UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Processed Strong-Motion Records From the Coalinga, California, Aftershock of July 22, 1983 0239 UTC

by

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Open-File Report 85-250

This report is preliminary and has not been reviewed for conformity with U.S. Geological Survey editorial standards and stratigraphic nomenclature. Any use of trade names is for descriptive purposes only and does not imply endorsement by the USGS.

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Station and Component Directions	Page No for plots of six processing steps* 1	2	3	4	5	6
Anticline Ridge (Pad Site) 360, Up, 270	22	35	74	113	152	191
Burnett Construction 360, Up, 270	23	38	77	116	155	194
Oil City 360, Up, 270	24	41	80	119	158	197
Oil Fields, Fire Station Freefield 360, Up, 270	25	44	83	122	161	200
Oil Fields, Fire Station Pad 360, Up, 270	26	47	86	125	164	203
Palmer Avenue 360, Up, 270	27	50	89	128	167	206
Pleasant Valley Pump Plant 1st Floor 135, Up, 045	28	53	92	131	170	209
Pleasant Valley Pump Plant Basement 135, Up, 045	29	56	95	134	173	212
Pleasant Valley Pump Plant Freefield 360, Up, 270	30	59	98	137	176	215
Pleasant Valley Pump Plant Roof 135, Up, 045	31	62	101	140	179	218
Pleasant Valley Pump Plant Switchyard 135, up, 045	32	65	104	143	182	221
Skunk Hollow 360, Up, 270	33	68	107	146	185	224
Transmitter Hill 360, Up, 270	34	71	110	149	188	227

* Processing stages and plot format:

1) Uncorrected accelerogram
2) Corrected acceleration, velocity, 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

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

ABSTRACT

The M_L 6.5 Coalinga, California earthquake of 2 May 1983, 2342 UTC, was followed by many aftershocks, 46 of which triggered stations within the permanent network maintained by the U.S. Geological Survey and/or the temporary network installed within a few days after the mainshock. Significant aftershocks occurred for a period of four months. Data in this report are a result of the M_L 6.0 event on 22 July 1983, 0239 UTC, with an epicenter approximately 10 km northwest of Coalinga. The shock triggered 13 SMA-1 recorders, including 5 at the Pleasant Valley Pump Plant, a facility of the U.S. Bureau of Reclamation. Peak horizontal accelerations reached 1.17 g (Epicentral distance, R = 7.6 km) on Anticline Ridge, 0.34 g (R = 11.8 km) in Coalinga, and 0.43 g (R = 17.7 km) at the pumping plant.

PROCESSED RECORDS FROM THE COALINGA, CALIFORNIA AFTERSHOCK OF 22 July 1983, 0239 UTC.

Earthquake Data.

The mainshock of the M_L = 6.5 Coalinga, California, earthquake occurred on 2 May 1983, 2342 UTC, 10 km northeast of Coalinga at a depth of 10 km. It triggered 37 strong-motion accelerographs operated as part of the U.S. National Strong-Motion Network by the U.S. Geological Survey (USGS) and 60 accelerographs operated by the California Strong-Motion Instrumentation Program (CSMIP). The two closest records were obtained at the Bureau of Reclamation's Pleasant Valley Pumping Plant, 9.2 km from the epicenter. Peak horizontal ground level accelerations reached 0.54 g at the Switchyard accelerograph at the Plant.

Several reports have been published on the mainshock and the aftershock sequence, including: Borcherdt, 1983; Bennett and Sherburne, 1983; and Scholl and Stratta, 1984. These contain contributions from many authors, primarily from within the USGS, CDMG, and the Earthquake Engineering Research Institute (EERI), respectively. Preliminary CDMG strong-motion data is presented in Shakal and McJunken (1983). Processed USGS strong-motion data consisting of computer plots of corrected time series and spectra are presented in Maley and others (1984), together with data from the May 9 aftershock. A magnetic tape copy containing the USGS digital data is available from National Geophysical Data Center (NGDC), National Oceanic and Atmospheric Administration (NOAA), Mail Stop E/GC11, Boulder, CO 80303, containing the USGS digital data.

Figure 1 shows the epicenter and the locations for those instruments providing records from the 22 July 1983, 0239 UTC aftershock (M_L 6.0). The epicenter was approximately 10 km northwest of Coalinga, with all stations to the east.

Table 1 lists the source data for the aftershock.

Station Data.

Table 2 lists the coordinates of the stations. A brief description of each follows.

Anticline Ridge. The accelerograph is bolted to an unused concrete pump pad at the top of a ridge about 50' above Shell Road.

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

Oil City. The instrument is bolted to the pad of a garage-sized, light-weight, wood-frame bulding, located at Shell Oil's West Coalinga Unit Production Laboratory.

Oil Fields Fire Station. One accelerograph is bolted at the end of a long narrow pad used as a base for a light-weight hose-drying rack. A second accelerograph, located ten feet away on natural ground, is anchored by several bags of soil laid over the top of the unit and connected to the first for starting and WWVB radio signals. No particular scientific endeavor is represented by this anchoring system other than for comparison purposes with the nearby pad instrument.

Palmer Avenue. This instrument is bolted to a concrete pad formerly used as a derrick footing (according to an unidentified source at Union Oil).

Skunk Hollow. The accelerograph is bolted to an old pump pad whose pump had long since been removed.

Pleasant Valley Pump Plant. The basement floor instrument is approximately 17 ft below the level of the ground in the immediate vicinity of the plant, and the 1st floor instrument is effectively at ground level. The Switchyard Station is a ground level site 280 ft southwest of the plant at the top of a

slope about 70 ft above the plant grade. This instrument is mounted within a small metal shelter on a 4 ft x 4 ft concrete pad. The discharge pipeline passes, at a shallow depth, within 120 ft of the Switchyard instrument. The free-field site is close to the Switchyard, with the instrument placed on natural ground and weighted down.

Records Data.

Figure 2 presents reproductions of the original records. Before digitizing and subsequent processing, the records are scaled for peak amplitudes, and the WWVB radio signals (where legible), are read for trigger time or time code generator (TCG) signal.

Table 3 lists the trigger times for records with a sufficiently legible time code. The scaled peak values (0.05 g and up) for the records from all the events in the Coalinga sequence are listed in Table 4.

DIGITIZING AND PROCESSING

The computer plots of the Coalinga, California aftershock of July 22, 1983, 0239 UTC provide a visual description of the recorded accelerations and their processed results. They are reproduced in the Appendix. These plots may be used to measure specific earthquake or record parameters directly and to select records for further study using available digital data.

The steps for processing are:

1. A commercial digitizing firm (IOM-TOWILL in Santa Clara, California) digitizes the records on a trace-following, computer-controlled laser scanner. Unequal time spacing, at an average of 600 samples per second, is used.
2. Separately-digitized, 10-s frames are reassembled, using specially inserted vertical lines; each vertical line is digitized twice, once in each adjacent frame.

3. The UNCORRECTED DATA are prepared by subtracting out the reference traces, using the time marks for the X-coordinates, and subtracting the average value.
4. The data from both film and digital recordings are passed through a correction algorithm that applies a high frequency filter (50 Hz), instrument corrections, and decimation to 200 sps. A low-frequency high-pass Butterworth filter (0.20 Hz, order 8) removes periods longer than approximately 5 s from the data. Plots of the CORRECTED ACCELERATION, VELOCITY, and DISPLACEMENTS for the three components of each recording are included.
5. RESPONSE SPECTRA are calculated for oscillator periods up to 5 s. This volume contains the linear plots of RELATIVE VELOCITY RESPONSE SPECTRA, and the log-log TRIPARTITE plots of pseudo-velocity response.
6. FOURIER AMPLITUDE SPECTRA, calculated by FFT, are presented on linear axes and log-log axes.

The digital data from which these plots are produced are available on tape from NGDC, NOAA, Mail Stop E/GC11, 325 Broadway, Boulder, Colorado 80303.

A summary of the peak values of acceleration, velocity, and displacement for the records from this aftershock is included in Table 5.

Justification for the selection of 5 seconds for the long-period cut-off in Step 4 above rests on the following observations:

1. The strong motion duration of the records closest to the epicenter is 2-1/2 to 3-1/2 seconds and retaining period content somewhat longer than this is useful.
2. The digitized duration is approximately 20 sec and the retained periods should not be more than 1/4 or 1/2 of this.

3. Comparison of the displacement plots of the two records at Oil Fields Fire Station (the pad and the free-field) indicate that for all 3 components the corresponding displacements are very close. Similar close displacements were noted in a preliminary choice of 2-1/2 seconds for the long-period limit. The similarity of these displacements, where the effects of any long-period noise would be first noticed, indicates that the signal-to-noise ratio is adequately high out to 5 seconds.

Computer Plots

The Appendix contains computer plots for the following processing stages:

Uncorrected accelerogram.

Corrected acceleration velocity and displacement.

Relative velocity response spectrum, linear plot.

Response spectrum, tripartite log plot.

Fourier amplitude spectrum, linear plot.

Fourier spectrum, log plot.

The table of contents for the appendix figures (page iv), indicates what the records from the different stations can be found in each of these stages.

REFERENCES

Bennett, J.H., and Sherburne R.W. (editors), 1983. The 1983 Coalinga, California, Earthquakes, *Special Publication 66,* California Division of Mines and Geology.

Borcherdt, R.D. (compiler), 1983. The Coalinga Earthquake Sequence Commencing May 2, 1983, *U.S. Geological Survey Open-File Report 83-511*.

Maley, R.P., Etheredge, E., Johnson, D., Switzer, J., Mork, P., and Brady, G., 1984. Strong-Motion Data Recorded Near Coalinga, California (May 2, 1983) and Processed Data from May 2 and May 9, 1983, *U.S. Geological Survey Open-File Report 84-626*.

Scholl, R.E., and Stratta, J.L. (editors), 1984. Coalinga, California, Earthquake of May 2, 1983. *Reconnaissance Report,* Earthquake Engineering Research Institute, Berkeley, California.

Shakal, A.F., and McJunken, R.D., 1983. Preliminary Summary of CDMG Strong-Motion Records from the 2 May 1983 Coalinga, California, earthquake. *CDMG Office of Strong Motion Studies Report OSMS 83-5.2*.

TABLE 1. SOURCE DATA FOR COALINGA, CALIFORNIA,

22 JULY, 1983 AFTERSHOCK*, 0239 53.74 UTC.

Location:	10 kms NW of Coalinga
Magnitude (M_L):	6.0
Origin time:	22 July, 1983, 0239 54.07 UTC
Epicenter:	36°14.44' N., 120°24.53' W.
Depth:	7.37 km

*Data from Rick Lester, U.S.Geological Survey, January 1985.

Table 2. STATIONS

Name, locations	Coordinates	Components
Coalinga; Anticline Ridge-Pad Site	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°
Pleasant Valley Pump Plant: Basement, 1st floor, roof, switchyard,	36.308° N. 120.249° W.	135° Up 045°
Freefield		360° Up 270°
Coalinga; Skunk Hollow	36.275° N. 120.306° W.	360° Up 270°
Coalinga; Transmitter Hill	36.249° N. 120.343° W.	360° Up 270°

TABLE 3. TRIGGER TIMES

(from WWVB unless TCG is indicated)

Origin time	0239:53.7
Oil City	56.85
Transmitter Hill	57.35
Oil Fields Fire Station	
Free-field and pad	57.55
Palmer	57.75
Burnett	58.55[1]
Pleasant Valley Pump Plant	
Basement, 1st floor, roof	59.60[1]
Switchyard	0240: 00.90 (TCG)[2]

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1 Incomplete or noisy WWVB signal forces this estimate to rely on comparison with nearby station and/or accuracy of internal 2 Hz counter.

2 This TCG not checked for accurate interpolated time.

Table 4: Scaled peak accelerations (in g) 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 1151 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 4: Scaled peak accelerations (in g) 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							<.05
	.02	.02		.02	.04		.06							
	.08	.10		.07	.06		.07							
9 May 83 0331 UTC				<.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 1341:08 UTC			.05		<.05		.14							
			.03				.13							
			.04				.10							
14 May 83 0502 UTC	.06	.08		<.05	.08		.07				<.05	<.05	<.05	.05
	<.05	.07			.02		.06				<.05		<.05	.02
	.11	.07			.07		.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			.07		.06	.07	.05							
			.02		.02	.01	.04							
			.08		.03	.02	.06							

Table 4: Scaled peak accelerations (in g) 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		0.28	0.24		0.14	0.37	0.09	0.09	0.20	0.14	0.19	<.05		0.03	<.05	<.05	0.03
0740:52.6		.12	.11		.08	.21	.07	.07	.07	.15	.12			.03			.04
		.39	.42		.10	.38	.09	.09	.12	.17	.20			.06			.10
9 July 83						.06											
2351 UTC						.02											
						.06											
14 July 83									.06								
1525 UTC									.04								
									.07								
17 July 83						<.05											
2158 UTC																	
18 July 83					.09												
1928 UTC					.02												
					.07												
22 July 83			.49		.34	.40	.20	.22	.30	.23	.96	.41		.38	.13	.12	.25
0239:55.3			.80		.27	.37	.13	.17	.22	.24	.50	.12		.29	.08	.08	.20
			1.17		.26	.85	.22	.21	.28	.39	.75	.21		.58	.43	.47	1.10
22 July 83									<.05								
0249 UTC																	
22 July 83						.05											
0329 UTC						.04											
						.10											
22 July 83			.34		.17	.25	.13	.13	.30	.09	.30	<.05		<.05	<.05	<.05	.04
0343:02.1			.22		.04	.12	.04	.04	.08	.04	.08						.03
			.51		.11	.30	.14	.16	.33	.15	.25						.11
25 July 83		.95	.43		.39	.24	.10	.12	.15	.06	.39	<.05		<.05	<.05	<.05	.03
2231.40.8		.30	.29		.26	.22	.06	.06	.17	.09	.12						.03
		.55	.56		.66	.37	.15	.18	.18	.14	.28						.15
14 Aug 83	<.05	<.05	<.05			.09				<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05
1243.36.5						.03											
						.09											
9 Sep 83	.29	.23	.20	.08	<.05	.07	.14	.17		.09	<.05	.06	.05	.07		<.05	.06
0916:14.9	.06	.05	.09	.04		.04	.09	.07		.05		.05	.07	.08			.06
	.17	.18	.18	.06		.09	.09	.12		.10		.04	.07	.08			.11
9 Sep 83														<.05			
0921:33.3																	
11 Sep 83	.06	.10	.09	<.05	.25	.09	<.05	<.05			.05	<.05	<.05	<.05			
1148:.08.0	.03	.03	.04		.09	.03					.02						
	.06	.08	.10		.31	.09					.06						

Table 5: Processed Records

Earthquake	Station	Distances (Km) Epi	Distances (Km) Hypo	Components	Peak Acceleration Scaled (g)	Peak Acceleration Digitized (cm/s^2)	Corrected Peak Motion Accel. (cm/s^2)	Corrected Peak Motion Vel. (cm/s)	Corrected Peak Motion Disp. (cm)
Coalinga 22 July 1983 0239 UTC	Coalinga; Anticline Ridge Pad Site	7.3	11.8	360	.49	-500.86	-490.31	20.15	2.64
				Up	.80	-791.21	-780.83	13.79	-2.64
				270	1.17	1150.68	1131.50	-50.70	9.23
	Coalinga; Burnett Construction	11.3	14.5	360	.34	328.40	330.48	17.54	-1.35
				Up	.27	204.32	201.94	10.00	-1.51
				270	.26	-251.01	-251.58	15.70	2.39
	Coalinga; Oil City	5.0	10.4	360	.40	397.20	-454.72	34.13	-9.45
				Up	.37	498.90	562.89	-20.76	-4.31
				270	.85	-825.61	-920.76	38.20	-6.22
	Coalinga; Oil Fields Fire Station Freefield	9.4	13.1	360	.20	190.62	189.45	-15.88	-3.50
				Up	.13	-127.86	-142.49	- 6.57	-2.63
				270	.22	-214.38	-212.05	-16.78	3.39
	Pad	9.4	13.1	360	.22	215.08	215.64	-16.76	-3.71
				Up	.17	154.21	-150.67	- 7.33	-2.93
				270	.21	-214.25	-209.95	-16.91	3.52
	Coalinga; Palmer Avenue	10.0	13.6	360	.30	300.25	312.52	-21.32	-3.42
				Up	.22	-226.50	-236.19	- 6.86	-1.36
				270	.28	278.21	283.94	-13.20	2.22
	Pleasant Valley Pump Plant 1st Floor	17.4	19.7	135	.12	-115.39	-113.39	- 5.76	-1.69
				Up	.08	76.56	- 75.61	6.39	1.78
				045	.47	464.12	465.05	-27.41	4.65
	Basement	17.4	19.7	135	.13	-133.82	-141.38	5.61	-1.63
				Up	.08	- 73.67	- 72.47	6.31	1.74
				045	.43	427.67	430.65	-25.93	4.59
	Freefield	17.4	19.7	360	.41	411.61	419.99	-21.84	-2.99
				Up	.12	126.47	126.92	6.56	1.69
				270	.21	-216.98	-230.55	19.44	-4.12
	Roof	17.4	19.7	135	.25	-245.11	-250.83	- 9.85	2.06
				Up	.20	348.78	391.28	8.49	1.64
				045	1.10	1071.78	1083.27	-52.97	7.51
	Switchyard	17.4	19.7	135	.38	329.73	327.42	-10.95	-1.69
				Up	.29	-291.71	-293.25	- 9.15	-1.57
				045	.58	569.06	575.38	-36.07	5.11
	Coalinga; Skunk Hollow	11.1	14.4	360	.23	226.25	229.84	14.86	-3.65
				Up	.24	-242.49	-268.67	- 9.36	-1.87
				270	.39	367.52	365.33	16.23	-3.27
	Coalinga; Transmitter Hill	6.9	11.5	360	.96	942.77	1145.73	-46.82	-4.40
				Up	.50	417.74	450.54	10.65	-3.37
				270	.75	821.66	-834.62	46.58	6.15

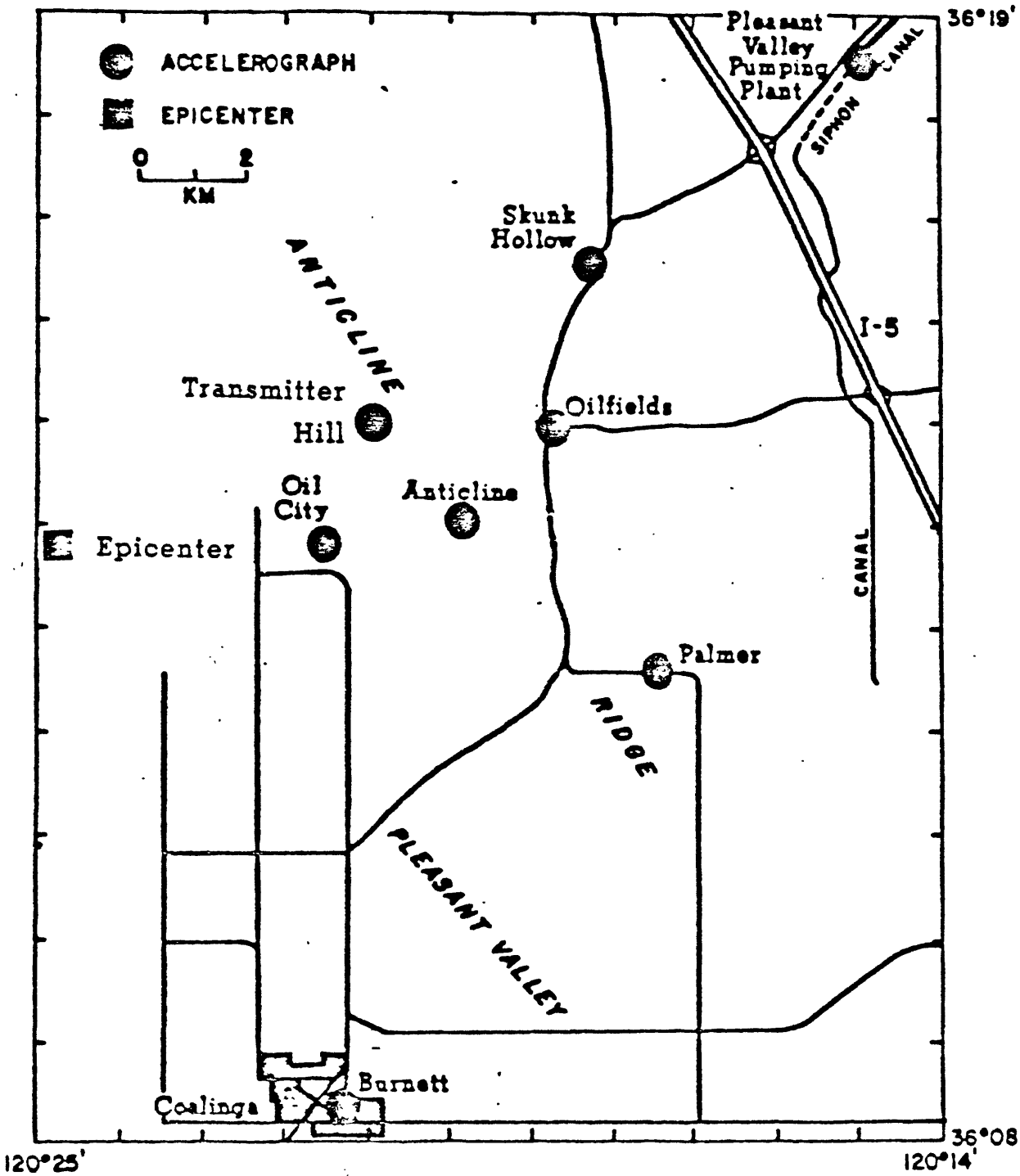


Figure 1 : Map showing instrument locations and epicenter for 22 July, 1983 0239 UTC aftershock.

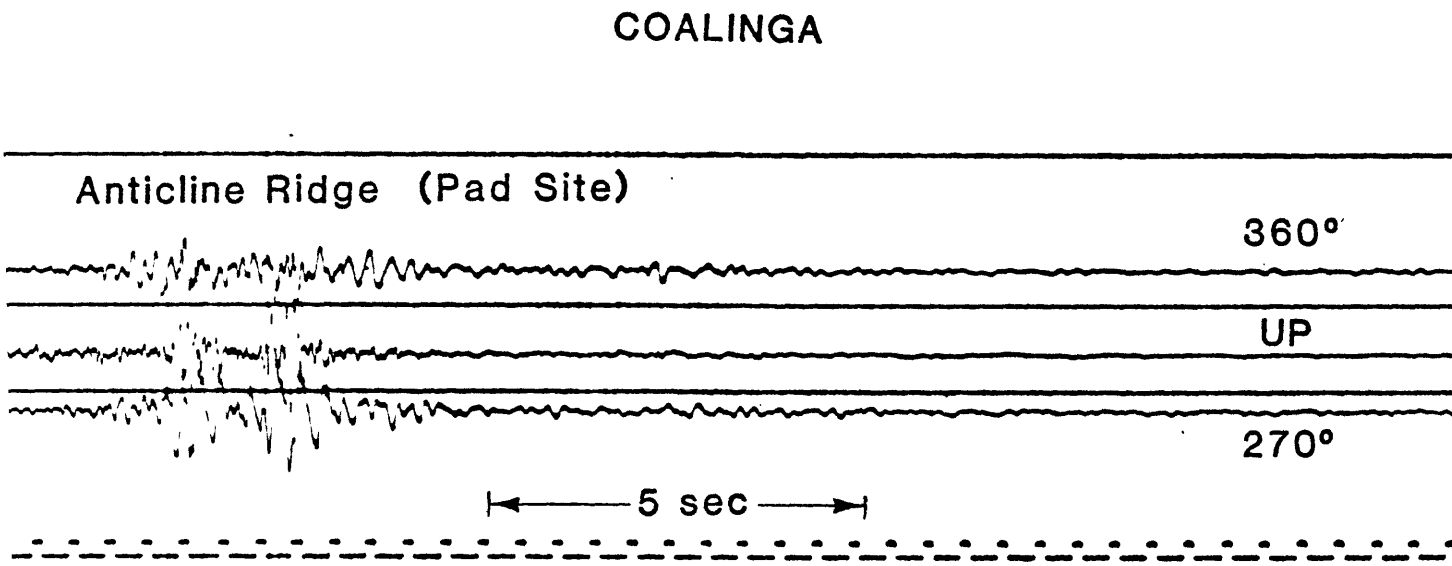


Figure 2: Strong Motion record for Anticline Ridge (Pad Site).

COALINGA

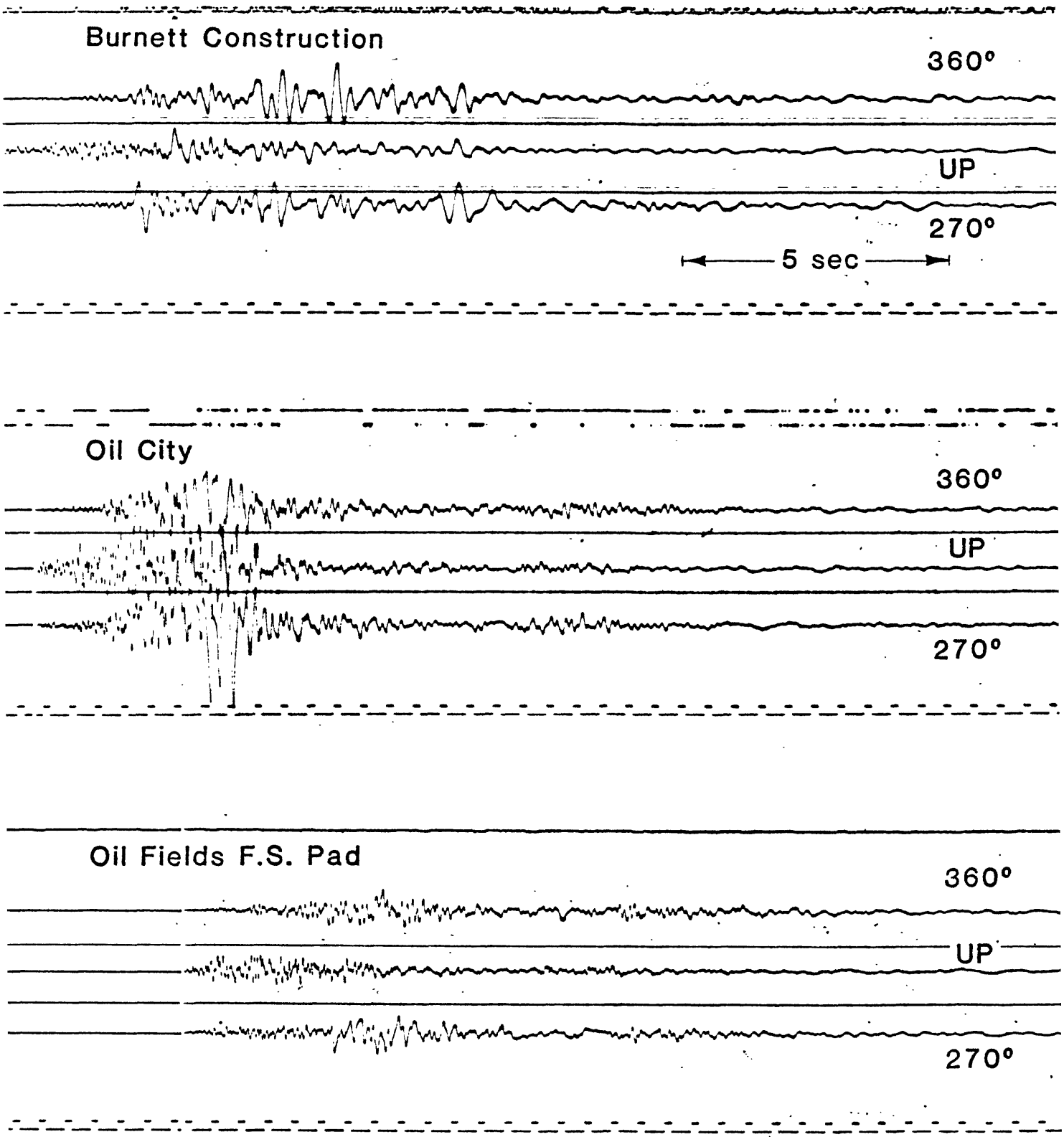


Figure 2: Strong Motion records from Burnett, Oil City, Oilfields Pad for aftershock of 22 July 1983, 0239 UTC.

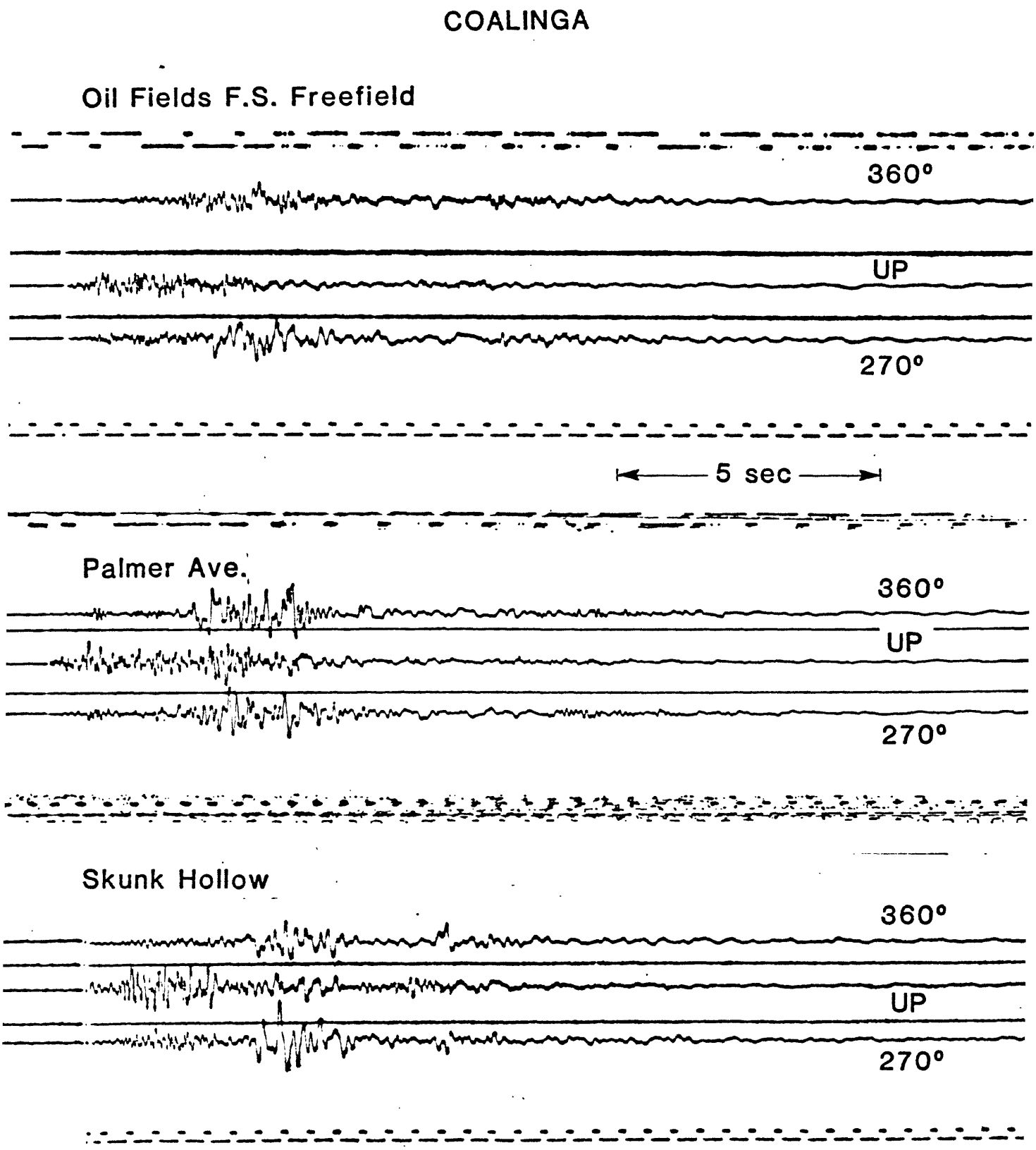


Figure 2: Strong motion records from Oilfields Free-field, Palmer Avenue and Skunk Hollow for the aftershock of 22 July 1983, 0239 UTC.

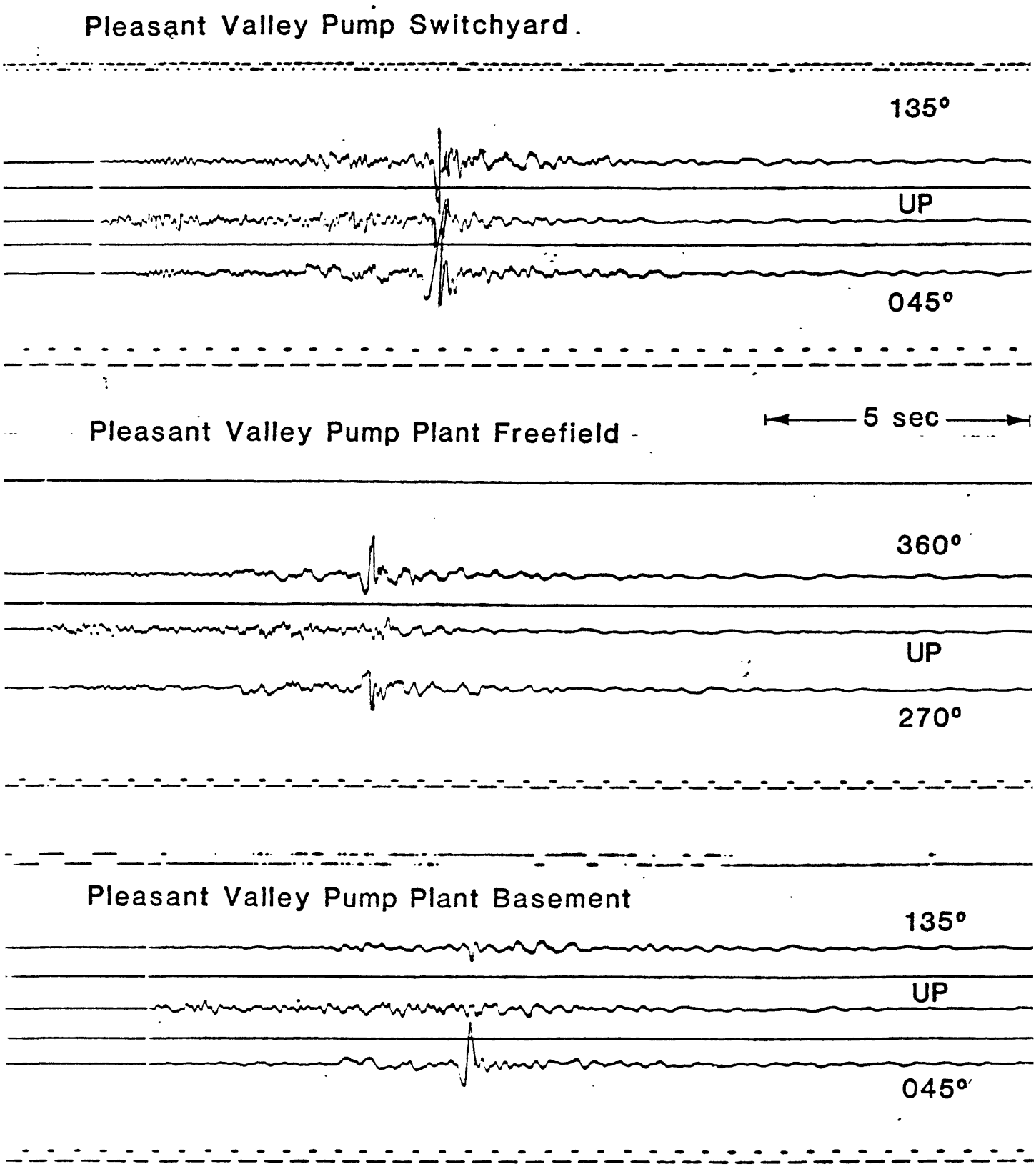


Figure 2: Strong motion records from Pleasant Valley Pump Plant for aftershock of 22 July, 1983, 0239 UTC.

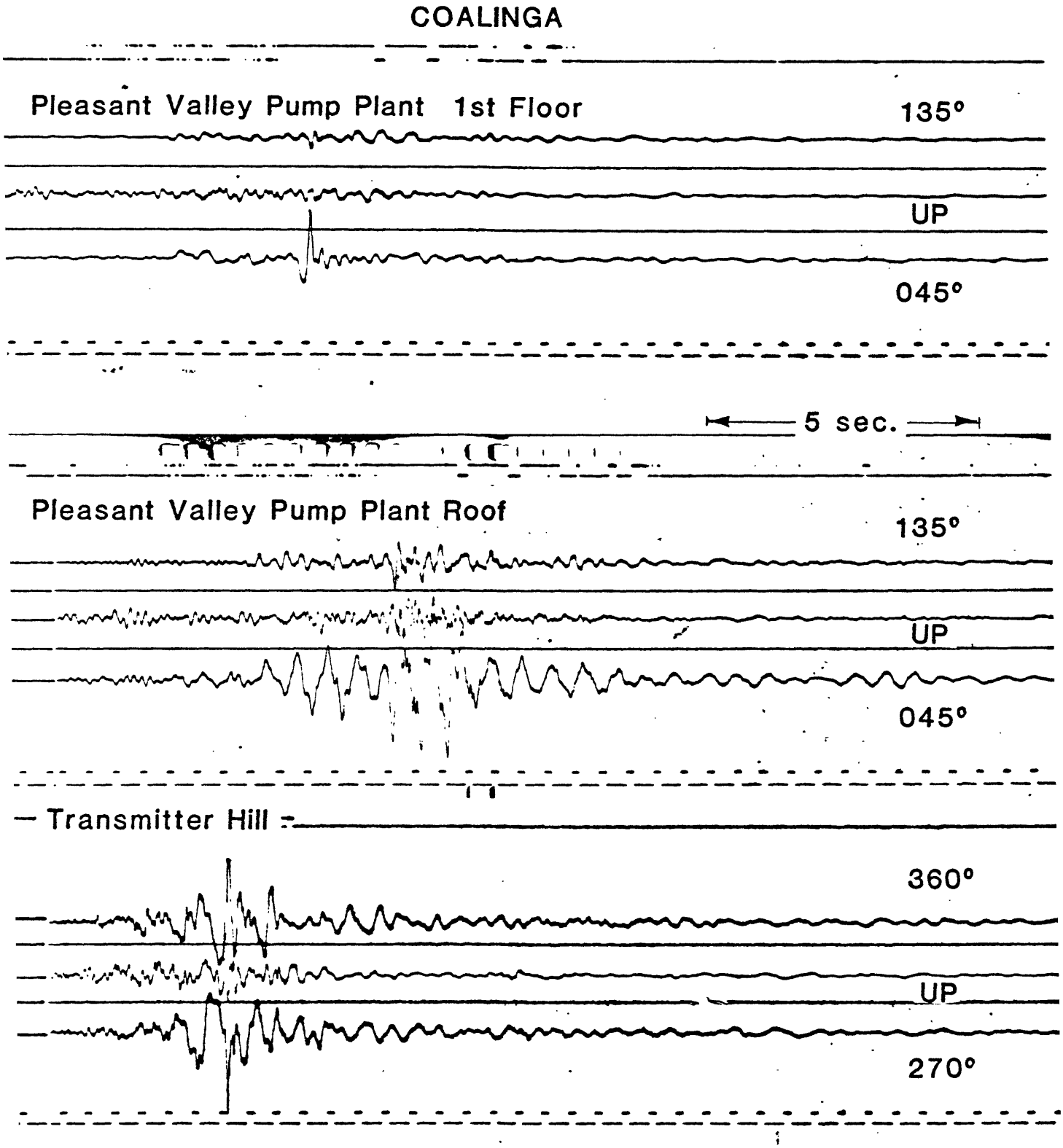


Figure 2: Strong motion records from Pleasant Valley Pump Plant and Transmitter Hill for aftershock of 22 July 1983, 0239 UTC.

APPENDIX

Plots of

Uncorrected acceleration

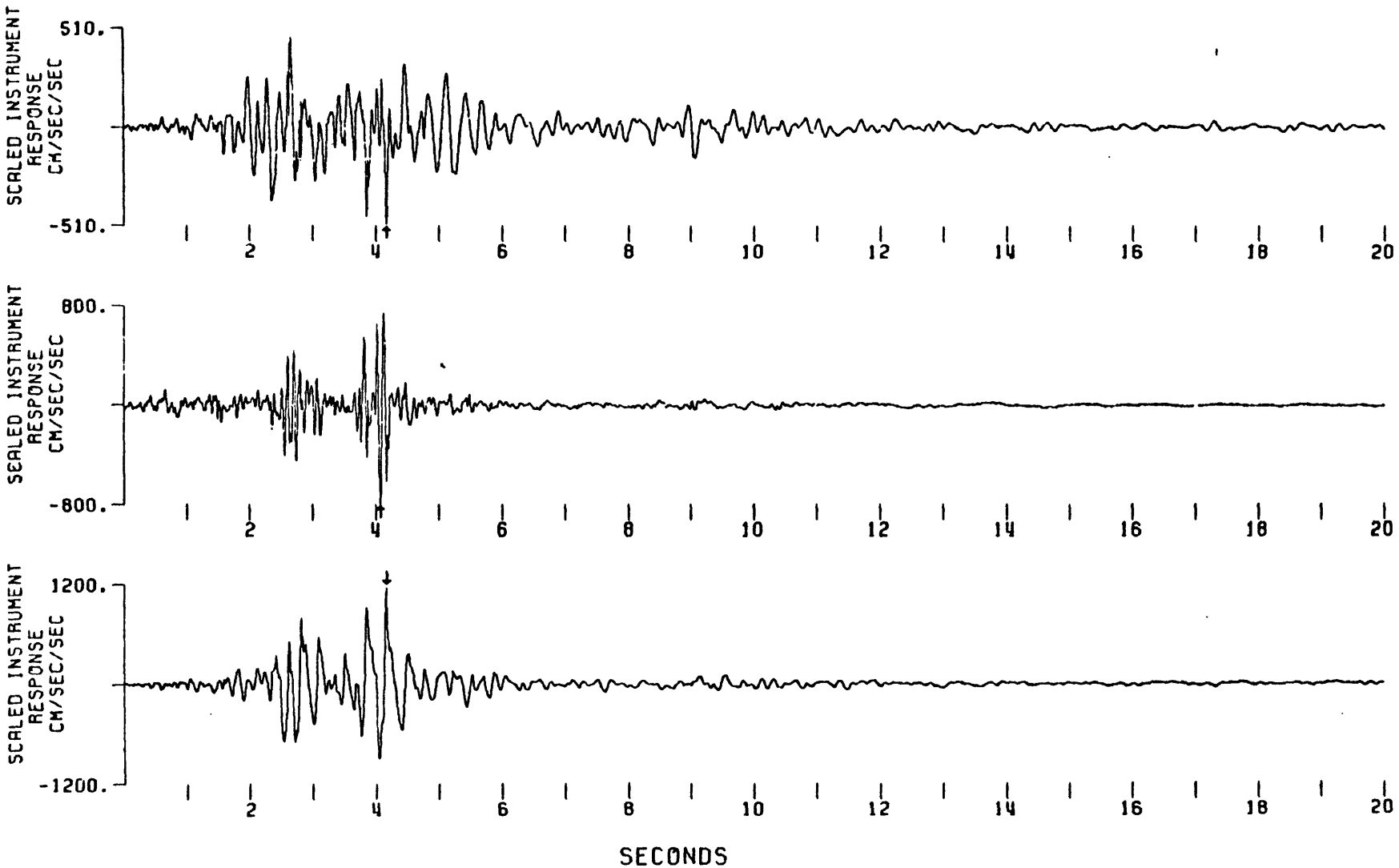
Corrected acceleration, velocity and displacement

Response spectra

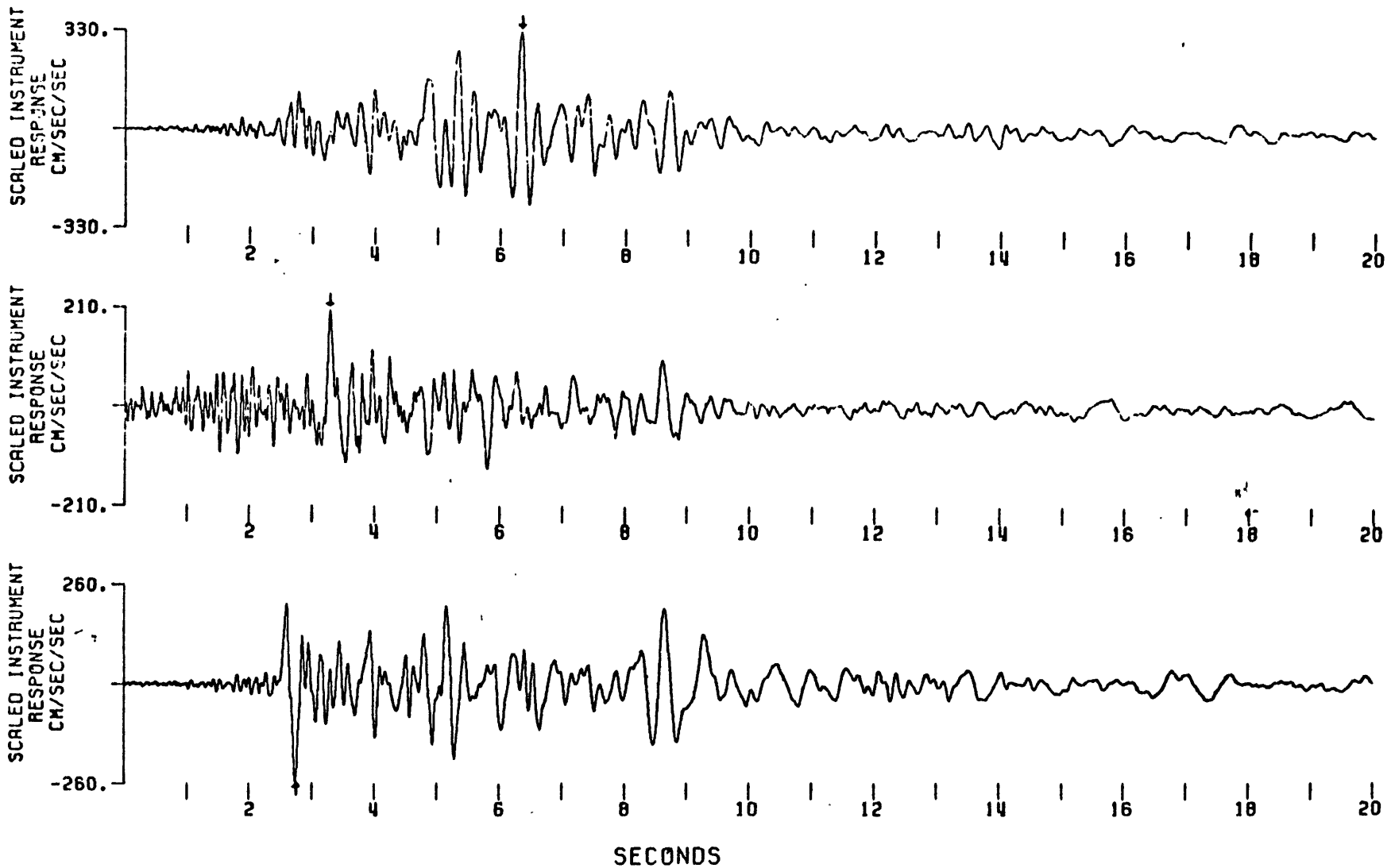
Fourier spectra

Refer to page ii for page numbers of specific plots.

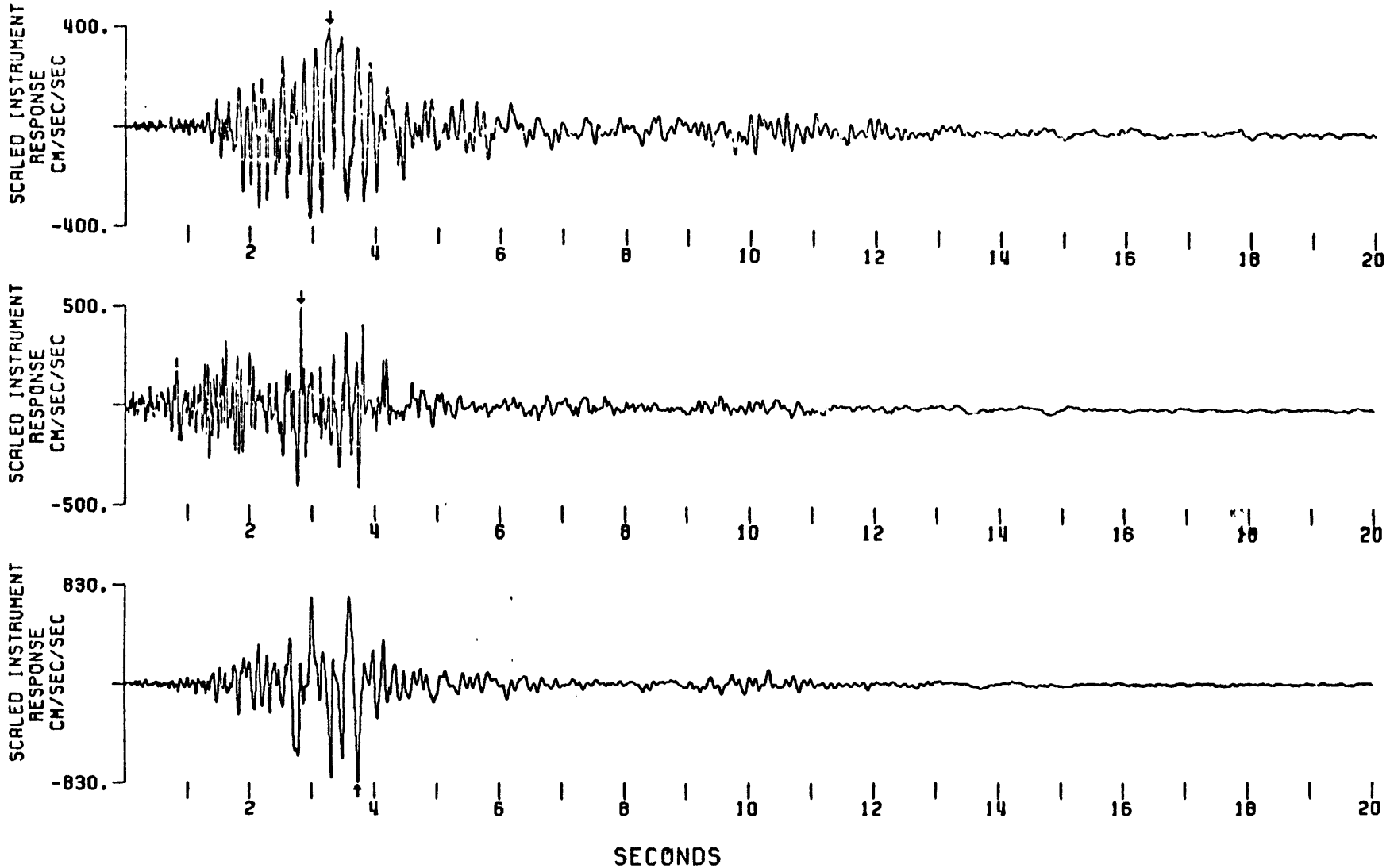
UNCORRECTED ACCELEROGRAM
COALINGA, ANTICLINE RIDGE (PAD SITE)
360 DEGREES, UP, 270 DEGREES
EARTHQUAKE OF 22 JULY 1983 0239 UTC
PEAK VALUES(CM/SEC/SEC): -500.86 -791.21 1150.68



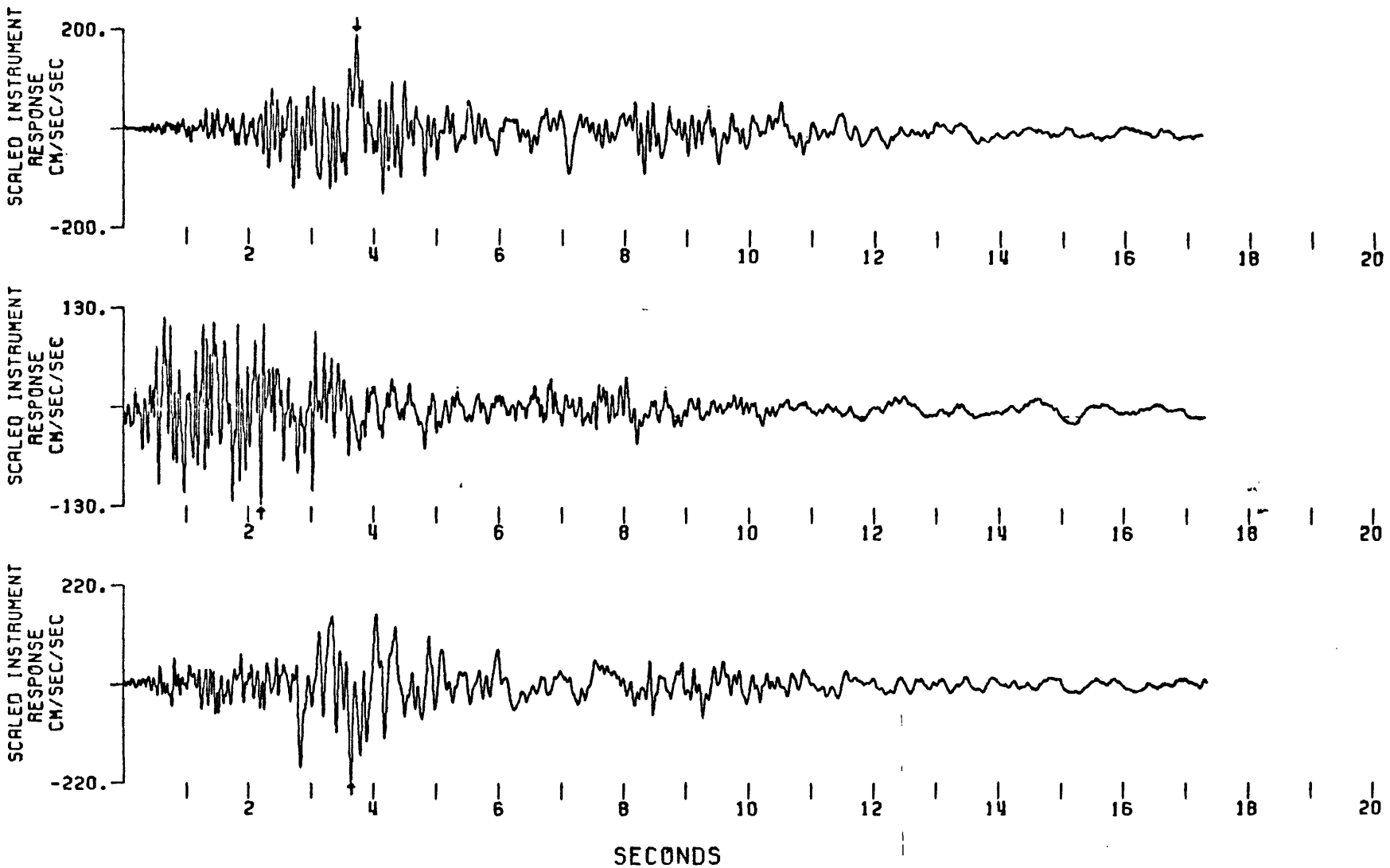
UNCORRECTED ACCELEROGRAM
COALINGA, BURNETT CONSTRUCTION
360 DEGREES, UP, 270 DEGREES
EARTHQUAKE OF JULY 22, 1983 0239 UTC
PEAK VALUES(CM/SEC/SEC): 328.40 204.32 -251.01



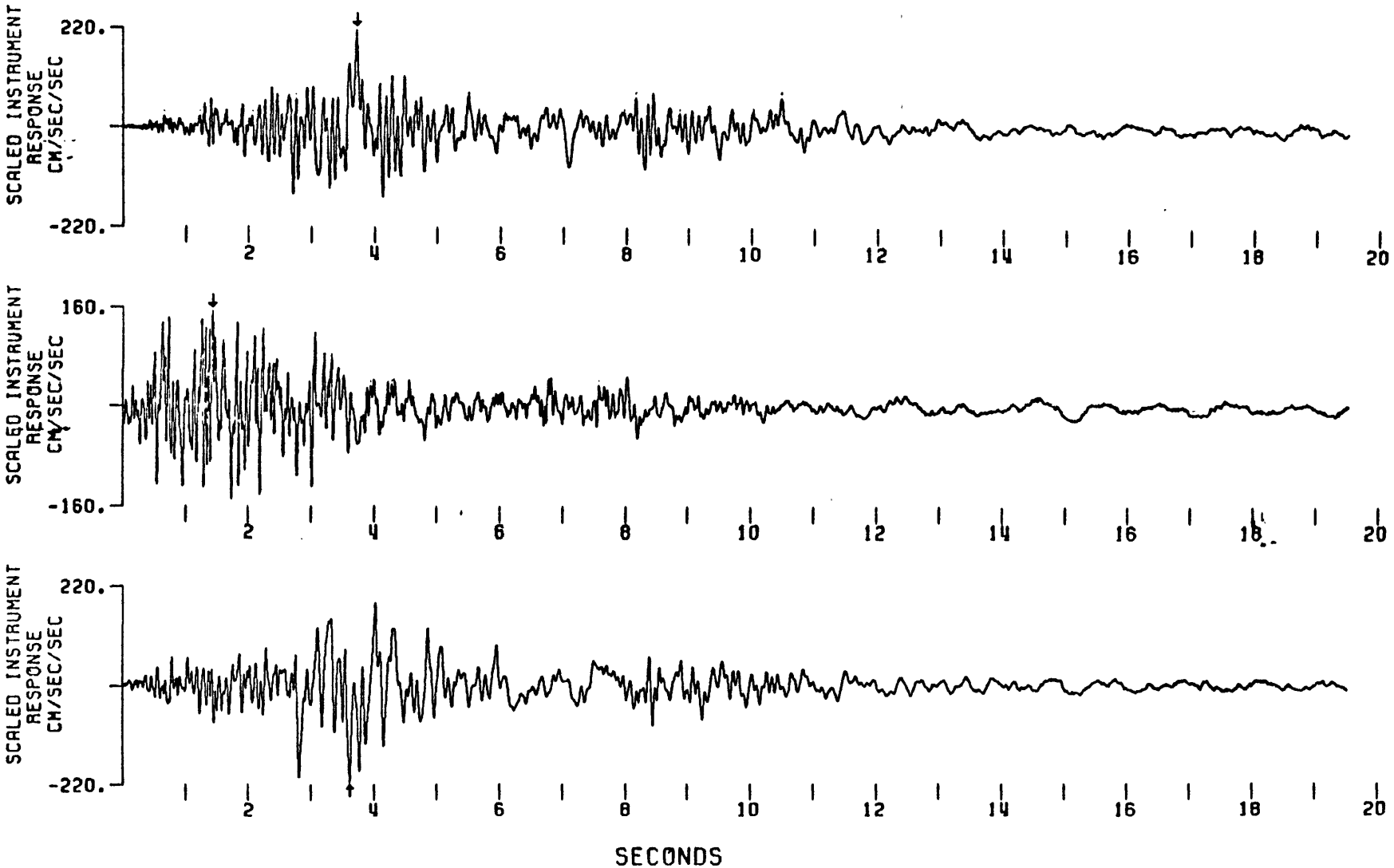
UNCORRECTED ACCELEROGRAM
COALINGA, OIL CITY
360 DEGREES, UP, 270 DEGREES
EARTHQUAKE OF JULY 22, 1983 0239 UTC
PEAK VALUES(CM/SEC/SEC): 397.20 498.90 -825.61



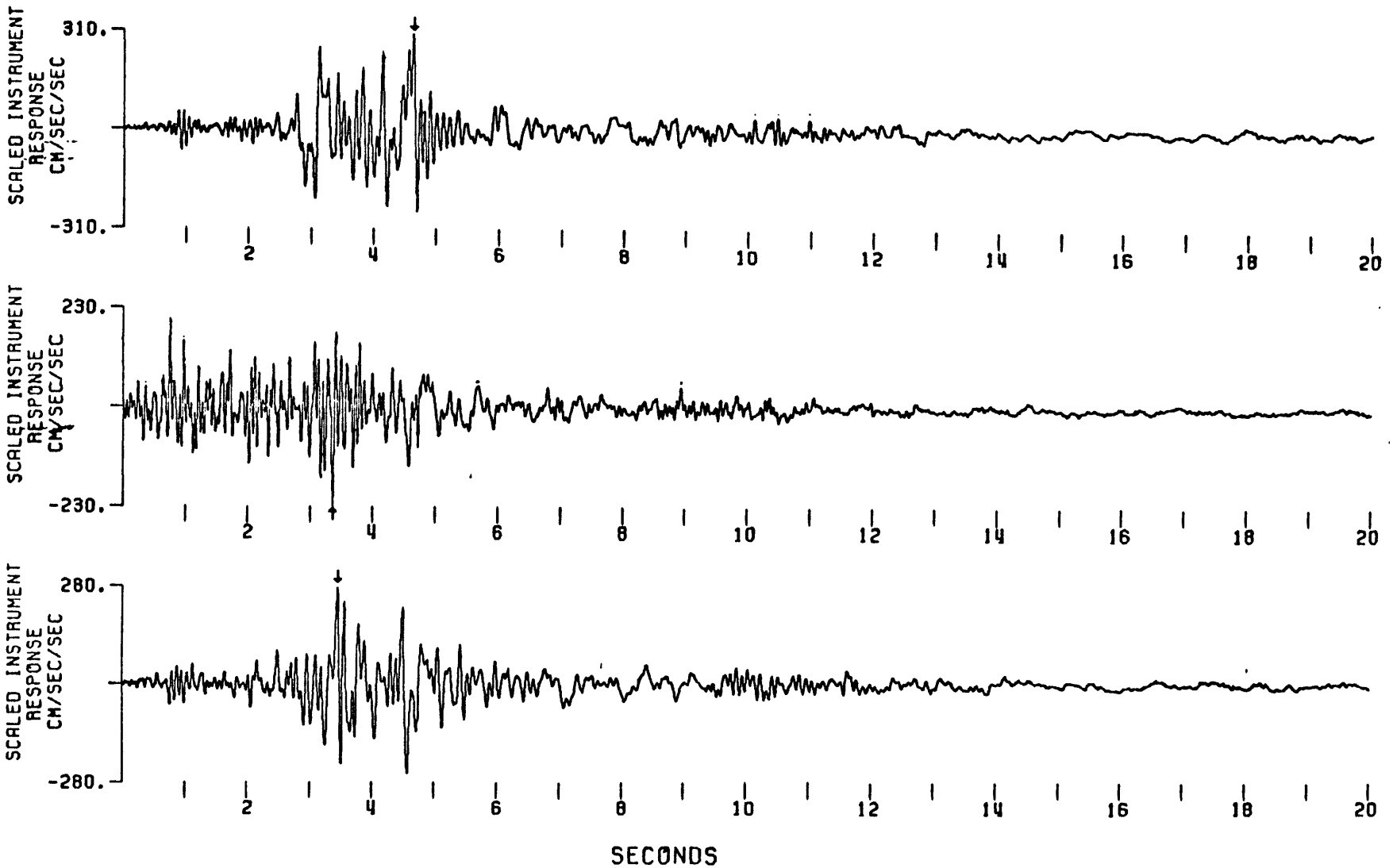
UNCORRECTED ACCELEROGRAM
COALINGA, OIL FIELDS FIRE STATION FREE-FIELD
360 DEGREES, UP, 270 DEGREES
EARTHQUAKE OF JULY 22, 1983 0239 UTC
PEAK VALUES(CM/SEC/SEC): 190.62 -127.86 -214.38



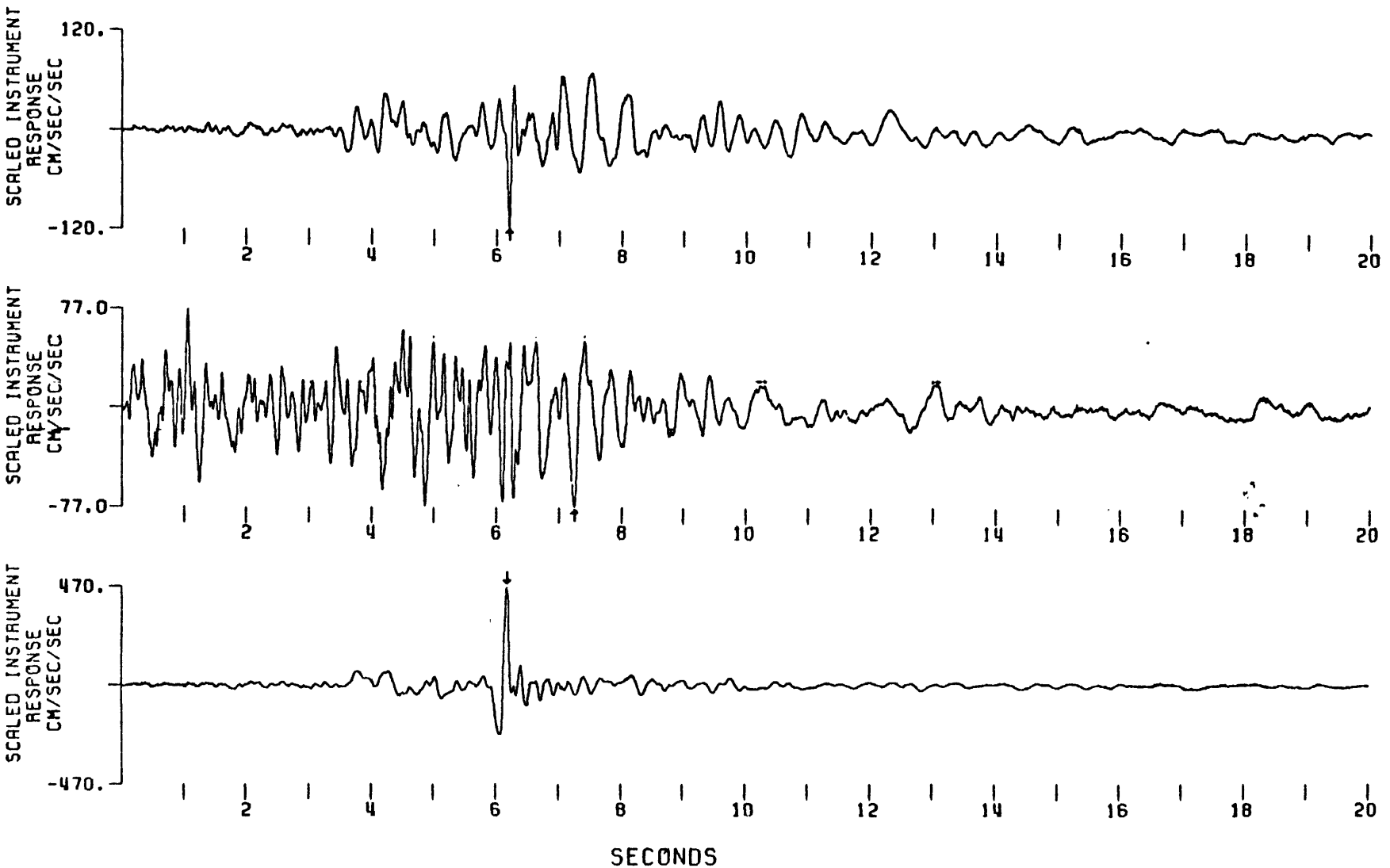
UNCORRECTED ACCELEROGRAM
COALINGA, OIL FIELDS FIRE STATION PAD
360 DEGREES, UP, 270 DEGREES
EARTHQUAKE OF JULY 22, 1983 0239 UTC
PEAK VALUES(CM/SEC/SEC): 215.08 154.21 -214.25



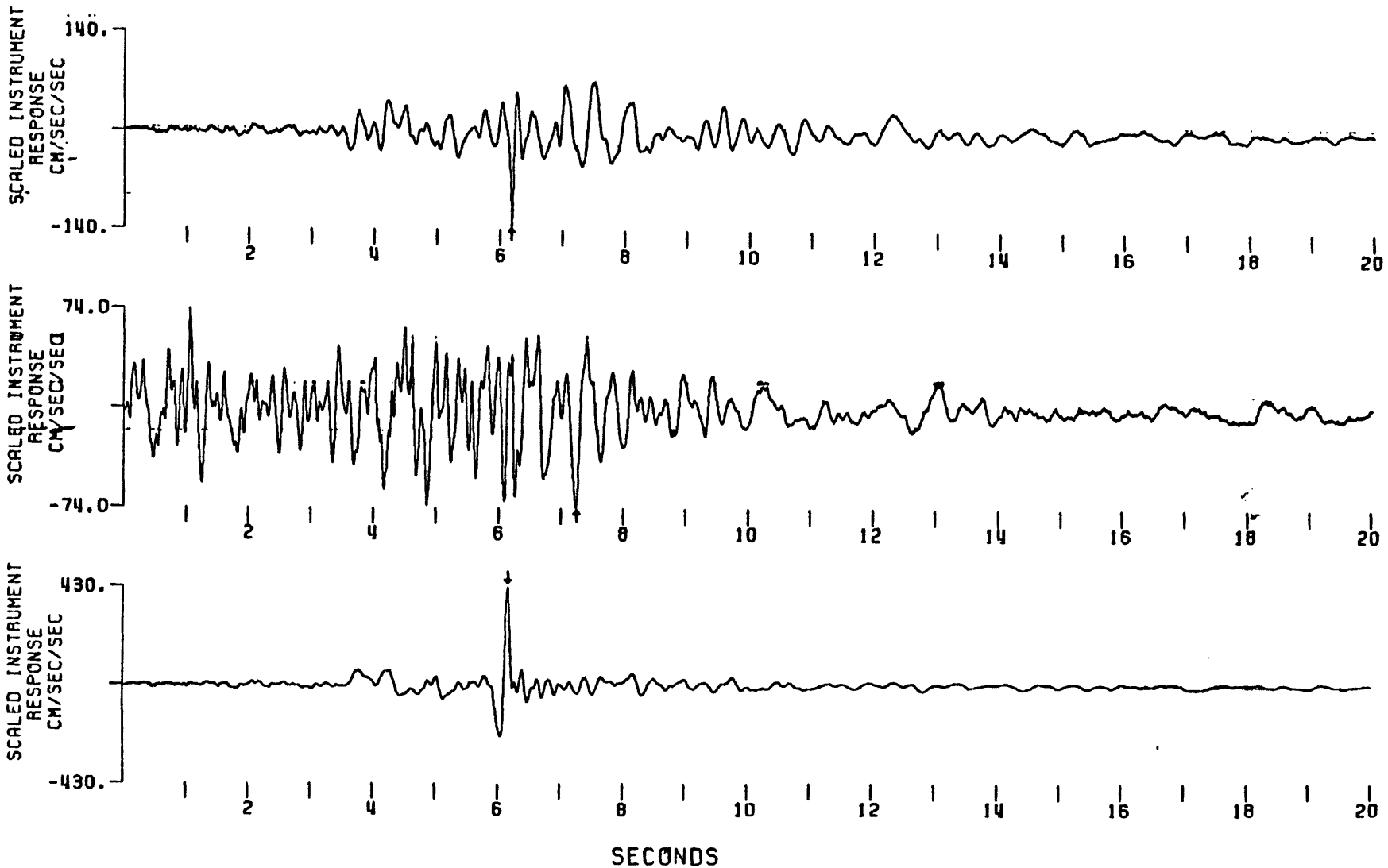
UNCORRECTED ACCELEROGRAM
COALINGA, PALMER AVENUE
360 DEGREES, UP, 270 DEGREES
EARTHQUAKE OF JULY 22, 1983 0239 UTC
PEAK VALUES(CM/SEC/SEC): 300.25 -226.50 278.21



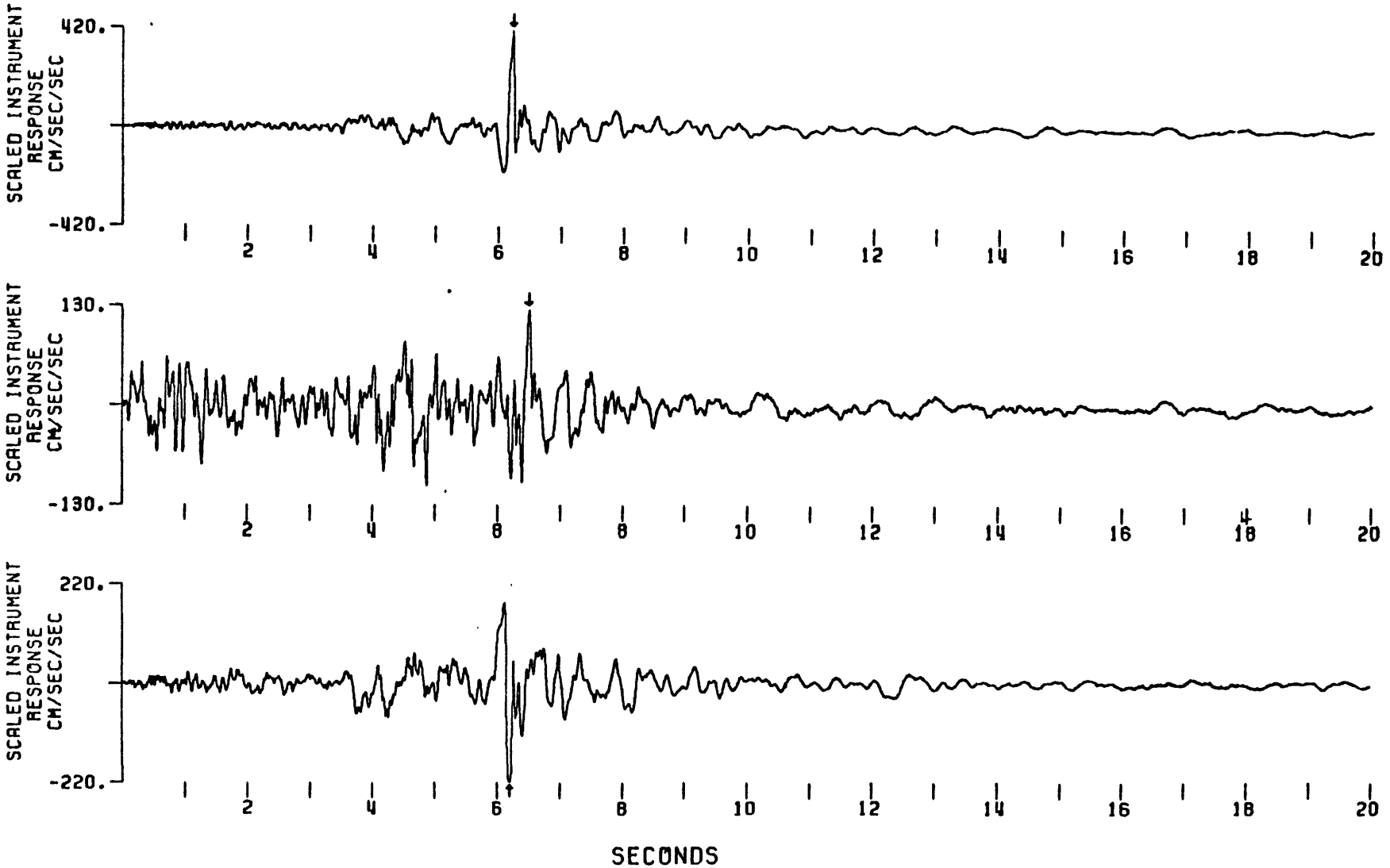
UNCORRECTED ACCELEROGRAM
PLEASANT VALLEY PUMPING PLANT 1ST FLOOR
135 DEGREES, UP, 045 DEGREES
EARTHQUAKE OF JULY 22, 1983 0239 UTC
PEAK VALUES(CM/SEC/SEC): -115.39 -76.56 464.12



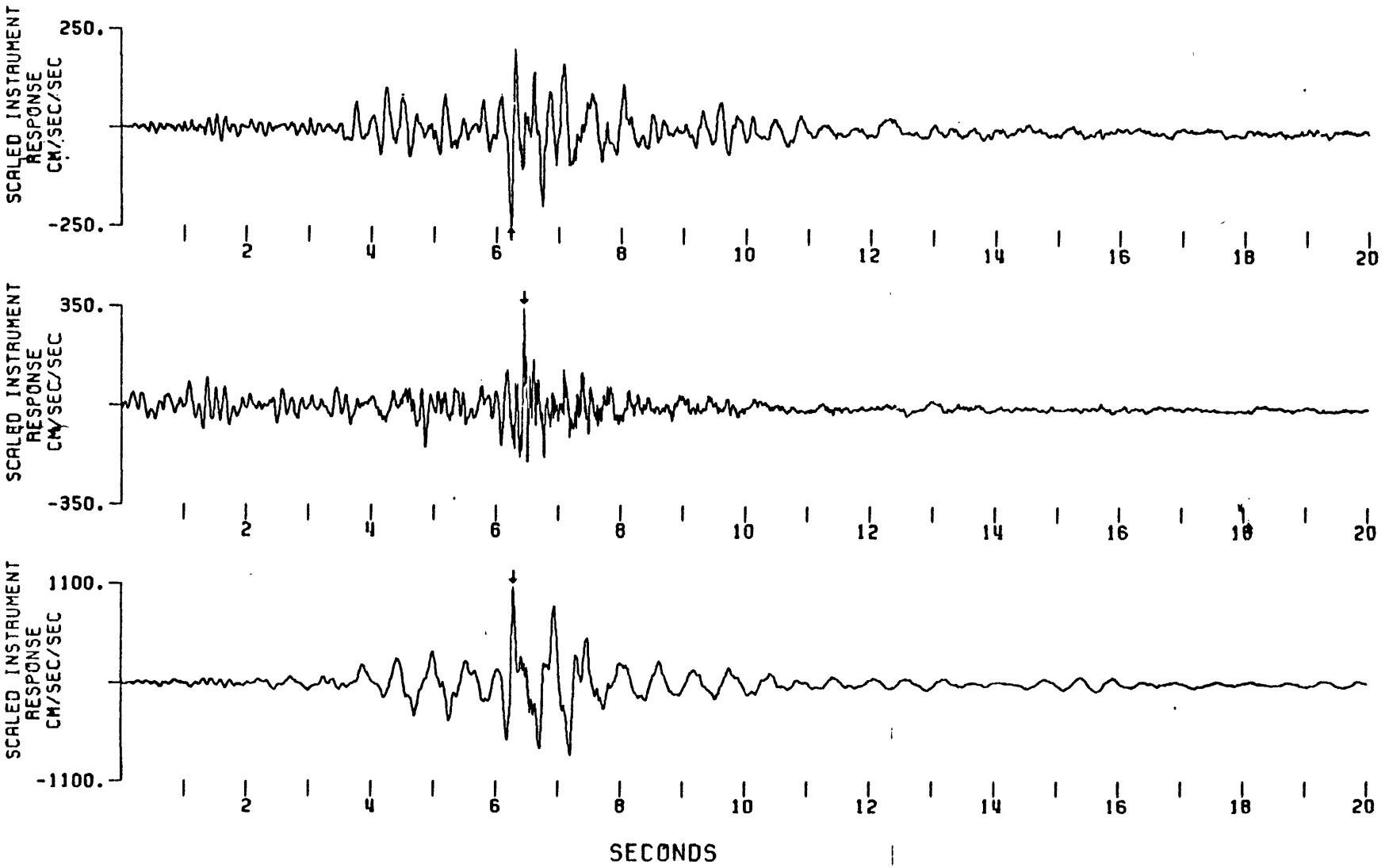
UNCORRECTED ACCELEROGRAM
PLEASANT VALLEY PUMPING PLANT BASEMENT
135 DEGREES, UP, 045 DEGREES
EARTHQUAKE OF JULY 22, 1983 0239 UTC
PEAK VALUES(CM/SEC/SEC): -133.82 -73.67 427.75



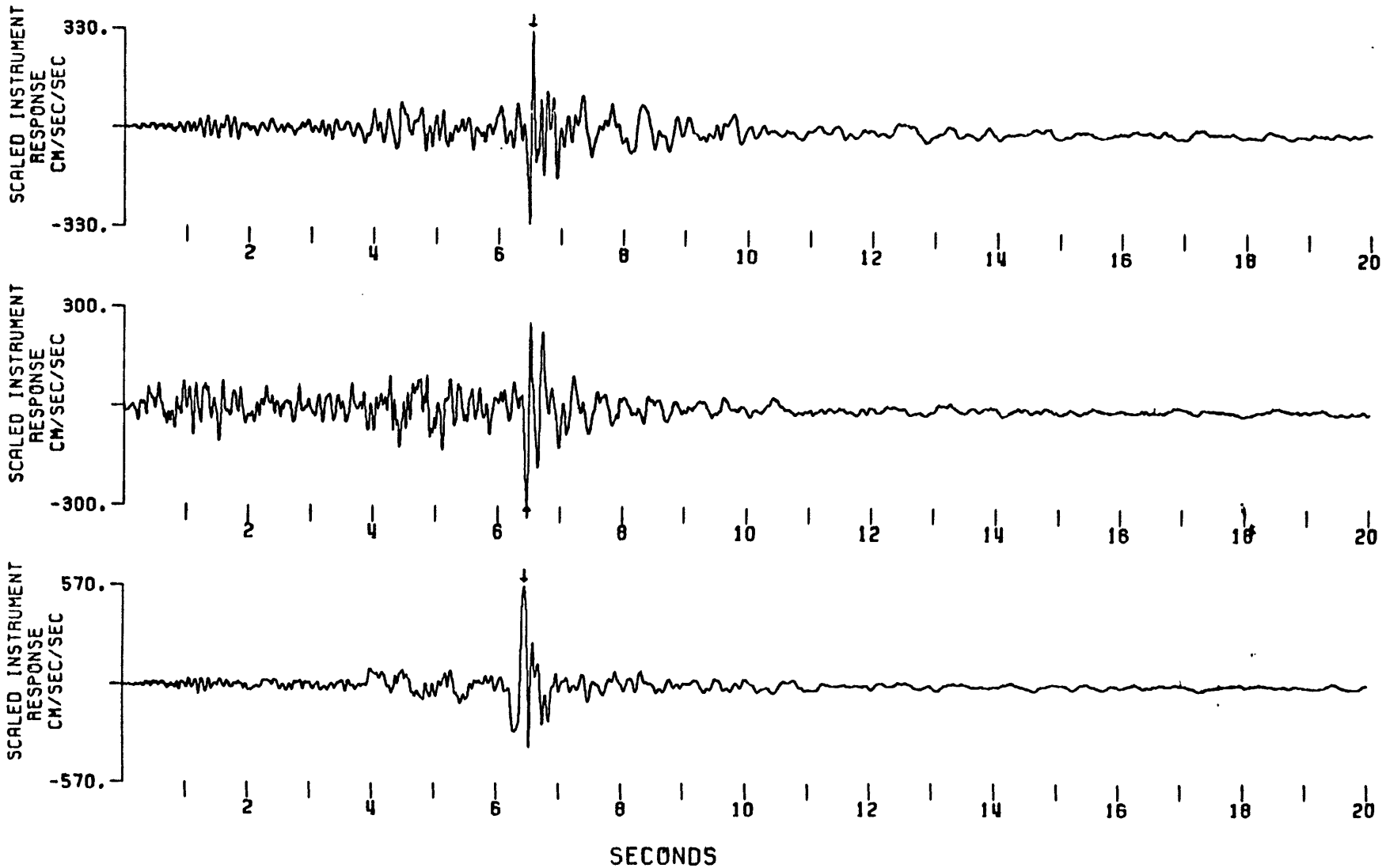
UNCORRECTED ACCELEROGRAM
PLEASANT VALLEY PUMPING PLANT (FREE-FIELD)
360 DEGREES, UP, 270 DEGREES
EARTHQUAKE OF JULY 22, 1983 0239 UTC
PEAK VALUES(CM/SEC/SEC): 411.61 126.47 -216.98



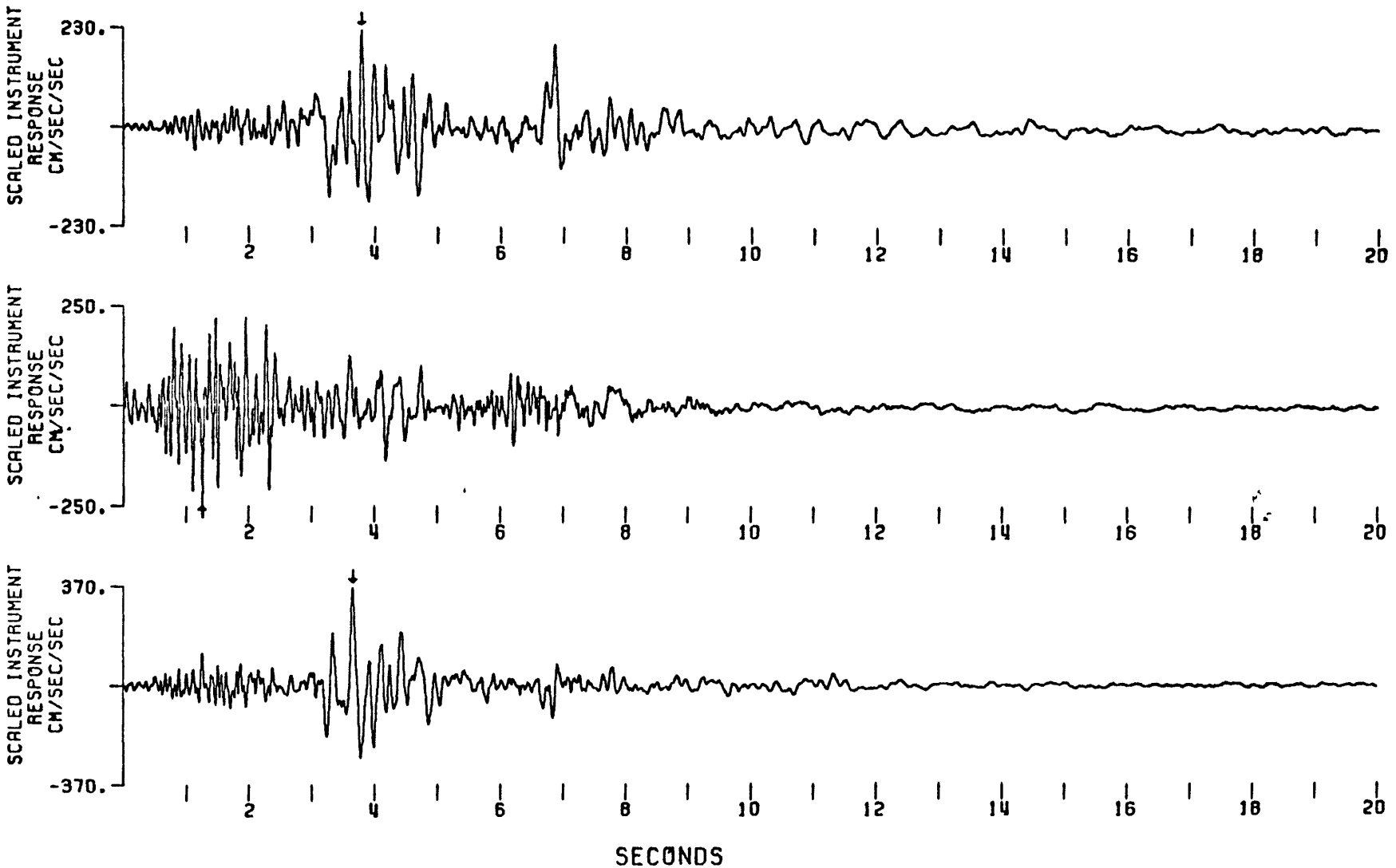
UNCORRECTED ACCELEROGRAM
PLEASANT VALLEY PUMPING PLANT ROOF
135 DEGREES, UP, 045 DEGREES
EARTHQUAKE OF JULY 22, 1983 0239 UTC
PEAK VALUES(CM/SEC/SEC): -245.11 348.78 1071.78



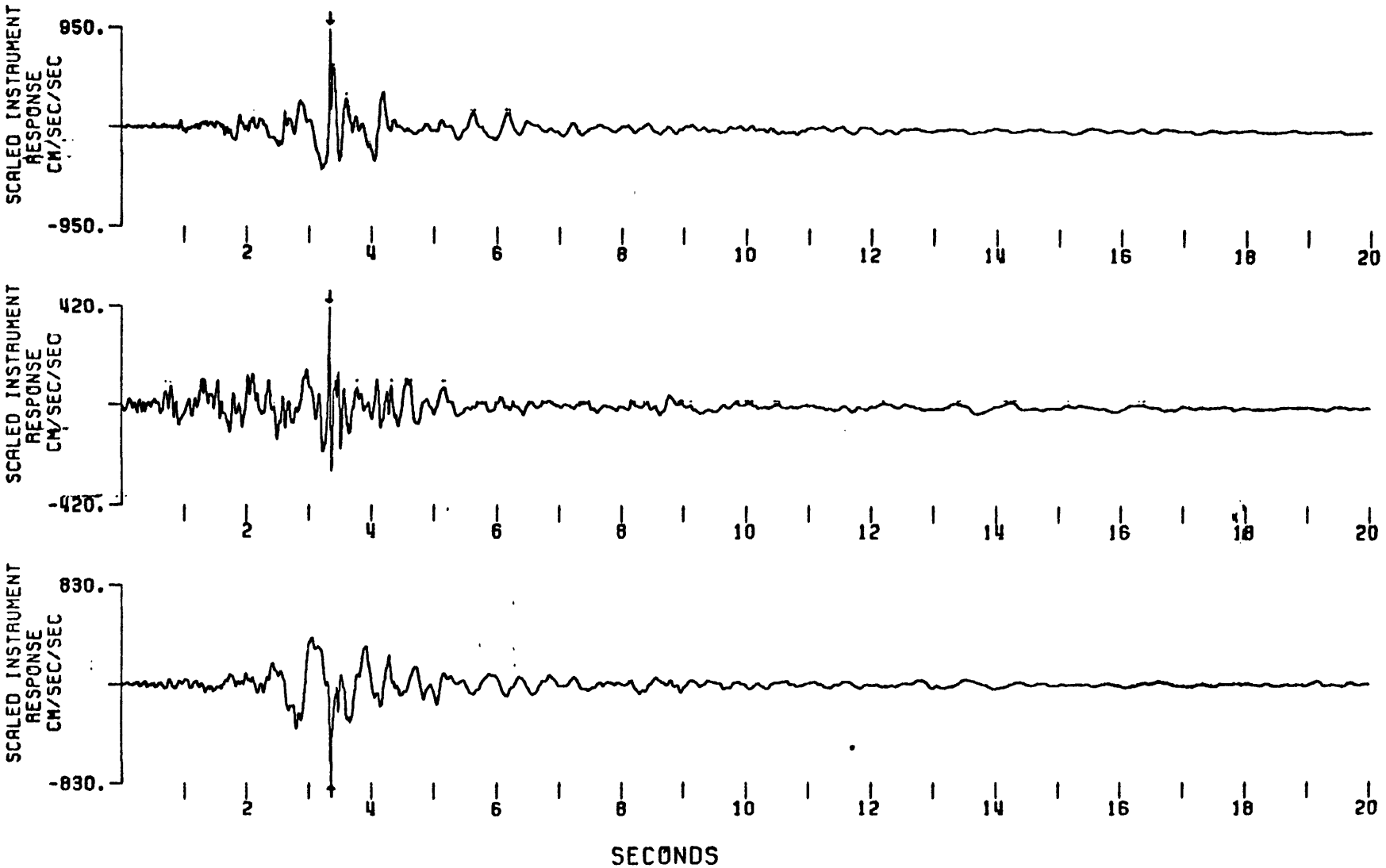
UNCORRECTED ACCELEROGRAM
PLEASANT VALLEY PUMPING PLANT (SWITCHYARD)
135 DEGREES, UP, 045 DEGREES
EARTHQUAKE OF JULY 22, 1983 0239 UTC
PEAK VALUES(CM/SEC/SEC): 329.73 -291.71 569.06



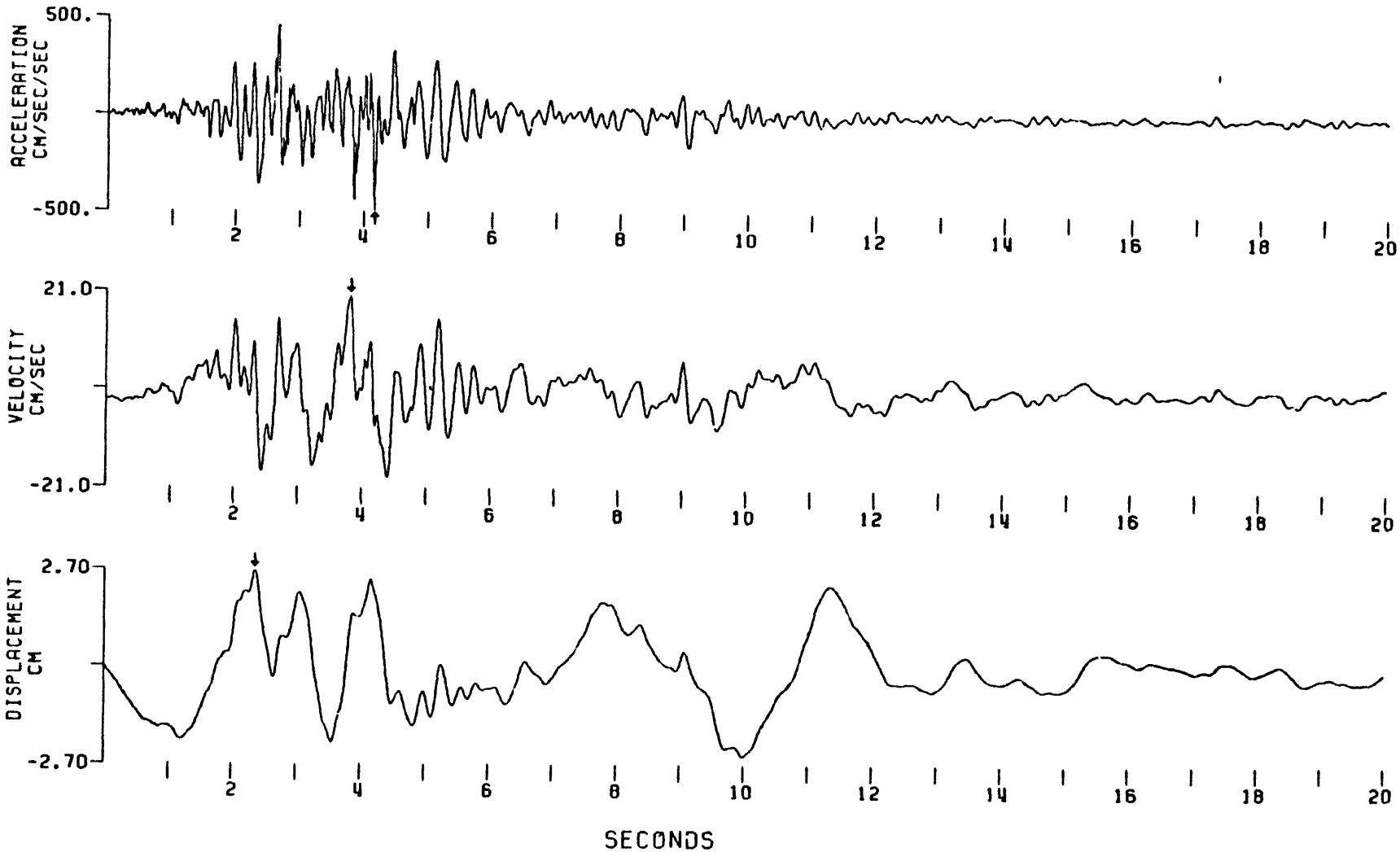
UNCORRECTED ACCELEROGRAM
COALINGA, SKUNK HOLLOW
360 DEGREES, UP, 270 DEGREES
EARTHQUAKE OF JULY 22, 1983 0239 UTC
PEAK VALUES(CM/SEC/SEC): 226.25 -242.49 367.52



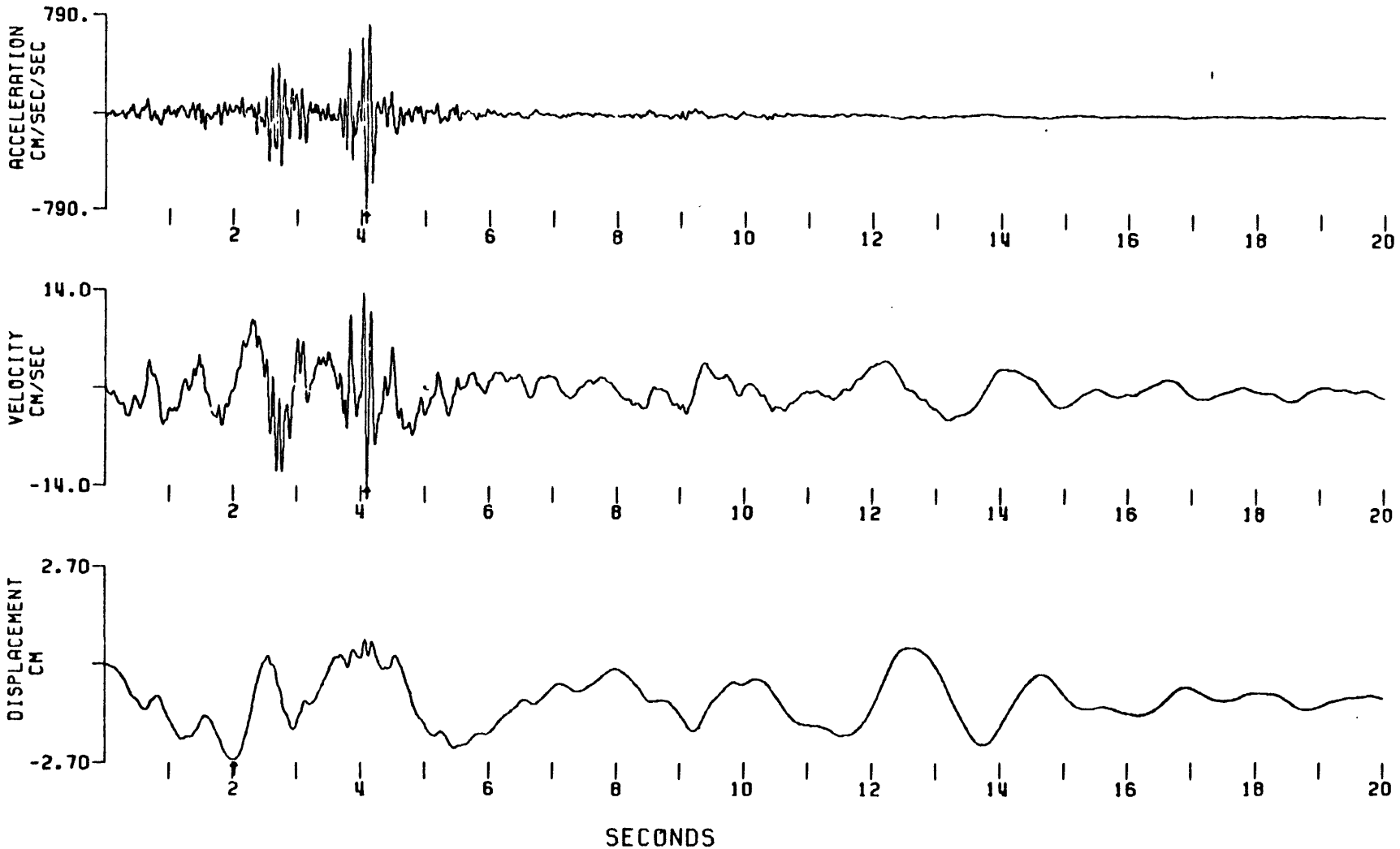
UNCORRECTED ACCELEROGRAM
COALINGA, TRANSMITTER HILL
360 DEGREES, UP, 270 DEGREES
EARTHQUAKE OF JULY 22, 1983 0239 UTC
PEAK VALUES(CM/SEC/SEC): 942.77 417.74 -821.66



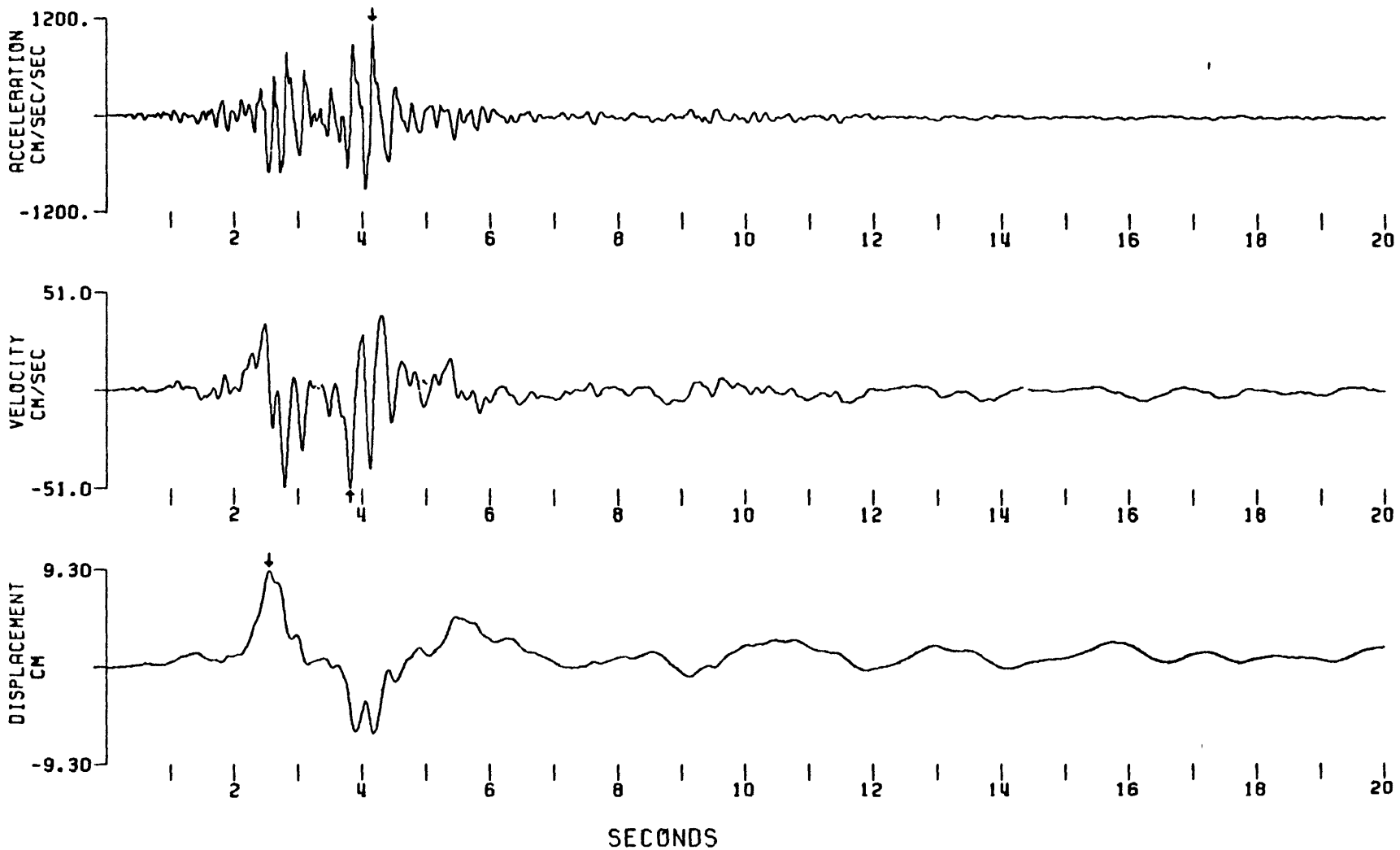
CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT 200.00 SPS
COALINGA, ANTICLINE RIDGE (PAD SITE)
360 DEGREES
EARTHQUAKE OF 22 JULY 1983 0239 UTC
BUTTERWORTH FILTER AT 0.20, ORDER 8
PEAK VALUES: ACCEL=-490.31 CM/SEC/SEC, VELOCITY=20.15 CM/SEC, DISPL=2.64 CM



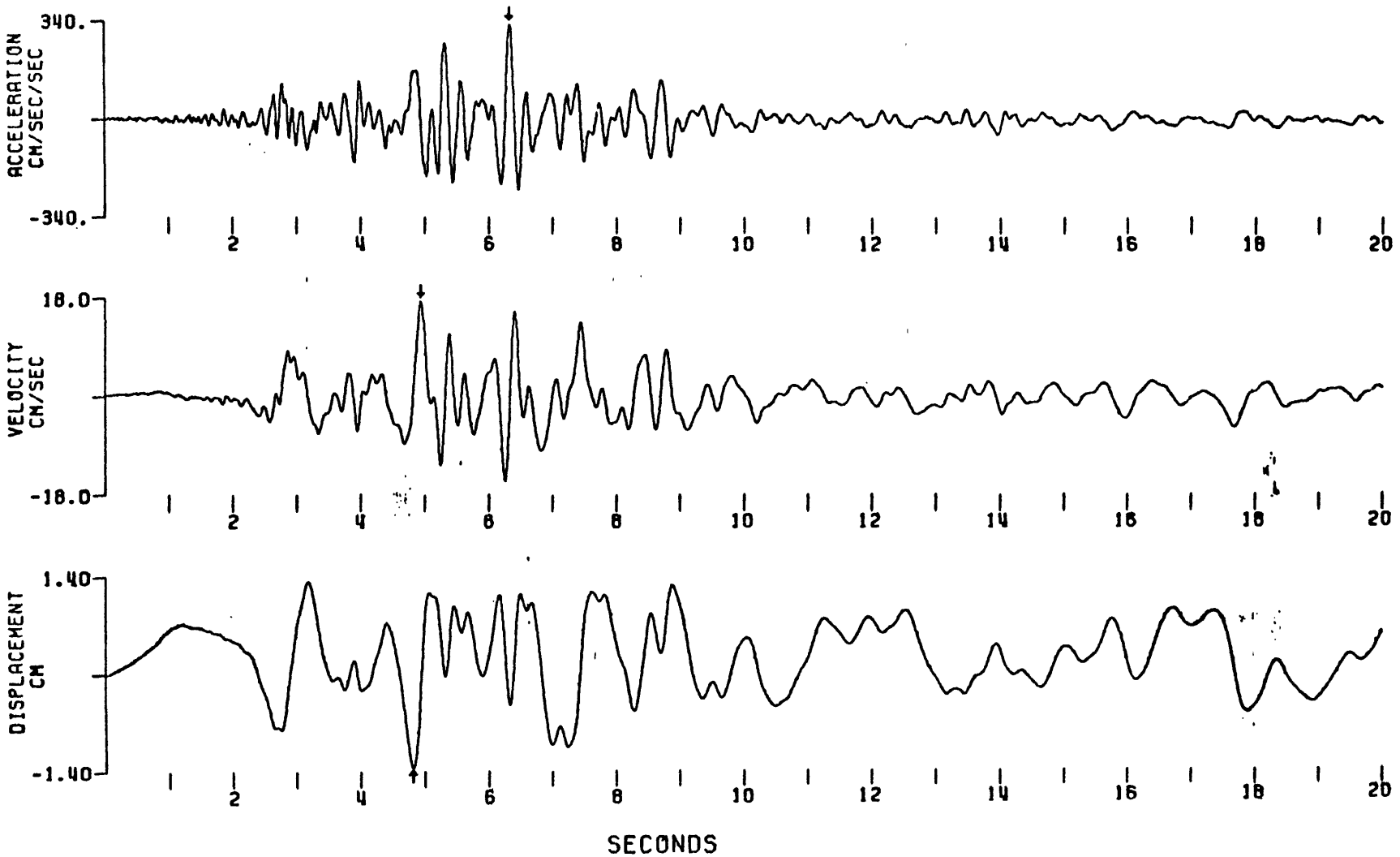
CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT 200.00 SPS
COALINGA, ANTICLINE RIDGE (PAD SITE)
UP
EARTHQUAKE OF 22 JULY 1983 0239 UTC
BUTTERWORTH FILTER AT 0.20, ORDER 8
PEAK VALUES: ACCEL=-780.83 CM/SEC/SEC, VELOCITY=-13.79 CM/SEC, DISPL=-2.64 CM



