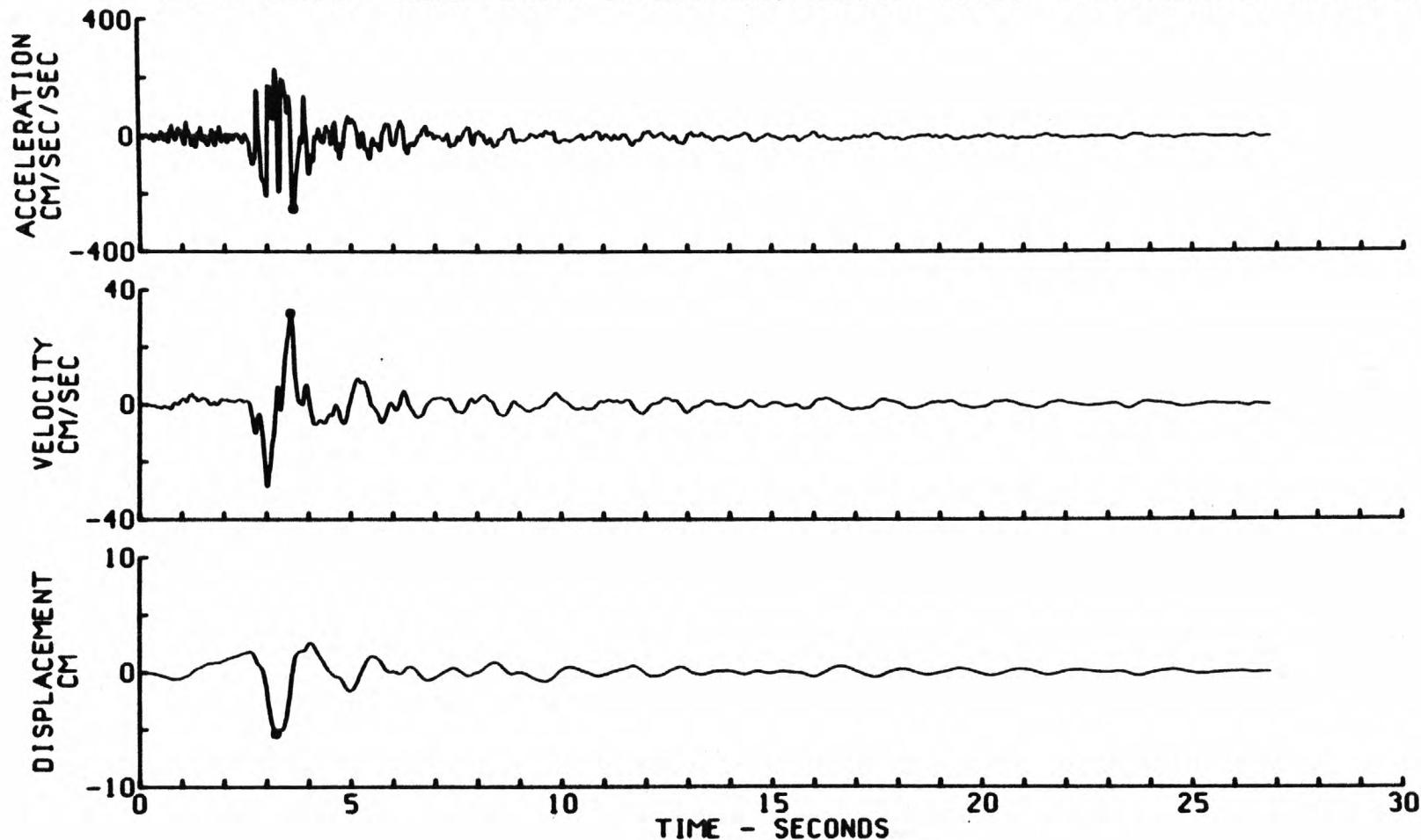
UNCORRECTED ACCELEROGRAM

GILROY ARRAY NO. 2.08/06/79-1705

THE 3 PEAK VALUES(G) ARE .2549 .1758 .1952



CORRECTED ACCELERATION, VELOCITY, DISPLACEMENT
COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705
GILROY ARRAY NO. 2, MISSION TRAILS MOTEL, 140 DEGREES
DATA IS PLOTTED AT EQUAL TIME INCREMENTS OF .01000 SEC
ACCELEROGRAM IS BAND PASSED, WITH RAMPS OF .050 - .250 AND 23.00 - 25.00 CYC/SEC
• PEAK VALUES ACCEL=-248.9 CM/SEC/SEC, VELOCITY=31.88 CM/SEC, DISPL=-5.340 CM



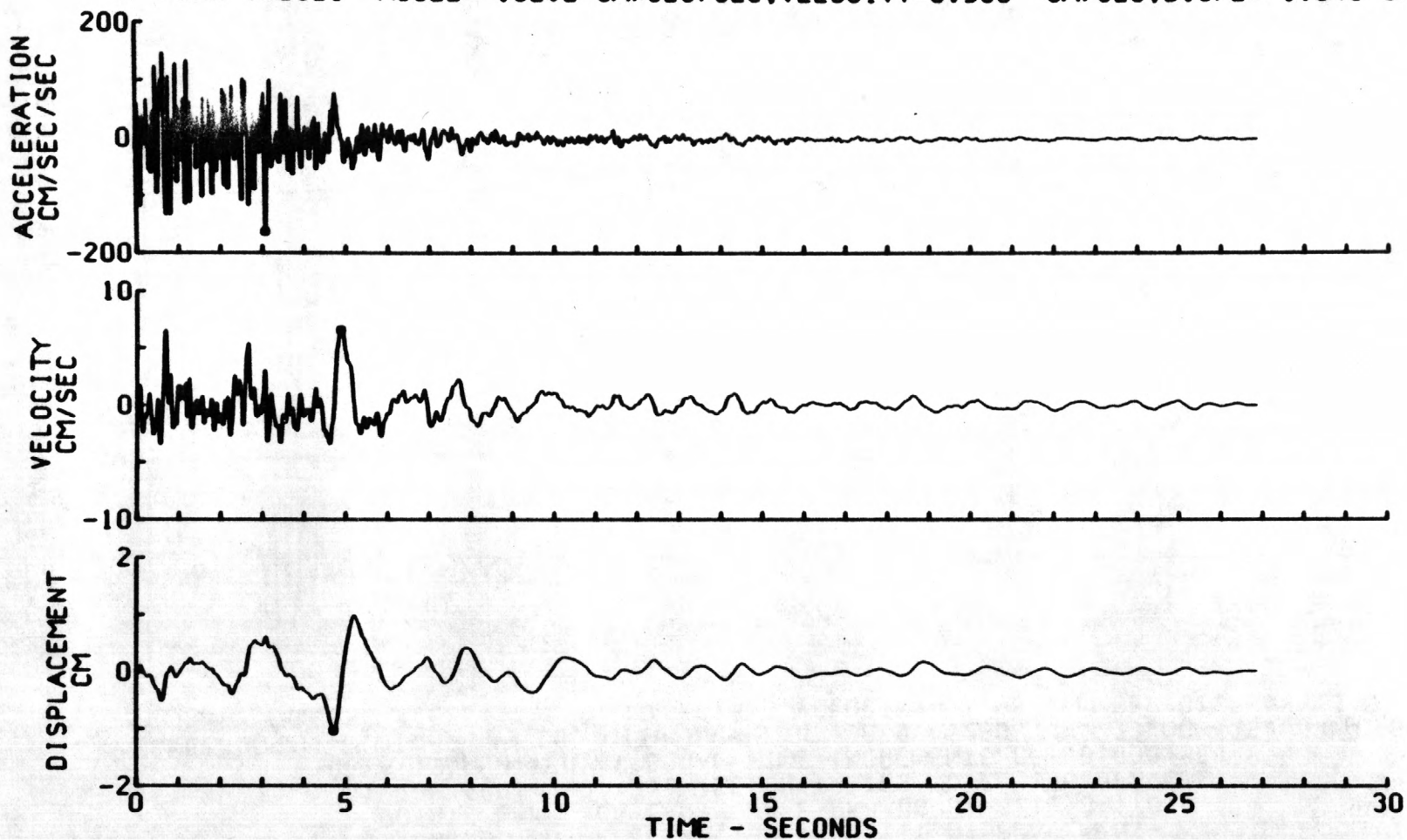
CORRECTED ACCELERATION, VELOCITY, DISPLACEMENT
COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705

GILROY ARRAY NO. 2. MISSION TRAILS MOTEL, UP

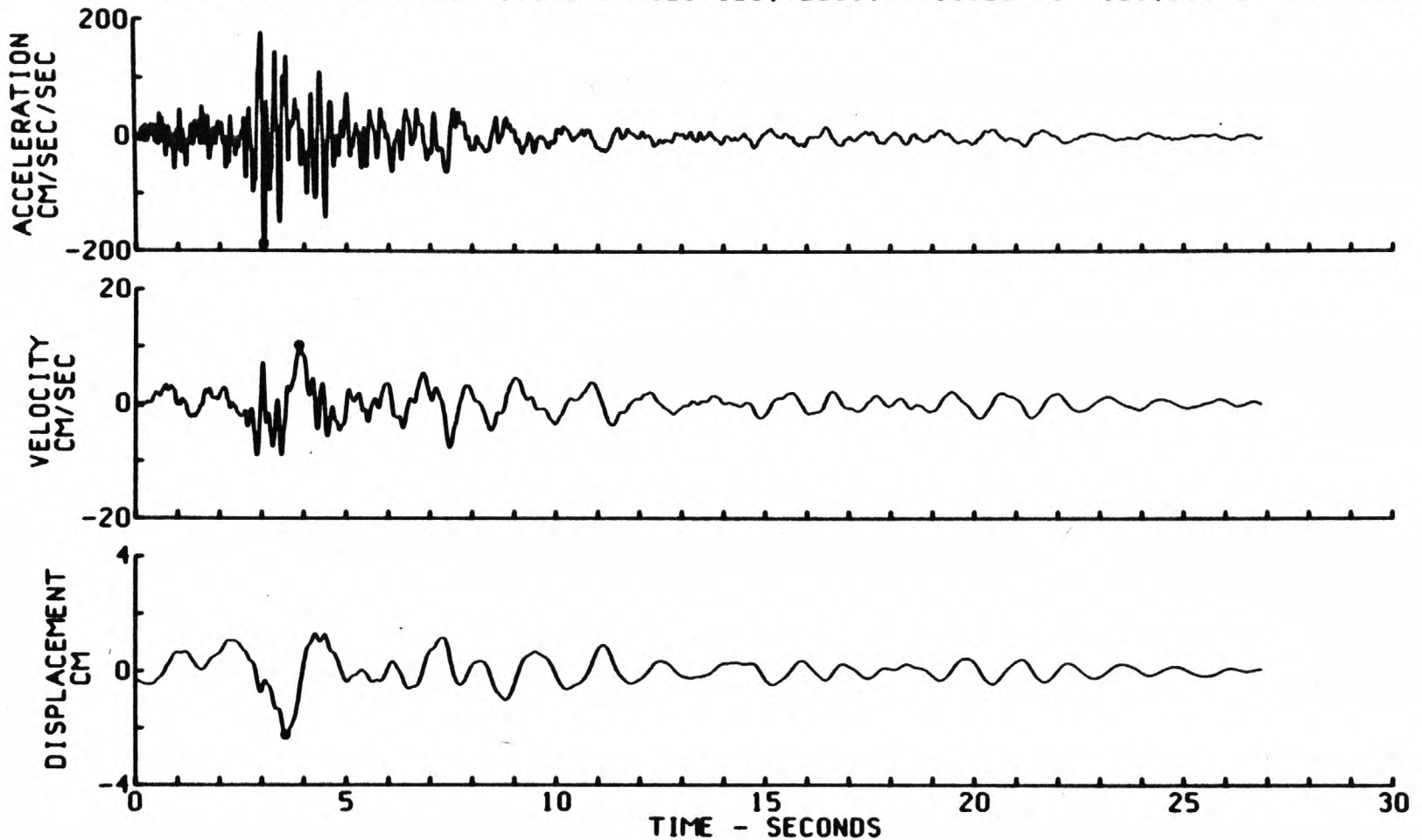
DATA IS PLOTTED AT EQUAL TIME INCREMENTS OF .01000 SEC

ACCELEROGRAM IS BAND PASSED, WITH RAMPS OF .050 - .250 AND 23.00 - 25.00 CYC/SEC

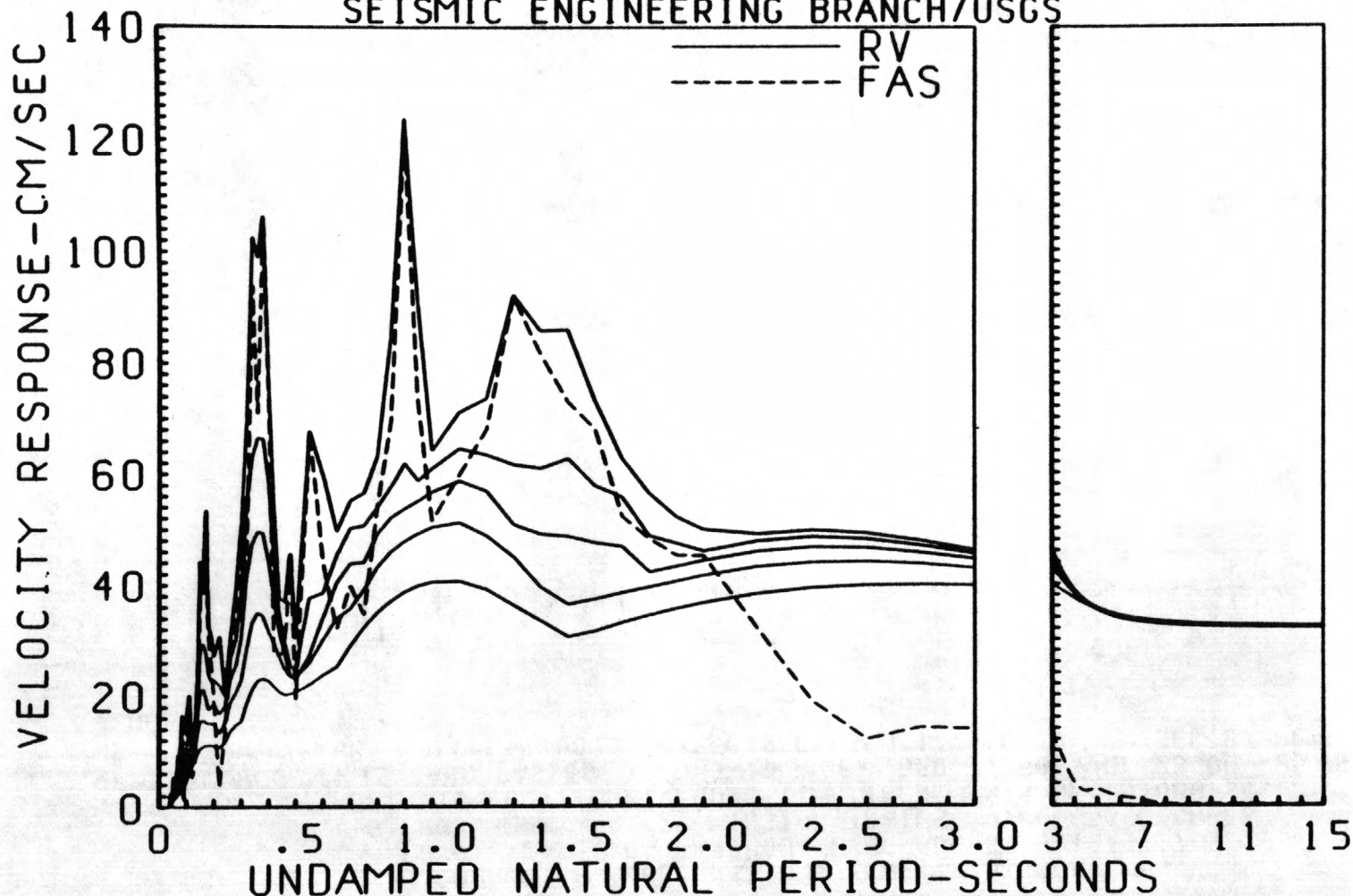
• PEAK VALUES ACCEL=-162.2 CM/SEC/SEC, VELOCITY=6.590 CM/SEC, DISPL=-1.040 CM



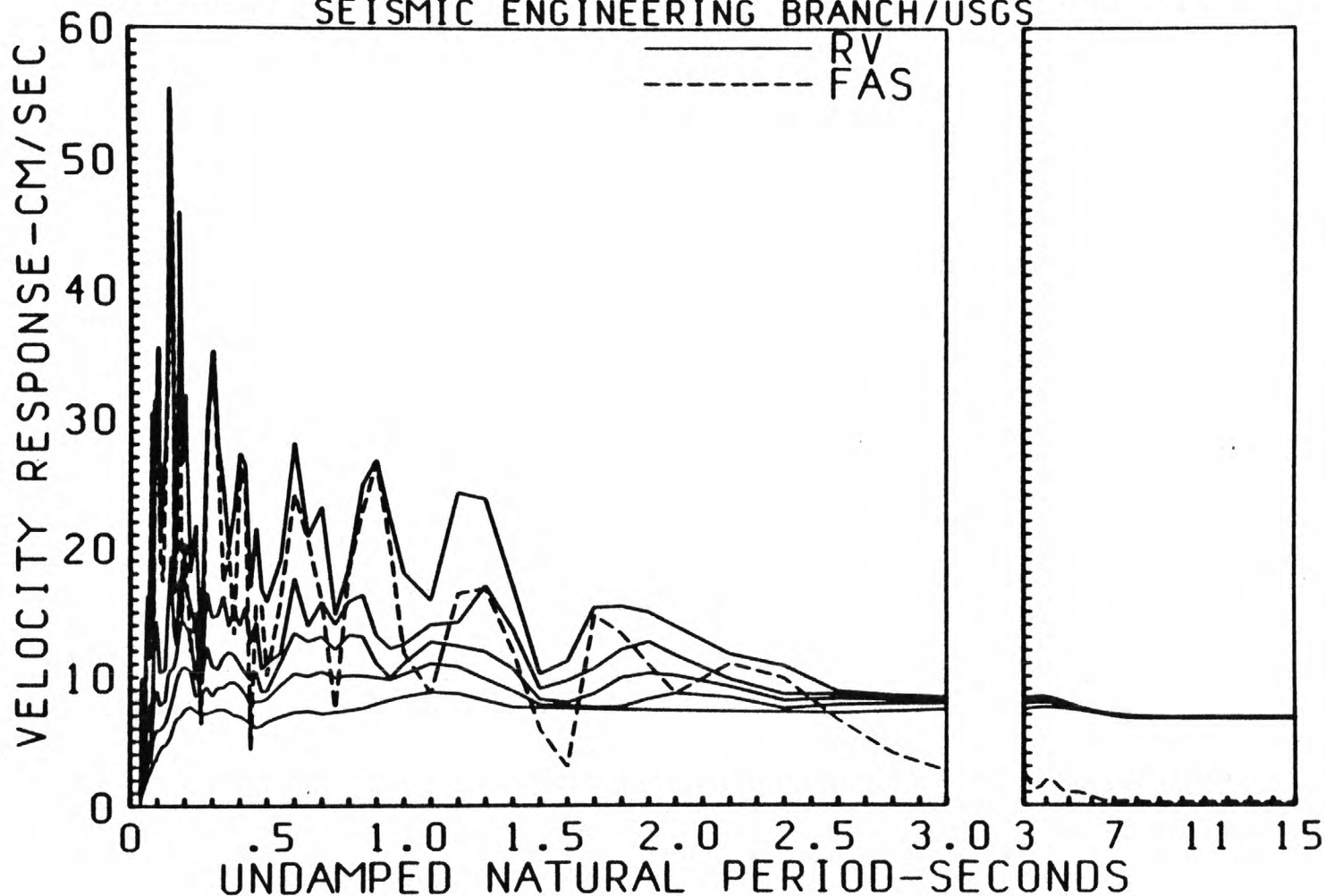
CORRECTED ACCELERATION, VELOCITY, DISPLACEMENT
COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705
GILROY ARRAY NO. 2, MISSION TRAILS MOTEL, 050 DEGREES
DATA IS PLOTTED AT EQUAL TIME INCREMENTS OF .01000 SEC
ACCELEROGRAM IS BAND PASSED, WITH RAMPS OF .050 - .250 AND 23.00 - 25.00 CYC/SEC
• PEAK VALUES ACCEL=-186.5 CM/SEC/SEC, VELOCITY=10.20 CM/SEC, DISPL=-2.240 CM



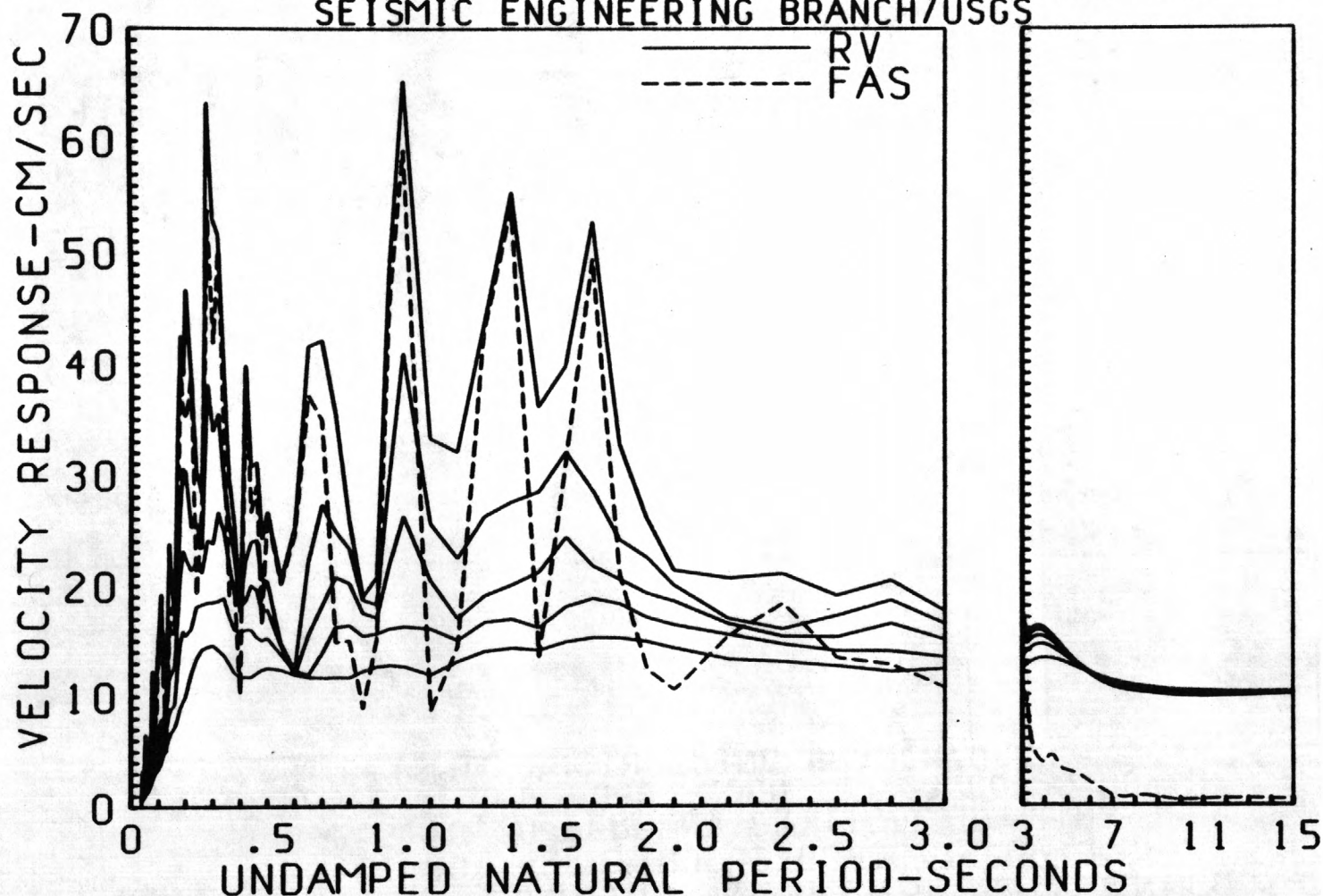
RELATIVE VELOCITY RESPONSE SPECTRUM
 GILROY ARRAY NO. 2.08/06/79.140 DEGREES
 0.2,5,10,20 PERCENT CRITICAL DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS



