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STANDARD RESPONSE SPECTRA BASED ON ALASKA EARTHQUAKES

by

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PROJECT SUMMARY

Results of studies of regional and local seismicity, combined with attenuation relations, are usually expressed in the form of peak particle accelerations. These values of peak particle accelerations are multiplied by the ordinates of standardized response spectra to obtain response spectra for use in design. This study involves the development of standardized response spectra from Alaska earthquakes. It includes collecting available strong motion records of Alaska Earthquakes; correcting the uncorrected records using one of the available methods of earthquake record correction and providing a data bank of these corrected records; developing response spectra from each of these records; developing normalized vertical and horizontal response spectra (both mean and 85%) from the individual spectra; and comparing the developed spectra to corresponding ones from Japan and California earthquakes.

TABLE OF CONTENTS

Acknowledgements 7

Project Summary 1

List of Figures 4

List of Tables 3

Chapter 1 Introduction 8

Chapter 2 Data Correction And Processing Software 10

I. Developed Software 10

II. Implemented Software 10

Chapter 3 Acceleration Time Series of Alaska Earthquakes 14

I. Description of Plot Headings 15

II. Earthquake Parameters 16

Chapter 4 Response Spectra 41

I. Computation of Response Spectra 41

II. Response Spectra From Alaska Earthquakes 44

Chapter 5 Statistical Analysis of Response Spectra 45

Chapter 6 Summary and Conclusion 82

Chapter 7 References 86

Appendix A Acceleration Time Histories From Alaska Earthquakes 89

Appendix B Response Spectra Associated with Acceleration Time Histories of Appendix A 245

LIST OF TABLES

Table 3-1 Strong Motion Recording Sites 18

Table 3-2 Earthquake Information and Recording Station Information Sorted by Station 19

Table 3-3 Earthquake Information and Recording Station Information Sorted by Event Date 30

Table 5-1 Earthquake Information and Recording Station Information (Horizontal Acceleration used in Statistical Analysis) 49

Table 5-2 Earthquake Information and Recording Station Information (Vertical Acceleration used in Statistical Analysis) 52

Table 5-3 Earthquake Information and Recording Station Information (Horizontal Acceleration with pkacc > 0.1g used in Statistical Analysis) 54

Table 5-4 Earthquake Information and Recording Station Information (Vertical Acceleration with pkacc > 0.05g used in Statistical Analysis) 55

Table 5-5 Normal Deviations from Mean, in a Normal Distribution, in Terms of Standard Deviation, as a Function of Cumulative Probability P [Adapted From Newmark et al., 1973] 56

LIST OF FIGURES

Figure 5.1 Average Acceleration Response Spectrum (All Horizontal Component Records) 57

Figure 5.2 S.D. of Acceleration Response Spectrum (All Horizontal Component Records) 58

Figure 5.3 85% of Acceleration Response Spectrum (All Horizontal Component Records) 59

Figure 5.4 Average Acceleration Response Spectrum (All Vertical Component Records) 60

Figure 5.5 S.D. of Acceleration Response Spectrum (All Vertical Component Records) 61

Figure 5.6 85% of Acceleration Response Spectrum (All Vertical Component Records) 62

Figure 5.7 Average Acceleration Response Spectrum (Horizontal Component Records with pkacc > 0.1g) 63

Figure 5.8 S.D. of Acceleration Response Spectrum (Horizontal Component Records with pkacc > 0.1g) 64

Figure 5.9 85% of Acceleration Response Spectrum (Horizontal Component Records with pkacc > 0.1g) 65

Figure 5.10 Average Acceleration Response Spectrum (Vertical Component Records with pkacc > 0.05g) 66

Figure 5.11 S.D. of Acceleration Response Spectrum (Vertical Component Records with pkacc > 0.05g) 67

Figure 5.12 85% of Acceleration Response Spectrum (Vertical Component Records with pkacc > 0.05g) 68

Figure 5.13 Average Velocity Response Spectrum (All Horizontal Component Records) 69

Figure 5.14 S.D. of Velocity Response Spectrum (All Horizontal Component Records) 70

Figure 5.15 85% of Velocity Response Spectrum (All Horizontal Component Records) 71

Figure 5.16 Average Velocity Response Spectrum (All Vertical Component Records) . 72

Figure 5.17 S.D. of Velocity Response Spectrum (All Vertical Component Records) . . 73

Figure 5.18 85% of Velocity Response Spectrum (All Vertical Component Records) . . 74

Figure 5.19 Average Velocity Response Spectrum (Horizontal Component Records with pkacc > 0.1g) 75

Figure 5.20 S.D. of Velocity Response Spectrum (Horizontal Component Records with pkacc > 0.1g) 76

Figure 5.21 85% of Velocity Response Spectrum (Horizontal Component Records with pkacc > 0.1g) 77

Figure 5.22 Average Velocity Response Spectrum (Vertical Component Records with pkacc > 0.05g) 78

Figure 5.23 S.D. of Velocity Response Spectrum (Vertical Component Records with pkacc > 0.05g) 79

Figure 5.24 85% of Velocity Response Spectrum (Vertical Component Records with pkacc > 0.05g) 80

Fig. 5.25 Average Acceleration Response Spectra for Japan and California Earthquakes (after Hayashi et al. 1976) 81

Fig. 6.1 Average Acceleration Response Spectrum (All Horizontal Component Records) 84

Fig. 6.2 85% of Acceleration Response Spectrum (All Horizontal Component Records) 84

Fig. 6.3 Average Acceleration Response Spectrum (All Vertical Component Records) 85

Fig. 6.4 85% of Acceleration Response Spectrum (All Vertical Component Records) 85

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CHAPTER 1

INTRODUCTION

The primary tectonic feature in South–Central Alaska is the underthrusting (at a rate of about 5 to 6 cm/year in the northwest direction) of the Pacific Plate beneath the North American Plate. This phenomenon imparts stresses in the lithosphere which cause earthquakes along faults in the the overriding North American Plate, along the interface between the North American and Pacific Plates (Megathrust) and within the underthrusting Pacific Plate (Wadati–Benioff Zone).

Results of studies of regional and local seismicity, combined with attenuation relations, are usually expressed in the form of peak particle accelerations. These values of peak particle accelerations are multiplied by the ordinates of standardized response spectra to obtain response spectra for use in design. A response spectrum is defined as a graphical relationship of the maximum response of a single degree of freedom elastic system with damping to dynamic motion [Housner, 1970; Newmark, 1970; Newmark and Hall, 1973; Newmark and Hall, 1978; Newmark, Hall, and Mohraz, 1973; Newmark, Blume and Kapur, 1973; Nigam and Jennings, 1969].

Recent evidence indicates that characteristics of earthquake ground shaking (including response spectra derived from this shaking) at a given site depend on the characteristics of soil deposits underlying this site, earthquake source mechanism, earthquake magnitude, distance between earthquake source and site, and characteristics of travel path between source and site.

The current state of practice in the seismic design of bridge structures in the state of Alaska involves the use of standard response spectra. These spectra were

developed [Newmark et al., 1973; Seed et al., 1974 & 1976] using, mainly, acceleration time histories observed in California and accommodated for the influence of some of the factors indicated above. However, the earthquake generation mechanism associated with Alaska earthquakes differs from that associated with California earthquakes, and therefore (even when all other parameters influencing ground shaking characteristics are held constant) the corresponding ground motions have different characteristics.

This study is mainly concerned with compiling available strong motion records of Alaska Earthquakes; Correcting the uncorrected records using one of the available methods of earthquake record correction and providing a data bank of these corrected records; developing response spectra from each of these records; and grouping spectra depending on geology of instrument site and direction of shaking (vertical or horizontal) and developing normalized (both mean and 85%) vertical and horizontal response spectra from these groups. The number of groups depends on the availability of records on different representative sites [Seed et al, 1974 & 1976]. The components of this study are described in Chapters 2 through 7: in Chapter 2, the developed/implemented earthquake records correction and processing computer software is discussed. In Chapter 3, a compilation of the corrected Alaska earthquake records is presented. In Chapter 4, a discussion of response spectra and a presentation of the computed response spectra associated with the earthquakes of Chapter 3 is given. In Chapter 5, the computed standardized response spectra are discussed and in Chapter 6 the summary and conclusions of the study are presented.

CHAPTER 2

DATA CORRECTION AND PROCESSING SOFTWARE

Computer software for earthquake data correction and processing was developed/implemented for the purposes of this study. The developed software included programs to read earthquake acceleration time histories from magnetic tapes and write these histories in a format compatible with that required by the earthquake correction software, to plot uncorrected and corrected earthquake acceleration time histories, and to compute mean and 85 percentile response spectra. The implemented software mainly deals with correction of earthquake records and computation of response spectra. A brief description of both the developed and implemented software is given below.

I– DEVELOPED SOFTWARE

Developed software included programs to read earthquake acceleration time histories from magnetic tape and, write them in a format compatible with the earthquake correction software, and get their plots (acceleration versus time). Other developed programs were those used in the calculation of the mean and 85% response spectra. A more detailed description of the procedure used to compute the mean and 85th percentile response spectra is given in Chapter 5.

II– IMPLEMENTED SOFTWARE

The software "Basic Strong–Motion Accelerogram Processing Software" (BAP) was implemented for the purposes of correcting uncorrected earthquake

acceleration time histories and calculating response spectra associated with individual corrected earthquake records. This software was developed by the United States Geological Survey [Converse, 1992]. The main steps included in BAP and needed for earthquake time history correction and response spectra computation include: INPUT, INTERP, LINCOR, PAD, INSCOR, HICUT, DECIM, LOCUT, AVD, and RESPON. A brief description of each of these steps is given below [Converse, 1992].

INPUT

The INPUT step is a preprocessor that is used to read run parameters and input time histories. In this study, acceleration time histories were always used as input time histories.

INTERP

The INTERP step is used to linearly interpolate an unevenly–sampled input time series into an evenly–sampled one. This step is needed because all subsequent processing steps require an evenly sampled series.

LINCOR

The LINCOR step is used to subtract a straight line from the input time series. This step is needed in the processing of some digitized analog acceleration records so as to eliminate linear trends resulting from the digitization process.

PAD

The PAD step is used to extend a time series by adding leading and trailing zeros. This padding is needed for the HICUT and LOCUT filters.

INSCOR

The INSCOR step is used to correct the measured time series for errors introduced by the measuring accelerometers. These errors are usually introduced at high frequencies and are dependent on the damping and stiffness characteristics of the measuring device.

HICUT and LOCUT

The HICUT step is used to filter out spurious high frequencies from the time series being corrected while the LOCUT step is used to filter out spurious low frequencies.

AVD

the AVD step is used to calculate velocity and displacement time series (by integrating the corrected acceleration records) from a given acceleration time series, or to calculate acceleration and displacement time series from a given velocity time series.

FAS

The FAS step is used to compute the fourier amplitude spectrum of the acceleration time series.

RESPON

The RESPON step is used to calculate the response spectra for a given acceleration record. A more detailed discussion of response spectra is given in Chapter 4.

CHAPTER 3

ACCELERATION TIME HISTORIES FROM ALASKA EARTHQUAKES

The earthquake acceleration time histories collected for the purposes of this study were obtained from two sources. The first source provided data that was collected by Beaven and Jacobs [Beaven and Jacobs, 1984] and disseminated in the form of a magnetic tape. This data correspond to subduction zone Alaska earthquakes with 'significant' records (except for one strike slip event that occurred near Sitka on July 30, 1972) that took place between June 1964 and early 1983. This collection is restricted to earthquakes associated with the subduction zone that were recorded using free field, ground level or basement installed stations. A list of the earthquake recording stations from which measured acceleration time histories were obtained is given in Table 3–1 [Beaven and Jacobs, 1984]. The second source for earthquakes recorded at the same stations listed in Table 1 is a data bank developed and maintained by the National Center of Earthquake Engineering Research (NCEER) at the State University of New York at Buffalo. Records of earthquakes that were recorded between 1983 and 1993 were obtained from this source.

Plots of acceleration time histories (corrected) associated with the different earthquakes compiled for the purposes of this study are shown in Appendix A. Values of relevant parameters associated with these earthquakes are given in Tables 3–2 and 3–3. In Table 3–2, the earthquakes are grouped by recording station while in Table 3–3 they are grouped by event date. A brief description of plot headings as well as a description of the parameters included in Tables 3–2 and 3–3 is given

below [Beaven and Jacobs, 1983]. It is noted that the earthquake records were available in corrected form [Beaven and Jacobs, 1983; NCEER] and, for the most part, the procedure described in Chapter 2 was used to correct these records.

I– DESCRIPTION OF PLOT HEADINGS

The following is a brief description of plot headings associated with the different acceleration time histories of Appendix A [Beaven and Jacobs, 1983]:

Lines 1–2: Station Information

Line 1: Station number, station code, and station location

Line 2: Longitude and Latitude of station and a brief description of site geology.

Line 3: Component Information

Line 3: Direction for which a positive ground acceleration would produce an upward deflection on the corresponding plot; and scale factor (SCL) by which the digitized scale was multiplied to convert from cm of trace deflection to units of g.

Lines 4–6: Earthquake Information

Line 4: Origin time, UTC; Latitude and Longitude of epicenter and depth; Magnitude (M_w); and maximum reported intensity (Modified Mercalli Scale).

Line 5: Epicentral distance; and forward azimuth at station of rays from epicenter to station.

Line 6: Peak ground Acceleration

Note that a ? indicates uncertainty; a * indicates AR–240 record with scale of 1/4 of original because of 1/4 reduction for digitization purposes, as opposed to a + which indicates a scale of 1.

II– EARTHQUAKE PARAMETERS

In the following, some information relevant to the different earthquake parameters included in Tables 3–2 and 3–3 is given [Beaven and Jacobs, 1983]:

– Distance refers to horizontal distance between station and epicenter. They do not necessarily correspond to minimum distance between rupture surface and recording station (sometimes more usefull in determining empirical attenuation laws). These distances could be very different, especially for earthquakes with moment magnitudes larger than six.

– Under component, the Azimuths in degrees clockwise from North are given. Its is to be noted that polarity information associated with the various components of the strong ground motions are defined so as to refer to ground (and not pendulum) motions (positive values of accelerations represent ground motion in the indicated direction).

– Triggering information indicate whether instrument was triggered before the arrival of S–waves (BS), or sometime during (MS) the arrival of S–waves. It also indicates whether the instrument has triggered during in the coda, late after the wave has passed (L). In the Latter two cases (MS and L), peak values of ground motion associated with a given record of an earthquake are not necessarily the same as peak ground motions associated with that earthquake as the peak ground motion

could have occurred before the triggering of the instrument.

– Event near Sitka ($M_w = 7.5$) is strike–slip. Data included are limited to recordings from free–field, ground–level or basement–installed stations.

– Origin Time: the time origin of the events is accurate to the lowest minute (ignoring seconds) and is given in Universal Time.

– Hypocenter: The geometric Latitude and Longitude, in degrees, as well as the depth, in km, were compiled from a variety of sources.

– Magnitude: the uniform moment magnitude, M_w, is used. A more detailed description of how this value was calculated and of the moment magnitude scale is given in [Beaven and Jacobs, 1983; Kanamori, 1977; Hanks and Kanamori, 1979; Hanks and Boor, 1984].

Table 3-1 Strong Motion Recording Sites [adapted from Beaven and Jacob, 1983]

USGS Site Number	Letter Code	Locality	COORDINATES Lat°N	Lon°W	Site Geology	Source/ Operator	Site Description
2701	ADN	Adak	51.880	176.580	Basalt	GS	Buried concrete vault, ground level
2702	AMU	Anchorage	61.189	149.801	Glacial Till, 120 M	GS	Ground level, 2 story building
2703	ANH	Anchorage	61.190	149.890	Glacial outwash	GS	Basement, 3 story building
2706	MES	Cordova	60.543	145.753	Metamorphic rock	GS	Ground level, 2 story building
2710	KDN	Kodiak	57.750	152.490	Slate	GS	Buried Concrete vault, ground level
2713	SWH	Seward	60.110	149.440	metamorphic rock	GS	Basement, 1 story building
2714	SMO	Sitka	57.060	135.320	Graywacke	GS	Buried concrete vault, ground level
2716	AWH	Anchorage	61.220	149.892	Glacial outwash	GS	Basement, 22 story building
2719	SSG	Seldovia	59.440	151.710	Metamorphic rock	GS	1 story gym, ground level
2727	TLK	Talkeetna	62.300	150.100	No information	GS	1 story building, ground level
2728	YAK	Yakutat	59.510	139.650	Fill on muskeg; outwash	GS	1 story building, ground level
2734	ICY	Icy Bay	59.968	141.643	Glacial deposits	GS	1 story building, ground level
2739	KDS	Kodiak	57.750	152.500	No information		3 story reinforced concrete building; basement
2744	SAN	Sand Point	55.340	160.497	Volcanic breccia	LD	Ground level 1 story building, pre-1977; concrete pier, seismic vault, post-1977
2764	SIM	Simeonof	54.920	159.258	2 m soil overlying granite bedrock	LD	concrete slab; free field, ground level
2765	MDY	Munday Creek	60.023	141.966	rock of Yakataga formation	GS/Shell	small metal box, ground level
2776	CNB	Chernabura	54.820	159.588	weathered granite bedrock	LD	concrete slab; free field, ground level
2789	PRS	Pirate Shake	55.231	159.855	1 m of soil overlying tertiary metasediments	LD	concrete slab; free field, ground level: close to edge of cliff
2101	OLY	Olympia	47.030	122.900	no information	GS	Small prefab metal building; ground level
2773	BKJ	Big Koniuji	55.160	159.565	Bedrock -- Free field, concrete pad		
2774	NGI	Nagai	55.039	160.069	Bedrock -- Concrete pad		

Source: GS: Switzer, J.D. Johnson, R. Maley and R. Matthiessen (1981); LD: Lamont-Doherty Field Observations; Shell: Shell Oil Co.; personal comm.

Table 3-2 Earthquake Information and Recording Station Information Sorted by Station

INDEX	DATE	TIME	EPIC LAT	EPIC LONG	AZM	DEPTH (km)	DIST (km)	MOM MAG	COMP	PKACC (cm/sec^2)
1	13APR1949	19:55	47.167N	122.617W	N235	56.0	26.0	7.1	UP	89.05
2	13APR1949	19:55	47.167N	122.617W	N235	56.0	26.0	7.1	N266E	-273.99
3	13APR1949	19:55	47.167N	122.617W	N235	56.0	26.0	7.1	N176E	161.25
4	29APR1965	15:28	47.410N	122.290W	N227	63.0	63.0	6.7	UP	-60.08
5	29APR1965	15:28	47.410N	122.290W	N227	63.0	63.0	6.7	N266E	-194.76
6	29APR1965	15:28	47.410N	122.290W	N227	63.0	63.0	6.7	N176E	134.06
7	13APR1949	19:55	47.167N	122.617W	N026	56.0	47.0	7.1	N182E	66.53
8	13APR1949	19:55	47.167N	122.617W	N026	56.0	47.0	7.1	N272E	-66.06
9	13APR1949	19:55	47.167N	122.617W	N026	56.0	47.0	7.1	UP	-22.00
10	2MAY1971	06:08	51.420N	177.210W	N041	38.0	67.0	6.8	N180E	-114.65
11	2MAY1971	06:08	51.420N	177.210W	N041	38.0	67.0	6.8	UP	63.66
12	2MAY1971	06:08	51.420N	177.210W	N040	38.0	67.0	6.8	UP	-62.65
13	2MAY1971	06:08	51.420N	177.210W	N040	38.0	67.0	6.8	N090E	183.65
14	2MAY1971	06:08	51.420N	177.210W	N041	38.0	67.0	6.8	N090E	203.67
15	2MAY1971	06:08	51.420N	177.210W	N040	38.0	67.0	6.8	N180E	93.14
16	13AUG1974	03:46	51.490N	178.110W	N068	47.0	114.0	6.1	N180E	-21.94
17	13AUG1974	03:46	51.490N	178.110W	N068	47.0	114.0	6.1	UP	-16.97
18	13AUG1974	03:46	51.490N	178.110W	N068	47.0	114.0	6.1	N090E	29.18
19	11NOV1974	05:17	51.590N	178.080W	N073	69.0	108.0	6.1	N090E	-45.72
20	11NOV1974	05:17	51.590N	178.080W	N073	69.0	108.0	6.1	UP	-23.95
21	11NOV1974	05:17	51.590N	178.080W	N073	69.0	108.0	6.1	N180E	-30.35
22	22FEB1976	07:21	51.570N	176.810W	N024	61.0	38.0	4.7	N180E	-27.69
23	22FEB1976	07:21	51.570N	176.810W	N024	61.0	38.0	4.7	UP	-22.95
24	22FEB1976	07:21	51.570N	176.810W	N024	61.0	38.0	4.7	N090E	65.70

Table 3-2 (continued)

INDEX	DATE	TIME	EPIC LAT	EPIC LONG	AZM	DEPTH (km)	DIST (km)	MOM MAG	COMP	PKACC (cm/sec^2)
25	5OCT1984	15:46	51.871N	176.016W	N090.5	68.0	43.2	5.2	N197E	31.79
26	5OCT1984	15:46	51.871N	176.016W	N090.5	68.0	43.2	5.2	N287E	32.90
27	5OCT1984	15:46	51.871N	176.016W	N090.5	68.0	43.2	5.2	UP	14.02
28	19NOV1984	12:07	51.777N	175.272W	N096.1	58.0	95.2	5.7	N287E	36.64
29	19NOV1984	12:07	51.777N	175.272W	N096.1	58.0	95.2	5.7	N197E	-43.02
30	19NOV1984	12:07	51.777N	175.272W	N096.1	58.0	95.2	5.7	UP	14.19
31	28DEC1985	04:39	51.629N	177.166W	N233.0	52.0	45.5	5.2	N197E	-48.85
32	28DEC1985	04:39	51.629N	177.166W	N233.0	52.0	45.5	5.2	UP	22.74
33	28DEC1985	04:39	51.629N	177.166W	N233.0	52.0	45.5	5.2	N287E	40.82
34	2MAR1986	20:42	51.348N	176.715W	N184.9	33.0	59.0	5	N287E	22.75
35	2MAR1986	20:42	51.348N	176.715W	N184.9	33.0	59.0	5	UP	-13.42
36	2MAR1986	20:42	51.348N	176.715W	N184.9	33.0	59.0	5	N197E	-25.37
37	7MAY1986	22:47	51.520N	174.776W	N106.3	33.0	135.1	7.9	N287E	-172.74
38	7MAY1986	22:47	51.520N	174.776W	N106.3	33.0	135.1	7.9	UP	100.32
39	7MAY1986	22:47	51.520N	174.776W	N106.3	33.0	135.1	7.9	N197E	223.18
40	1JAN1975	03:55	61.920N	149.720W	N183	58.0	81.0	6.0	N225E	91.98
41	1JAN1975	03:55	61.920N	149.720W	N183	58.0	81.0	6.0	UP	35.76
42	1JAN1975	03:55	61.920N	149.720W	N183	58.0	81.0	6.0	N315E	60.58
43	30DEC1985	12:41	61.541N	150.340W	N323.9	62.0	48.8	5.6	N270E	77.41
44	30DEC1985	12:41	61.541N	150.340W	N323.9	62.0	48.8	5.6	UP	16.73
45	30DEC1985	12:41	61.541N	150.340W	N323.9	62.0	48.8	5.6	N360E	71.53
46	1JAN1975	03:55	61.920N	149.720W	N186	58.0	82.0	6.0	N000E	-74.77
47	1JAN1975	03:55	61.920N	149.720W	N186	58.0	82.0	6.0	UP	-48.48
48	1JAN1975	03:55	61.920N	149.720W	N186	58.0	82.0	6.0	N270E	-86.98

Table 3-2 (continued)

INDEX	DATE	TIME	EPIC LAT	EPIC LONG	AZM	DEPTH (km)	DIST (km)	MOM MAG	COMP	PKACC (cm/sec^2)
49	5JUN1964	09:50	60.350N	145.870W	N017	16.0	22.0	5.2	N196E	34.18
50	5JUN1964	09:50	60.350N	145.870W	N017	16.0	22.0	5.2	UP	-11.55
51	5JUN1964	09:50	60.350N	145.870W	N017	16.0	22.0	5.2	N286E	-29.95
52	5JUN1964	22:06	58.140N	152.180W	N203	13.0	47.0	5.0	N180E	-20.39
53	5JUN1964	22:06	58.140N	152.180W	N203	13.0	47.0	5.0	UP	-13.84
54	5JUN1964	22:06	58.140N	152.180W	N203	13.0	47.0	5.0	N270E	-28.88
55	4SEP1965	14:32	58.290N	152.500W	N180	32.0	60.0	6.8	N260E	21.54
56	4SEP1965	14:32	58.290N	152.500W	N180	32.0	60.0	6.8	UP	-15.55
57	4SEP1965	14:32	58.290N	152.500W	N180	32.0	60.0	6.8	N350E	-16.70
58	22DEC1965	19:41	58.350N	153.130W	N151	42.0	77.0	6.8	N260E	-37.95
59	22DEC1965	19:41	58.350N	153.130W	N151	42.0	77.0	6.8	UP	-14.93
60	22DEC1965	19:41	58.350N	153.130W	N151	42.0	77.0	6.8	N350E	36.09
61	17DEC1968	12:02	60.150N	152.820W	N093	82.0	188.0	6.3	N000E	37.28
62	17DEC1968	12:02	60.150N	152.820W	N093	82.0	188.0	6.3	UP	-26.03
63	17DEC1968	12:02	60.150N	152.820W	N093	82.0	188.0	6.3	N090E	21.97
64	30JUL1972	21:45	56.770N	135.910W	N048	29.0	48.0	7.5	N180E	76.50
65	30JUL1972	21:45	56.770N	135.910W	N048	29.0	48.0	7.5	UP	-51.54
66	30JUL1972	21:45	56.770N	135.910W	N048	29.0	48.0	7.5	N090E	89.40
67	1JAN1975	03:55	61.920N	149.720W	N187	58.0	79.0	6.0	N045E	44.91
68	1JAN1975	03:55	61.920N	149.720W	N187	58.0	79.0	6.0	UP	-19.62
69	1JAN1975	03:55	61.920N	149.720W	N187	58.0	79.0	6.0	N135E	49.15
70	17DEC1968	12:02	60.150N	152.820W	N142	82.0	101.0	6.3	UP	17.19
71	17DEC1968	12:02	60.150N	152.820W	N142	82.0	101.0	6.3	N090E	26.43
72	17DEC1968	12:02	60.150N	152.820W	N142	82.0	101.0	6.3	N000E	-40.52

Table 3-2 (continued)

INDEX	DATE	TIME	EPIC LAT	EPIC LONG	AZM	DEPTH (km)	DIST (km)	MOM MAG	COMP	PKACC (cm/sec^2)
73	1JAN1975	03:55	61.920N	149.720W	N335	58.0	47.0	6.0	N075E	74.95
74	1JAN1975	03:55	61.920N	149.720W	N335	58.0	47.0	6.0	UP	-87.69
75	1JAN1975	03:55	61.920N	149.720W	N335	58.0	47.0	6.0	N165E	-72.35
76	5MAY1978	05:33	63.302N	150.971W	N338.7	134.0	120.4	5.1	UP	10.11
77	5MAY1978	05:33	63.302N	150.971W	N338.7	134.0	120.4	5.1	N075E	11.72
78	5MAY1978	05:33	63.302N	150.971W	N338.7	134.0	120.4	5.1	N165E	7.32
79	28FEB1979	21:27	60.640N	141.590W	N140	13.0	166.0	7.3	UP	-24.36
80	28FEB1979	21:27	60.640N	141.590W	N140	13.0	166.0	7.3	N279E	-60.81
81	28FEB1979	21:27	60.640N	141.590W	N140	13.0	166.0	7.3	N009E	81.33
82	28FEB1979	21:27	60.640N	141.590W	N182	13.0	75.0	7.3	UP	62.90
83	28FEB1979	21:27	60.640N	141.590W	N182	13.0	75.0	7.3	N180E	-171.41
84	28FEB1979	21:27	60.640N	141.590W	N182	13.0	75.0	7.3	N090E	-96.33
85	11MAR1970	22:38	57.390N	153.970W	N066	38.0	97.0	6.3	UP	8.59
86	11MAR1970	22:38	57.390N	153.970W	N066	38.0	97.0	6.3	N260E	42.05
87	11MAR1970	22:38	57.390N	153.970W	N066	38.0	97.0	6.3	N350E	-21.24
88	6APR1974	01:53	54.870N	160.290W	N347	37.0	54.0	5.6	N030E	91.62
89	6APR1974	01:53	54.870N	160.290W	N347	37.0	54.0	5.6	UP	51.44
90	6APR1974	01:53	54.870N	160.290W	N347	37.0	54.0	5.6	N120E	75.33
91	6APR1974	03:55	54.900N	160.290W	N346	40.0	50.0	5.8	N030E	117.77
92	6APR1974	03:55	54.900N	160.290W	N346	40.0	50.0	5.8	UP	-48.37
93	6APR1974	03:55	54.900N	160.290W	N346	40.0	50.0	5.8	N120E	-98.30
94	25JUL1975	10:40	55.040N	160.410W	N353	38.0	34.0	5.6	N120E	-9.57
95	25JUL1975	10:40	55.040N	160.410W	N353	38.0	34.0	5.6	UP	11.75
96	25JUL1975	10:40	55.040N	160.410W	N353	38.0	34.0	5.6	N030E	-12.79

Table 3-2 (continued)

INDEX	DATE	TIME	EPIC LAT	EPIC LONG	AZM	DEPTH (km)	DIST (km)	MOM MAG	COMP	PKACC (cm/sec^2)
97	27JAN1979	18:57	54.790N	160.640W	N009	53.0	62.0	6.2	N107E	9.18
98	27JAN1979	18:57	54.790N	160.640W	N009	53.0	62.0	6.2	UP	8.01
99	27JAN1979	18:57	54.790N	160.640W	N009	53.0	62.0	6.2	N197E	7.59
100	13FEB1979	05:34	55.170N	156.940W	N273	47.0	226.0	6.5	UP	9.80
101	13FEB1979	05:34	55.170N	156.940W	N273	47.0	226.0	6.5	N107E	-41.37
102	13FEB1979	05:34	55.170N	156.940W	N273	47.0	226.0	6.5	N197E	22.42
103	28DEC1981	10:28	54.669N	160.407W	N357	33.0	75.0	3.8	N070E	-18.41
104	28DEC1981	10:28	54.669N	160.407W	N357	33.0	75.0	3.8	N340E	-24.08
105	28DEC1981	10:28	54.669N	160.407W	N357	33.0	75.0	3.8	UP	-5.58
106	14FEB1983	03:20	54.736N	158.882W	N303	25.0	123.0	6.3	N160E	6.72
107	14FEB1983	03:20	54.736N	158.882W	N303	25.0	123.0	6.3	UP	5.22
108	14FEB1983	03:20	54.736N	158.882W	N303	25.0	123.0	6.3	N250E	7.55
109	14FEB1983	08:10	54.854N	158.843W	N297	25.0	118.0	6.0	N160E	-3.93
110	14FEB1983	08:10	54.854N	158.843W	N297	25.0	118.0	6.0	UP	-2.72
111	14FEB1983	08:10	54.854N	158.843W	N297	25.0	118.0	6.0	N250E	-5.71
112	25SEP1985	16:29	54.709N	159.728W	N144.7	28.0	85.9	4.4	UP	-12.00
113	25SEP1985	16:29	54.709N	159.728W	N144.7	28.0	85.9	4.4	N070E	-17.69
114	25SEP1985	16:29	54.709N	159.728W	N144.7	28.0	85.9	4.4	N340E	22.84
115	2JUN1989	15:57	55.145N	160.592W	N195.6	58.0	22.6	--	N000E	--
116	2JUN1989	15:57	55.145N	160.592W	N195.6	58.0	22.6	--	UP	--
117	2JUN1989	15:57	55.145N	160.592W	N195.6	58.0	22.6	--	N090E	--
118	4SEP1989	13:14	55.543N	156.835W	N082.9	11.0	233.1	--	N000E	--
119	4SEP1989	13:14	55.543N	156.835W	N082.9	11.0	233.1	--	UP	--
120	4SEP1989	13:14	55.543N	156.835W	N082.9	11.0	233.1	--	N090E	--

Table 3-2 (continued)

INDEX	DATE	TIME	EPIC LAT	EPIC LONG	AZM	DEPTH (km)	DIST (km)	MOM MAG	COMP	PKACC (cm/sec^2)
121	21OCT1989	19:24	55.107N	160.107W	N136.1	10.4	35.9	--	N000E	--
122	21OCT1989	19:24	55.107N	160.107W	N136.1	10.4	35.9	--	UP	--
123	21OCT1989	19:24	55.107N	160.107W	N136.1	10.4	35.9	--	N090E	--
124	14FEB1983	03:20	54.736N	158.882W	N310	25.0	32.0	6.3	N340E	55.55
125	14FEB1983	03:20	54.736N	158.882W	N310	25.0	32.0	6.3	N070E	29.87
126	14FEB1983	03:20	54.736N	158.882W	N310	25.0	32.0	6.3	UP	-19.97
127	14FEB1983	08:10	54.854N	158.843W	N285	25.0	28.0	6.0	N340E	40.53
128	14FEB1983	08:10	54.854N	158.843W	N285	25.0	28.0	6.0	UP	-15.40
129	14FEB1983	08:10	54.854N	158.843W	N285	25.0	28.0	6.0	N070E	-27.88
130	28FEB1979	21:27	60.640N	141.590W	N197	13.0	72.0	7.3	N270E	-40.84
131	28FEB1979	21:27	60.640N	141.590W	N197	13.0	72.0	7.3	N000E	62.81
132	9OCT1985	09:34	54.736N	159.469W	N172.5	15.0	47.7	6.5	N345E	49.04
133	9OCT1985	09:34	54.736N	159.469W	N172.5	15.0	47.7	6.5	UP	-39.87
134	9OCT1985	09:34	54.736N	159.469W	N172.5	15.0	47.7	6.5	N065E	-34.39
135	2MAY1987	19:22	54.800N	159.885W	N207.1	28.0	45.1	5.3	N075E	-28.61
136	2MAY1987	19:22	54.800N	159.885W	N207.1	28.0	45.1	5.3	N345E	-25.08
137	2MAY1987	19:22	54.800N	159.885W	N207.1	28.0	45.1	5.3	UP	15.65
138	21MAY1985	01:13	54.978N	160.360W	N250.0	47.0	19.8	4.3	N340E	38.26
139	21MAY1985	01:13	54.978N	160.360W	N250.0	47.0	19.8	4.3	UP	20.46
140	21MAY1985	01:13	54.978N	160.360W	N250.0	47.0	19.8	4.3	N250E	23.39
141	2MAY1987	19:22	54.800N	159.885W	N156.0	28.0	29.2	5.3	N267E	-35.11
142	2MAY1987	19:22	54.800N	159.885W	N156.0	28.0	29.2	5.3	N357E	-21.35
143	2MAY1987	19:22	54.800N	159.885W	N156.0	28.0	29.2	5.3	UP	15.27
144	14FEB1983	03:20	54.736N	158.882W	N281	25.0	46.0	6.3	N070E	46.92

Table 3-2 (continued)

INDEX	DATE	TIME	EPIC LAT	EPIC LONG	AZM	DEPTH (km)	DIST (km)	MOM MAG	COMP	PKACC (cm/sec^2)
145	14FEB1983	03:20	54.736N	158.882W	N281	25.0	46.0	6.3	UP	-22.89
146	14FEB1983	03:20	54.736N	158.882W	N281	25.0	46.0	6.3	N340E	40.49
147	14FEB1983	08:10	54.854N	158.843W	N265	25.0	48.0	6.0	UP	-16.60
148	14FEB1983	08:10	54.854N	158.843W	N265	25.0	48.0	6.0	N340E	20.23
149	14FEB1983	08:10	54.854N	158.843W	N265	25.0	48.0	6.0	N070E	16.69
150	25SEP1985	16:29	54.709N	159.728W	N216.0	28.0	15.3	4.4	N073E	-8.19
151	25SEP1985	16:29	54.709N	159.728W	N216.0	28.0	15.3	4.4	N343E	-14.70
152	25SEP1985	16:29	54.709N	159.728W	N216.0	28.0	15.3	4.4	UP	6.82
153	9OCT1985	14:16	54.812N	159.466W	N096.7	20.0	7.9	4.5	UP	6.50
154	9OCT1985	14:16	54.812N	159.466W	N096.7	20.0	7.9	4.5	N343E	-8.78
155	9OCT1985	14:16	54.812N	159.466W	N096.7	20.0	7.9	4.5	N073E	5.07
156	14NOV1985	22:18	54.684N	159.549W	N170.5	19.0	15.4	5.8	UP	-16.91
157	14NOV1985	22:18	54.684N	159.549W	N170.5	19.0	15.4	5.8	N073E	21.59
158	14NOV1985	22:18	54.684N	159.549W	N170.5	19.0	15.4	5.8	N343E	-25.04
159	2MAY1987	19:22	54.800N	159.885W	N263.4	28.0	19.2	5.3	N343E	-26.01
160	2MAY1987	19:22	54.800N	159.885W	N263.4	28.0	19.2	5.3	N073E	54.30
161	2MAY1987	19:22	54.800N	159.885W	N263.4	28.0	19.2	5.3	UP	-22.27
162	14FEB1983	03:20	54.736N	158.882W	N311	25.0	83.0	6.3	N342E	-24.46
163	14FEB1983	03:20	54.736N	158.882W	N311	25.0	83.0	6.3	UP	-5.72
164	14FEB1983	03:20	54.736N	158.882W	N311	25.0	83.0	6.3	N072E	11.94
165	14FEB1983	08:10	54.854N	158.843W	N303	25.0	77.0	6.0	N342E	-13.64
166	14FEB1983	08:10	54.854N	158.843W	N303	25.0	77.0	6.0	UP	10.79
167	14FEB1983	08:10	54.854N	158.843W	N303	25.0	77.0	6.0	N072E	14.78

Table 3-2 (continued)

INDEX	SITE #	INSTR TYPE	INSTR PERIOD	INSTR DAMP
1	2101	SFSS	0.0790	0.5920
2	2101	SFSS	0.0800	0.5740
3	2101	SFSS	0.0770	0.5740
4	2101	SFSS	0.0800	0.5740
5	2101	SFSS	0.0800	0.5920
6	2101	SFSS	0.0810	0.5520
7	2170	SFSS	0.0810	0.5740
8	2170	SFSS	0.0820	0.5520
9	2170	SFSS	0.0800	0.5280
10	2701	AR-240	0.0550	0.5900
11	2701	AR-240	0.0510	0.5900
12	2701	AR-240	0.0510	0.5900
13	2701	AR-240	0.0550	0.5900
14	2701	AR-240	0.0550	0.5900
15	2701	AR-240	0.0550	0.5900
16	2701	AR-240	0.0550	0.5900
17	2701	AR-240	0.0510	0.5900
18	2701	AR-240	0.0550	0.5900
19	2701	AR-240	0.0550	0.5900
20	2701	AR-240	0.0510	0.5900
21	2701	AR-240	0.0550	0.5900
22	2701	AR-240	0.0550	0.5900
23	2701	AR-240	0.0510	0.5900
24	2701	AR-240	0.0550	0.5900

INDEX	SITE #	INSTR TYPE	INSTR PERIOD	INSTR DAMP
25	2701	AR-240	0.0196	0.6750
26	2701	AR-240	0.0196	0.6200
27	2701	AR-240	0.0194	0.6400
28	2701	AR-240	0.0196	0.6200
29	2701	AR-240	0.0196	0.6750
30	2701	AR-240	0.0194	0.6400
31	2701	AR-240	0.0196	0.6750
32	2701	AR-240	0.0194	0.6400
33	2701	AR-240	0.0196	0.6200
34	2701	AR-240	0.0196	0.6200
35	2701	AR-240	0.0194	0.6400
36	2701	AR-240	0.0196	0.6750
37	2701	AR-240	0.0196	0.6200
38	2701	AR-240	0.0194	0.6400
39	2701	AR-240	0.0196	0.6750
40	2702	AR-240	0.0530	0.5900
41	2702	AR-240	0.0560	0.5900
42	2702	AR-240	0.0520	0.5900
43	2702	--	0.0390	0.5900
44	2702	--	0.0390	0.6000
45	2702	--	0.0370	0.5800
46	2703	AR-240	0.0580	0.6200
47	2703	AR-240	0.0510	0.5900
48	2703	AR-240	0.0590	0.6200

Table 3-2 (continued)

INDEX	SITE #	INSTR TYPE	INSTR PERIOD	INSTR DAMP
49	2706	AR-240	0.0510	0.5900
50	2706	AR-240	0.0510	0.6100
51	2706	AR-240	0.0510	0.5900
52	2710	AR-240	0.0520	0.6100
53	2710	AR-240	0.0520	0.5900
54	2710	AR-240	0.0520	0.6100
55	2710	AR-240	0.0512	0.4000
56	2710	AR-240	0.0495	0.5700
57	2710	AR-240	0.0505	0.5900
58	2710	AR-240	0.0517	0.4300
59	2710	AR-240	0.0516	0.6300
60	2710	AR-240	0.0512	0.6400
61	2713	AR-240	0.0585	0.5000
62	2713	AR-240	0.0585	0.5900
63	2713	AR-240	0.0565	0.5600
64	2714	AR-240	0.0520	0.5900
65	2714	AR-240	0.0570	0.6100
66	2714	AR-240	0.0490	0.5700
67	2716	SMA-1	0.0380	0.5700
68	2716	SMA-1	0.0370	0.5300
69	2716	SMA-1	0.0380	0.5500
70	2719	AR-240	0.0631	0.5500
71	2719	AR-240	0.0523	0.5800
72	2719	AR-240	0.0626	0.5700

INDEX	SITE #	INSTR TYPE	INSTR PERIOD	INSTR DAMP
73	2727	SMA-1	0.0400	0.5900
74	2727	SMA-1	0.0390	0.5900
75	2727	SMA-1	0.0400	0.5900
76	2727	SMA-1	0.0390	0.5900
77	2727	SMA-1	0.0400	0.5900
78	2727	SMA-1	0.0400	0.5900
79	2728	SMA-1	0.0390	0.6000
80	2728	SMA-1	0.0380	0.5900
81	2728	SMA-1	0.0380	0.5900
82	2734	SMA-1	0.0370	0.5700
83	2734	SMA-1	0.0370	0.6100
84	2734	SMA-1	0.0380	0.6100
85	2739	AR-240	0.0542	0.5900
86	2739	AR-240	0.0525	0.5800
87	2739	AR-240	0.0519	0.5800
88	2744	SMA-1	0.0377	0.6000
89	2744	SMA-1	0.0380	0.6000
90	2744	SMA-1	0.0379	0.6000
91	2744	SMA-1	0.0377	0.6000
92	2744	SMA-1	0.0380	0.6000
93	2744	SMA-1	0.0379	0.6000
94	2744	SMA-1	0.0379	0.6000
95	2744	SMA-1	0.0380	0.6000
96	2744	SMA-1	0.0377	0.6000

Table 3-2 (continued)

INDEX	SITE #	INSTR TYPE	INSTR PERIOD	INSTR DAMP
97	2744	SMA-1	0.0377	0.6000
98	2744	SMA-1	0.0380	0.6000
99	2744	SMA-1	0.0379	0.6000
100	2744	SMA-1	0.0380	0.6000
101	2744	SMA-1	0.0377	0.6000
102	2744	SMA-1	0.0379	0.6000
103	2744	SMA-1	0.0581	0.6000
104	2744	SMA-1	0.0578	0.6000
105	2744	SMA-1	0.0562	0.6000
106	2744	FBA-3	0.0193	0.6300
107	2744	FBA-3	0.0199	0.6600
108	2744	FBA-3	0.0199	0.6500
109	2744	FBA-3	0.0193	0.6300
110	2744	FBA-3	0.0199	0.6600
111	2744	FBA-3	0.0199	0.6500
112	2744	SMA-1	0.0357	0.5300
113	2744	SMA-1	0.0370	0.5500
114	2744	SMA-1	0.0397	0.5700
115	2744	--	--	--
116	2744	--	--	--
117	2744	--	--	--
118	2744	--	--	--
119	2744	--	--	--
120	2744	--	--	--

INDEX	SITE #	INSTR TYPE	INSTR PERIOD	INSTR DAMP
121	2744	--	--	--
122	2744	--	--	--
123	2744	--	--	--
124	2764	SMA-1	0.0400	0.6000
125	2764	SMA-1	0.0400	0.6000
126	2764	SMA-1	0.0380	0.6000
127	2764	SMA-1	0.0400	0.6000
128	2764	SMA-1	0.0380	0.6000
129	2764	SMA-1	0.0400	0.6000
130	2765	SMA-1	0.0769	0.6000
131	2765	SMA-1	0.0781	0.6000
132	2773	--	0.0386	0.6500
133	2773	--	0.0373	0.6150
134	2773	--	0.0401	0.6150
135	2773	--	0.0369	0.6200
136	2773	--	0.0398	0.6350
137	2773	--	0.0357	0.5800
138	2774	--	0.0396	0.6100
139	2774	--	0.0383	0.6000
140	2774	--	0.0388	0.6200
141	2774	--	0.0405	0.5850
142	2774	--	0.0389	0.5600
143	2774	--	0.0391	0.5600
144	2776	SMA-1	0.0390	0.6000

Table 3-2 (continued)

INDEX	SITE #	INSTR TYPE	INSTR PERIOD	INSTR DAMP
145	2776	SMA-1	0.0390	0.6000
146	2776	SMA-1	0.0360	0.6000
147	2776	SMA-1	0.0390	0.6000
148	2776	SMA-1	0.0360	0.6000
149	2776	SMA-1	0.0390	0.6000
150	2776	SMA-1	0.0543	0.6100
151	2776	SMA-1	0.0529	0.5900
152	2776	SMA-1	0.0514	0.5700
153	2776	SMA-1	0.0514	0.5700
154	2776	SMA-1	0.0529	0.5900
155	2776	SMA-1	0.0543	0.6100
156	2776	SMA-1	0.0513	0.5600
157	2776	SMA-1	0.0541	0.5900
158	2776	SMA-1	0.0524	0.5800
159	2776	SMA-1	0.0515	0.5400
160	2776	SMA-1	0.0600	0.2400
161	2776	SMA-1	0.0552	0.5450
162	2789	SMA-1	0.0560	0.6000
163	2789	SMA-1	0.0510	0.6000
164	2789	SMA-1	0.0540	0.6000
165	2789	SMA-1	0.0560	0.6000
166	2789	SMA-1	0.0510	0.6000
167	2789	SMA-1	0.0540	0.6000

Table 3-3 Earthquake Information and Recording Station Information Sorted by Event Date

INDEX	DATE	TIME	EPIC LAT	EPIC LONG	AZM	DEPTH (km)	DIST (km)	MOM MAG	COMP	PKACC (cm/sec^2)
1	13APR1949	19:55	47.167N	122.617W	N235	56.0	26.0	7.1	UP	89.05
2	13APR1949	19:55	47.167N	122.617W	N235	56.0	26.0	7.1	N266E	-273.99
3	13APR1949	19:55	47.167N	122.617W	N235	56.0	26.0	7.1	N176E	161.25
4	13APR1949	19:55	47.167N	122.617W	N026	56.0	47.0	7.1	UP	-22.00
5	13APR1949	19:55	47.167N	122.617W	N026	56.0	47.0	7.1	N272E	-66.06
6	13APR1949	19:55	47.167N	122.617W	N026	56.0	47.0	7.1	N182E	66.53
7	5JUN1964	09:50	60.350N	145.870W	N017	16.0	22.0	5.2	N196E	34.18
8	5JUN1964	09:50	60.350N	145.870W	N017	16.0	22.0	5.2	UP	-11.55
9	5JUN1964	09:50	60.350N	145.870W	N017	16.0	22.0	5.2	N286E	-29.95
10	5JUN1964	22:06	58.140N	152.180W	N203	13.0	47.0	5.0	N180E	-20.39
11	5JUN1964	22:06	58.140N	152.180W	N203	13.0	47.0	5.0	UP	-13.84
12	5JUN1964	22:06	58.140N	152.180W	N203	13.0	47.0	5.0	N270E	-28.88
13	29APR1965	15:28	47.410N	122.290W	N227	63.0	63.0	6.7	UP	-60.08
14	29APR1965	15:28	47.410N	122.290W	N227	63.0	63.0	6.7	N266E	-194.76
15	29APR1965	15:28	47.410N	122.290W	N227	63.0	63.0	6.7	N176E	134.06
16	4SEP1965	14:32	58.290N	152.500W	N180	32.0	60.0	6.8	N260E	21.54
17	4SEP1965	14:32	58.290N	152.500W	N180	32.0	60.0	6.8	UP	-15.55
18	4SEP1965	14:32	58.290N	152.500W	N180	32.0	60.0	6.8	N350E	-16.70
19	22DEC1965	19:41	58.350N	153.130W	N151	42.0	77.0	6.8	N260E	-37.95
20	22DEC1965	19:41	58.350N	153.130W	N151	42.0	77.0	6.8	UP	-14.93
21	22DEC1965	19:41	58.350N	153.130W	N151	42.0	77.0	6.8	N350E	36.09
22	17DEC1968	12:02	60.150N	152.820W	N093	82.0	188.0	6.3	N000E	37.28
23	17DEC1968	12:02	60.150N	152.820W	N093	82.0	188.0	6.3	UP	-26.03
24	17DEC1968	12:02	60.150N	152.820W	N093	82.0	188.0	6.3	N090E	21.97

Table 3-3 (continued)

INDEX	DATE	TIME	EPIC LAT	EPIC LONG	AZM	DEPTH (km)	DIST (km)	MOM MAG	COMP	PKACC (cm/sec^2)
25	17DEC1968	12:02	60.150N	152.820W	N142	82.0	101.0	6.3	N000E	-40.52
26	17DEC1968	12:02	60.150N	152.820W	N142	82.0	101.0	6.3	UP	17.19
27	17DEC1968	12:02	60.150N	152.820W	N142	82.0	101.0	6.3	N090E	26.43
28	11MAR1970	22:38	57.390N	153.970W	N066	38.0	97.0	6.3	N260E	42.05
29	11MAR1970	22:38	57.390N	153.970W	N066	38.0	97.0	6.3	UP	8.59
30	11MAR1970	22:38	57.390N	153.970W	N066	38.0	97.0	6.3	N350E	-21.24
31	2MAY1971	06:08	51.420N	177.210W	N040	38.0	67.0	6.8	N180E	93.14
32	2MAY1971	06:08	51.420N	177.210W	N040	38.0	67.0	6.8	UP	-62.65
33	2MAY1971	06:08	51.420N	177.210W	N040	38.0	67.0	6.8	N090E	183.65
34	2MAY1971	06:08	51.420N	177.210W	N041	38.0	67.0	6.8	N180E	-114.65
35	2MAY1971	06:08	51.420N	177.210W	N041	38.0	67.0	6.8	UP	63.66
36	2MAY1971	06:08	51.420N	177.210W	N041	38.0	67.0	6.8	N090E	203.67
37	30JUL1972	21:45	56.770N	135.910W	N048	29.0	48.0	7.5	N090E	89.40
38	30JUL1972	21:45	56.770N	135.910W	N048	29.0	48.0	7.5	UP	-51.54
39	30JUL1972	21:45	56.770N	135.910W	N048	29.0	48.0	7.5	N180E	76.50
40	6APR1974	01:53	54.870N	160.290W	N347	37.0	54.0	5.6	N030E	91.62
41	6APR1974	01:53	54.870N	160.290W	N347	37.0	54.0	5.6	UP	51.44
42	6APR1974	01:53	54.870N	160.290W	N347	37.0	54.0	5.6	N120E	75.33
43	6APR1974	03:55	54.900N	160.290W	N346	40.0	50.0	5.8	N030E	117.77
44	6APR1974	03:55	54.900N	160.290W	N346	40.0	50.0	5.8	UP	-48.37
45	6APR1974	03:55	54.900N	160.290W	N346	40.0	50.0	5.8	N120E	-98.30
46	13AUG1974	03:46	51.490N	178.110W	N068	47.0	114.0	6.1	N090E	29.18
47	13AUG1974	03:46	51.490N	178.110W	N068	47.0	114.0	6.1	UP	-16.97
48	13AUG1974	03:46	51.490N	178.110W	N068	47.0	114.0	6.1	N180E	-21.94

Table 3-3 (continued)

INDEX	DATE	TIME	EPIC LAT	EPIC LONG	AZM	DEPTH (km)	DIST (km)	MOM MAG	COMP	PKACC (cm/sec^2)
49	11NOV1974	05:17	51.590N	178.080W	N073	69.0	108.0	6.1	N090E	-45.72
50	11NOV1974	05:17	51.590N	178.080W	N073	69.0	108.0	6.1	UP	-23.95
51	11NOV1974	05:17	51.590N	178.080W	N073	69.0	108.0	6.1	N180E	-30.35
52	1JAN1975	03:55	61.920N	149.720W	N183	58.0	81.0	6.0	N225E	91.98
53	1JAN1975	03:55	61.920N	149.720W	N183	58.0	81.0	6.0	UP	35.76
54	1JAN1975	03:55	61.920N	149.720W	N183	58.0	81.0	6.0	N315E	60.58
55	1JAN1975	03:55	61.920N	149.720W	N186	58.0	82.0	6.0	N270E	-86.98
56	1JAN1975	03:55	61.920N	149.720W	N186	58.0	82.0	6.0	UP	-48.48
57	1JAN1975	03:55	61.920N	149.720W	N186	58.0	82.0	6.0	N000E	-74.77
58	1JAN1975	03:55	61.920N	149.720W	N187	58.0	79.0	6.0	N045E	44.91
59	1JAN1975	03:55	61.920N	149.720W	N187	58.0	79.0	6.0	UP	-19.62
60	1JAN1975	03:55	61.920N	149.720W	N187	58.0	79.0	6.0	N135E	49.15
61	1JAN1975	03:55	61.920N	149.720W	N335	58.0	47.0	6.0	N075E	74.95
62	1JAN1975	03:55	61.920N	149.720W	N335	58.0	47.0	6.0	UP	-87.69
63	1JAN1975	03:55	61.920N	149.720W	N335	58.0	47.0	6.0	N165E	-72.35
64	25JUL1975	10:40	55.040N	160.410W	N353	38.0	34.0	5.6	N030E	-12.79
65	25JUL1975	10:40	55.040N	160.410W	N353	38.0	34.0	5.6	UP	11.75
66	25JUL1975	10:40	55.040N	160.410W	N353	38.0	34.0	5.6	N120E	-9.57
67	22FEB1976	07:21	51.570N	176.810W	N024	61.0	38.0	4.7	N090E	65.70
68	22FEB1976	07:21	51.570N	176.810W	N024	61.0	38.0	4.7	UP	-22.95
69	22FEB1976	07:21	51.570N	176.810W	N024	61.0	38.0	4.7	N180E	-27.69
70	5MAY1978	05:33	63.302N	150.971W	N338.7	134.0	120.4	5.1	N165E	7.32
71	5MAY1978	05:33	63.302N	150.971W	N338.7	134.0	120.4	5.1	N075E	11.72
72	5MAY1978	05:33	63.302N	150.971W	N338.7	134.0	120.4	5.1	UP	10.11

Table 3-3 (continued)

INDEX	DATE	TIME	EPIC LAT	EPIC LONG	AZM	DEPTH (km)	DIST (km)	MOM MAG	COMP	PKACC (cm/sec^2)
73	27JAN1979	18:57	54.790N	160.640W	N009	53.0	62.0	6.2	N197E	7.59
74	27JAN1979	18:57	54.790N	160.640W	N009	53.0	62.0	6.2	UP	8.01
75	27JAN1979	18:57	54.790N	160.640W	N009	53.0	62.0	6.2	N107E	9.18
76	13FEB1979	05:34	55.170N	156.940W	N273	47.0	226.0	6.5	N107E	-41.37
77	13FEB1979	05:34	55.170N	156.940W	N273	47.0	226.0	6.5	UP	9.80
78	13FEB1979	05:34	55.170N	156.940W	N273	47.0	226.0	6.5	N197E	22.42
79	28FEB1979	21:27	60.640N	141.590W	N140	13.0	166.0	7.3	UP	-24.36
80	28FEB1979	21:27	60.640N	141.590W	N140	13.0	166.0	7.3	N279E	-60.81
81	28FEB1979	21:27	60.640N	141.590W	N140	13.0	166.0	7.3	N009E	81.33
82	28FEB1979	21:27	60.640N	141.590W	N182	13.0	75.0	7.3	N180E	-171.41
83	28FEB1979	21:27	60.640N	141.590W	N182	13.0	75.0	7.3	N090E	-96.33
84	28FEB1979	21:27	60.640N	141.590W	N182	13.0	75.0	7.3	UP	62.90
85	28FEB1979	21:27	60.640N	141.590W	N197	13.0	72.0	7.3	N270E	-40.84
86	28FEB1979	21:27	60.640N	141.590W	N197	13.0	72.0	7.3	N000E	62.81
87	28DEC1981	10:28	54.669N	160.407W	N357	33.0	75.0	3.8	N340E	-24.08
88	28DEC1981	10:28	54.669N	160.407W	N357	33.0	75.0	3.8	UP	-5.58
89	28DEC1981	10:28	54.669N	160.407W	N357	33.0	75.0	3.8	N070E	-18.41
90	14FEB1983	03:20	54.736N	158.882W	N303	25.0	123.0	6.3	UP	5.22
91	14FEB1983	03:20	54.736N	158.882W	N303	25.0	123.0	6.3	N250E	7.55
92	14FEB1983	03:20	54.736N	158.882W	N303	25.0	123.0	6.3	N160E	6.72
93	14FEB1983	03:20	54.736N	158.882W	N310	25.0	32.0	6.3	N340E	55.55
94	14FEB1983	03:20	54.736N	158.882W	N310	25.0	32.0	6.3	N070E	29.87
95	14FEB1983	03:20	54.736N	158.882W	N310	25.0	32.0	6.3	UP	-19.97
96	14FEB1983	03:20	54.736N	158.882W	N281	25.0	46.0	6.3	N070E	46.92

Table 3-3 (continued)

INDEX	DATE	TIME	EPIC LAT	EPIC LONG	AZM	DEPTH (km)	DIST (km)	MOM MAG	COMP	PKACC (cm/sec^2)
97	14FEB1983	03:20	54.736N	158.882W	N281	25.0	46.0	6.3	UP	-22.89
98	14FEB1983	03:20	54.736N	158.882W	N281	25.0	46.0	6.3	N340E	40.49
99	14FEB1983	03:20	54.736N	158.882W	N311	25.0	83.0	6.3	N072E	11.94
100	14FEB1983	03:20	54.736N	158.882W	N311	25.0	83.0	6.3	N342E	-24.46
101	14FEB1983	03:20	54.736N	158.882W	N311	25.0	83.0	6.3	UP	-5.72
102	14FEB1983	08:10	54.854N	158.843W	N297	25.0	118.0	6.0	N160E	-3.93
103	14FEB1983	08:10	54.854N	158.843W	N297	25.0	118.0	6.0	N250E	-5.71
104	14FEB1983	08:10	54.854N	158.843W	N297	25.0	118.0	6.0	UP	-2.72
105	14FEB1983	08:10	54.854N	158.843W	N285	25.0	28.0	6.0	N070E	-27.88
106	14FEB1983	08:10	54.854N	158.843W	N285	25.0	28.0	6.0	UP	-15.40
107	14FEB1983	08:10	54.854N	158.843W	N285	25.0	28.0	6.0	N340E	40.53
108	14FEB1983	08:10	54.854N	158.843W	N265	25.0	48.0	6.0	UP	-16.60
109	14FEB1983	08:10	54.854N	158.843W	N265	25.0	48.0	6.0	N340E	20.23
110	14FEB1983	08:10	54.854N	158.843W	N265	25.0	48.0	6.0	N070E	16.69
111	14FEB1983	08:10	54.854N	158.843W	N303	25.0	77.0	6.0	N342E	-13.64
112	14FEB1983	08:10	54.854N	158.843W	N303	25.0	77.0	6.0	N072E	14.78
113	14FEB1983	08:10	54.854N	158.843W	N303	25.0	77.0	6.0	UP	10.79
114	5OCT1984	15:46	51.871N	176.016W	N090.5	68.0	43.2	5.2	N287E	32.90
115	5OCT1984	15:46	51.871N	176.016W	N090.5	68.0	43.2	5.2	N197E	31.79
116	5OCT1984	15:46	51.871N	176.016W	N090.5	68.0	43.2	5.2	UP	14.02
117	19NOV1984	12:07	51.777N	175.272W	N096.1	58.0	95.2	5.7	N287E	36.64
118	19NOV1984	12:07	51.777N	175.272W	N096.1	58.0	95.2	5.7	N197E	-43.02
119	19NOV1984	12:07	51.777N	175.272W	N096.1	58.0	95.2	5.7	UP	14.19
120	21MAY1985	01:13	54.978N	160.360W	N250.0	47.0	19.8	4.3	N340E	38.26

Table 3-3 (continued)

INDEX	DATE	TIME	EPIC LAT	EPIC LONG	AZM	DEPTH (km)	DIST (km)	MOM MAG	COMP	PKACC (cm/sec^2)
121	21MAY1985	01:13	54.978N	160.360W	N250.0	47.0	19.8	4.3	UP	20.46
122	21MAY1985	01:13	54.978N	160.360W	N250.0	47.0	19.8	4.3	N250E	23.39
123	25SEP1985	16:29	54.709N	159.728W	N144.7	28.0	85.9	4.4	N070E	-17.69
124	25SEP1985	16:29	54.709N	159.728W	N144.7	28.0	85.9	4.4	UP	-12.00
125	25SEP1985	16:29	54.709N	159.728W	N144.7	28.0	85.9	4.4	N340E	22.84
126	25SEP1985	16:29	54.709N	159.728W	N216.0	28.0	15.3	4.4	N343E	-14.70
127	25SEP1985	16:29	54.709N	159.728W	N216.0	28.0	15.3	4.4	UP	6.82
128	25SEP1985	16:29	54.709N	159.728W	N216.0	28.0	15.3	4.4	N073E	-8.19
129	9OCT1985	09:34	54.736N	159.469W	N172.5	15.0	47.7	6.5	N065E	-34.39
130	9OCT1985	09:34	54.736N	159.469W	N172.5	15.0	47.7	6.5	UP	-39.87
131	9OCT1985	09:34	54.736N	159.469W	N172.5	15.0	47.7	6.5	N345E	49.04
132	9OCT1985	14:16	54.812N	159.466W	N096.7	20.0	7.9	4.5	N073E	5.07
133	9OCT1985	14:16	54.812N	159.466W	N096.7	20.0	7.9	4.5	UP	6.50
134	9OCT1985	14:16	54.812N	159.466W	N096.7	20.0	7.9	4.5	N343E	-8.78
135	14NOV1985	22:18	54.684N	159.549W	N170.5	19.0	15.4	5.8	N343E	-25.04
136	14NOV1985	22:18	54.684N	159.549W	N170.5	19.0	15.4	5.8	UP	-16.91
137	14NOV1985	22:18	54.684N	159.549W	N170.5	19.0	15.4	5.8	N073E	21.59
138	28DEC1985	04:39	51.629N	177.166W	N233.0	52.0	45.5	5.2	N287E	40.82
139	28DEC1985	04:39	51.629N	177.166W	N233.0	52.0	45.5	5.2	UP	22.74
140	28DEC1985	04:39	51.629N	177.166W	N233.0	52.0	45.5	5.2	N197E	-48.85
141	30DEC1985	12:41	61.541N	150.340W	N323.9	62.0	48.8	5.6	N270E	77.41
142	30DEC1985	12:41	61.541N	150.340W	N323.9	62.0	48.8	5.6	UP	16.73
143	30DEC1985	12:41	61.541N	150.340W	N323.9	62.0	48.8	5.6	N360E	71.53
144	2MAR1986	20:42	51.348N	176.715W	N184.9	33.0	59.0	5	N197E	-25.37

Table 3-3 (continued)

INDEX	DATE	TIME	EPIC LAT	EPIC LONG	AZM	DEPTH (km)	DIST (km)	MOM MAG	COMP	PKACC (cm/sec^2)
145	2MAR1986	20:42	51.348N	176.715W	N184.9	33.0	59.0	5	UP	-13.42
146	2MAR1986	20:42	51.348N	176.715W	N184.9	33.0	59.0	5	N287E	22.75
147	7MAY1986	22:47	51.520N	174.776W	N106.3	33.0	135.1	7.9	N197E	223.18
148	7MAY1986	22:47	51.520N	174.776W	N106.3	33.0	135.1	7.9	UP	100.32
149	7MAY1986	22:47	51.520N	174.776W	N106.3	33.0	135.1	7.9	N287E	-172.74
150	2MAY1987	19:22	54.800N	159.885W	N207.1	28.0	45.1	5.3	N345E	-25.08
151	2MAY1987	19:22	54.800N	159.885W	N207.1	28.0	45.1	5.3	UP	15.65
152	2MAY1987	19:22	54.800N	159.885W	N207.1	28.0	45.1	5.3	N075E	-28.61
153	2MAY1987	19:22	54.800N	159.885W	N156.0	28.0	29.2	5.3	UP	15.27
154	2MAY1987	19:22	54.800N	159.885W	N156.0	28.0	29.2	5.3	N267E	-35.11
155	2MAY1987	19:22	54.800N	159.885W	N156.0	28.0	29.2	5.3	N357E	-21.35
156	2MAY1987	19:22	54.800N	159.885W	N263.4	28.0	19.2	5.3	N343E	-26.01
157	2MAY1987	19:22	54.800N	159.885W	N263.4	28.0	19.2	5.3	UP	-22.27
158	2MAY1987	19:22	54.800N	159.885W	N263.4	28.0	19.2	5.3	N073E	54.30
159	2JUN1989	15:57	55.145N	160.592W	N195.6	58.0	22.6	--	N000E	--
160	2JUN1989	15:57	55.145N	160.592W	N195.6	58.0	22.6	--	UP	--
161	2JUN1989	15:57	55.145N	160.592W	N195.6	58.0	22.6	--	N090E	--
162	4SEP1989	13:14	55.543N	156.835W	N082.9	11.0	233.1	--	N000E	--
163	4SEP1989	13:14	55.543N	156.835W	N082.9	11.0	233.1	--	UP	--
164	4SEP1989	13:14	55.543N	156.835W	N082.9	11.0	233.1	--	N090E	--
165	21OCT1989	19:24	55.107N	160.107W	N136.1	10.4	35.9	--	N000E	--
166	21OCT1989	19:24	55.107N	160.107W	N136.1	10.4	35.9	--	UP	--
167	21OCT1989	19:24	55.107N	160.107W	N136.1	10.4	35.9	--	N090E	--

Table 3-3 (continued)

INDEX	SITE #	INSTR TYPE	INSTR PERIOD	INSTR DAMP
1	2101	SFSS	0.0790	0.5920
2	2101	SFSS	0.0800	0.5740
3	2101	SFSS	0.0770	0.5740
4	2170	SFSS	0.0800	0.5280
5	2170	SFSS	0.0820	0.5520
6	2170	SFSS	0.0810	0.5740
7	2706	AR-240	0.0510	0.5900
8	2706	AR-240	0.0510	0.6100
9	2706	AR-240	0.0510	0.5900
10	2710	AR-240	0.0520	0.6100
11	2710	AR-240	0.0520	0.5900
12	2710	AR-240	0.0520	0.6100
13	2101	SFSS	0.0800	0.5740
14	2101	SFSS	0.0800	0.5920
15	2101	SFSS	0.0810	0.5520
16	2710	AR-240	0.0512	0.4000
17	2710	AR-240	0.0495	0.5700
18	2710	AR-240	0.0505	0.5900
19	2710	AR-240	0.0517	0.4300
20	2710	AR-240	0.0516	0.6300
21	2710	AR-240	0.0512	0.6400
22	2713	AR-240	0.0585	0.5000
23	2713	AR-240	0.0585	0.5900
24	2713	AR-240	0.0565	0.5600

INDEX	SITE #	INSTR TYPE	INSTR PERIOD	INSTR DAMP
25	2719	AR-240	0.0626	0.5700
26	2719	AR-240	0.0631	0.5500
27	2719	AR-240	0.0523	0.5800
28	2739	AR-240	0.0525	0.5800
29	2739	AR-240	0.0542	0.5900
30	2739	AR-240	0.0519	0.5800
31	2701	AR-240	0.0550	0.5900
32	2701	AR-240	0.0510	0.5900
33	2701	AR-240	0.0550	0.5900
34	2701	AR-240	0.0550	0.5900
35	2701	AR-240	0.0510	0.5900
36	2701	AR-240	0.0550	0.5900
37	2714	AR-240	0.0490	0.5700
38	2714	AR-240	0.0570	0.6100
39	2714	AR-240	0.0520	0.5900
40	2744	SMA-1	0.0377	0.6000
41	2744	SMA-1	0.0380	0.6000
42	2744	SMA-1	0.0379	0.6000
43	2744	SMA-1	0.0377	0.6000
44	2744	SMA-1	0.0380	0.6000
45	2744	SMA-1	0.0379	0.6000
46	2701	AR-240	0.0550	0.5900
47	2701	AR-240	0.0510	0.5900
48	2701	AR-240	0.0550	0.5900

Table 3-3 (continued)

INDEX	SITE #	INSTR TYPE	INSTR PERIOD	INSTR DAMP
49	2701	AR-240	0.0550	0.5900
50	2701	AR-240	0.0510	0.5900
51	2701	AR-240	0.0550	0.5900
52	2702	AR-240	0.0530	0.5900
53	2702	AR-240	0.0560	0.5900
54	2702	AR-240	0.0520	0.5900
55	2703	AR-240	0.0590	0.6200
56	2703	AR-240	0.0510	0.5900
57	2703	AR-240	0.0580	0.6200
58	2716	SMA-1	0.0380	0.5700
59	2716	SMA-1	0.0370	0.5300
60	2716	SMA-1	0.0380	0.5500
61	2727	SMA-1	0.0400	0.5900
62	2727	SMA-1	0.0390	0.5900
63	2727	SMA-1	0.0400	0.5900
64	2744	SMA-1	0.0377	0.6000
65	2744	SMA-1	0.0380	0.6000
66	2744	SMA-1	0.0379	0.6000
67	2701	AR-240	0.0550	0.5900
68	2701	AR-240	0.0510	0.5900
69	2701	AR-240	0.0550	0.5900
70	2727	SMA-1	0.0400	0.5900
71	2727	SMA-1	0.0400	0.5900
72	2727	SMA-1	0.0390	0.5900

INDEX	SITE #	INSTR TYPE	INSTR PERIOD	INSTR DAMP
73	2744	SMA-1	0.0379	0.6000
74	2744	SMA-1	0.0380	0.6000
75	2744	SMA-1	0.0377	0.6000
76	2744	SMA-1	0.0377	0.6000
77	2744	SMA-1	0.0380	0.6000
78	2744	SMA-1	0.0379	0.6000
79	2728	SMA-1	0.0390	0.6000
80	2728	SMA-1	0.0380	0.5900
81	2728	SMA-1	0.0380	0.5900
82	2734	SMA-1	0.0370	0.6100
83	2734	SMA-1	0.0380	0.6100
84	2734	SMA-1	0.0370	0.5700
85	2765	SMA-1	0.0769	0.6000
86	2765	SMA-1	0.0781	0.6000
87	2744	SMA-1	0.0578	0.6000
88	2744	SMA-1	0.0562	0.6000
89	2744	SMA-1	0.0581	0.6000
90	2744	FBA-3	0.0199	0.6600
91	2744	FBA-3	0.0199	0.6500
92	2744	FBA-3	0.0193	0.6300
93	2764	SMA-1	0.0400	0.6000
94	2764	SMA-1	0.0400	0.6000
95	2764	SMA-1	0.0380	0.6000
96	2776	SMA-1	0.0390	0.6000

Table 3-3 (continued)

INDEX	SITE #	INSTR TYPE	INSTR PERIOD	INSTR DAMP
97	2776	SMA-1	0.0390	0.6000
98	2776	SMA-1	0.0360	0.6000
99	2789	SMA-1	0.0540	0.6000
100	2789	SMA-1	0.0560	0.6000
101	2789	SMA-1	0.0510	0.6000
102	2744	FBA-3	0.0193	0.6300
103	2744	FBA-3	0.0199	0.6500
104	2744	FBA-3	0.0199	0.6600
105	2764	SMA-1	0.0400	0.6000
106	2764	SMA-1	0.0380	0.6000
107	2764	SMA-1	0.0400	0.6000
108	2776	SMA-1	0.0390	0.6000
109	2776	SMA-1	0.0360	0.6000
110	2776	SMA-1	0.0390	0.6000
111	2789	SMA-1	0.0560	0.6000
112	2789	SMA-1	0.0540	0.6000
113	2789	SMA-1	0.0510	0.6000
114	2701	AR-240	0.0196	0.6200
115	2701	AR-240	0.0196	0.6750
116	2701	AR-240	0.0194	0.6400
117	2701	AR-240	0.0196	0.6200
118	2701	AR-240	0.0196	0.6750
119	2701	AR-240	0.0194	0.6400
120	2774	--	0.0396	0.6100

INDEX	SITE #	INSTR TYPE	INSTR PERIOD	INSTR DAMP
121	2774	--	0.0383	0.6000
122	2774	--	0.0388	0.6200
123	2744	SMA-1	0.0370	0.5500
124	2744	SMA-1	0.0357	0.5300
125	2744	SMA-1	0.0397	0.5700
126	2776	SMA-1	0.0529	0.5900
127	2776	SMA-1	0.0514	0.5700
128	2776	SMA-1	0.0543	0.6100
129	2773	--	0.0401	0.6150
130	2773	--	0.0373	0.6150
131	2773	--	0.0386	0.6500
132	2776	SMA-1	0.0543	0.6100
133	2776	SMA-1	0.0514	0.5700
134	2776	SMA-1	0.0529	0.5900
135	2776	SMA-1	0.0524	0.5800
136	2776	SMA-1	0.0513	0.5600
137	2776	SMA-1	0.0541	0.5900
138	2701	AR-240	0.0196	0.6200
139	2701	AR-240	0.0194	0.6400
140	2701	AR-240	0.0196	0.6750
141	2702	--	0.0390	0.5900
142	2702	--	0.0390	0.6000
143	2702	--	0.0370	0.5800
144	2701	AR-240	0.0196	0.6750

Table 3-3 (continued)

INDEX	SITE #	INSTR TYPE	INSTR PERIOD	INSTR DAMP
145	2701	AR-240	0.0194	0.6400
146	2701	AR-240	0.0196	0.6200
147	2701	AR-240	0.0196	0.6750
148	2701	AR-240	0.0194	0.6400
149	2701	AR-240	0.0196	0.6200
150	2773	--	0.0398	0.6350
151	2773	--	0.0357	0.5800
152	2773	--	0.0369	0.6200
153	2774	--	0.0391	0.5600
154	2774	--	0.0405	0.5850
155	2774	--	0.0389	0.5600
156	2776	SMA-1	0.0515	0.5400
157	2776	SMA-1	0.0552	0.5450
158	2776	SMA-1	0.0600	0.2400
159	2744	--	--	--
160	2744	--	--	--
161	2744	--	--	--
162	2744	--	--	--
163	2744	--	--	--
164	2744	--	--	--
165	2744	--	--	--
166	2744	--	--	--
167	2744	--	--	--

CHAPTER 4

RESPONSE SPECTRA

Stress waves generated by earthquakes impose loading on man–made structures located in their propagation path. Structural vibration associated with this loading generate seismic forces in structural members that have to be safely resisted. The severity of these structural vibrations (structure response) depends to a large extent on the characteristics of associated earthquake motions and the dynamic characteristics of the corresponding structure. Some of the important characteristics of earthquake motion include its peak values (such as peak acceleration, peak velocity, and peak displacement) and its frequency content. one of the measures of earthquake motion frequency content are spectrum shapes [Blume, Sharp, and Dalal, 1973]. One of the objectives of this study is the development of response spectra from Alaska earthquakes and the determination of "Standardized" Response Spectra. The developed response spectra from both the horizontal and vertical acceleration records are presented in this chapter. Standardized spectra are presented in the following chapter. A brief discussion of the procedure followed in computing a response spectrum from a given earthquake input motion is given below.

I– COMPUTATION OF RESPONSE SPECTRA [Blume, Sharp, and Dalal, 1973]

A response spectrum is a graphical relationship involving the maximum response of an elastic single degree of freedom system with varying stiffness and damping characteristics to a given input excitation. The graphical relationship is

represented by a plot of maximum response versus frequency or period.

A single degree of freedom system is a system involving a mass, a dashpot, and a stiffness. The spring is linearly–elastic with stiffness k and the dashpot has a damping coefficient c. The equation of motion of this system is:

$$m\ddot{x} + c\dot{x} + kx = -m\ddot{x}_g(t) \tag{1}$$

where: m is the mass, x is the displacement relative to ground, $\ddot{x}_g(t)$ is the ground motion acceleration, c is the damping constant, k is the spring constant and a superposed dot indicates differentiation with respect to time. Equation 1 could be rewritten as:

$$\ddot{x} + 2\xi\omega\dot{x} + \omega^2 x = -\ddot{x}_g(t) \tag{2}$$

in which $\omega = \sqrt{(k/m)}$ is the circular natural frequency in radians per second and $\xi = (c/2m\omega)$ is the damping ratio. The solution of Equation 2 is given by:

$$x(t) = -\int_0^t h(t-\tau)\ddot{x}_g(\tau)d\tau \tag{3}$$

in which:

$h(t-\tau)$ = impulse response function = $\exp[-\xi\omega(t-\tau)]\sin[\overline{\omega}(t-\tau)]/(\overline{\omega})$

$\overline{\omega}$ = damped circular frequency = $\omega(\sqrt{(1-\xi^2)})$; For small values of damping $\overline{\omega} = \omega$.

The force in the spring at any instant of time t is given by:

$$F(t) = kx(t) = m\omega^2 x(t) \tag{4}$$

in which the term $\ddot{z}_p = \omega^2 x(t)$ has the units of acceleration and is termed pseudo–absolute acceleration. Note that from Equation 2, $\ddot{x} + \ddot{x}_g(t)$ = absolute acceleration = $-(\omega^2 x + 2\xi\omega\dot{x})$, hence the term pseudo absolute acceleration (the magnitude of $\ddot{z}_p$ differs from that of the real absolute acceleration by the quantity, $2\xi\omega\dot{x}$). Similarly, pseudo relative velocity is defined by $\dot{x}_p = \ddot{z}_p/\omega$. Therefore, for the case where damping is small ($\bar{\omega} = \omega$), $\ddot{z}_p(t) = \omega\dot{x}_p(t) = \omega^2 x(t)$.

By using the definition of a response spectra, the pseudo absolute acceleration response spectrum, S_a, is given by:

$$S_a(T_n,\xi,\ddot{x}_g(t)) = \max \|\ddot{z}_p(T_n,\xi,\ddot{x}_g(t)\|$$

in which T_n = natural period = $2\pi/\omega$, and $\|\ \ \|$ represents absolute value.

For a rigid system in which $T_n = 0$, $S_a(0,\xi,\ddot{x}_g(t)) = \max \|\ddot{x}_g(t)\| = a_{peak}$, where a_{peak} is peak ground acceleration. This makes it convenient to normalize the ground motion, $\ddot{x}_g(t)$, by a_{peak} and use the normalized motion to calculate a normalized response spectra. Ordinates of this normalized spectrum will therefore be a dimensionless ratio of the pseudo absolute acceleration spectrum value to

a_{peak} and is termed dynamic amplification factor for pseudo absolute acceleration. The value of this dynamic amplification factor at $T_n = 0$ is $S_a(0,\xi,\ddot{x}_g(t))/a_{peak} = 1$.

II– RESPONSE SPECTRA FROM ALASKA EARTHQUAKES

For the purposes of this study, response spectra associated with Alaska earthquakes (acceleration time histories of Appendix A) were developed for damping ratios of 0.0, 0.02, 0.05, 0.1, 0.2 using BAP. Plots of these spectra are shown in Appendix B.

CHAPTER 5

STATISTICAL ANALYSIS OF ALASKA RESPONSE SPECTRA AND COMPARISON TO SPECTRA FROM OTHER EARTHQUAKES

Recent evidence indicates that characteristics of response spectra derived from earthquake ground shaking at a given site depend on the characteristics of soil deposits underlying this site, earthquake source mechanism, earthquake magnitude, distance between earthquake source and site, and characteristics of travel path between source and site. Ideally, earthquake records should be grouped such that one of these parameters is varied while holding all other parameters constant so as to study the influence of this parameter on response spectra independently. However, lack of availability of enough earthquake records would prohibit such analysis.

In this study, records of Alaska earthquakes that triggered before the arrival of S–waves were identified. These records were grouped into four groups; a statistical analysis was conducted on each of these groups; and results of these analyses are compared to those from similar analyses based on Japan and California earthquakes. All records of horizontal acceleration were included in the first group while the second group included all records of vertical accelerations. The third group included all records of horizontal accelerations with peak accelerations larger than 0.1g, and the fourth group included all records of vertical accelerations with peak accelerations larger than 0.05g. A list of records included in each of the different groups is given in Tables 5–1 through 5–4. It is noted that due to the lack of availability of enough records, it was deemed impractical to group records

according to characteristics of recording sites.

I– STATISTICAL ANALYSES

The performed statistical analyses involved computation of statistics such as mean, standard deviation, and 85th percentile. The procedure followed in each of these analyses include the following steps:

1– Ground acceleration records are normalized with respect to their respective peak accelerations.

2– Normalized response spectra associated with each of these normalized acceleration records are computed.

3– Mean, standard deviation, and 85th percentile response spectra associated with each of the four groups are computed. Procedure used in the computation of these spectra is as follows [Blume et al., 1973]:

Let $S_i(T_j,\xi)$ be the spectral ordinate associated with the i^{th} normalized spectra for the period T_j and damping ξ. Let $SM(T_j,\xi)$ be the mean, $SD(T_j,\xi)$ be the standard deviation, and $S85(T_j,\xi)$ be the 85th percentile for the period T_j and damping ratio ξ. For a number of records, n, involved in an analysis:

$$SM(T_j,\xi) = \left(\sum_{i=1}^{n} (S_i(T_j,\xi))/n\right)$$

$$SD(T_j,\xi) = \left\{\sum_{i=1}^{n} [S_i(T_j,\xi) - SM(T_j,\xi)]^2/(n-1)\right\}^{0.5}$$

$$S85(T_j,\xi) = SM(T_j,\xi) + C^*SD(T_j,\xi)$$

in which the values of C are given in Table 5–5 (normal distribution).

Note that the mean indicates the central tendency of the sample, the standard deviation measures uncertainty associated with the sample, and the 85th percentile value means that 85% of the numbers in the sample fall at or below that value.

The mean, standard deviation, and 85th percentile normalized response spectra (pseudo acceleration and pseudo velocity) for the four groups are shown in Figures 5–1 through 5–24. These plots are given in terms of normalized pseudo velocity vs period as well as in terms of normalized pseudo acceleration (dynamic amplification factor: spectral acceleration divided by peak ground acceleration) vs period.

Figure 5–1 shows a plot of the average response spectrum for the analysis involving all horizontal component records (group 1), while Figure 5–7 shows the corresponding plot for the analysis involving all horizontal records with peak ground accelerations larger than 0.1g (group 3). Standard deviations associated with these analyses are shown in Figures 5–2 and 5–8 and the corresponding 85% acceleration response spectra are shown in Figures 5–3 and 5–9.

Figure 5–4 shows a plot of the average response spectrum for the analysis involving all vertical component records (group 2), while Figure 5–10 shows the corresponding plot for the analysis involving all vertical records with peak ground accelerations larger than 0.05g (group 4). Standard deviations associated with these analyses are shown in Figures 5–5 and 5–11 and the corresponding 85% acceleration response spectra are shown in Figures 5–6 and 5–12.

Figures 13 through 24 are plots of velocity response spectra corresponding to

Figures 1 through 12.

Response spectra associated with groups 1 and 2 (Figures 1 through 6 and 13 through 18) are smoother than those associated with groups 3 and 4 (Figure 5–7 through 5–12 and Figures 5–19 through 5–24). Also, the values of standard deviations (in regions of high amplification) associated with groups 3 and 4 are larger than those associated with groups 1 and 2. This is partly attributed to the small number of available records associated with groups 3 and 4. the usefulness of the normalized spectra associated with groups 3 and 4 is therefore limited.

The values of standard deviations associated with groups 1 and 2 (in regions of high amplification) are large (see Figures 2 and 8). This could be partially attributed to using earthquake records generated by earthquakes of different magnitudes and measured at various distances from the source using instruments located on different types of soil deposits (all of these parameters have an influence on response spectra as indicated earlier). Also, the majority of the acceleration records used in computing the standardized response spectra associated with these groups (Figures 1, 3, 7, and 9) have small amplitudes, and therefore these spectra should be considered preliminary.

II– COMPARISON TO SPECTRA FROM OTHER EARTHQUAKES

In the following, the standard response spectra associated with group 1 (all horizontal records) are compared to those obtained from Japan and California earthquakes. The average normalized spectra that are based on Japan and California earthquakes (Figure 25) were obtained from a study done by Seed et. al.

that appeared in the Bulletin of the Seismological Society of America [Seed et al., 1976]. These Spectra were derived for different site conditions that varied from rock to soft clays and loose sands. It is to be noted that that the average standardized response spectra derive from Alaska earthquakes did not include such consideration of site conditions due to the lack of availability of enough records as indicated earlier and therefore this comparison is only subjective in nature. The average spectra from Japan and California earthquakes were derived using 5 % damping and therefore they will be compared to the 5 % damping spectrum of Figure 5–1.

The maximum mean amplification associated with Alaska earthquakes as observed in Figure 5–1 (about 2.2) is smaller than the maximum mean amplification associated with Japan earthquakes as seen in Figure 5–25a (varies between 3.3 for very dense and stiff soils and 2.6 for very loose soils). The period range over which amplifications larger than 1 are observed in Figure 5–1 is larger than the corresponding range for group A (very dense and stiff soils) sites of Figure 5–25a but smaller than that for groups B (intermediate group) and C (very loose soil) sites. Similarly, the maximum mean amplification associated with spectra from Alaska earthquakes (Figure 5–1) is less than or equal (varies between 2.2 for soft clay to 2.9 for stiff soil) to that associated with California earthquakes (Figure 5–35b). The range over which amplifications larger than 1 for the Alaska mean spectra of Figure 5–1 is larger than that associated with California rock sites of Figure 5–25b but smaller than that associate with other sites.

It is therefore concluded that as far as amplification is concerned, spectra based on Japanese and California earthquakes are more conservative than those associated with Alaska earthquakes. However, this conclusion should be considered

preliminary because of the limited number of records used in the analyses conduced as part of this study, the large proportion of small amplitude acceleration records among the used ones, and the inability to account for site effects on response spectra. It is therefore important to redo the analysis presented in this report in the future as more significant records of Alaska earthquakes recorded on different site conditions become available.

Table 5-1 Earthquake Information and Recording Station Information (Horizontal Acceleration used in Statistical Analysis)

INDEX	DATE	TIME	EPIC LAT	EPIC LONG	AZM	DEPTH (km)	DIST (km)	MAG	COMP	PKACC (cm/sec^2)
1	2MAY1971	06:08	51.420N	177.210W	N041	38.0	67.0	6.8	N090E	203.67
2	2MAY1971	06:08	51.420N	177.210W	N041	38.0	67.0	6.8	N180E	-114.65
3	28DEC1985	04:39	51.629N	177.166W	N233.0	52.0	45.5	5.2	N197E	-48.85
4	28DEC1985	04:39	51.629N	177.166W	N233.0	52.0	45.5	5.2	N287E	40.82
5	7MAY1986	22:47	51.520N	174.776W	N106.3	33.0	135.1	7.9	N197E	223.18
6	7MAY1986	22:47	51.520N	174.776W	N106.3	33.0	135.1	7.9	N287E	-172.74
7	30DEC1985	12:41	61.541N	150.340W	N323.9	62.0	48.8	5.6	N270E	77.41
8	30DEC1985	12:41	61.541N	150.340W	N323.9	62.0	48.8	5.6	N360E	71.53
9	5JUN1964	09:50	60.350N	145.870W	N017	16.0	22.0	5.2	N196E	34.18
10	5JUN1964	09:50	60.350N	145.870W	N017	16.0	22.0	5.2	N286E	-29.95
11	5JUN1964	22:06	58.140N	152.180W	N203	13.0	47.0	5.0	N180E	-20.39
12	5JUN1964	22:06	58.140N	152.180W	N203	13.0	47.0	5.0	N270E	-28.88
13	30JUL1972	21:45	56.770N	135.910W	N048	29.0	48.0	7.5	N090E	89.40
14	30JUL1972	21:45	56.770N	135.910W	N048	29.0	48.0	7.5	N180E	76.50
15	1JAN1975	03:55	61.920N	149.720W	N187	58.0	79.0	6.0	N045E	44.91
16	1JAN1975	03:55	61.920N	149.720W	N187	58.0	79.0	6.0	N135E	49.15
17	17DEC1968	12:02	60.150N	152.820W	N142	82.0	101.0	6.3	N000E	-40.52
18	17DEC1968	12:02	60.150N	152.820W	N142	82.0	101.0	6.3	N090E	26.43
19	1JAN1975	03:55	61.920N	149.720W	N335	58.0	47.0	6.0	N075E	74.95
20	1JAN1975	03:55	61.920N	149.720W	N335	58.0	47.0	6.0	N165E	-72.35
21	28FEB1979	21:27	60.640N	141.590W	N140	13.0	166.0	7.3	N009E	81.33
22	28FEB1979	21:27	60.640N	141.590W	N140	13.0	166.0	7.3	N279E	-60.81
23	28FEB1979	21:27	60.640N	141.590W	N182	13.0	75.0	7.3	N090E	-96.33
24	28FEB1979	21:27	60.640N	141.590W	N182	13.0	75.0	7.3	N180E	-171.41

Table 5-1 (continued)

INDEX	DATE	TIME	EPIC LAT	EPIC LONG	AZM	DEPTH (km)	DIST (km)	MAG	COMP	PKACC (cm/sec^2)
25	6APR1974	01:53	54.870N	160.290W	N347	37.0	54.0	5.6	N030E	91.62
26	6APR1974	01:53	54.870N	160.290W	N347	37.0	54.0	5.6	N120E	75.33
27	6APR1974	03:55	54.900N	160.290W	N346	40.0	50.0	5.8	N030E	117.77
28	6APR1974	03:55	54.900N	160.290W	N346	40.0	50.0	5.8	N120E	-98.30
29	14FEB1983	03:20	54.736N	158.882W	N310	25.0	32.0	6.3	N070E	29.87
30	14FEB1983	03:20	54.736N	158.882W	N310	25.0	32.0	6.3	N340E	55.55
31	14FEB1983	08:10	54.854N	158.843W	N285	25.0	28.0	6.0	N070E	-27.88
32	14FEB1983	08:10	54.854N	158.843W	N285	25.0	28.0	6.0	N340E	40.53
33	28FEB1979	21:27	60.640N	141.590W	N197	13.0	72.0	7.3	N000E	62.81
34	28FEB1979	21:27	60.640N	141.590W	N197	13.0	72.0	7.3	N270E	-40.84
35	9OCT1985	09:34	54.736N	159.469W	N172.5	15.0	47.7	6.5	N065E	-34.39
36	9OCT1985	09:34	54.736N	159.469W	N172.5	15.0	47.7	6.5	N345E	49.04
37	2MAY1987	19:22	54.800N	159.885W	N207.1	28.0	45.1	5.3	N075E	-28.61
38	2MAY1987	19:22	54.800N	159.885W	N207.1	28.0	45.1	5.3	N345E	-25.08
39	21MAY1985	01:13	54.978N	160.360W	N250.0	47.0	19.8	4.3	N250E	23.39
40	21MAY1985	01:13	54.978N	160.360W	N250.0	47.0	19.8	4.3	N340E	38.26
41	2MAY1987	19:22	54.800N	159.885W	N156.0	28.0	29.2	5.3	N267E	-35.11
42	2MAY1987	19:22	54.800N	159.885W	N156.0	28.0	29.2	5.3	N357E	-21.35
43	14FEB1983	03:20	54.736N	158.882W	N281	25.0	46.0	6.3	N070E	46.92
44	14FEB1983	03:20	54.736N	158.882W	N281	25.0	46.0	6.3	N340E	40.49
45	14NOV1985	22:18	54.684N	159.549W	N170.5	19.0	15.4	5.8	N073E	21.59
46	14NOV1985	22:18	54.684N	159.549W	N170.5	19.0	15.4	5.8	N343E	-25.04

Table 5-1 (continued)

INDEX	SITE #	INSTR TYPE	INSTR PERIOD	INSTR DAMP
1	2701	AR-240	0.0550	0.5900
2	2701	AR-240	0.0550	0.5900
3	2701	AR-240	0.0196	0.6750
4	2701	AR-240	0.0196	0.6200
5	2701	AR-240	0.0196	0.6750
6	2701	AR-240	0.0196	0.6200
7	2702	--	0.0390	0.5900
8	2702	--	0.0370	0.5800
9	2706	AR-240	0.0510	0.5900
10	2706	AR-240	0.0510	0.5900
11	2710	AR-240	0.0520	0.6100
12	2710	AR-240	0.0520	0.6100
13	2714	AR-240	0.0490	0.5700
14	2714	AR-240	0.0520	0.5900
15	2716	SMA-1	0.0380	0.5700
16	2716	SMA-1	0.0380	0.5500
17	2719	AR-240	0.0626	0.5700
18	2719	AR-240	0.0523	0.5800
19	2727	SMA-1	0.0400	0.5900
20	2727	SMA-1	0.0400	0.5900
21	2728	SMA-1	0.0380	0.5900
22	2728	SMA-1	0.0380	0.5900
23	2734	SMA-1	0.0380	0.6100
24	2734	SMA-1	0.0370	0.6100
25	2744	SMA-1	0.0377	0.6000
26	2744	SMA-1	0.0379	0.6000
27	2744	SMA-1	0.0377	0.6000
28	2744	SMA-1	0.0379	0.6000
29	2764	SMA-1	0.0400	0.6000
30	2764	SMA-1	0.0400	0.6000
31	2764	SMA-1	0.0400	0.6000
32	2764	SMA-1	0.0400	0.6000
33	2765	SMA-1	0.0781	0.6000
34	2765	SMA-1	0.0769	0.6000
35	2773	--	0.0401	0.6150
36	2773	--	0.0386	0.6500
37	2773	--	0.0369	0.6200
38	2773	--	0.0398	0.6350
39	2774	--	0.0388	0.6200
40	2774	--	0.0396	0.6100
41	2774	--	0.0405	0.5850
42	2774	--	0.0389	0.5600
43	2776	SMA-1	0.0390	0.6000
44	2776	SMA-1	0.0360	0.6000
45	2776	SMA-1	0.0541	0.5900
46	2776	SMA-1	0.0524	0.5800

Table 5-2 Earthquake Information and Recording Station Information (Vertical Acceleration used in Statistical Analysis)

INDEX	DATE	TIME	EPIC LAT	EPIC LONG	AZM	DEPTH (km)	DIST (km)	MAG	COMP	PKACC (cm/sec^2)
1	2MAY1971	06:08	51.420N	177.210W	N041	38.0	67.0	6.8	UP	63.66
2	28DEC1985	04:39	51.629N	177.166W	N233.0	52.0	45.5	5.2	UP	22.74
3	7MAY1986	22:47	51.520N	174.776W	N106.3	33.0	135.1	7.9	UP	100.32
4	30DEC1985	12:41	61.541N	150.340W	N323.9	62.0	48.8	5.6	UP	16.73
5	5JUN1964	09:50	60.350N	145.870W	N017	16.0	22.0	5.2	UP	-11.55
6	5JUN1964	22:06	58.140N	152.180W	N203	13.0	47.0	5.0	UP	-13.84
7	30JUL1972	21:45	56.770N	135.910W	N048	29.0	48.0	7.5	UP	-51.54
8	1JAN1975	03:55	61.920N	149.720W	N187	58.0	79.0	6.0	UP	-19.62
9	17DEC1968	12:02	60.150N	152.820W	N142	82.0	101.0	6.3	UP	17.19
10	1JAN1975	03:55	61.920N	149.720W	N335	58.0	47.0	6.0	UP	-87.69
11	28FEB1979	21:27	60.640N	141.590W	N140	13.0	166.0	7.3	UP	-24.36
12	28FEB1979	21:27	60.640N	141.590W	N182	13.0	75.0	7.3	UP	62.90
13	6APR1974	01:53	54.870N	160.290W	N347	37.0	54.0	5.6	UP	51.44
14	6APR1974	03:55	54.900N	160.290W	N346	40.0	50.0	5.8	UP	-48.37
15	14FEB1983	03:20	54.736N	158.882W	N310	25.0	32.0	6.3	UP	-19.97
16	14FEB1983	08:10	54.854N	158.843W	N285	25.0	28.0	6.0	UP	-15.40
17	9OCT1985	09:34	54.736N	159.469W	N172.5	15.0	47.7	6.5	UP	-39.87
18	2MAY1987	19:22	54.800N	159.885W	N207.1	28.0	45.1	5.3	UP	15.65
19	21MAY198	01:13	54.978N	160.360W	N250.0	47.0	19.8	4.3	UP	20.46
20	2MAY1987	19:22	54.800N	159.885W	N156.0	28.0	29.2	5.3	UP	15.27
21	14FEB1983	03:20	54.736N	158.882W	N281	25.0	46.0	6.3	UP	-22.89
22	14NOV198	22:18	54.684N	159.549W	N170.5	19.0	15.4	5.8	UP	-16.91

Table 5-2 (continued)

INDE	SITE #	INSTR TYPE	INSTR PERIOD	INSTR DAMP
1	2701	AR-240	0.0510	0.5900
2	2701	AR-240	0.0194	0.6400
3	2701	AR-240	0.0194	0.6400
4	2702	--	0.0390	0.6000
5	2706	AR-240	0.0510	0.6100
6	2710	AR-240	0.0520	0.5900
7	2714	AR-240	0.0570	0.6100
8	2716	SMA-1	0.0370	0.5300
9	2719	AR-240	0.0631	0.5500
10	2727	SMA-1	0.0390	0.5900
11	2728	SMA-1	0.0390	0.6000
12	2734	SMA-1	0.0370	0.5700
13	2744	SMA-1	0.0380	0.6000
14	2744	SMA-1	0.0380	0.6000
15	2764	SMA-1	0.0380	0.6000
16	2764	SMA-1	0.0380	0.6000
17	2773	--	0.0373	0.6150
18	2773	--	0.0357	0.5800
19	2774	--	0.0383	0.6000
20	2774	--	0.0391	0.5600
21	2776	SMA-1	0.0390	0.6000
22	2776	SMA-1	0.0513	0.5600

Table 5-3 Earthquake Information and Recording Station Information (Horizontal Acceleration with pkacc > 0.1g used in Statistical Analysis)

INDEX	SITE #	INSTR TYPE	INSTR PERIOD	INSTR DAMP
1	2701	AR-240	0.0550	0.5900
2	2701	AR-240	0.0550	0.5900
3	2701	AR-240	0.0196	0.6750
4	2701	AR-240	0.0196	0.6200
5	2734	SMA-1	0.0370	0.6100
6	2744	SMA-1	0.0377	0.6000
7	2744	SMA-1	0.0379	0.6000

INDEX	DATE	TIME	EPIC LAT	EPIC LONG	AZM	DEPT (km)	DIST (km)	MAG	COMP	PKACC (cm/sec^2)
1	2MAY1971	06:08	51.420N	177.210W	N041	38.0	67.0	6.8	N090E	203.67
2	2MAY1971	06:08	51.420N	177.210W	N041	38.0	67.0	6.8	N180E	-114.65
3	7MAY1986	22:47	51.520N	174.776W	N106.3	33.0	135.1	7.9	N197E	223.18
4	7MAY1986	22:47	51.520N	174.776W	N106.3	33.0	135.1	7.9	N287E	-172.74
5	28FEB1979	21:27	60.640N	141.590W	N182	13.0	75.0	7.3	N180E	-171.41
6	6APR1974	03:55	54.900N	160.290W	N346	40.0	50.0	5.8	N030E	117.77
7	6APR1974	03:55	54.900N	160.290W	N346	40.0	50.0	5.8	N120E	-98.30

Table 5-4 Earthquake Information and Recording Station Information (Vertical Acceleration with pkacc > 0.05g used in Statistical Analysis)

INDEX	SITE #	INSTR TYPE	INSTR PERIOD	INSTR DAMP
1	2701	AR-240	0.0194	0.6400
2	2701	AR-240	0.0510	0.5900
3	2714	AR-240	0.0570	0.6100
4	2727	SMA-1	0.0390	0.5900
5	2734	SMA-1	0.0370	0.5700
6	2744	SMA-1	0.0380	0.6000

INDEX	DATE	TIME	EPIC LAT	EPIC LONG	AZM	DEPTH (km)	DIST (km)	MAG	COMP	PKACC (cm/sec^2)
1	7MAY1986	22:47	51.520N	174.776W	N106.3	33.0	135.1	7.9	UP	100.32
2	2MAY1971	06:08	51.420N	177.210W	N041	38.0	67.0	6.8	UP	63.66
3	30JUL1972	21:45	56.770N	135.910W	N048	29.0	48.0	7.5	UP	-51.54
4	1JAN1975	03:55	61.920N	149.720W	N335	58.0	47.0	6.0	UP	-87.69
5	28FEB1979	21:27	60.640N	141.590W	N182	13.0	75.0	7.3	UP	62.90
6	6APR1974	01:53	54.870N	160.290W	N347	37.0	54.0	5.6	UP	51.44

Table 5.5 Normal Deviations from Mean, in a Normal Distribution, in Terms of Standard Deviation, as a Function of Cumulative Probability P [Adapted From Newmark et al., 1973]

P	$c = \frac{\text{deviation from mean}}{\text{standard deviation}}$
0.999	3.09023
0.998	2.87816
0.995	2.57583
0.990	2.32635
0.980	2.05375
0.970	1.88079
0.950	1.64485
0.900	1.28155
0.850	1.03643
0.800	0.84162
0.750	0.67449
0.700	0.52440
0.650	0.38532
0.600	0.25335
0.550	0.12566

Figure 5.1

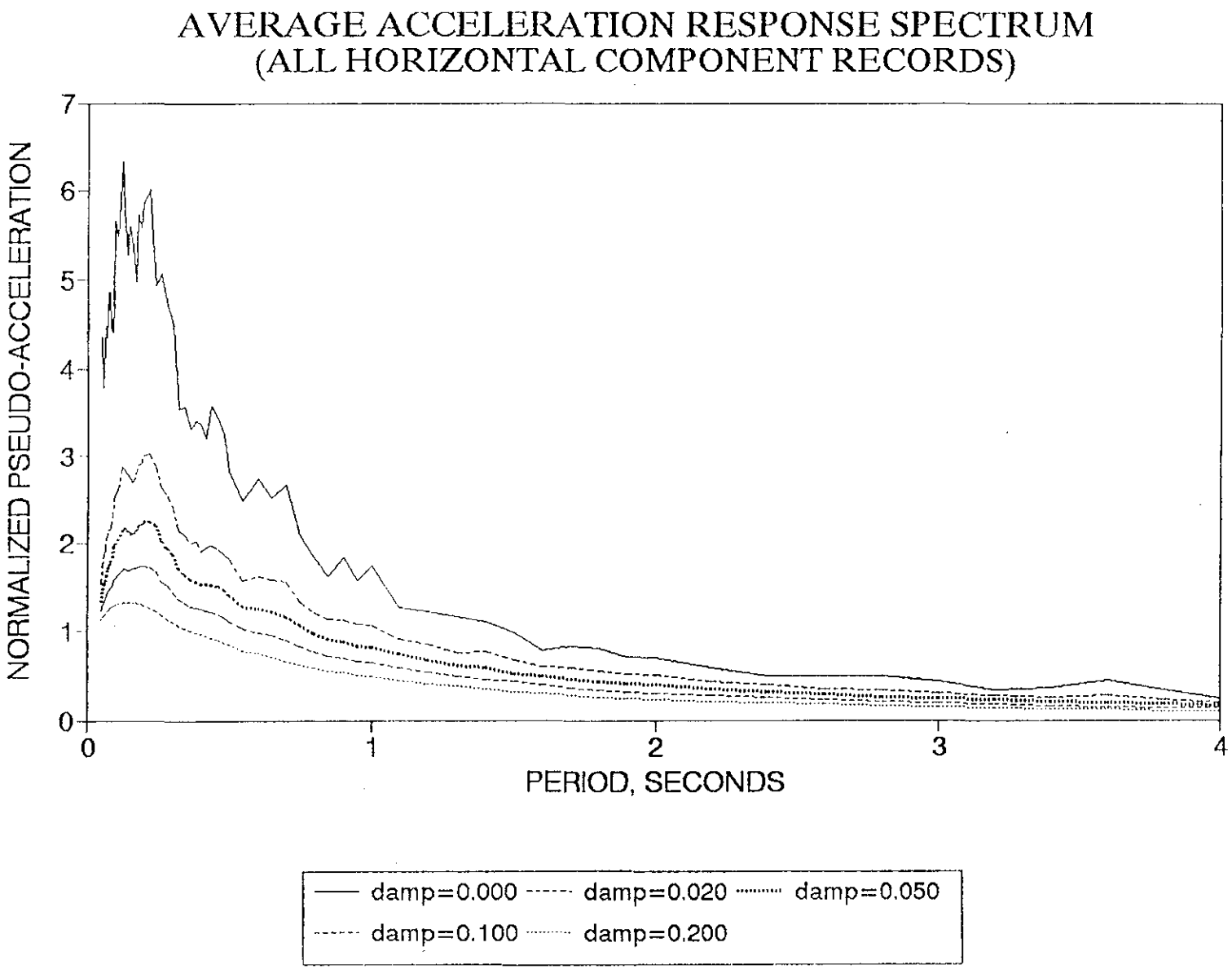

AVERAGE ACCELERATION RESPONSE SPECTRUM
(ALL HORIZONTAL COMPONENT RECORDS)
NORMALIZED PSEUDO-ACCELERATION
0
1
2
3
4
5
6
7
0
1
2
3
4
PERIOD, SECONDS
damp=0.000
damp=0.020
damp=0.050
damp=0.100
damp=0.200

Figure 5.2

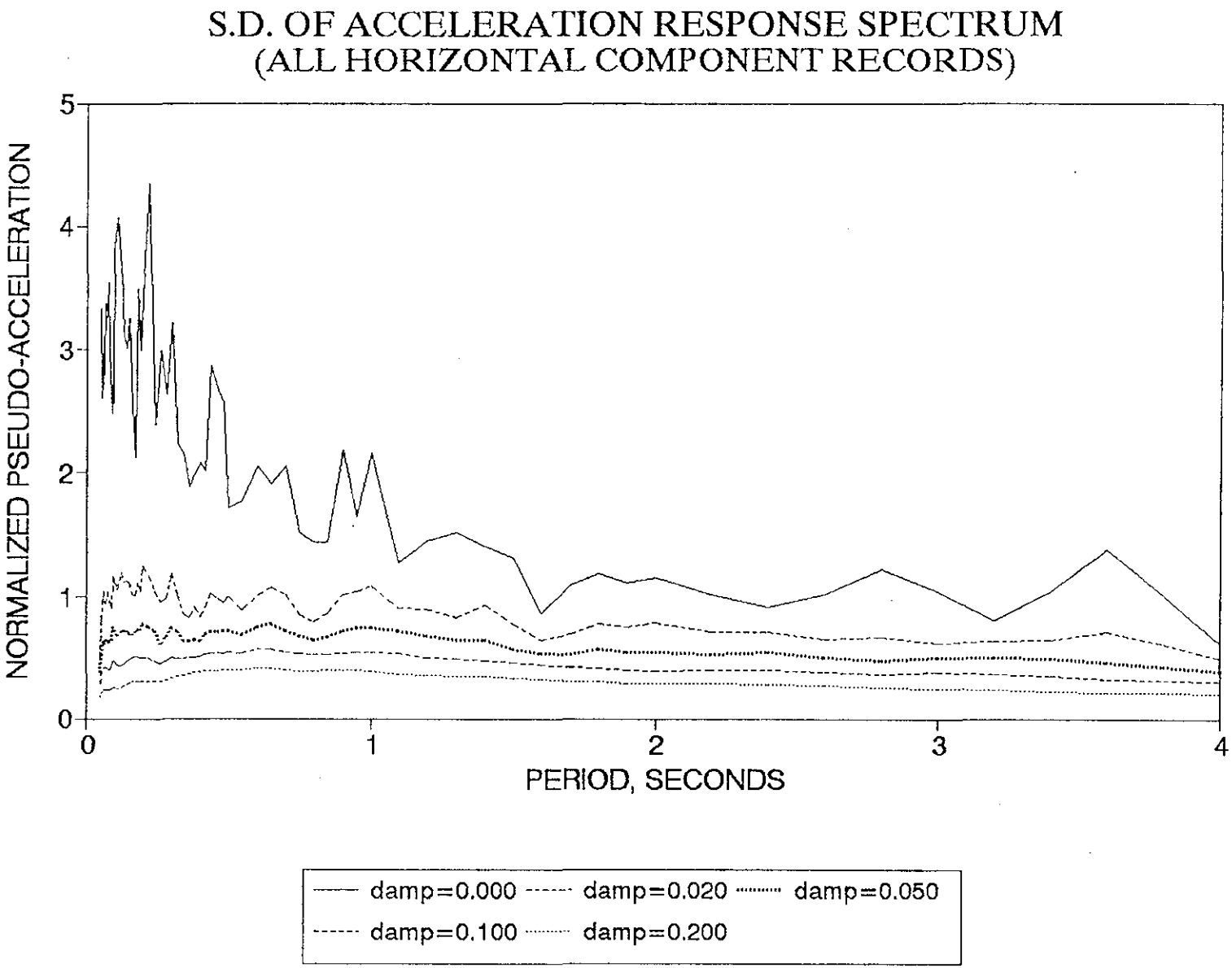

S.D. OF ACCELERATION RESPONSE SPECTRUM
(ALL HORIZONTAL COMPONENT RECORDS)
NORMALIZED PSEUDO-ACCELERATION
0
1
2
3
4
5
PERIOD, SECONDS
damp=0.000
damp=0.020
damp=0.050
damp=0.100
damp=0.200

Figure 5.3

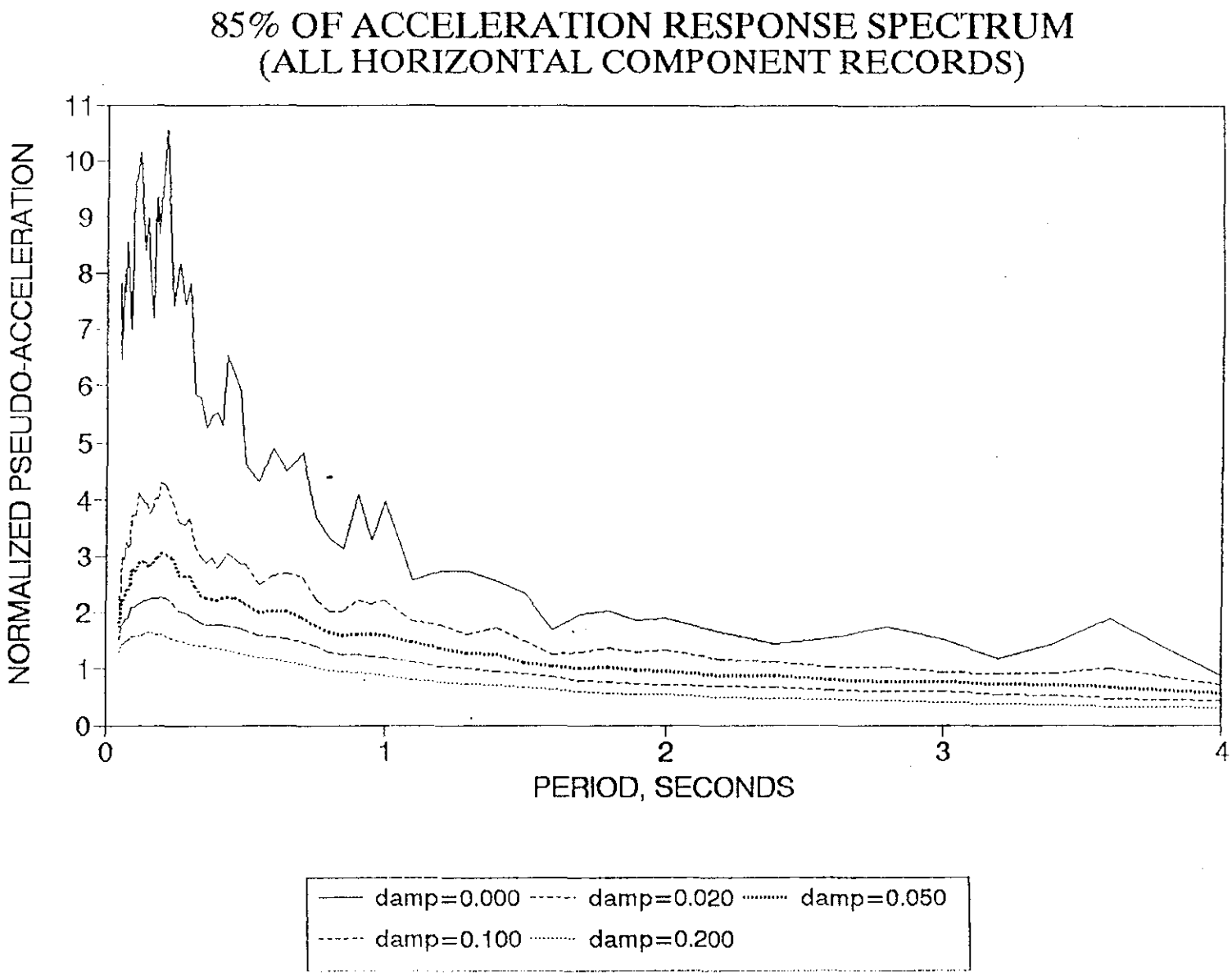

85% OF ACCELERATION RESPONSE SPECTRUM
(ALL HORIZONTAL COMPONENT RECORDS)
NORMALIZED PSEUDO-ACCELERATION
PERIOD, SECONDS
0
1
2
3
4
5
6
7
8
9
10
11
damp=0.000
damp=0.020
damp=0.050
damp=0.100
damp=0.200

Figure 5.4

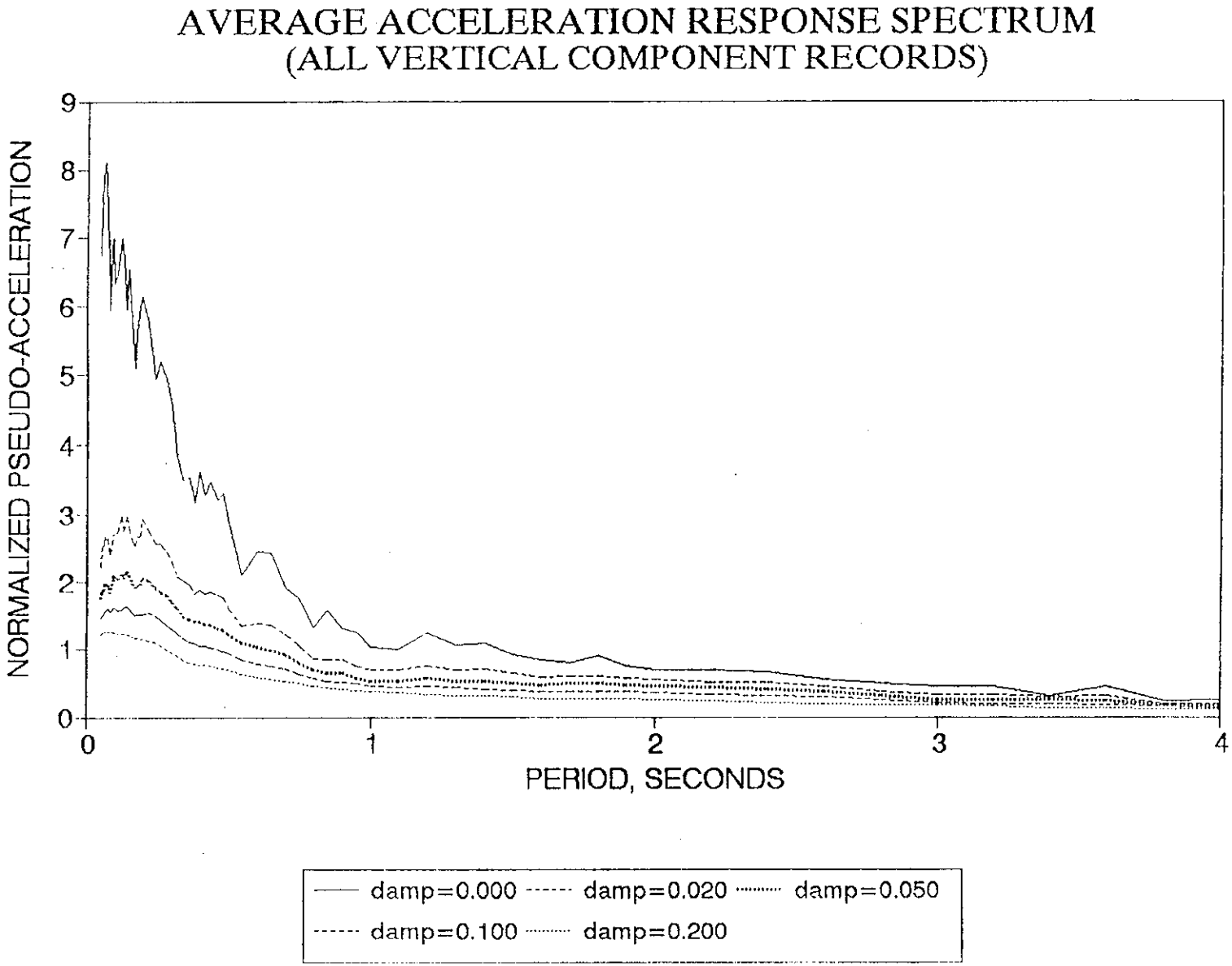

AVERAGE ACCELERATION RESPONSE SPECTRUM
(ALL VERTICAL COMPONENT RECORDS)
NORMALIZED PSEUDO-ACCELERATION
0
1
2
3
4
5
6
7
8
9
0
1
2
3
4
PERIOD, SECONDS
damp=0.000
damp=0.020
damp=0.050
damp=0.100
damp=0.200

Figure 5.5

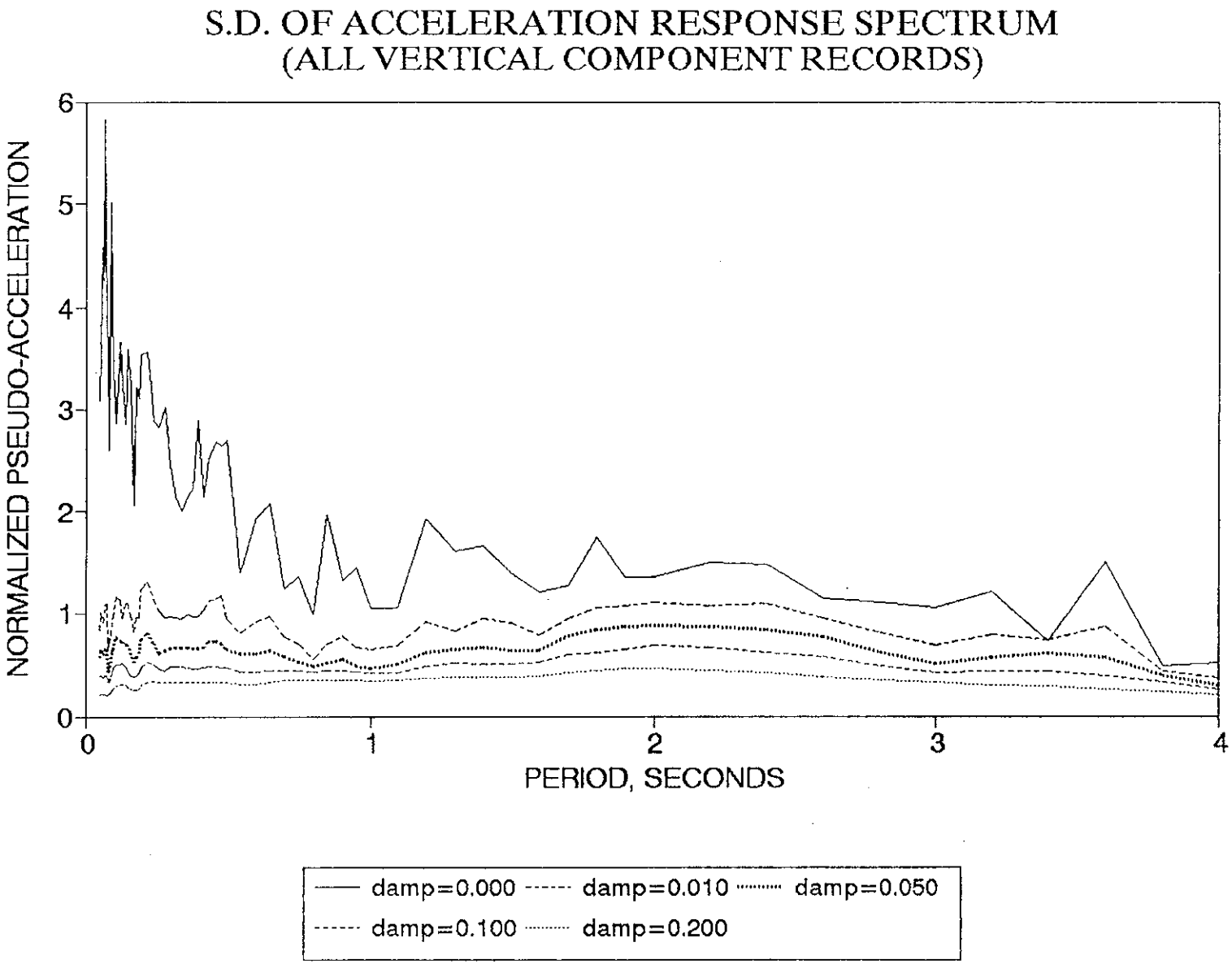

S.D. OF ACCELERATION RESPONSE SPECTRUM
(ALL VERTICAL COMPONENT RECORDS)
NORMALIZED PSEUDO-ACCELERATION
0
1
2
3
4
5
6
0
1
2
3
4
PERIOD, SECONDS
damp=0.000
damp=0.010
damp=0.050
damp=0.100
damp=0.200

Figure 5.6

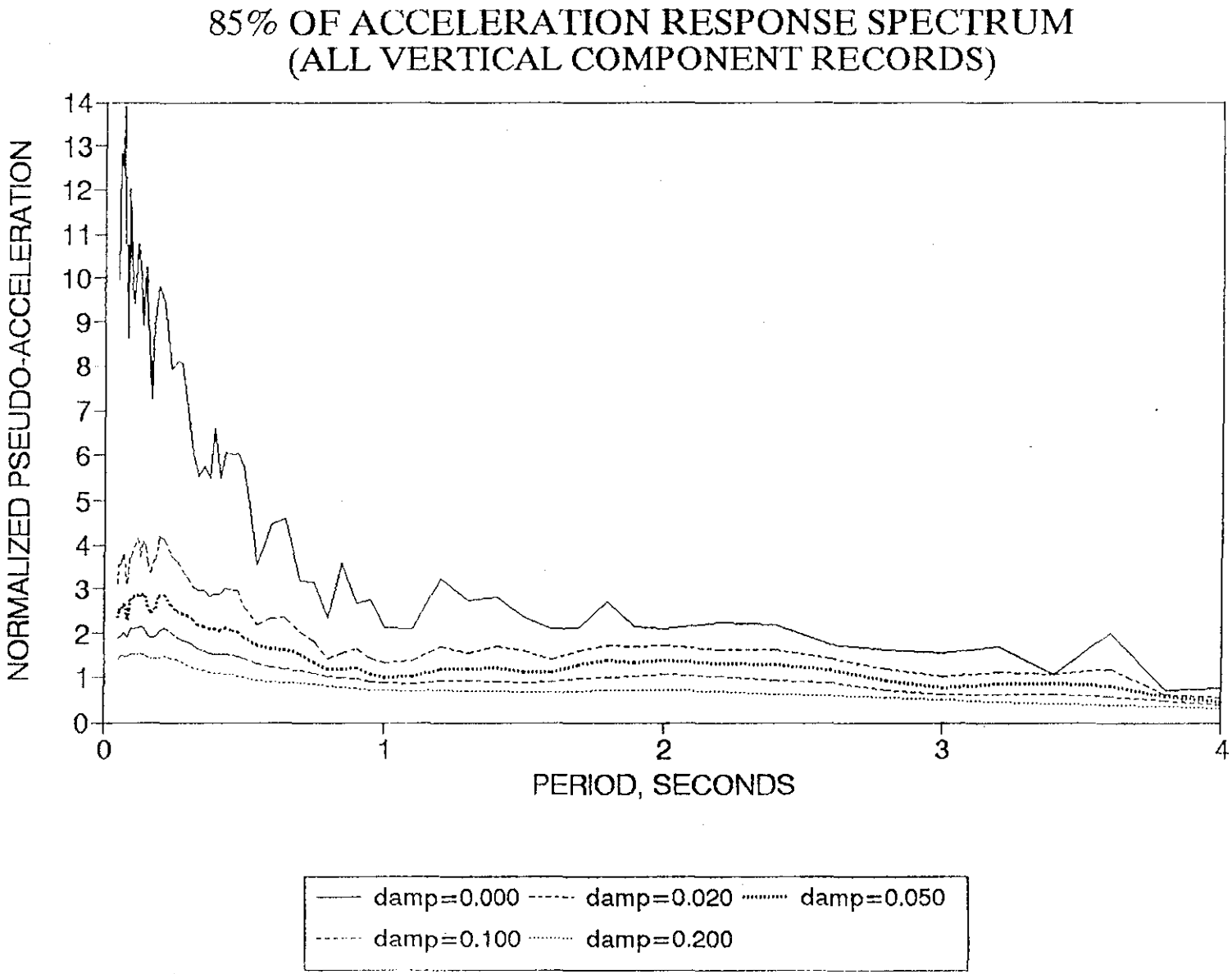

85% OF ACCELERATION RESPONSE SPECTRUM
(ALL VERTICAL COMPONENT RECORDS)
NORMALIZED PSEUDO-ACCELERATION
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
0
1
2
3
4
PERIOD, SECONDS
damp=0.000
damp=0.020
damp=0.050
damp=0.100
damp=0.200

Figure 5.7

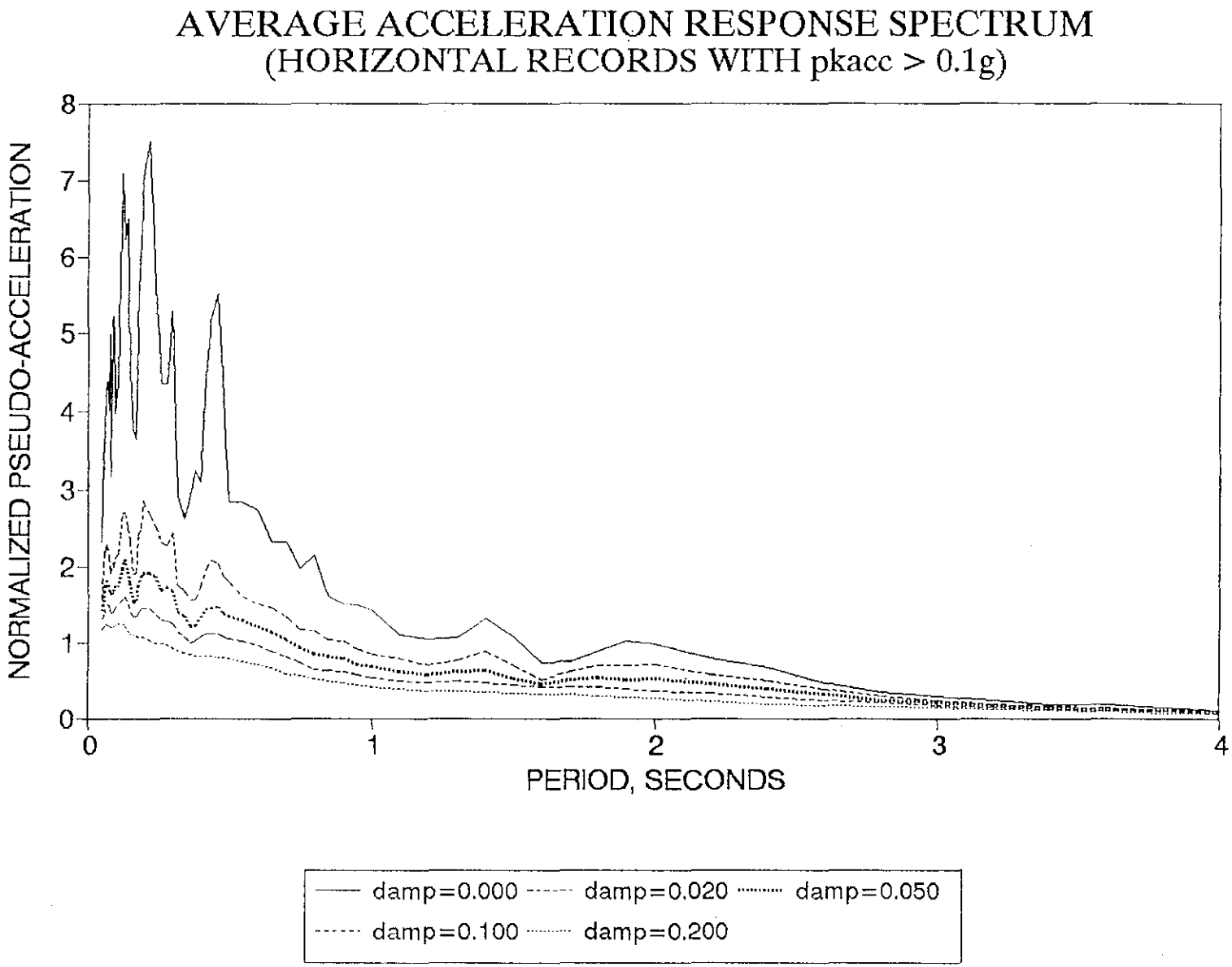

AVERAGE ACCELERATION RESPONSE SPECTRUM
(HORIZONTAL RECORDS WITH pkacc > 0.1g)
NORMALIZED PSEUDO-ACCELERATION
0
1
2
3
4
5
6
7
8
0
1
2
3
4
PERIOD, SECONDS
damp=0.000
damp=0.020
damp=0.050
damp=0.100
damp=0.200

Figure 5.8

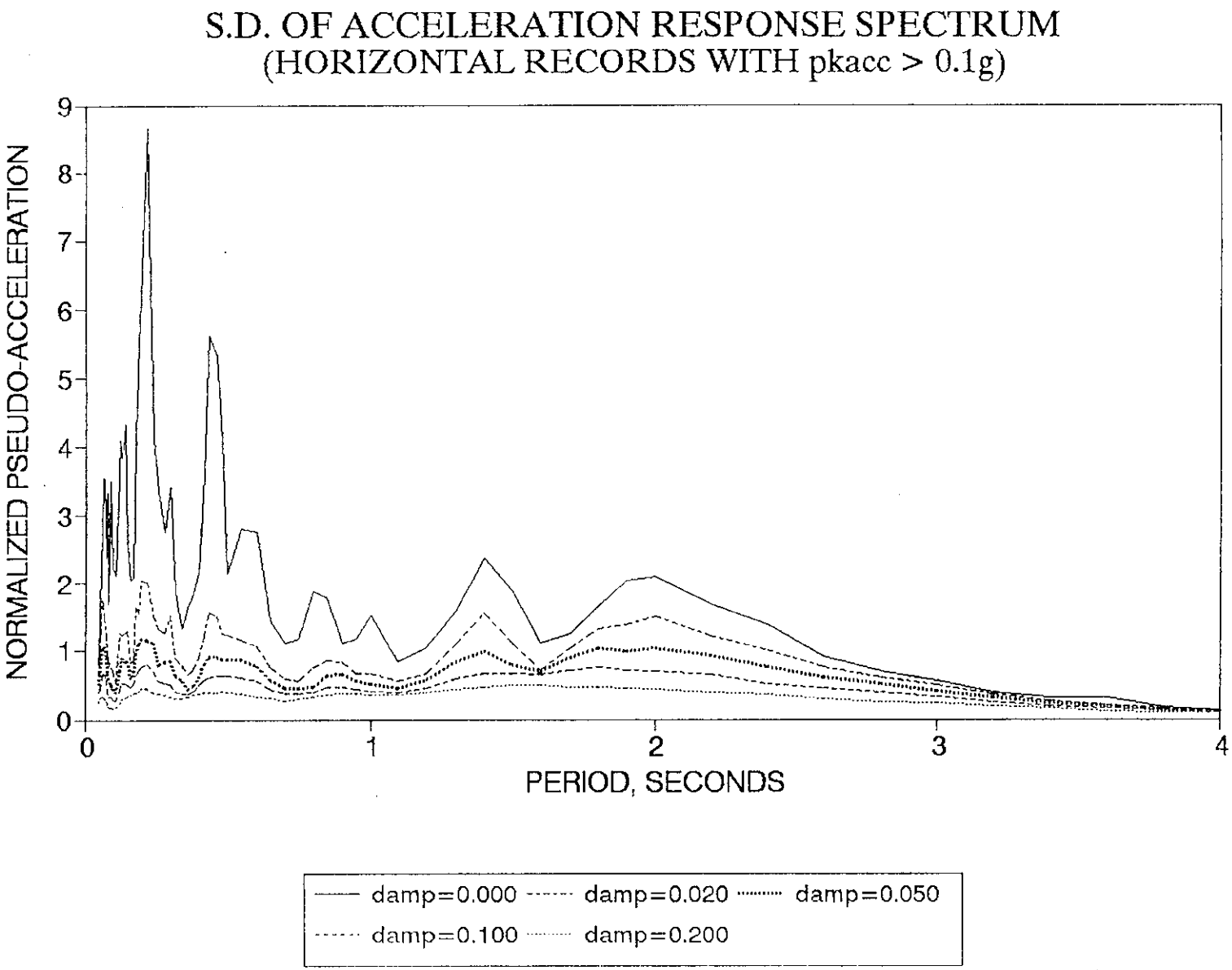

S.D. OF ACCELERATION RESPONSE SPECTRUM
(HORIZONTAL RECORDS WITH pkacc > 0.1g)
NORMALIZED PSEUDO-ACCELERATION
0
1
2
3
4
5
6
7
8
9
0
1
2
3
4
PERIOD, SECONDS
damp=0.000
damp=0.020
damp=0.050
damp=0.100
damp=0.200

Figure 5.9

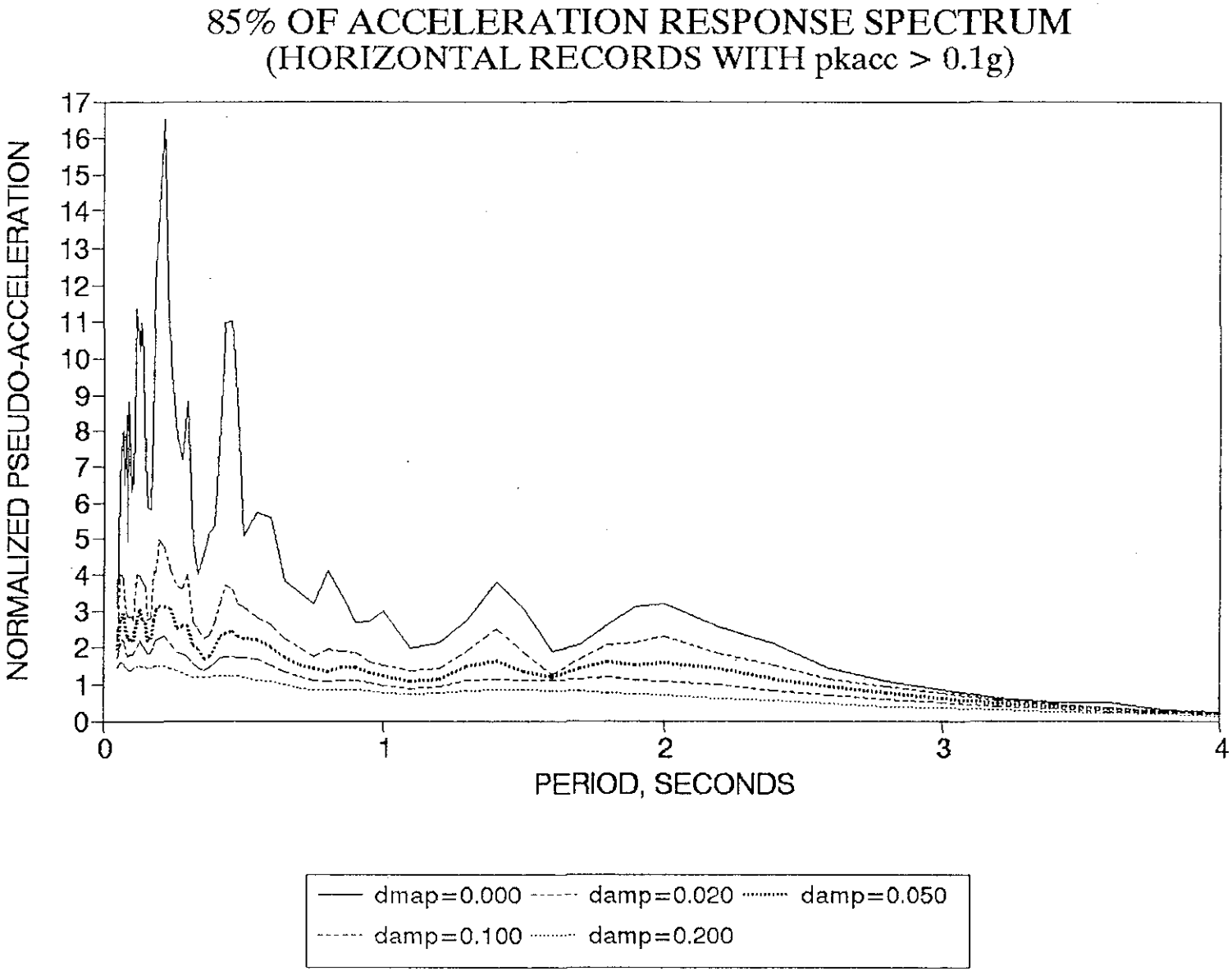

85% OF ACCELERATION RESPONSE SPECTRUM
(HORIZONTAL RECORDS WITH pkacc > 0.1g)
NORMALIZED PSEUDO-ACCELERATION
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
0
1
2
3
4
PERIOD, SECONDS
dmap=0.000
damp=0.020
damp=0.050
damp=0.100
damp=0.200

Figure 5.10

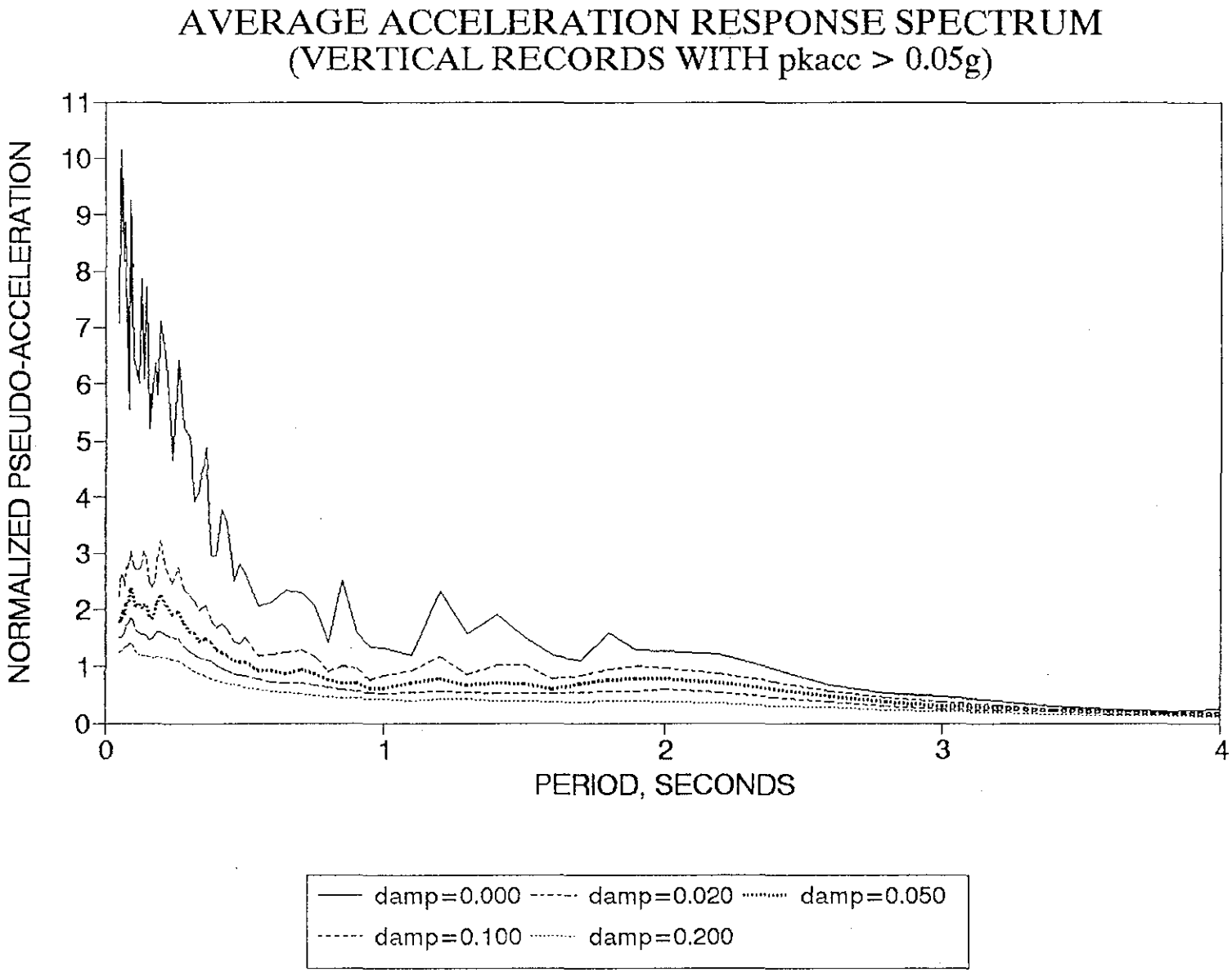

AVERAGE ACCELERATION RESPONSE SPECTRUM
(VERTICAL RECORDS WITH pkacc > 0.05g)
NORMALIZED PSEUDO-ACCELERATION
0
1
2
3
4
5
6
7
8
9
10
11
0
1
2
3
4
PERIOD, SECONDS
damp=0.000
damp=0.020
damp=0.050
damp=0.100
damp=0.200

Figure 5.11

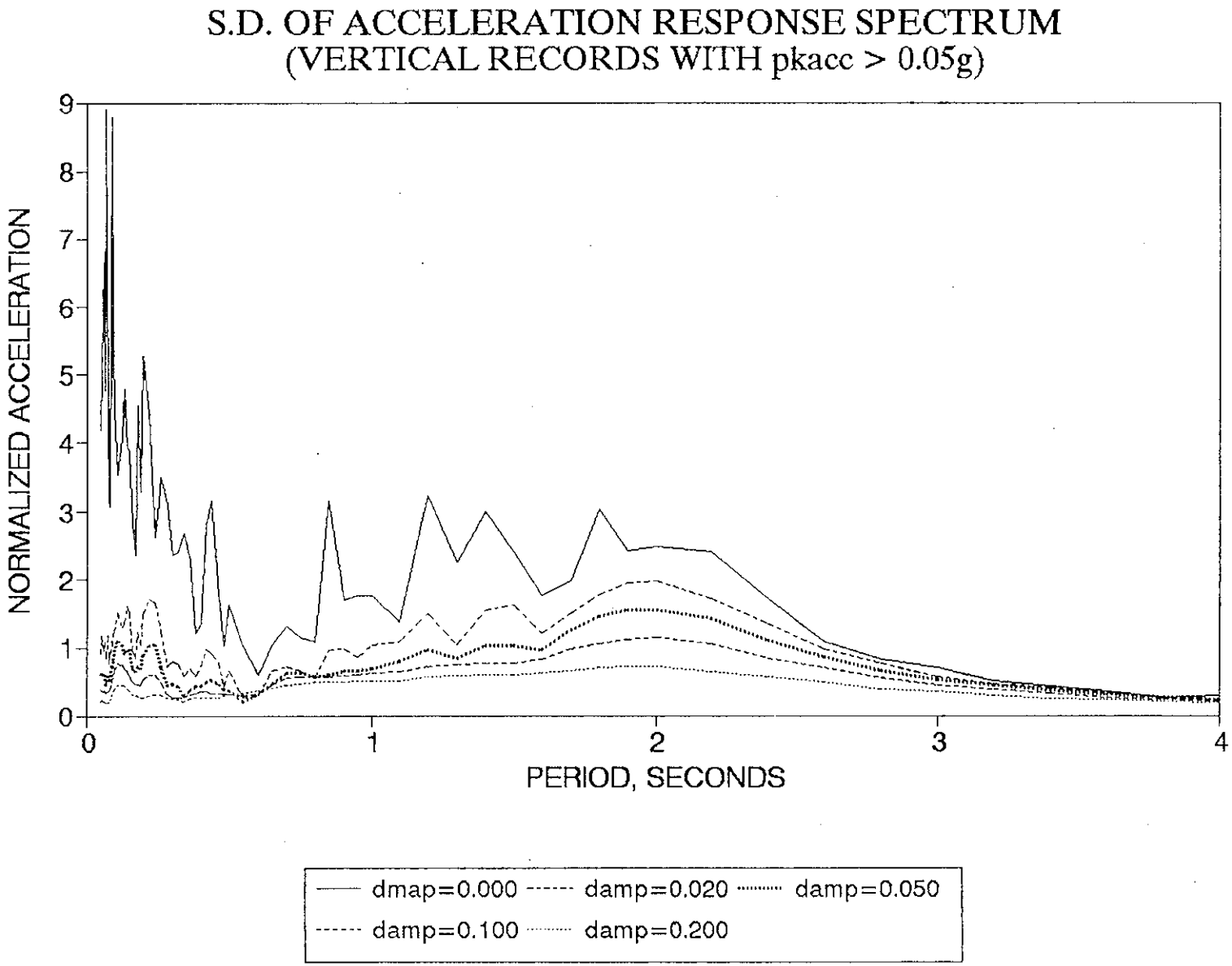

S.D. OF ACCELERATION RESPONSE SPECTRUM
(VERTICAL RECORDS WITH pkacc > 0.05g)
NORMALIZED ACCELERATION
0
1
2
3
4
5
6
7
8
9
0
1
2
3
4
PERIOD, SECONDS
dmap=0.000
damp=0.020
damp=0.050
damp=0.100
damp=0.200

Figure 5.12

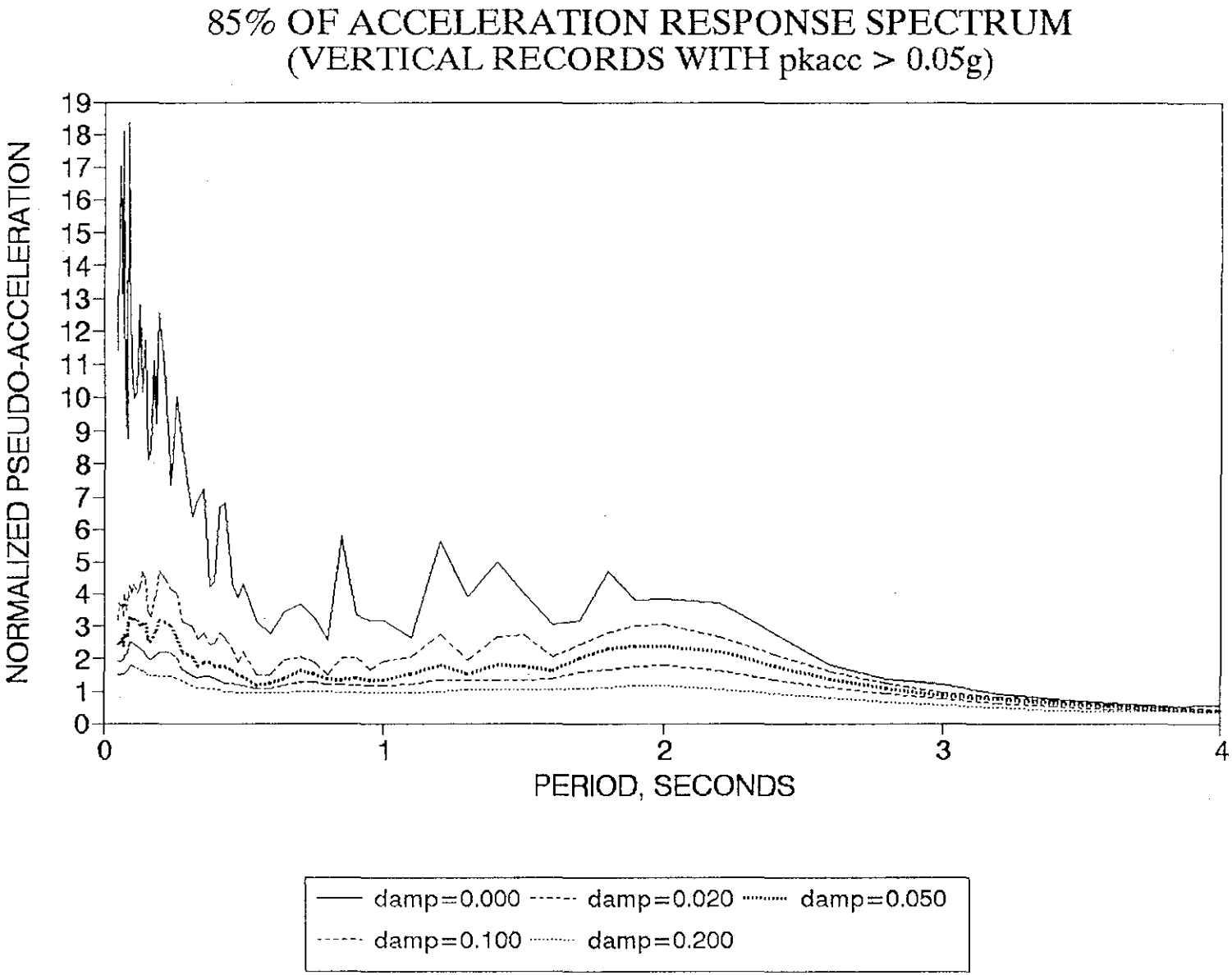

85% OF ACCELERATION RESPONSE SPECTRUM
(VERTICAL RECORDS WITH pkacc > 0.05g)
NORMALIZED PSEUDO-ACCELERATION
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
0
1
2
3
4
PERIOD, SECONDS
damp=0.000
damp=0.020
damp=0.050
damp=0.100
damp=0.200

Figure 5.13

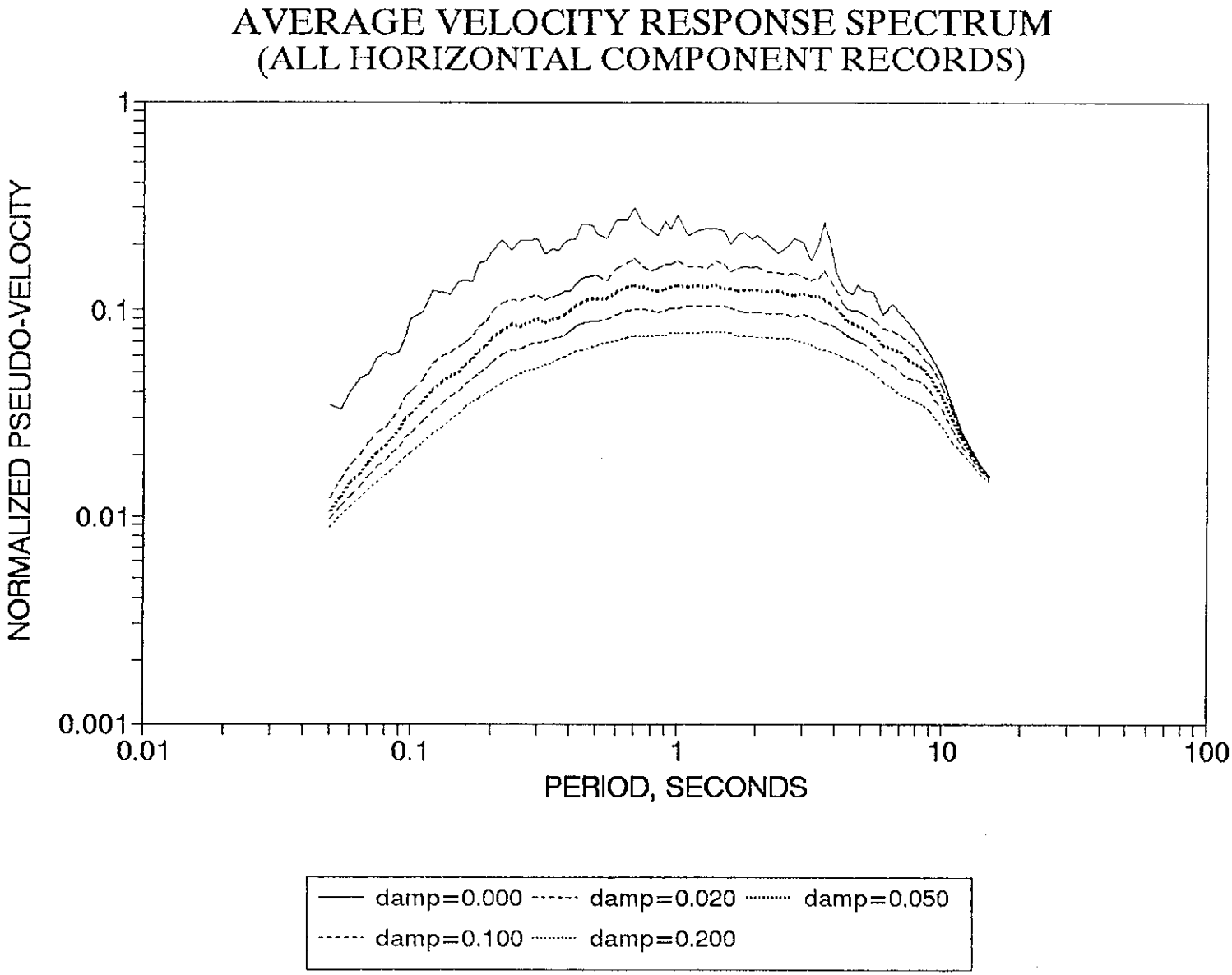

AVERAGE VELOCITY RESPONSE SPECTRUM
(ALL HORIZONTAL COMPONENT RECORDS)
NORMALIZED PSEUDO-VELOCITY
1
0.1
0.01
0.001
0.01
0.1
1
10
100
PERIOD, SECONDS
damp=0.000
damp=0.020
damp=0.050
damp=0.100
damp=0.200

Figure 5.14

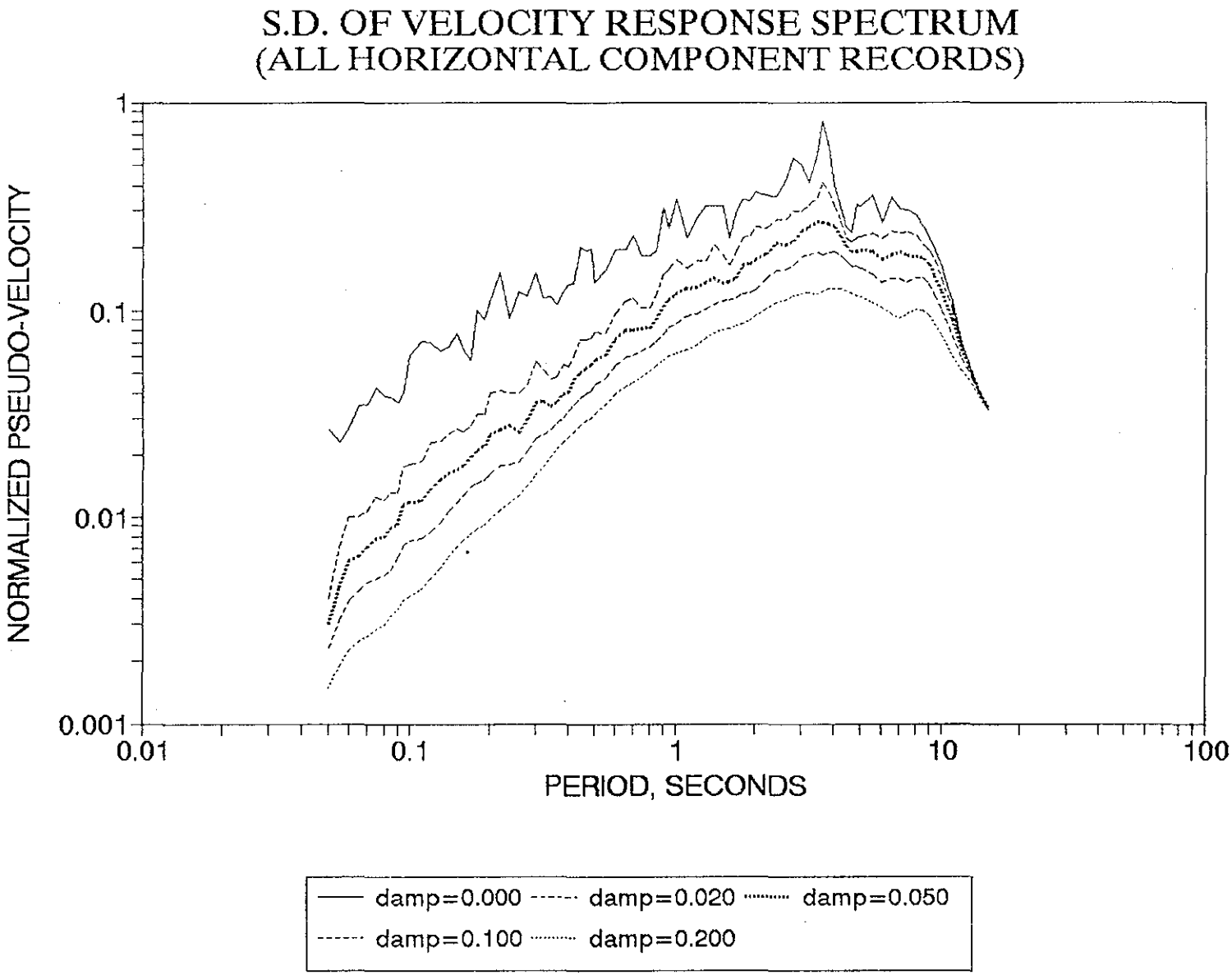

S.D. OF VELOCITY RESPONSE SPECTRUM
(ALL HORIZONTAL COMPONENT RECORDS)
NORMALIZED PSEUDO-VELOCITY
1
0.1
0.01
0.001
0.01
0.1
1
10
100
PERIOD, SECONDS
damp=0.000
damp=0.020
damp=0.050
damp=0.100
damp=0.200

Figure 5.15

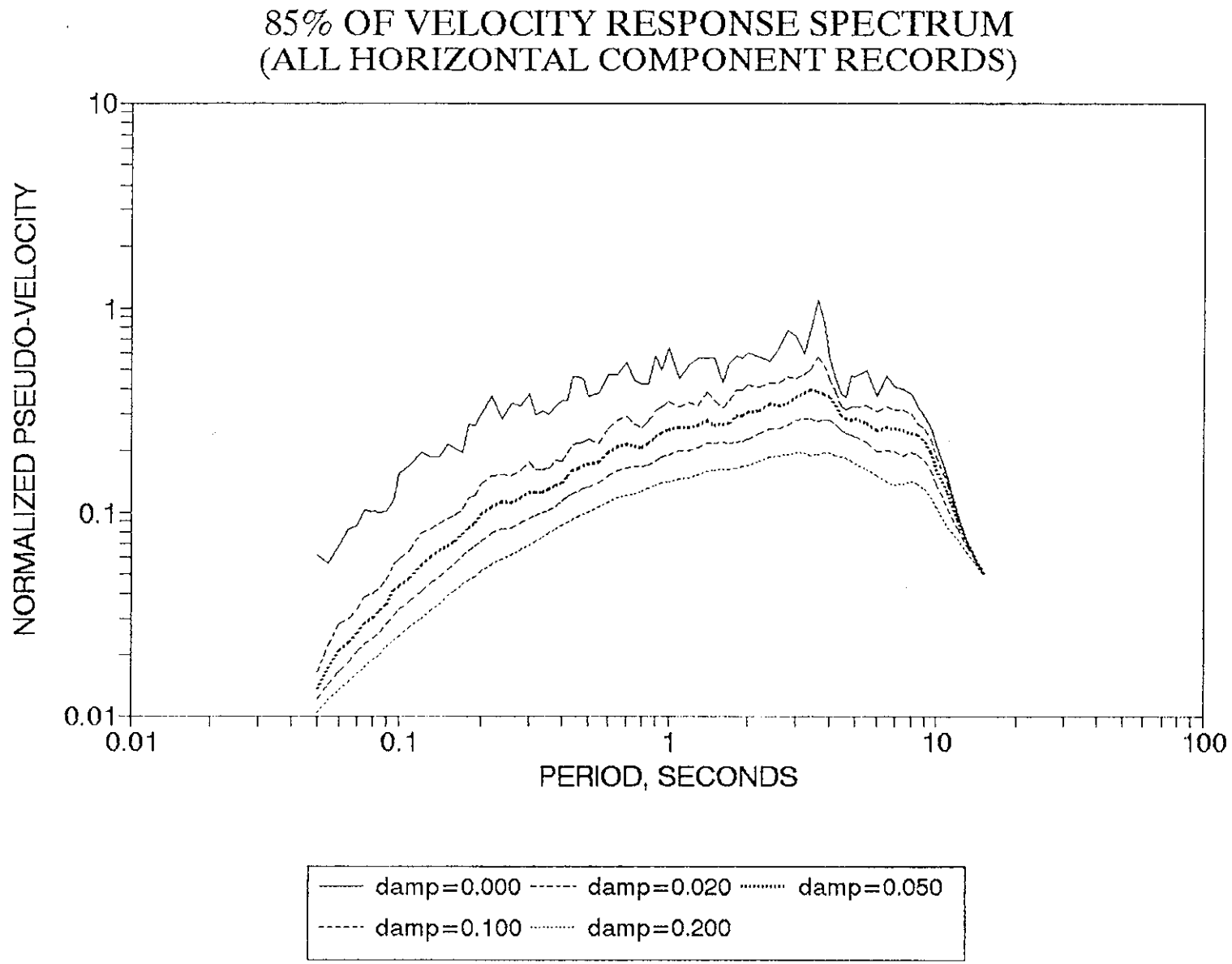

85% OF VELOCITY RESPONSE SPECTRUM
(ALL HORIZONTAL COMPONENT RECORDS)
NORMALIZED PSEUDO-VELOCITY
10
1
0.1
0.01
0.01
0.1
1
10
100
PERIOD, SECONDS
damp=0.000
damp=0.020
damp=0.050
damp=0.100
damp=0.200

Figure 5.16

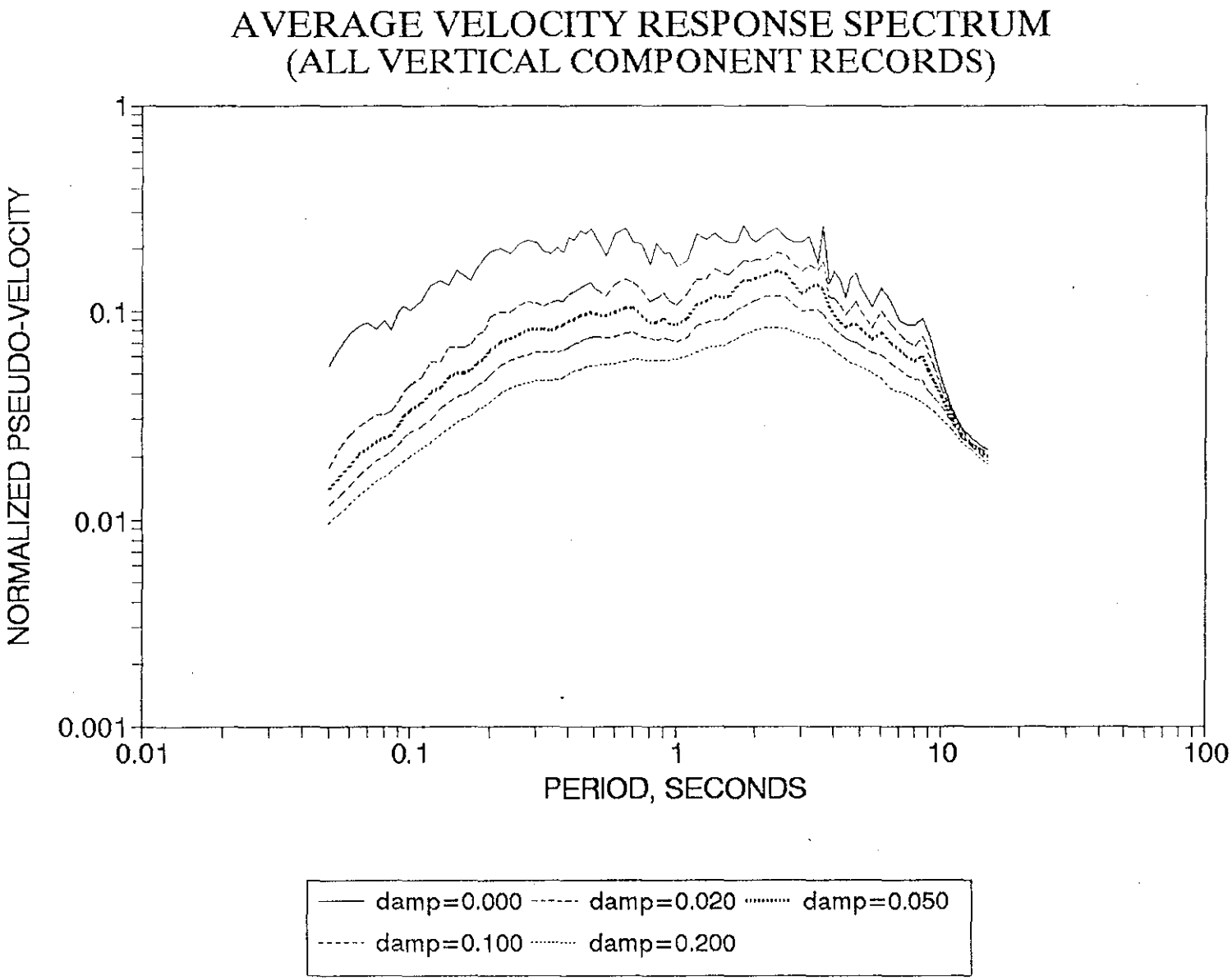

AVERAGE VELOCITY RESPONSE SPECTRUM
(ALL VERTICAL COMPONENT RECORDS)
NORMALIZED PSEUDO-VELOCITY
1
0.1
0.01
0.001
0.01
0.1
1
10
100
PERIOD, SECONDS
damp=0.000
damp=0.020
damp=0.050
damp=0.100
damp=0.200

Figure 5.17

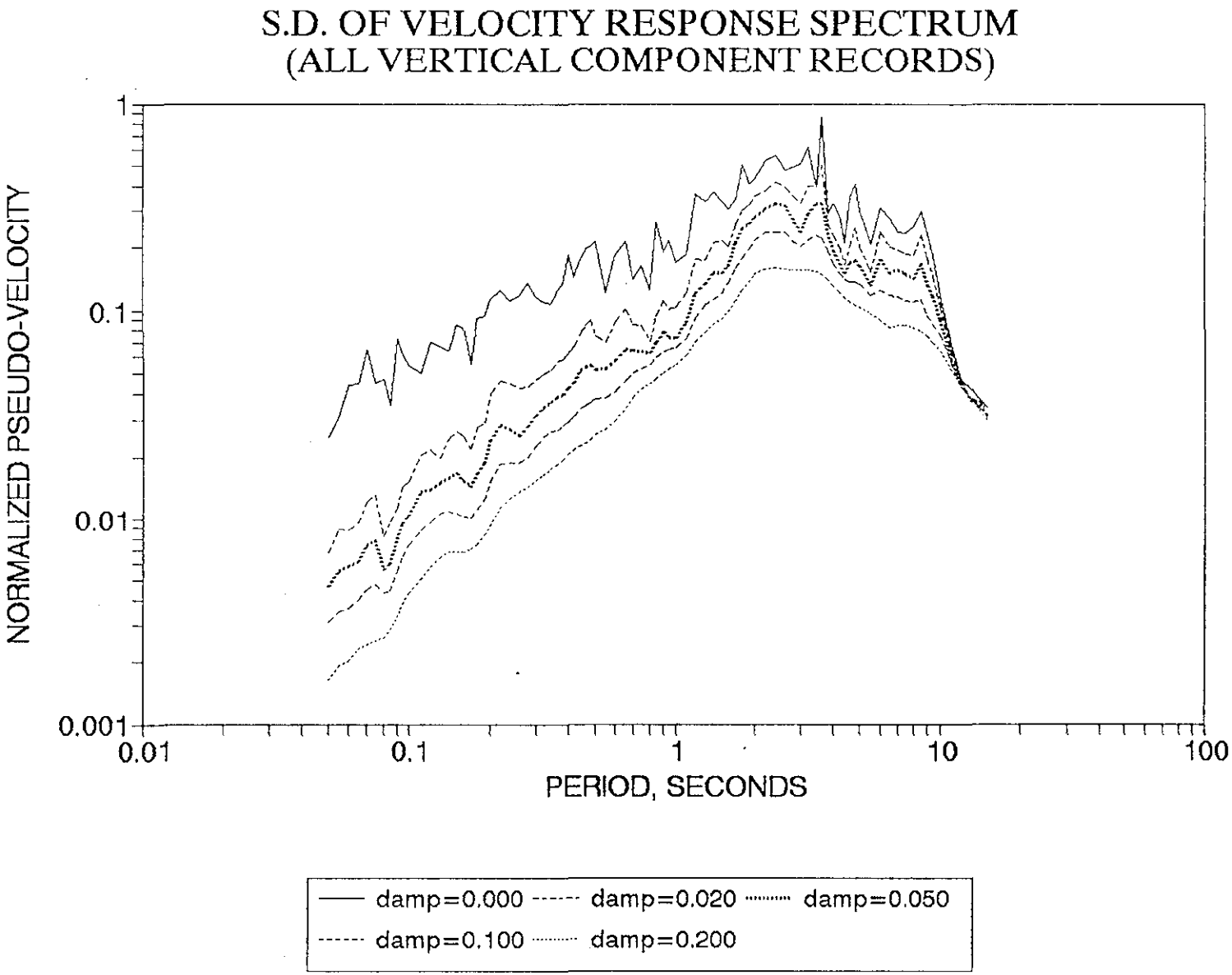

S.D. OF VELOCITY RESPONSE SPECTRUM
(ALL VERTICAL COMPONENT RECORDS)
NORMALIZED PSEUDO-VELOCITY
1
0.1
0.01
0.001
0.01
0.1
1
10
100
PERIOD, SECONDS
damp=0.000
damp=0.020
damp=0.050
damp=0.100
damp=0.200

Figure 5.18

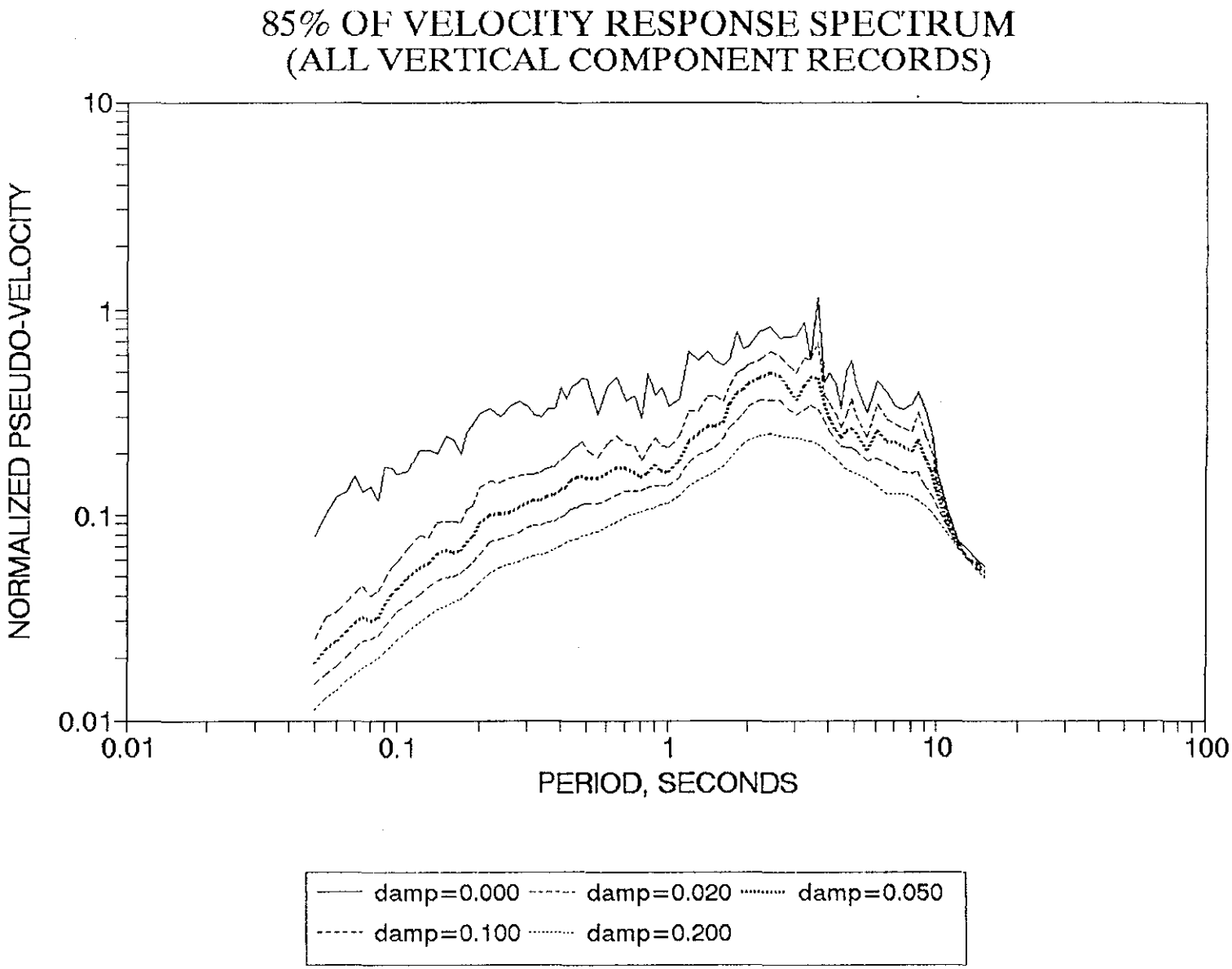

85% OF VELOCITY RESPONSE SPECTRUM
(ALL VERTICAL COMPONENT RECORDS)
NORMALIZED PSEUDO-VELOCITY
10
1
0.1
0.01
0.01
0.1
1
10
100
PERIOD, SECONDS
damp=0.000
damp=0.020
damp=0.050
damp=0.100
damp=0.200

