STRONG-MOTION DATA RECORDED NEAR COALINGA, CALIFORNIA (MAY 2, 1983) AND PROCESSED DATA FROM MAY 2 and MAY 9, 1983 (U.S. National Strong Motion Network)

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Open-File Report
No. 84-626

Menlo Park, California
July 1984

PREFACE

As strong motion recordings of damaging earthquakes figure prominently in regulatory, design, and research efforts to mitigate earthquake hazards, the data collected following a damaging earthquake is often in immediate demand by various user communities. To facilitate the timely dissemination of strong-motion data collected on the U.S. national strong-motion network operated by the U.S. Geological Survey, two reports on strong-motion data sets are prepared. The preliminary report (open-file) requires minimal time for printer preparation and is intended for rapid data release. The second report (circular) requires additional printer preparation time and is intended to supersede the open-file report.

Copies of the original strong-motion recordings, together with relevant information on the event, station locations, amplitude scales, time scales, and pertinent instrument characteristics are included in both reports. Processed data may be included if appropriate.

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COMPUTER PLOTS OF MAINSHOCK AND AFTERSHOCK PROCESSING*

* See page v for detailed Appendix contents.

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* Processing stages and plot format:

1. Uncorrected accelerogram.
2. Corrected acceleration velocity and displacement.
3. Relative velocity response spectrum, linear plot.
4. Response spectrum, tripartite log plot.
5. Fourier amplitude spectrum, linear plot.
6. Fourier spectrum, log-log plot.

Note: In column 1 each plot contains all 3 components
In columns 2 through 6, the indicated figure and page number refers to the first of the three components for this record.

ABSTRACT

The M_L 6.5 Coalinga, California, earthquake on 2 May 1983, 2342 UTC, triggered 37 strong-motion accelerographs operated as part of the U.S. national strong-motion network by the U.S. Geological Survey (USGS). The two closest records were obtained at an epicentral distance of 9.2 km, from the Pleasant Valley Pumping Plant, a facility of the U.S. Bureau of Reclamation. The M_L 5.2 aftershock on 9 May 1983, 0249 UTC triggered 12 USGS instruments, including four at the pumping plant and eight aftershock instruments at epicentral distances ranging from 1.7 to 11.1 km. Copies of the records and computer plots showing corrected accelerations and response spectra from preliminary processing of the two main shock records and 11 of the aftershock records are included in this report. Peak horizontal accelerations reached 0.54 g (M 6.5, R = 9.2 km) and 0.56 g (M 5.2, R = 1.7 km).

INTRODUCTION

A moderate M_L 6.5 earthquake occurred 11 km northeast of Coalinga, California on May 2, 1983. The earthquake triggered 37 strong-motion accelerographs operated as part of the U.S. national strong-motion network by the U.S. Geological Survey (USGS). Details of the event are listed in Table 1.

The accelerographs closest to the epicenter were those at the Pleasant Valley Pump Plant, a facility that transfers water from a feeder line of the California Aqueduct to the Coalinga Canal (Figure 1). This array of accelerographs, purchased by the U.S. Bureau of Reclamation and installed by the U.S. Geological Survey, recorded the main event at an epicentral distance

of 9.2 km. Other USGS accelerograph stations triggered at greater distances are listed in Table 2, and include those located at: Bear Valley, the Fresno Veterans Administration Hospital, Dos Amigos Pump Plant (a facility of the Department of Water Resources), and several dams associated with the Army Corps of Engineers and the U.S. Bureau of Reclamation.

Following the earthquake eight accelerographs were installed temporarily in the epicentral area and in the city of Coalinga to record aftershocks. As of July 25, more than 150 records had been obtained from these temporary instruments including recordings of six events with magnitudes greater than 5 (Table 3). Numerous aftershocks were also recorded at the Pleasant Valley Pump Plant. Table 4 lists the coordinates and component directions for these stations.

The two mainshock records from the Pleasant Valley Pump Plant and eleven records from the M 5.2 aftershock of 9 May 1983, 0249 UTC, have been processed and the results are included in this report. Table 5 contains the epicentral and hypocentral distances for the records, and the peak values of processed data.

MAIN EVENT DATA

Records obtained at the Pleasant Valley Pump Plant were from instruments on the basement floor (approximately 17 feet below grade at the building site), and at the switchyard (a ground site) 280 feet southwest of the plant at the top of a slope about 70 feet above the plant grade. The switchyard instrument is mounted on a 4' x4' concrete pad with a small metal shelter. The discharge pipeline passes within 120 feet of the switchyard instrument.

Peak accelerations were 0.54 g horizontal and 0.37 g vertical at the switchyard and 0.33 g horizontal and 0.22 g vertical in the basement of the pump plant (see Table 5 for scaling details, and Figure 2). This relative differential between acceleration values at the two sites was consistent for larger aftershocks as well as for the Three Rocks earthquake of 3 August 1975, 0635 UTC.

Note in Figure 2 that four upward peaks on the 045° component from the switchyard were slightly clipped due to a misalignment of the accelerometer mass. Motion of the mass was restricted by the transducer frame. Comparison of this record with that from the basement indicates little data was lost. Reconstruction of these peaks has been carried out and is described in the section entitled Preliminary Processing.

The instrumentation was interconnected for starting and timing signals and although the WWVB radio signal failed during the strong shaking, a real time base was recovered by extrapolation from a clear signal recorded 60 seconds after triggering. From this radio code, trigger time for the two accelerographs was calculated at 42 m 42.04 $\pm$ .03 seconds (approximately 4.22 s after origin time). The hypocentral distance was 13.9 km and S-wave minus trigger time was 3.4 seconds.

Strong-motion instruments were also located at the first floor level and on the roof at the pump plant but due to numerous false triggerings prior to the earthquake no recordings were obtained from these units. This station has had a long history of serious operational problems due to obsolete instrumentation. As a result, the Bureau of Reclamation supplied four new units following the 25 October 1982 earthquake near Coalinga. The new accelerographs were installed in late February but, unknown to the USGS, internal crane operations caused numerous false triggerings (recorded roof accelerations as large as 0.09 g). Coupled with apparent "electronic" triggerings these resulted in failure of the two upper level instruments; the

roof accelerograph was out of film, and on the first floor accelerograph the film creased and jammed after six feet of operation. It is actually fortunate that the other two records were recovered. A mere three feet of film remained on the switchyard accelerograph when the earthquake occurred, and six feet on the basement unit. Furthermore, if the Bureau of Reclamation had not provided new instrumentation, the USGS would have removed, prior to the Coalinga main shock, all four older units for complete renovation with reinstallation scheduled for the summer of 1983.

Table 2 lists other stations in the USGS-operated network where records were obtained from the main shock. A majority of the dams have triggers on the crest or control tower, where long-period waves from distant earthquakes can trigger recordings by exciting structural resonances.

AFTERSHOCK DATA

Shortly after the M_L 6.5 earthquake eight aftershock accelerographs were installed at six sites, five in the epicentral area and one in Coalinga (see Figure 1 and Table 4 for locations). The following is a brief description of the stations.

Anticline Ridge: One accelerograph is bolted to a concrete pump pad (pump removed) on the top of a ridge about 50 feet above Shell Road. A second instrument is located ten feet off the pad and is held in position by several bags of soil laid over the top of the unit. The two instruments are interconnected for starting and WWVB radio signals.

Burnett Construction: The accelerograph is anchored to a large concrete pad, base for a parking shelter, at 5th and Glenn in Coalinga, approximately one block southeast of the border of the heavily damaged downtown area.

Oil City: The instrument is bolted to the pad of a small (garage size) light weight wood frame building located at Shell Oil's West Coalinga Unit Production Laboratory

Oil Fields Fire Station: One accelerograph is mounted at the end of a long narrow pad used as a base for a light weight hose drying rack. A second accelerograph is located ten feet away on natural ground, anchored and interconnected in the same manner as Anticline Ridge.

Palmer Avenue: This instrument is installed on a concrete pad formerly used as a derrick footing (according to an unknown source at Union Oil).

Skunk Hollow: The accelerograph is mounted on an old pump pad (pump removed).

The most significant aftershock, a magnitude 5.2 event that occurred on 9 May 0249 UTC, (see Table 1), was recorded by all eight aftershock instruments as well as the complete structural array located at the pump plant. Peak accelerations from this shock are listed in Table 5 and copies of the records displayed in Figure 3 and 4.

All stations had hypocentral distances within the range of 12 to 17 km, with peak accelerations of 0.09 g in Coalinga at the Burnett Construction station. The highest accelerations were measured at Anticline Ridge: 0.56 g, free-field, and 0.48 g, on an adjacent concrete pad. It was pointed out by Malcolm Clark (oral communication, 1983) that surficial shatter effects were evident on the far side of the ridge, about 20-30 feet from the accelerograph site. Accelerations at other stations at similar distances were on the order of half that observed at Anticline Ridge.

The set of records from Pleasant Valley Pump Plant (Figure 4 and Table 3) show, as expected, a peak acceleration at the switchyard that is substantially higher, 0.22 g, compared to the basement, 0.14 g. As mentioned previously, this relationship held true for the main shock and prior earthquakes. Note that data traces from the basement and first floor are virtual overlays, a phenomenon noted in prior earthquakes and credited to the monolithic nature of the underground portion of the pump plant. The roof record exhibits a dominant 0.55 second period (accelerations about 0.25 g) in a northeast-southwest direction across the limber axis of the structure. One can only surmise the nature of the record that would have been recorded at the roof level during the main shock, but in comparing the basement records obtained from the two larger events in this series, accelerations well in excess of 0.5 g would be anticipated, perhaps as large as 1 g.

PRELIMINARY PROCESSING OF MAINSHOCK RECORDS

All film records from the main shock and the May 9 aftershock were digitized at IOM-TOWILL, 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 traces of the photographic quality of these records is approximately 10 micrometer (Fletcher and others, 1980). Peak-to-peak excursions on the original record of the mainshock reached 1.8 cm. Each mainshock record was digitized in six sections, or frames, of about 9.5 cm length, and subsequently reassembled to recover the record of 58 sec total duration (Porter and others, 1978). Only one frame of the aftershock records was digitized. Computer processing was carried out at the U.S. National Strong-Motion Data Center in Menlo Park. Non-uniform digitized points at approximately 600 samples per second were linearly interpolated at 600 sps before time domain convolution to remove the instrument response and prevent aliasing errors, followed by decimation to 200 sps. A low-cut, or high-pass, Butterworth filter, bidirectional, of order 8, with corner frequency of 0.1 Hz, was selected to remove all periods longer than 10 sec from the mainshock records. Velocity, displacement and response spectra plots are included in this report. The selection of the long-period cut-off of 10 sec was based on a desire to include all periods associated with the faulting duration of approximately 7 sec (estimated from the strong-motion duration of the records). The displacement and spectral plots indicate the presence of 7-8 sec content which at this stage is not considered long-period noise. There is no evidence of any 10-sec content which might have indicated an incompatability between the records, the 10-sec content therein, and the 10-sec corner frequency of the Butterworth filter. A corner frequency of 0.5 Hz was selected for the May 9 records.

The long-period content in the displacements between triggering and S-wave arrival 3.4 seconds later have, in the past, been considered as indicating the presence of noise, or an incompatability between record and filter. Two items help to remove this concern. One is the similarity between the calculated displacements at each of the two sites, for each of the three pairs of

components. The long-period content of these signals, as portrayed by displacement, should be similar, and such is the case. The possibility that noise, of any origin, affected both records identically is remote. The second item is the reported long-period premonitory movement for this event. At the present time we prefer to leave intact this long-period evidence prior to the arrival of the S-wave, until such time as further investigations clarify the situation.

The four clipped points in the main shock, switchyard, 45° component, were manually replaced in the following manner. Figure 5 is an enlargement of the portion of the record containing the clipped points, labelled from A to D. The result of processing the digitized data without interfering with these peaks is shown in figures 6 and 7. Figure 6 is the uncorrected data for all three components; figure 7 shows the acceleration, velocity and displacement for the 45° component.

We first fitted sinusoidal peaks to the existing trace at points A and B, and skewed sinusoidal peaks at C and D, (making use of the apparent slopes of the small portion of the trace between C and D) as shown in figures 8 and 9. The peak following point D (namely, -442.74 cm/sec^2) was allowed to remain as the peak acceleration for this trace, although slightly altered (-442.88 cm/sec^2), by ensuring that the fitted peak amplitudes remained below this level. The appearance of the skewed peaks at C and D did not match any of the other peaks on this trace and a more symmetrical pair of peaks was fitted. The larger of the two, at C, became the new peak for this component. More weight was placed on the shape of the trace just prior to C and just after D, and less weight was placed on the detailed shape of the trace between C and D. This portion is very likely to have been affected by the restriction to motion of the mass of the transducer. The resulting trace (figures 10 and 11), with a 34% increase in peak value to 595.06 cm/sec^2 (corrected to 590.20 cm/sec^2), represents our best estimate of the actual trace.

It is clear that although this version of the trace might be used in analyses of the pump plant structural behavior and in studies of the earthquake ground motion, where the significance of an individual peak is lost within the trace considered in its entirety, we cannot recommend its use in any study of peak motion statistics.

The response spectra for the three versions of the trace are shown in figures 12 (unaltered, with a peak of -442.74 cm/sec^2), 13 (skewed peaks at C and D), and 14 (symmetric peaks, with a maximum of 595.06 cm/sec^2). Points to note are: 1, the increasing amplitude of the asymptote at the low-period end; 2, the increased amplitude of the 20% - damped curve, corresponding to increased peak velocity; 3, more prominent long period content at 2 1/2 sec and 7 sec periods; 4, negligible influence on the 0.1 sec period content (the 10 Hz frequency of the added peaks); and 5, negligible influence on the 0.5 sec (the 2 Hz frequency that appears predominant in the vicinity of points C and D).

A trial processing of the data with no long-period filter resulted in serious long-period, approximately sinusoidal, noise problems at a period of about 60 sec, corresponding closely to the record length. Displacement amplitudes of 20 to 64 cm were reached. This corresponds, if indeed sinusoidal, to small acceleration amplitudes of 0.2 to 0.7 cm/sec^2, or amplitudes on the original film of 4 to 13 micrometers. This is the same order of magnitude as the RMS error of the digitizing, namely 10 micrometers.

ACKNOWLEDGEMENTS

The Geological Survey thanks the numerous property owners that allowed the use of their land and structures for installing strong-motion recorders. Arnold Acosta, Marion Salsman, and Frank Risavich assisted in locating, operating, and recovering records from temporary and permanent stations. The Survey also acknowledges the prompt assistance of the Bureau of Reclamation in providing new instrumentation that allowed recovery of the only near-field records from this earthquake.

REFERENCES

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Porter, L. D., Brady, A. G., and Roseman, W. R., 1978, Computer reassembly of multiframe accelerograms, Abs., Earthquake Notes, 49, 4, p. 13.

Table 1: EARTHQUAKES WITH PROCESSED RECORDS

Coalinga, Calif., 1983 mainshock(1)

Location:	10km NE of Coalinga, Calif.
Magnitude:	M_L 6.5
Origin:	2 May 1983, 2342:37.82 sec UTC
Epicenter:	36°13.99'N, 120°17.59'W
Depth:	10.48 km

Coalinga, Calif., 9 May 1983 aftershock(1)

Location:	9 1/2 km NNE of Coalinga, Calif.
Magnitude:	M_L 5.2
Origin:	9 May 1983, 0249:11.57 sec UTC
Epicenter:	36°13.89'N, 120°18.70'W
Depth:	12.53 km

Notes (1) Earthquake data from J. Eaton, USGS, 24 August 1983.

Table 2: Distant Accelerograph Records from the Main Event

Station	No. of Records	Approximate Distance (km)
Bear Valley Array		75 - 100
Bear Valley Fire Station	1	
James Ranch	1	
Stone Canyon West	1	
Webb Ranch	1	
Williams Ranch	1	
Buchanan Dam	5	95
Dos Amigos Pump Plant	2	90
Fresno VA Hospital	1	75
Hidden Dam	4	95
New Melones Dam	6	185
Pine Flat Dam	3	110
Lake Success Dam	6	125
Terminus Dam	3	120

Table 3: Scaled peak accelerations for all records, May 2, 1983 to September 11, 1983

	Coalinga									Pleasant Valley Pump Plant			
	Anticline Ridge Free-Field	Anticline Ridge Pad	Burnett Construction	Oil City	Oil Fields Fire Station Free-Field	Oil Fields Fire Station Pad	Palmer Avenue	Skunk Hollow	Transmitter Hill	Free-Field	Switchyard	Basement	1st Floor	Roof
2 May 83 2342 UTC											0.54 .38 .46	0.28 .22 .31		
2 May 83 2343 UTC												<.05		
2 May 83 2344 UTC												<.05		
2 May 83 2345:23 UTC												<.05		
2 May 83 2345:50 UTC												<.05		
2 May 83 2346 UTC												.05 .09 .06		
2 May 83 2347:13 UTC												<.05		
2 May 83 2348 UTC												<.05		
4 May 83 0728 UTC								0.05 .10 .04			.07 .08 .26	.05 .05 .17	0.04 .04 .16	0.08 .07 .44
4 May 83 0739 UTC								<.05			.03 .03 .07	<.05	<.05	(<.05)
4 May 83 1611 UTC								<.05			.04 .05 .10	<.05	<.05	<.05
5 May 83 1020 UTC											.05 .03 .11	.02 .02 .06	.02 .02 .06	.06 .03 .16
5 May 83 1133 UTC											<.05	<.05	<.05	<.05
5 May 83 1242 UTC			<.05											
6 May 83 22— UTC	<.05													
7 May 83 0017 UTC	0.05 .02 .08	0.07 .02 .08			0.10 .02 .07		0.04 .04 .06							
7 May 83 0544 UTC	<.05	<.05					.02 .02 .06							

Table 3: Scaled peak accelerations for all records, May 2, 1983 to September 11, 1983 - continued

	Coalinga										Pleasant Valley Pump Plant			
	Anticline Ridge Free-Field	Anticline Ridge Pad	Burnett Construction	Oil City	Oil Fields Fire Station Free-Field	Oil Fields Fire Station Pad	Palmer Avenue	Skunk Hollow	Transmitter Hill Free-Field		Switchyard	Basement	1st Floor	Roof
9 May 83 0249 UTC	0.56	0.48	0.09	0.30	0.18		0.26	0.12			0.22	0.14	0.13	0.23
	.30	.37	.07	.10	.16		.10	.12			.11	.04	.05	.06
	.56	.47	.08	.24	.25		.22	.15			.10	.05	.06	.24
9 May 83 0326 UTC	.05	.05	<.05	.06	.07		.06							
	.02	.02		.02	.04		.06							
	.08	.10		.07	.06		.07							
9 May 83 0331 UTC				<.05										
9 May 83 1734														<.05
10 May 83 1326 UTC														<.05
10 May 83 1425														<.05
10 May 83 2153 UTC														<.05
11 May 83 2049 UTC	.08	.08			.09									
	.02	.02			.01									
	.13	.13			.04									
12 May 83 1341:10 UTC			.05		<.05		.14							
			.03				.13							
			.04				.10							
12 May 83 1341:22 UTC			<.05				<.05							
14 May 83 0502 UTC	.08	.06		<.05			.07				<.05	<.05	<.05	.05
	.07	<.05					.06				<.05		<.05	.02
	.07	.11					.10				.11		.05	.13
18 May 83 0246:52 UTC							<.05							
18 May 83 2039 UTC	<.05	<.05			<.05		<.05							
24 May 83 0902 UTC	.44	.30	.05	.22	.50	.49	.14	.06		.04	.07	.05	.04	.08
	.34	.35	.05	.10	.12	.10	.07	.08		.05	.09	.04	.04	.04
	.74	.66	.07	.14	.35	.32	.08	.10		.09	.11	.06	.07	.22
24 May 83 0904 UTC										<.05	<.05			
30 May 83 0321 UTC					<.05	<.05								
11 June 83 0309 UTC	.06	<.05	.20	.09	<.05	<.05			.06	<.05	.04	<.05	<.05	.04
	.02		.07	.09					.04		.02			.03
	.06		.14	.09					.06		.05			.14
12 June 83 0131 UTC					.06	.07								
					.02	.01								
					.03	.02								

Table 3: Scaled peak accelerations for all records, May 2, 1983 to September 11, 1983 - continued

	Coalinga												Pleasant Valley Pump Plant				
	Anticline Ridge North	Anticline Ridge Free-Field	Anticline Ridge Pad	Anticline Ridge South	Burnett Construction	Oil City	Oil Fields F. S. Free-Field	Oil Fields F. S. Pad	Palmer Avenue	Skunk Hollow	Transmitter Hill	Free-Field	Slope	Switchyard	Basement	1st Floor	Roof
9 July 83 0740:52.6		0.28 .12 .39		0.24 .11 .42	0.14 .08 .10	0.37 .21 .38	0.09 .07 .09	0.09 .07 .09	0.20 .07 .12	0.14 .15 .17	0.19 .12 .20	<.05		0.03 .03 .06	<.05	<.05	0.03 .04 .10
9 July 83 2351 UTC						.06 .02 .06											
14 July 83 1525 UTC									.06 .04 .07								
17 July 83 uu58 UTC						<.05											
18 July 83 1928 UTC					.09 .02 .07												
22 July 83 0239:55.3			.49 .80 1.17		.34 .27 .26	.40 .37 .85	.20 .13 .22	.22 .17 .21	.30 .22 .28	.23 .24 .39	.96 .50 .75	.41 .12 .21		.38 .29 .58	.13 .08 .43	.12 .08 .47	.25 .20 1.10
22 July 83 0249 UTC									<.05								
22 July 83 0329 UTC						.05 .04 .10											
22 July 83 0343:02.1				.34 .22 .51	.17 .04 .11	.25 .12 .30	.13 .04 .14	.13 .04 .16	.30 .08 .33	.09 .04 .15	.30 .08 .25			<.05	<.05	<.05	.04 .03 .11
25 July 83 2231.40.8		.95 .30 .55		.43 .29 .56	.39 .26 .66	.24 .22 .37	.10 .06 .15	.12 .06 .18	.15 .17 .18	.06 .09 .14	.39 .12 .28	<.05		<.05	<.05	<.05	.03 .03 .15
14 Aug 83 1243.36.5	<.05	<.05	.08			.09 .03 .09					<.05	<.05	<.05	<.05	<.05	<.05	<.05
9 Sep 83 0916:14.9			.29 .06 .17	.20 .09 .18	<.05	.07 .04 .09	.14 .09 .09	.17 .07 .12				.06 .05 .04	.05 .07 .07	.07 .08 .08			
9 Sep 83 0921:33.3														<.05			
11 Sep 83 1148:.08.0	.06 .03 .06		<.05	.09 .04 .10	.25 .09 .31	.09 .03 .09	<.05	<.05				<.05	<.05	<.05			

Table 4: STATIONS

Name, locations	Coordinates	Components
Coalinga; Anticline Ridge Freefield and pad	36.233° N 120.333° W	360° Up 270°
Coalinga; Burnett Construction	36.138° N 120.357° W	360° Up 270°
Coalinga; Oil City	36.229° N 120.360° W	360° Up 270°
Coalinga; Oil Fields Fire Station Freefield and pad	36.247° N 120.314° W	360° Up 270°
Coalinga; Palmer Avenue	36.209° N 120.292° W	360° Up 270°
Coalinga; Skunk Hollow	36.275° N 120.306° W	360° Up 270°
Pleasant Valley Pump Plant Switchyard, bsmt, 1st floor, roof	36.308° N 120.249° W	135° Up 045°

Table 5: PROCESSED RECORDS

Earthquake	Station	Distances (km)		Comp.	Peak Acceleration		Corrected Peak Motion		
		Epi	Hypo		Scaled (g)	Digitized (cm/s^2)	Accel. (cm/s^2)	Vel. (cm/s)	Disp. (cm)
Coalinga	Pleasant Valley	9.2	13.9	135	.54	516.46	514.53	39.09	- 5.04
2 May 1983	Pump Plant			Up	.37	-372.87	-371.41	16.30	- 7.63
2342 UTC	Switchyard			045	.45	595.06	590.20	61.43	20.04
	Basement			135	.28	267.95	267.28	-21.71	3.86
				Up	.22	-214.25	-216.26	15.53	- 7.94
				045	.33	304.60	306.69	-36.74	10.54
Coalinga	Coalinga								
9 May 1983	Anticline Ridge	1.9	12.7	360	.56	-562.63	-594.69	22.40	1.45
0249 UTC	Freefield			Up	.30	272.55	302.07	5.69	- 0.28
				270	.56	-555.68	-548.80	15.17	- 0.94
	Pad			360	.48	-469.45	-462.58	-21.22	1.48
				Up	.37	-357.76	-343.57	- 7.67	- 0.26
				270	.47	-475.64	-473.89	15.82	- 0.83
	Burnett Constr.	11.1	16.8	360	.09	- 90.12	- 89.71	4.81	0.35
				Up	.07	- 72.27	- 70.73	2.33	0.15
				270	.08	- 86.90	- 86.87	- 3.62	- 0.43
	Oil City	4.3	13.3	360	.30	-294.31	-288.42	- 7.74	0.65
				Up	.10	-105.94	-115.46	3.10	0.28
				270	.24	-242.25	-242.16	9.71	- 0.67
	Oil Fields	1.7	12.6	360	.18	-173.40	-174.19	- 5.10	0.38
	Fire Station			Up	.16	-164.80	-160.53	- 3.52	- 0.34
	Freefield			270	.25	235.44	230.71	- 7.74	- 0.50
	Pad			360	.19				
				Up	.15	Not Processed			
				270	.22				

Table 5: PROCESSED RECORDS - continued

Earthquake Motion	Station	Distances (km)		Comp.	Peak Acceleration			Corrected Peak	
		Epic	Hypo	(g)	Scaled (cm/s^2)	Digitized Accel.	(cm/s^2)	Vel. (cm/s)	Disp. (cm)
Coalinga 9 May 1983 0249 UTC (cont.)	Palmer House	3.1	12.9	360	.26	246.63	246.44	-11.70	0.91
				Up	.10	90.18	94.44	- 2.28	- 0.34
				270	.22	207.78	208.48	6.48	- 0.38
	Skunk Hollow	4.9	13.4	360	.12	112.14	113.79	- 4.99	- 0.34
				Up	.12	-125.11	-132.20	- 3.41	- 0.49
				270	.15	-149.46	-151.37	7.61	0.40
	Pleasant Valley Pump Plant Switchyard	10.2	16.1	135	.22	209.41	209.96	- 9.90	- 0.71
				Up	.11	100.02	95.75	- 2.68	- 0.24
				045	.10	97.41	94.23	- 7.73	- 0.98
	Basement			135	.14	127.66	127.21	- 6.52	- 0.49
				Up	.04	34.88	34.83	1.30	0.18
				045	.05	- 53.28	- 53.29	- 5.78	- 0.59
	1st floor			135	.13	126.75	125.87	- 6.42	- 0.50
				Up	.05	36.30	37.07	1.36	0.17
				045	.06	- 55.54	- 56.91	- 5.87	- 0.61
	Roof			135	.23	219.64	221.23	- 9.10	- 0.62
				Up	.06	56.25	57.01	- 1.77	0.19
				045	.24	-236.06	-235.12	17.38	- 1.78

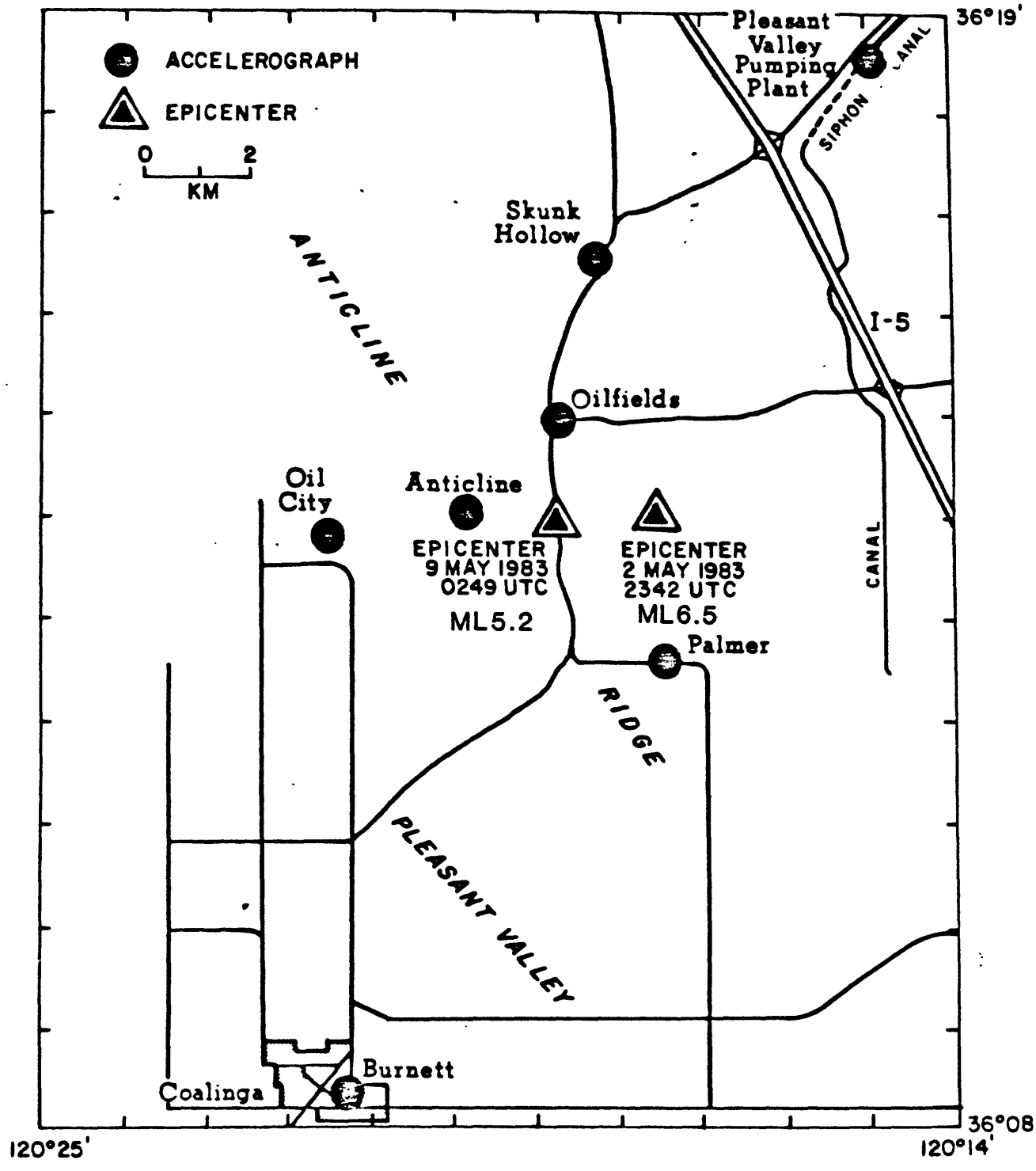


Figure 1: Strong-motion stations in the Coalinga earthquake epicentral area.

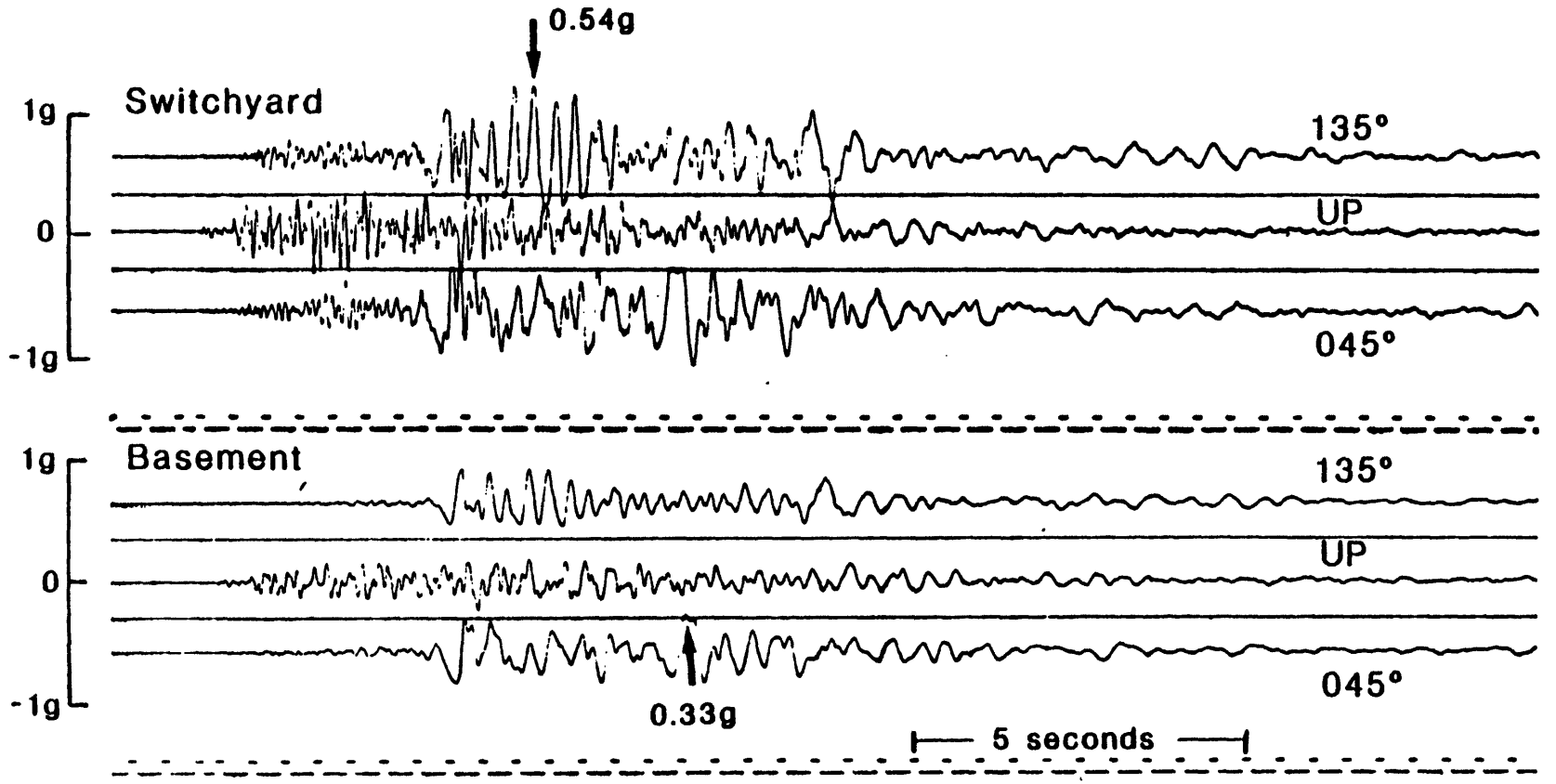


Figure 2: Strong-motion records from Pleasant Valley pump plant: Main shock.

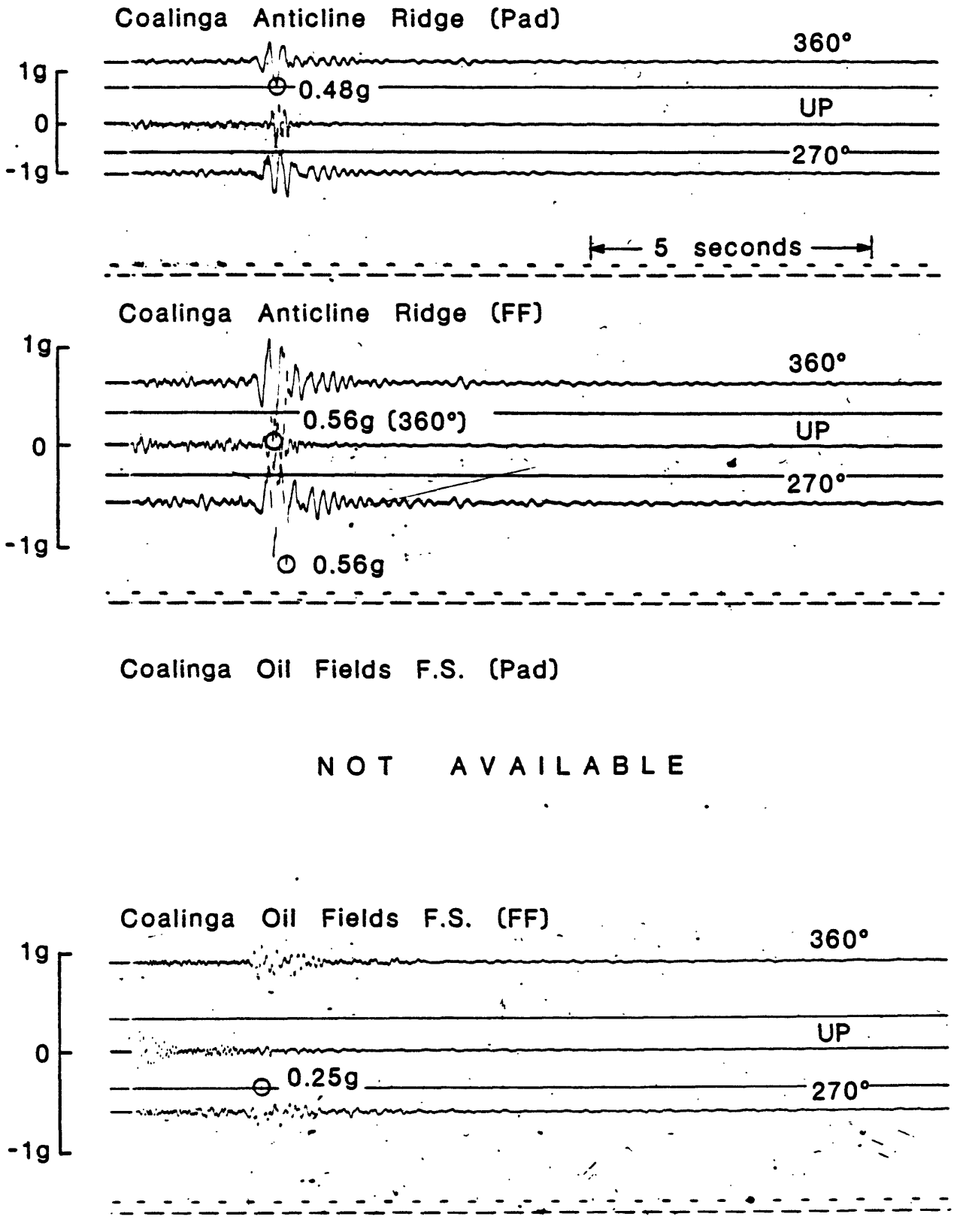


Figure 3a: Strong-motion records from temporary Coalinga stations: Anticline Ridge (Pad), Anticline Ridge (free-field), and Oil Fields Fire Station; for the aftershock 9 May 1983, 0249 UTC.

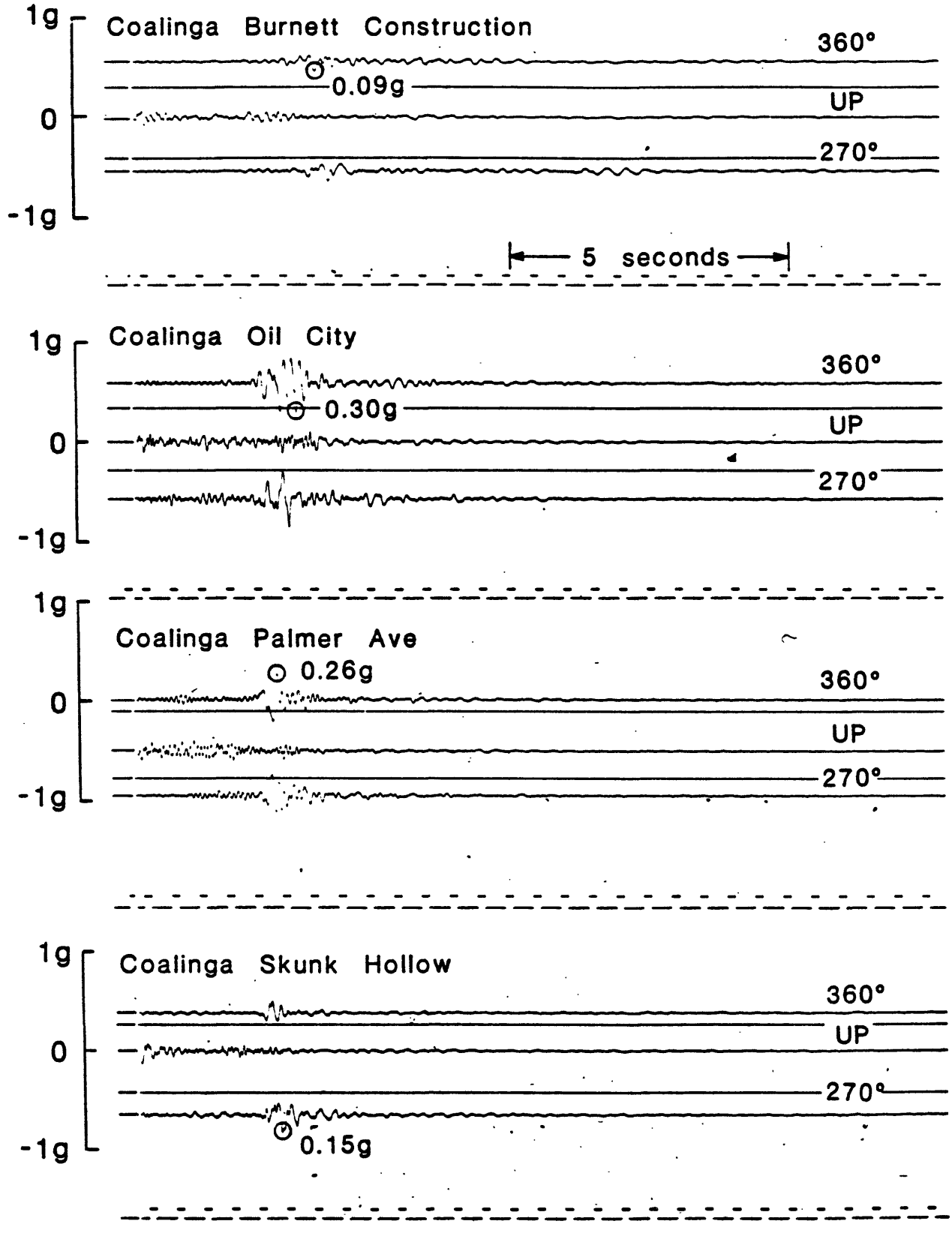


Figure 3b: Strong-motion records from temporary Coalinga stations: Burnett Construction, Oil City, Palmer Avenue and Skunk Hollow; for the aftershock 9 May 1983, 0249 UTC.

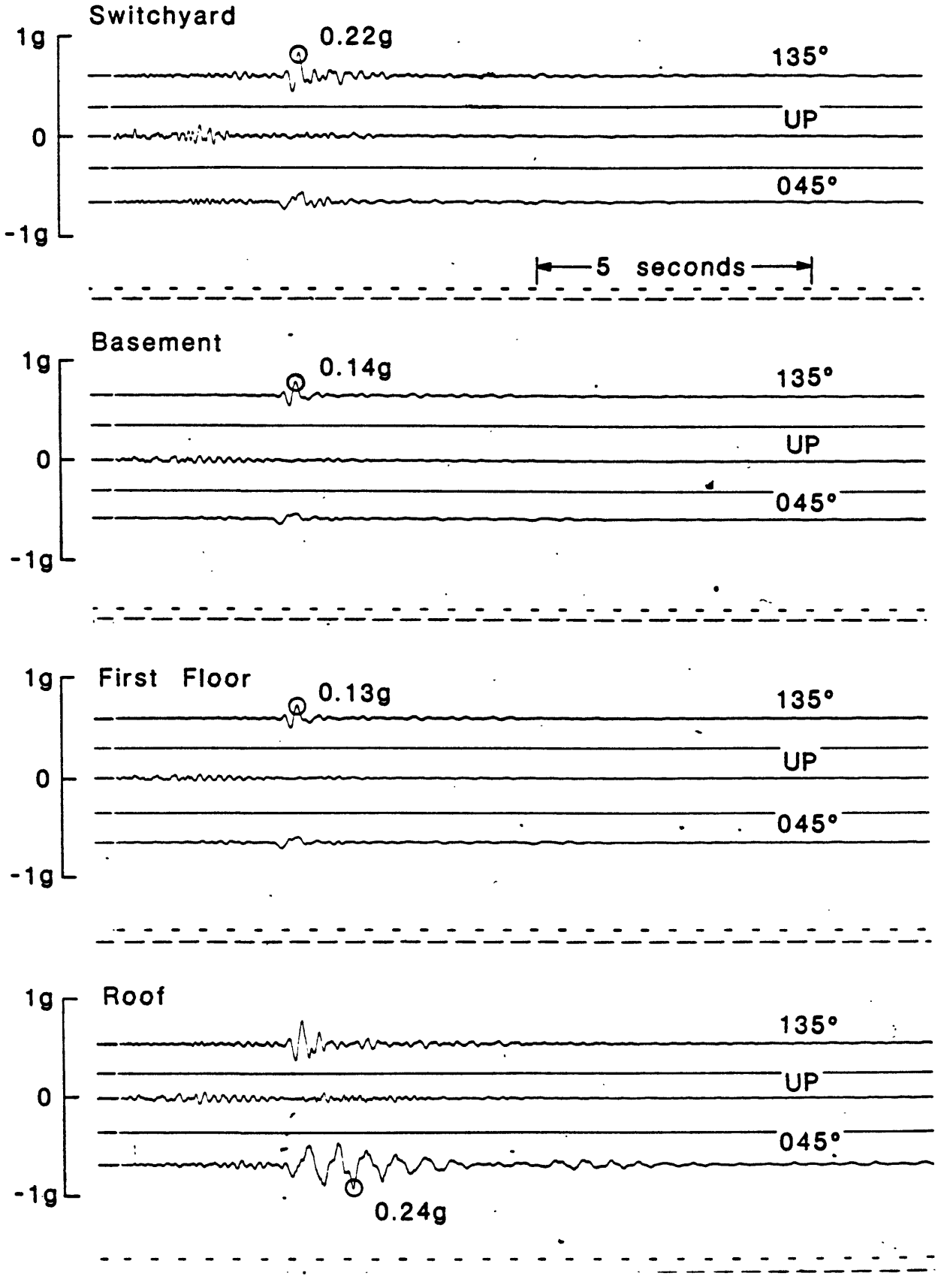


Figure 4 : Strong-motion records from the Pleasant Valley pump plant for the aftershock 9 May 1983, 0249 UTC: switchyard, basement, first floor, and roof.

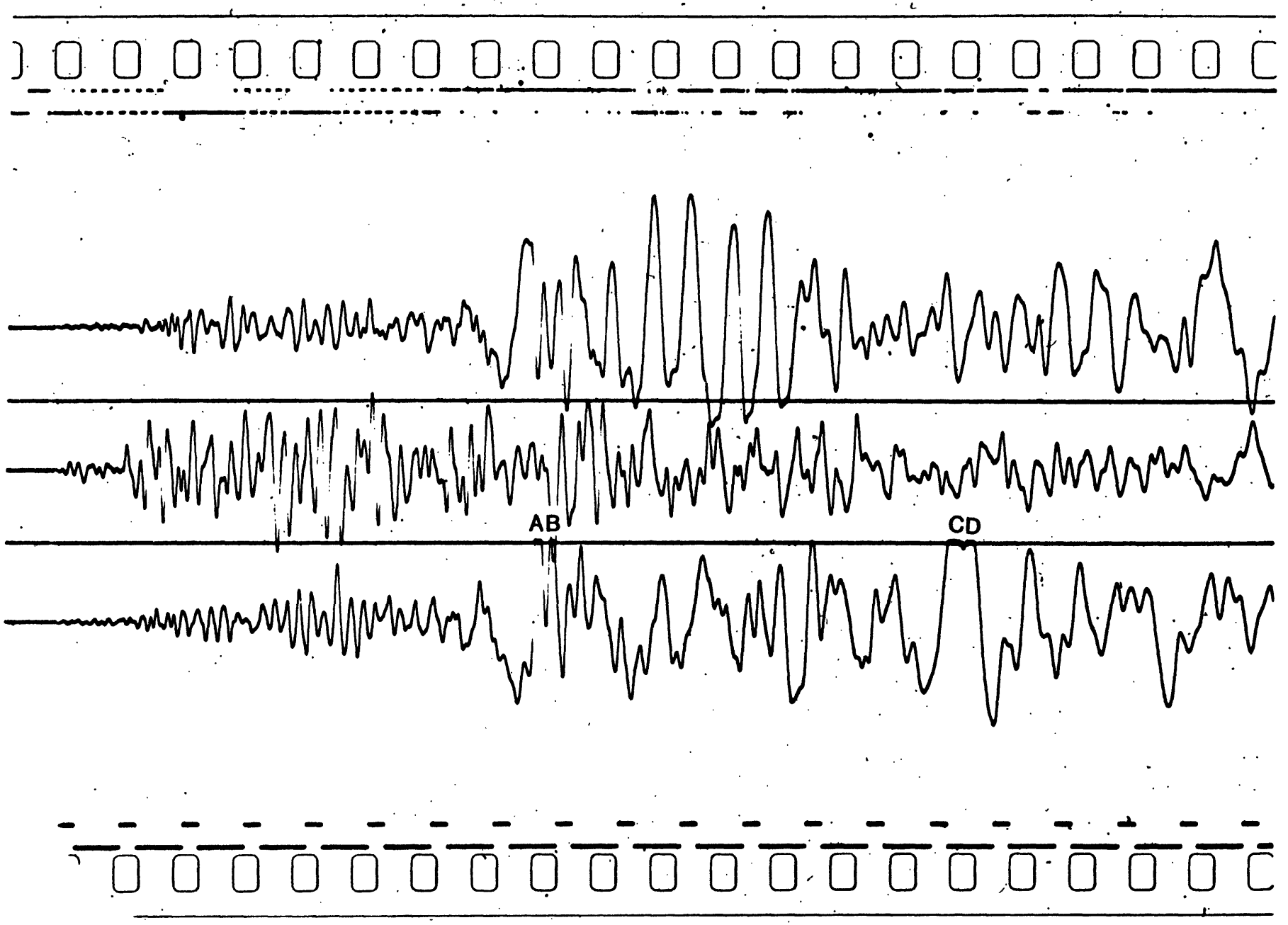


Figure 5: Enlargement of portion of Pleasant Valley Pump Plant, switchyard, main shock record. Slight clipping at points A, B, C, D.

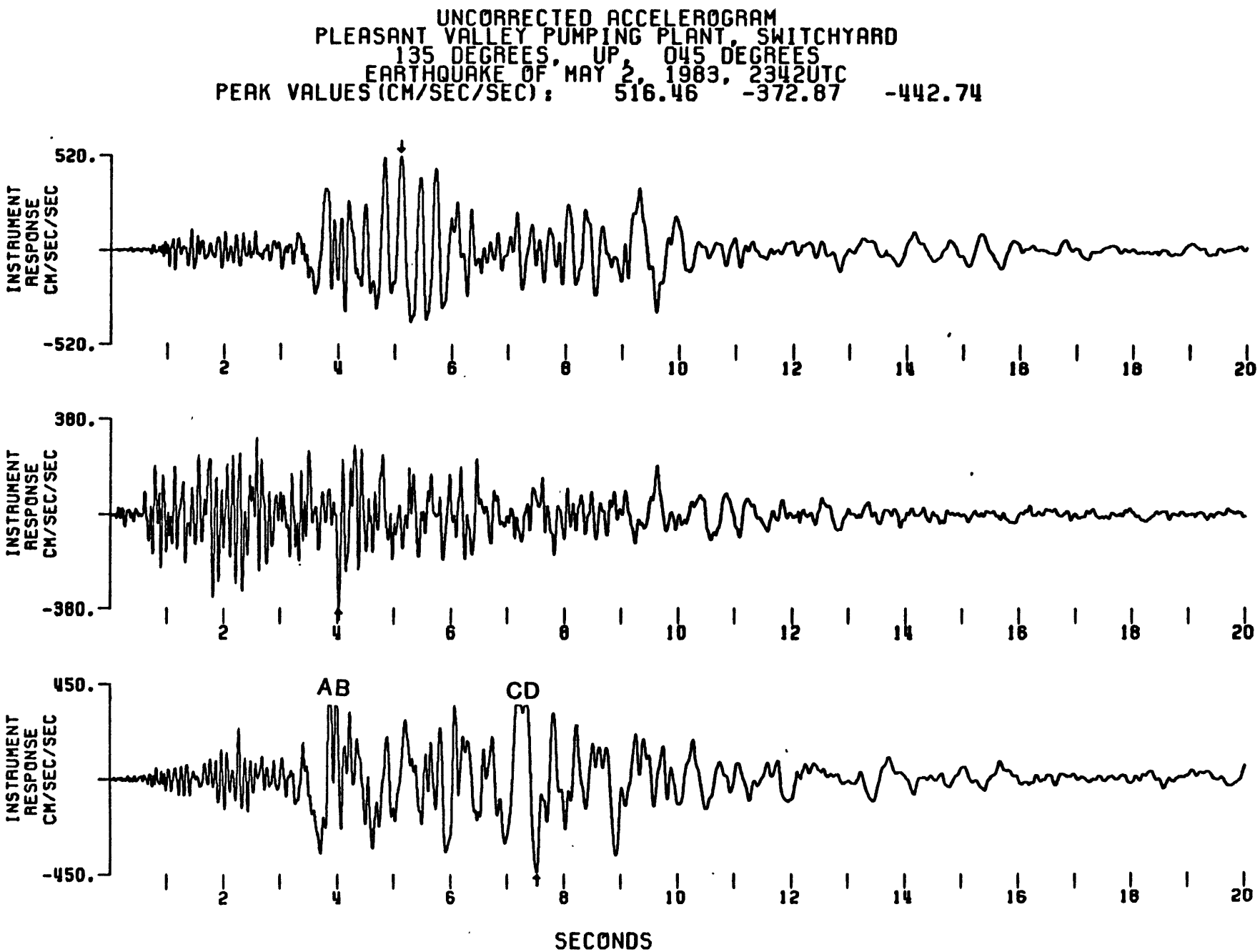


Figure 6: Processed record with clipped points - uncorrected accelerogram.

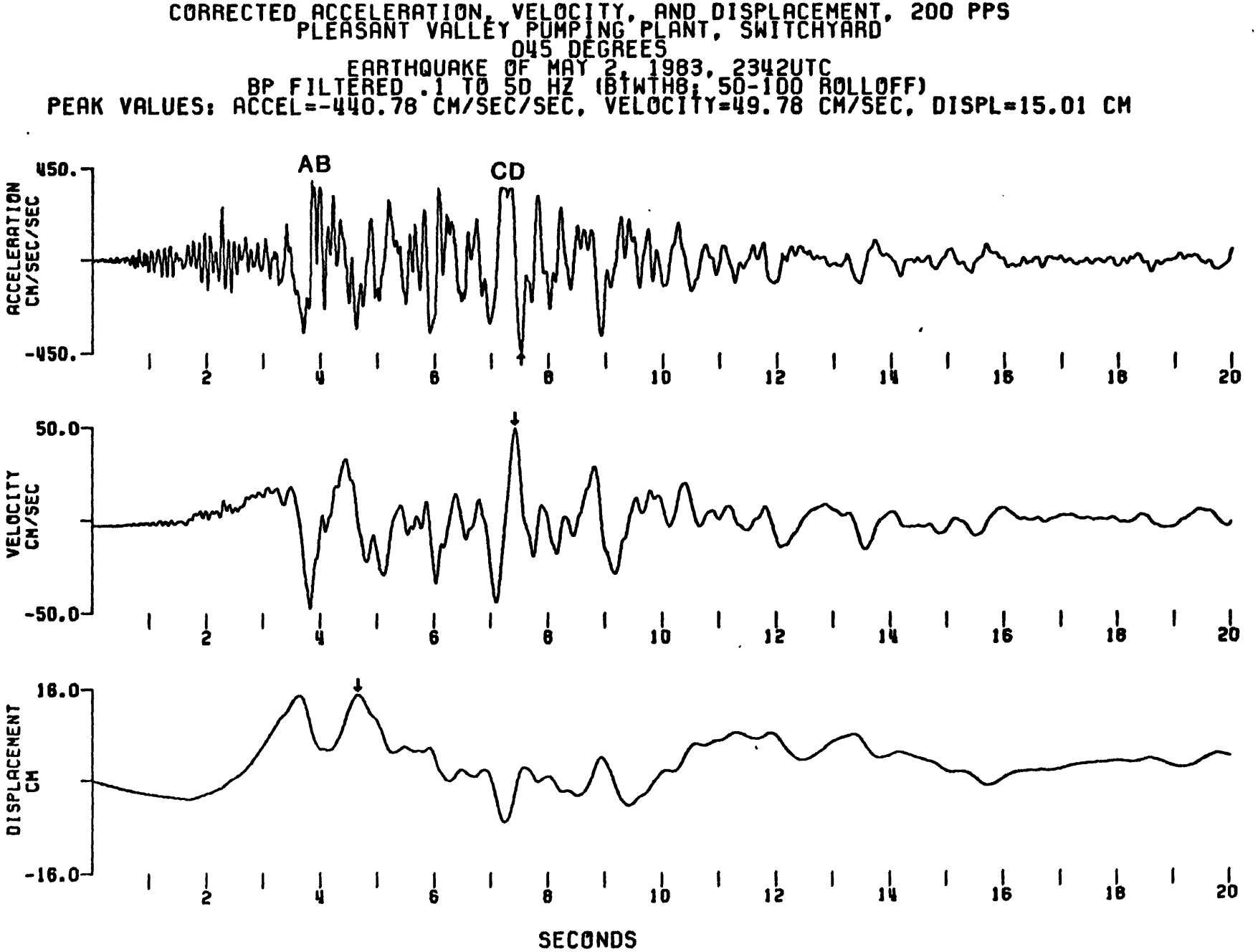


Figure 7: Processed record with clipped points - corrected acceleration.

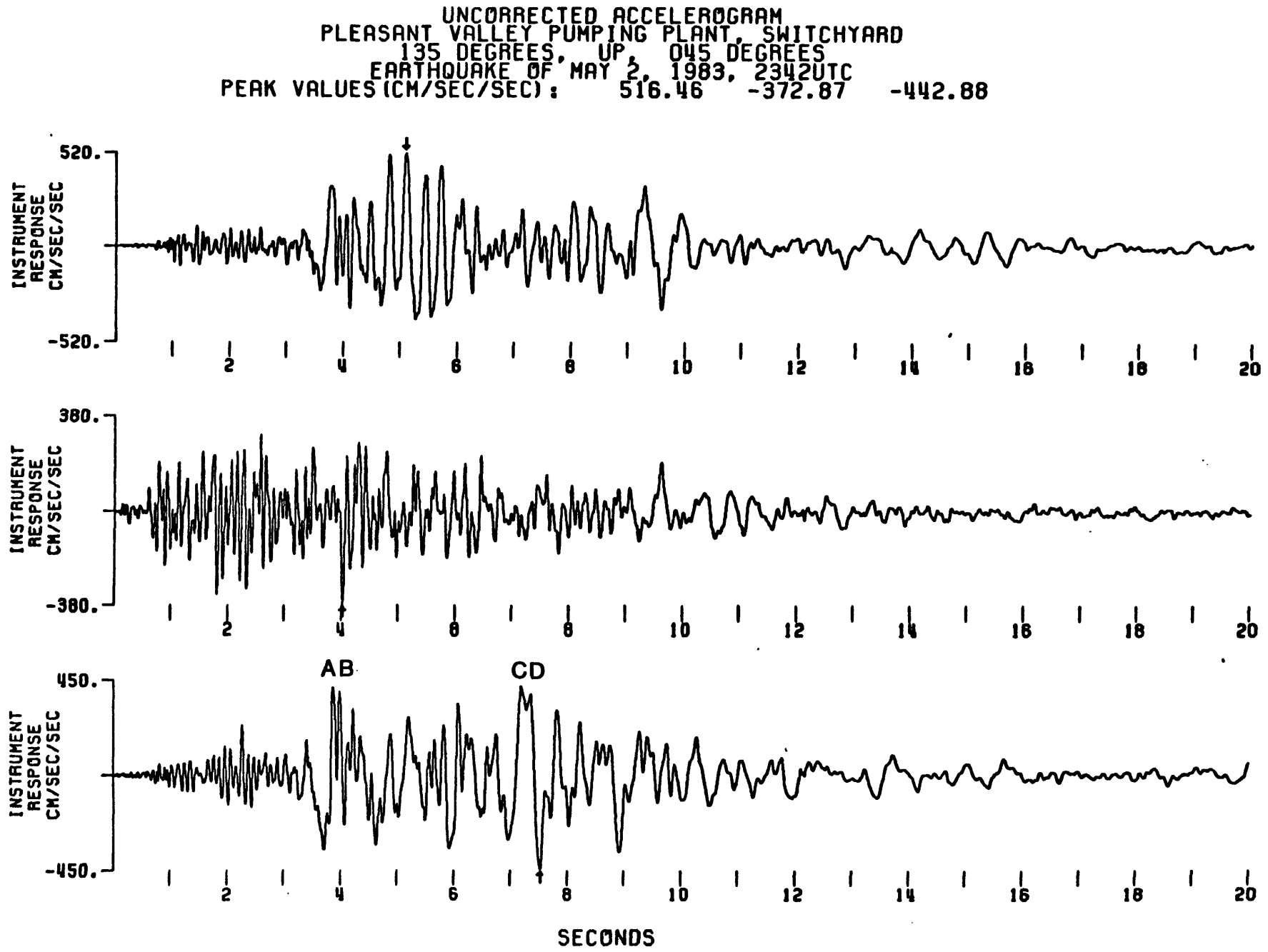


Figure 8: Sinusoidal peaks at points A, B; skewed peaks at points C, D; uncorrected accelerogram.

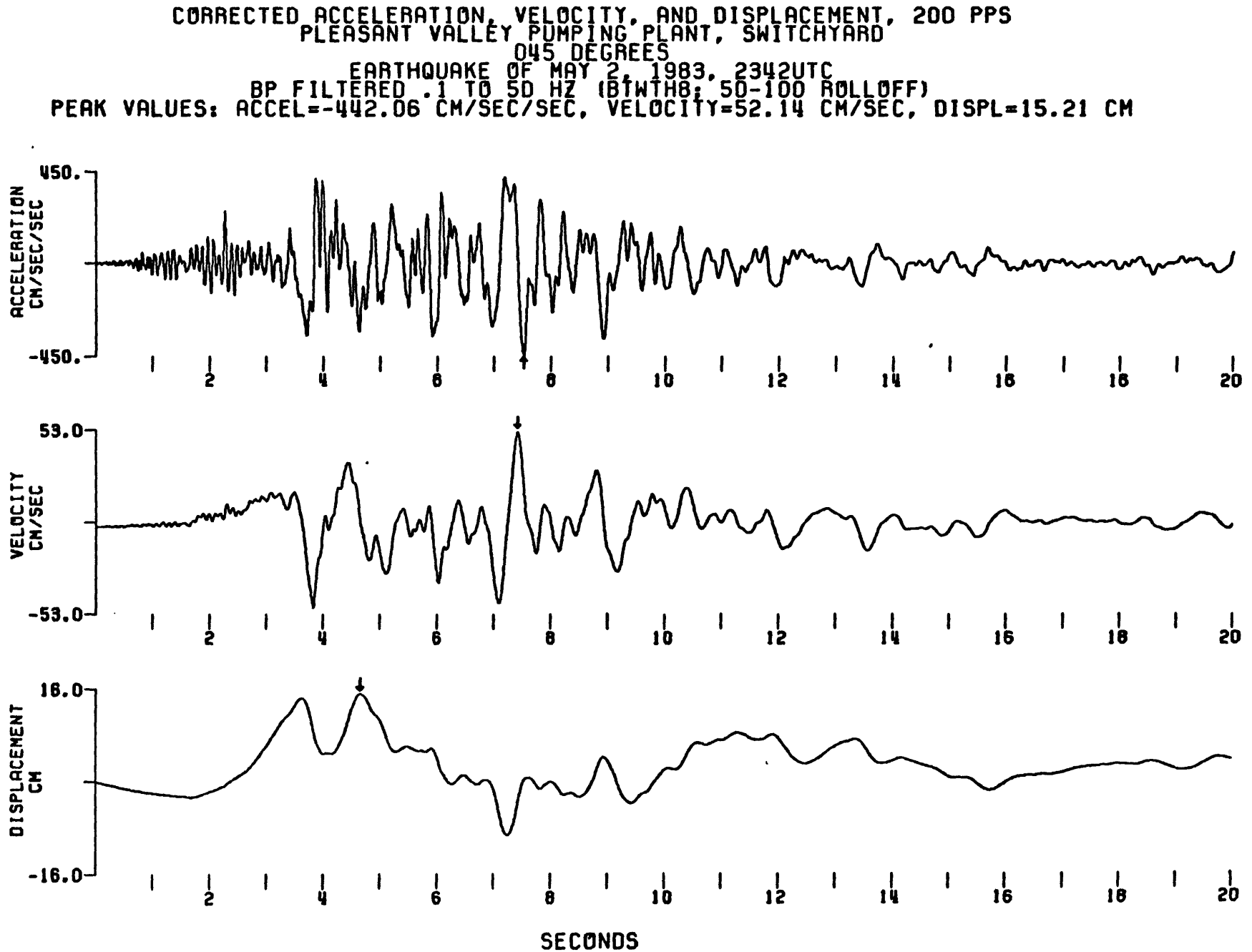


Figure 9: Corrected acceleration, velocity and displacement for the third component of figure 8.

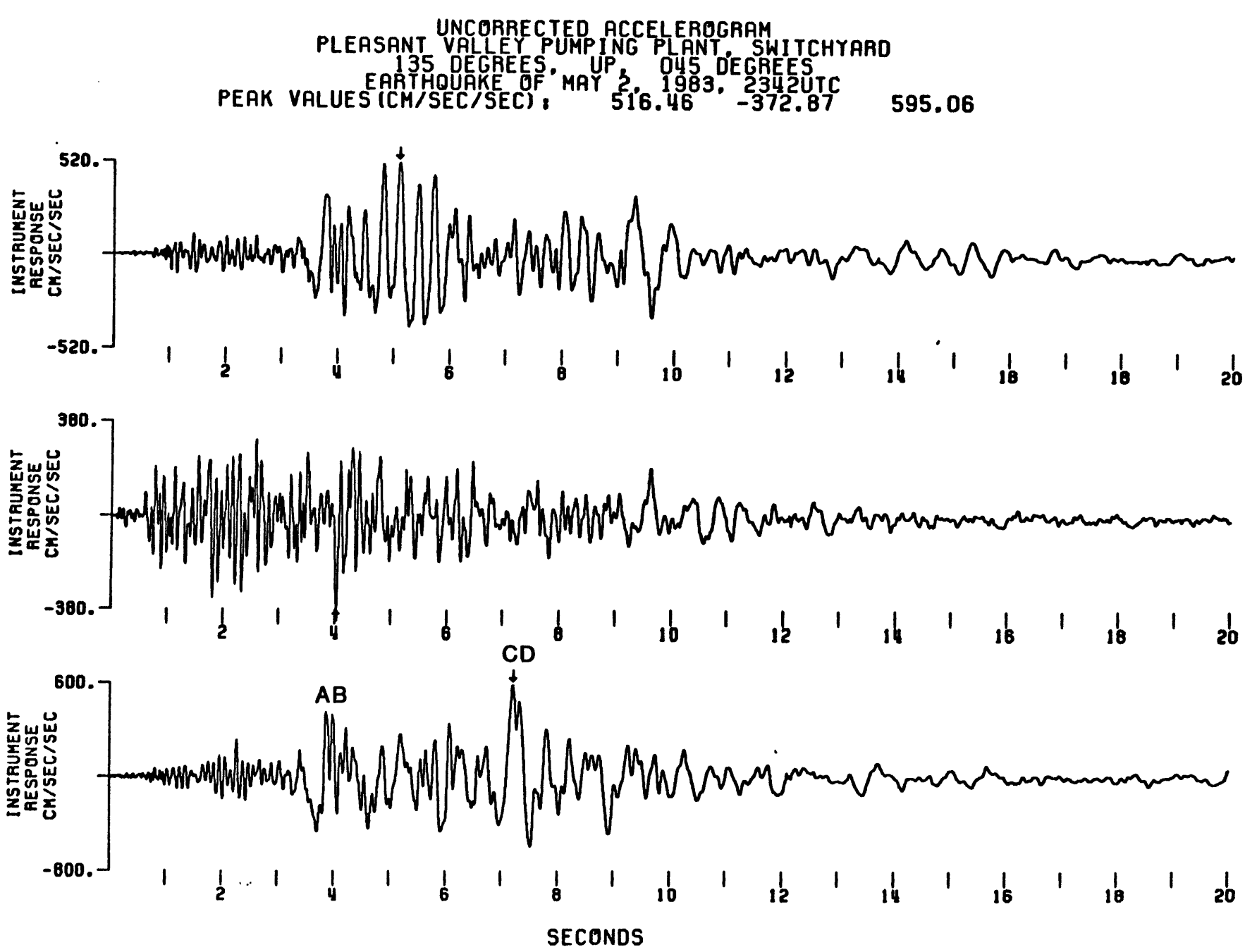


Figure 10: Sinusoidal peaks at all points A, B, C, D - uncorrected accelerogram.

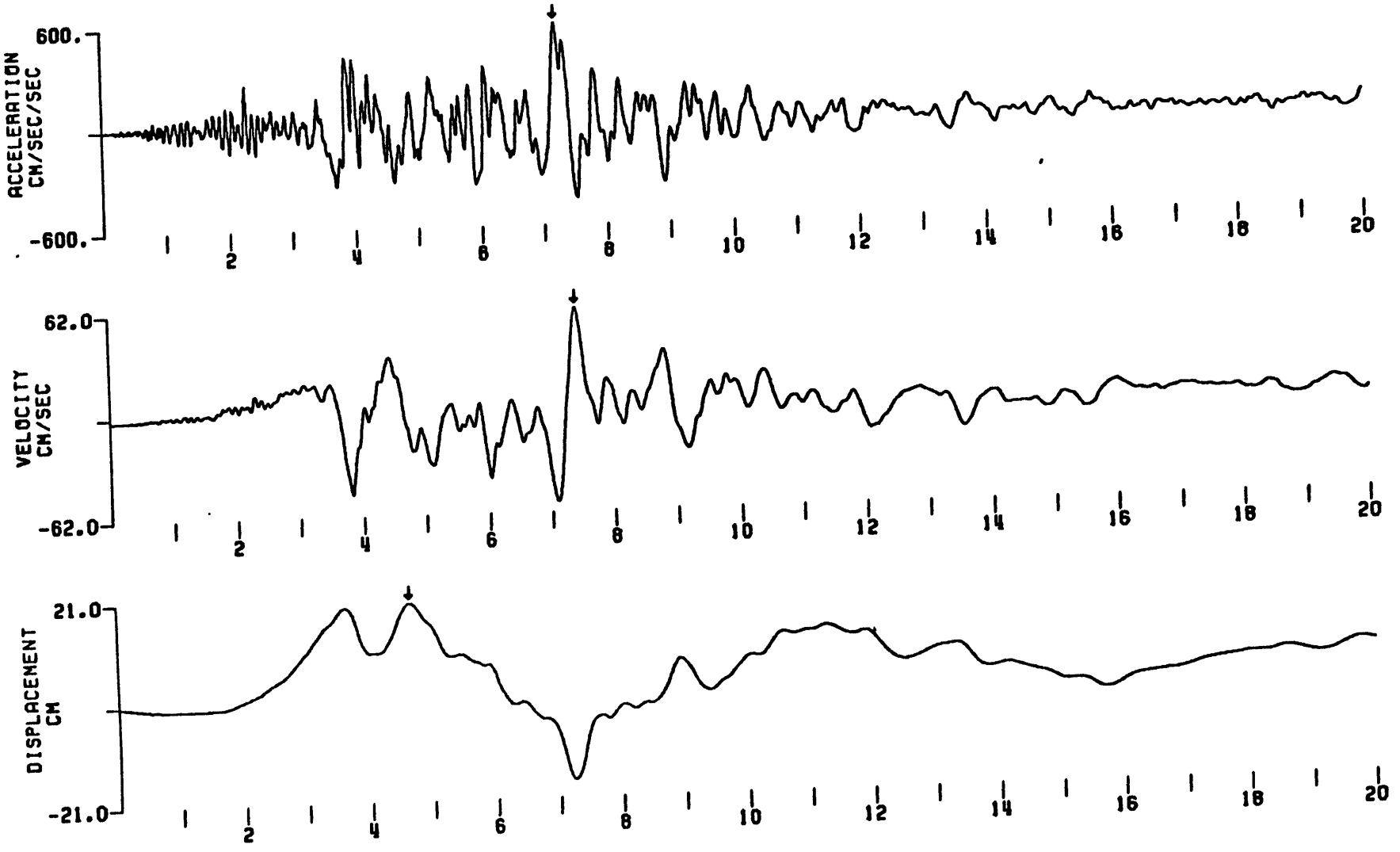


Figure 11: Corrected acceleration, velocity and displacement for the third component of figure 10.

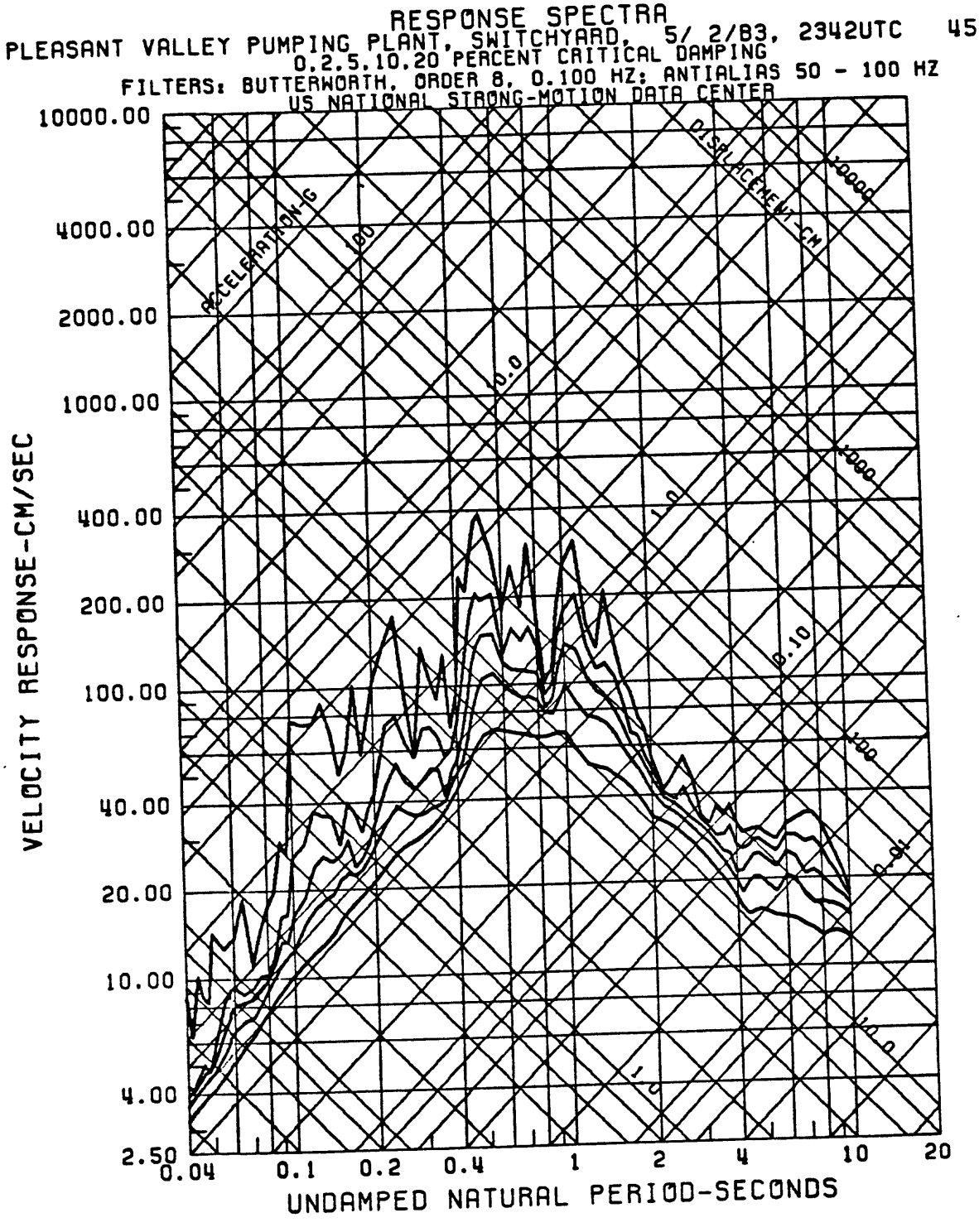


Figure 12: Processed record with clipped points - response spectrum.

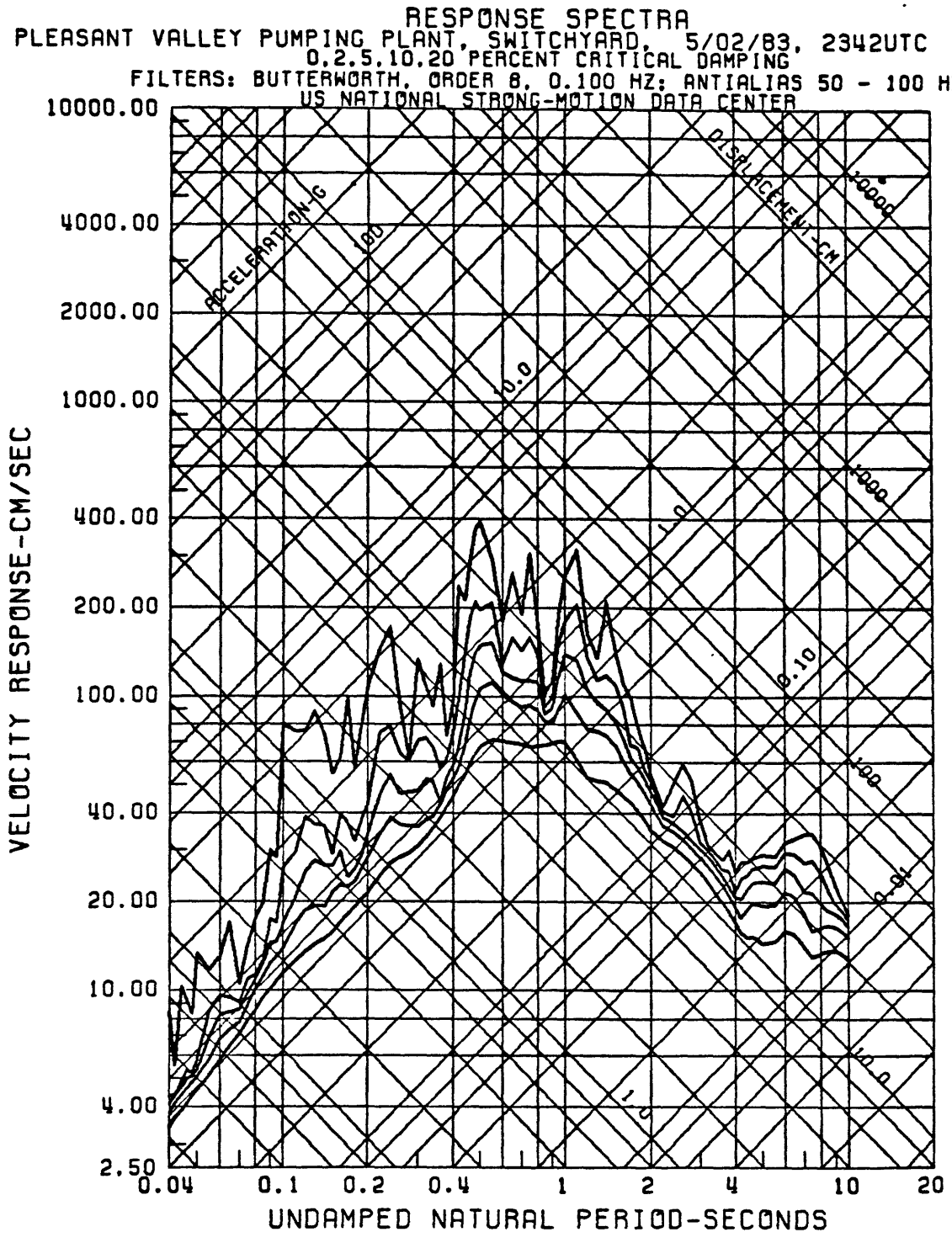


Figure 13: Response spectrum for the partially fixed record of figure 9.

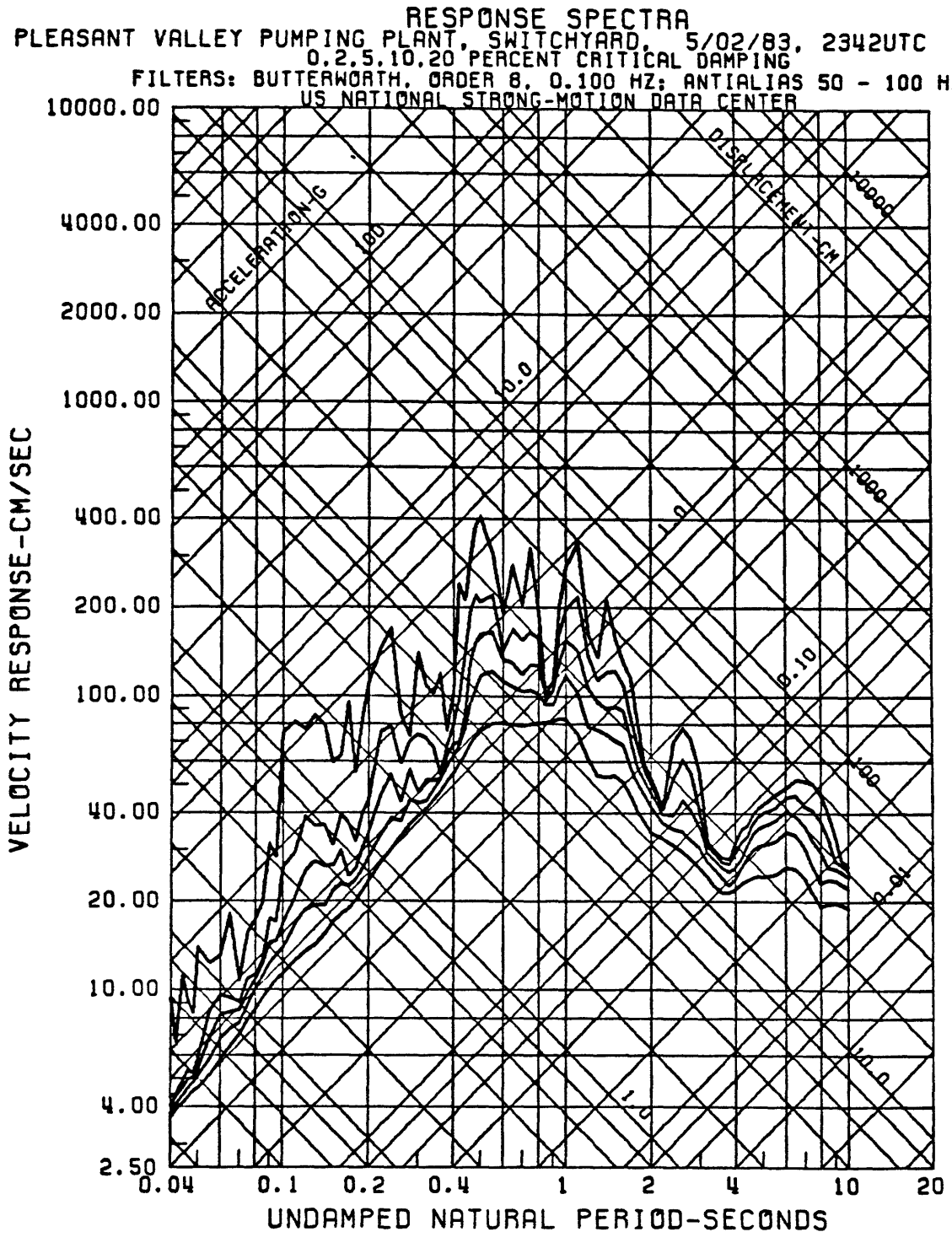


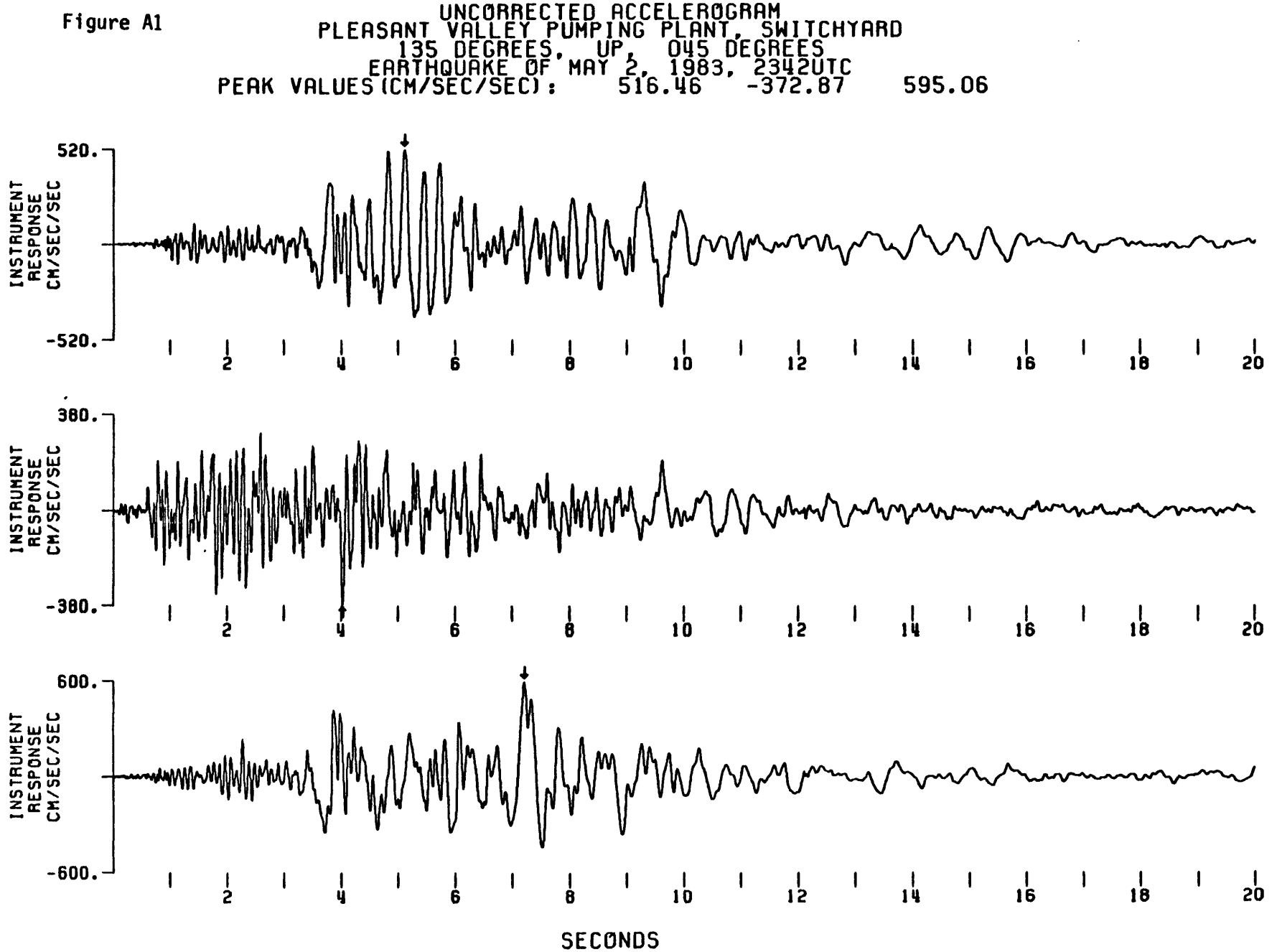
Figure 14: Response spectrum for the selected record of figure 11.

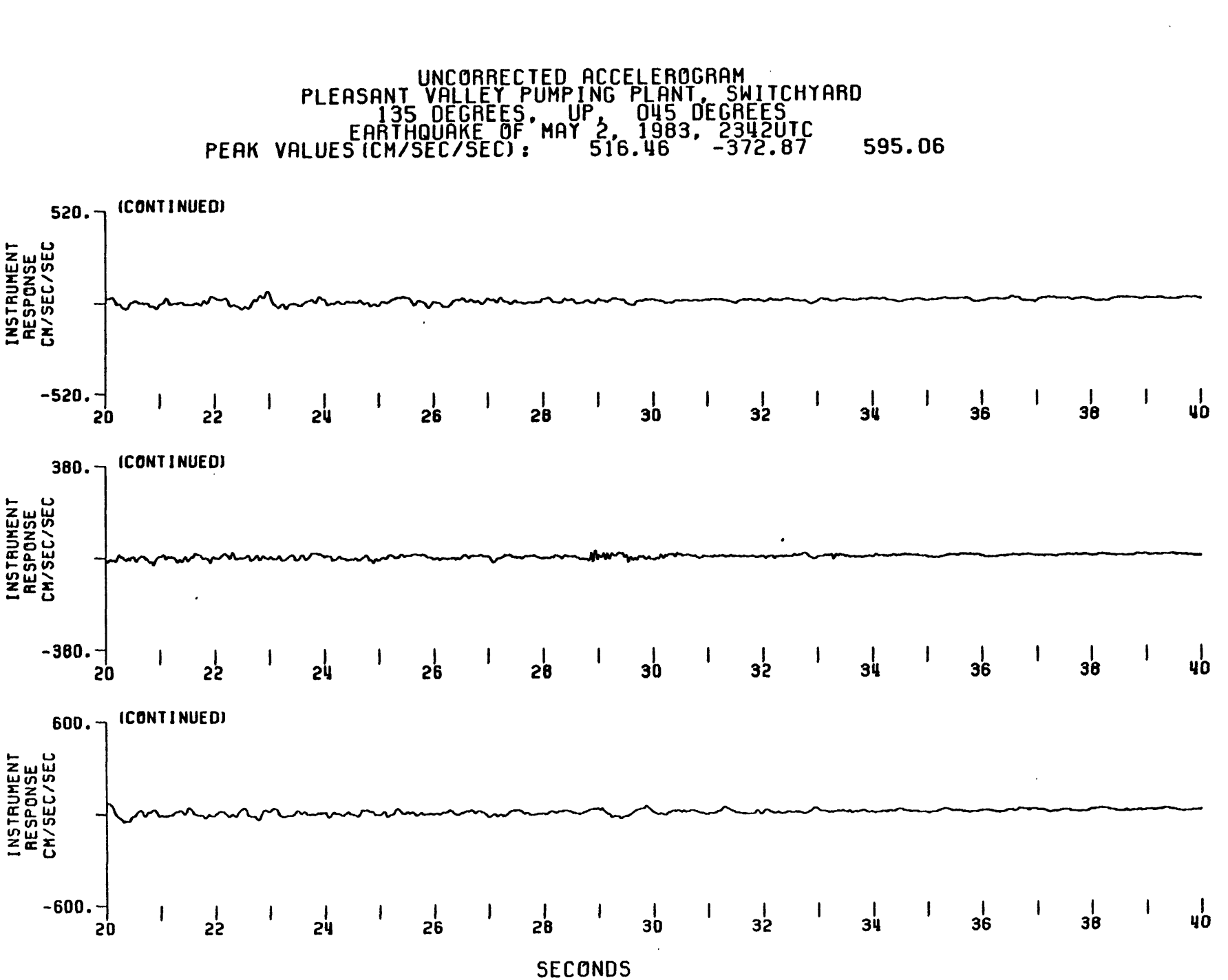
APPENDIX

COMPUTER PLOTS
OF
MAINSHOCK AND AFTERSHOCK
PROCESSING

(See Table of Contents for
Appendix Figures on page v)

Figure A1


UNCORRECTED ACCELEROGRAM
PLEASANT VALLEY PUMPING PLANT, SWITCHYARD
135 DEGREES, UP, 045 DEGREES
EARTHQUAKE OF MAY 2, 1983, 2342UTC
PEAK VALUES (CM/SEC/SEC): 516.46 -372.87 595.06
INSTRUMENT RESPONSE CM/SEC/SEC
520.
-520.
380.
-380.
600.
-600.
2
4
6
8
10
12
14
16
18
20
SECONDS


UNCORRECTED ACCELEROGRAM
PLEASANT VALLEY PUMPING PLANT, SWITCHYARD
135 DEGREES, UP, 045 DEGREES
EARTHQUAKE OF MAY 2, 1983, 2342UTC
PEAK VALUES (CM/SEC/SEC): 516.46 -372.87 595.06
(CONTINUED)
520.
-520.
INSTRUMENT RESPONSE CM/SEC/SEC
(CONTINUED)
380.
-380.
INSTRUMENT RESPONSE CM/SEC/SEC
(CONTINUED)
600.
-600.
INSTRUMENT RESPONSE CM/SEC/SEC
20 22 24 26 28 30 32 34 36 38 40
SECONDS

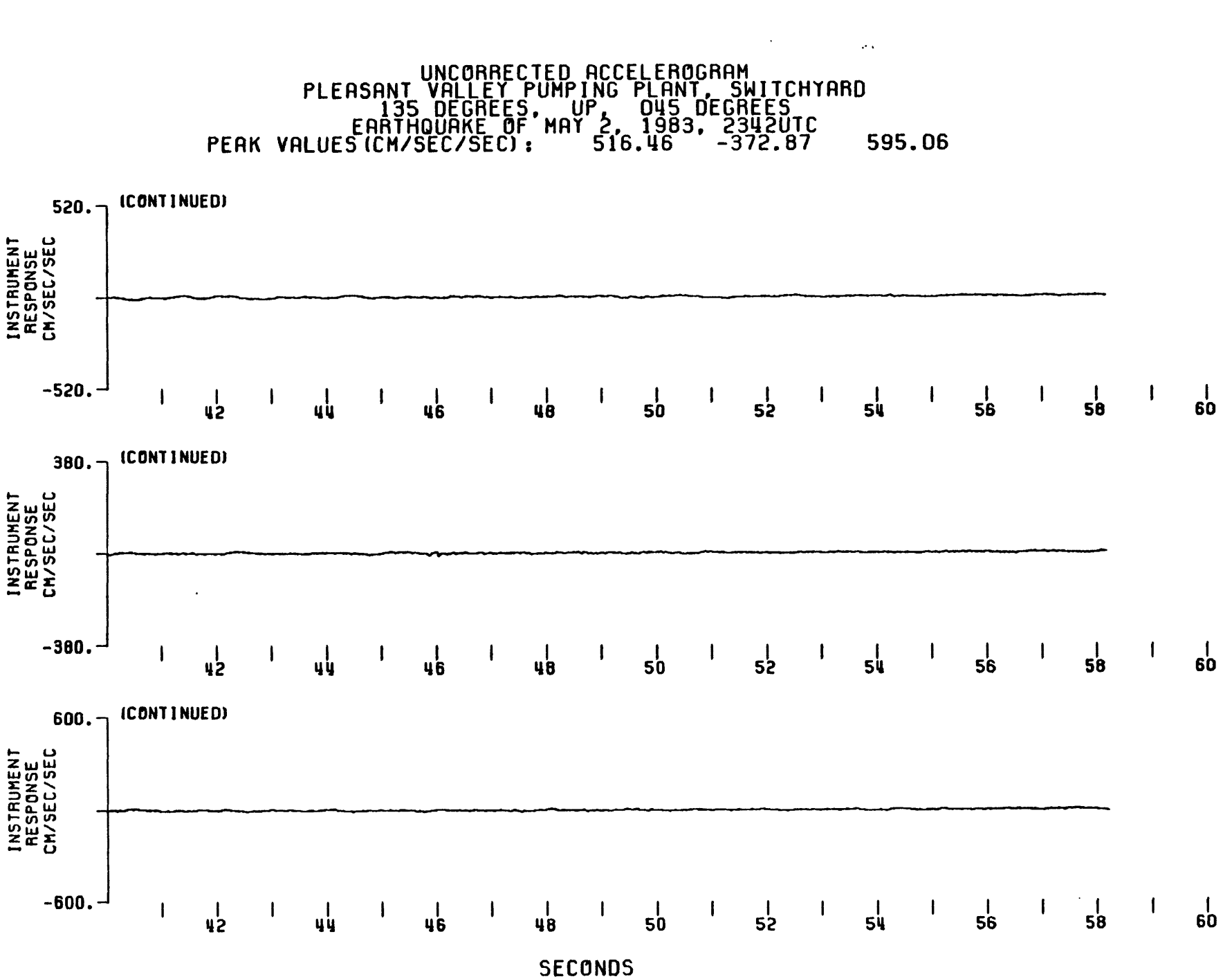
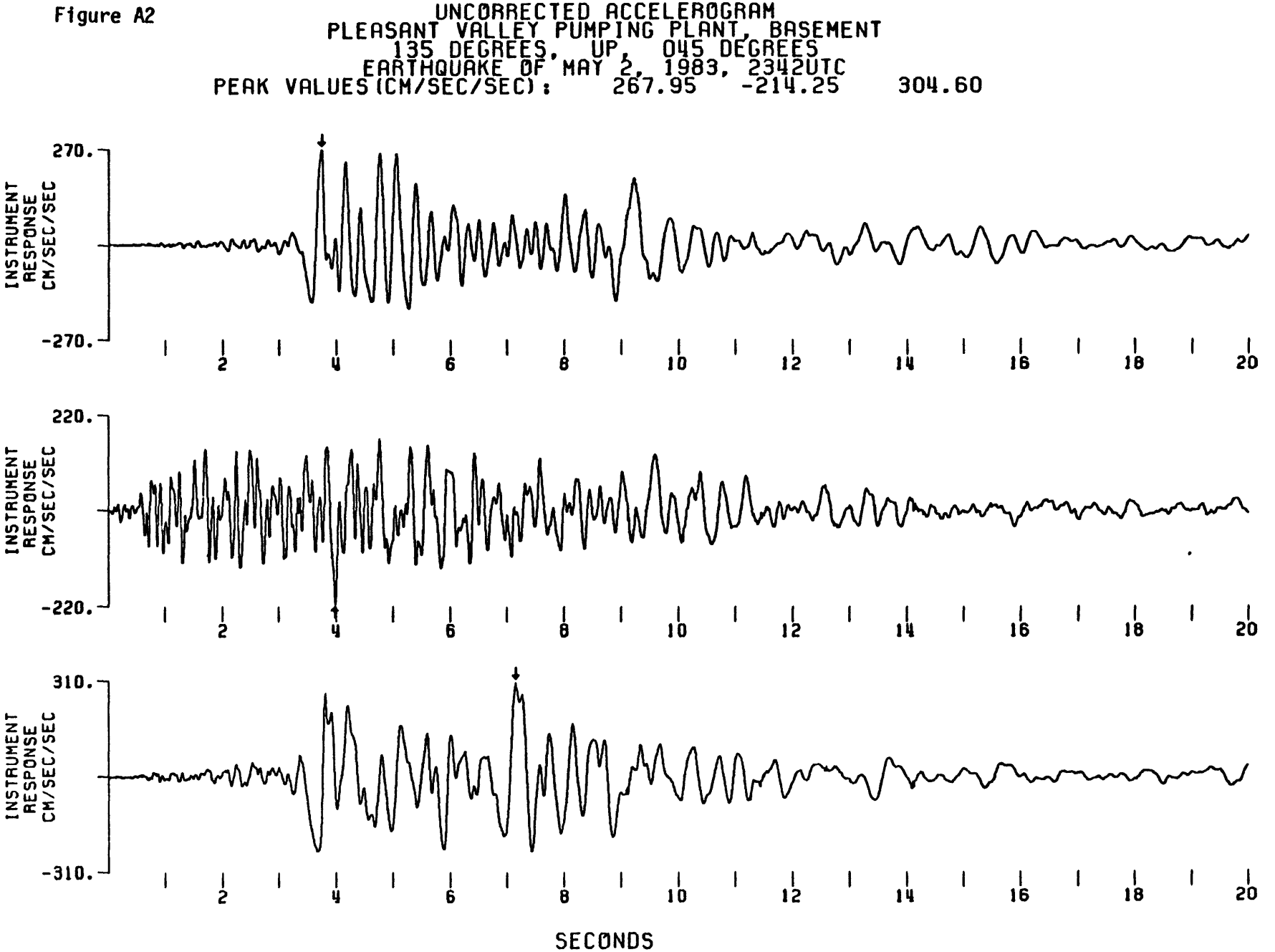
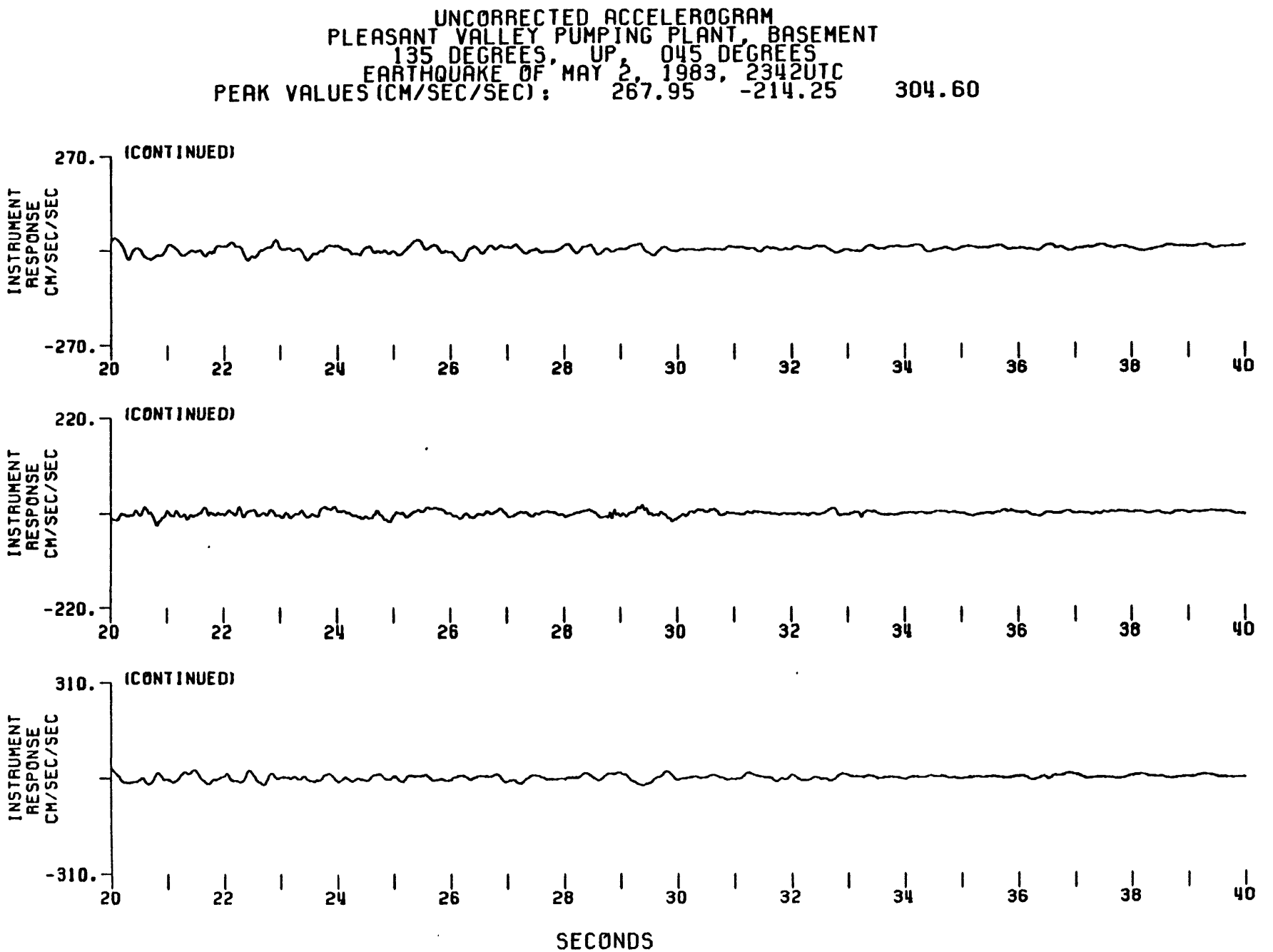

UNCORRECTED ACCELEROGRAM
PLEASANT VALLEY PUMPING PLANT, SWITCHYARD
135 DEGREES, UP, 045 DEGREES
EARTHQUAKE OF MAY 2, 1983, 2342UTC
PEAK VALUES (CM/SEC/SEC): 516.46 -372.87 595.06
520.
(CONTINUED)
INSTRUMENT RESPONSE CM/SEC/SEC
-520.
380.
(CONTINUED)
INSTRUMENT RESPONSE CM/SEC/SEC
-380.
600.
(CONTINUED)
INSTRUMENT RESPONSE CM/SEC/SEC
-600.
42
44
46
48
50
52
54
56
58
60
SECONDS

Figure A2


UNCORRECTED ACCELEROGRAM
PLEASANT VALLEY PUMPING PLANT, BASEMENT
135 DEGREES, UP, 045 DEGREES
EARTHQUAKE OF MAY 2, 1983, 2342UTC
PEAK VALUES(CM/SEC/SEC): 267.95 -214.25 304.60
INSTRUMENT RESPONSE CM/SEC/SEC
270.
-270.
220.
-220.
310.
-310.
2
4
6
8
10
12
14
16
18
20
SECONDS


UNCORRECTED ACCELEROGRAM
PLEASANT VALLEY PUMPING PLANT, BASEMENT
135 DEGREES, UP, 045 DEGREES
EARTHQUAKE OF MAY 2, 1983, 2342UTC
PEAK VALUES (CM/SEC/SEC): 267.95 -214.25 304.60
(CONTINUED)
INSTRUMENT RESPONSE CM/SEC/SEC
270.
-270.
220.
-220.
310.
-310.
20
22
24
26
28
30
32
34
36
38
40
SECONDS

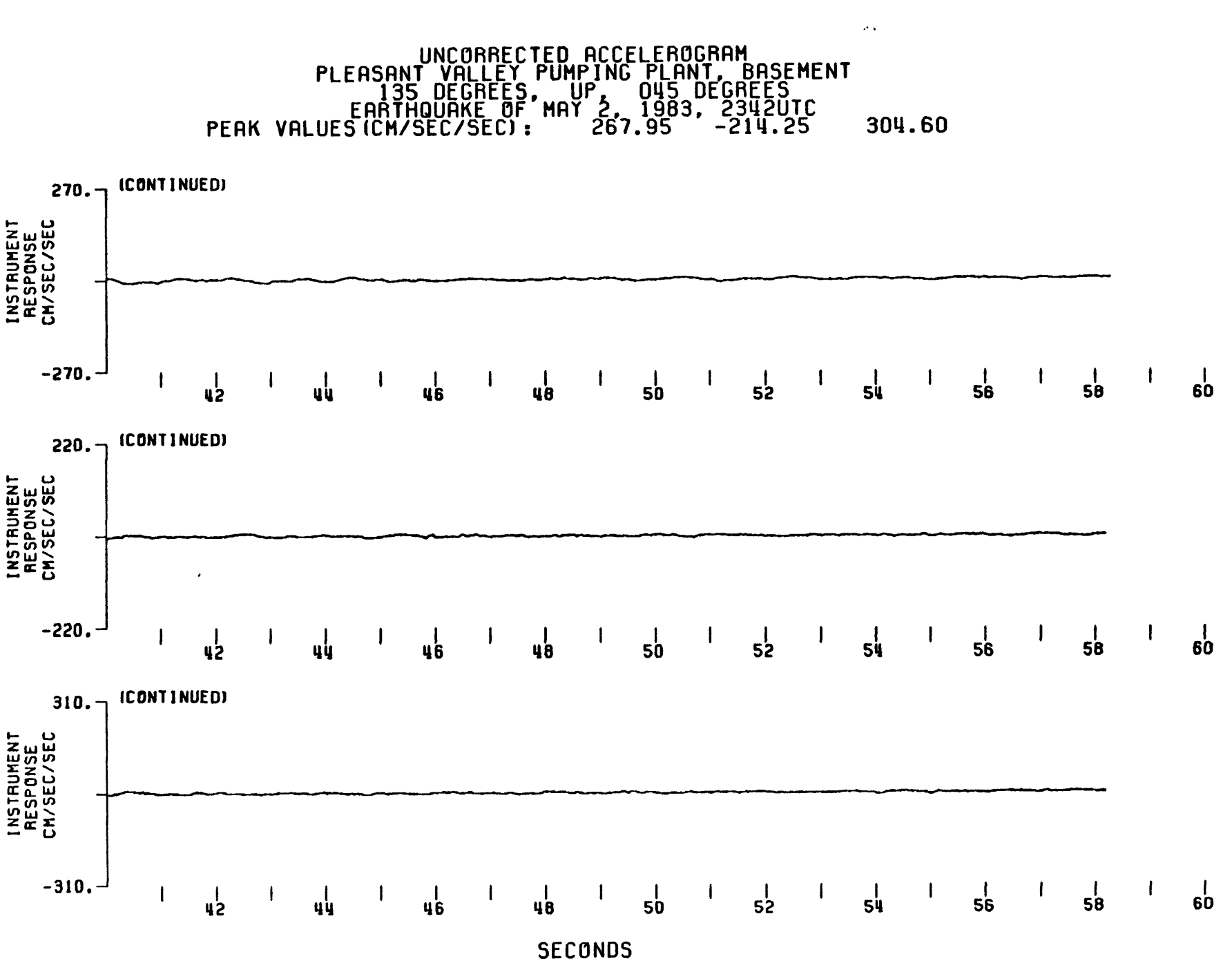

UNCORRECTED ACCELEROGRAM
PLEASANT VALLEY PUMPING PLANT, BASEMENT
135 DEGREES, UP, 045 DEGREES
EARTHQUAKE OF MAY 2, 1983, 2342UTC
PEAK VALUES (CM/SEC/SEC): 267.95 -214.25 304.60
(CONTINUED)
270.
-270.
INSTRUMENT RESPONSE CM/SEC/SEC
(CONTINUED)
220.
-220.
INSTRUMENT RESPONSE CM/SEC/SEC
(CONTINUED)
310.
-310.
INSTRUMENT RESPONSE CM/SEC/SEC
42
44
46
48
50
52
54
56
58
60
SECONDS

Figure A3

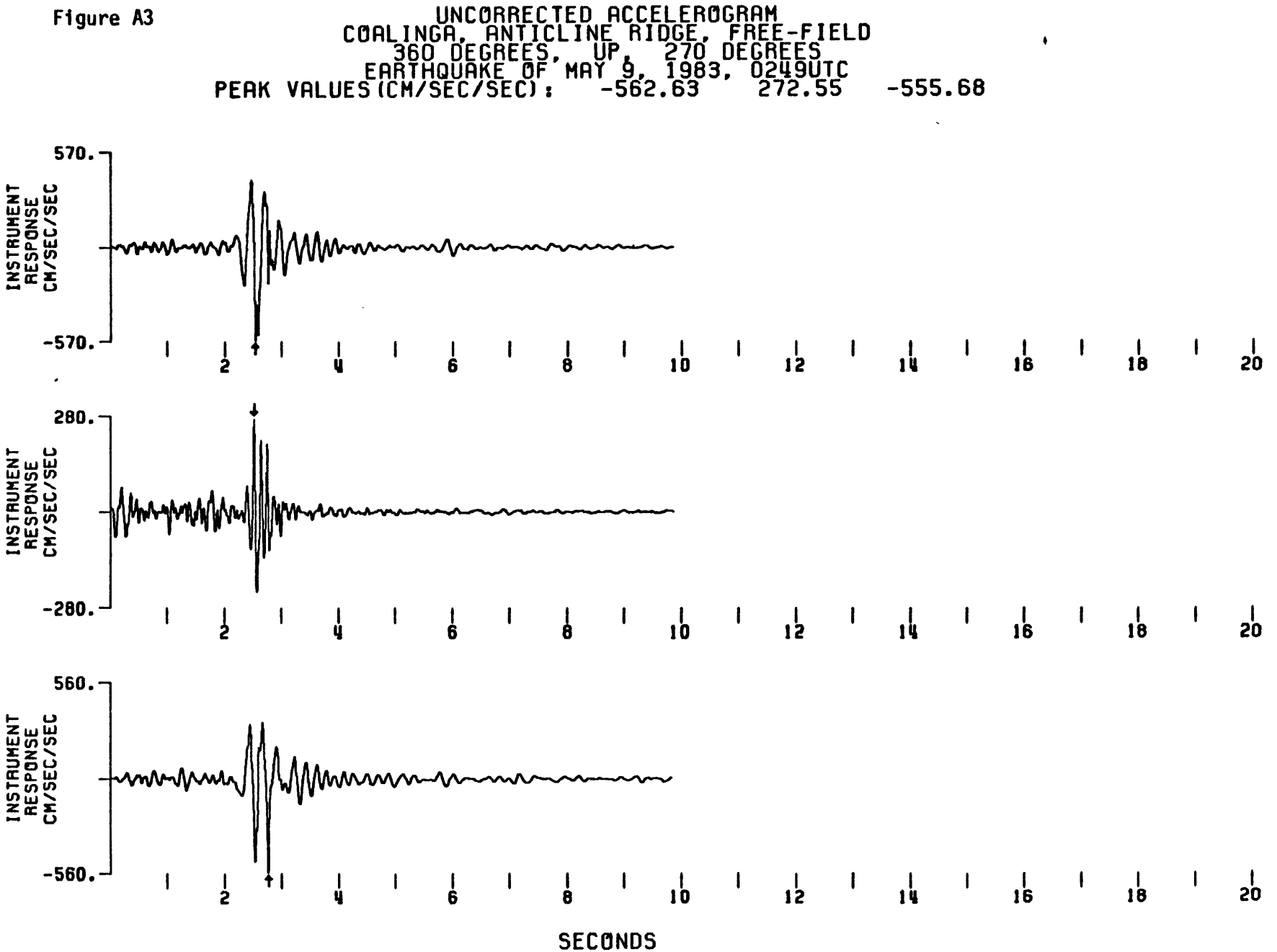

UNCORRECTED ACCELEROGRAM
COALINGA, ANTICLINE RIDGE, FREE-FIELD
360 DEGREES, UP, 270 DEGREES
EARTHQUAKE OF MAY 9, 1983, 0249UTC
PEAK VALUES(CM/SEC/SEC): -562.63 272.55 -555.68
INSTRUMENT RESPONSE CM/SEC/SEC
570.
-570.
280.
-280.
560.
-560.
2
4
6
8
10
12
14
16
18
20
SECONDS

Figure A4

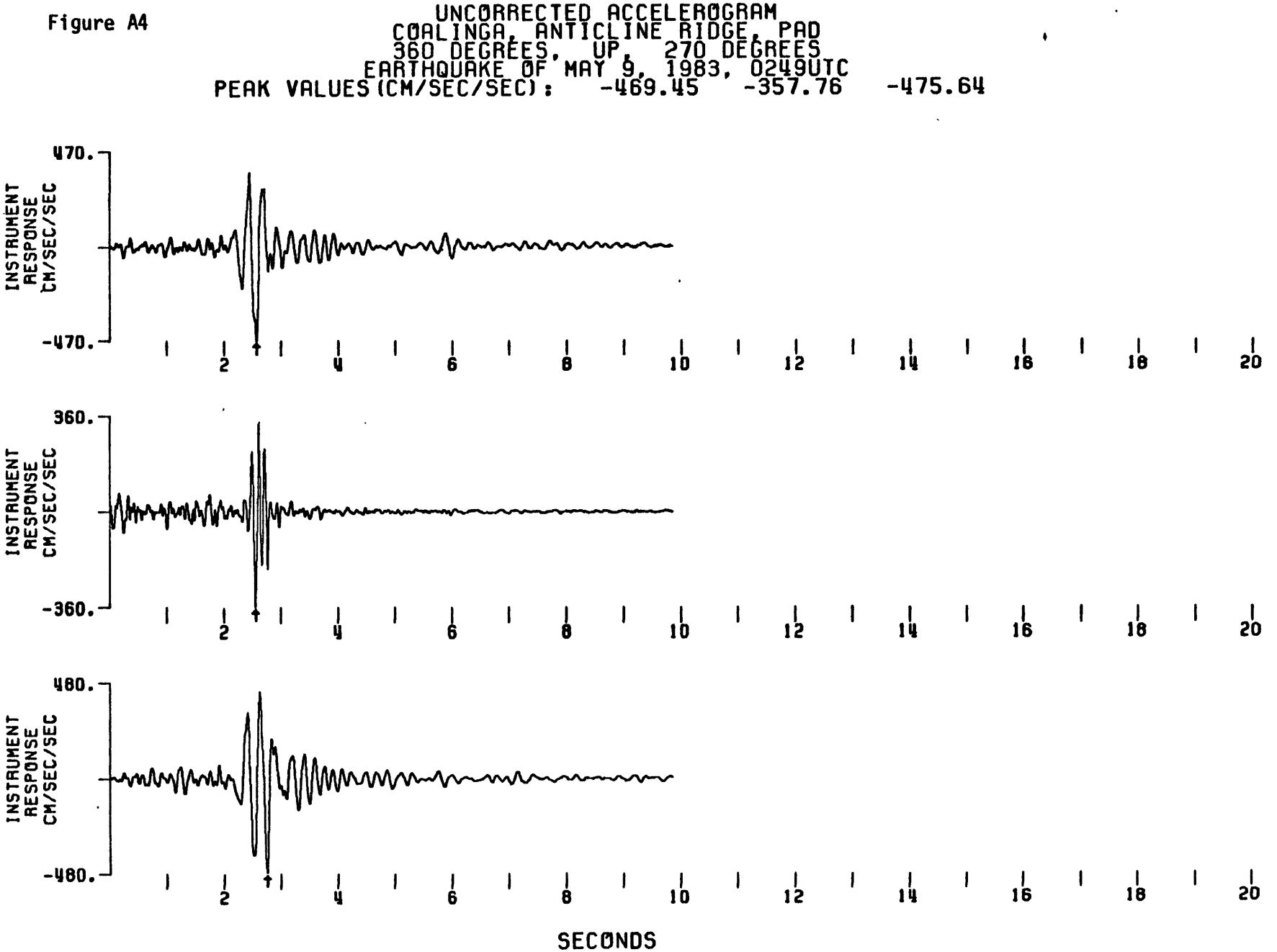

UNCORRECTED ACCELEROGRAM
COALINGA, ANTICLINE RIDGE, PAD
360 DEGREES, UP, 270 DEGREES
EARTHQUAKE OF MAY 9, 1983, 0249UTC
PEAK VALUES (CM/SEC/SEC): -469.45 -357.76 -475.64
INSTRUMENT RESPONSE CM/SEC/SEC
470.
-470.
360.
-360.
480.
-480.
2
4
6
8
10
12
14
16
18
20
SECONDS

Figure A5

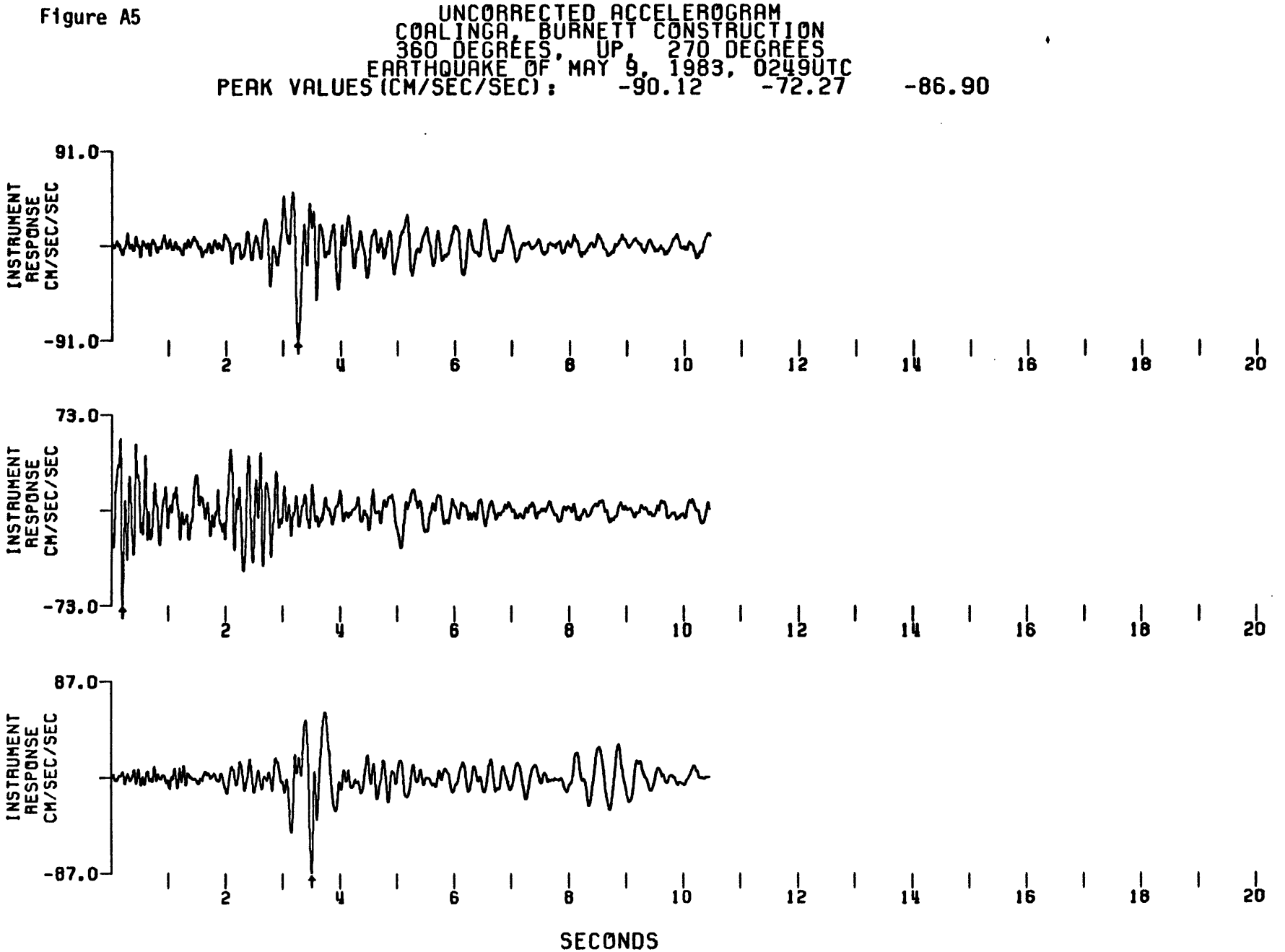

UNCORRECTED ACCELEROGRAM
COALINGA, BURNETT CONSTRUCTION
360 DEGREES, UP, 270 DEGREES
EARTHQUAKE OF MAY 9, 1983, 0249UTC
PEAK VALUES(CM/SEC/SEC): -90.12 -72.27 -86.90
91.0
-91.0
73.0
-73.0
87.0
-87.0
INSTRUMENT RESPONSE CM/SEC/SEC
2
4
6
8
10
12
14
16
18
20
SECONDS