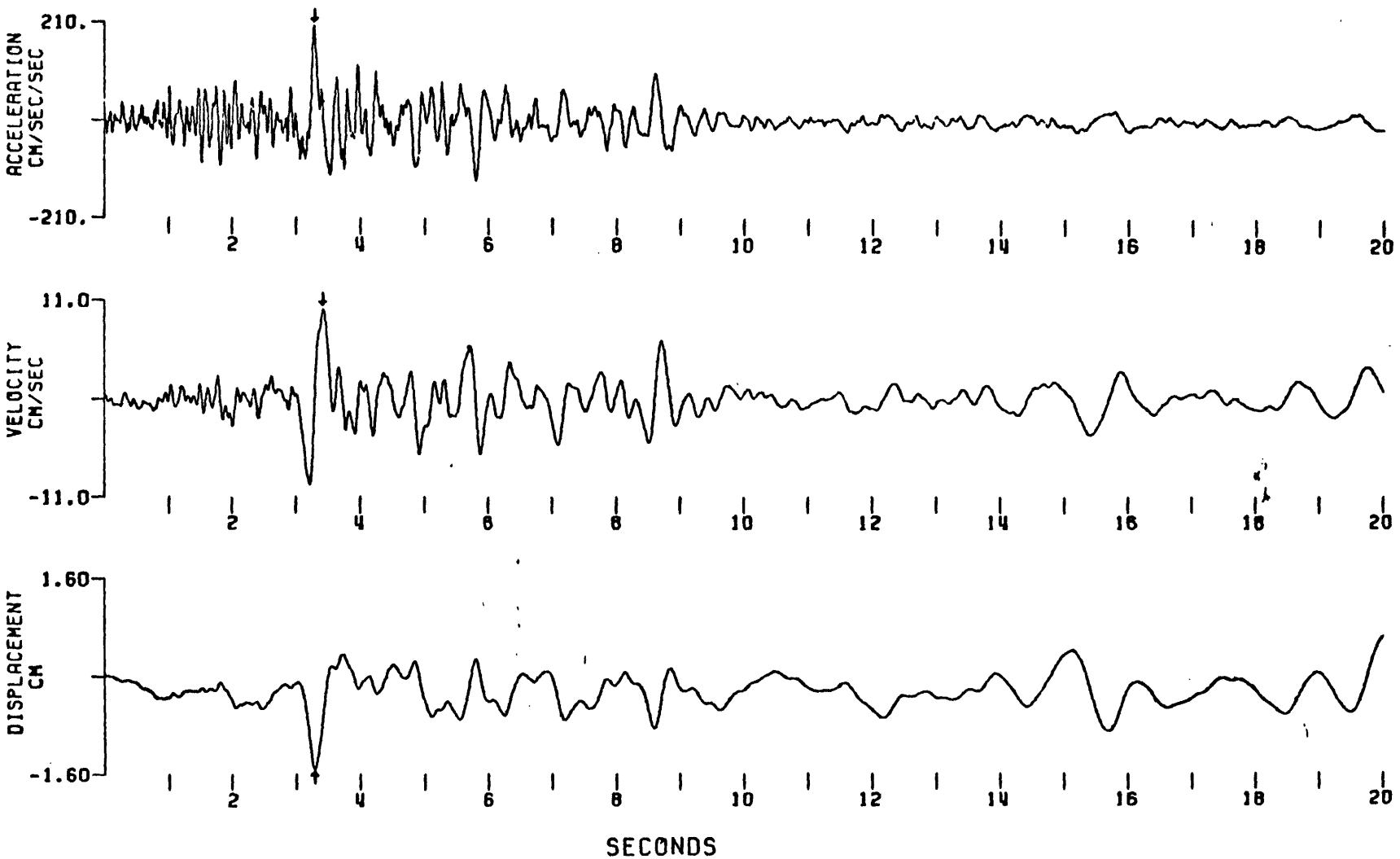
CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT 200.00 SPS
COALINGA, ANTICLINE RIDGE (PAD SITE)
270 DEGREES
EARTHQUAKE OF 22 JULY 1983 0239 UTC
BUTTERWORTH FILTER AT 0.20, ORDER 8
PEAK VALUES: ACCEL=1131.50 CM/SEC/SEC, VELOCITY=-50.70 CM/SEC, DISPL=9.23 CM



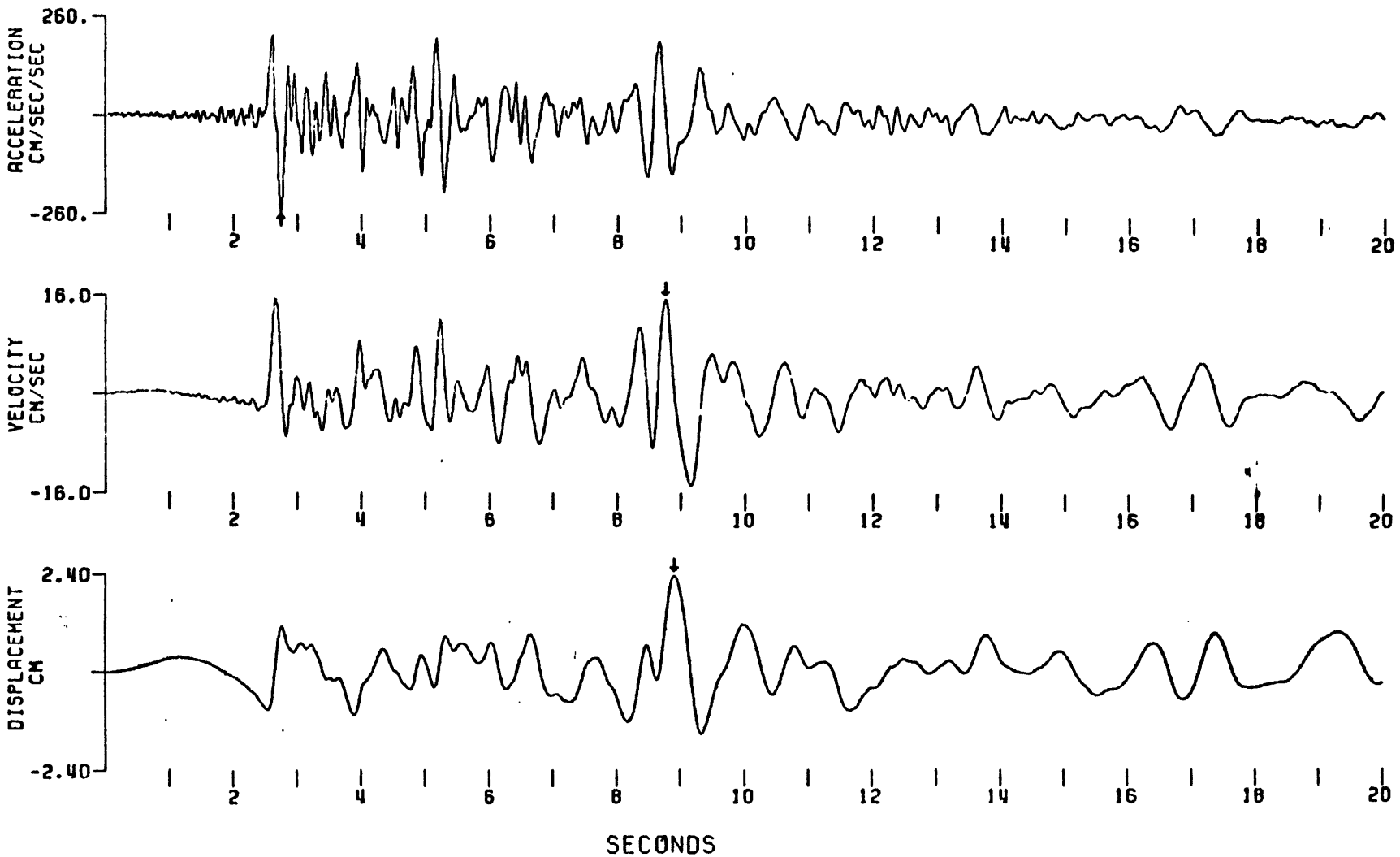
CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT 200.00 SPS
COALINGA, BURNETT CONSTRUCTION
360 DEGREES
EARTHQUAKE OF JULY 22, 1983 0239 UTC
BUTTERWORTH FILTER AT 0.20 HZ, ORDER 8
PEAK VALUES: ACCEL=330.48 CM/SEC/SEC, VELOCITY=17.54 CM/SEC, DISPL=-1.35 CM



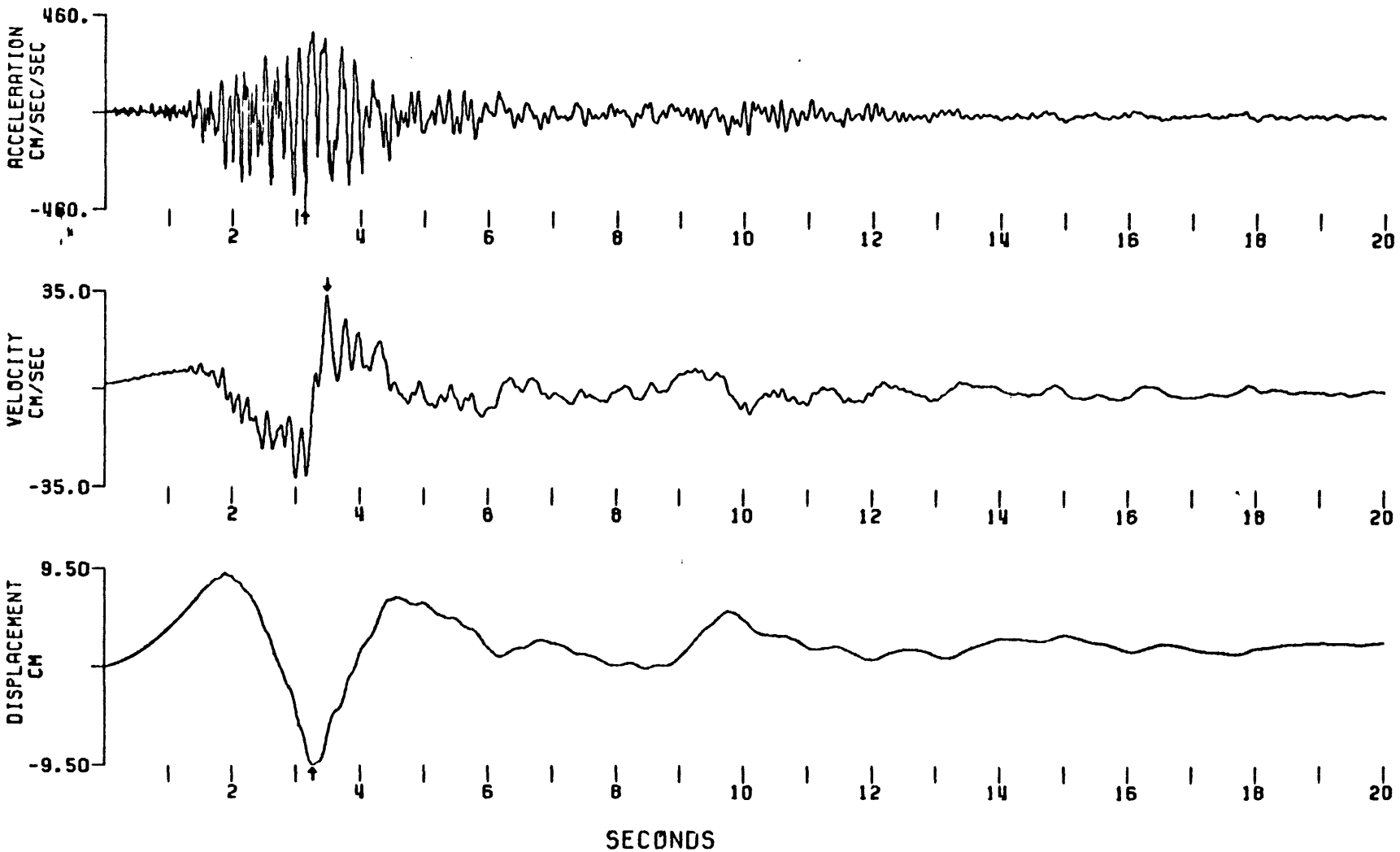
CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT 200.00 SPS
COALINGA, BURNETT CONSTRUCTION
UP
EARTHQUAKE OF JULY 22, 1983 0239 UTC
BUTTERWORTH FILTER AT 0.20 HZ, ORDER 8
PEAK VALUES: ACCEL=201.94 CM/SEC/SEC, VELOCITY=10.00 CM/SEC, DISPL=-1.51 CM



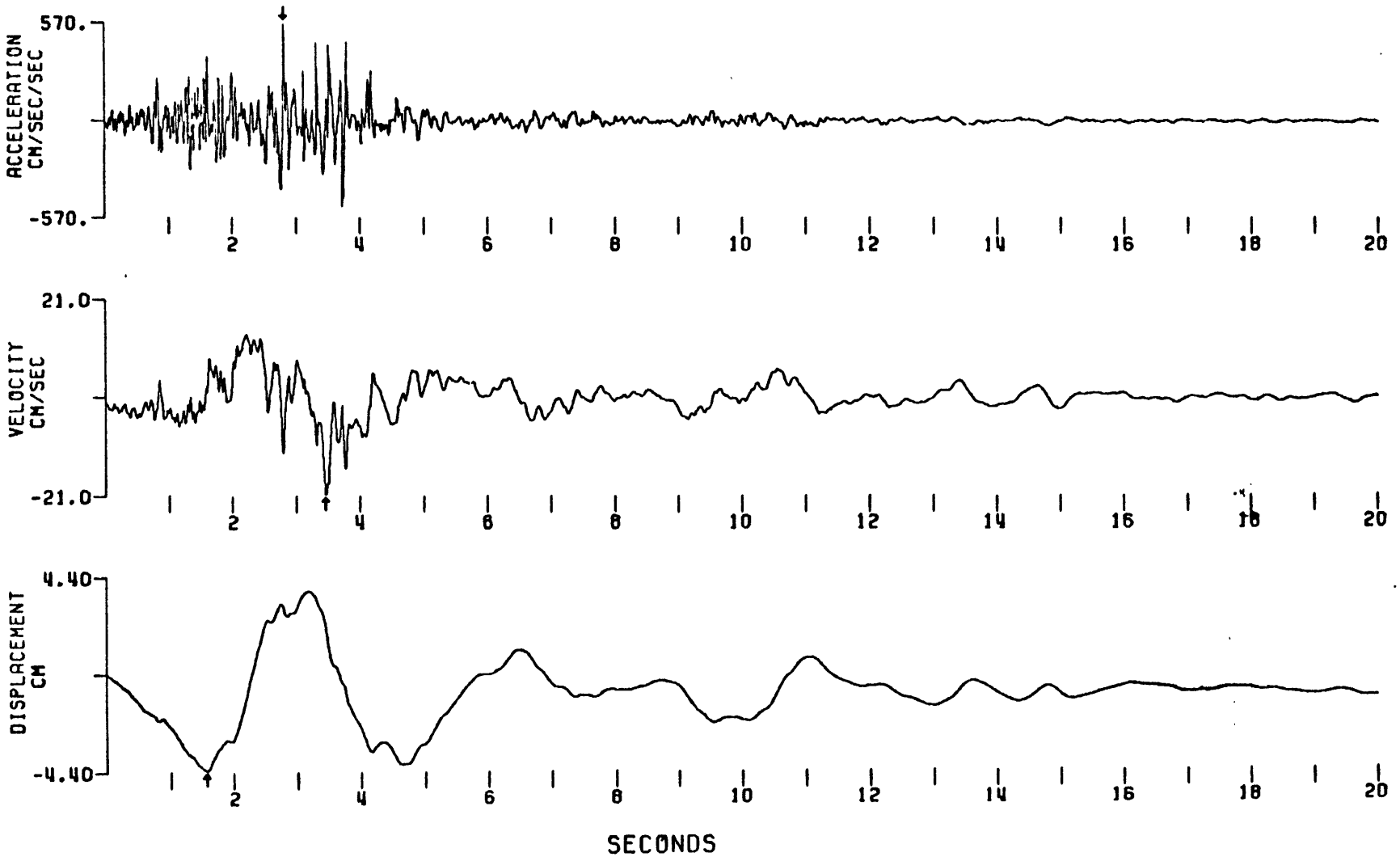
CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT 200.00 SPS
COALINGA, BURNETT CONSTRUCTION
270 DEGREES
EARTHQUAKE OF JULY 22, 1983 0239 UTC
BUTTERWORTH FILTER AT 0.20 HZ, ORDER 8
PEAK VALUES: ACCEL=-251.58 CM/SEC/SEC, VELOCITY=15.70 CM/SEC, DISPL=2.39 CM



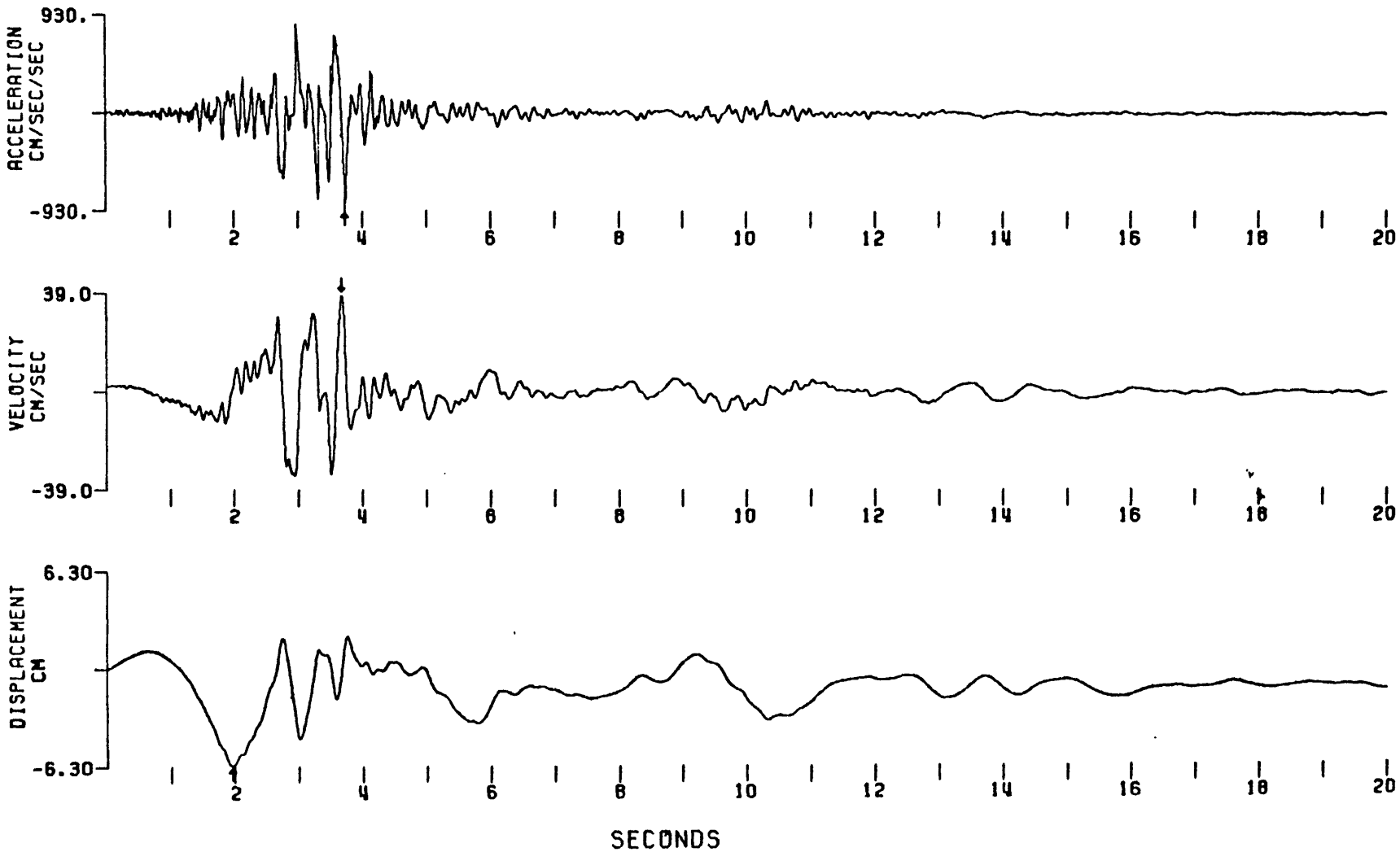
CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT 200.00 SPS
COALINGA, OIL CITY
360 DEGREES
EARTHQUAKE OF JULY 22, 1983 0239 UTC
BUTTERWORTH FILTER AT 0.20 HZ, ORDER 8
PEAK VALUES: ACCEL=-454.72 CM/SEC/SEC, VELOCITY=34.13 CM/SEC, DISPL=-9.45 CM



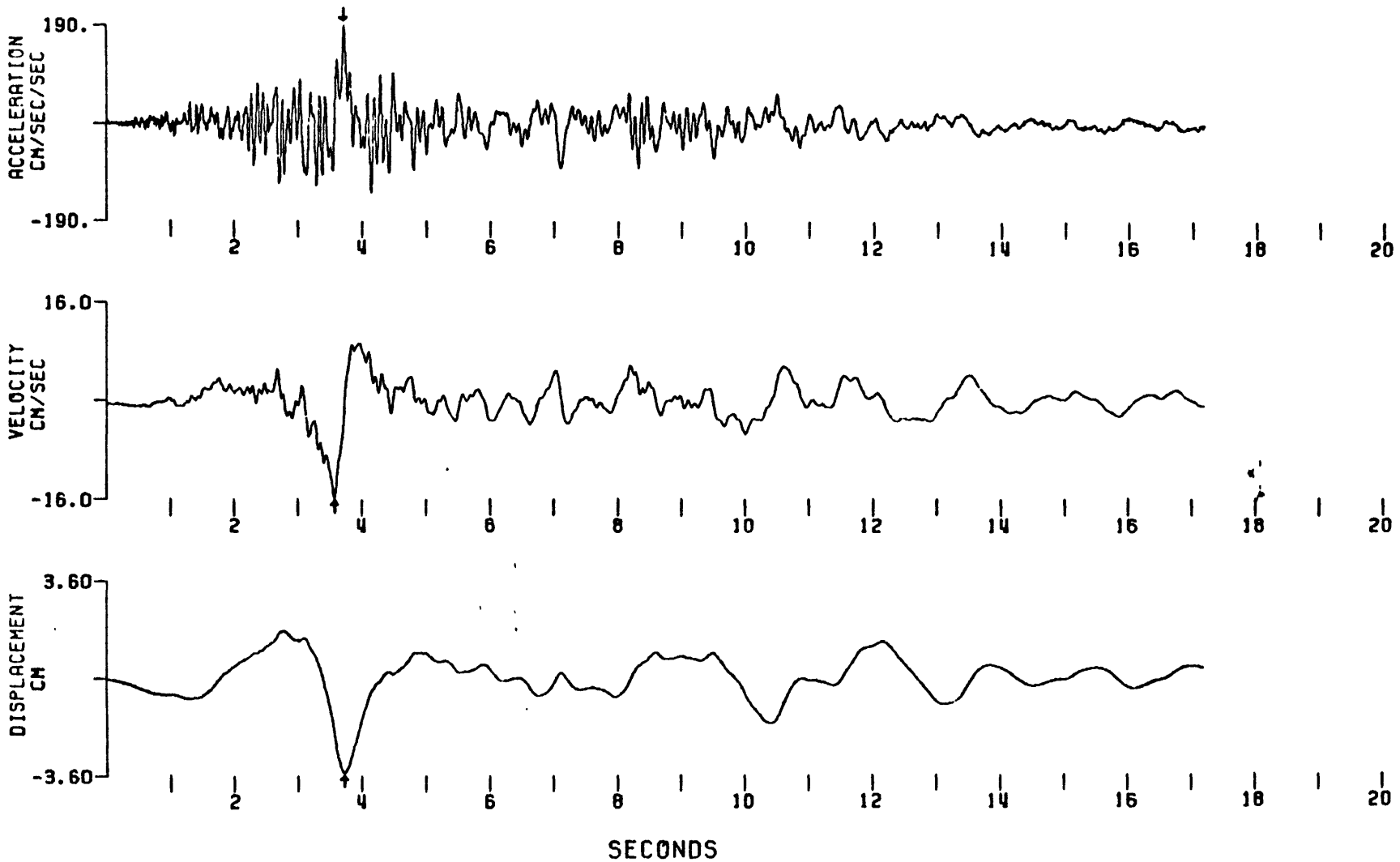
CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT 200.00 SPS
COALINGA, OIL CITY
UP
EARTHQUAKE OF JULY 22, 1983 0239 UTC
BUTTERWORTH FILTER AT 0.20 HZ, ORDER 8
PEAK VALUES: ACCEL=562.89 CM/SEC/SEC, VELOCITY=-20.76 CM/SEC, DISPL=-4.31 CM



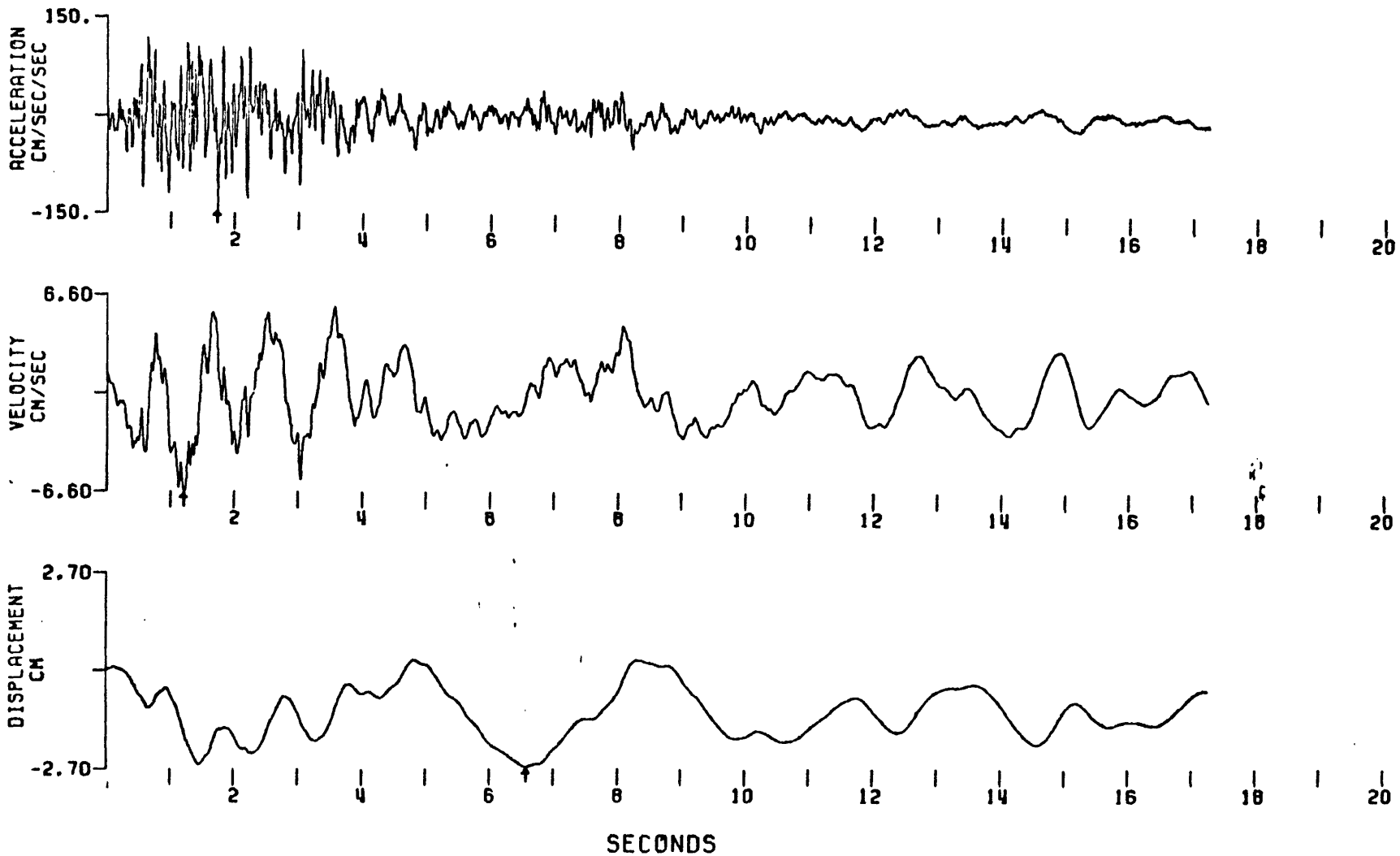
CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT 200.00 SPS
COALINGA, OIL CITY
270 DEGREES
EARTHQUAKE OF JULY 22, 1983 0239 UTC
BUTTERWORTH FILTER AT 0.20 HZ, ORDER 8
PEAK VALUES: ACCEL=-920.76 CM/SEC/SEC, VELOCITY=38.20 CM/SEC, DISPL=-6.22 CM



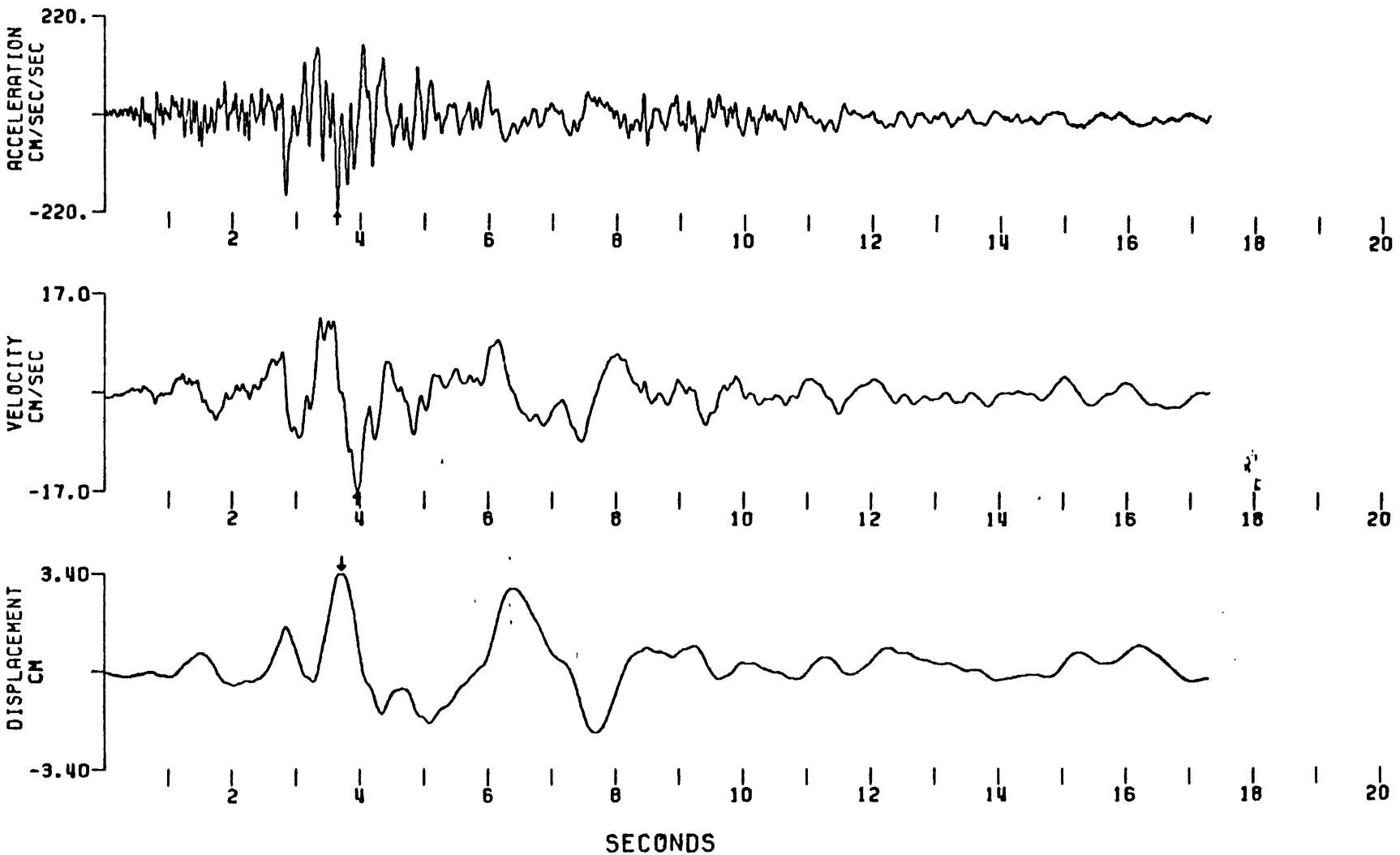
CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT 200.00 SPS
COALINGA, OIL FIELDS FIRE STATION FREE-FIELD
360 DEGREES
EARTHQUAKE OF JULY 22, 1983 0239 UTC
BUTTERWORTH FILTER AT 0.20 HZ, ORDER 8
PEAK VALUES: ACCEL=189.45 CM/SEC/SEC, VELOCITY=-15.88 CM/SEC, DISPL=-3.50 CM



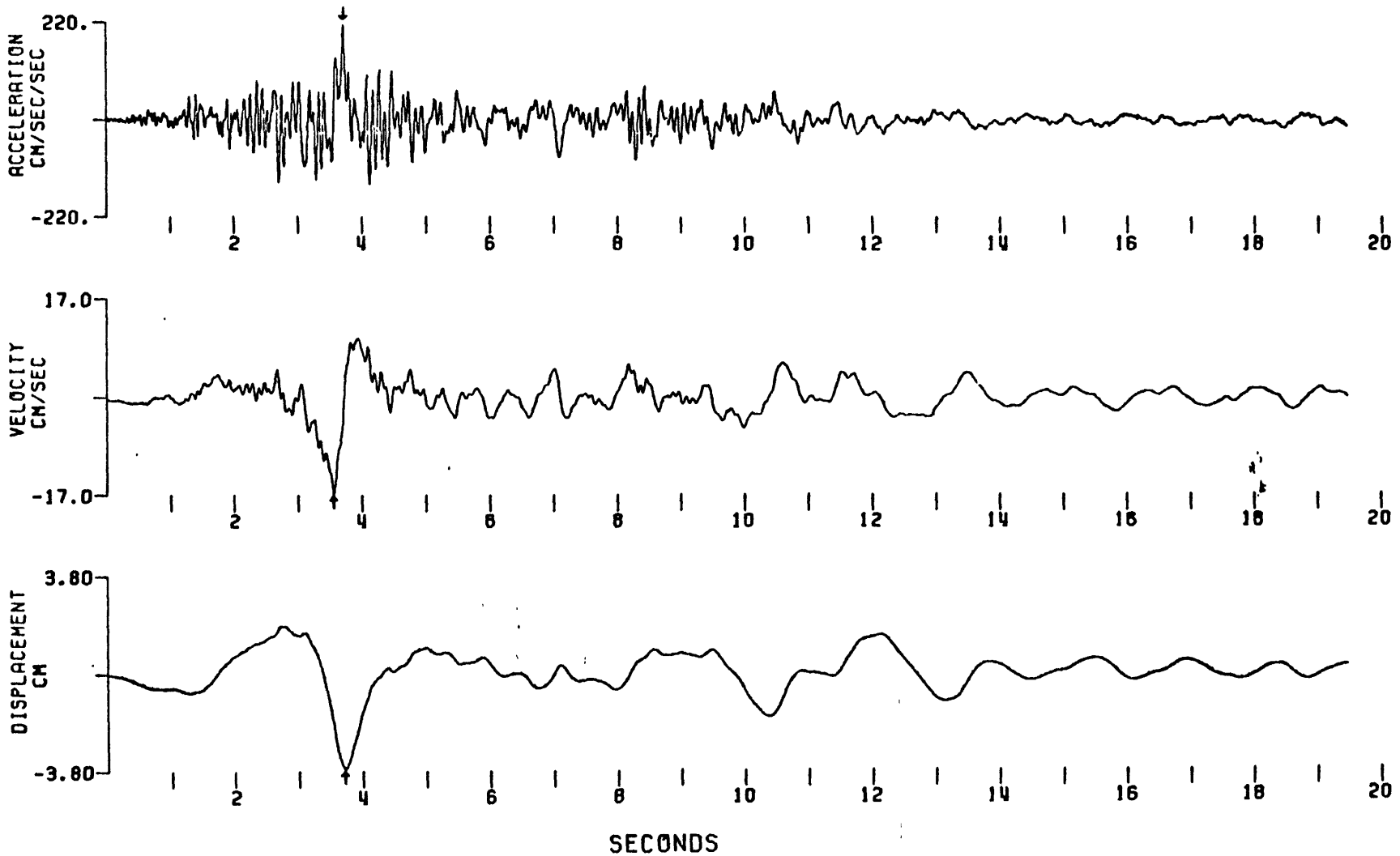
CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT 200.00 SPS
COALINGA, OIL FIELDS FIRE STATION FREE-FIELD
UP
EARTHQUAKE OF JULY 22, 1983 0239 UTC
BUTTERWORTH FILTER AT 0.20 HZ, ORDER 8
PEAK VALUES: ACCEL=-142.49 CM/SEC/SEC, VELOCITY=-6.57 CM/SEC, DISPL=-2.63 CM



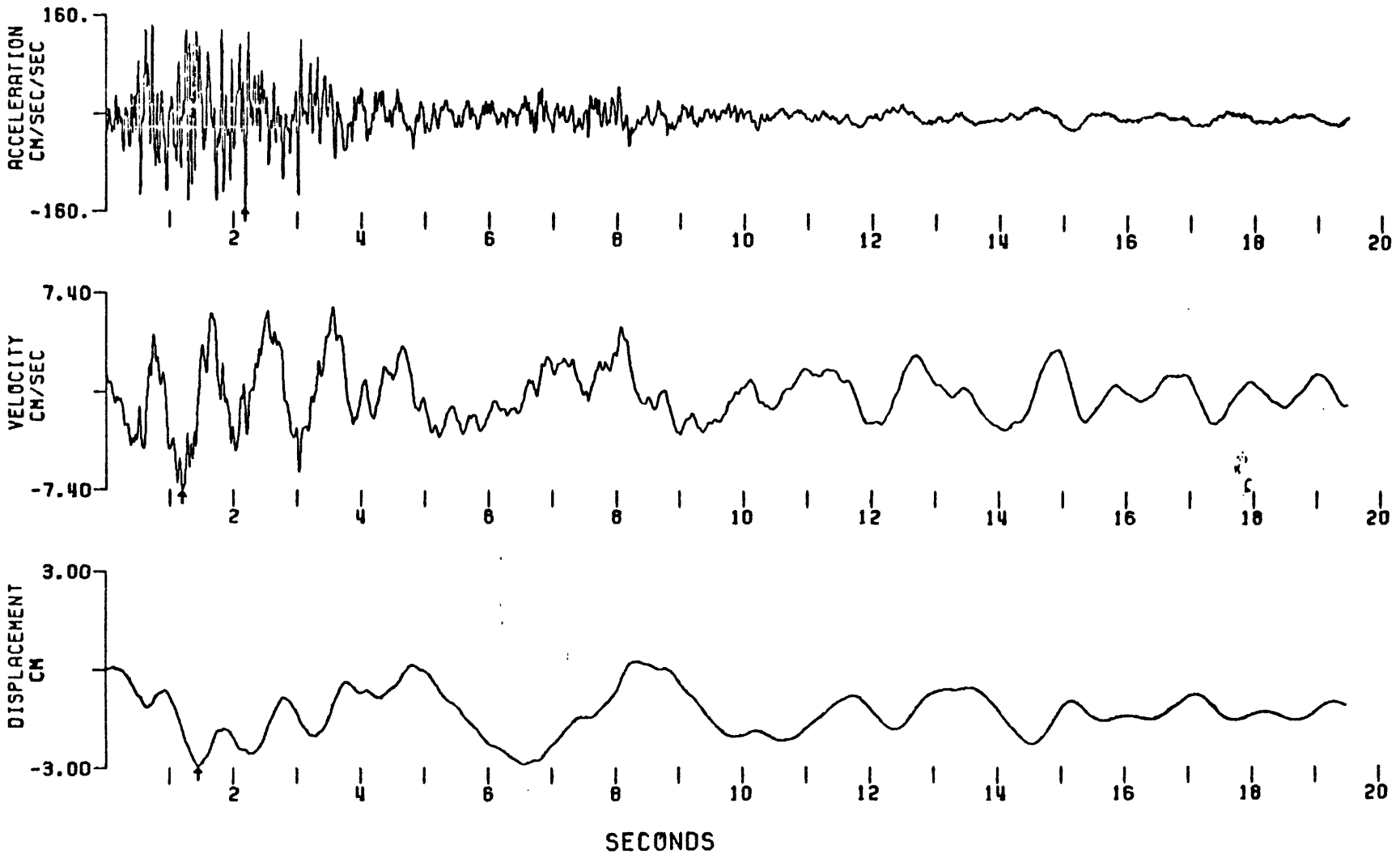
CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT 200.00 SPS
COALINGA, OIL FIELDS FIRE STATION FREE-FIELD
270 DEGREES
EARTHQUAKE OF JULY 22, 1983 0239 UTC
BUTTERWORTH FILTER AT 0.20 HZ, ORDER 8
PEAK VALUES: ACCEL=-212.05 CM/SEC/SEC, VELOCITY=-16.78 CM/SEC, DISPL=3.39 CM



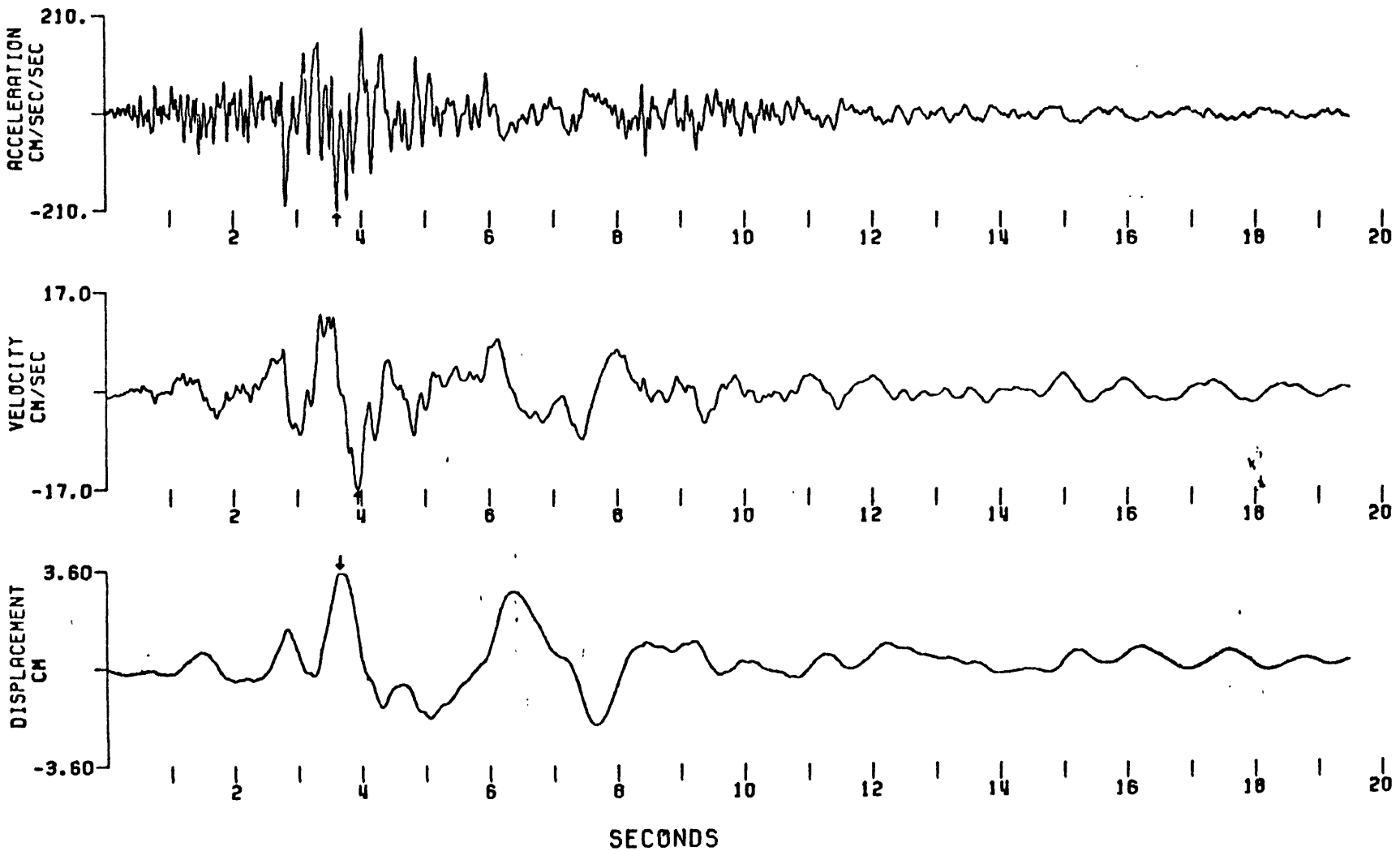
CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT 200.00 SPS
COALINGA, OIL FIELDS FIRE STATION PAD
360 DEGREES
EARTHQUAKE OF JULY 22, 1983 0239 UTC
BUTTERWORTH FILTER AT 0.20 HZ, ORDER 8
PEAK VALUES: ACCEL=215.64 CM/SEC/SEC, VELOCITY=-16.76 CM/SEC, DISPL=-3.71 CM



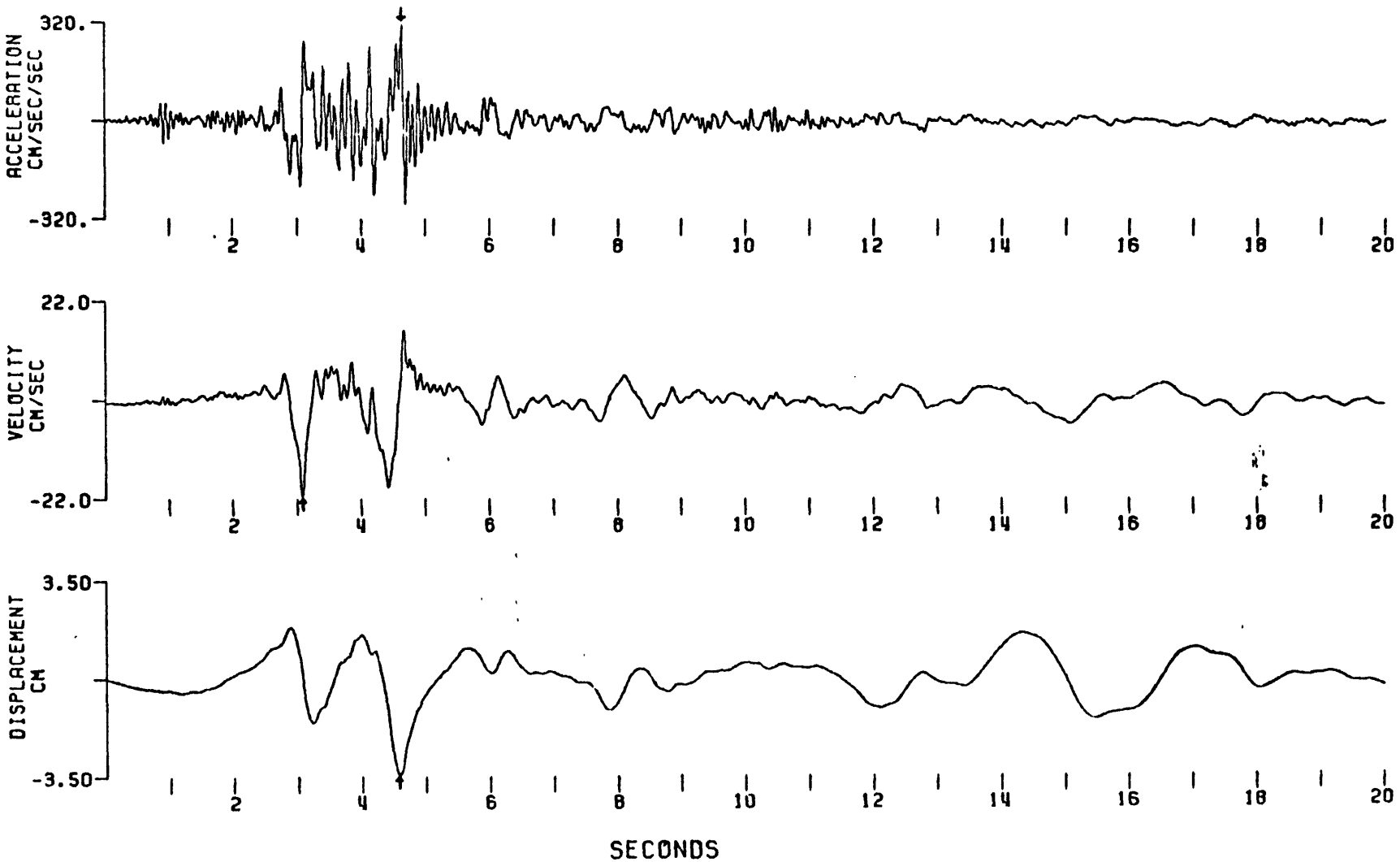
CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT 200.00 SPS
COALINCA, OIL FIELDS FIRE STATION PAD
UP
EARTHQUAKE OF JULY 22, 1983 0239 UTC
BUTTERWORTH FILTER AT 0.20 HZ, ORDER 8
PEAK VALUES: ACCEL=-150.67 CM/SEC/SEC, VELOCITY=-7.33 CM/SEC, DISPL=-2.93 CM



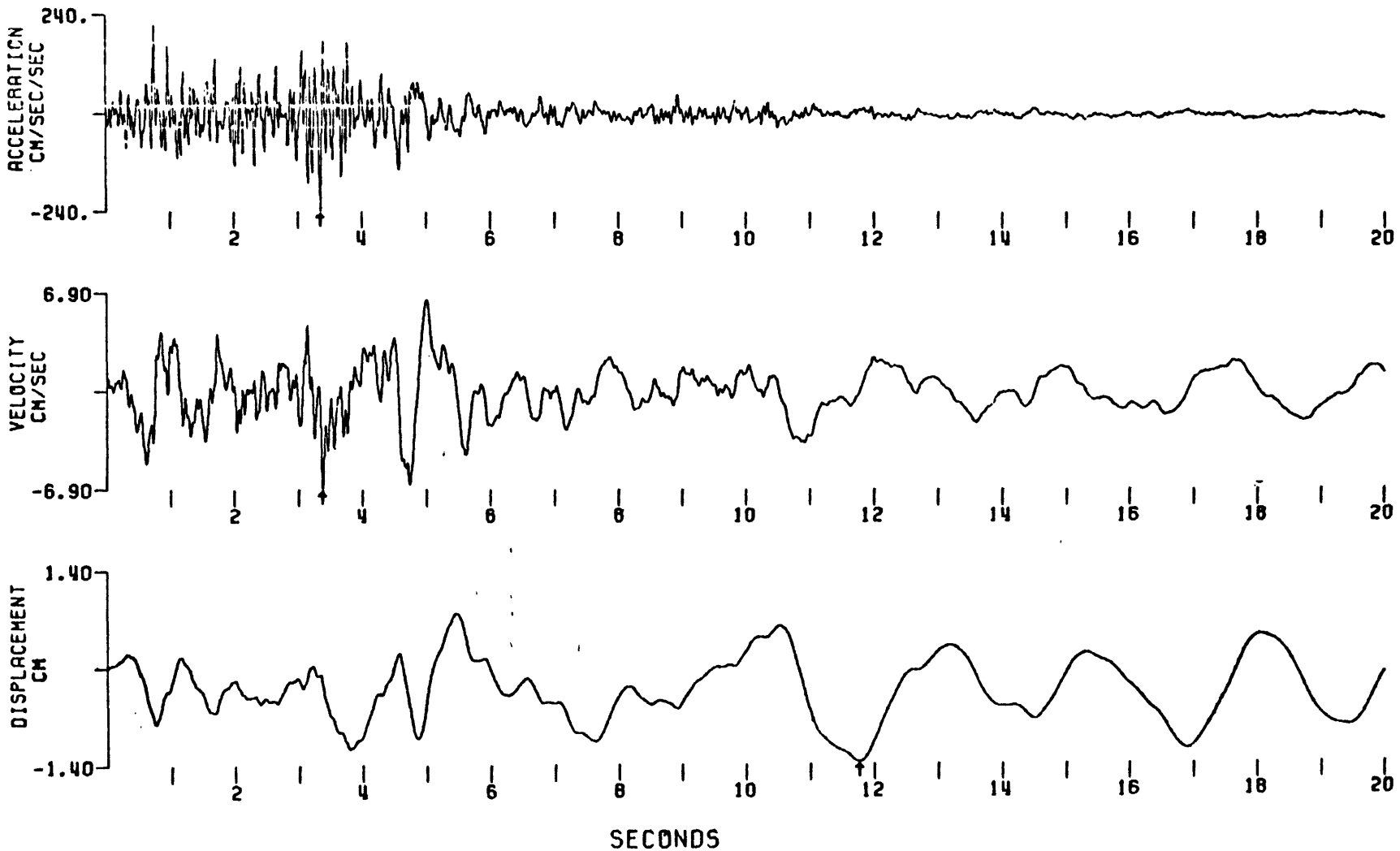
CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT 200.00 SPS
COALINGA, OIL FIELDS FIRE STATION PAD
270 DEGREES
EARTHQUAKE OF JULY 22, 1983 0239 UTC
BUTTERWORTH FILTER AT 0.20 HZ, ORDER 8
PEAK VALUES: ACCEL=-209.95 CM/SEC/SEC, VELOCITY=-16.91 CM/SEC, DISPL=3.52 CM



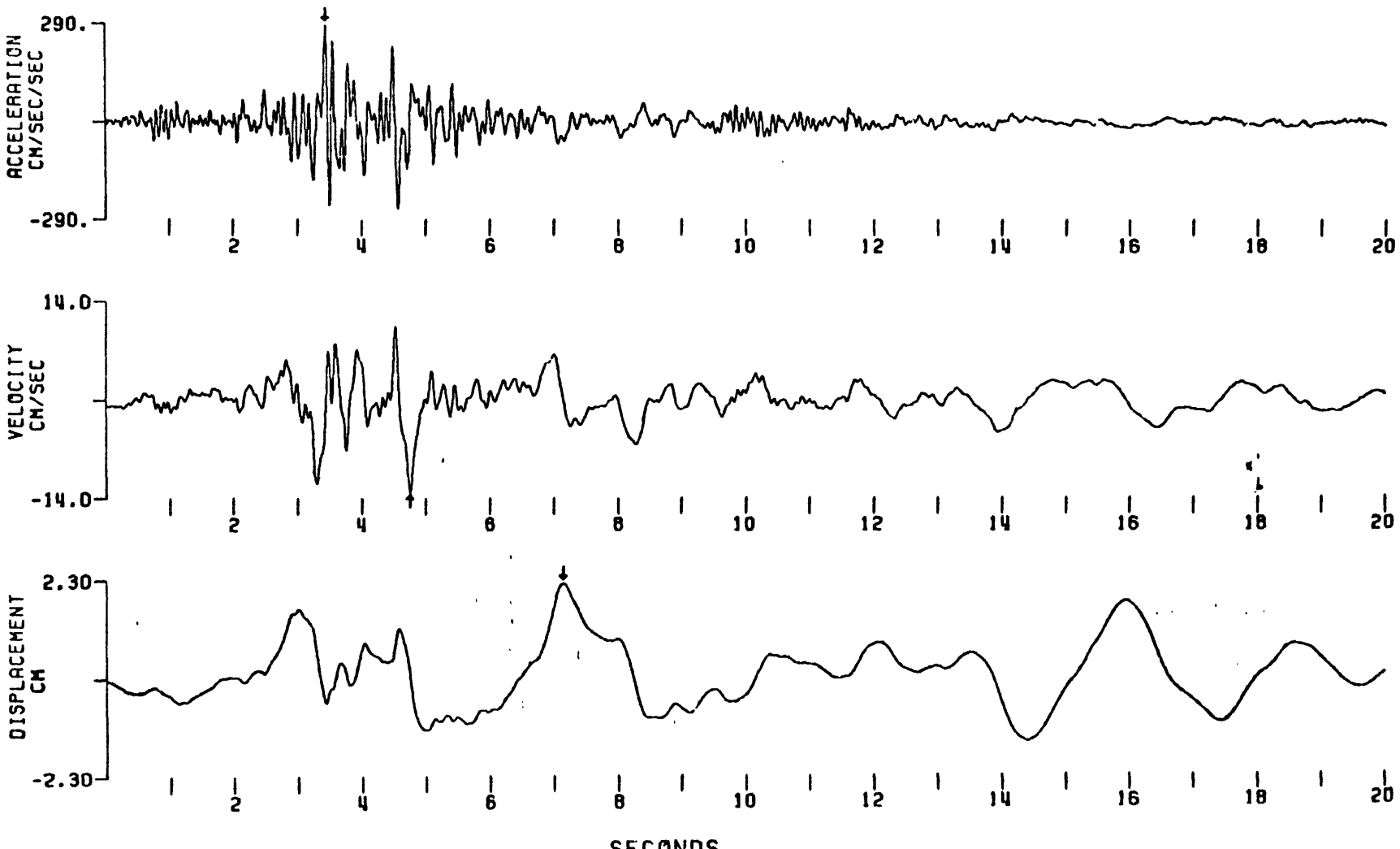
CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT 200.00 SPS
COALINGA, PALMER AVENUE
360 DEGREES
EARTHQUAKE OF JULY 22, 1983 0239 UTC
BUTTERWORTH FILTER AT 0.20 HZ, ORDER 8
PEAK VALUES: ACCEL=312.52 CM/SEC/SEC, VELOCITY=-21.32 CM/SEC, DISPL=-3.42 CM



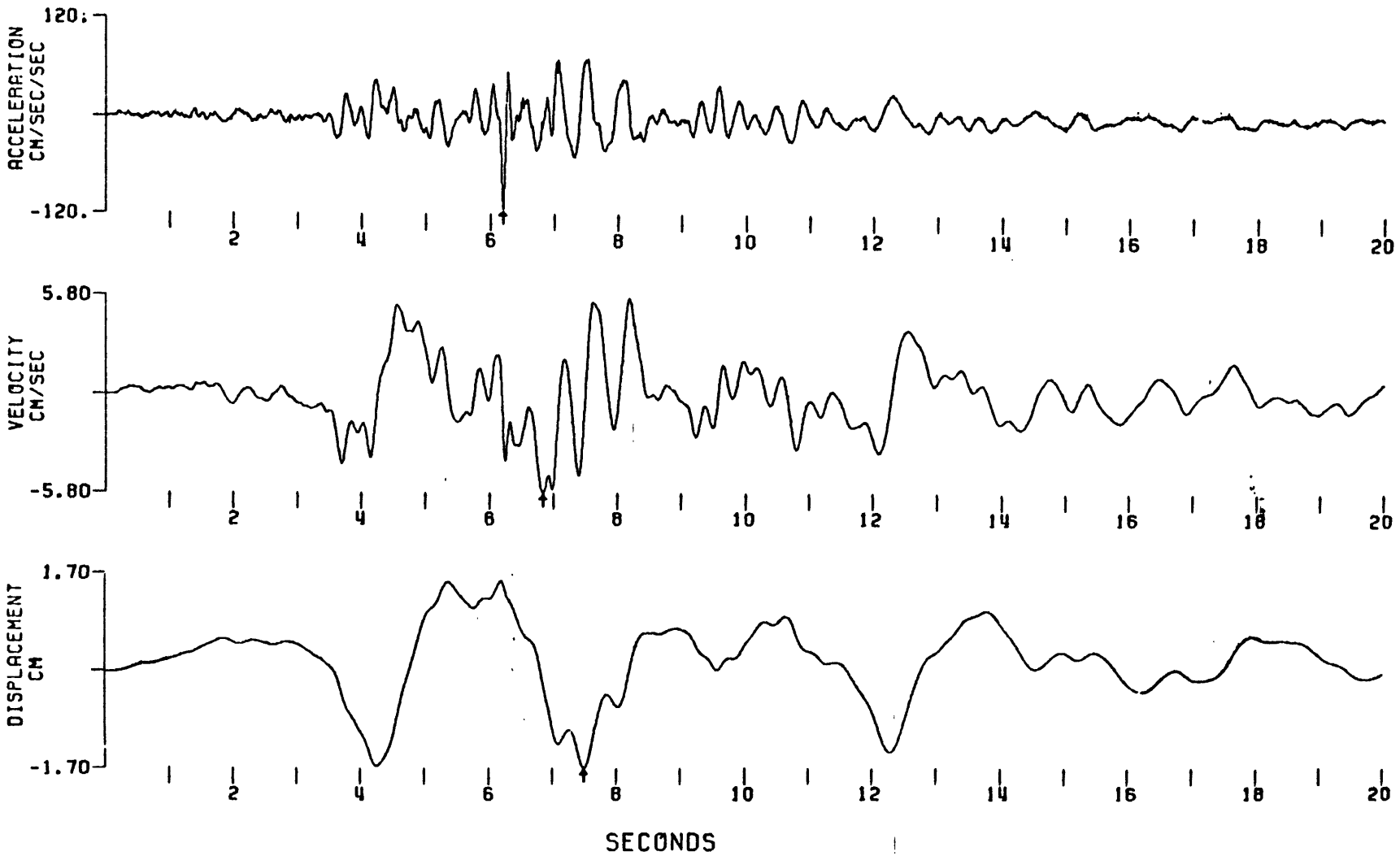
CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT 200.00 SPS
COALINGA, PALMER AVENUE
UP
EARTHQUAKE OF JULY 22, 1983 0239 UTC
BUTTERWORTH FILTER AT 0.20 HZ, ORDER 8
PEAK VALUES: ACCEL=-236.19 CM/SEC/SEC, VELOCITY=-6.86 CM/SEC, DISPL=-1.36 CM



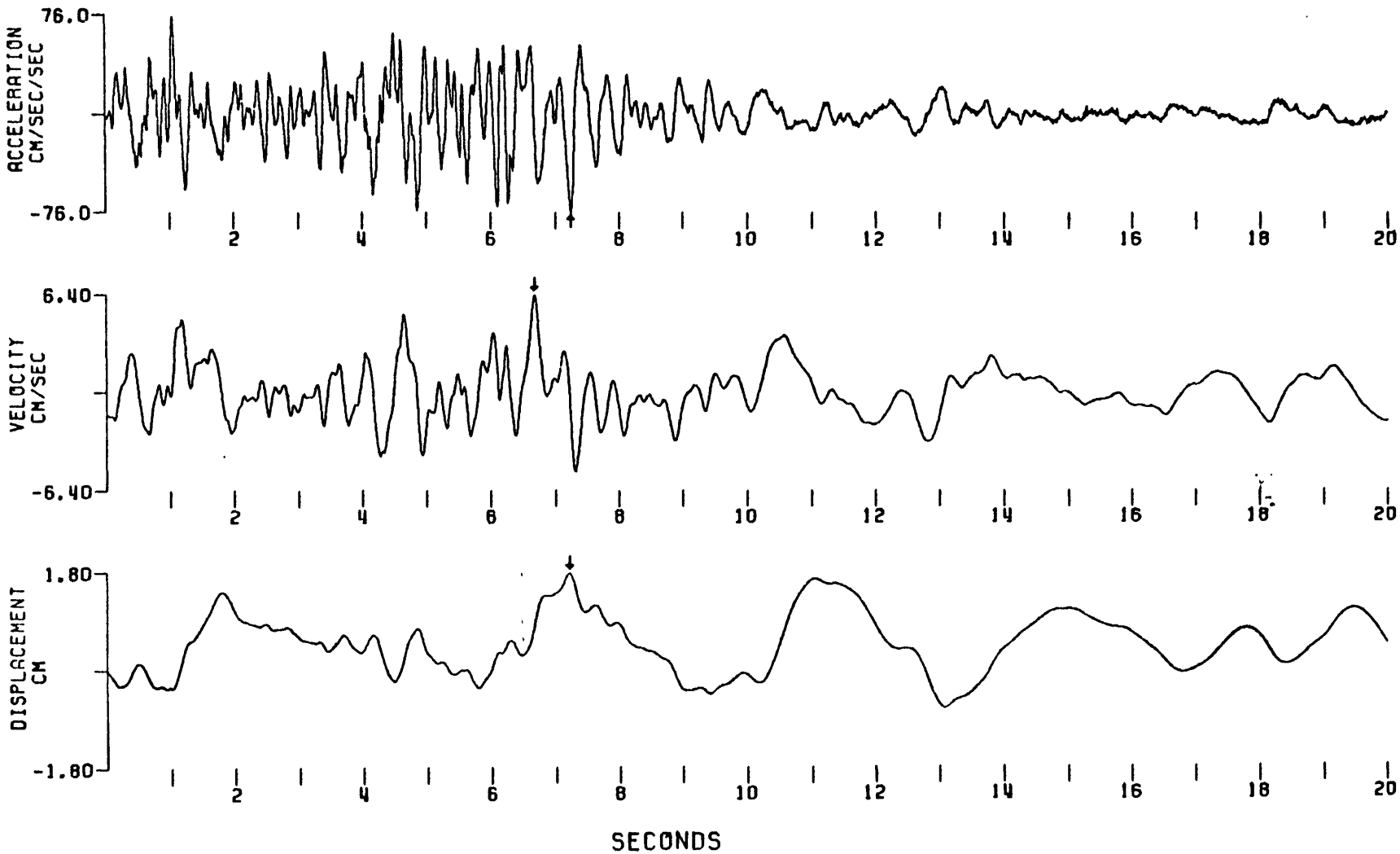
CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT 200.00 SPS
COALINGA, PALMER AVENUE
270 DEGREES
EARTHQUAKE OF JULY 22, 1983 0239 UTC
BUTTERWORTH FILTER AT 0.20 HZ, ORDER 8
PEAK VALUES: ACCEL=283.94 CM/SEC/SEC, VELOCITY=-13.20 CM/SEC, DISPL=2.22 CM



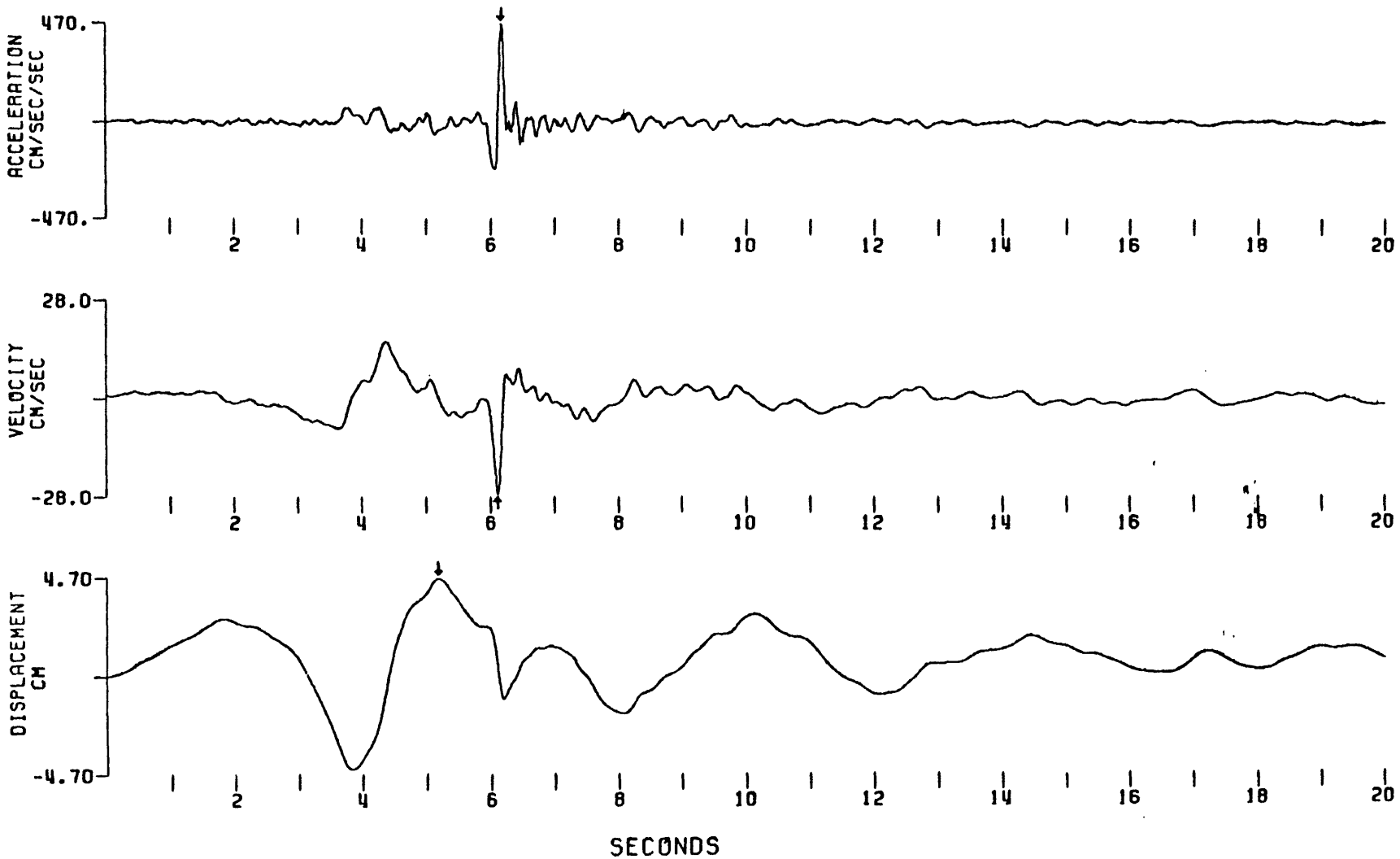
CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT 200.00 SPS
PLEASANT VALLEY PUMPING PLANT 1ST FLOOR
135 DEGREES
EARTHQUAKE OF JULY 22, 1983 0239 UTC
BUTTERWORTH FILTER AT 0.20 HZ, ORDER 8
PEAK VALUES: ACCEL=-113.39 CM/SEC/SEC, VELOCITY=-5.76 CM/SEC, DISPL=-1.69 CM



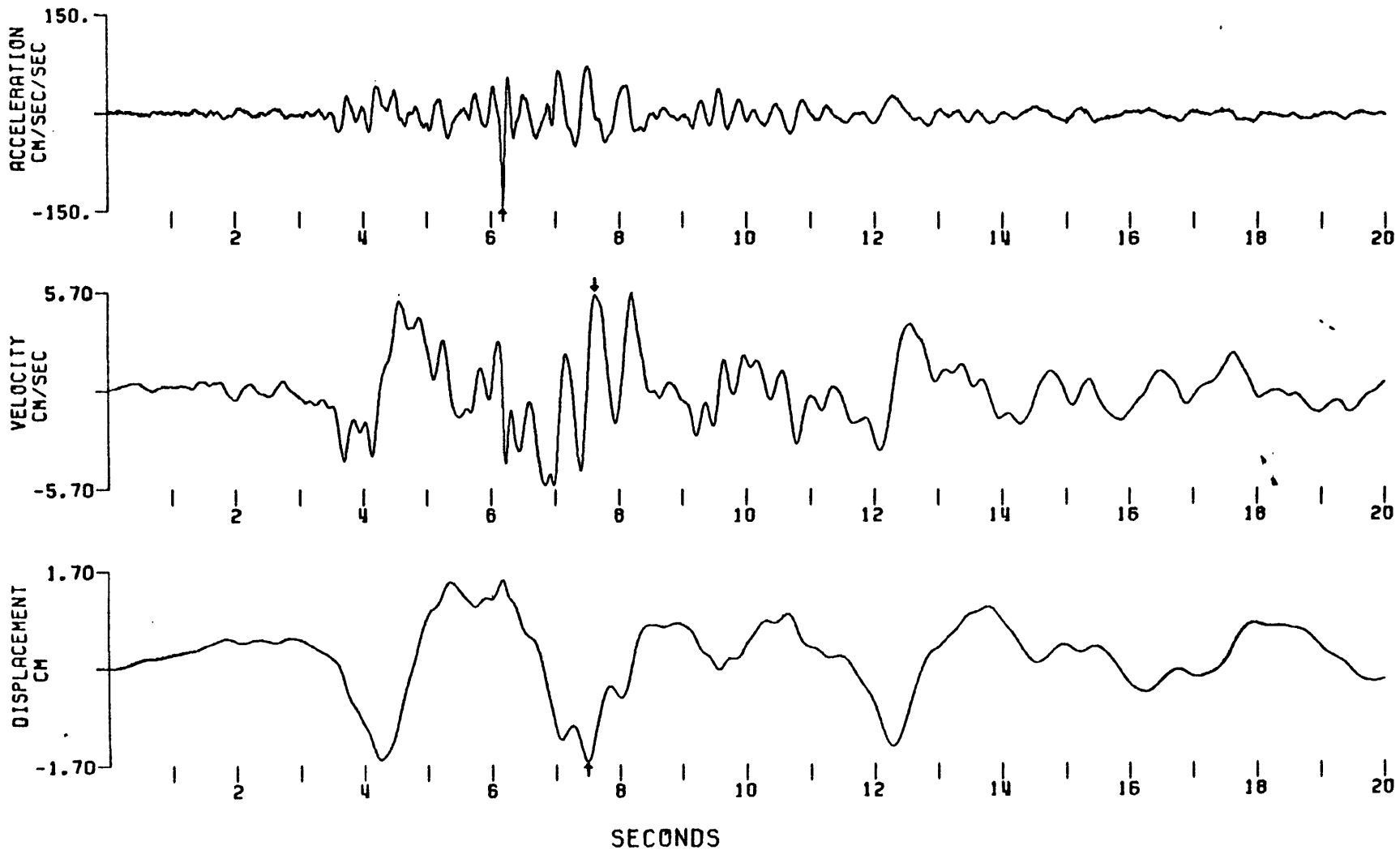
CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT 200.00 SPS
PLEASANT VALLEY PUMPING PLANT 1ST FLOOR
UP
EARTHQUAKE OF JULY 22, 1983 0239 UTC
BUTTERWORTH FILTER AT 0.20 HZ, ORDER 8
PEAK VALUES: ACCEL=-75.61 CM/SEC/SEC, VELOCITY=6.39 CM/SEC, DISPL=1.78 CM



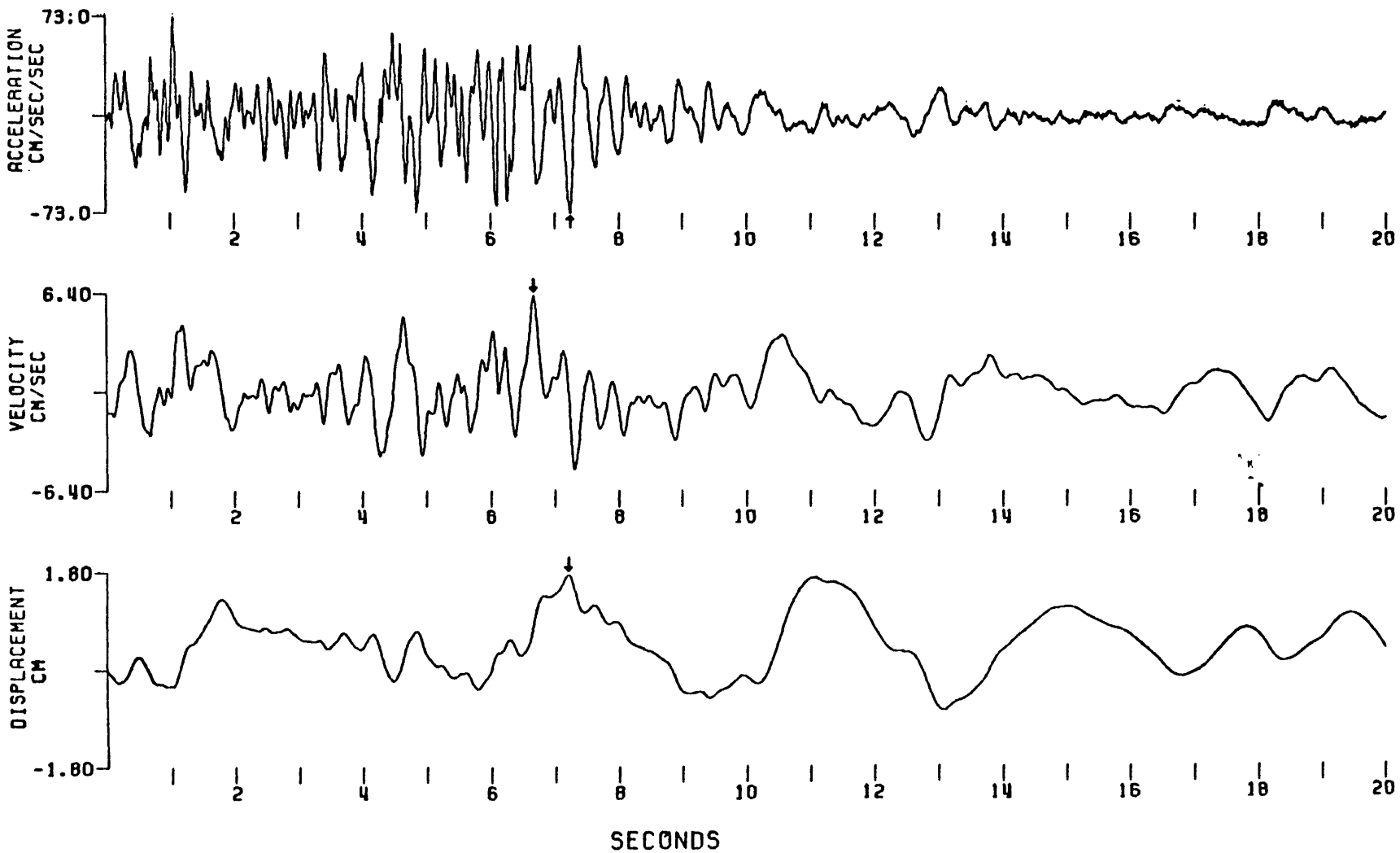
CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT 200.00 SPS
PLEASANT VALLEY PUMPING PLANT 1ST FLOOR
045 DEGREES
EARTHQUAKE OF JULY 22, 1983 0239 UTC
BUTTERWORTH FILTER AT 0.20 HZ, ORDER 8
PEAK VALUES: ACCEL=465.05 CM/SEC/SEC, VELOCITY=-27.41 CM/SEC, DISPL=4.65 CM



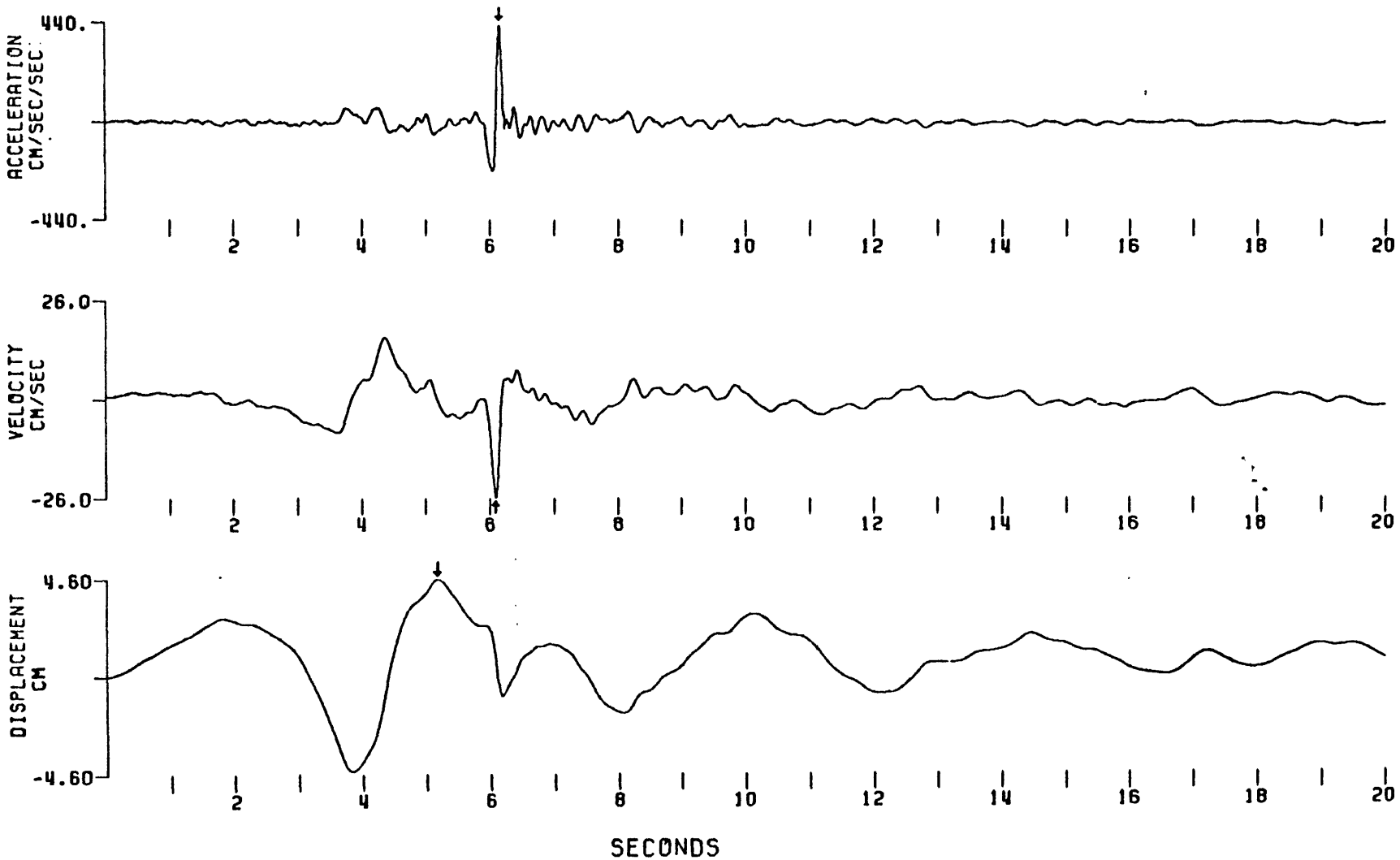
CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT 200.00 SPS
PLEASANT VALLEY PUMPING PLANT BASEMENT
135 DEGREES
EARTHQUAKE OF JULY 22, 1983 0239 UTC
BUTTERWORTH FILTER AT 0.20 HZ, ORDER 8
PEAK VALUES: ACCEL=-141.38 CM/SEC/SEC, VELOCITY=5.61 CM/SEC, DISPL=-1.63 CM



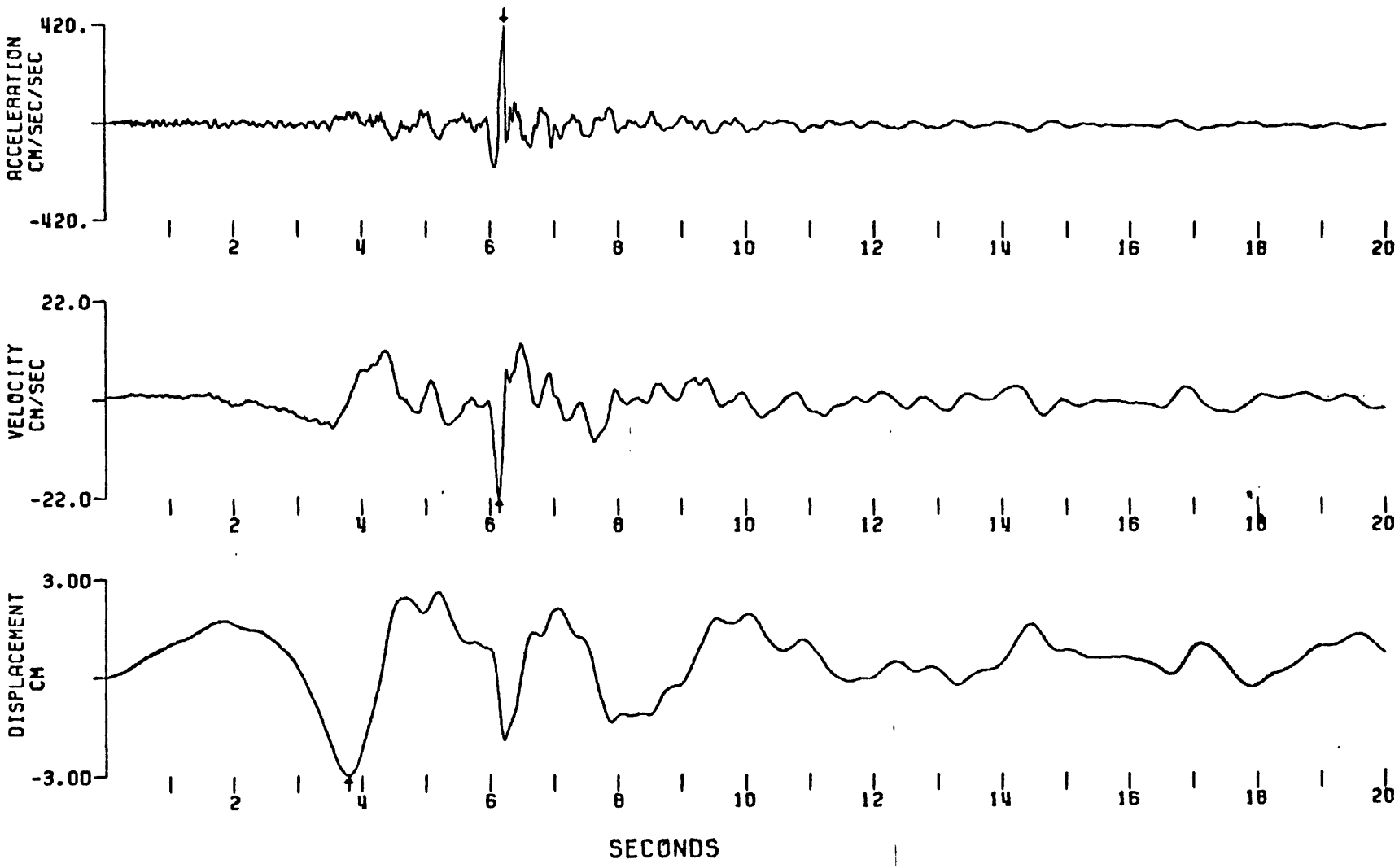
CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT 200.00 SPS
PLEASANT VALLEY PUMPING PLANT BASEMENT
UP
EARTHQUAKE OF JULY 22, 1983 0239 UTC
BUTTERWORTH FILTER AT 0.20 HZ, ORDER 8
PEAK VALUES: ACCEL=-72.47 CM/SEC/SEC, VELOCITY=6.31 CM/SEC, DISPL=1.74 CM



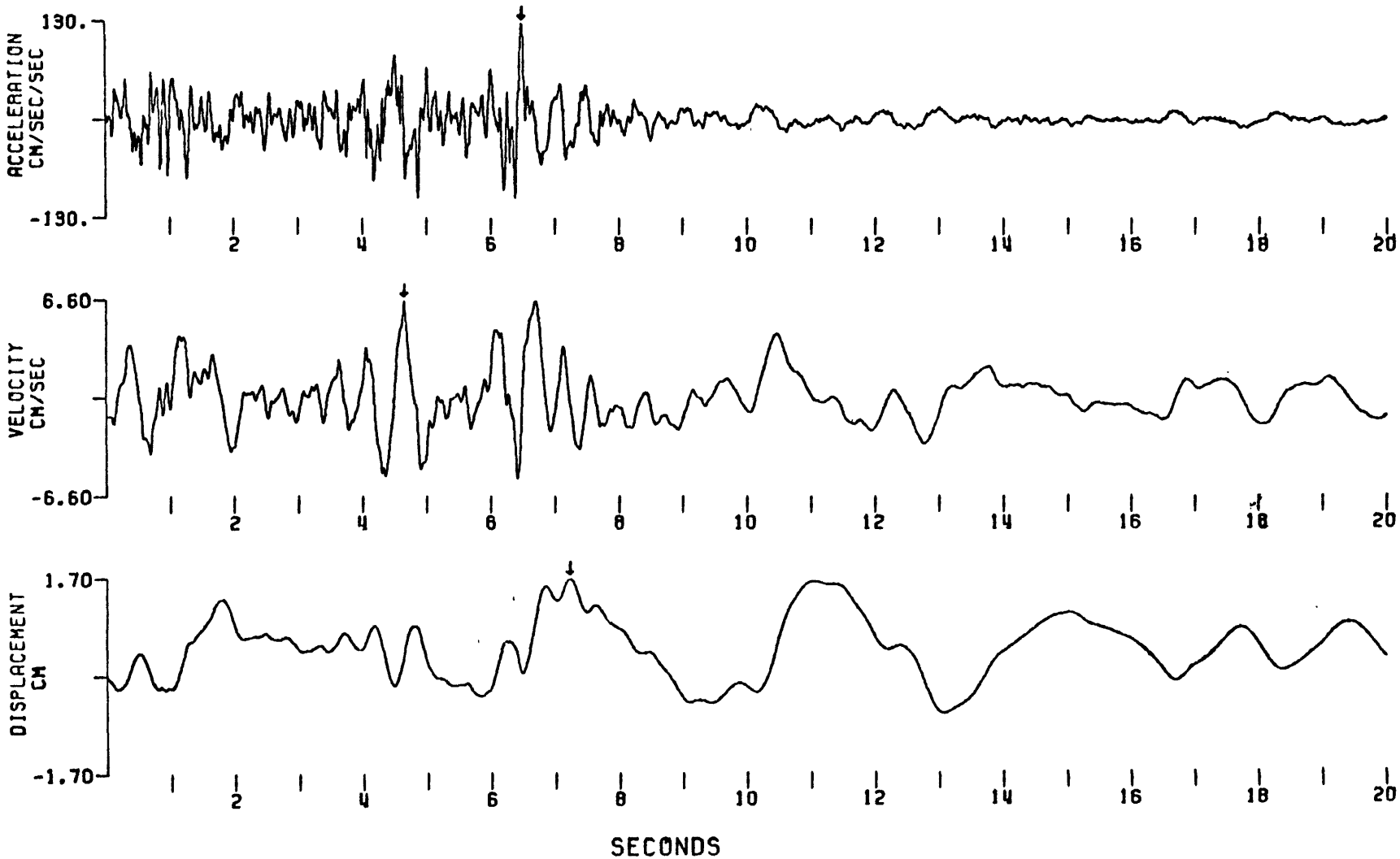
CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT 200.00 SPS
PLEASANT VALLEY PUMPING PLANT BASEMENT
045 DEGREES
EARTHQUAKE OF JULY 22, 1983 0239 UTC
BUTTERWORTH FILTER AT 0.20 HZ, ORDER 8
PEAK VALUES: ACCEL=430.65 CM/SEC/SEC, VELOCITY=-25.93 CM/SEC, DISPL=4.59 CM



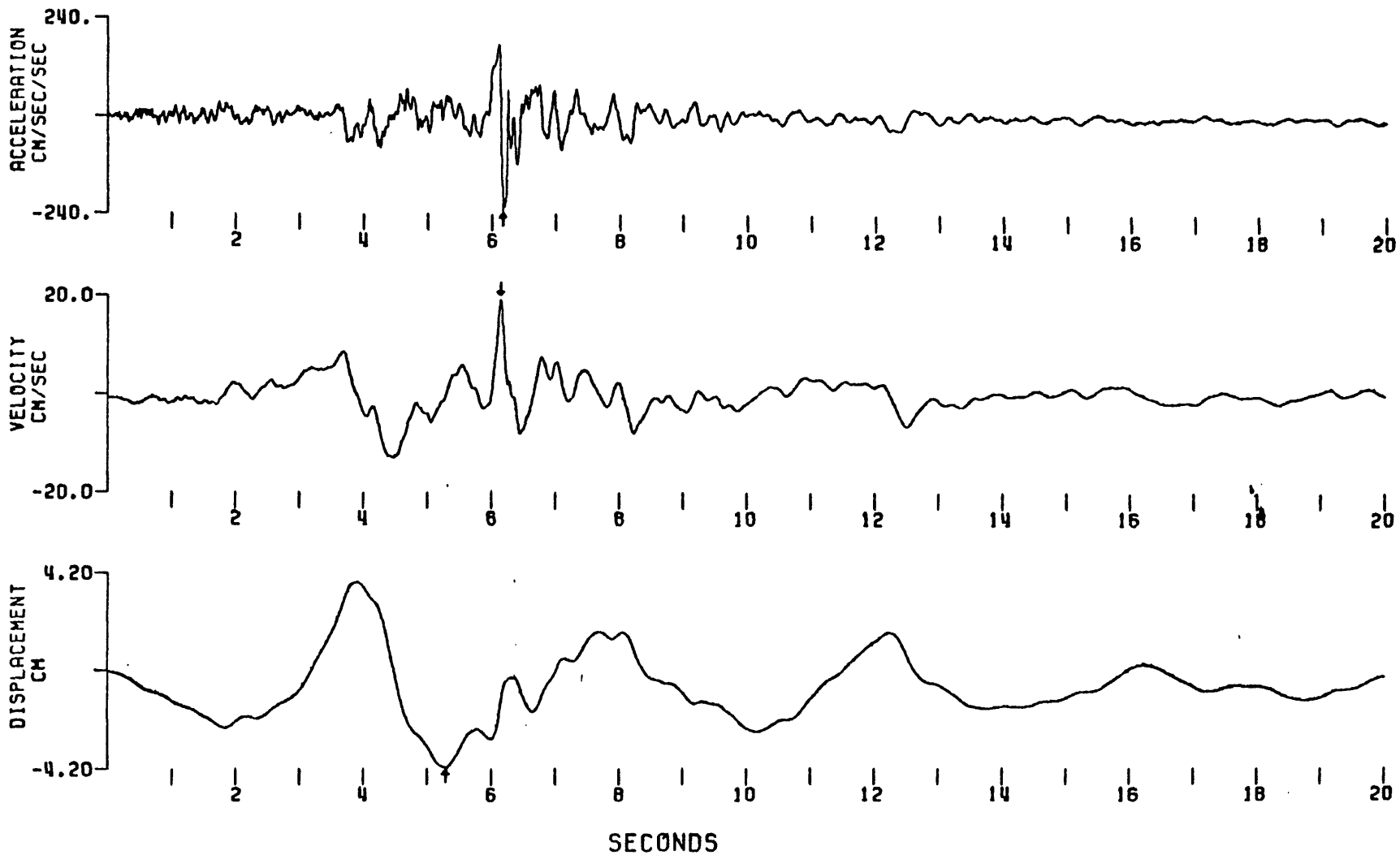
CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT 200.00 SPS
PLEASANT VALLEY PUMPING PLANT (FREEFIELD)
360 DEGREES
EARTHQUAKE OF JULY 22, 1983 0239 UTC
BUTTERWORTH FILTER AT 0.20 HZ, ORDER 8
PEAK VALUES: ACCEL=419.99 CM/SEC/SEC, VELOCITY=-21.84 CM/SEC, DISPL=-2.99 CM



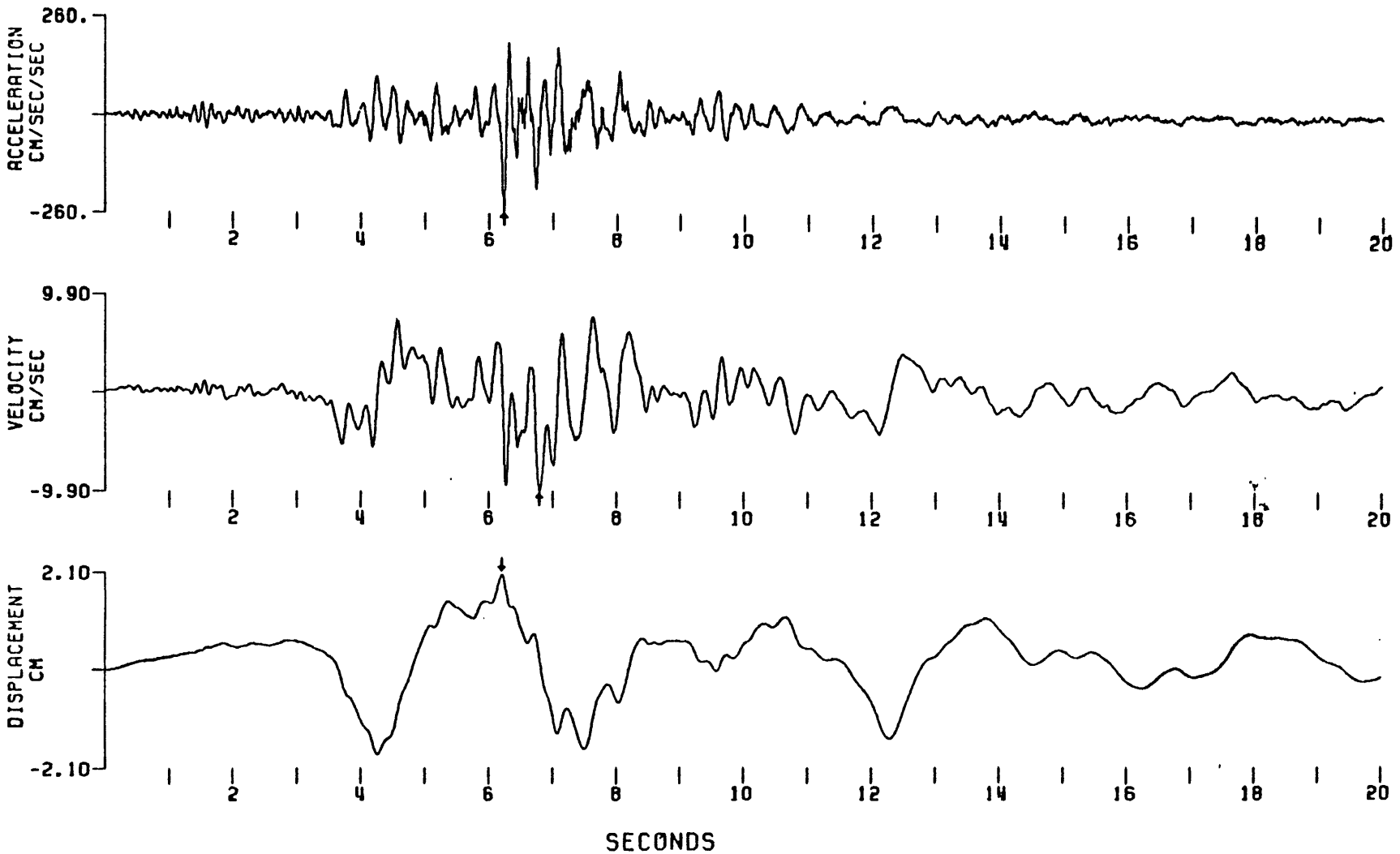
CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT 200.00 SPS
PLEASANT VALLEY PUMPING PLANT (FREEFIELD)
UP
EARTHQUAKE OF JULY 22, 1983 0239 UTC
BUTTERWORTH FILTER AT 0.20 HZ, ORDER 8
PEAK VALUES: ACCEL=126.92 CM/SEC/SEC, VELOCITY=6.56 CM/SEC, DISPL=1.69 CM



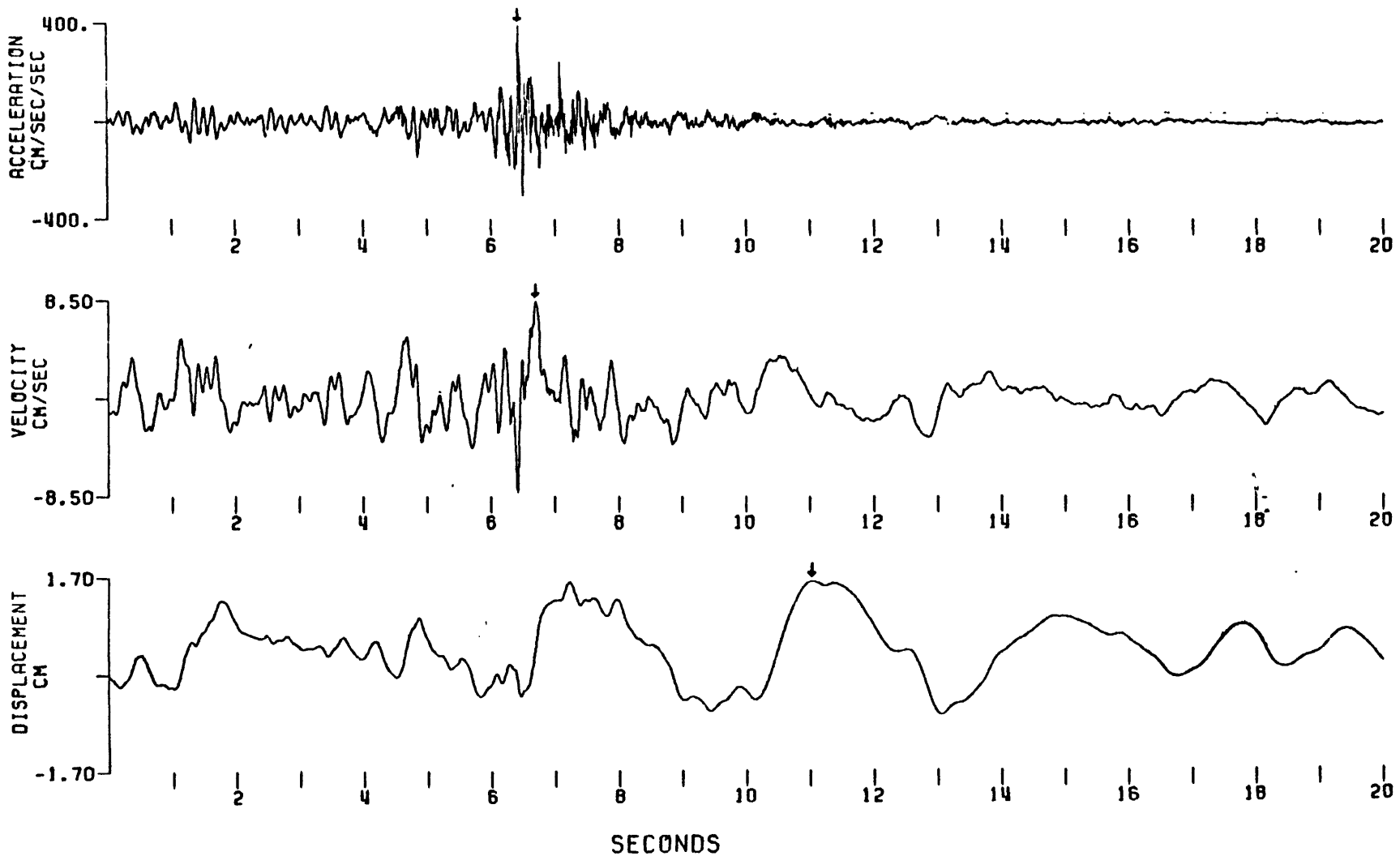
CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT 200.00 SPS
PLEASANT VALLEY PUMPING PLANT (FREEFIELD)
270 DEGREES
EARTHQUAKE OF JULY 22, 1983 0239 UTC
BUTTERWORTH FILTER AT 0.20 HZ, ORDER 8
PEAK VALUES: ACCEL=-230.55 CM/SEC/SEC, VELOCITY=19.44 CM/SEC, DISPL=-4.12 CM



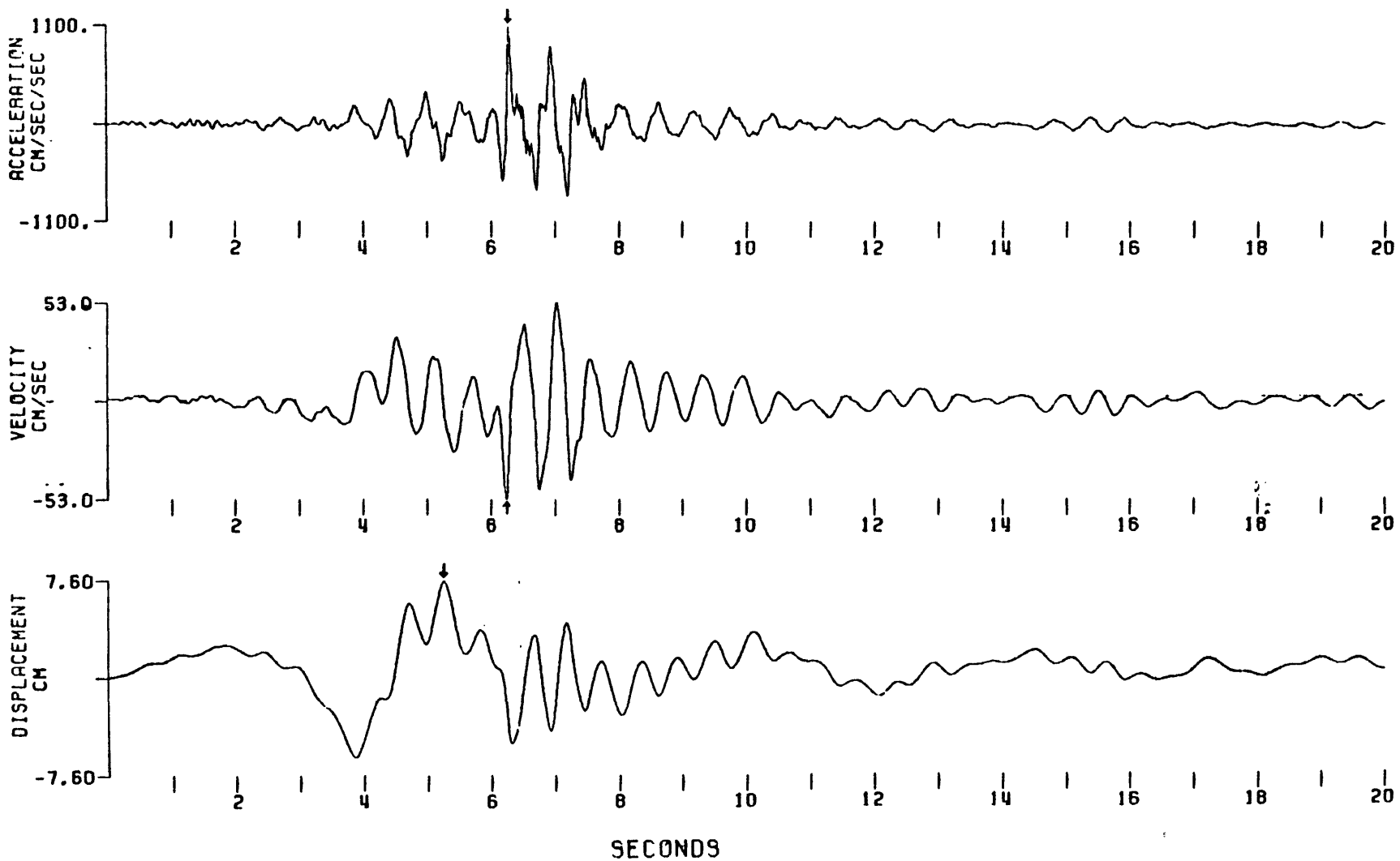
CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT 200.00 SPS
PLEASANT VALLEY PUMPING PLANT ROOF
135 DEGREES
EARTHQUAKE OF JULY 22, 1983 0239 UTC
BUTTERWORTH FILTER AT 0.20 HZ, ORDER 8
PEAK VALUES: ACCEL=-250.83 CM/SEC/SEC, VELOCITY=-9.85 CM/SEC, DISPL=2.06 CM