Figure 5.19

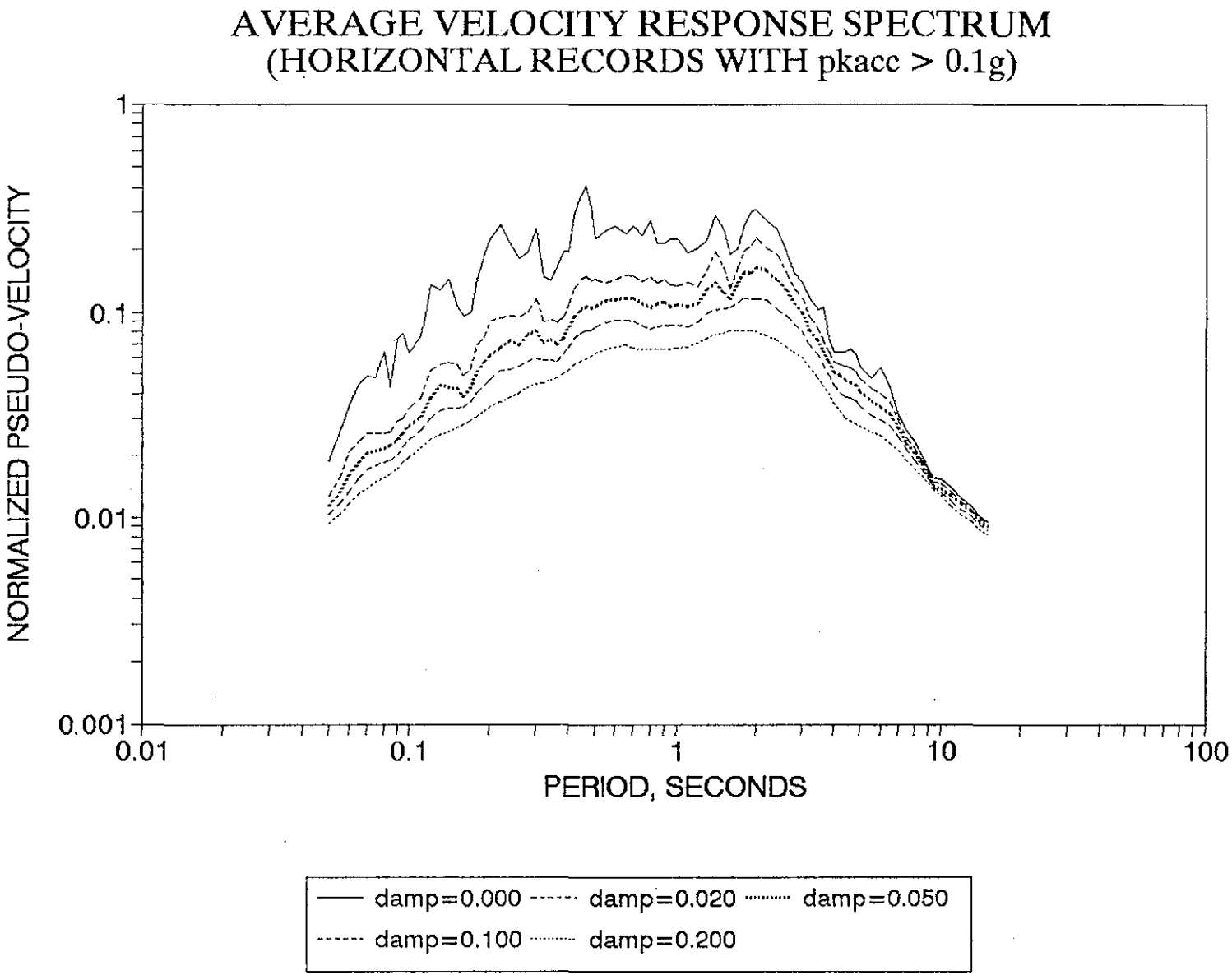

AVERAGE VELOCITY RESPONSE SPECTRUM
(HORIZONTAL RECORDS WITH pkacc > 0.1g)
NORMALIZED PSEUDO-VELOCITY
1
0.1
0.01
0.001
0.01
0.1
1
10
100
PERIOD, SECONDS
damp=0.000
damp=0.020
damp=0.050
damp=0.100
damp=0.200

Figure 5.20

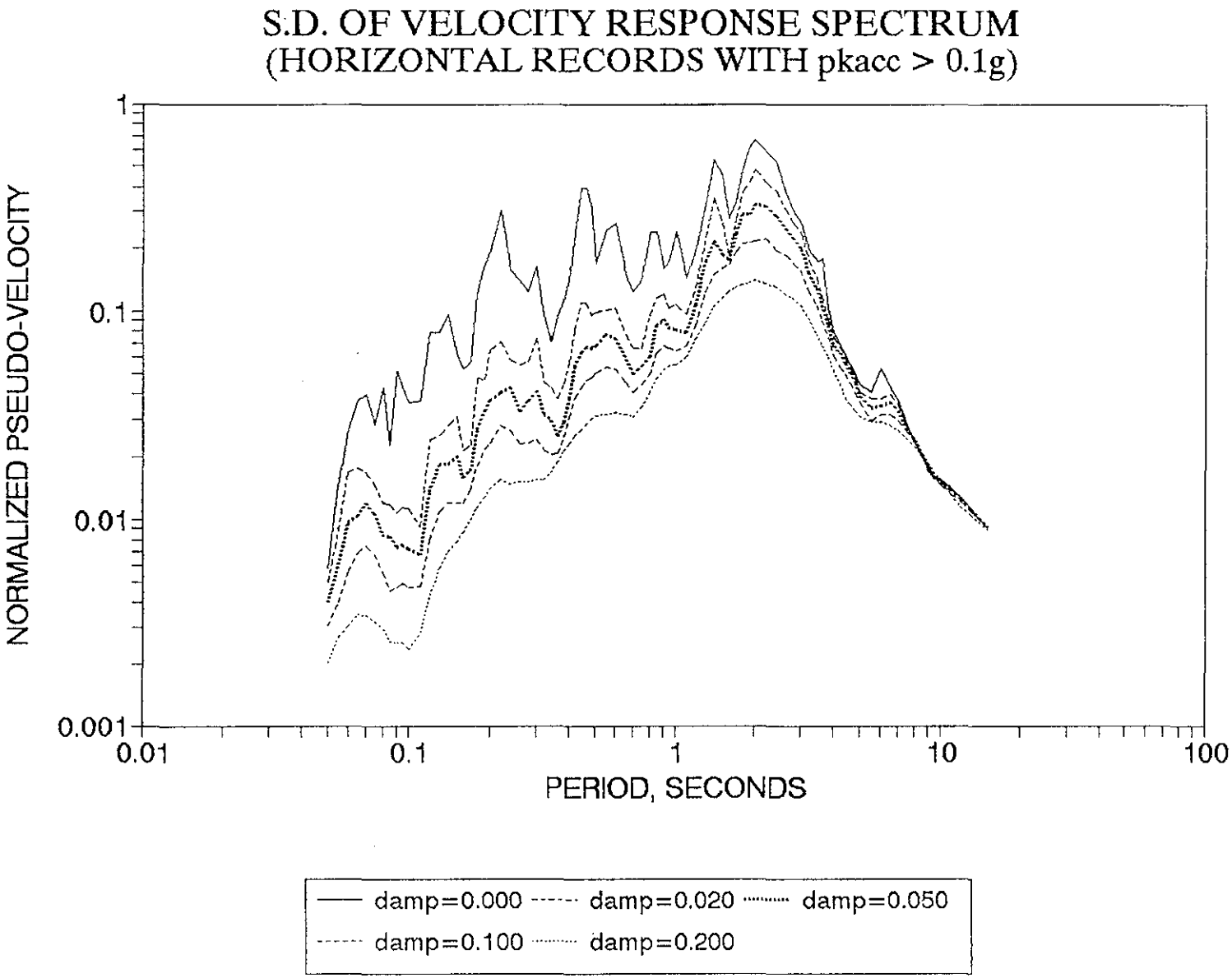

S.D. OF VELOCITY RESPONSE SPECTRUM
(HORIZONTAL RECORDS WITH pkacc > 0.1g)
NORMALIZED PSEUDO-VELOCITY
1
0.1
0.01
0.001
0.01
0.1
1
10
100
PERIOD, SECONDS
damp=0.000
damp=0.020
damp=0.050
damp=0.100
damp=0.200

Figure 5.21

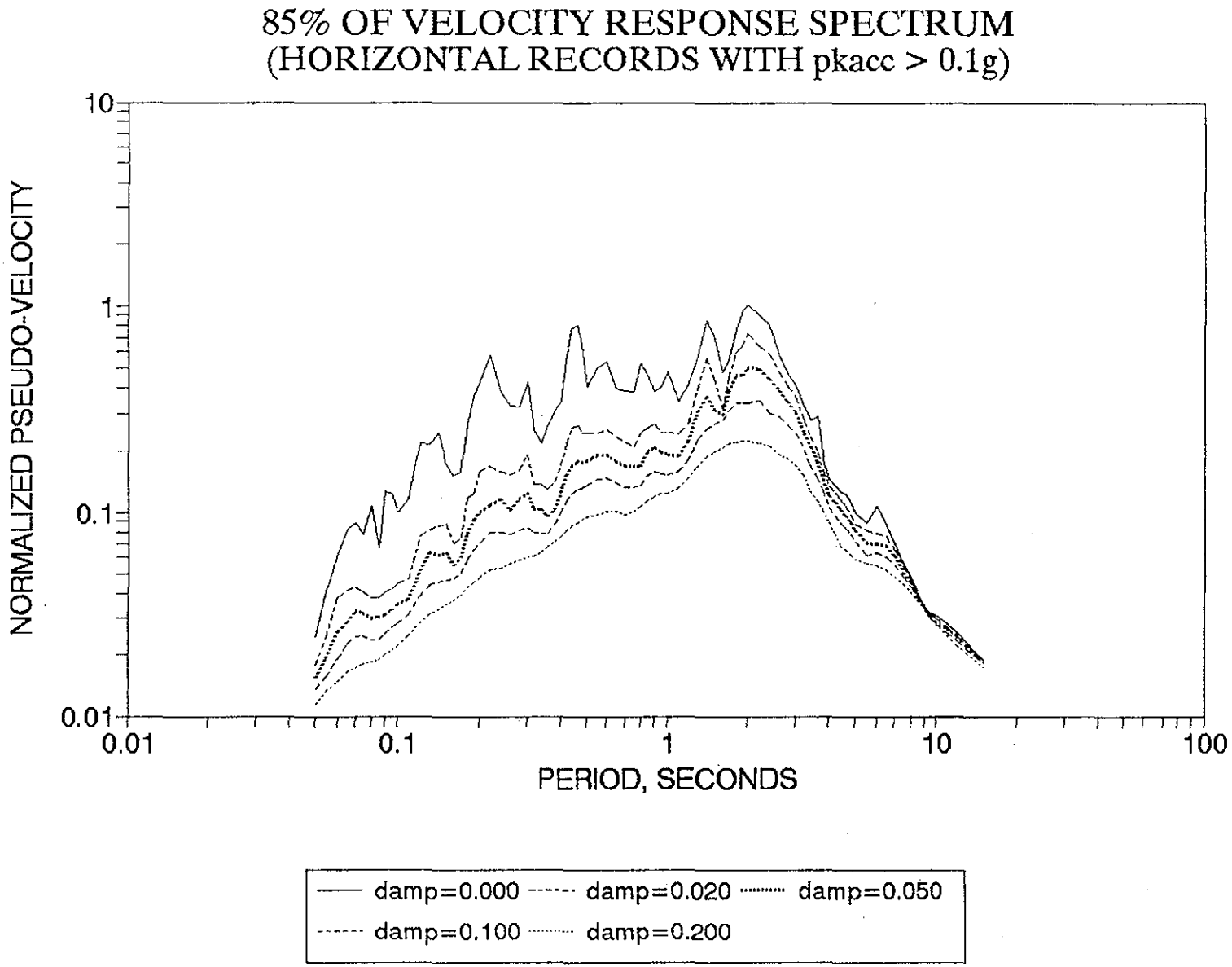

85% OF VELOCITY RESPONSE SPECTRUM
(HORIZONTAL RECORDS WITH pkacc > 0.1g)
NORMALIZED PSEUDO-VELOCITY
10
1
0.1
0.01
0.01
0.1
1
10
100
PERIOD, SECONDS
damp=0.000
damp=0.020
damp=0.050
damp=0.100
damp=0.200

Figure 5.22

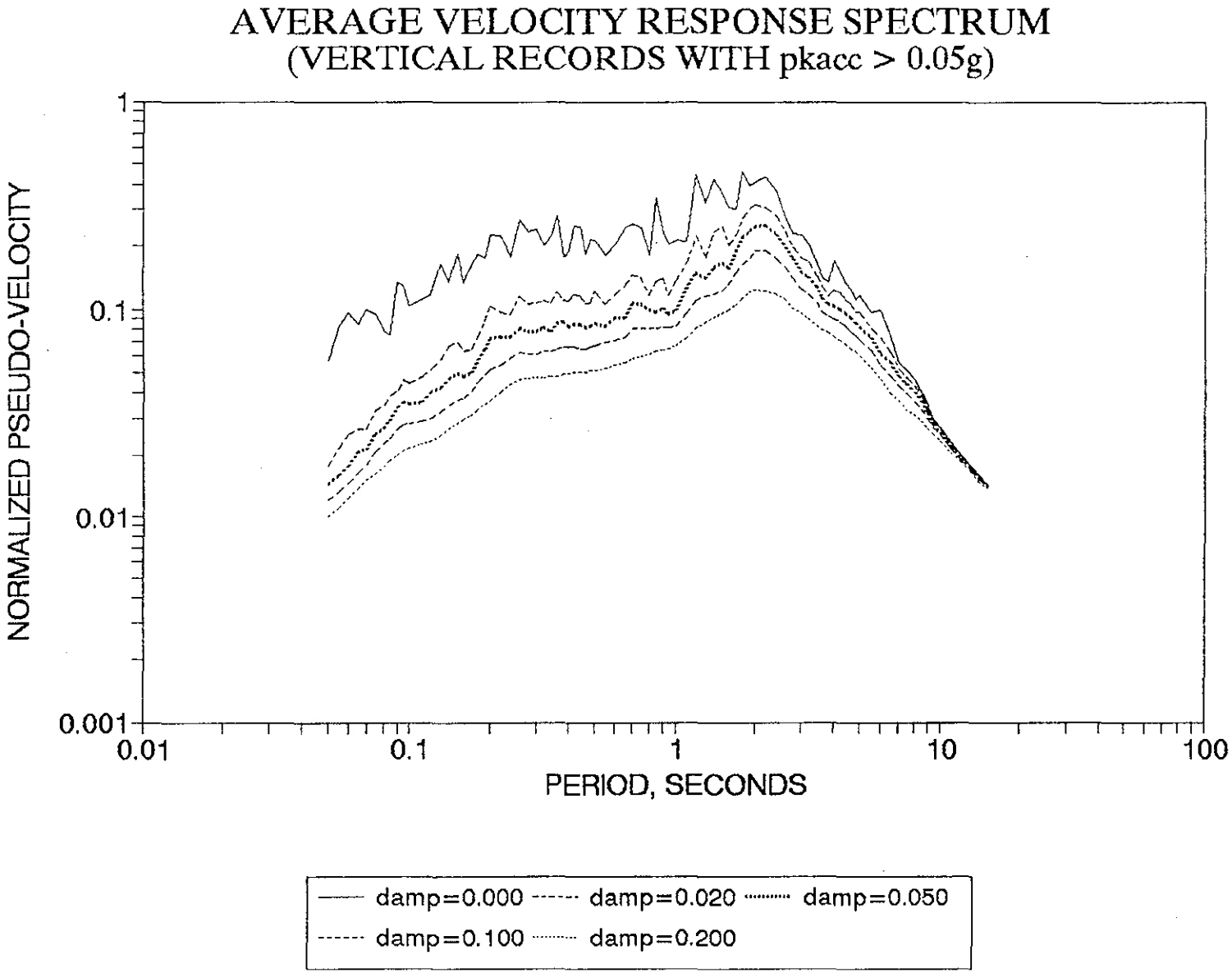

AVERAGE VELOCITY RESPONSE SPECTRUM
(VERTICAL RECORDS WITH pkacc > 0.05g)
NORMALIZED PSEUDO-VELOCITY
1
0.1
0.01
0.001
0.01
0.1
1
10
100
PERIOD, SECONDS
damp=0.000
damp=0.020
damp=0.050
damp=0.100
damp=0.200

Figure 5.23

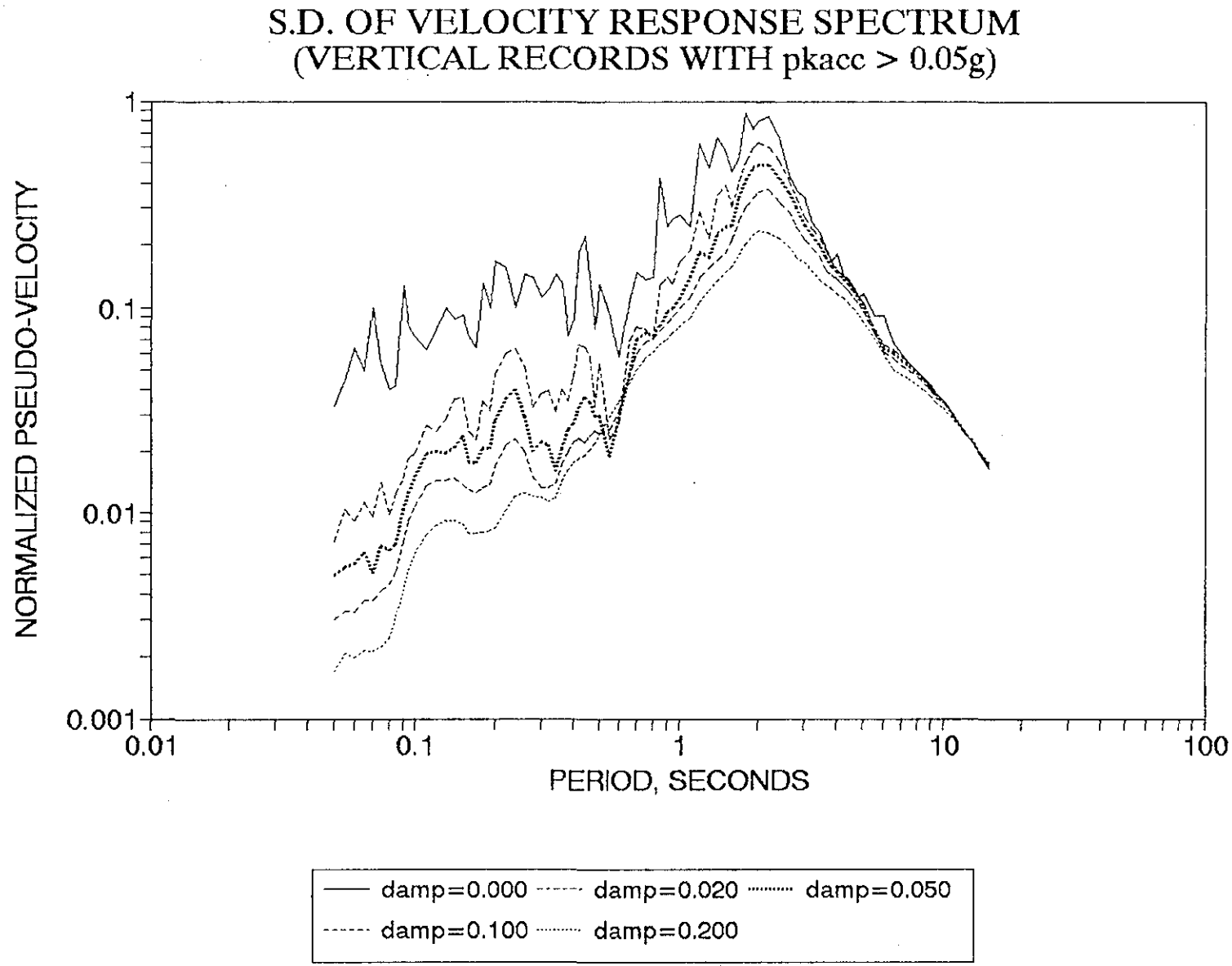
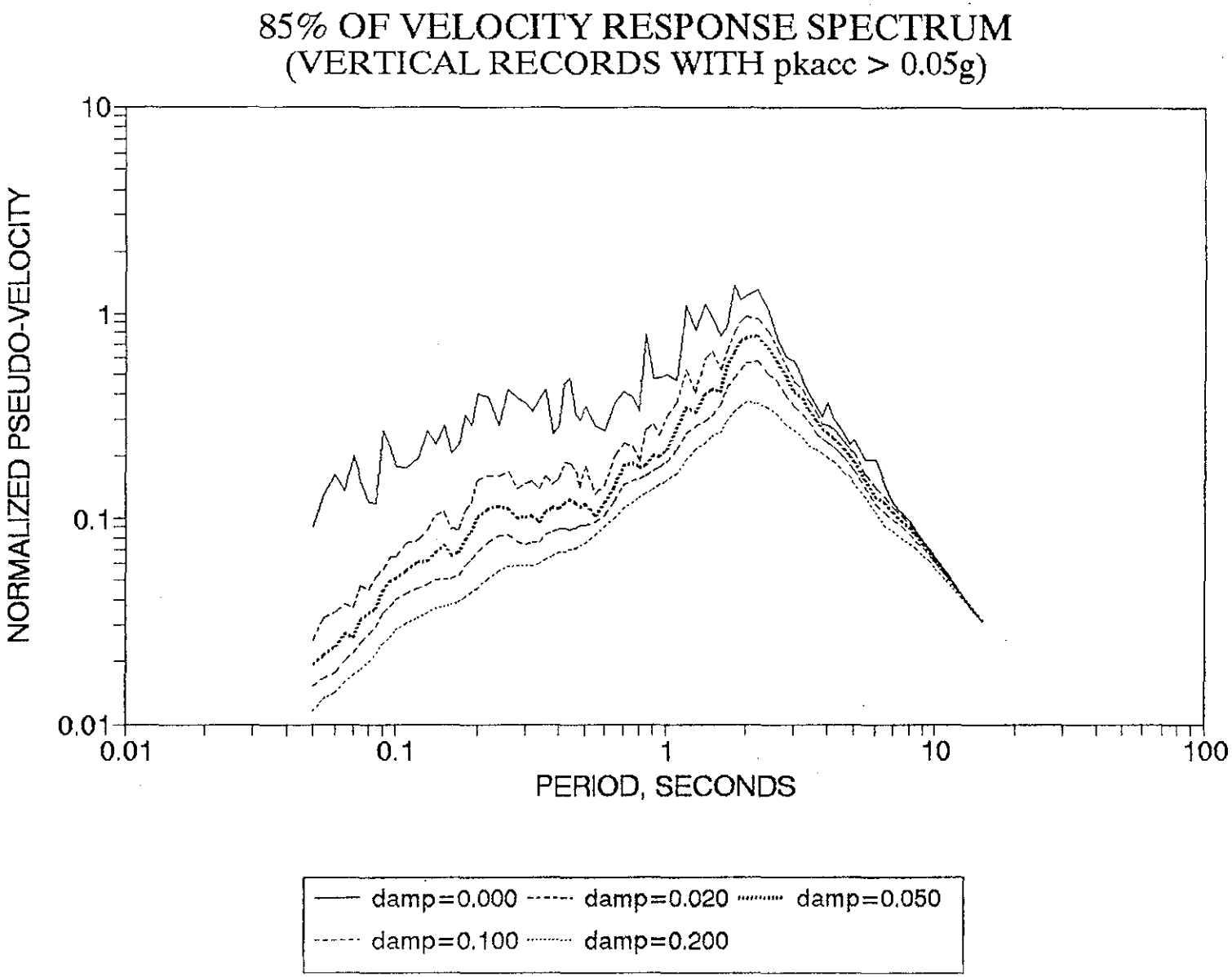

S.D. OF VELOCITY RESPONSE SPECTRUM
(VERTICAL RECORDS WITH pkacc > 0.05g)
NORMALIZED PSEUDO-VELOCITY
1
0.1
0.01
0.001
0.01
0.1
1
10
100
PERIOD, SECONDS
damp=0.000
damp=0.020
damp=0.050
damp=0.100
damp=0.200

Figure 5.24


85% OF VELOCITY RESPONSE SPECTRUM
(VERTICAL RECORDS WITH pkacc > 0.05g)
NORMALIZED PSEUDO-VELOCITY
10
1
0.1
0.01
0.01
0.1
1
10
100
PERIOD, SECONDS
damp=0.000
damp=0.020
damp=0.050
damp=0.100
damp=0.200

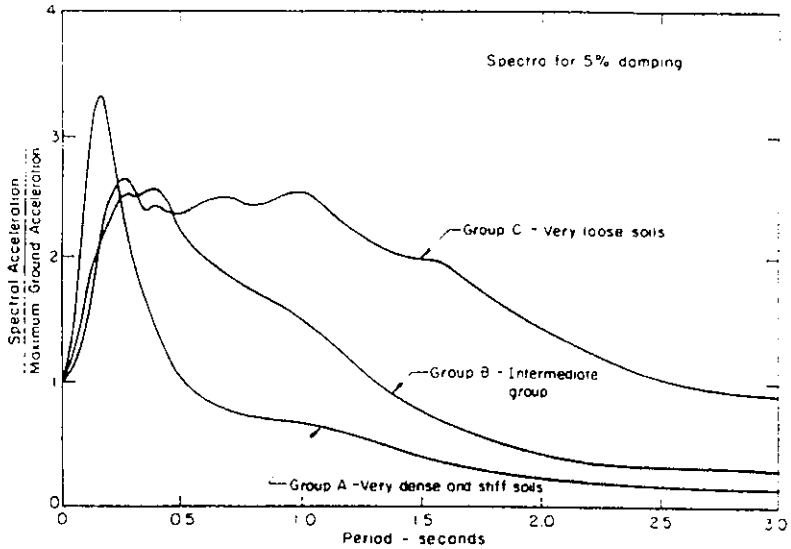


Fig. 25a. Average acceleration response spectra for Japan earthquakes (after Hayashi et. al. 1971 and Seed et al. 1976)

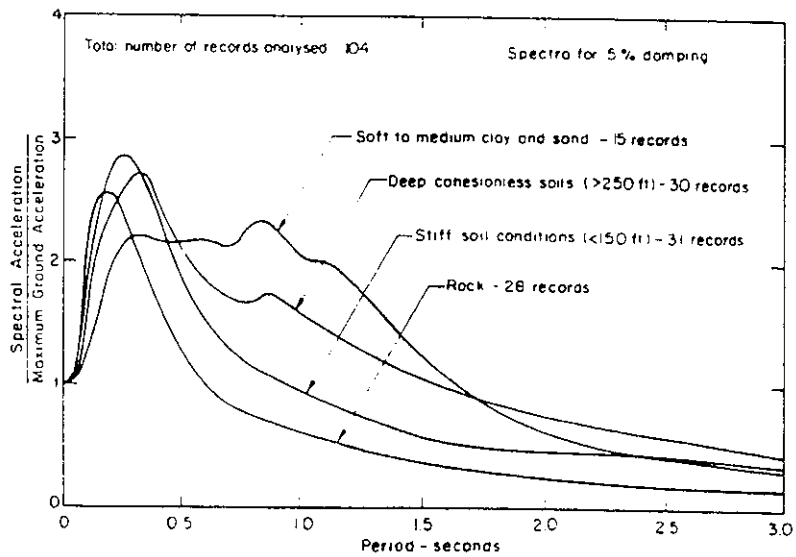


Fig. 25b. Average acceleration response spectra for California earthquakes (after seed et al. 1976)

CHAPTER 6

SUMMARY AND CONCLUSIONS

Characteristics of strong motion associated with Alaska earthquakes differ from those in other parts of the country. The conducted study was mainly concerned with ground motions caused by Alaska earthquakes. It included collecting available acceleration records associated with these earthquakes; developing response spectra from each of these records; developing normalized vertical and horizontal response spectra (both mean and 85%) from the individual spectra; and comparing mean horizontal spectra to corresponding spectra from California and Japan earthquakes.

Records used in the computation of the normalized response spectra were limited to those that triggered after the arrival of S–waves. These records were grouped into four groups and the standardized response spectra associated with each of these groups were computed. All records of horizontal acceleration were included in the first group while the second group included all records of vertical accelerations. The third group included all records of horizontal accelerations with peak accelerations larger than 0.1g, and the fourth group included all records of vertical accelerations with peak accelerations larger than 0.05g. Unfortunately, the number of available records associated with groups 3 and 4 was very small and therefore the normalized spectra associated with these groups are of limited use. The normalized spectra, plotted as normalized pseudo accelerations vs period, associated with groups 1 and 2 are re–plotted in this Chapter in Figures 6–1 through 6–4. Note that the normalized pseudo acceleration is equal to the ratio of spectral acceleration to peak ground acceleration which is the same as the

amplification ratio.

The mean normalized spectrum derived in this study (Figure 6–1) was compared to the corresponding spectra from California and Japan earthquakes (Figure 5–25). It was concluded that as far as amplification is concerned, the spectra based on Japan and California earthquakes are, in general, more conservative (more amplification) than those associated with Alaska earthquakes. However, this conclusion should be considered preliminary because of the limited number of records used in this study, the large proportion of small amplitude maximum accelerations among these records, and the inability (due to lack of availability of enough records) to account for site effects on response spectra. It is therefore important to reconfirm this conclusion in the future as more significant records of Alaska earthquakes recorded on different site conditions become available.

Figure 6.1

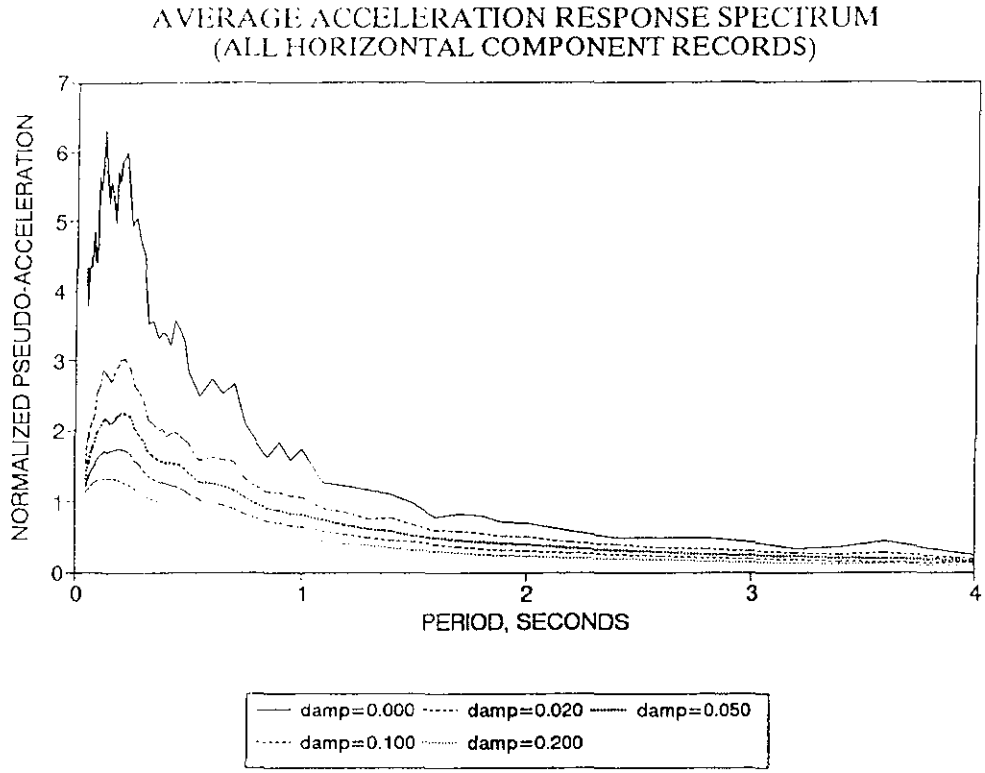


Figure 6.2

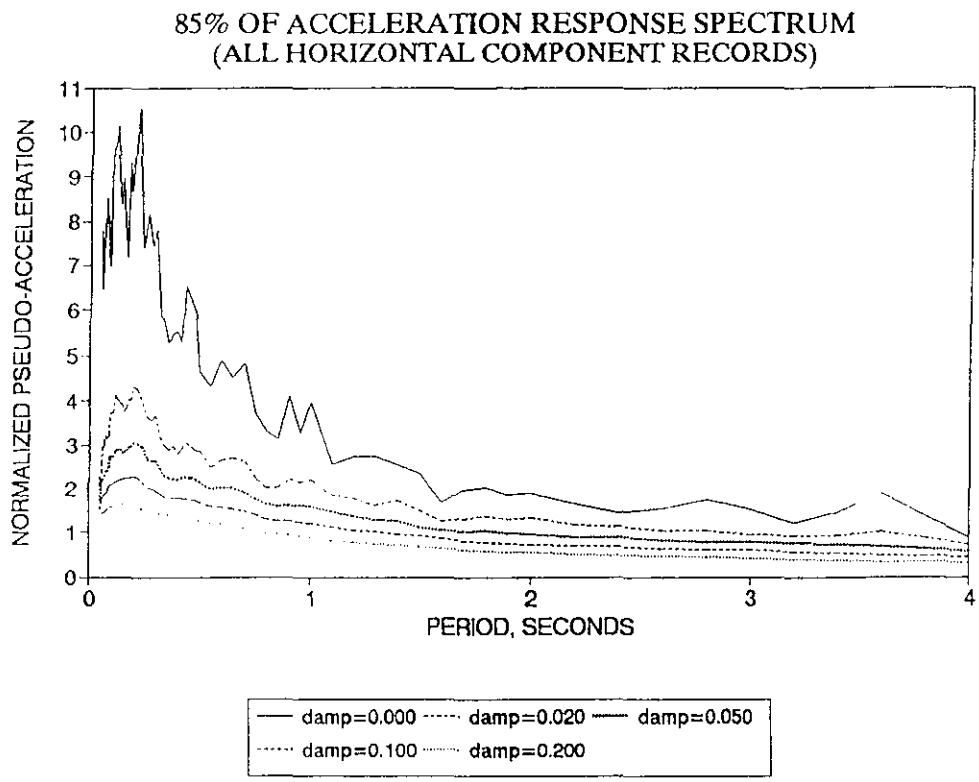


Figure 6.3

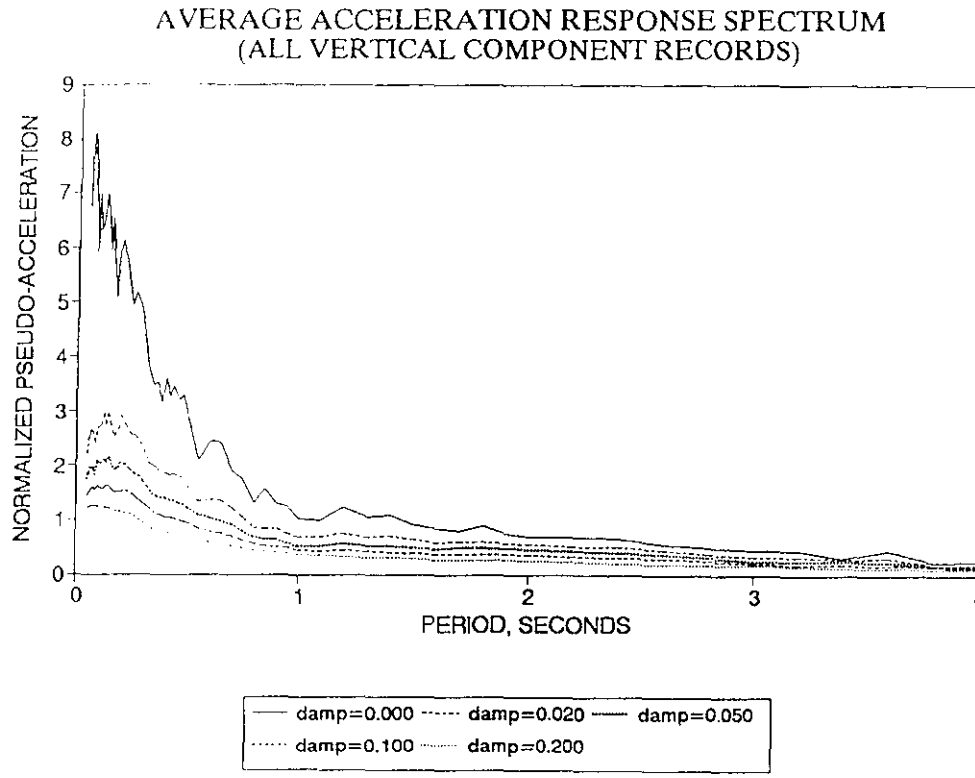
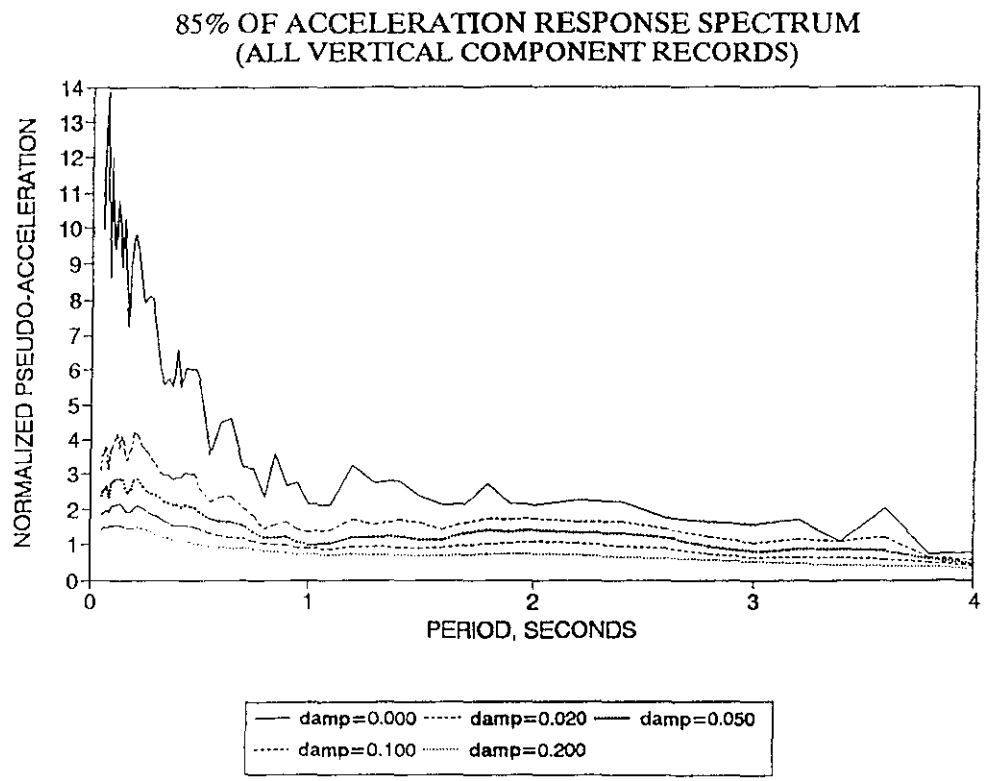


Figure 6.4



CHAPTER 7

REFERENCES

Beaven, T. and Jacob, K.H., 1984, "Processed Strong Motion Data From Subduction Zones: Alaska," Report # 1 in the series Lamont–Processed Strong Motion Data, Lamont–Doherty Geophysical Observatory, Colombia University, New York, October.

Blume, J.A., Sharp, R.L., and Dalal, J.S., 1973, "Recommendations for Shape of Earthquake Response Spectra," Report By John A. Blume and Associates, Engineers, San Francisco, California.

Converse, A.M., 1992, "BAP: Basic Strong Motion Accelerogram Software," Open File Report 92–296A, USGS, March.

Hanks, T.C. and Boor, T.M., 1984, "Moment Magnitude Relations in Theory and Practice," J. Geophys. Res., 89, pp 6229–6235.

Hanks, T.C. and Kanamori, H.,1979, "A Moment Magnitude Scale," J. Geophys. Res., 84, pp 2348–2350.

Hayashi, S., Tsuchida, H., and Kurata, E., 1971, "Average Response Spectra for Various Subsoil Coditions," Third Joint Meeting, U.S.–Japan Panel on Wind and Seismic Effects, UJNR, Tokyo, May 10–12, 1971.

Kanamori, H., 1977, "Energy Release in Great Earthquakes," J. Geophys. Res., 82, pp 2981–2988.

Housner, G.W., 1970, "Design Spectrum," Chapter 5 in Earthquake Engineering, e.d R.L. Weigel, Prentice Hall, Englewood Cliffs, New Jersey, pp. 93–106.

Newmark, 1970, "Current Trends in the Seismic Analysis and Design of High Rise Structures," Chapter 6 in Earthquake Engineering, e.d R.L. Weigel, Prentice Hall, Englewood Cliffs, New Jersey, pp. 403–424.

Newmark, N.M., Blume, J.A., and Kapur, K.K., 1973, "Seismic Design Spectra for Nuclear Power Plants," J. of the Power Div., ASCE, 99:P02, pp 287–203, November.

Newmark,N.M. and Hall, W.J., 1973, "Procedures and Criteria for Earthquake Resistant Design", Building Practices for Disaster Mitigation, National Bureau of Standards, Washington, D.C., Building Sciences Series 46, Vol. 1, pp 209–236, February.

Newmark, N.M. and Hall, W.J., 1978, " Development of Criteria for Seismic Review of Selected Nuclear Power Plants", Nuclear Regulatory Commission Report NUREG/CR–0098, May.

Newmark, N.W., Hall, W.J., and Mohraz, B., 1973, "A study of Vertical and

Horizontal Earthquake Spectra," Directorate of Licensing, U.S. Atomic Commission Report WASH–1255, April.

Nigam, N.C. and Jennings, P.C., 1969, "Calculation of Response Spectra from Strong Motion Earthquake Records," Bulletin of the Seismological Society of America, 59(2), pp. 909–922, April.

Seed, H.B., Ugas, C., and Lysmer, J., 1974, "Site Dependent Spectra for Earthquake Resistant Design," EERC 74–12, Earthquake Engineering Research Center, University of California Berkeley.

Seed, H.B., Ugas, C., and Lysmer, J., 1976, "Site Dependent Spectra for Earthquake Resistant Design", Bulletin of the Seismological Society of America, 66(1), pp. 221–243.

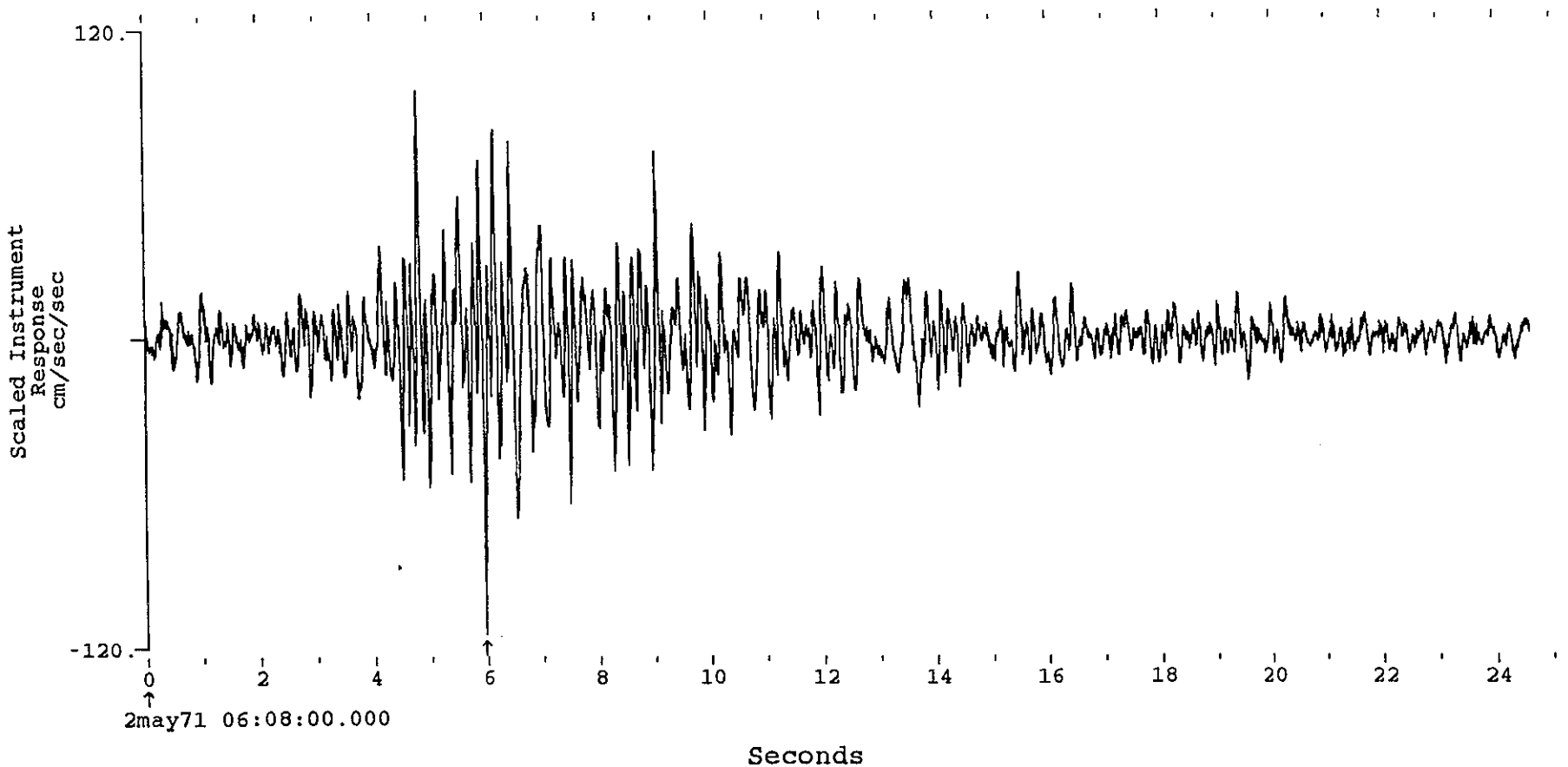
APPENDIX A

ACCELERATION TIME HISTORIES FROM ALASKA EARTHQUAKES

TIME SERIES PLOT

FILE062.SMC

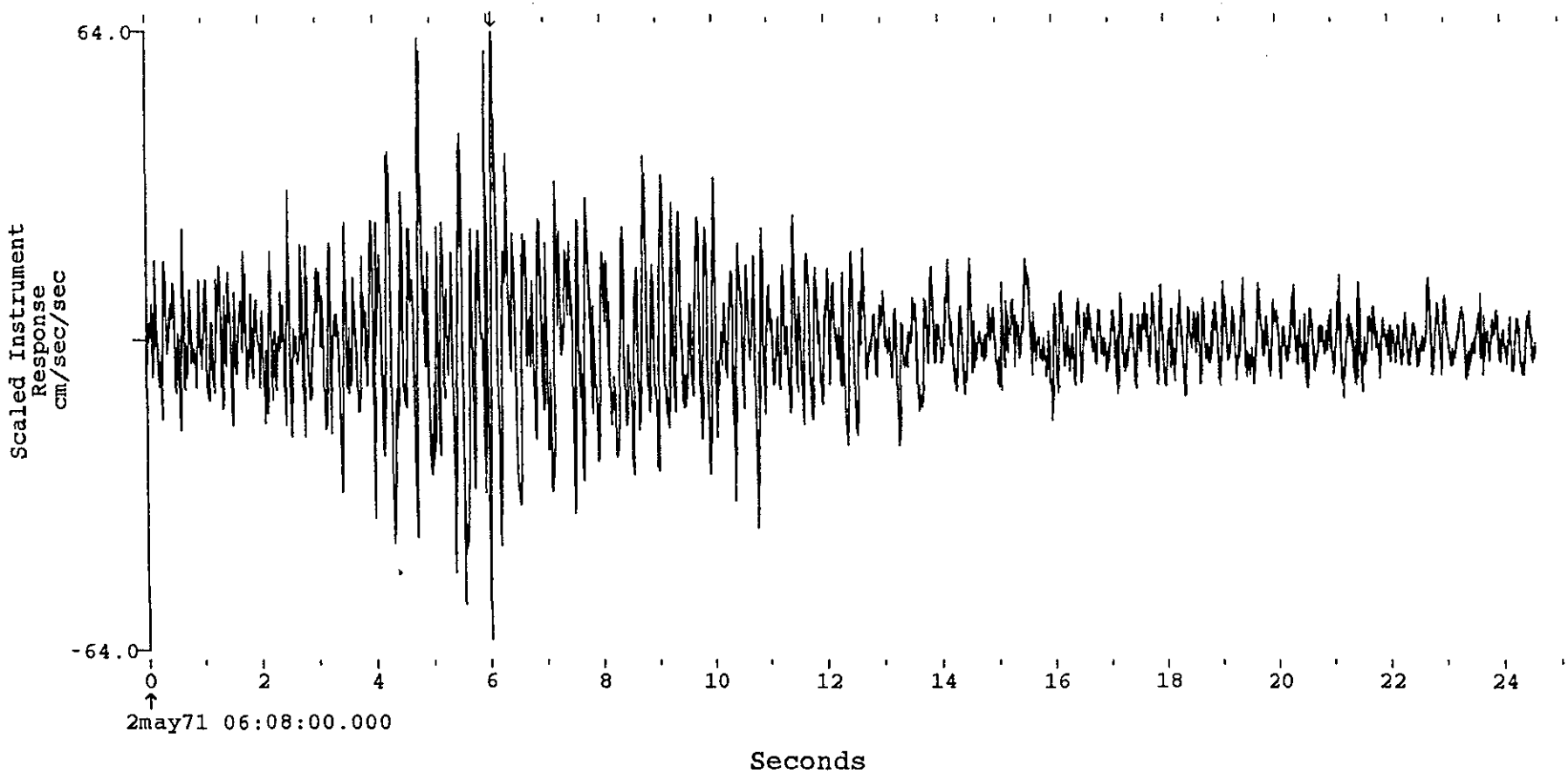
STATION: 2701 ADN* ADAK, NAVAL BASE .
51.880N 176.580W RK BASALT CONCRETE VAULT GROUND LEVEL.
AR-240 CHANNEL 1 N180E SCALE=2.050(*) PER=.0550 DAMP=.59 .
EVENT: 1971 MAY 02 06:08 51.420N 177.210W 38KM M=6.8 IV .
EPIC DIST = 67KM AZIMUTH AT STN = 41
Peak values (cm/sec/sec): -114.65



TIME SERIES PLOT

FILE063.SMC

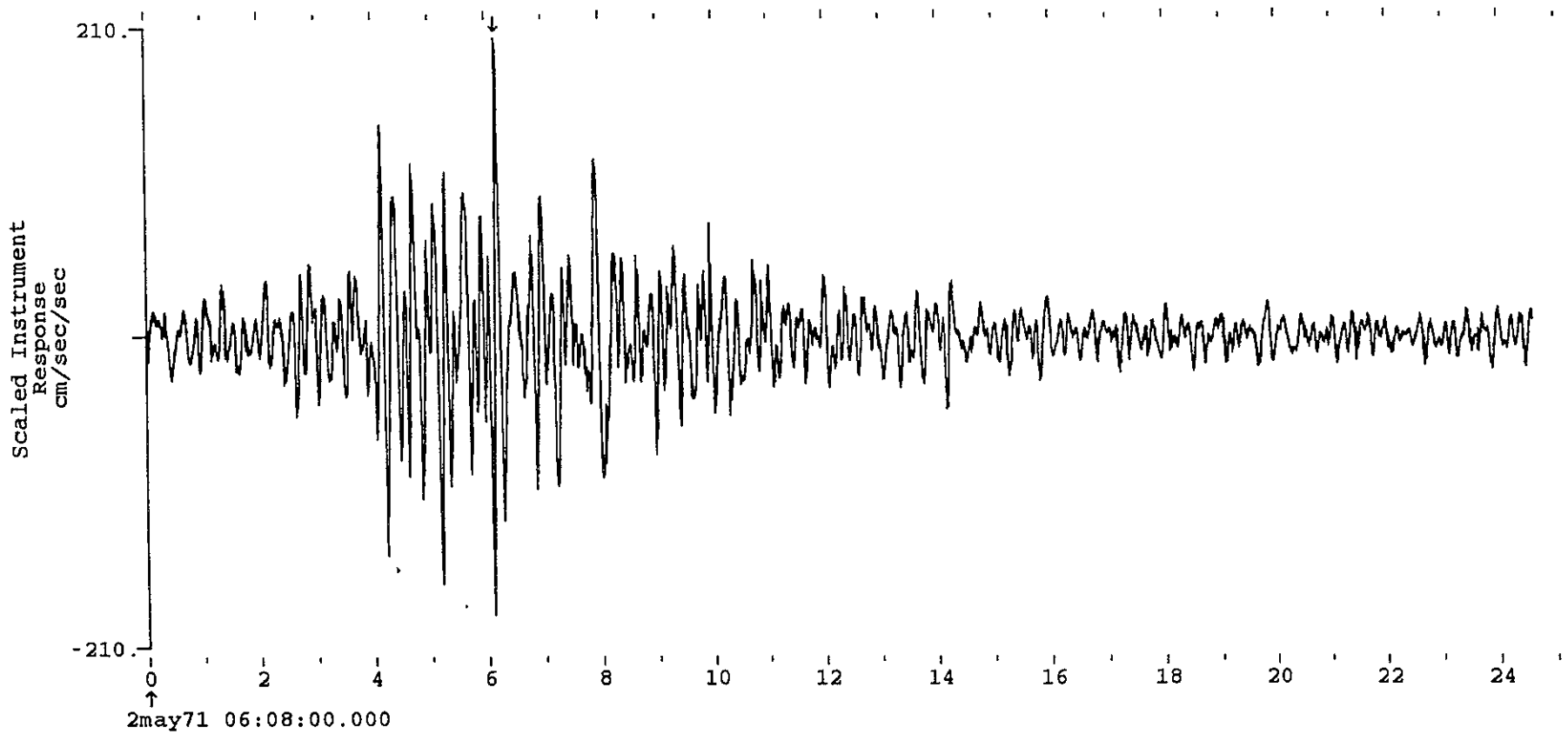
STATION: 2701 ADN* ADAK, NAVAL BASE .
51.880N 176.580W RK BASALT CONCRETE VAULT GROUND LEVEL.
AR-240 CHANNEL 2 UP SCALE=1.625(*) PER=.0510 DAMP=.59 .
EVENT: 1971 MAY 02 06:08 51.420N 177.210W 38KM M=6.8 IV .
EPIC DIST = 67KM AZIMUTH AT STN = 41
Peak values (cm/sec/sec): 63.66



TIME SERIES PLOT

FILE064.SMC

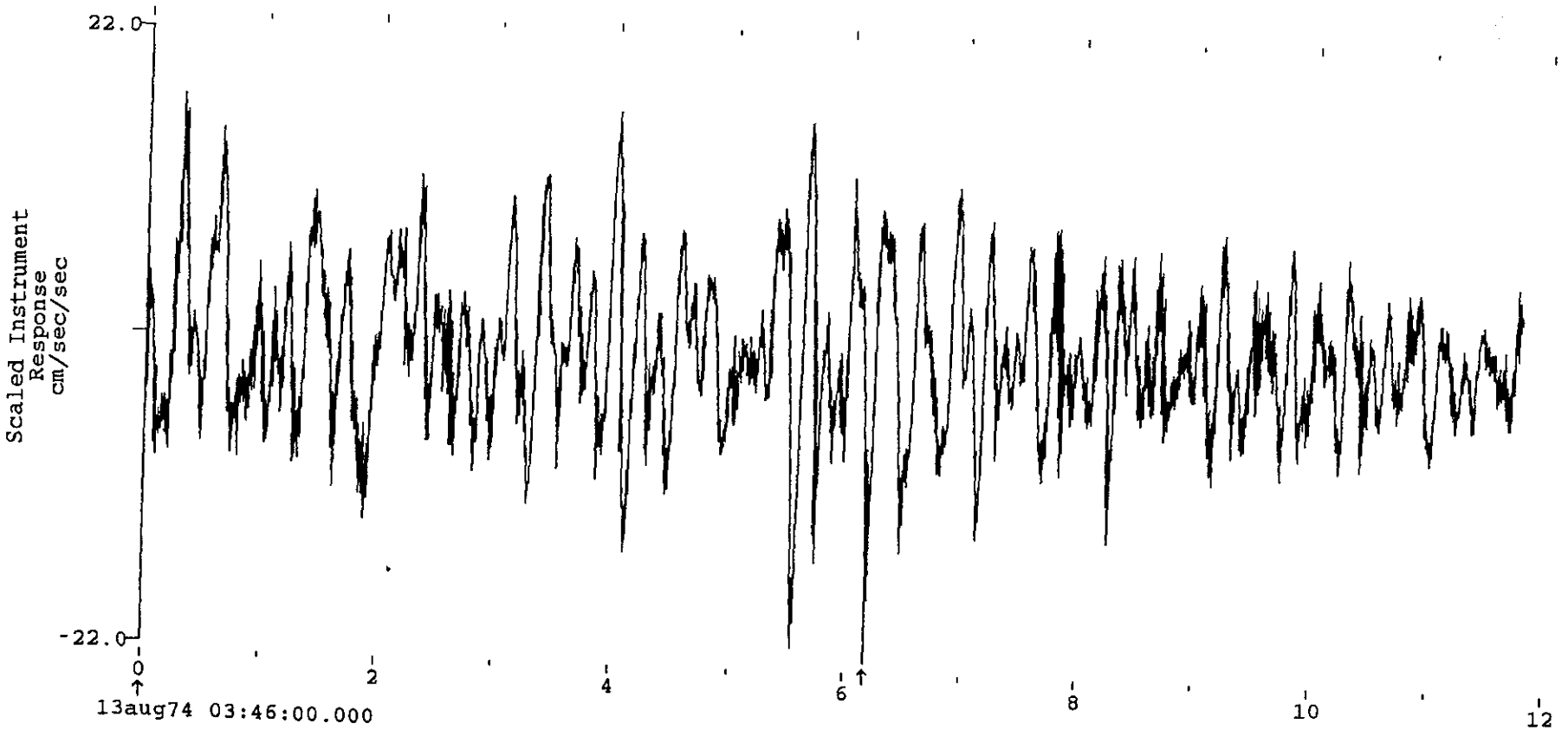
STATION: 2701 ADN* ADAK, NAVAL BASE .
51.880N 176.580W RK BASALT CONCRETE VAULT GROUND LEVEL.
AR-240 CHANNEL 3 N090E SCALE=1.875(*) PER=.0550 DAMP=.59 .
EVENT: 1971 MAY 02 06:08 51.420N 177.210W 38KM M=6.8 IV .
EPIC DIST = 67KM AZIMUTH AT STN = 41
Peak values (cm/sec/sec): 203.67



TIME SERIES PLOT

FILE077.SMC

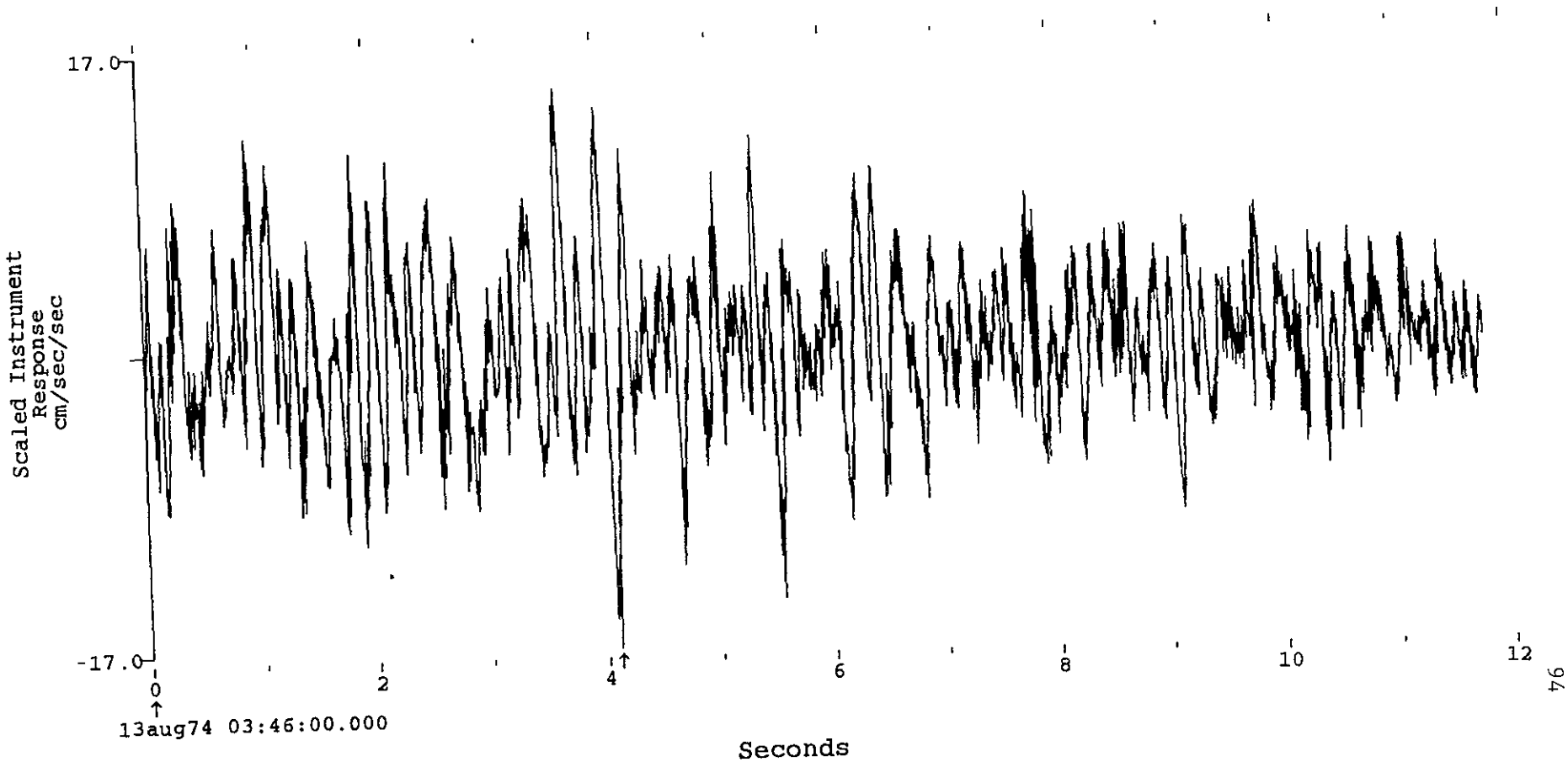
STATION: 2701 ADN* ADAK, NAVAL BASE .
51.880N 176.580W RK BASALT CONCRETE VAULT GROUND LEVEL.
AR-240 CHANNEL 1 N180E SCALE=2.050(*) PER=.0550 DAMP=.59 .
EVENT: 1974 AUG 13 03:46 51.490N 178.110W 47KM M=6.1 V .
DISTANCE 114KM AZIMUTH AT STN = 68
Peak values (cm/sec/sec): -21.94



TIME SERIES PLOT

FILE078.SMC

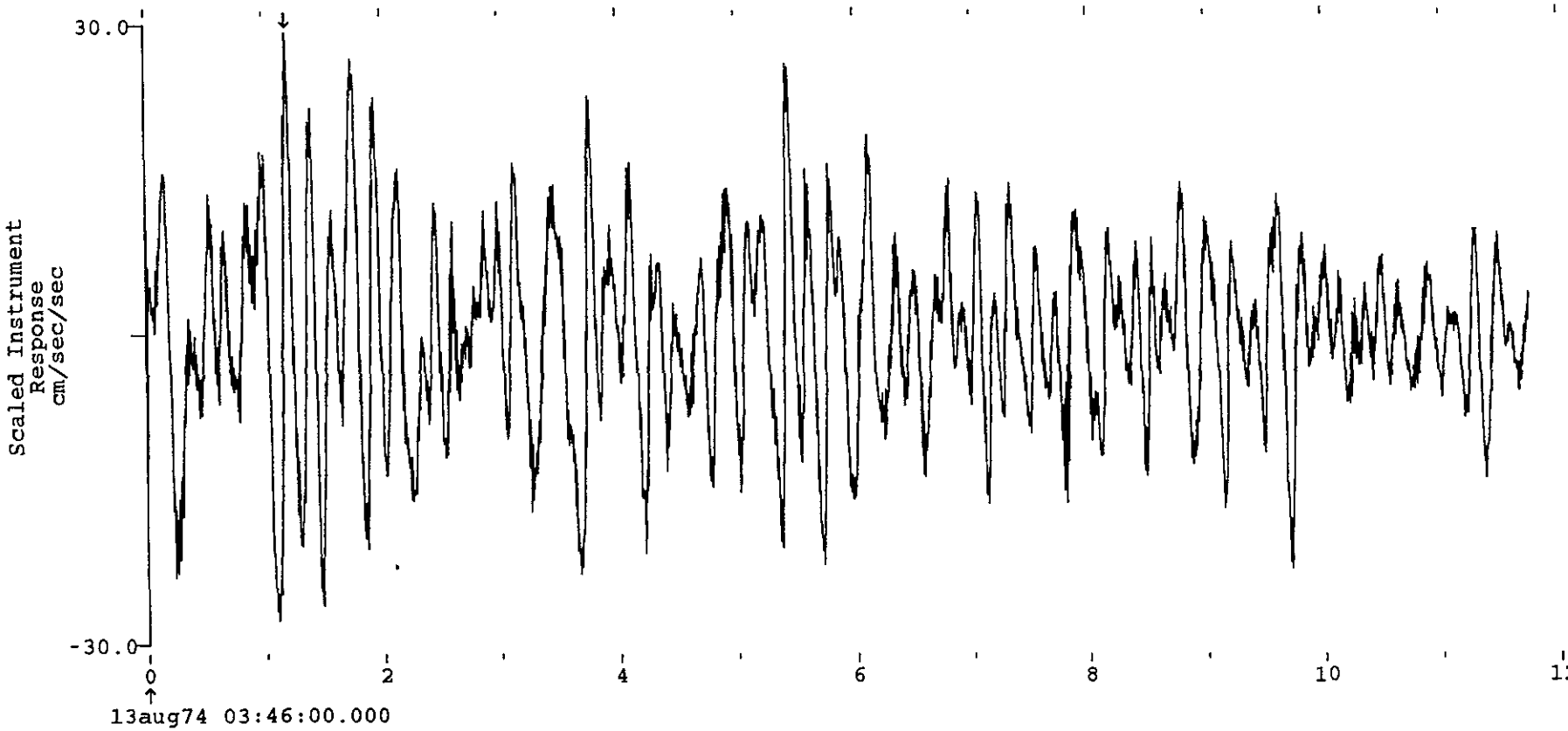
STATION: 2701 ADN* ADAK, NAVAL BASE .
51.880N 176.580W RK BASALT CONCRETE VAULT GROUND LEVEL.
AR-240 CHANNEL 2 UP SCALE=1.625(*) PER=.0510 DAMP=.59 .
EVENT: 1974 AUG 13 03:46 51.490N 178.110W 47KM M=6.1 V .
DISTANCE 114KM AZIMUTH AT STN = 68
Peak values (cm/sec/sec): -16.97



TIME SERIES PLOT

FILE079.SMC

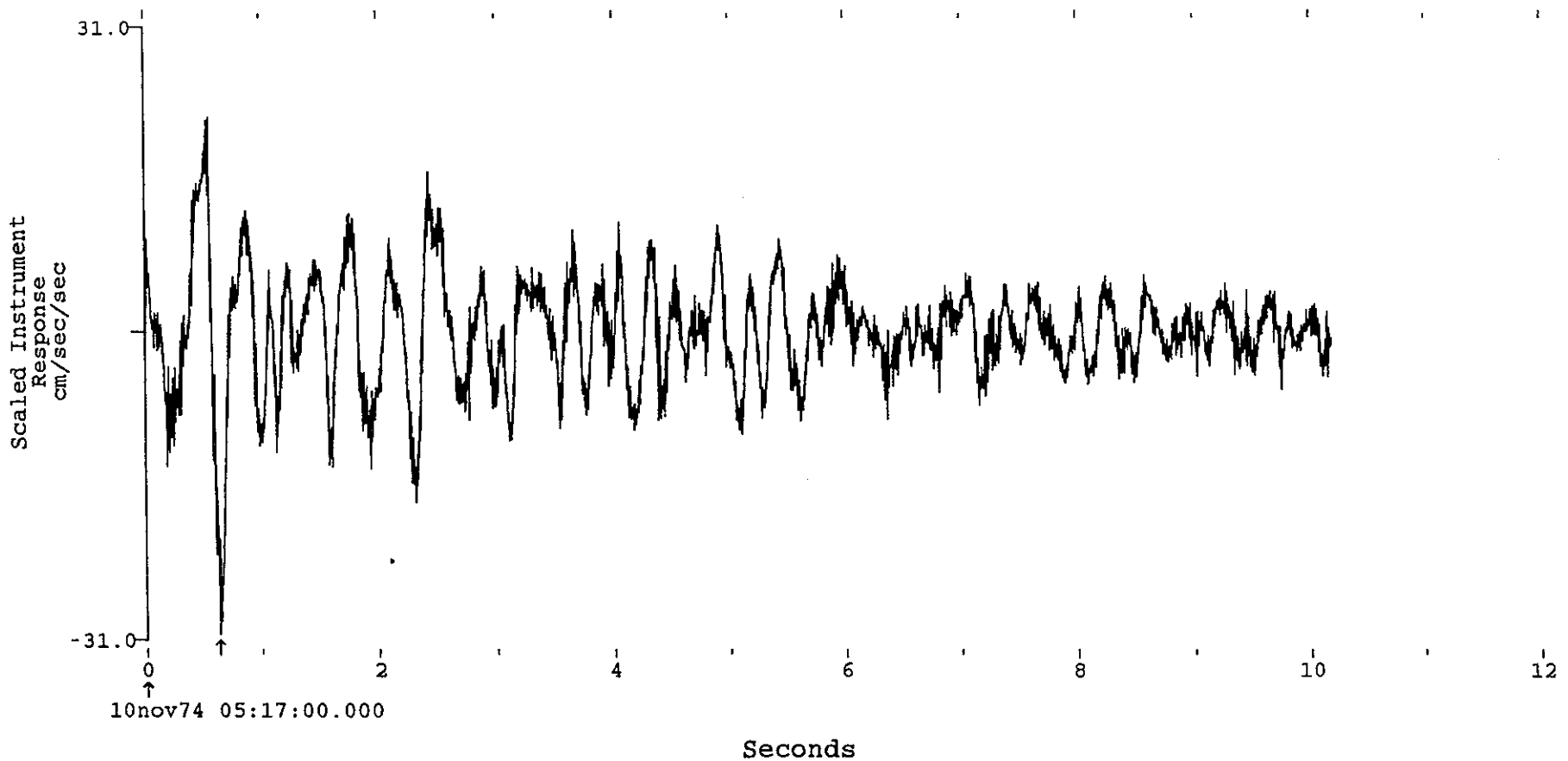
STATION: 2701 ADN* ADAK, NAVAL BASE .
51.880N 176.580W RK BASALT CONCRETE VAULT GROUND LEVEL.
AR-240 CHANNEL 3 N090E SCALE=1.875(*) PER=.0550 DAMP=.59 .
EVENT: 1974 AUG 13 03:46 51.490N 178.110W 47KM M=6.1 V .
DISTANCE 114KM AZIMUTH AT STN = 68
Peak values (cm/sec/sec): 29.18



TIME SERIES PLOT

FILE080.SMC

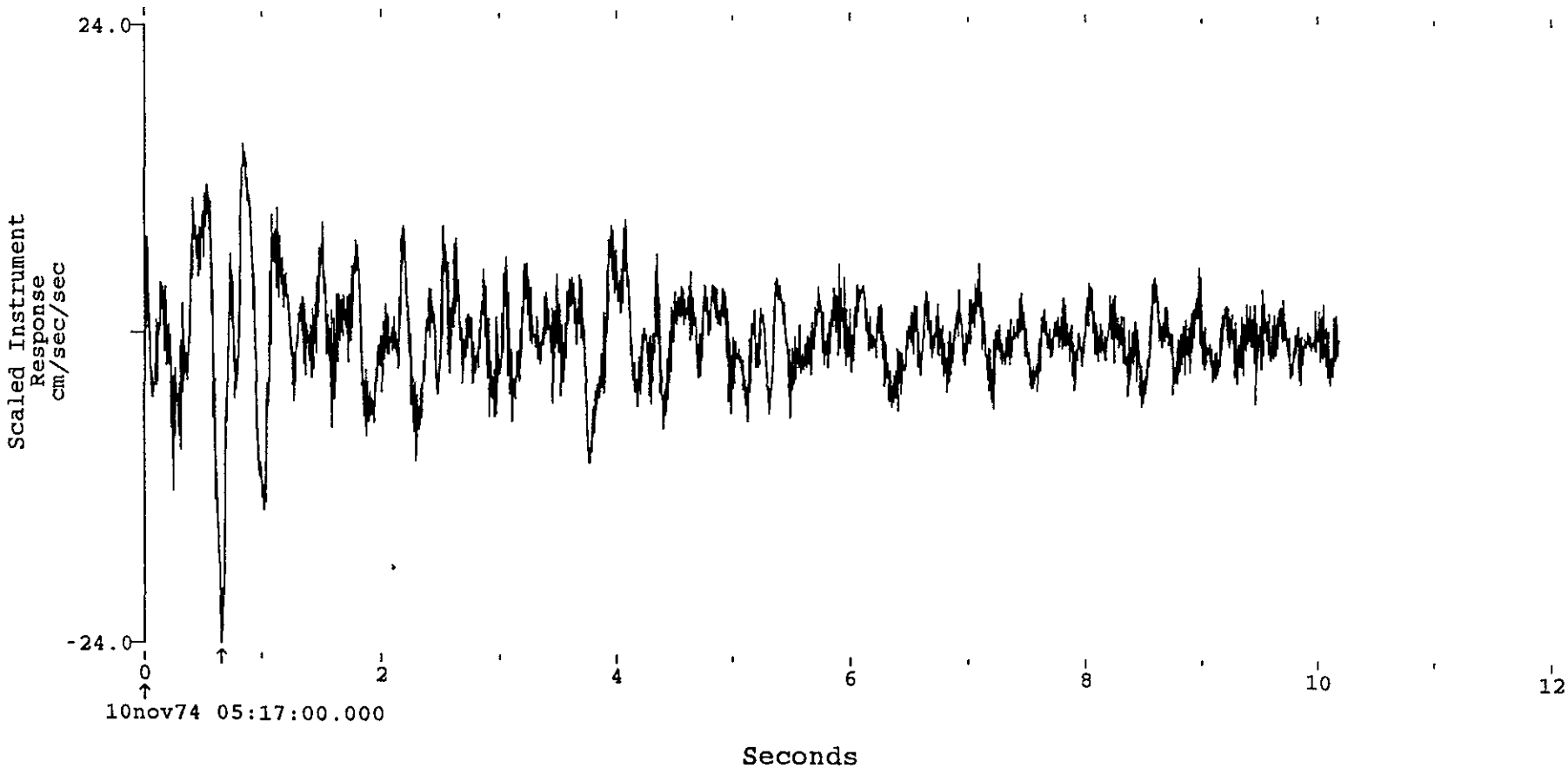
STATION: 2701 ADN* ADAK, NAVAL BASE .
51.880N 176.580W RK BASALT CONCRETE VAULT GROUND LEVEL.
AR-240 CHANNEL 1 N180E SCALE=2.050(*) PER=.0550 DAMP=.59 .
EVENT: 1974 NOV 11 05:17 51.590N 178.080W 69KM M=6.1 VI .
DISTANCE 108KM AZIMUTH AT STN = 73
Peak values (cm/sec/sec): -30.35



TIME SERIES PLOT

FILE081.SMC

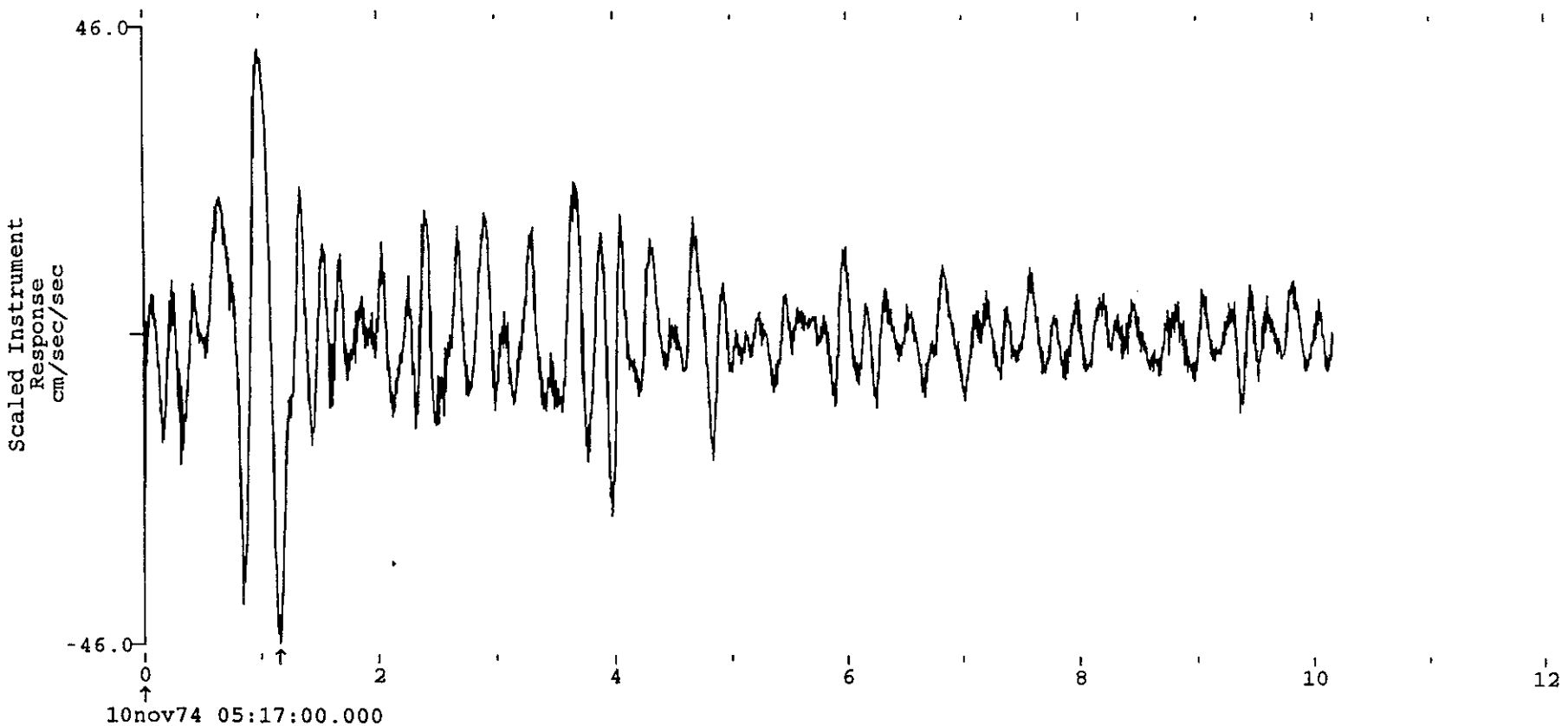
STATION: 2701 ADN* ADAK, NAVAL BASE .
51.880N 176.580W RK BASALT CONCRETE VAULT GROUND LEVEL.
AR-240 CHANNEL 2 UP SCALE=1.625(*) PER=.0510 DAMP=.59 .
EVENT: 1974 NOV 11 05:17 51.590N 178.080W 69KM M=6.1 VI .
DISTANCE 108KM AZIMUTH AT STN = 73
Peak values (cm/sec/sec): -23.95



TIME SERIES PLOT

FILE082.SMC

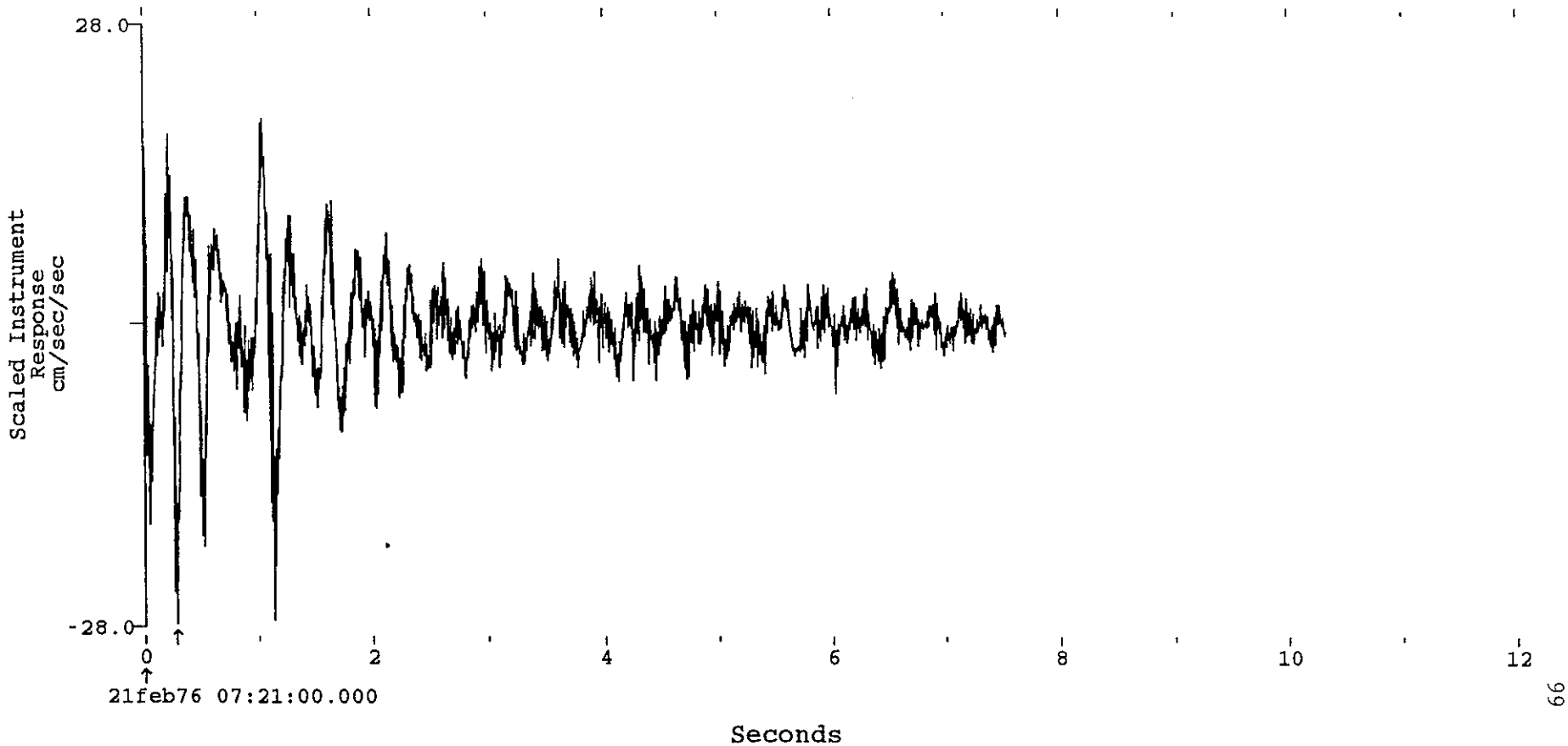
STATION: 2701 ADN* ADAK, NAVAL BASE .
51.880N 176.580W RK BASALT CONCRETE VAULT GROUND LEVEL.
AR-240 CHANNEL 3 N090E SCALE=1.875(*) PER=.0550 DAMP=.59 .
EVENT: 1974 NOV 11 05:17 51.590N 178.080W 69KM M=6.1 VI .
DISTANCE 108KM AZIMUTH AT STN = 73
Peak values (cm/sec/sec): -45.72



TIME SERIES PLOT

FILE098.SMC

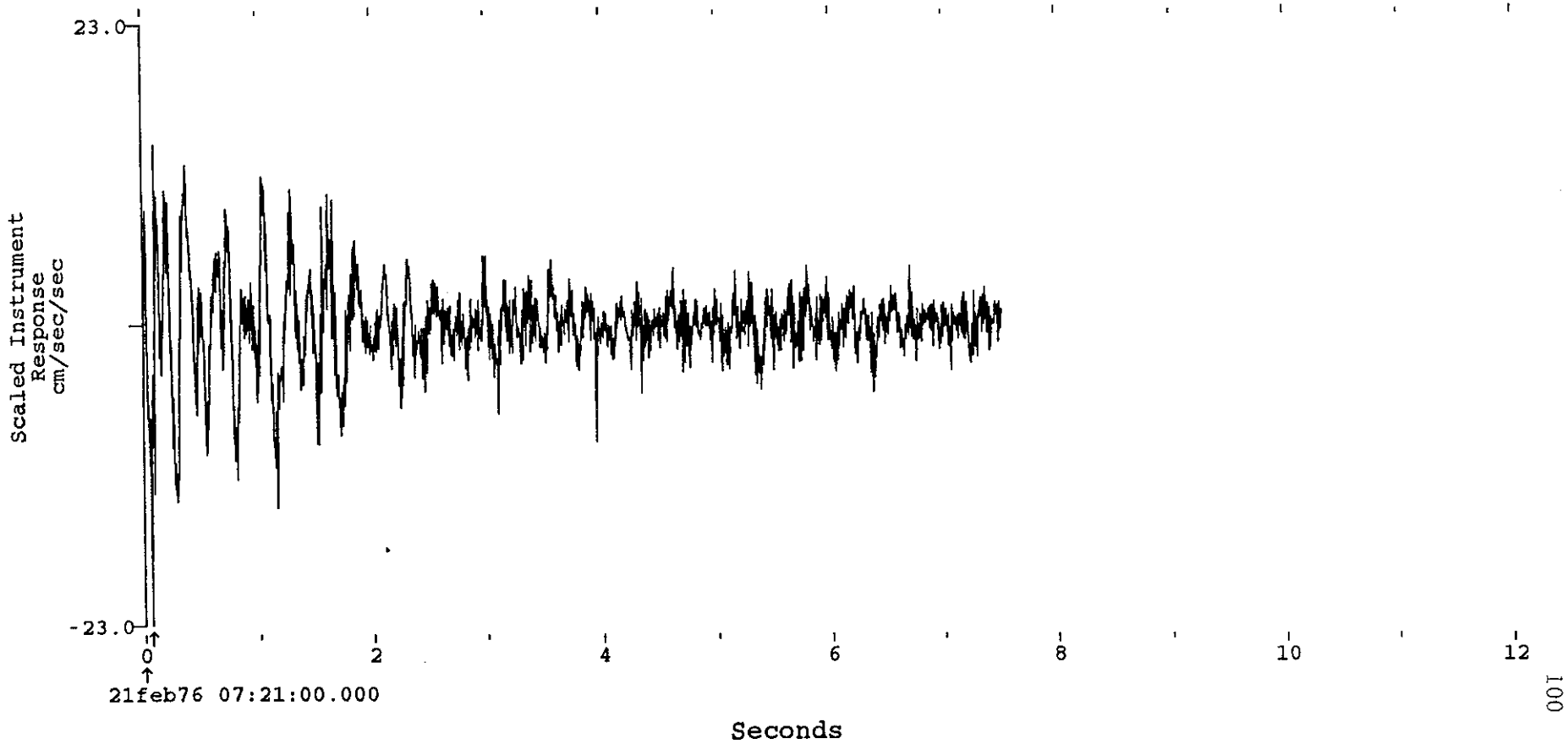
STATION: 2701 ADN* ADAK, NAVAL BASE .
51.880N 176.580W RK BASALT CONCRETE VAULT GROUND LEVEL .
AR-240 CHANNEL 1 N180E SCALE=2.050(*) PER=.0550 DAMP=.59 .
EVENT: 1976 FEB 22 07:21 51.570N 176.810W 61KM M=4.7 IV .
EPIC DIST = 38KM AZIMUTH AT STN = 24
Peak values (cm/sec/sec): -27.69



TIME SERIES PLOT

FILE099.SMC

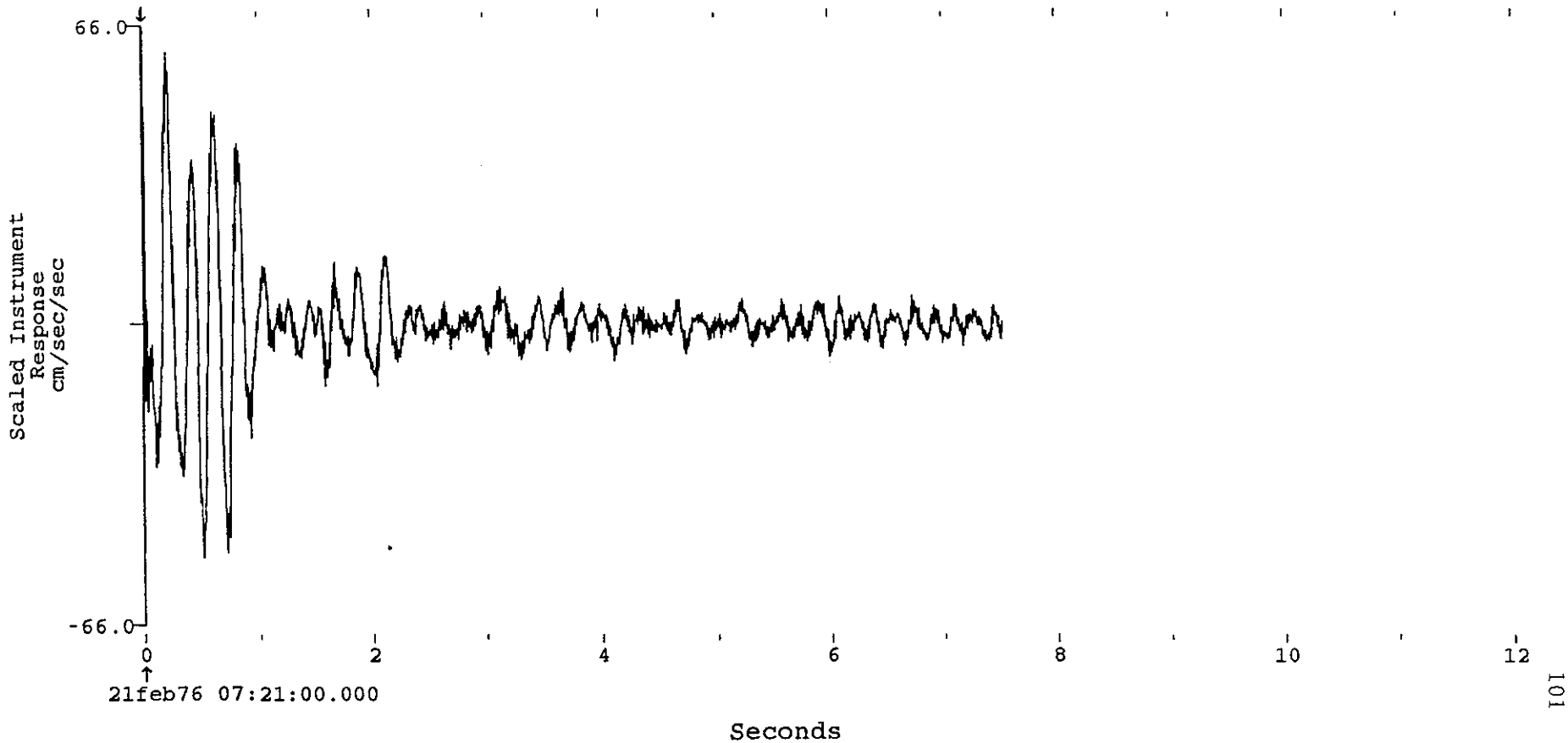
STATION: 2701 ADN* ADAK, NAVAL BASE .
51.880N 176.580W RK BASALT CONCRETE VAULT GROUND LEVEL .
AR-240 CHANNEL 2 UP SCALE=1.625(*) PER=.0510 DAMP=.59 .
EVENT: 1976 FEB 22 07:21 51.570N 176.810W 61KM M=4.7 IV .
EPIC DIST = 38KM AZIMUTH AT STN = 24
Peak values (cm/sec/sec): -22.95



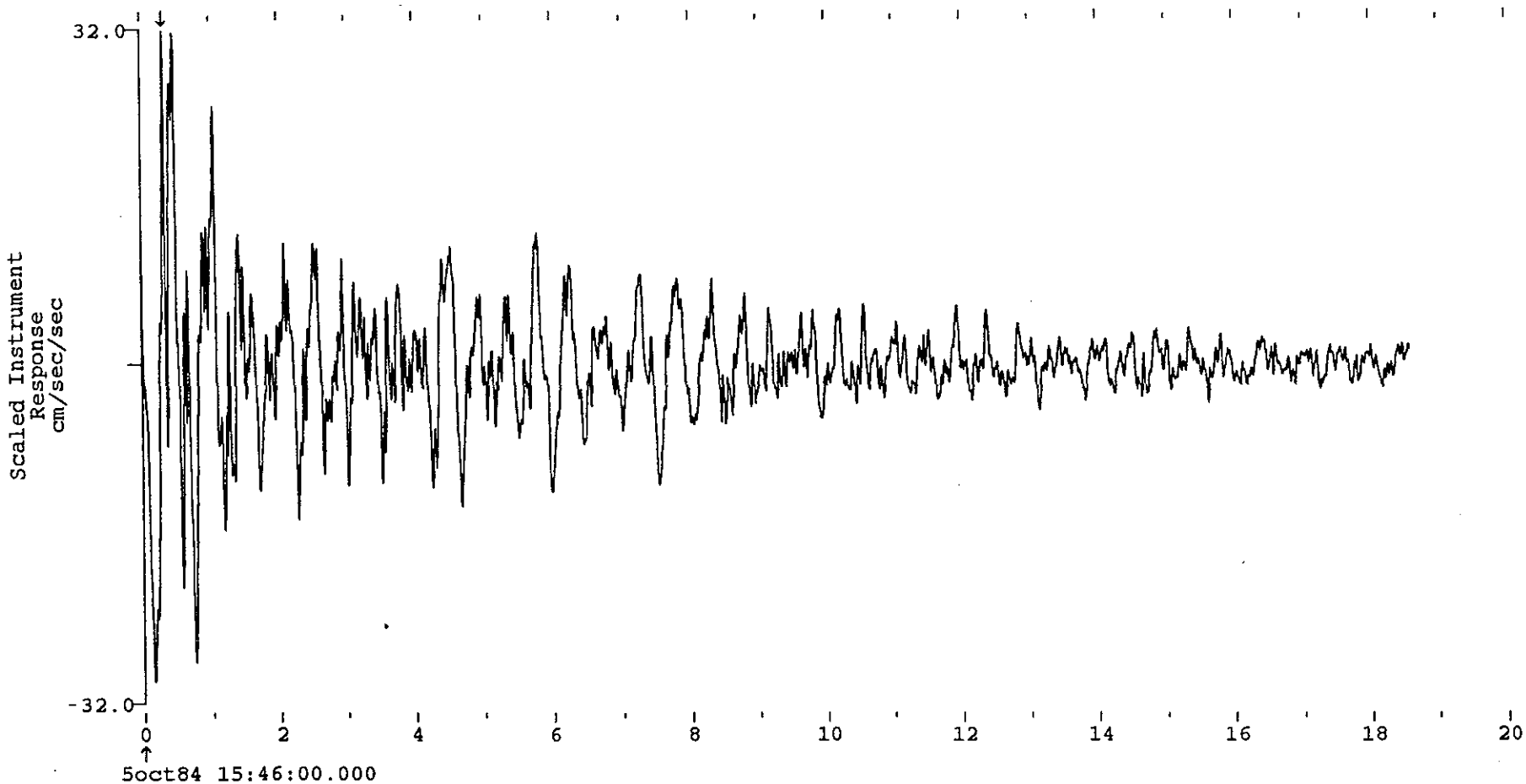
TIME SERIES PLOT

FILE100.SMC

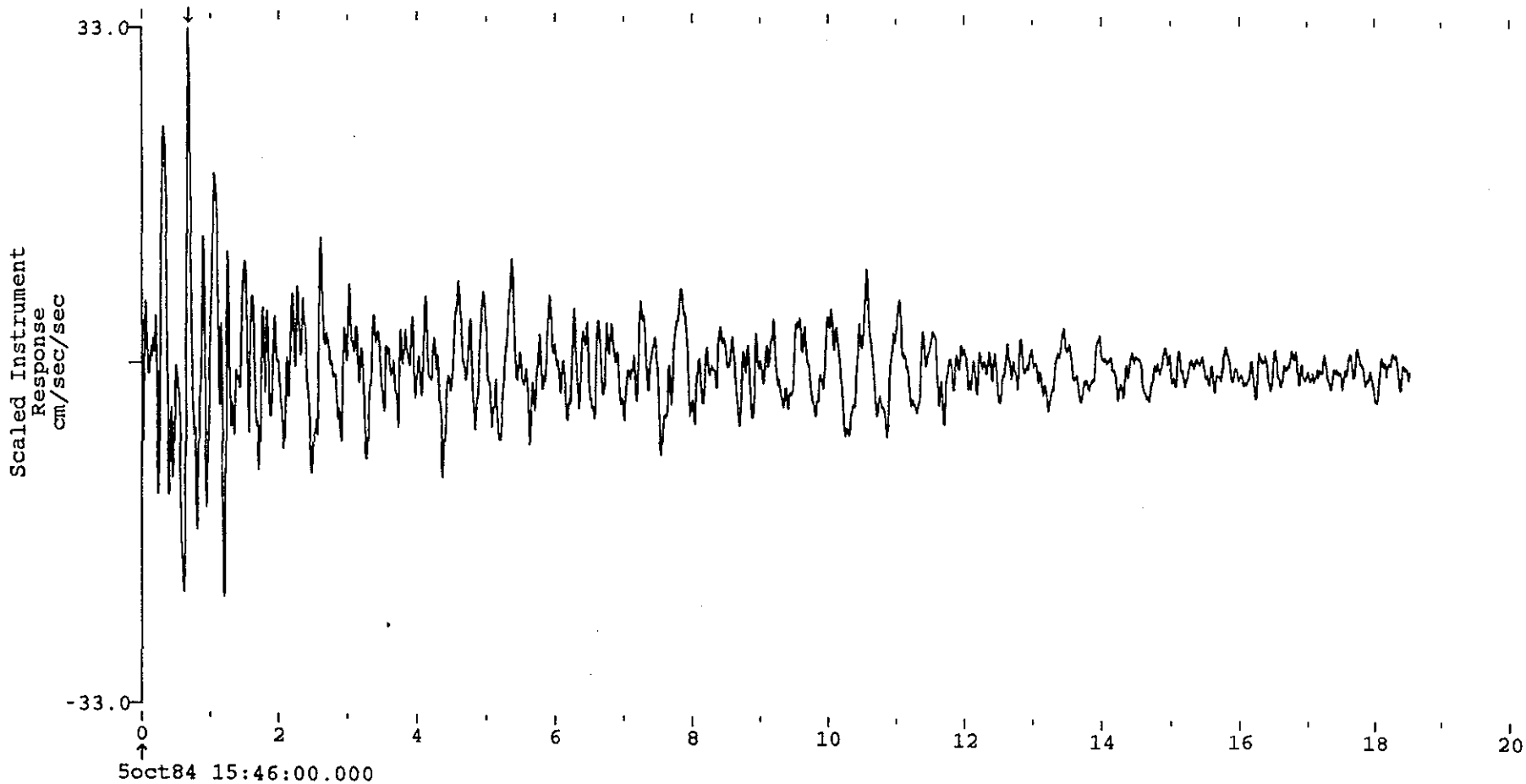
STATION: 2701 ADN* ADAK, NAVAL BASE .
51.880N 176.580W RK BASALT CONCRETE VAULT GROUND LEVEL .
AR-240 CHANNEL 3 N090E SCALE=1.875(*) PER=.0550 DAMP=.59 .
EVENT: 1976 FEB 22 07:21 51.570N 176.810W 61KM M=4.7 IV .
EPIC DIST = 38KM AZIMUTH AT STN = 24
Peak values (cm/sec/sec): 65.70



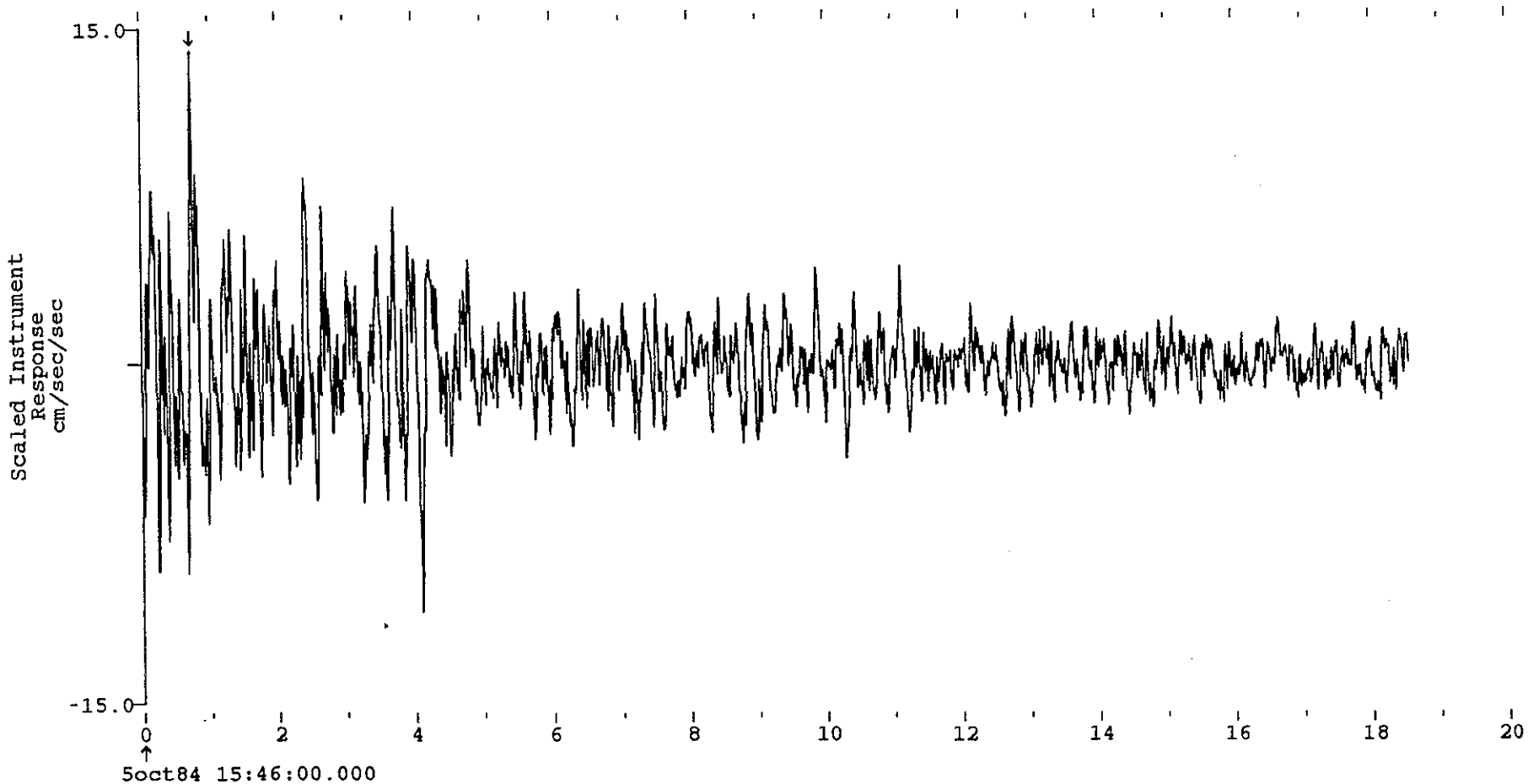
TIME SERIES PLOT
F40.SMC
STATION: 2701 ADN - US NAVAL BASE, ADAK ALASKA
51.876N -176.642W HANGAR BLDG
AR-240 CHANNEL ? N197 SCALE=??? PER=0.0196 DAMP=0.6750
EVENT: 1984 10 5 1546 51.871N -176.016W 68.0KM M=5.2
EPIC DIST = 43.2KM AZIMUTH AT STN = 90.5
Peak values (cm/sec/sec): 31.79



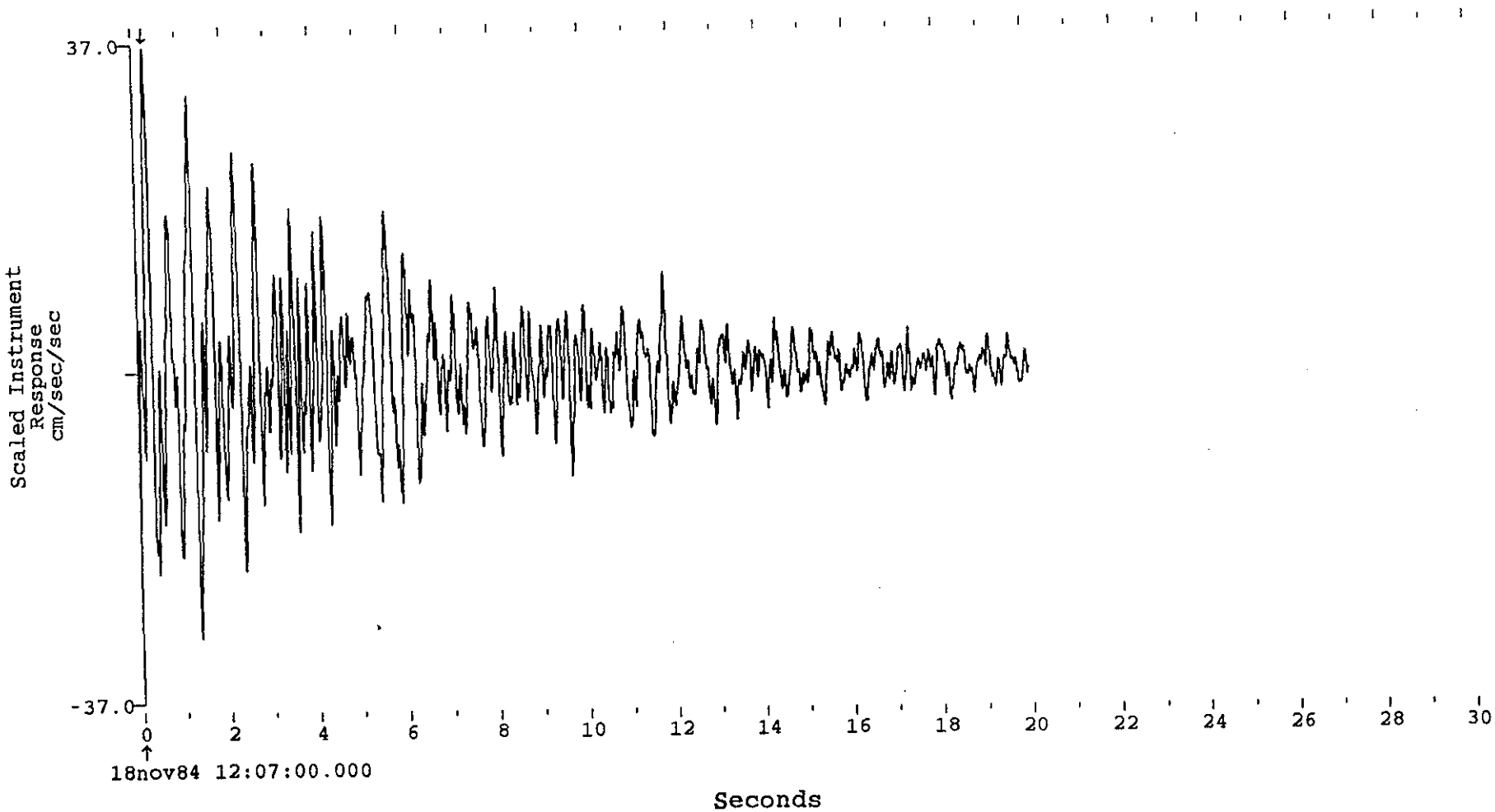
TIME SERIES PLOT
F42.SMC
STATION: 2701 ADN - US NAVAL BASE, ADAK ALASKA
51.876N -176.642W HANGAR BLDG
AR-240 CHANNEL ? N287 SCALE=??? PER=0.0196 DAMP=0.6200
EVENT: 1984 10 5 1546 51.871N -176.016W 68.0KM M=5.2
EPIC DIST = 43.2KM AZIMUTH AT STN = 90.5
Peak values (cm/sec/sec): 32.90



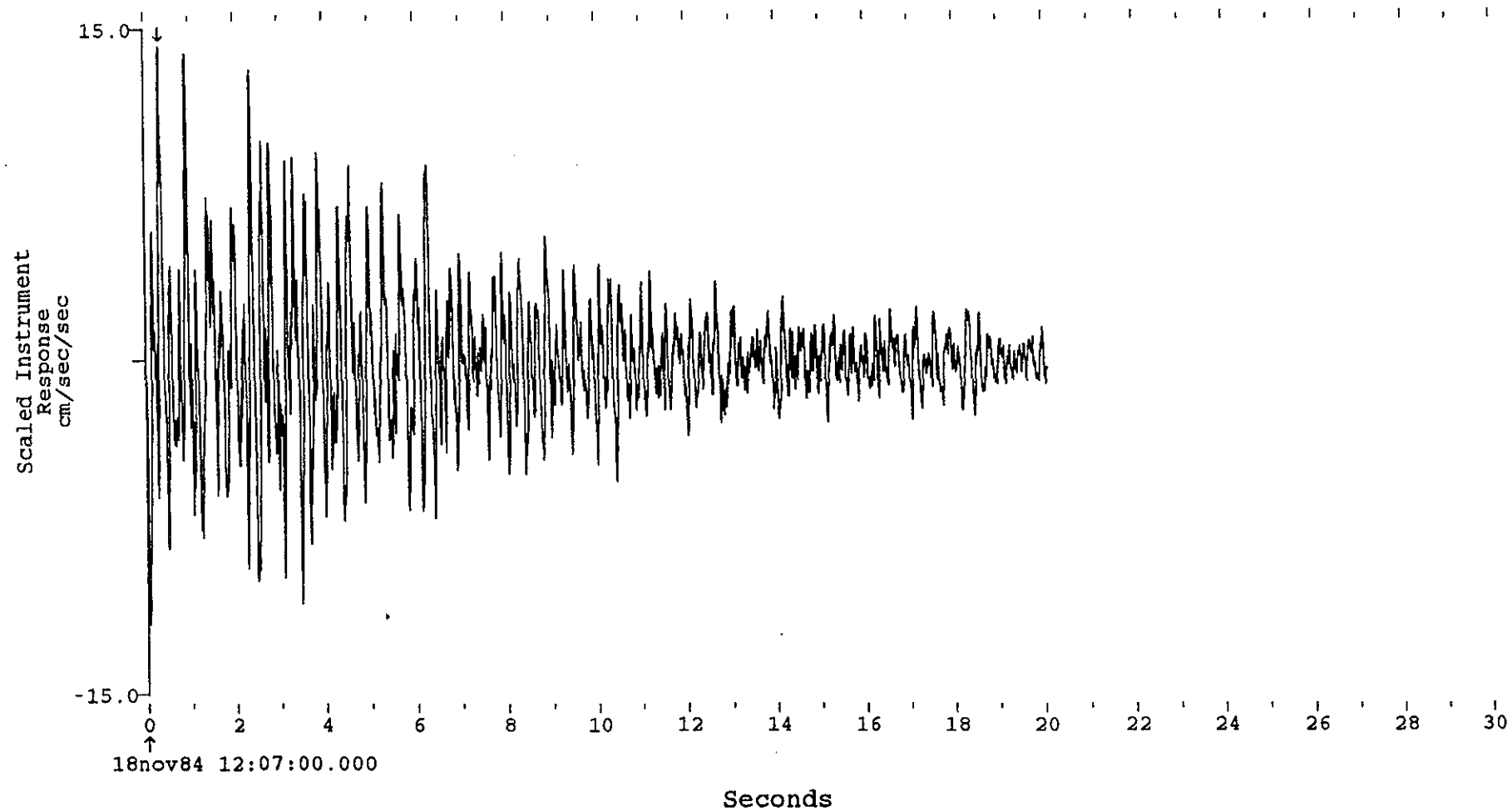
TIME SERIES PLOT
F41.SMC
STATION: 2701 ADN - US NAVAL BASE, ADAK ALASKA
51.876N -176.642W HANGAR BLDG
AR-240 CHANNEL ? UP SCALE=??? PER=0.0194 DAMP=0.6400
EVENT: 1984 10 5 1546 51.871N -176.016W 68.0KM M=5.2
EPIC DIST = 43.2KM AZIMUTH AT STN = 90.5
Peak values (cm/sec/sec): 14.02



TIME SERIES PLOT
F45.SMC
STATION: 2701 ADN - US NAVAL BASE, ADAK ALASKA
51.876N -176.642W HANGAR BLDG
AR-240 CHANNEL ? N287 SCALE=??? PER=0.0196 DAMP=0.6200
EVENT: 1984 11 19 1207 51.777N -175.272W 58.0KM M=5.7
EPIC DIST = 95.2KM AZIMUTH AT STN = 96.1
Peak values (cm/sec/sec): 36.64

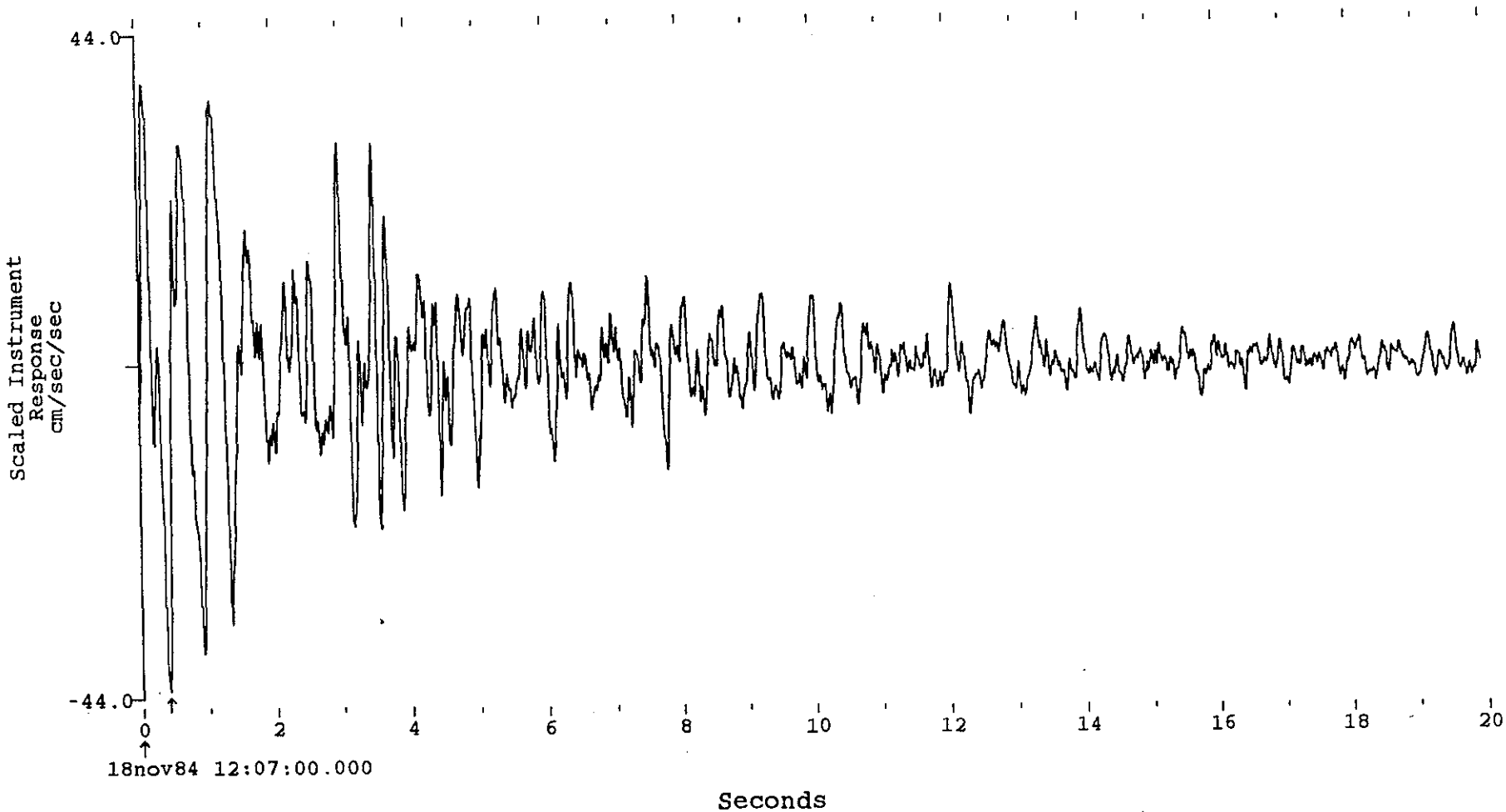


TIME SERIES PLOT
F44.SMC
STATION: 2701 ADN - US NAVAL BASE, ADAK ALASKA
51.876N -176.642W HANGAR BLDG
AR-240 CHANNEL ? UP SCALE=??? PER=0.0194 DAMP=0.6400
EVENT: 1984 11 19 1207 51.777N -175.272W 58.0KM M=5.7
EPIC DIST = 95.2KM AZIMUTH AT STN = 96.1
Peak values (cm/sec/sec): 14.19

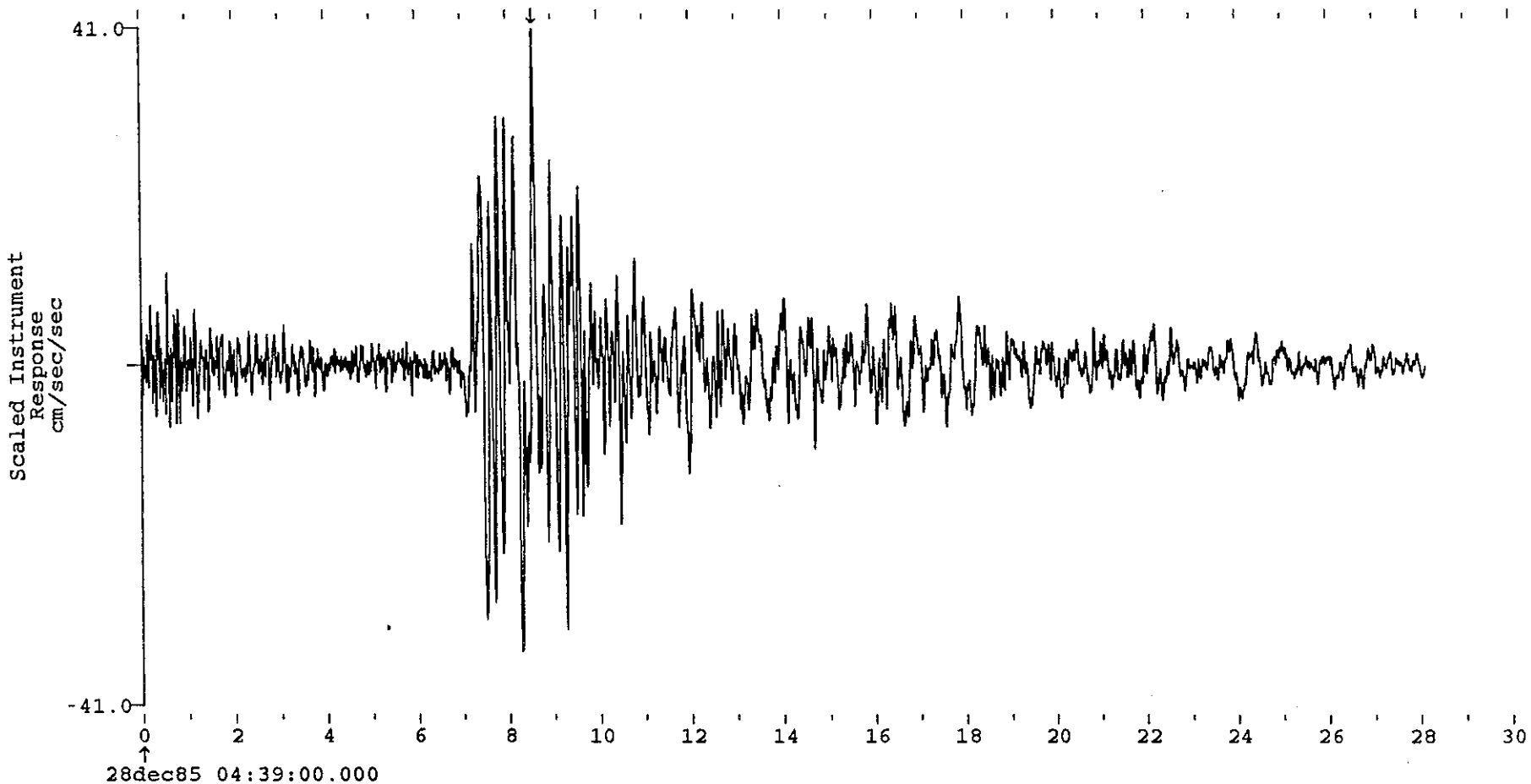


106

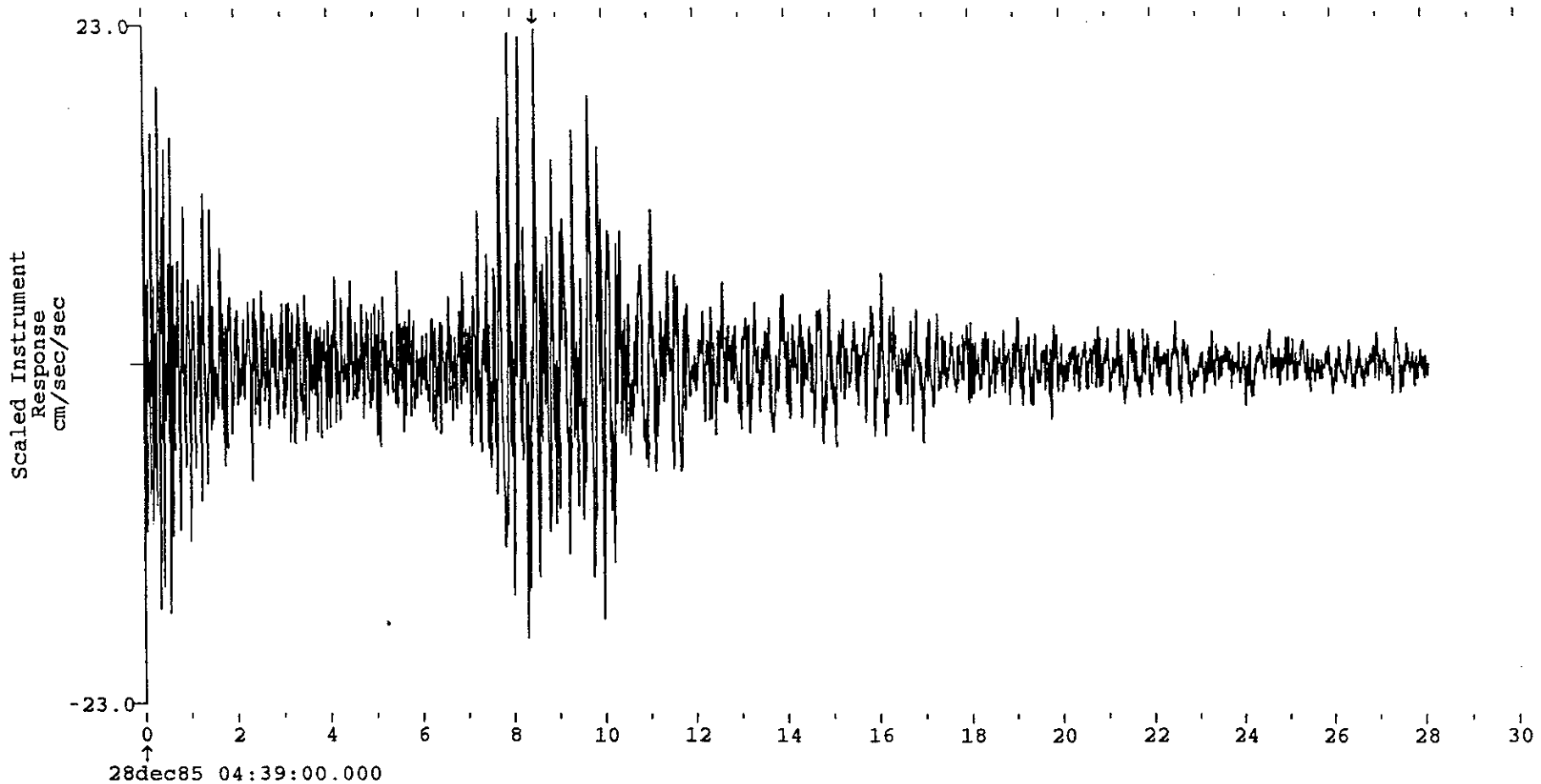
TIME SERIES PLOT
F43.SMC
STATION: 2701 ADN - US NAVAL BASE, ADAK ALASKA
51.876N -176.642W HANGAR BLDG
AR-240 CHANNEL ? N197 SCALE=??? PER=0.0196 DAMP=0.6750
EVENT: 1984 11 19 1207 51.777N -175.272W 58.0KM M=5.7
EPIC DIST = 95.2KM AZIMUTH AT STN = 96.1
Peak values (cm/sec/sec): -43.02



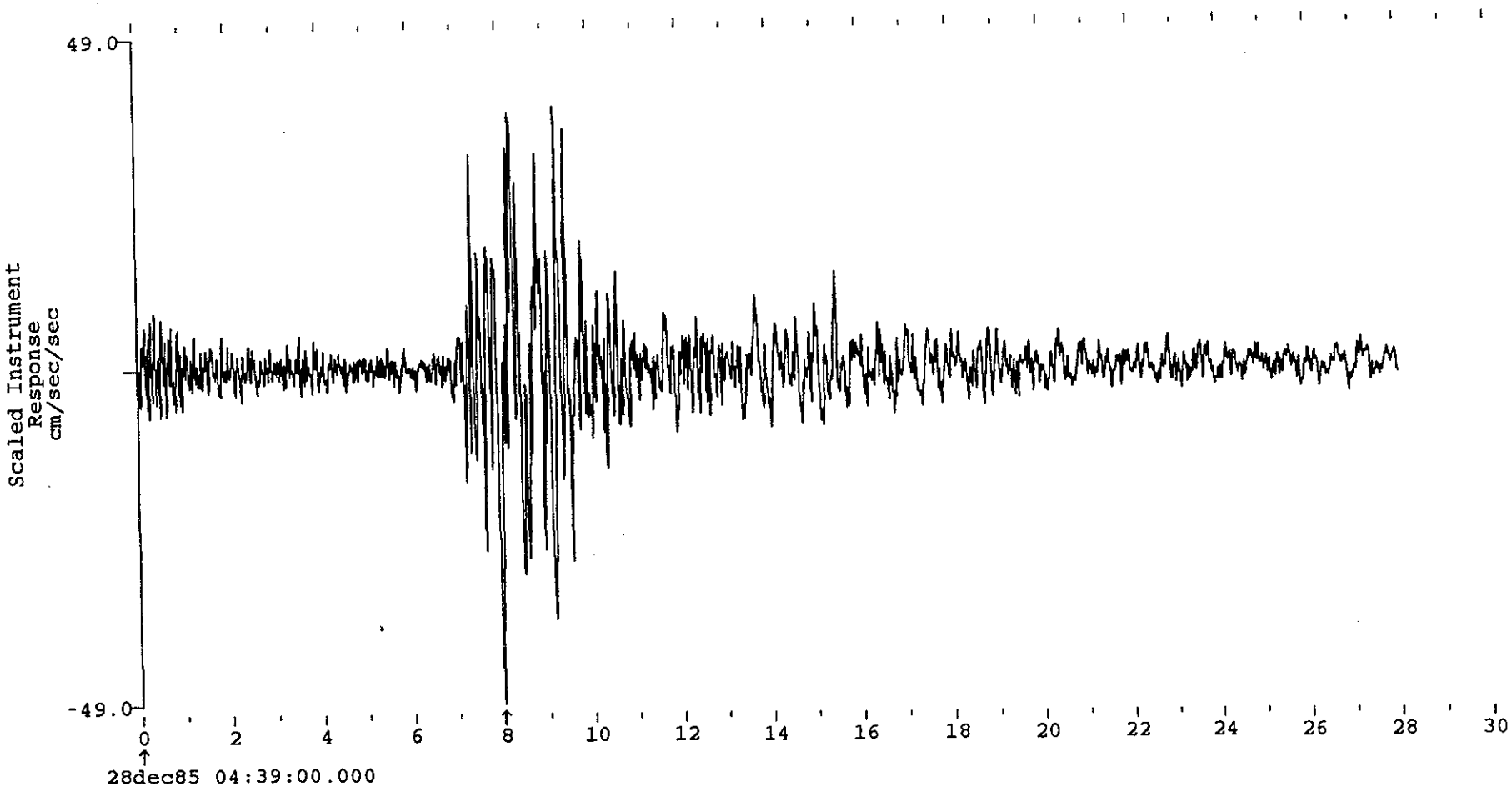
TIME SERIES PLOT
F72.SMC
STATION: 2701 ADN - US NAVAL BASE, ADAK ALASKA
51.876N -176.642W HANGAR BLDG
AR-240 CHANNEL ? N287 SCALE=??? PER=0.0196 DAMP=0.6200
EVENT: 1985 12 28 0439 51.629N -177.166W 52.0KM M=5.2
EPIC DIST = 45.5KM AZIMUTH AT STN = N233.0
Peak values (cm/sec/sec): 40.82



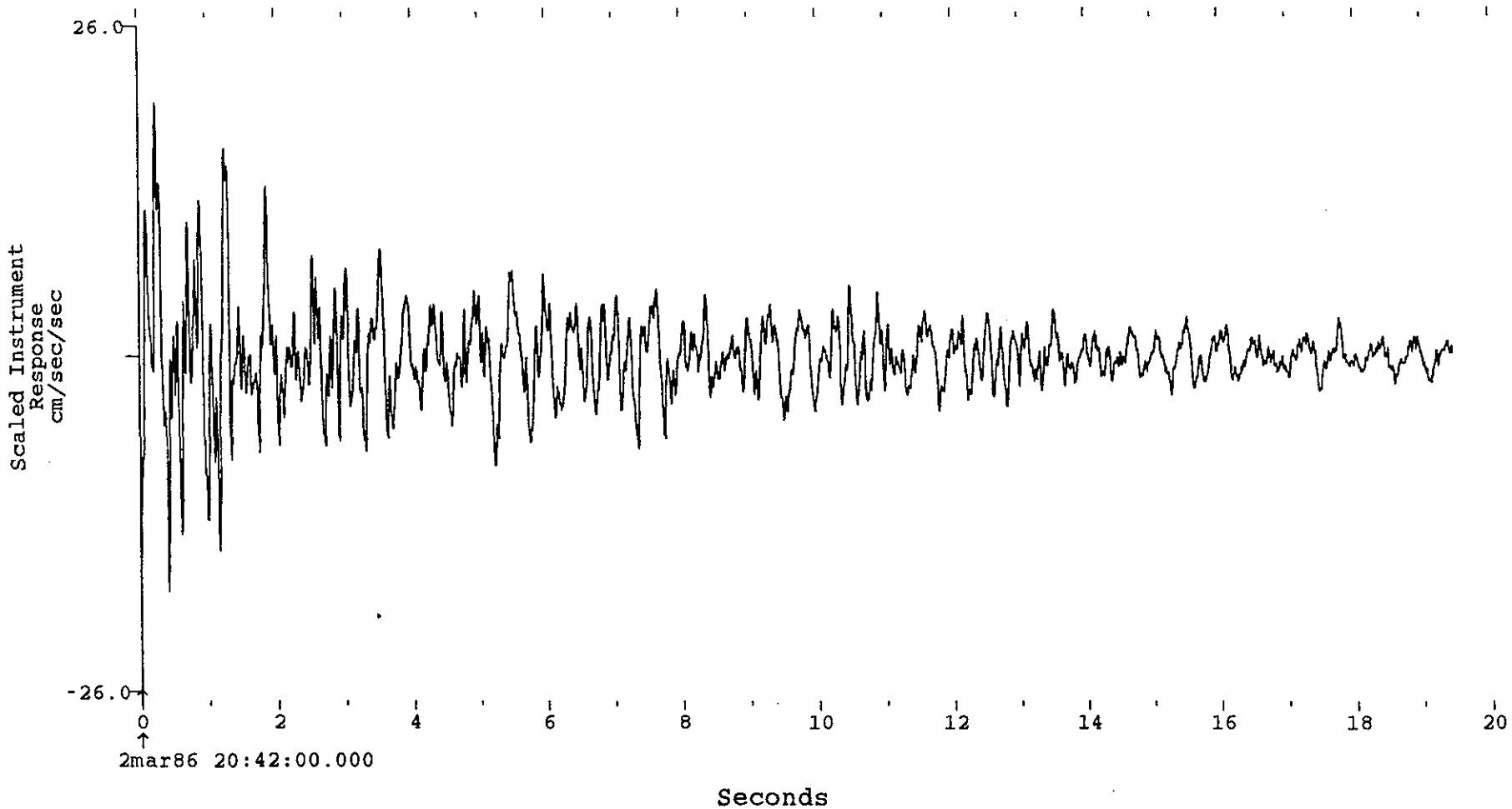
TIME SERIES PLOT
F71.SMC
STATION: 2701 ADN - US NAVAL BASE, ADAK ALASKA
51.876N -176.642W HANGAR BLDG
AR-240 CHANNEL ? UP SCALE=??? PER=0.0194 DAMP=0.6400
EVENT: 1985 12 28 0439 51.629N -177.166W 52.0KM M=5.2
EPIC DIST = 45.5KM AZIMUTH AT STN = N233.0
Peak values (cm/sec/sec): 22.74



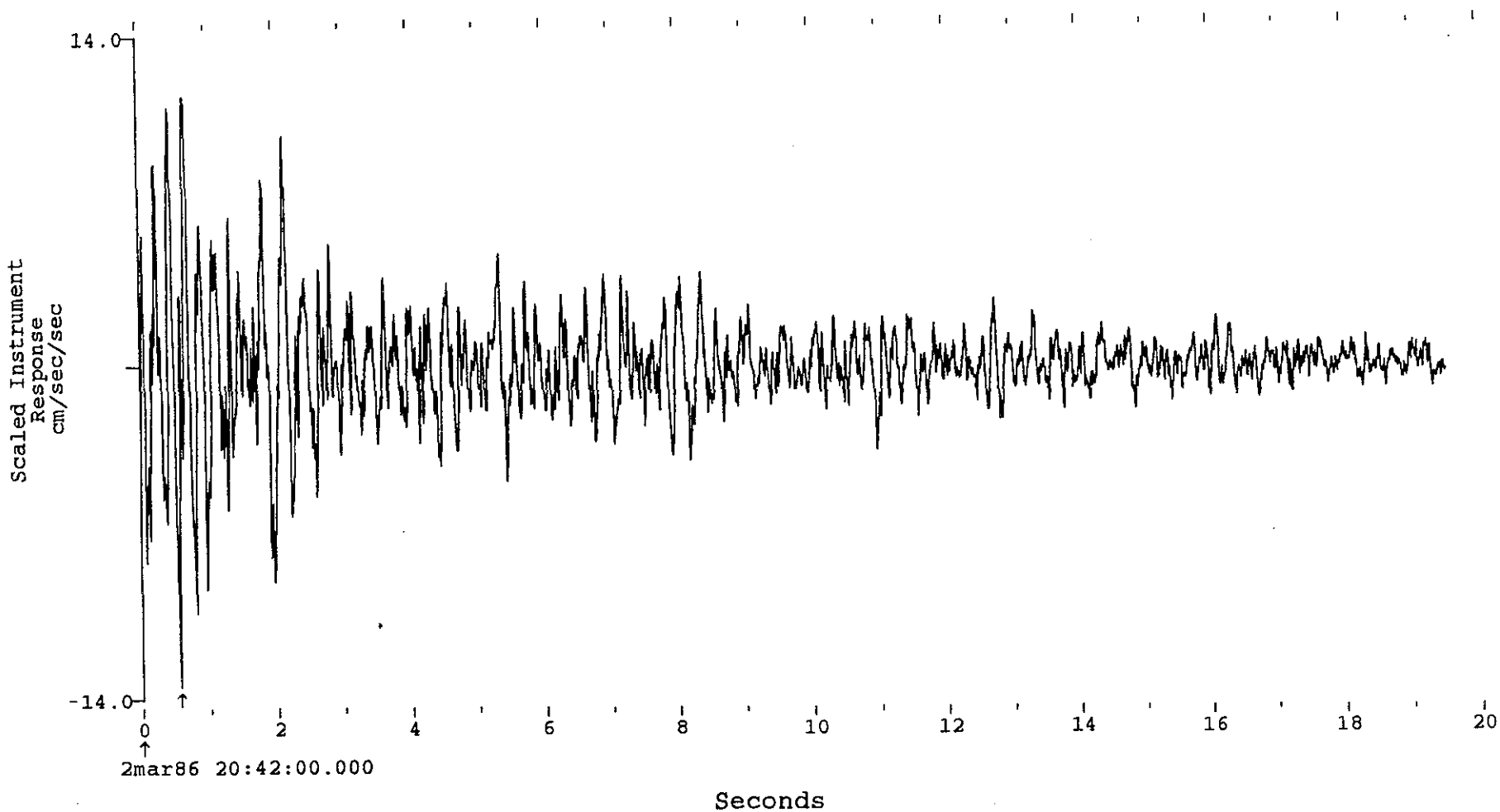
TIME SERIES PLOT
F70.SMC
STATION: 2701 ADN - US NAVAL BASE, ADAK ALASKA
51.876N -176.642W HANGAR BLDG
AR-240 CHANNEL ? N197 SCALE=??? PER=0.0196 DAMP=0.6750
EVENT: 1985 12 28 0439 51.629N -177.166W 52.0KM M=5.2
EPIC DIST = 45.5KM AZIMUTH AT STN = N233.0
Peak values (cm/sec/sec): -48.85



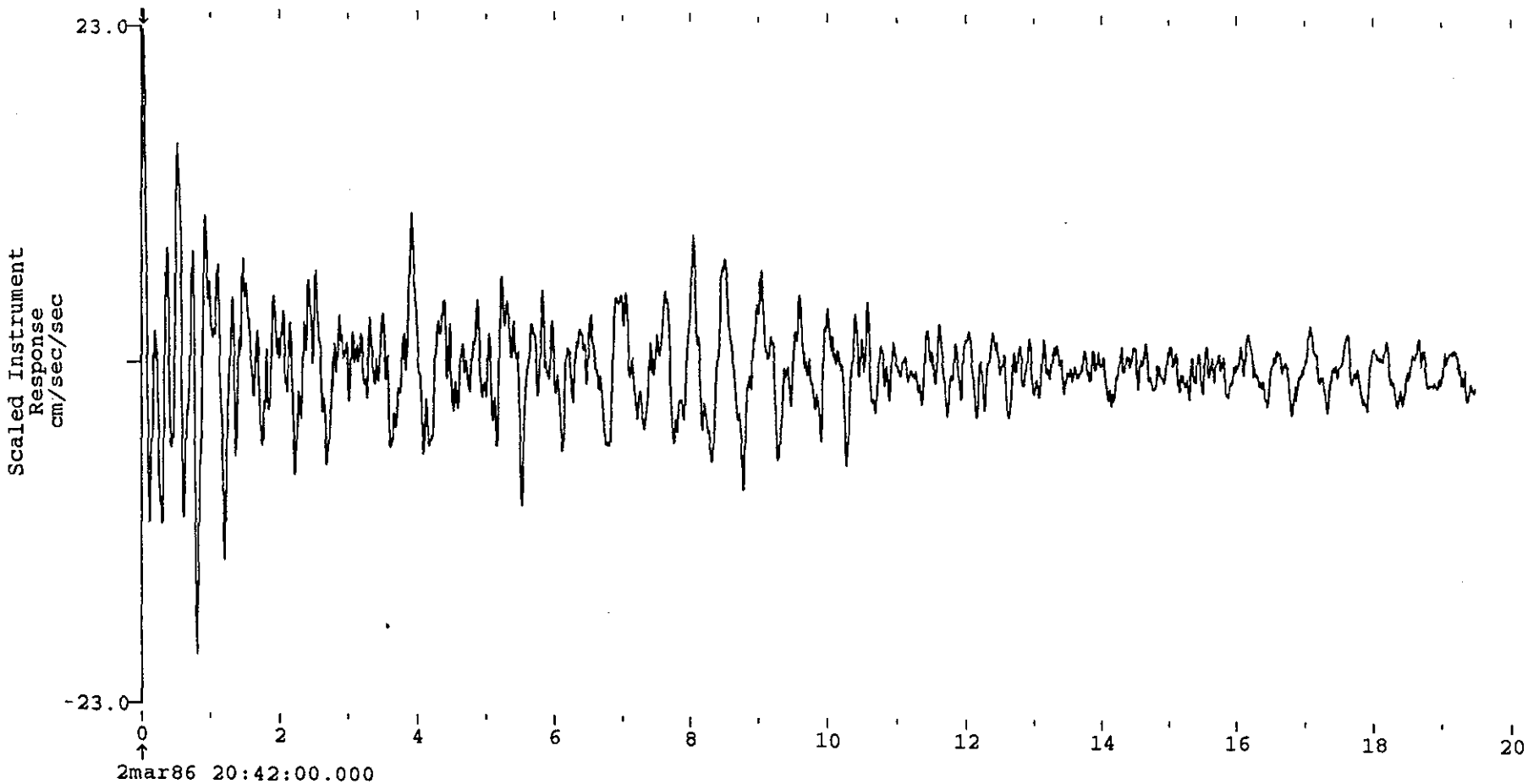
TIME SERIES PLOT
F212.SMC
STATION: 2701 ADN - US NAVAL BASE, ADAK ALASKA
51.876N -176.642W HANGAR BLDG
AR-240 CHANNEL ? N197 SCALE=??? PER=0.0196 DAMP=0.6750
EVENT: 1986 3 2 2042 51.348N -176.715W 33.0KM M=5.0
EPIC DIST = 59.0KM AZIMUTH AT STN = N184.9
Peak values (cm/sec/sec): -25.37



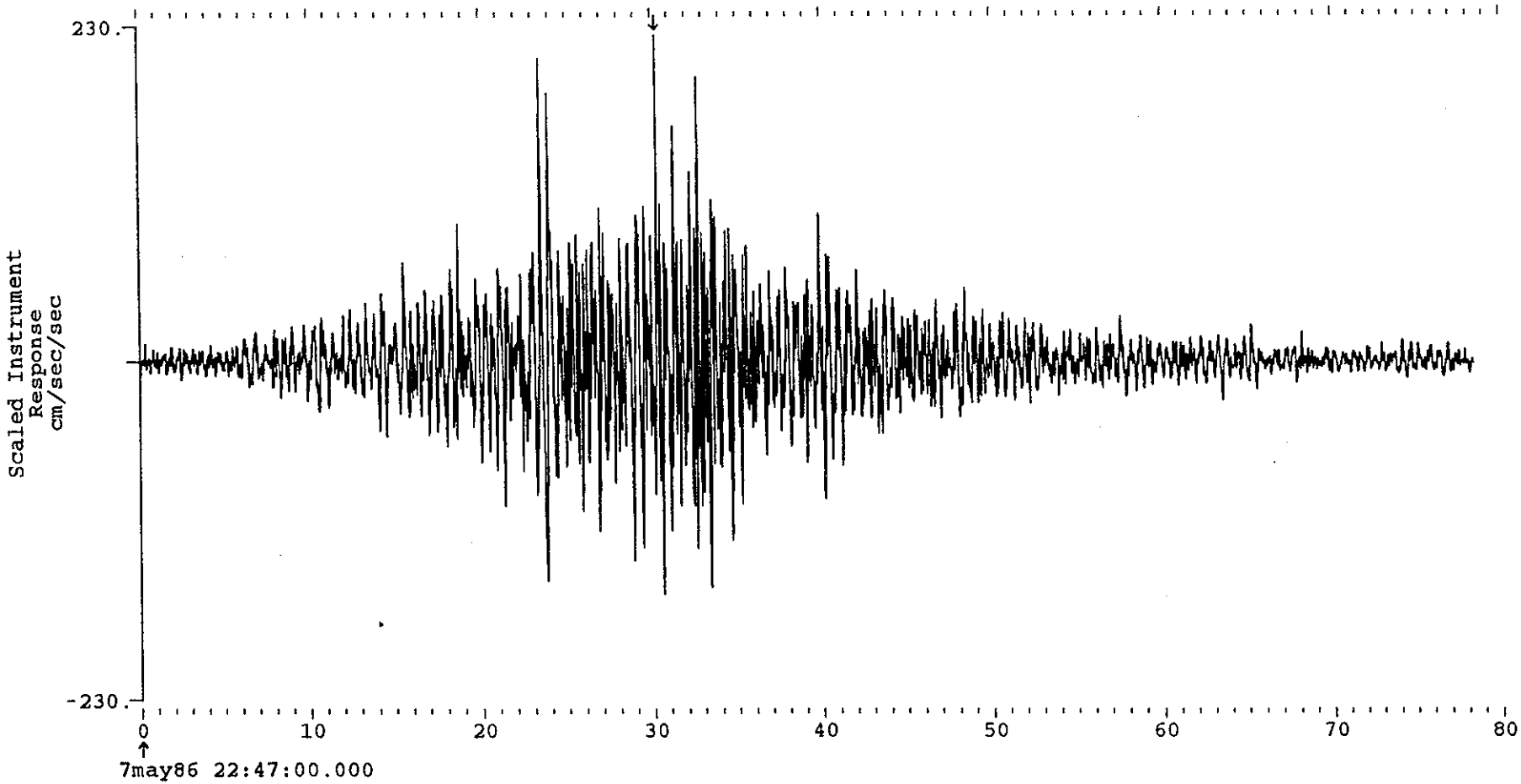
TIME SERIES PLOT
F211.SMC
STATION: 2701 ADN - US NAVAL BASE, ADAK ALASKA
51.876N -176.642W HANGAR BLDG
AR-240 CHANNEL ? UP SCALE=??? PER=0.0194 DAMP=0.6400
EVENT: 1986 3 2 2042 51.348N -176.715W 33.0KM M=5.0
EPIC DIST = 59.0KM AZIMUTH AT STN = N184.9
Peak values (cm/sec/sec): -13.42



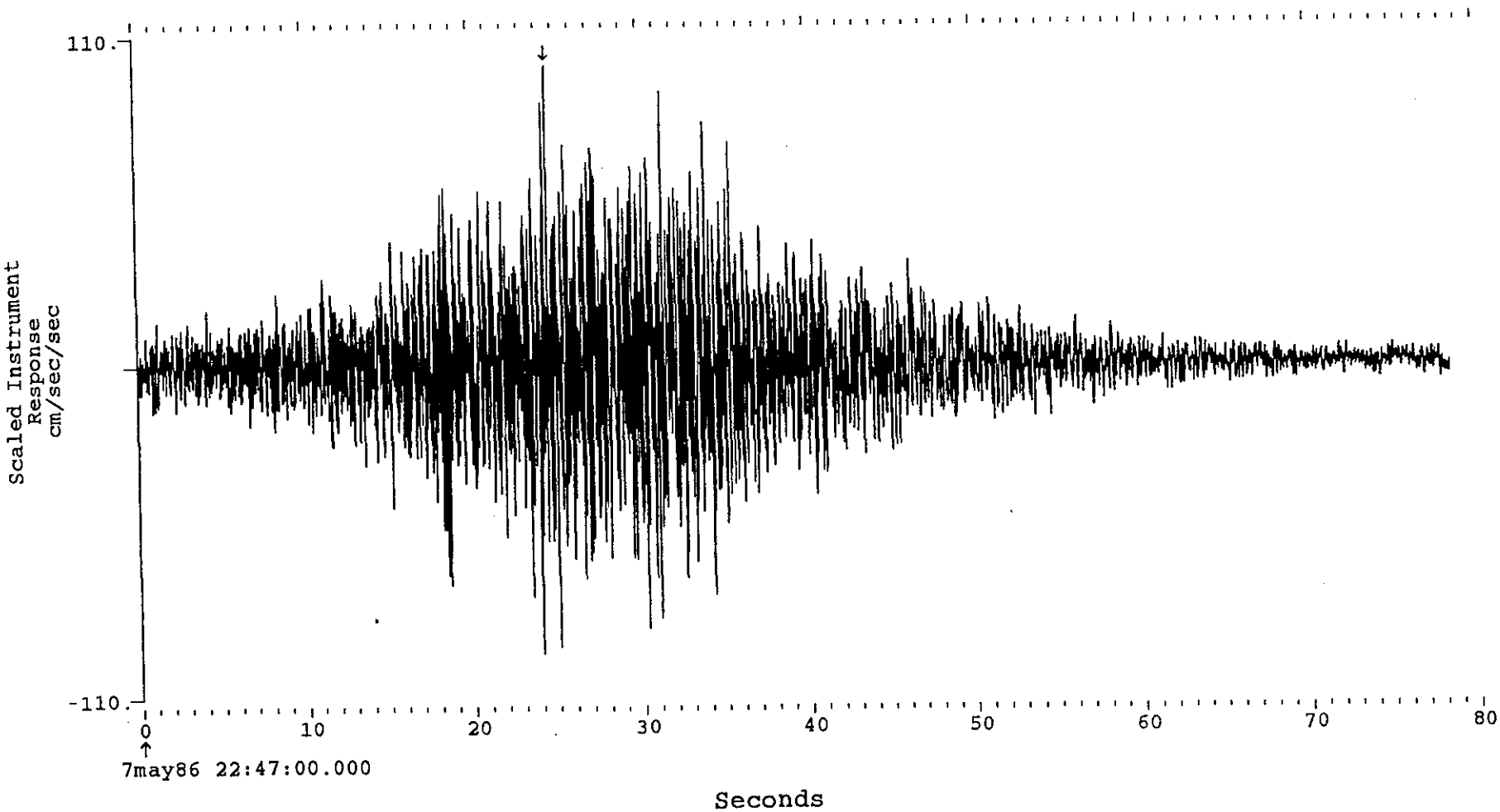
TIME SERIES PLOT
F210.SMC
STATION: 2701 ADN - US NAVAL BASE, ADAK ALASKA
51.876N -176.642W HANGAR BLDG
AR-240 CHANNEL ? N287 SCALE=??? PER=0.0196 DAMP=0.6200
EVENT: 1986 3 2 2042 51.348N -176.715W 33.0KM M=5.0
EPIC DIST = 59.0KM AZIMUTH AT STN = N184.9
Peak values (cm/sec/sec): 22.75



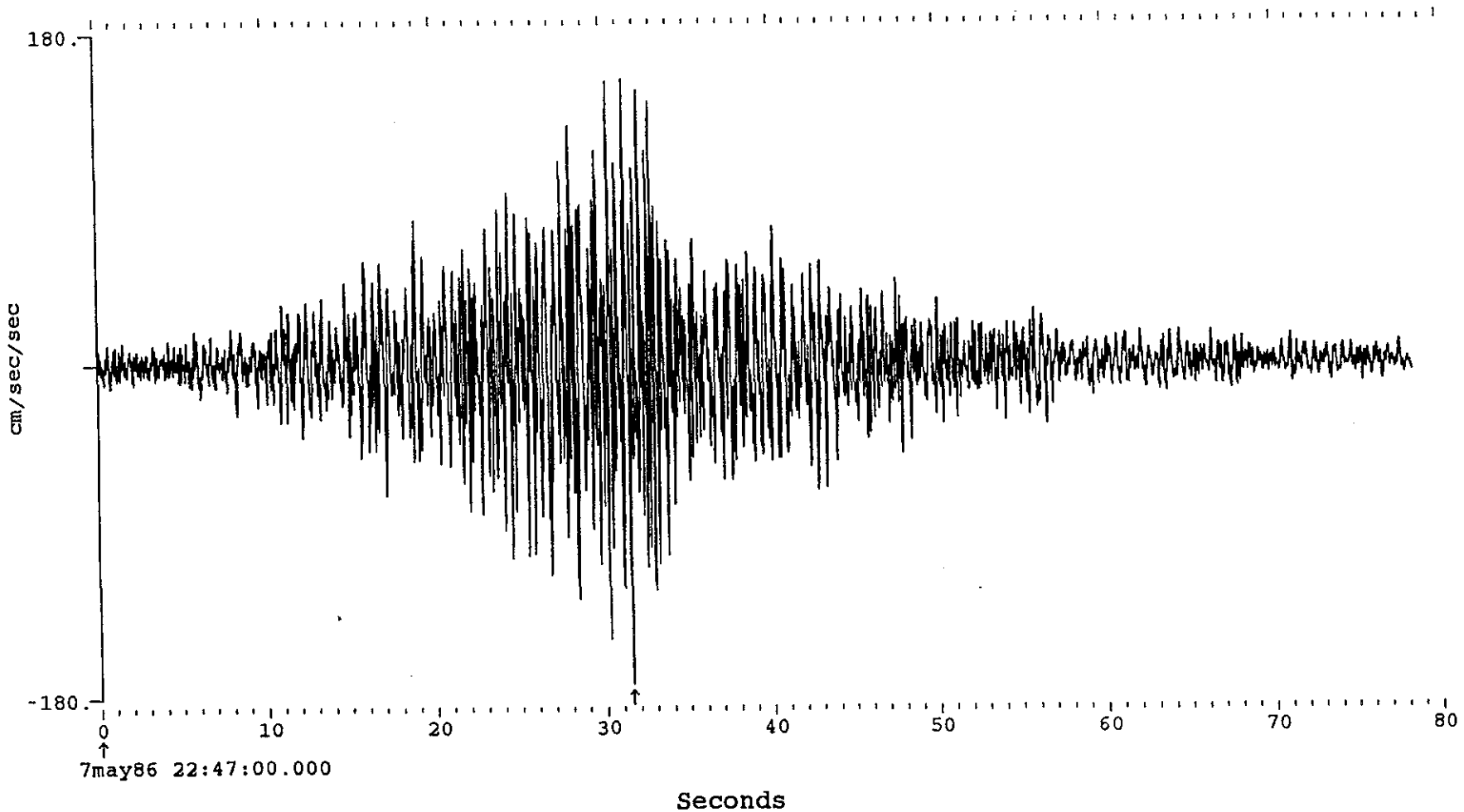
TIME SERIES PLOT
F209.SMC
STATION: 2701 ADN - US NAVAL BASE, ADAK ALASKA
51.876N -176.642W HANGAR BLDG
AR-240 CHANNEL ? N197 SCALE=??? PER=0.0196 DAMP=0.6750
EVENT: 1986 5 7 2247 51.520N -174.776W 33.0KM M=7.9
EPIC DIST = 135.1KM AZIMUTH AT STN = N106.3
Peak values (cm/sec/sec): 223.18



TIME SERIES PLOT
F208.SMC
STATION: 2701 ADN - US NAVAL BASE, ADAK ALASKA
51.876N -176.642W HANGAR BLDG
AR-240 CHANNEL ? UP SCALE=??? PER=0.0194 DAMP=0.6400
EVENT: 1986 5 7 2247 51.520N -174.776W 33.0KM M=7.9
EPIC DIST = 135.1KM AZIMUTH AT STN = N106.3
Peak values (cm/sec/sec): 100.32



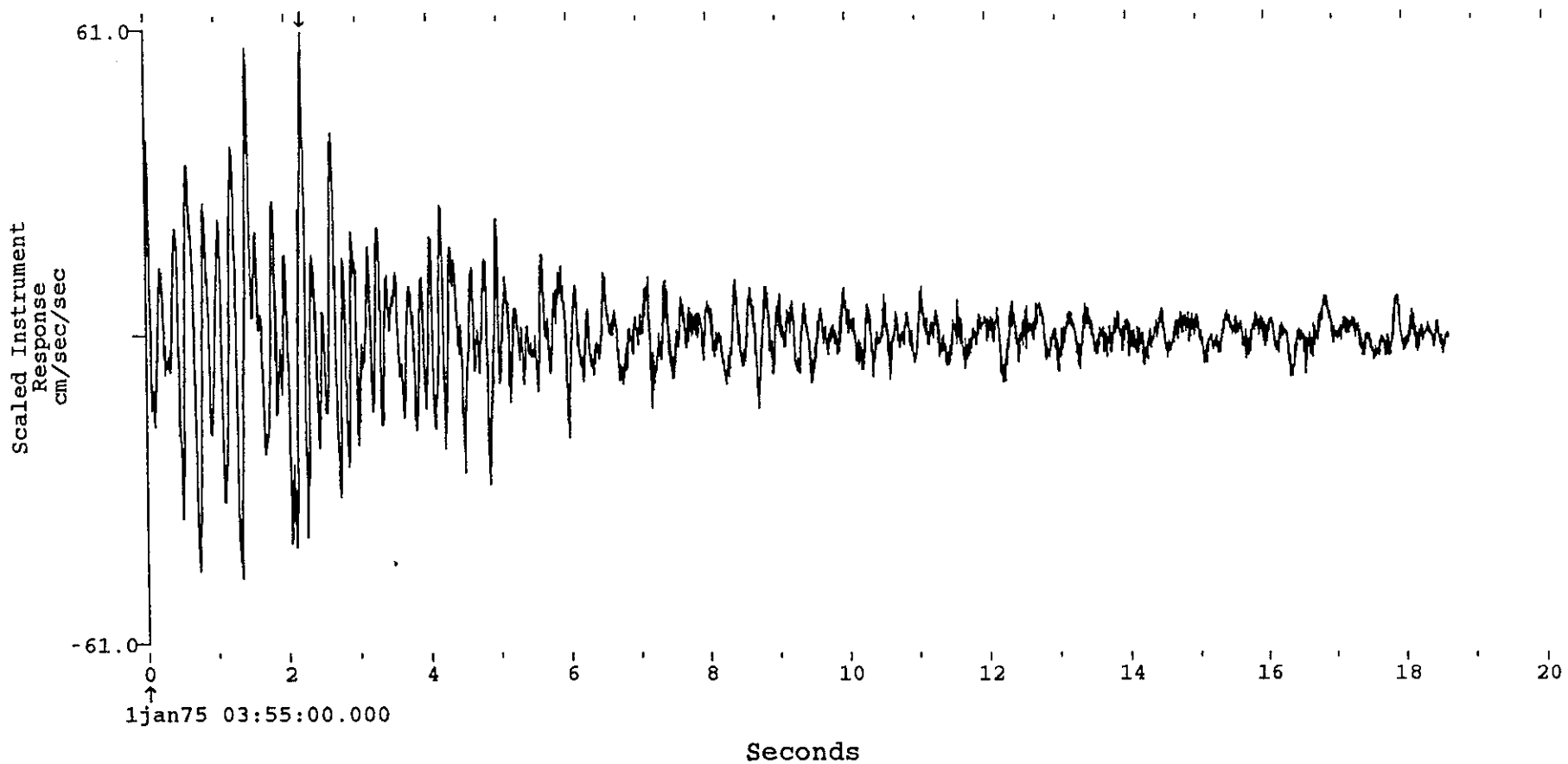
TIME SERIES PLOT
F207.SMC
STATION: 2701 ADN - US NAVAL BASE, ADAK ALASKA
51.876N -176.642W HANGAR BLDG
AR-240 CHANNEL ? N287 SCALE=??? PER=0.0196 DAMP=0.6200
EVENT: 1986 5 7 2247 51.520N -174.776W 33.0KM M=7.9
EPIC DIST = 135.1KM AZIMUTH AT STN = N106.3
Peak values (cm/sec/sec): -172.74



TIME SERIES PLOT

FILE083.SMC

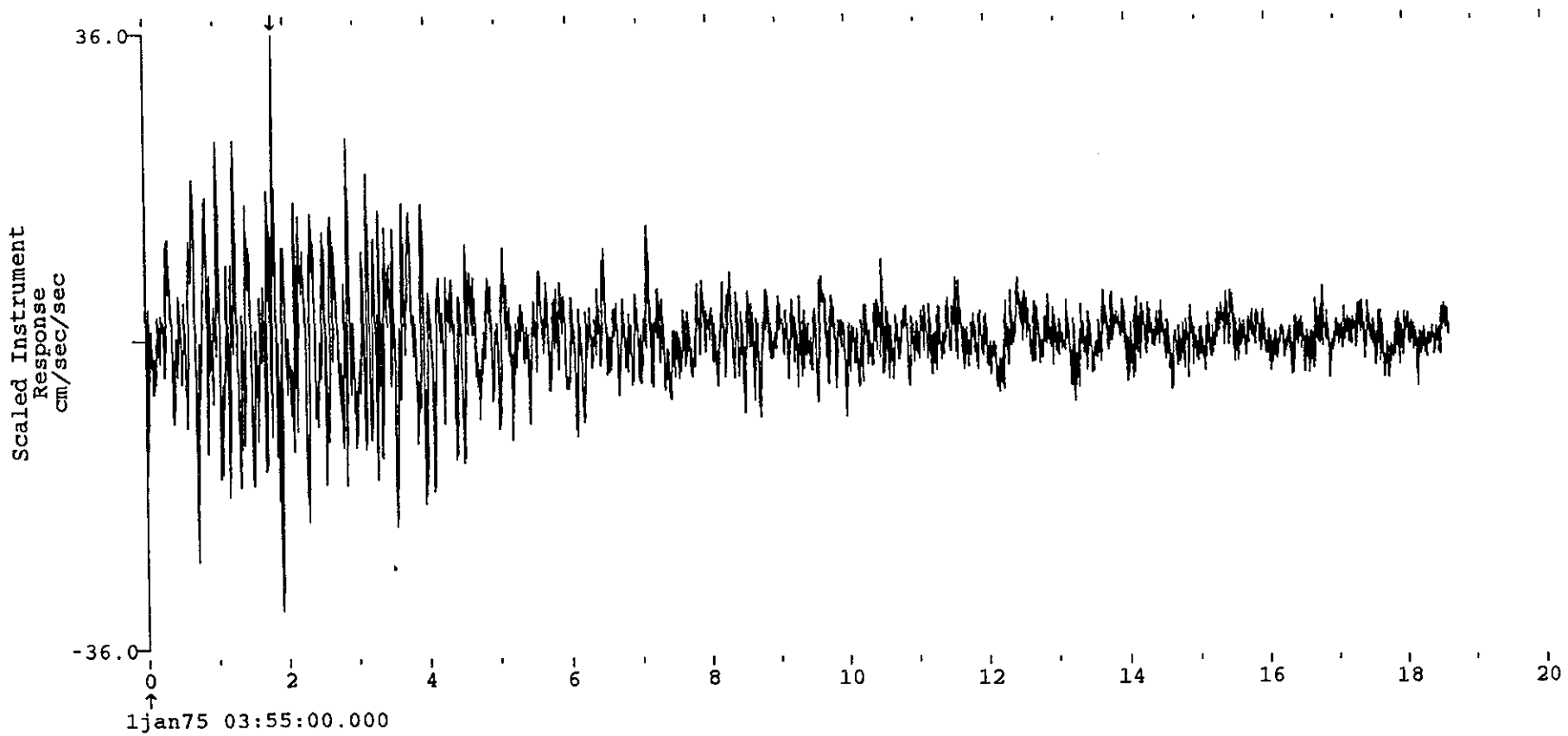
STATION: 2702 AMU ANCHORAGE, GOULE HALL .
61.189N 149.801W SL GLACIAL TILL GRND LEV 2 STORY BLDG .
AR-240 CHANNEL 1 N315E SCALE=1.925(*) PER=.0520 DAMP=.59 .
EVENT: 1975 JAN 01 03:55 61.920N 149.720W 58KM M=6.0 V .
EPIC DIST = 81KM AZIMUTH AT STN = 183
Peak values (cm/sec/sec): 60.58



TIME SERIES PLOT

FILE084.SMC

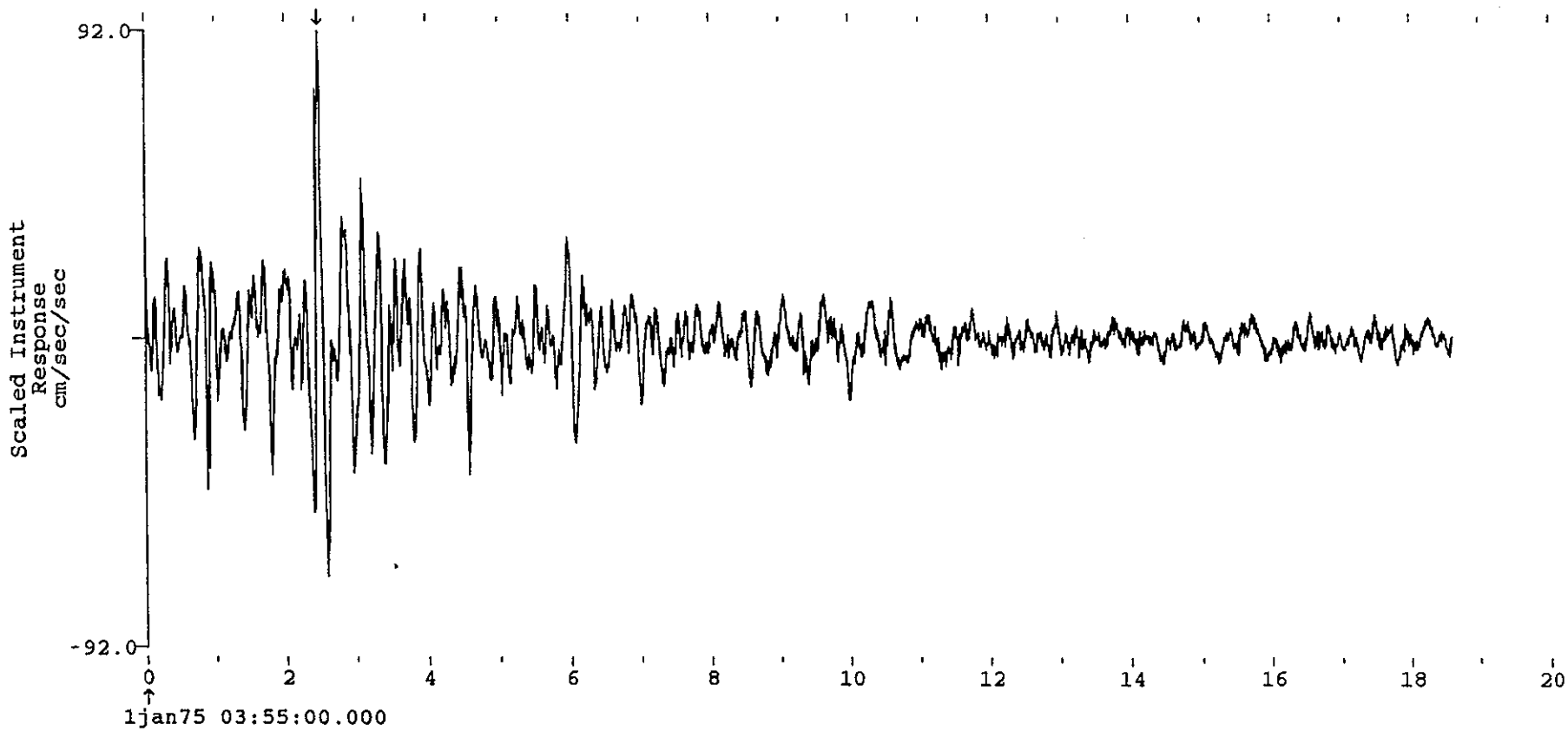
STATION: 2702 AMU ANCHORAGE, GOULE HALL .
61.189N 149.801W SL GLACIAL TILL GRND LEV 2 STORY BLDG .
AR-240 CHANNEL 2 UP SCALE=1.900(*) PER=.0560 DAMP=.59 .
EVENT: 1975 JAN 01 03:55 61.920N 149.720W 58KM M=6.0 V .
EPIC DIST = 81KM AZIMUTH AT STN = 183
Peak values (cm/sec/sec): 35.76



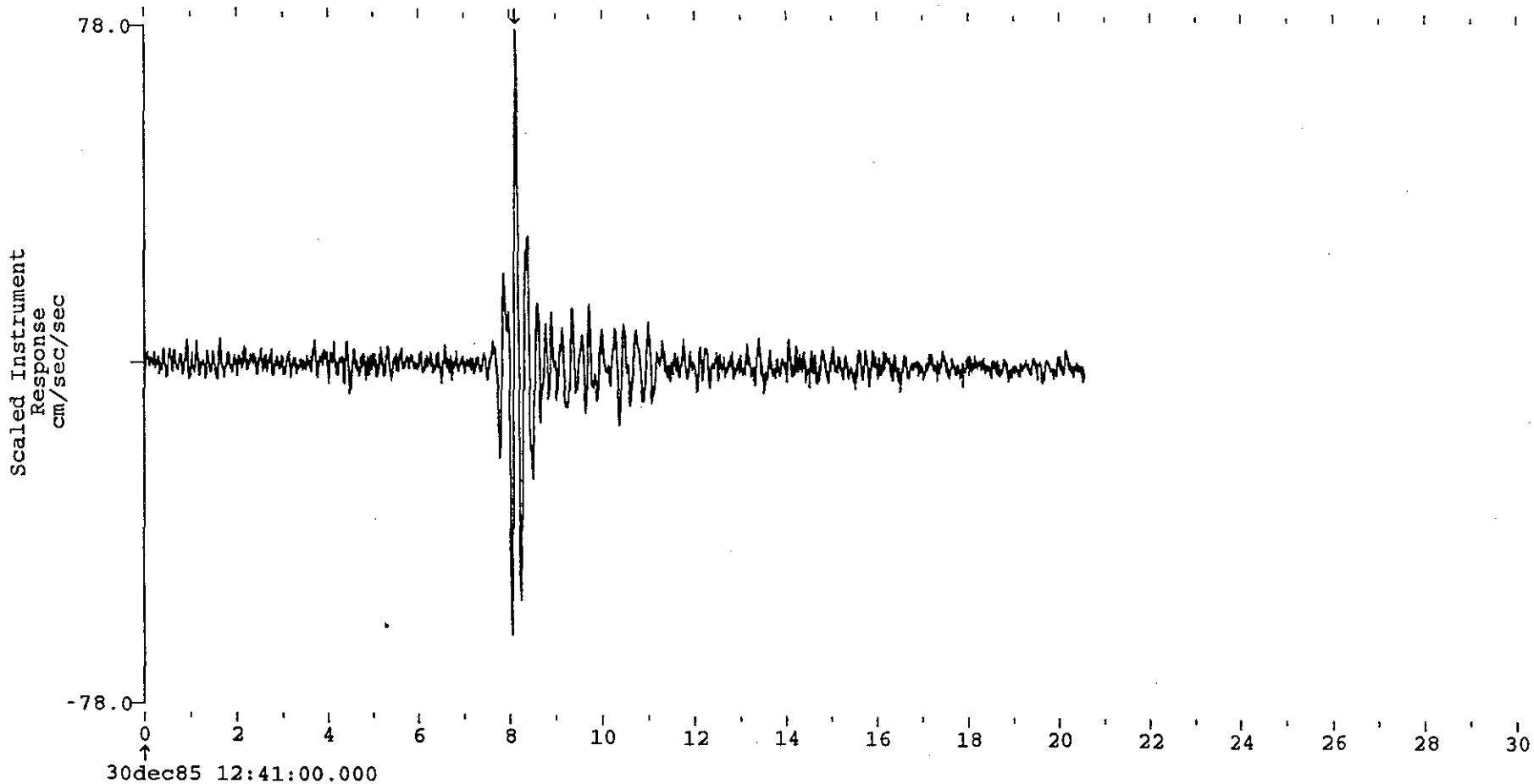
TIME SERIES PLOT

FILE085.SMC

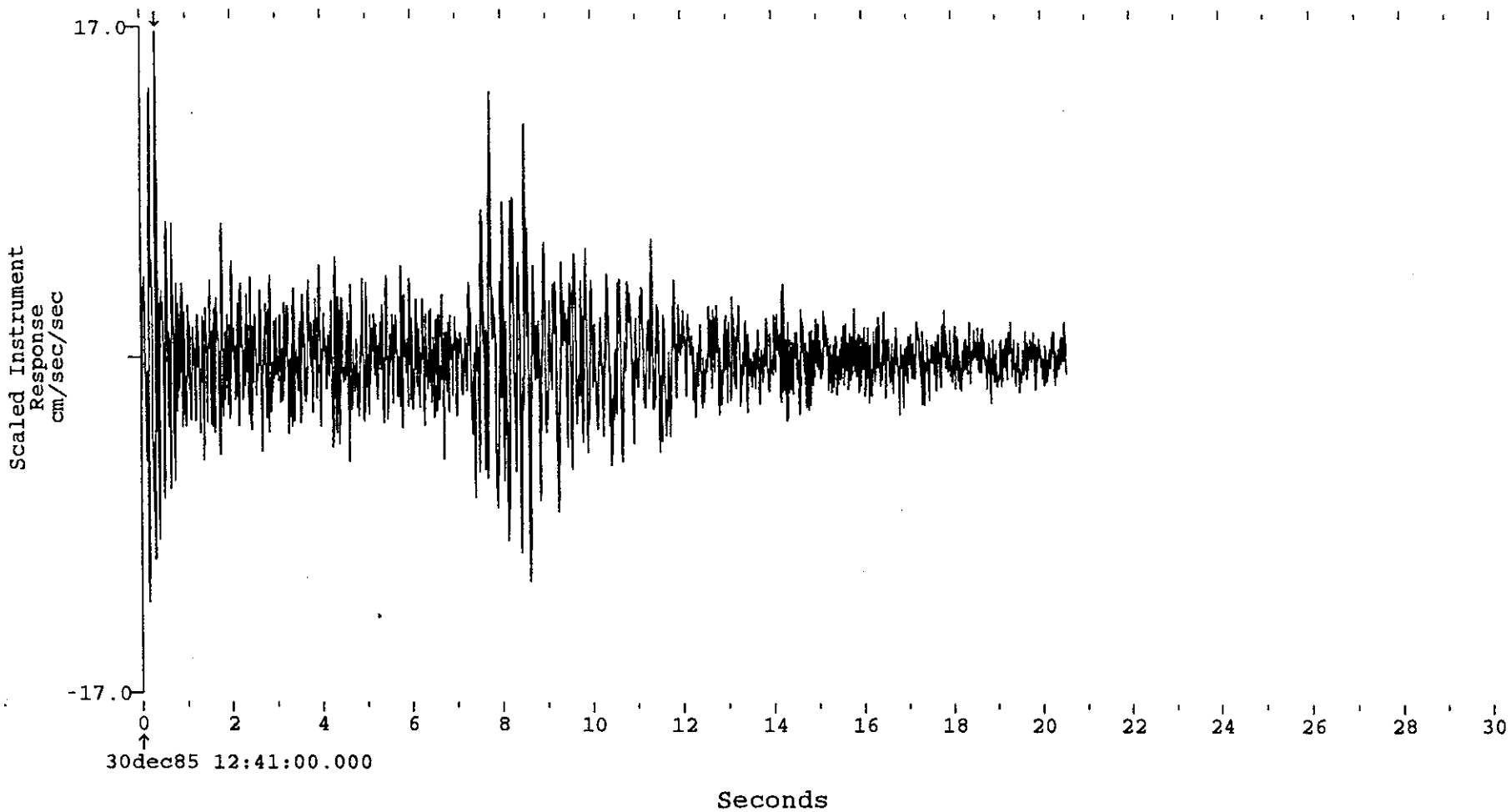
STATION: 2702 AMU ANCHORAGE, GOULE HALL .
61.189N 149.801W SL GLACIAL TILL GRND LEV 2 STORY BLDG .
AR-240 CHANNEL 3 N225E SCALE=1.900(*) PER=.0530 DAMP=.59 .
EVENT: 1975 JAN 01 03:55 61.920N 149.720W 58KM M=6.0 V .
EPIC DIST = 81KM AZIMUTH AT STN = 183
Peak values (cm/sec/sec): 91.98