Figure A6

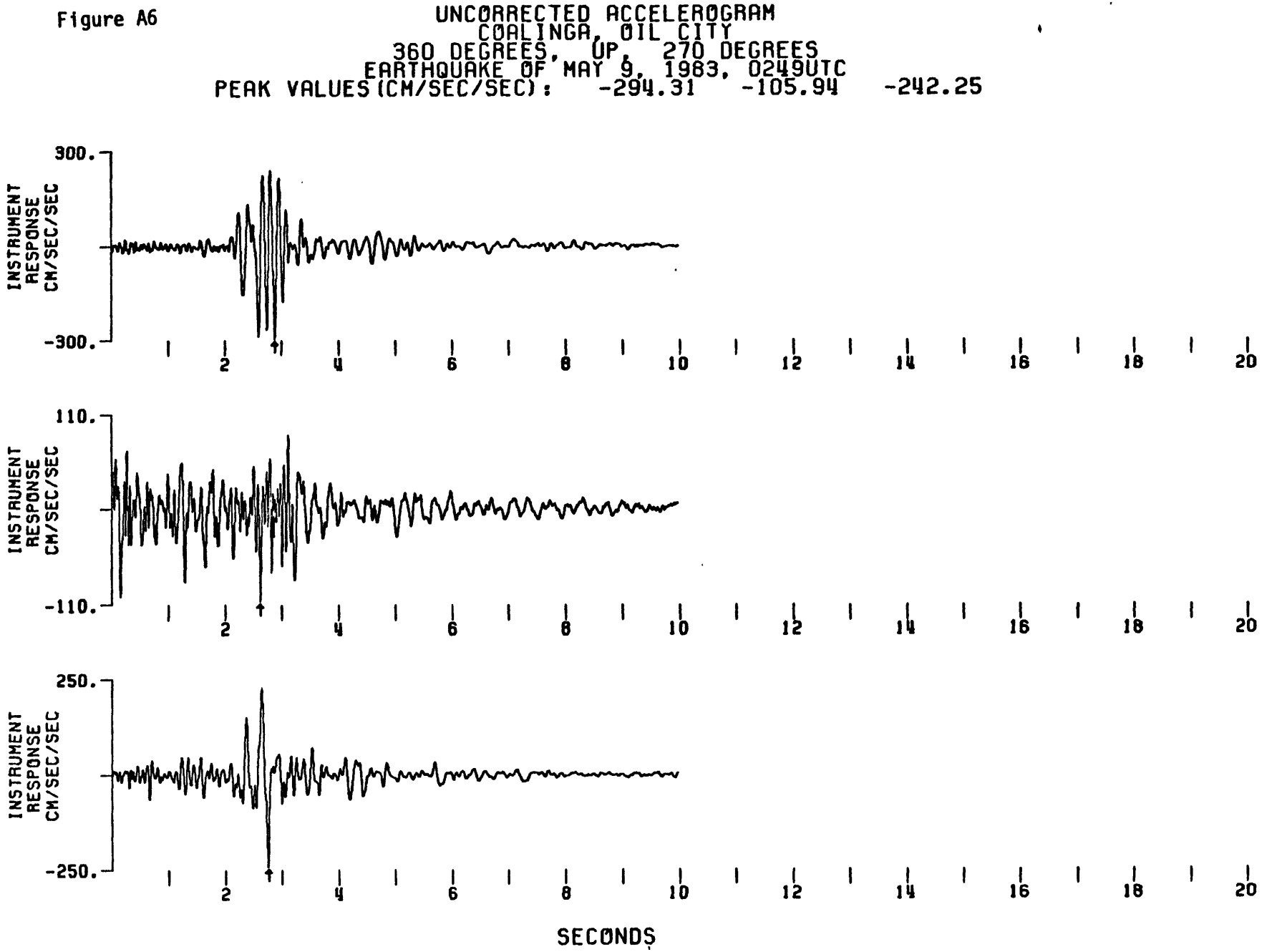

UNCORRECTED ACCELEROGRAM
COALINGA, OIL CITY
360 DEGREES, UP, 270 DEGREES
EARTHQUAKE OF MAY 9, 1983, 0249UTC
PEAK VALUES (CM/SEC/SEC): -294.31 -105.94 -242.25
INSTRUMENT RESPONSE CM/SEC/SEC
300.
-300.
110.
-110.
250.
-250.
2
4
6
8
10
12
14
16
18
20
SECONDS

Figure A7

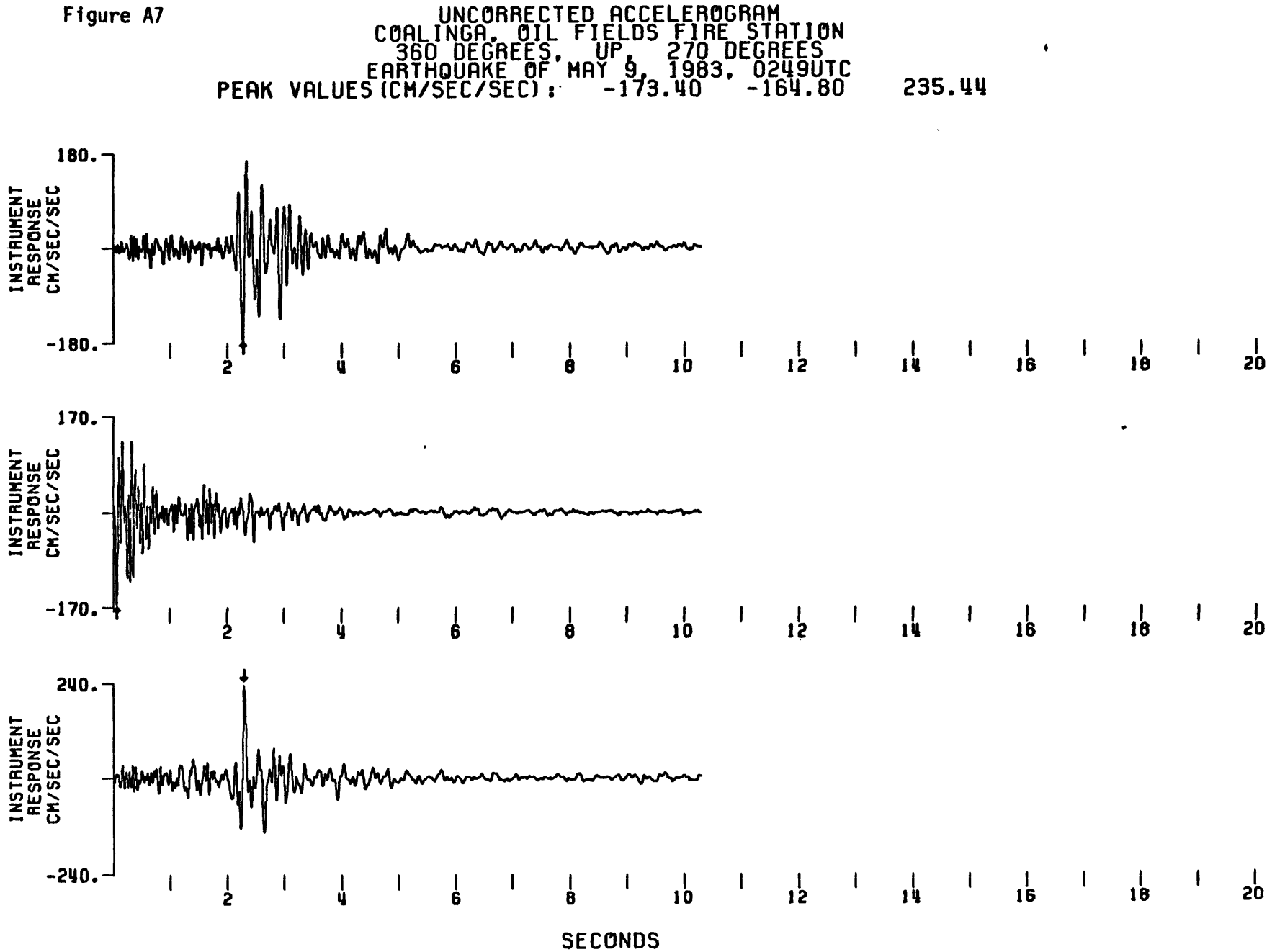

UNCORRECTED ACCELEROGRAM
COALINGA, OIL FIELDS FIRE STATION
360 DEGREES, UP, 270 DEGREES
EARTHQUAKE OF MAY 9, 1983, 0249UTC
PEAK VALUES (CM/SEC/SEC): -173.40 -164.80 235.44
INSTRUMENT RESPONSE CM/SEC/SEC
180.
-180.
170.
-170.
240.
-240.
2
4
6
8
10
12
14
16
18
20
SECONDS

Figure A8

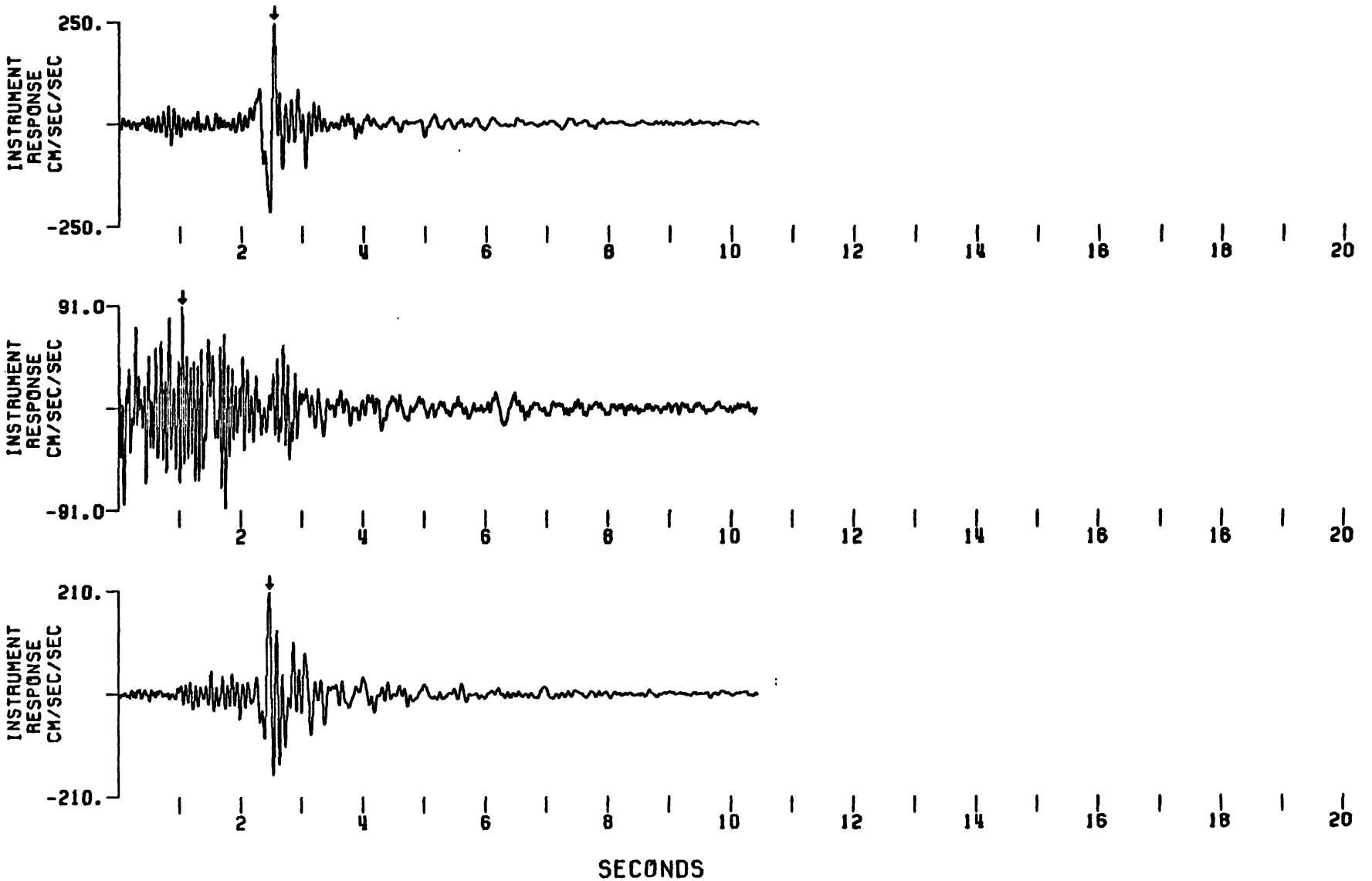

UNCORRECTED ACCELEROGRAM
COALINGA, PALMER AVE.
360 DEGREES, UP, 270 DEGREES
EARTHQUAKE OF MAY 9, 1983, 0249UTC
PEAK VALUES(CM/SEC/SEC): 246.63 90.18 207.78
INSTRUMENT RESPONSE CM/SEC/SEC
250.
-250.
91.0
-91.0
210.
-210.
2
4
6
8
10
12
14
16
18
20
SECONDS

Figure A9

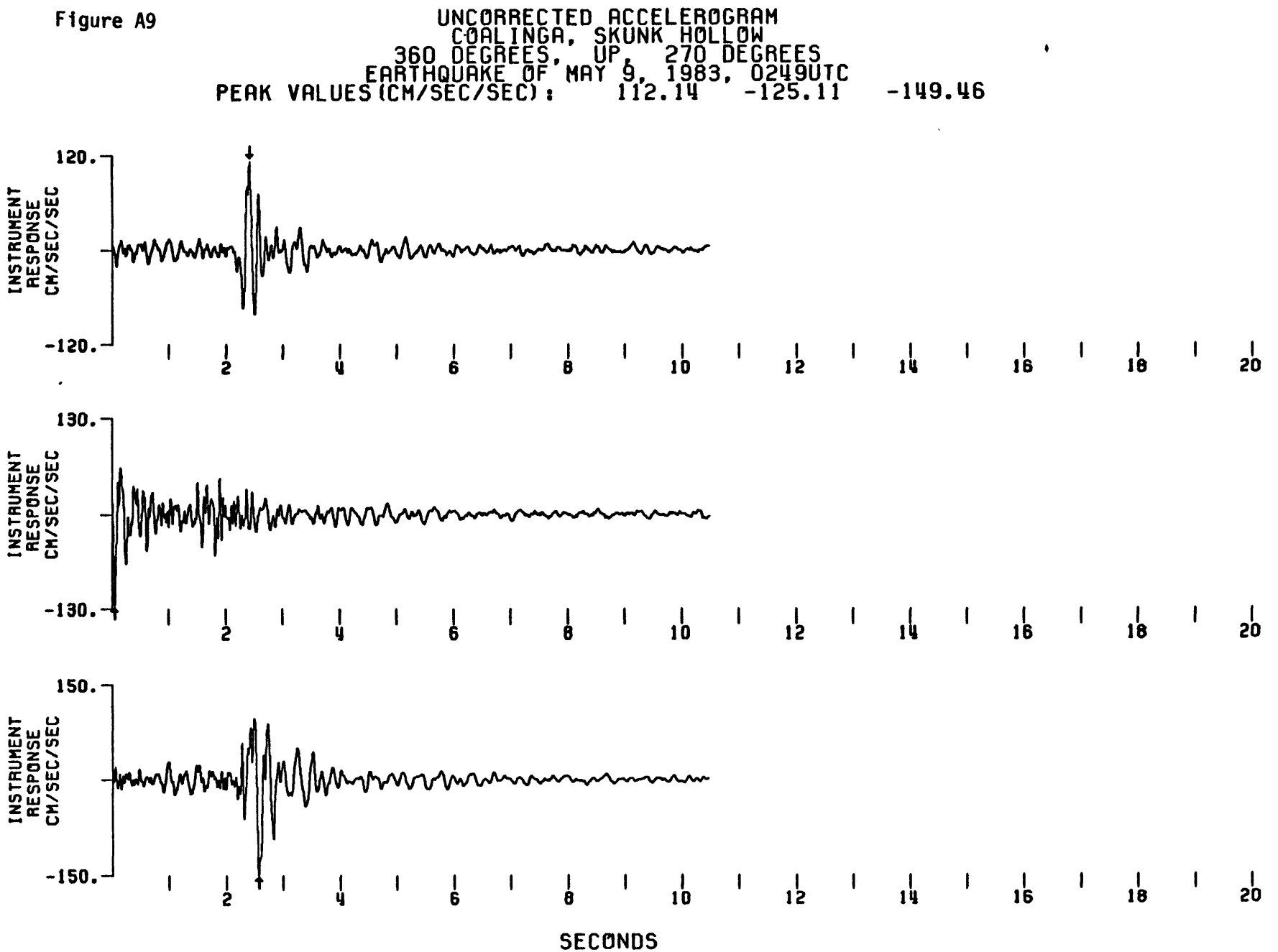

UNCORRECTED ACCELEROGRAM
COALINGA, SKUNK HOLLOW
360 DEGREES, UP, 270 DEGREES
EARTHQUAKE OF MAY 9, 1983, 0249UTC
PEAK VALUES(CM/SEC/SEC): 112.14 -125.11 -149.46
INSTRUMENT RESPONSE CM/SEC/SEC
120.
-120.
130.
-130.
150.
-150.
2
4
6
8
10
12
14
16
18
20
SECONDS

Figure A10

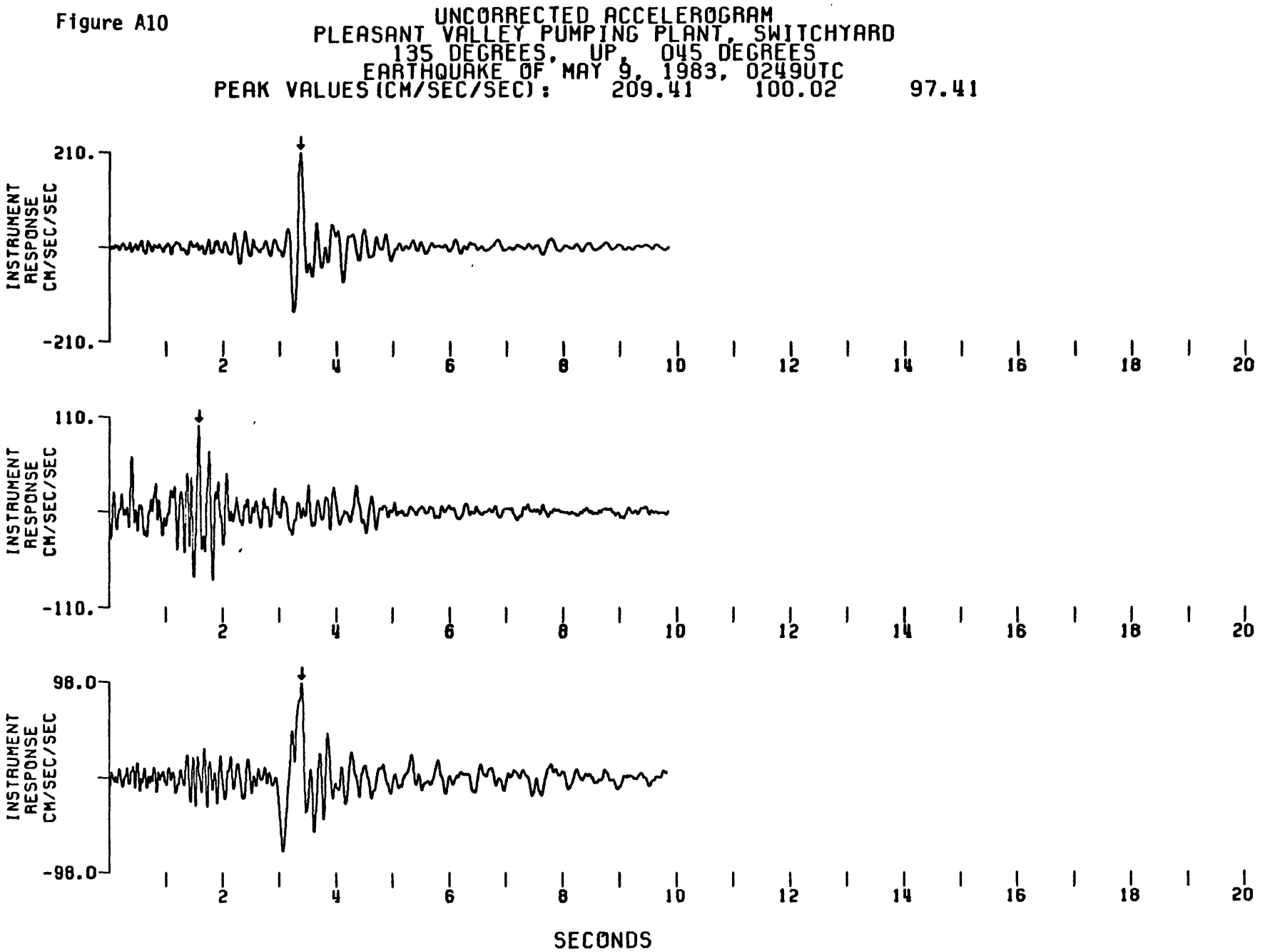

UNCORRECTED ACCELEROGRAM
PLEASANT VALLEY PUMPING PLANT, SWITCHYARD
135 DEGREES, UP, 045 DEGREES
EARTHQUAKE OF MAY 9, 1983, 0249UTC
PEAK VALUES(CM/SEC/SEC): 209.41 100.02 97.41
INSTRUMENT RESPONSE CM/SEC/SEC
210.
-210.
110.
-110.
98.0
-98.0
2
4
6
8
10
12
14
16
18
20
SECONDS

Figure A11

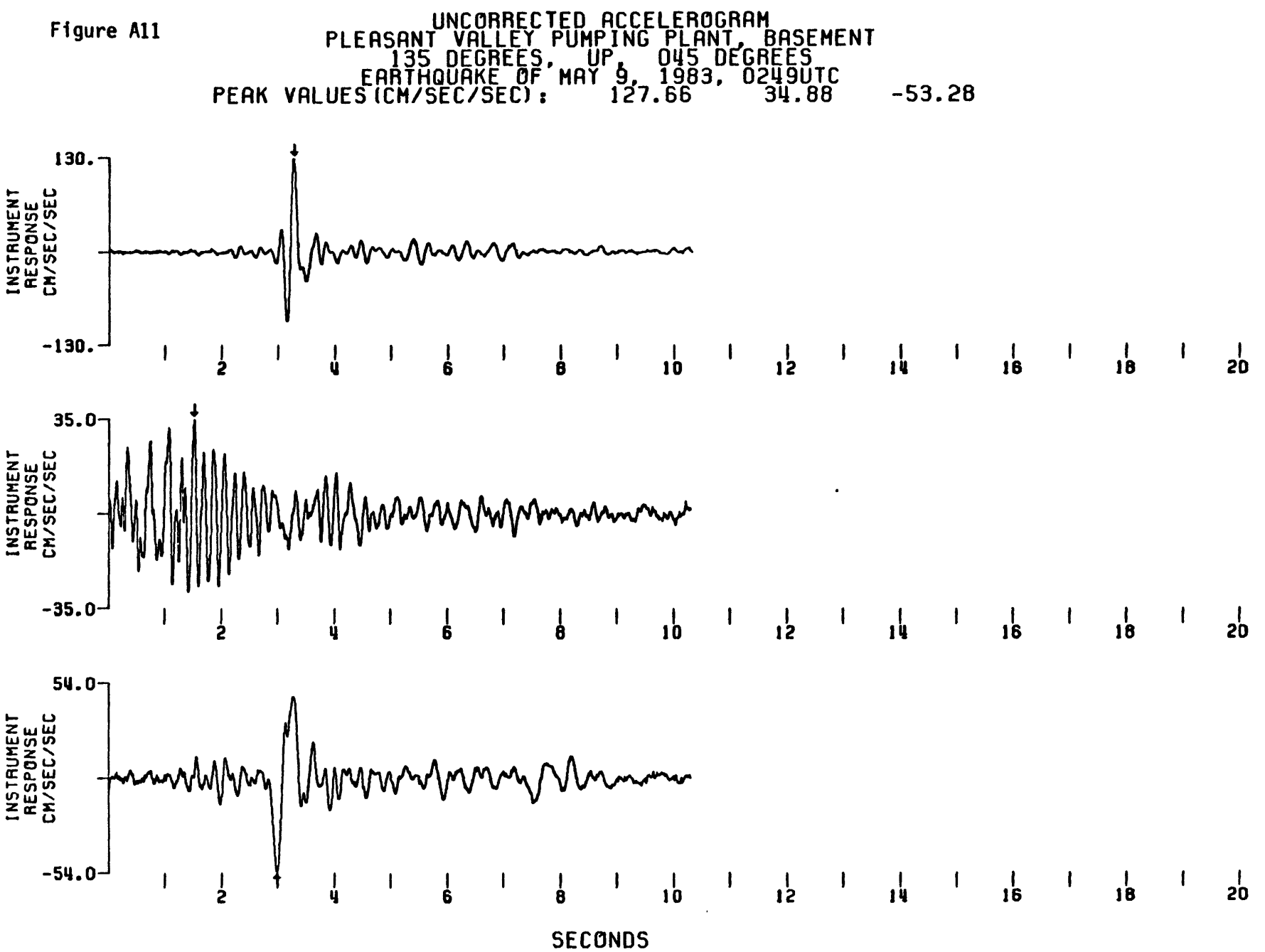

UNCORRECTED ACCELEROGRAM
PLEASANT VALLEY PUMPING PLANT, BASEMENT
135 DEGREES, UP, 045 DEGREES
EARTHQUAKE OF MAY 9, 1983, 0249UTC
PEAK VALUES (CM/SEC/SEC): 127.66 34.88 -53.28
INSTRUMENT RESPONSE CM/SEC/SEC
130.
-130.
35.0
-35.0
54.0
-54.0
2
4
6
8
10
12
14
16
18
20
SECONDS

Figure A12

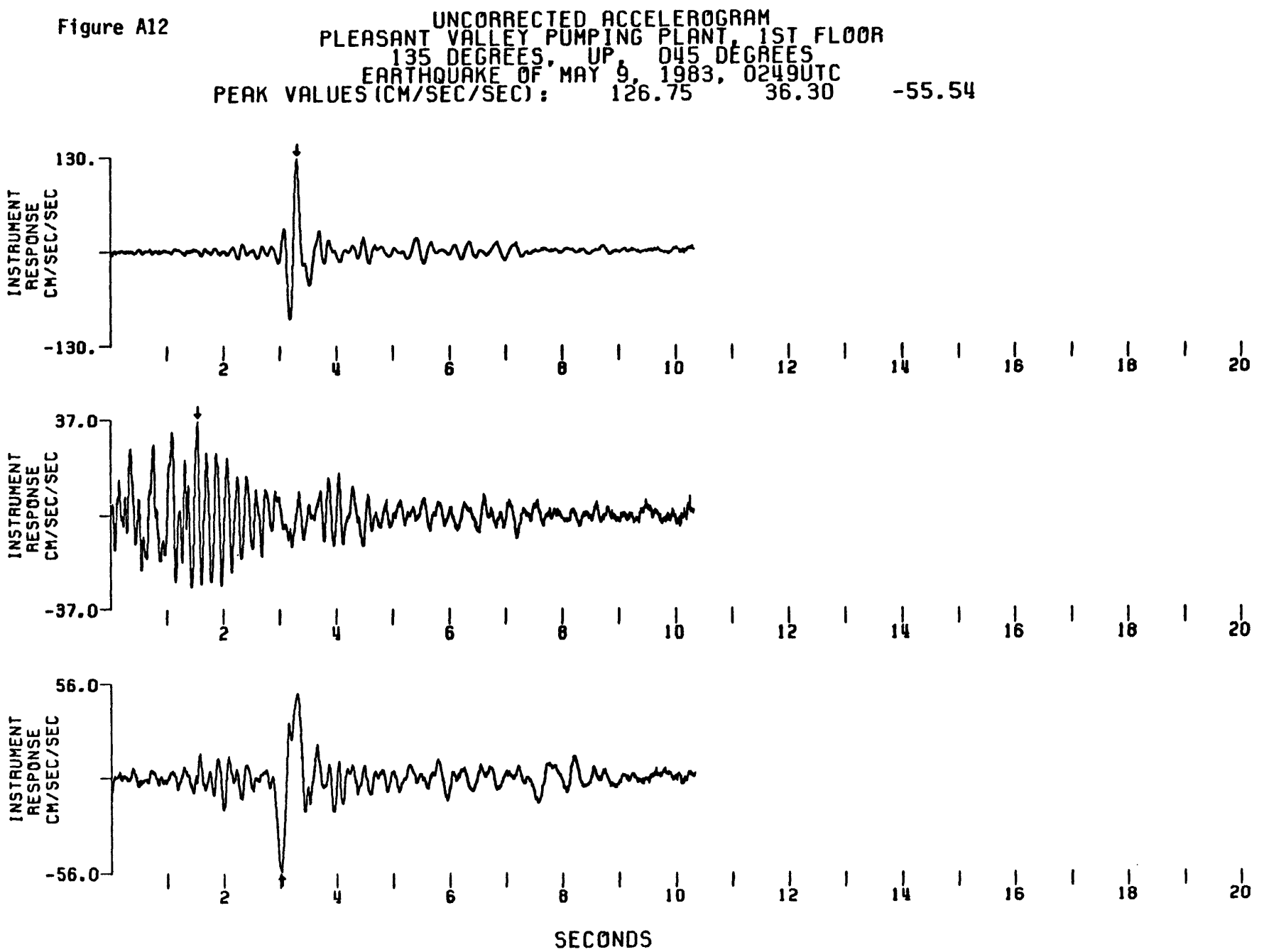

UNCORRECTED ACCELEROGRAM
PLEASANT VALLEY PUMPING PLANT, 1ST FLOOR
135 DEGREES, UP, 045 DEGREES
EARTHQUAKE OF MAY 9, 1983, 0249UTC
PEAK VALUES (CM/SEC/SEC): 126.75 36.30 -55.54
INSTRUMENT RESPONSE CM/SEC/SEC
130.
-130.
37.0
-37.0
56.0
-56.0
2
4
6
8
10
12
14
16
18
20
SECONDS

Figure A13

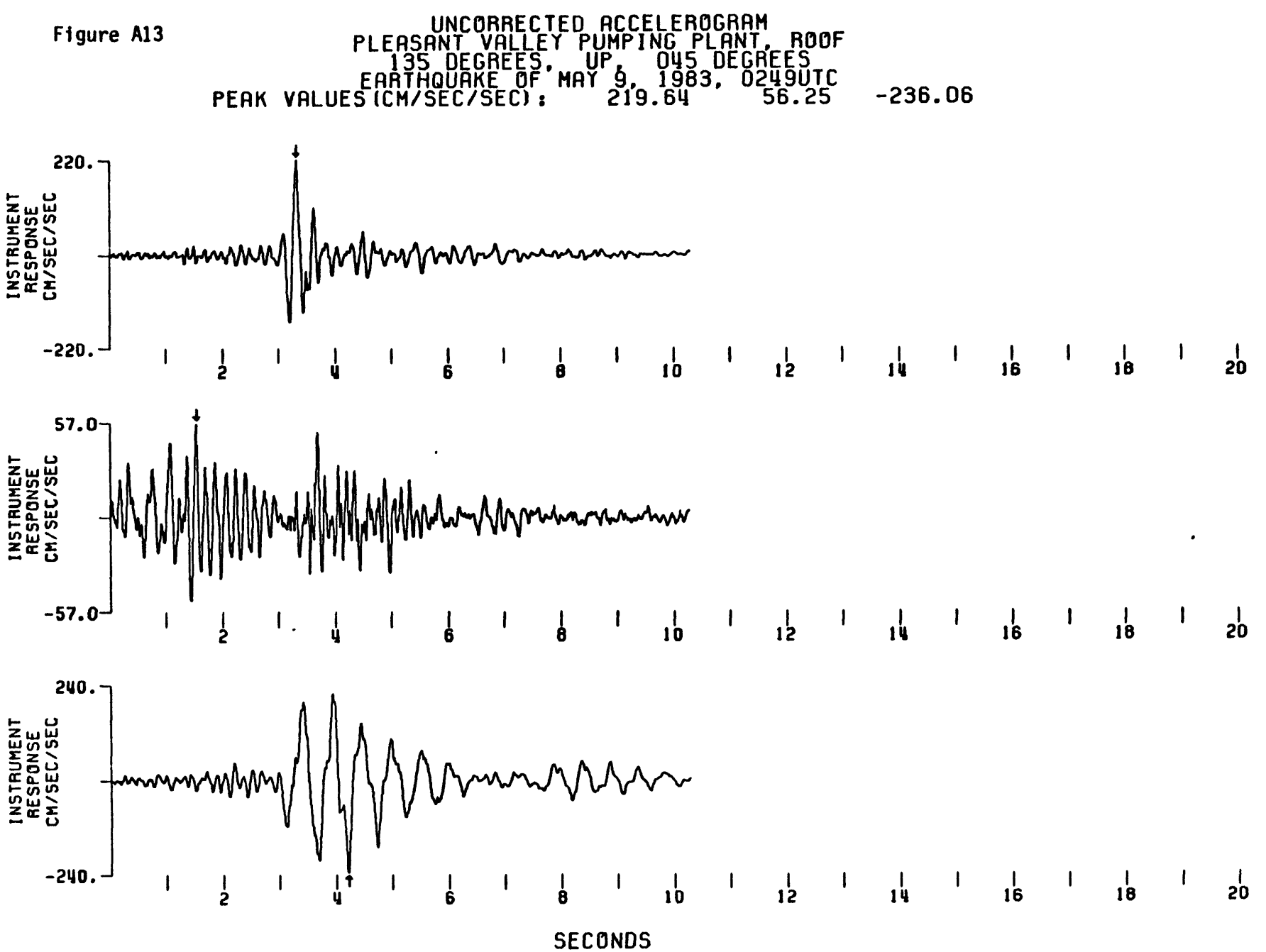
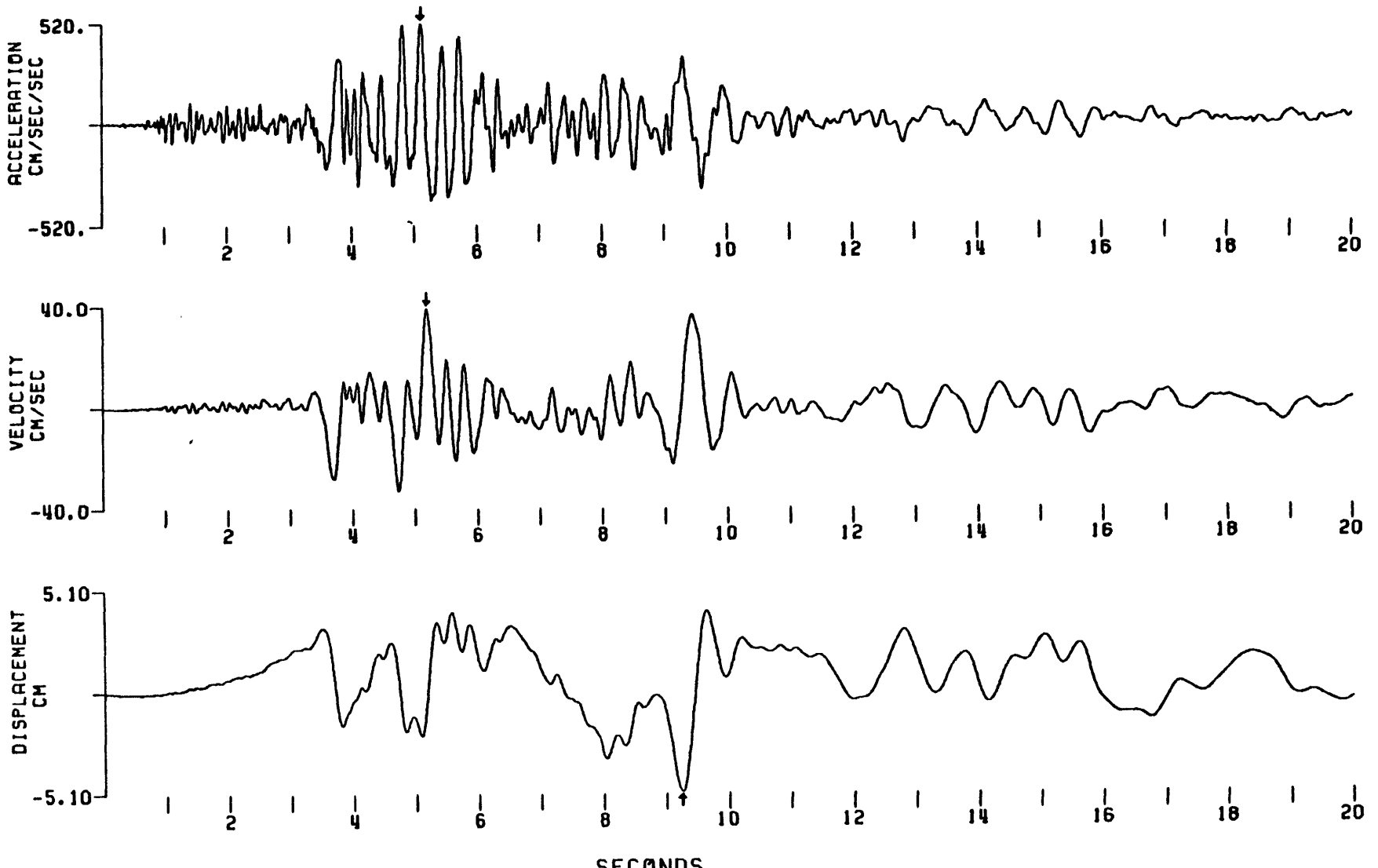
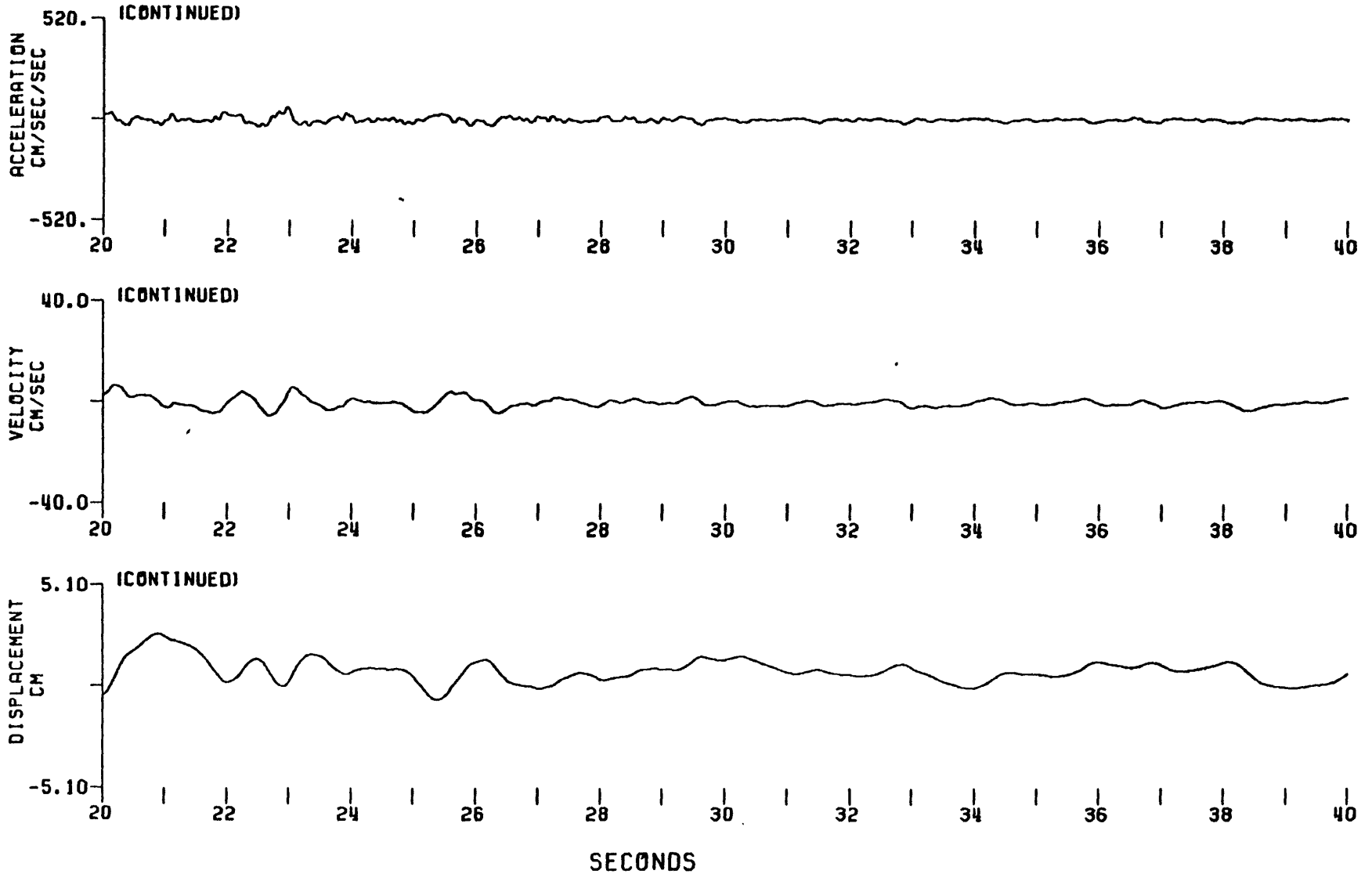

UNCORRECTED ACCELEROGRAM
PLEASANT VALLEY PUMPING PLANT, ROOF
135 DEGREES, UP, 045 DEGREES
EARTHQUAKE OF MAY 9, 1983, 0249UTC
PEAK VALUES (CM/SEC/SEC): 219.64 56.25 -236.06
INSTRUMENT RESPONSE CM/SEC/SEC
220.
-220.
57.0
-57.0
240.
-240.
2
4
6
8
10
12
14
16
18
20
SECONDS

Figure A14 CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
PLEASANT VALLEY PUMPING PLANT, SWITCHYARD
135 DEGREES
EARTHQUAKE OF MAY 2, 1983, 2342UTC
BP FILTERED .1 TO 50 HZ (BTWTH8; 50-100 ROLLOFF)
PEAK VALUES: ACCEL=514.53 CM/SEC/SEC, VELOCITY=39.09 CM/SEC, DISPL=-5.04 CM



CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
PLEASANT VALLEY PUMPING PLANT, SWITCHYARD
135 DEGREES
EARTHQUAKE OF MAY 2, 1983, 2342UTC
BP FILTERED .1 TO 50 HZ (BTWTH8; 50-100 ROLLOFF)
PEAK VALUES: ACCEL=514.53 CM/SEC/SEC, VELOCITY=39.09 CM/SEC, DISPL=-5.04 CM



CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
PLEASANT VALLEY PUMPING PLANT, SWITCHYARD
135 DEGREES
EARTHQUAKE OF MAY 2, 1983, 2342UTC
BP FILTERED .1 TO 50 HZ (BTWTH8; 50-100 ROLLOFF)
PEAK VALUES: ACCEL=514.53 CM/SEC/SEC, VELOCITY=39.09 CM/SEC, DISPL=-5.04 CM

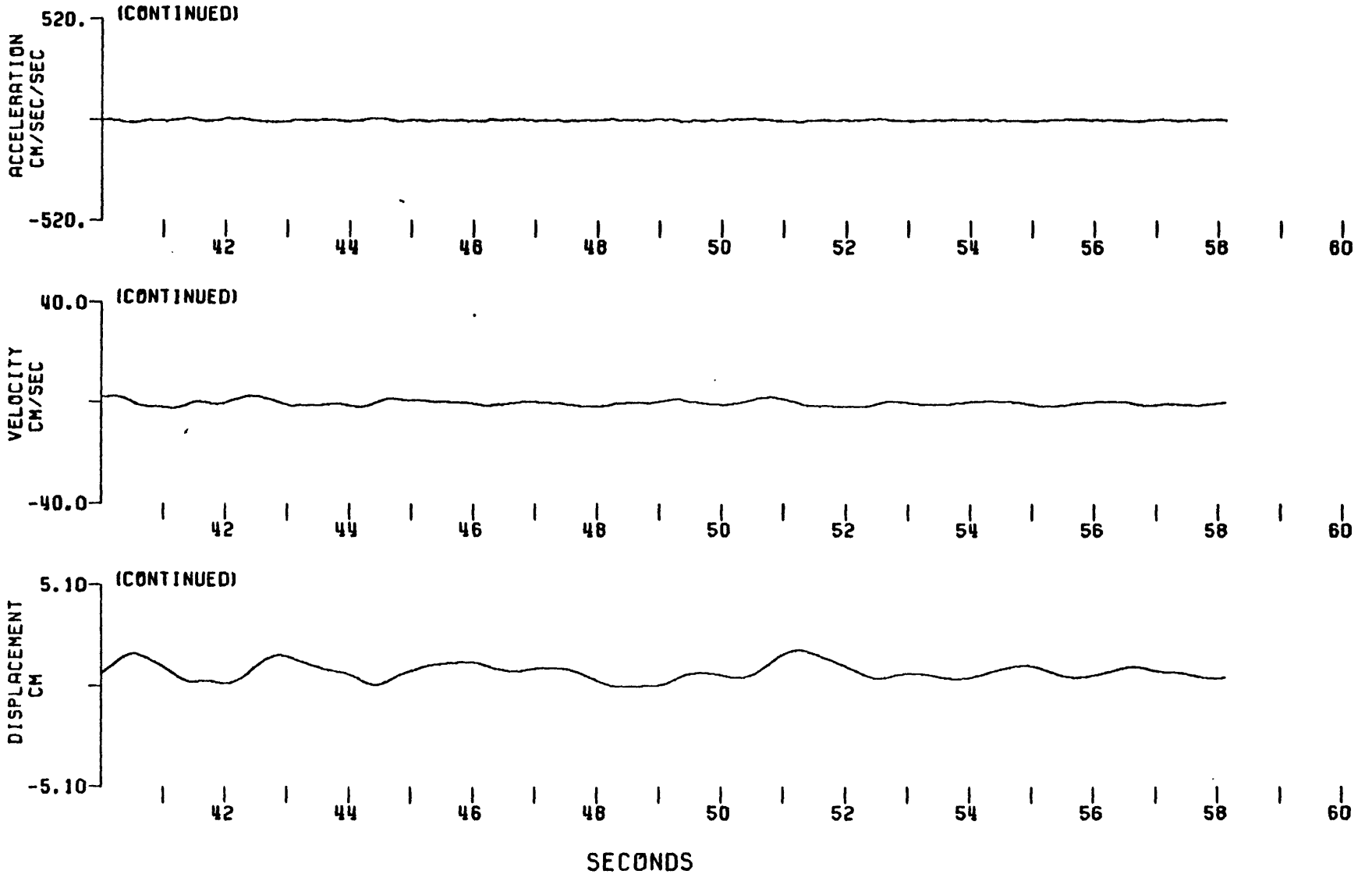
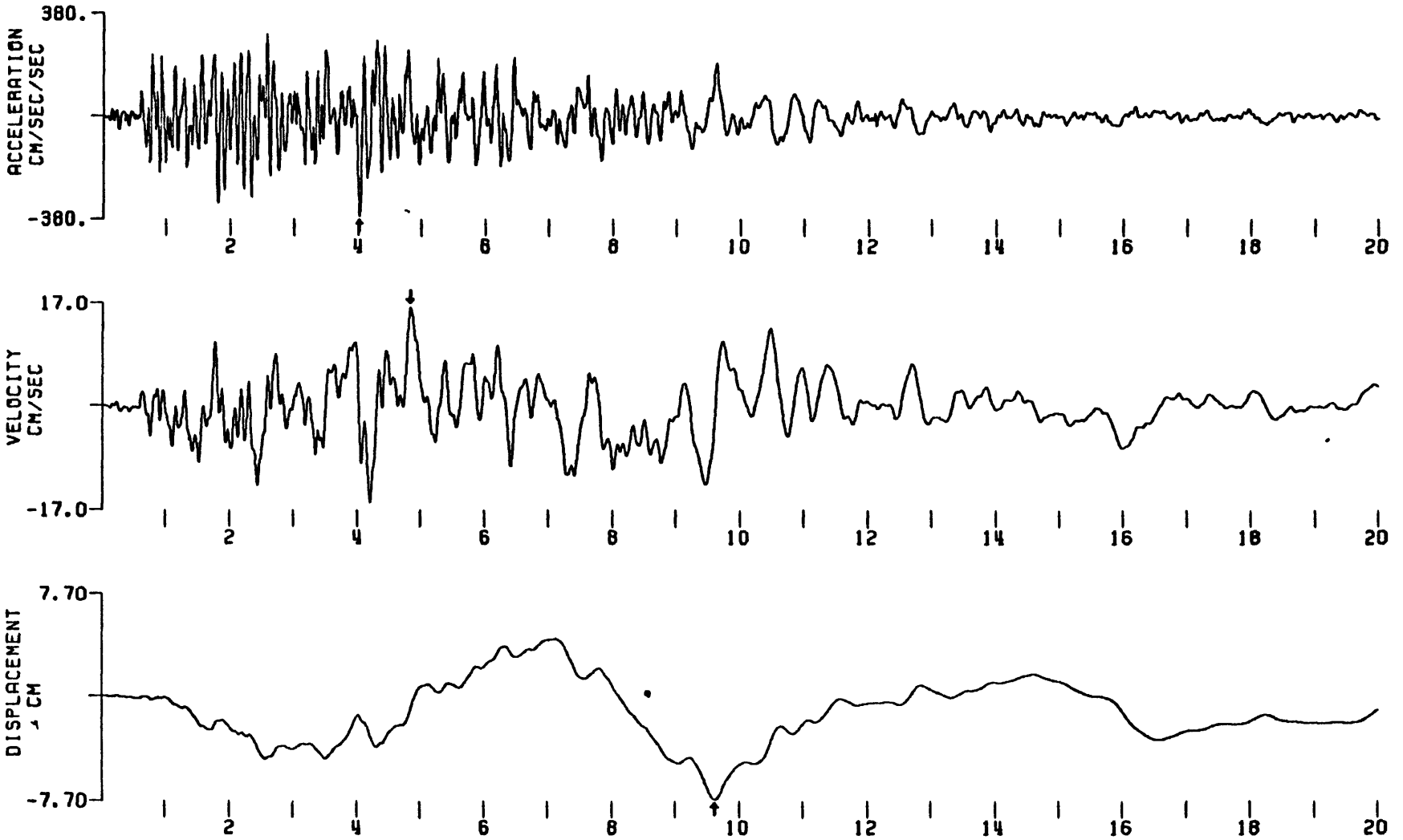
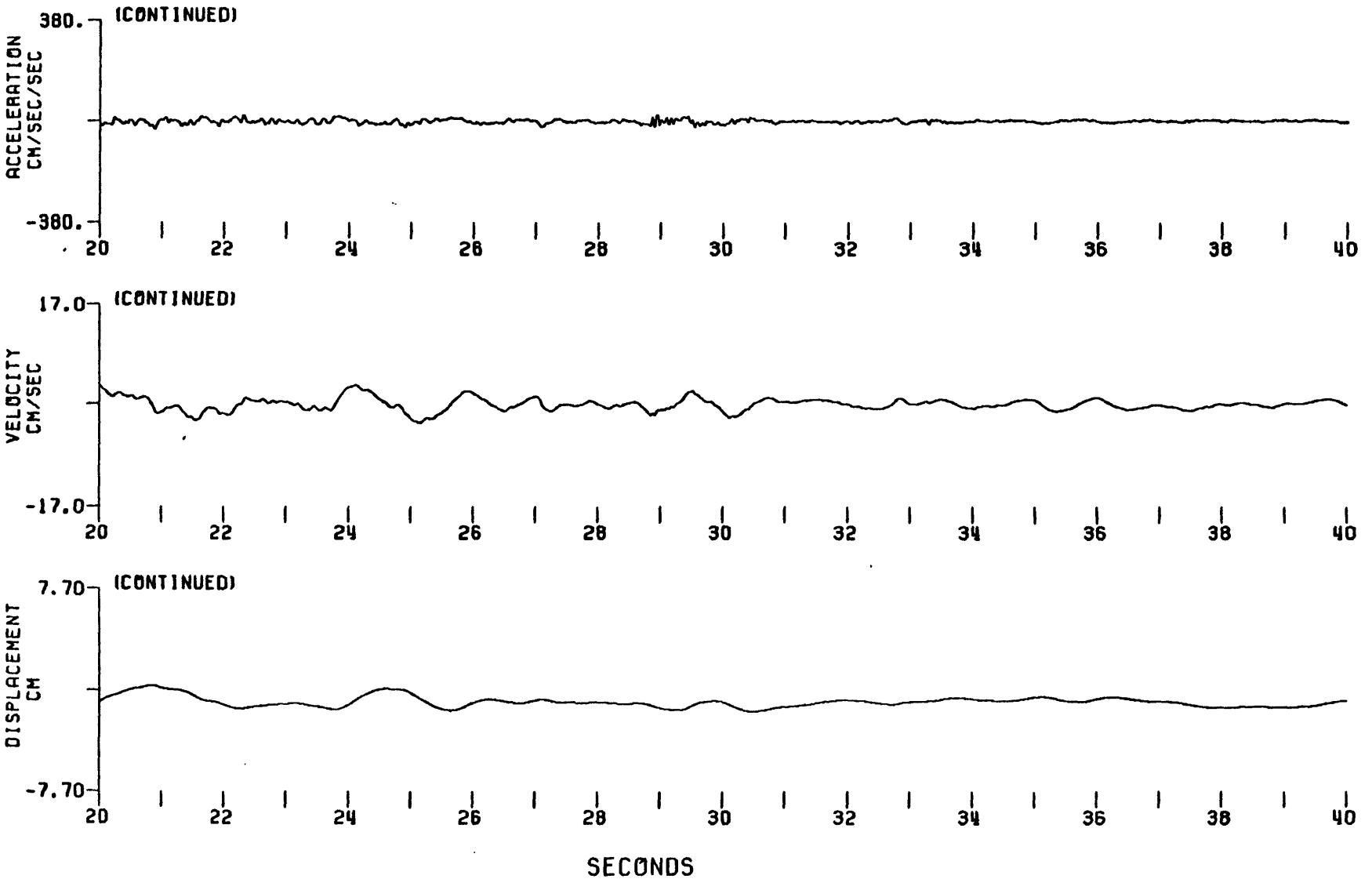


Figure A15 CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
PLEASANT VALLEY PUMPING PLANT, SWITCHYARD
UP
EARTHQUAKE OF MAY 2, 1983, 2342UTC
BP FILTERED .1 TO 50 HZ (BTWTH8; 50-100 ROLLOFF)
PEAK VALUES: ACCEL=-371.41 CM/SEC/SEC, VELOCITY=16.30 CM/SEC, DISPL=-7.63 CM



CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
PLEASANT VALLEY PUMPING PLANT, SWITCHYARD
UP
EARTHQUAKE OF MAY 2, 1983, 2342UTC
BP FILTERED .1 TO 50 HZ (BTWTH8; 50-100 ROLLOFF)
PEAK VALUES: ACCEL=-371.41 CM/SEC/SEC, VELOCITY=16.30 CM/SEC, DISPL=-7.63 CM



CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
PLEASANT VALLEY PUMPING PLANT, SWITCHYARD
UP
EARTHQUAKE OF MAY 2, 1983, 2342UTC
BP FILTERED .1 TO 50 HZ (BIWTH8; 50-100 ROLLOFF)
PEAK VALUES: ACCEL=-371.41 CM/SEC/SEC, VELOCITY=16.30 CM/SEC, DISPL=-7.63 CM

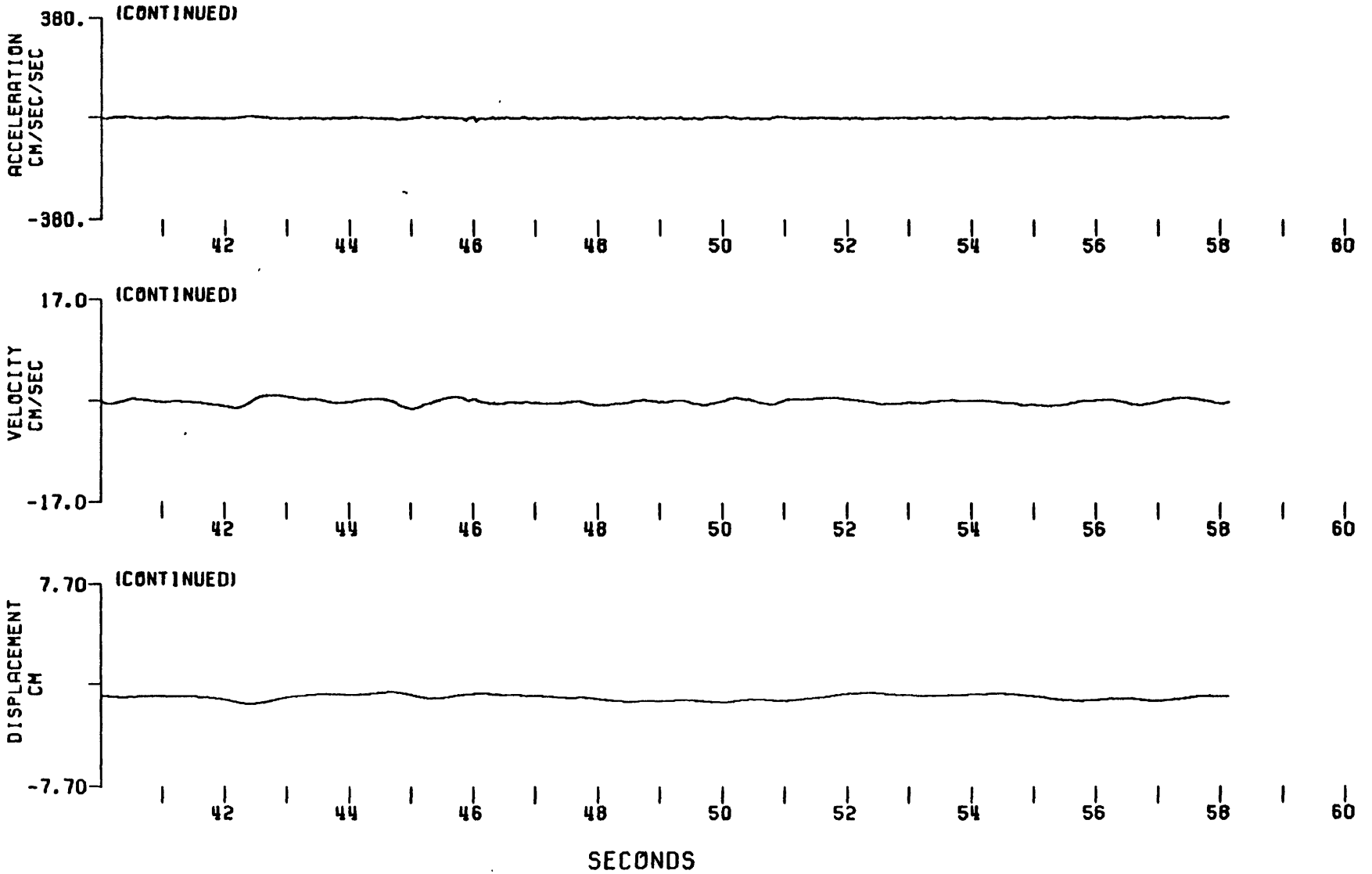
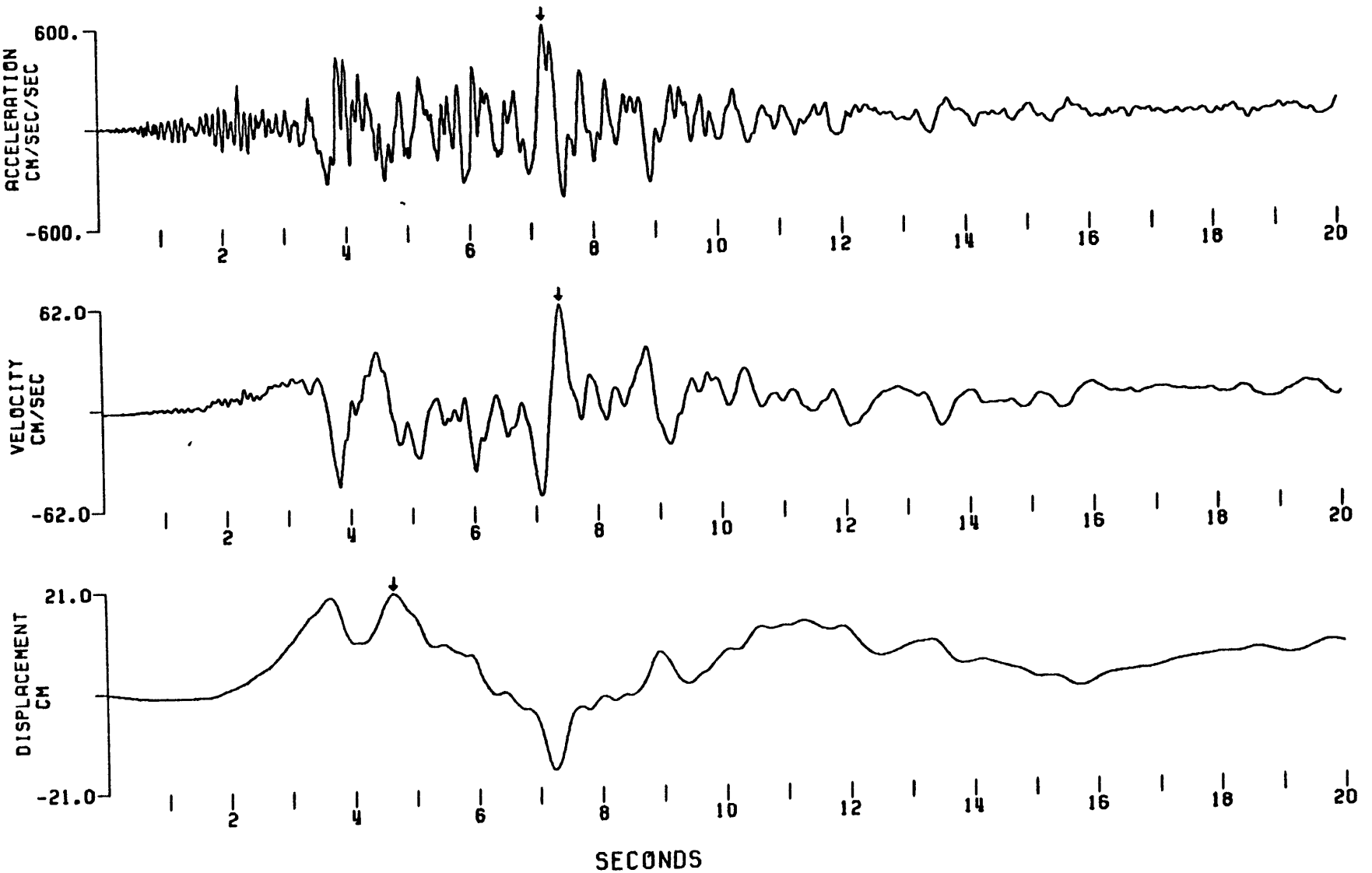
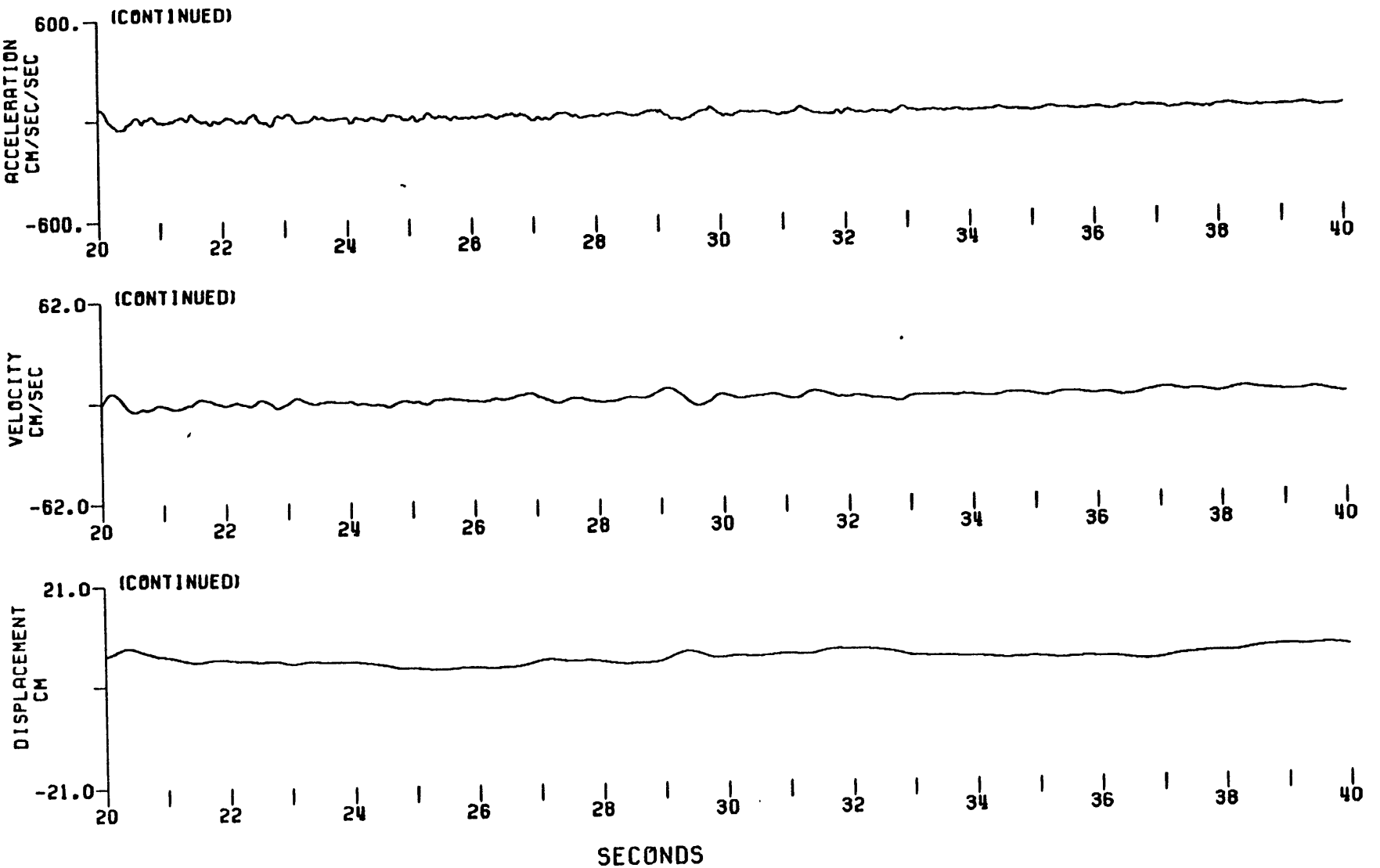


Figure A16 CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
PLEASANT VALLEY PUMPING PLANT, SWITCHYARD
045 DEGREES
EARTHQUAKE OF MAY 2, 1983, 2342UTC
BP FILTERED .1 TO 50 HZ (BTWTH8; 50-100 ROLLOFF)
PEAK VALUES: ACCEL=590.20 CM/SEC/SEC, VELOCITY=61.43 CM/SEC, DISPL=20.04 CM



CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
PLEASANT VALLEY PUMPING PLANT, SWITCHYARD
045 DEGREES
EARTHQUAKE OF MAY 2, 1983, 2342UTC
BP FILTERED .1 TO 50 HZ (BTWTH8; 50-100 ROLLOFF)
PEAK VALUES: ACCEL=590.20 CM/SEC/SEC, VELOCITY=61.43 CM/SEC, DISPL=20.04 CM



CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
PLEASANT VALLEY PUMPING PLANT, SWITCHYARD
045 DEGREES
EARTHQUAKE OF MAY 2, 1983, 2342UTC
BP FILTERED .1 TO 50 HZ (BTWTH8; 50-100 ROLLOFF)
PEAK VALUES: ACCEL=590.20 CM/SEC/SEC, VELOCITY=61.43 CM/SEC, DISPL=20.04 CM

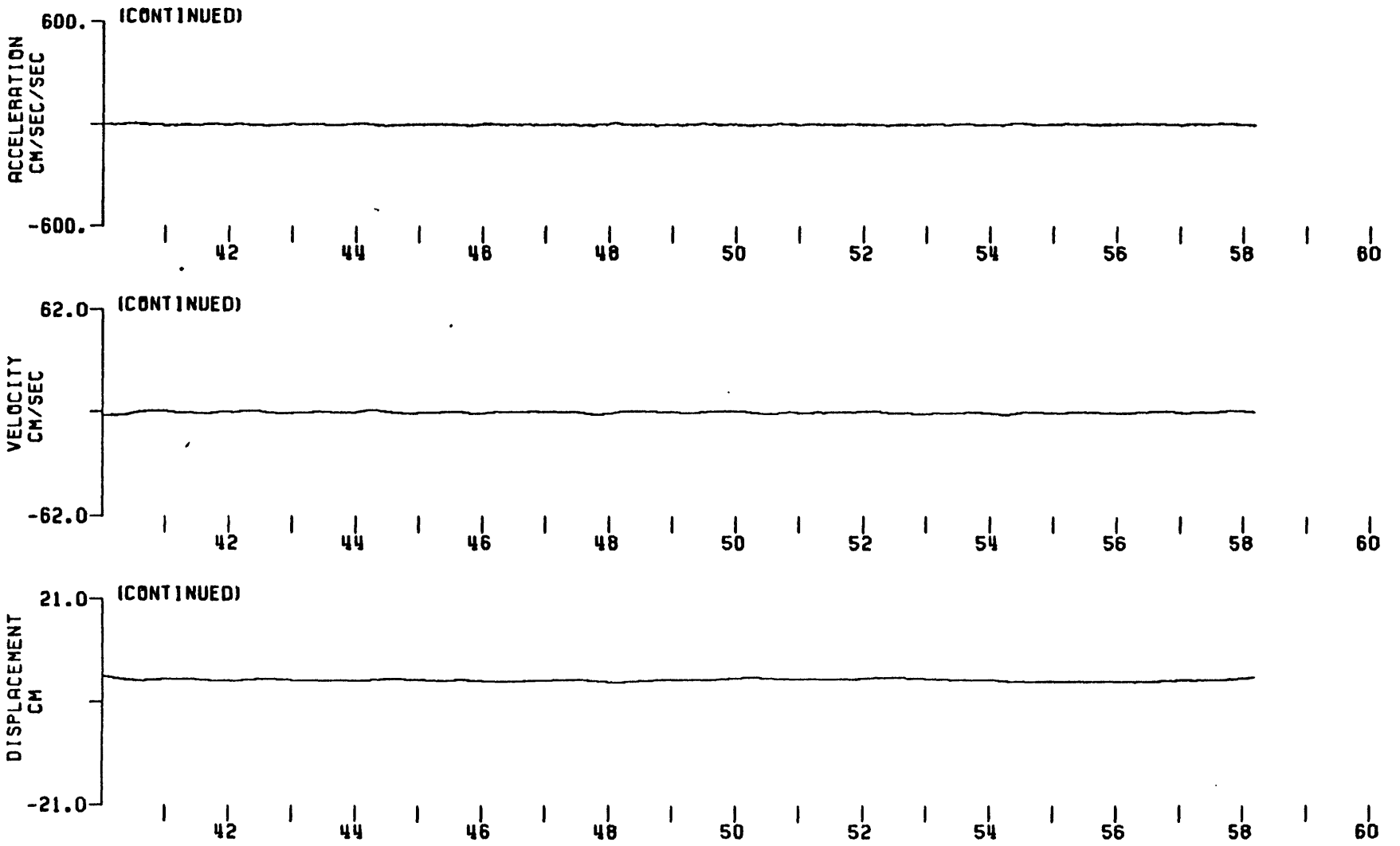
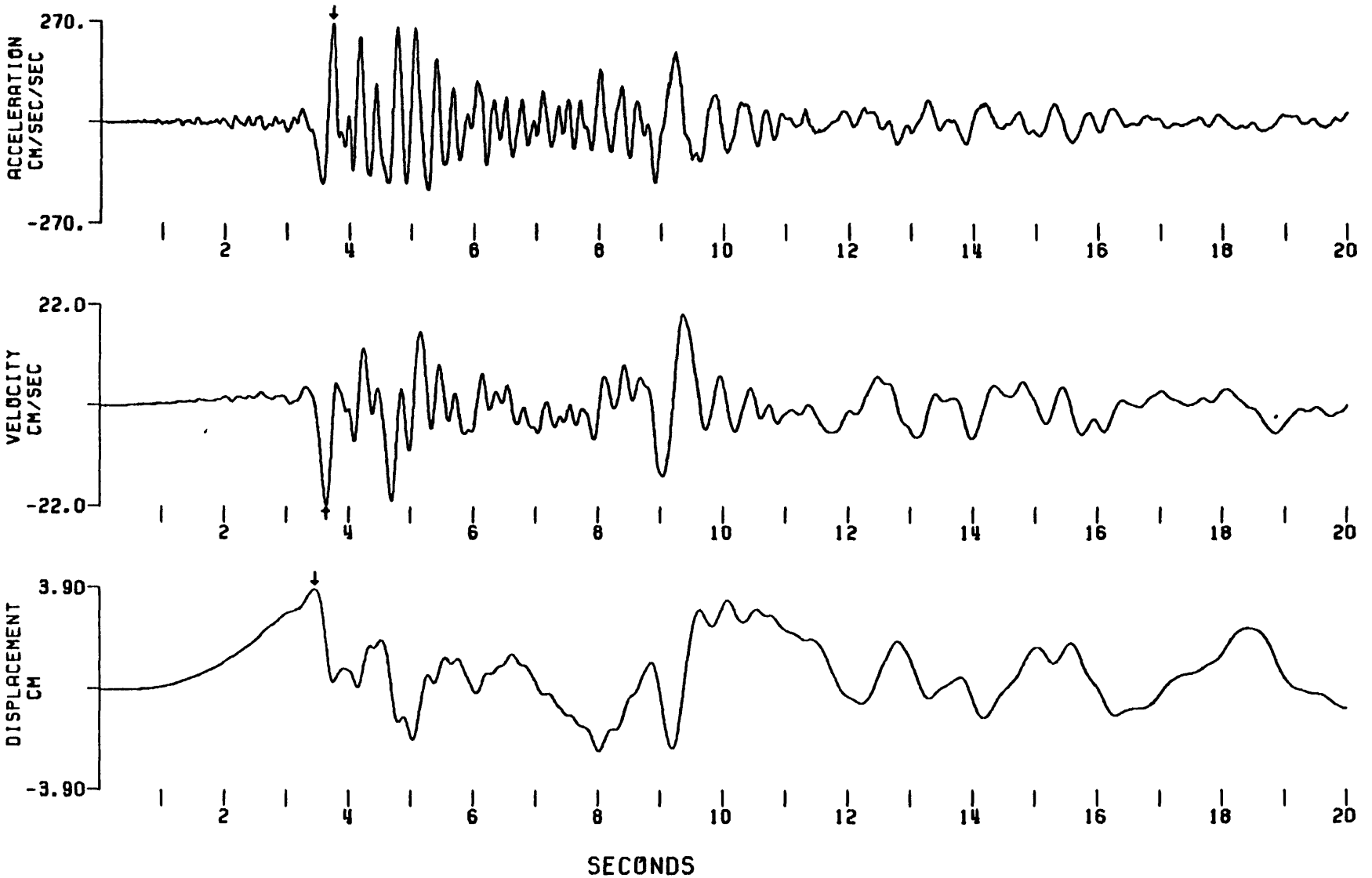
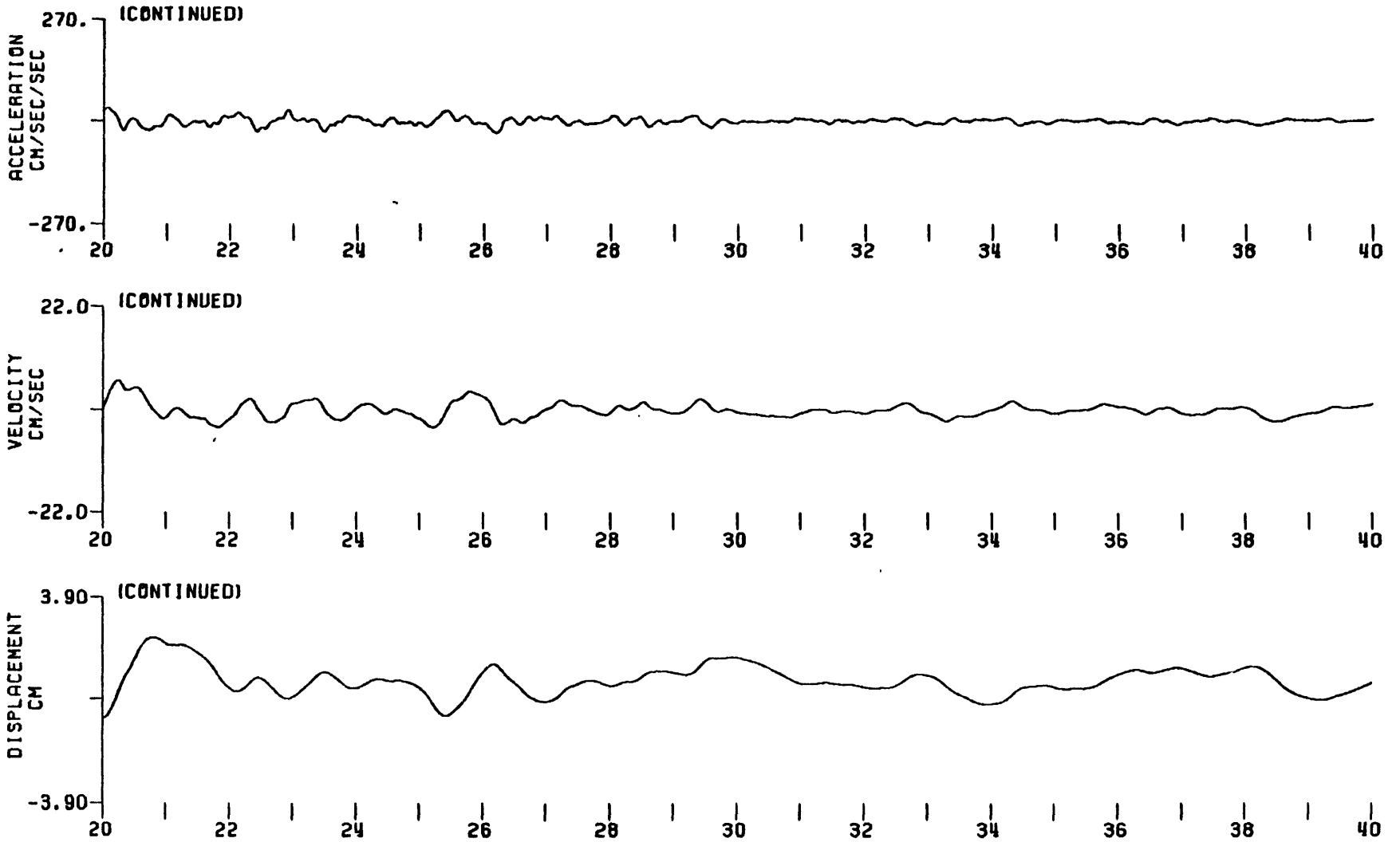


Figure A17 CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
PLEASANT VALLEY PUMPING PLANT, BASEMENT
135 DEGREES
EARTHQUAKE OF MAY 2, 1983, 2342UTC
BUTTERWORTH AT 0.1 HZ, ORDER 8
PEAK VALUES: ACCEL=267.28 CM/SEC/SEC, VELOCITY=-21.71 CM/SEC, DISPL=3.86 CM



CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
PLEASANT VALLEY PUMPING PLANT, BASEMENT
135 DEGREES
EARTHQUAKE OF MAY 2, 1983, 2342UTC
BUTTERWORTH AT 0.1 HZ, ORDER 8
PEAK VALUES: ACCEL=267.28 CM/SEC/SEC, VELOCITY=-21.71 CM/SEC, DISPL=3.86 CM



CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
PLEASANT VALLEY PUMPING PLANT, BASEMENT
135 DEGREES
EARTHQUAKE OF MAY 2, 1983, 2342UTC
BUTTERWORTH AT 0.1 HZ, ORDER 8
PEAK VALUES: ACCEL=267.28 CM/SEC/SEC, VELOCITY=-21.71 CM/SEC, DISPL=3.86 CM

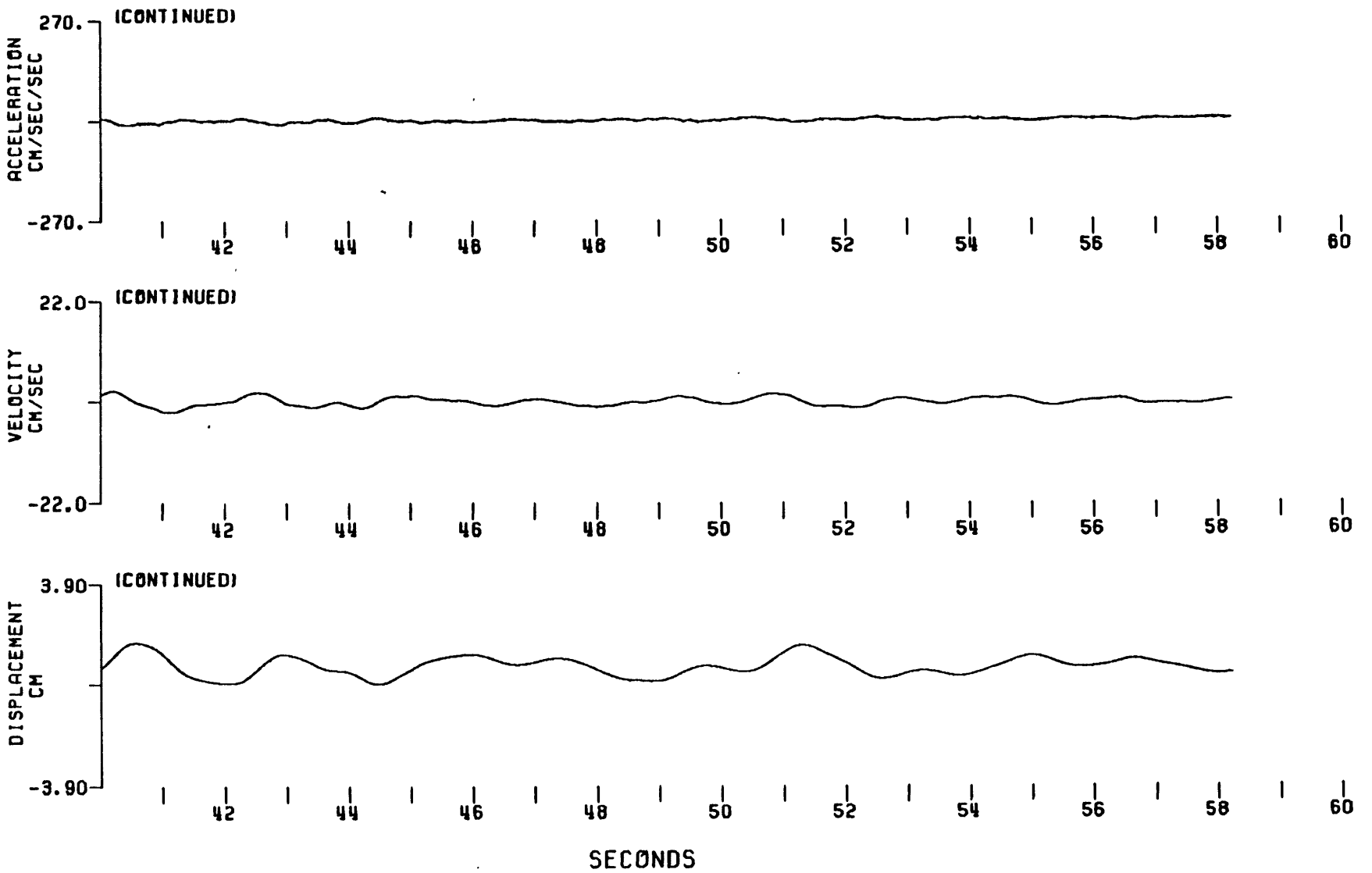
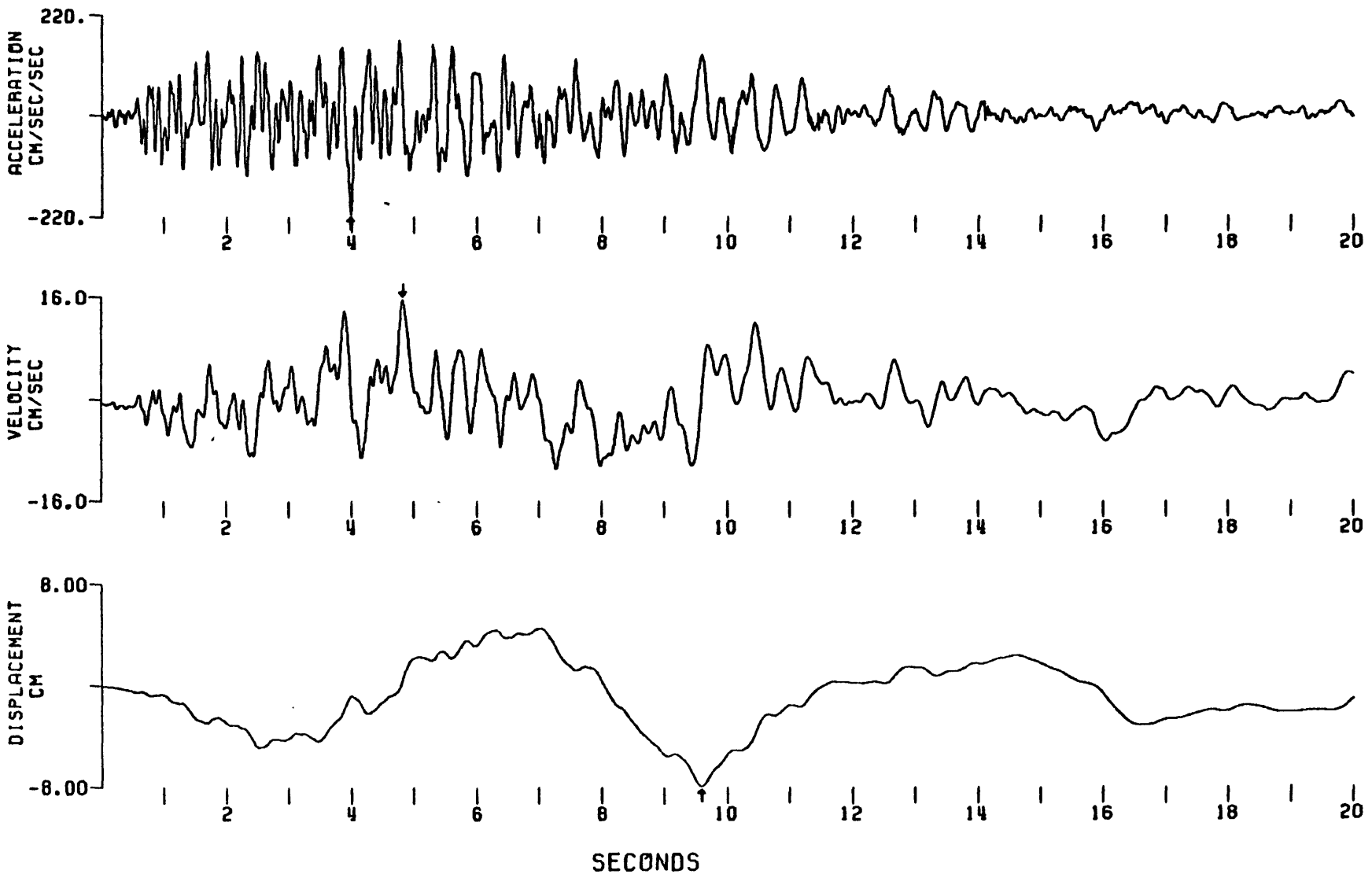
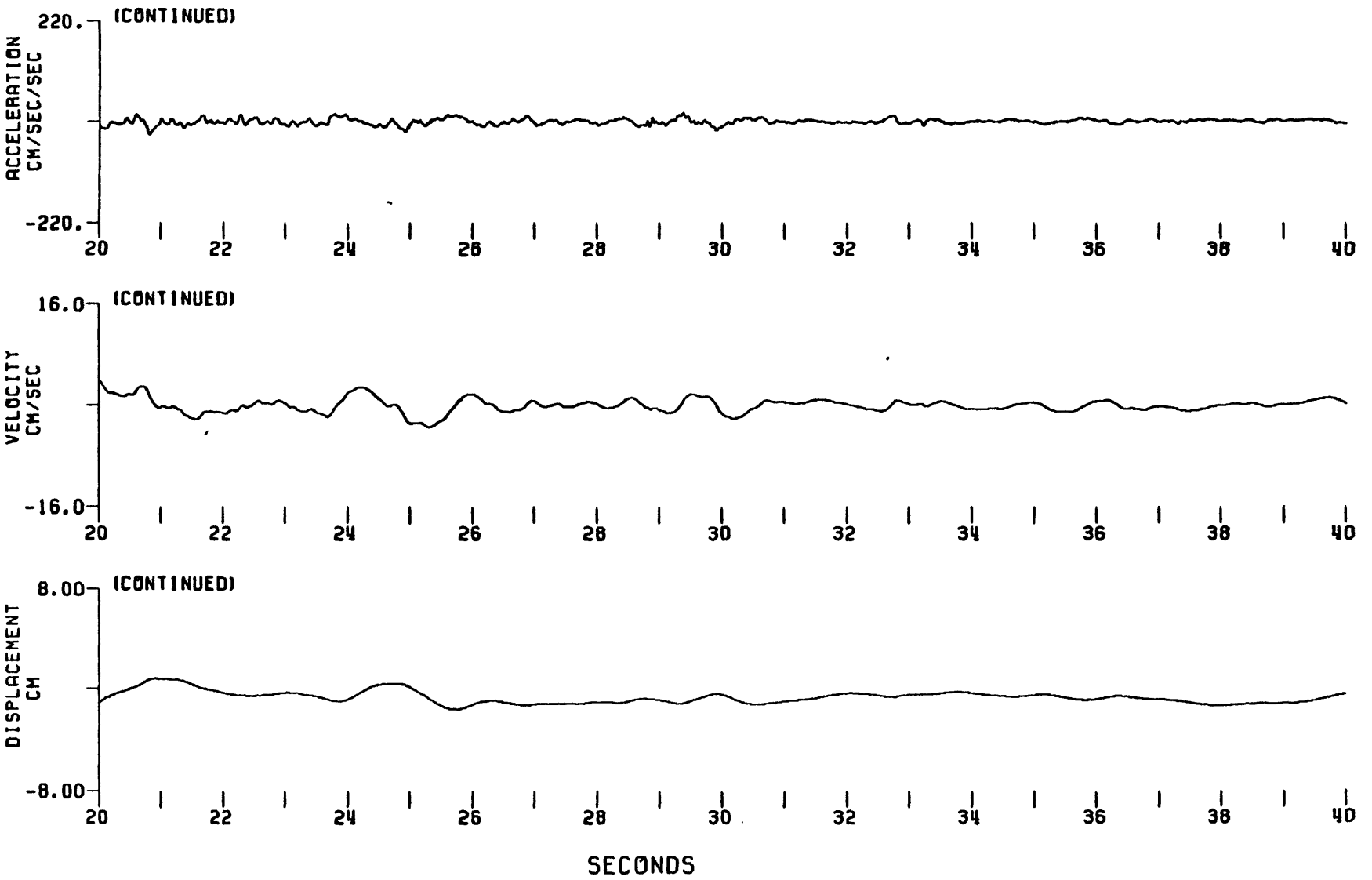


Figure A18 CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
PLEASANT VALLEY PUMPING PLANT, BASEMENT
UP
EARTHQUAKE OF MAY 2, 1983, 2342UTC
BUTTERWORTH AT 0.1 HZ, ORDER 8
PEAK VALUES: ACCEL=-216.26 CM/SEC/SEC, VELOCITY=15.53 CM/SEC, DISPL=-7.94 CM



CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
PLEASANT VALLEY PUMPING PLANT, BASEMENT
UP
EARTHQUAKE OF MAY 2, 1983, 2342UTC
BUTTERWORTH AT 0.1 HZ, ORDER 8
PEAK VALUES: ACCEL=-216.26 CM/SEC/SEC, VELOCITY=15.53 CM/SEC, DISPL=-7.94 CM



CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
PLEASANT VALLEY PUMPING PLANT, BASEMENT
UP
EARTHQUAKE OF MAY 2, 1983, 2342UTC
BUTTERWORTH AT 0.1 HZ, ORDER 8
PEAK VALUES: ACCEL=-216.26 CM/SEC/SEC, VELOCITY=15.53 CM/SEC, DISPL=-7.94 CM

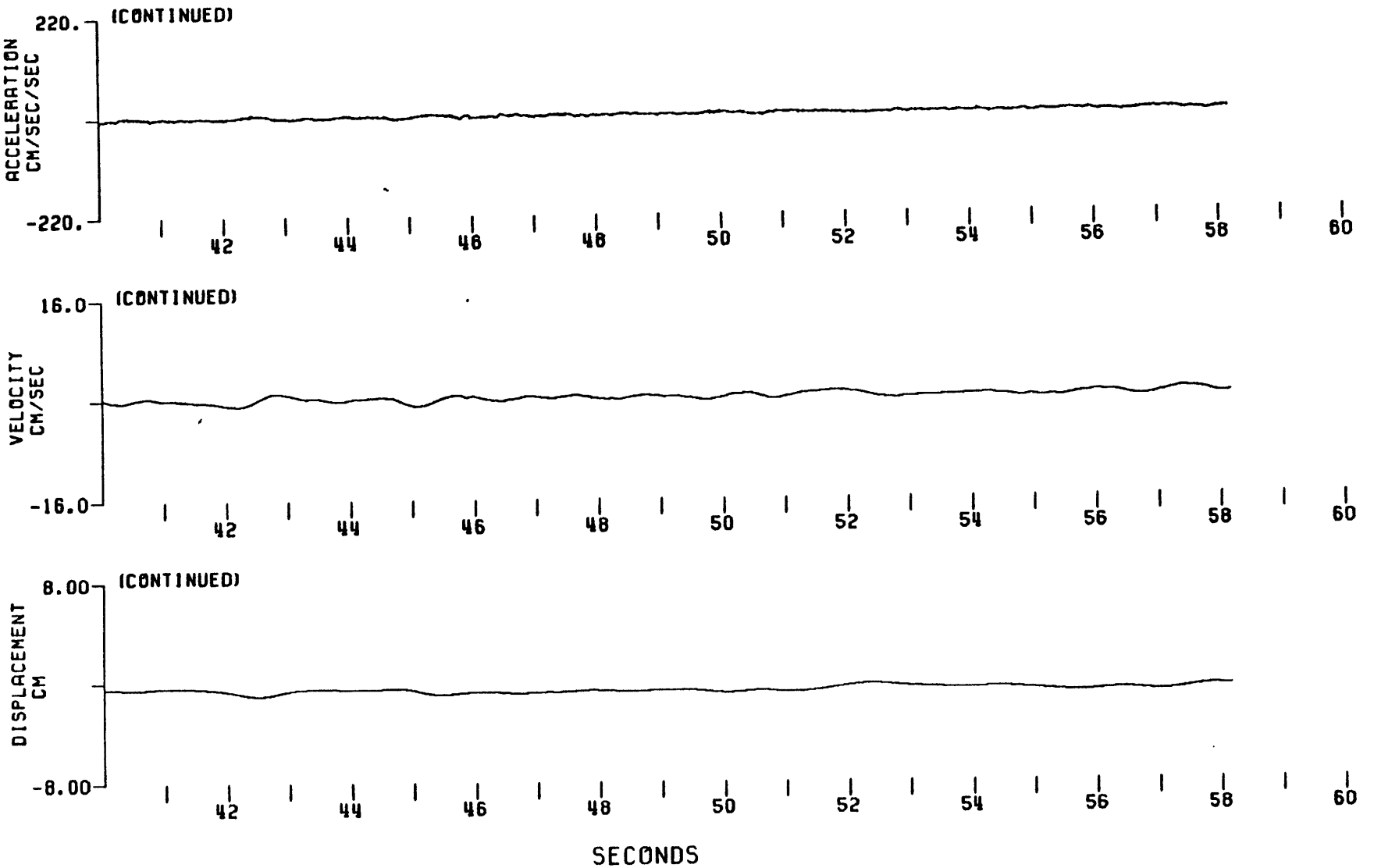
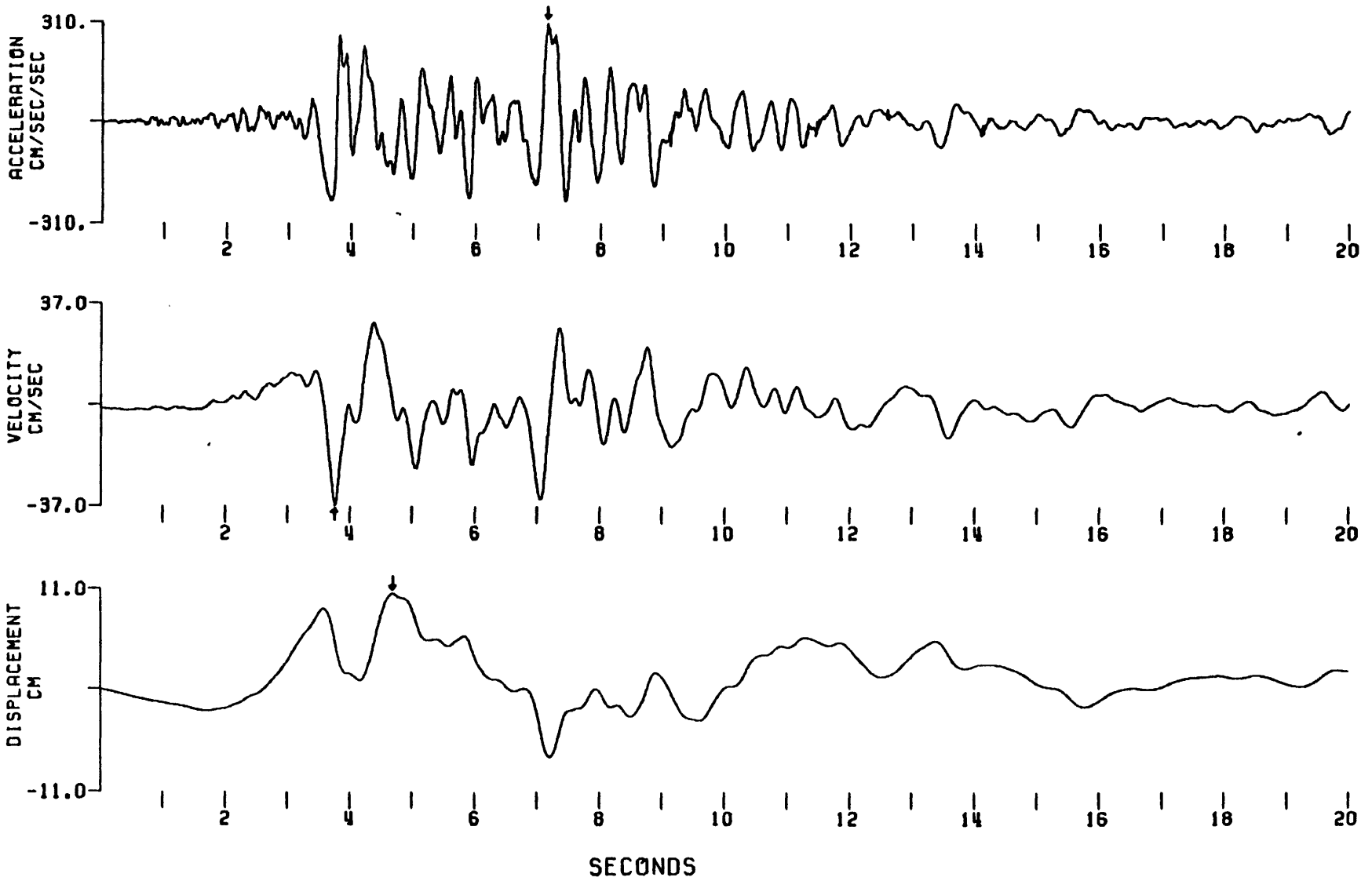
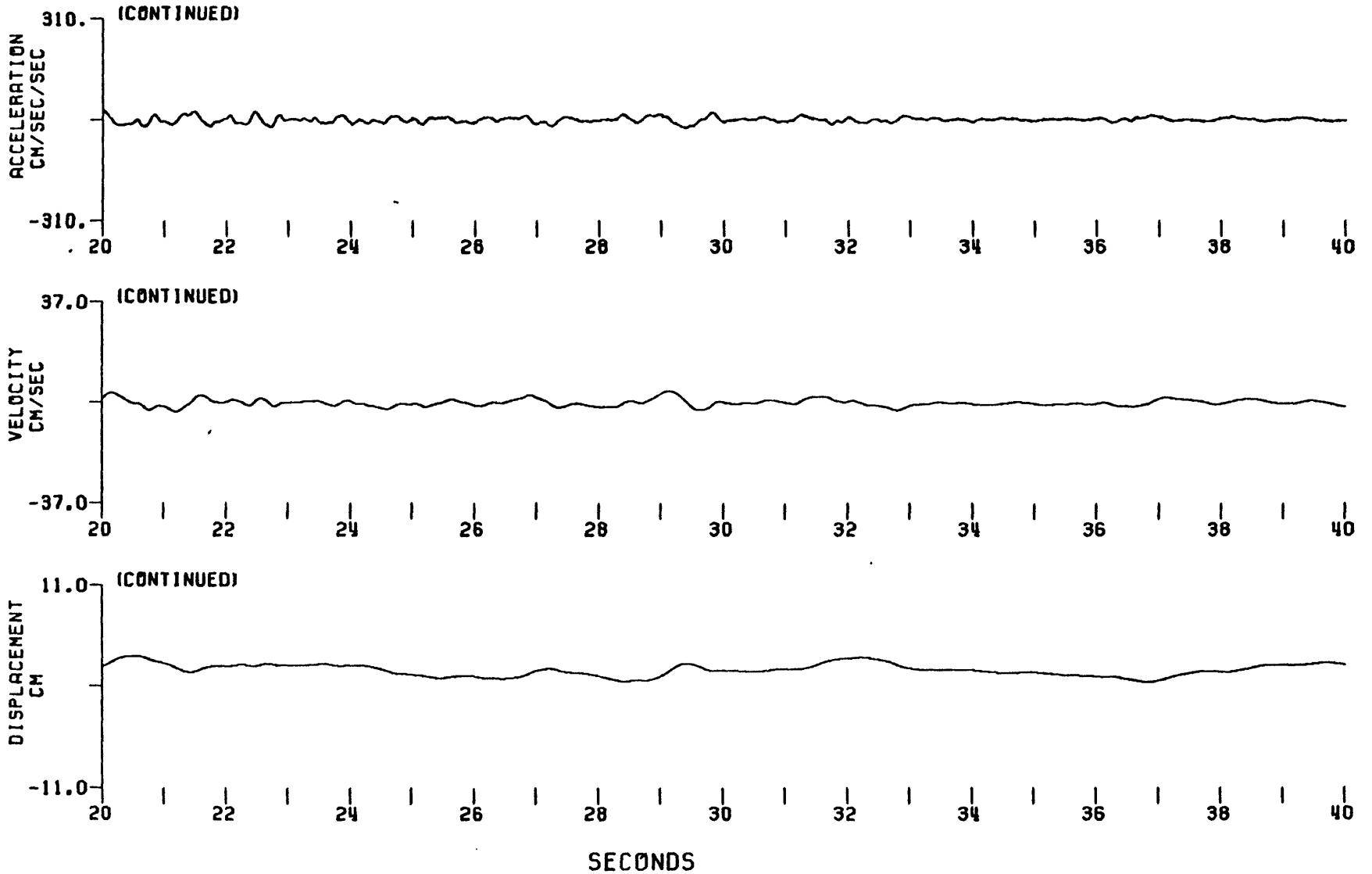


Figure A19 CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
PLEASANT VALLEY PUMPING PLANT, BASEMENT
045 DEGREES
EARTHQUAKE OF MAY 2, 1983, 2342UTC
BUTTERWORTH AT 0.1 HZ, ORDER 8
PEAK VALUES: ACCEL=306.69 CM/SEC/SEC, VELOCITY=-36.74 CM/SEC, DISPL=10.54 CM



CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
PLEASANT VALLEY PUMPING PLANT, BASEMENT
045 DEGREES
EARTHQUAKE OF MAY 2, 1983, 2342UTC
BUTTERWORTH AT 0.1 HZ, ORDER 8
PEAK VALUES: ACCEL=306.69 CM/SEC/SEC, VELOCITY=-36.74 CM/SEC, DISPL=10.54 CM



CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
PLEASANT VALLEY PUMPING PLANT, BASEMENT
045 DEGREES
EARTHQUAKE OF MAY 2, 1983, 2342UTC
BUTTERWORTH AT 0.1 HZ, ORDER 8
PEAK VALUES: ACCEL=306.69 CM/SEC/SEC, VELOCITY=-36.74 CM/SEC, DISPL=10.54 CM

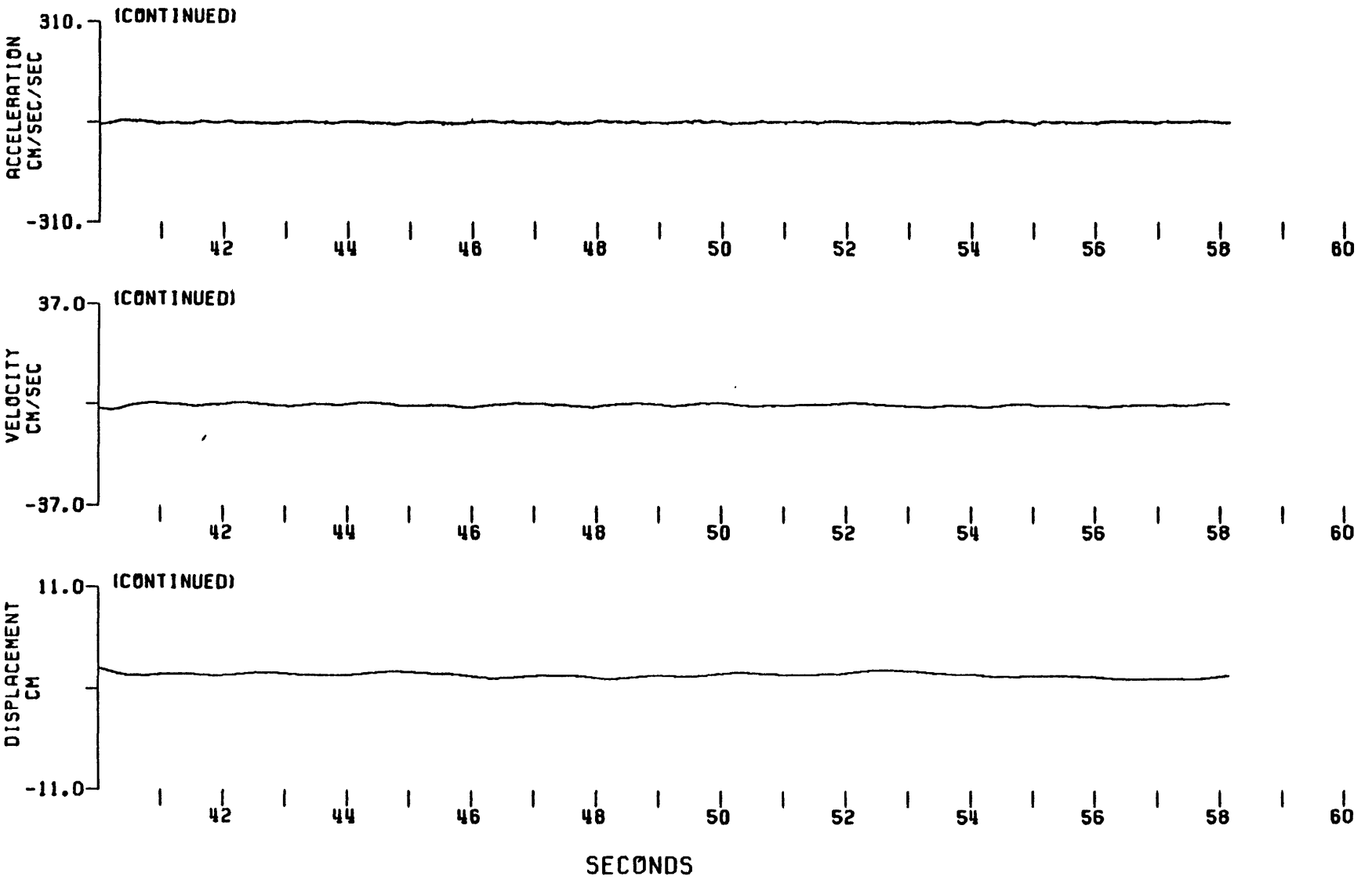


Figure A20 CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
COALINGA, ANTICLINE RIDGE, FREE-FIELD
360 DEGREES
EARTHQUAKE OF MAY 9, 1983, 0249UTC
BP FILTERED .5 TO 50 HZ (BTWTH8; 50-100 ROLLOFF)
PEAK VALUES: ACCEL=-594.69 CM/SEC/SEC, VELOCITY=22.40 CM/SEC, DISPL=1.45 CM

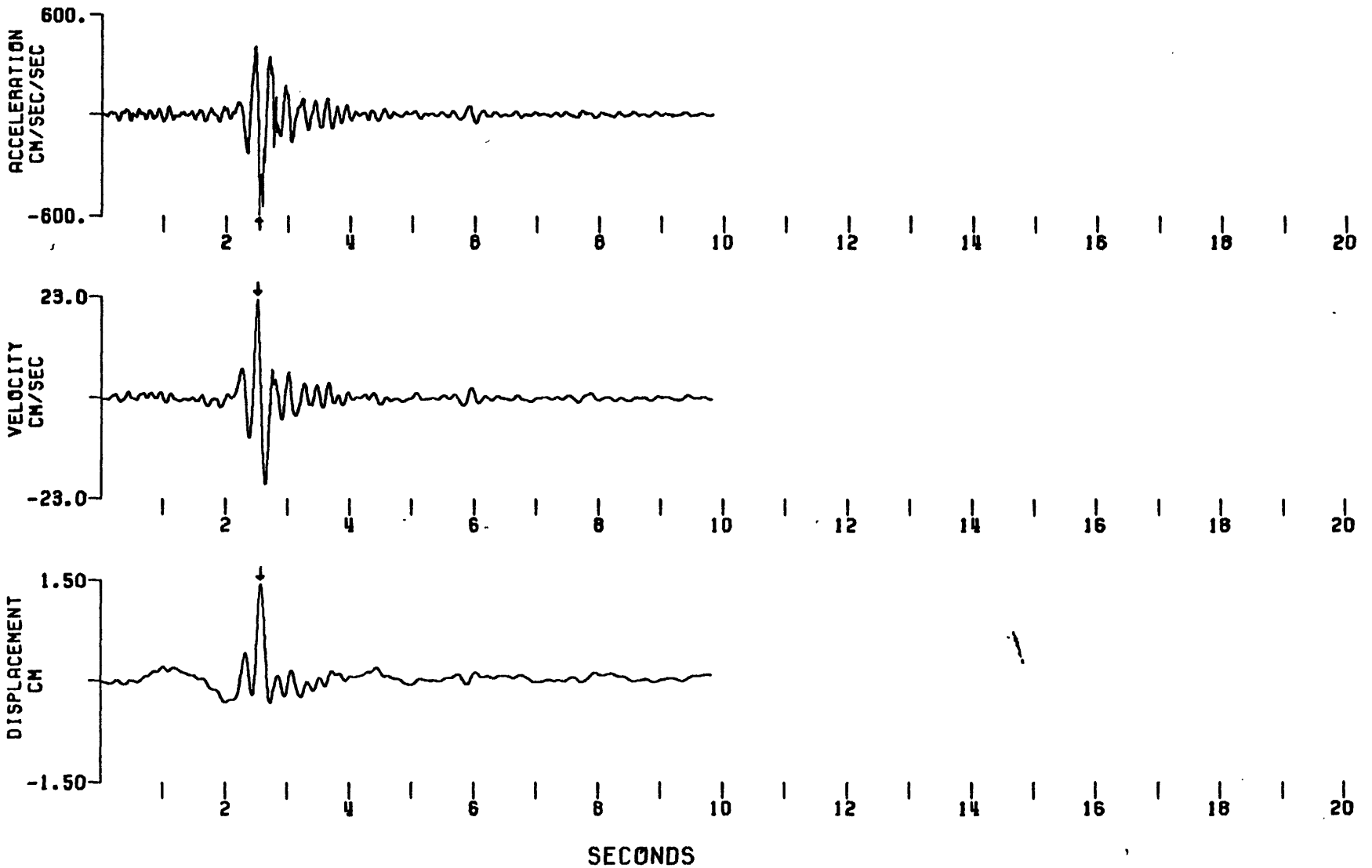


Figure A21 CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
COALINGA, ANTICLINE RIDGE, FREE-FIELD
UP
EARTHQUAKE OF MAY 9, 1983, 0249UTC
BP FILTERED .5 TO 50 HZ (BTWTH8; 50-100 ROLLOFF)
PEAK VALUES: ACCEL=302.07 CM/SEC/SEC, VELOCITY=5.69 CM/SEC, DISPL=-0.28 CM

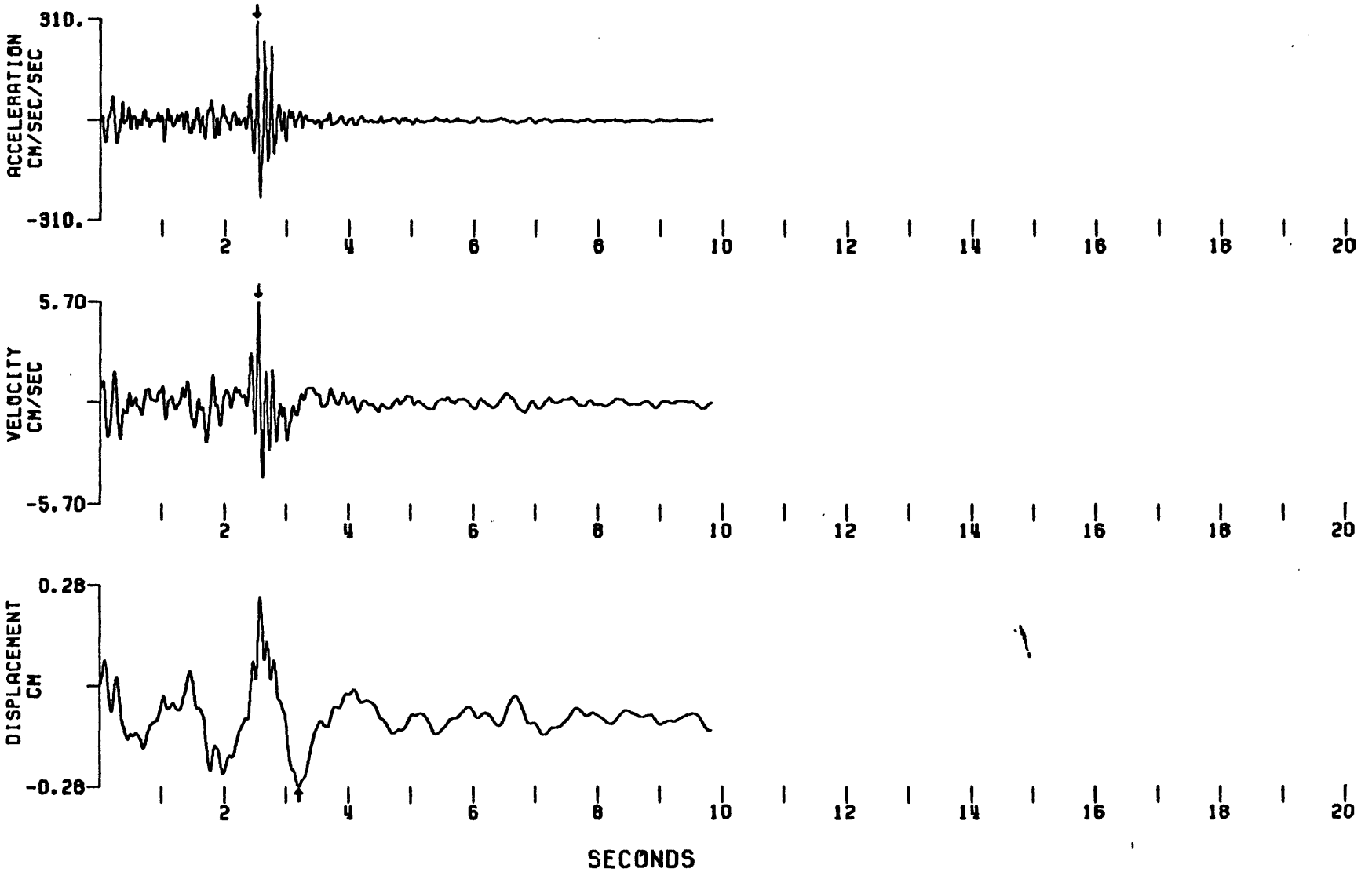


Figure A22 CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
COALINGA, ANTICLINE RIDGE, FREE-FIELD
270 DEGREES
EARTHQUAKE OF MAY 9, 1983, 0249UTC
BP FILTERED .5 TO 50 HZ (BTWTH8; 50-100 ROLLOFF)
PEAK VALUES: ACCEL=-548.80 CM/SEC/SEC, VELOCITY=15.17 CM/SEC, DISPL=-0.94 CM

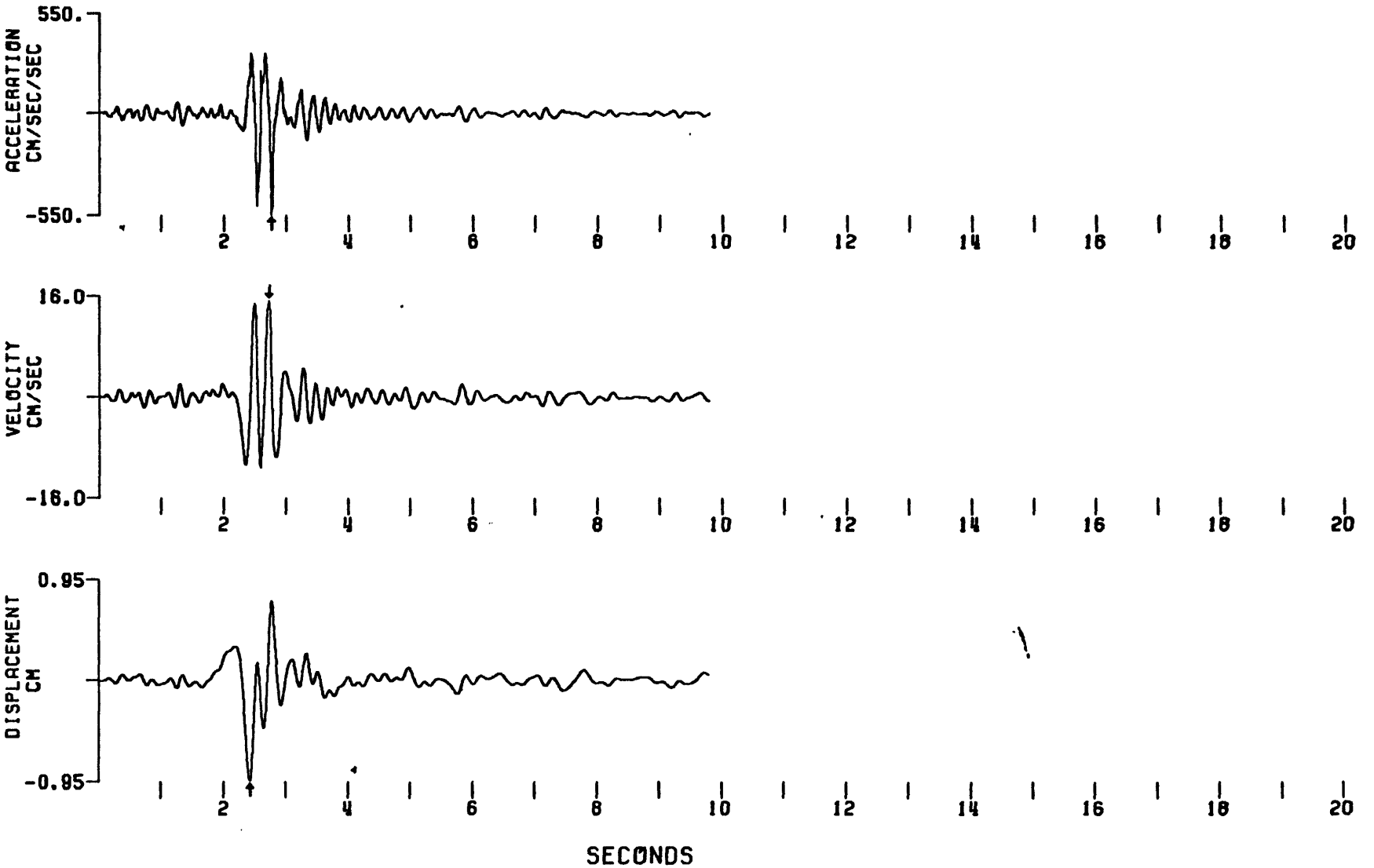


Figure A23 CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
COALINGA, ANTICLINE RIDGE, PAD
360 DEGREES
EARTHQUAKE OF MAY 9, 1983, 0249UTC
BP FILTERED .5 TO 50 HZ (BTWTH8; 50-100 ROLLOFF)
PEAK VALUES: ACCEL=-462.58 CM/SEC/SEC, VELOCITY=-21.22 CM/SEC, DISPL=1.48 CM

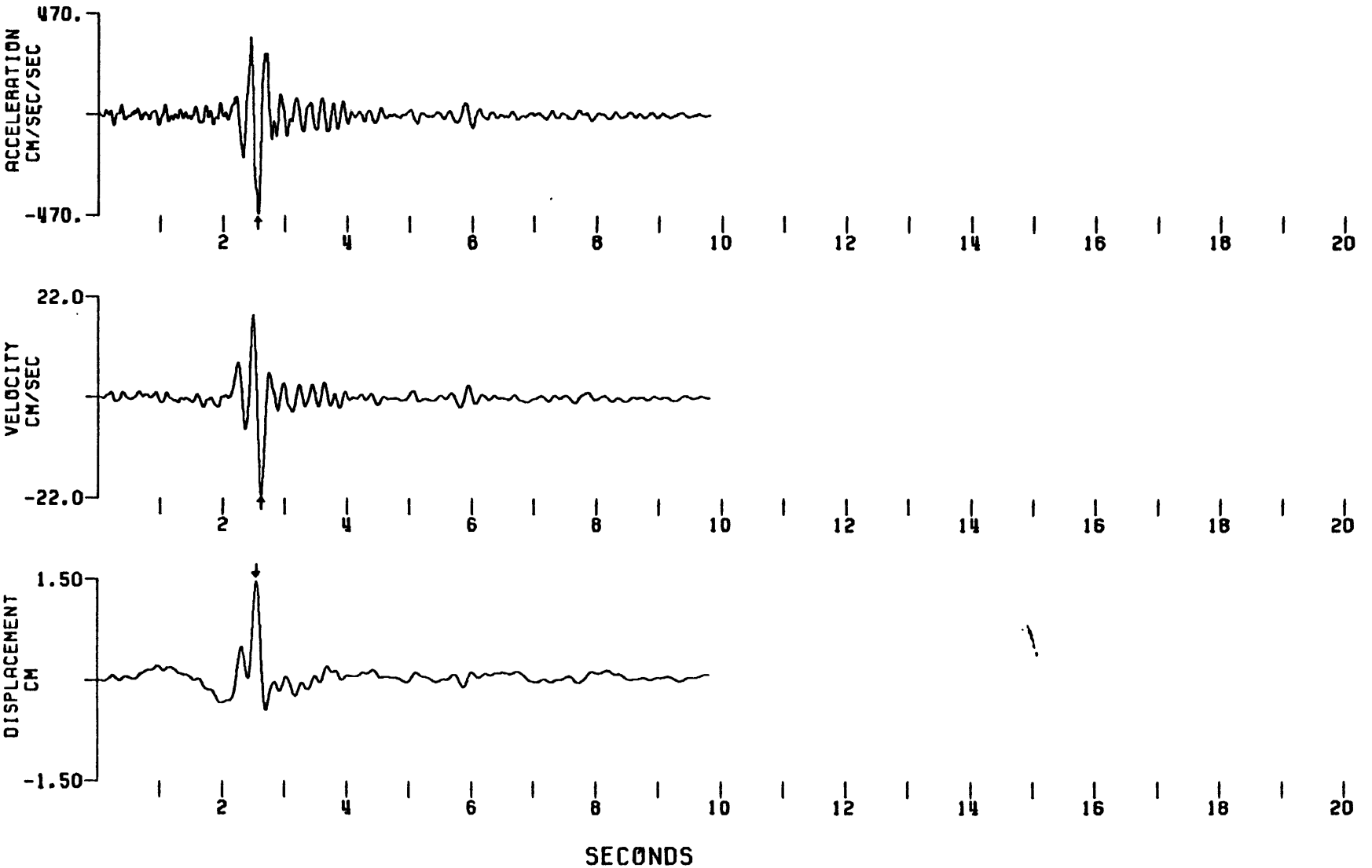


Figure A24 CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
COALINGA, ANTICLINE RIDGE, PAD
UP
EARTHQUAKE OF MAY 9, 1983, 0249UTC
BP FILTERED .5 TO 50 HZ (BTWTH8; 50-100 ROLLOFF)
PEAK VALUES: ACCEL=-343.57 CM/SEC/SEC, VELOCITY=-7.67 CM/SEC, DISPL=-0.26 CM