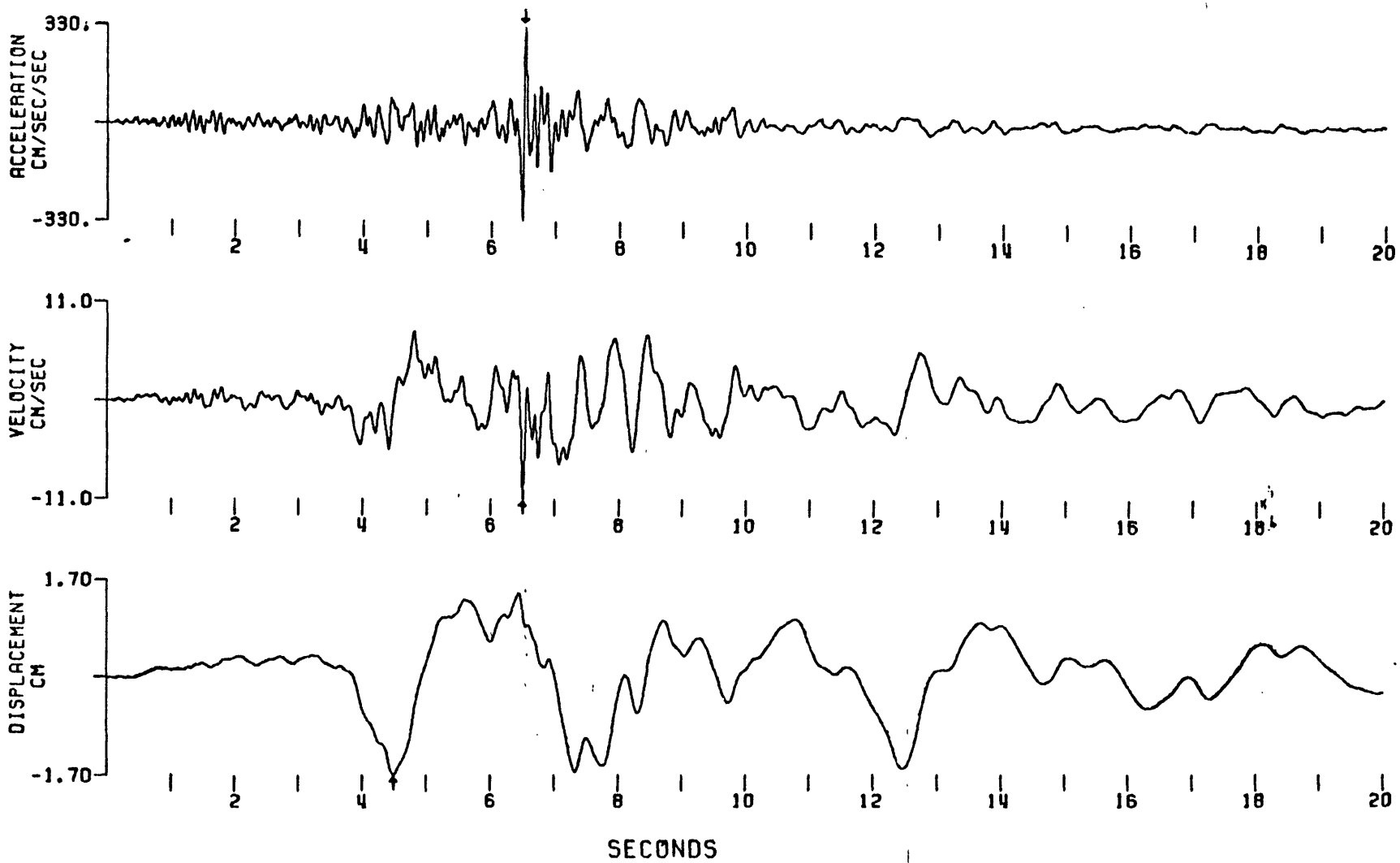
CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT 200.00 SPS
PLEASANT VALLEY PUMPING PLANT ROOF
UP
EARTHQUAKE OF JULY 22, 1983 0239 UTC
BUTTERWORTH FILTER AT 0.20 HZ, ORDER 8
PEAK VALUES: ACCEL=391.28 CM/SEC/SEC, VELOCITY=8.49 CM/SEC, DISPL=1.64 CM



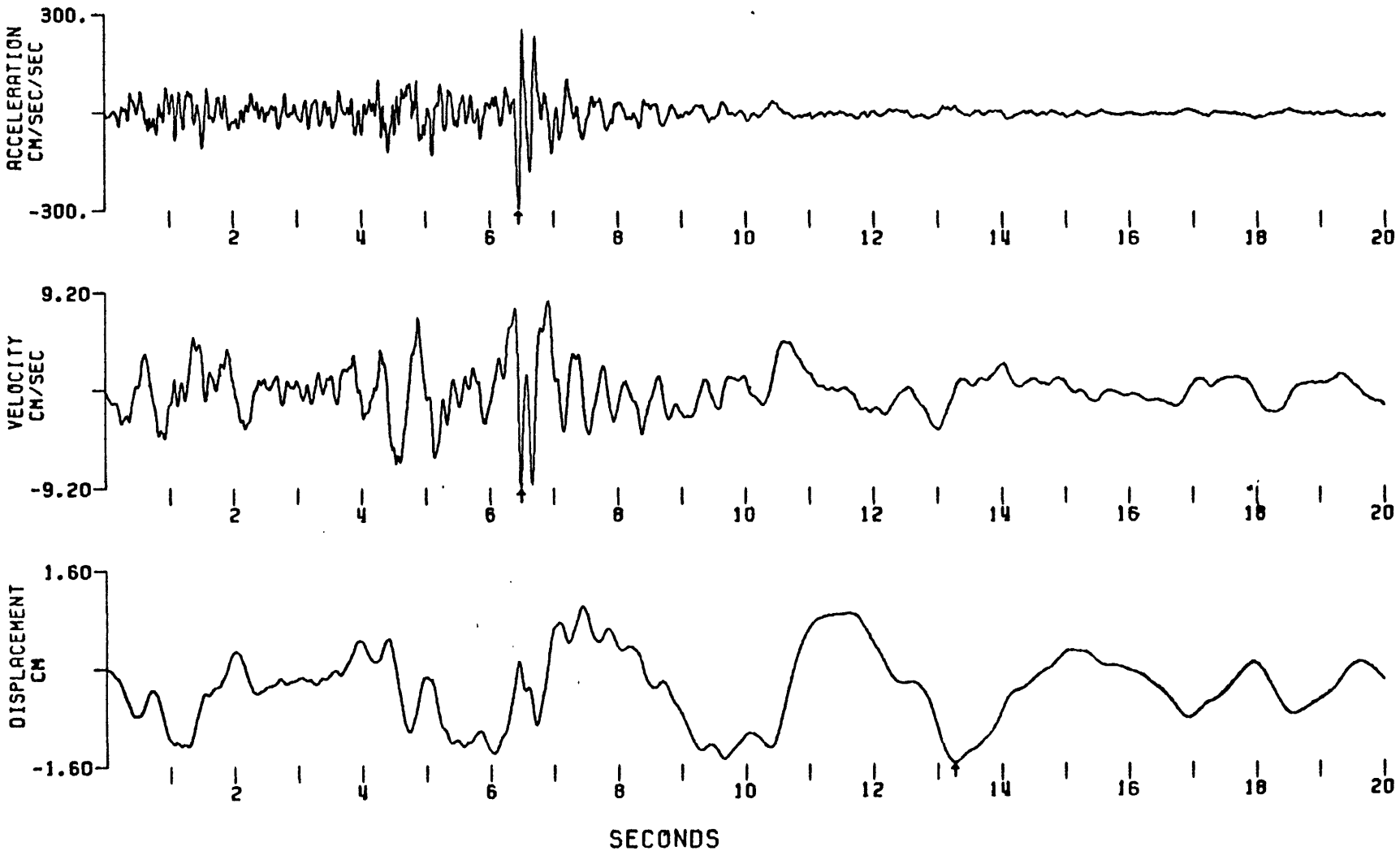
CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT 200.00 SPS
PLEASANT VALLEY PUMPING PLANT ROOF
045 DEGREES
EARTHQUAKE OF JULY 22, 1983 0239 UTC
BUTTERWORTH FILTER AT 0.20 HZ, ORDER 8
PEAK VALUES: ACCEL=1083.27 CM/SEC/SEC, VELOCITY=-52.97 CM/SEC, DISPL=7.51 CM



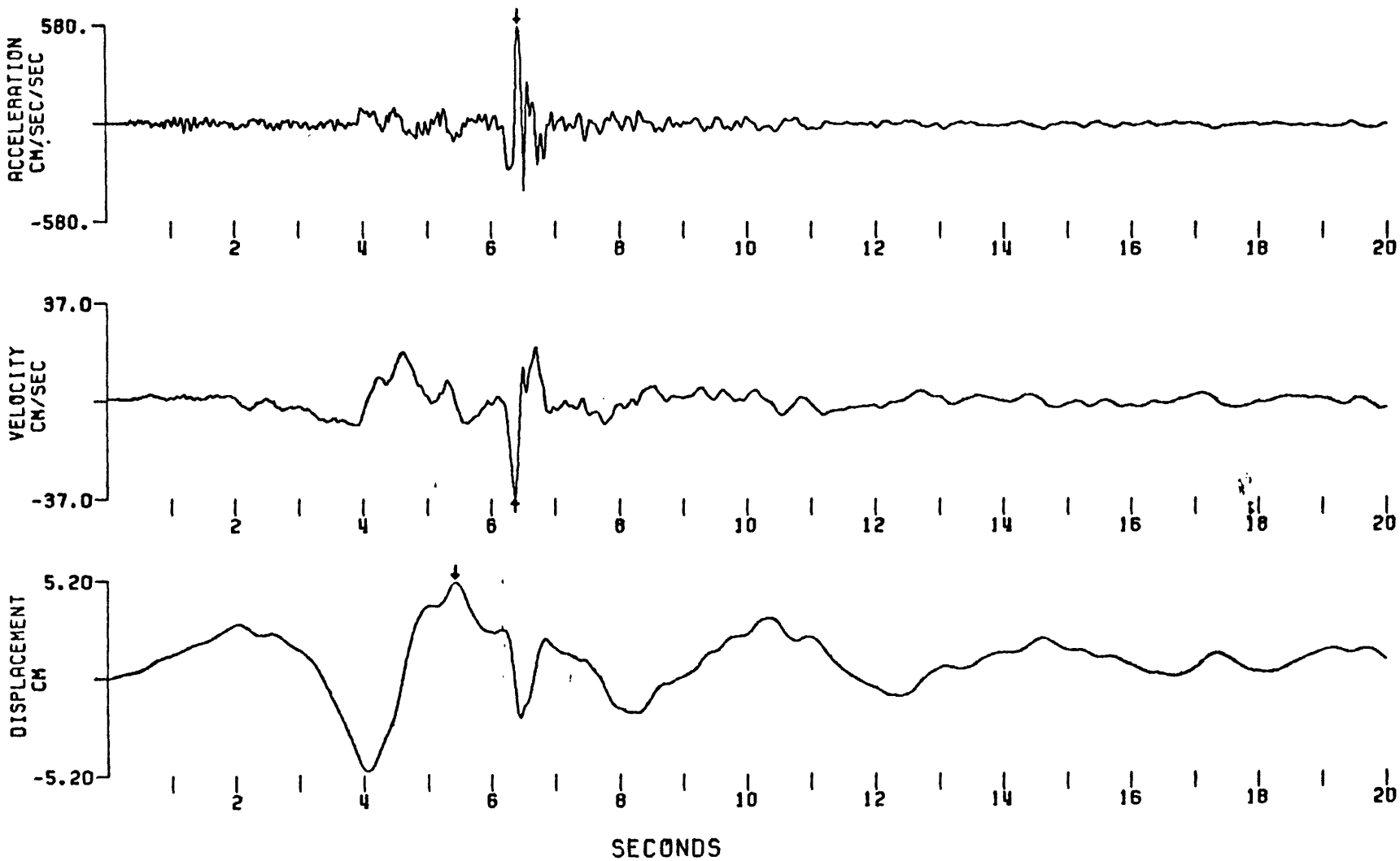
CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT 200.00 SPS
PLEASANT VALLEY PUMPING PLANT (SWITCHYARD)
135 DEGREES
EARTHQUAKE OF JULY 22, 1983 0239 UTC
BUTTERWORTH FILTER AT 0.20 HZ, ORDER 8
PEAK VALUES: ACCEL=327.42 CM/SEC/SEC, VELOCITY=-10.95 CM/SEC, DISPL=-1.69 CM



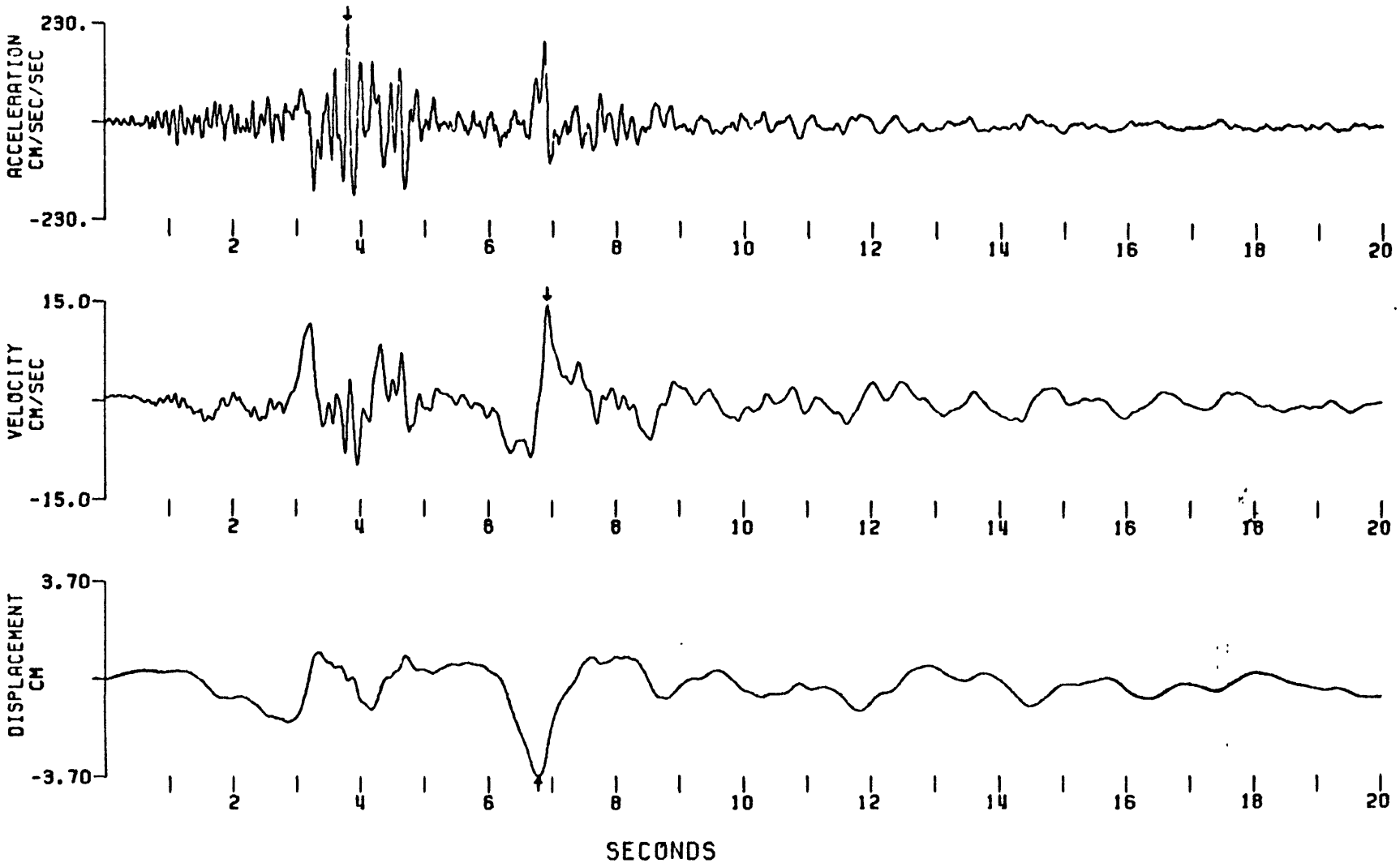
CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT 200.00 SPS
PLEASANT VALLEY PUMPING PLANT (SWITCHYARD)
UP
EARTHQUAKE OF JULY 22, 1983 0239 UTC
BUTTERWORTH FILTER AT 0.20 HZ, ORDER 8
PEAK VALUES: ACCEL=-293.25 CM/SEC/SEC, VELOCITY=-9.15 CM/SEC, DISPL=-1.57 CM



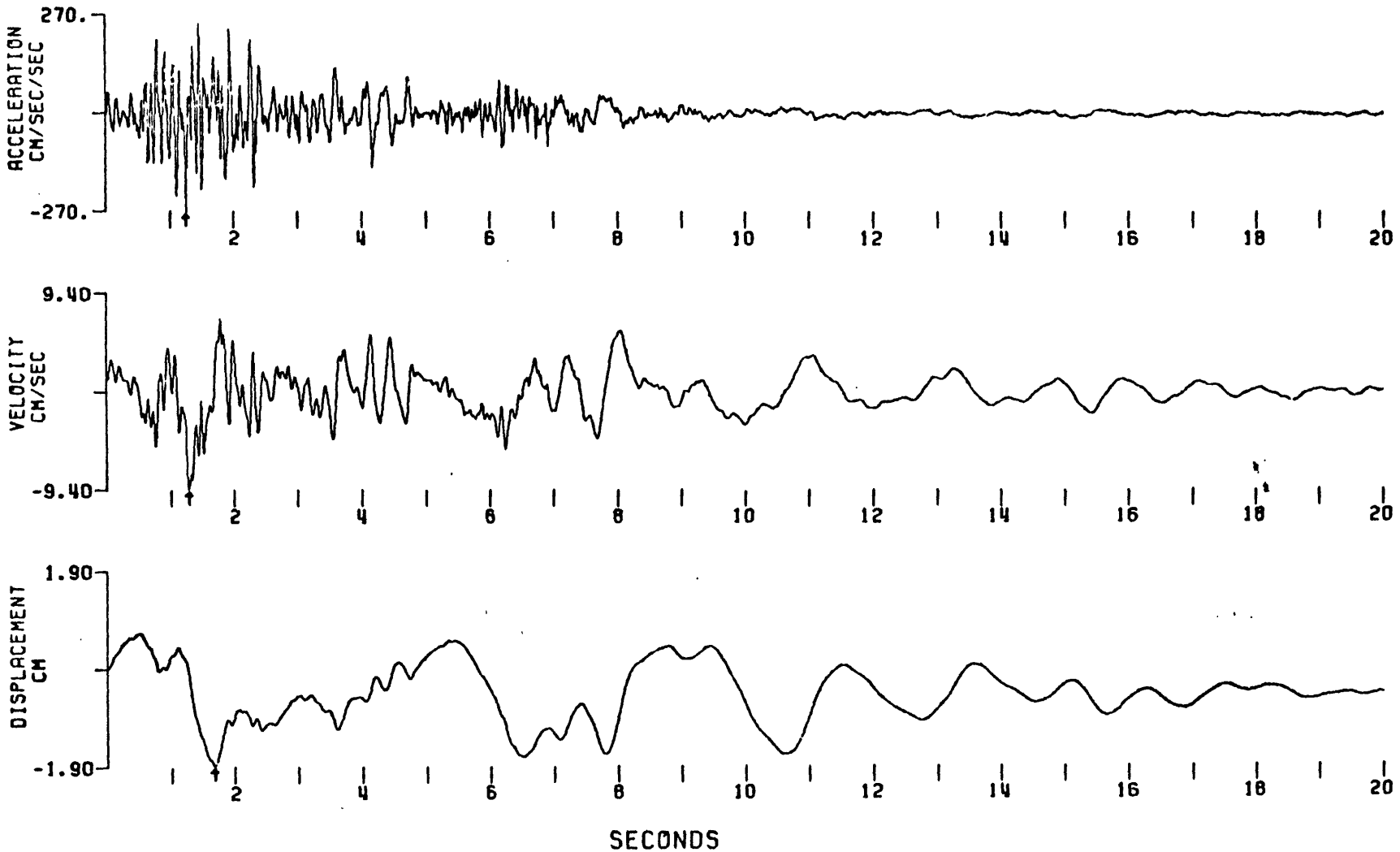
CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT 200.00 SPS
PLEASANT VALLEY PUMPING PLANT (SWITCHYARD)
045 DEGREES
EARTHQUAKE OF JULY 22, 1983 0239 UTC
BUTTERWORTH FILTER AT 0.20 HZ, ORDER 8
PEAK VALUES: ACCEL=575.38 CM/SEC/SEC, VELOCITY=-36.07 CM/SEC, DISPL=5.11 CM



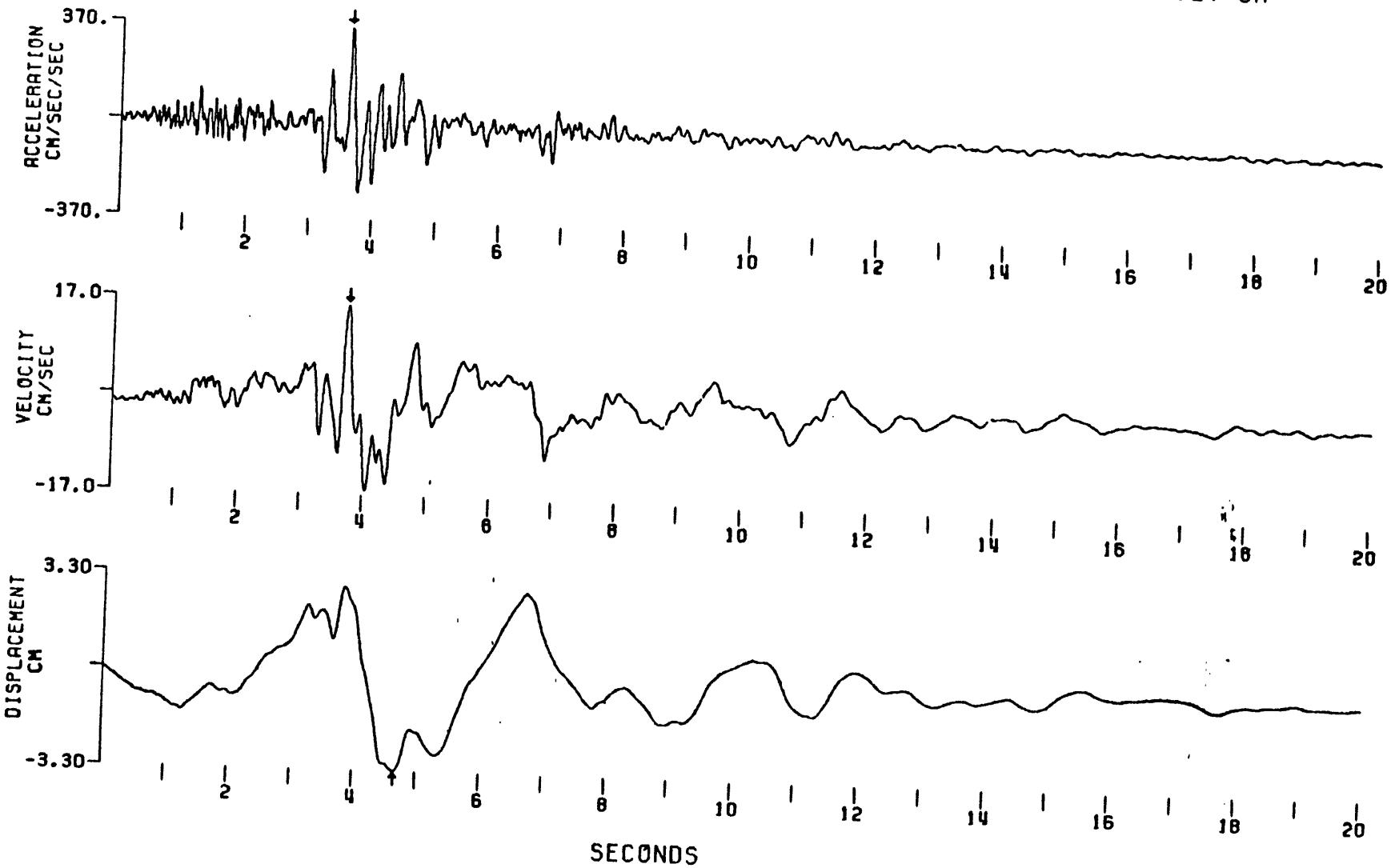
CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT 200.00 SPS
COALINGA, SKUNK HOLLOW
360 DEGREES
EARTHQUAKE OF JULY 22, 1983 0239 UTC
BUTTERWORTH FILTER AT 0.20 HZ, ORDER 8
PEAK VALUES: ACCEL=229.84 CM/SEC/SEC, VELOCITY=14.86 CM/SEC, DISPL=-3.65 CM



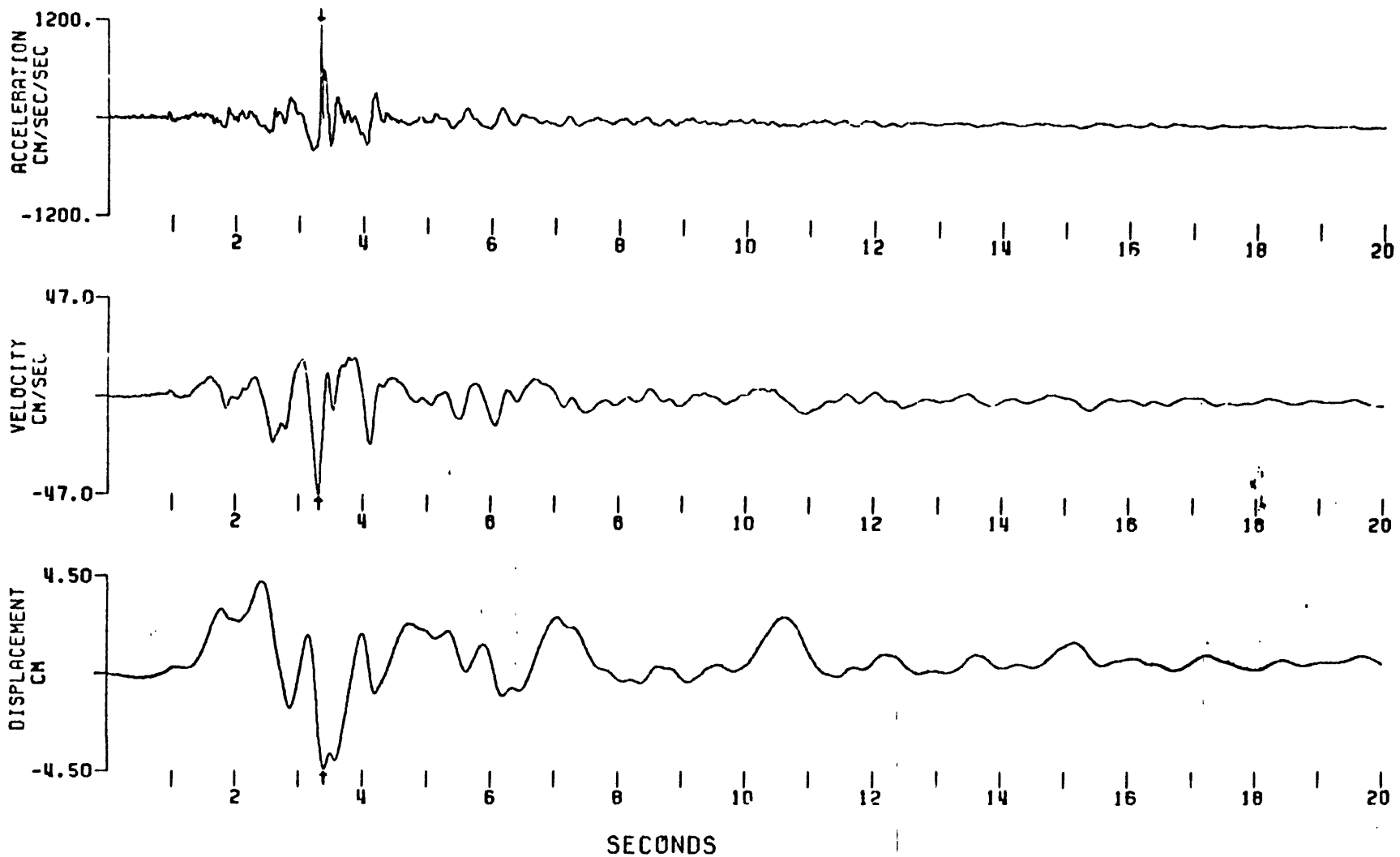
CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT 200.00 SPS
COALINGA, SKUNK HOLLOW
UP
EARTHQUAKE OF JULY 22, 1983 0239 UTC
BUTTERWORTH FILTER AT 0.20 HZ, ORDER 8
PEAK VALUES: ACCEL=-268.67 CM/SEC/SEC, VELOCITY=-9.36 CM/SEC, DISPL=-1.87 CM



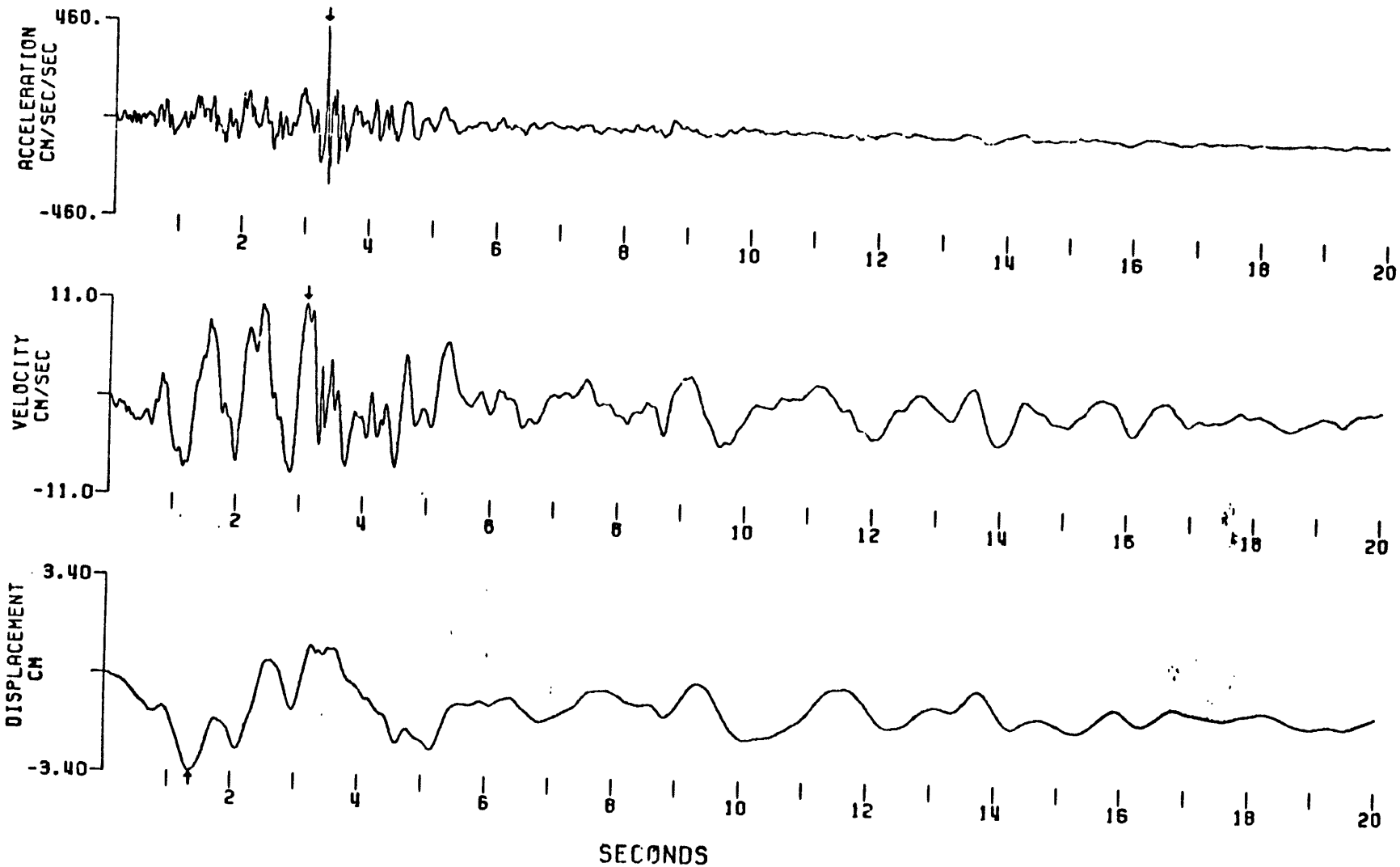
CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT 200.00 SPS
COALINGA, SKUNK HOLLOW
270 DEGREES
EARTHQUAKE OF JULY 22, 1983 0239 UTC
BUTTERWORTH FILTER AT 0.20 HZ, ORDER 8
PEAK VALUES: ACCEL=365.33 CM/SEC/SEC, VELOCITY=16.23 CM/SEC, DISPL=-3.27 CM



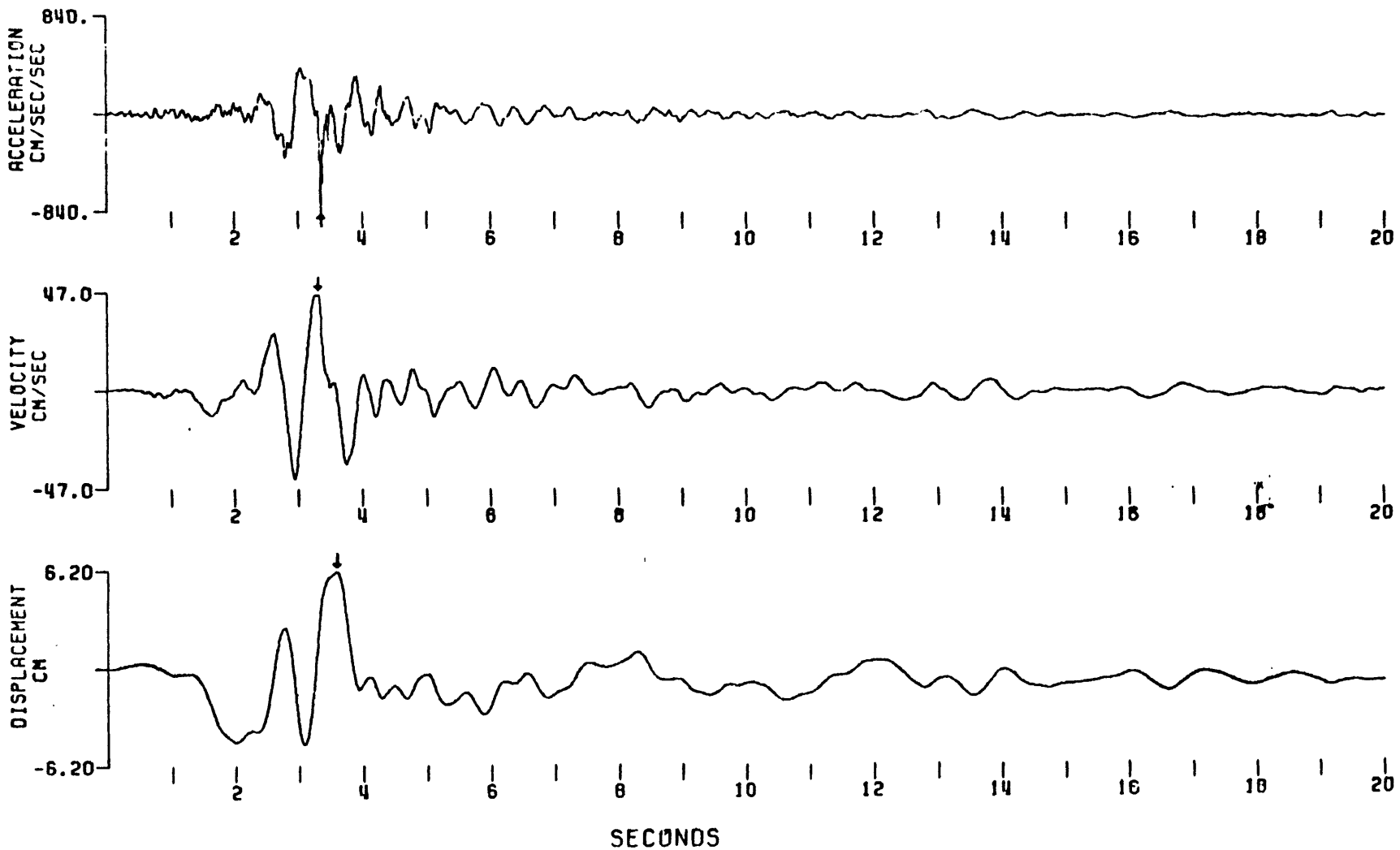
CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT 200.00 SPS
COALINGA, TRANSMITTER HILL
360 DEGREES
EARTHQUAKE OF JULY 22, 1983 0239 UTC
BUTTERWORTH FILTER AT 0.20 HZ, ORDER 8
PEAK VALUES: ACCEL=1145.73 CM/SEC/SEC, VELOCITY=-46.82 CM/SEC, DISPL=-4.40 CM

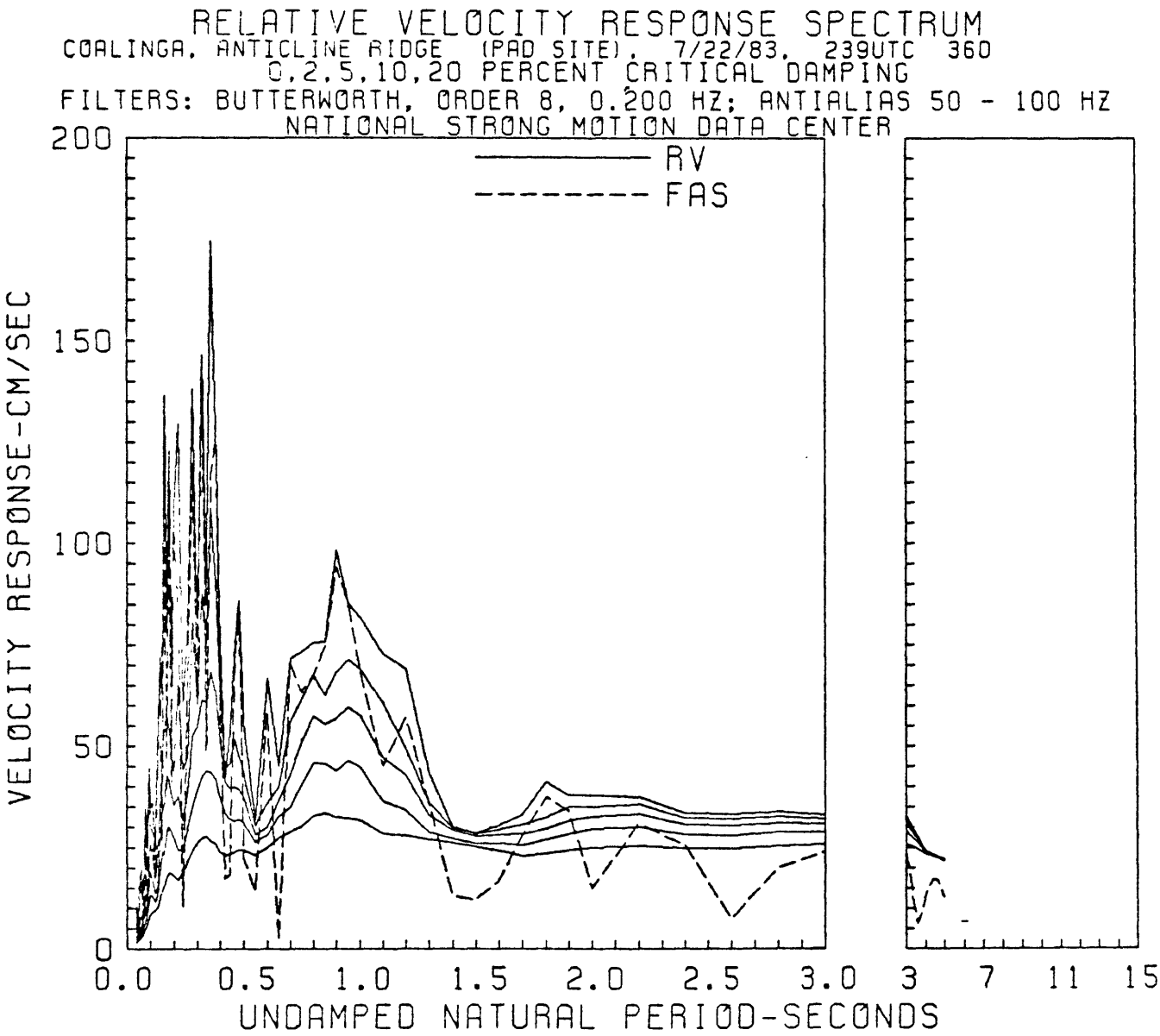


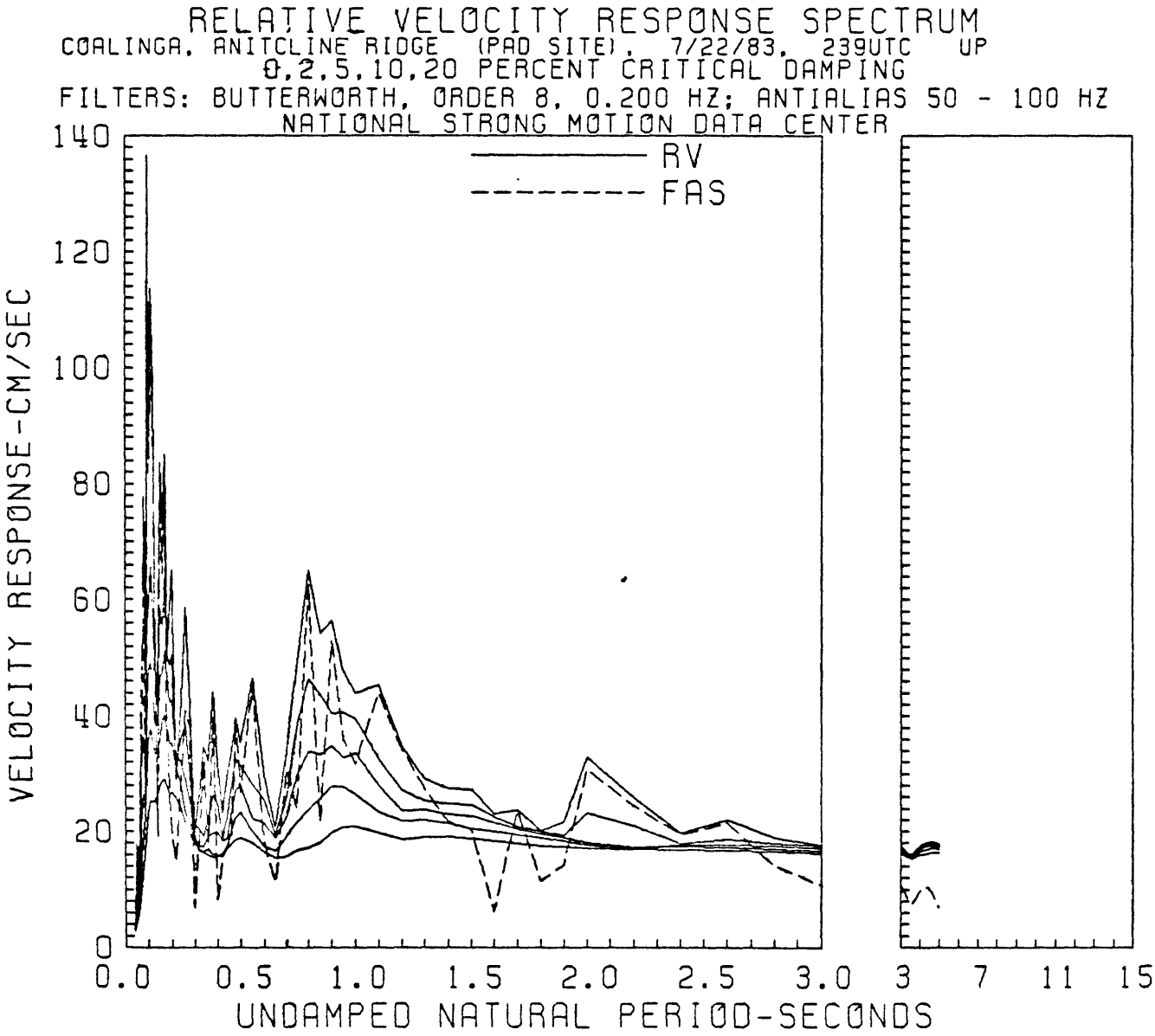
CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT 200.00 SPS
COALINGA, TRANSMITTER HILL
UP
EARTHQUAKE OF JULY 22, 1983 0239 UTC
BUTTERWORTH FILTER AT 0.20 HZ, ORDER 8
PEAK VALUES: ACCEL=450.54 CM/SEC/SEC, VELOCITY=10.65 CM/SEC, DISPL=-3.37 CM

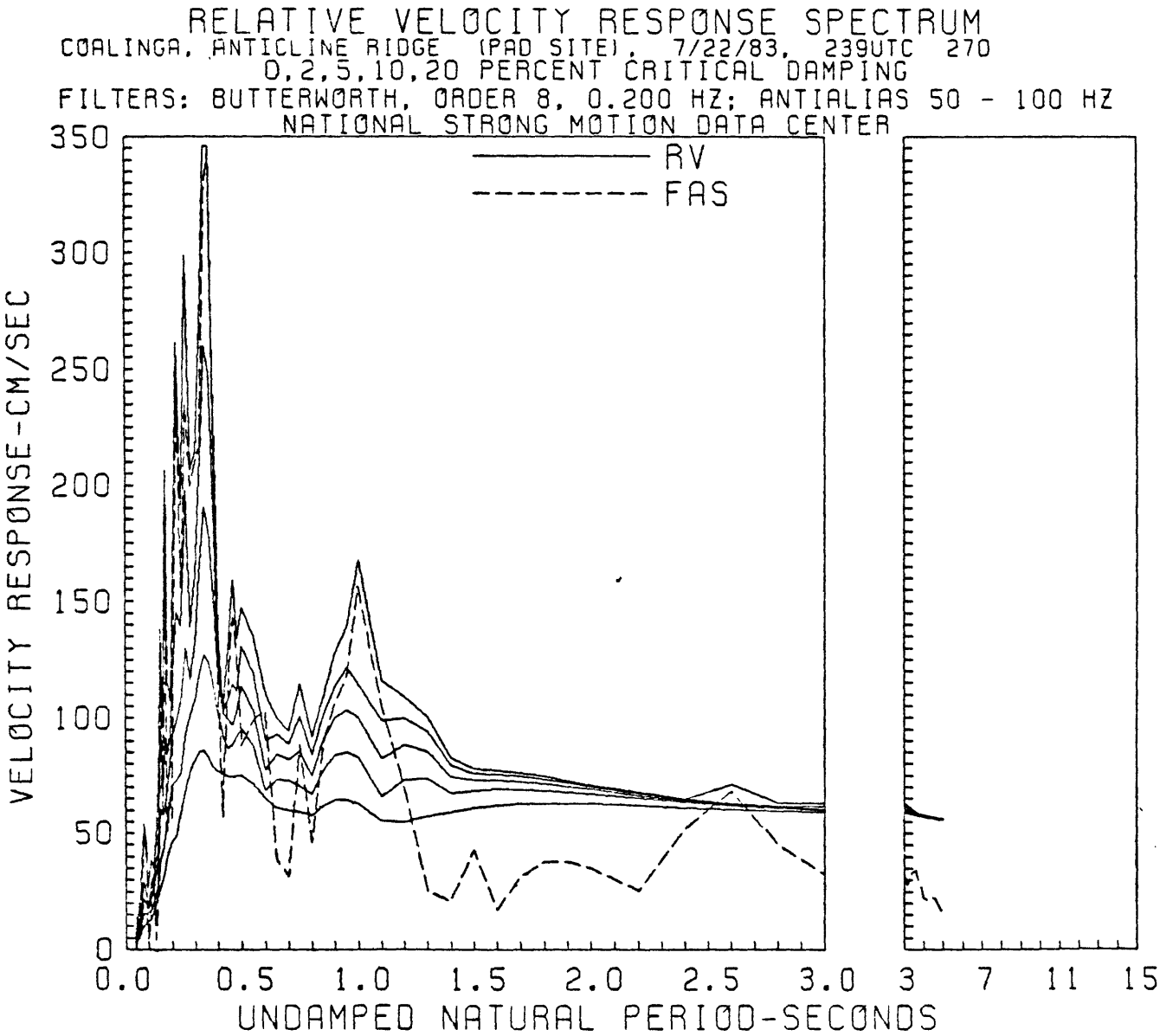


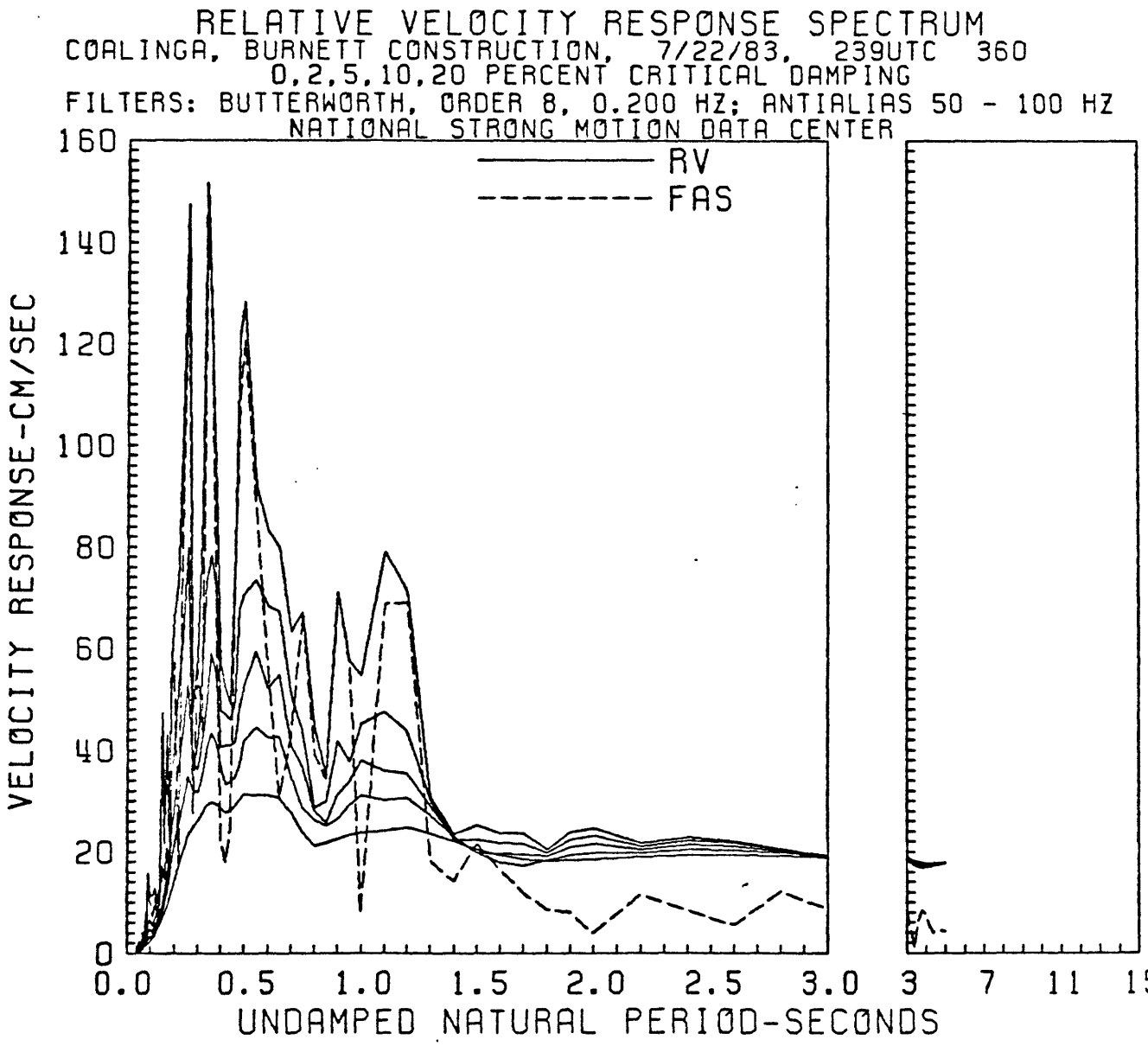
CORRECTED ACCELERATION, VELOCITY, AND DISPLACEMENT 200.00 SPS
COALINGA, TRANSMITTER HILL
270 DEGREES
EARTHQUAKE OF JULY 22, 1983 0239 UTC
BUTTERWORTH FILTER AT 0.20 HZ, ORDER 8
PEAK VALUES: ACCEL=-834.62 CM/SEC/SEC, VELOCITY=46.58 CM/SEC, DISPL=6.15 CM

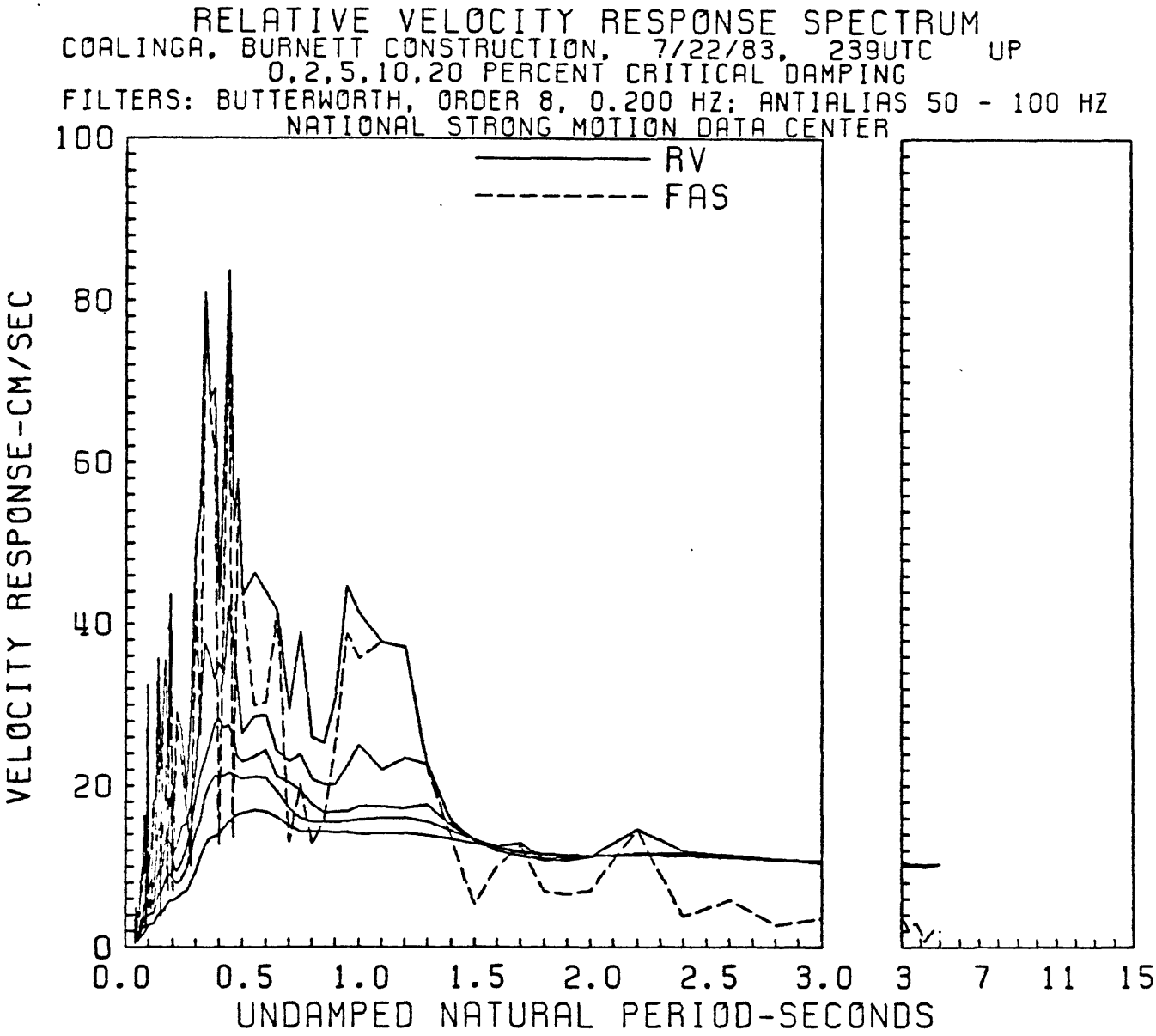


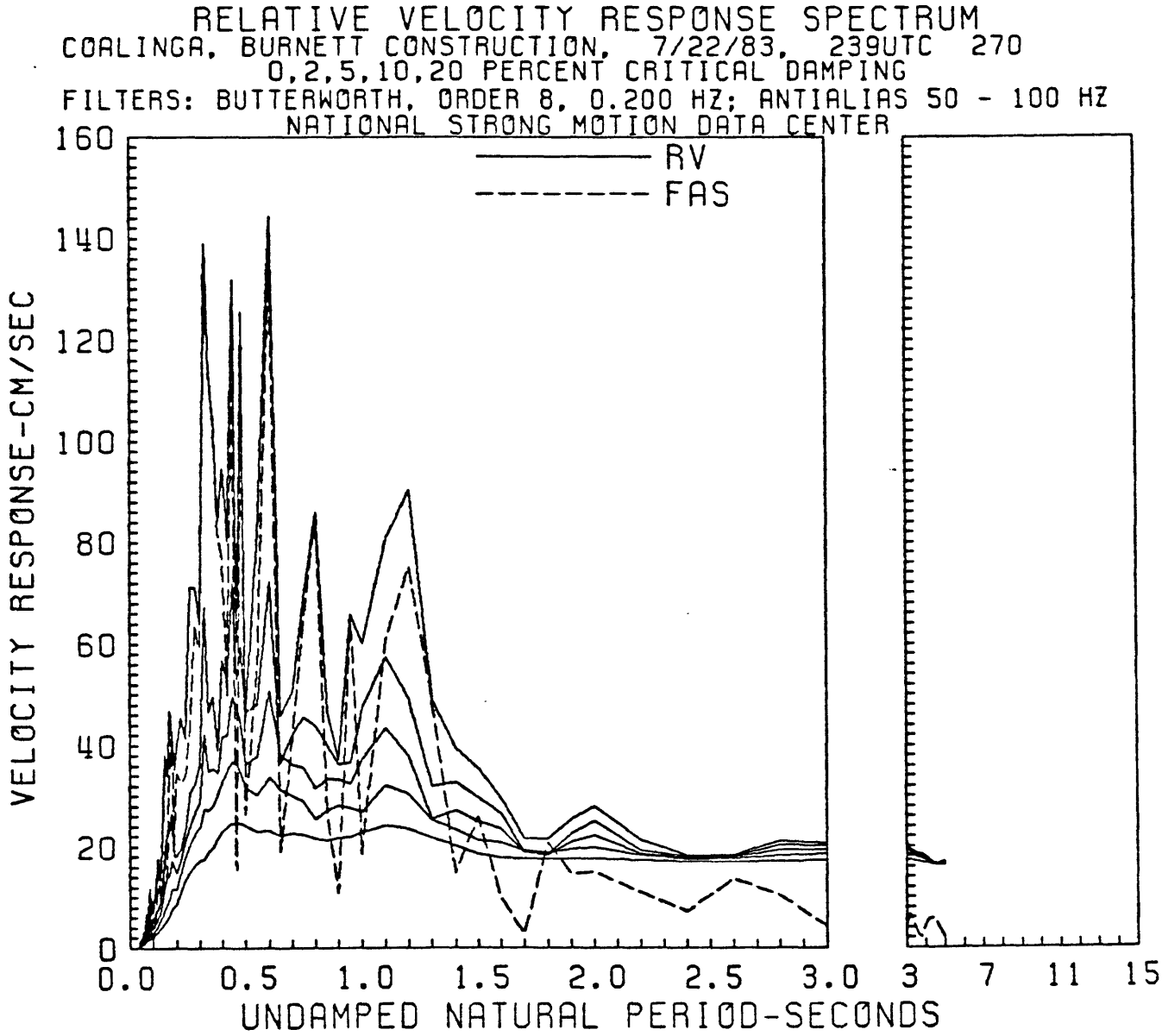

RELATIVE VELOCITY RESPONSE SPECTRUM
COALINGA, ANTICLINE RIDGE (PAD SITE), 7/22/83, 239UTC 360
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
200
150
100
50
0
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15
UNDAMPED NATURAL PERIOD-SECONDS

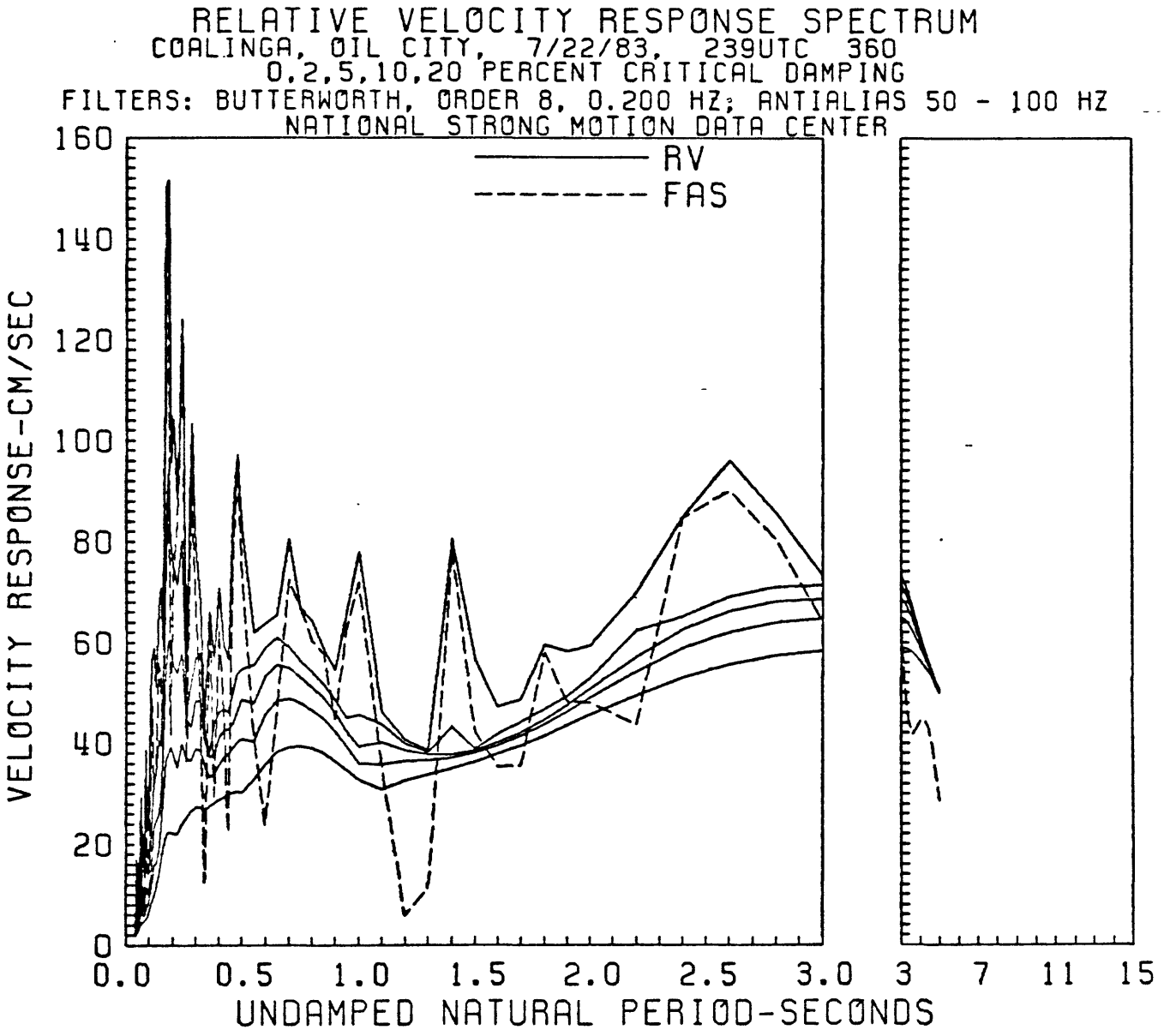

RELATIVE VELOCITY RESPONSE SPECTRUM
COALINGA, ANITCLINE RIDGE (PAD SITE), 7/22/83, 239UTC UP
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
0
20
40
60
80
100
120
140
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15
UNDAMPED NATURAL PERIOD-SECONDS

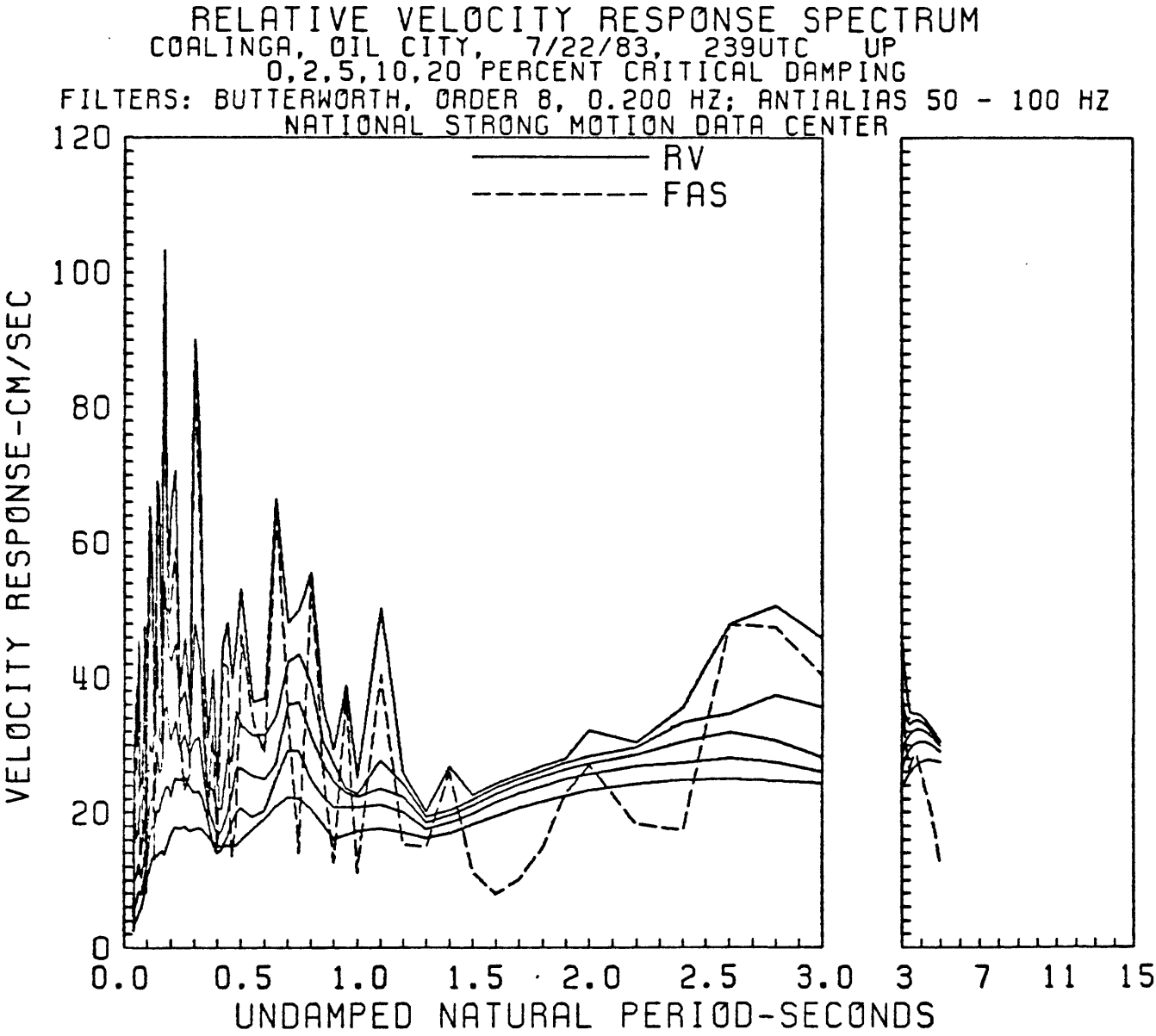

RELATIVE VELOCITY RESPONSE SPECTRUM
COALINGA, ANTICLINE RIDGE (PAD SITE), 7/22/83, 239UTC 270
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
350
300
250
200
150
100
50
0
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15
UNDAMPED NATURAL PERIOD-SECONDS

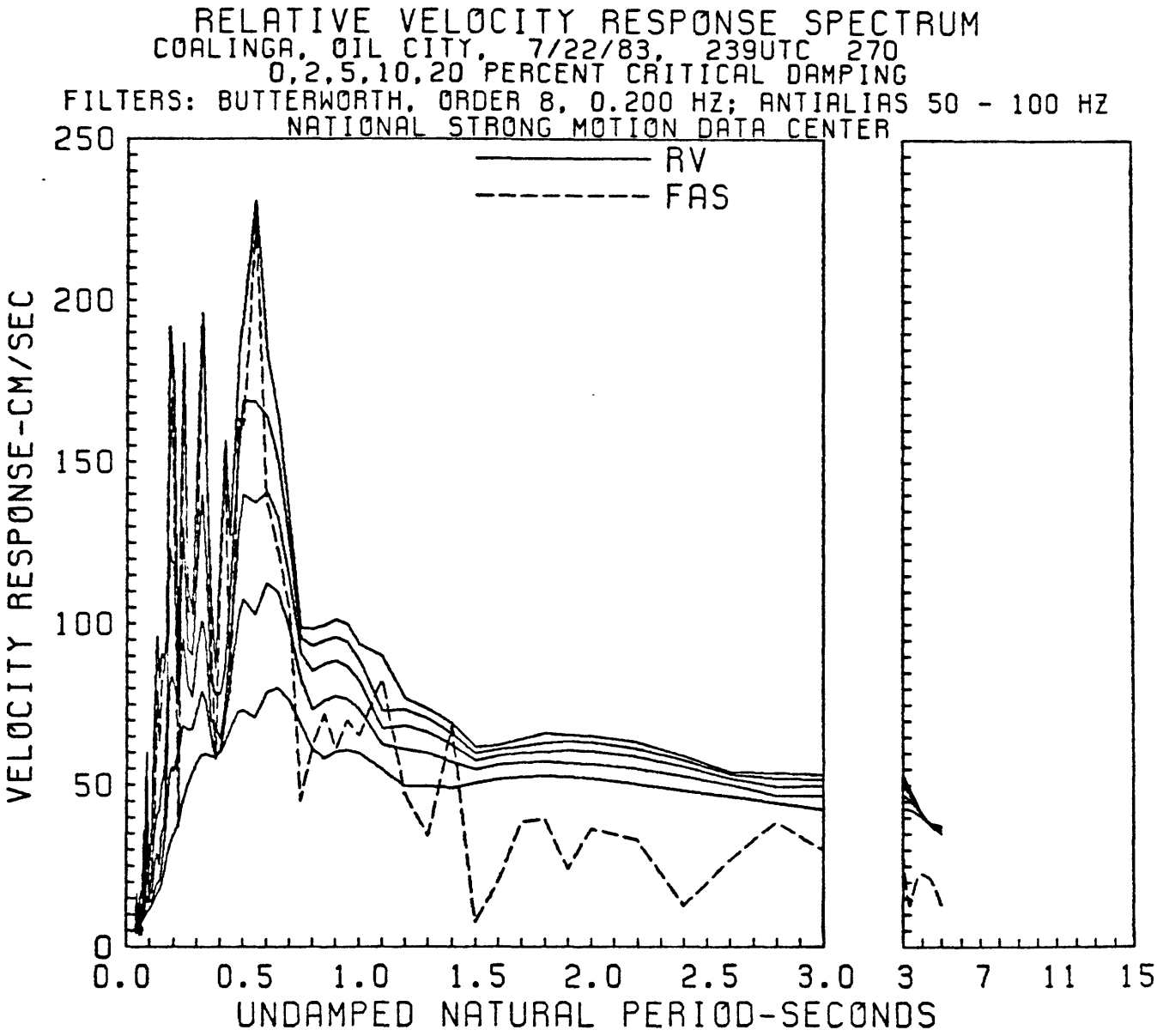

RELATIVE VELOCITY RESPONSE SPECTRUM
COALINGA, BURNETT CONSTRUCTION, 7/22/83, 239UTC 360
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
160
140
120
100
80
60
40
20
0
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15
UNDAMPED NATURAL PERIOD-SECONDS

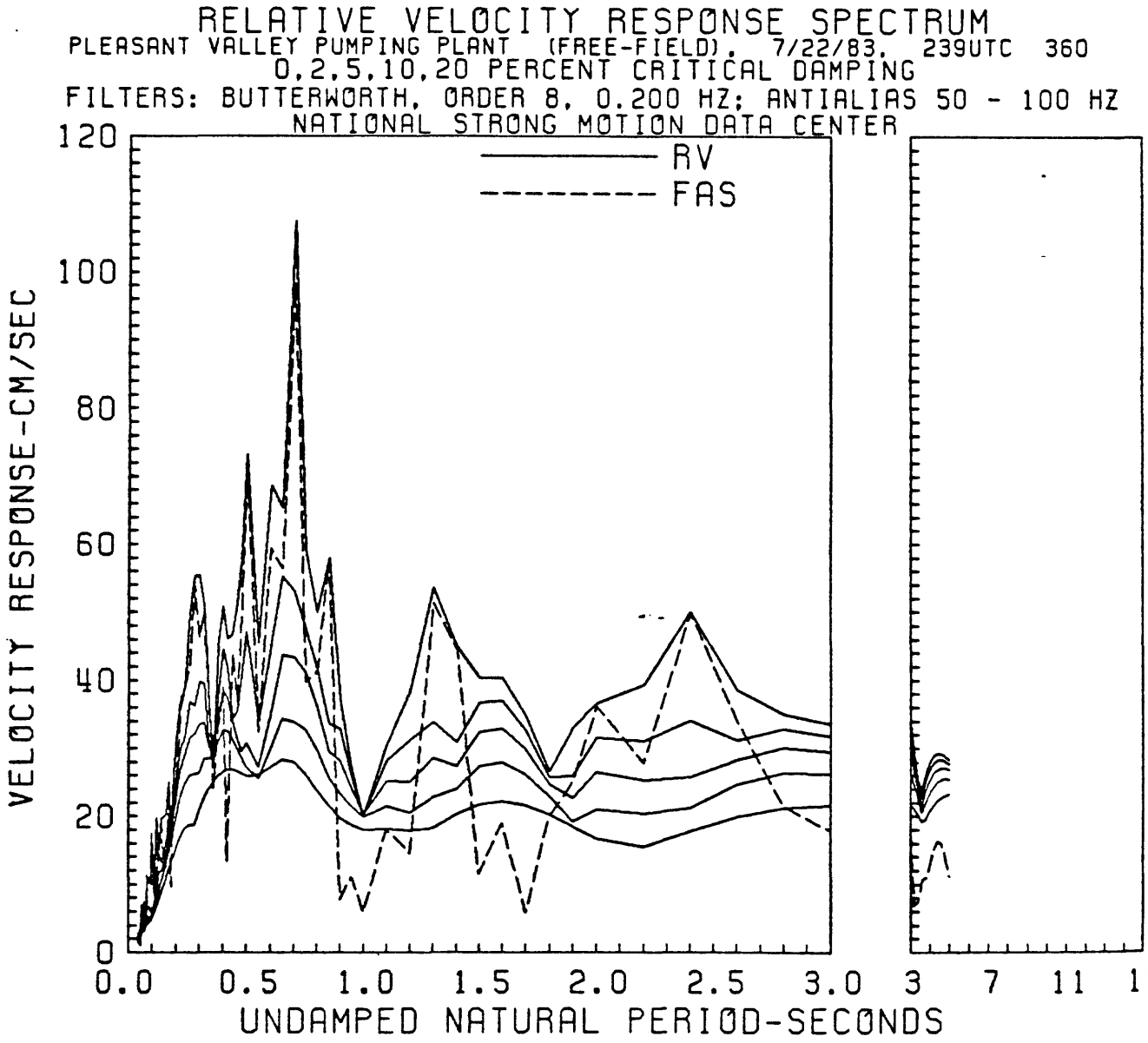

RELATIVE VELOCITY RESPONSE SPECTRUM
COALINGA, BURNETT CONSTRUCTION, 7/22/83, 239UTC UP
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
100
80
60
40
20
0
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15
UNDAMPED NATURAL PERIOD-SECONDS

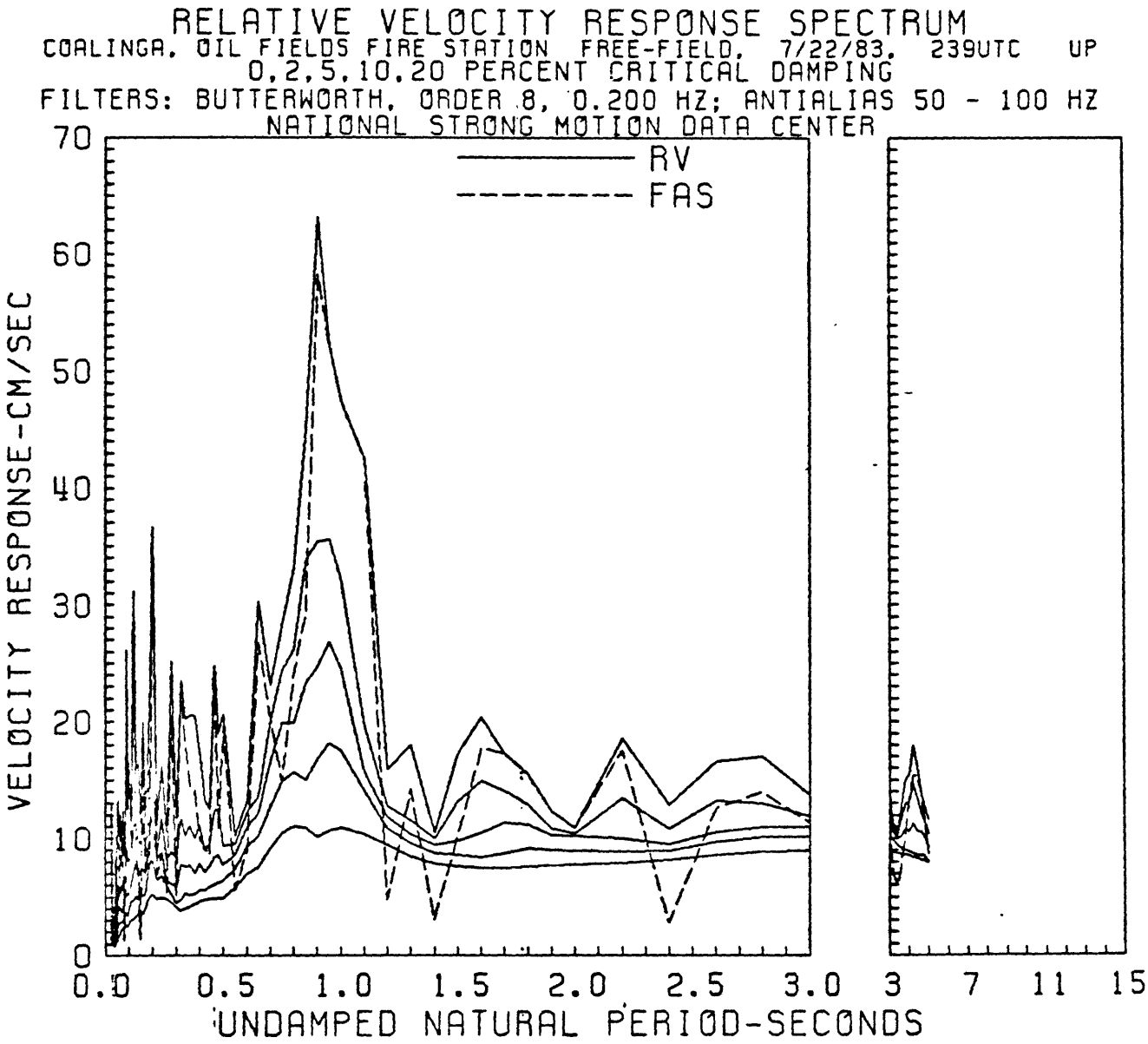

RELATIVE VELOCITY RESPONSE SPECTRUM
COALINGA, BURNETT CONSTRUCTION, 7/22/83, 239UTC 270
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
160
140
120
100
80
60
40
20
0
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15
UNDAMPED NATURAL PERIOD-SECONDS

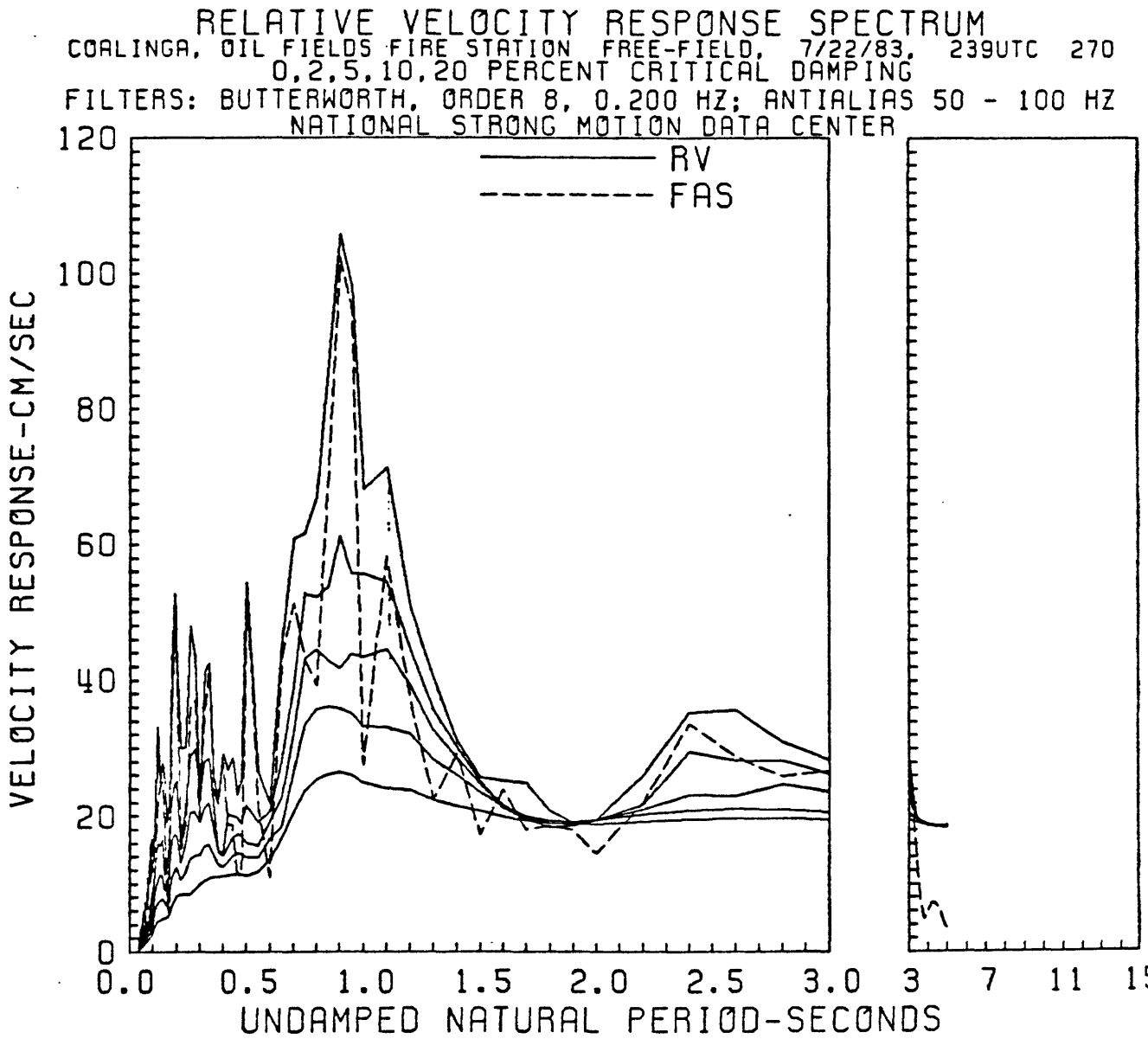

RELATIVE VELOCITY RESPONSE SPECTRUM
COALINGA, OIL CITY, 7/22/83, 239UTC 360
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
0
20
40
60
80
100
120
140
160
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15
UNDAMPED NATURAL PERIOD-SECONDS

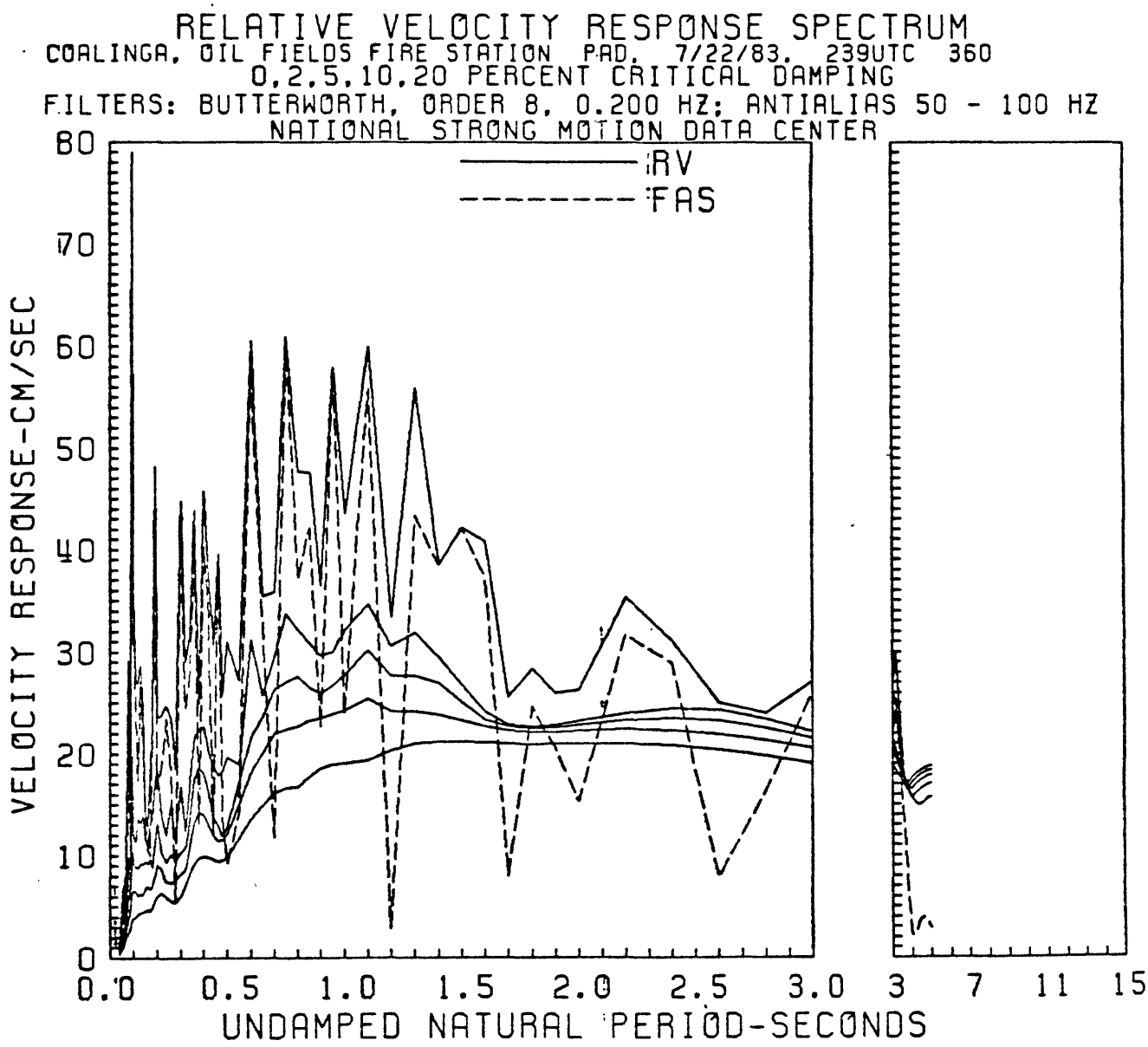

RELATIVE VELOCITY RESPONSE SPECTRUM
COALINGA, OIL CITY, 7/22/83, 239UTC UP
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
120
100
80
60
40
20
0
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15
UNDAMPED NATURAL PERIOD-SECONDS

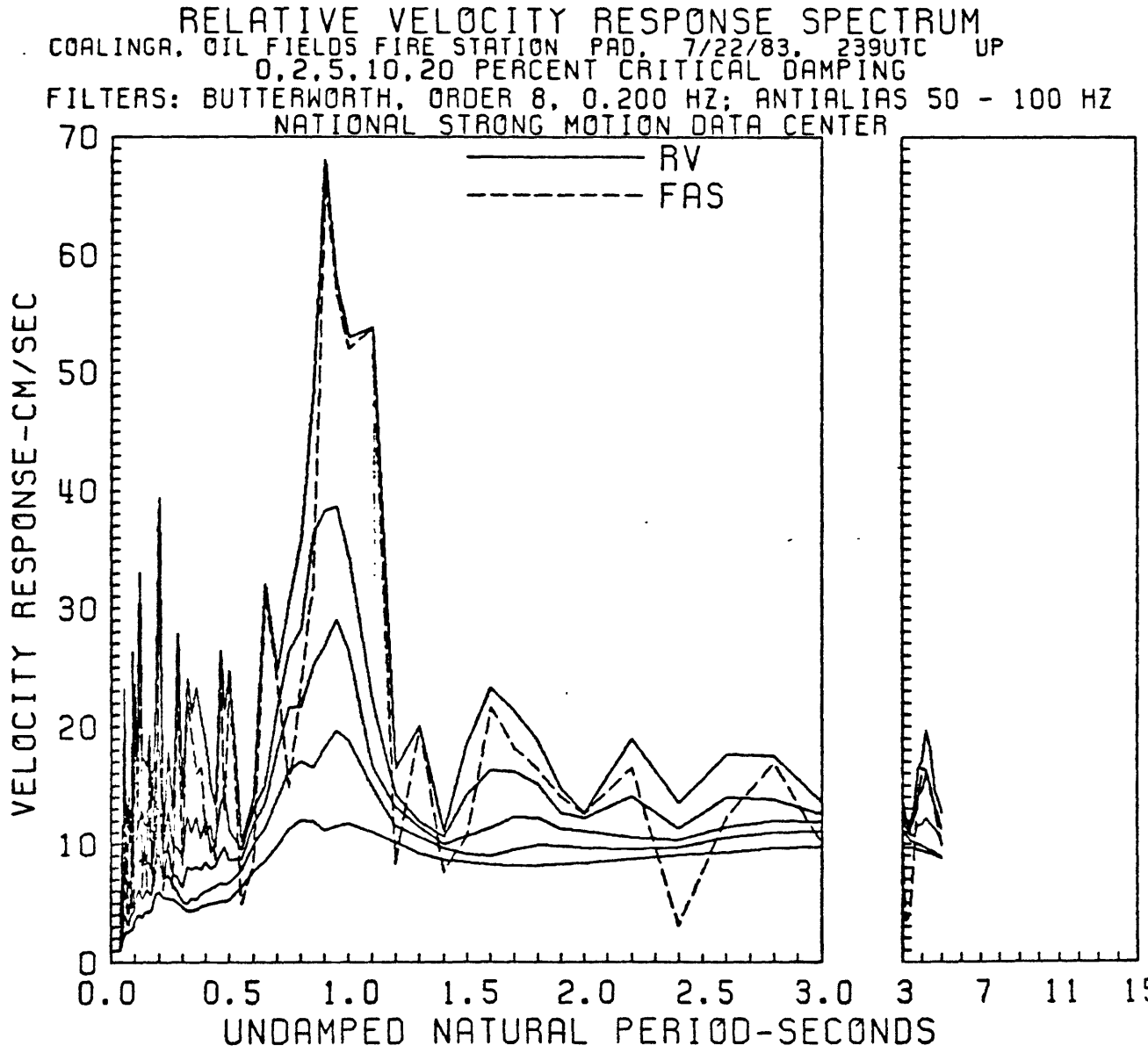

RELATIVE VELOCITY RESPONSE SPECTRUM
COALINGA, OIL CITY, 7/22/83, 239UTC 270
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
250
200
150
100
50
0
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15
UNDAMPED NATURAL PERIOD-SECONDS

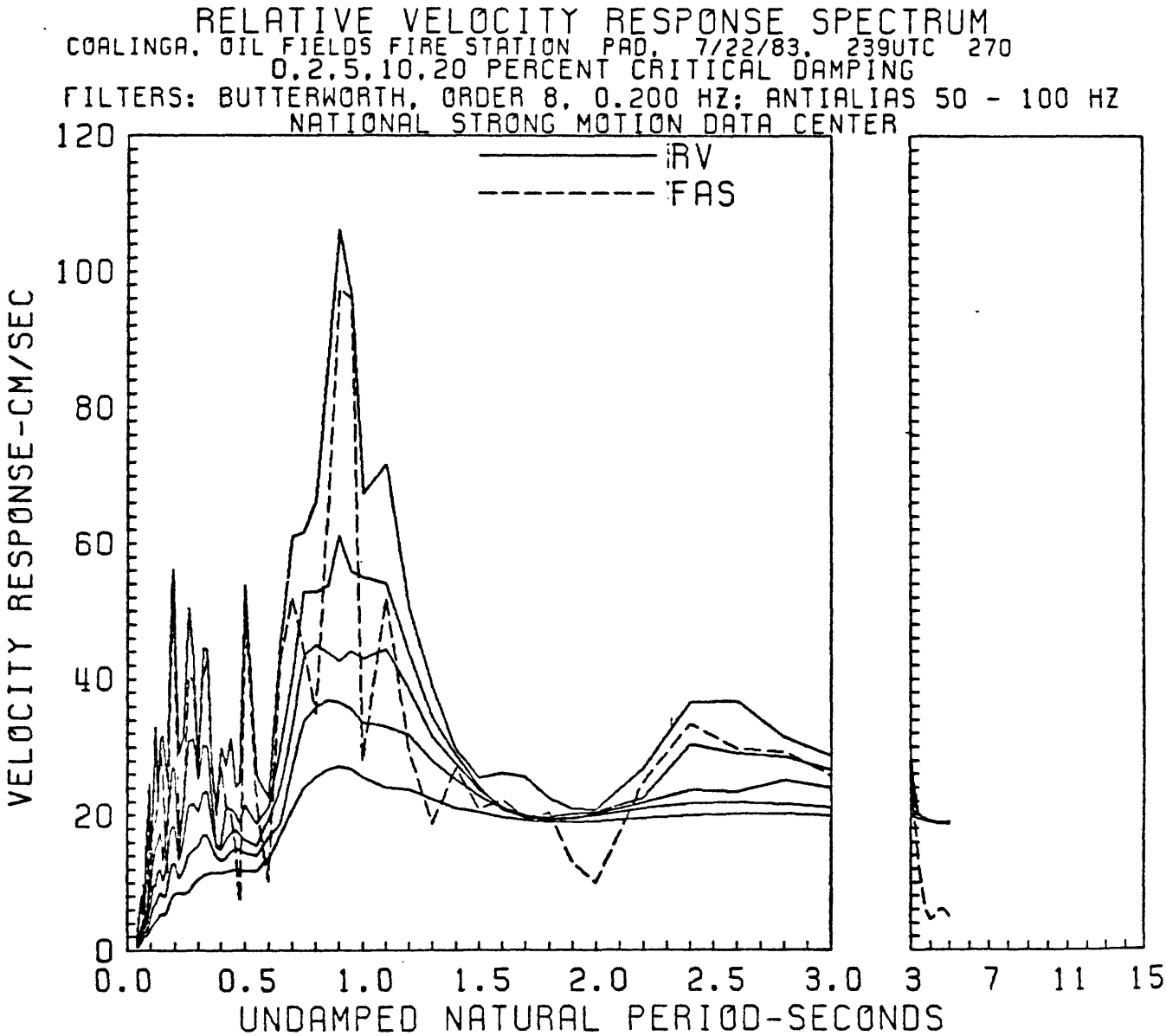

RELATIVE VELOCITY RESPONSE SPECTRUM
PLEASANT VALLEY PUMPING PLANT (FREE-FIELD), 7/22/83, 239UTC 360
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
120
100
80
60
40
20
0
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15
UNDAMPED NATURAL PERIOD-SECONDS

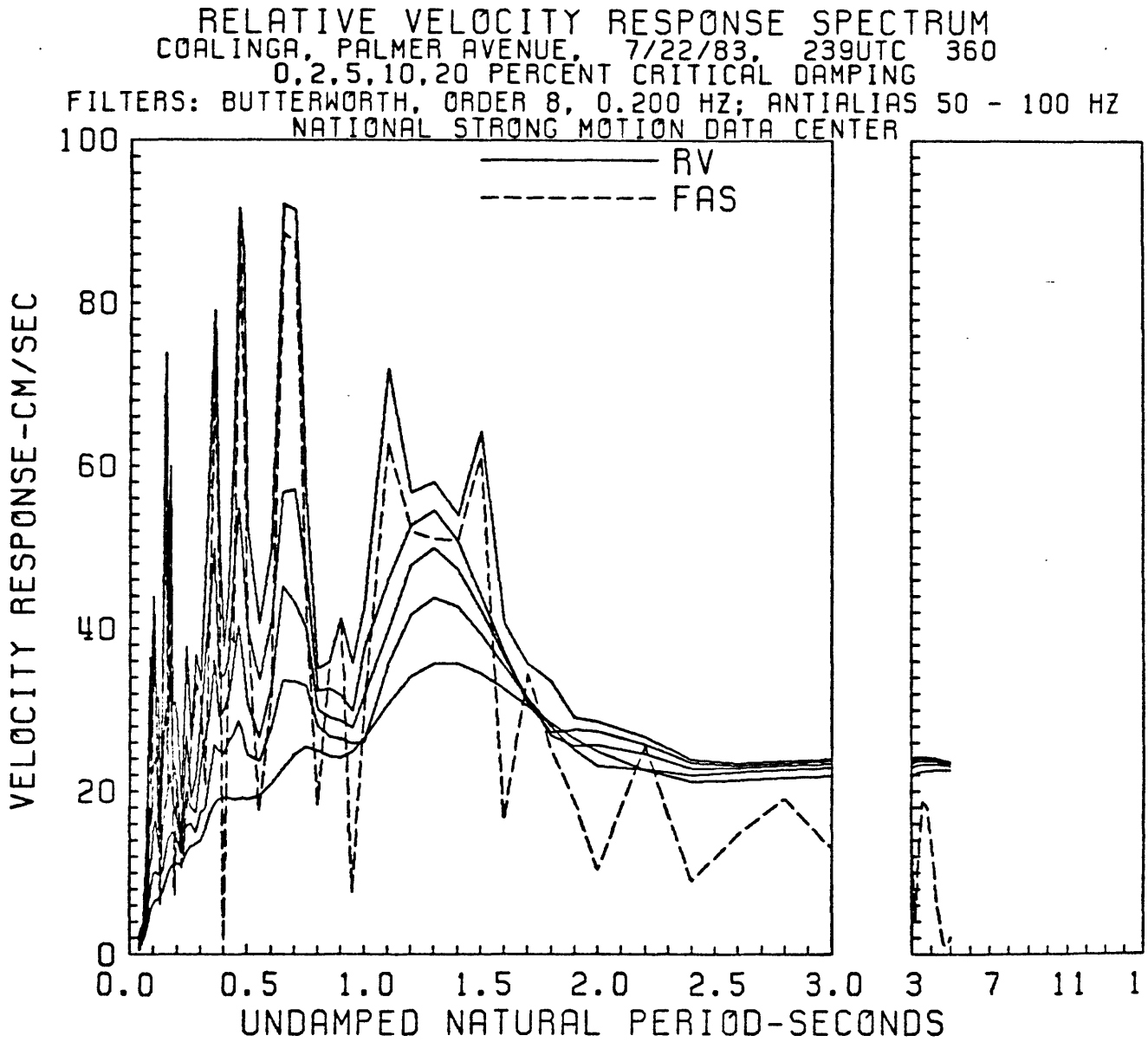

RELATIVE VELOCITY RESPONSE SPECTRUM
COALINGA, OIL FIELDS FIRE STATION FREE-FIELD, 7/22/83, 239UTC UP
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
0
10
20
30
40
50
60
70
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15
UNDAMPED NATURAL PERIOD-SECONDS

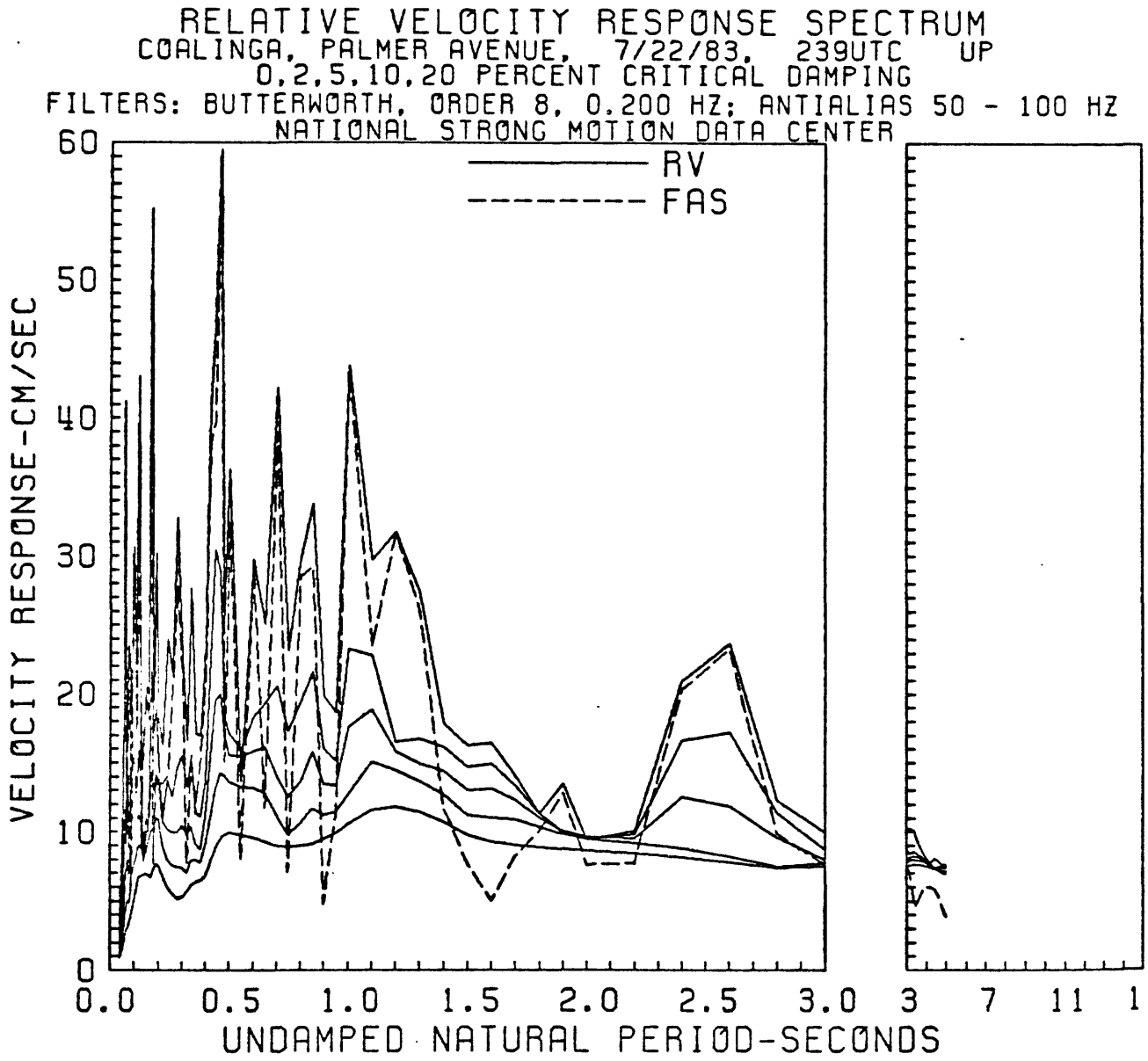

RELATIVE VELOCITY RESPONSE SPECTRUM
COALINGA, OIL FIELDS FIRE STATION FREE-FIELD, 7/22/83, 239UTC 270
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
120
100
80
60
40
20
0
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15
UNDAMPED NATURAL PERIOD-SECONDS

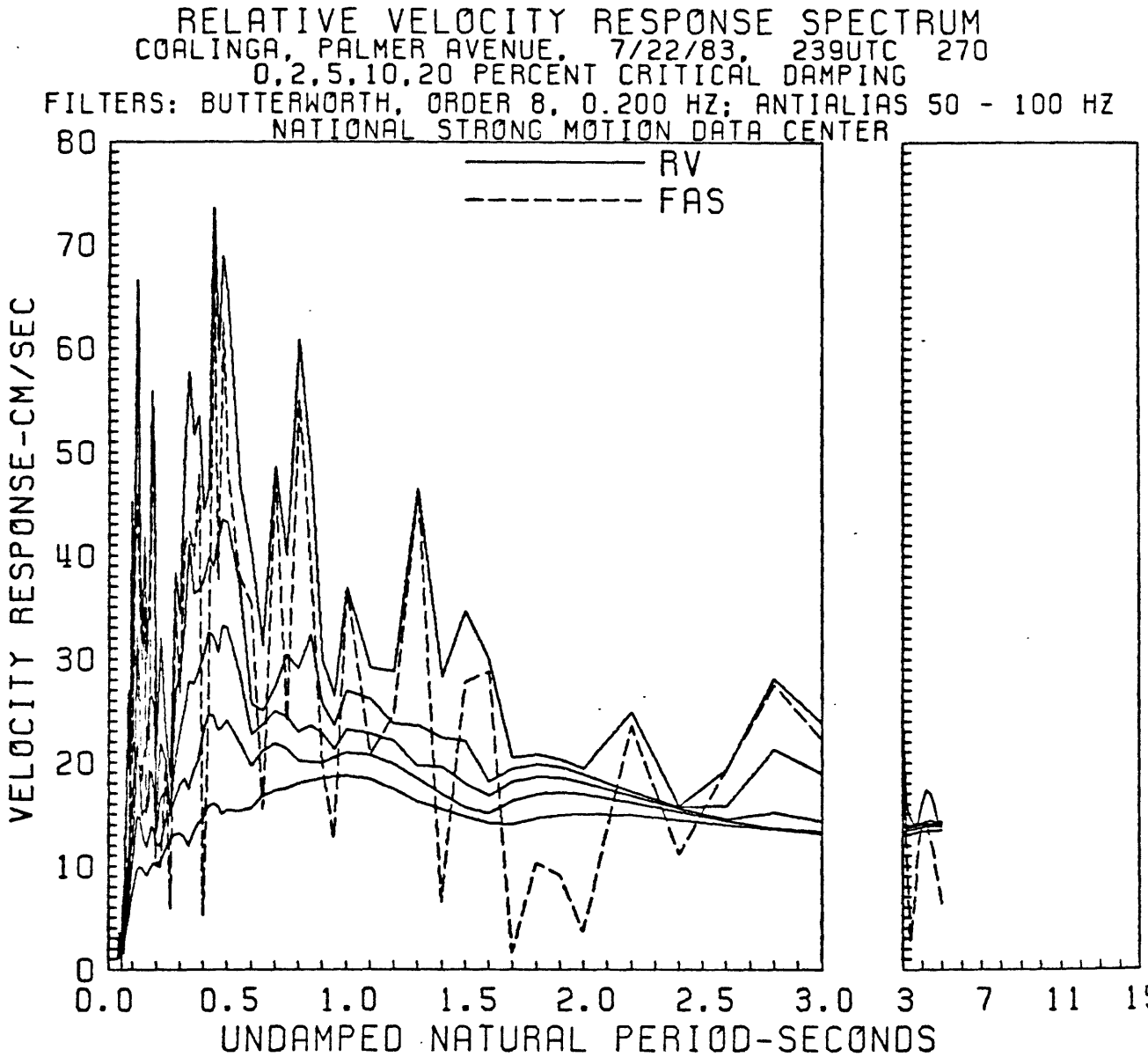

RELATIVE VELOCITY RESPONSE SPECTRUM
COALINGA, OIL FIELDS FIRE STATION PAD, 7/22/83, 239UTC 360
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
0
10
20
30
40
50
60
70
80
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15