RELATIVE VELOCITY RESPONSE SPECTRUM
 GILROY ARRAY NO. 2.08/06/79.UP
 0.2,5,10,20 PERCENT CRITICAL DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS



RELATIVE VELOCITY RESPONSE SPECTRUM
 GILROY ARRAY NO. 2.08/06/79.050 DEGREES
 0.2,5,10,20 PERCENT CRITICAL DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS

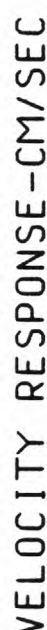


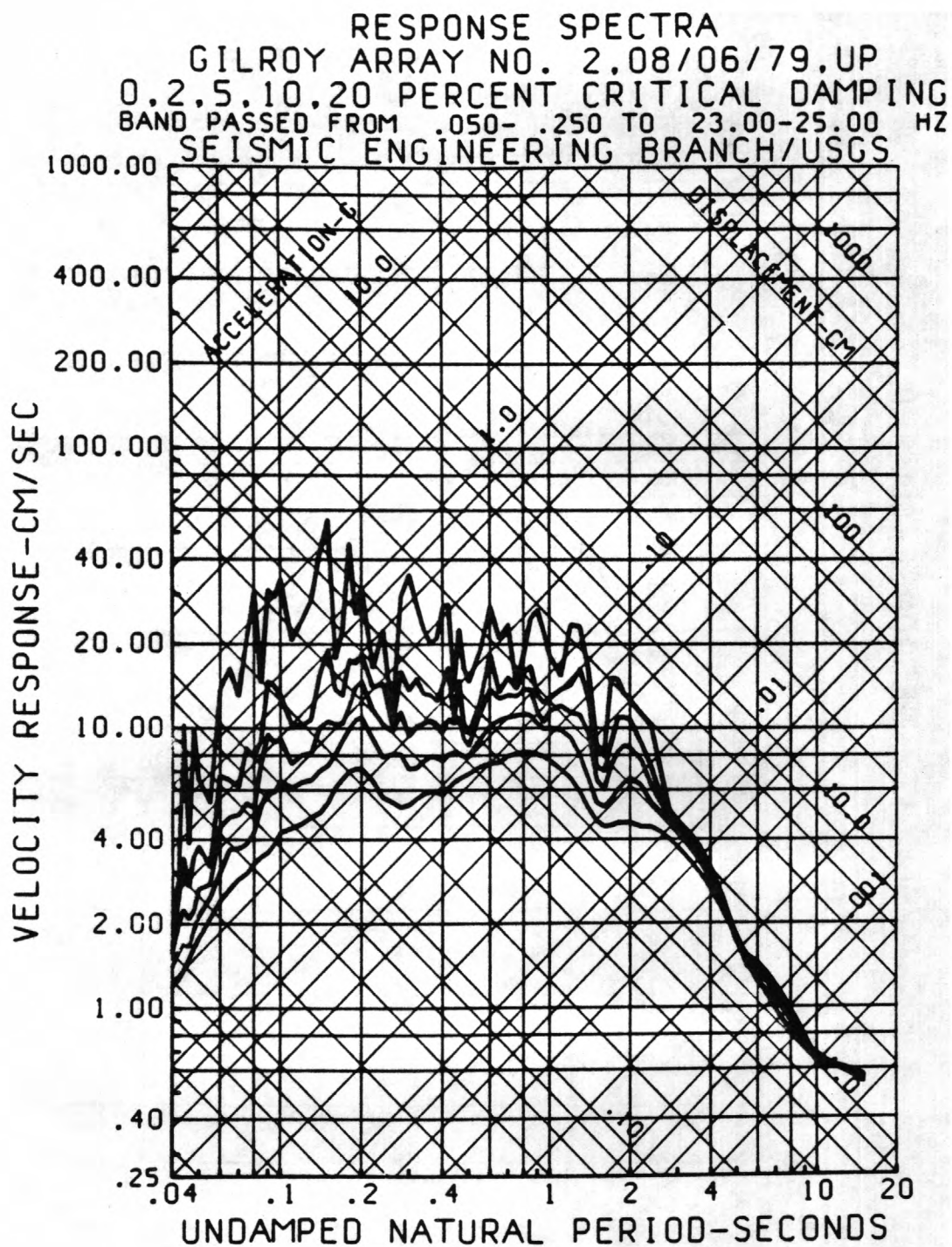
RESPONSE SPECTRA
GILROY ARRAY NO. 2,08/06/79,140 DEGREES

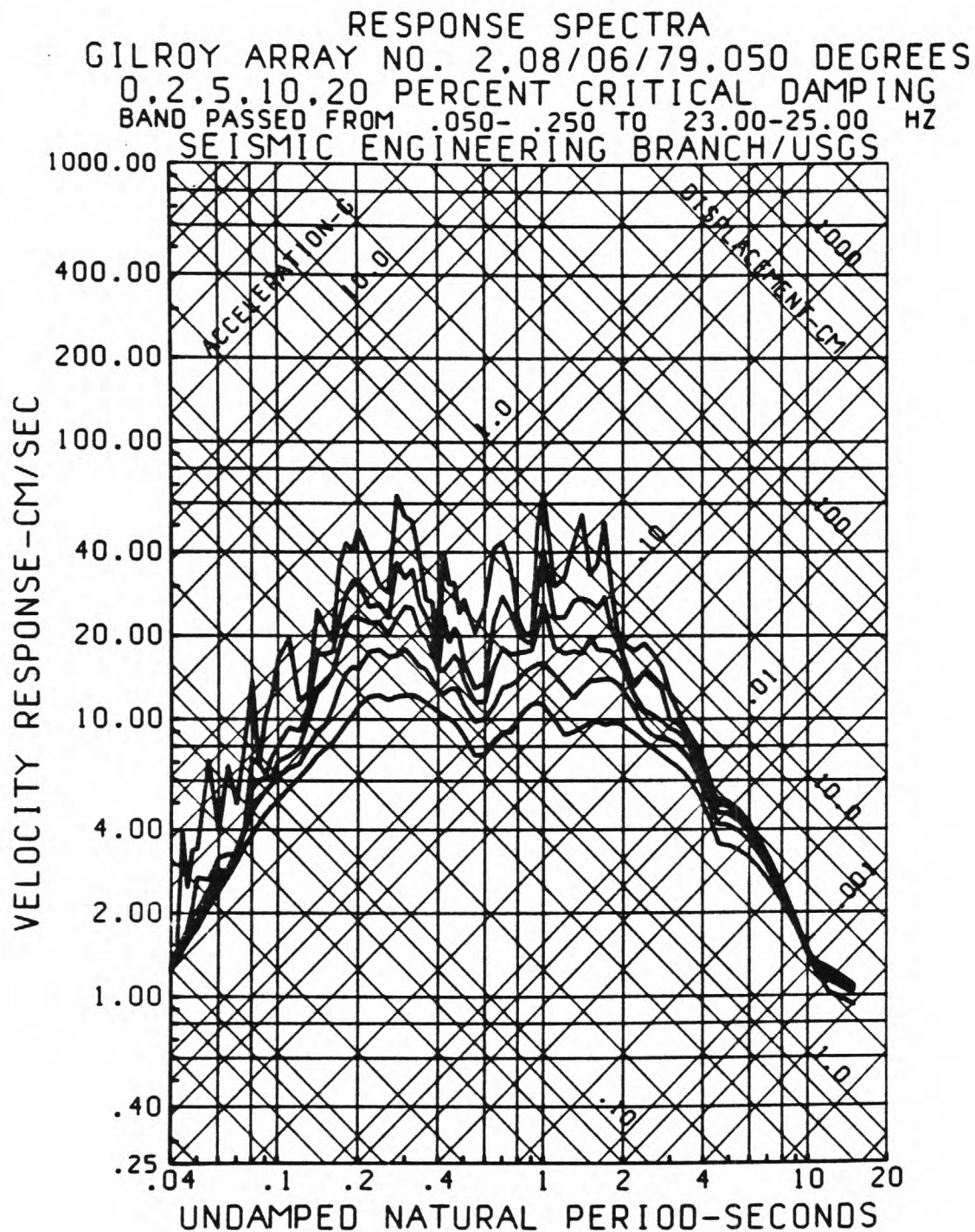
0.2, 5, 10, 20 PERCENT CRITICAL DAMPING

BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ

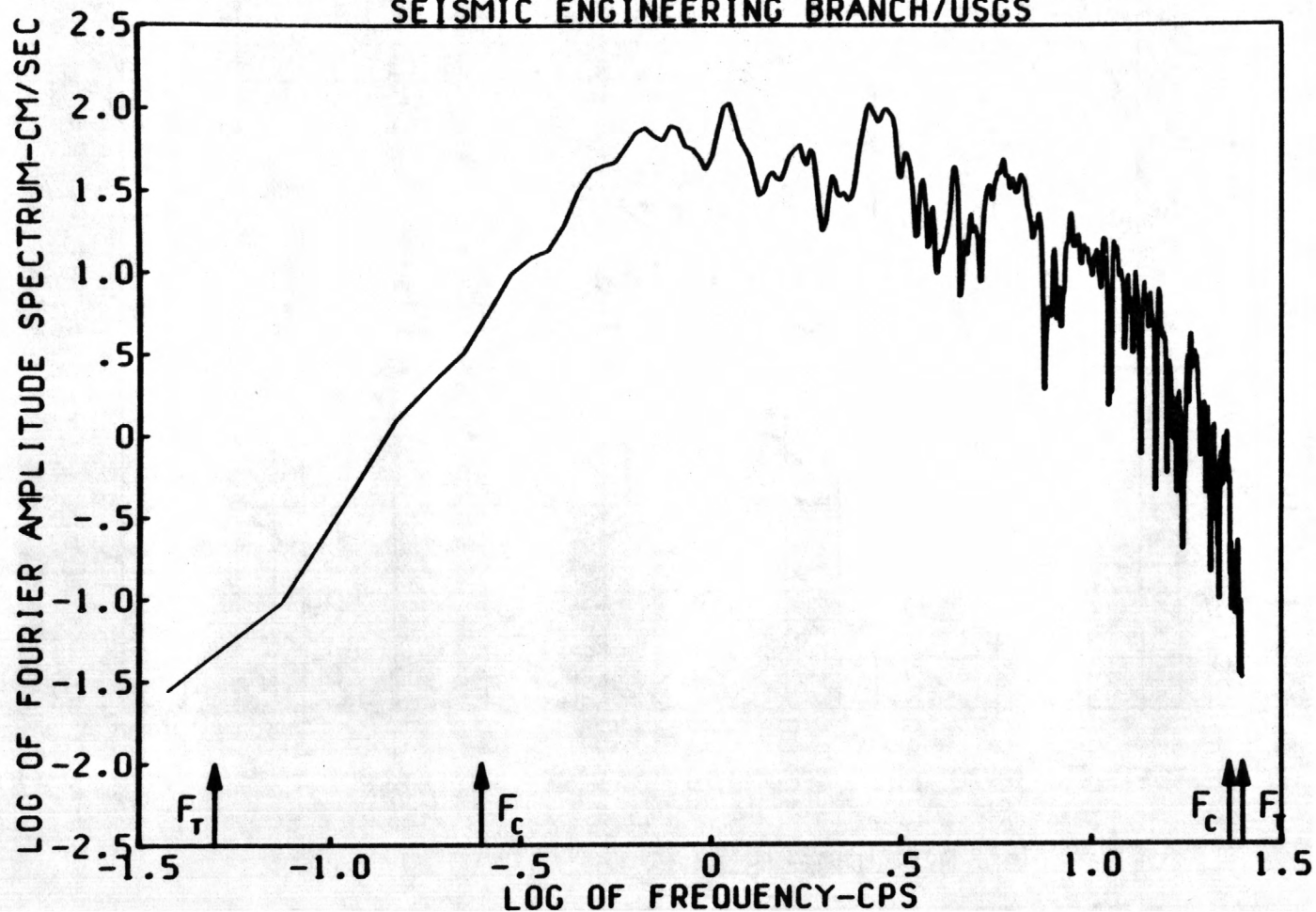
SEISMIC ENGINEERING BRANCH/USGS



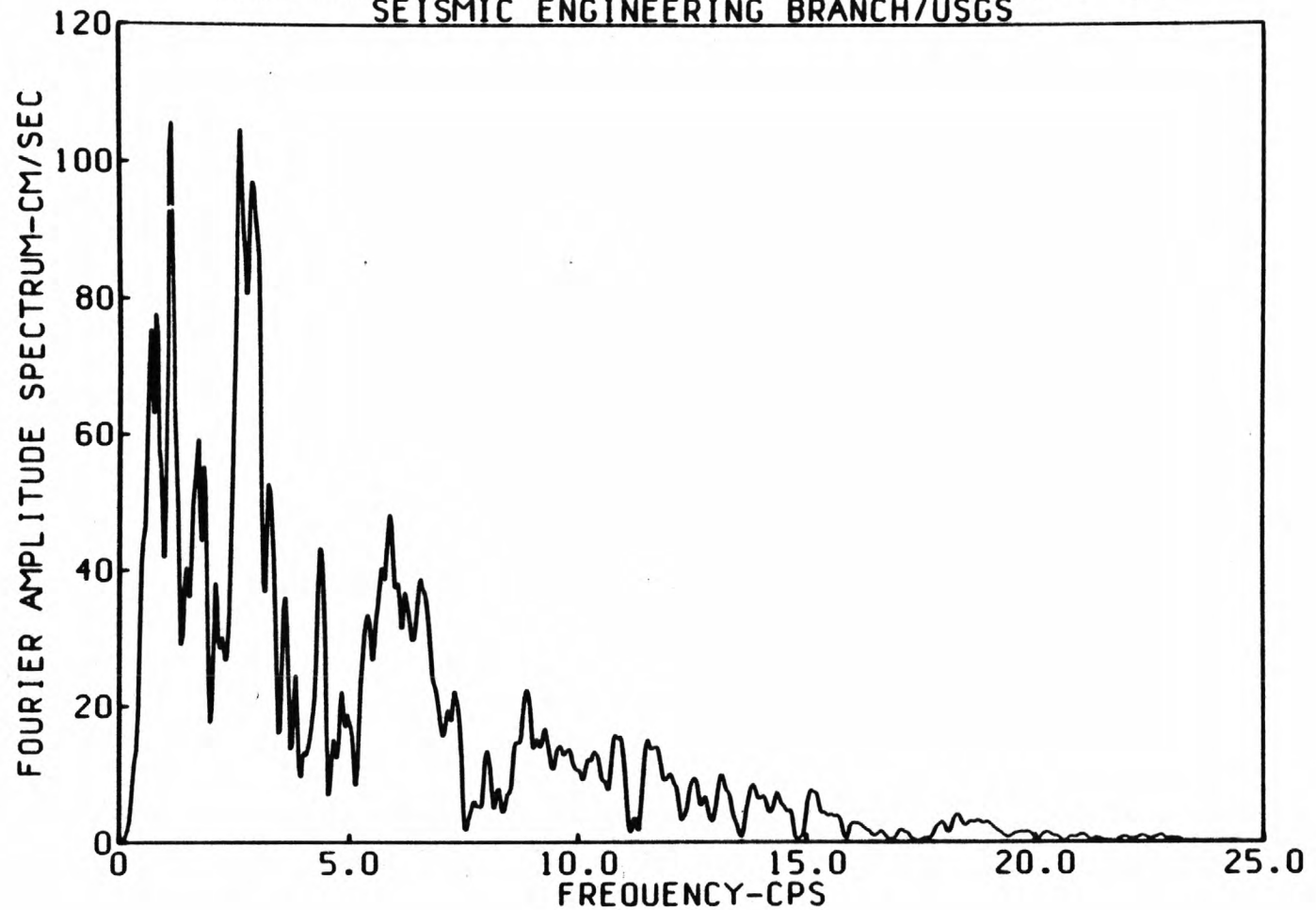




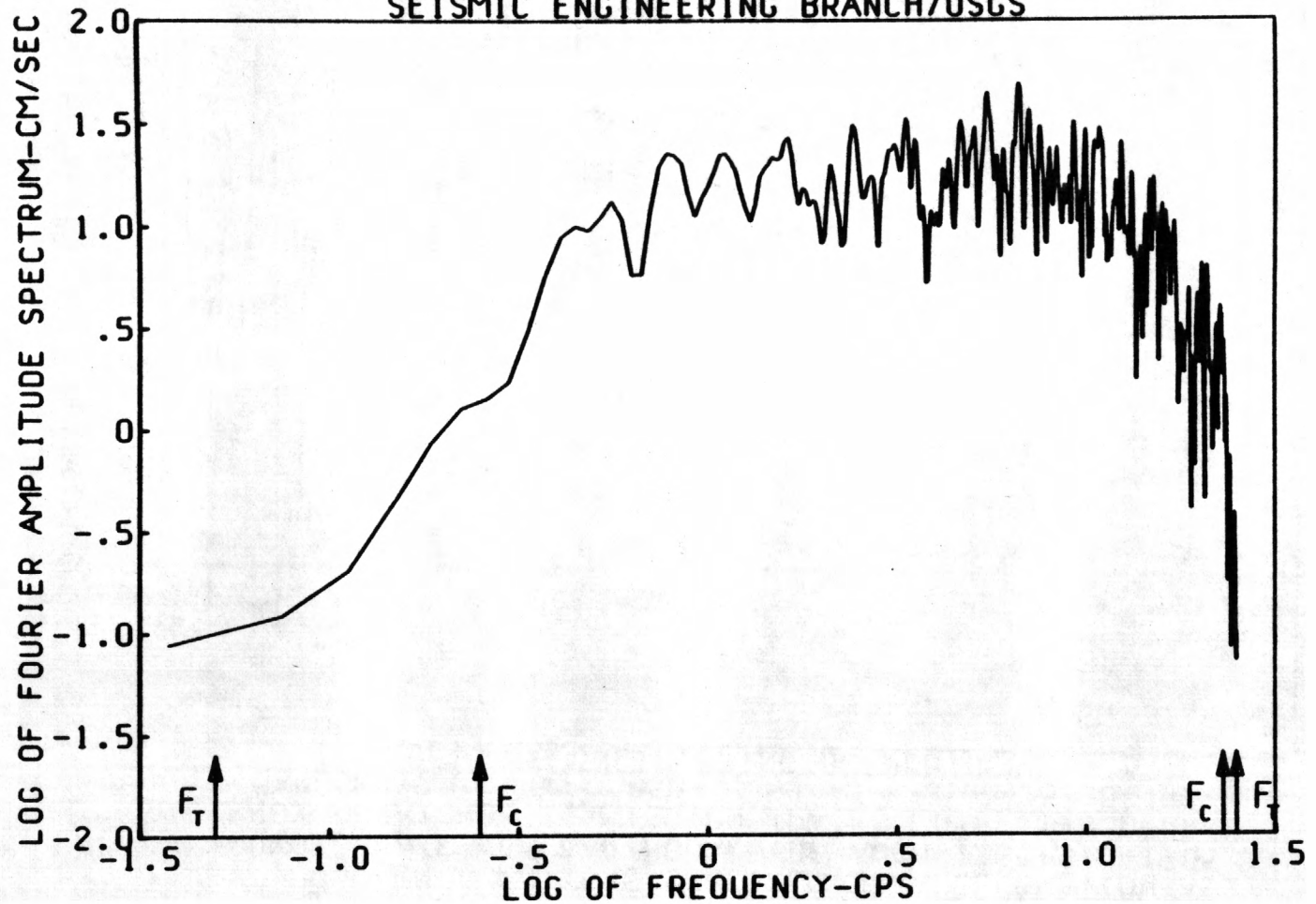
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
 COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705
 GILROY ARRAY NO. 2, MISSION TRAILS MOTEL, 140 DEGREES
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS



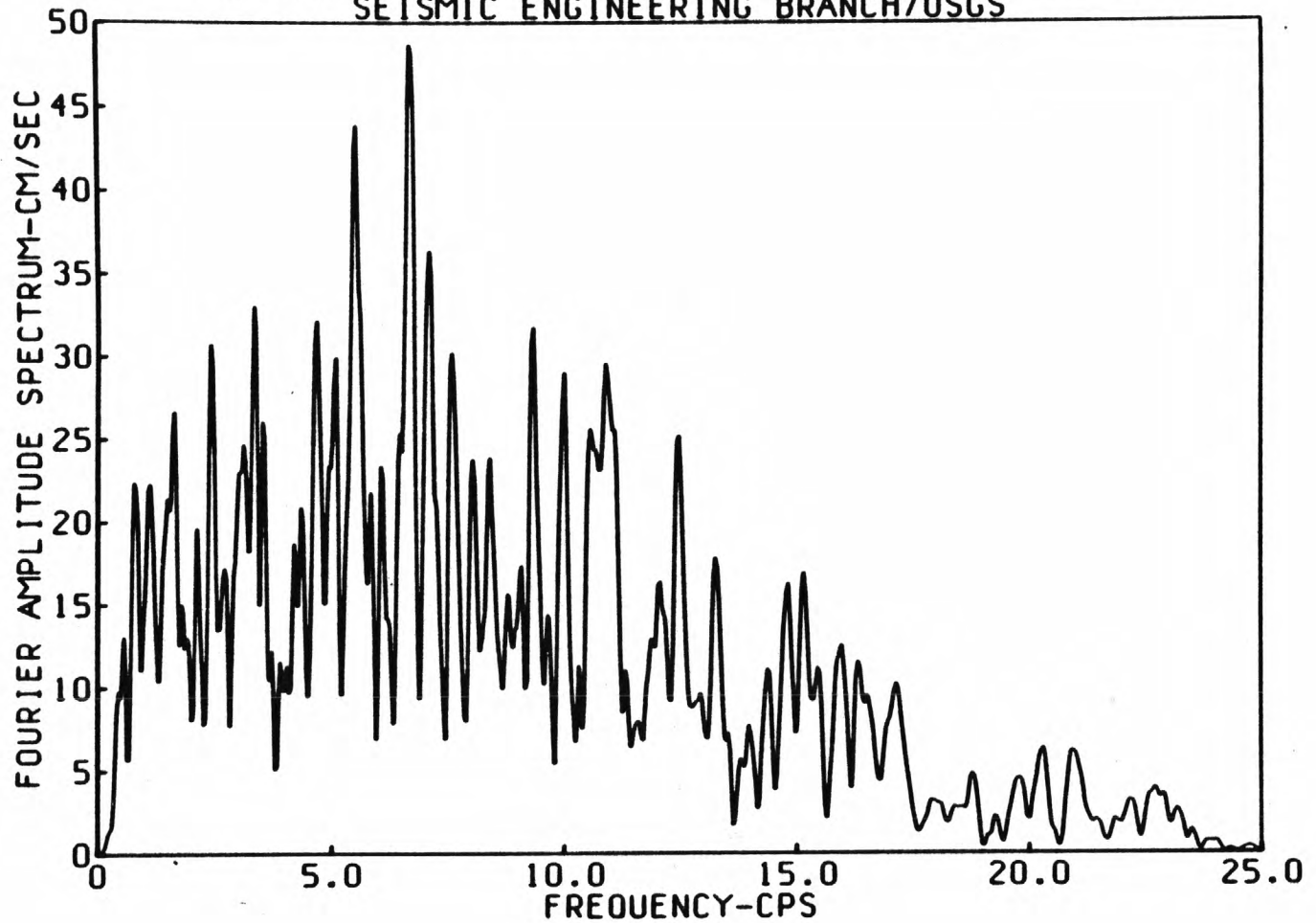
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705
GILROY ARRAY NO. 2, MISSION TRAILS MOTEL, 140 DEGREES
BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
SEISMIC ENGINEERING BRANCH/USGS