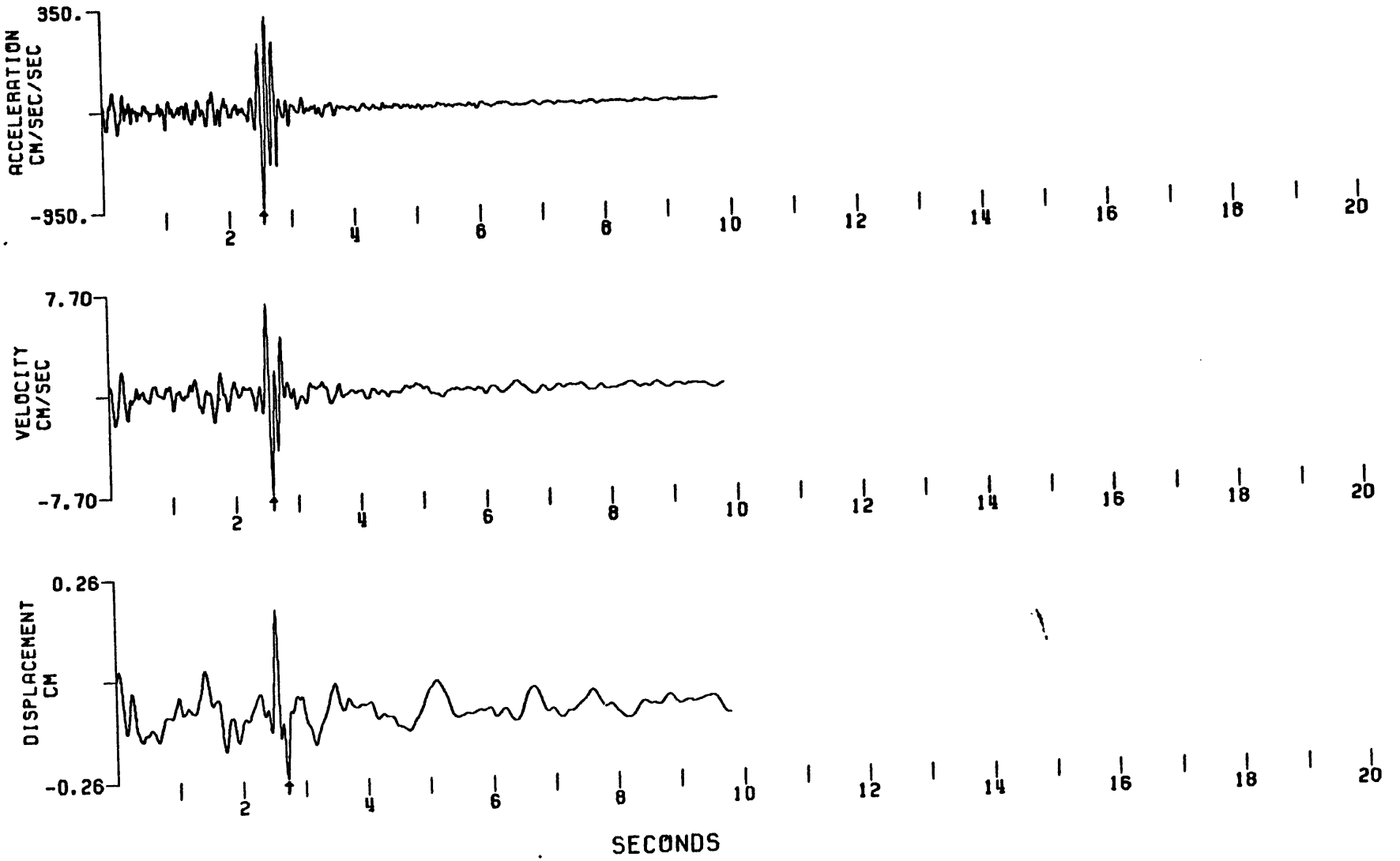


Figure A25 CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
COALINGA, ANTICLINE RIDGE, PAD
270 DEGREES
EARTHQUAKE OF MAY 9, 1983, 0249UTC
BP FILTERED .5 TO 50 HZ (BTWTH8; 50-100 ROLLOFF)
PEAK VALUES: ACCEL=-473.89 CM/SEC/SEC, VELOCITY=15.82 CM/SEC, DISPL=-0.83 CM

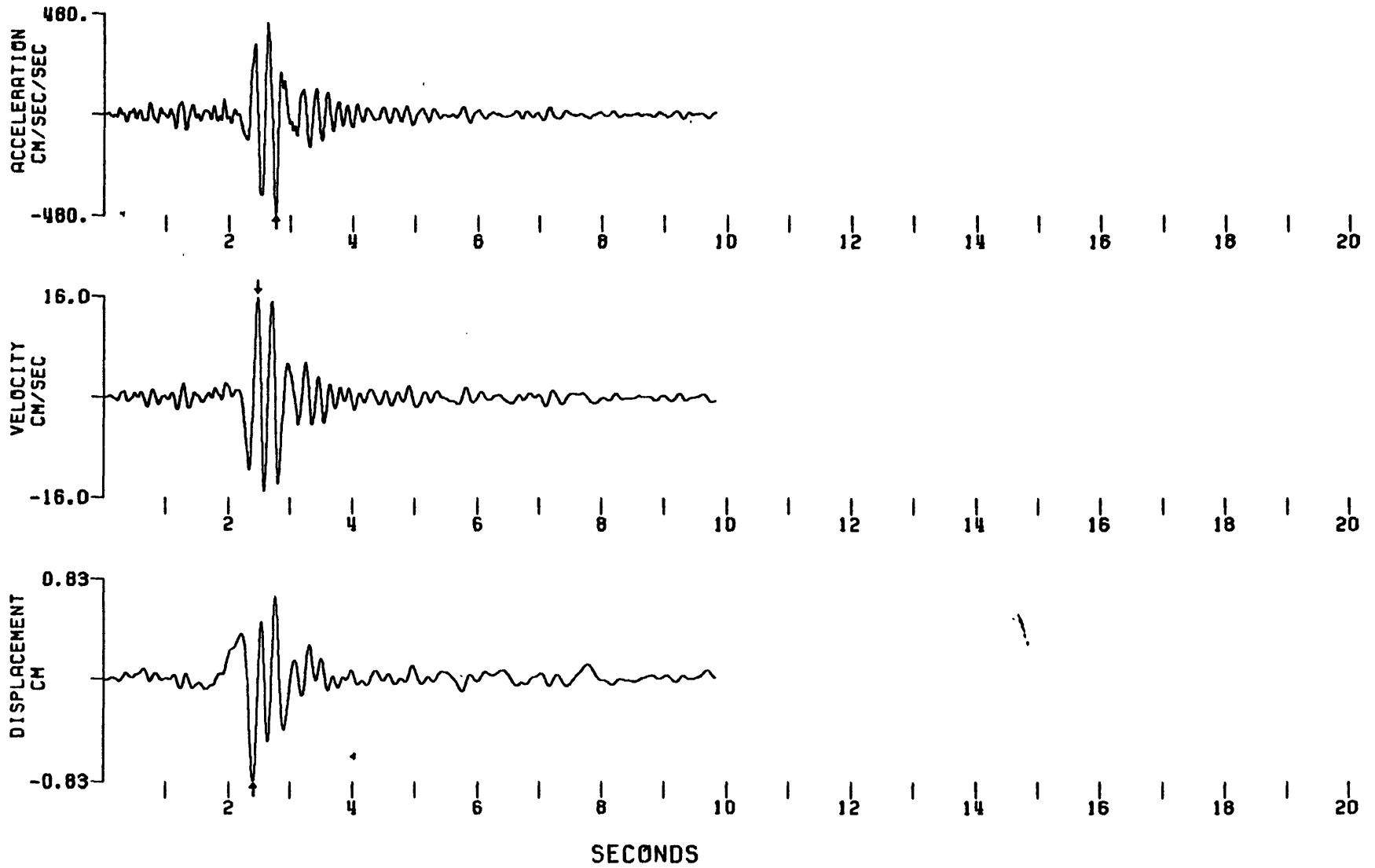


Figure A26 CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
COALINGA, BURNETT CONSTRUCTION
360 DEGREES
EARTHQUAKE OF MAY 9, 1983, 0249UTC
BP FILTERED .5 TO 50 HZ (BTWTH8; 50-100 ROLLOFF)
PEAK VALUES: ACCEL=-89.71 CM/SEC/SEC, VELOCITY=4.81 CM/SEC, DISPL=0.35 CM

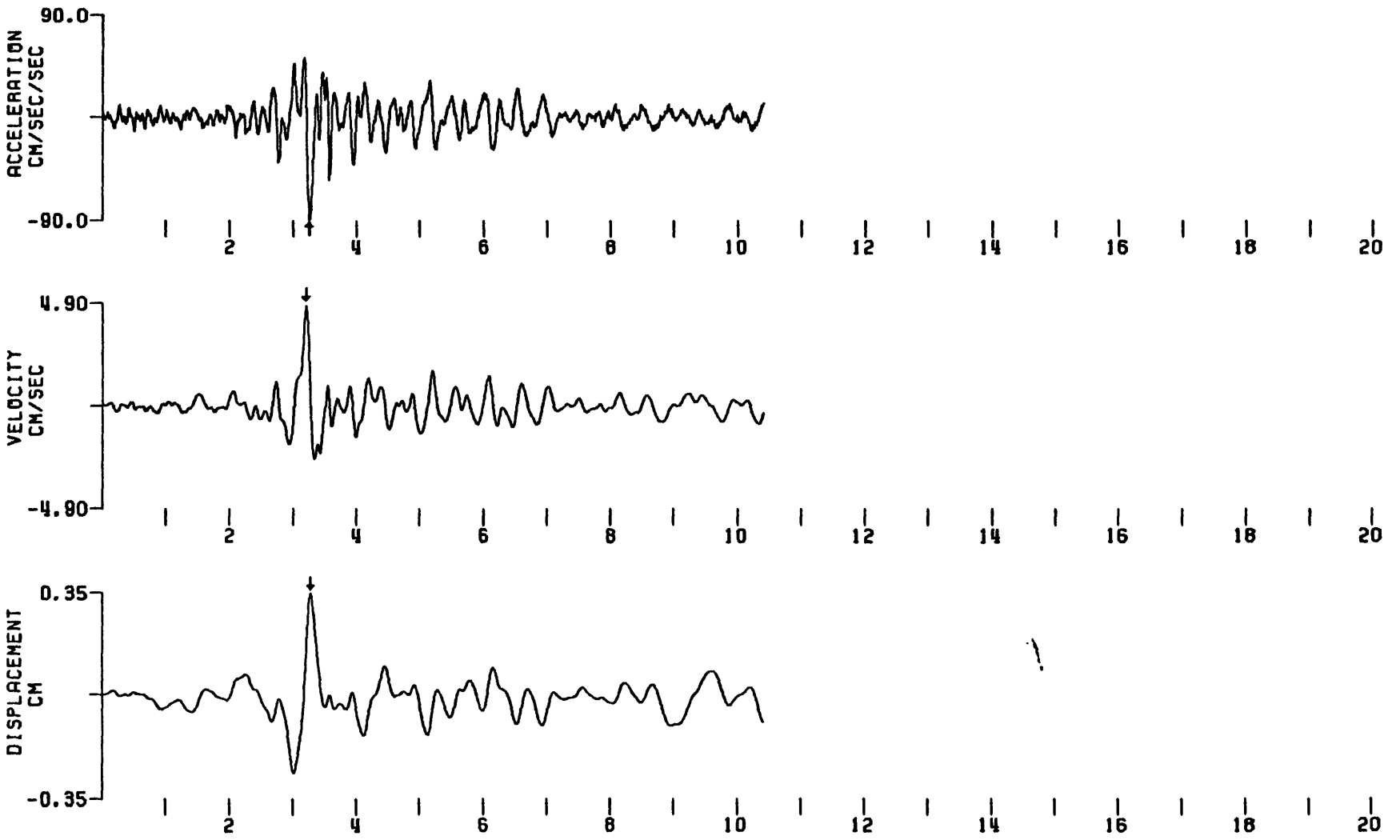


Figure A27 CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
COALINGA, BURNETT CONSTRUCTION
UP
EARTHQUAKE OF MAY 9, 1983, 0249UTC
BP FILTERED .5 TO 50 HZ (BTWTH8; 50-100 ROLLOFF)
PEAK VALUES: ACCEL=-70.73 CM/SEC/SEC, VELOCITY=2.33 CM/SEC, DISPL=0.15 CM

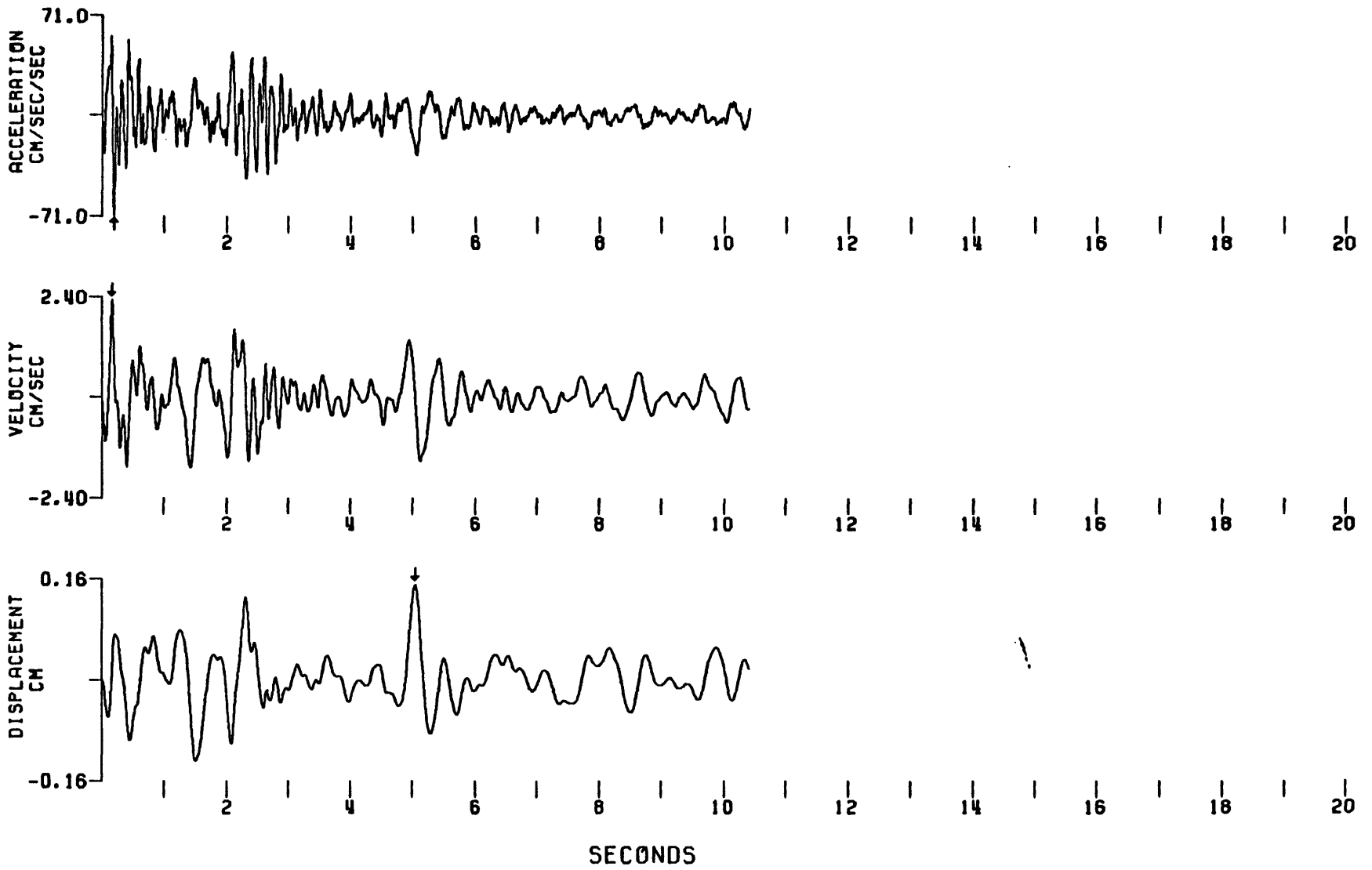


Figure A28 CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
COALINGA, BURNETT CONSTRUCTION
270 DEGREES
EARTHQUAKE OF MAY 9, 1983, 0249UTC
BP FILTERED .5 TO 50 HZ (BTWTH8; 50-100 ROLLOFF)
PEAK VALUES: ACCEL=-86.87 CM/SEC/SEC, VELOCITY=-3.62 CM/SEC, DISPL=-0.43 CM

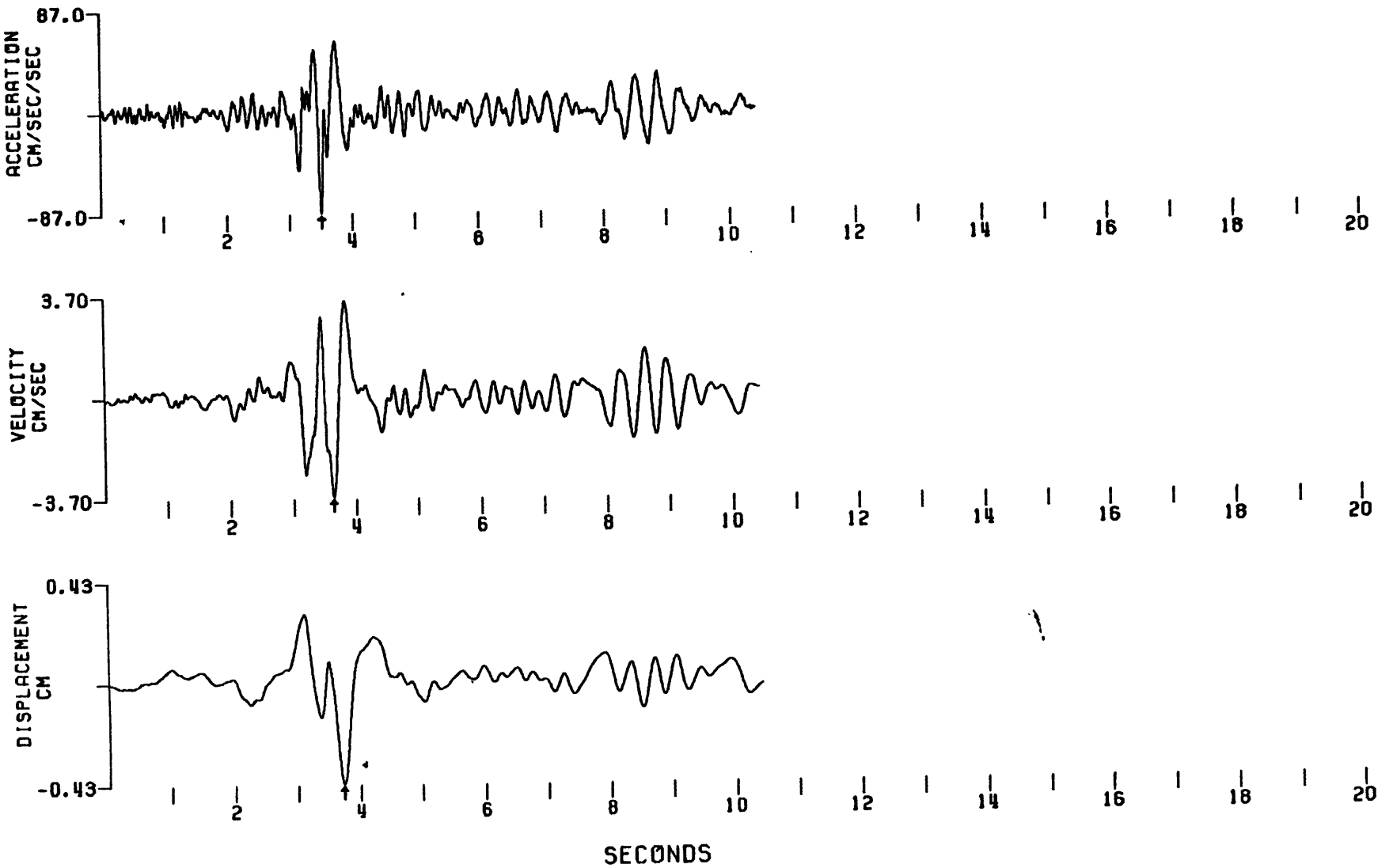


Figure A29 CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
COALINGA, OIL CITY
360 DEGREES
EARTHQUAKE OF MAY 9, 1983, 0249UTC
BP FILTERED .5 TO 50 HZ (BTWTH8; 50-100 ROLLOFF)
PEAK VALUES: ACCEL=-288.42 CM/SEC/SEC, VELOCITY=-7.74 CM/SEC, DISPL=0.65 CM

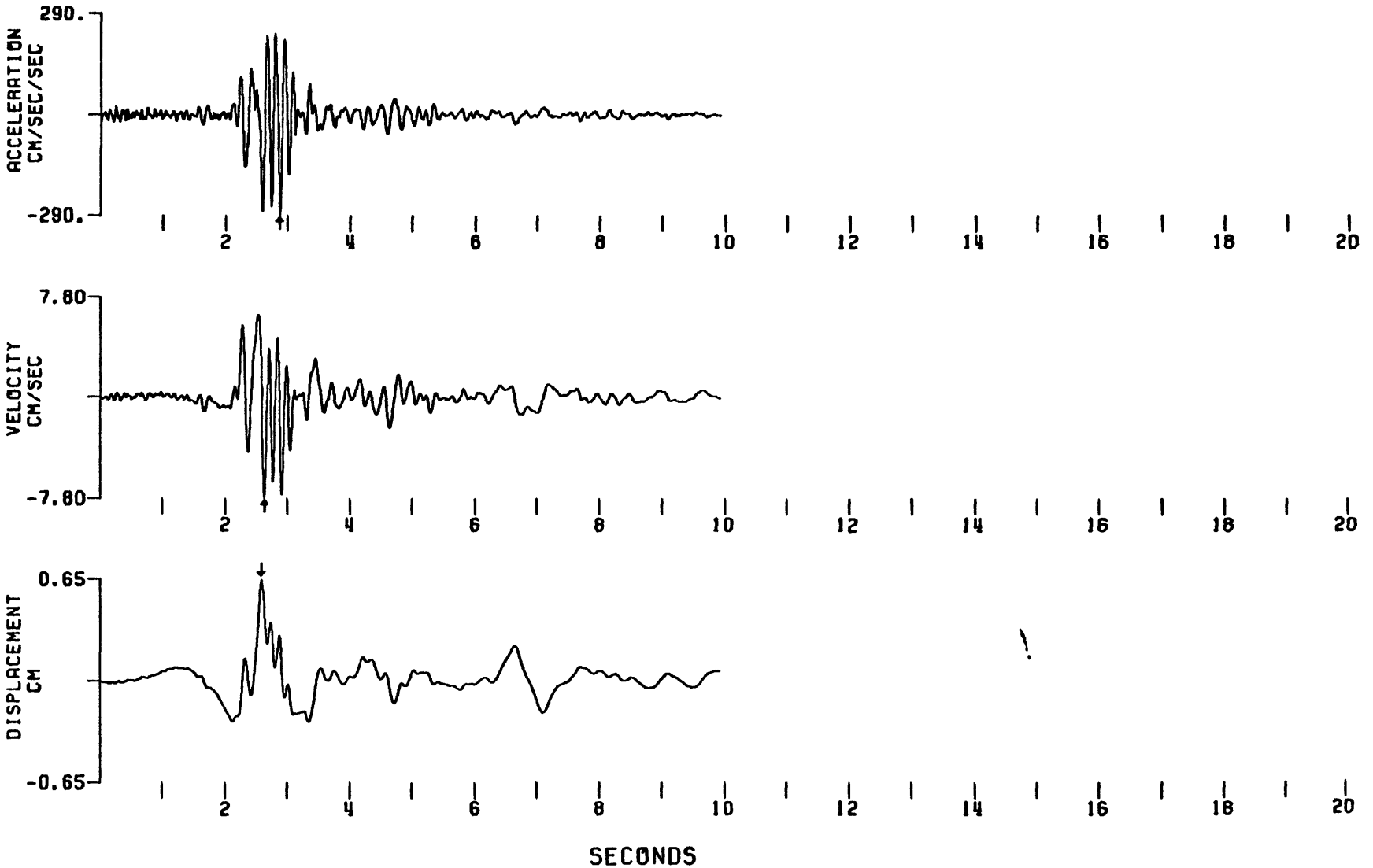


Figure A30 CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
COALINGA, OIL CITY
UP
EARTHQUAKE OF MAY 9, 1983, 0249UTC
BP FILTERED .5 TO 50 HZ (BTWTH8; 50-100 ROLLOFF)
PEAK VALUES: ACCEL=-115.46 CM/SEC/SEC, VELOCITY=3.10 CM/SEC, DISPL=0.28 CM

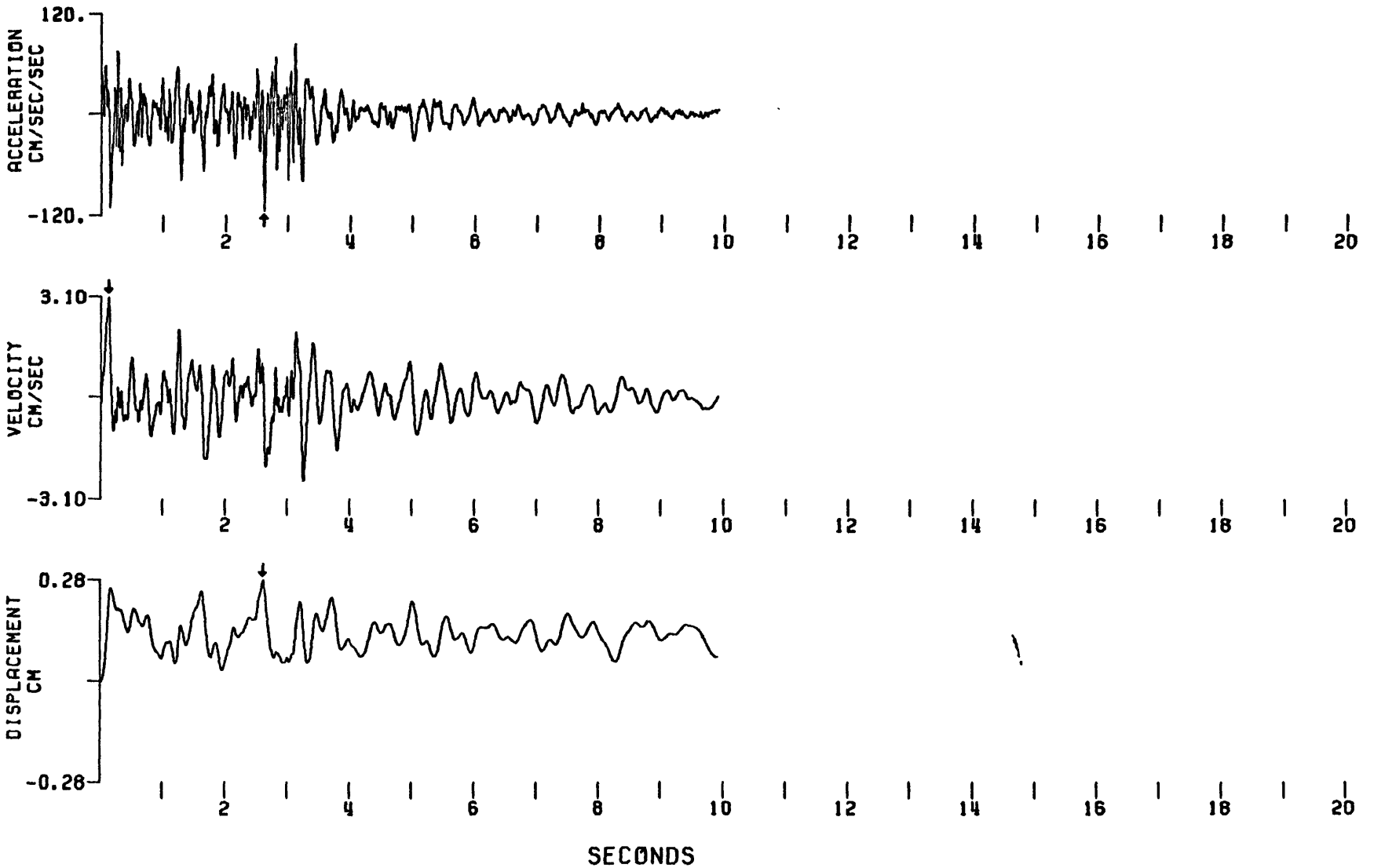


Figure A31 CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
COALINGA, OIL CITY
270 DEGREES
EARTHQUAKE OF MAY 9, 1983, 0249UTC
BP FILTERED .5 TO 50 HZ (BTWTH8; 50-100 ROLLOFF)
PEAK VALUES: ACCEL=-242.16 CM/SEC/SEC, VELOCITY=9.71 CM/SEC, DISPL=-0.67 CM

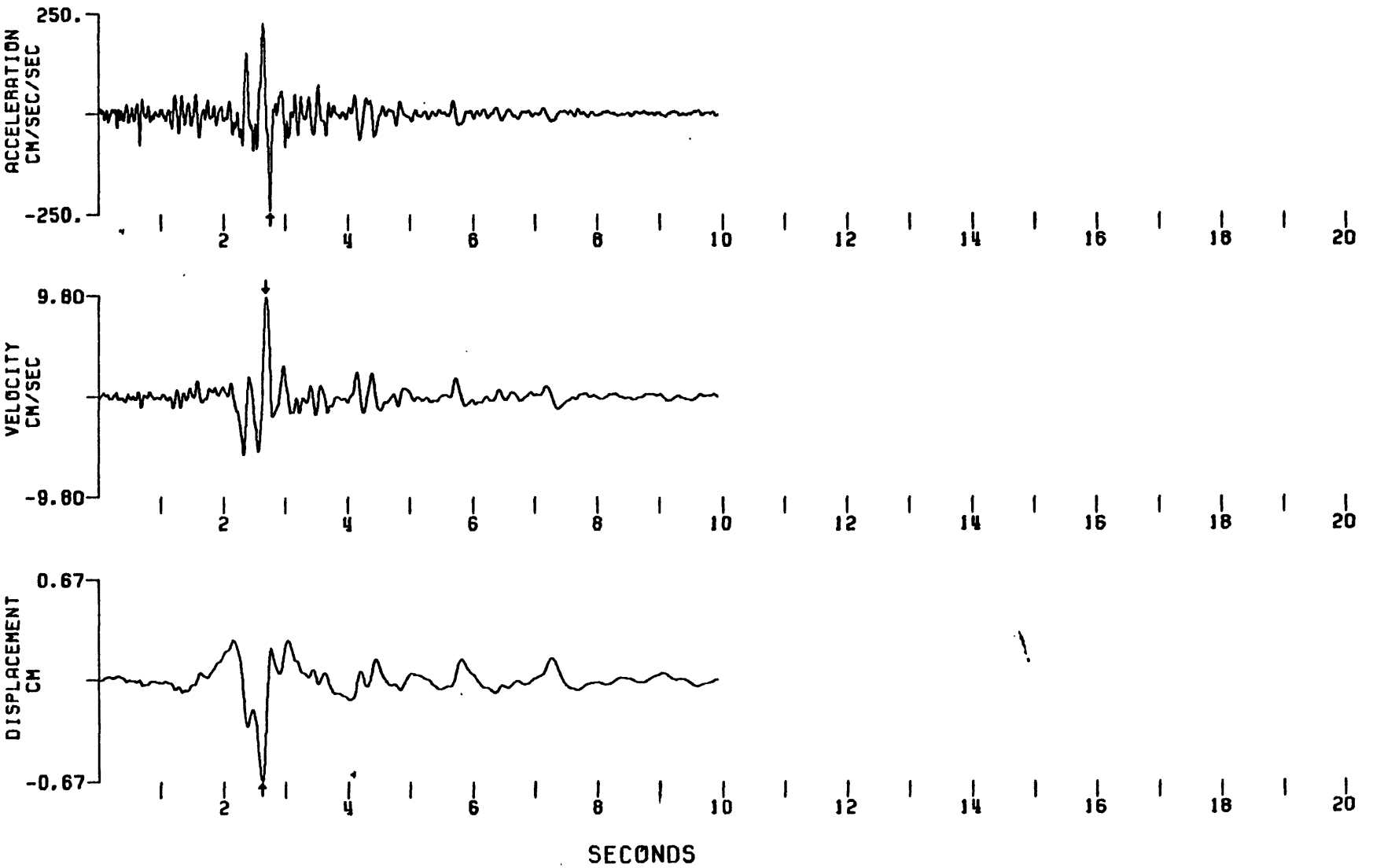


Figure A32 CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
COALINGA, OIL FIELDS FIRE STATION
360 DEGREES
EARTHQUAKE OF MAY 9, 1983, 0249UTC
BP FILTERED .5 TO 50 HZ (BTWTH8; 50-100 ROLLOFF)
PEAK VALUES: ACCEL=-174.19 CM/SEC/SEC, VELOCITY=-5.10 CM/SEC, DISPL=0.38 CM

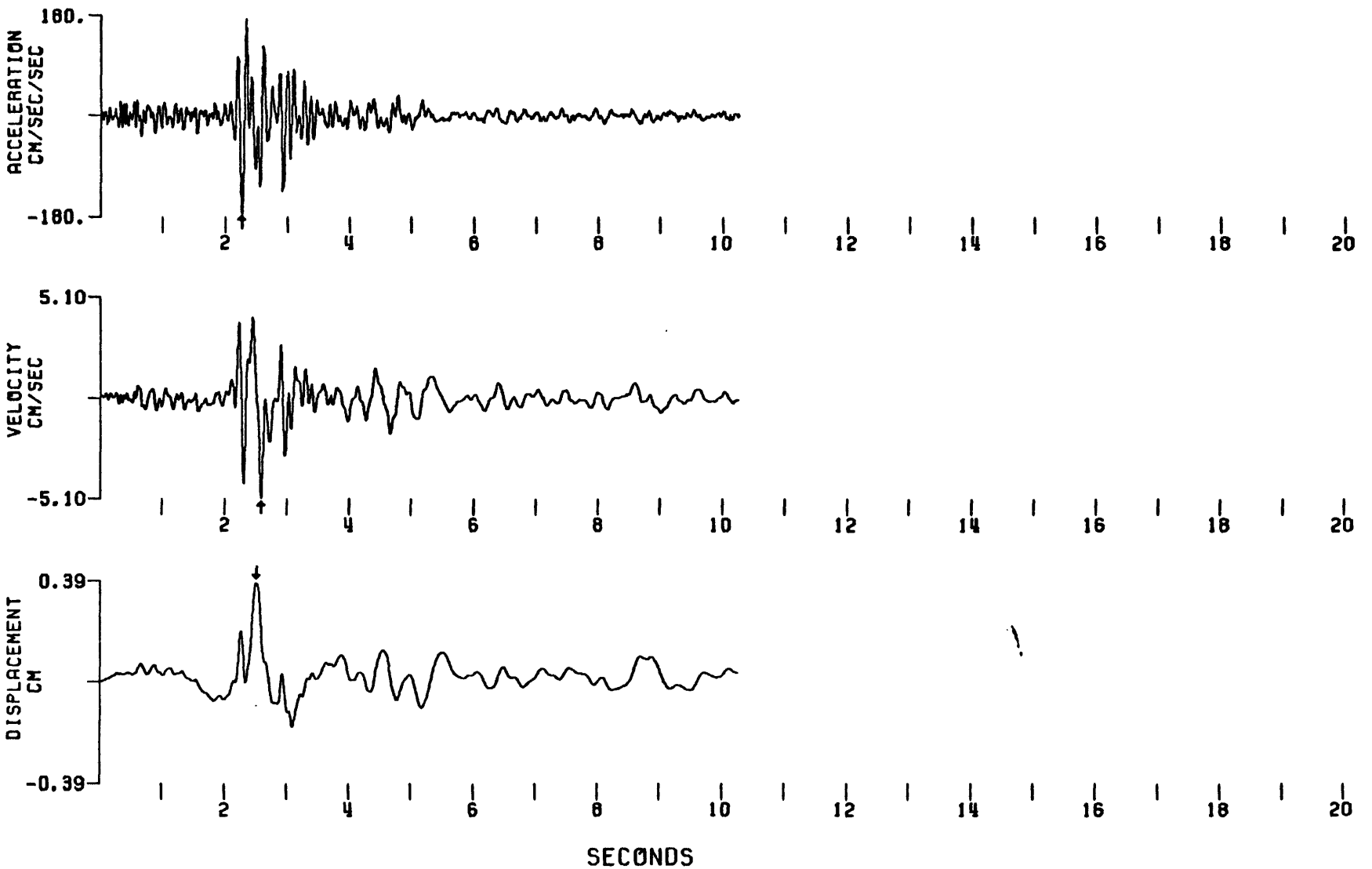


Figure A33 CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
COALINGA, OIL FIELDS FIRE STATION
UP
EARTHQUAKE OF MAY 9, 1983, 0249UTC
BP FILTERED .5 TO 50 HZ (BTWTH8; 50-100 ROLLOFF)
PEAK VALUES: ACCEL=-160.53 CM/SEC/SEC, VELOCITY=-3.52 CM/SEC, DISPL=-0.34 CM

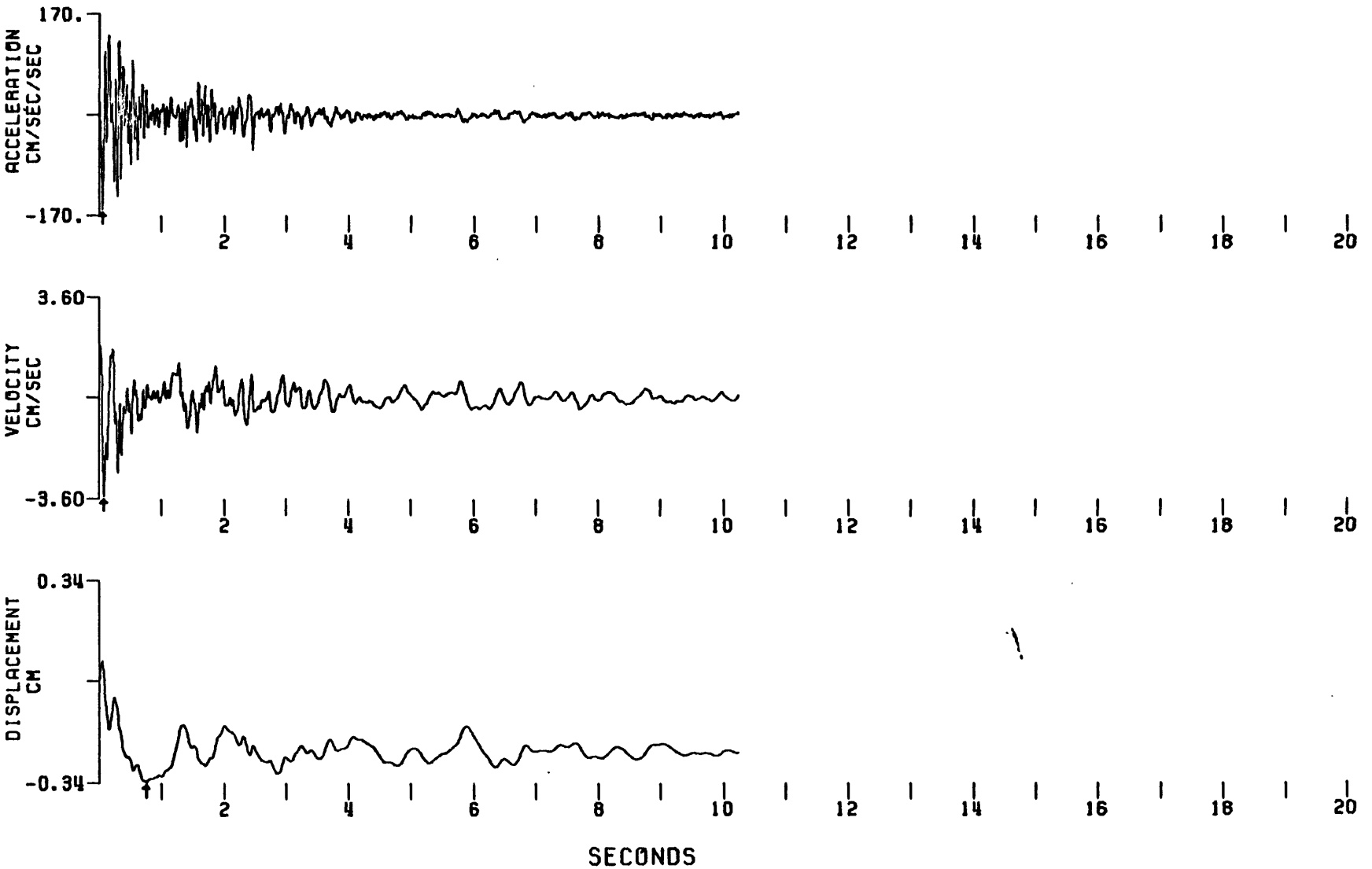


Figure A34 CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
COALINGA, OIL FIELDS FIRE STATION
270 DEGREES
EARTHQUAKE OF MAY 9, 1983, 0249UTC
BP FILTERED .5 TO 50 HZ (BTWTH8; 50-100 ROLLOFF)
PEAK VALUES: ACCEL=230.71 CM/SEC/SEC, VELOCITY=-7.74 CM/SEC, DISPL=-0.50 CM

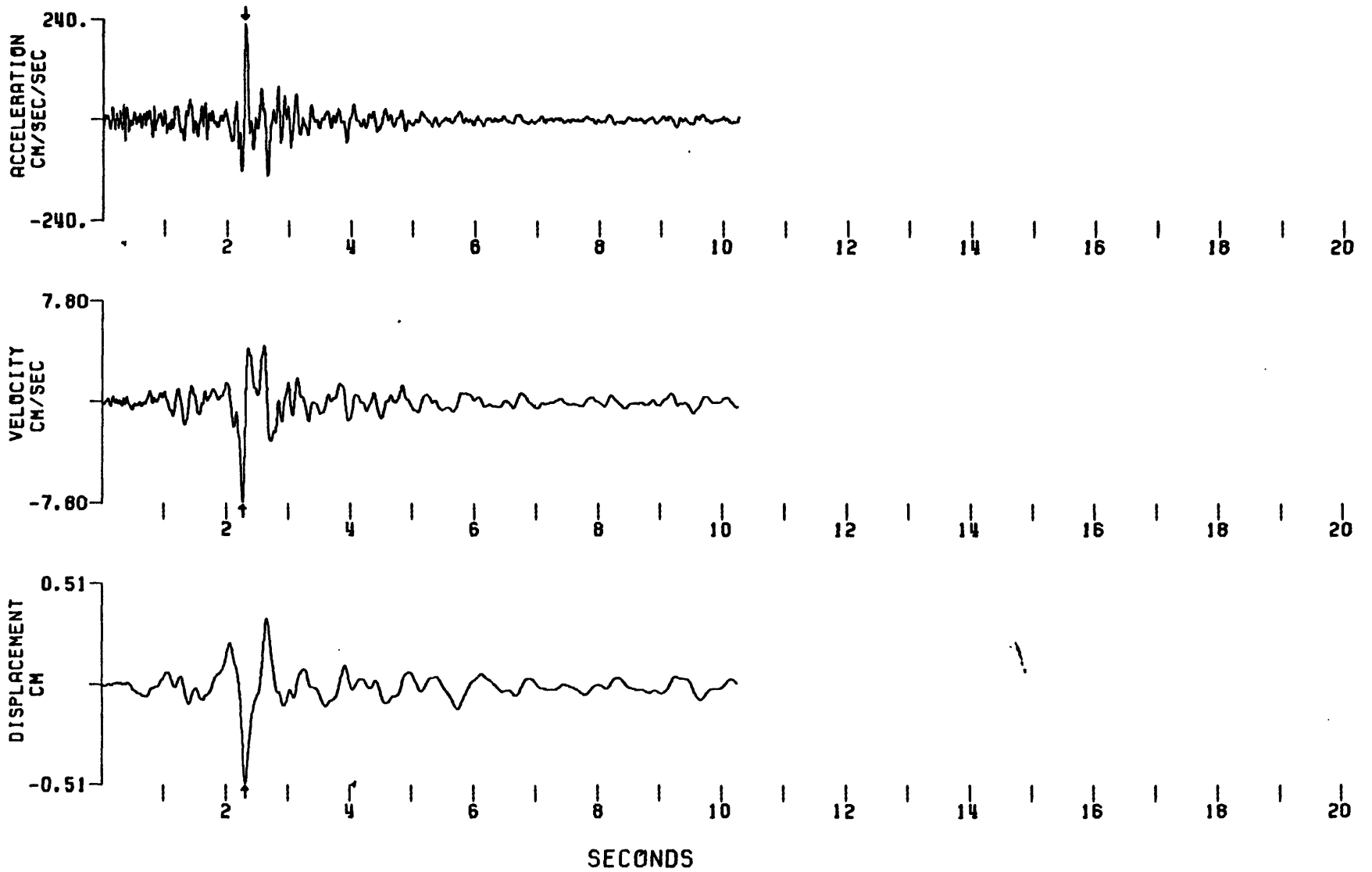


Figure A35 CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
COALINGA, PALMER AVE.
360 DEGREES
EARTHQUAKE OF MAY 9, 1983, 0249UTC
BP FILTERED .5 TO 50 HZ (BTWTH8; 50-100 ROLLOFF)
PEAK VALUES: ACCEL=246.44 CM/SEC/SEC, VELOCITY=-11.70 CM/SEC, DISPL=0.91 CM

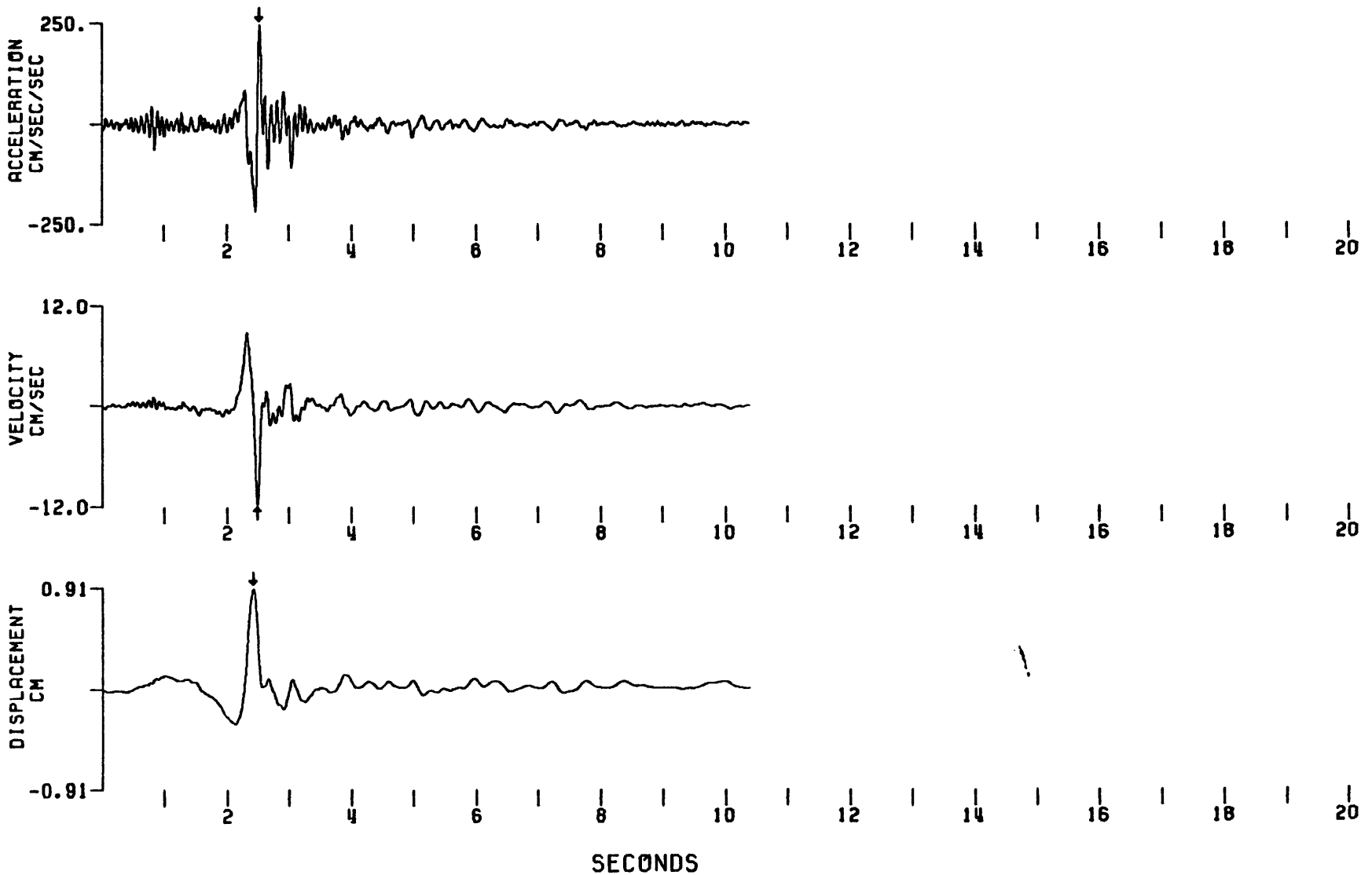


Figure A36 CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
COALINGA, PALMER AVE.
UP
EARTHQUAKE OF MAY 9, 1983, 0249UTC
BP FILTERED .5 TO 50 HZ (BTWTH8; 50-100 ROLLOFF)
PEAK VALUES: ACCEL=94.44 CM/SEC/SEC, VELOCITY=-2.28 CM/SEC, DISPL=-0.34 CM

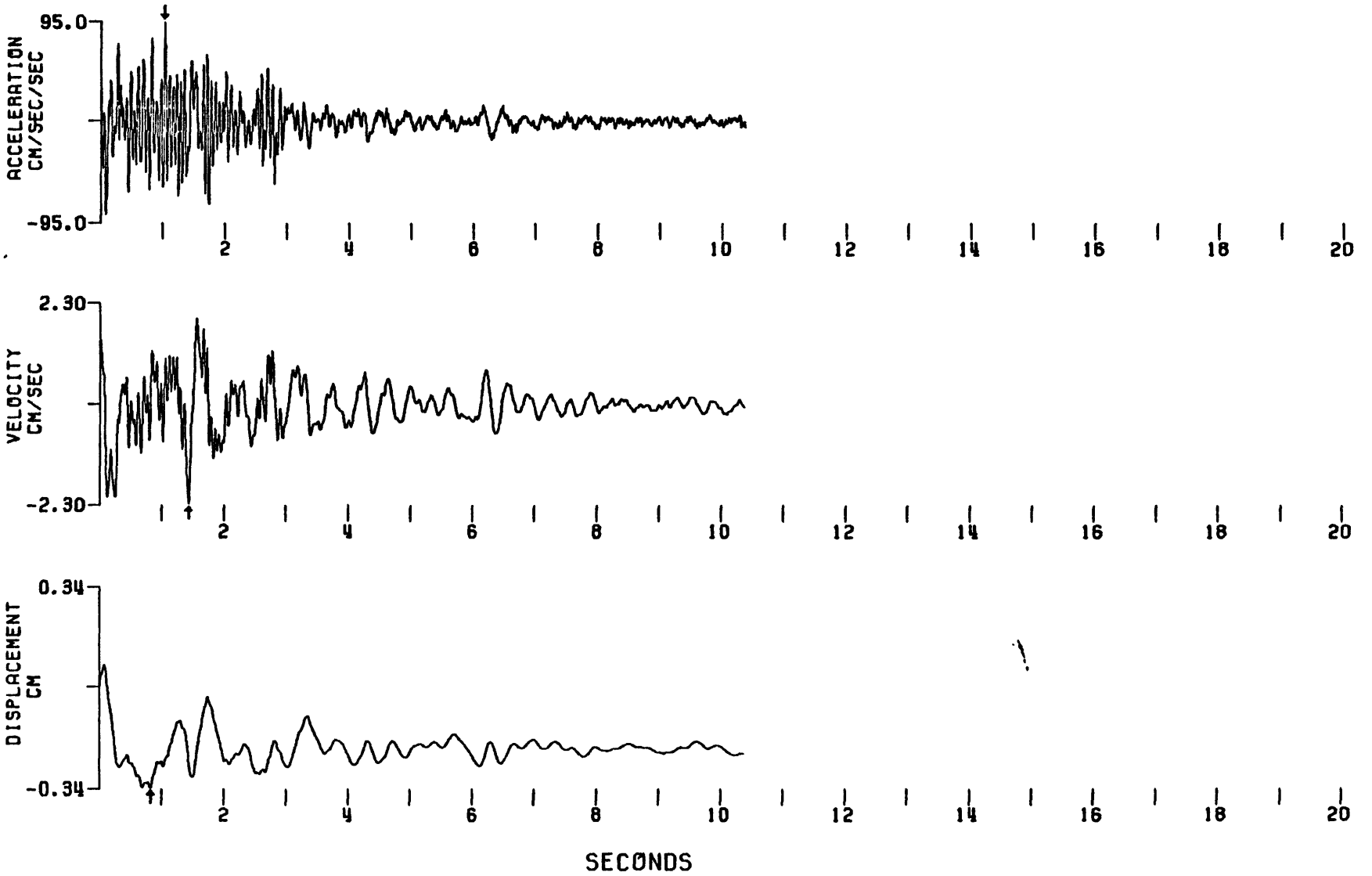


Figure A37 CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
COALINGA, PALMER AVE.
270 DEGREES
EARTHQUAKE OF MAY 9, 1983, 0249UTC
BP FILTERED .5 TO 50 HZ (BTWTH8; 50-100 ROLLOFF)
PEAK VALUES: ACCEL=208.48 CM/SEC/SEC, VELOCITY=6.48 CM/SEC, DISPL=-0.38 CM

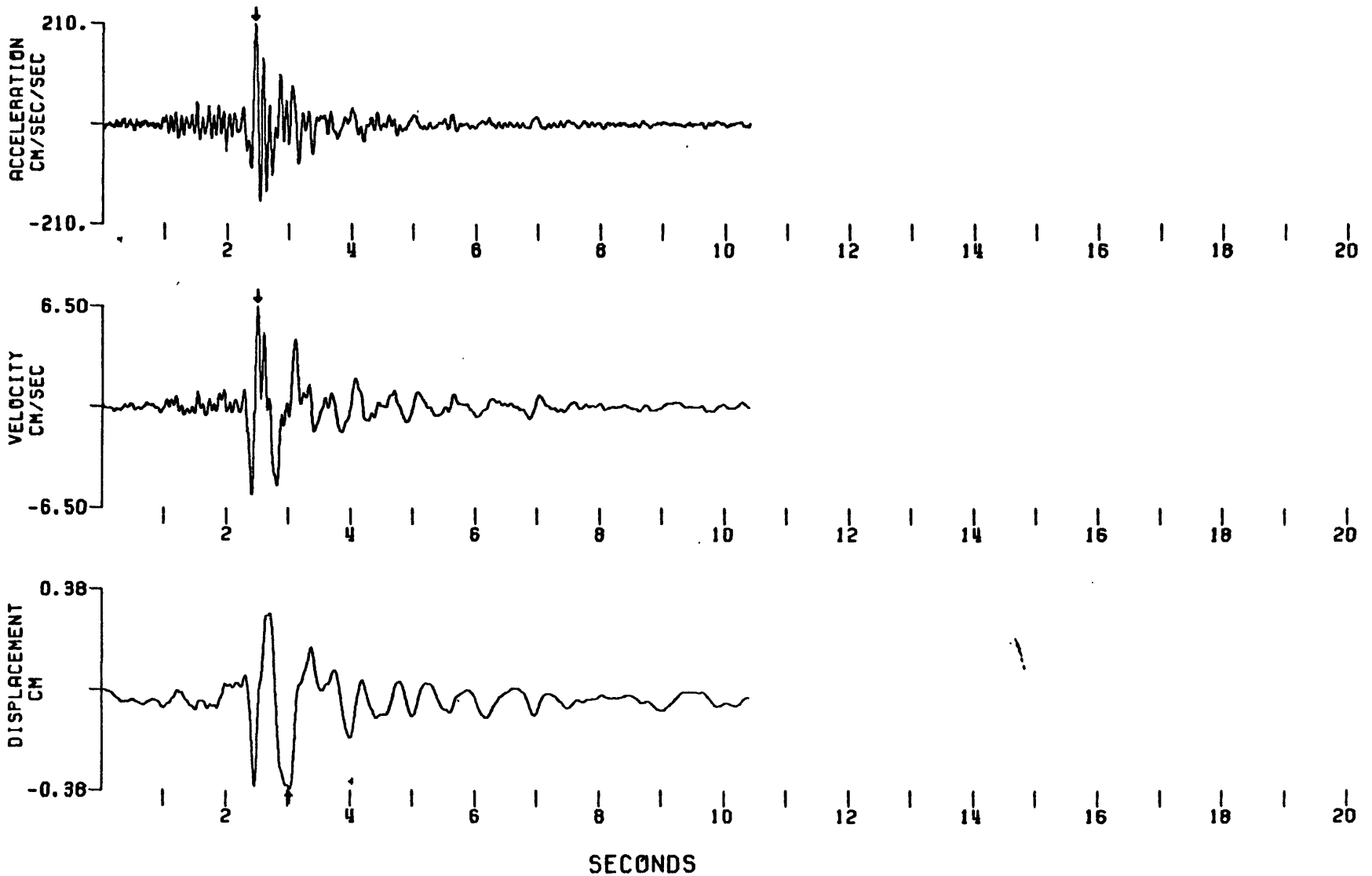


Figure A38 CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
COALINGA, SKUNK HOLLOW
360 DEGREES
EARTHQUAKE OF MAY 9, 1983, 0249UTC
BP FILTERED .5 TO 50 HZ (BTWTH8; 50-100 ROLLOFF)
PEAK VALUES: ACCEL=113.79 CM/SEC/SEC, VELOCITY=-4.99 CM/SEC, DISPL=-0.34 CM

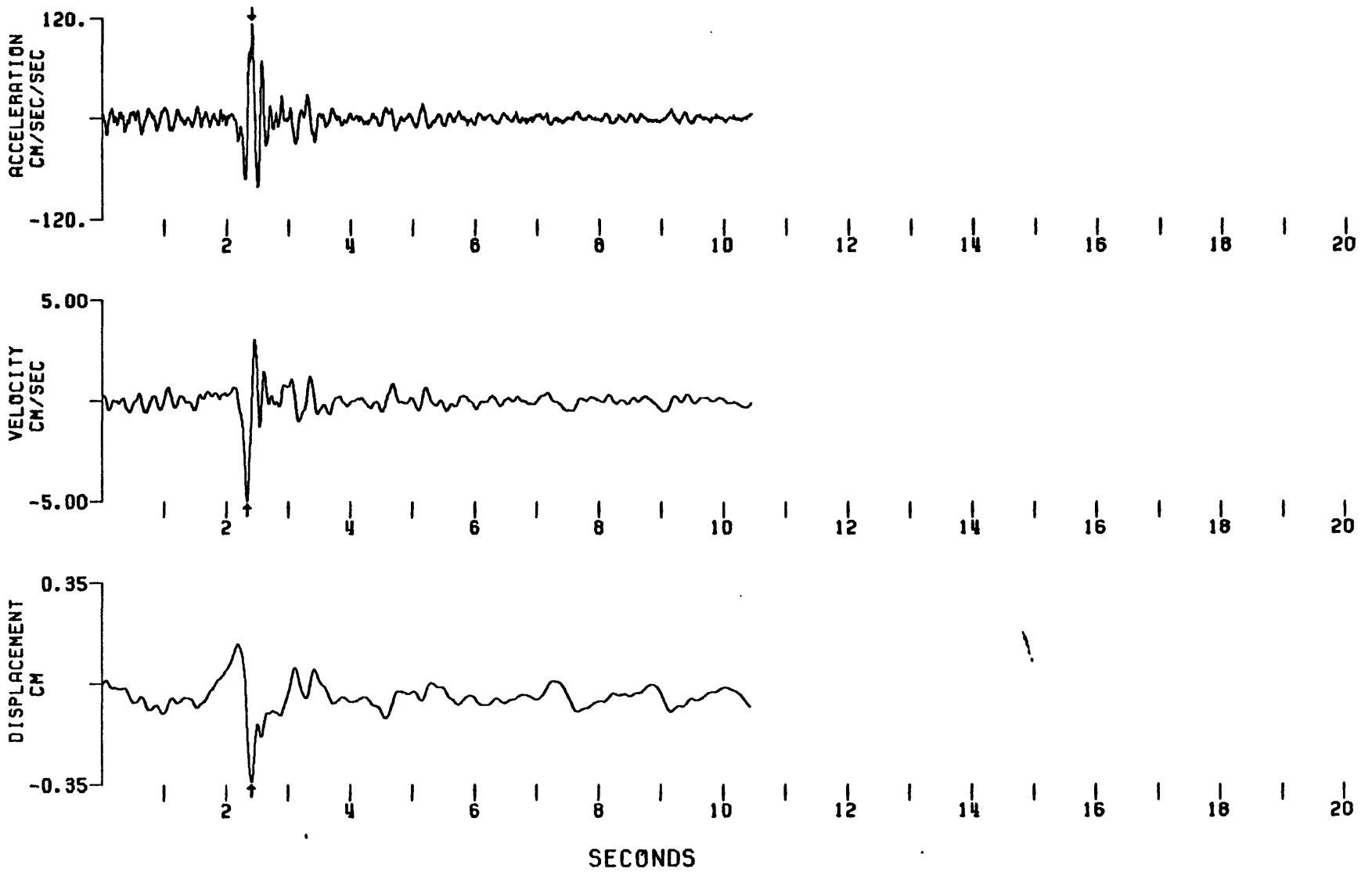


Figure A39 CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
COALINGA, SKUNK HOLLOW
UP
EARTHQUAKE OF MAY 9, 1983, 0249UTC
BP FILTERED .5 TO 50 HZ (BTWTH8; 50-100 ROLLOFF)
PEAK VALUES: ACCEL=-132.20 CM/SEC/SEC, VELOCITY=-3.41 CM/SEC, DISPL=-0.49 CM

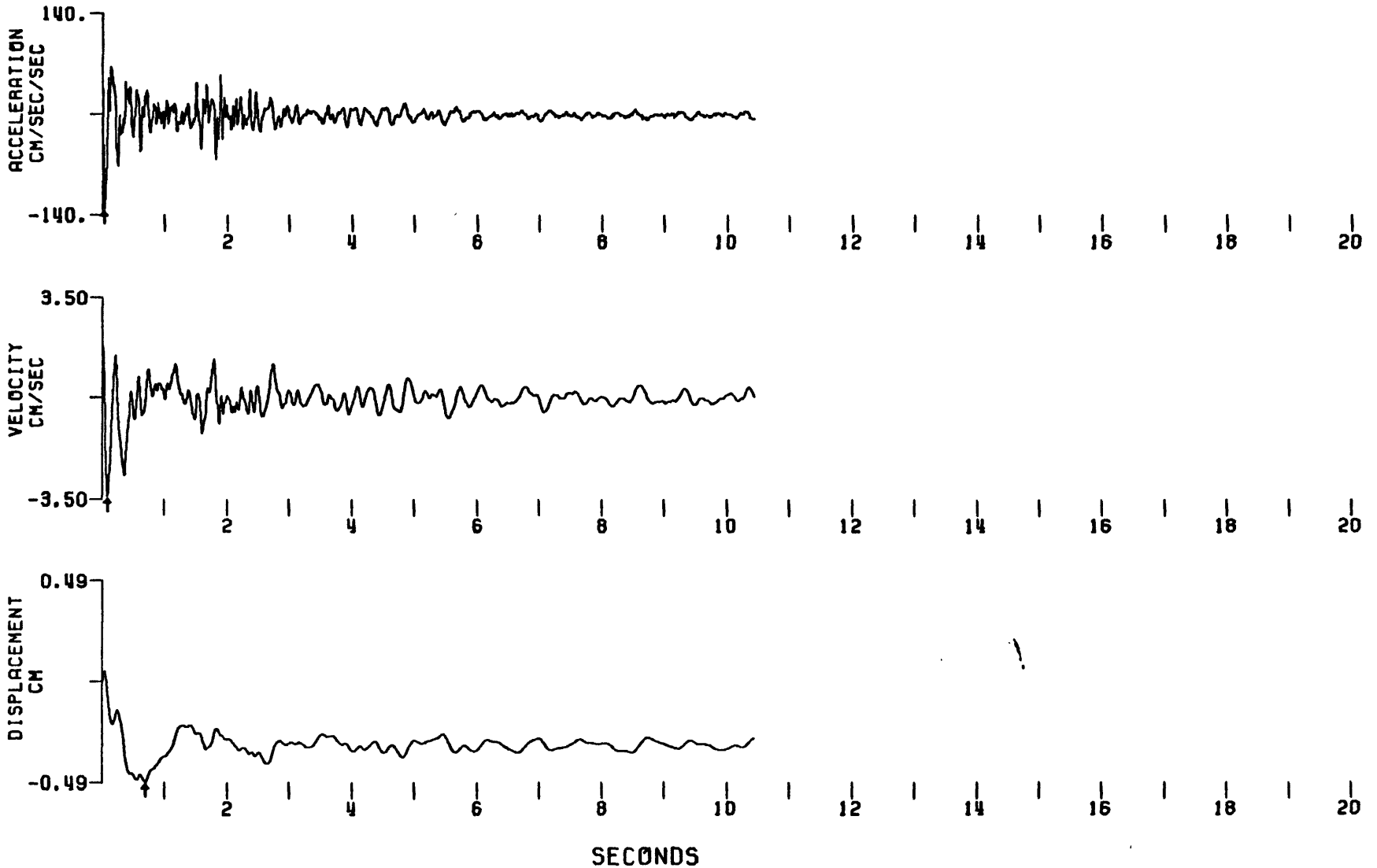


Figure A40 CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
COALINGA, SKUNK HOLLOW
270 DEGREES
EARTHQUAKE OF MAY 9, 1983, 0249UTC
BP FILTERED .5 TO 50 HZ (BTWTH8; 50-100 ROLLOFF)
PEAK VALUES: ACCEL=-151.37 CM/SEC/SEC, VELOCITY=7.61 CM/SEC, DISPL=0.40 CM

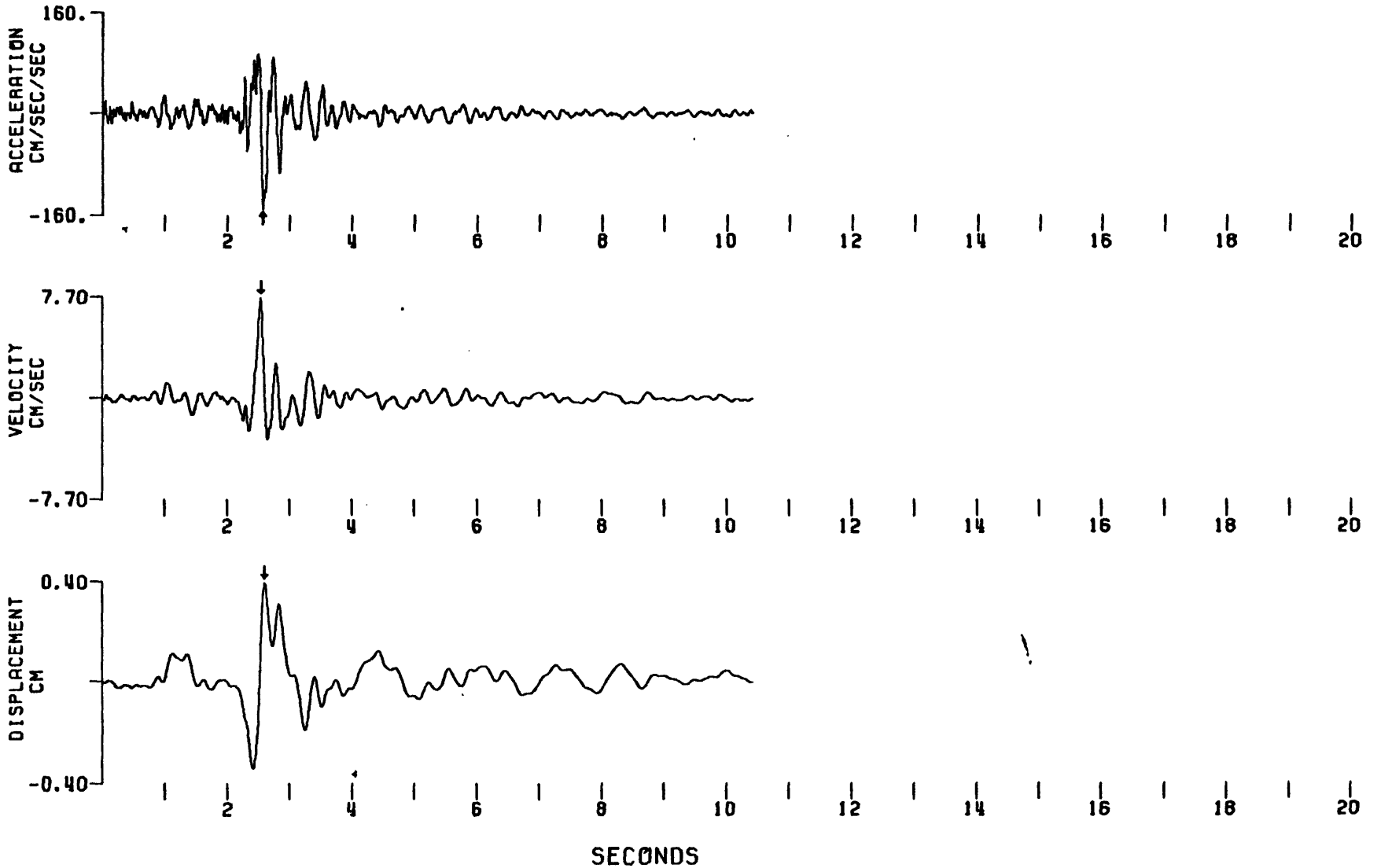


Figure A41 CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
PLEASANT VALLEY PUMPING PLANT, SWITCHYARD
135 DEGREES
EARTHQUAKE OF MAY 9, 1983, 0249UTC
BP FILTERED .5 TO 50 HZ (BTWTH8; 50-100 ROLLOFF)
PEAK VALUES: ACCEL=209.96 CM/SEC/SEC, VELOCITY=-9.90 CM/SEC, DISPL=-0.71 CM

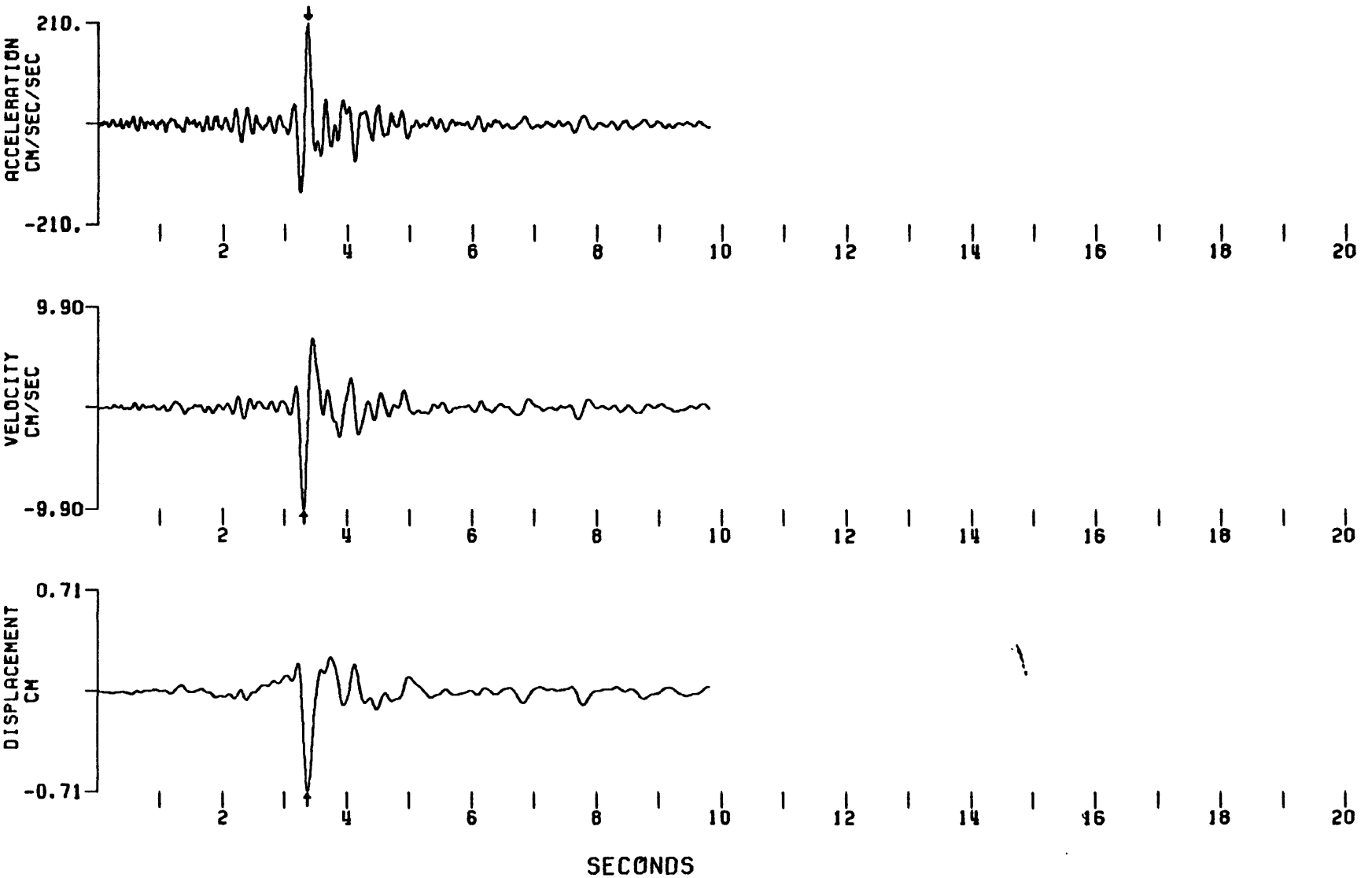


Figure A42 CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
PLEASANT VALLEY PUMPING PLANT, SWITCHYARD
UP
EARTHQUAKE OF MAY 9, 1983, 0249UTC
BP FILTERED .5 TO 50 HZ (BTWTH8; 50-100 ROLLOFF)
PEAK VALUES: ACCEL=95.75 CM/SEC/SEC, VELOCITY=-2.68 CM/SEC, DISPL=-0.24 CM

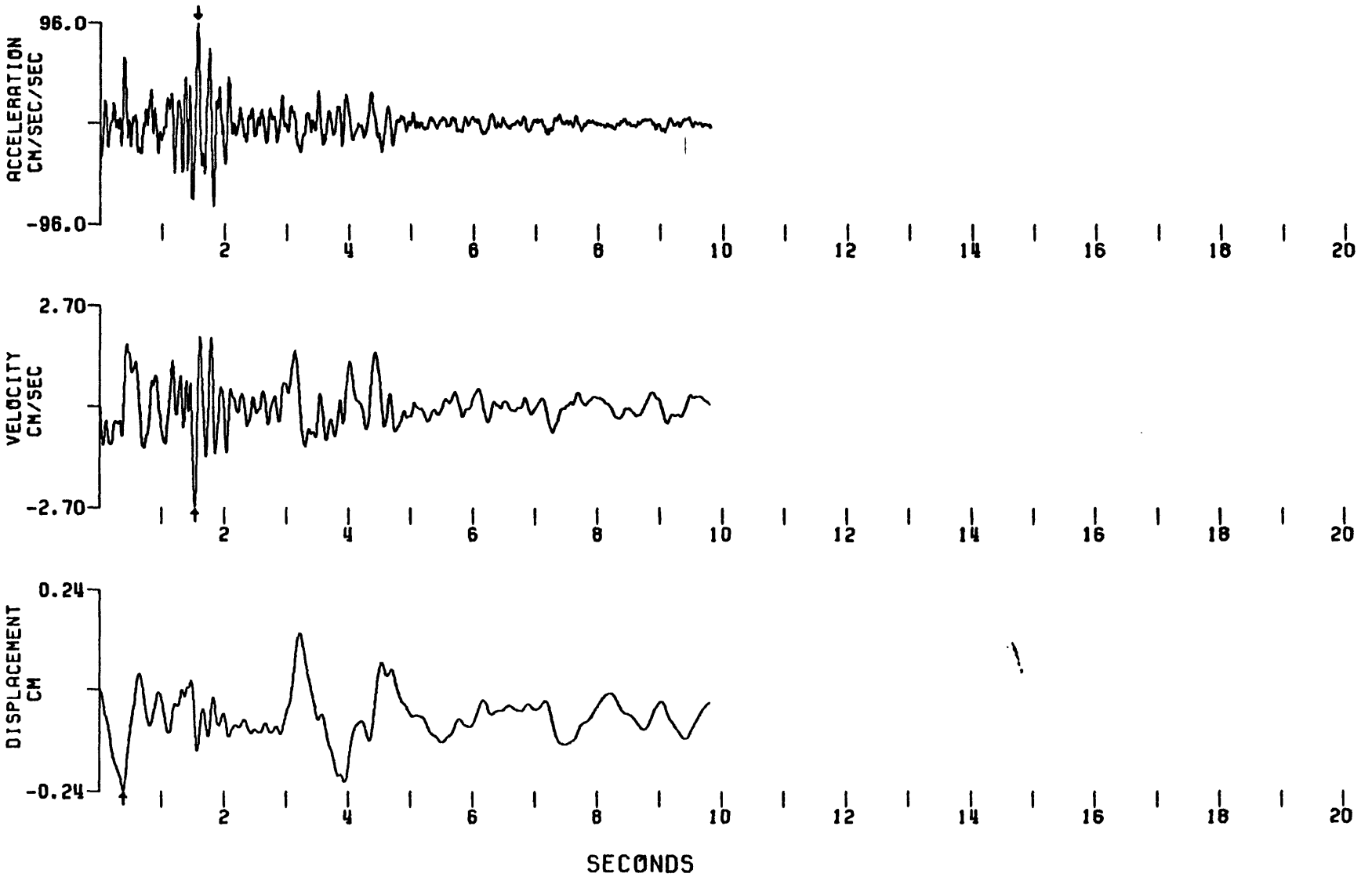


Figure A43 CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
PLEASANT VALLEY PUMPING PLANT, SWITCHYARD 1
045 DEGREES
EARTHQUAKE OF MAY 9, 1983, 0249UTC
BP FILTERED .5 TO 50 HZ (BTWTH8; 50-100 ROLLOFF)
PEAK VALUES: ACCEL=94.23 CM/SEC/SEC, VELOCITY=-7.73 CM/SEC, DISPL=-0.98 CM

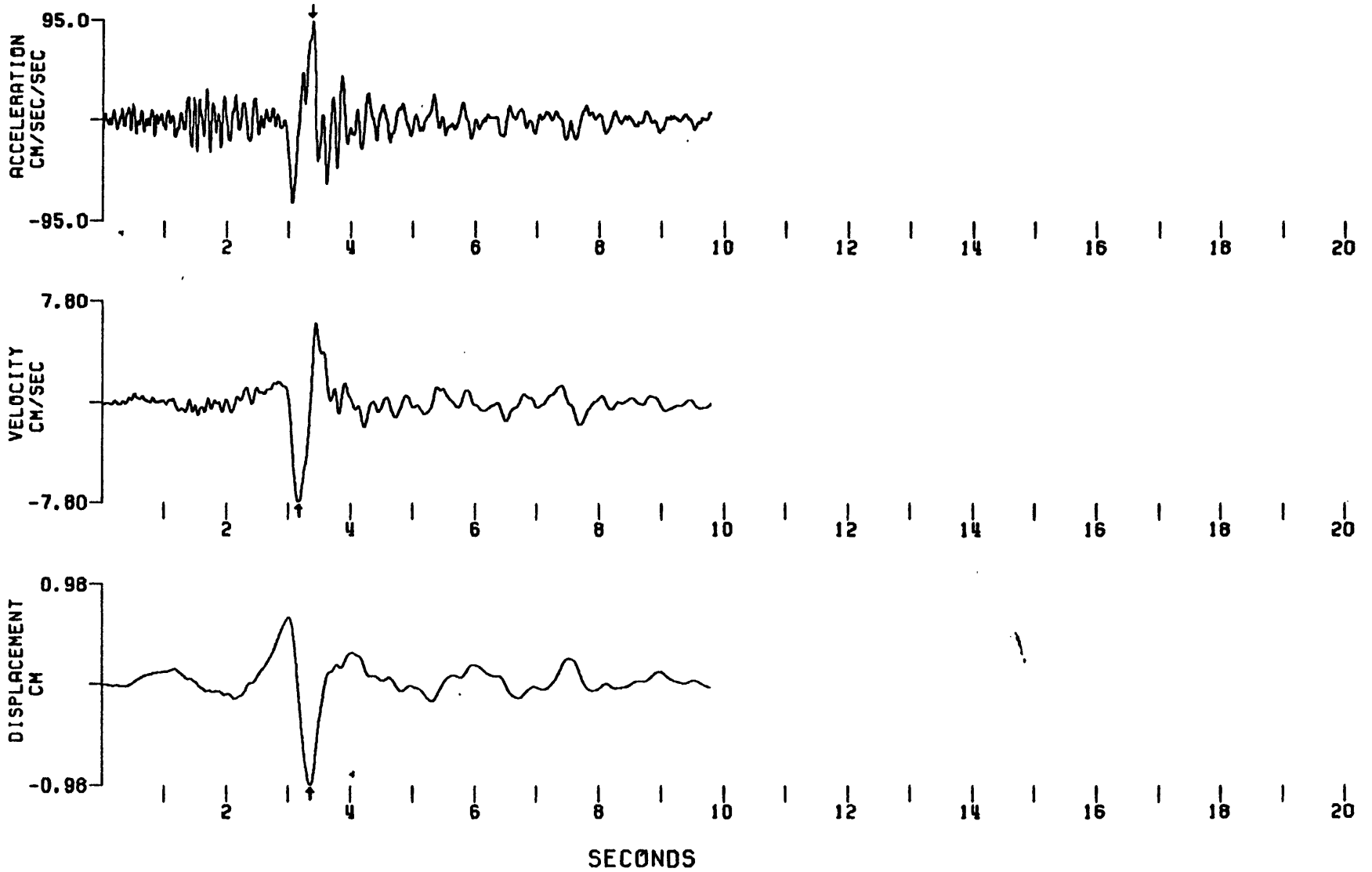


Figure A44 CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
PLEASANT VALLEY PUMPING PLANT, BASEMENT
135 DEGREES
EARTHQUAKE OF MAY 9, 1983, 0249UTC
BP FILTERED .5 TO 50 HZ (BTWTH8; 50-100 ROLLOFF)
PEAK VALUES: ACCEL=127.21 CM/SEC/SEC, VELOCITY=-6.52 CM/SEC, DISPL=-0.49 CM

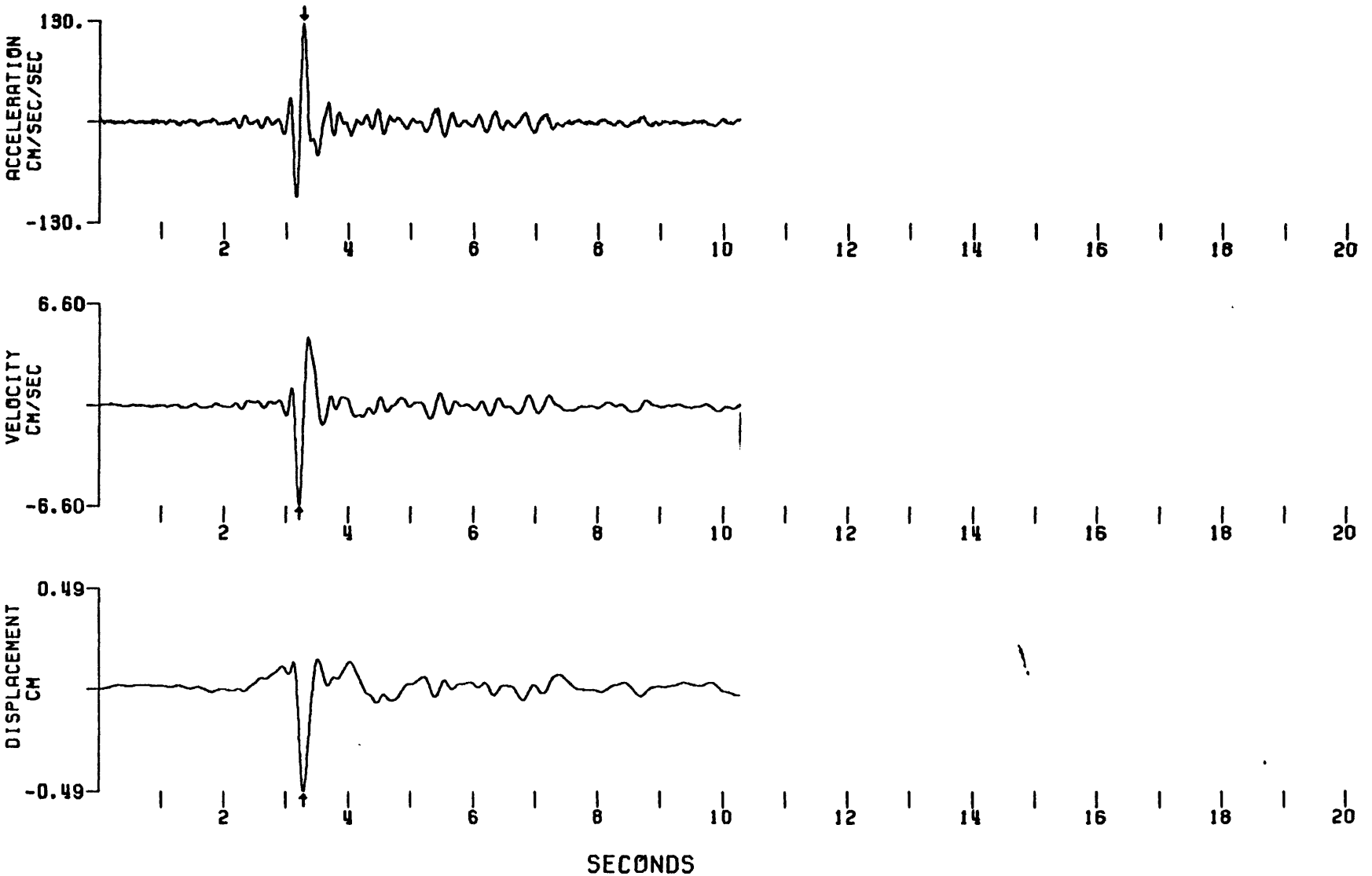


Figure A45 CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
PLEASANT VALLEY PUMPING PLANT, BASEMENT
UP
EARTHQUAKE OF MAY 9, 1983, 0249UTC
BP FILTERED .5 TO 50 HZ (BTWTH8; 50-100 ROLLOFF)
PEAK VALUES: ACCEL=34.83 CM/SEC/SEC, VELOCITY=1.30 CM/SEC, DISPL=0.18 CM

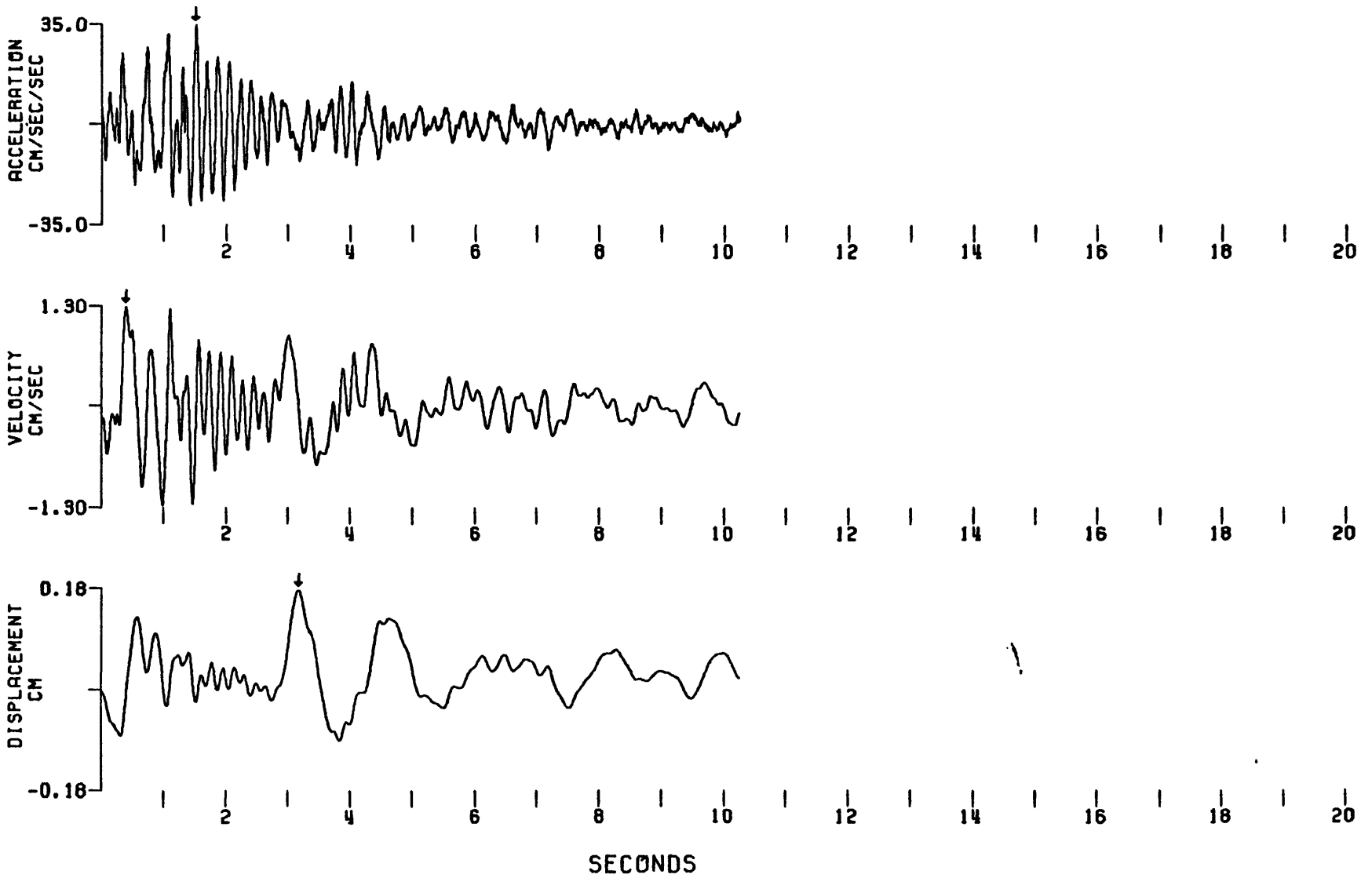


Figure A46 CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
PLEASANT VALLEY PUMPING PLANT, BASEMENT
045 DEGREES
EARTHQUAKE OF MAY 9, 1983, 0249UTC
BP FILTERED .5 TO 50 HZ (BTWTH8; 50-100 ROLLOFF)
PEAK VALUES: ACCEL=-53.29 CM/SEC/SEC, VELOCITY=-5.78 CM/SEC, DISPL=-0.59 CM

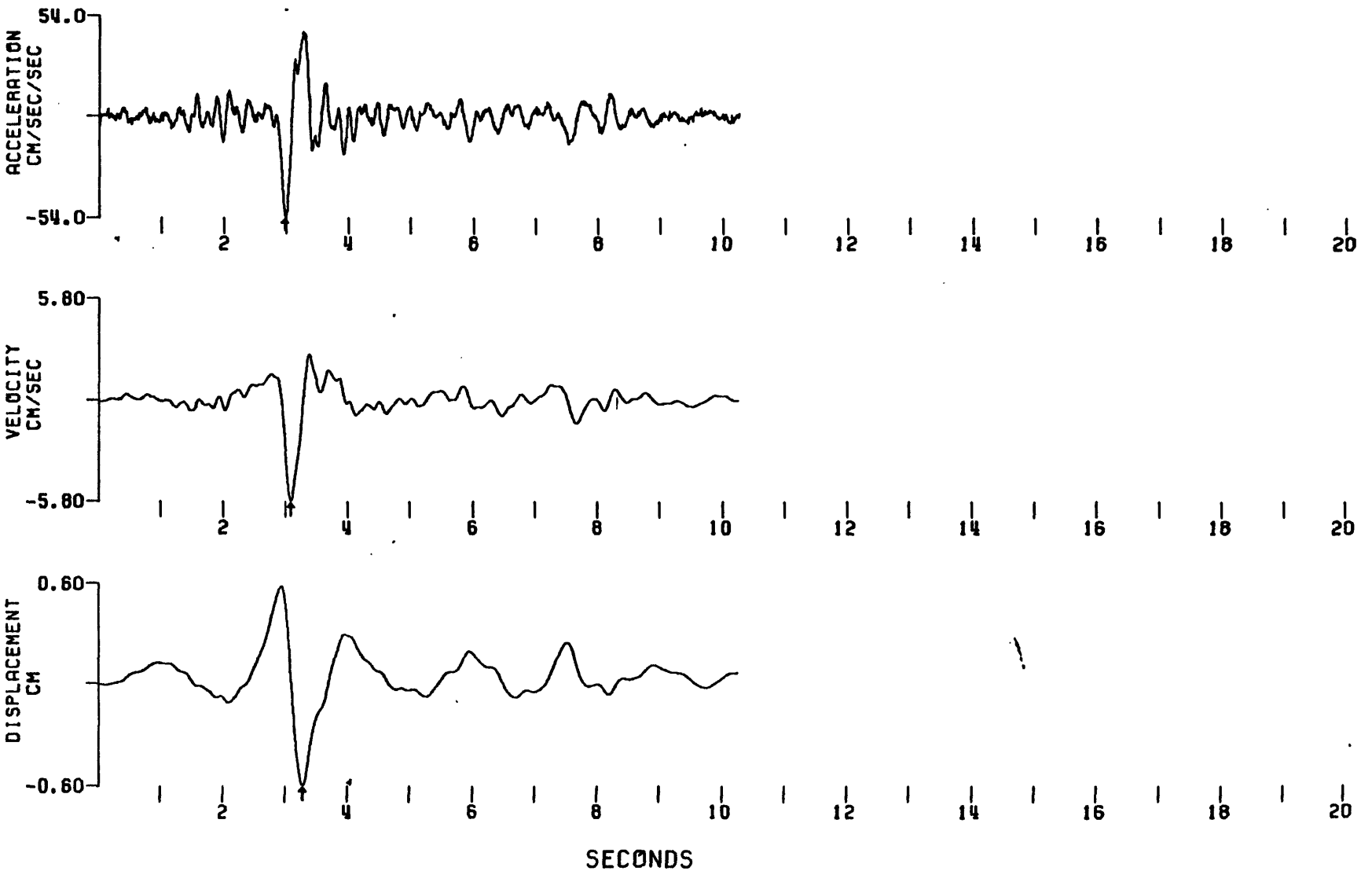


Figure A47 CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
PLEASANT VALLEY PUMPING PLANT, 1ST FLOOR
135 DEGREES
EARTHQUAKE OF MAY 9, 1983, 0249UTC
BP FILTERED .5 TO 50 HZ (BTWTH8; 50-100 ROLLOFF)
PEAK VALUES: ACCEL=125.87 CM/SEC/SEC, VELOCITY=-6.42 CM/SEC, DISPL=-0.50 CM

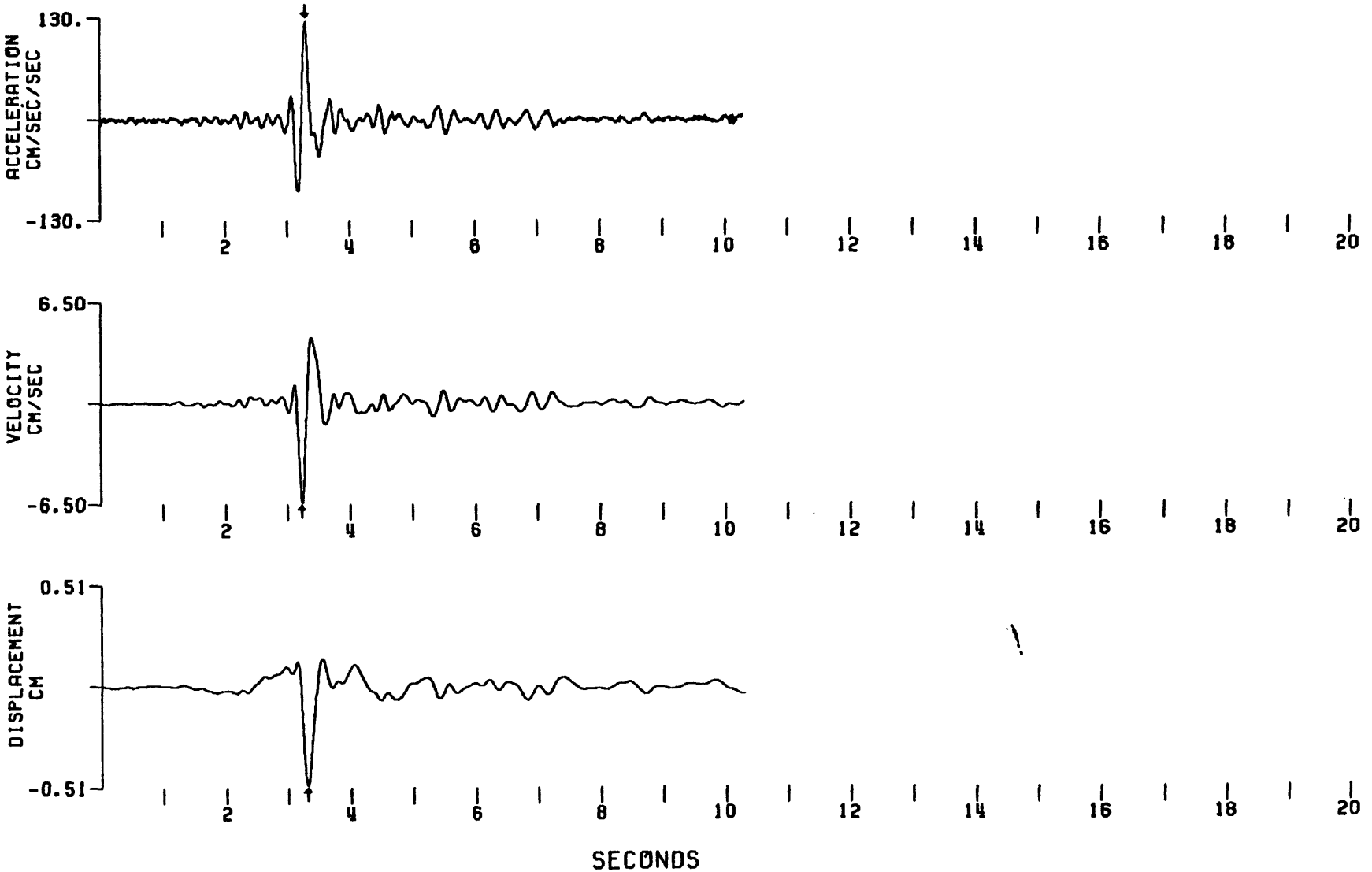


Figure A48 CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
PLEASANT VALLEY PUMPING PLANT, 1ST FLOOR
UP
EARTHQUAKE OF MAY 9, 1983, 0249UTC
BP FILTERED .5 TO 50 HZ (BTWTH8; 50-100 ROLLOFF)
PEAK VALUES: ACCEL=37.07 CM/SEC/SEC, VELOCITY=1.36 CM/SEC, DISPL=0.17 CM

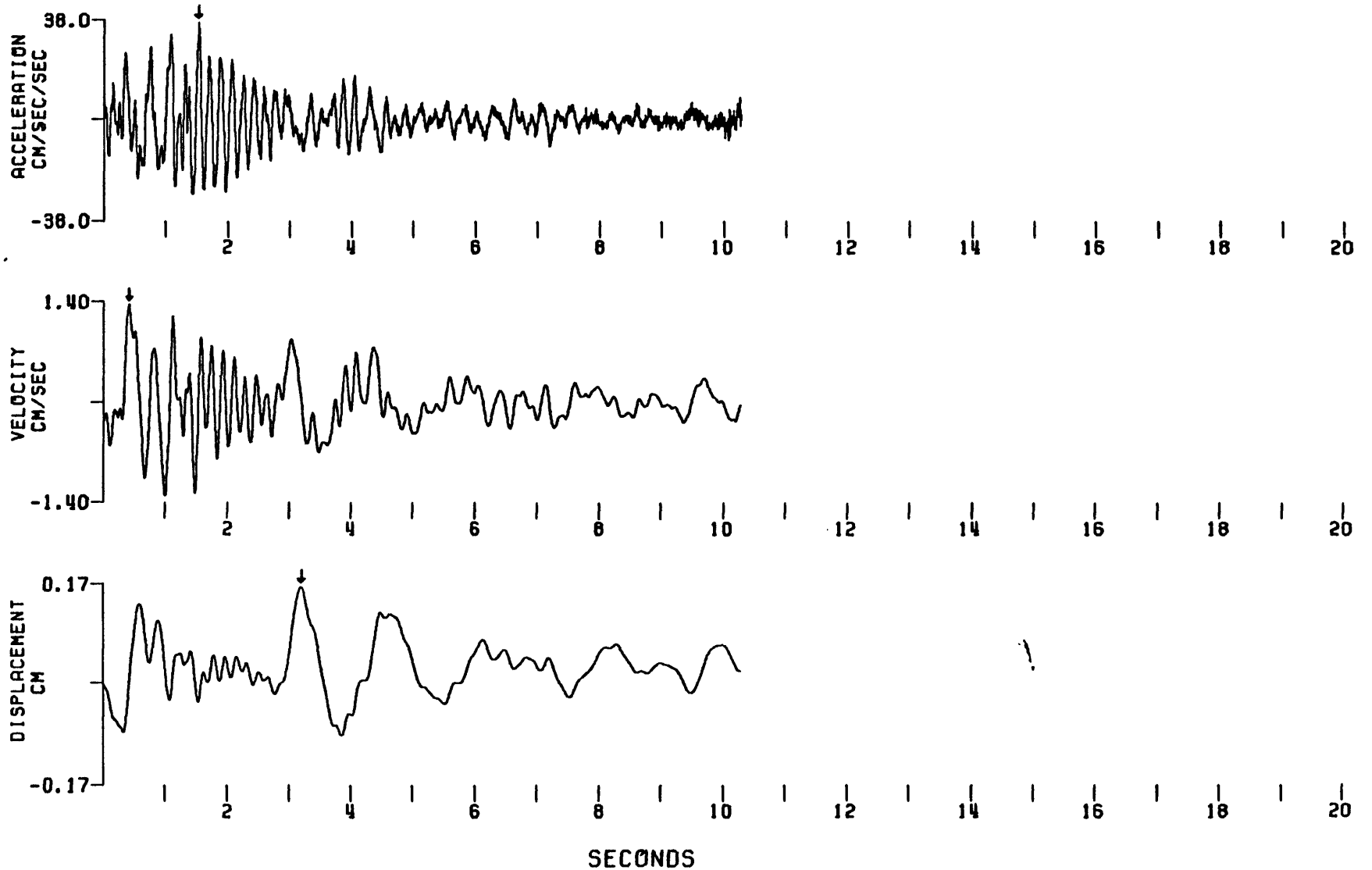


Figure A49 CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
PLEASANT VALLEY PUMPING PLANT, 1ST FLOOR
045 DEGREES
EARTHQUAKE OF MAY 9, 1983, 0249UTC
BP FILTERED .5 TO 50 HZ (BTWTH8; 50-100 ROLLOFF)
PEAK VALUES: ACCEL=-56.91 CM/SEC/SEC, VELOCITY=-5.87 CM/SEC, DISPL=-0.61 CM

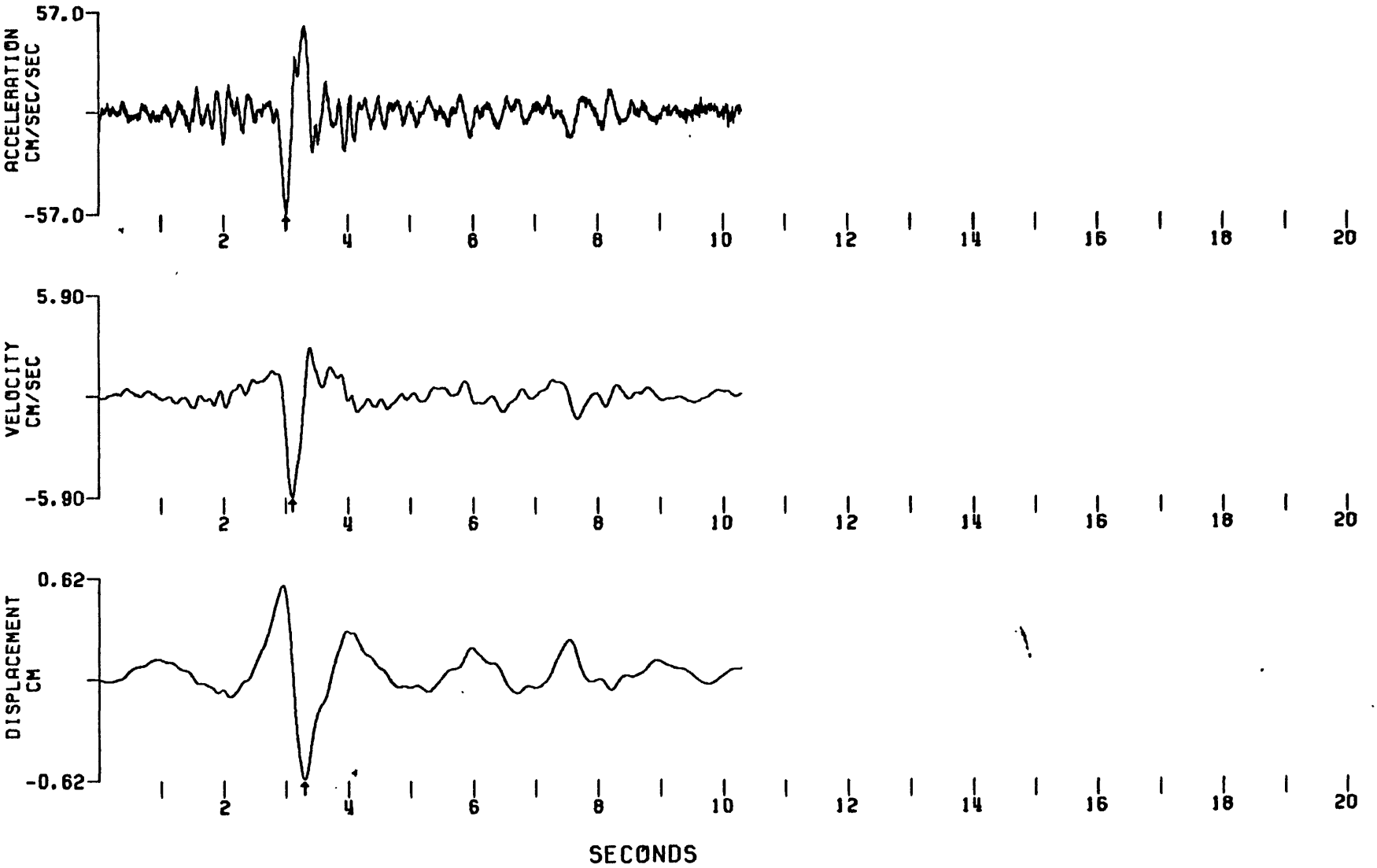


Figure A50 CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
PLEASANT VALLEY PUMPING PLANT, ROOF
135 DEGREES
EARTHQUAKE OF MAY 9, 1983, 0249UTC
BP FILTERED .5 TO 50 HZ (BTWTH8; 50-100 ROLLOFF)
PEAK VALUES: ACCEL=221.23 CM/SEC/SEC, VELOCITY=-9.10 CM/SEC, DISPL=-0.62 CM

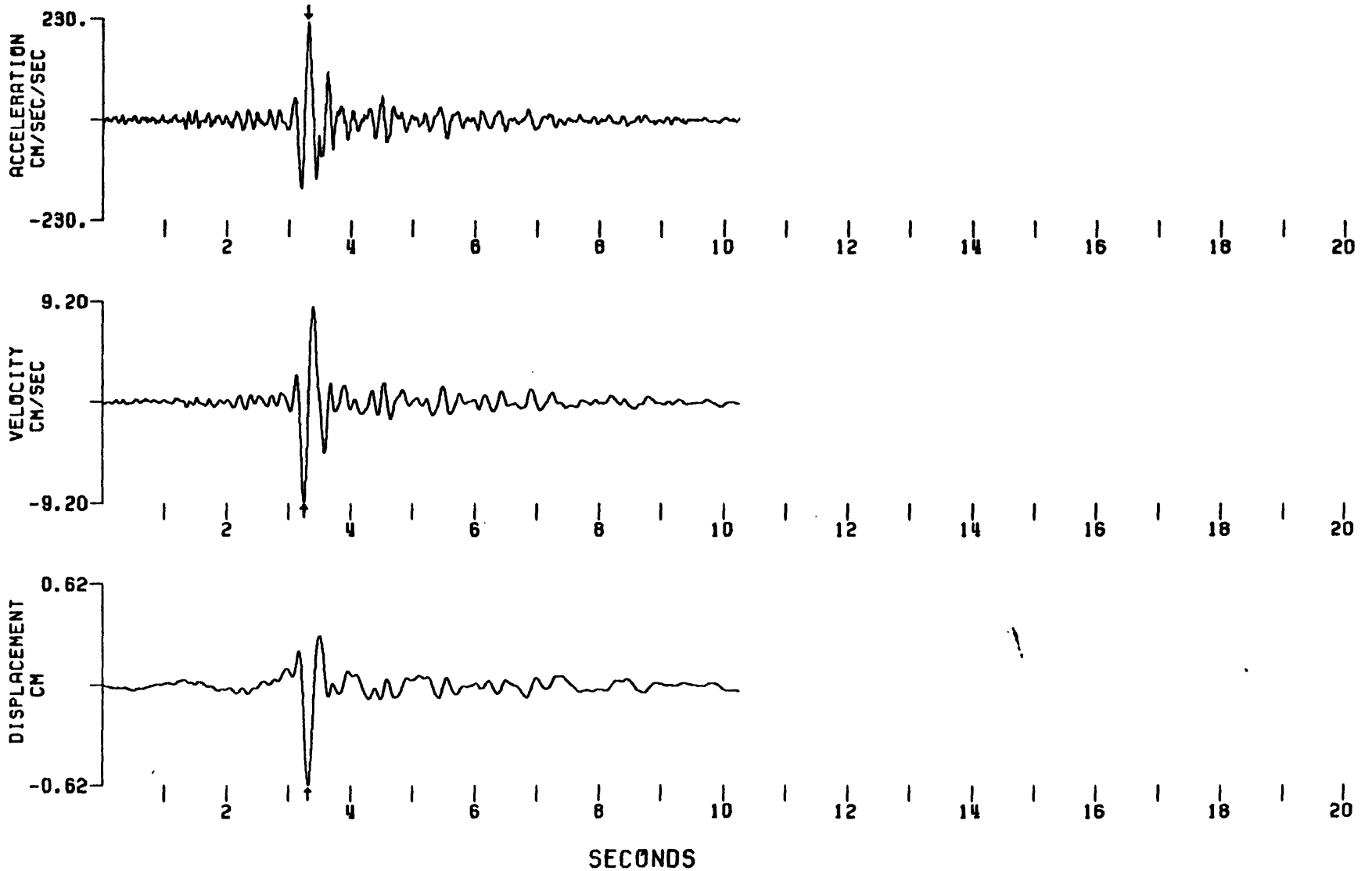


Figure A51 CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
PLEASANT VALLEY PUMPING PLANT, ROOF
UP
EARTHQUAKE OF MAY 9, 1983, 0249UTC
BP FILTERED .5 TO 50 HZ (BTWTH8; 50-100 ROLLOFF)
PEAK VALUES: ACCEL=57.01 CM/SEC/SEC, VELOCITY=-1.77 CM/SEC, DISPL=0.19 CM

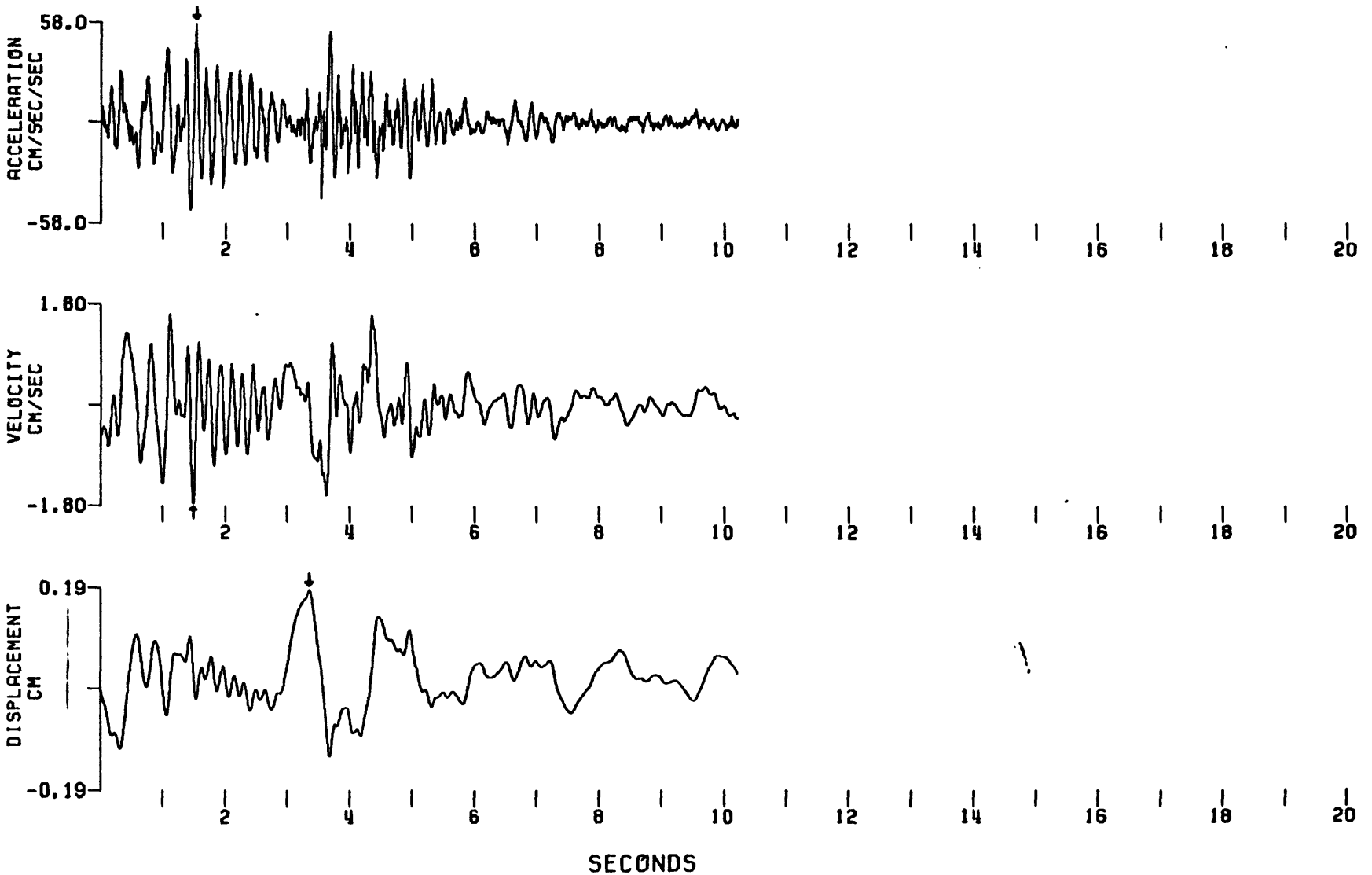


Figure A52 CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT, 200 PPS
PLEASANT VALLEY PUMPING PLANT, ROOF
045 DEGREES
EARTHQUAKE OF MAY 9, 1983, 0249UTC
BP FILTERED .5 TO 50 HZ (BTWTH8; 50-100 ROLLOFF)
PEAK VALUES: ACCEL=-235.12 CM/SEC/SEC, VELOCITY=17.38 CM/SEC, DISPL=-1.78 CM

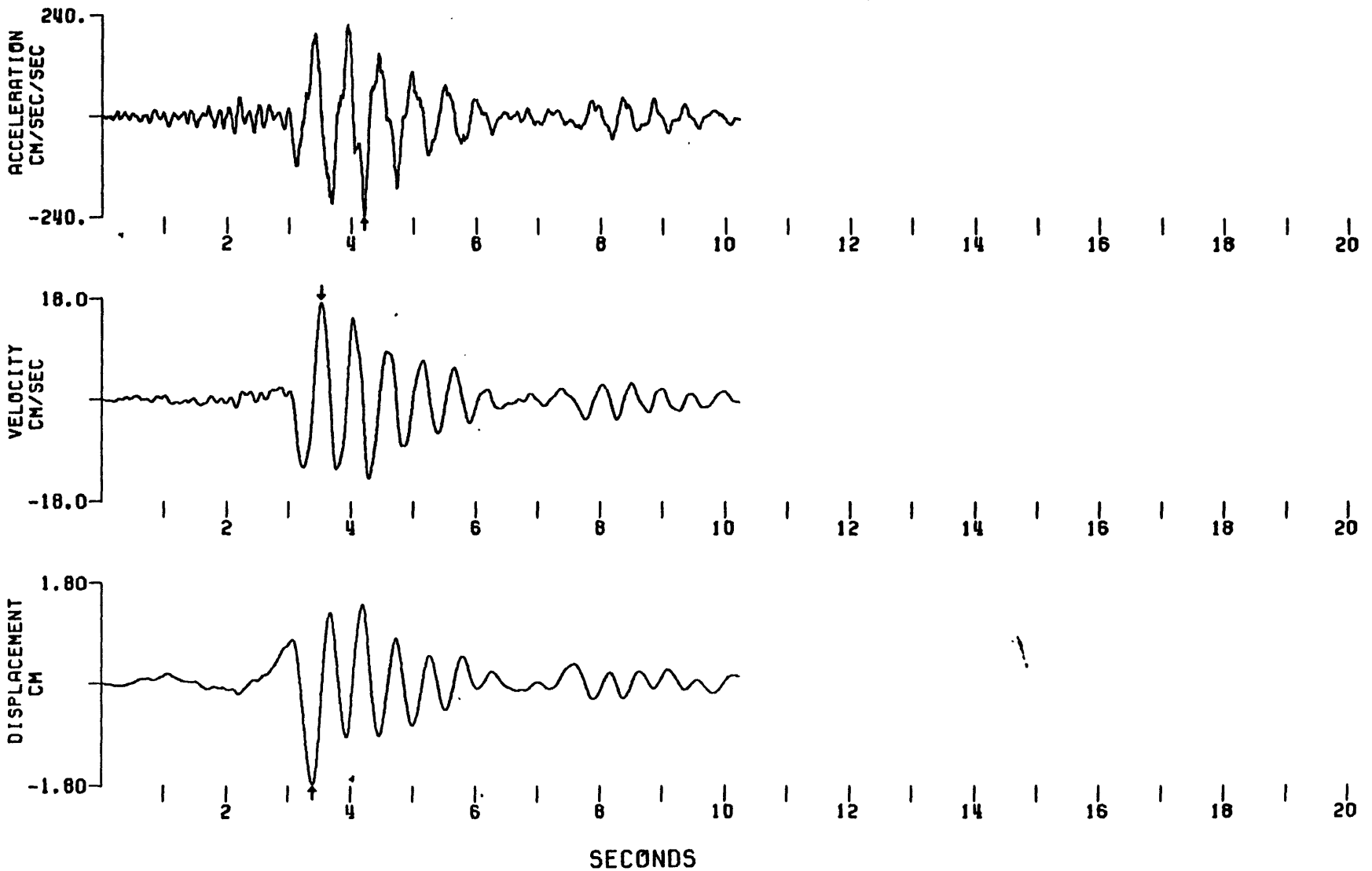


Figure A53

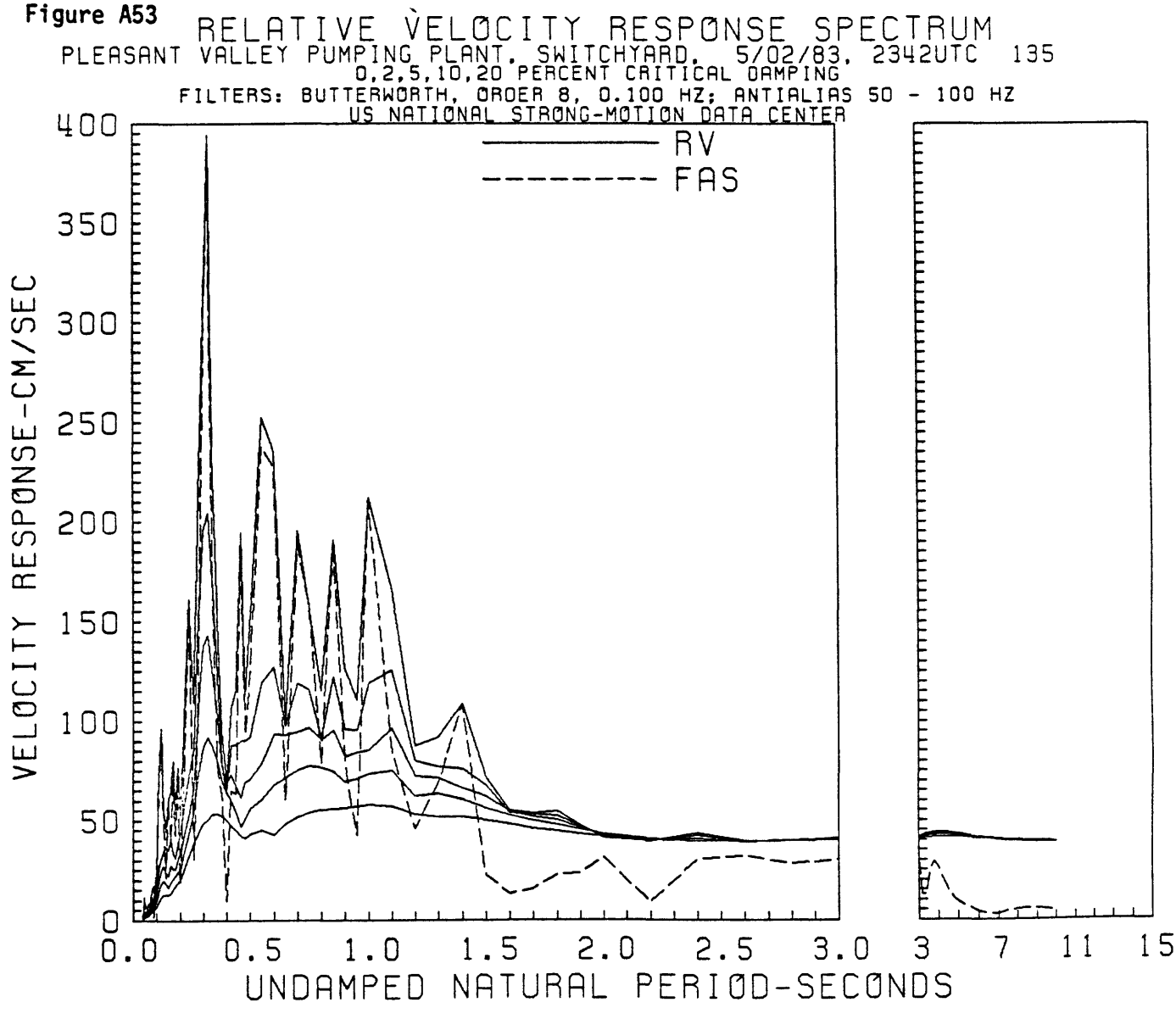

RELATIVE VELOCITY RESPONSE SPECTRUM
PLEASANT VALLEY PUMPING PLANT. SWITCHYARD. 5/02/83. 2342UTC 135
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.100 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
400
350
300
250
200
150
100
50
0
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15
UNDAMPED NATURAL PERIOD-SECONDS