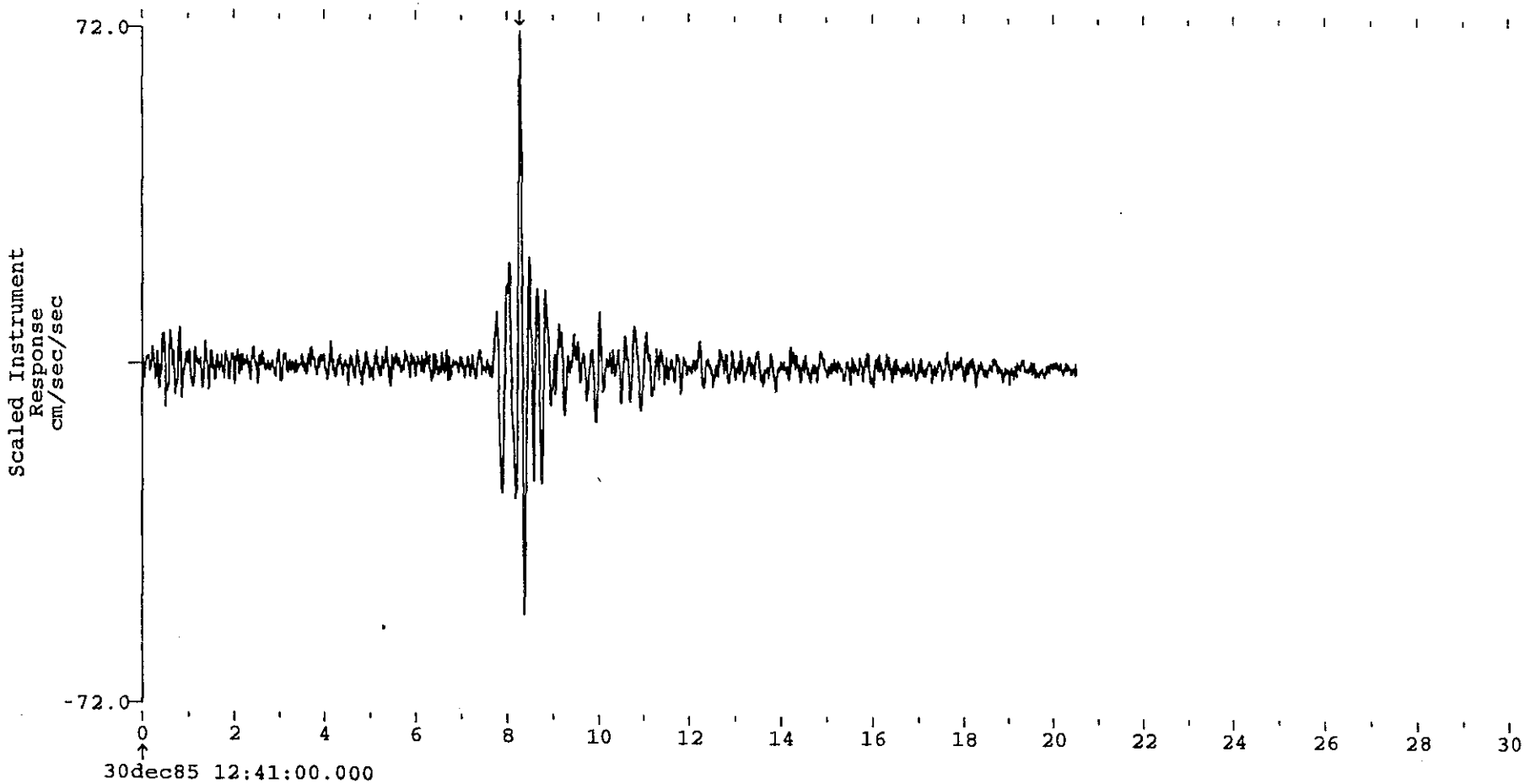
TIME SERIES PLOT
F75.SMC
STATION: AMU 2702 - ANCHORAGE, ALASKA
61.189N -149.800W 2-STORY BLDG
?????? CHANNEL ? N270 SCALE=??? PER=0.0390 DAMP=0.5900
EVENT: 1985 12 30 1241 61.541N -150.340W 62.0KM M=5.6
EPIC DIST = 48.8KM AZIMUTH AT STN = N323.9
Peak values (cm/sec/sec): 77.41



TIME SERIES PLOT
F74.SMC
STATION: AMU 2702 - ANCHORAGE, ALASKA
61.189N -149.800W 2-STORY BLDG
?????? CHANNEL ? UP SCALE=??? PER=0.0390 DAMP=0.6000
EVENT: 1985 12 30 1241 61.541N -150.340W 62.0KM M=5.6
EPIC DIST = 48.8KM AZIMUTH AT STN = N323.9
Peak values (cm/sec/sec): 16.73



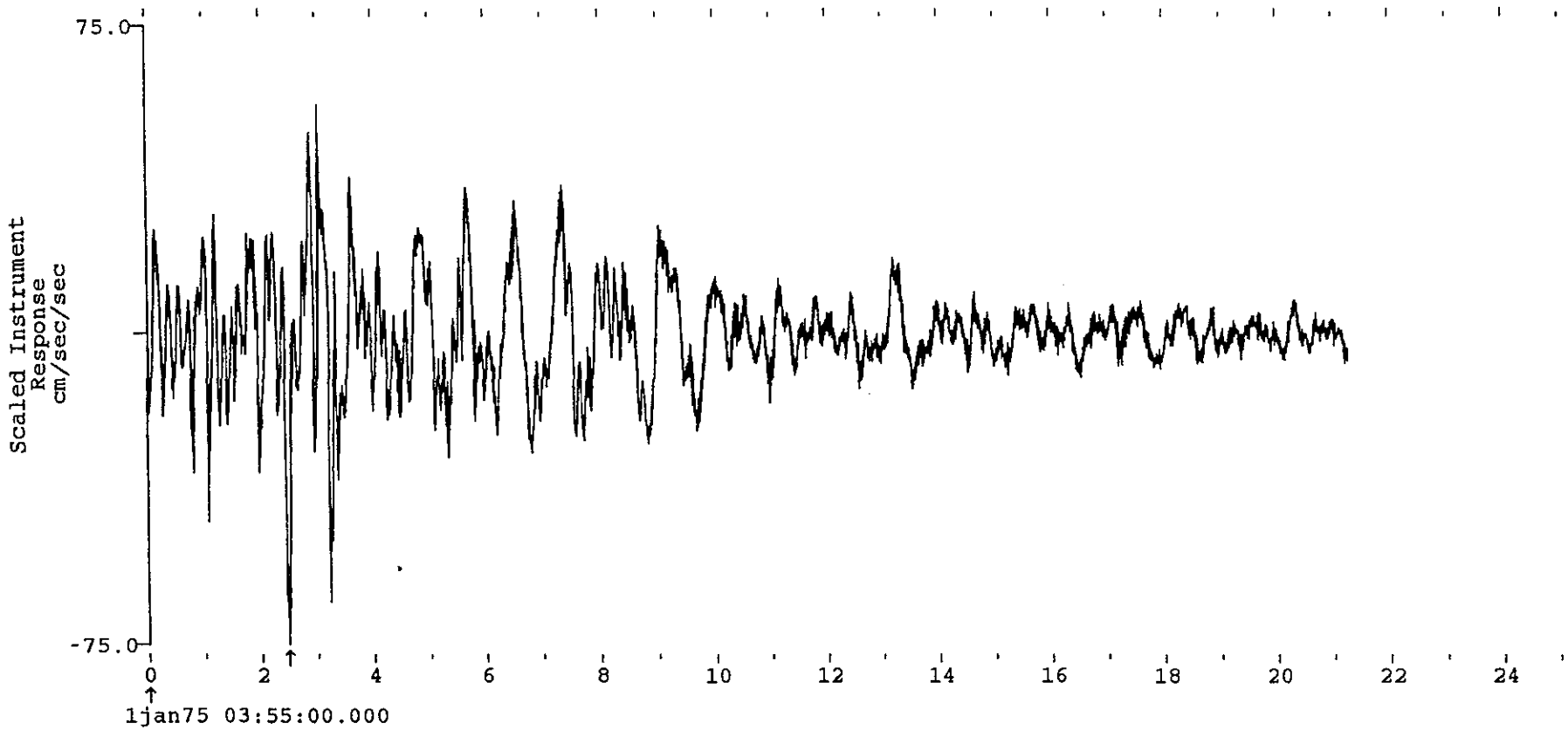
TIME SERIES PLOT
F73.SMC
STATION: AMU 2702 - ANCHORAGE, ALASKA
61.189N -149.800W 2-STORY BLDG
?????? CHANNEL ? N360 SCALE=??? PER=0.0370 DAMP=0.5800
EVENT: 1985 12 30 1241 61.541N -150.340W 62.0KM M=5.6
EPIC DIST = 48.8KM AZIMUTH AT STN = N323.9
Peak values (cm/sec/sec): 71.53



TIME SERIES PLOT

FILE086.SMC

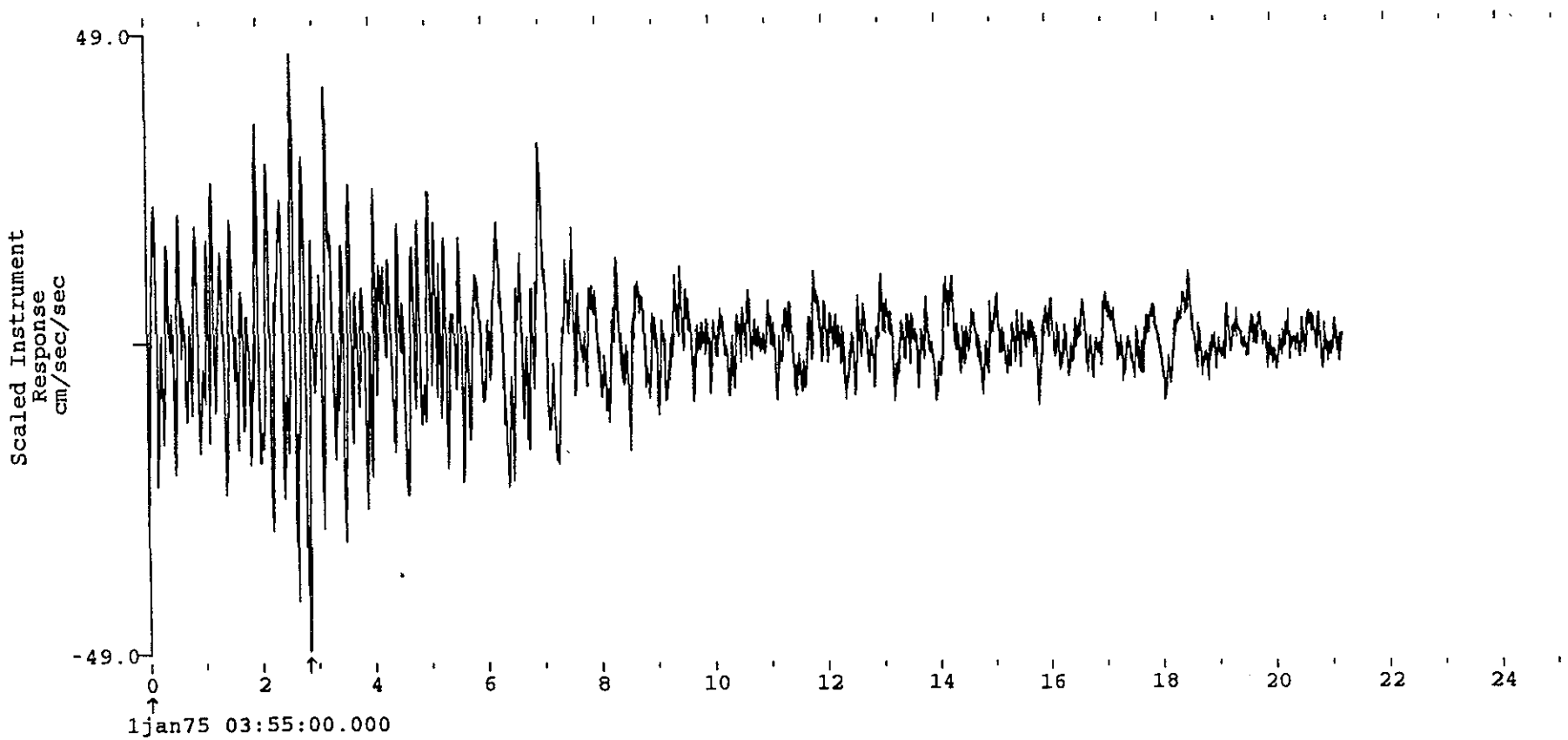
STATION: 2703 ANH ANCHORAGE, AK NATIVE MEDICAL CENTER .
61.190N 149.890W SL GLACIAL OUTWASH BASEMENT 3 STOR BLDG
AR-240 CHANNEL 1 N000E SCALE=1.900(*) PER=.0580 DAMP=.62 .
EVENT: 1975 JAN 01 03:55 61.920N 149.720W 58KM M=6.0 V .
EPIC DIST = 82KM AZIMUTH AT STN = 186
Peak values (cm/sec/sec): -74.77



TIME SERIES PLOT

FILE087.SMC

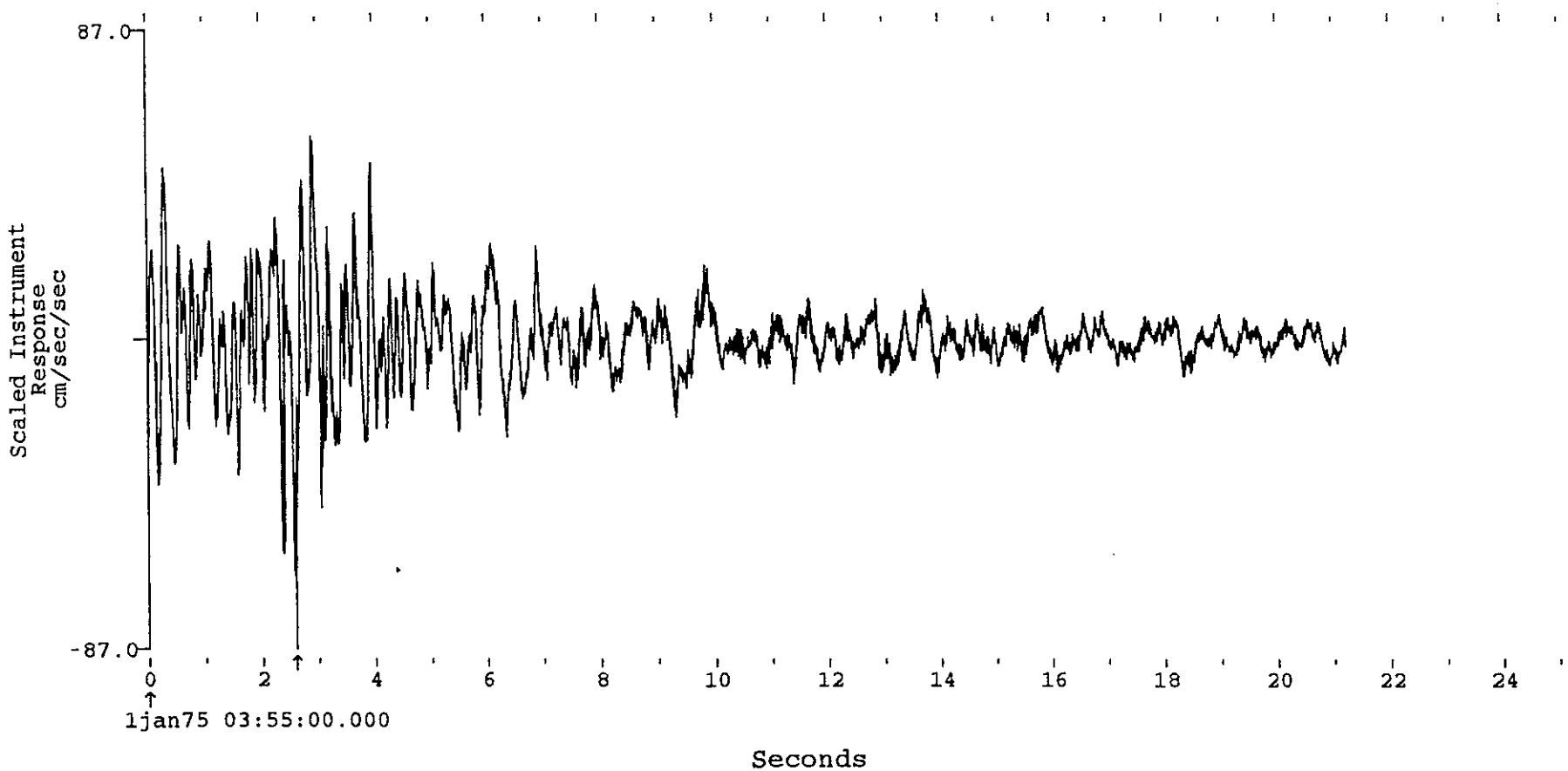
STATION: 2703 ANH ANCHORAGE, AK NATIVE MEDICAL CENTER .
61.190N 149.890W SL GLACIAL OUTWASH BASEMENT 3 STOR BLDG
AR-240 CHANNEL 2 UP SCALE=1.900(*) PER=.0510 DAMP=.59 .
EVENT: 1975 JAN 01 03:55 61.920N 149.720W 58KM M=6.0 V .
EPIC DIST = 82KM AZIMUTH AT STN = 186
Peak values (cm/sec/sec): -48.48



TIME SERIES PLOT

FILE088.SMC

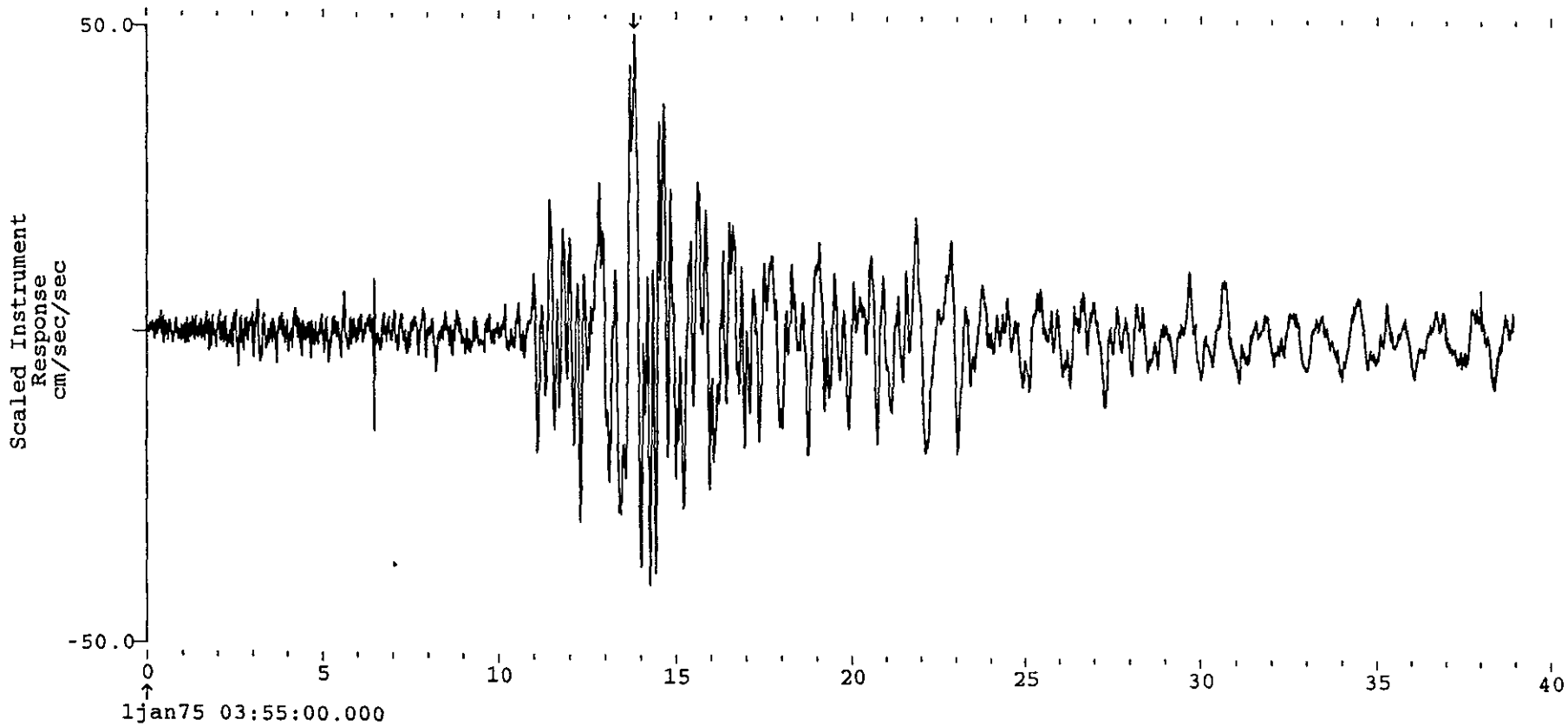
STATION: 2703 ANH ANCHORAGE, AK NATIVE MEDICAL CENTER .
61.190N 149.890W SL GLACIAL OUTWASH BASEMENT 3 STOR BLDG
AR-240 CHANNEL 3 N270E SCALE=1.900(*) PER=.0590 DAMP=.62 .
EVENT: 1975 JAN 01 03:55 61.920N 149.720W 58KM M=6.0 V .
EPIC DIST = 82KM AZIMUTH AT STN = 186
Peak values (cm/sec/sec): -86.98



TIME SERIES PLOT

FILE089.SMC

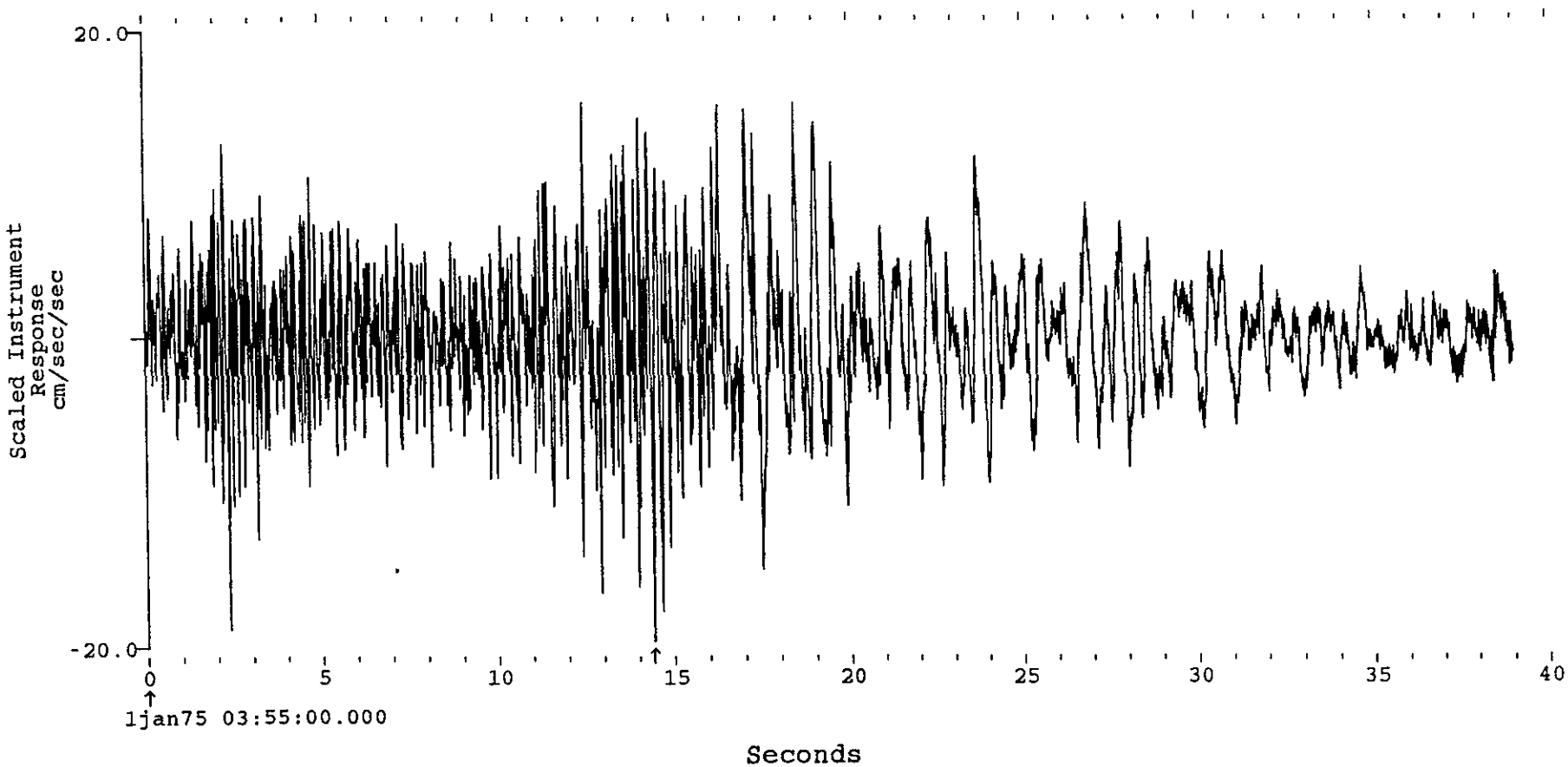
STATION: 2716 AWH ANCHORAGE, WESTWARD HOTEL .
61.220N 149.890W SL GLACIAL OUTWASH BASEMENT 22 STOR BLD
SMA-1 CHANNEL 1 N135E SCALE=1.730 PER=.0380 DAMP=.55 .
EVENT: 1975 JAN 01 03:55 61.920N 149.720W 58KM M=6.0 V .
EPIC DIST = 79KM AZIMUTH AT STN = 187
Peak values (cm/sec/sec): 49.15



TIME SERIES PLOT

FILE090.SMC

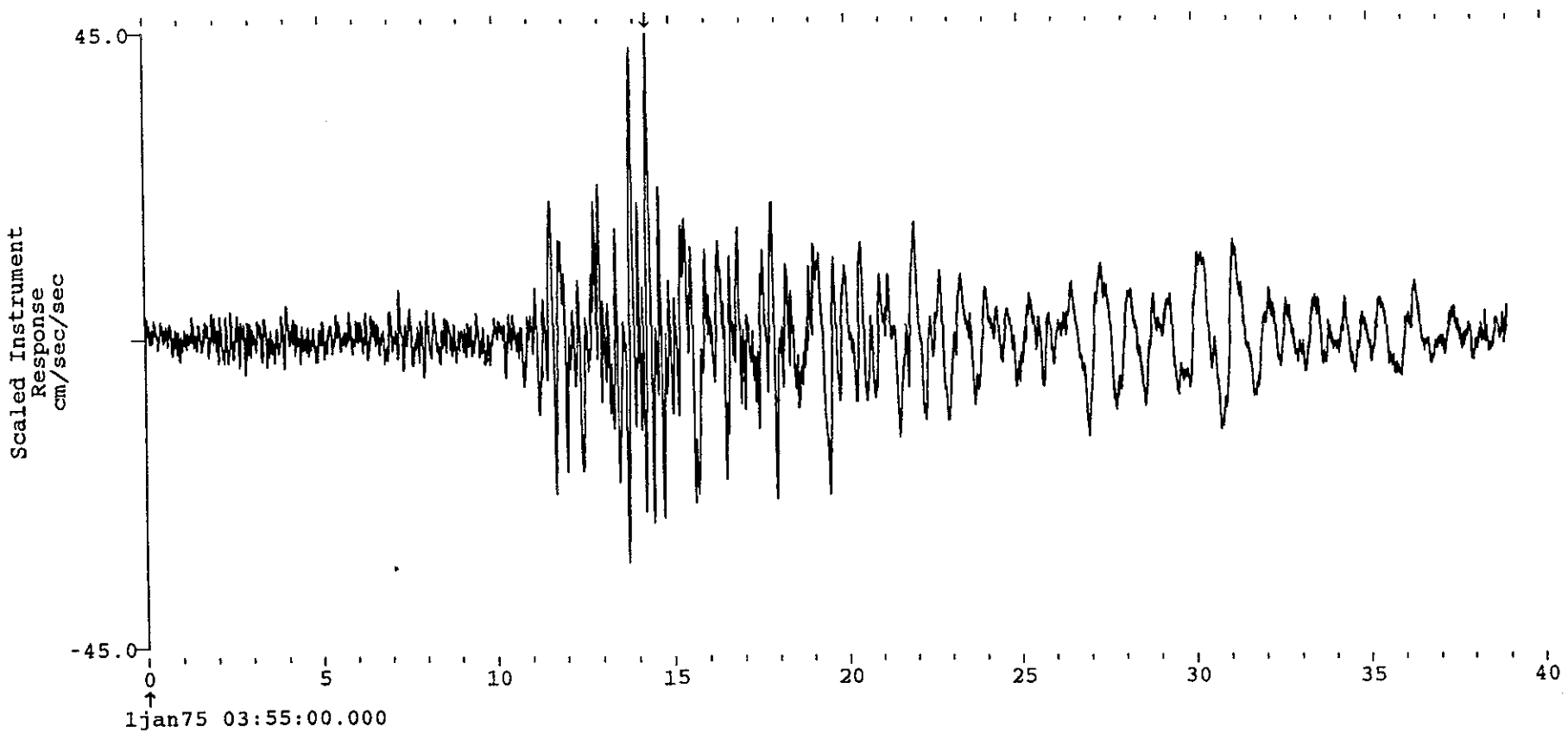
STATION: 2716 AWH ANCHORAGE, WESTWARD HOTEL .
61.220N 149.890W SL GLACIAL OUTWASH BASEMENT 22 STOR BLD
SMA-1 CHANNEL 2 UP SCALE=1.670 PER=.0370 DAMP=.53 .
EVENT: 1975 JAN 01 03:55 61.920N 149.720W 58KM M=6.0 V .
EPIC DIST = 79KM AZIMUTH AT STN = 187
Peak values (cm/sec/sec): -19.62



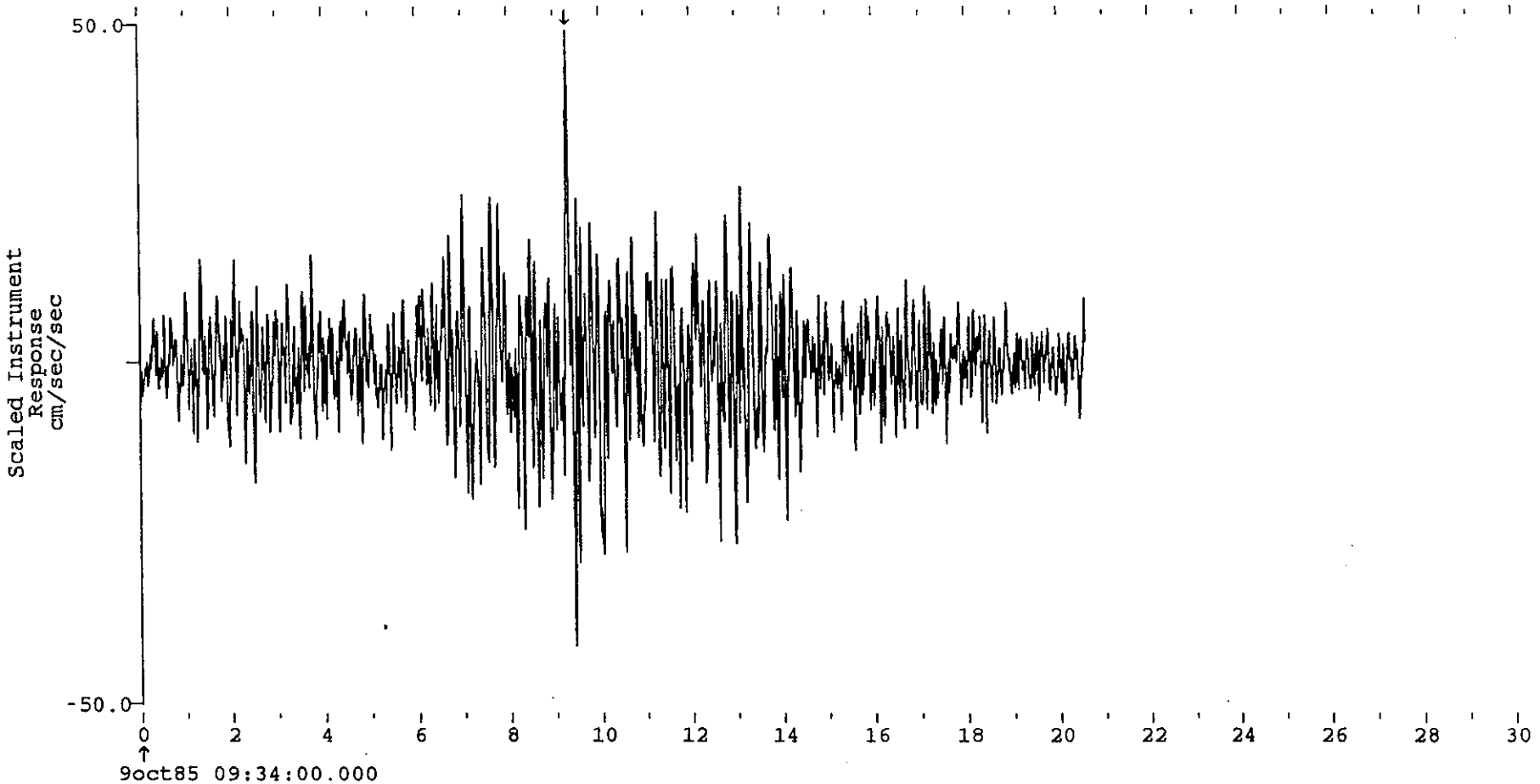
TIME SERIES PLOT

FILE091.SMC

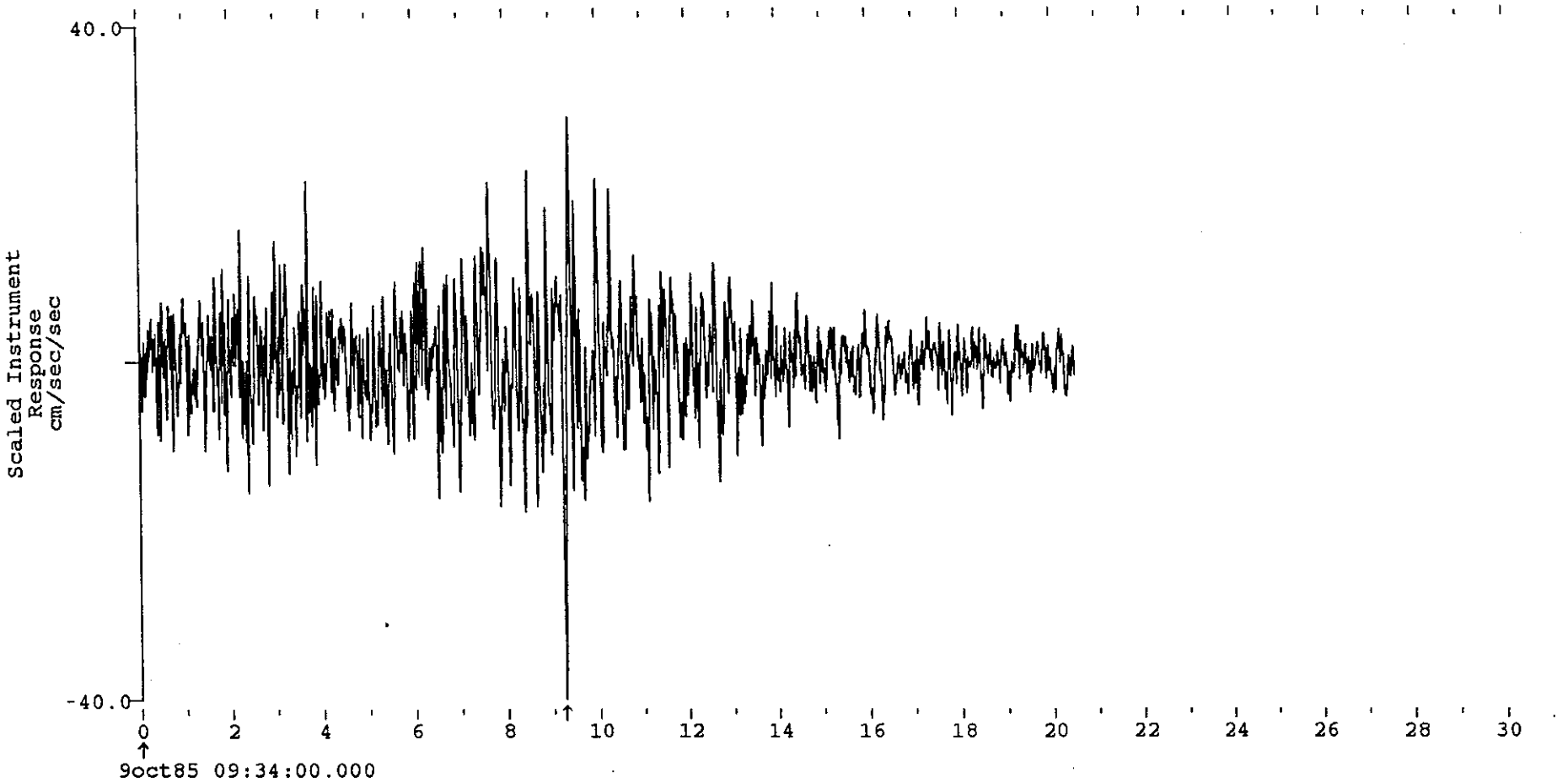
STATION: 2716 AWH ANCHORAGE, WESTWARD HOTEL .
61.220N 149.890W SL GLACIAL OUTWASH BASEMENT 22 STOR BLD
SMA-1 CHANNEL 3 N045E SCALE=1.700 PER=.0380 DAMP=.57 .
EVENT: 1975 JAN 01 03:55 61.920N 149.720W 58KM M=6.0 V .
EPIC DIST = 79KM AZIMUTH AT STN = 187
Peak values (cm/sec/sec): 44.91



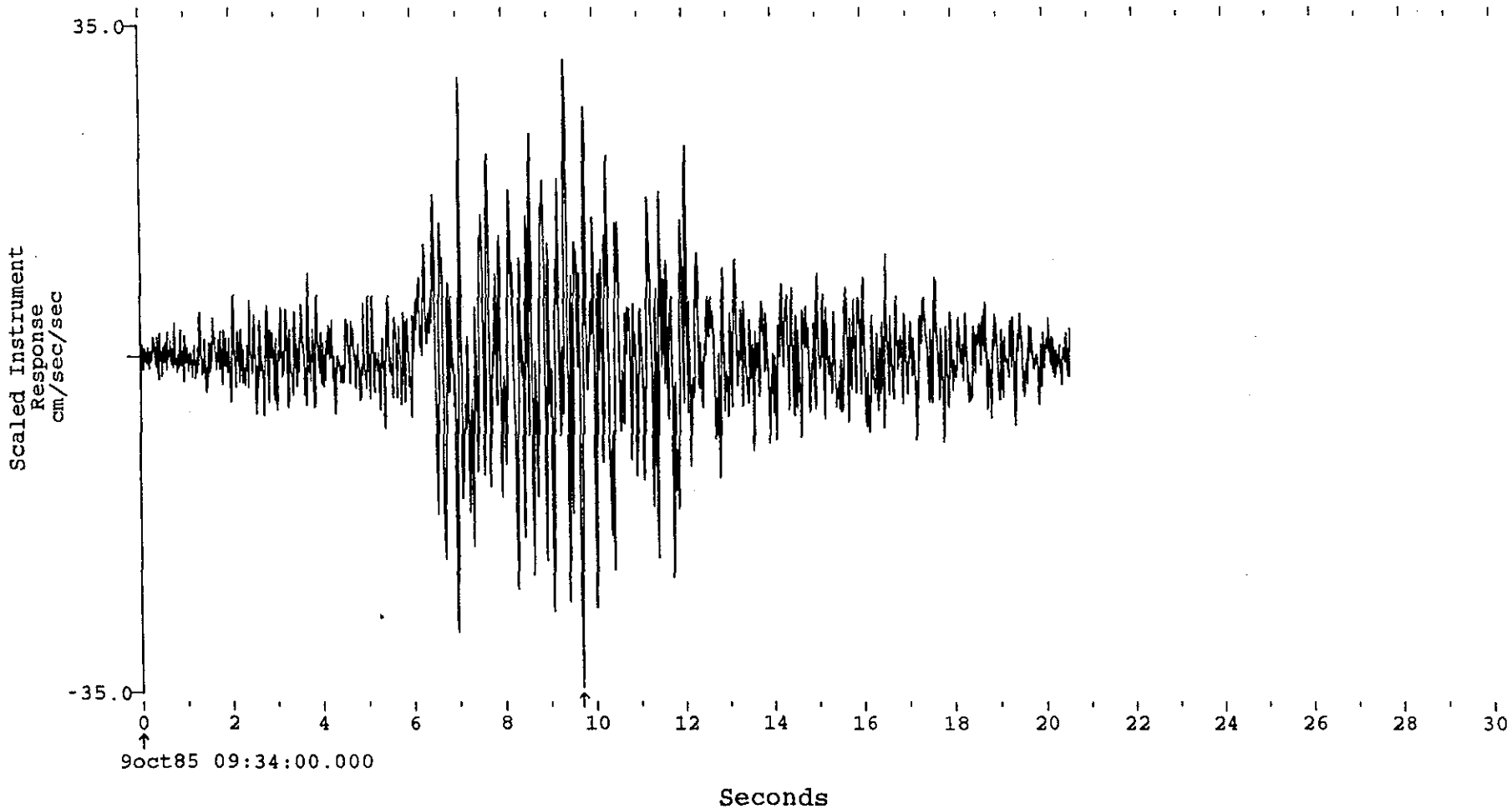
TIME SERIES PLOT
F57.SMC
STATION: BKJ 2773 - BIG KONIUJI, ALASKA
55.160N -159.565W FREE-FIELD, CONCRETE PAD
?????? CHANNEL ? N345 SCALE=??? PER=0.0386 DAMP=0.6500
EVENT: 1985 10 9 0934 54.736N -159.468W 15.0KM M=6.5
EPIC DIST = 47.7KM AZIMUTH AT STN = N172.5
Peak values (cm/sec/sec): 49.04



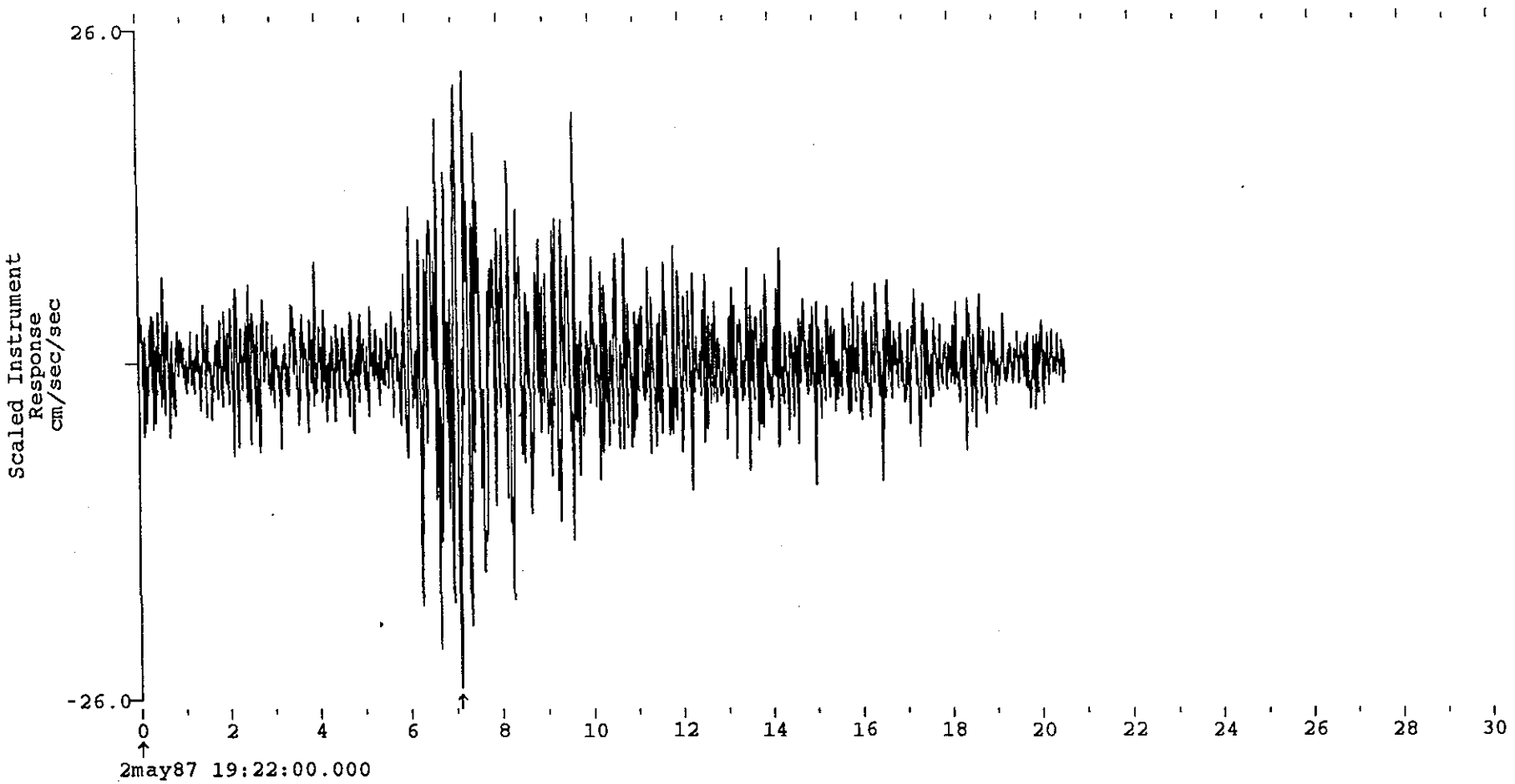
TIME SERIES PLOT
F56.SMC
STATION: BKJ 2773 - BIG KONIUJI, ALASKA
55.160N -159.565W FREE-FIELD, CONCRETE PAD
?????? CHANNEL ? UP SCALE=??? PER=0.0373 DAMP=0.6150
EVENT: 1985 10 9 0934 54.736N -159.468W 15.0KM M=6.5
EPIC DIST = 47.7KM AZIMUTH AT STN = N172.5
Peak values (cm/sec/sec): -39.87



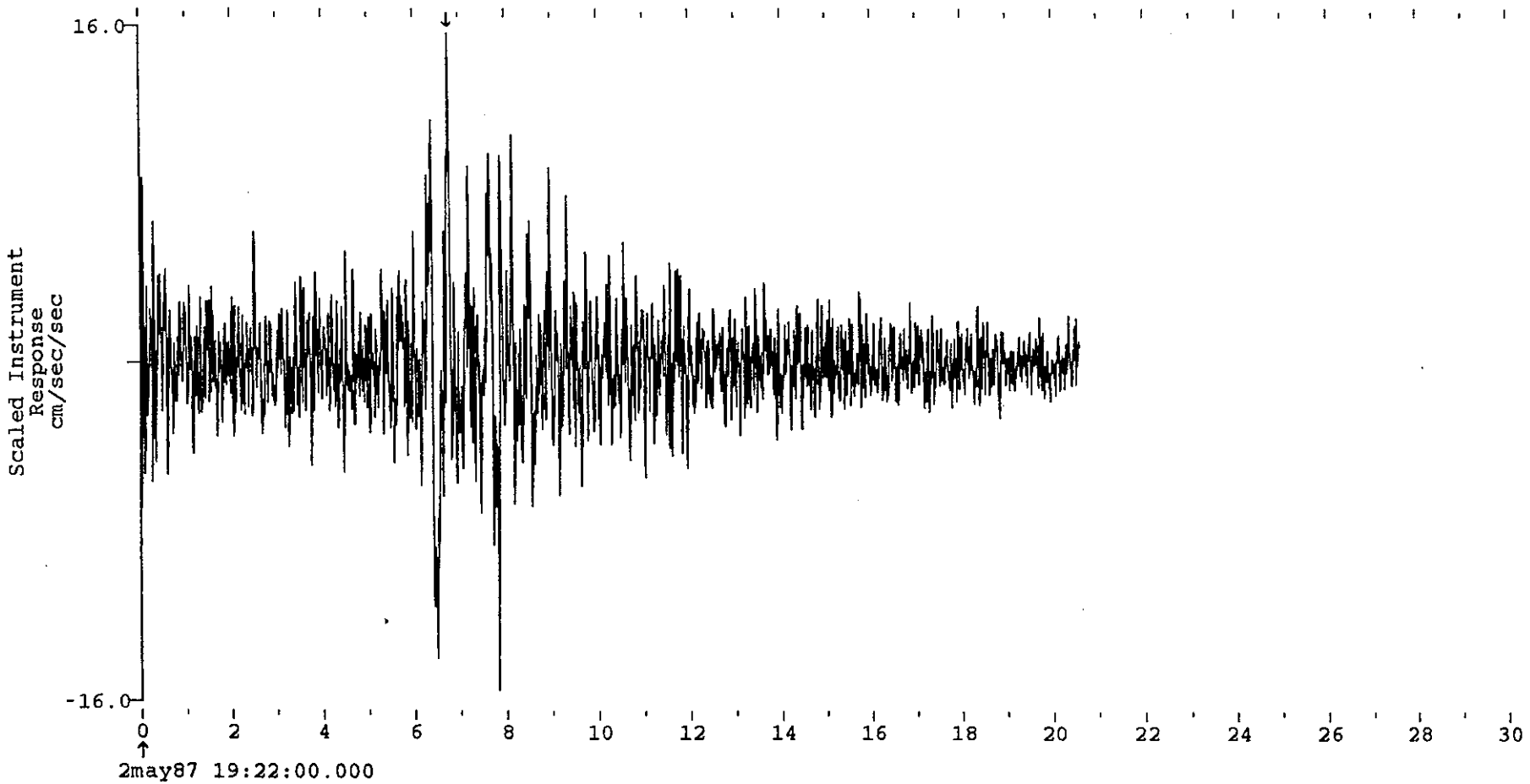
TIME SERIES PLOT
F55.SMC
STATION: BKJ 2773 - BIG KONIUJI, ALASKA
55.160N -159.565W FREE-FIELD, CONCRETE PAD
?????? CHANNEL ? N65 SCALE=??? PER=0.0401 DAMP=0.6150
EVENT: 1985 10 9 0934 54.736N -159.468W 15.0KM M=6.5
EPIC DIST = 47.7KM AZIMUTH AT STN = N172.5
Peak values (cm/sec/sec): -34.39



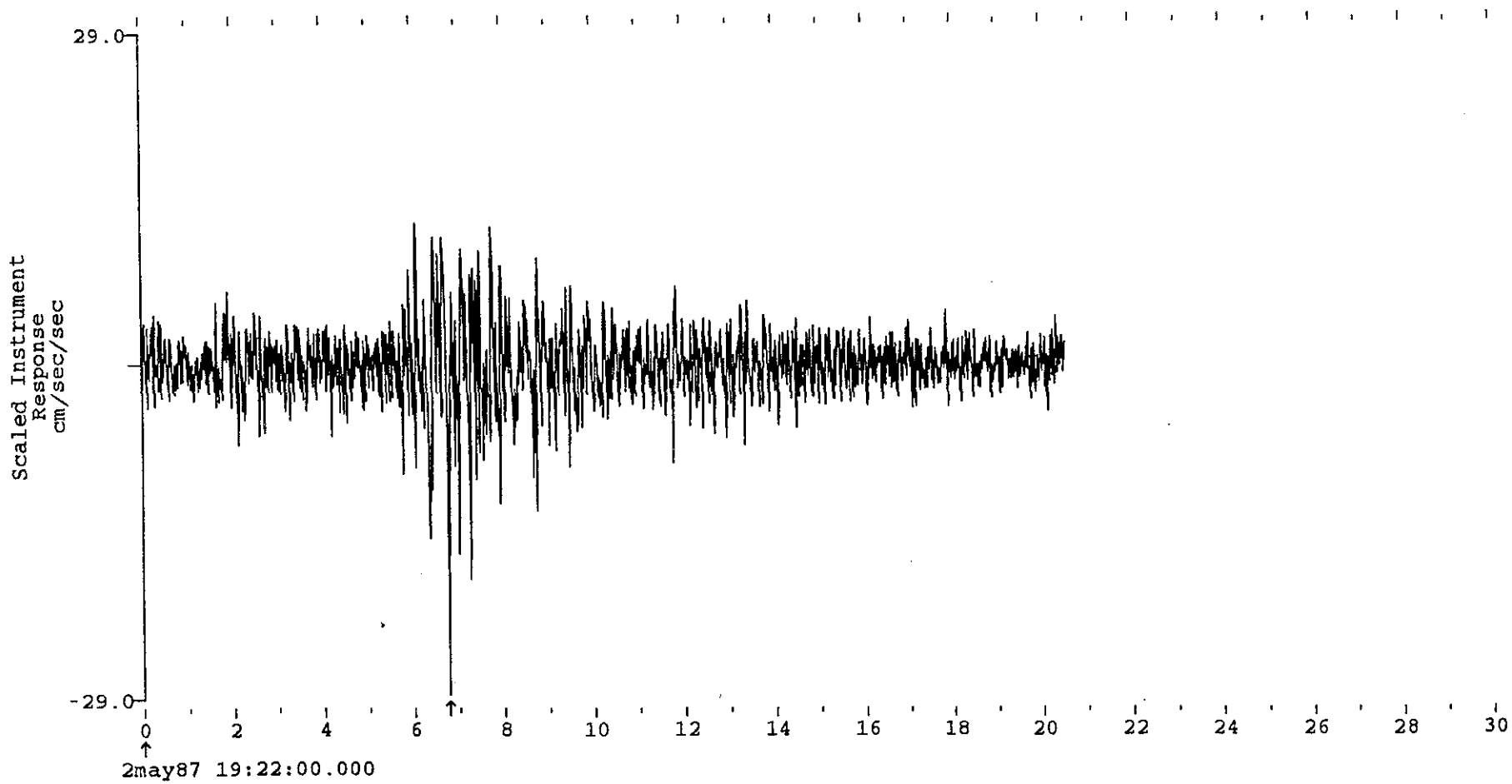
TIME SERIES PLOT
F99.SMC
STATION: BKJ 2773 - BIG KONIUJI, ALASKA
55.160N -159.565W FREE-FIELD, CONCRETE PAD
?????? CHANNEL ? N345 SCALE=??? PER=0.0398 DAMP=0.6350
EVENT: 1987 5 2 1922 54.800N -159.884W 28.0KM M=5.3
EPIC DIST = 45.1KM AZIMUTH AT STN = N207.1
Peak values (cm/sec/sec): -25.08



TIME SERIES PLOT
F98.SMC
STATION: BKJ 2773 - BIG KONIUJI, ALASKA
55.160N -159.565W FREE-FIELD, CONCRETE PAD
?????? CHANNEL ? UP SCALE=??? PER=0.0357 DAMP=0.5800
EVENT: 1987 5 2 1922 54.800N -159.884W 28.0KM M=5.3
EPIC DIST = 45.1KM AZIMUTH AT STN = N207.1
Peak values (cm/sec/sec): 15.65



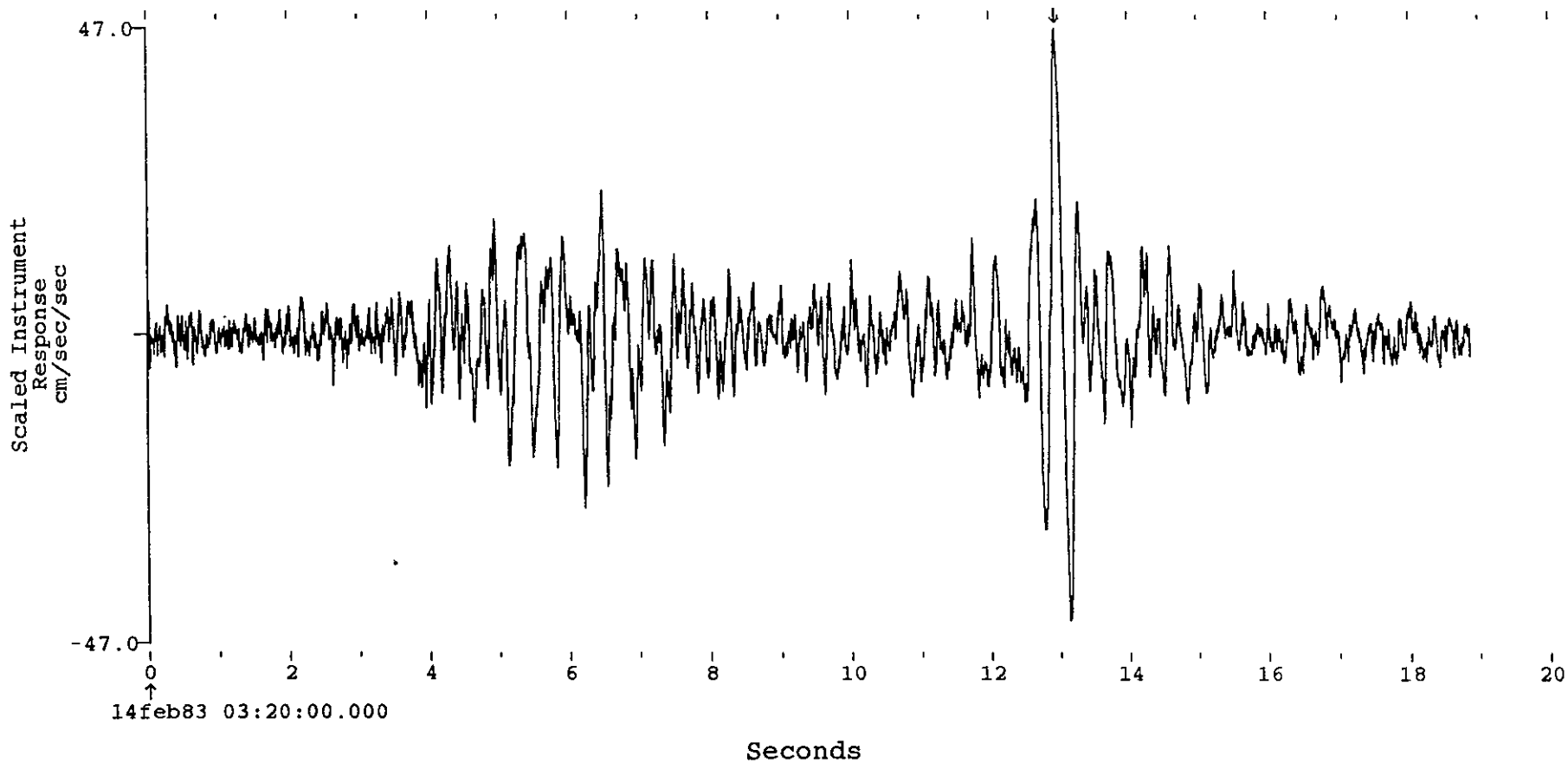
TIME SERIES PLOT
F97.SMC
STATION: BKJ 2773 - BIG KONIUJI, ALASKA
55.160N -159.565W FREE-FIELD, CONCRETE PAD
?????? CHANNEL ? N75 SCALE=??? PER=0.0369 DAMP=0.6200
EVENT: 1987 5 2 1922 54.800N -159.884W 28.0KM M=5.3
EPIC DIST = 45.1KM AZIMUTH AT STN = N207.1
Peak values (cm/sec/sec): -28.61



TIME SERIES PLOT

FILE124.SMC

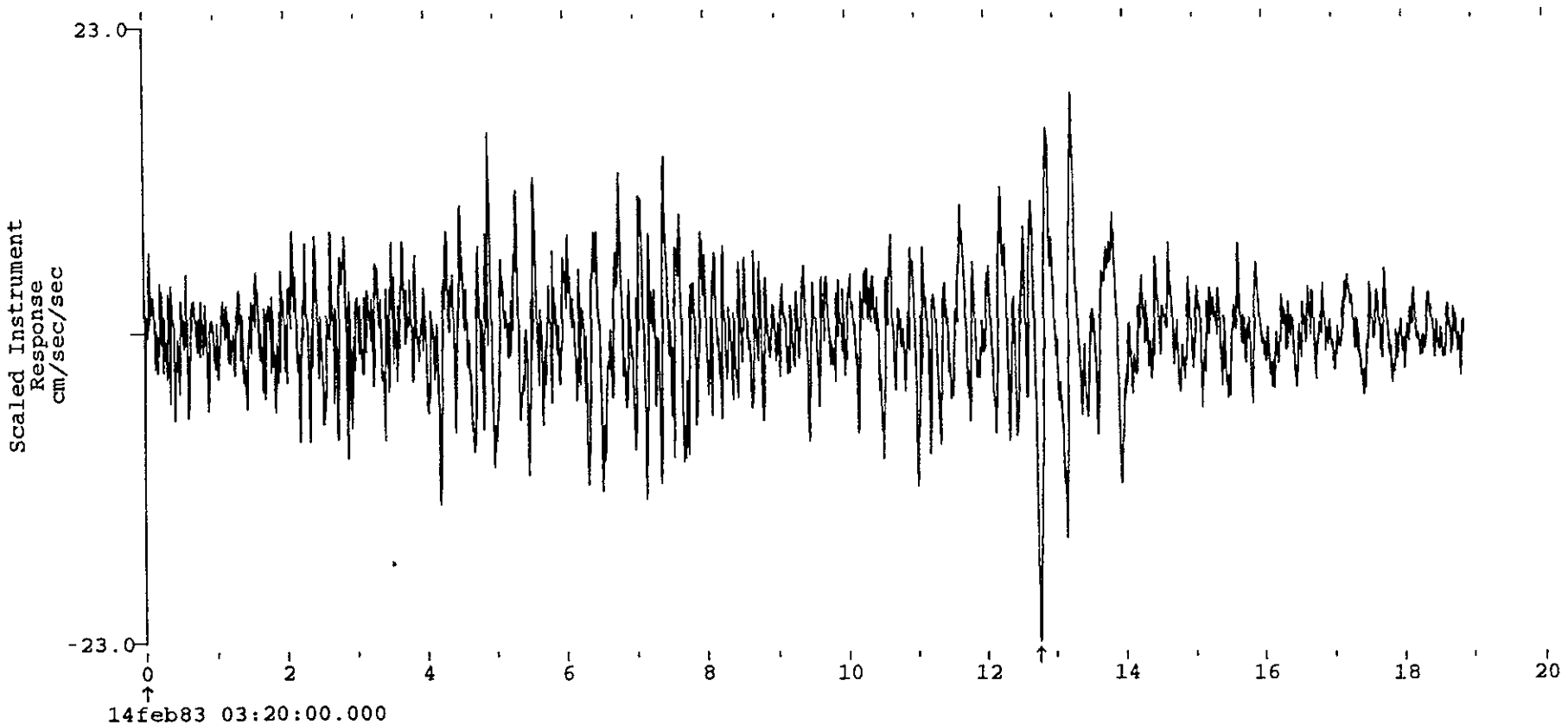
STATION: 2776 CNB CHERNABURA ISLAND .
54.820N 159.588W CEMENTED TO WEATHERED GRANITE BEDROCK .
SMA-1 2038 CHANNEL 1 N070E SCALE=1.720 PER=.0390 DAMP=.60 .
EVENT: 1983 FEB 14 03:20 54.736N 158.882W 25KM M=6.3 V .
EPIC DIST = 46KM AZIMUTH AT STN = 281
Peak values (cm/sec/sec): 46.92



TIME SERIES PLOT

FILE125.SMC

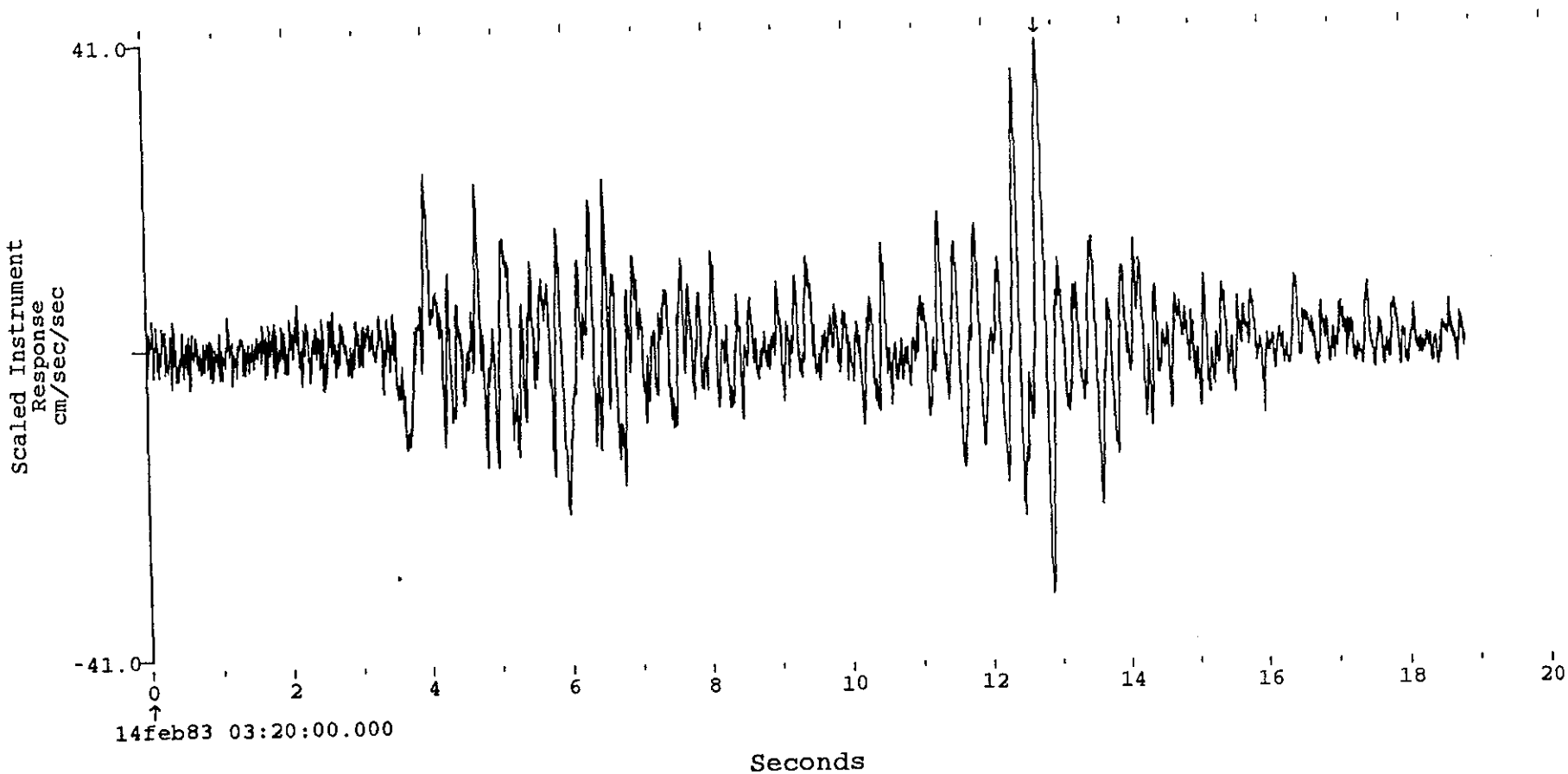
STATION: 2776 CNB CHERNABURA ISLAND .
54.820N 159.588W CEMENTED TO WEATHERED GRANITE BEDROCK .
SMA-1 2038 CHANNEL 2 UP SCALE=1.860 PER=.0390 DAMP=.60 .
EVENT: 1983 FEB 14 03:20 54.736N 158.882W 25KM M=6.3 V .
EPIC DIST = 46KM AZIMUTH AT STN = 281
Peak values (cm/sec/sec): -22.89



TIME SERIES PLOT

FILE126.SMC

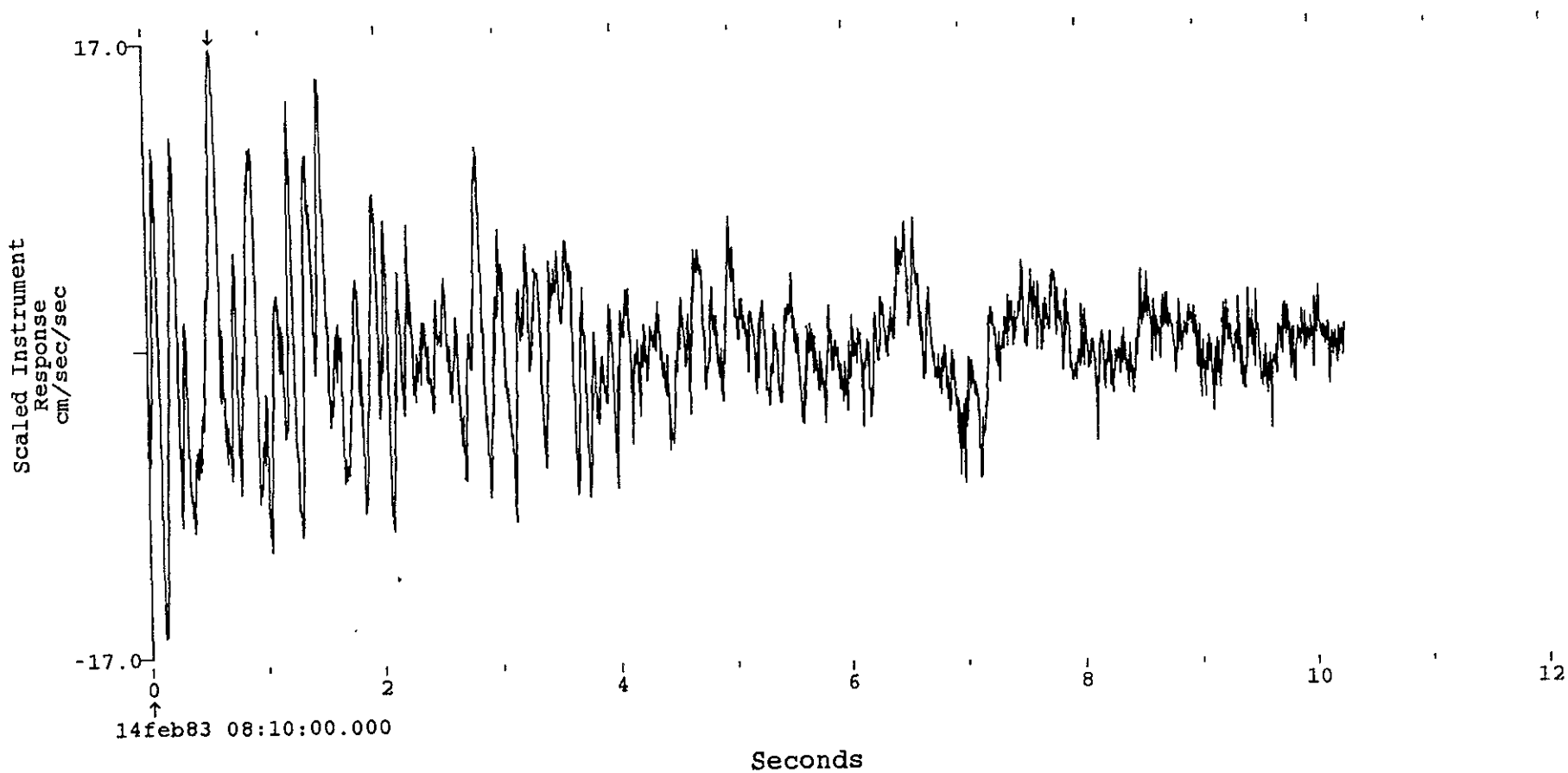
STATION: 2776 CNB CHERNABURA ISLAND .
54.820N 159.588W CEMENTED TO WEATHERED GRANITE BEDROCK .
SMA-1 2038 CHANNEL 3 N340E SCALE=1.660 PER=.0360 DAMP=.60 .
EVENT: 1983 FEB 14 03:20 54.736N 158.882W 25KM M=6.3 V .
EPIC DIST = 46KM AZIMUTH AT STN = 281
Peak values (cm/sec/sec): 40.49



TIME SERIES PLOT

FILE136.SMC

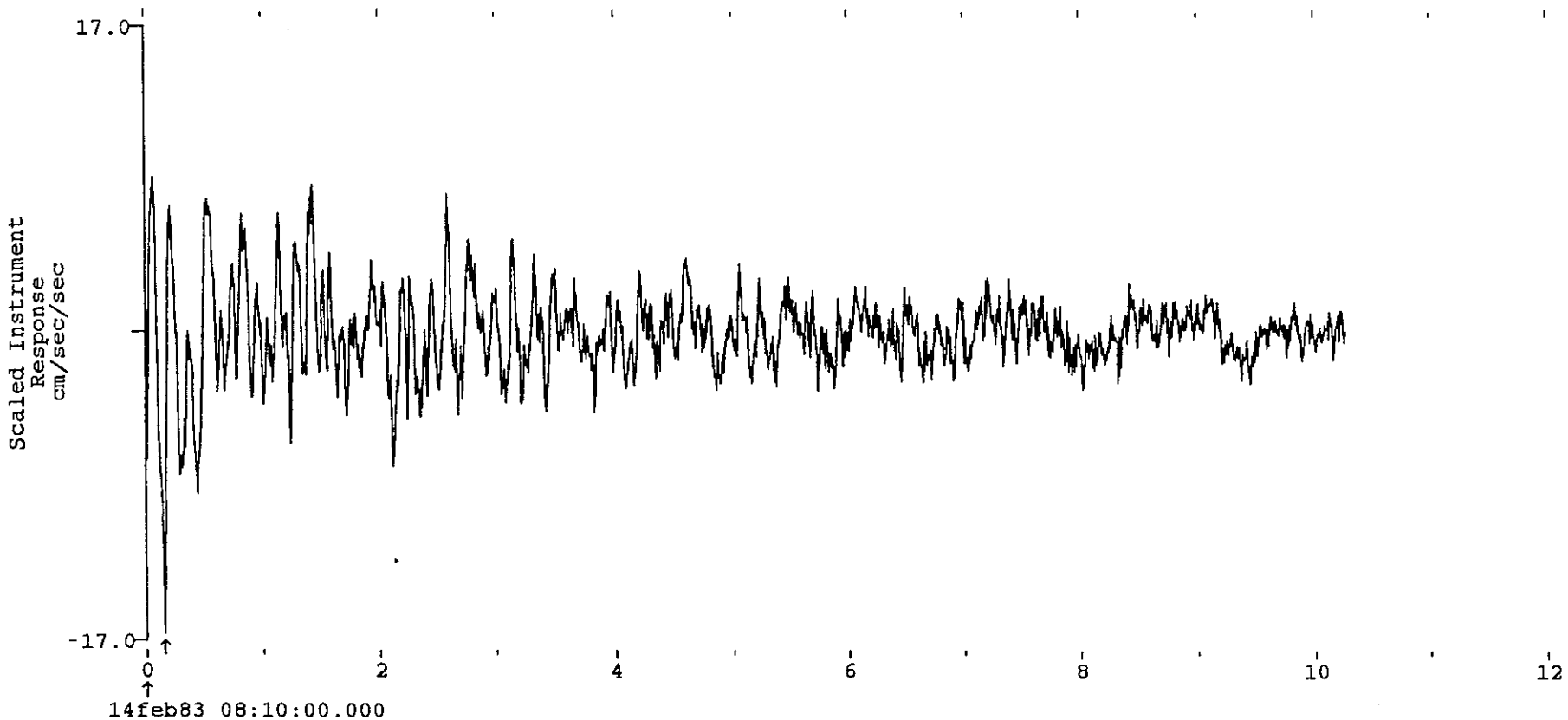
STATION: 2776 CNB CHERNABURA ISLAND .
54.820N 159.588W CEMENTED TO WEATHERED GRANITE BEDROCK .
SMA-1 2038 CHANNEL 1 N070E SCALE=1.720 PER=.0390 DAMP=.60 .
EVENT: 1983 FEB 14 08:10 54.854N 158.843W 25KM M=6.0 V .
EPIC DIST = 48KM AZIMUTH AT STN = 265
Peak values (cm/sec/sec): 16.69



TIME SERIES PLOT

FILE137.SMC

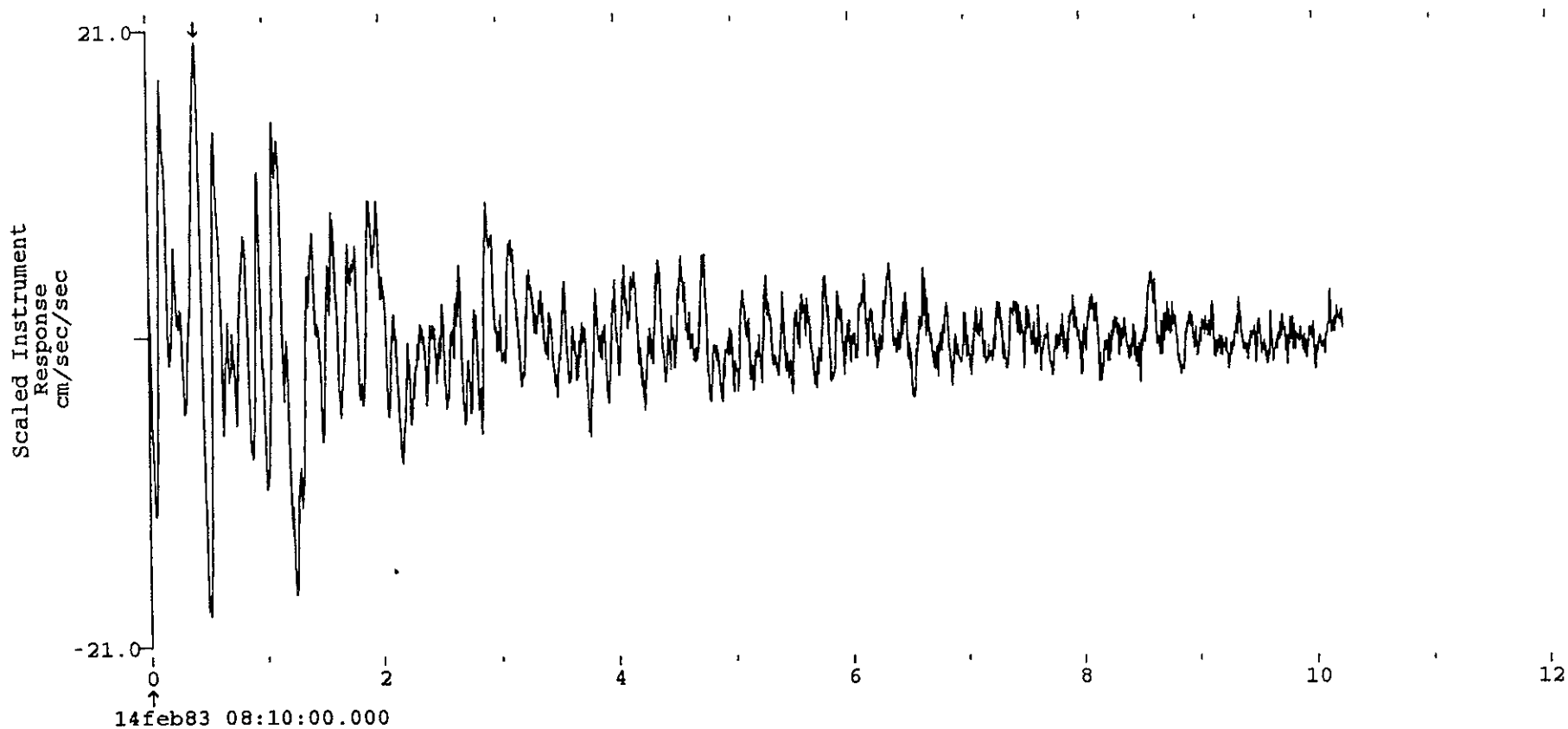
STATION: 2776 CNB CHERNABURA ISLAND .
54.820N 159.588W CEMENTED TO WEATHERED GRANITE BEDROCK .
SMA-1 2038 CHANNEL 2 UP SCALE=1.860 PER=.0390 DAMP=.60 .
EVENT: 1983 FEB 14 08:10 54.854N 158.843W 25KM M=6.0 V .
EPIC DIST = 48KM AZIMUTH AT STN = 265
Peak values (cm/sec/sec): -16.60



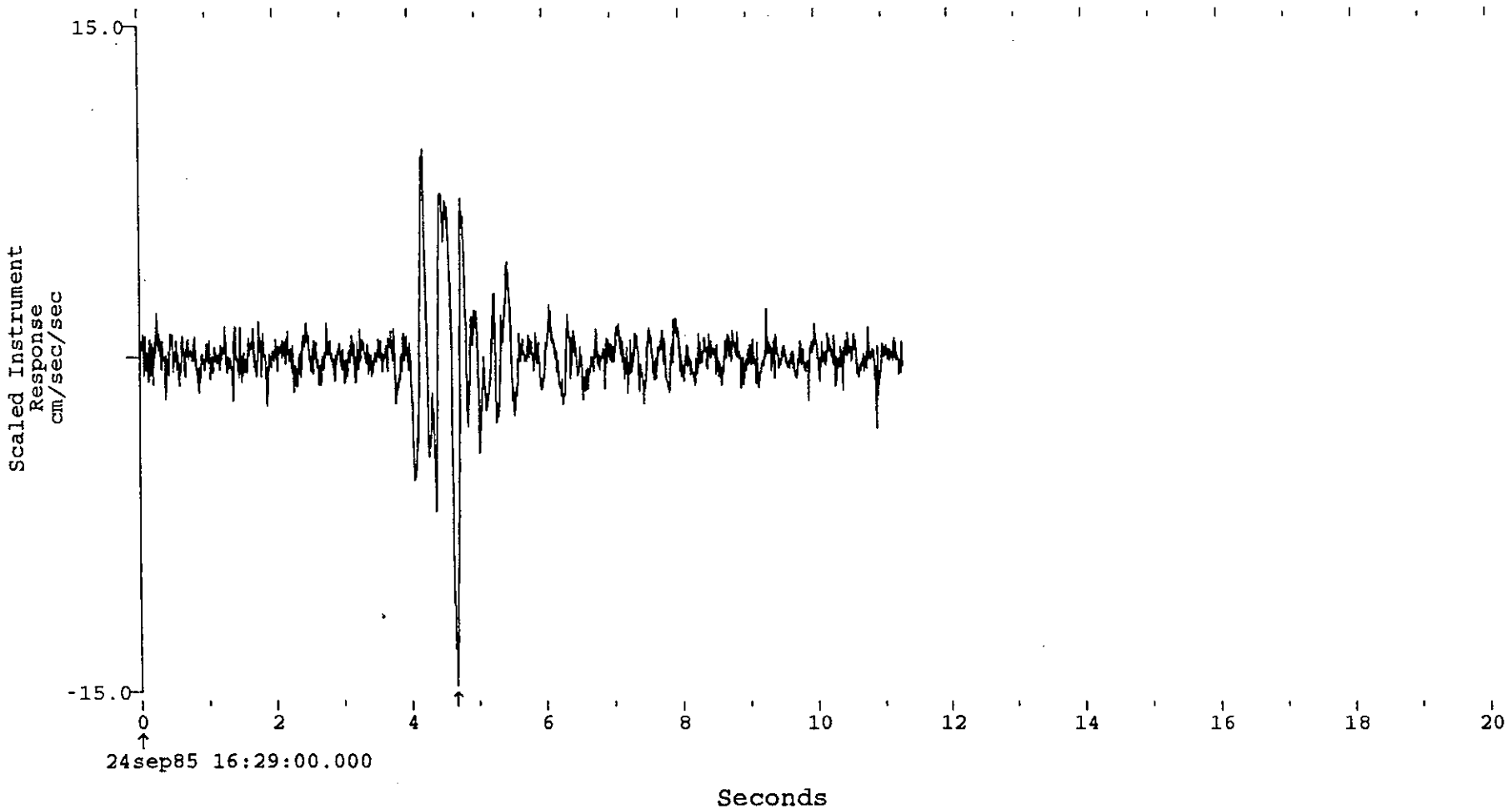
TIME SERIES PLOT

FILE138.SMC

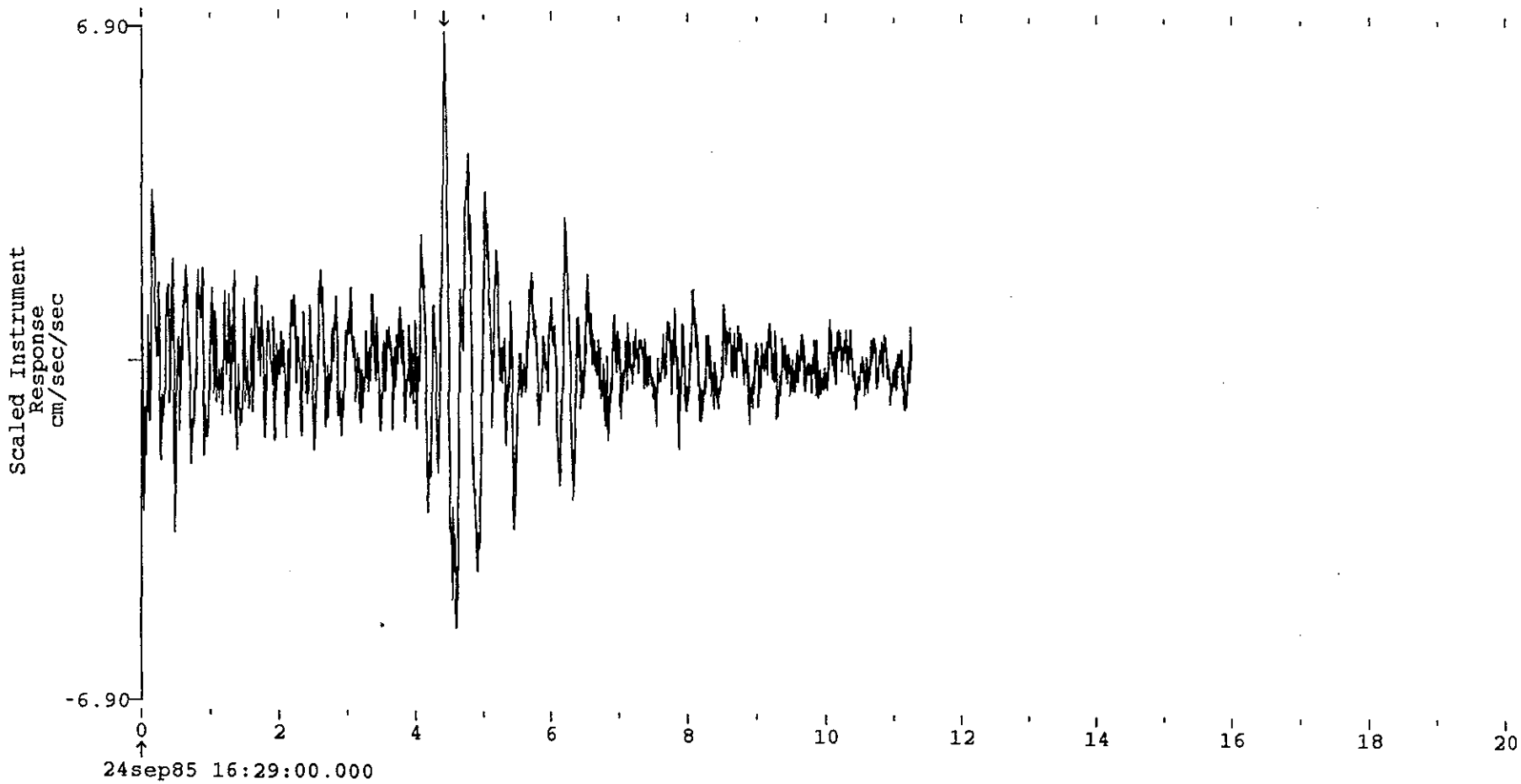
STATION: 2776 CNB CHERNABURA ISLAND .
54.820N 159.588W CEMENTED TO WEATHERED GRANITE BEDROCK .
SMA-1 2038 CHANNEL 3 N340E SCALE=1.660 PER=.0360 DAMP=.60 .
EVENT: 1983 FEB 14 08:10 54.854N 158.843W 25KM M=6.0 V .
EPIC DIST = 48KM AZIMUTH AT STN = 265
Peak values (cm/sec/sec): 20.23



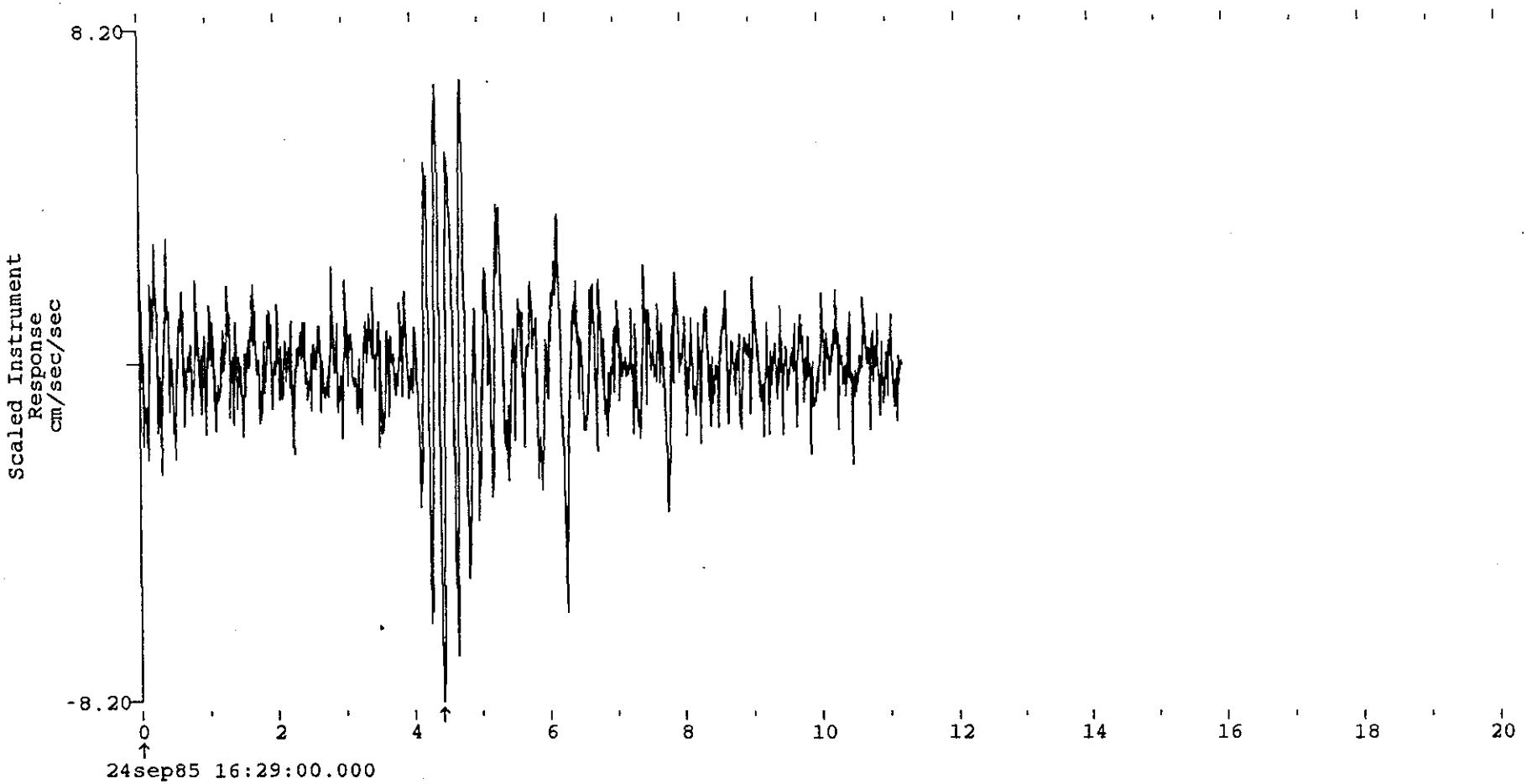
TIME SERIES PLOT
F51.SMC
STATION: 2776 CNB - CHERNABURA ISLAND, AK
54.820N -159.588W FREE-FIELD, CEMENTED TO BEDROCK
SMA-1 CHANNEL ? N343 SCALE=??? PER=0.0529 DAMP=0.5900
EVENT: 1985 9 25 1629 54.709N -159.728W 28.0KM M=4.4
EPIC DIST = 15.3KM AZIMUTH AT STN = N216.0
Peak values (cm/sec/sec): -14.70



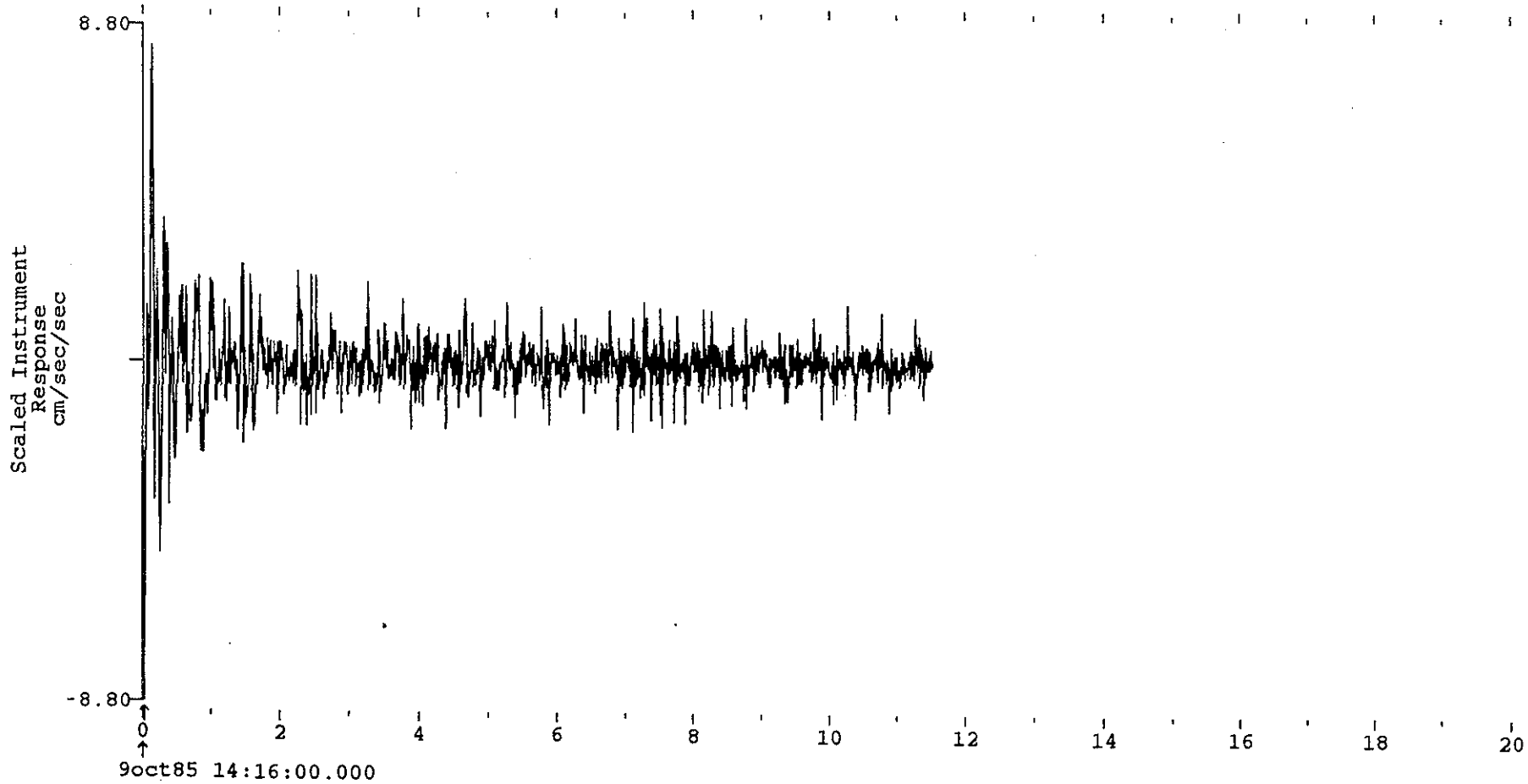
TIME SERIES PLOT
F50.SMC
STATION: 2776 CNB - CHERNABURA ISLAND, AK
54.820N -159.588W FREE-FIELD, CEMENTED TO BEDROCK
SMA-1 CHANNEL ? UP SCALE=??? PER=0.0514 DAMP=0.5700
EVENT: 1985 9 25 1629 54.709N -159.728W 28.0KM M=4.4
EPIC DIST = 15.3KM AZIMUTH AT STN = N216.0
Peak values (cm/sec/sec): 6.82



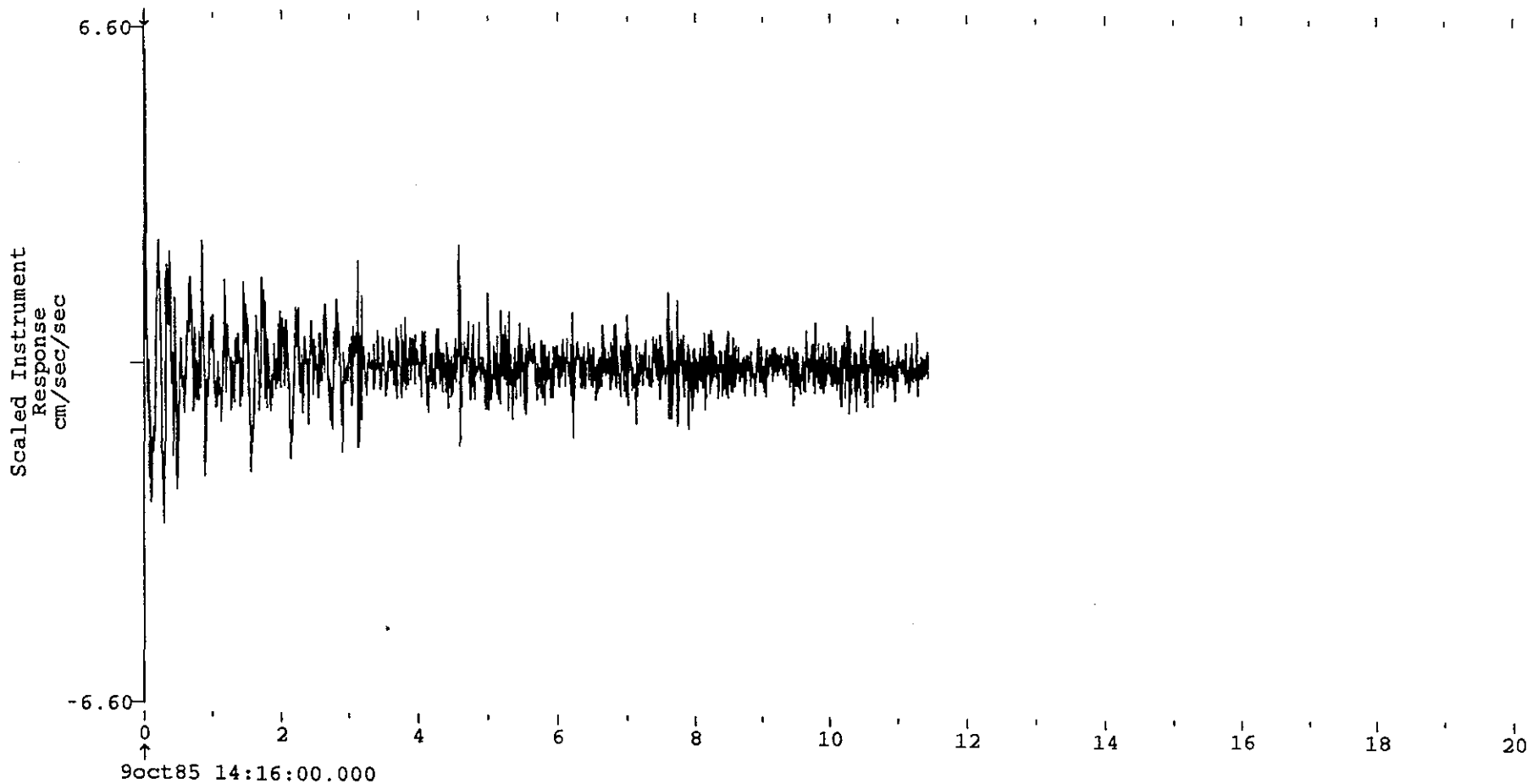
TIME SERIES PLOT
F49.SMC
STATION: 2776 CNB - CHERNABURA ISLAND, AK
54.820N -159.588W FREE-FIELD, CEMENTED TO BEDROCK
SMA-1 CHANNEL ? N73 SCALE=??? PER=0.0543 DAMP=0.6100
EVENT: 1985 9 25 1629 54.709N -159.728W 28.0KM M=4.4
EPIC DIST = 15.3KM AZIMUTH AT STN = N216.0
Peak values (cm/sec/sec): -8.19



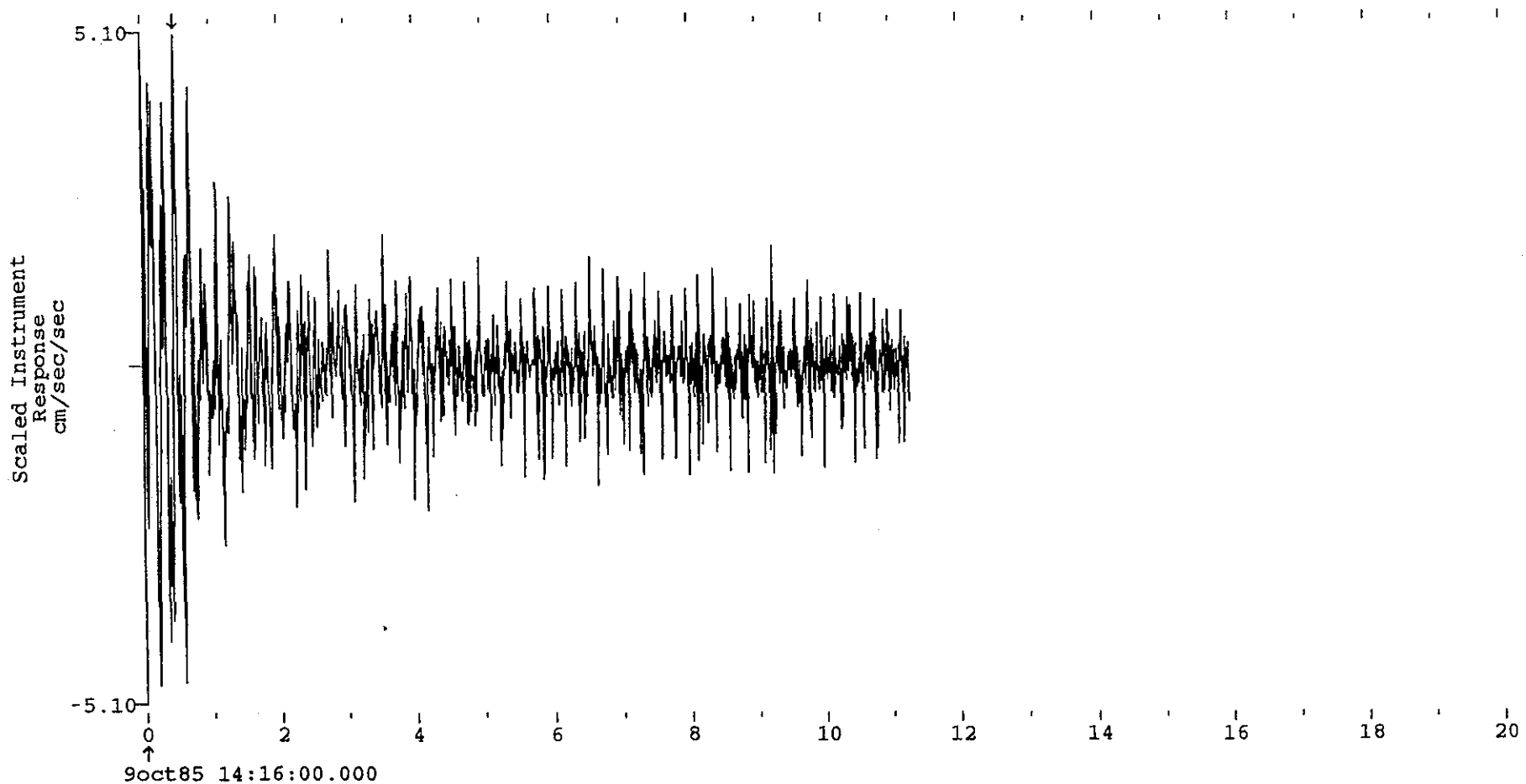
TIME SERIES PLOT
F66.SMC
STATION: 2776 CNB - CHERNABURA ISLAND, AK
54.820N -159.588W FREE-FIELD, CEMENTED TO BEDROCK
SMA-1 CHANNEL ? N343 SCALE=??? PER=0.0529 DAMP=0.5900
EVENT: 1985 10 9 1416 54.812N -159.466W 20.0KM M=4.5
EPIC DIST = 7.9KM AZIMUTH AT STN = 96.7
Peak values (cm/sec/sec): -8.78



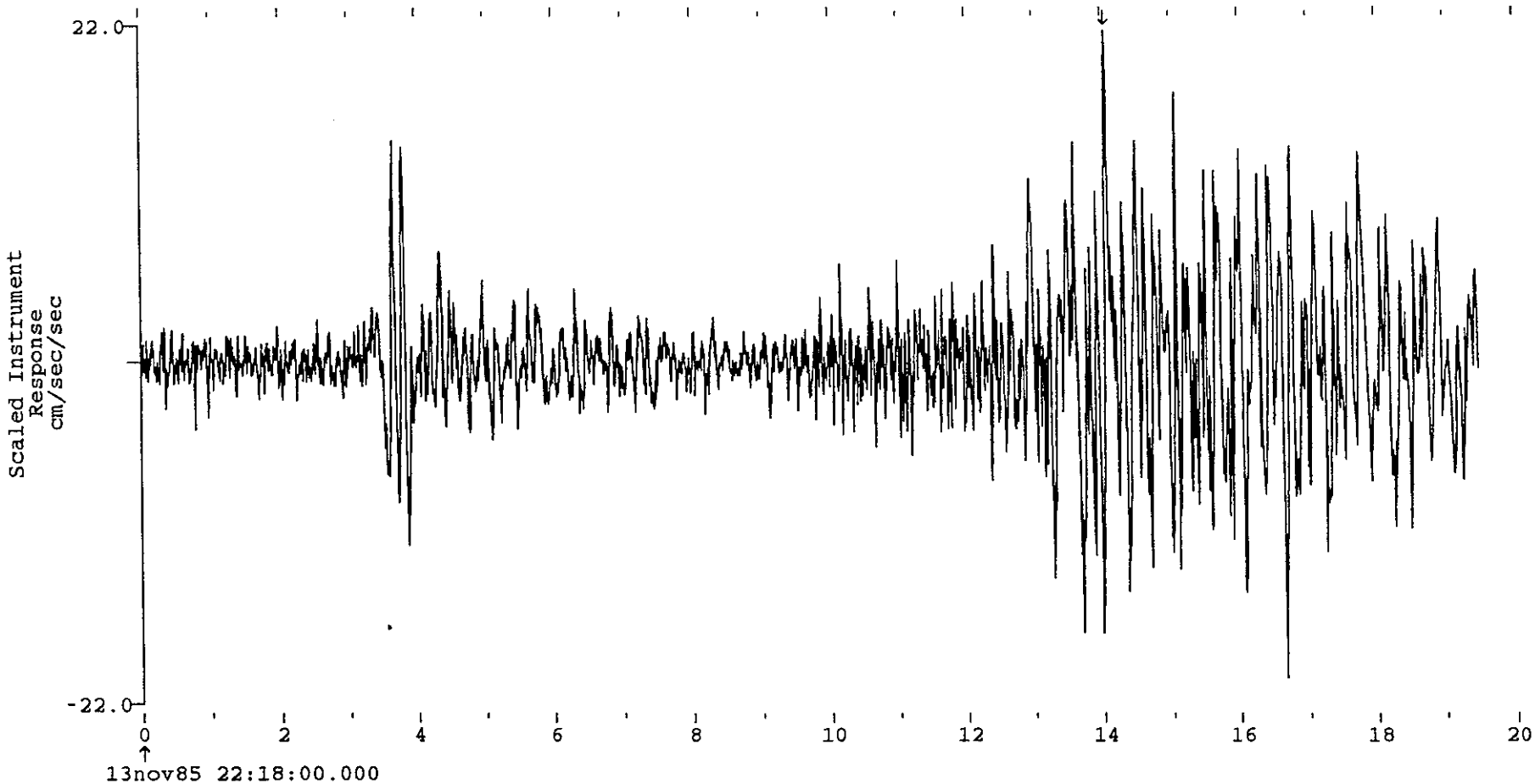
TIME SERIES PLOT
F65.SMC
STATION: 2776 CNB - CHERNABURA ISLAND, AK
54.820N -159.588W FREE-FIELD, CEMENTED TO BEDROCK
SMA-1 CHANNEL ? UP SCALE=??? PER=0.0514 DAMP=0.5700
EVENT: 1985 10 9 1416 54.812N -159.466W 20.0KM M=4.5
EPIC DIST = 7.9KM AZIMUTH AT STN = 96.7
Peak values (cm/sec/sec): 6.50



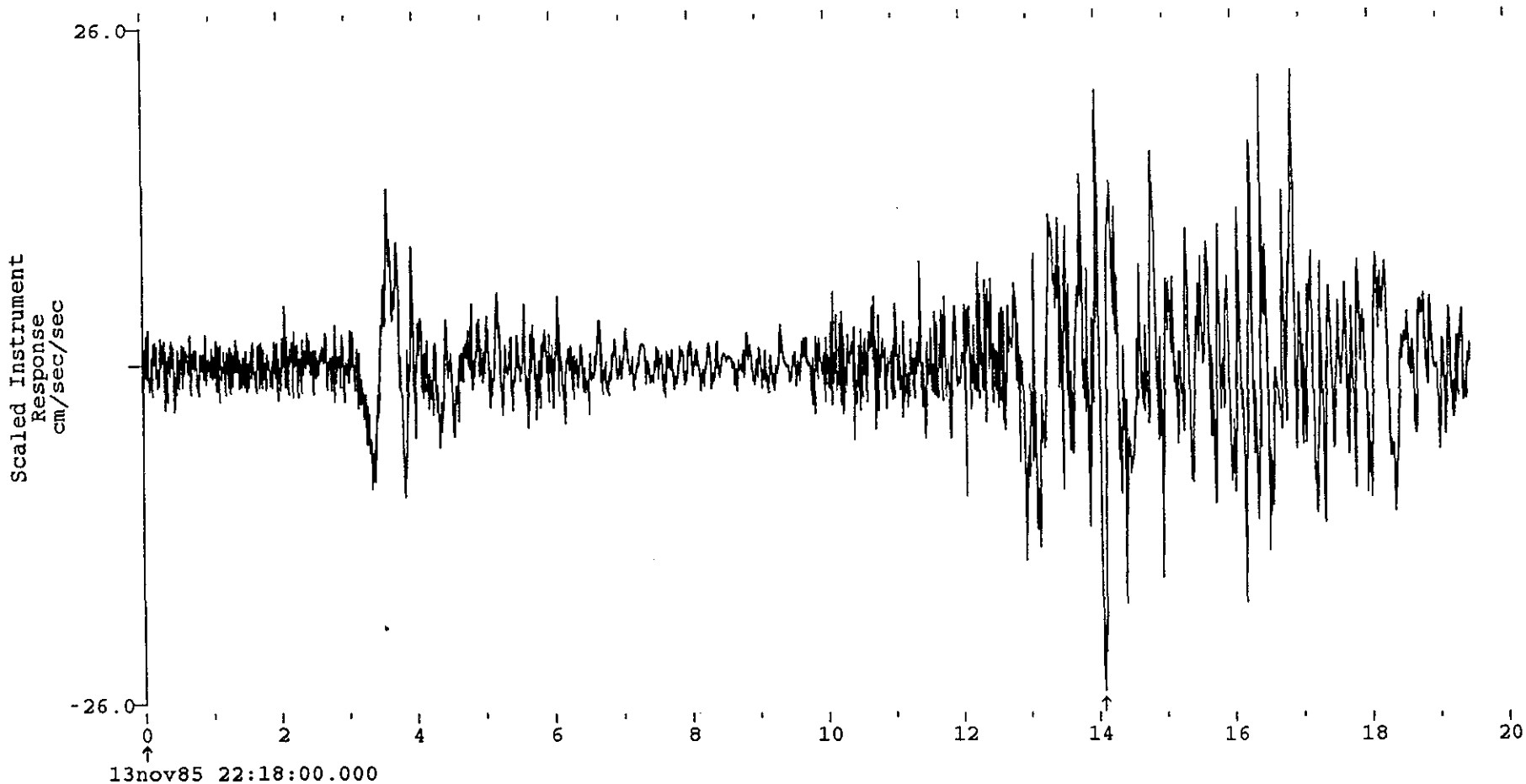
TIME SERIES PLOT
F64.SMC
STATION: 2776 CNB - CHERNABURA ISLAND, AK
54.820N -159.588W FREE-FIELD, CEMENTED TO BEDROCK
SMA-1 CHANNEL ? N73 SCALE=??? PER=0.0543 DAMP=0.6100
EVENT: 1985 10 9 1416 54.812N -159.466W 20.0KM M=4.5
EPIC DIST = 7.9KM AZIMUTH AT STN = 96.7
Peak values (cm/sec/sec): 5.07



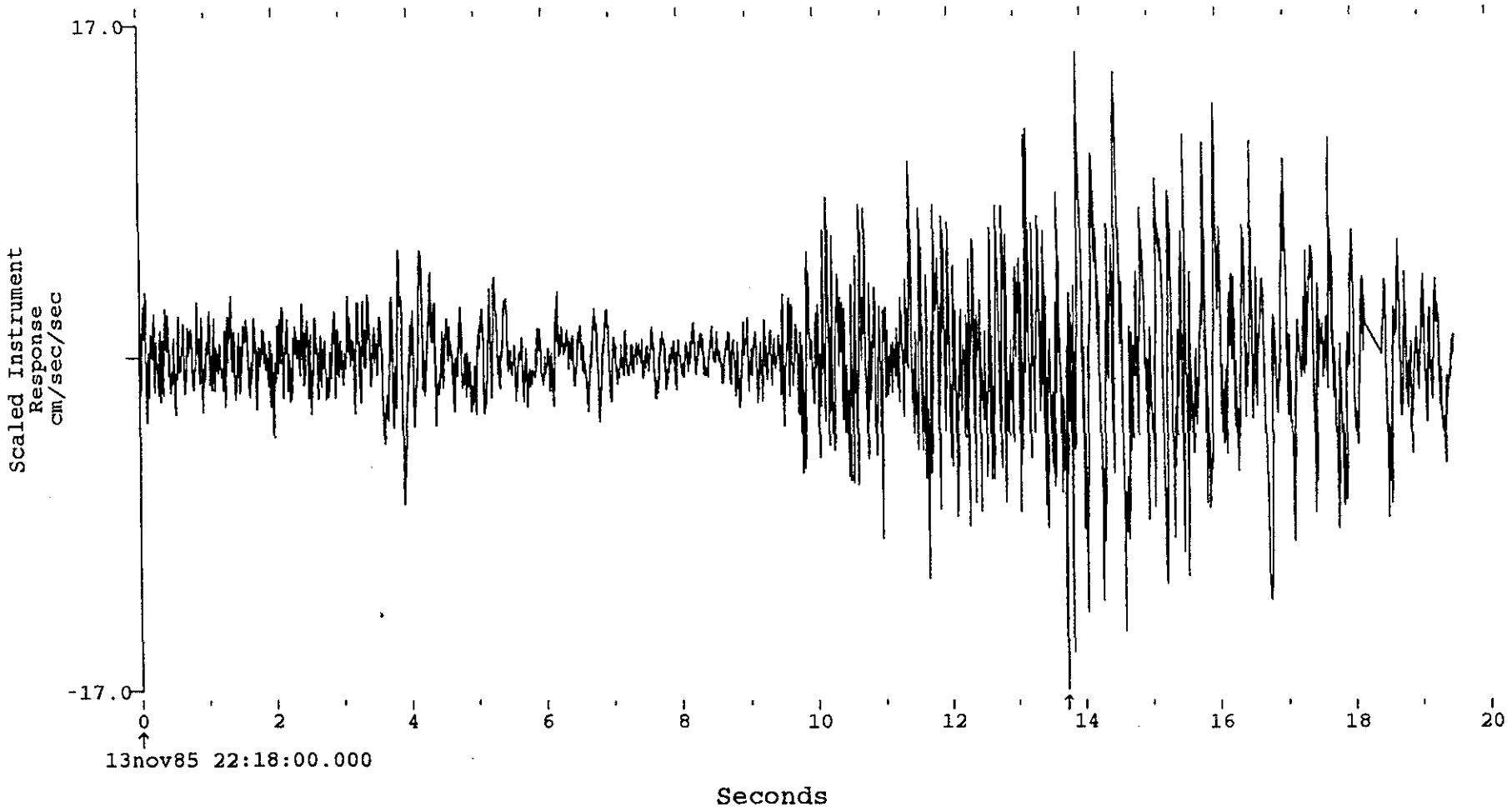
TIME SERIES PLOT
F67.SMC
STATION: 2776 CNB - CHERNABURA ISLAND, AK
54.820N -159.588W FREE-FIELD, CEMENTED TO BEDROCK
SMA-1 CHANNEL ? N73 SCALE=??? PER=0.0541 DAMP=0.5900
EVENT: 1985 11 14 2218 54.684N -159.549W 19.0KM M=5.8
EPIC DIST = 15.4KM AZIMUTH AT STN = N170.5
Peak values (cm/sec/sec): 21.59



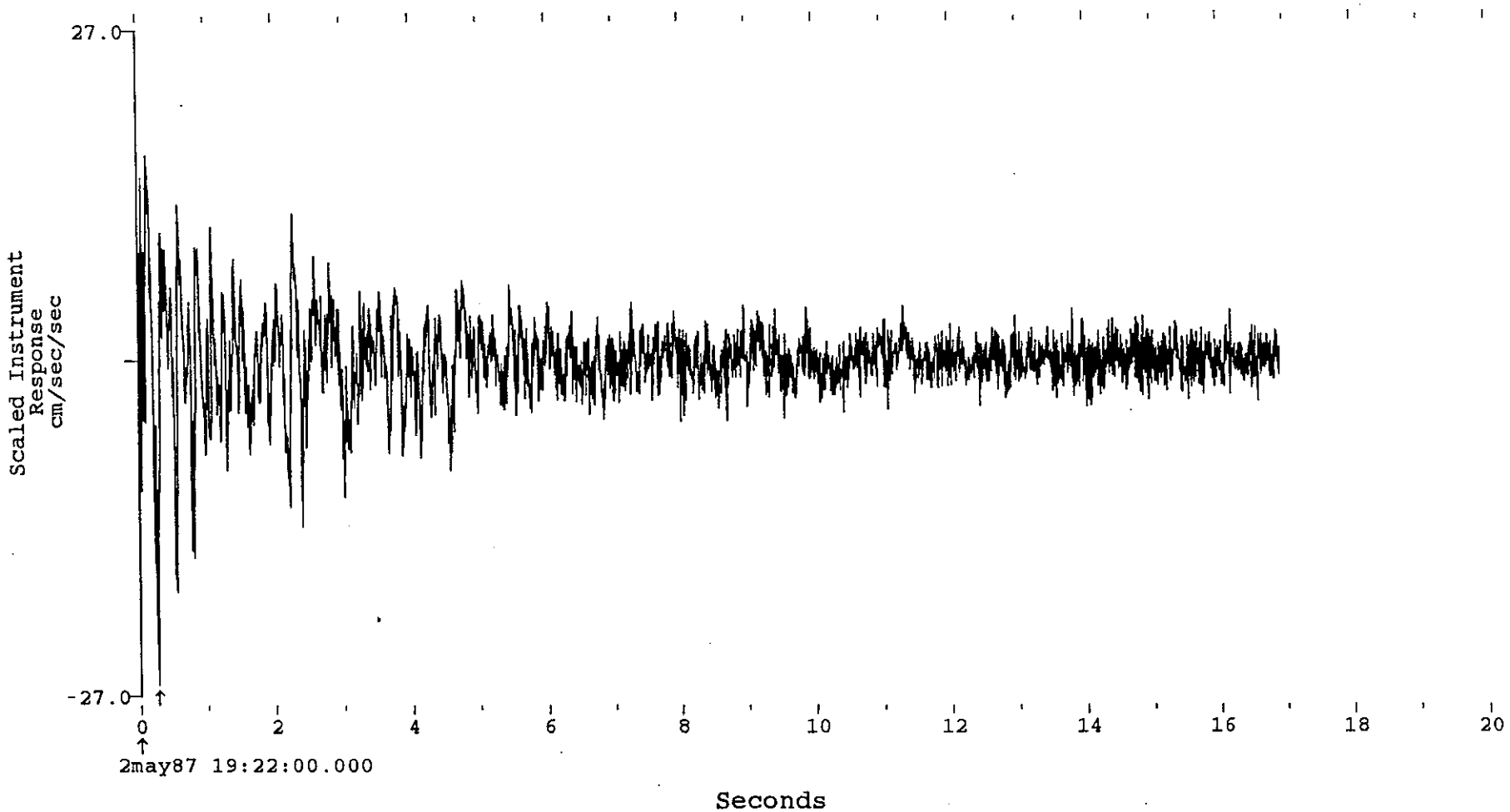
TIME SERIES PLOT
F69.SMC
STATION: 2776 CNB - CHERNABURA ISLAND, AK
54.820N -159.588W FREE-FIELD, CEMENTED TO BEDROCK
SMA-1 CHANNEL ? N343 SCALE=??? PER=0.0524 DAMP=0.5800
EVENT: 1985 11 14 2218 54.684N -159.549W 19.0KM M=5.8
EPIC DIST = 15.4KM AZIMUTH AT STN = N170.5
Peak values (cm/sec/sec): -25.04



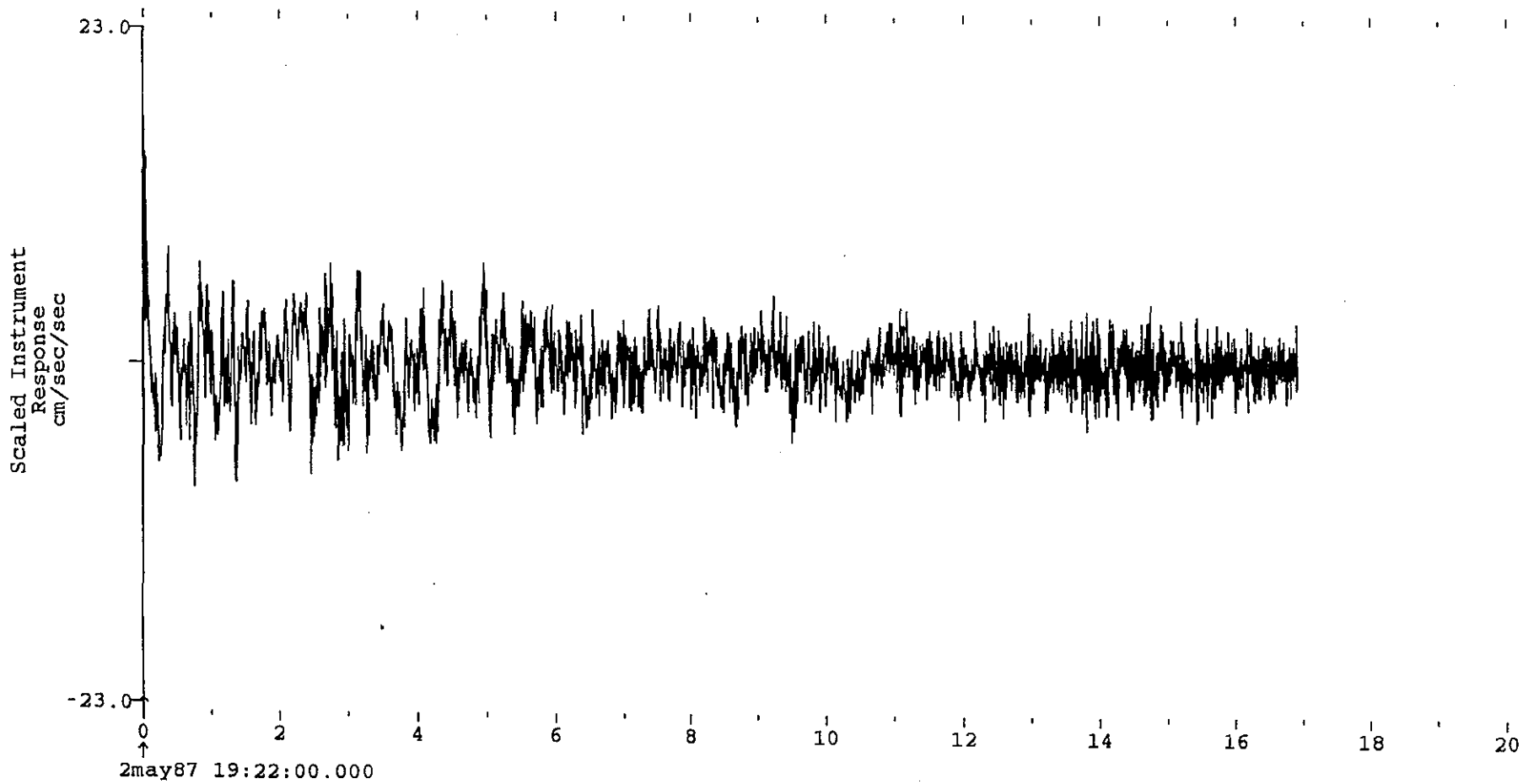
TIME SERIES PLOT
F68.SMC
STATION: 2776 CNB - CHERNABURA ISLAND, AK
54.820N -159.588W FREE-FIELD, CEMENTED TO BEDROCK
SMA-1 CHANNEL ? UP SCALE=??? PER=0.0513 DAMP=0.5600
EVENT: 1985 11 14 2218 54.684N -159.549W 19.0KM M=5.8
EPIC DIST = 15.4KM AZIMUTH AT STN = N170.5
Peak values (cm/sec/sec): -16.91



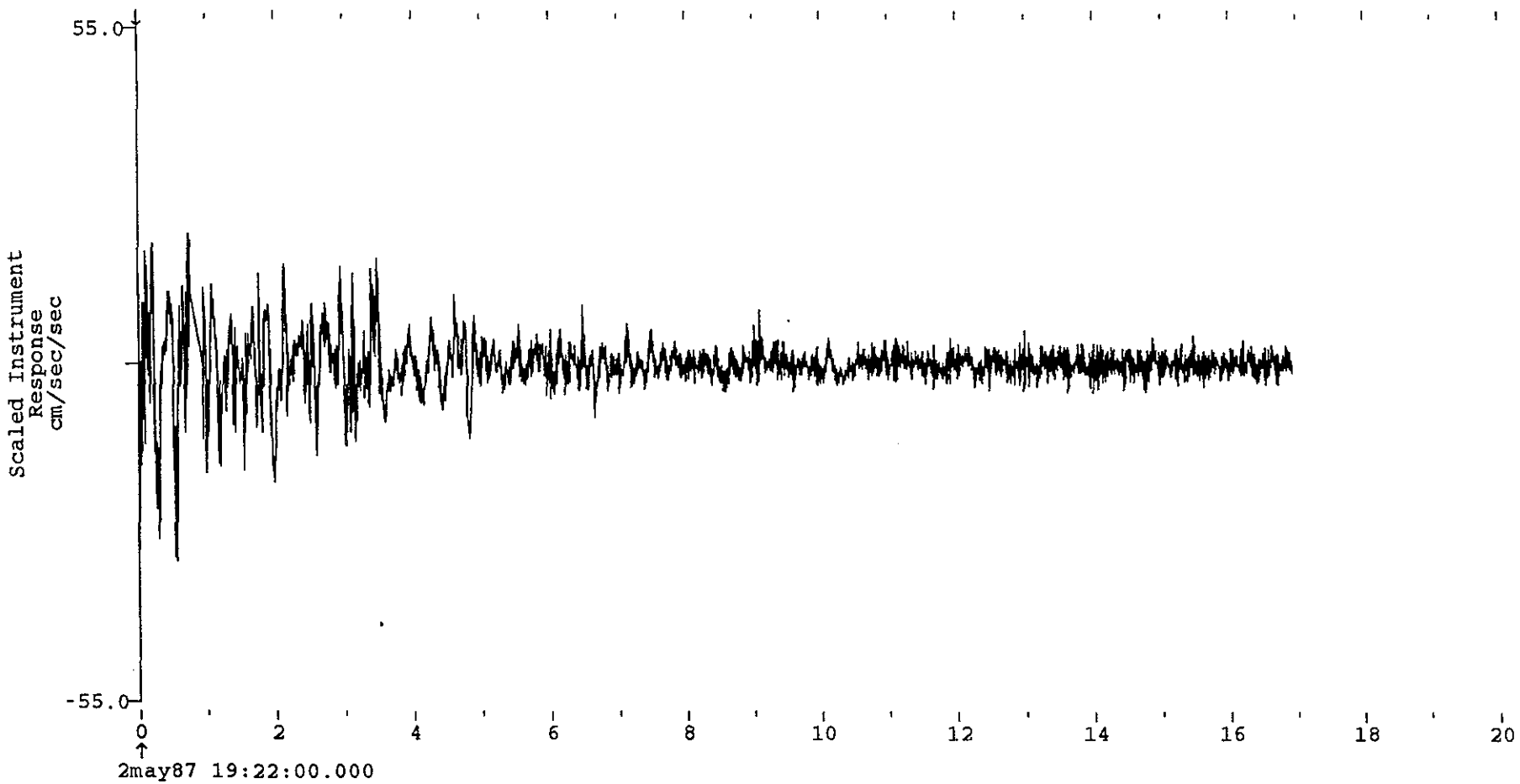
TIME SERIES PLOT
F105.SMC
STATION: 2776 CNB - CHERNABURA ISLAND, AK
54.820N -159.588W FREE-FIELD, CEMENTED TO BEDROCK
SMA-1 CHANNEL ? N343 SCALE=??? PER=0.0515 DAMP=0.5400
EVENT: 1987 5 2 1922 54.800N -159.884W 28.0KM M=5.3
EPIC DIST = 19.2KM AZIMUTH AT STN = N263.4
Peak values (cm/sec/sec): -26.01



TIME SERIES PLOT
F104.SMC
STATION: 2776 CNB - CHERNABURA ISLAND, AK
54.820N -159.588W FREE-FIELD, CEMENTED TO BEDROCK
SMA-1 CHANNEL ? UP SCALE=??? PER=0.0552 DAMP=0.5450
EVENT: 1987 5 2 1922 54.800N -159.884W 28.0KM M=5.3
EPIC DIST = 19.2KM AZIMUTH AT STN = N263.4
Peak values (cm/sec/sec): -22.27



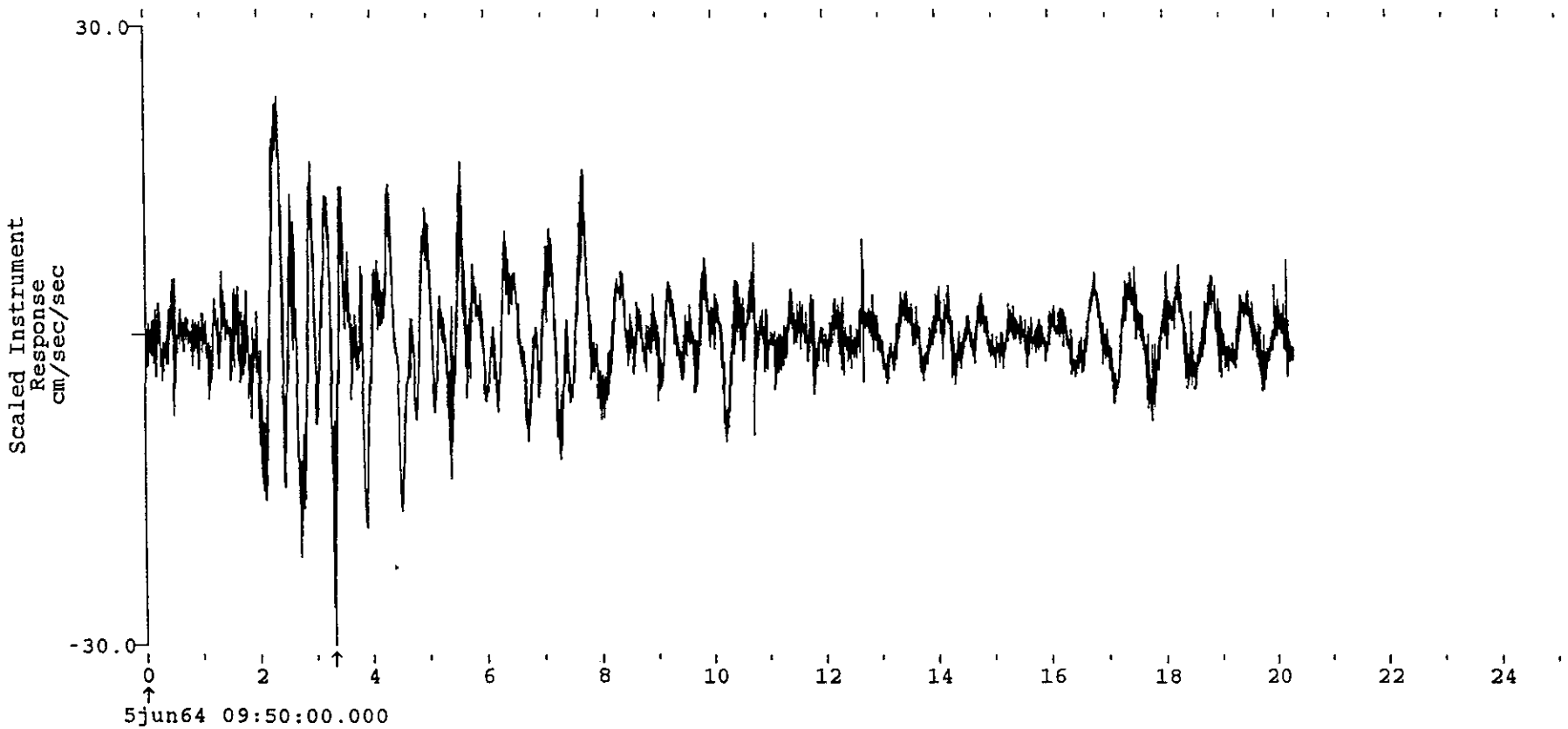
TIME SERIES PLOT
F103.SMC
STATION: 2776 CNB - CHERNABURA ISLAND, AK
54.820N -159.588W FREE-FIELD, CEMENTED TO BEDROCK
SMA-1 CHANNEL ? N73 SCALE=??? PER=0.0600 DAMP=0.2400
EVENT: 1987 5 2 1922 54.800N -159.884W 28.0KM M=5.3
EPIC DIST = 19.2KM AZIMUTH AT STN = N263.4
Peak values (cm/sec/sec): 54.30



TIME SERIES PLOT

FILE038.SMC

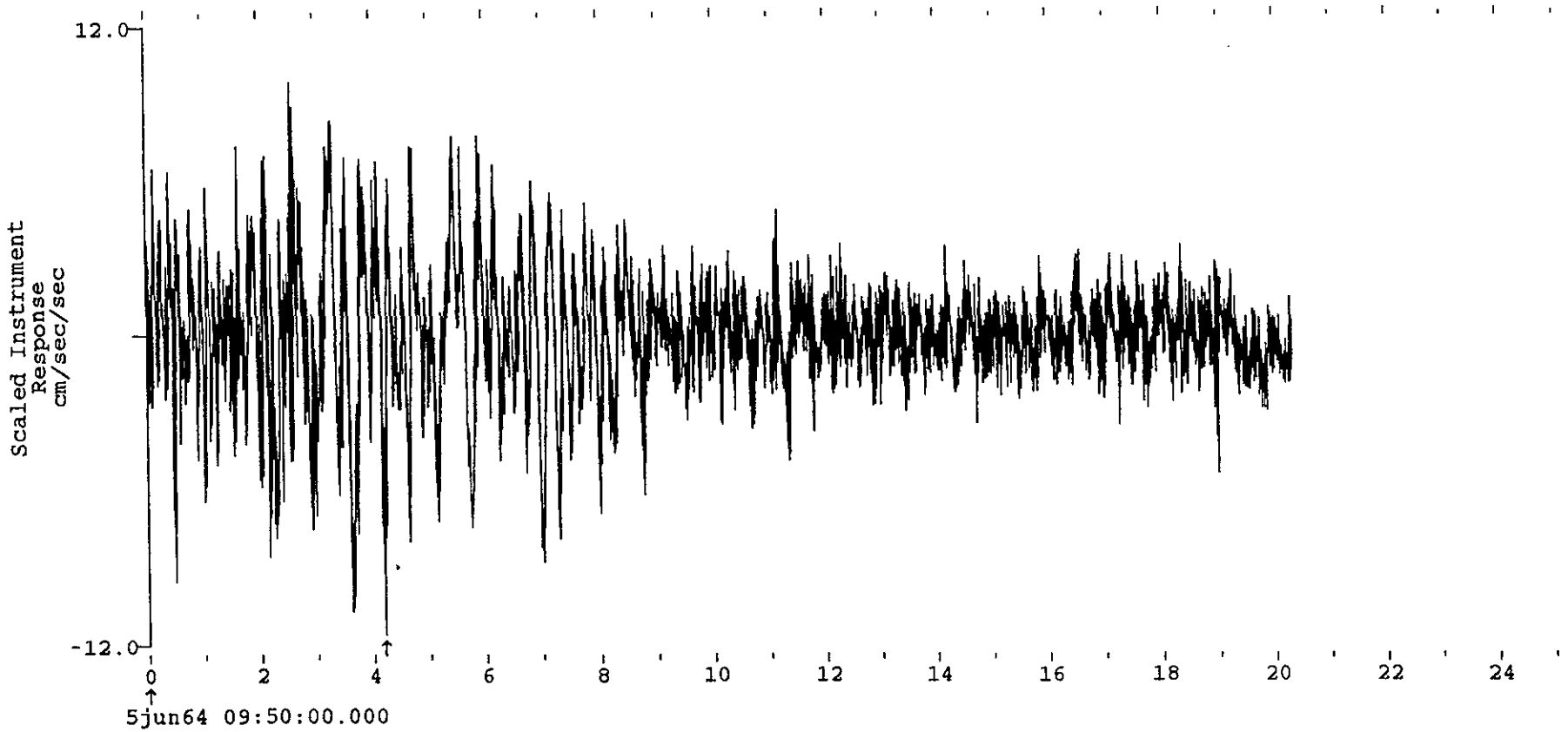
STATION: 2706 MES CORDOVA, MT. ECCLES SCHOOL .
60.540N 145.750W RK METAMORPHIC GROUND LEV 2 STORY BLDG.
AR-240 CHANNEL 1 N286E SCALE=1.900(*) PER=.0510 DAMP=.59 .
EVENT: 1964 JUN 05 09:50 60.350N 145.870W 16KM M=5.2 (?).
EPIC DIST = 22KM AZIMUTH AT STN = 17
Peak values (cm/sec/sec): -29.95



TIME SERIES PLOT

FILE039.SMC

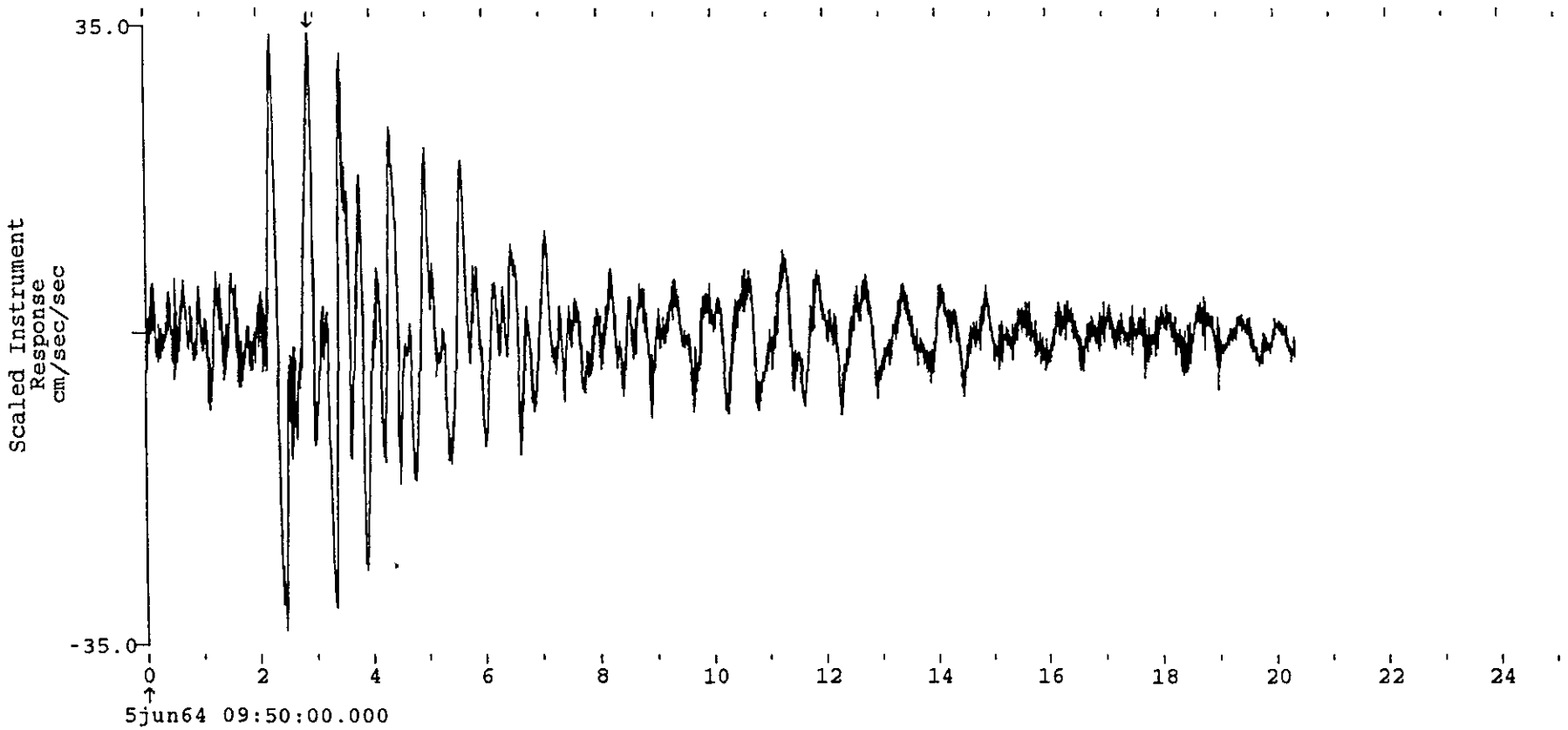
STATION: 2706 MES CORDOVA, MT. ECCLES SCHOOL .
60.540N 145.750W RK METAMORPHIC GROUND LEV 2 STORY BLDG.
AR-240 CHANNEL 2 UP SCALE=1.900(*) PER=.0510 DAMP=.61 .
EVENT: 1964 JUN 05 09:50 60.350N 145.870W 16KM M=5.2 (?).
EPIC DIST = 22KM AZIMUTH AT STN = 17
Peak values (cm/sec/sec): -11.55



TIME SERIES PLOT

FILE040.SMC

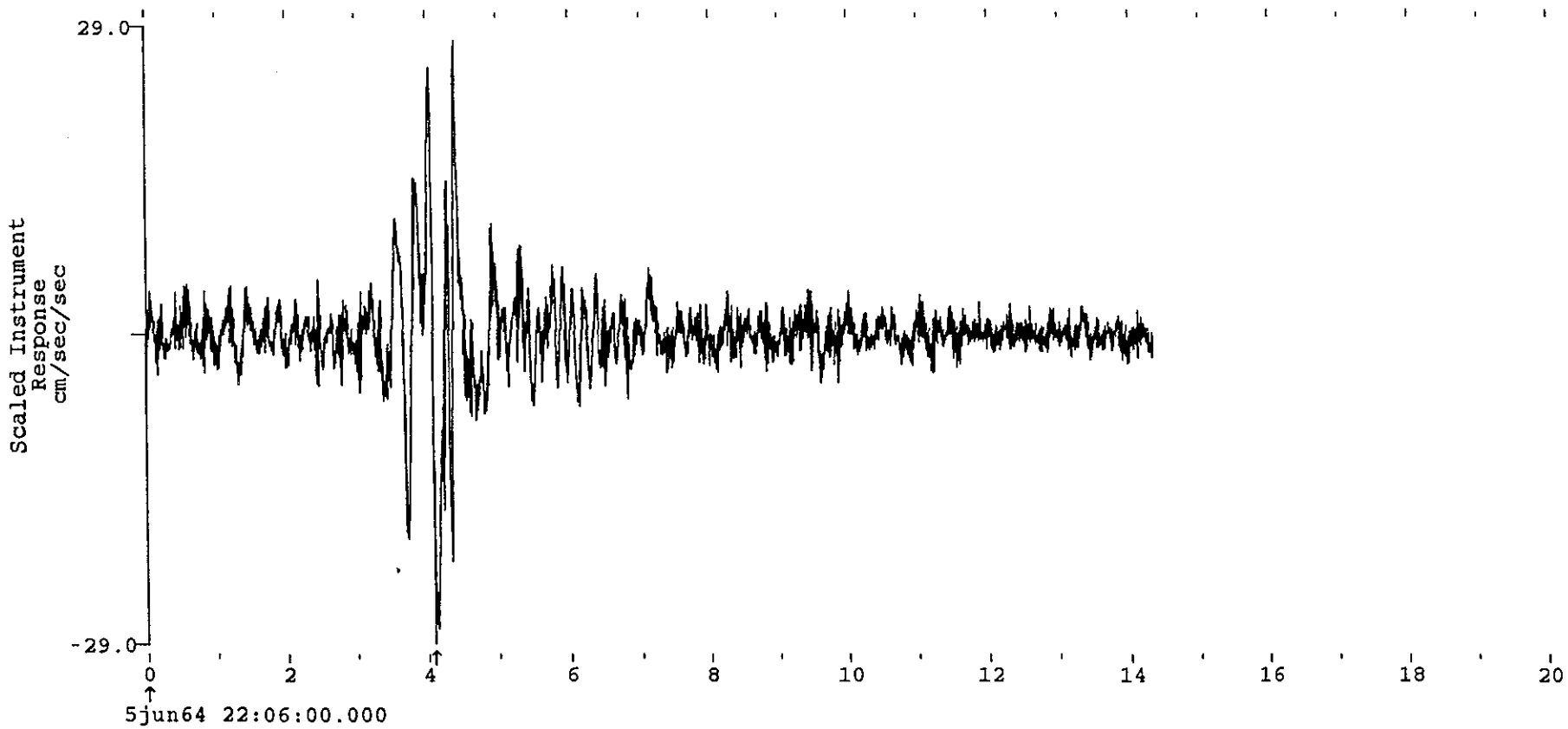
STATION: 2706 MES CORDOVA, MT. ECCLES SCHOOL .
60.540N 145.750W RK METAMORPHIC GROUND LEV 2 STORY BLDG.
AR-240 CHANNEL 3 N196E SCALE=1.900(*) PER=.0510 DAMP=.59 .
EVENT: 1964 JUN 05 09:50 60.350N 145.870W 16KM M=5.2 (?).
EPIC DIST = 22KM AZIMUTH AT STN = 17
Peak values (cm/sec/sec): 34.18



TIME SERIES PLOT

FILE041.SMC

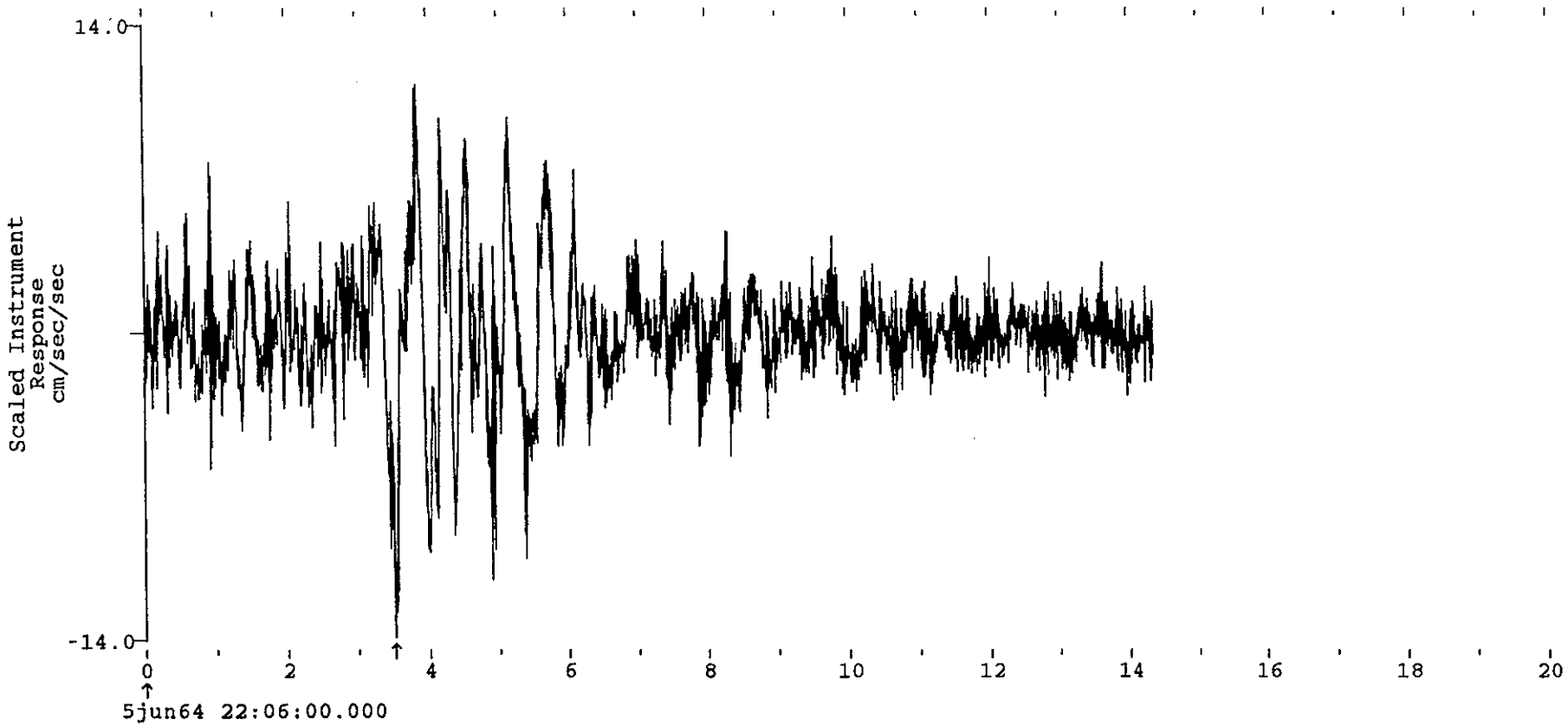
STATION: 2710 KDN* KODIAK, U.S. NAVAL STATION .
57.750N 152.490W RK SLATE CONCRETE VAULT GROUND LEVEL .
AR-240 CHANNEL 1 N270E SCALE=1.900(*) PER=.0520 DAMP=.61 .
EVENT: 1964 JUN 05 22:06 58.140N 152.180W 13KM M=5.0 (?).
EPIC DIST = 47KM AZIMUTH AT STN = 203
Peak values (cm/sec/sec): -28.88



TIME SERIES PLOT

FILE042.SMC

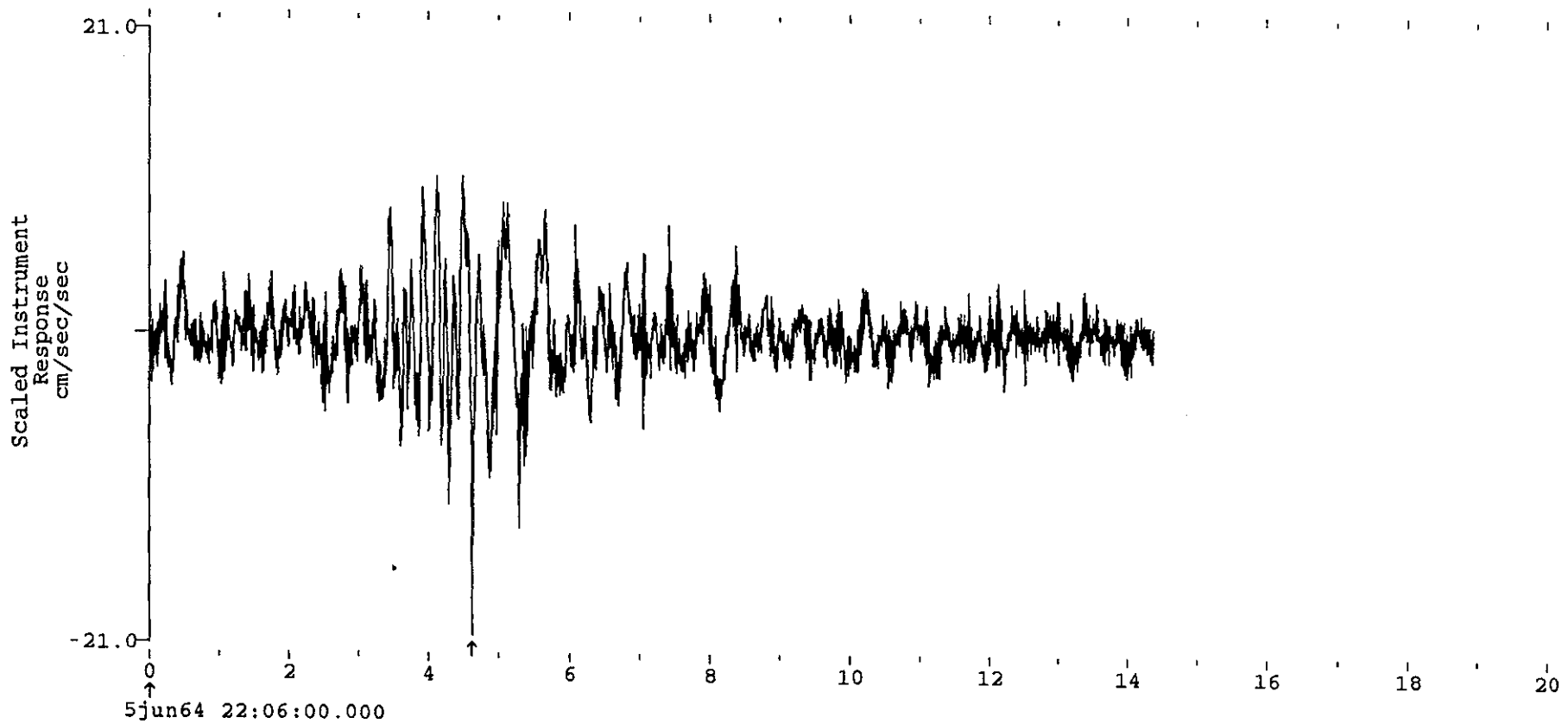
STATION: 2710 KDN* KODIAK, U.S. NAVAL STATION .
57.750N 152.490W RK SLATE CONCRETE VAULT GROUND LEVEL .
AR-240 CHANNEL 2 UP SCALE=1.900(*) PER=.0520 DAMP=.59 .
EVENT: 1964 JUN 05 22:06 58.140N 152.180W 13KM M=5.0 (?).
EPIC DIST = 47KM AZIMUTH AT STN = 203
Peak values (cm/sec/sec): -13.84



TIME SERIES PLOT

FILE043.SMC

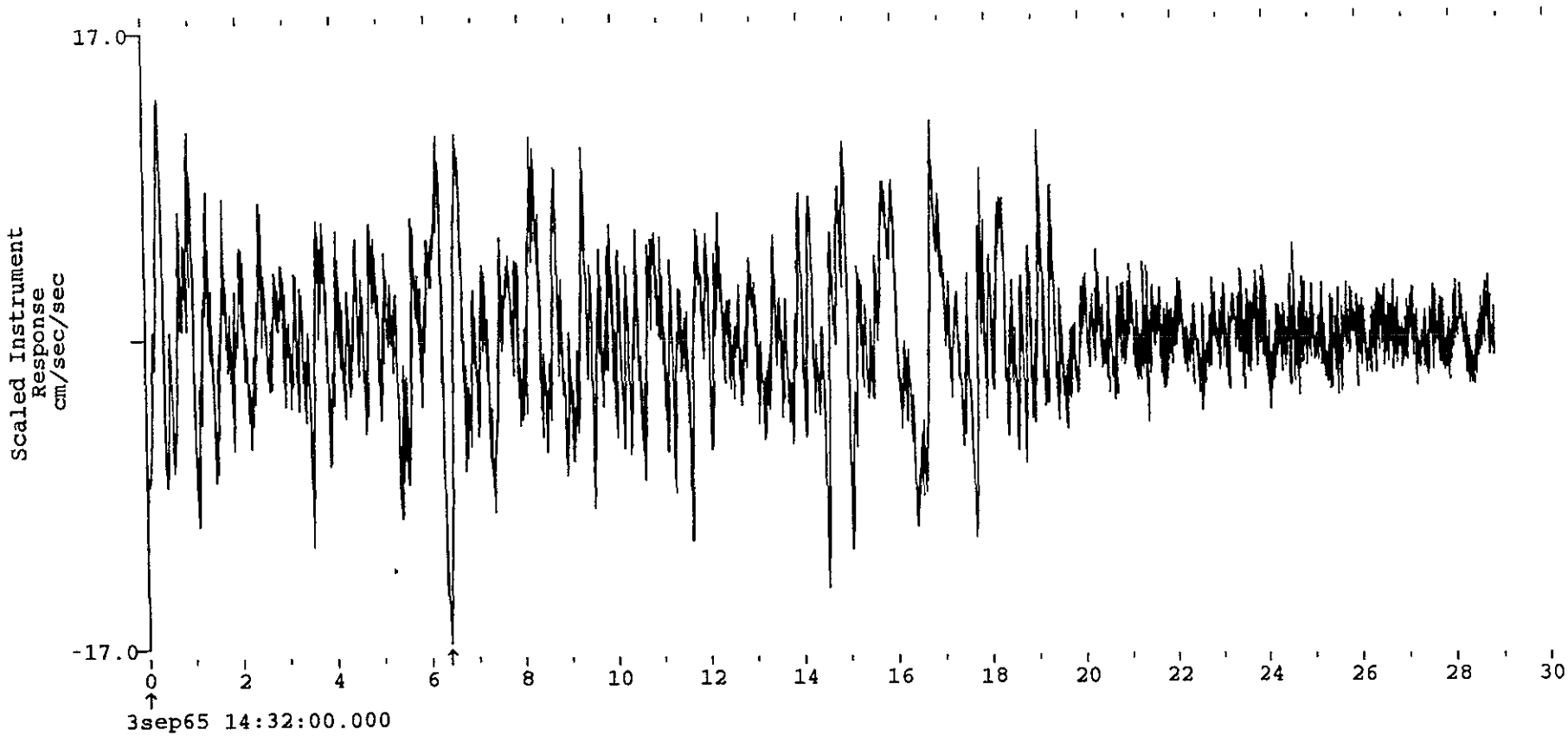
STATION: 2710 KDN* KODIAK, U.S. NAVAL STATION .
57.750N 152.490W RK SLATE CONCRETE VAULT GROUND LEVEL .
AR-240 CHANNEL 3 N180E SCALE=1.900(*) PER=.0520 DAMP=.61 .
EVENT: 1964 JUN 05 22:06 58.140N 152.180W 13KM M=5.0 (?).
EPIC DIST = 47KM AZIMUTH AT STN = 203
Peak values (cm/sec/sec): -20.39



TIME SERIES PLOT

FILE047.SMC

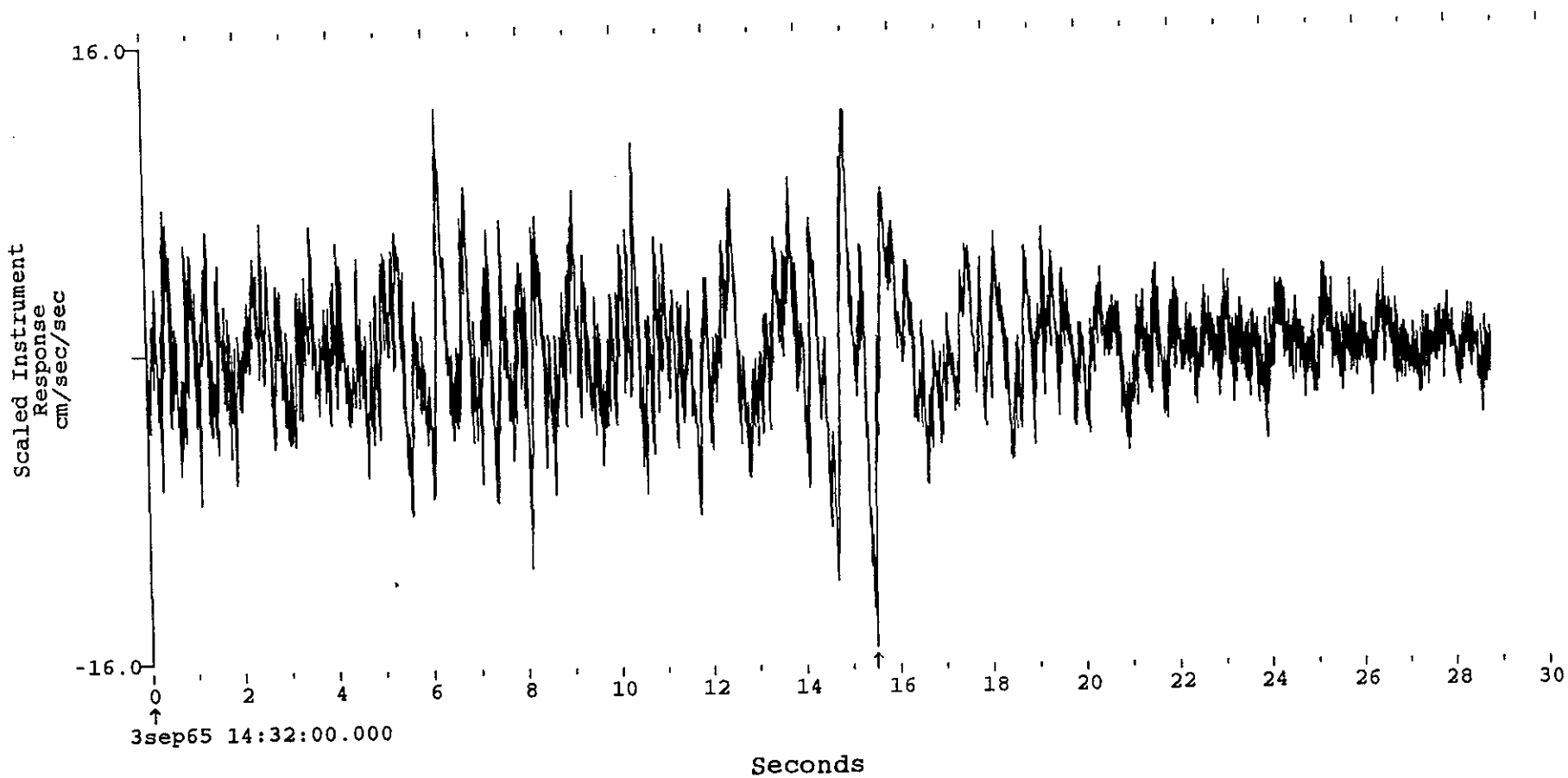
STATION: 2710 KDN* KODIAK, U.S. NAVAL STATION .
57.750N 152.490W RK SLATE CONCRETE VAULT GROUND LEVEL .
AR-240 CHANNEL 1 N350E? SCALE=1.900(*) PER=.0505 DAMP=.59 .
EVENT: 1965 SEP 04 14:32 58.290N 152.500W 32KM M=6.8 .
EPIC DIST = 60KM AZIMUTH AT STN = 180
Peak values (cm/sec/sec): -16.70



TIME SERIES PLOT

FILE048.SMC

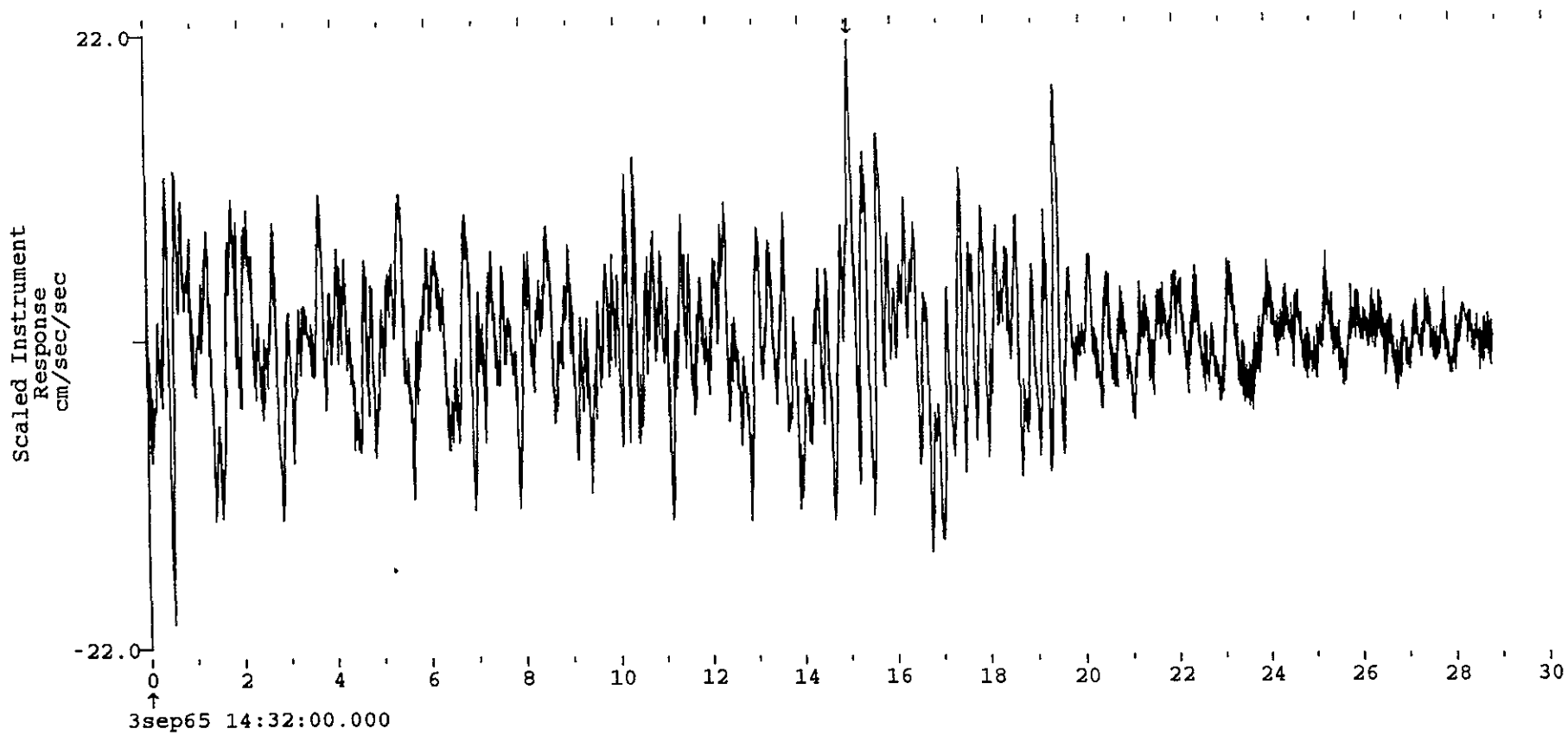
STATION: 2710 KDN* KODIAK, U.S. NAVAL STATION .
57.750N 152.490W RK SLATE CONCRETE VAULT GROUND LEVEL .
AR-240 CHANNEL 2 UP SCALE=1.900(*) PER=.0495 DAMP=.57 .
EVENT: 1965 SEP 04 14:32 58.290N 152.500W 32KM M=6.8 .
EPIC DIST = 60KM AZIMUTH AT STN = 180
Peak values (cm/sec/sec): -15.55