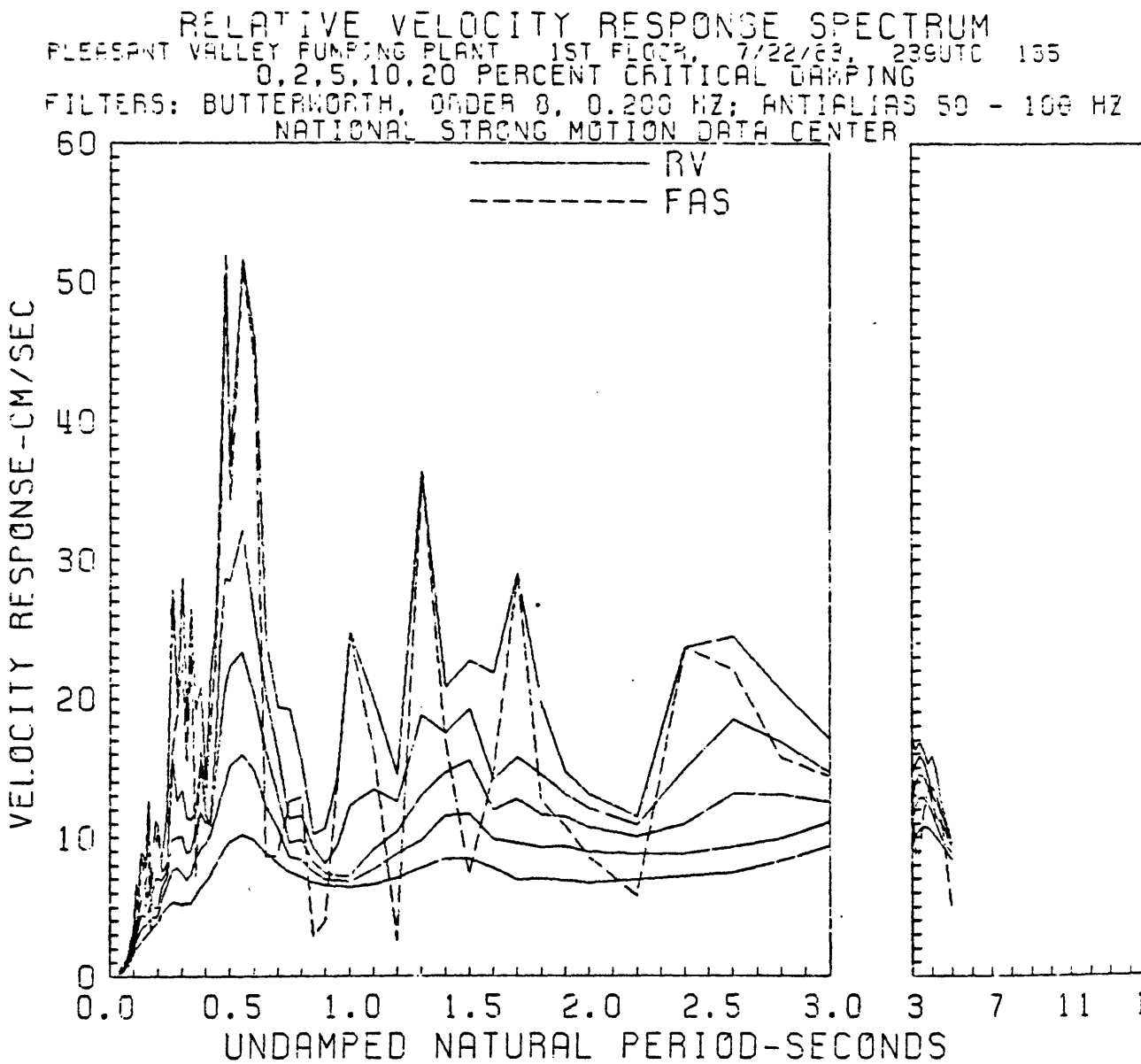

RELATIVE VELOCITY RESPONSE SPECTRUM
COALINGA, OIL FIELDS FIRE STATION PAD, 7/22/83, 239UTC UP
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
0
10
20
30
40
50
60
70
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15
UNDAMPED NATURAL PERIOD-SECONDS

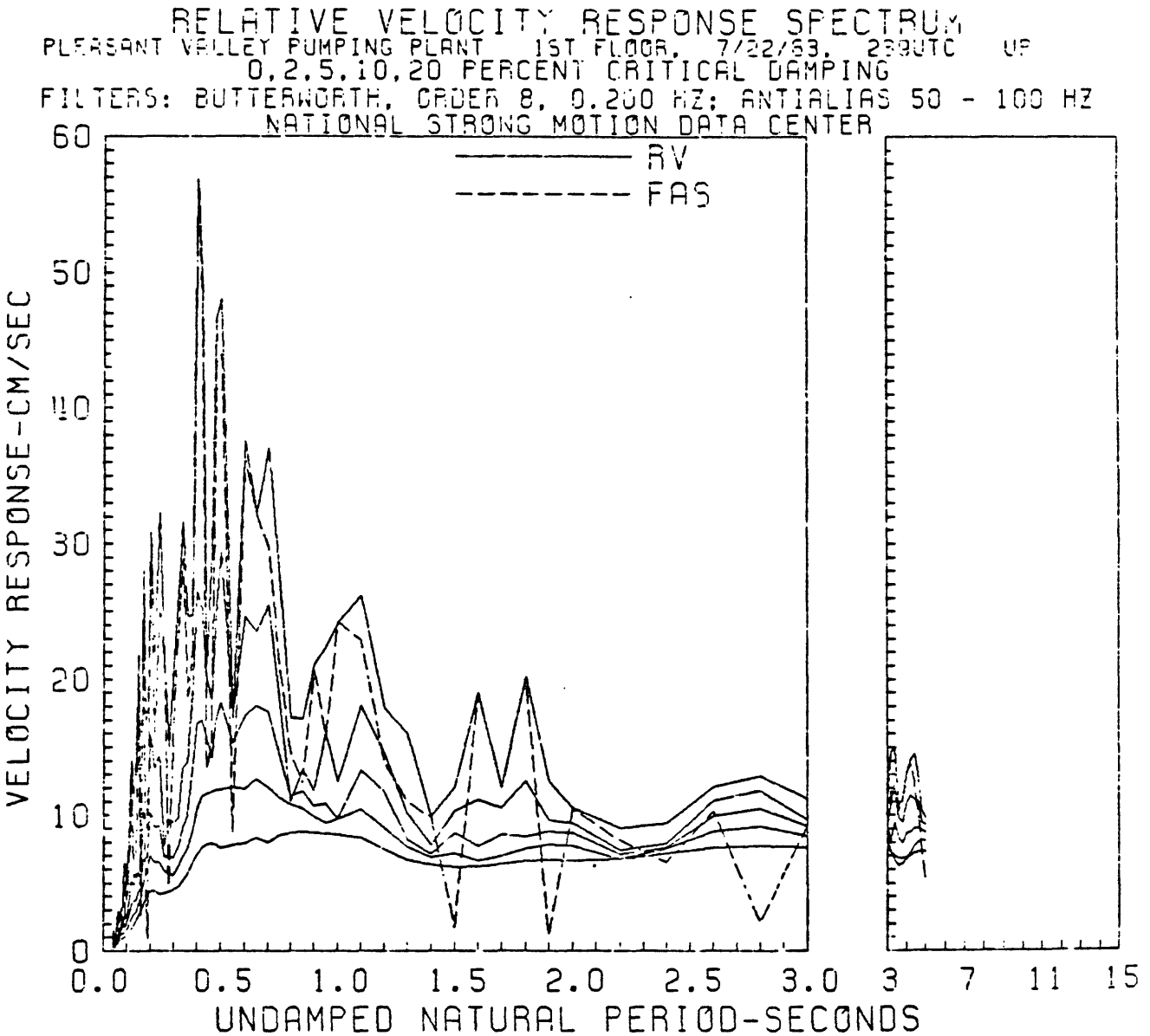

RELATIVE VELOCITY RESPONSE SPECTRUM
COALINGA, OIL FIELDS FIRE STATION PAD, 7/22/83, 239UTC 270
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
120
100
80
60
40
20
0
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15
UNDAMPED NATURAL PERIOD-SECONDS

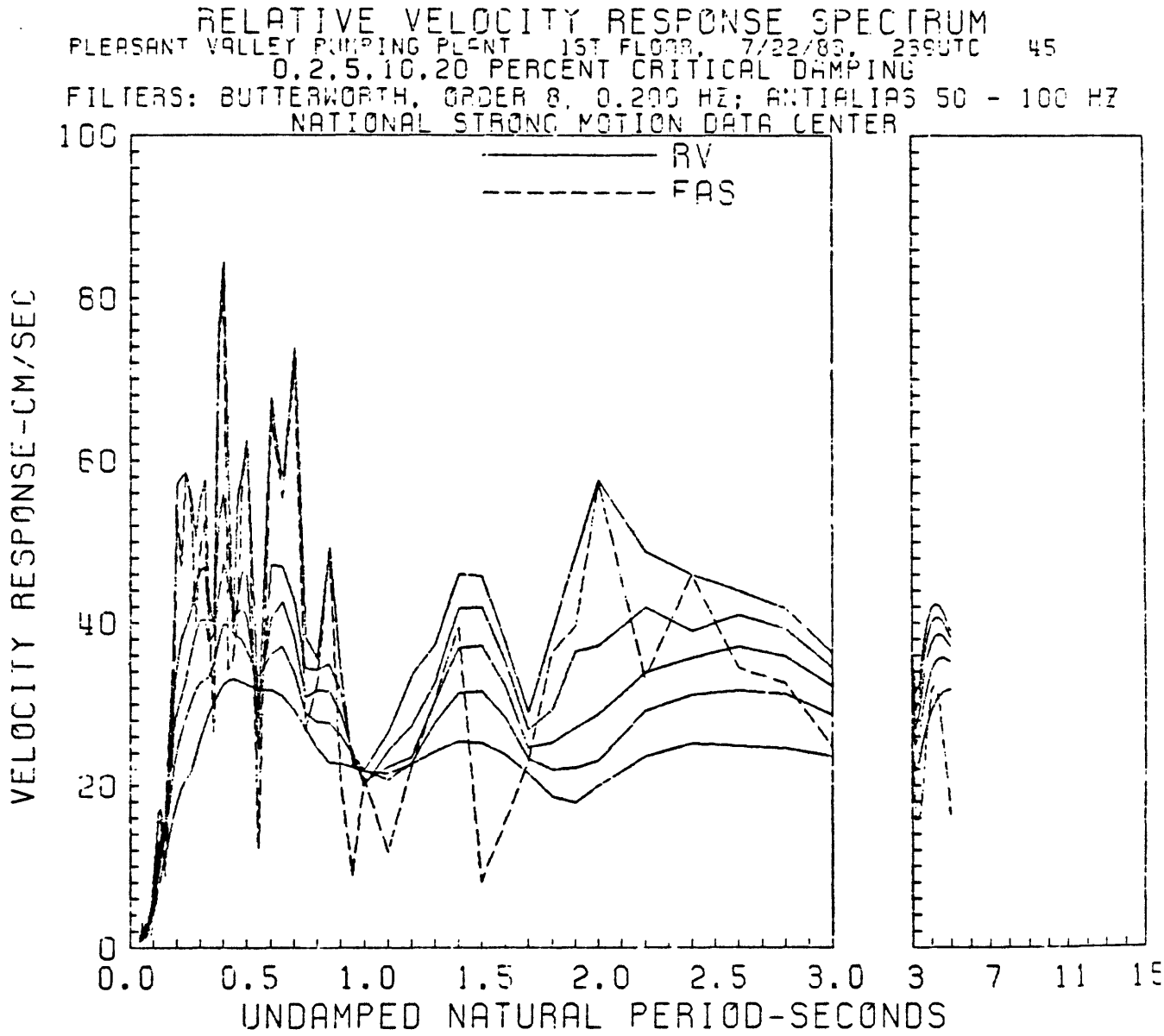

RELATIVE VELOCITY RESPONSE SPECTRUM
COALINGA, PALMER AVENUE, 7/22/83, 239UTC 360
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
100
80
60
40
20
0
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15
UNDAMPED NATURAL PERIOD-SECONDS

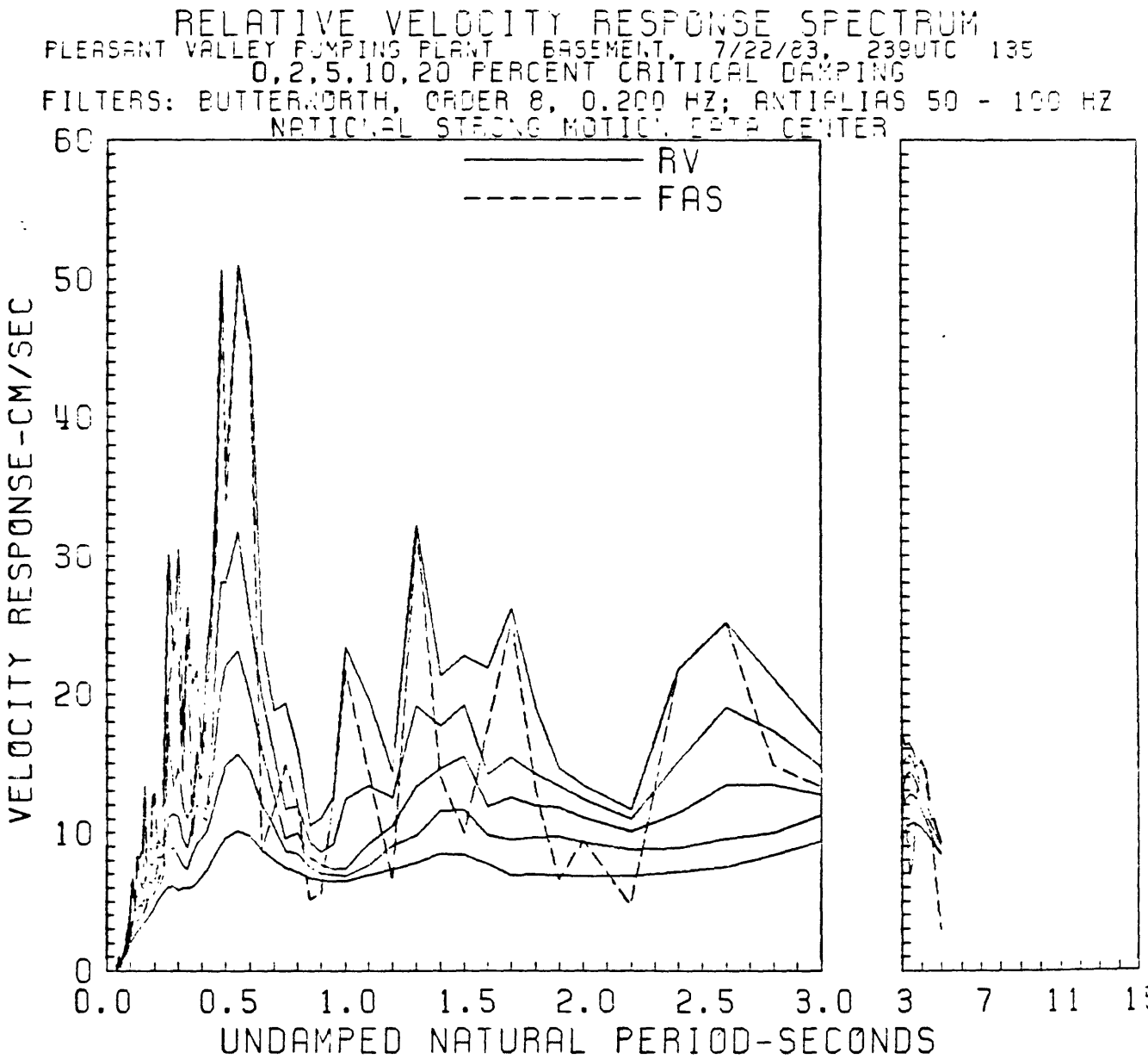

RELATIVE VELOCITY RESPONSE SPECTRUM
COALINGA, PALMER AVENUE, 7/22/83, 239UTC UP
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
0
10
20
30
40
50
60
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15
UNDAMPED NATURAL PERIOD-SECONDS

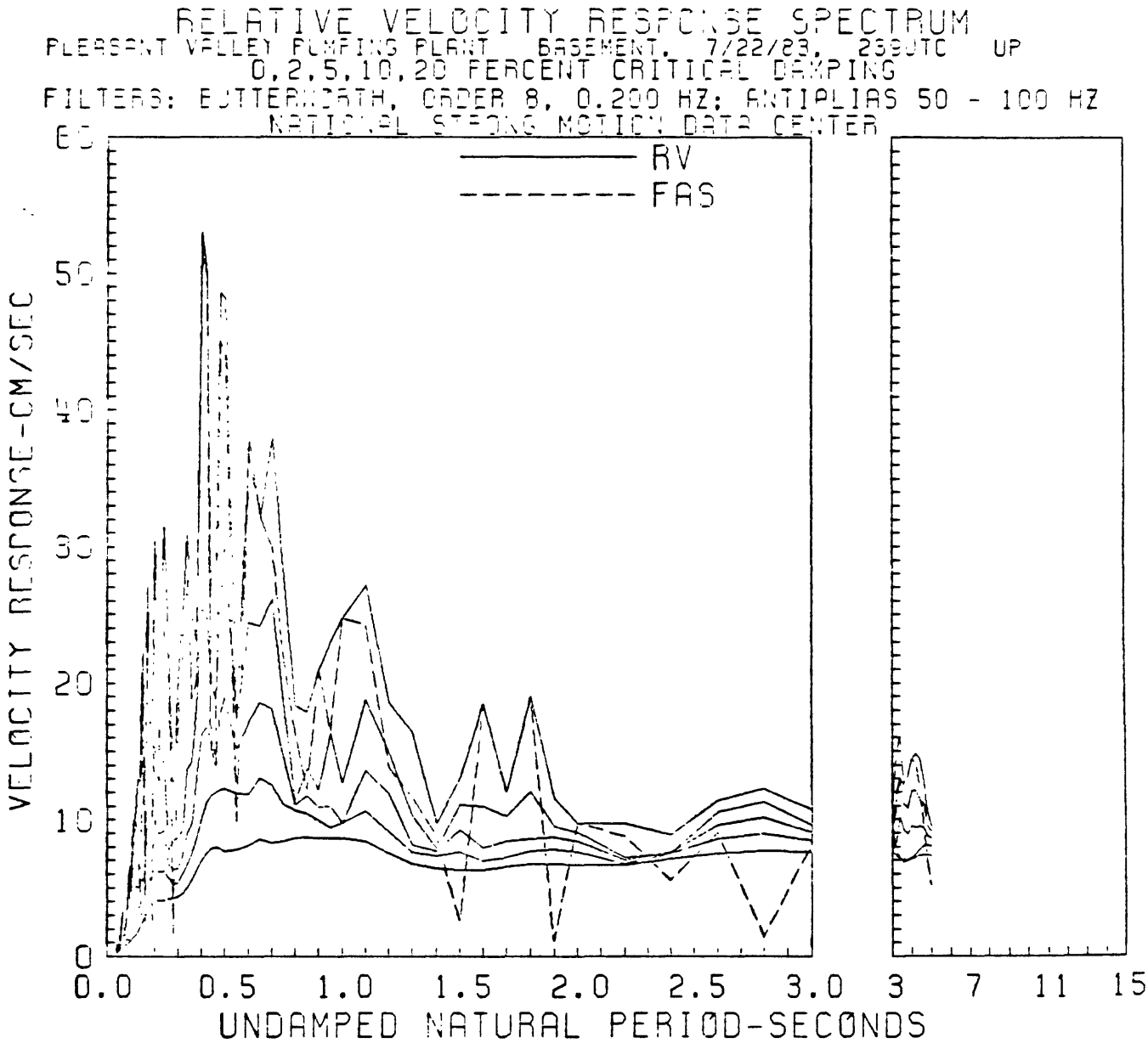

RELATIVE VELOCITY RESPONSE SPECTRUM
COALINGA, PALMER AVENUE, 7/22/83, 239UTC 270
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
0
10
20
30
40
50
60
70
80
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15
UNDAMPED NATURAL PERIOD-SECONDS

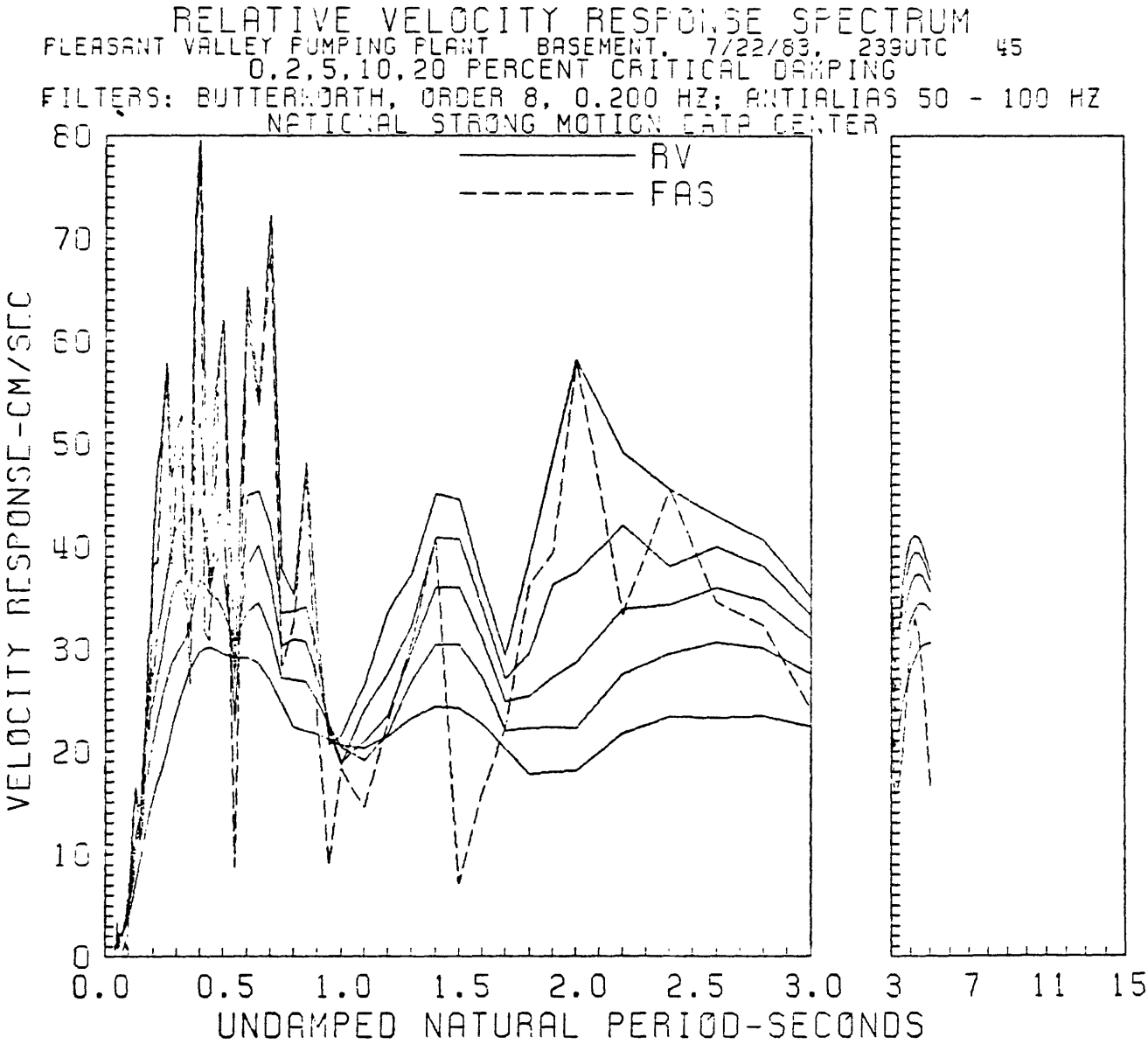

RELATIVE VELOCITY RESPONSE SPECTRUM
PLEASANT VALLEY PUMPING PLANT 1ST FLOOR, 7/22/23, 239UTC 135
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
0
10
20
30
40
50
60
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
1
UNDAMPED NATURAL PERIOD-SECONDS

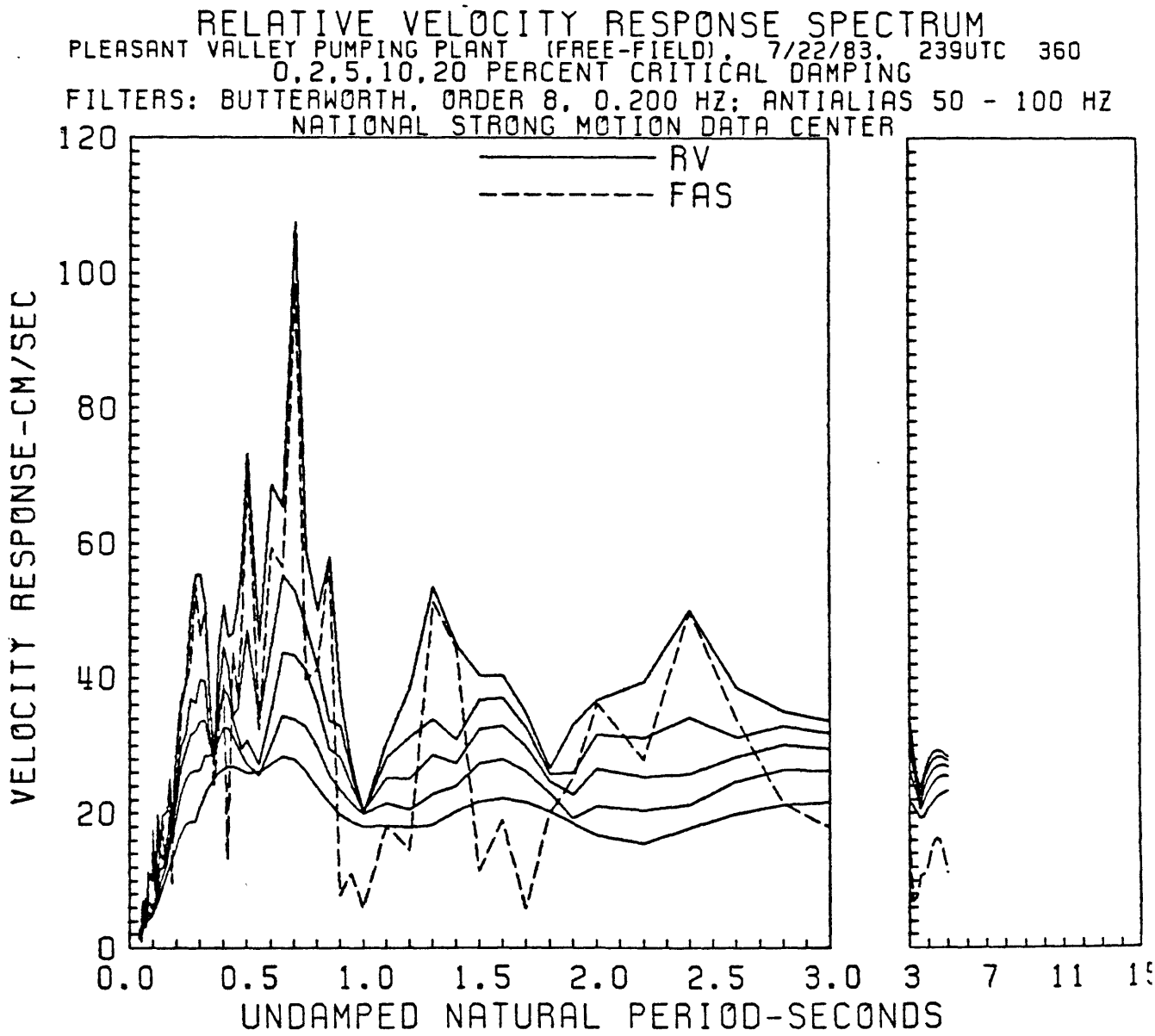

RELATIVE VELOCITY RESPONSE SPECTRUM
PLEASANT VALLEY PUMPING PLANT 1ST FLOOR, 7/22/83, 238UTC UP
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
0
10
20
30
40
50
60
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15
UNDAMPED NATURAL PERIOD-SECONDS

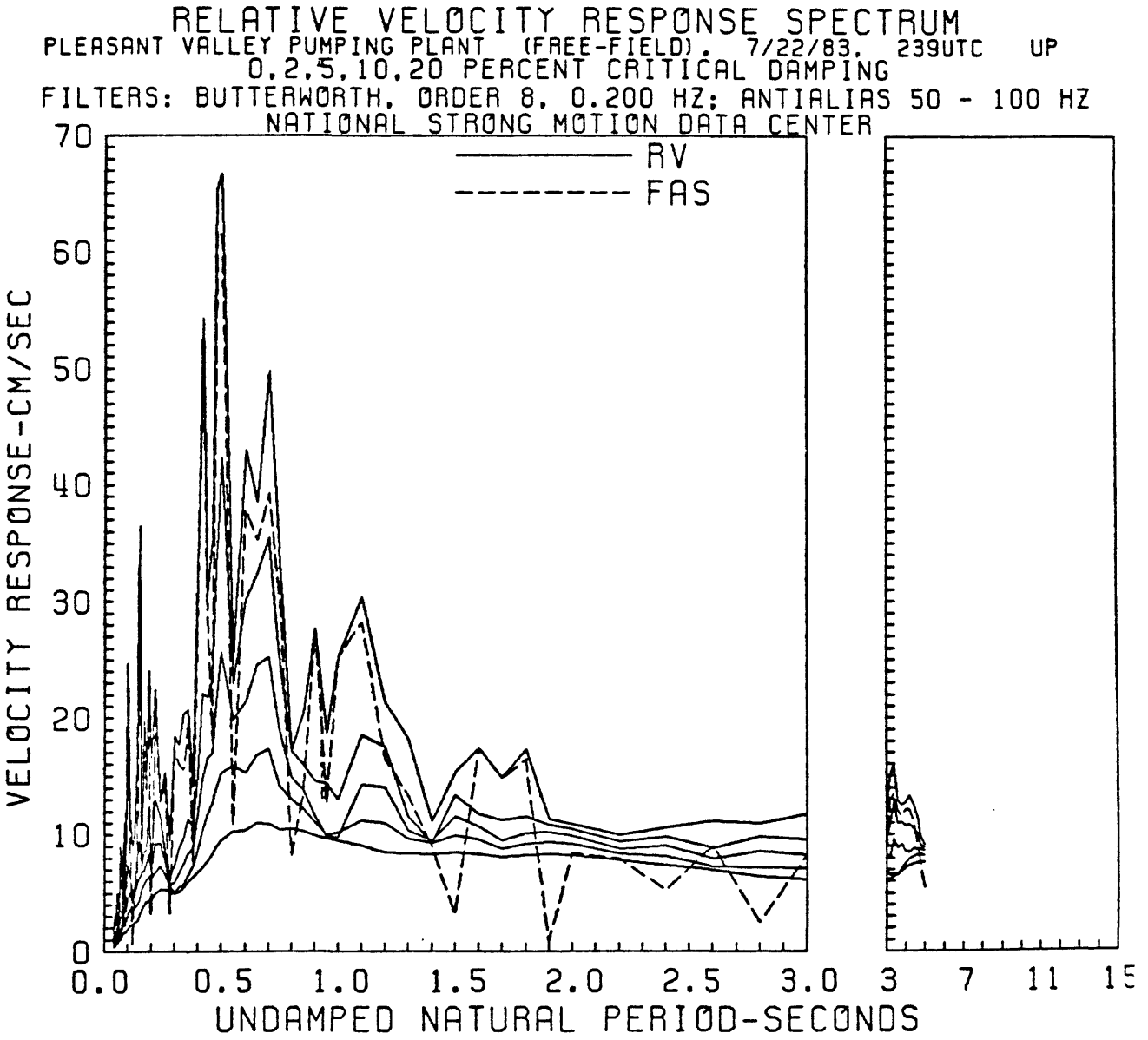

RELATIVE VELOCITY RESPONSE SPECTRUM
PLEASANT VALLEY PUMPING PLANT 1ST FLOOR, 7/22/80, 2390UTC 45
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
100
80
60
40
20
0
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15
UNDAMPED NATURAL PERIOD-SECONDS

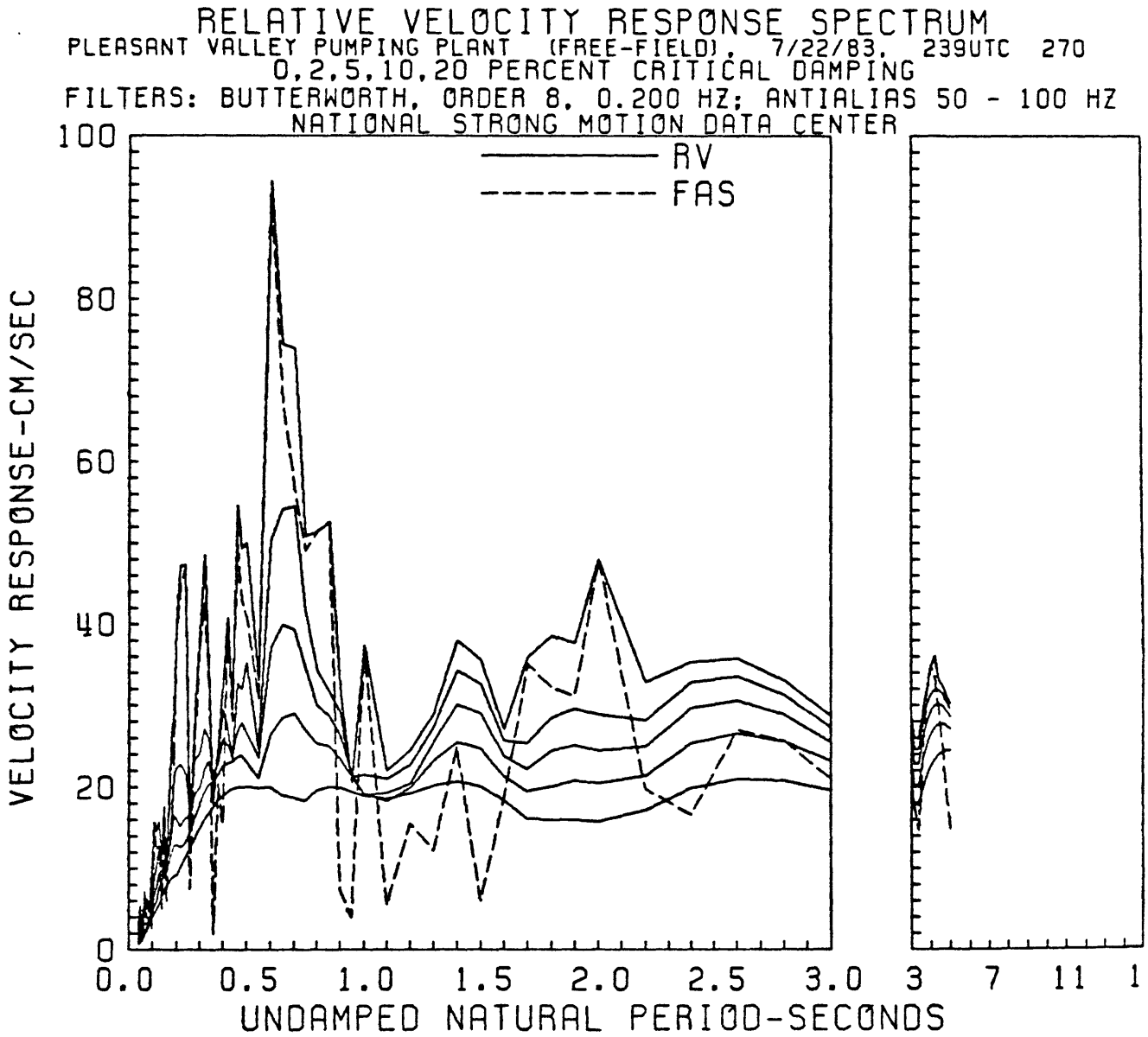

RELATIVE VELOCITY RESPONSE SPECTRUM
PLEASANT VALLEY PUMPING PLANT BASEMENT, 7/22/83, 2390UTC 135
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
0
10
20
30
40
50
60
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15
UNDAMPED NATURAL PERIOD-SECONDS

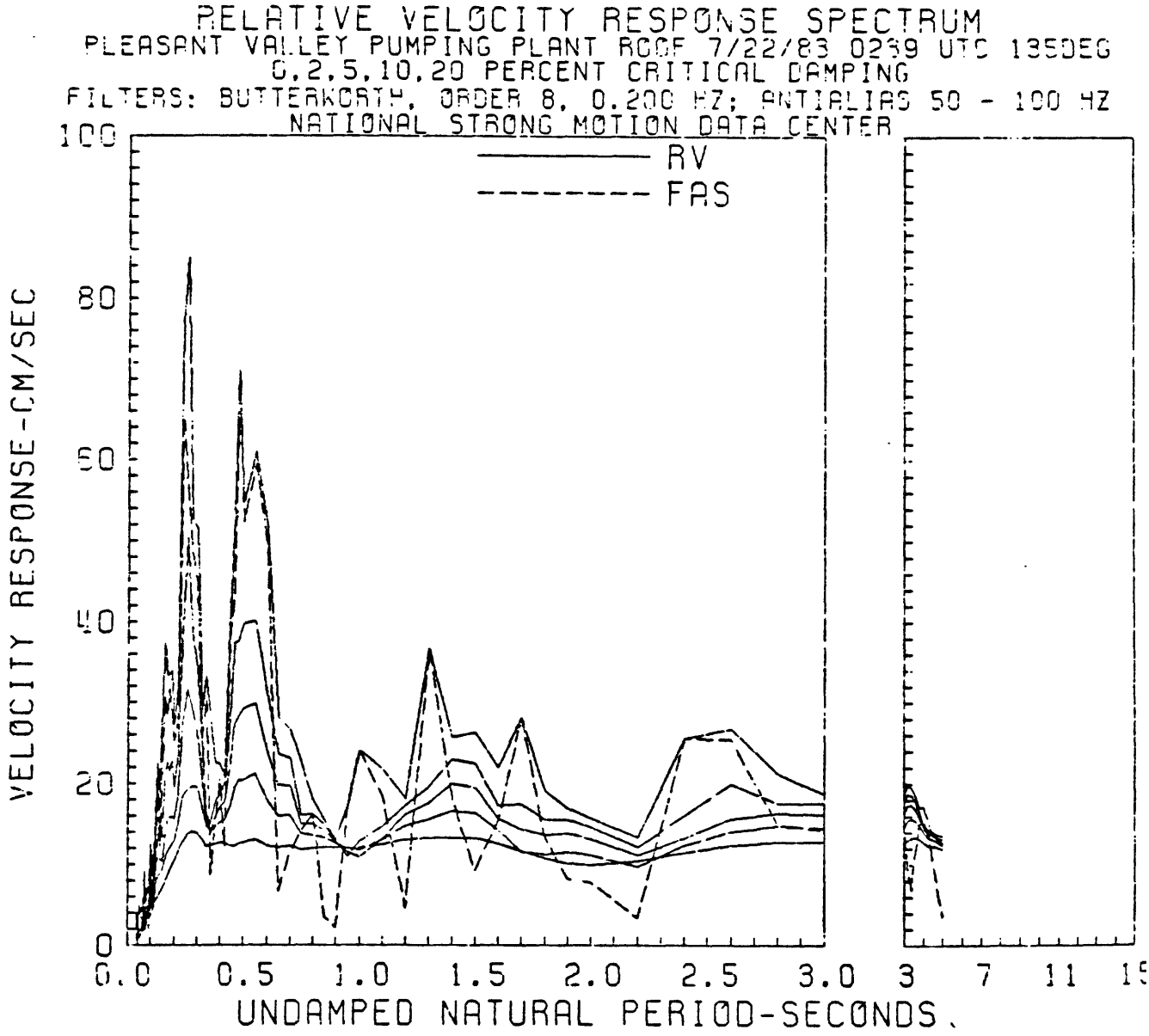

RELATIVE VELOCITY RESPONSE SPECTRUM
PLEASANT VALLEY PUMPING PLANT BASEMENT, 7/22/23, 239UTC UP
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
0
10
20
30
40
50
60
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15
UNDAMPED NATURAL PERIOD-SECONDS

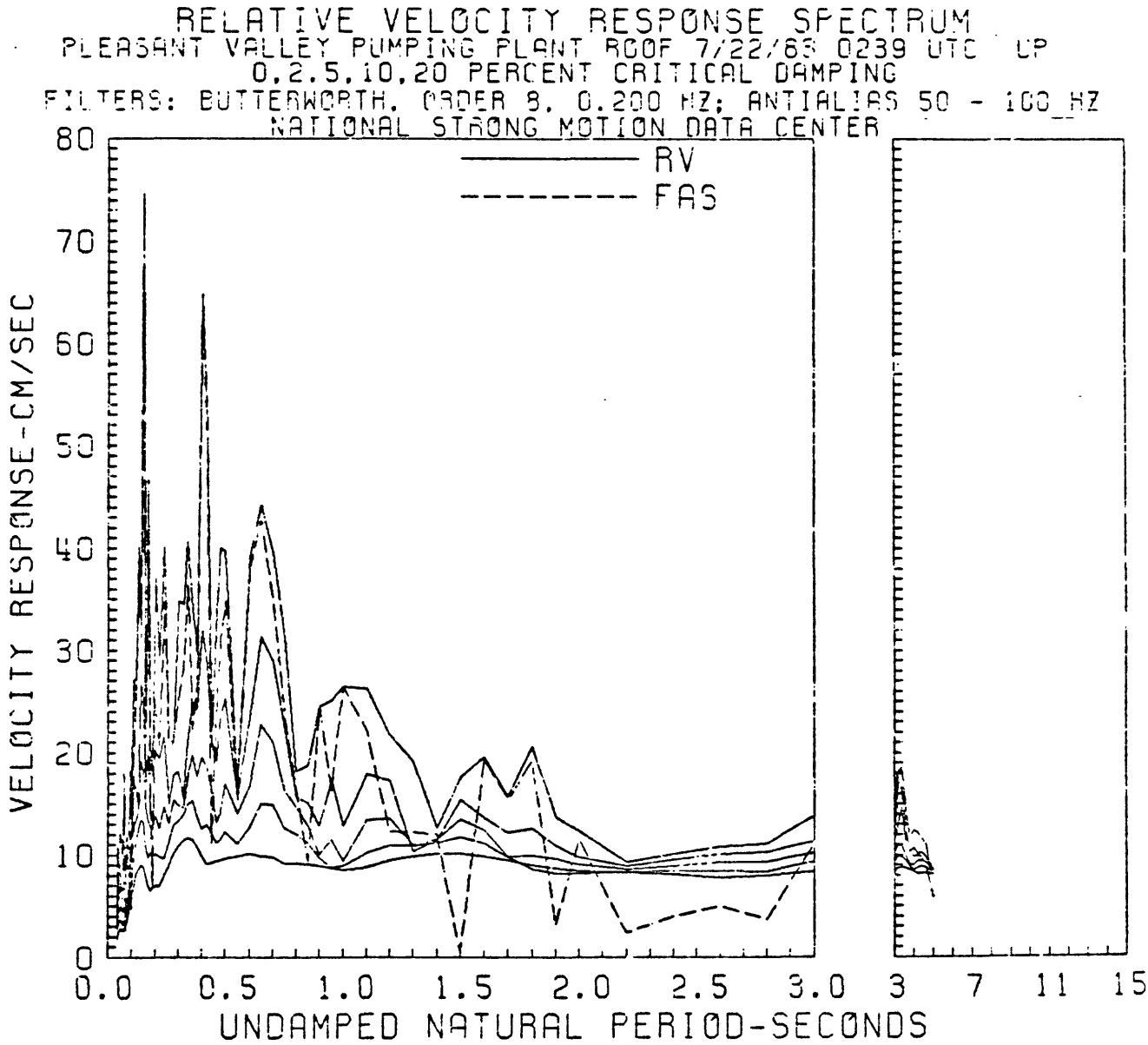

RELATIVE VELOCITY RESPONSE SPECTRUM
PLEASANT VALLEY PUMPING PLANT BASEMENT. 7/22/83. 239UTC 45
0.2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
0
10
20
30
40
50
60
70
80
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15
UNDAMPED NATURAL PERIOD-SECONDS

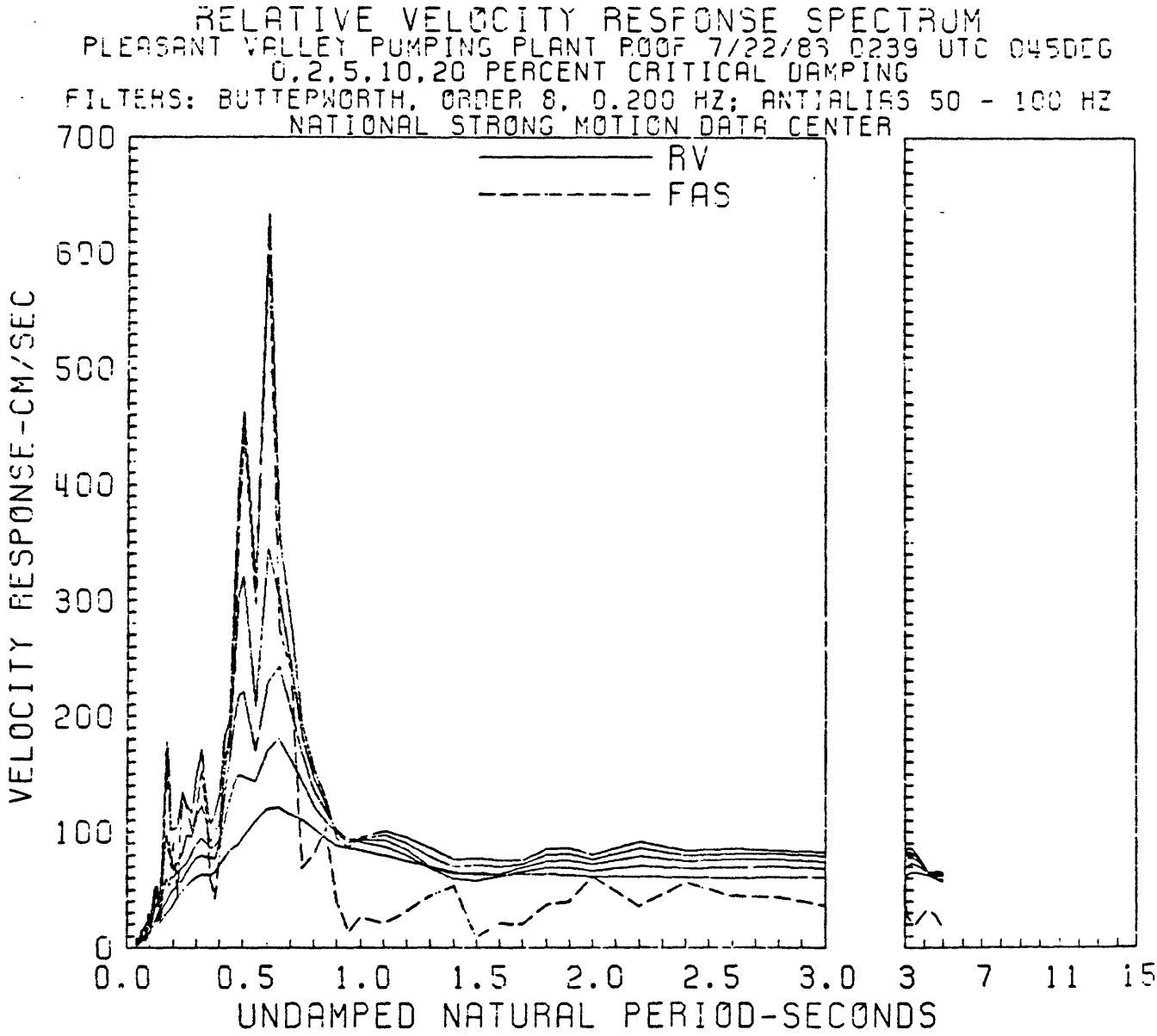

RELATIVE VELOCITY RESPONSE SPECTRUM
PLEASANT VALLEY PUMPING PLANT (FREE-FIELD), 7/22/83, 239UTC 360
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
120
100
80
60
40
20
0
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
UNDAMPED NATURAL PERIOD-SECONDS

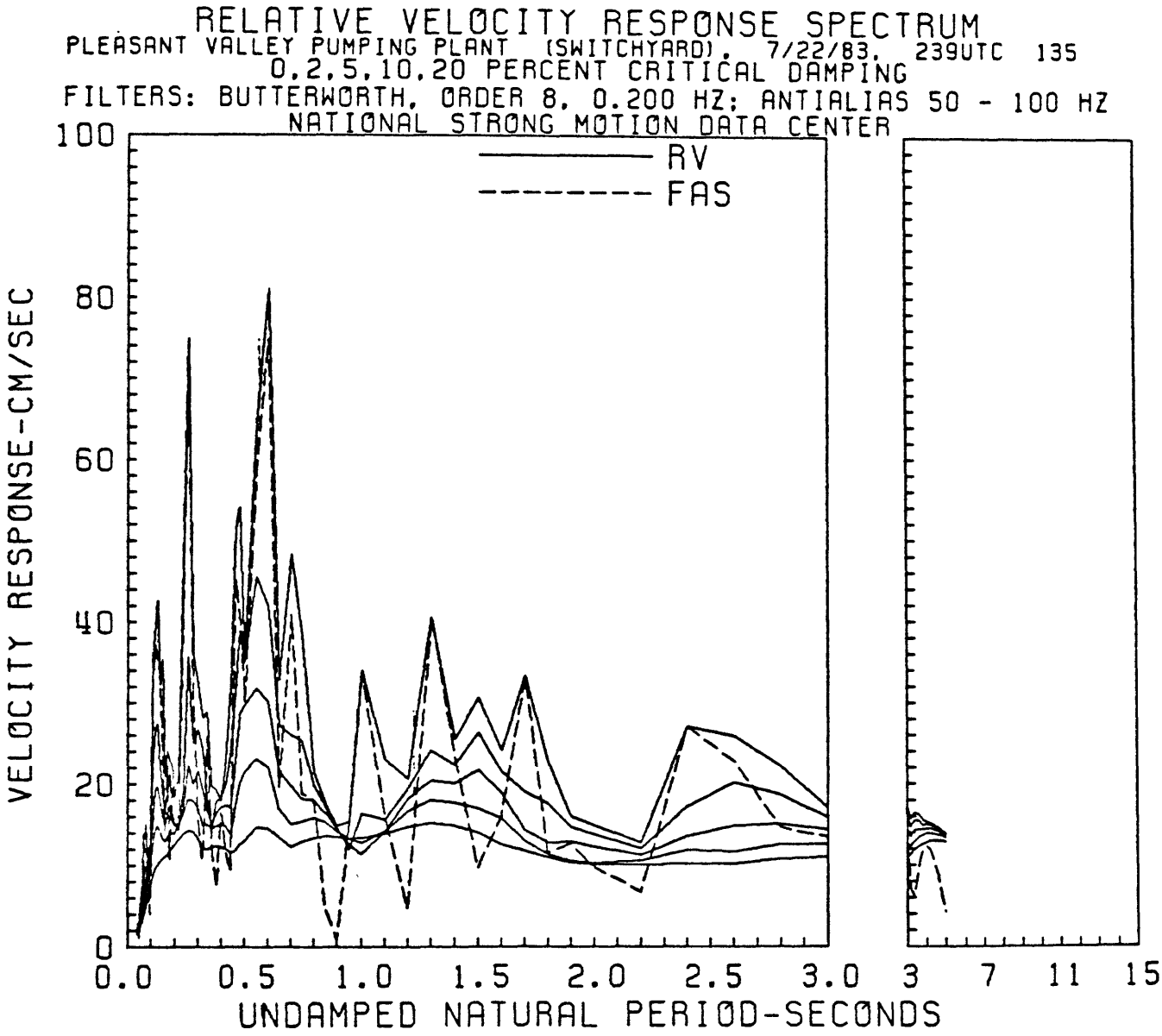

RELATIVE VELOCITY RESPONSE SPECTRUM
PLEASANT VALLEY PUMPING PLANT (FREE-FIELD), 7/22/83, 239UTC UP
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
0
10
20
30
40
50
60
70
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15
UNDAMPED NATURAL PERIOD-SECONDS

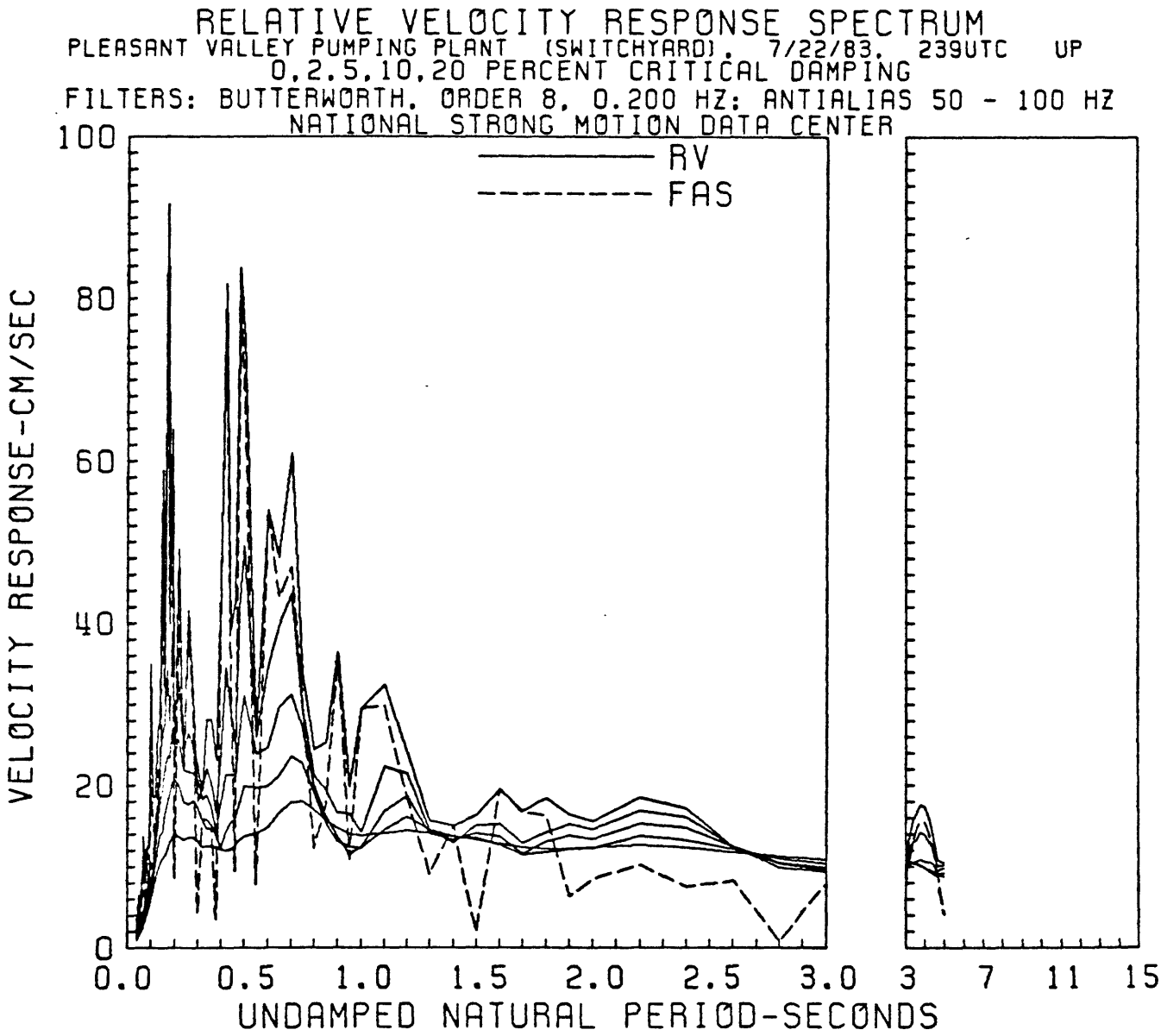

RELATIVE VELOCITY RESPONSE SPECTRUM
PLEASANT VALLEY PUMPING PLANT (FREE-FIELD), 7/22/83, 239UTC 270
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
100
80
60
40
20
0
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
1
UNDAMPED NATURAL PERIOD-SECONDS

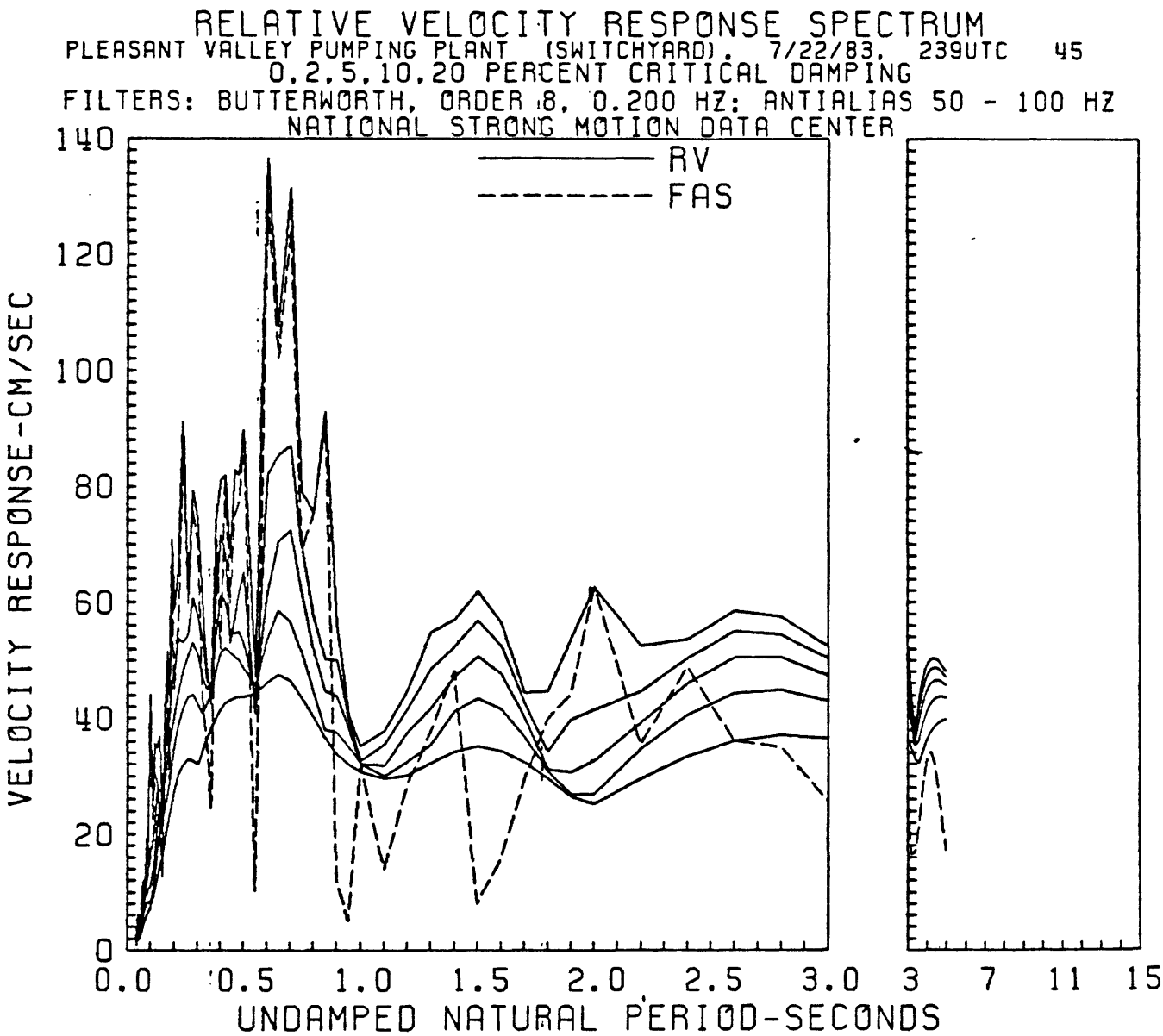

RELATIVE VELOCITY RESPONSE SPECTRUM
PLEASANT VALLEY PUMPING PLANT ROOF 7/22/83 0239 UTC 135DEG
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
100
80
60
40
20
0
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
UNDAMPED NATURAL PERIOD-SECONDS.

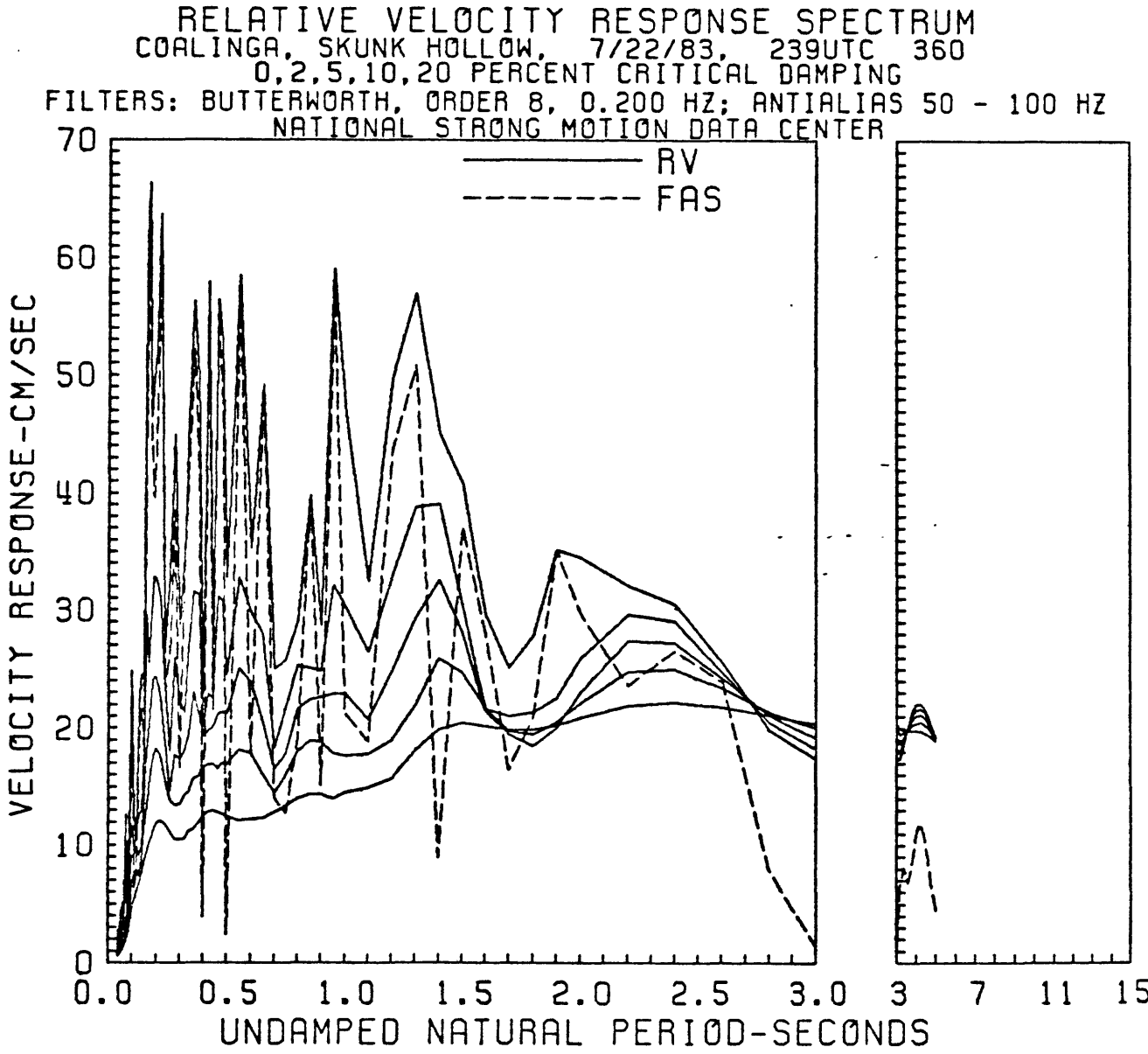

RELATIVE VELOCITY RESPONSE SPECTRUM
PLEASANT VALLEY PUMPING PLANT ROOF 7/22/63 0239 UTC UP
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
0
10
20
30
40
50
60
70
80
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15
UNDAMPED NATURAL PERIOD-SECONDS

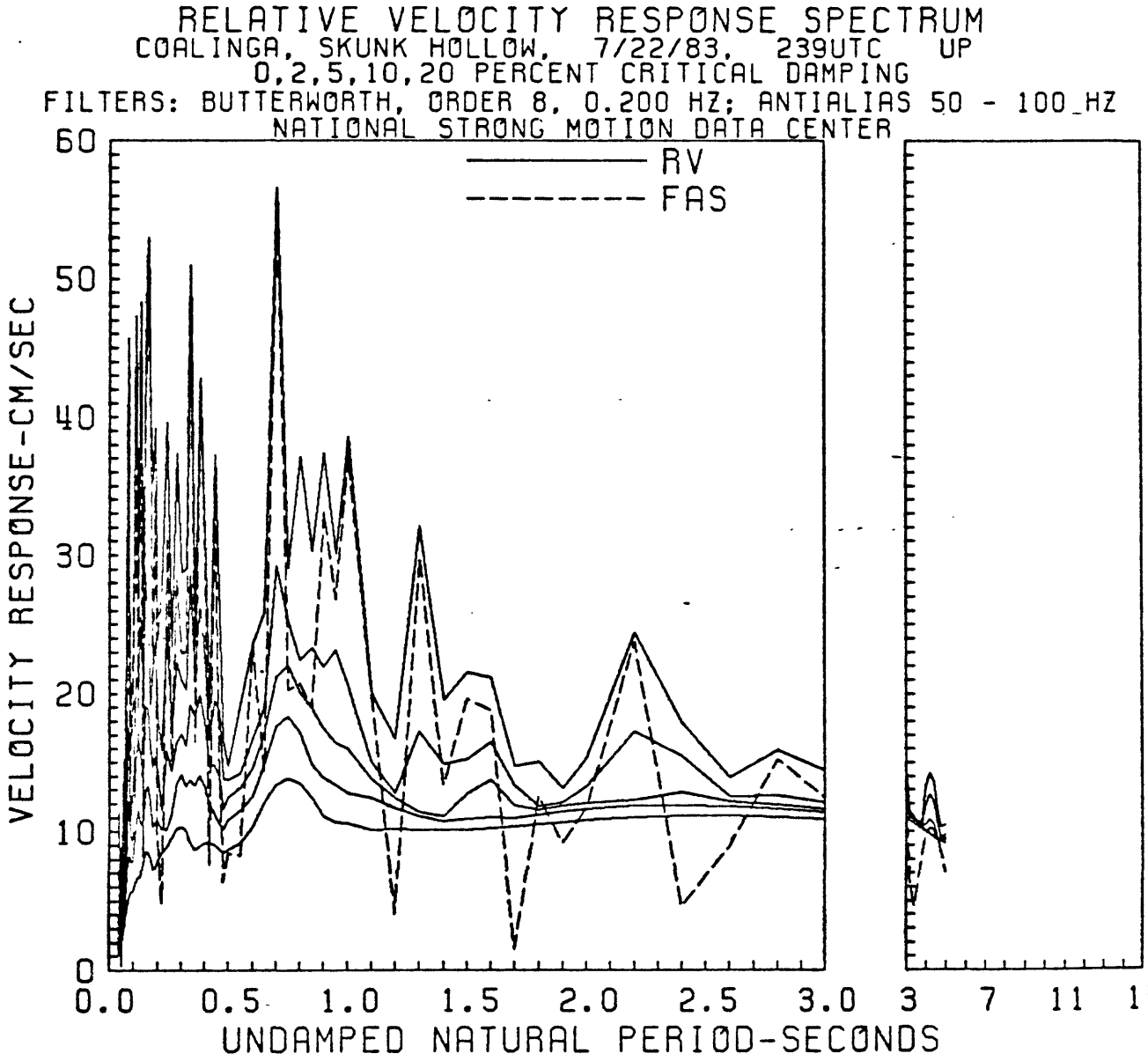

RELATIVE VELOCITY RESPONSE SPECTRUM
PLEASANT VALLEY PUMPING PLANT ROOF 7/22/83 0239 UTC 045DEG
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
700
600
500
400
300
200
100
0
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15
UNDAMPED NATURAL PERIOD-SECONDS

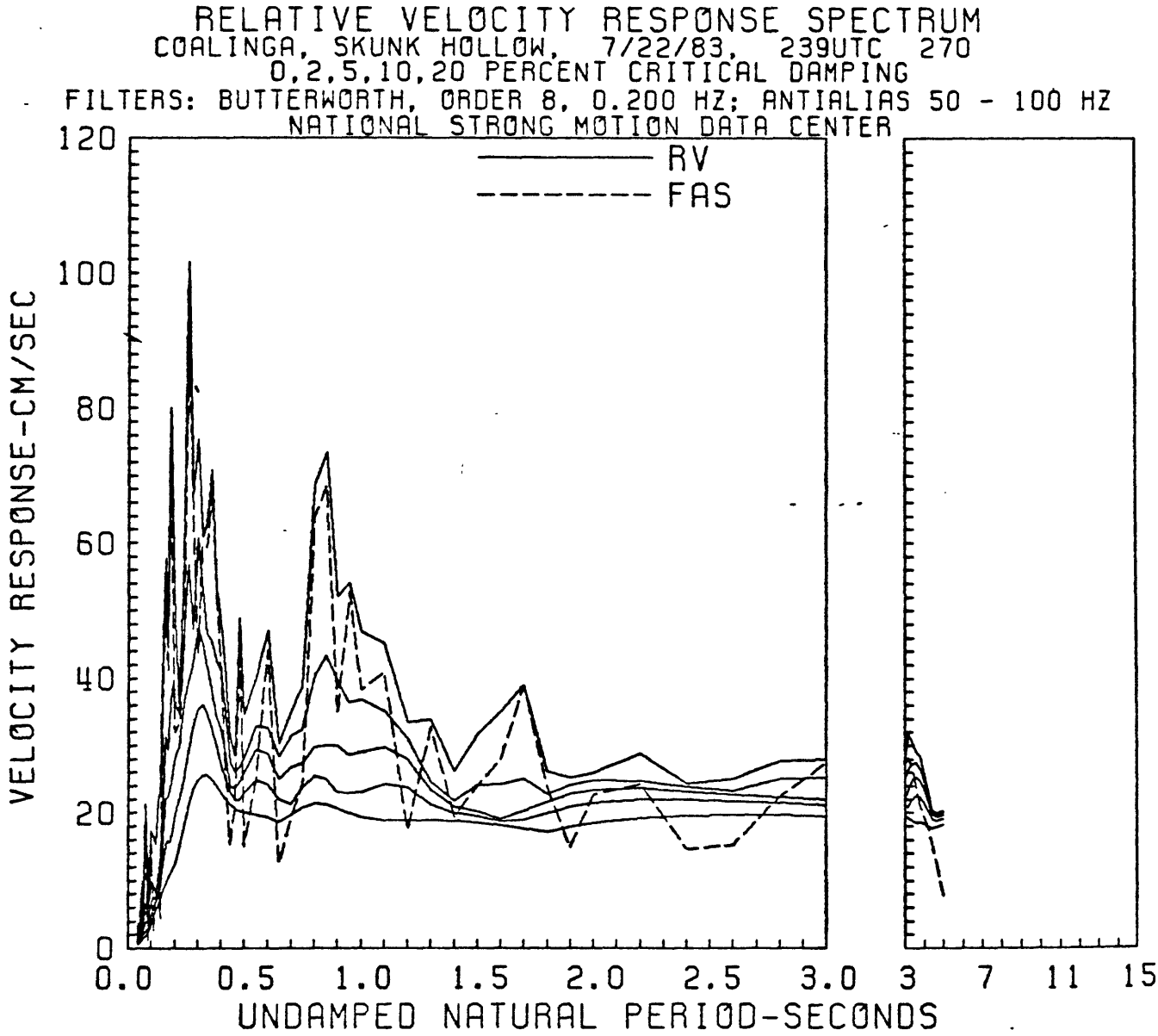

RELATIVE VELOCITY RESPONSE SPECTRUM
PLEASANT VALLEY PUMPING PLANT (SWITCHYARD), 7/22/83, 239UTC 135
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
100
80
60
40
20
0
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15
UNDAMPED NATURAL PERIOD-SECONDS

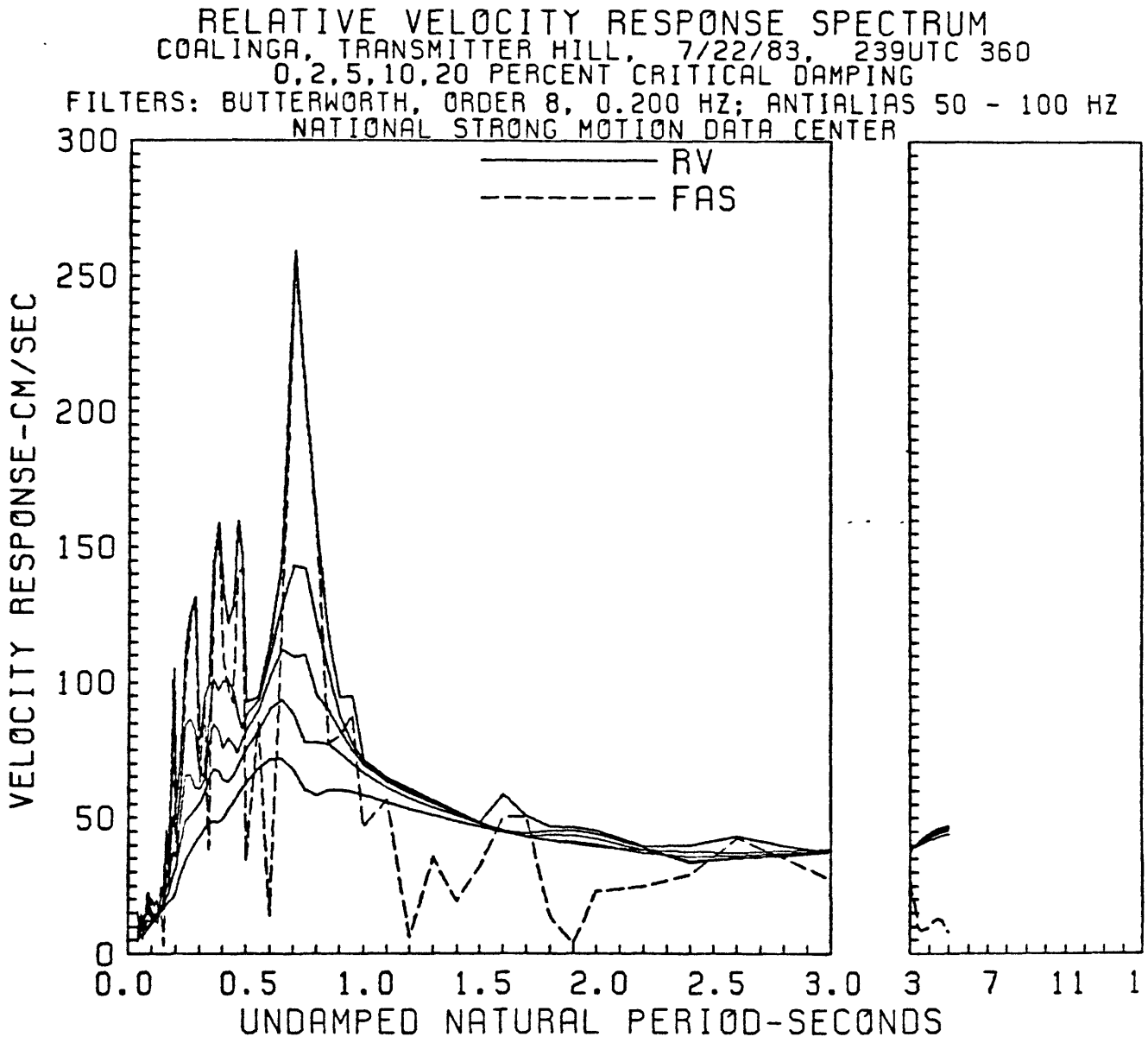

RELATIVE VELOCITY RESPONSE SPECTRUM
PLEASANT VALLEY PUMPING PLANT (SWITCHYARD). 7/22/83. 239UTC UP
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH. ORDER 8. 0.200 HZ: ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
100
80
60
40
20
0
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15
UNDAMPED NATURAL PERIOD-SECONDS

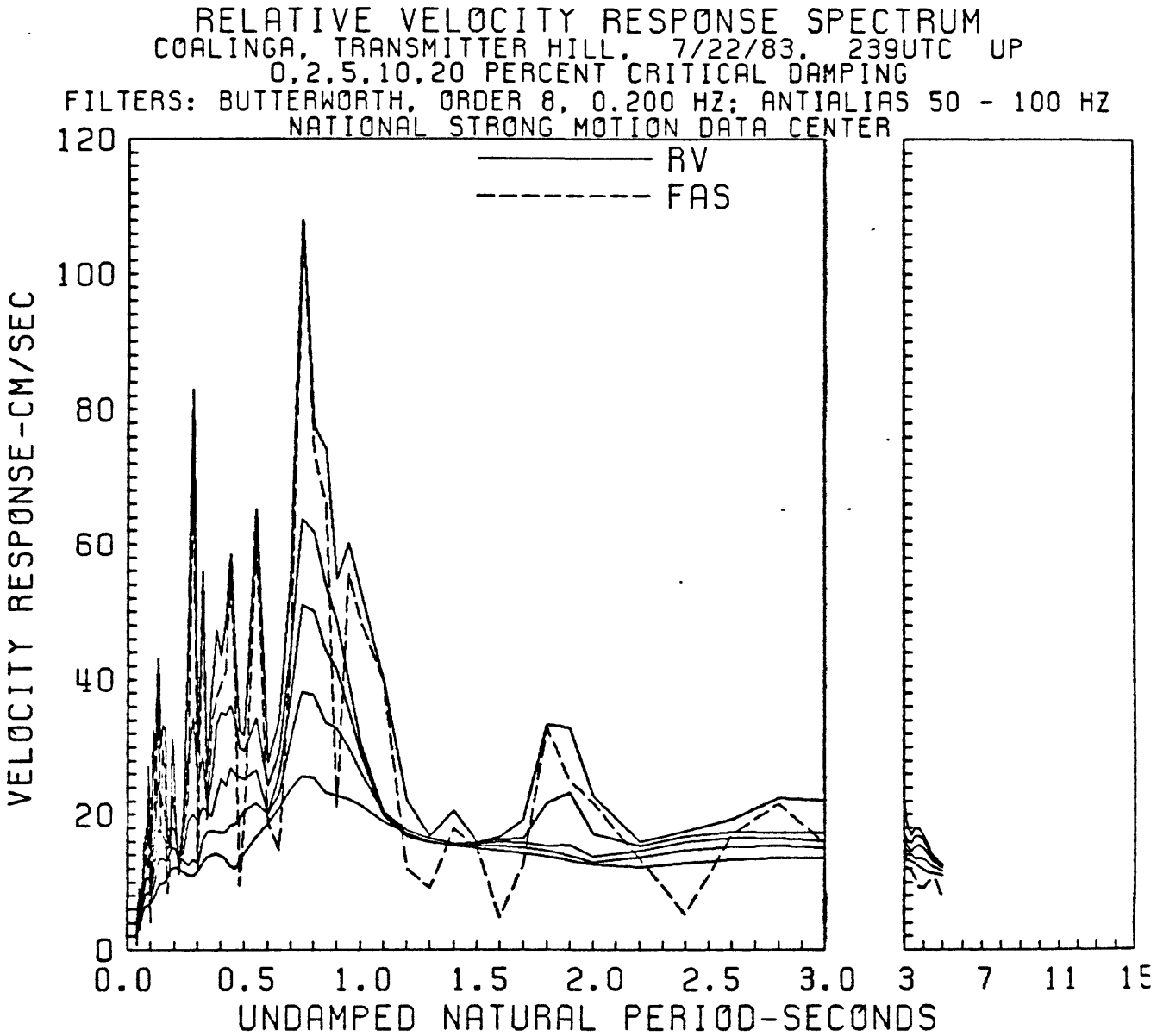

RELATIVE VELOCITY RESPONSE SPECTRUM
PLEASANT VALLEY PUMPING PLANT (SWITCHYARD). 7/22/83. 239UTC 45
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
0
20
40
60
80
100
120
140
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15
UNDAMPED NATURAL PERIOD-SECONDS

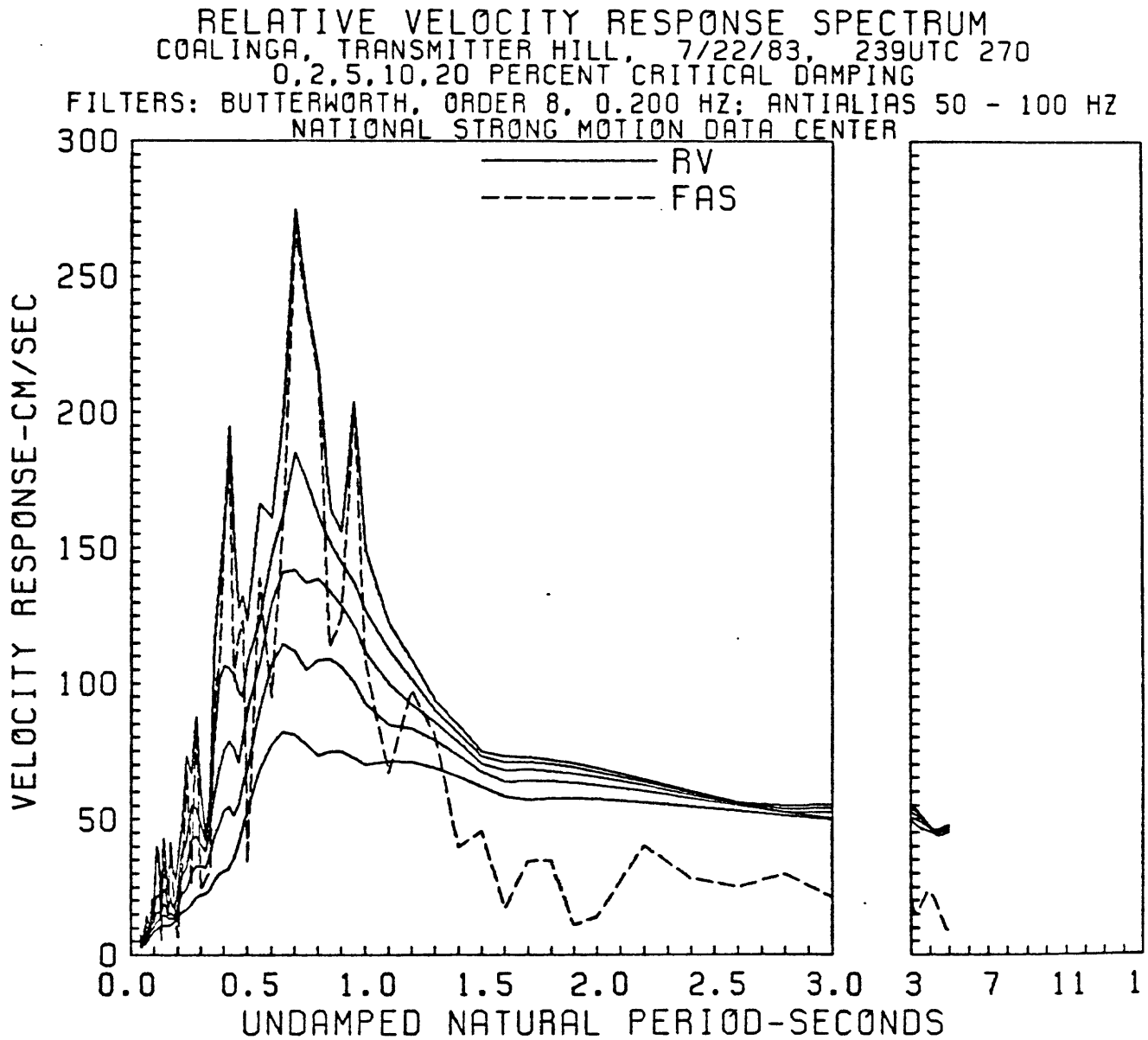

RELATIVE VELOCITY RESPONSE SPECTRUM
COALINGA, SKUNK HOLLOW, 7/22/83, 239UTC 360
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
0
10
20
30
40
50
60
70
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15
UNDAMPED NATURAL PERIOD-SECONDS

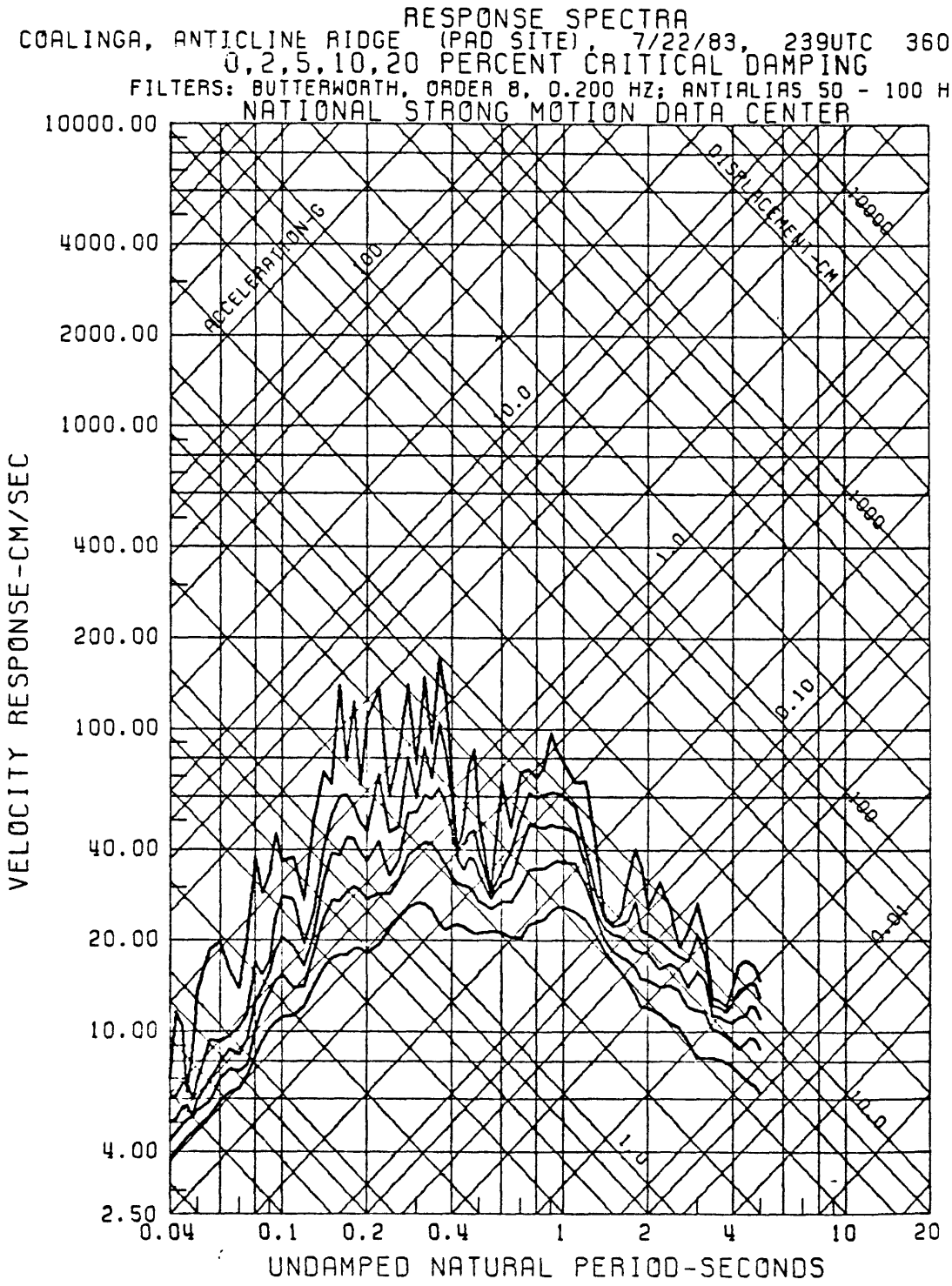

RELATIVE VELOCITY RESPONSE SPECTRUM
COALINGA, SKUNK HOLLOW, 7/22/83, 239UTC UP
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
0
10
20
30
40
50
60
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15
UNDAMPED NATURAL PERIOD-SECONDS

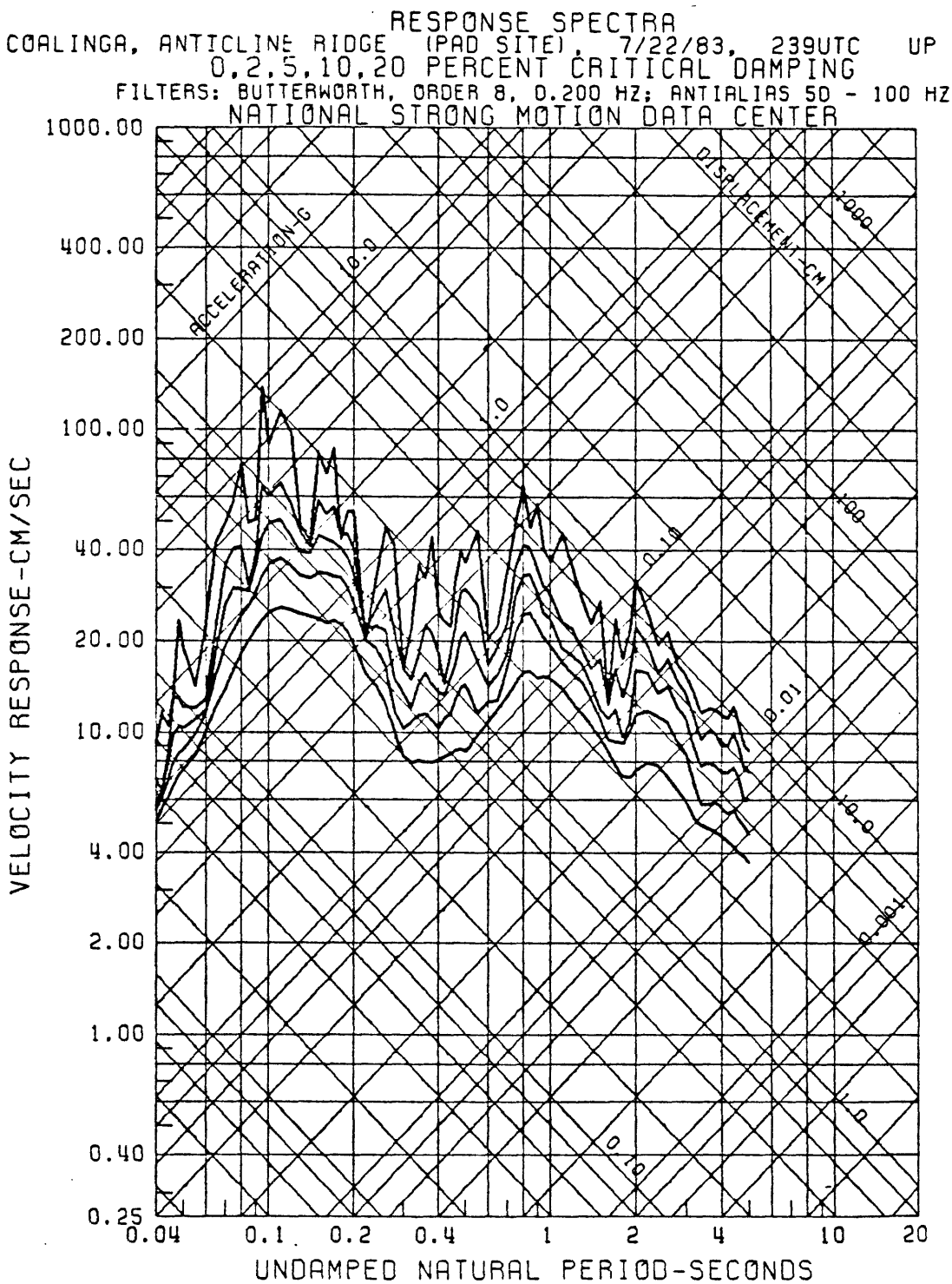

RELATIVE VELOCITY RESPONSE SPECTRUM
COALINGA, SKUNK HOLLOW, 7/22/83, 239UTC 270
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
120
100
80
60
40
20
0
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15
UNDAMPED NATURAL PERIOD-SECONDS

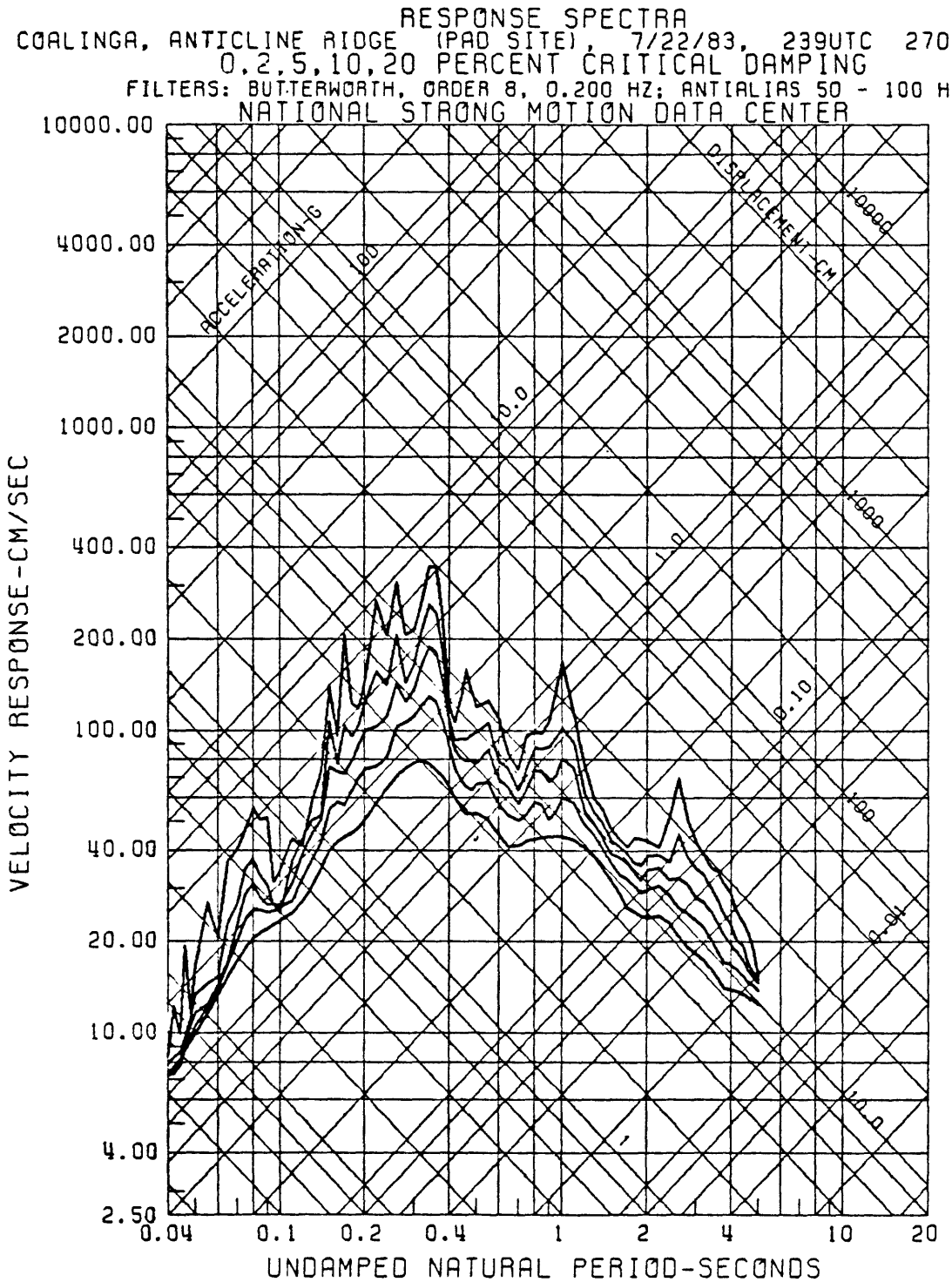

RELATIVE VELOCITY RESPONSE SPECTRUM
COALINGA, TRANSMITTER HILL, 7/22/83, 239UTC 360
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
300
250
200
150
100
50
0
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15
UNDAMPED NATURAL PERIOD-SECONDS


RELATIVE VELOCITY RESPONSE SPECTRUM
COALINGA, TRANSMITTER HILL, 7/22/83, 239UTC UP
0,2.5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
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

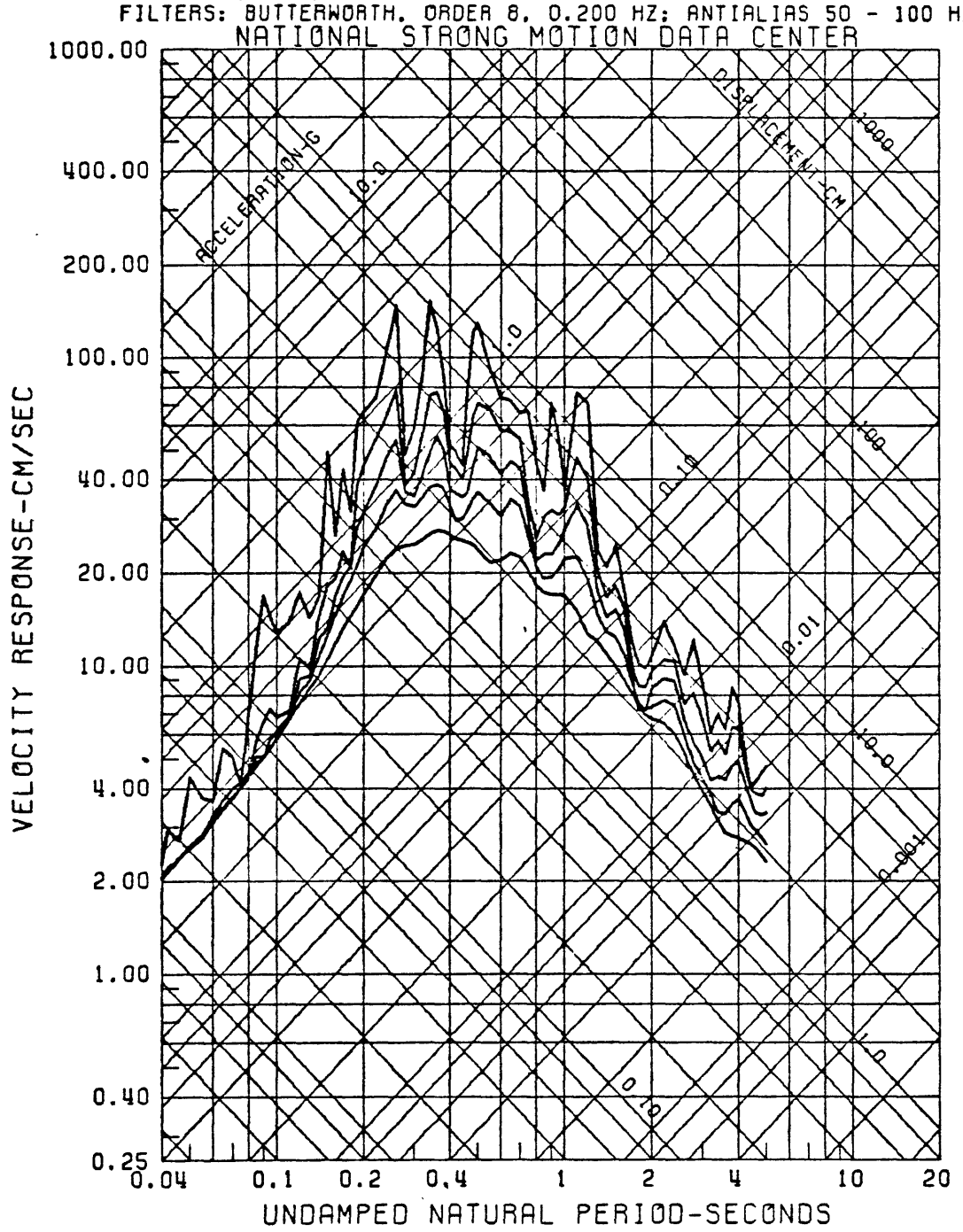

RELATIVE VELOCITY RESPONSE SPECTRUM
COALINGA, TRANSMITTER HILL, 7/22/83, 239UTC 270
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
RV
FAS
VELOCITY RESPONSE-CM/SEC
300
250
200
150
100
50
0
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3
7
11
15
UNDAMPED NATURAL PERIOD-SECONDS


RESPONSE SPECTRA
COALINGA, ANTICLINE RIDGE (PAD SITE), 7/22/83, 239UTC 360
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
ACCELERATION-G
DISPLACEMENT-CM
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

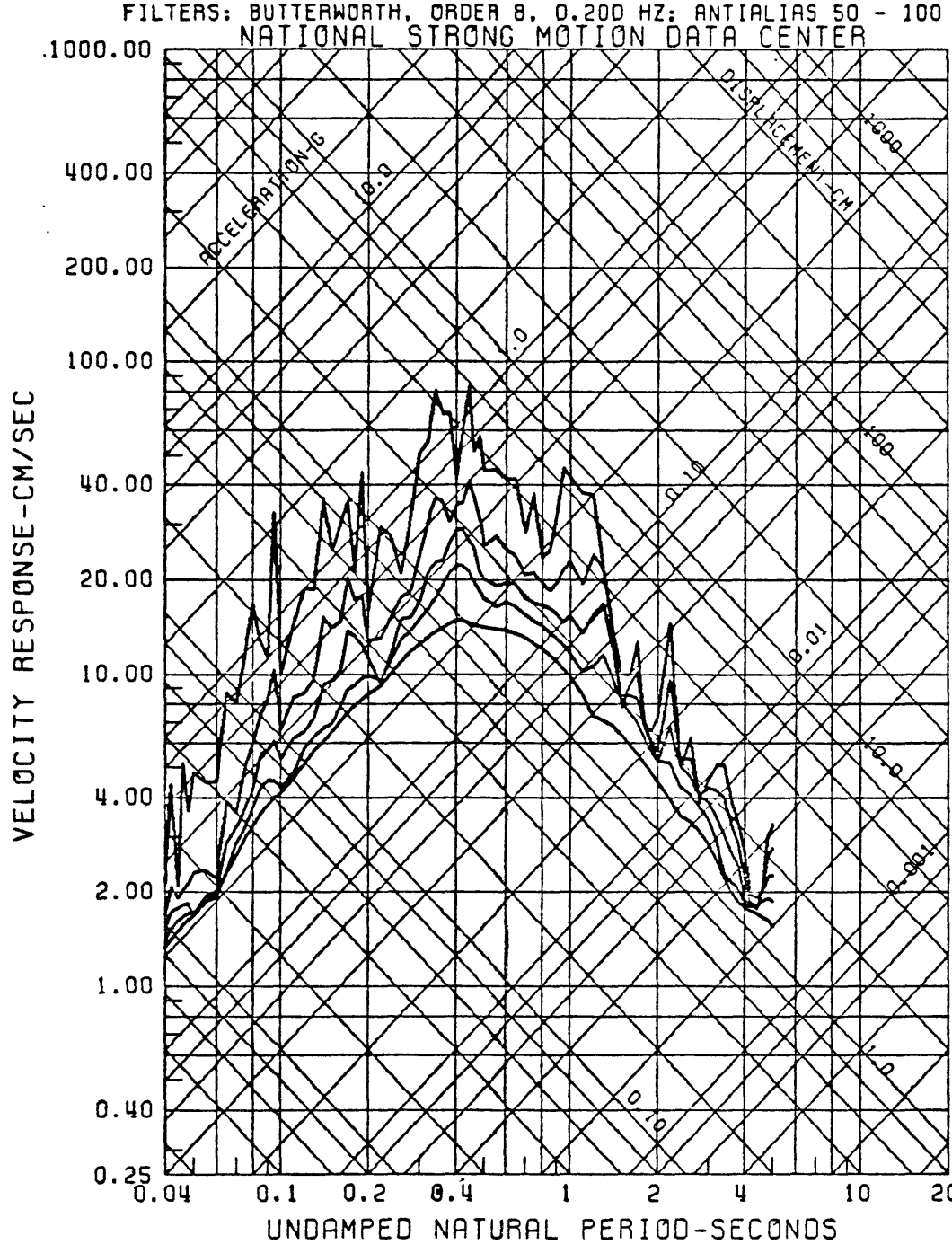

RESPONSE SPECTRA
COALINGA, ANTICLINE RIDGE (PAD SITE), 7/22/83, 239UTC UP
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
ACCELERATION-G
DISPLACEMENT-CM
1000.00
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


RESPONSE SPECTRA
COALINGA, ANTICLINE RIDGE (PAD SITE), 7/22/83, 239UTC 270
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
ACCELERATION-G
DISPLACEMENT-CM
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

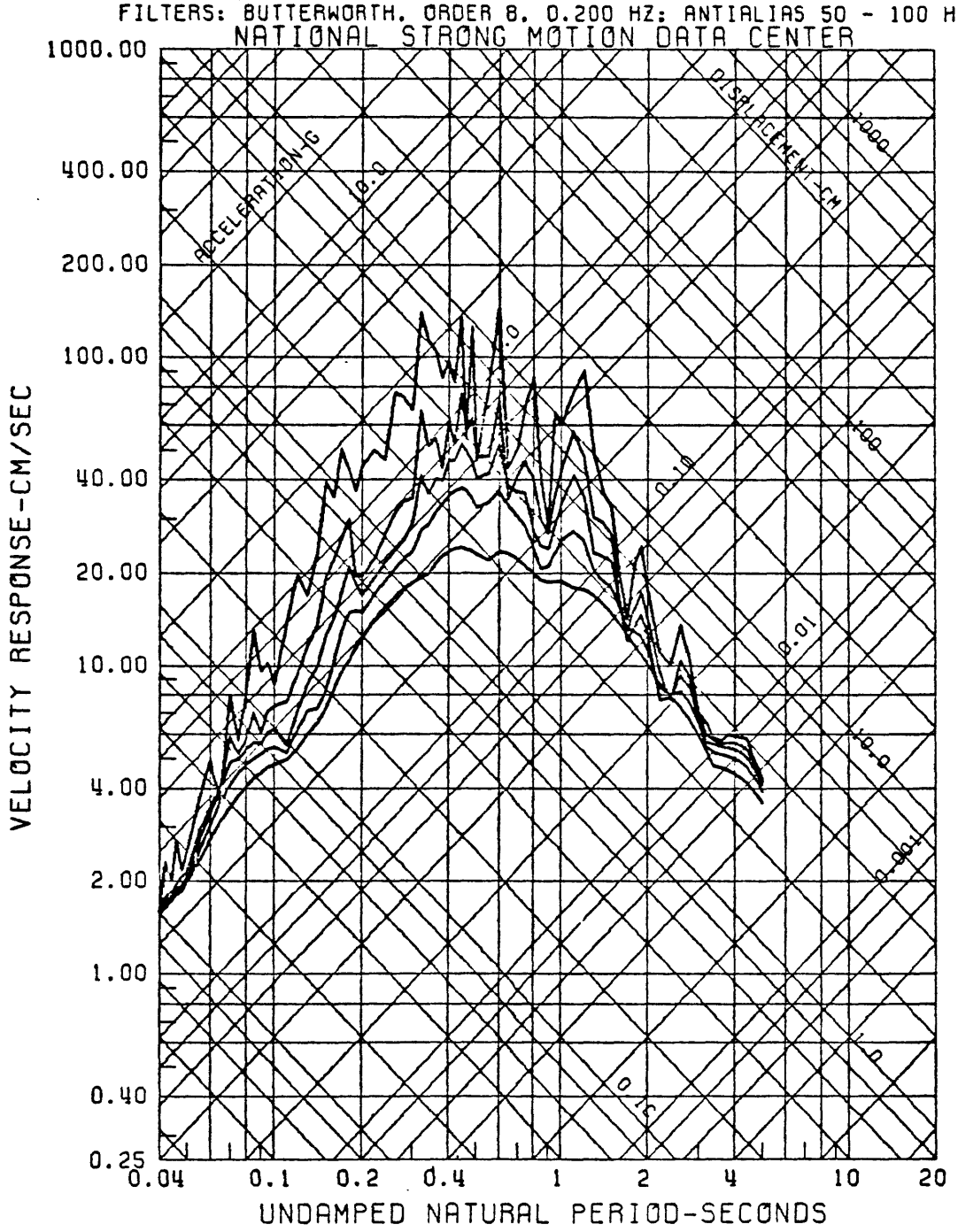
RESPONSE SPECTRA
COALINGA, BURNETT CONSTRUCTION, 7/22/83, 239UTC 360
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER

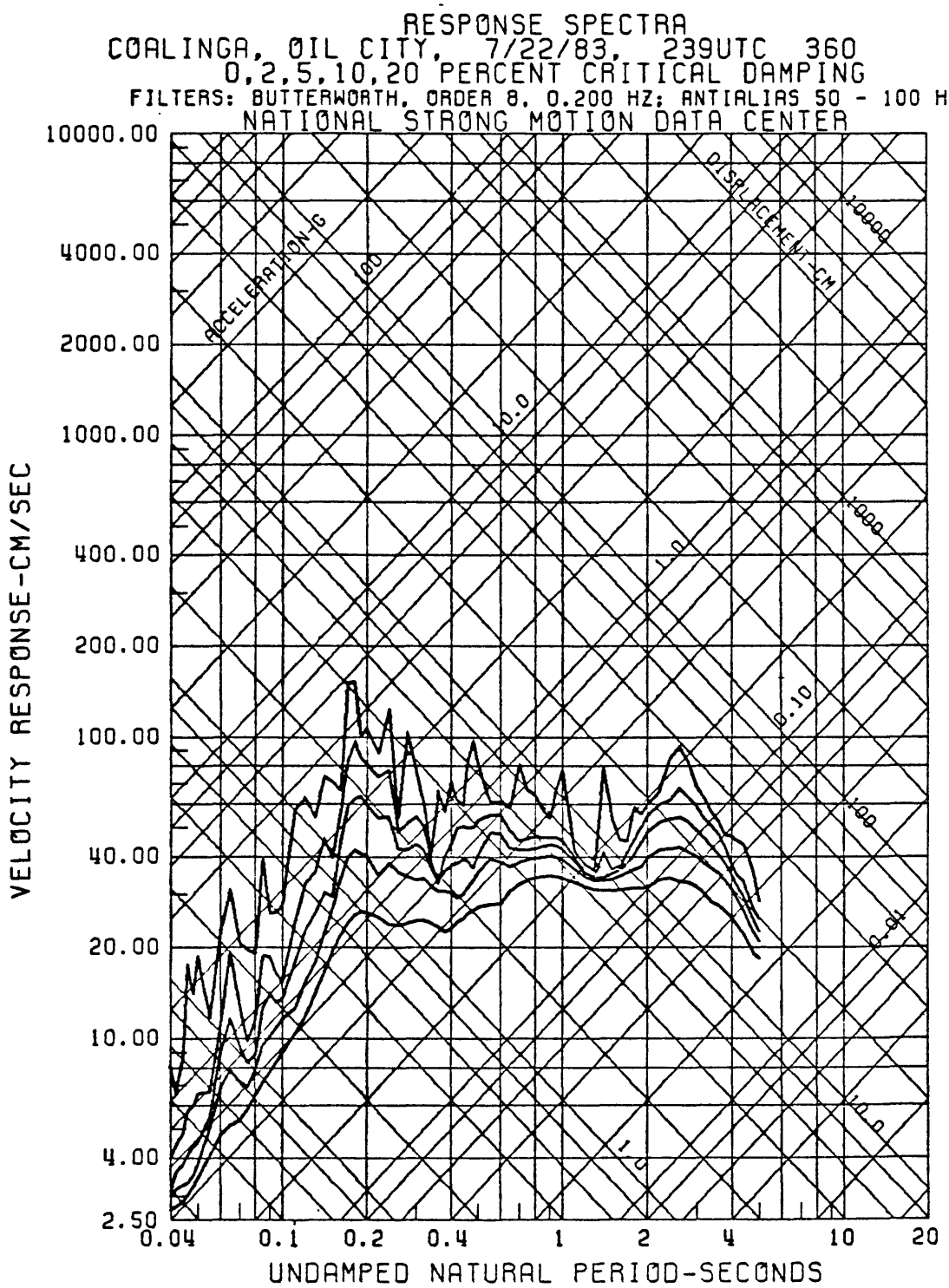


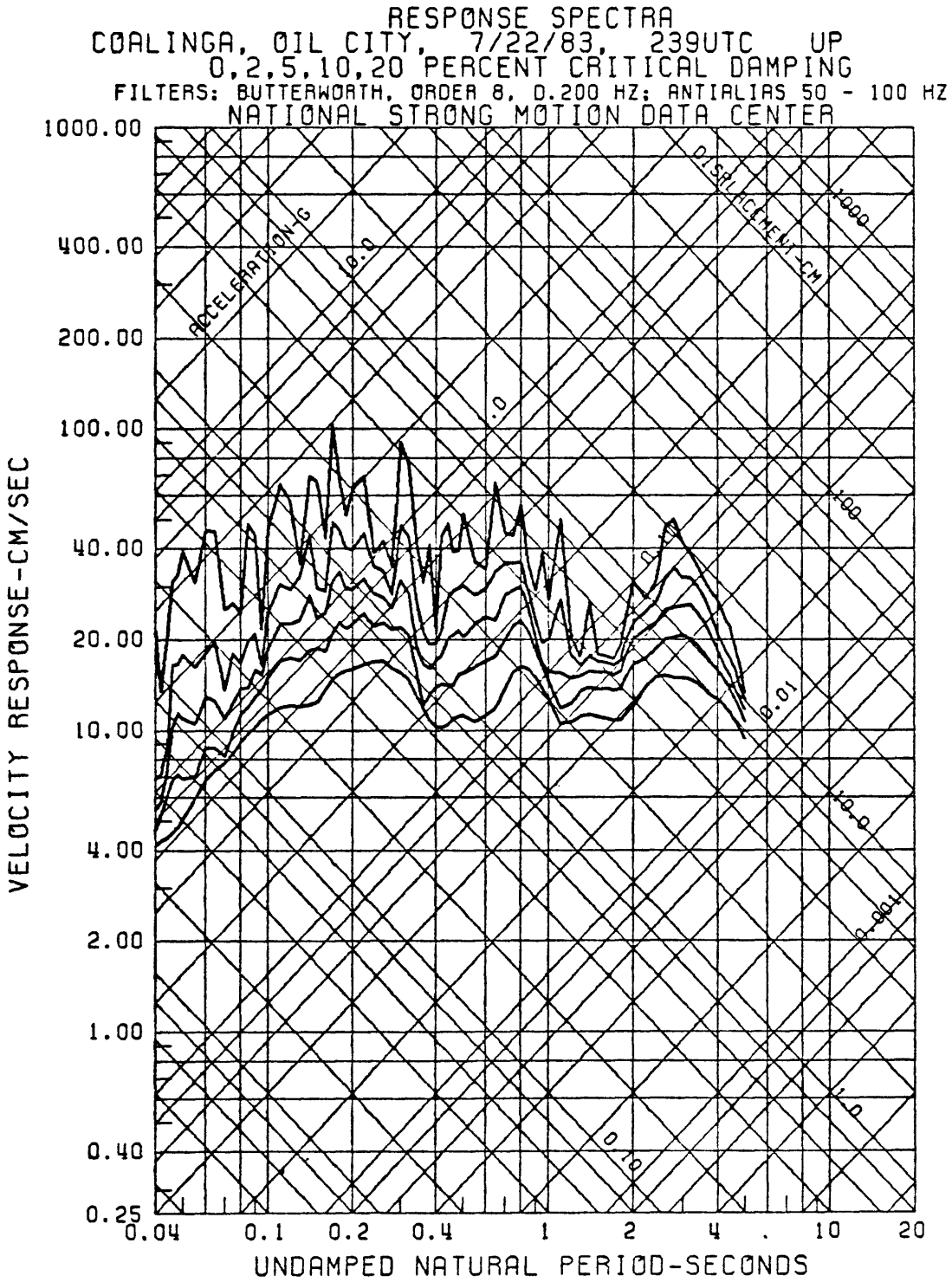
RESPONSE SPECTRA
COALINGA, BURNETT CONSTRUCTION, 7/22/83, 239UTC UP
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER

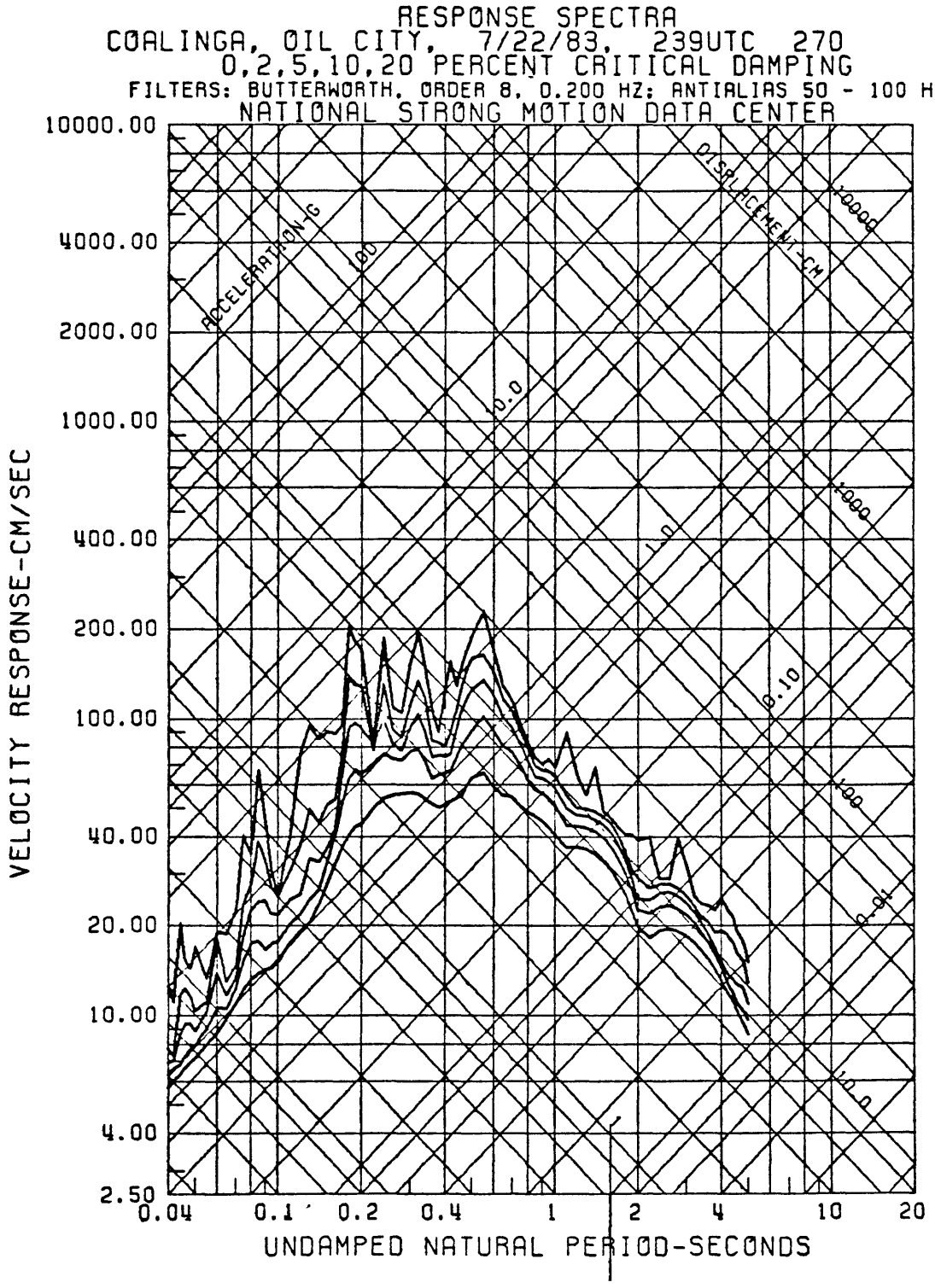


RESPONSE SPECTRA
COALINGA, BURNETT CONSTRUCTION, 7/22/83, 239UTC 270
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER

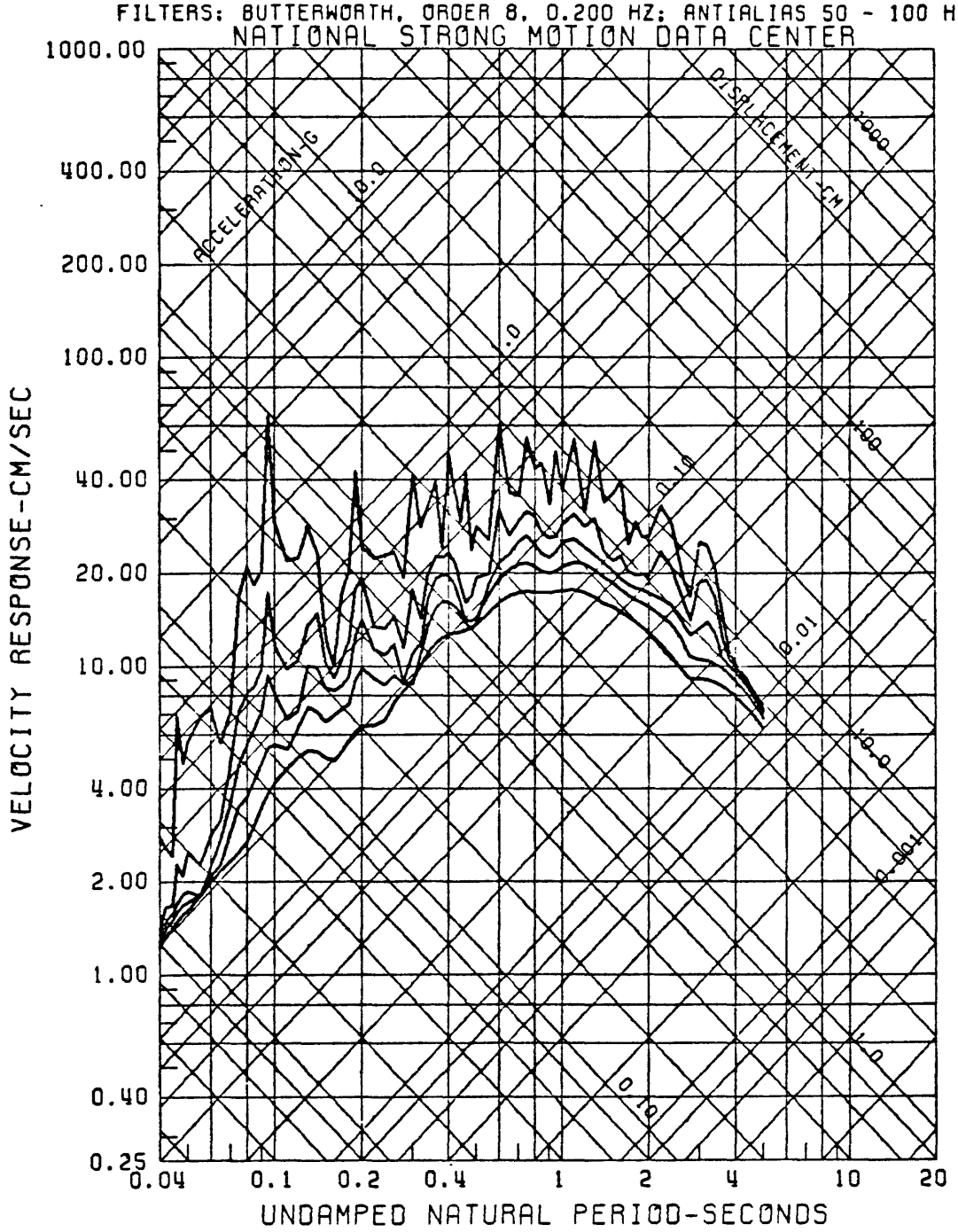



RESPONSE SPECTRA
COALINGA, OIL CITY, 7/22/83, 239UTC 360
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
ACCELERATION-G
DISPLACEMENT-CM
10000.00
4000.00
2000.00
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

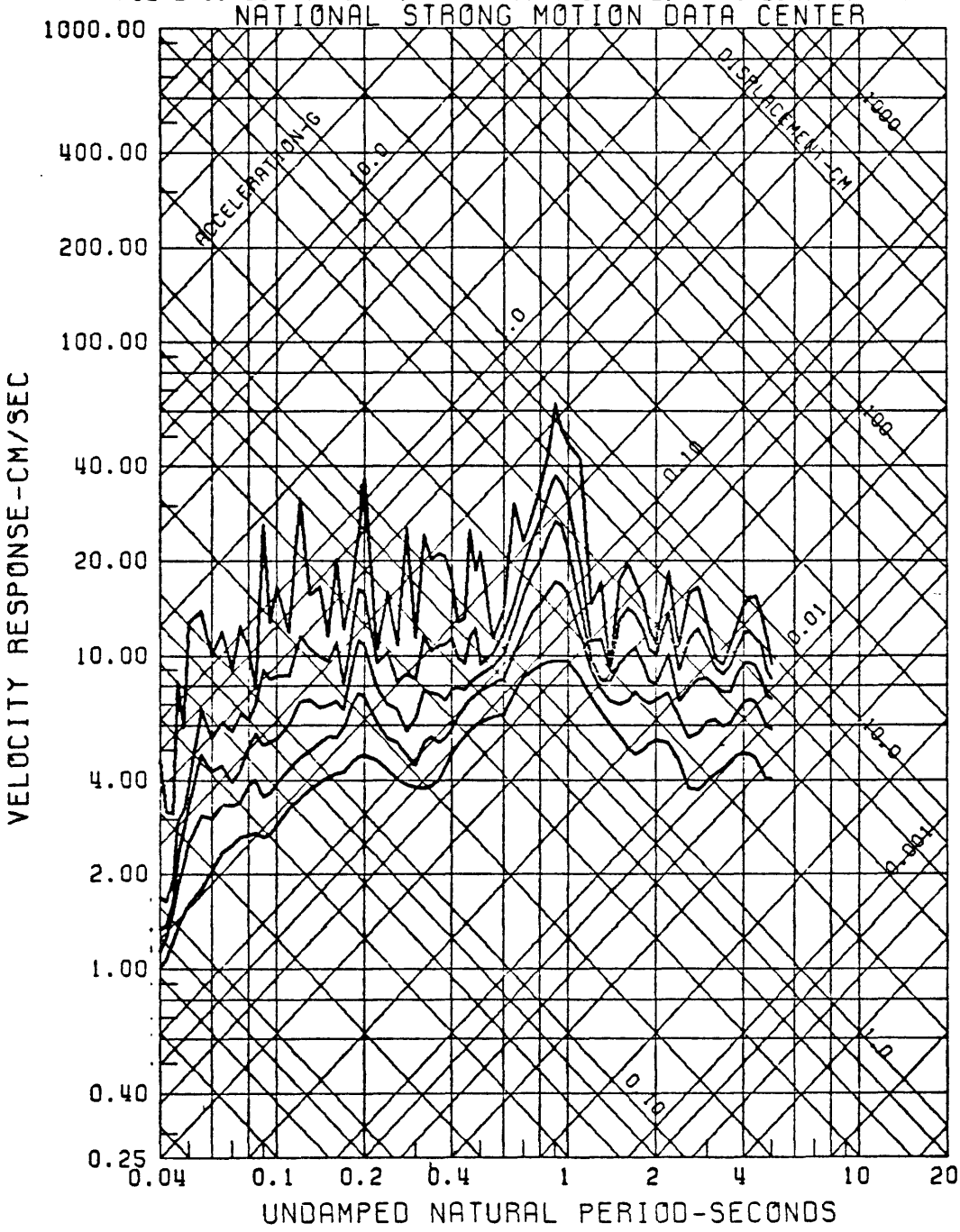

RESPONSE SPECTRA
COALINGA, OIL CITY, 7/22/83, 239UTC UP
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
ACCELERATION-G
DISPLACEMENT-CM
1000.00
400.00
200.00
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
0.01
0.10
1000
100
10.0
0.001
1.0


RESPONSE SPECTRA
COALINGA, OIL CITY, 7/22/83, 239UTC 270
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
ACCELERATION-G
DISPLACEMENT-CM
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

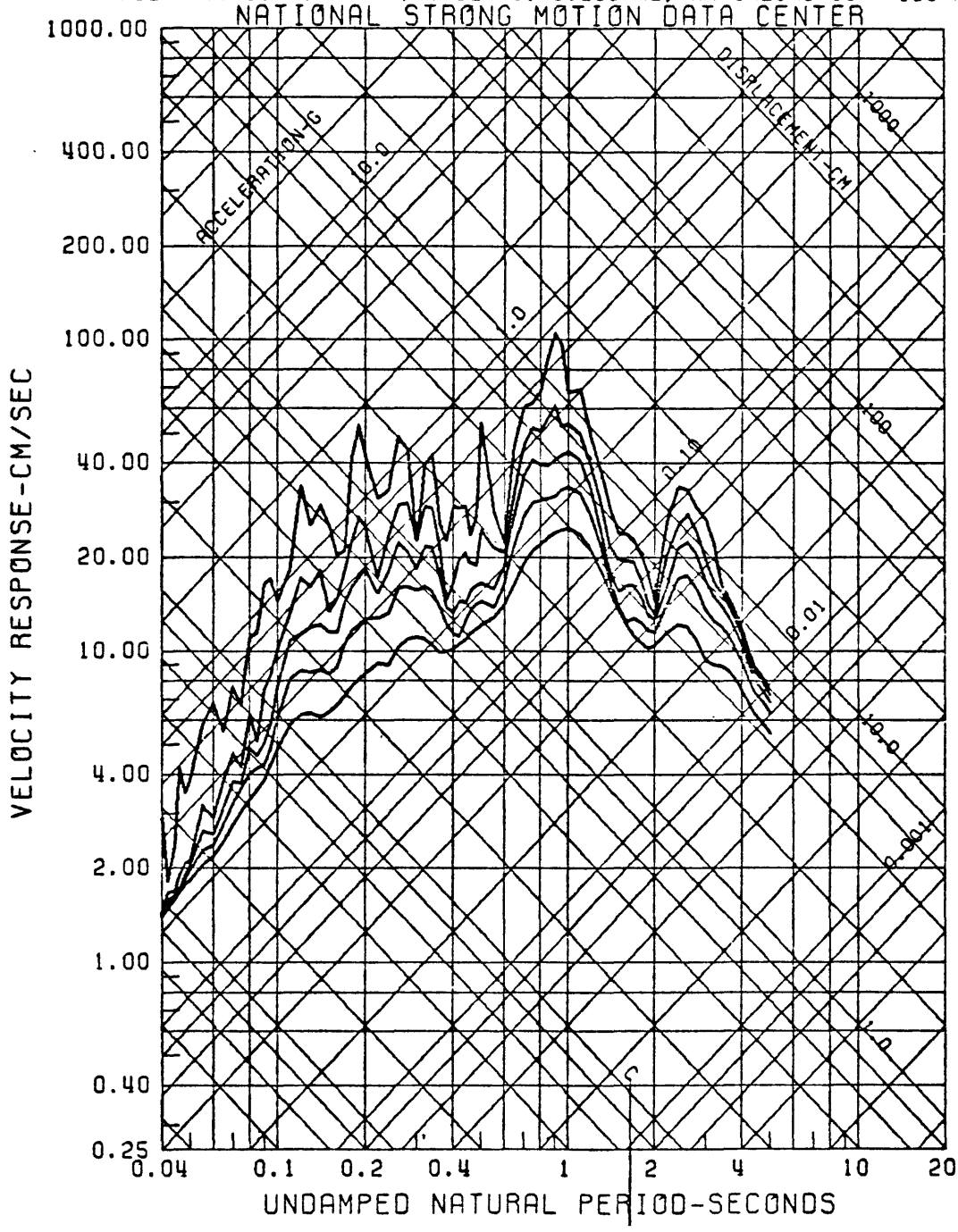
RESPONSE SPECTRA
COALINGA, OIL FIELDS FIRE STATION FREE-FIELD, 7/22/83, 239UTC 360
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER



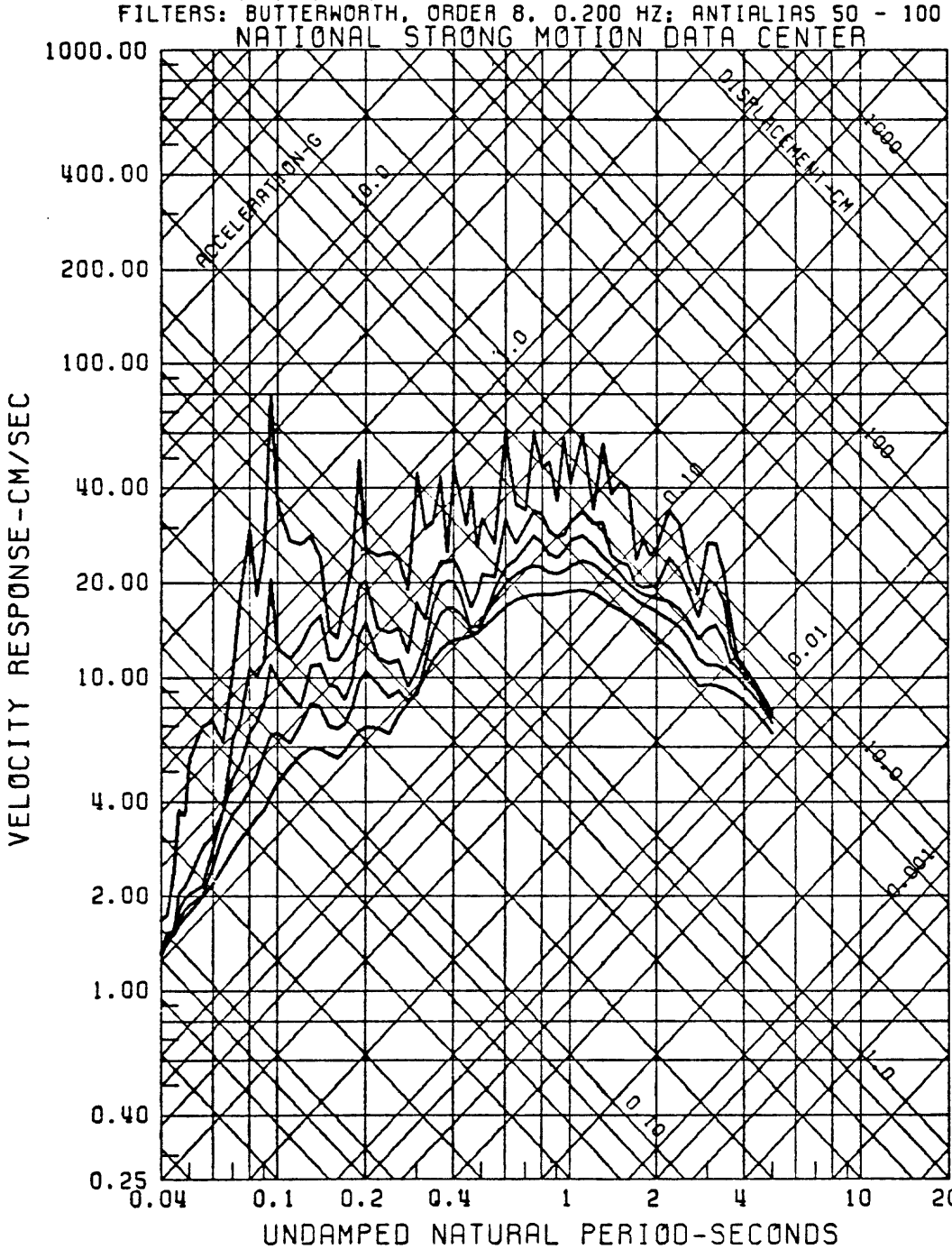
RESPONSE SPECTRA
COALINGA, OIL FIELDS FIRE STATION FREE-FIELD, 7/22/83, 239UTC UP
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER

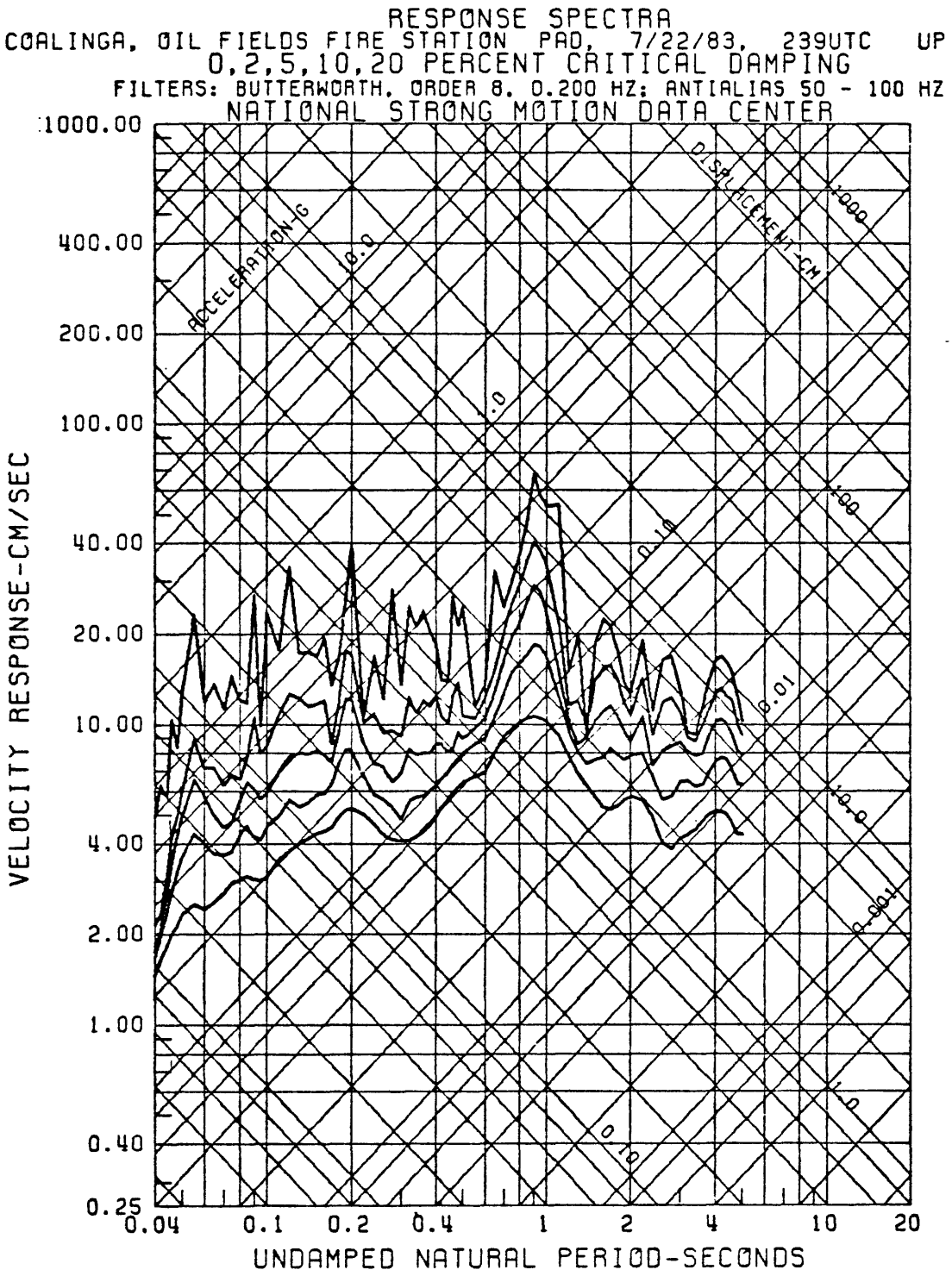


RESPONSE SPECTRA
COALINGA, OIL FIELDS FIRE STATION FREE-FIELD, 7/22/83, 239UTC 270
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER

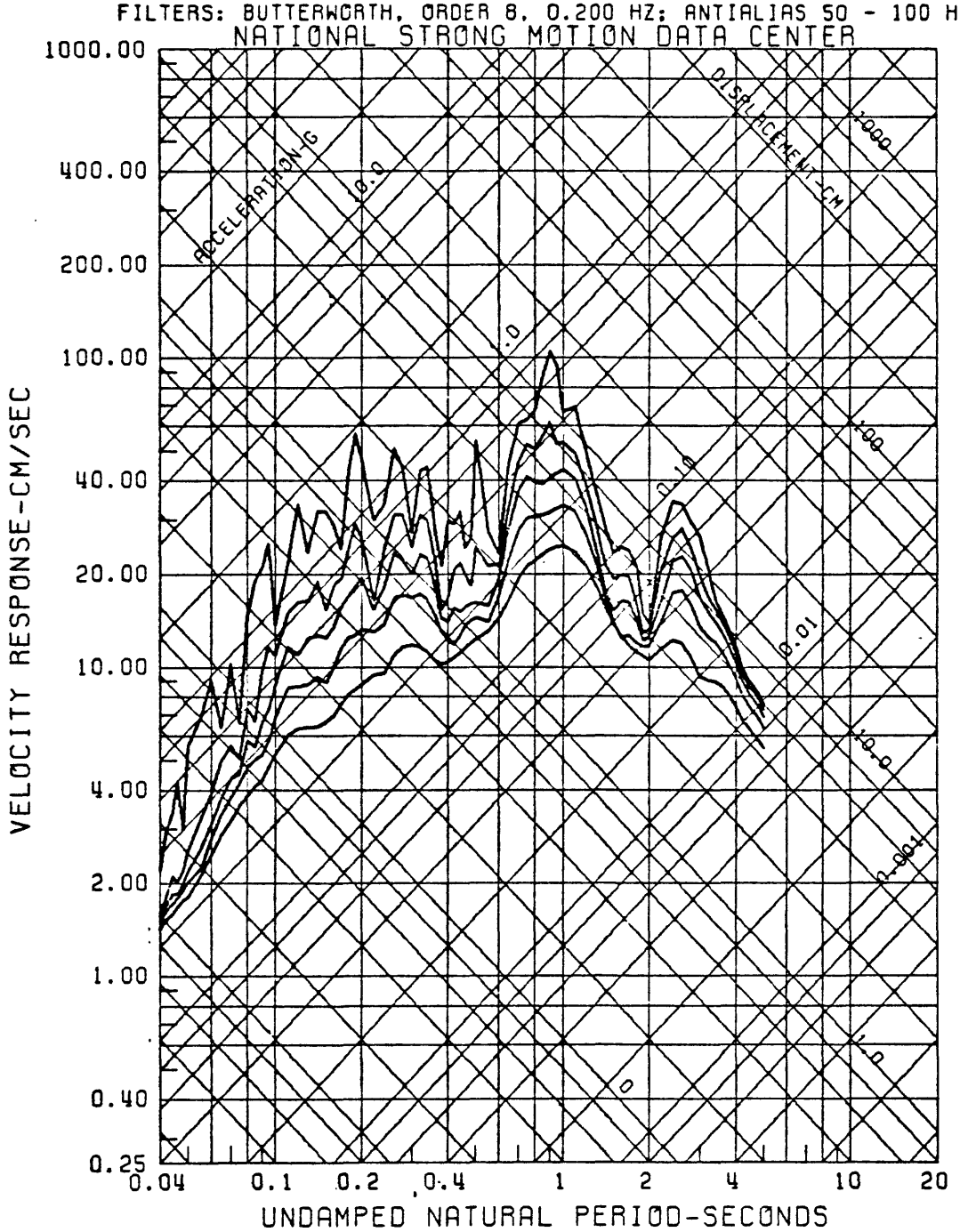


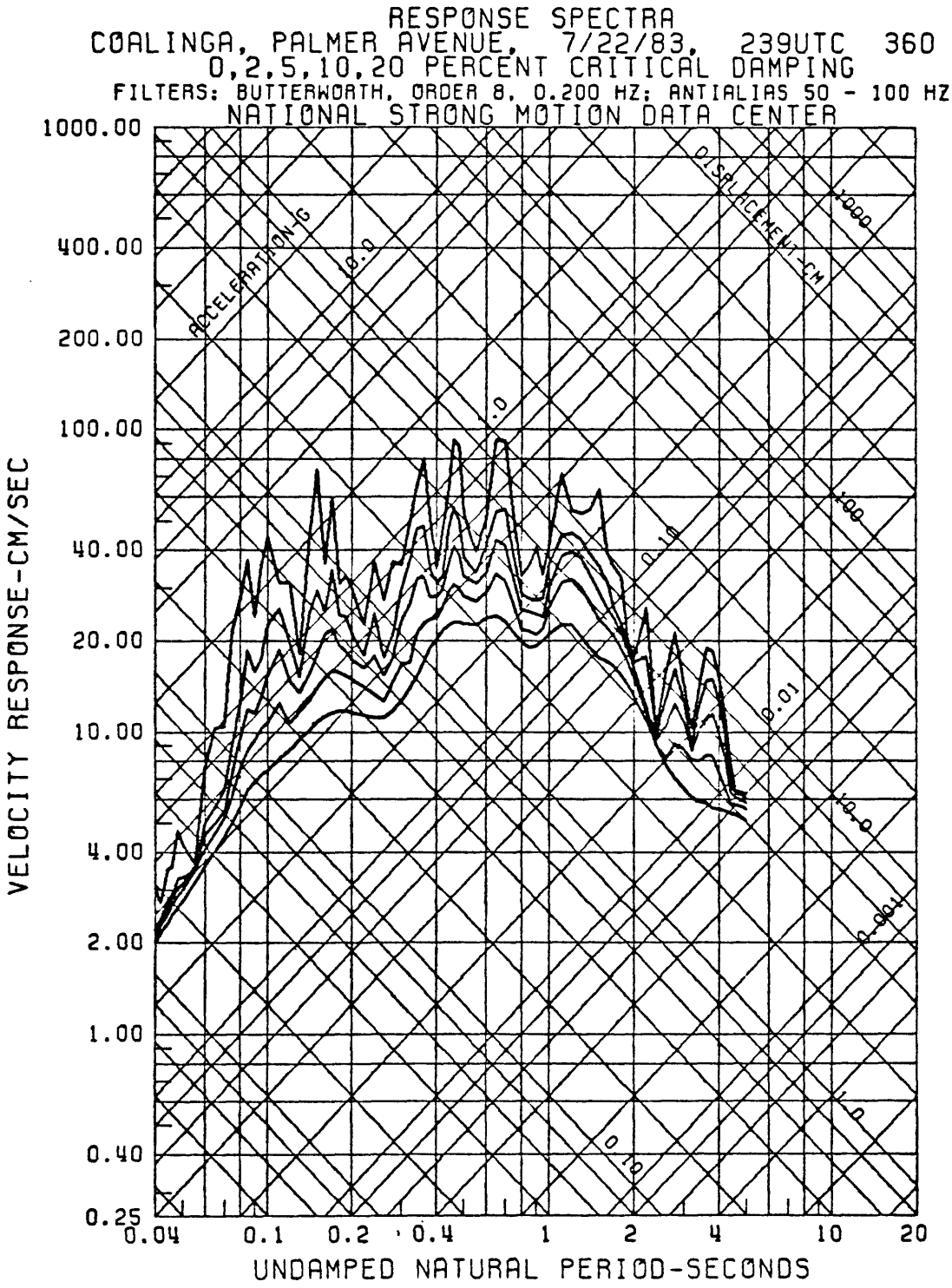
RESPONSE SPECTRA
COALINGA, OIL FIELDS FIRE STATION PAD, 7/22/83, 239UTC 360
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER

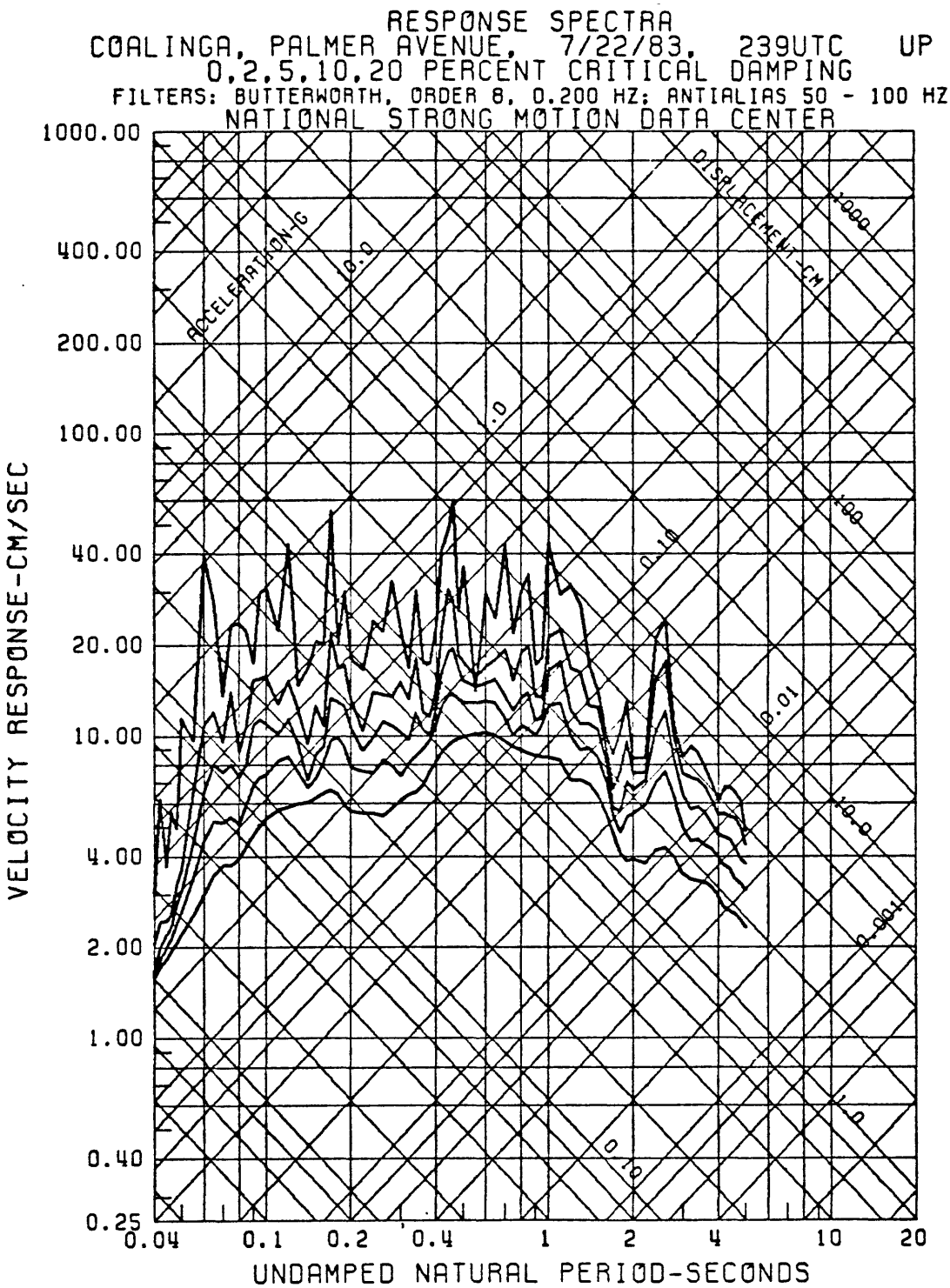



RESPONSE SPECTRA
COALINGA, OIL FIELDS FIRE STATION PAD, 7/22/83, 239UTC UP
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
ACCELERATION-G
DISPLACEMENT-CM
1000.00
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

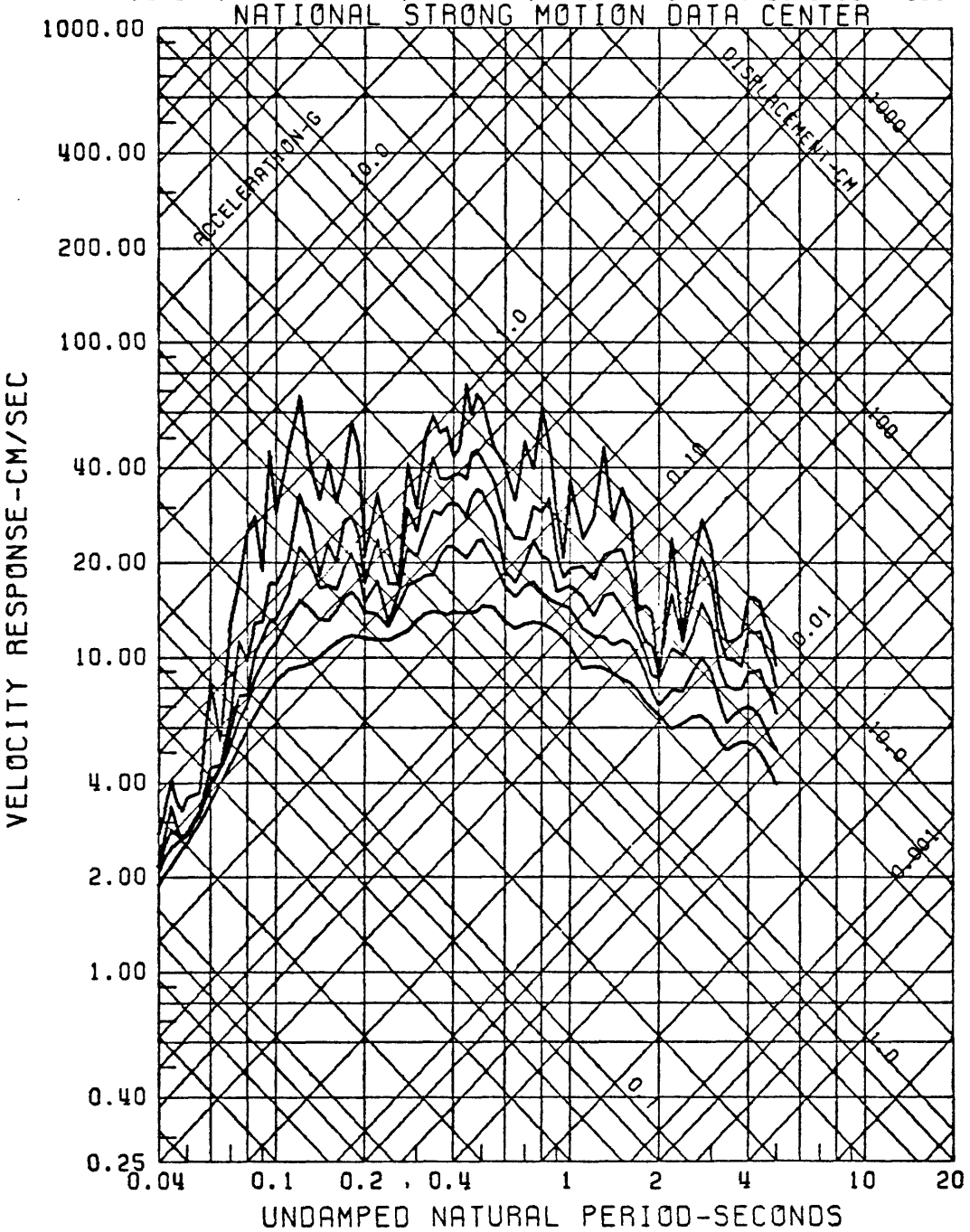
RESPONSE SPECTRA
COALINGA, OIL FIELDS FIRE STATION PAD, 7/22/83, 239UTC 270
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER

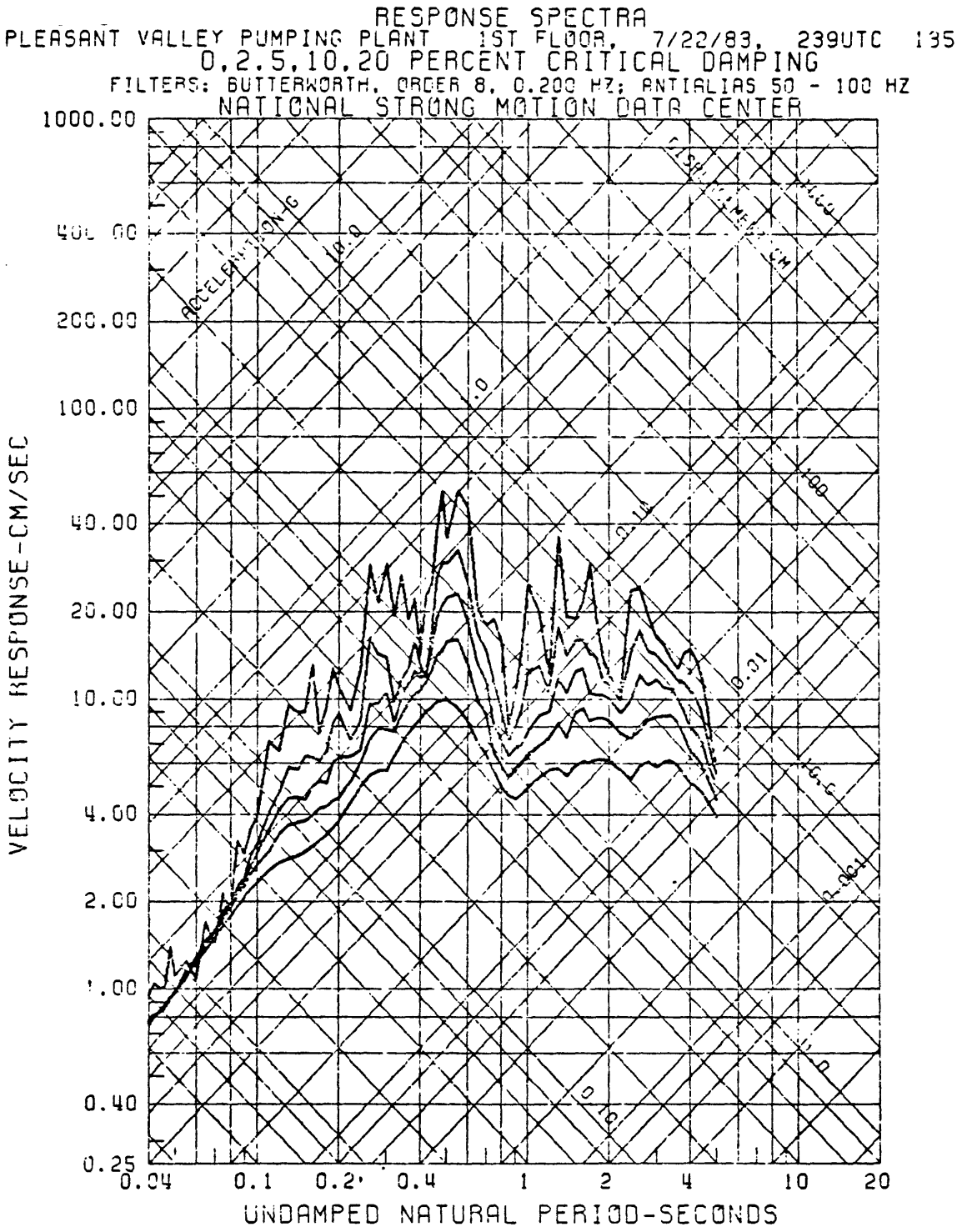


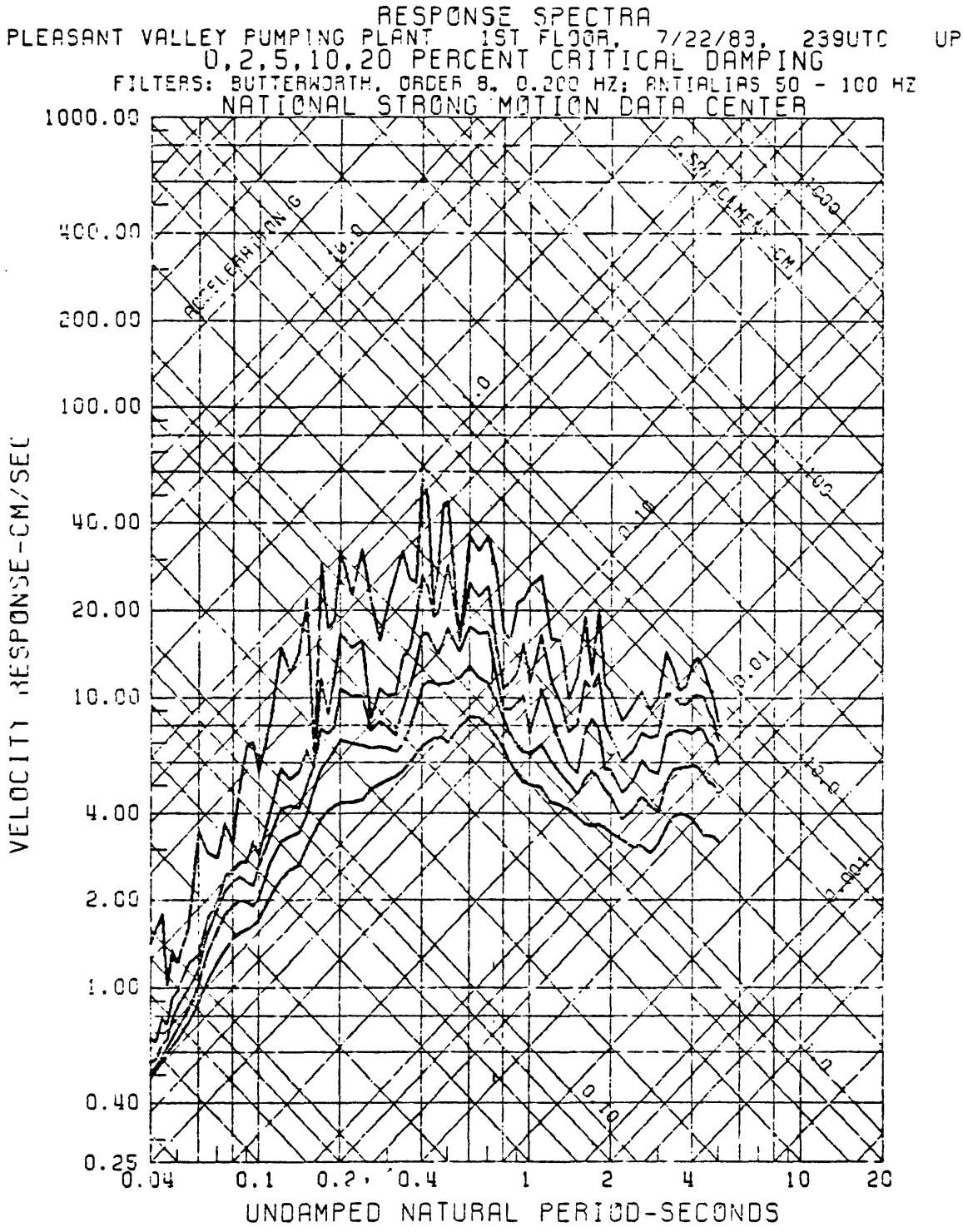

RESPONSE SPECTRA
COALINGA, PALMER AVENUE, 7/22/83, 239UTC 360
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
ACCELERATION-G
10.0
1.0
0.10
0.01
DISPLACEMENT-CM
1000
100
10.0
0.001
1.0
0.10
1000.00
400.00
200.00
100.00
40.00
20.00
10.00
4.00
2.00
1.00
0.40
0.25
VELOCITY RESPONSE-CM/SEC
0.04
0.1
0.2
0.4
1
2
4
10
20
UNDAMPED NATURAL PERIOD-SECONDS


RESPONSE SPECTRA
COALINGA, PALMER AVENUE, 7/22/83, 239UTC UP
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
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

RESPONSE SPECTRA
COALINGA, PALMER AVENUE, 7/22/83, 239UTC 270
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER




RESPONSE SPECTRA
PLEASANT VALLEY PUMPING PLANT 1ST FLOOR, 7/22/83, 239UTC 135
0,2.5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
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


RESPONSE SPECTRA
PLEASANT VALLEY PUMPING PLANT 1ST FLOOR, 7/22/83, 239UTC UP
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
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

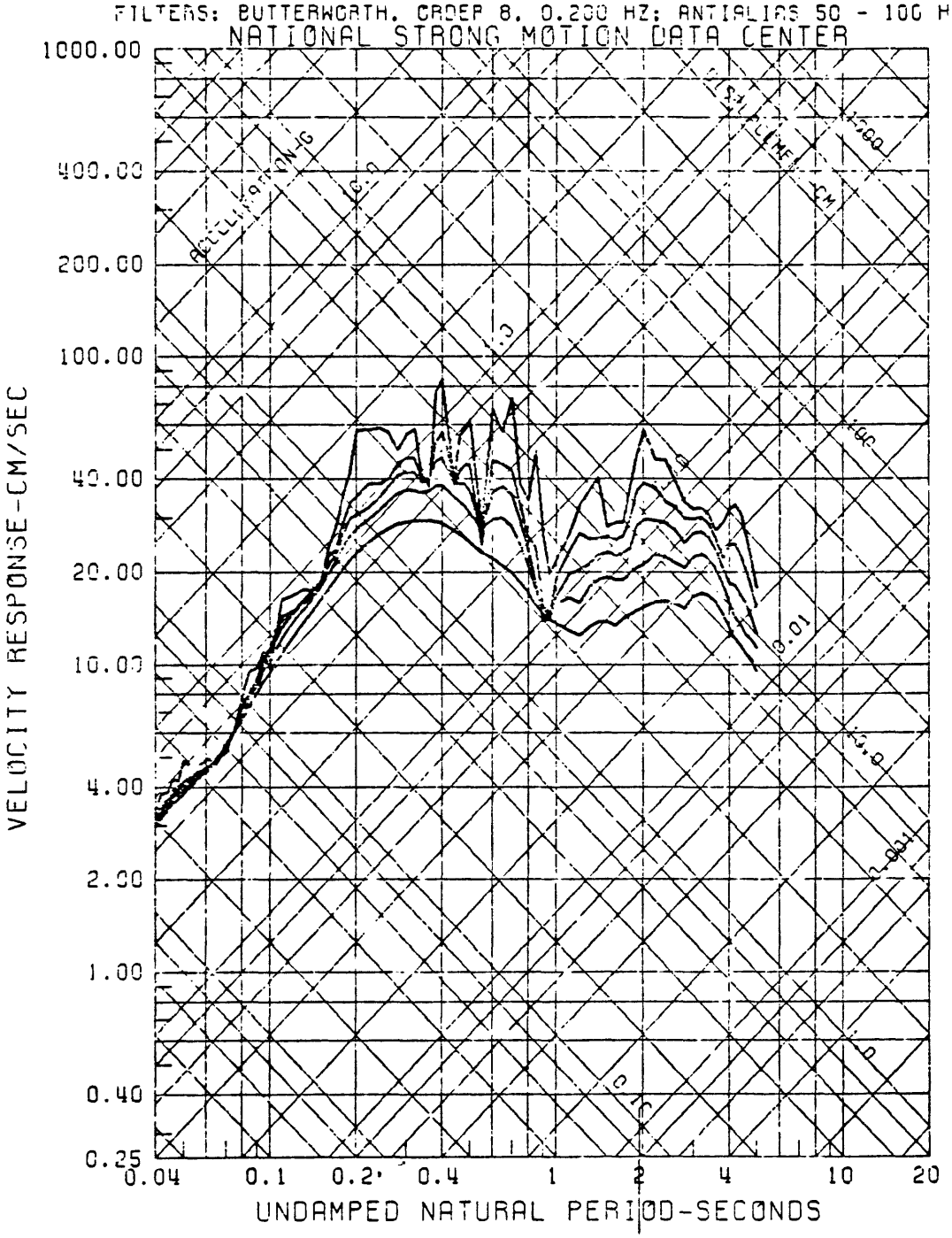
RESPONSE SPECTRA

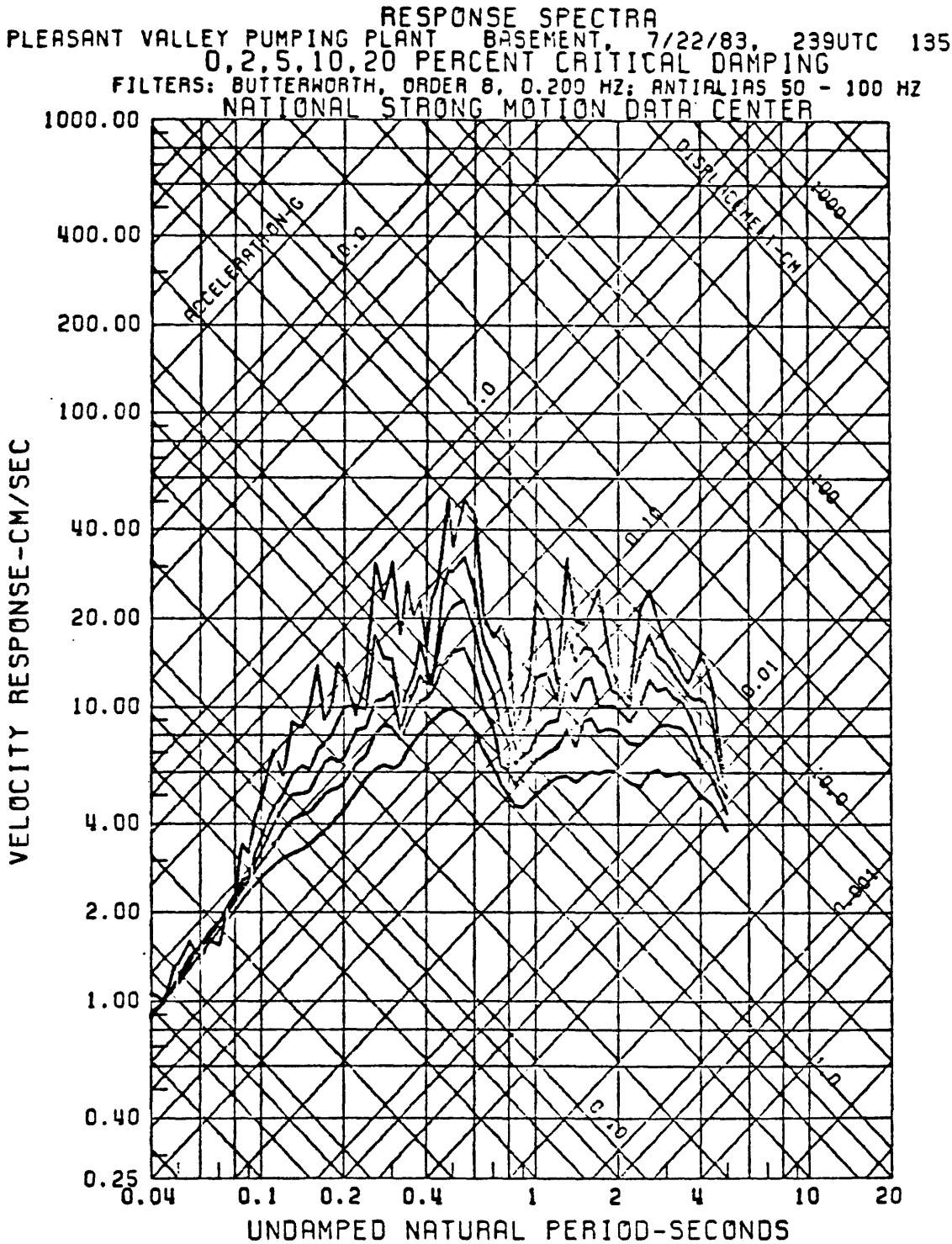
PLEASANT VALLEY PUMPING PLANT 1ST FLOOR, 7/22/83, 239UTC 45

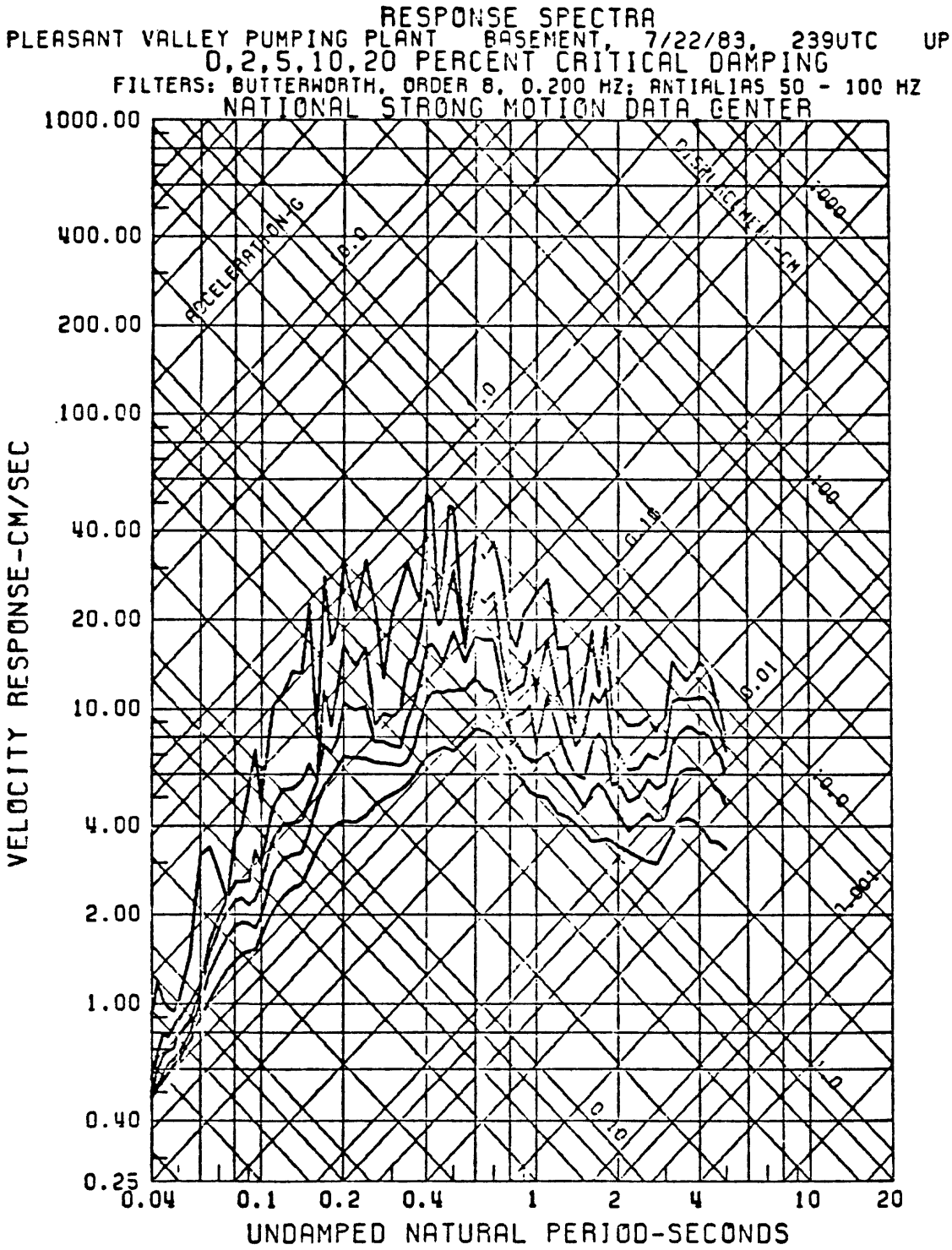
0,2,5,10,20 PERCENT CRITICAL DAMPING

FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ

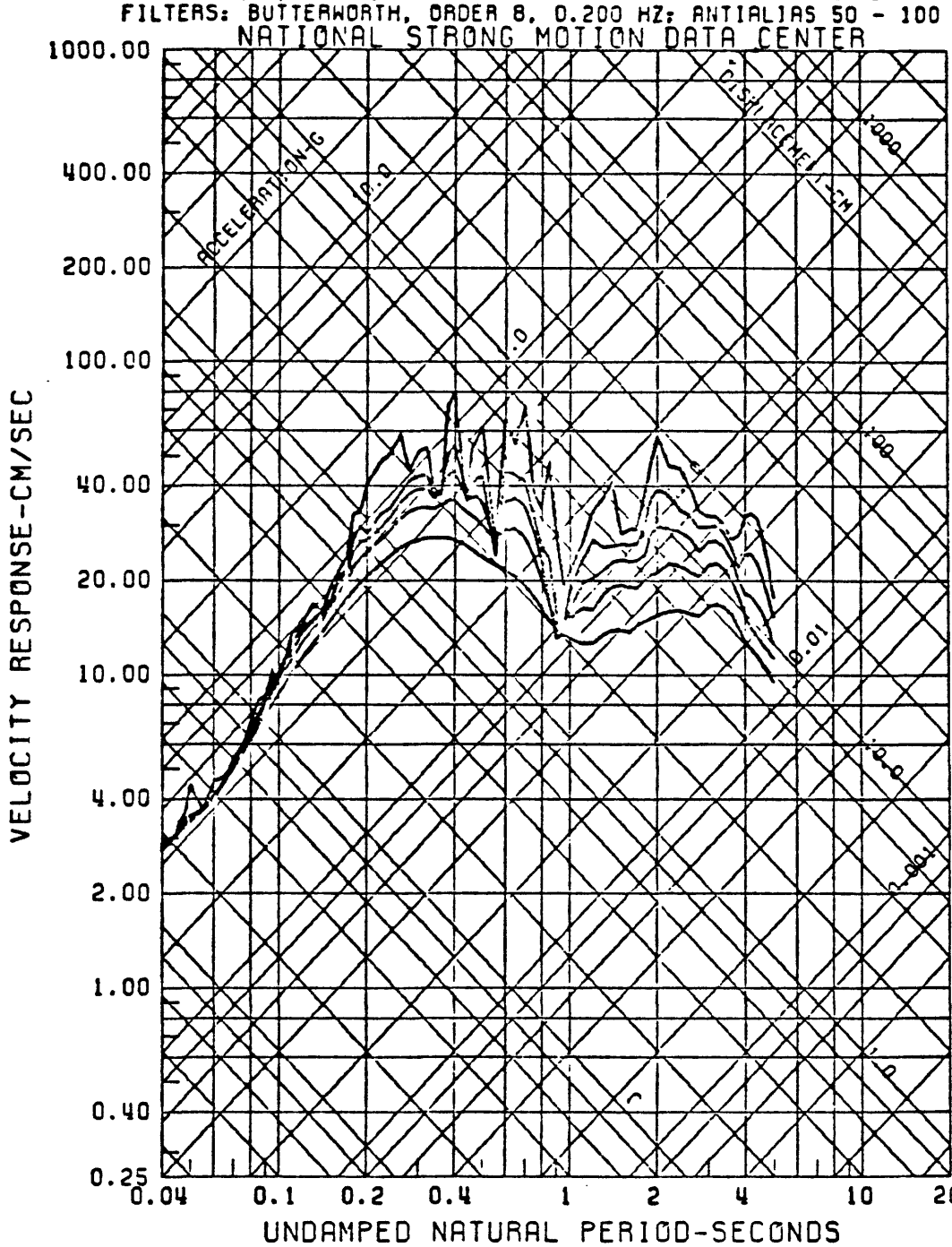
NATIONAL STRONG MOTION DATA CENTER



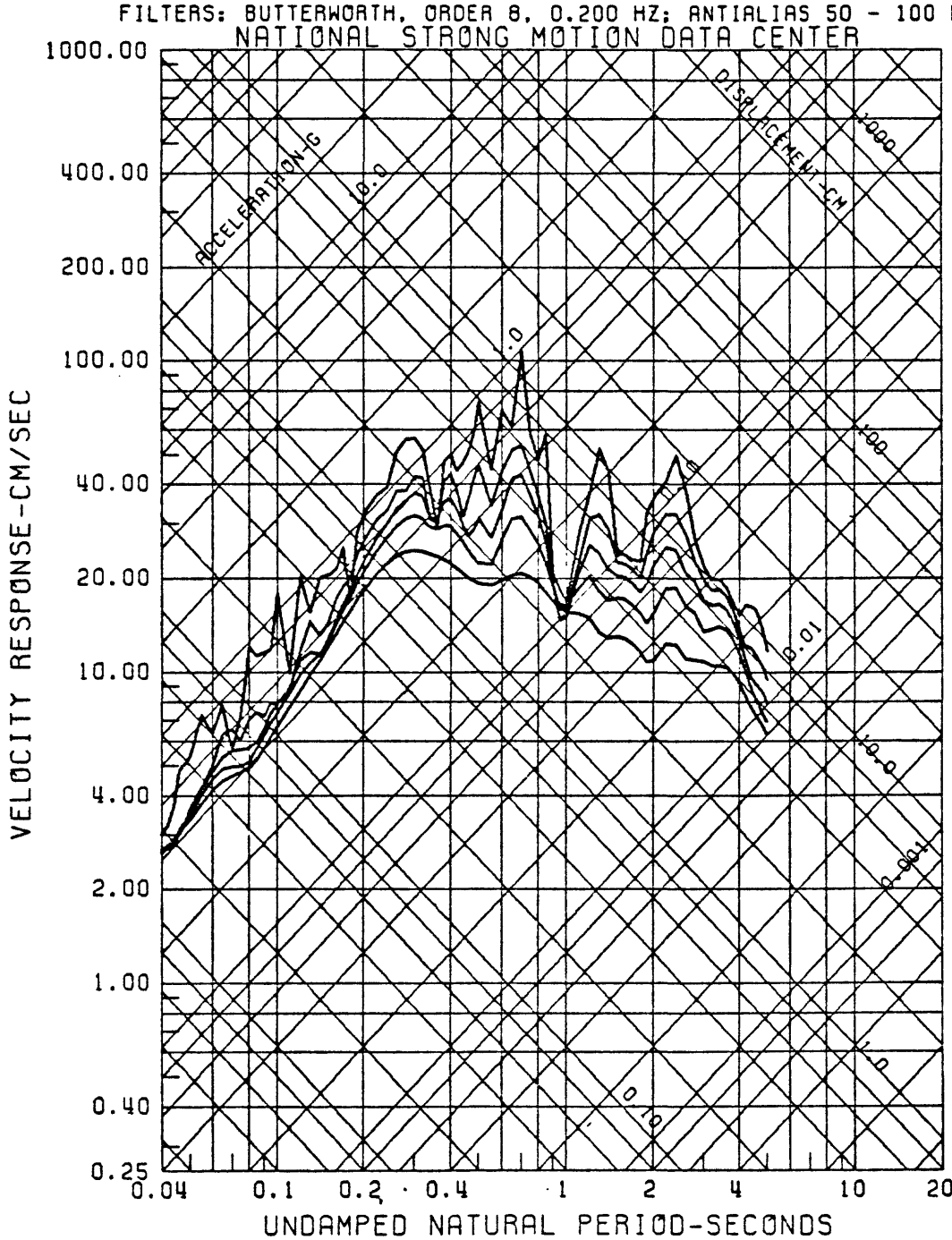

RESPONSE SPECTRA
PLEASANT VALLEY PUMPING PLANT BASEMENT, 7/22/83, 239UTC 135
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
1000.00
400.00
200.00
100.00
40.00
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
DISPLACEMENT-CM

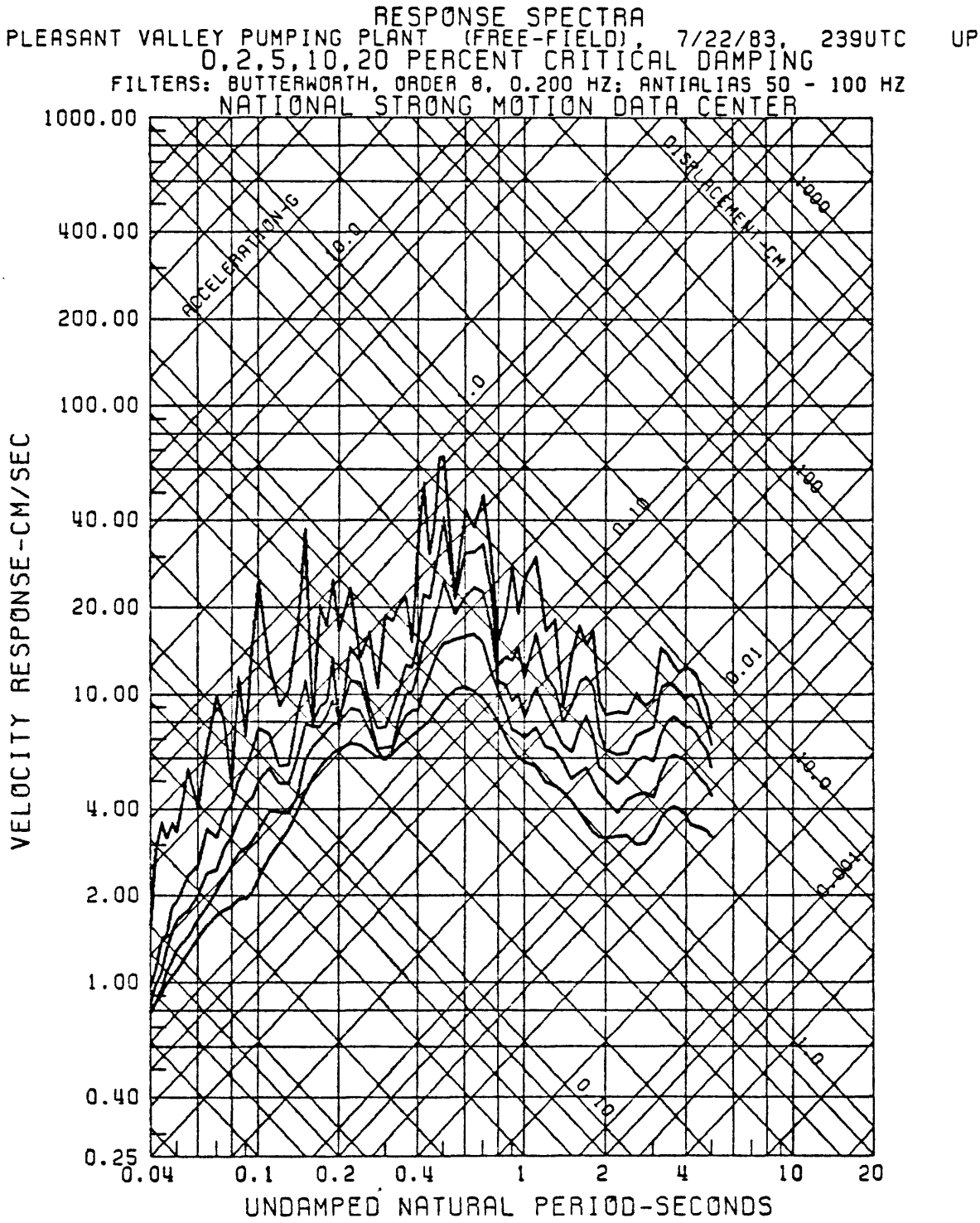

RESPONSE SPECTRA
PLEASANT VALLEY PUMPING PLANT BASEMENT, 7/22/83, 239UTC UP
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
ACCELERATION-G
DISPLACEMENT-CM
1000.00
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

RESPONSE SPECTRA
PLEASANT VALLEY PUMPING PLANT BASEMENT, 7/22/83, 239UTC 45
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER

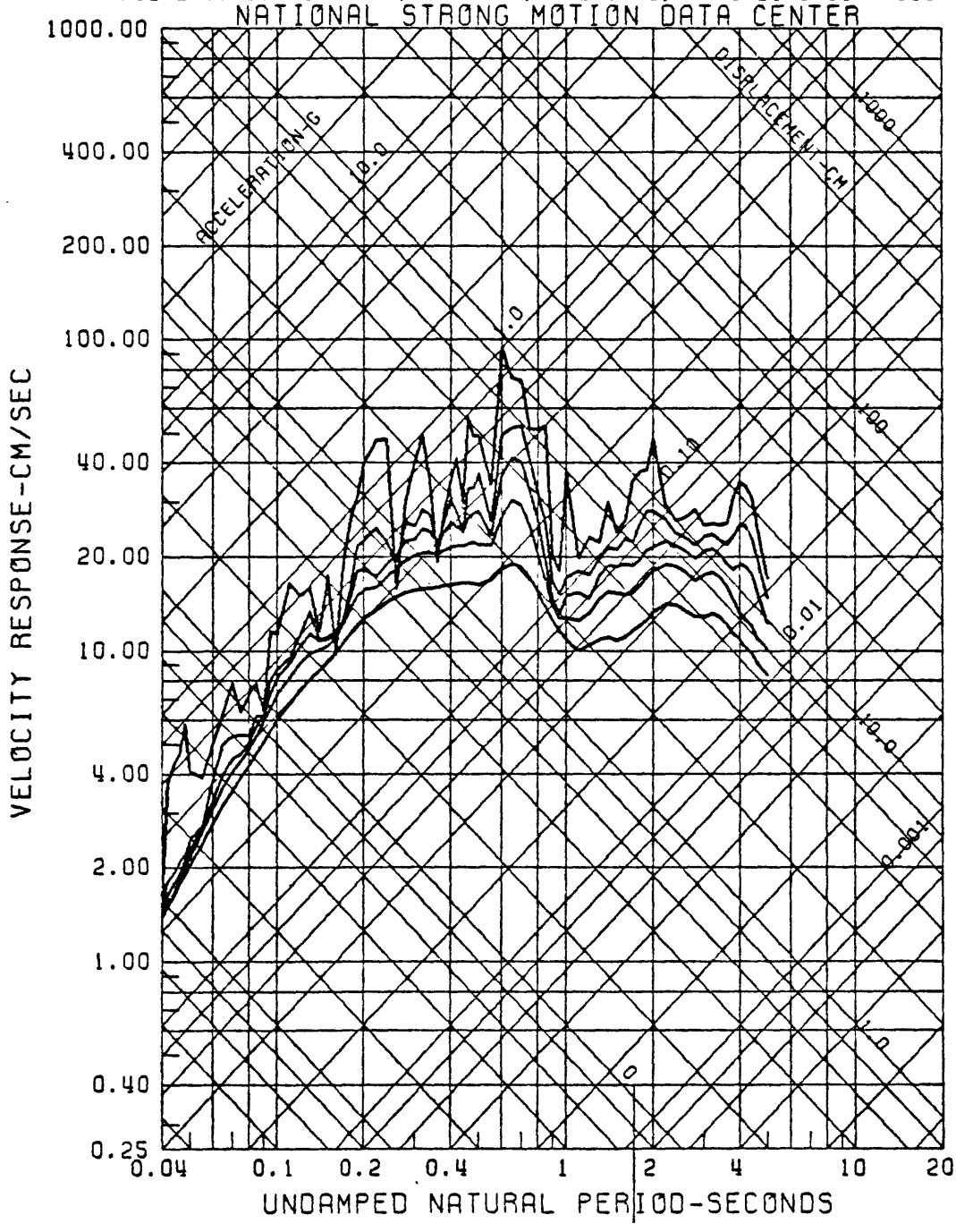


RESPONSE SPECTRA
PLEASANT VALLEY PUMPING PLANT (FREE-FIELD), 7/22/83, 239UTC 360
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER

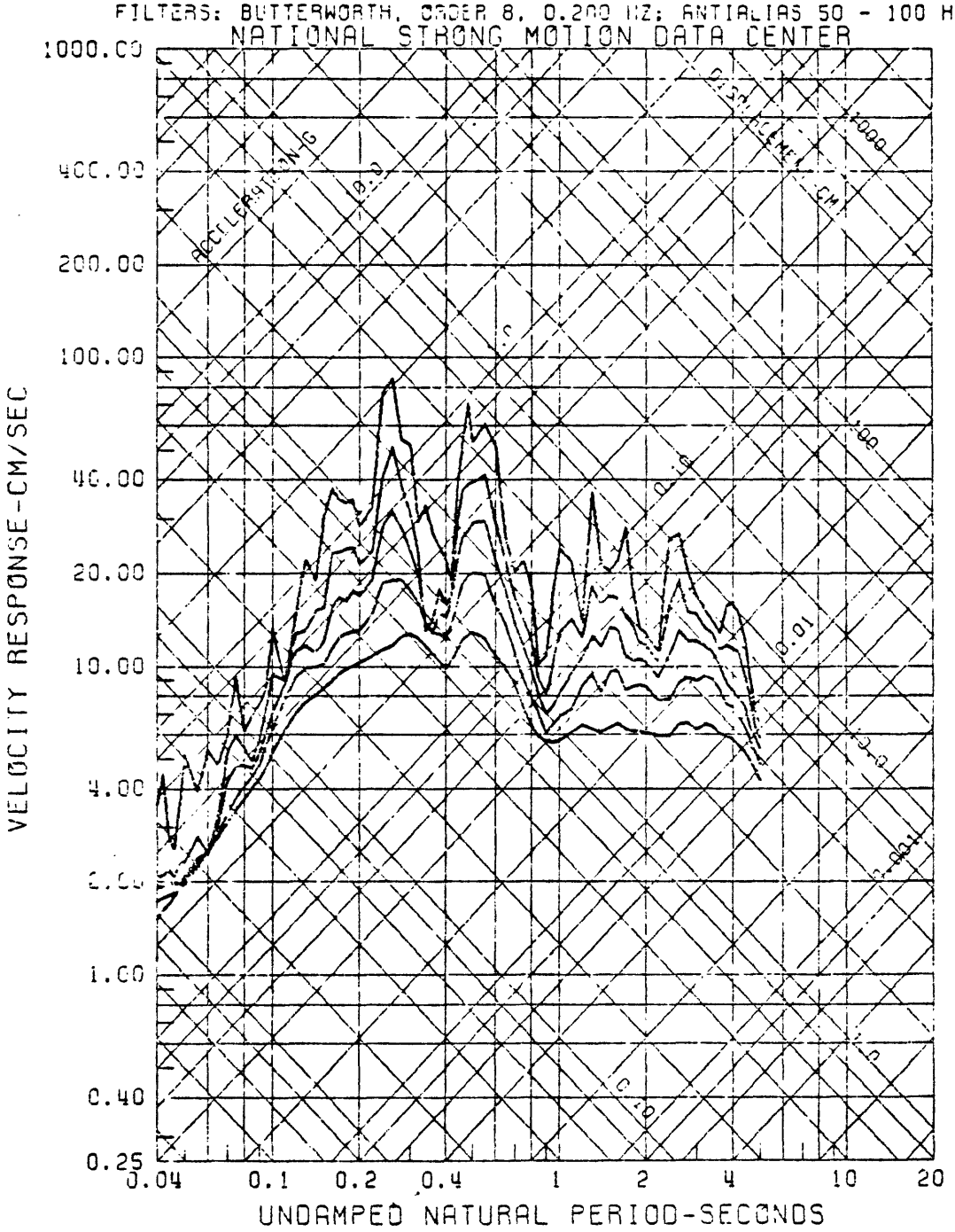



RESPONSE SPECTRA
PLEASANT VALLEY PUMPING PLANT (FREE-FIELD), 7/22/83, 239UTC UP
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
ACCELERATION-G
DISPLACEMENT-CM
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
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

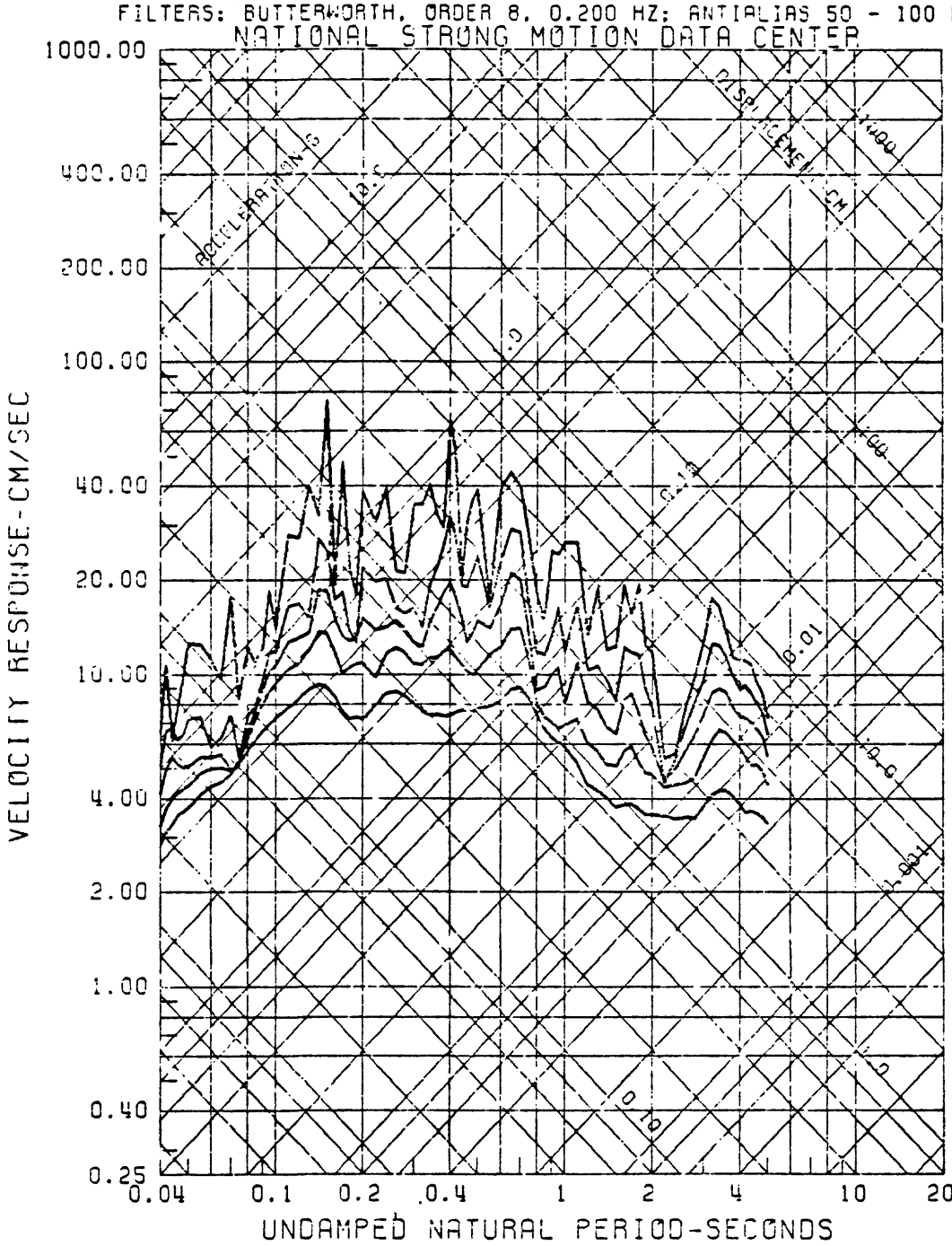
RESPONSE SPECTRA
PLEASANT VALLEY PUMPING PLANT (FREE-FIELD), 7/22/83, 239UTC 270
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER



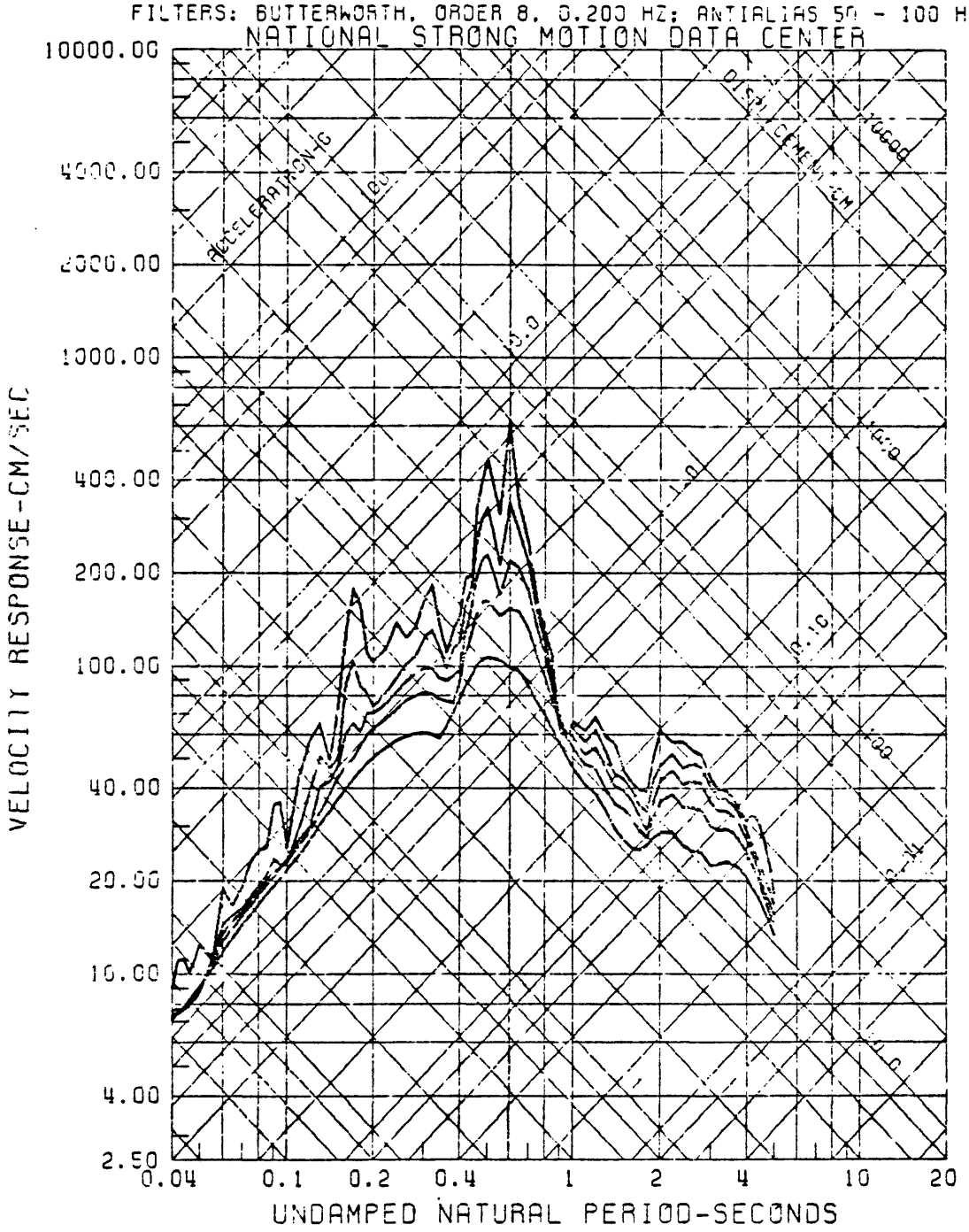
RESPONSE SPECTRA
PLEASANT VALLEY PUMPING PLANT ROOF 7/22/63 0239 UTC 135DEG
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER



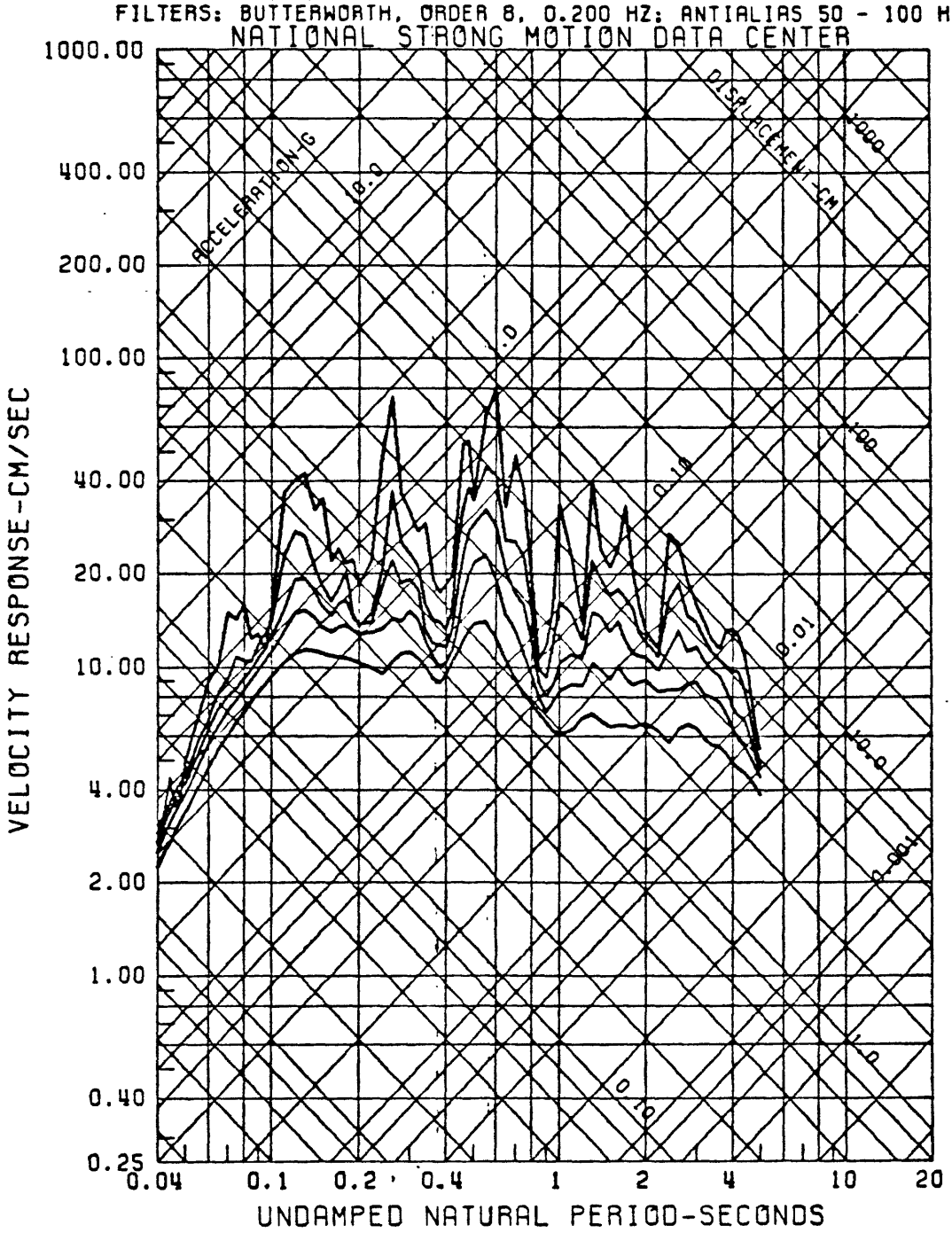
RESPONSE SPECTRA
PLEASANT VALLEY PUMPING PLANT ROOF 7/22/83 0239 UTC UP
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER



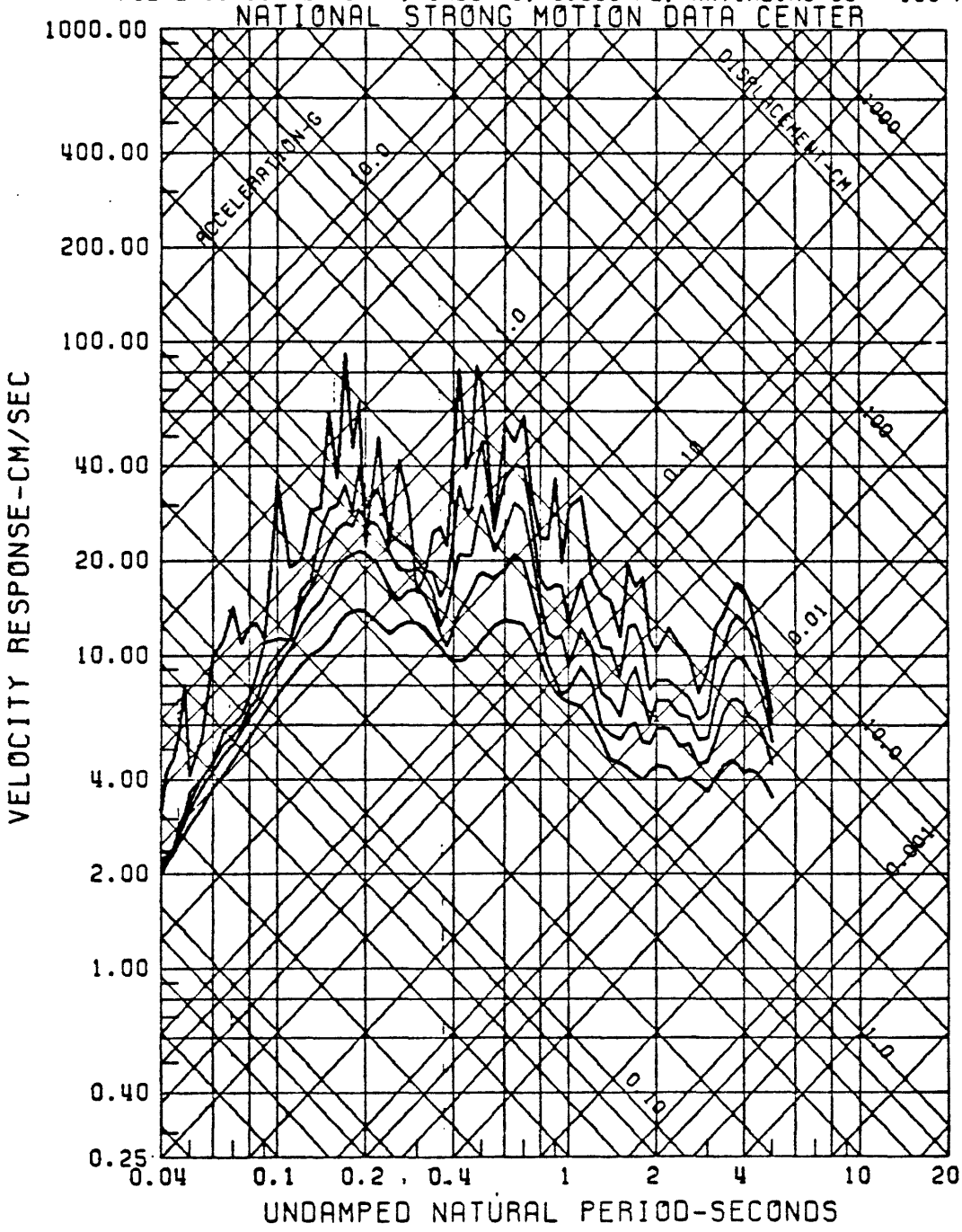
RESPONSE SPECTRA
PLEASANT VALLEY PUMPING PLANT ROOF 7/22/83 0239 UTC 045DEG
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER



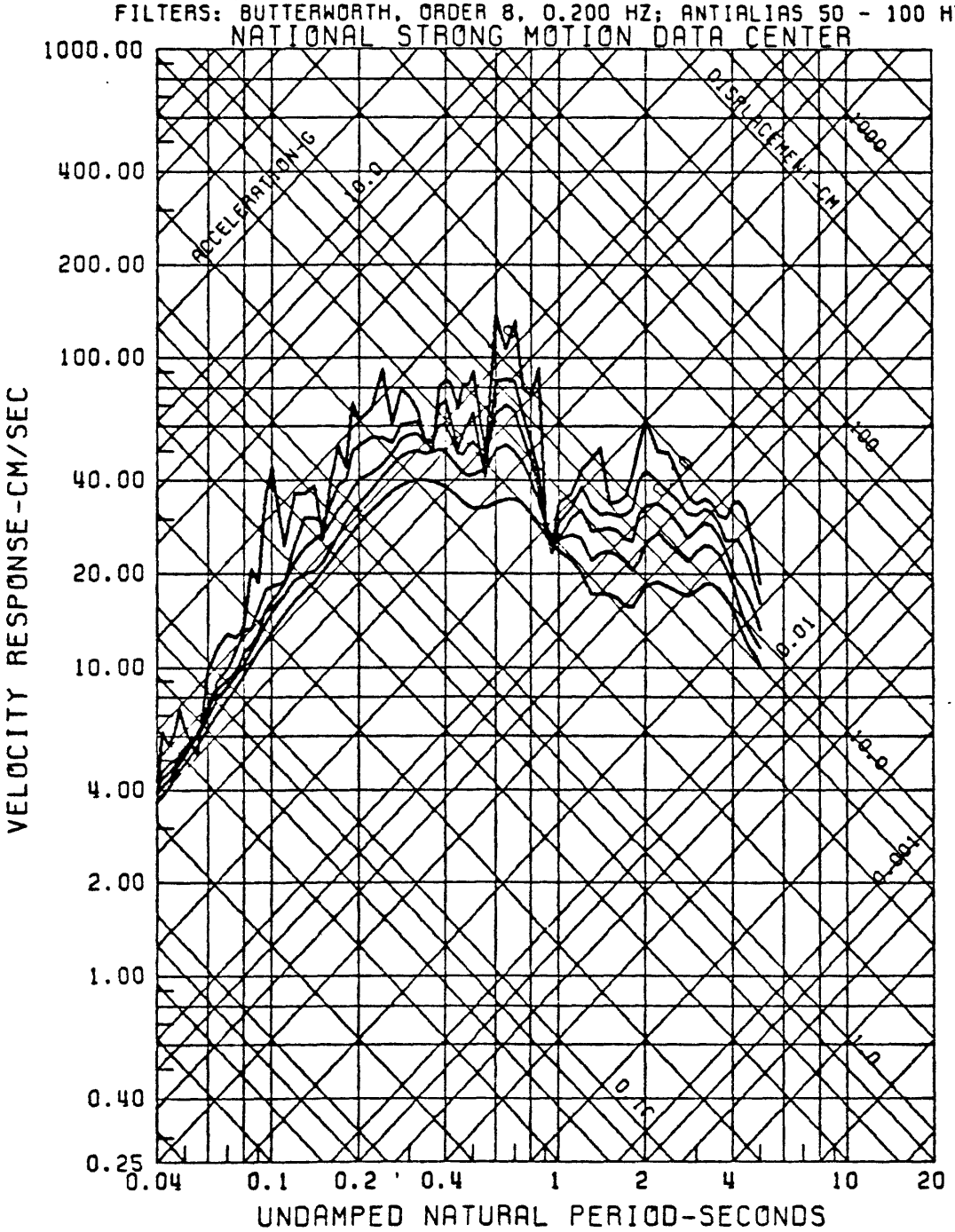
RESPONSE SPECTRA
PLEASANT VALLEY PUMPING PLANT (SWITCHYARD), 7/22/83, 239UTC 135
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER

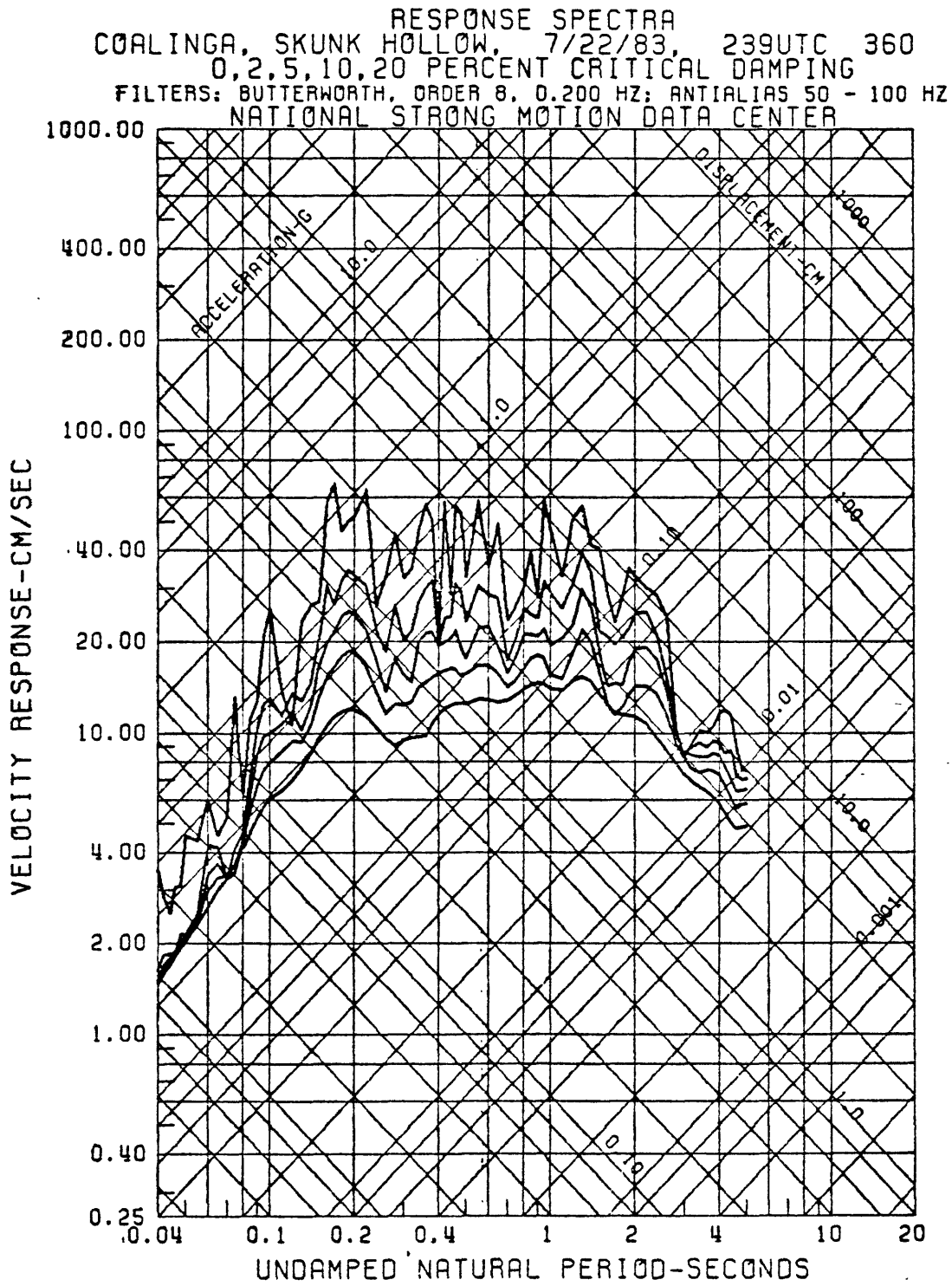


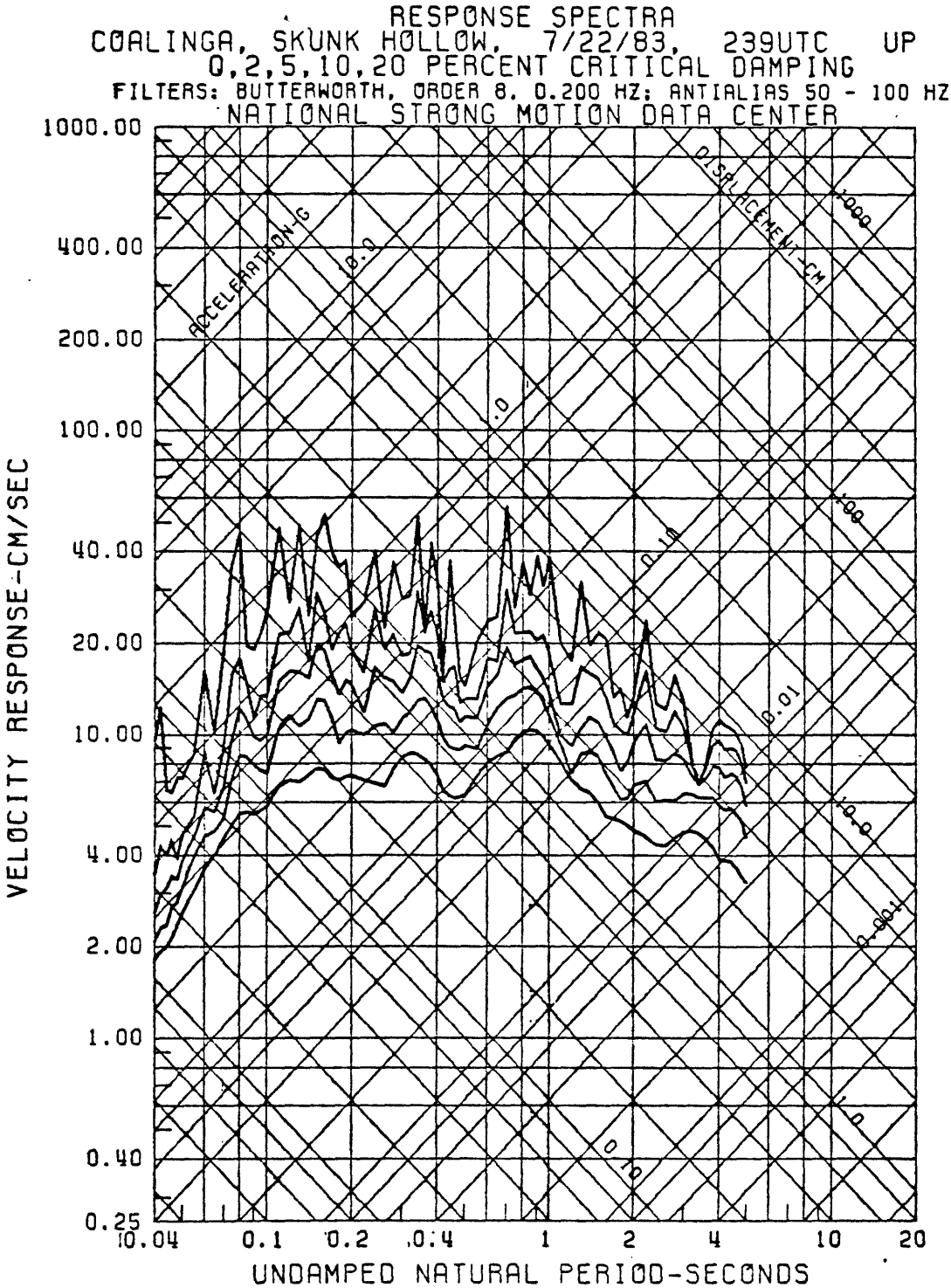
RESPONSE SPECTRA
PLEASANT VALLEY PUMPING PLANT (SWITCHYARD), 7/22/83, 239UTC UP
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER



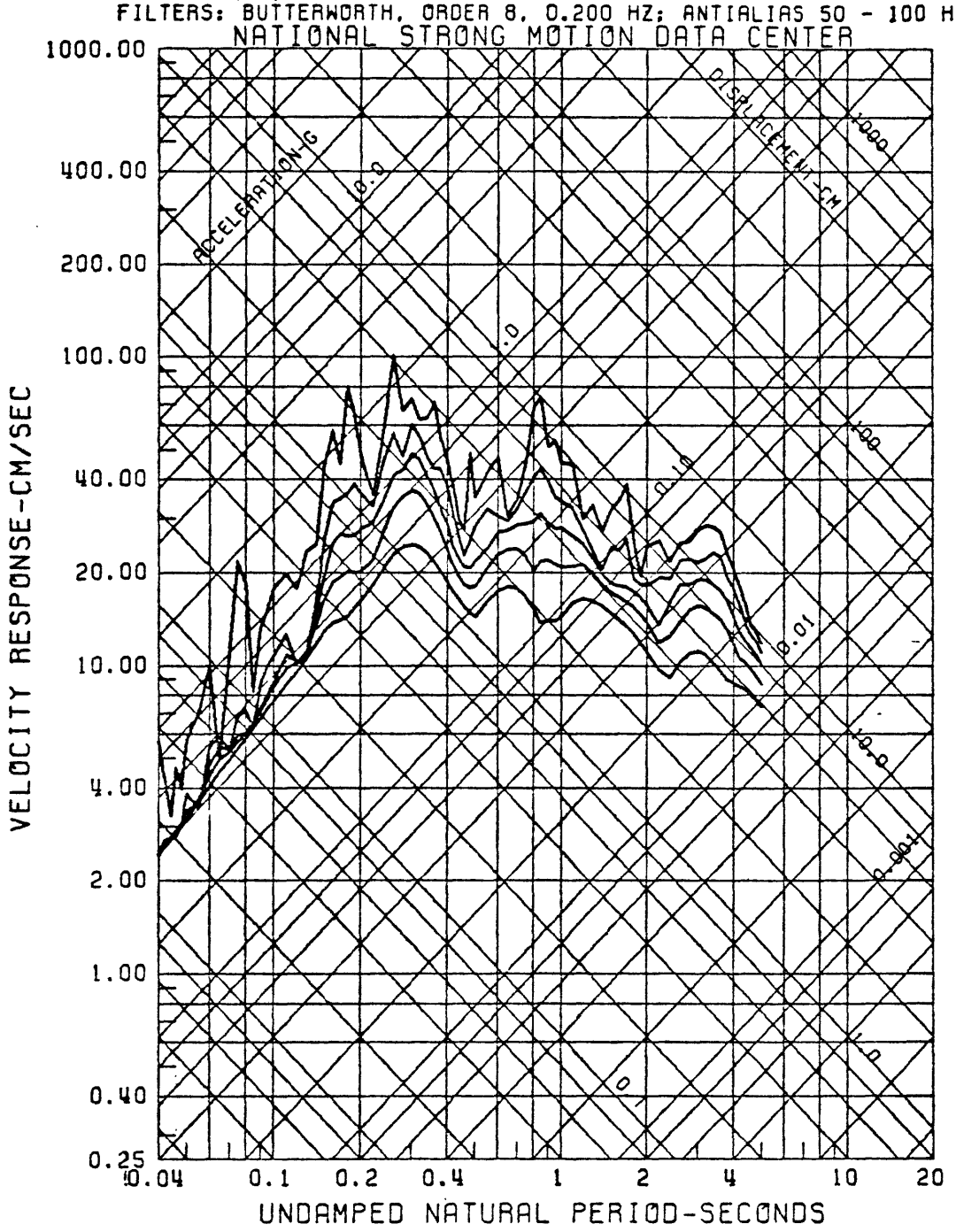
RESPONSE SPECTRA
PLEASANT VALLEY PUMPING PLANT (SWITCHYARD). 7/22/83. 239UTC 45
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER

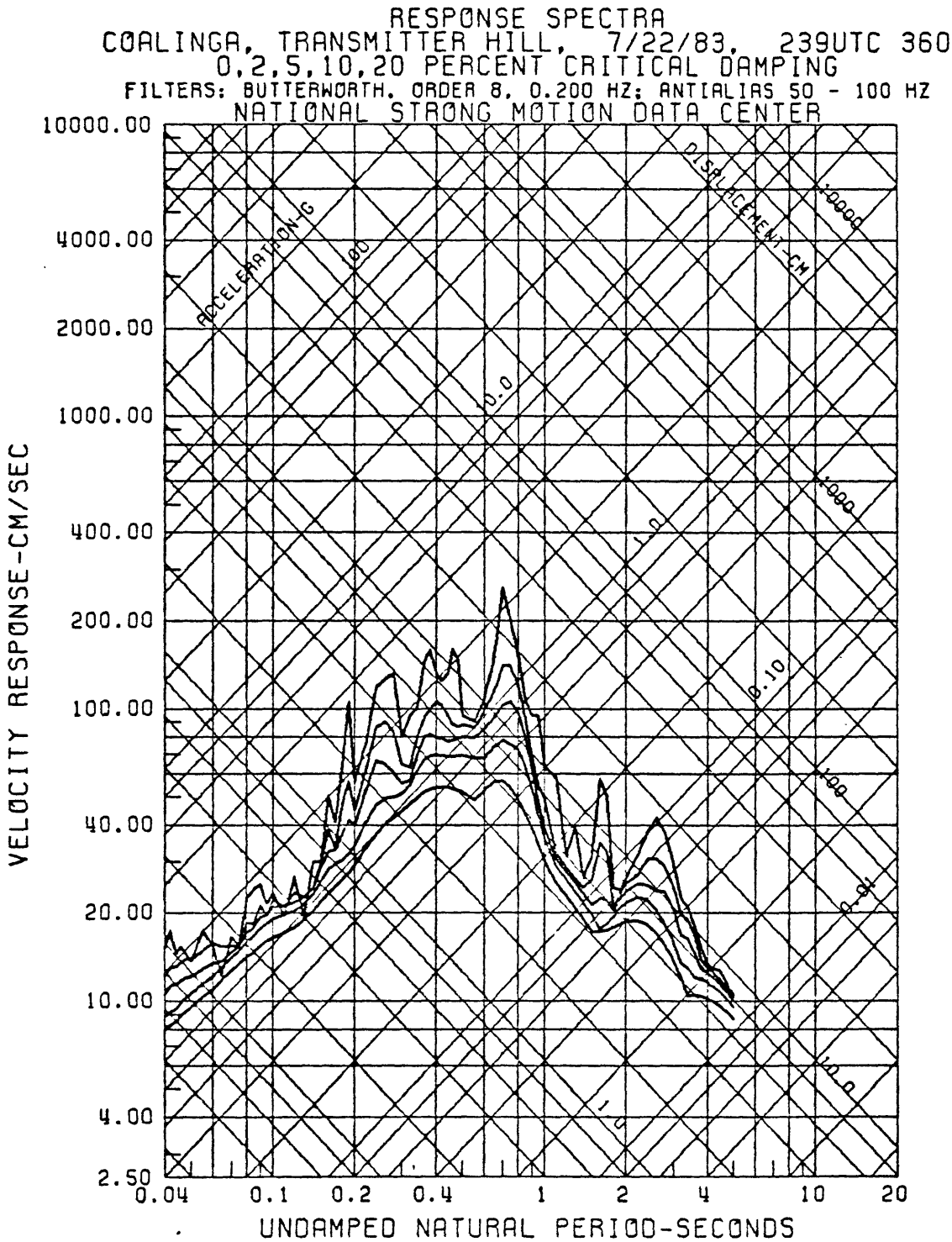


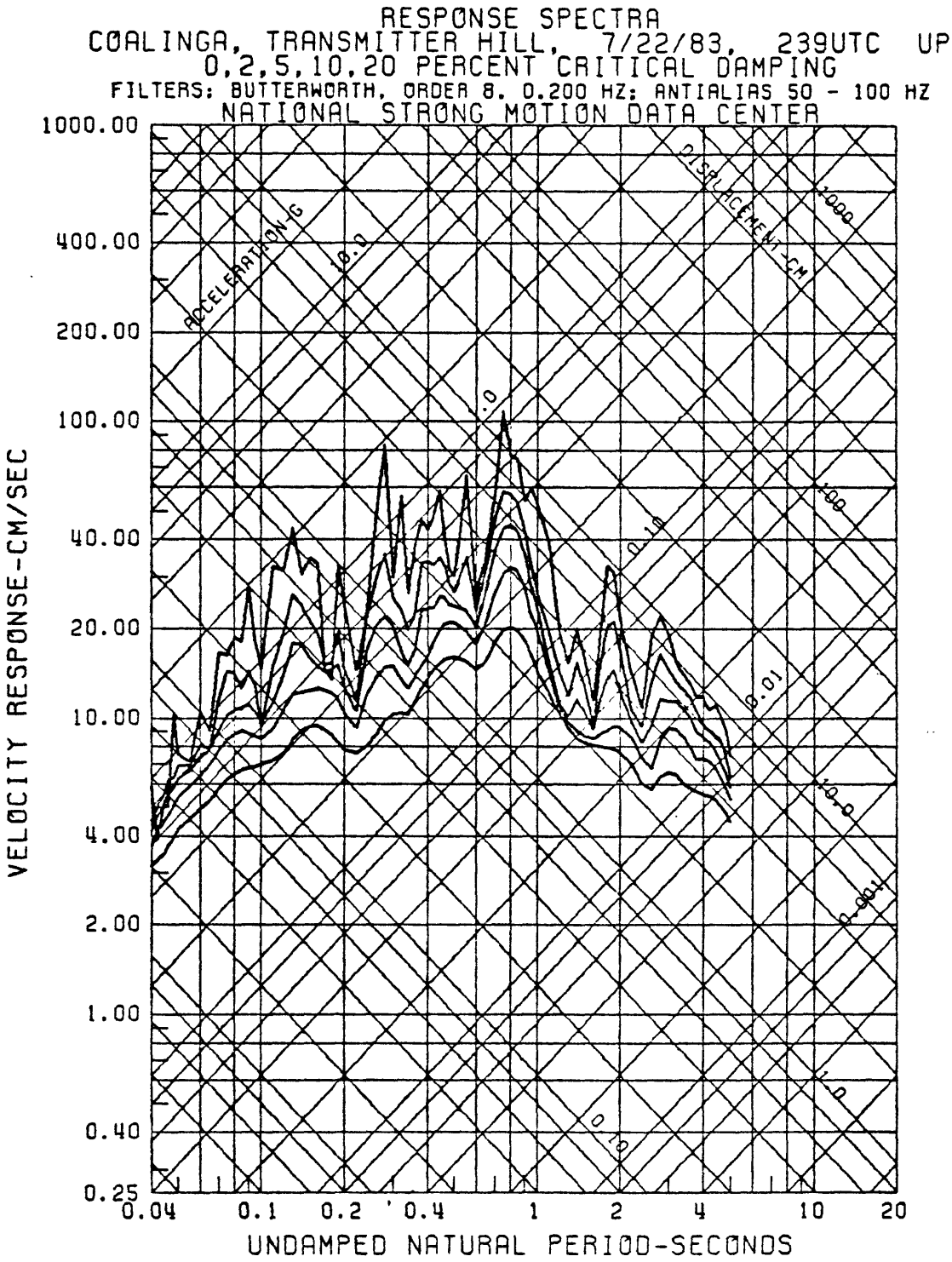

RESPONSE SPECTRA
COALINGA, SKUNK HOLLOW, 7/22/83, 239UTC 360
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
ACCELERATION-G
DISPLACEMENT-CM
1000.00
400.00
200.00
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

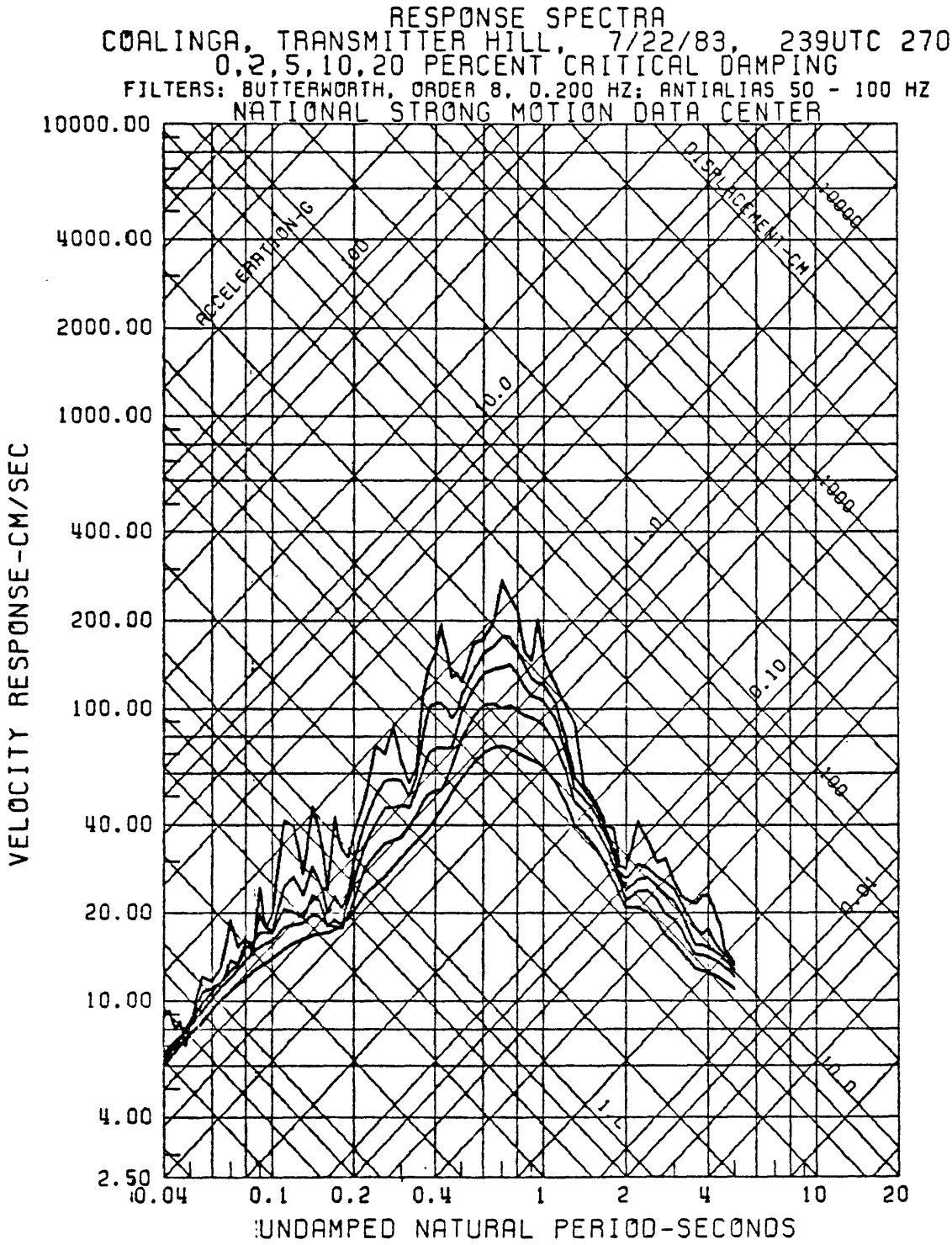

RESPONSE SPECTRA
COALINGA, SKUNK HOLLOW, 7/22/83, 239UTC UP
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
ACCELERATION-G
DISPLACEMENT-CM
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
1000.00
400.00
200.00
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

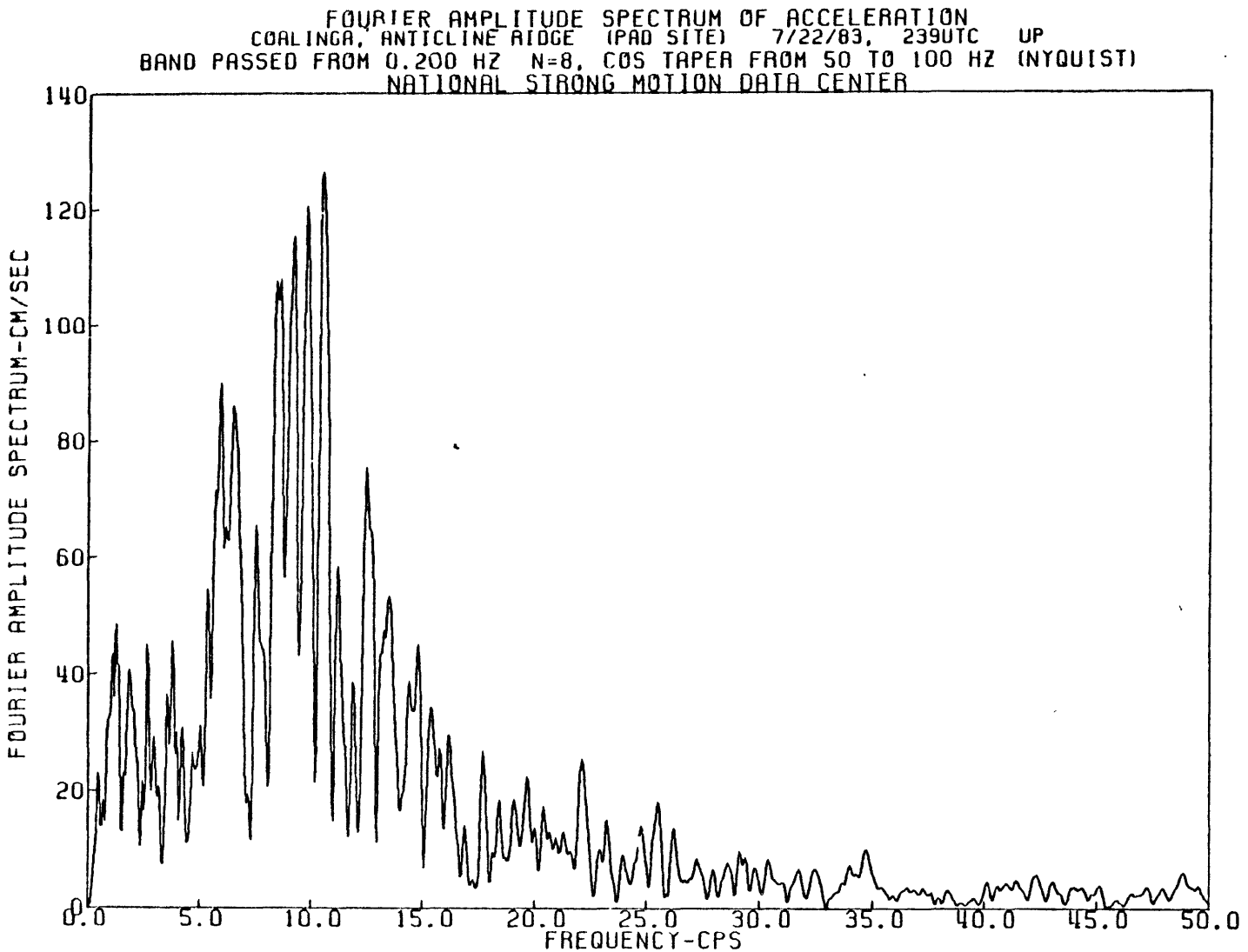
RESPONSE SPECTRA
COALINGA, SKUNK HOLLOW, 7/22/83, 239UTC 270
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER

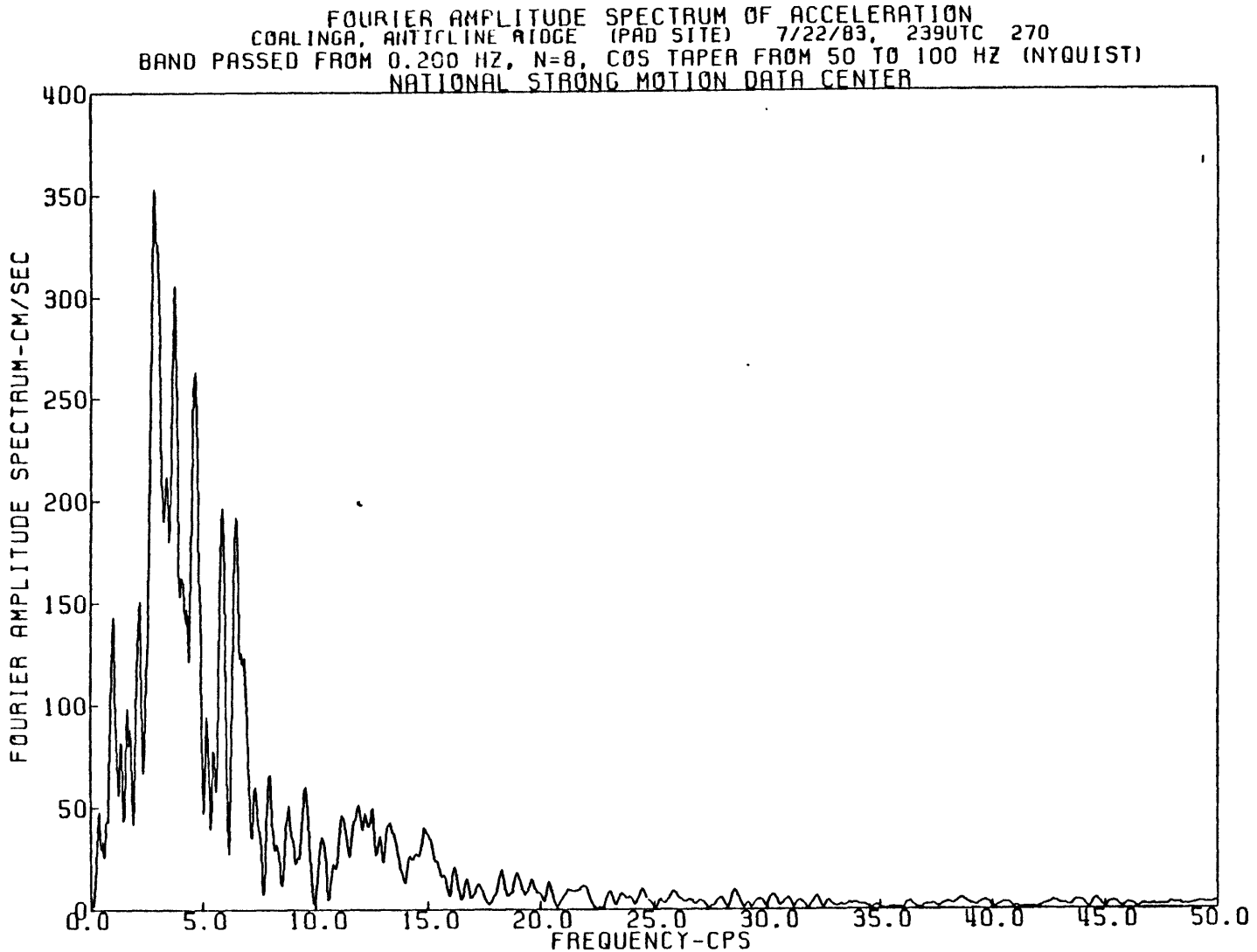


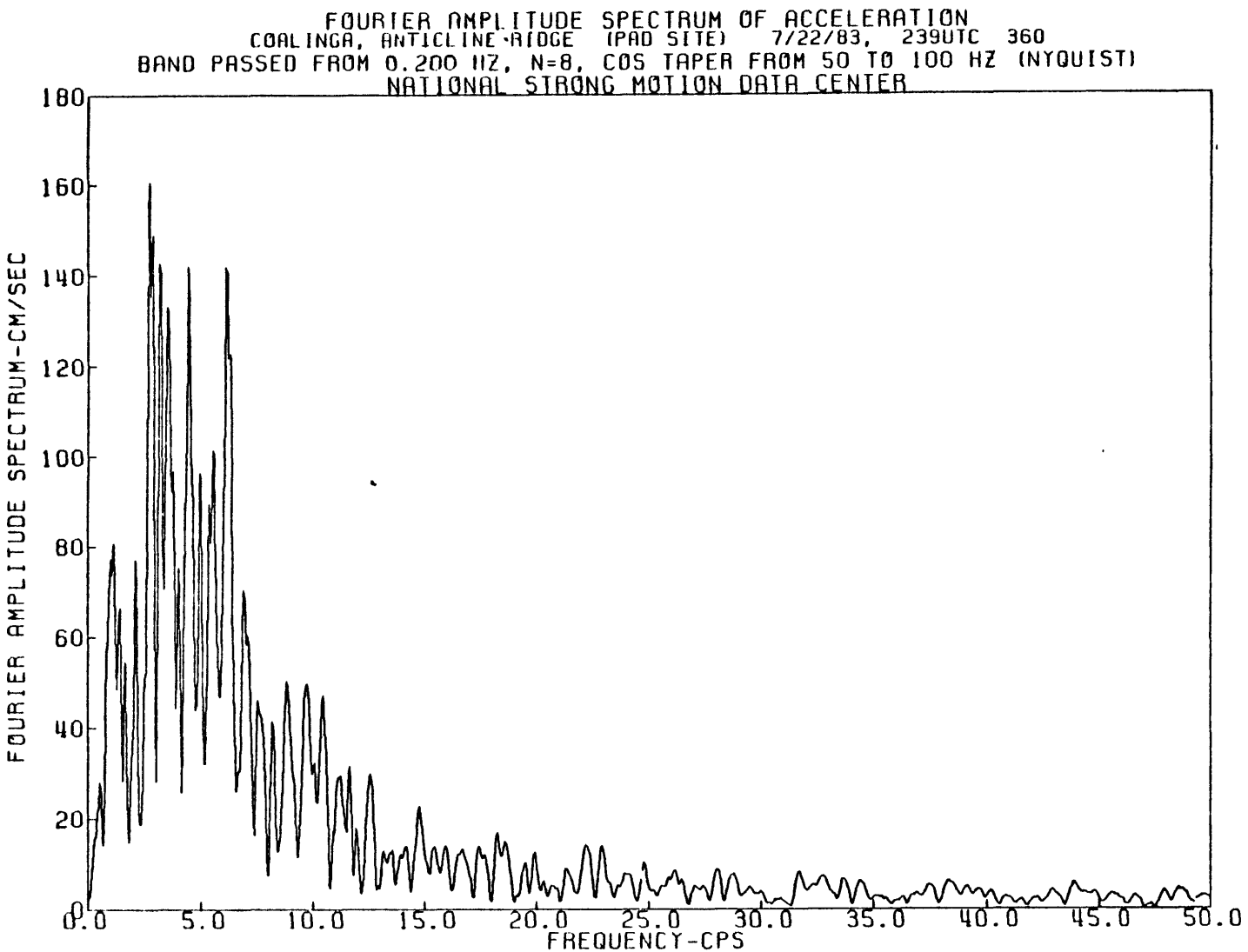

RESPONSE SPECTRA
COALINGA, TRANSMITTER HILL, 7/22/83, 239UTC 360
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
ACCELERATION-G
DISPLACEMENT-CM
10000.00
4000.00
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

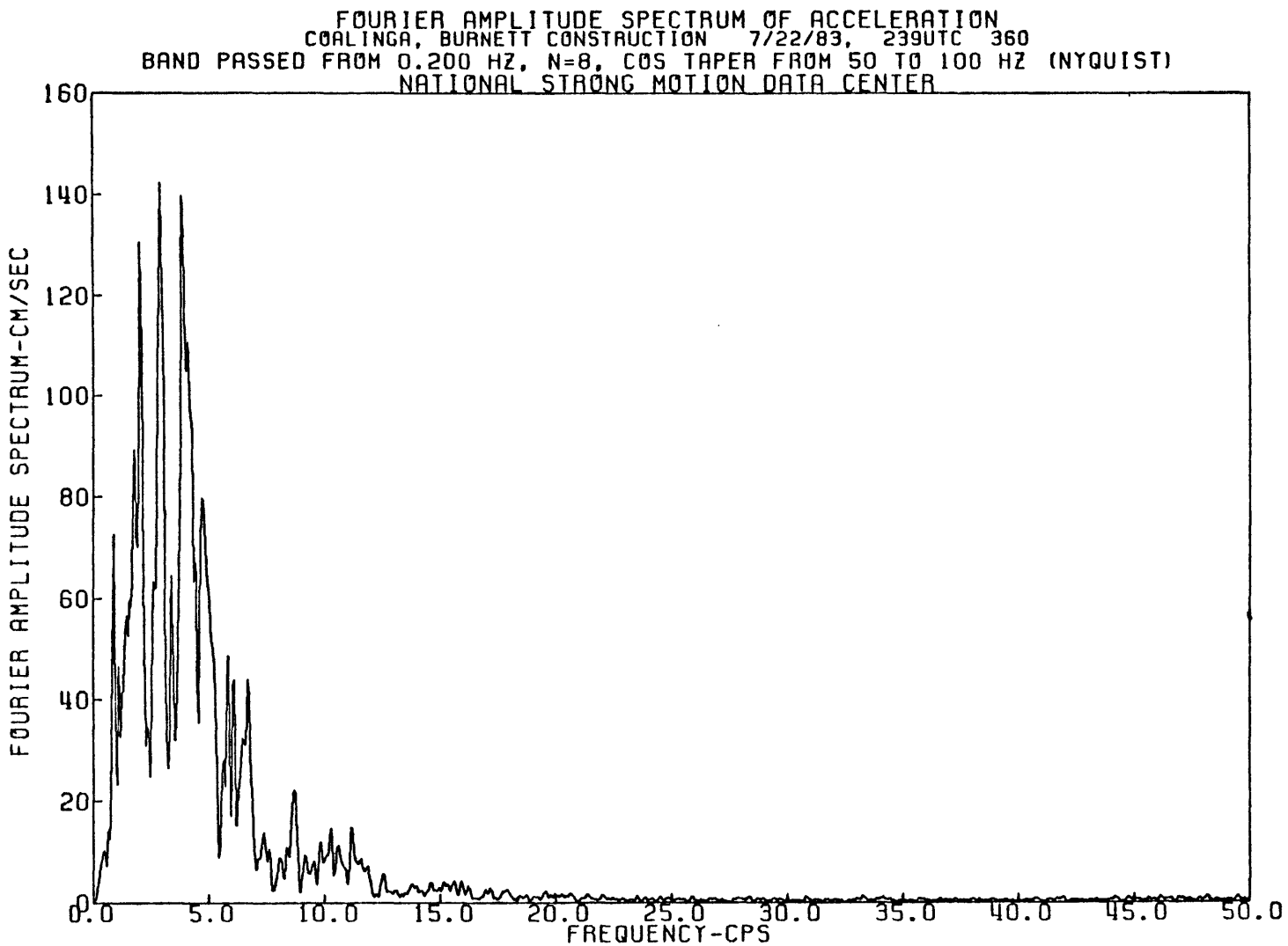

RESPONSE SPECTRA
COALINGA, TRANSMITTER HILL, 7/22/83, 239UTC UP
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
ACCELERATION-G
DISPLACEMENT-CM
1000.00
400.00
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

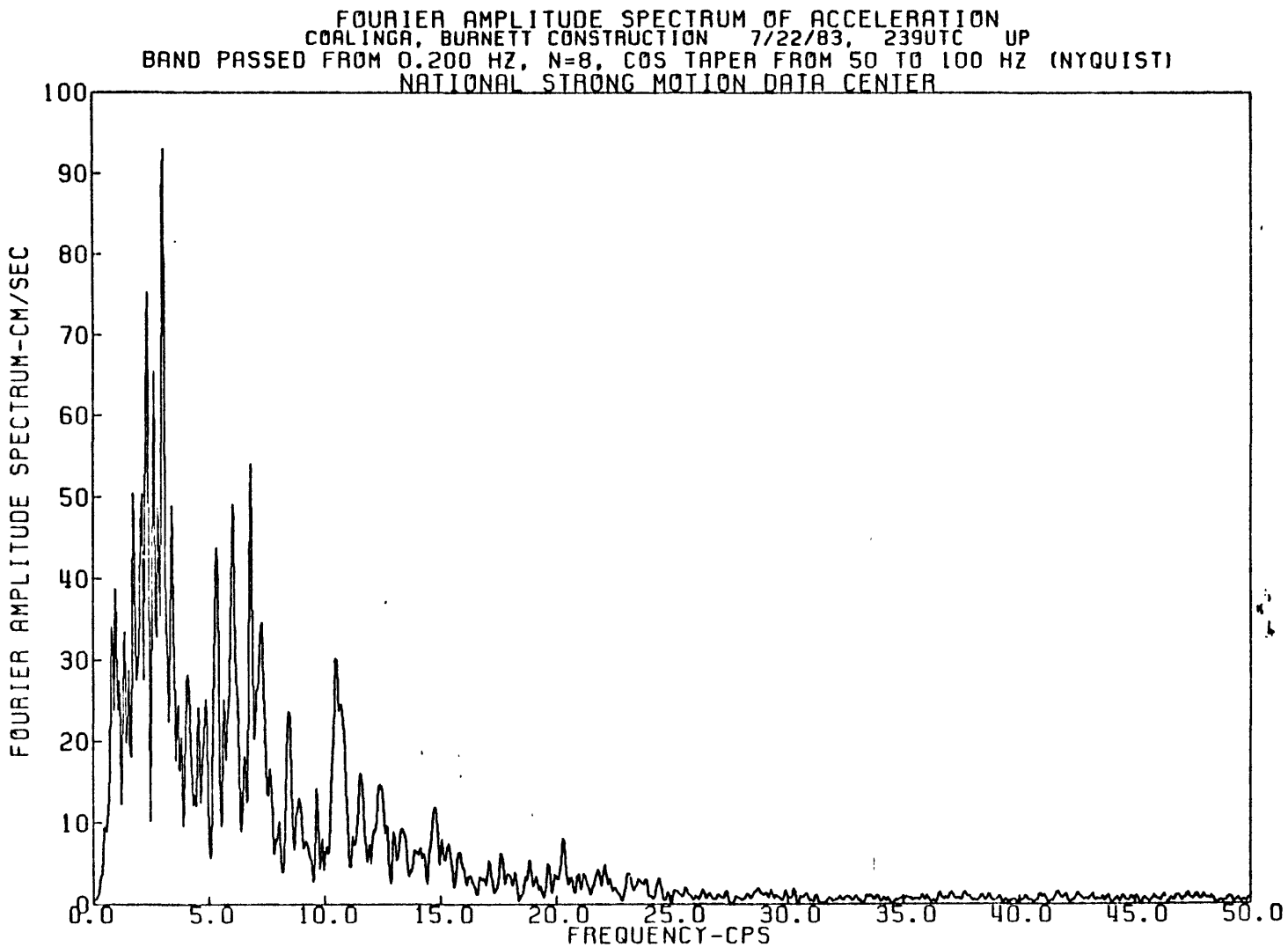

RESPONSE SPECTRA
COALINGA, TRANSMITTER HILL, 7/22/83, 239UTC 270
0,2,5,10,20 PERCENT CRITICAL DAMPING
FILTERS: BUTTERWORTH, ORDER 8, 0.200 HZ; ANTIALIAS 50 - 100 HZ
NATIONAL STRONG MOTION DATA CENTER
VELOCITY RESPONSE-CM/SEC
UNDAMPED NATURAL PERIOD-SECONDS
ACCELERATION-G
DISPLACEMENT-CM
10000.00
4000.00
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

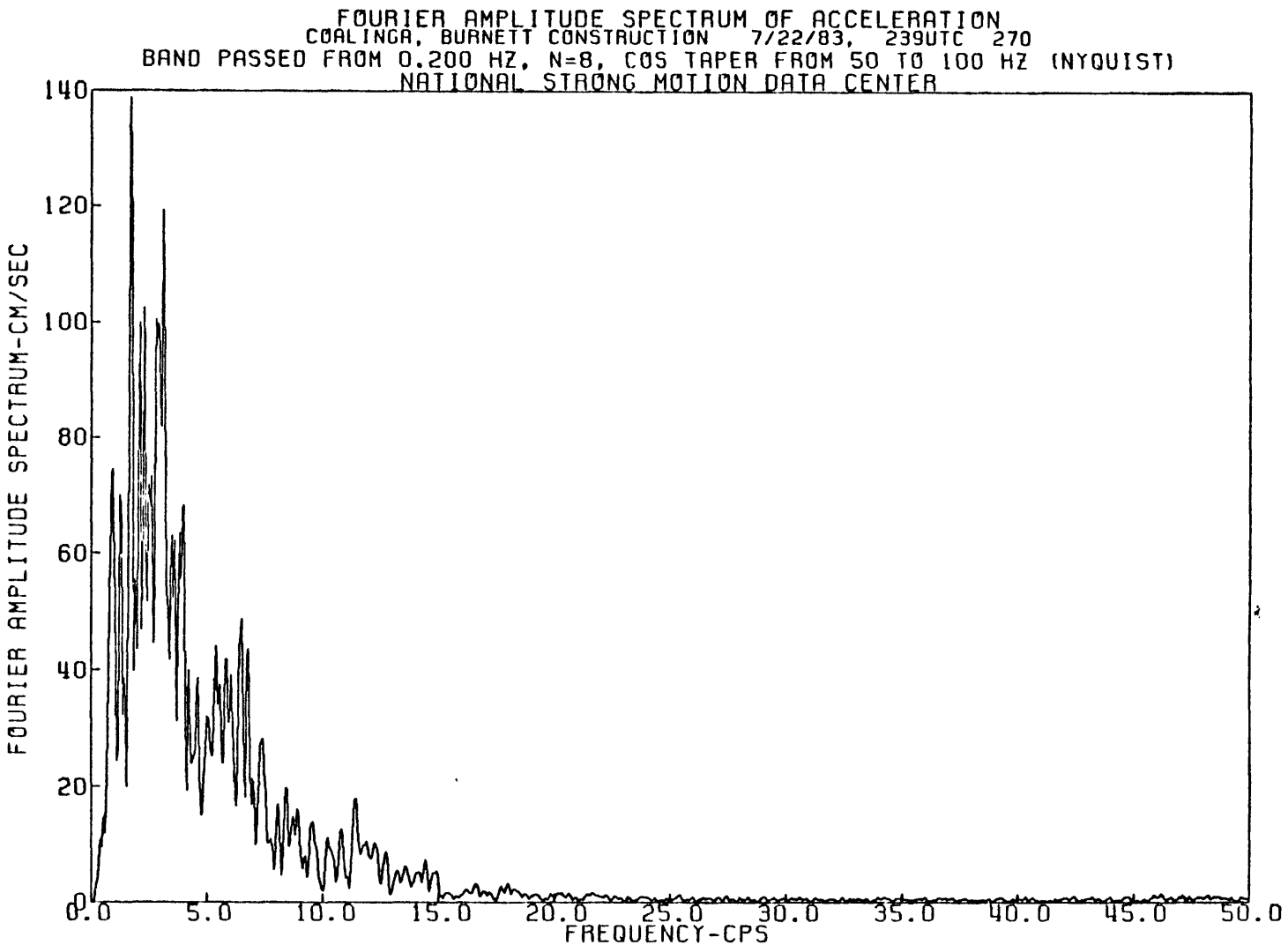

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, ANTICLINE RIDGE (PAD SITE) 7/22/83, 2390UTC UP
BAND PASSED FROM 0.200 HZ N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
0
20
40
60
80
100
120
140
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
FREQUENCY-CPS

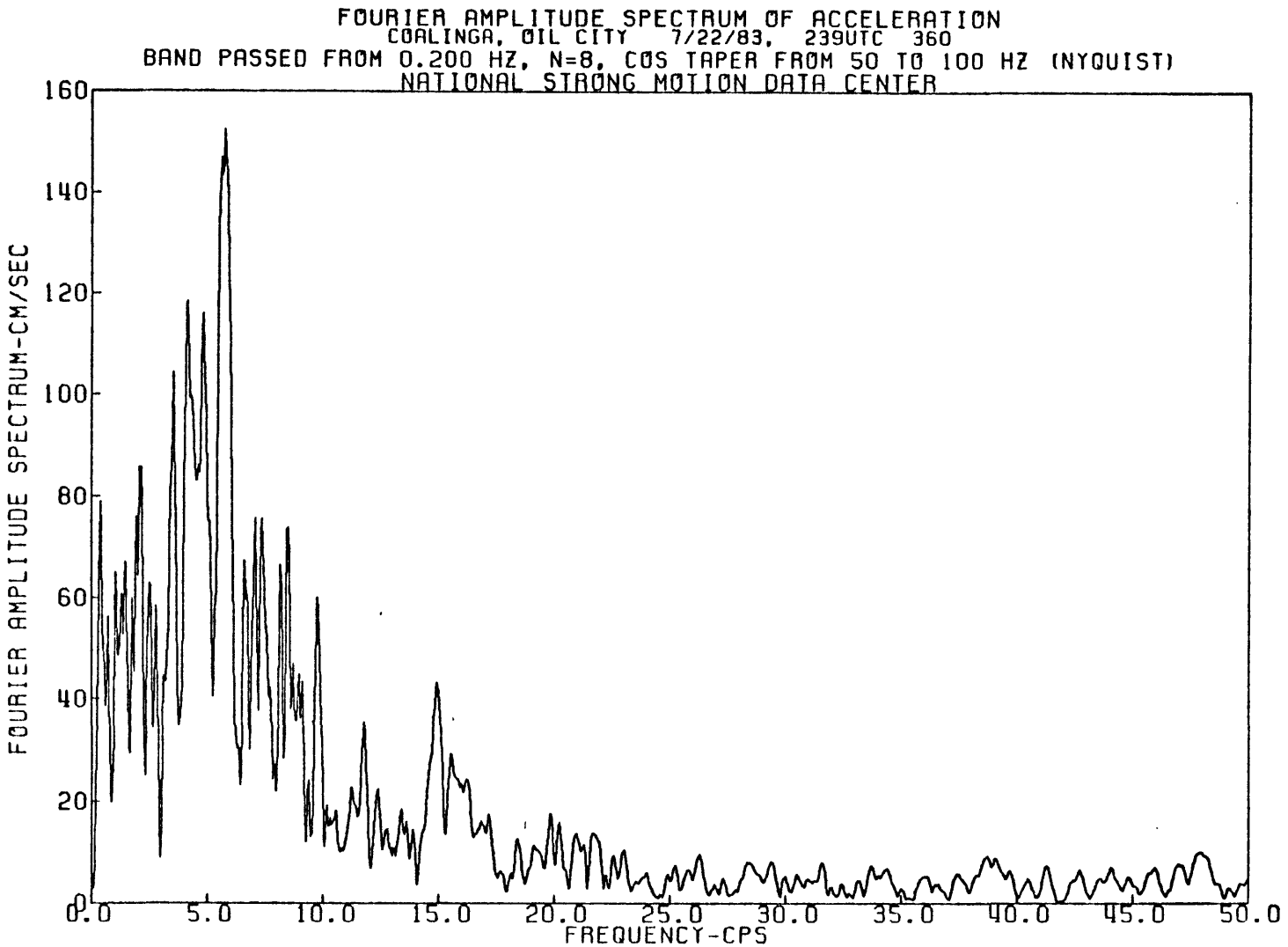

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, ANTICLINE RIDGE (PAD SITE) 7/22/83, 239UTC 270
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
400
350
300
250
200
150
100
50
0
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
FREQUENCY-CPS

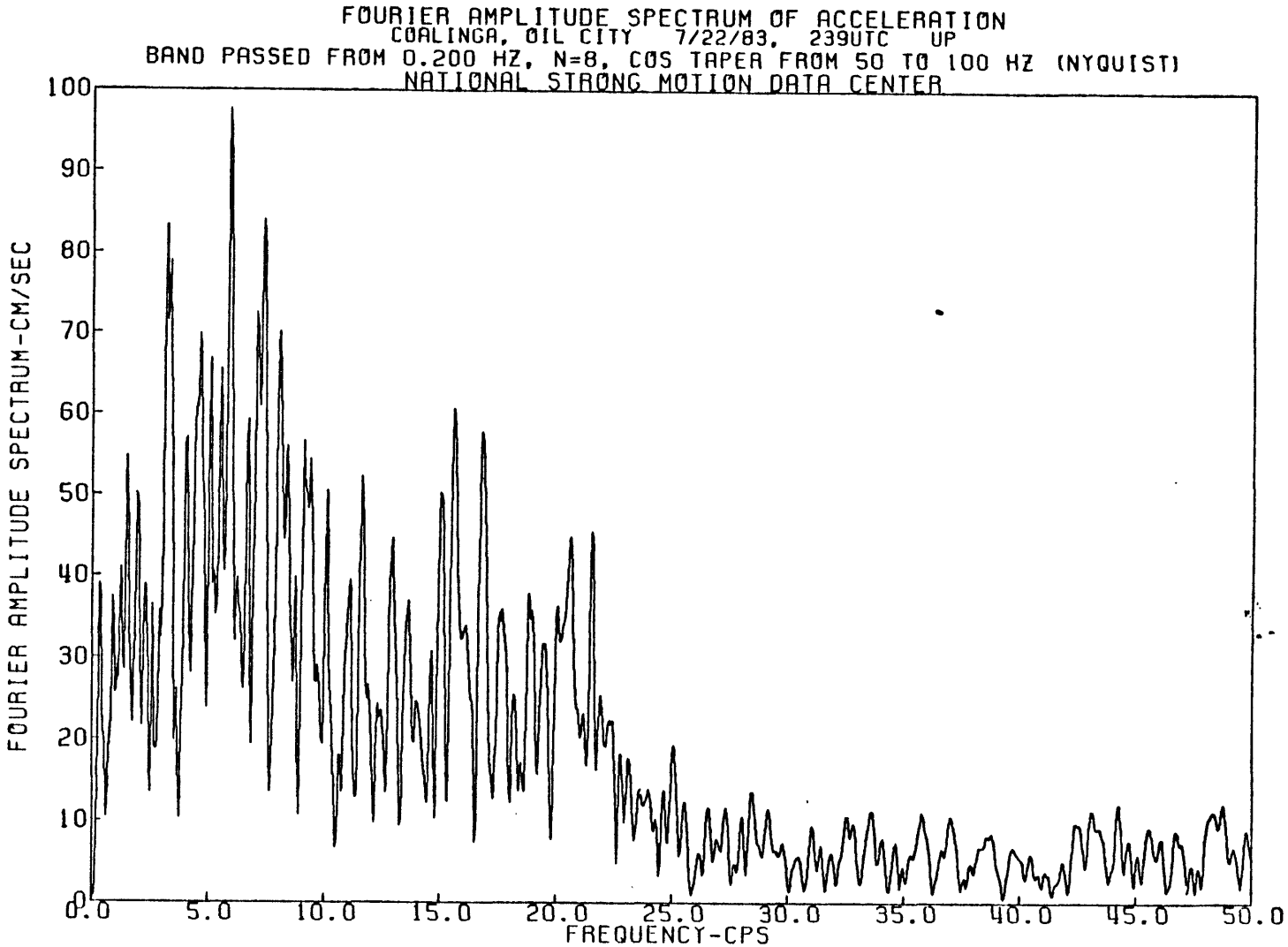

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, ANTICLINE RIDGE (PAD SITE) 7/22/83, 2390UTC 360
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
0
20
40
60
80
100
120
140
160
180
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
FREQUENCY-CPS

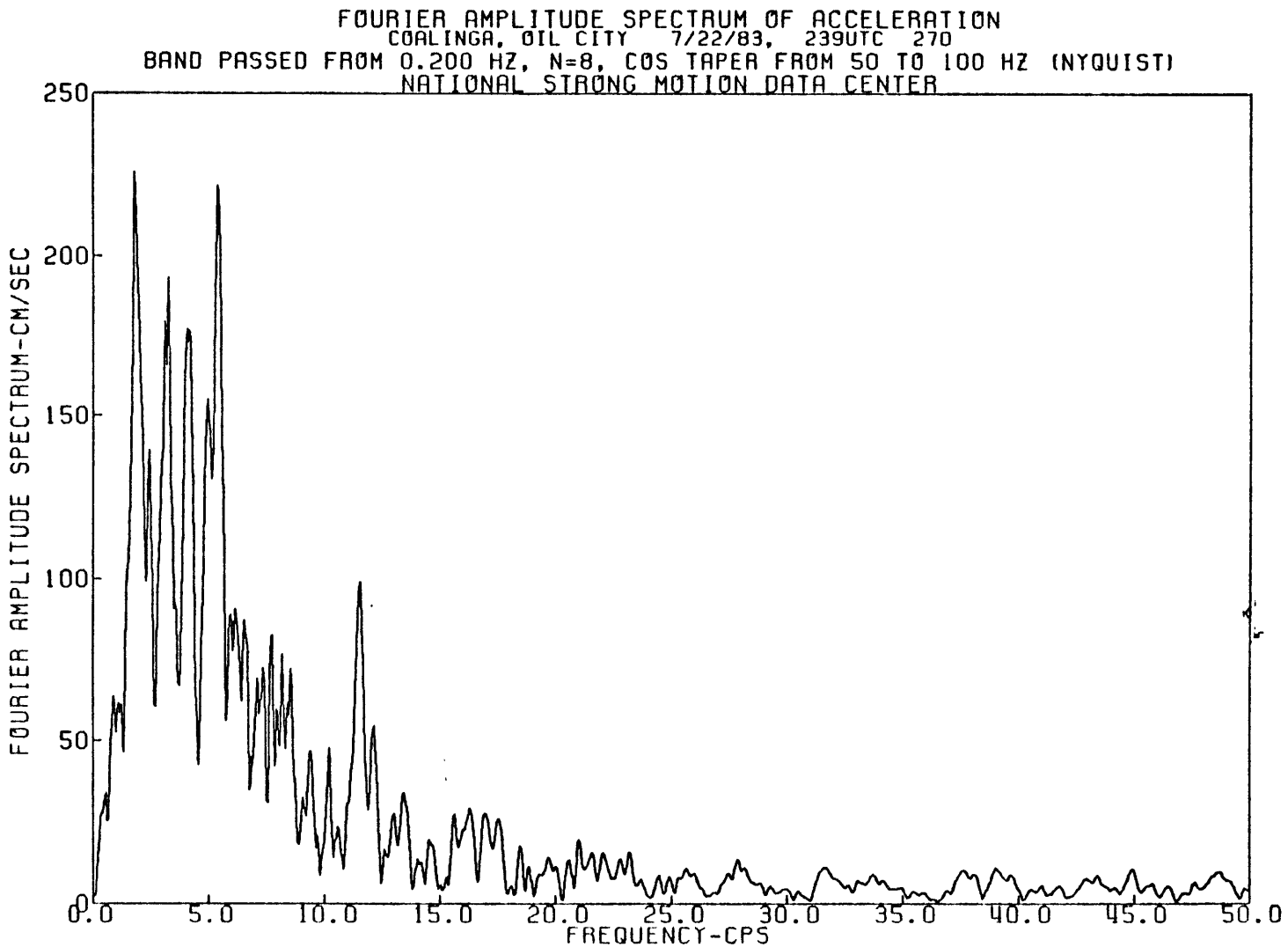

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, BURNETT CONSTRUCTION 7/22/83, 239UTC 360
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
0
20
40
60
80
100
120
140
160
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
FREQUENCY-CPS

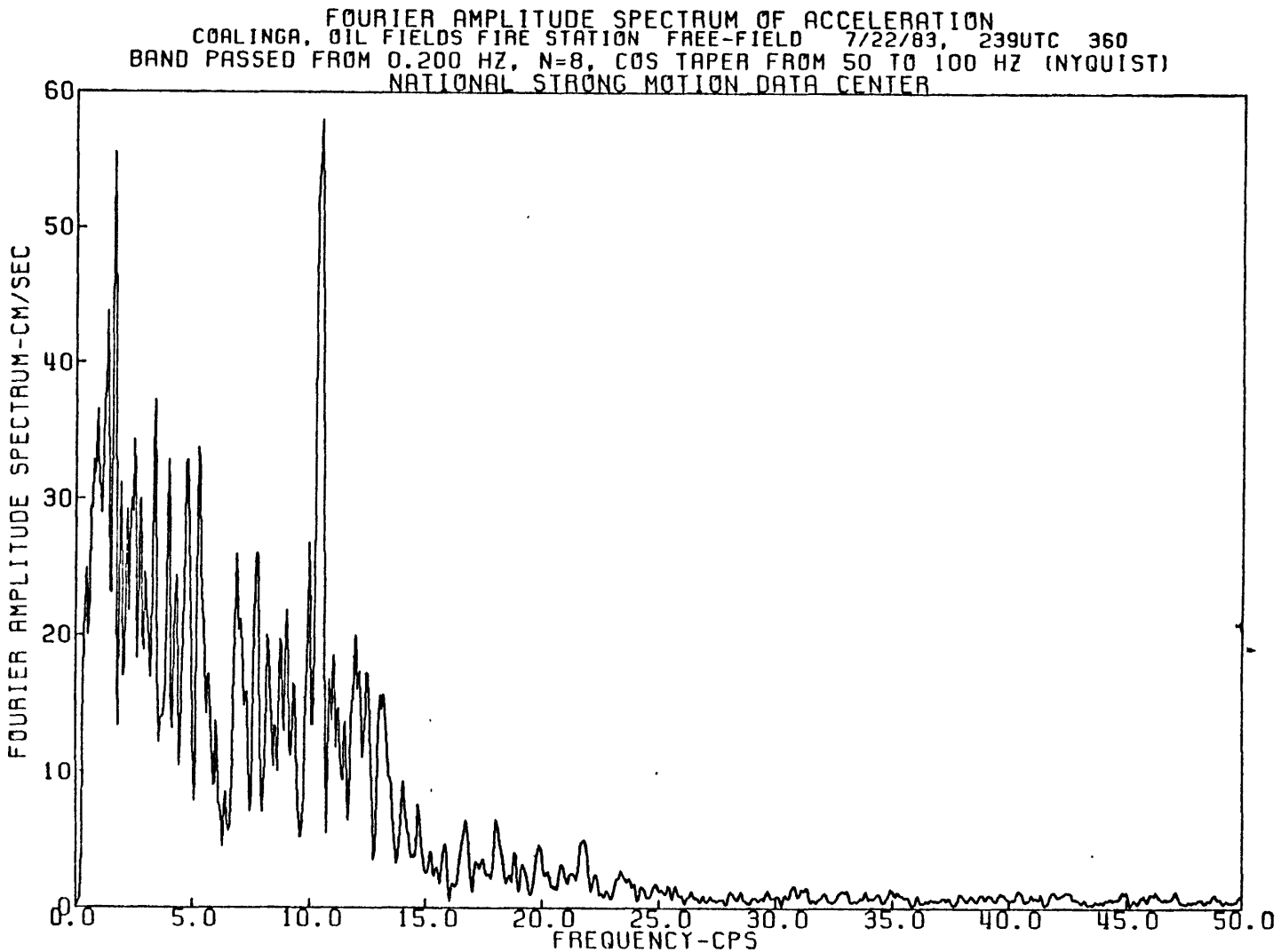

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, BURNETT CONSTRUCTION 7/22/83, 239UTC UP
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
FREQUENCY-CPS
0
10
20
30
40
50
60
70
80
90
100
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0

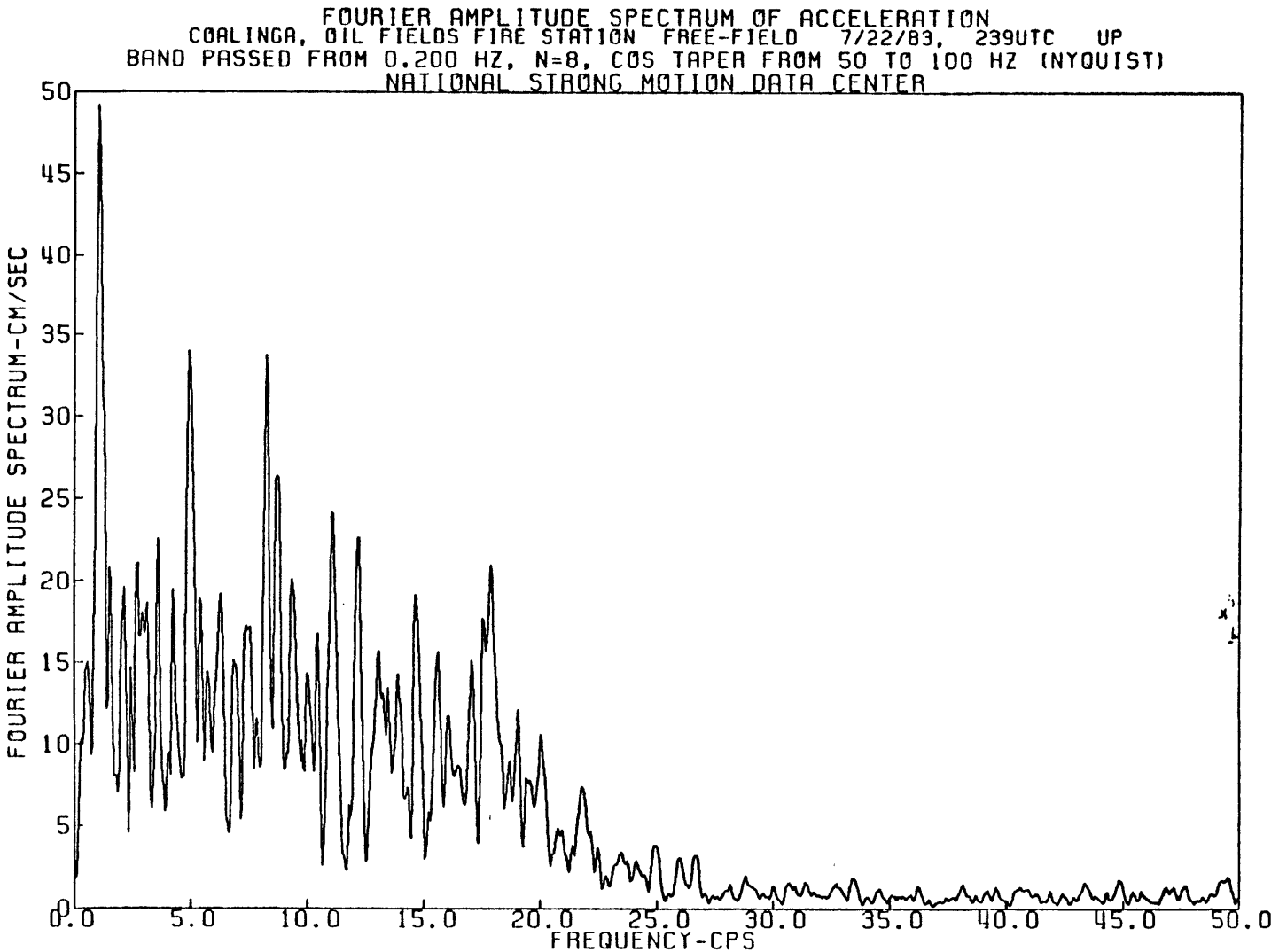

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, BURNETT CONSTRUCTION 7/22/83, 239UTC 270
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
0
20
40
60
80
100
120
140
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
FREQUENCY-CPS


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, OIL CITY 7/22/83, 239UTC 360
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
0
20
40
60
80
100
120
140
160
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, OIL CITY 7/22/83, 239UTC UP
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
0
10
20
30
40
50
60
70
80
90
100
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, OIL CITY 7/22/83, 239UTC 270
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
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


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, OIL FIELDS FIRE STATION FREE-FIELD 7/22/83, 2390UTC 360
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
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
FREQUENCY-CPS


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, OIL FIELDS FIRE STATION FREE-FIELD 7/22/83, 239UTC UP
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
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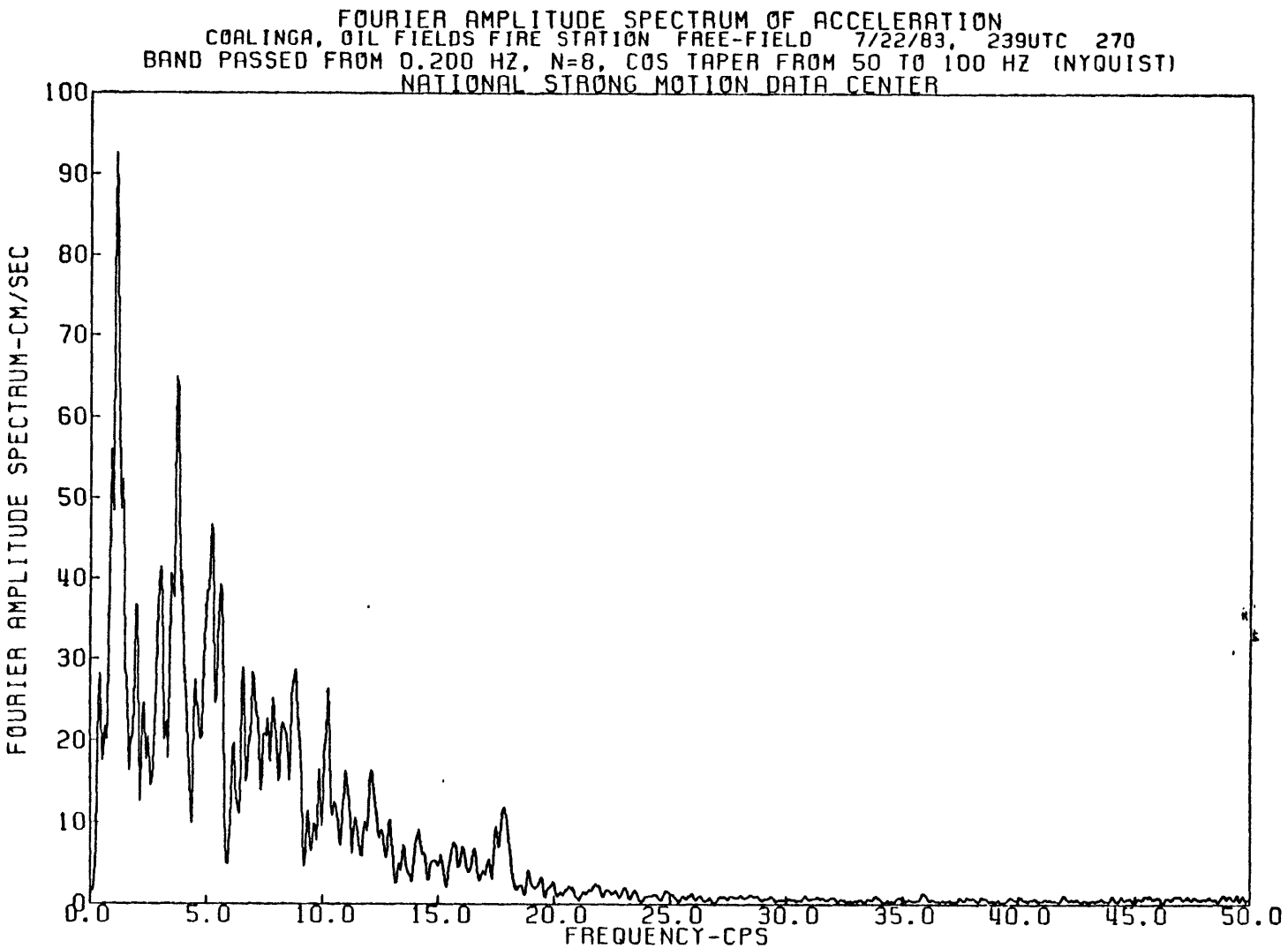
FREQUENCY-CPS


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, OIL FIELDS FIRE STATION FREE-FIELD 7/22/83, 239UTC 270
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
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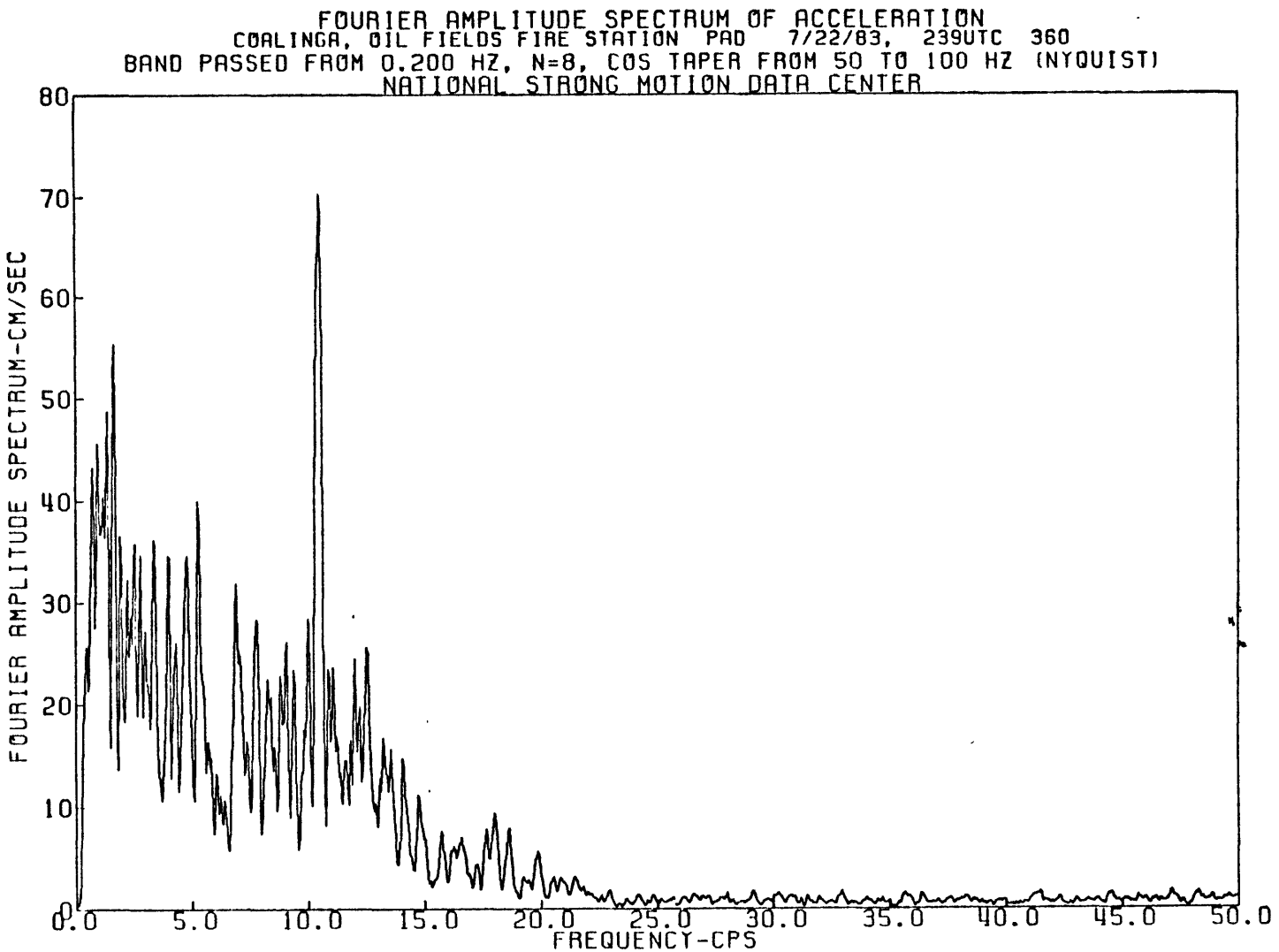
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, OIL FIELDS FIRE STATION PAD 7/22/83, 239UTC 360
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
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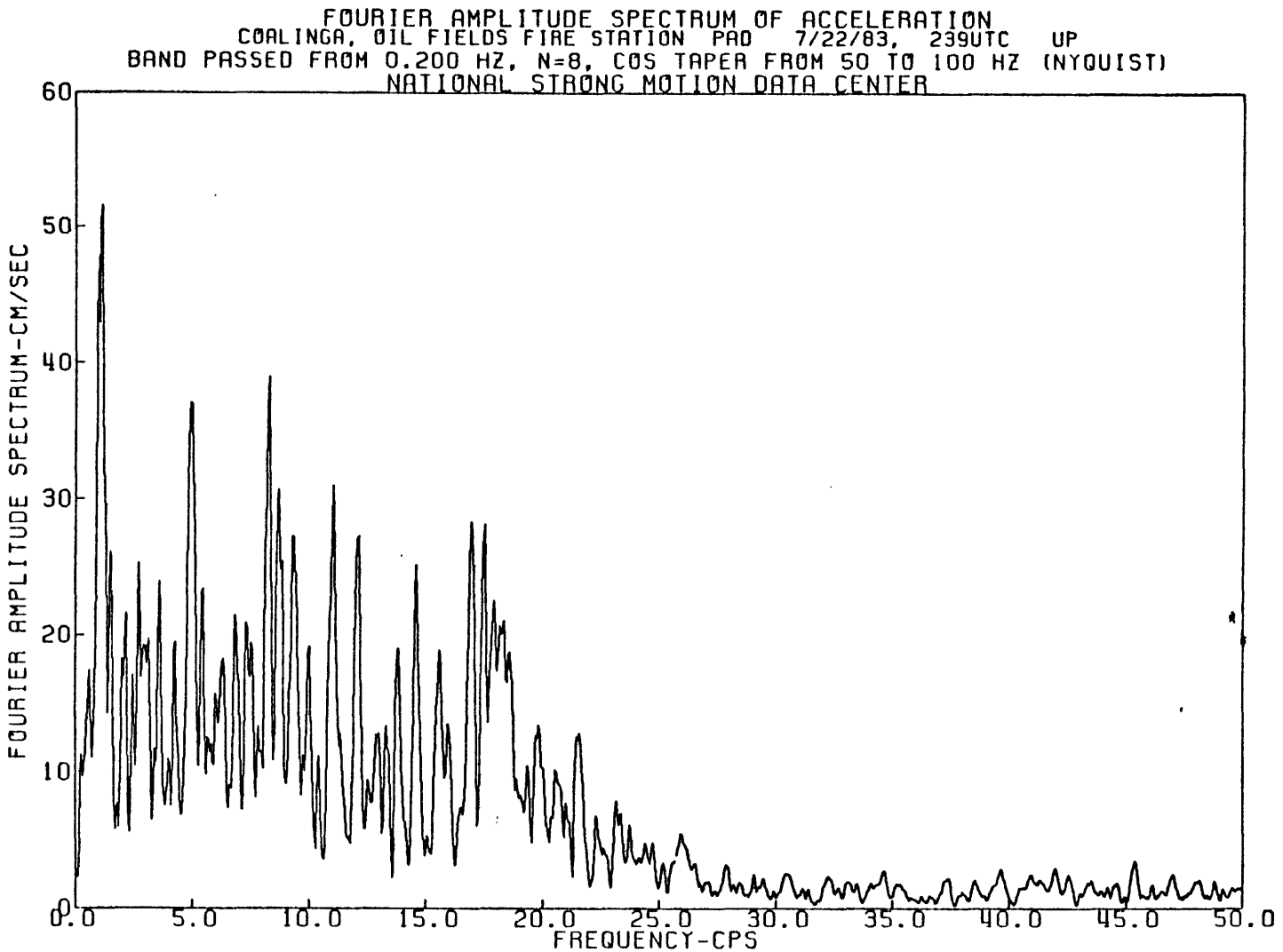
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, OIL FIELDS FIRE STATION PAD 7/22/83, 239UTC UP
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
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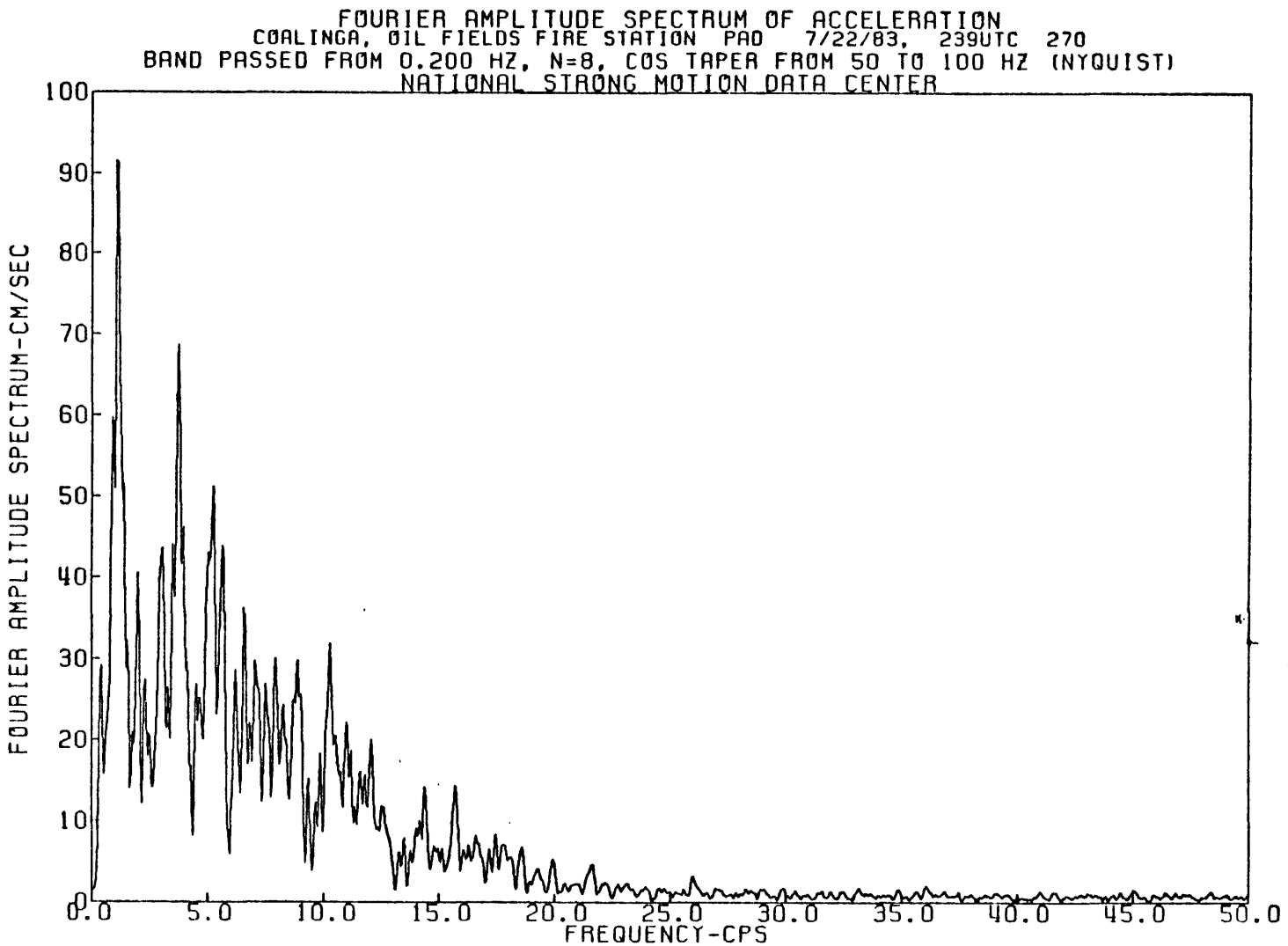
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, OIL FIELDS FIRE STATION PAD 7/22/83, 239UTC 270
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
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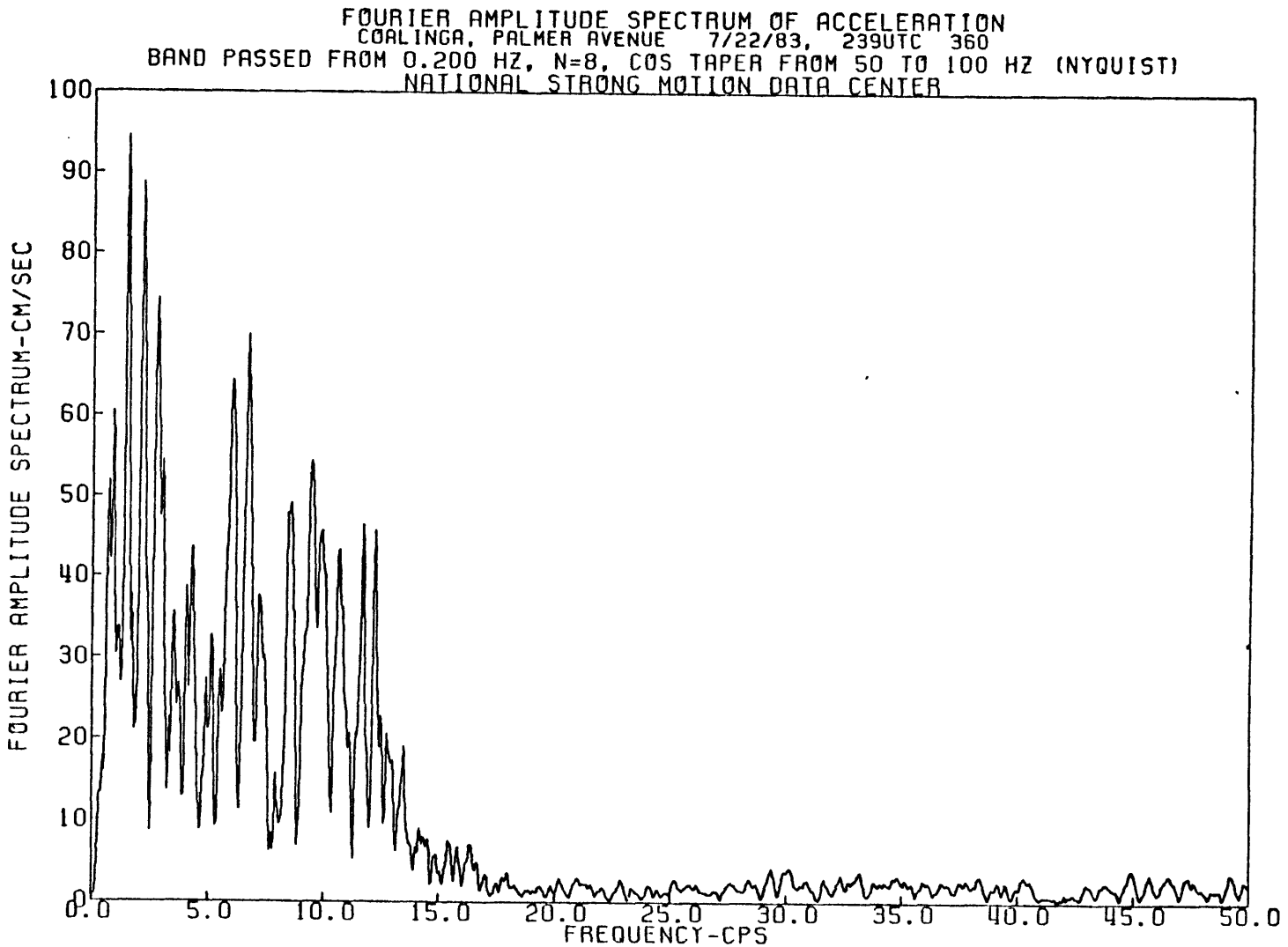
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, PALMER AVENUE 7/22/83, 239UTC 360
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
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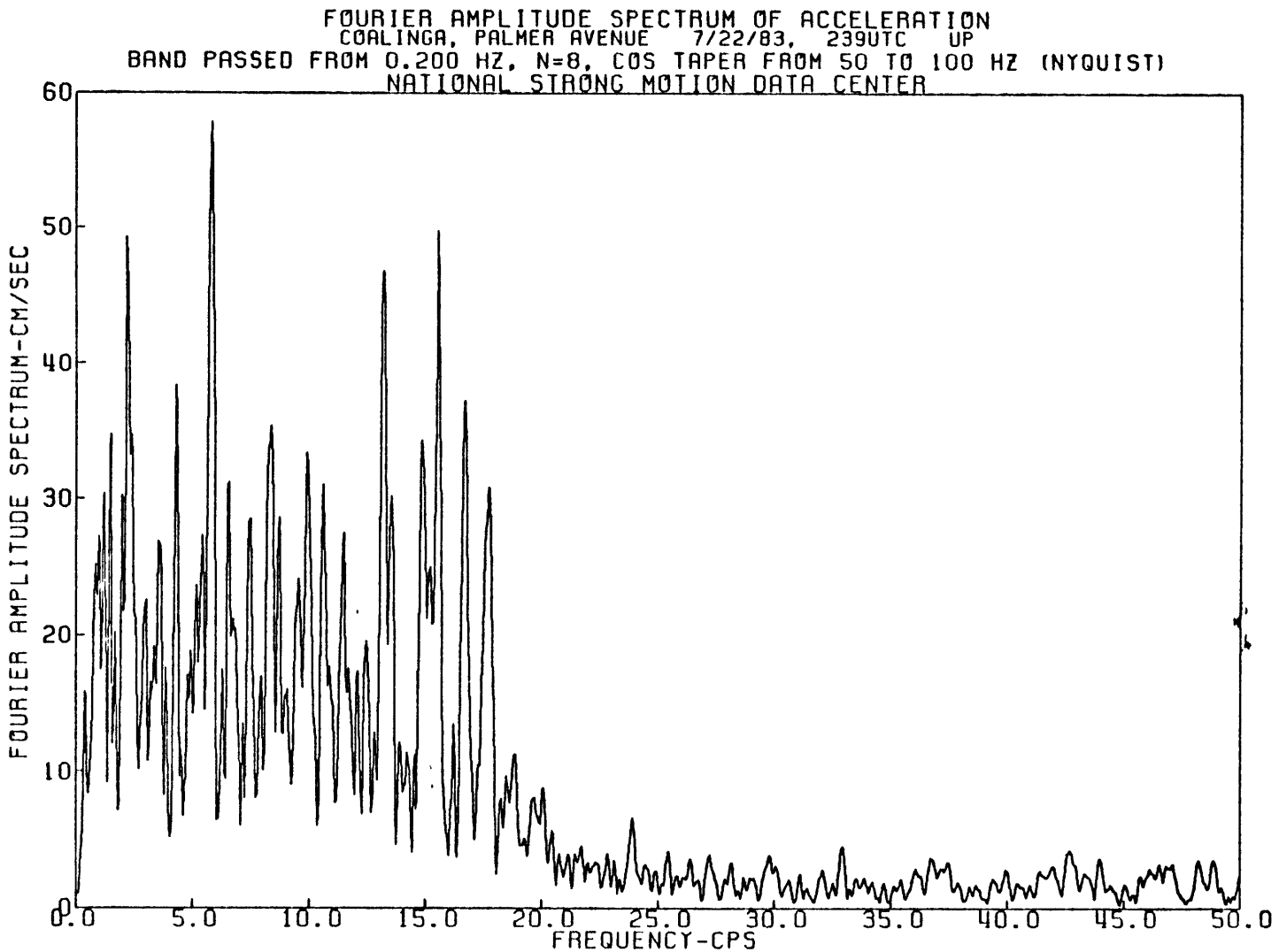
FREQUENCY-CPS


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, PALMER AVENUE 7/22/83, 239UTC UP
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
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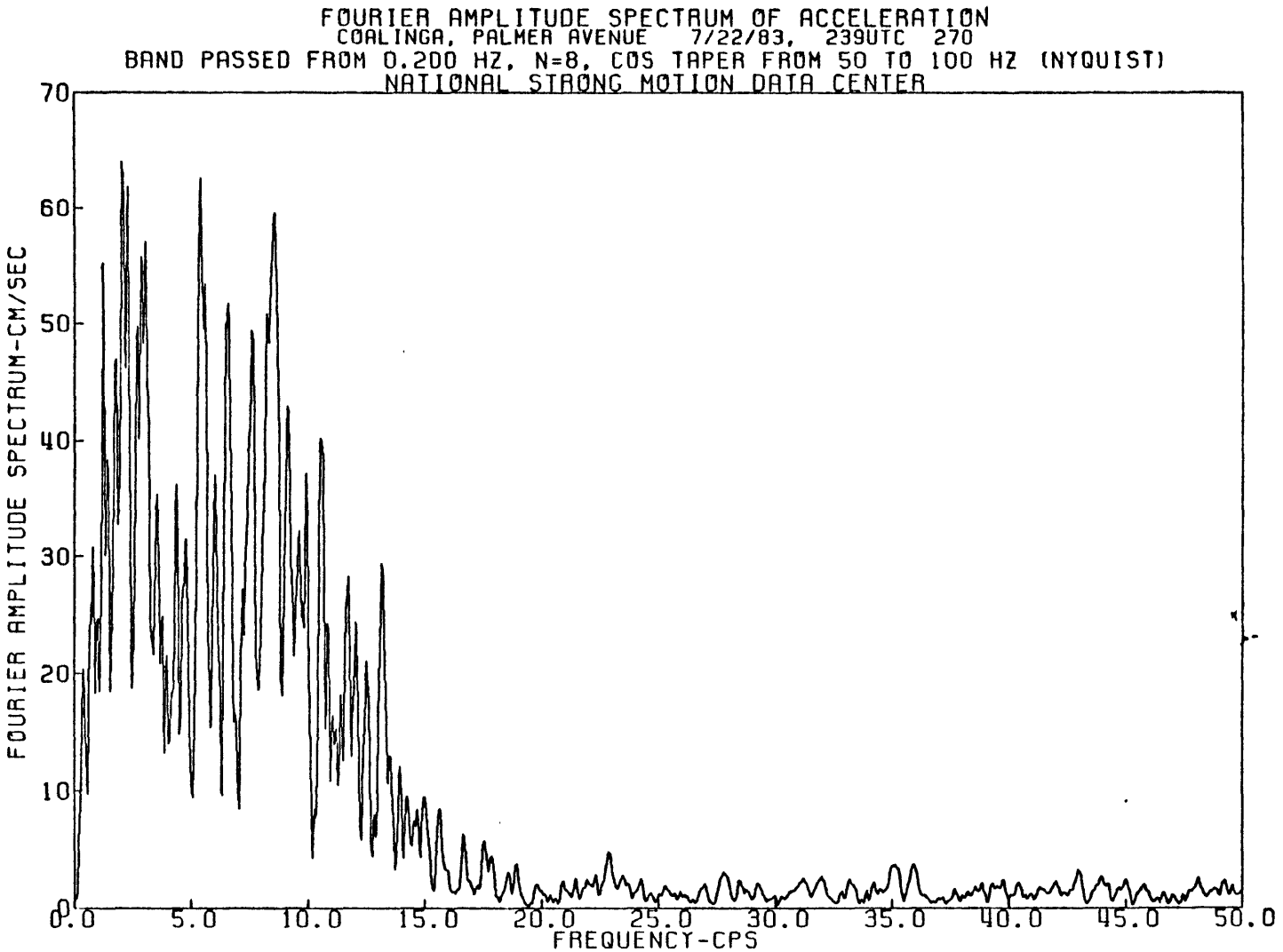
FREQUENCY-CPS


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, PALMER AVENUE 7/22/83, 239UTC 270
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
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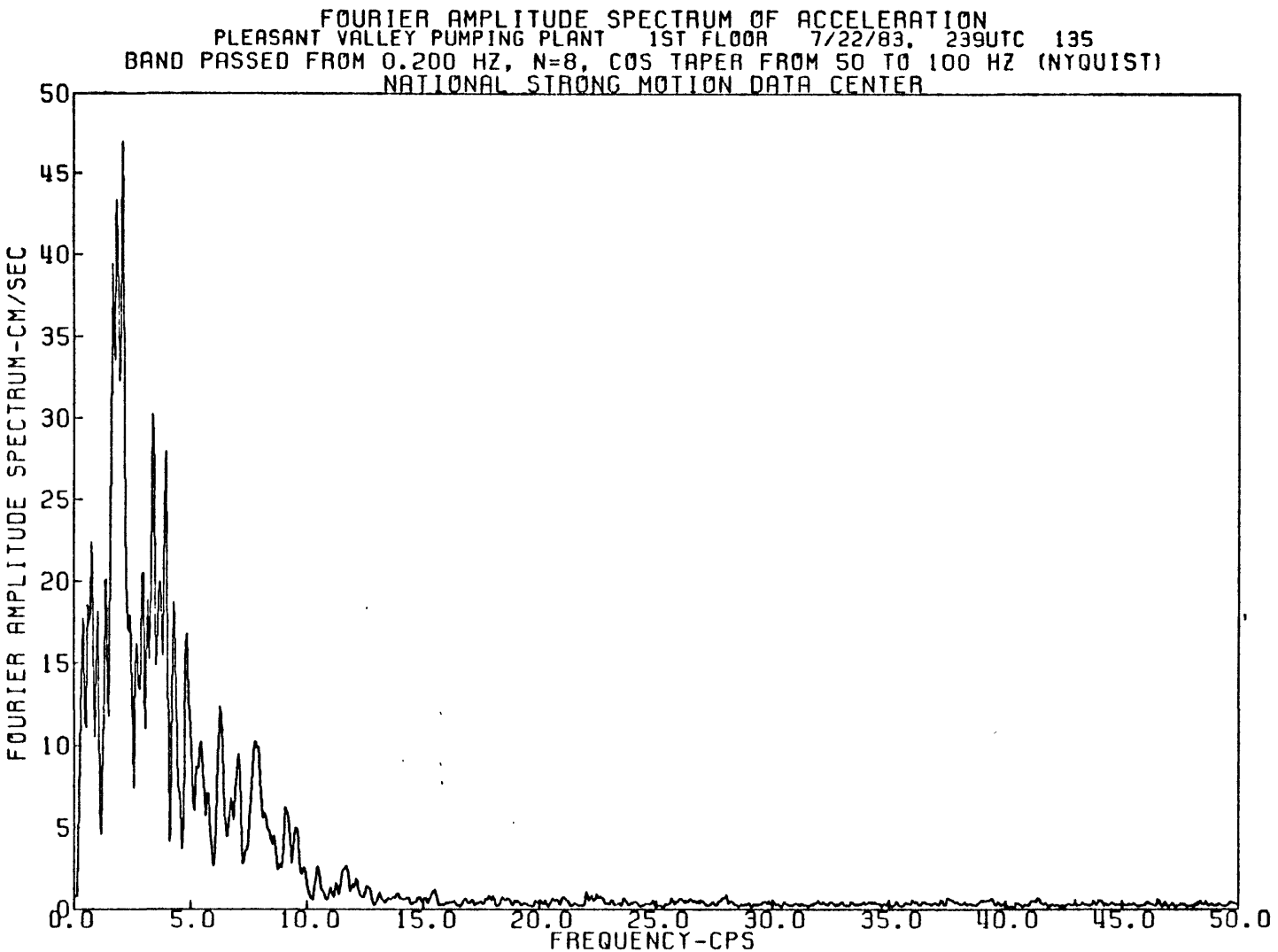
FREQUENCY-CPS


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT 1ST FLOOR 7/22/83, 239UTC 135
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
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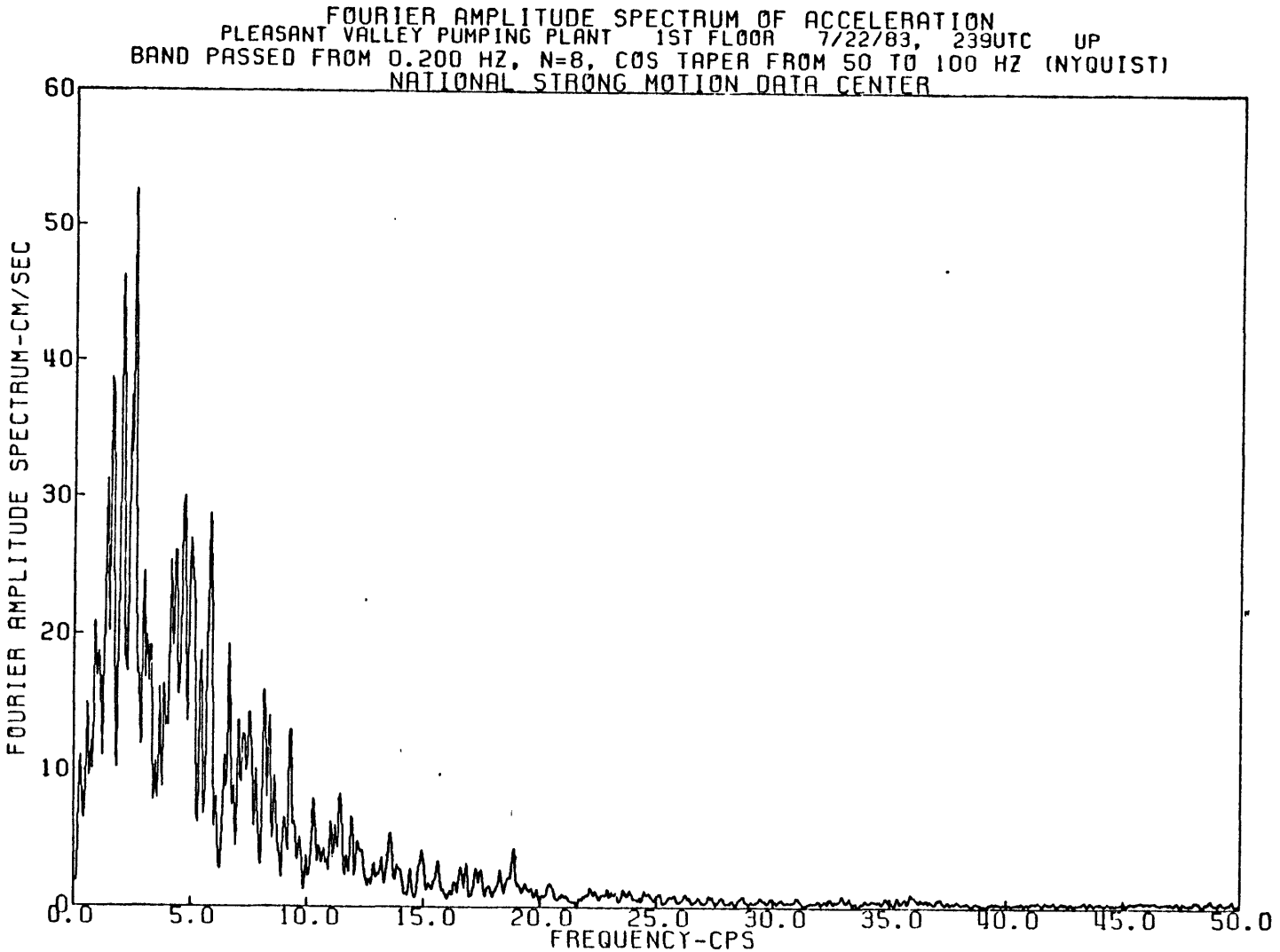
FREQUENCY-CPS


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT 1ST FLOOR 7/22/83, 239UTC UP
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
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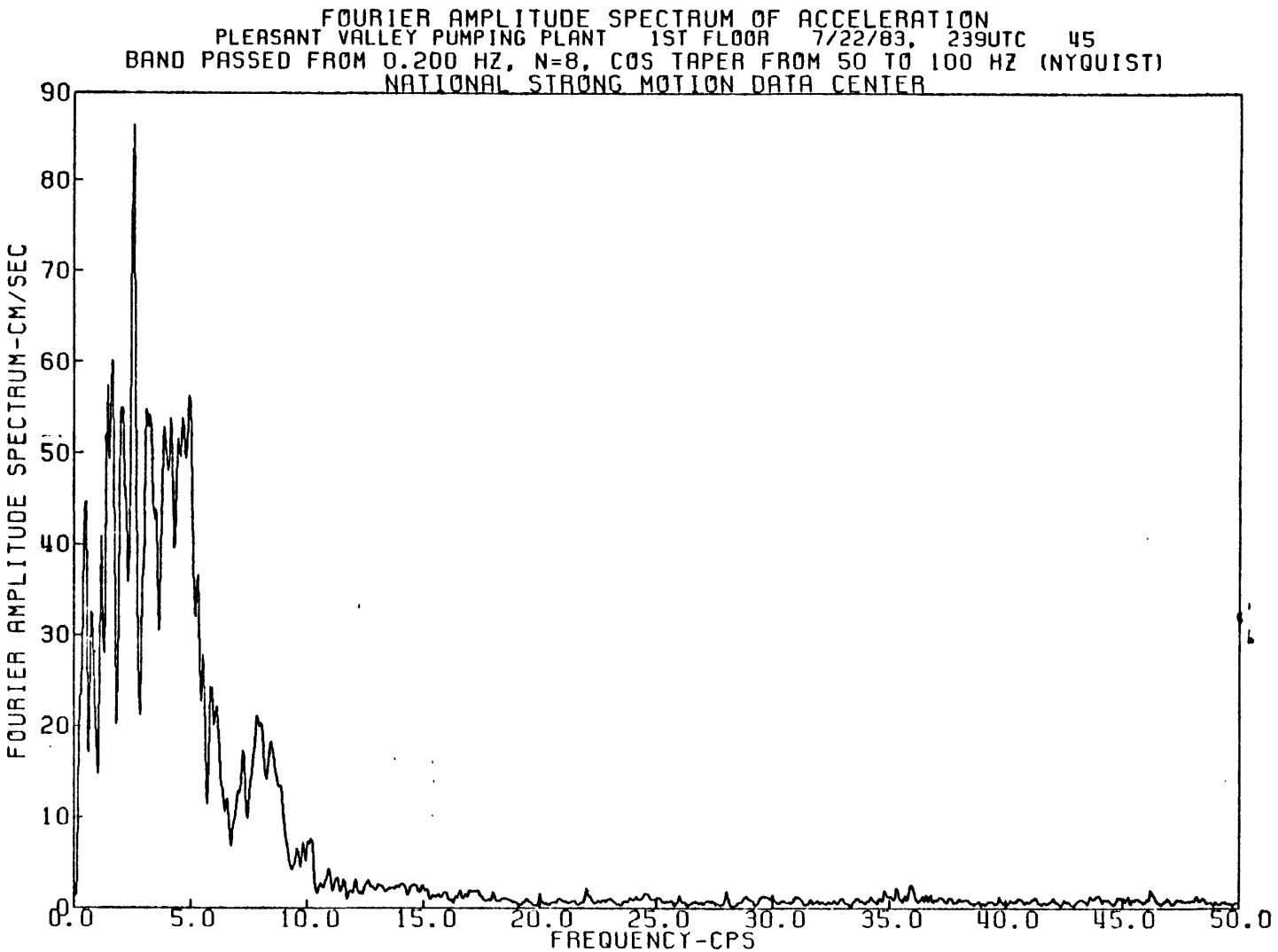
FREQUENCY-CPS


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT 1ST FLOOR 7/22/83, 239UTC 45
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
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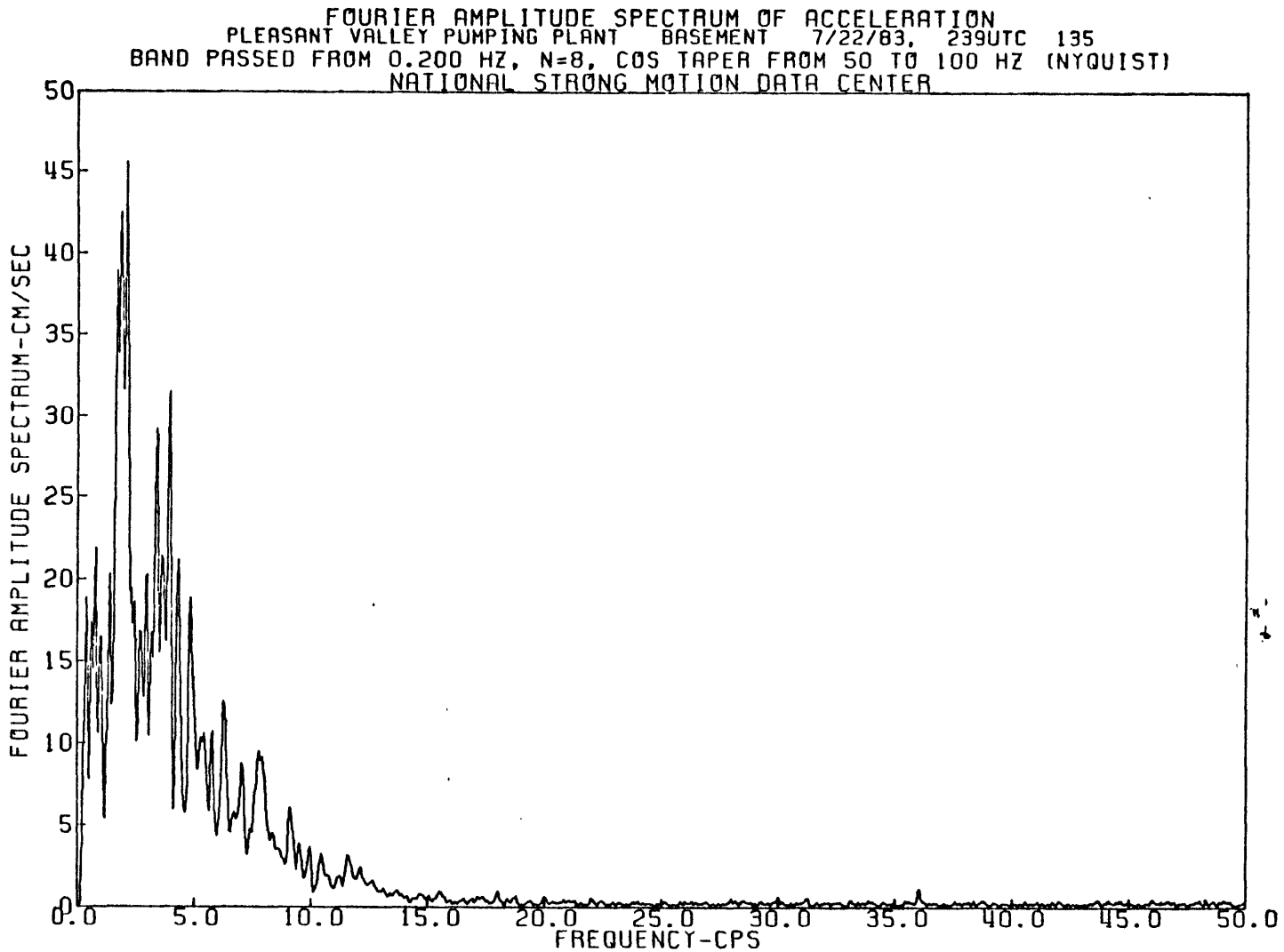
FREQUENCY-CPS


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT BASEMENT 7/22/83, 239UTC 135
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
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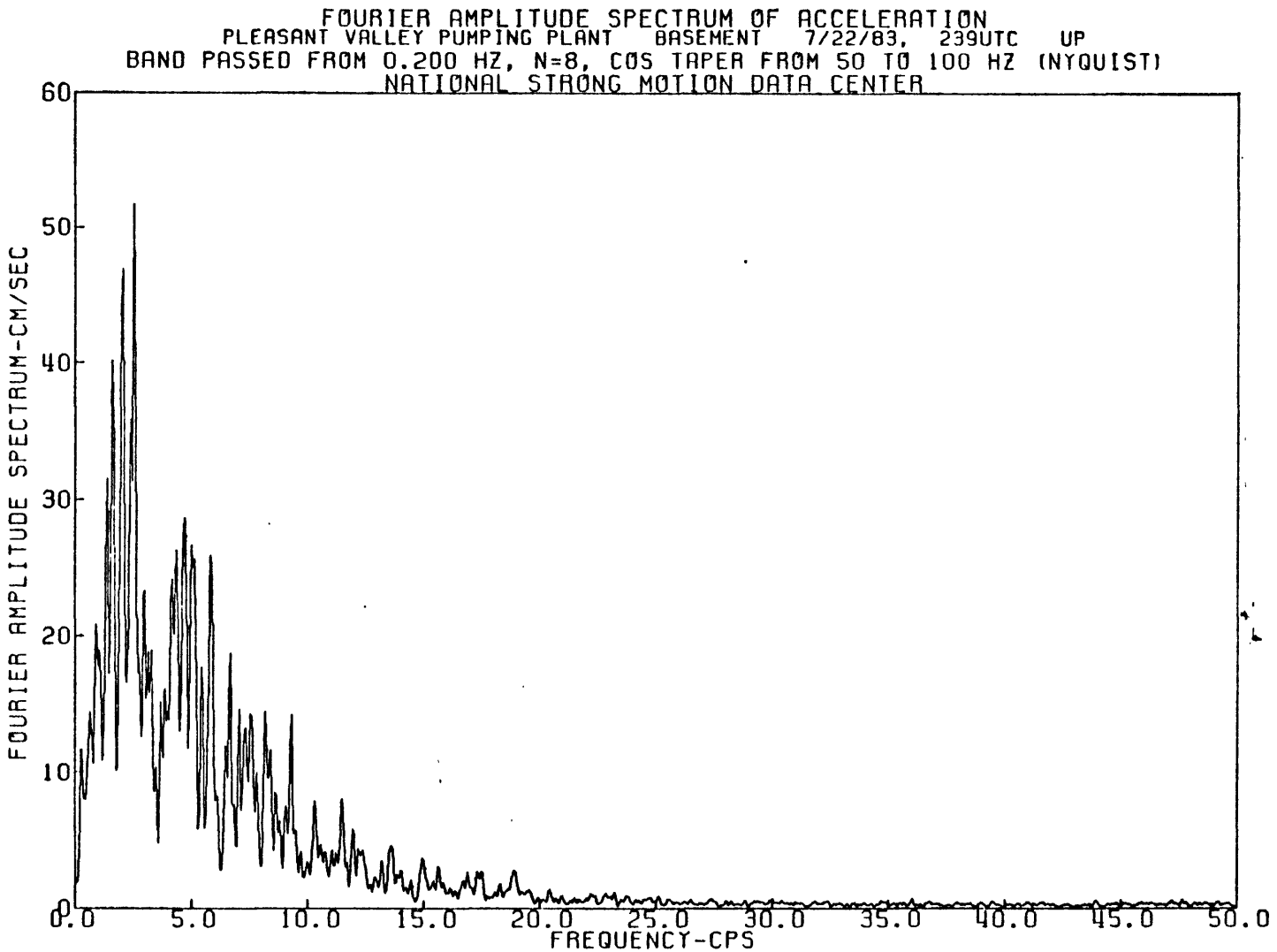
FREQUENCY-CPS