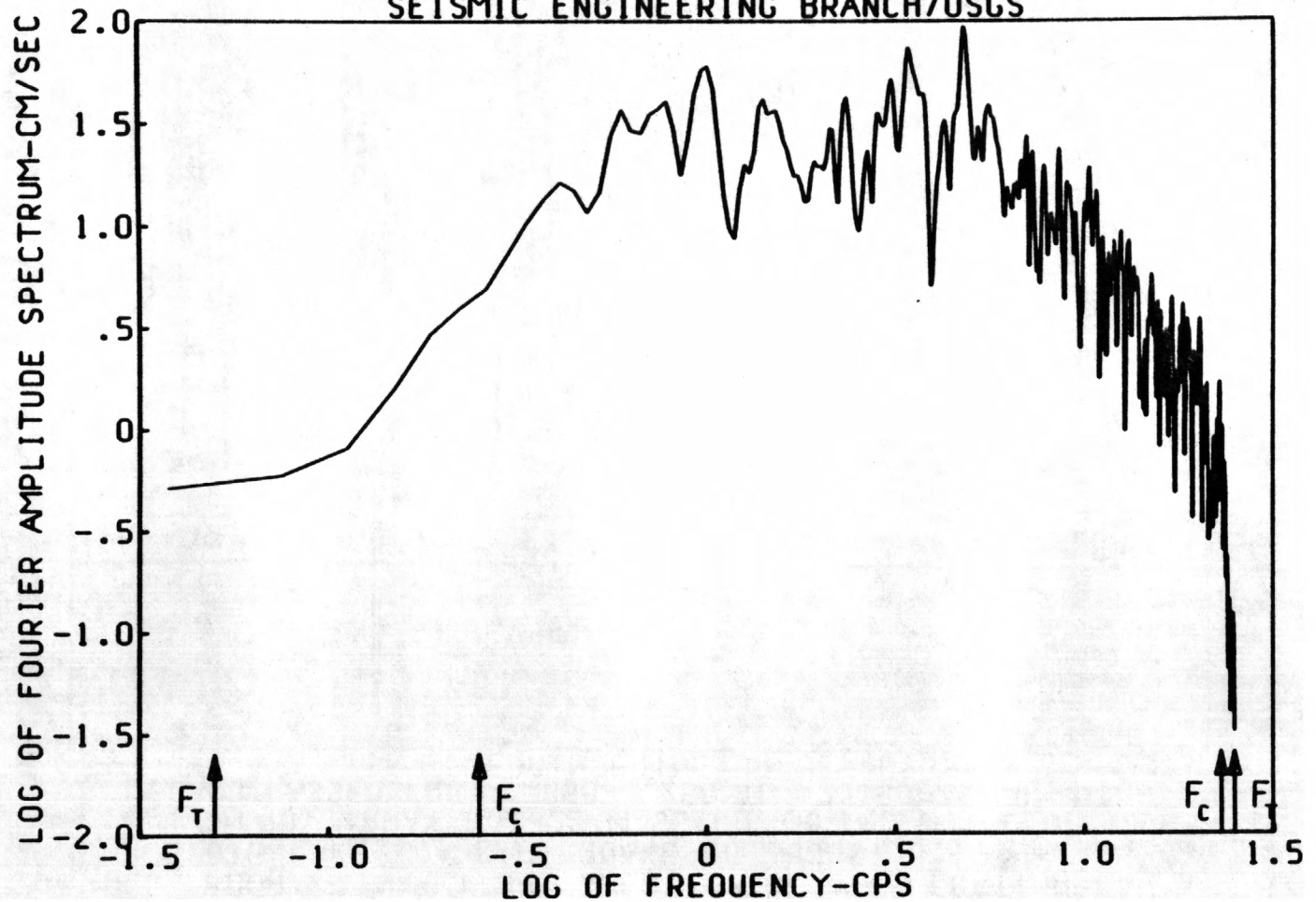
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
 COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705
 GILROY ARRAY NO. 2, MISSION TRAILS MOTEL, UP
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS



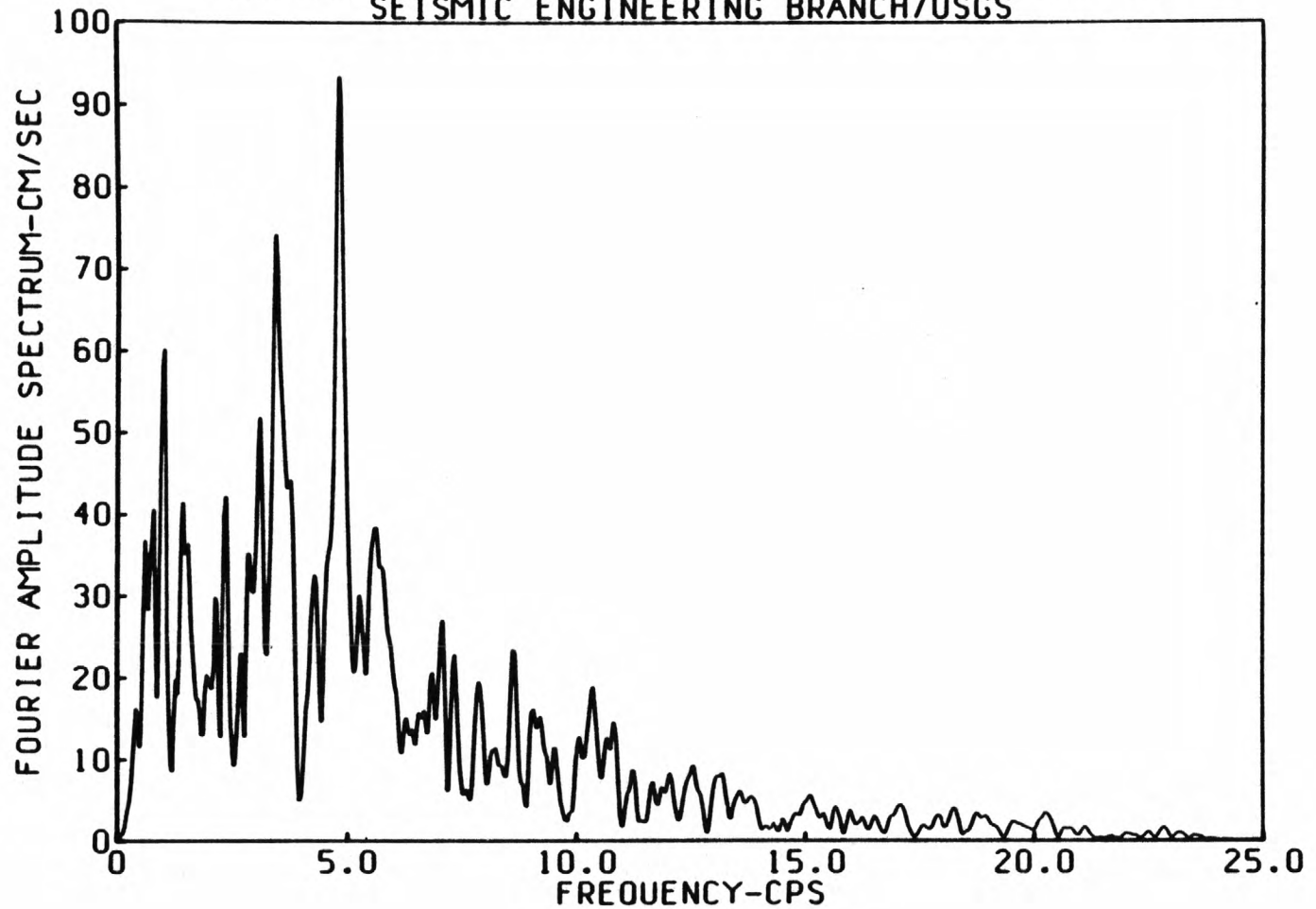
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705
GILROY ARRAY NO. 2, MISSION TRAILS MOTEL, UP
BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
SEISMIC ENGINEERING BRANCH/USGS



FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
 COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705
 GILROY ARRAY NO. 2, MISSION TRAILS MOTEL, 050 DEGREES
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS



FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705
GILROY ARRAY NO. 2, MISSION TRAILS MOTEL, 050 DEGREES
BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
SEISMIC ENGINEERING BRANCH/USGS



VELOCITY RESPONSE ENVELOPE SPECTRUM, 5 PERCENT CRITICAL DAMPING
BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ

UNITS=CM/SEC

GILROY ARRAY NO. 2.08/06/79.140 DEGREES

0-10.

10-20.

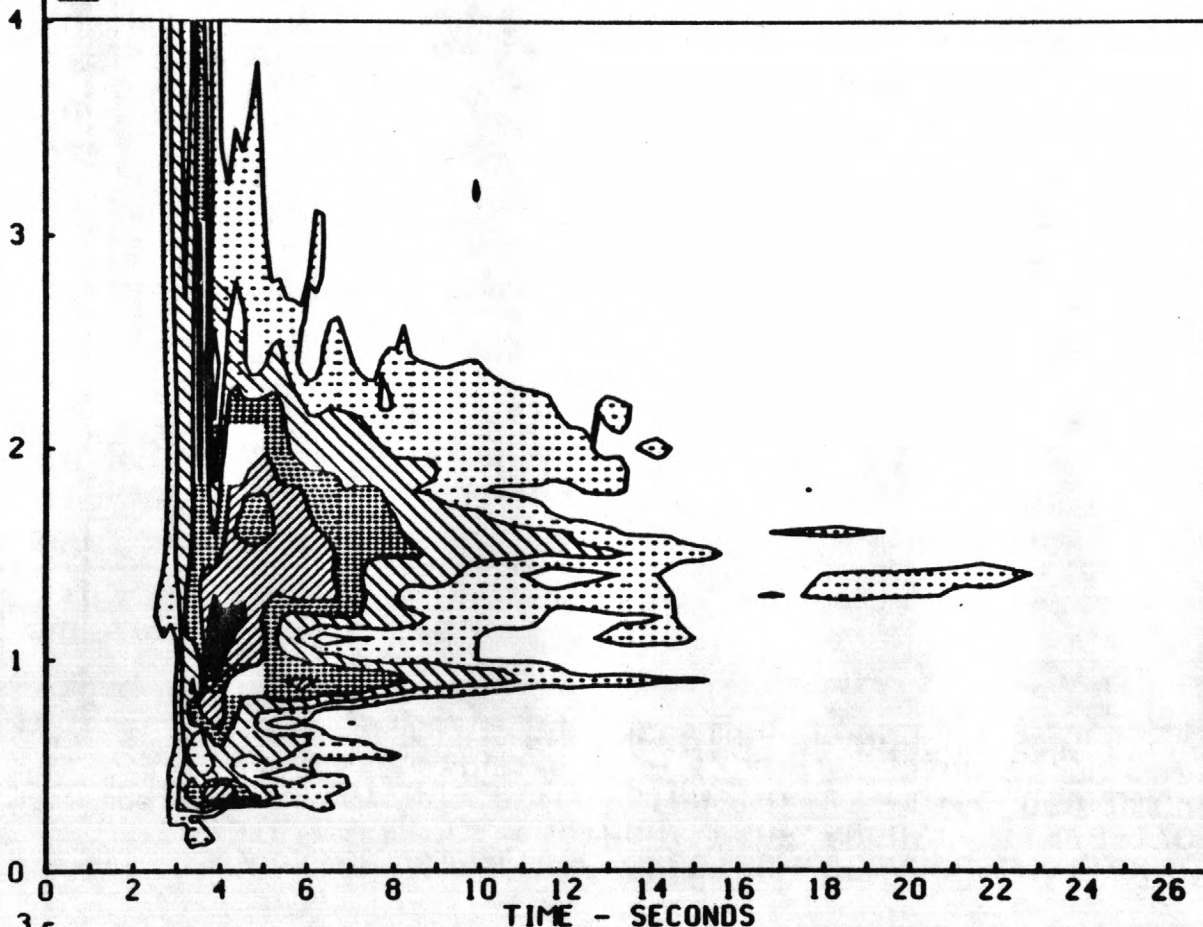
20-30.

30-40.

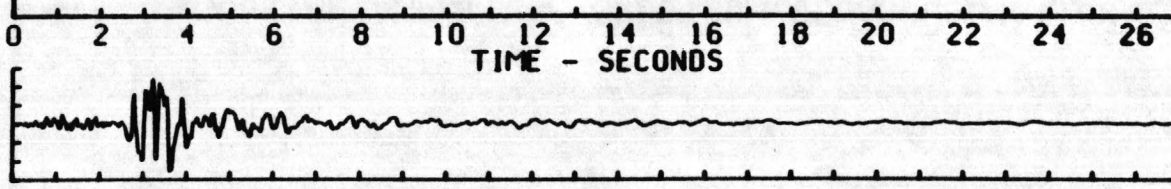
40-50.

50+

UNDAMPED NATURAL PERIOD-SECONDS

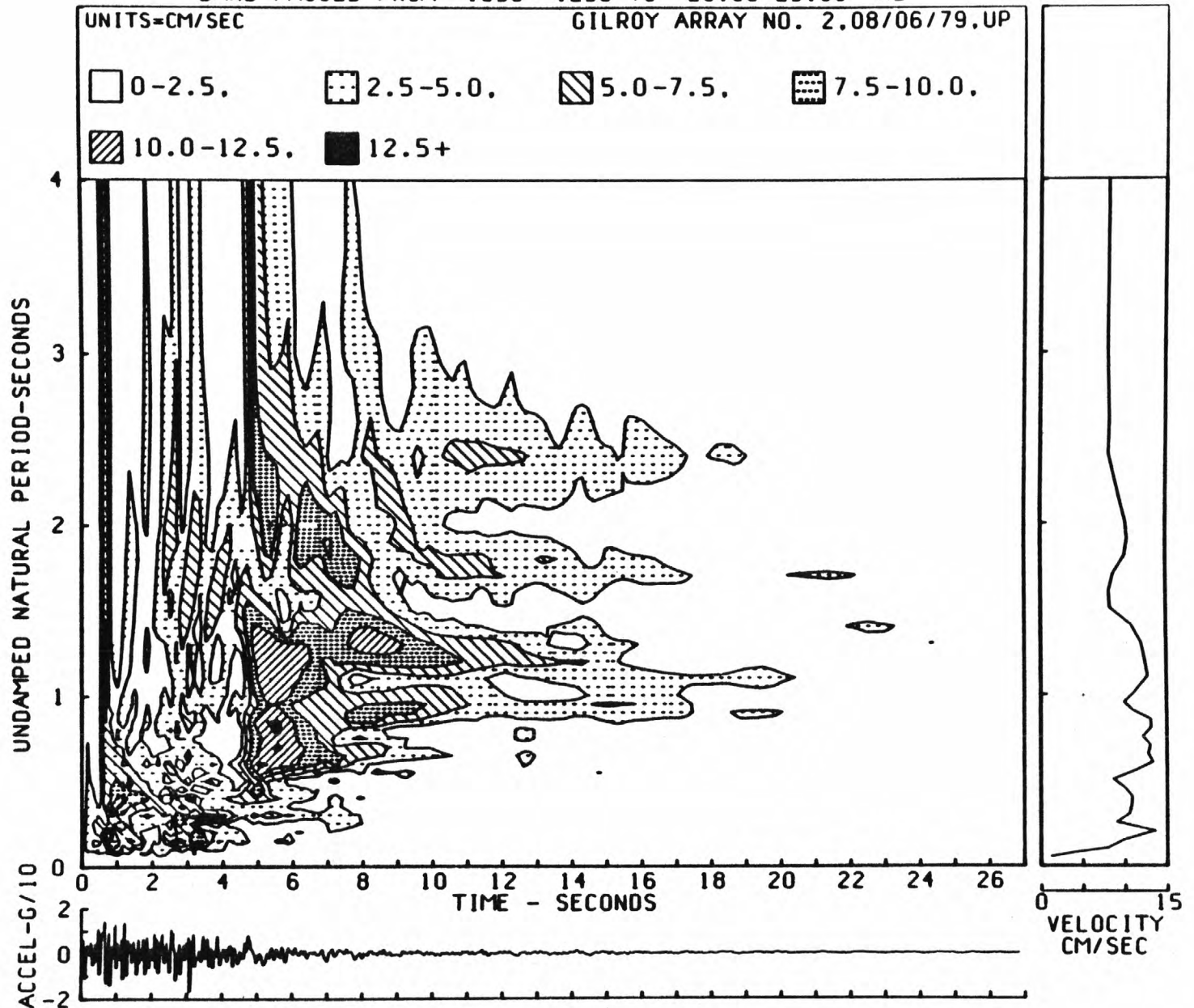


ACCEL-G/10



VELOCITY
CM/SEC

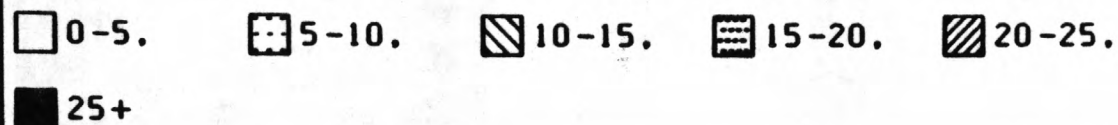
VELOCITY RESPONSE ENVELOPE SPECTRUM, 5 PERCENT CRITICAL DAMPING
BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ



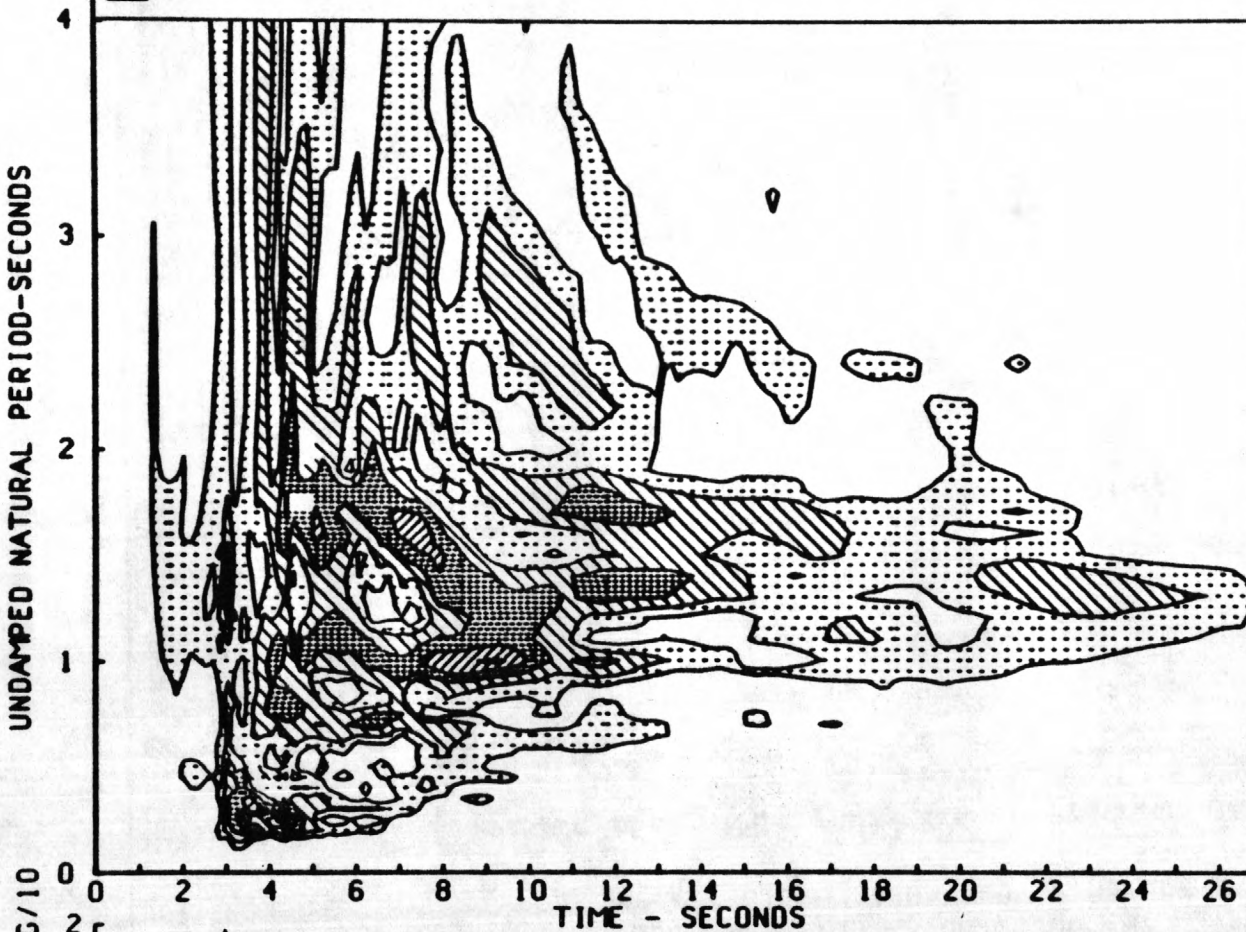
VELOCITY RESPONSE ENVELOPE SPECTRUM, 5 PERCENT CRITICAL DAMPING
BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ

UNITS-CM/SEC

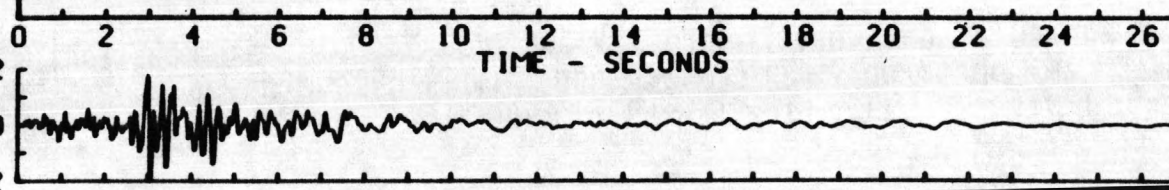
GILROY ARRAY NO. 2.08/06/79.050 DEGREES



UNDAMPED NATURAL PERIOD-SECONDS



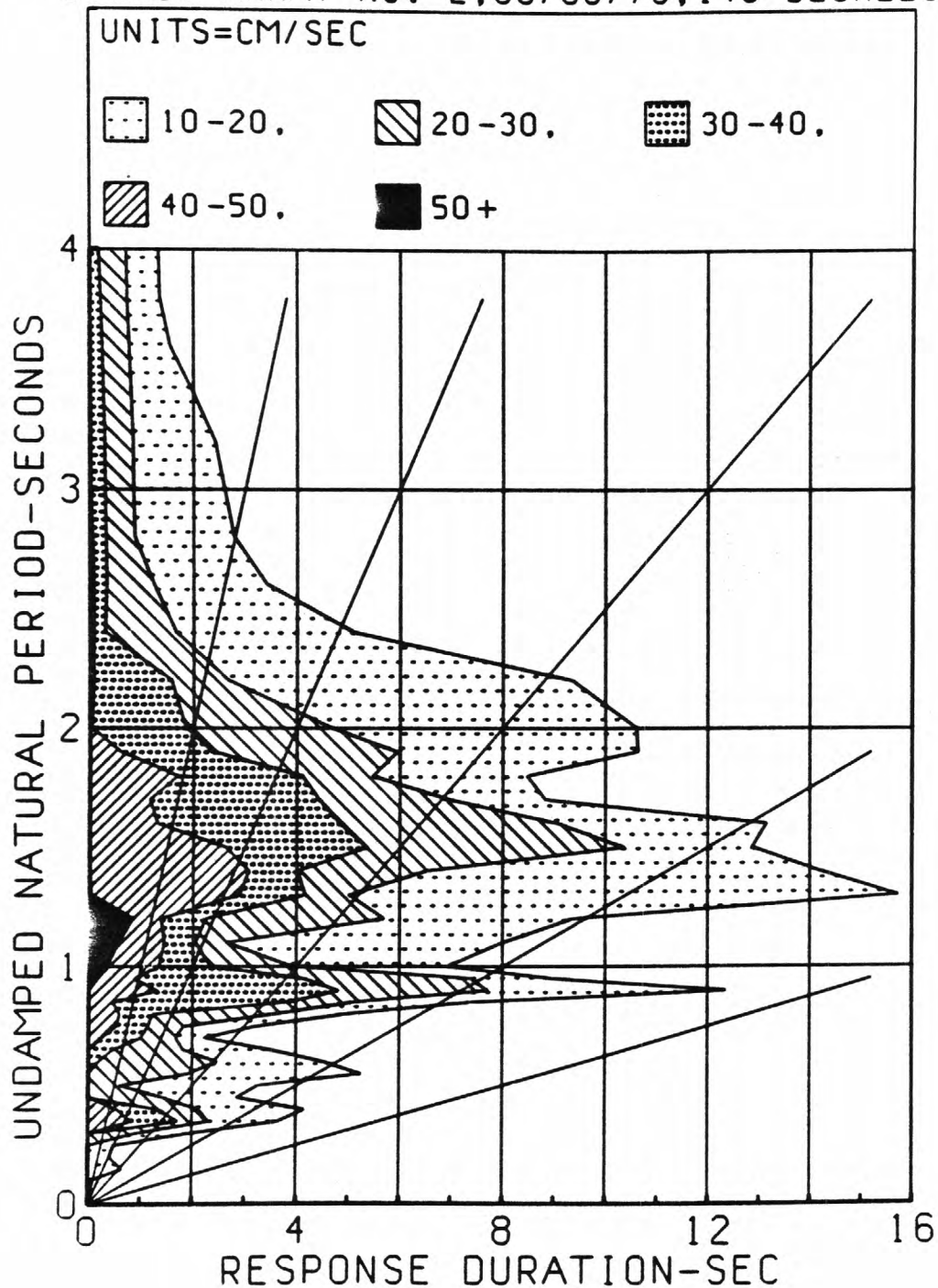
ACCEL-G/10



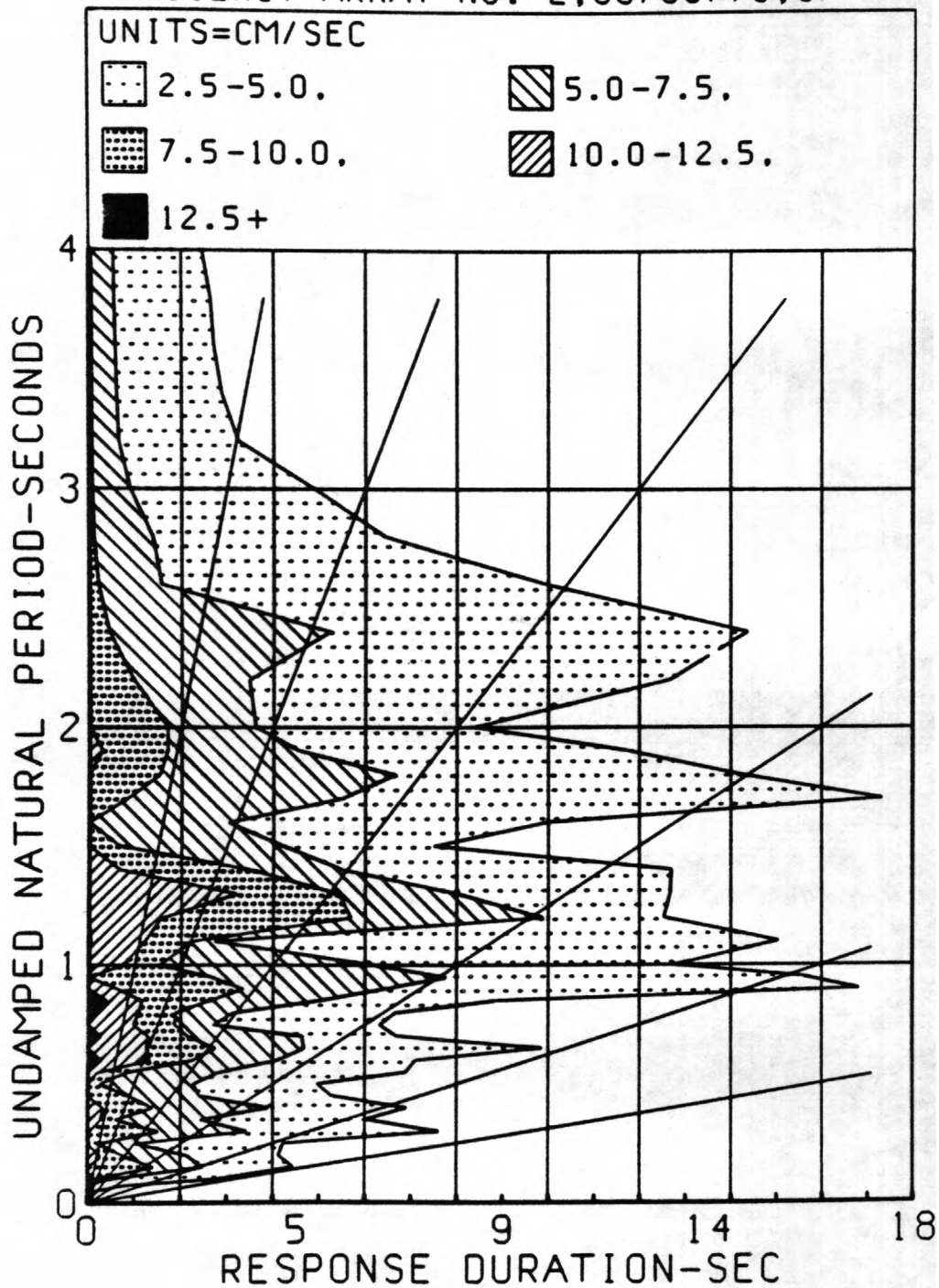
VELOCITY
CM/SEC



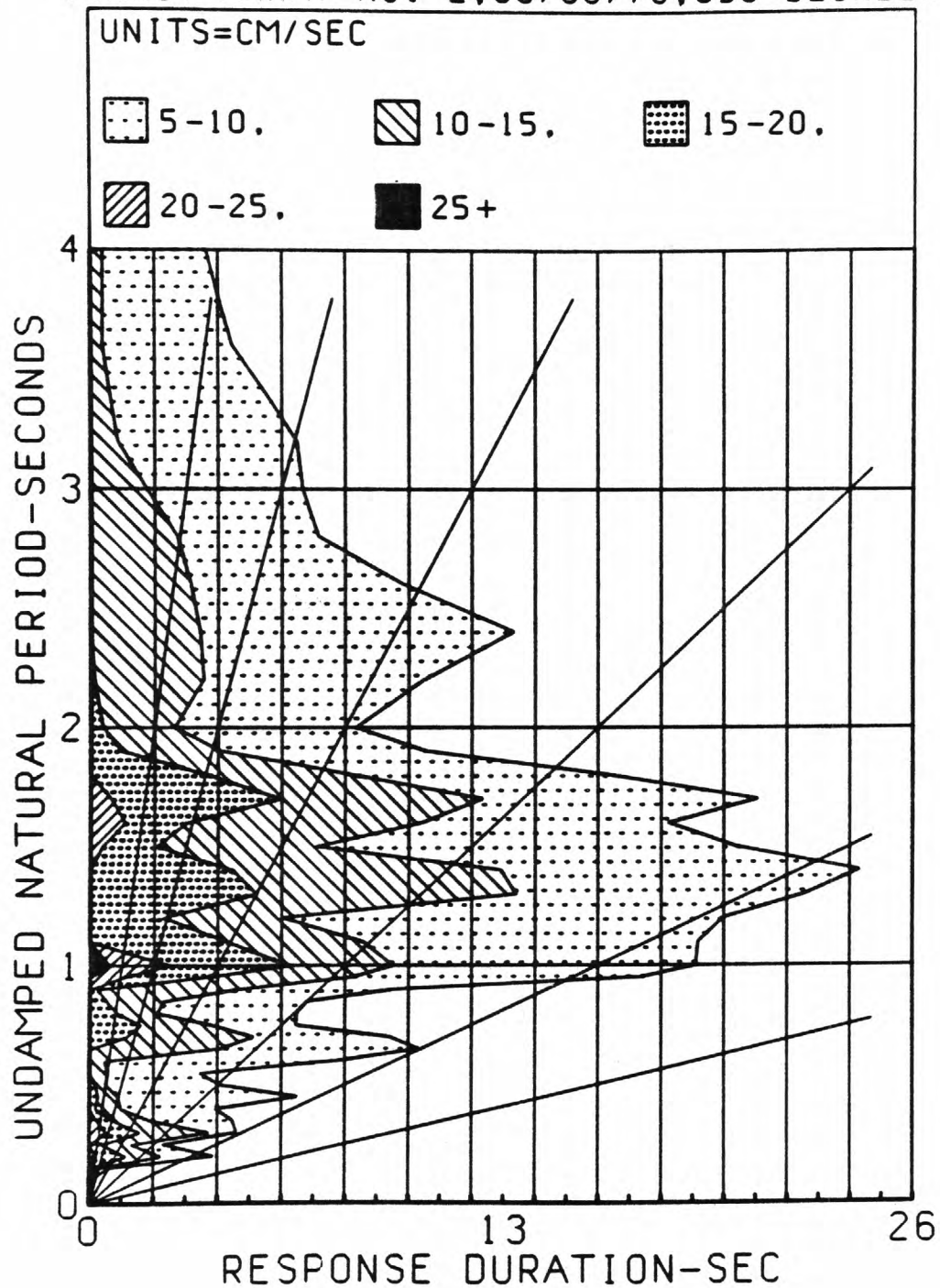
DURATION SPECTRUM OF THE VELOCITY
 RESPONSE ENVELOPE, 5 PERCENT DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 GILROY ARRAY NO. 2, 08/06/79, 140 DEGREES



DURATION SPECTRUM OF THE VELOCITY
 RESPONSE ENVELOPE, 5 PERCENT DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 GILROY ARRAY NO. 2,08/06/79,UP



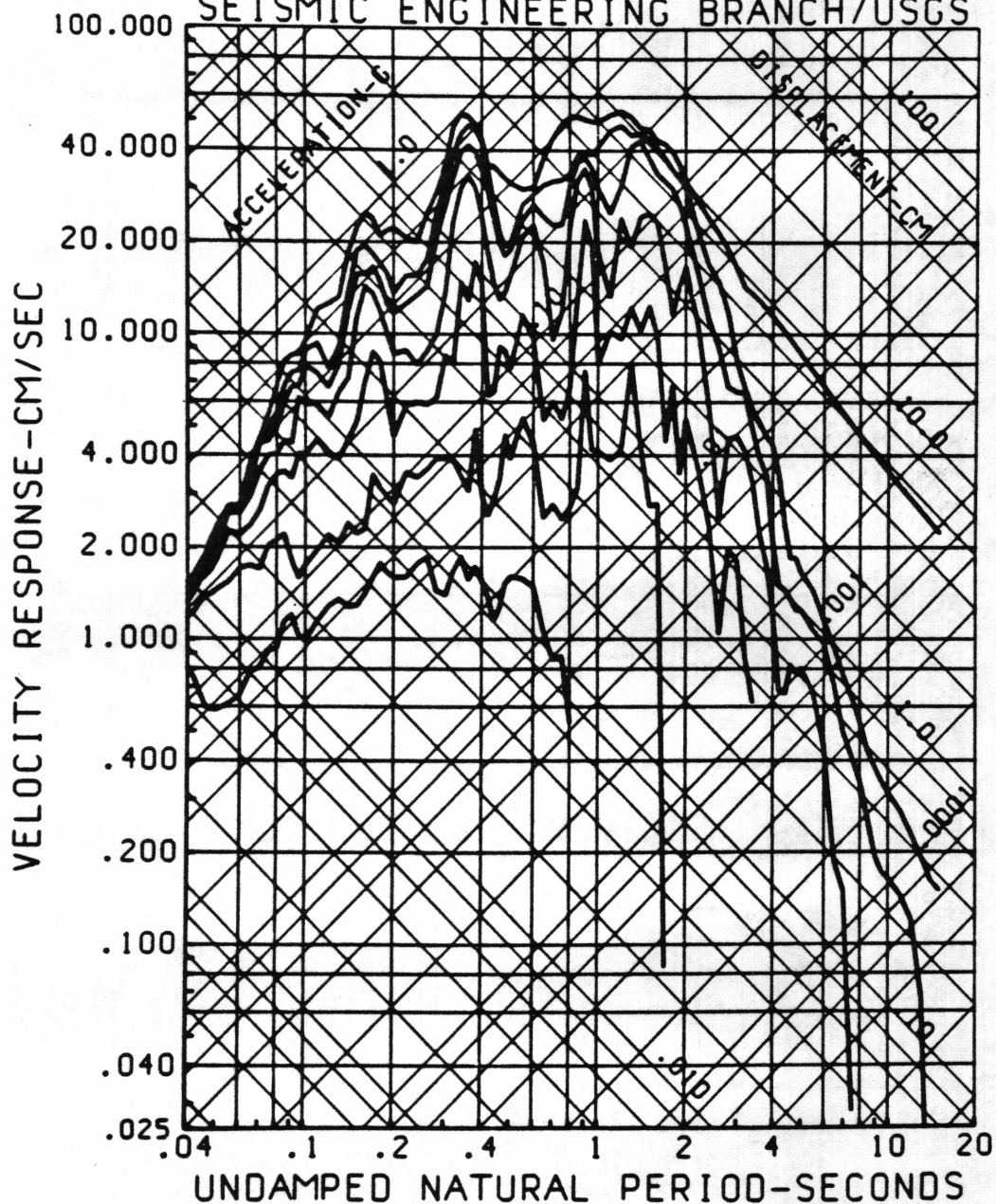
DURATION SPECTRUM OF THE VELOCITY
 RESPONSE ENVELOPE, 5 PERCENT DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 GILROY ARRAY NO. 2, 08/06/79, 050 DEGREES



SPECTRA OF AMPLITUDES SUSTAINED
FOR ANY GIVEN NUMBER OF CYCLES
GILROY ARRAY NO. 2.08/06/79.140 DEGREES
5 PERCENT CRITICAL DAMPING

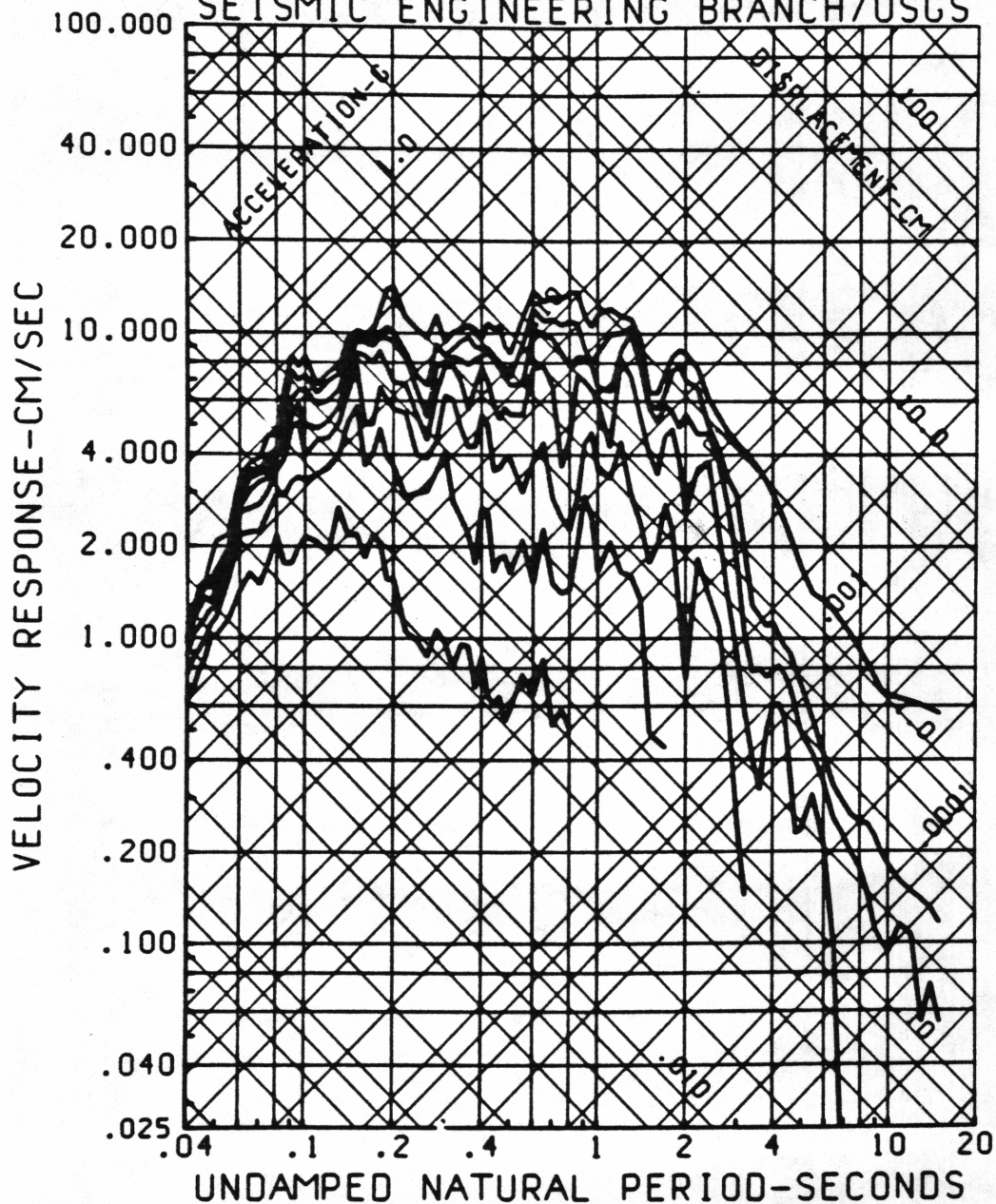
BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ

SEISMIC ENGINEERING BRANCH/USGS



SPECTRA OF AMPLITUDES SUSTAINED
FOR ANY GIVEN NUMBER OF CYCLES
GILROY ARRAY NO. 2.08/06/79,UP
5 PERCENT CRITICAL DAMPING

BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
SEISMIC ENGINEERING BRANCH/USGS



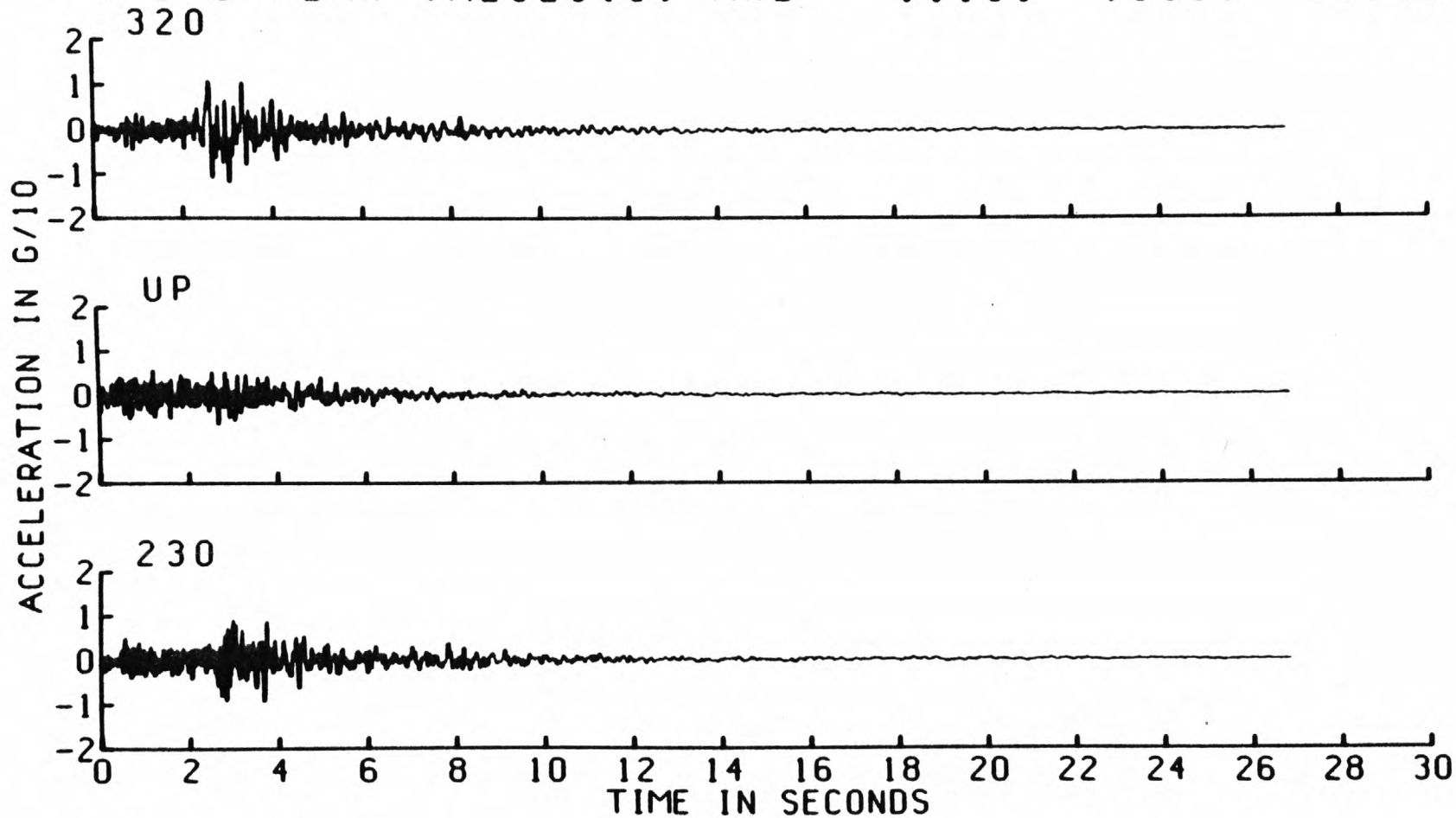
BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ

SEISMIC ENGINEERING BRANCH/USGS

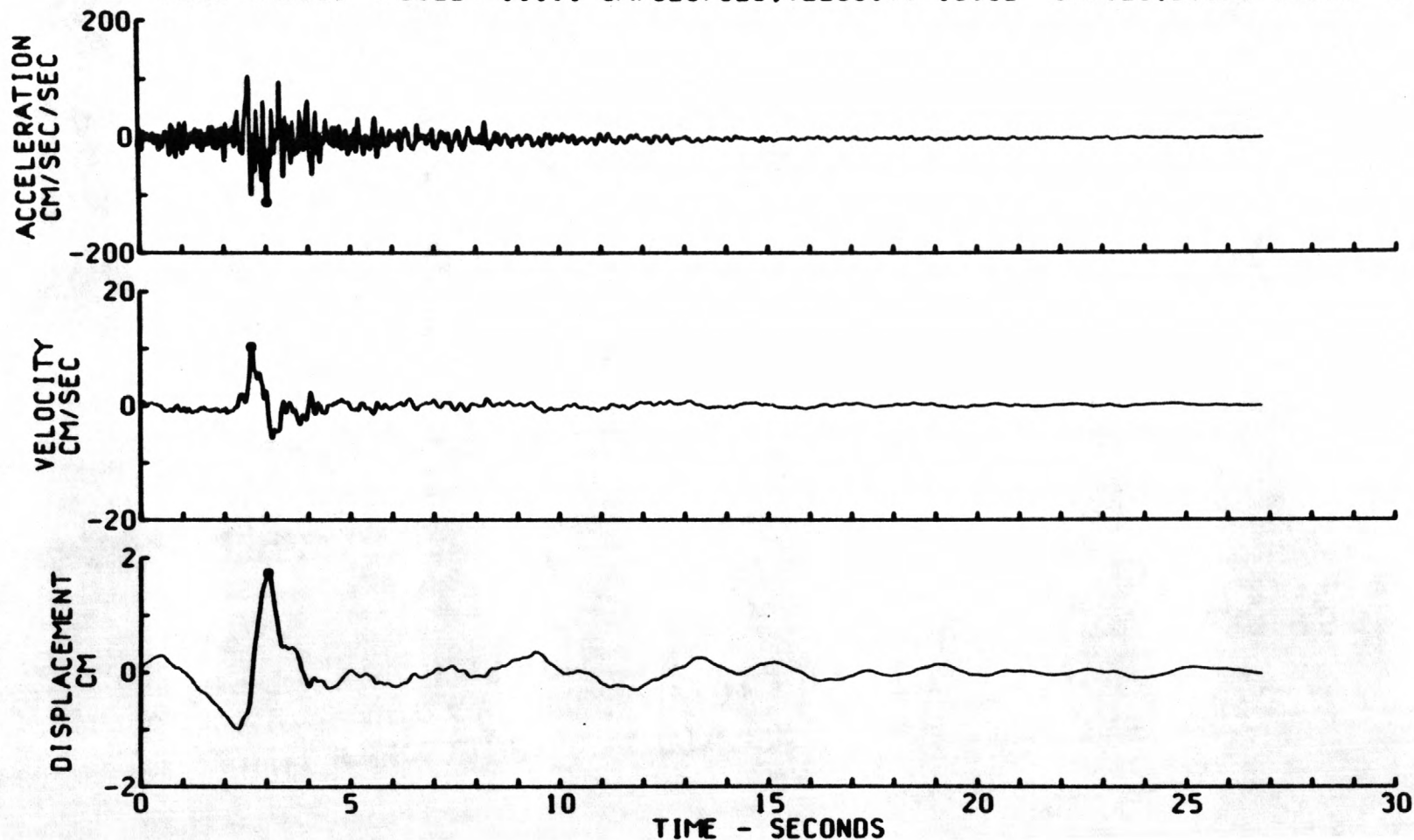


UNCORRECTED ACCELEROGRAM
GILROY ARRAY NO. 1.08/06/79-1705

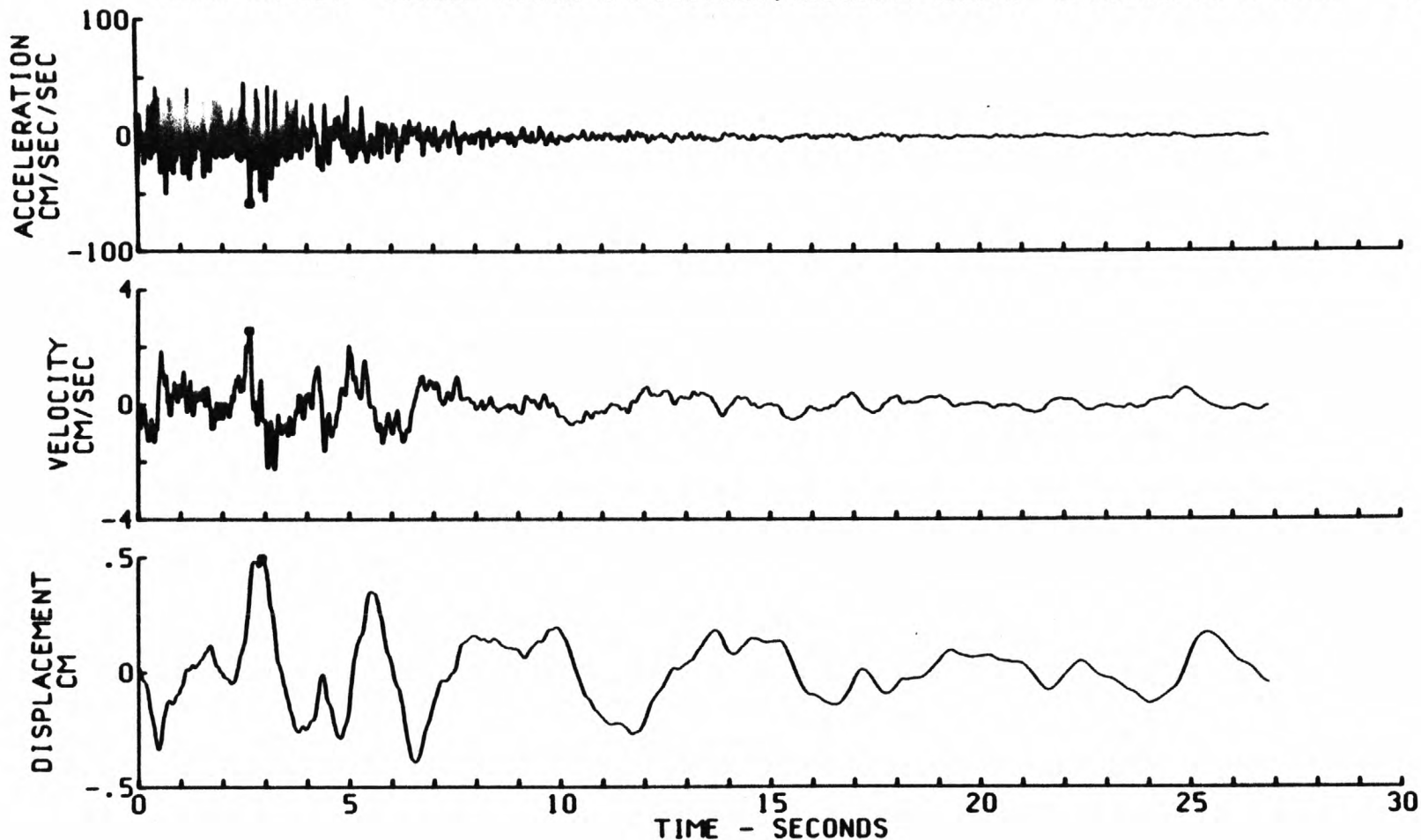
THE 3 PEAK VALUES(G) ARE .1181 .0665 .0953



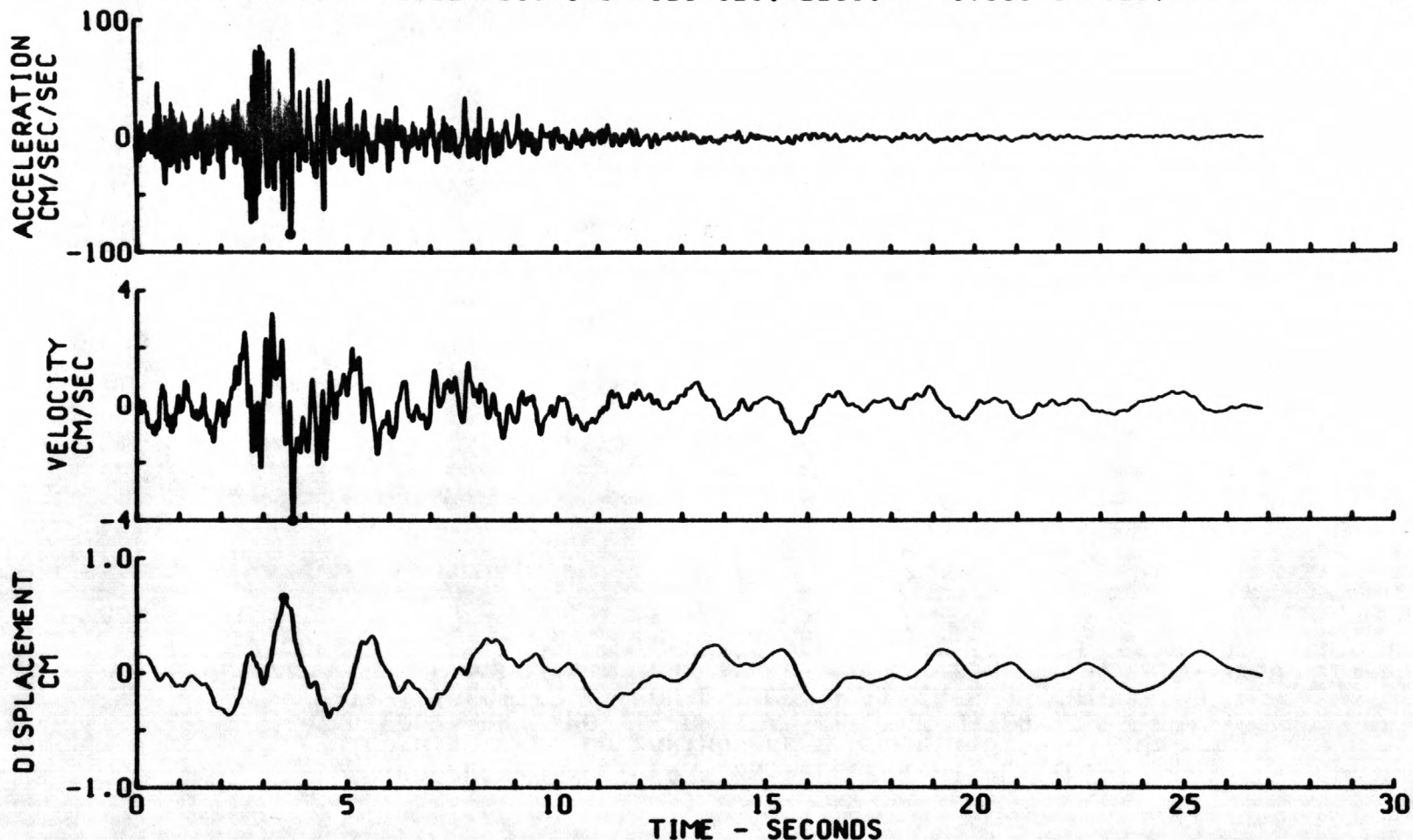
CORRECTED ACCELERATION, VELOCITY, DISPLACEMENT
 COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705
 GILROY ARRAY NO. 1, GAVILAN COLLEGE WATER TOWER, 320 DEGREES
 DATA IS PLOTTED AT EQUAL TIME INCREMENTS OF .01000 SEC
 ACCELEROGRAM IS BAND PASSED, WITH RAMPS OF .050 - .250 AND 23.00 - 25.00 CYC/SEC
 • PEAK VALUES ACCEL=-111.1 CM/SEC/SEC, VELOCITY=10.32 CM/SEC, DISPL=1.730 CM



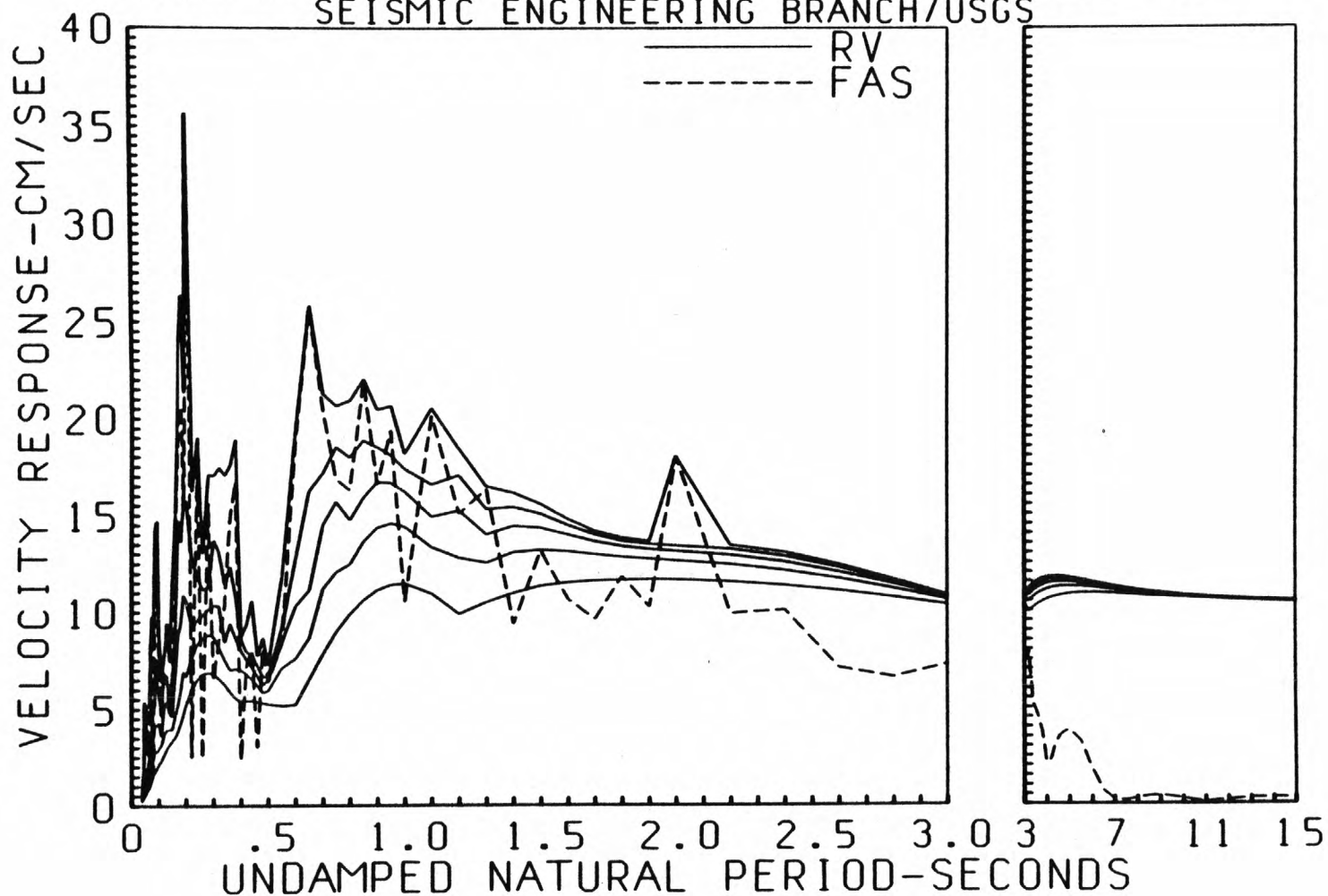
CORRECTED ACCELERATION, VELOCITY, DISPLACEMENT
 COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705
 GILROY ARRAY NO. 1, GAVILAN COLLEGE WATER TOWER, UP
 DATA IS PLOTTED AT EQUAL TIME INCREMENTS OF .01000 SEC
 ACCELEROGRAM IS BAND PASSED, WITH RAMPS OF .050 - .250 AND 23.00 - 25.00 CYC/SEC
 • PEAK VALUES ACCEL=-57.98 CM/SEC/SEC, VELOCITY=2.560 CM/SEC, DISPL=.500 CM



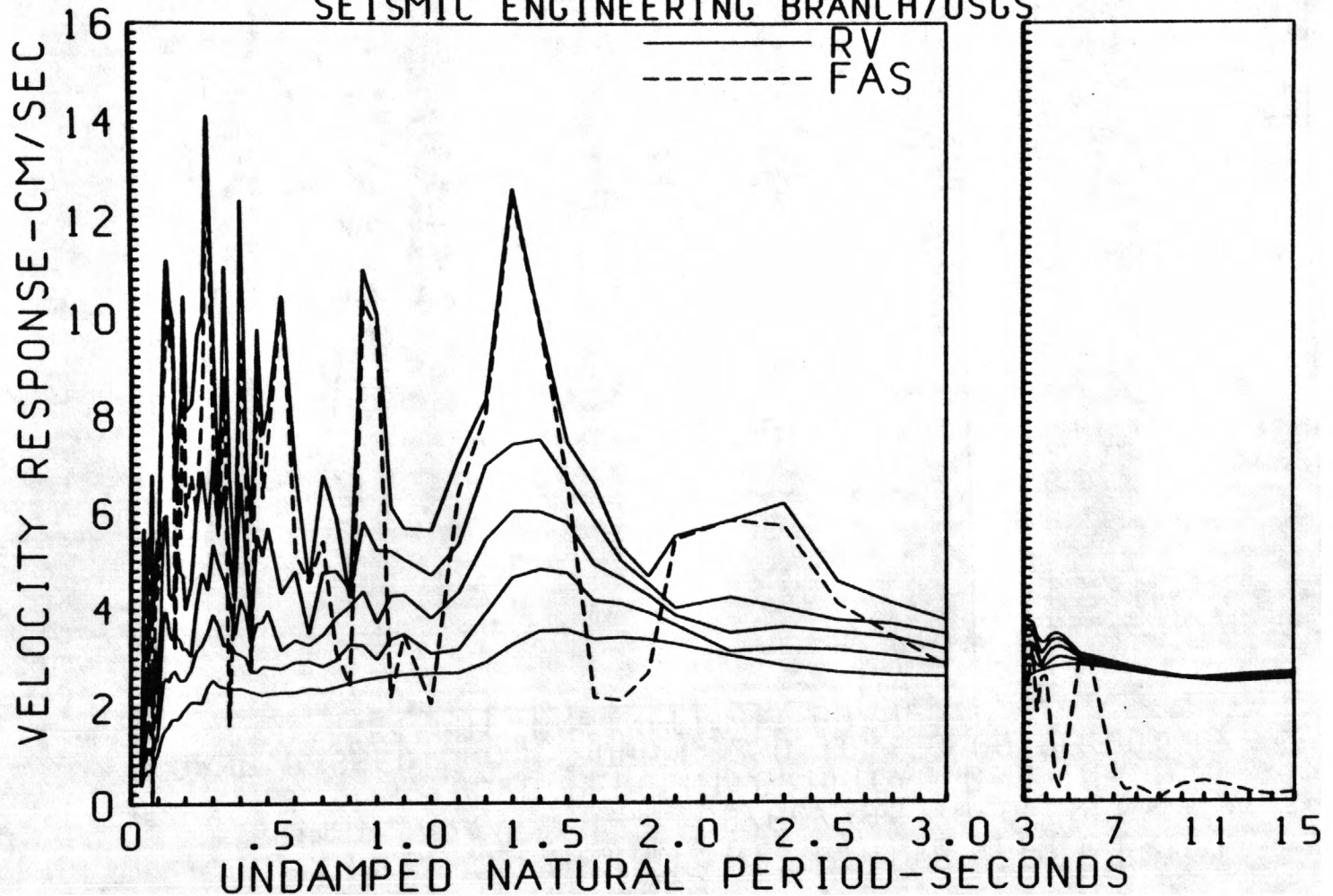
CORRECTED ACCELERATION, VELOCITY, DISPLACEMENT
COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705
GILROY ARRAY NO. 1, GAVILAN COLLEGE WATER TOWER, 230 DEGREES
DATA IS PLOTTED AT EQUAL TIME INCREMENTS OF .01000 SEC
ACCELEROGRAM IS BAND PASSED, WITH RAMPS OF .050 - .250 AND 23.00 - 25.00 CYC/SEC
• PEAK VALUES ACCEL=-83.73 CM/SEC/SEC, VELOCITY=-3.990 CM/SEC, DISPL=.660 CM



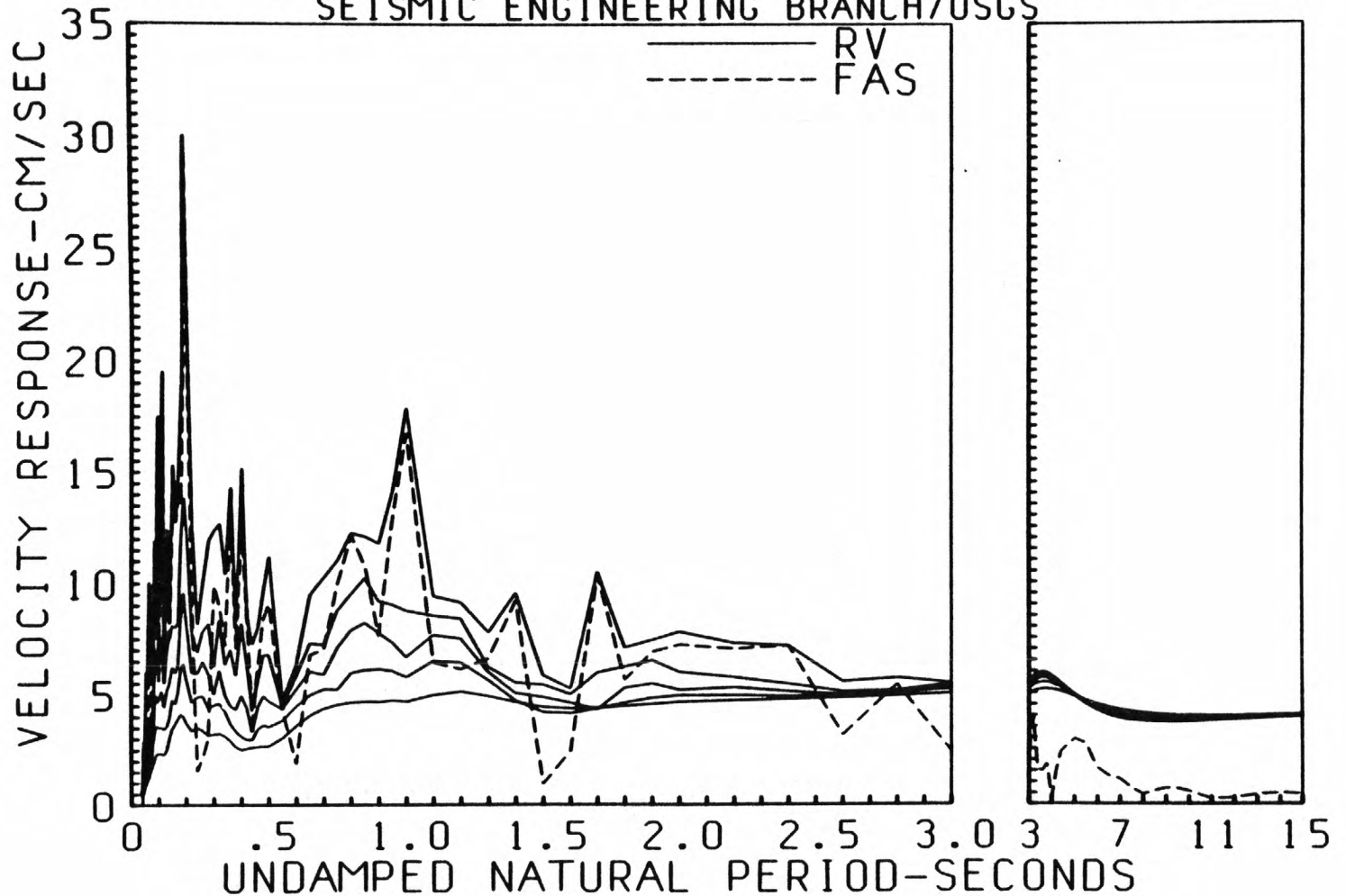
RELATIVE VELOCITY RESPONSE SPECTRUM
 GILROY ARRAY NO. 1, 08/06/79, 320 DEGREES
 0.2, 5, 10, 20 PERCENT CRITICAL DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS



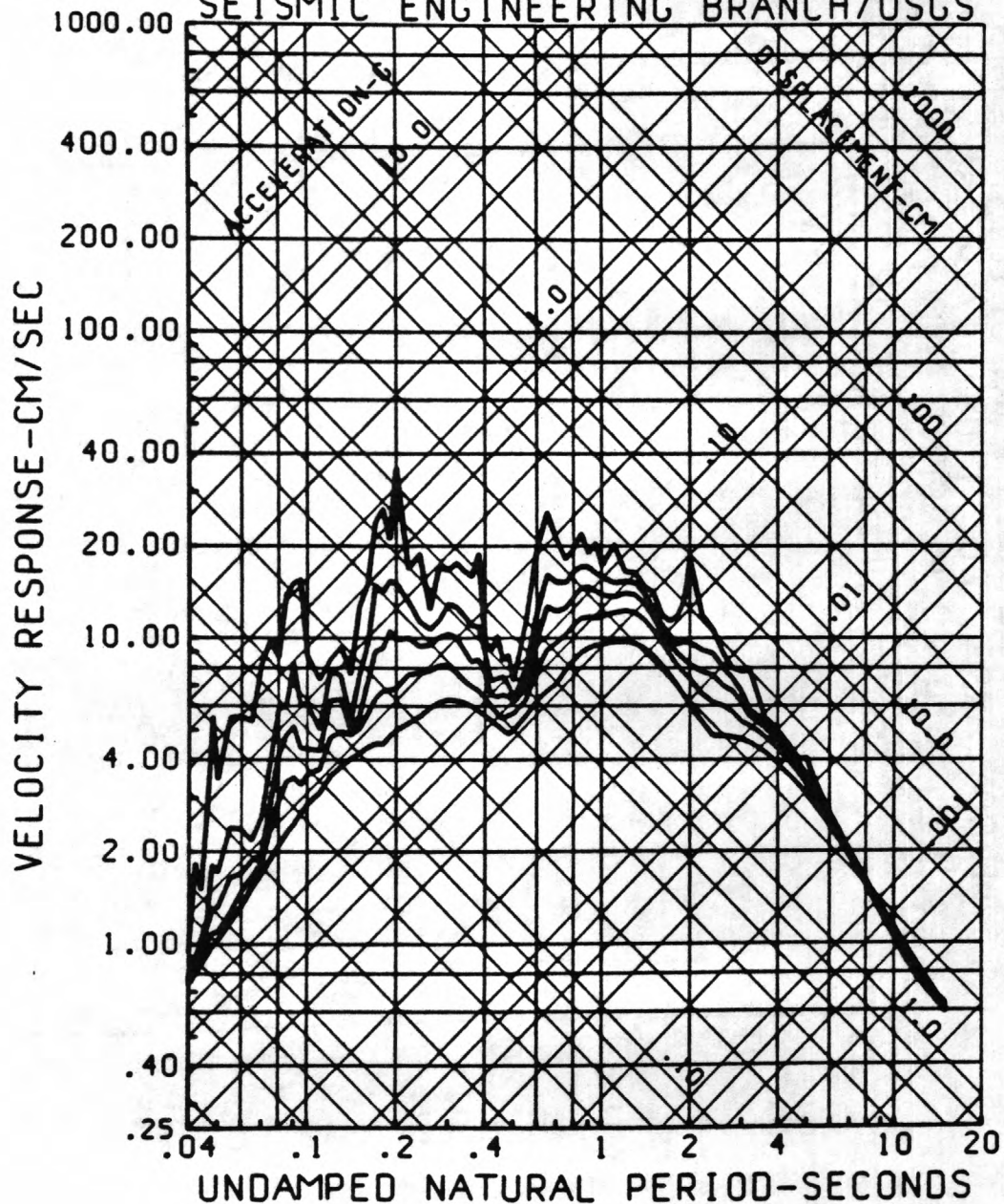
RELATIVE VELOCITY RESPONSE SPECTRUM
 GILROY ARRAY NO. 1,08/06/79,UP
 0.2,5,10,20 PERCENT CRITICAL DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS

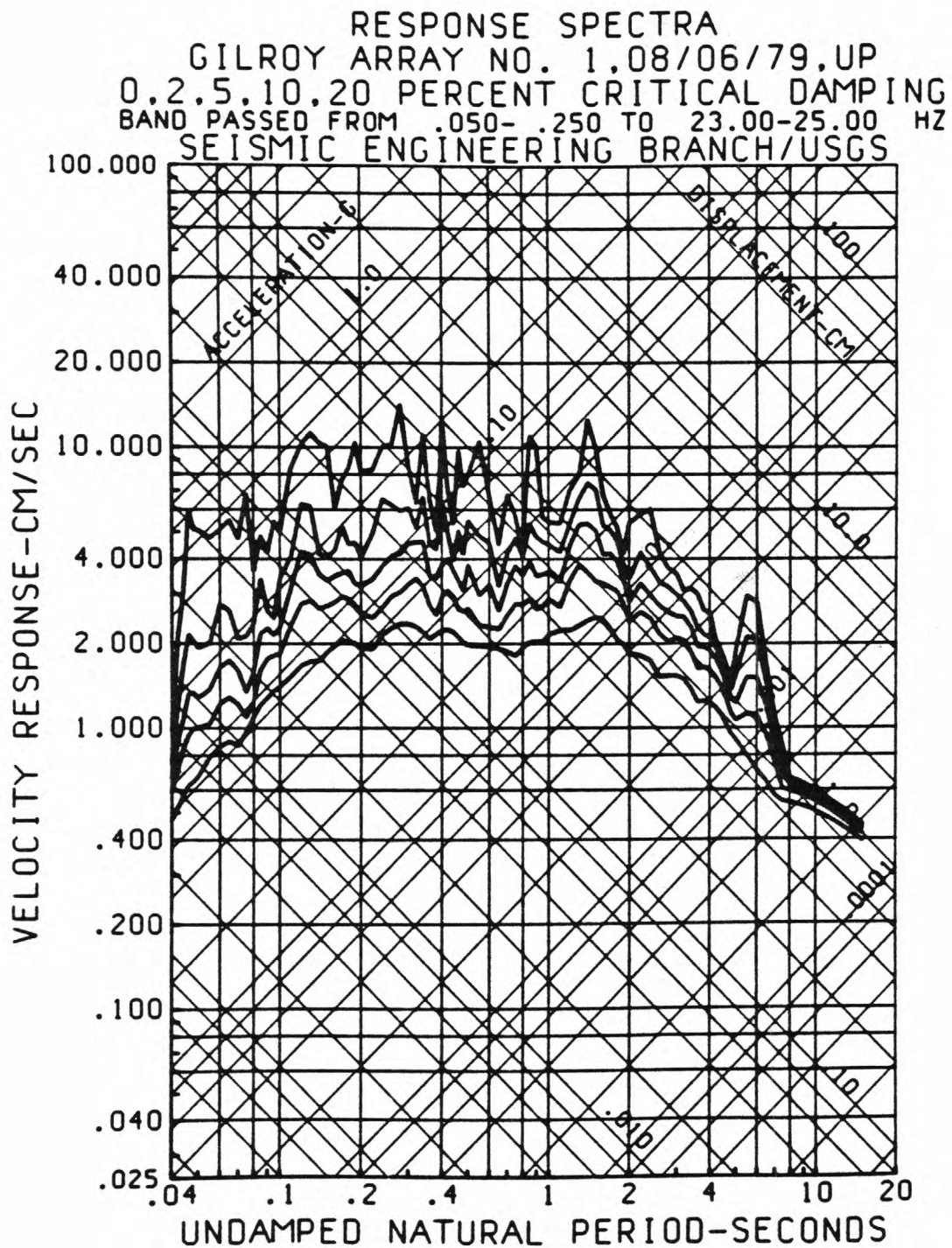


RELATIVE VELOCITY RESPONSE SPECTRUM
 GILROY ARRAY NO. 1, 08/06/79, 230 DEGREES
 0.2, 5, 10, 20 PERCENT CRITICAL DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS

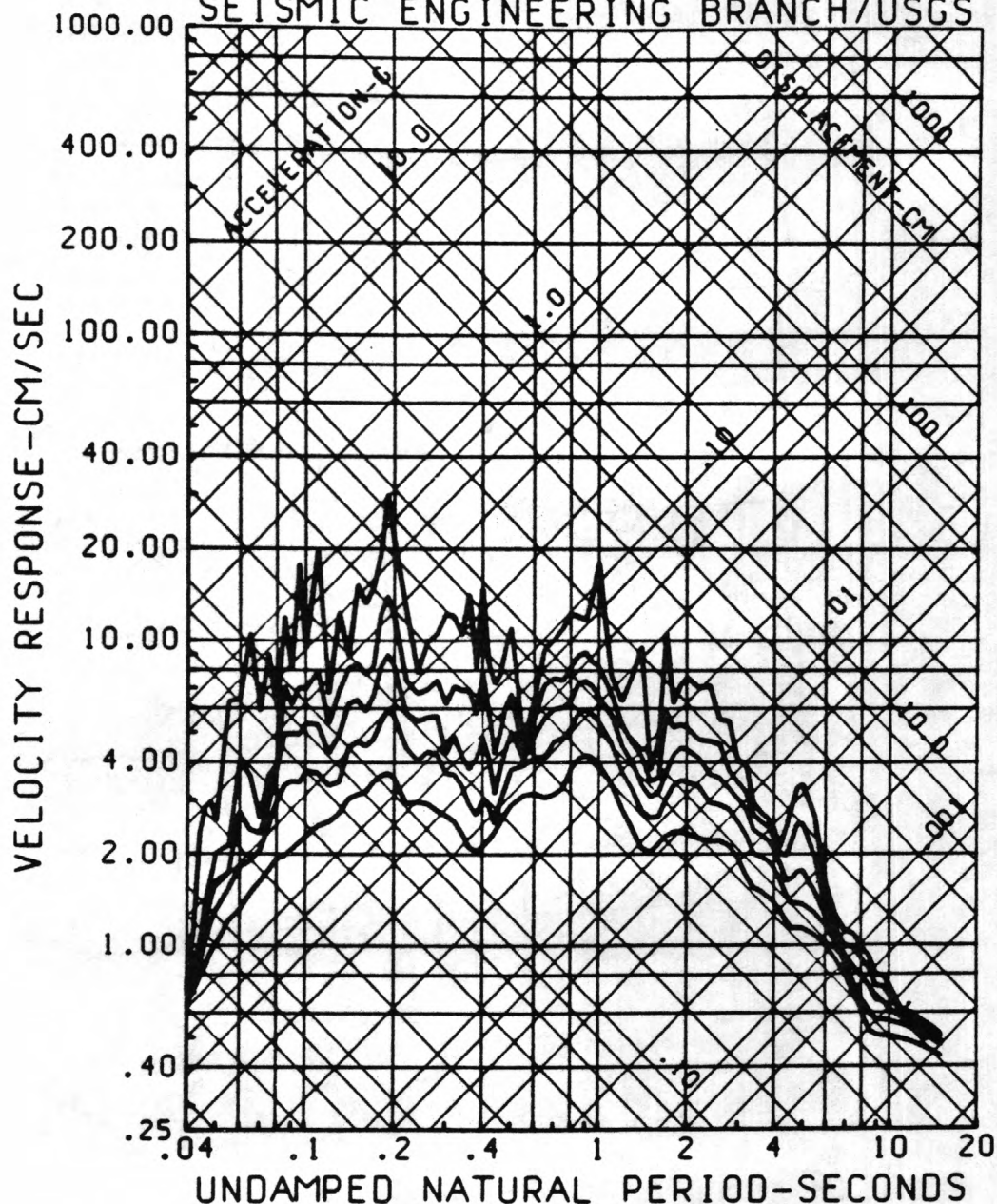


RESPONSE SPECTRA
 GILROY ARRAY NO. 1.08/06/79.320 DEGREES
 0.2, 5, 10, 20 PERCENT CRITICAL DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS

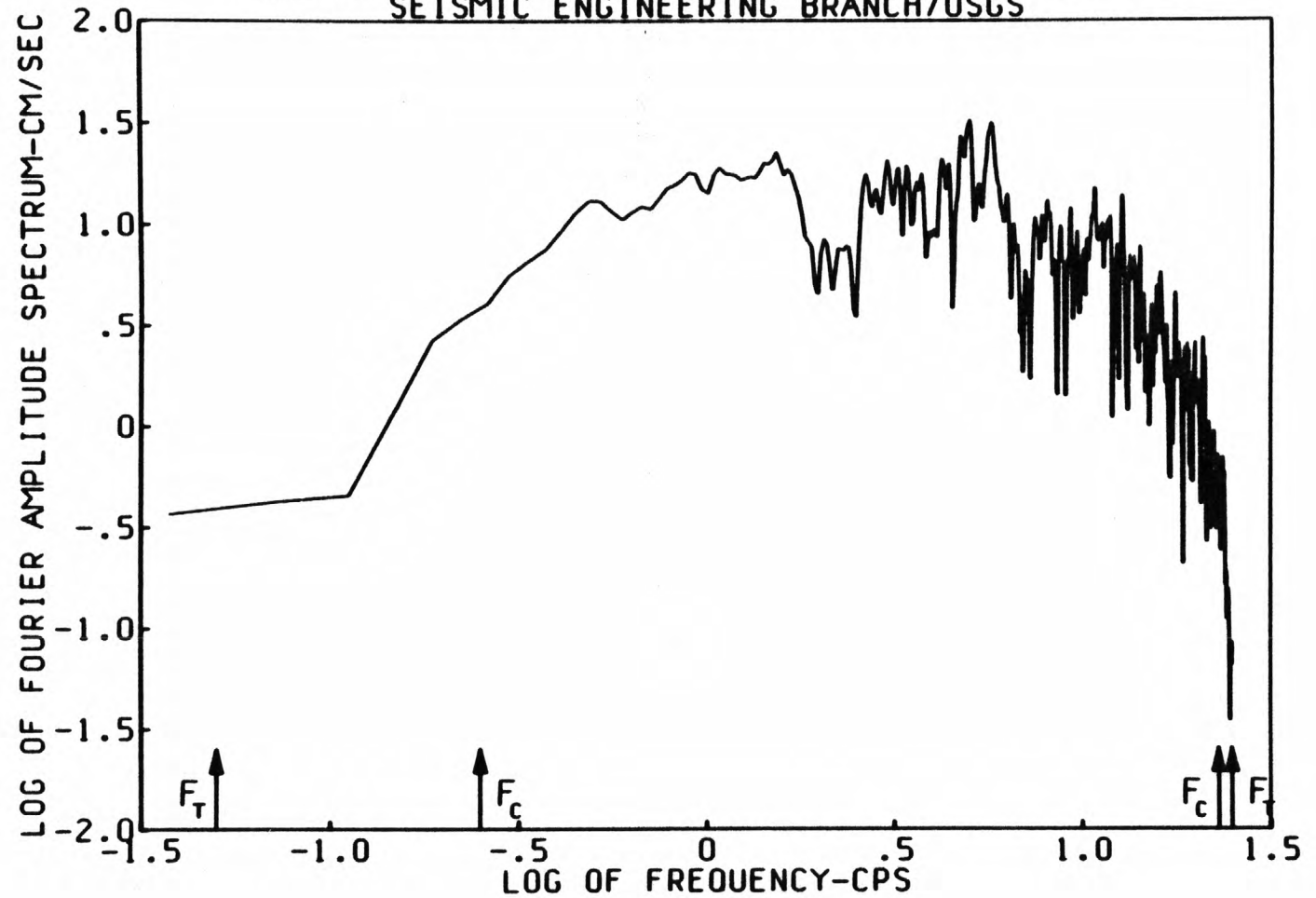




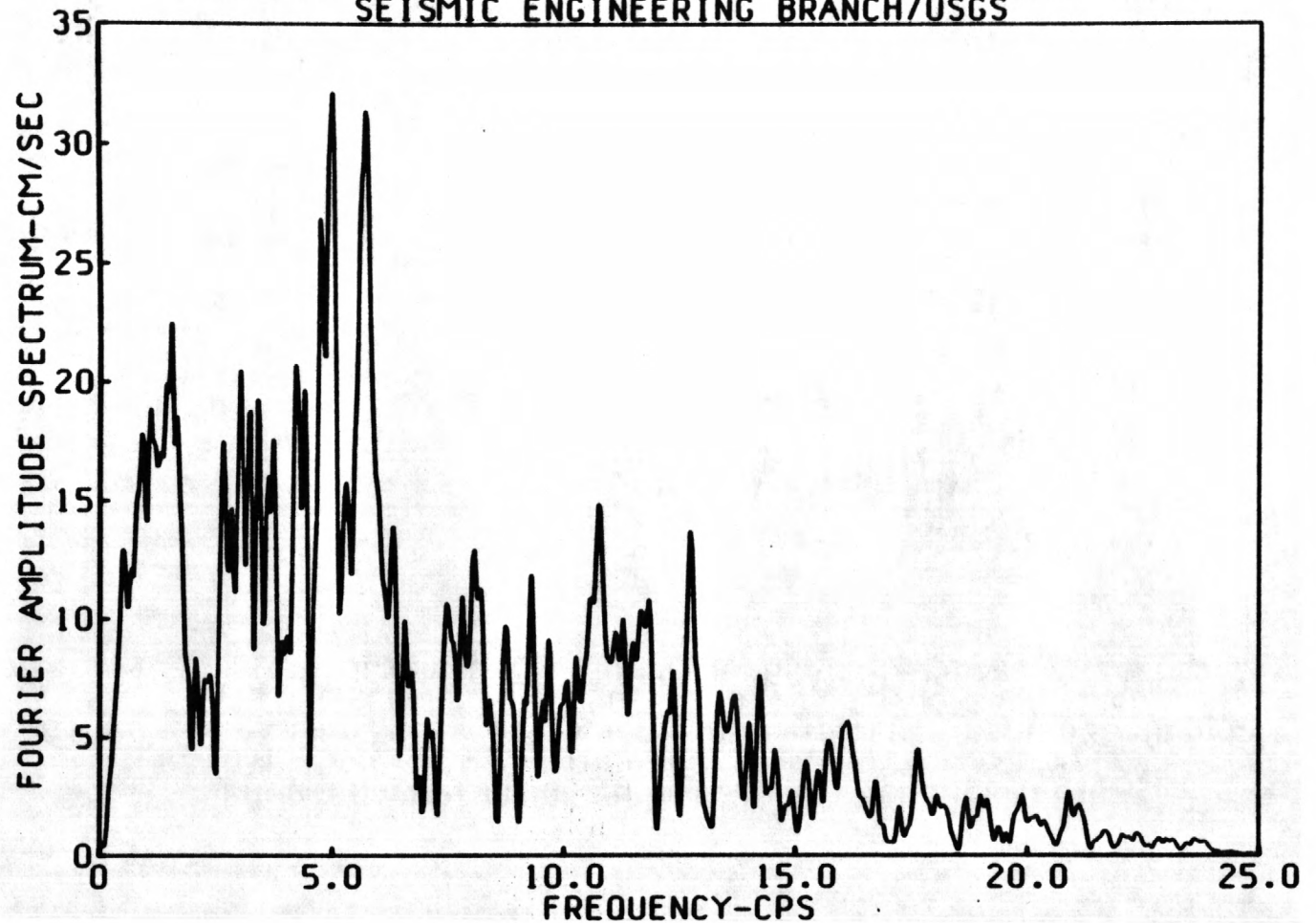
RESPONSE SPECTRA
 GILROY ARRAY NO. 1.08/06/79.230 DEGREES
 0.2,5,10,20 PERCENT CRITICAL DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS



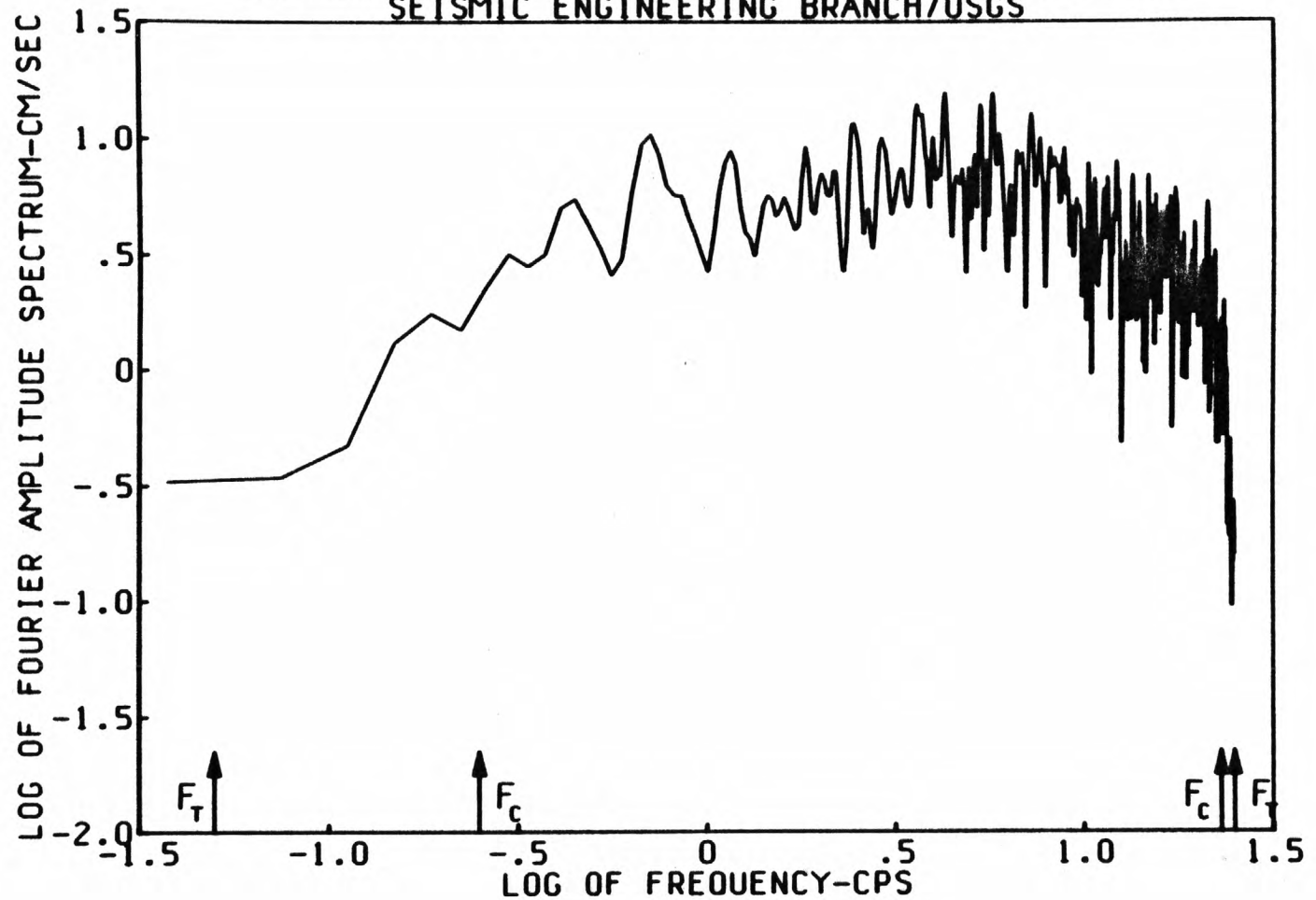
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
 COYOTE LAKE, CA EARTHQUAKE OF AUGUST 6, 1979-1705
 GILROY ARRAY NO. 1, GAVILAN COLLEGE WATER TOWER, 320 DEGREES
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS



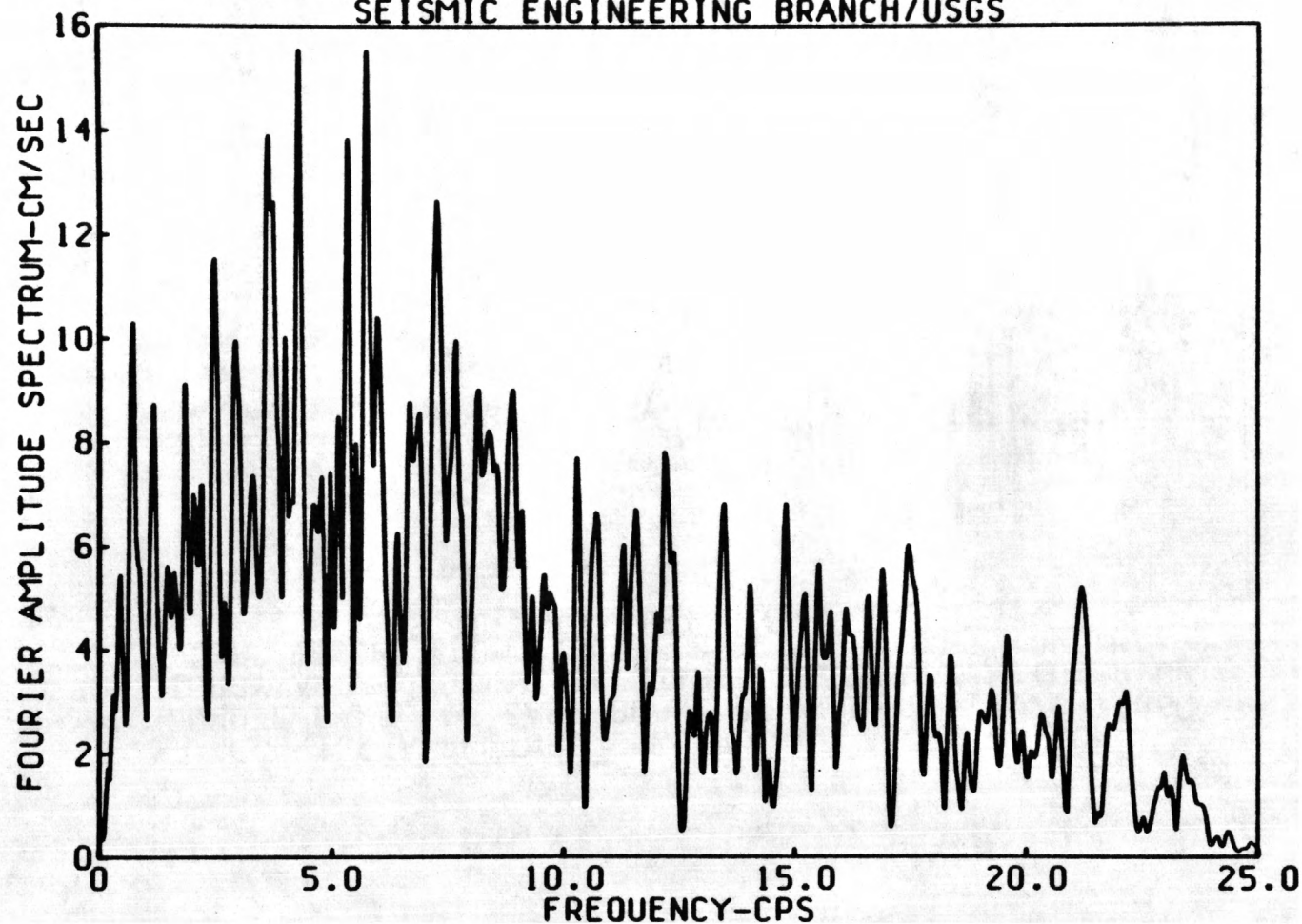
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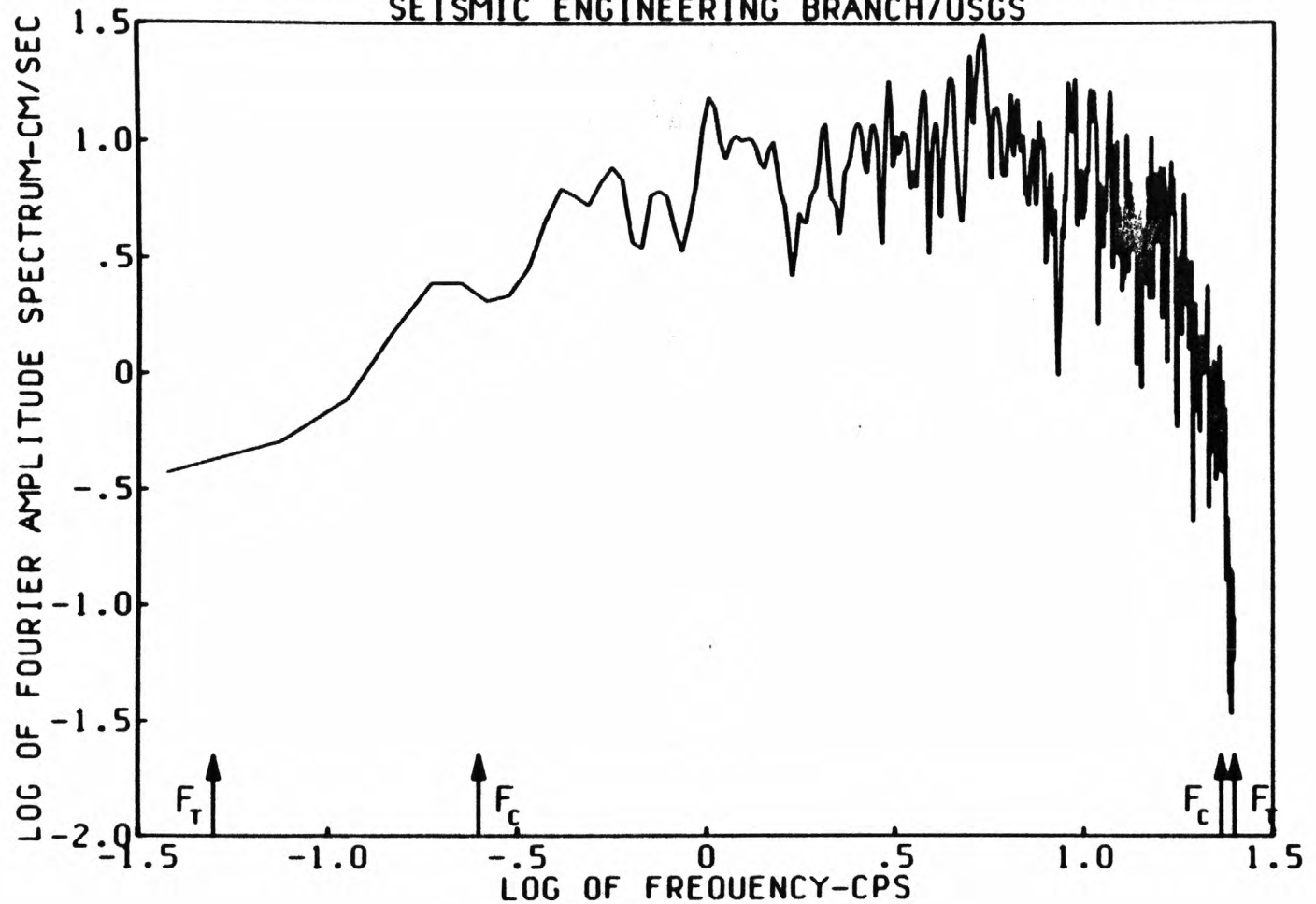
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 SEISMIC ENGINEERING BRANCH/USGS



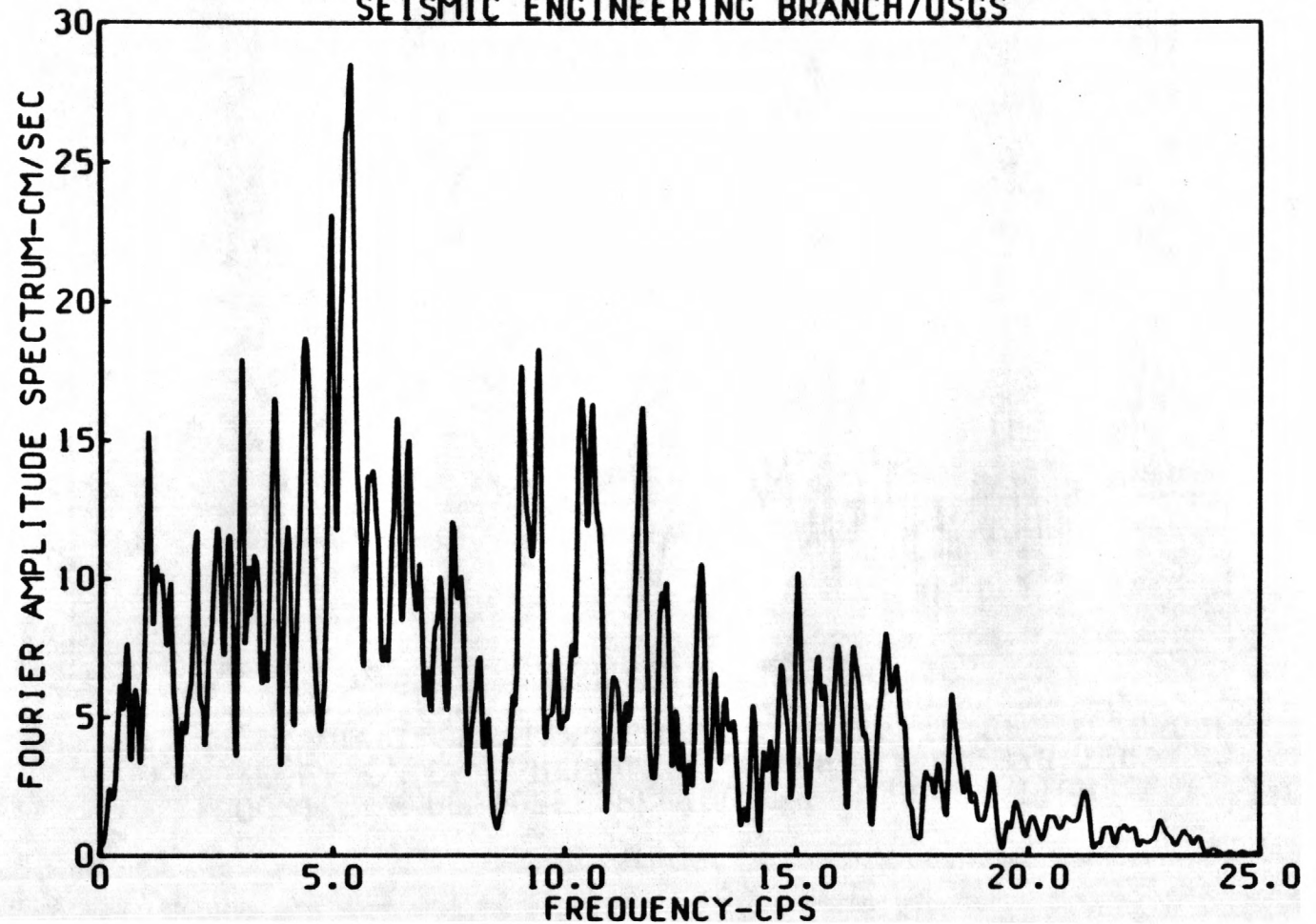
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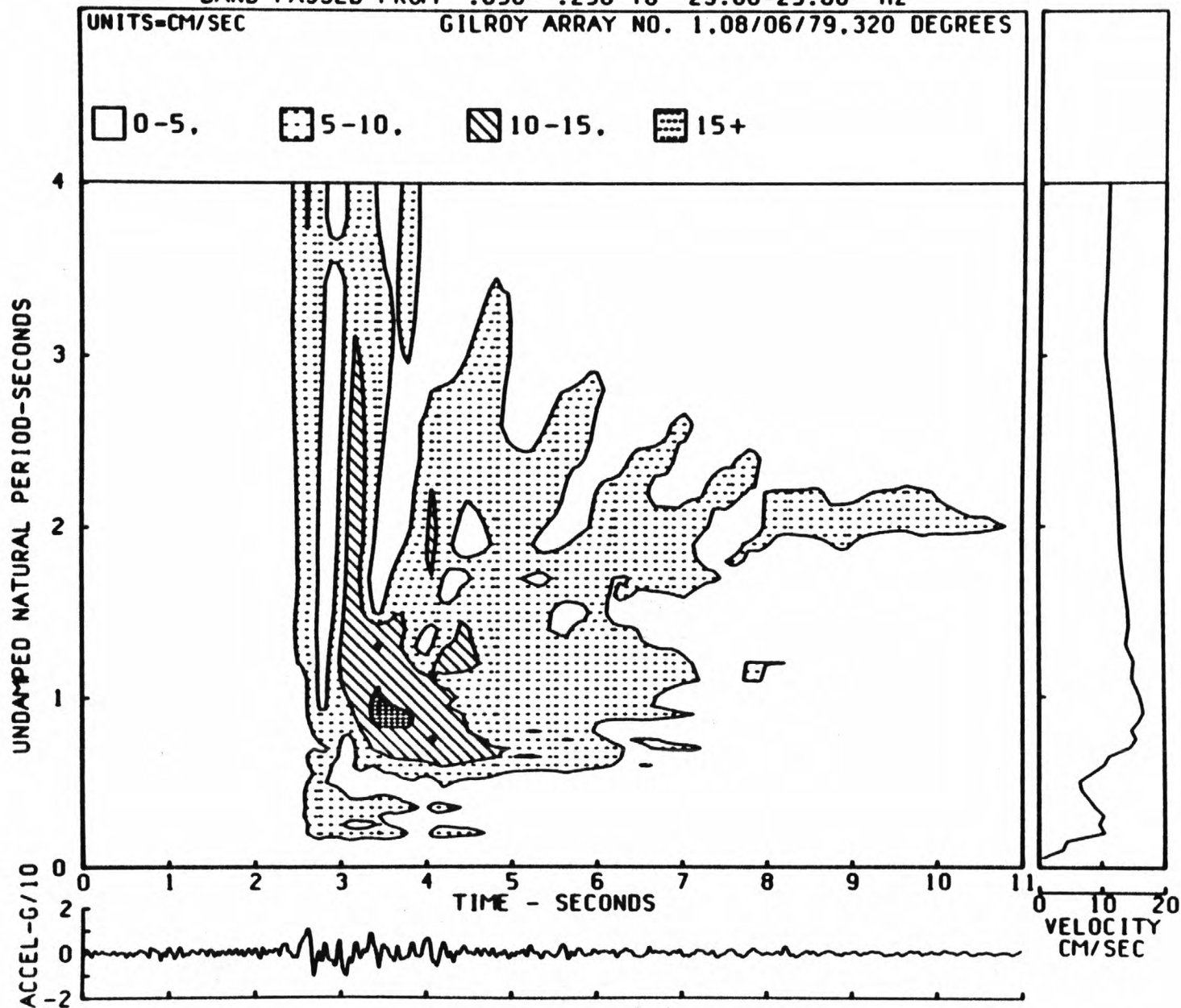
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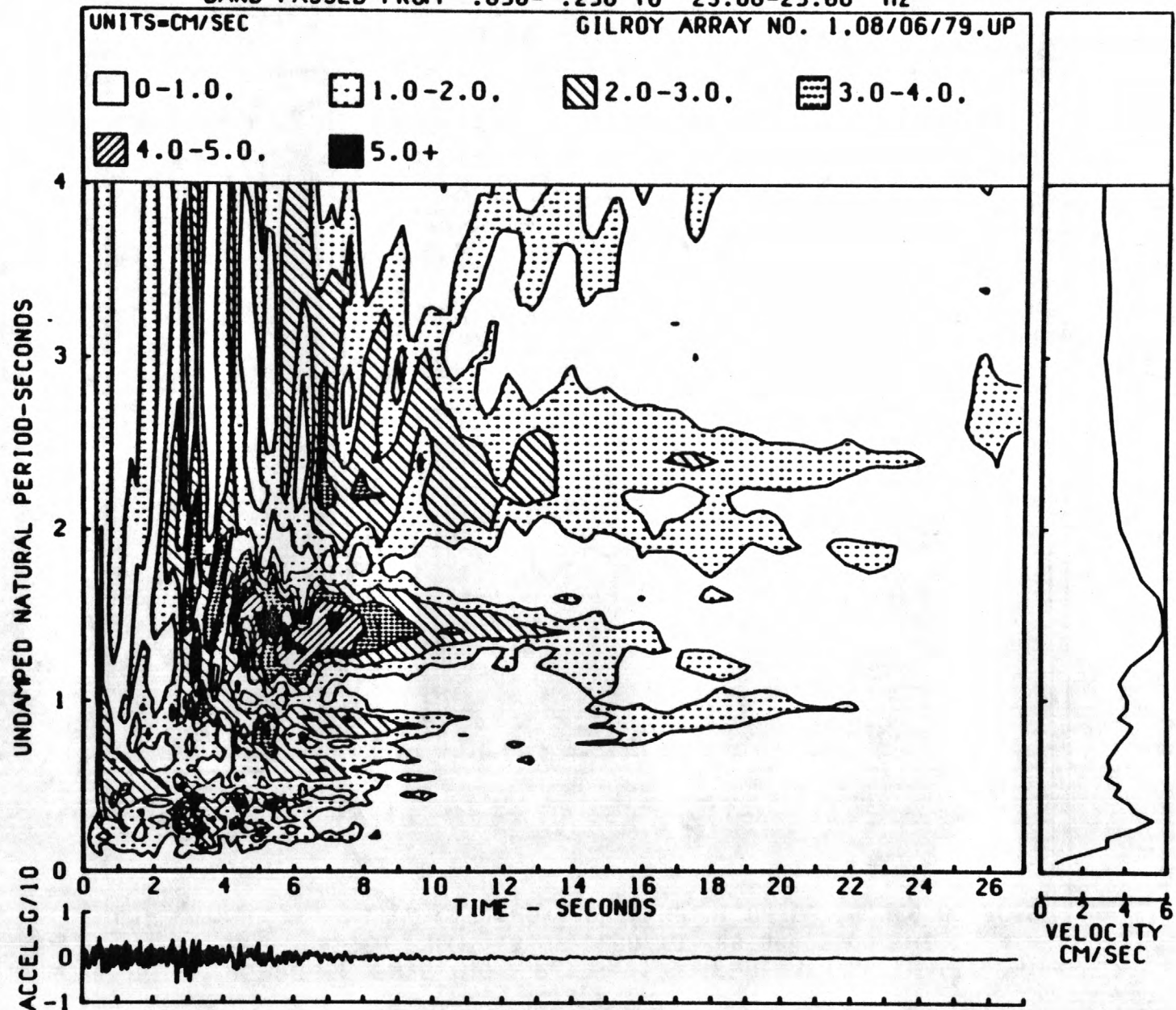
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GILROY ARRAY NO. 1, GAVILAN COLLEGE WATER TOWER, 230 DEGREES
BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
SEISMIC ENGINEERING BRANCH/USGS