Figure A54

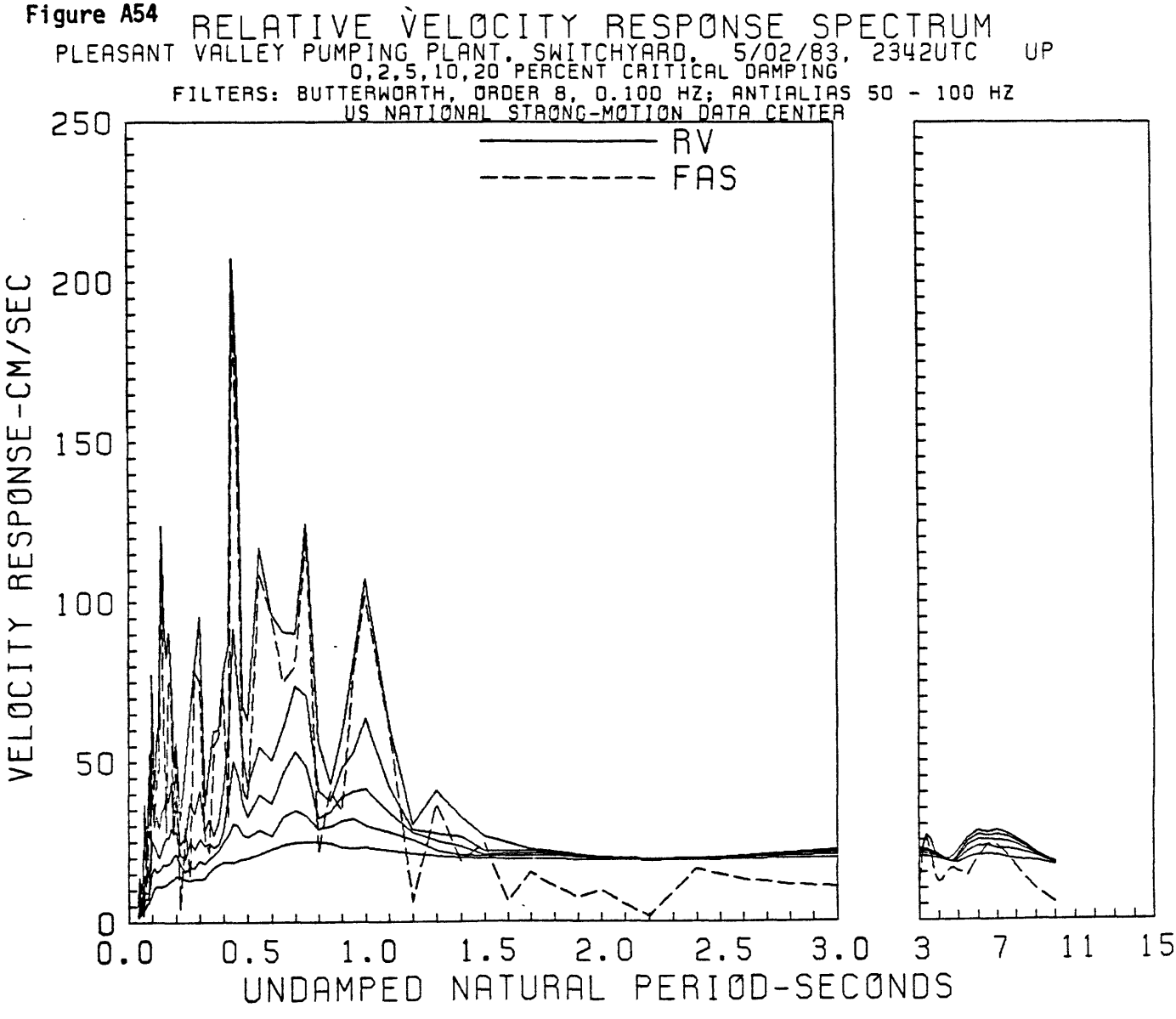

RELATIVE VELOCITY RESPONSE SPECTRUM
PLEASANT VALLEY PUMPING PLANT, SWITCHYARD, 5/02/83, 2342UTC UP
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.100 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
250
200
150
100
50
0
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15
UNDAMPED NATURAL PERIOD-SECONDS

Figure A55

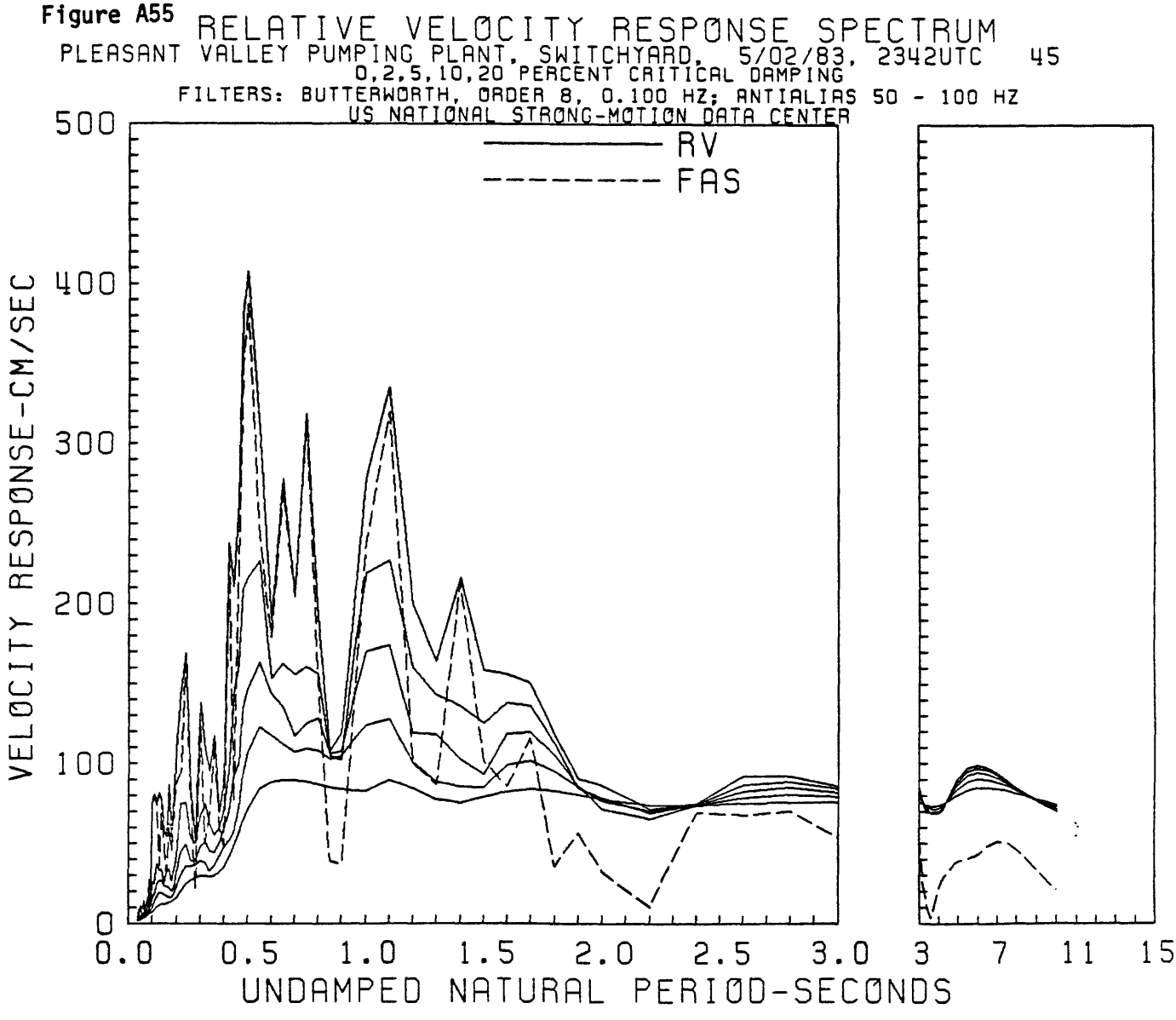

RELATIVE VELOCITY RESPONSE SPECTRUM
PLEASANT VALLEY PUMPING PLANT, SWITCHYARD, 5/02/83, 2342UTC 45
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.100 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
0
100
200
300
400
500
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15
UNDAMPED NATURAL PERIOD-SECONDS

Figure A56

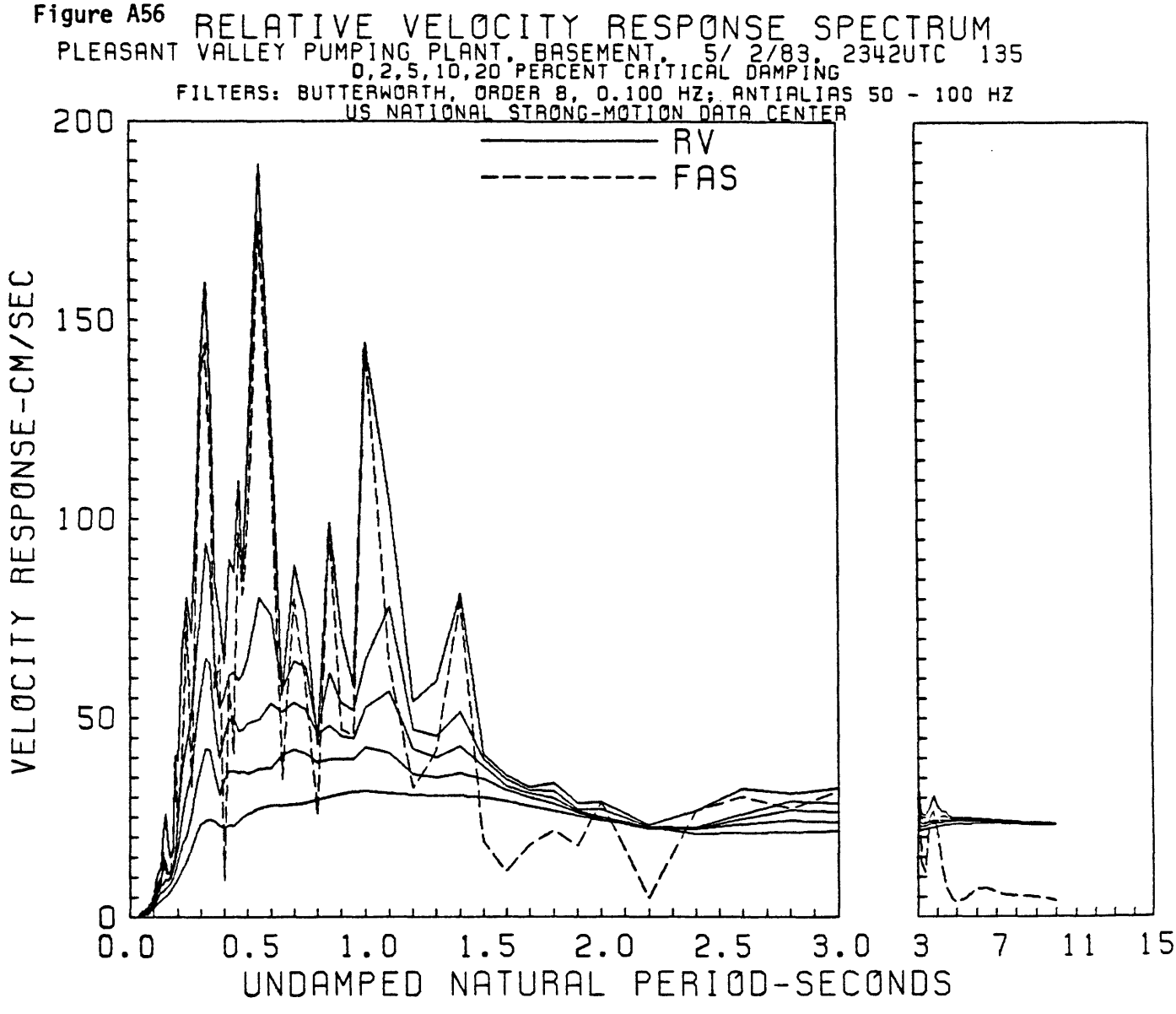

RELATIVE VELOCITY RESPONSE SPECTRUM
PLEASANT VALLEY PUMPING PLANT, BASEMENT, 5/ 2/83, 2342UTC 135
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.100 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
200
150
100
50
0
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15
UNDAMPED NATURAL PERIOD-SECONDS

Figure A57

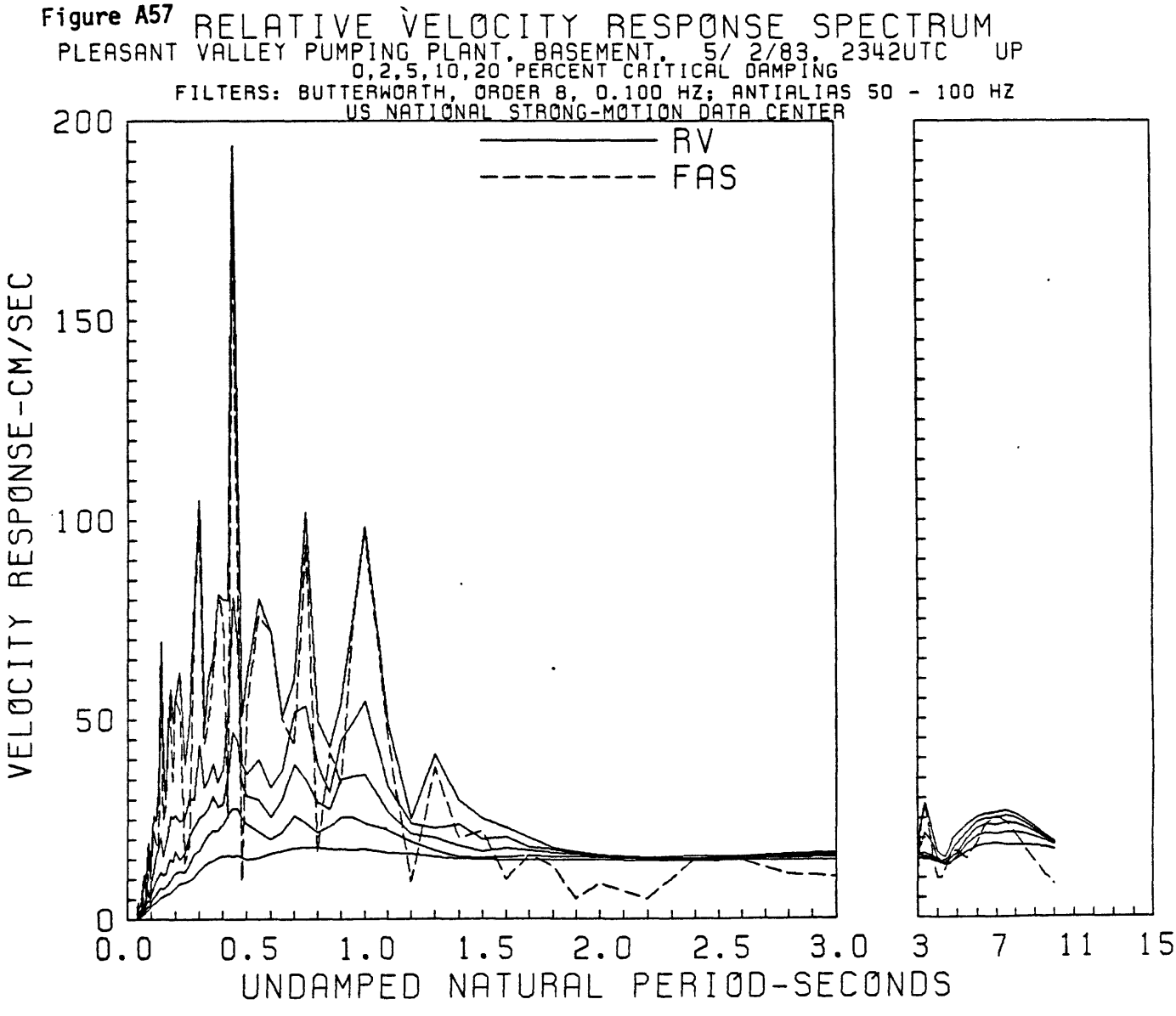

RELATIVE VELOCITY RESPONSE SPECTRUM
PLEASANT VALLEY PUMPING PLANT, BASEMENT, 5/ 2/83, 2342UTC UP
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.100 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
200
150
100
50
0
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15
UNDAMPED NATURAL PERIOD-SECONDS

Figure A58

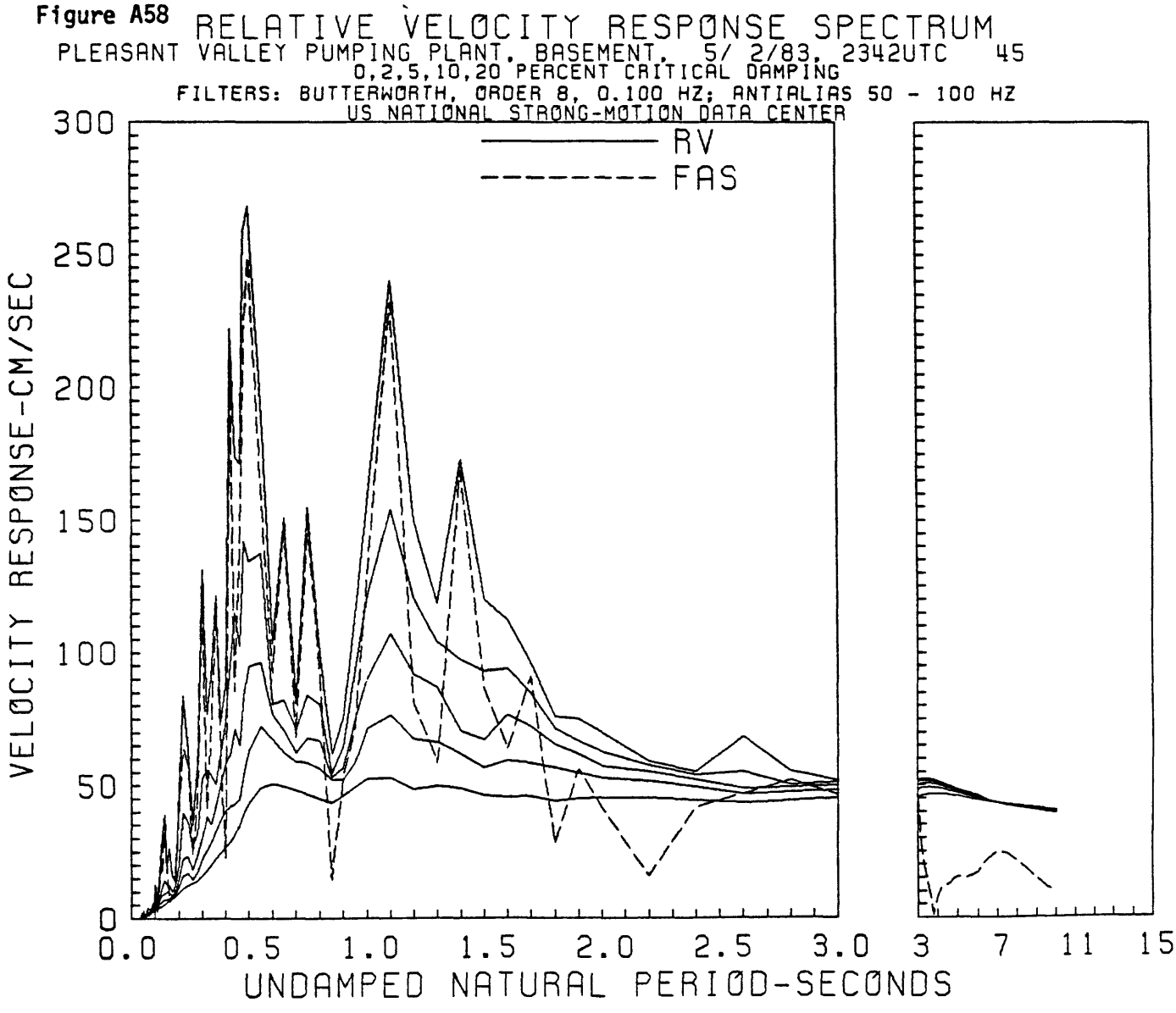

RELATIVE VELOCITY RESPONSE SPECTRUM
PLEASANT VALLEY PUMPING PLANT, BASEMENT, 5/ 2/83, 2342UTC 45
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.100 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
0
50
100
150
200
250
300
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15

Figure A59

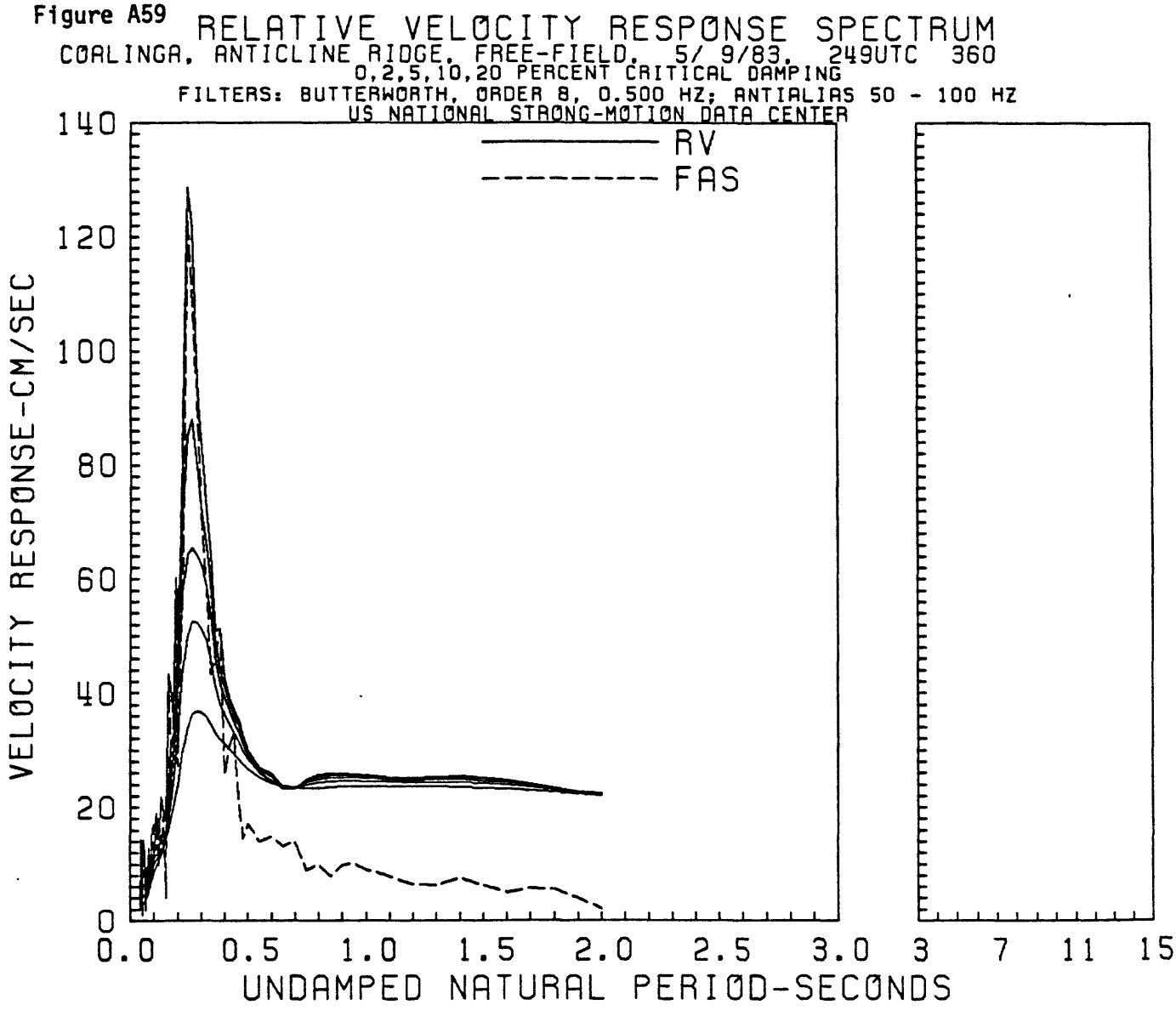

RELATIVE VELOCITY RESPONSE SPECTRUM
COALINGA, ANTICLINE RIDGE, FREE-FIELD, 5/ 9/83, 249UTC 360
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
0
20
40
60
80
100
120
140
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15

Figure A60

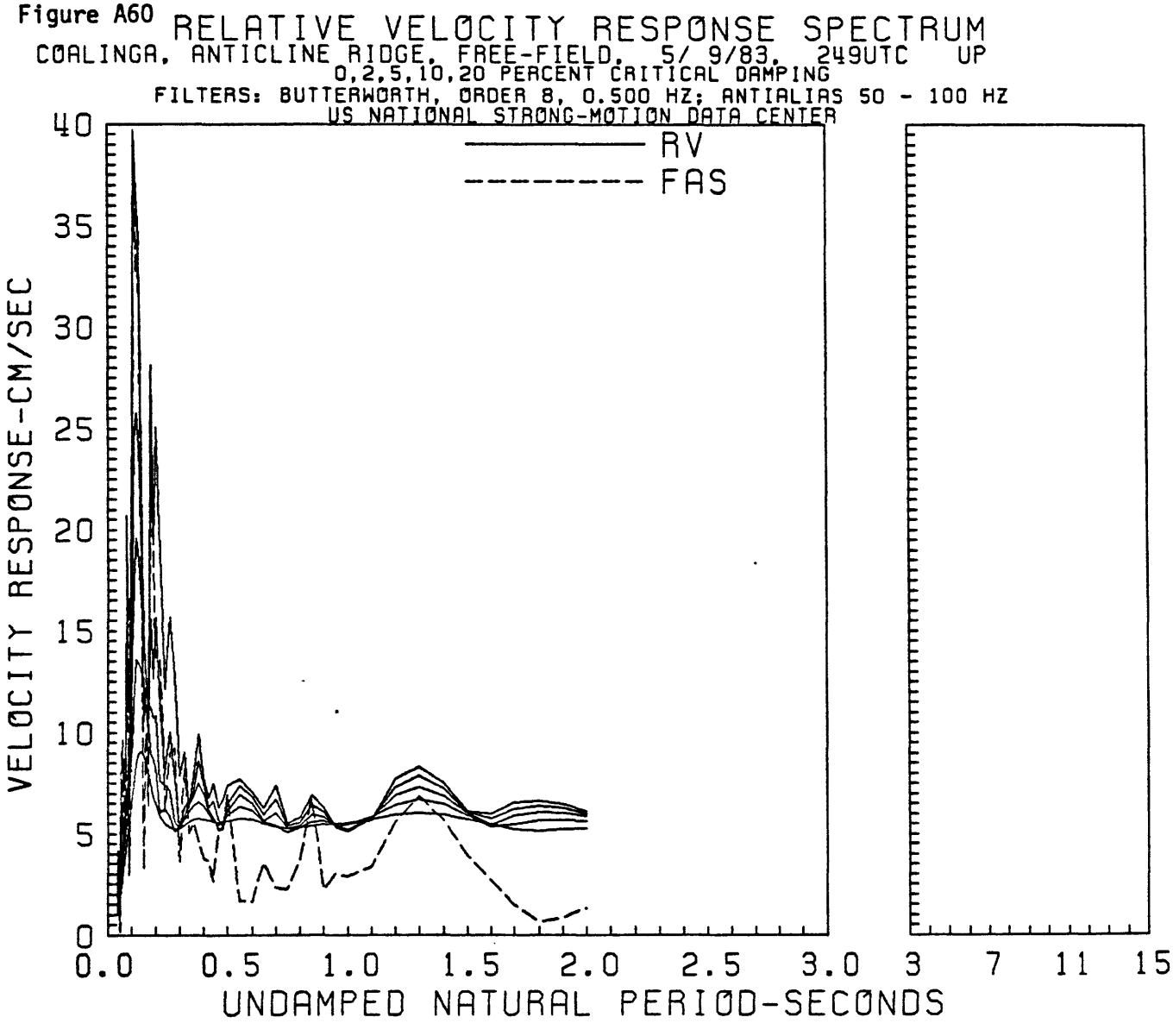

RELATIVE VELOCITY RESPONSE SPECTRUM
COALINGA, ANTICLINE RIDGE, FREE-FIELD, 5/ 9/83, 249UTC UP
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
0
5
10
15
20
25
30
35
40
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15

Figure A61

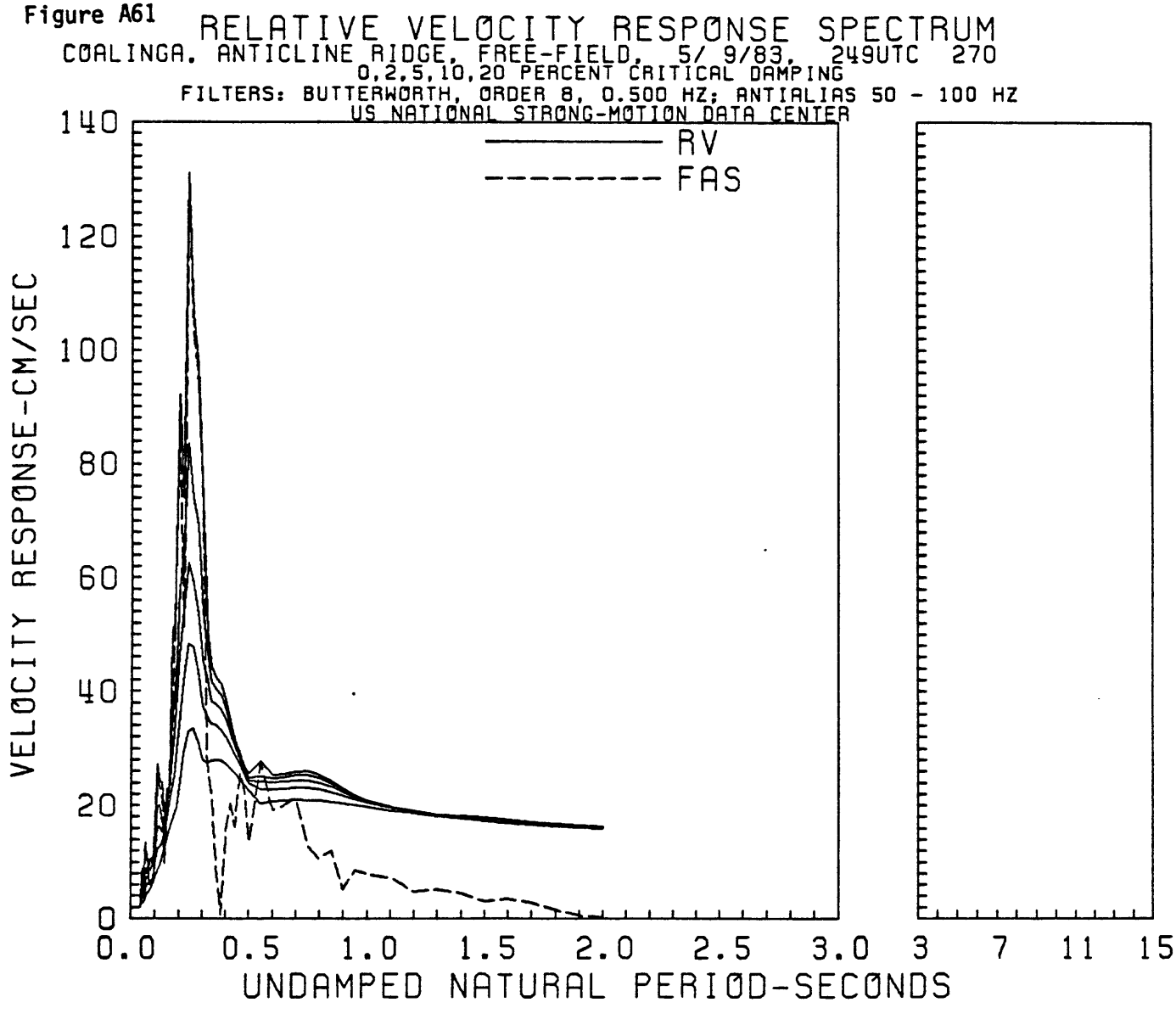

RELATIVE VELOCITY RESPONSE SPECTRUM
COALINGA, ANTICLINE RIDGE, FREE-FIELD, 5/ 9/83, 249UTC 270
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
0
20
40
60
80
100
120
140
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15

Figure A62

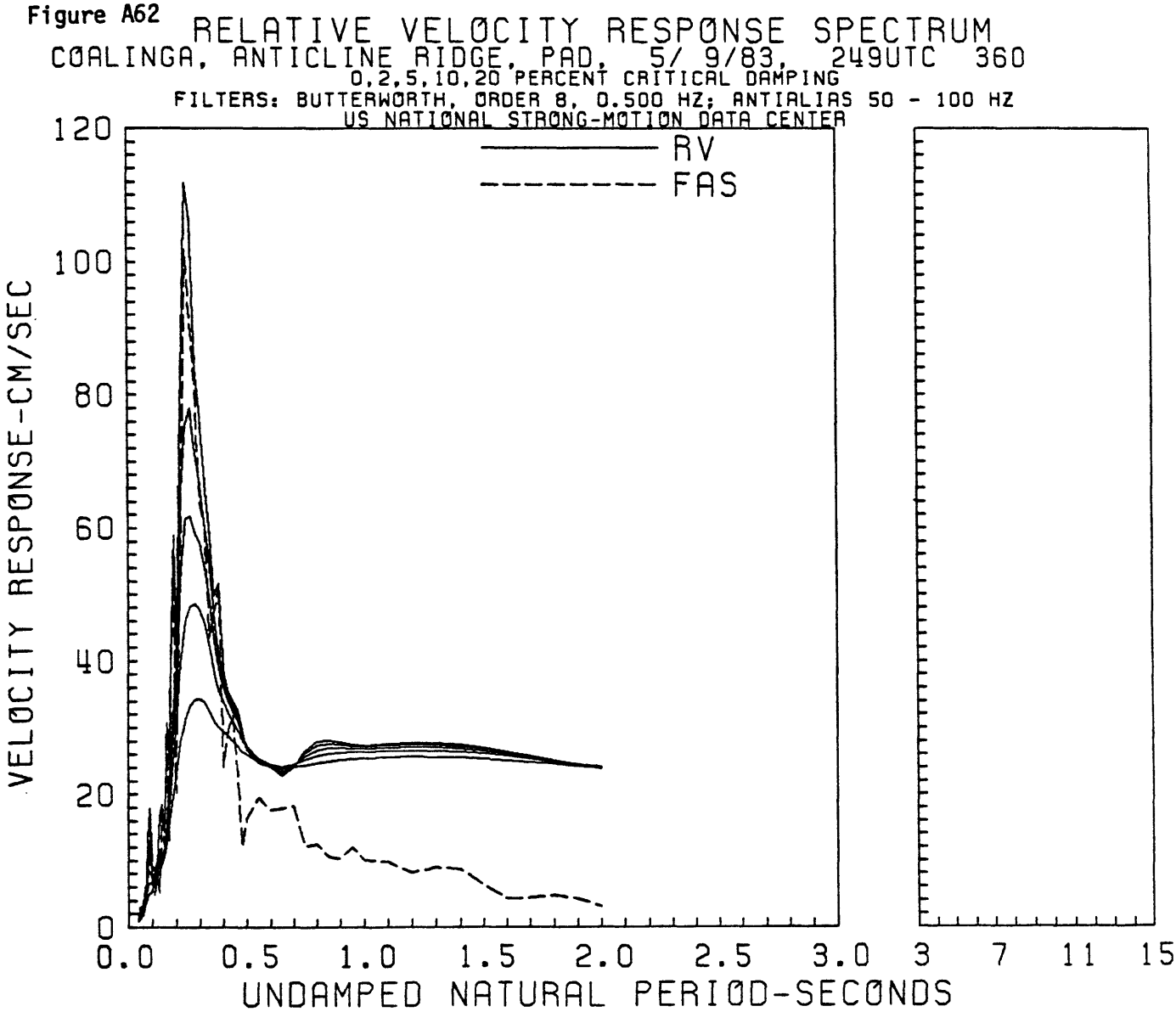

RELATIVE VELOCITY RESPONSE SPECTRUM
COALINGA, ANTICLINE RIDGE, PAD, 5/ 9/83, 249UTC 360
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
120
100
80
60
40
20
0
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15
UNDAMPED NATURAL PERIOD-SECONDS

Figure A63

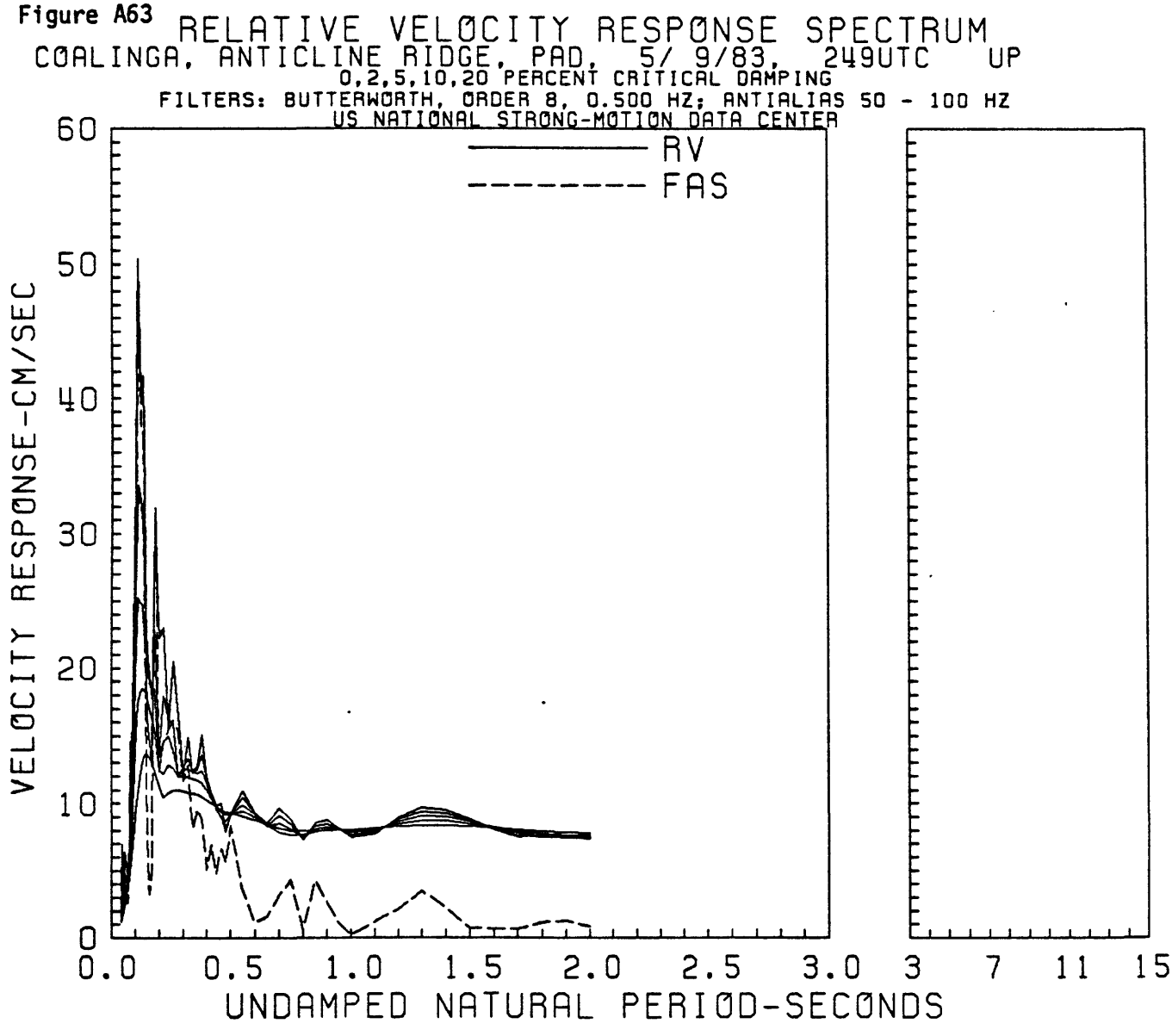

RELATIVE VELOCITY RESPONSE SPECTRUM
COALINGA, ANTICLINE RIDGE, PAD, 5/ 9/83, 249UTC UP
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
0
10
20
30
40
50
60
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15

Figure A64

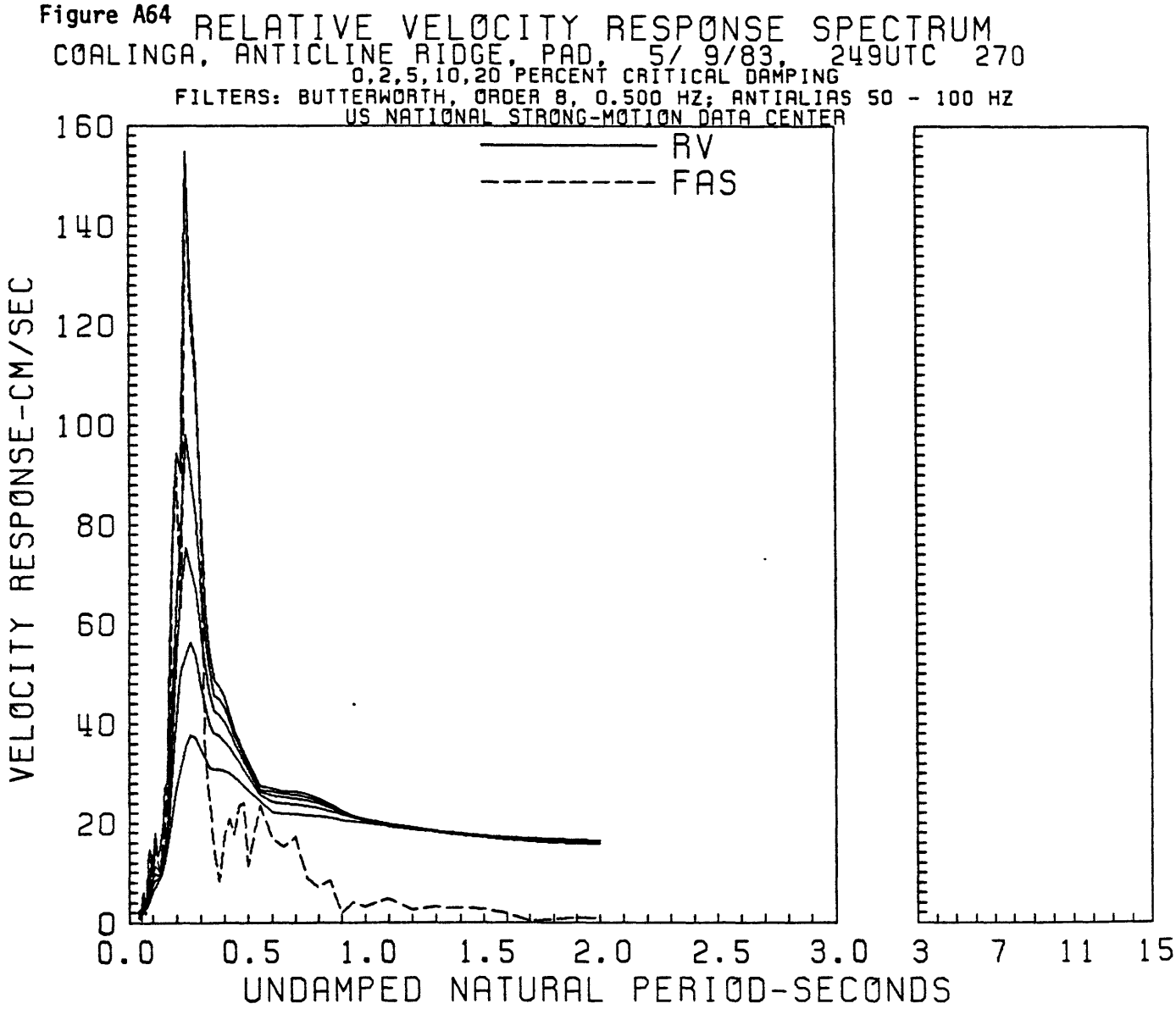

RELATIVE VELOCITY RESPONSE SPECTRUM
COALINGA, ANTICLINE RIDGE, PAD, 5/ 9/83, 249UTC 270
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
0
20
40
60
80
100
120
140
160
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15

Figure A65

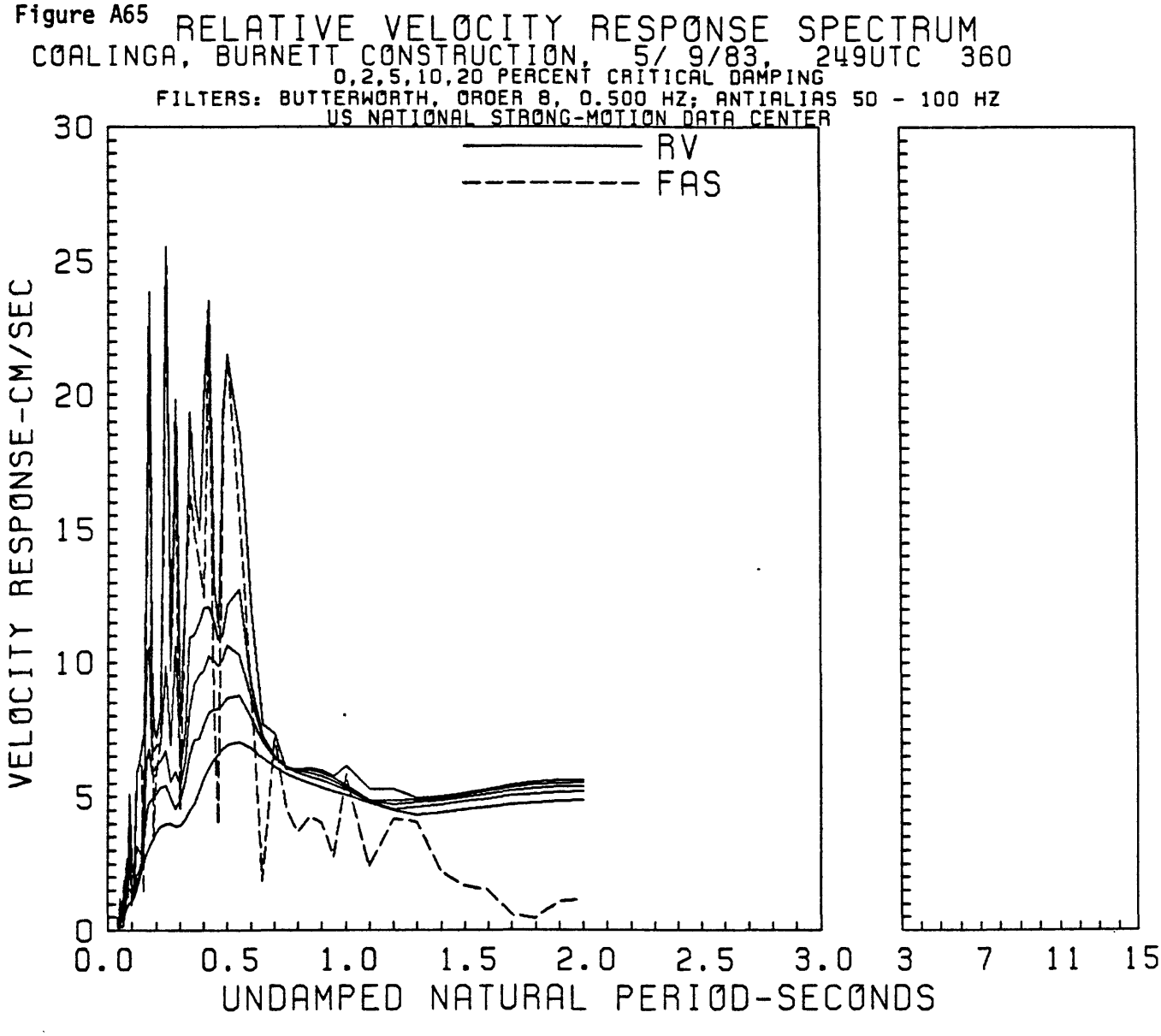

RELATIVE VELOCITY RESPONSE SPECTRUM
COALINGA, BURNETT CONSTRUCTION, 5/ 9/83, 249UTC 360
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
0
5
10
15
20
25
30
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15

Figure A66

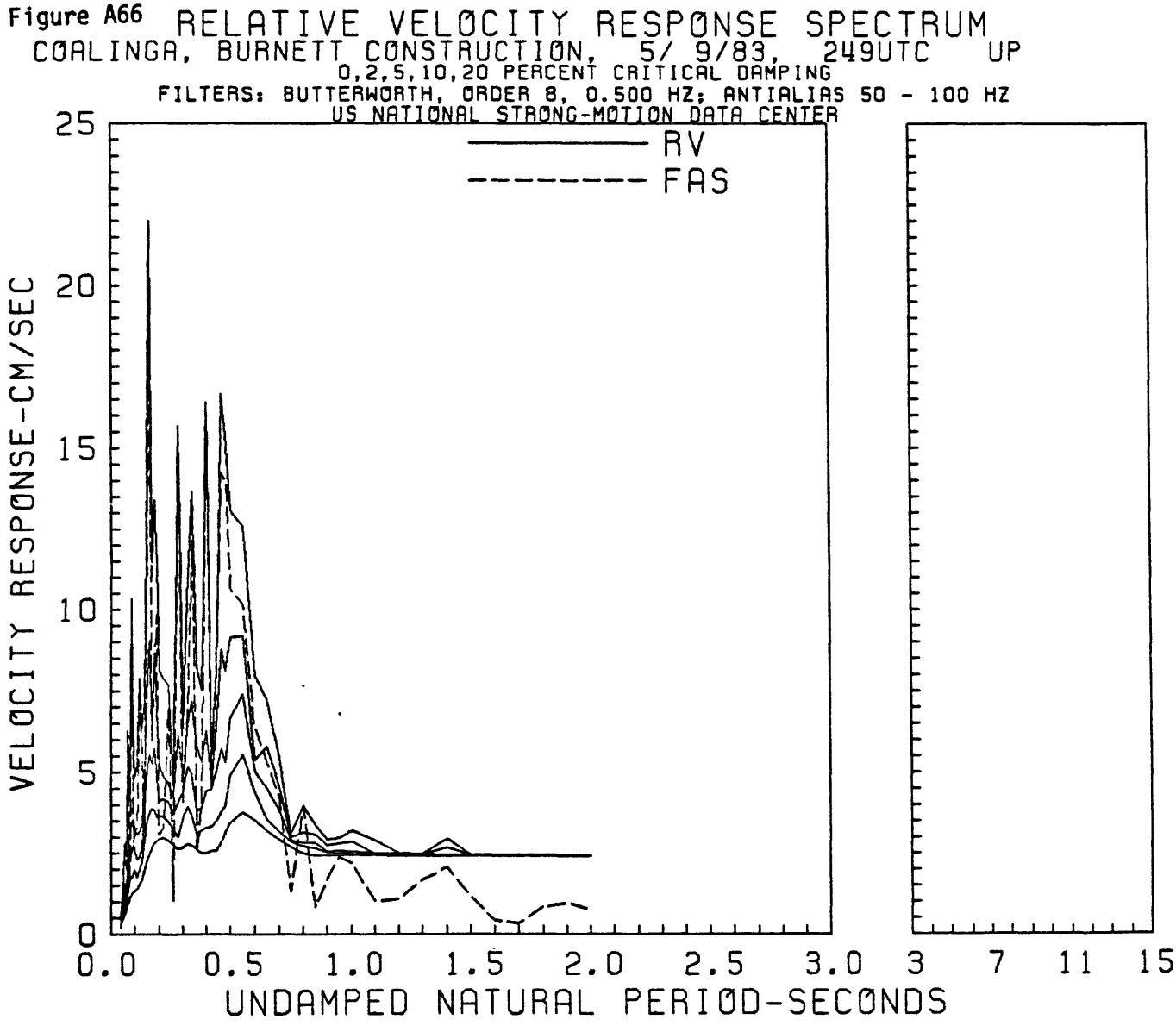

RELATIVE VELOCITY RESPONSE SPECTRUM
COALINGA, BURNETT CONSTRUCTION, 5/ 9/83, 249UTC UP
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
0
5
10
15
20
25
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15
UNDAMPED NATURAL PERIOD-SECONDS

Figure A67

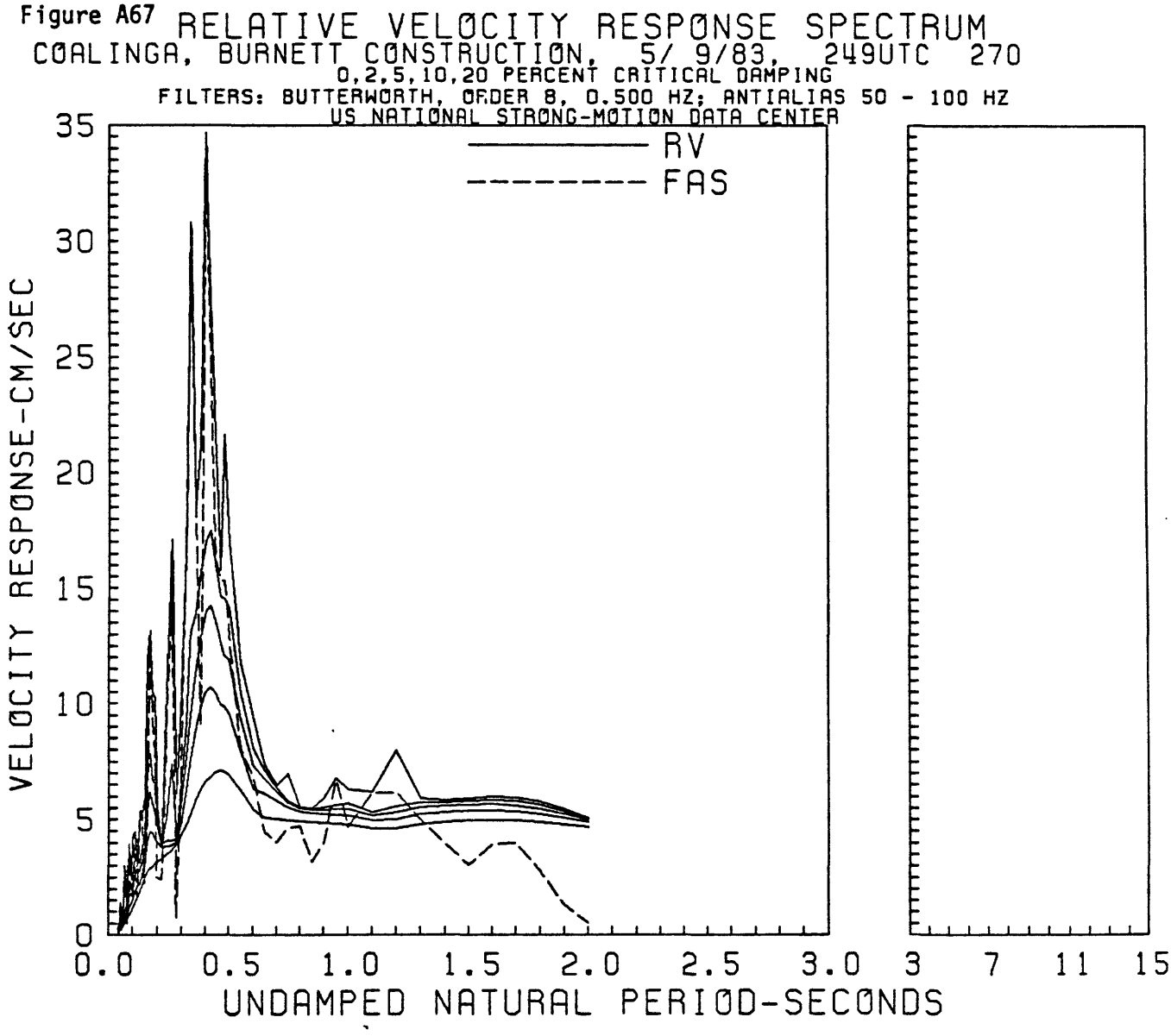

RELATIVE VELOCITY RESPONSE SPECTRUM
COALINGA, BURNETT CONSTRUCTION, 5/ 9/83, 249UTC 270
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
0
5
10
15
20
25
30
35
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15

Figure A68

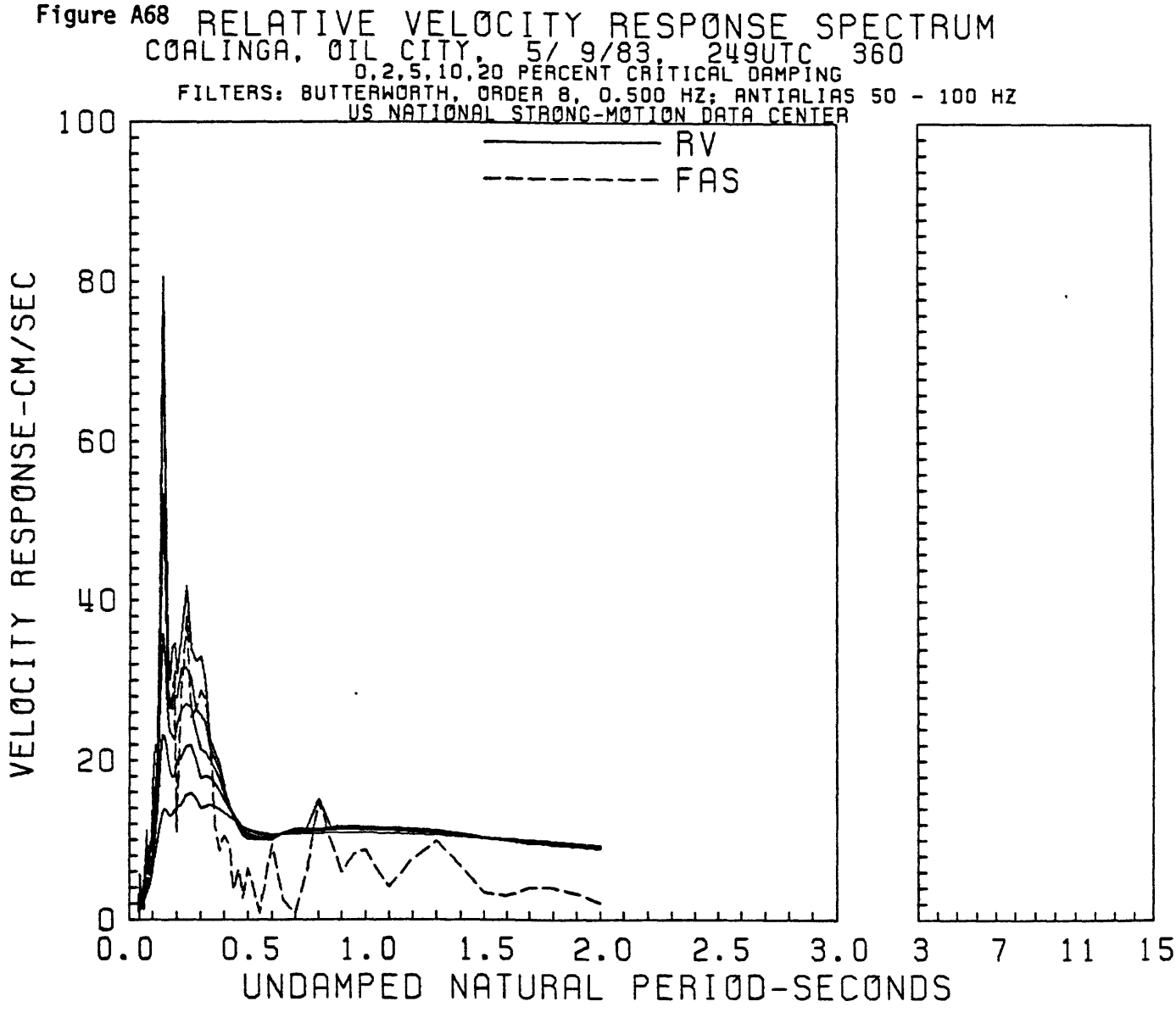

RELATIVE VELOCITY RESPONSE SPECTRUM
COALINGA, OIL CITY, 5/ 9/83, 249UTC 360
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
100
80
60
40
20
0
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15
UNDAMPED NATURAL PERIOD-SECONDS

Figure A69

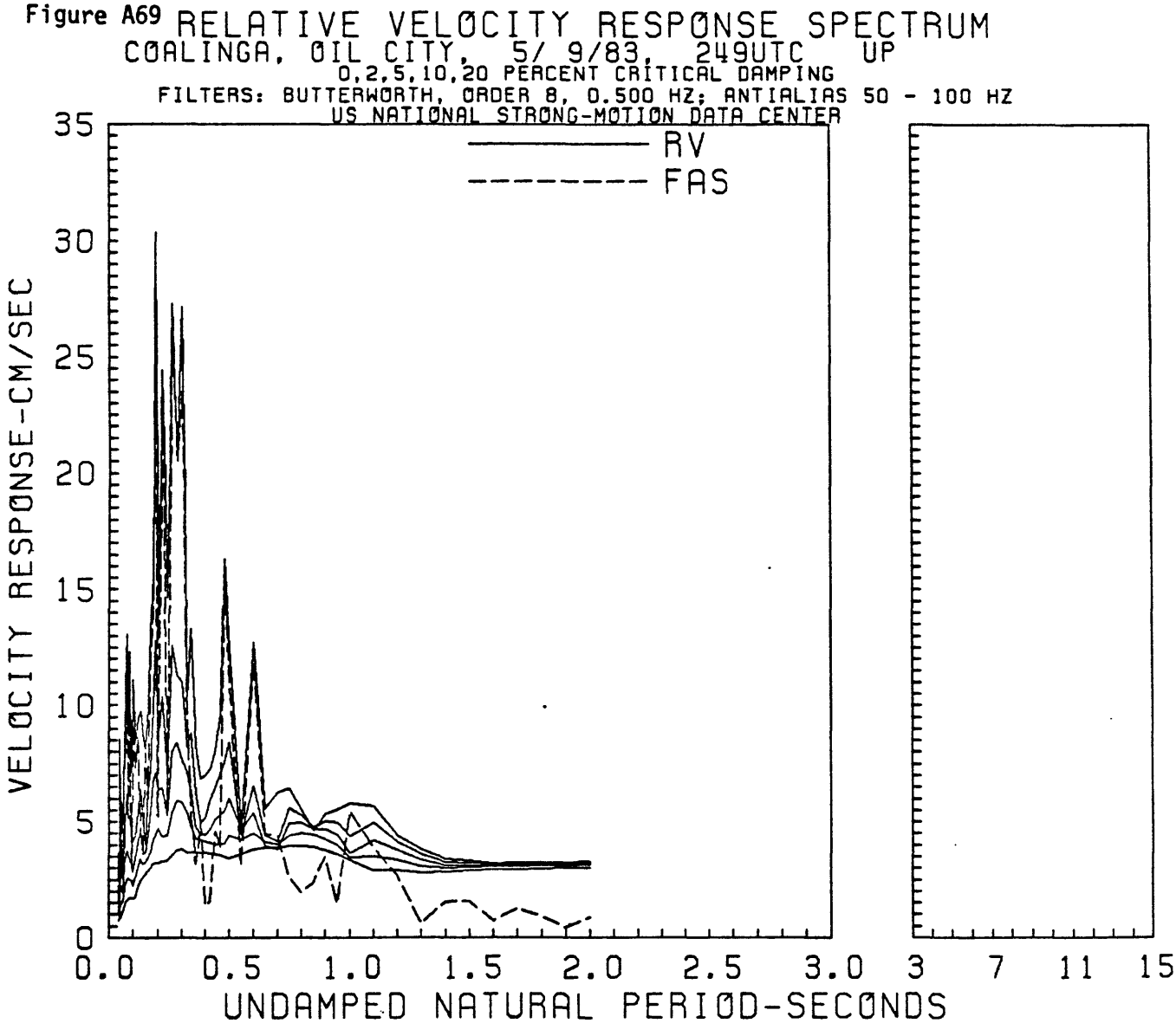

RELATIVE VELOCITY RESPONSE SPECTRUM
COALINGA, OIL CITY, 5/ 9/83, 249UTC UP
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
0
5
10
15
20
25
30
35
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15

Figure A70

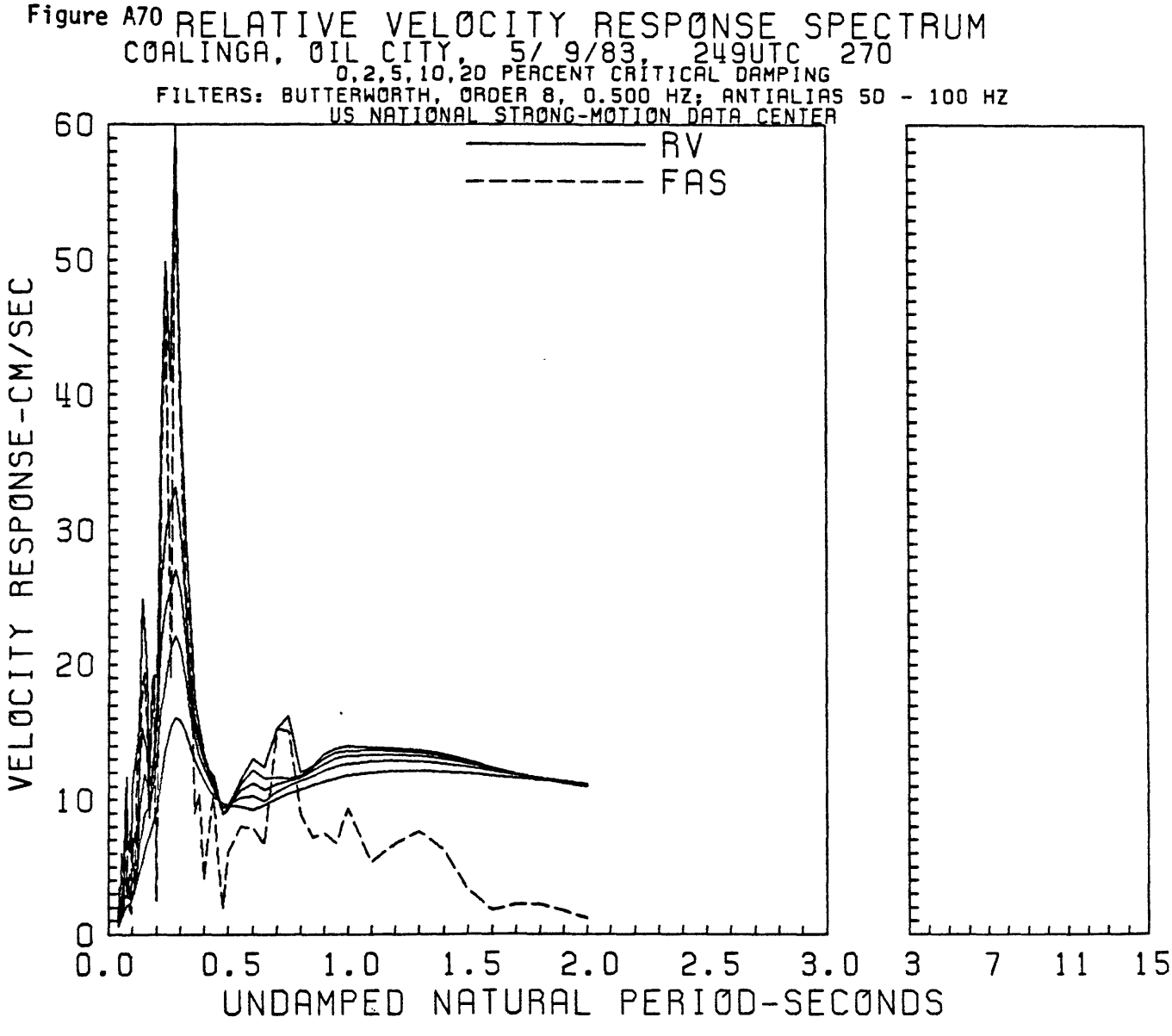

RELATIVE VELOCITY RESPONSE SPECTRUM
COALINGA, OIL CITY, 5/ 9/83, 249UTC 270
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
0
10
20
30
40
50
60
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15

Figure A71

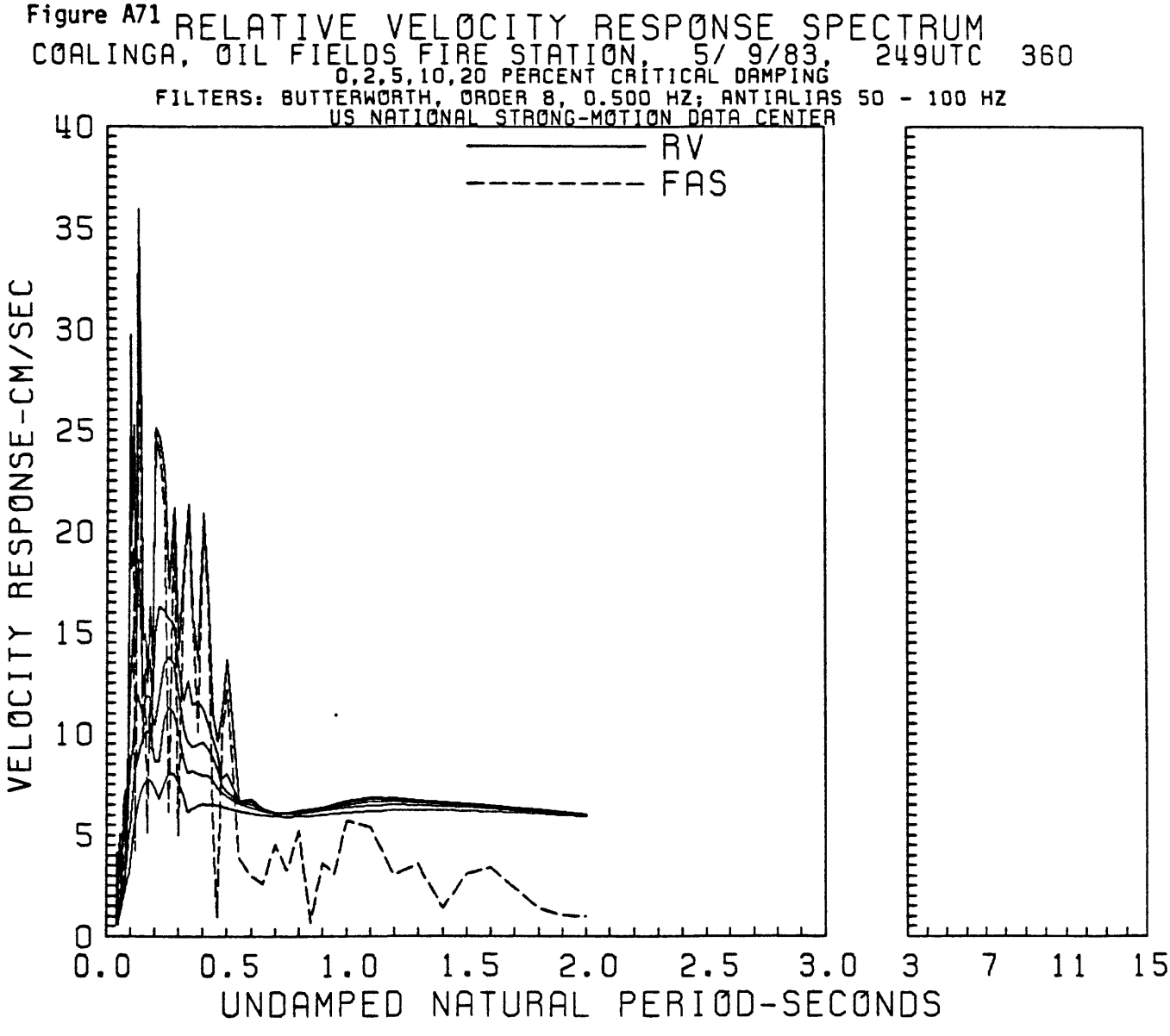

RELATIVE VELOCITY RESPONSE SPECTRUM
COALINGA, OIL FIELDS FIRE STATION, 5/ 9/83, 249UTC 360
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
0
5
10
15
20
25
30
35
40
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15

Figure A72

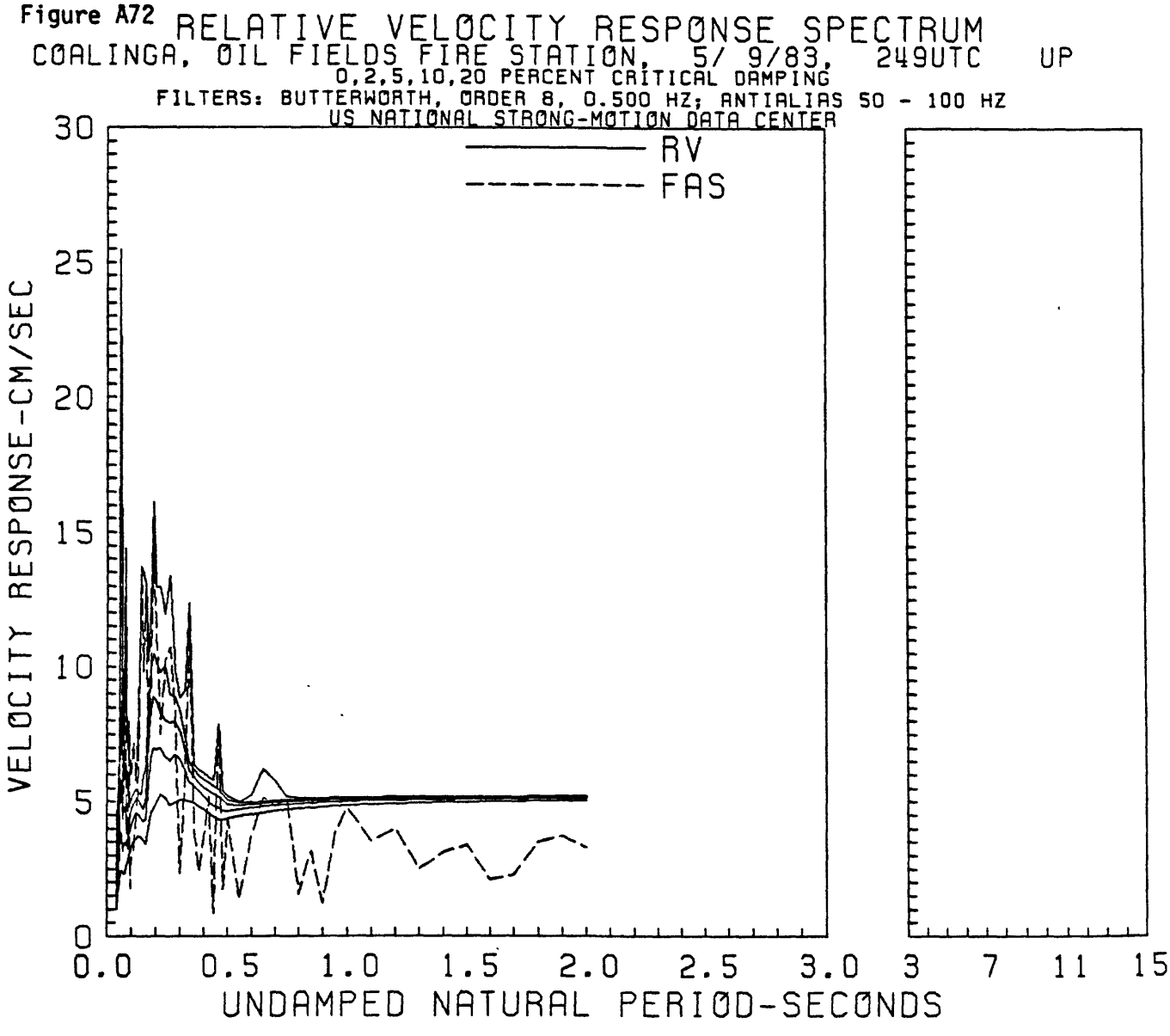

RELATIVE VELOCITY RESPONSE SPECTRUM
COALINGA, OIL FIELDS FIRE STATION, 5/ 9/83, 249UTC UP
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
0
5
10
15
20
25
30
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15

Figure A73

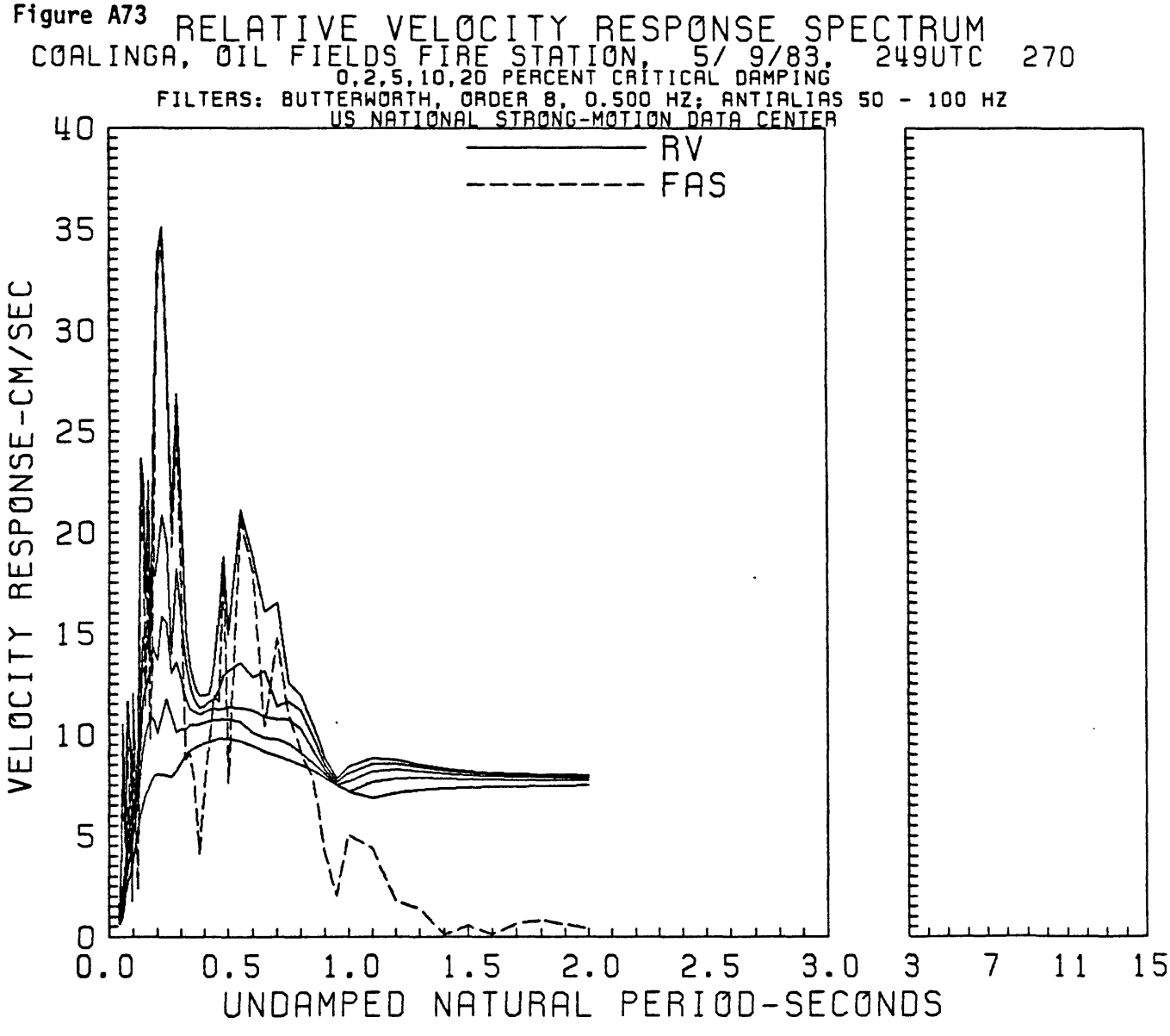

RELATIVE VELOCITY RESPONSE SPECTRUM
COALINGA, OIL FIELDS FIRE STATION, 5/ 9/83, 249UTC 270
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
0
5
10
15
20
25
30
35
40
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15

Figure A74

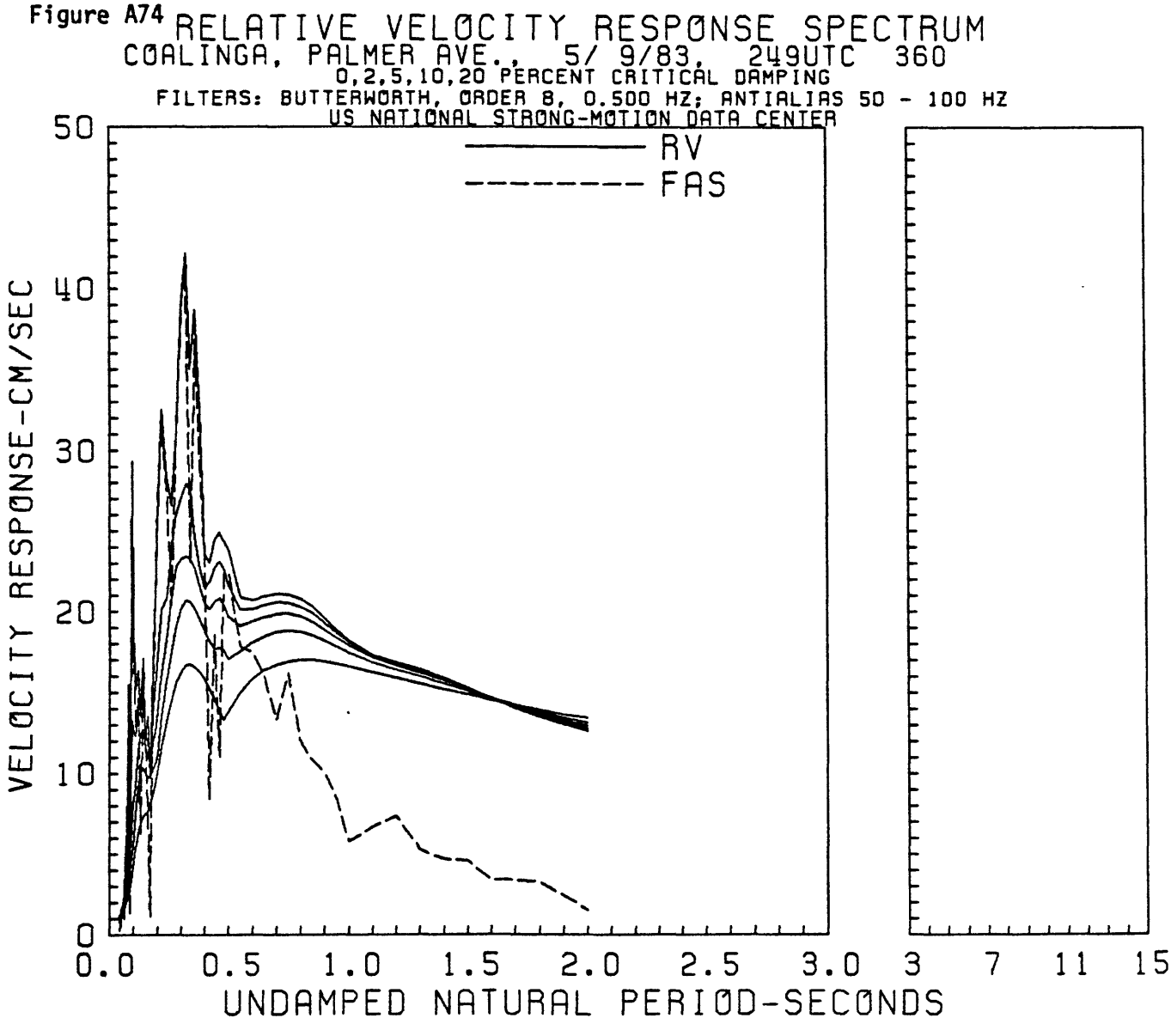

RELATIVE VELOCITY RESPONSE SPECTRUM
COALINGA, PALMER AVE., 5/ 9/83, 249UTC 360
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
0
10
20
30
40
50
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15
UNDAMPED NATURAL PERIOD-SECONDS

Figure A75

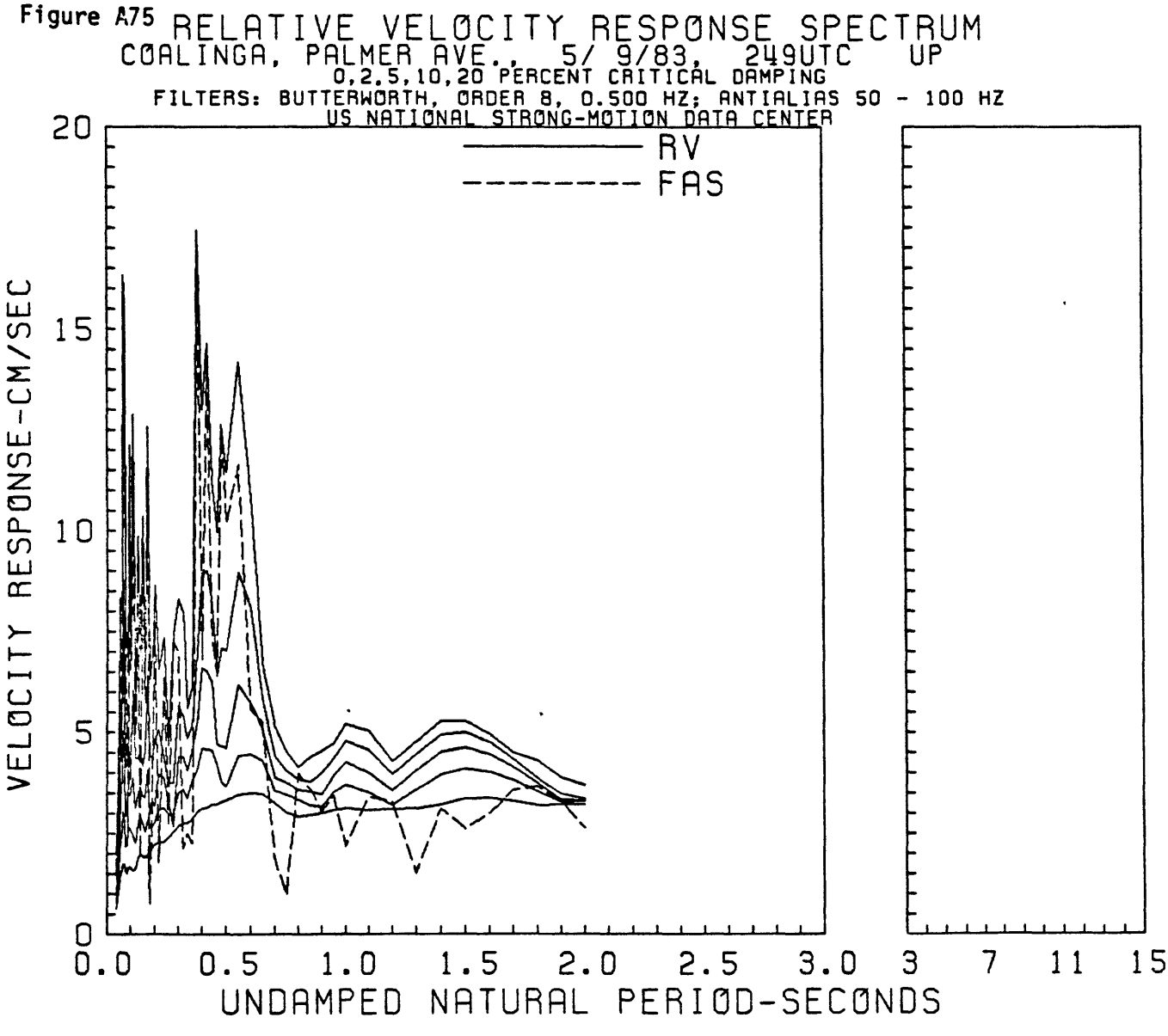

RELATIVE VELOCITY RESPONSE SPECTRUM
COALINGA, PALMER AVE., 5/ 9/83, 249UTC UP
0,2.5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
0
5
10
15
20
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15

Figure A76

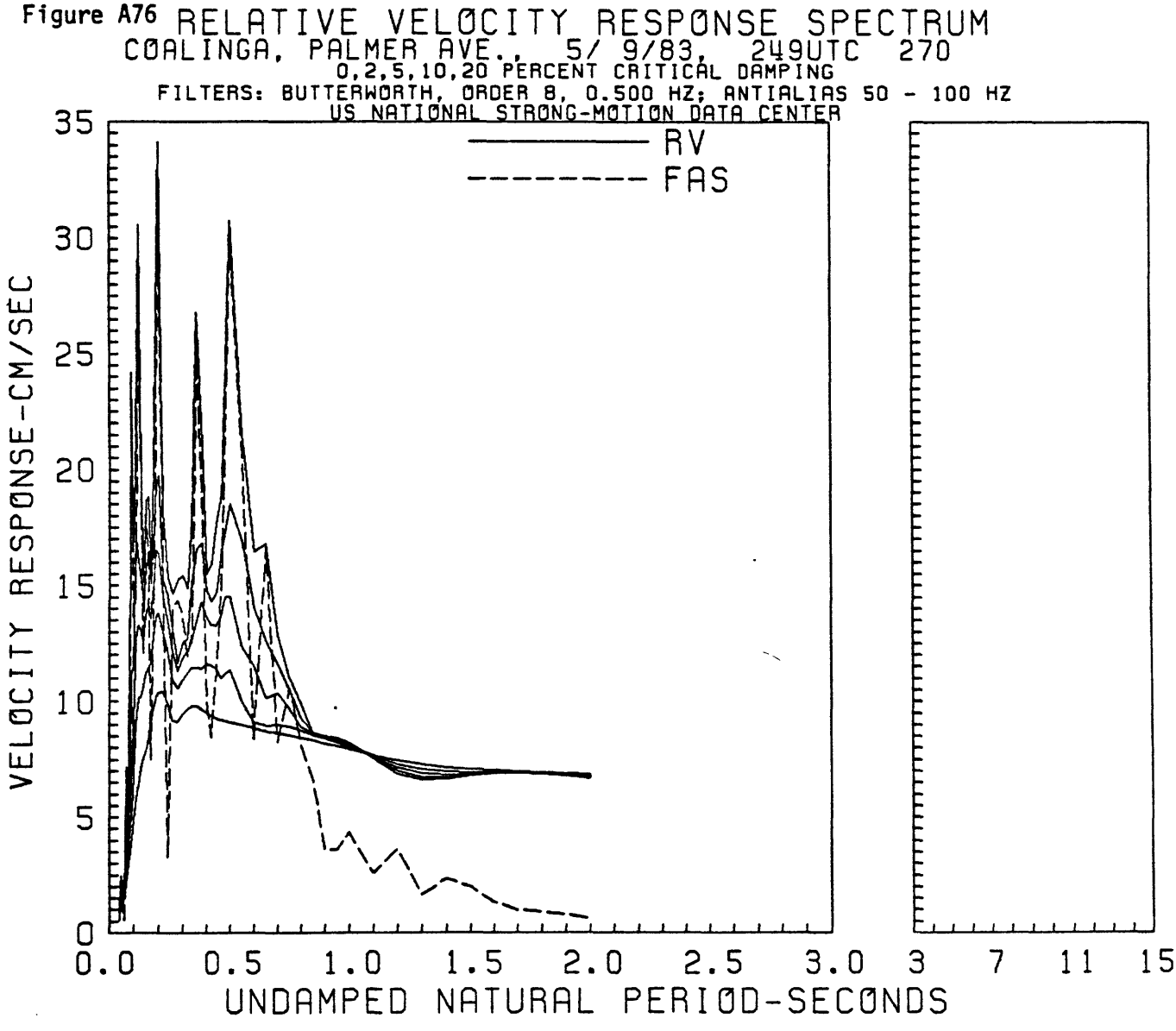

RELATIVE VELOCITY RESPONSE SPECTRUM
COALINGA, PALMER AVE., 5/ 9/83, 249UTC 270
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
0
5
10
15
20
25
30
35
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15

Figure A77

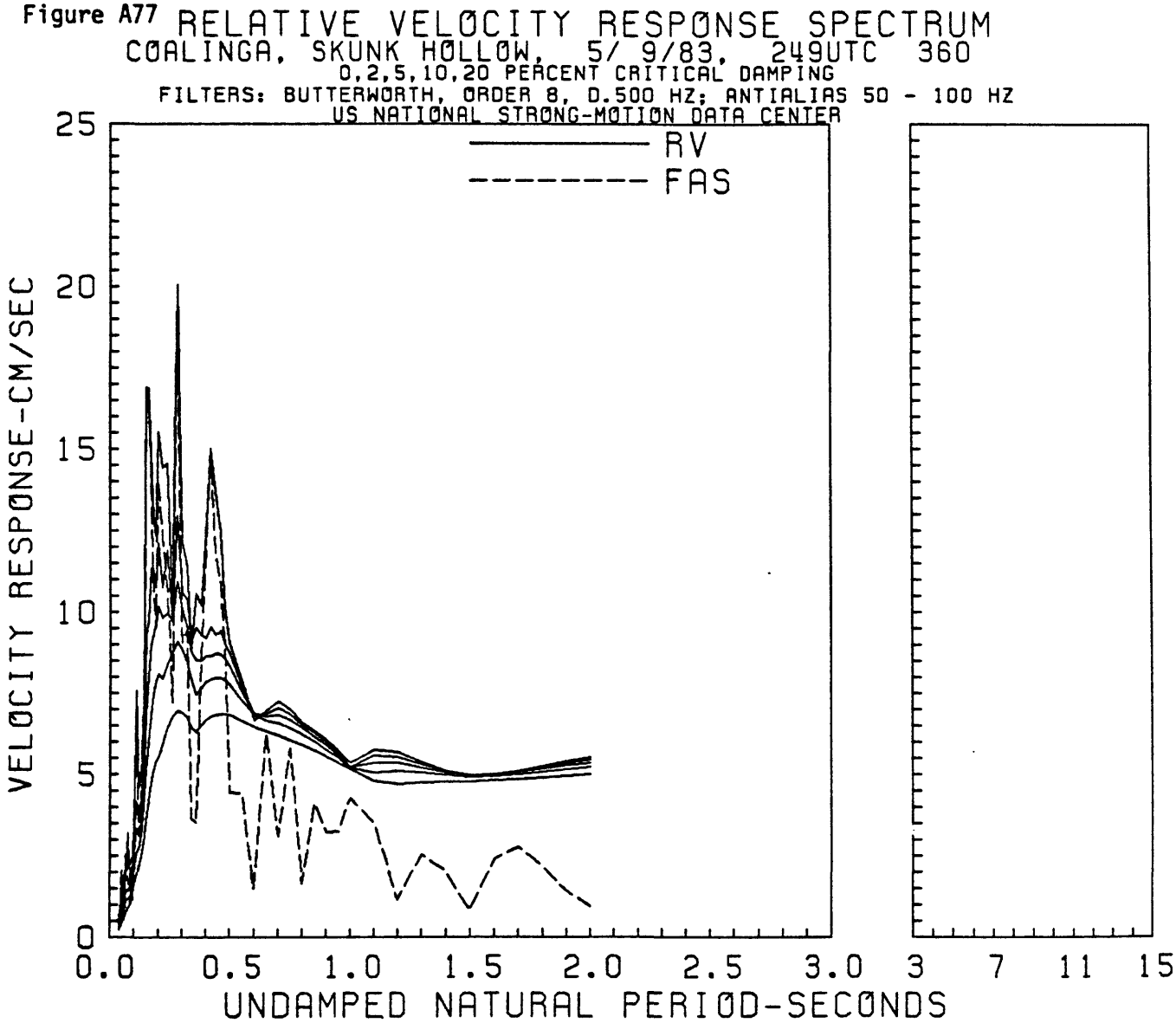

RELATIVE VELOCITY RESPONSE SPECTRUM
COALINGA, SKUNK HOLLOW, 5/ 9/83, 249UTC 360
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
0
5
10
15
20
25
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15

Figure A78

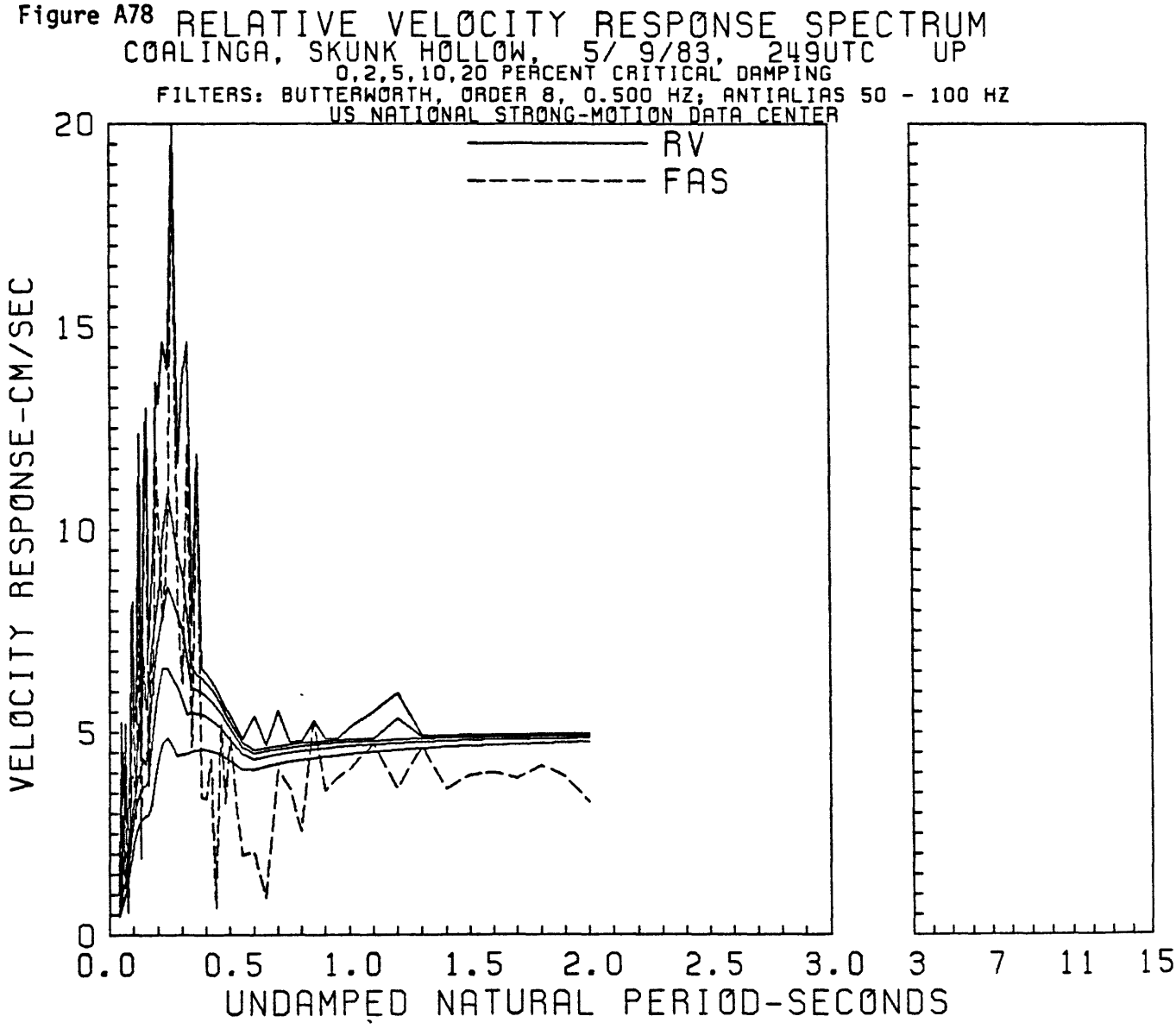

RELATIVE VELOCITY RESPONSE SPECTRUM
COALINGA, SKUNK HOLLOW, 5/ 9/83, 249UTC UP
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
0
5
10
15
20
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15

Figure A79

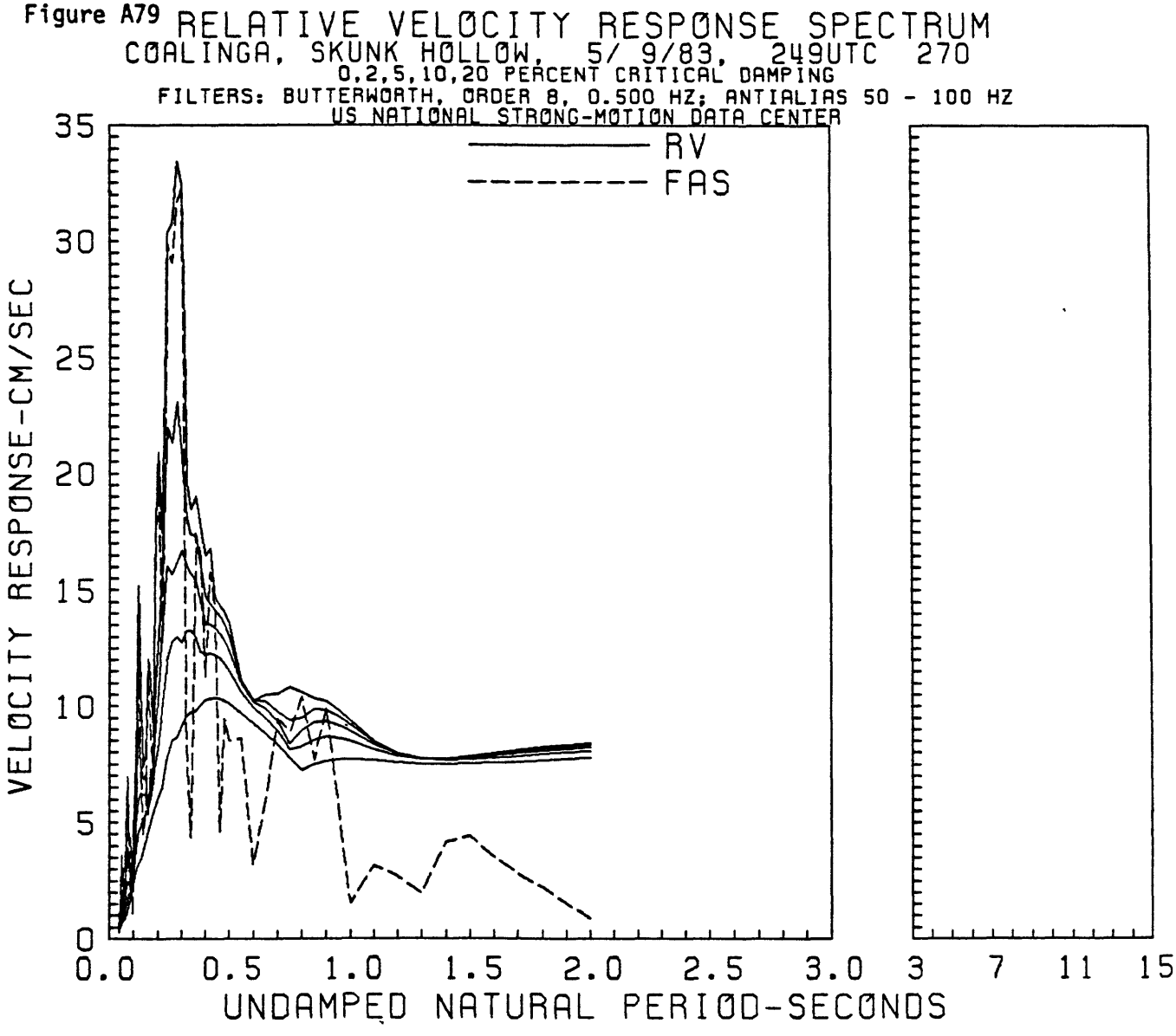

RELATIVE VELOCITY RESPONSE SPECTRUM
COALINGA, SKUNK HOLLOW, 5/ 9/83, 249UTC 270
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
0
5
10
15
20
25
30
35
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15

Figure A80

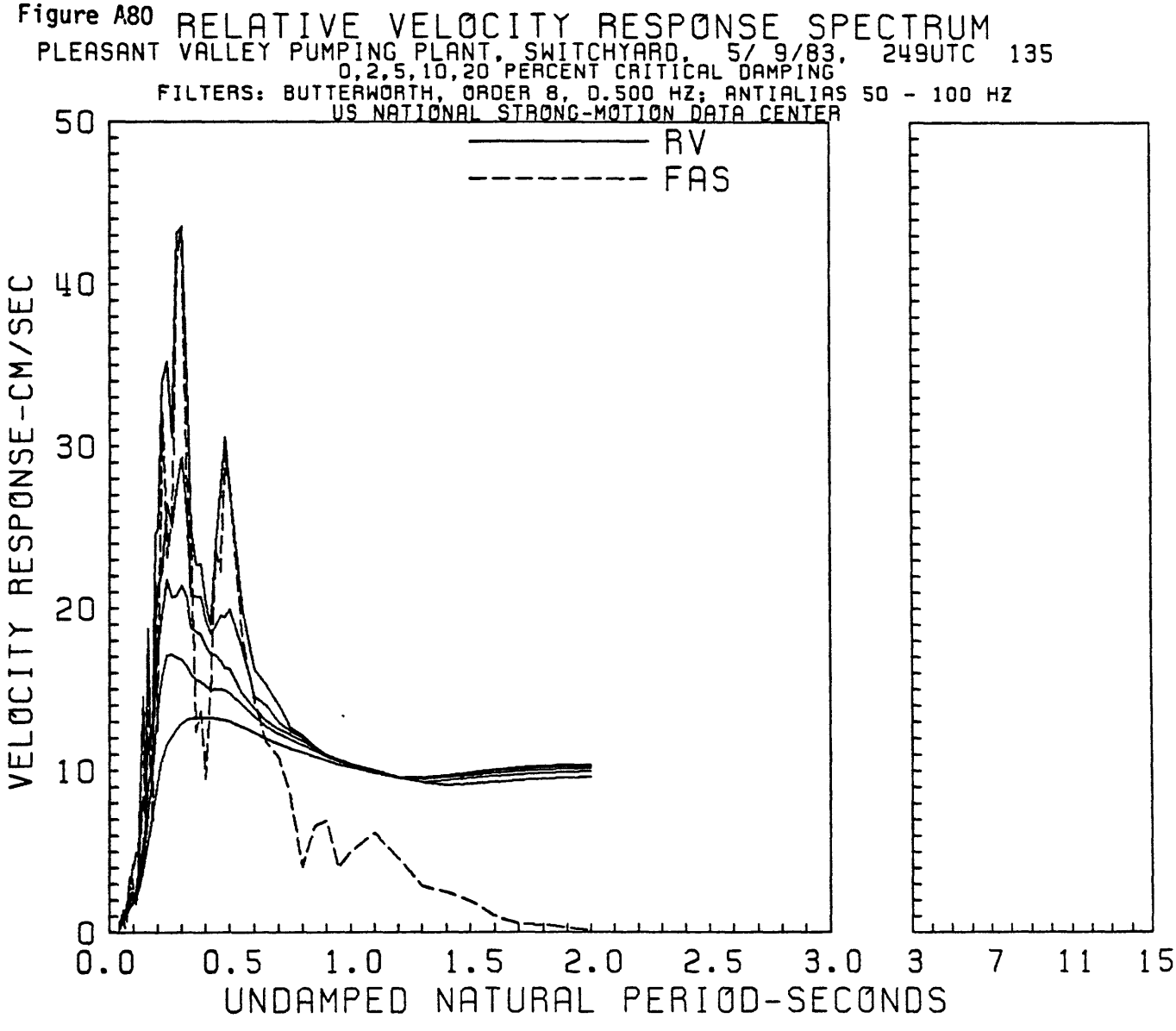

RELATIVE VELOCITY RESPONSE SPECTRUM
PLEASANT VALLEY PUMPING PLANT, SWITCHYARD, 5/ 9/83, 249UTC 135
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
0
10
20
30
40
50
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15

Figure A81

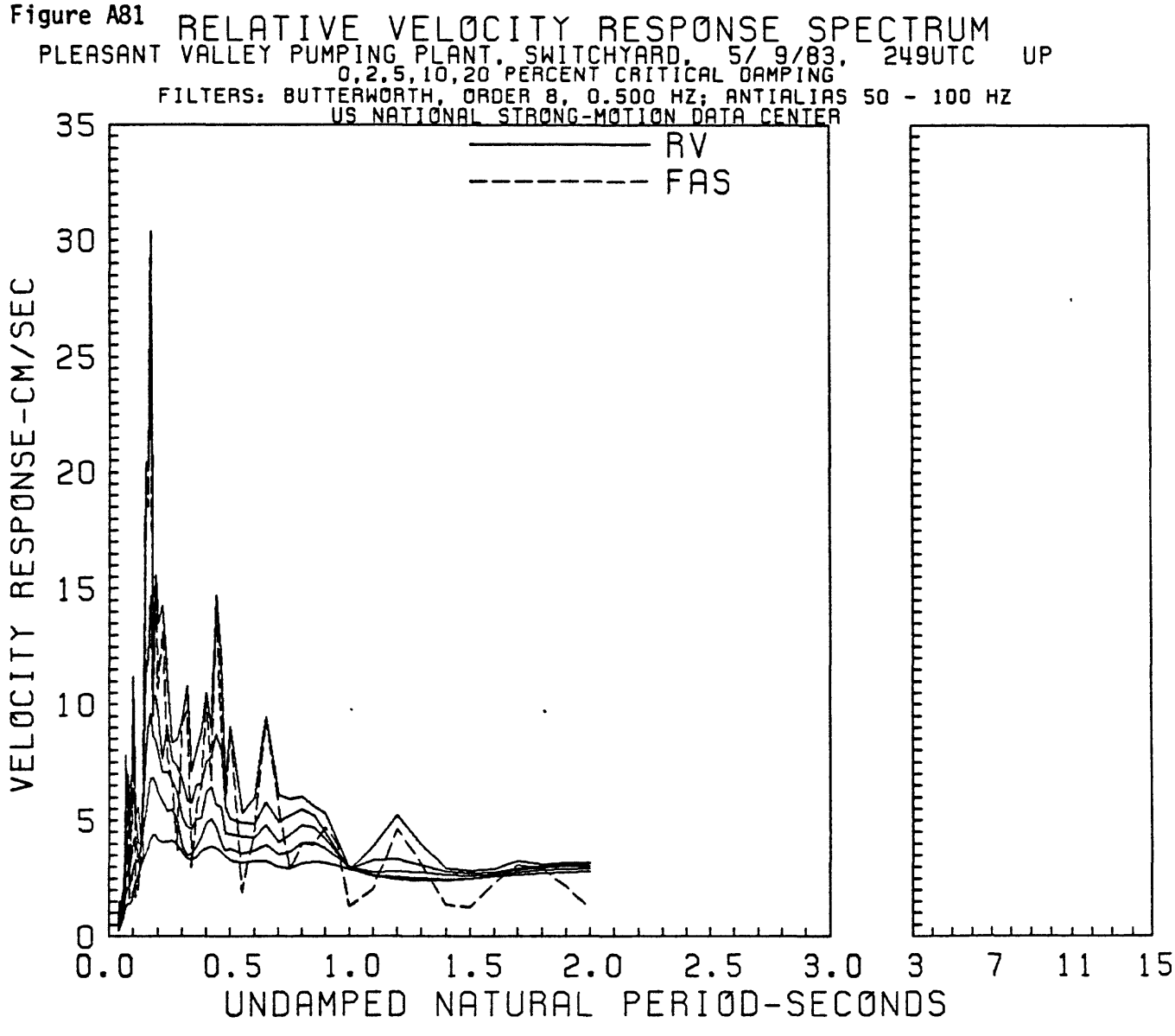

RELATIVE VELOCITY RESPONSE SPECTRUM
PLEASANT VALLEY PUMPING PLANT, SWITCHYARD, 5/ 9/83, 249UTC UP
0,2.5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
0
5
10
15
20
25
30
35
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15
UNDAMPED NATURAL PERIOD-SECONDS

Figure A82

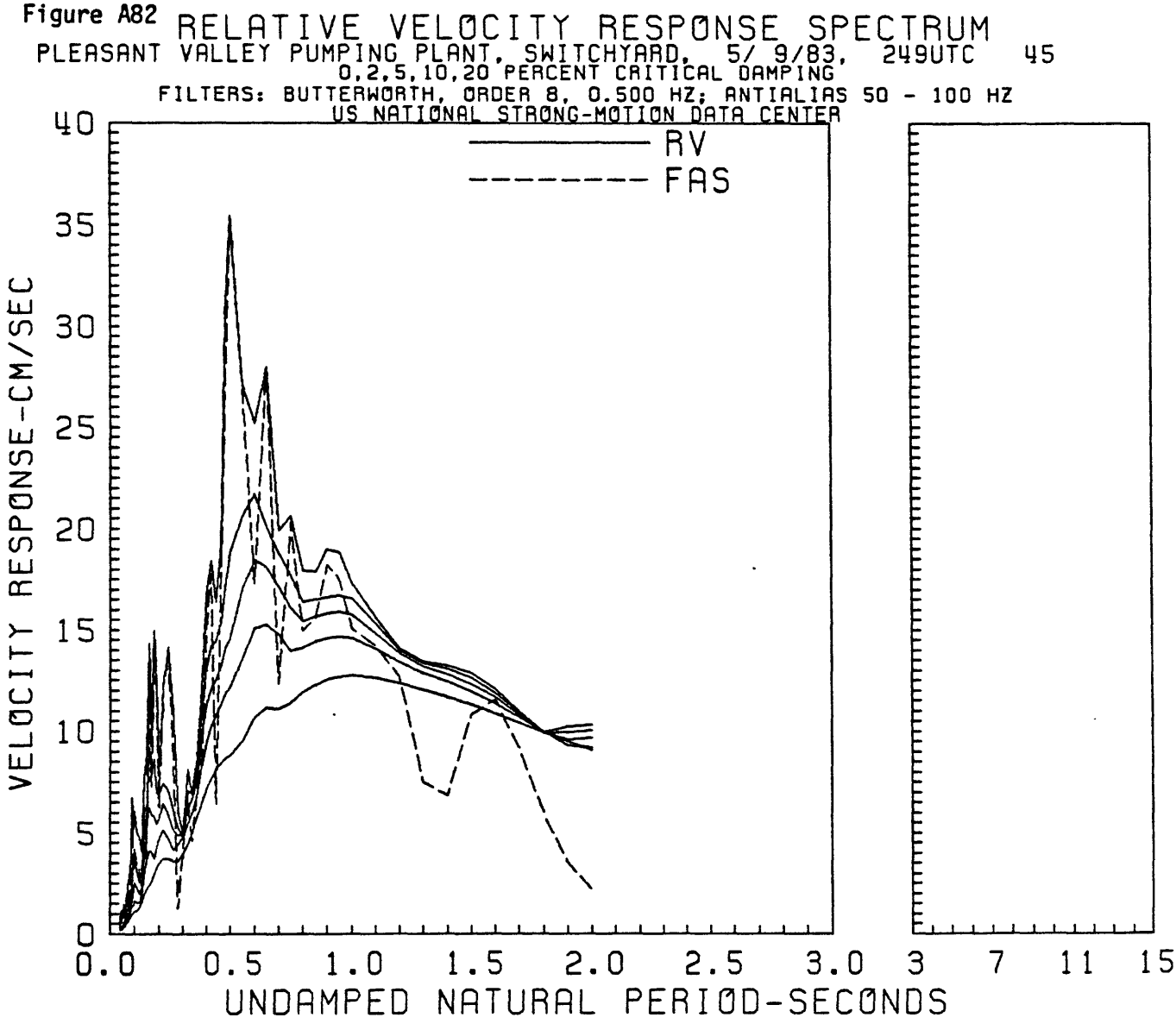

RELATIVE VELOCITY RESPONSE SPECTRUM
PLEASANT VALLEY PUMPING PLANT, SWITCHYARD, 5/ 9/83, 249UTC 45
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
0
5
10
15
20
25
30
35
40
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15
UNDAMPED NATURAL PERIOD-SECONDS

Figure A83

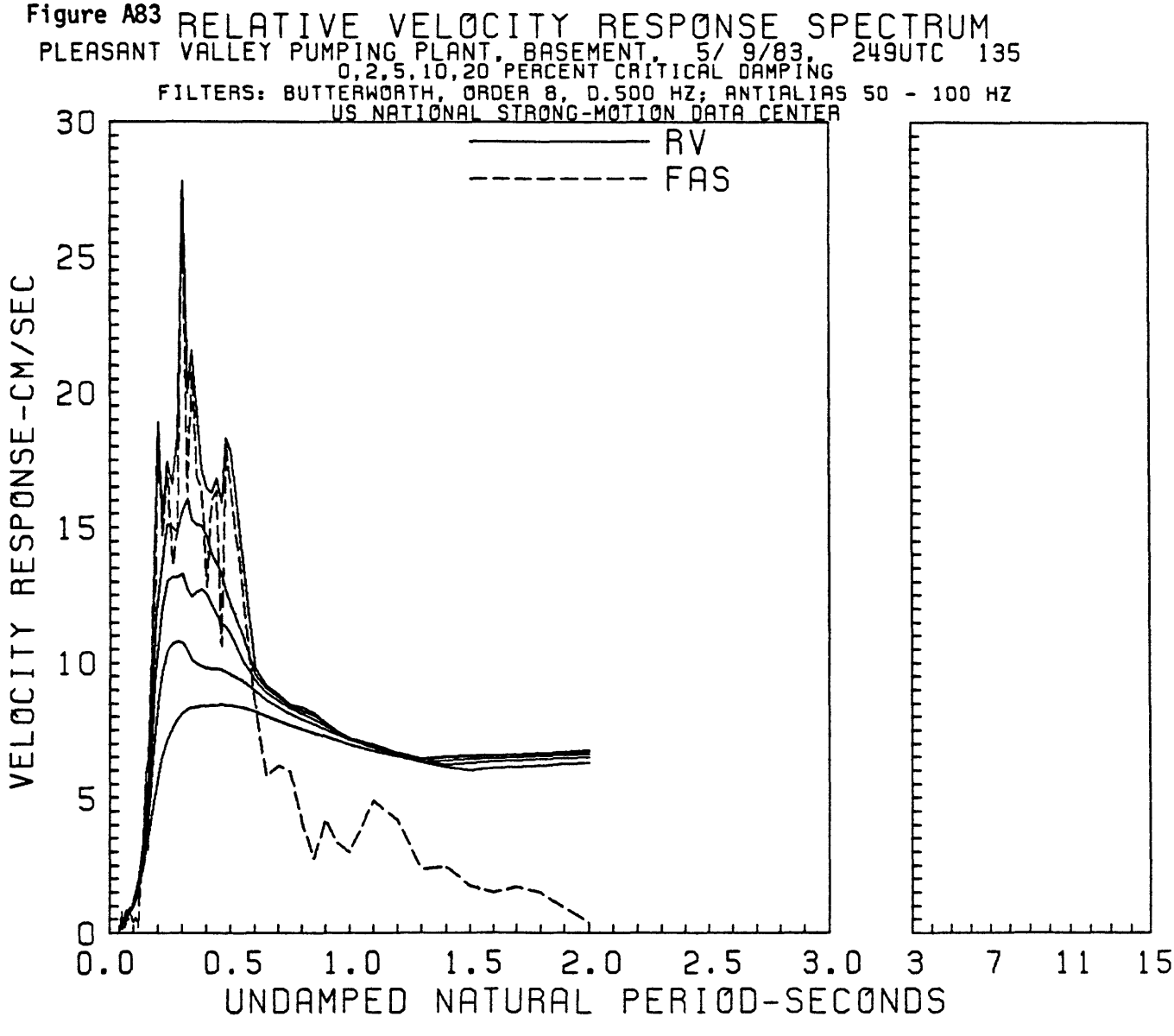

RELATIVE VELOCITY RESPONSE SPECTRUM
PLEASANT VALLEY PUMPING PLANT, BASEMENT, 5/ 9/83, 249UTC 135
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
0
5
10
15
20
25
30
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15

Figure A84

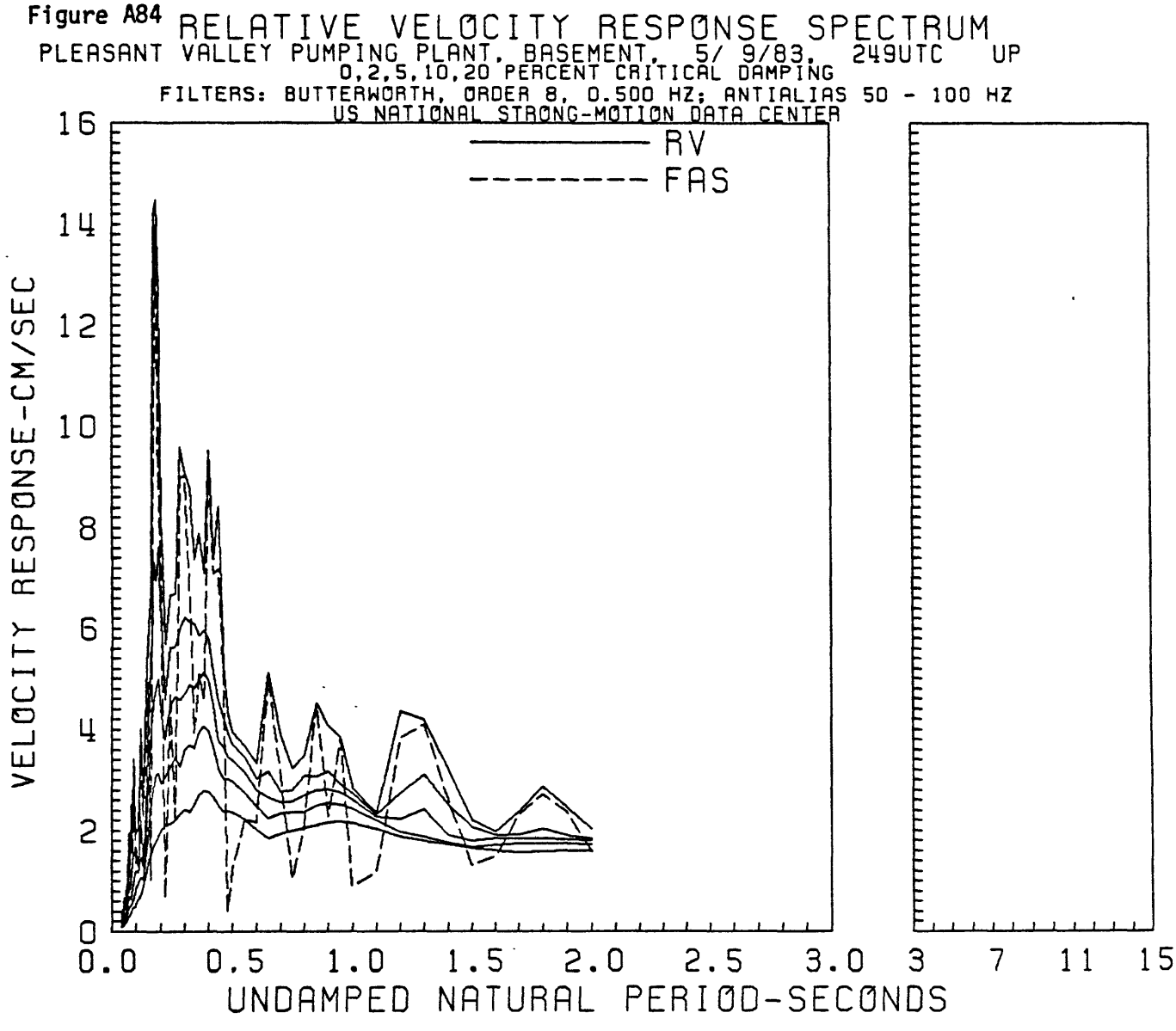

RELATIVE VELOCITY RESPONSE SPECTRUM
PLEASANT VALLEY PUMPING PLANT, BASEMENT, 5/ 9/83, 249UTC UP
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
0
2
4
6
8
10
12
14
16
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15