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT BASEMENT 7/22/83, 239UTC UP
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
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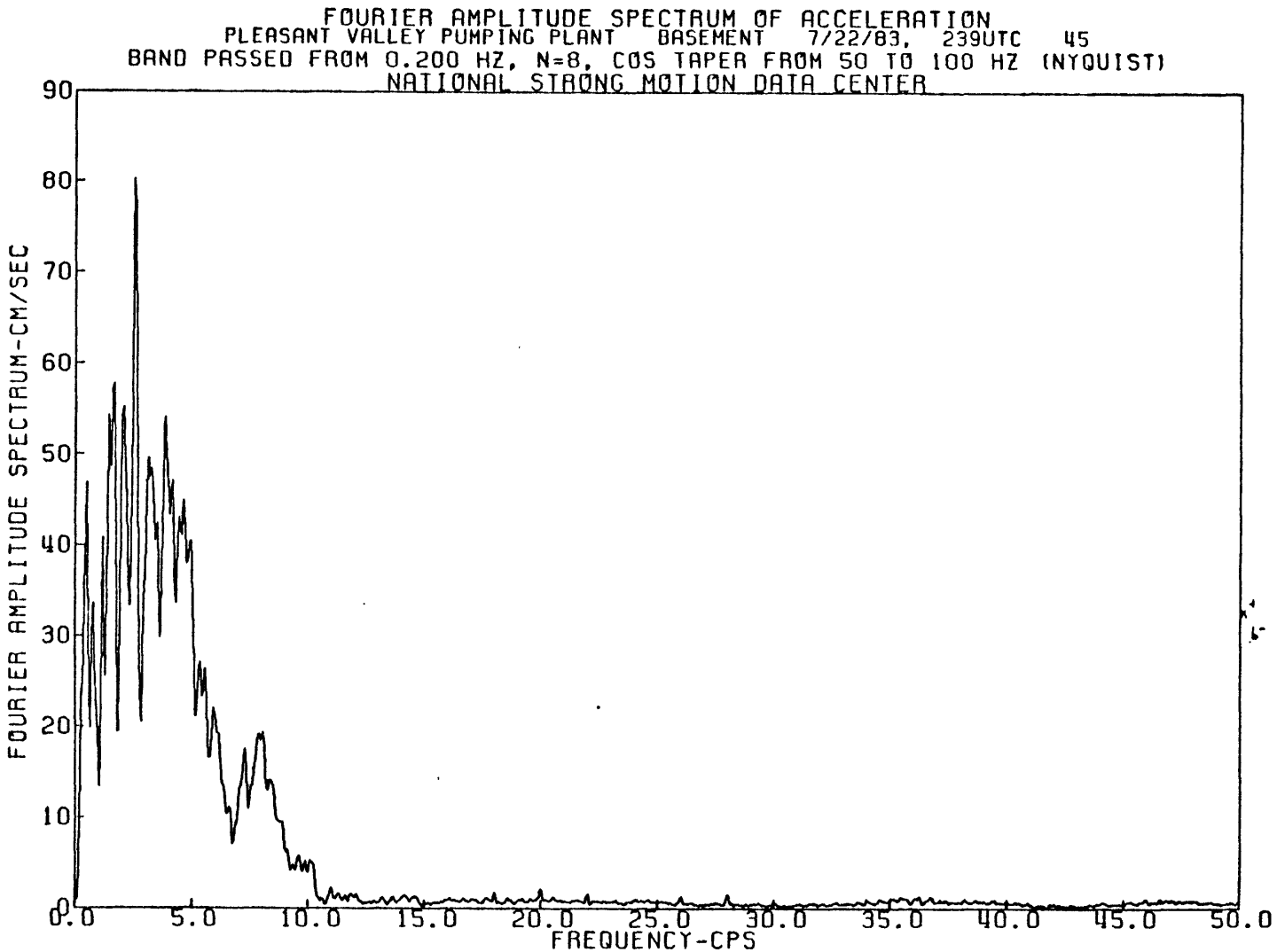
FREQUENCY-CPS


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT BASEMENT 7/22/83, 239UTC 45
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
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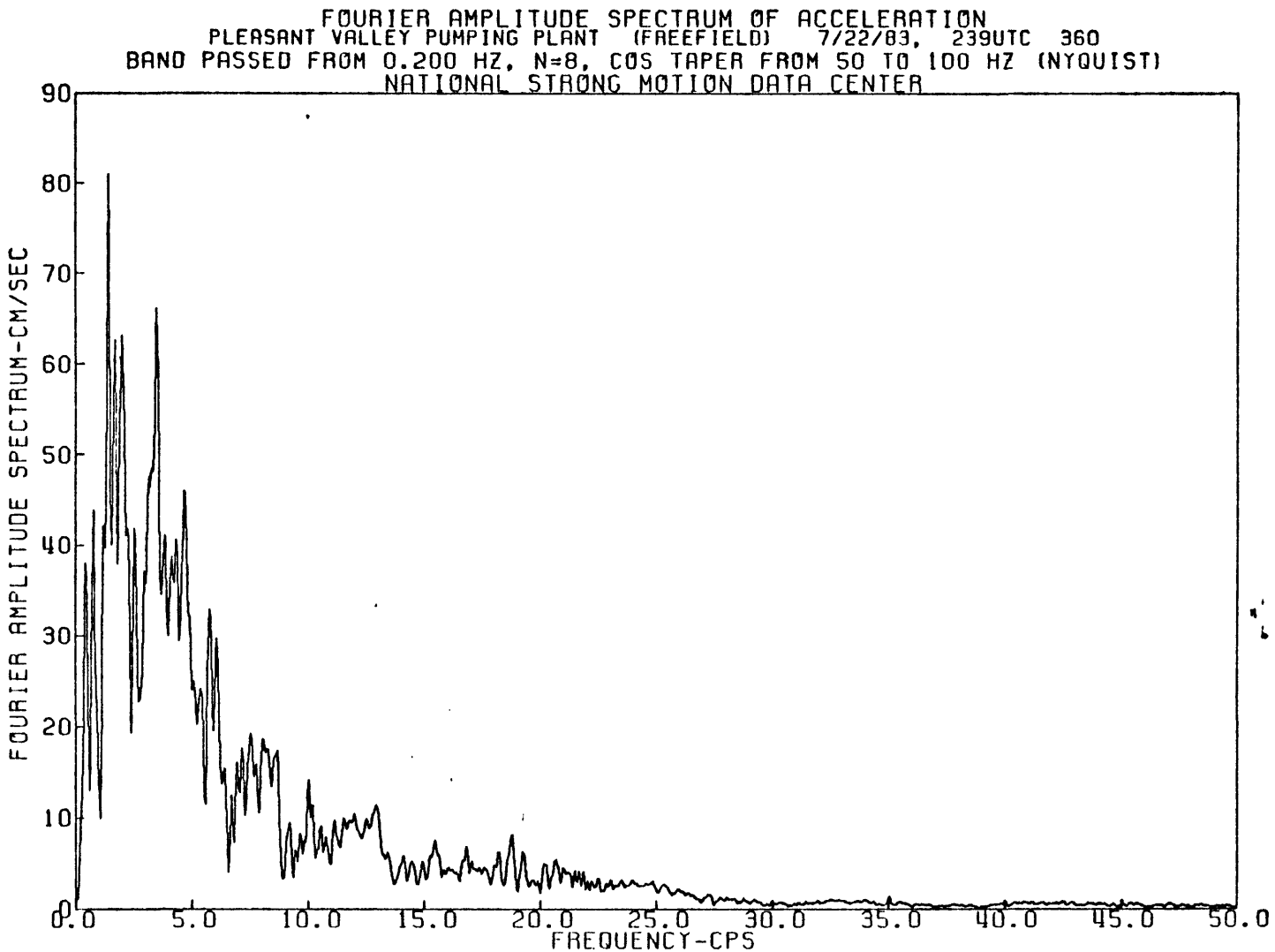
FREQUENCY-CPS


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT (FREEFIELD) 7/22/83, 2390UTC 360
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
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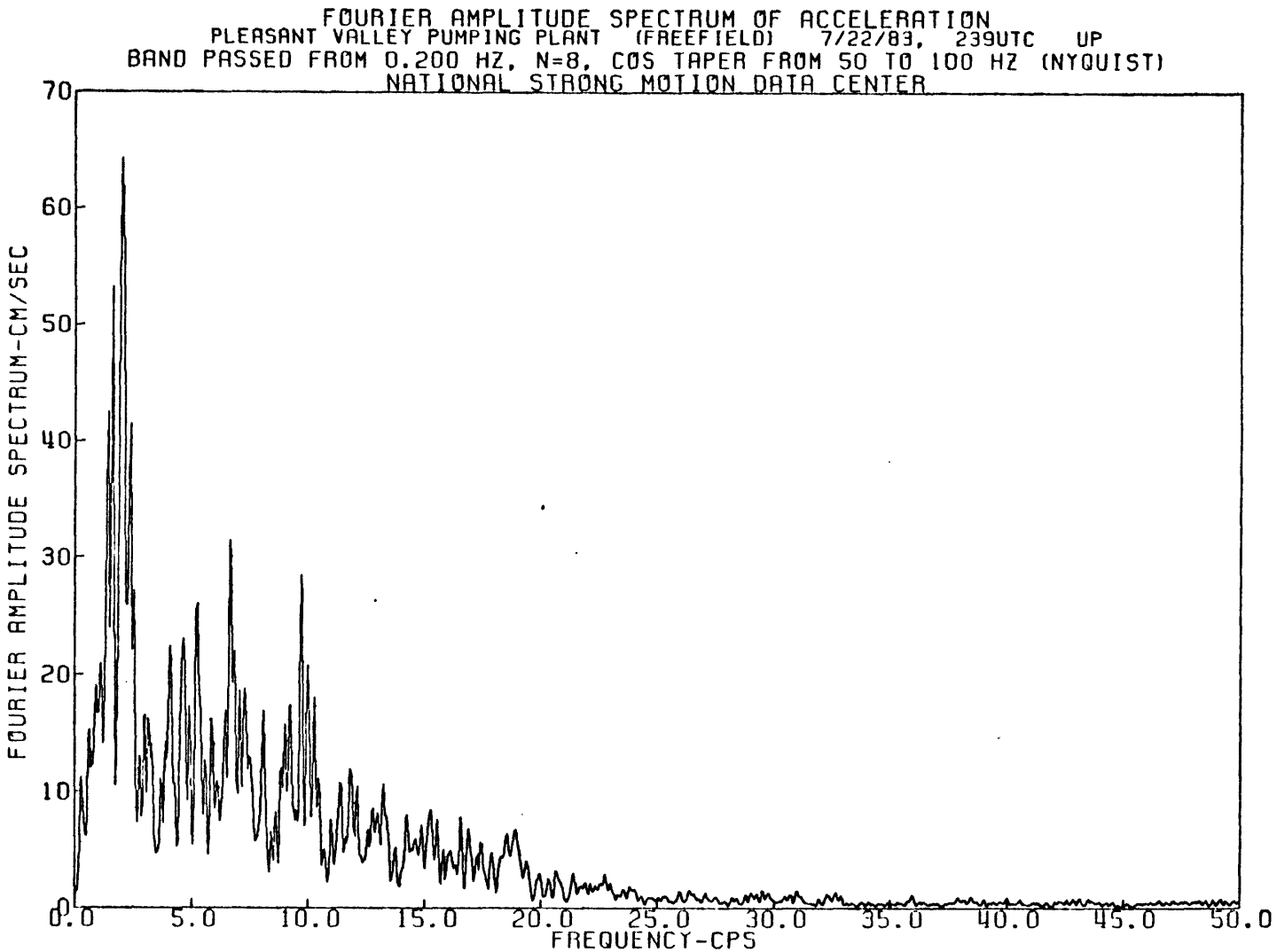
FREQUENCY-CPS


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT (FREEFIELD) 7/22/83, 239UTC UP
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
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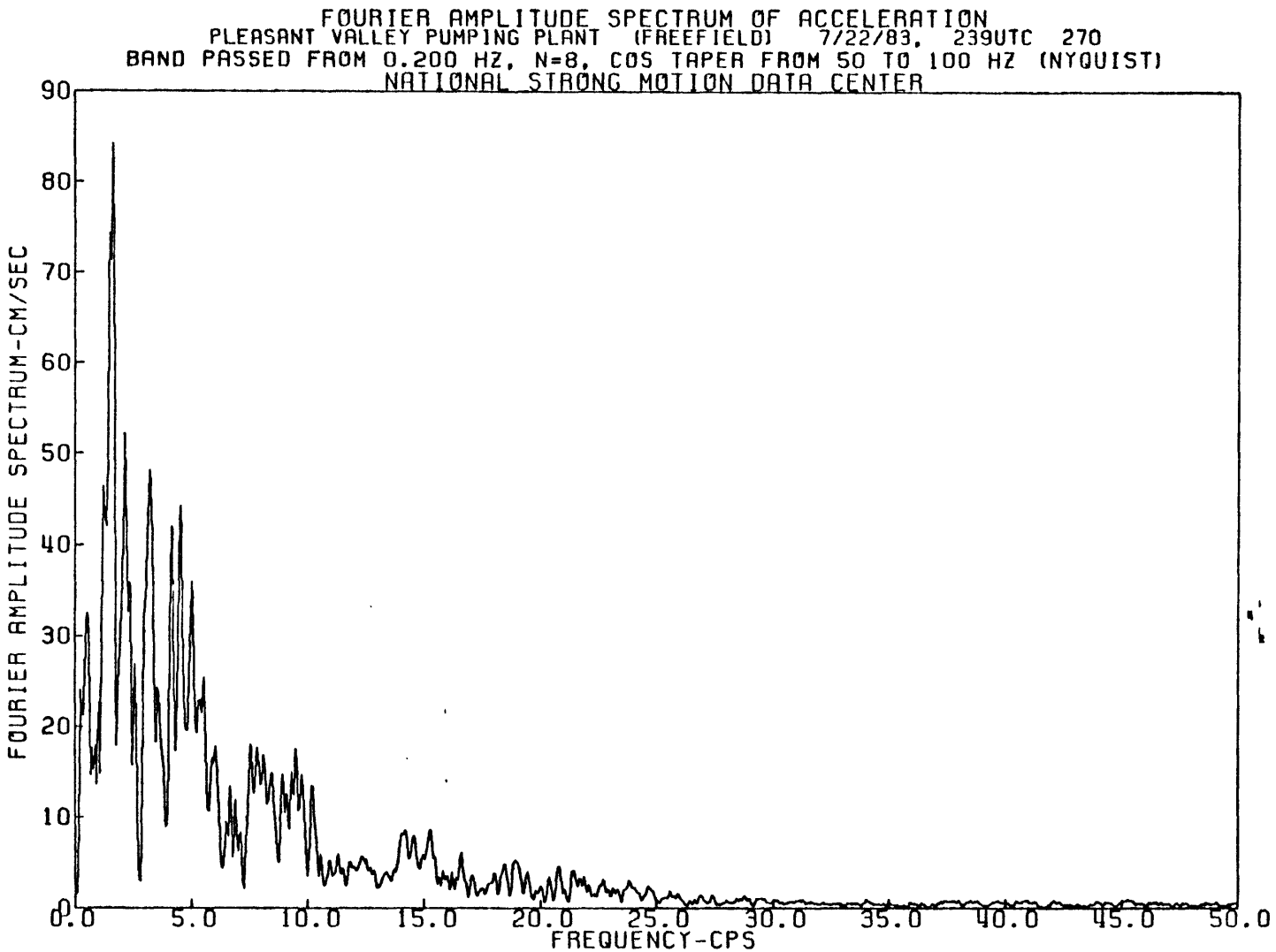
FREQUENCY-CPS


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT (FREEFIELD) 7/22/83, 239UTC 270
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
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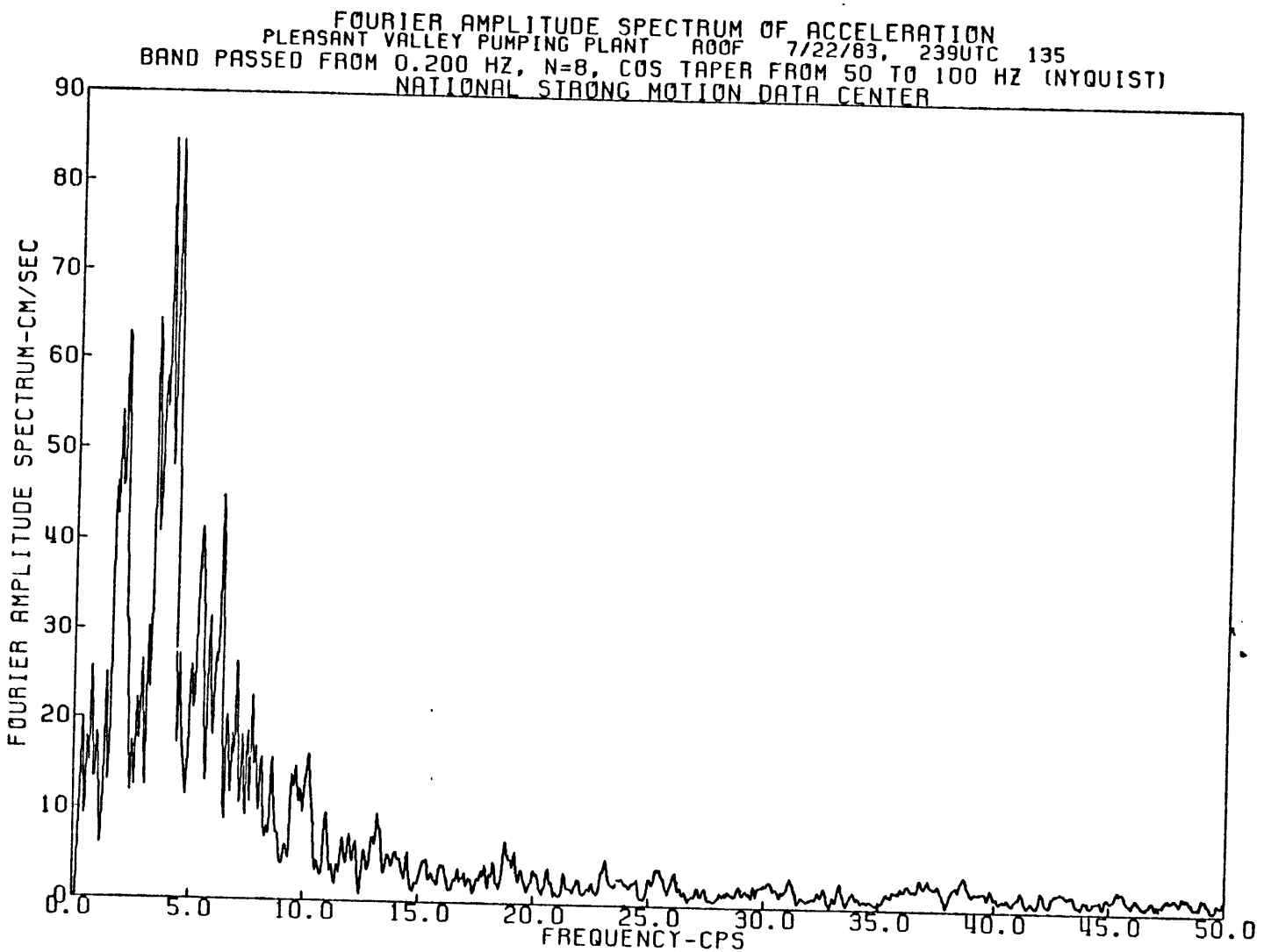
FREQUENCY-CPS


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT ROOF 7/22/83, 239UTC 135
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
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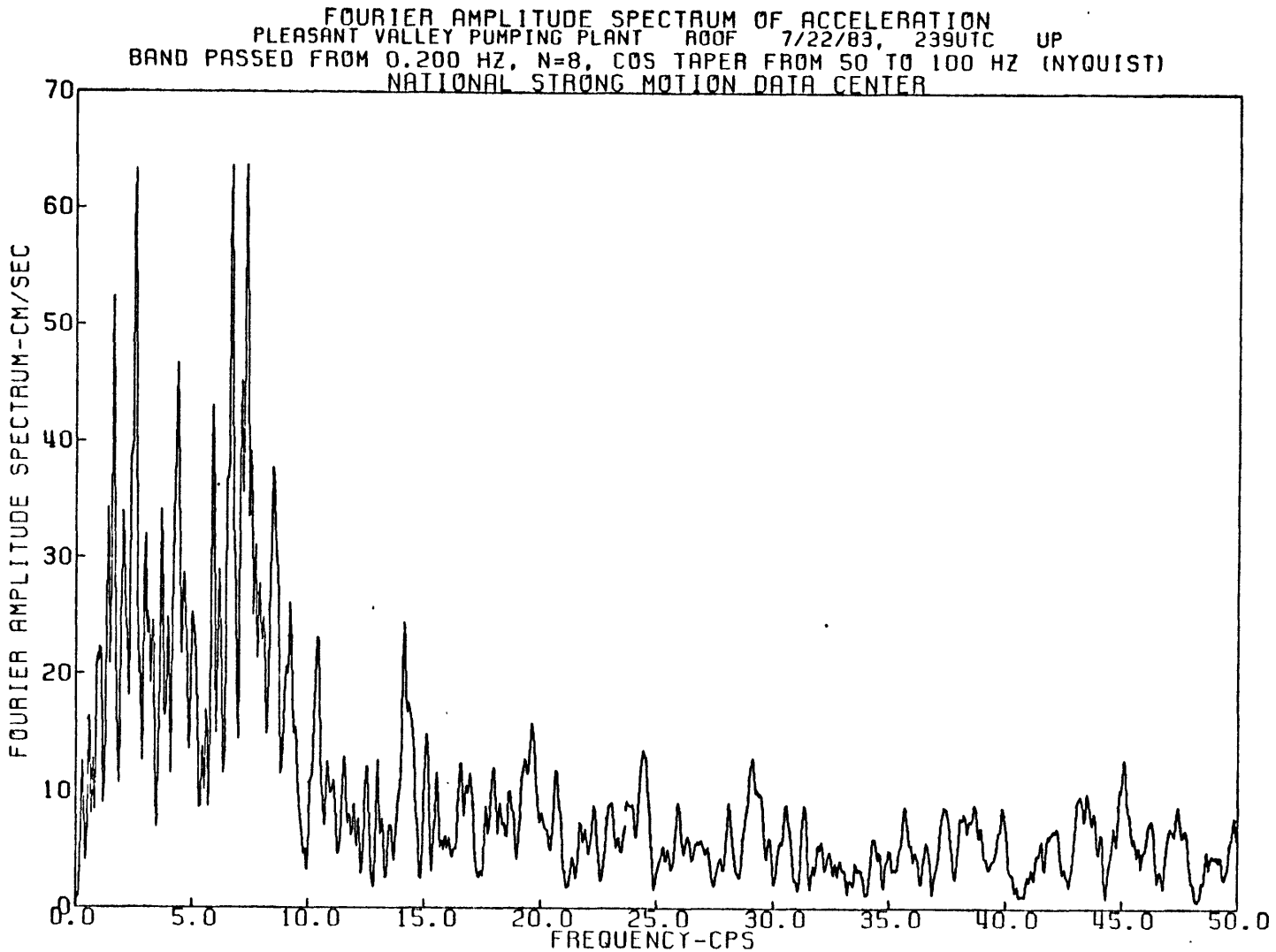
FREQUENCY-CPS


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT ROOF 7/22/83, 239UTC UP
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
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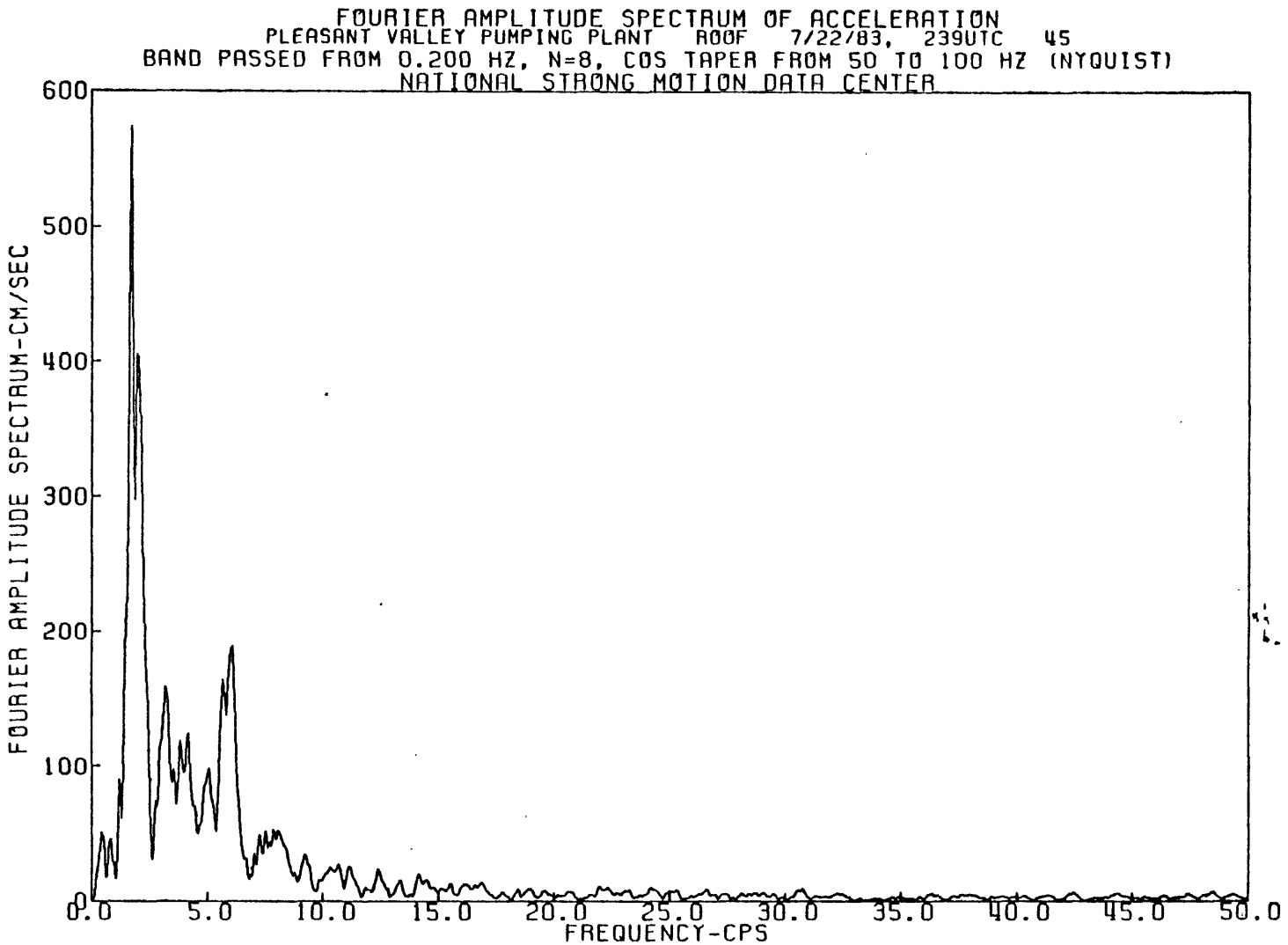
FREQUENCY-CPS


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT ROOF 7/22/83, 239UTC 45
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
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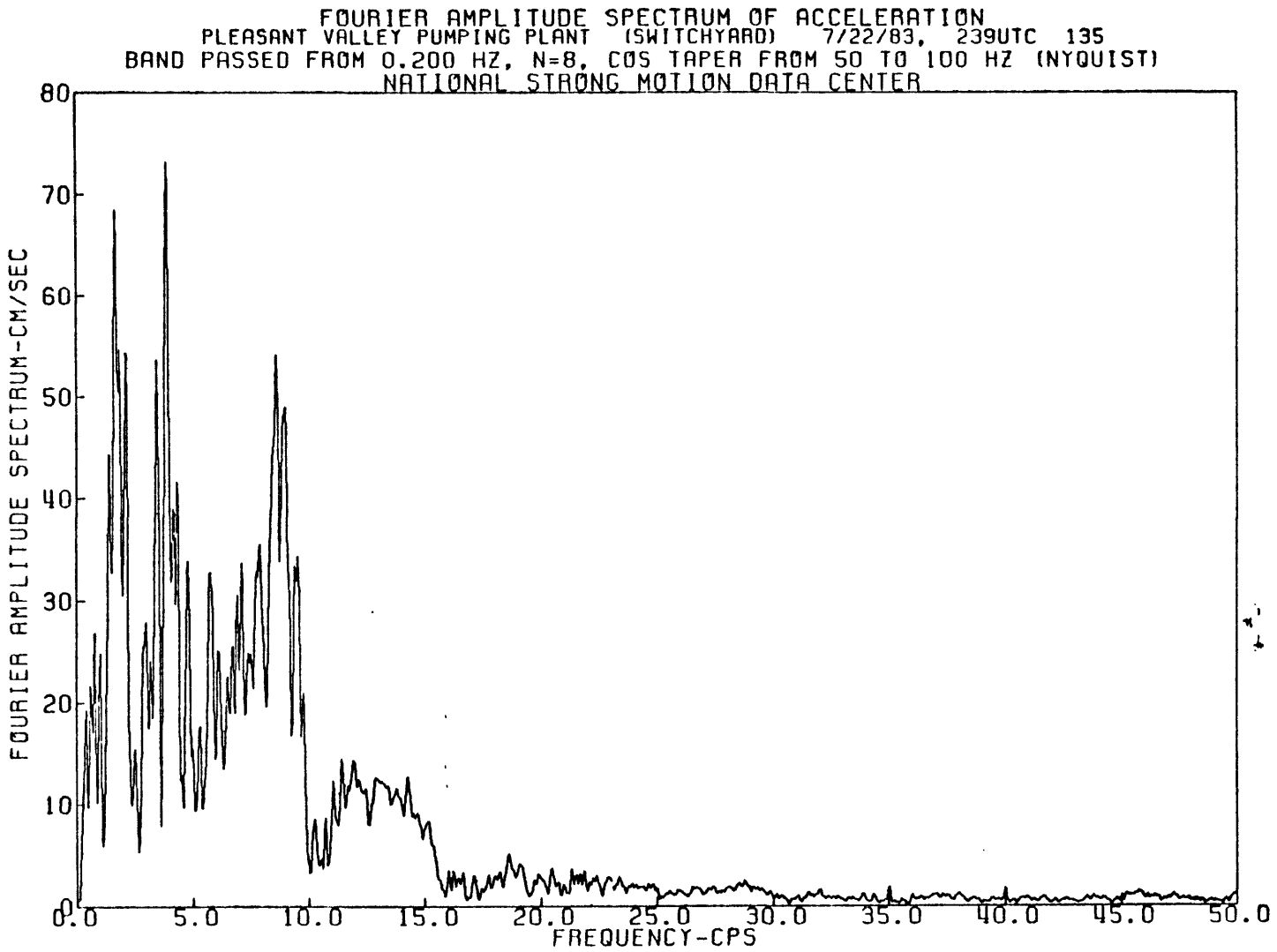
FREQUENCY-CPS


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT (SWITCHYARD) 7/22/83, 239UTC 135
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
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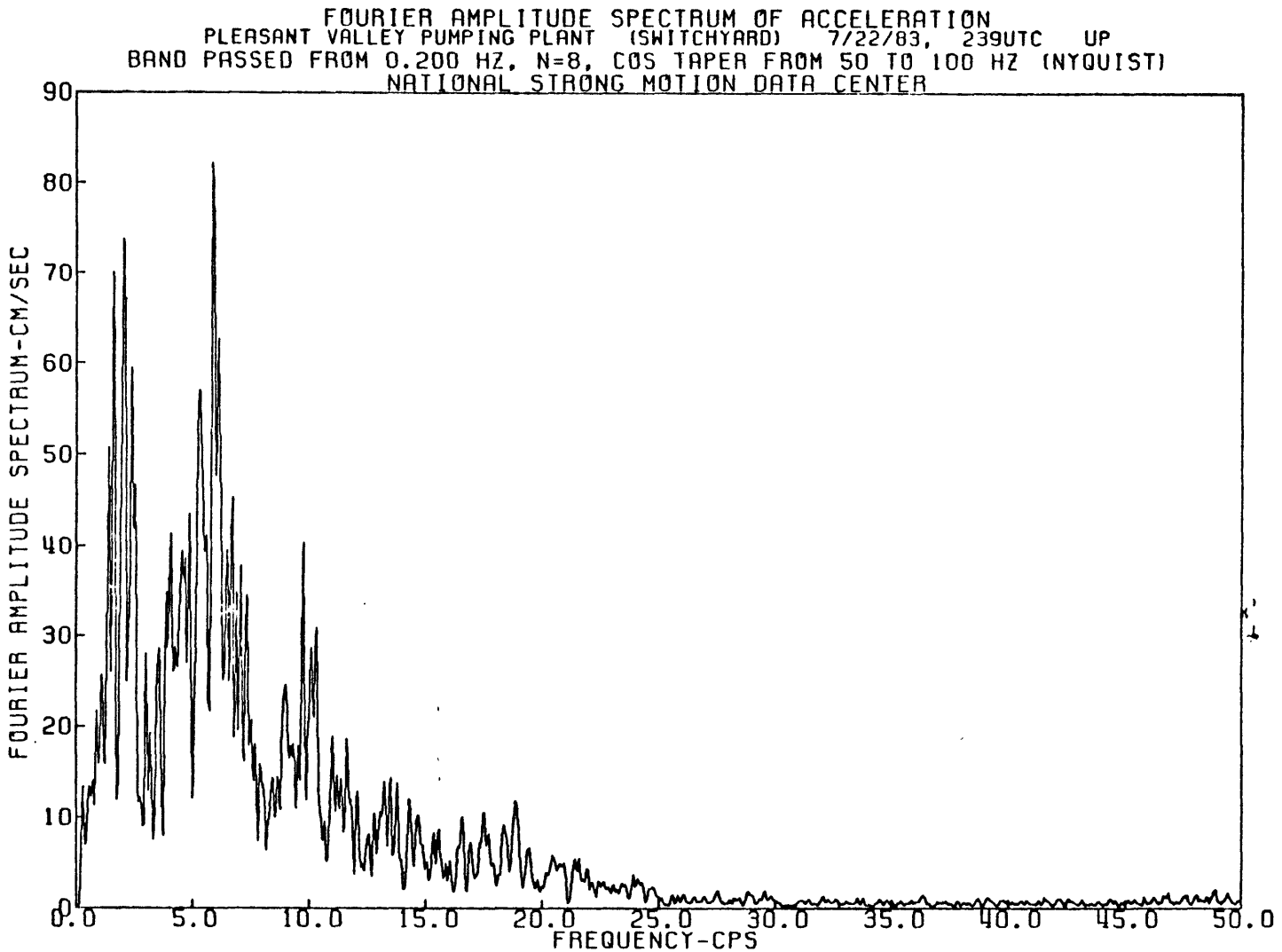
FREQUENCY-CPS


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT (SWITCHYARD) 7/22/83, 239UTC UP
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
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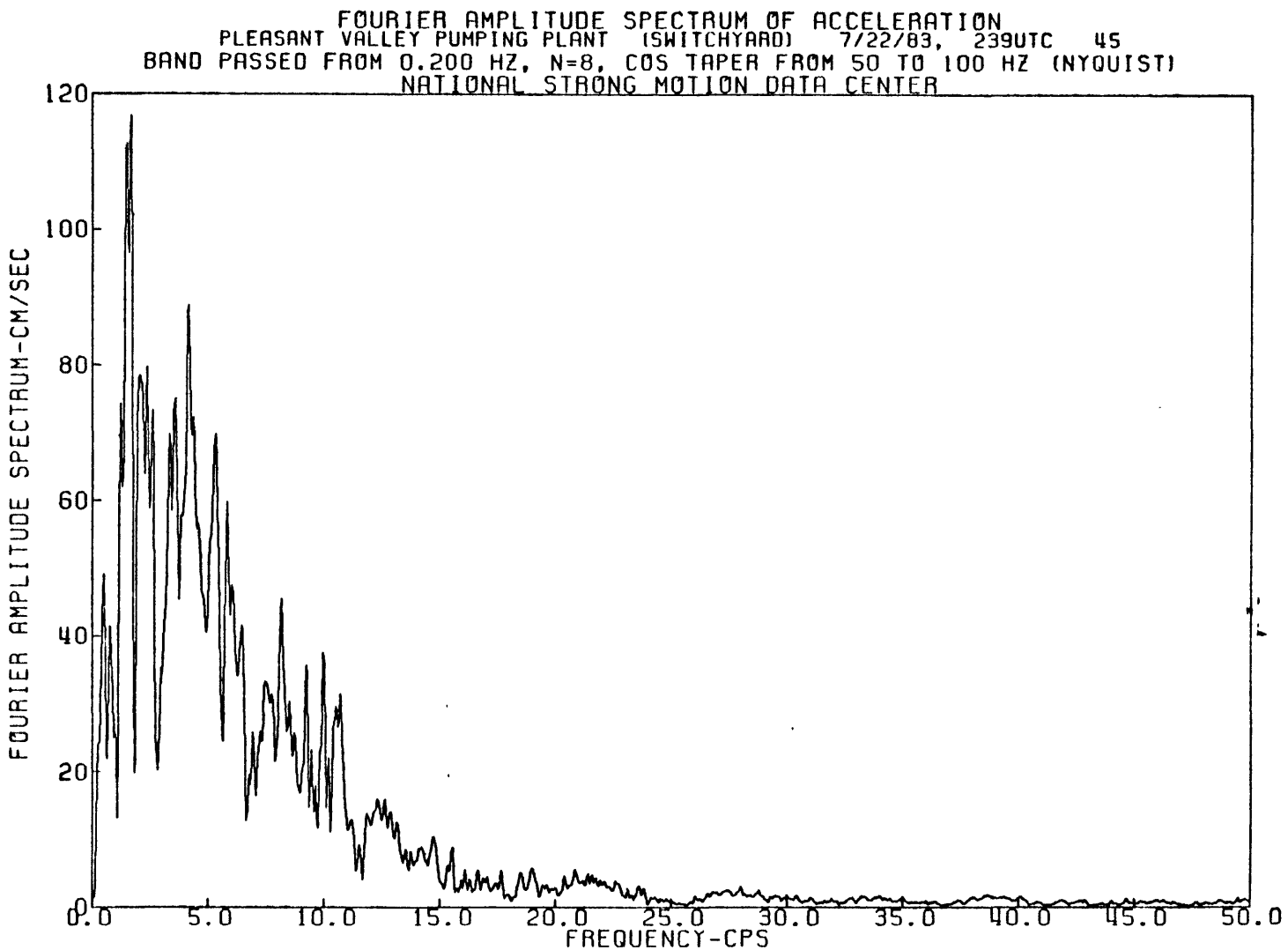
FREQUENCY-CPS


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT (SWITCHYARD) 7/22/83, 239UTC 45
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
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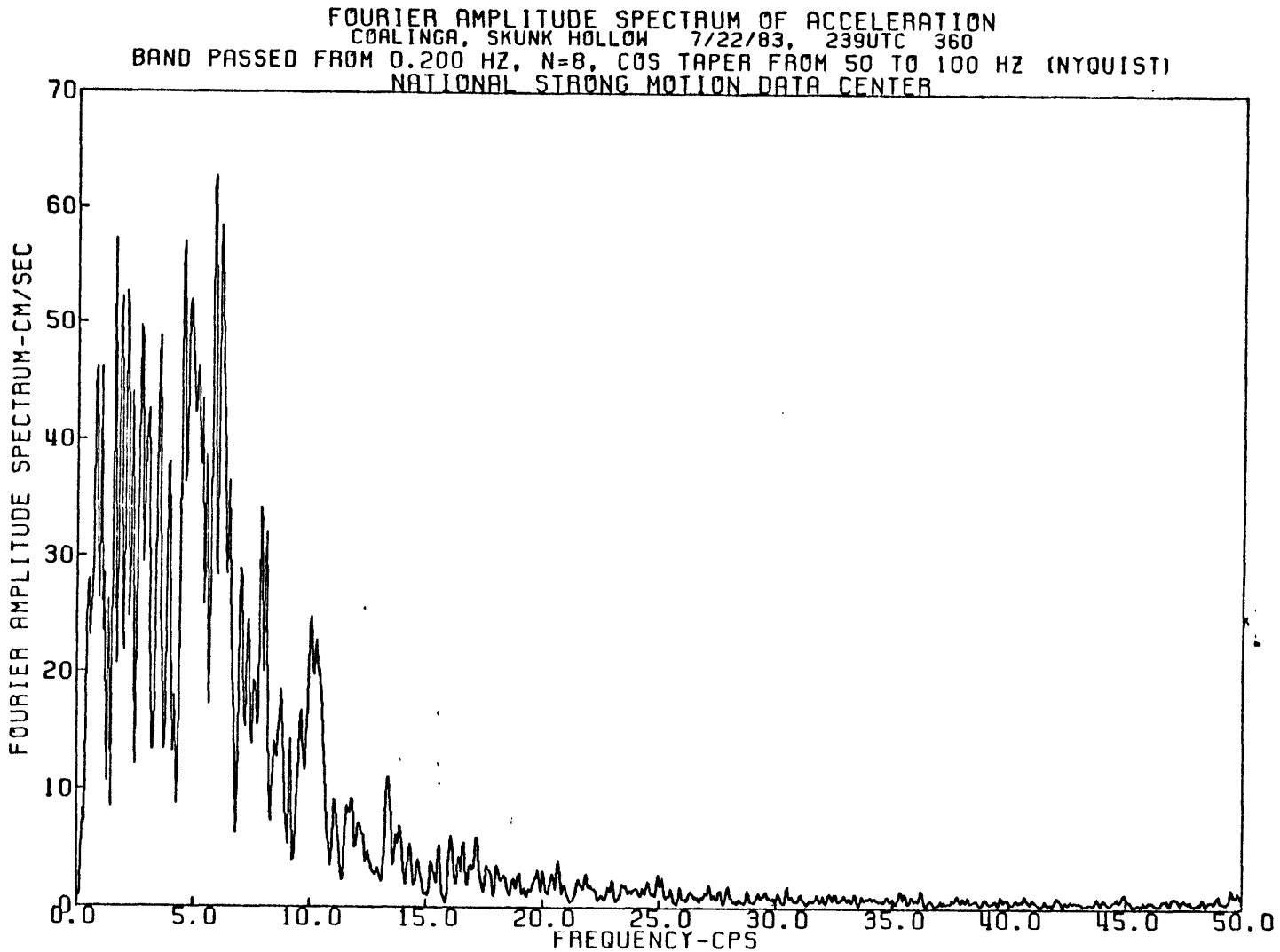
FREQUENCY-CPS


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, SKUNK HOLLOW 7/22/83, 239UTC 360
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
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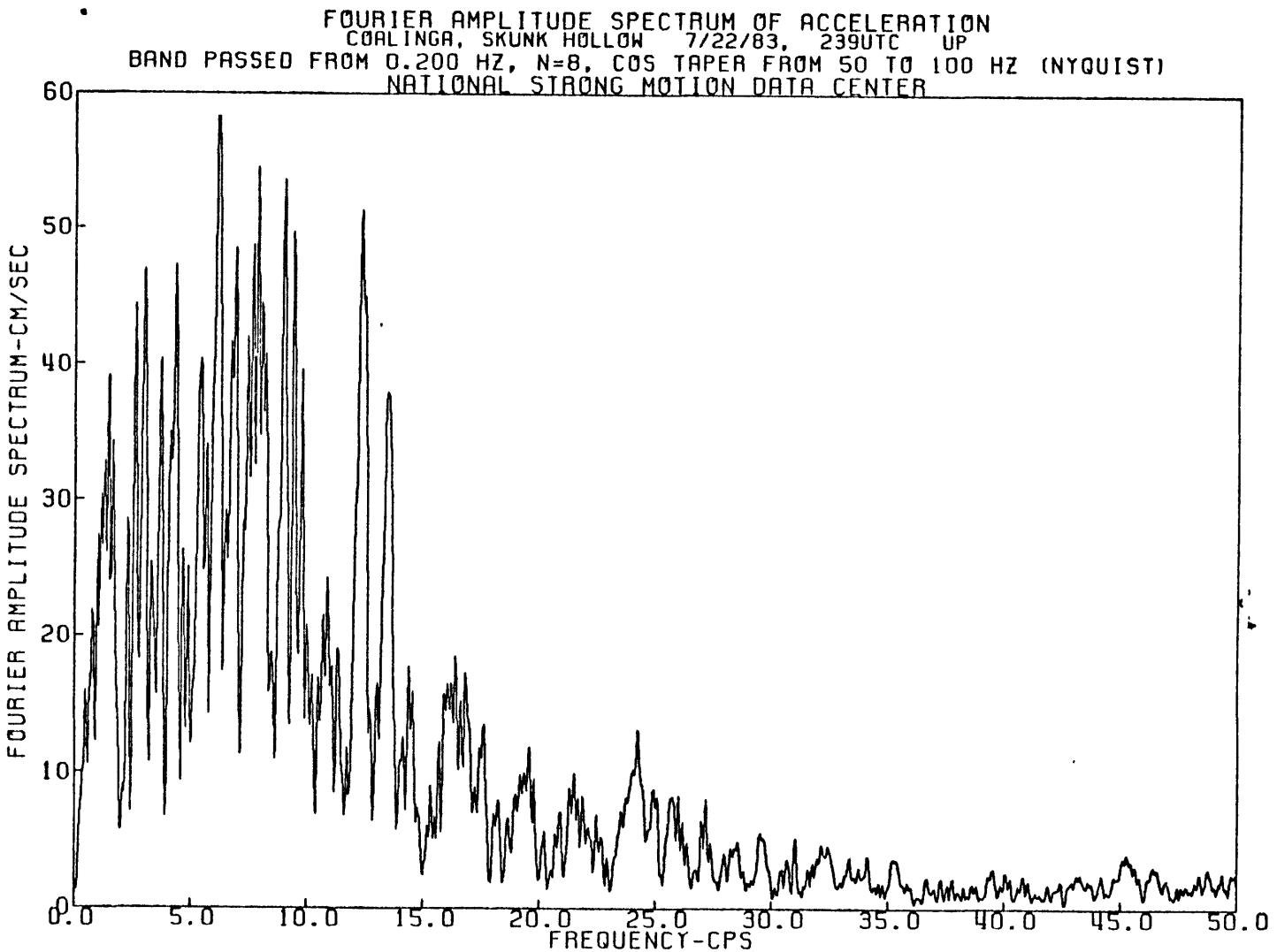
FREQUENCY-CPS


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, SKUNK HOLLOW 7/22/83, 239UTC UP
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
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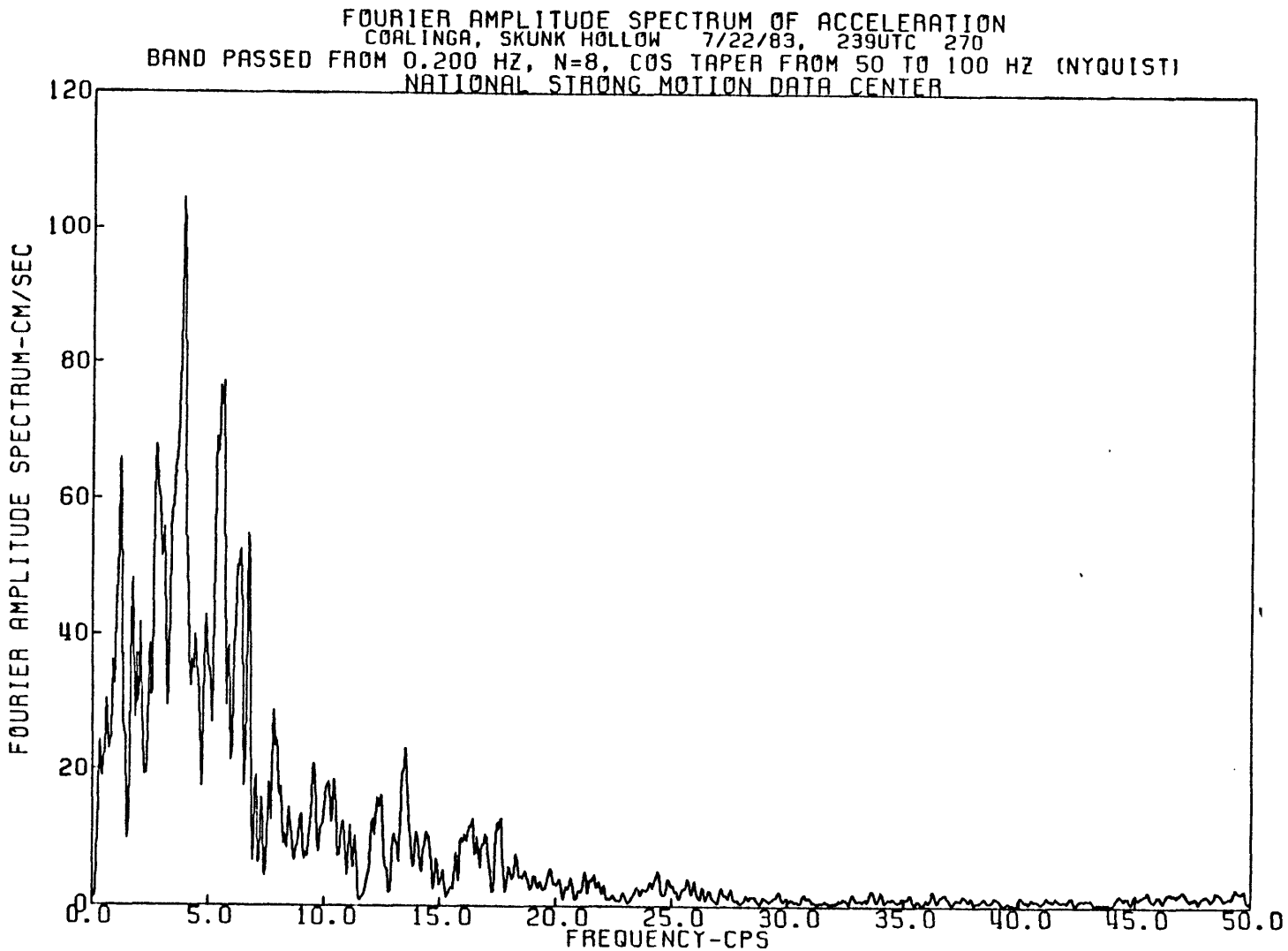
40.0
45.0
50.0
FREQUENCY-CPS


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, SKUNK HOLLOW 7/22/83, 239UTC 270
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
120
100
80
60
40
20
0
0.0
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10.0
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20.0
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40.0
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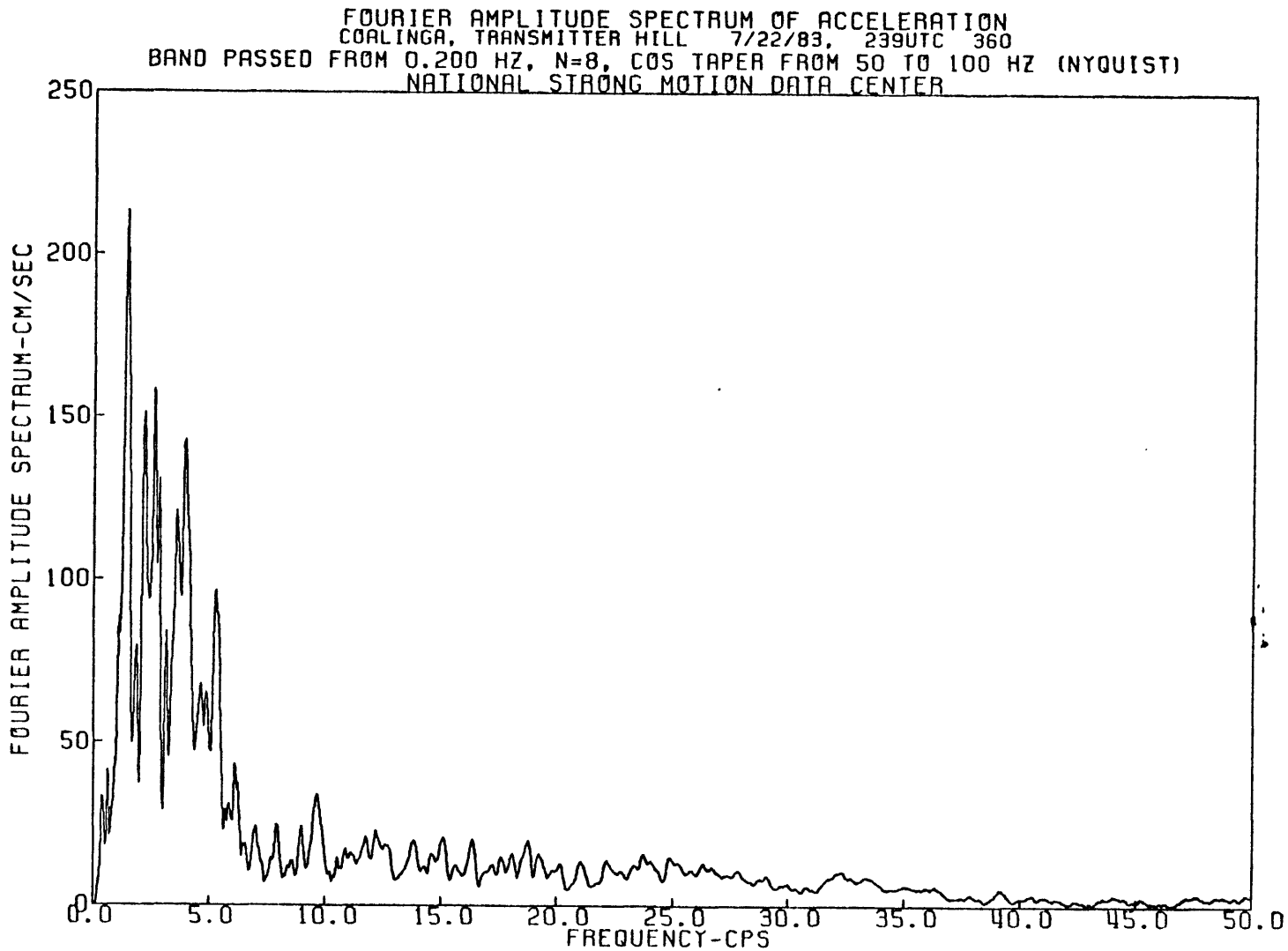
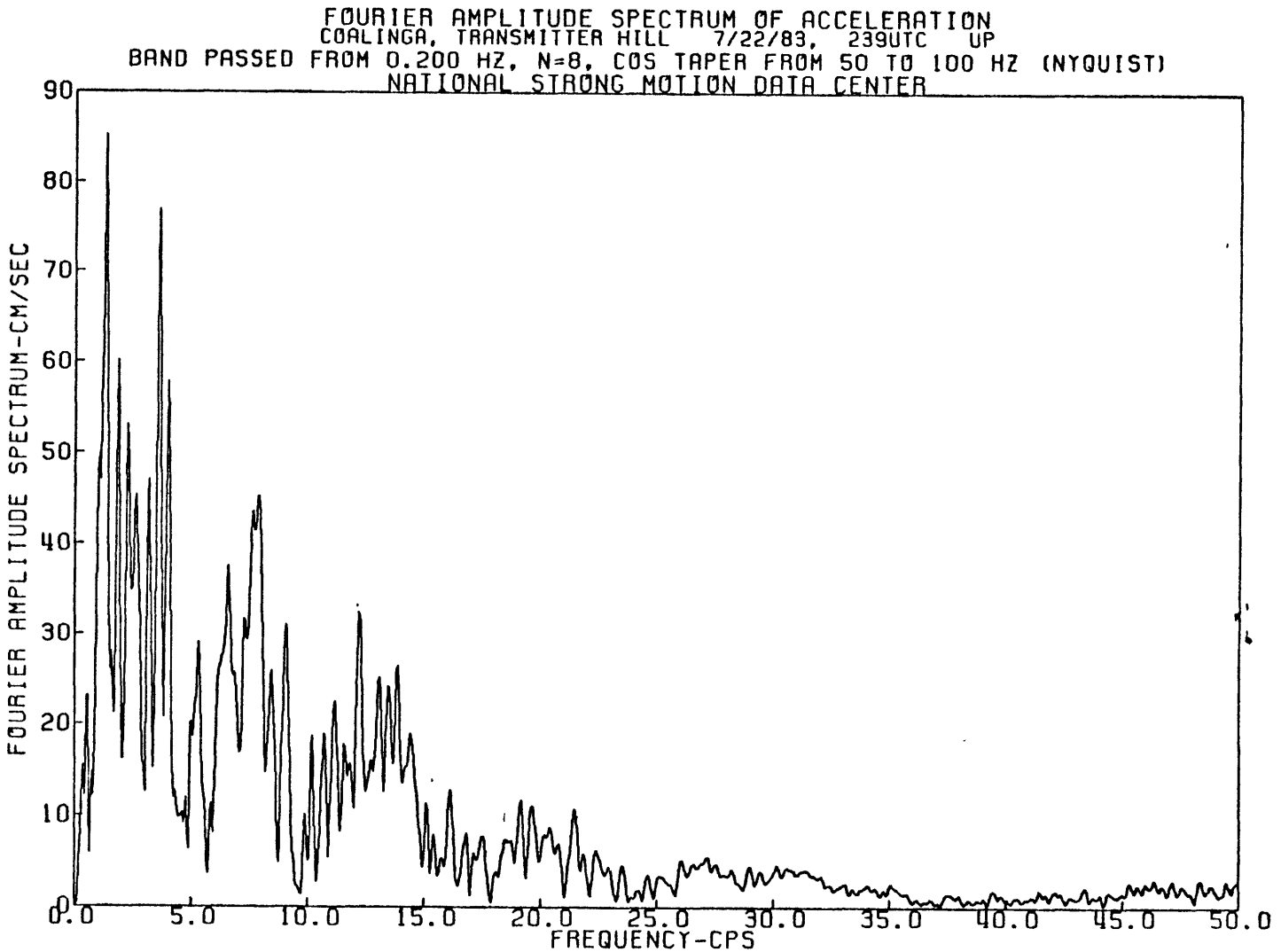
50.0
FREQUENCY-CPS


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, TRANSMITTER HILL 7/22/83, 239UTC 360
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
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


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, TRANSMITTER HILL 7/22/83, 2390UTC UP
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
FOURIER AMPLITUDE SPECTRUM-CM/SEC
0
10
20
30
40
50
60
70
80
90
0.0
5.0
10.0
15.0
20.0
25.0
30.0
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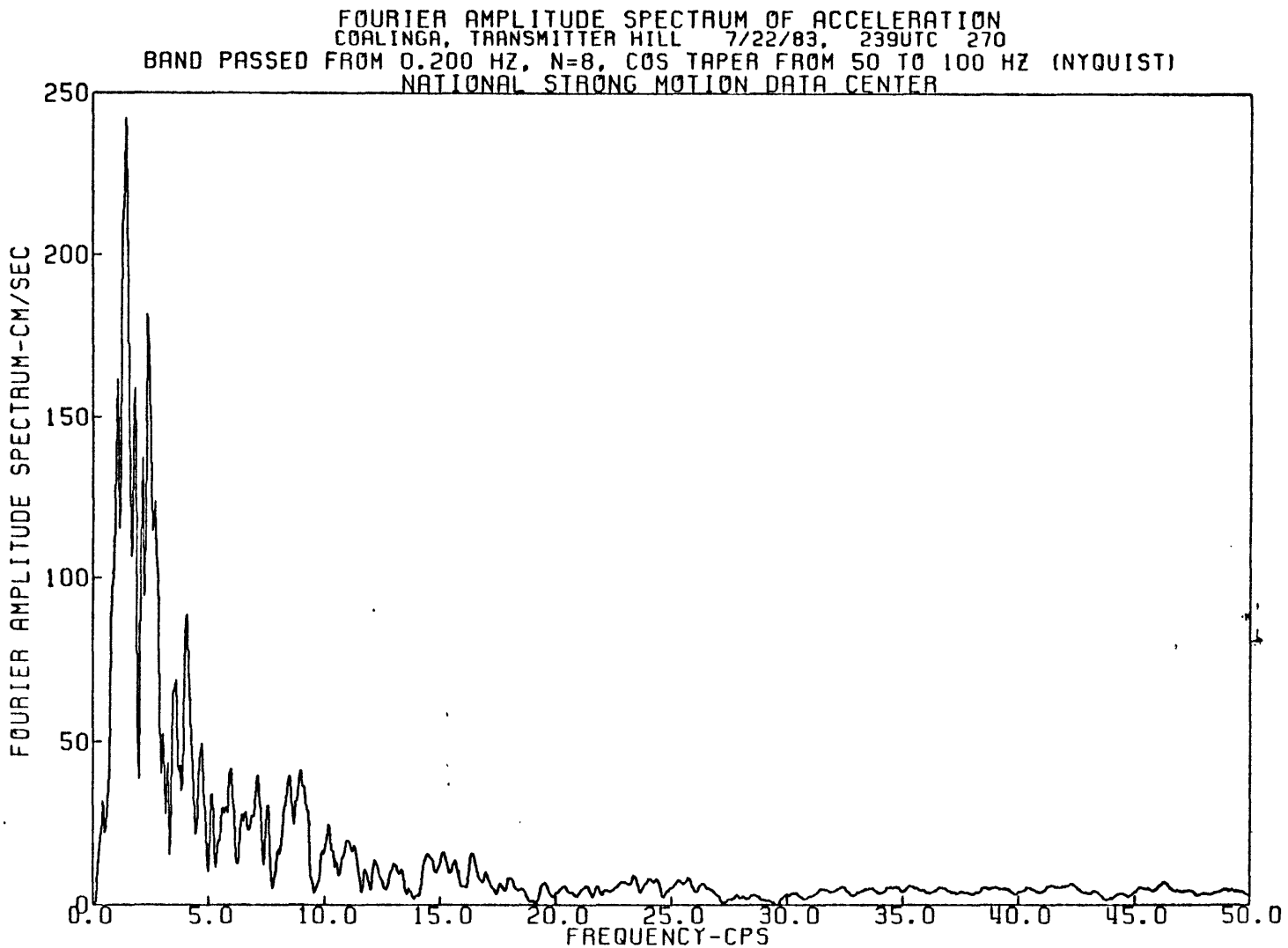
40.0
45.0
50.0
FREQUENCY-CPS


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, TRANSMITTER HILL 7/22/83, 239UTC 270
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
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
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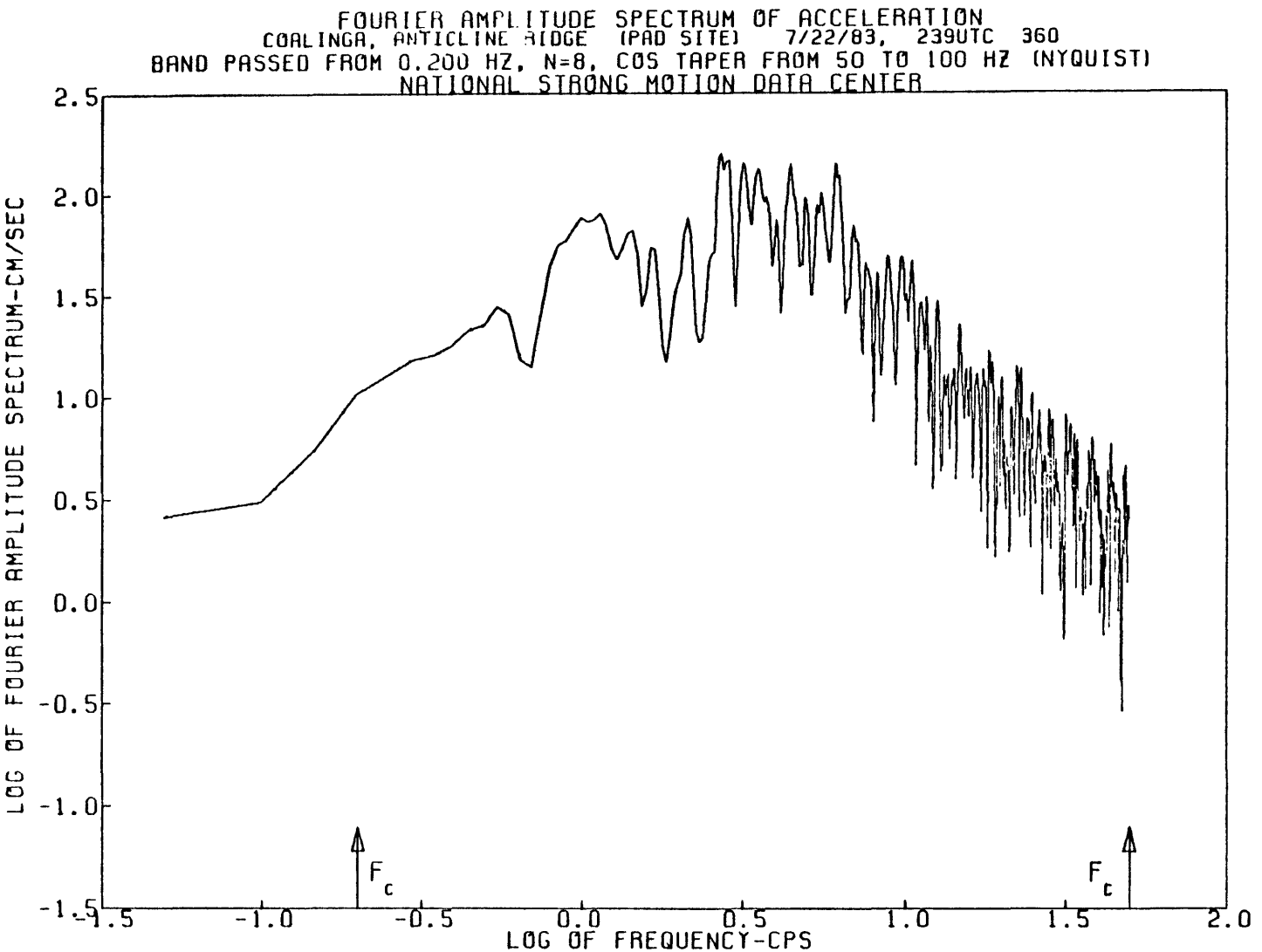
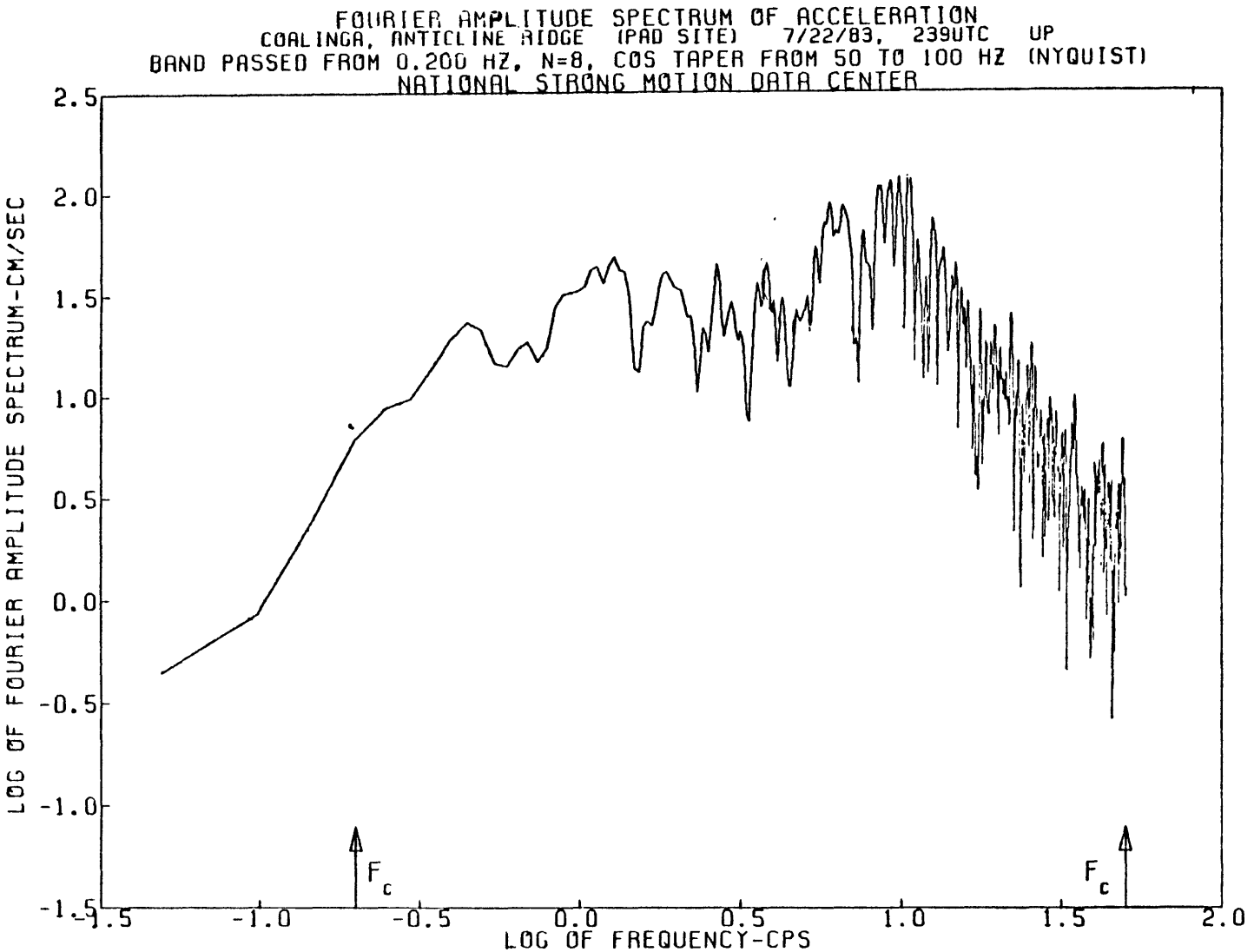
40.0
45.0
50.0
FREQUENCY-CPS


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, ANTICLINE RIDGE (PAD SITE) 7/22/83, 2390UTC 360
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
2.0
LOG OF FREQUENCY-CPS
F_c
F_c


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, ANTICLINE RIDGE (PAD SITE) 7/22/83, 239UTC UP
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-1.5
-1.0
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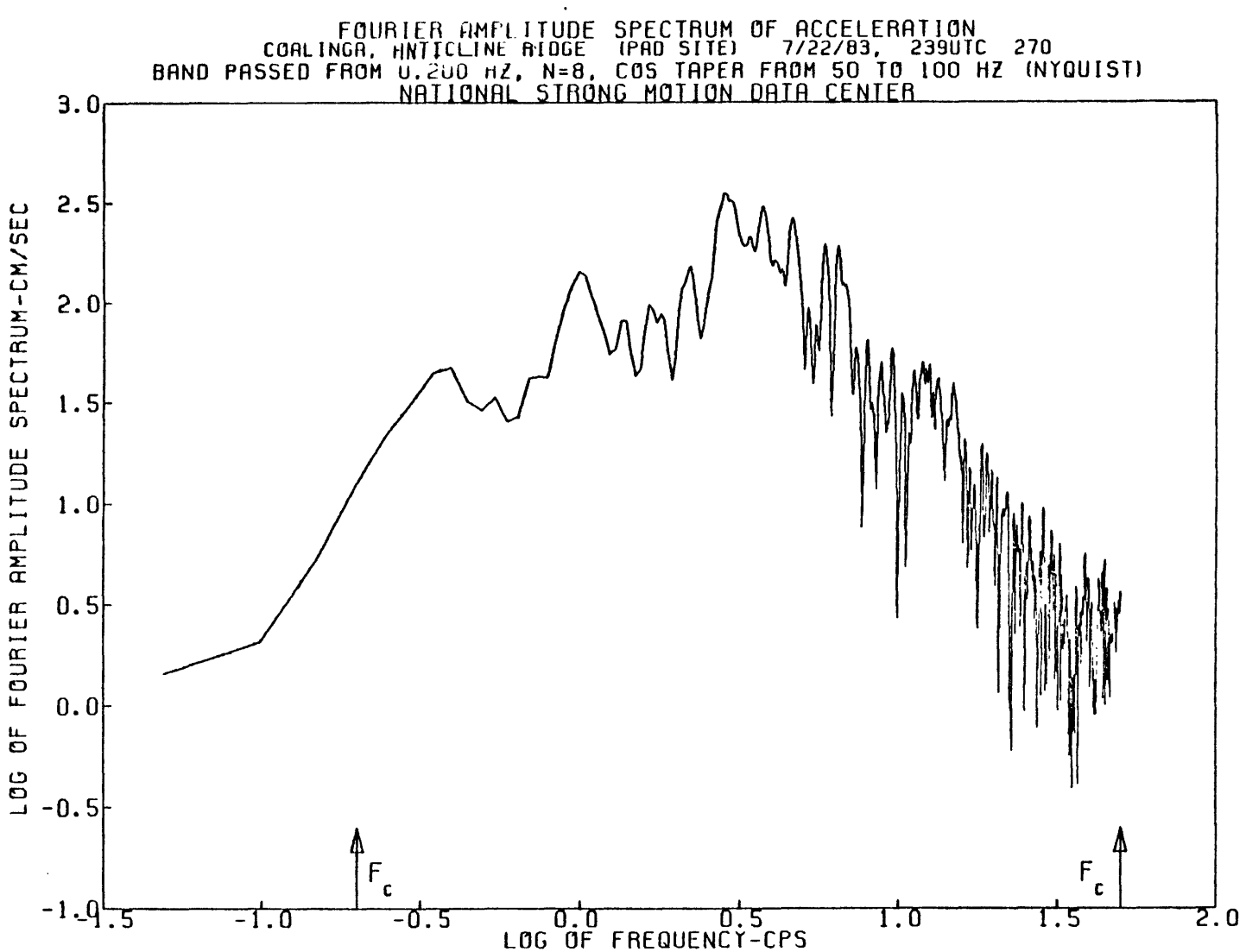
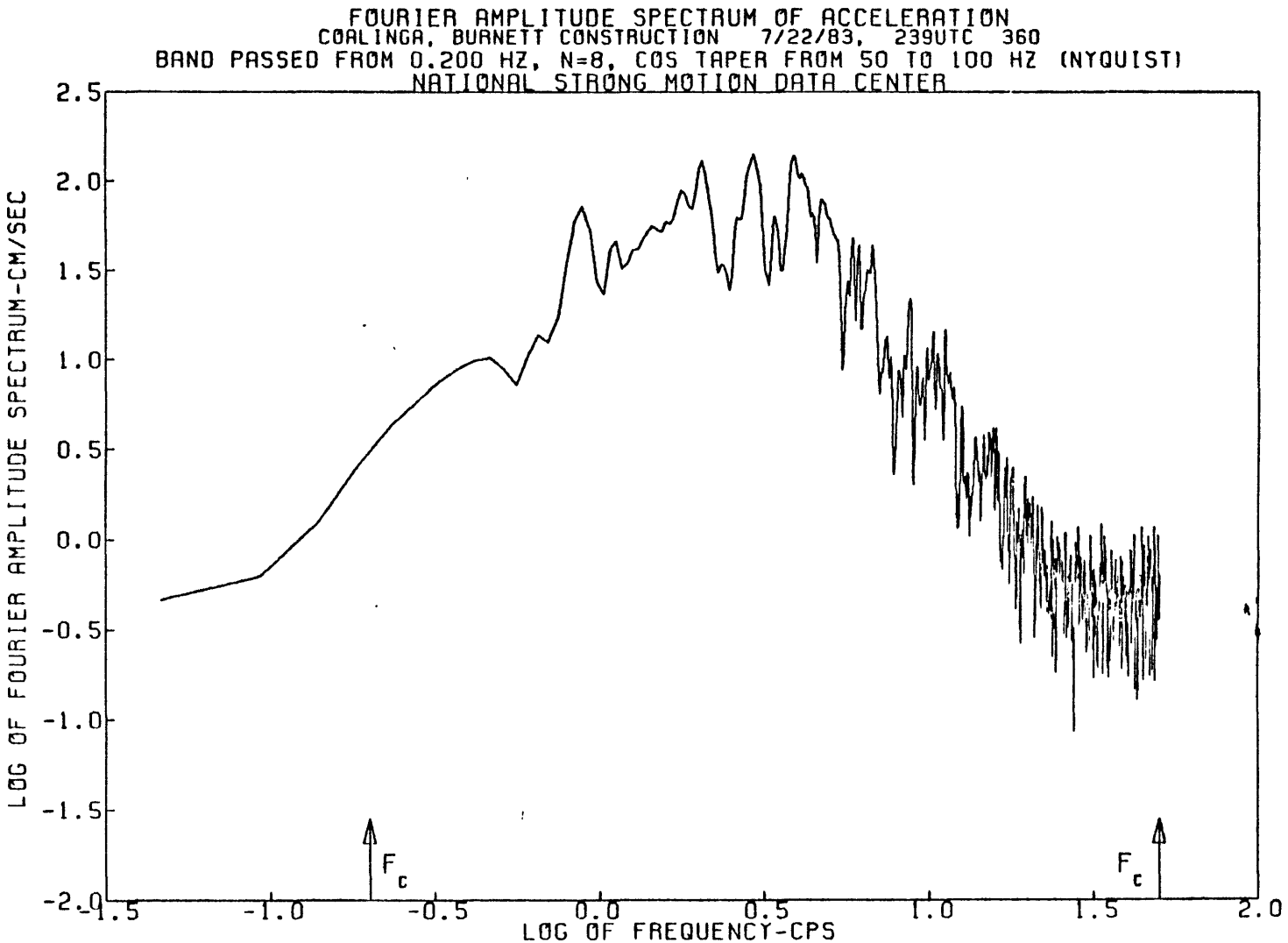
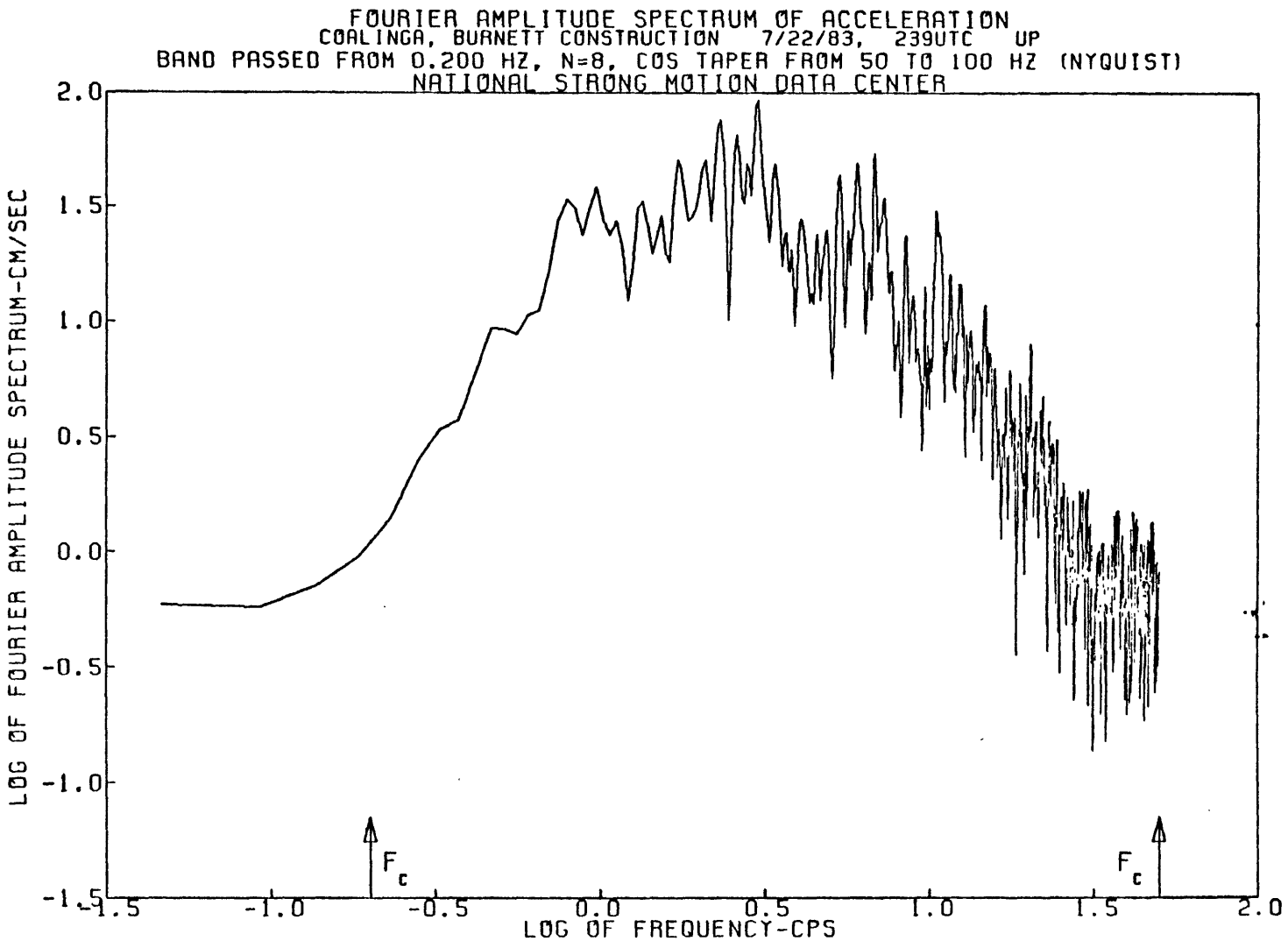
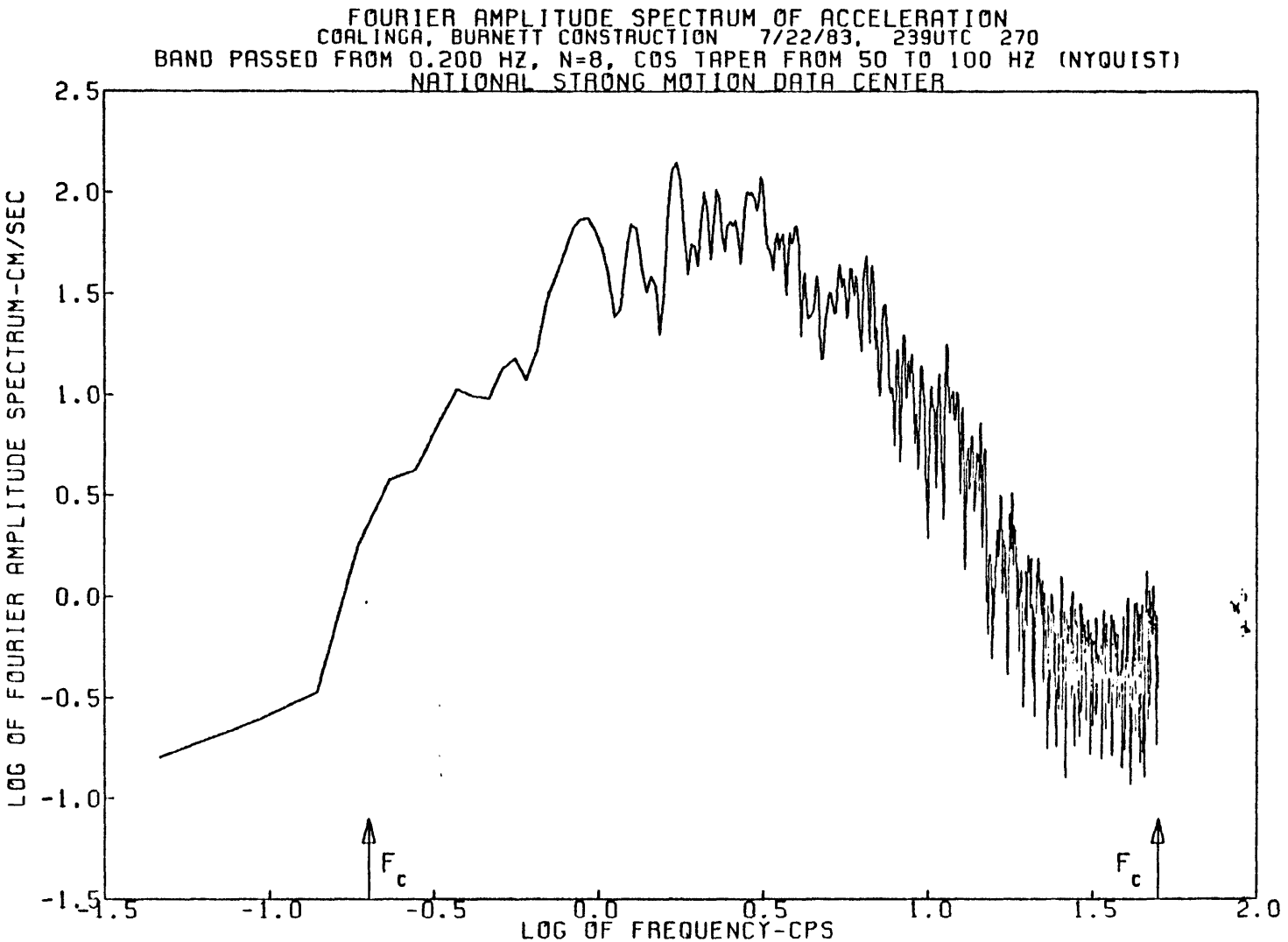
0.5
1.0
1.5
2.0
LOG OF FREQUENCY-CPS
F_c
F_c


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, ANTICLINE RIDGE (PAD SITE) 7/22/83, 239UTC 270
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
3.0
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-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
COALINGA, BURNETT CONSTRUCTION 7/22/83, 239UTC 360
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-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
COALINGA, BURNETT CONSTRUCTION 7/22/83, 239UTC UP
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
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
-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
COALINGA, BURNETT CONSTRUCTION 7/22/83, 239UTC 270
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-1.5
-1.0
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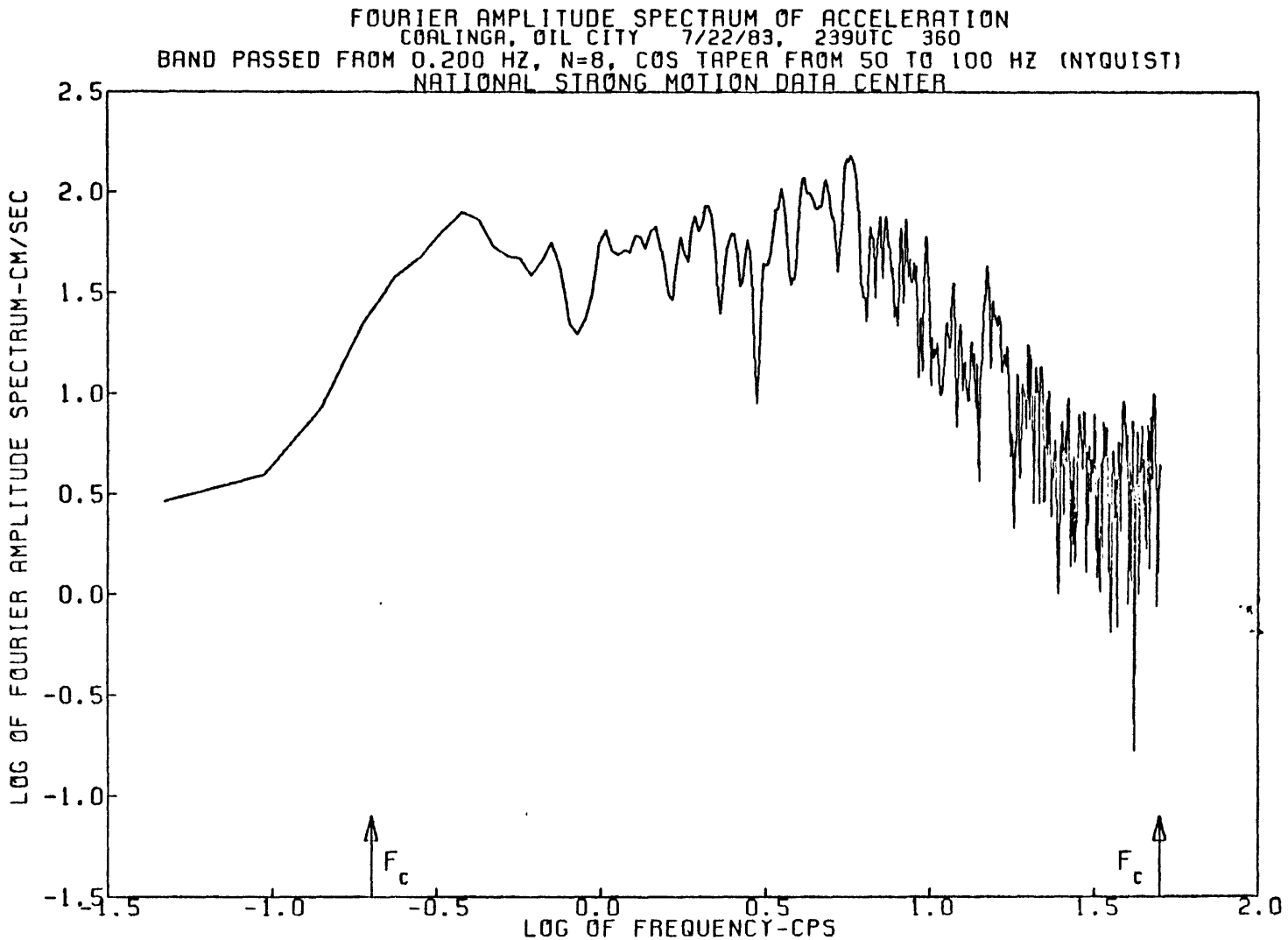
0.5
1.0
1.5
2.0
LOG OF FREQUENCY-CPS
F_c
F_c


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, OIL CITY 7/22/83, 239UTC 360
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-1.5
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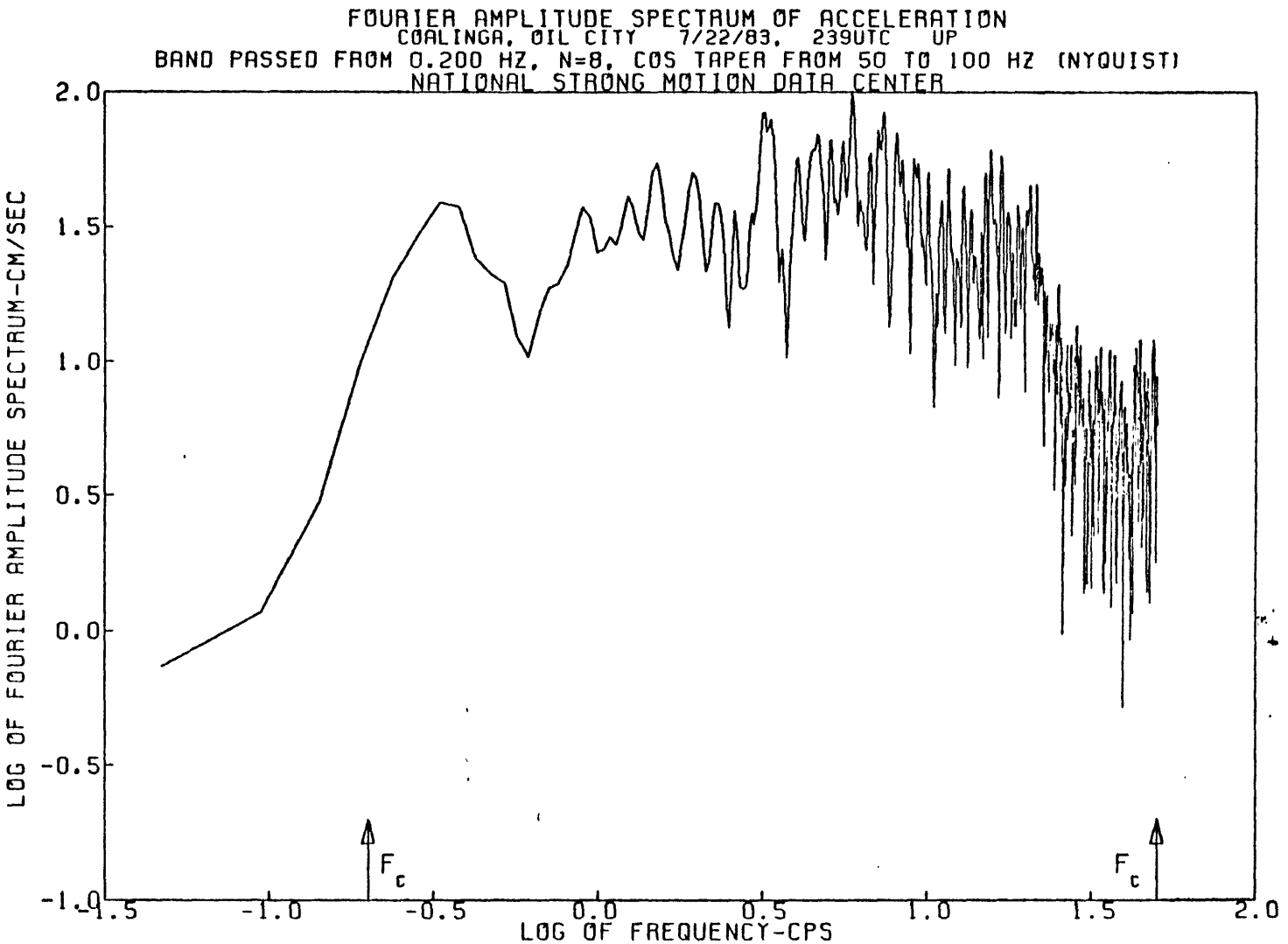
1.0
1.5
2.0
LOG OF FREQUENCY-CPS
F_c
F_c


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, OIL CITY 7/22/83, 239UTC UP
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
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
-1.0
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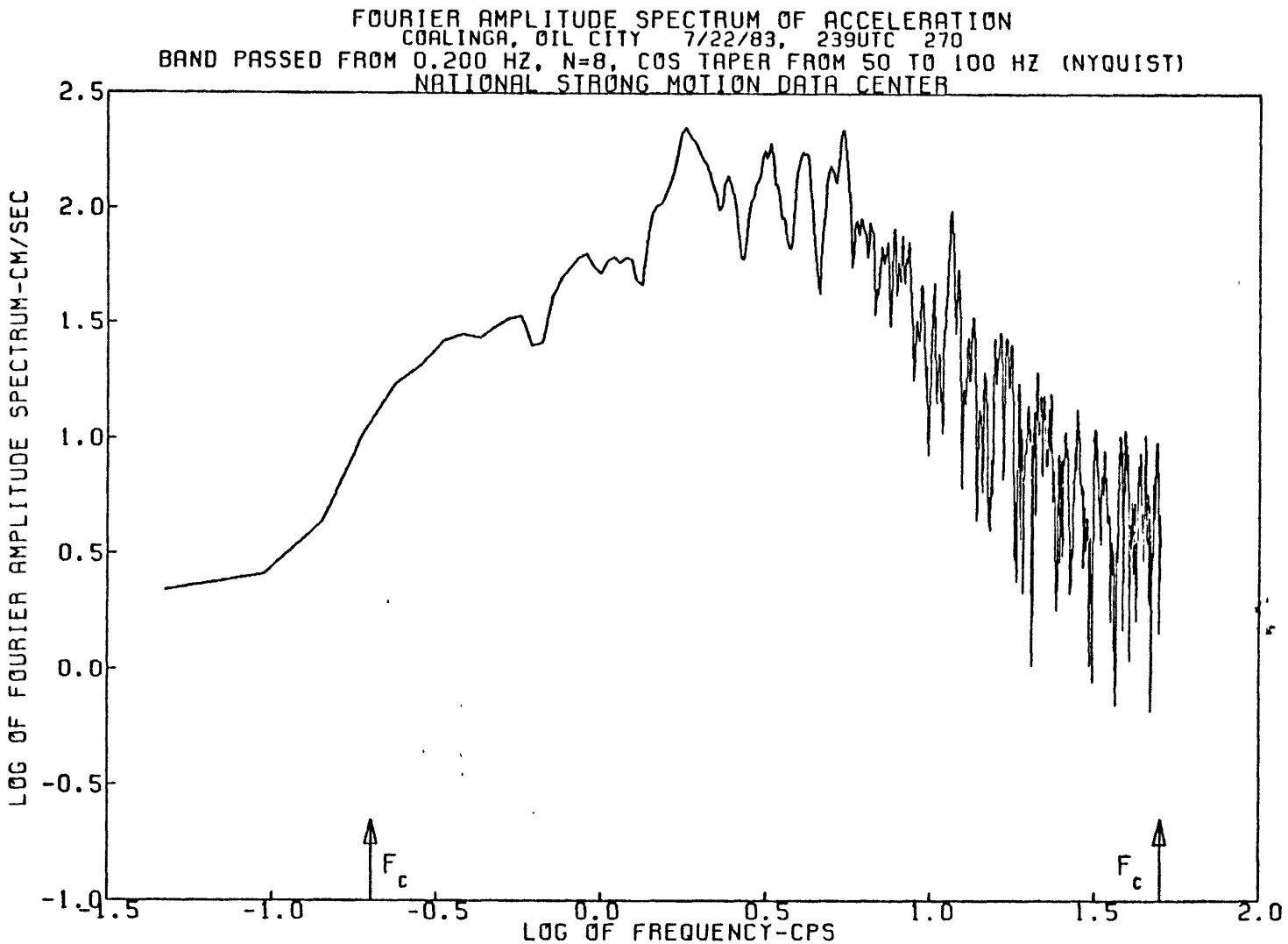
1.0
1.5
2.0
LOG OF FREQUENCY-CPS
F_c
F_c


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, OIL CITY 7/22/83, 239UTC 270
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-1.0
-0.5
0.0
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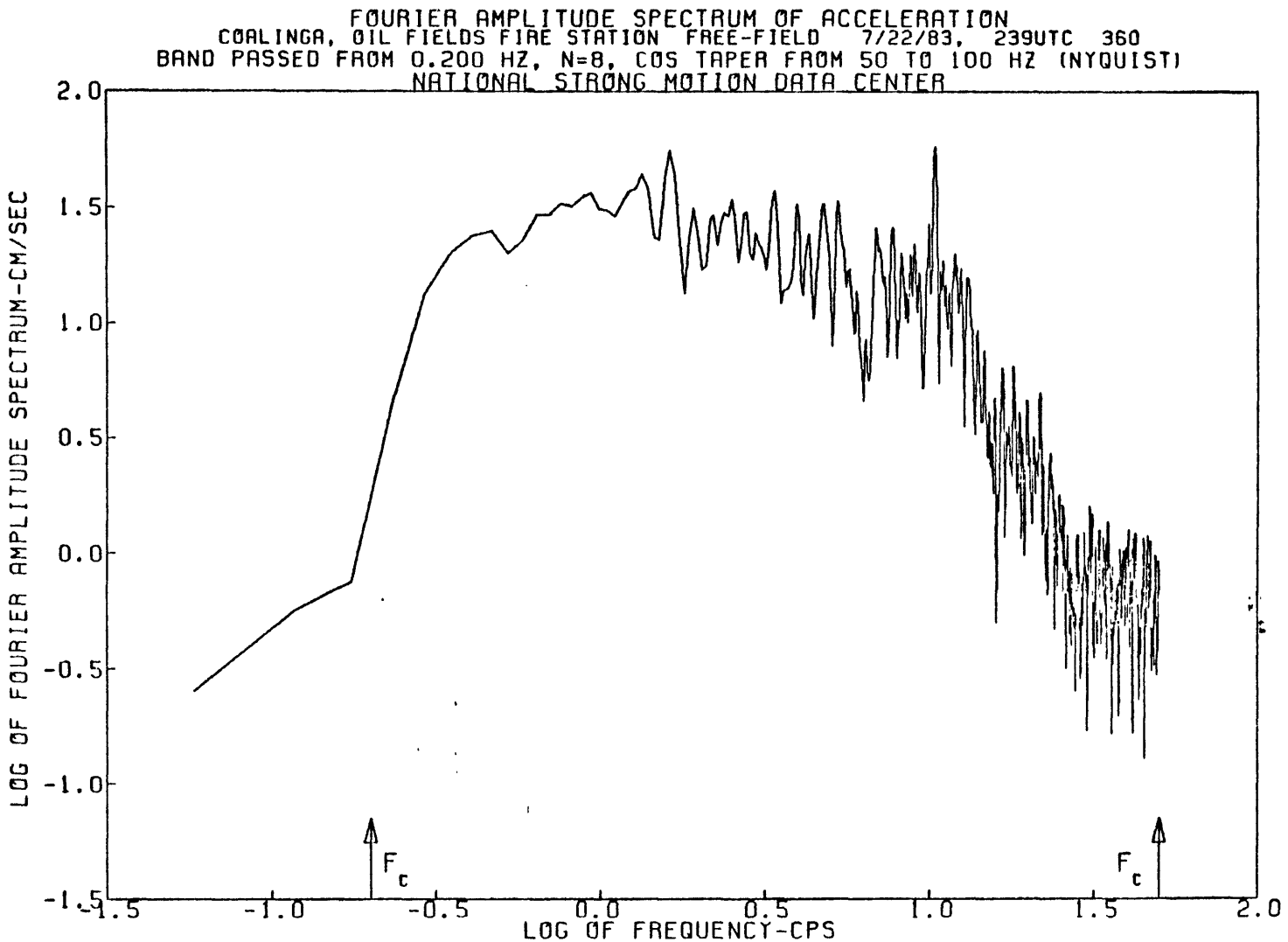
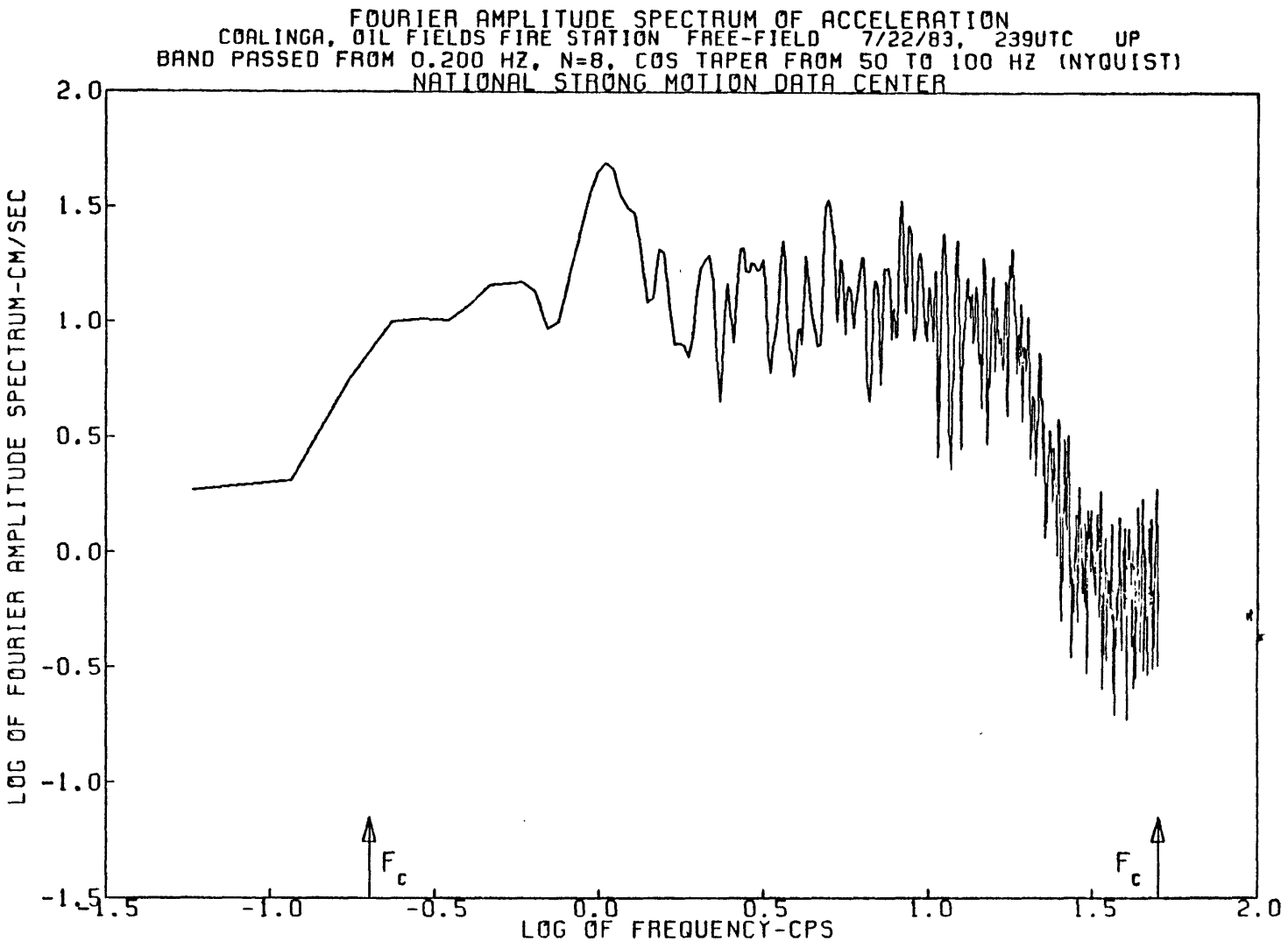
1.0
1.5
2.0
LOG OF FREQUENCY-CPS
F_c
F_c