TIME SERIES PLOT

FILE049.SMC

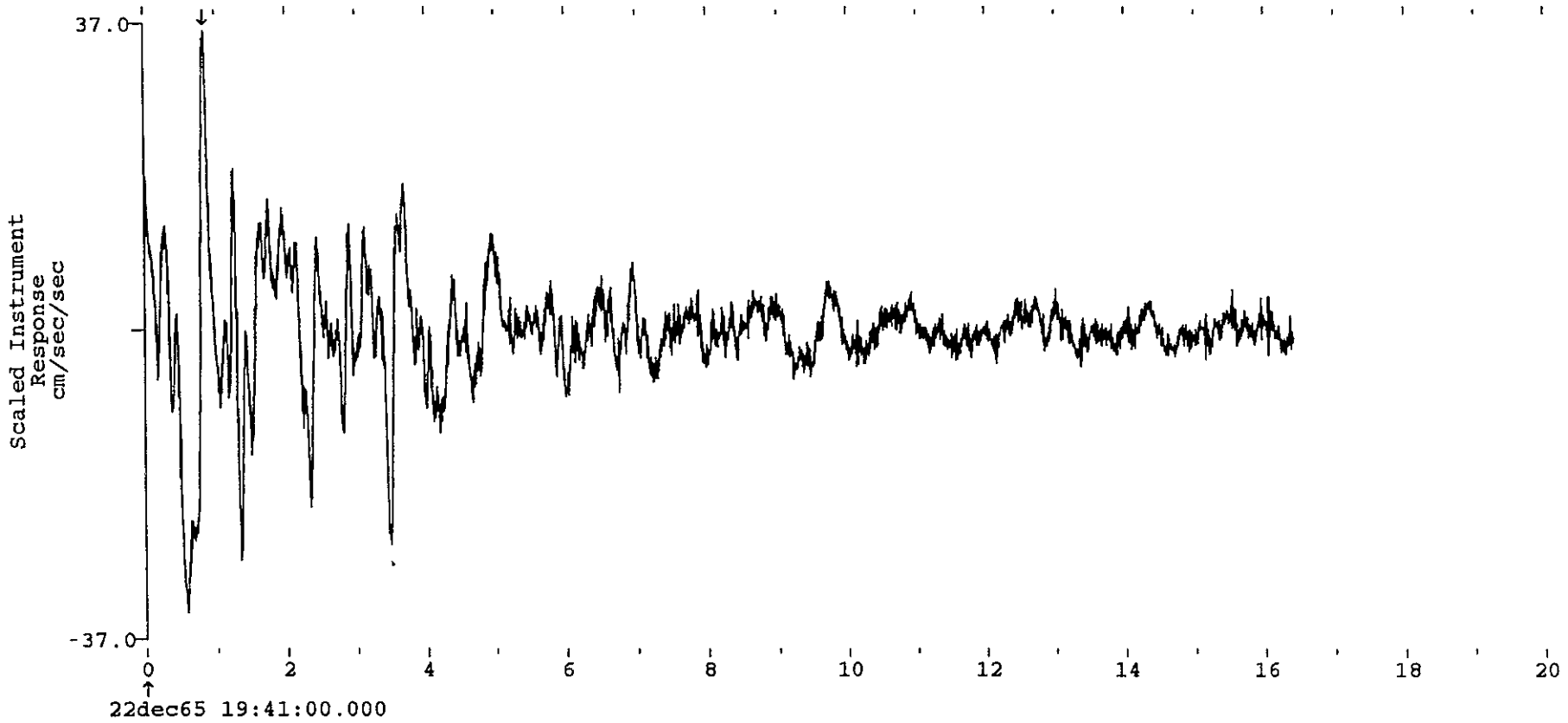
STATION: 2710 KDN* KODIAK, U.S. NAVAL STATION .
57.750N 152.490W RK SLATE CONCRETE VAULT GROUND LEVEL .
AR-240 CHANNEL 3 N260E? SCALE=1.900(*) PER=.0512 DAMP=.40 .
EVENT: 1965 SEP 04 14:32 58.290N 152.500W 32KM M=6.8 .
EPIC DIST = 60KM AZIMUTH AT STN = 180
Peak values (cm/sec/sec): 21.54



TIME SERIES PLOT

FILE050.SMC

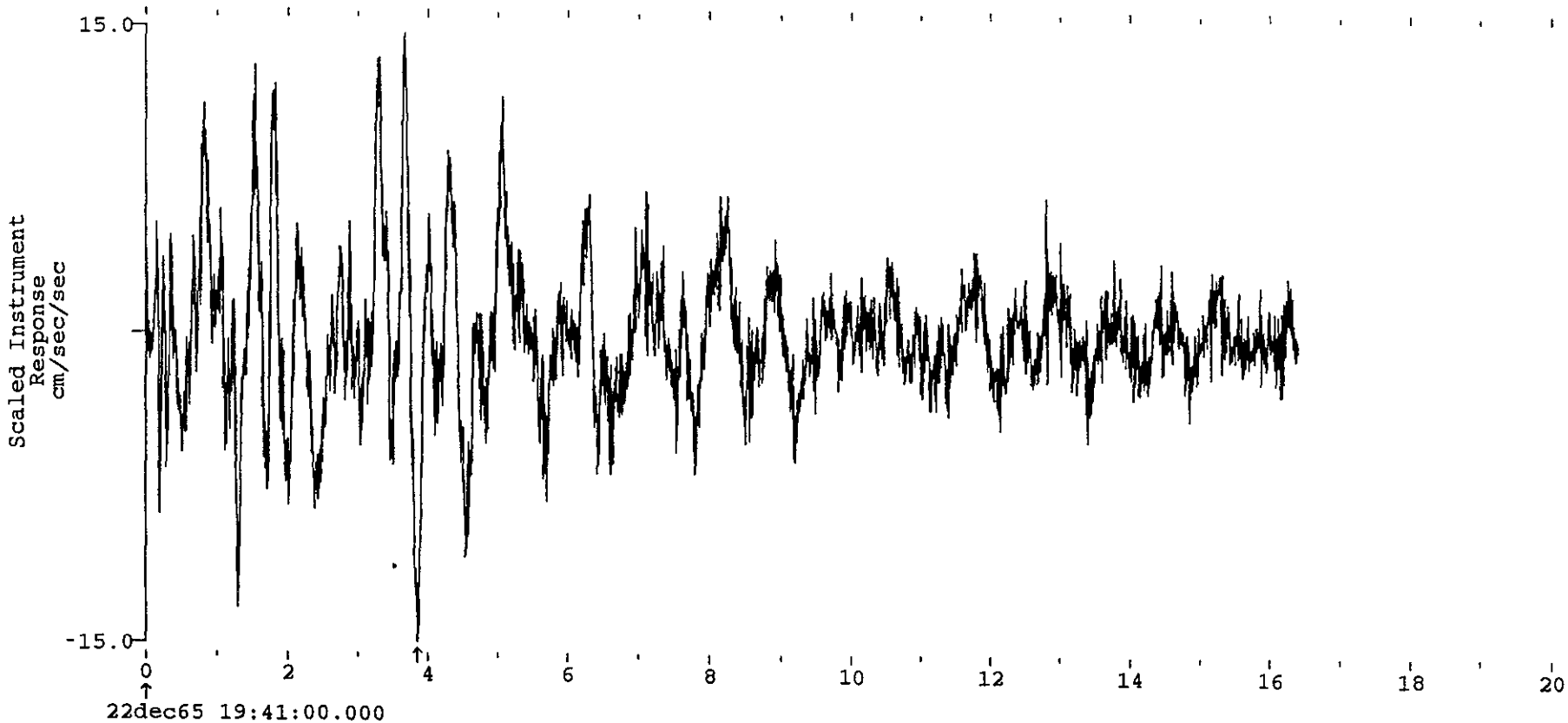
STATION: 2710 KDN* KODIAK, U.S. NAVAL STATION .
57.750N 152.490W RK SLATE CONCRETE VAULT GROUND LEVEL .
AR-240 CHANNEL 1 N350E SCALE=1.900(*) PER=.0512 DAMP=.64 .
EVENT: 1965 DEC 22 19:41 58.350N 153.130W 42KM M=6.8 V .
EPIC DIST = 77KM AZIMUTH AT STN = 151
Peak values (cm/sec/sec): 36.09



TIME SERIES PLOT

FILE051.SMC

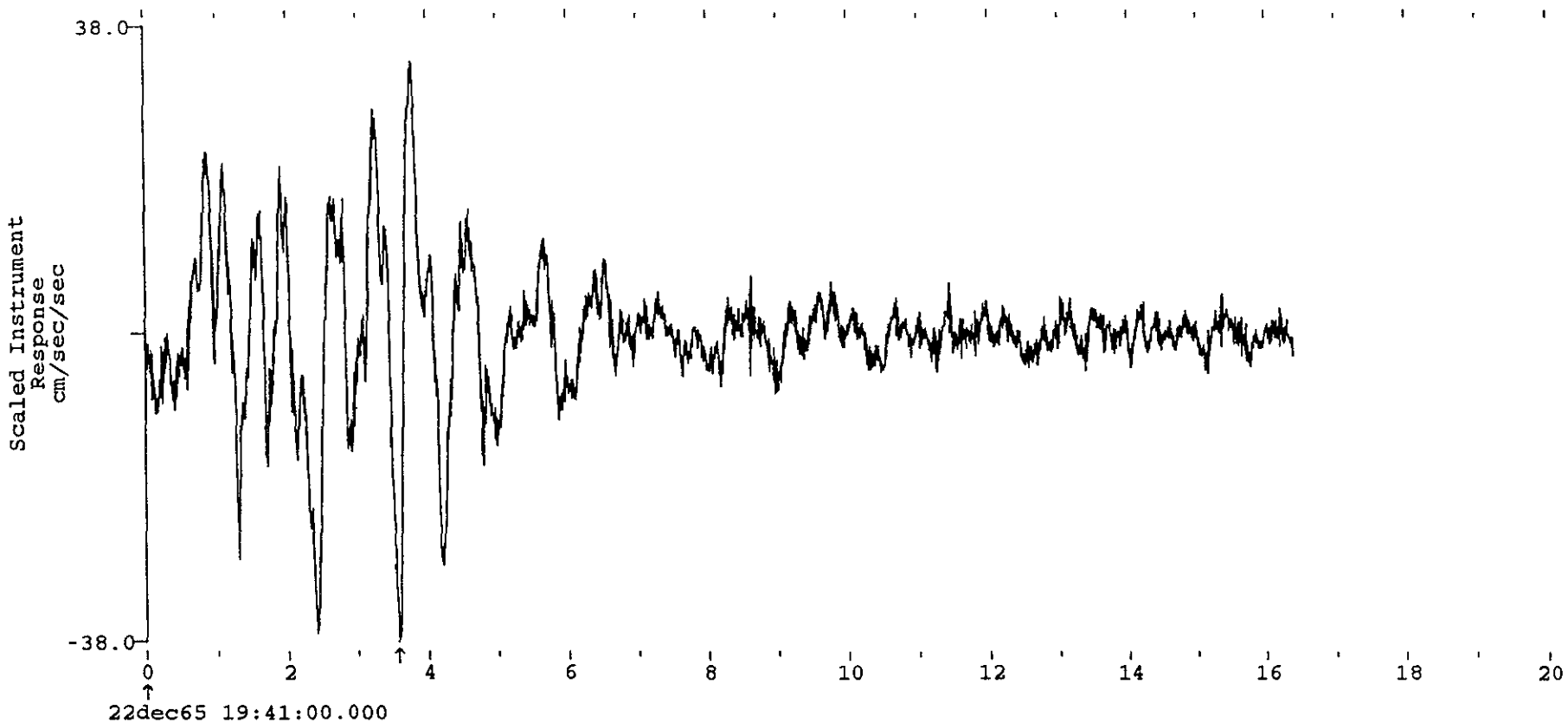
STATION: 2710 KDN* KODIAK, U.S. NAVAL STATION .
57.750N 152.490W RK SLATE CONCRETE VAULT GROUND LEVEL .
AR-240 CHANNEL 2 UP SCALE=1.900(*) PER=.0516 DAMP=.63 .
EVENT: 1965 DEC 22 19:41 58.350N 153.130W 42KM M=6.8 V .
EPIC DIST = 77KM AZIMUTH AT STN = 151
Peak values (cm/sec/sec): -14.93



TIME SERIES PLOT

FILE052.SMC

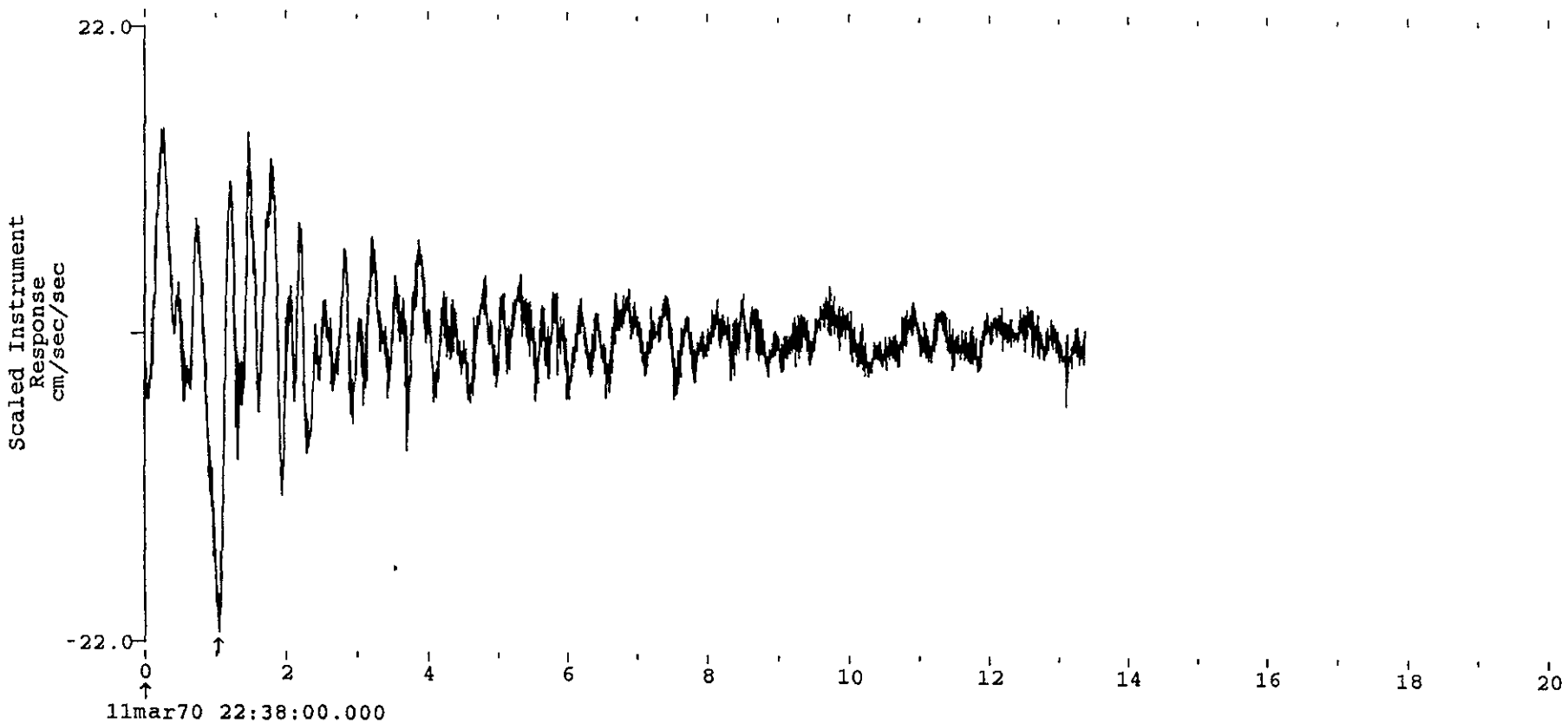
STATION: 2710 KDN* KODIAK, U.S. NAVAL STATION .
57.750N 152.490W RK SLATE CONCRETE VAULT GROUND LEVEL .
AR-240 CHANNEL 3 N260E SCALE=1.900(*) PER=.0517 DAMP=.43 .
EVENT: 1965 DEC 22 19:41 58.350N 153.130W 42KM M=6.8 V .
EPIC DIST = 77KM AZIMUTH AT STN = 151
Peak values (cm/sec/sec): -37.95



TIME SERIES PLOT

FILE059.SMC

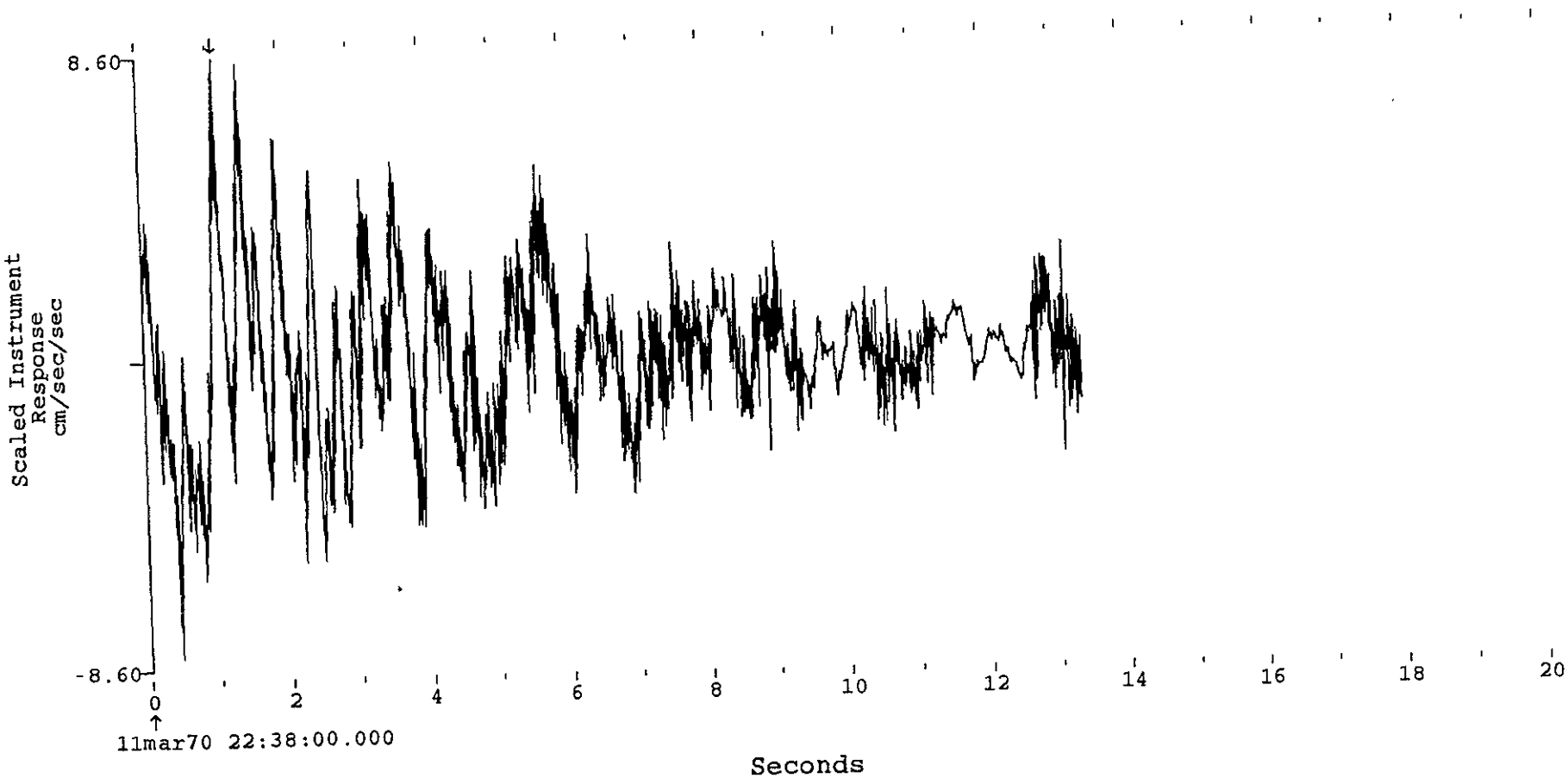
STATION: 2739 KDS KODIAK, USCG CENTRAL SUPPLY .
57.750N 152.500W BASEMENT .
AR-240 CHANNEL 1 N350E SCALE=1.883(*) PER=.0519 DAMP=.58 .
EVENT: 1970 MAR 11 22:38 57.390N 153.970W 38KM M=6.3 V .
EPIC DIST = 97KM AZIMUTH AT STN = 66
Peak values (cm/sec/sec): -21.24



TIME SERIES PLOT

FILE060.SMC

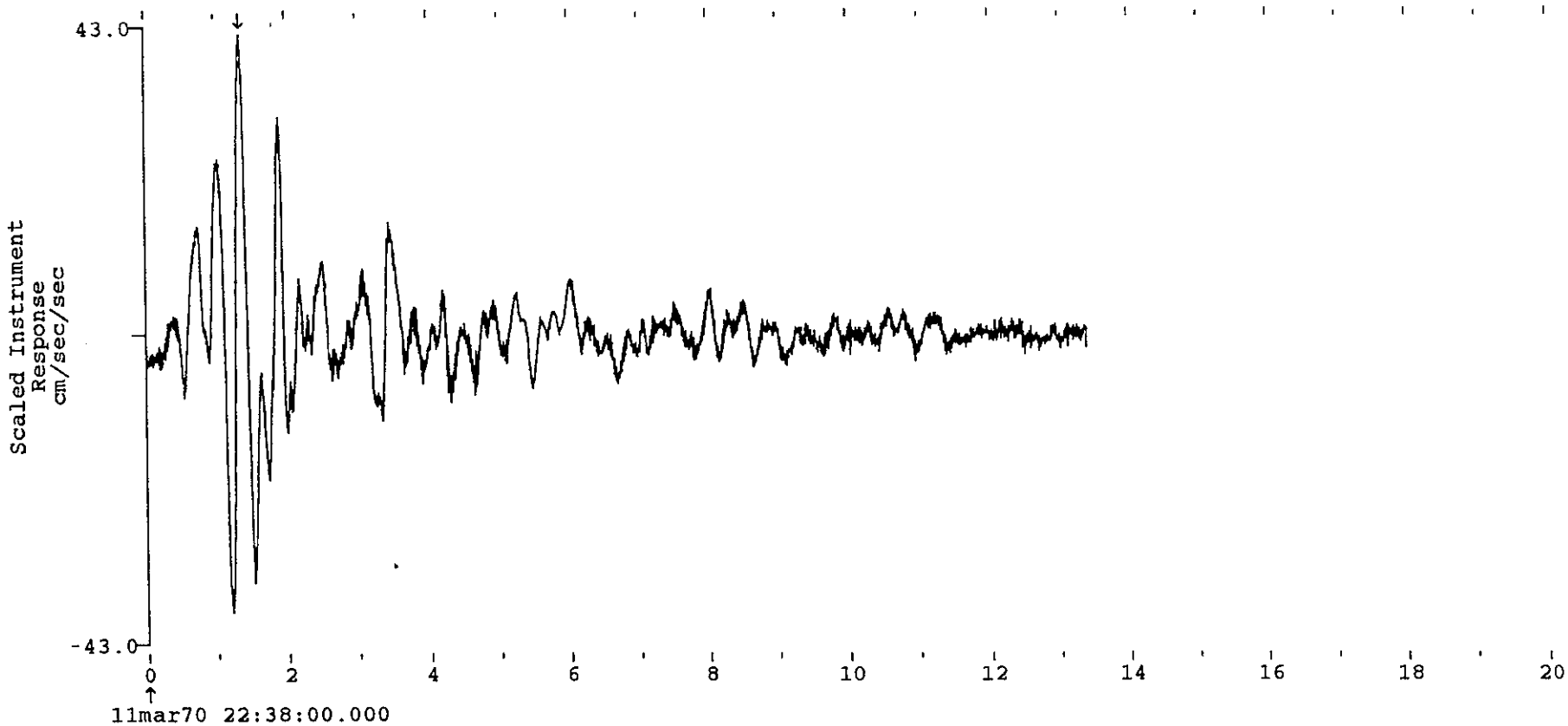
STATION: 2739 KDS KODIAK, USCG CENTRAL SUPPLY .
57.750N 152.500W BASEMENT .
AR-240 CHANNEL 2 UP SCALE=1.953(*) PER=.0542 DAMP=.59 .
EVENT: 1970 MAR 11 22:38 57.390N 153.970W 38KM M=6.3 V .
EPIC DIST = 97KM AZIMUTH AT STN = 66
Peak values (cm/sec/sec): 8.59



TIME SERIES PLOT

FILE061.SMC

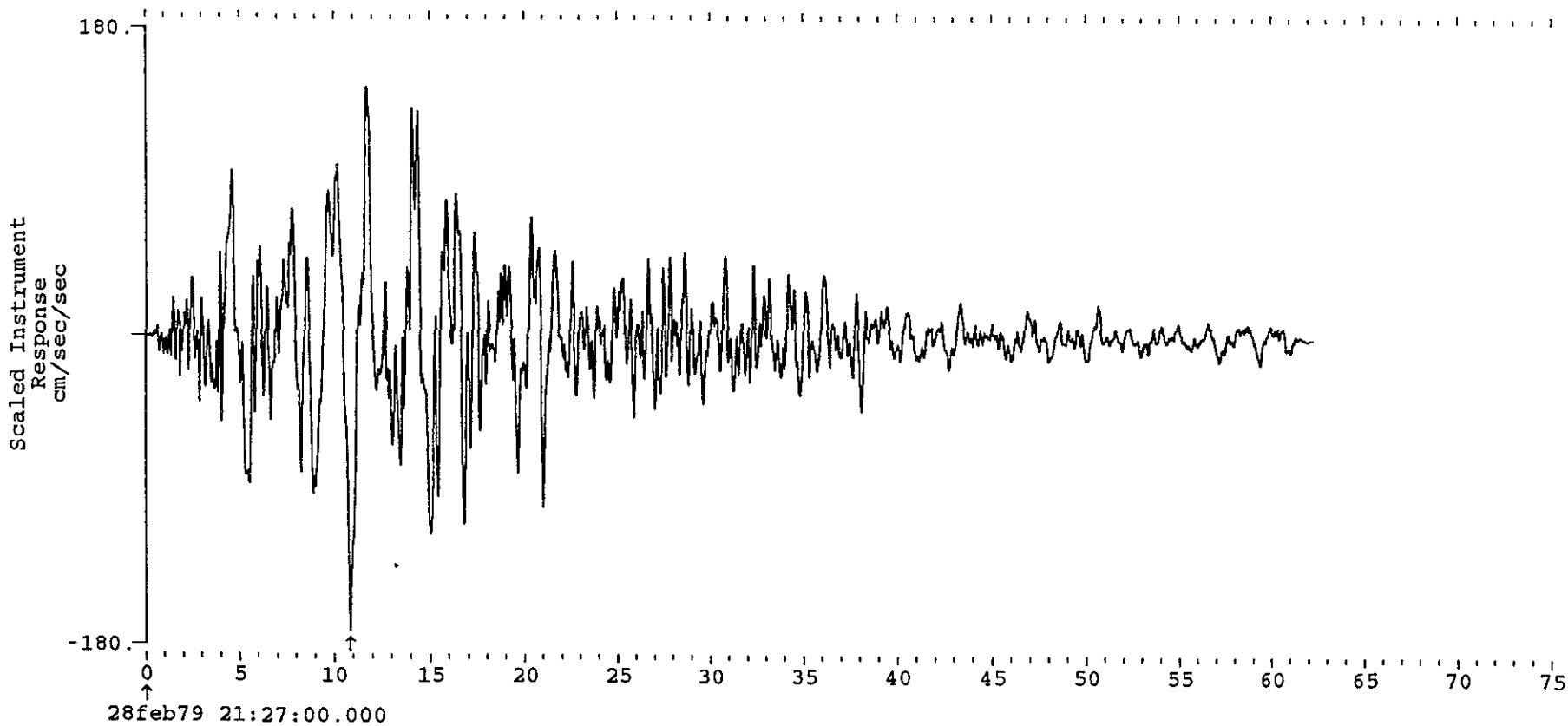
STATION: 2739 KDS KODIAK, USCG CENTRAL SUPPLY .
57.750N 152.500W BASEMENT .
AR-240 CHANNEL 3 N260E SCALE=1.893(*) PER=.0525 DAMP=.58 .
EVENT: 1970 MAR 11 22:38 57.390N 153.970W 38KM M=6.3 V .
EPIC DIST = 97KM AZIMUTH AT STN = 66
Peak values (cm/sec/sec): 42.05



TIME SERIES PLOT

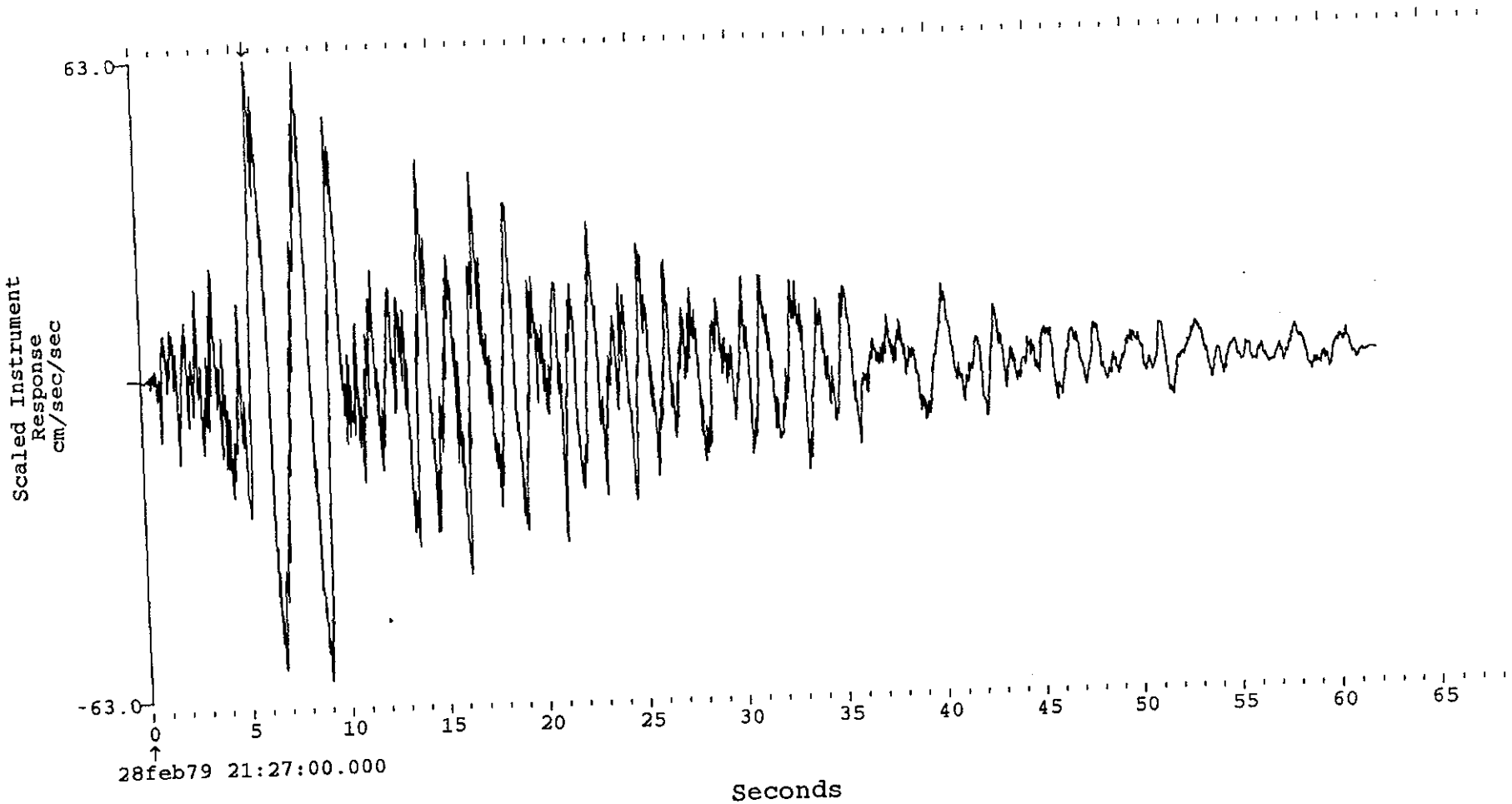
FILE107.SMC

STATION: 2734 ICY ICY BAY, GULF TIMBER CO. .
59.970N 141.640W GLACIAL DEPOSITS GRND LVL 1 STORY BLDG
SMA-1 CHANNEL 1 N180E PER=.0370 DAMP=.61 .
EVENT: 1979 FEB 28 21:27 60.640N 141.590W 13KM M=7.3 .
EPIC DIST = 75KM AZIMUTH AT STN = 182
Peak values (cm/sec/sec): -171.41



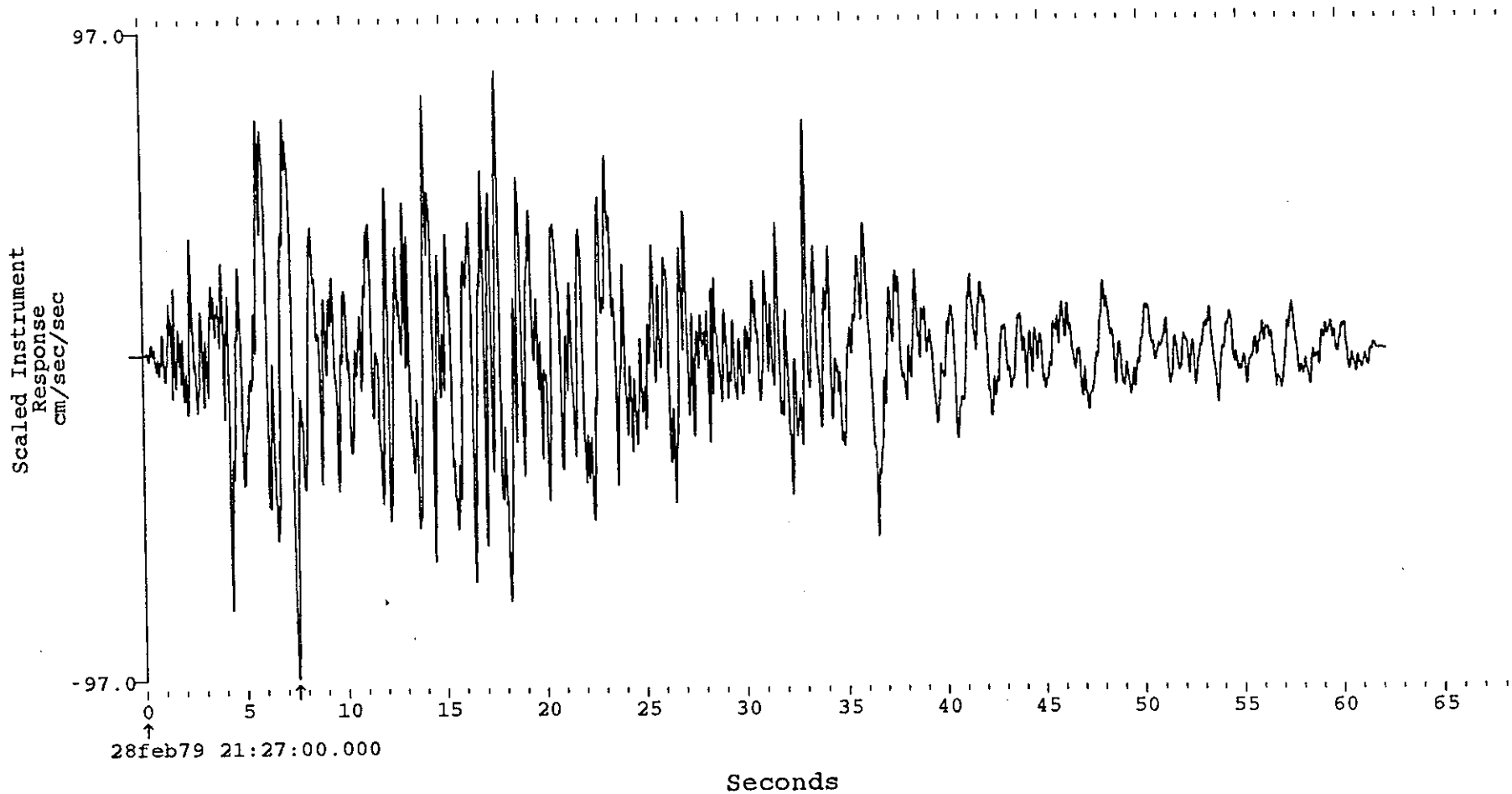
TIME SERIES PLOT
FILE108.SMC

STATION: 2734 ICY ICY BAY, GULF TIMBER CO.
59.970N 141.640W GLACIAL DEPOSITS GRND LVL 1 STORY BLDG
SMA-1 CHANNEL 2 UP PER=.0370 DAMP=.57 .
EVENT: 1979 FEB 28 21:27 60.640N 141.590W 13KM M=7.3 .
EPIC DIST = 75KM AZIMUTH AT STN = 182
Peak values (cm/sec/sec): 62.90



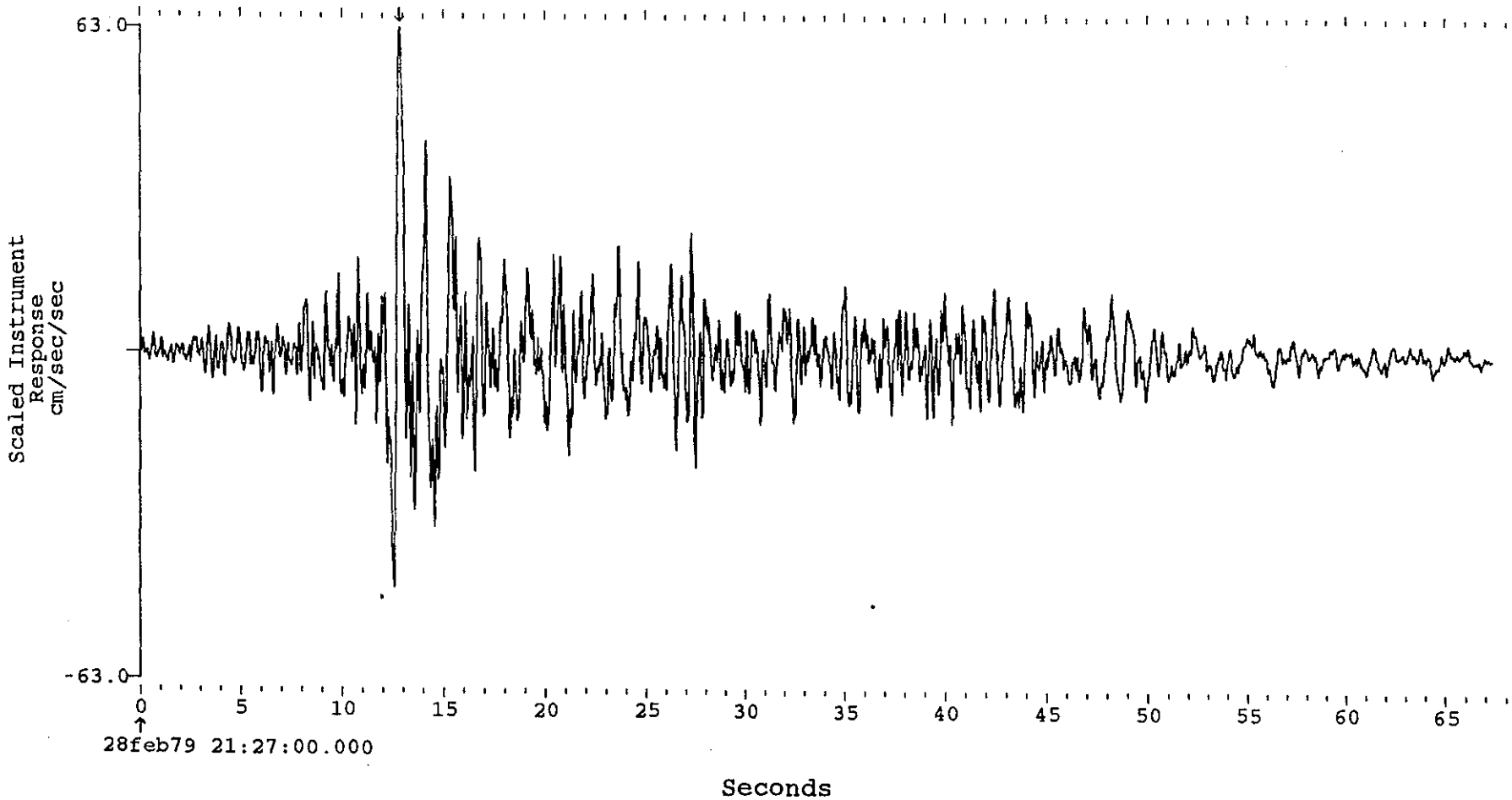
TIME SERIES PLOT
FILE109.SMC

STATION: 2734 ICY ICY BAY, GULF TIMBER CO. .
59.970N 141.640W GLACIAL DEPOSITS GRND LVL 1 STORY BLDG
SMA-1 CHANNEL 3 N090E PER=.0380 DAMP=.61 .
EVENT: 1979 FEB 28 21:27 60.640N 141.590W 13KM M=7.3 .
EPIC DIST = 75KM AZIMUTH AT STN = 182
Peak values (cm/sec/sec): -96.33



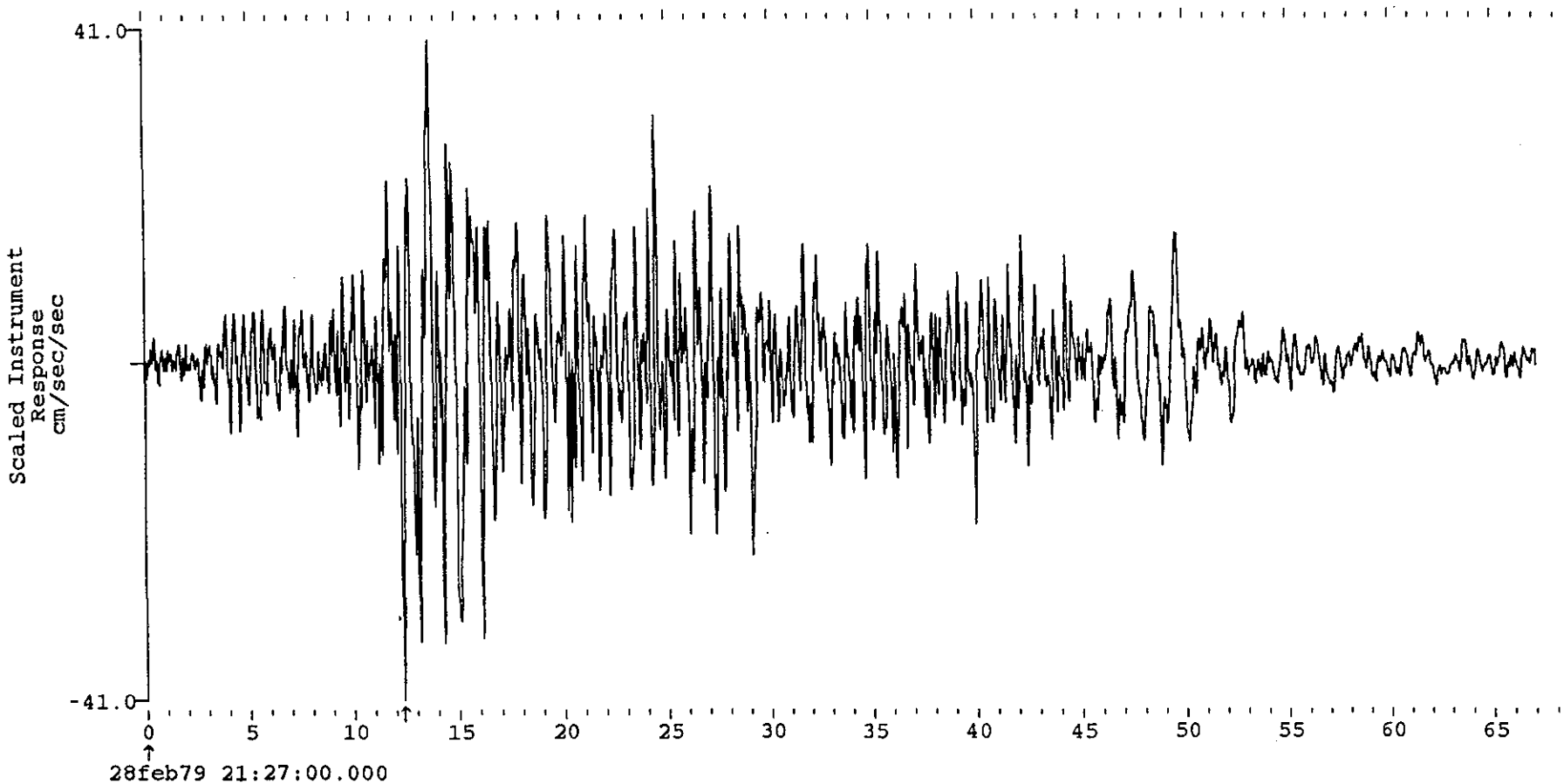
TIME SERIES PLOT
FILE110:SMC

STATION: 2765 MDY MUNDAY CREEK .
60.020N 141.970W RK YAKATAGA FORMATION GROUND LEVEL .
SMA-1 2700 CHANNEL 1 N000E SCALE=7.600 PER=.0781 DAMP=.60 .
EVENT: 1979 FEB 28 21:27 60.640N 141.590W 13KM M=7.3 .
EPIC DIST = 72KM AZIMUTH AT STN = 197
Peak values (cm/sec/sec): 62.81

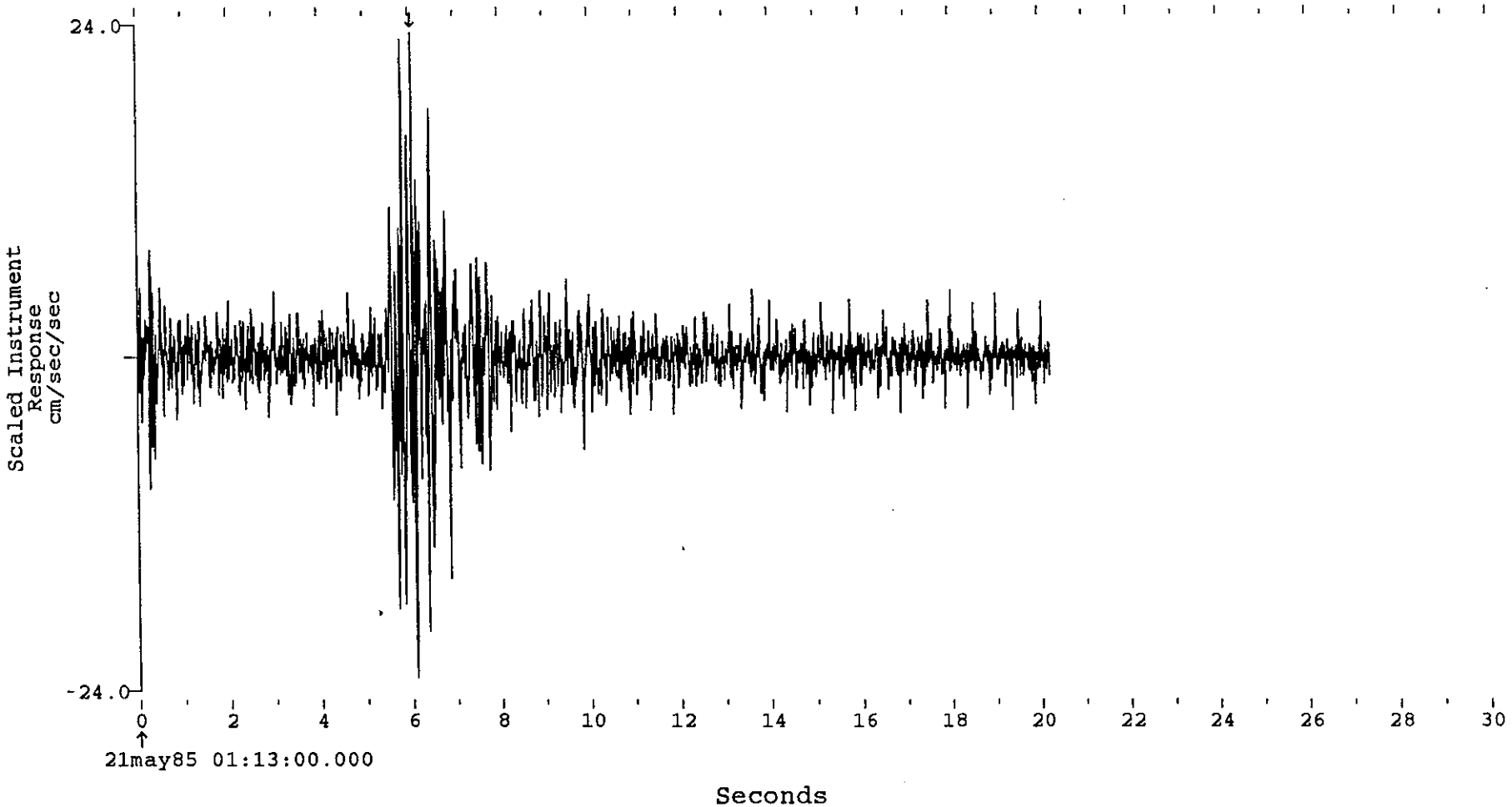


TIME SERIES PLOT
FILE111.SMC

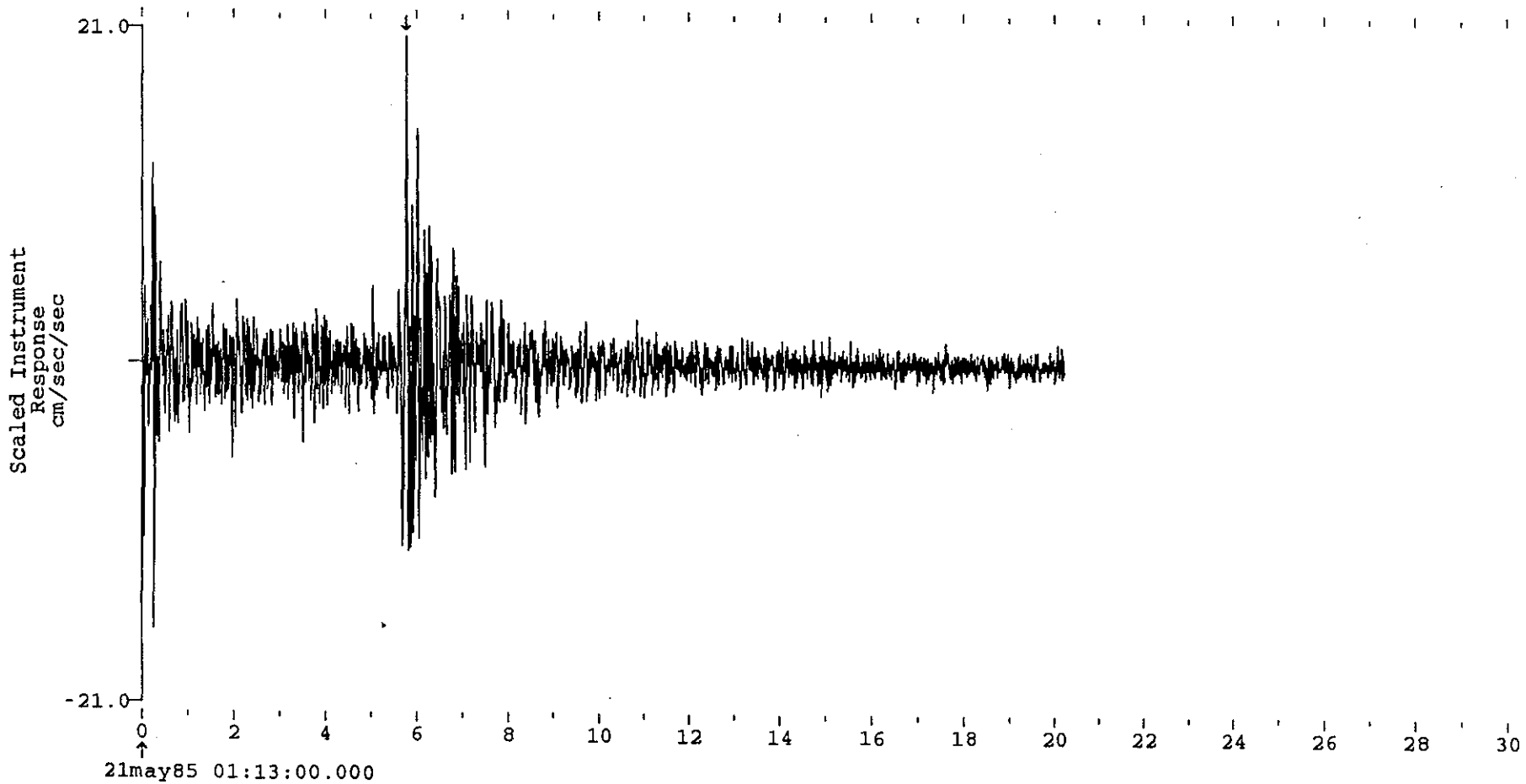
STATION: 2765 MDY MUNDAY CREEK .
60.020N 141.970W RK YAKATAGA FORMATION GROUND LEVEL .
SMA-1 2700 CHANNEL 3 N270E SCALE=7.440 PER=.0769 DAMP=.60 .
EVENT: 1979 FEB 28 21:27 60.640N 141.590W 13KM M=7.3 .
EPIC DIST = 72KM AZIMUTH AT STN = 197
Peak values (cm/sec/sec): -40.84



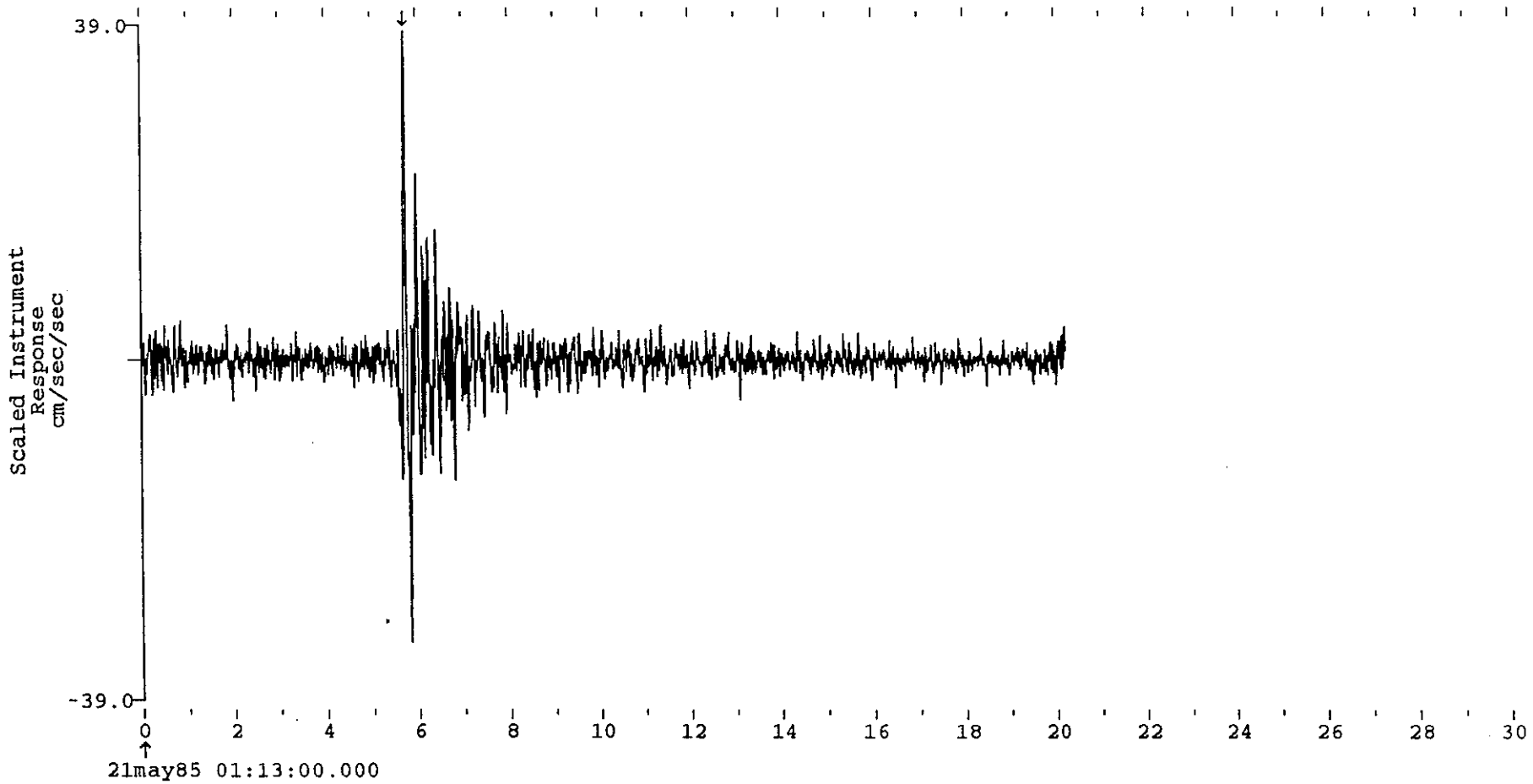
TIME SERIES PLOT
F48.SMC
STATION: NGI 2774 - NAGAI, ALASKA
55.039N -160.069W CONCRETE PAD
?????? CHANNEL ? N250 SCALE=??? PER=0.0388 DAMP=0.6200
EVENT: 1985 5 21 0113 54.978N -160.360W 47.0KM M=4.3
EPIC DIST = 19.8KM AZIMUTH AT STN = N250.0
Peak values (cm/sec/sec): 23.39



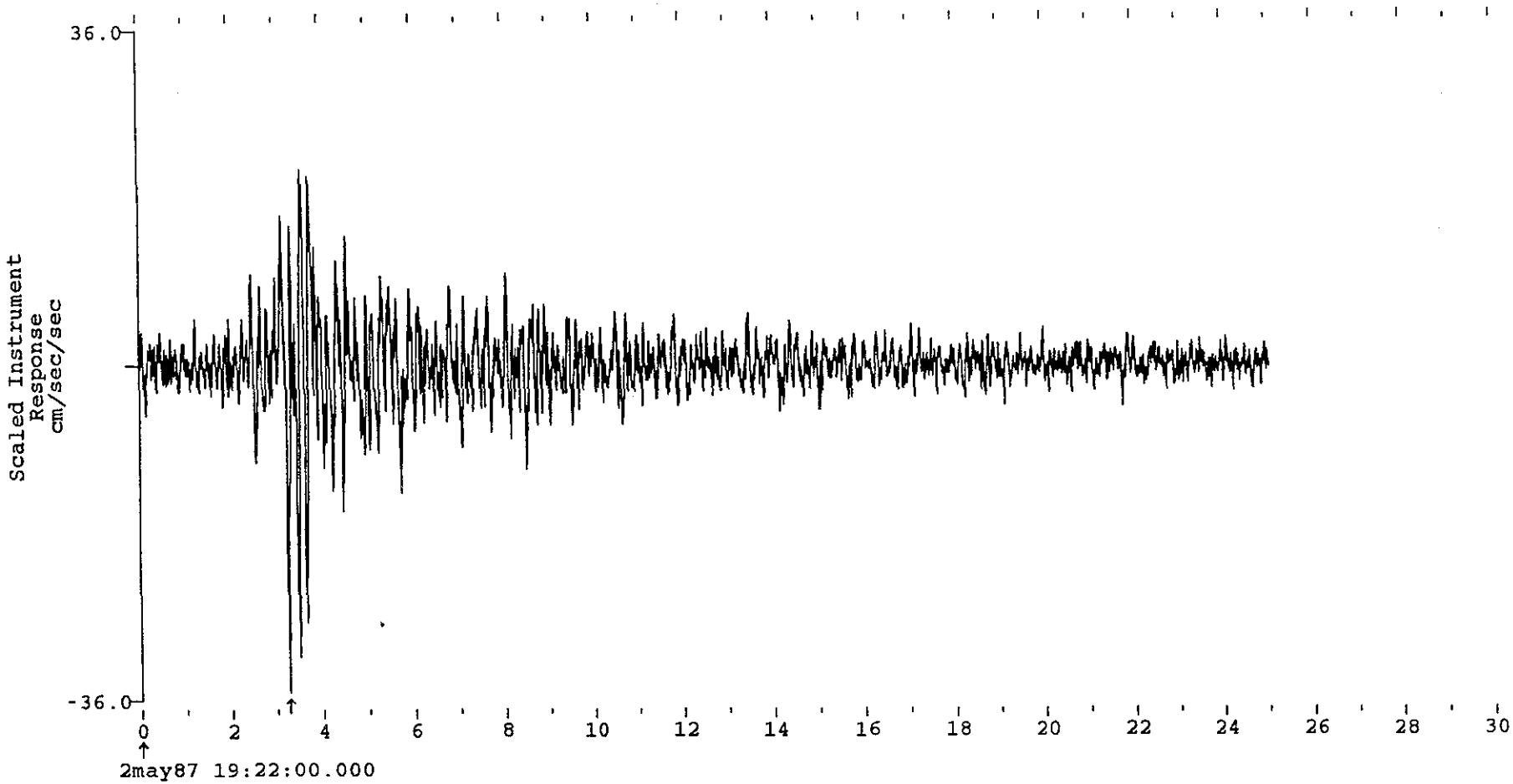
TIME SERIES PLOT
F47.SMC
STATION: NGI 2774 - NAGAI, ALASKA
55.039N -160.069W CONCRETE PAD
?????? CHANNEL ? UP SCALE=??? PER=0.0383 DAMP=0.6000
EVENT: 1985 5 21 0113 54.978N -160.360W 47.0KM M=4.3
EPIC DIST = 19.8KM AZIMUTH AT STN = N250.0
Peak values (cm/sec/sec): 20.46



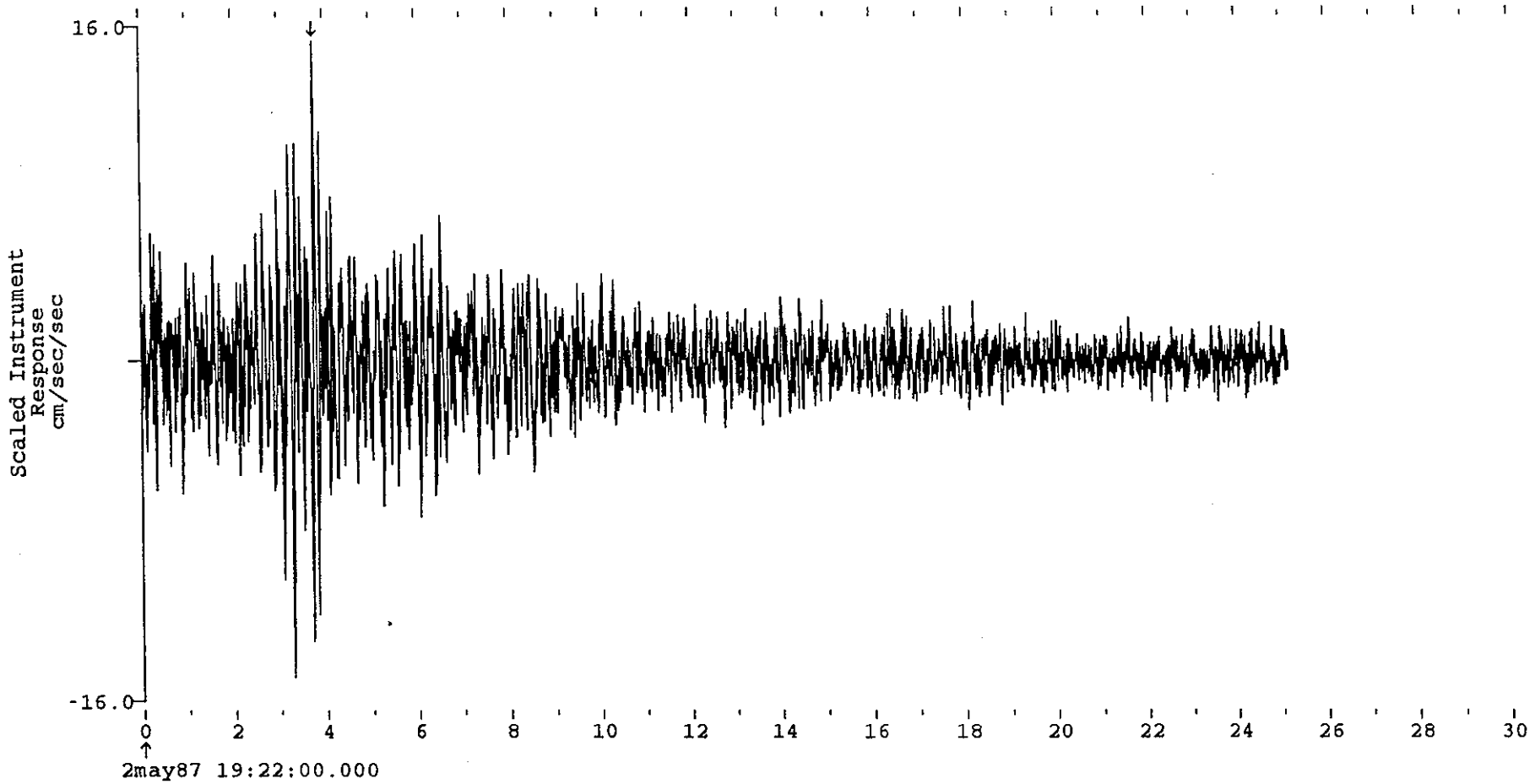
TIME SERIES PLOT
F46.SMC
STATION: NGI 2774 - NAGAI, ALASKA
55.039N -160.069W CONCRETE PAD
?????? CHANNEL ? N340 SCALE=??? PER=0.0396 DAMP=0.6100
EVENT: 1985 5 21 0113 54.978N -160.360W 47.0KM M=4.3
EPIC DIST = 19.8KM AZIMUTH AT STN = N250.0
Peak values (cm/sec/sec): 38.26



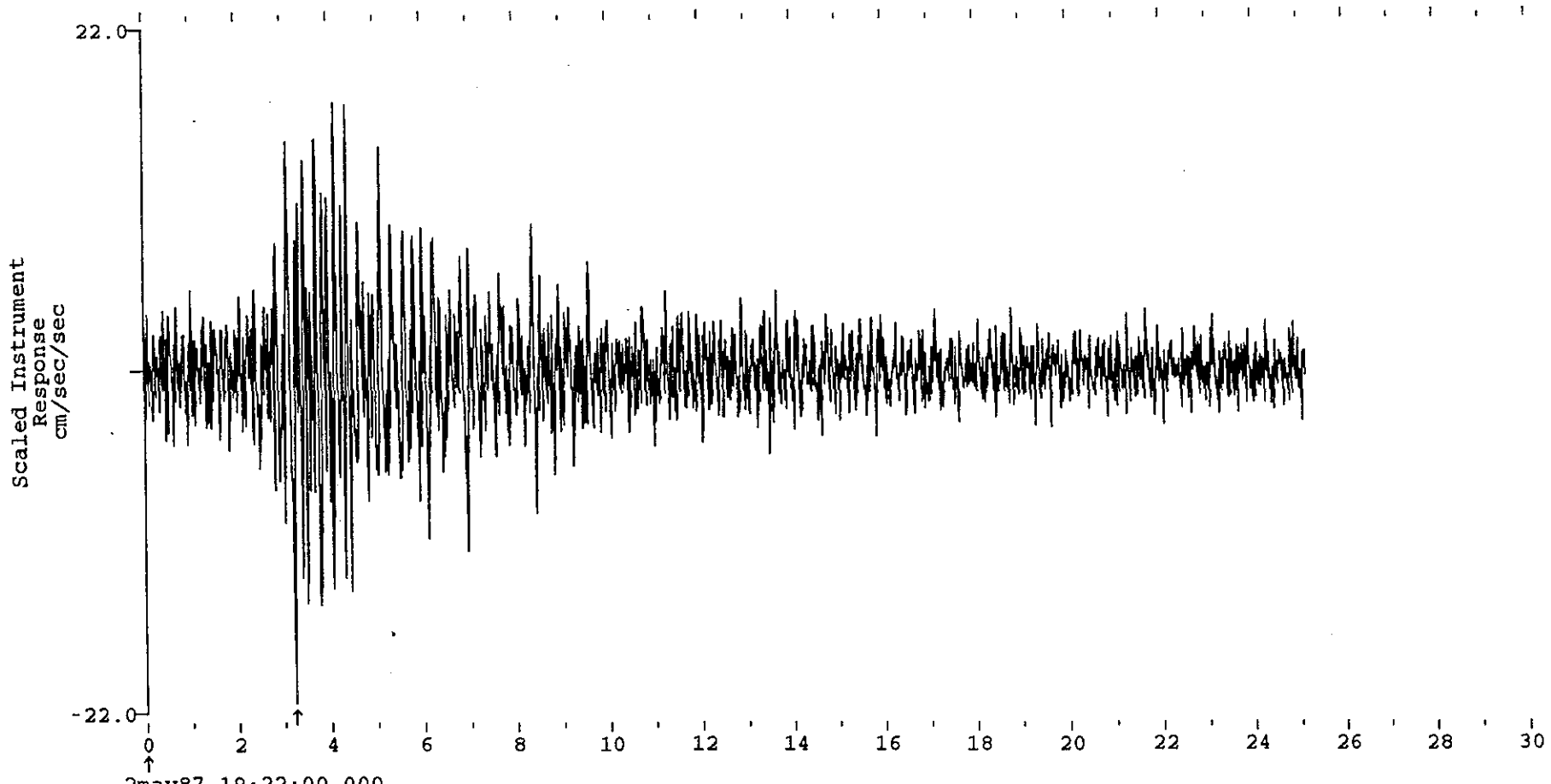
TIME SERIES PLOT
F102.SMC
STATION: NGI 2774 - NAGAI, ALASKA
55.039N -160.069W CONCRETE PAD
?????? CHANNEL ? N267 SCALE=??? PER=0.0405 DAMP=0.5850
EVENT: 1987 5 2 1922 54.800N -159.884W 28.0KM M=5.3
EPIC DIST = 29.2KM AZIMUTH AT STN = N156.0
Peak values (cm/sec/sec): -35.11



TIME SERIES PLOT
F101.SMC
STATION: NGI 2774 - NAGAI, ALASKA
55.039N -160.069W CONCRETE PAD
?????? CHANNEL ? UP SCALE=??? PER=0.0391 DAMP=0.5600
EVENT: 1987 5 2 1922 54.800N -159.884W 28.0KM M=5.3
EPIC DIST = 29.2KM AZIMUTH AT STN = N156.0
Peak values (cm/sec/sec): 15.27



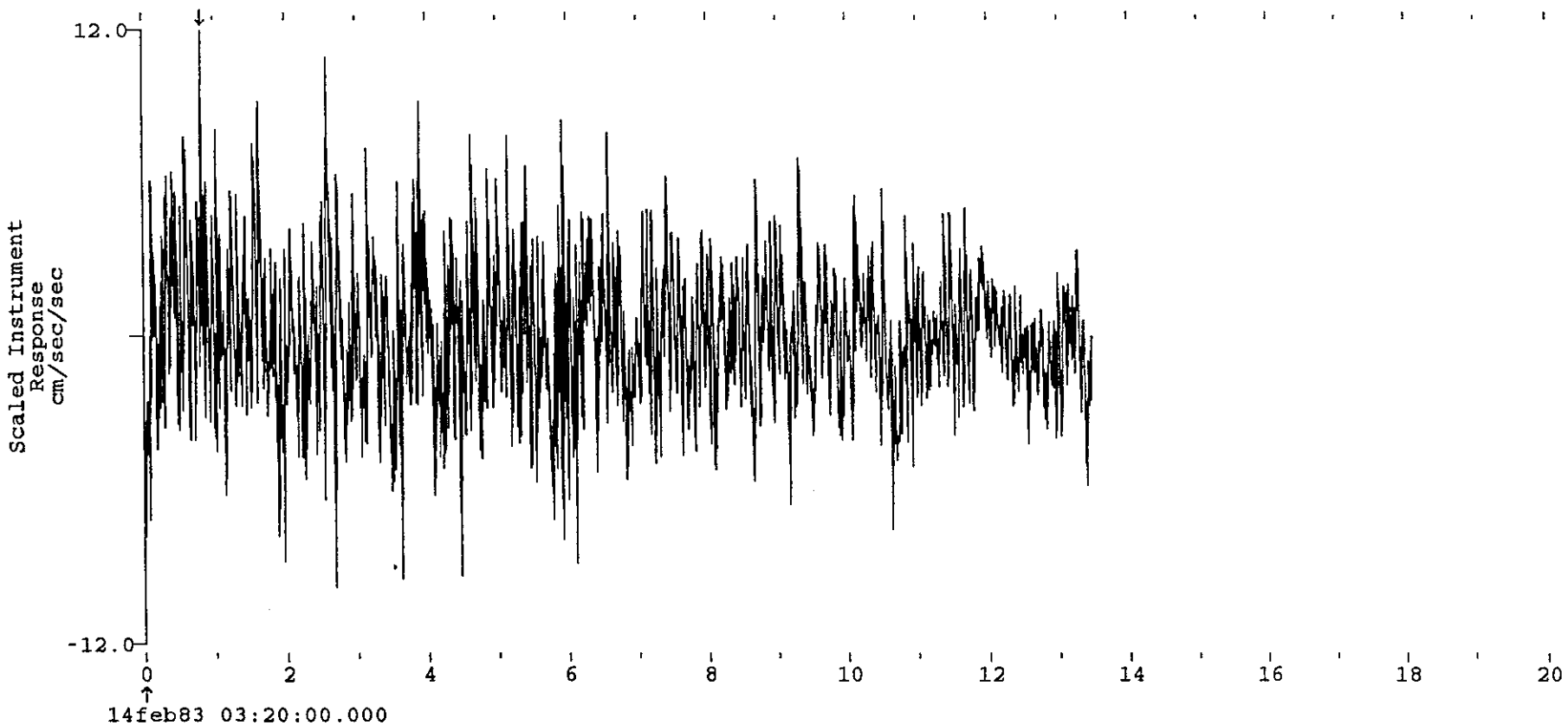
TIME SERIES PLOT
F100.SMC
STATION: NGI 2774 - NAGAI, ALASKA
55.039N -160.069W CONCRETE PAD
?????? CHANNEL ? N357 SCALE=??? PER=0.0389 DAMP=0.5600
EVENT: 1987 5 2 1922 54.800N -159.884W 28.0KM M=5.3
EPIC DIST = 29.2KM AZIMUTH AT STN = N156.0
Peak values (cm/sec/sec): -21.35



TIME SERIES PLOT

FILE127.SMC

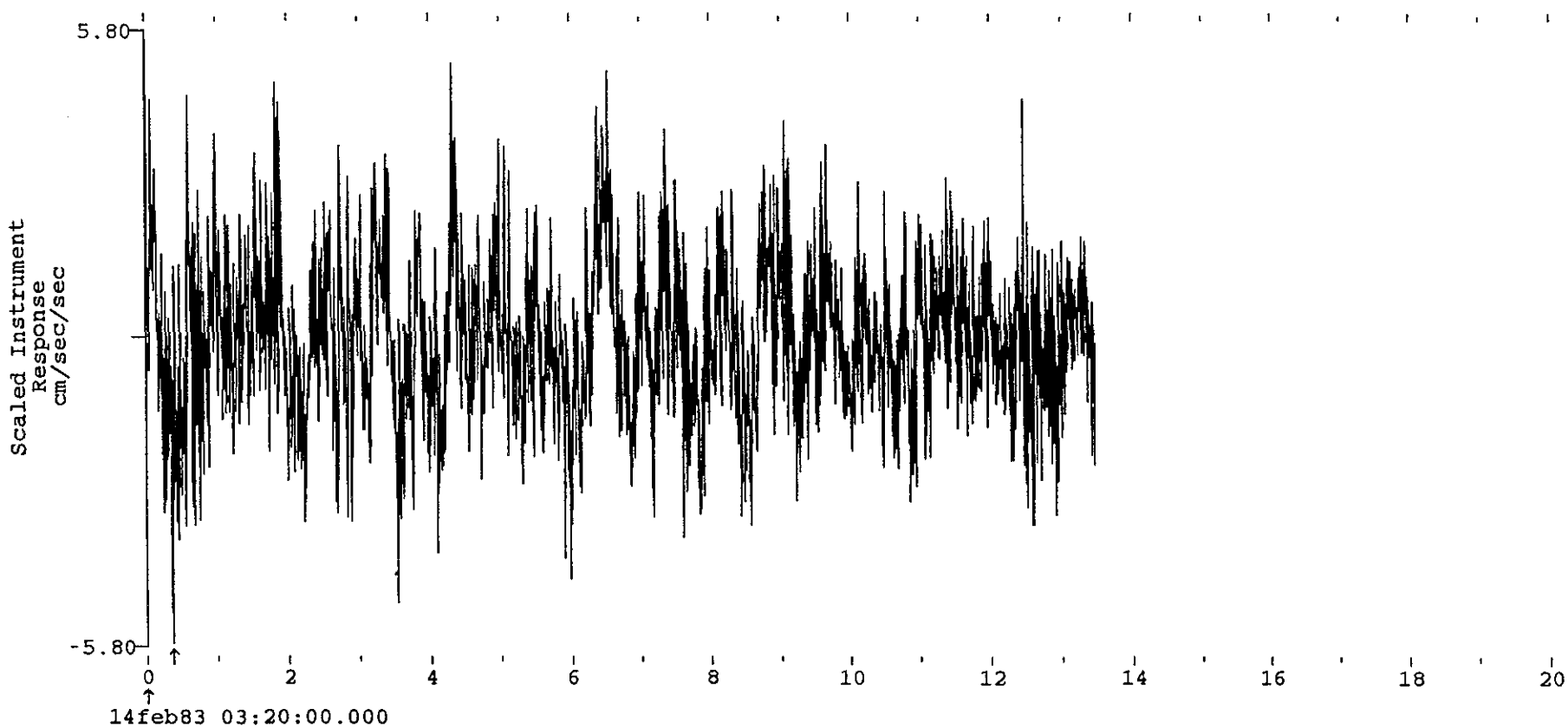
STATION: 2789 PRS PIRATE SHAKE, NAGAI ISLAND .
55.231N 159.855W IN SOIL OVER BEDROCK; CLOSE TO CLIFF .
SMA-1 1064 CHANNEL 1 N072E SCALE=3.800 PER=.0540 DAMP=.60 .
EVENT: 1983 FEB 14 03:20 54.736N 158.882W 25KM M=6.3 V .
EPIC DIST = 83KM AZIMUTH AT STN = 311
Peak values (cm/sec/sec): 11.94



TIME SERIES PLOT

FILE128.SMC

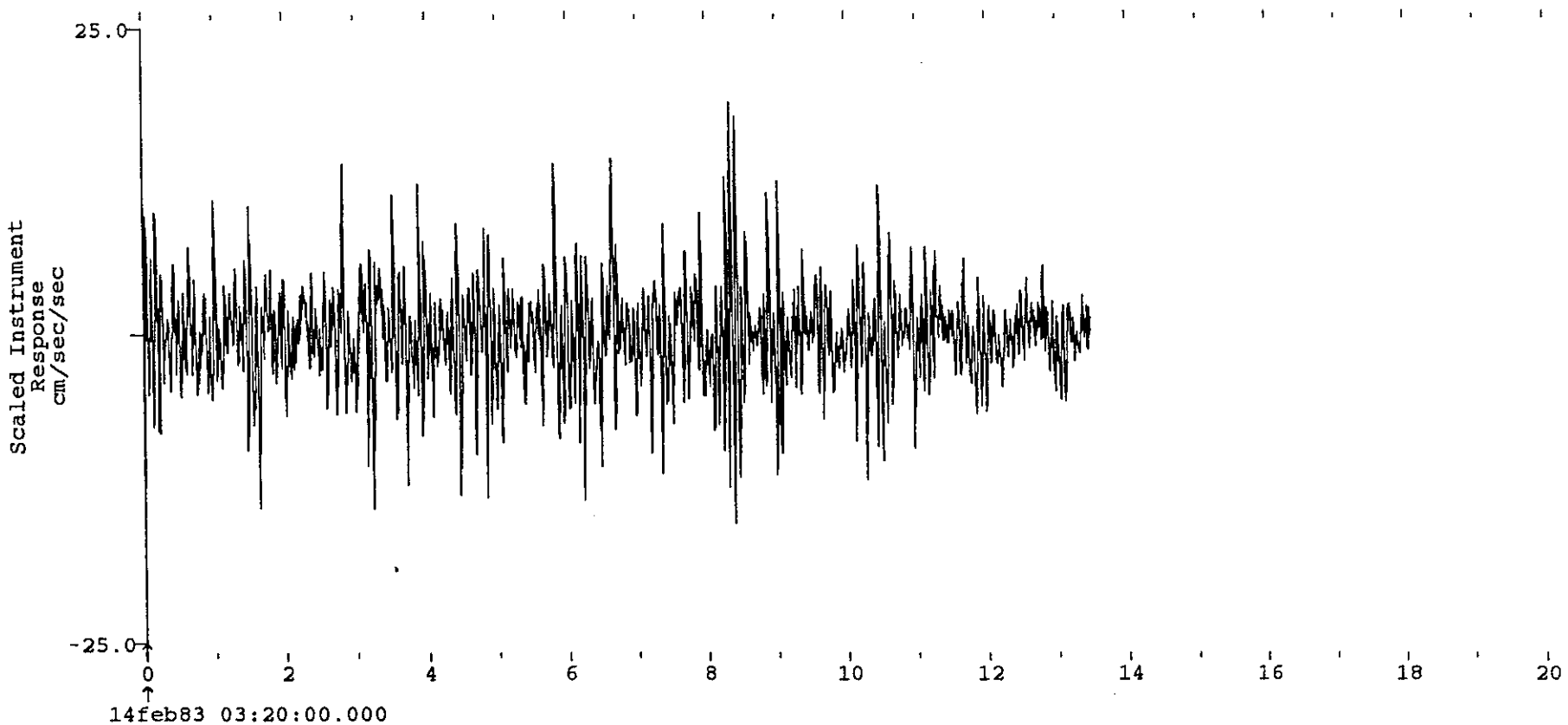
STATION: 2789 PRS PIRATE SHAKE, NAGAI ISLAND .
55.231N 159.855W IN SOIL OVER BEDROCK; CLOSE TO CLIFF .
SMA-1 1064 CHANNEL 2 UP SCALE=3.360 PER=.0510 DAMP=.60 .
EVENT: 1983 FEB 14 03:20 54.736N 158.882W 25KM M=6.3 V .
EPIC DIST = 83KM AZIMUTH AT STN = 311
Peak values (cm/sec/sec): -5.72



TIME SERIES PLOT

FILE129.SMC

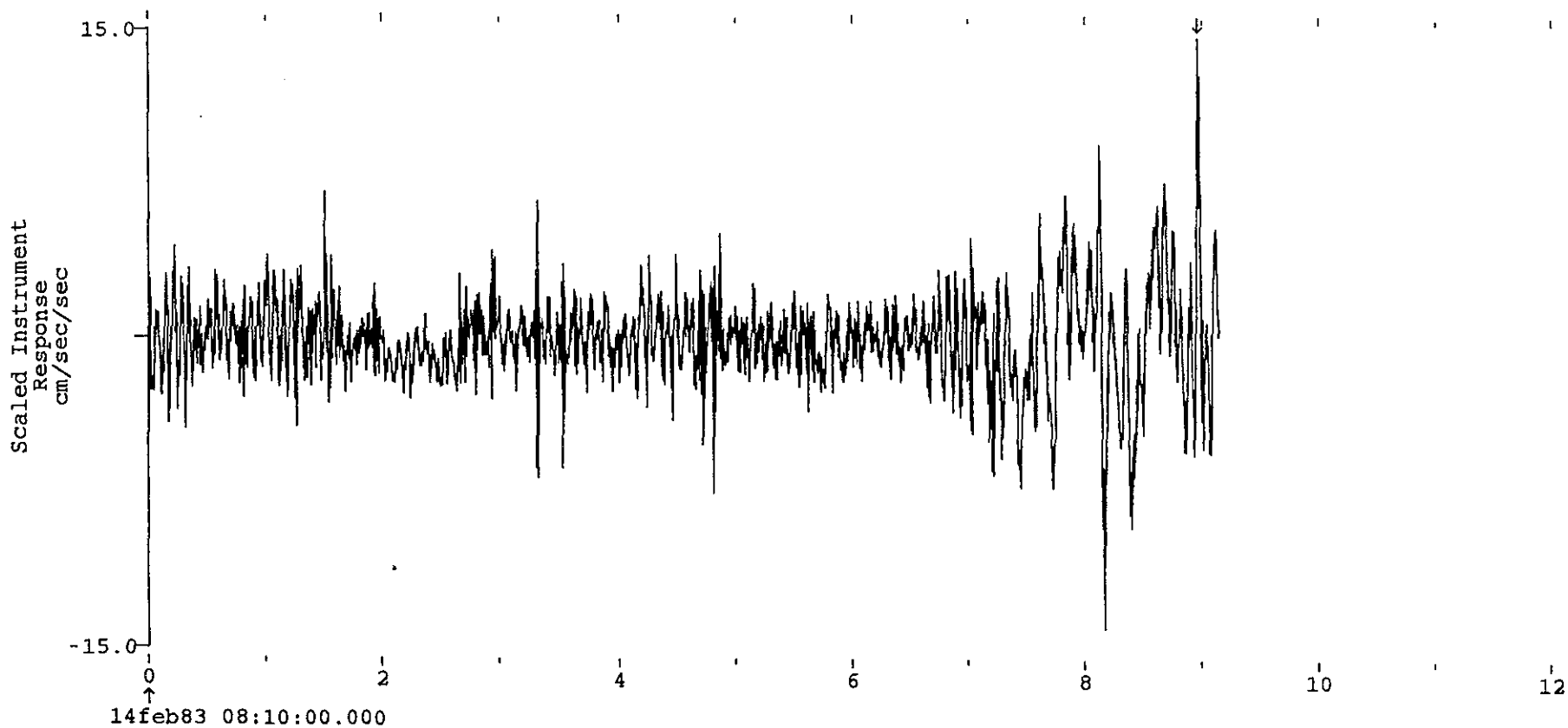
STATION: 2789 PRS PIRATE SHAKE, NAGAI ISLAND .
55.231N 159.855W IN SOIL OVER BEDROCK; CLOSE TO CLIFF .
SMA-1 1064 CHANNEL 3 N342E SCALE=3.620 PER=.0560 DAMP=.60 .
EVENT: 1983 FEB 14 03:20 54.736N 158.882W 25KM M=6.3 V .
EPIC DIST = 83KM AZIMUTH AT STN = 311
Peak values (cm/sec/sec): -24.46



TIME SERIES PLOT

FILE139.SMC

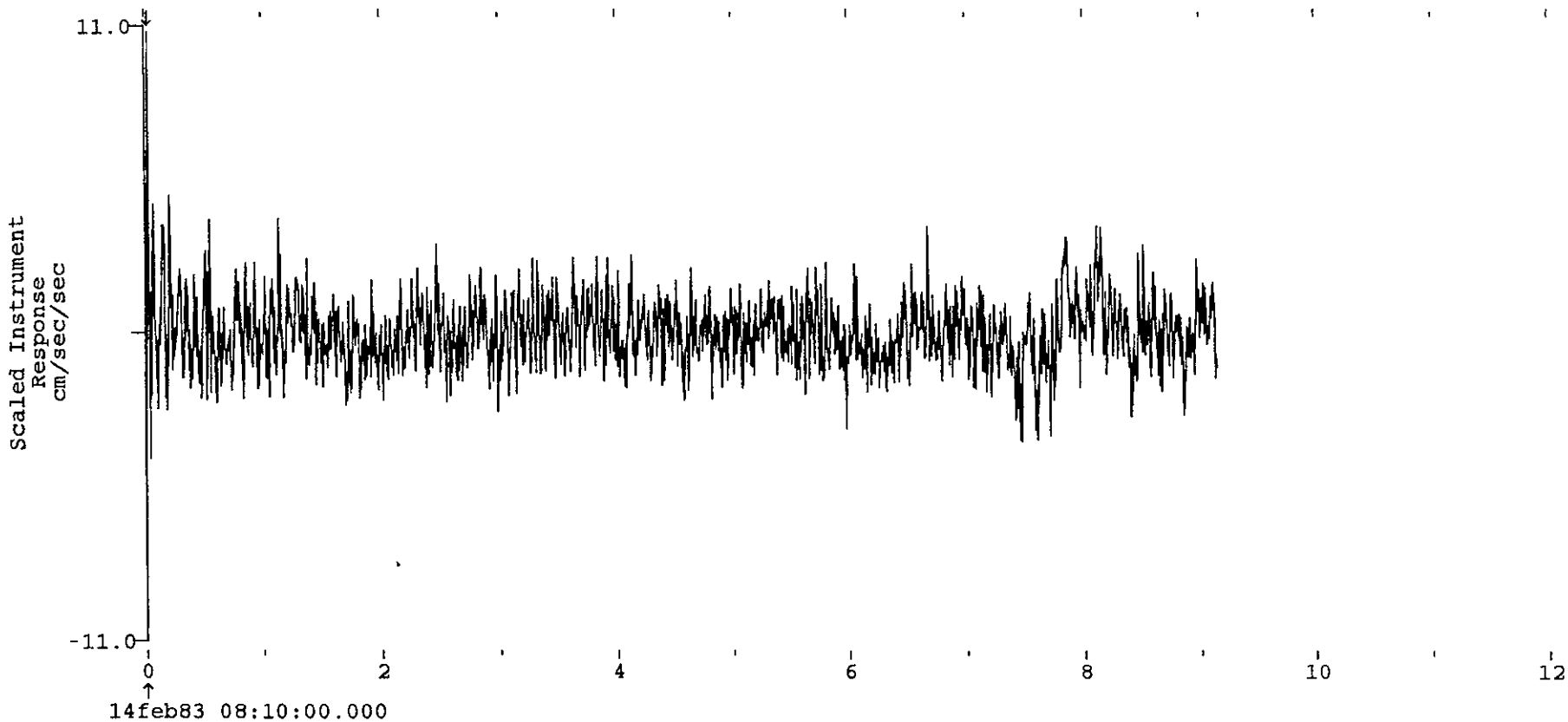
STATION: 2789 PRS PIRATE SHAKE, NAGAI ISLAND .
55.231N 159.855W IN SOIL OVER BEDROCK; CLOSE TO CLIFF .
SMA-1 1064 CHANNEL 1 N072E SCALE=3.800 PER=.0540 DAMP=.60 .
EVENT: 1983 FEB 14 08:10 54.854N 158.843W 25KM M=6.0 V .
EPIC DIST = 77KM AZIMUTH AT STN = 303
Peak values (cm/sec/sec): 14.78



TIME SERIES PLOT

FILE140.SMC

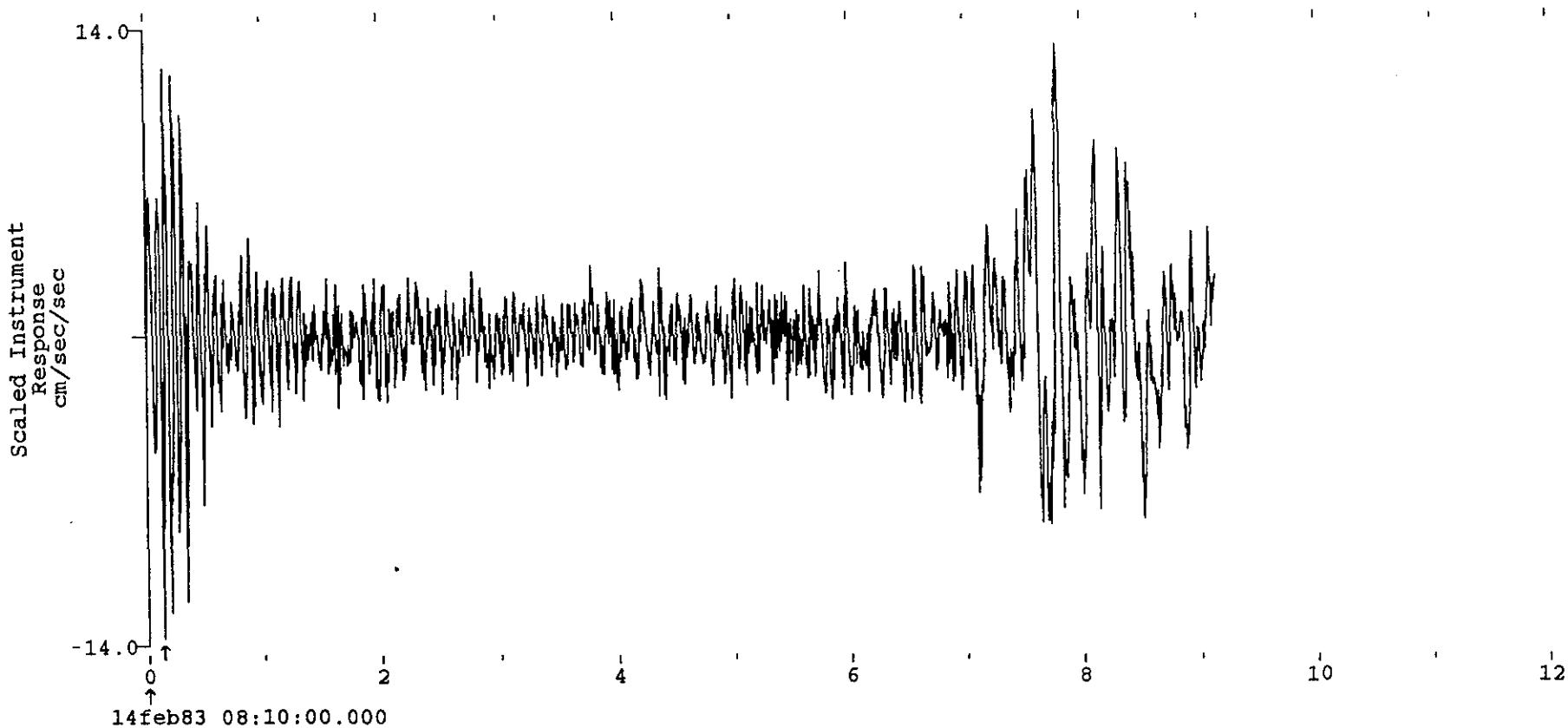
STATION: 2789 PRS PIRATE SHAKE, NAGAI ISLAND .
55.231N 159.855W IN SOIL OVER BEDROCK; CLOSE TO CLIFF .
SMA-1 1064 CHANNEL 2 UP SCALE=3.360 PER=.0510 DAMP=.60 .
EVENT: 1983 FEB 14 08:10 54.854N 158.843W 25KM M=6.0 V .
EPIC DIST = 77KM AZIMUTH AT STN = 303
Peak values (cm/sec/sec): 10.79



TIME SERIES PLOT

FILE141.SMC

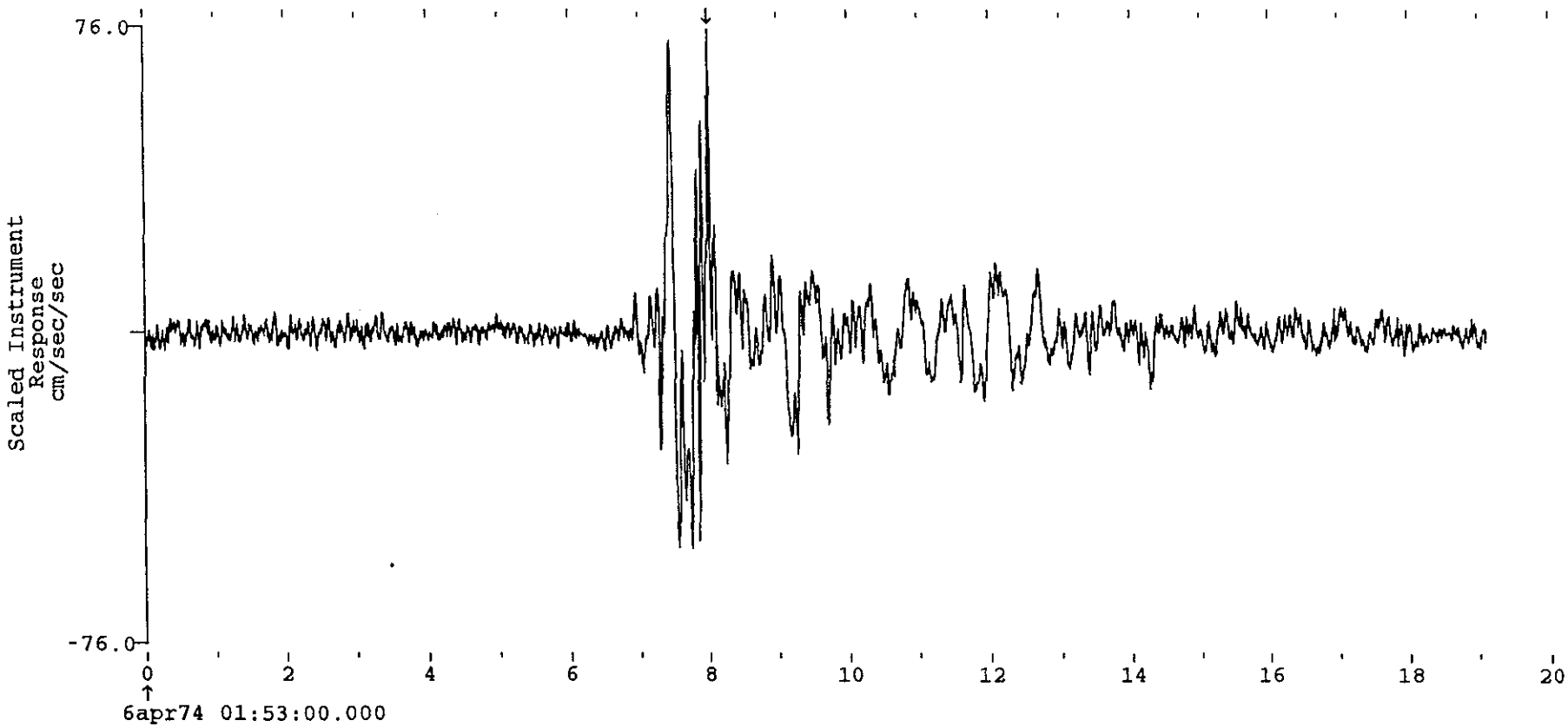
STATION: 2789 PRS PIRATE SHAKE, NAGAI ISLAND .
55.231N 159.855W IN SOIL OVER BEDROCK; CLOSE TO CLIFF .
SMA-1 1064 CHANNEL 3 N342E SCALE=3.620 PER=.0560 DAMP=.60 .
EVENT: 1983 FEB 14 08:10 54.854N 158.843W 25KM M=6.0 V .
EPIC DIST = 77KM AZIMUTH AT STN = 303
Peak values (cm/sec/sec): -13.64



TIME SERIES PLOT

FILE071.SMC

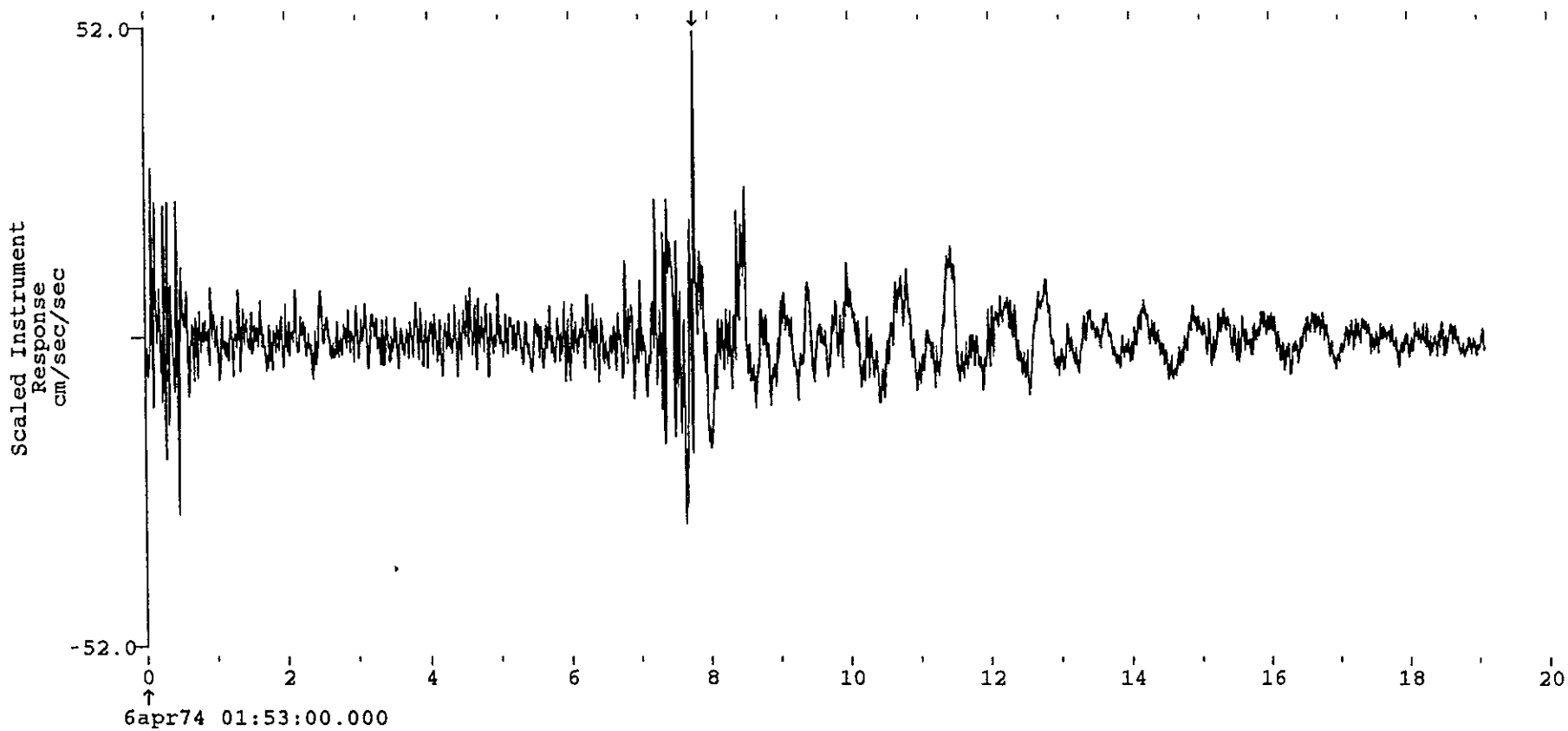
STATION: 2744 SAN SAND POINT, SCHOOL .
55.340N 160.497W RK VOLC BRECCIA GRND LEV 1 STORY BLDG .
SMA-1 202 CHANNEL 1 N120E SCALE=1.750 PER=.0379 DAMP=.60 .
EVENT: 1974 APR 06 01:53 54.870N 160.290W 37KM M=5.6 .
EPIC DIST = 54KM AZIMUTH AT STN = 347
Peak values (cm/sec/sec): 75.33



TIME SERIES PLOT

FILE072.SMC

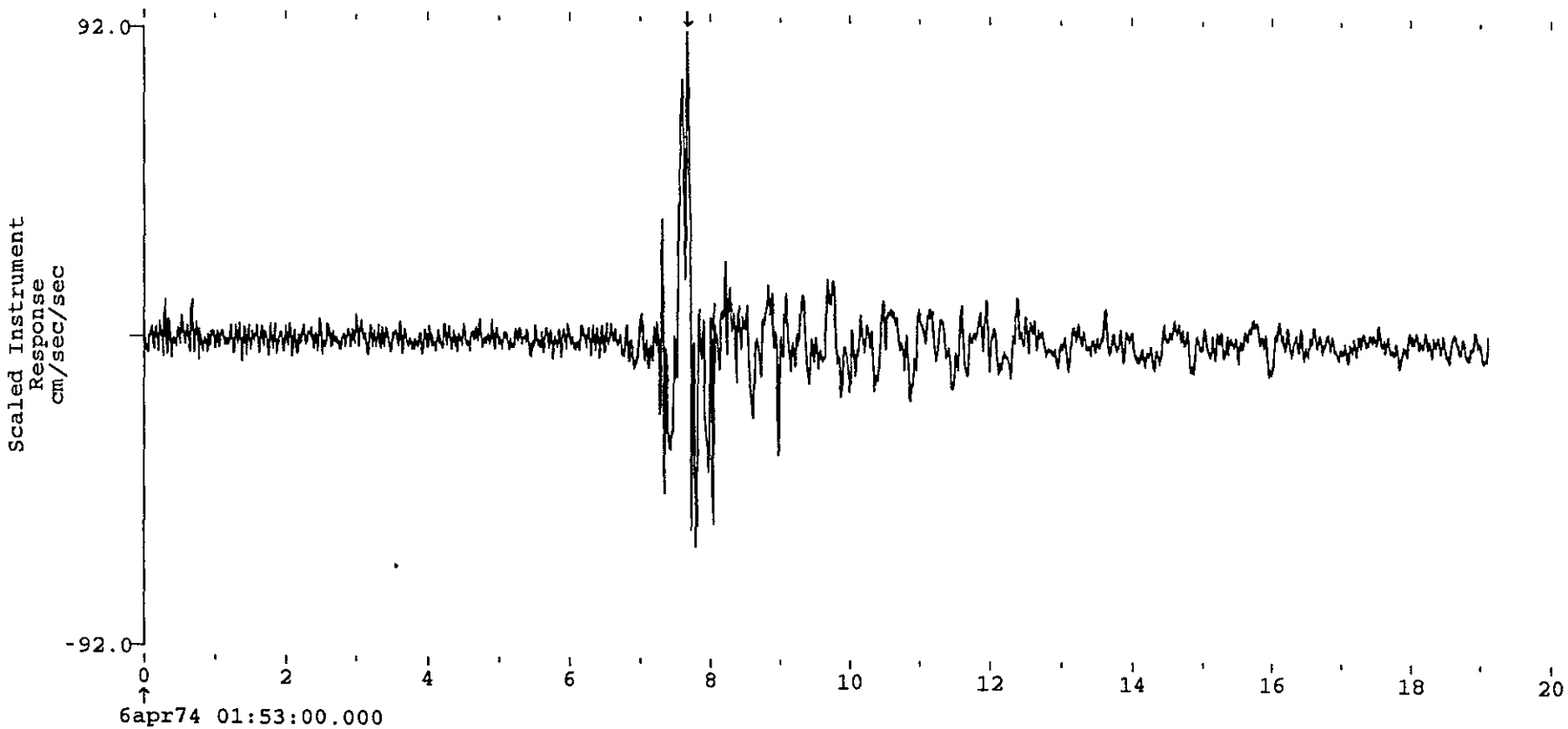
STATION: 2744 SAN SAND POINT, SCHOOL .
55.340N 160.497W RK VOLC BRECCIA GRND LEV 1 STORY BLDG .
SMA-1 202 CHANNEL 2 UP SCALE=1.950 PER=.0380 DAMP=.60 .
EVENT: 1974 APR 06 01:53 54.870N 160.290W 37KM M=5.6 .
EPIC DIST = 54KM AZIMUTH AT STN = 347
Peak values (cm/sec/sec): 51.44



TIME SERIES PLOT

FILE073.SMC

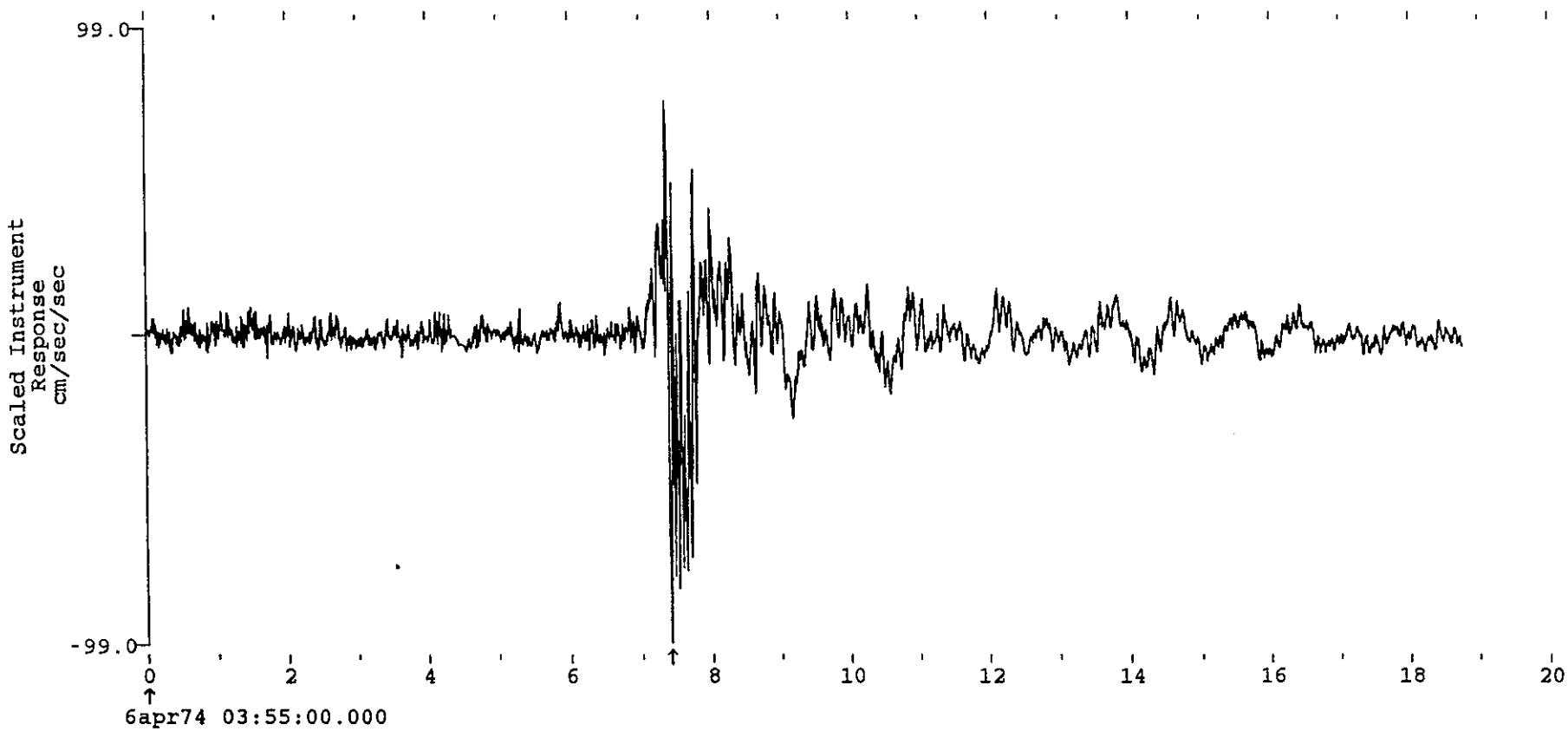
STATION: 2744 SAN SAND POINT, SCHOOL .
55.340N 160.497W RK VOLC BRECCIA GRND LEV 1 STORY BLDG .
SMA-1 202 CHANNEL 3 N030E SCALE=1.750 PER=.0377 DAMP=.60 .
EVENT: 1974 APR 06 01:53 54.870N 160.290W 37KM M=5.6 .
EPIC DIST = 54KM AZIMUTH AT STN = 347
Peak values (cm/sec/sec): 91.62



TIME SERIES PLOT

FILE074.SMC

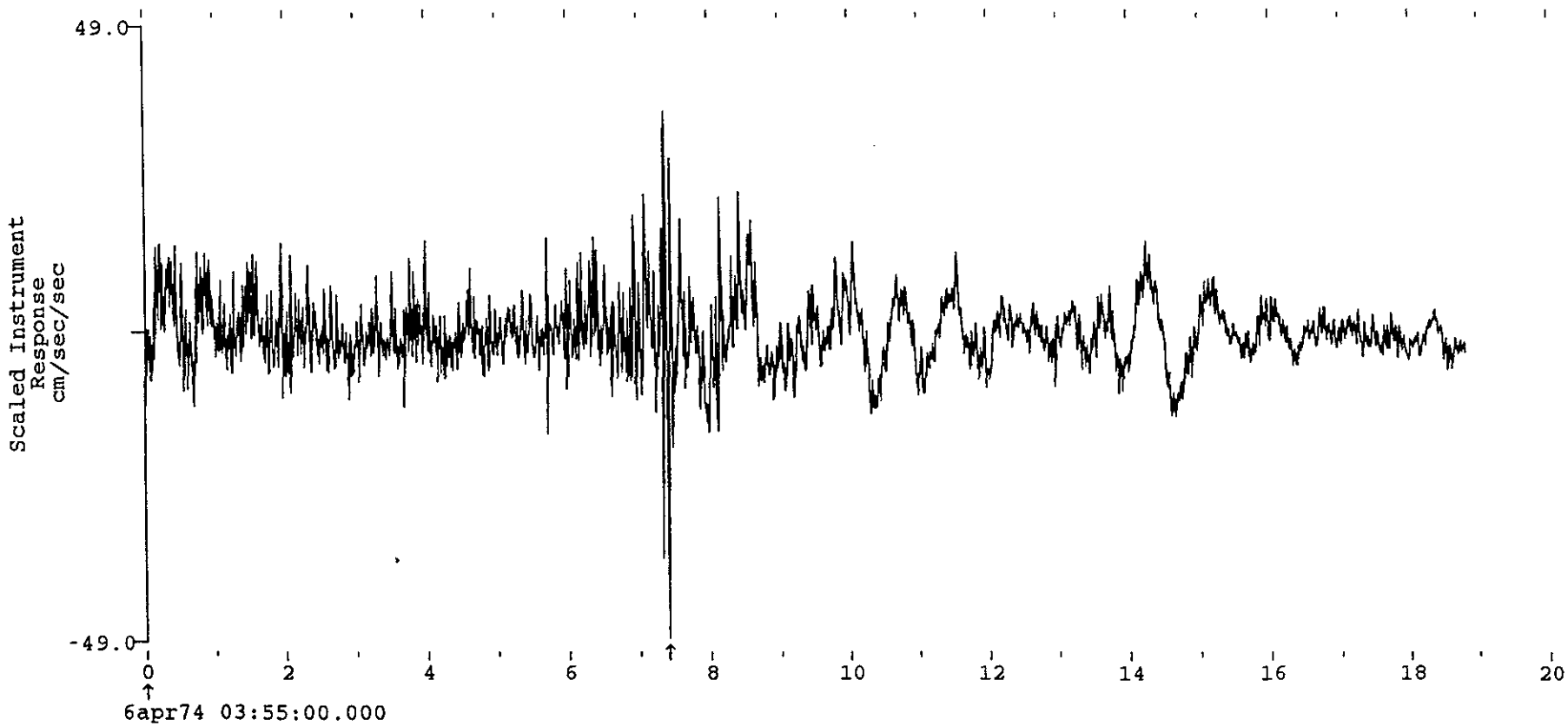
STATION: 2744 SAN SAND POINT, SCHOOL .
55.340N 160.497W RK VOLC BRECCIA GRND LEV 1 STORY BLDG .
SMA-1 202 CHANNEL 1 N120E SCALE=1.750 PER=.0379 DAMP=.60 .
EVENT: 1974 APR 06 03:55 54.900N 160.290W 40KM M=5.8 .
EPIC DIST = 50KM AZIMUTH AT STN = 346
Peak values (cm/sec/sec): -98.30



TIME SERIES PLOT

FILE075.SMC

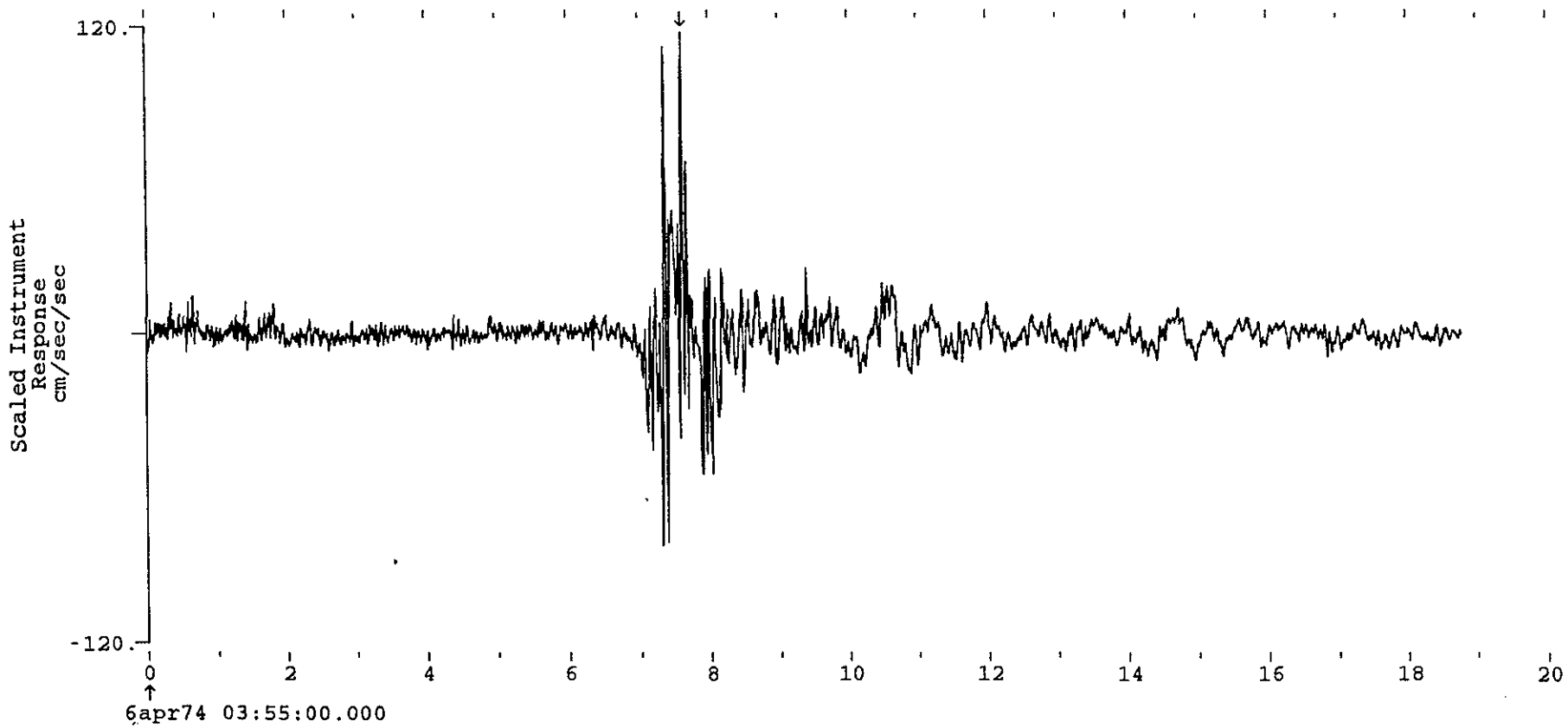
STATION: 2744 SAN SAND POINT, SCHOOL .
55.340N 160.497W RK VOLC BRECCIA GRND LEV 1 STORY BLDG .
SMA-1 202 CHANNEL 2 UP SCALE=1.950 PER=.0380 DAMP=.60 .
EVENT: 1974 APR 06 03:55 54.900N 160.290W 40KM M=5.8 .
EPIC DIST = 50KM AZIMUTH AT STN = 346
Peak values (cm/sec/sec): -48.37



TIME SERIES PLOT

FILE076.SMC

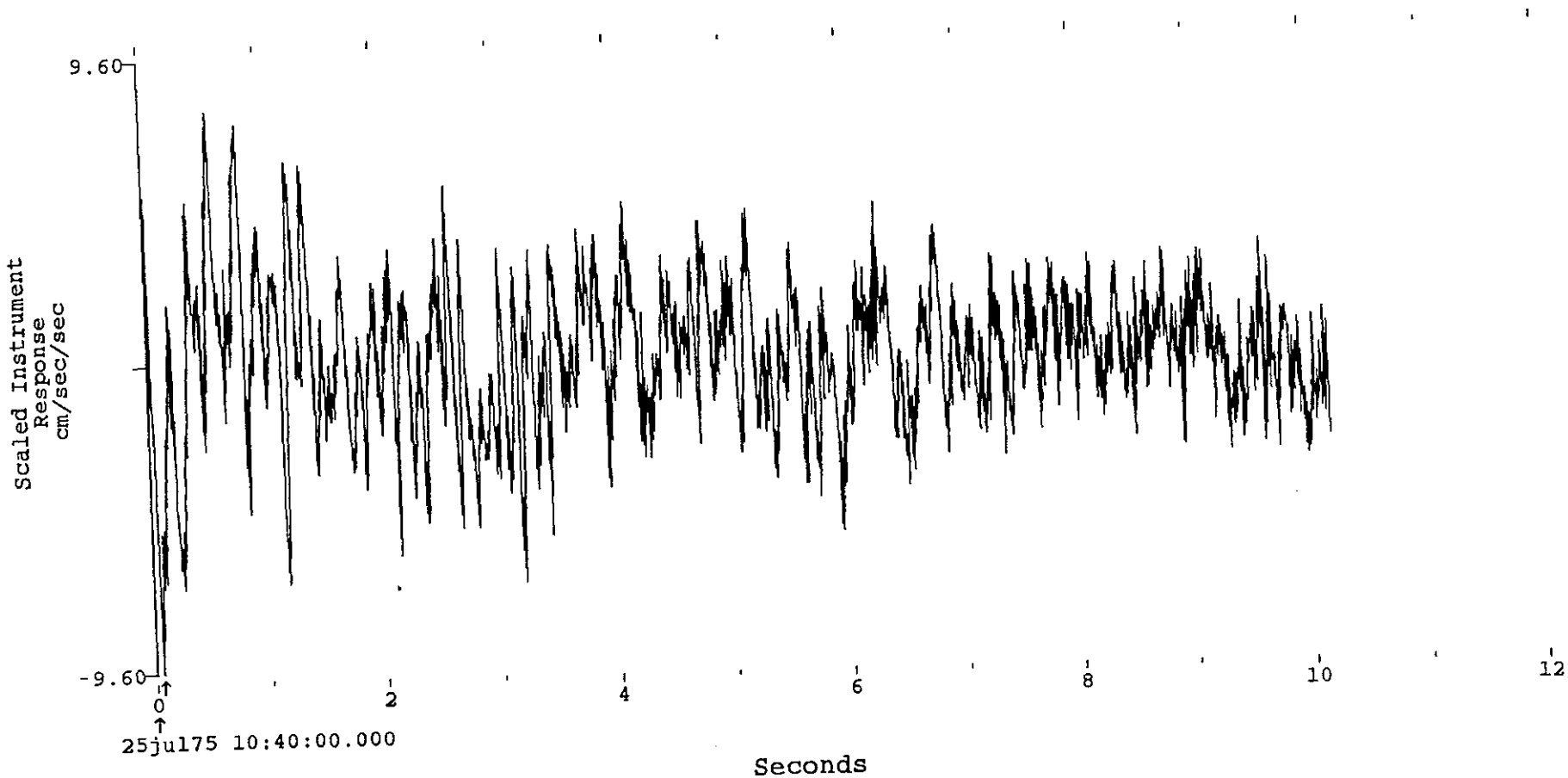
STATION: 2744 SAN SAND POINT, SCHOOL .
55.340N 160.497W RK VOLC BRECCIA GRND LEV 1 STORY BLDG .
SMA-1 202 CHANNEL 3 N030E SCALE=1.750 PER=.0377 DAMP=.60 .
EVENT: 1974 APR 06 03:55 54.900N 160.290W 40KM M=5.8 .
EPIC DIST = 50KM AZIMUTH AT STN = 346
Peak values (cm/sec/sec): 117.77



TIME SERIES PLOT

FILE095.SMC

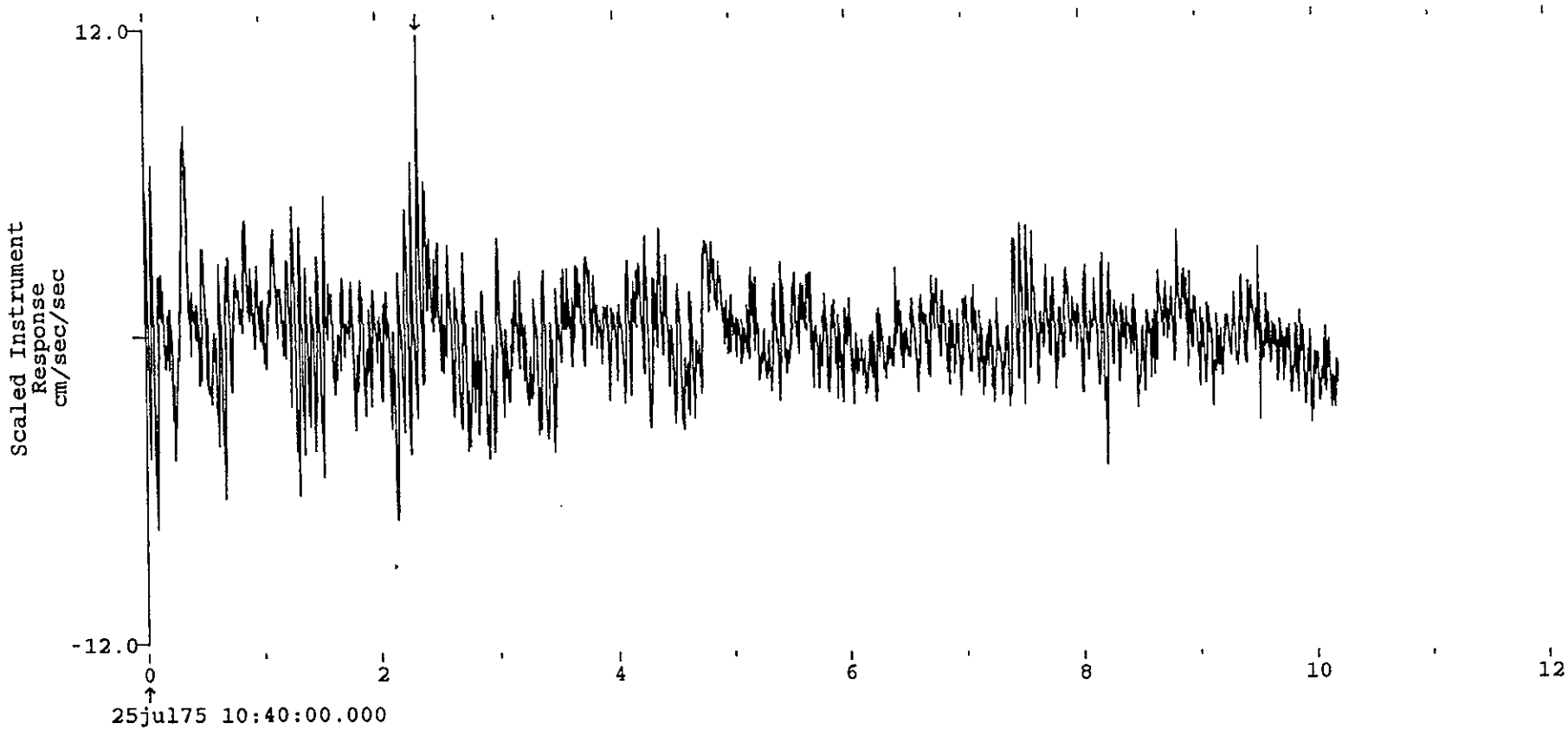
STATION: 2744 SAN SAND POINT, SCHOOL .
55.340N 160.497W RK VOLC BRECCIA GRND LEV 1 STORY BLDG .
SMA-1 202 CHANNEL 1 N120E SCALE=1.750 PER=.0379 DAMP=.60 .
EVENT: 1975 JUL 25 10:40 55.040N 160.410W 38KM M=5.6 IV .
EPIC DIST = 34KM AZIMUTH AT STN = 353
Peak values (cm/sec/sec): -9.57



TIME SERIES PLOT

FILE096.SMC

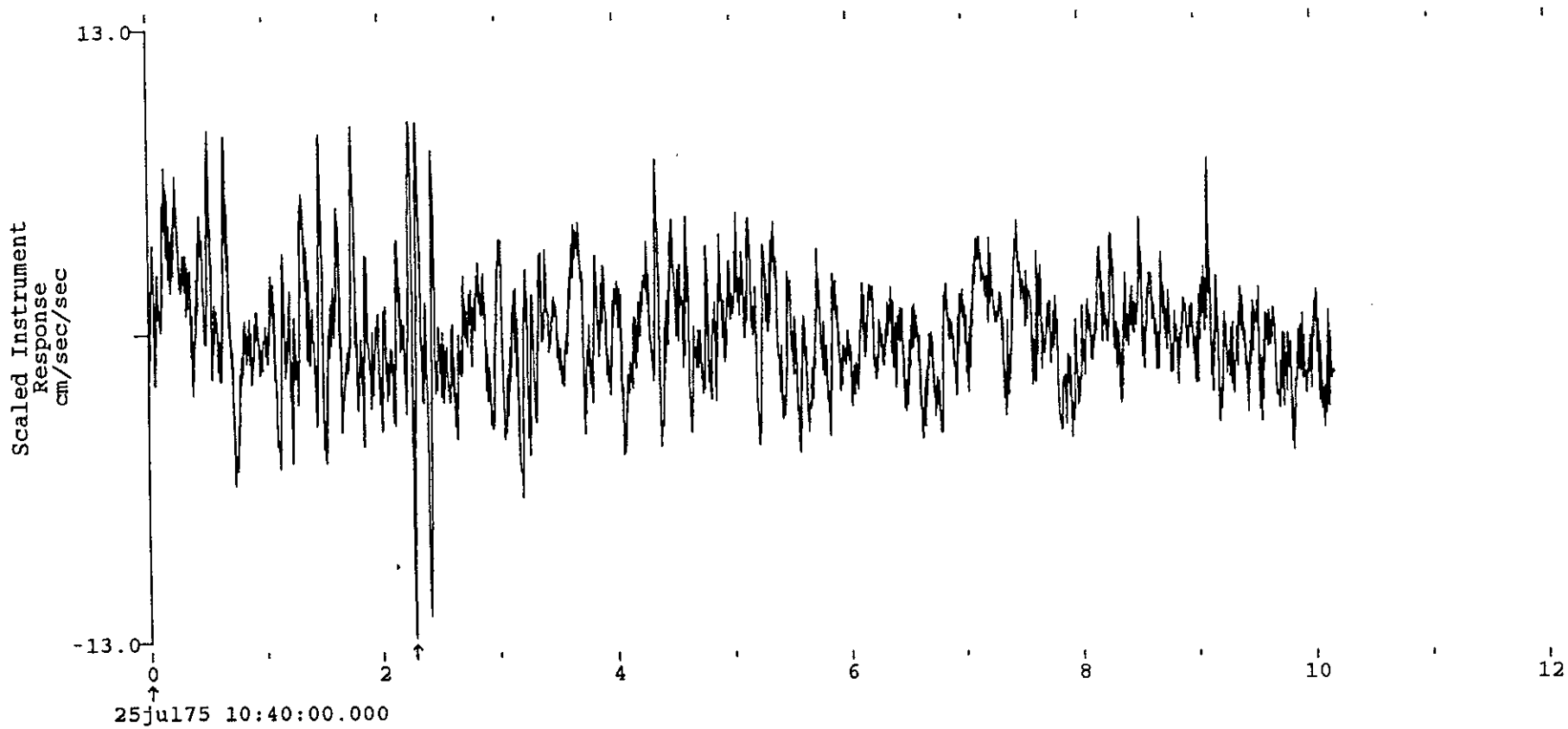
STATION: 2744 SAN SAND POINT, SCHOOL .
55.340N 160.497W RK VOLC BRECCIA GRND LEV 1 STORY BLDG .
SMA-1 202 CHANNEL 2 UP SCALE=1.950 PER=.0380 DAMP=.60 .
EVENT: 1975 JUL 25 10:40 55.040N 160.410W 38KM M=5.6 IV .
EPIC DIST = 34KM AZIMUTH AT STN = 353
Peak values (cm/sec/sec): 11.75



TIME SERIES PLOT

FILE097.SMC

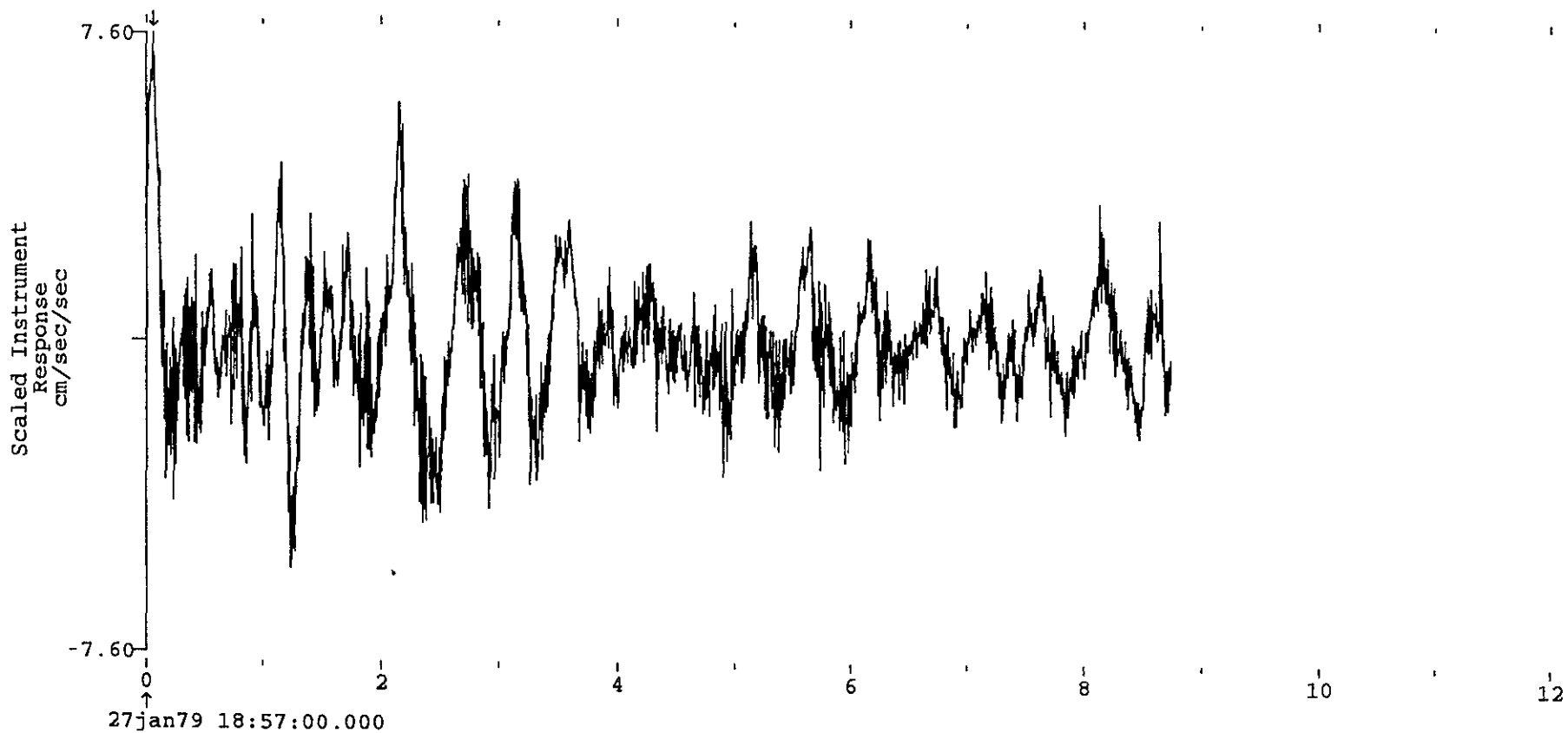
STATION: 2744 SAN SAND POINT, SCHOOL .
55.340N 160.497W RK VOLC BRECCIA GRND LEV 1 STORY BLDG .
SMA-1 202 CHANNEL 3 N030E SCALE=1.750 PER=.0377 DAMP=.60 .
EVENT: 1975 JUL 25 10:40 55.040N 160.410W 38KM M=5.6 IV .
EPIC DIST = 34KM AZIMUTH AT STN = 353
Peak values (cm/sec/sec): -12.79



TIME SERIES PLOT

FILE101.SMC

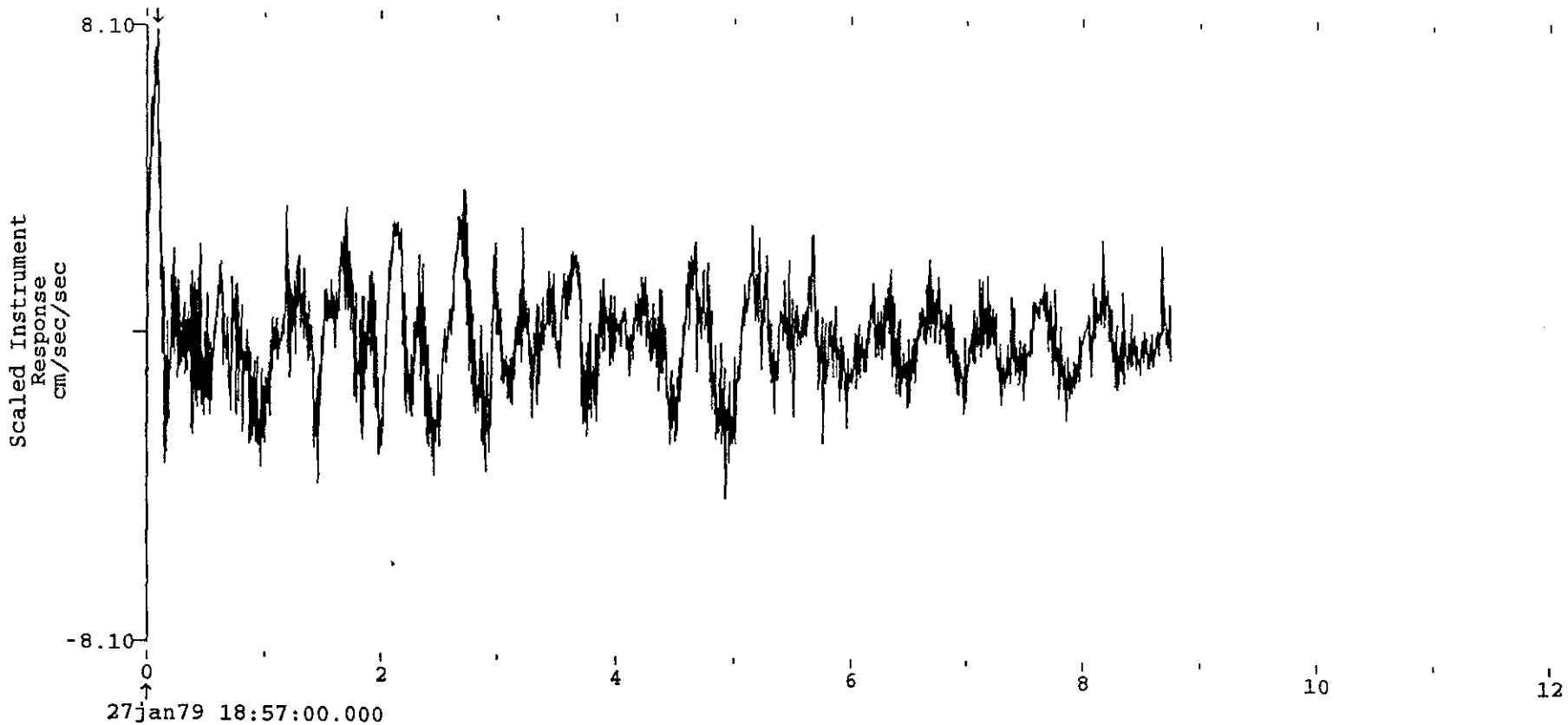
STATION: 2744 SAN SAND POINT, SEISMIC VAULT .
55.340N 160.497W RK VOLCANIC BRECCIA GROUND LEVEL .
SMA-1 202 CHANNEL 1 N197E SCALE=1.750 PER=.0379 DAMP=.60 .
EVENT: 1979 JAN 27 18:57 54.790N 160.640W 53KM M=6.2 .
EPIC DIST = 62KM AZIMUTH AT STN = 9
Peak values (cm/sec/sec): 7.59



TIME SERIES PLOT

FILE102.SMC

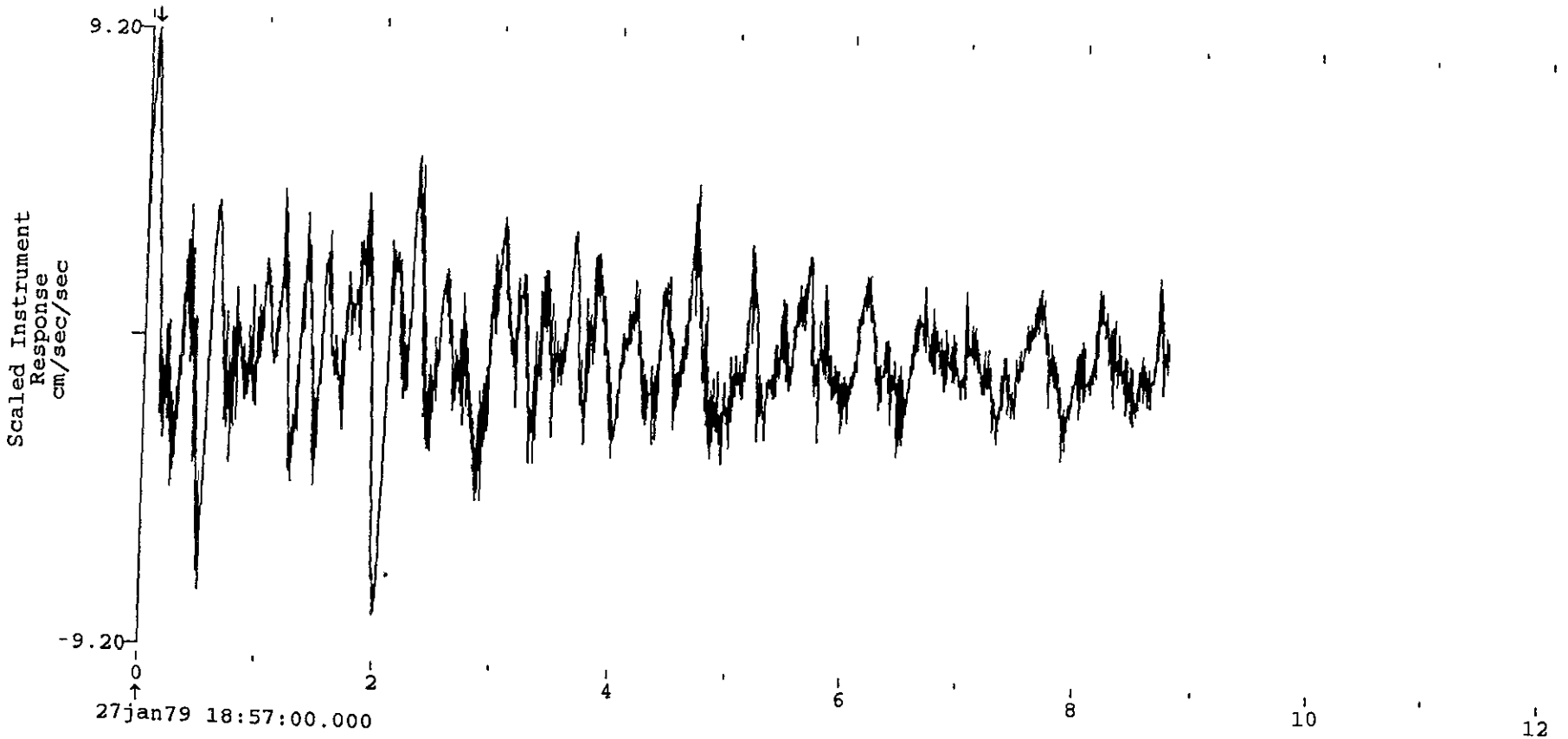
STATION: 2744 SAN SAND POINT, SEISMIC VAULT .
55.340N 160.497W RK VOLCANIC BRECCIA GROUND LEVEL .
SMA-1 202 CHANNEL 2 UP SCALE=1.950 PER=.0380 DAMP=.60 .
EVENT: 1979 JAN 27 18:57 54.790N 160.640W 53KM M=6.2 .
EPIC DIST = 62KM AZIMUTH AT STN = 9
Peak values (cm/sec/sec): 8.01



TIME SERIES PLOT

FILE103.SMC

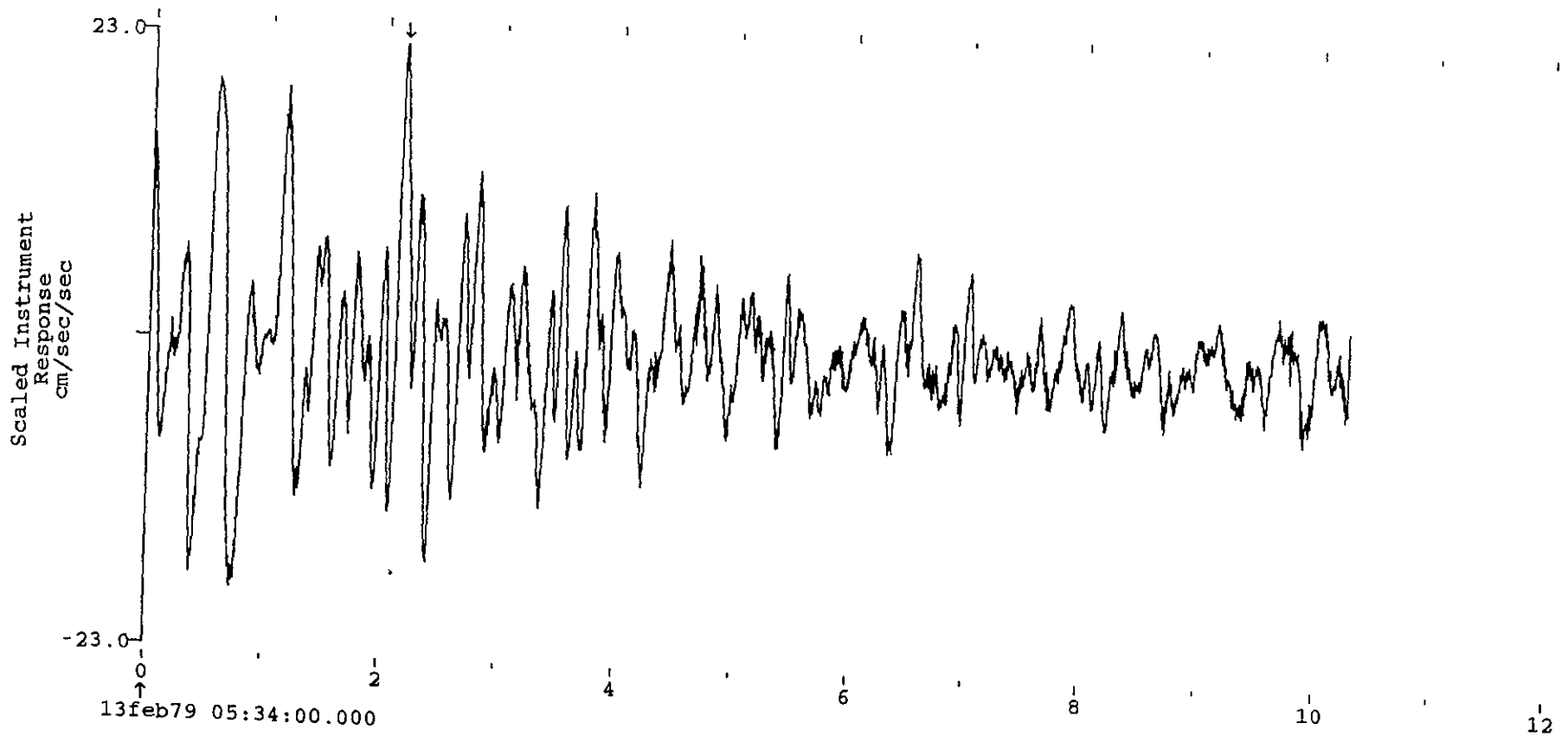
STATION: 2744 SAN SAND POINT, SEISMIC VAULT .
55.340N 160.497W RK VOLCANIC BRECCIA GROUND LEVEL .
SMA-1 202 CHANNEL 3 N107E SCALE=1.750 PER=.0377 DAMP=.60 .
EVENT: 1979 JAN 27 18:57 54.790N 160.640W 53KM M=6.2 .
EPIC DIST = 62KM AZIMUTH AT STN = 9
Peak values (cm/sec/sec): 9.18



TIME SERIES PLOT

FILE104.SMC

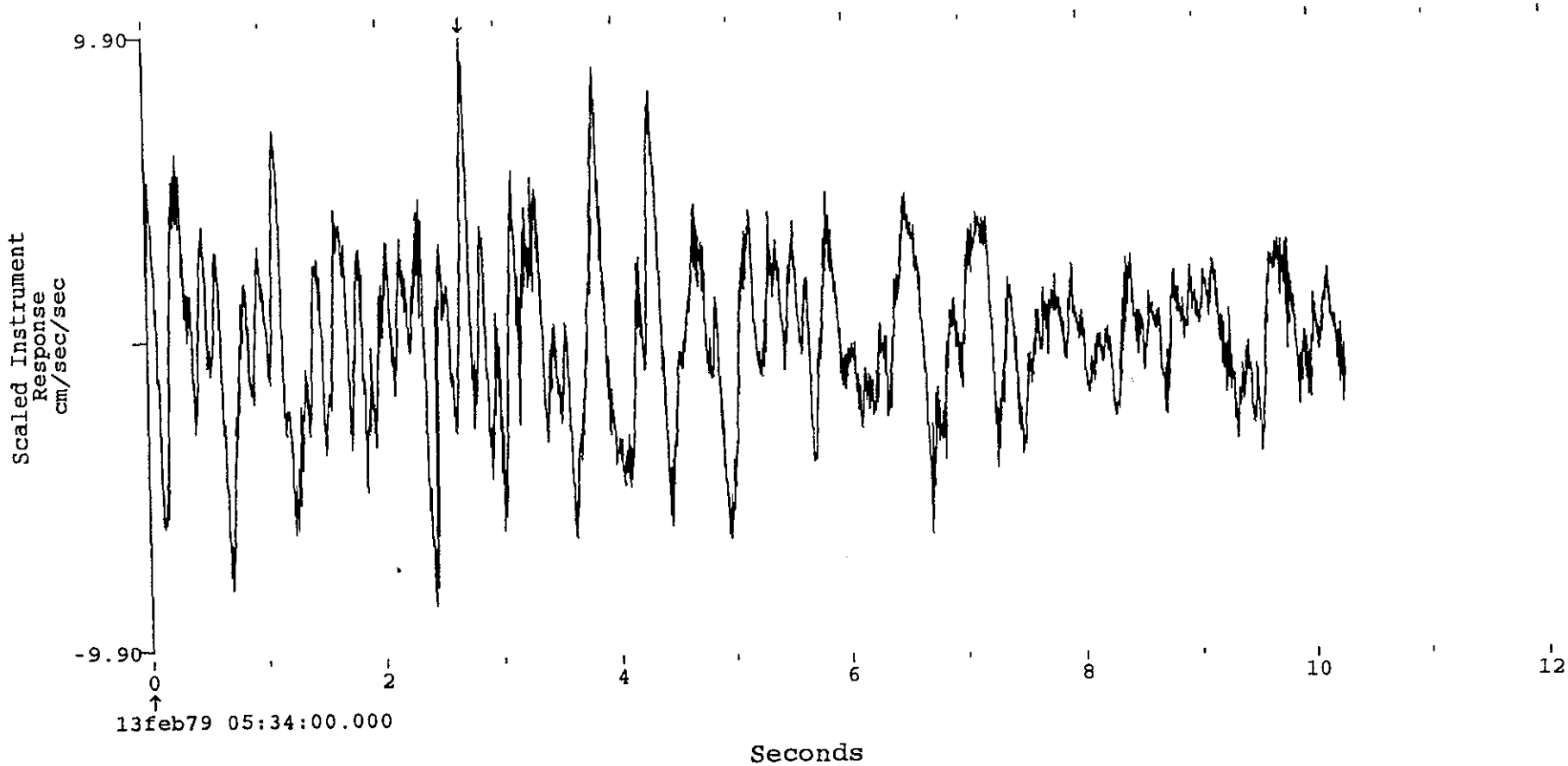
STATION: 2744 SAN SAND POINT, SEISMIC VAULT .
55.340N 160.497W RK VOLCANIC BRECCIA GROUND LEVEL .
SMA-1 202 CHANNEL 1 N197E SCALE=1.750 PER=.0379 DAMP=.60 .
EVENT: 1979 FEB 13 05:34 55.170N 156.940W 47KM M=6.5 .
EPIC DIST = 226KM AZIMUTH AT STN = 273
Peak values (cm/sec/sec): 22.42



TIME SERIES PLOT

FILE105.SMC

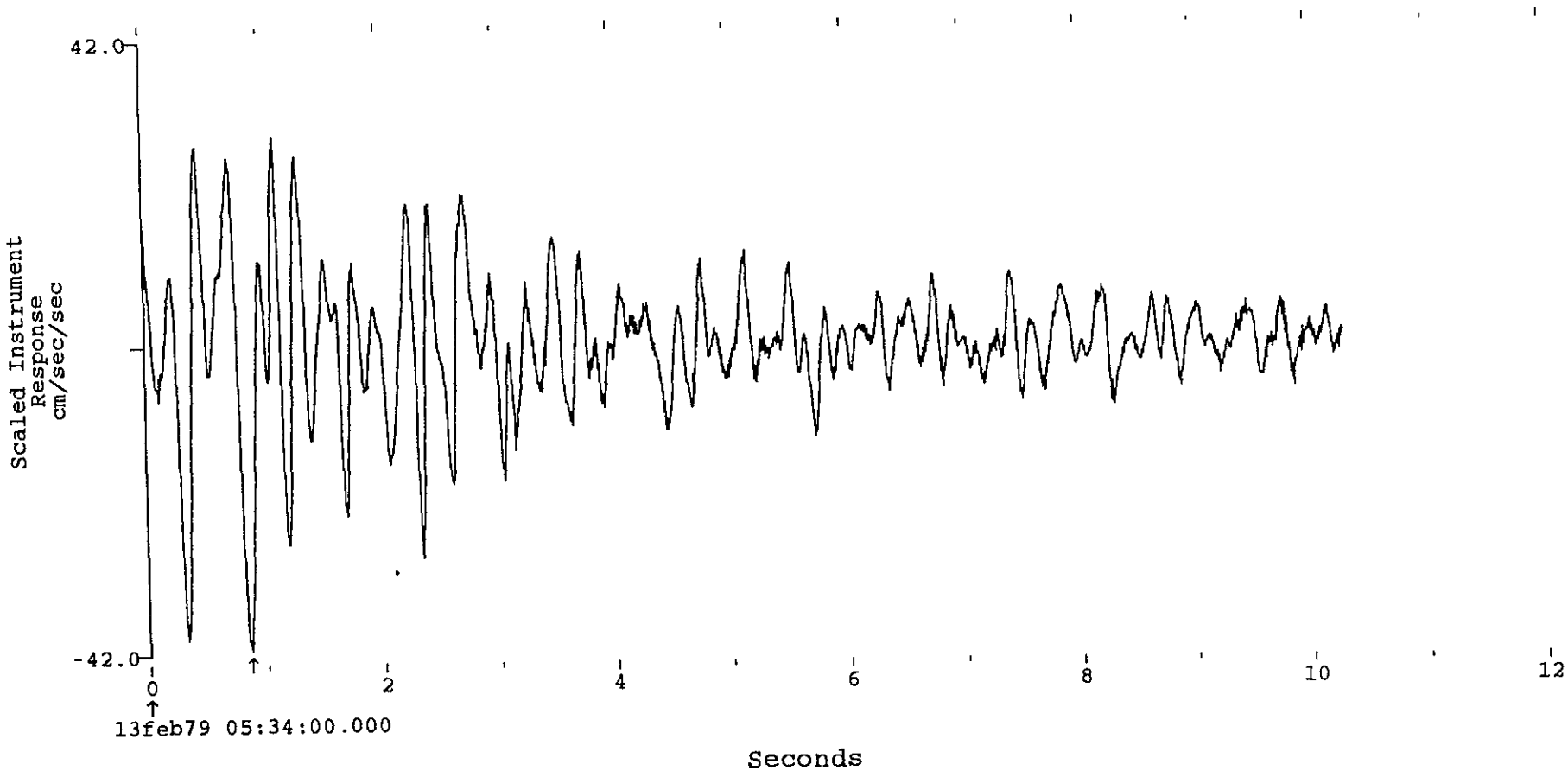
STATION: 2744 SAN SAND POINT, SEISMIC VAULT .
55.340N 160.497W RK VOLCANIC BRECCIA GROUND LEVEL .
SMA-1 202 CHANNEL 2 UP SCALE=1.950 PER=.0380 DAMP=.60 .
EVENT: 1979 FEB 13 05:34 55.170N 156.940W 47KM M=6.5 .
EPIC DIST = 226KM AZIMUTH AT STN = 273
Peak values (cm/sec/sec): 9.80



TIME SERIES PLOT

FILE106.SMC

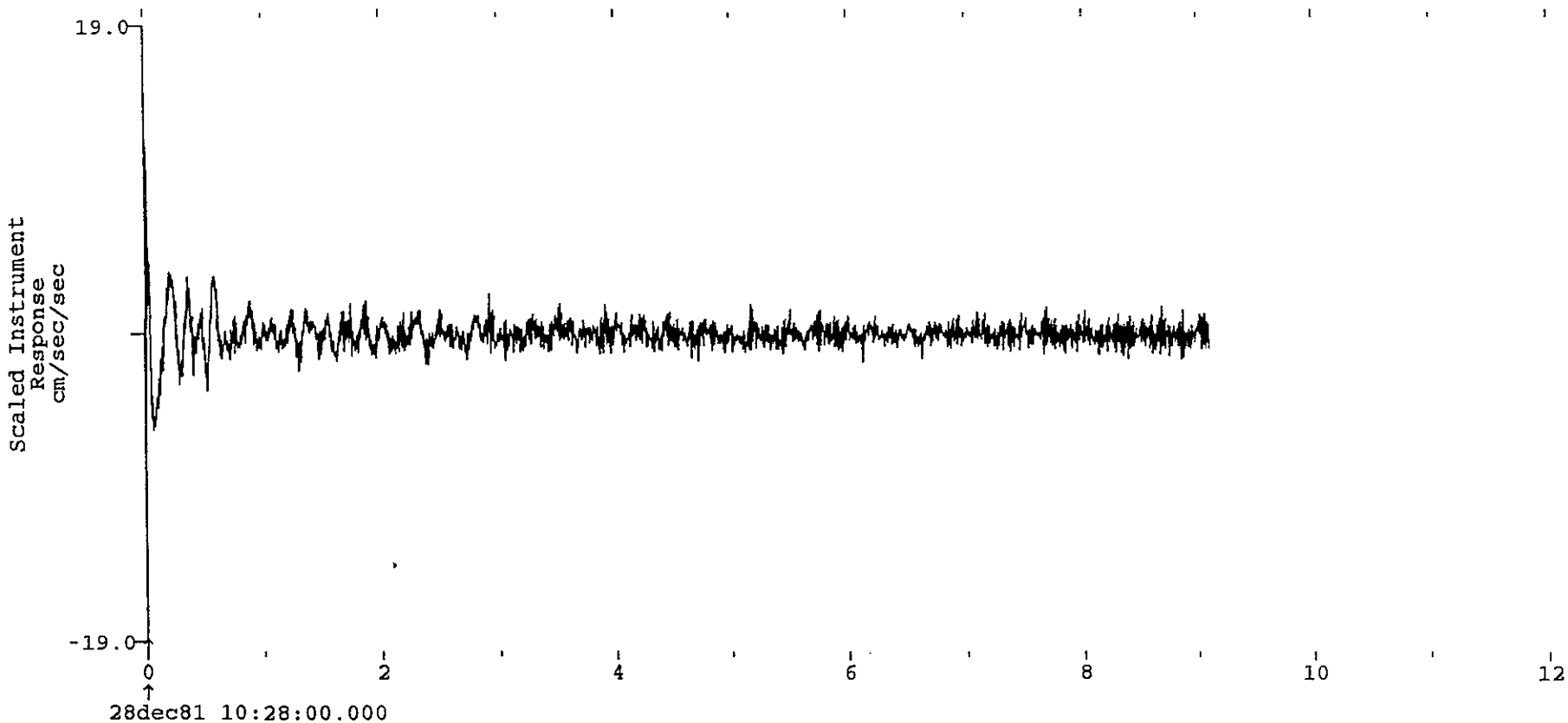
STATION: 2744 SAN SAND POINT, SEISMIC VAULT .
55.340N 160.497W RK VOLCANIC BRECCIA GROUND LEVEL .
SMA-1 202 CHANNEL 3 N107E SCALE=1.750 PER=.0377 DAMP=.60 .
EVENT: 1979 FEB 13 05:34 55.170N 156.940W 47KM M=6.5 .
EPIC DIST = 226KM AZIMUTH AT STN = 273
Peak values (cm/sec/sec): -41.37



TIME SERIES PLOT

FILE115.SMC

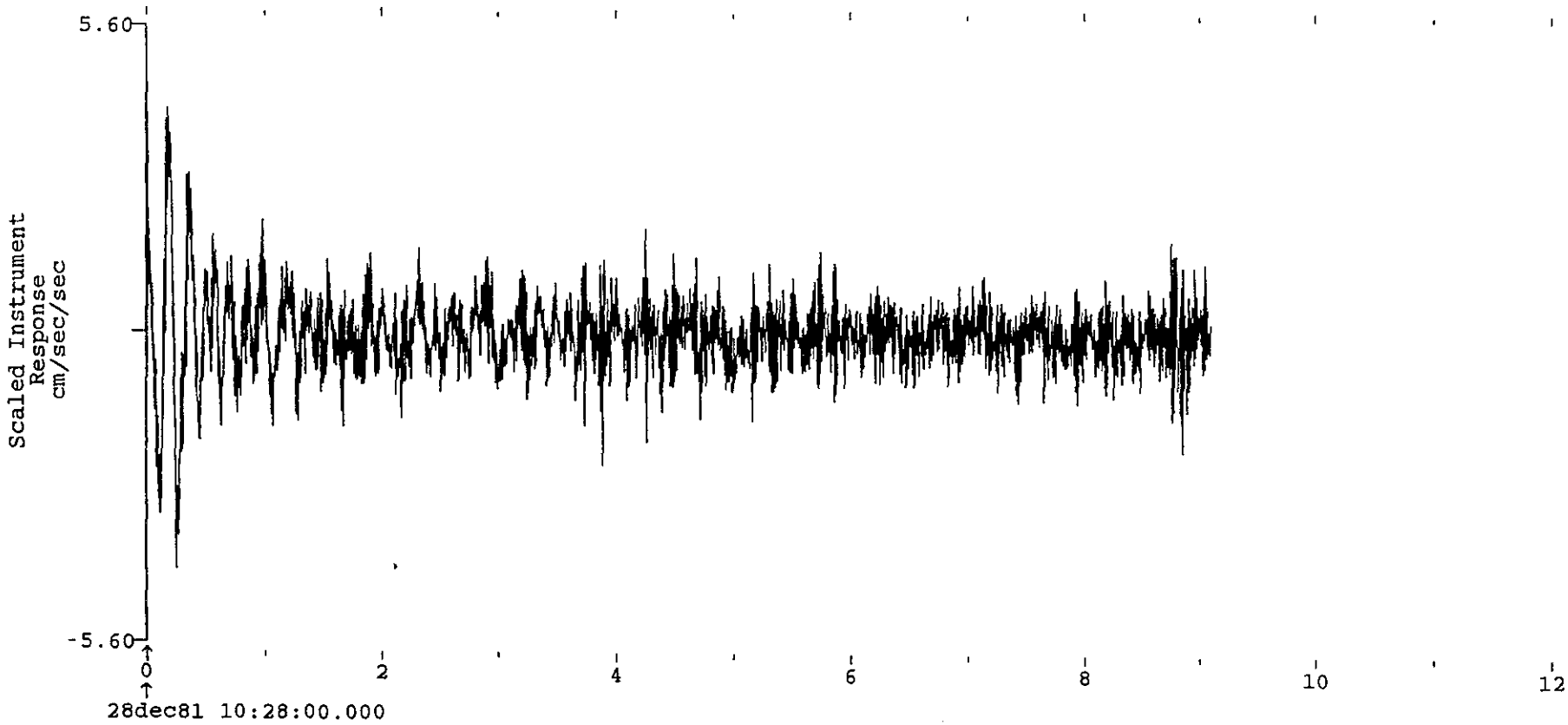
STATION: 2744 SAN SAND POINT, SEISMIC VAULT .
55.340N 160.497W RK VOLCANIC BRECCIA GROUND LEVEL .
SMA-1 959 CHANNEL 1 N070E SCALE=4.140 PER=.0581 DAMP=.60 .
EVENT: 1981 DEC 28 10:28 54.669N 160.407W 33KM M=3.8 .
EPIC DIST = 75KM AZIMUTH AT STN = 357
Peak values (cm/sec/sec): -18.41



TIME SERIES PLOT

FILE116.SMC

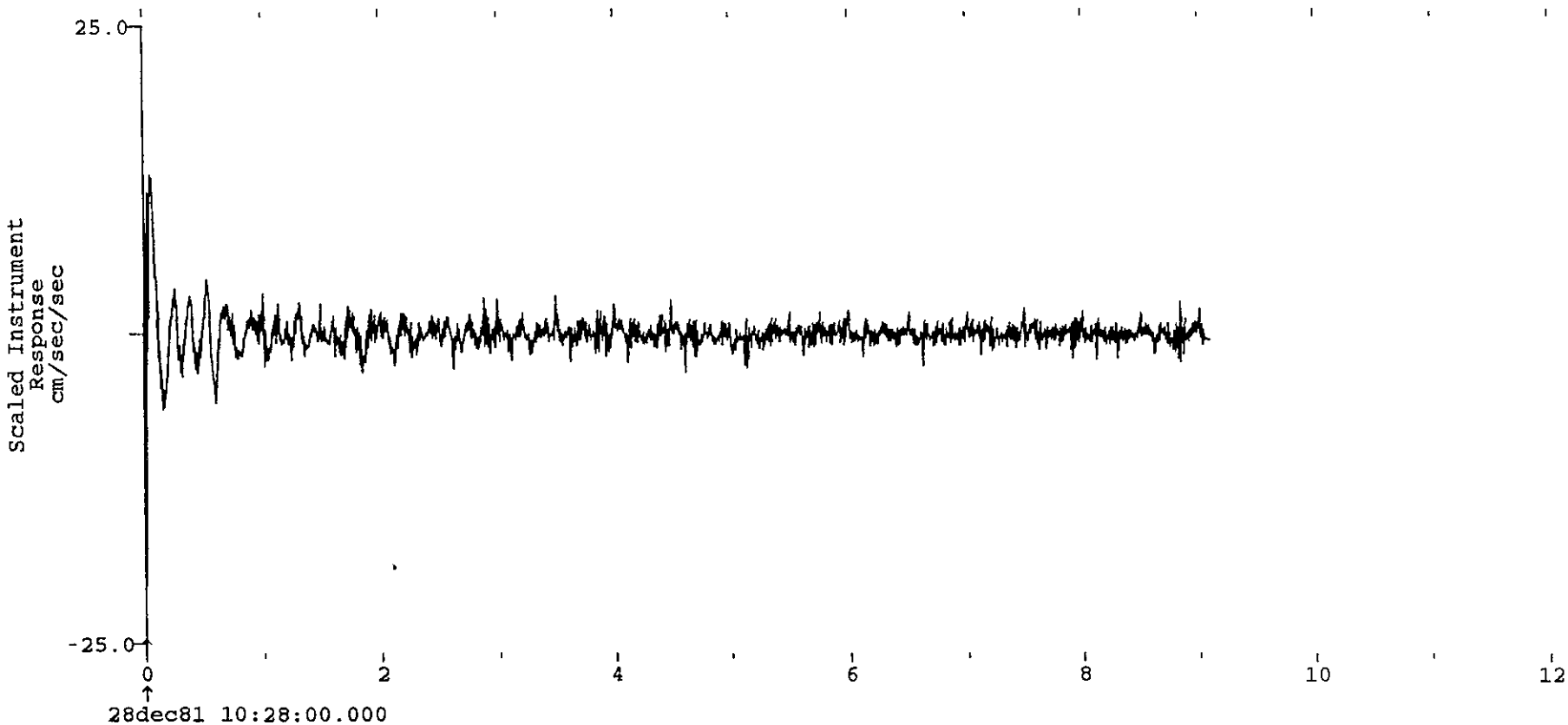
STATION: 2744 SAN SAND POINT, SEISMIC VAULT .
55.340N 160.497W RK VOLCANIC BRECCIA GROUND LEVEL .
SMA-1 959 CHANNEL 2 UP SCALE=3.920 PER=.0562 DAMP=.60 .
EVENT: 1981 DEC 28 10:28 54.669N 160.407W 33KM M=3.8 .
EPIC DIST = 75KM AZIMUTH AT STN = 357
Peak values (cm/sec/sec): -5.58



TIME SERIES PLOT

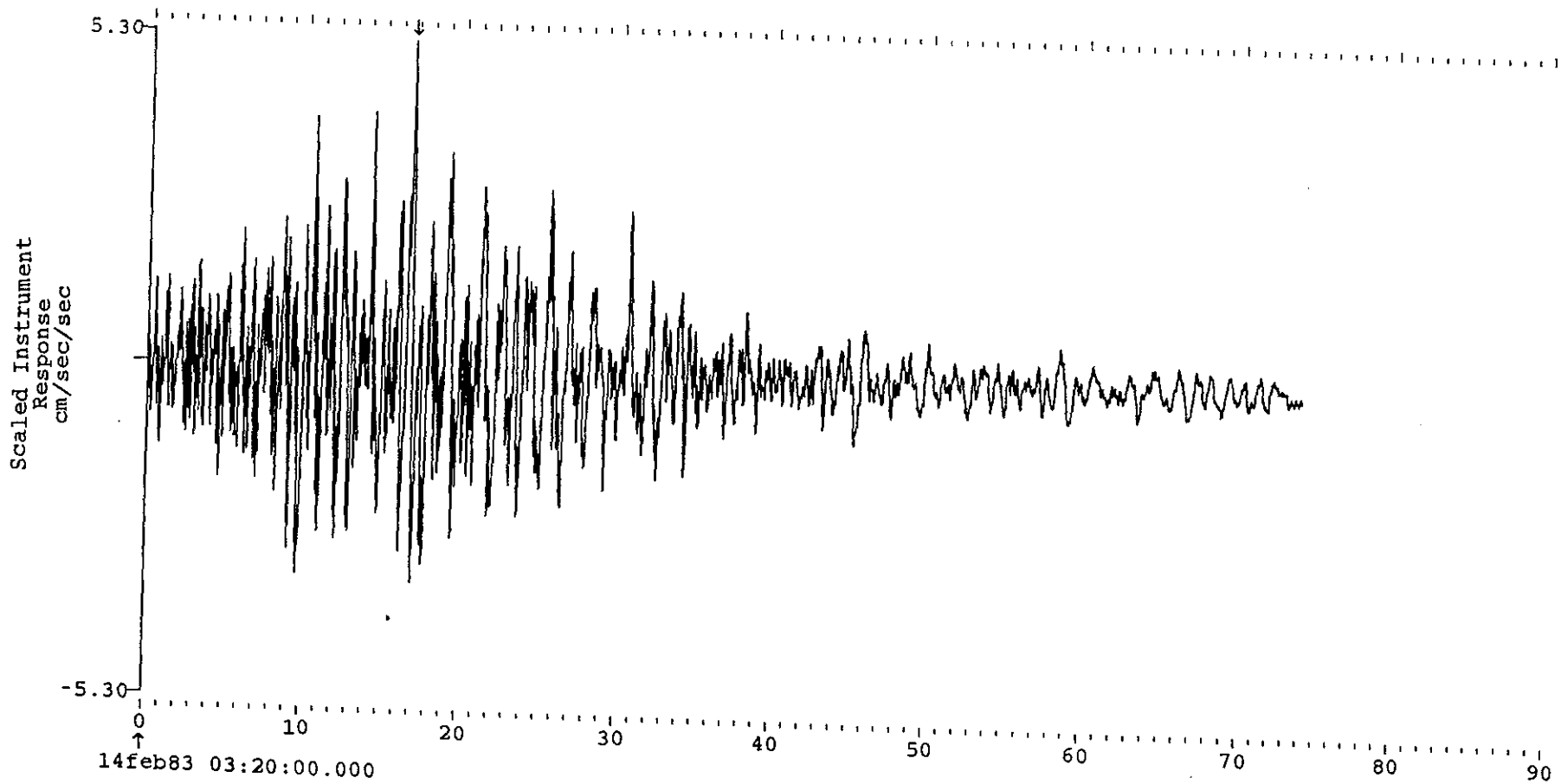
FILE117.SMC

STATION: 2744 SAN SAND POINT, SEISMIC VAULT .
55.340N 160.497W RK VOLCANIC BRECCIA GROUND LEVEL .
SMA-1 959 CHANNEL 3 N340E SCALE=3.600 PER=.0578 DAMP=.60 .
EVENT: 1981 DEC 28 10:28 54.669N 160.407W 33KM M=3.8 .
EPIC DIST = 75KM AZIMUTH AT STN = 357
Peak values (cm/sec/sec): -24.08