Figure A85

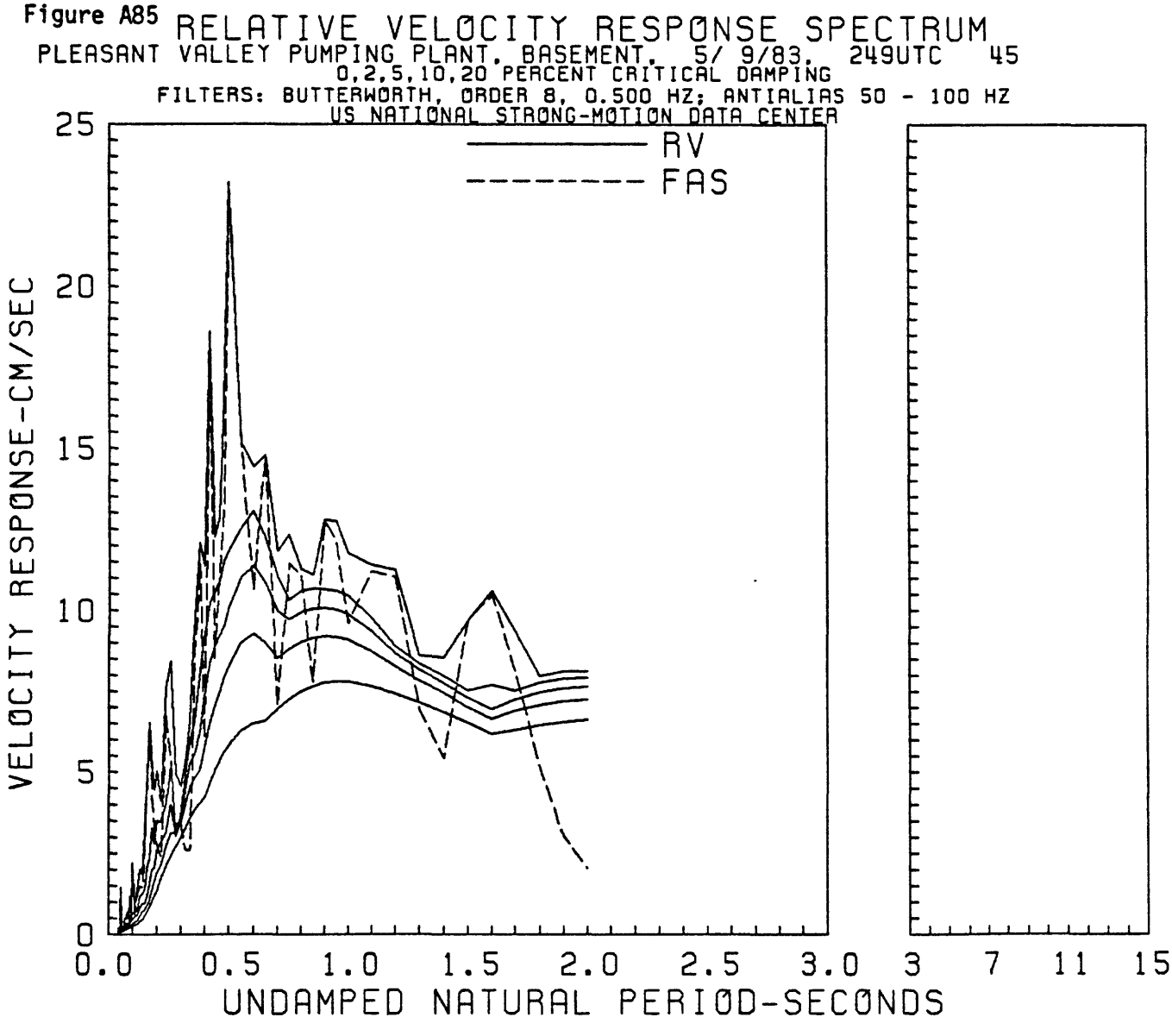

RELATIVE VELOCITY RESPONSE SPECTRUM
PLEASANT VALLEY PUMPING PLANT, BASEMENT, 5/ 9/83, 249UTC 45
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
0
5
10
15
20
25
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15

Figure A86

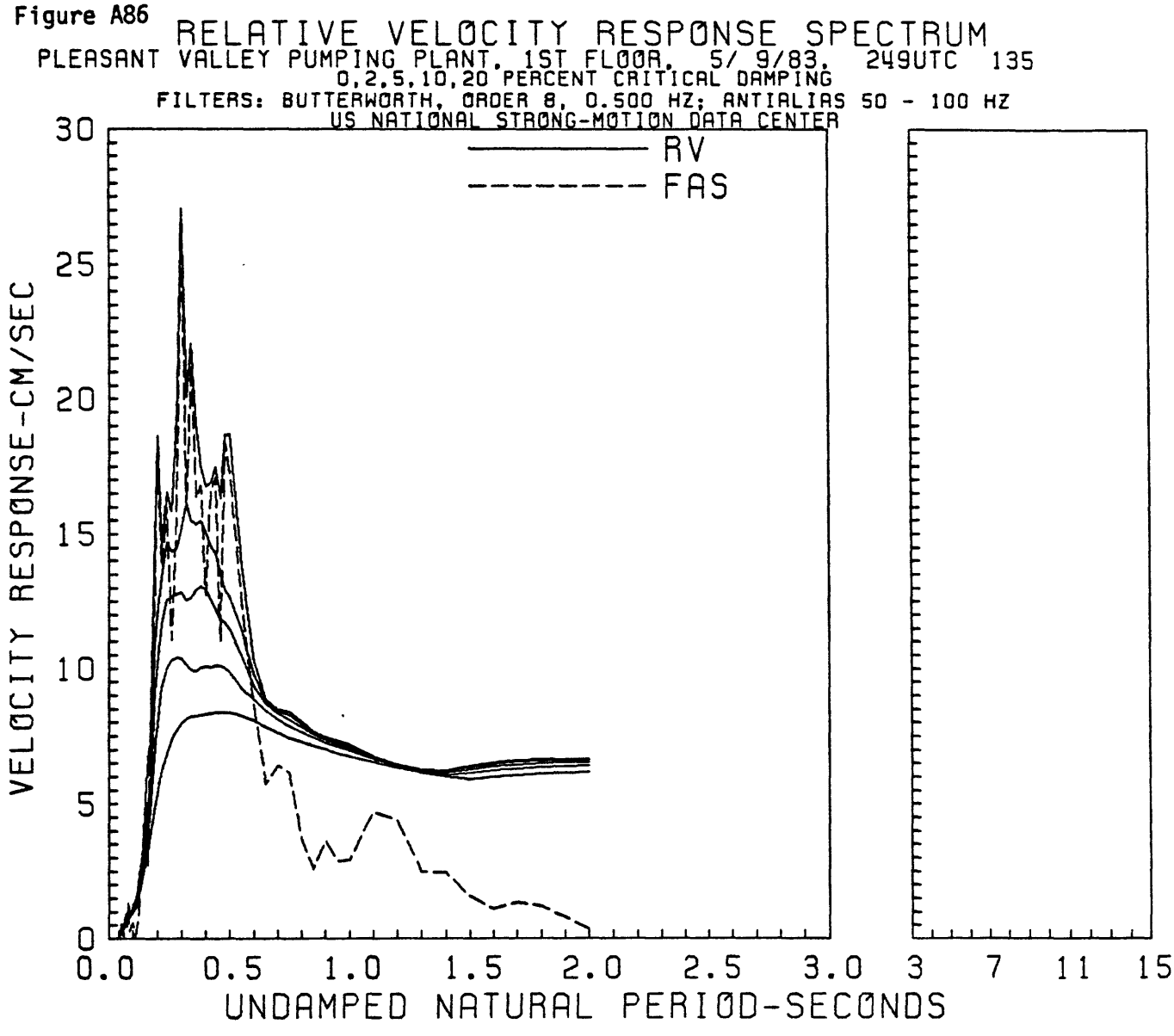

RELATIVE VELOCITY RESPONSE SPECTRUM
PLEASANT VALLEY PUMPING PLANT, 1ST FLOOR, 5/ 9/83, 249UTC 135
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
0
5
10
15
20
25
30
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15

Figure A87

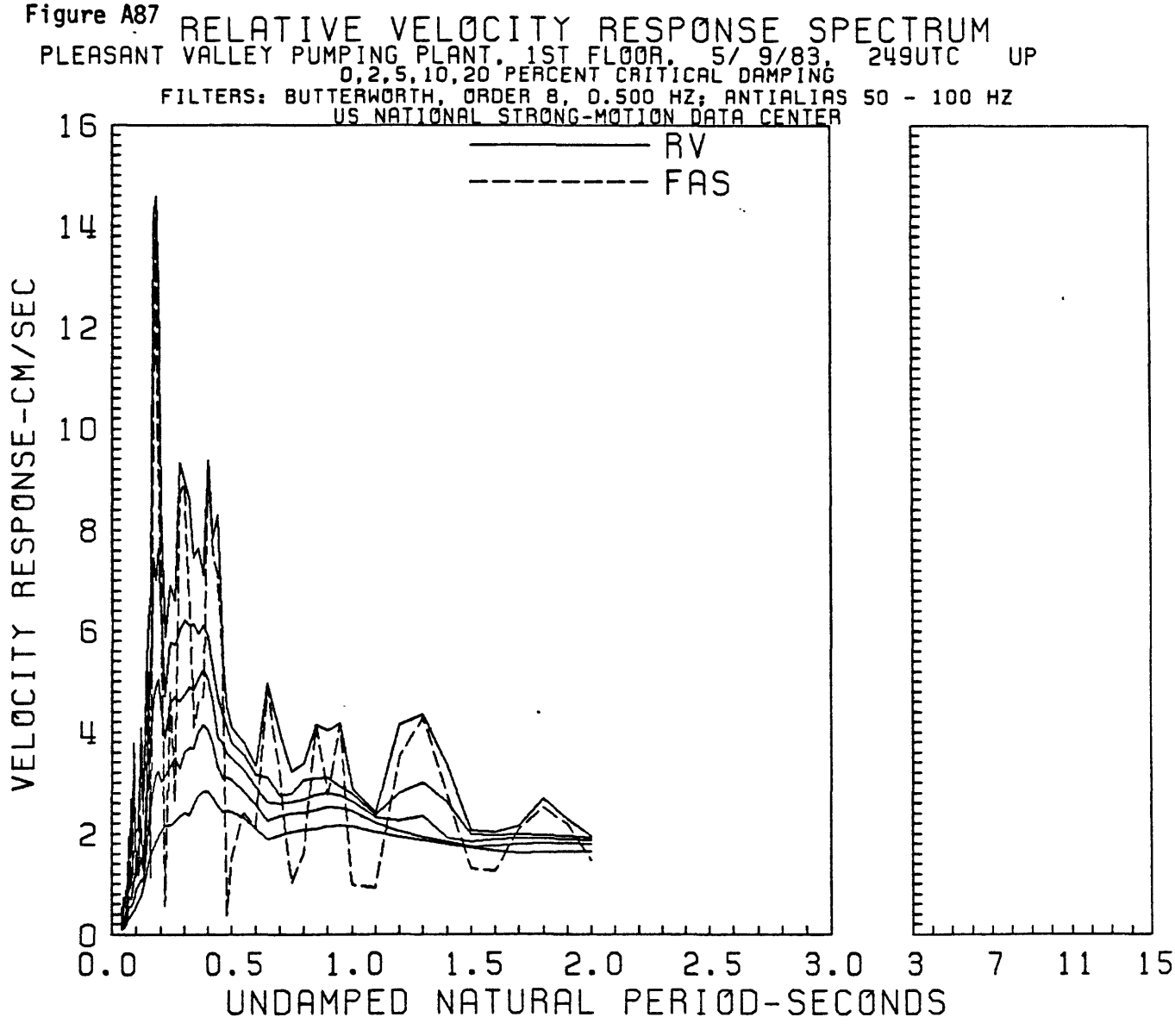

RELATIVE VELOCITY RESPONSE SPECTRUM
PLEASANT VALLEY PUMPING PLANT, 1ST FLOOR, 5/ 9/83, 249UTC UP
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
0
2
4
6
8
10
12
14
16
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15
UNDAMPED NATURAL PERIOD-SECONDS

Figure A88

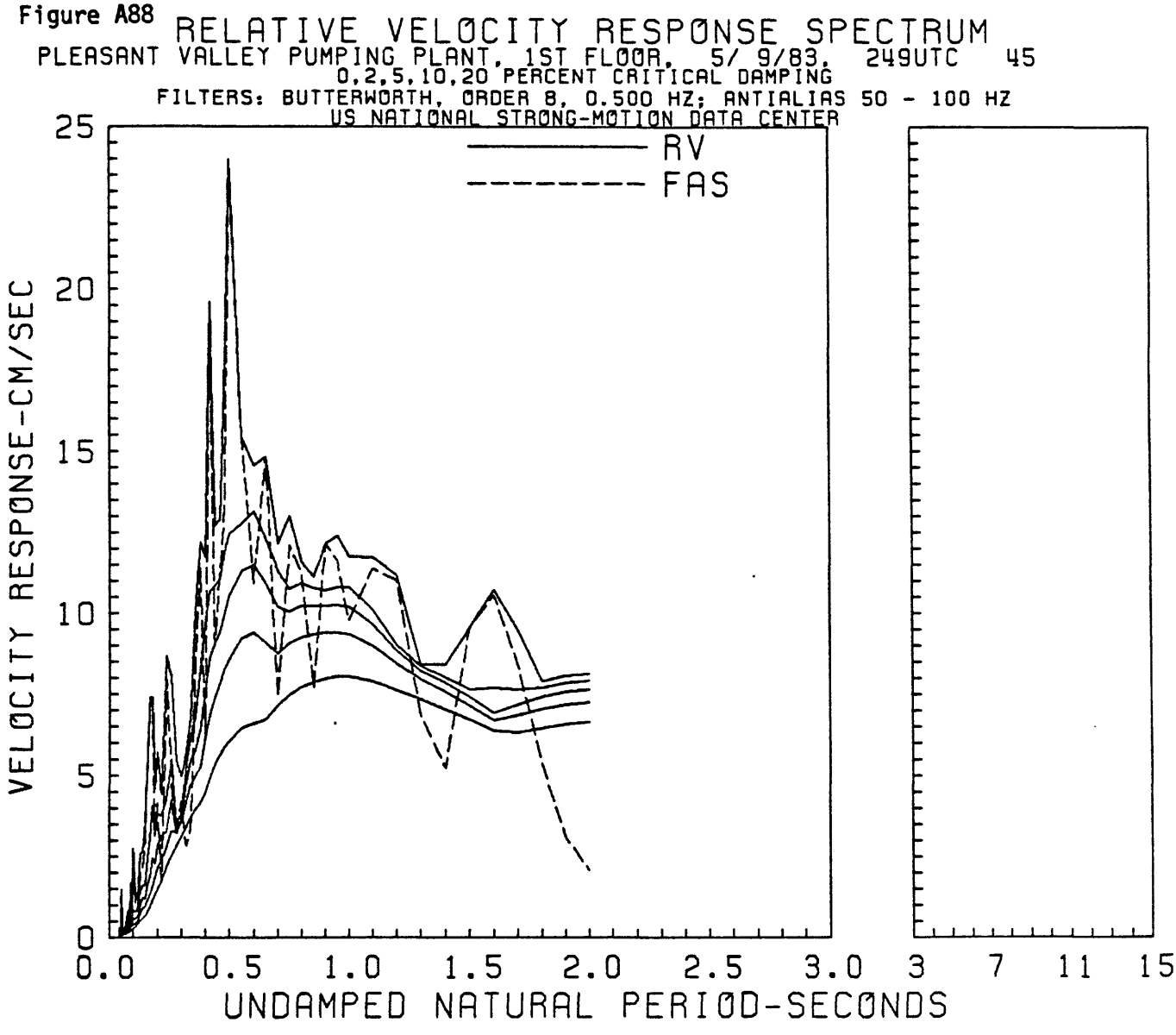

RELATIVE VELOCITY RESPONSE SPECTRUM
PLEASANT VALLEY PUMPING PLANT, 1ST FLOOR, 5/ 9/83, 249UTC 45
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
0
5
10
15
20
25
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15

Figure A89

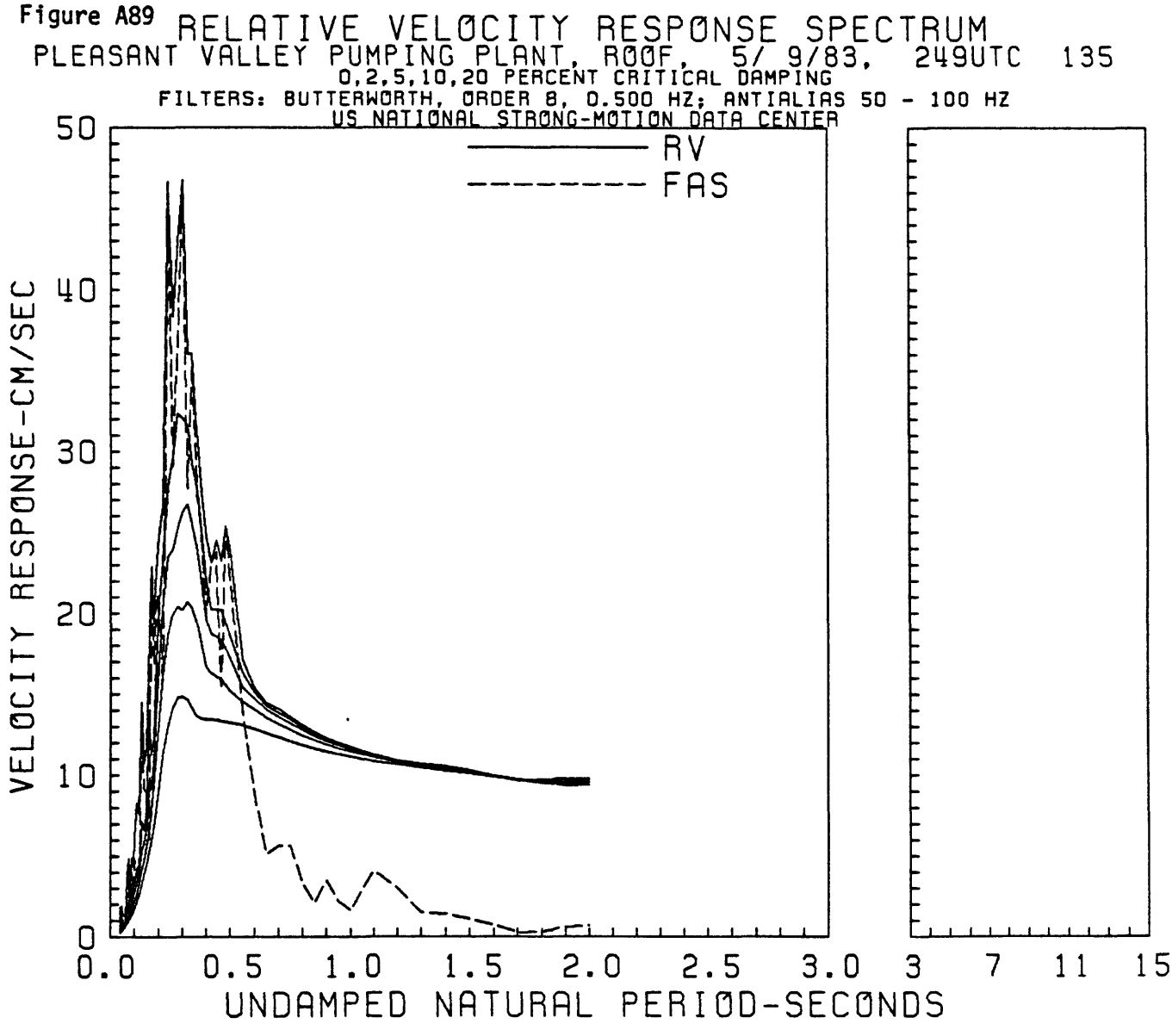

RELATIVE VELOCITY RESPONSE SPECTRUM
PLEASANT VALLEY PUMPING PLANT, R00F, 5/ 9/83, 249UTC 135
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
0
10
20
30
40
50
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15

Figure A90

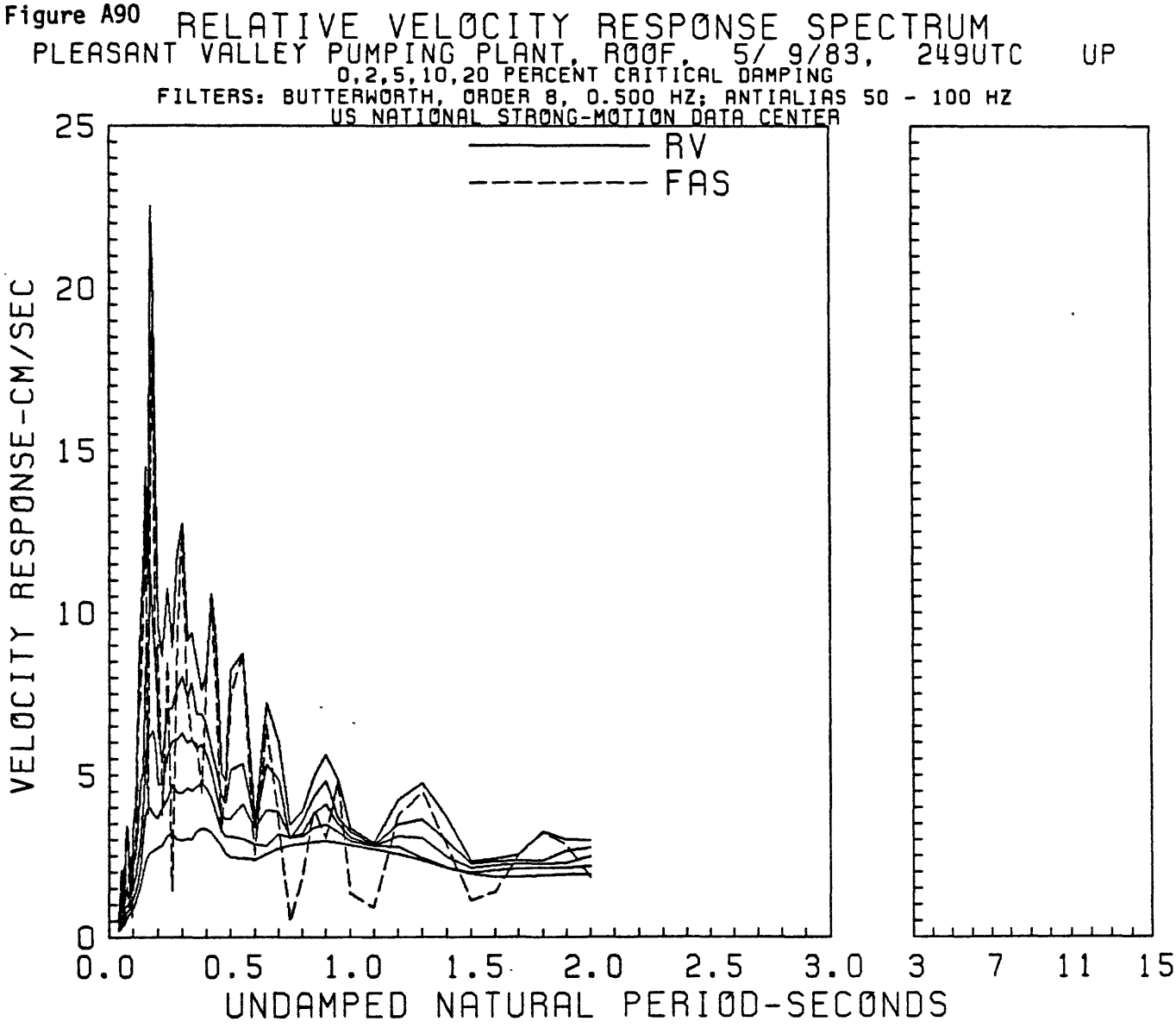

RELATIVE VELOCITY RESPONSE SPECTRUM
PLEASANT VALLEY PUMPING PLANT, ROOF, 5/ 9/83, 249UTC UP
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
0
5
10
15
20
25
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15

Figure A91

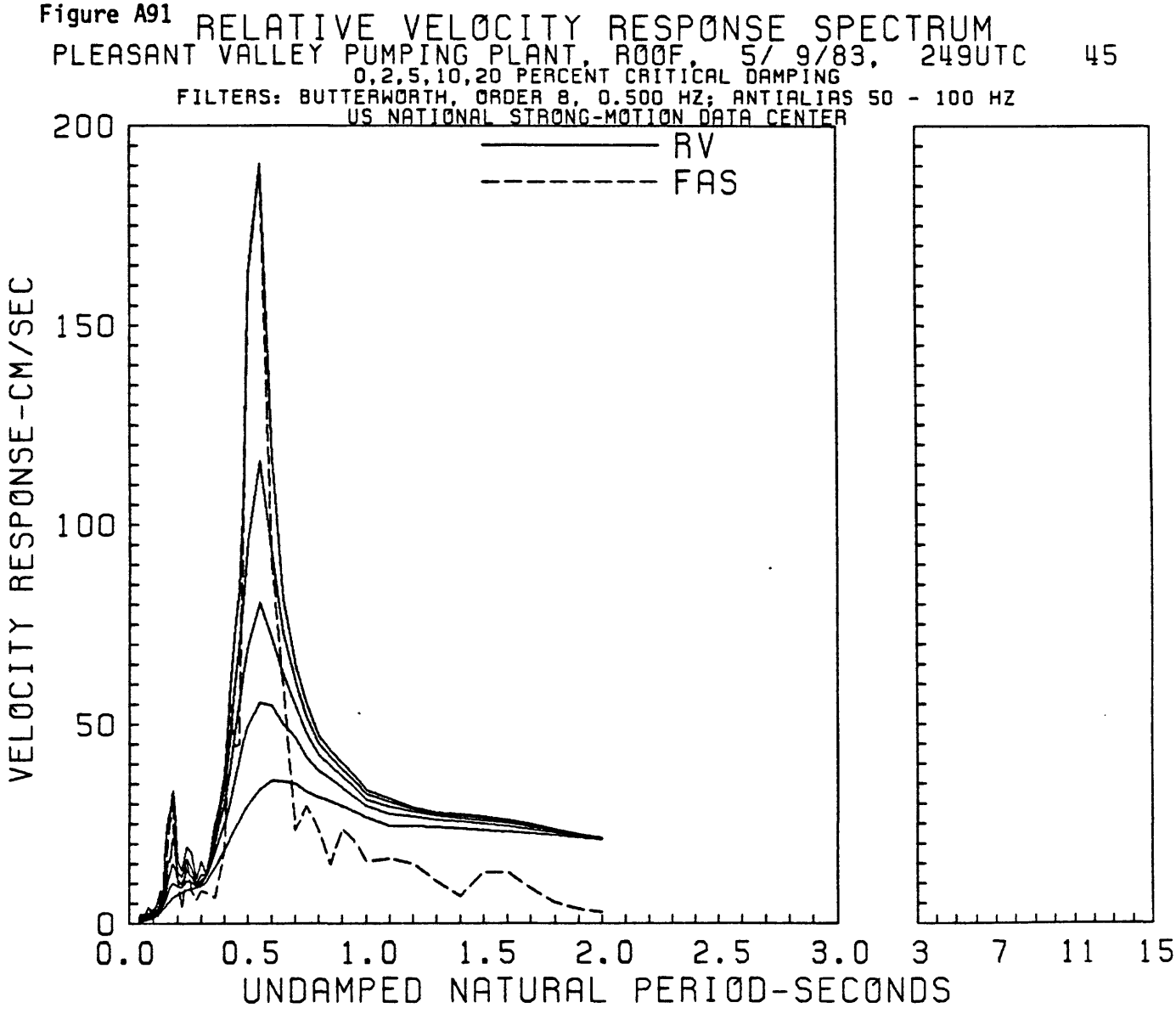

RELATIVE VELOCITY RESPONSE SPECTRUM
PLEASANT VALLEY PUMPING PLANT, ROOF, 5/ 9/83, 249UTC 45
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
200
150
100
50
0
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15
UNDAMPED NATURAL PERIOD-SECONDS

Figure A92

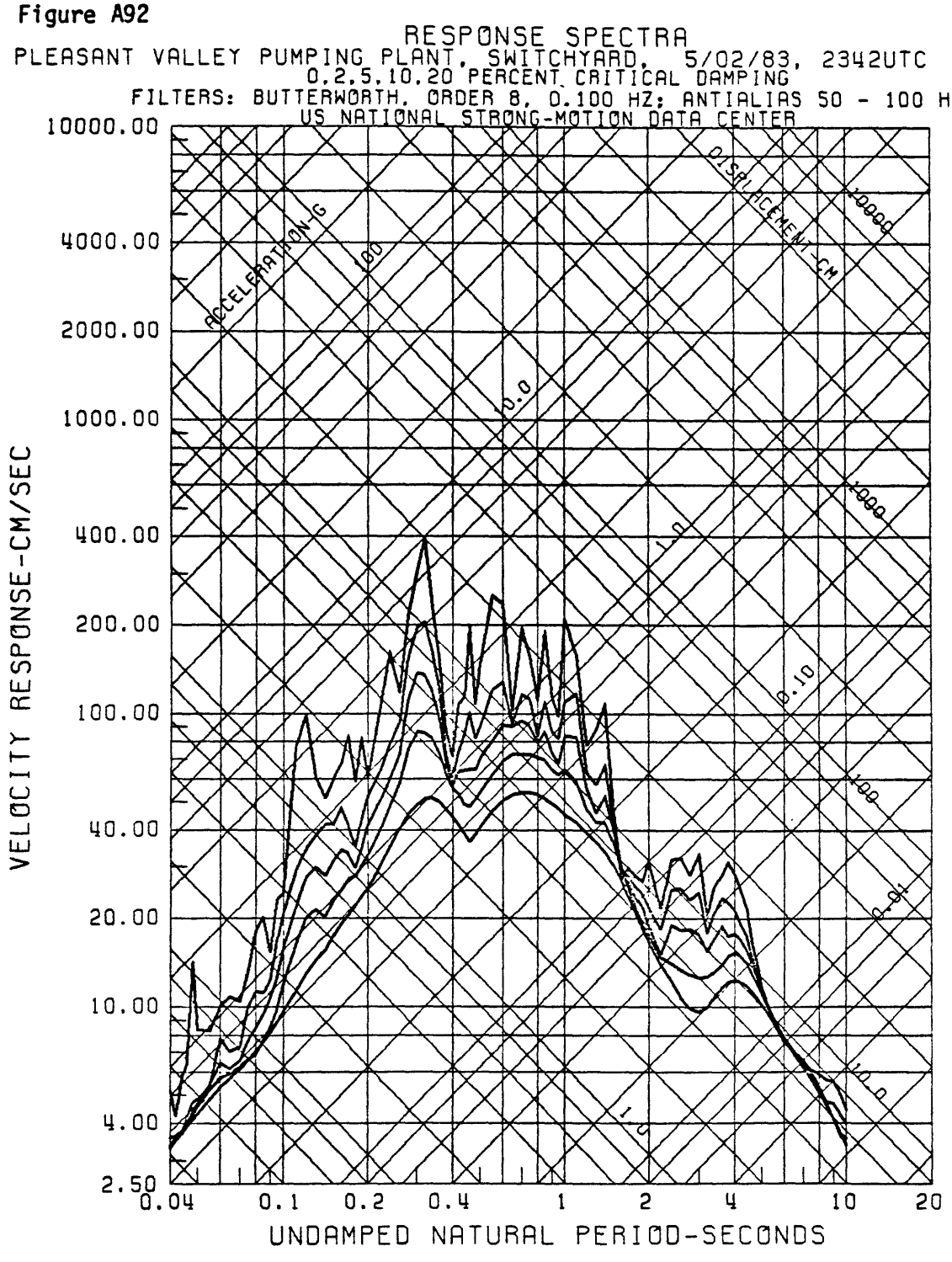

RESPONSE SPECTRA
PLEASANT VALLEY PUMPING PLANT, SWITCHYARD, 5/02/83, 2342UTC 135
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.100 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
ACCELERATION-G
DISPLACEMENT-CM
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
10000.00
4000.00
2000.00
1000.00
400.00
200.00
100.00
40.00
20.00
10.00
4.00
2.50
0.04
0.1
0.2
0.4
1
2
4
10
20

Figure A93

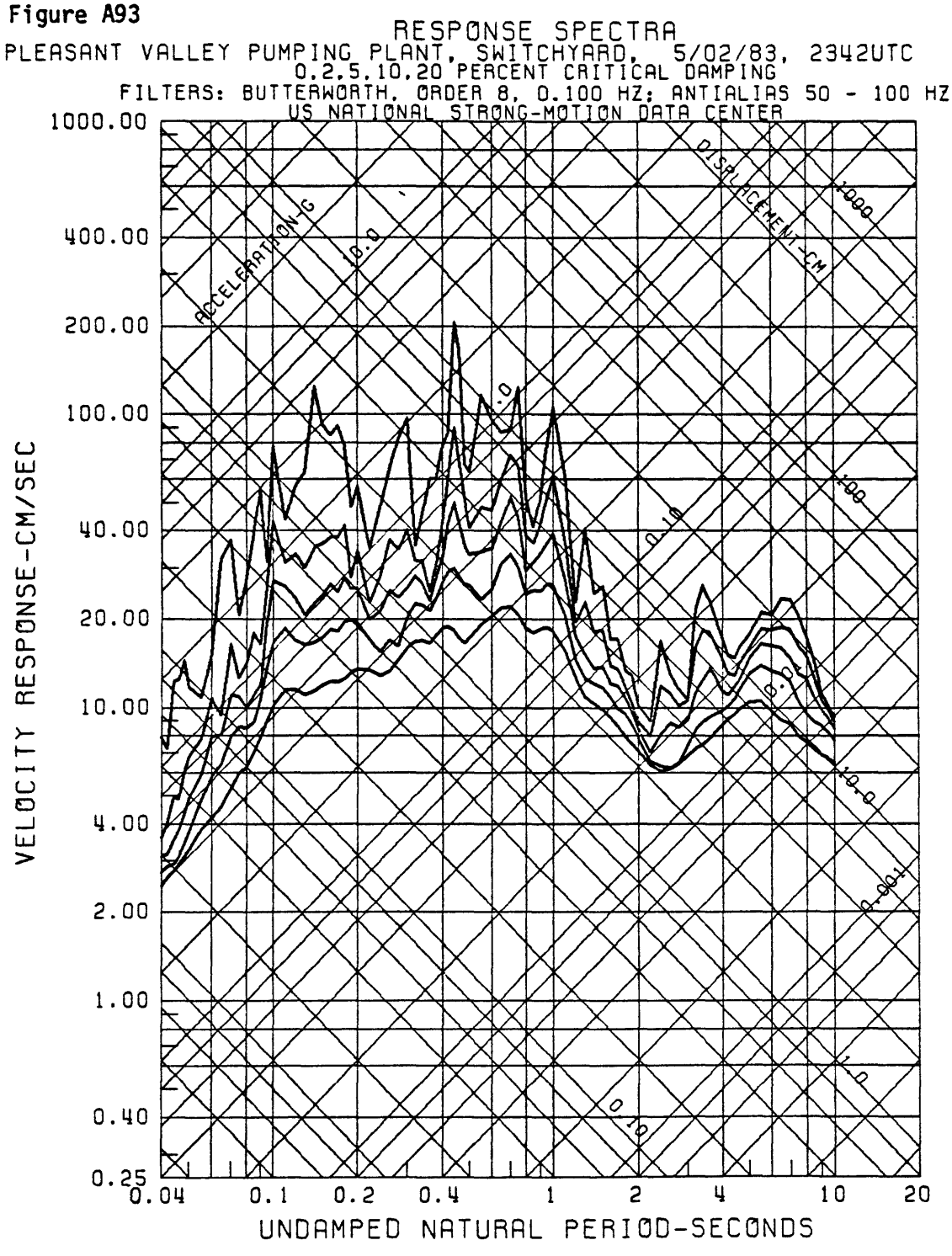

RESPONSE SPECTRA
PLEASANT VALLEY PUMPING PLANT, SWITCHYARD, 5/02/83, 2342UTC UP
0.2.5.10.20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.100 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
ACCELERATION-G
DISPLACEMENT-CM
1000.00
400.00
200.00
100.00
40.00
20.00
10.00
4.00
2.00
1.00
0.40
0.25
0.04
0.1
0.2
0.4
1
2
4
10
20

Figure A94

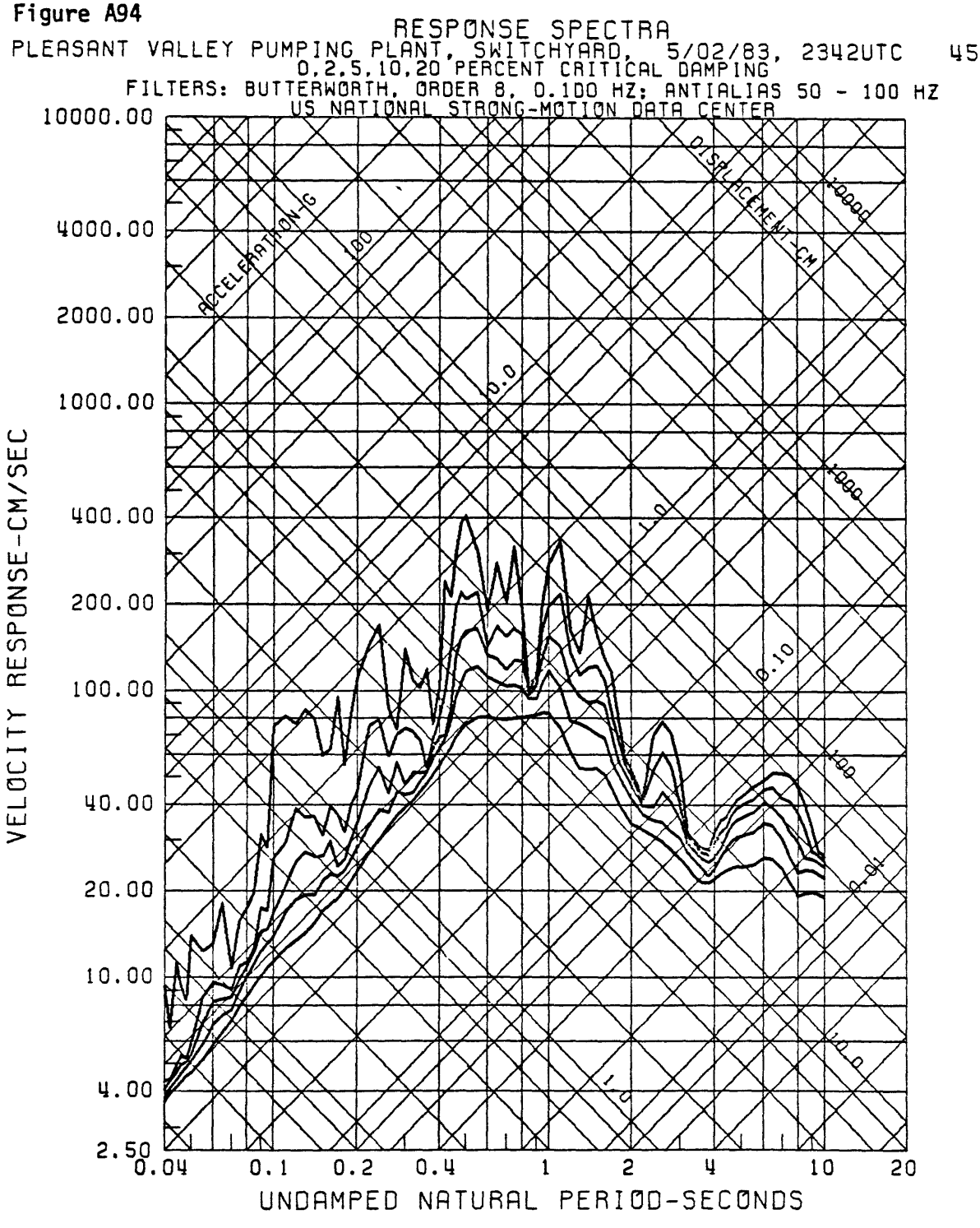

RESPONSE SPECTRA
PLEASANT VALLEY PUMPING PLANT, SWITCHYARD, 5/02/83, 2342UTC 45
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.100 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
ACCELERATION-G
DISPLACEMENT-CM
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
10000.00
4000.00
2000.00
1000.00
400.00
200.00
100.00
40.00
20.00
10.00
4.00
2.50
0.04
0.1
0.2
0.4
1
2
4
10
20

Figure A95

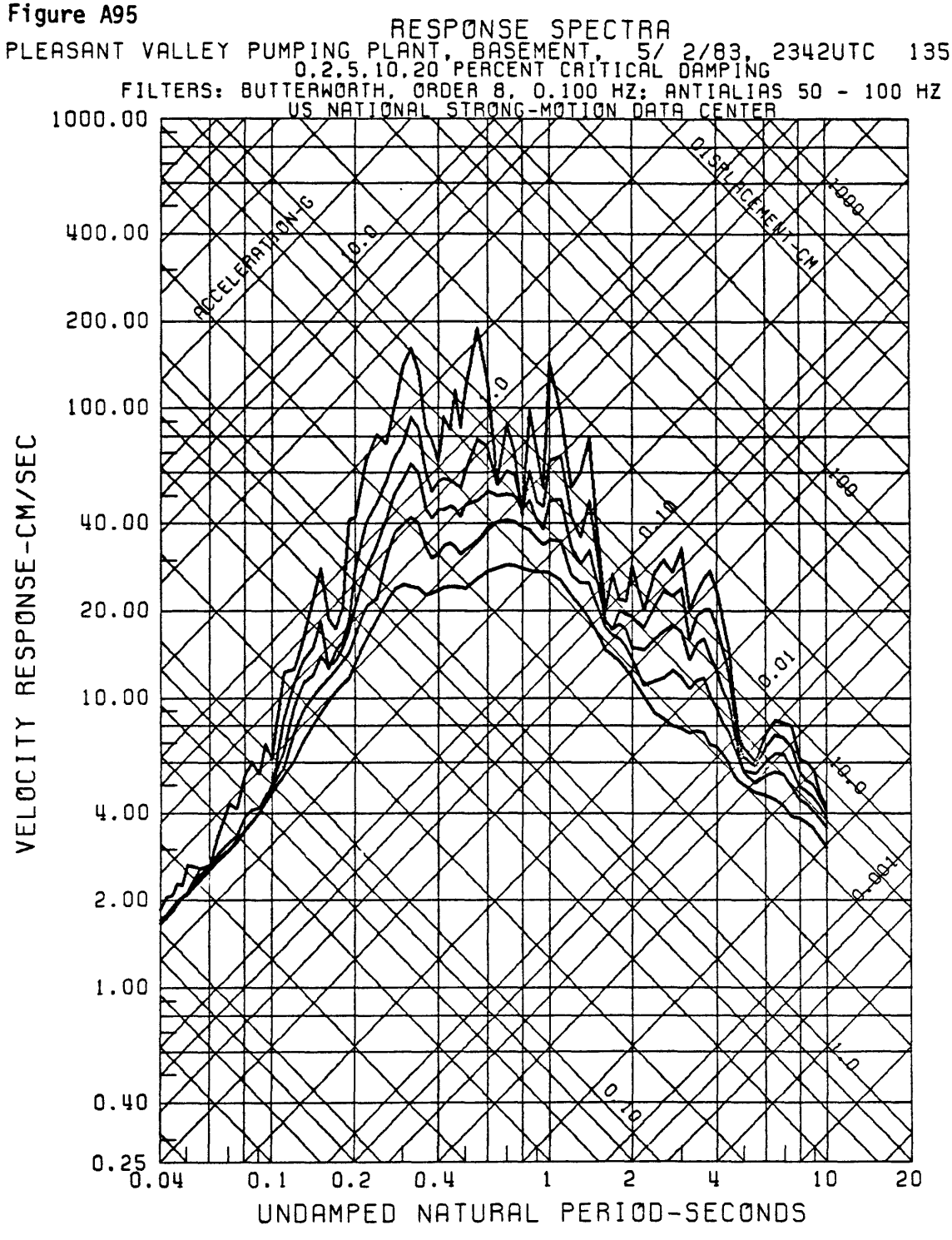

RESPONSE SPECTRA
PLEASANT VALLEY PUMPING PLANT, BASEMENT, 5/ 2/83, 2342UTC 135
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.100 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
1000.00
400.00
200.00
100.00
40.00
20.00
10.00
4.00
2.00
1.00
0.40
0.25
0.04
0.1
0.2
0.4
1
2
4
10
20
ACCELERATION-G
10.0
1.0
0.1
0.01
DISPLACEMENT-CM
1000
100
10.0
1.0
0.001
0.10

Figure A96

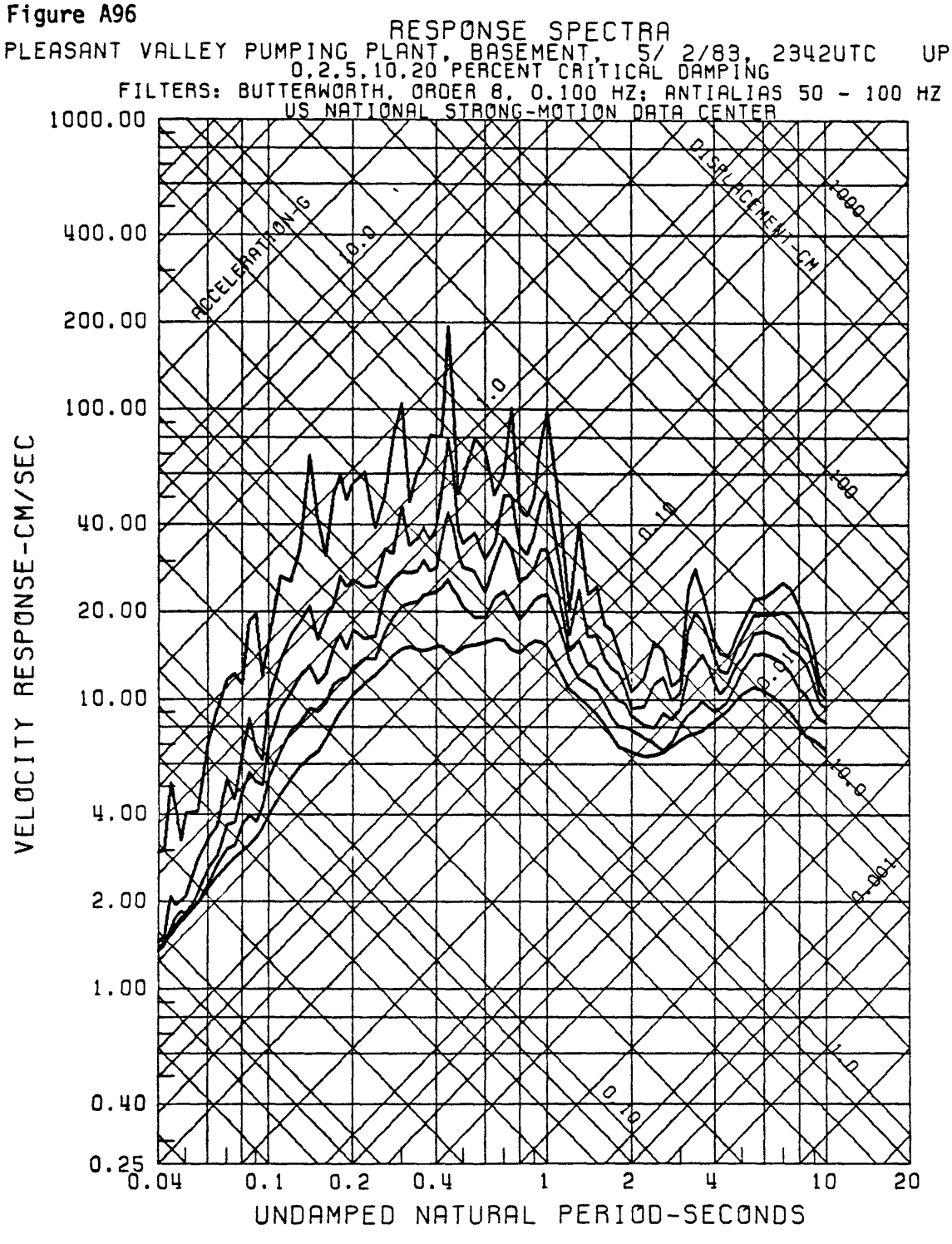

RESPONSE SPECTRA
PLEASANT VALLEY PUMPING PLANT, BASEMENT, 5/ 2/83, 2342UTC UP
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.100 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
ACCELERATION-G
DISPLACEMENT-CM
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
1000.00
400.00
200.00
100.00
40.00
20.00
10.00
4.00
2.00
1.00
0.40
0.25
0.04
0.1
0.2
0.4
1
2
4
10
20

Figure A97

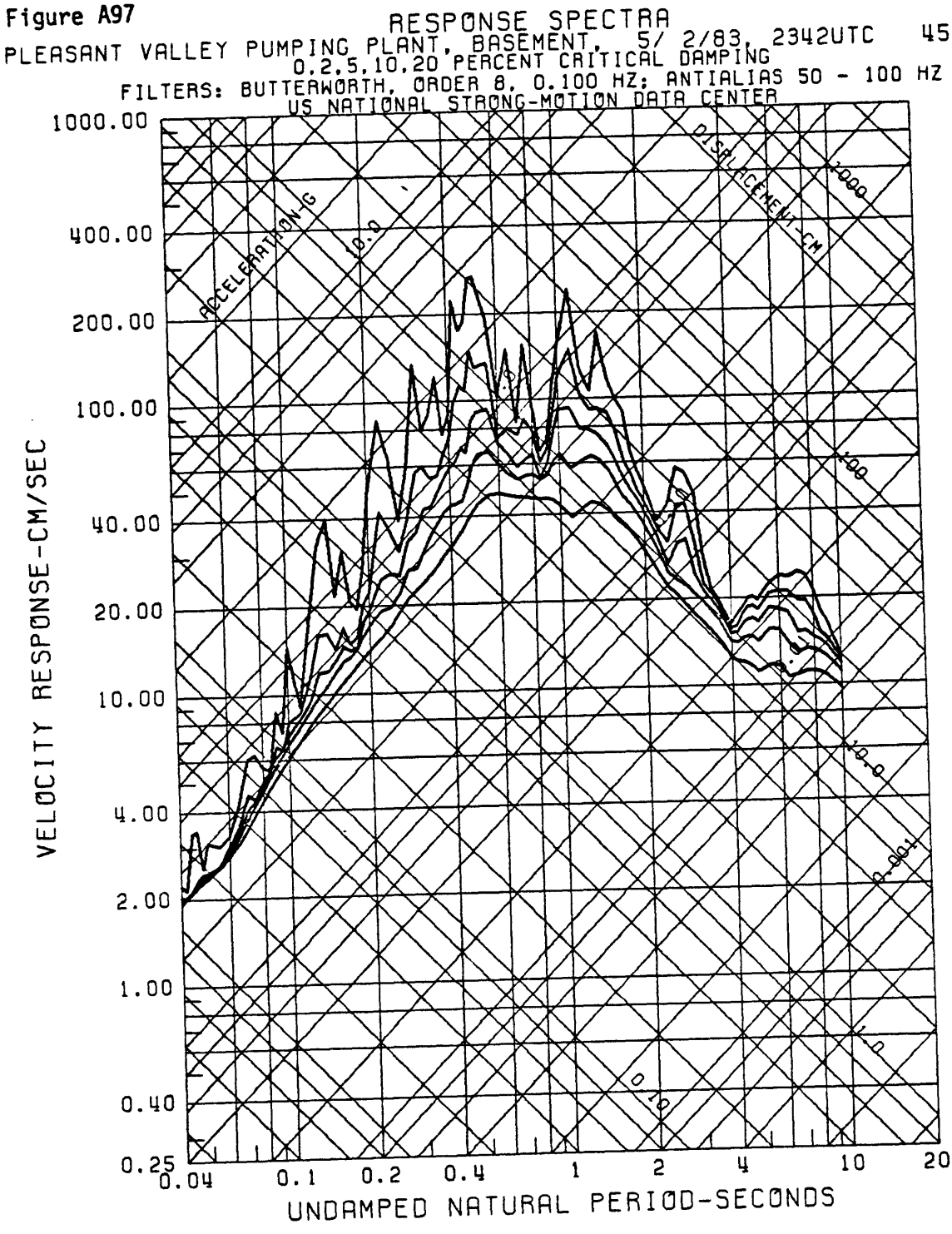

RESPONSE SPECTRA
PLEASANT VALLEY PUMPING PLANT, BASEMENT, 5/ 2/83, 2342UTC 45
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.100 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
ACCELERATION-G
DISPLACEMENT-CM
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
1000.00
400.00
200.00
100.00
40.00
20.00
10.00
4.00
2.00
1.00
0.40
0.25
0.04
0.1
0.2
0.4
1
2
4
10
20

Figure A98

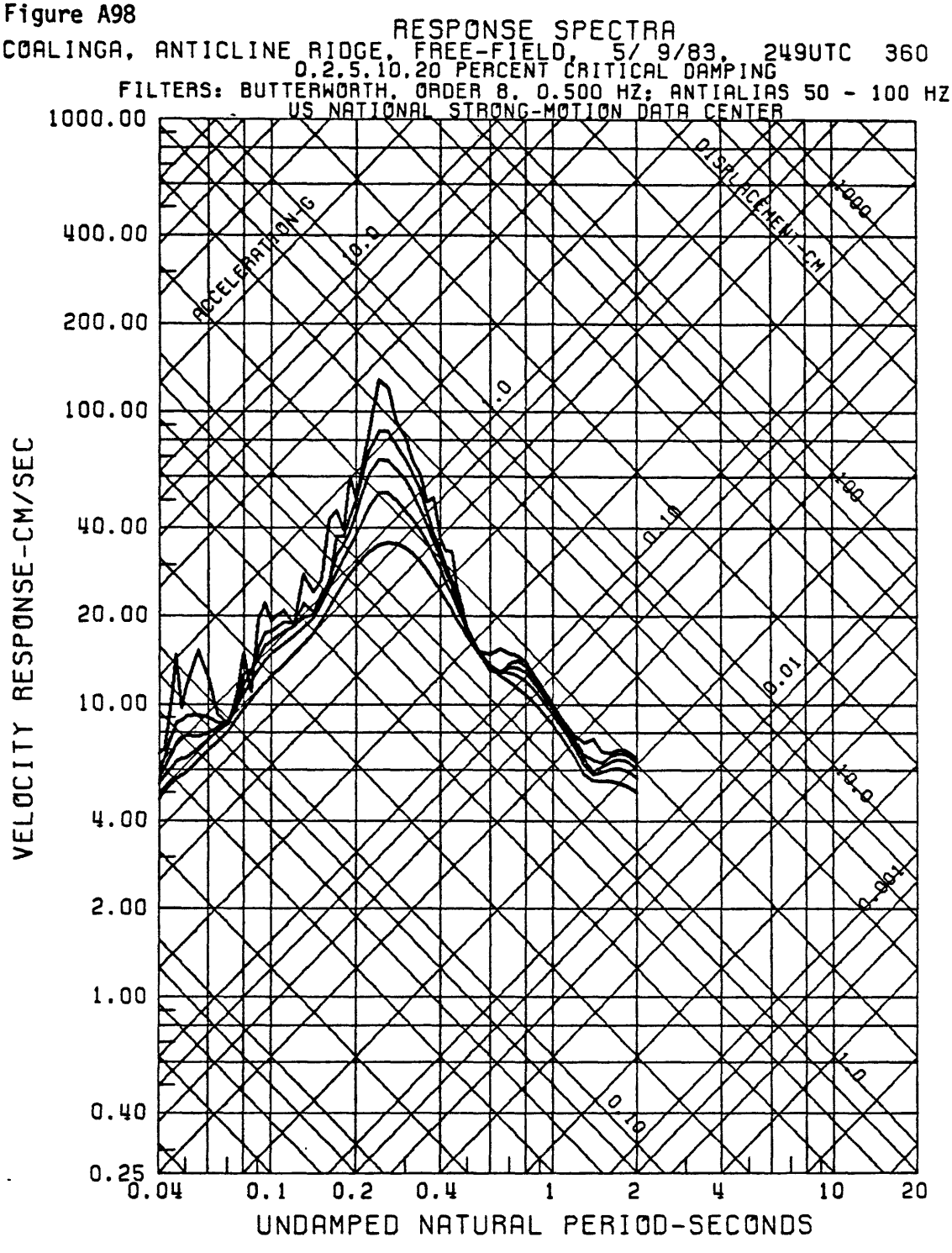

RESPONSE SPECTRA
COALINGA, ANTICLINE RIDGE, FREE-FIELD, 5/ 9/83, 249UTC 360
0.2.5.10.20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
VELOCITY RESPONSE-CM/SEC
1000.00
400.00
200.00
100.00
40.00
20.00
10.00
4.00
2.00
1.00
0.40
0.25
0.04
0.1
0.2
0.4
1
2
4
10
20
UNDAMPED NATURAL PERIOD-SECONDS
ACCELERATION-G
10.0
1.0
0.10
0.01
DISPLACEMENT-CM
1000
100
10.0
1.0
0.10

Figure A99

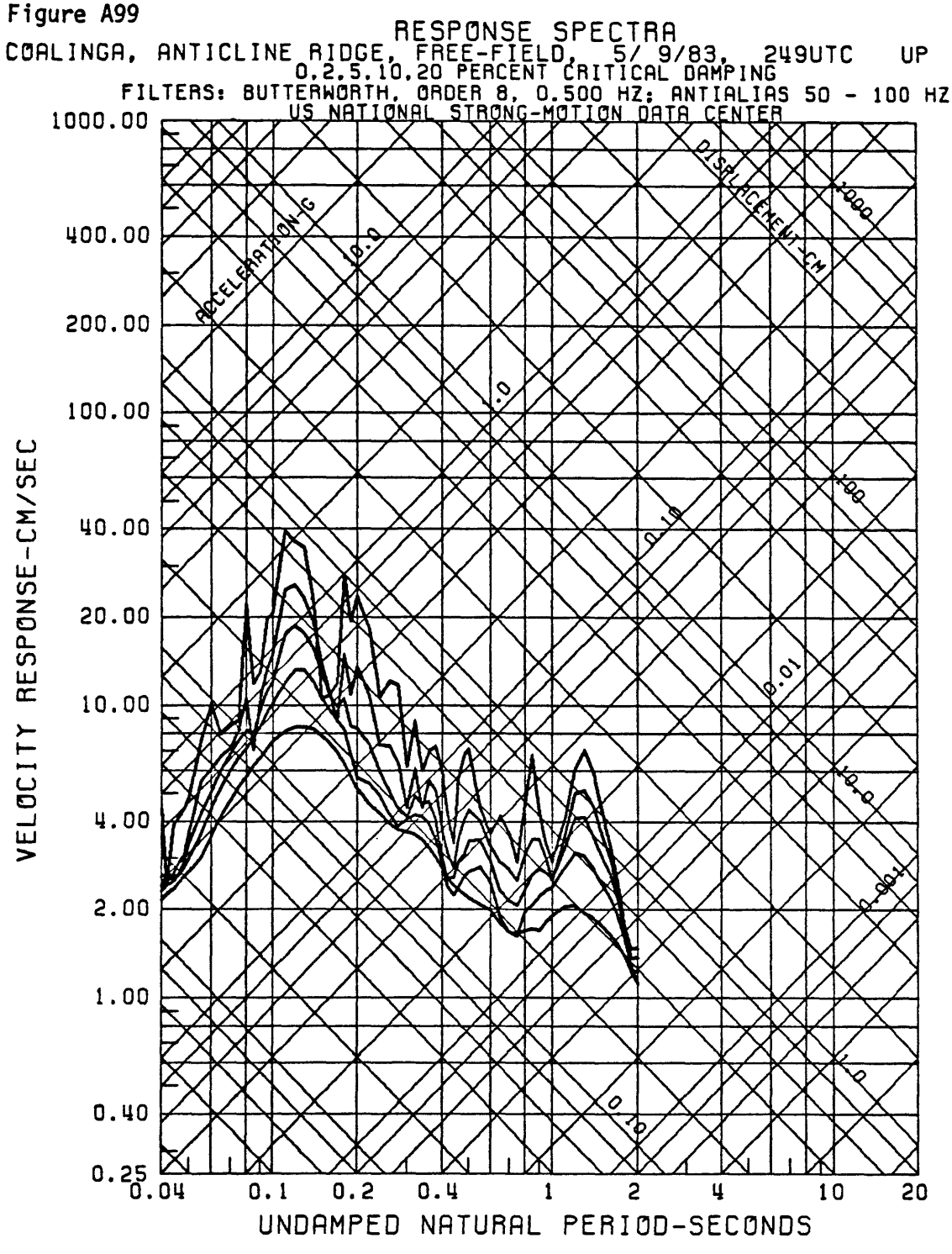

RESPONSE SPECTRA
COALINGA, ANTICLINE RIDGE, FREE-FIELD, 5/ 9/83, 249UTC UP
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
VELOCITY RESPONSE-CM/SEC
1000.00
400.00
200.00
100.00
40.00
20.00
10.00
4.00
2.00
1.00
0.40
0.25
ACCELERATION-G
10.0
1.0
0.10
0.01
DISPLACEMENT-CM
1000
100
10.0
1.0
0.01
0.04
0.1
0.2
0.4
1
2
4
10
20
UNDAMPED NATURAL PERIOD-SECONDS

Figure A100

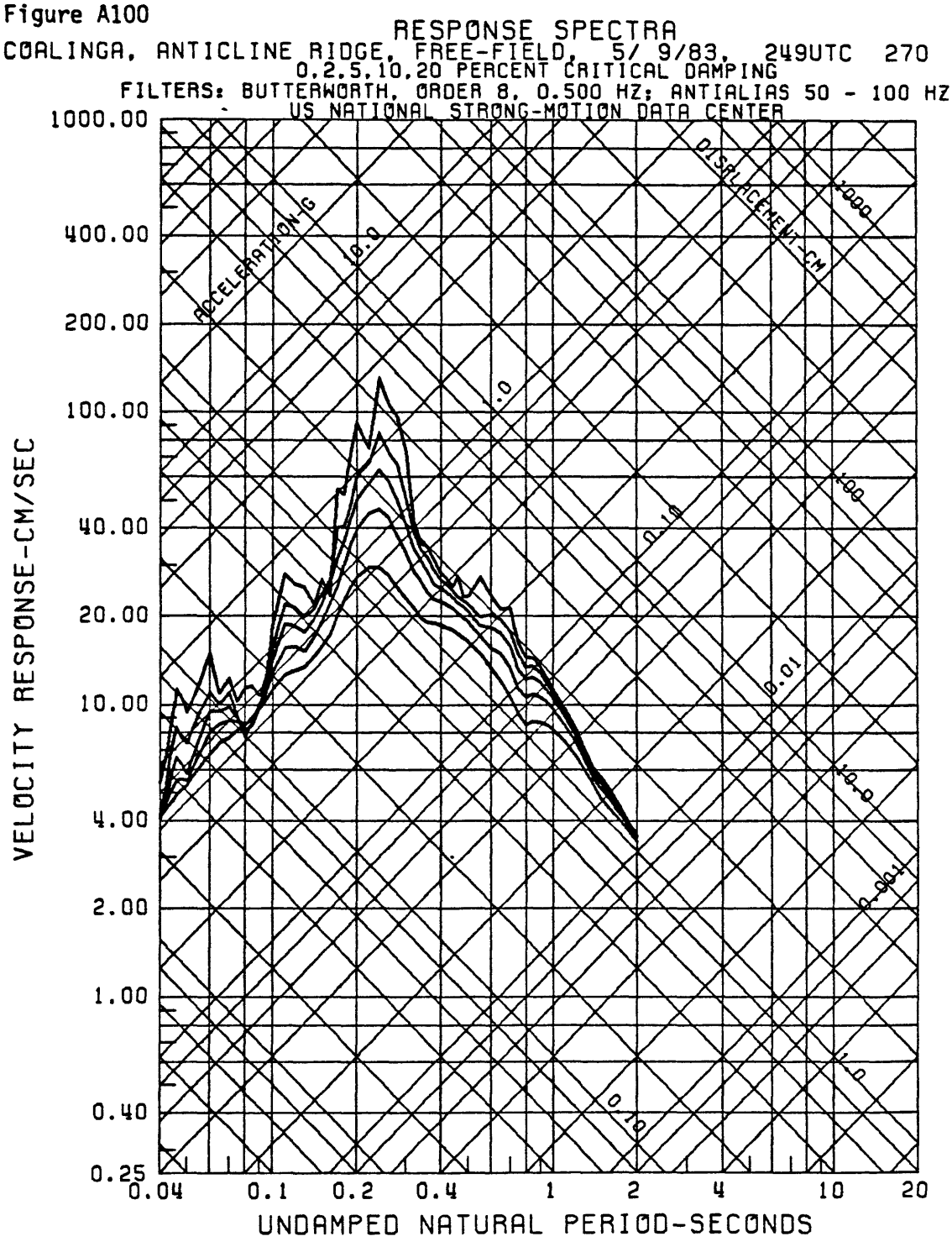

RESPONSE SPECTRA
COALINGA, ANTICLINE RIDGE, FREE-FIELD, 5/ 9/83, 249UTC 270
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
1000.00
400.00
200.00
100.00
40.00
20.00
10.00
4.00
2.00
1.00
0.40
0.25
0.04
0.1
0.2
0.4
1
2
4
10
20
ACCELERATION-G
10.0
1.0
0.10
0.01
DISPLACEMENT-CM
1000
100
10.0
1.0
0.001

Figure A101

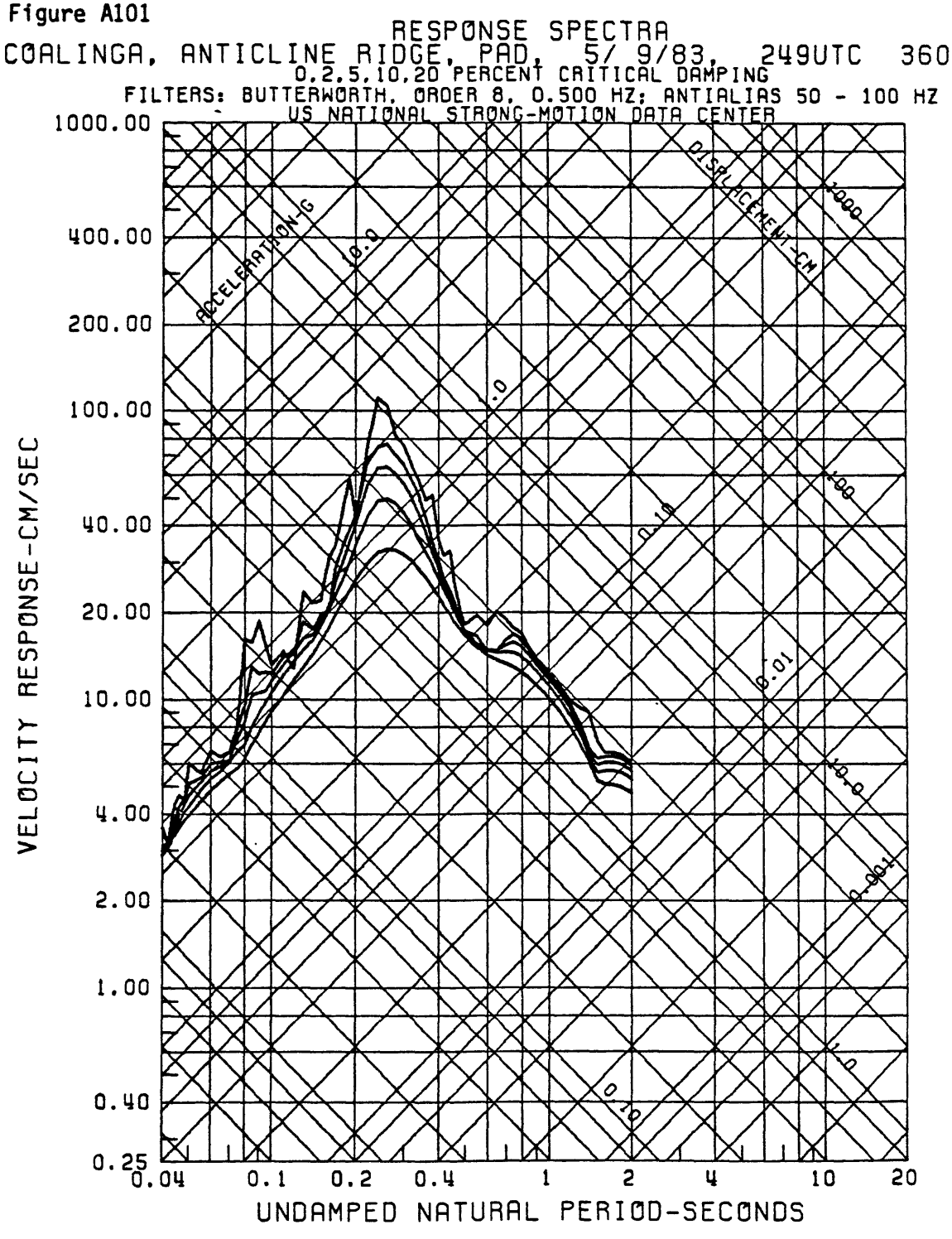

RESPONSE SPECTRA
COALINGA, ANTICLINE RIDGE, PAD, 5/ 9/83, 249UTC 360
0.2.5.10.20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
ACCELERATION-G
DISPLACEMENT-CM
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
1000.00
400.00
200.00
100.00
40.00
20.00
10.00
4.00
2.00
1.00
0.40
0.25
0.04
0.1
0.2
0.4
1
2
4
10
20

Figure A102

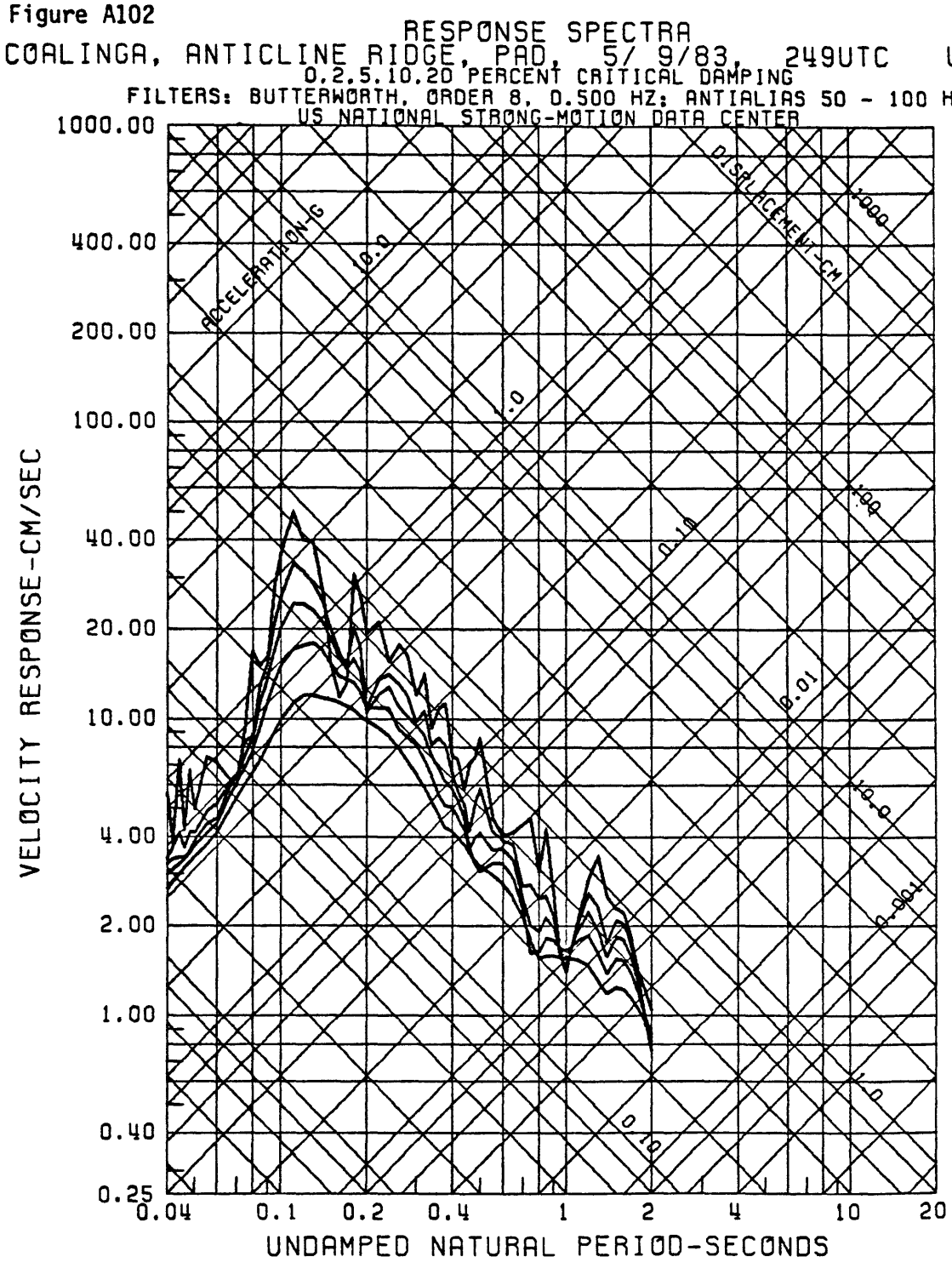

RESPONSE SPECTRA
COALINGA, ANTICLINE RIDGE, PAD, 5/ 9/83, 249UTC UP
0.2.5.10.20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
ACCELERATION-G
DISPLACEMENT-CM
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
1000.00
400.00
200.00
100.00
40.00
20.00
10.00
4.00
2.00
1.00
0.40
0.25
0.04
0.1
0.2
0.4
1
2
4
10
20

Figure A103

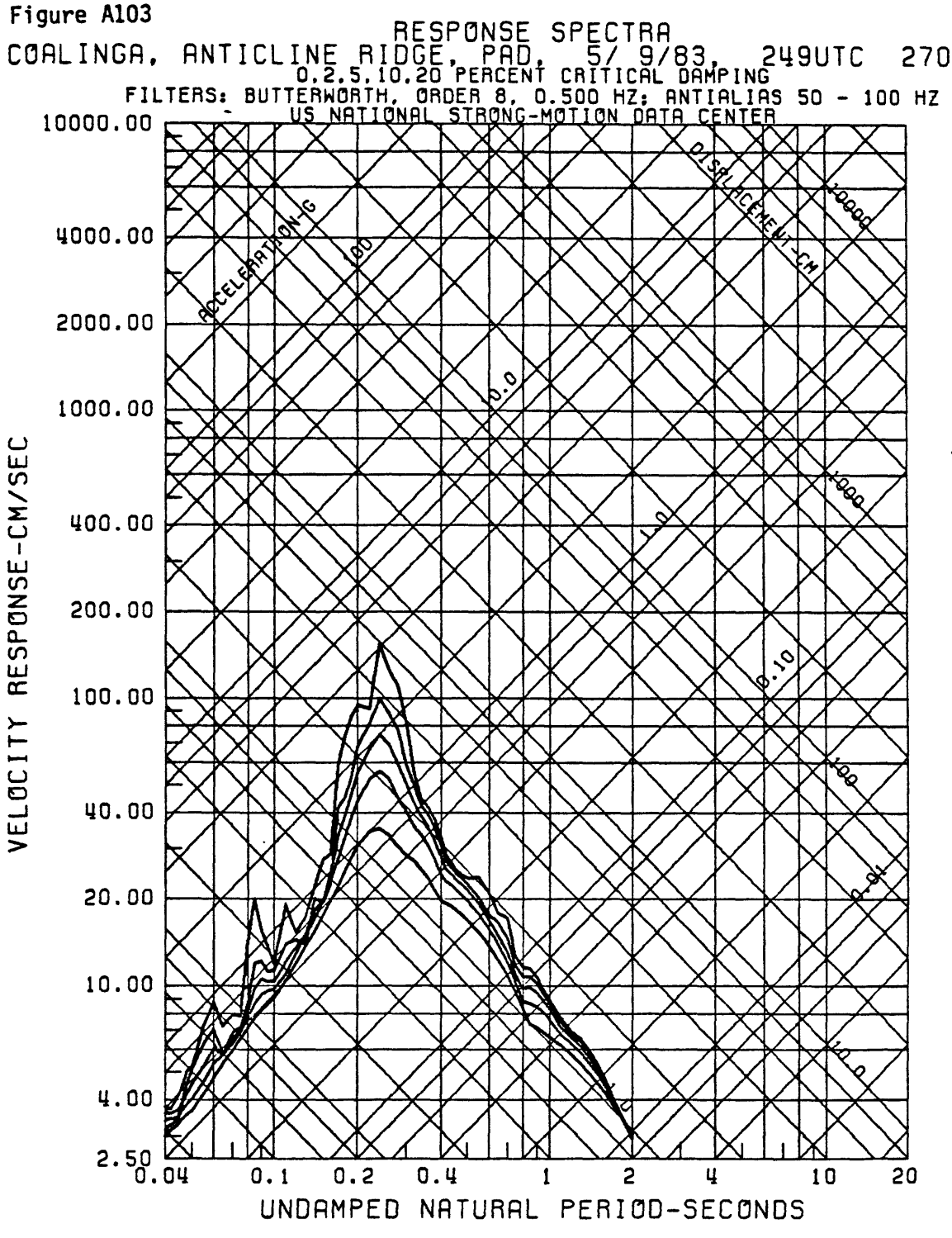

RESPONSE SPECTRA
COALINGA, ANTICLINE RIDGE, PAD, 5/ 9/83, 249UTC 270
0.2.5.10.20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
VELOCITY RESPONSE-CM/SEC
10000.00
4000.00
2000.00
1000.00
400.00
200.00
100.00
40.00
20.00
10.00
4.00
2.50
0.04
0.1
0.2
0.4
1
2
4
10
20
UNDAMPED NATURAL PERIOD-SECONDS
ACCELERATION-G
DISPLACEMENT-CM
0.0
0.10
10000
1000
100
10.0

Figure A104

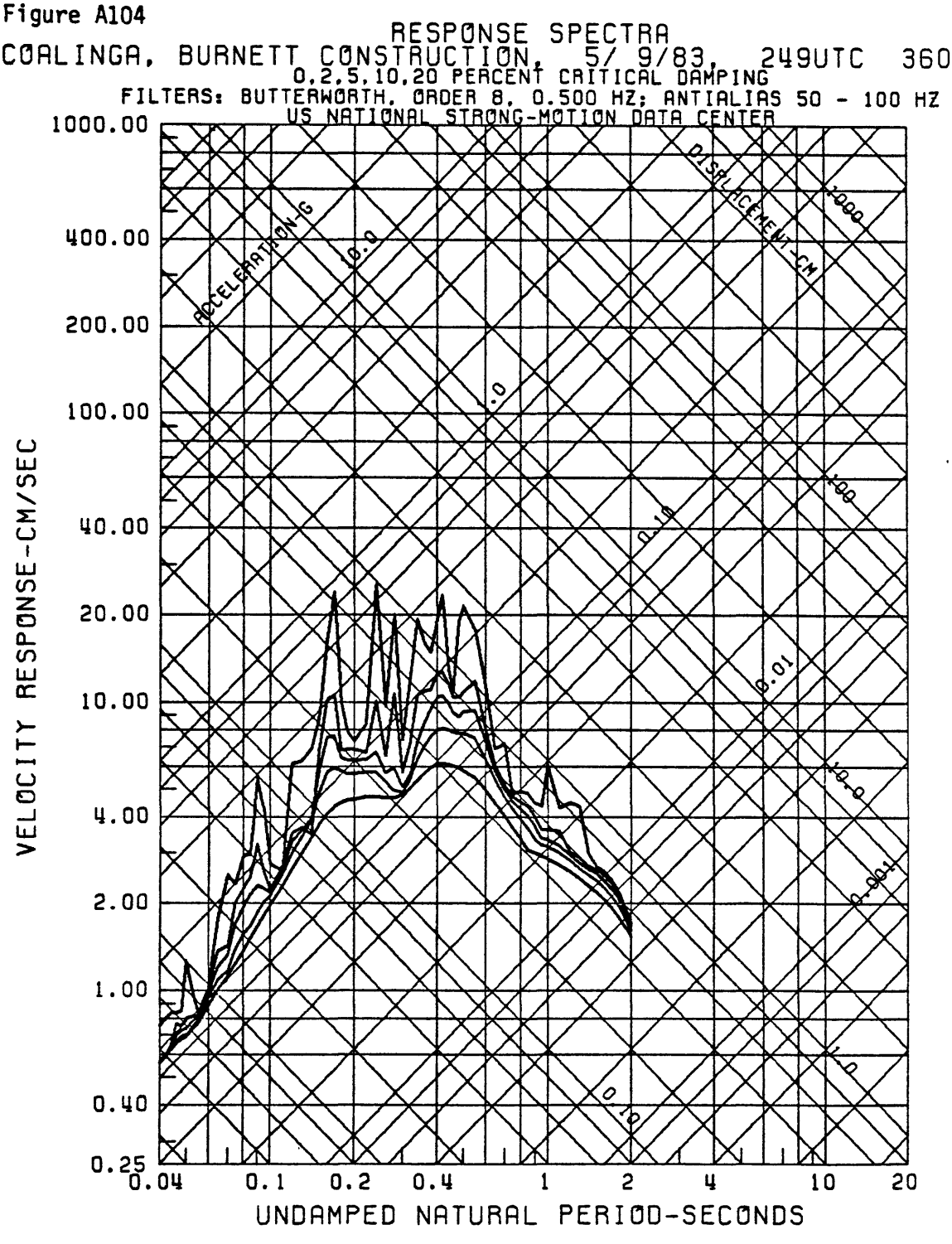

RESPONSE SPECTRA
COALINGA, BURNETT CONSTRUCTION, 5/ 9/83, 249UTC 360
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
ACCELERATION-G
DISPLACEMENT-CM
1000.00
400.00
200.00
100.00
40.00
20.00
10.00
4.00
2.00
1.00
0.40
0.25
0.04
0.1
0.2
0.4
1
2
4
10
20

Figure A105

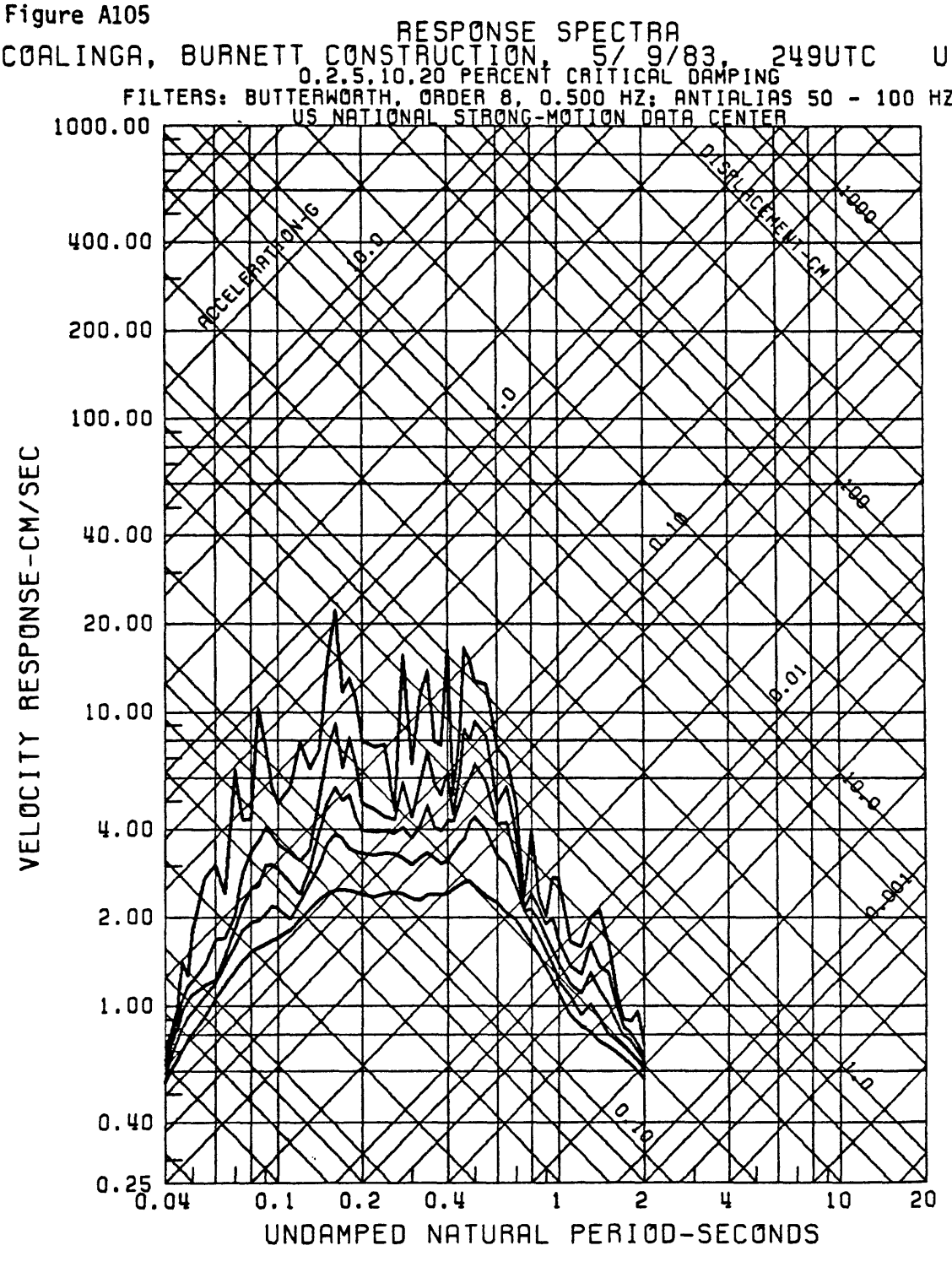

RESPONSE SPECTRA
COALINGA, BURNETT CONSTRUCTION, 5/ 9/83, 249UTC UP
0.2.5.10.20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
ACCELERATION-G
DISPLACEMENT-CM
1000.00
400.00
200.00
100.00
40.00
20.00
10.00
4.00
2.00
1.00
0.40
0.25
0.04
0.1
0.2
0.4
1
2
4
10
20

Figure A106

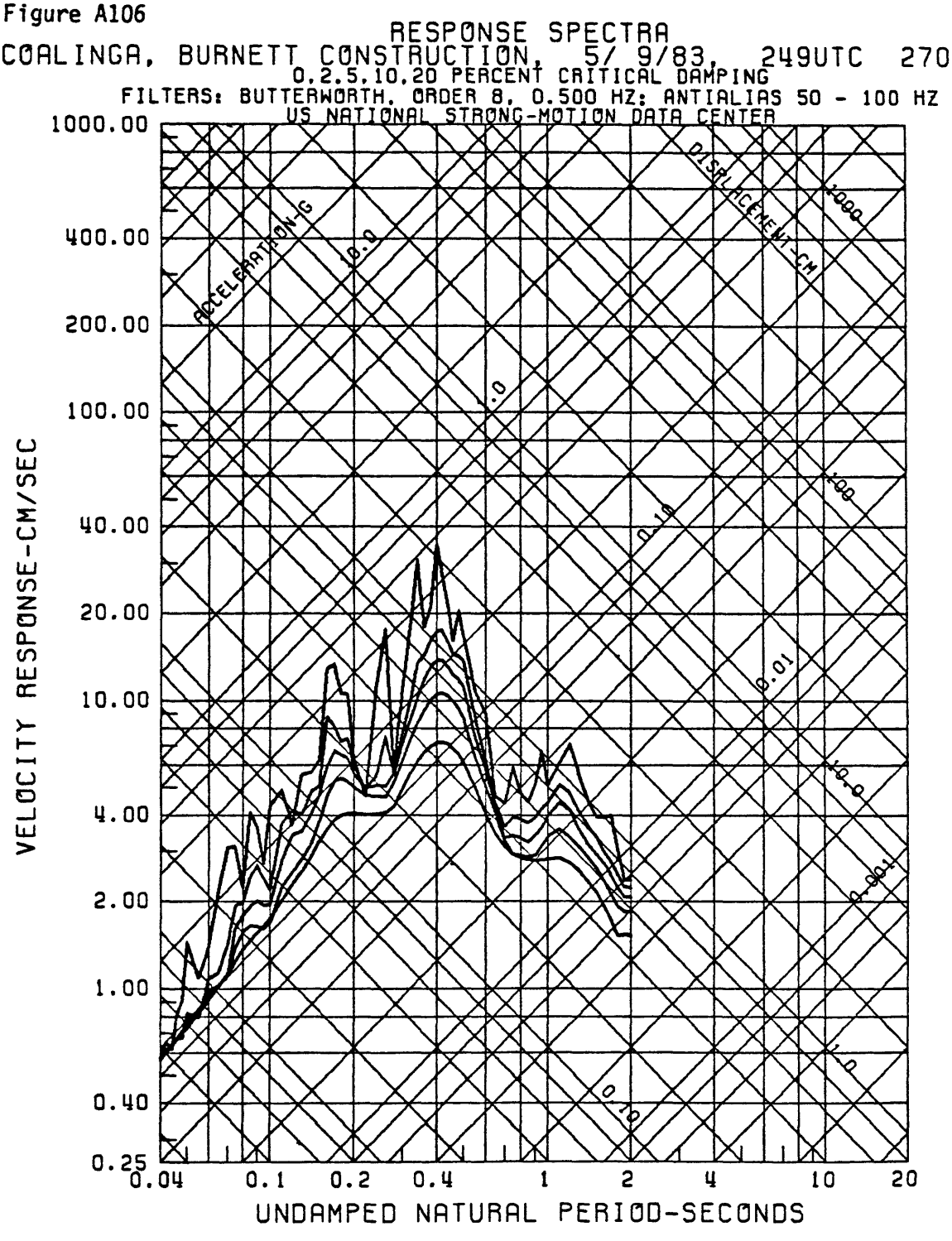

RESPONSE SPECTRA
COALINGA, BURNETT CONSTRUCTION, 5/ 9/83, 249UTC 270
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
ACCELERATION-G
DISPLACEMENT-CM
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
1000.00
400.00
200.00
100.00
40.00
20.00
10.00
4.00
2.00
1.00
0.40
0.25
0.04
0.1
0.2
0.4
1
2
4
10
20
10.0
1.0
0.10
0.01
1000
100
10.0
1.0
0.001

Figure A107

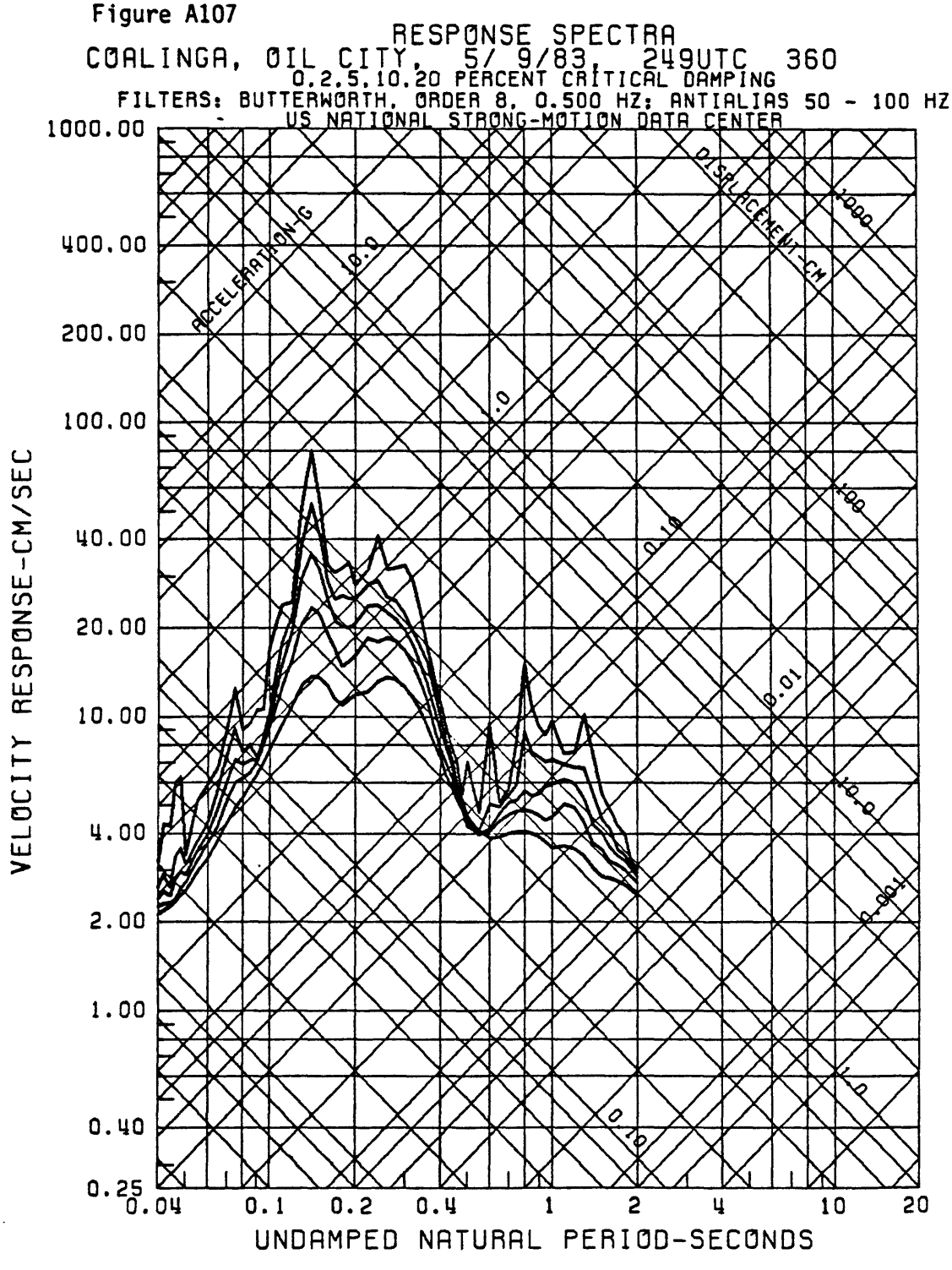

RESPONSE SPECTRA
COALINGA, OIL CITY, 5/ 9/83, 249UTC 360
0.2.5.10.20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
ACCELERATION-G
DISPLACEMENT-CM
1000.00
400.00
200.00
100.00
40.00
20.00
10.00
4.00
2.00
1.00
0.40
0.25
0.04
0.1
0.2
0.4
1
2
4
10
20

Figure A108

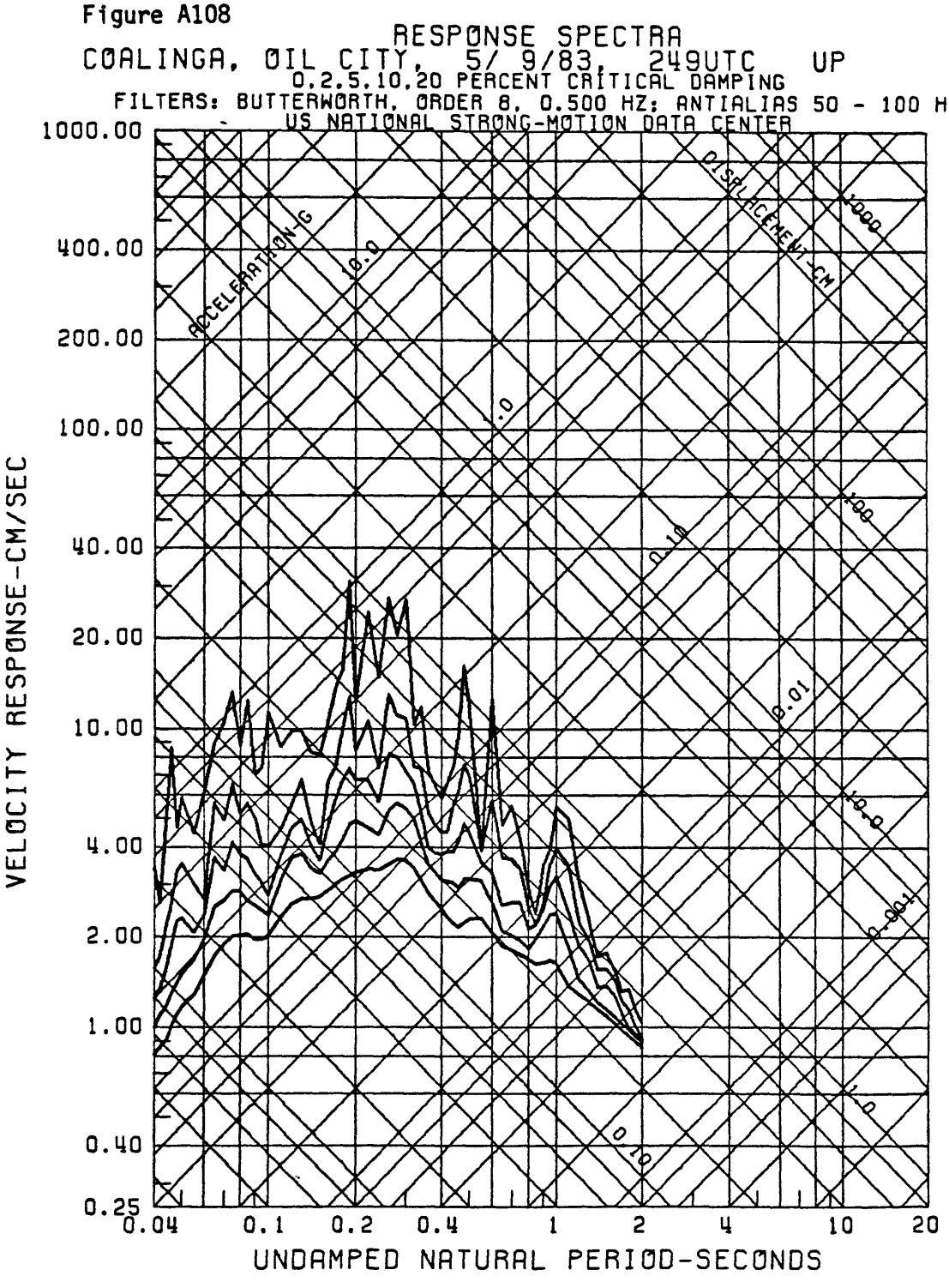

RESPONSE SPECTRA
COALINGA, OIL CITY, 5/ 9/83, 249UTC UP
0.2.5.10.20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
ACCELERATION-G
DISPLACEMENT-CM
1000.00
400.00
200.00
100.00
40.00
20.00
10.00
4.00
2.00
1.00
0.40
0.25
0.04
0.1
0.2
0.4
1
2
4
10
20
10.0
1.0
0.10
0.01
1000
100
10.0
1.0
0.10
0.01

Figure A109

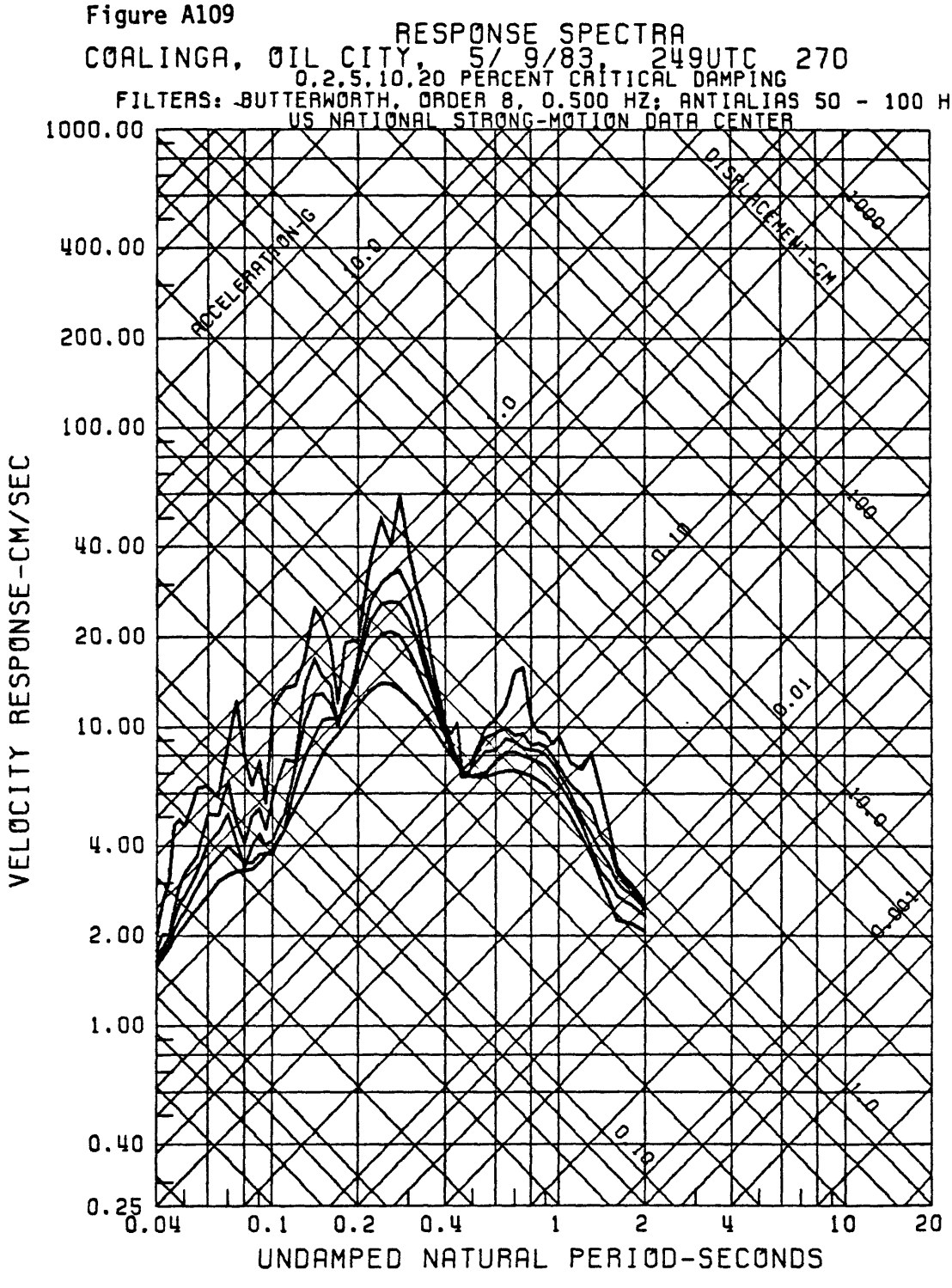

RESPONSE SPECTRA
COALINGA, OIL CITY, 5/ 9/83, 249UTC 270
0.2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
VELOCITY RESPONSE-CM/SEC
1000.00
400.00
200.00
100.00
40.00
20.00
10.00
4.00
2.00
1.00
0.40
0.25
0.04
0.1
0.2
0.4
1
2
4
10
20
UNDAMPED NATURAL PERIOD-SECONDS
ACCELERATION-G
10.0
1.0
0.10
0.01
DISPLACEMENT-CM
1000
100
10.0
1.0
0.001

Figure A110

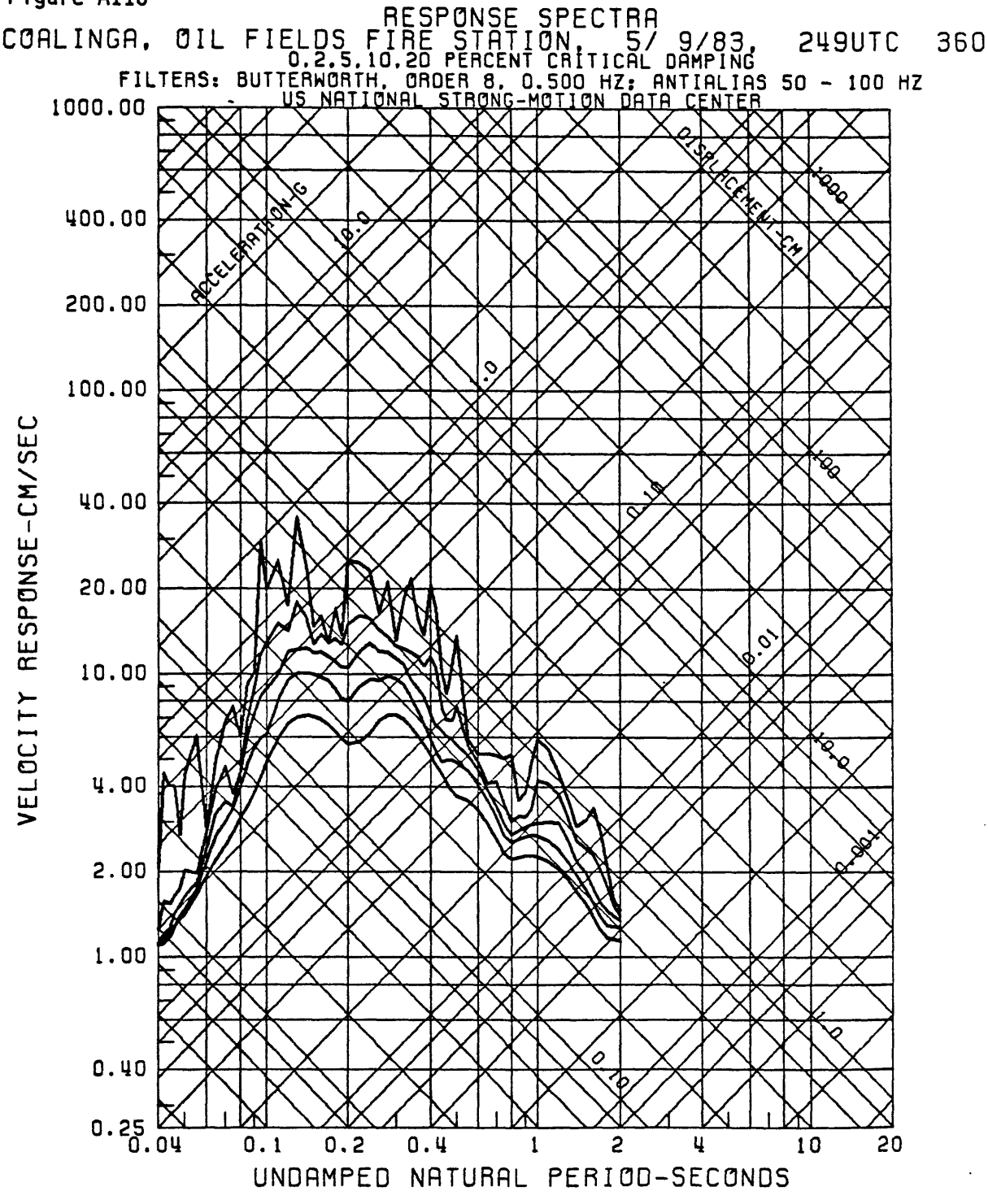

RESPONSE SPECTRA
COALINGA, OIL FIELDS FIRE STATION, 5/ 9/83, 249UTC 360
0.2.5.10.20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
ACCELERATION-G
DISPLACEMENT-CM
1000.00
400.00
200.00
100.00
40.00
20.00
10.00
4.00
2.00
1.00
0.40
0.25
0.04
0.1
0.2
0.4
1
2
4
10
20

Figure A111

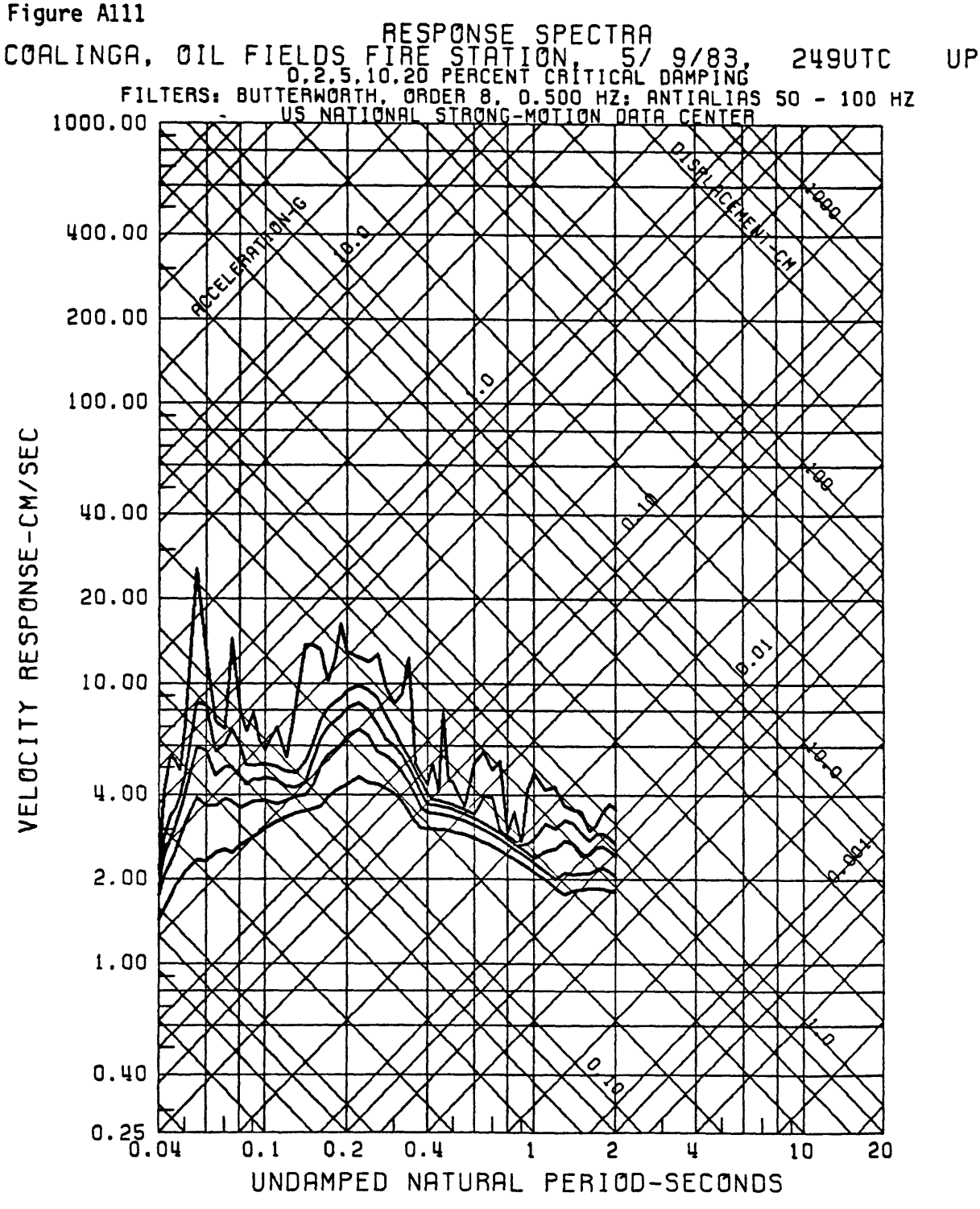

RESPONSE SPECTRA
COALINGA, OIL FIELDS FIRE STATION, 5/ 9/83, 249UTC UP
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
1000.00
400.00
200.00
100.00
40.00
20.00
10.00
4.00
2.00
1.00
0.40
0.25
0.04
0.1
0.2
0.4
1
2
4
10
20
ACCELERATION-G
10.0
1.0
0.10
0.01
DISPLACEMENT-CM
1000
100
10.0
1.0
0.01
0.10

Figure A112

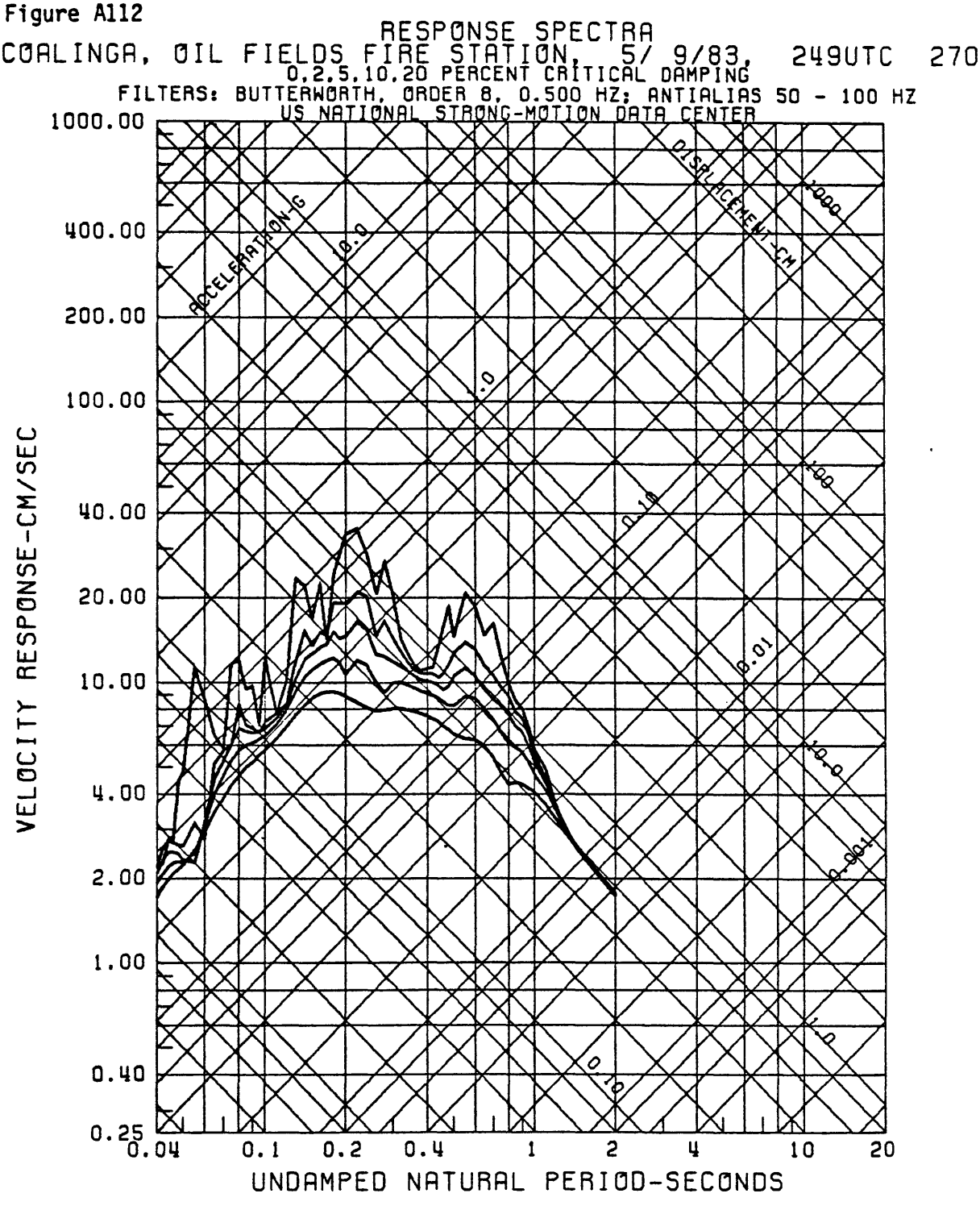

RESPONSE SPECTRA
COALINGA, OIL FIELDS FIRE STATION, 5/ 9/83, 249UTC 270
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
1000.00
400.00
200.00
100.00
40.00
20.00
10.00
4.00
2.00
1.00
0.40
0.25
0.04
0.1
0.2
0.4
1
2
4
10
20
ACCELERATION-G
10.0
1.0
0.10
0.01
DISPLACEMENT-CM
1000
100
10.0
1.0
0.10
0.01

Figure A113

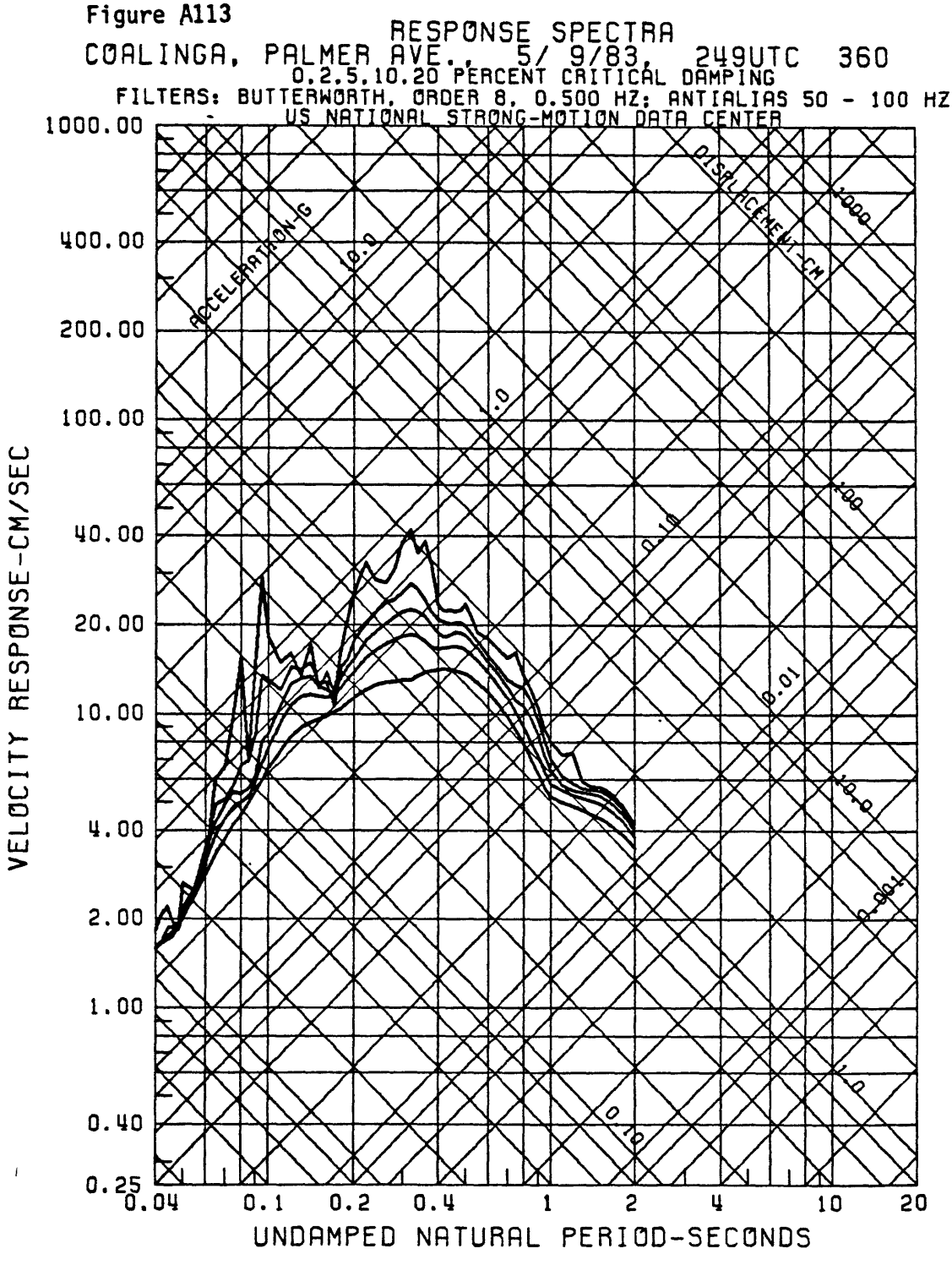

RESPONSE SPECTRA
COALINGA, PALMER AVE., 5/ 9/83, 249UTC 360
0.2.5.10.20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
VELOCITY RESPONSE-CM/SEC
1000.00
400.00
200.00
100.00
40.00
20.00
10.00
4.00
2.00
1.00
0.40
0.25
ACCELERATION-G
DISPLACEMENT-CM
1000
100
10.0
1.0
0.1
0.01
0.001
0.04
0.1
0.2
0.4
1
2
4
10
20
UNDAMPED NATURAL PERIOD-SECONDS

Figure A114

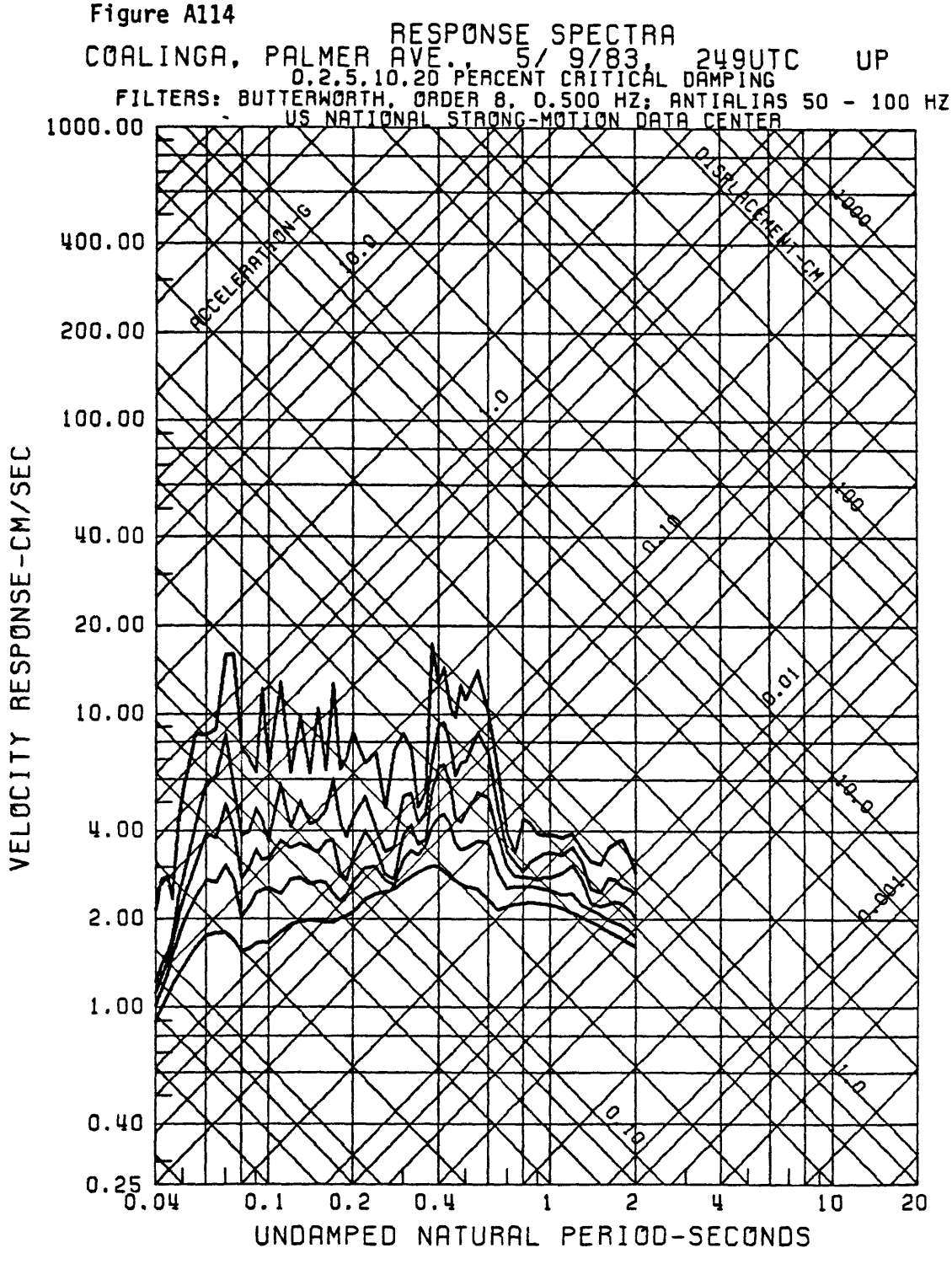

RESPONSE SPECTRA
COALINGA, PALMER AVE., 5/ 9/83, 249UTC UP
0.2.5.10.20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
ACCELERATION-G
DISPLACEMENT-CM
1000.00
400.00
200.00
100.00
40.00
20.00
10.00
4.00
2.00
1.00
0.40
0.25
0.04
0.1
0.2
0.4
1
2
4
10
20
10.0
1.0
0.10
0.01
1000
100
10.0
1.0
0.10