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, OIL FIELDS FIRE STATION FREE-FIELD 7/22/83, 239UTC 360
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
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
-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
COALINGA, OIL FIELDS FIRE STATION FREE-FIELD 7/22/83, 239UTC UP
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
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
-1.5
-1.0
-0.5
0.0
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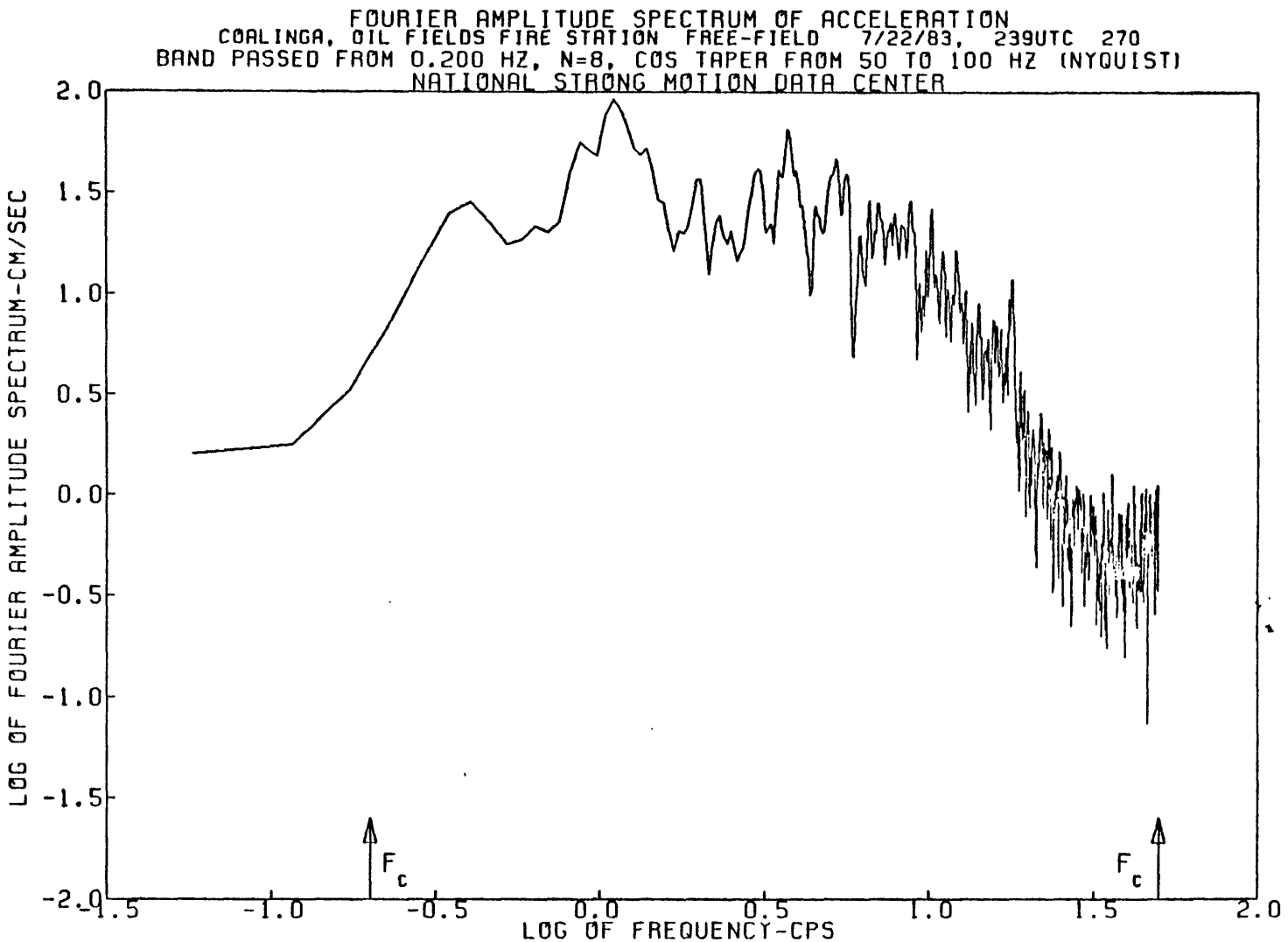
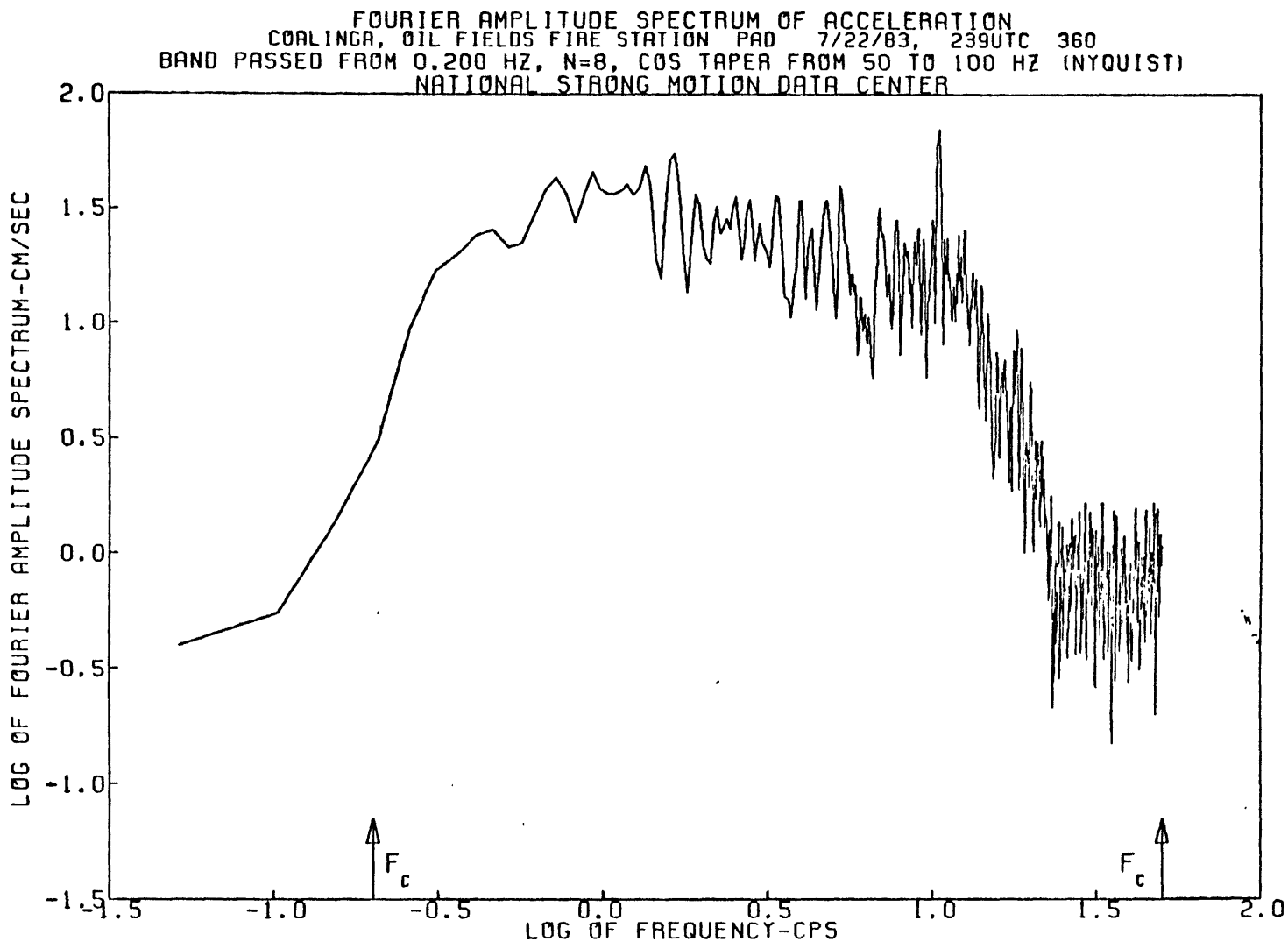
1.0
1.5
2.0
LOG OF FREQUENCY-CPS
F_c
F_c


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, OIL FIELDS FIRE STATION FREE-FIELD 7/22/83, 239UTC 270
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
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
-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
COALINGA, OIL FIELDS FIRE STATION PAD 7/22/83, 239UTC 360
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
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
-1.5
-1.0
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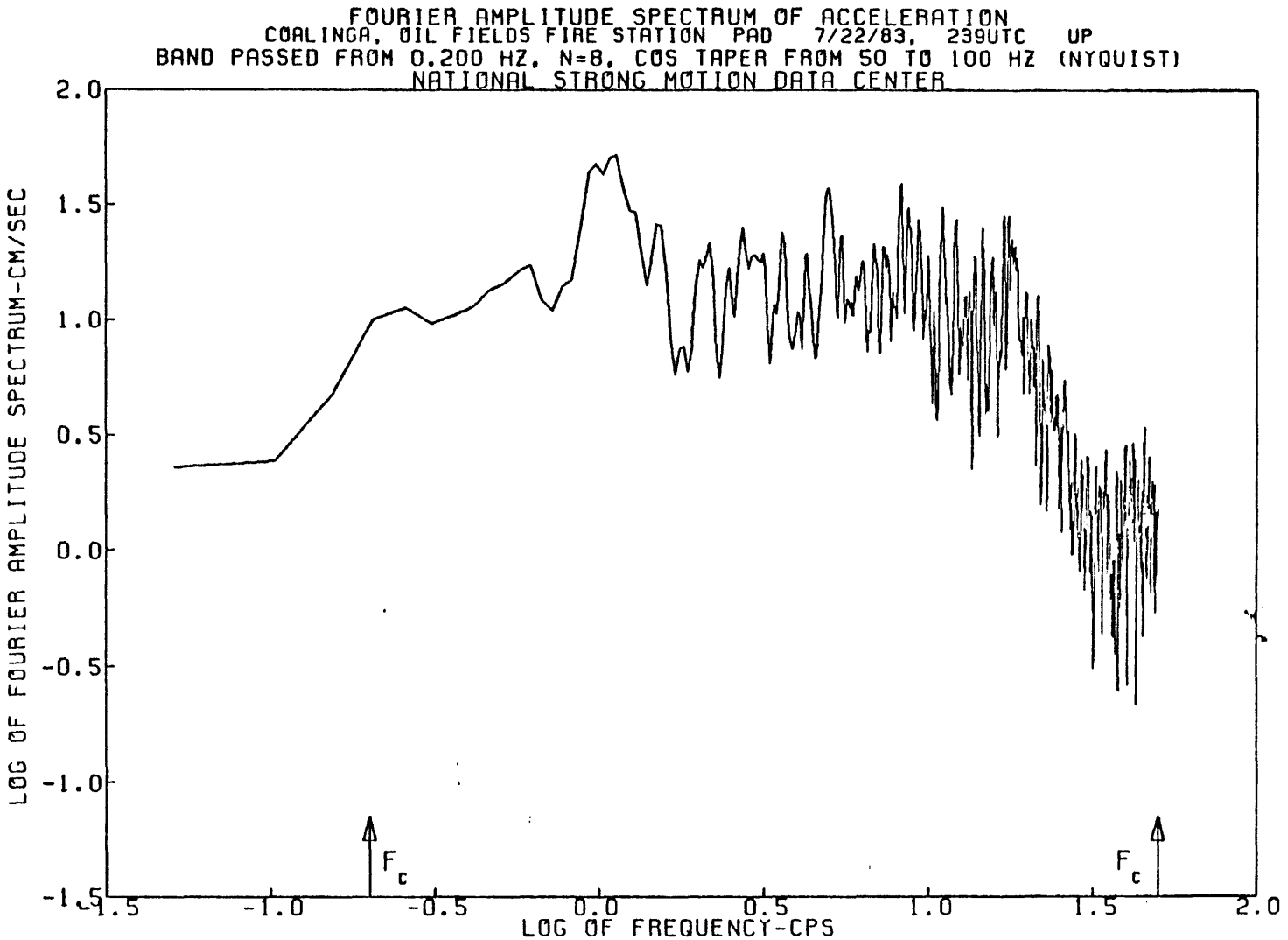
0.0
0.5
1.0
1.5
2.0
LOG OF FREQUENCY-CPS
F_c
F_c


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, OIL FIELDS FIRE STATION PAD 7/22/83, 239UTC UP
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
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
-1.5
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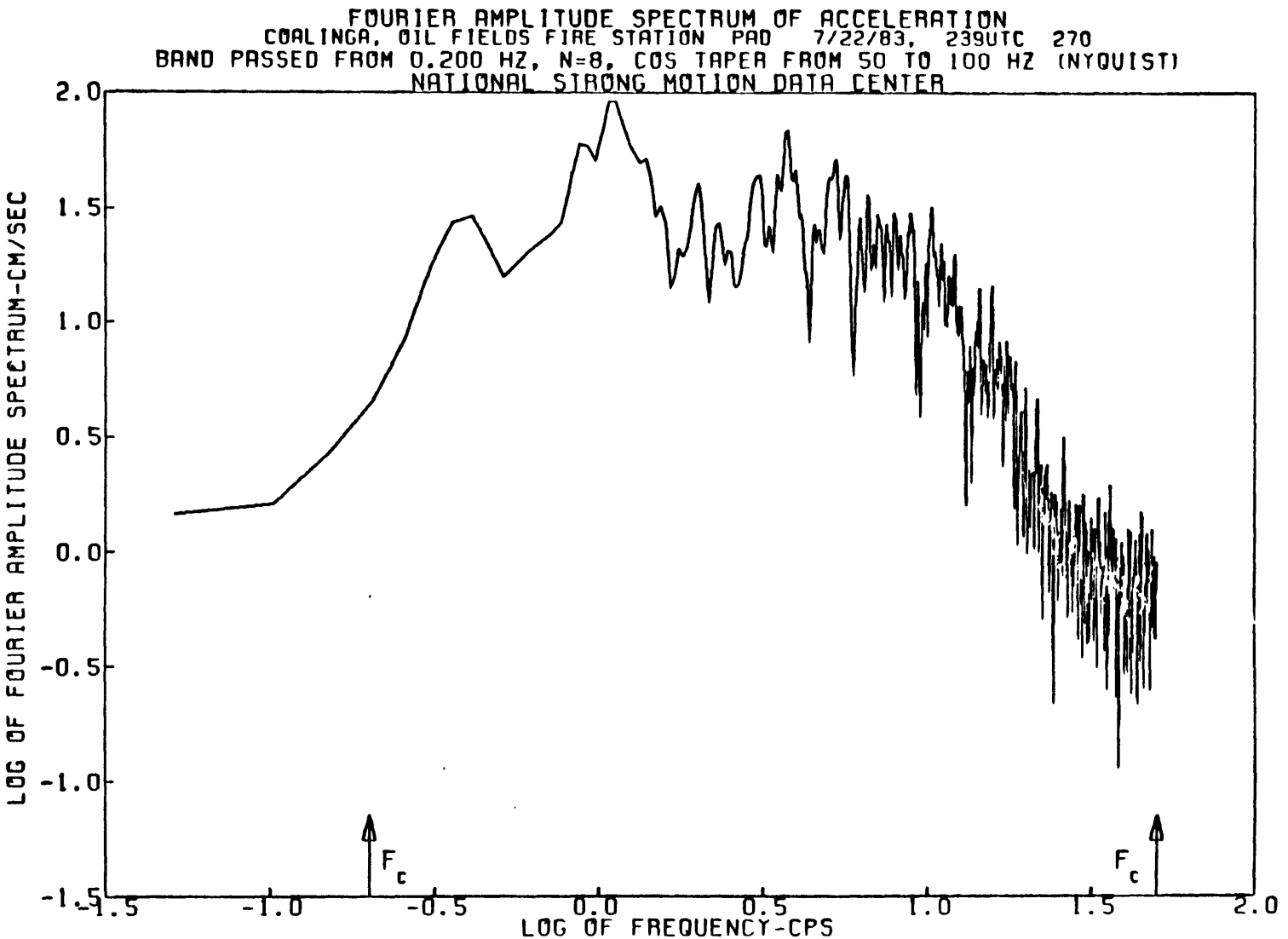
1.0
1.5
2.0
LOG OF FREQUENCY-CPS
F_c
F_c


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, OIL FIELDS FIRE STATION PAD 7/22/83, 239UTC 270
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
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
-1.5
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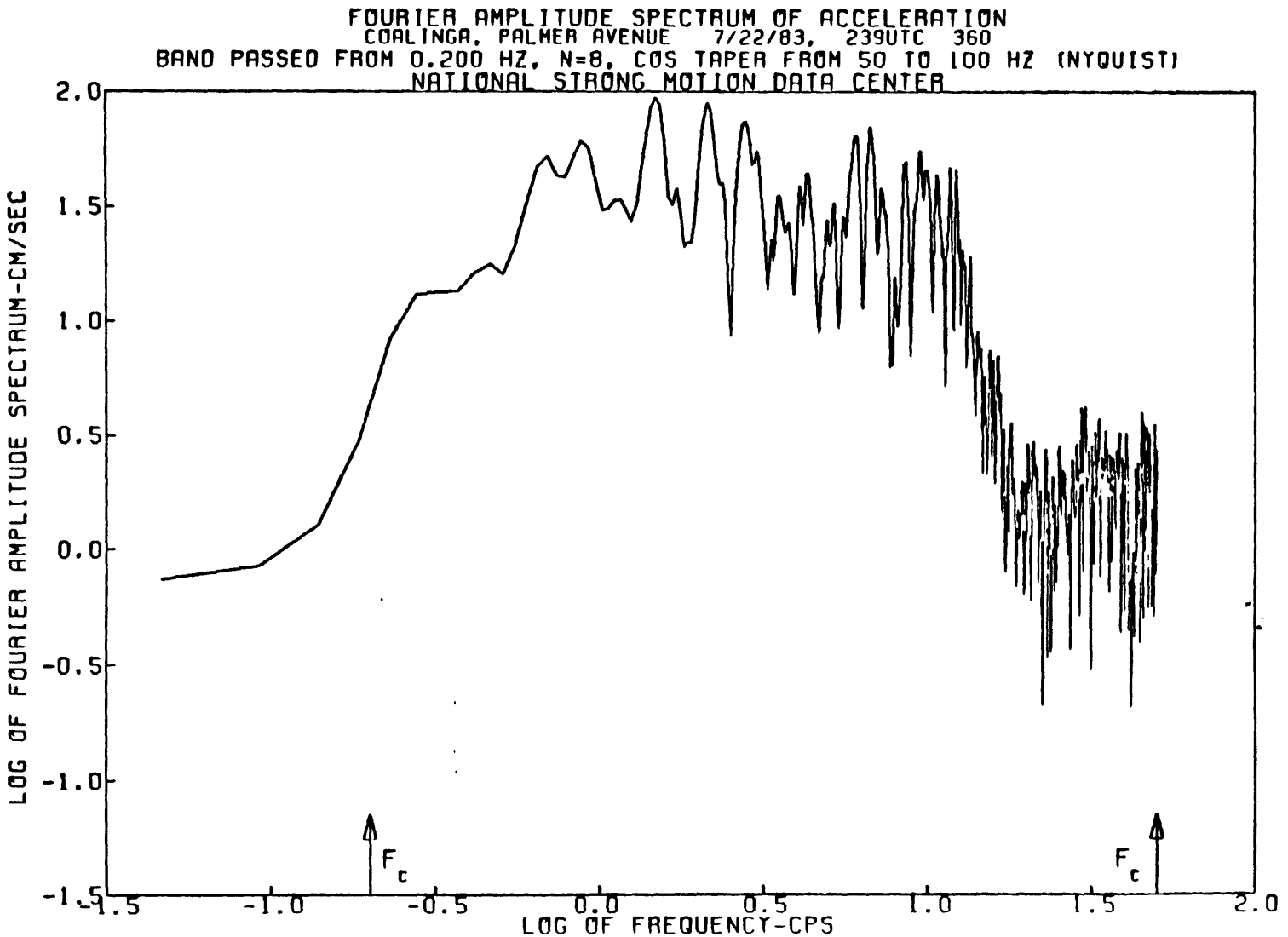
1.0
1.5
2.0
LOG OF FREQUENCY-CPS
F_c
F_c


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, PALMER AVENUE 7/22/83, 239UTC 360
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
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
-1.5
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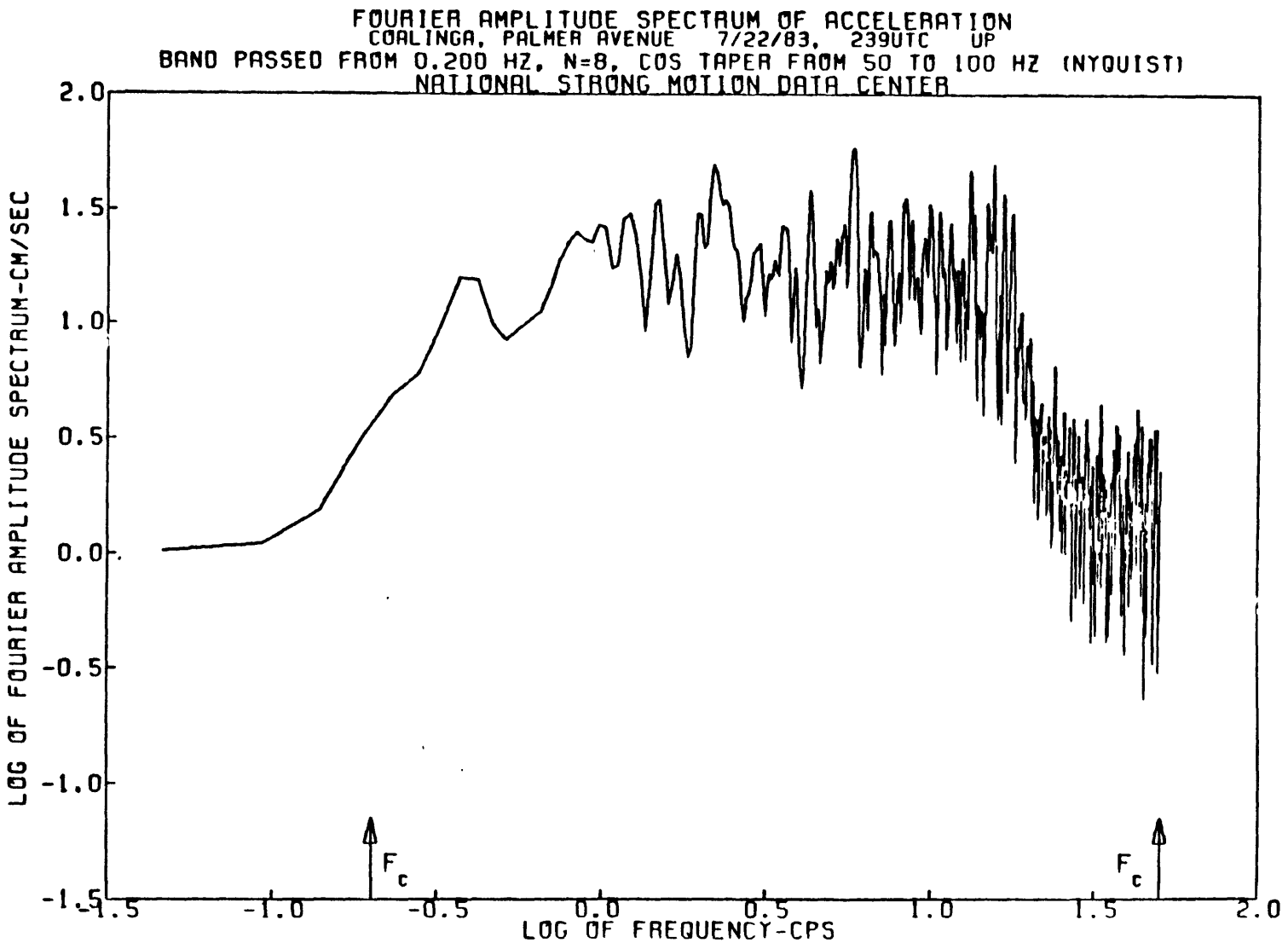
0.0
0.5
1.0
1.5
2.0
LOG OF FREQUENCY-CPS
F_c
F_c


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, PALMER AVENUE 7/22/83, 239UTC UP
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
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
-1.5
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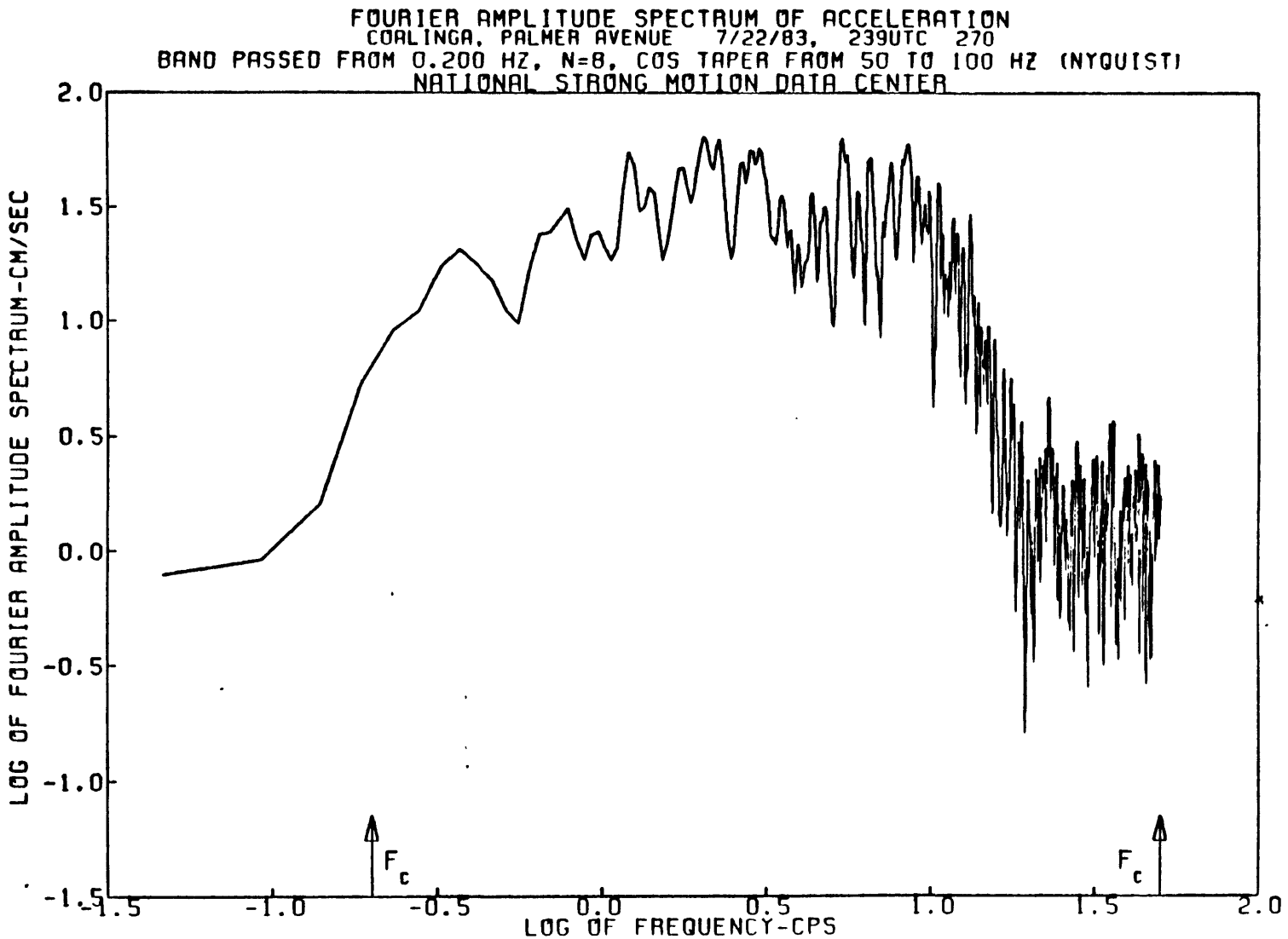
-0.5
0.0
0.5
1.0
1.5
2.0
LOG OF FREQUENCY-CPS
F_c
F_c


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, PALMER AVENUE 7/22/83, 239UTC 270
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
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
-1.5
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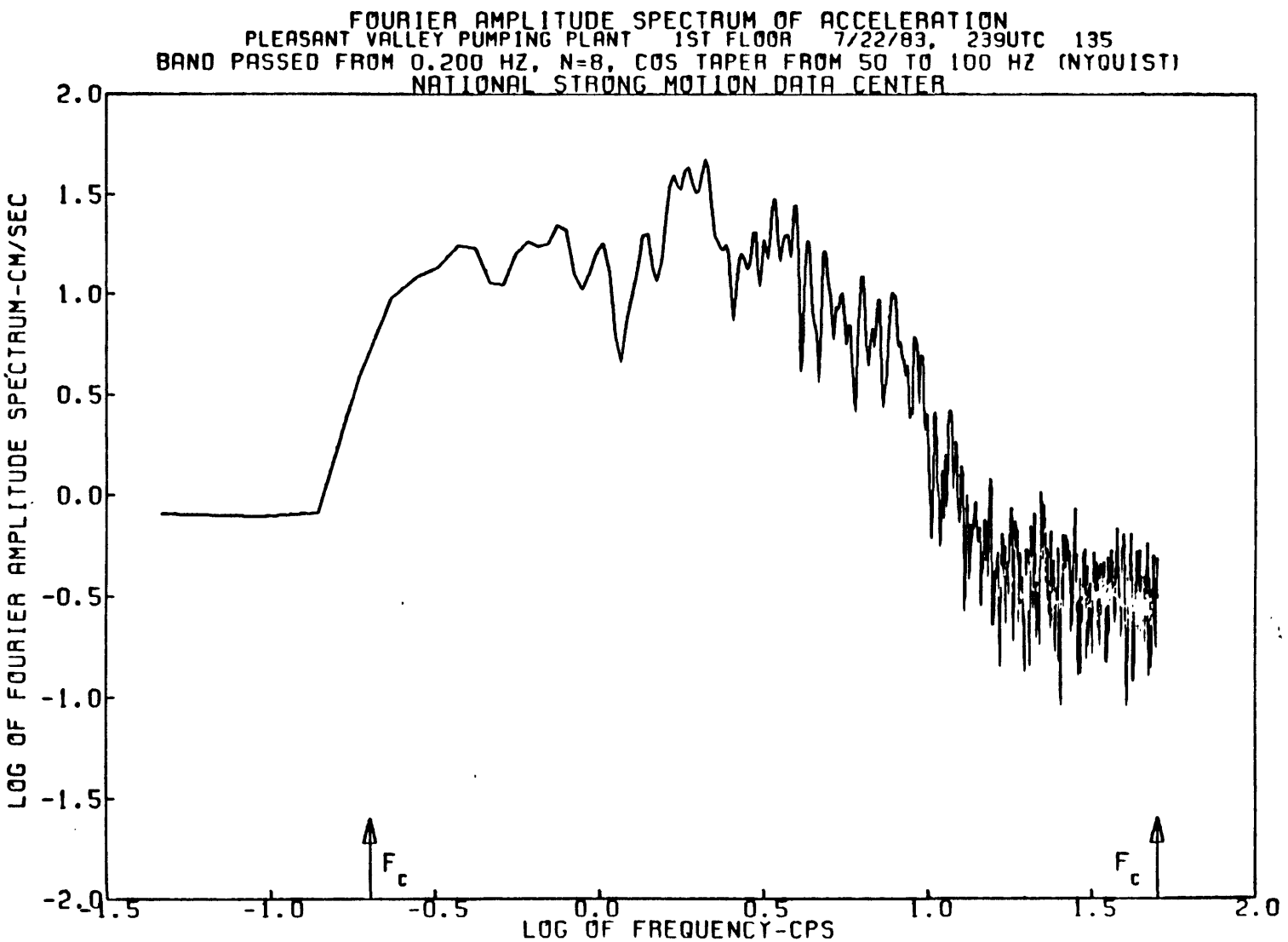
0.5
1.0
1.5
2.0
LOG OF FREQUENCY-CPS
F_c
F_c


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT 1ST FLOOR 7/22/83, 239UTC 135
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
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
-1.5
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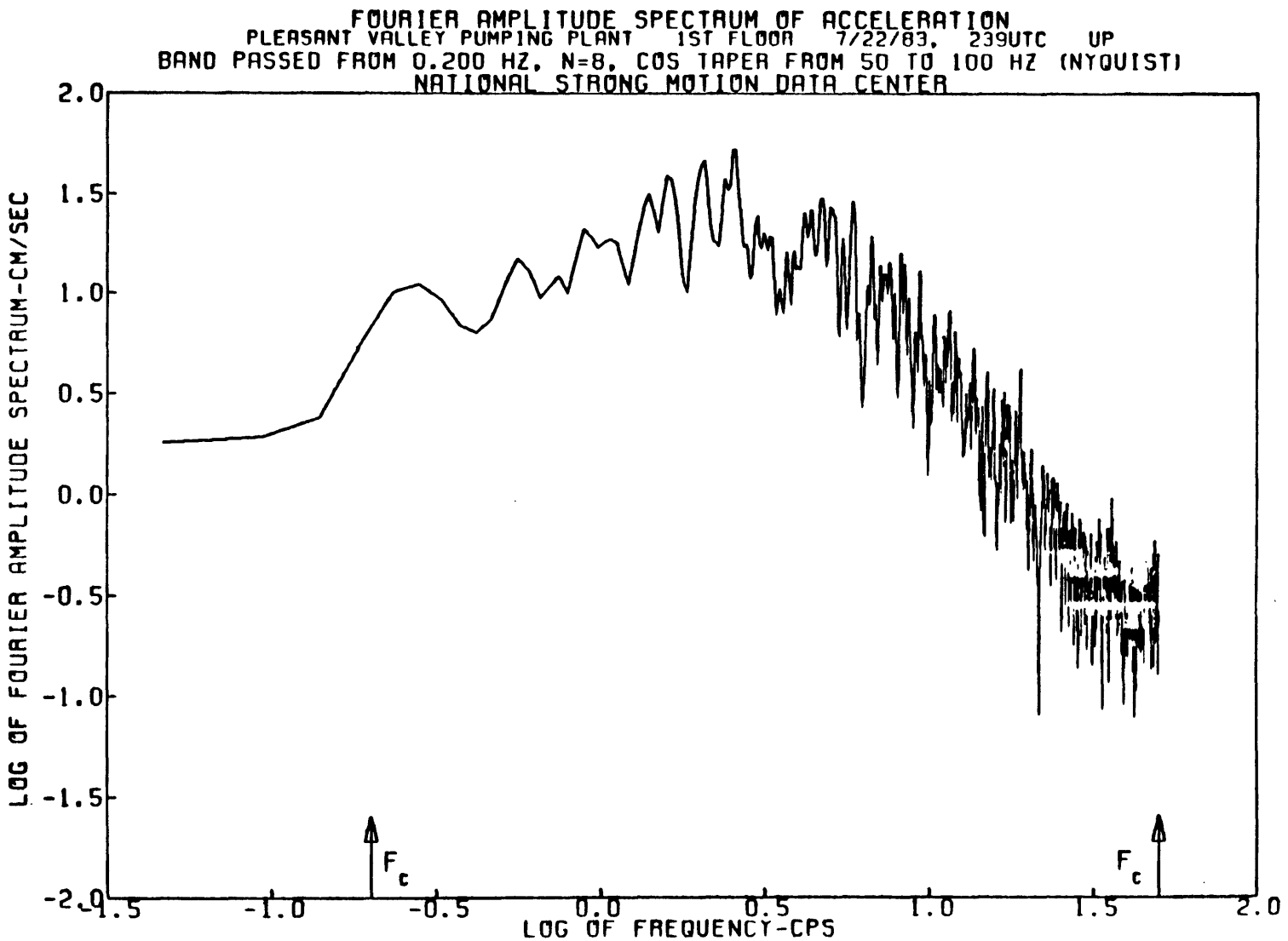
0.0
0.5
1.0
1.5
2.0
LOG OF FREQUENCY-CPS
F_c
F_c


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT 1ST FLOOR 7/22/83, 239UTC UP
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
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
-1.5
-1.0
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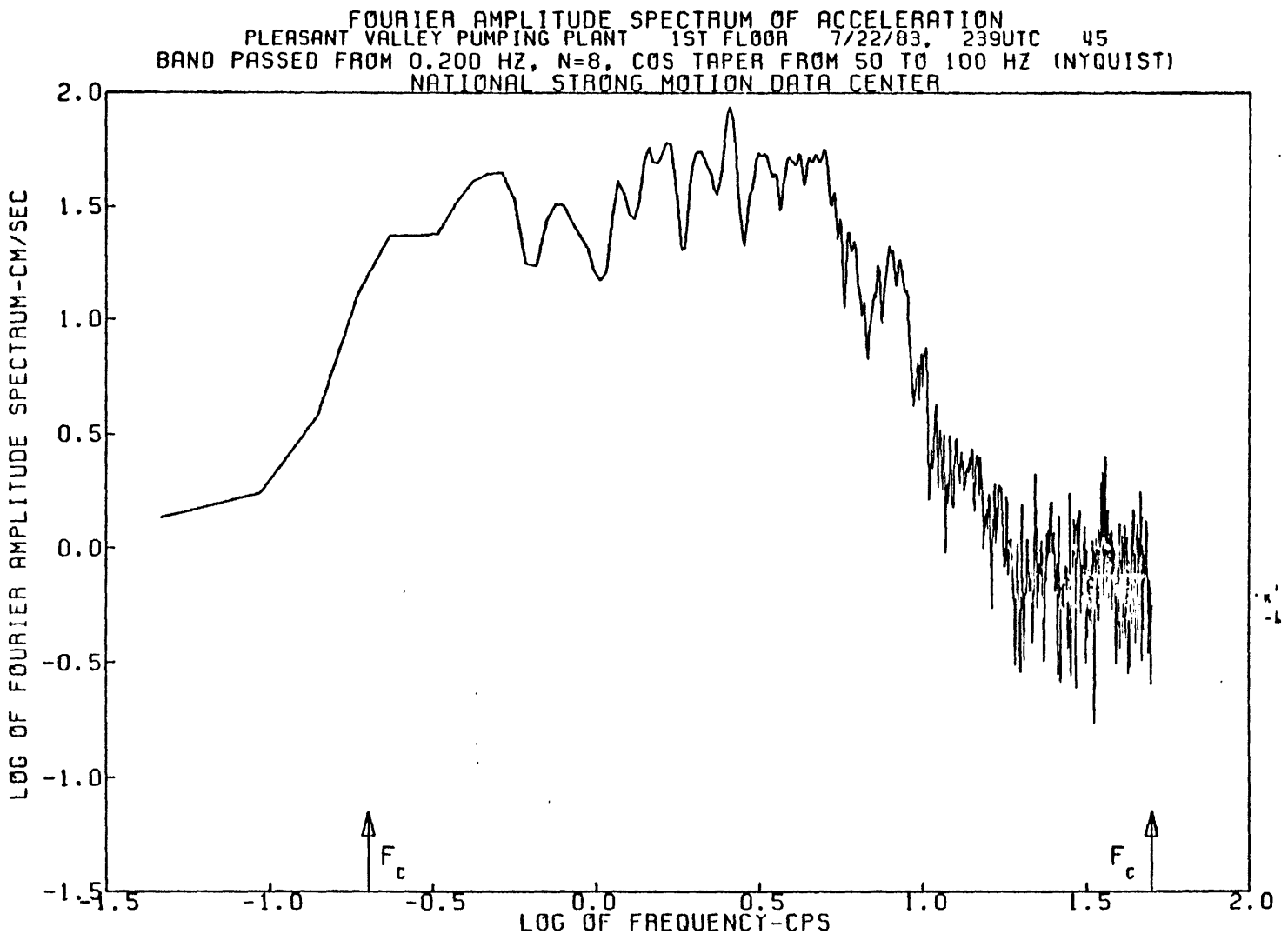
1.0
1.5
2.0
LOG OF FREQUENCY-CPS
F_c
F_c


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT 1ST FLOOR 7/22/83, 239UTC 45
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
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
-1.5
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1.5
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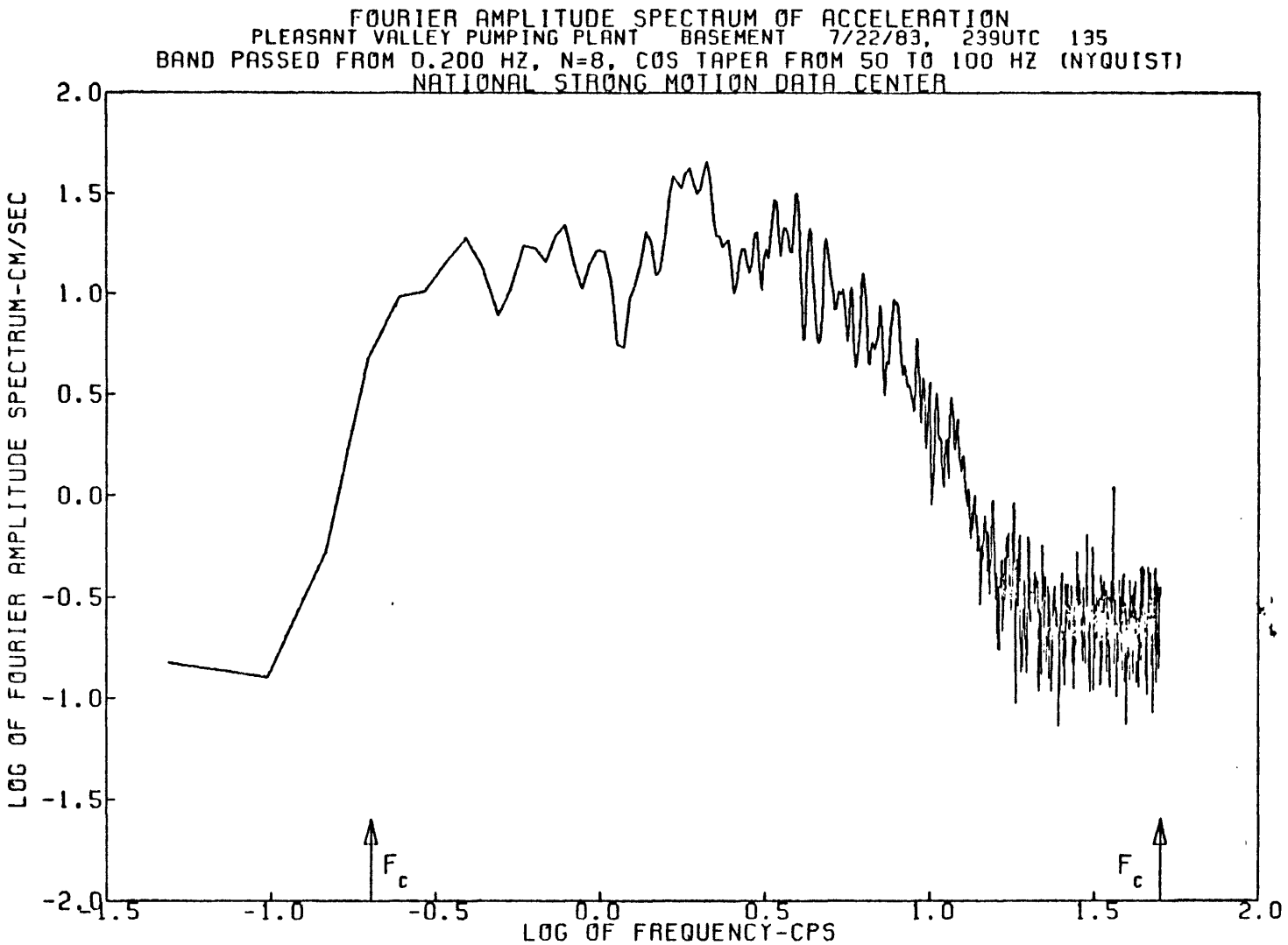
LOG OF FREQUENCY-CPS
F_c
F_c


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT BASEMENT 7/22/83, 239UTC 135
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
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
-1.5
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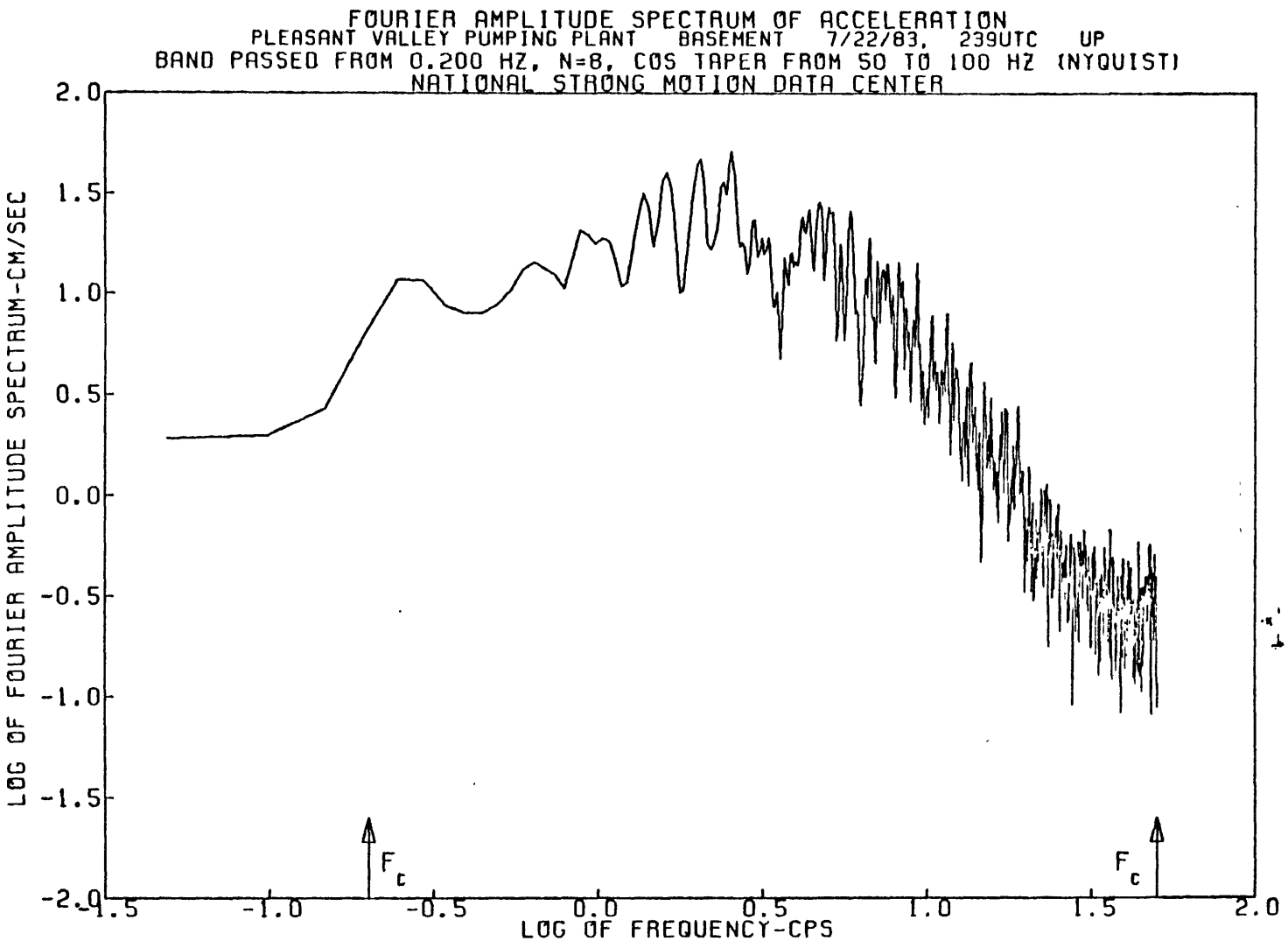
1.0
1.5
2.0
LOG OF FREQUENCY-CPS
F_c
F_c


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT BASEMENT 7/22/83, 239UTC UP
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
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
-1.5
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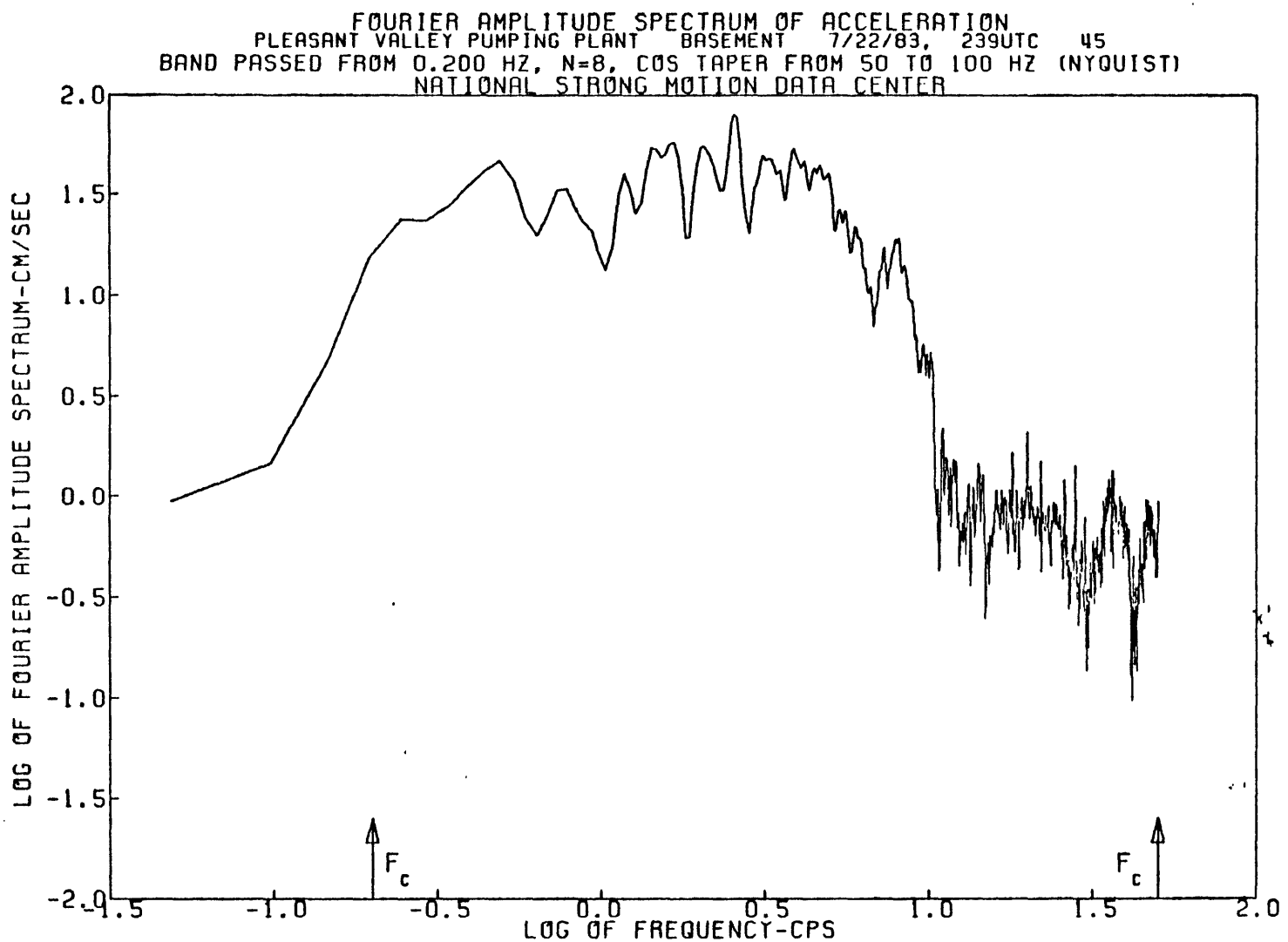
0.0
0.5
1.0
1.5
2.0
LOG OF FREQUENCY-CPS
F_c
F_c


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT BASEMENT 7/22/83, 239UTC 45
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
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
-1.5
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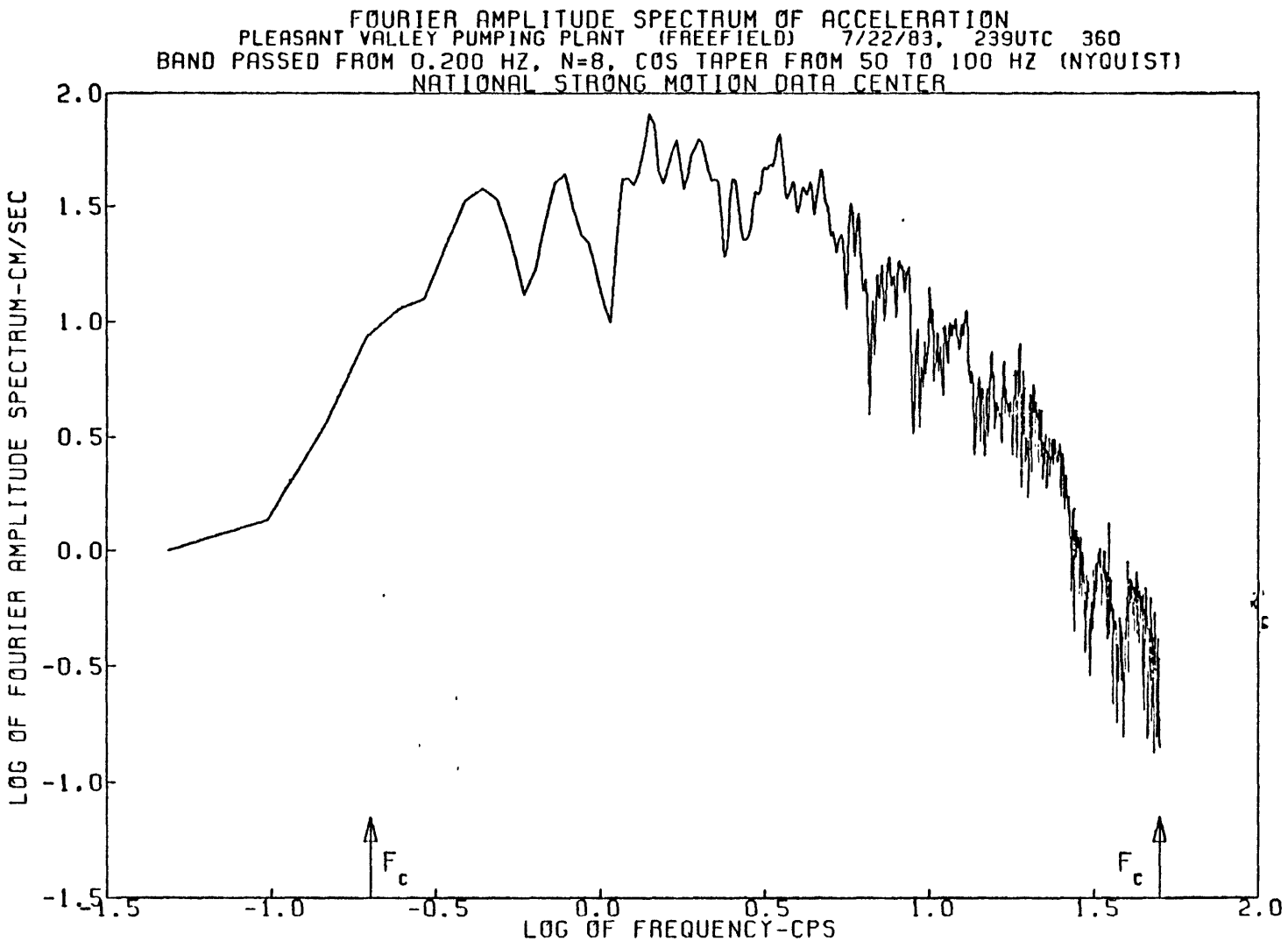
1.0
1.5
2.0
LOG OF FREQUENCY-CPS
F_c
F_c


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT (FREEFIELD) 7/22/83, 2390UTC 360
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
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
-1.5
-1.0
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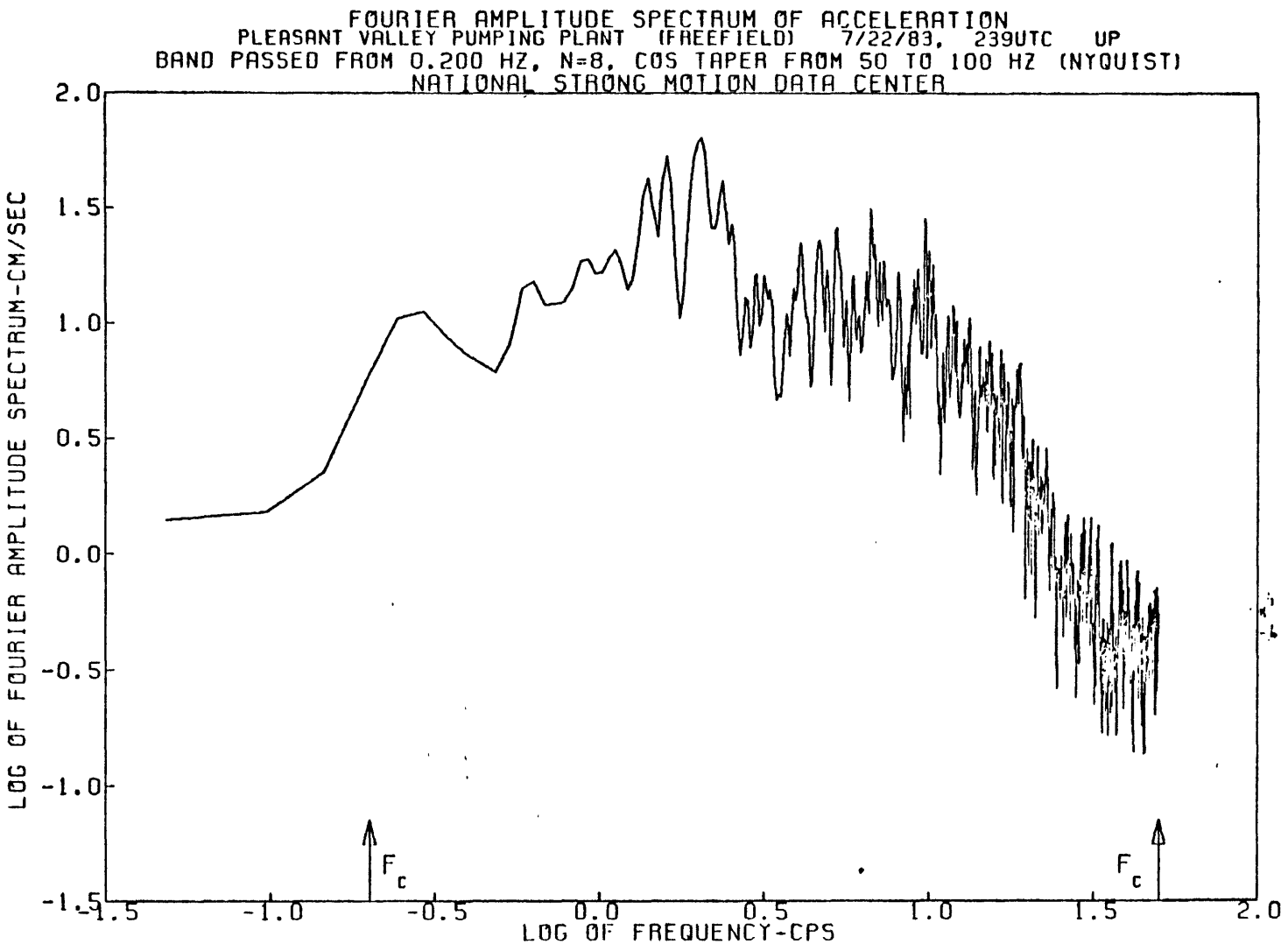
0.0
0.5
1.0
1.5
2.0
LOG OF FREQUENCY-CPS
F_c
F_c


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT (FREEFIELD) 7/22/83, 239UTC UP
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
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
-1.5
-1.0
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0.0
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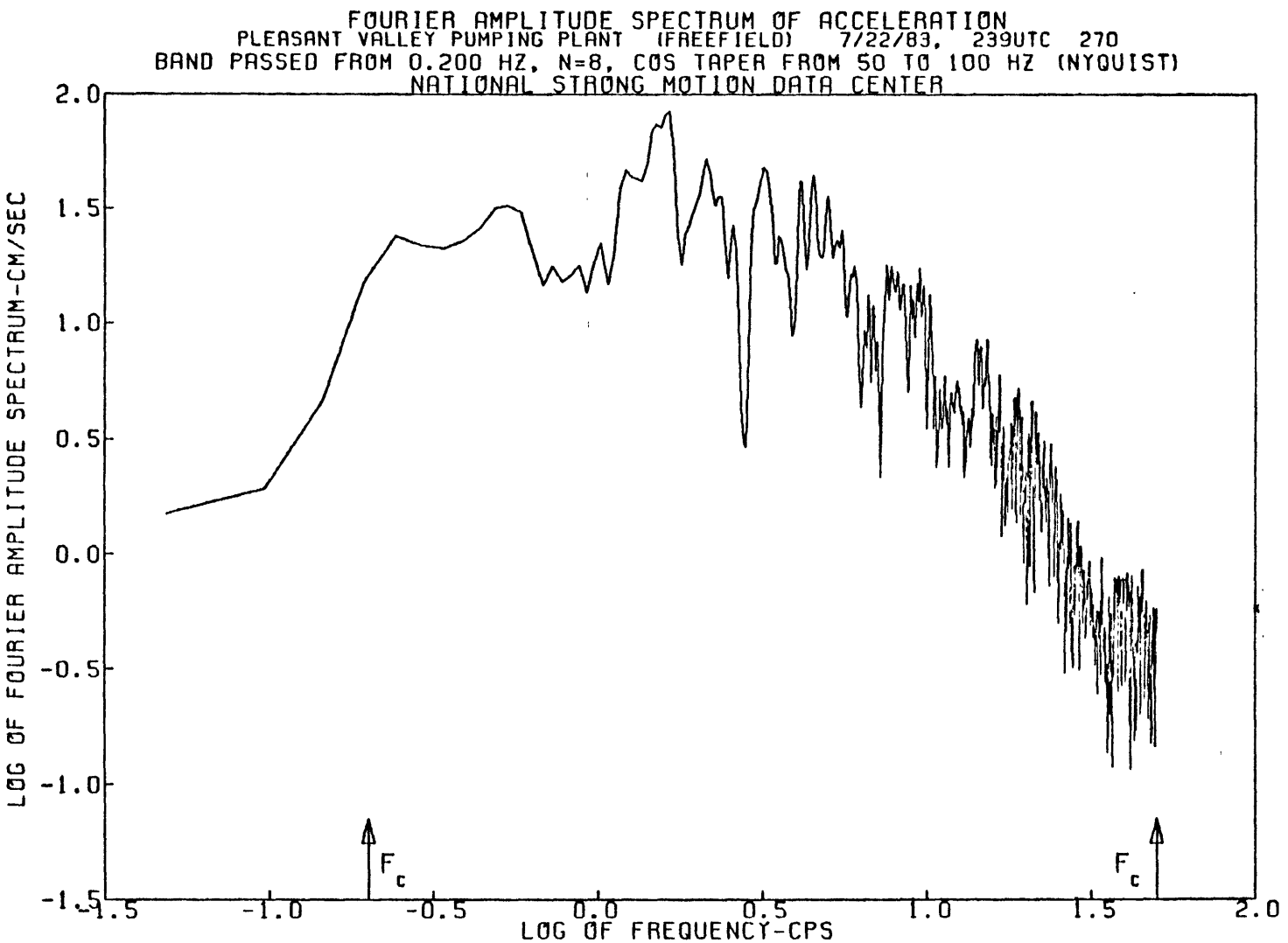
1.0
1.5
2.0
LOG OF FREQUENCY-CPS
F_c
F_c


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT (FREEFIELD) 7/22/83, 239UTC 270
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
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
-1.5
-1.0
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0.0
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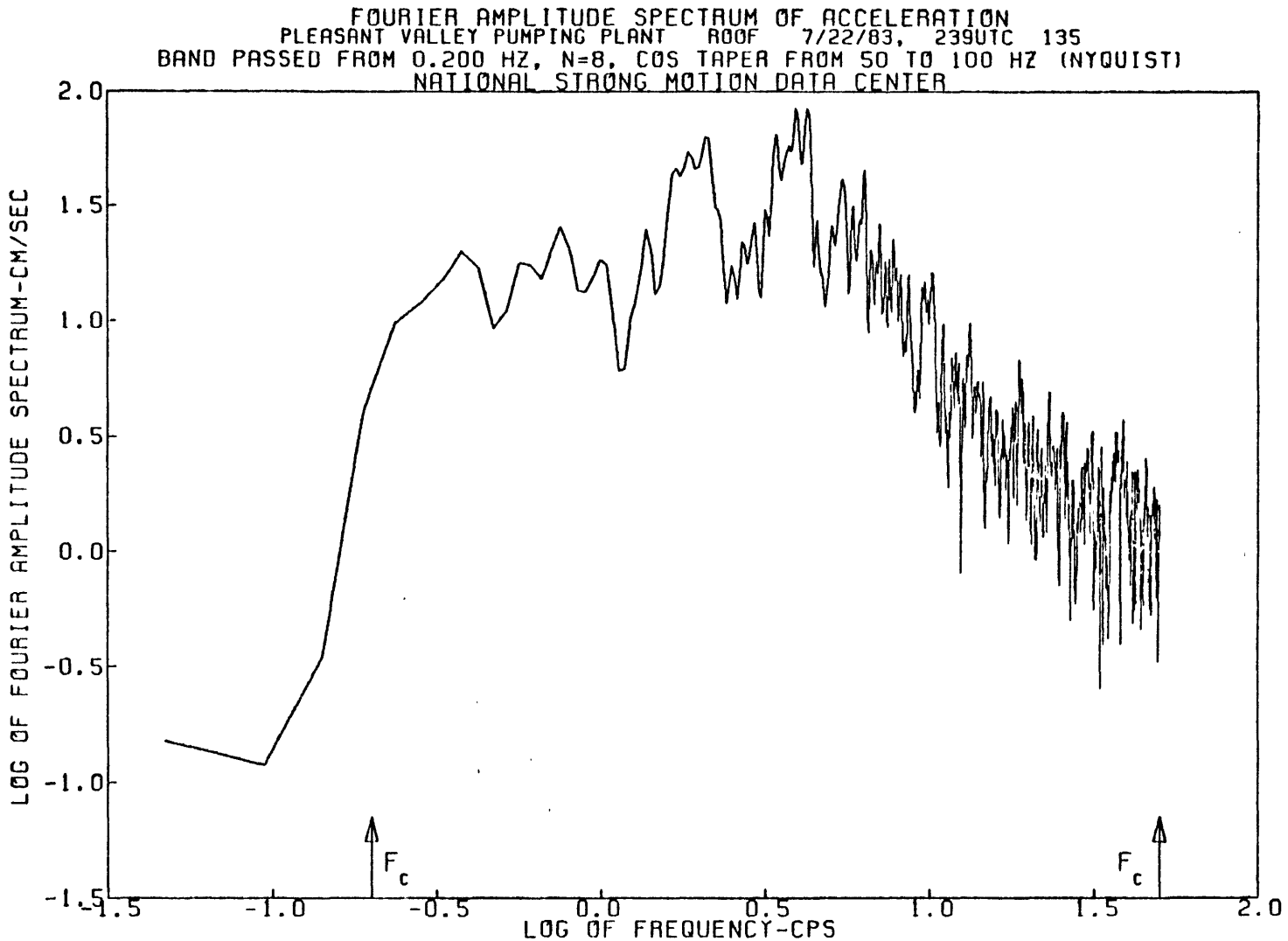
1.0
1.5
2.0
LOG OF FREQUENCY-CPS
F_c
F_c


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT ROOF 7/22/83, 239UTC 135
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
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
-1.5
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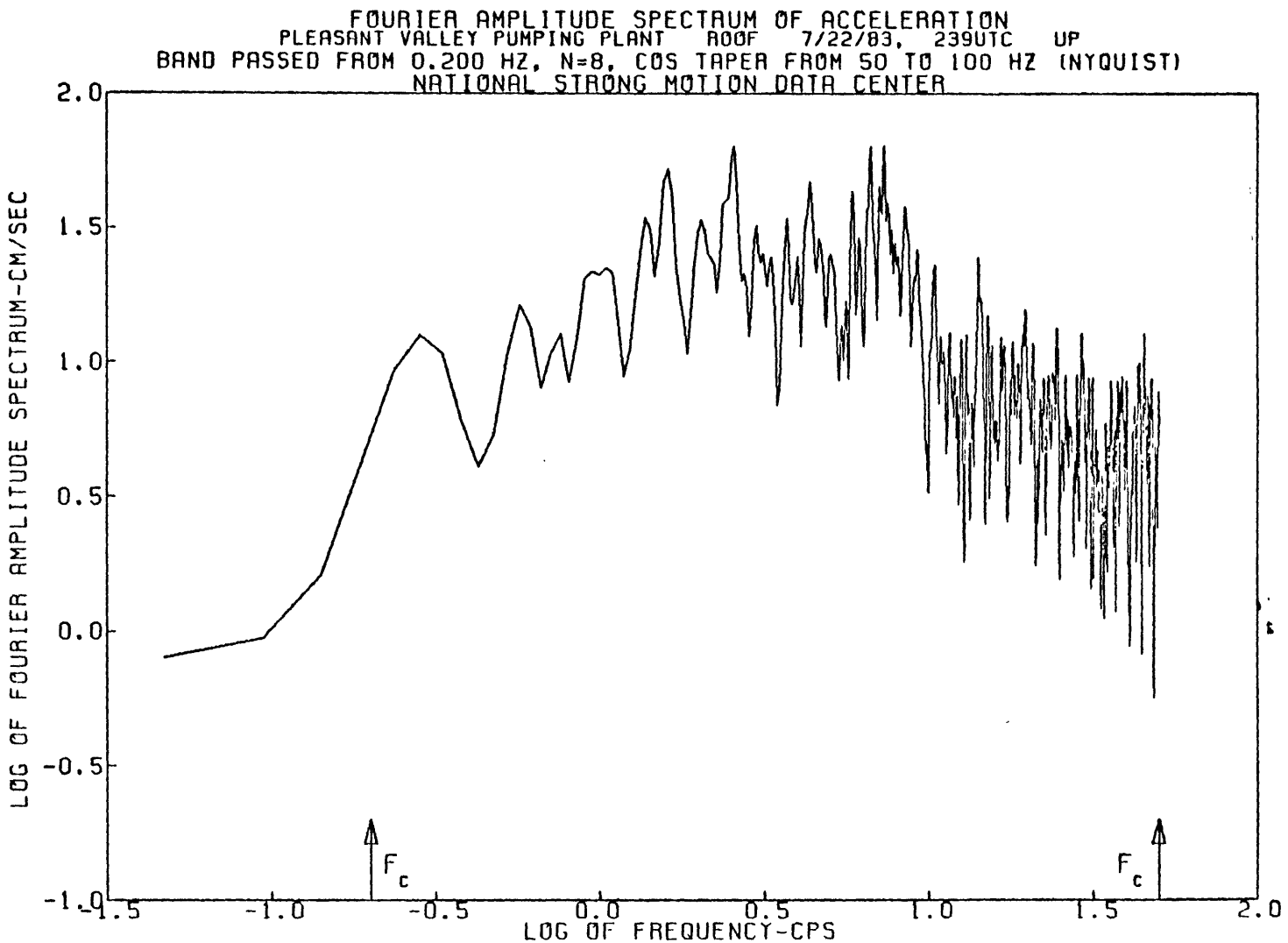
1.0
1.5
2.0
LOG OF FREQUENCY-CPS
F_c
F_c


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT ROOF 7/22/83, 239UTC UP
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
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
-1.0
-0.5
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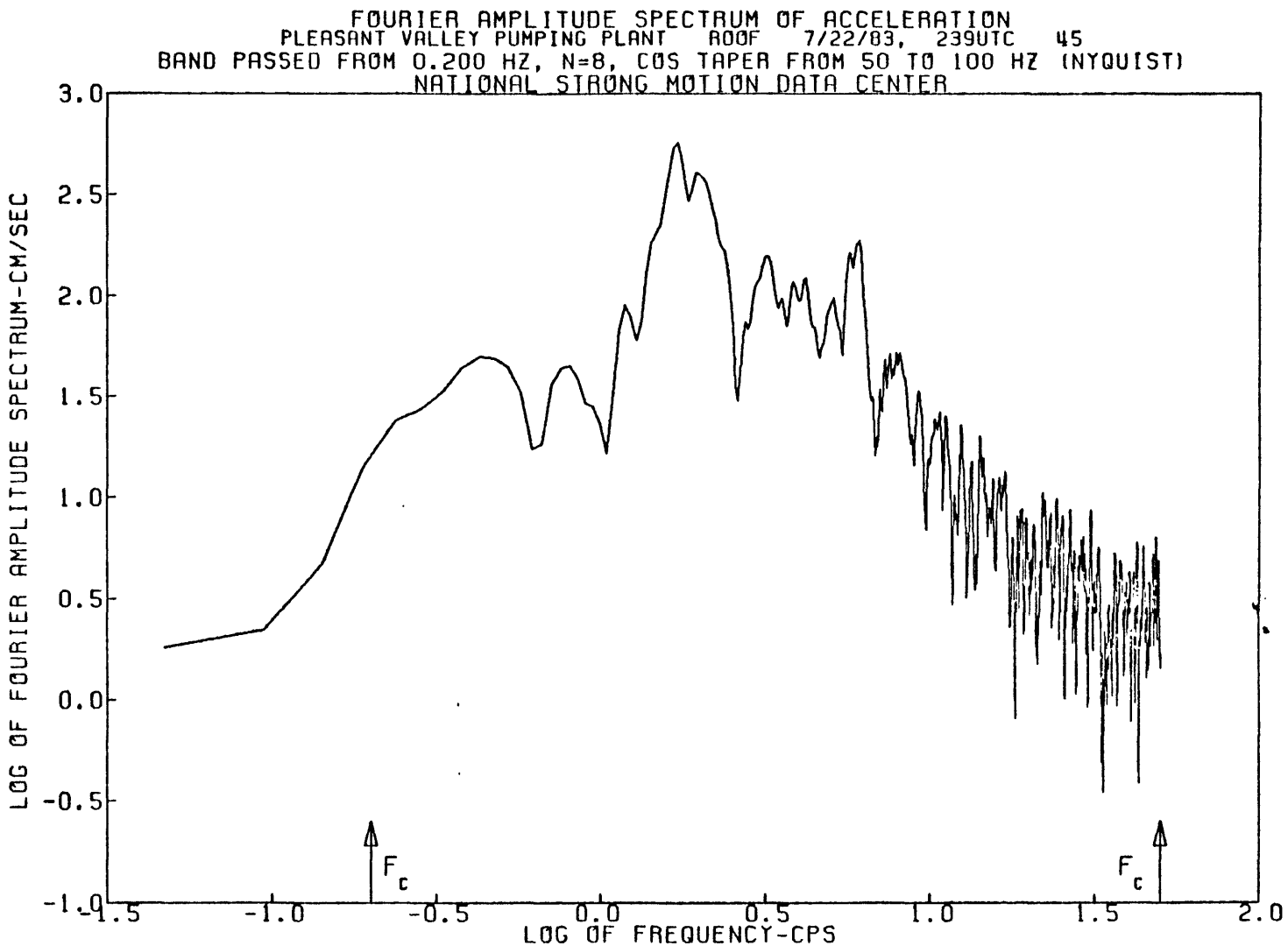
0.5
1.0
1.5
2.0
LOG OF FREQUENCY-CPS
F_c
F_c


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT ROOF 7/22/83, 2390UTC 45
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
3.0
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
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0.0
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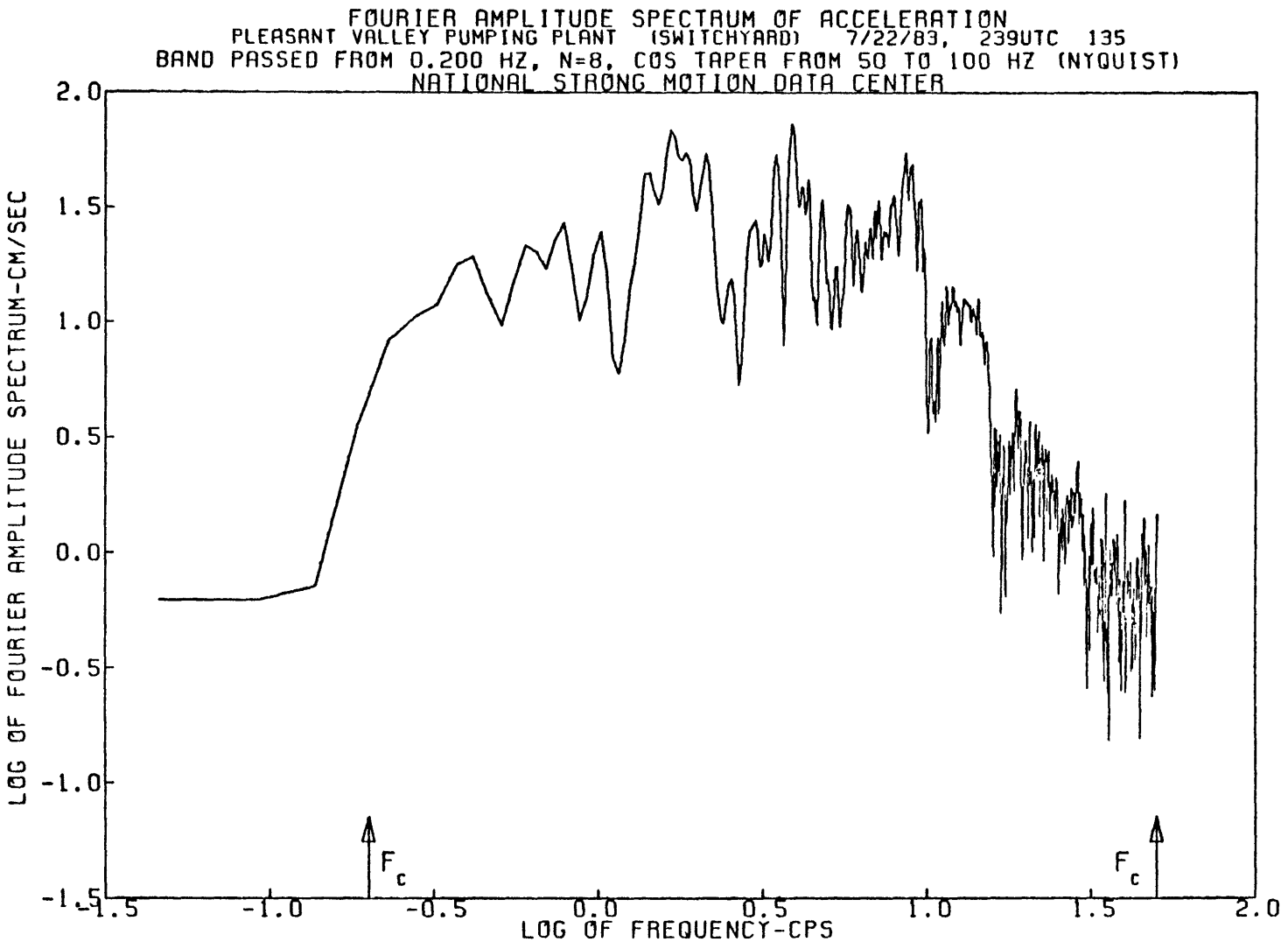
2.0
LOG OF FREQUENCY-CPS
F_c
F_c


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT (SWITCHYARD) 7/22/83, 239UTC 135
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
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
-1.5
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0.0
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1.0
1.5
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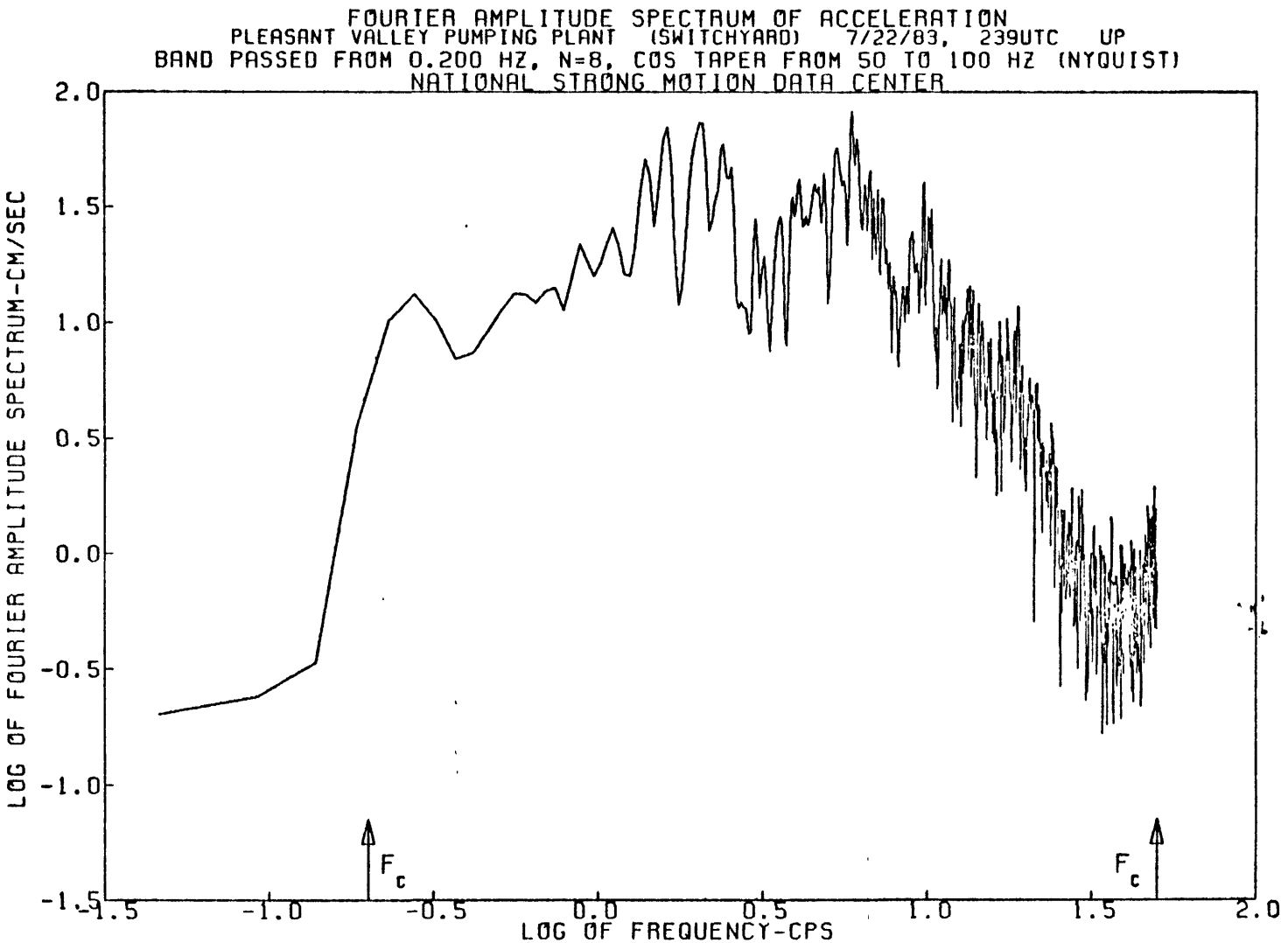
LOG OF FREQUENCY-CPS
F_c
F_c


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT (SWITCHYARD) 7/22/83, 239UTC UP
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
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
-1.5
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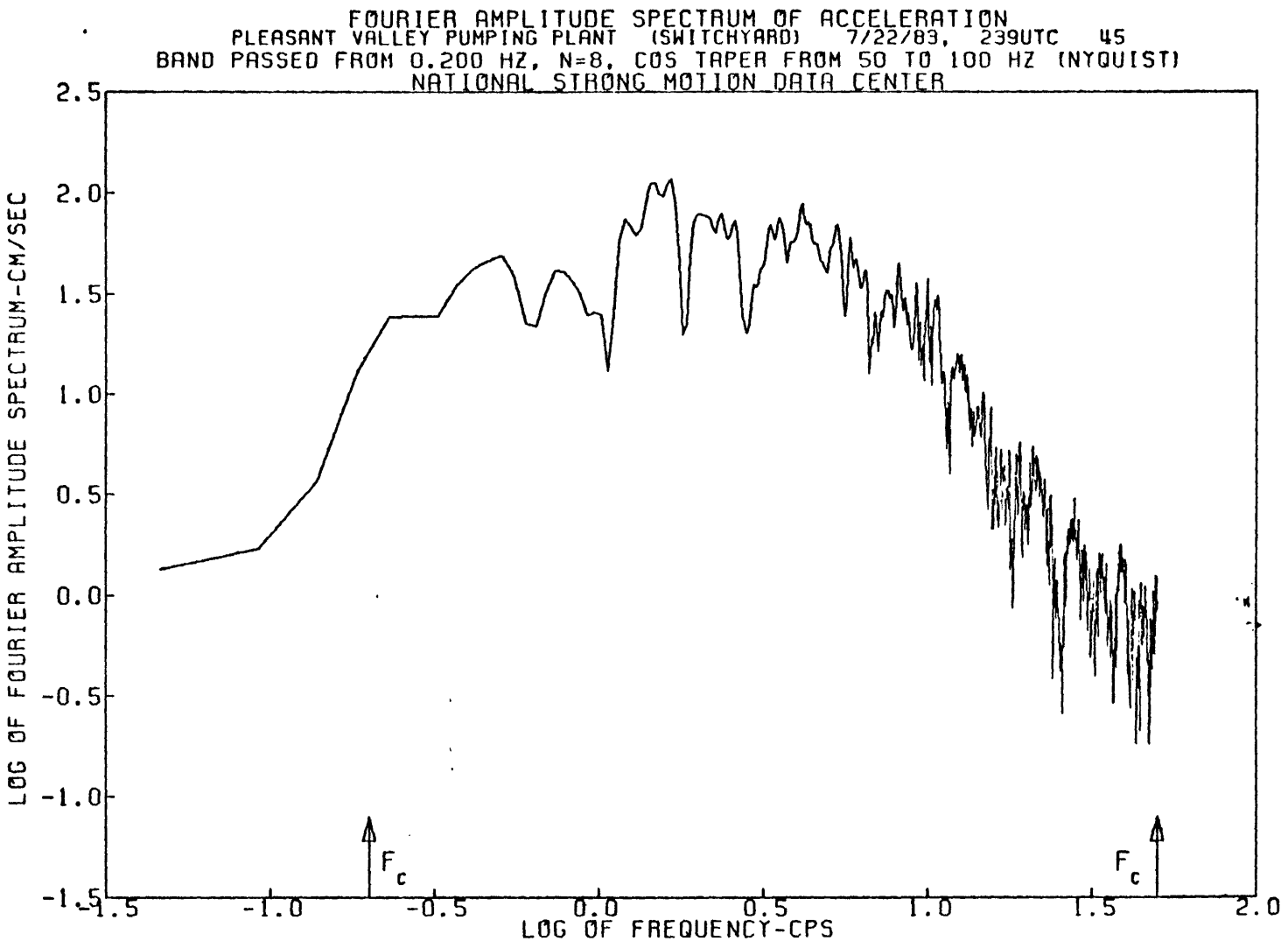
0.5
1.0
1.5
2.0
LOG OF FREQUENCY-CPS
F_c
F_c


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
PLEASANT VALLEY PUMPING PLANT (SWITCHYARD) 7/22/83, 239UTC 45
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-1.5
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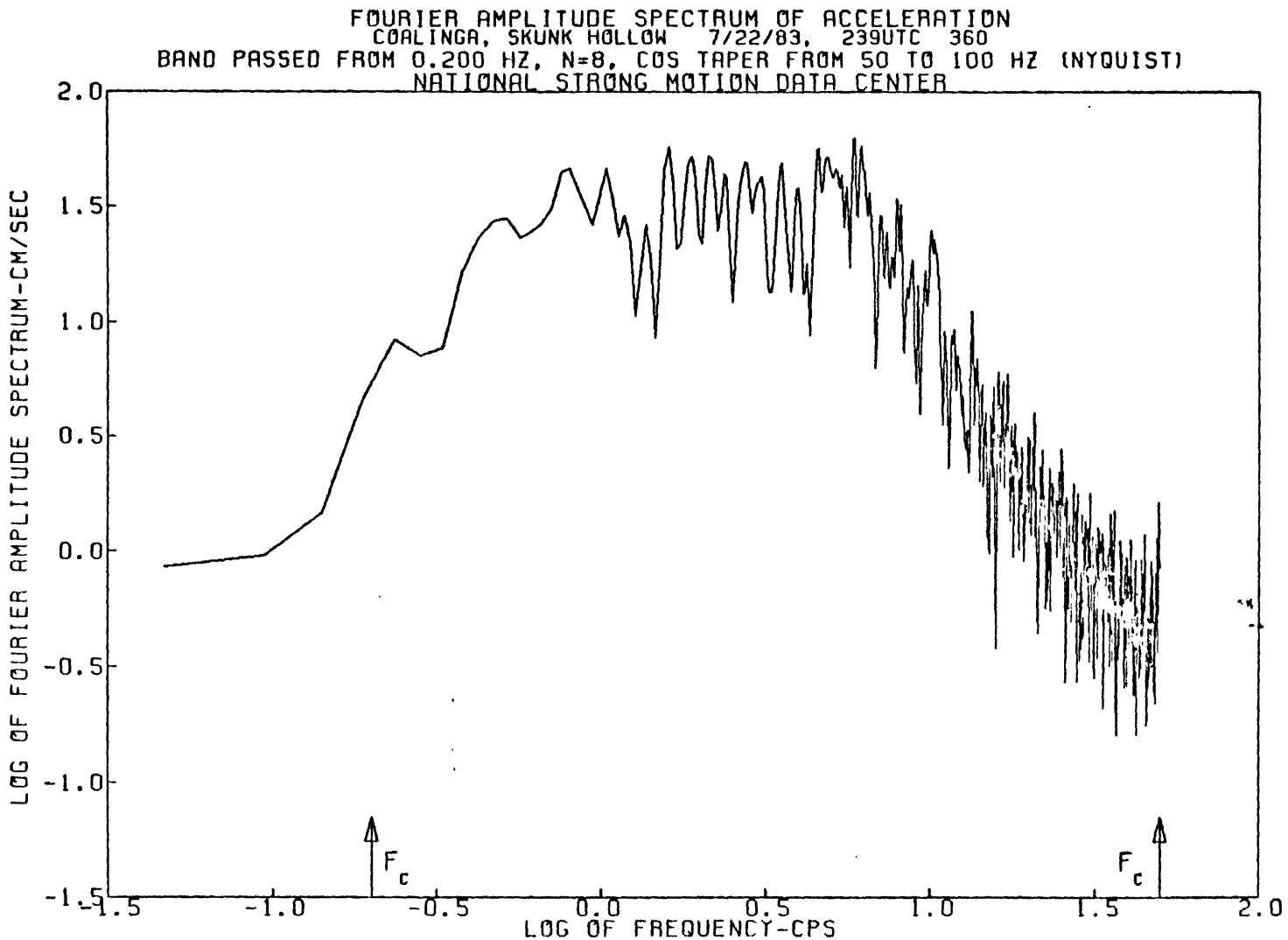
0.5
1.0
1.5
2.0
LOG OF FREQUENCY-CPS
F_c
F_c


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, SKUNK HOLLOW 7/22/83, 239UTC 360
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
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
-1.5
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1.0
1.5
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LOG OF FREQUENCY-CPS
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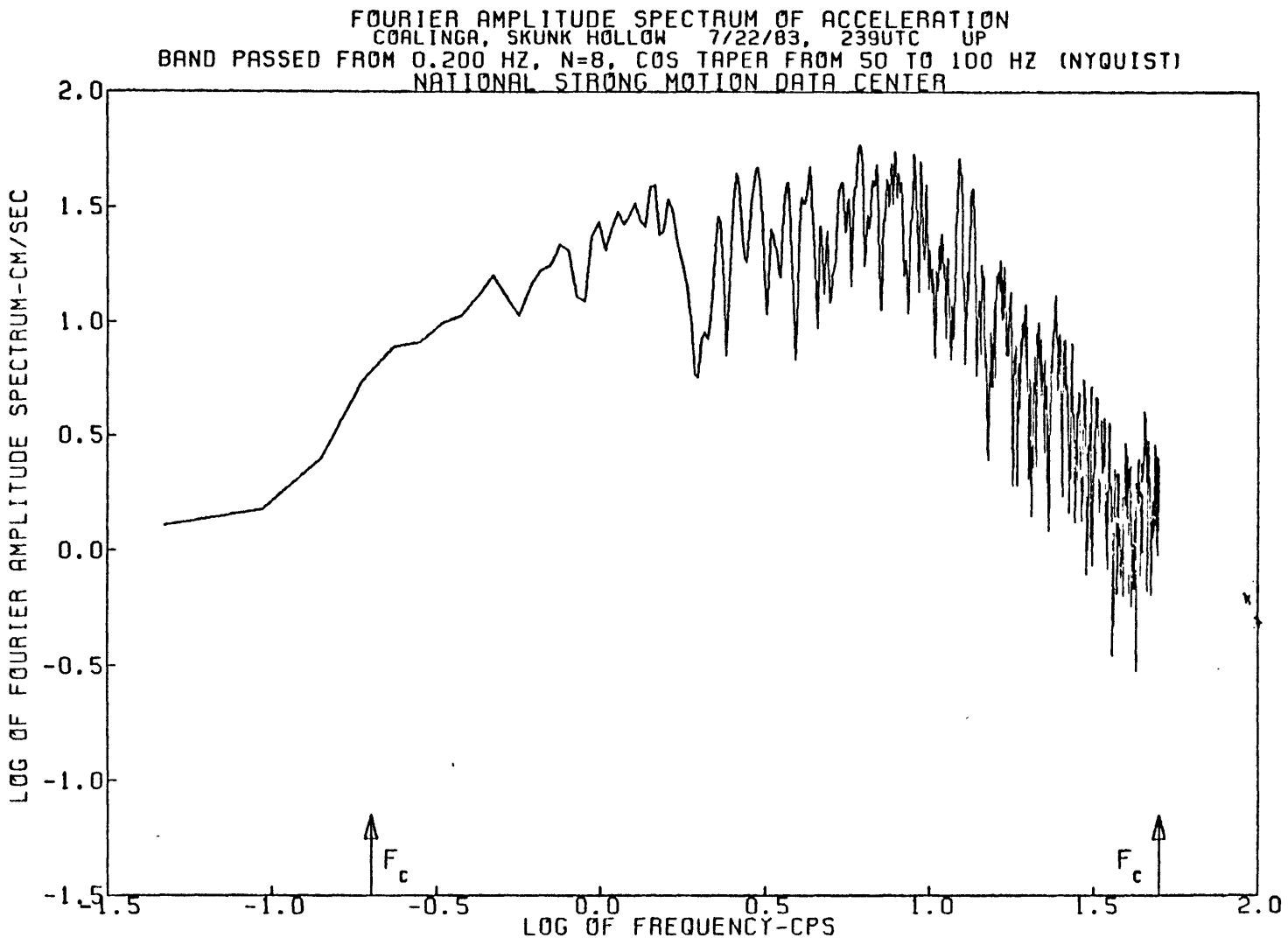
F_c


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, SKUNK HOLLOW 7/22/83, 239UTC UP
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
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
-1.5
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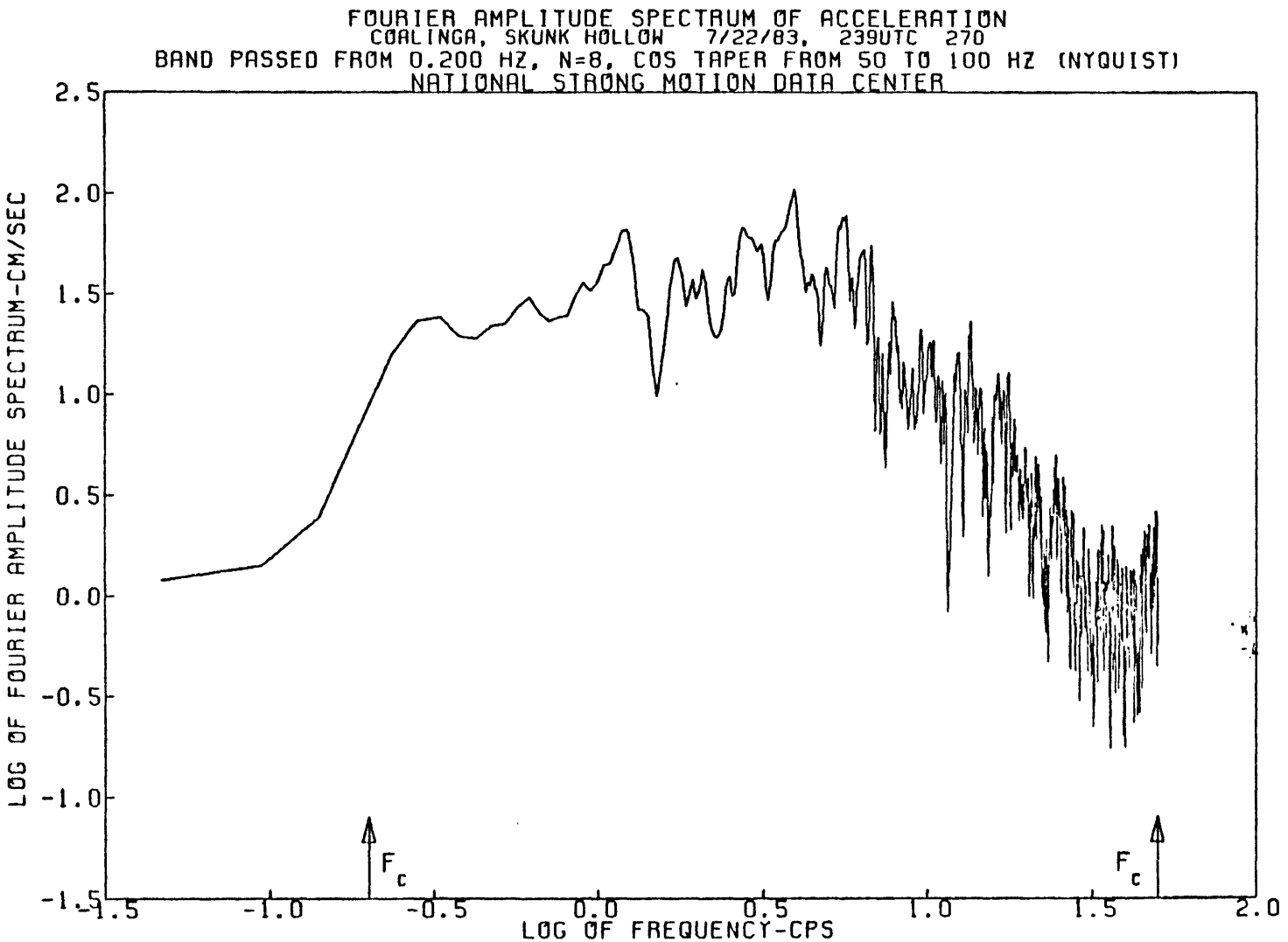
LOG OF FREQUENCY-CPS
F_c
F_c


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, SKUNK HOLLOW 7/22/83, 239UTC 270
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-1.5
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1.5
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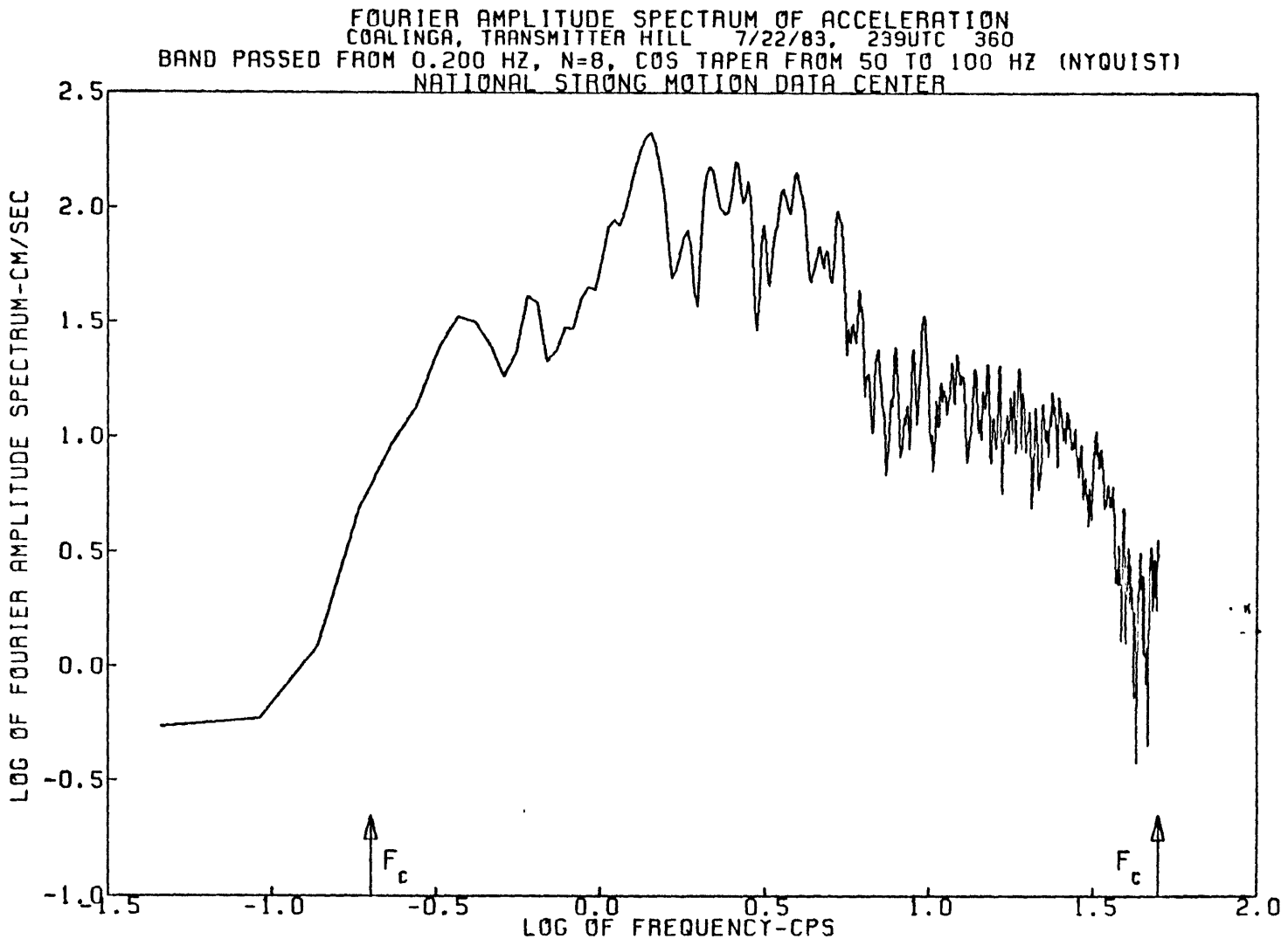
LOG OF FREQUENCY-CPS
F_c
F_c


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, TRANSMITTER HILL 7/22/83, 239UTC 360
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
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1.0
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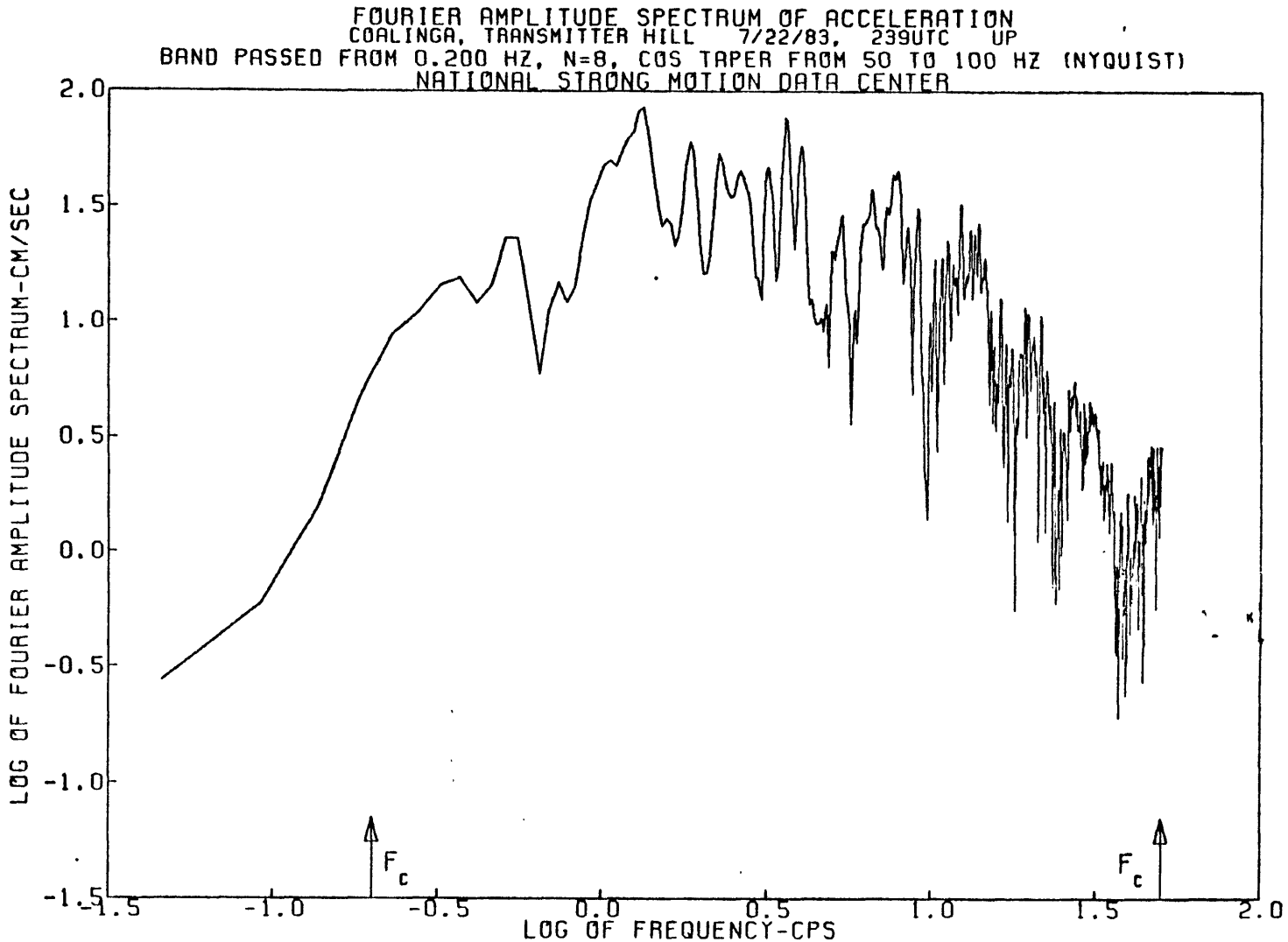
LOG OF FREQUENCY-CPS
F_c
F_c


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, TRANSMITTER HILL 7/22/83, 239UTC UP
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
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
-1.5
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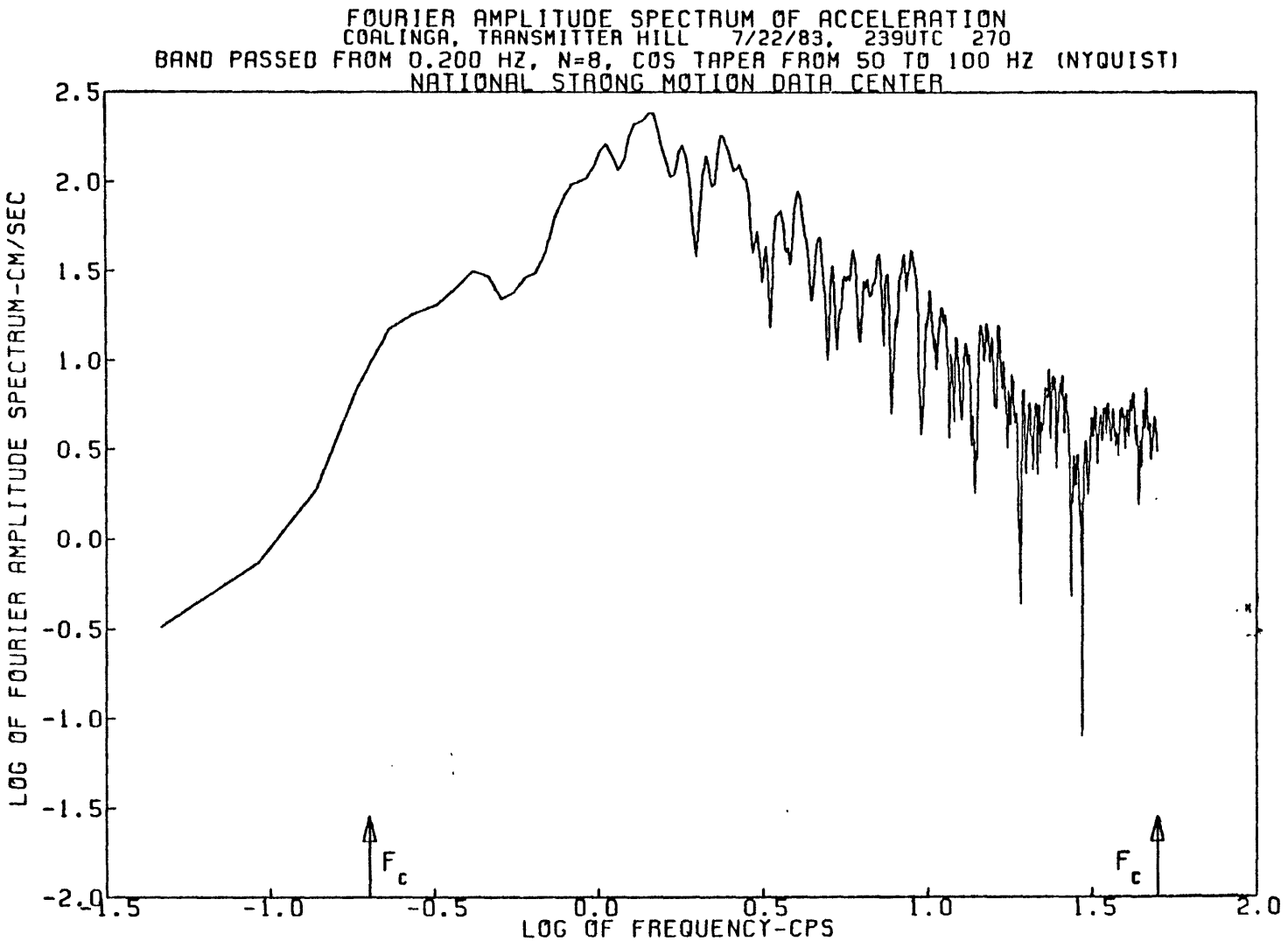
1.5
2.0
LOG OF FREQUENCY-CPS
F_c
F_c


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
COALINGA, TRANSMITTER HILL 7/22/83, 239UTC 270
BAND PASSED FROM 0.200 HZ, N=8, COS TAPER FROM 50 TO 100 HZ (NYQUIST)
NATIONAL STRONG MOTION DATA CENTER
LOG OF FOURIER AMPLITUDE SPECTRUM-CM/SEC
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-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