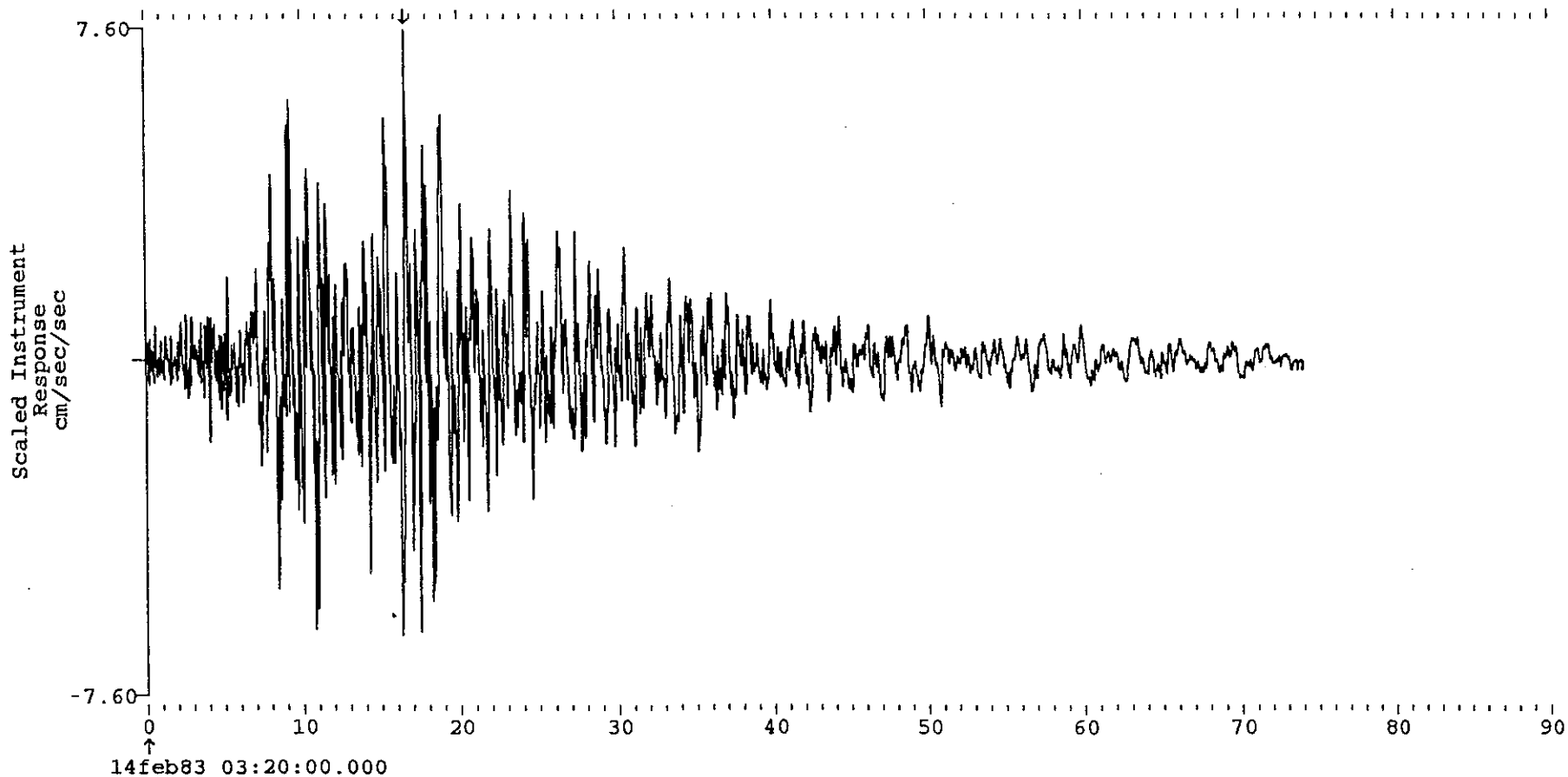
TIME SERIES PLOT
FILE118.SMC

STATION: 2744 SAN SAND POINT, SEISMIC VAULT .
55.340N 160.497W RK VOLCANIC BRECCIA GROUND LEVEL .
FBA-3 16448 CHAN 1 UP SCALE=-2.458 PER=.0199 DAMP=.66 .
EVENT: 1983 FEB 14 03:20 54.736N 158.882W 25KM M=6.3 V .
EPIC DIST = 123KM AZIMUTH AT STN = 303
Peak values (cm/sec/sec): 5.22



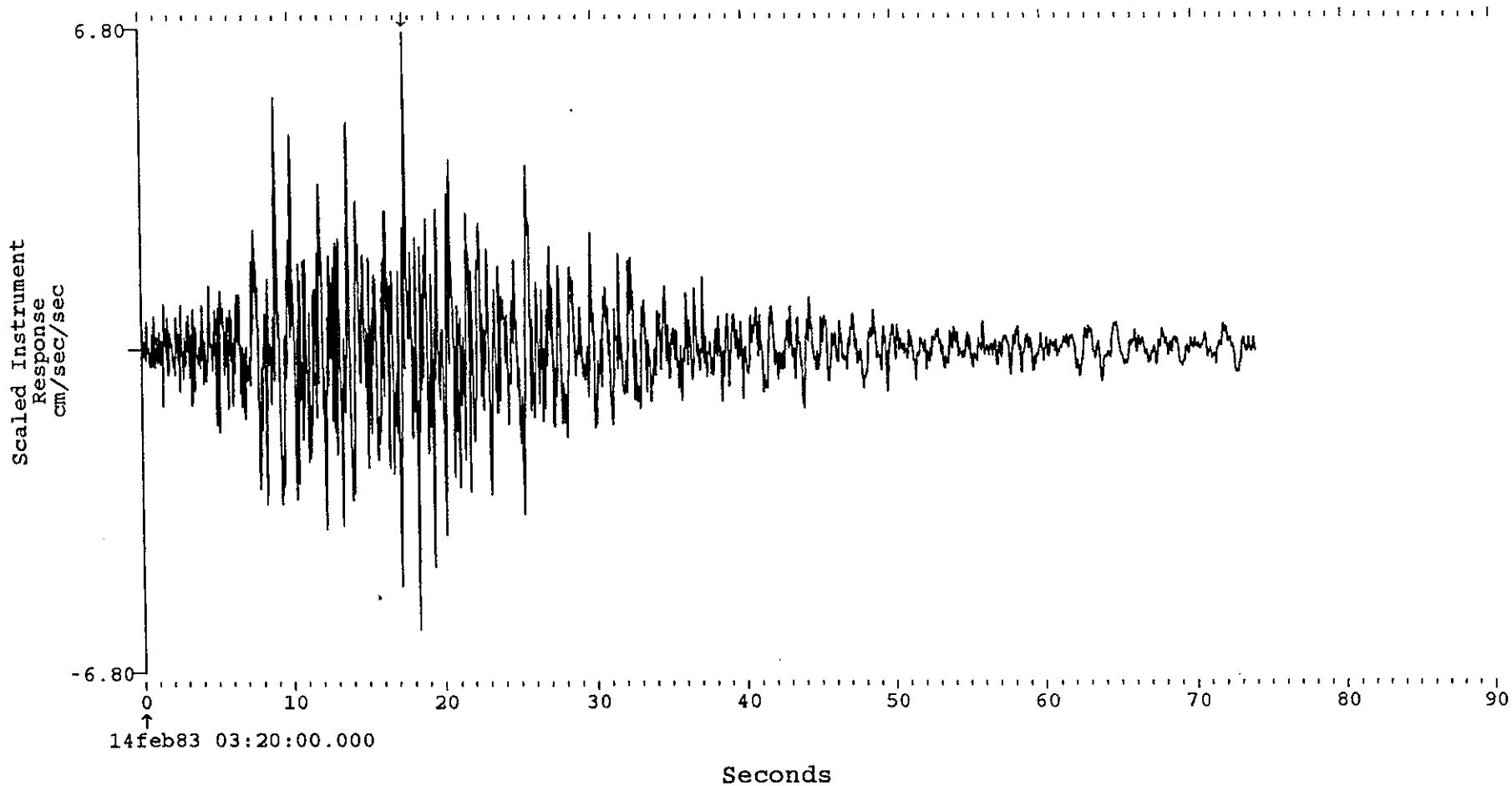
TIME SERIES PLOT
FILE119.SMC

STATION: 2744 SAN SAND POINT, SEISMIC VAULT .
55.340N 160.497W RK VOLCANIC BRECCIA GROUND LEVEL .
FBA-3 16449 CHAN 2 N250E SCALE=+2.485 PER=.0199 DAMP=.65 .
EVENT: 1983 FEB 14 03:20 54.736N 158.882W 25KM M=6.3 V .
EPIC DIST = 123KM AZIMUTH AT STN = 303
Peak values (cm/sec/sec): 7.55



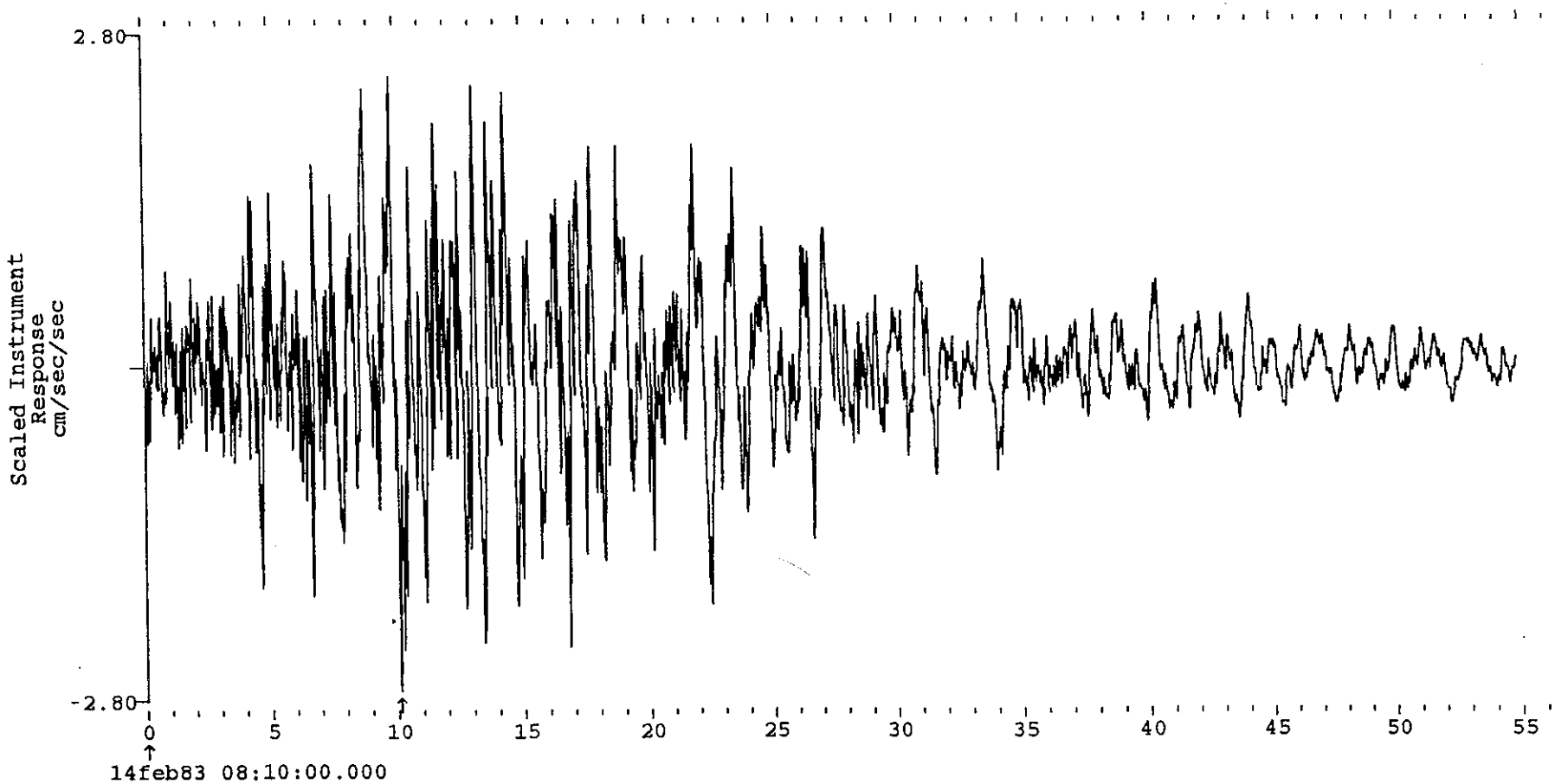
TIME SERIES PLOT
FILE120.SMC

STATION: 2744 SAN SAND POINT, SEISMIC VAULT .
55.340N 160.497W RK VOLCANIC BRECCIA GROUND LEVEL .
FBA-3 16447 CHAN 3 N160E SCALE=+2.481 PER=.0193 DAMP=.63 .
EVENT: 1983 FEB 14 03:20 54.736N 158.882W 25KM M=6.3 V .
EPIC DIST = 123KM AZIMUTH AT STN = 303
Peak values (cm/sec/sec): 6.72



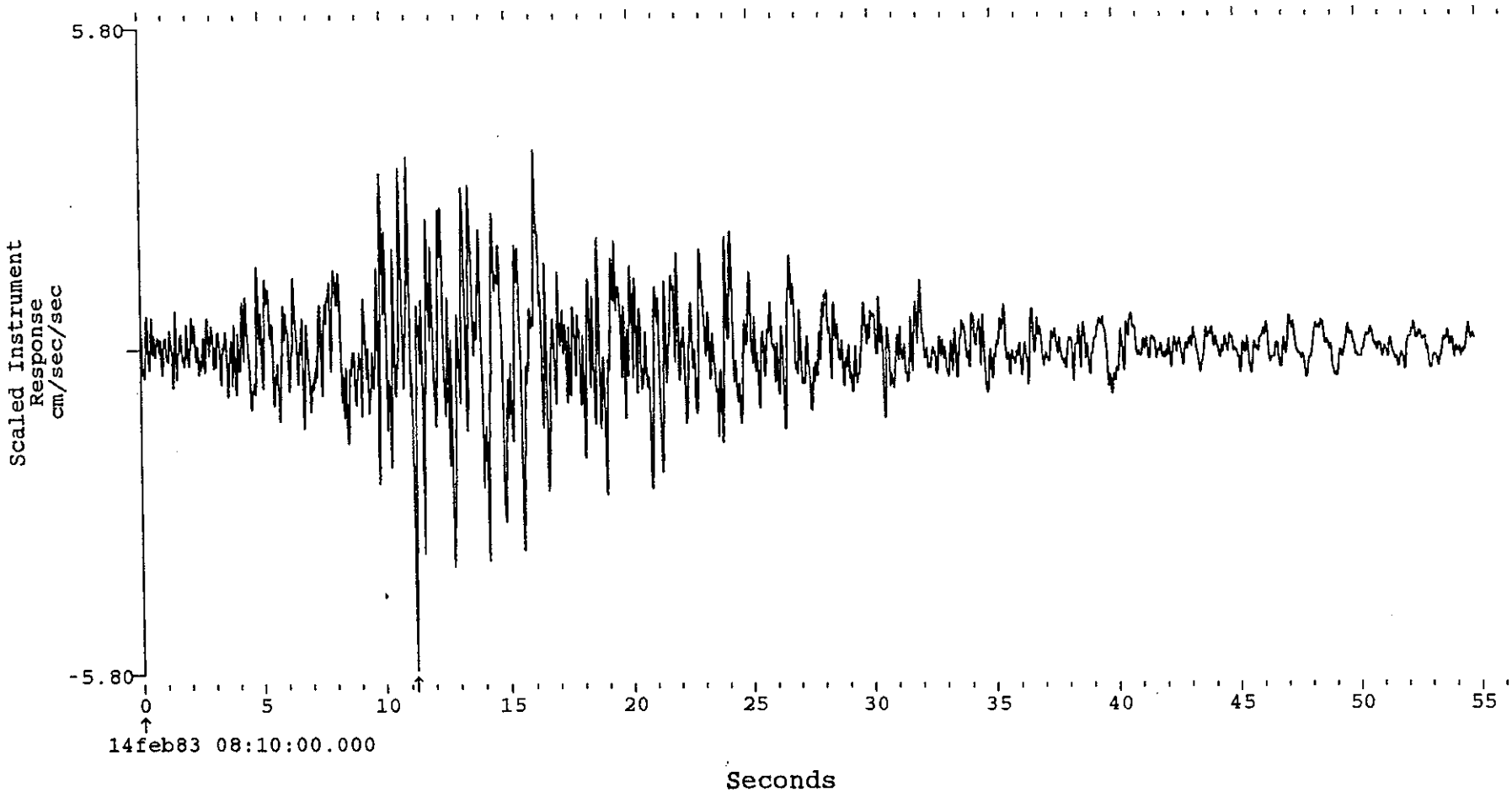
TIME SERIES PLOT
FILE130.SMC

STATION: 2744 SAN SAND POINT, SEISMIC VAULT .
55.340N 160.497W RK VOLCANIC BRECCIA GROUND LEVEL .
FBA-3 16448 CHAN 1 UP SCALE=-2.458 PER=.0199 DAMP=.66 .
EVENT: 1983 FEB 14 08:10 54.854N 158.843W 25KM M=6.0 V .
EPIC DIST = 118KM AZIMUTH AT STN = 297
Peak values (cm/sec/sec): -2.72



TIME SERIES PLOT
FILE131.SMC

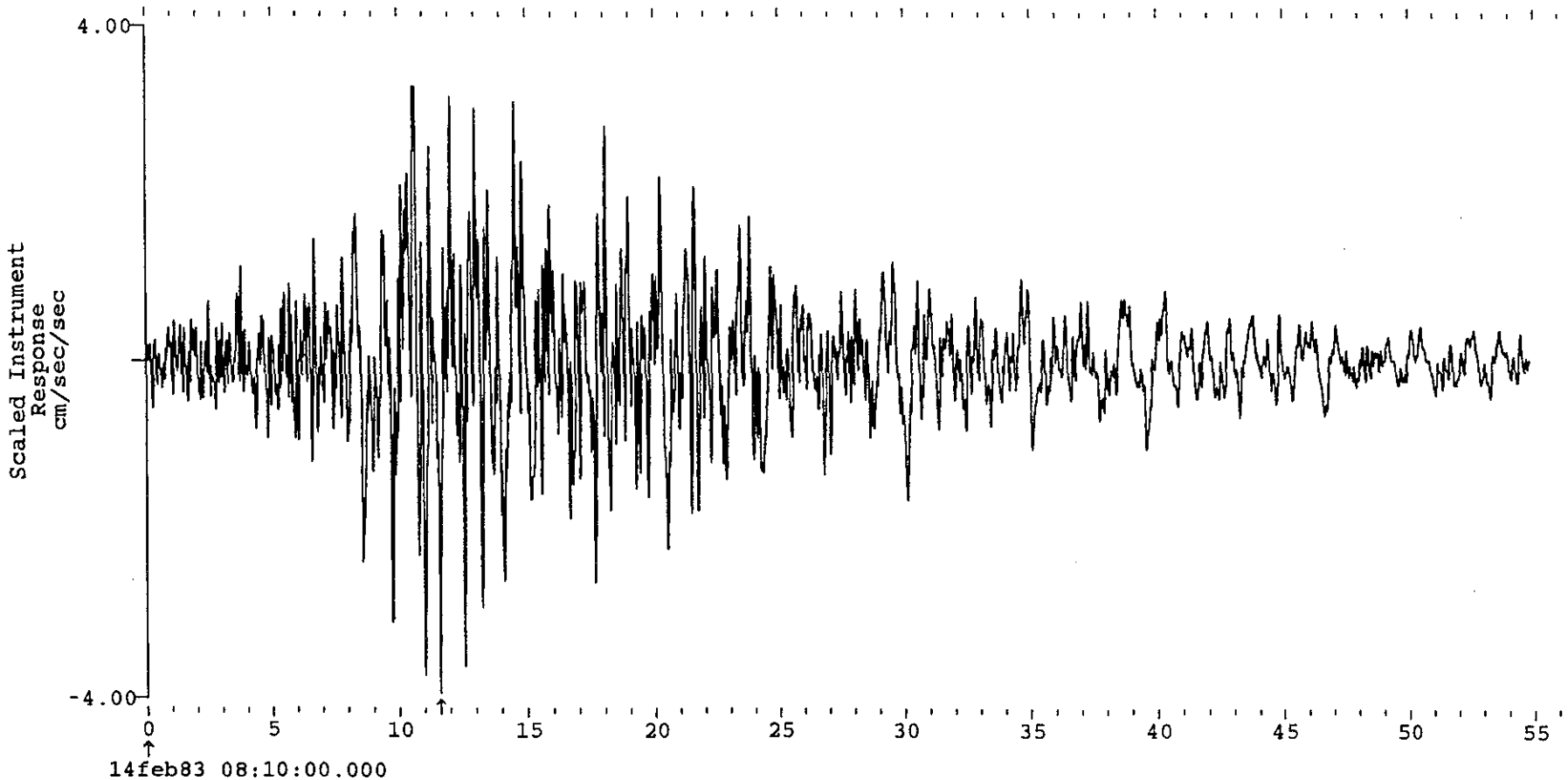
STATION: 2744 SAN SAND POINT, SEISMIC VAULT .
55.340N 160.497W RK VOLCANIC BRECCIA GROUND LEVEL .
FBA-3 16449 CHAN 2 N250E SCALE=+2.485 PER=.0199 DAMP=.65 .
EVENT: 1983 FEB 14 08:10 54.854N 158.843W 25KM M=6.0 V .
EPIC DIST = 118KM AZIMUTH AT STN = 297
Peak values (cm/sec/sec): -5.71



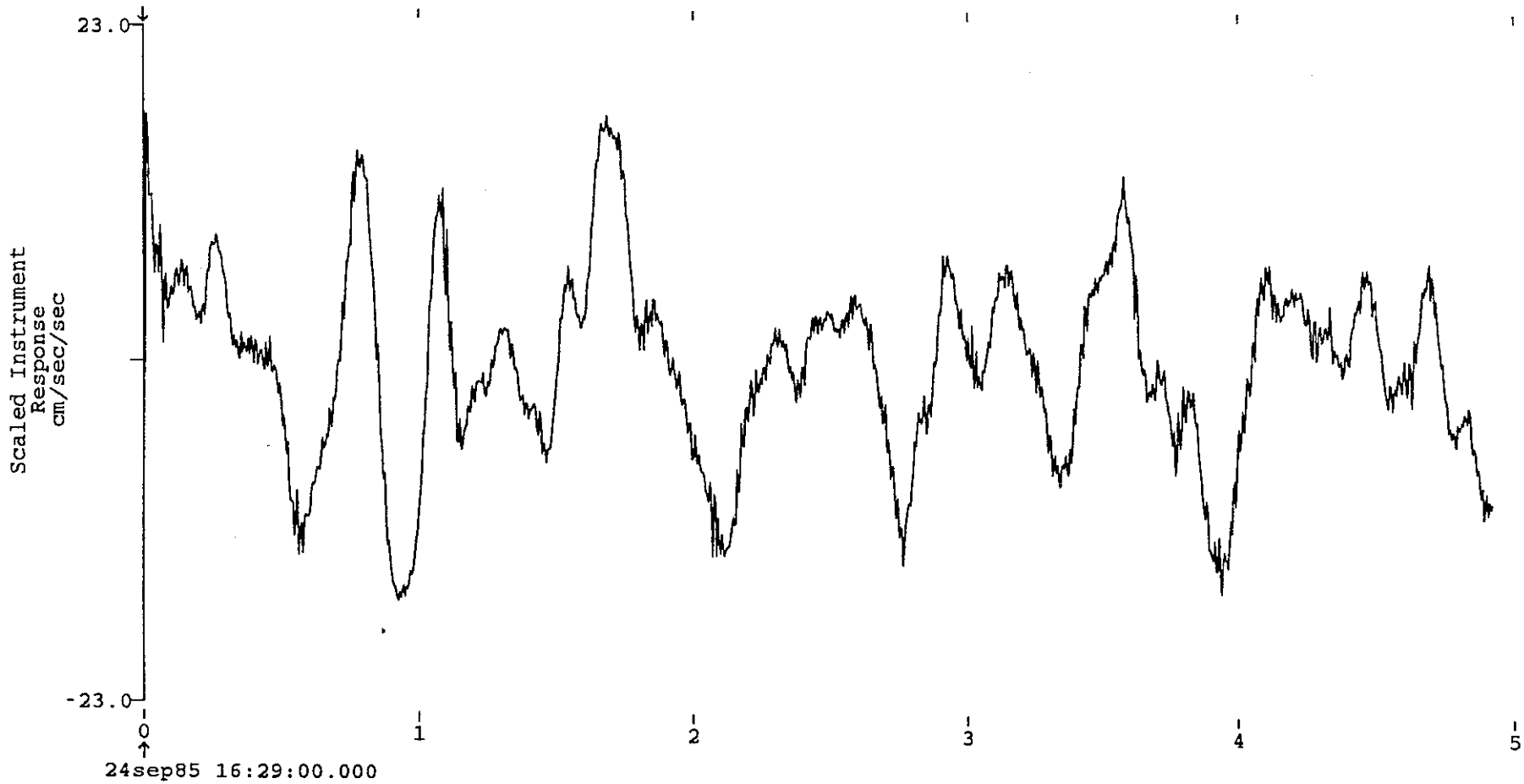
VS S

TIME SERIES PLOT
FILE132.SMC

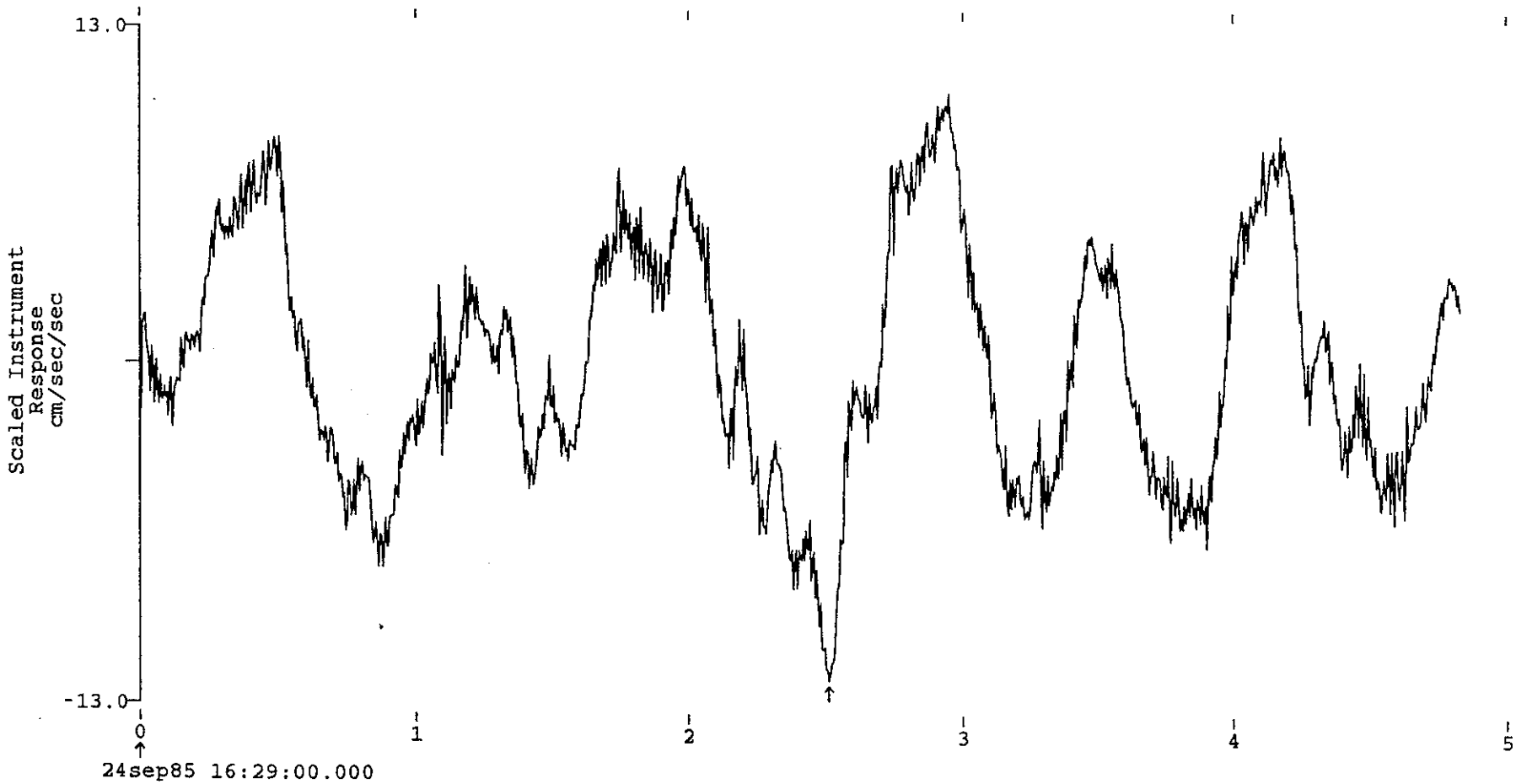
STATION: 2744 SAN SAND POINT, SEISMIC VAULT .
55.340N 160.497W RK VOLCANIC BRECCIA GROUND LEVEL .
FBA-3 16447 CHAN 3 N160E SCALE=+2.481 PER=.0193 DAMP=.63 .
EVENT: 1983 FEB 14 08:10 54.854N 158.843W 25KM M=6.0 V .
EPIC DIST = 118KM AZIMUTH AT STN = 297
Peak values (cm/sec/sec): -3.93



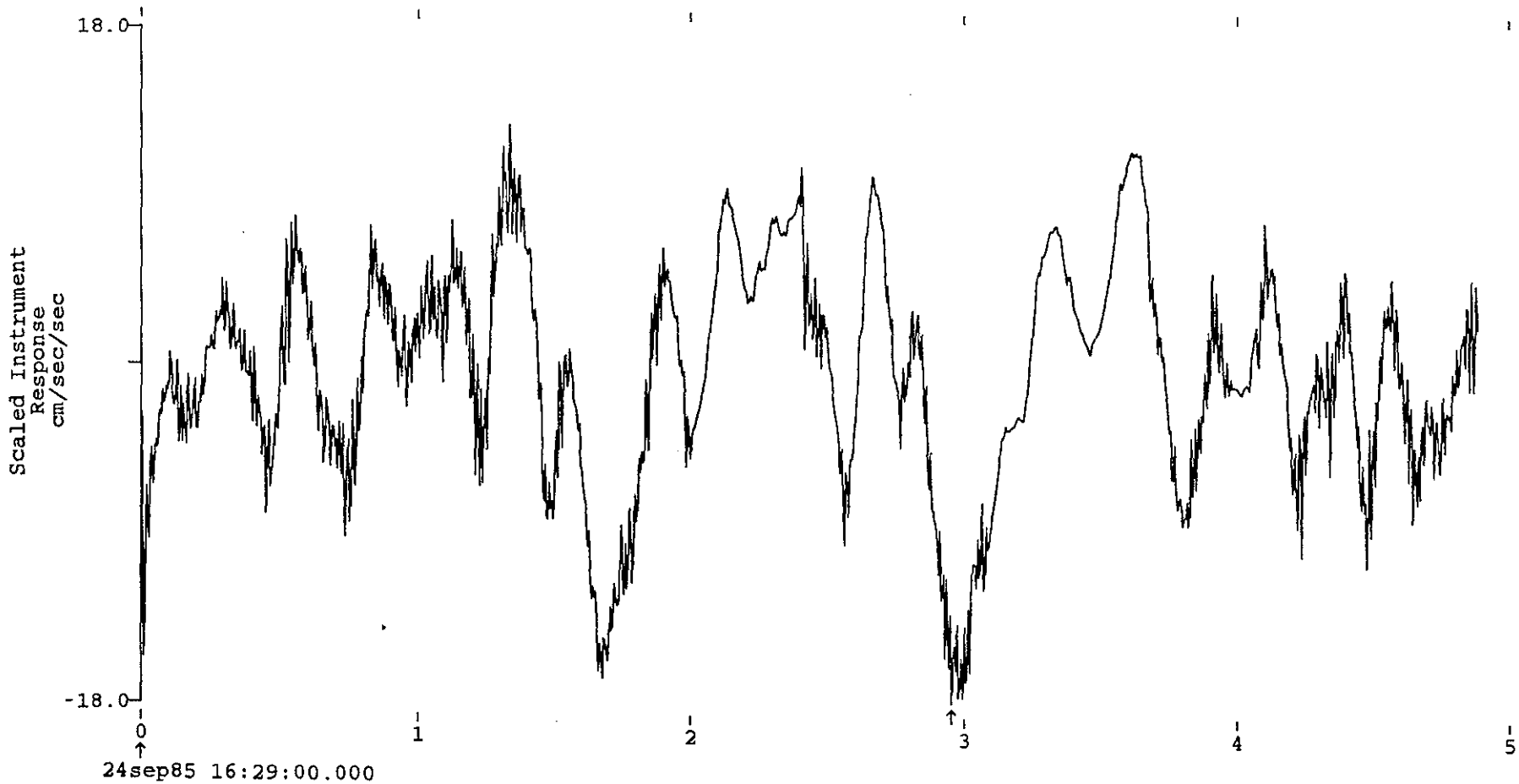
TIME SERIES PLOT
F54.SMC
STATION: 2744 SAN - SAND POINT, SEISMIC VAULT
55.340N -160.497W SEISMOMETER VAULT
SMA-1 CHANNEL ? N340 SCALE=??? PER=0.0397 DAMP=0.5700
EVENT: 1985 9 25 1629 54.709N -159.728W 28.0KM M=4.4
EPIC DIST = 85.9KM AZIMUTH AT STN = N144.7
Peak values (cm/sec/sec): 22.84



TIME SERIES PLOT
F53.SMC
STATION: 2744 SAN - SAND POINT, SEISMIC VAULT
55.340N -160.497W SEISMOMETER VAULT
SMA-1 CHANNEL ? UP SCALE=??? PER=0.0357 DAMP=0.5300
EVENT: 1985 9 25 1629 54.709N -159.728W 28.0KM M=4.4
EPIC DIST = 85.9KM AZIMUTH AT STN = N144.7
Peak values (cm/sec/sec): -12.00



TIME SERIES PLOT
F52.SMC
STATION: 2744 SAN - SAND POINT, SEISMIC VAULT
55.340N -160.497W SEISMOMETER VAULT
SMA-1 CHANNEL ? N70 SCALE=??? PER=0.0370 DAMP=0.5500
EVENT: 1985 9 25 1629 54.709N -159.728W 28.0KM M=4.4
EPIC DIST = 85.9KM AZIMUTH AT STN = N144.7
Peak values (cm/sec/sec): -17.69

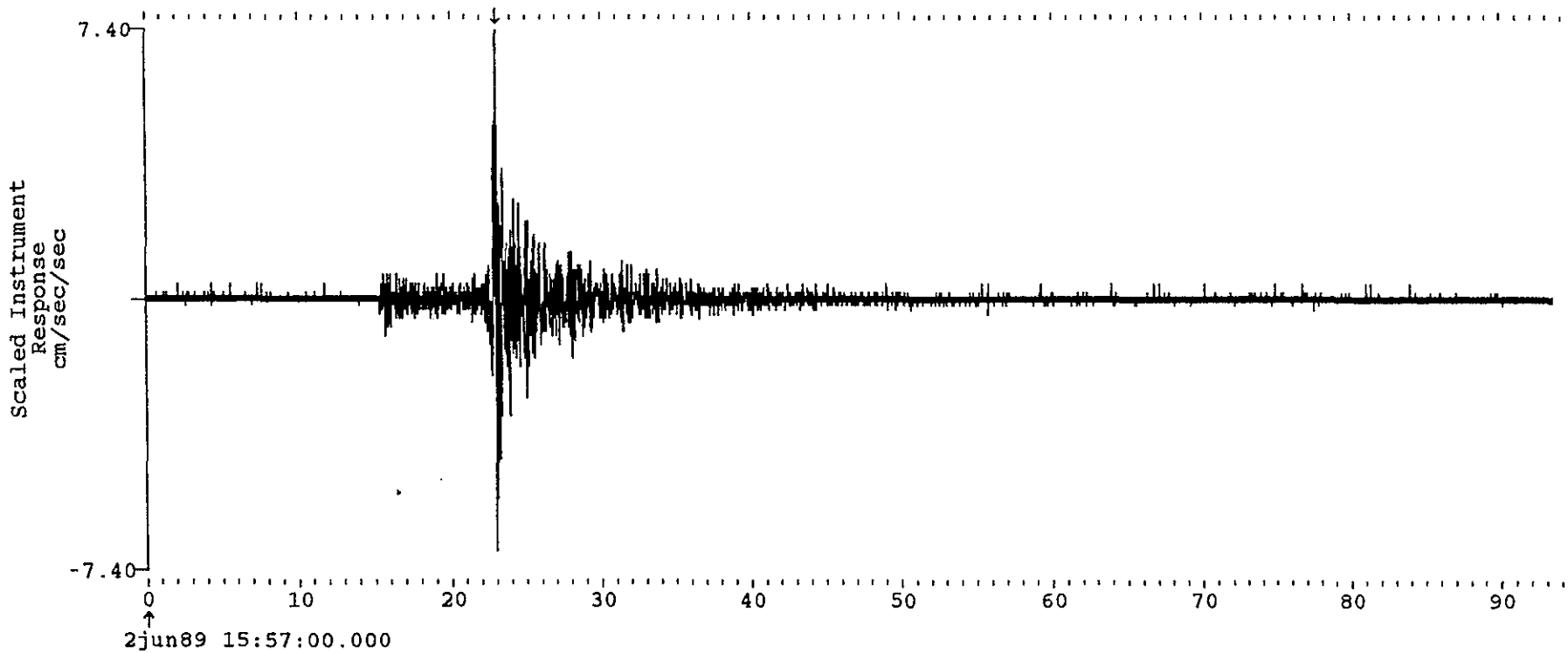


TIME SERIES PLOT

FILE142.SMC

EVENT DATE: year=1989 month= 6 day= 2 hour|minute (24hr)=1557 second=22.700 time code=UTC
EVENT LOCATION: latitude= 55.14500 longitude= -160.59200 depth (km)= 58.0
SITE LOCATION: latitude= 55.34000 longitude= -160.49716 elevation (m)= 23.0
SITE ID: SANSM_NCEER - SAND POINT, ALASKA;demeaned;
EPICENTRAL DISTANCE: distance (km)= 22.6 azimuth (deg)=N195.6
COMPONENT OF MOTION: azimuth=N0 (HORIZONTAL)

Peak values (cm/sec/sec): 7.37

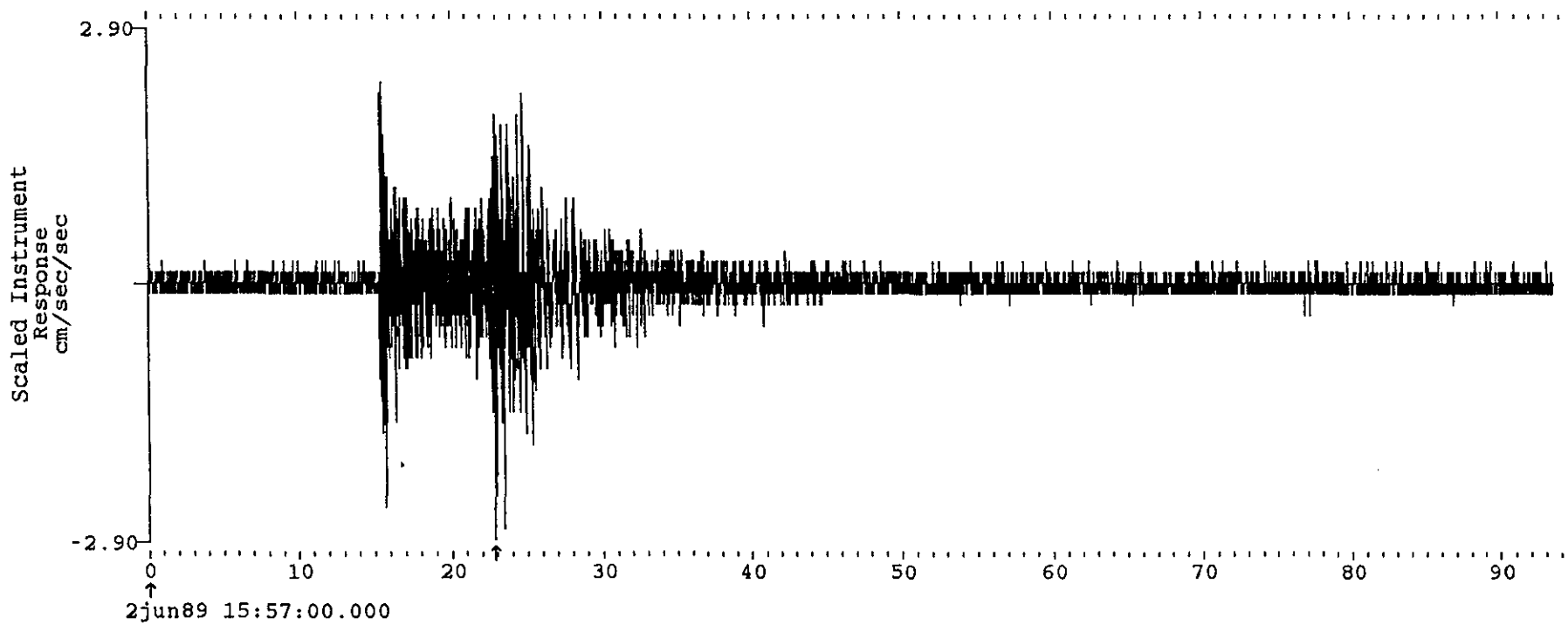


TIME SERIES PLOT

FILE143.SMC

PARAMETERS:
EVENT DATE: year=1989 month= 6 day= 2 hour|minute (24hr)=1557 second=22.700 time code=UTC
EVENT LOCATION: latitude= 55.14500 longitude= -160.59200 depth (km)= 58.0
SITE LOCATION: latitude= 55.34000 longitude= -160.49716 elevation (m)= 23.0
SITE ID: SANSM_NCEER - SAND POINT, ALASKA;demeaned;
EPICENTRAL DISTANCE: distance (km)= 22.6 azimuth (deg)=N195.6
COMPONENT OF MOTION: azimuth=UP

Peak values (cm/sec/sec): -2.86

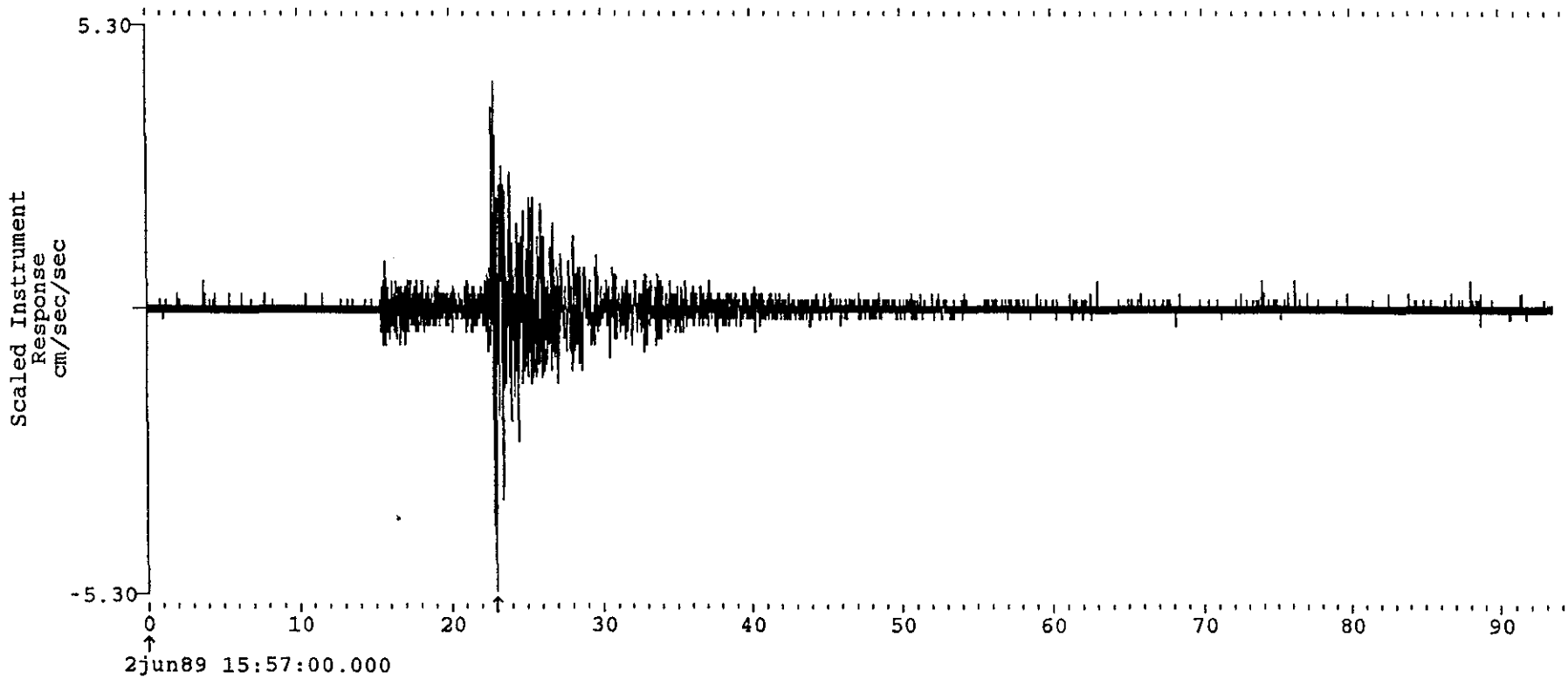


TIME SERIES PLOT

FILE144.SMC

EVENT DATE: year=1989 month= 6 day= 2 hour|minute (24hr)=1557 second=22.700 time code=UTC
EVENT LOCATION: latitude= 55.14500 longitude= -160.59200 depth (km)= 58.0
SITE LOCATION: latitude= 55.34000 longitude= -160.49716 elevation (m)= 23.0
SITE ID: SANSM_NCEER - SAND POINT, ALASKA;demeaned;
EPICENTRAL DISTANCE: distance (km)= 22.6 azimuth (deg)=N195.6
COMPONENT OF MOTION: azimuth=N90 (HORIZONTAL)

Peak values (cm/sec/sec): -5.22

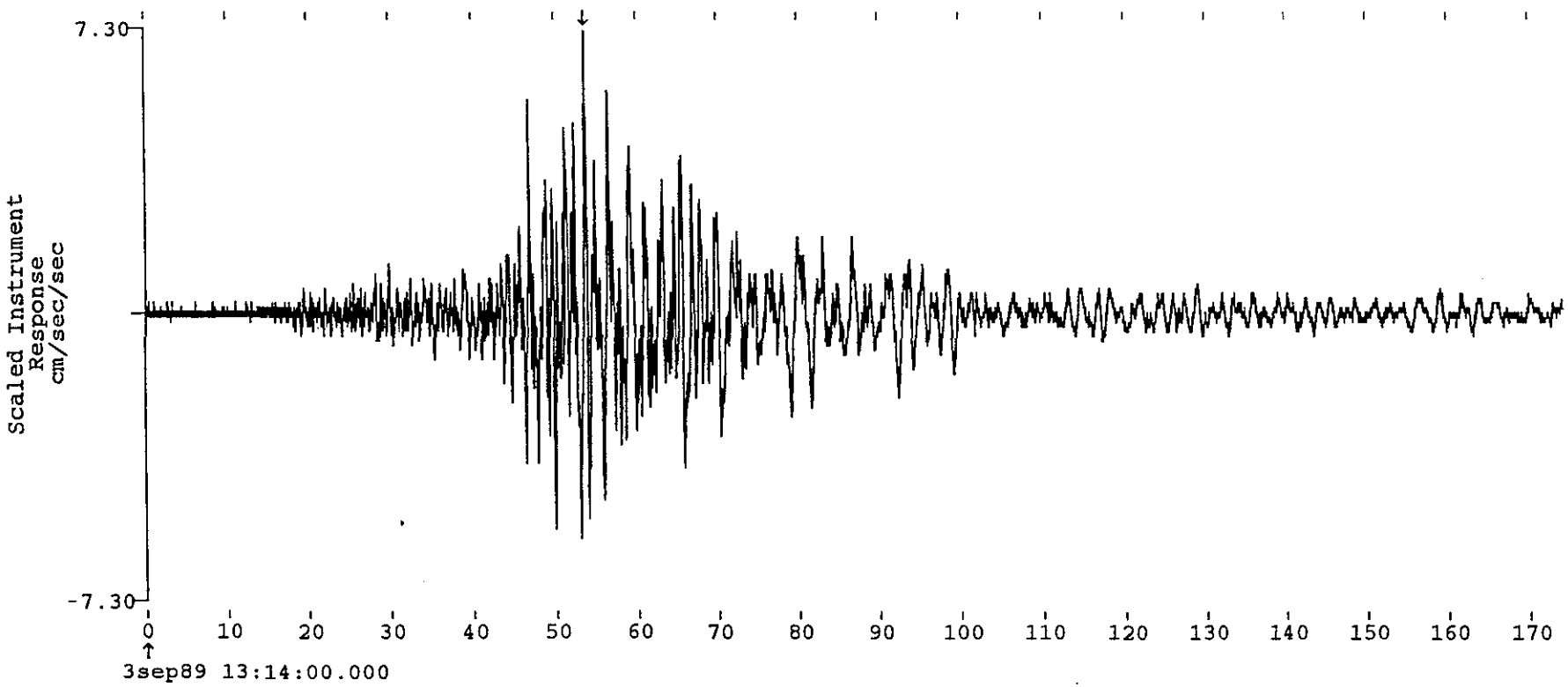


TIME SERIES PLOT

FILE145.SMC

EVENT DATE: year=1989 month= 9 day= 4 hour|minute (24hr)=1314 second=58.200 time code=UTC
EVENT LOCATION: latitude= 55.54300 longitude= -156.83501 depth (km)= 11.0
SITE LOCATION: latitude= 55.34000 longitude= -160.49716 elevation (m)= 23.0
SITE ID: SANSM_NCEER - SAND POINT, ALASKA;demeaned;
EPICENTRAL DISTANCE: distance (km)= 233.1 azimuth (deg)=N 82.9
COMPONENT OF MOTION: azimuth=N0 (HORIZONTAL)

Peak values (cm/sec/sec): 7.22

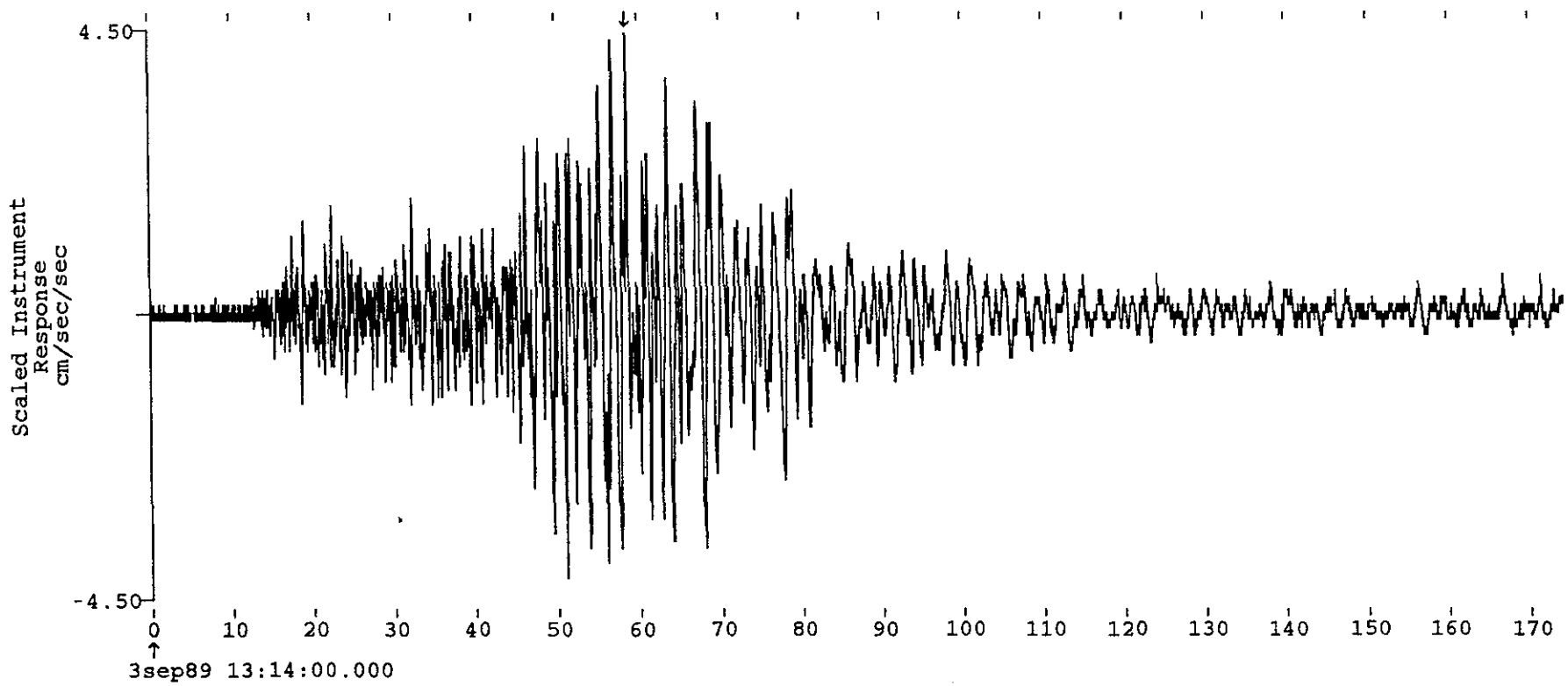


TIME SERIES PLOT

FILE146.SMC

EVENT DATE: year=1989 month= 9 day= 4 hour|minute (24hr)=1314 second=58.200 time code=UTC
EVENT LOCATION: latitude= 55.54300 longitude= -156.83501 depth (km)= 11.0
SITE LOCATION: latitude= 55.34000 longitude= -160.49716 elevation (m)= 23.0
SITE ID: SANSM_NCEER - SAND POINT, ALASKA;demeaned;
EPICENTRAL DISTANCE: distance (km)= 233.1 azimuth (deg)=N 82.9
COMPONENT OF MOTION: azimuth=UP

Peak values (cm/sec/sec): 4.45

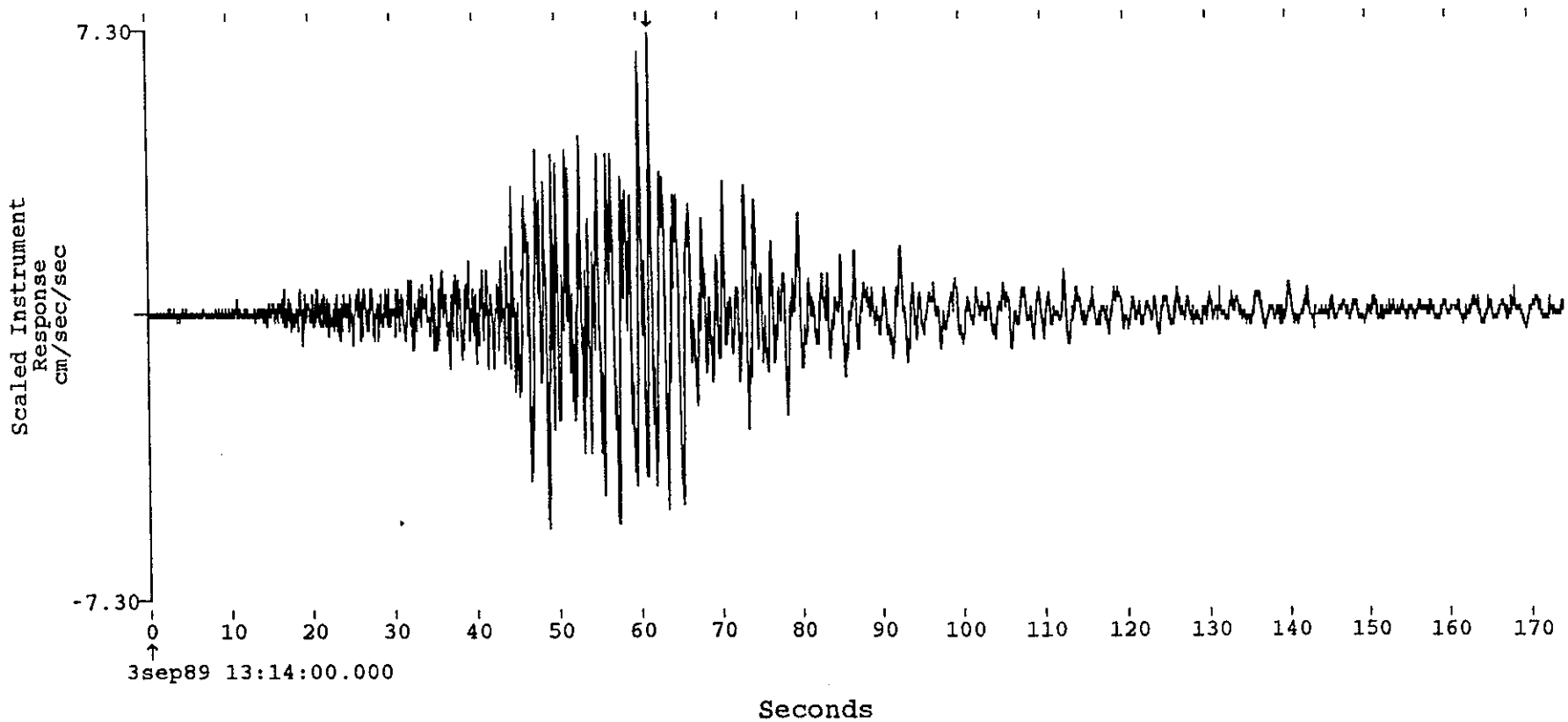


TIME SERIES PLOT

FILE147.SMC

EVENT DATE: year=1989 month= 9 day= 4 hour|minute (24hr)=1314 second=58.200 time code=UTC
EVENT LOCATION: latitude= 55.54300 longitude= -156.83501 depth (km)= 11.0
SITE LOCATION: latitude= 55.34000 longitude= -160.49716 elevation (m)= 23.0
SITE ID: SANSM_NCEER - SAND POINT, ALASKA;demeaned;
EPICENTRAL DISTANCE: distance (km)= 233.1 azimuth (deg)=N 82.9
COMPONENT OF MOTION: azimuth=N90 (HORIZONTAL)

Peak values (cm/sec/sec): 7.20

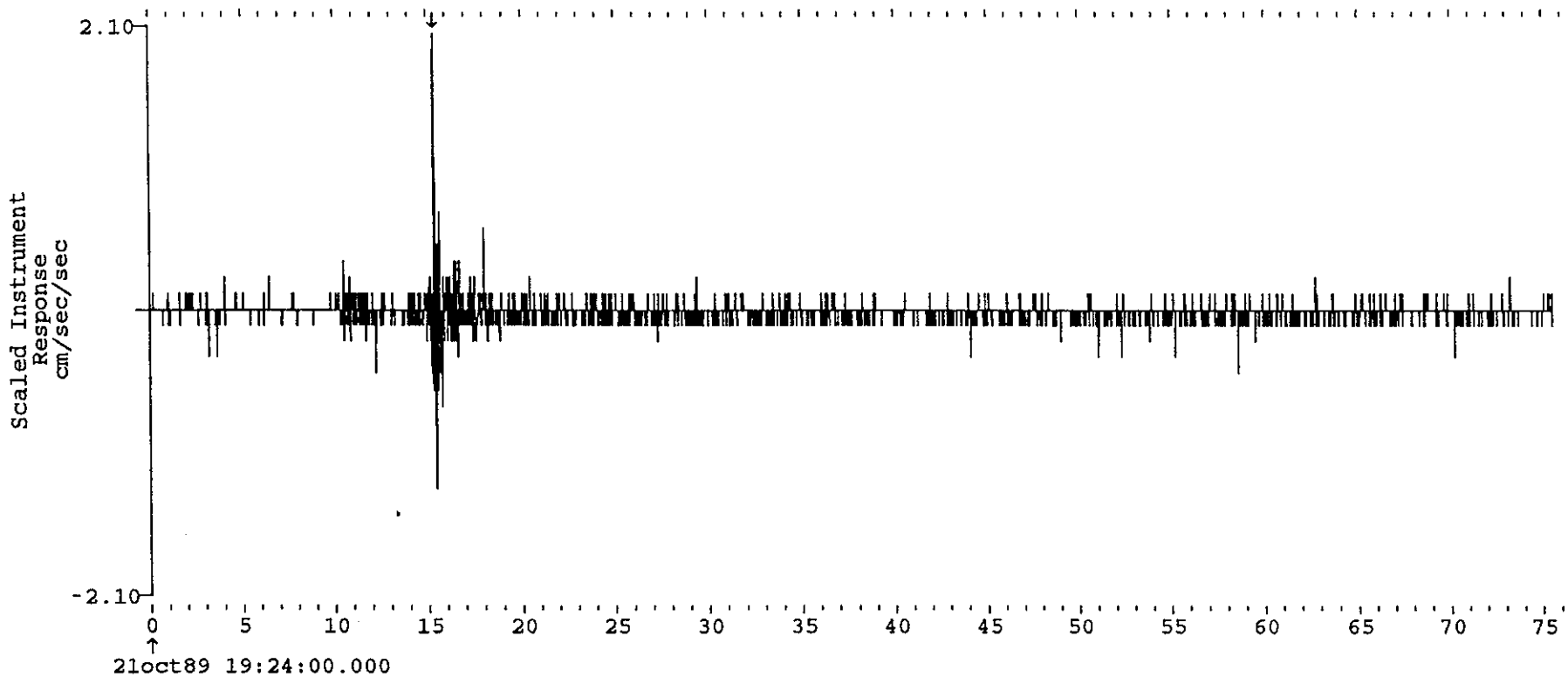


TIME SERIES PLOT

FILE148.SMC

EVENT DATE: year=1989 month=10 day=21 hour|minute (24hr)=1924 second=15.290 time code=UTC
EVENT LOCATION: latitude= 55.10700 longitude= -160.10699 depth (km)= 10.4
SITE LOCATION: latitude= 55.34000 longitude= -160.49716 elevation (m)= 23.0
SITE ID: SANSM_NCEER - SAND POINT, ALASKA;demeaned;
EPICENTRAL DISTANCE: distance (km)= 35.9 azimuth (deg)=N136.1
COMPONENT OF MOTION: azimuth=N0 (HORIZONTAL)

Peak values (cm/sec/sec): 2.04

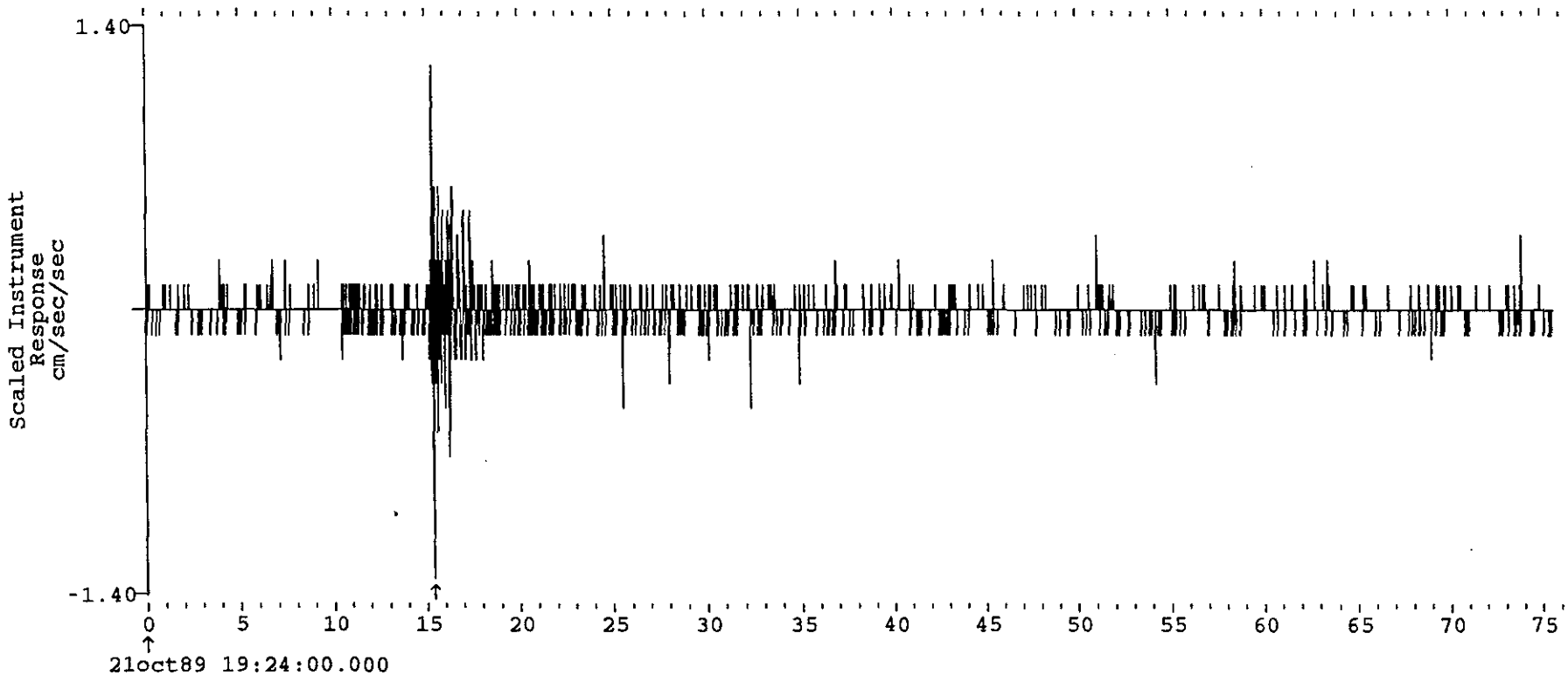


TIME SERIES PLOT

FILE150.SMC

EVENT DATE: year=1989 month=10 day=21 hour|minute (24hr)=1924 second=15.290 time code=UTC
EVENT LOCATION: latitude= 55.10700 longitude= -160.10699 depth (km)= 10.4
SITE LOCATION: latitude= 55.34000 longitude= -160.49716 elevation (m)= 23.0
SITE ID: SANSM_NCEER - SAND POINT, ALASKA;demeaned;
EPICENTRAL DISTANCE: distance (km)= 35.9 azimuth (deg)=N136.1
COMPONENT OF MOTION: azimuth=N90 (HORIZONTAL)

Peak values (cm/sec/sec): -1.32

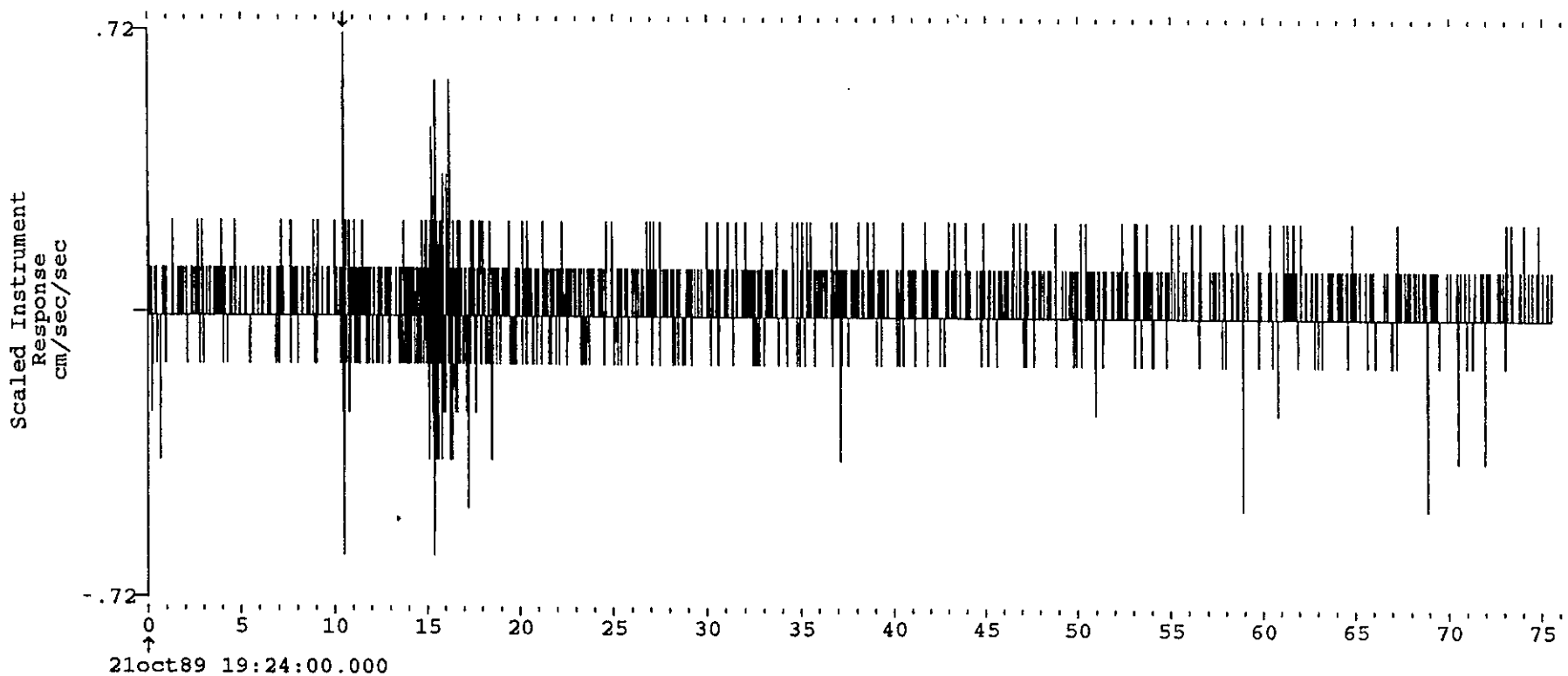


TIME SERIES PLOT

FILE149.SMC

EVENT DATE: year=1989 month=10 day=21 hour|minute (24hr)=1924 second=15.290 time code=UTC
EVENT LOCATION: latitude= 55.10700 longitude= -160.10699 depth (km)= 10.4
SITE LOCATION: latitude= 55.34000 longitude= -160.49716 elevation (m)= 23.0
SITE ID: SANSM NCEER - SAND POINT, ALASKA;demeaned;
EPICENTRAL DISTANCE: distance (km)= 35.9 azimuth (deg)=N136.1
COMPONENT OF MOTION: azimuth=UP

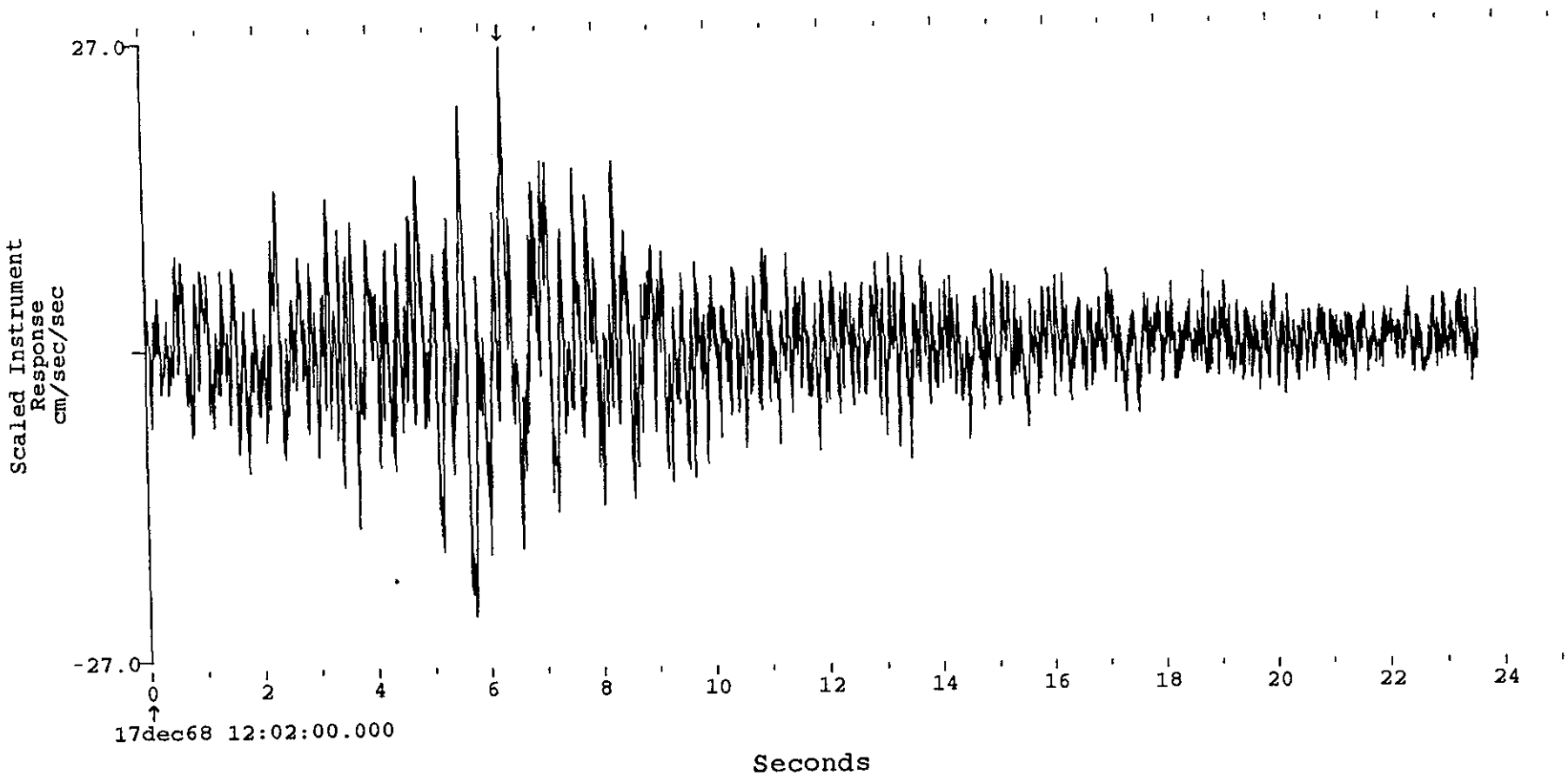
Peak values (cm/sec/sec): .71



TIME SERIES PLOT

FILE056.SMC

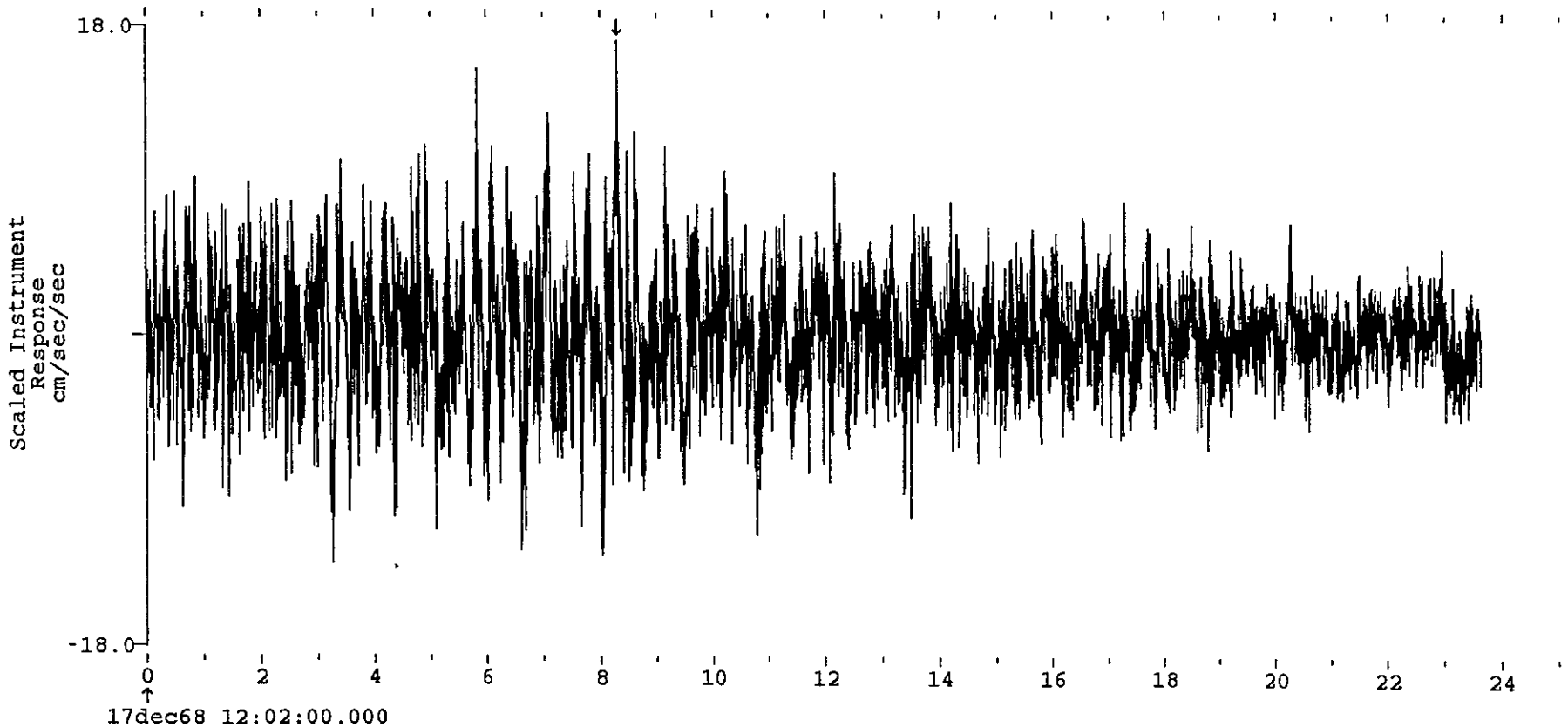
STATION: 2719 SSG* SELDOVIA, SCHOOL GYM. .
59.440N 151.710W RK METAMORPHIC GROUND LEV 1 STORY BLDG.
AR-240 CHANNEL 1 N090E SCALE=1.865(*) PER=.0523 DAMP=.58 .
EVENT: 1968 DEC 17 12:02 60.150N 152.820W 82KM M=6.3 V .
EPIC DIST = 101KM AZIMUTH AT STN = 142
Peak values (cm/sec/sec): 26.43



TIME SERIES PLOT

FILE057.SMC

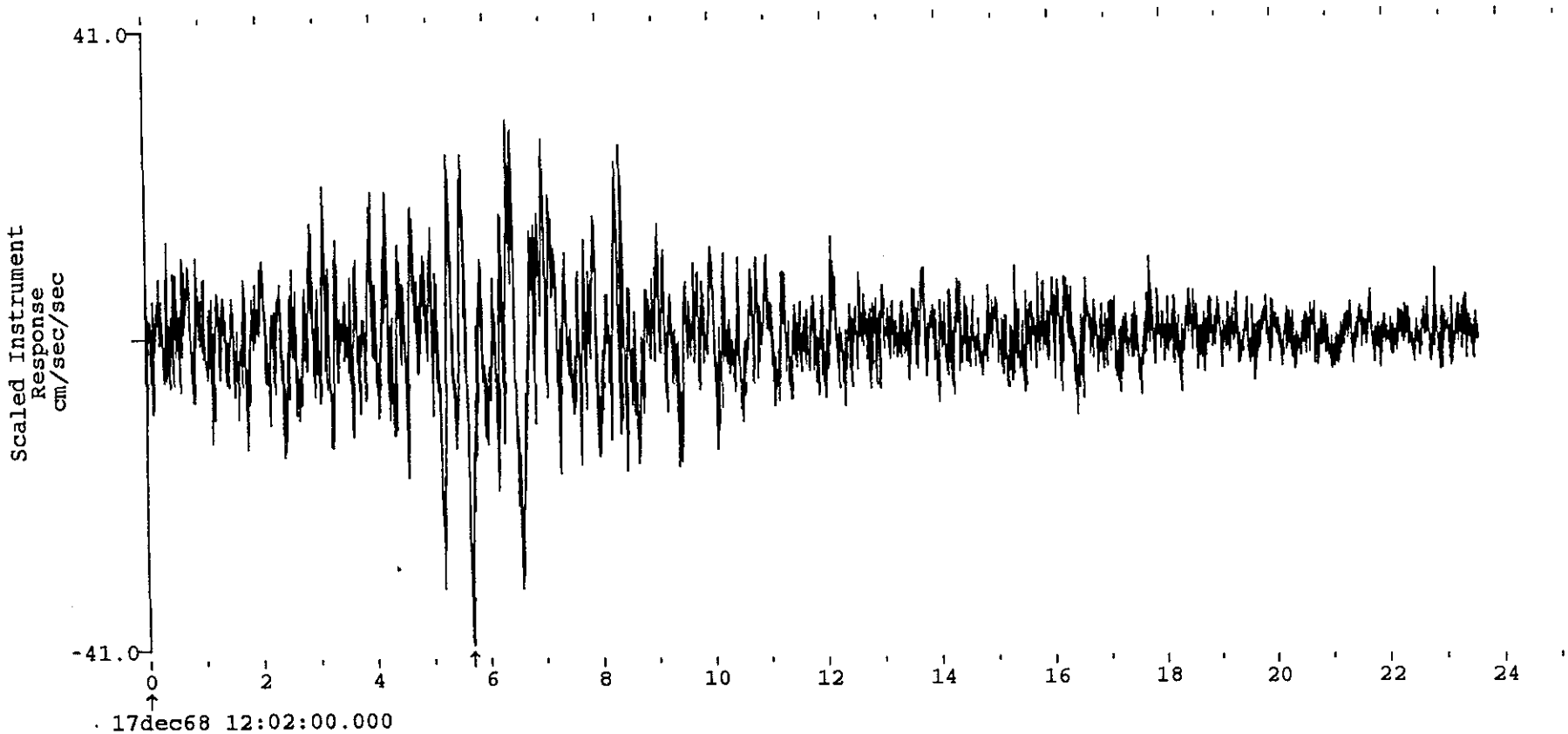
STATION: 2719 SSG* SELDOVIA, SCHOOL GYM. .
59.440N 151.710W RK METAMORPHIC GROUND LEV 1 STORY BLDG.
AR-240 CHANNEL 2 UP SCALE=1.865(*) PER=.0631 DAMP=.55 .
EVENT: 1968 DEC 17 12:02 60.150N 152.820W 82KM M=6.3 V .
EPIC DIST = 101KM AZIMUTH AT STN = 142
Peak values (cm/sec/sec): 17.19



TIME SERIES PLOT

FILE058.SMC

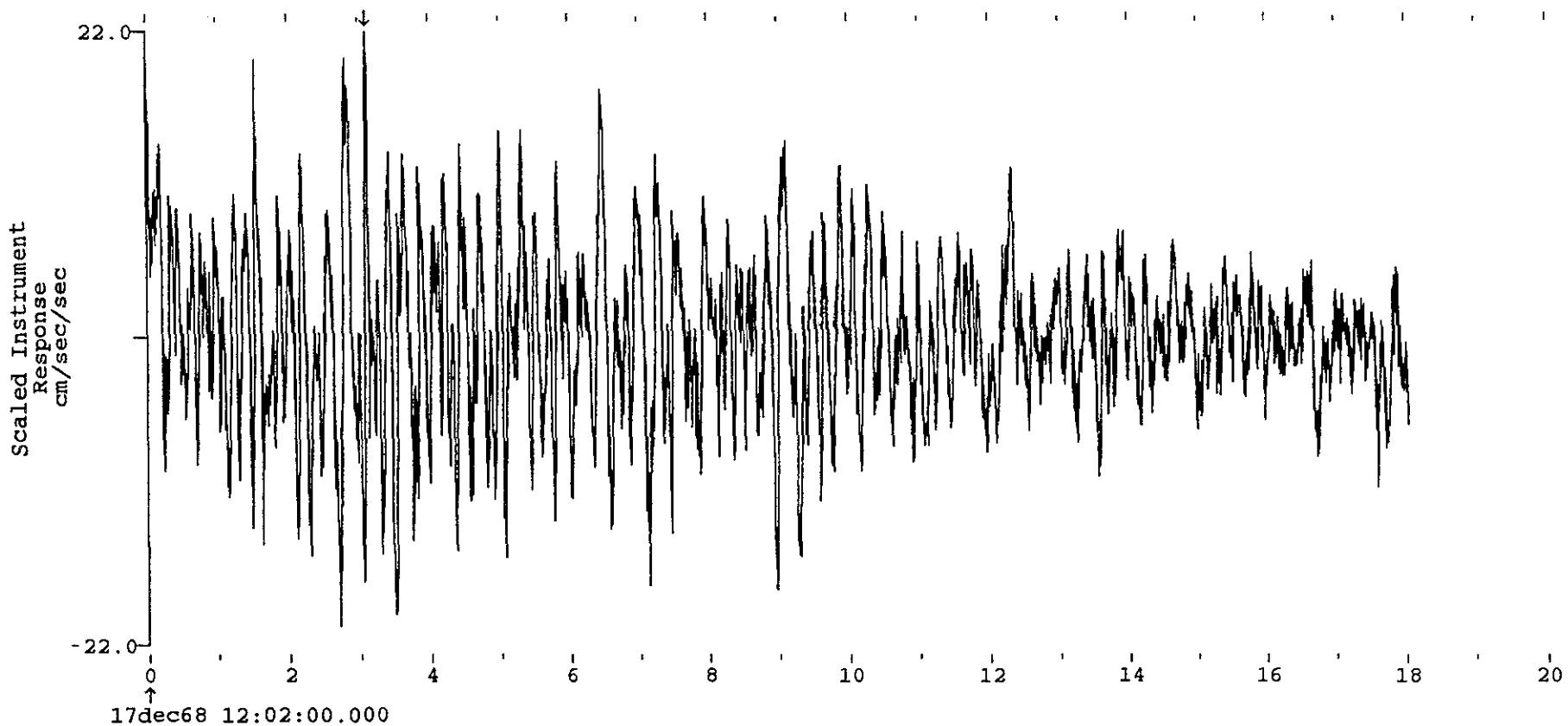
STATION: 2719 SSG* SELDOVIA, SCHOOL GYM. .
59.440N 151.710W RK METAMORPHIC GROUND LEV 1 STORY BLDG.
AR-240 CHANNEL 3 N000E SCALE=1.868(*) PER=.0626 DAMP=.57 .
EVENT: 1968 DEC 17 12:02 60.150N 152.820W 82KM M=6.3 V .
EPIC DIST = 101KM AZIMUTH AT STN = 142
Peak values (cm/sec/sec): -40.52



TIME SERIES PLOT

FILE053.SMC

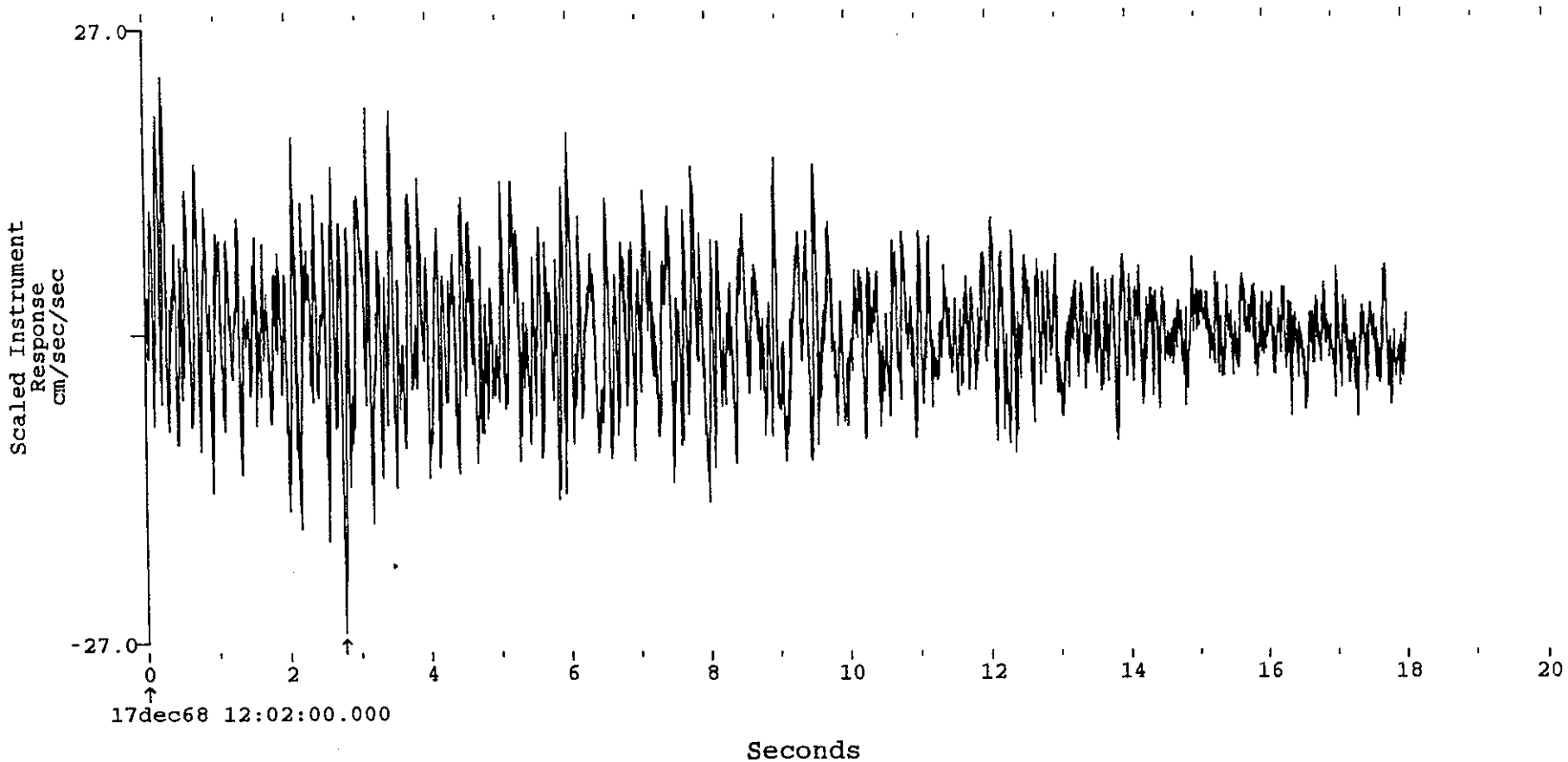
STATION: 2713 SWH* SEWARD, WESLEYAN HOSPITAL .
60.110N 149.440W RK METAMORPHIC BASEMENT 1 STORY BLDG .
AR-240 CHANNEL 1 N090E SCALE=1.888(*) PER=.0565 DAMP=.56 .
EVENT: 1968 DEC 17 12:02 60.150N 152.820W 82KM M=6.3 V .
EPIC DIST = 188KM AZIMUTH AT STN = 93
Peak values (cm/sec/sec): 21.97



TIME SERIES PLOT

FILE054.SMC

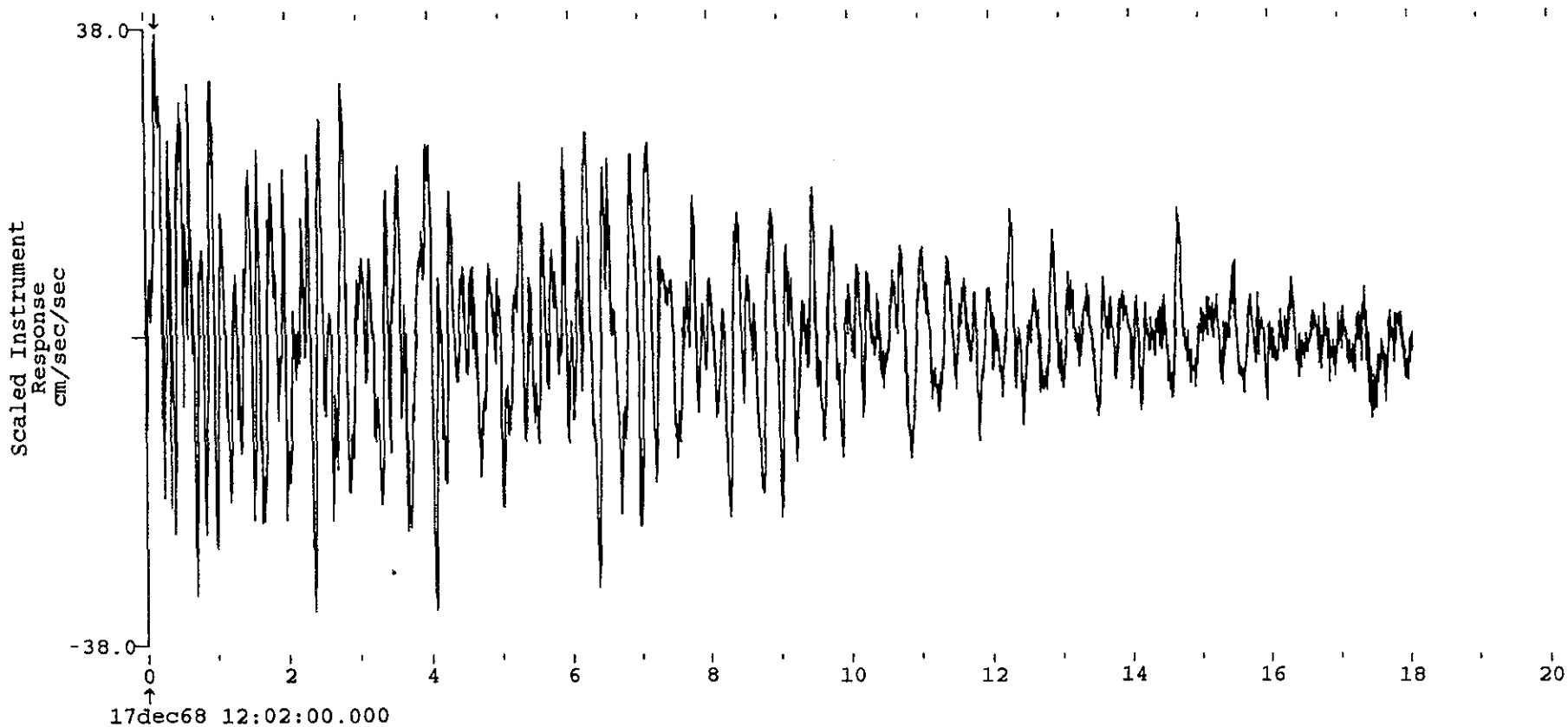
STATION: 2713 SWH* SEWARD, WESLEYAN HOSPITAL .
60.110N 149.440W RK METAMORPHIC BASEMENT 1 STORY BLDG .
AR-240 CHANNEL 2 UP SCALE=1.883(*) PER=.0585 DAMP=.59 .
EVENT: 1968 DEC 17 12:02 60.150N 152.820W 82KM M=6.3 V .
EPIC DIST = 188KM AZIMUTH AT STN = 93
Peak values (cm/sec/sec): -26.03



TIME SERIES PLOT

FILE055.SMC

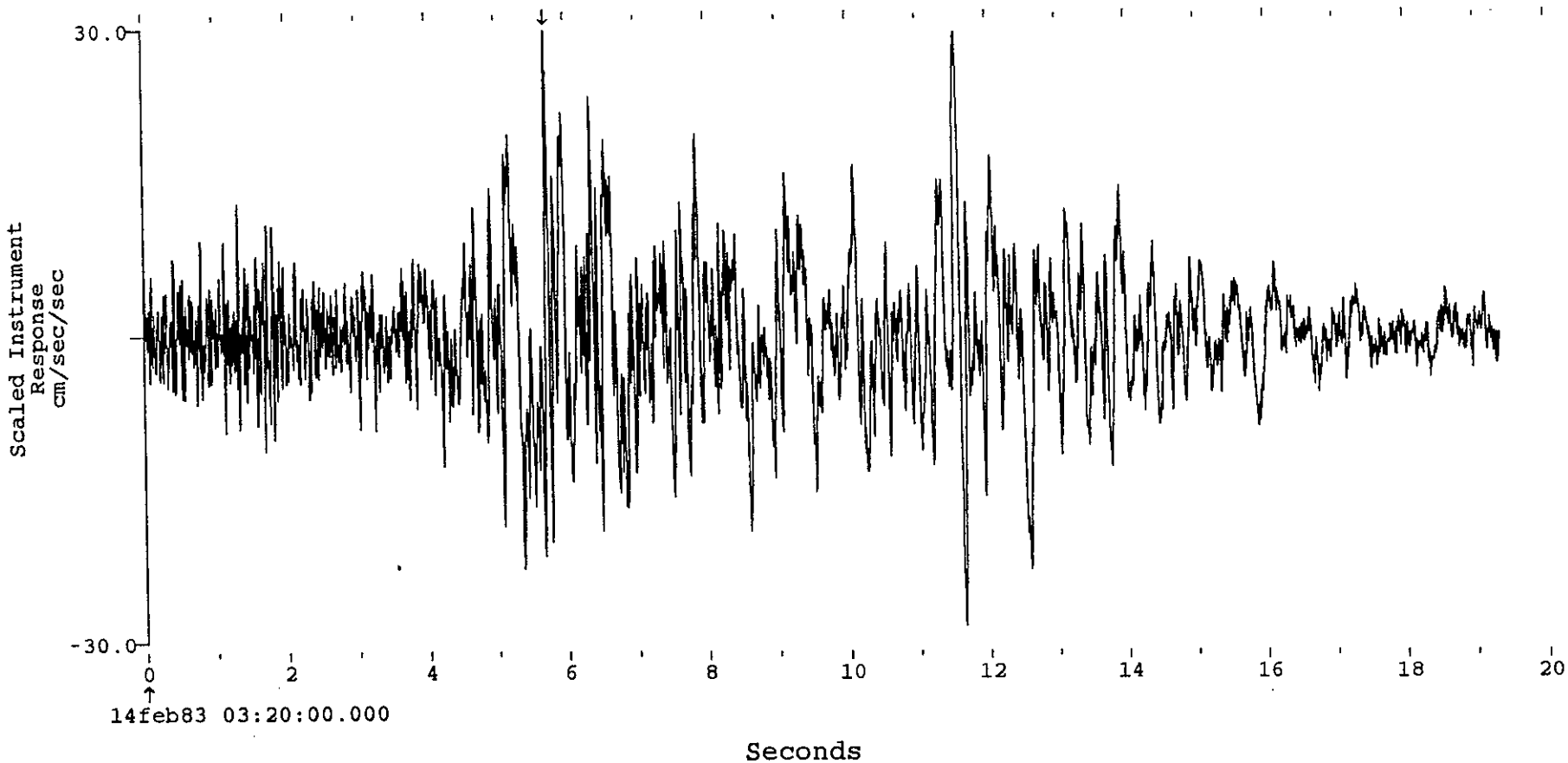
STATION: 2713 SWH* SEWARD, WESLEYAN HOSPITAL .
60.110N 149.440W RK METAMORPHIC BASEMENT 1 STORY BLDG .
AR-240 CHANNEL 3 N000E SCALE=1.888(*) PER=.0585 DAMP=.50 .
EVENT: 1968 DEC 17 12:02 60.150N 152.820W 82KM M=6.3 V .
EPIC DIST = 188KM AZIMUTH AT STN = 93
Peak values (cm/sec/sec): 37.28



TIME SERIES PLOT

FILE121.SMC

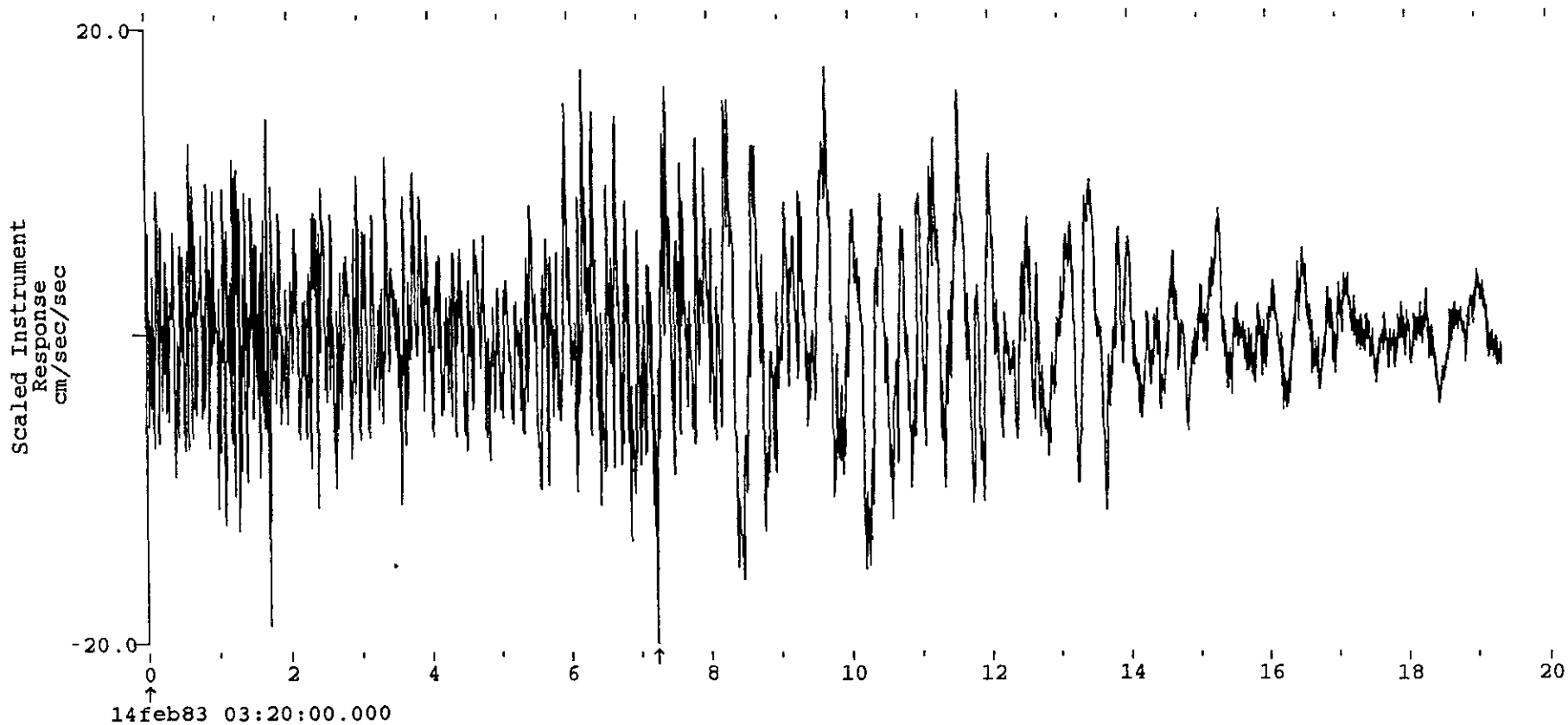
STATION: 2764 SIM SIMEONOF ISLAND .
54.920N 159.258W CONCRETE PLINTH IN SOIL OVER GRANITE .
SMA-1 960 CHANNEL 1 N070E SCALE=1.980 PER=.0400 DAMP=.60 .
EVENT: 1983 FEB 14 03:20 54.736N 158.882W 25KM M=6.3 V .
EPIC DIST = 32KM AZIMUTH AT STN = 310
Peak values (cm/sec/sec): 29.87



TIME SERIES PLOT

FILE122.SMC

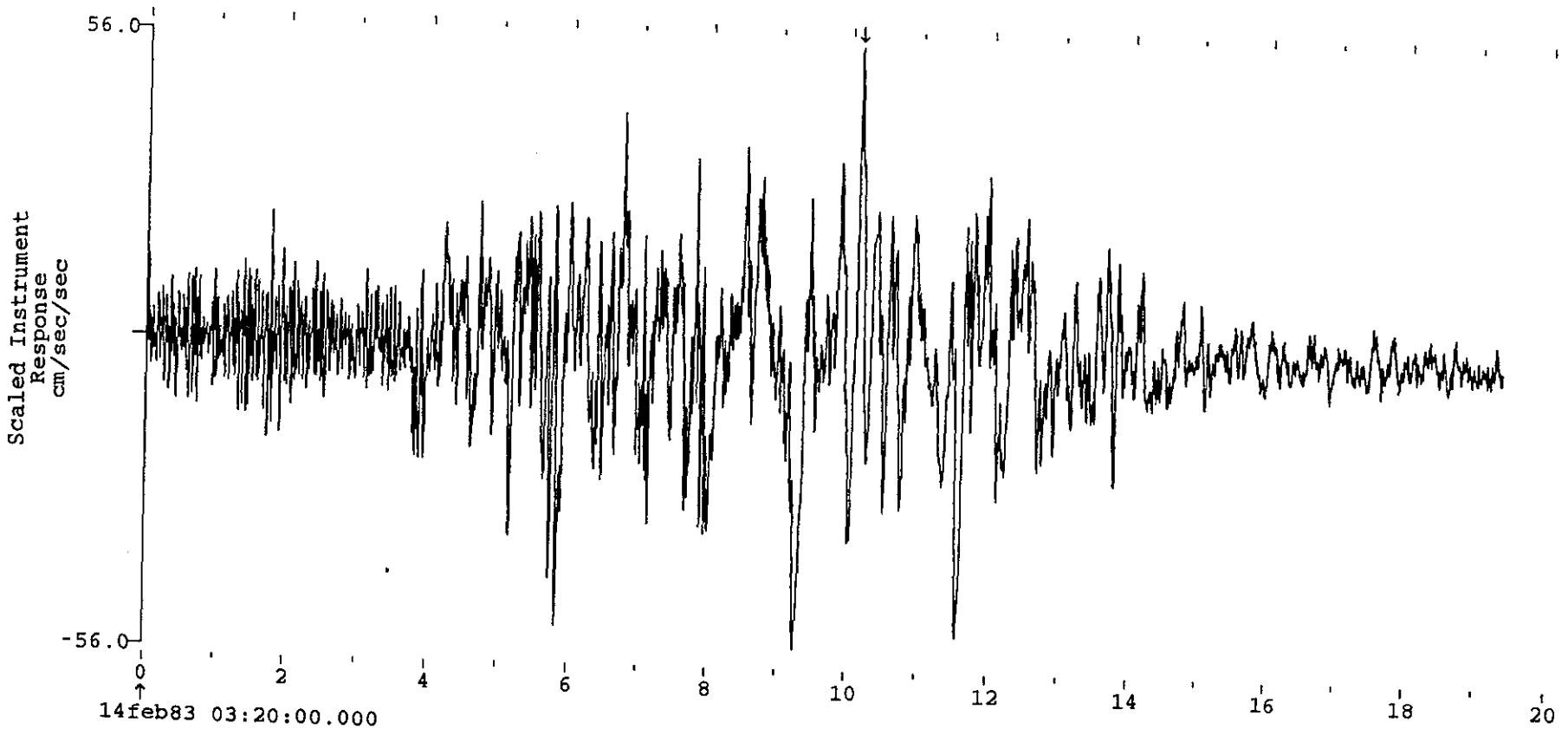
STATION: 2764 SIM SIMEONOF ISLAND .
54.920N 159.258W CONCRETE PLINTH IN SOIL OVER GRANITE .
SMA-1 960 CHANNEL 2 UP SCALE=1.870 PER=.0380 DAMP=.60 .
EVENT: 1983 FEB 14 03:20 54.736N 158.882W 25KM M=6.3 V .
EPIC DIST = 32KM AZIMUTH AT STN = 310
Peak values (cm/sec/sec): -19.97



TIME SERIES PLOT

FILE123.SMC

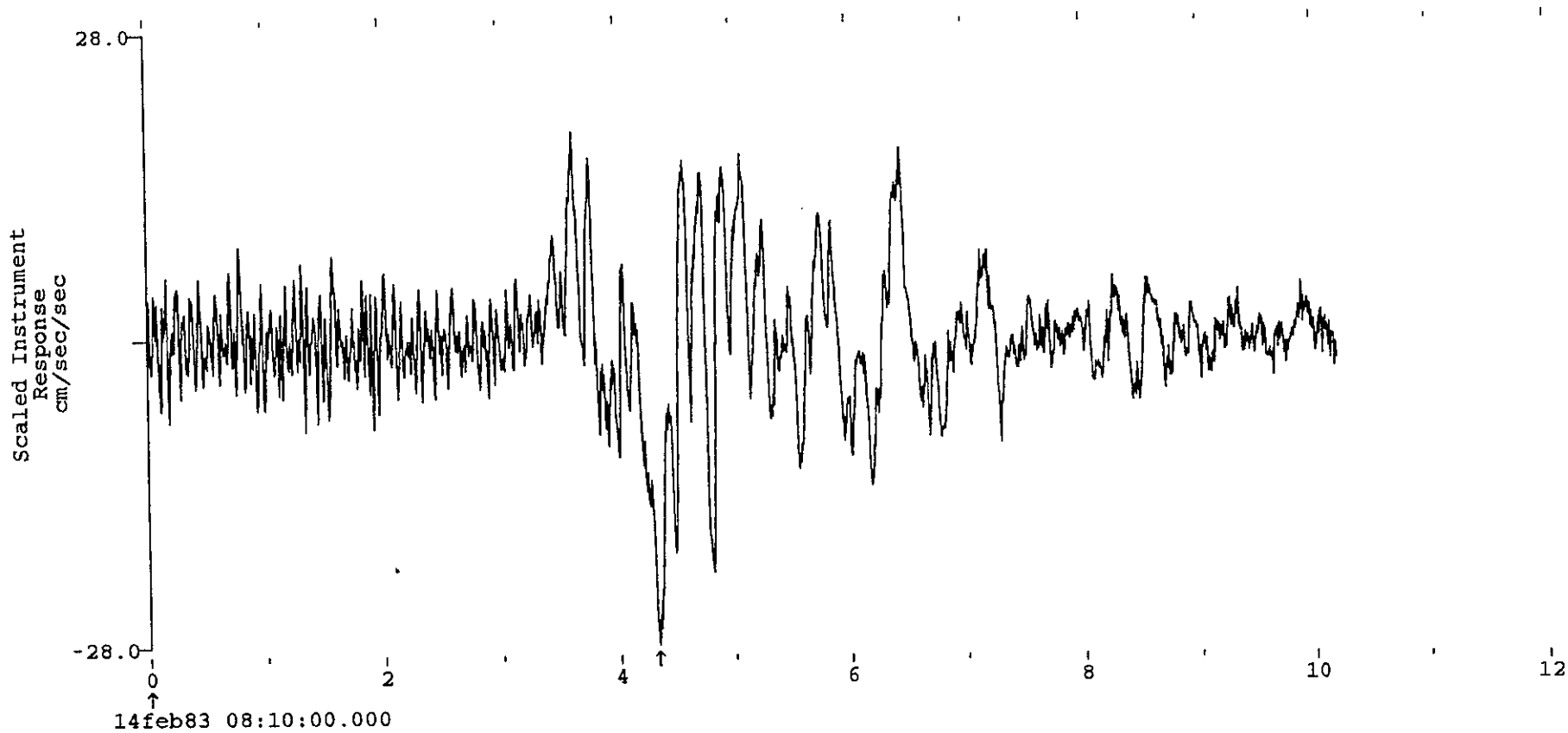
STATION: 2764 SIM SIMEONOF ISLAND .
54.920N 159.258W CONCRETE PLINTH IN SOIL OVER GRANITE .
SMA-1 960 CHANNEL 3 N340E SCALE=1.850 PER=.0400 DAMP=.60 .
EVENT: 1983 FEB 14 03:20 54.736N 158.882W 25KM M=6.3 V .
EPIC DIST = 32KM AZIMUTH AT STN = 310
Peak values (cm/sec/sec): 55.55



TIME SERIES PLOT

FILE133.SMC

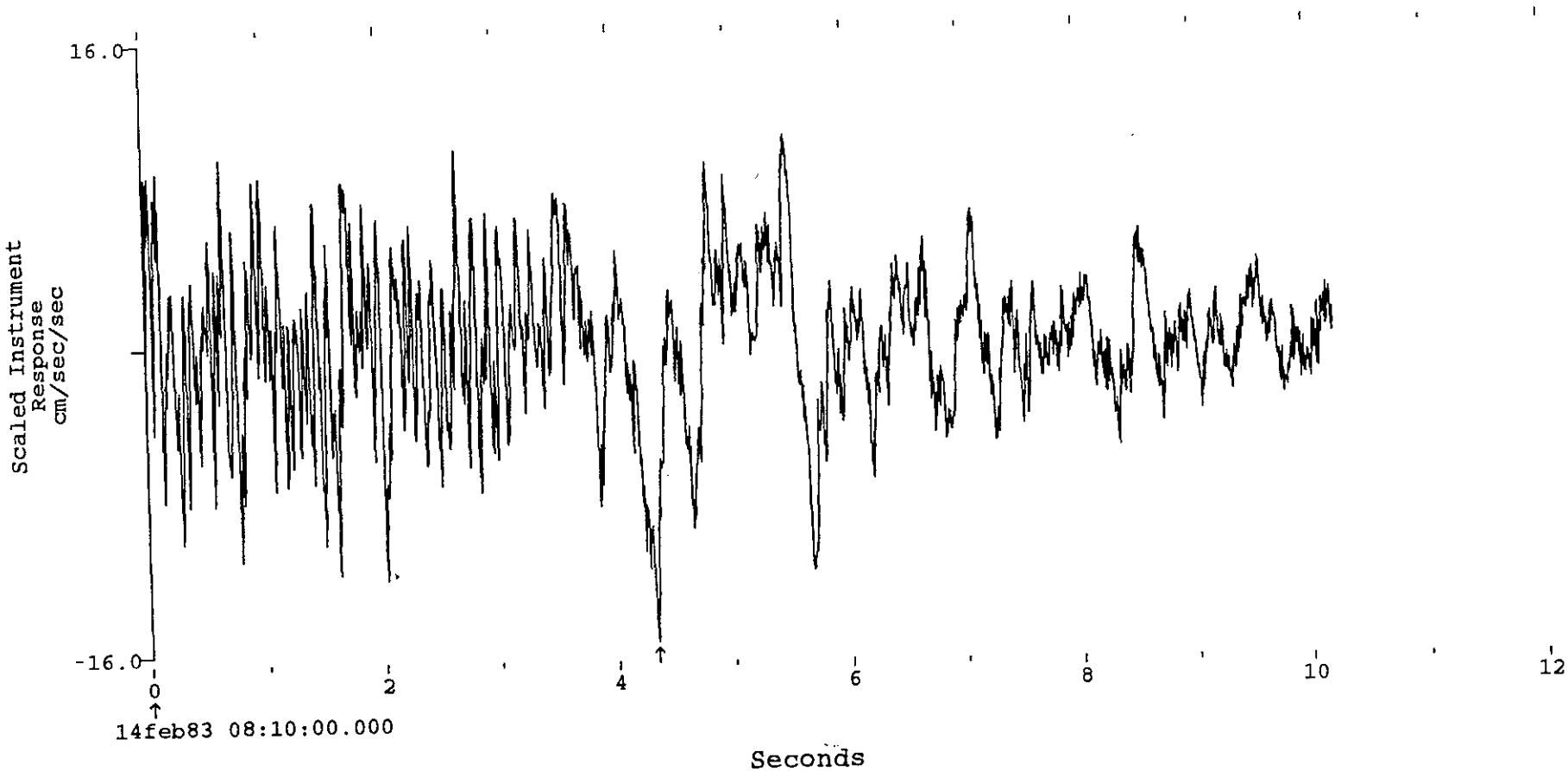
STATION: 2764 SIM SIMEONOF ISLAND .
54.920N 159.258W CONCRETE PLINTH IN SOIL OVER GRANITE .
SMA-1 960 CHANNEL 1 N070E SCALE=1.980 PER=.0400 DAMP=.60 .
EVENT: 1983 FEB 14 08:10 54.854N 158.843W 25KM M=6.0 V .
EPIC DIST = 28KM AZIMUTH AT STN = 285
Peak values (cm/sec/sec): -27.88



TIME SERIES PLOT

FILE134.SMC

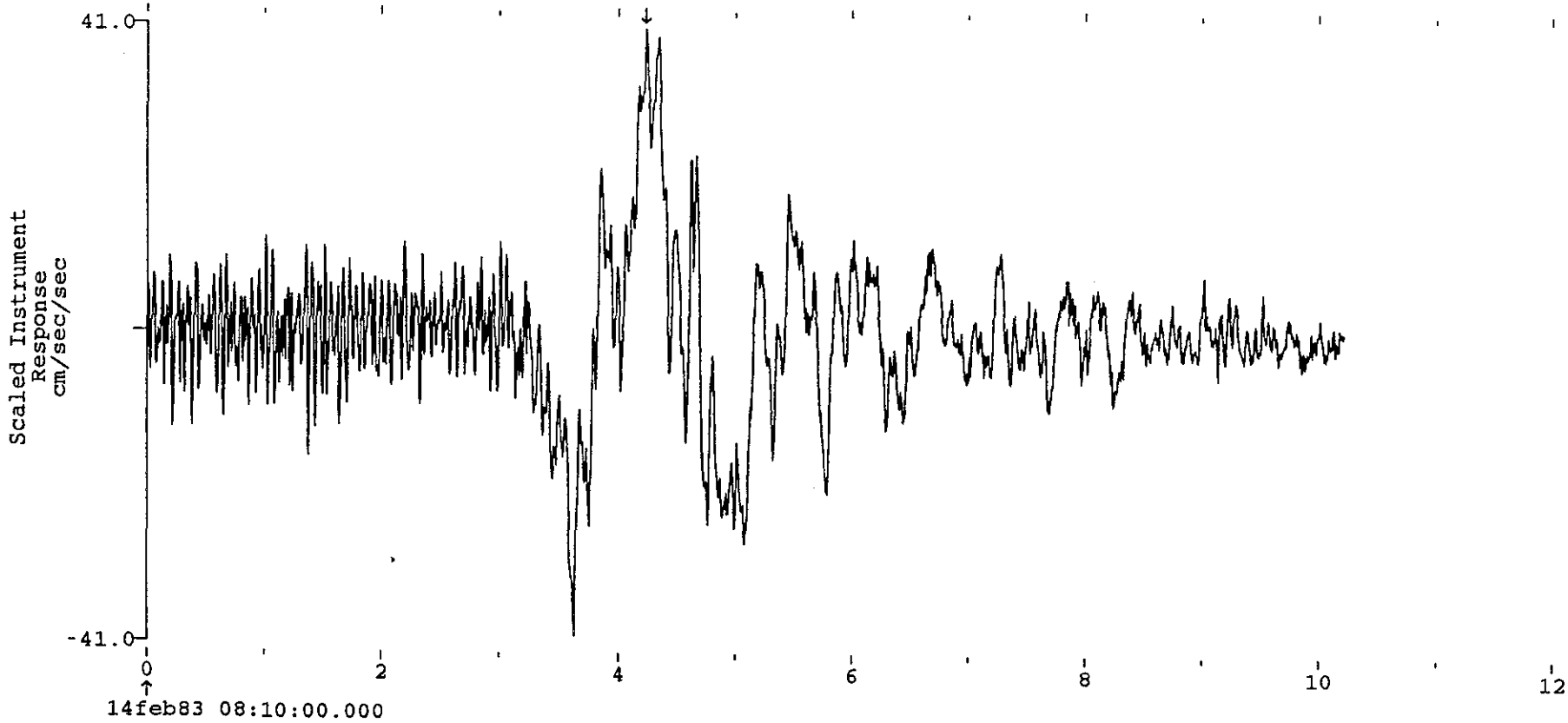
STATION: 2764 SIM SIMEONOF ISLAND .
54.920N 159.258W CONCRETE PLINTH IN SOIL OVER GRANITE .
SMA-1 960 CHANNEL 2 UP SCALE=1.870 PER=.0380 DAMP=.60 .
EVENT: 1983 FEB 14 08:10 54.854N 158.843W 25KM M=6.0 V .
EPIC DIST = 28KM AZIMUTH AT STN = 285
Peak values (cm/sec/sec): -15.40



TIME SERIES PLOT

FILE135.SMC

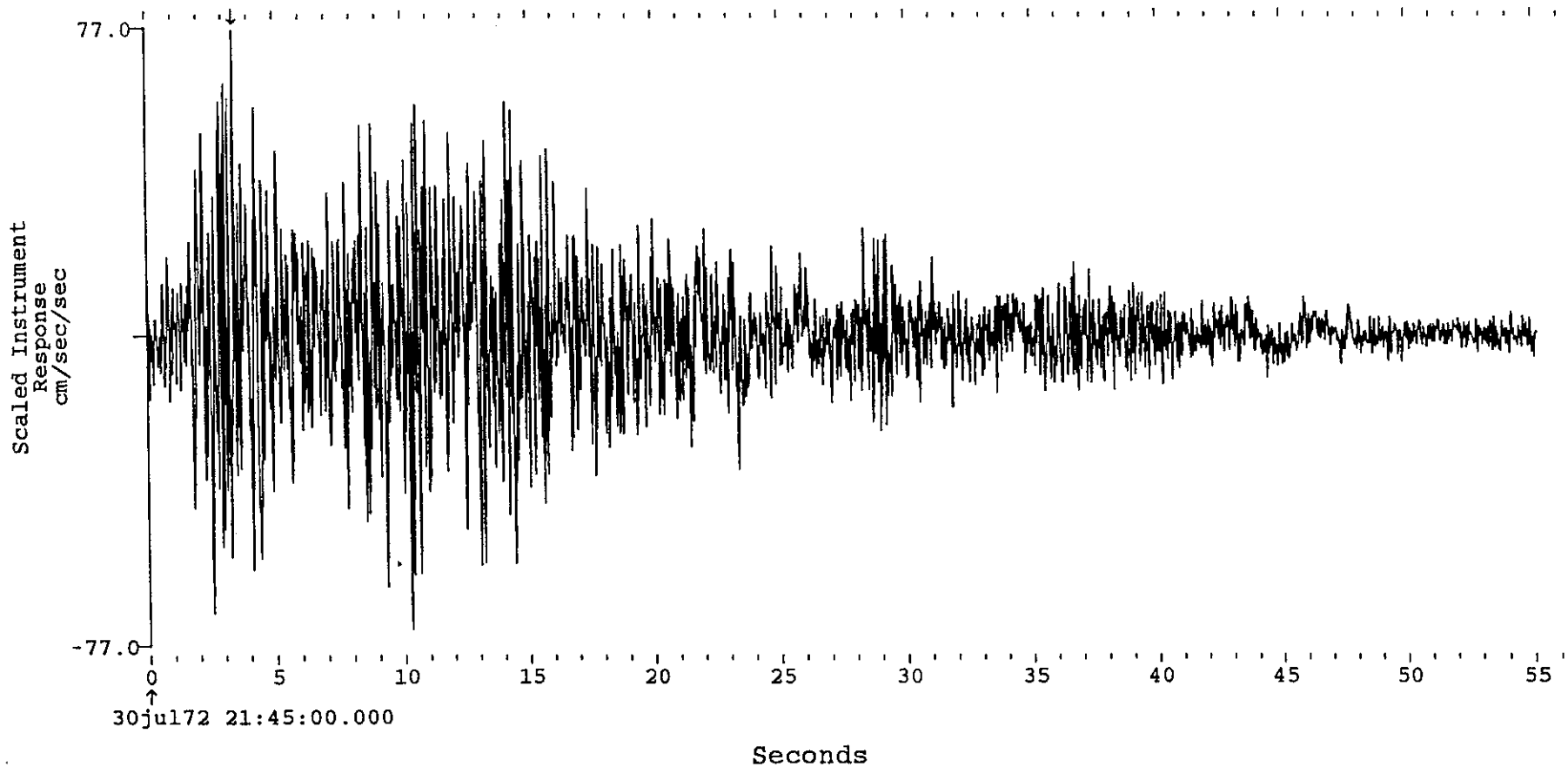
STATION: 2764 SIM SIMEONOF ISLAND .
54.920N 159.258W CONCRETE PLINTH IN SOIL OVER GRANITE .
SMA-1 960 CHANNEL 3 N340E SCALE=1.850 PER=.0400 DAMP=.60 .
EVENT: 1983 FEB 14 08:10 54.854N 158.843W 25KM M=6.0 V .
EPIC DIST = 28KM AZIMUTH AT STN = 285
Peak values (cm/sec/sec): 40.53



TIME SERIES PLOT

FILE068.SMC

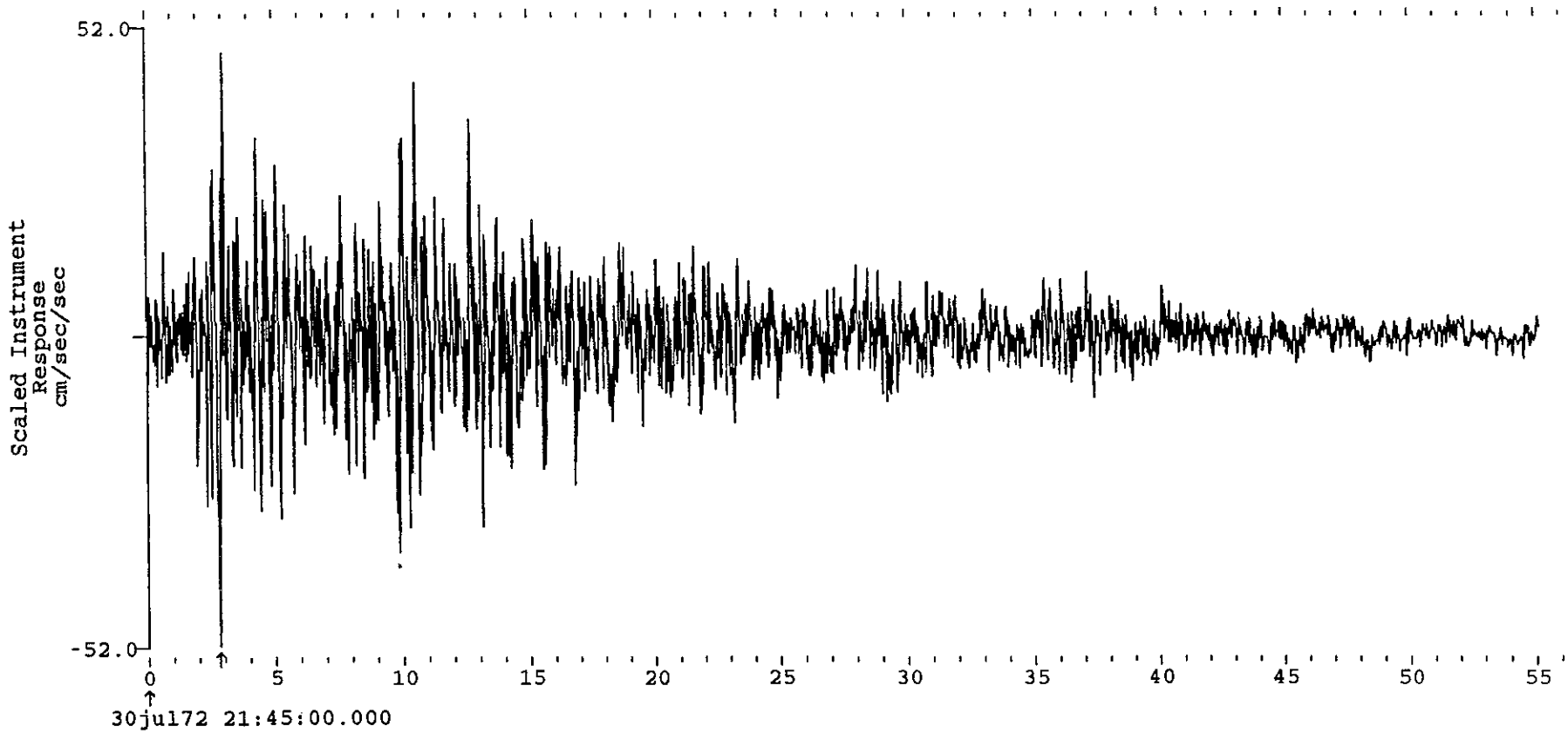
STATION: 2714 SMO* SITKA, MAGNETIC OBS. HAND-DIGITISED .
57.060N 135.320W RK GREYWACKE GROUND LEV CONCRETE VAULT.
AR-240 CHANNEL 1 N180E SCALE=7.040(+) PER=.0520 DAMP=.59 .
EVENT: 1972 JUL 30 21:45 56.770N 135.910W 29KM M=7.5 VII.
EPIC DIST = 48KM AZIMUTH AT STN = 48
Peak values (cm/sec/sec): 76.50



TIME SERIES PLOT

FILE069.SMC

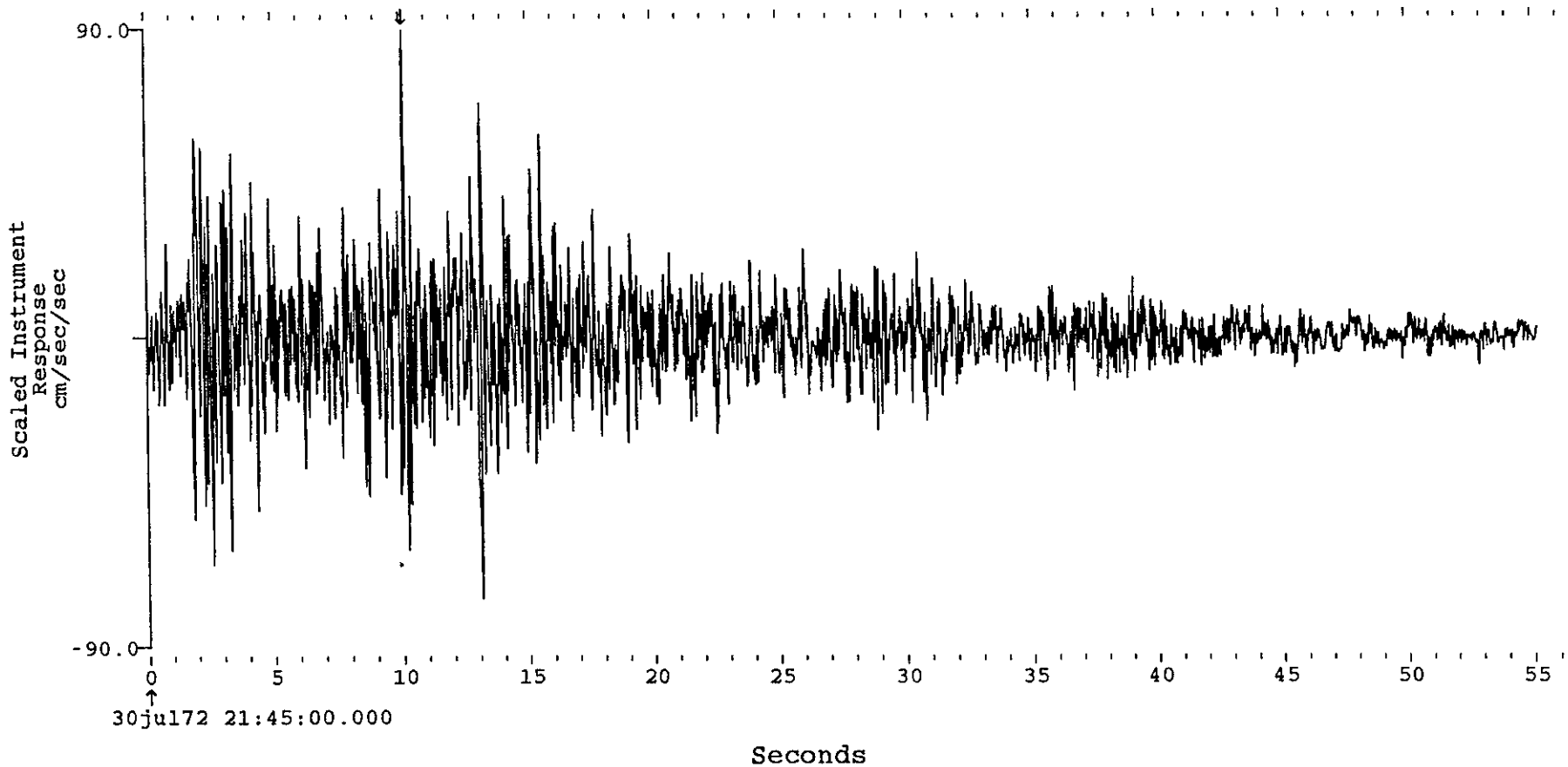
STATION: 2714 SMO* SITKA, MAGNETIC OBS. HAND-DIGITISED .
57.060N 135.320W RK GREYWACKE GROUND LEV CONCRETE VAULT.
AR-240 CHANNEL 2 UP SCALE=9.390(+) PER=.0570 DAMP=.61 .
EVENT: 1972 JUL 30 21:45 56.770N 135.910W 29KM M=7.5 VII.
EPIC DIST = 48KM AZIMUTH AT STN = 48
Peak values (cm/sec/sec): -51.54



TIME SERIES PLOT

FILE070.SMC

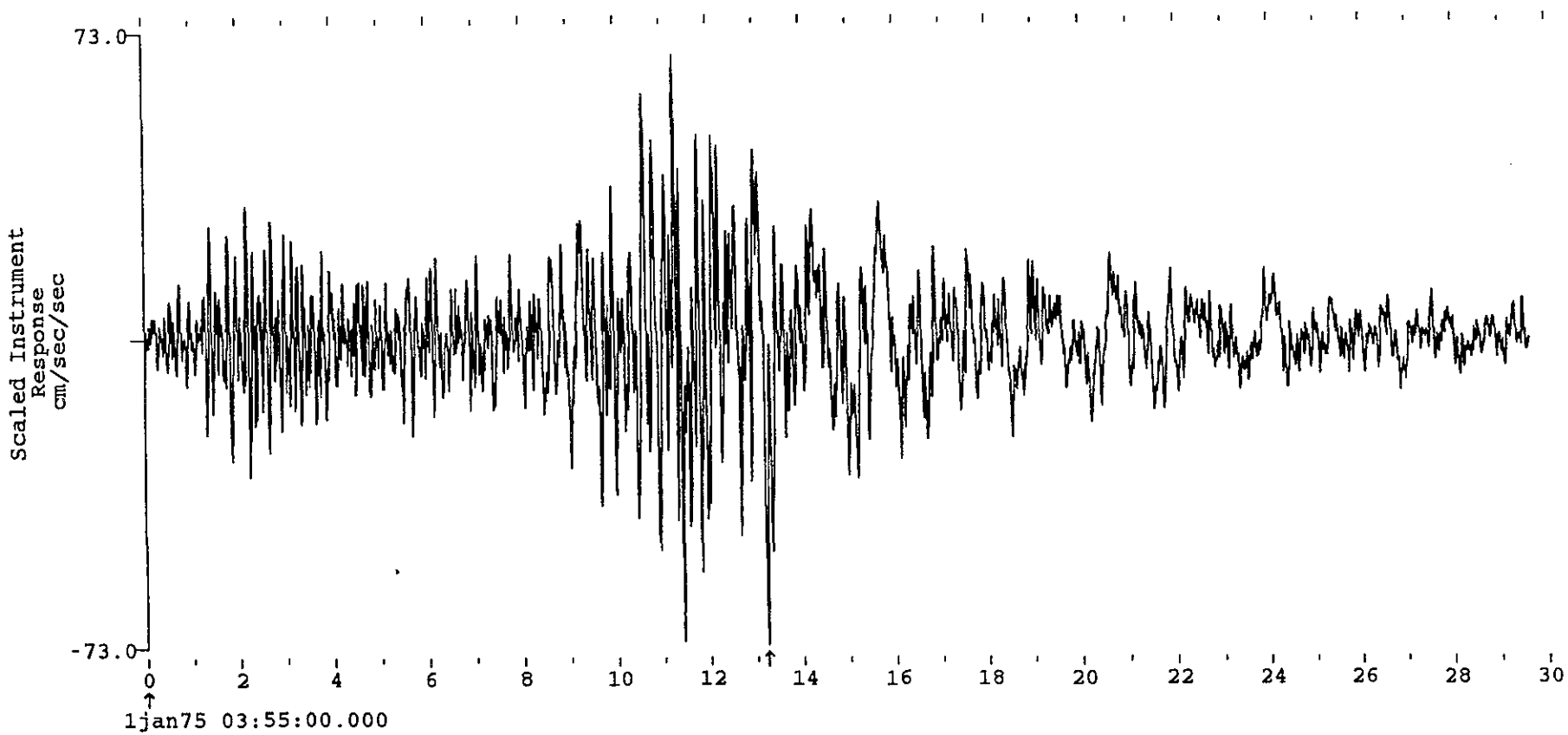
STATION: 2714 SMO* SITKA, MAGNETIC OBS. HAND-DIGITISED .
57.060N 135.320W RK GREYWACKE GROUND LEV CONCRETE VAULT.
AR-240 CHANNEL 3 N090E SCALE=7.010(+) PER=.0490 DAMP=.57 .
EVENT: 1972 JUL 30 21:45 56.770N 135.910W 29KM M=7.5 VII.
EPIC DIST = 48KM AZIMUTH AT STN = 48
Peak values (cm/sec/sec): 89.40



TIME SERIES PLOT

FILE092.SMC

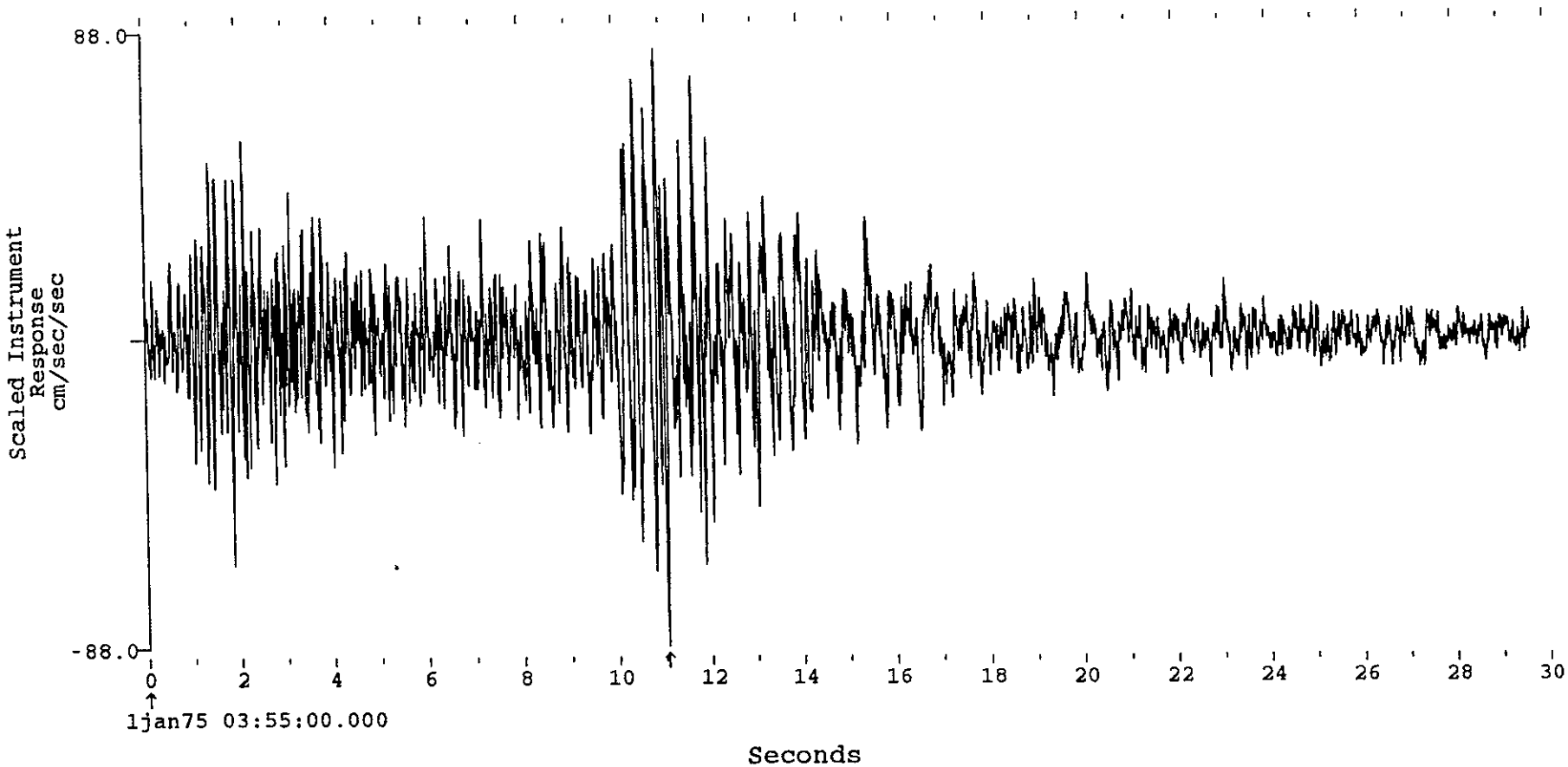
STATION: 2727 TLK TALKEETNA, FAA VOR BLDG. .
62.300N 150.100W GROUND LEVEL 1 STORY BLDG. .
SMA-1 CHANNEL 1 N165E SCALE=2.000 PER=.0400 DAMP=.59 .
EVENT: 1975 JAN 01 03:55 61.920N 149.720W 58KM M=6.0 V .
EPIC DIST = 47KM AZIMUTH AT STN = 335
Peak values (cm/sec/sec): -72.35



TIME SERIES PLOT

FILE093.SMC

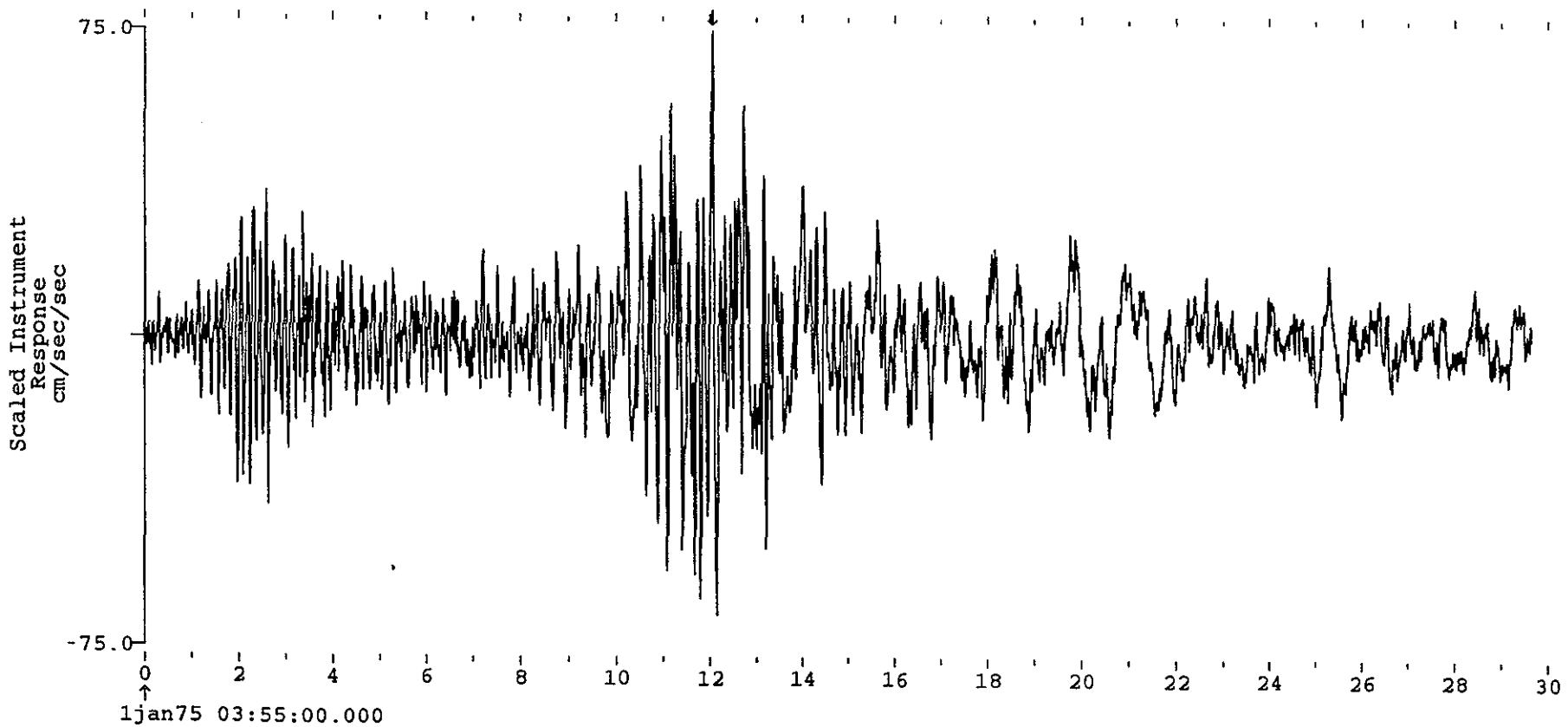
STATION: 2727 TLK TALKEETNA, FAA VOR BLDG. .
62.300N 150.100W GROUND LEVEL 1 STORY BLDG. .
SMA-1 CHANNEL 2 UP SCALE=1.850 PER=.0390 DAMP=.59 .
EVENT: 1975 JAN 01 03:55 61.920N 149.720W 58KM M=6.0 V .
EPIC DIST = 47KM AZIMUTH AT STN = 335
Peak values (cm/sec/sec): -87.69



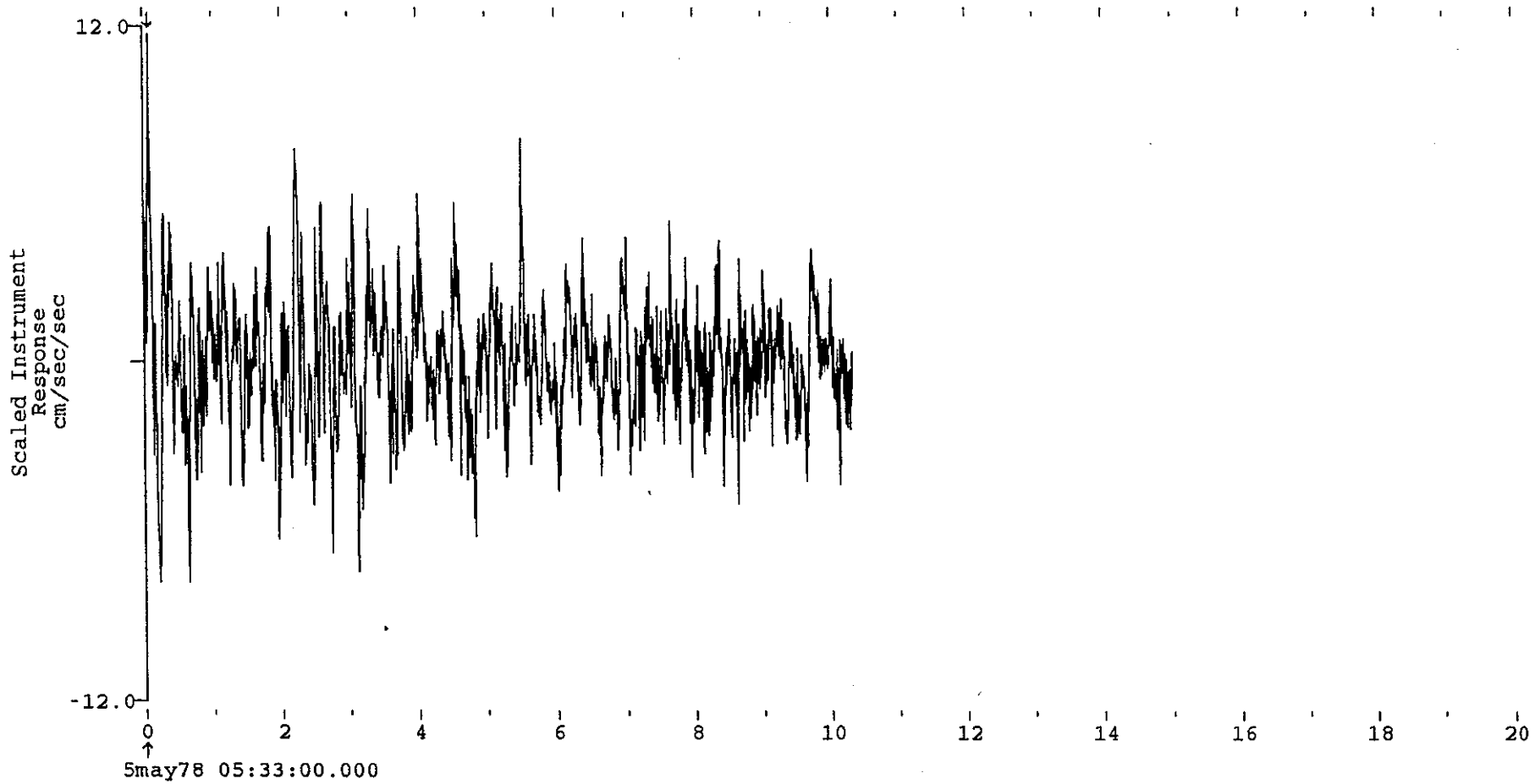
TIME SERIES PLOT

FILE094.SMC

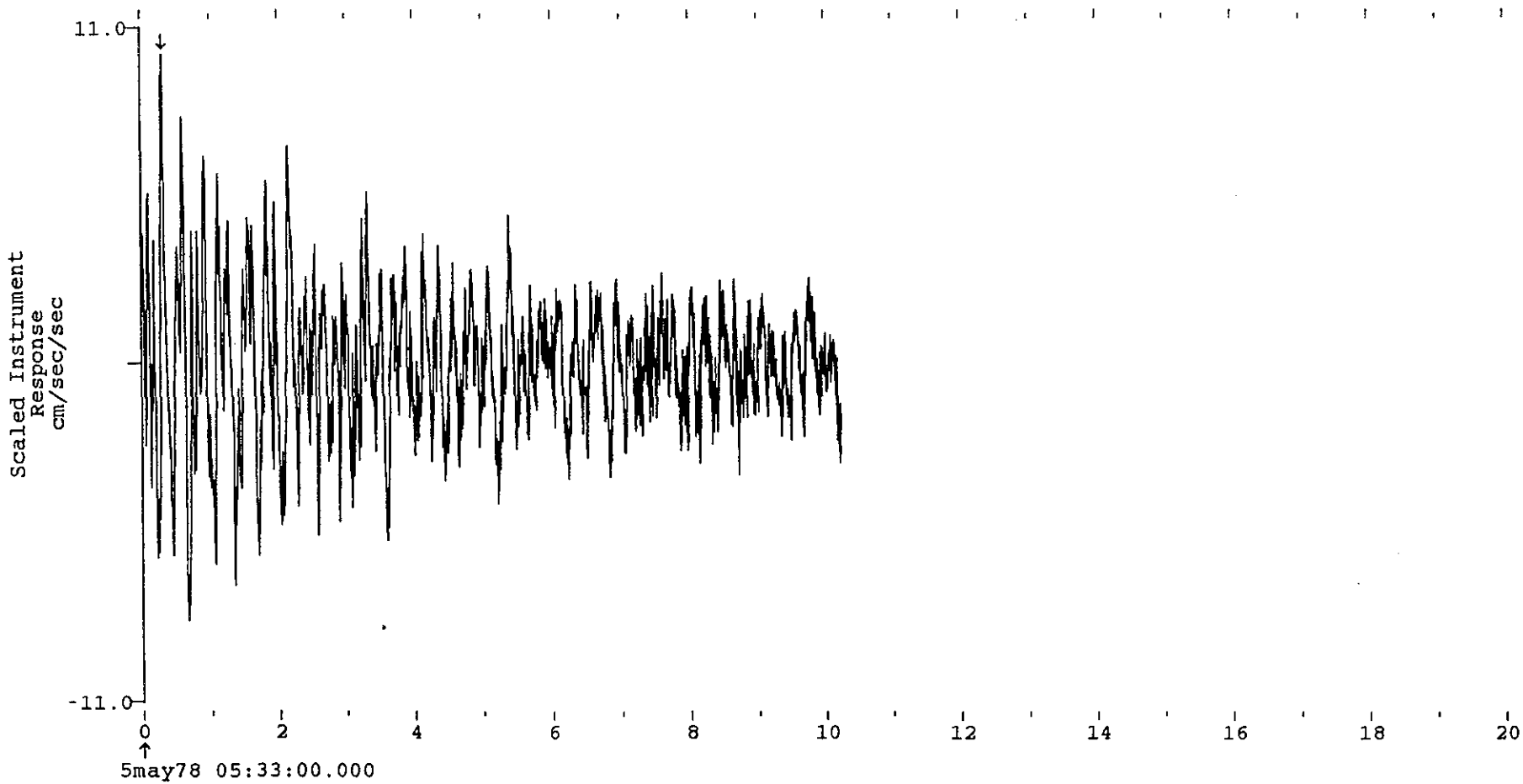
STATION: 2727 TLK TALKEETNA, FAA VOR BLDG. .
62.300N 150.100W GROUND LEVEL 1 STORY BLDG. .
SMA-1 CHANNEL 3 N075E SCALE=1.850 PER=.0400 DAMP=.59 .
EVENT: 1975 JAN 01 03:55 61.920N 149.720W 58KM M=6.0 V .
EPIC DIST = 47KM AZIMUTH AT STN = 335
Peak values (cm/sec/sec): 74.95



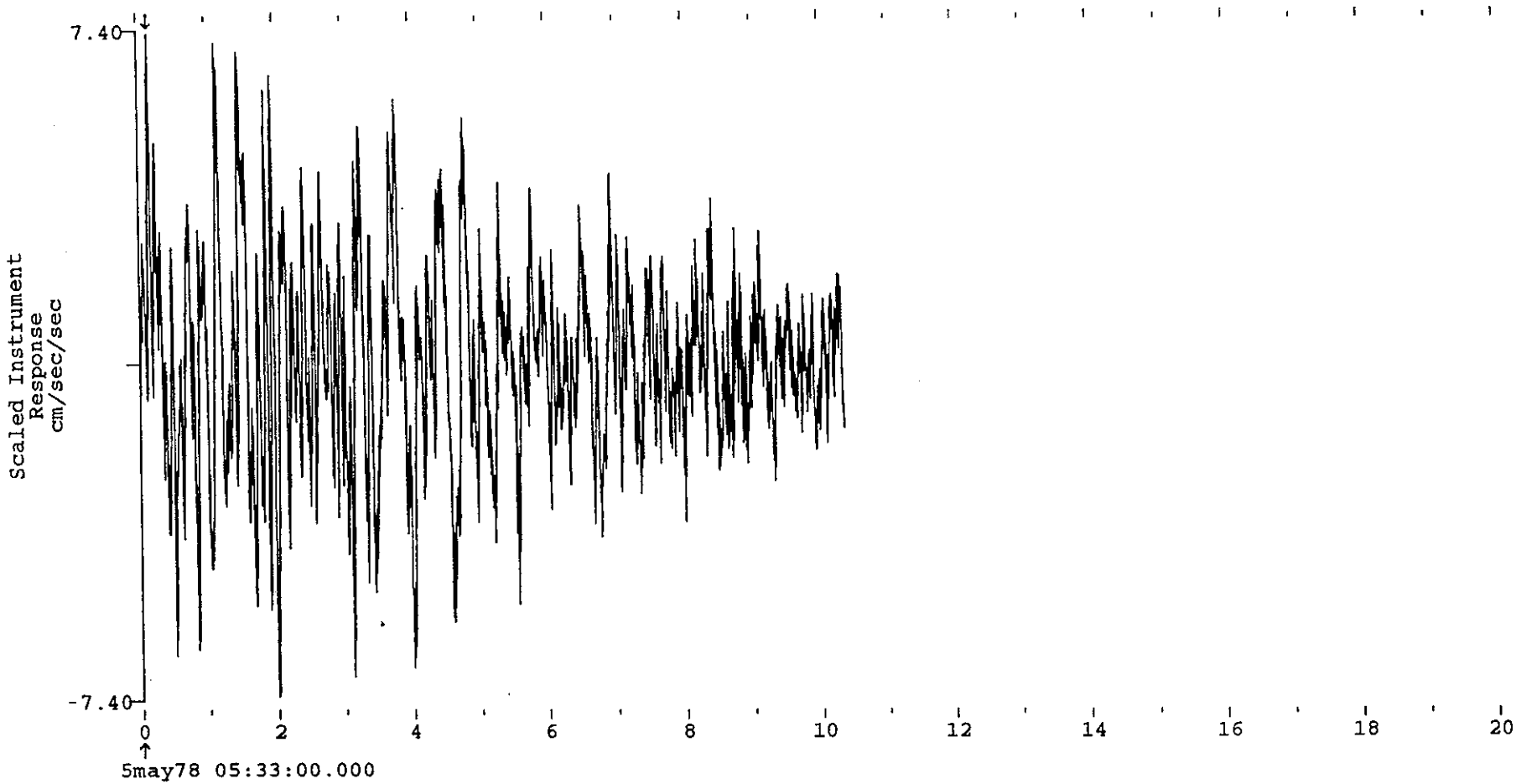
TIME SERIES PLOT
F6.SMC
STATION: 2727 TLK - TALKEETNA, ALASKA FAA-VOR BUILDING
62.300N -150.100W 1-STORY BLDG
SMA-1 CHANNEL ? N75 SCALE=??? PER=0.0400 DAMP=0.5900
EVENT: 1978 5 5 0533 63.302N -150.970W 134.0KM M=5.1
EPIC DIST = 120.4KM AZIMUTH AT STN = N338.7
Peak values (cm/sec/sec): 11.72



TIME SERIES PLOT
F5.SMC
STATION: 2727 TLK - TALKEETNA, ALASKA FAA-VOR BUILDING
62.300N -150.100W 1-STORY BLDG
SMA-1 CHANNEL ? UP SCALE=??? PER=0.0390 DAMP=0.5900
EVENT: 1978 5 5 0533 63.302N -150.970W 134.0KM M=5.1
EPIC DIST = 120.4KM AZIMUTH AT STN = N338.7
Peak values (cm/sec/sec): 10.11



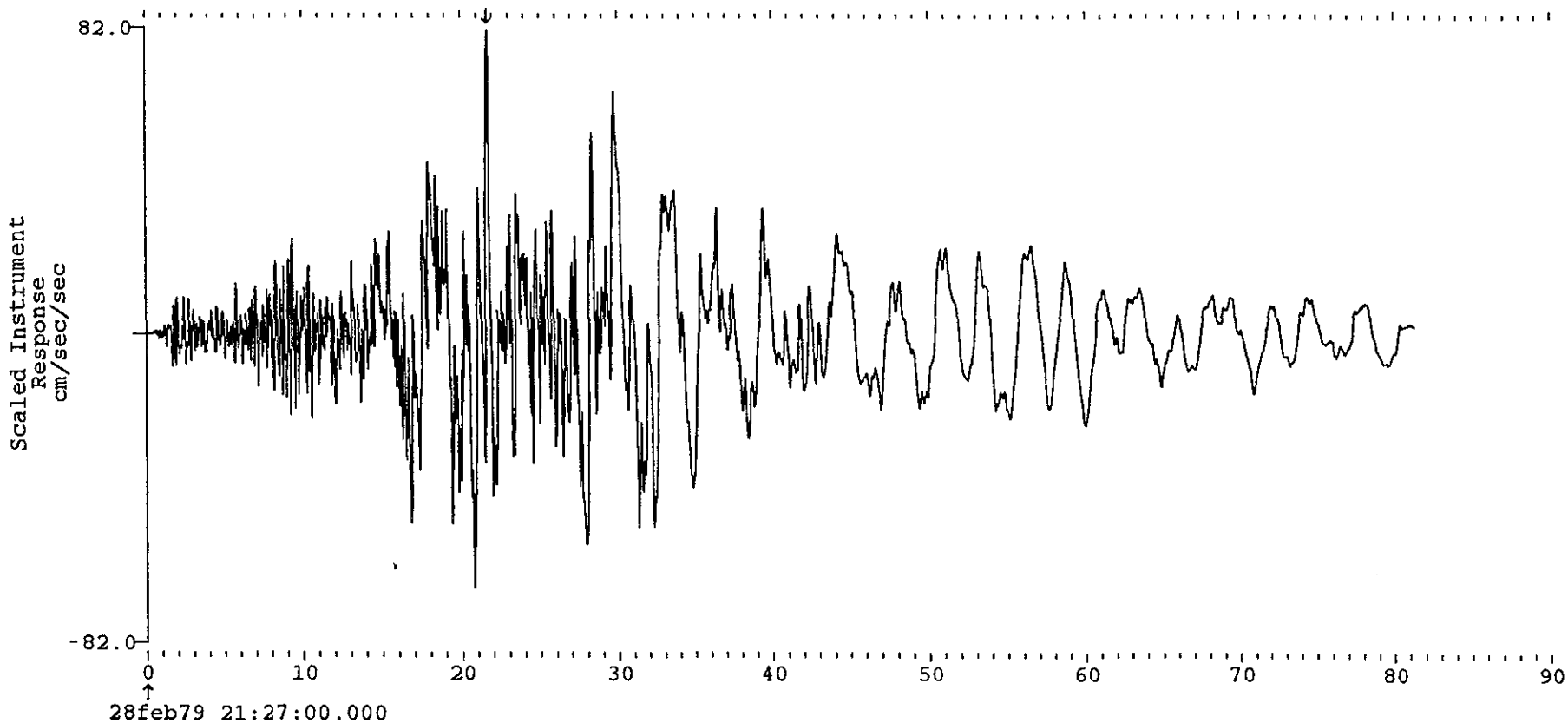
TIME SERIES PLOT
F4.SMC
STATION: 2727 TLK - TALKEETNA, ALASKA FAA-VOR BUILDING
62.300N -150.100W 1-STORY BLDG
SMA-1 CHANNEL ? N165 SCALE=??? PER=0.0400 DAMP=0.5900
EVENT: 1978 5 5 0533 63.302N -150.970W 134.0KM M=5.1
EPIC DIST = 120.4KM AZIMUTH AT STN = N338.7
Peak values (cm/sec/sec): 7.32



TIME SERIES PLOT

FILE112.SMC

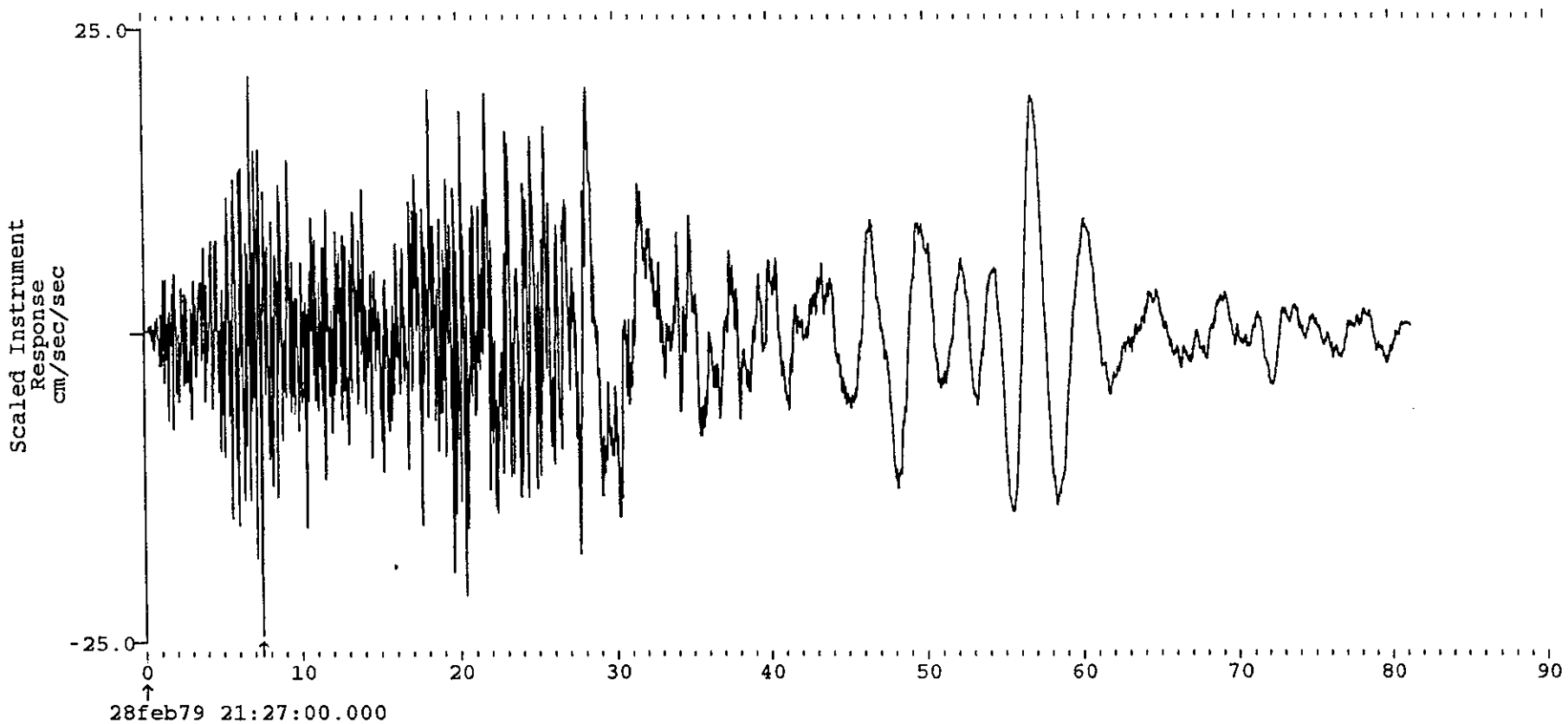
STATION: 2728 YAK YAKUTAT, FAA VOR BLDG. .
59.510N 139.650W SL FILL ON MUSKEG GRND LVL 1 STOR BLDG
SMA-1 326 CHANNEL 1 N009E PER=.0380 DAMP=.59 .
EVENT: 1979 FEB 28 21:27 60.640N 141.590W 13KM M=7.3 .
EPIC DIST = 166KM AZIMUTH AT STN = 140
Peak values (cm/sec/sec): 81.33



TIME SERIES PLOT

FILE113.SMC

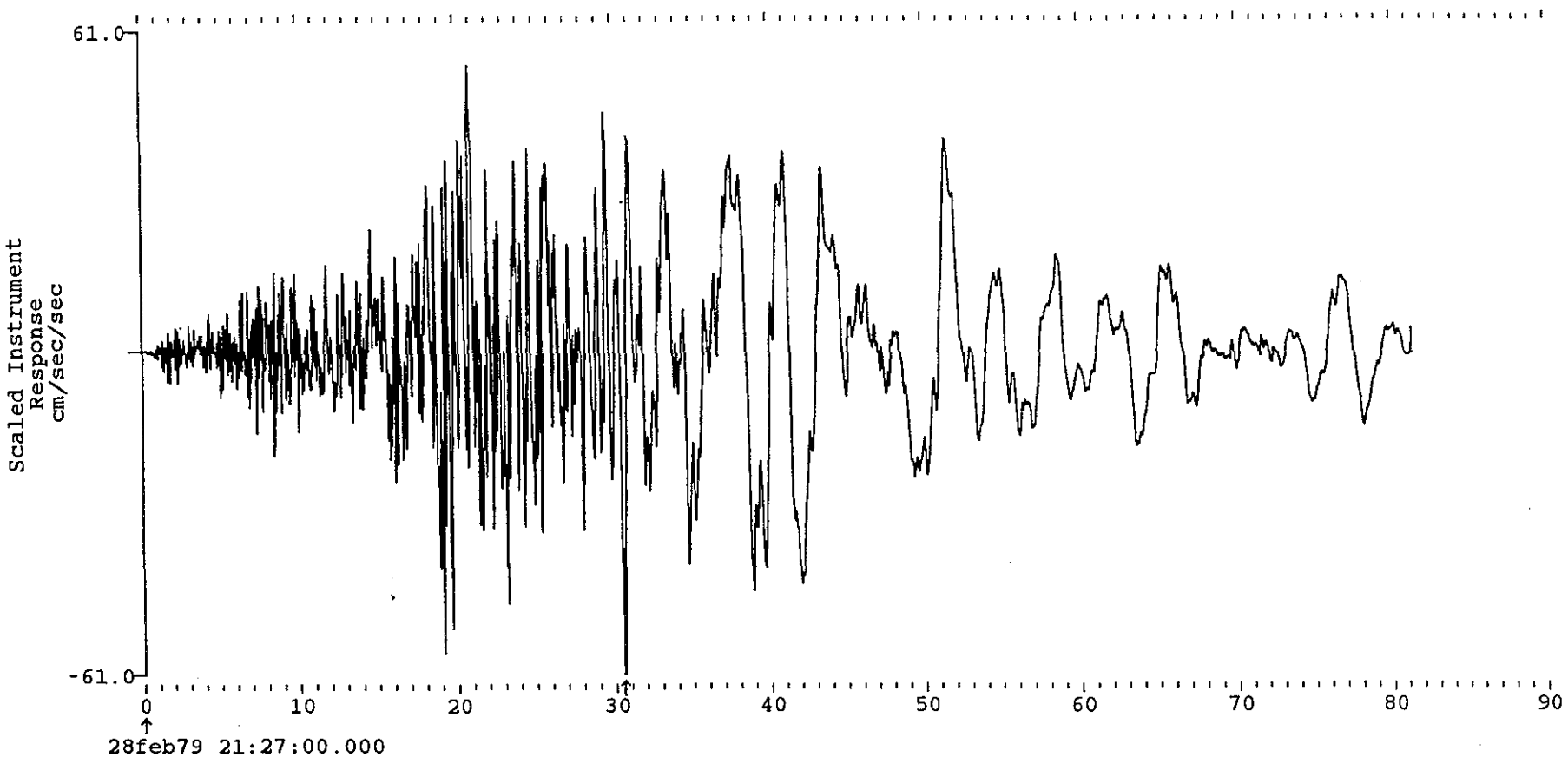
STATION: 2728 YAK YAKUTAT, FAA VOR BLDG. .
59.510N 139.650W SL FILL ON MUSKEG GRND LVL 1 STOR BLDG
SMA-1 326 CHANNEL 2 UP PER=.0390 DAMP=.60 .
EVENT: 1979 FEB 28 21:27 60.640N 141.590W 13KM M=7.3 .
EPIC DIST = 166KM AZIMUTH AT STN = 140
Peak values (cm/sec/sec): -24.36



TIME SERIES PLOT

FILE114.SMC

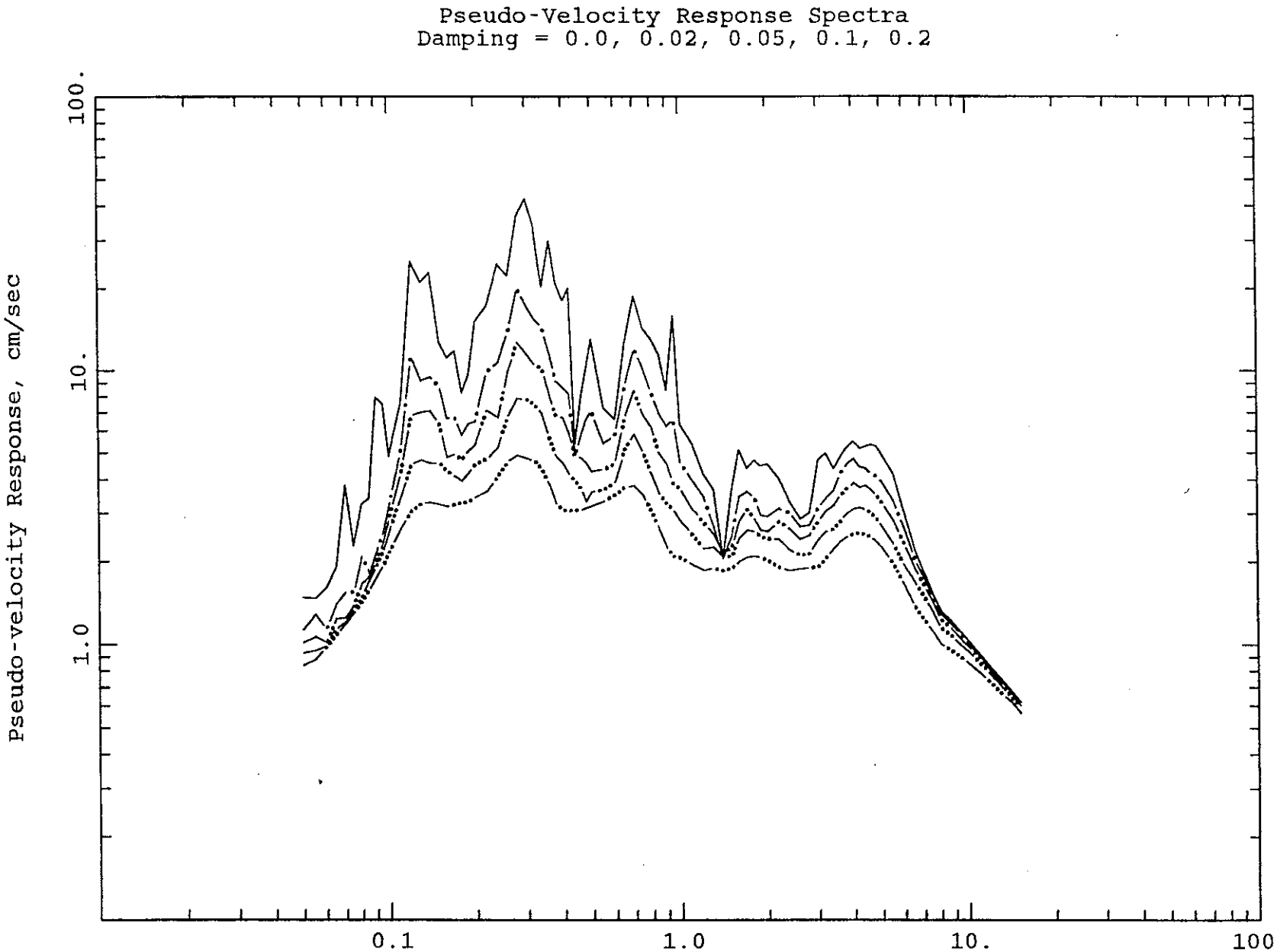
STATION: 2728 YAK YAKUTAT, FAA VOR BLDG. .
59.510N 139.650W SL FILL ON MUSKEG GRND LVL 1 STOR BLDG
SMA-1 326 CHANNEL 3 N279E PER=.0380 DAMP=.59 .
EVENT: 1979 FEB 28 21:27 60.640N 141.590W 13KM M=7.3 .
EPIC DIST = 166KM AZIMUTH AT STN = 140
Peak values (cm/sec/sec): -60.81