Figure A115

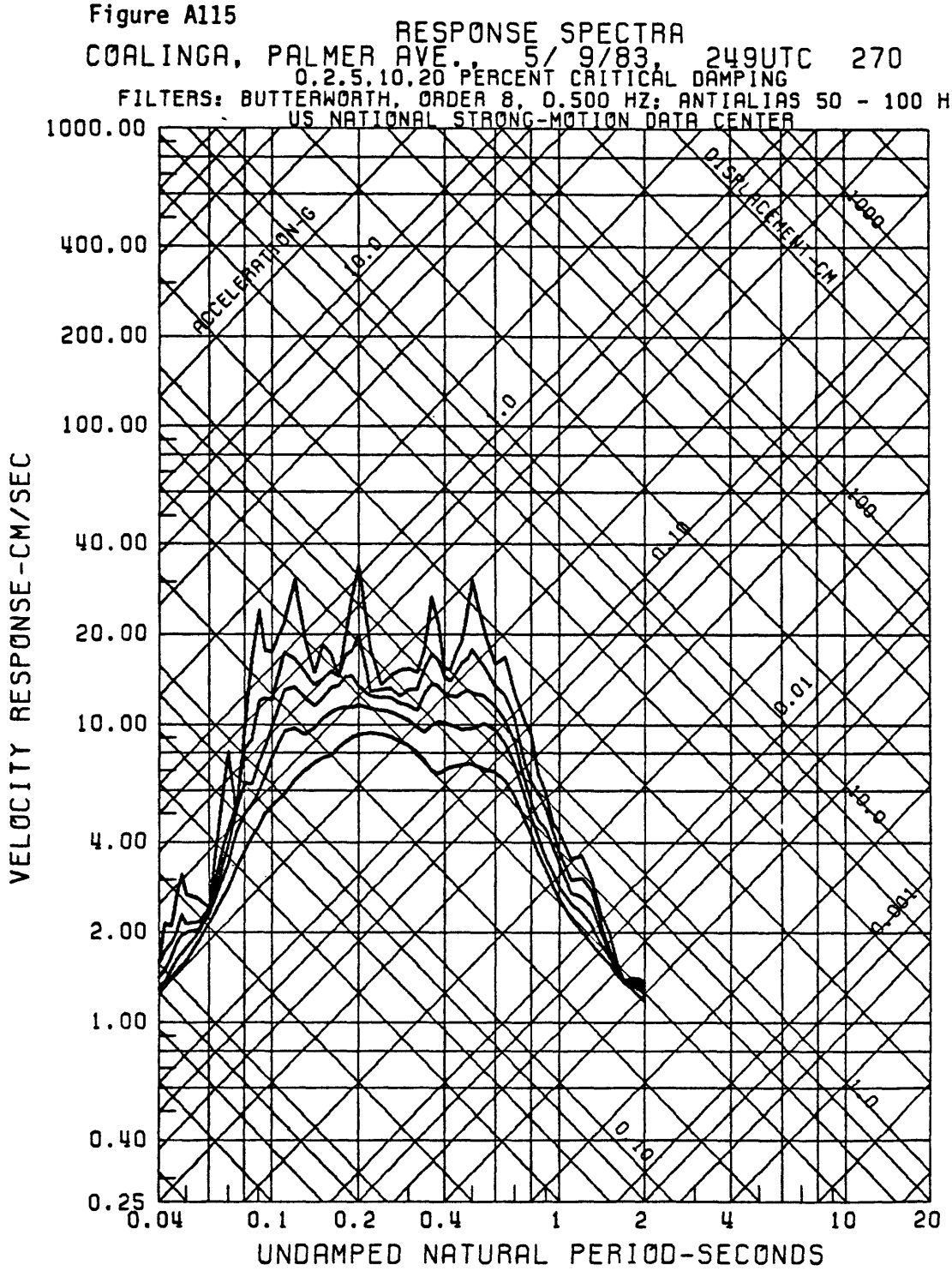

RESPONSE SPECTRA
COALINGA, PALMER AVE., 5/ 9/83, 249UTC 270
0.2.5.10.20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
ACCELERATION-G
DISPLACEMENT-CM
1000.00
400.00
200.00
100.00
40.00
20.00
10.00
4.00
2.00
1.00
0.40
0.25
0.04
0.1
0.2
0.4
1
2
4
10
20

Figure A116

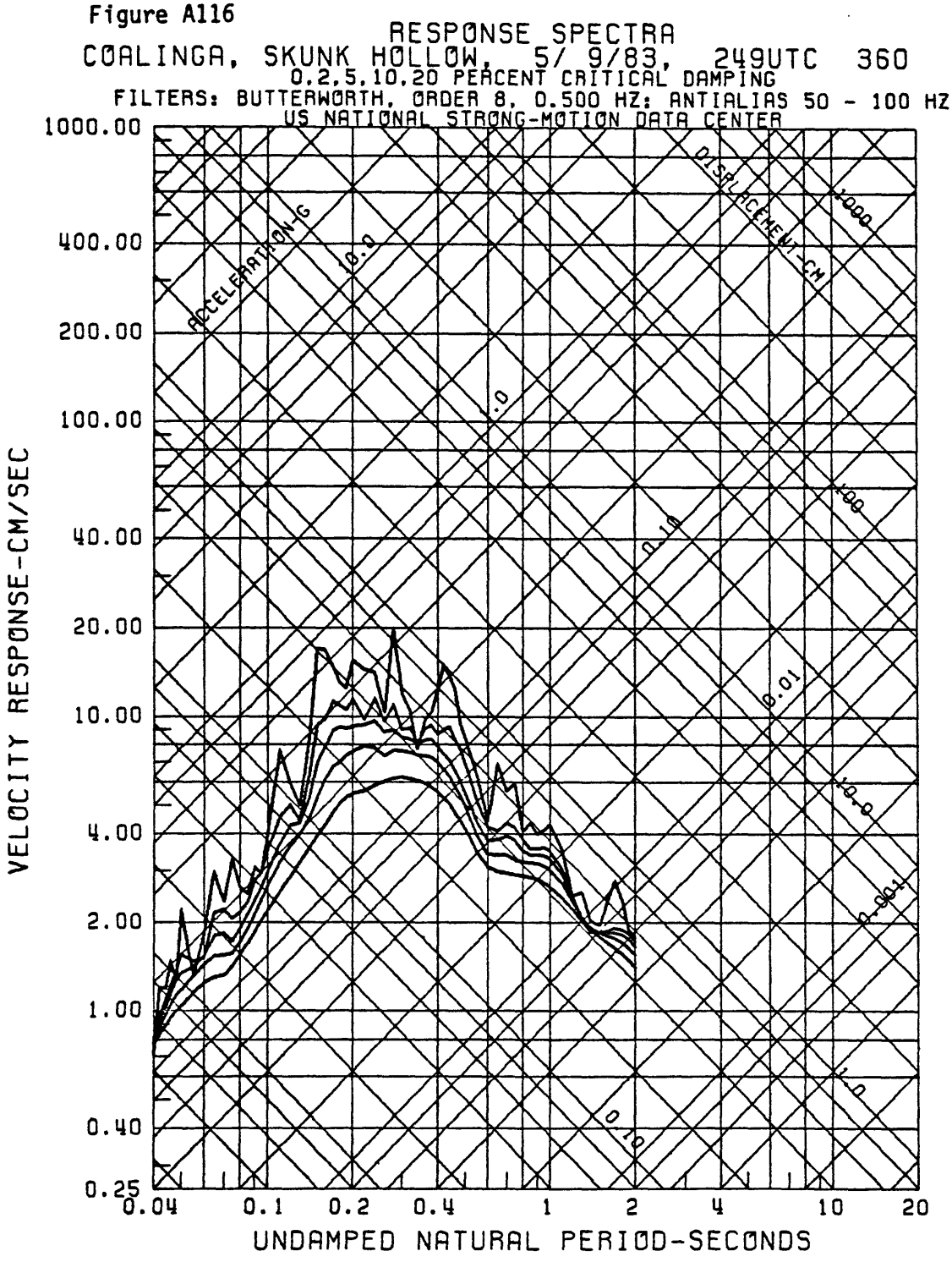

RESPONSE SPECTRA
COALINGA, SKUNK HOLLOW, 5/ 9/83, 249UTC 360
0.2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ: ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
VELOCITY RESPONSE-CM/SEC
1000.00
400.00
200.00
100.00
40.00
20.00
10.00
4.00
2.00
1.00
0.40
0.25
ACCELERATION-G
10.0
1.0
0.10
0.01
DISPLACEMENT-CM
1000
100
10.0
1.0
0.1
0.04
0.1
0.2
0.4
1
2
4
10
20
UNDAMPED NATURAL PERIOD-SECONDS

Figure A117

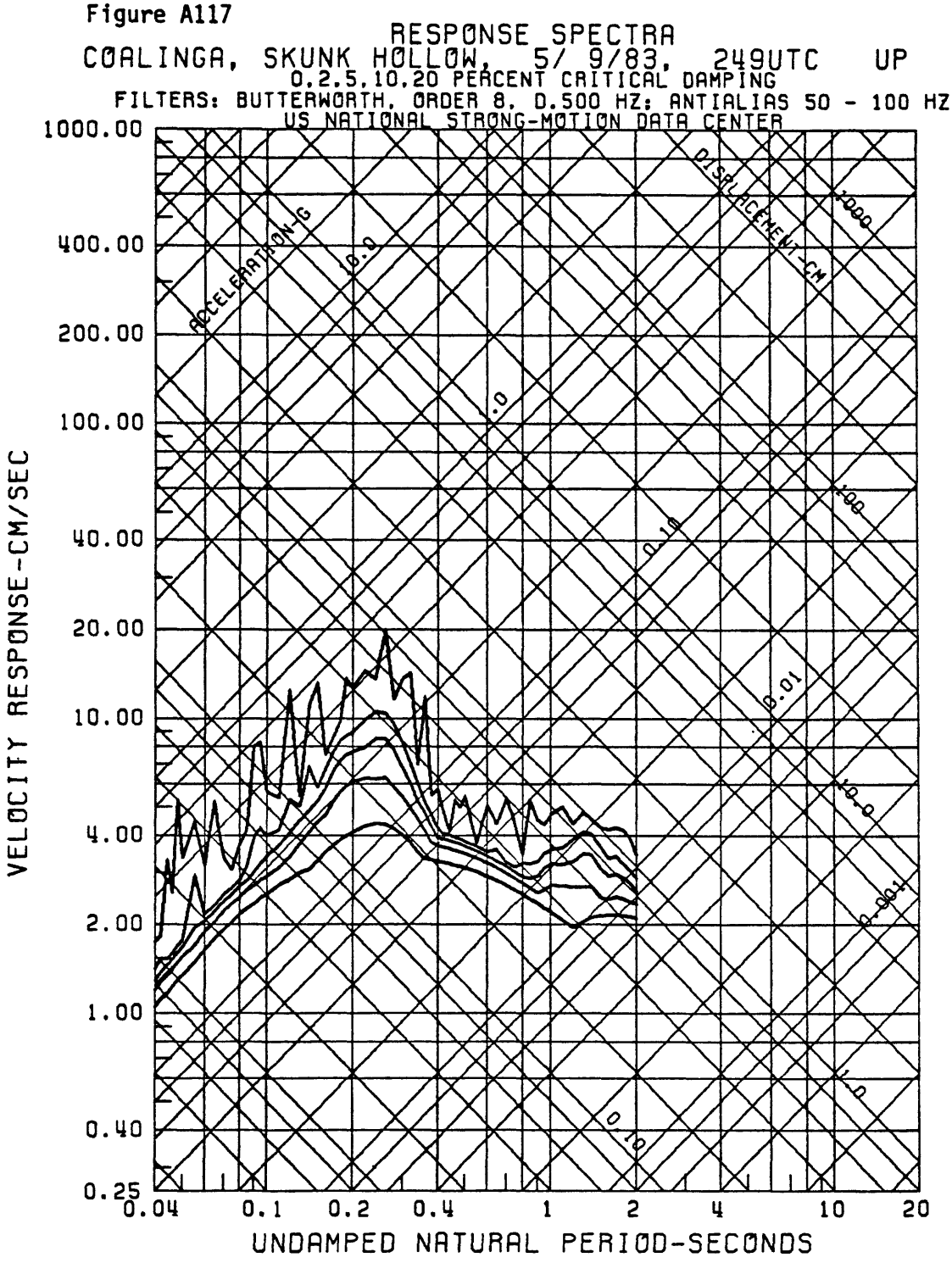

RESPONSE SPECTRA
COALINGA, SKUNK HOLLOW, 5/ 9/83, 249UTC UP
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
ACCELERATION-G
DISPLACEMENT-CM
1000.00
400.00
200.00
100.00
40.00
20.00
10.00
4.00
2.00
1.00
0.40
0.25
0.04
0.1
0.2
0.4
1
2
4
10
20

Figure A118

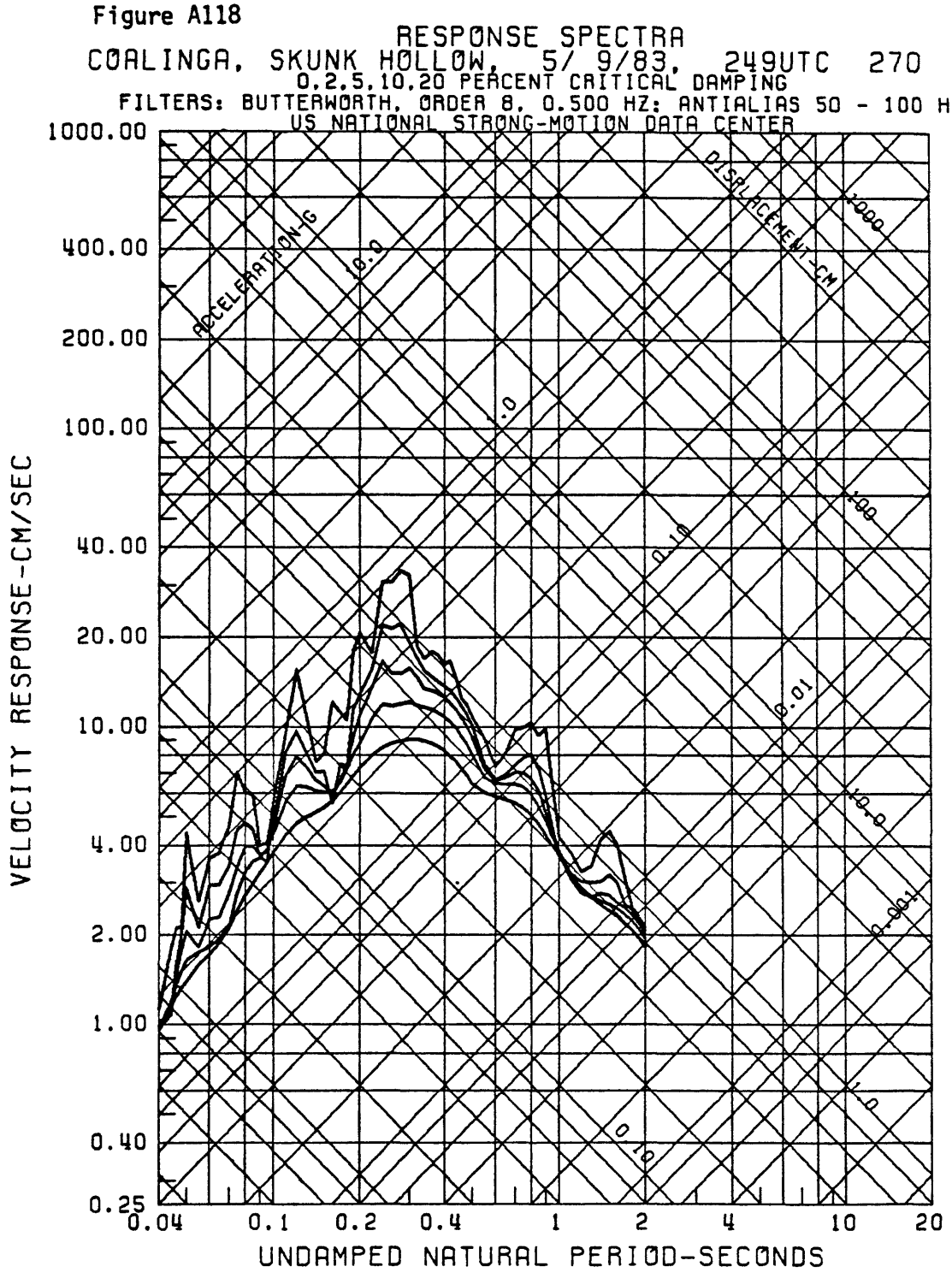

RESPONSE SPECTRA
COALINGA, SKUNK HOLLOW, 5/ 9/83, 249UTC 270
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
VELOCITY RESPONSE-CM/SEC
1000.00
400.00
200.00
100.00
40.00
20.00
10.00
4.00
2.00
1.00
0.40
0.25
ACCELERATION-G
10.0
1.0
0.10
0.01
DISPLACEMENT-CM
1000
100
10.0
1.0
0.10
0.04
0.1
0.2
0.4
1
2
4
10
20
UNDAMPED NATURAL PERIOD-SECONDS

Figure A119

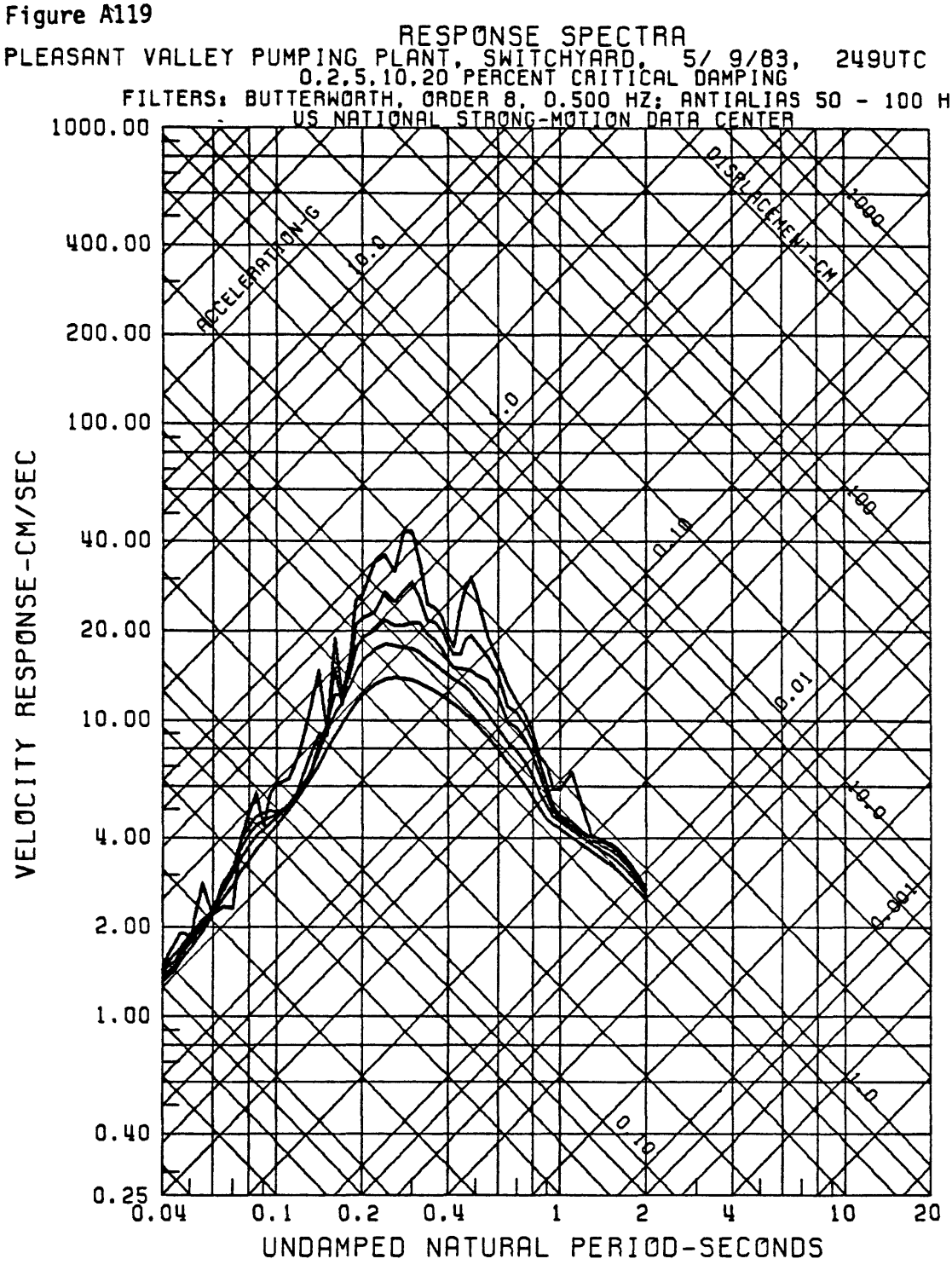

RESPONSE SPECTRA
PLEASANT VALLEY PUMPING PLANT, SWITCHYARD, 5/ 9/83, 249UTC 135
0.2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
1000.00
400.00
200.00
100.00
40.00
20.00
10.00
4.00
2.00
1.00
0.40
0.25
0.04
0.1
0.2
0.4
1
2
4
10
20
ACCELERATION-G
10.0
1.0
0.10
0.01
0.001
DISPLACEMENT-CM
1000
100
10.0
1.0
0.10
0.01
0.001

Figure A120

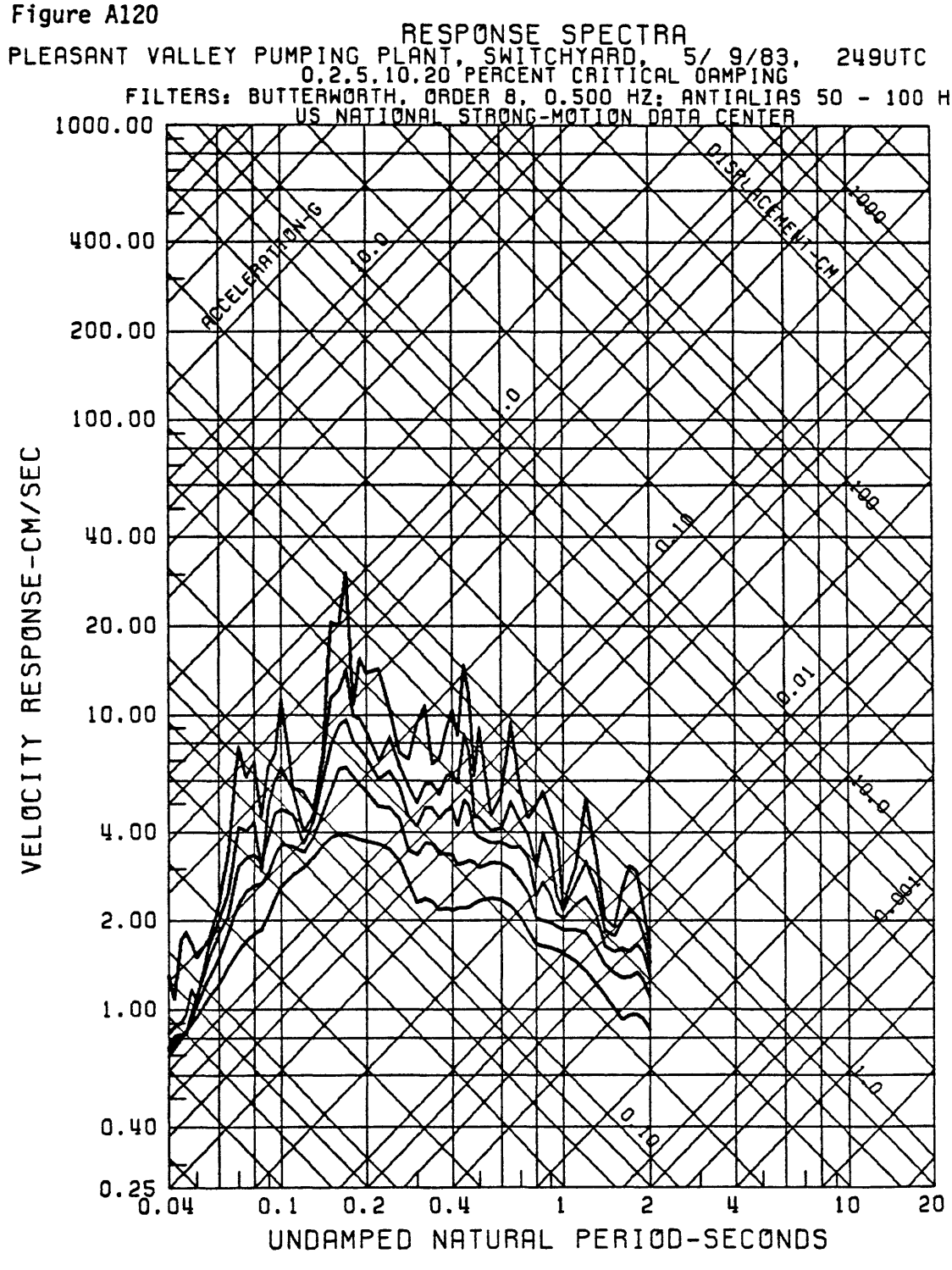

RESPONSE SPECTRA
PLEASANT VALLEY PUMPING PLANT, SWITCHYARD, 5/ 9/83, 249UTC UP
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
ACCELERATION-G
DISPLACEMENT-CM
1000.00
400.00
200.00
100.00
40.00
20.00
10.00
4.00
2.00
1.00
0.40
0.25
0.04
0.1
0.2
0.4
1
2
4
10
20
10.0
1.0
0.10
0.01
0.001
1000
100
10.0
1.0
0.01

Figure A121

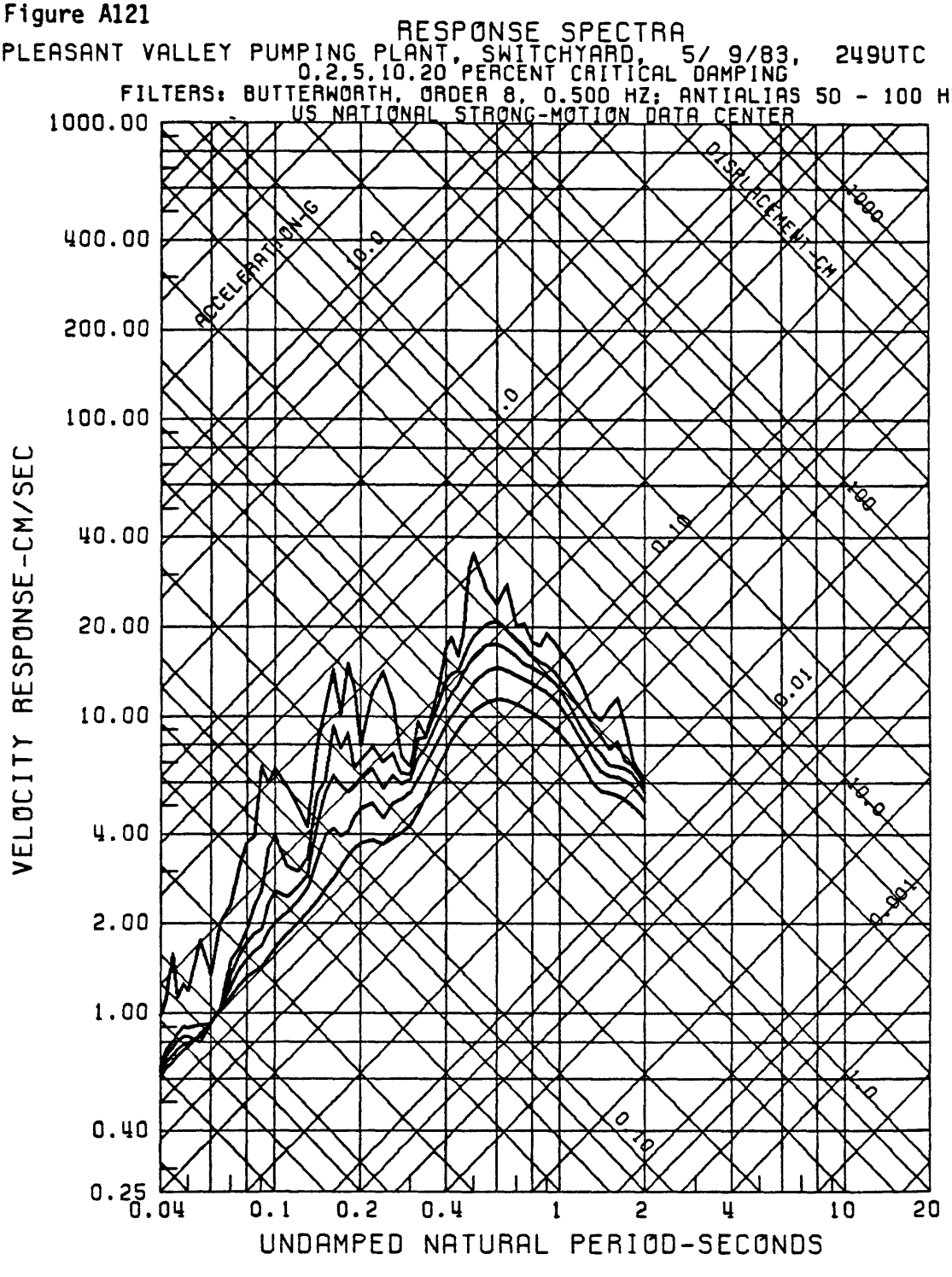

RESPONSE SPECTRA
PLEASANT VALLEY PUMPING PLANT, SWITCHYARD, 5/ 9/83, 249UTC 45
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
ACCELERATION-G
DISPLACEMENT-CM
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
1000.00
400.00
200.00
100.00
40.00
20.00
10.00
4.00
2.00
1.00
0.40
0.25
0.04
0.1
0.2
0.4
1
2
4
10
20

Figure A122

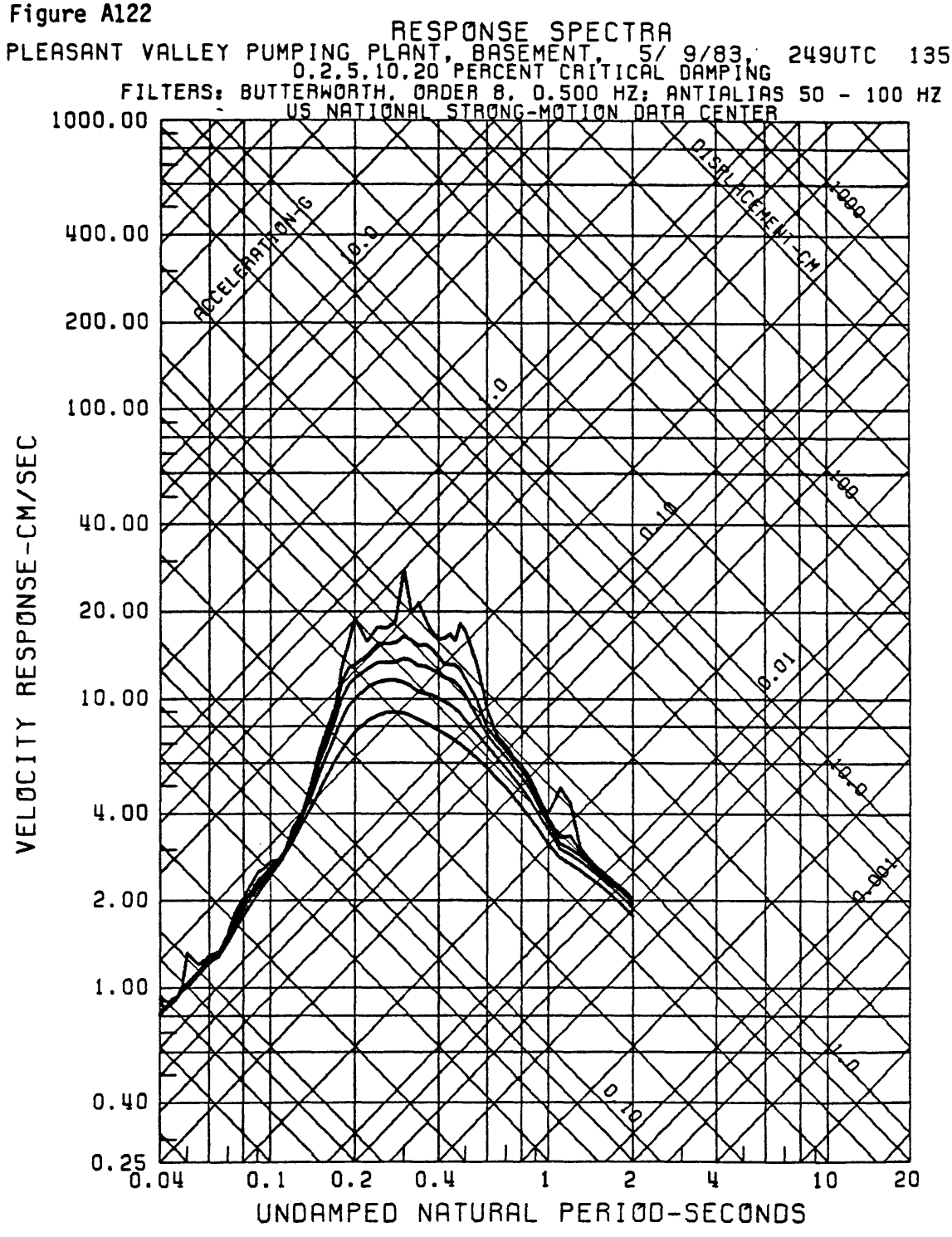

RESPONSE SPECTRA
PLEASANT VALLEY PUMPING PLANT, BASEMENT, 5/ 9/83, 249UTC 135
0.2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
ACCELERATION-G
DISPLACEMENT-CM
1000.00
400.00
200.00
100.00
40.00
20.00
10.00
4.00
2.00
1.00
0.40
0.25
0.04
0.1
0.2
0.4
1
2
4
10
20
10.0
1.0
0.10
0.01
100
10.0
1.0
0.10

Figure A123

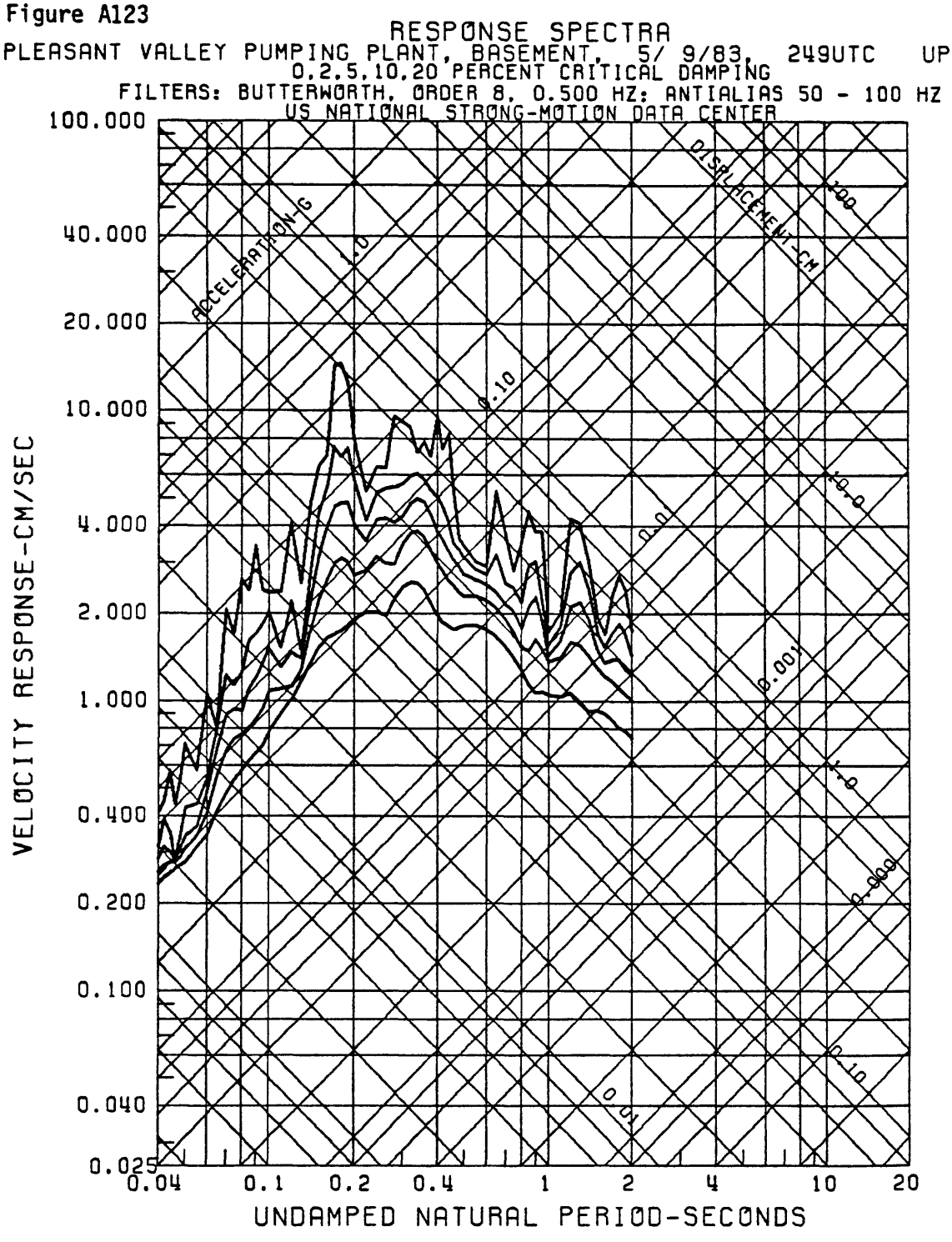

RESPONSE SPECTRA
PLEASANT VALLEY PUMPING PLANT, BASEMENT, 5/ 9/83, 249UTC UP
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ: ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
VELOCITY RESPONSE-CM/SEC
100.000
40.000
20.000
10.000
4.000
2.000
1.000
0.400
0.200
0.100
0.040
0.025
0.04
0.1
0.2
0.4
1
2
4
10
20
UNDAMPED NATURAL PERIOD-SECONDS
ACCELERATION-G
1.0
0.10
0.01
DISPLACEMENT-CM
100
10.0
1.0
0.100
0.010
0.001

Figure A124

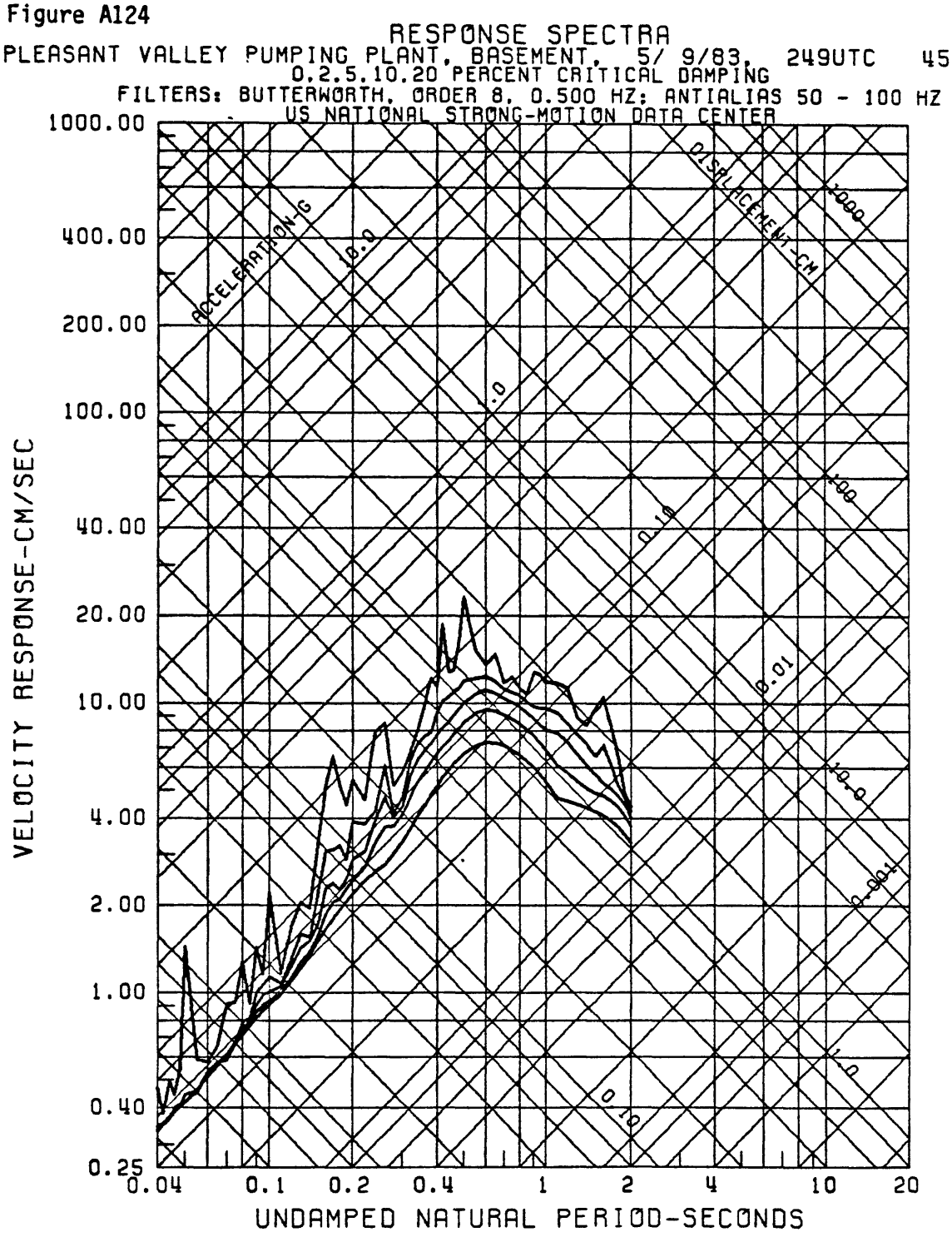

RESPONSE SPECTRA
PLEASANT VALLEY PUMPING PLANT, BASEMENT, 5/ 9/83, 249UTC 45
0.2.5.10.20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
ACCELERATION-G
DISPLACEMENT-CM
1000.00
400.00
200.00
100.00
40.00
20.00
10.00
4.00
2.00
1.00
0.40
0.25
0.04
0.1
0.2
0.4
1
2
4
10
20

Figure A125

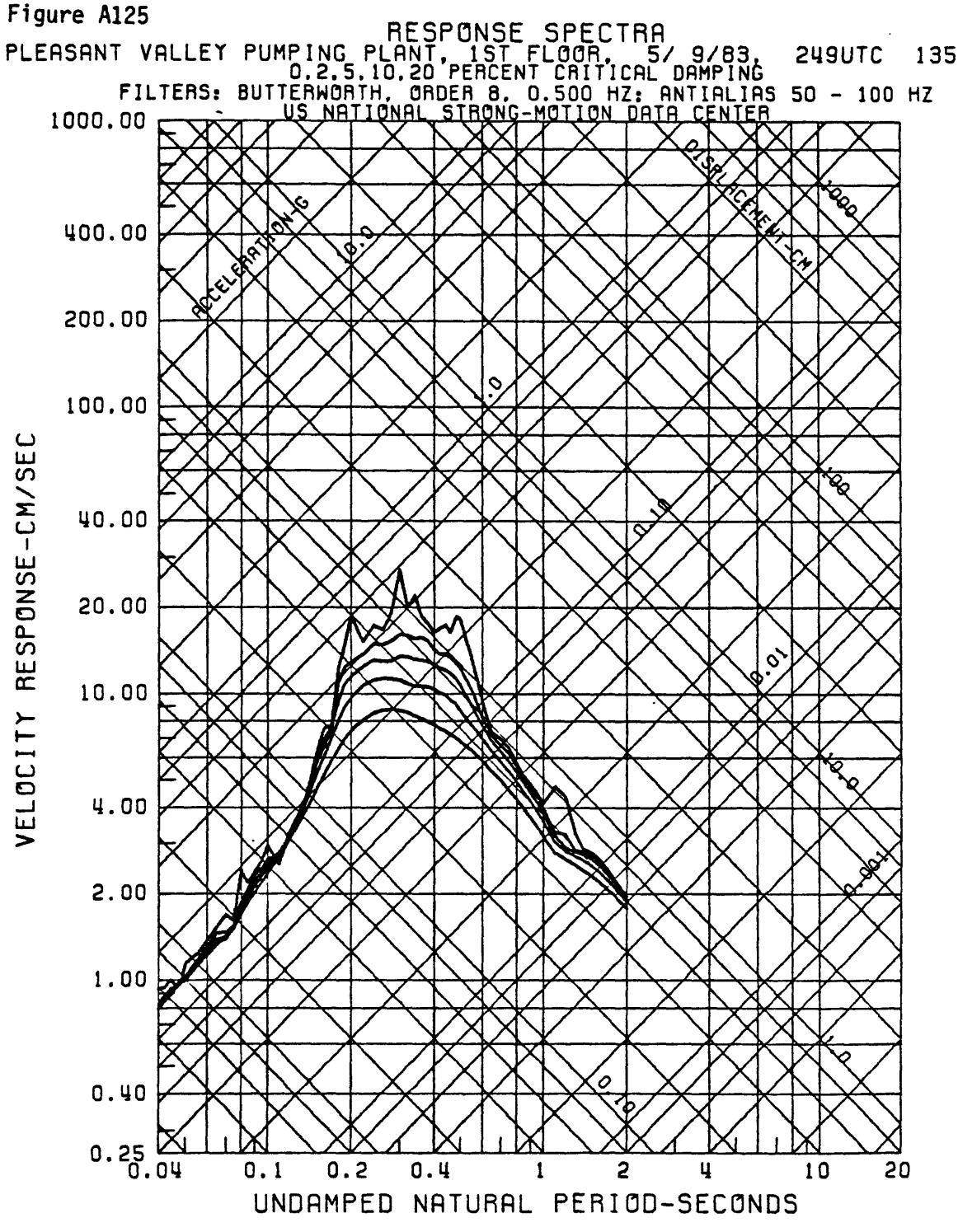

RESPONSE SPECTRA
PLEASANT VALLEY PUMPING PLANT, 1ST FLOOR, 5/ 9/83, 249UTC 135
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ: ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
1000.00
400.00
200.00
100.00
40.00
20.00
10.00
4.00
2.00
1.00
0.40
0.25
0.04
0.1
0.2
0.4
1
2
4
10
20
ACCELERATION-G
10.0
1.0
0.10
0.01
DISPLACEMENT-CM
1000
100
10.0
1.0
0.10
0.01

Figure A126

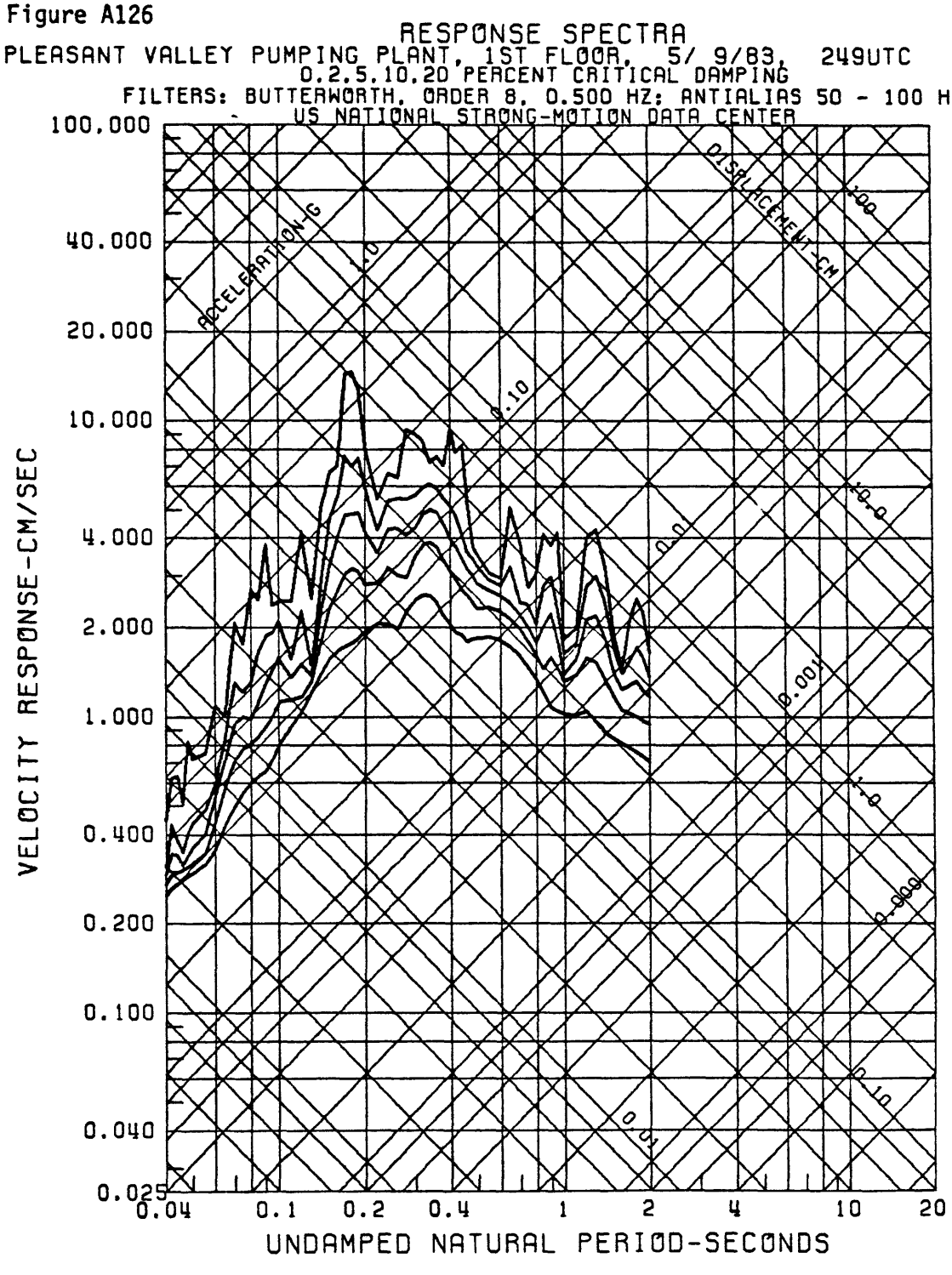

RESPONSE SPECTRA
PLEASANT VALLEY PUMPING PLANT, 1ST FLOOR, 5/ 9/83, 249UTC UP
0.2.5.10.20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
VELOCITY RESPONSE-CM/SEC
100.000
40.000
20.000
10.000
4.000
2.000
1.000
0.400
0.200
0.100
0.040
0.025
0.04
0.1
0.2
0.4
1
2
4
10
20
UNDAMPED NATURAL PERIOD-SECONDS
ACCELERATION-G
DISPLACEMENT-CM
100
10.0
1.0
0.10
0.01
0.001
0.0001
100.0
10.0
1.0
0.10
0.01

Figure A127

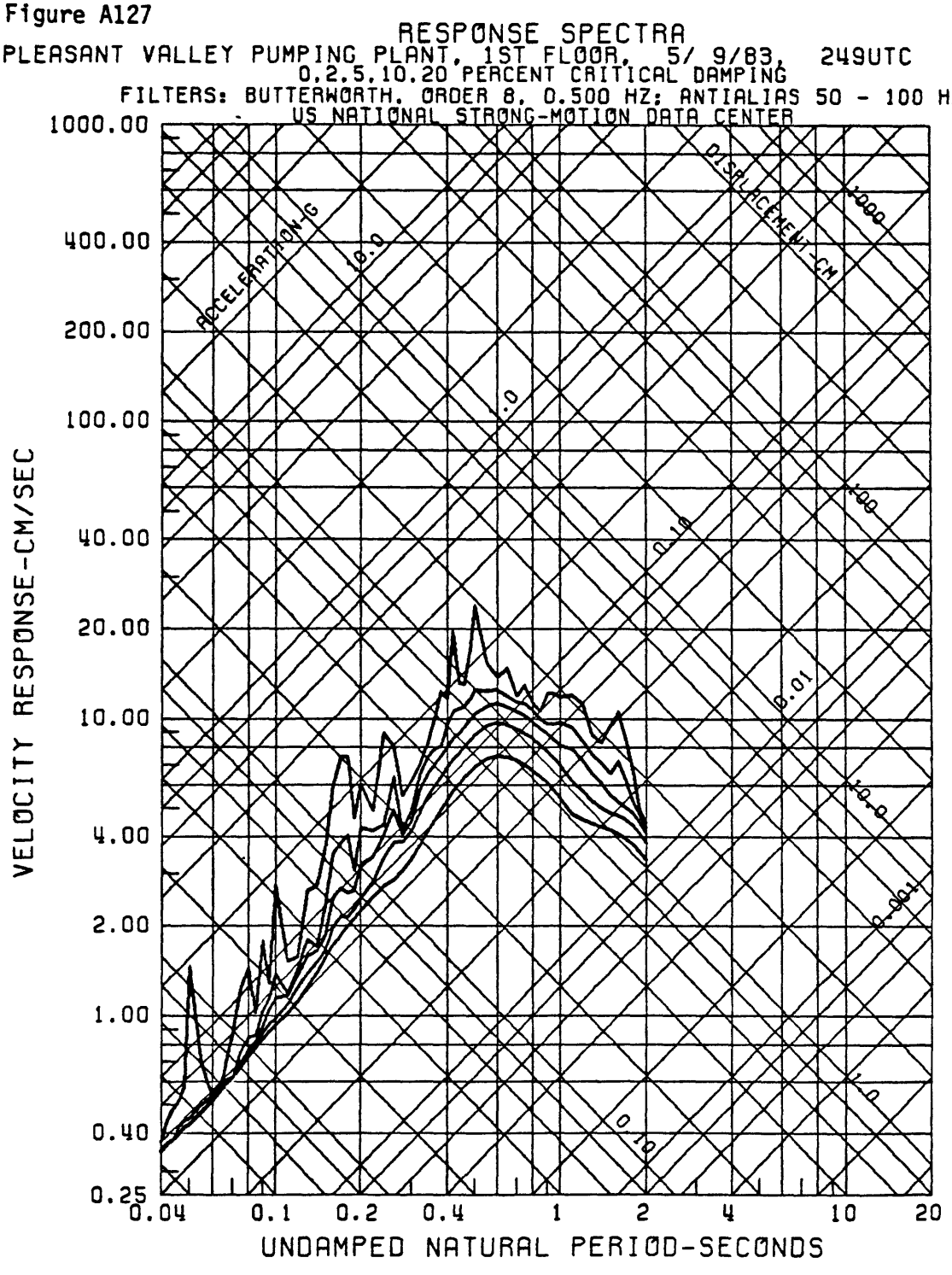

RESPONSE SPECTRA
PLEASANT VALLEY PUMPING PLANT, 1ST FLOOR, 5/ 9/83, 2490UTC 45
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
ACCELERATION-G
DISPLACEMENT-CM
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
1000.00
400.00
200.00
100.00
40.00
20.00
10.00
4.00
2.00
1.00
0.40
0.25
0.04
0.1
0.2
0.4
1
2
4
10
20
10.0
1.0
0.10
0.01
1000
100
10.0
1.0
0.001

Figure A128

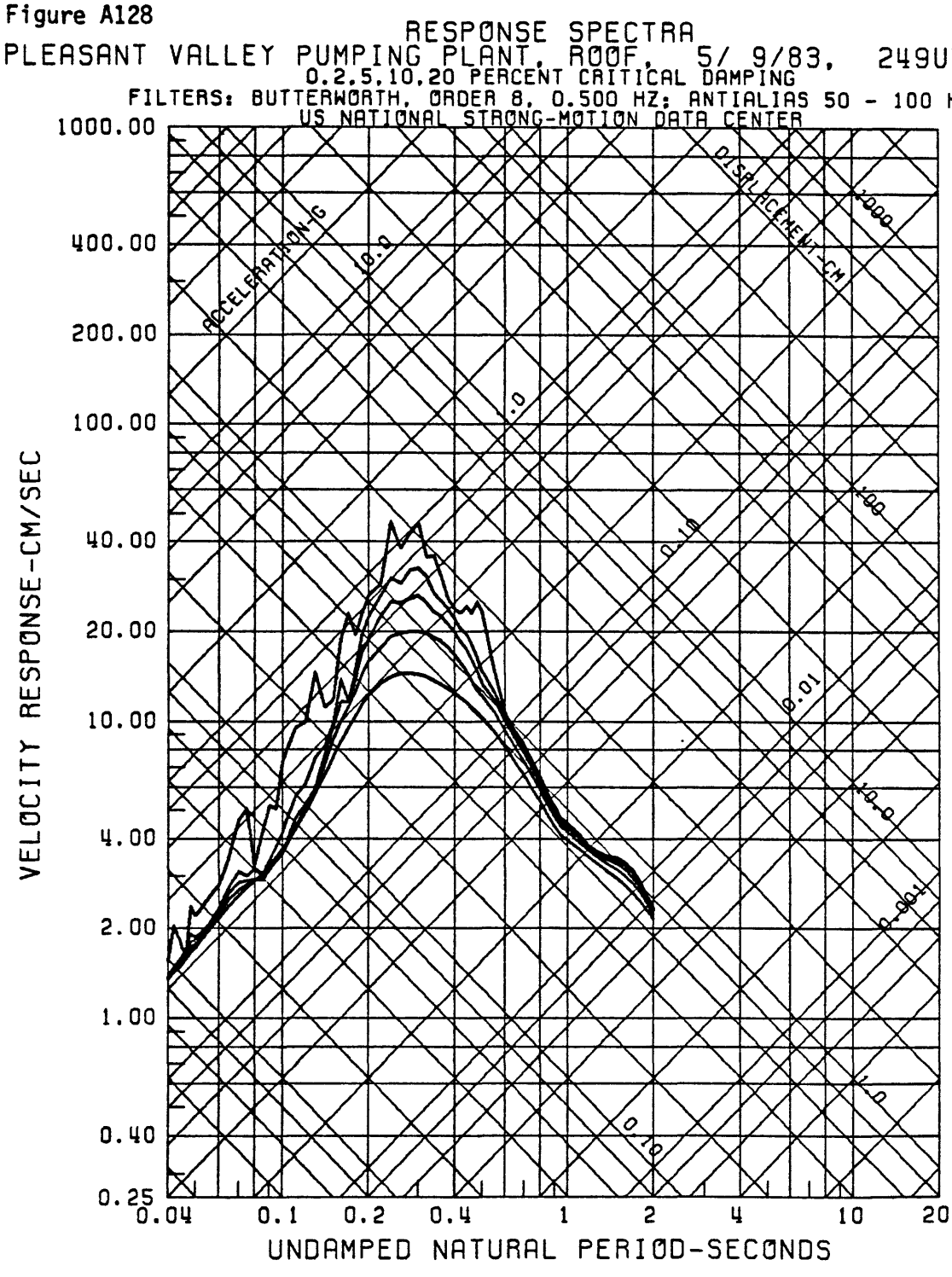

RESPONSE SPECTRA
PLEASANT VALLEY PUMPING PLANT, ROOF, 5/ 9/83, 249UTC 135
0.2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
VELOCITY RESPONSE-CM/SEC
1000.00
400.00
200.00
100.00
40.00
20.00
10.00
4.00
2.00
1.00
0.40
0.25
0.04
0.1
0.2
0.4
1
2
4
10
20
UNDAMPED NATURAL PERIOD-SECONDS
ACCELERATION-G
10.0
1.0
0.10
0.01
DISPLACEMENT-CM
1000
100
10.0
1.0
0.10

Figure A129

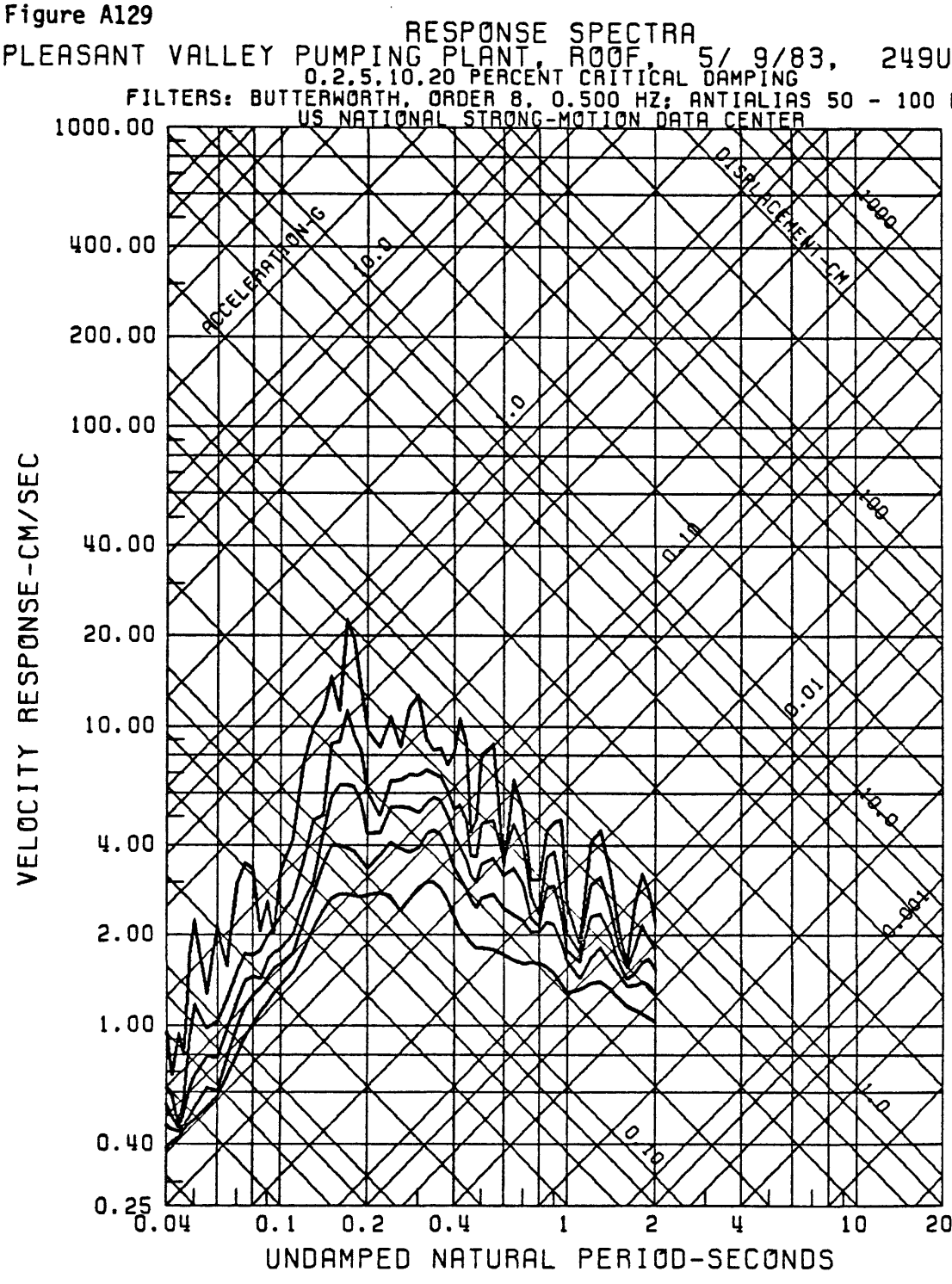

RESPONSE SPECTRA
PLEASANT VALLEY PUMPING PLANT, ROOF, 5/ 9/83, 249UTC UP
0.2.5.10.20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
VELOCITY RESPONSE-CM/SEC
1000.00
400.00
200.00
100.00
40.00
20.00
10.00
4.00
2.00
1.00
0.40
0.25
0.04
0.1
0.2
0.4
1
2
4
10
20
UNDAMPED NATURAL PERIOD-SECONDS
ACCELERATION-G
10.0
1.0
0.10
0.01
DISPLACEMENT-CM
1000
100
10.0
1.0
0.01
0.001

Figure A130

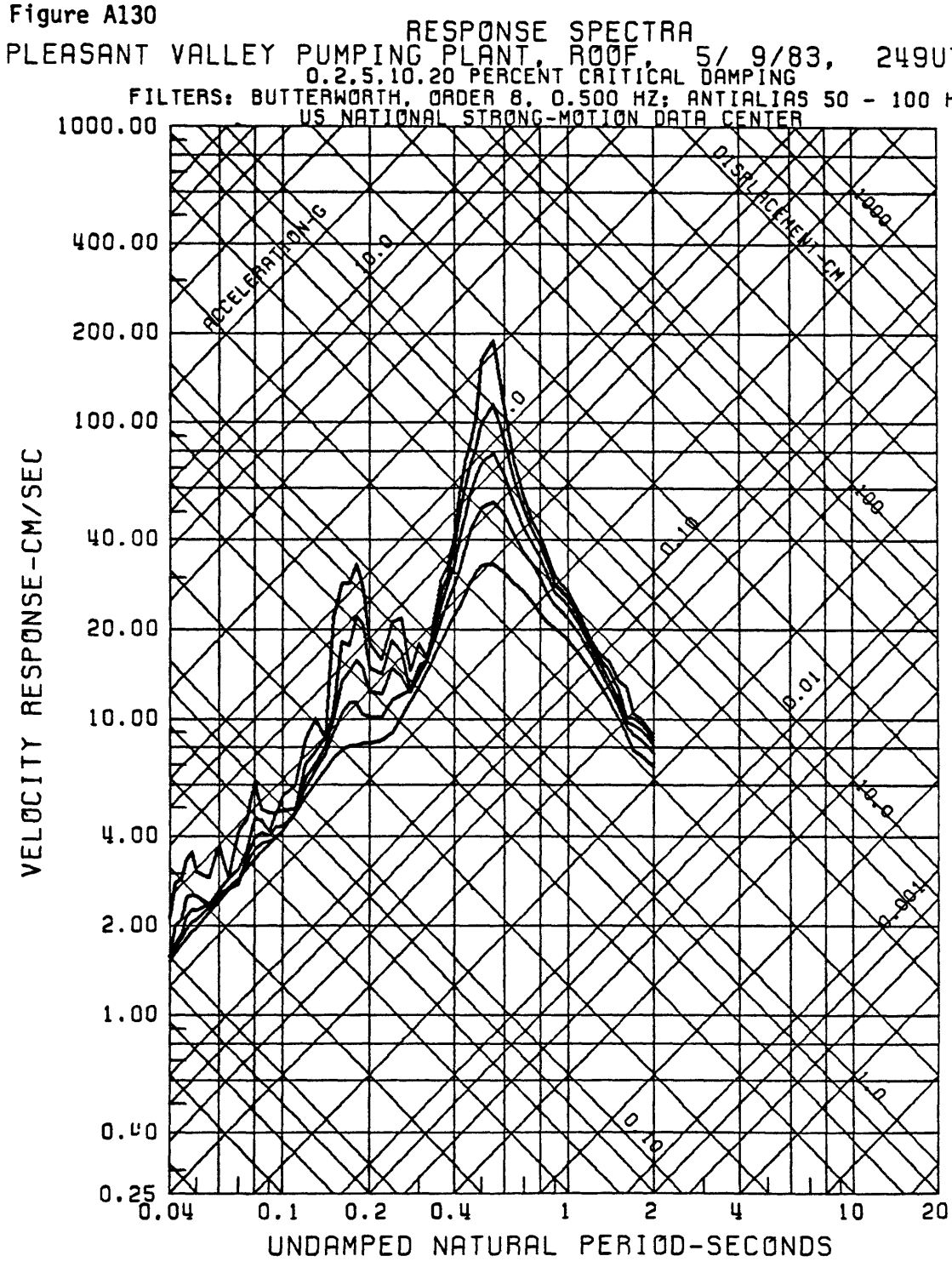

RESPONSE SPECTRA
PLEASANT VALLEY PUMPING PLANT, ROOF, 5/ 9/83, 249UTC 45
0.2.5.10.20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
ACCELERATION-G
DISPLACEMENT-CM
1000.00
400.00
200.00
100.00
40.00
20.00
10.00
4.00
2.00
1.00
0.40
0.25
0.04
0.1
0.2
0.4
1
2
4
10
20

Figure A131

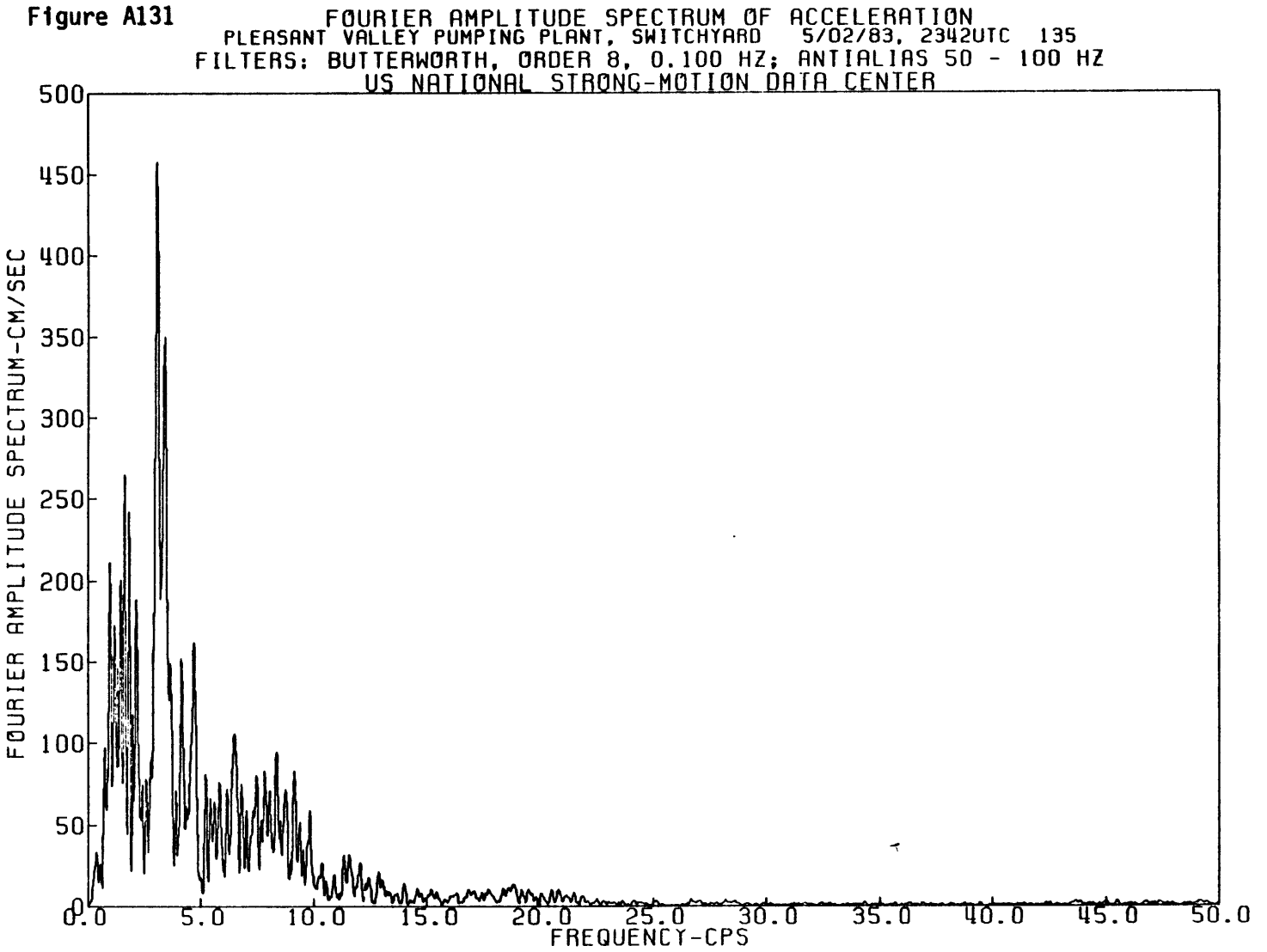

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT, SWITCHYARD 5/02/83, 2342UTC 135
FILTERS: BUTTERWORTH, ORDER 8, 0.100 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
500
450
400
350
300
250
200
150
100
50
0
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
FREQUENCY-CPS

Figure A132

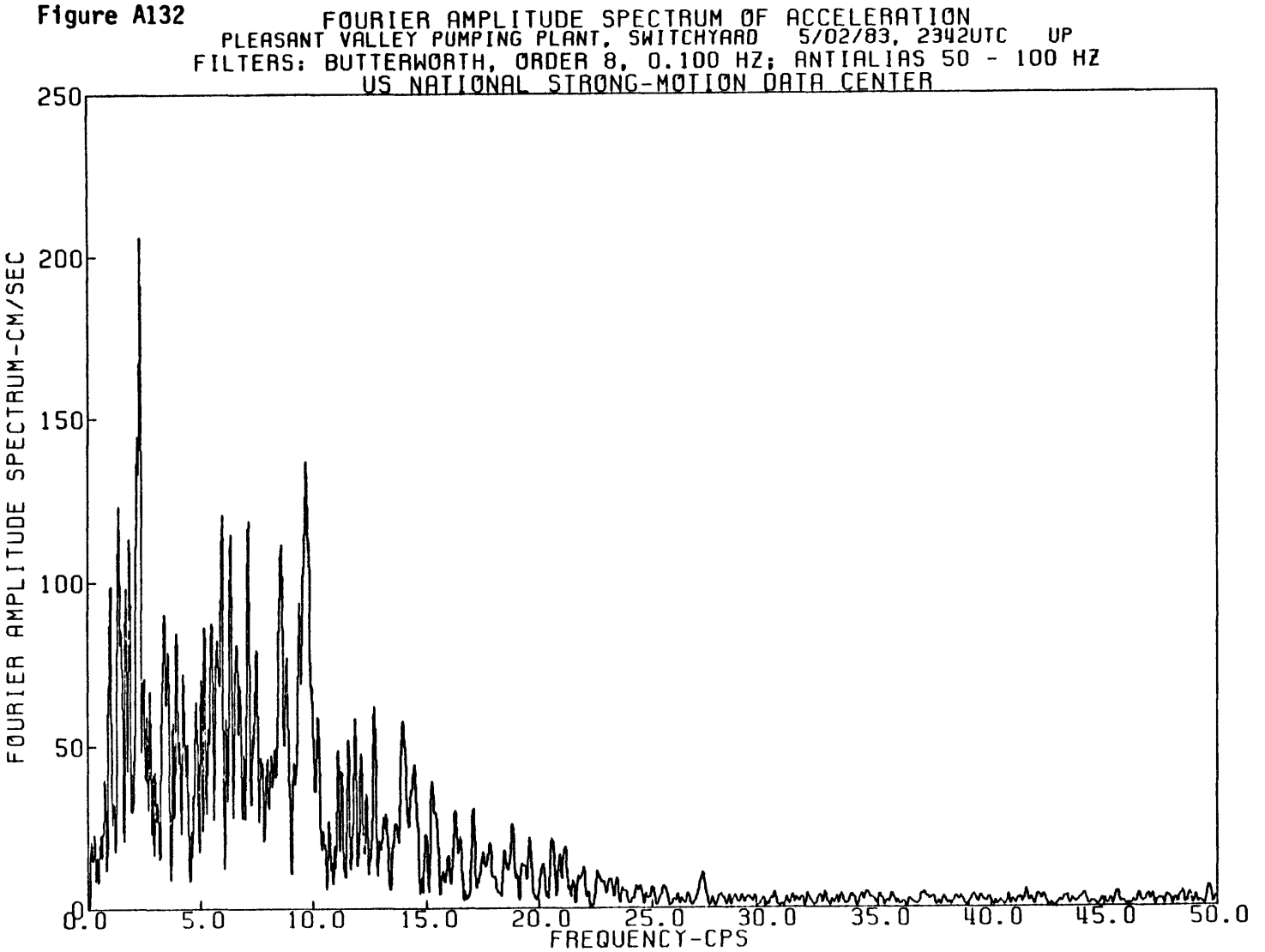

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT, SWITCHYARD 5/02/83, 2342UTC UP
FILTERS: BUTTERWORTH, ORDER 8, 0.100 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
250
200
150
100
50
0
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
FREQUENCY-CPS

Figure A133

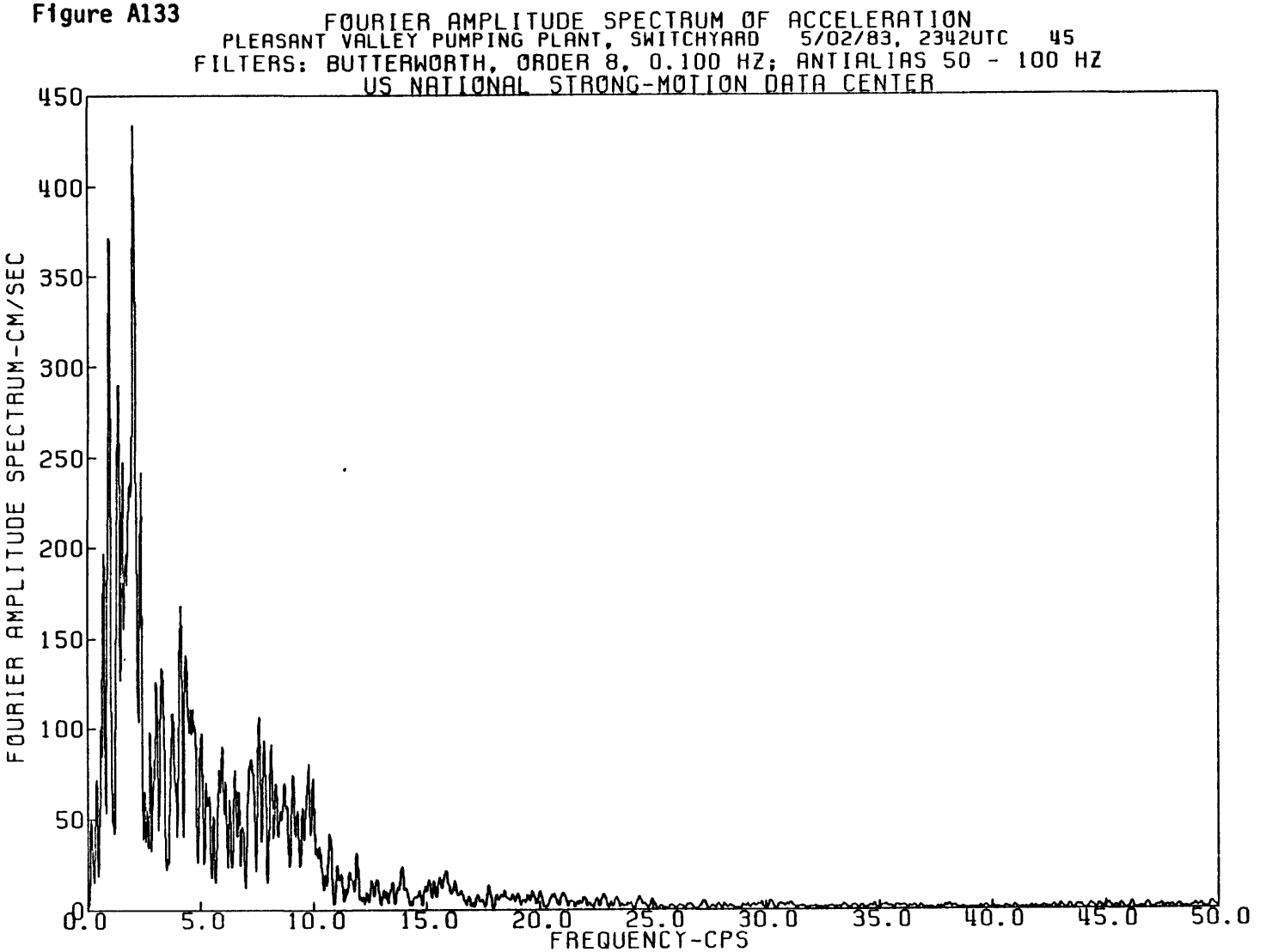

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT, SWITCHYARD 5/02/83, 2342UTC 45
FILTERS: BUTTERWORTH, ORDER 8, 0.100 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
450
400
350
300
250
200
150
100
50
0
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
FREQUENCY-CPS

Figure A134

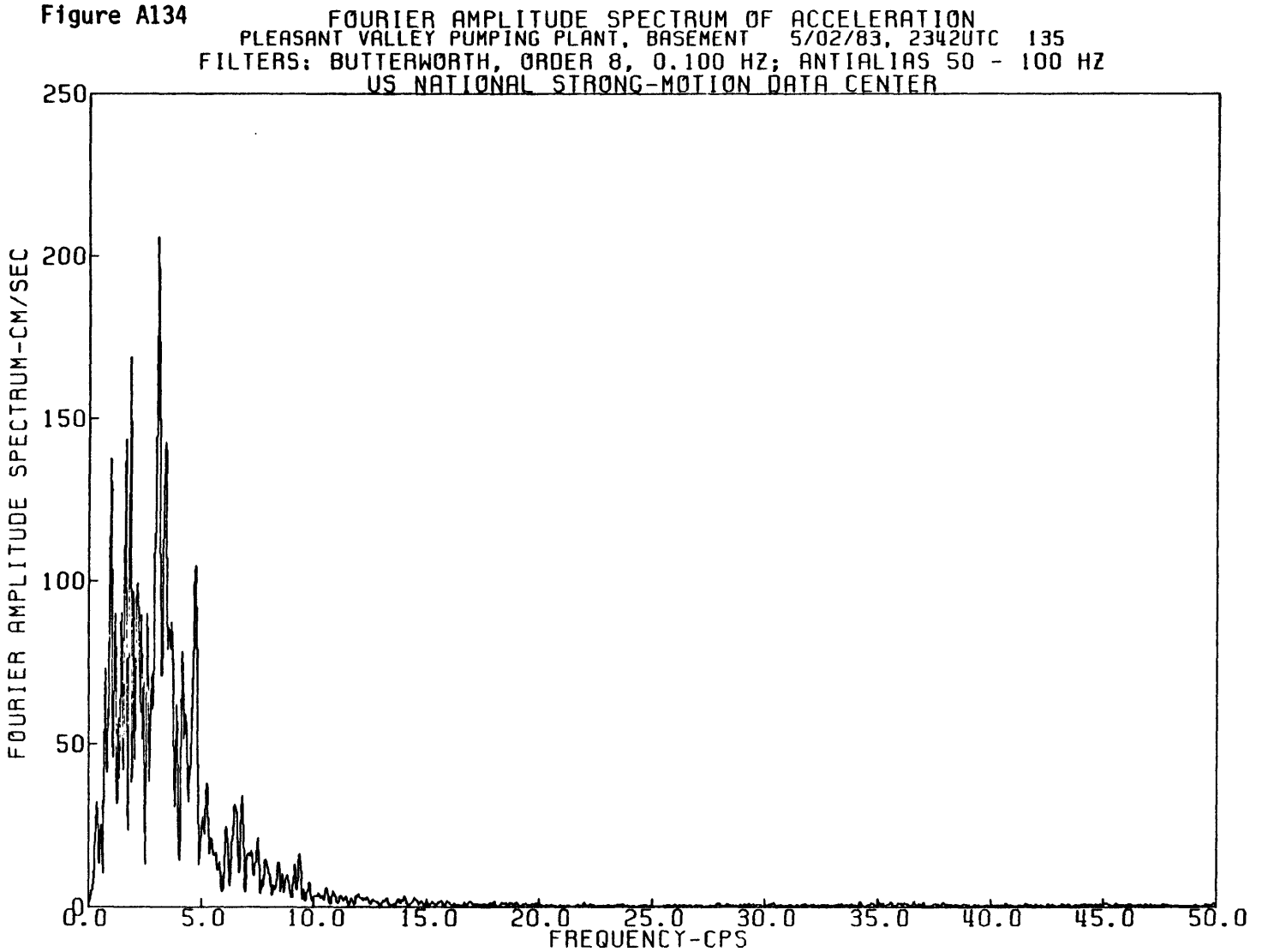

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT, BASEMENT 5/02/83, 2342UTC 135
FILTERS: BUTTERWORTH, ORDER 8, 0.100 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
250
200
150
100
50
0
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
FREQUENCY-CPS

Figure A135

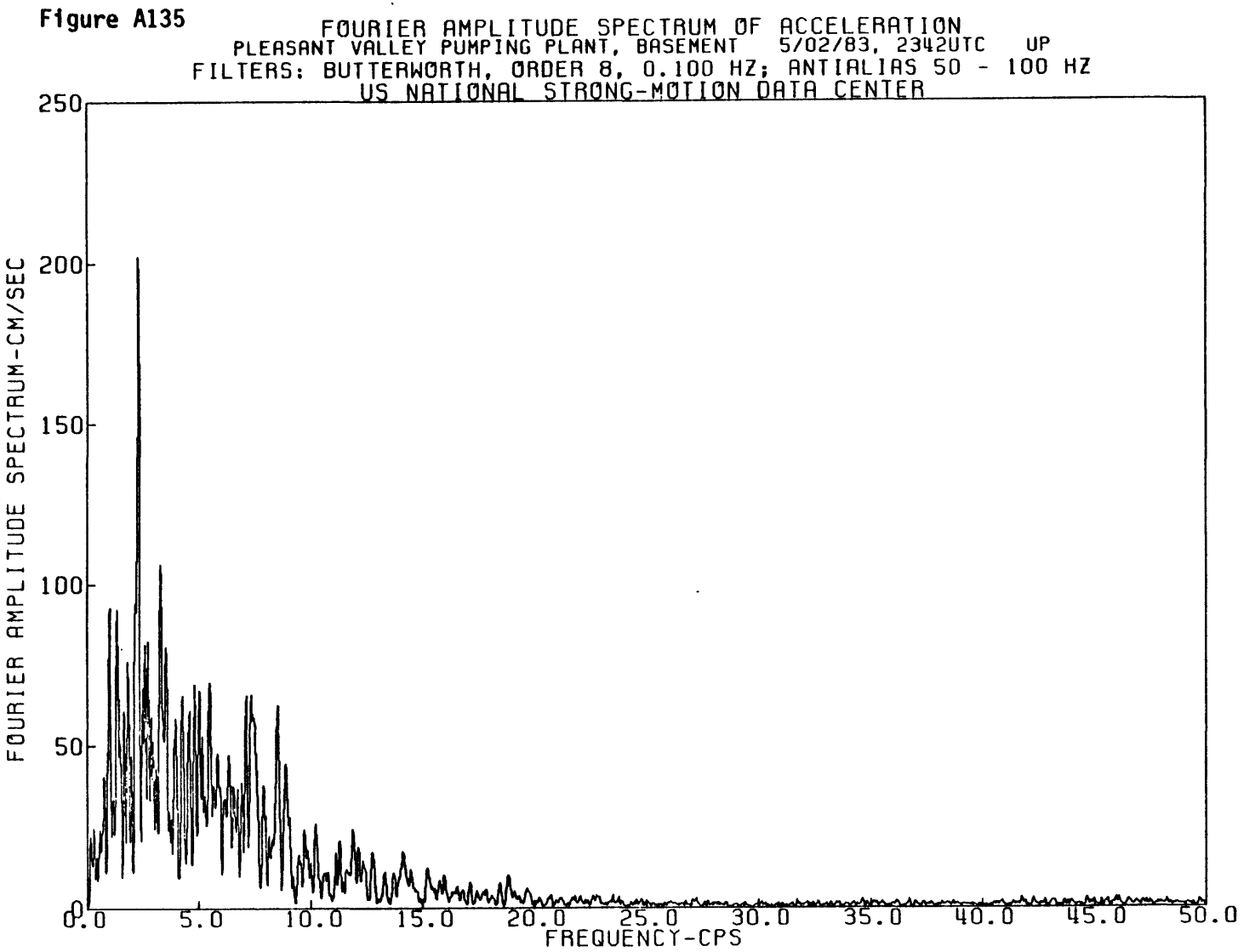

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT, BASEMENT 5/02/83, 2342UTC UP
FILTERS: BUTTERWORTH, ORDER 8, 0.100 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
250
200
150
100
50
0
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
FREQUENCY-CPS

Figure A136

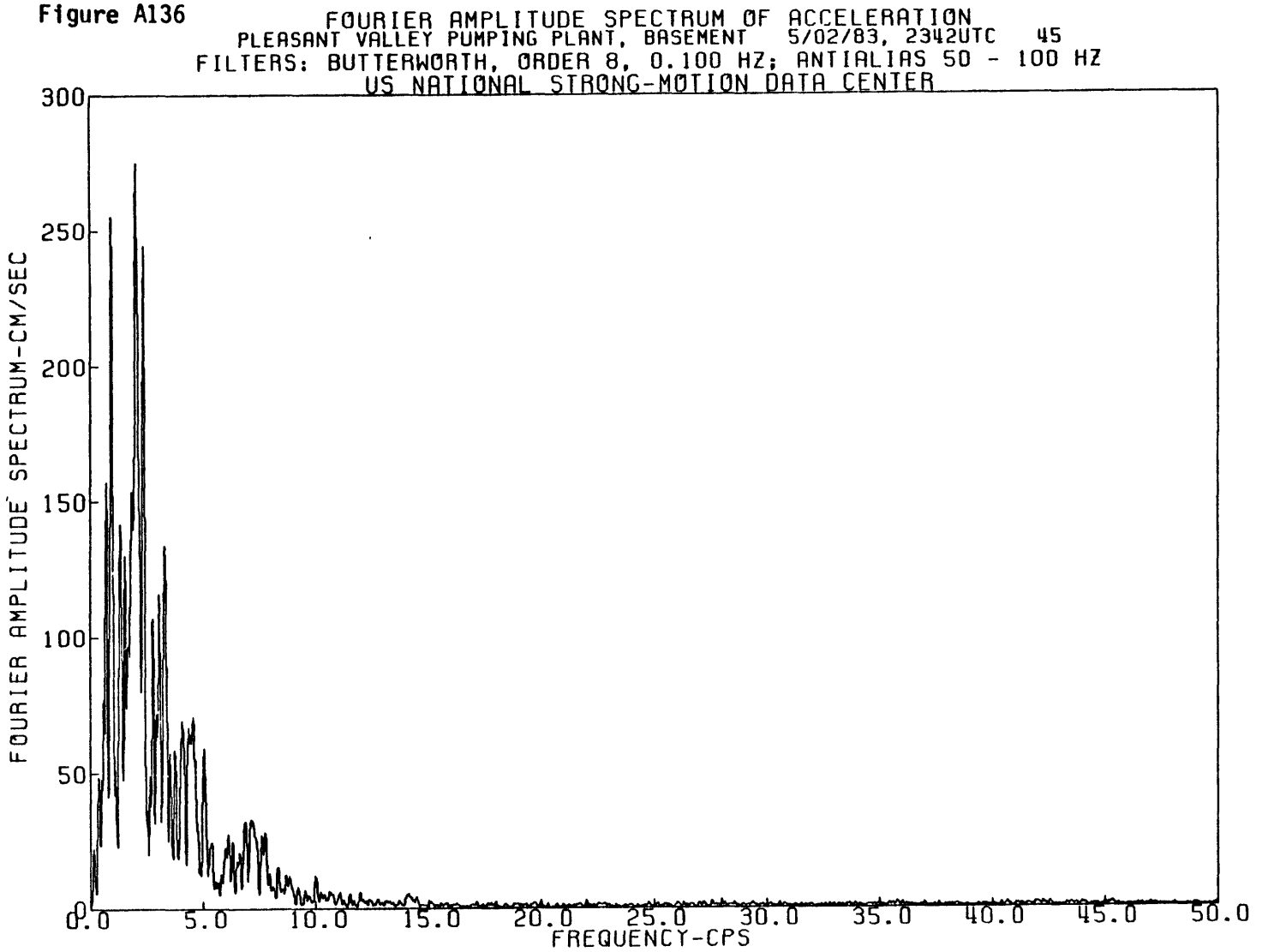

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT, BASEMENT 5/02/83, 2342UTC 45
FILTERS: BUTTERWORTH, ORDER 8, 0.100 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
300
250
200
150
100
50
0
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
FREQUENCY-CPS

Figure A137

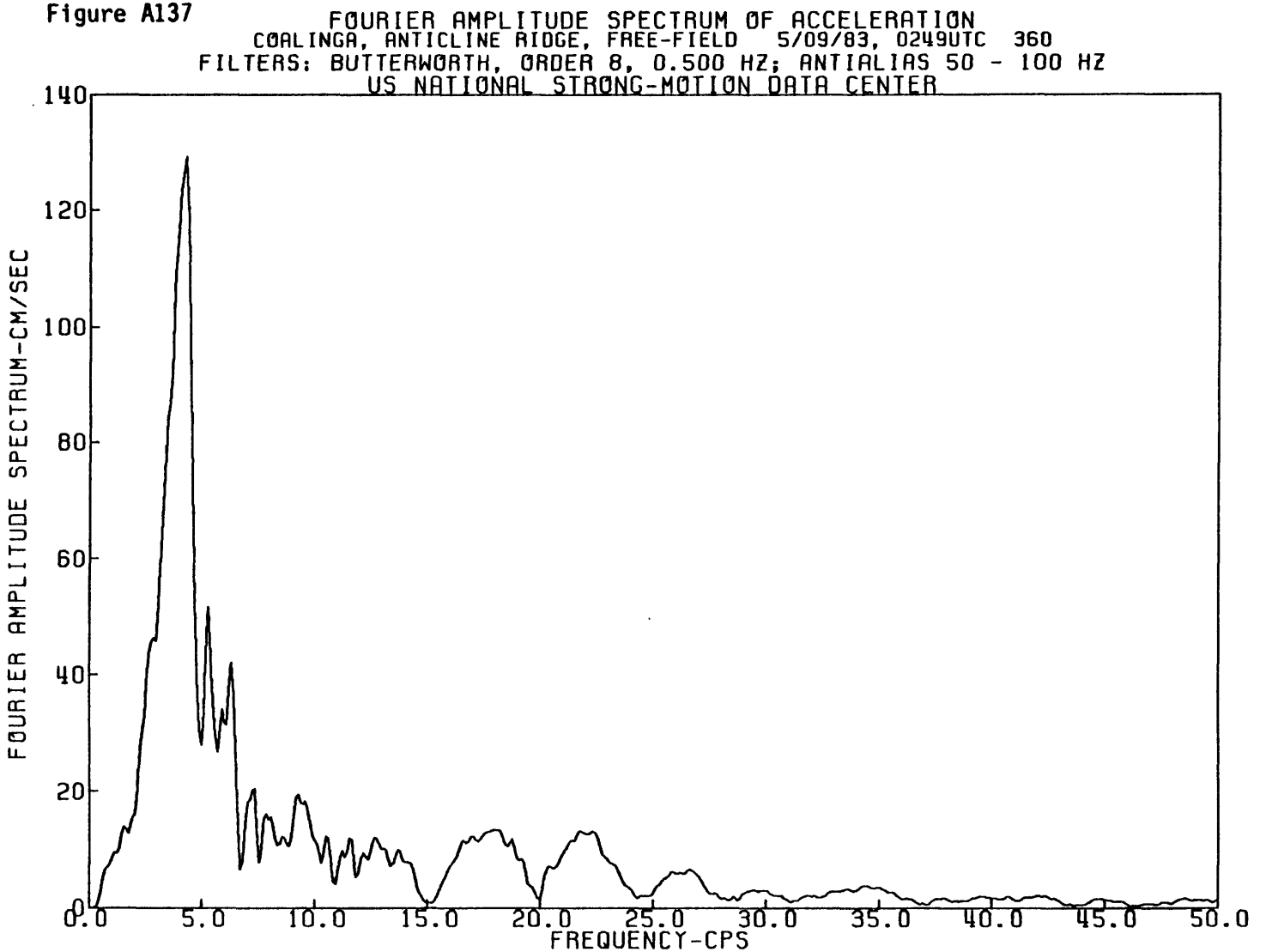

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, ANTICLINE RIDGE, FREE-FIELD 5/09/83, 0249UTC 360
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
140
120
100
80
60
40
20
0
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
FREQUENCY-CPS

Figure A138

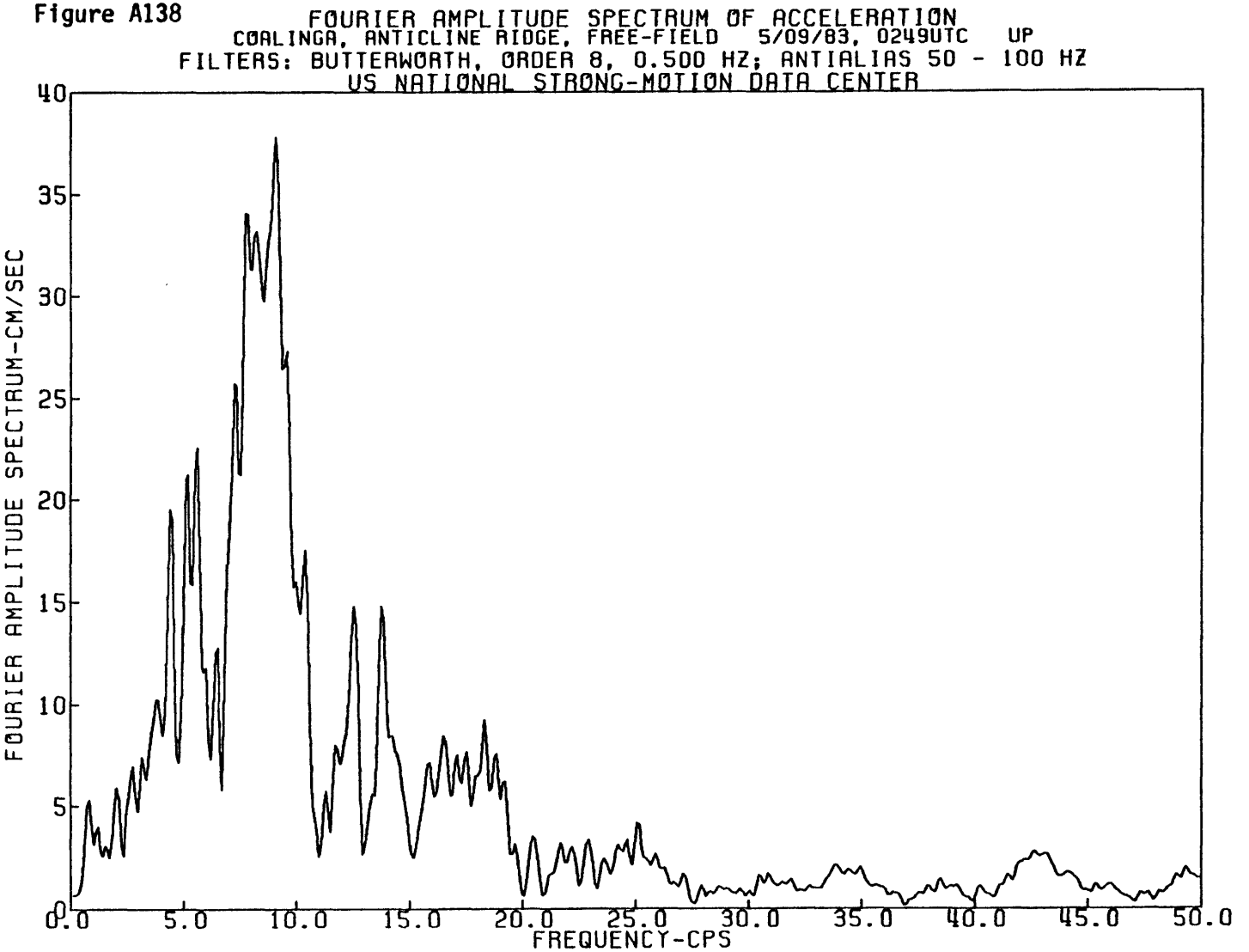

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, ANTICLINE RIDGE, FREE-FIELD 5/09/83, 0249UTC UP
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
0
5
10
15
20
25
30
35
40
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
FREQUENCY-CPS

Figure A139

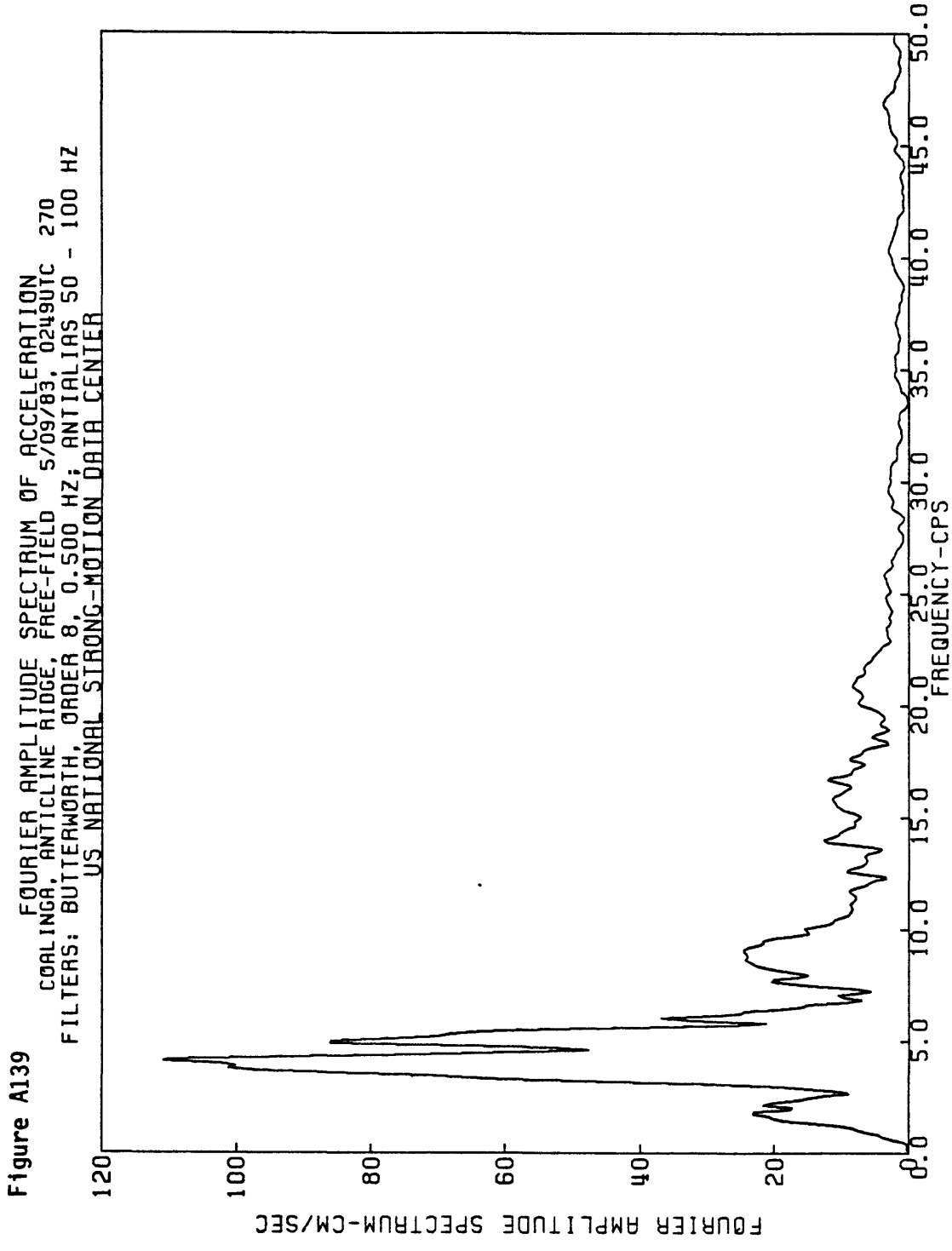

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, ANTICLINE RIDGE, FREE-FIELD 5/09/83, 0249UTC 270
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
120
100
80
60
40
20
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
FREQUENCY-CPS

Figure A140

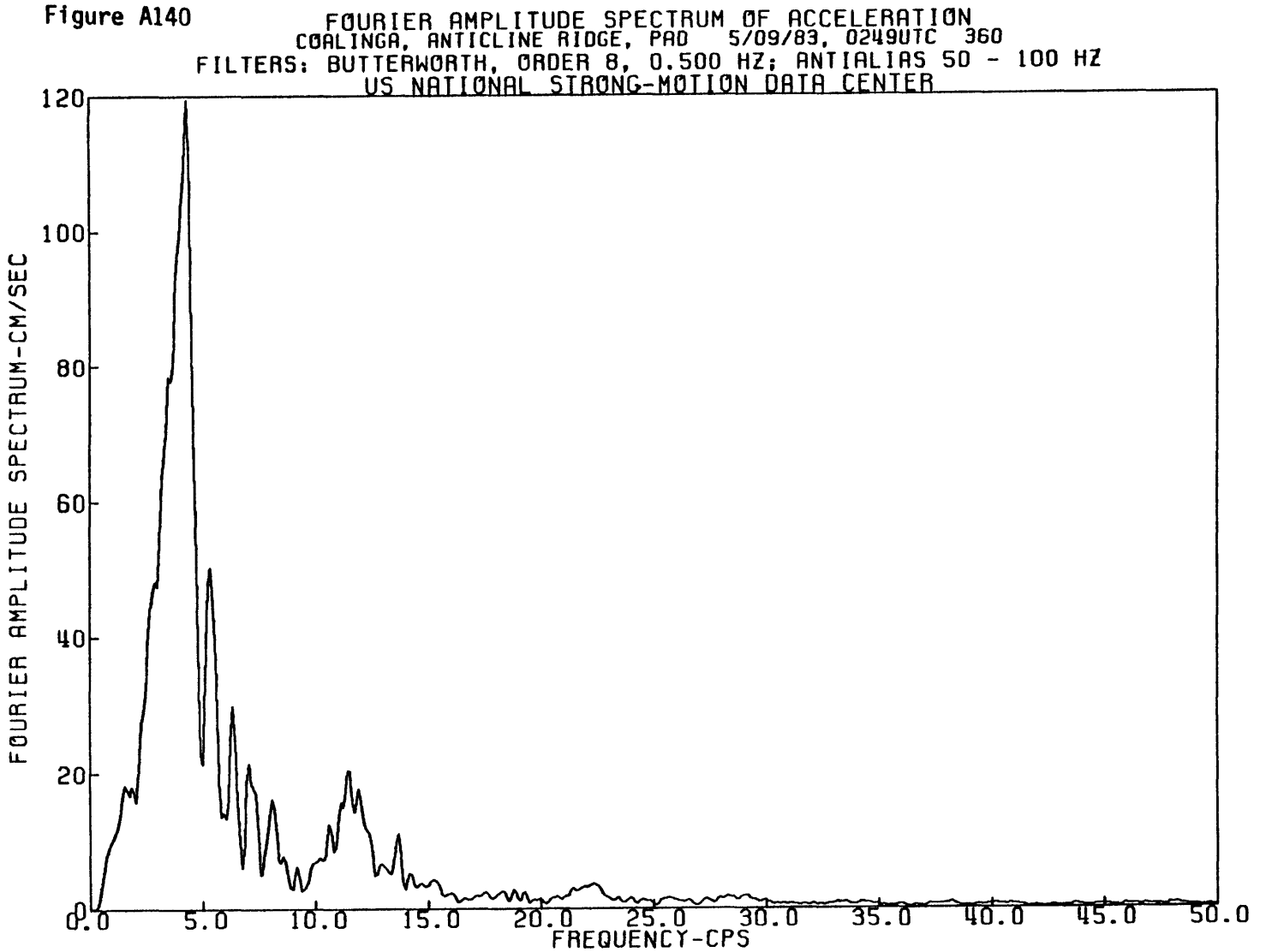

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, ANTICLINE RIDGE, PAD 5/09/83, 0249UTC 360
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
120
100
80
60
40
20
0
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
FREQUENCY-CPS

Figure A141

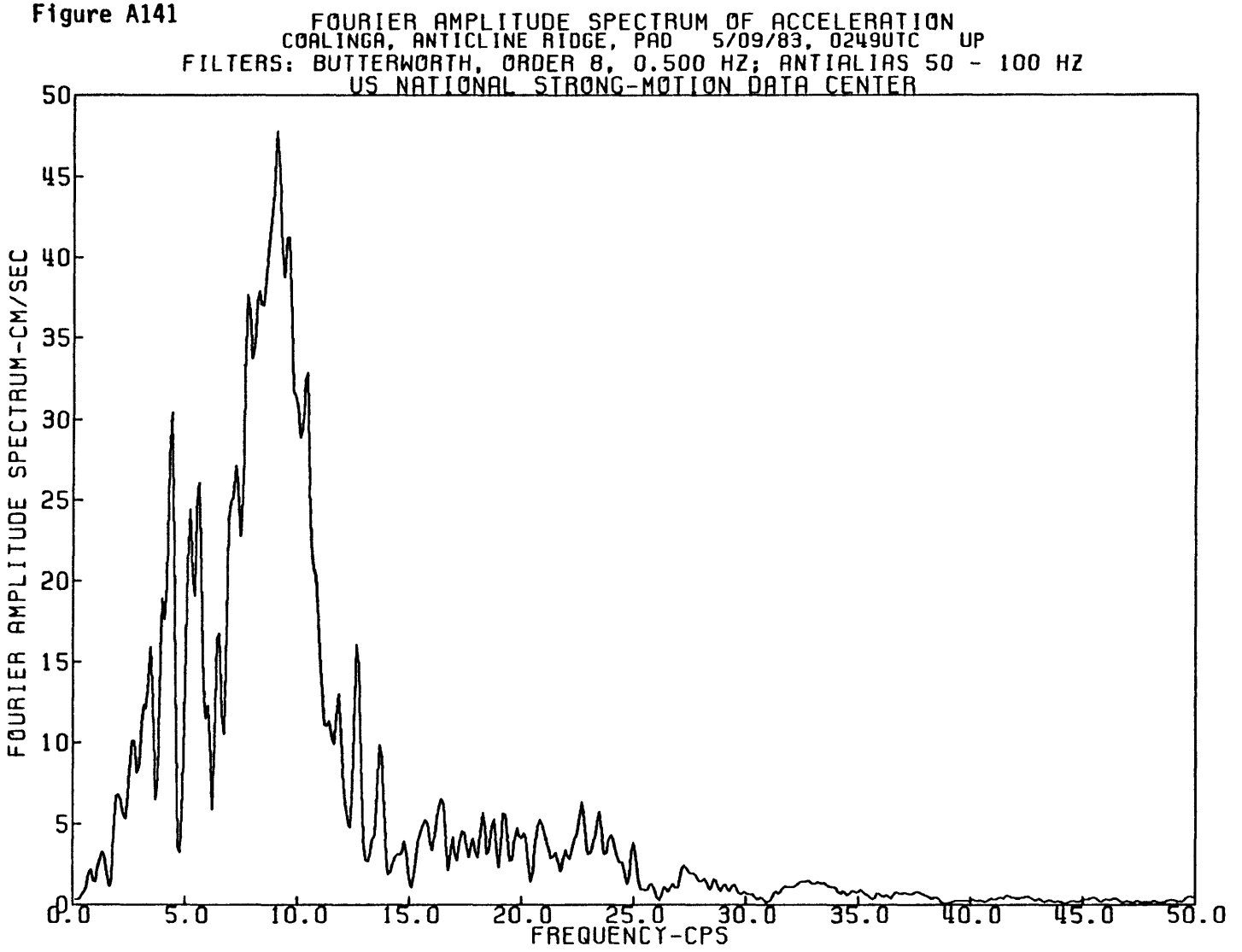

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, ANTICLINE RIDGE, PAD 5/09/83, 0249UTC UP
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
0
5
10
15
20
25
30
35
40
45
50
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
FREQUENCY-CPS

Figure A142

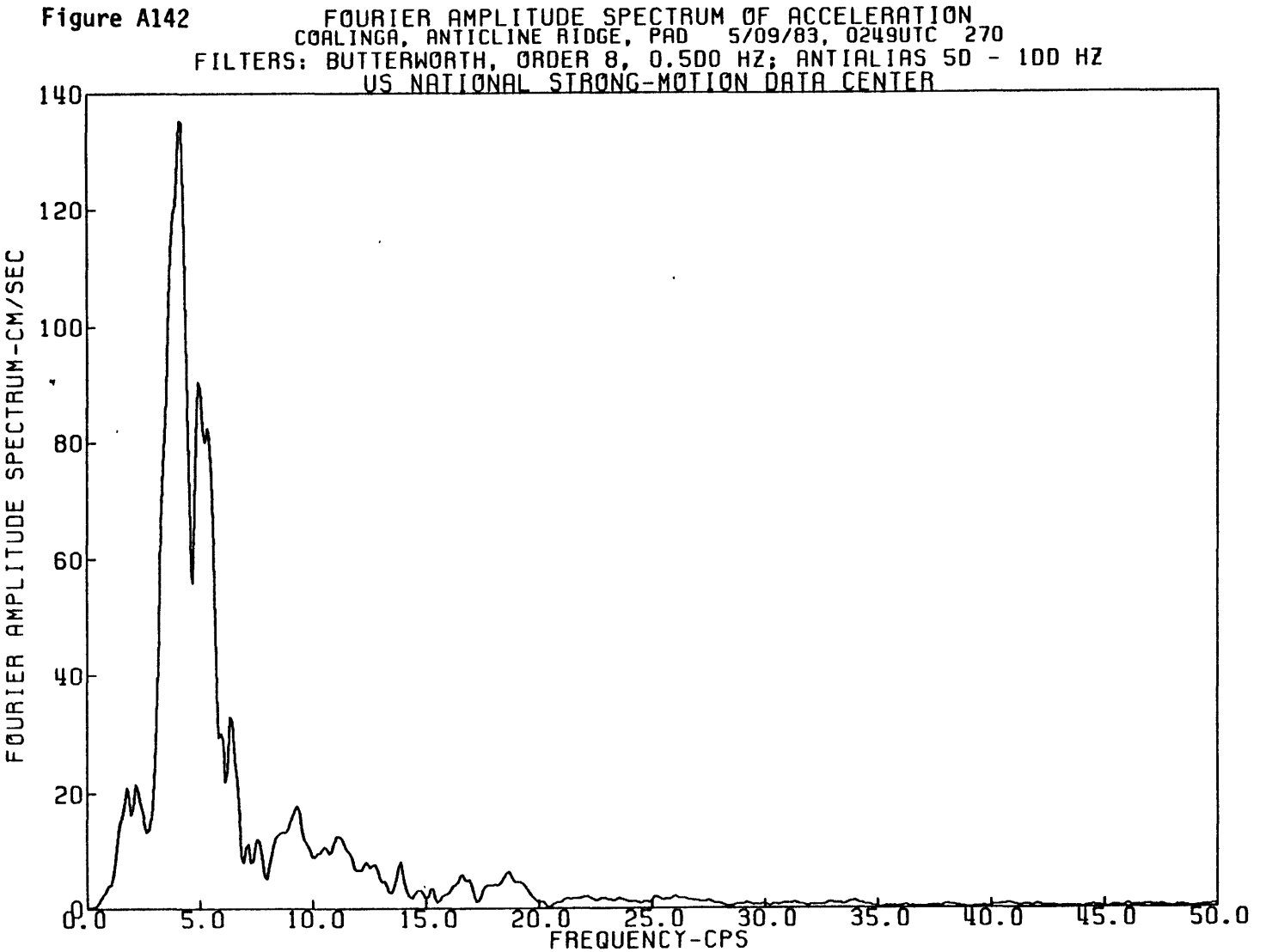

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, ANTICLINE RIDGE, PAD 5/09/83, 0249UTC 270
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
140
120
100
80
60
40
20
0
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
FREQUENCY-CPS

Figure A143

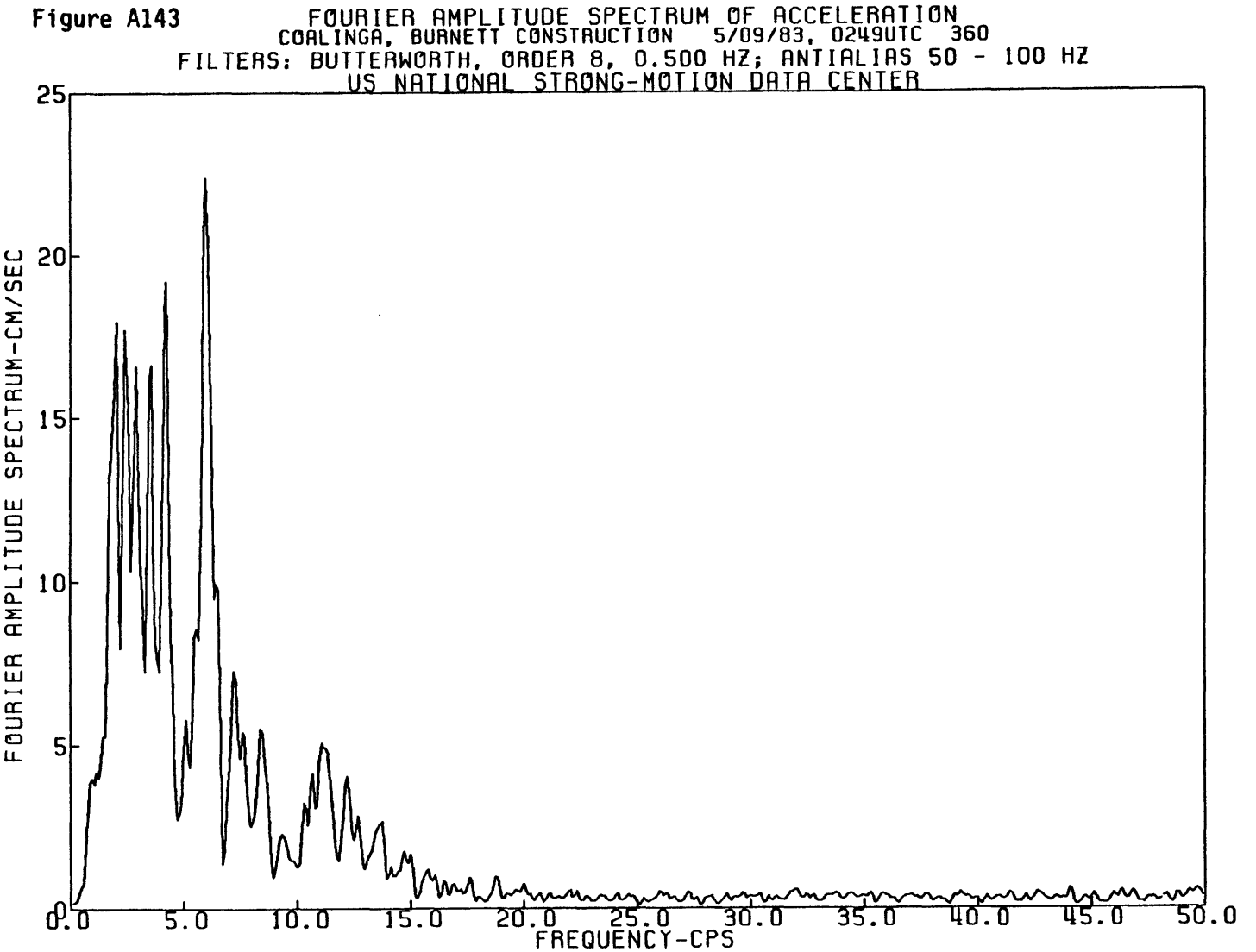

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, BURNETT CONSTRUCTION 5/09/83, 0249UTC 360
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
0
5
10
15
20
25
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
FREQUENCY-CPS

Figure A144

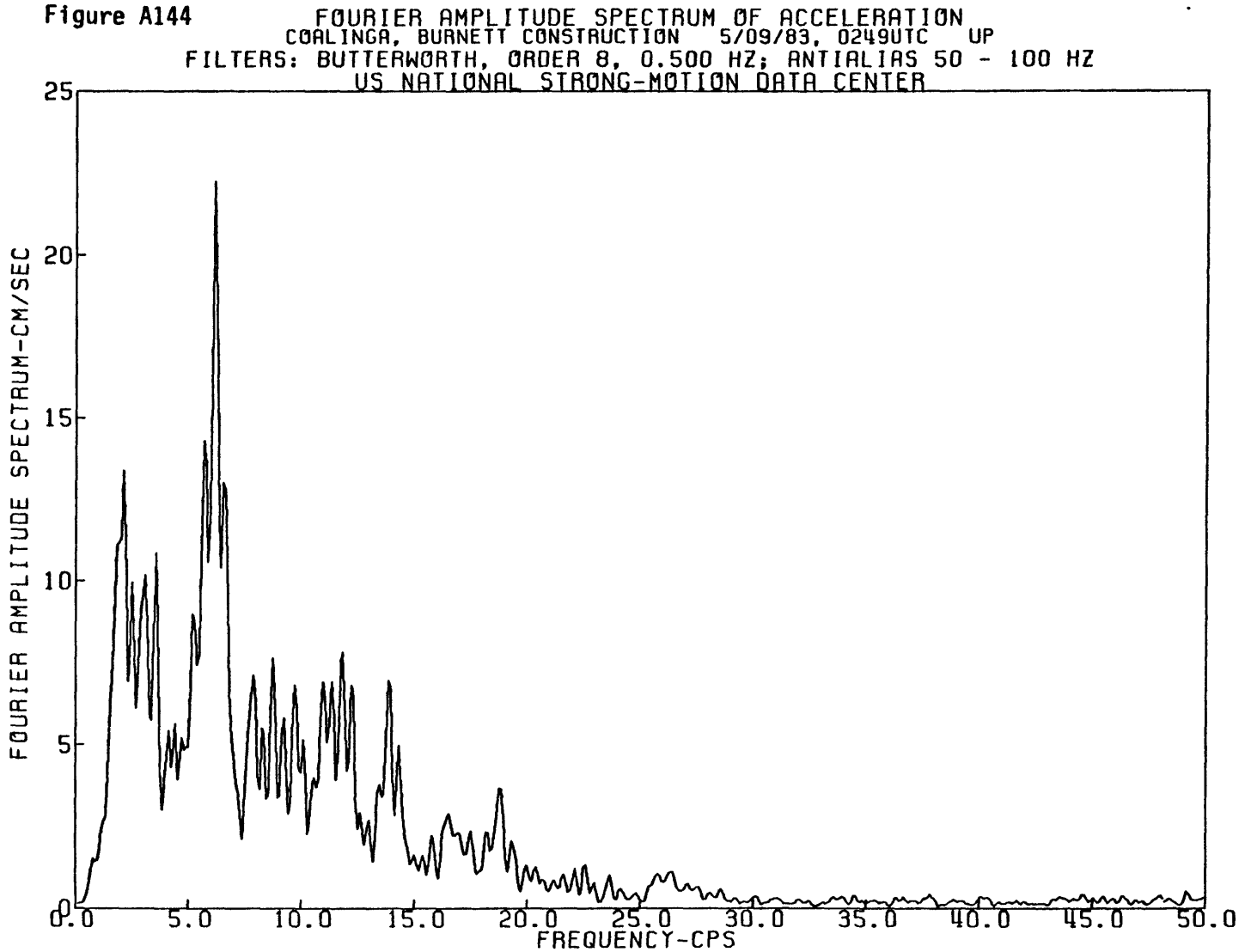

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, BURNETT CONSTRUCTION 5/09/83, 0249UTC UP
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
0
5
10
15
20
25
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
FREQUENCY-CPS

Figure A145

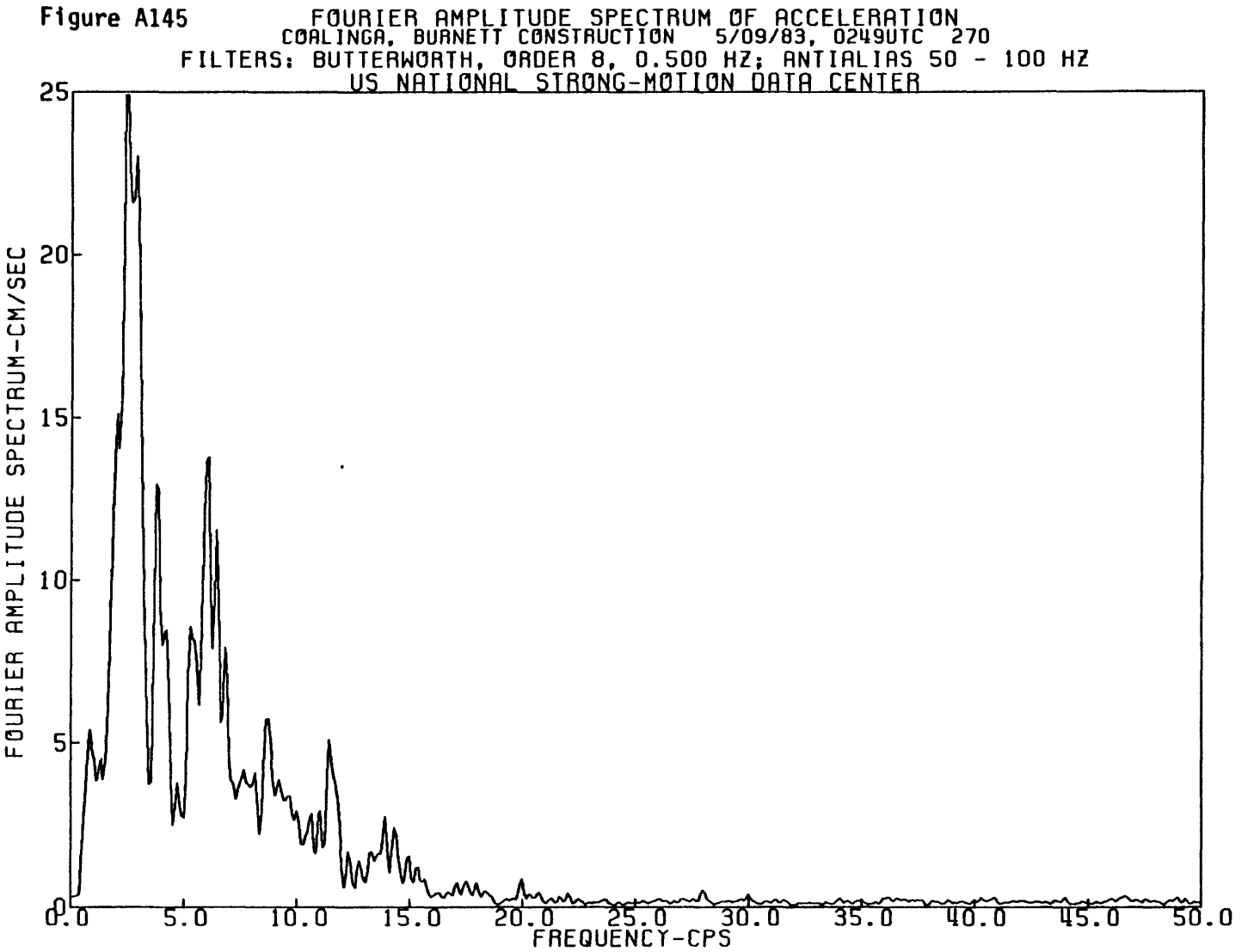

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, BURNETT CONSTRUCTION 5/09/83, 0249UTC 270
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
25
20
15
10
5
0
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
FREQUENCY-CPS