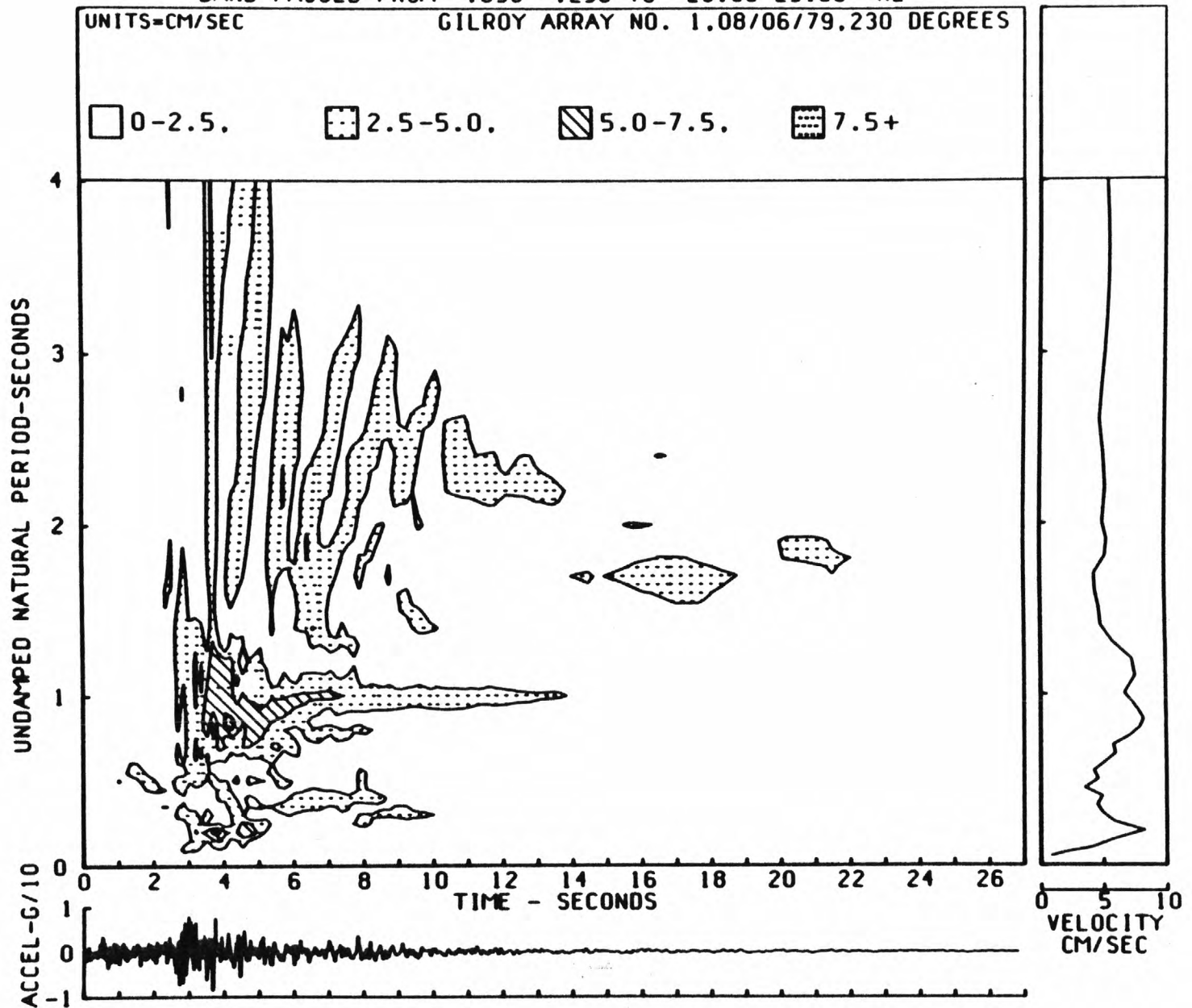
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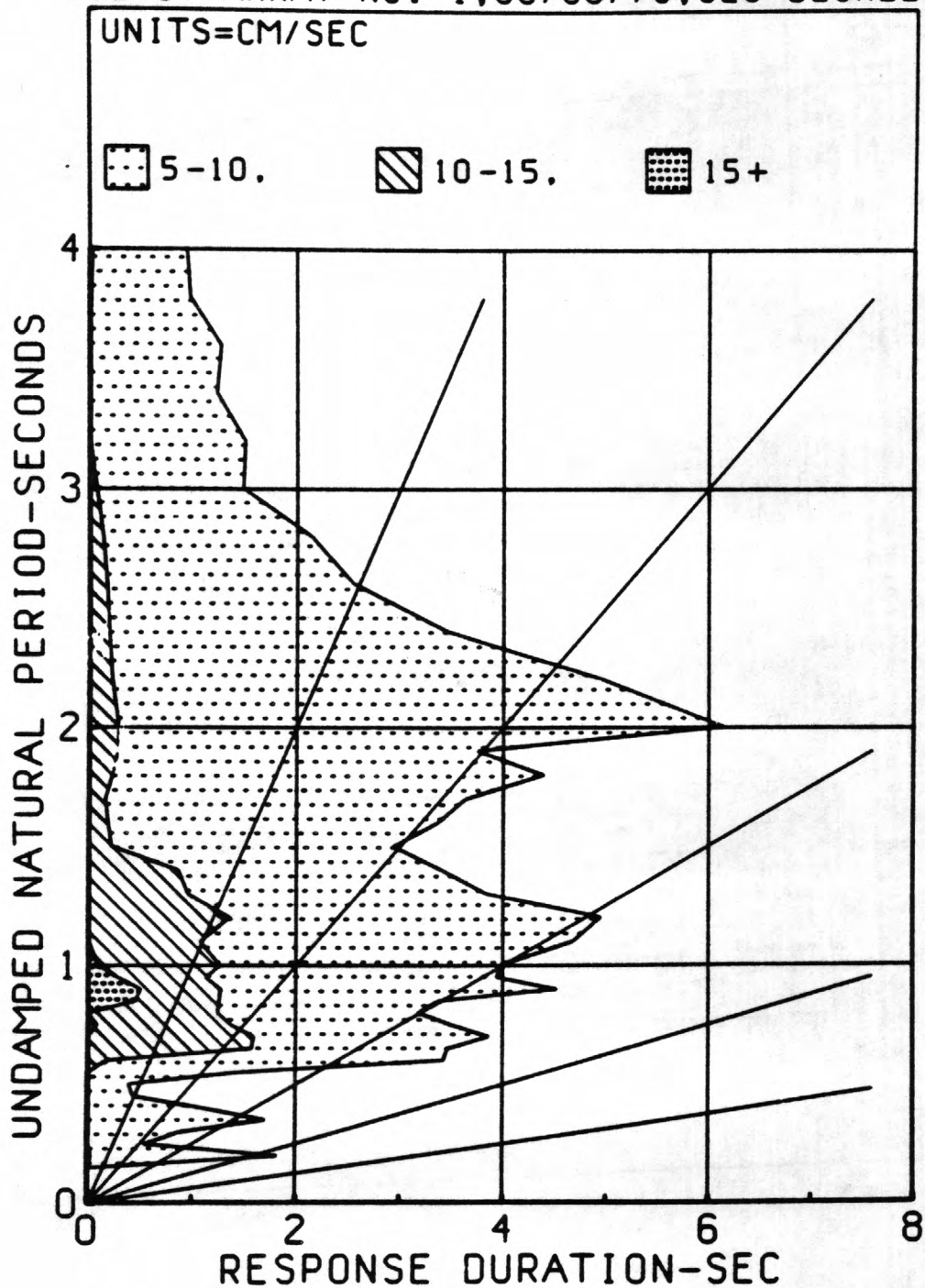
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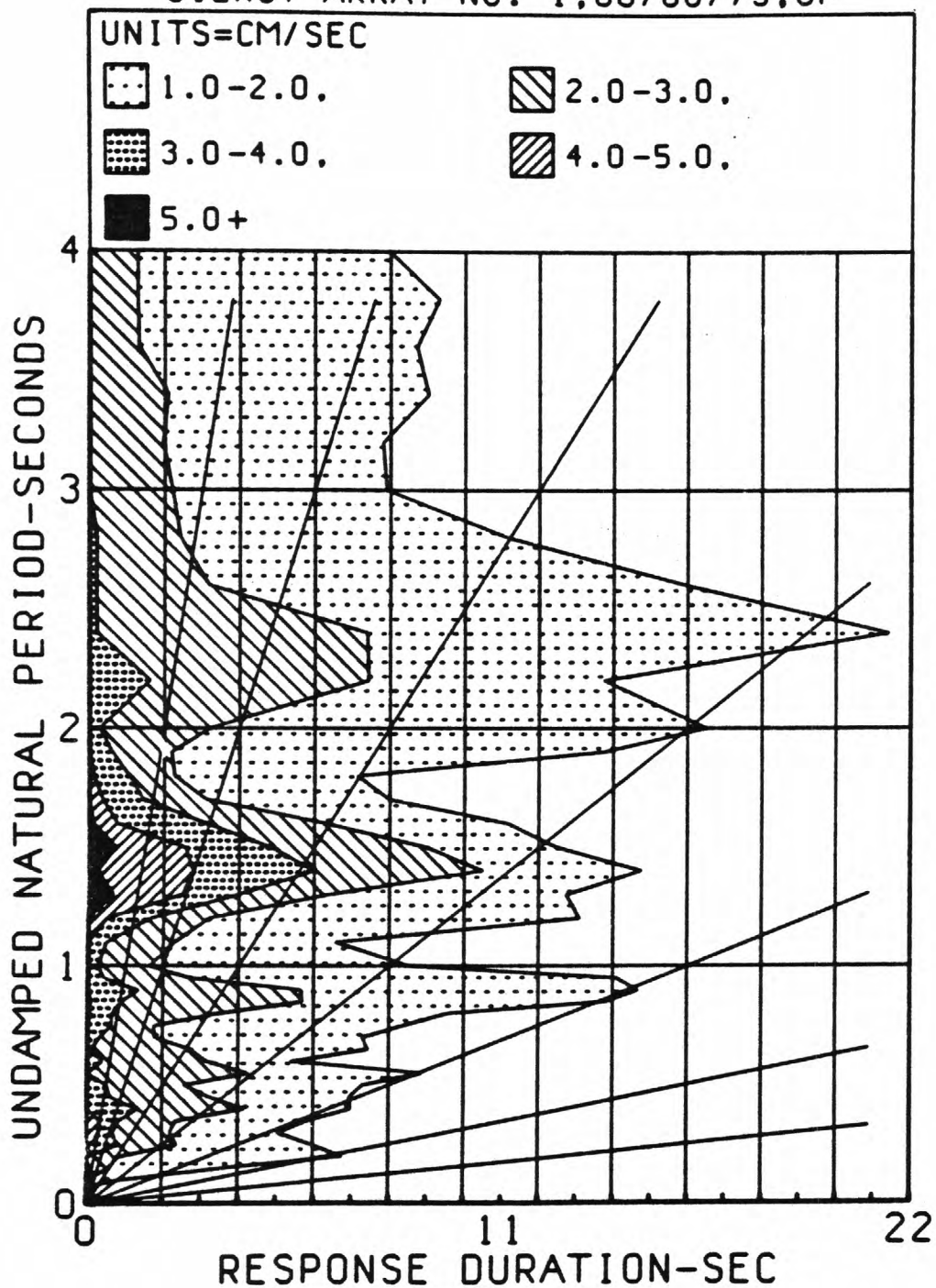
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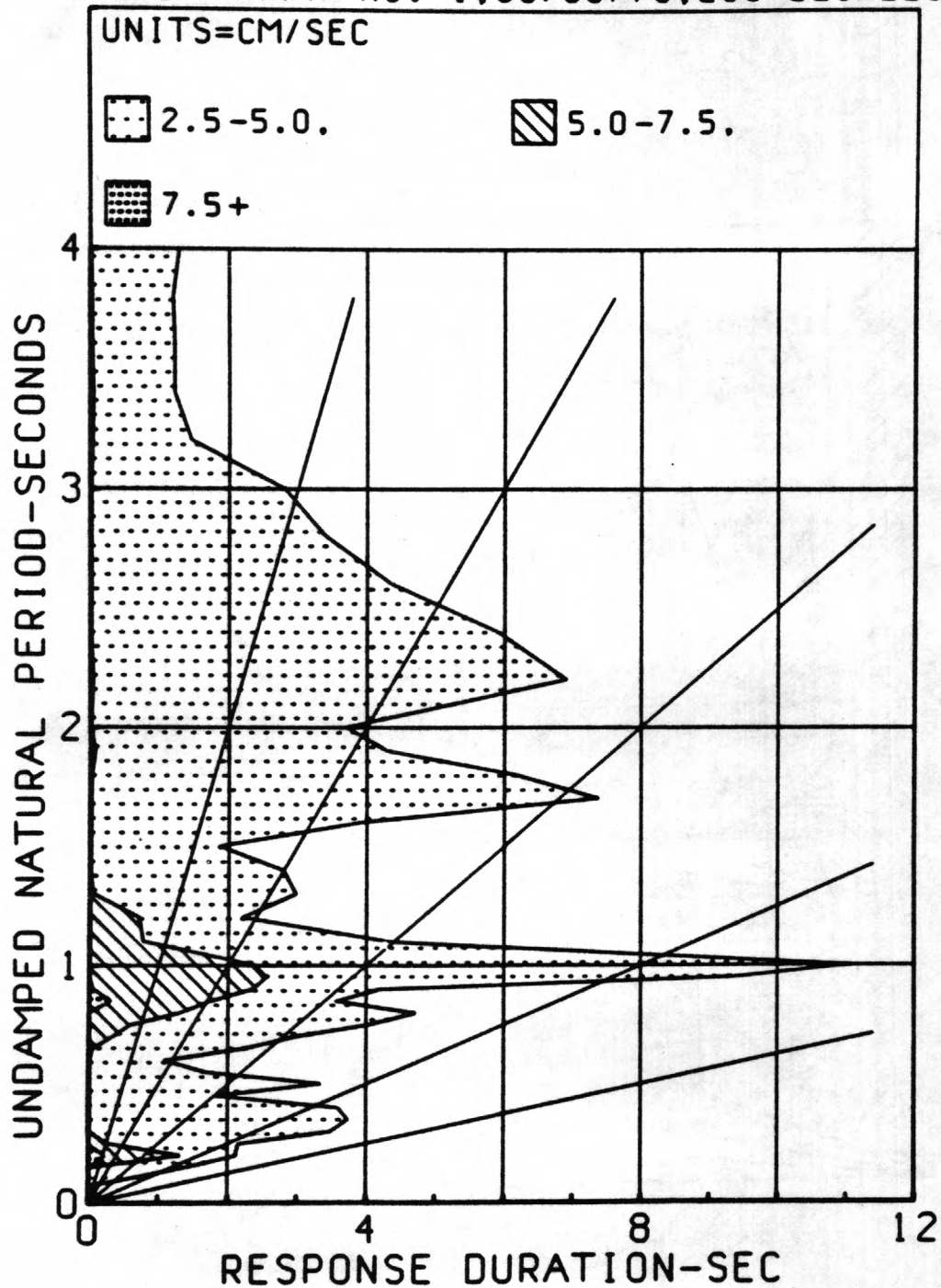
DURATION SPECTRUM OF THE VELOCITY
 RESPONSE ENVELOPE, 5 PERCENT DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 GILROY ARRAY NO. 1.08/06/79.320 DEGREES



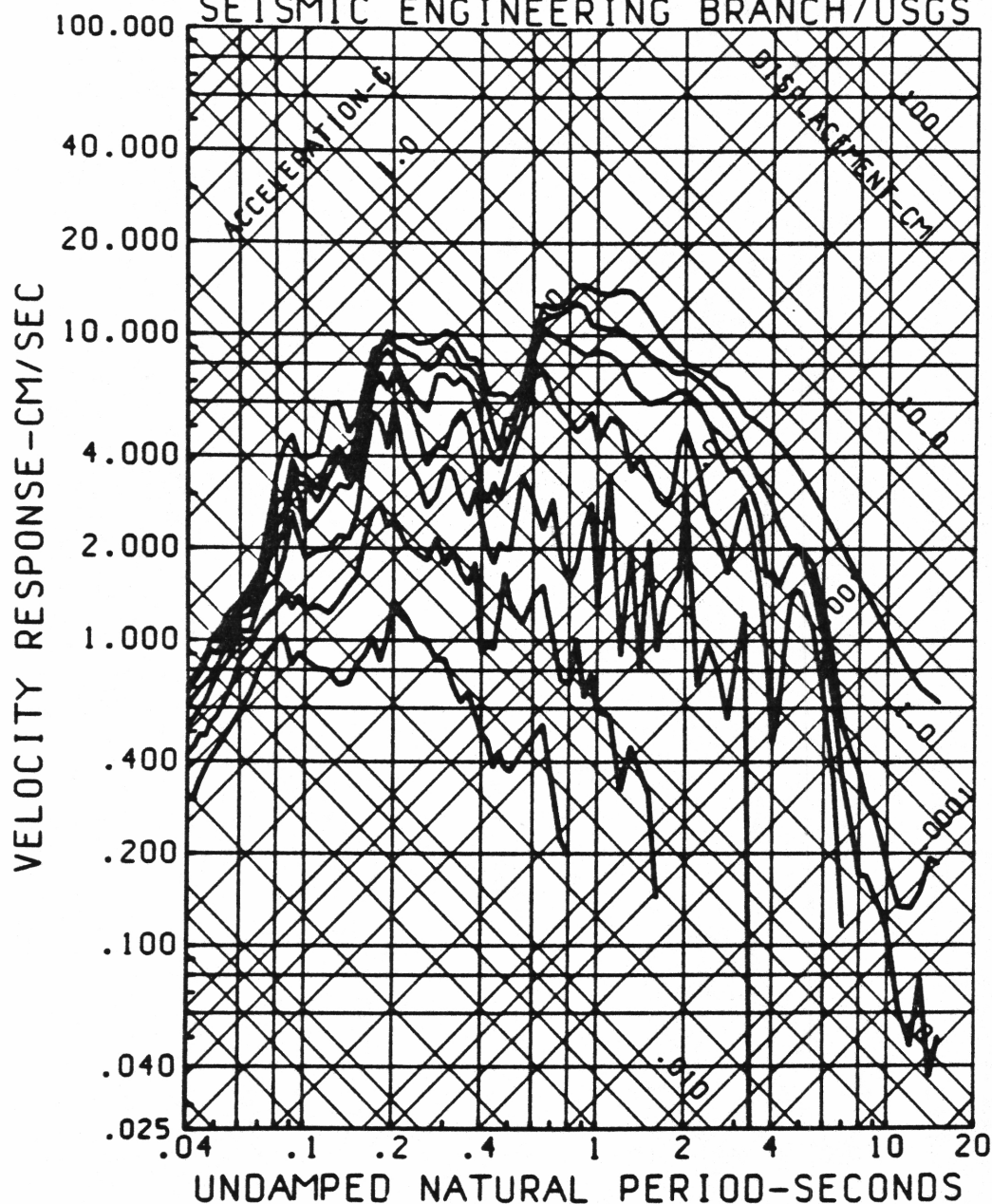
DURATION SPECTRUM OF THE VELOCITY
 RESPONSE ENVELOPE, 5 PERCENT DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 GILROY ARRAY NO. 1,08/06/79,UP



DURATION SPECTRUM OF THE VELOCITY
 RESPONSE ENVELOPE .5 PERCENT DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 GILROY ARRAY NO. 1.08/06/79.230 DEGREES



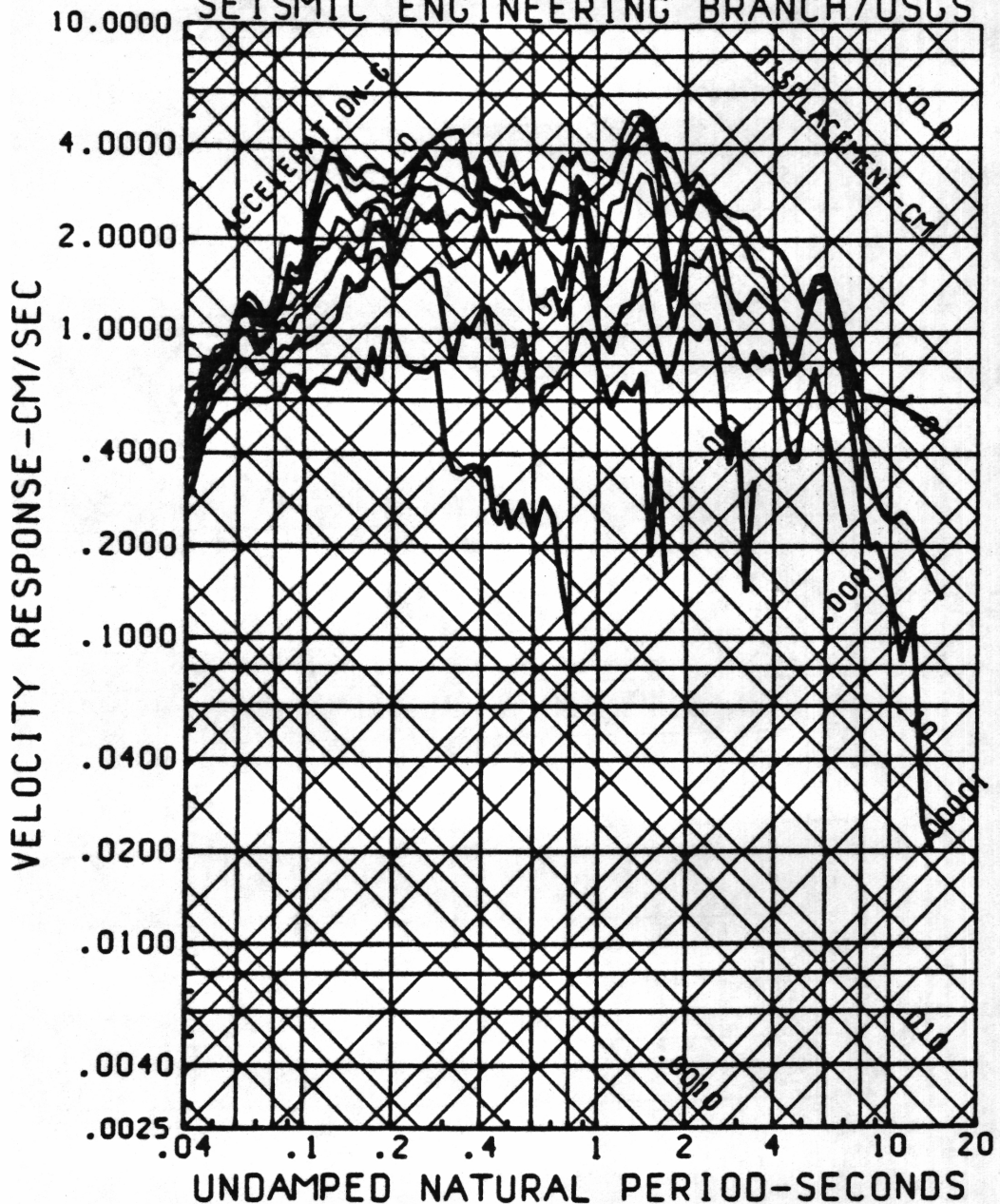
SPECTRA OF AMPLITUDES SUSTAINED
 FOR ANY GIVEN NUMBER OF CYCLES
 GILROY ARRAY NO. 1,08/06/79, 320 DEGREES
 5 PERCENT CRITICAL DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS



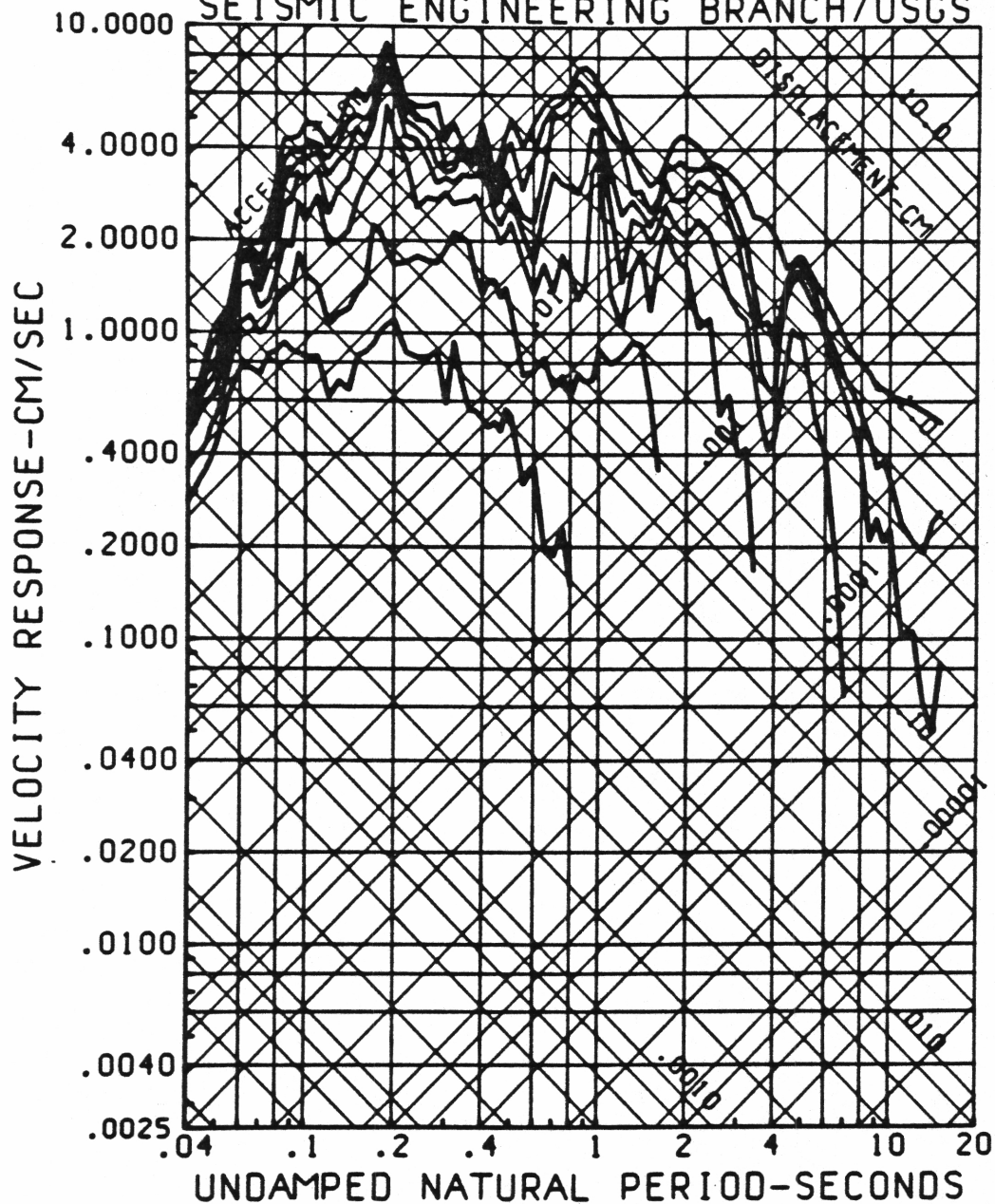
SPECTRA OF AMPLITUDES SUSTAINED
FOR ANY GIVEN NUMBER OF CYCLES
GILROY ARRAY NO. 1.08/06/79,UP
5 PERCENT CRITICAL DAMPING

BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ

SEISMIC ENGINEERING BRANCH/USGS



SPECTRA OF AMPLITUDES SUSTAINED
 FOR ANY GIVEN NUMBER OF CYCLES
 GILROY ARRAY NO. 1,08/06/79,230 DEGREES
 5 PERCENT CRITICAL DAMPING
 BAND PASSED FROM .050- .250 TO 23.00-25.00 HZ
 SEISMIC ENGINEERING BRANCH/USGS



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