APPENDIX B

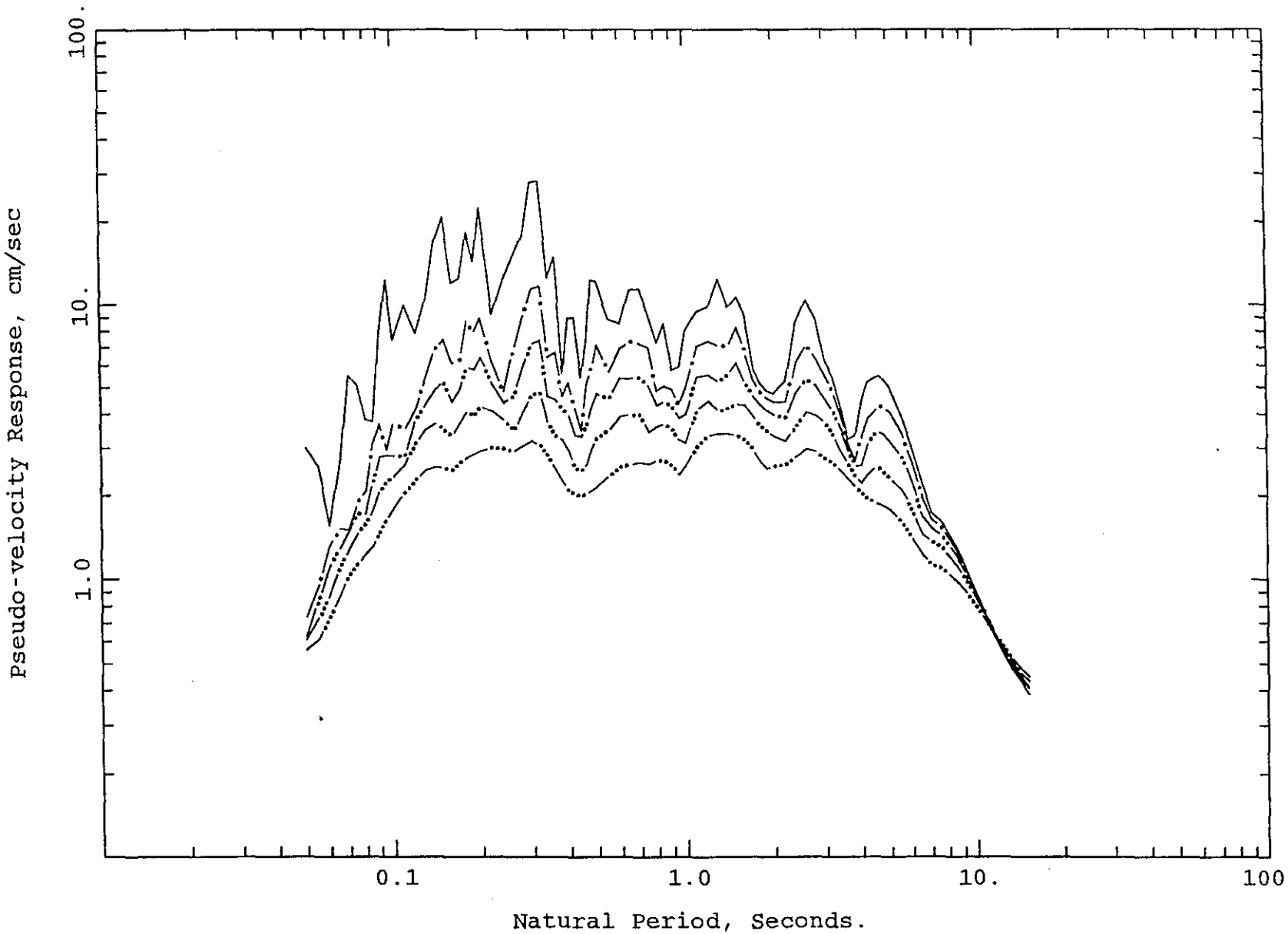
RESPONSE SPECTRA ASSOCIATED WITH ACCELERATION TIME HISTORIES OF APPENDIX A

Station name= 2701 ADN* ADAK, NAVAL BASE; Code= 2701; Component= 180
EQ name= earthquake name unknown; EQ date= 02may71

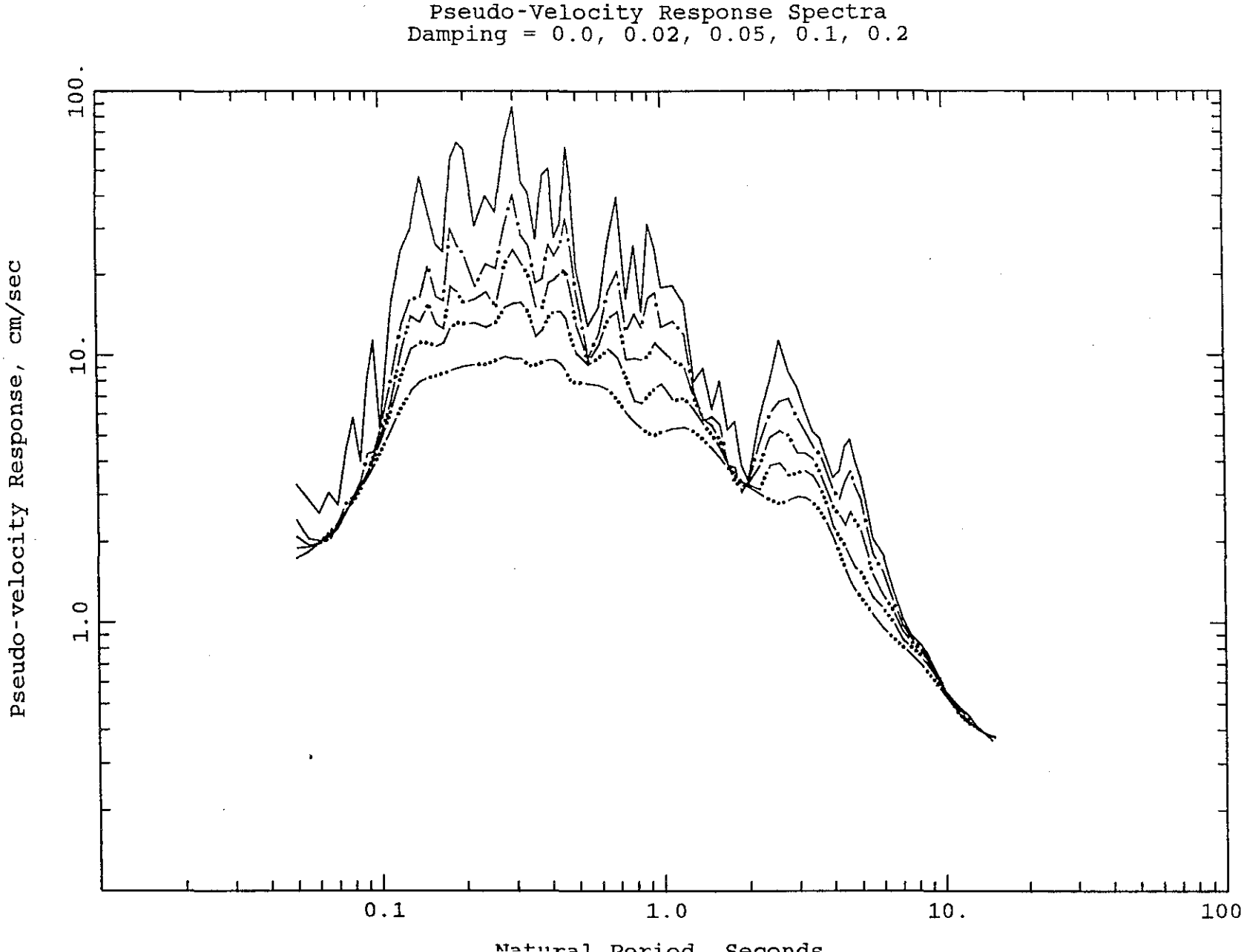


Station name= 2701 ADN* ADAK, NAVAL BASE; Code= 2701; Component= UP
EQ name= earthquake name unknown; EQ date= 02may71

Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2

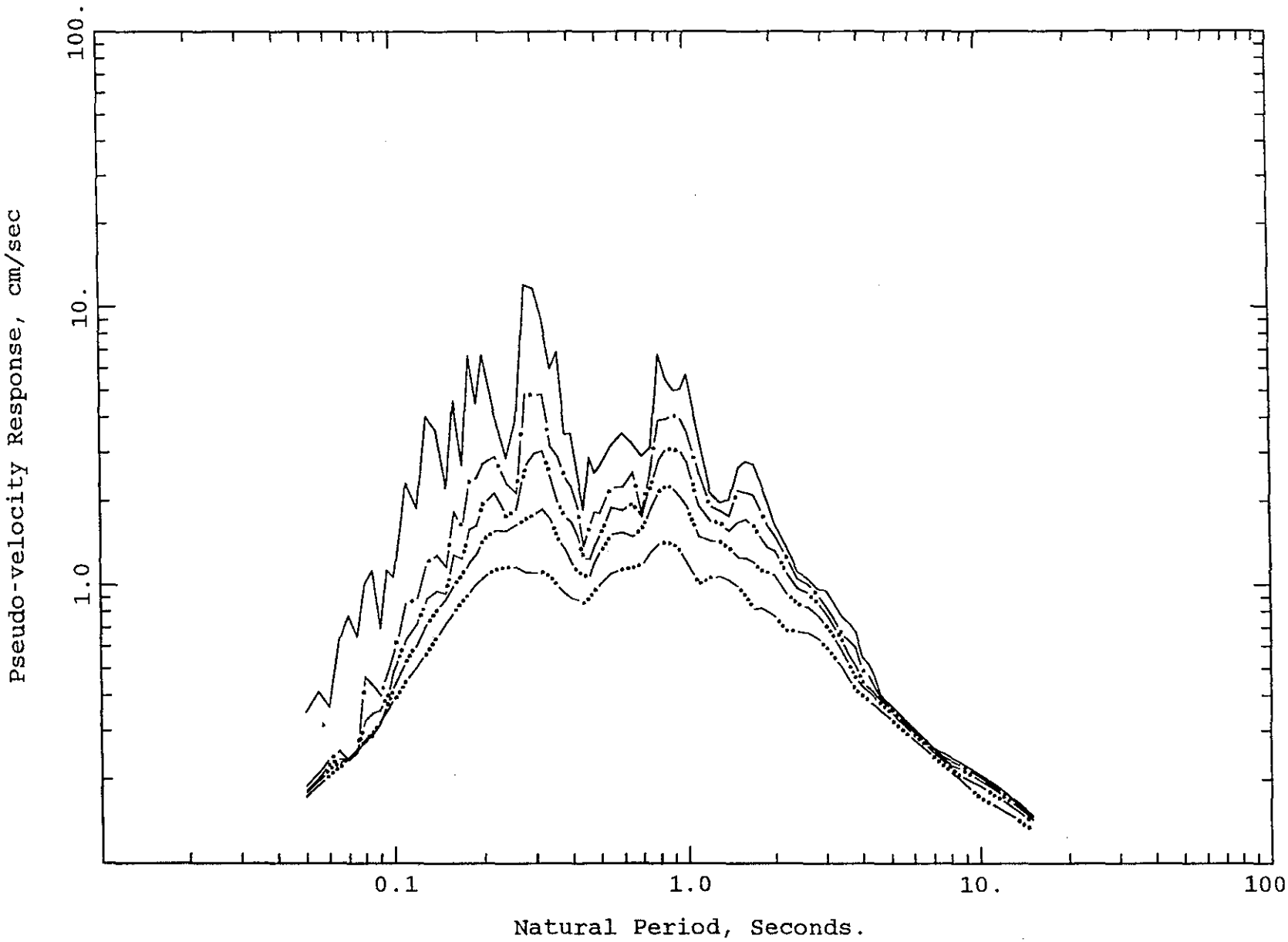


Station name= 2701 ADN* ADAK, NAVAL BASE; Code= 2701; Component= 90
EQ name= earthquake name unknown; EQ date= 02may71

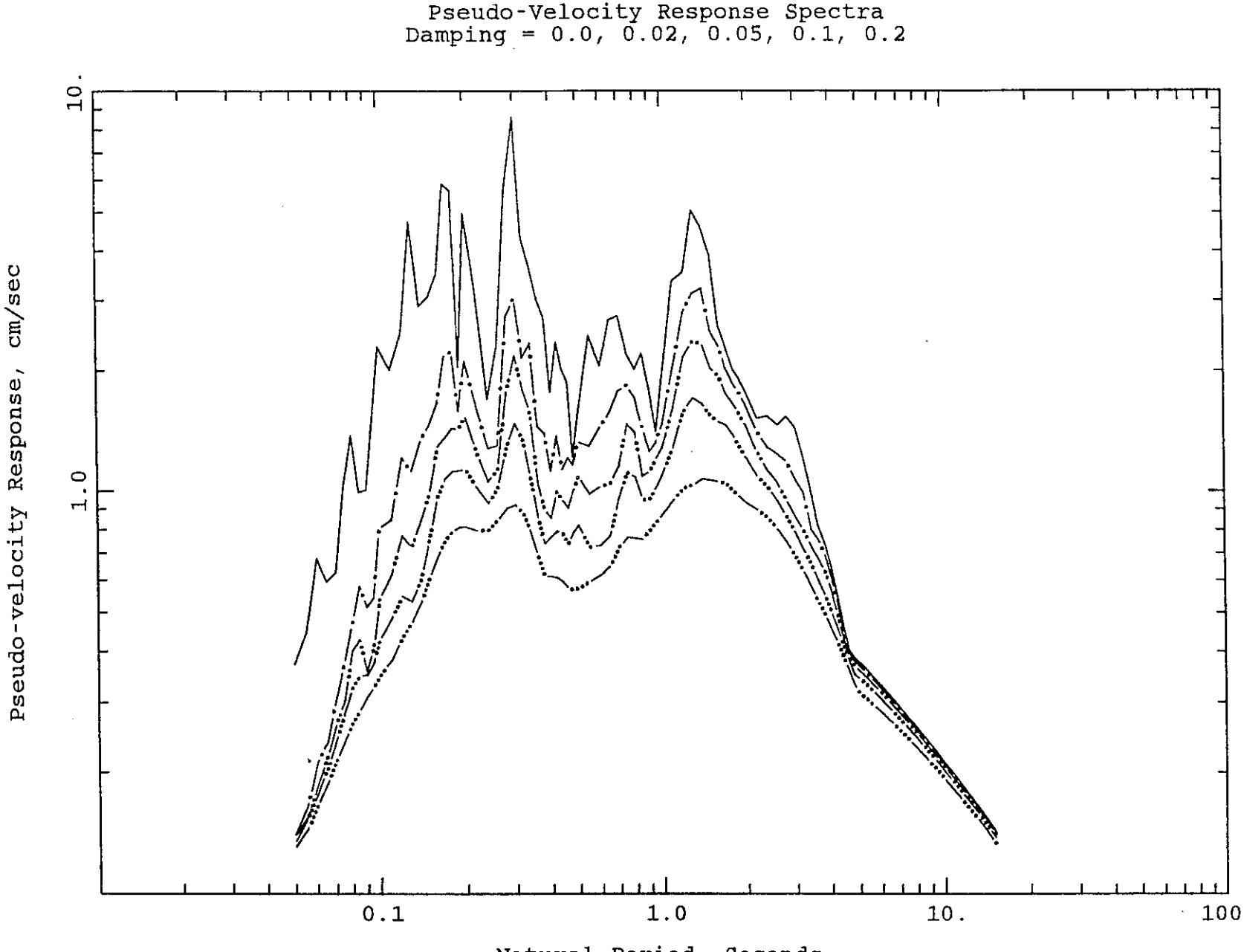


Station name= 2701 ADN* ADAK, NAVAL BASE; Code= 2701; Component= 180
EQ name= earthquake name unknown; EQ date= 13aug74

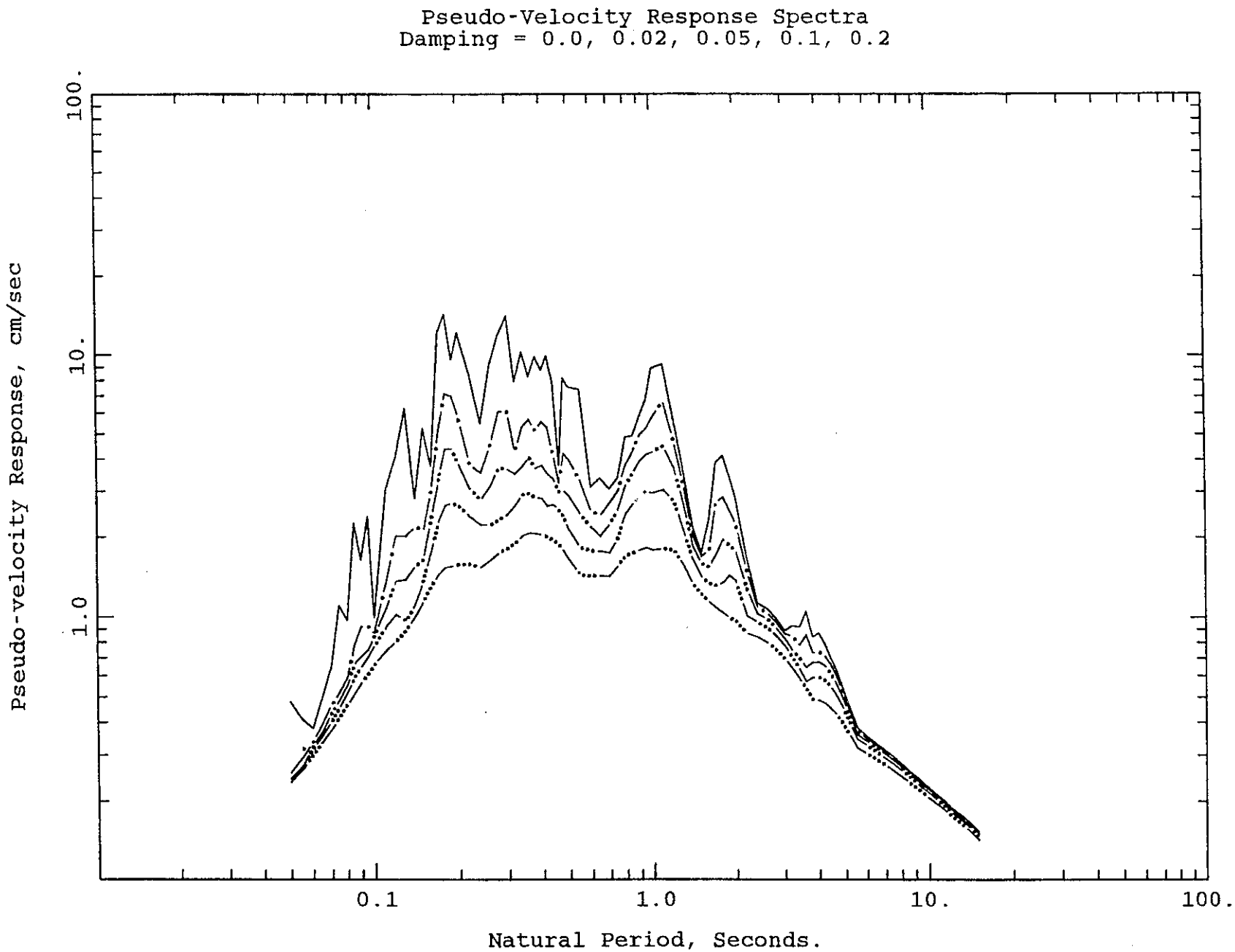
Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2



Station name= 2701 ADN* ADAK, NAVAL BASE; Code= 2701; Component= UP
EQ name= earthquake name unknown; EQ date= 13aug74

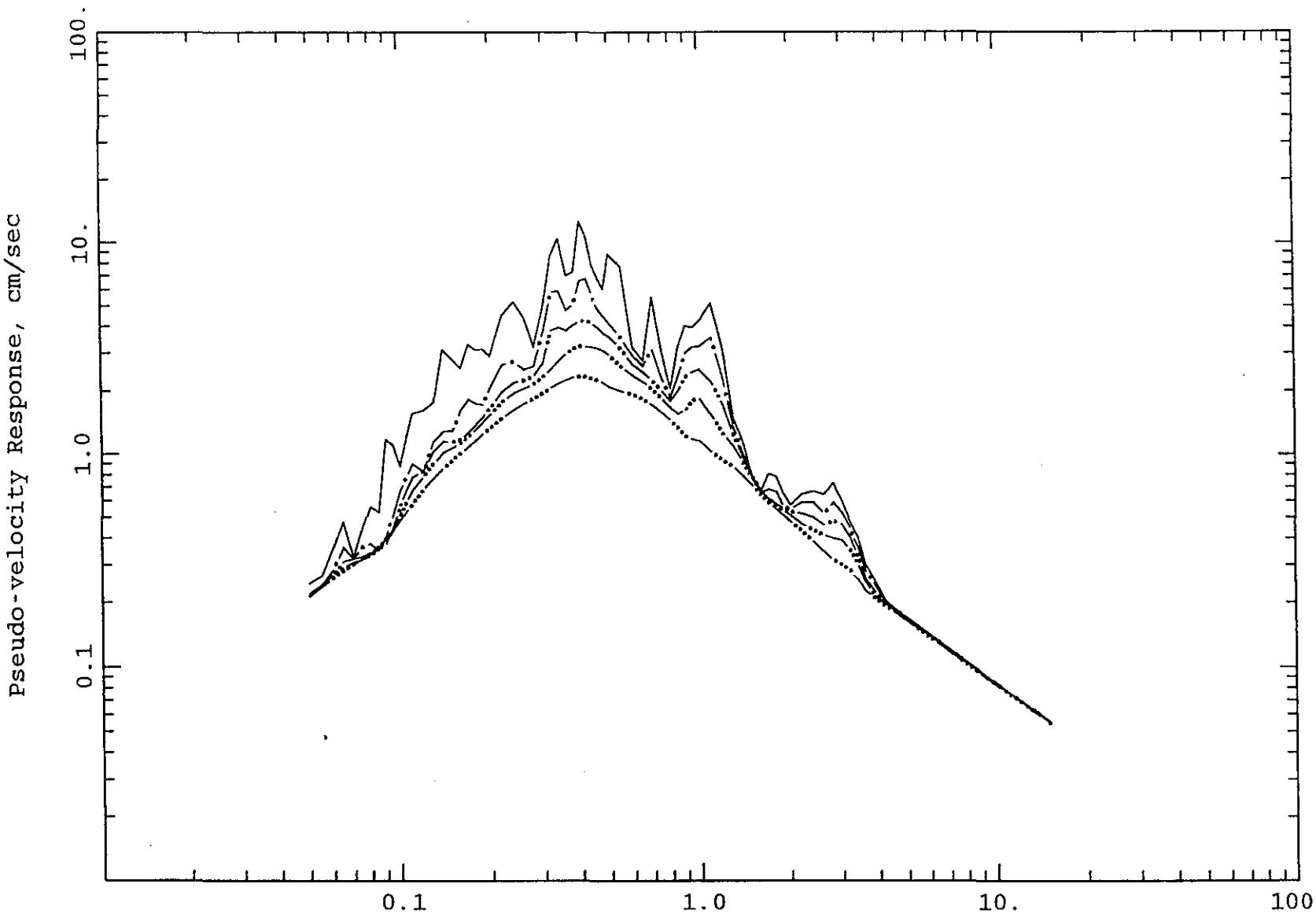


Station name= 2701 ADN* ADAK, NAVAL BASE; Code= 2701; Component= 90
EQ name= earthquake name unknown; EQ date= 13aug74



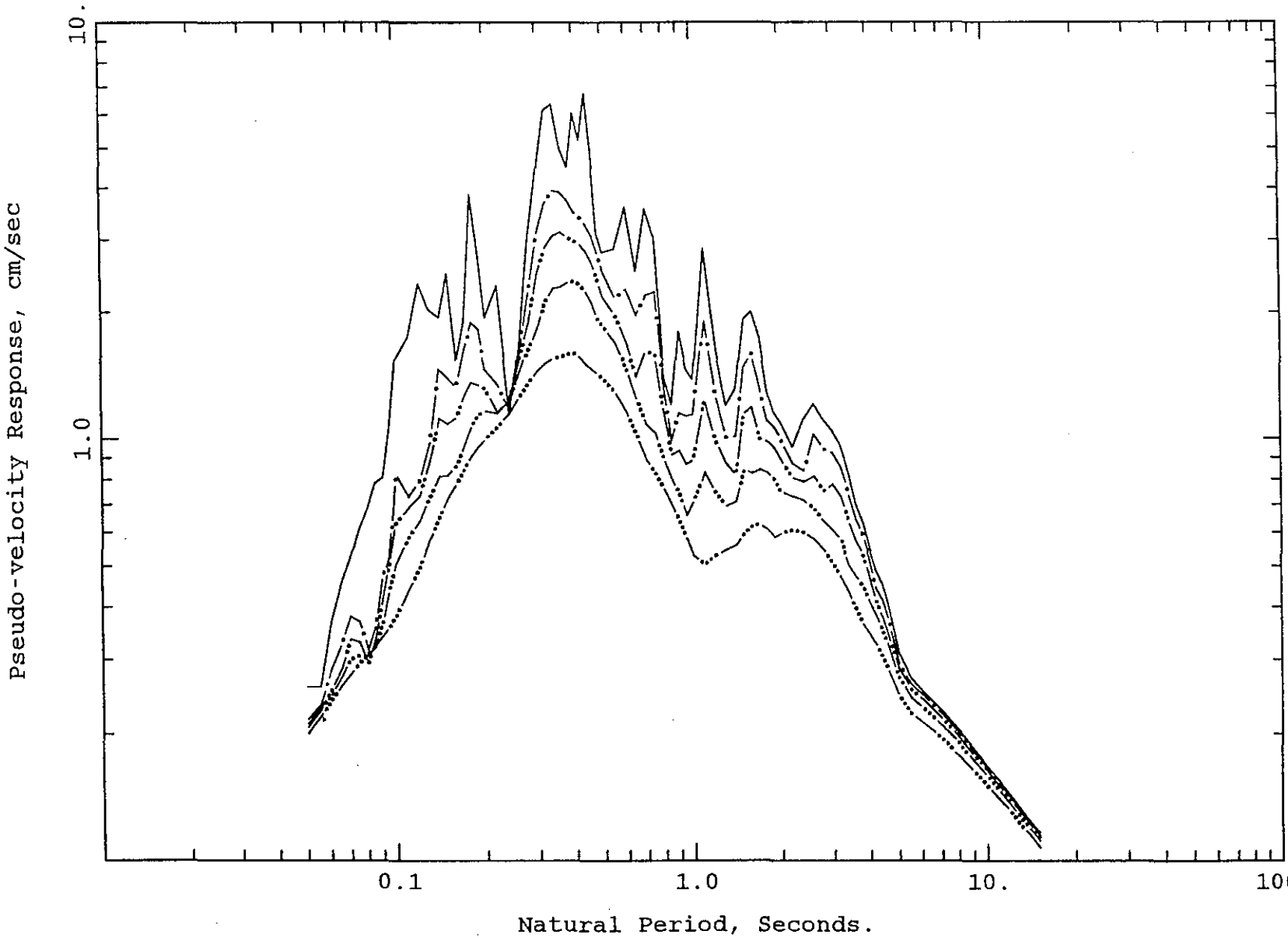
Station name= 2701 ADN* ADAK, NAVAL BASE; Code= 2701; Component= 180
EQ name= earthquake name unknown; EQ date= 11nov74

Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2



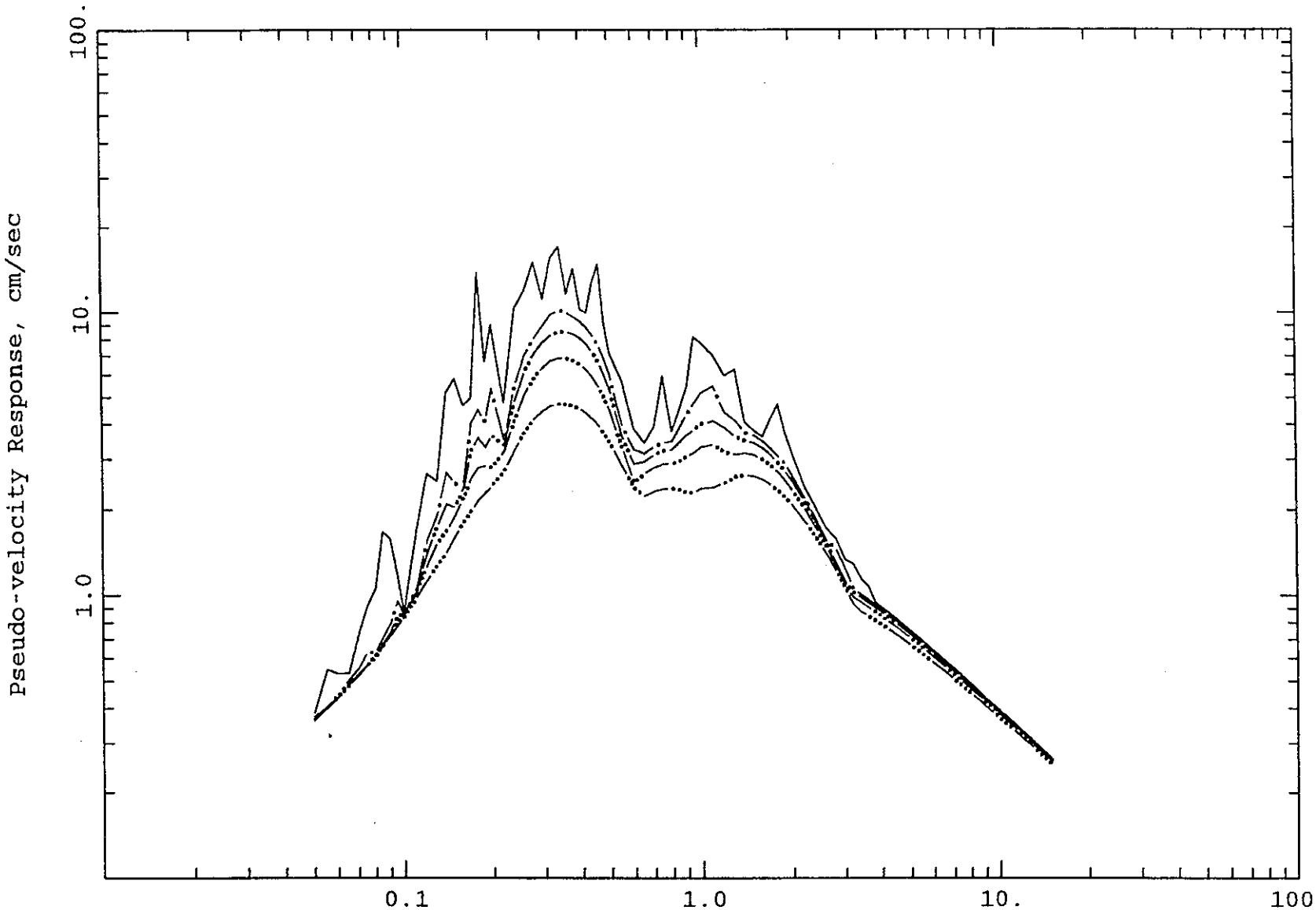
Station name= 2701 ADN* ADAK, NAVAL BASE; Code= 2701; Component= UP
EQ name= earthquake name unknown; EQ date= 11nov74

Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2

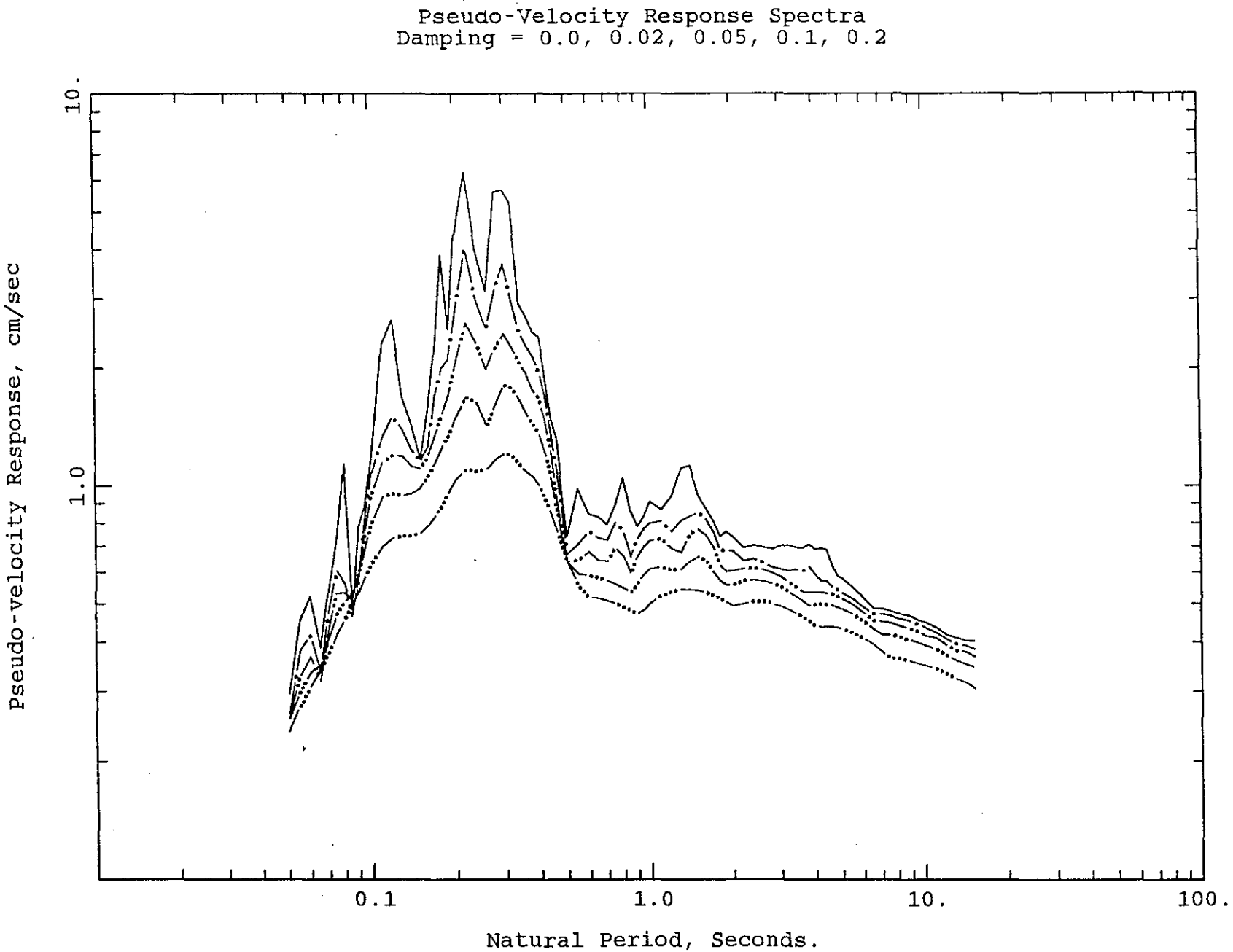


Station name= 2701 ADN* ADAK, NAVAL BASE; Code= 2701; Component= 90
EQ name= earthquake name unknown; EQ date= 11nov74

Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2

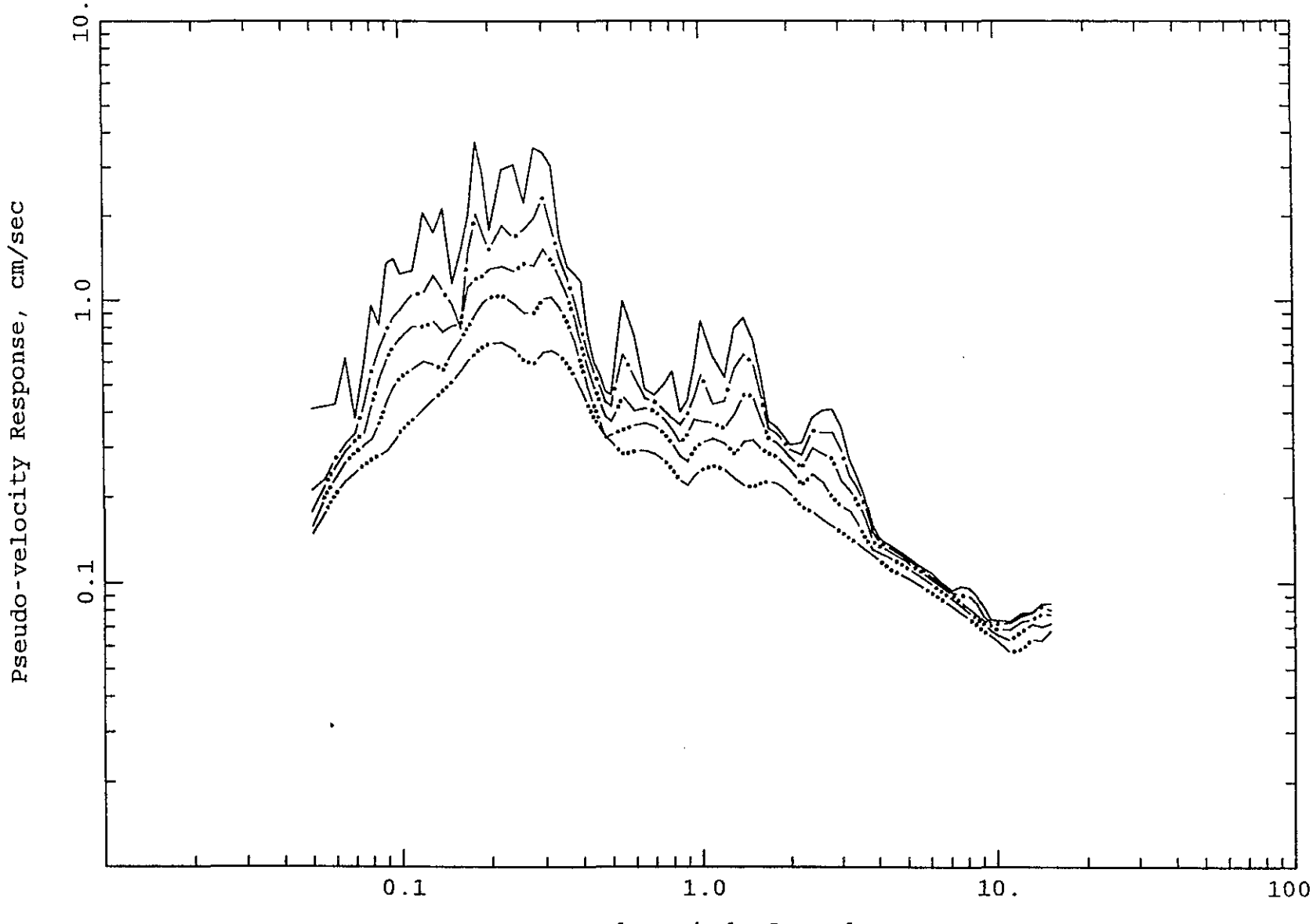


Station name= 2701 ADN* ADAK, NAVAL BASE; Code= 2701; Component= 180
EQ name= earthquake name unknown; EQ date= 22feb76

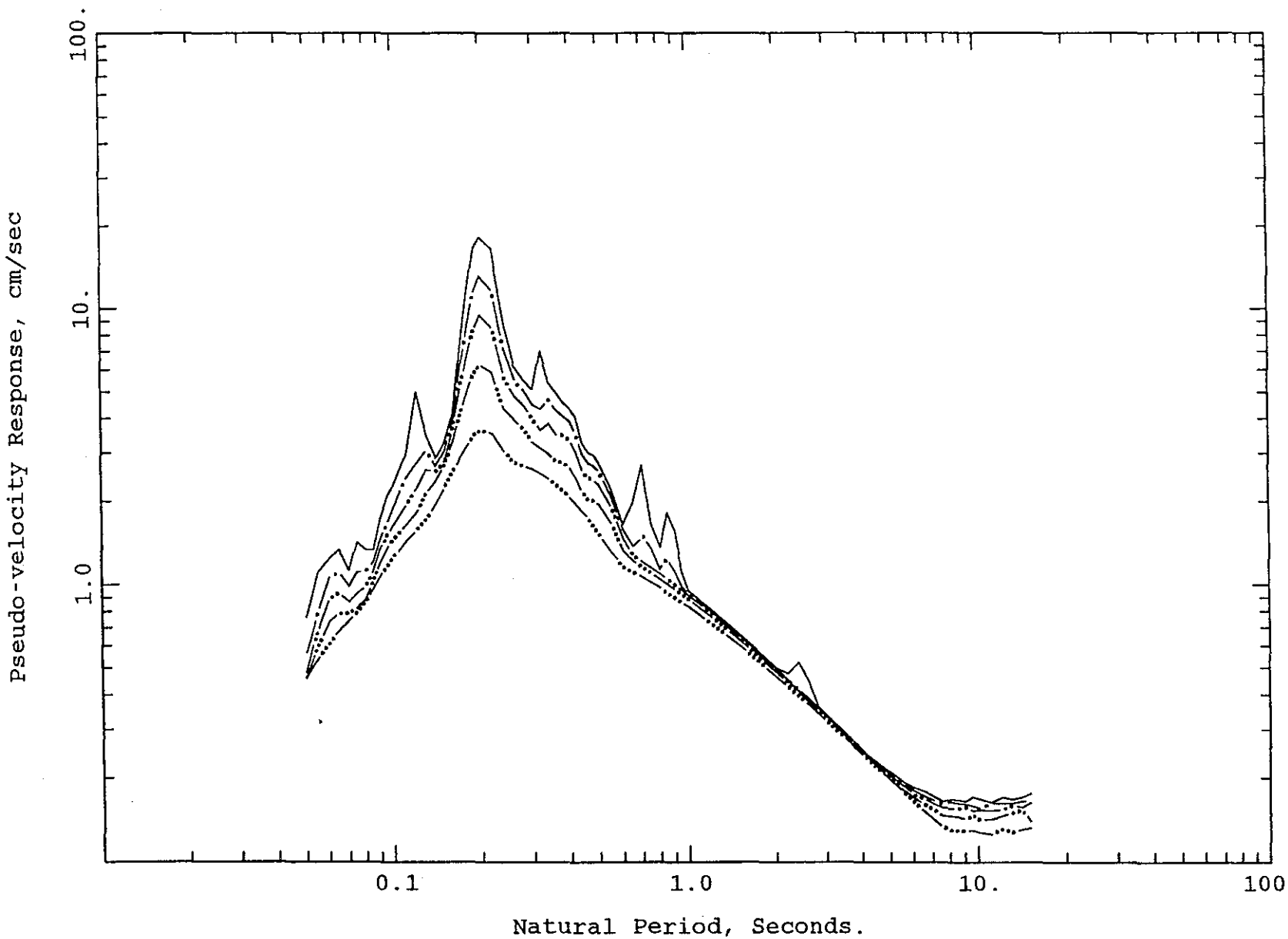


Station name= 2701 ADN* ADAK, NAVAL BASE; Code= 2701; Component= UP
EQ name= earthquake name unknown; EQ date= 22feb76

Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2

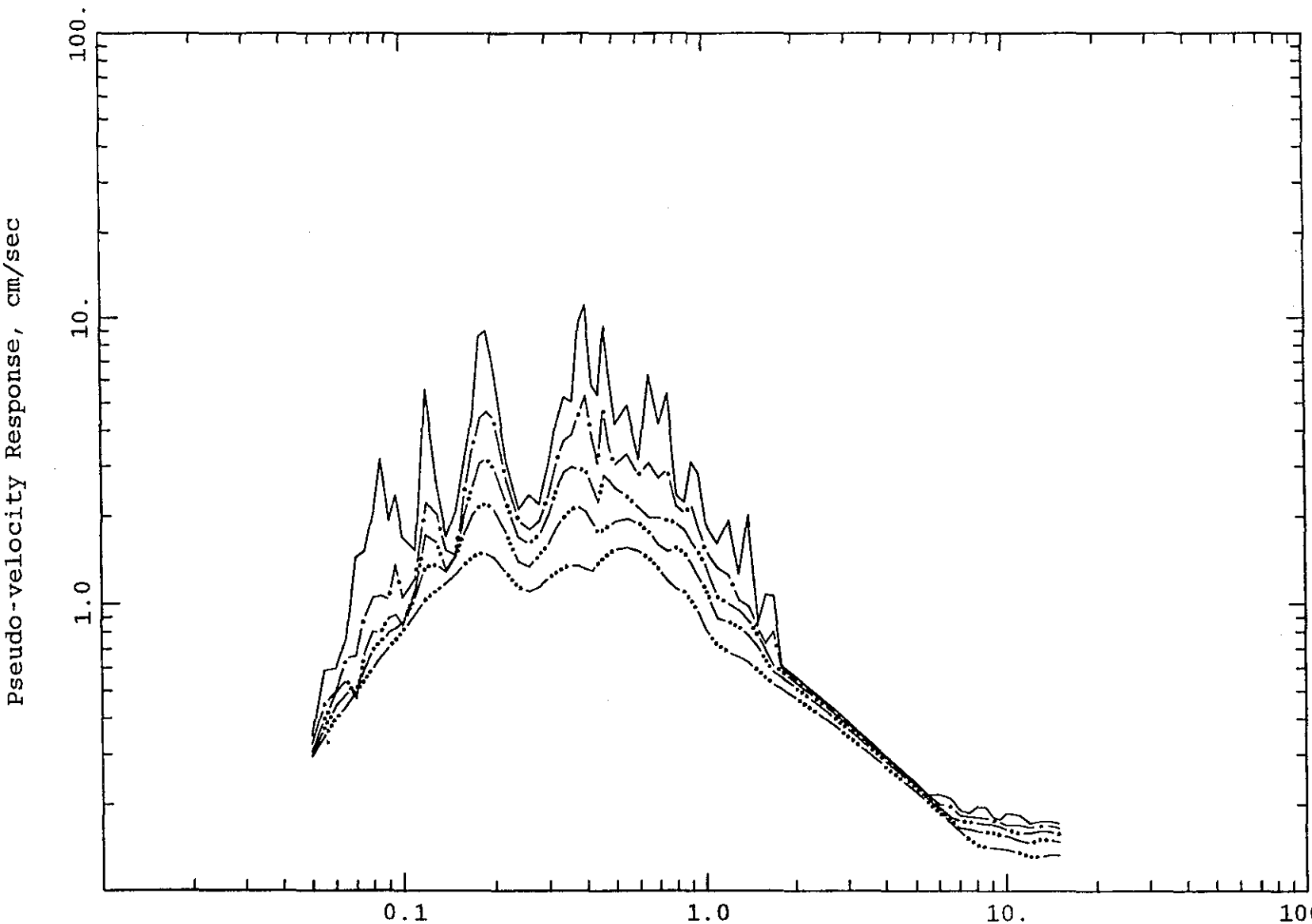


Station name= 2701 ADN* ADAK; NAVAL BASE; Code= 2701; Component= 90
EQ name= earthquake name unknown; EQ date= 22feb76

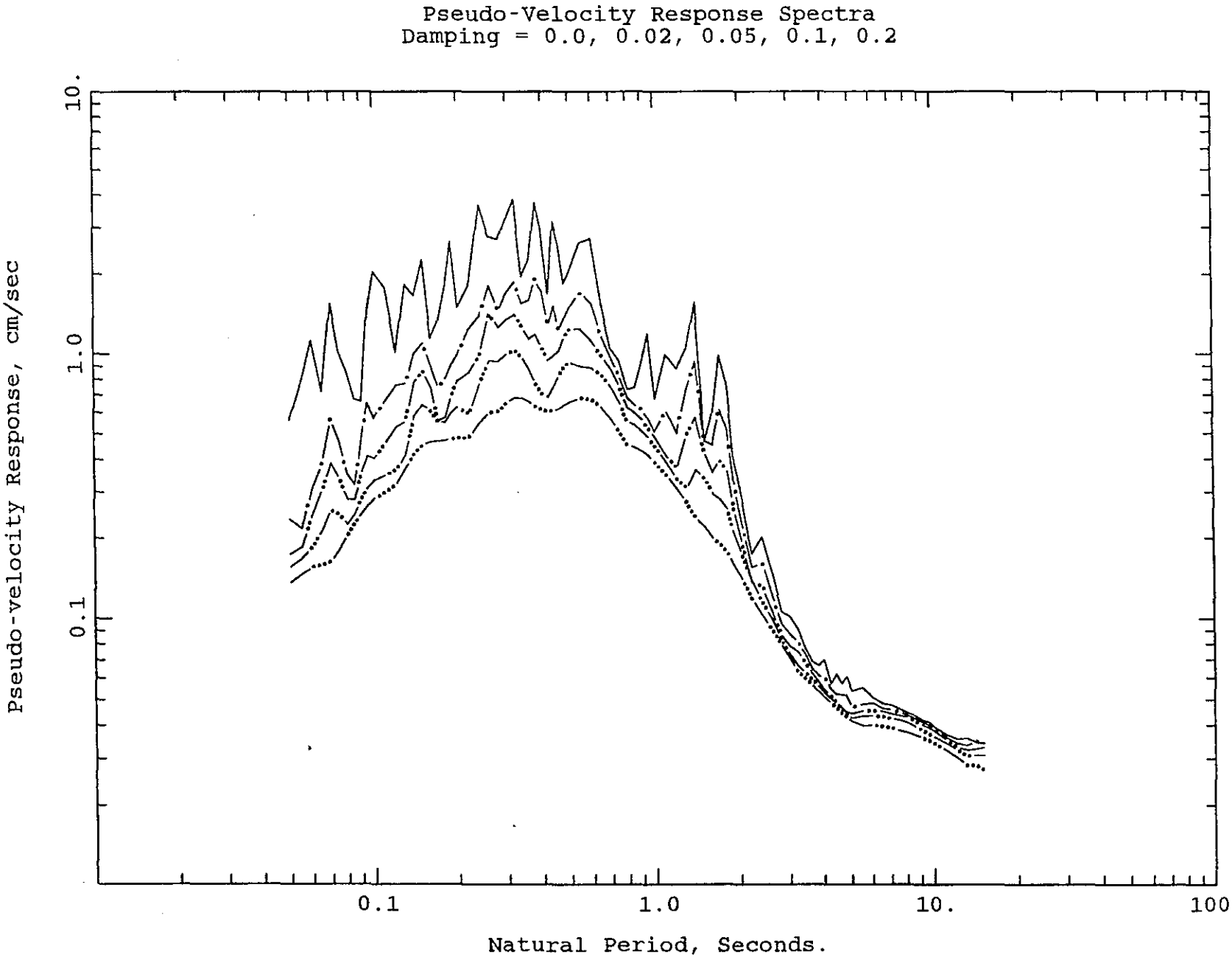


Station name= 2701 ADN - US NAVAL BASE, ADAK; Code= XXXX; Component= 287
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 05oct84

Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2

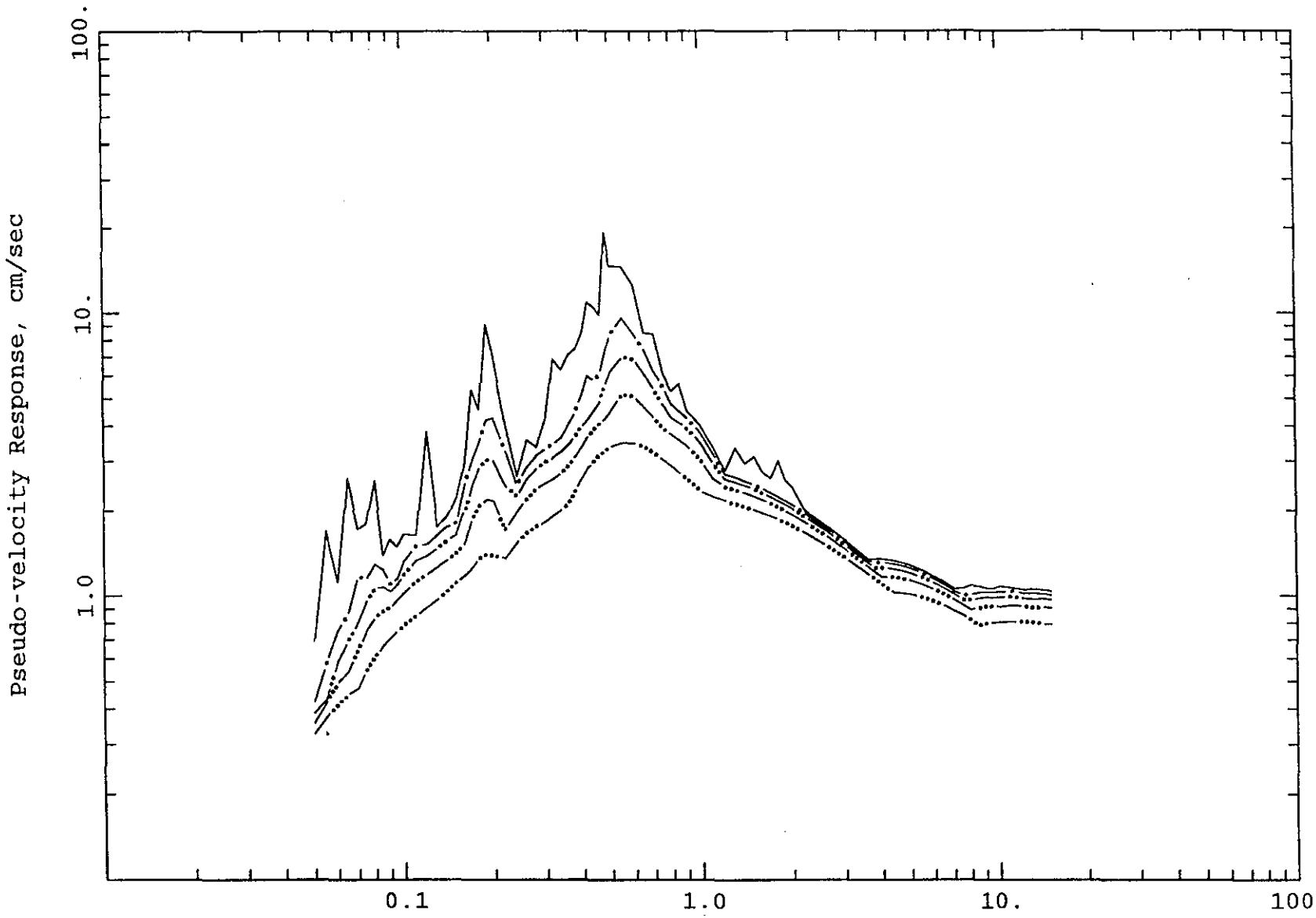


Station name= 2701 ADN - US NAVAL BASE, ADAK; Code= XXXX; Component= UP
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 05oct84



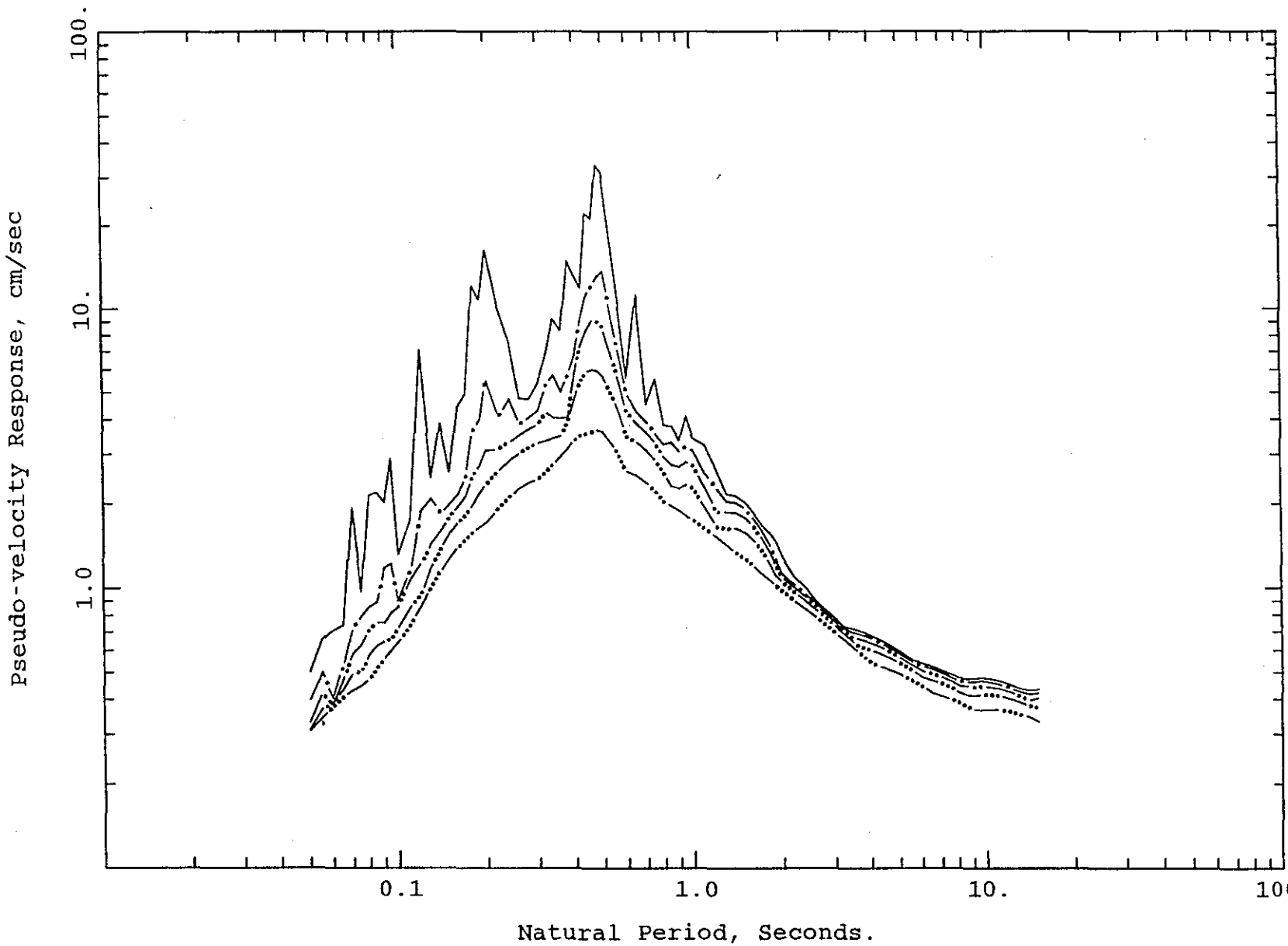
Station name= 2701 ADN - US NAVAL BASE, ADAK; Code= XXXX; Component= 197
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 05oct84

Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2

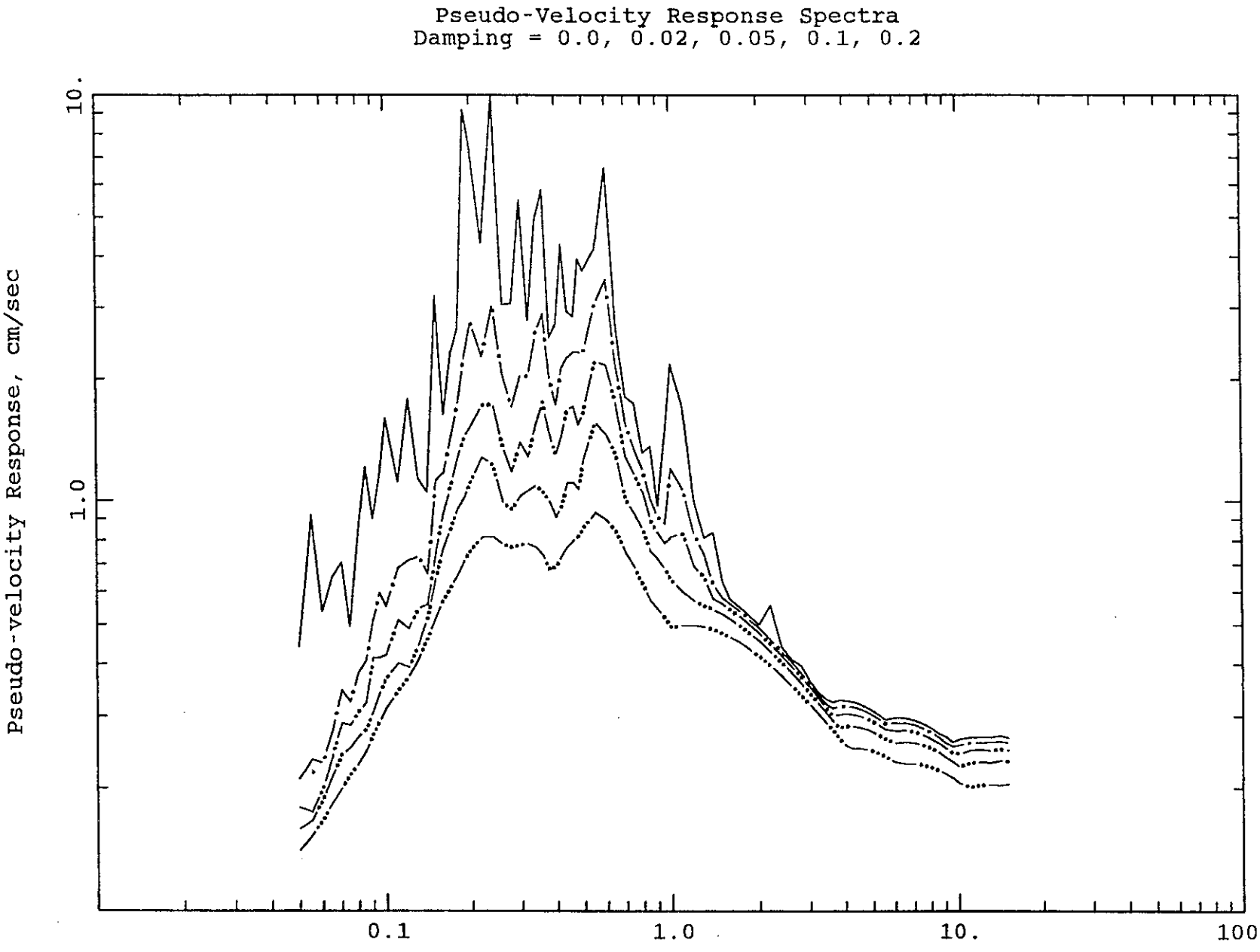


Station name= 2701 ADN - US NAVAL BASE, ADAK; Code= XXXX; Component= 287
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 19nov84

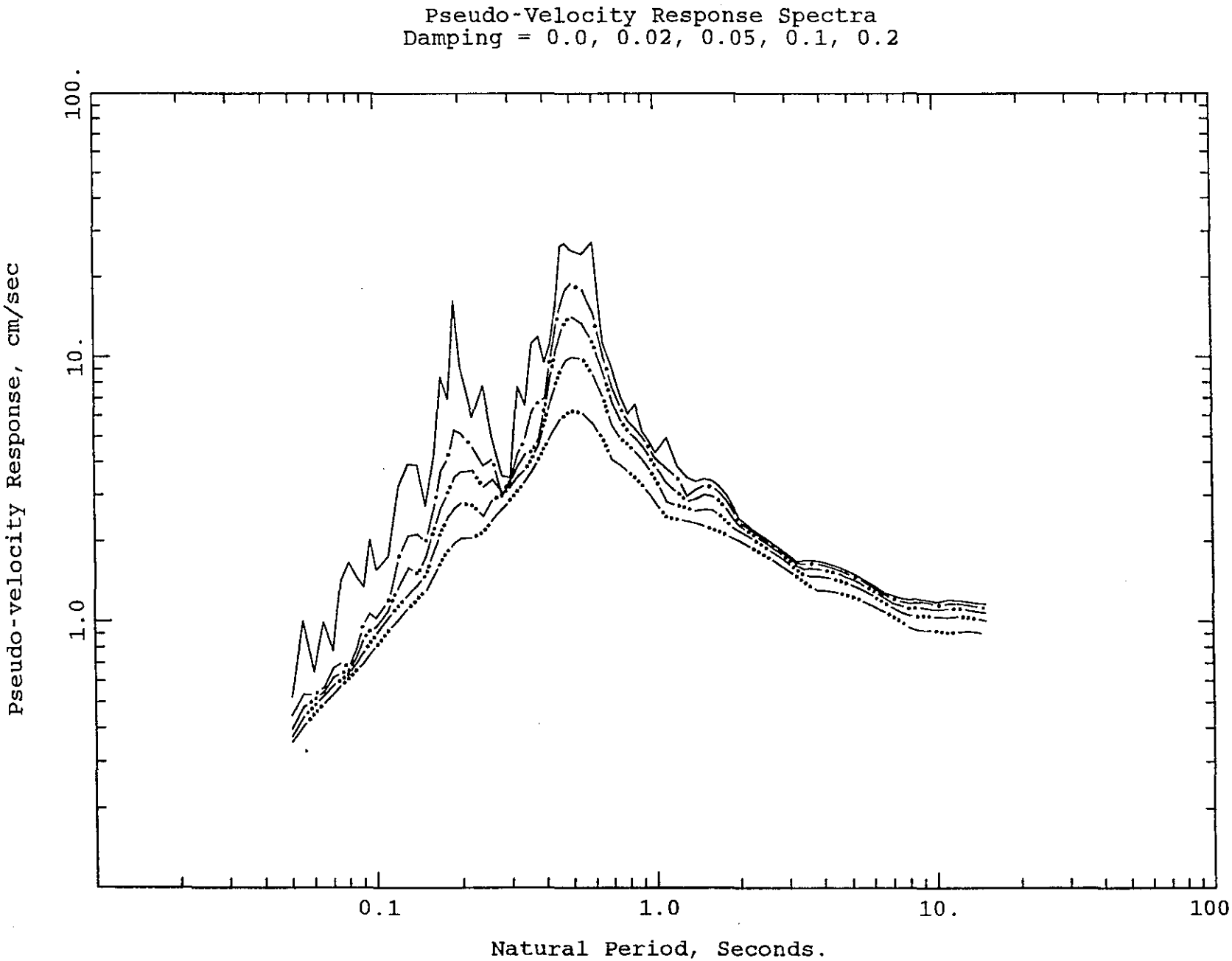
Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2



Station name= 2701 ADN - US NAVAL BASE, ADAK; Code= XXXX; Component= UP
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 19nov84

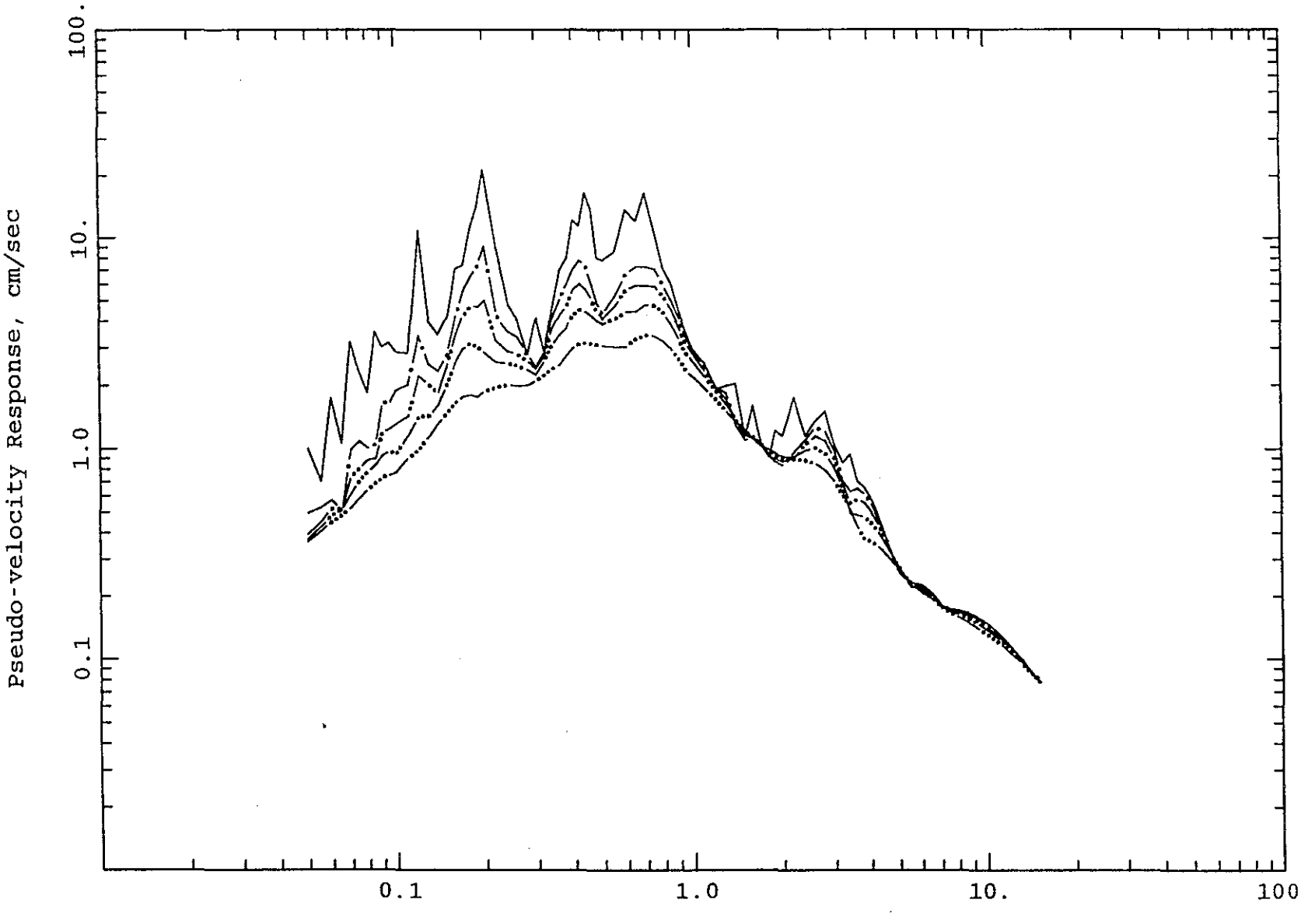


Station name= 2701 ADN - US NAVAL BASE, ADAK; Code= XXXX; Component= 197
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 19nov84

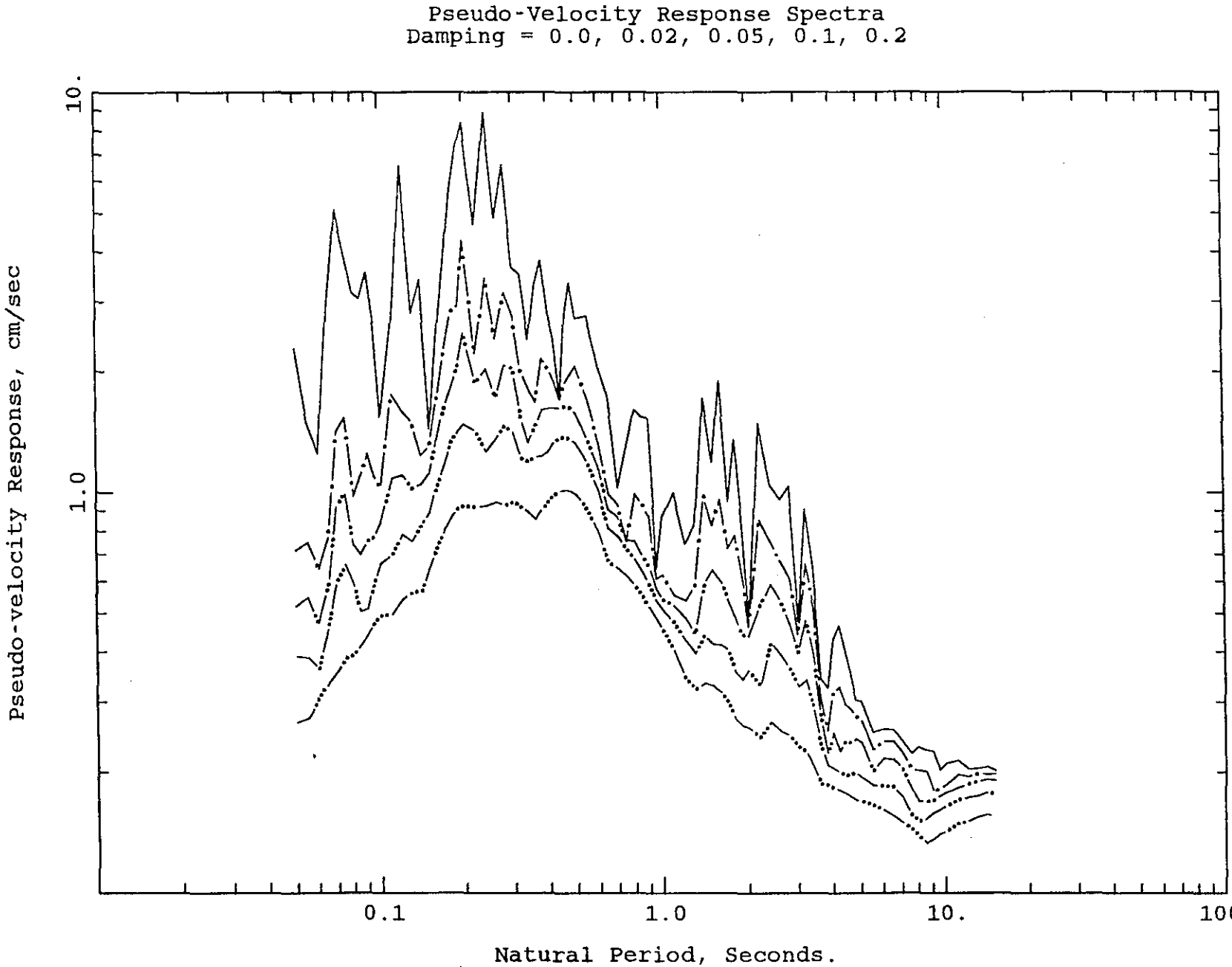


Station name= 2701 ADN - US NAVAL BASE, ADAK; Code= XXXX; Component= 287
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 28dec85

Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2

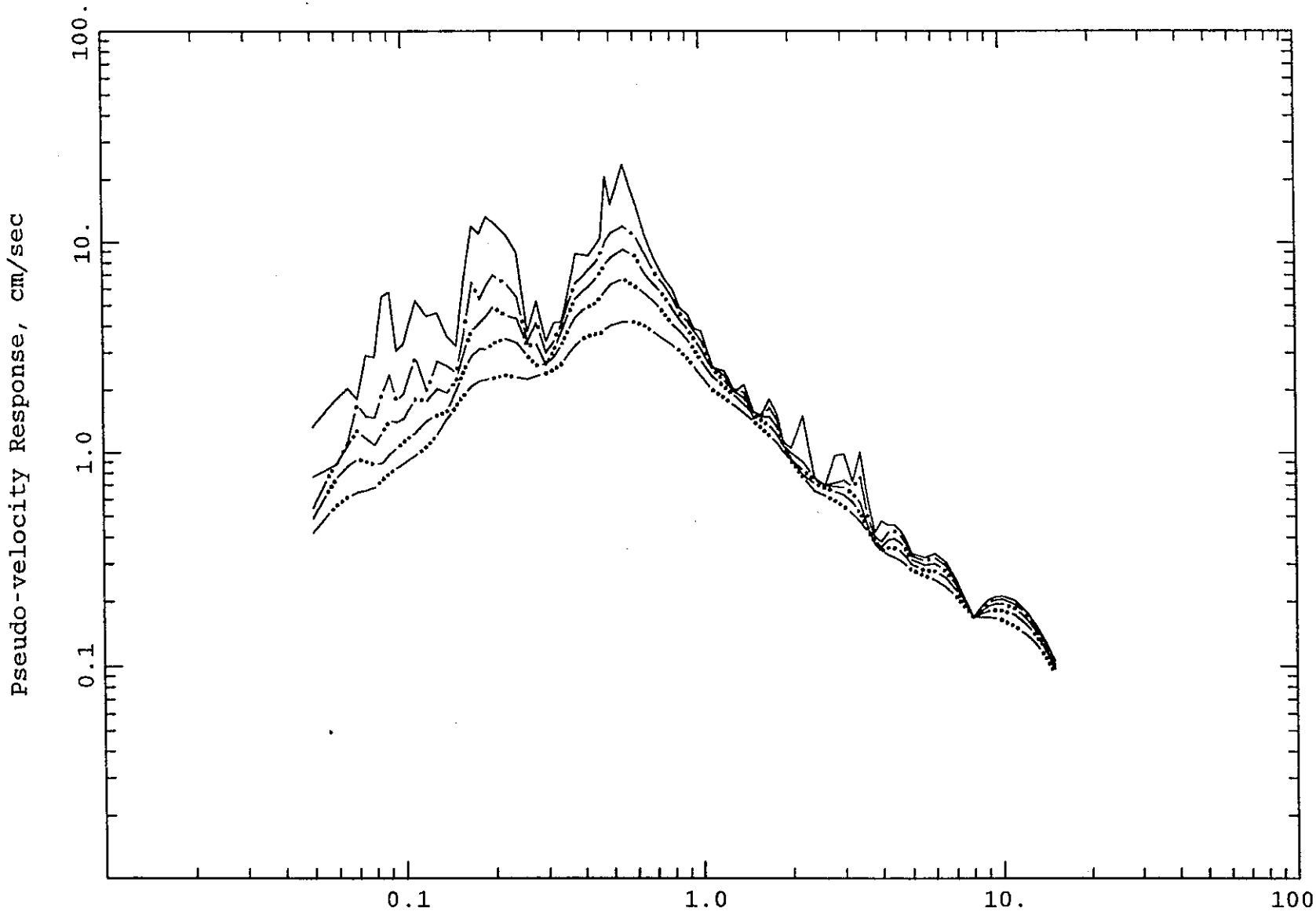


Station name= 2701 ADN - US NAVAL BASE, ADAK; Code= XXXX; Component= UP
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 28dec85



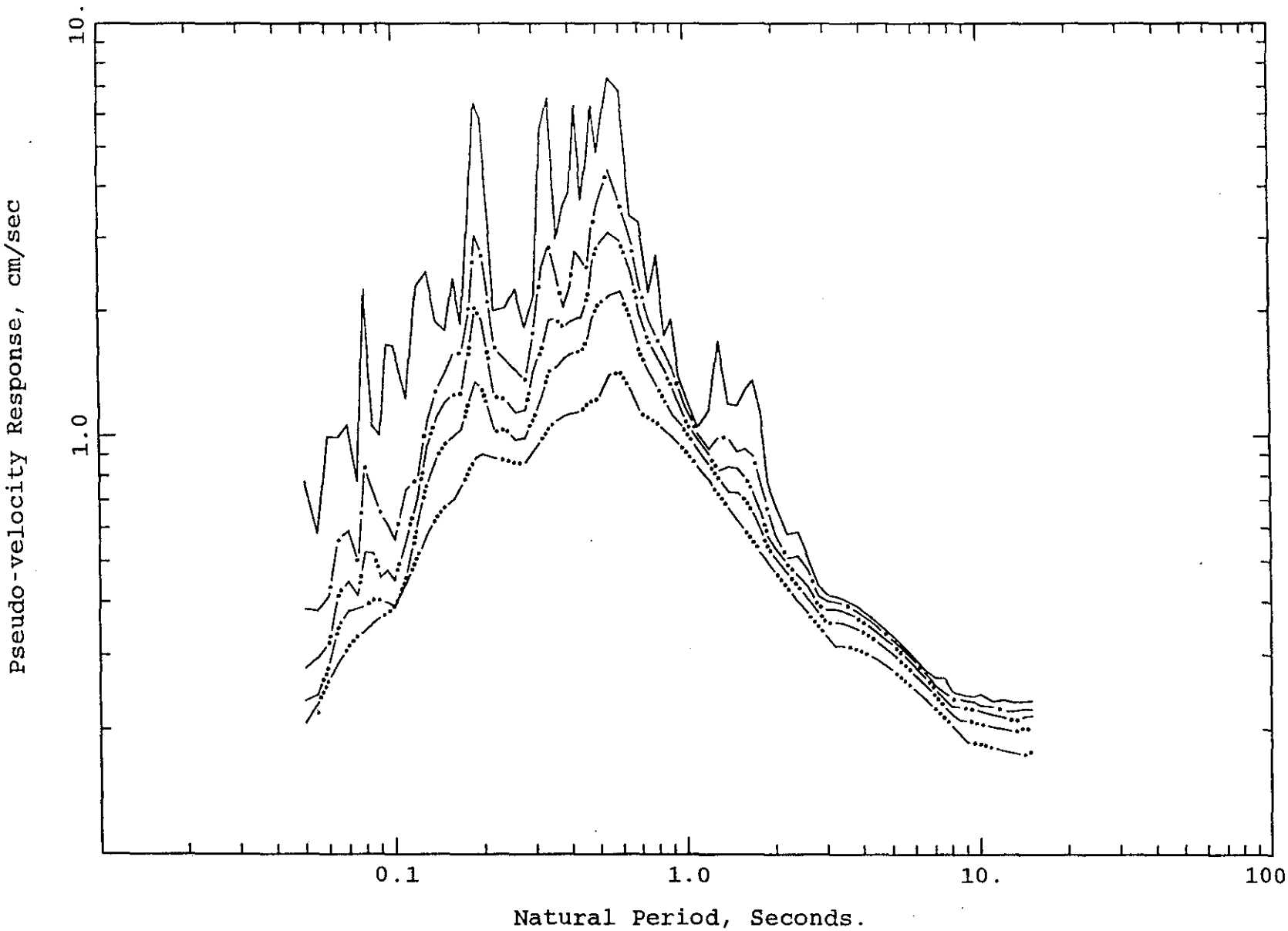
Station name= 2701 ADN - US NAVAL BASE, ADAK; Code= XXXX; Component= 197
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 28dec85

Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2



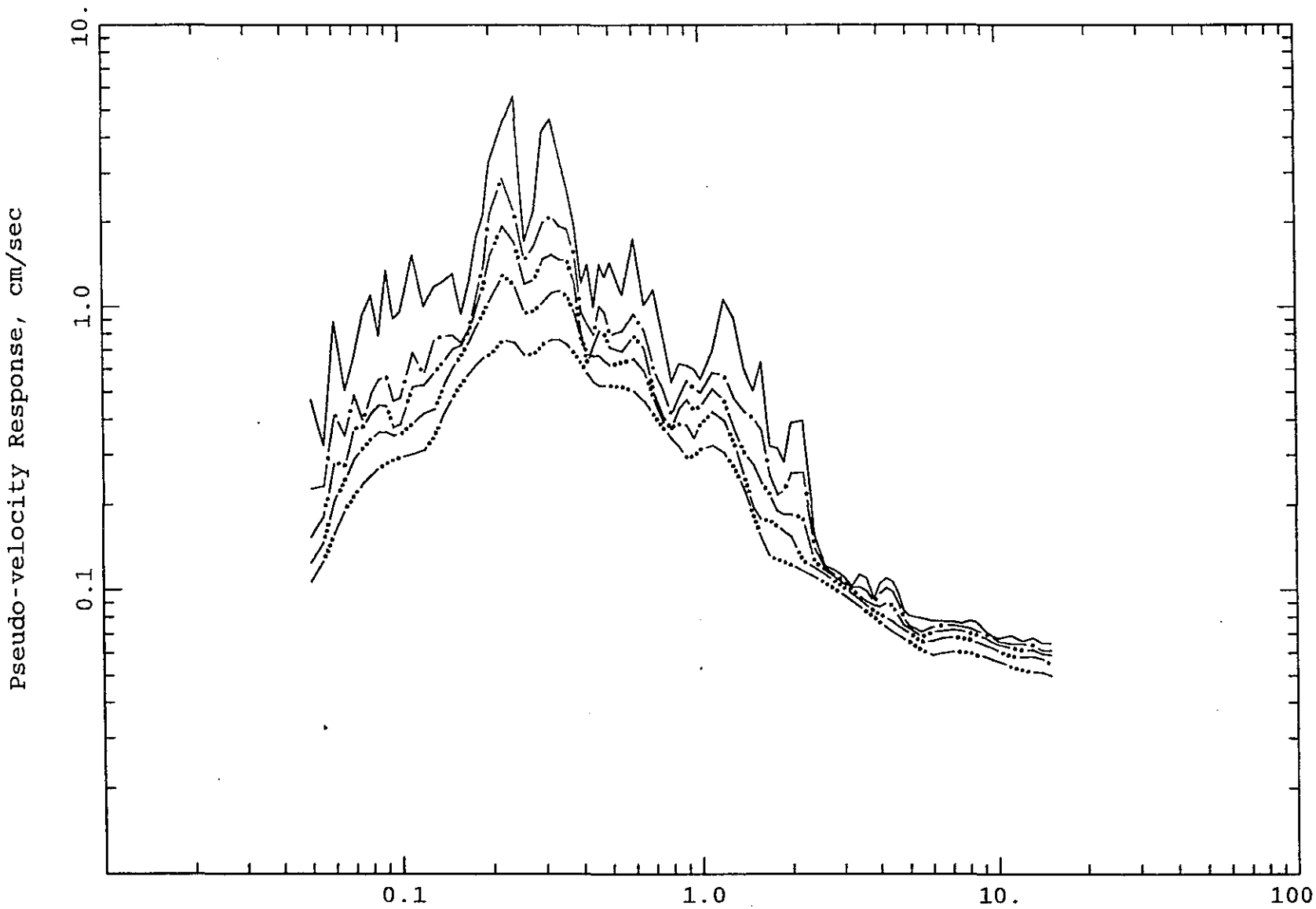
Station name= 2701 ADN - US NAVAL BASE, ADAK; Code= XXXX; Component= 197
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 02mar86

Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2



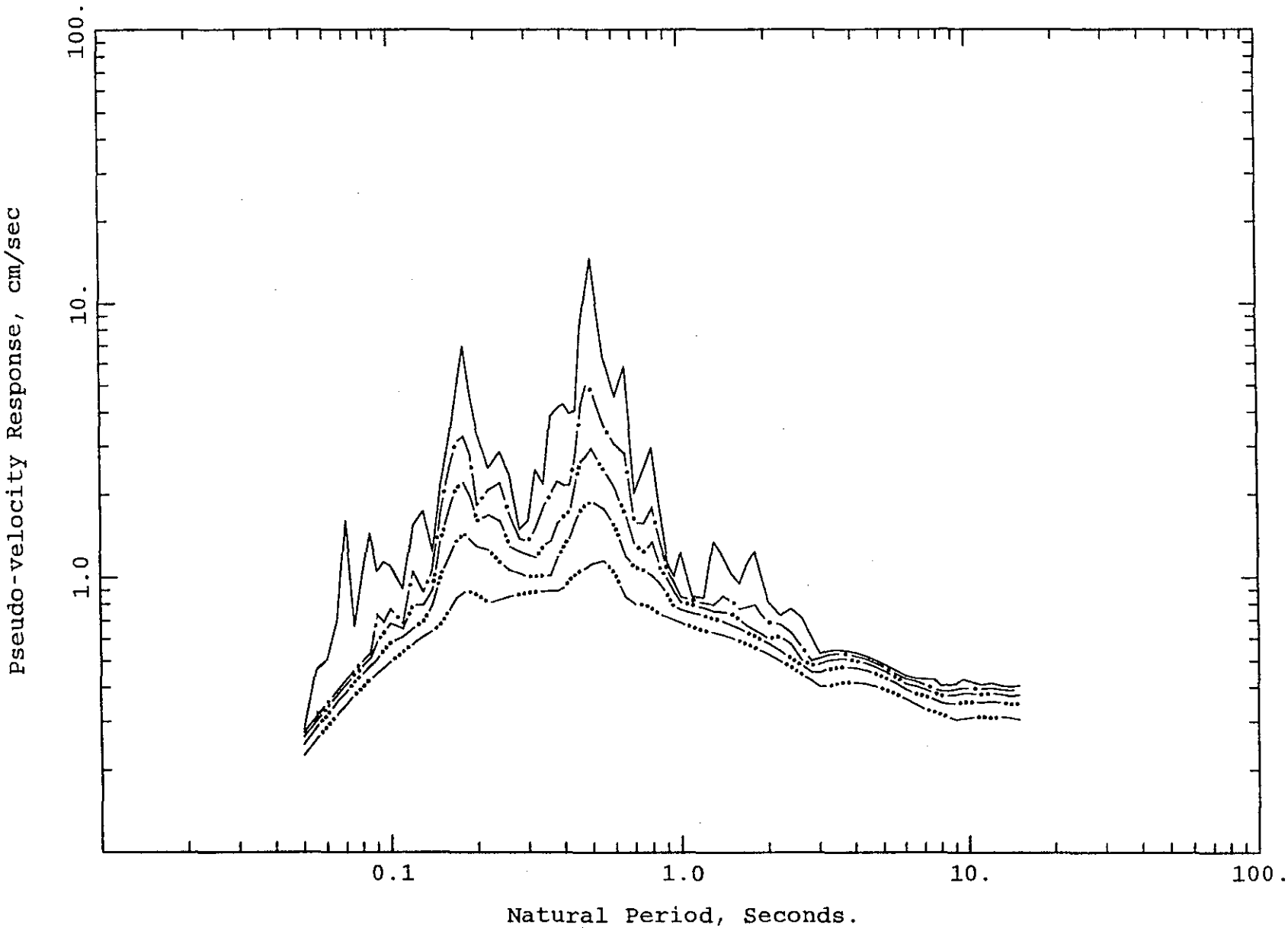
Station name= 2701 ADN - US NAVAL BASE, ADAK; Code= XXXX; Component= UP
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 02mar86

Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2

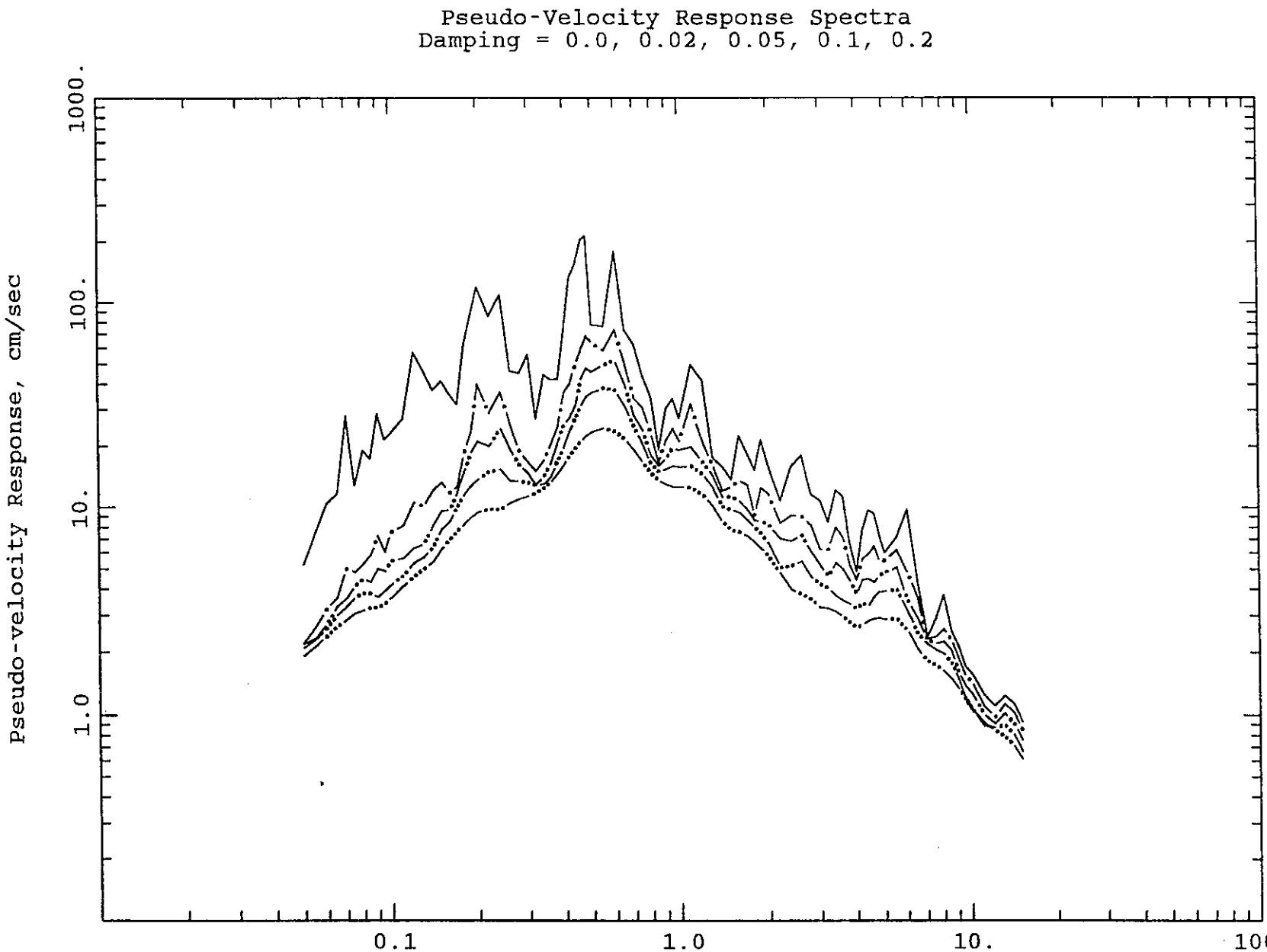


Station name= 2701 ADN - US NAVAL BASE, ADAK; Code= XXXX; Component= 287
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 02mar86

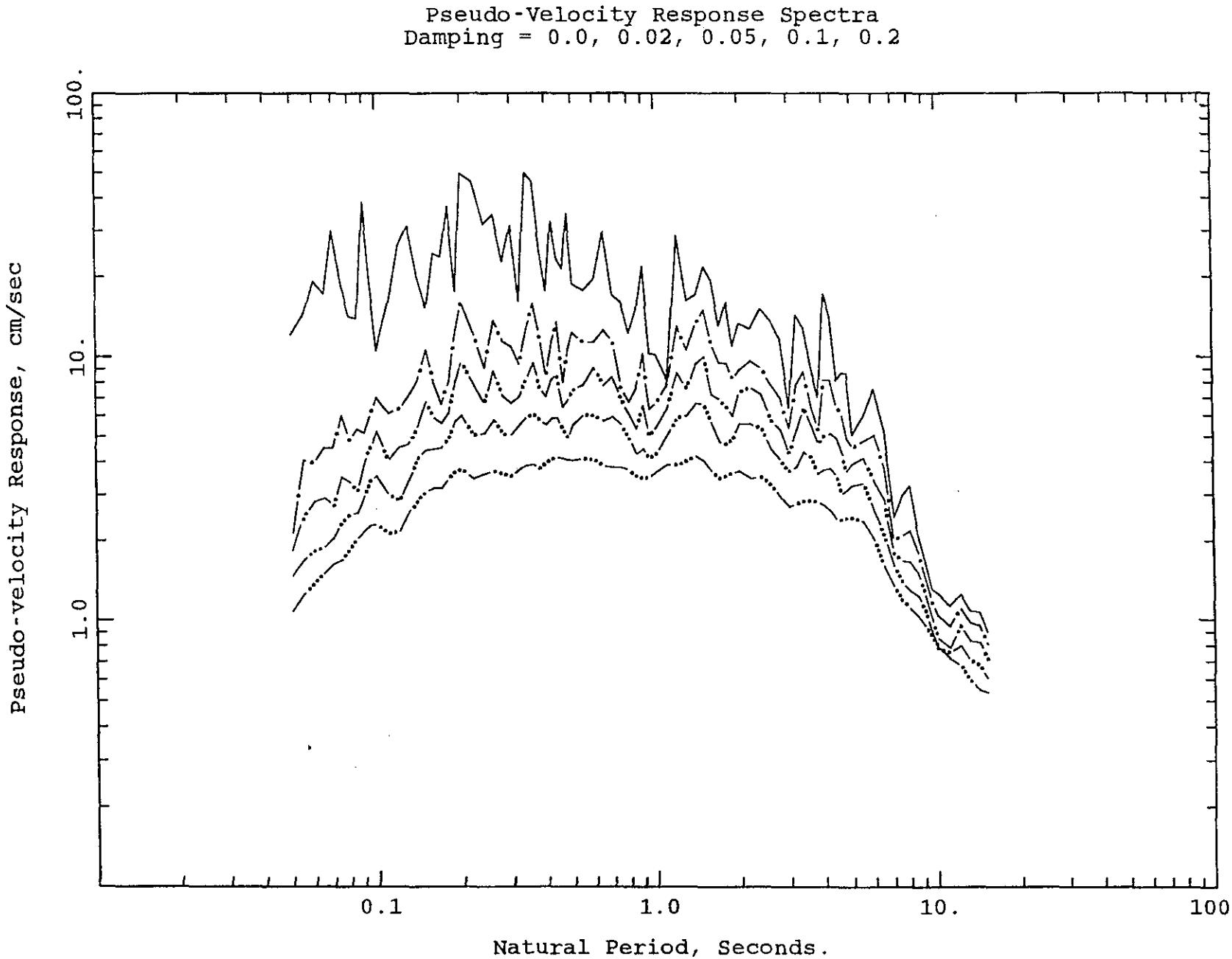
Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2



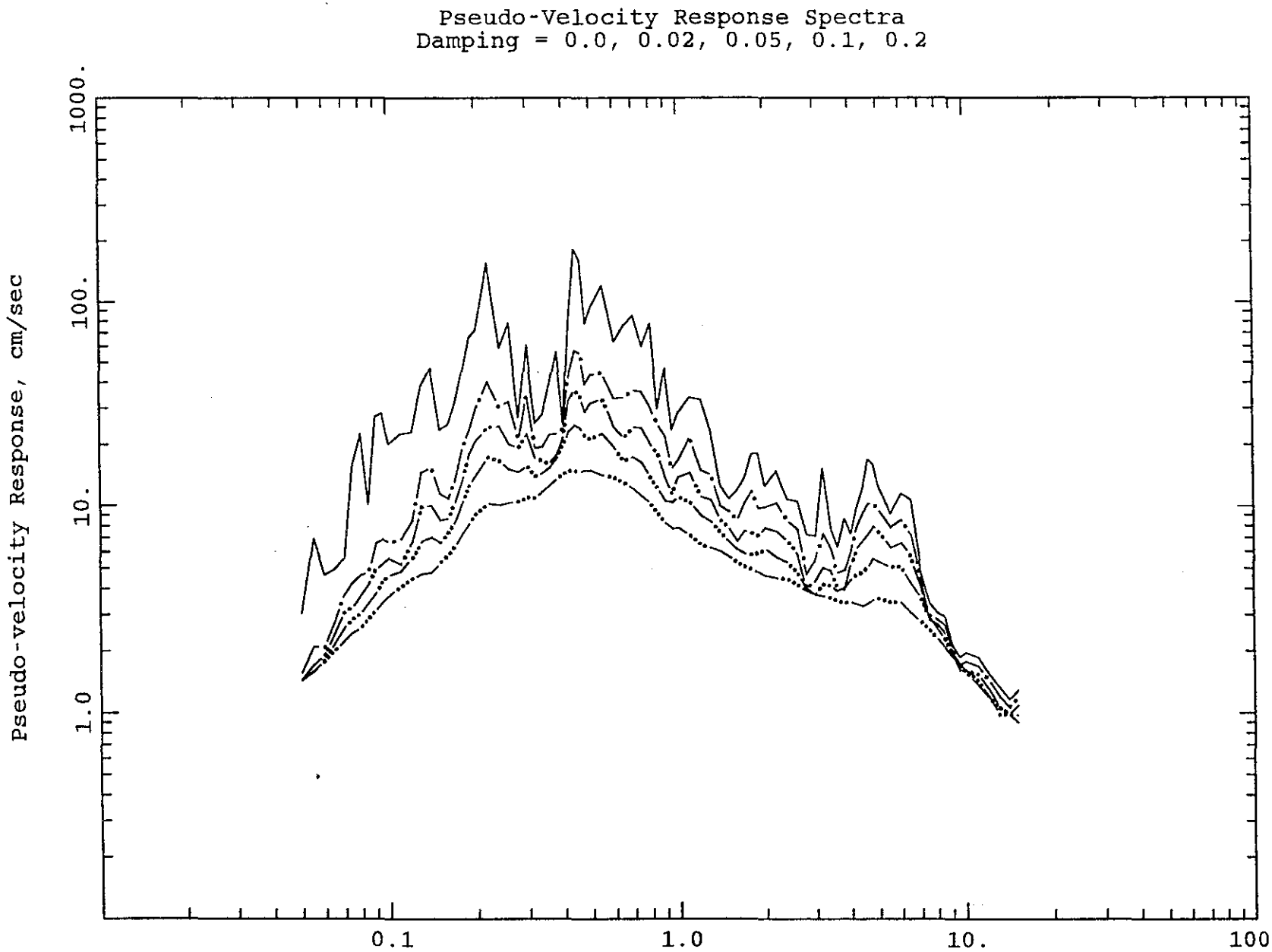
Station name= 2701 ADN - US NAVAL BASE, ADAK; Code= XXXX; Component= 197
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 07may86



Station name= 2701 ADN - US NAVAL BASE, ADAK; Code= XXXX; Component= UP
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 07may86

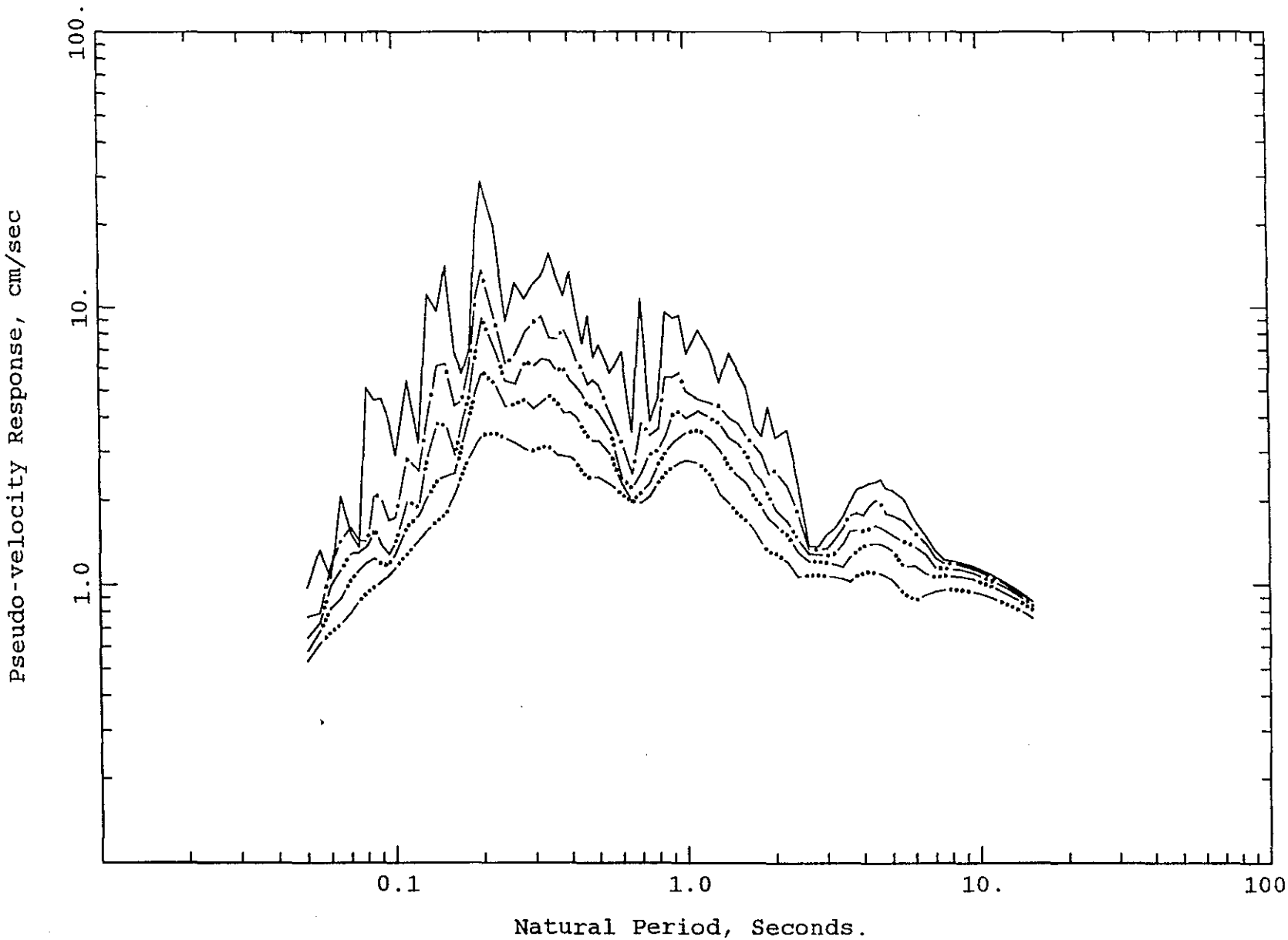


Station name= 2701 ADN - US NAVAL BASE, ADAK; Code= XXXX; Component= 287
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 07may86

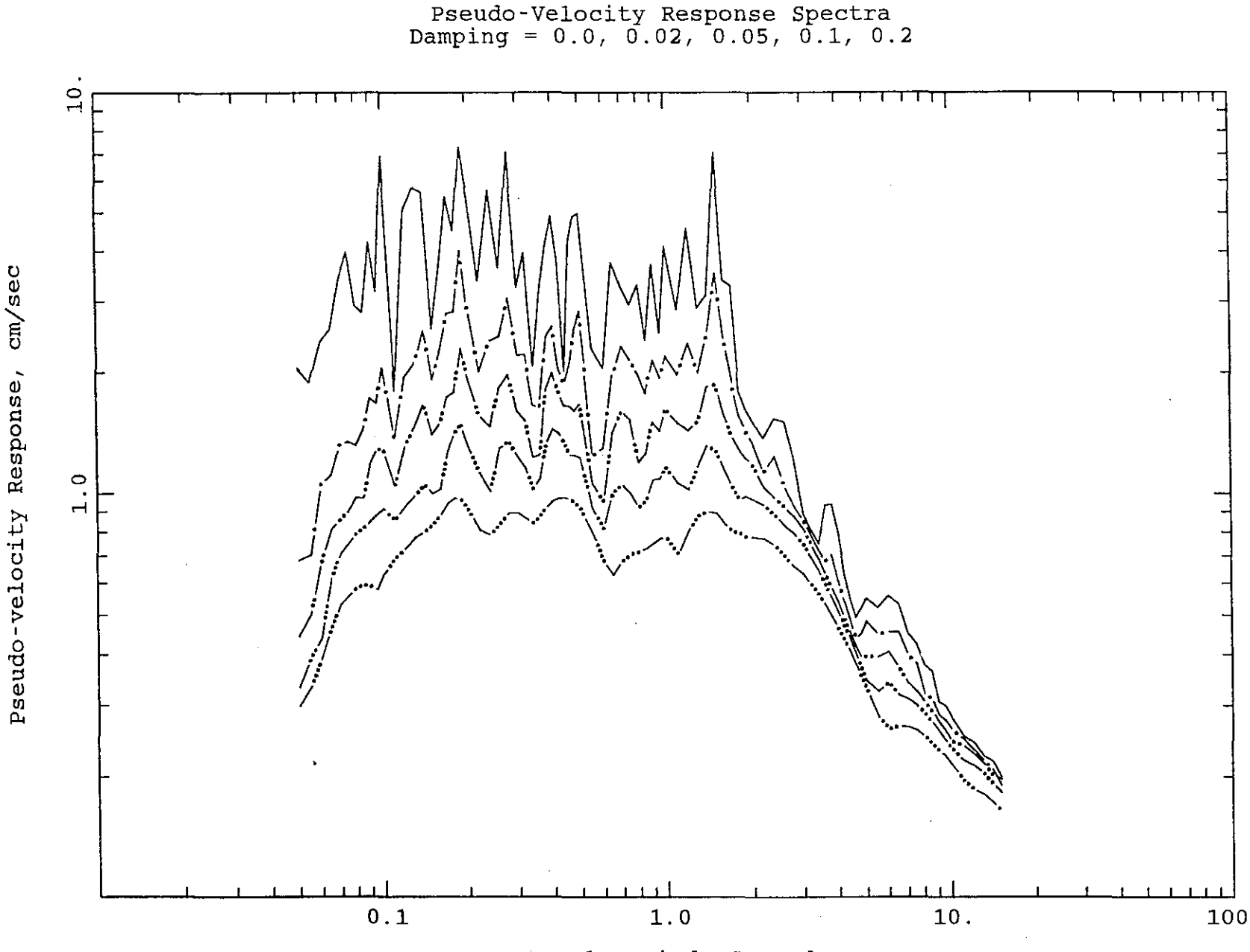


Station name= 2702 AMU ANCHORAGE, GOULE HAL; Code= 2702; Component= 315
EQ name= earthquake name unknown; EQ date= 01jan75

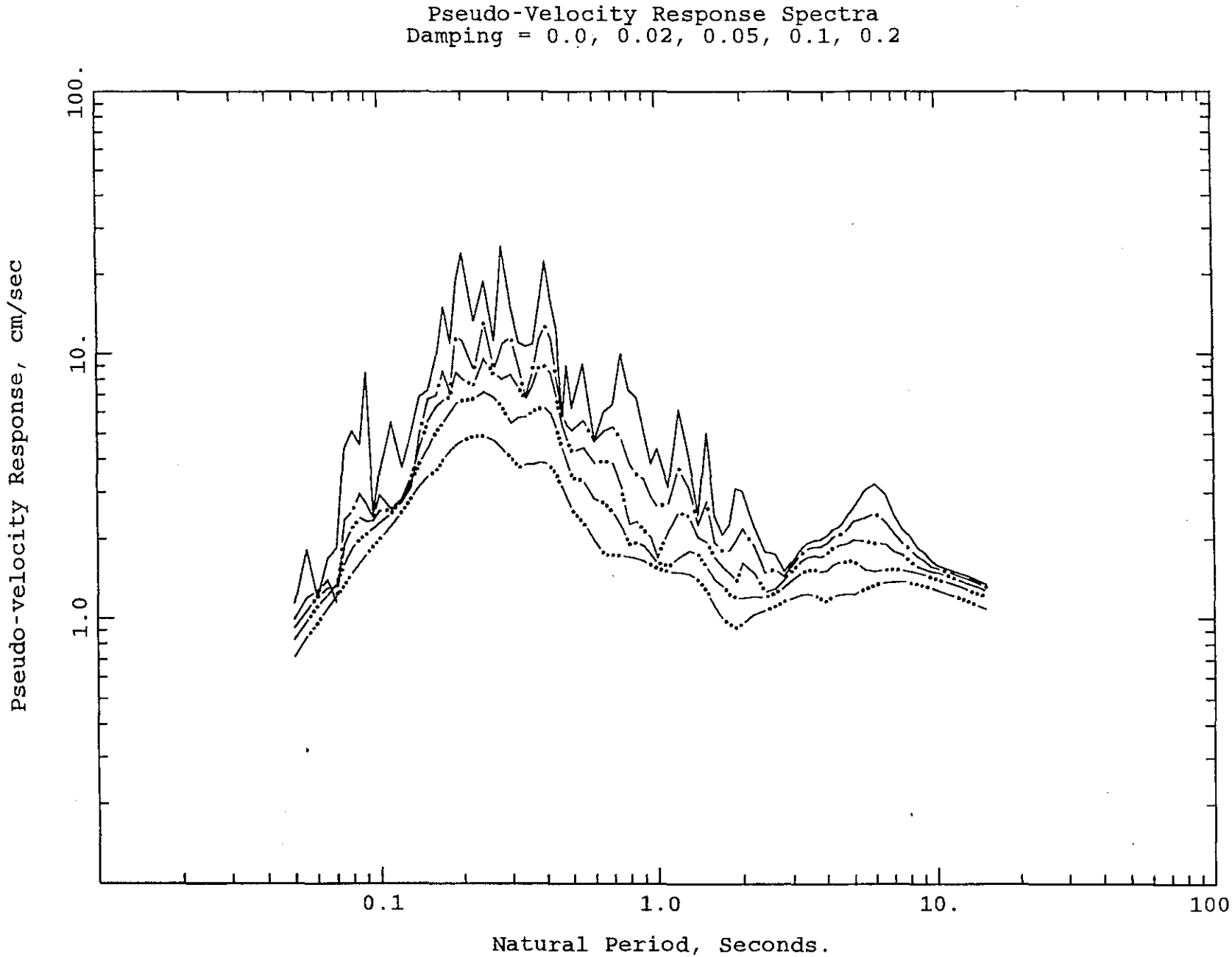
Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2



Station name= 2702 AMU ANCHORAGE, GOULE HAL; Code= 2702; Component= UP
EQ name= earthquake name unknown; EQ date= 01jan75

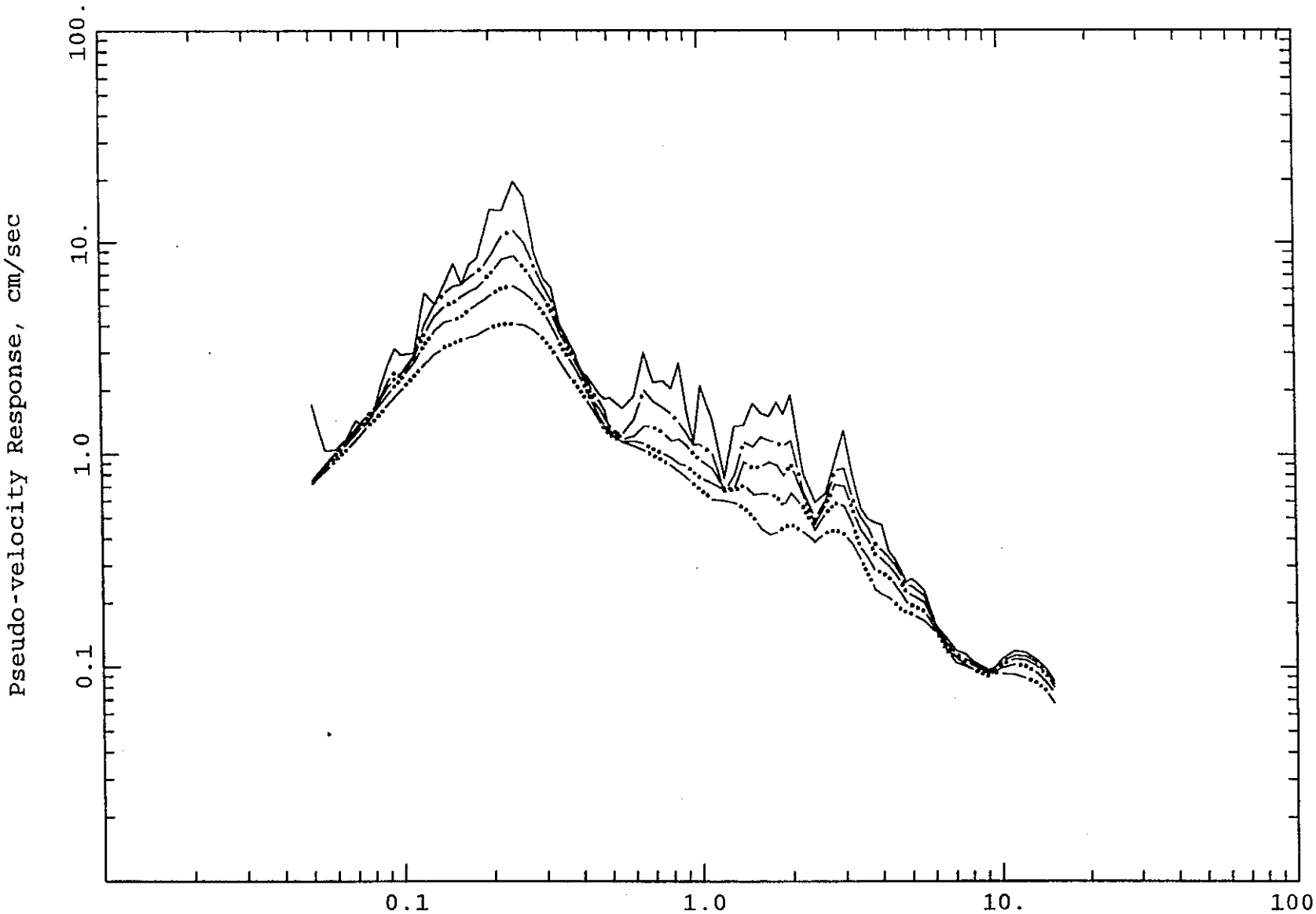


Station name= 2702 AMU ANCHORAGE, GOULE HAL; Code= 2702; Component= 225
EQ name= earthquake name unknown; EQ date= 01jan75

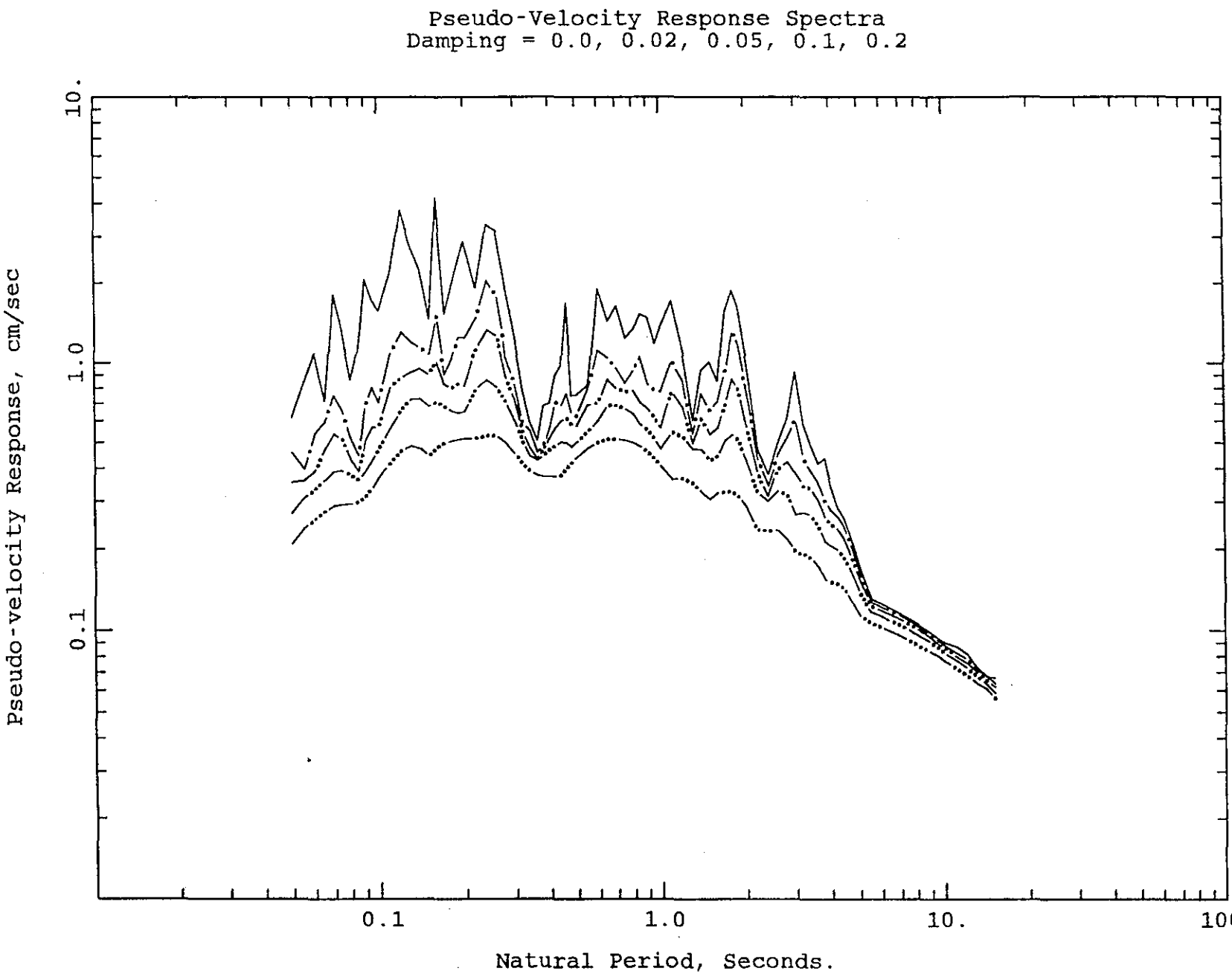


Station name= AMU 2702 - ANCHORAGE, ALASKA; Code= XXXX; Component= 270
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 30dec85

Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2

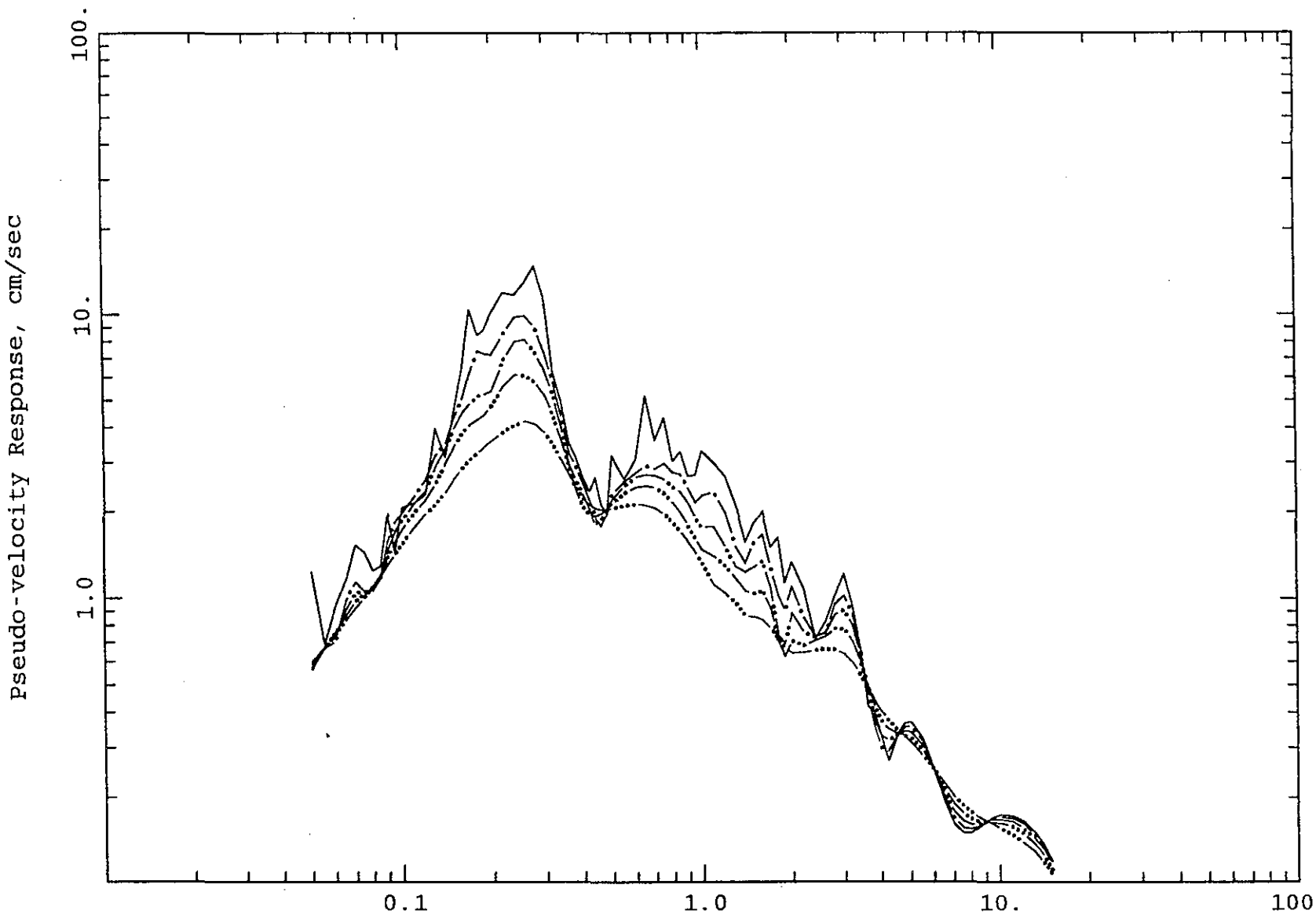


Station name= AMU 2702 - ANCHORAGE, ALASKA; Code= XXXX; Component= UP
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 30dec85

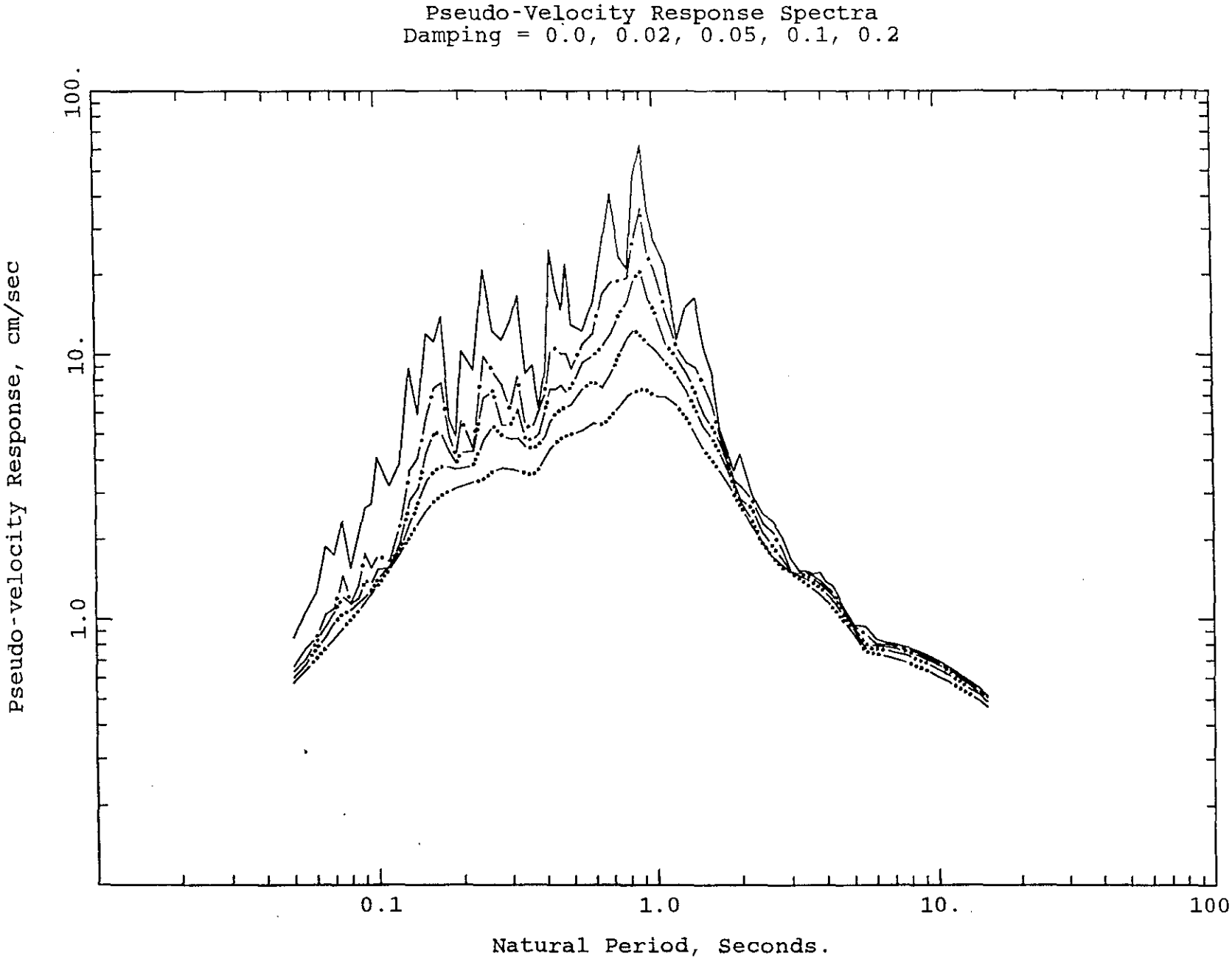


Station name= AMU 2702 - ANCHORAGE, ALASKA; Code= XXXX; Component= 360
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 30dec85

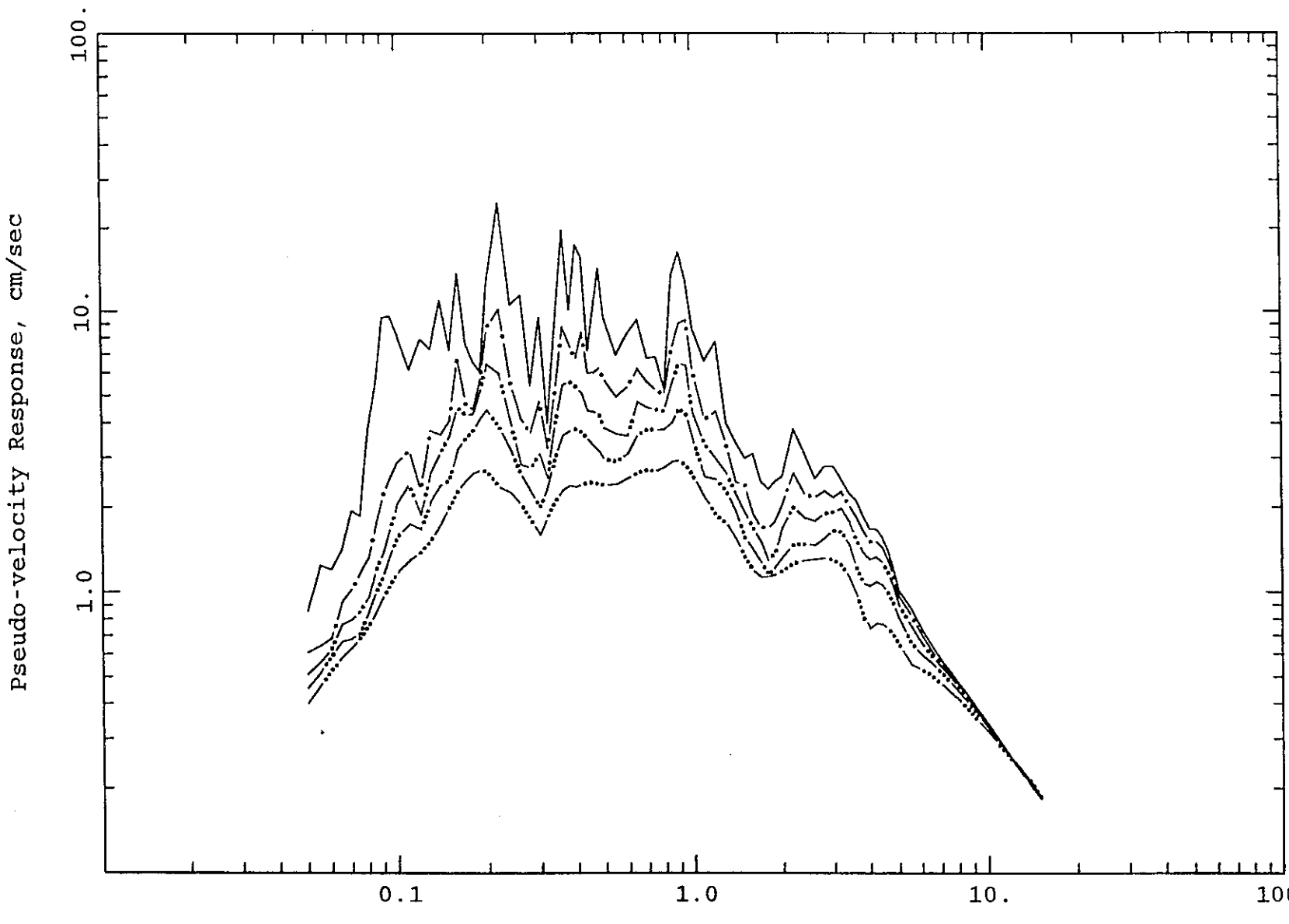
Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2



Station name= 2703 ANH ANCHORAGE, AK NATIVE; Code= 2703; Component= 0
EQ name= earthquake name unknown; EQ date= 01jan75

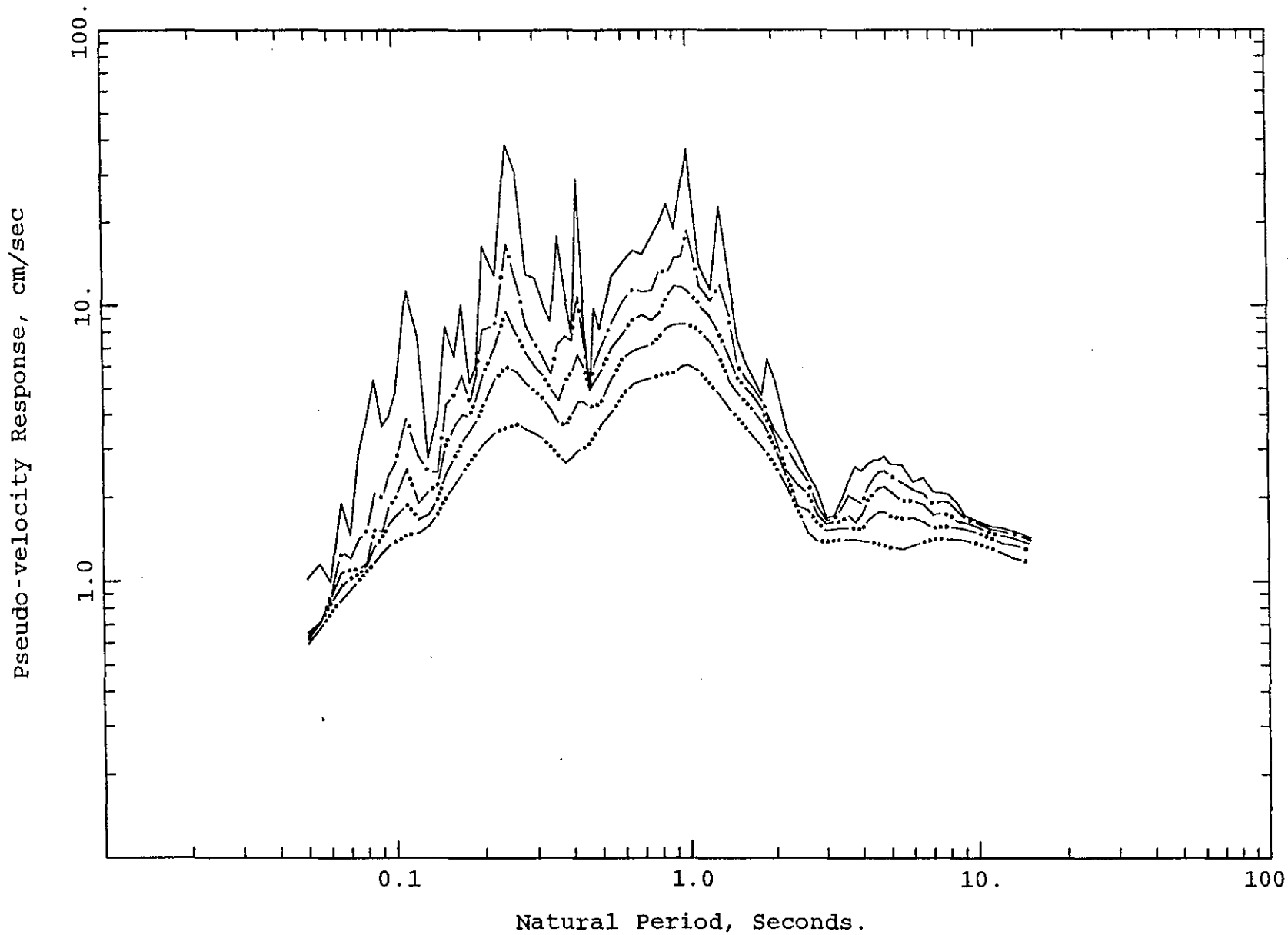


Station name= 2703 ANH ANCHORAGE, AK NATIVE; Code= 2703; Component= UP
EQ name= earthquake name unknown; EQ date= 01jan75



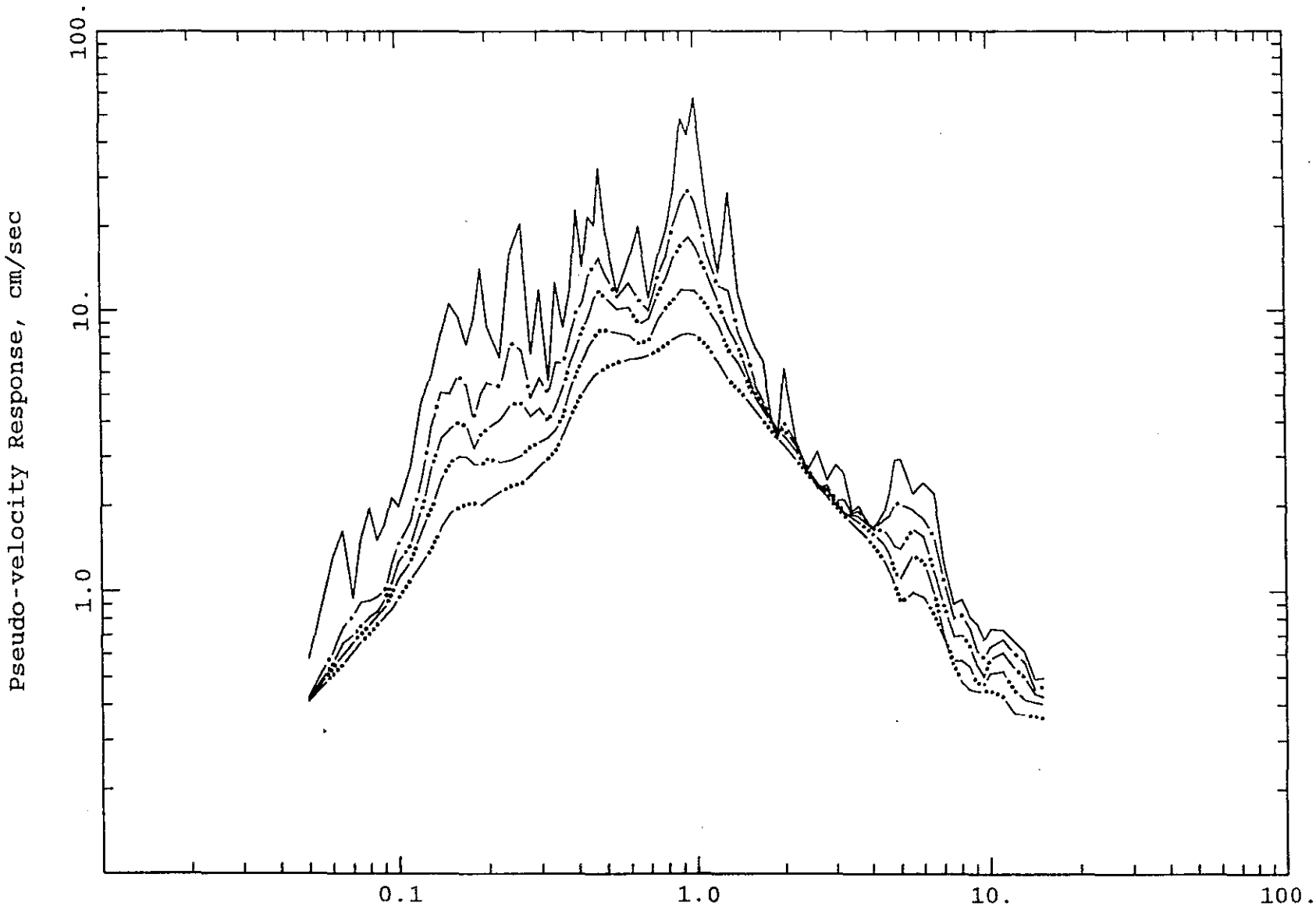
Station name= 2703 ANH ANCHORAGE, AK NATIVE; Code= 2703; Component= 270
EQ name= earthquake name unknown; EQ date= 01jan75

Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2



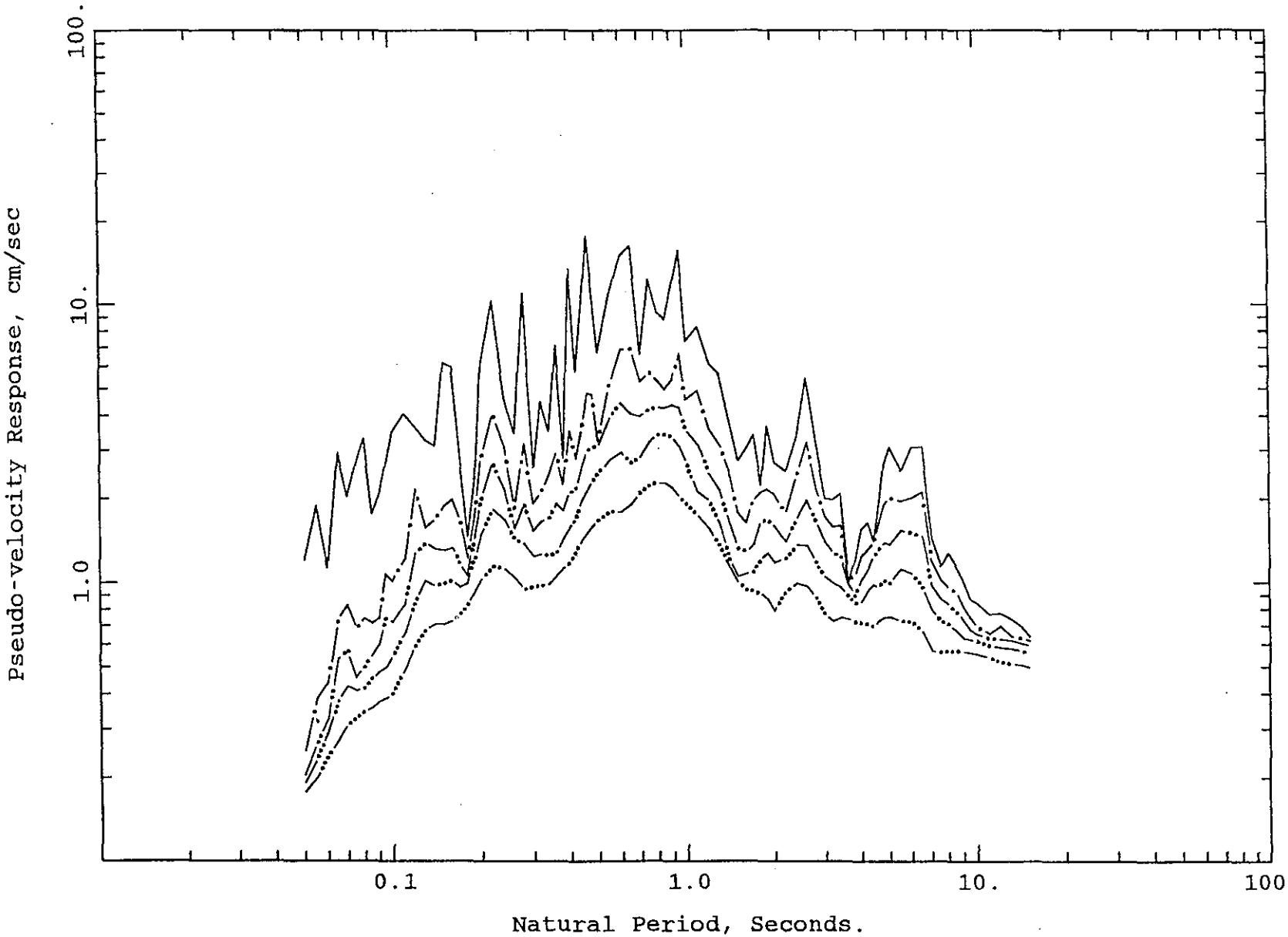
Station name= 2716 AWH ANCHORAGE, WESTWARD; Code= 2716; Component= 135
EQ name= earthquake name unknown; EQ date= 01jan75

Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2

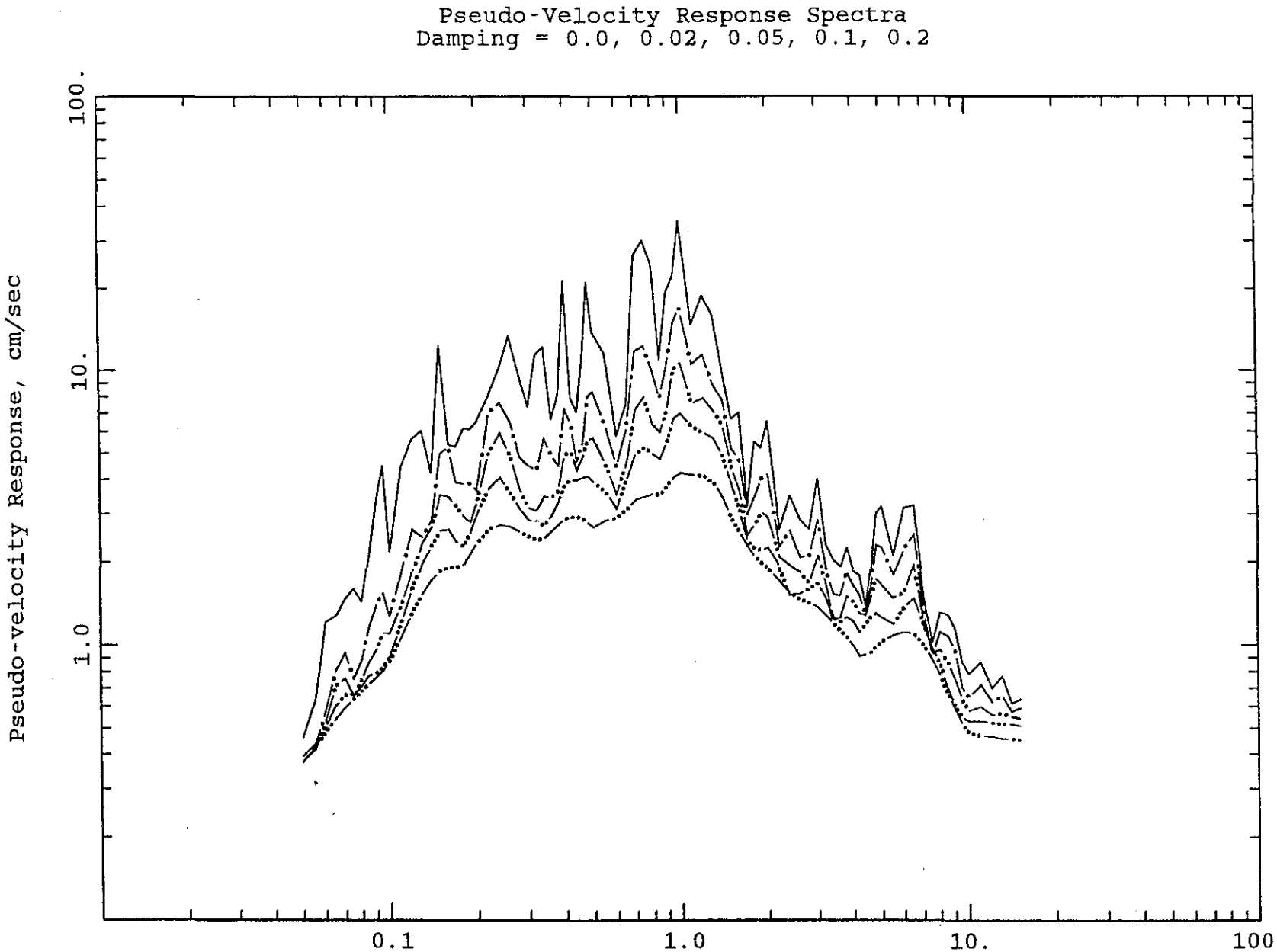


Station name= 2716 AWH ANCHORAGE, WESTWARD; Code= 2716; Component= UP
EQ name= earthquake name unknown; EQ date= 01jan75

Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2

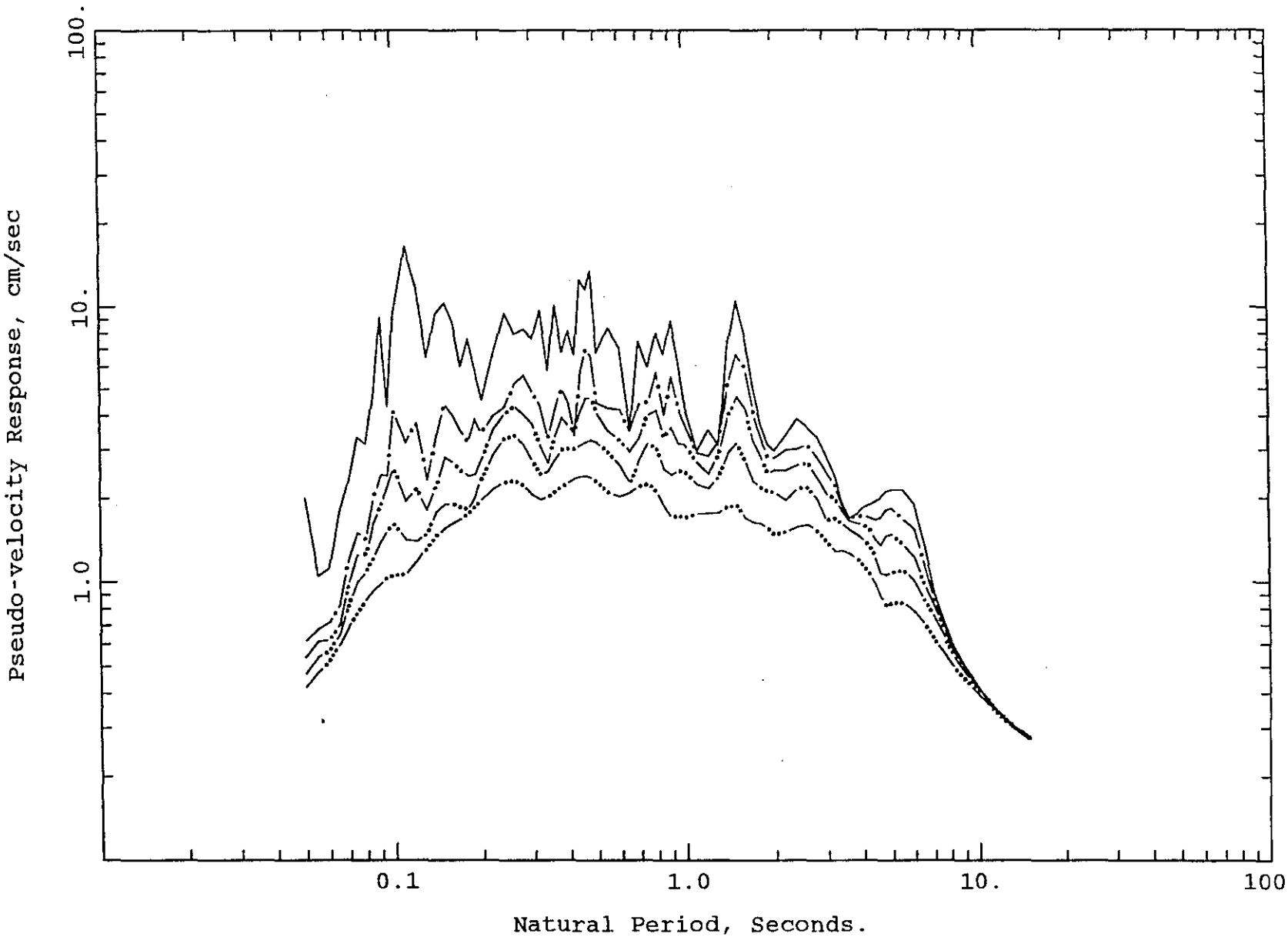


Station name= 2716 AWH ANCHORAGE, WESTWARD; Code= 2716; Component= 45
EQ name= earthquake name unknown; EQ date= 01jan75



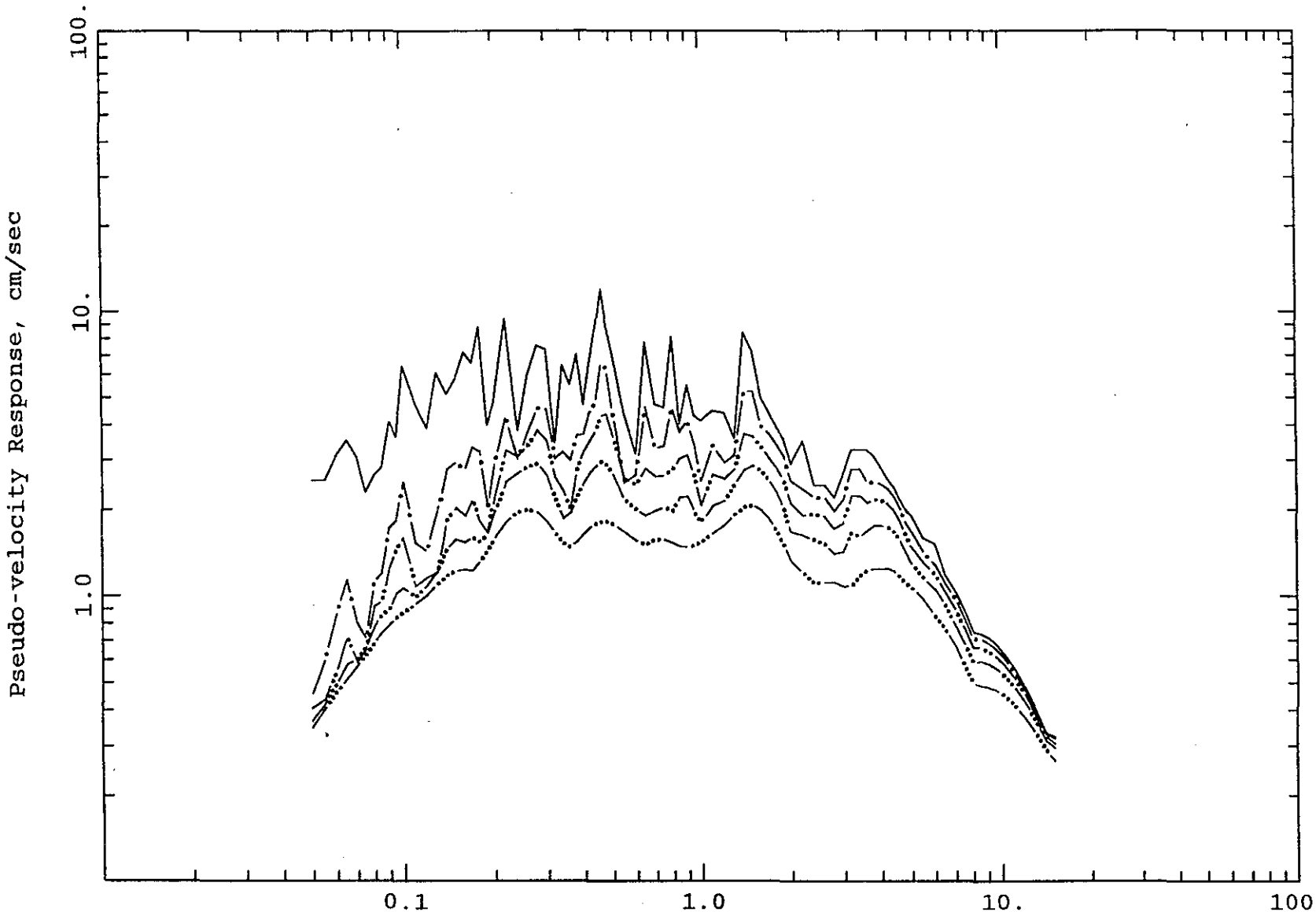
Station name= BKJ 2773 - BIG KONIUJI, ALASKA; Code= XXXX; Component= 345
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 09oct85

Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2

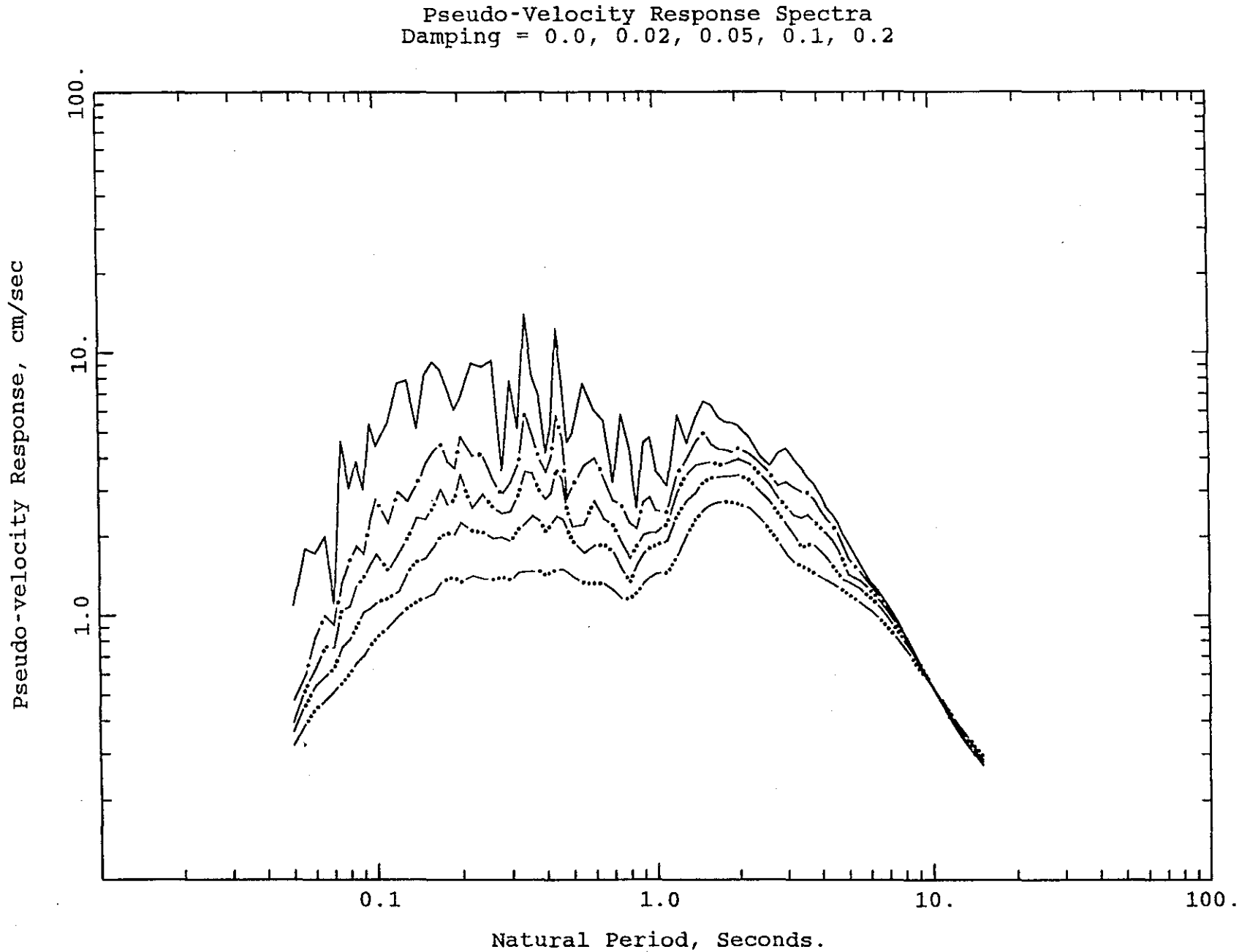


Station name= BKJ 2773 - BIG KONIUJI, ALASKA; Code= XXXX; Component= UP
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 09oct85

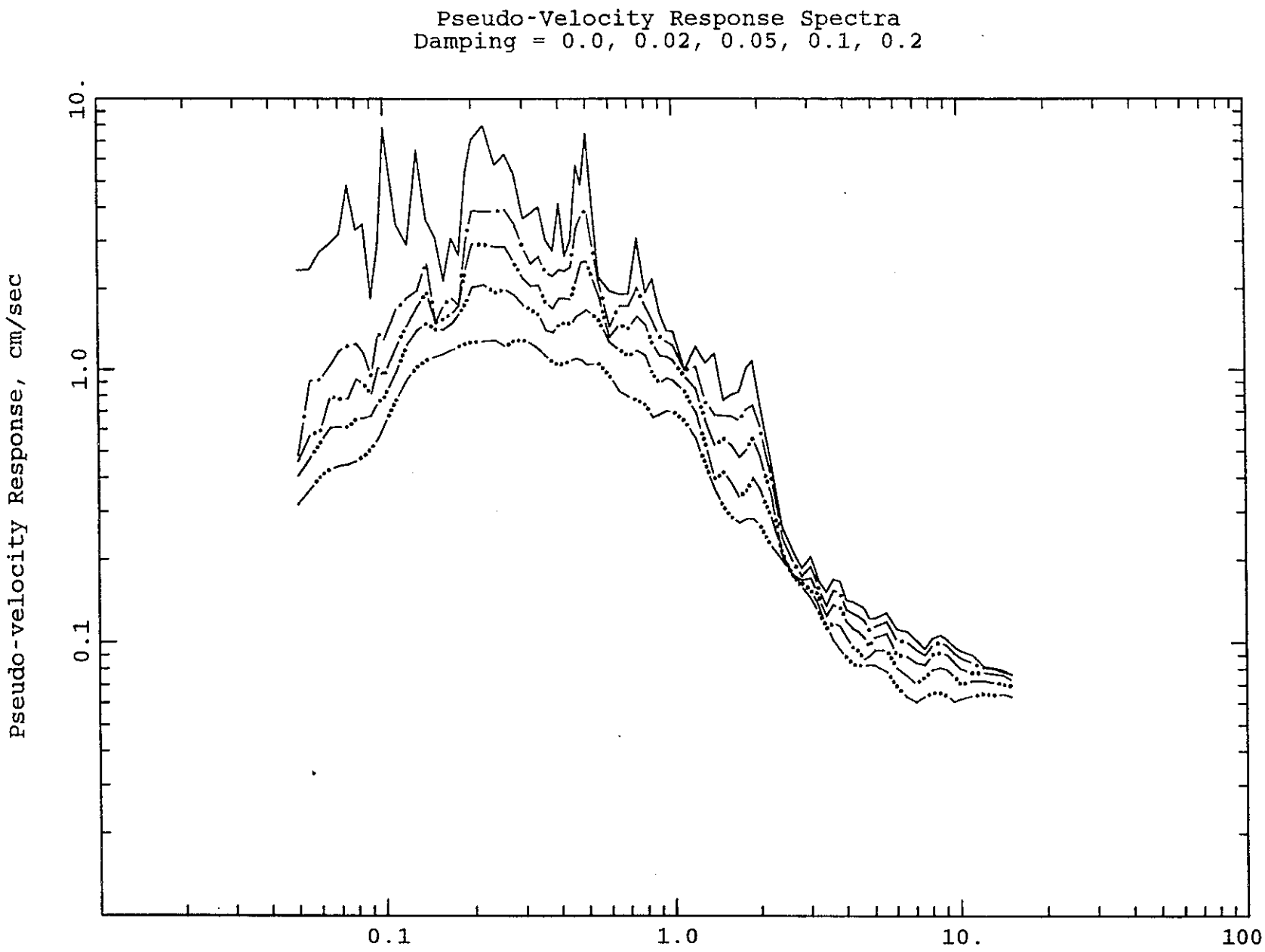
Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2



Station name= BKJ 2773 - BIG KONIUJI, ALASKA; Code= XXXX; Component= 65
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 09oct85

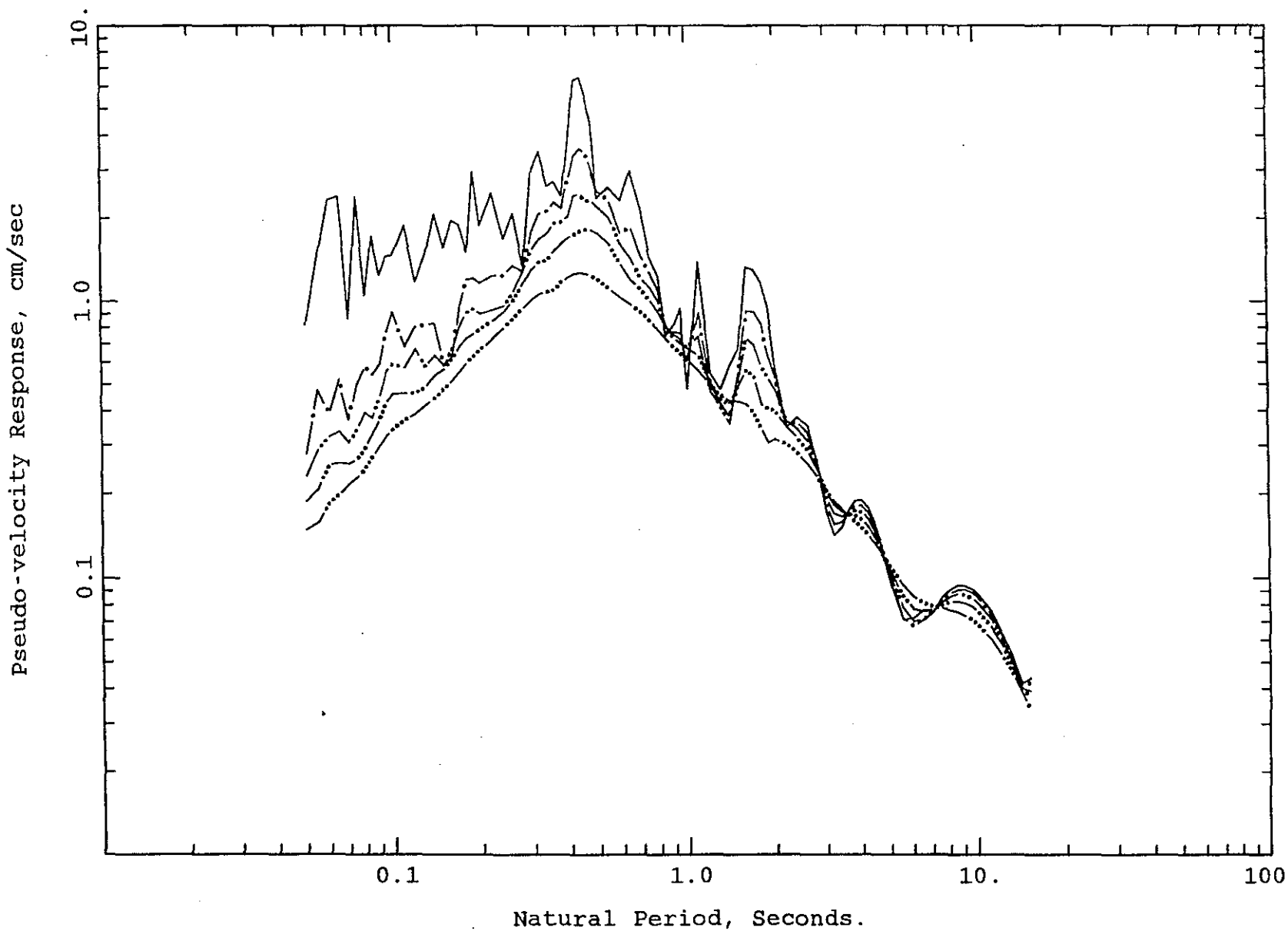


Station name= BKJ 2773 - BIG KONIUJI, ALASKA; Code= XXXX; Component= 345
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 02may87



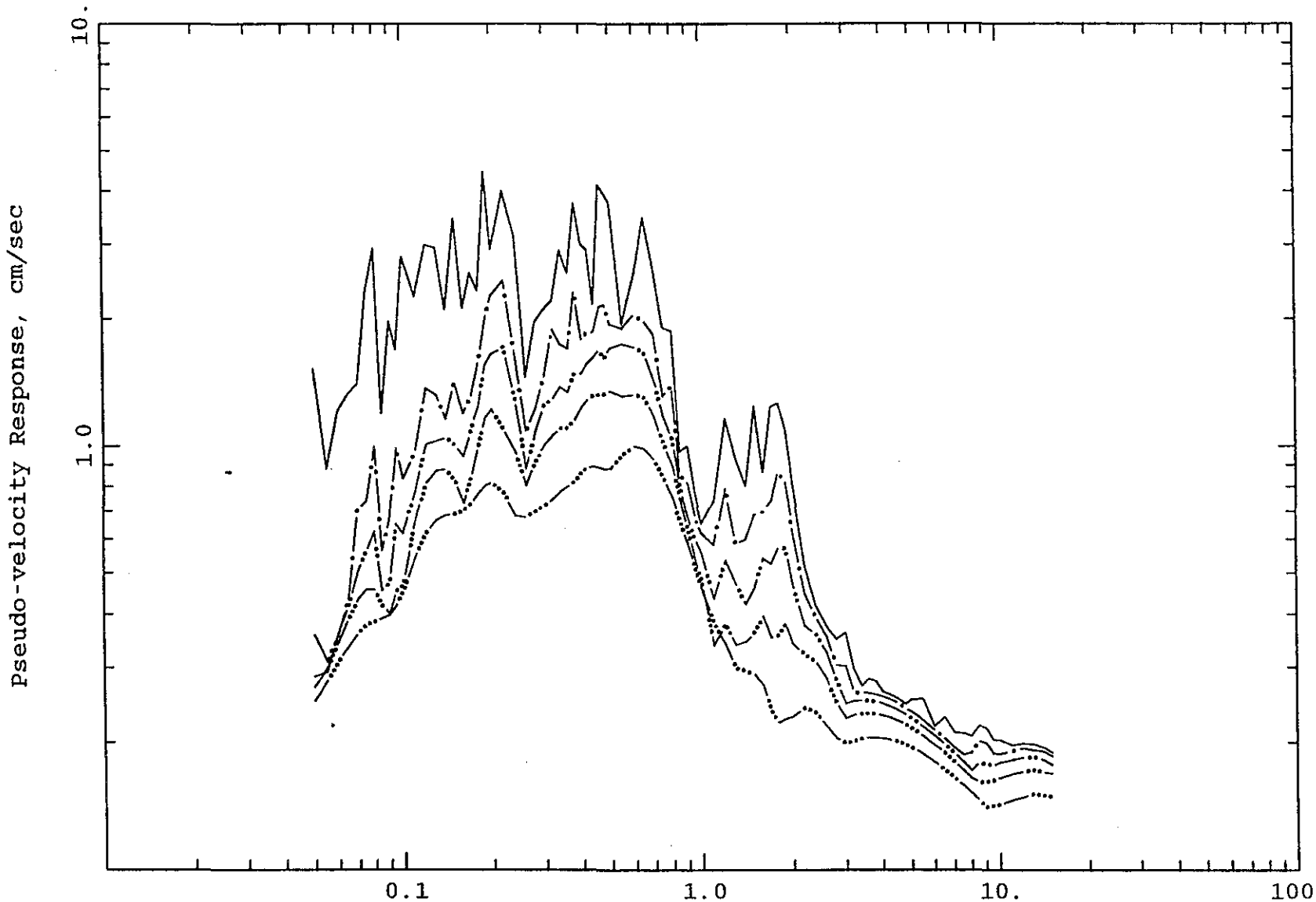
Station name= BKJ 2773 - BIG KONIUJI, ALASKA; Code= XXXX; Component= UP
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 02may87

Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2

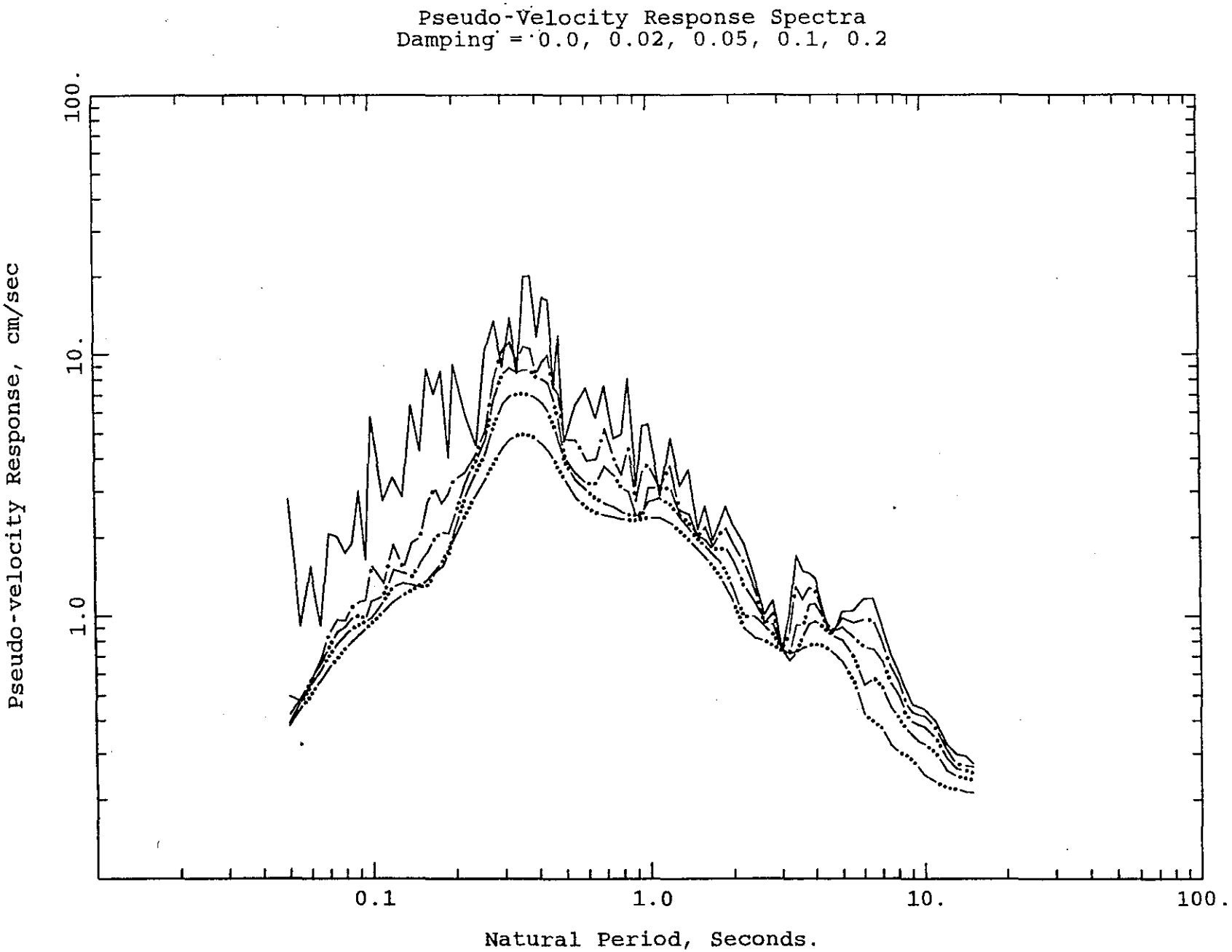


Station name= BKJ 2773 - BIG KONIUJI, ALASKA; Code= XXXX; Component= 75
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 02may87