Figure A146

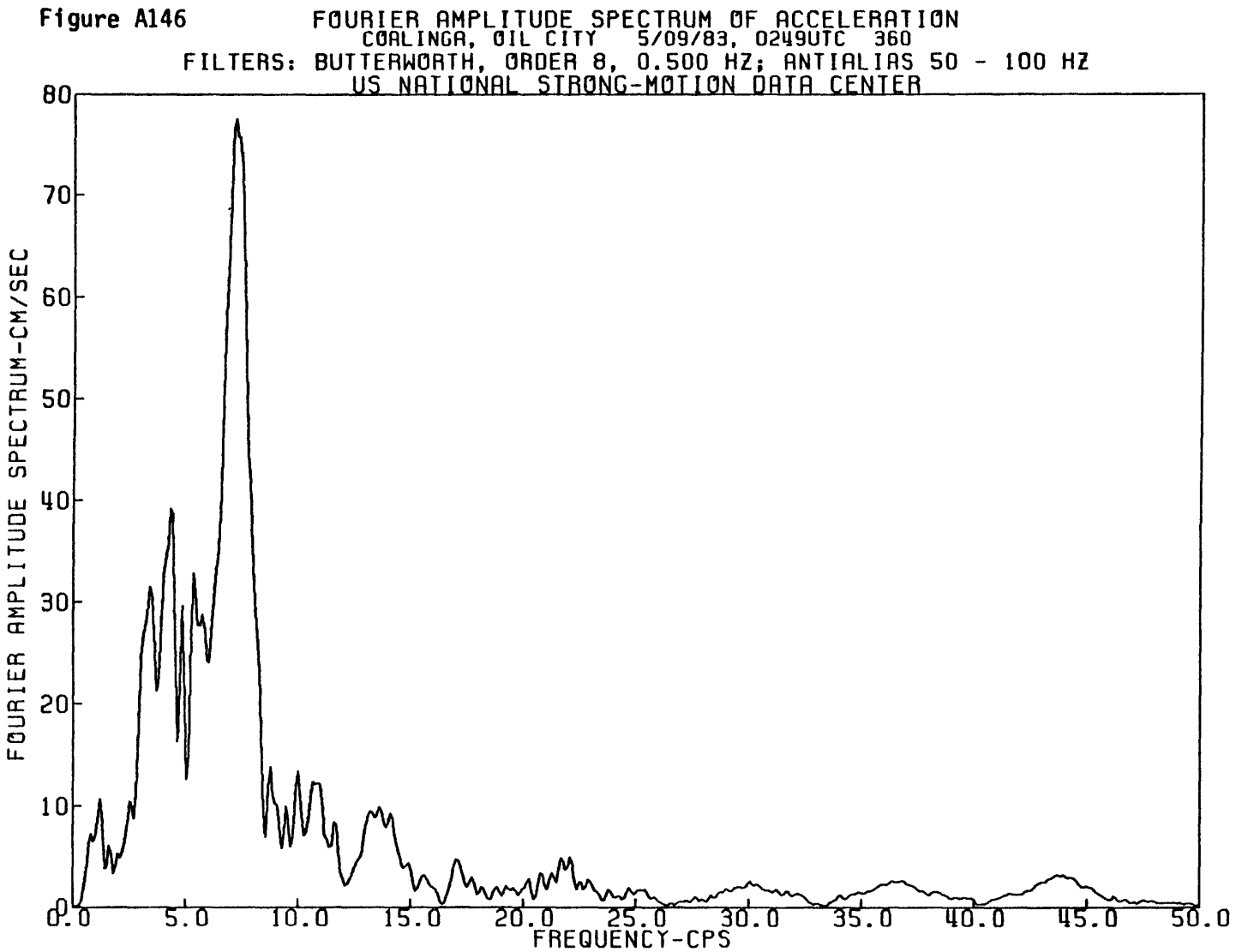

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, OIL CITY 5/09/83, 0249UTC 360
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
0
10
20
30
40
50
60
70
80
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
FREQUENCY-CPS

Figure A147

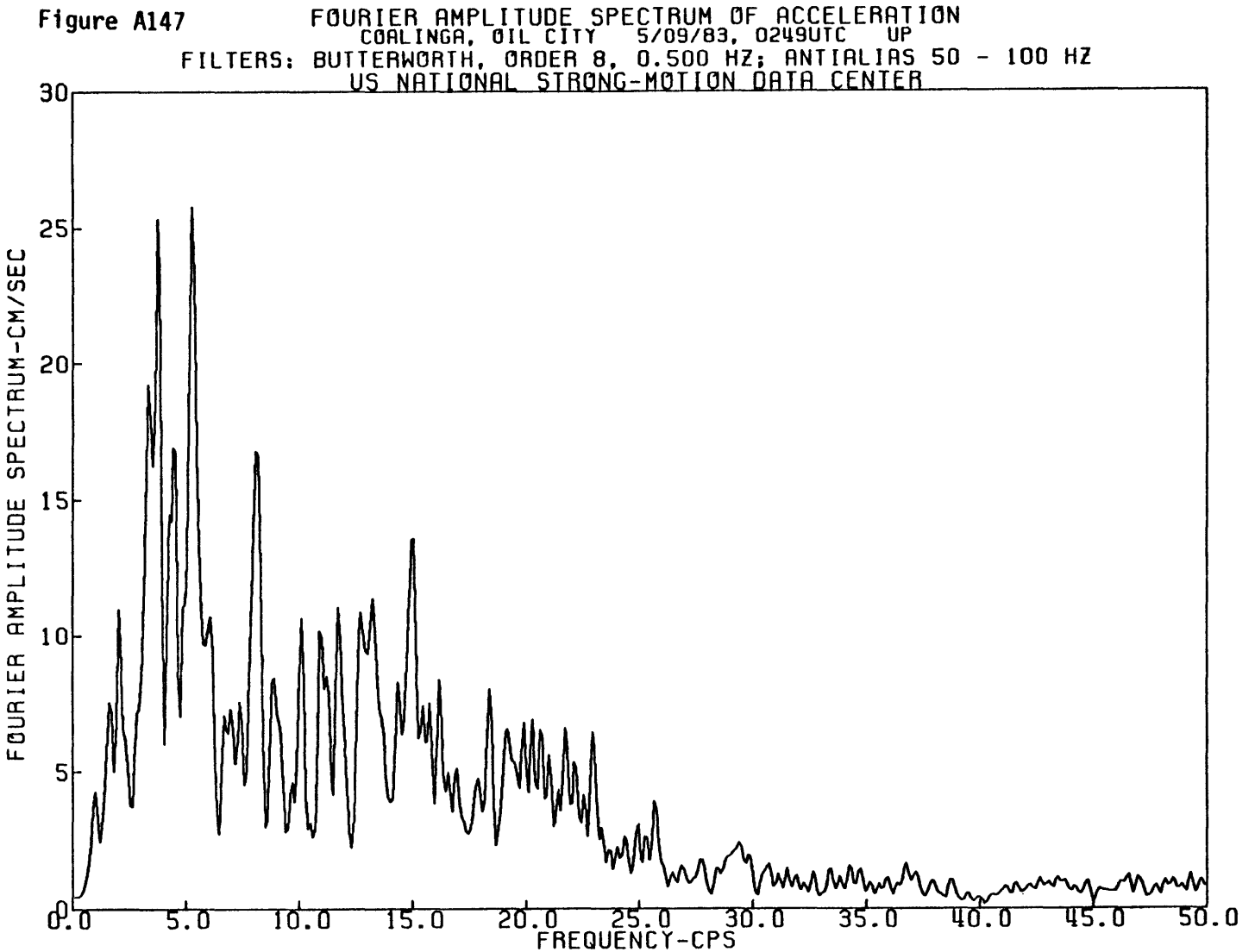

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, OIL CITY 5/09/83, 0249UTC UP
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
FREQUENCY-CPS
0
5
10
15
20
25
30
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0

Figure A148

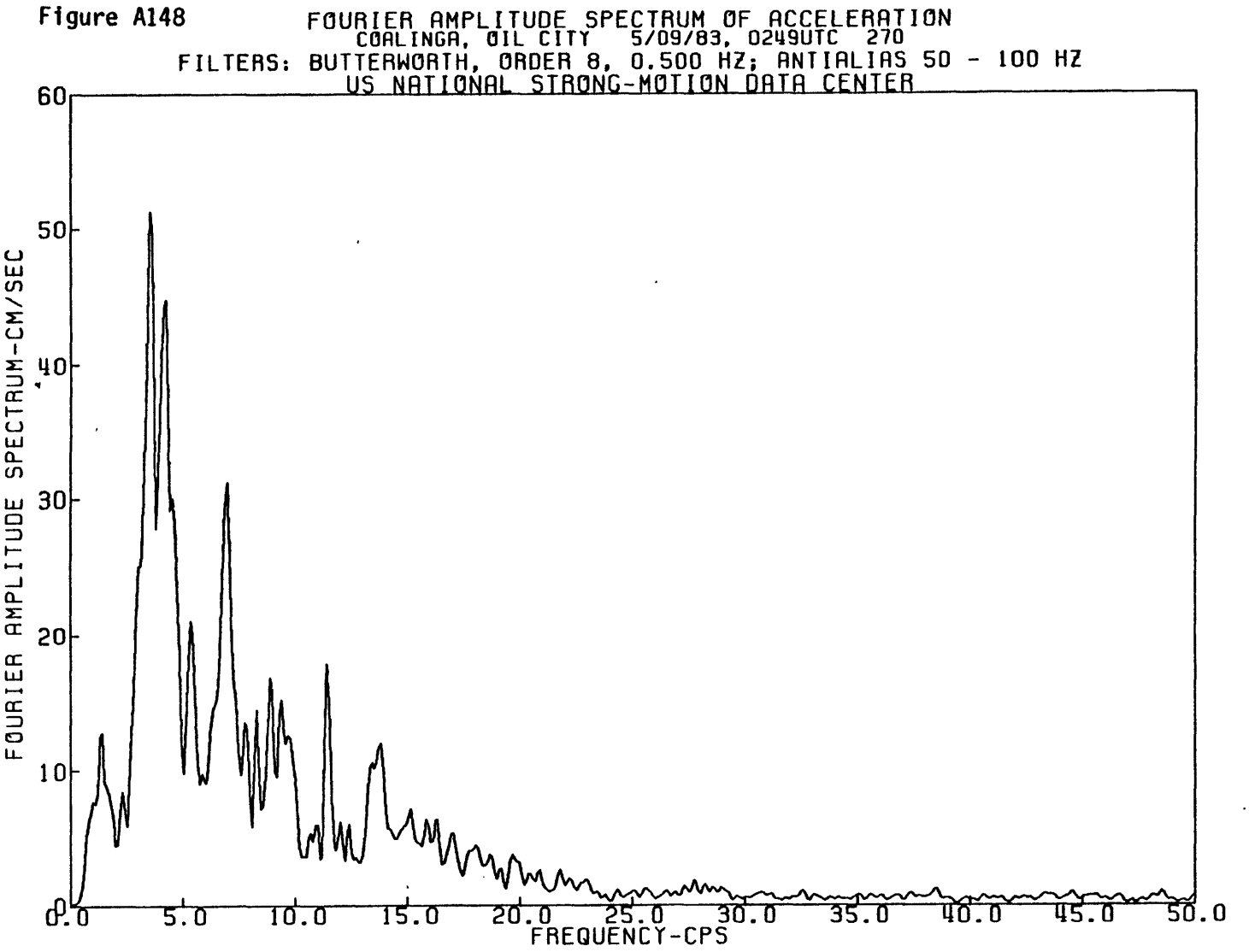

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, OIL CITY 5/09/83, 0249UTC 270
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
FREQUENCY-CPS
0
10
20
30
40
50
60
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0

Figure A149

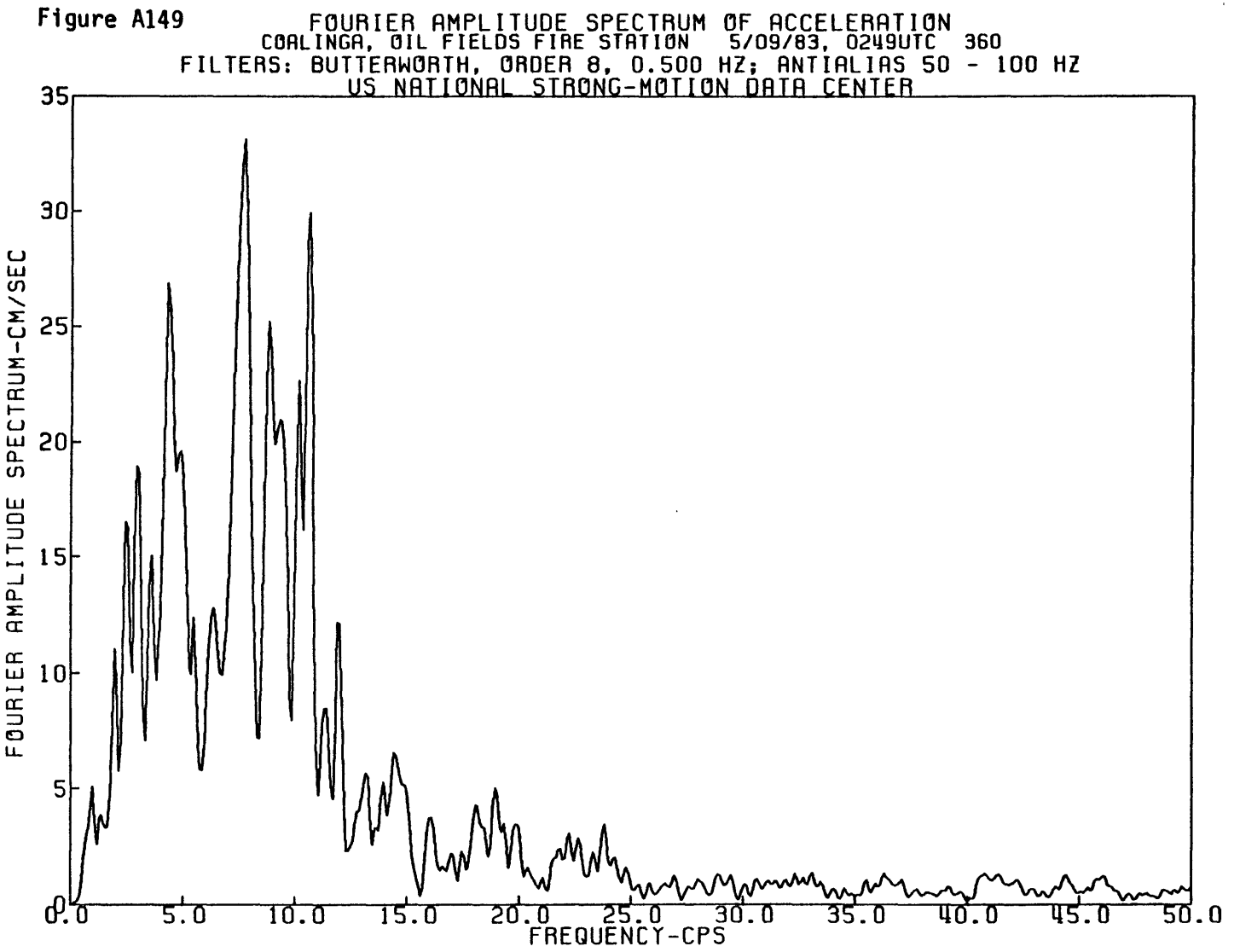

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, OIL FIELDS FIRE STATION 5/09/83, 0249UTC 360
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
FREQUENCY-CPS
0
5
10
15
20
25
30
35
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0

Figure A150

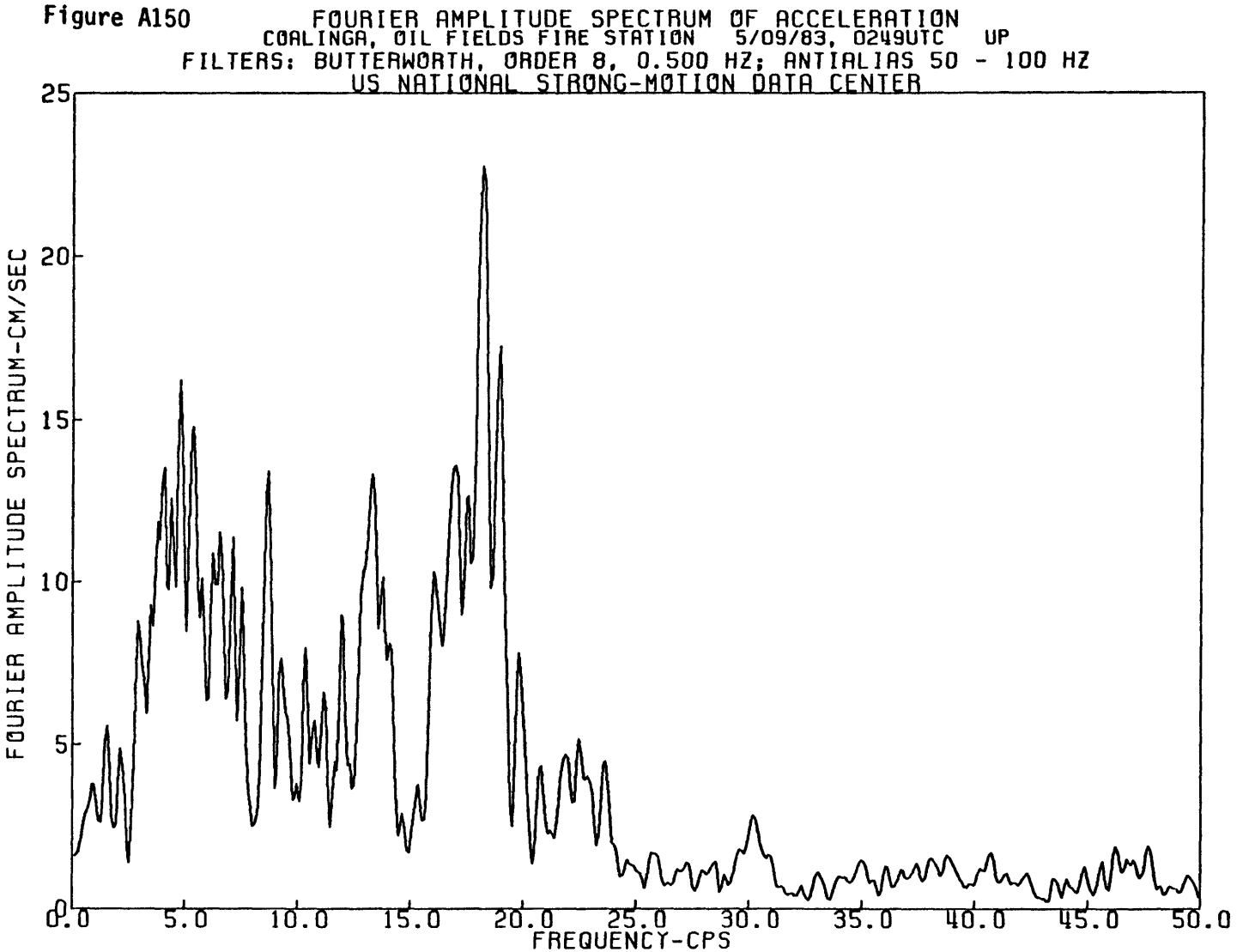

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, OIL FIELDS FIRE STATION 5/09/83, 0249UTC UP
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
FREQUENCY-CPS
0
5
10
15
20
25
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0

Figure A151

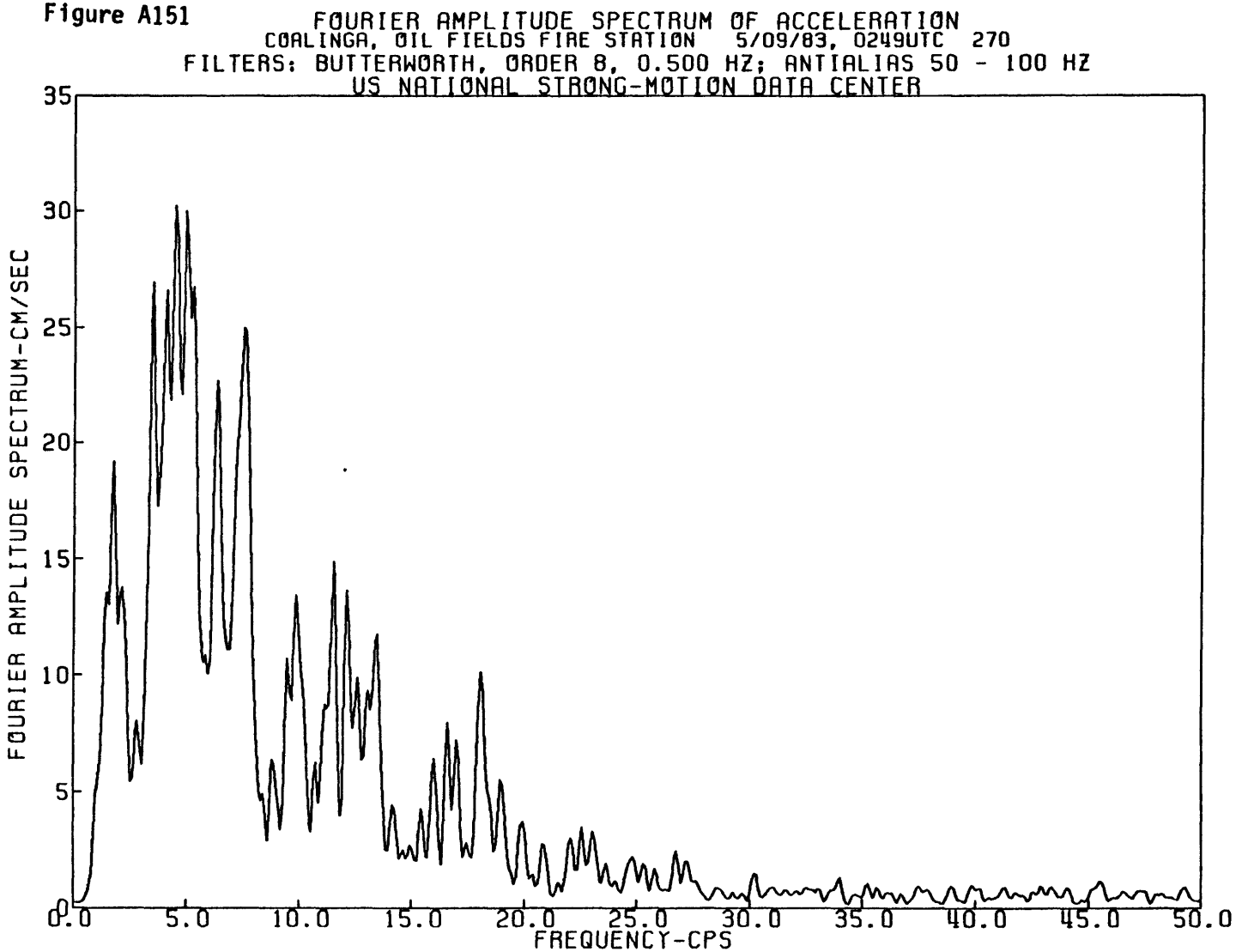

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, OIL FIELDS FIRE STATION 5/09/83, 0249UTC 270
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
0
5
10
15
20
25
30
35
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
FREQUENCY-CPS

Figure A152

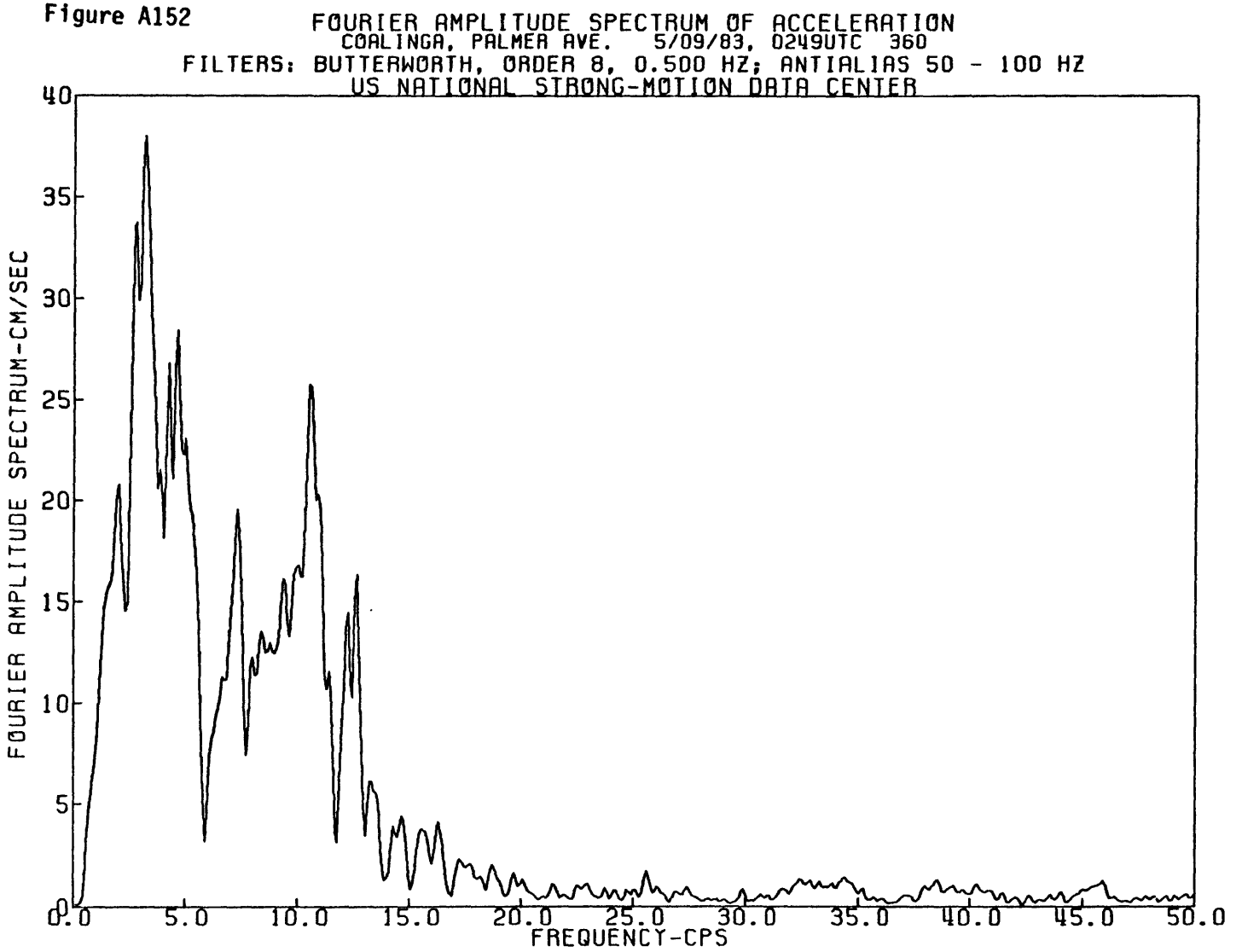

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, PALMER AVE. 5/09/83, 0249UTC 360
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
FREQUENCY-CPS
0
5
10
15
20
25
30
35
40
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0

Figure A153

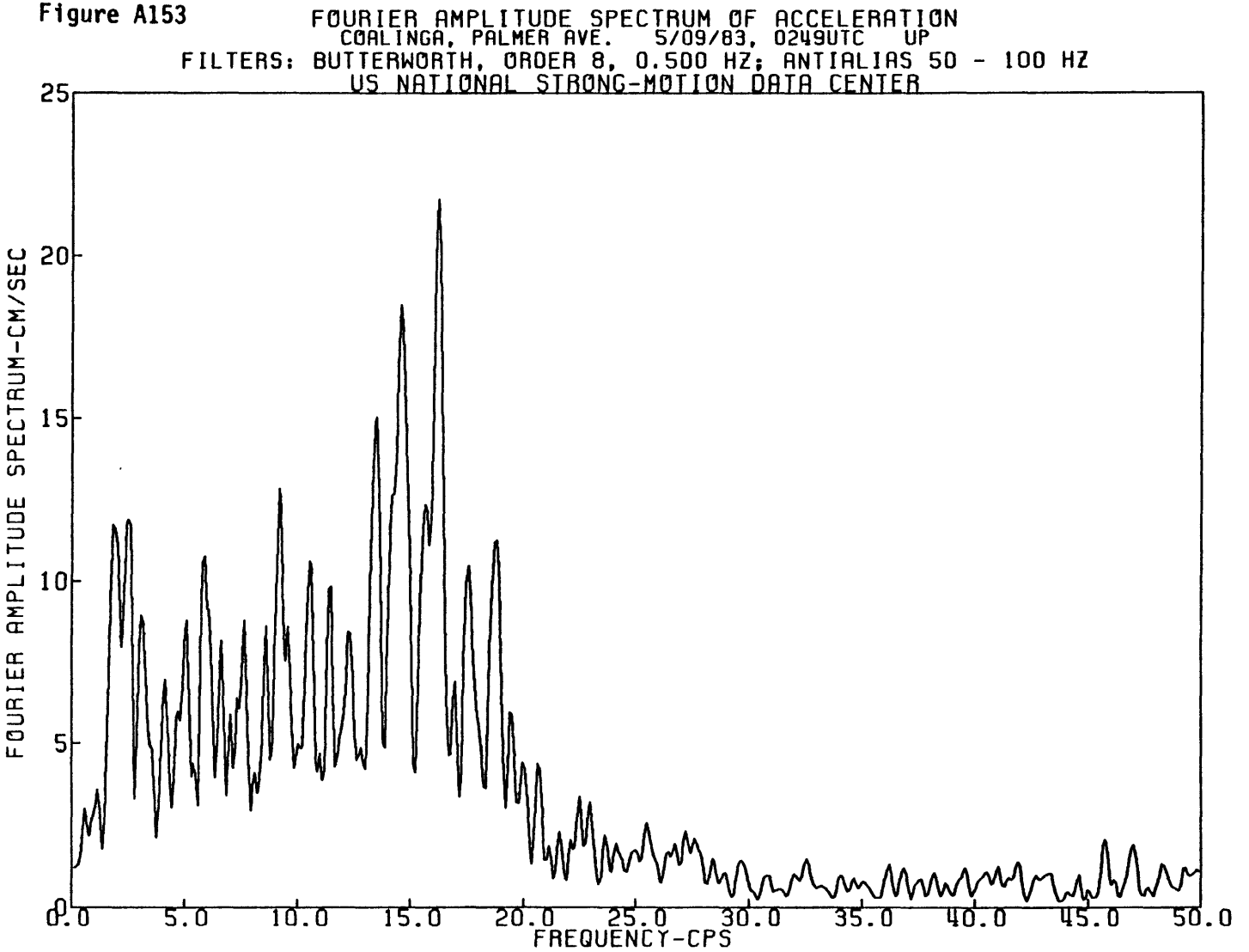
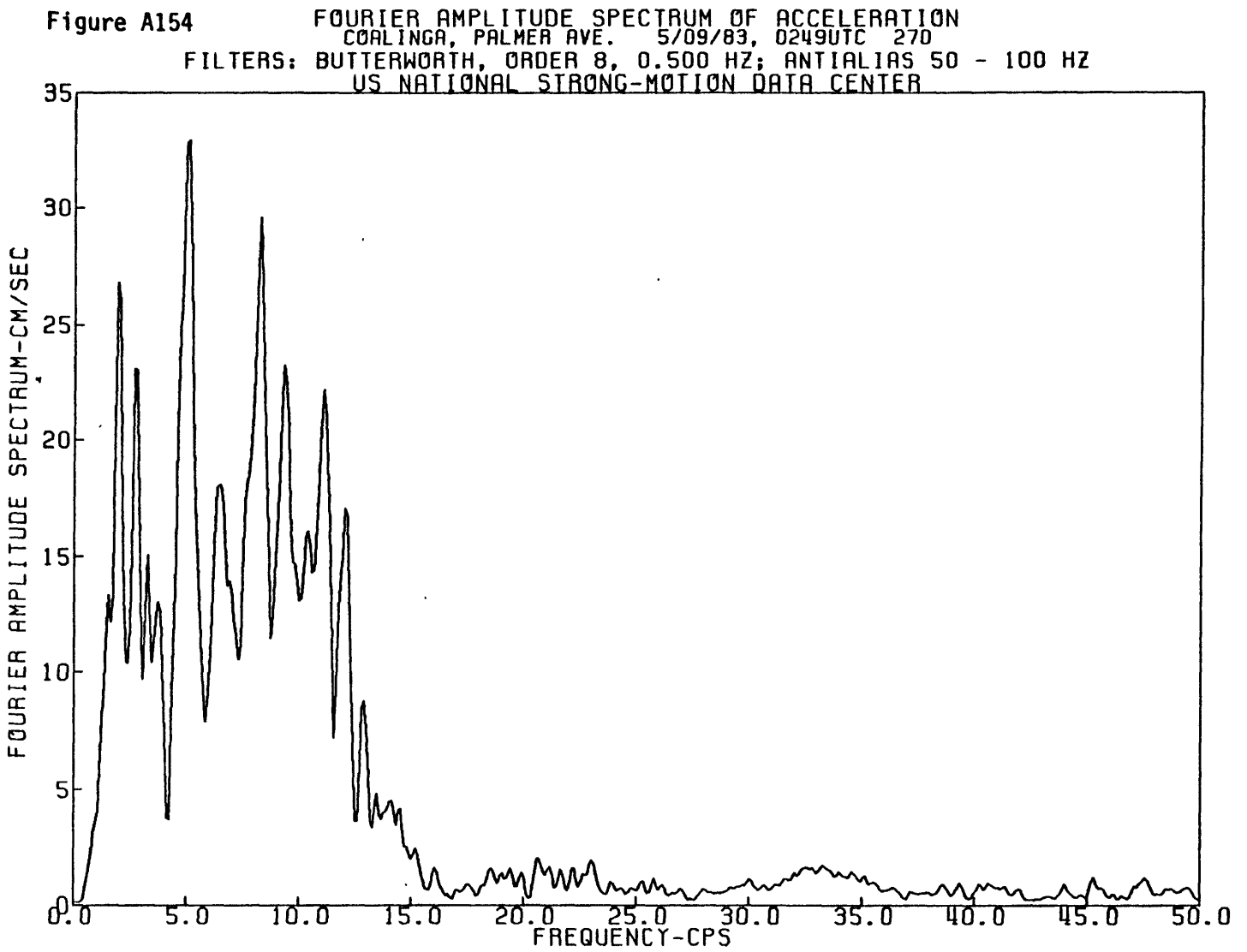

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, PALMER AVE. 5/09/83, 0249UTC UP
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
0
5
10
15
20
25
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
FREQUENCY-CPS

Figure A154


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, PALMER AVE. 5/09/83, 0249UTC 270
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
0
5
10
15
20
25
30
35
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
FREQUENCY-CPS

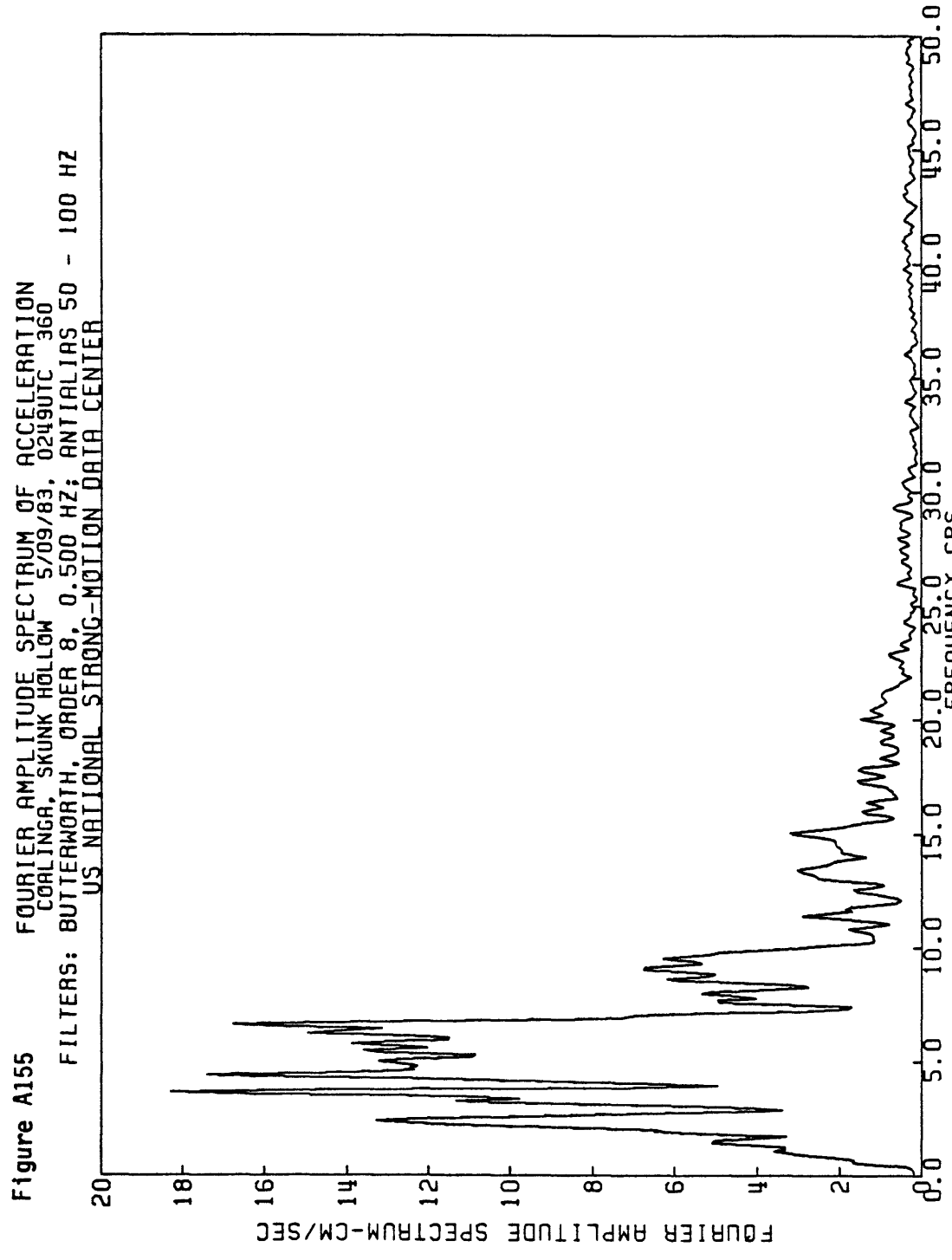

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, SKUNK HOLLOW 5/09/83, 0249UTC 360
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
FREQUENCY-CPS
0.0
2
4
6
8
10
12
14
16
18
20
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0

Figure A155

Figure A156

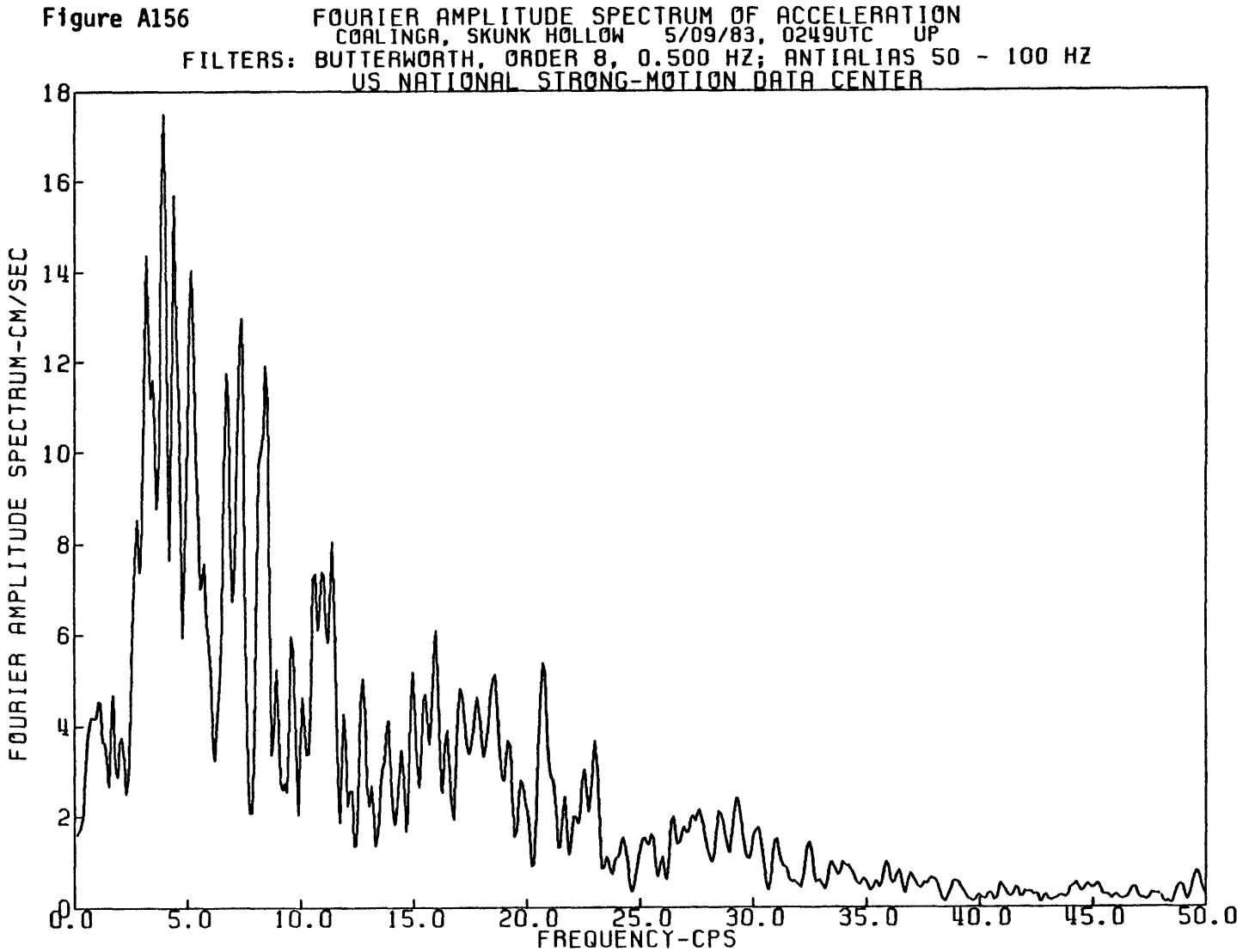

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, SKUNK HOLLOW 5/09/83, 0249UTC UP
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
FREQUENCY-CPS
0
2
4
6
8
10
12
14
16
18
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0

Figure A157

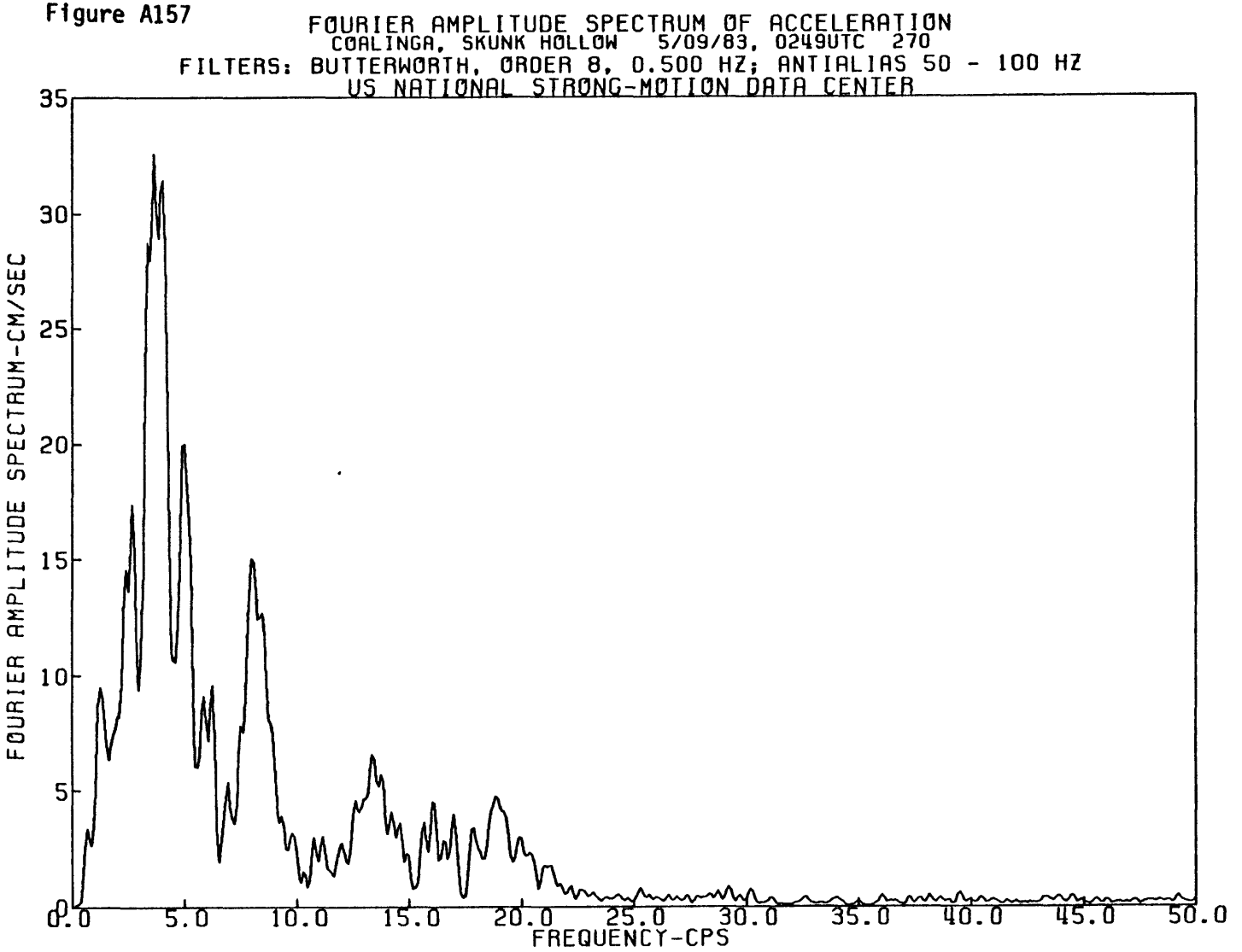

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, SKUNK HOLLOW 5/09/83, 0249UTC 270
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
FREQUENCY-CPS
0
5
10
15
20
25
30
35
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0

Figure A158

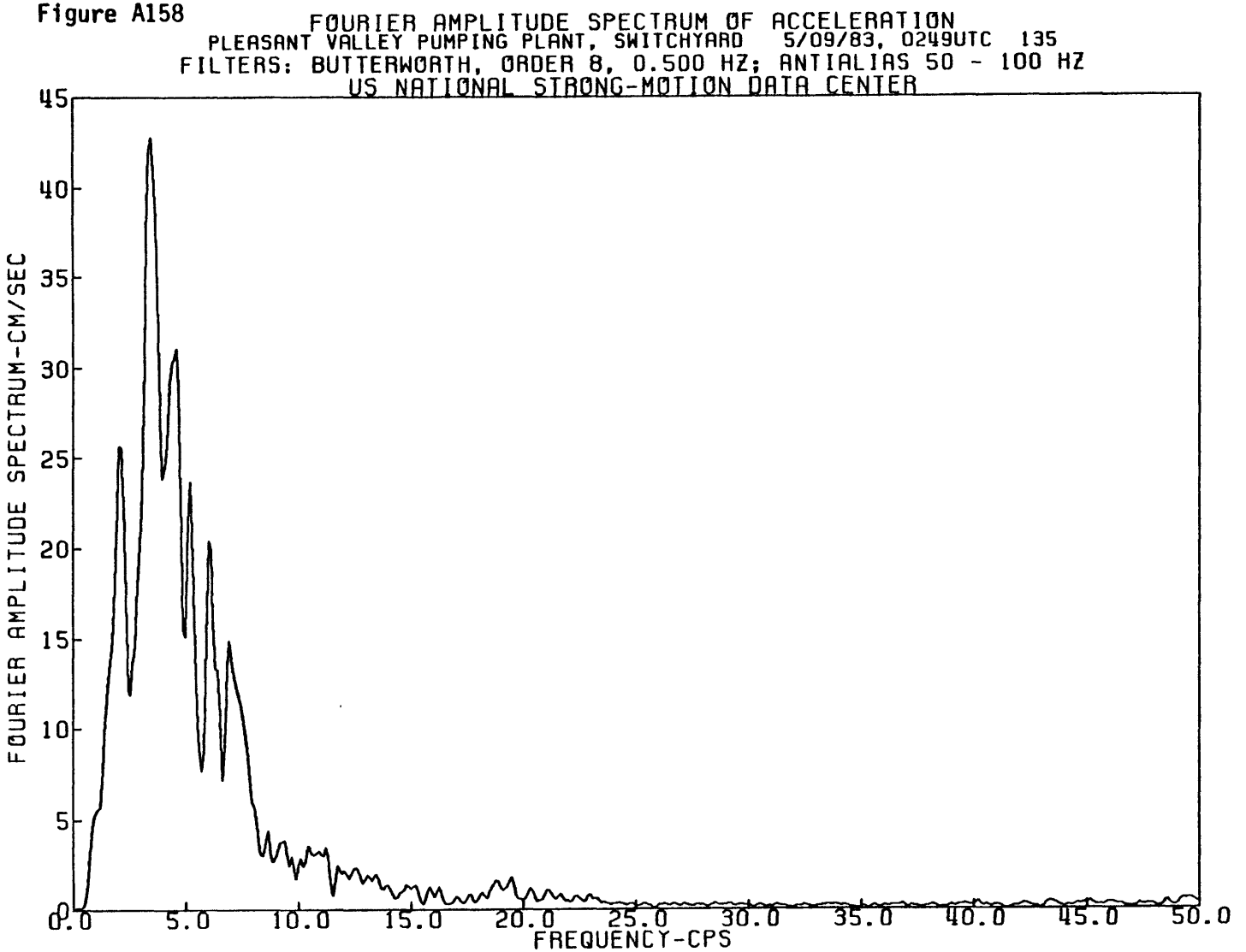

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT, SWITCHYARD 5/09/83, 0249UTC 135
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
0
5
10
15
20
25
30
35
40
45
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
FREQUENCY-CPS

Figure A159

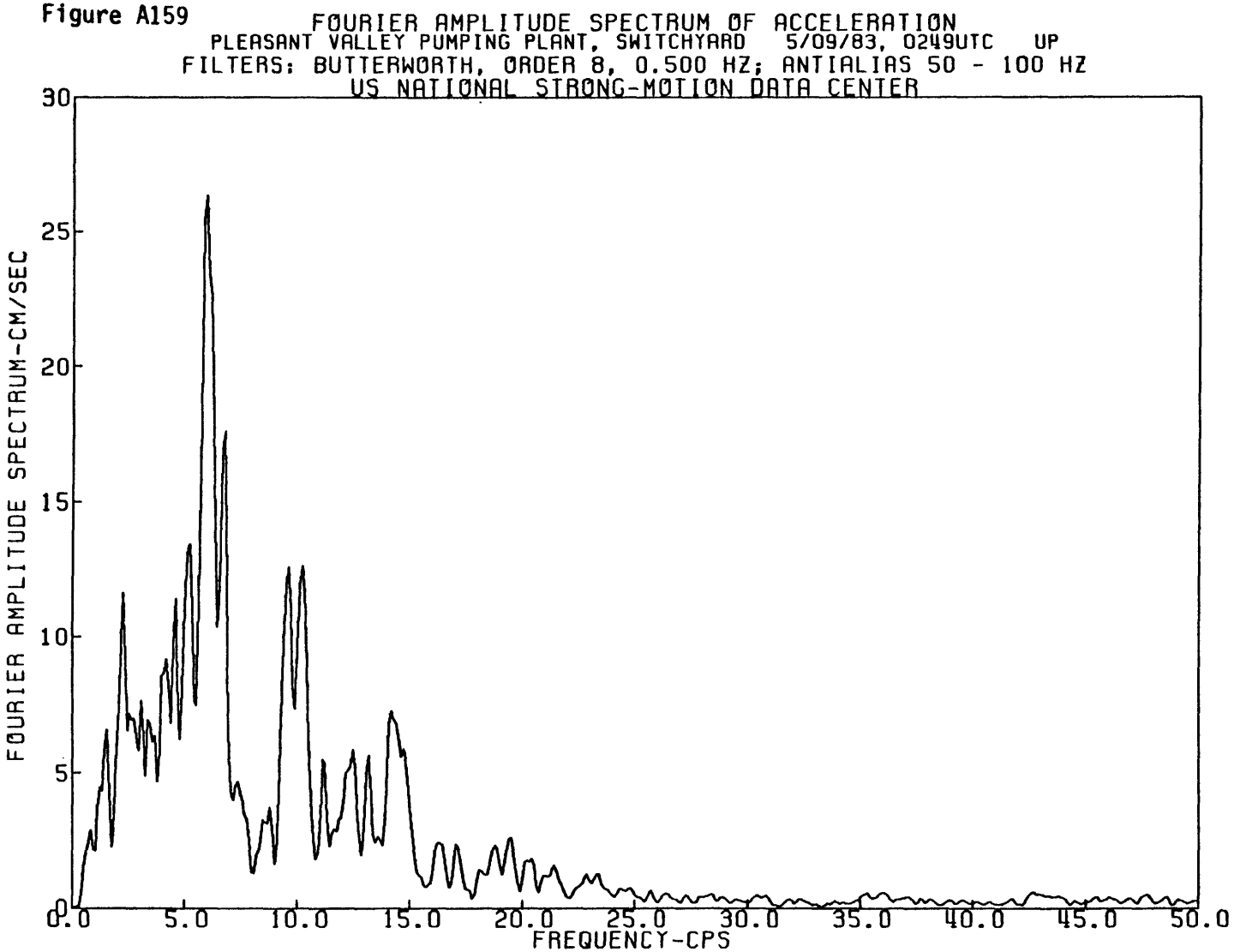

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT, SWITCHYARD 5/09/83, 0249UTC UP
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
0
5
10
15
20
25
30
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
FREQUENCY-CPS

Figure A160

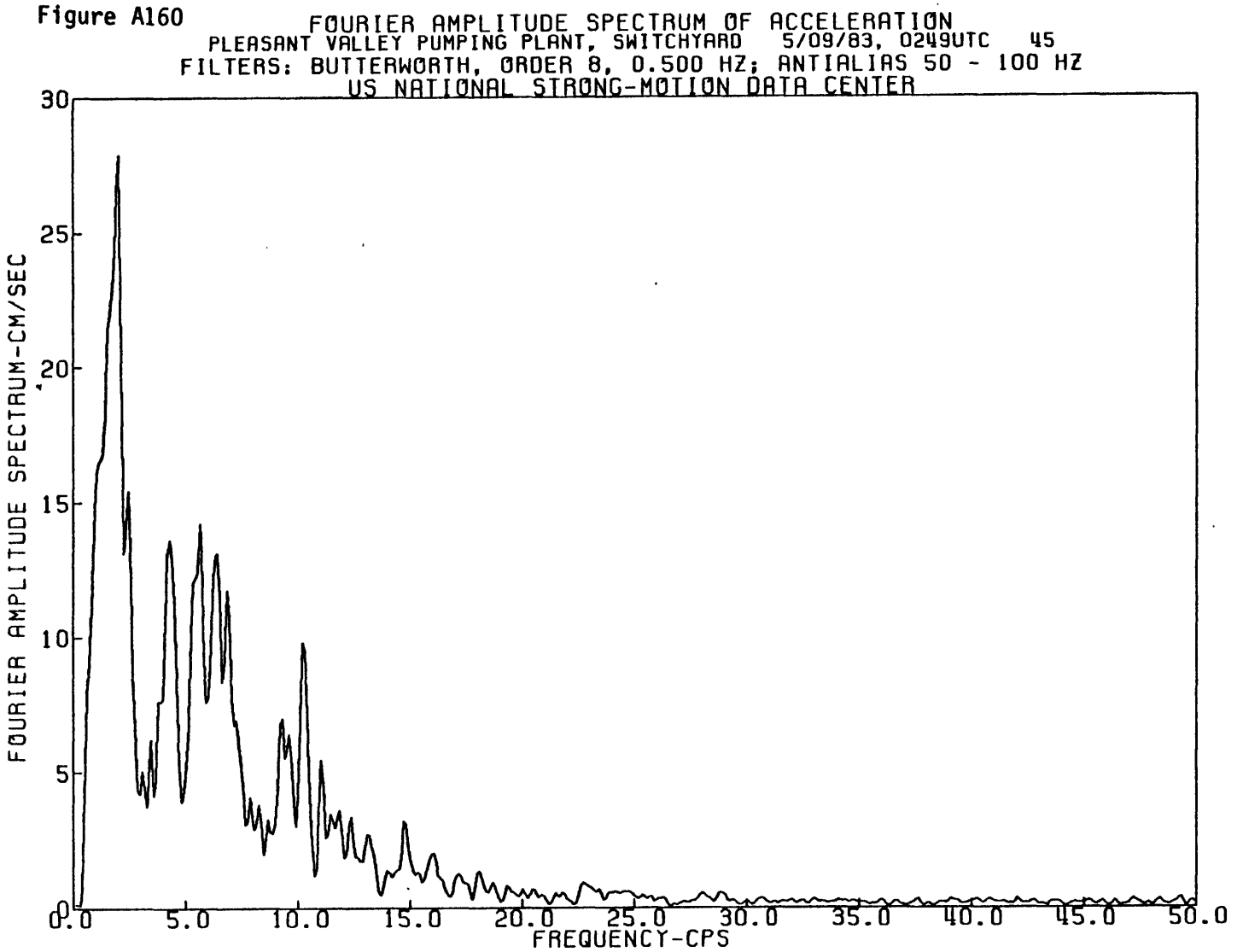

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT, SWITCHYARD 5/09/83, 0249UTC 45
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
0
5
10
15
20
25
30
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
FREQUENCY-CPS

Figure A161

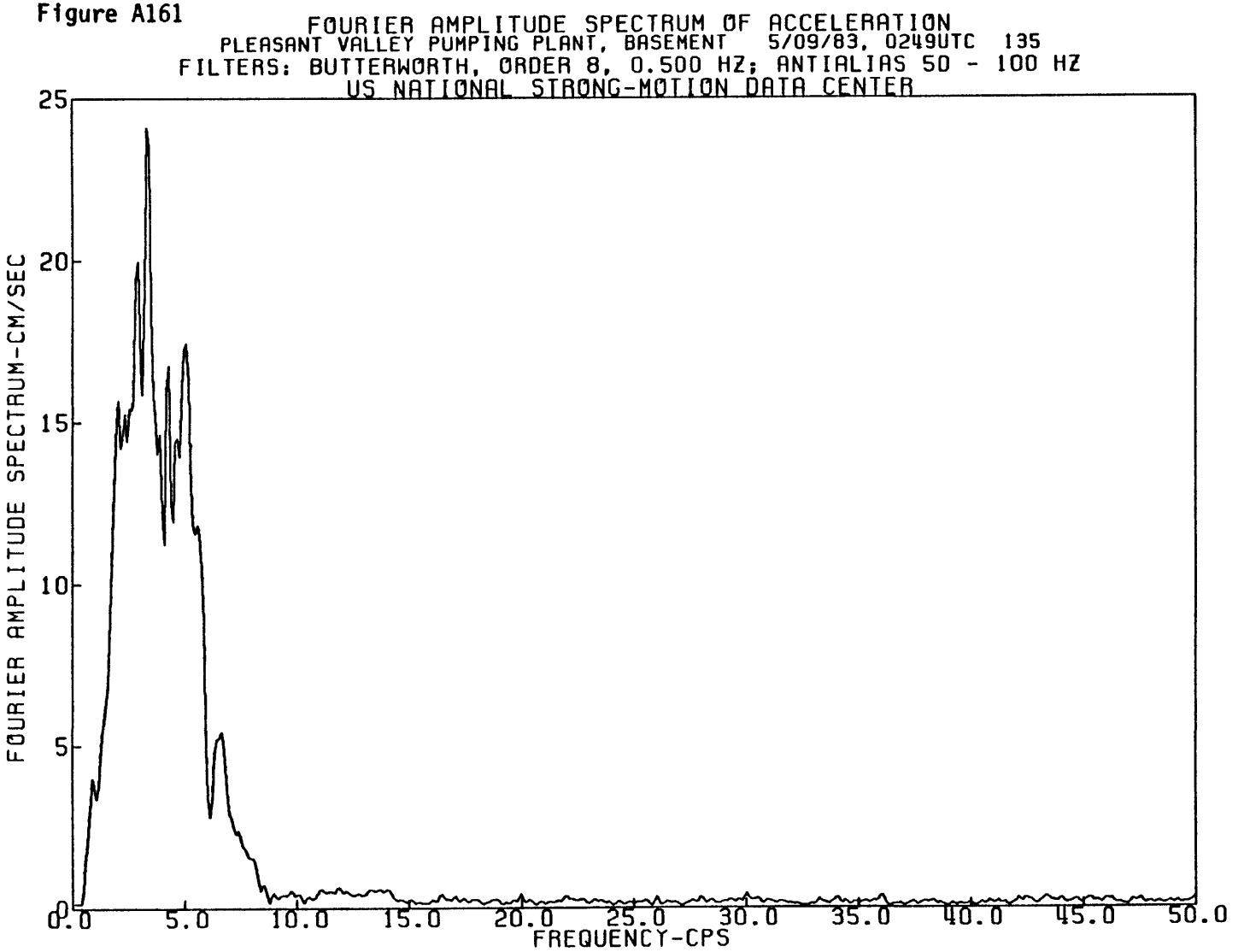

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT, BASEMENT 5/09/83, 0249UTC 135
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
25
20
15
10
5
0
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
FREQUENCY-CPS

Figure A162

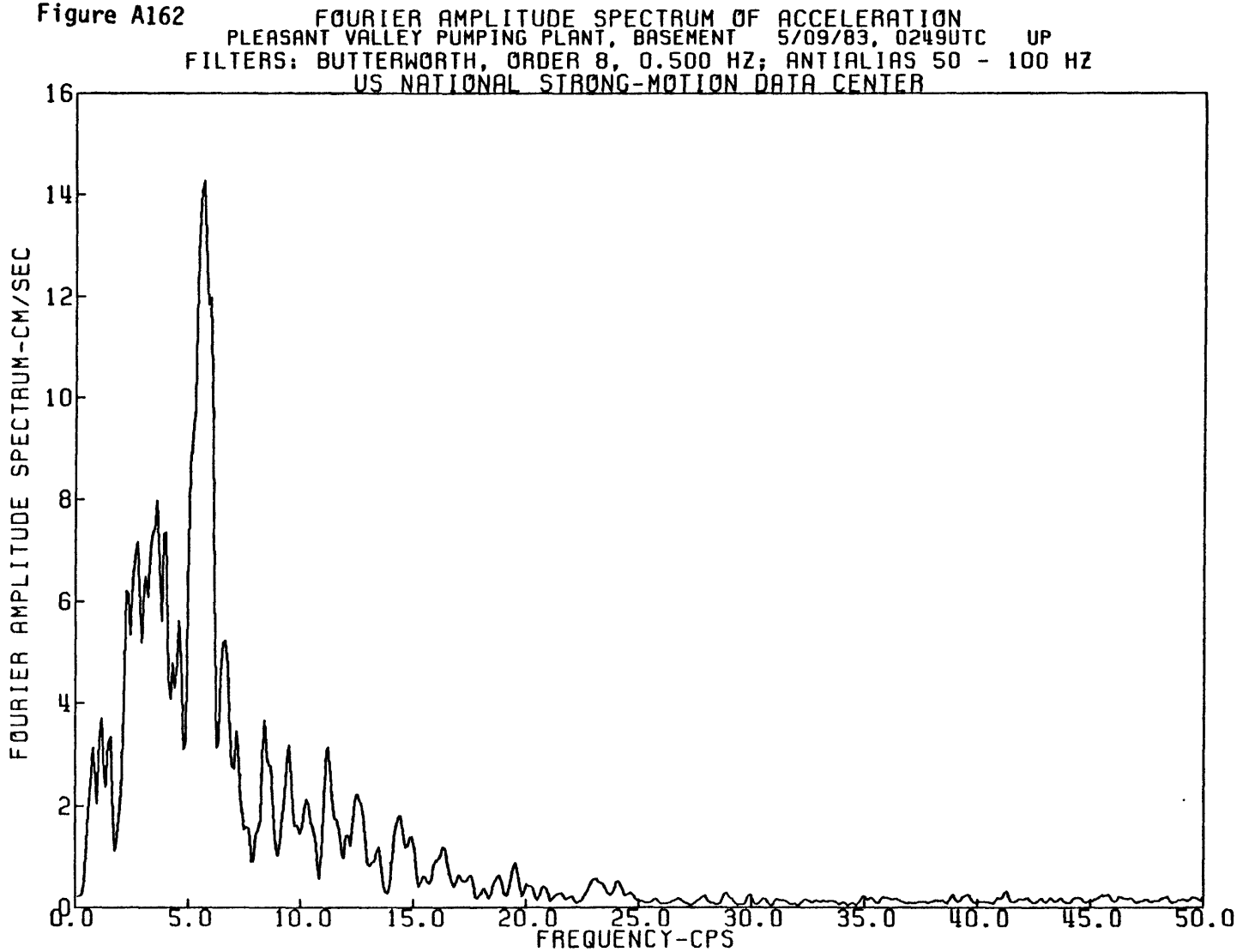

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT, BASEMENT 5/09/83, 0249UTC UP
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
0
2
4
6
8
10
12
14
16
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
FREQUENCY-CPS

Figure A163

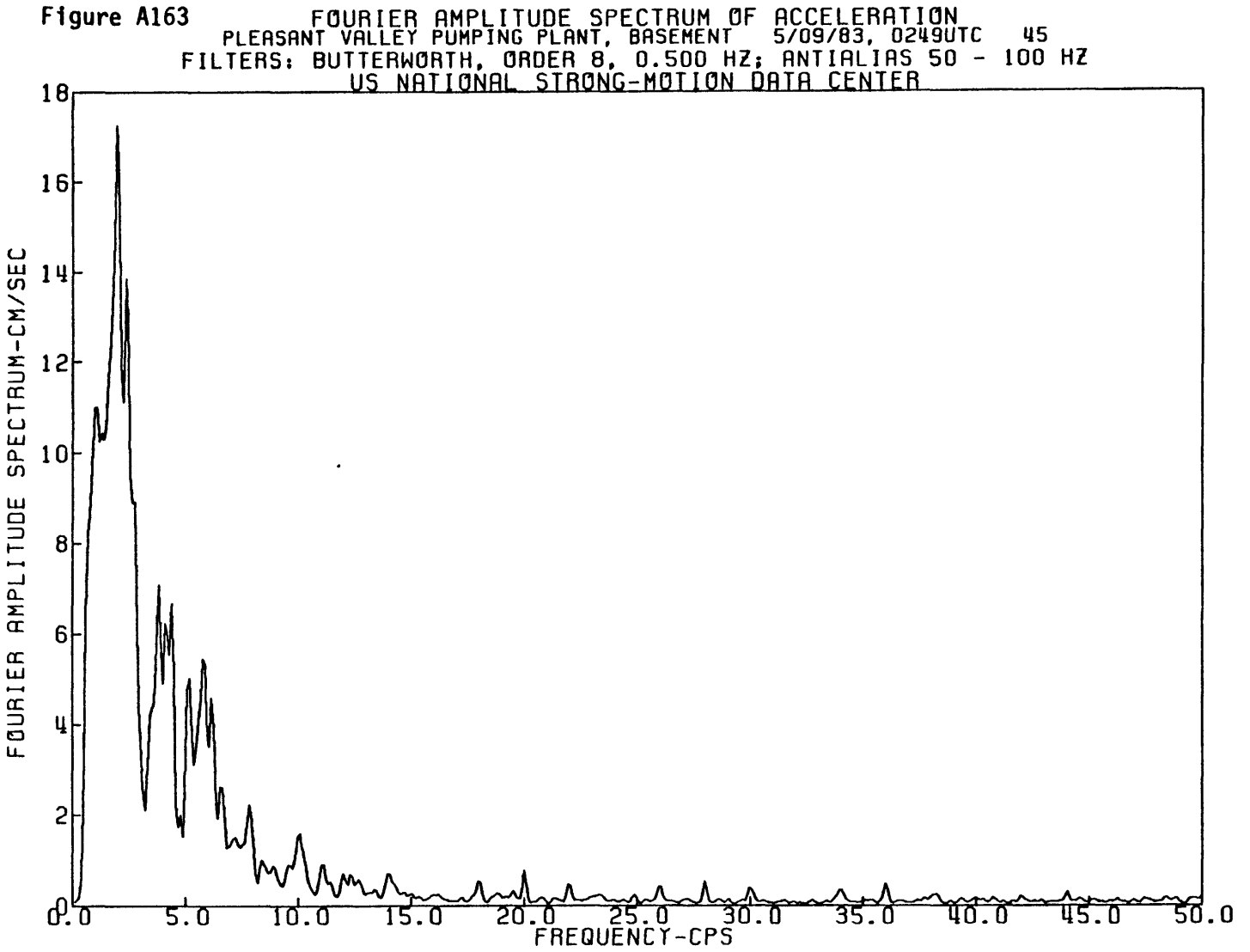

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT, BASEMENT 5/09/83, 0249UTC 45
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
0
2
4
6
8
10
12
14
16
18
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
FREQUENCY-CPS

Figure A164

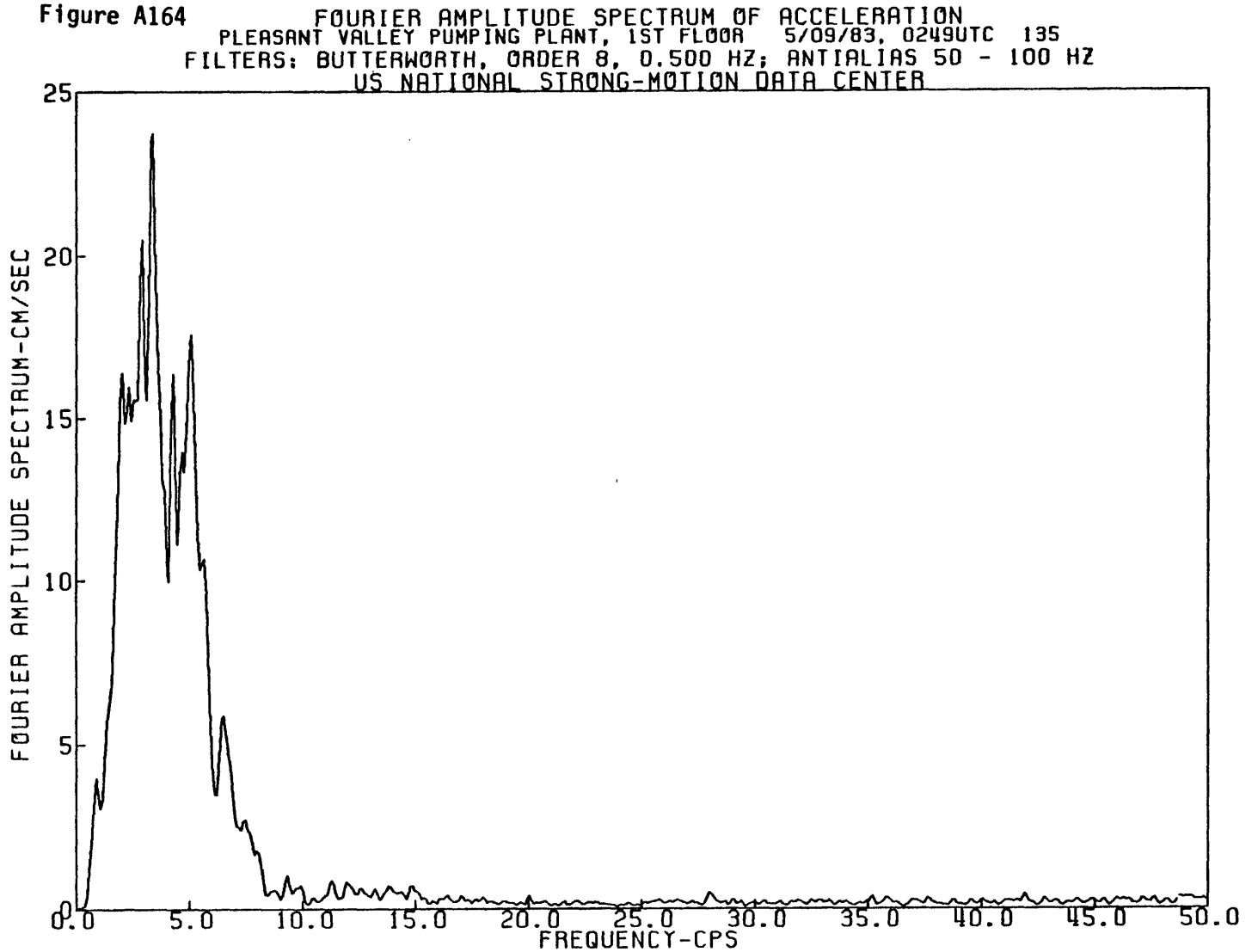

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT, 1ST FLOOR 5/09/83, 0249UTC 135
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
0
5
10
15
20
25
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
FREQUENCY-CPS

Figure A165

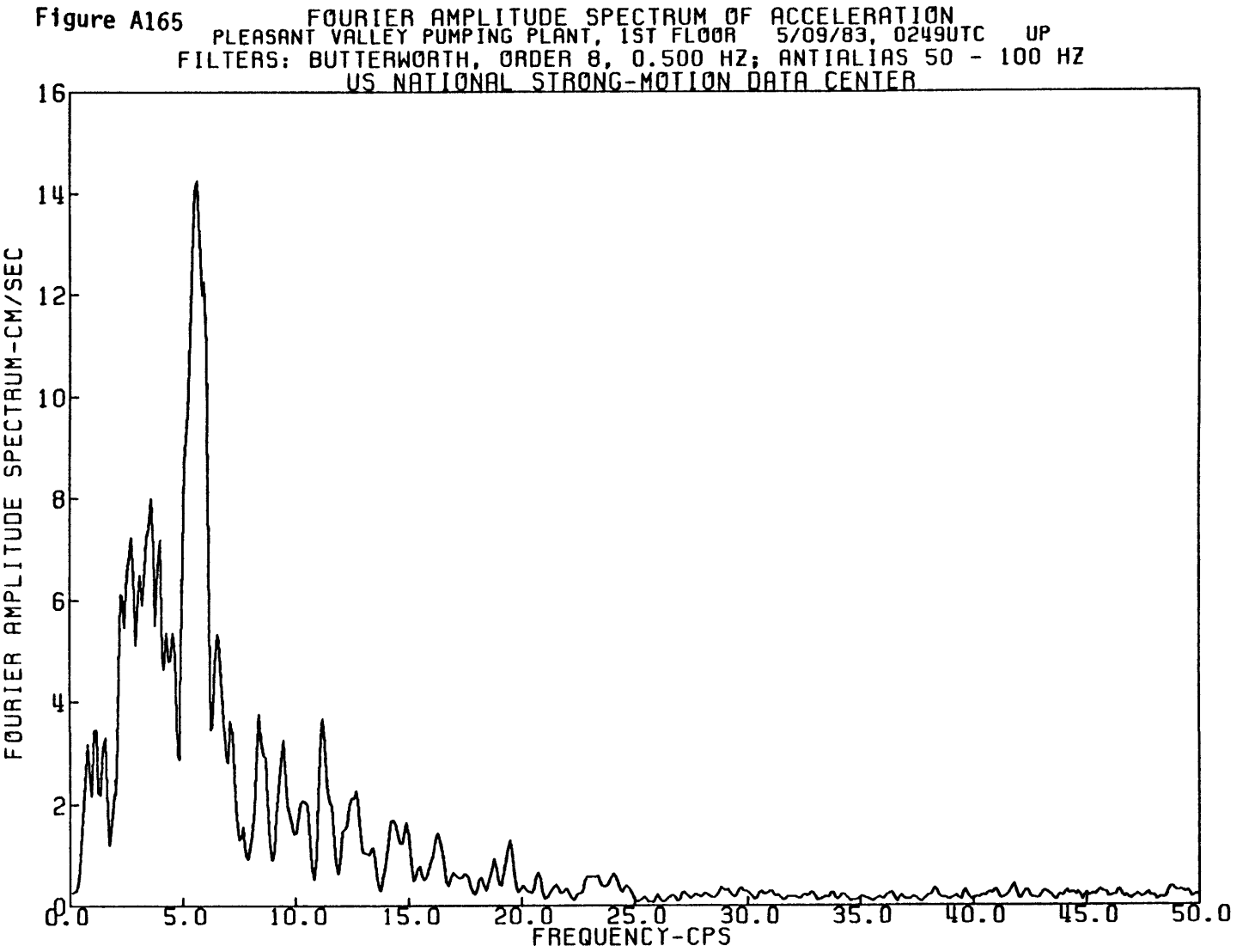

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT, 1ST FLOOR 5/09/83, 0249UTC UP
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
0
2
4
6
8
10
12
14
16
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
FREQUENCY-CPS

Figure A166

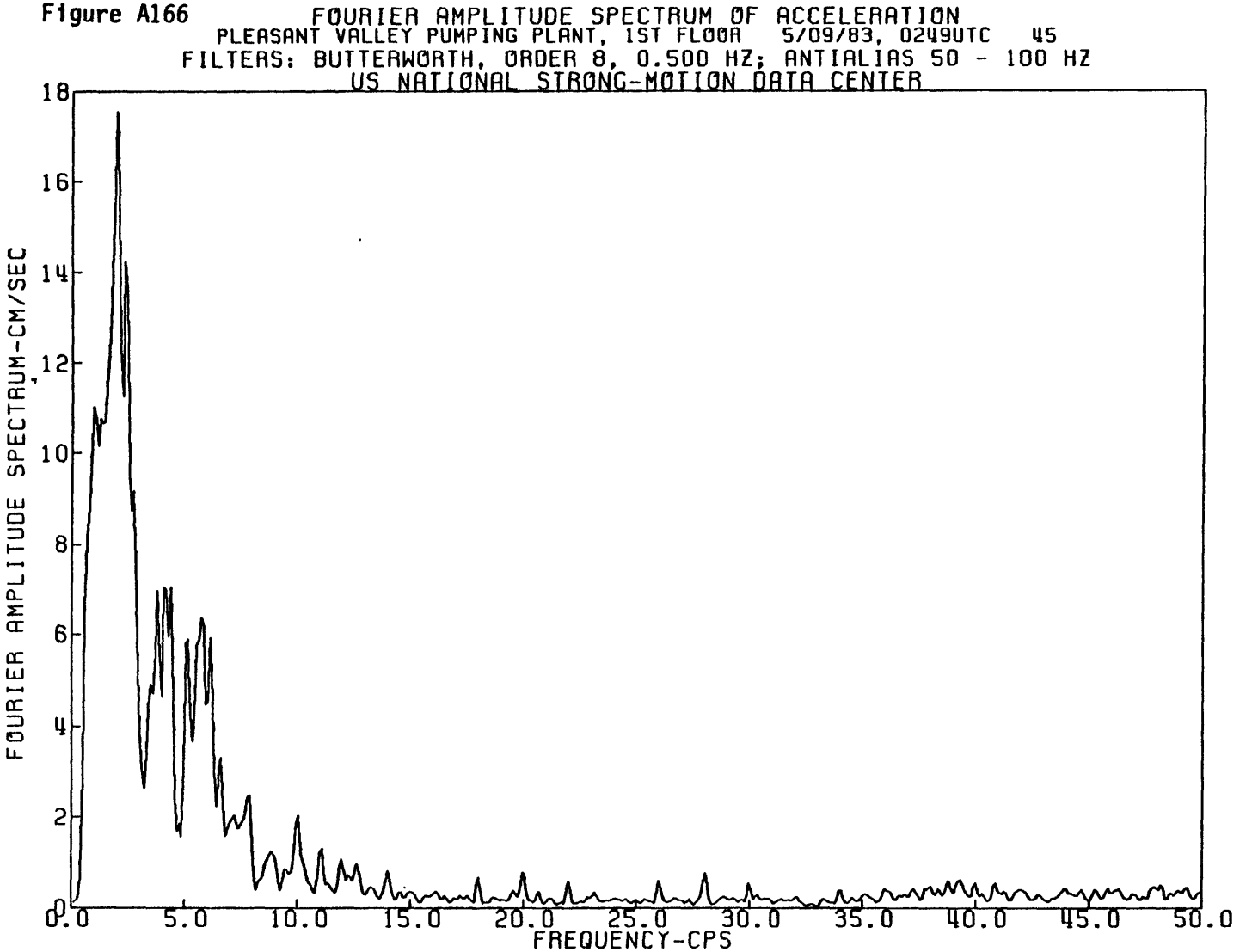

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT, 1ST FLOOR 5/09/83, 0249UTC 45
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
0
2
4
6
8
10
12
14
16
18
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
FREQUENCY-CPS

Figure A167

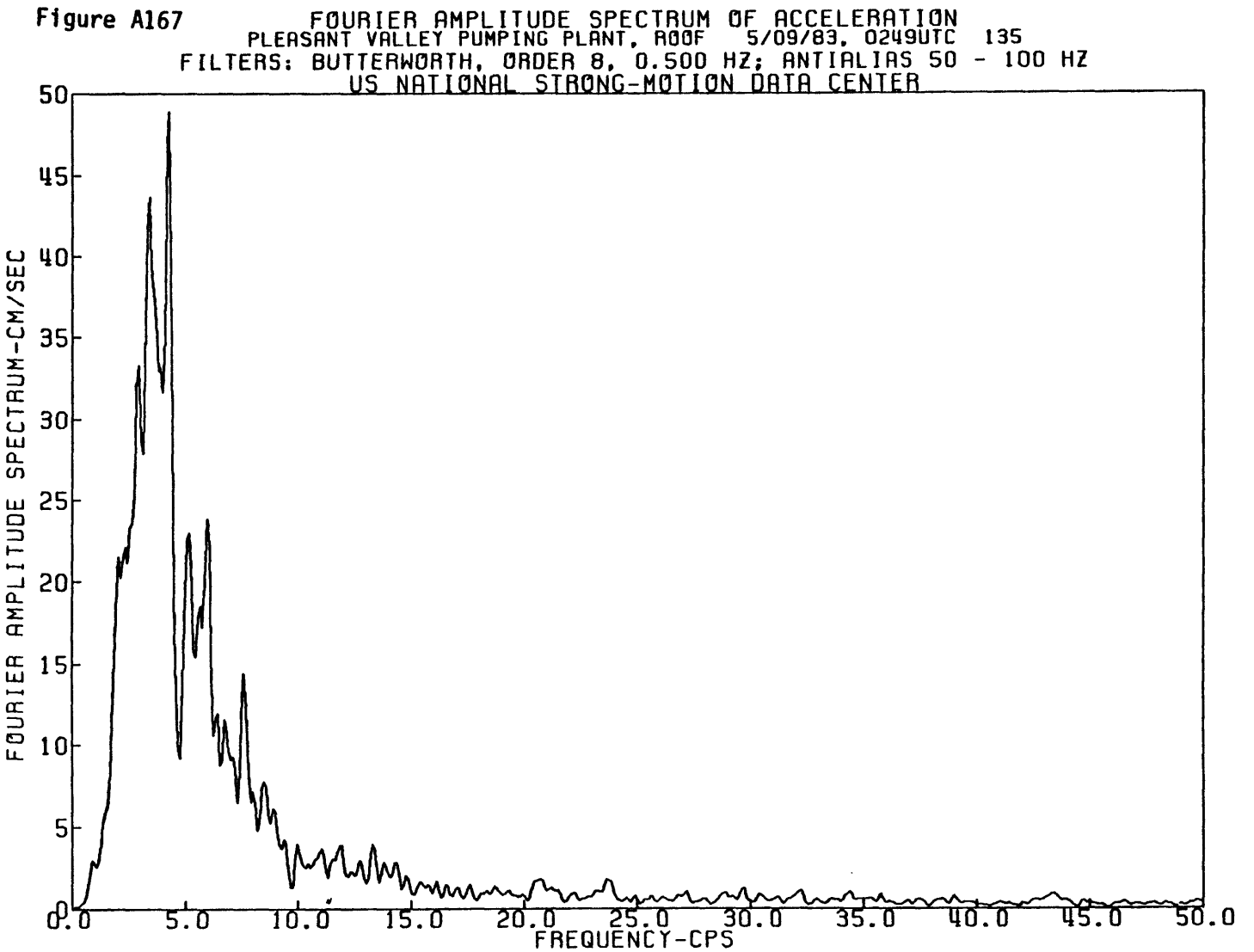

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT, ROOF 5/09/83, 0249UTC 135
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
0
5
10
15
20
25
30
35
40
45
50
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
FREQUENCY-CPS

Figure A168

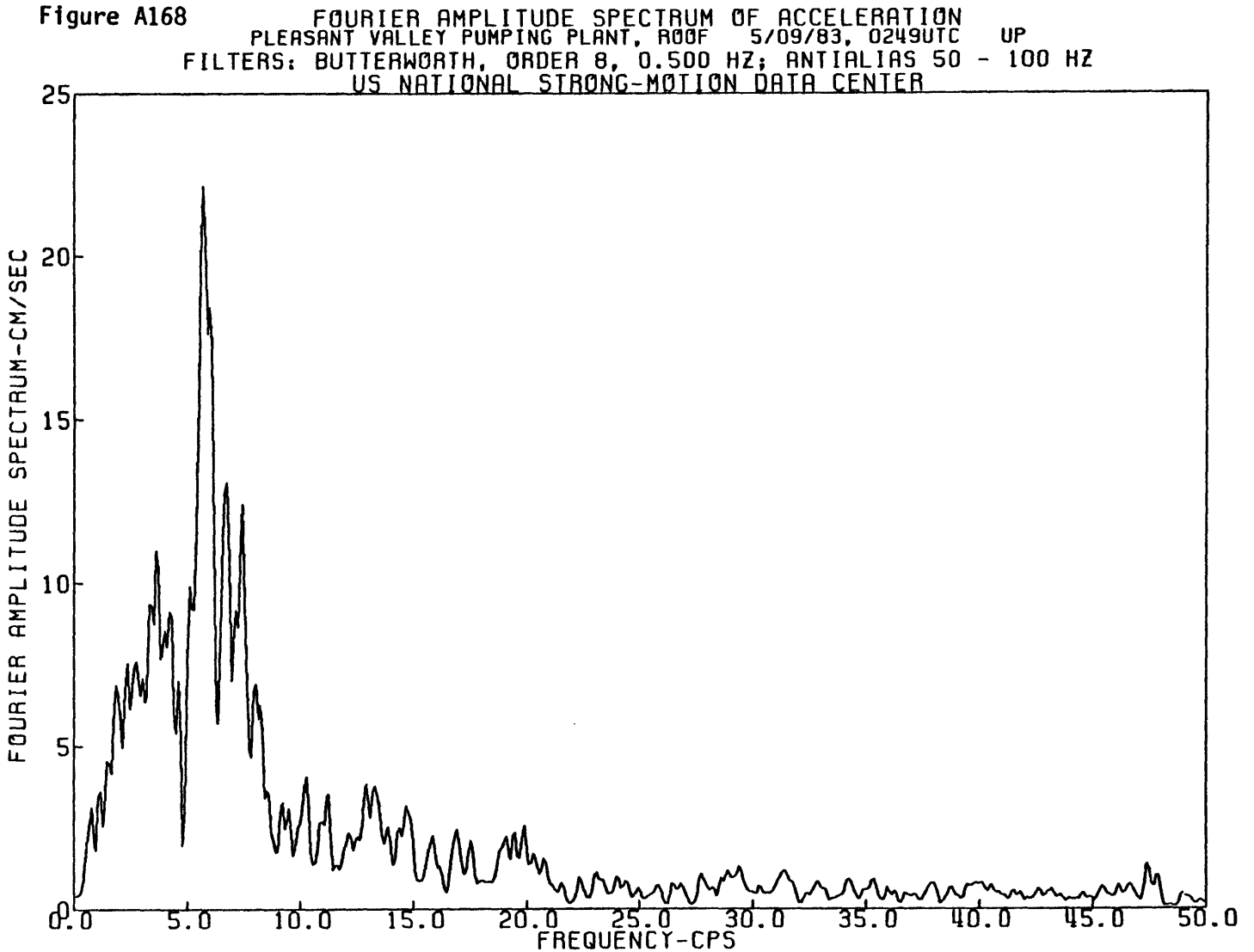

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT, ROOF 5/09/83, 0249UTC UP
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
25
20
15
10
5
0
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
FREQUENCY-CPS

Figure A169

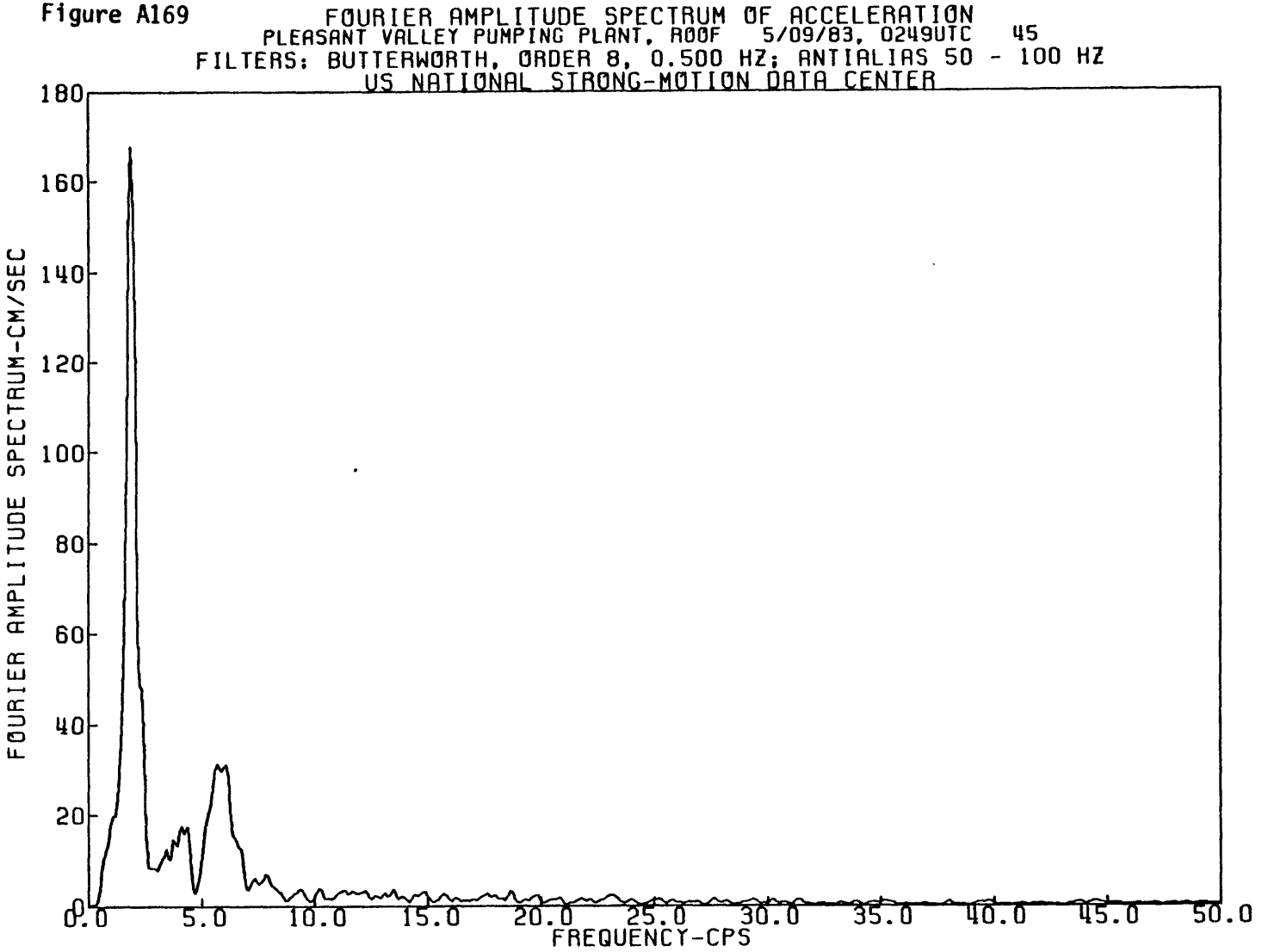

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT, ROOF 5/09/83, 0249UTC 45
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
180
160
140
120
100
80
60
40
20
0
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
FREQUENCY-CPS

Figure A170

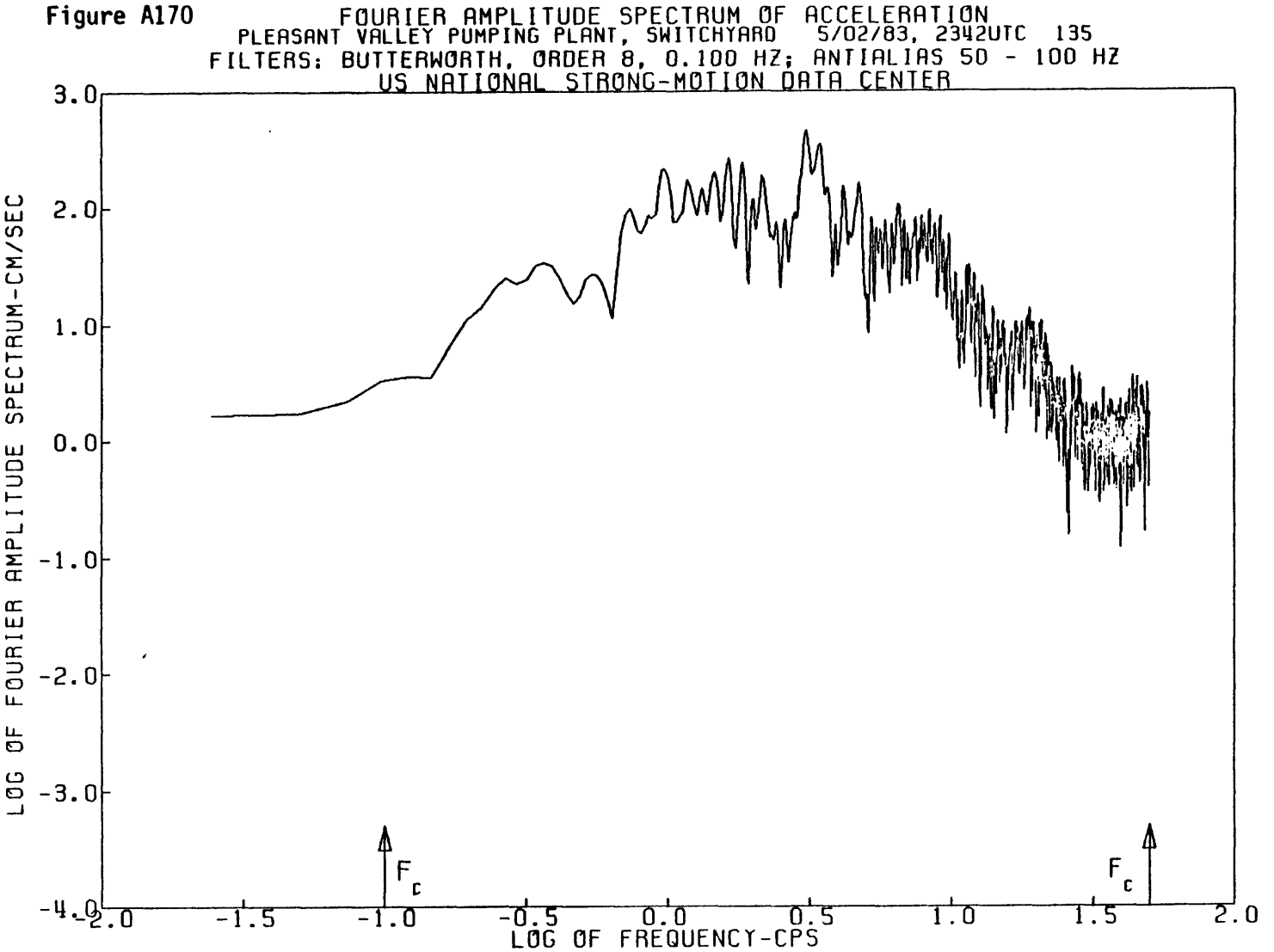

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT, SWITCHYARD 5/02/83, 2342UTC 135
FILTERS: BUTTERWORTH, ORDER 8, 0.100 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
F_c
F_c
-2.0
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
2.0
LOG OF FREQUENCY-CPS

Figure A171

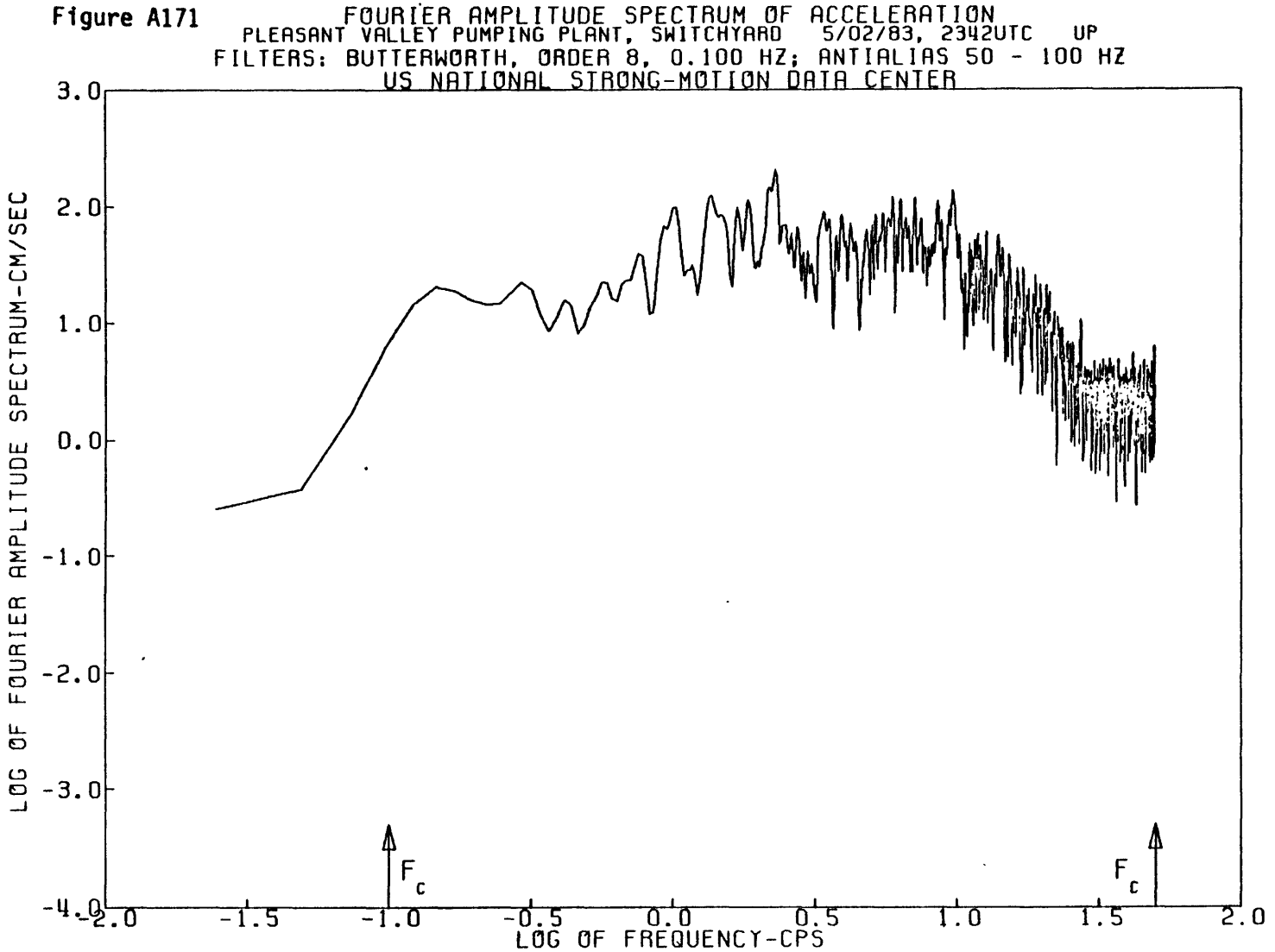

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT, SWITCHYARD 5/02/83, 2342UTC UP
FILTERS: BUTTERWORTH, ORDER 8, 0.100 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
F_c
F_c
-2.0
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
2.0
LOG OF FREQUENCY-CPS

Figure A172

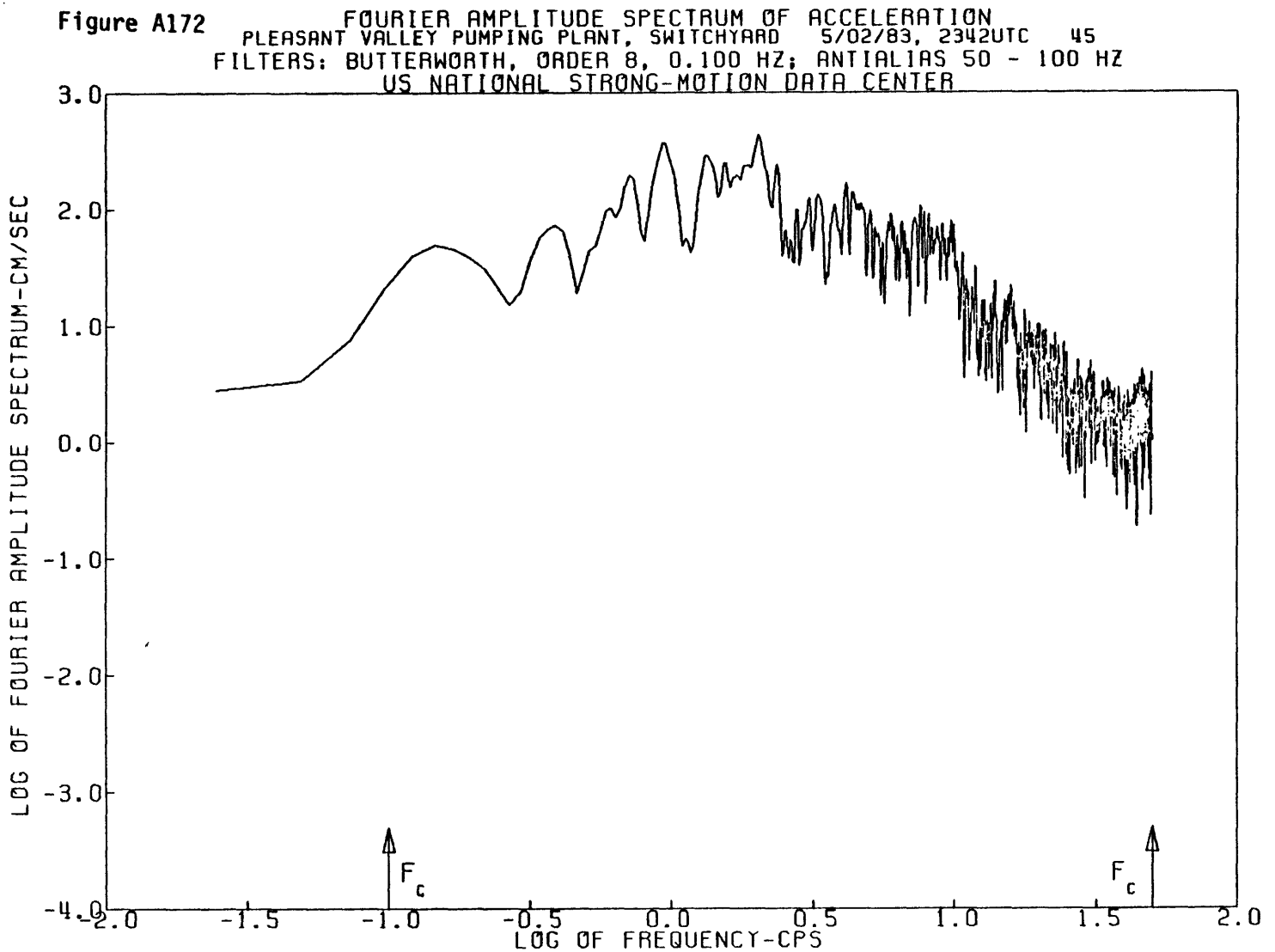
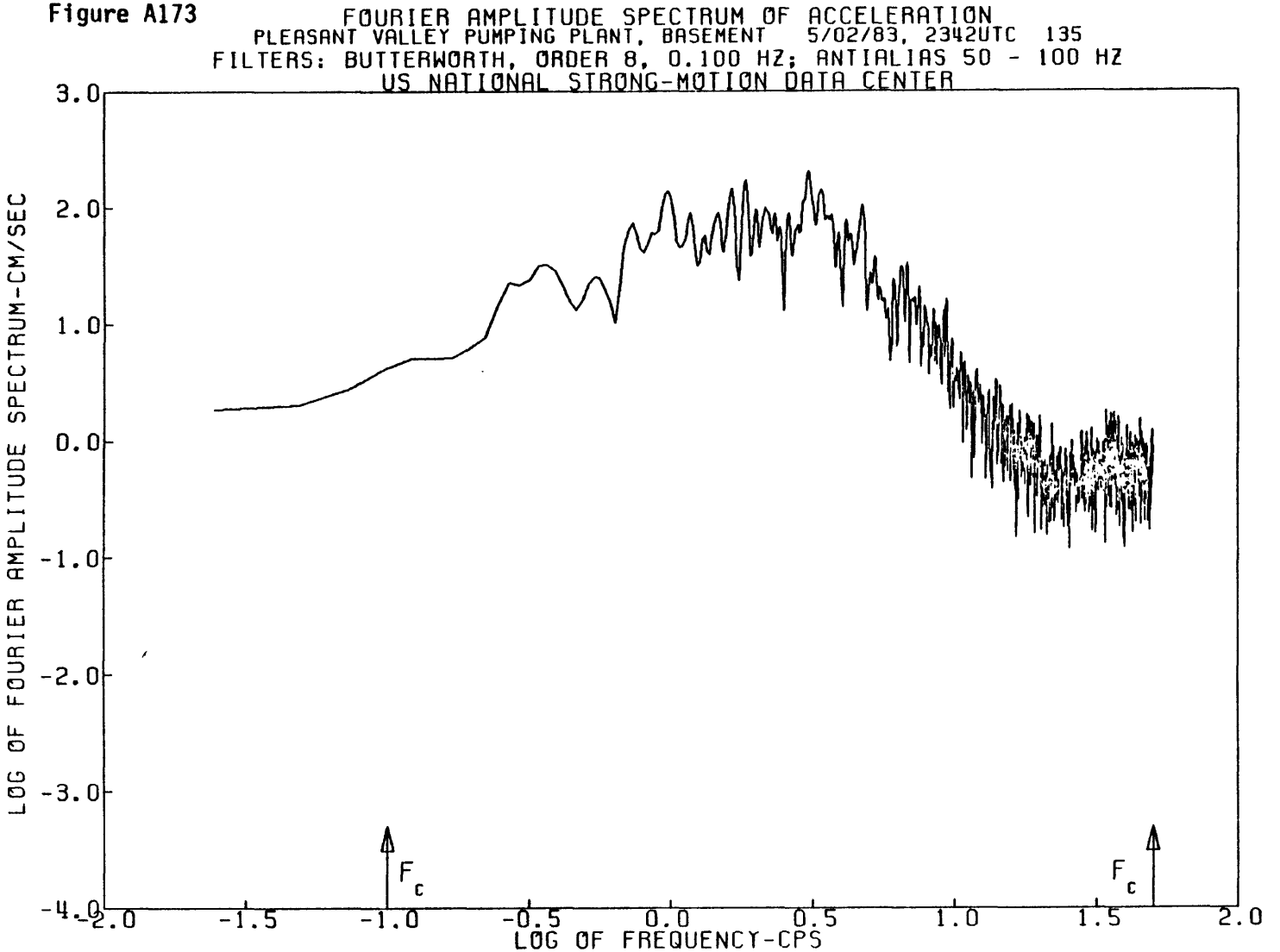

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT, SWITCHYARD 5/02/83, 2342UTC 45
FILTERS: BUTTERWORTH, ORDER 8, 0.100 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
F_c
F_c
-2.0
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
2.0
LOG OF FREQUENCY-CPS

Figure A173


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT, BASEMENT 5/02/83, 2342UTC 135
FILTERS: BUTTERWORTH, ORDER 8, 0.100 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
-2.0
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
2.0
LOG OF FREQUENCY-CPS
F_c
F_c

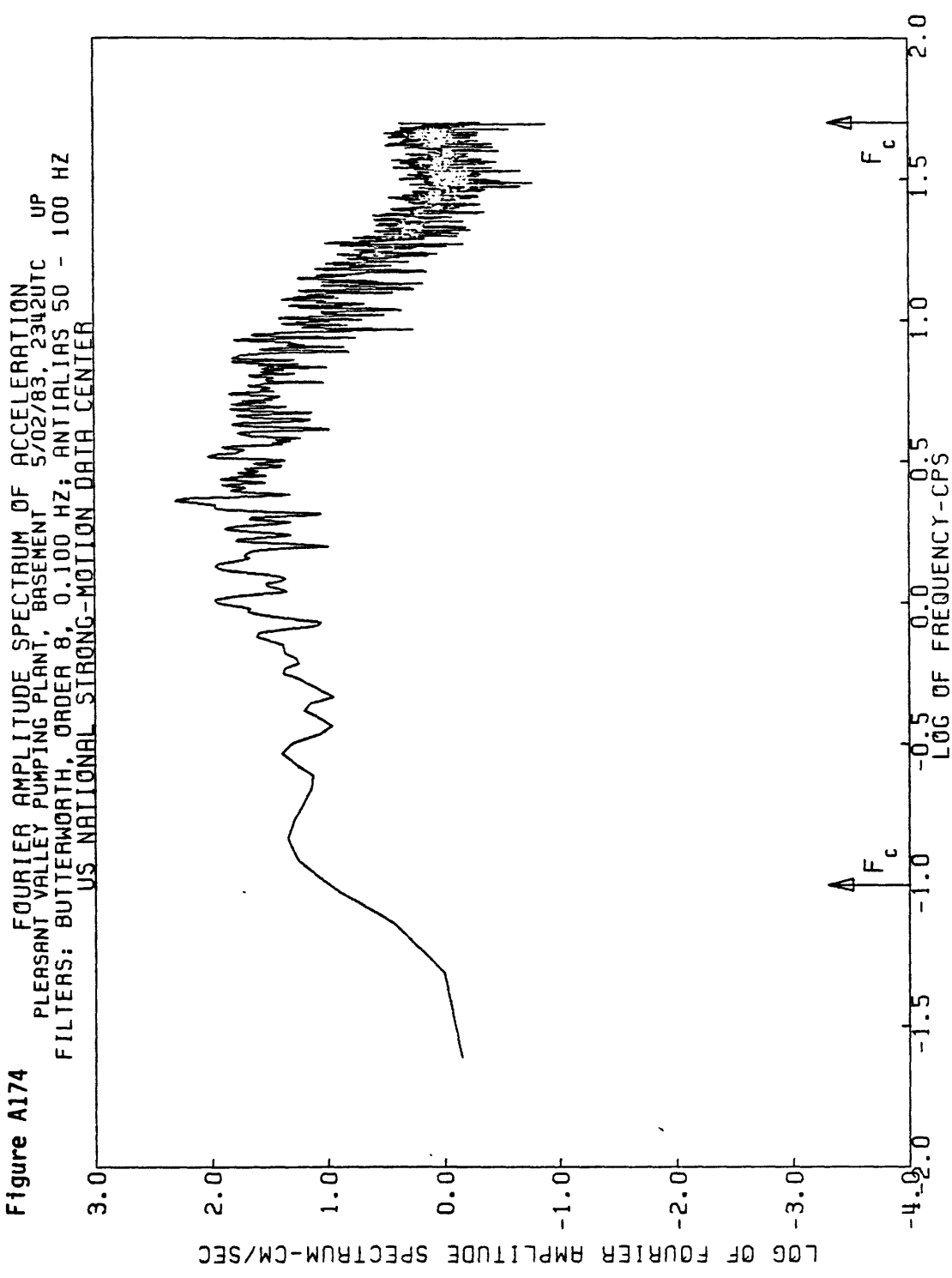

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT, BASEMENT 5/02/83, 2342UTC UP
FILTERS: BUTTERWORTH, ORDER 8, 0.100 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
LOG OF FREQUENCY-CPS
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
-2.0
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
2.0
F_c
F_c

Figure A174

Figure A175

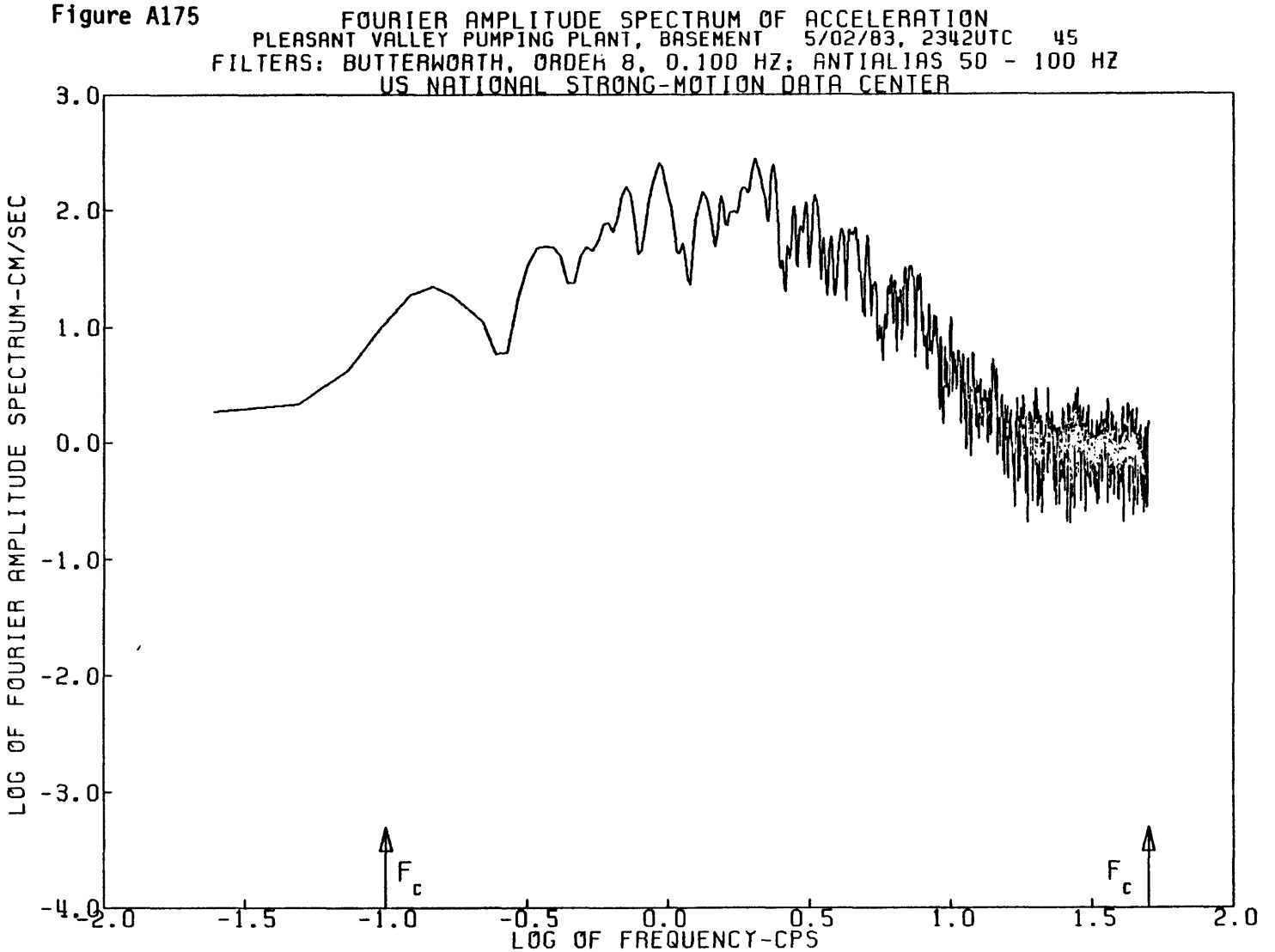

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT, BASEMENT 5/02/83, 2342UTC 45
FILTERS: BUTTERWORTH, ORDER 8, 0.100 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
-2.0
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
2.0
LOG OF FREQUENCY-CPS
F_c
F_c

Figure A176

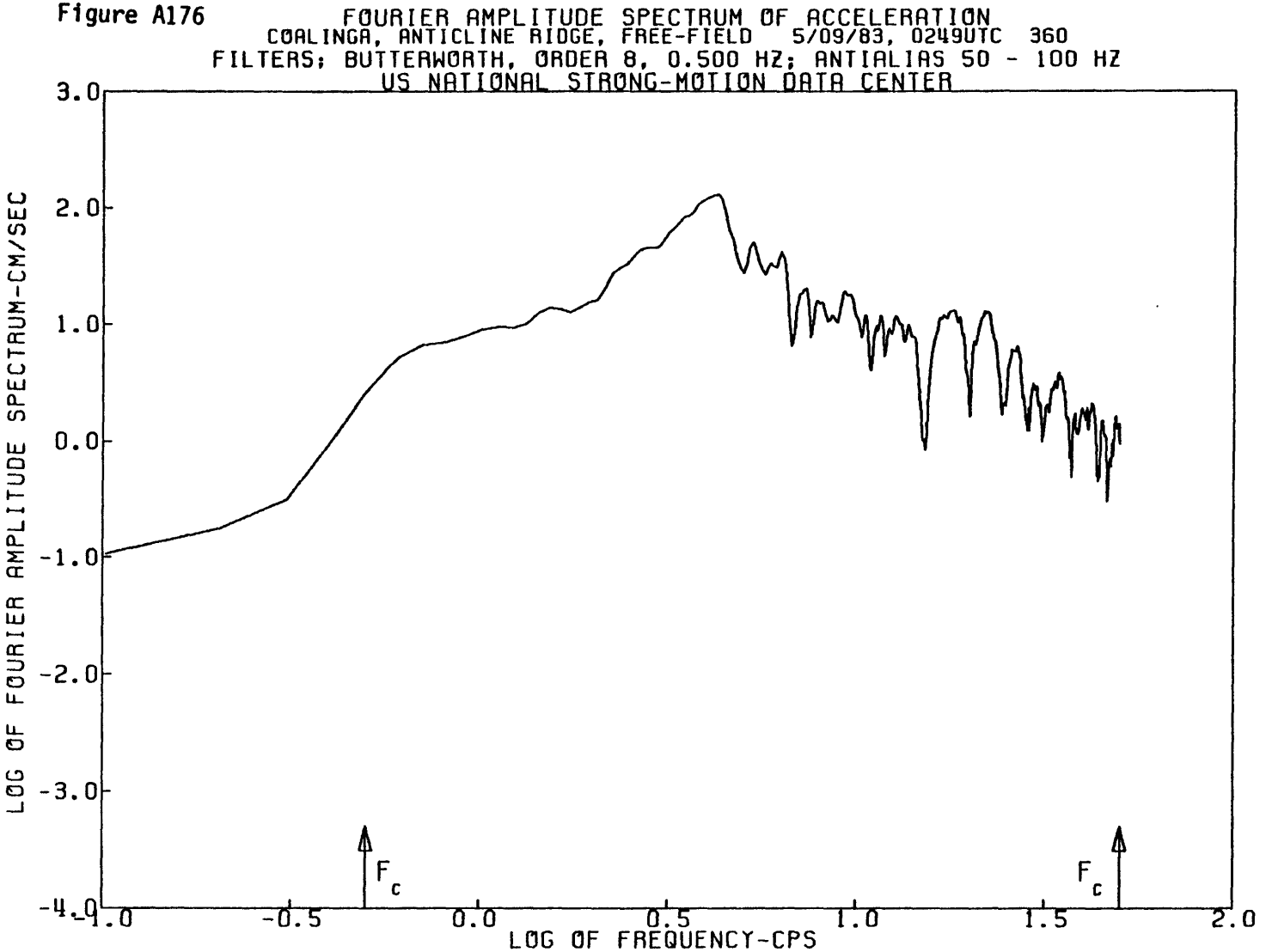

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, ANTICLINE RIDGE, FREE-FIELD 5/09/83, 0249UTC 360
FILTERS; BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
F_c
F_c
-1.0
-0.5
0.0
0.5
1.0
1.5
2.0
LOG OF FREQUENCY-CPS

Figure A177

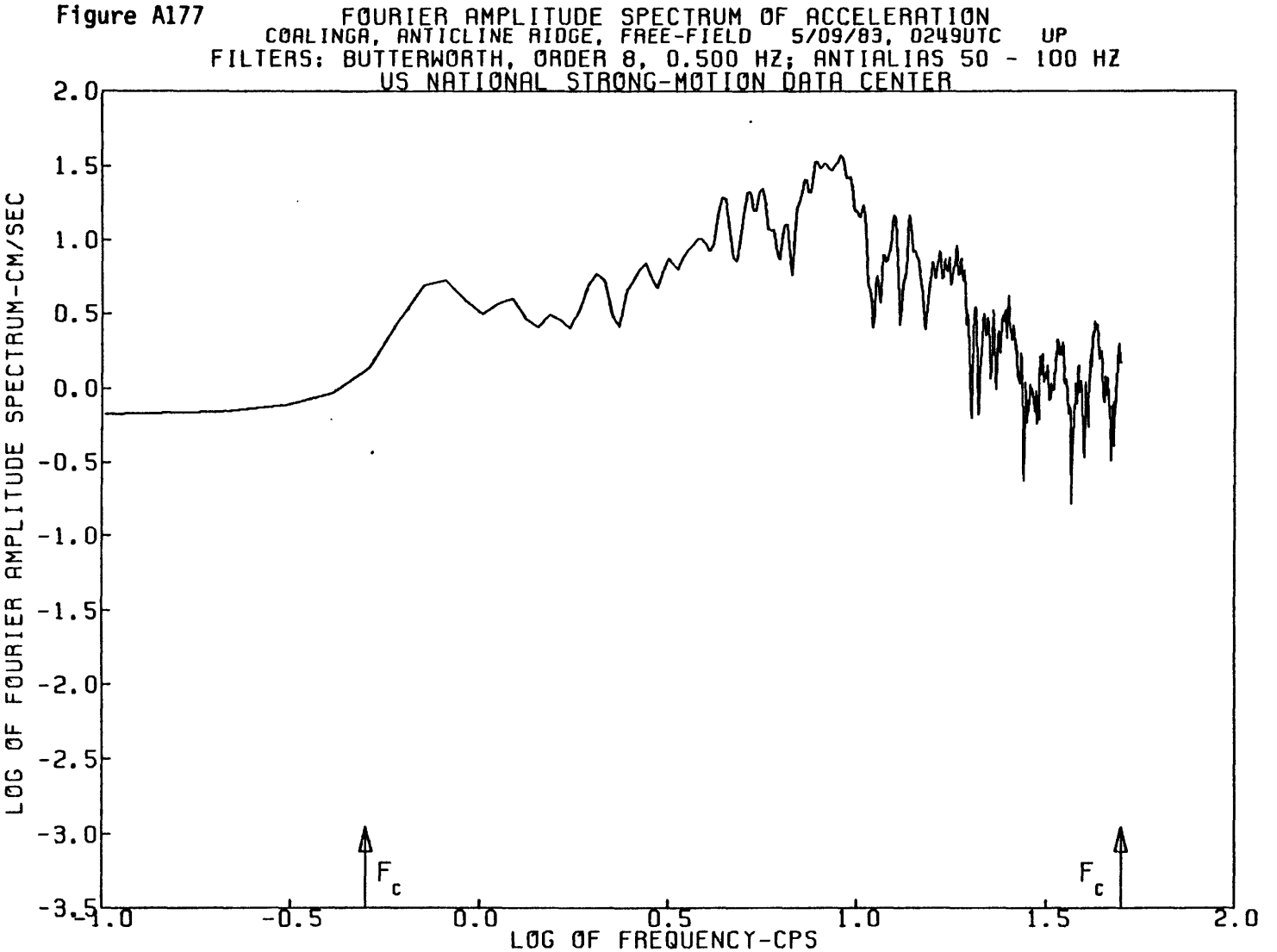

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, ANTICLINE RIDGE, FREE-FIELD 5/09/83, 0249UTC UP
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
-3.0
-3.5
F_c
F_c
-1.0
-0.5
0.0
0.5
1.0
1.5
2.0
LOG OF FREQUENCY-CPS