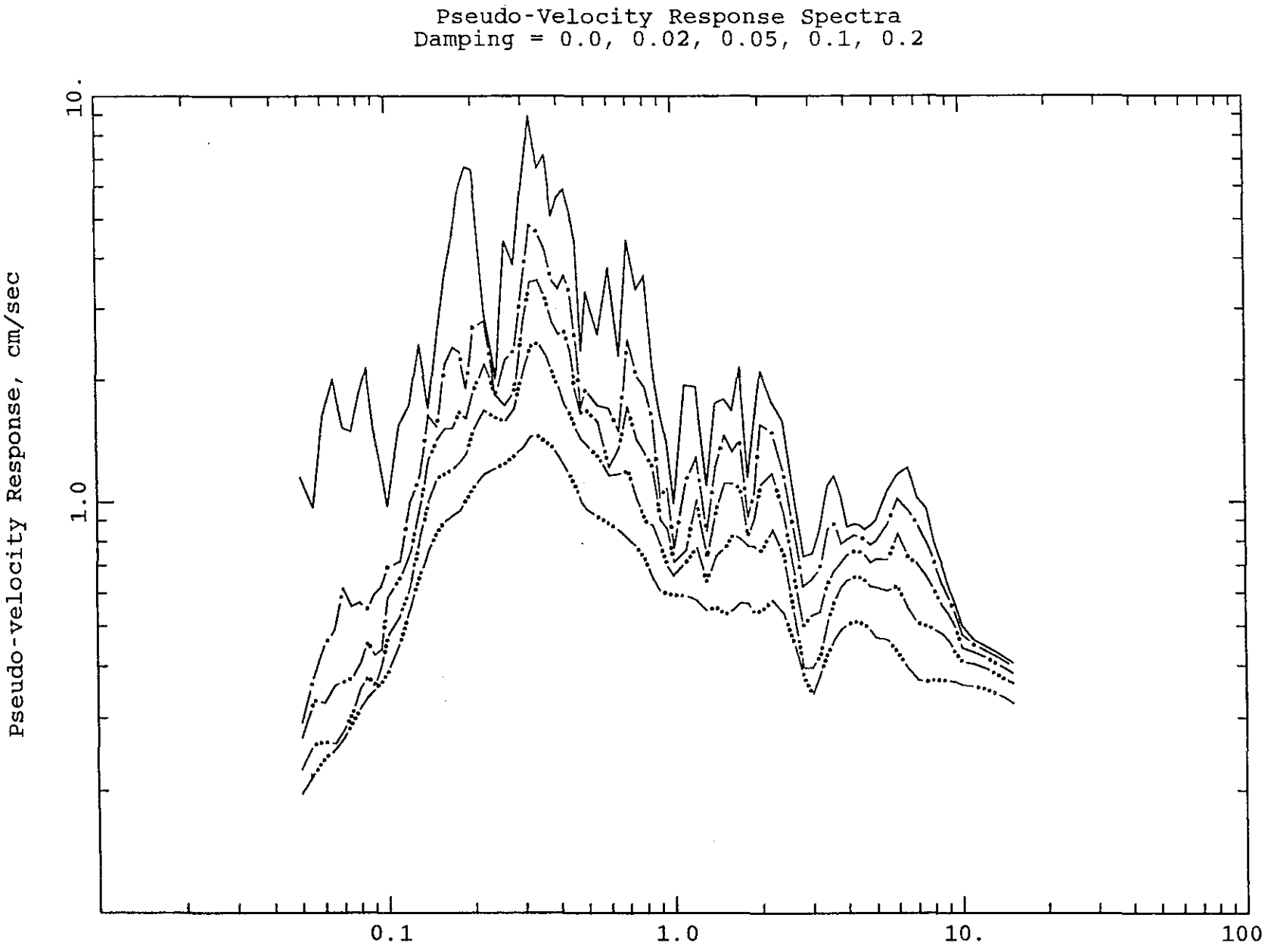
Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2



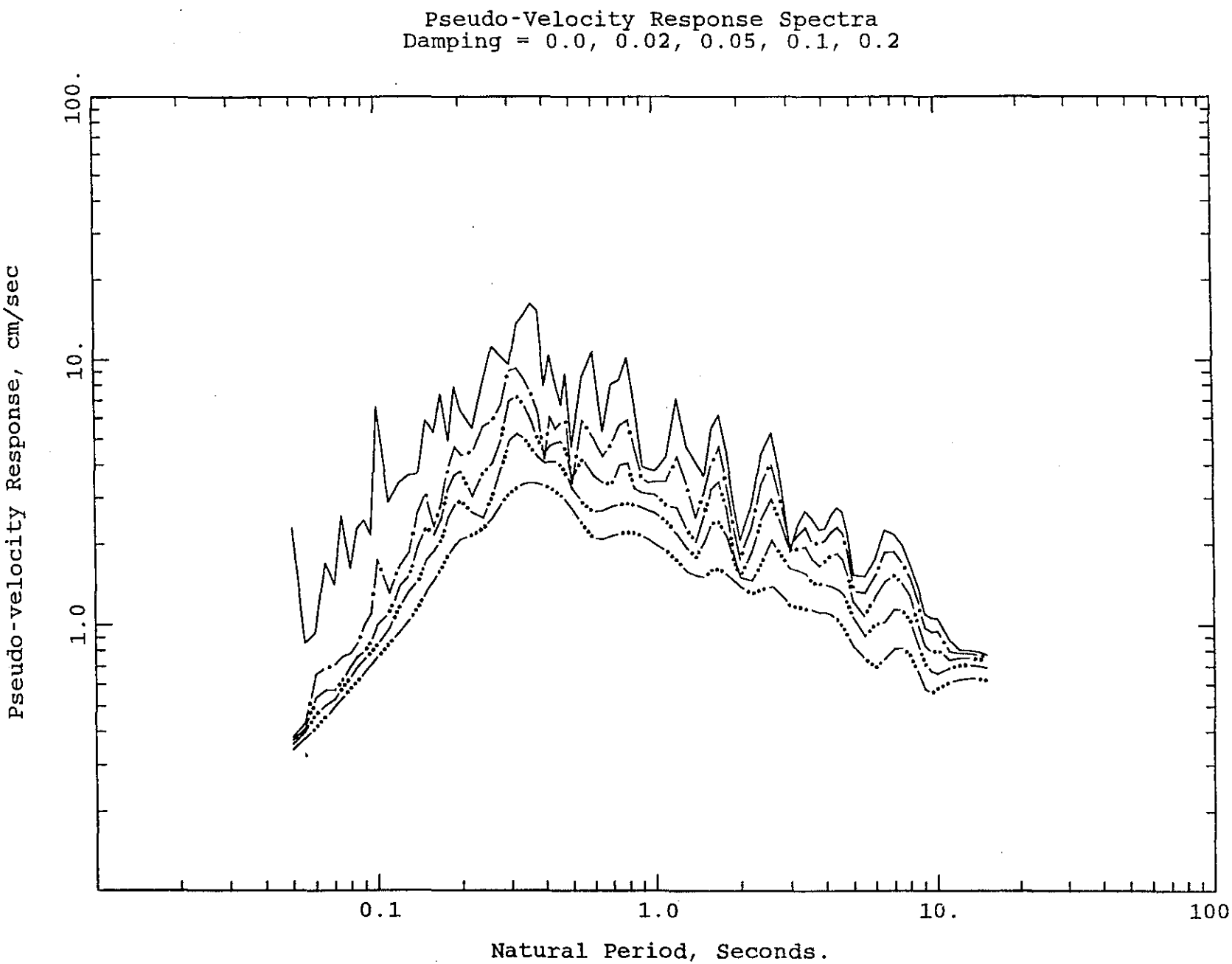
Station name= 2776 CNB CHERNABURA ISLAND; Code= 2776; Component= 70
EQ name= earthquake name unknown; EQ date= 14feb83



Station name= 2776 CNB CHERNABURA ISLAND; Code= 2776; Component= UP
EQ name= earthquake name unknown; EQ date= 14feb83

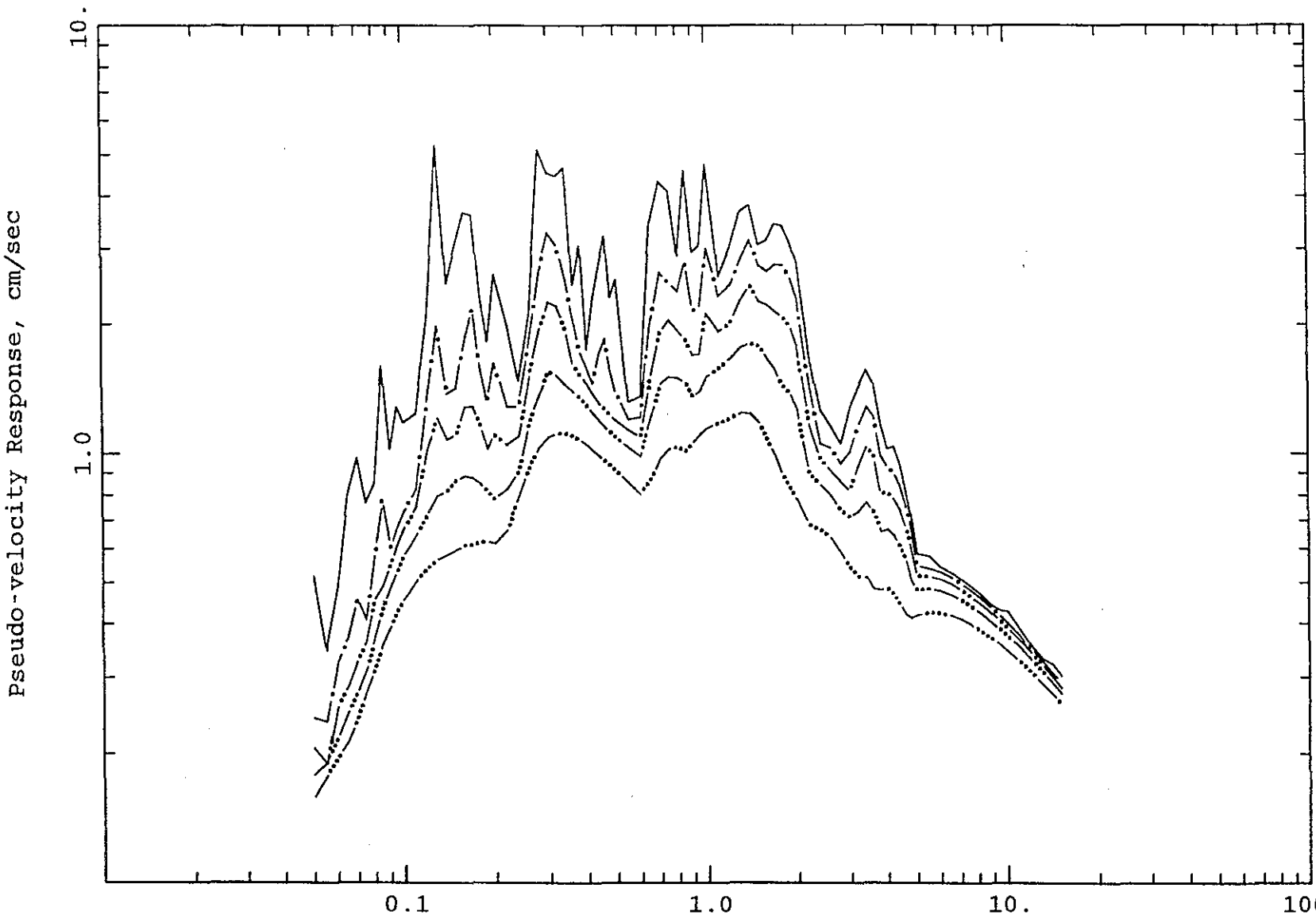


Station name= 2776 CNB CHERNABURA ISLAND; Code= 2776; Component= 340
EQ name= earthquake name unknown; EQ date= 14feb83



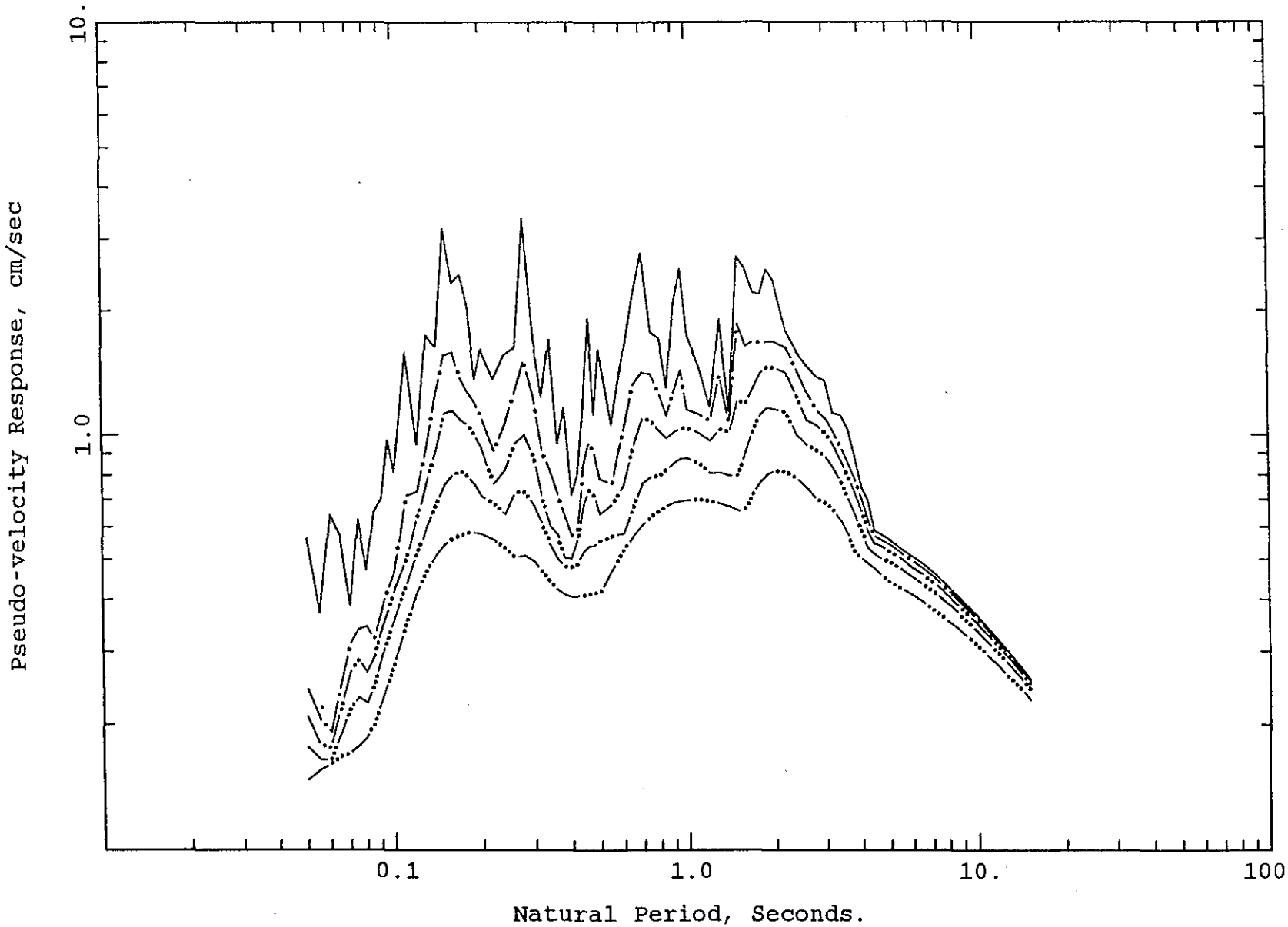
Station name= 2776 CNB CHERNABURA ISLAND; Code= 2776; Component= 70
EQ name= earthquake name unknown; EQ date= 14feb83

Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2

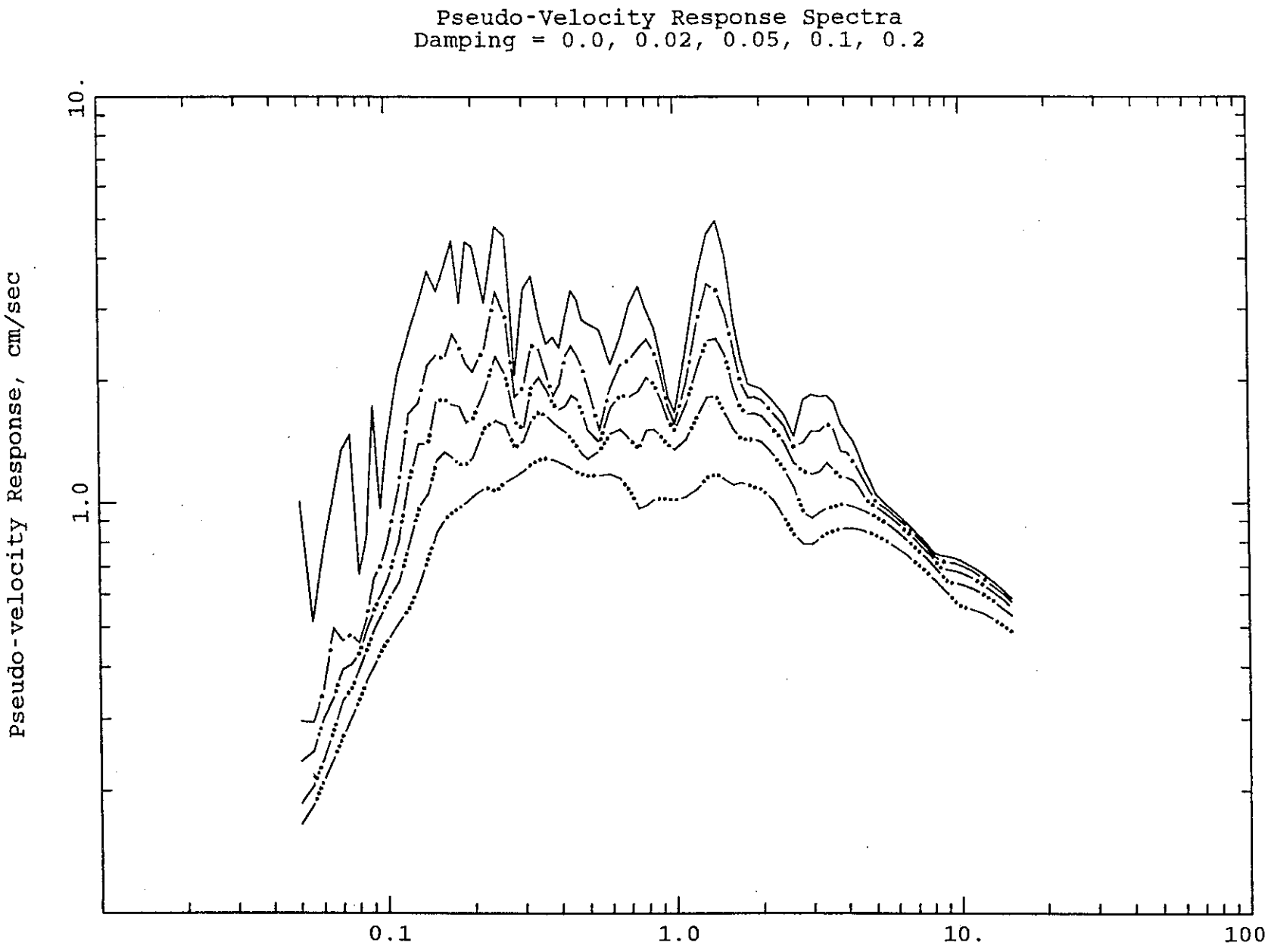


Station name= 2776 CNB CHERNABURA ISLAND; Code= 2776; Component= UP
EQ name= earthquake name unknown; EQ date= 14feb83

Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2

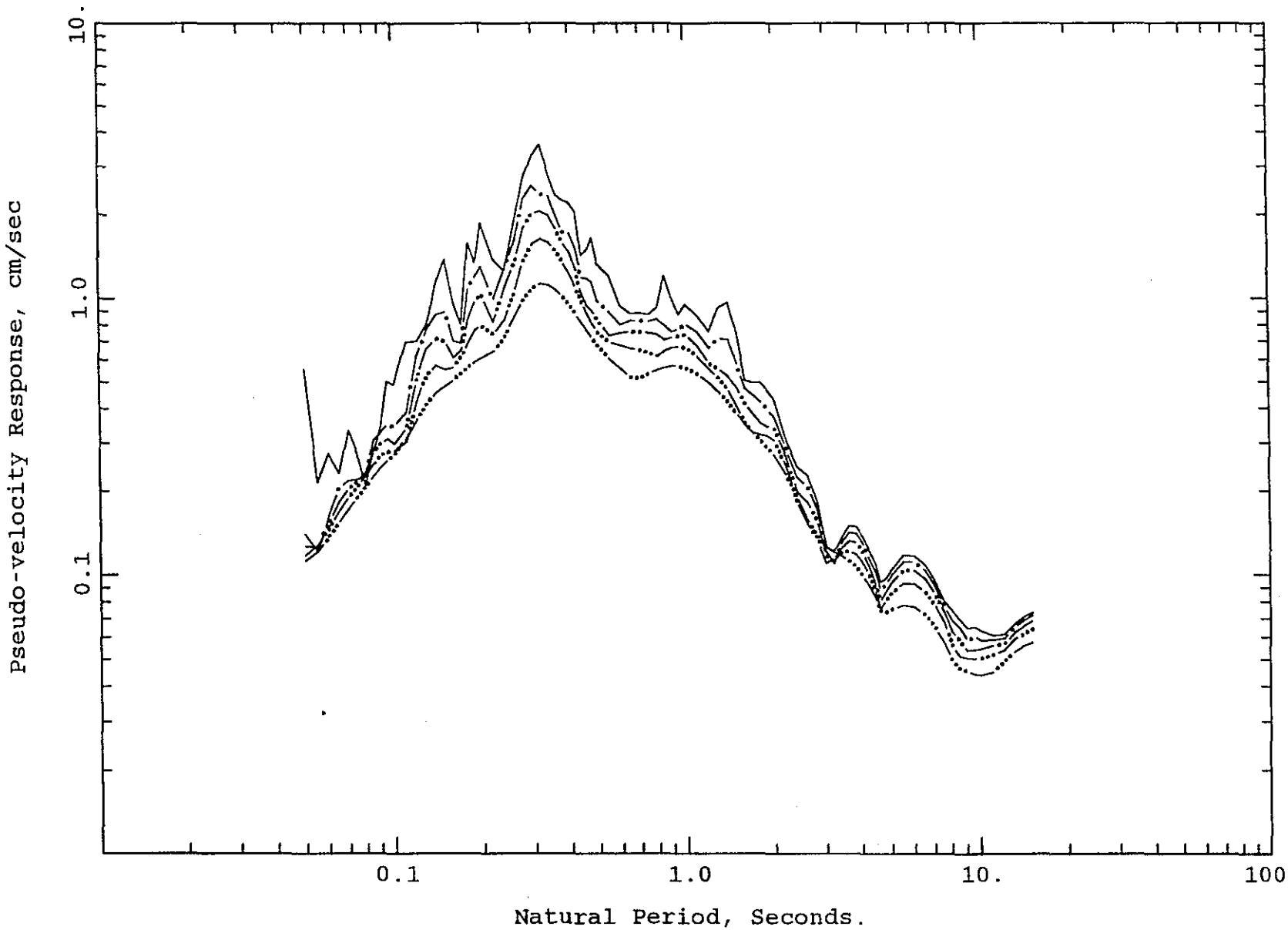


Station name= 2776 CNB CHERNABURA ISLAND; Code= 2776; Component= 340
EQ name= earthquake name unknown; EQ date= 14feb83



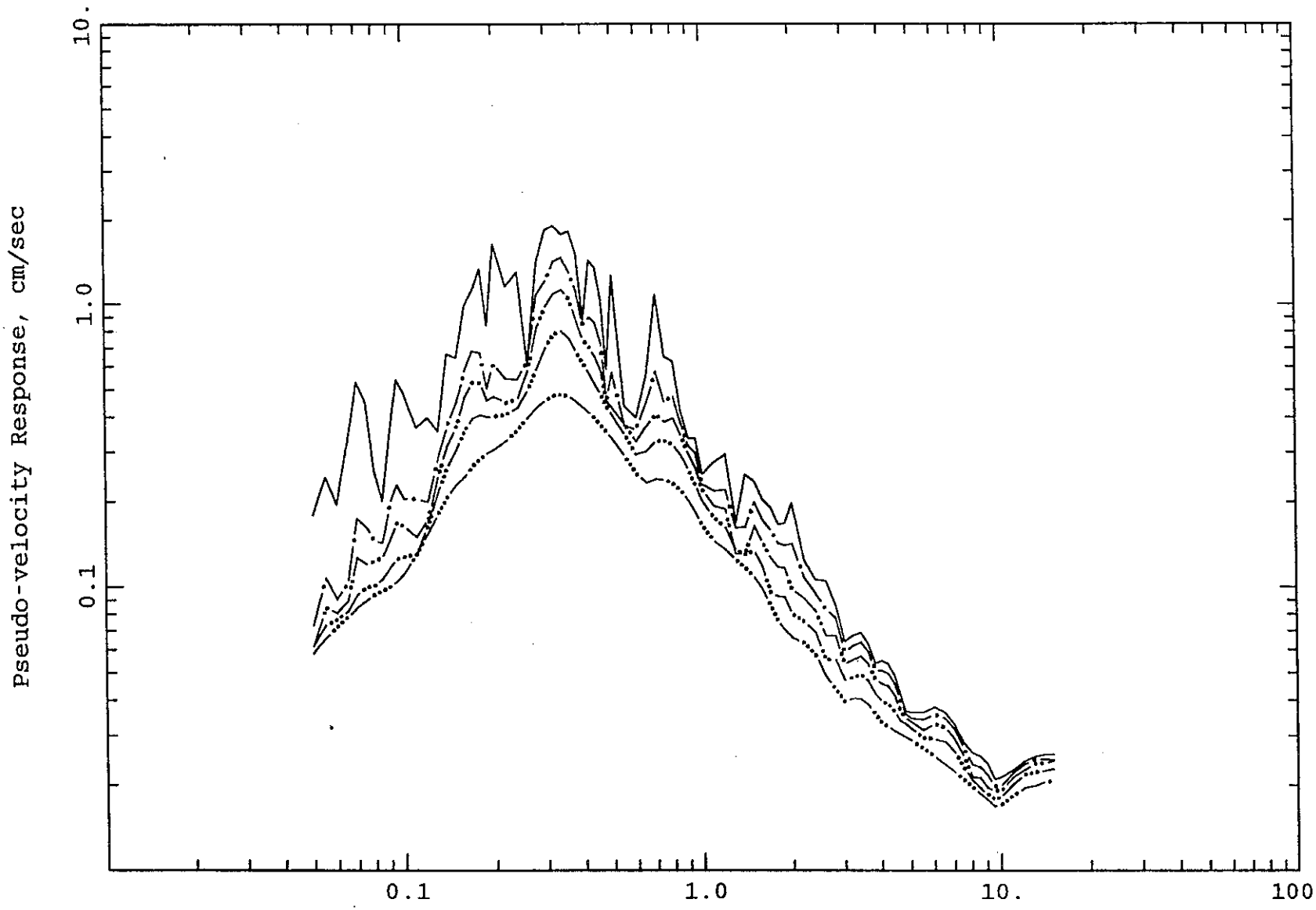
Station name= 2776 CNB - CHERNABURA ISLAND,; Code= XXXX; Component= 343
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 25sep85

Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2

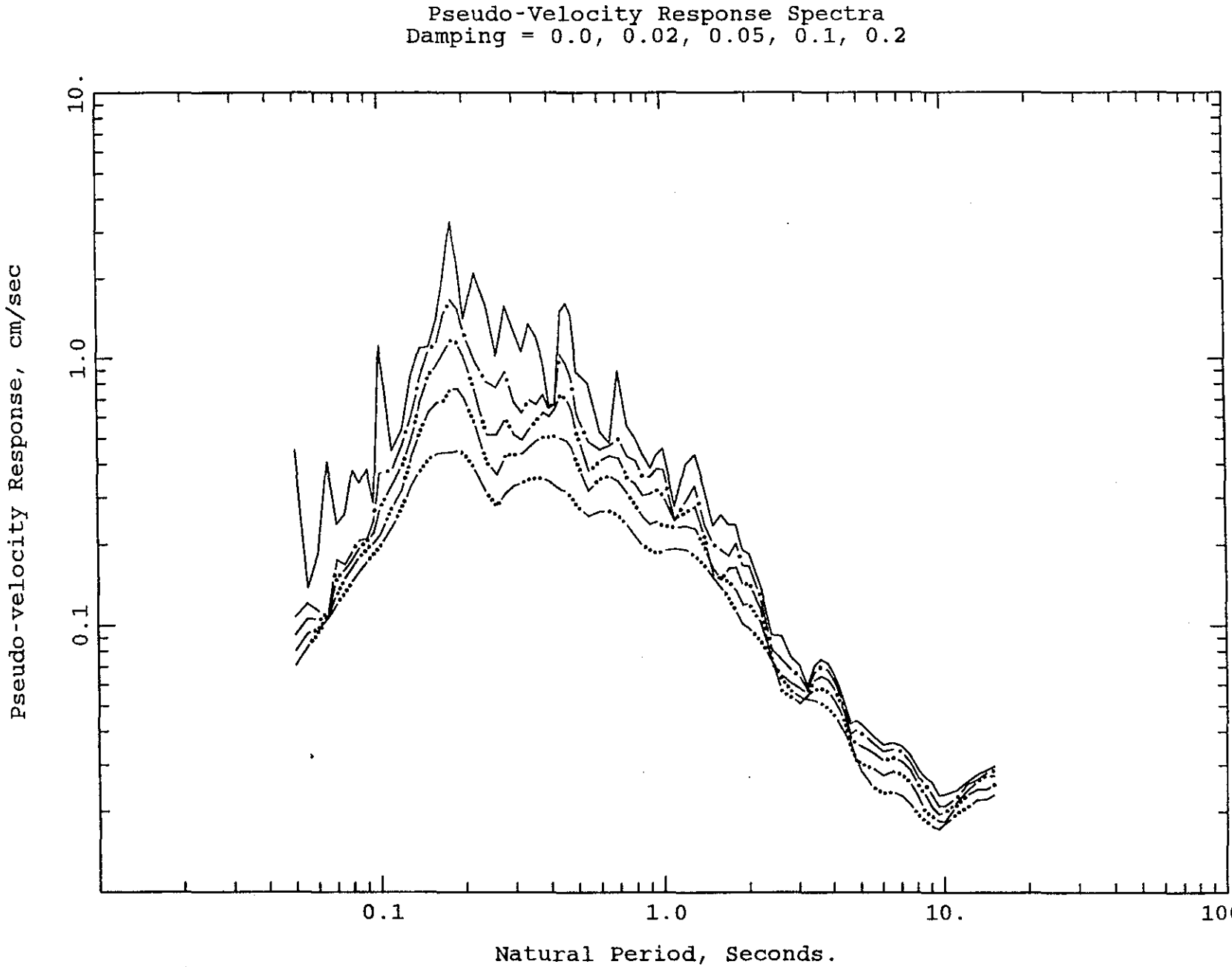


Station name= 2776 CNB - CHERNABURA ISLAND,; Code= XXXX; Component= UP
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 25sep85

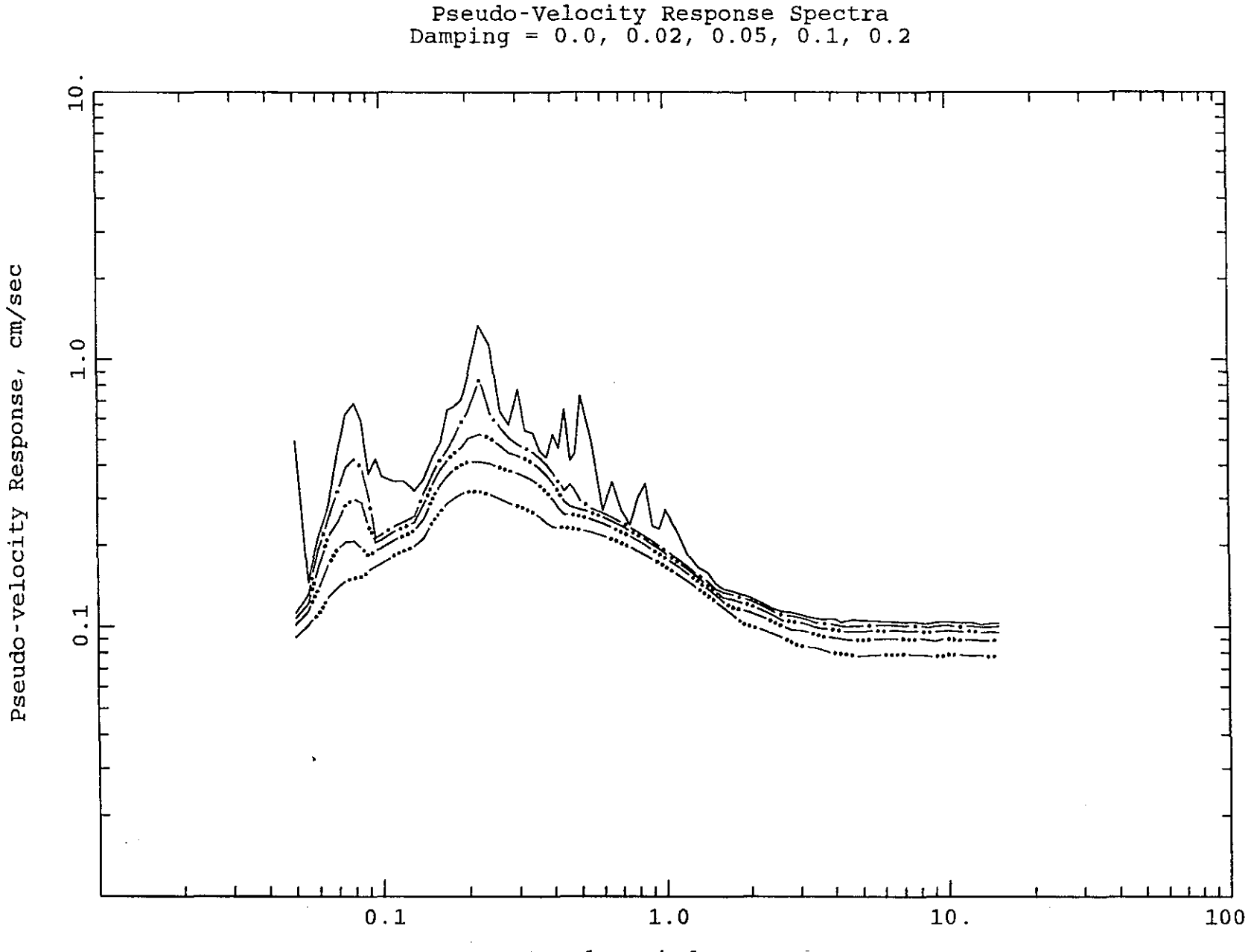
Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2



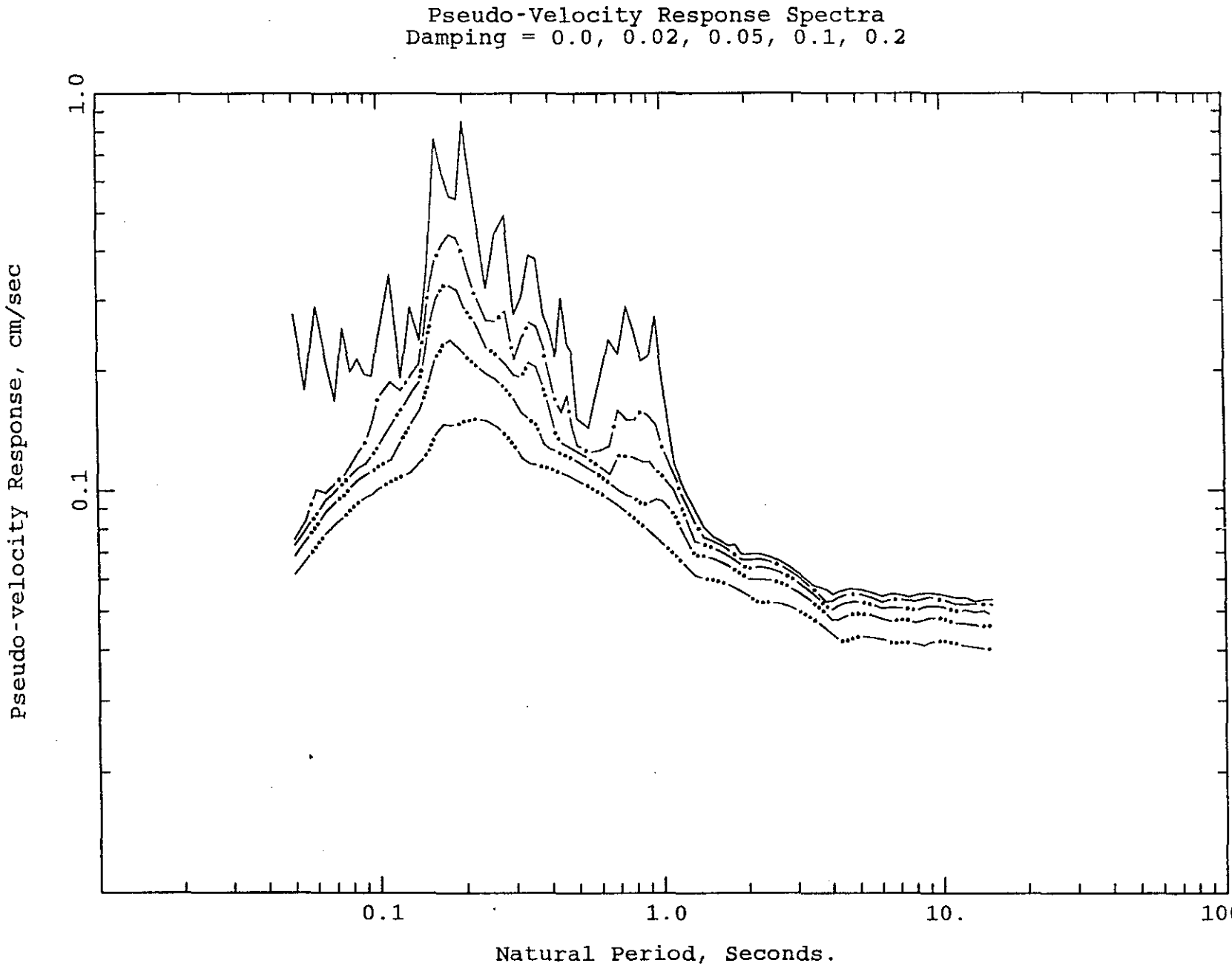
Station name= 2776 CNB - CHERNABURA ISLAND,; Code= XXXX; Component= 73
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 25sep85



Station name= 2776 CNB - CHERNABURA ISLAND,; Code= XXXX; Component= 343
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 09oct85

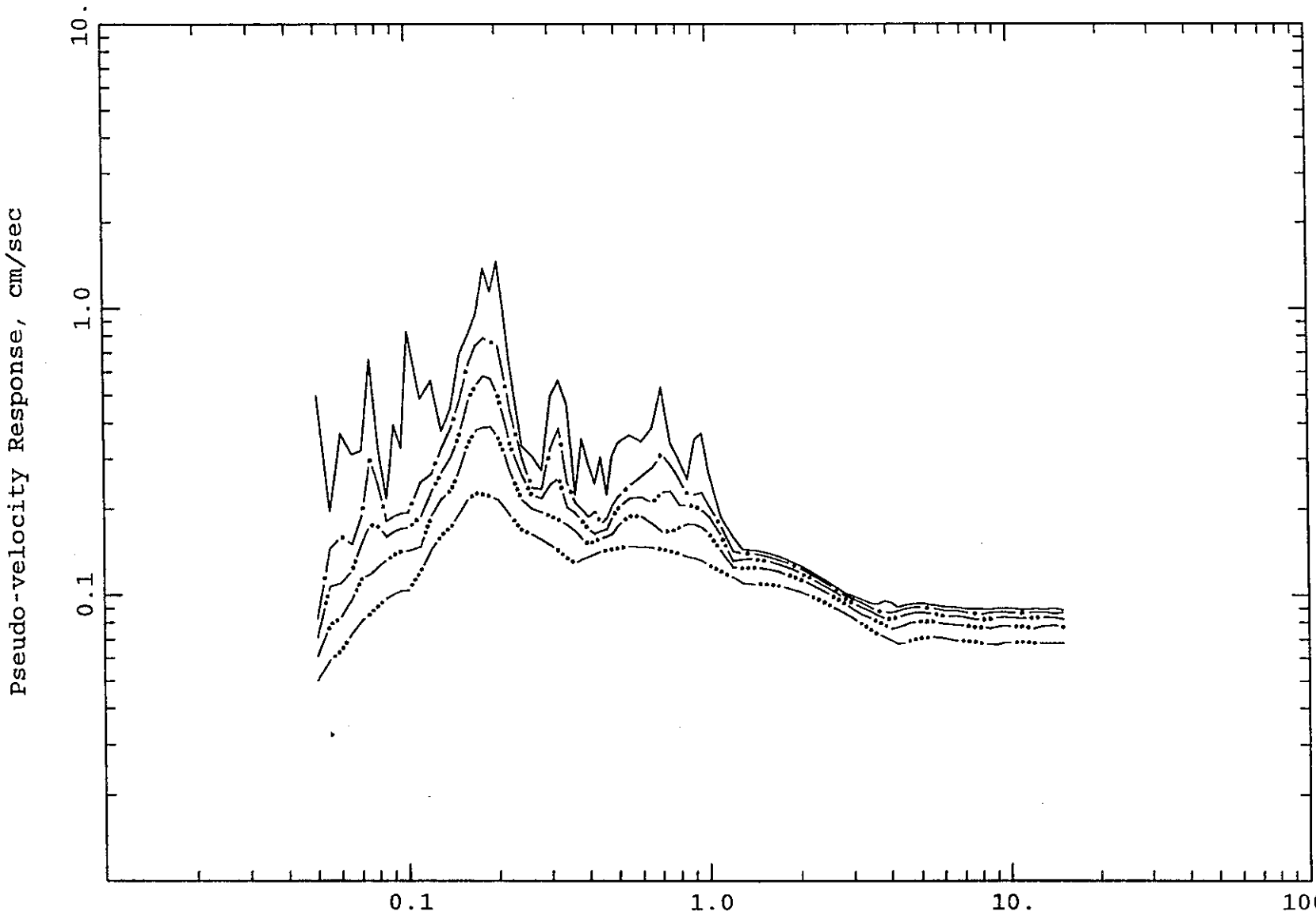


Station name= 2776 CNB - CHERNABURA ISLAND,; Code= XXXX; Component= UP
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 09oct85

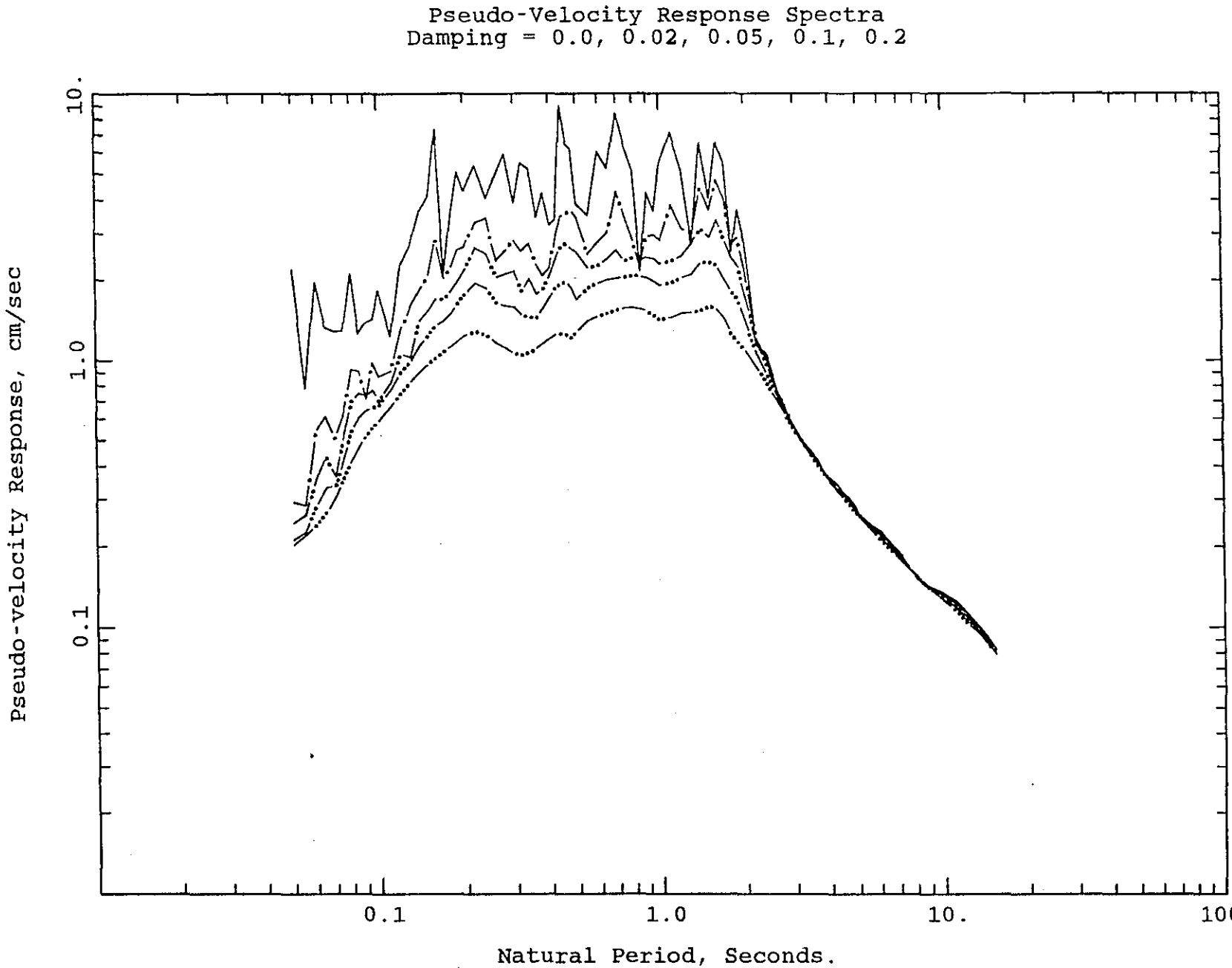


Station name= 2776 CNB - CHERNABURA ISLAND,; Code= XXXX; Component= 73
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 09oct85

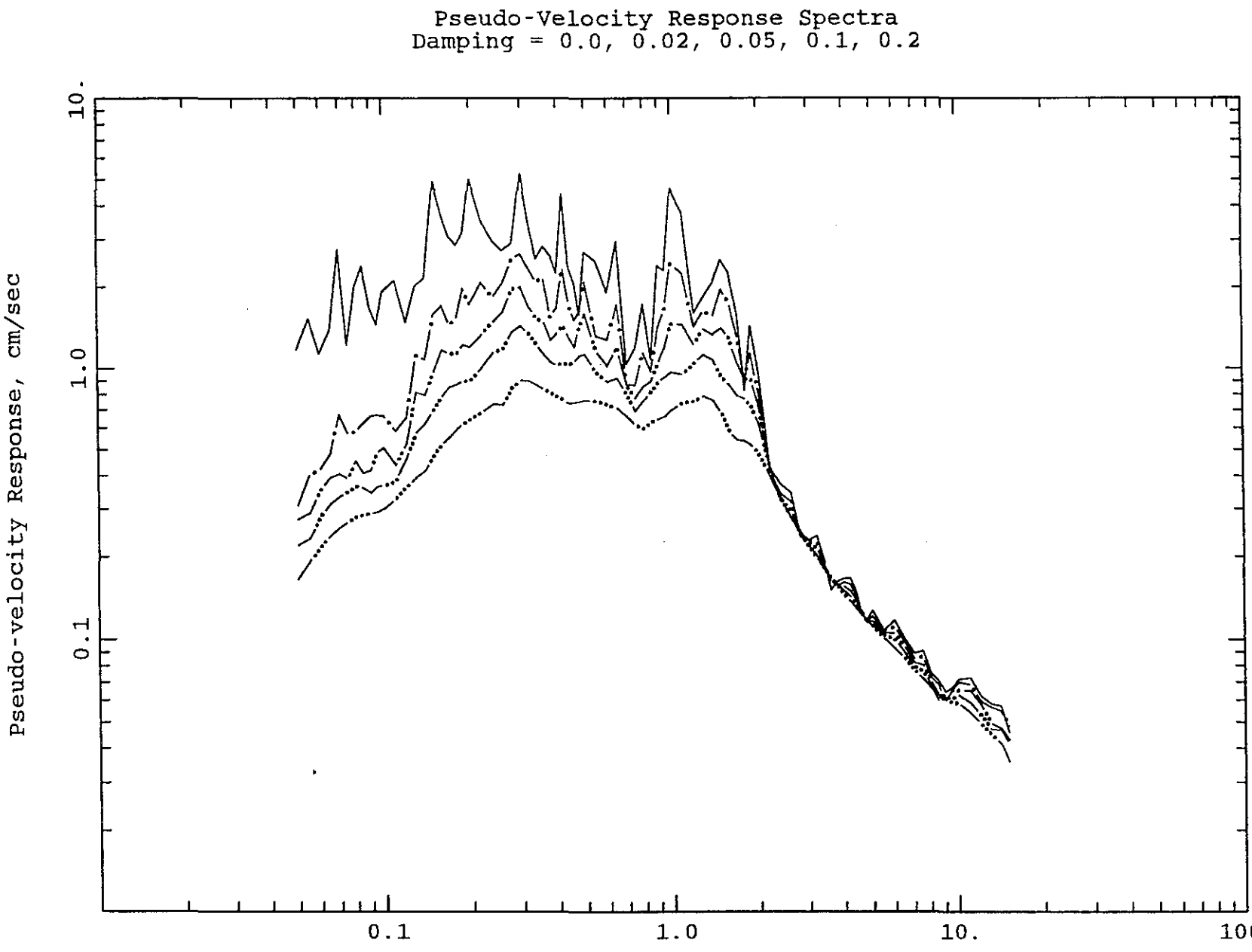
Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2



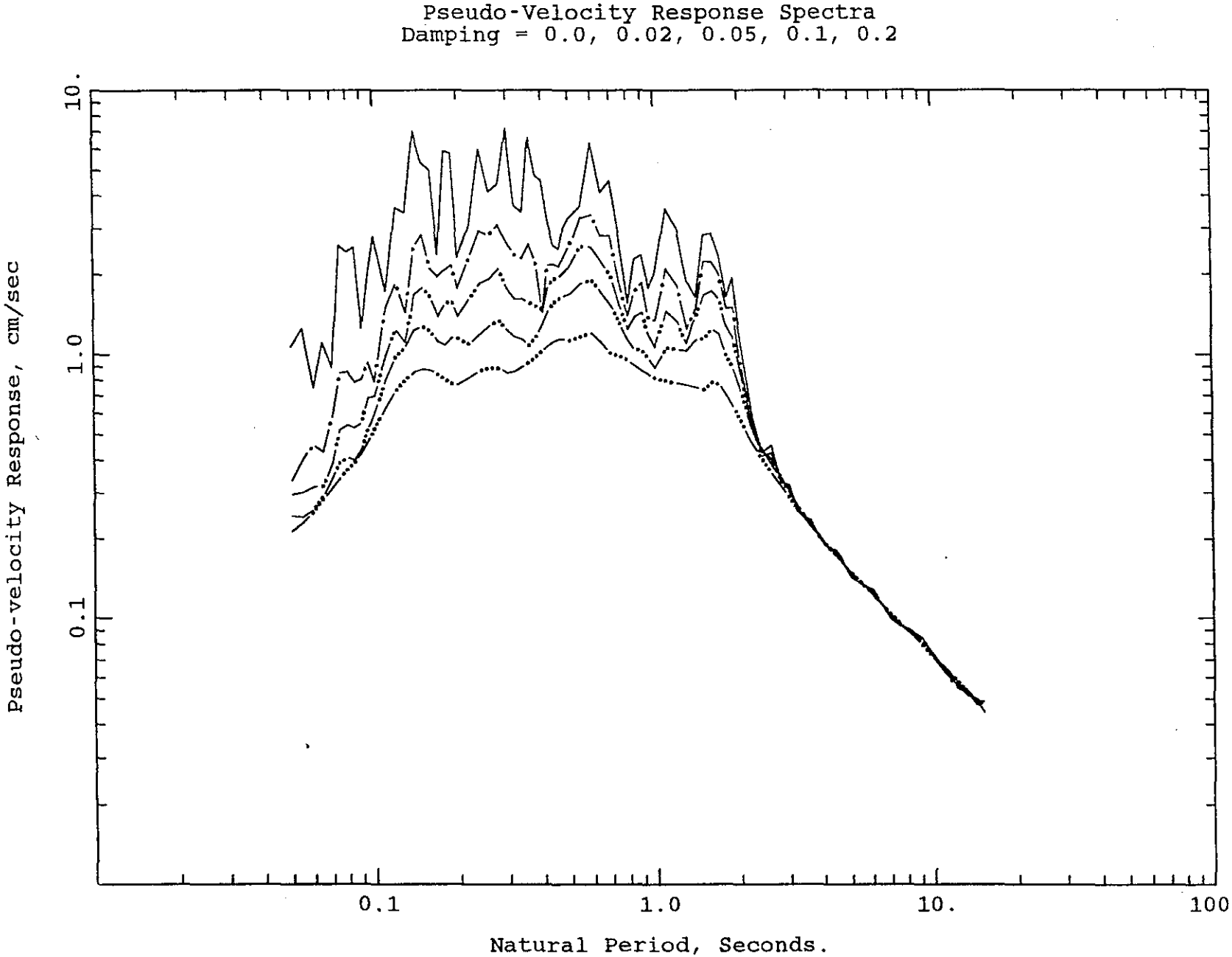
Station name= 2776 CNB - CHERNABURA ISLAND,; Code= XXXX; Component= 343
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 14nov85



Station name= 2776 CNB - CHERNABURA ISLAND,; Code= XXXX; Component= UP
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 14nov85

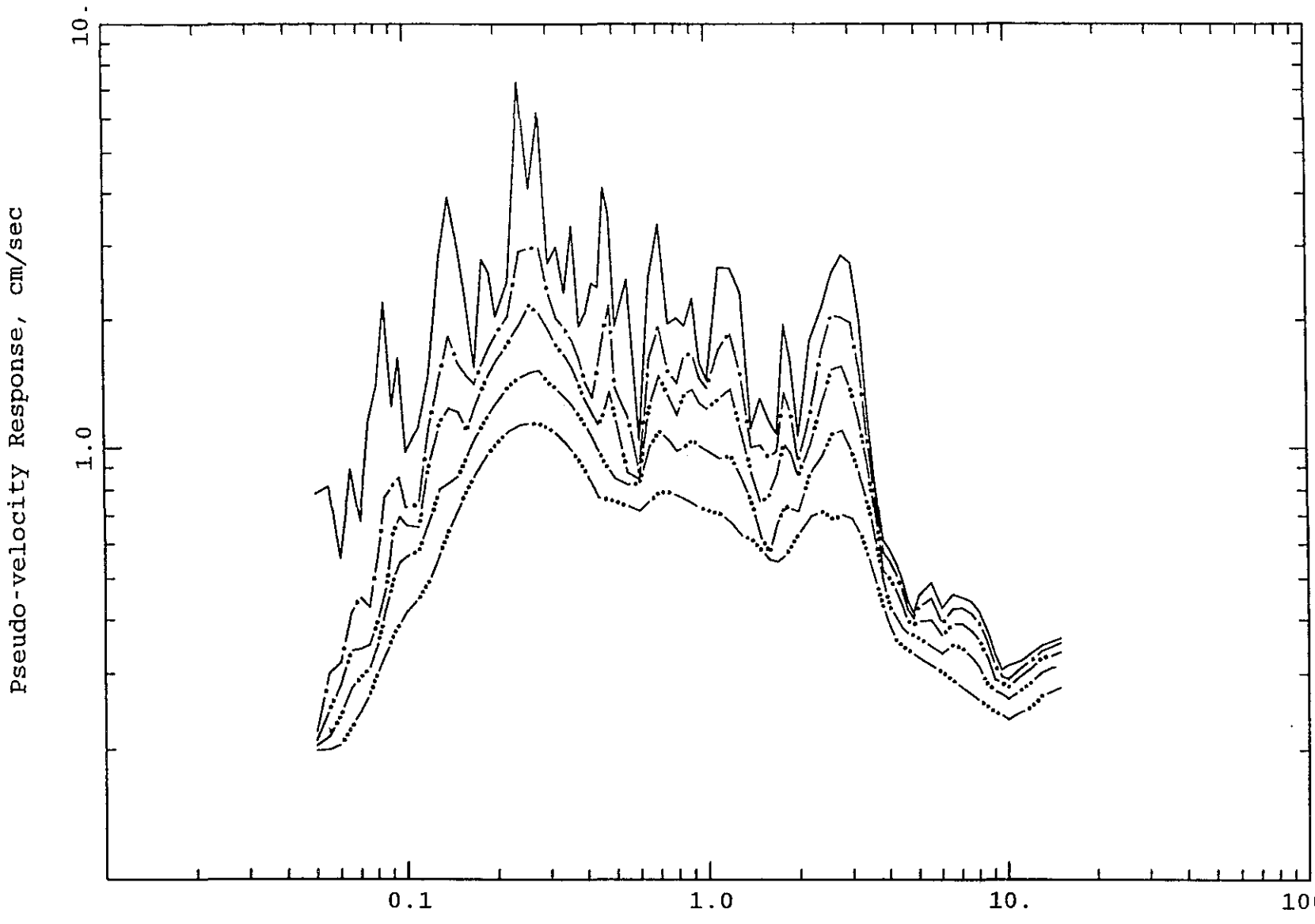


Station name= 2776 CNB - CHERNABURA ISLAND,; Code= XXXX; Component= 73
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 14nov85



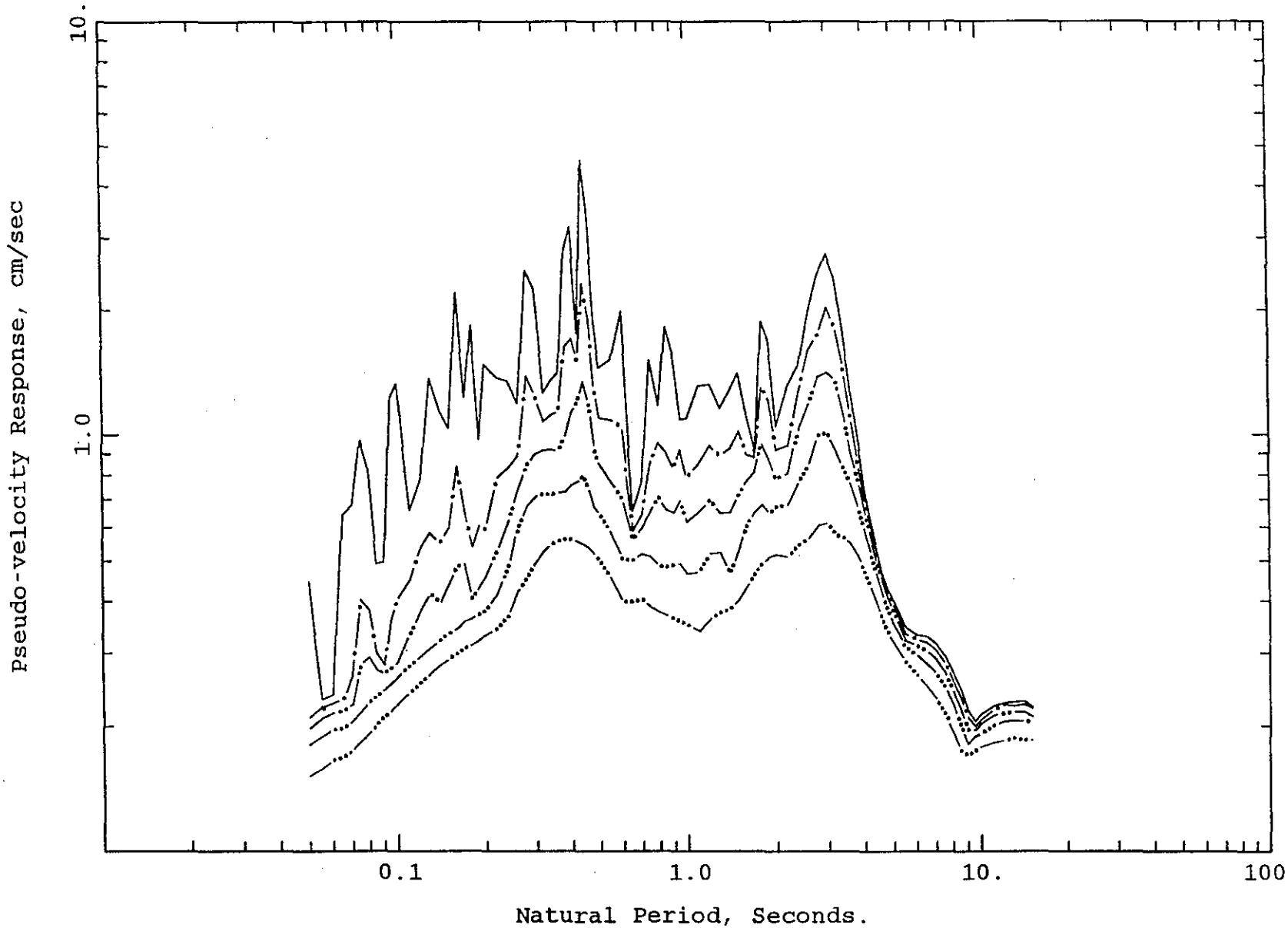
Station name= 2776 CNB - CHERNABURA ISLAND,; Code= XXXX; Component= 343
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 02may87

Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2



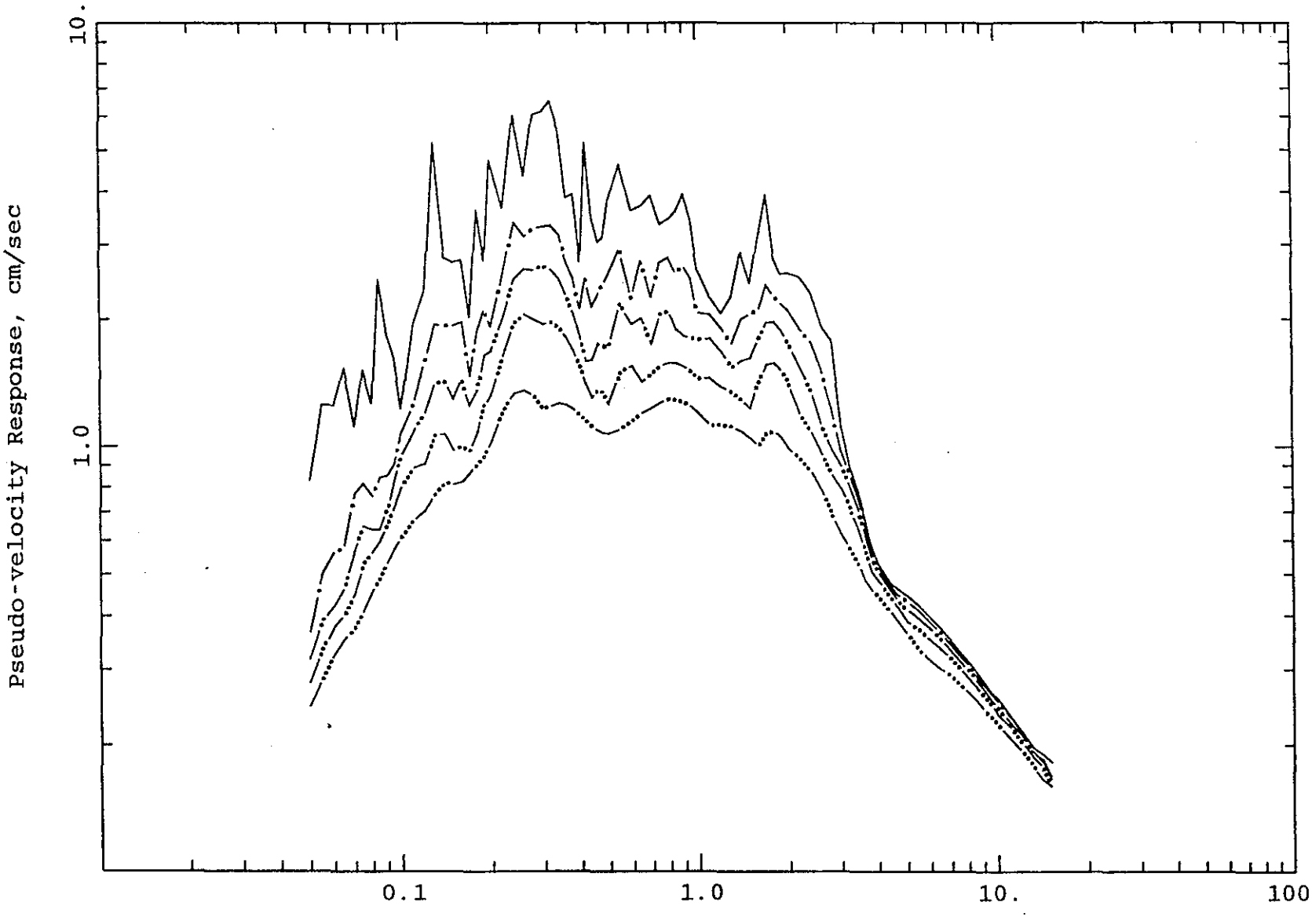
Station name= 2776 CNB - CHERNABURA ISLAND,; Code= XXXX; Component= UP
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 02may87

Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2



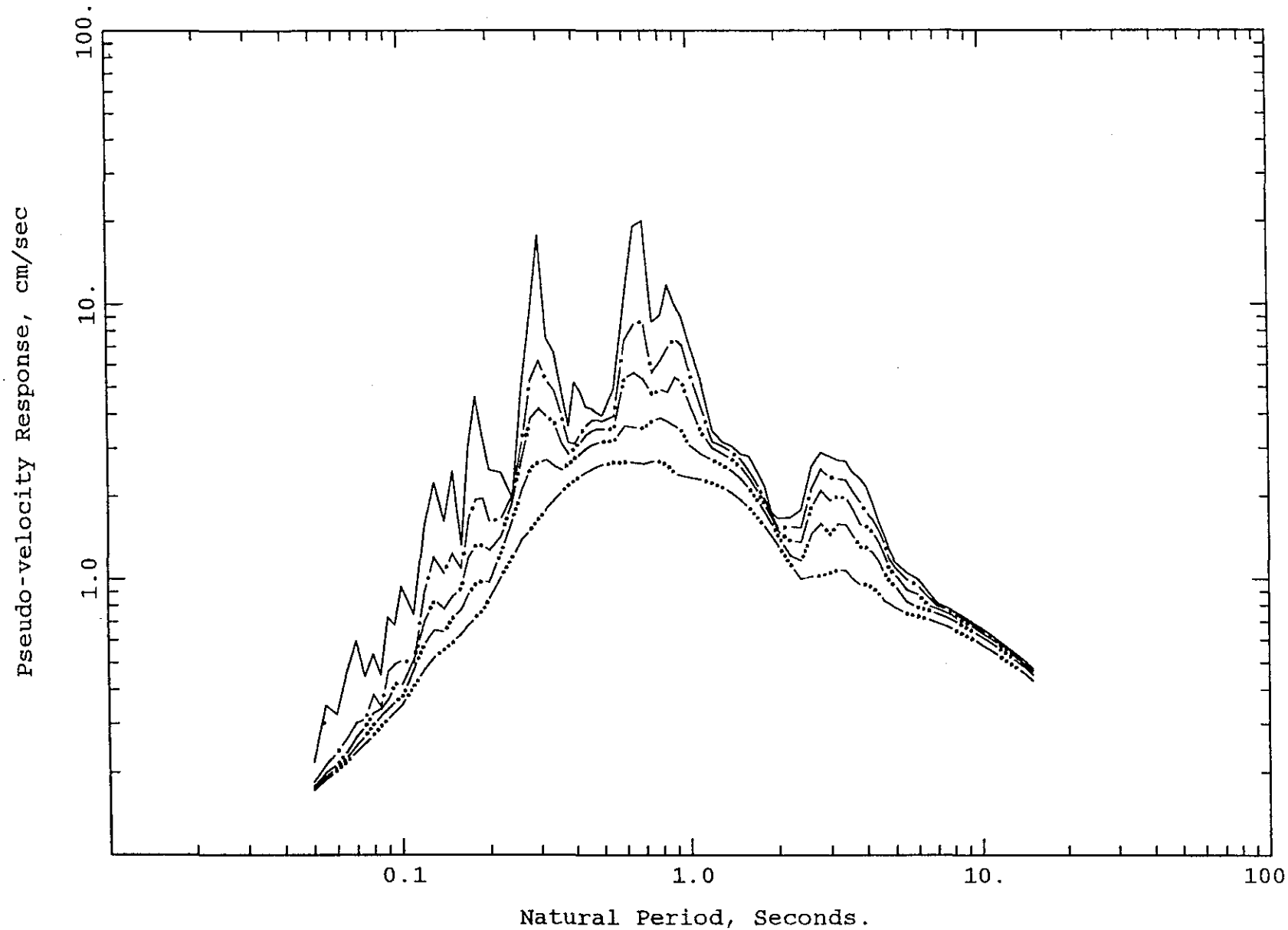
Station name= 2776 CNB - CHERNABURA ISLAND,; Code= XXXX; Component= 73
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 02may87

Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2

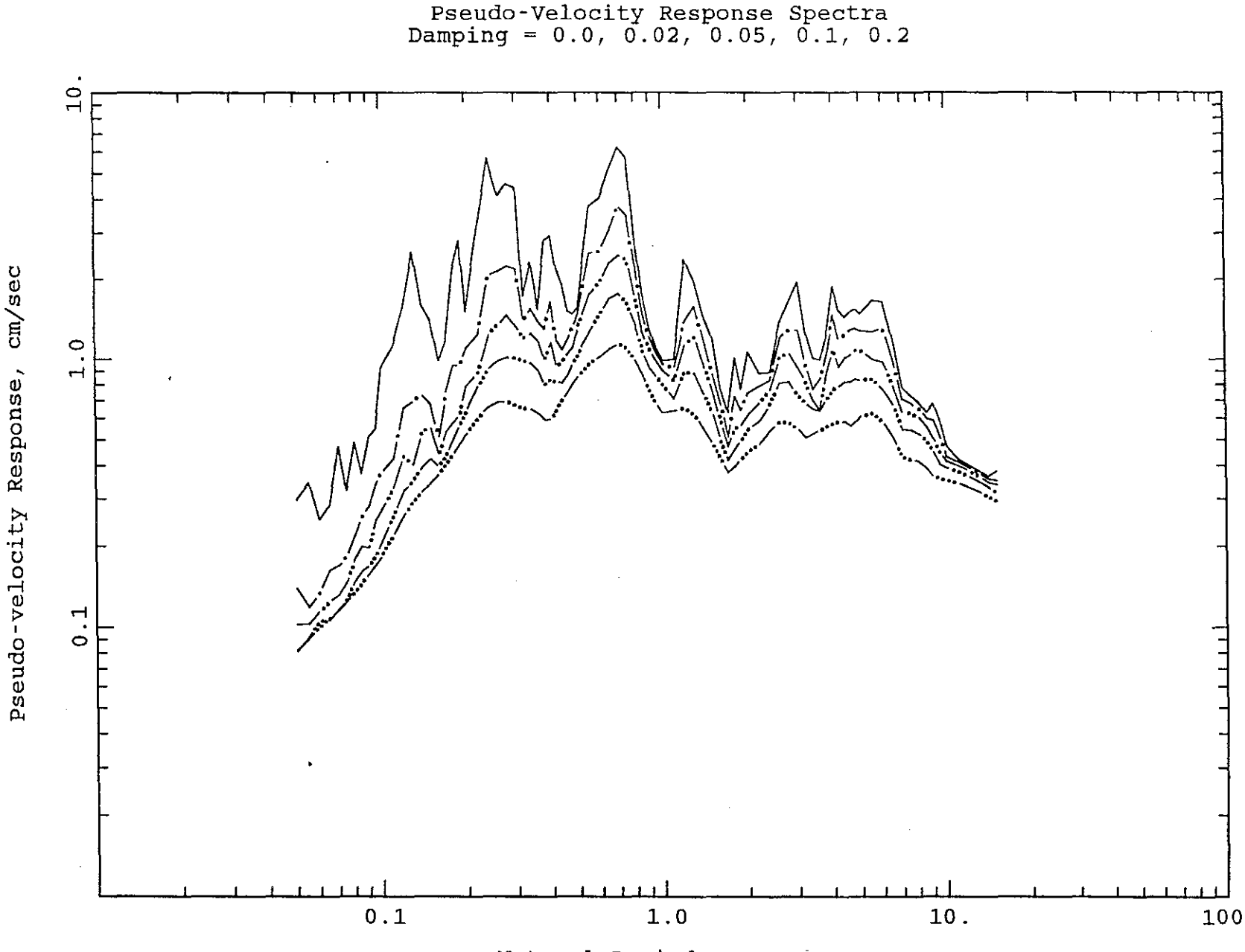


Station name= 2706 MES CORDOVA, MT. ECCLES; Code= 2706; Component= 286
EQ name= earthquake name unknown; EQ date= 05jun64

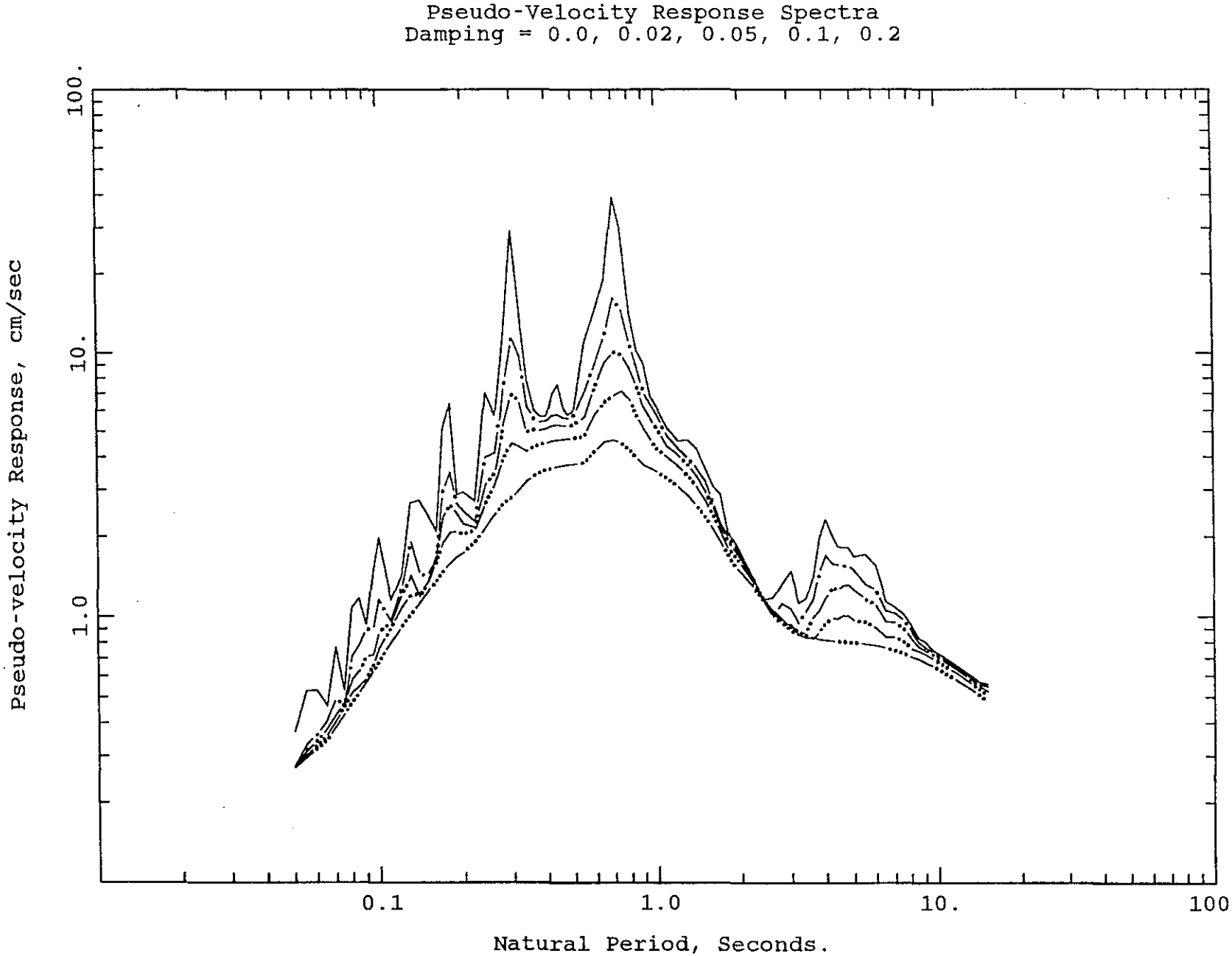
Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2



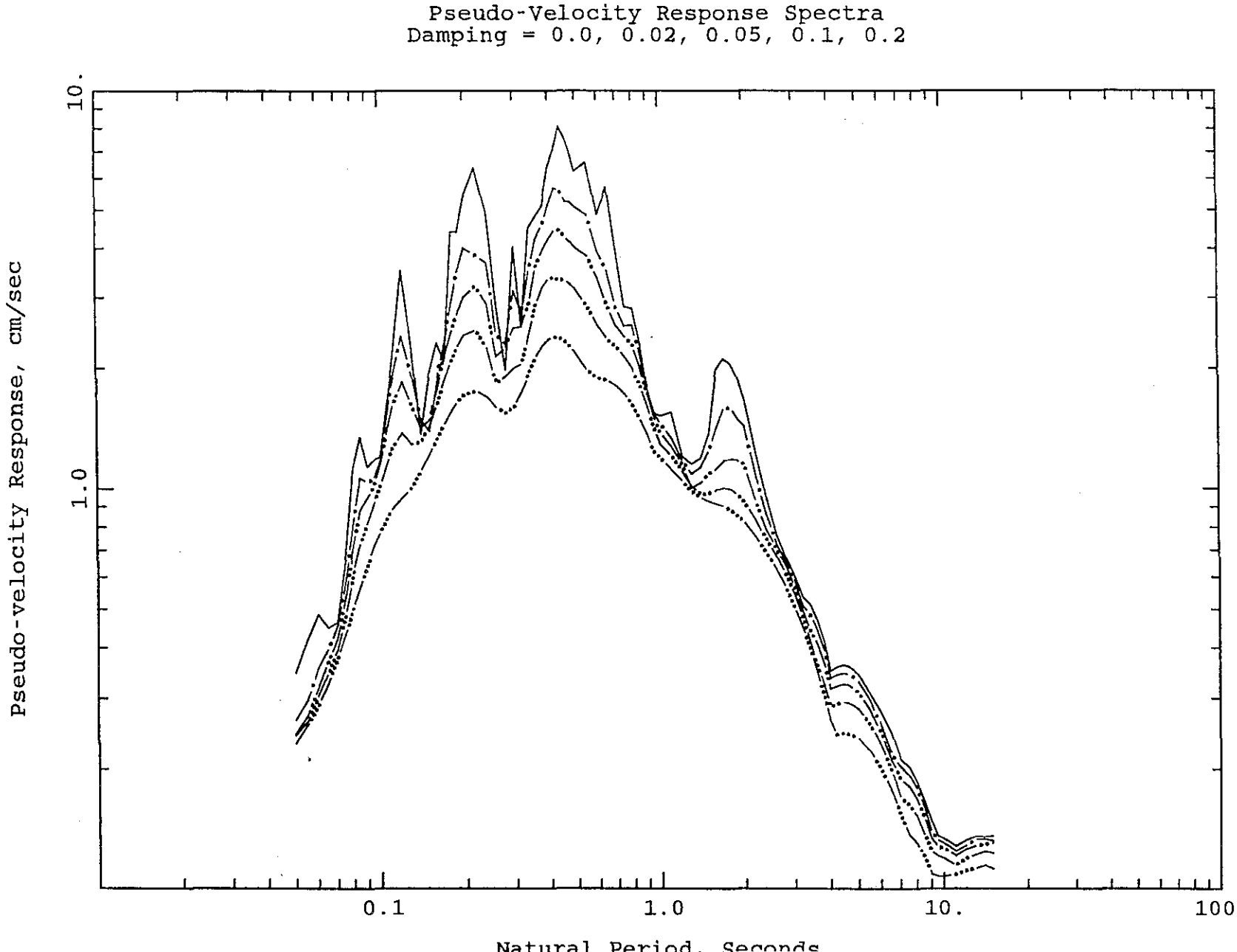
Station name= 2706 MES CORDOVA, MT. ECCLES; Code= 2706; Component= UP
EQ name= earthquake name unknown; EQ date= 05jun64



Station name= 2706 MES CORDOVA, MT. ECCLES; Code= 2706; Component= 196
EQ name= earthquake name unknown; EQ date= 05jun64

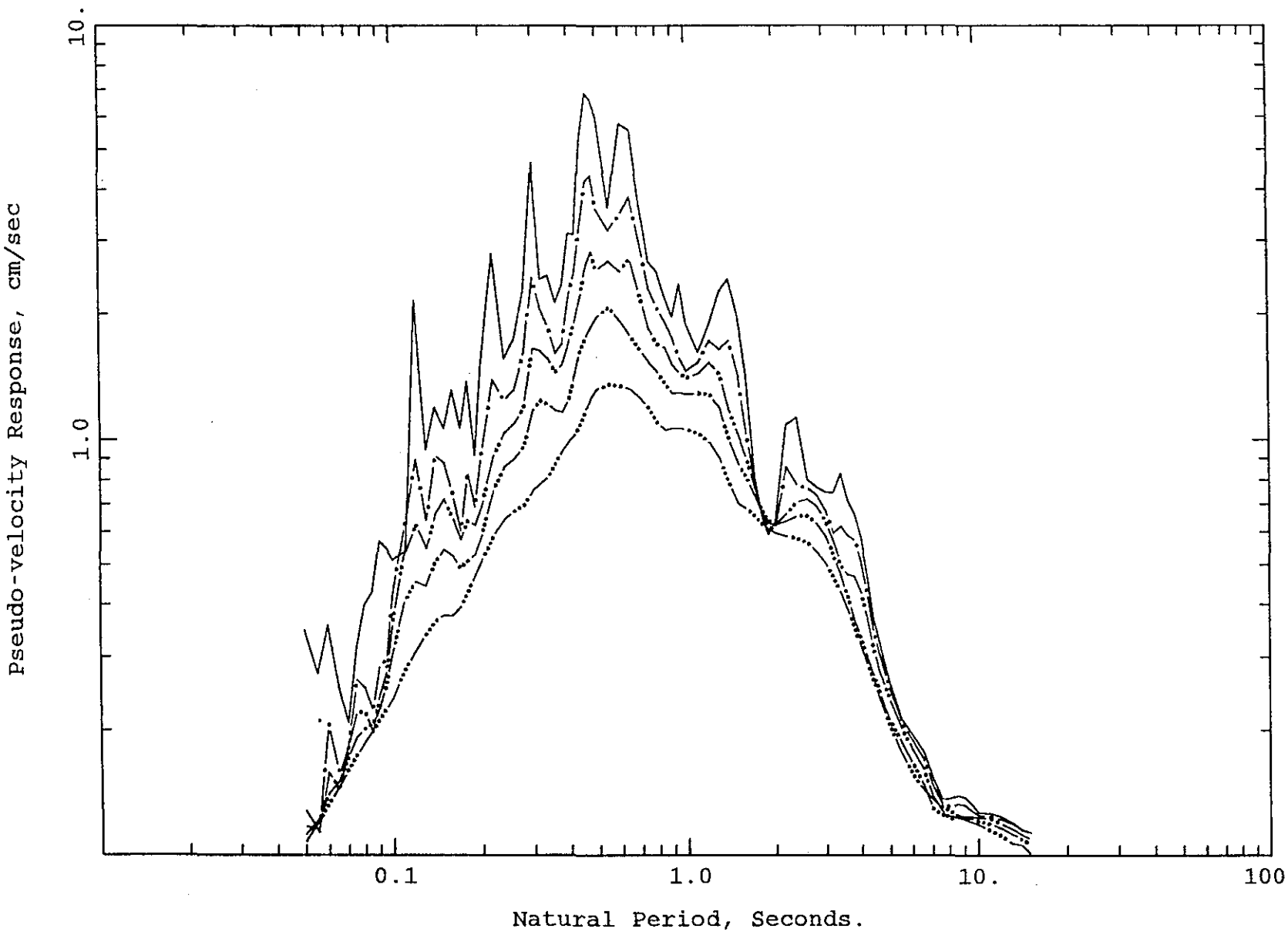


Station name= 2710 KDN* KODIAK, U.S. NAVAL S; Code= 2710; Component= 270
EQ name= earthquake name unknown; EQ date= 05jun64

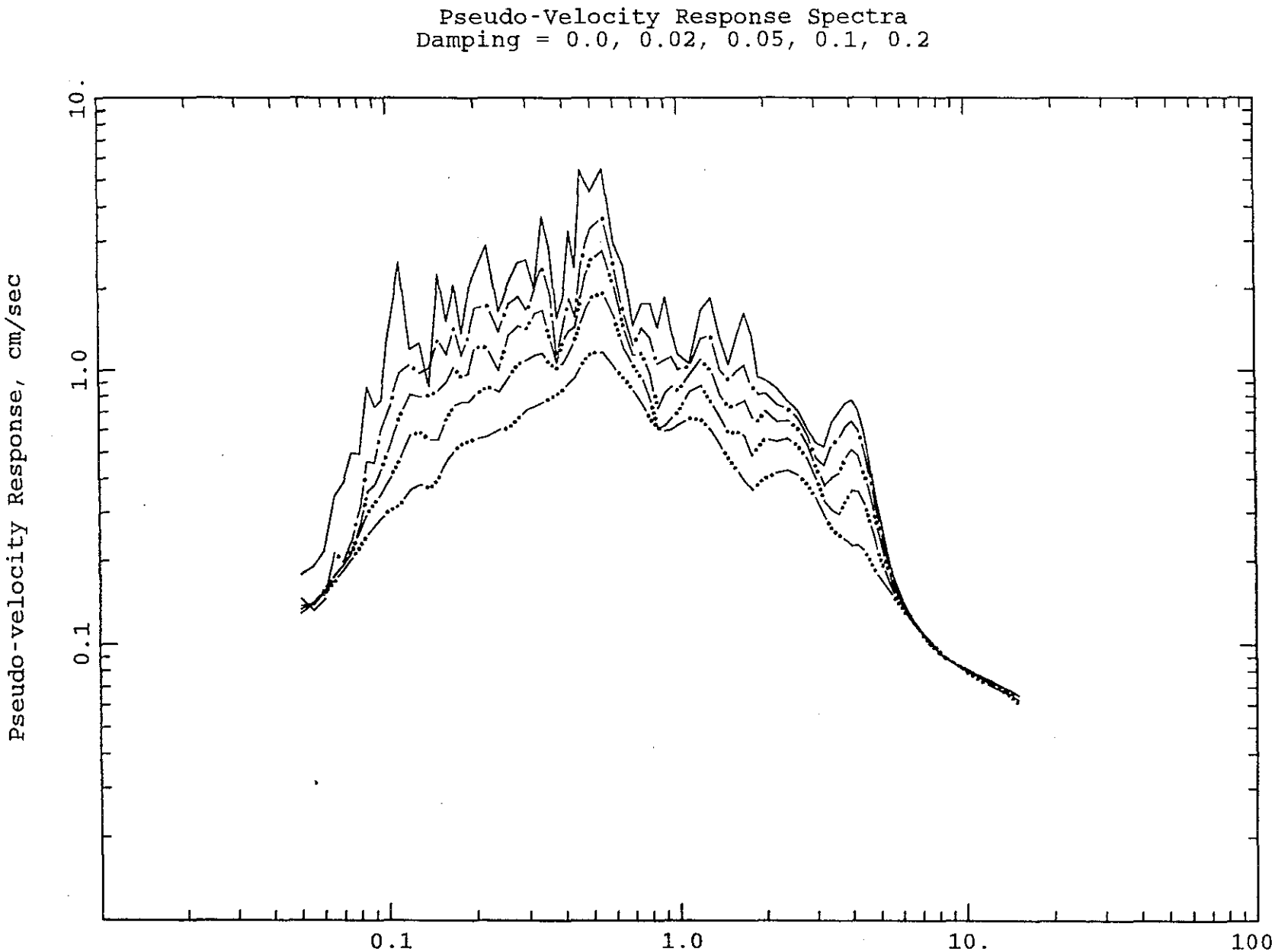


Station name= 2710 KDN* KODIAK, U.S. NAVAL S; Code= 2710; Component= UP
EQ name= earthquake name unknown; EQ date= 05jun64

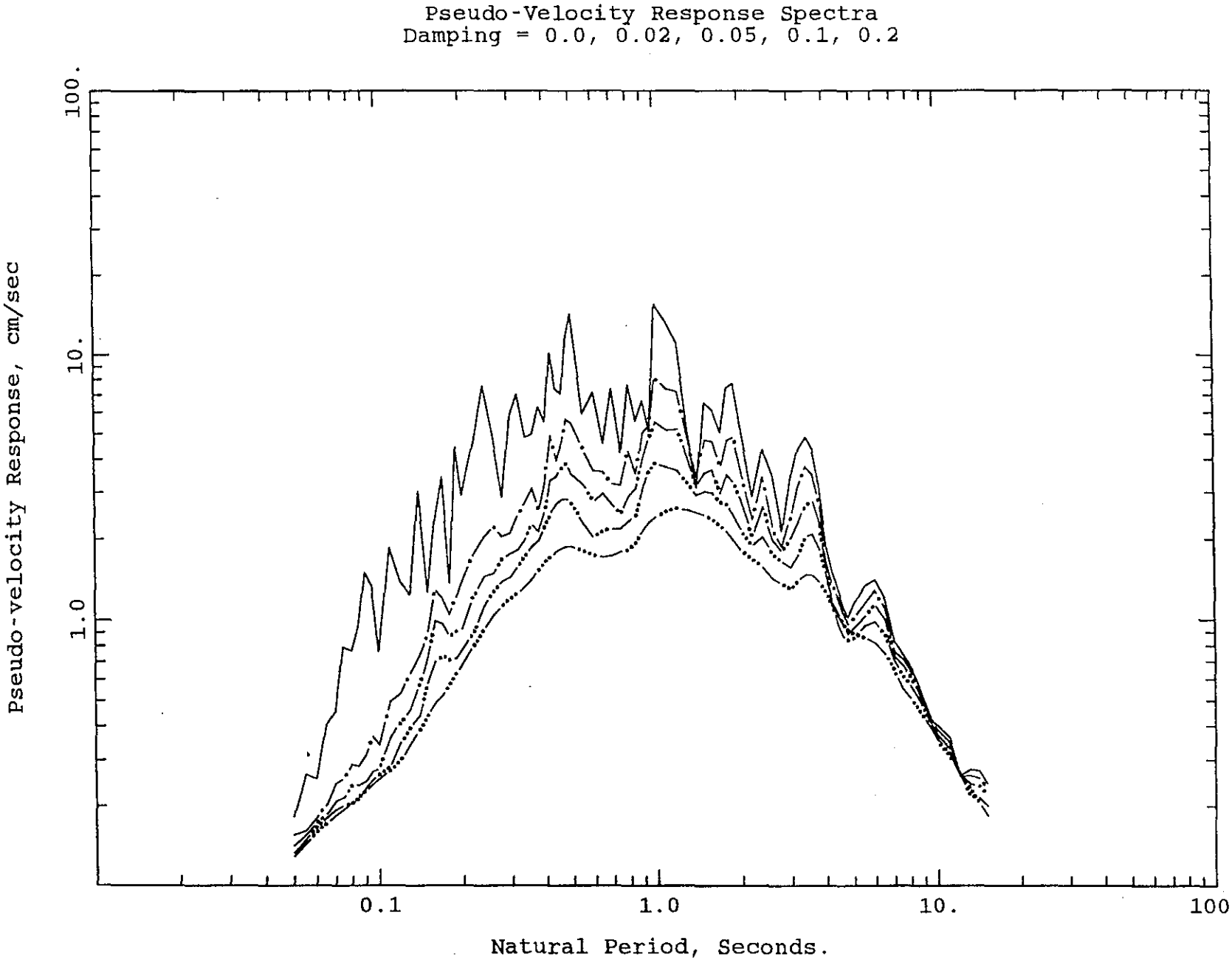
Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2



Station name= 2710 KDN* KODIAK, U.S. NAVAL S; Code= 2710; Component= 180
EQ name= earthquake name unknown; EQ date= 05jun64

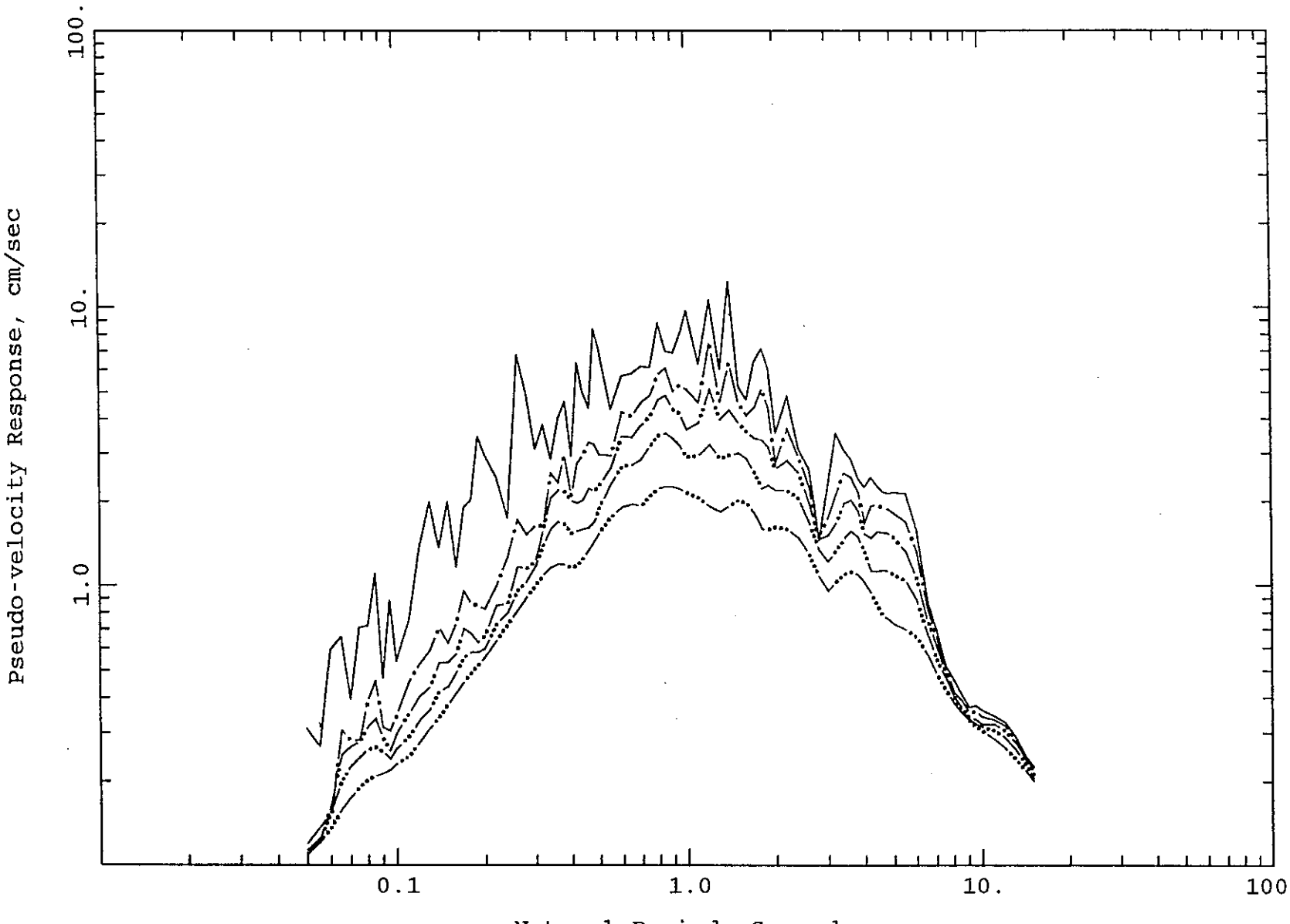


Station name= 2710 KDN* KODIAK, U.S. NAVAL S; Code= 2710; Component= 350
EQ name= earthquake name unknown; EQ date= 04sep65



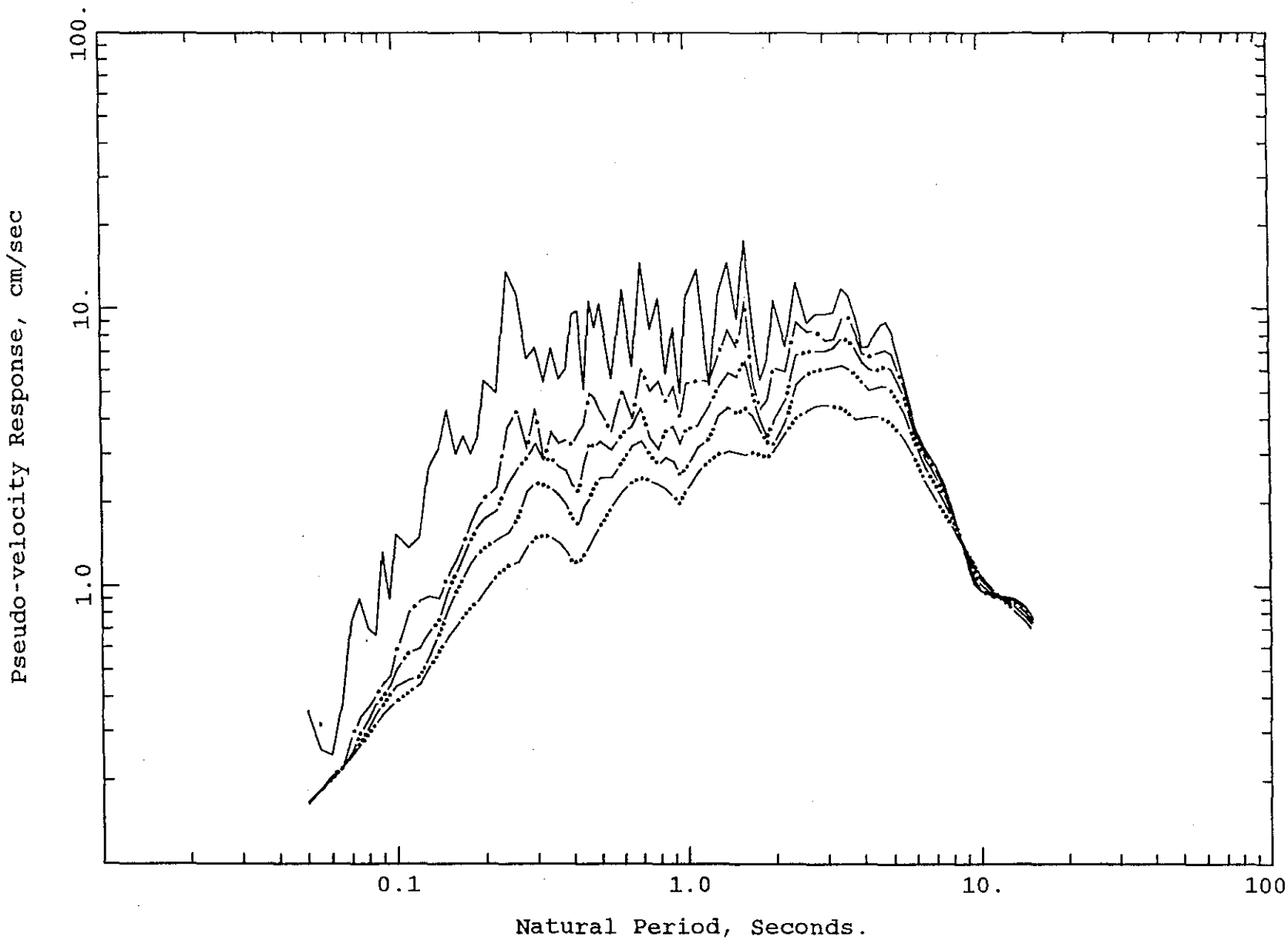
Station name= 2710 KDN* KODIAK, U.S. NAVAL S; Code= 2710; Component= UP
EQ name= earthquake name unknown; EQ date= 04sep65

Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2

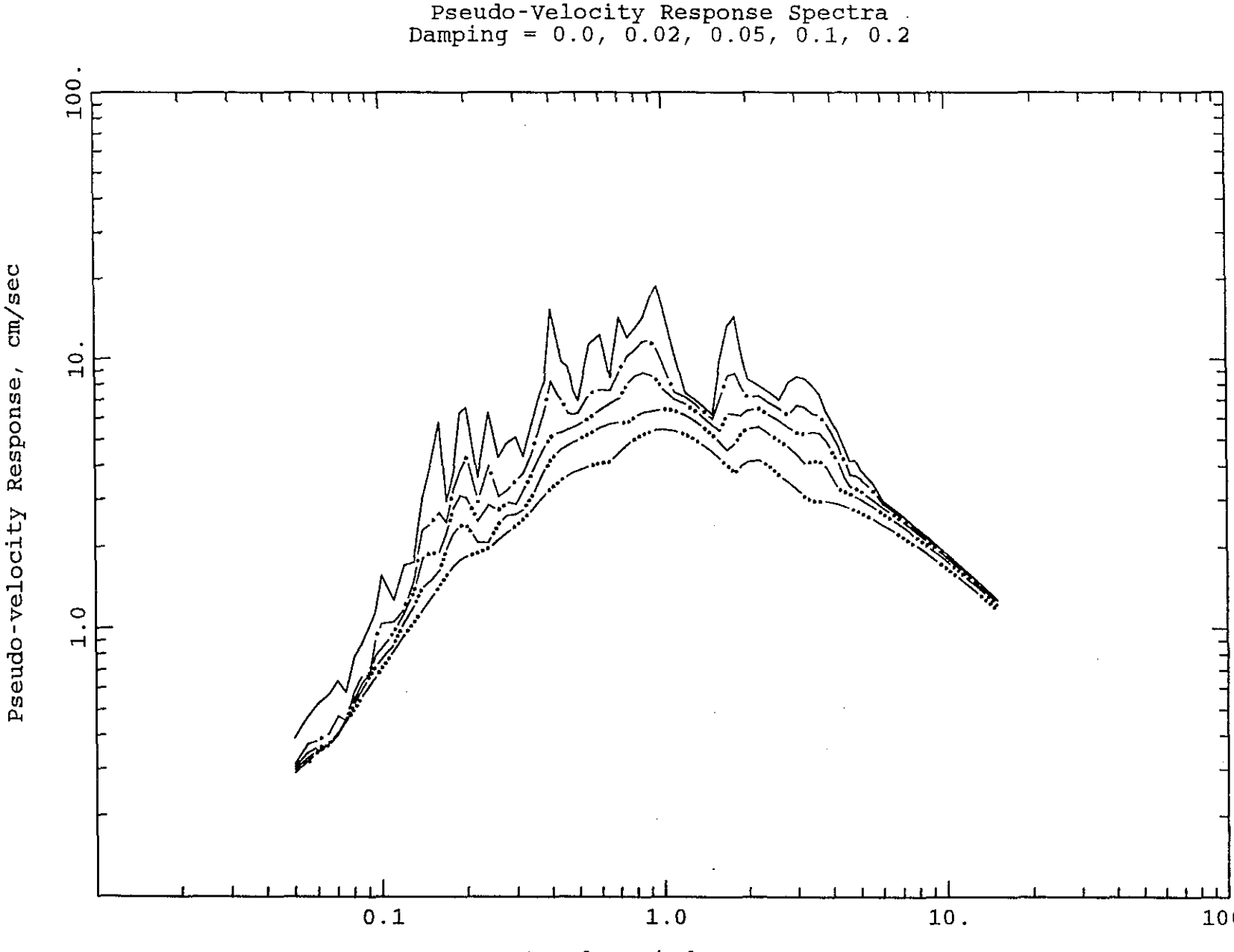


Station name= 2710 KDN* KODIAK, U.S. NAVAL S; Code= 2710; Component= 260
EQ name= earthquake name unknown; EQ date= 04sep65

Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2

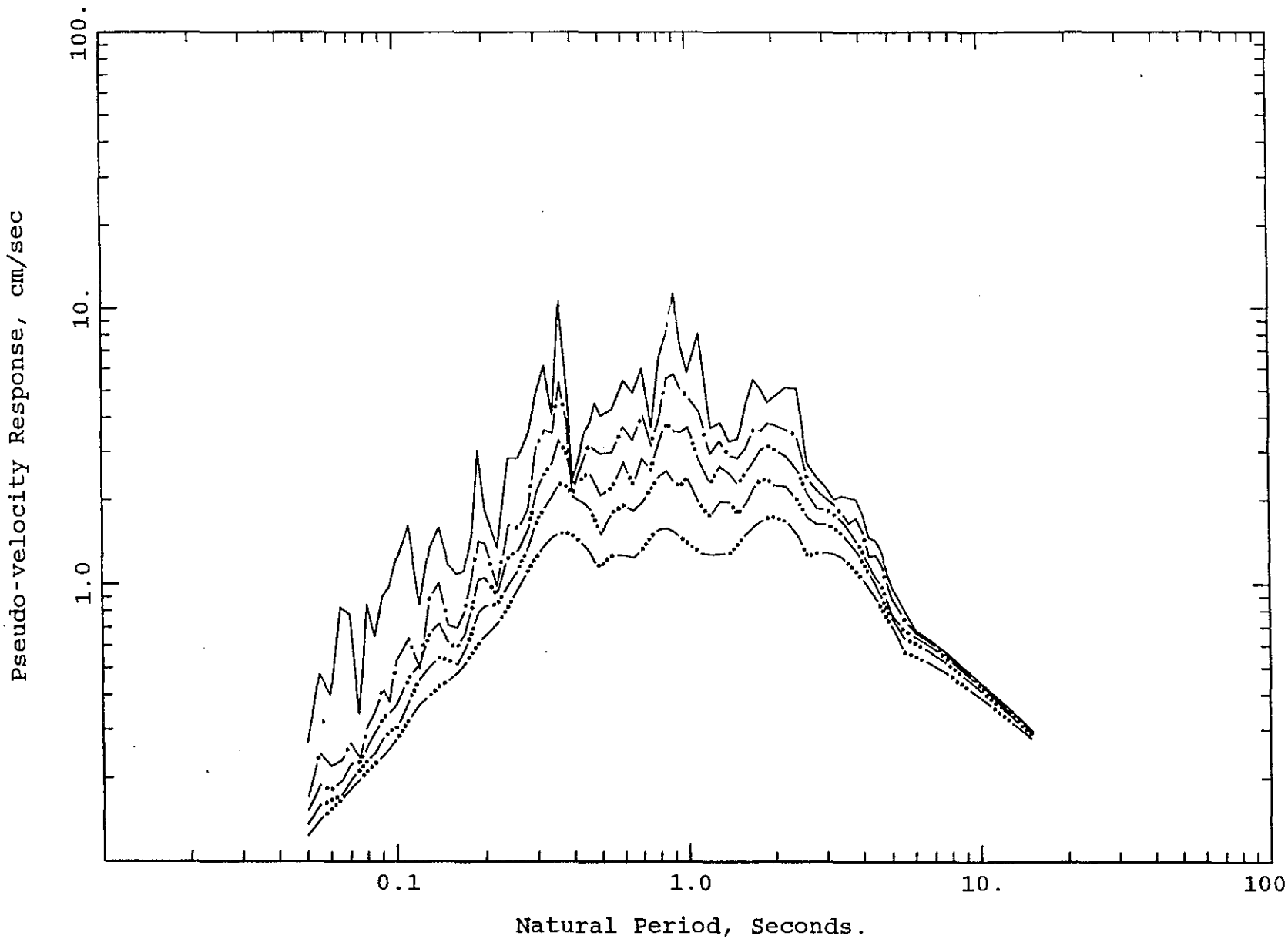


Station name= 2710 KDN* KODIAK, U.S. NAVAL S; Code= 2710; Component= 350
EQ name= earthquake name unknown; EQ date= 22dec65



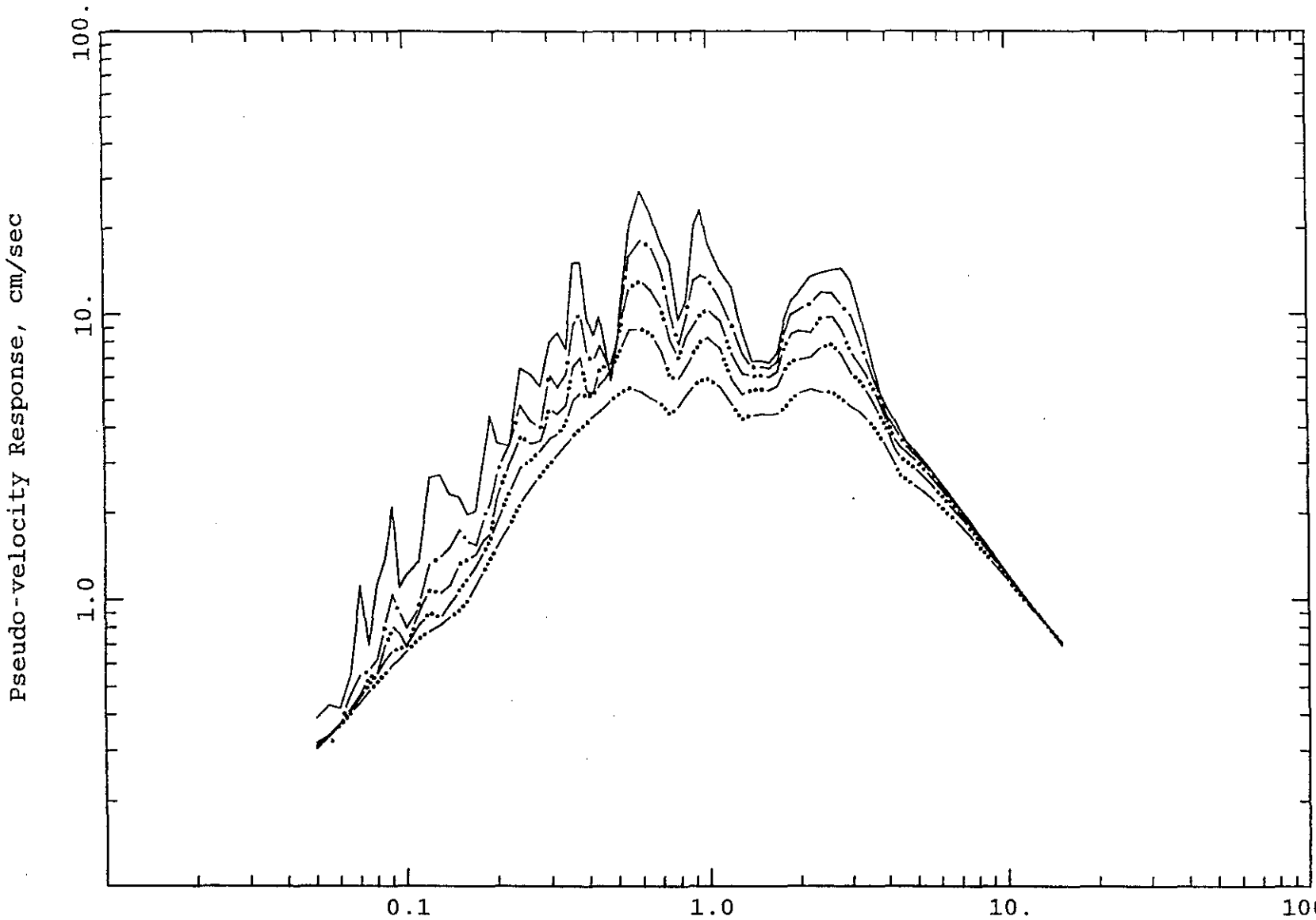
Station name= 2710 KDN* KODIAK, U.S. NAVAL S; Code= 2710; Component= UP
EQ name= earthquake name unknown; EQ date= 22dec65

Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2



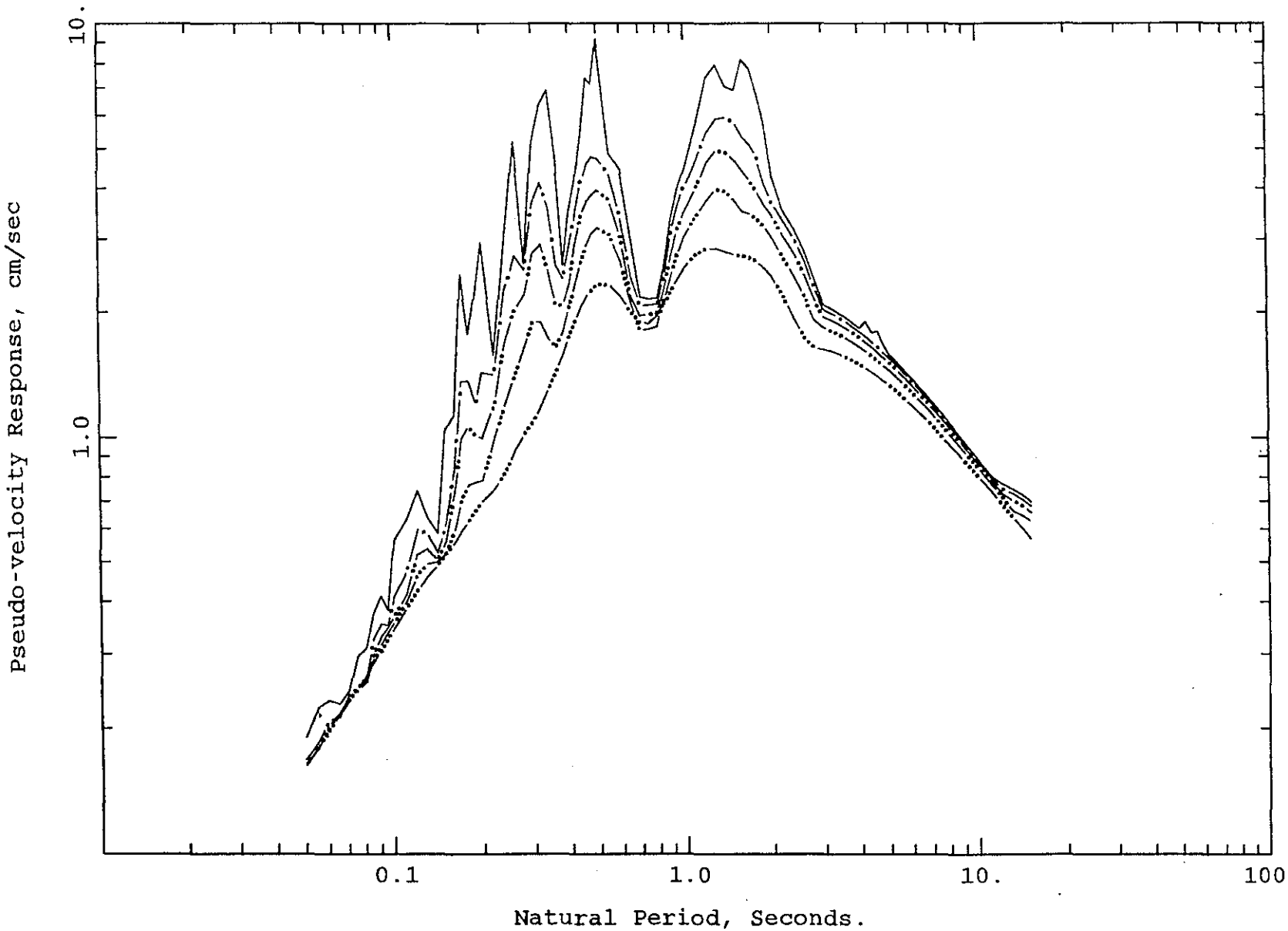
Station name= 2710 KDN* KODIAK, U.S. NAVAL S; Code= 2710; Component= 260
EQ name= earthquake name unknown; EQ date= 22dec65

Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2

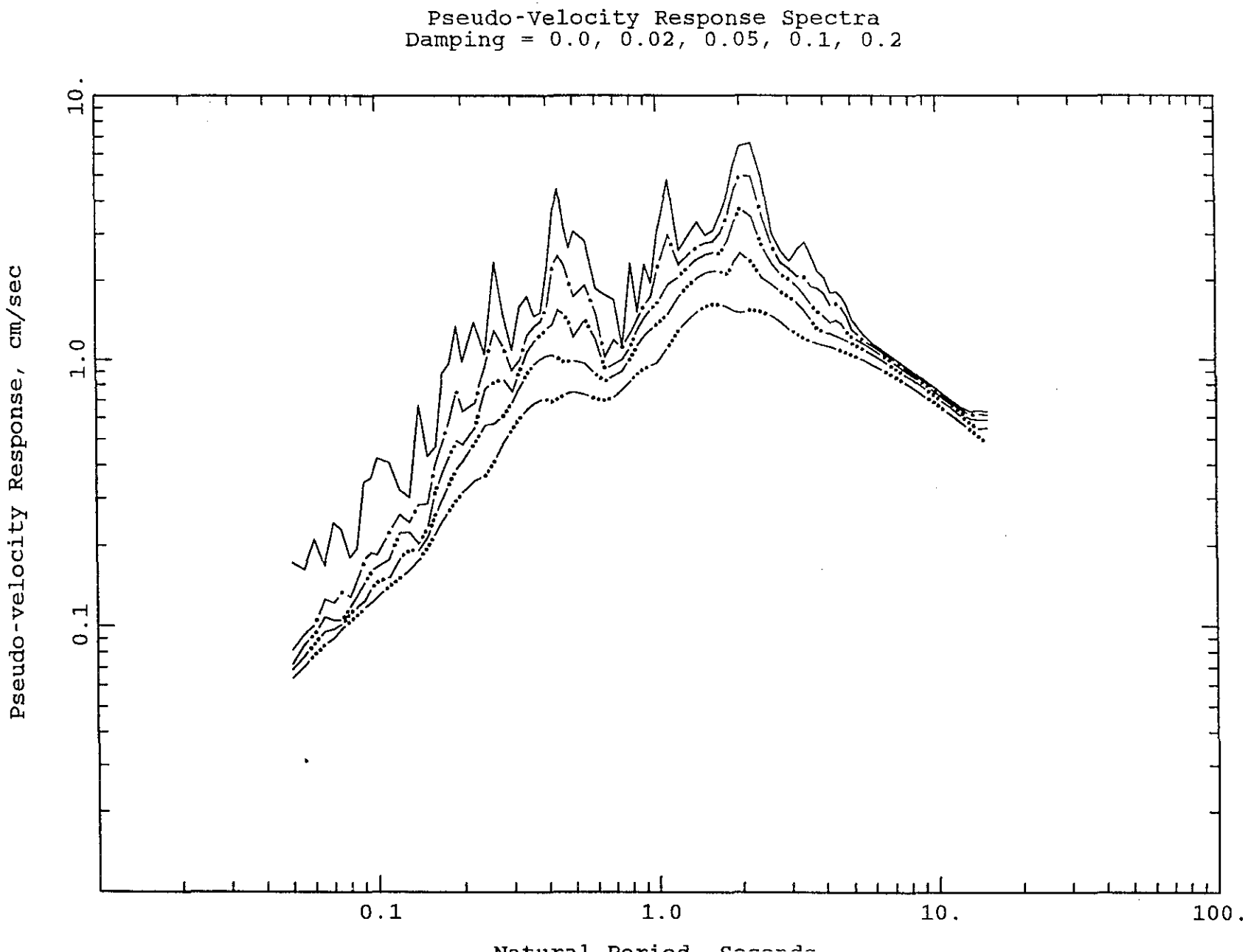


Station name= 2739 KDS KODIAK, USCG CENTRAL; Code= 2739; Component= 350
EQ name= earthquake name unknown; EQ date= 11mar70

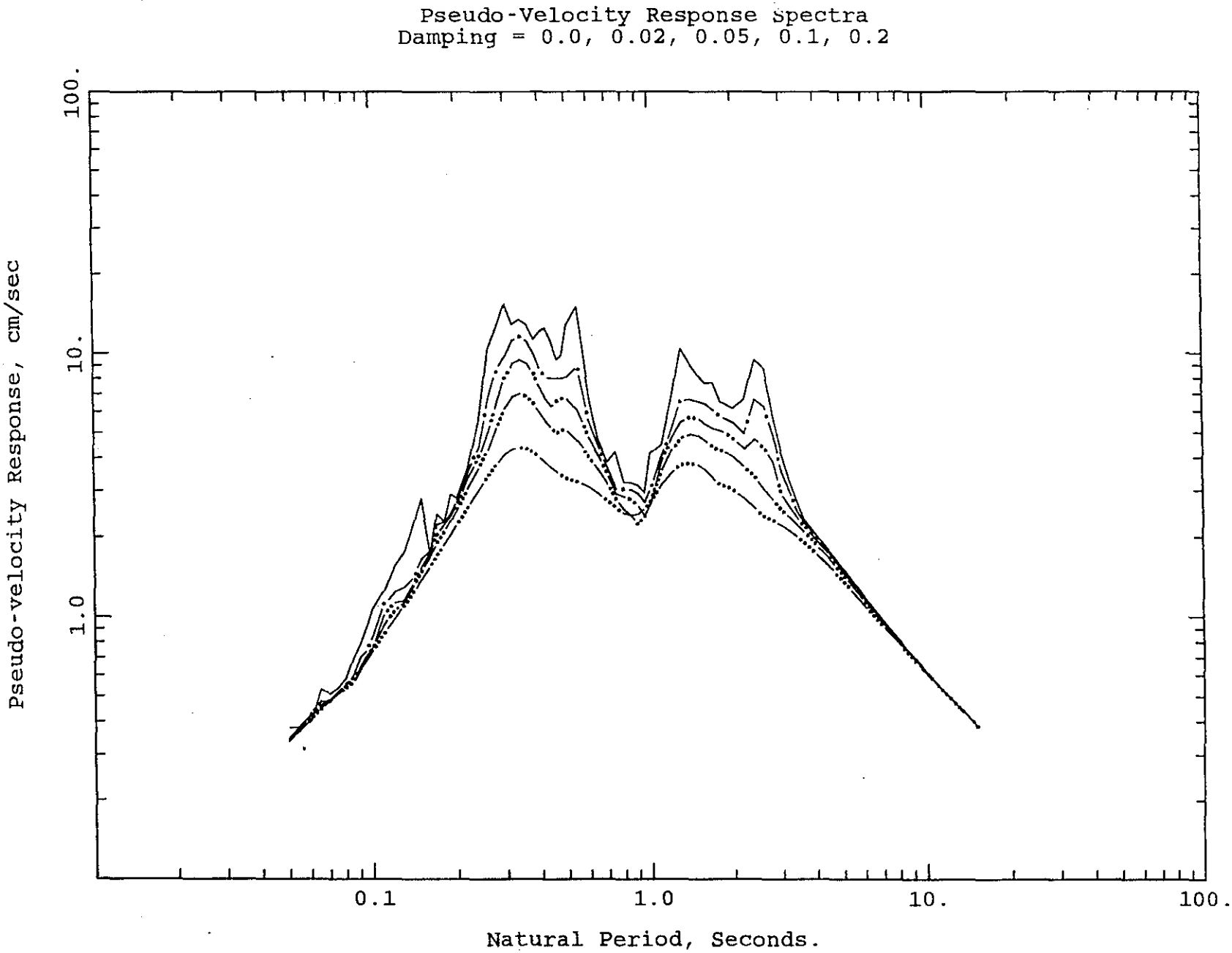
Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2



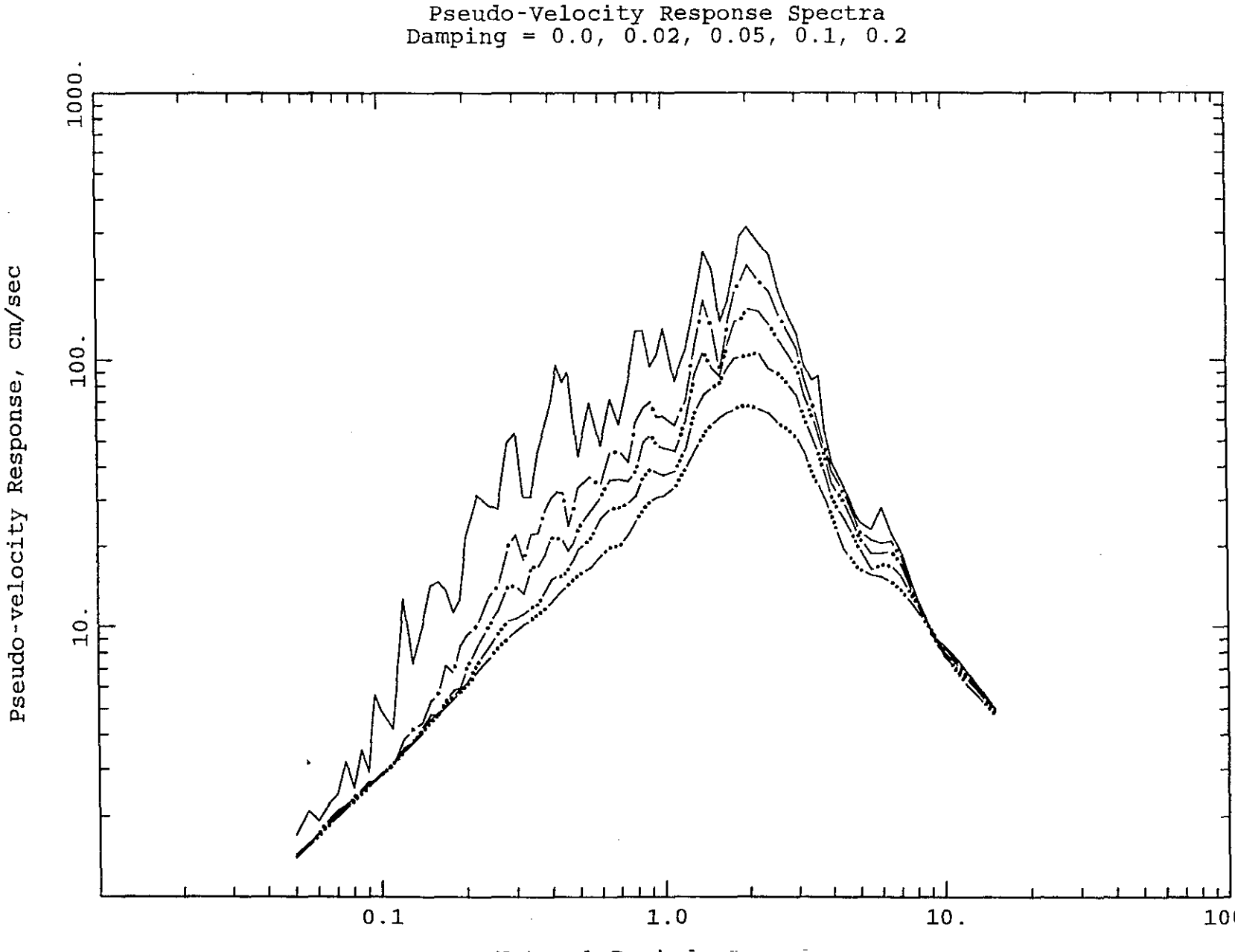
Station name= 2739 KDS KODIAK, USCG CENTRAL; Code= 2739; Component= UP
EQ name= earthquake name unknown; EQ date= 11mar70



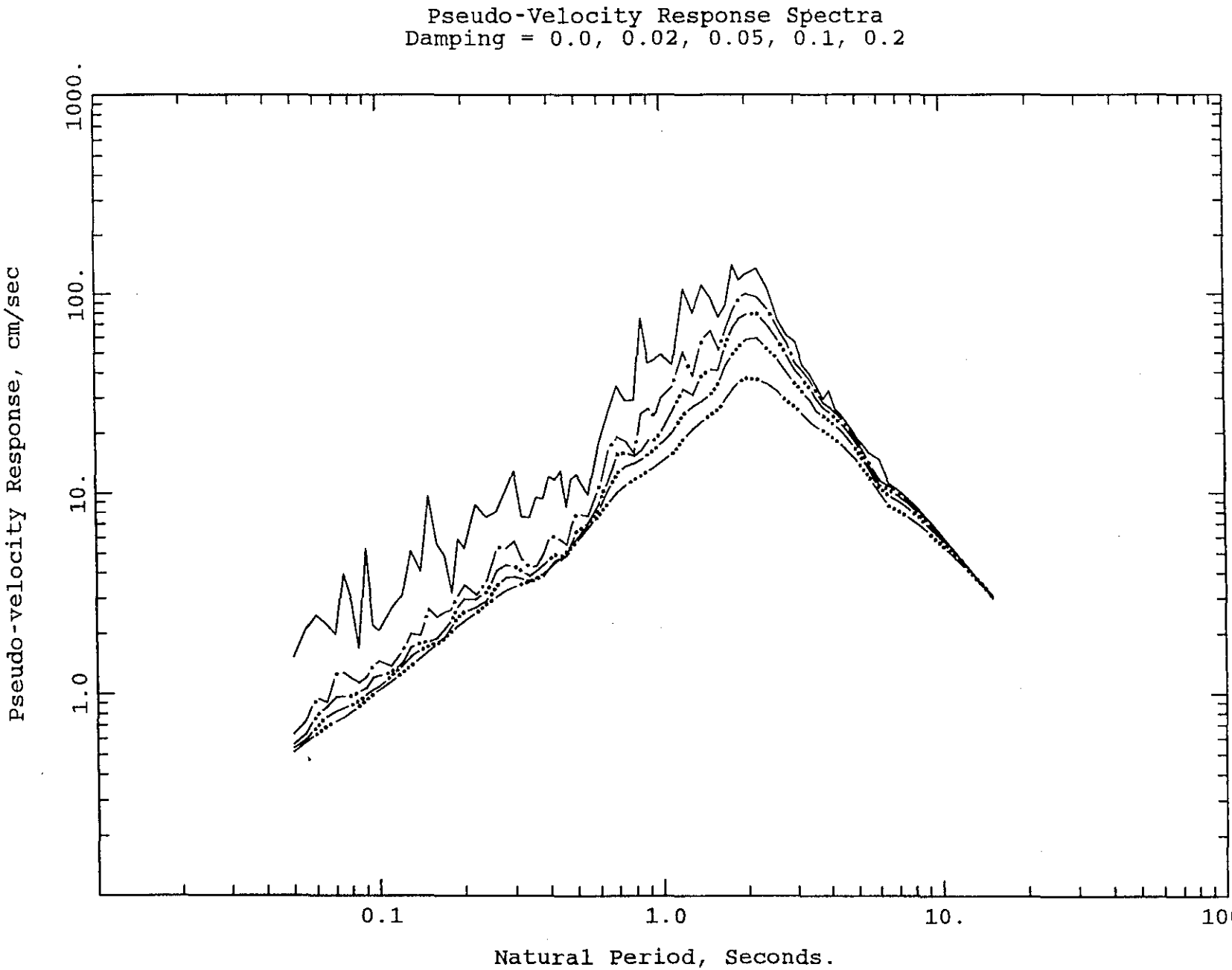
Station name= 2739 KDS KODIAK, USCG CENTRAL; Code= 2739; Component= 260
EQ name= earthquake name unknown; EQ date= 11mar70



Station name= 2734 ICY ICY BAY, GULF TIMBER; Code= 2734; Component= 180
EQ name= earthquake name unknown; EQ date= 28feb79

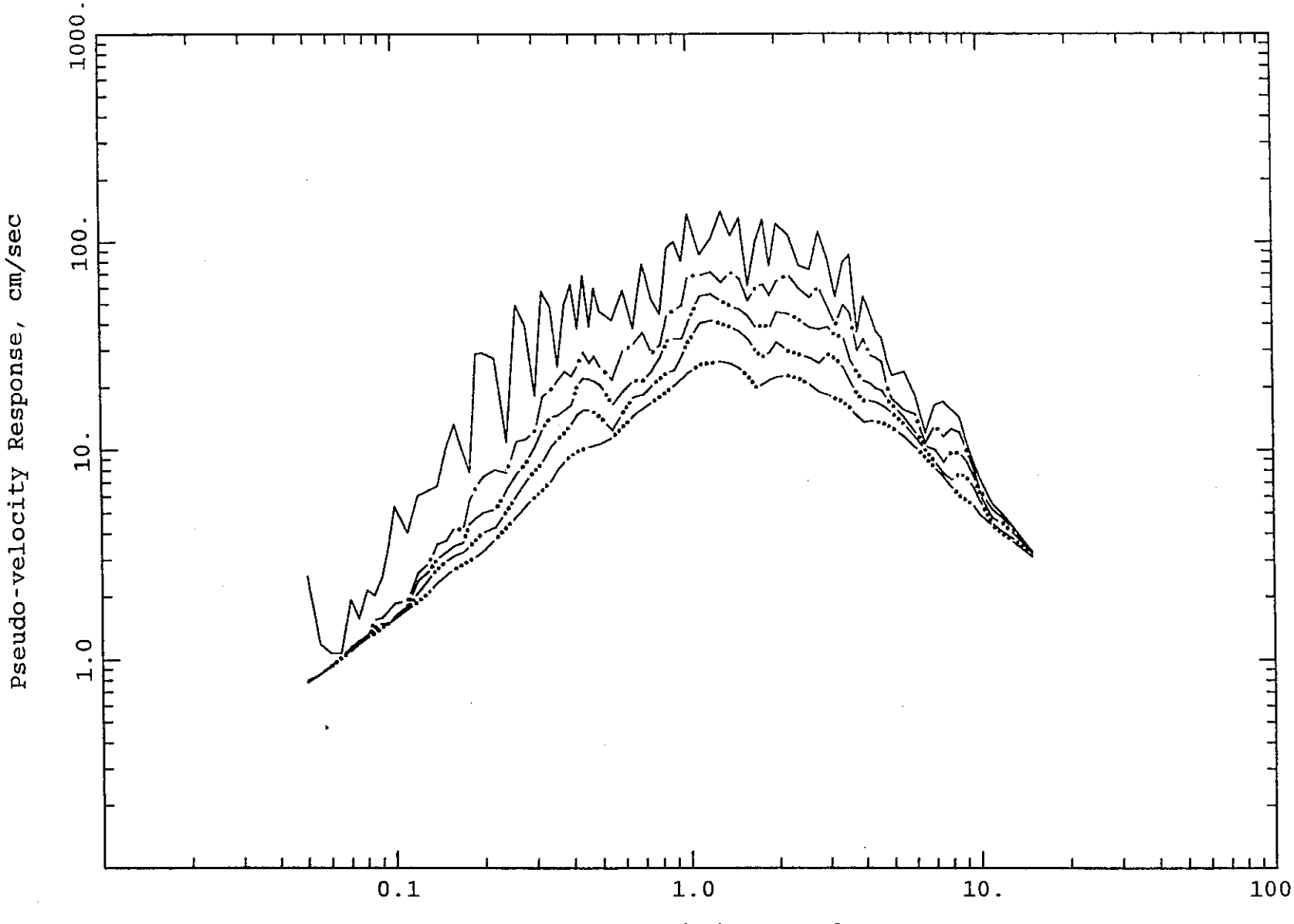


Station name= 2734 ICY ICY BAY, GULF TIMBER; Code= 2734; Component= UP
EQ name= earthquake name unknown; EQ date= 28feb79

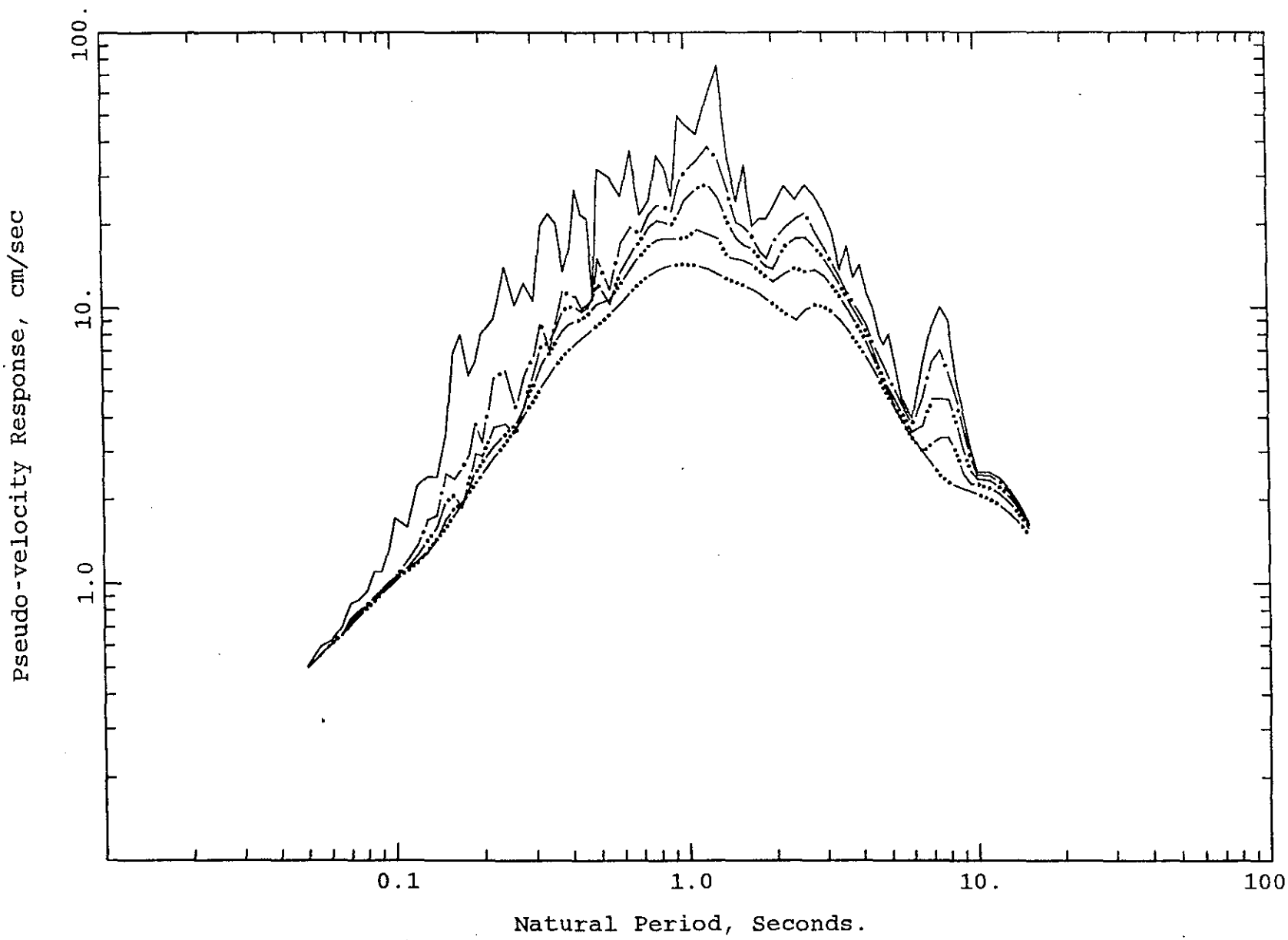


Station name= 2734 ICY ICY BAY, GULF TIMBER; Code= 2734; Component= 90
EQ name= earthquake name unknown; EQ date= 28feb79

Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2

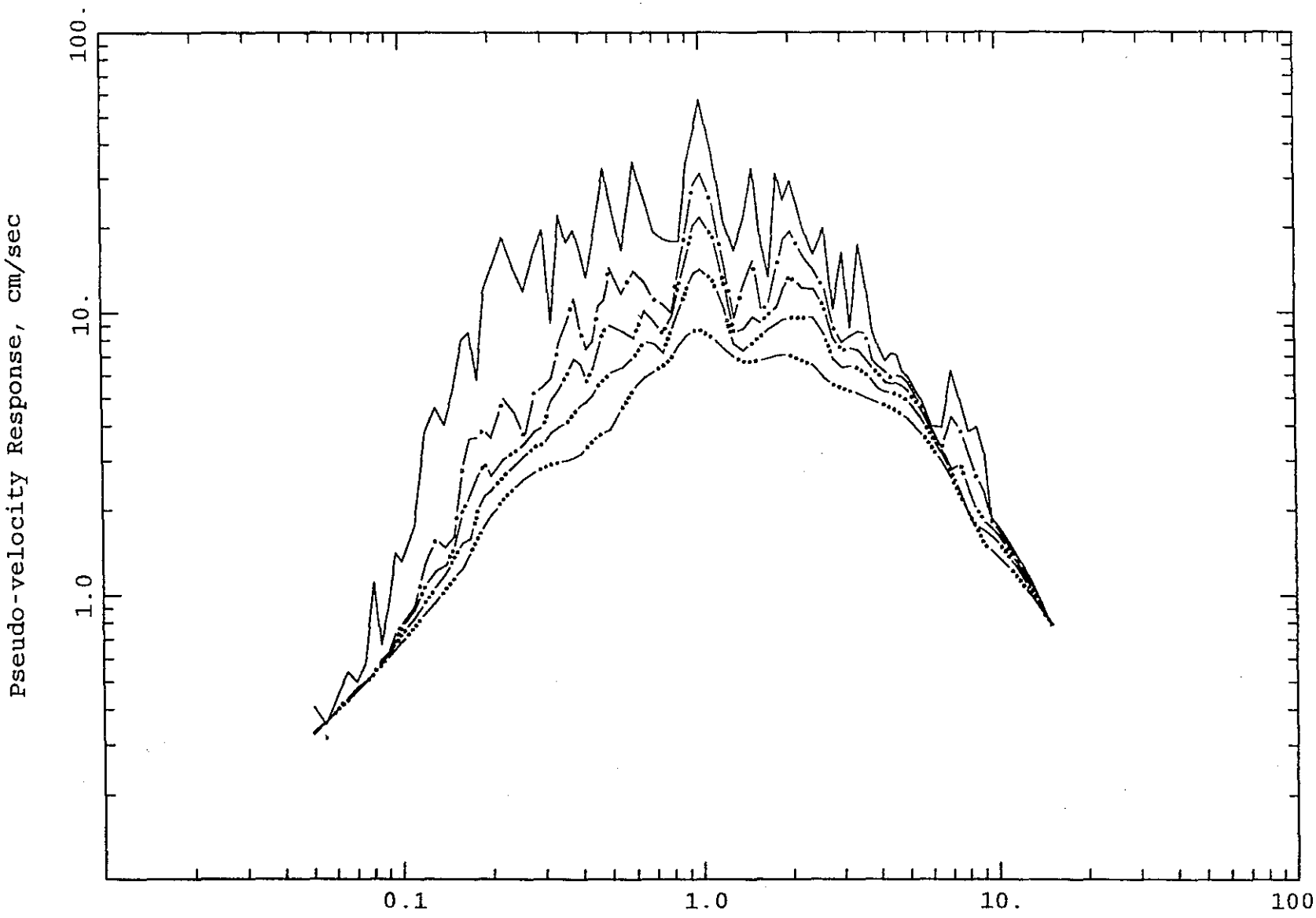


Station name= 2765 MDY MUNDAY CREEK; Code= 2765; Component= 0
EQ name= earthquake name unknown; EQ date= 28feb79

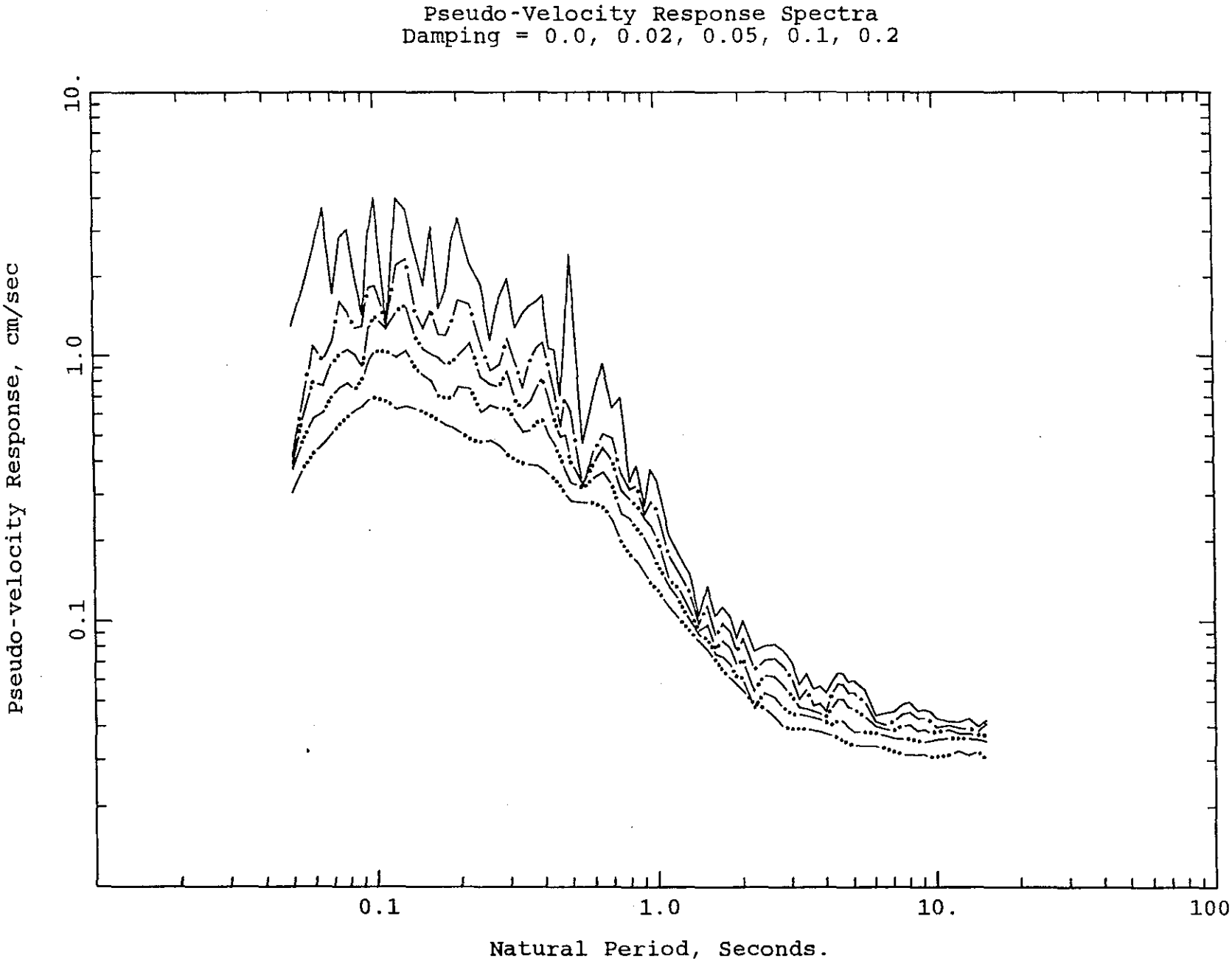


Station name= 2765 MDY MUNDAY CREEK; Code= 2765; Component= 270
EQ name= earthquake name unknown; EQ date= 28feb79

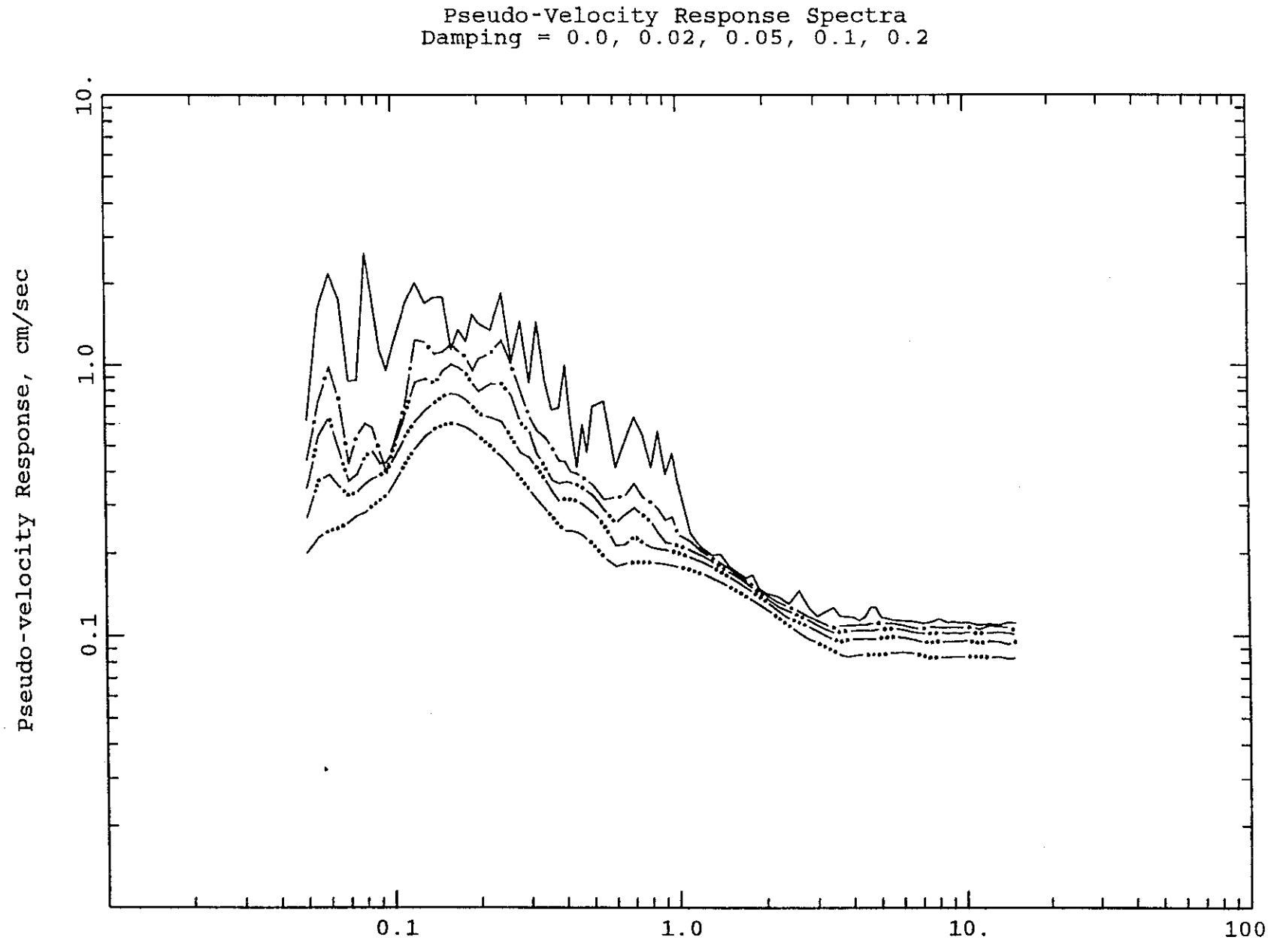
Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2



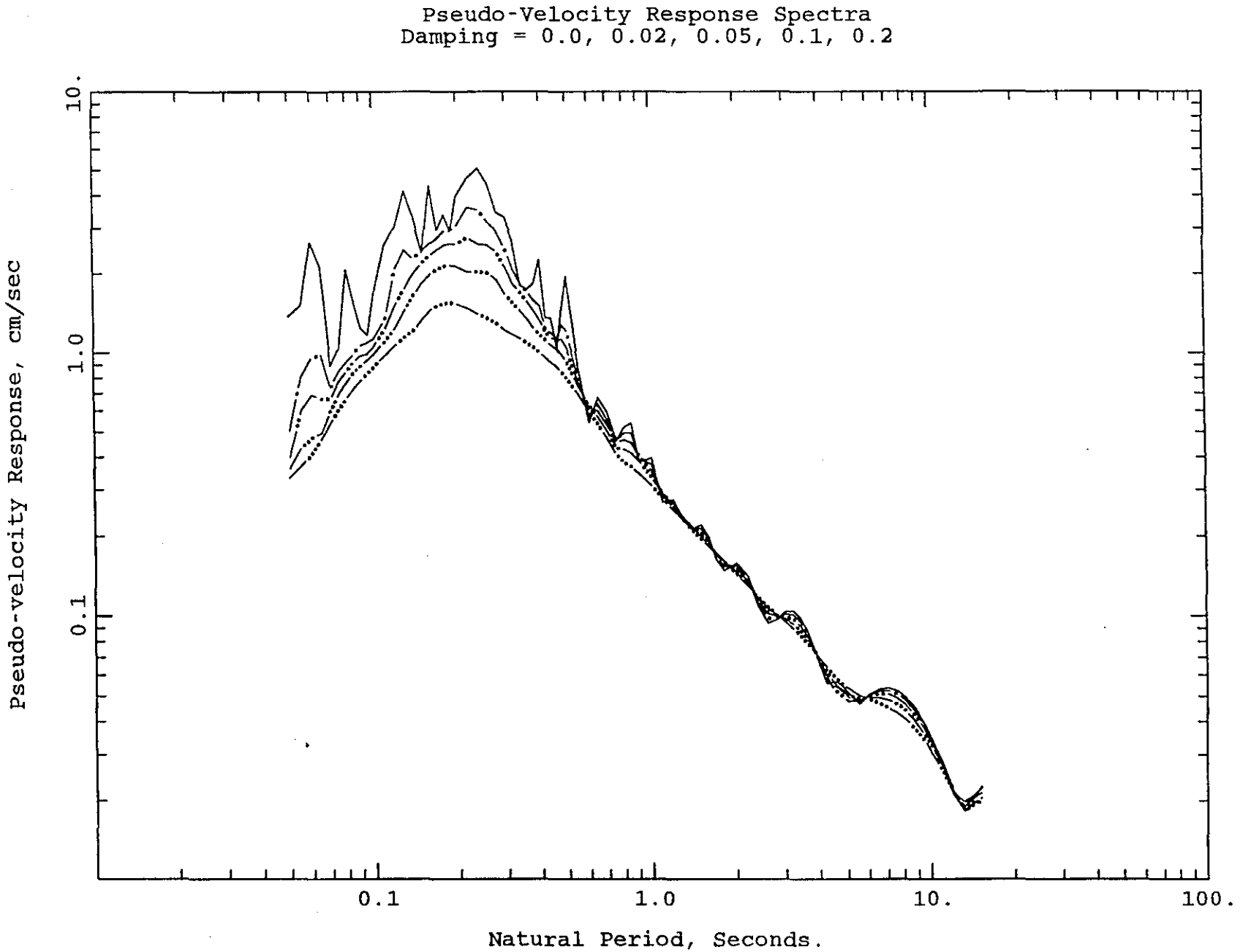
Station name= NGI 2774 - NAGAI, ALASKA; Code= XXXX; Component= 250
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 21may85



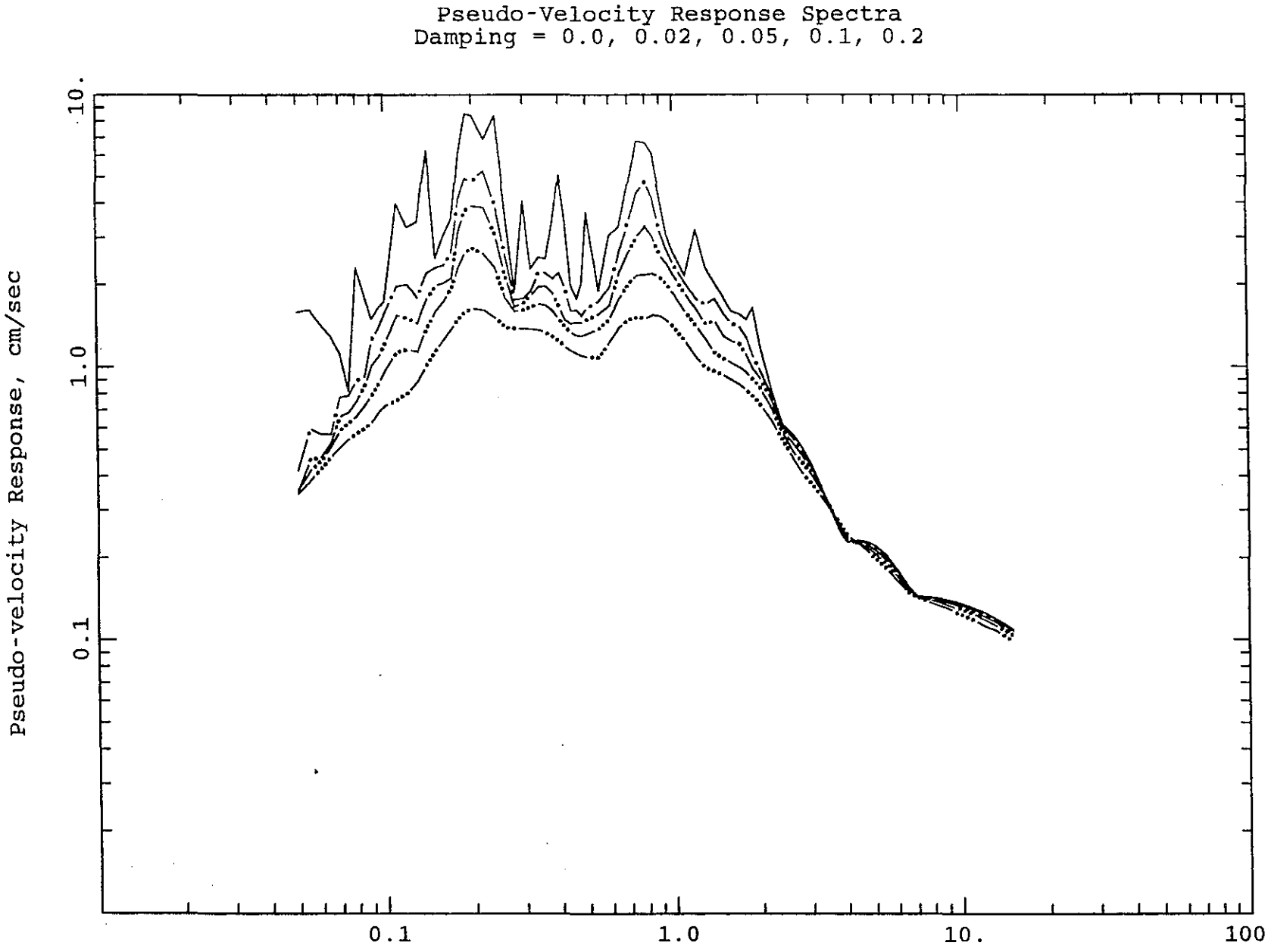
Station name= NGI 2774 - NAGAI, ALASKA; Code= XXXX; Component= UP
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 21may85



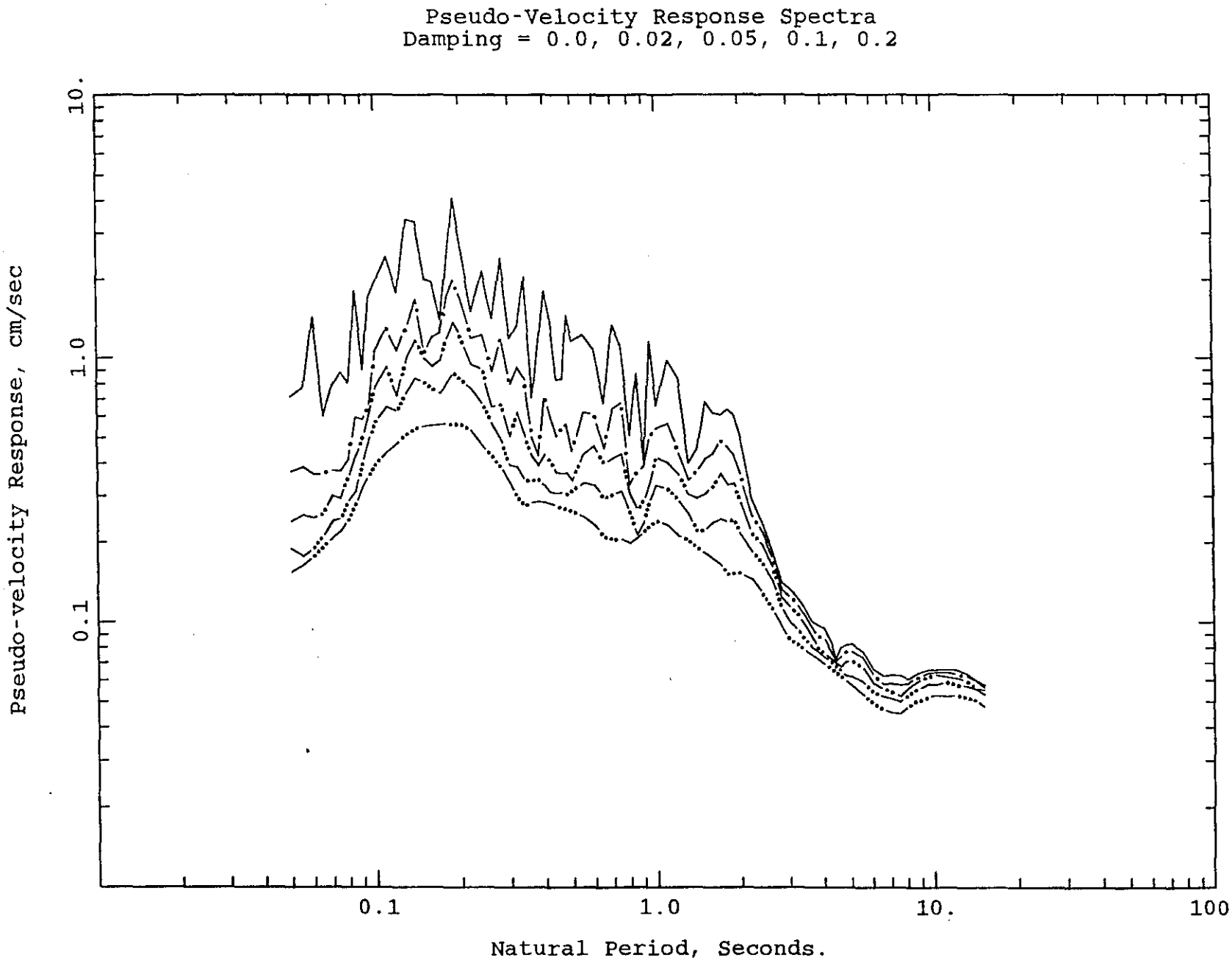
Station name= NGI 2774 - NAGAI, ALASKA; Code= XXXX; Component= 340
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 21may85



Station name= NGI 2774 - NAGAI, ALASKA; Code= XXXX; Component= 267
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 02may87

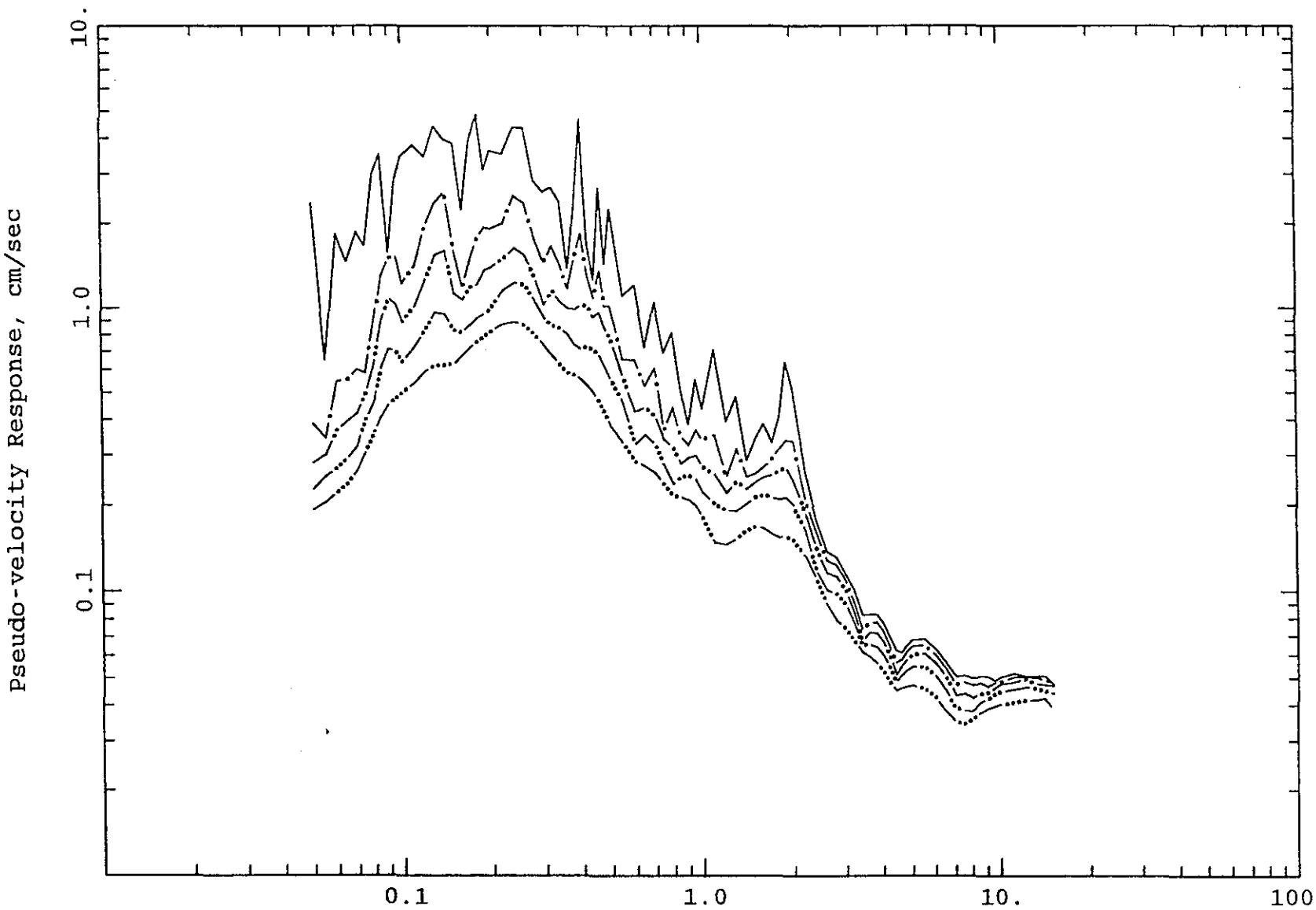


Station name= NGI 2774 - NAGAI, ALASKA; Code= XXXX; Component= UP
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 02may87

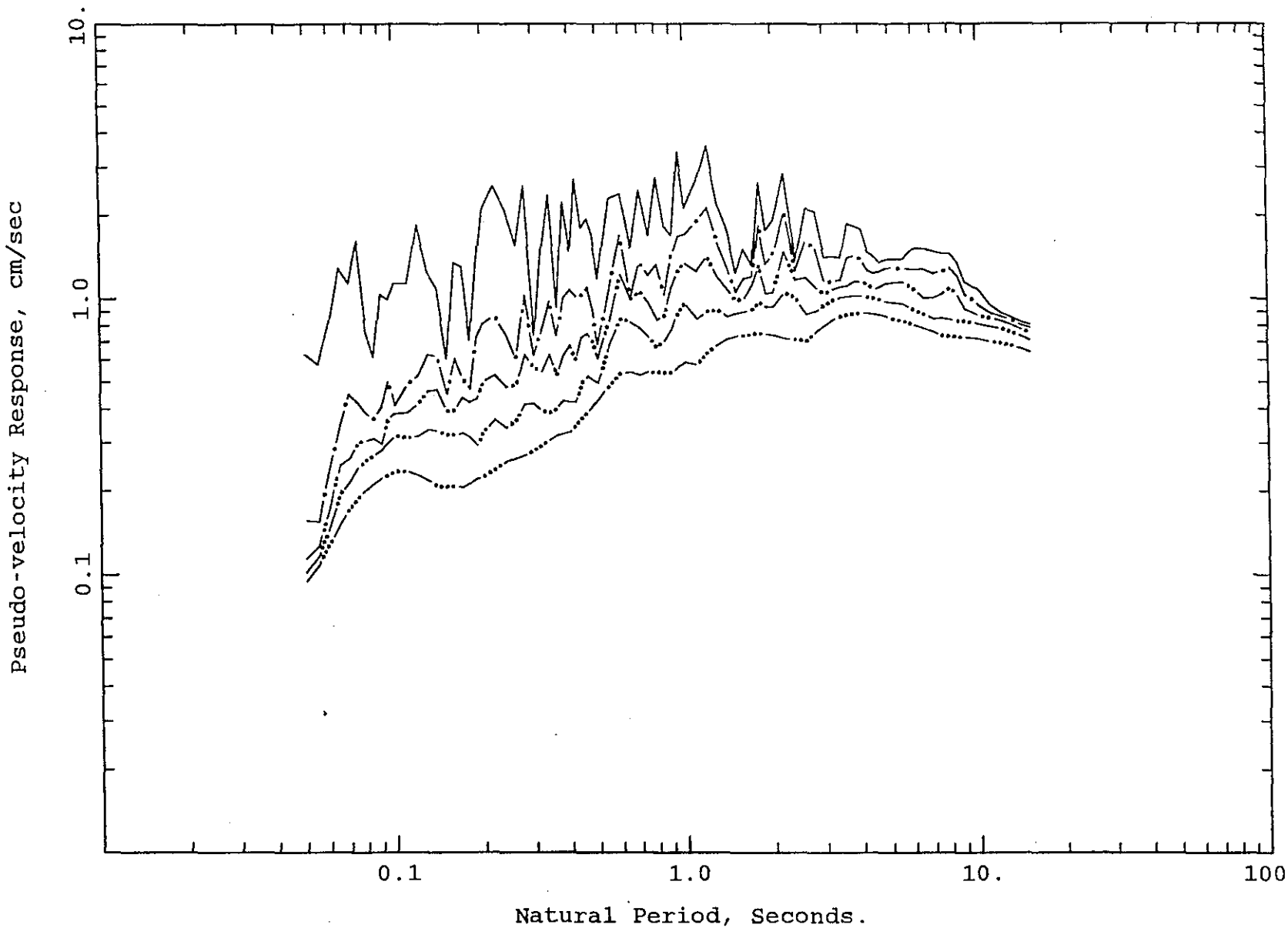


Station name= NGI 2774 - NAGAI, ALASKA; Code= XXXX; Component= 357
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 02may87

Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2

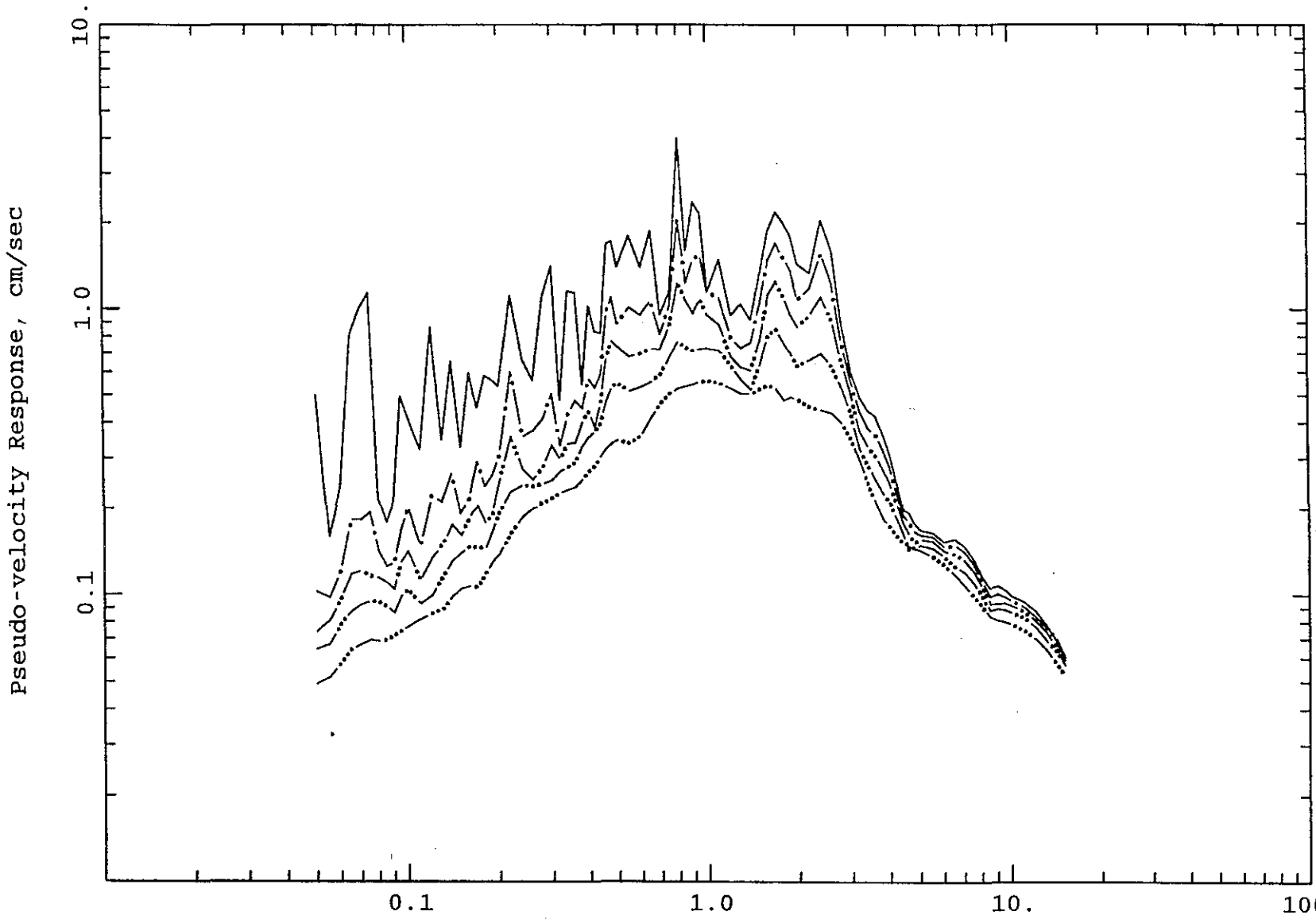


Station name= 2789 PRS PIRATE SHAKE, NAGAI; Code= 2789; Component= 72
EQ name= earthquake name unknown; EQ date= 14feb83