Figure A178

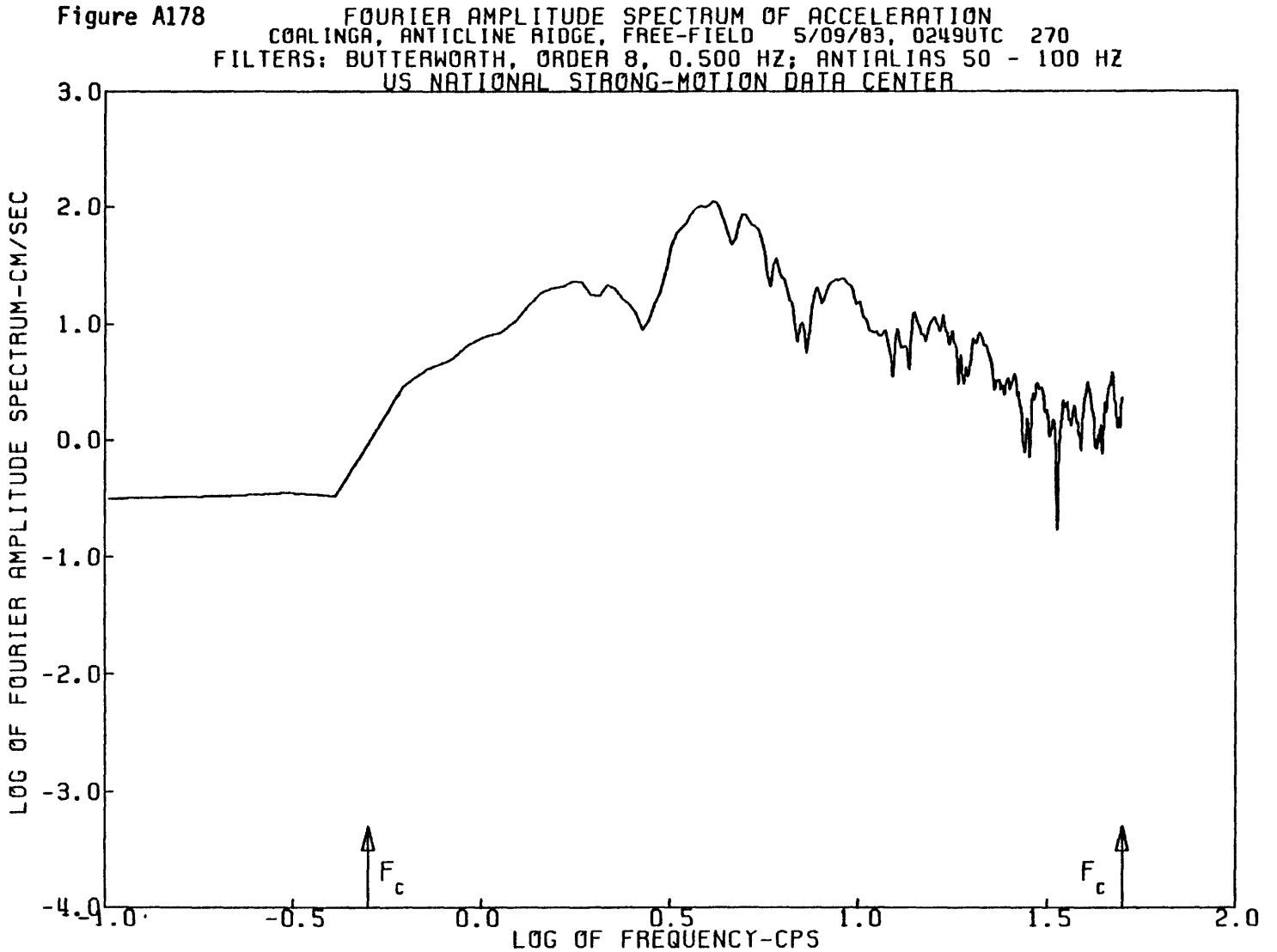
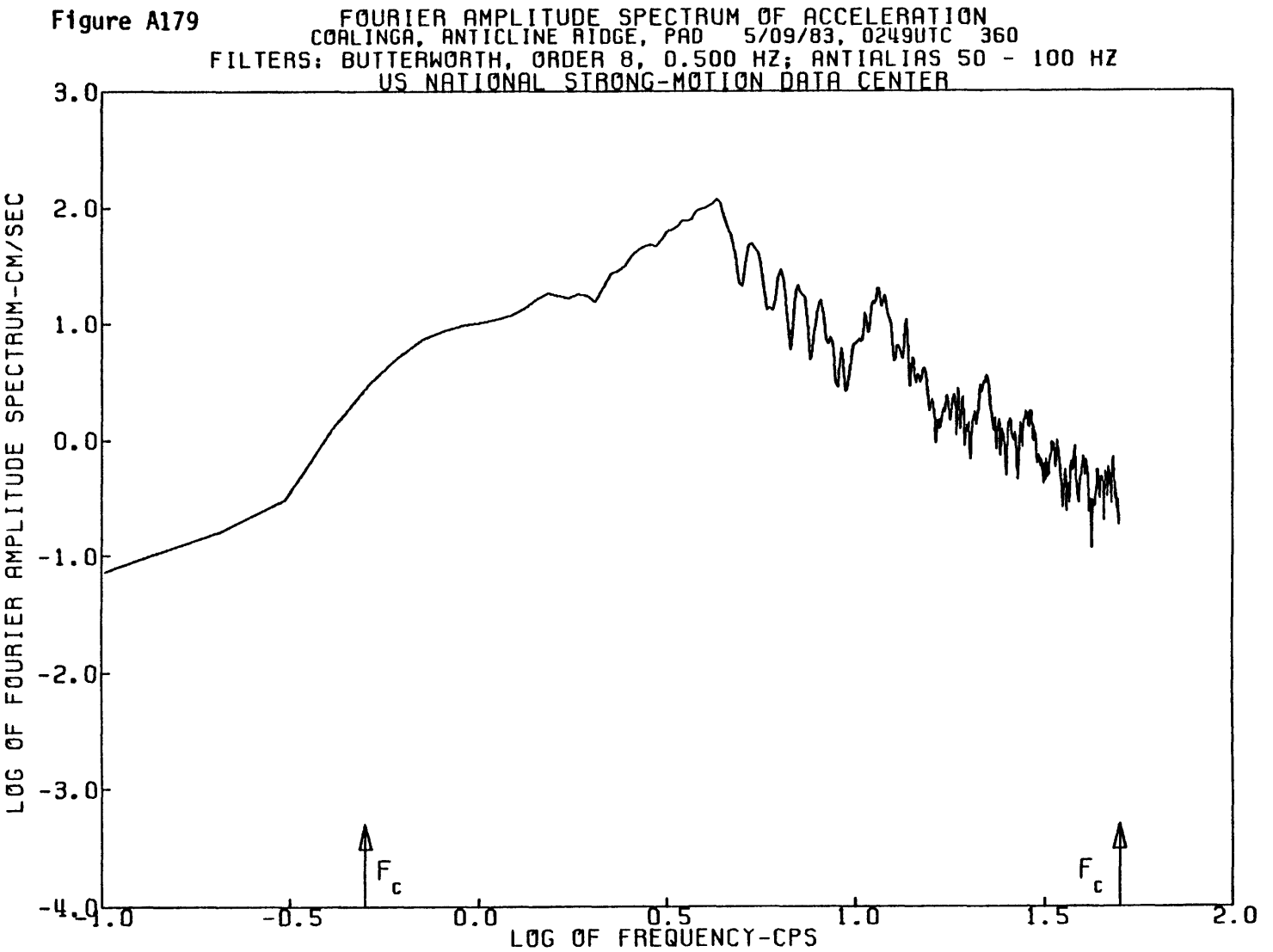

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, ANTICLINE RIDGE, FREE-FIELD 5/09/83, 0249UTC 270
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
-1.0
-0.5
0.0
0.5
1.0
1.5
2.0
LOG OF FREQUENCY-CPS
F_c
F_c

Figure A179


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, ANTICLINE RIDGE, PAD 5/09/83, 0249UTC 360
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
F_c
F_c
-1.0
-0.5
0.0
0.5
1.0
1.5
2.0
LOG OF FREQUENCY-CPS

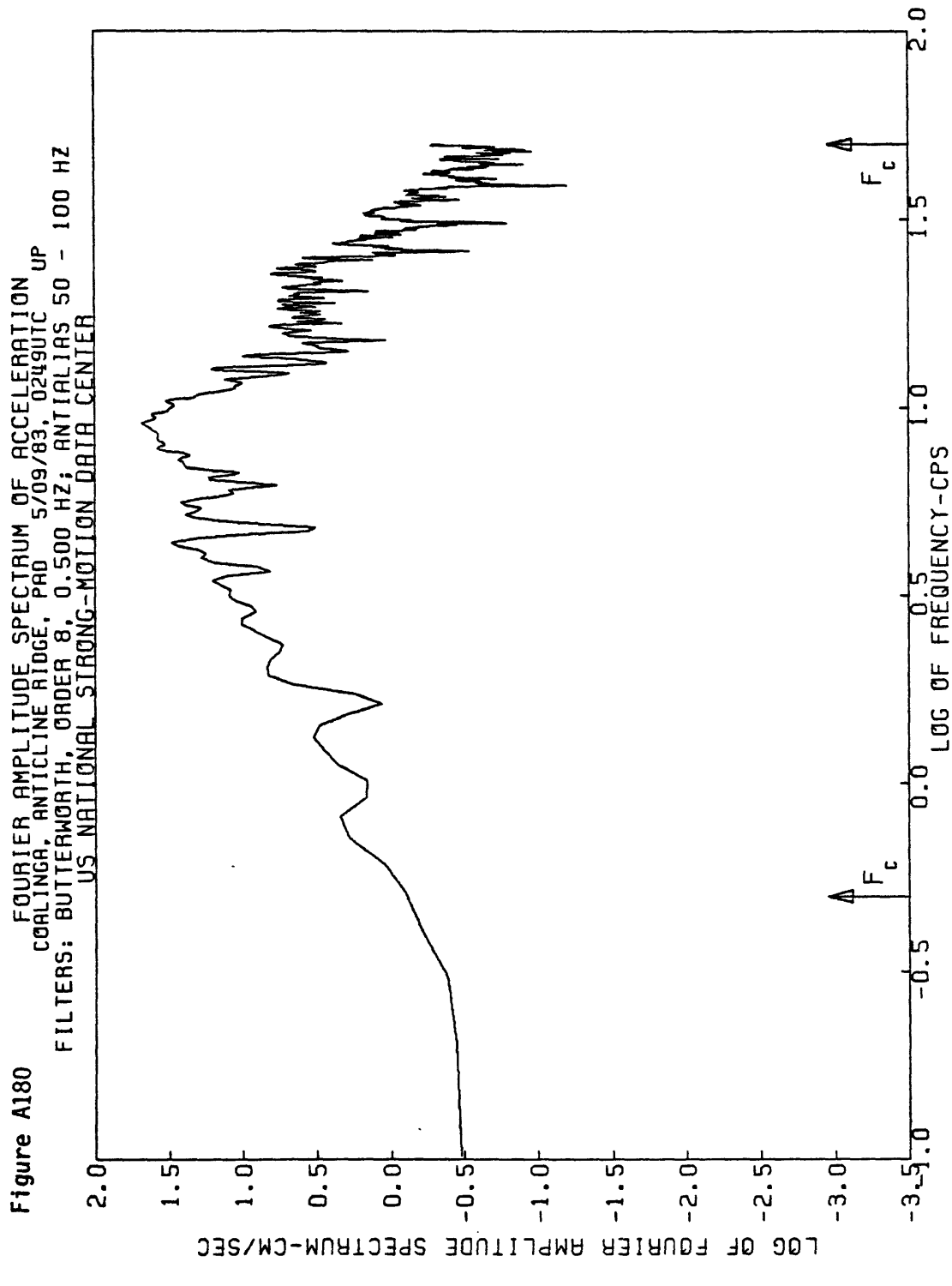
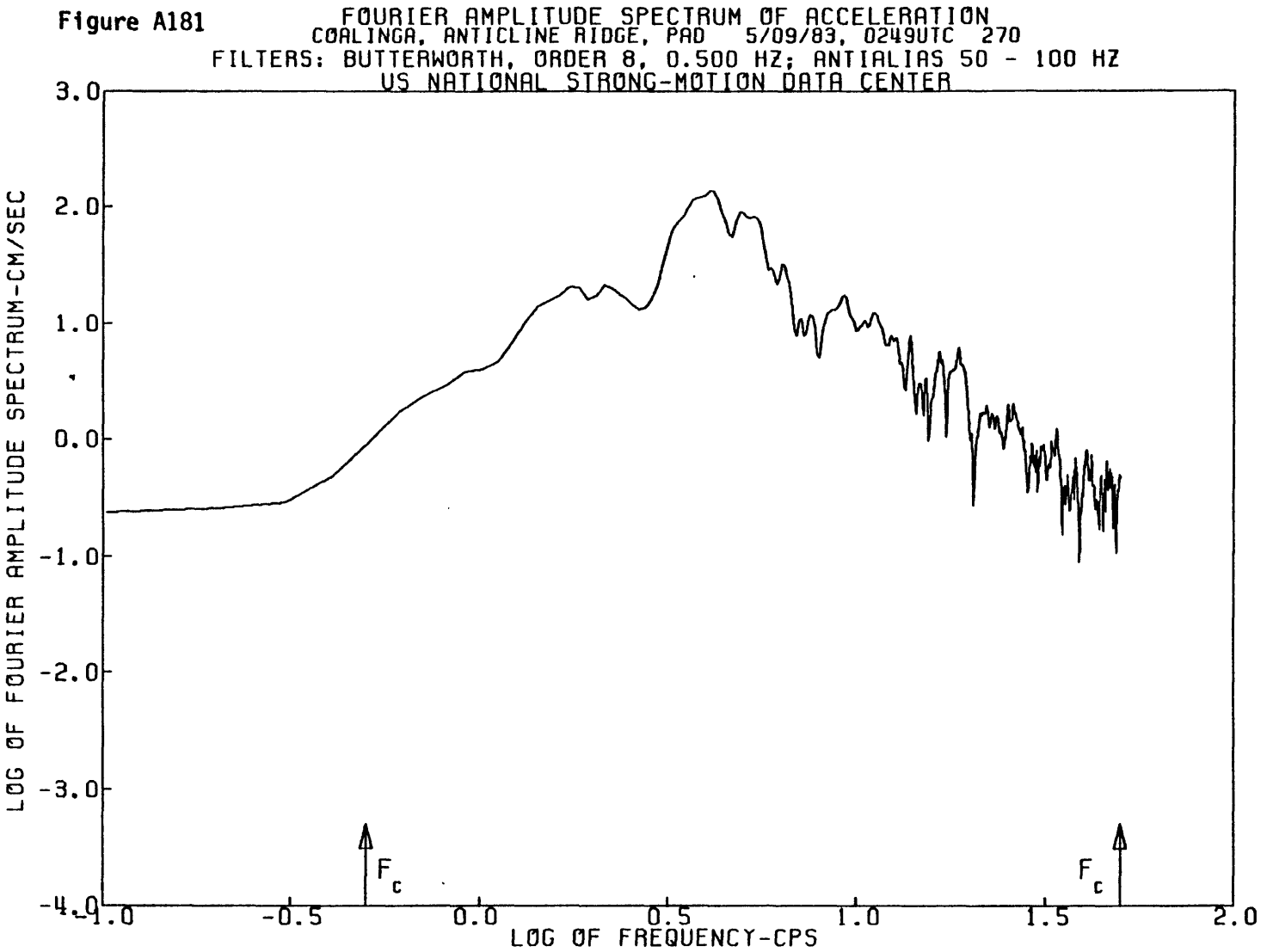

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, ANTICLINE RIDGE, PAD 5/09/83, 0249UTC UP
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
LOG OF FREQUENCY-CPS
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
-3.0
-3.5
-1.0
-0.5
0.0
0.5
1.0
1.5
2.0
F_c
F_c

Figure A180

Figure A181


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, ANTICLINE RIDGE, PAD 5/09/83, 0249UTC 270
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
F_c
F_c
-1.0
-0.5
0.0
0.5
1.0
1.5
2.0
LOG OF FREQUENCY-CPS

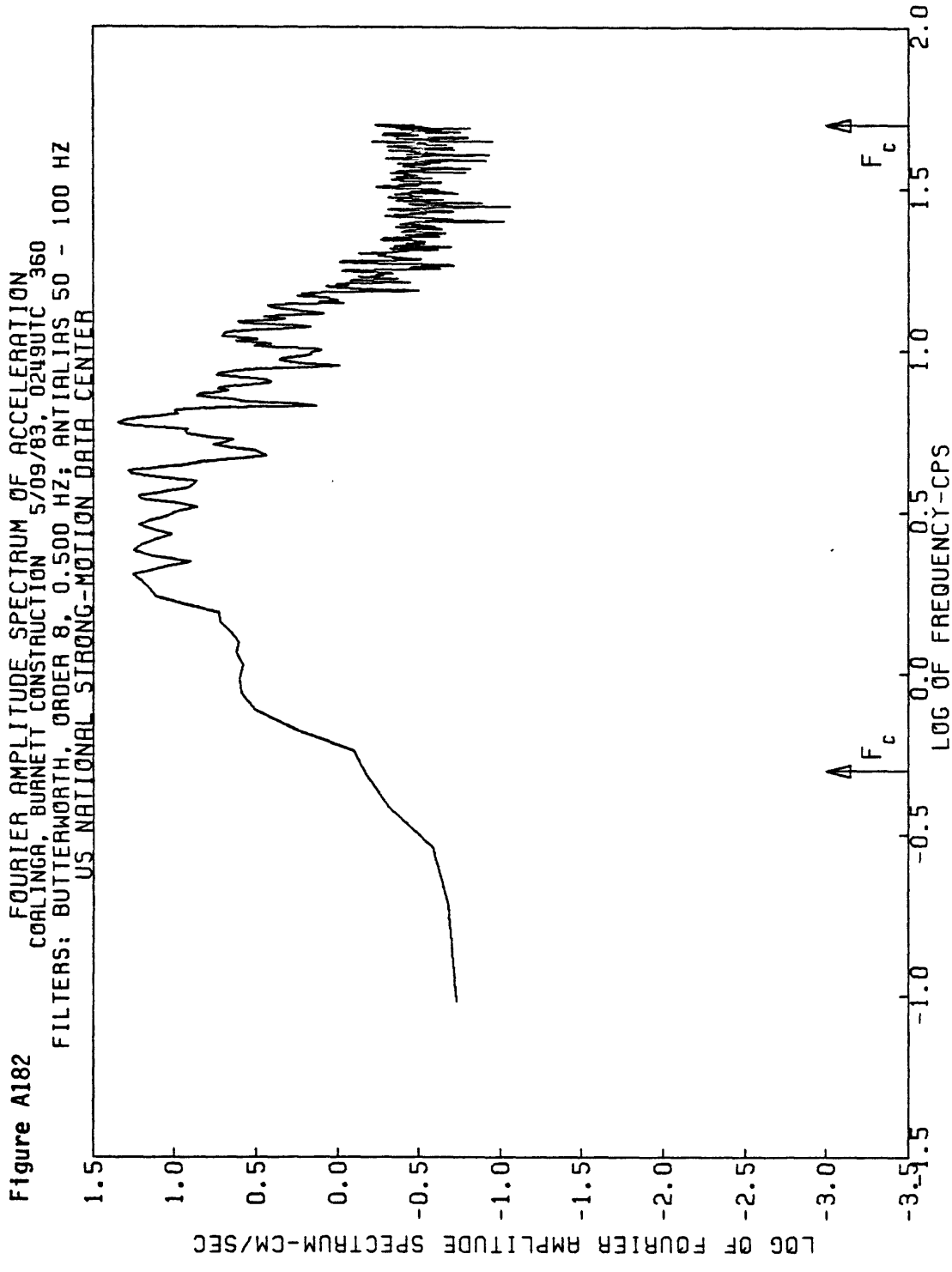

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, BURNETT CONSTRUCTION 5/09/83, 0249UTC 360
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
LOG OF FREQUENCY-CPS
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
-3.0
-3.5
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
2.0
F_c
F_c

Figure A182

Figure A183

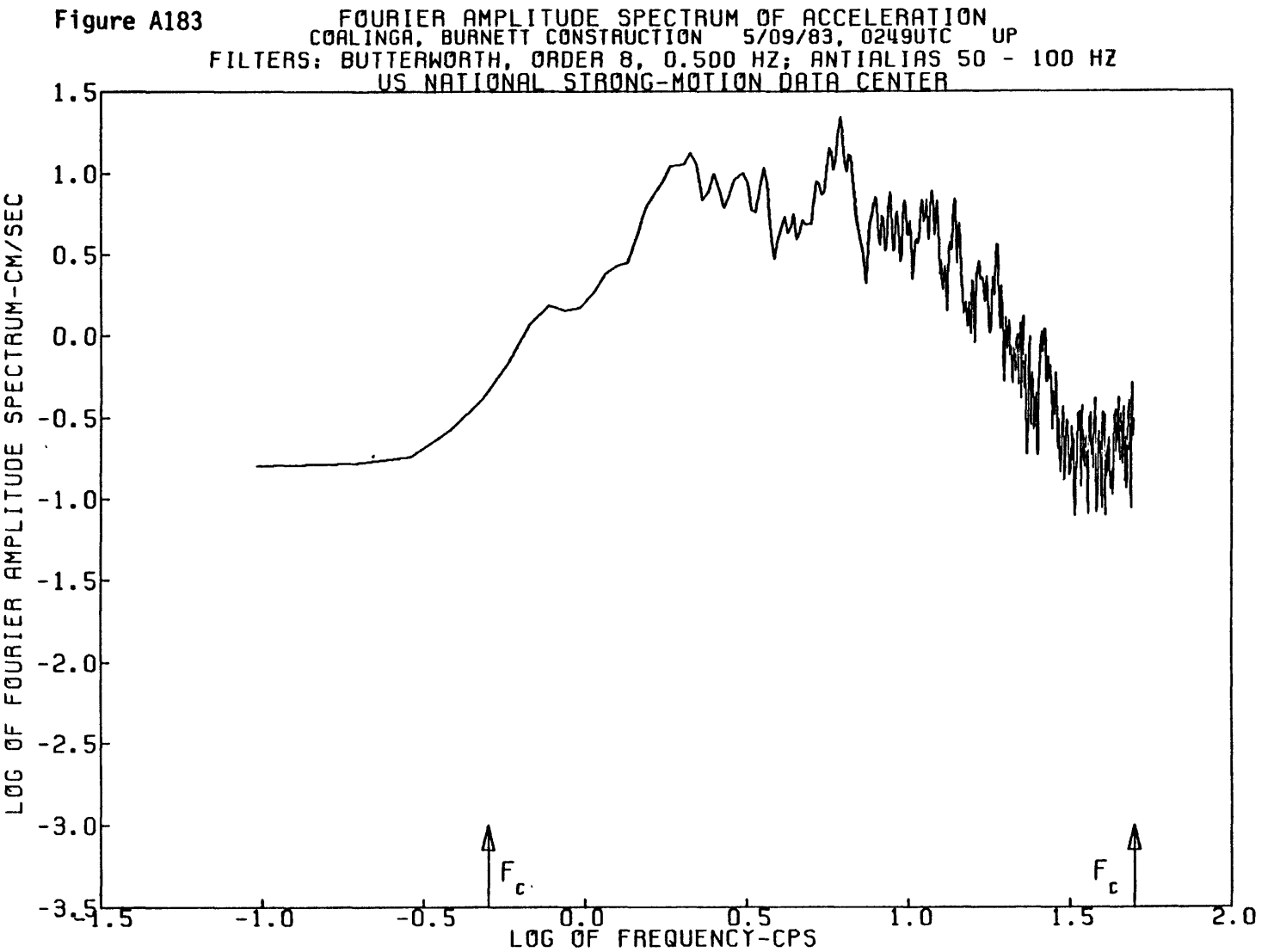

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, BURNETT CONSTRUCTION 5/09/83, 0249UTC UP
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
-3.0
-3.5
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
2.0
LOG OF FREQUENCY-CPS
F_c
F_c

Figure A184

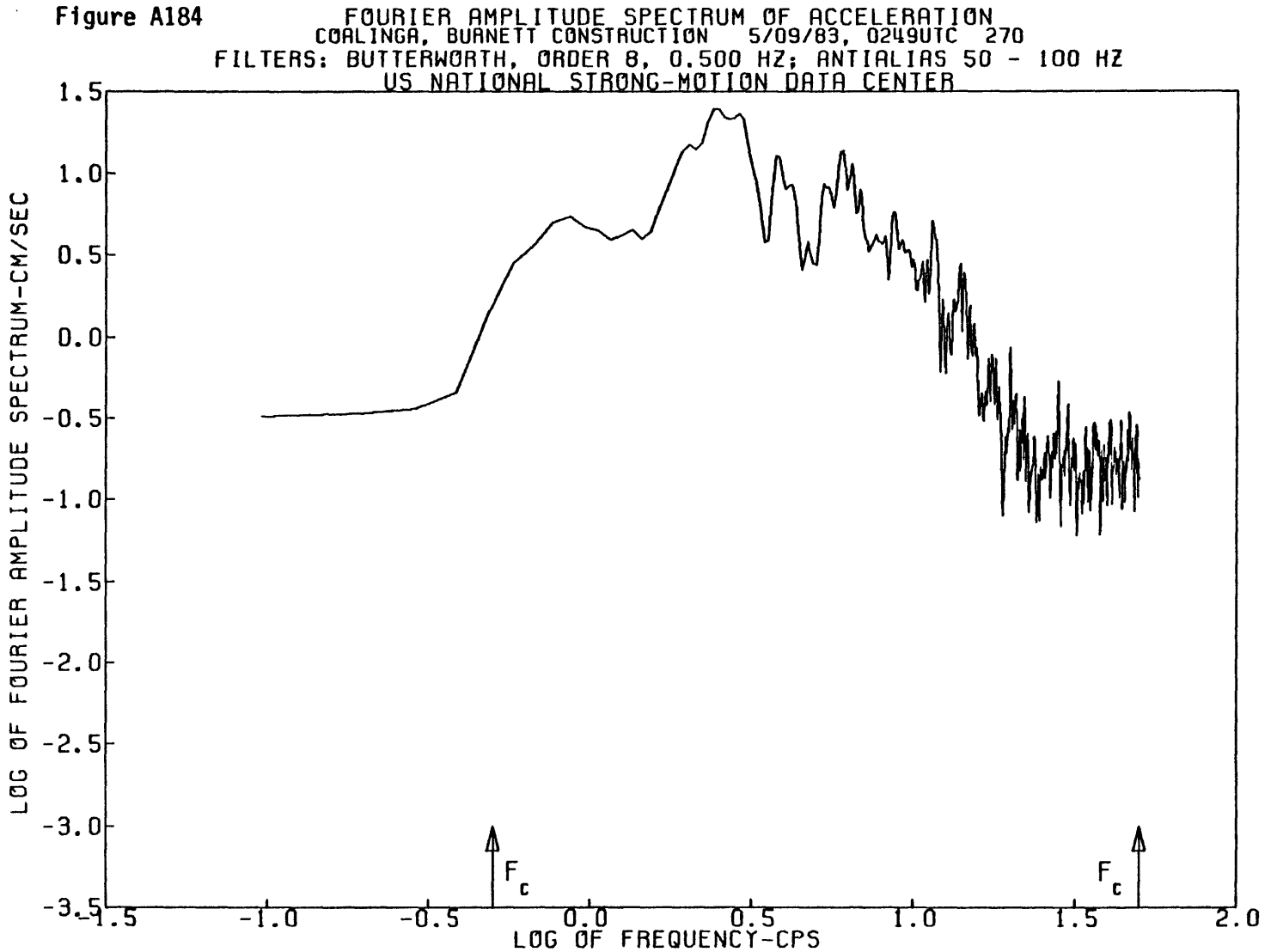

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, BURNETT CONSTRUCTION 5/09/83, 0249UTC 270
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
-3.0
-3.5
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
2.0
LOG OF FREQUENCY-CPS
F_c
F_c

Figure A185

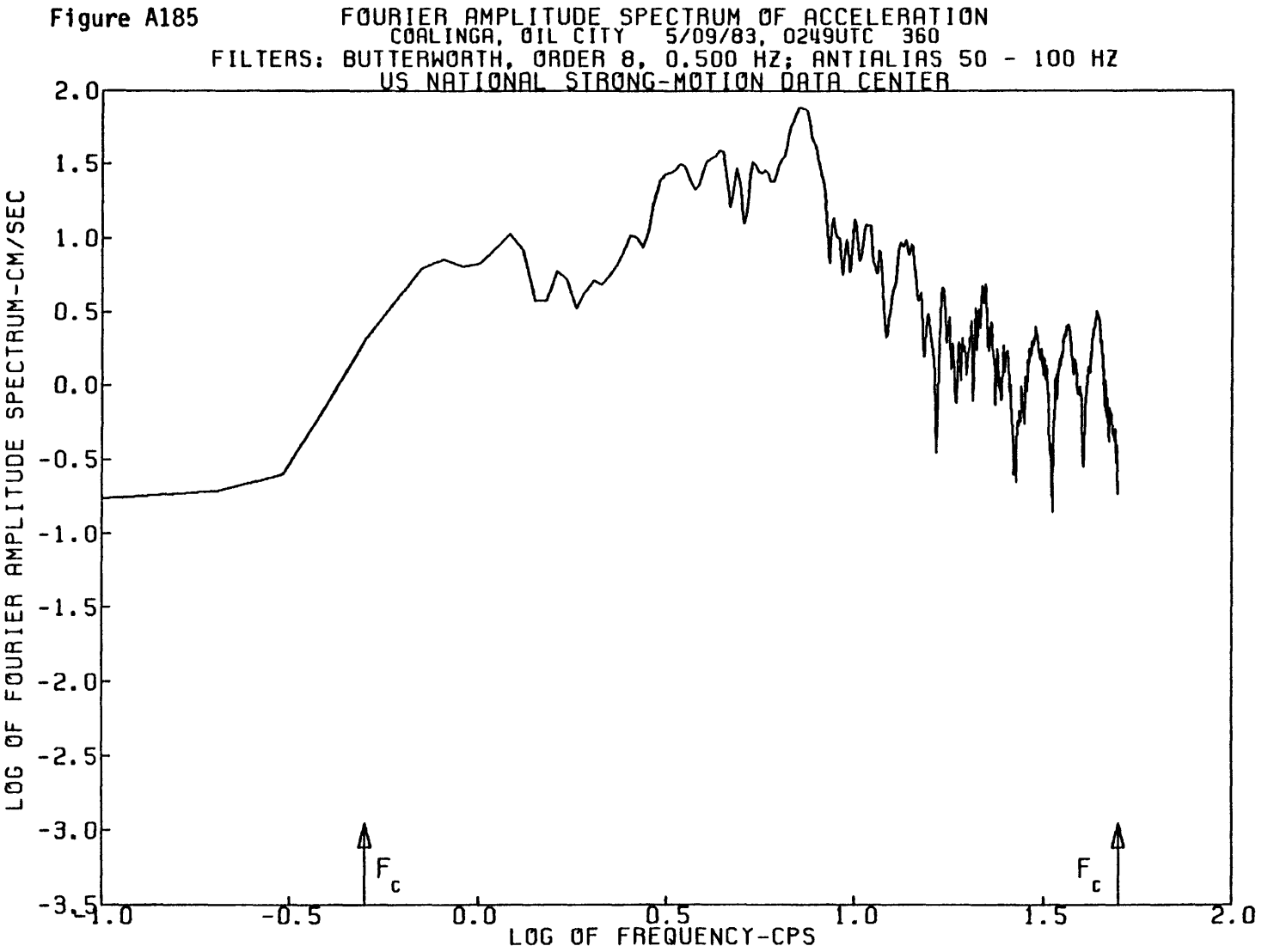

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, OIL CITY 5/09/83, 0249UTC 360
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
-3.0
-3.5
F_c
F_c
-1.0
-0.5
0.0
0.5
1.0
1.5
2.0
LOG OF FREQUENCY-CPS

Figure A186

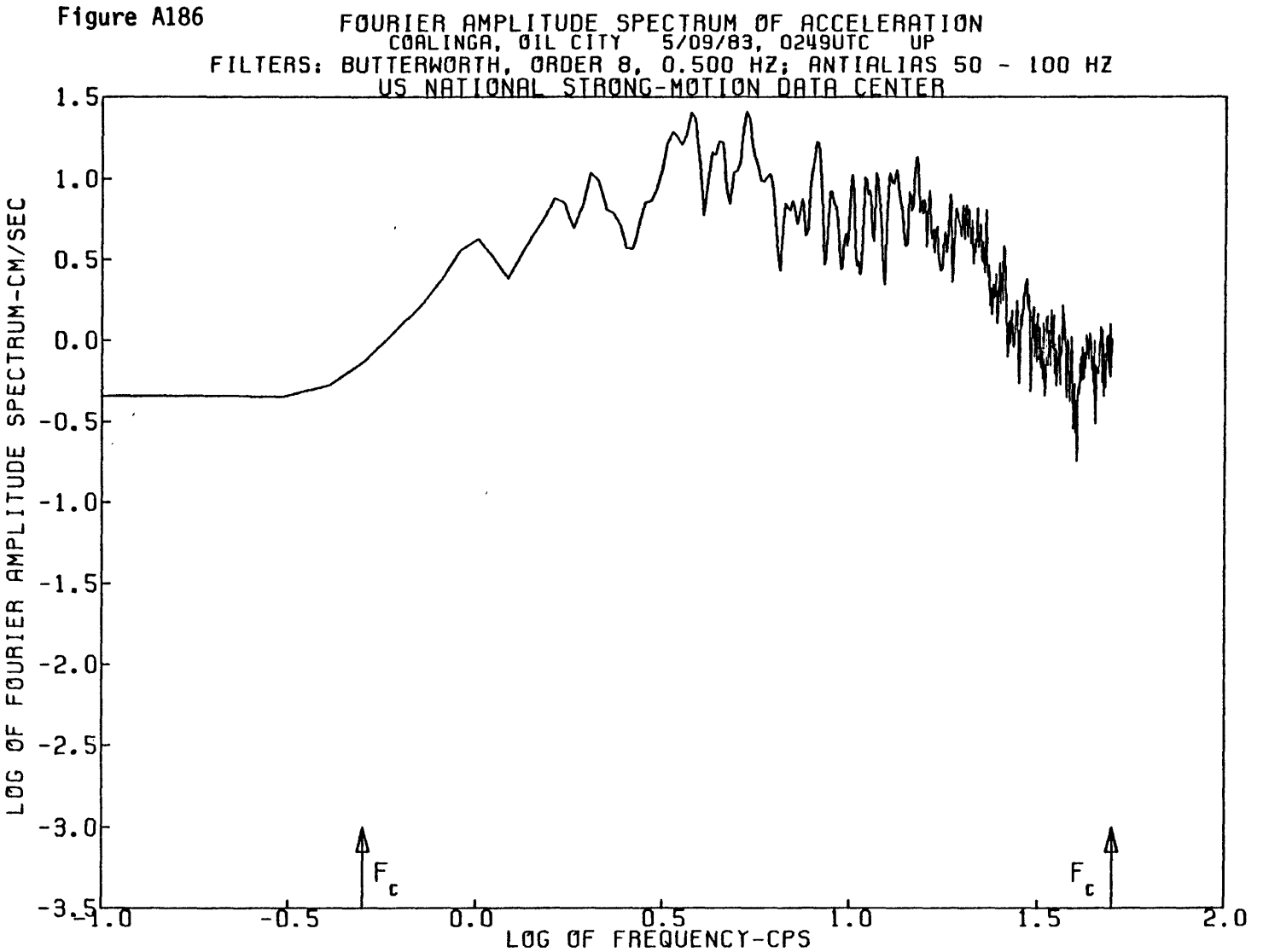

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, OIL CITY 5/09/83, 0249UTC UP
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
LOG OF FREQUENCY-CPS
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
-3.0
-3.5
-1.0
-0.5
0.0
0.5
1.0
1.5
2.0
F_c
F_c

Figure A187

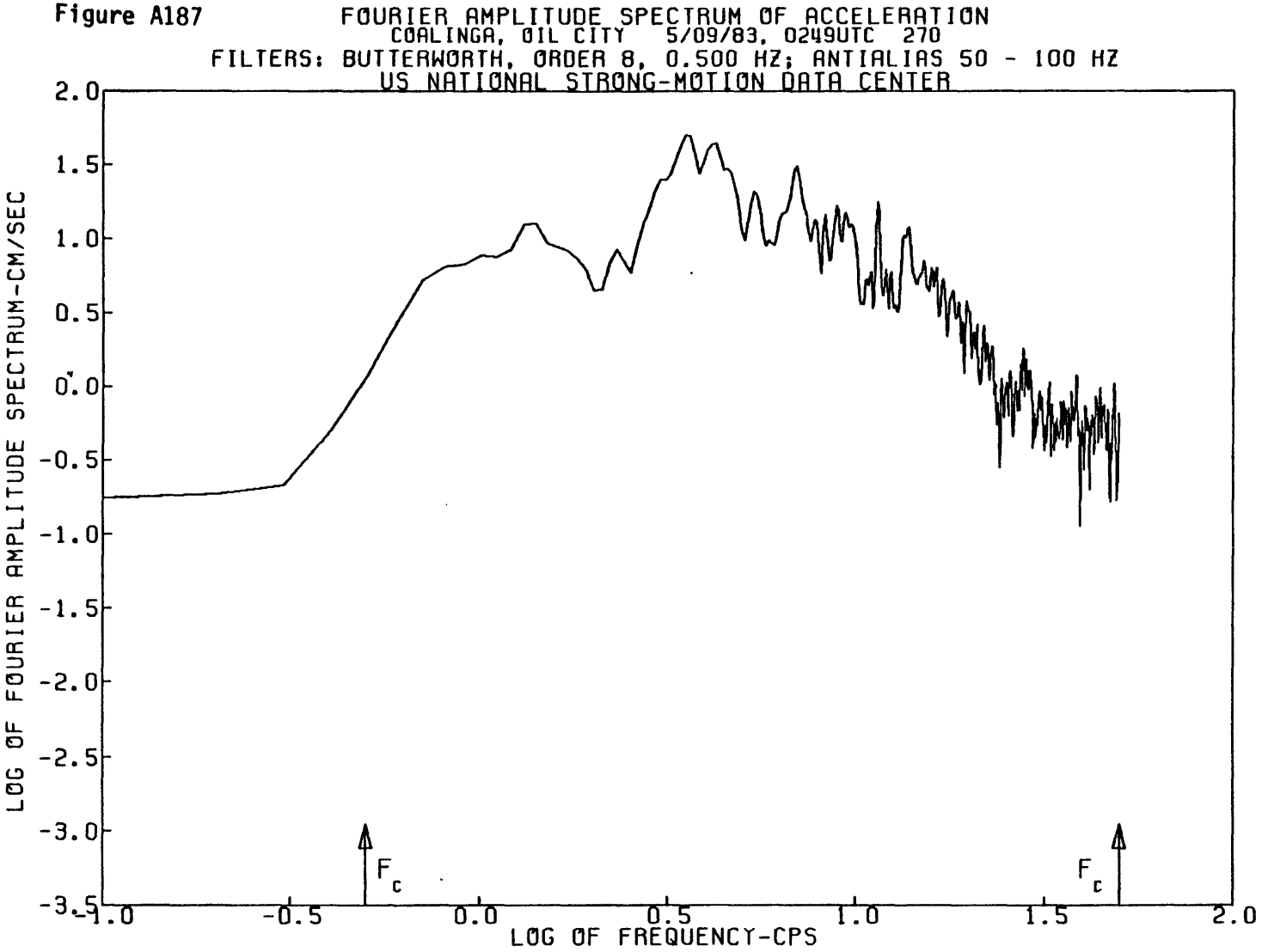
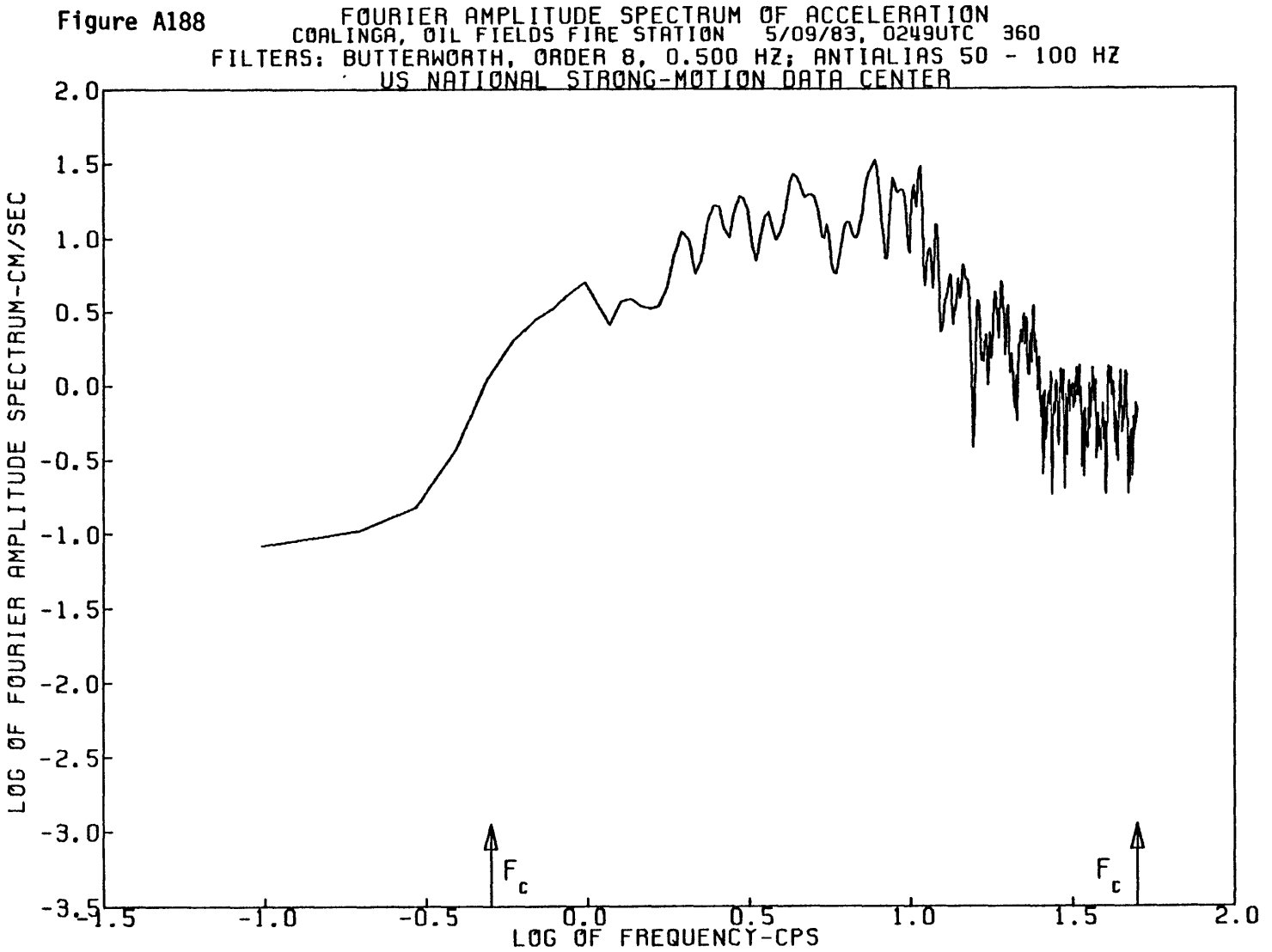

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, OIL CITY 5/09/83, 0249UTC 270
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
-3.0
-3.5
F_c
F_c
-1.0
-0.5
0.0
0.5
1.0
1.5
2.0
LOG OF FREQUENCY-CPS

Figure A188


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, OIL FIELDS FIRE STATION 5/09/83, 0249UTC 360
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
-3.0
-3.5
F_c
F_c
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
2.0
LOG OF FREQUENCY-CPS

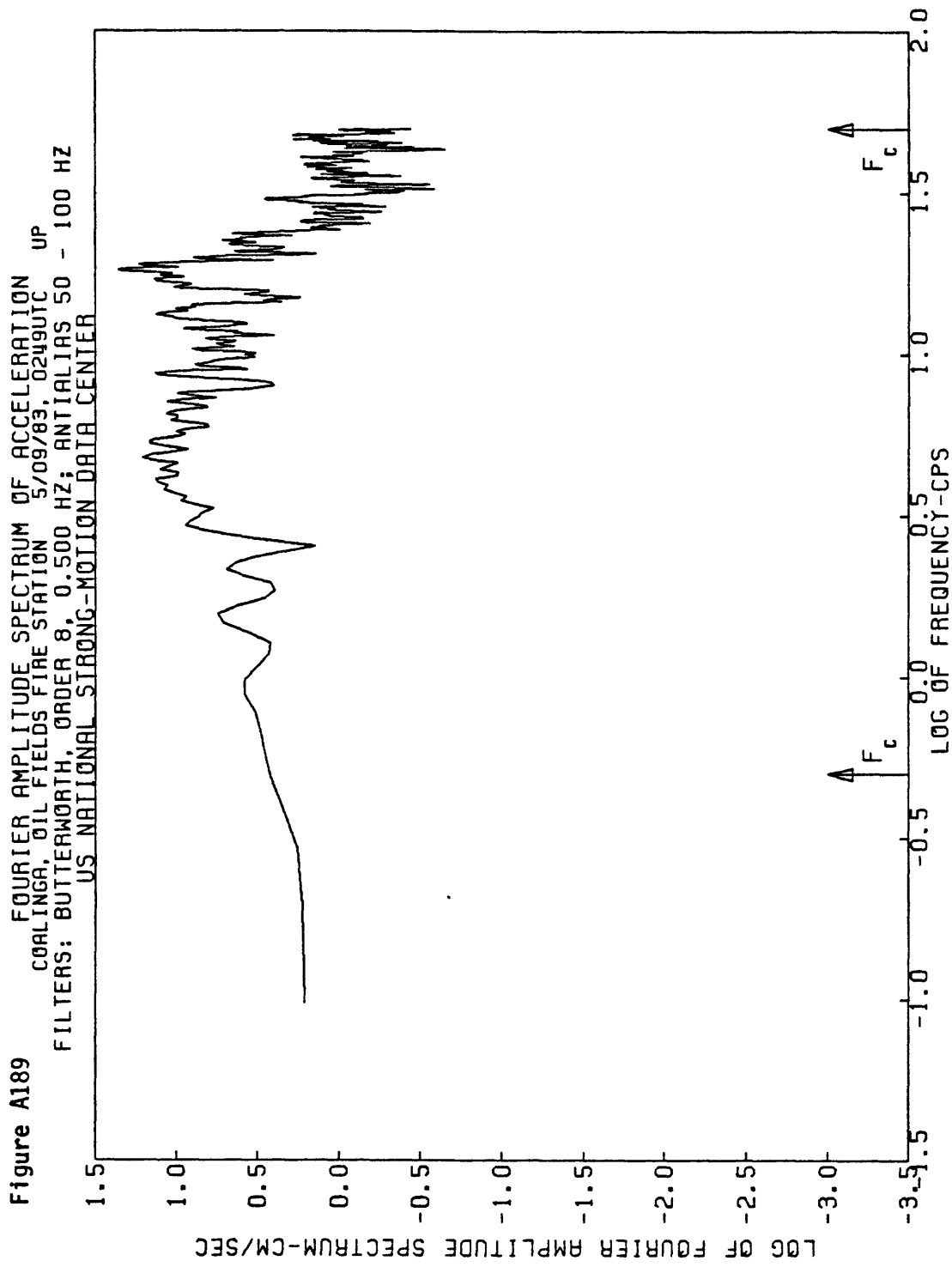

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, OIL FIELDS FIRE STATION 5/09/83, 0249UTC UP
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
LOG OF FREQUENCY-CPS
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
-3.0
-3.5
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
2.0
F_c
F_c

Figure A189

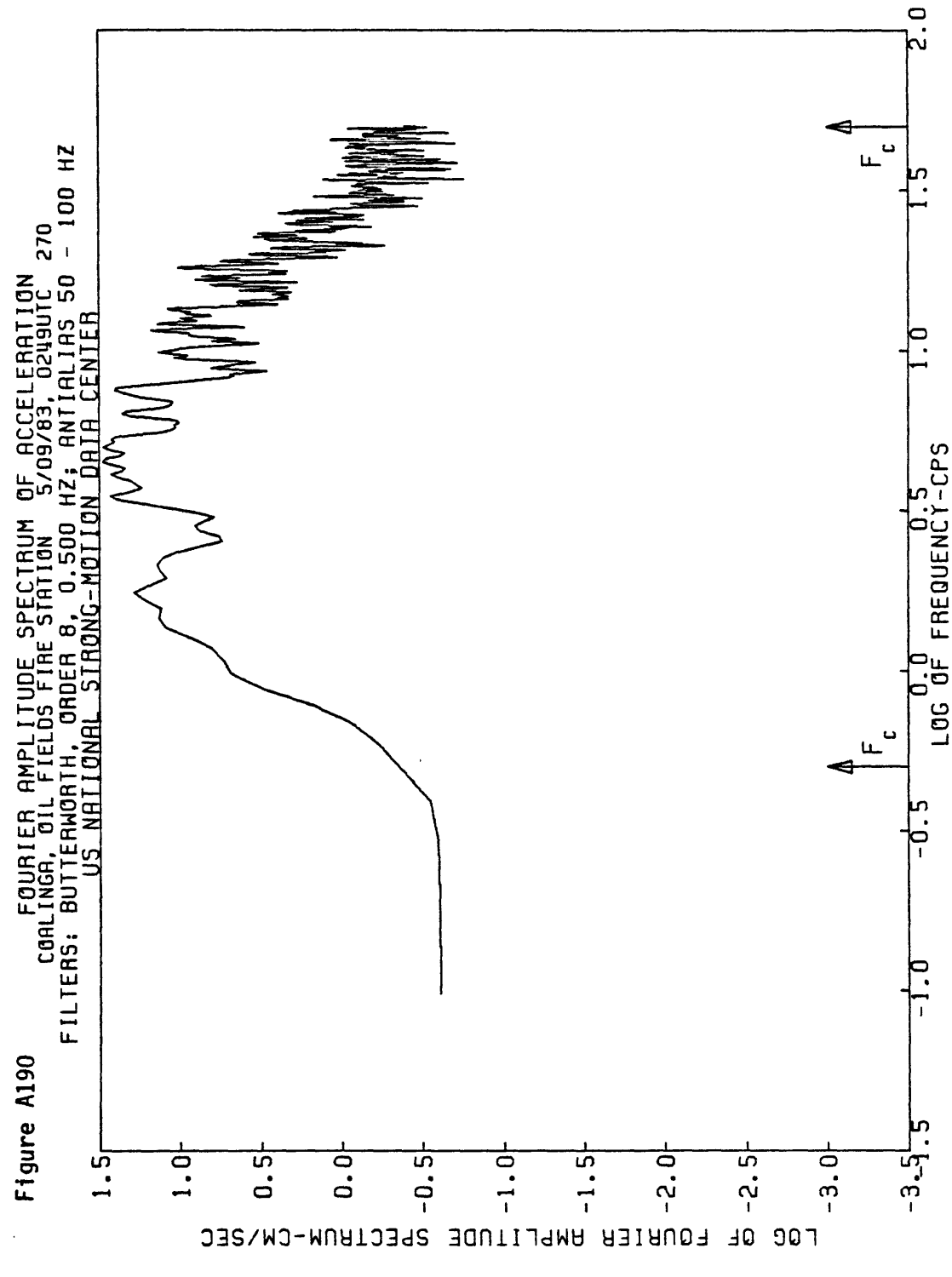
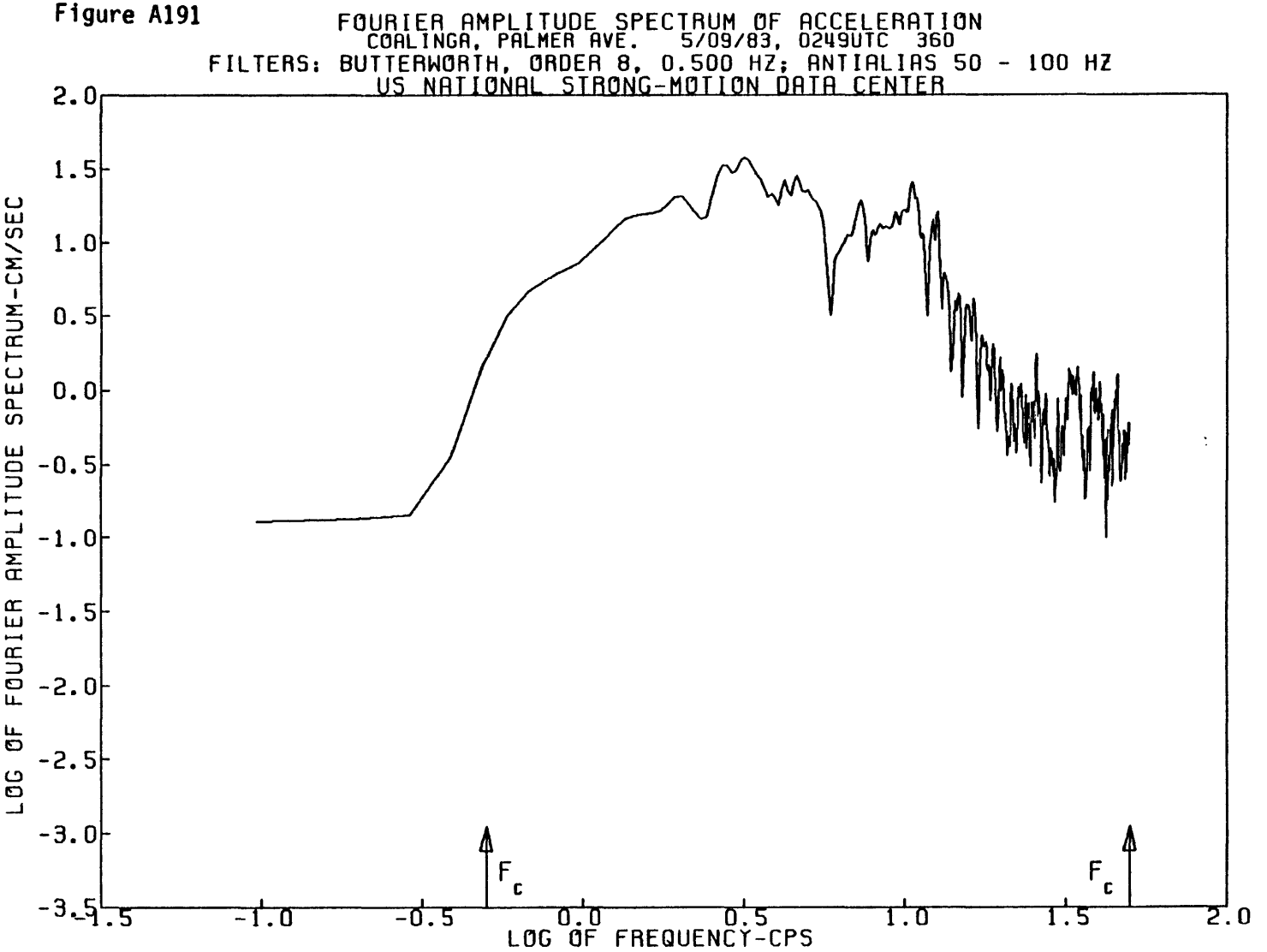

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, OIL FIELDS FIRE STATION 5/09/83, 0249UTC 270
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
LOG OF FREQUENCY-CPS
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
-3.0
-3.5
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
2.0
F_c
F_c

Figure A190

Figure A191


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, PALMER AVE. 5/09/83, 0249UTC 360
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
-3.0
-3.5
F_c
F_c
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
2.0
LOG OF FREQUENCY-CPS

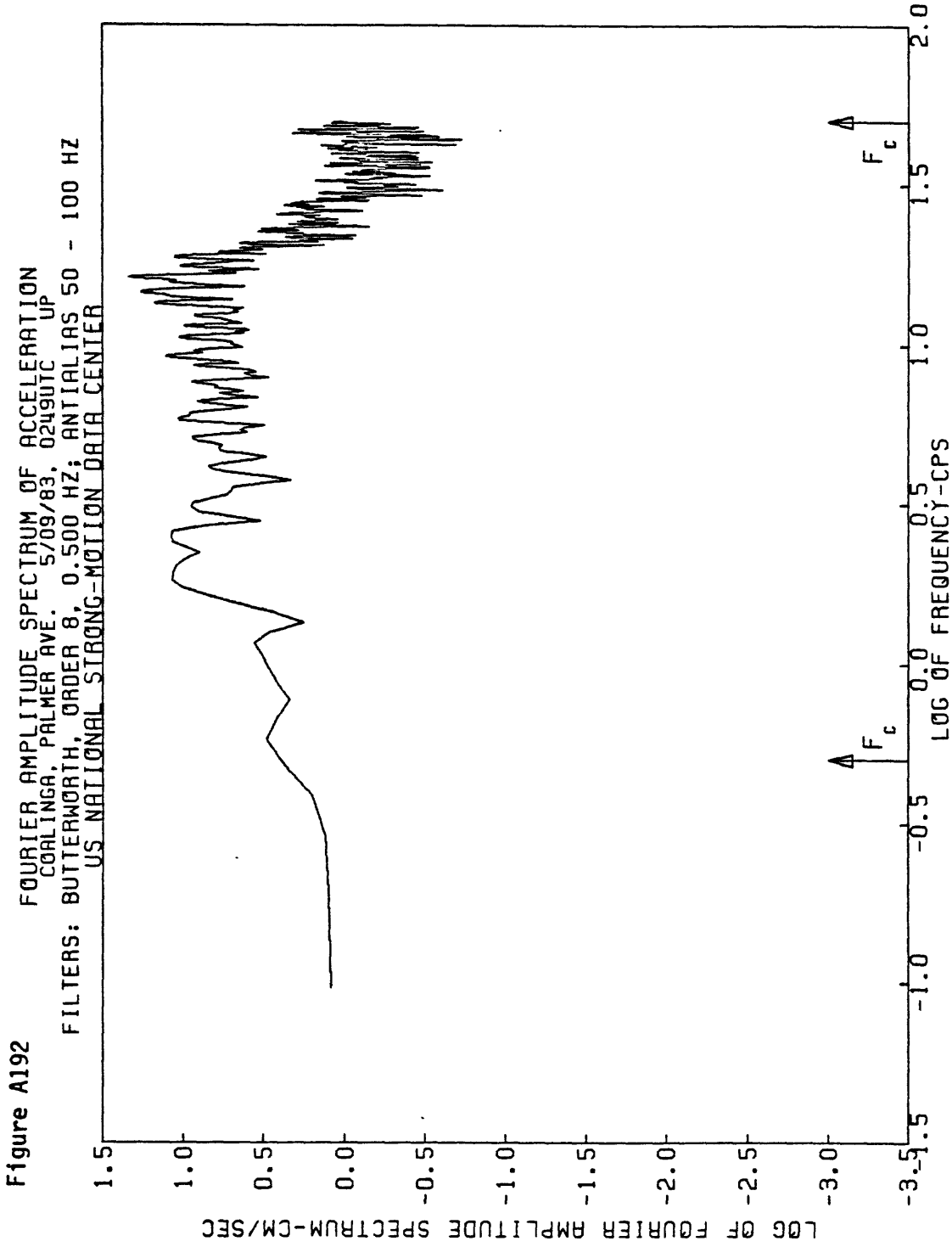

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, PALMER AVE. 5/09/83, 0249UTC UP
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
LOG OF FREQUENCY-CPS
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
-3.0
-3.5
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
2.0
F_c
F_c

Figure A192

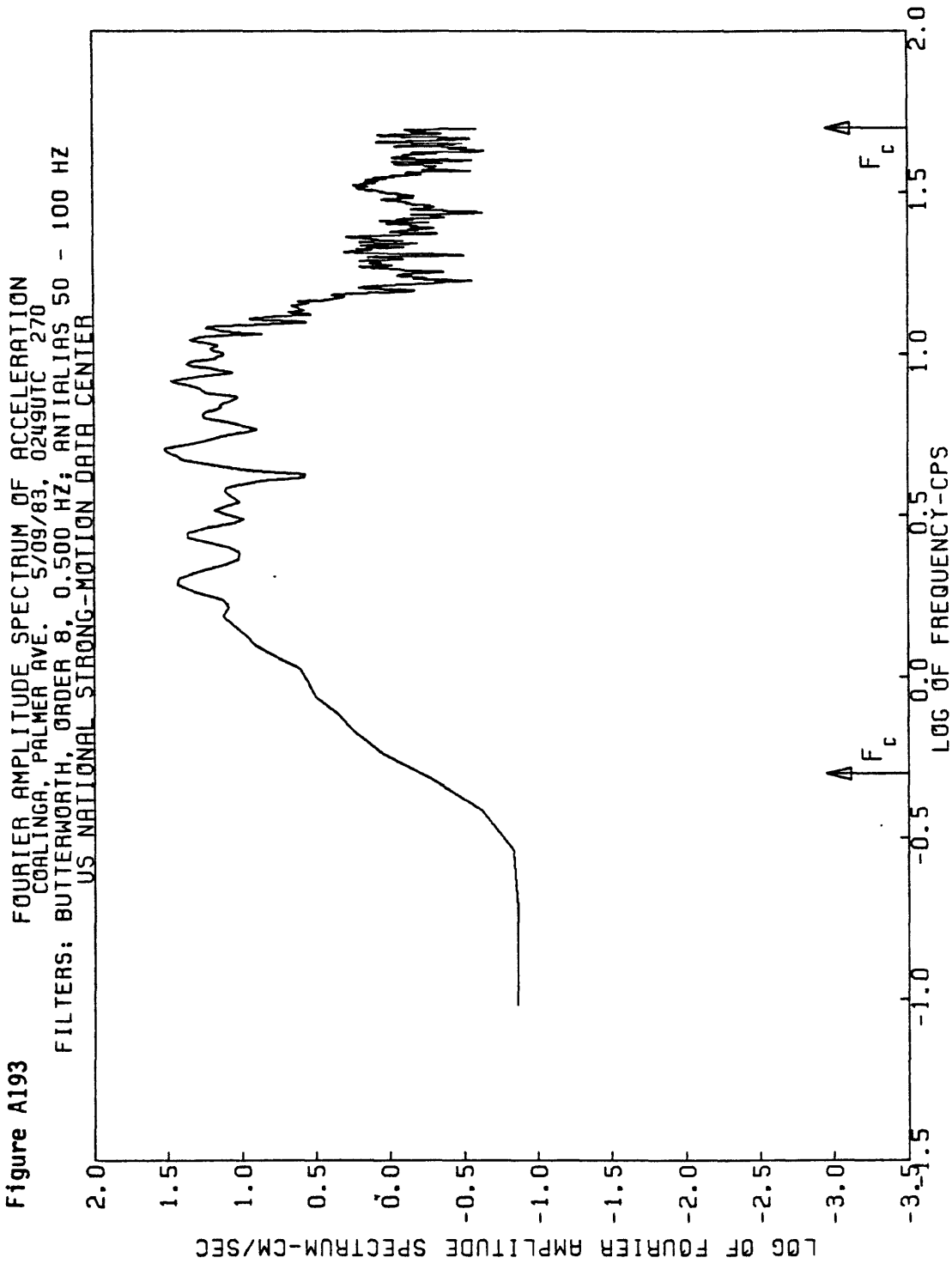
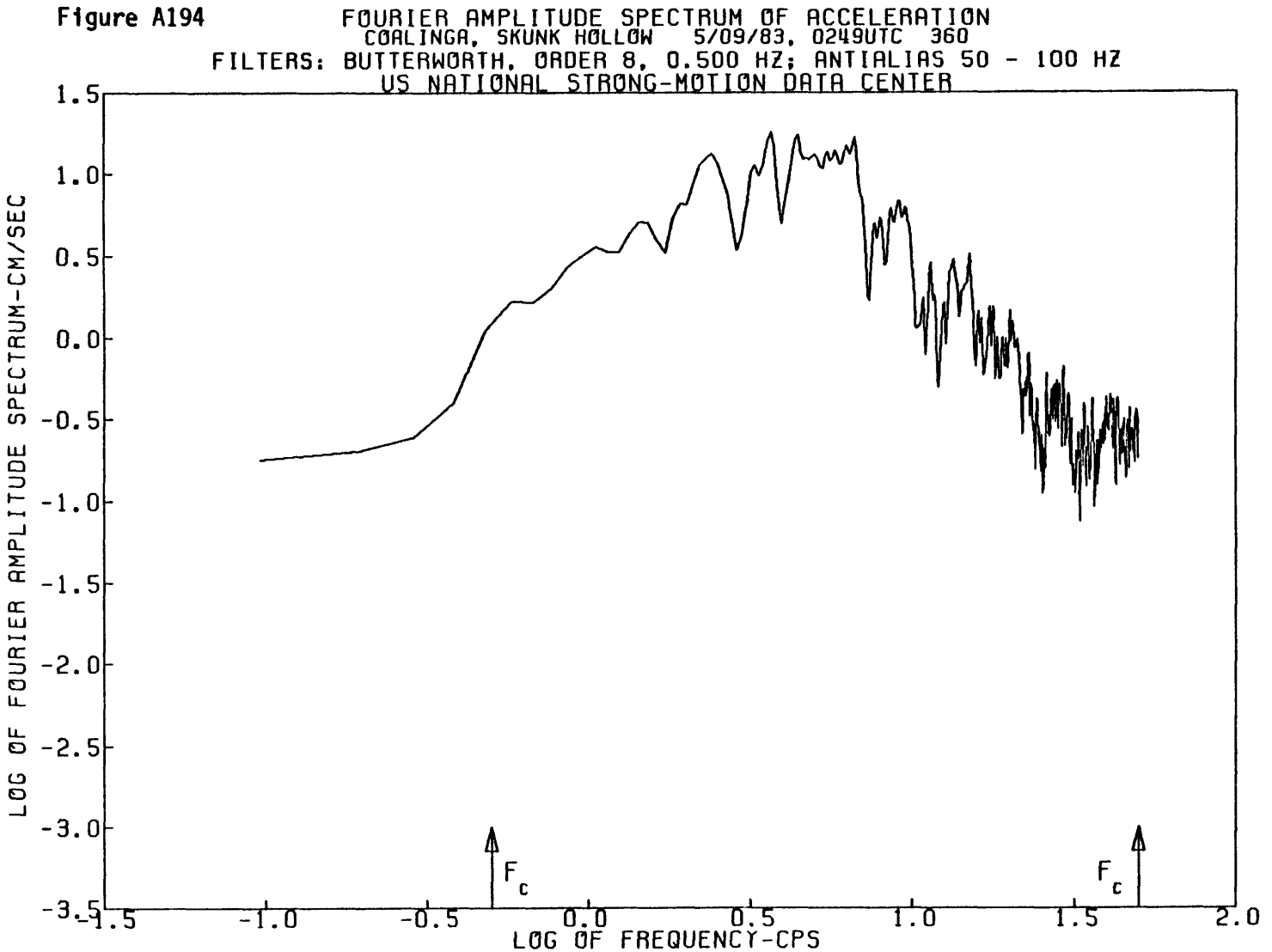

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, PALMER AVE. 5/09/83, 0249UTC 270
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
LOG OF FREQUENCY-CPS
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
-3.0
-3.5
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
2.0
F_c
F_c

Figure A193

Figure A194


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, SKUNK HOLLOW 5/09/83, 0249UTC 360
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
-3.0
-3.5
F_c
F_c
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
2.0
LOG OF FREQUENCY-CPS

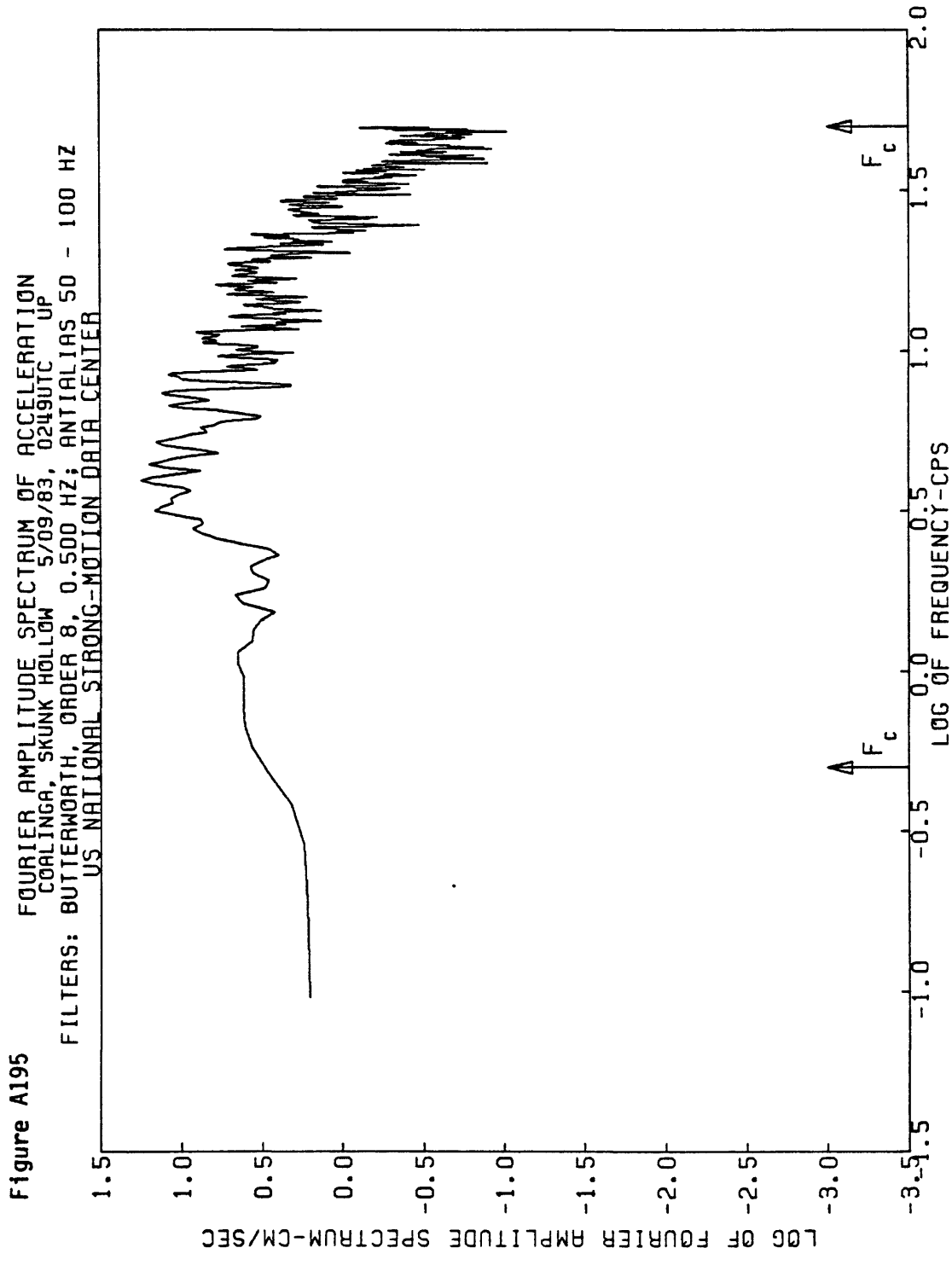

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, SKUNK HOLLOW 5/09/83, 0249UTC UP
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
LOG OF FREQUENCY-CPS
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
-3.0
-3.5
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
2.0
F_c
F_c

Figure A195

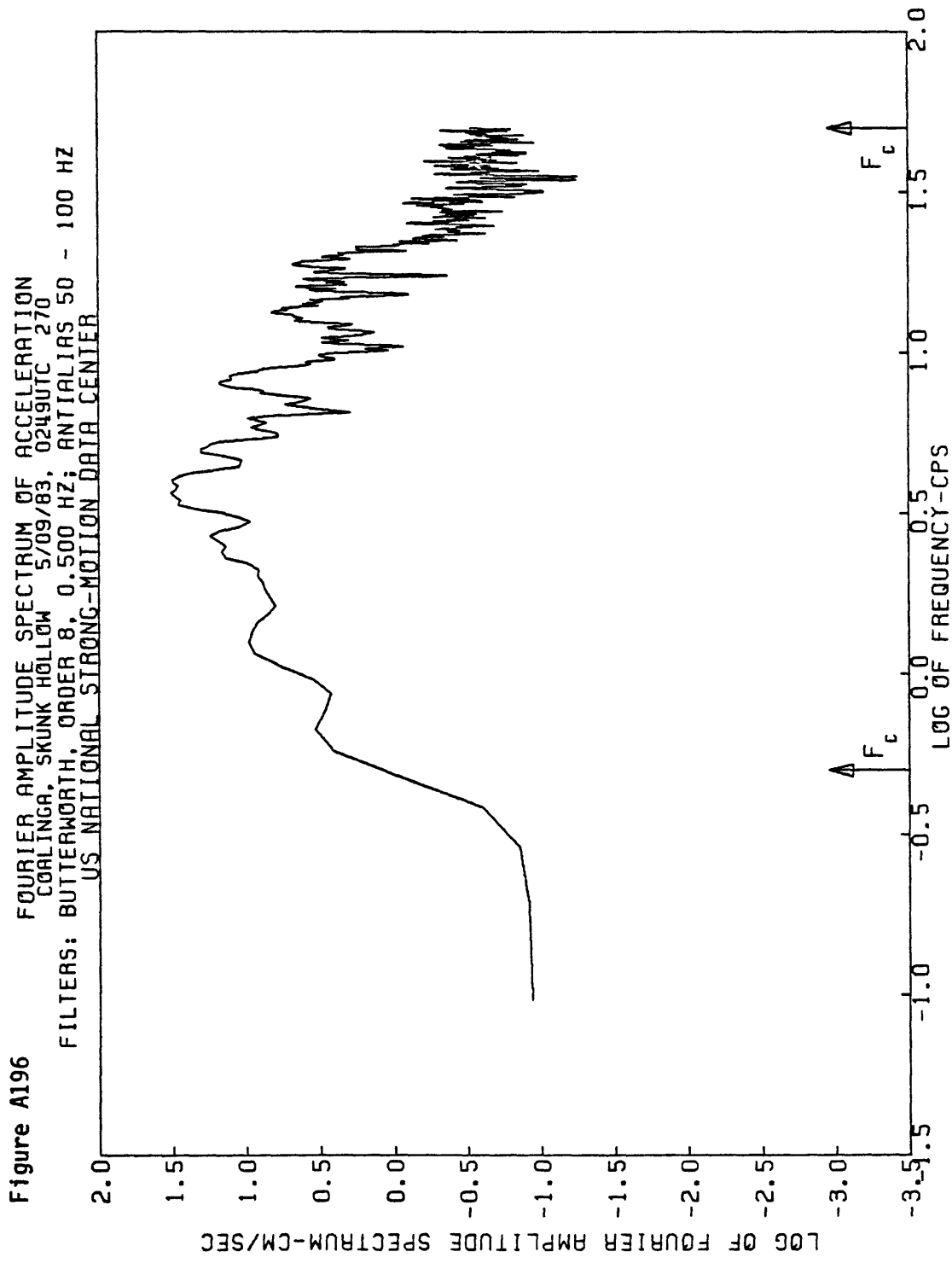

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, SKUNK HOLLOW 5/09/83, 0249UTC 270
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
LOG OF FREQUENCY-CPS
F_c
F_c
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
-3.0
-3.5
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
2.0

Figure A196

Figure A197

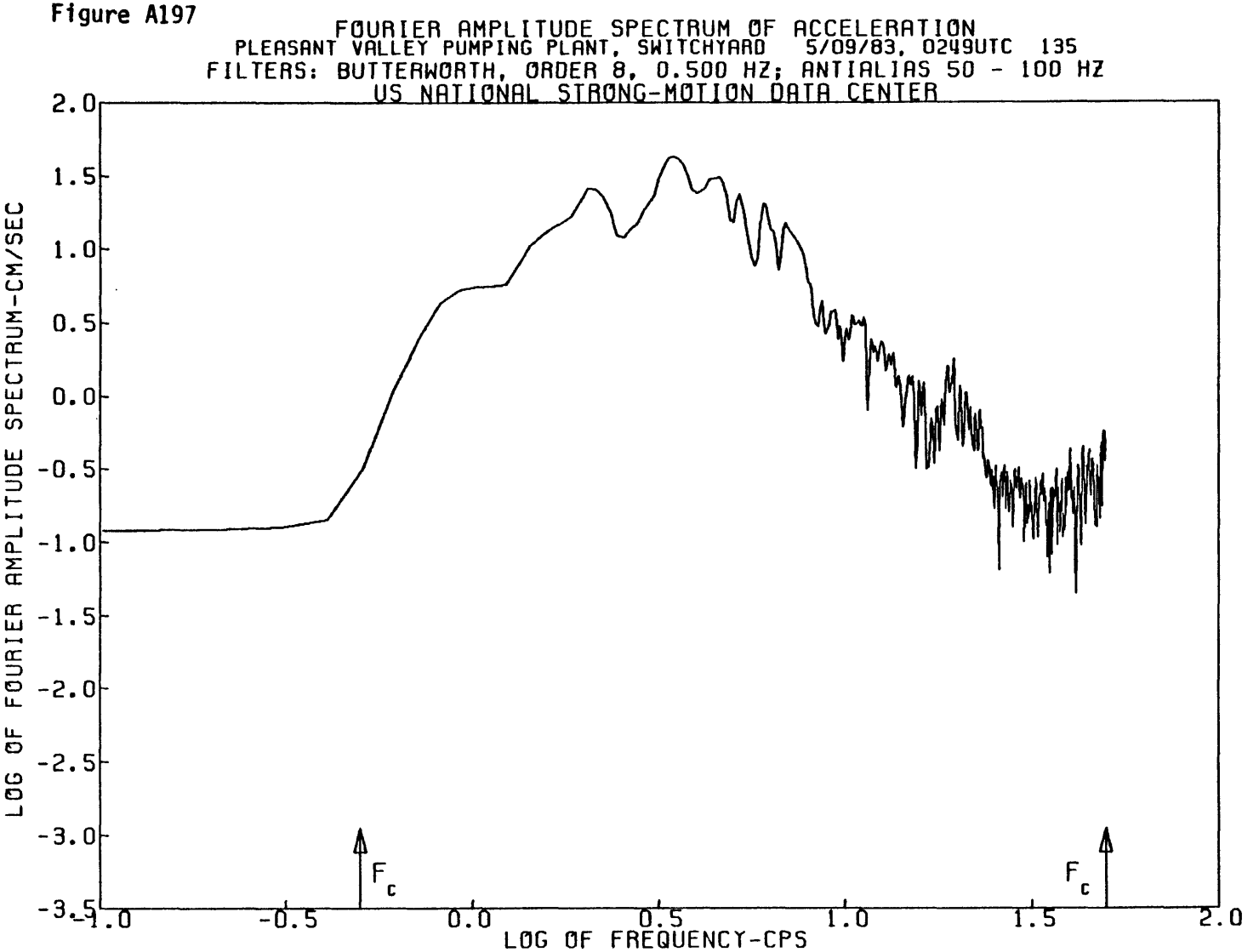

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT, SWITCHYARD 5/09/83, 0249UTC 135
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
-3.0
-3.5
F_c
F_c
-1.0
-0.5
0.0
0.5
1.0
1.5
2.0
LOG OF FREQUENCY-CPS

Figure A198

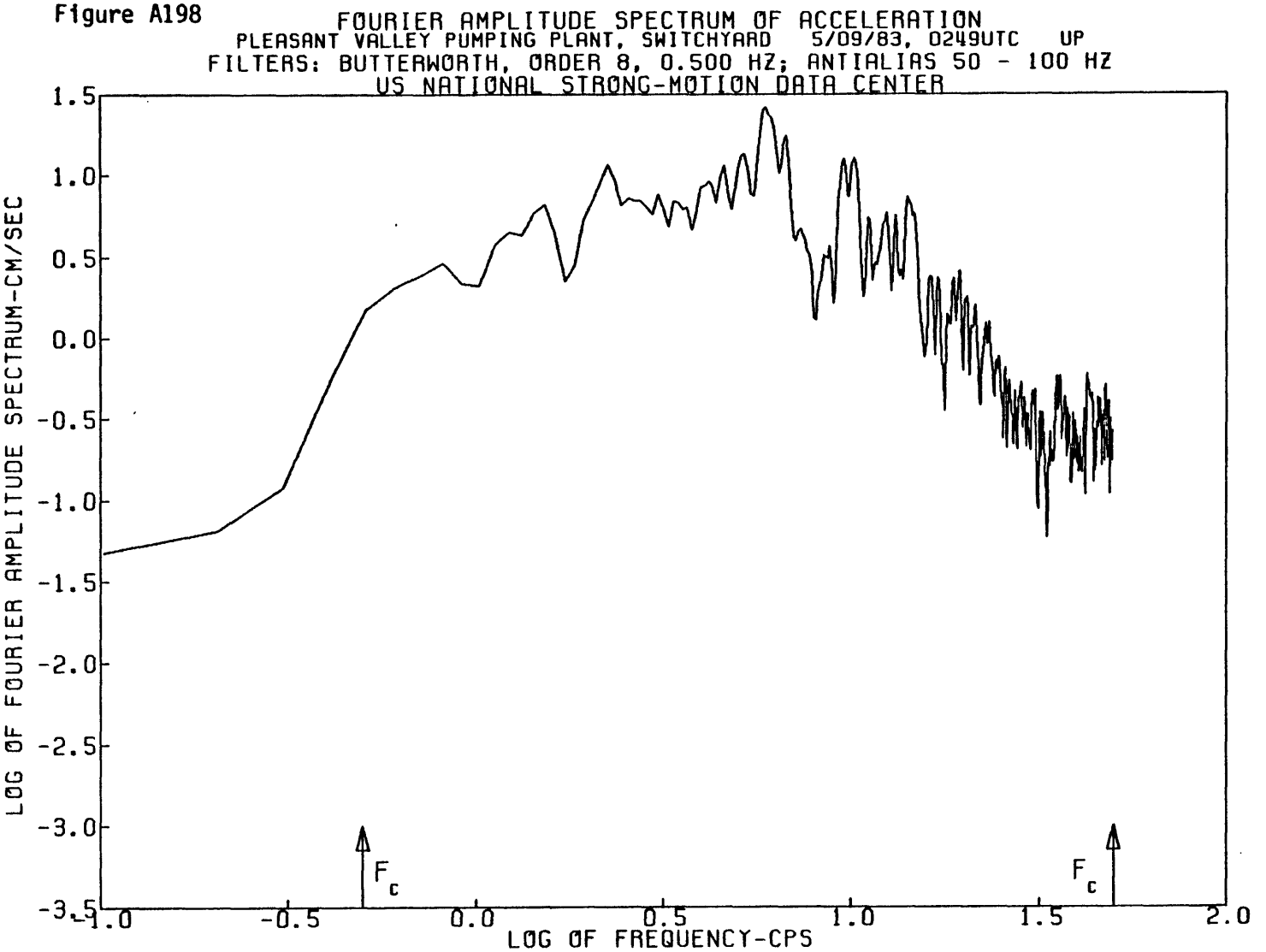
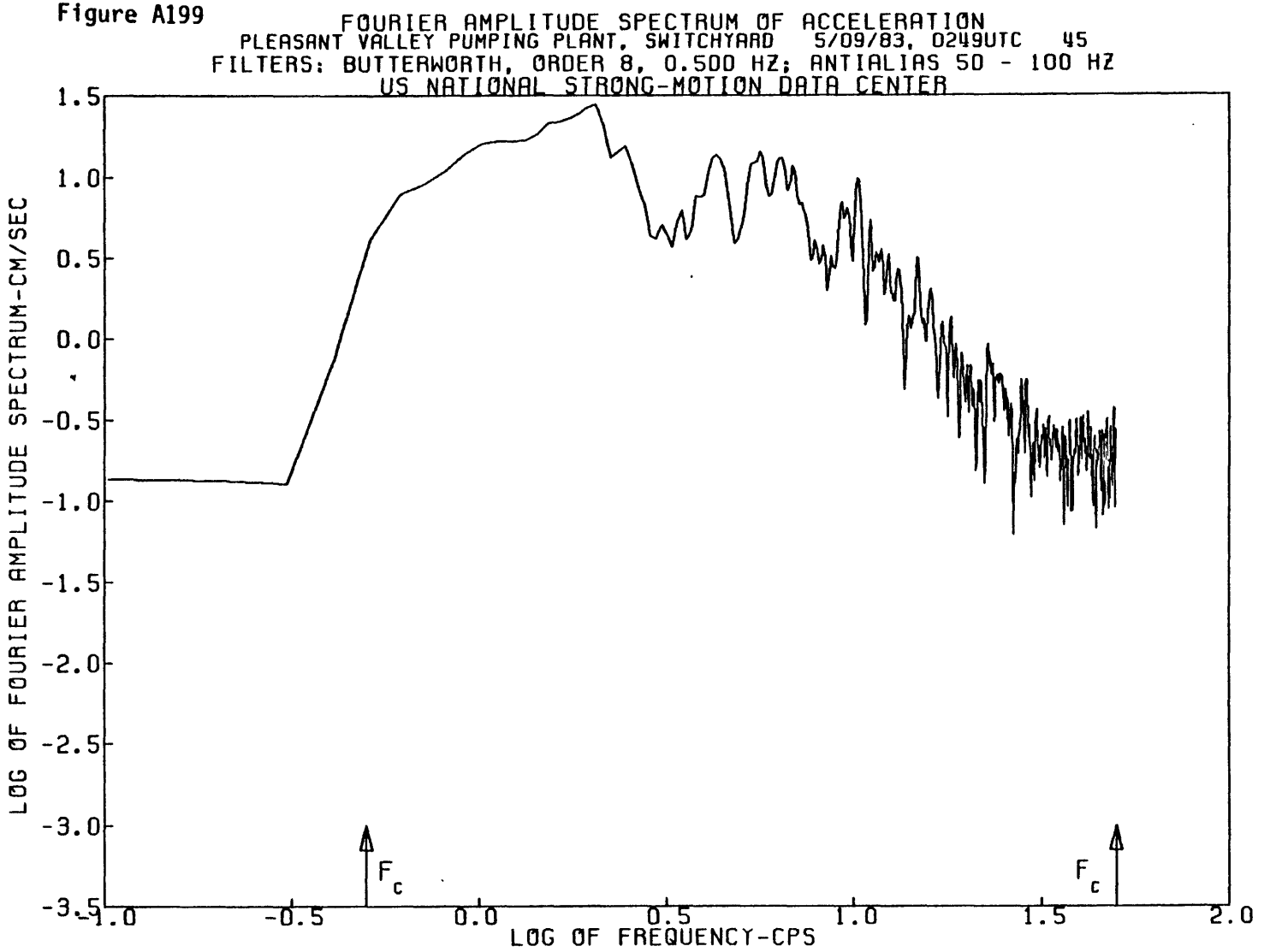

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT, SWITCHYARD 5/09/83, 0249UTC UP
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
-3.0
-3.5
F_c
F_c
-1.0
-0.5
0.0
0.5
1.0
1.5
2.0
LOG OF FREQUENCY-CPS

Figure A199


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT, SWITCHYARD 5/09/83, 0249UTC 45
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
-3.0
-3.5
F_c
F_c
-1.0
-0.5
0.0
0.5
1.0
1.5
2.0
LOG OF FREQUENCY-CPS

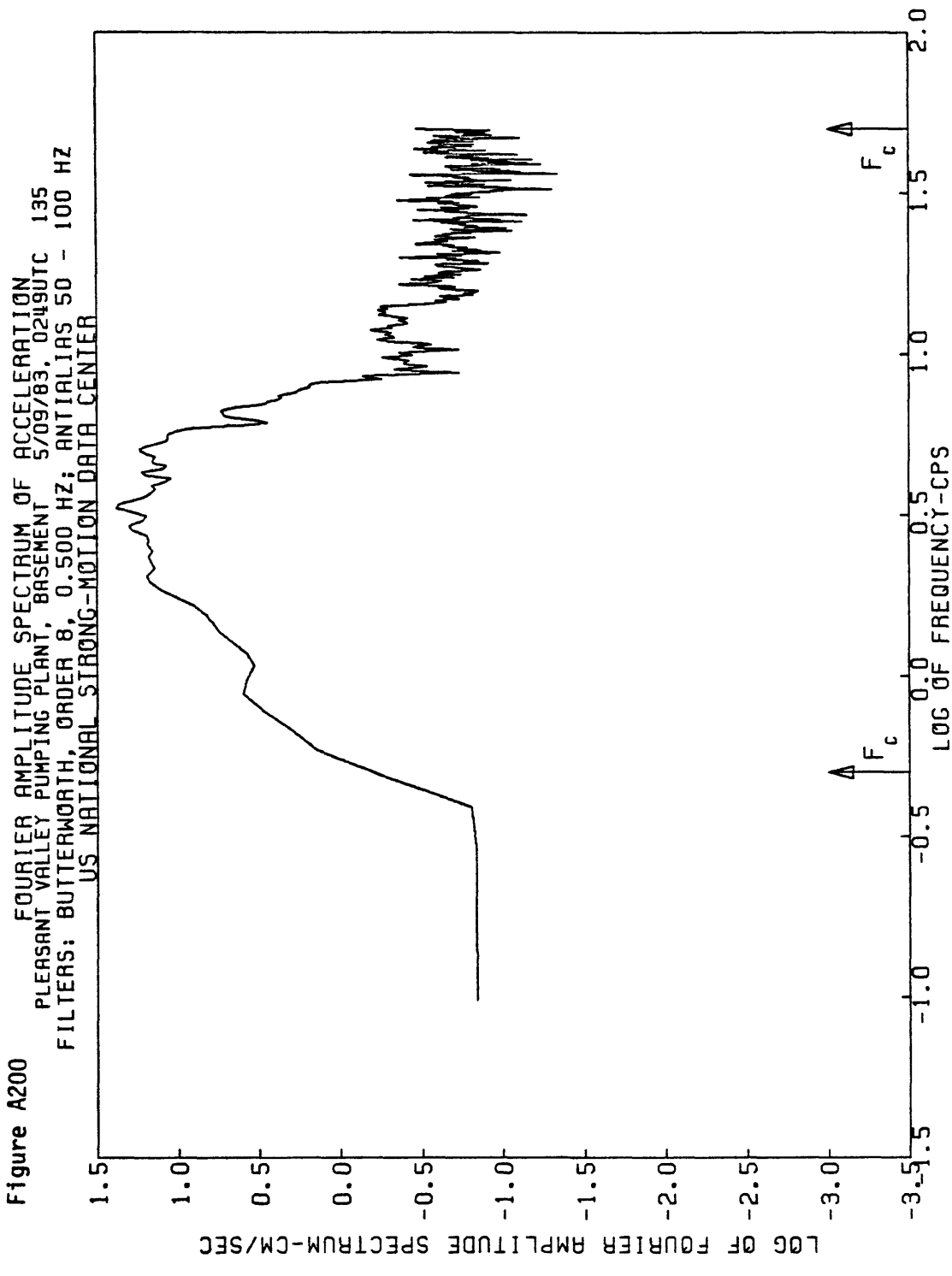

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT, BASEMENT 5/09/83, 0249UTC 135
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
LOG OF FREQUENCY-CPS
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
-3.0
-3.5
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
F_c
F_c

Figure A200

Figure A201

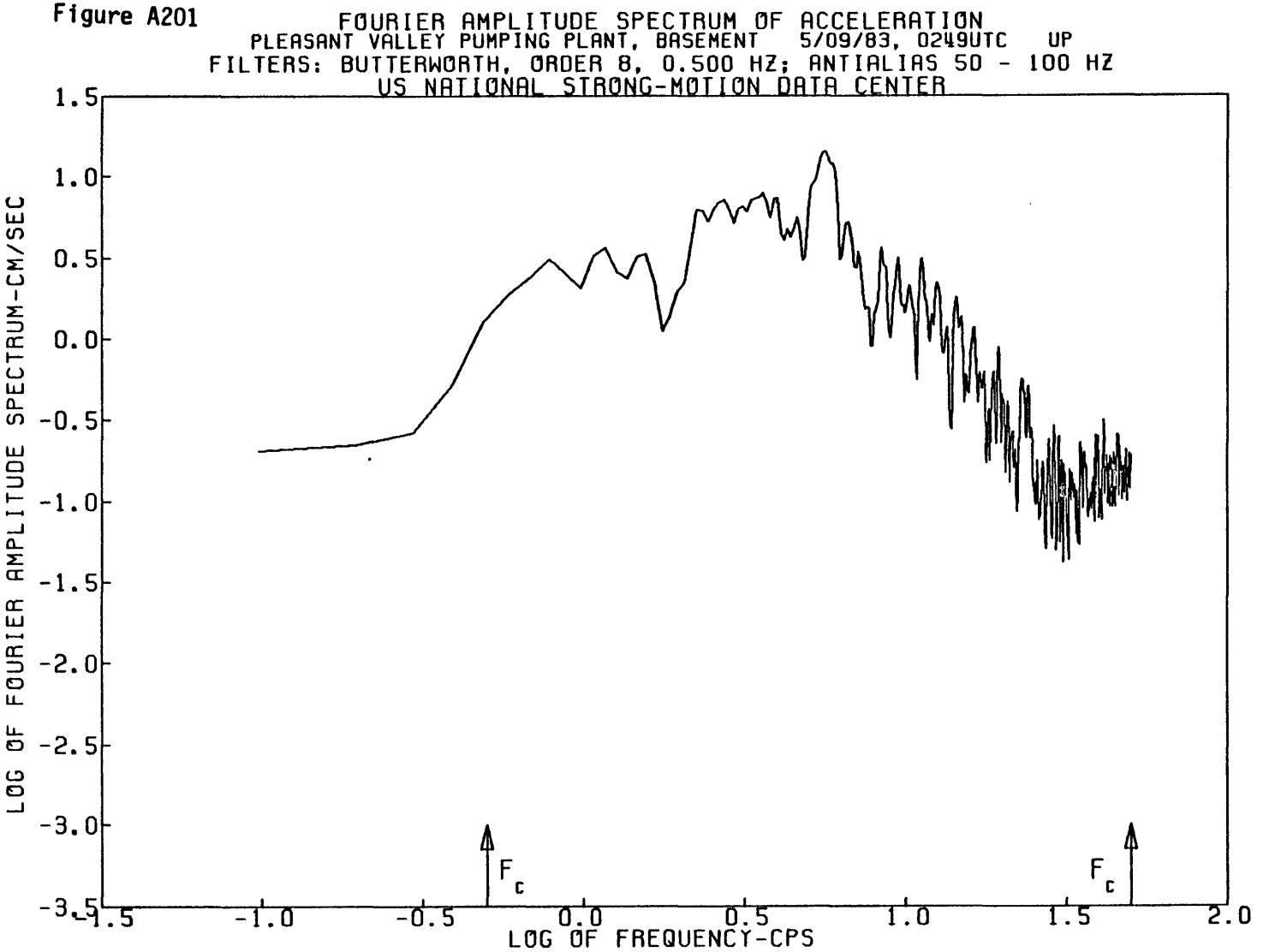

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT, BASEMENT 5/09/83, 0249UTC UP
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
-3.0
-3.5
F_c
F_c
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
2.0
LOG OF FREQUENCY-CPS

Figure A202

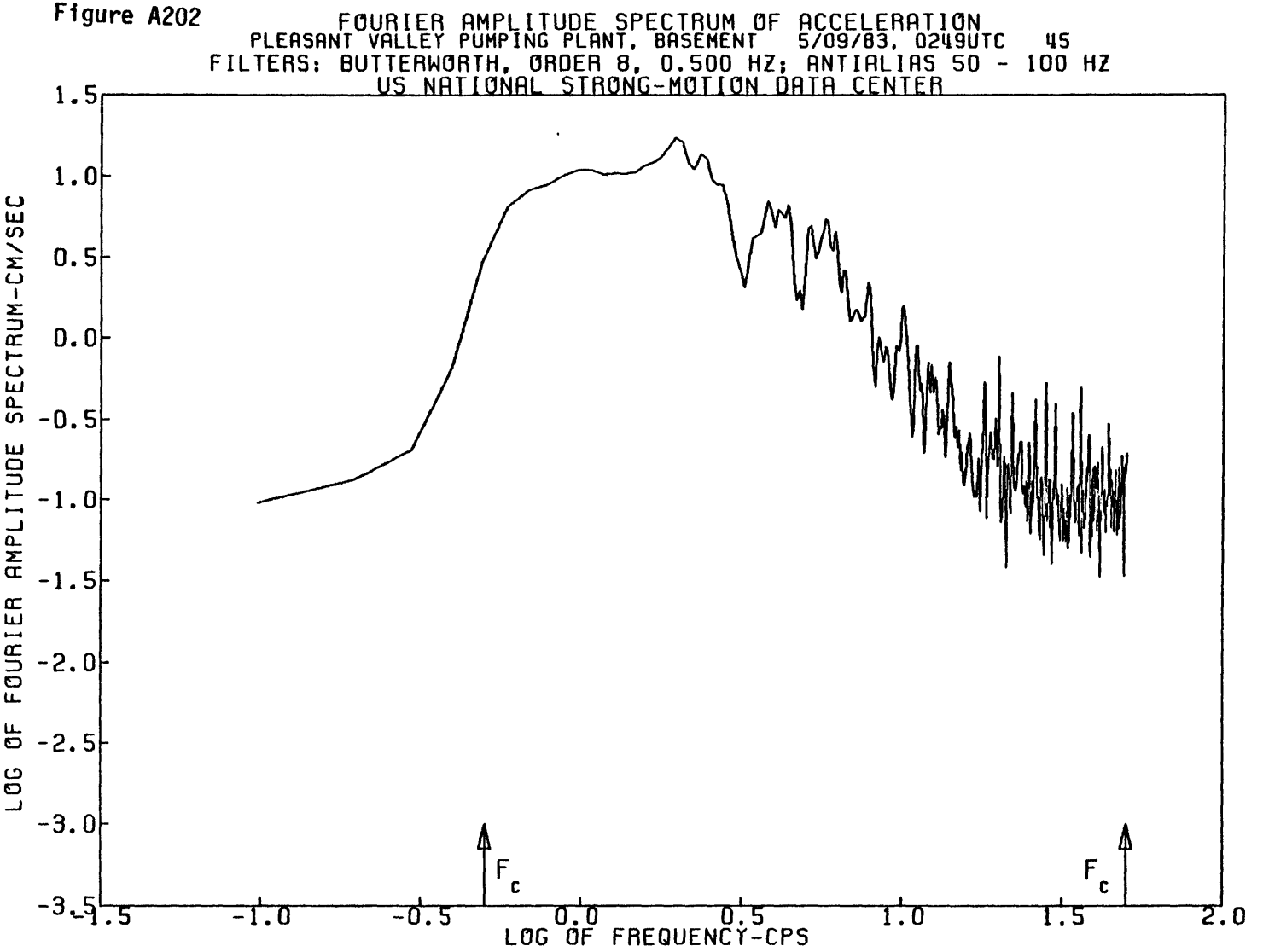

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT, BASEMENT 5/09/83, 0249UTC 45
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
-3.0
-3.5
F_c
F_c
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
2.0
LOG OF FREQUENCY-CPS

Figure A203

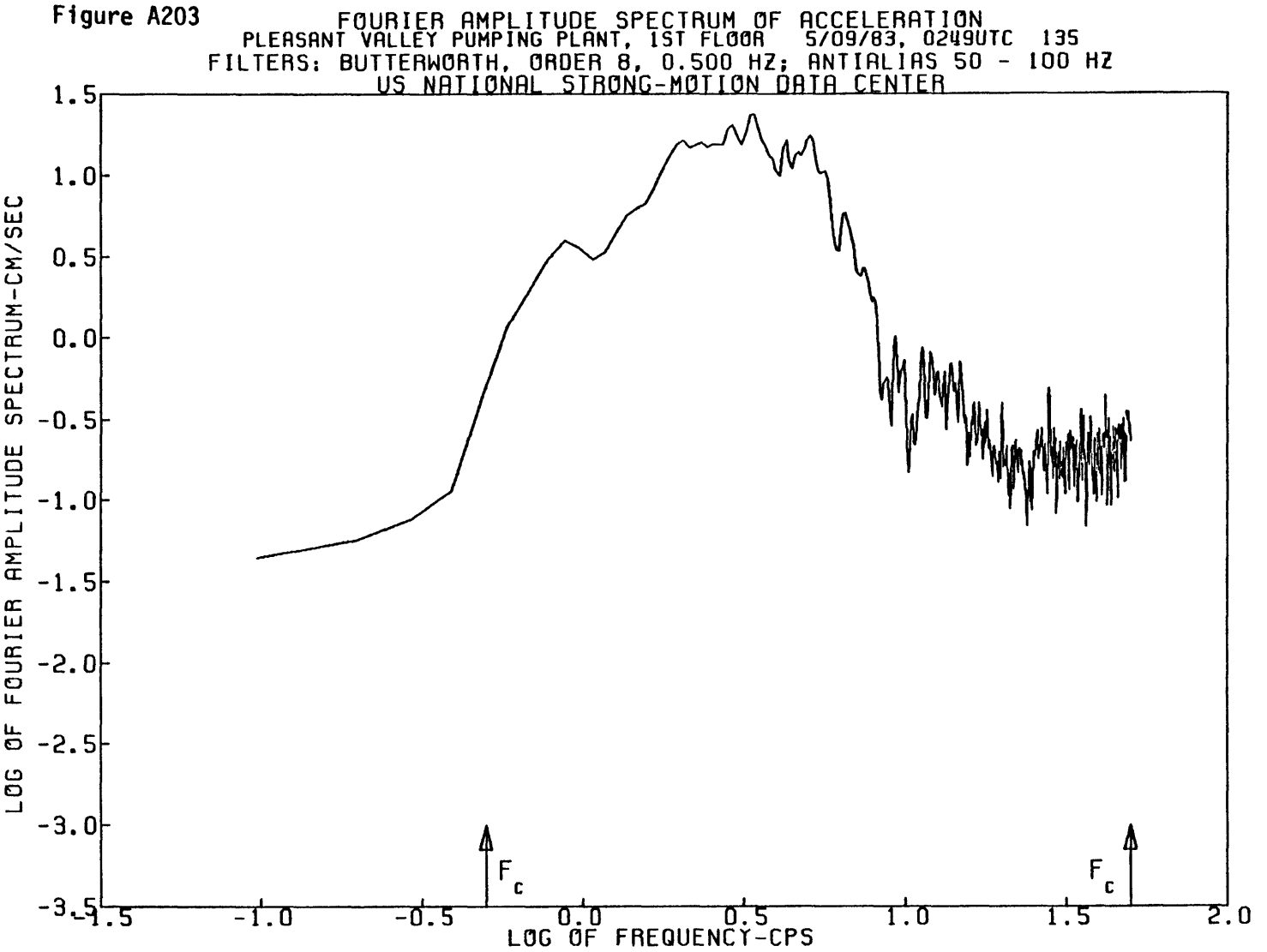

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT, 1ST FLOOR 5/09/83, 0249UTC 135
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
-3.0
-3.5
F_c
F_c
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
2.0
LOG OF FREQUENCY-CPS

Figure A204

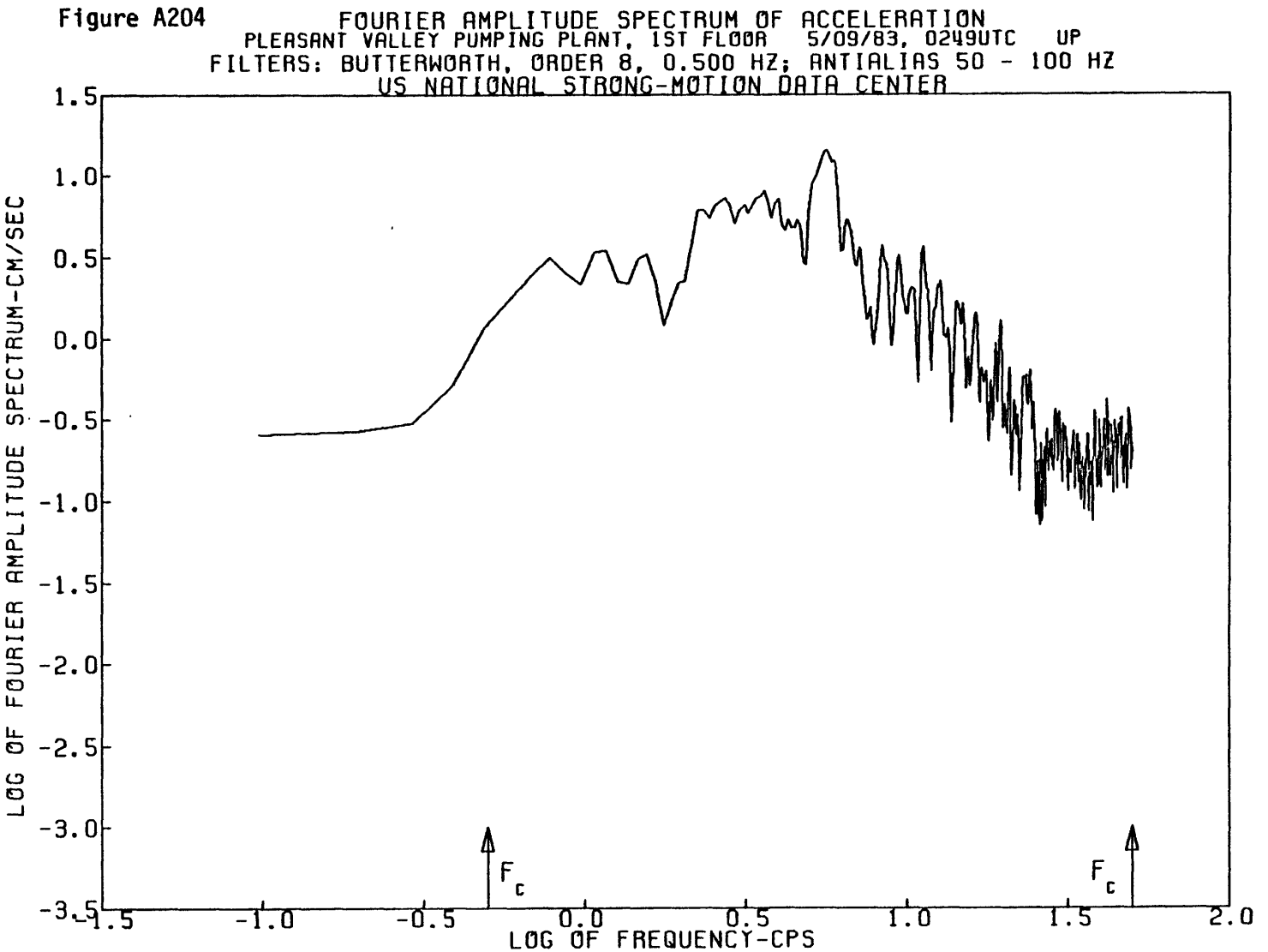

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT, 1ST FLOOR 5/09/83, 0249UTC UP
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
-3.0
-3.5
F_c
F_c
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
2.0
LOG OF FREQUENCY-CPS

Figure A205

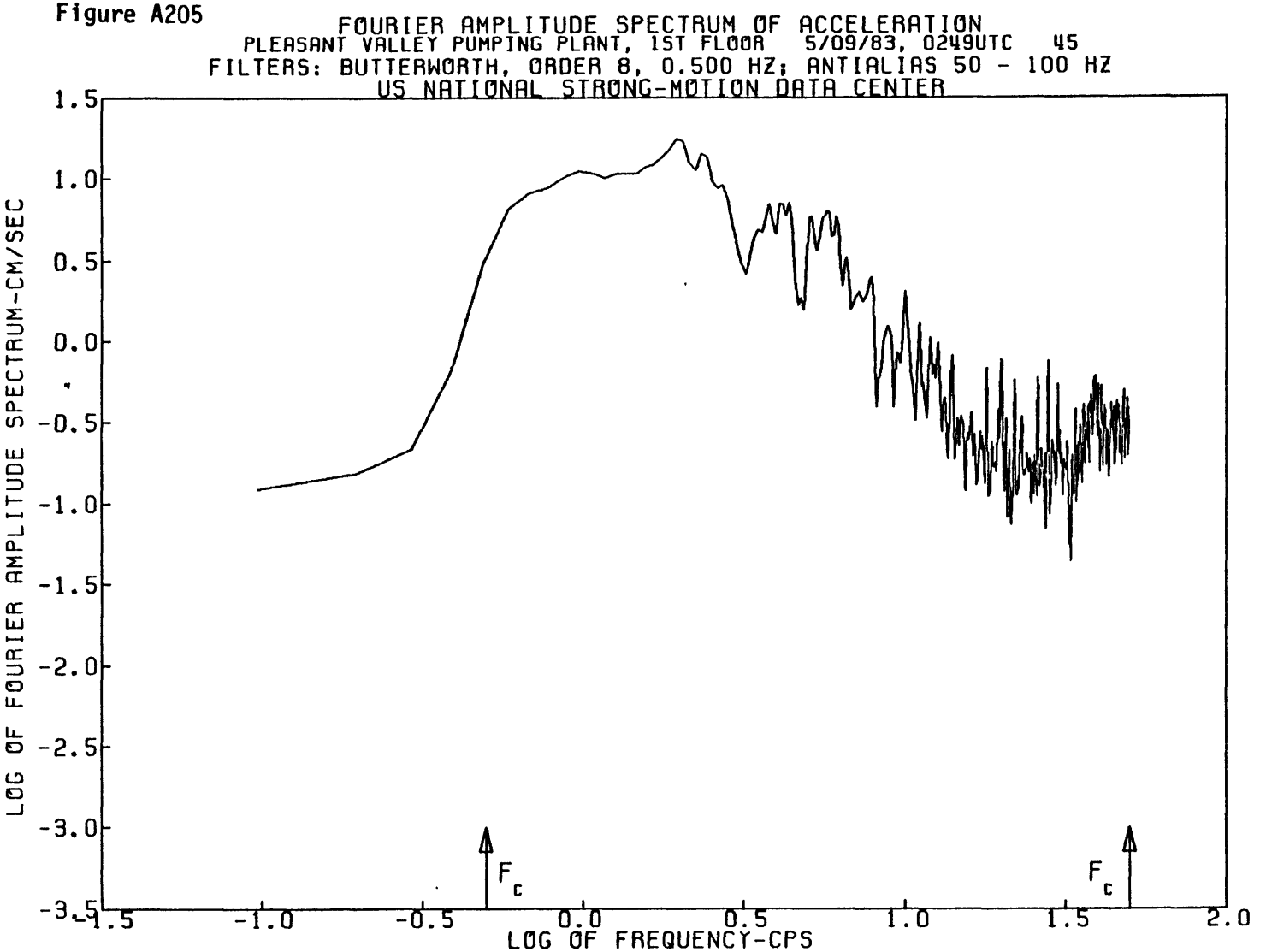
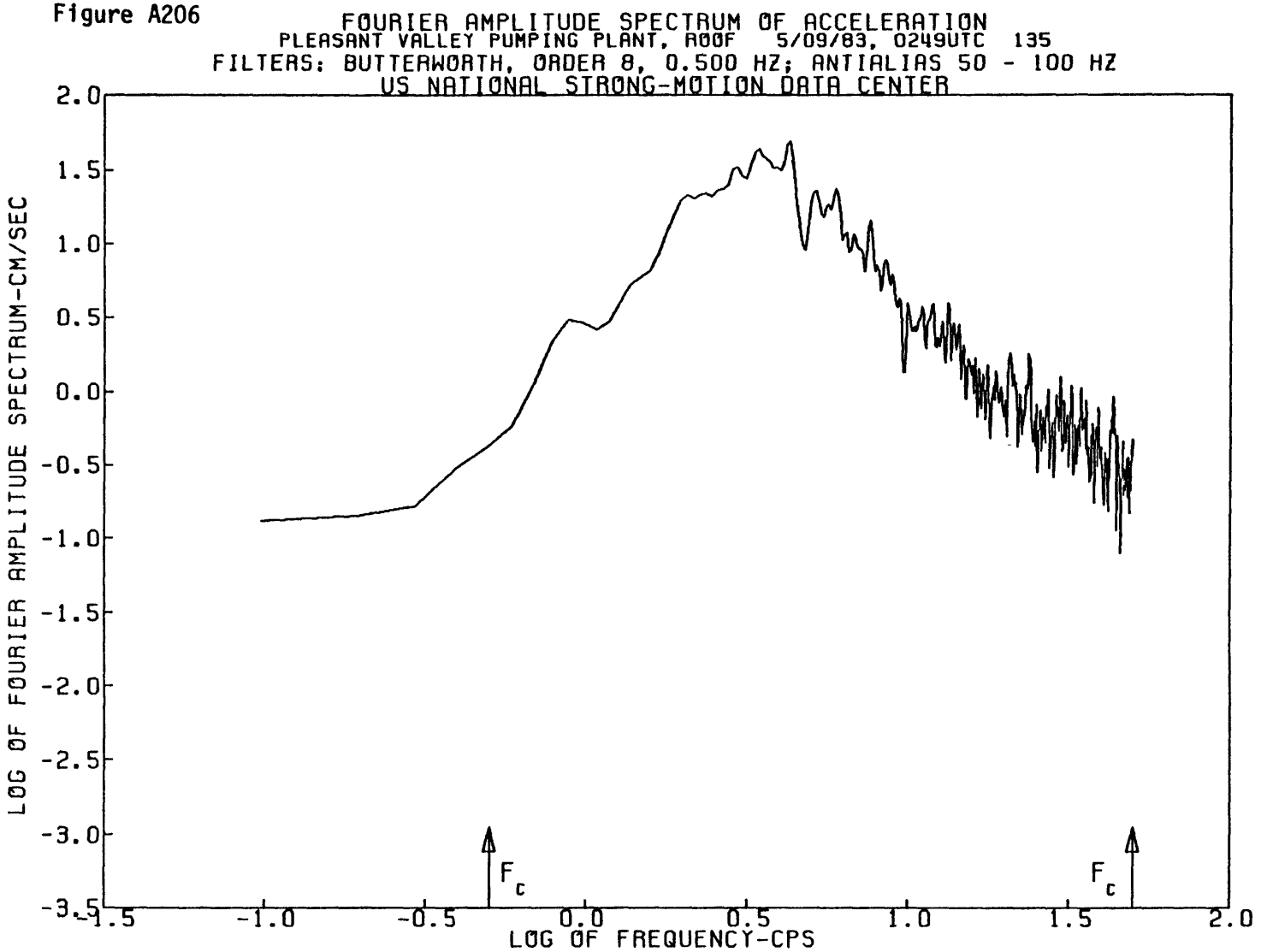

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT, 1ST FLOOR 5/09/83, 0249UTC 45
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
-3.0
-3.5
F_c
F_c
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
2.0
LOG OF FREQUENCY-CPS

Figure A206


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT, R00F 5/09/83, 0249UTC 135
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
-3.0
-3.5
F_c
F_c
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
2.0
LOG OF FREQUENCY-CPS

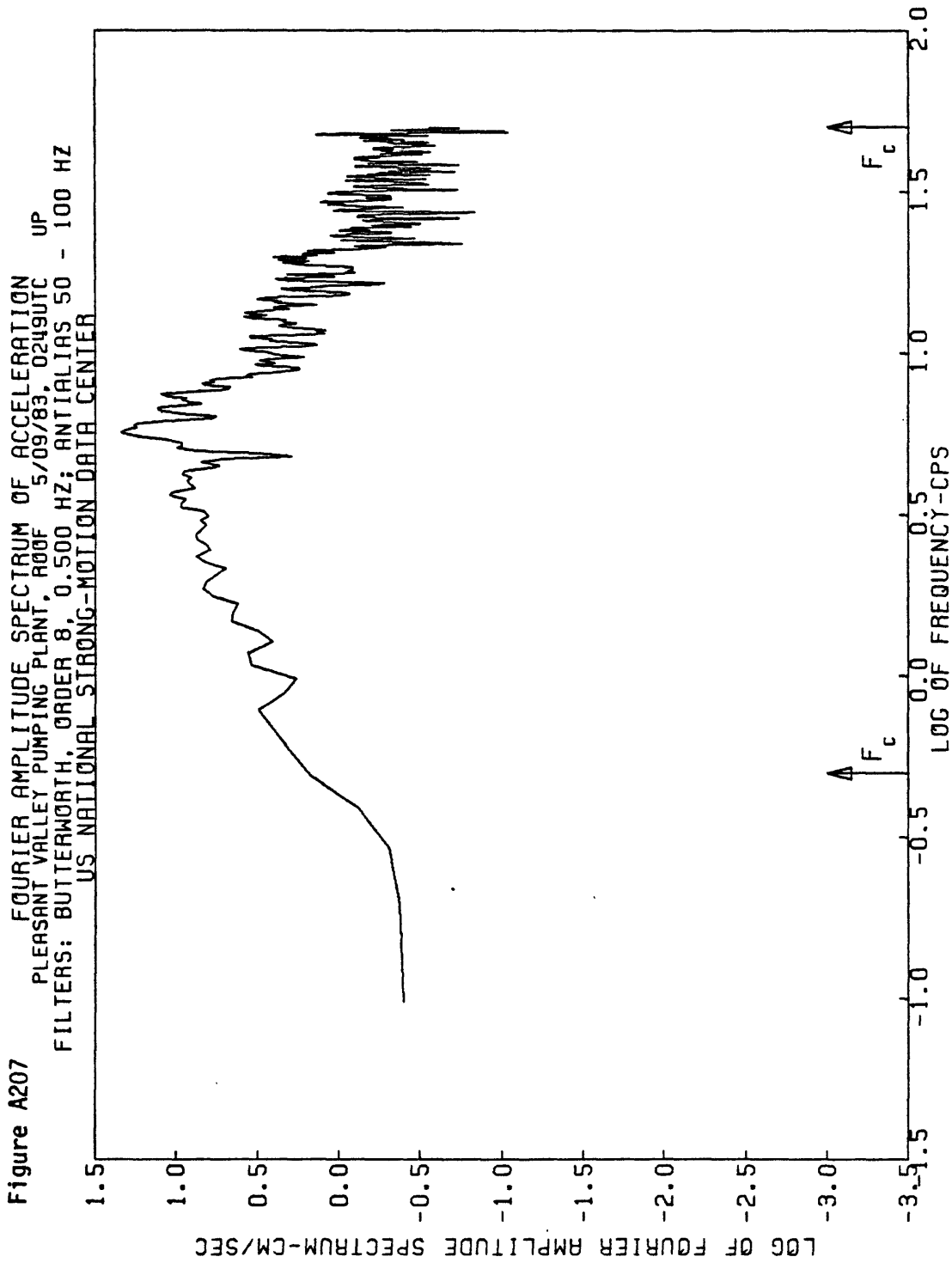
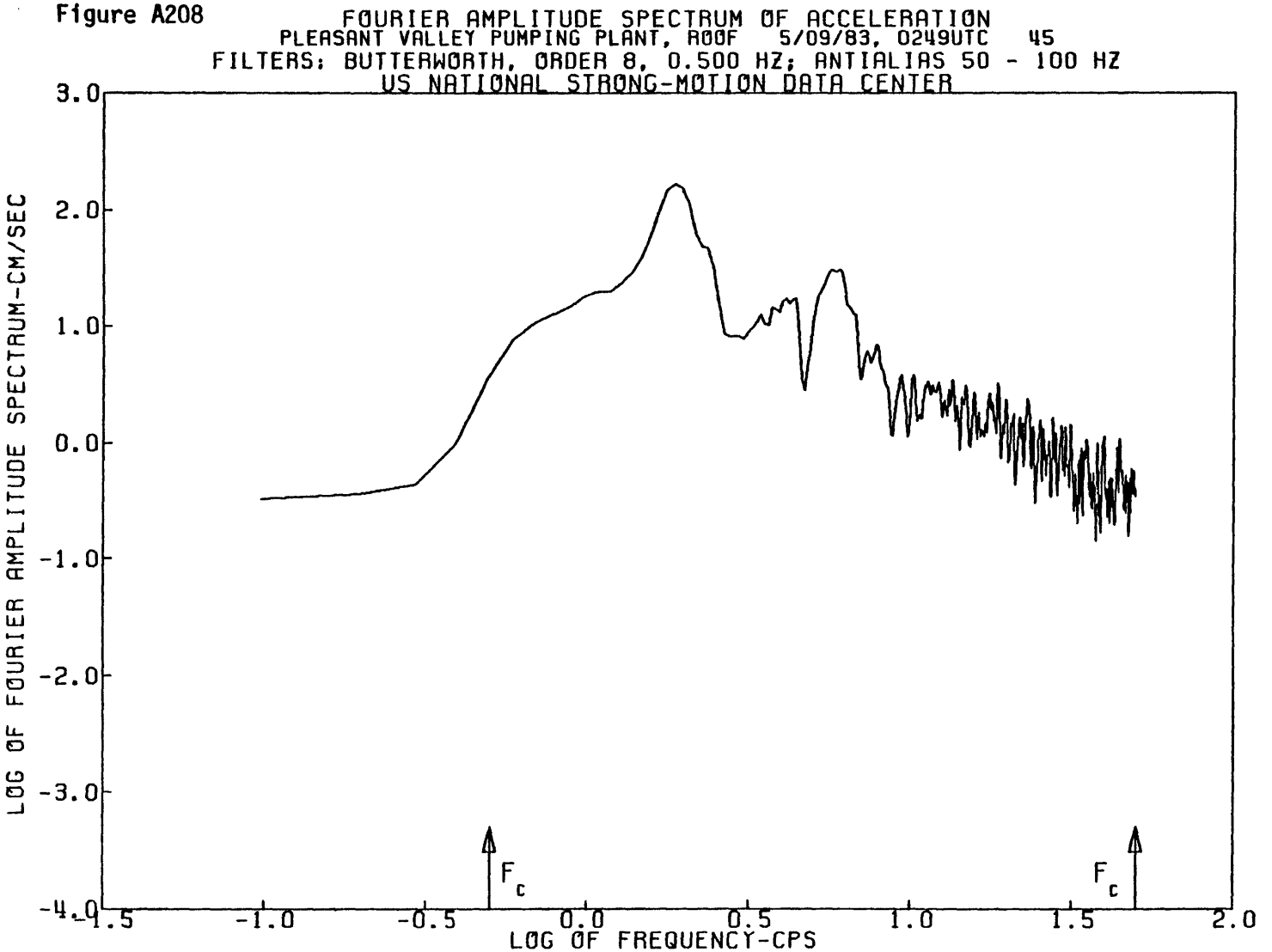

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT, R00F 5/09/83, 0249UTC UP
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
LOG OF FREQUENCY-CPS
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
-3.0
-3.5
-1.0
-0.5
0.0
0.5
1.0
1.5
2.0
F_c
F_c

Figure A207

Figure A208


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT, ROOF 5/09/83, 0249UTC 45
FILTERS: BUTTERWORTH, ORDER 8, 0.500 HZ; ANTIALIAS 50 - 100 HZ
US NATIONAL STRONG-MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
2.0
LOG OF FREQUENCY-CPS
F_c
F_c