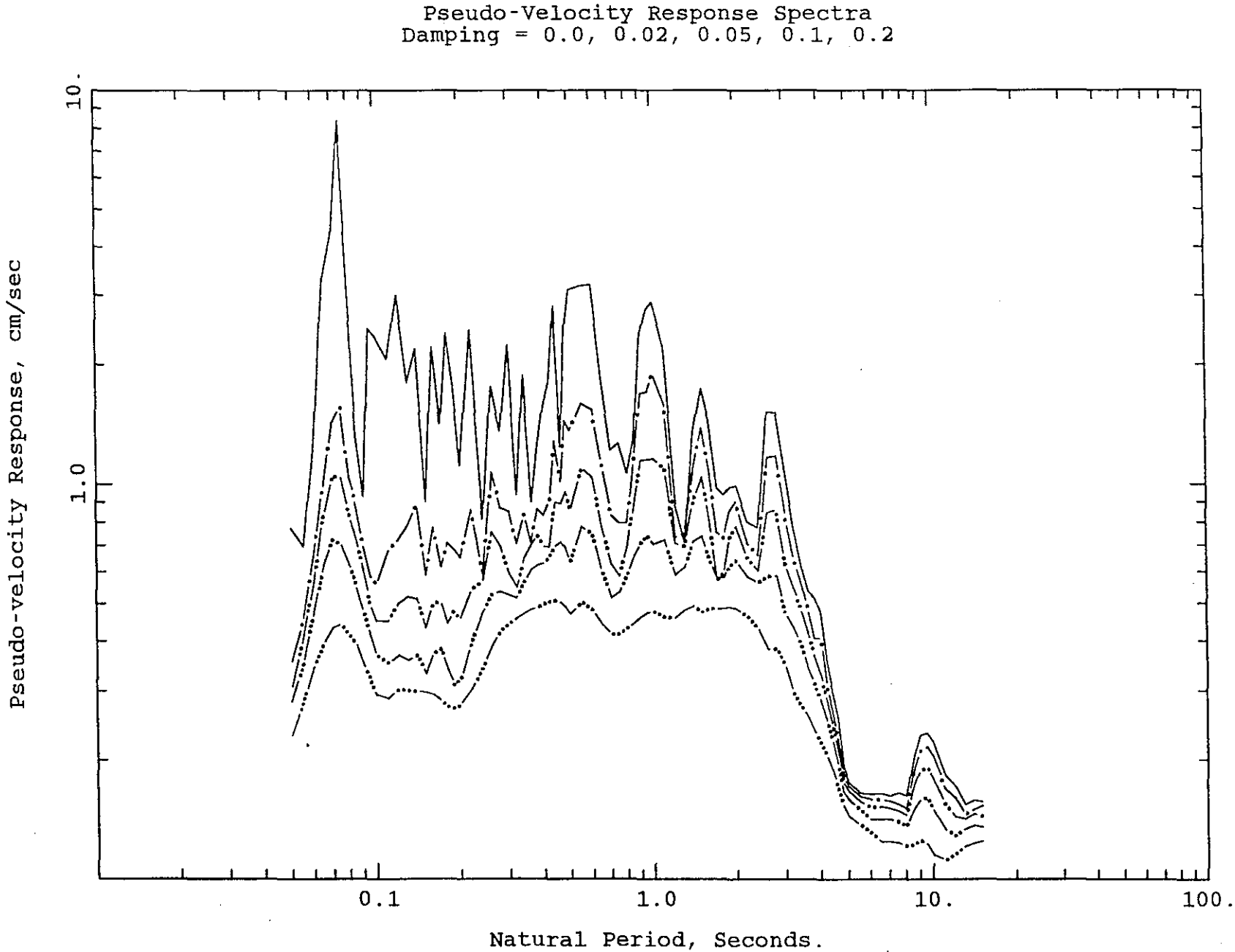


Station name= 2789 PRS PIRATE SHAKE, NAGAI; Code= 2789; Component= UP
EQ name= earthquake name unknown; EQ date= 14feb83

Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2

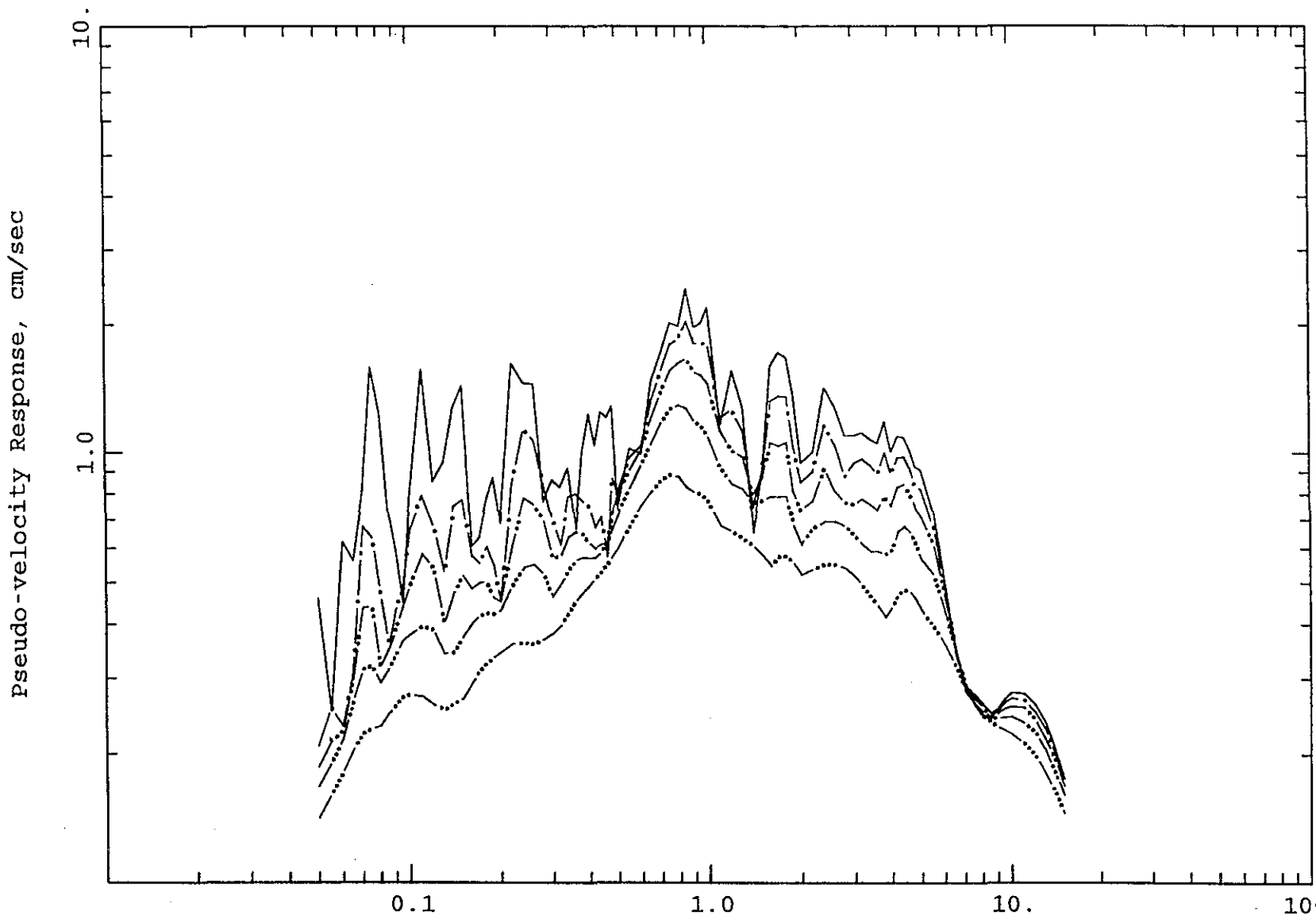


Station name= 2789 PRS PIRATE SHAKE, NAGAI; Code= 2789; Component= 342
EQ name= earthquake name unknown; EQ date= 14feb83

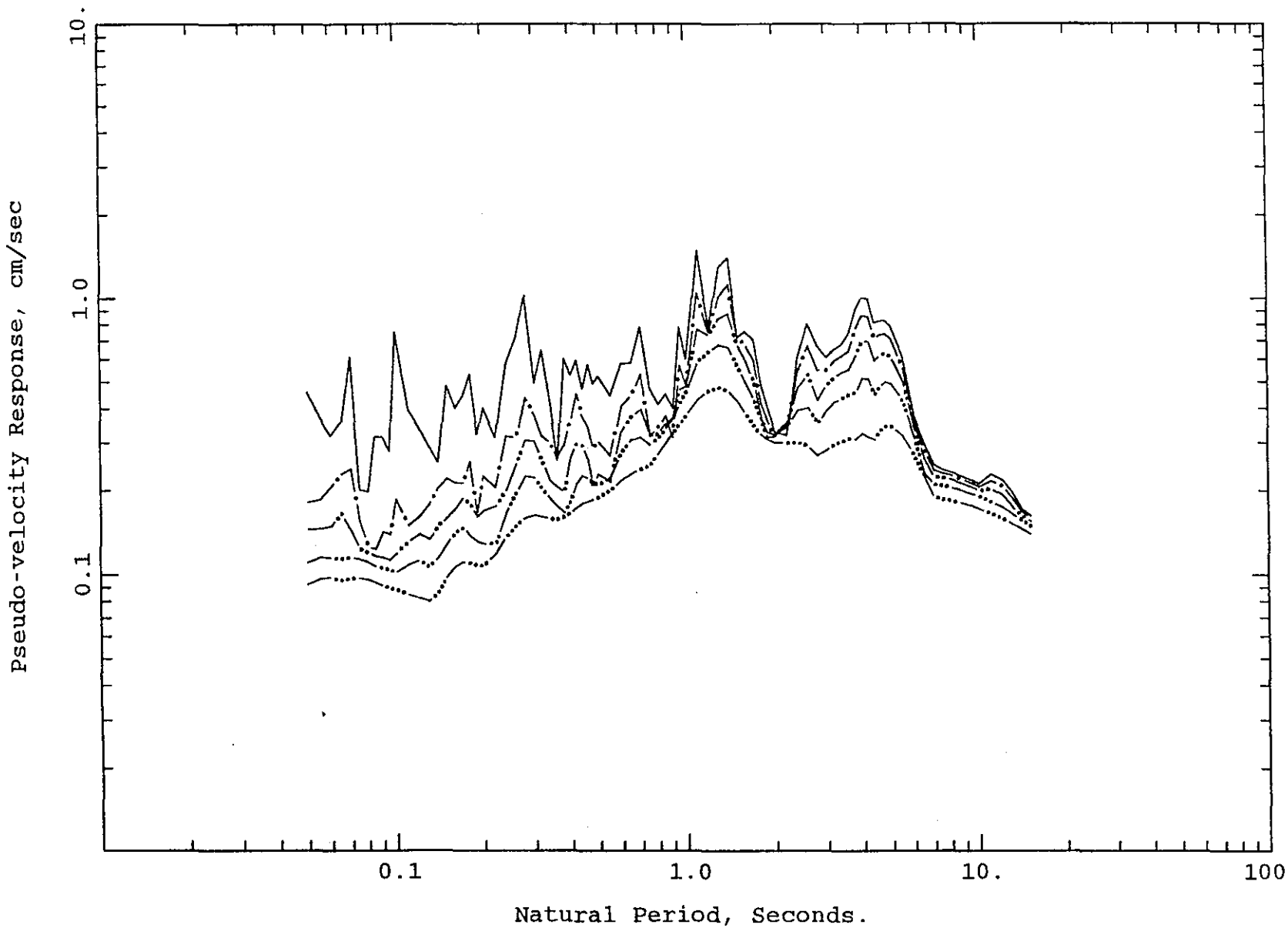


Station name= 2789 PRS PIRATE SHAKE, NAGAI; Code= 2789; Component= 72
EQ name= earthquake name unknown; EQ date= 14feb83

Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2

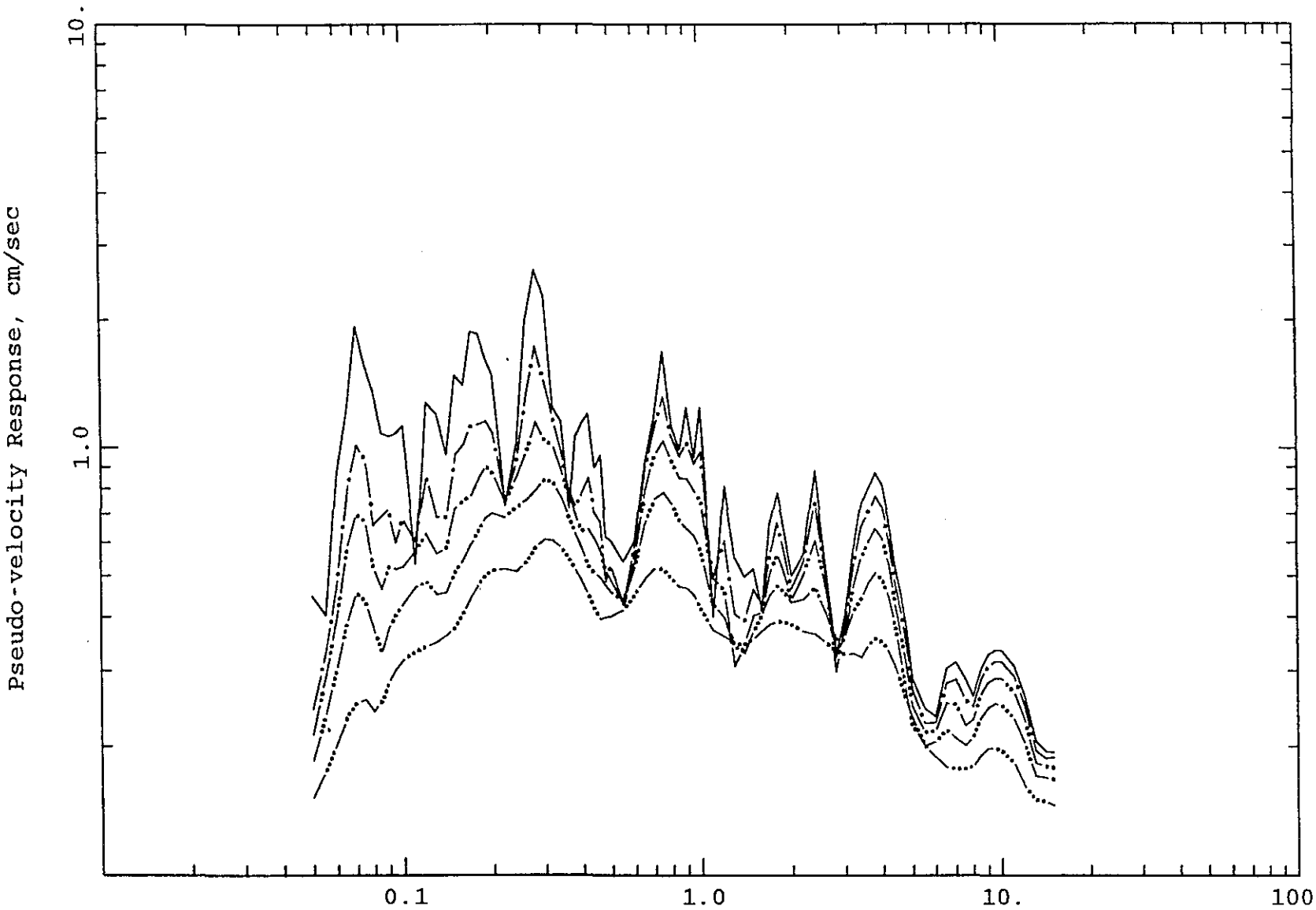


Station name= 2789 PRS PIRATE SHAKE, NAGAI; Code= 2789; Component= UP
EQ name= earthquake name unknown; EQ date= 14feb83

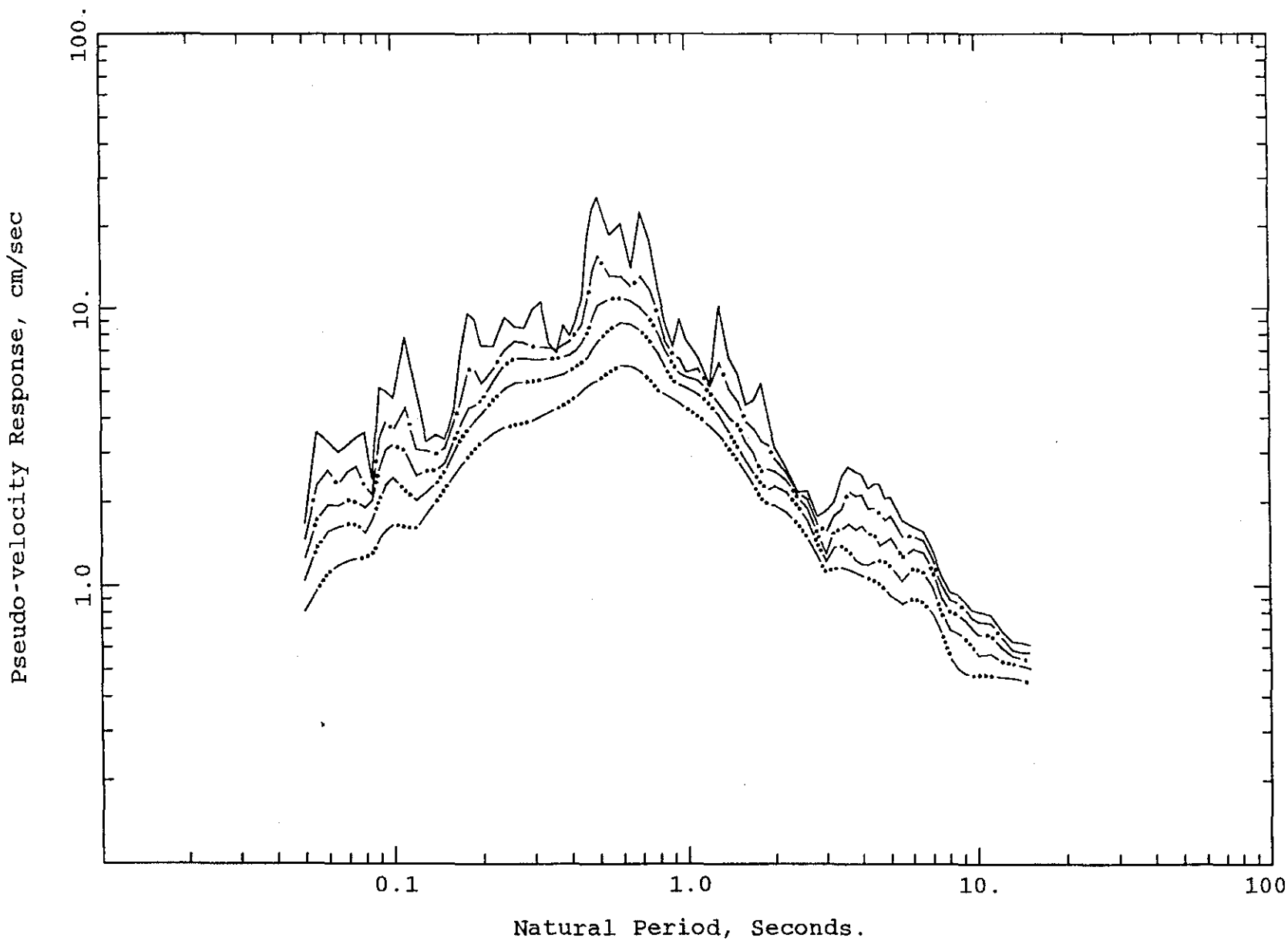


Station name= 2789 PRS PIRATE SHAKE, NAGAI; Code= 2789; Component= 342
EQ name= earthquake name unknown; EQ date= 14feb83

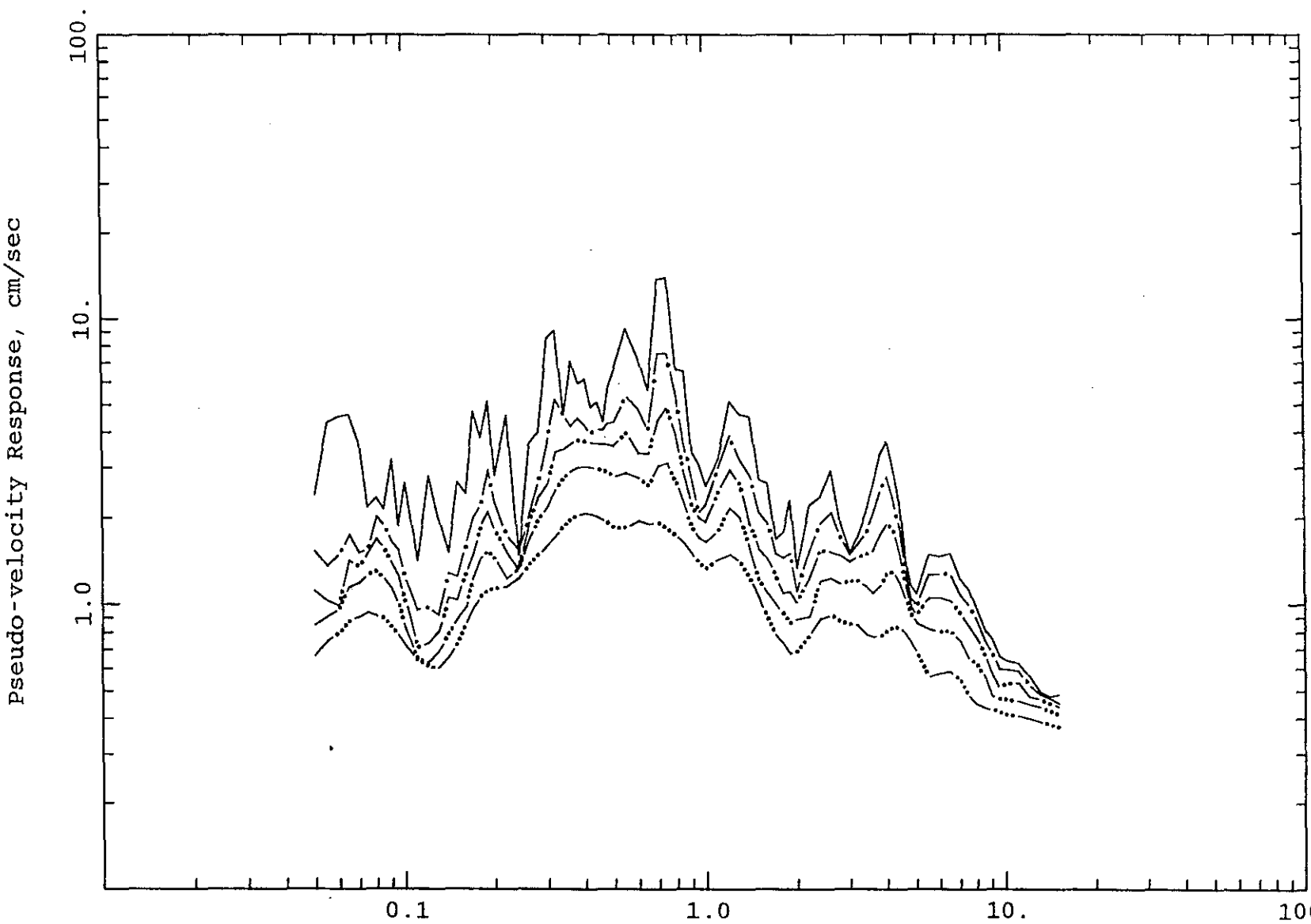
Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2



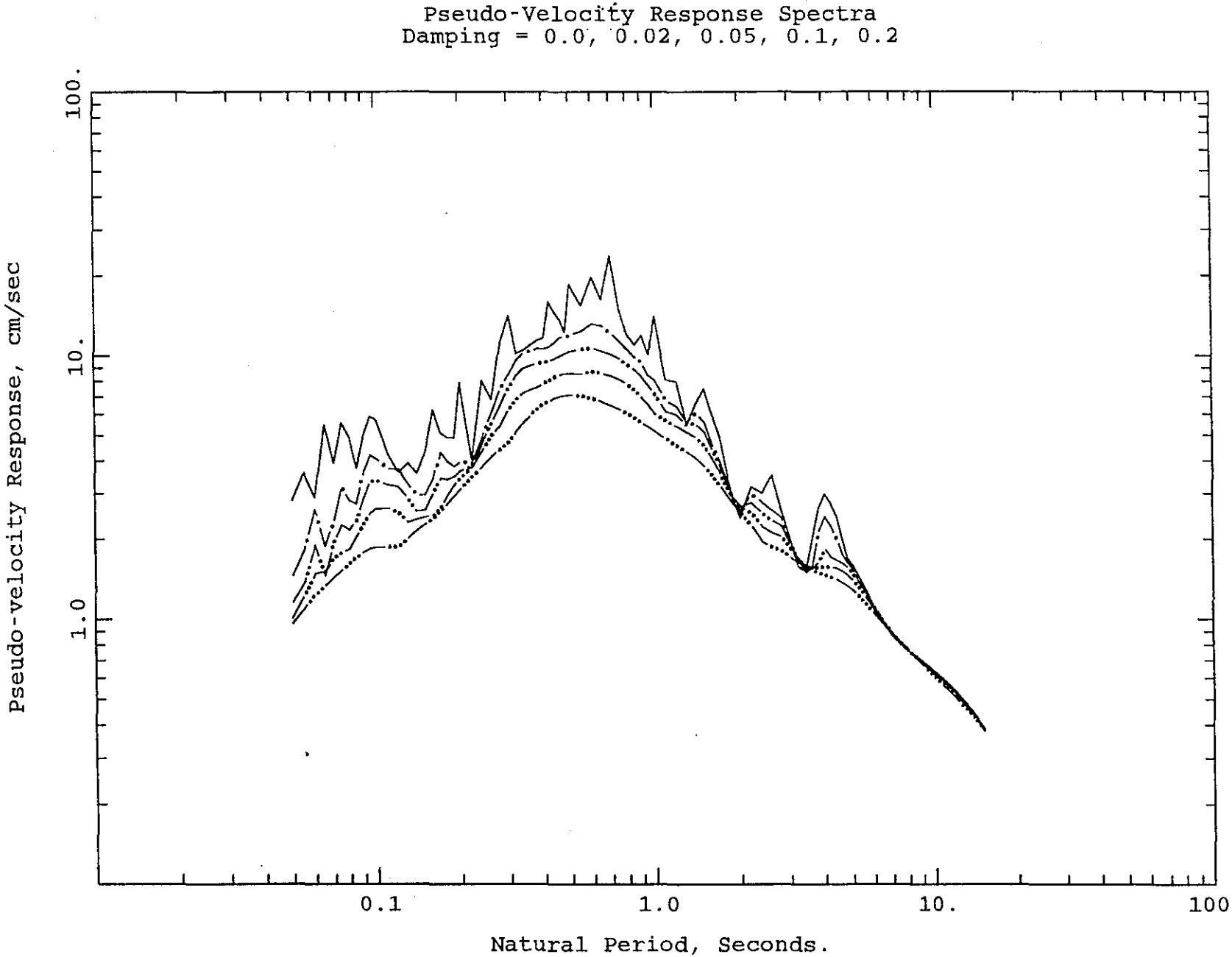
Station name= 2744 SAN SAND POINT, SCHOOL; Code= 2744; Component= 120
EQ name= earthquake name unknown; EQ date= 06apr74



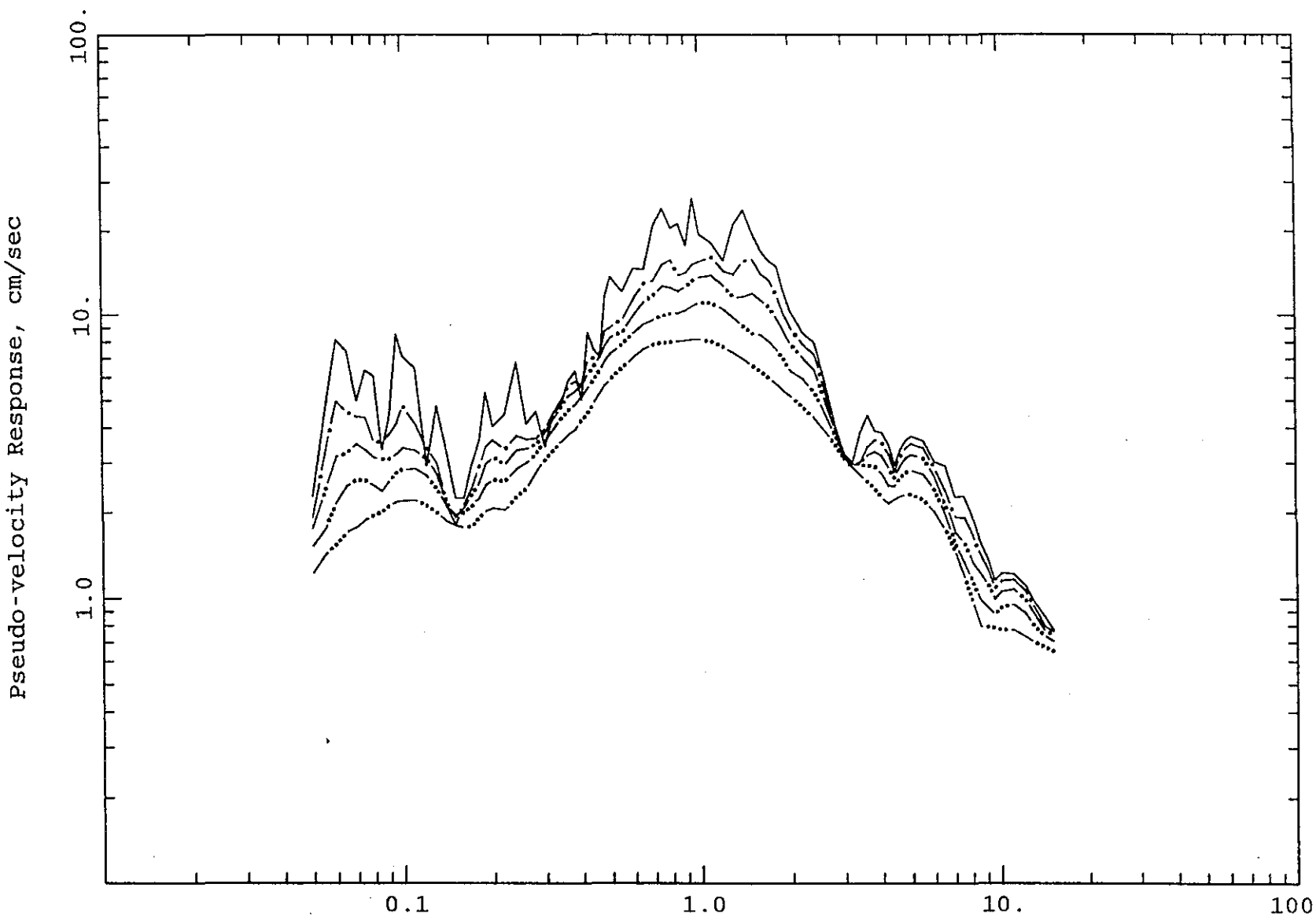
Station name= 2744 SAN SAND POINT, SCHOOL; Code= 2744; Component= UP
EQ name= earthquake name unknown; EQ date= 06apr74



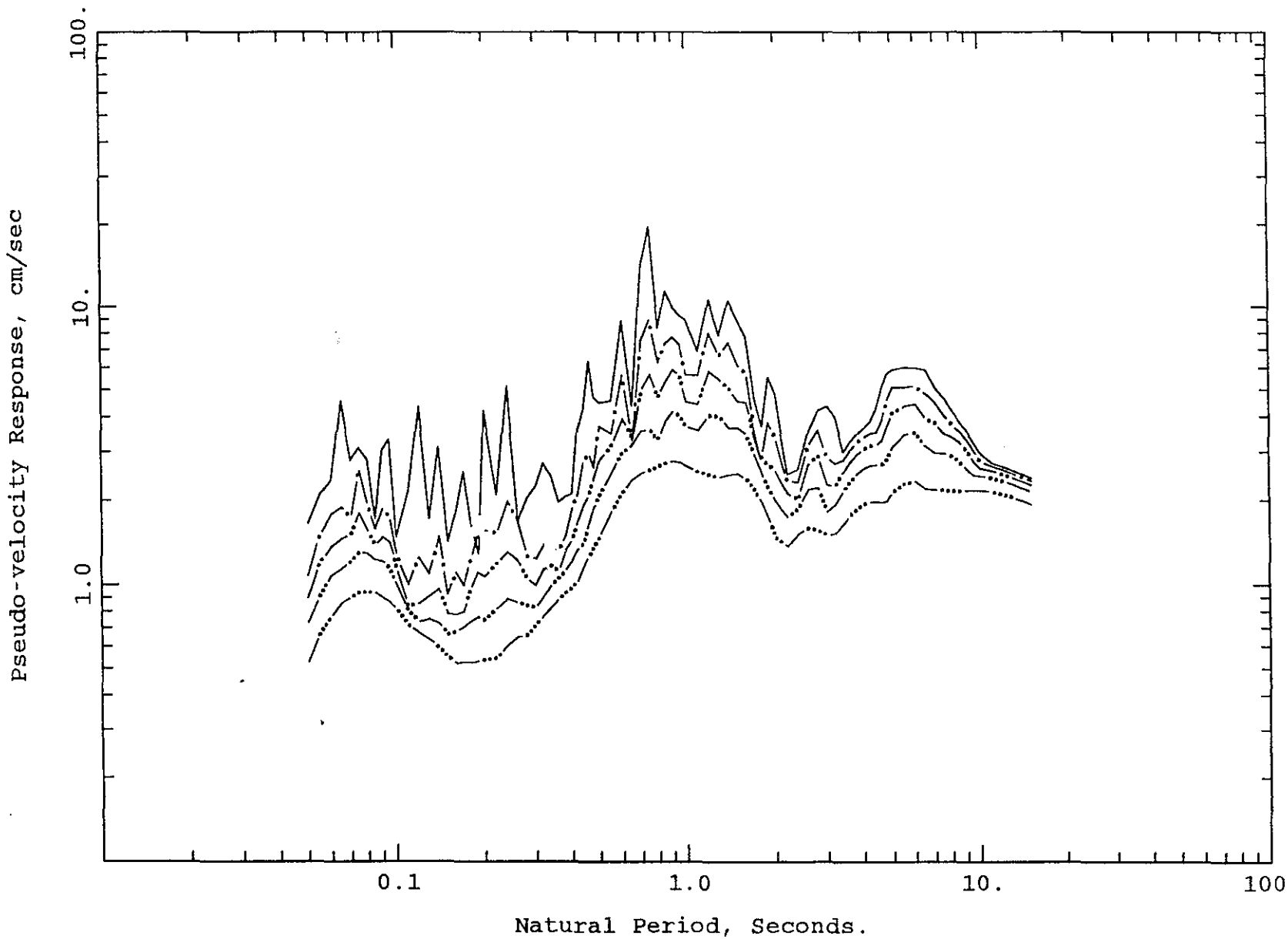
Station name= 2744 SAN SAND POINT, SCHOOL; Code= 2744; Component= 30
EQ name= earthquake name unknown; EQ date= 06apr74



Station name= 2744 SAN SAND POINT, SCHOOL; Code= 2744; Component= 120
EQ name= earthquake name unknown; EQ date= 06apr74

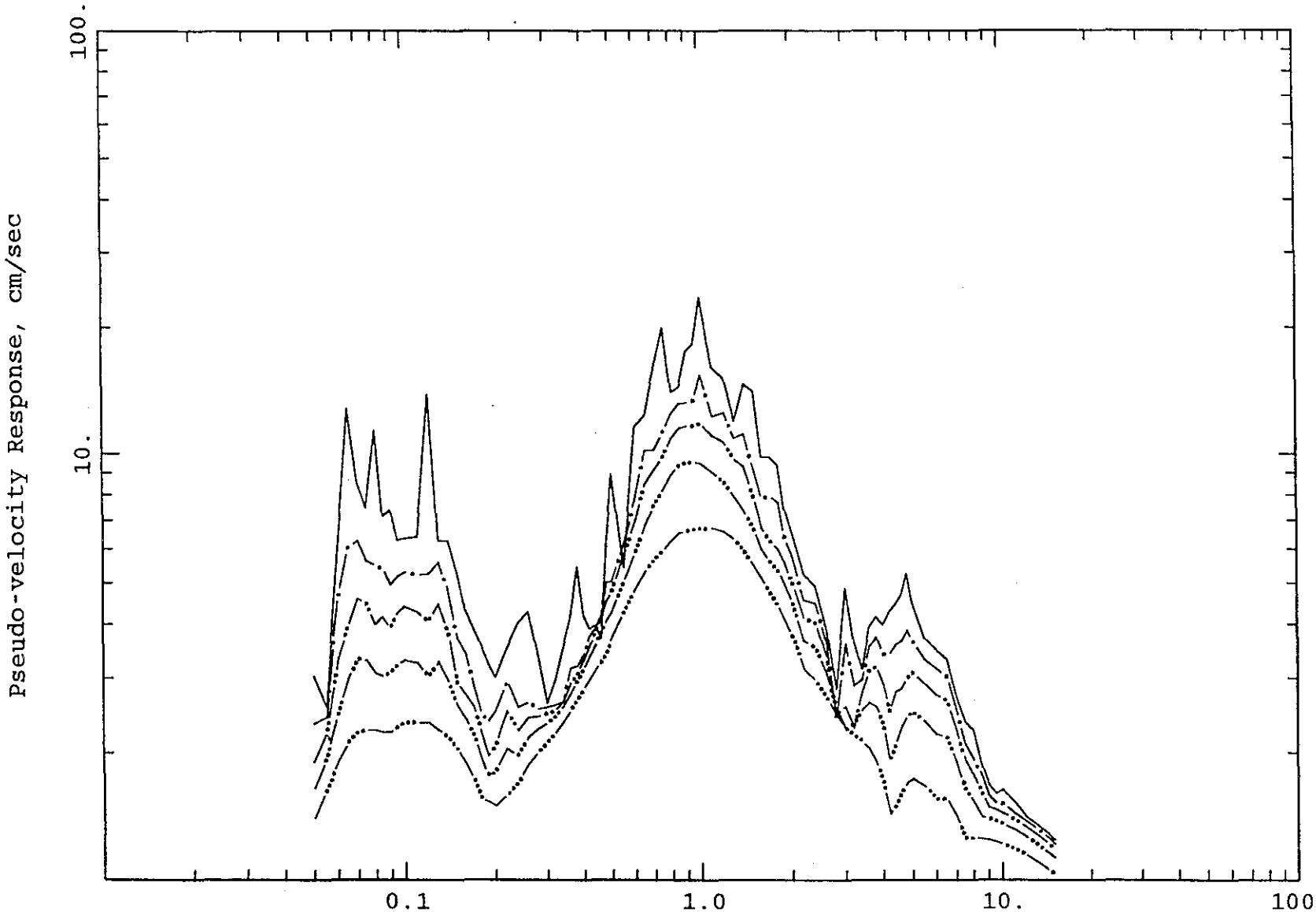


Station name= 2744 SAN SAND POINT, SCHOOL; Code= 2744; Component= UP
EQ name= earthquake name unknown; EQ date= 06apr74

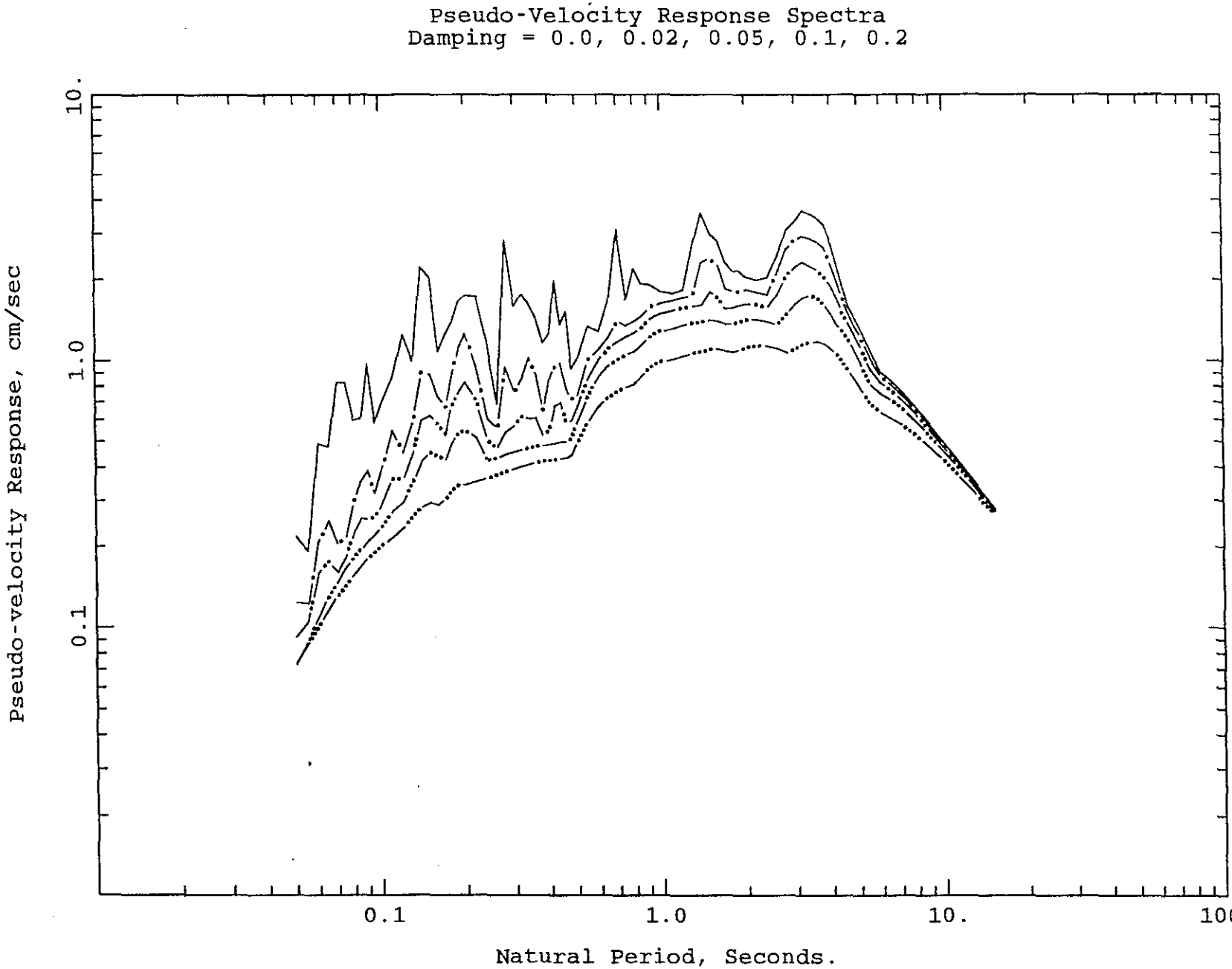


Station name= 2744 SAN SAND POINT, SCHOOL; Code= 2744; Component= 30
EQ name= earthquake name unknown; EQ date= 06apr74

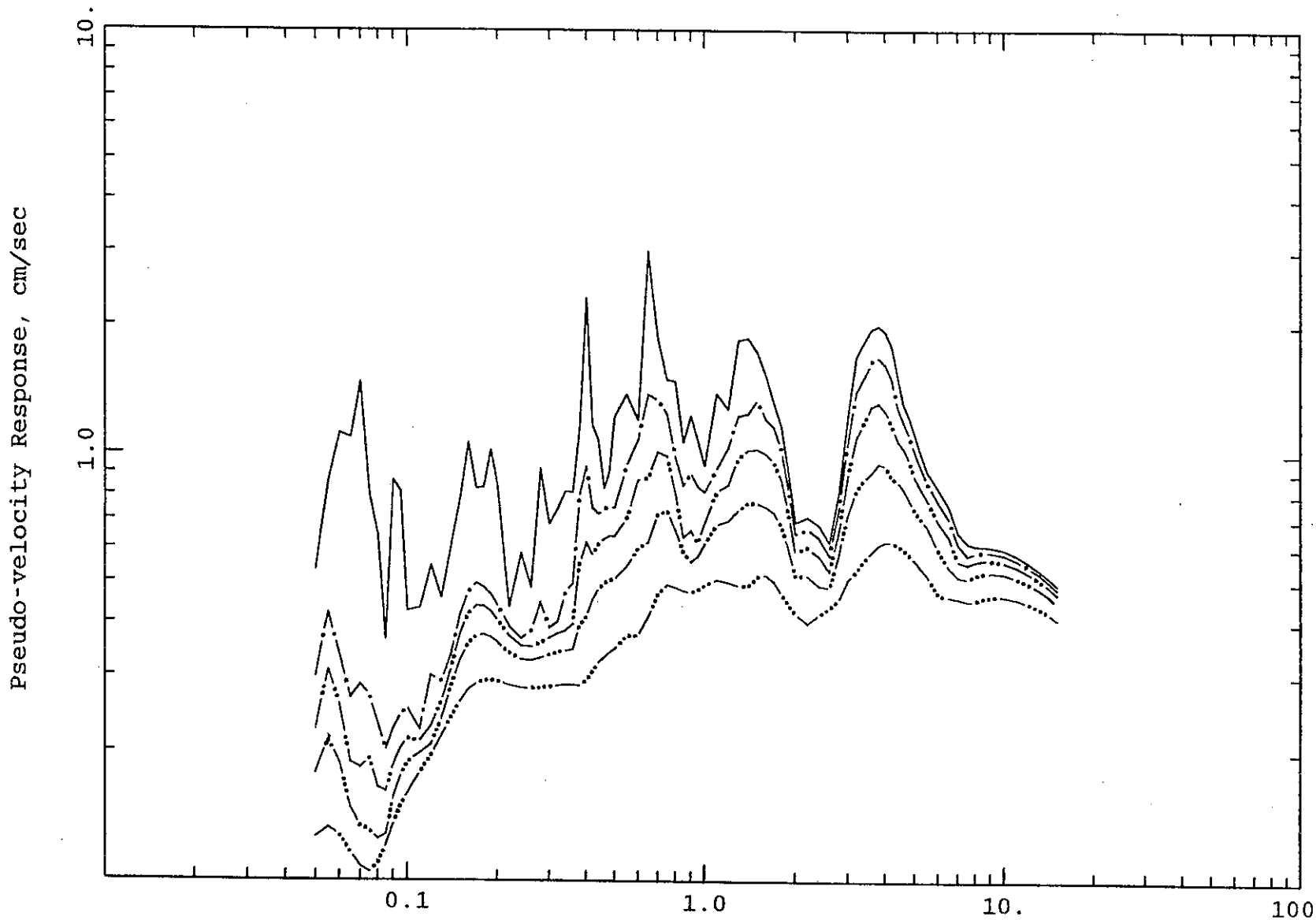
Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2



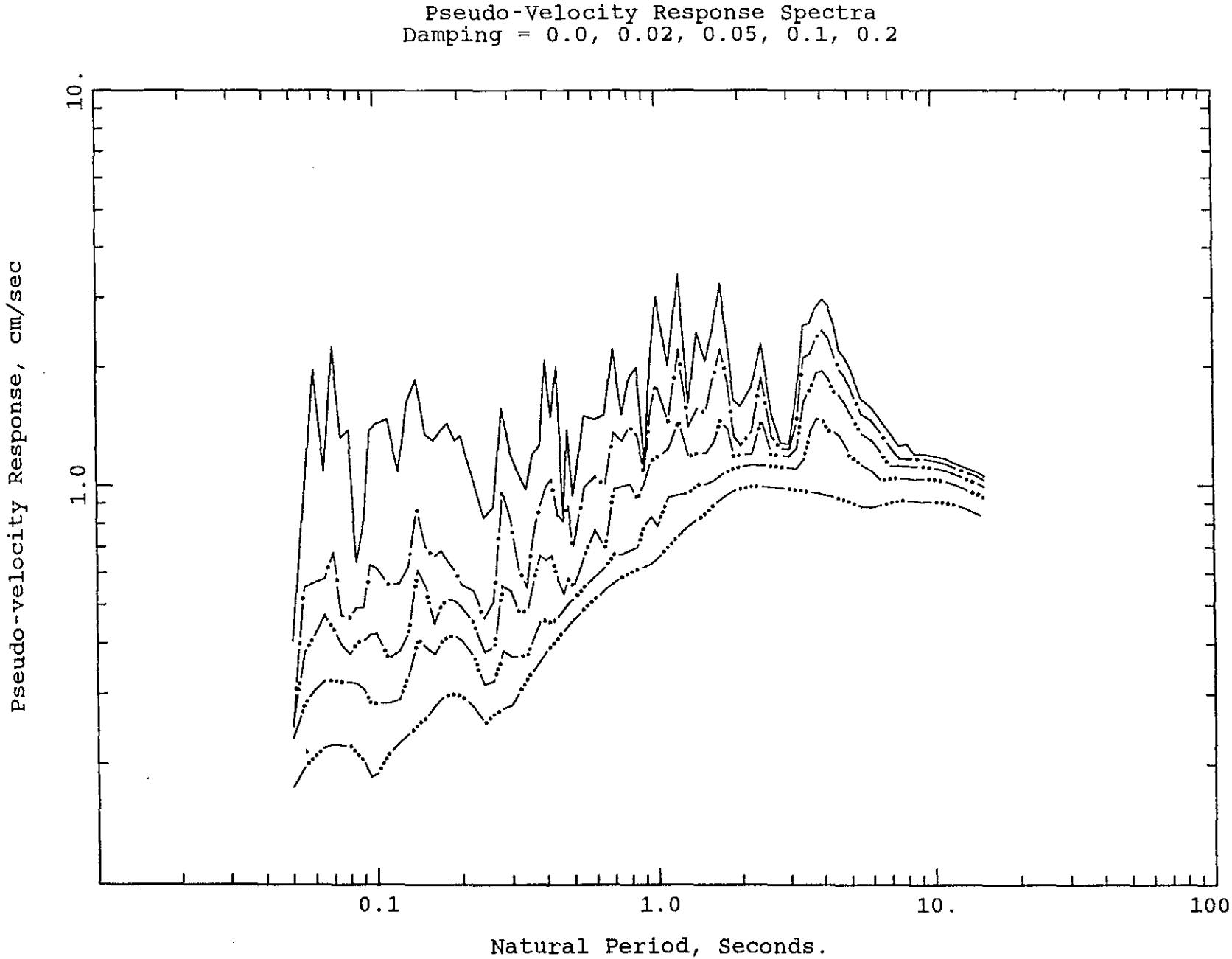
Station name= 2744 SAN SAND POINT, SCHOOL; Code= 2744; Component= 120
EQ name= earthquake name unknown; EQ date= 25jul75



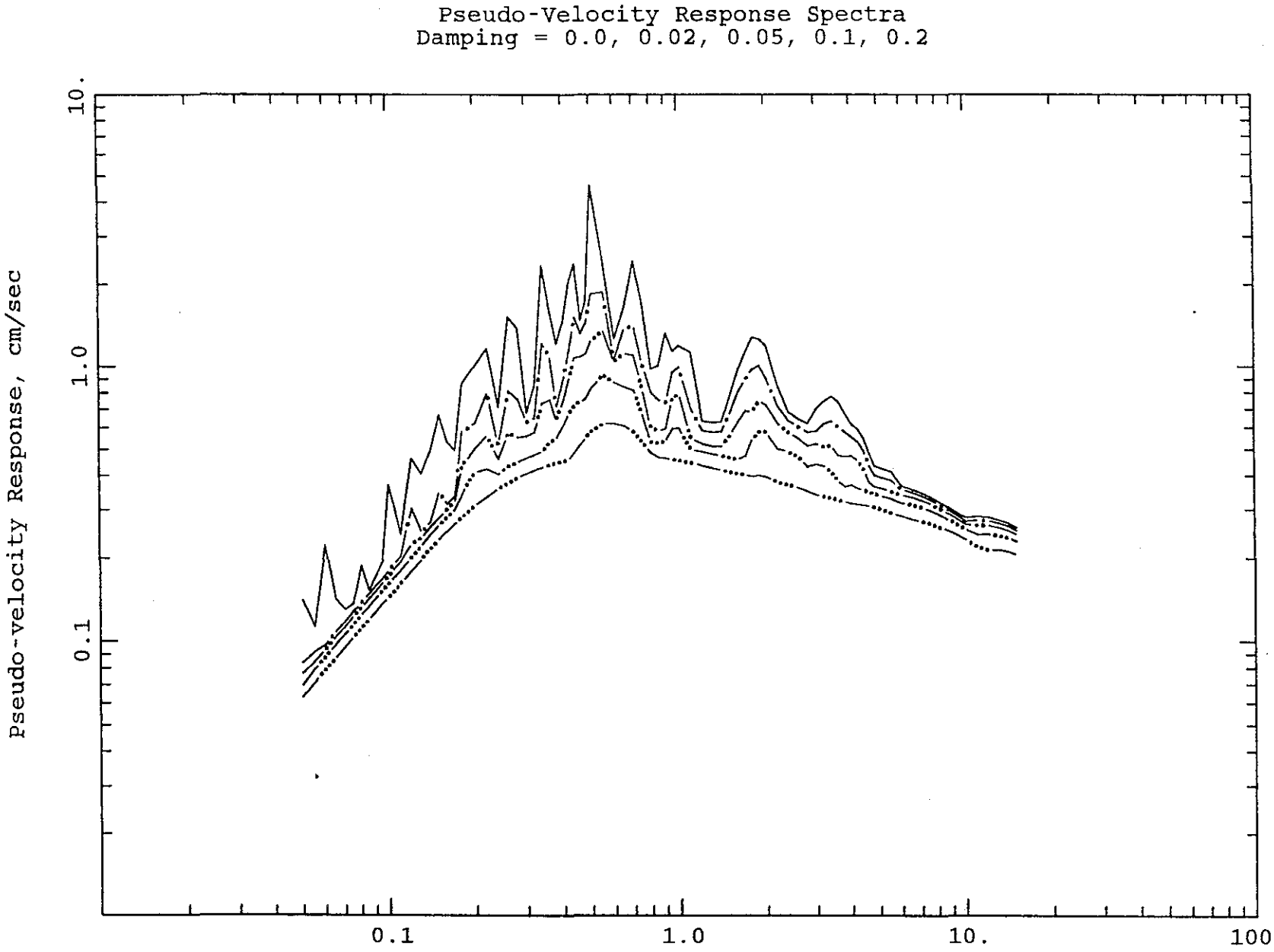
Station name= 2744 SAN SAND POINT, SCHOOL; Code= 2744; Component= UP
EQ name= earthquake name unknown; EQ date= 25jul75



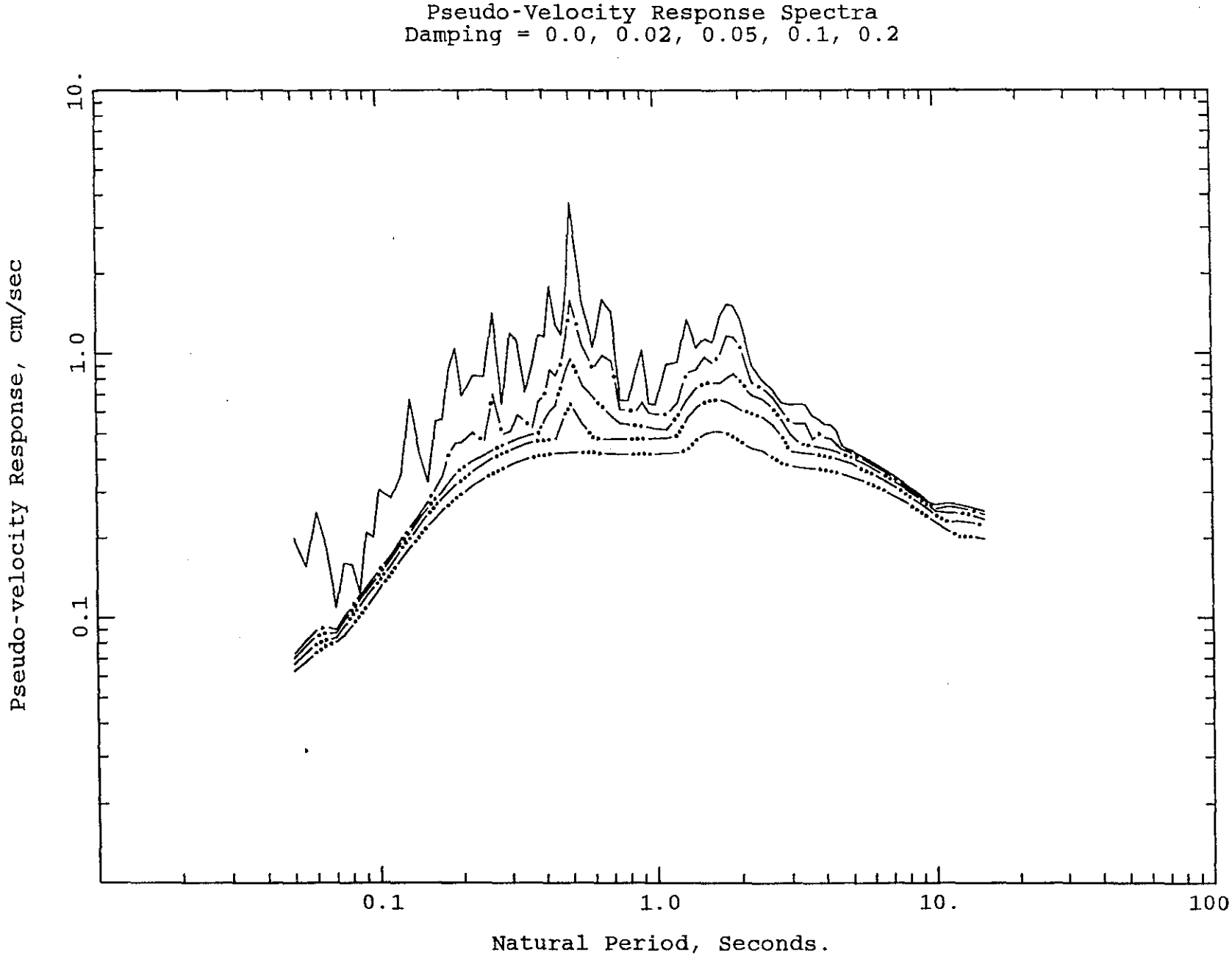
Station name= 2744 SAN SAND POINT, SCHOOL; Code= 2744; Component= 30
EQ name= earthquake name unknown; EQ date= 25jul75



Station name= 2744 SAN SAND POINT, SEISMIC; Code= 2744; Component= 197
EQ name= earthquake name unknown; EQ date= 27jan79

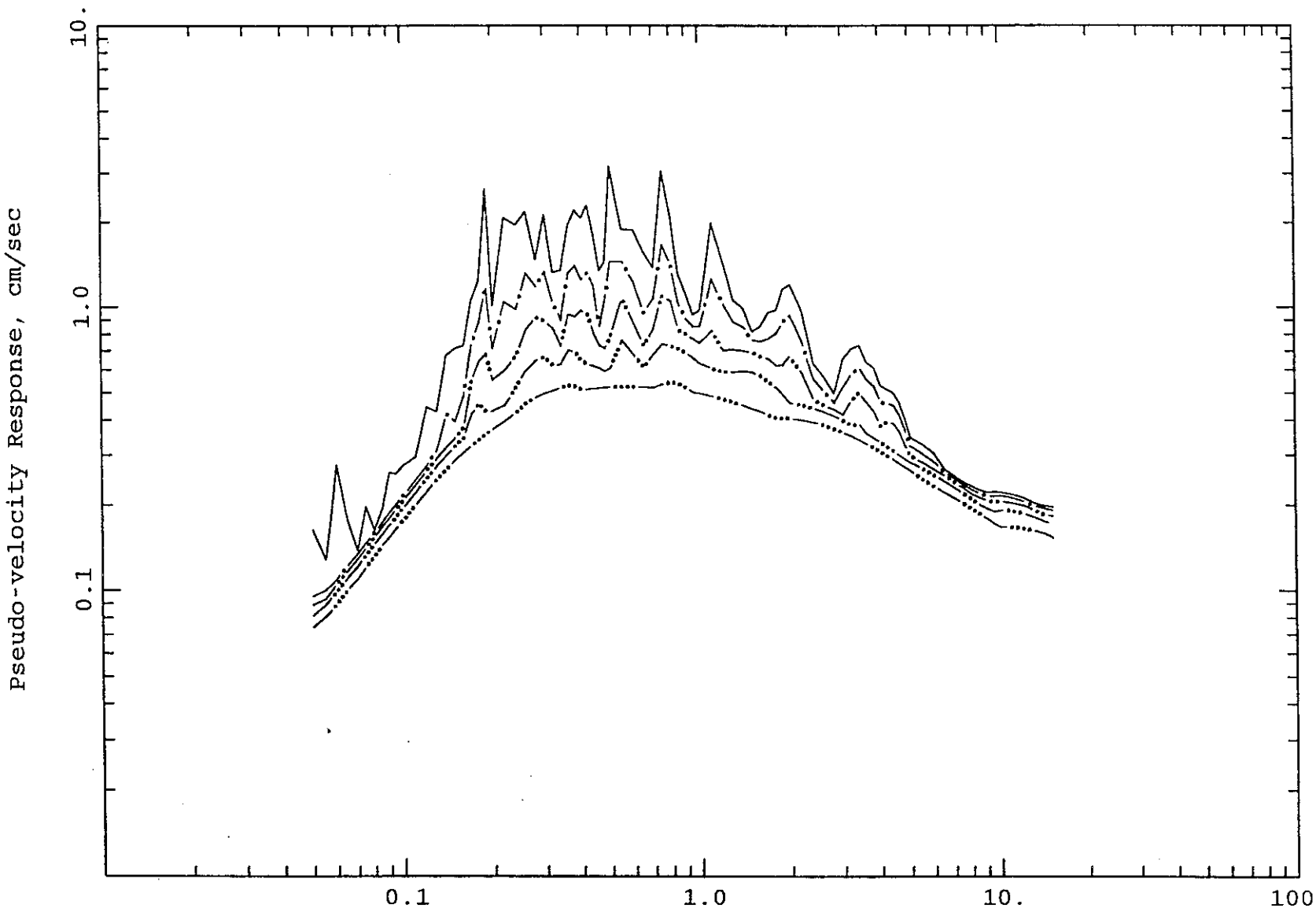


Station name= 2744 SAN SAND POINT, SEISMIC; Code= 2744; Component= UP
EQ name= earthquake name unknown; EQ date= 27jan79

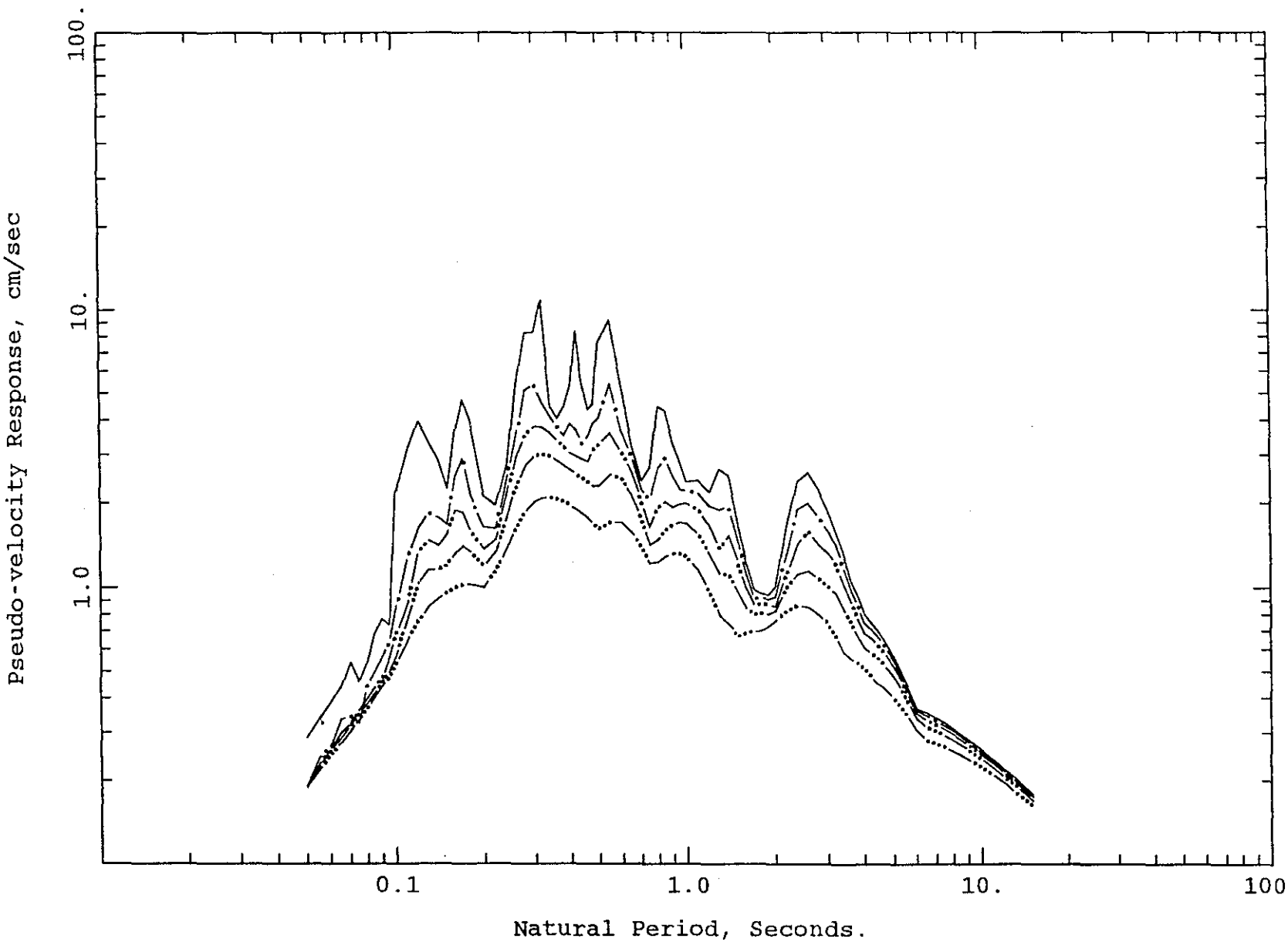


Station name= 2744 SAN SAND POINT; SEISMIC; Code= 2744; Component= 107
EQ name= earthquake name unknown; EQ date= 27jan79

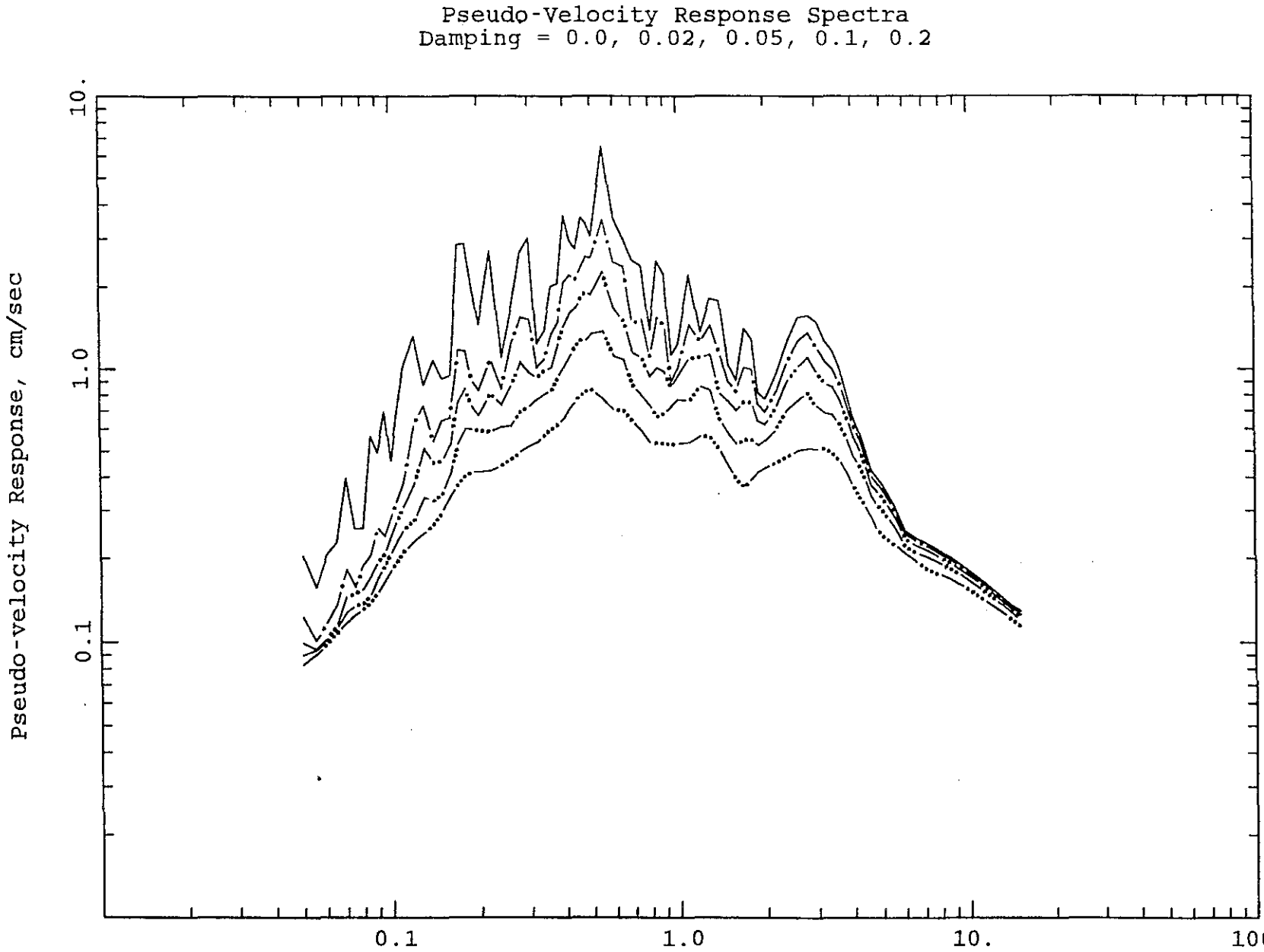
Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2



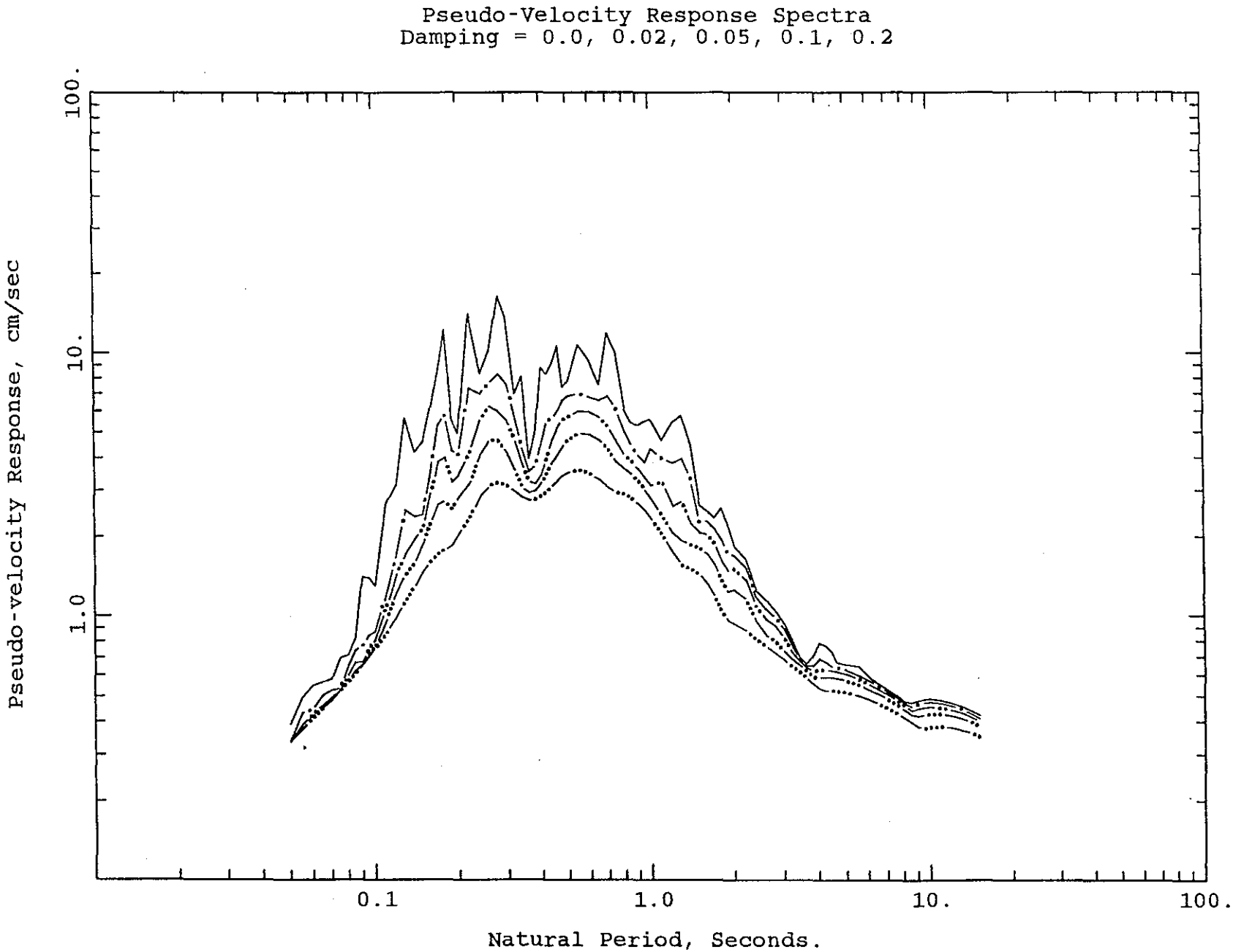
Station name= 2744 SAN SAND POINT, SEISMIC; Code= 2744; Component= 197
EQ name= earthquake name unknown; EQ date= 13feb79



Station name= 2744 SAN SAND POINT SEISMIC; Code= 2744; Component= UP
EQ name= earthquake name unknown; EQ date= 13feb79

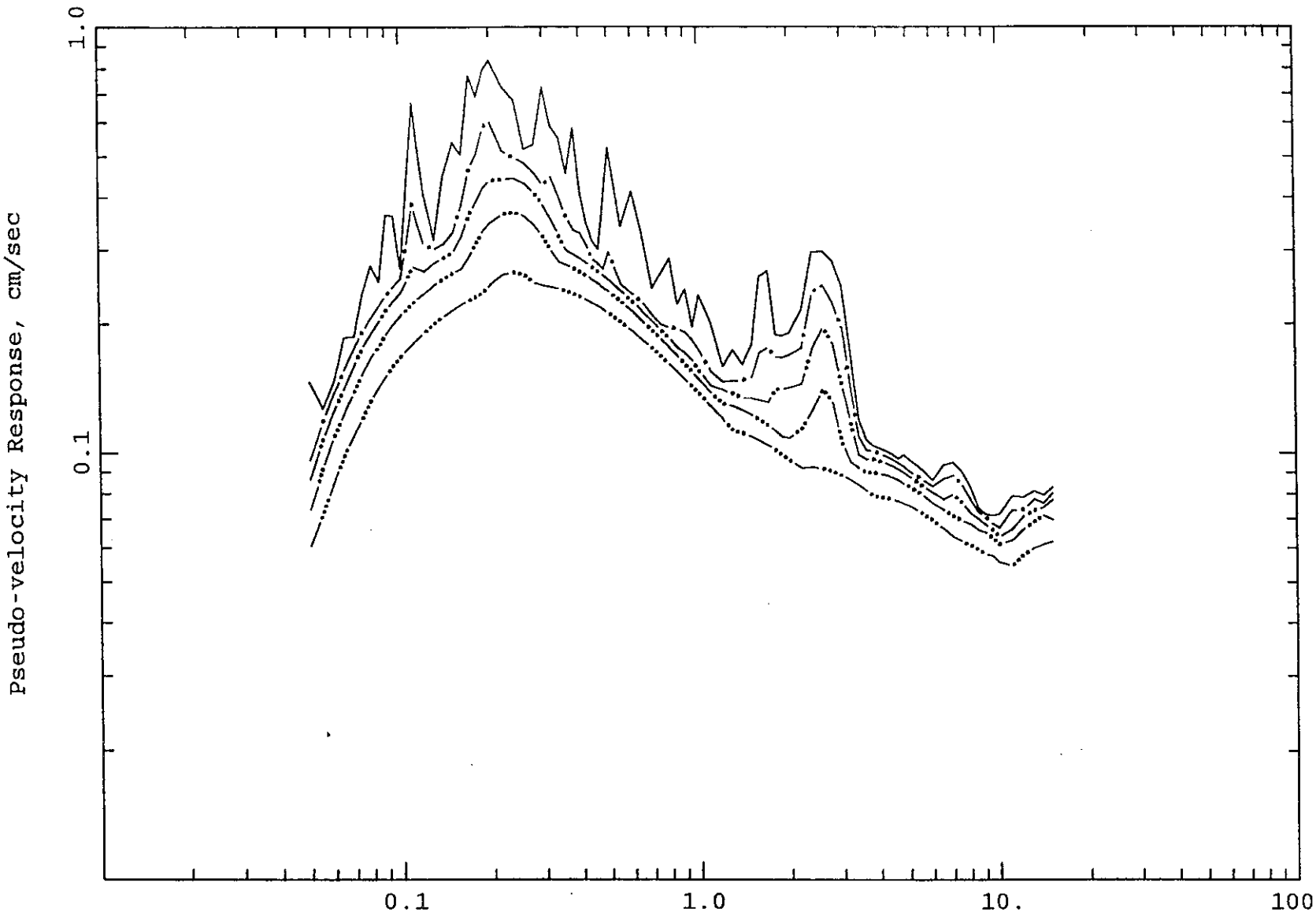


Station name= 2744 SAN SAND POINT, SEISMIC; Code= 2744; Component= 107
EQ name= earthquake name unknown; EQ date= 13feb79

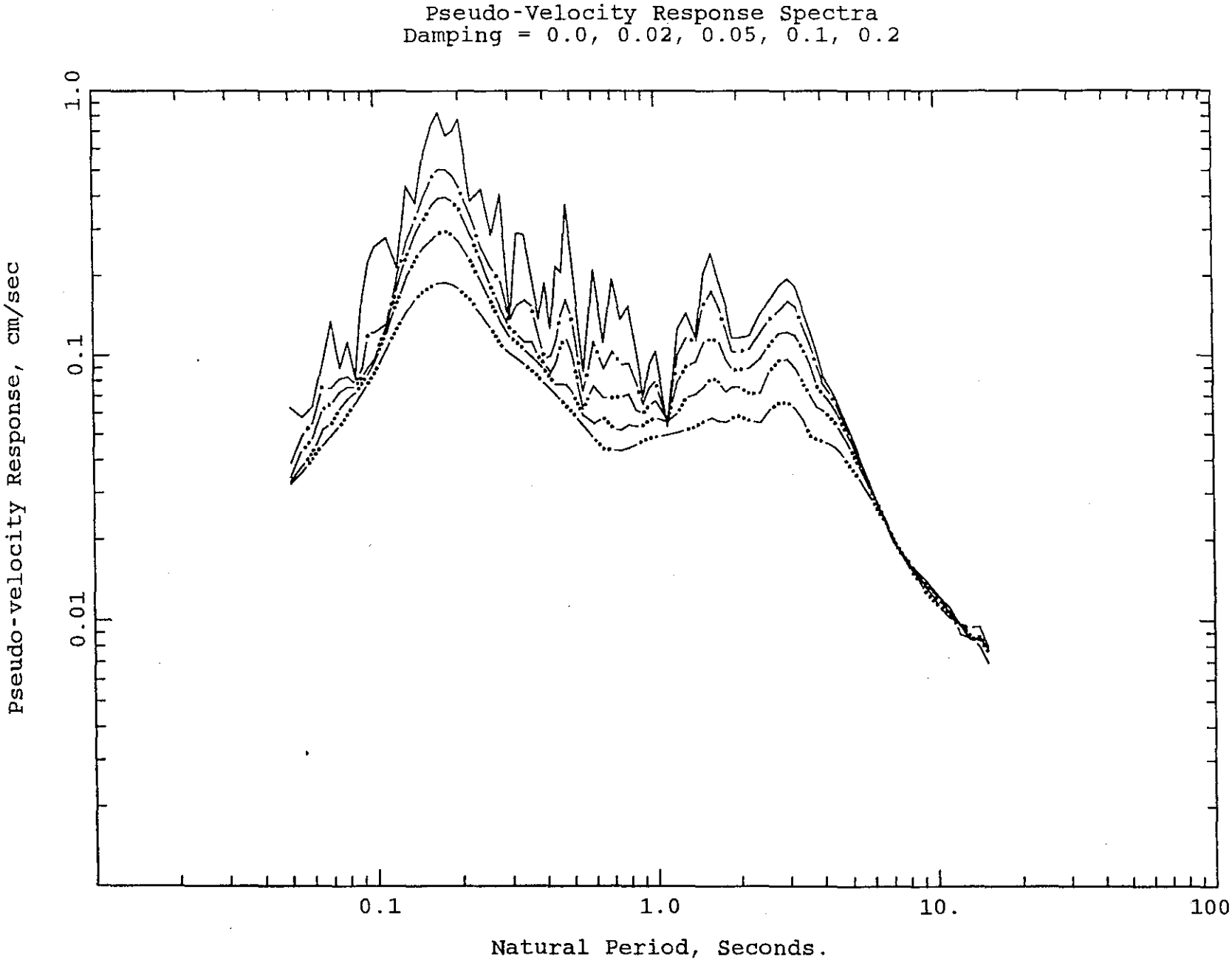


Station name= 2744 SAN SAND POINT, SEISMIC; Code= 2744; Component= 70
EQ name= earthquake name unknown; EQ date= 28dec81

Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2

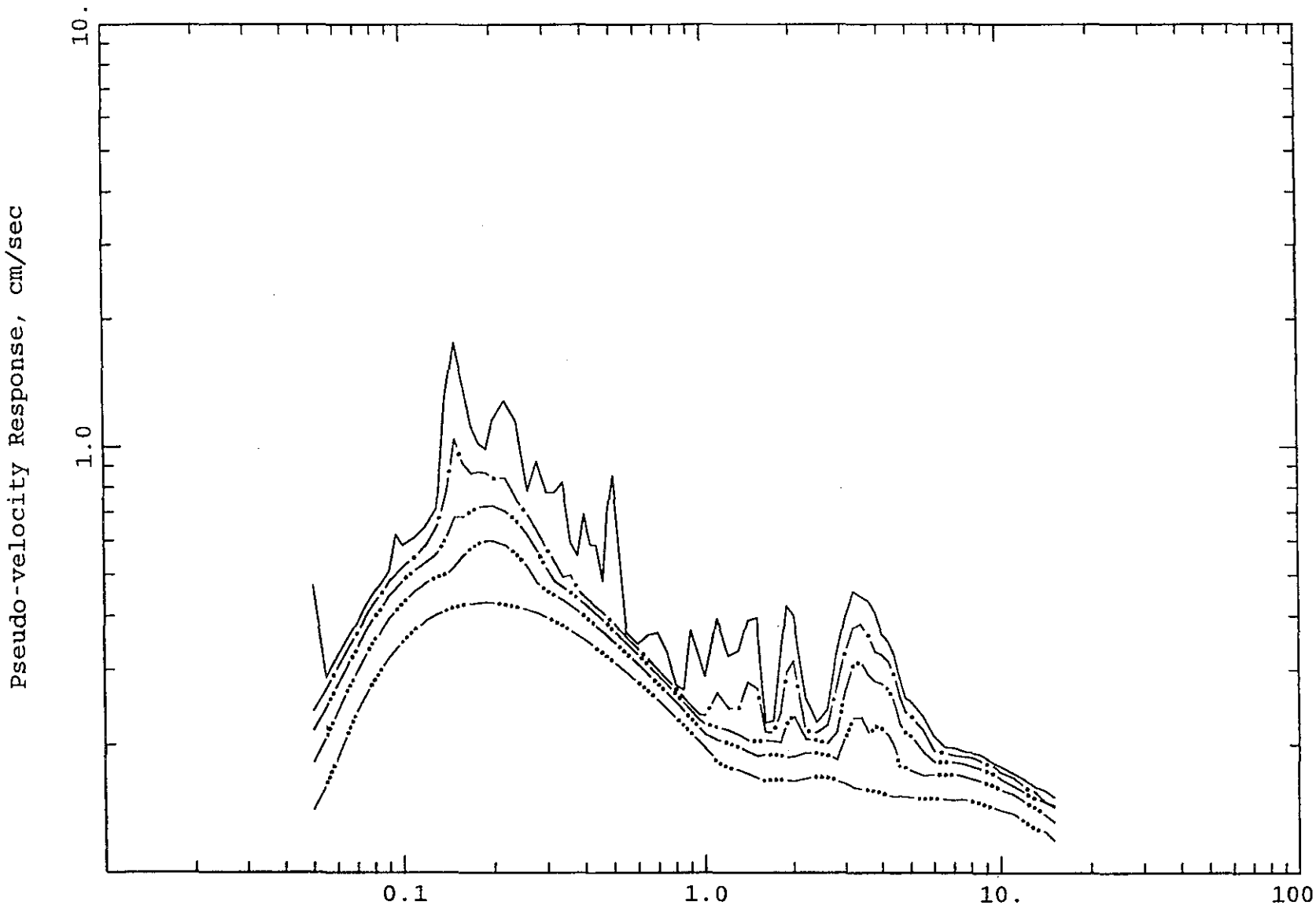


Station name= 2744 SAN SAND POINT, SEISMIC; Code= 2744; Component= UP
EQ name= earthquake name unknown; EQ date= 28dec81

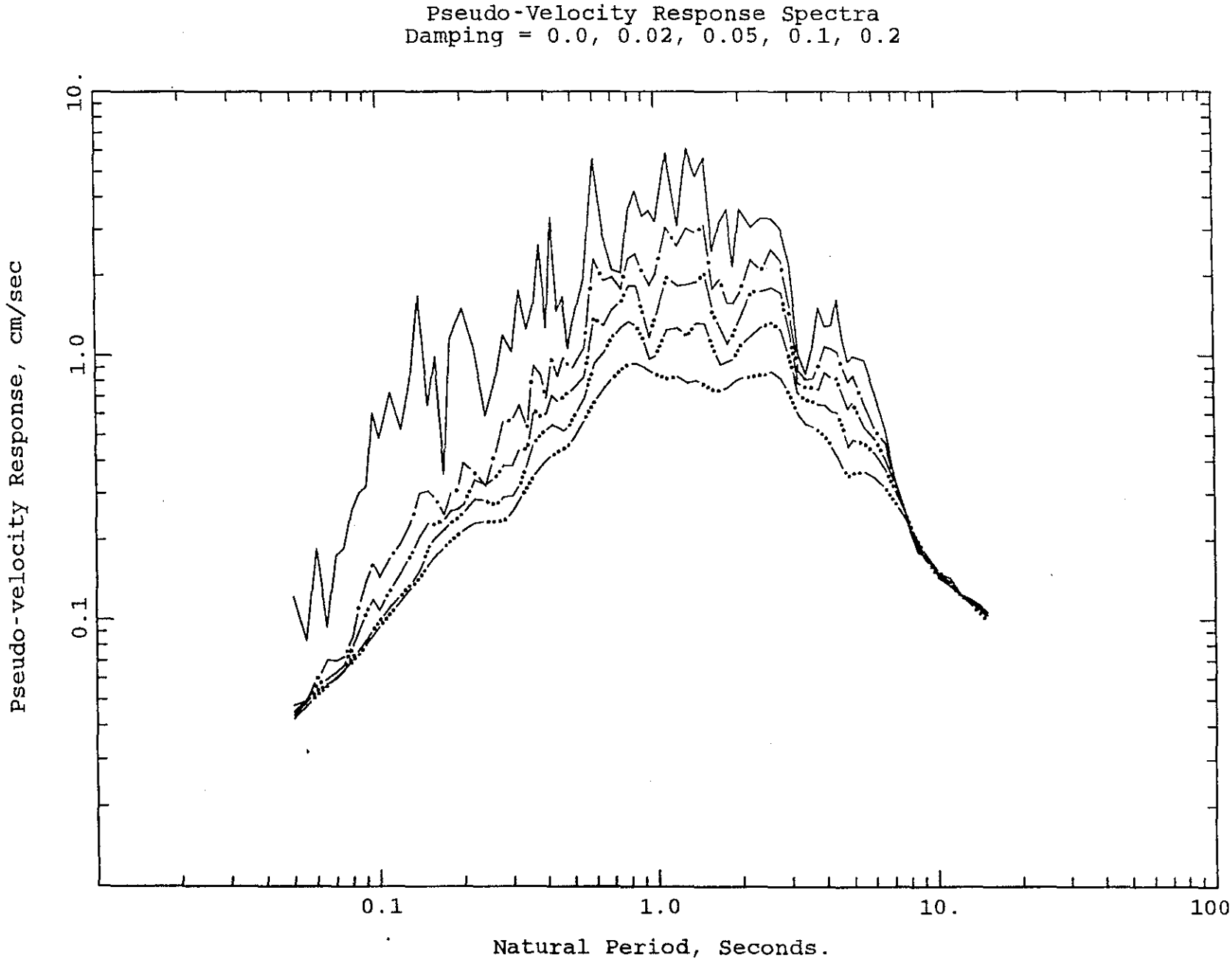


Station name= 2744 SAN SAND POINT, SEISMIC; Code= 2744; Component= 340
EQ name= earthquake name unknown; EQ date= 28dec81

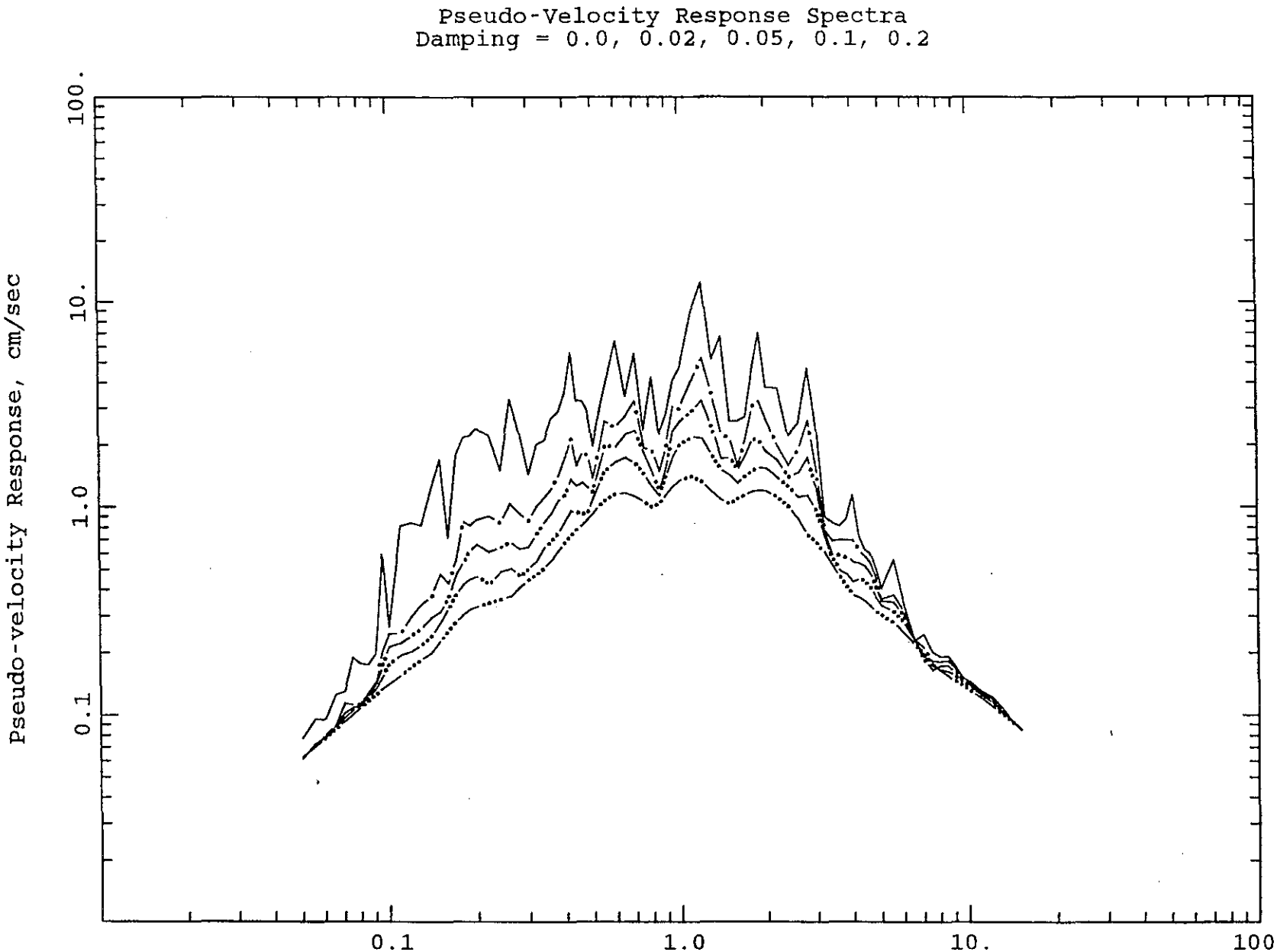
Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2



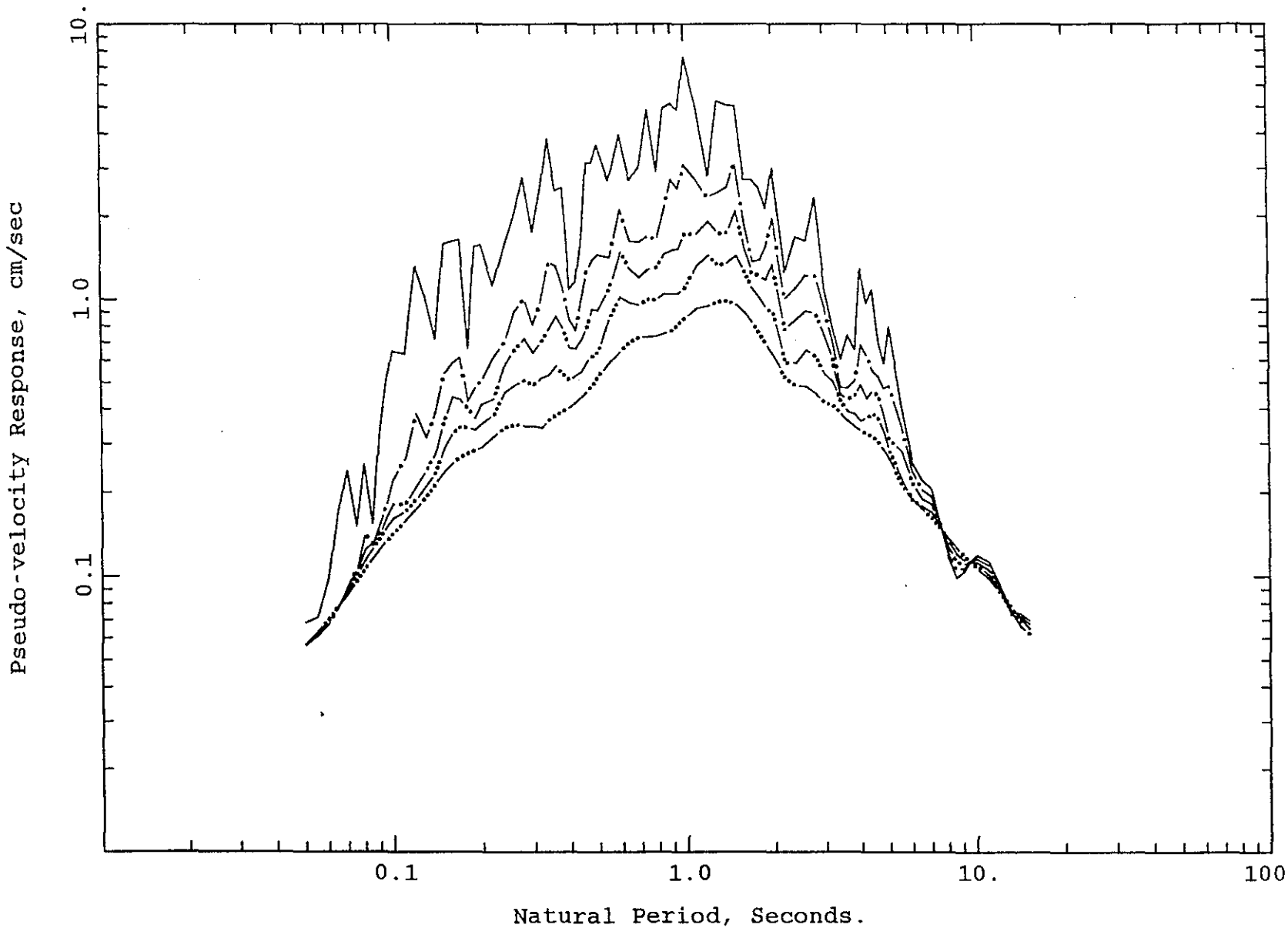
Station name= 2744 SAN SAND POINT, SEISMIC; Code= 2744; Component= UP
EQ name= earthquake name unknown; EQ date= 14feb83.



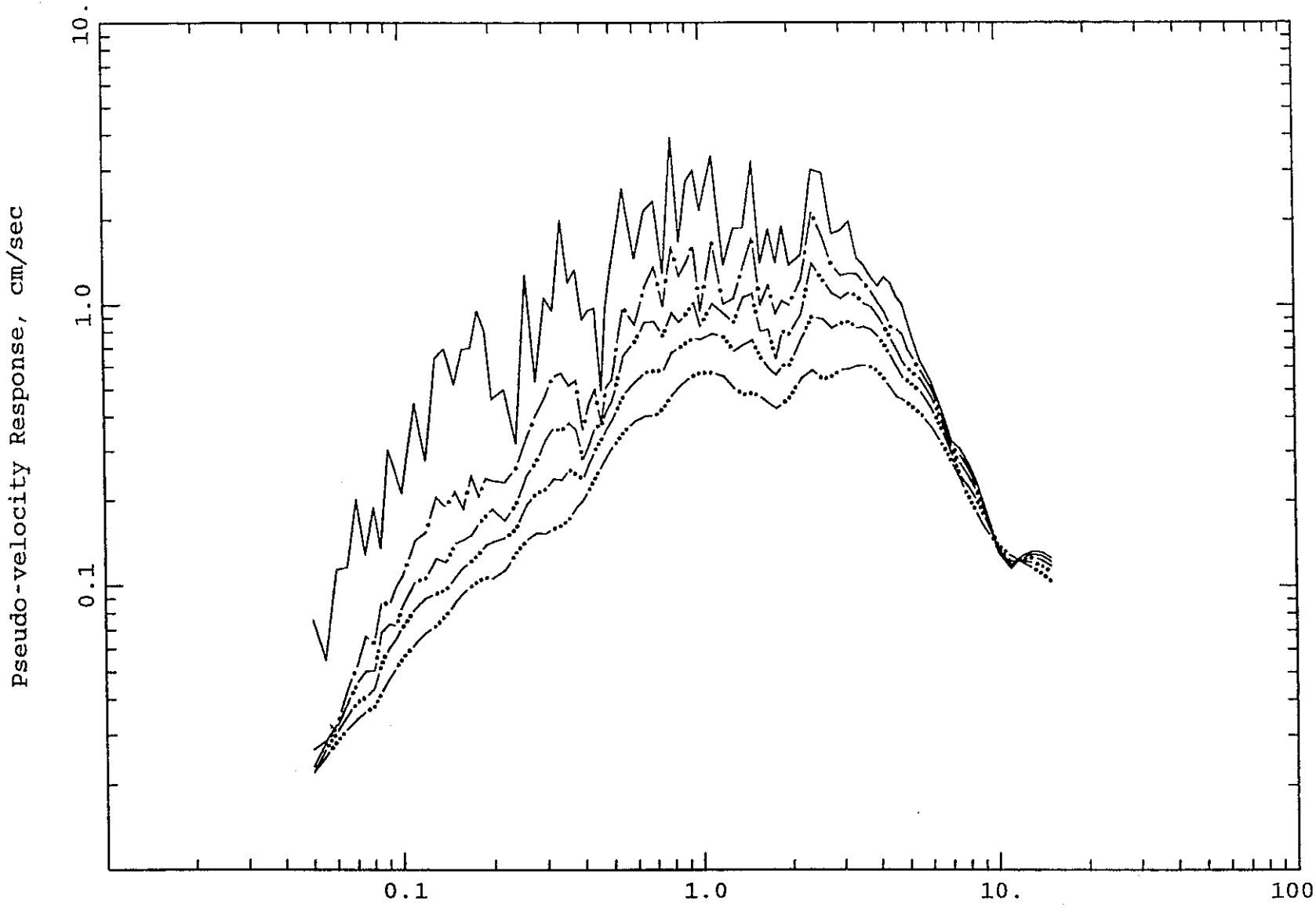
Station name= 2744 SAN SAND POINT, SEISMIC; Code= 2744; Component= 250
EQ name= earthquake name unknown; EQ date= 14feb83



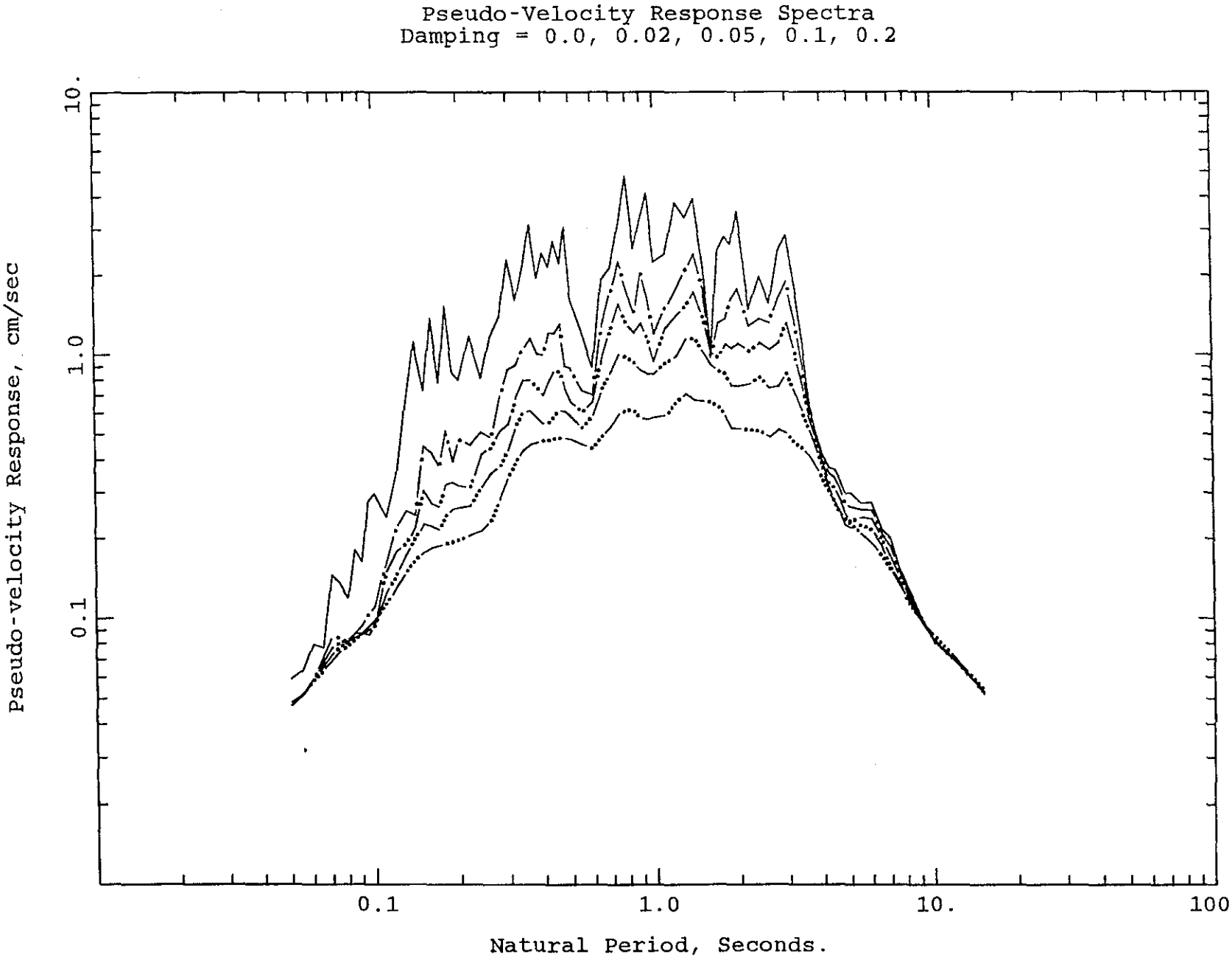
Station name= 2744 SAN SAND POINT, SEISMIC; Code= 2744; Component= 160
EQ name= earthquake name unknown; EQ date= 14feb83



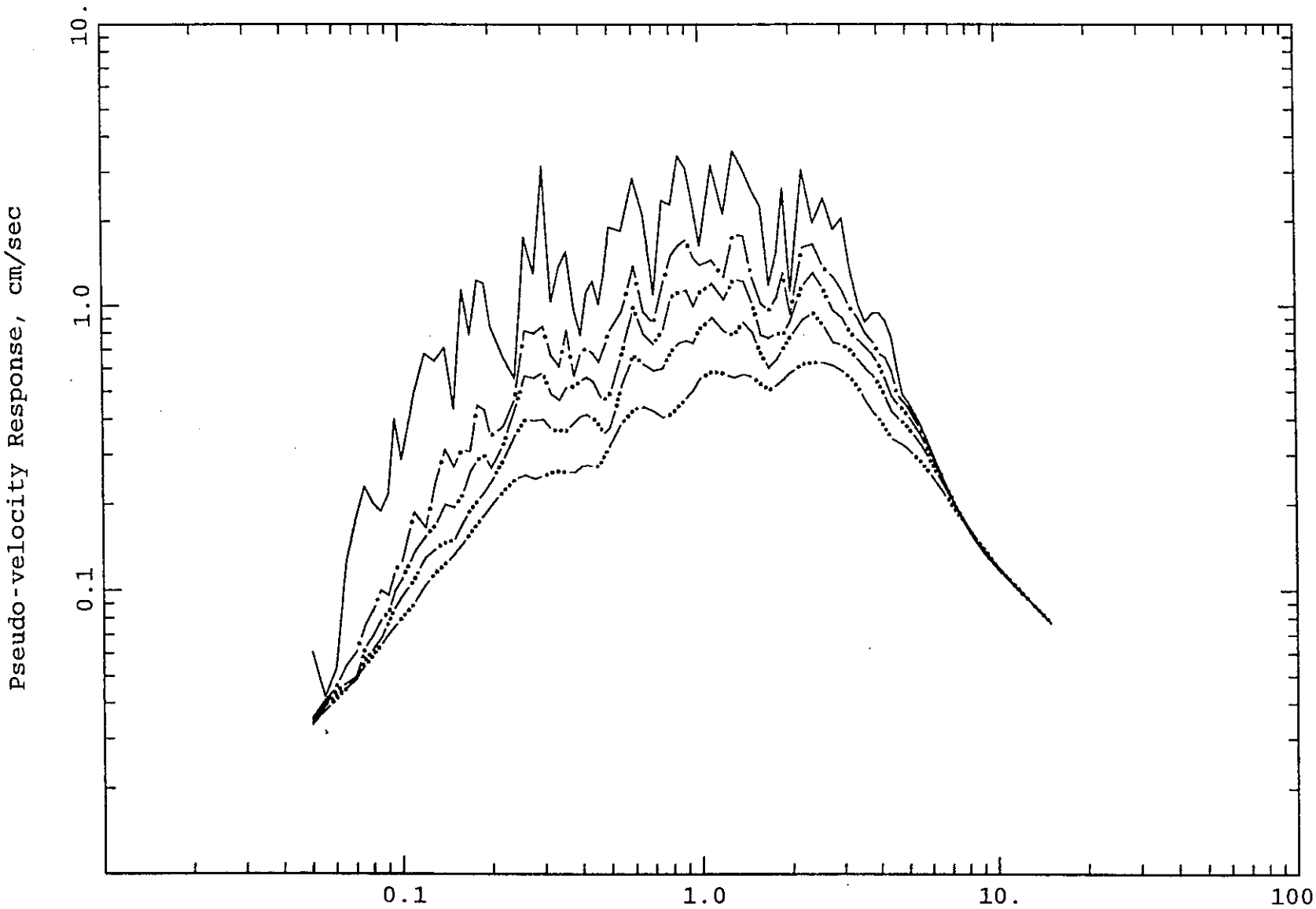
Station name= 2744 SAN SAND POINT, SEISMIC; Code= 2744; Component= UP
EQ name= earthquake name unknown; EQ date= 14feb83



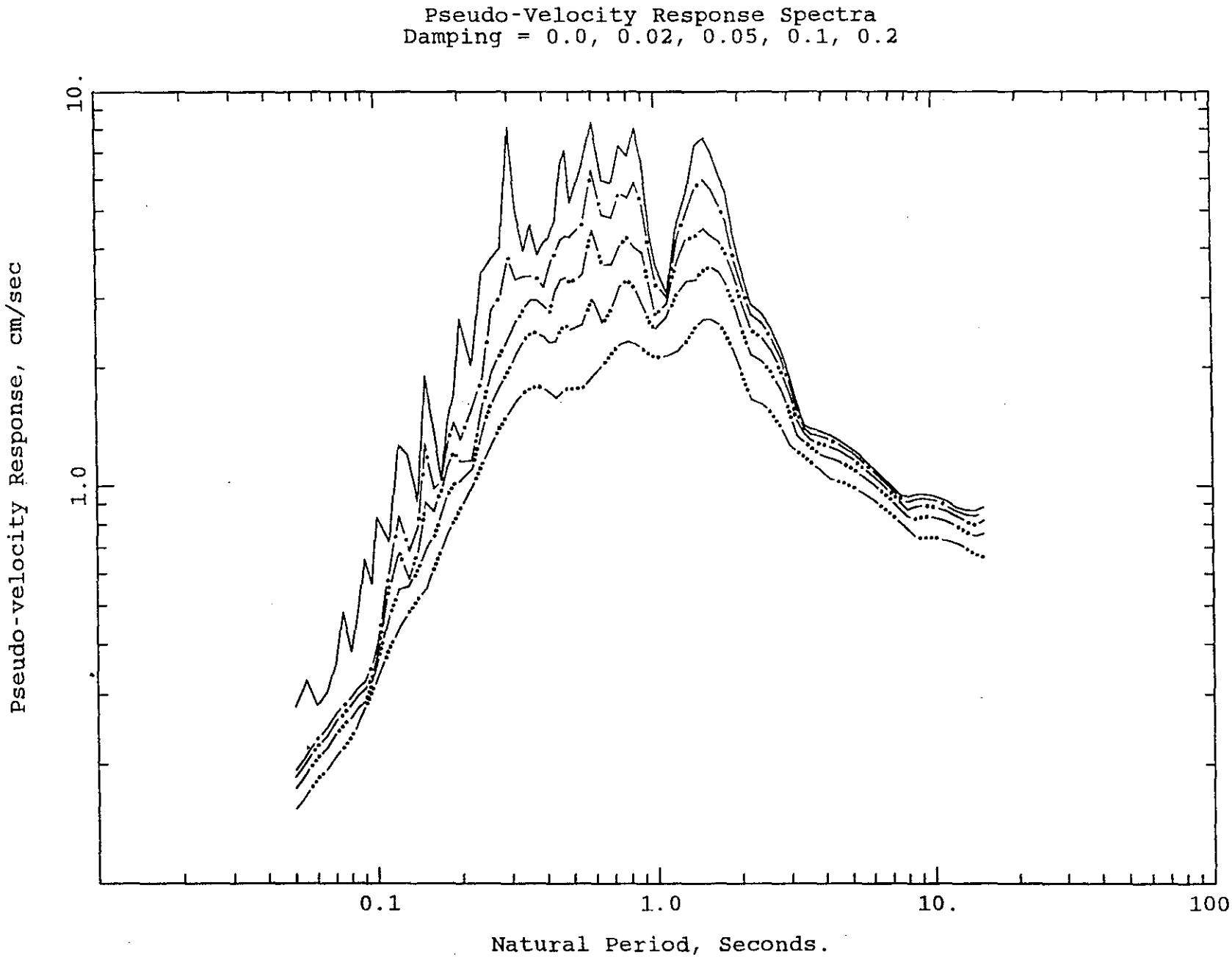
Station name= 2744 SAN SAND POINT, SEISMIC; Code= 2744; Component= 250
EQ name= earthquake name unknown; EQ date= 14feb83



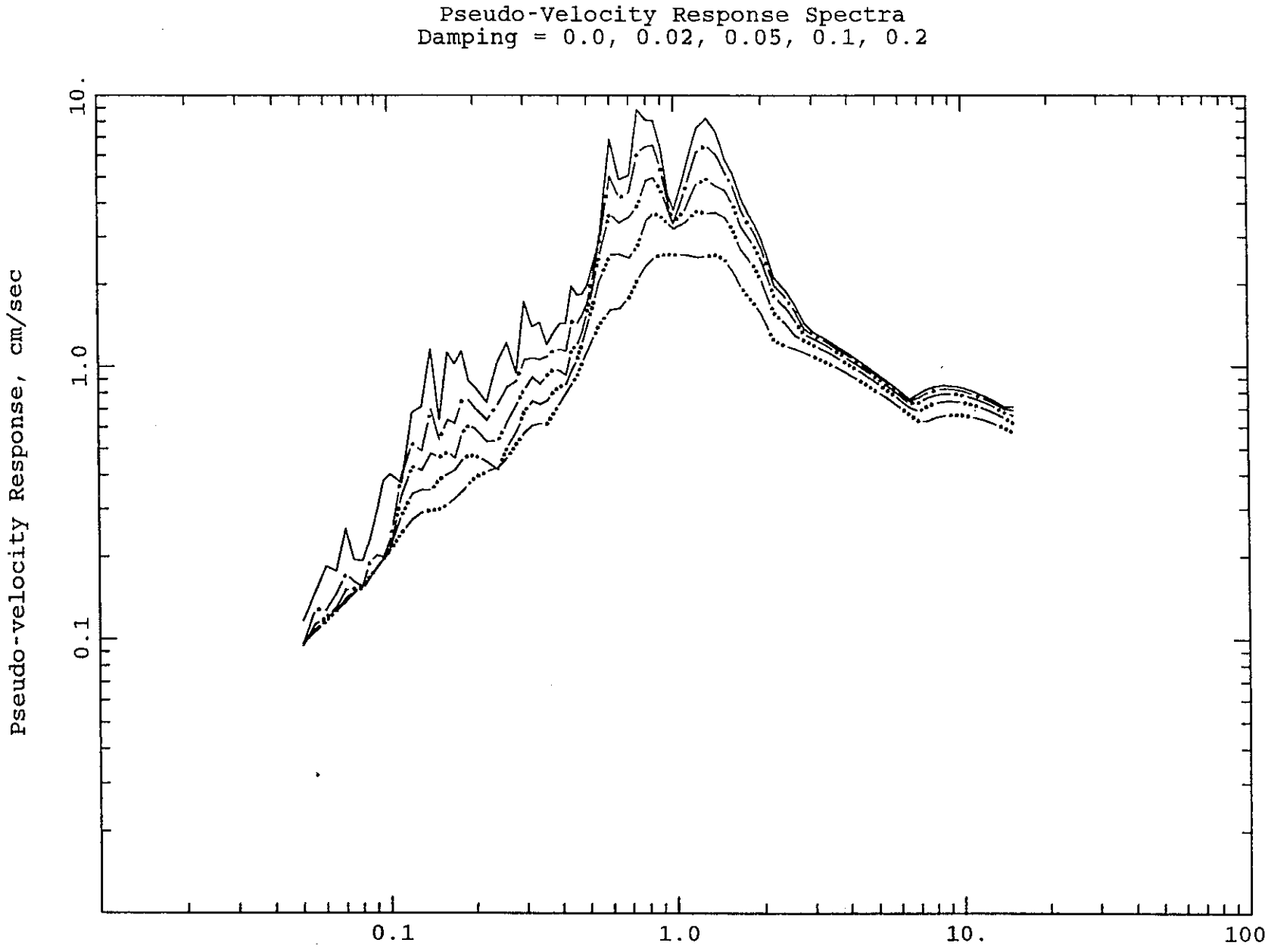
Station name= 2744 SAN SAND POINT, SEISMIC; Code= 2744; Component= 160
EQ name= earthquake name unknown; EQ date= 14feb83



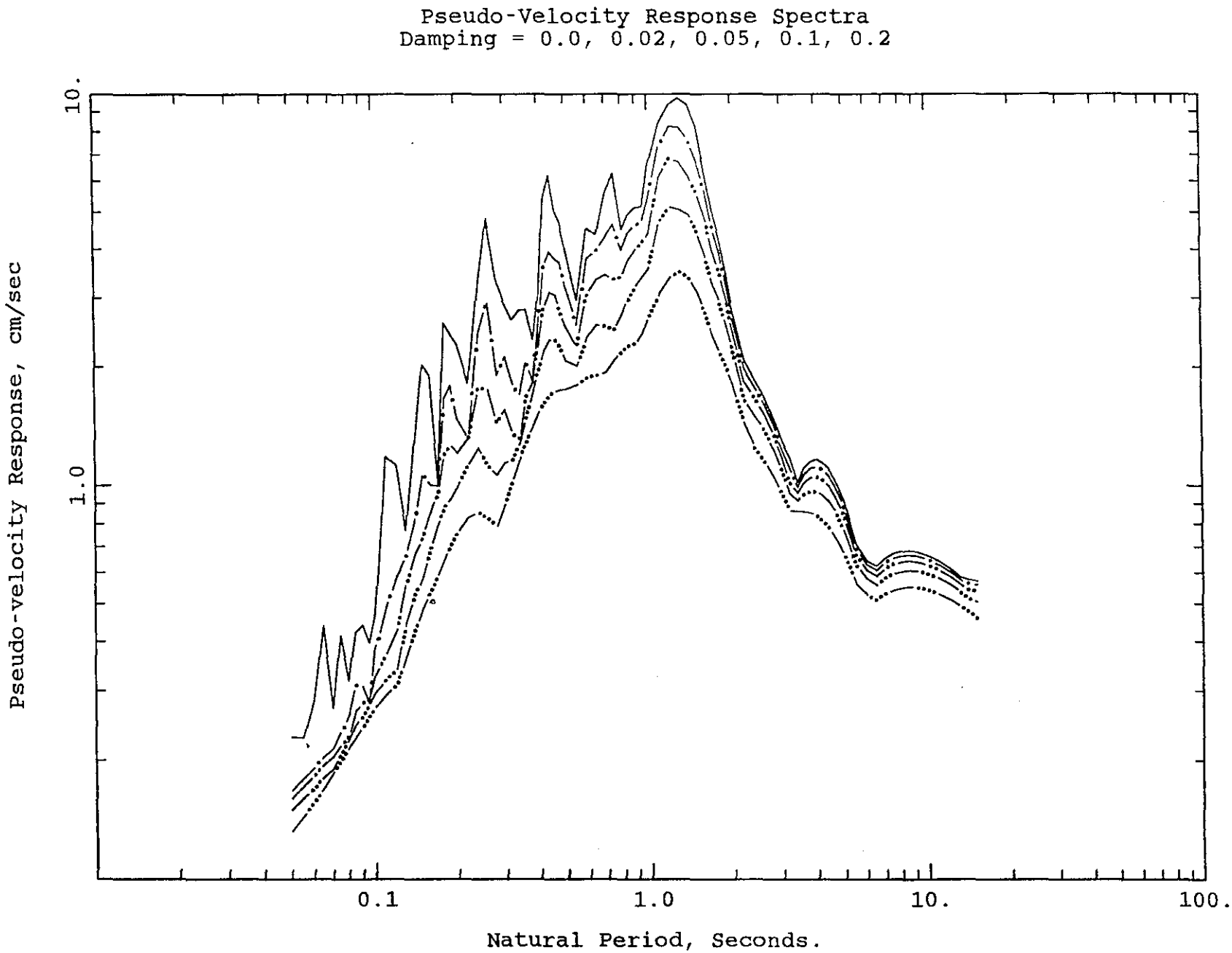
Station name= 2744 SAN - SAND POINT, SEISMIC; Code= XXXX; Component= 340
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 25sep85



Station name= 2744 SAN - SAND POINT, SEISMIC; Code= XXXX; Component= UP
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 25sep85

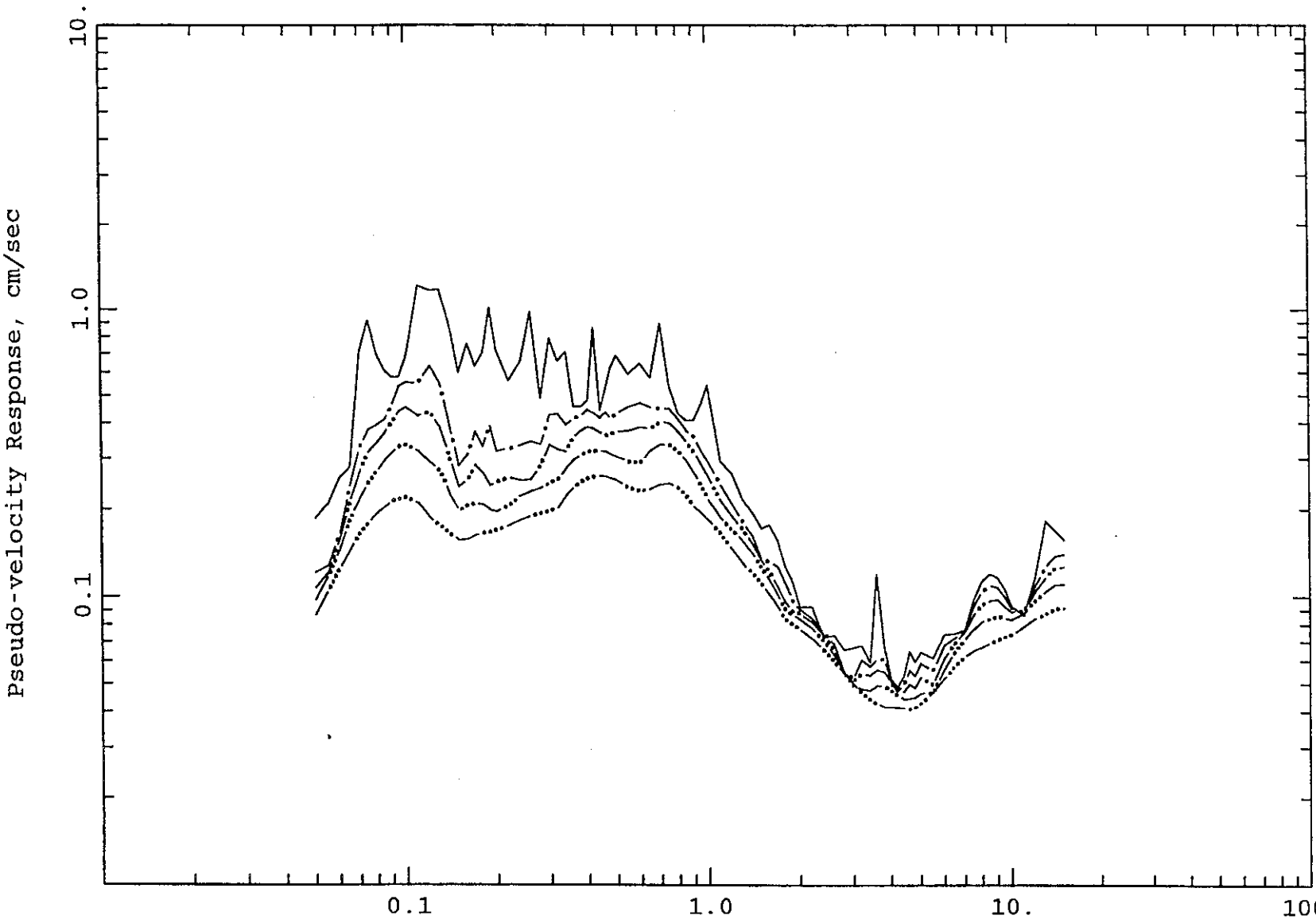


Station name= 2744 SAN - SAND POINT, SEISMIC; Code= XXXX; Component= 70
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 25sep85

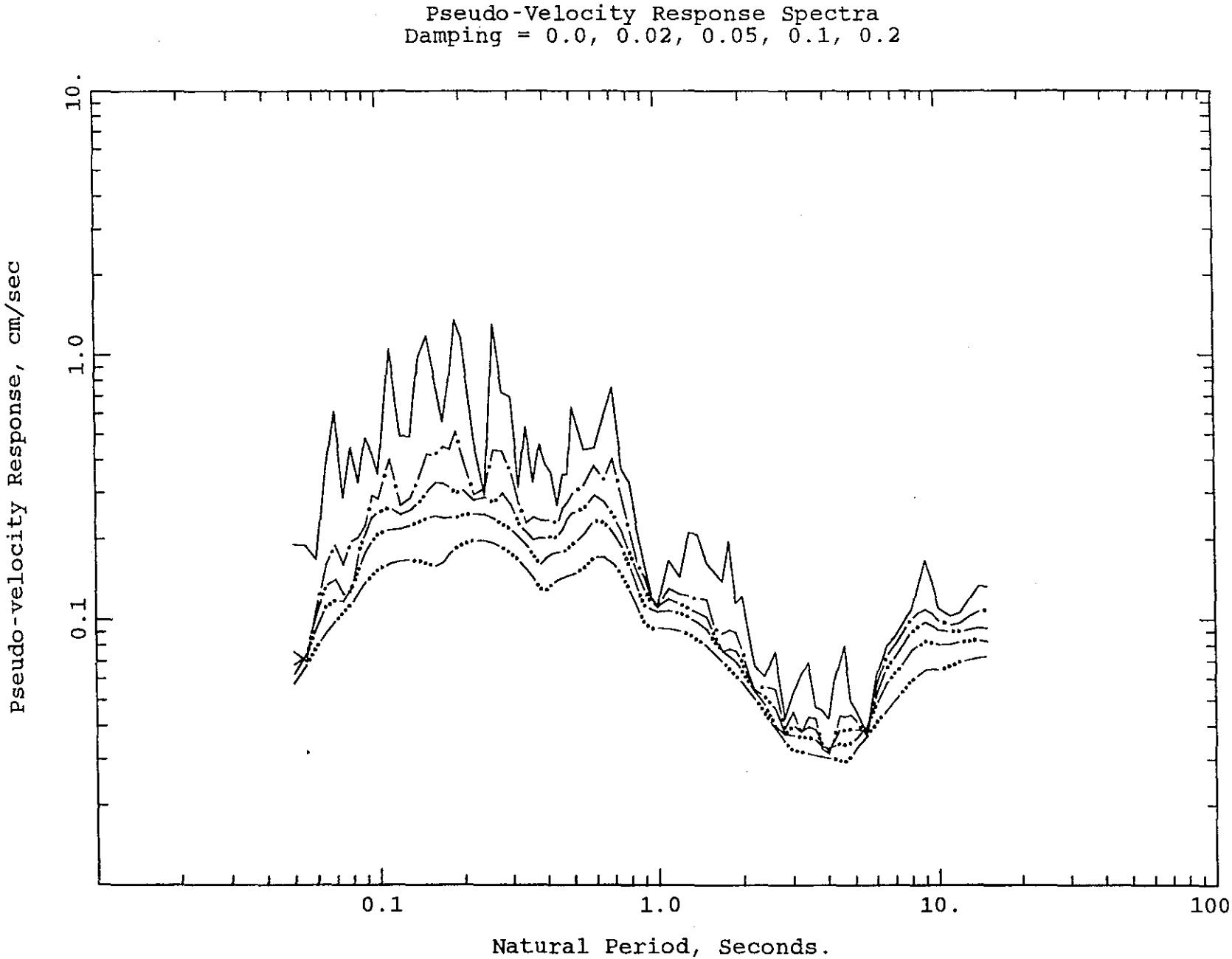


Station name= SANSM_NCEER - SAND POINT, ALAS; Code= XXXX; Component= 0
EQ name= LAŚKA PENINSULA EARTHQUAKE; EQ date= 02jun89

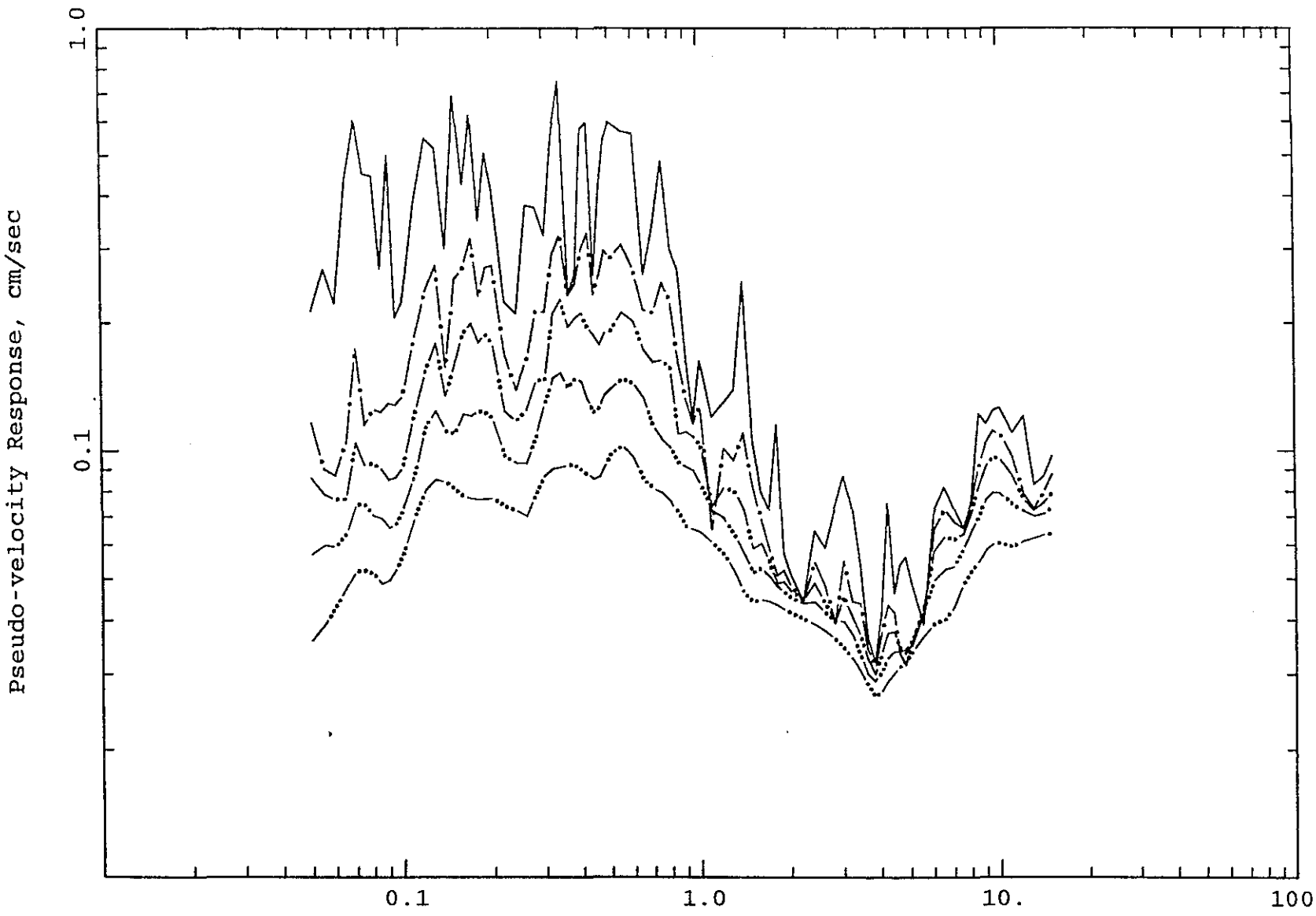
Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2



Station name= SANSM NCEER - SAND POINT, ALAS; Code= XXXX; Component= 90
EQ name=ALASKA PENINSULA EARTHQUAKE; EQ date= 02jun89



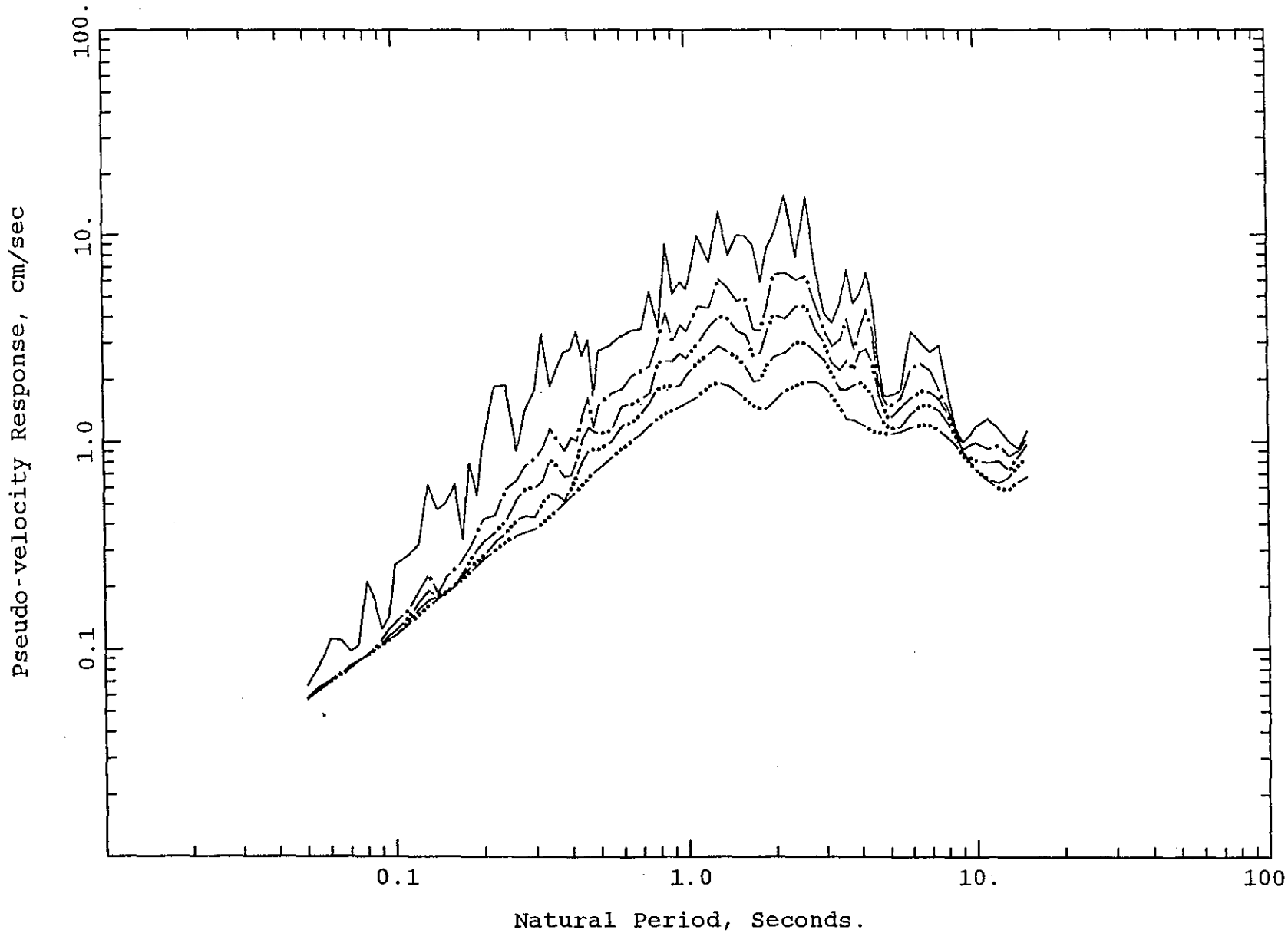
Station name= SANSM NCEER - SAND POINT, ALAS; Code= XXXX; Component= UP
EQ name=ALASKA PENINSULA EARTHQUAKE; EQ date= 02jun89



Station name= SANSM NCEER - SAND POINT, ALAS; Code= XXXX; Component= 0
EQ name= SOUTHERN ALASKAN EARTHQUAKE; EQ date= ???

04 Sep 1989

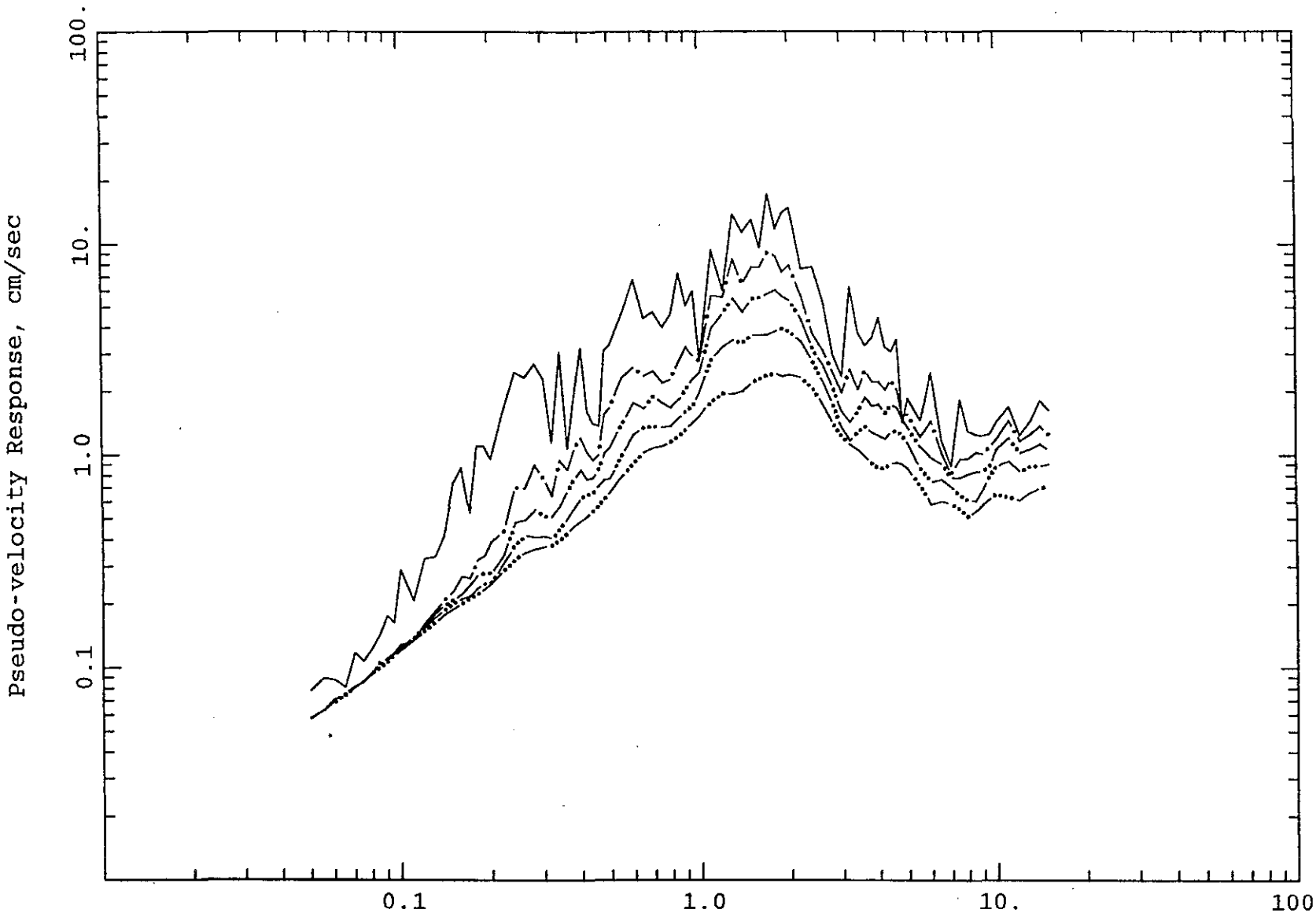
Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2



Station name= SANSM_NCEER - SAND POINT; ALAS; Code= XXXX; Component= 90
EQ name= SOUTHERN ALASKAN EARTHQUAKE; EQ date= ???

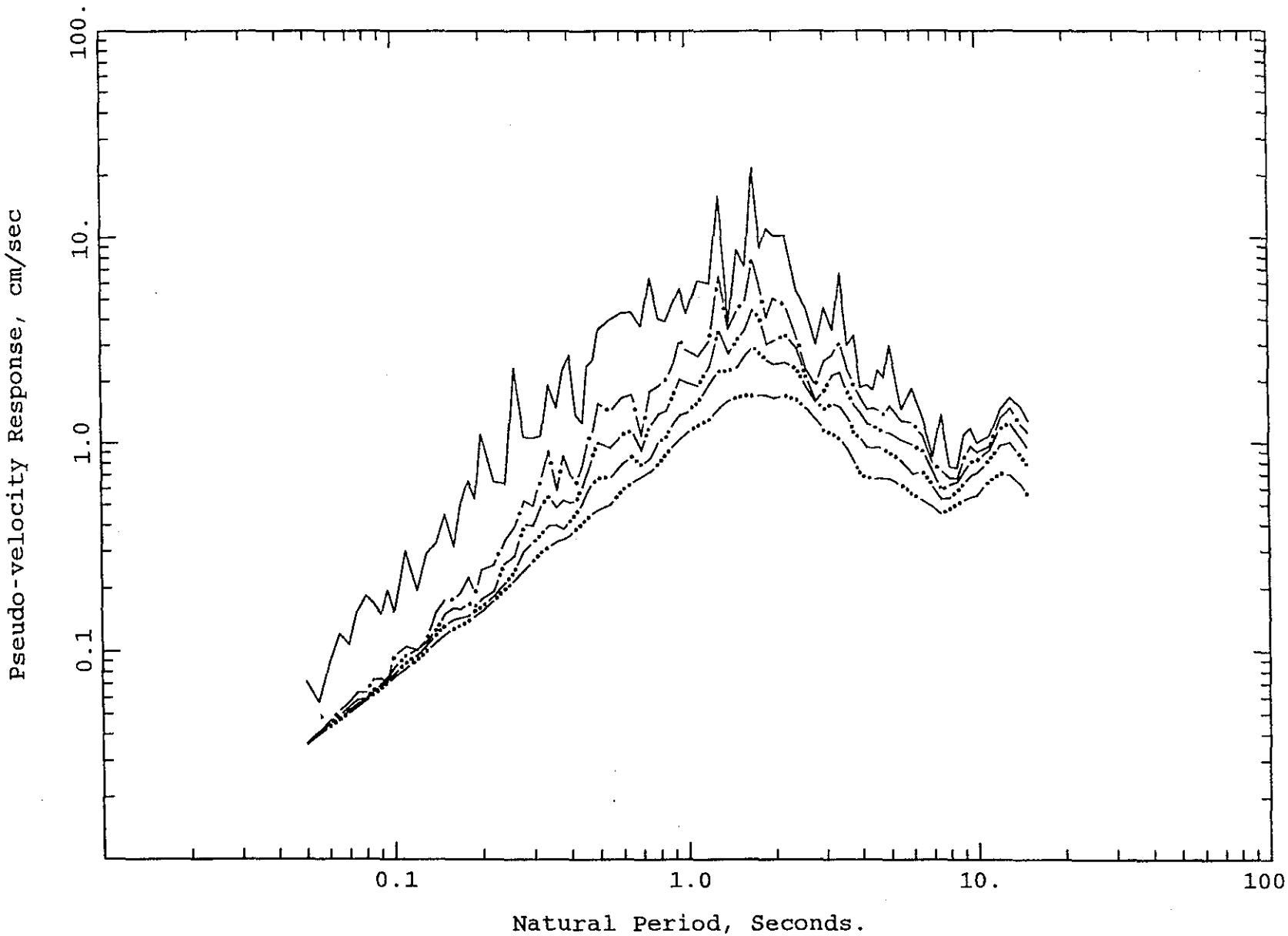
04 sep 1989

Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2

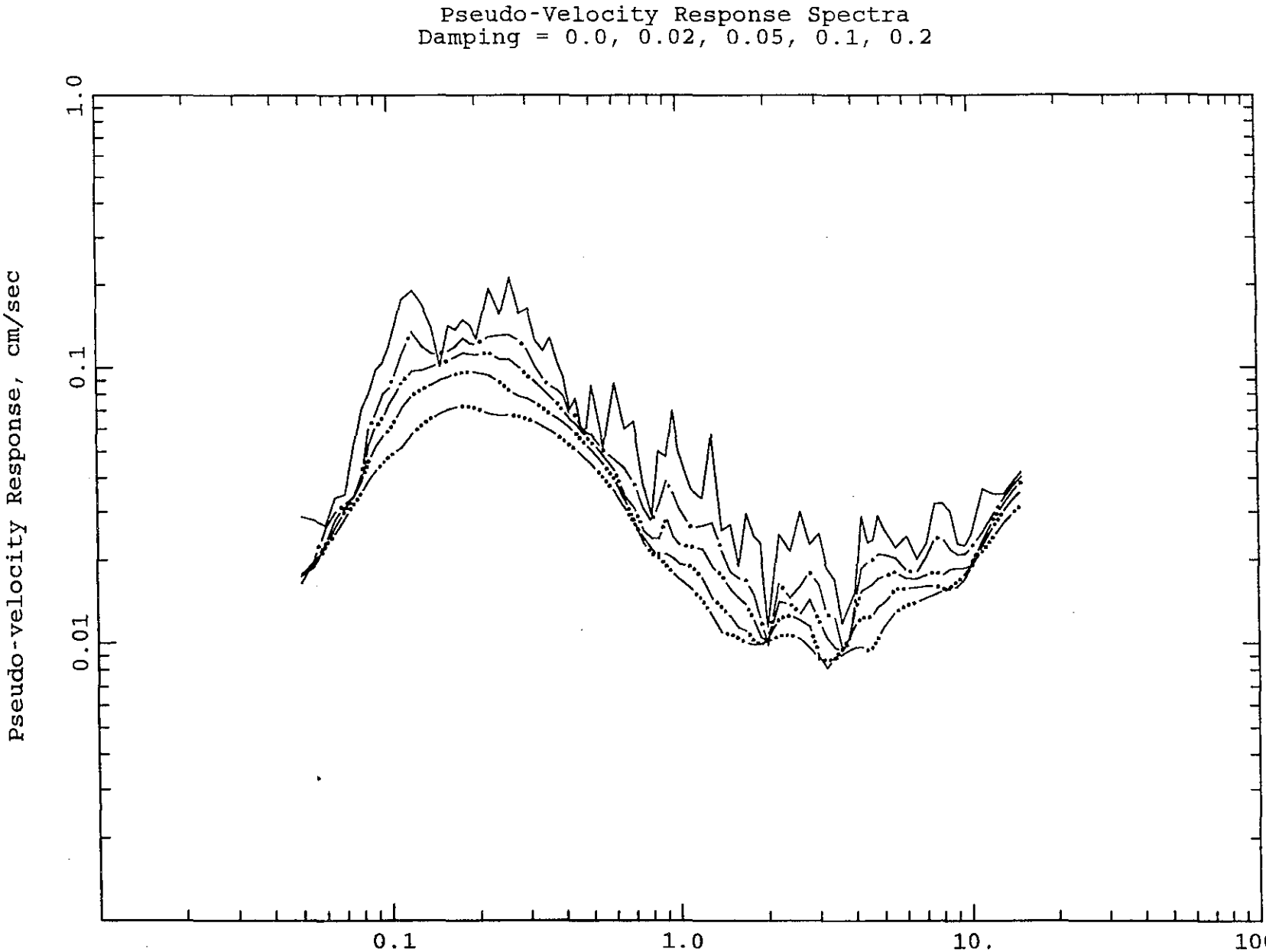


Station name= SANSM NCEER SAND POINT, ALAS; Code= XXXX; Component= UP
EQ name= SOUTHERN ALASKAN EARTHQUAKE; EQ date= ???
04 SEP 1989

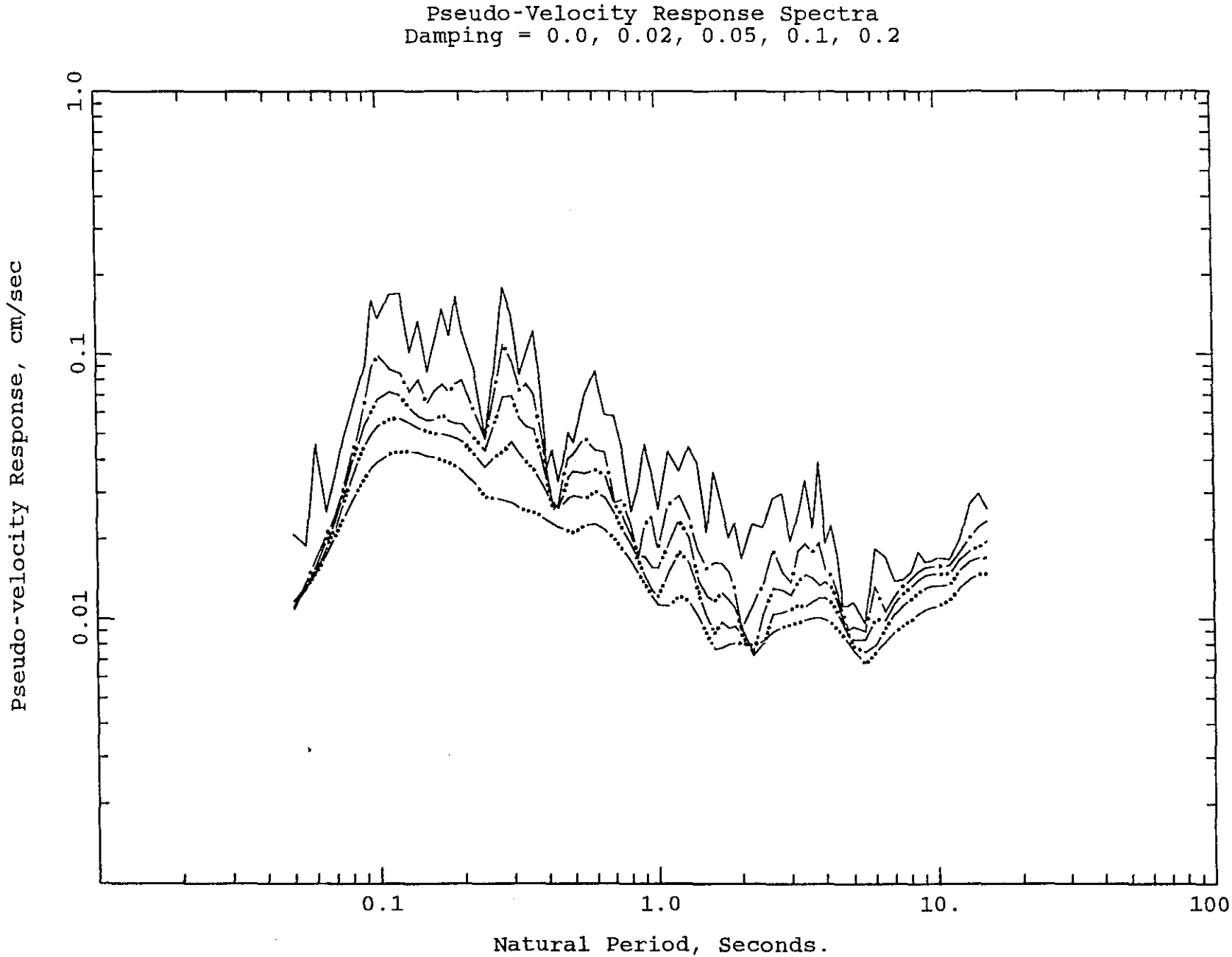
Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2



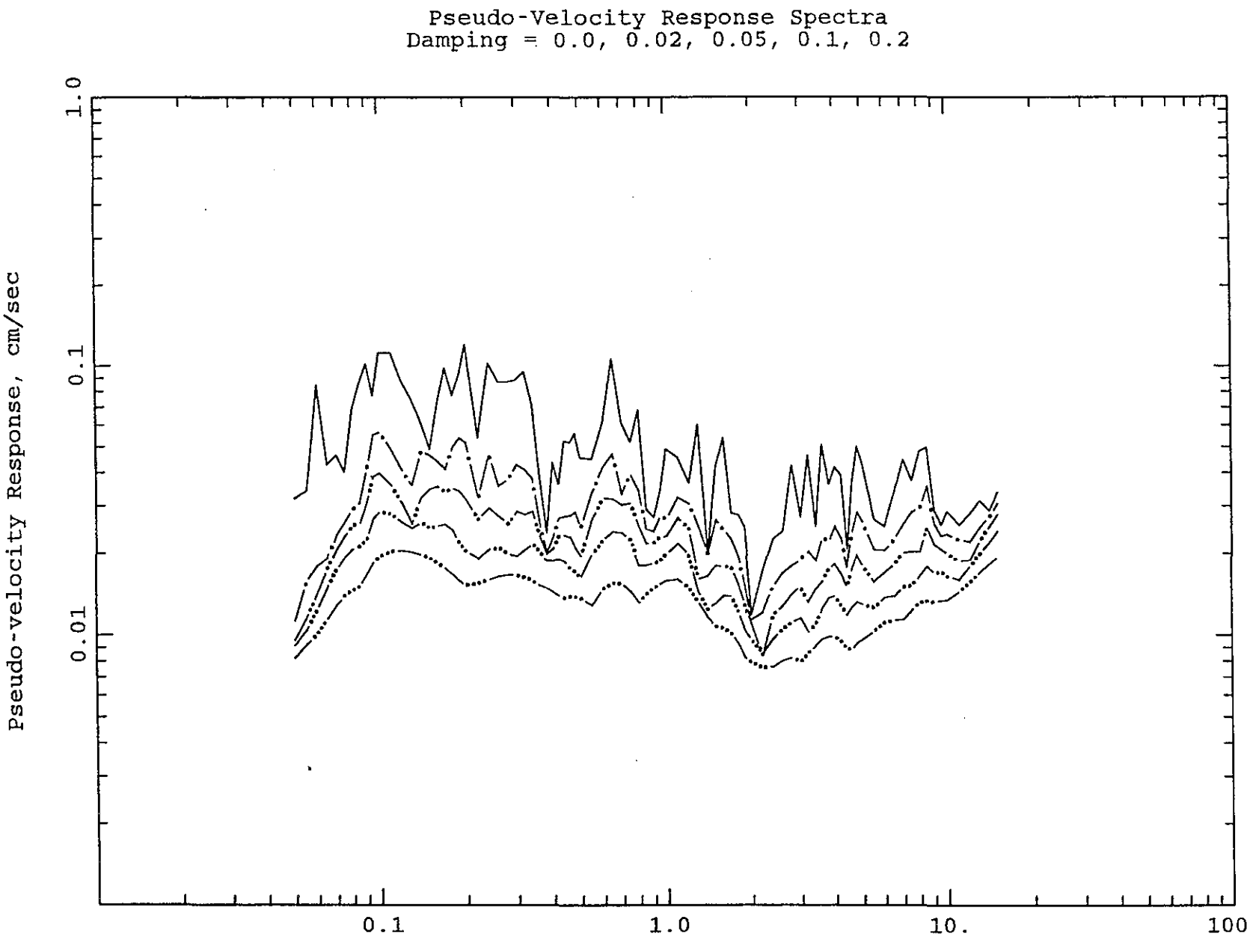
Station name= SANSM NCEER - SAND POINT, ALAS; Code= XXXX; Component= 0
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 21oct89



Station name= SANSM NCEER - SAND POINT, ALAS; Code= XXXX; Component= 90
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 21oct89

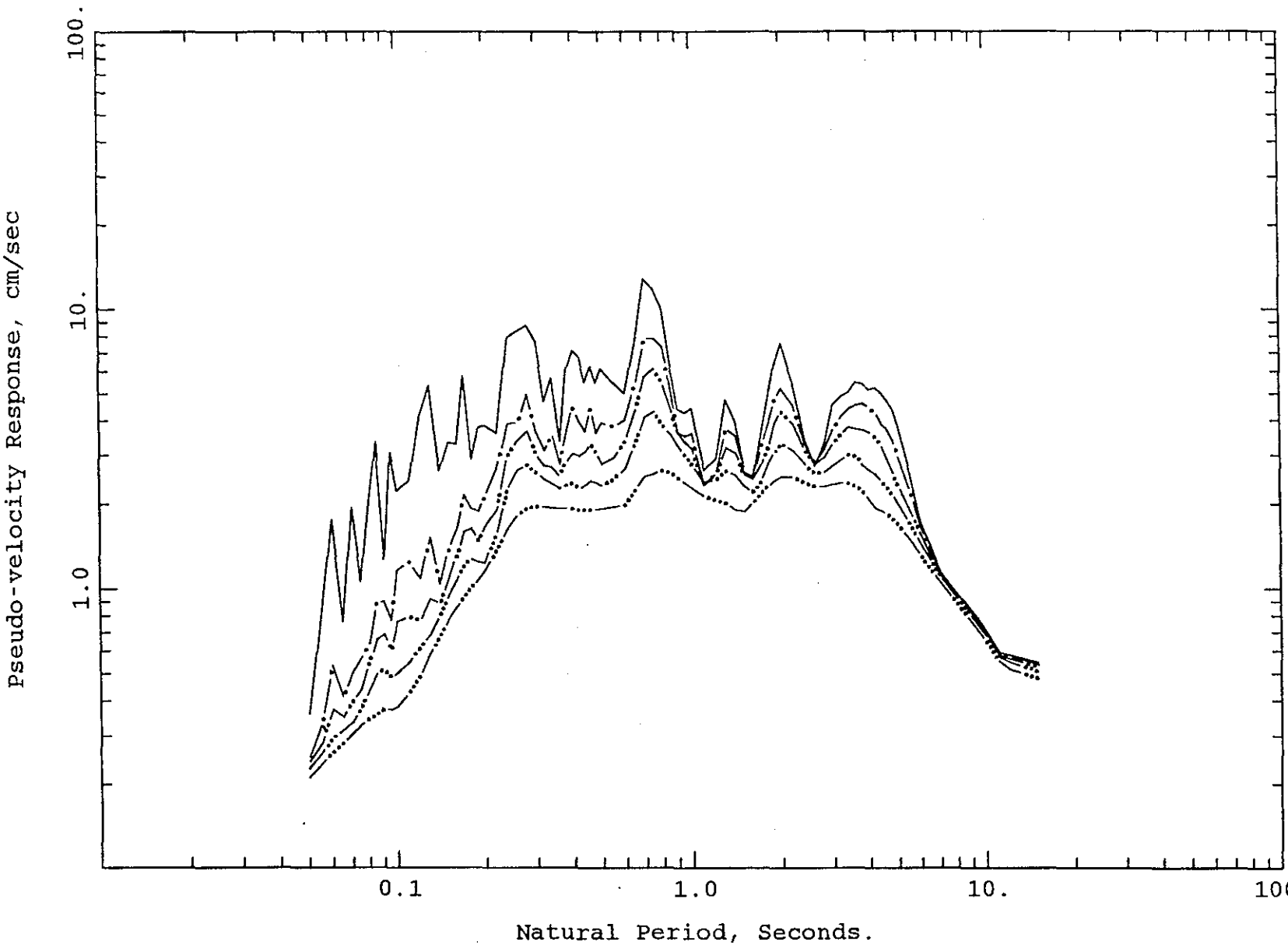


Station name= SANSM NCEER - SAND POINT, ALAS; Code= XXXX; Component= UP
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 21oct89



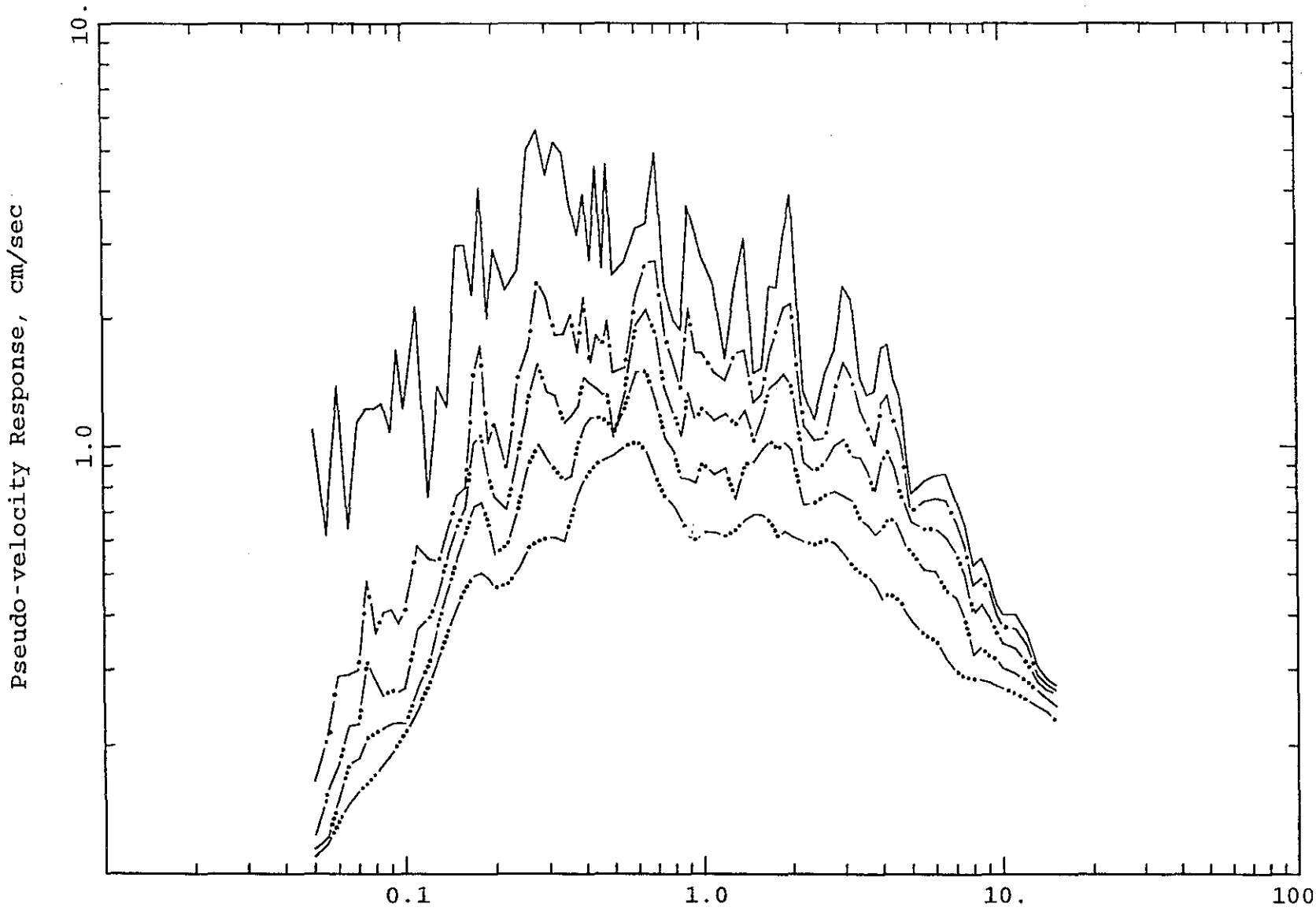
Station name= 2719 SSG* SELDOVIA, SCHOOL GYM; Code= 2719; Component= 90
EQ name= earthquake name unknown; EQ date= 17dec68

Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2

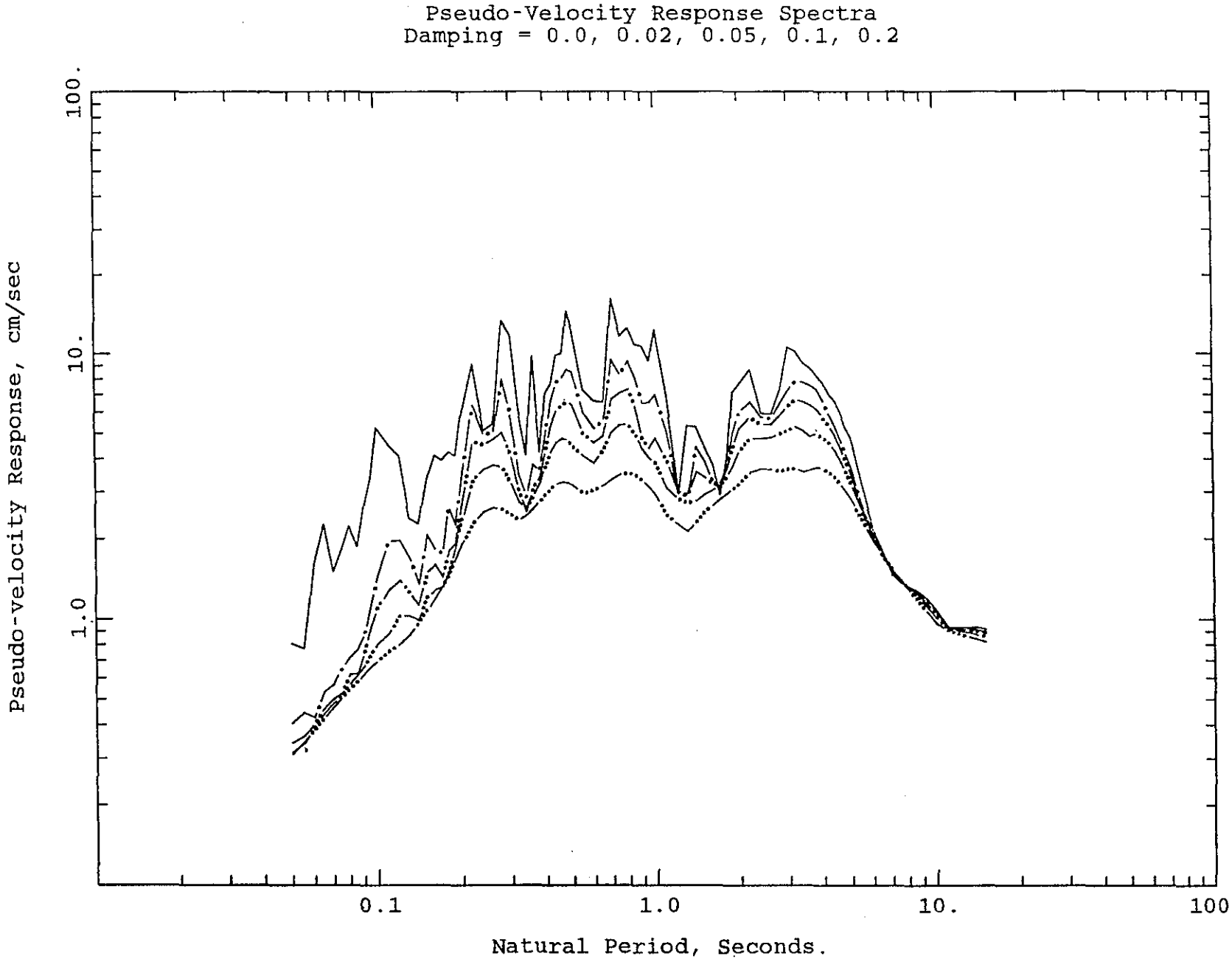


Station name= 2719 SSG* SELDOVIA, SCHOOL GYM; Code= 2719; Component= UP
EQ name= earthquake name unknown; EQ date= 17dec68

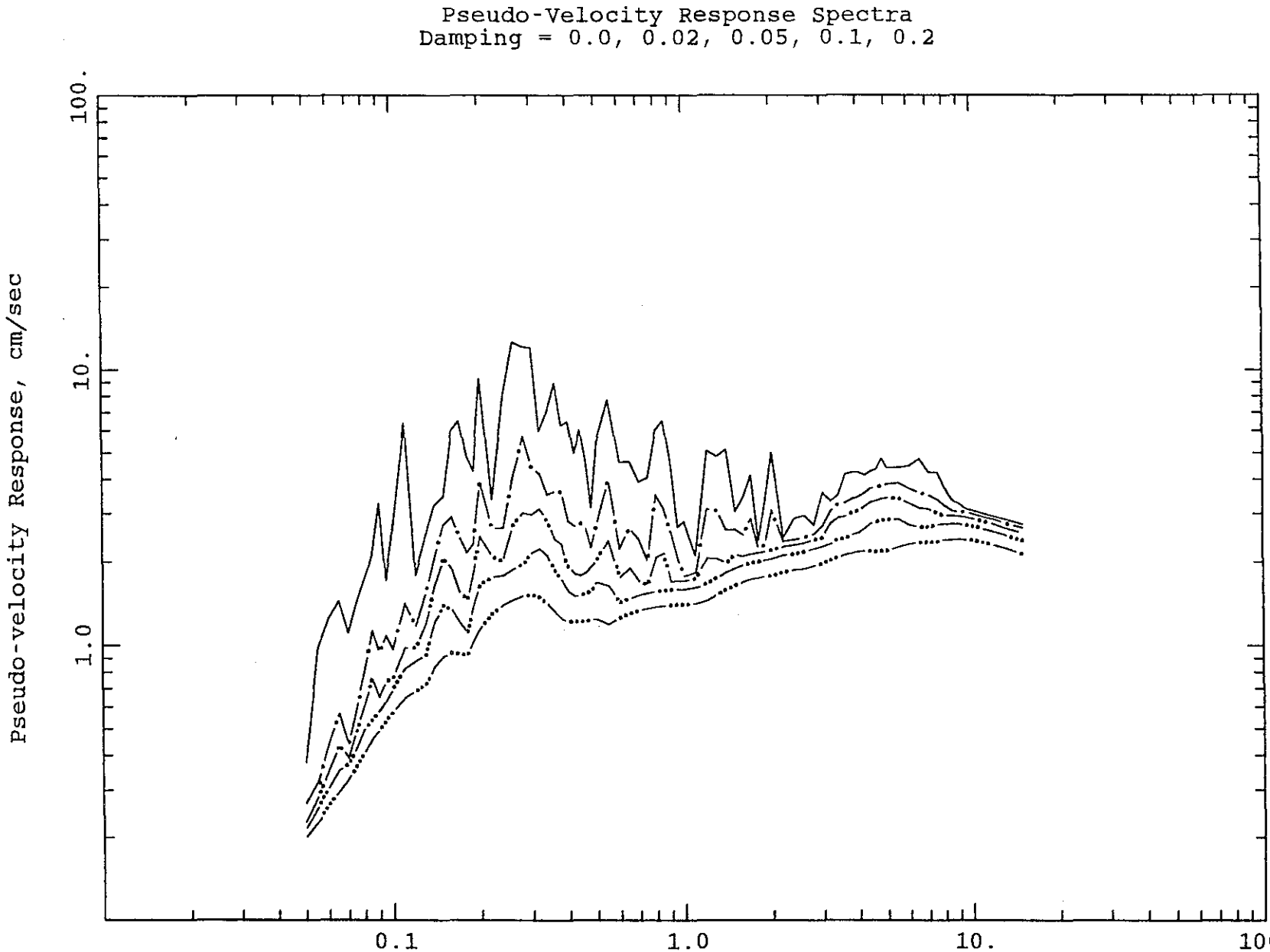
Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2



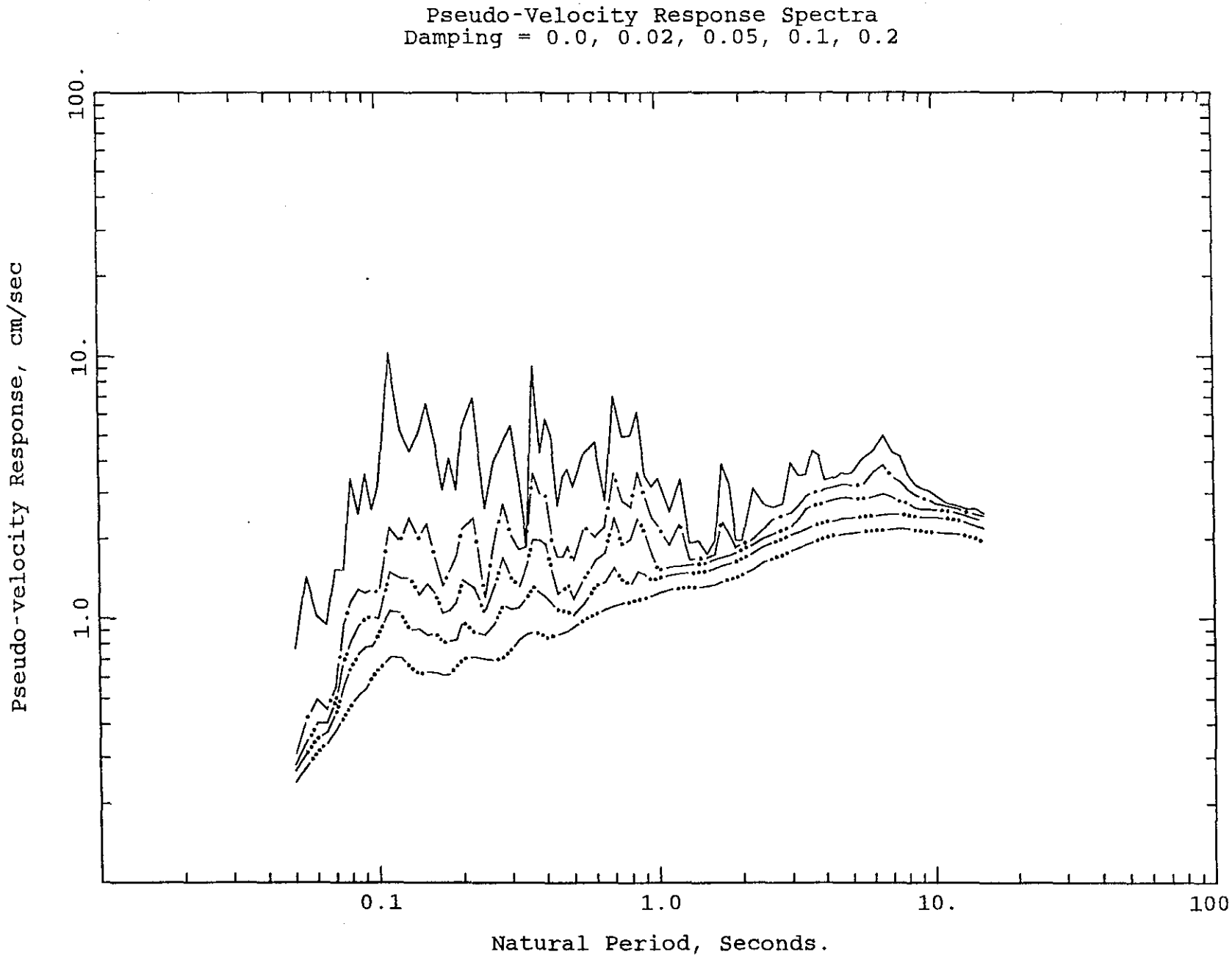
Station name= 2719 SSG* SELDOVIA, SCHOOL GYM; Code= 2719; Component= 0
EQ name= earthquake name unknown; EQ date= 17dec68



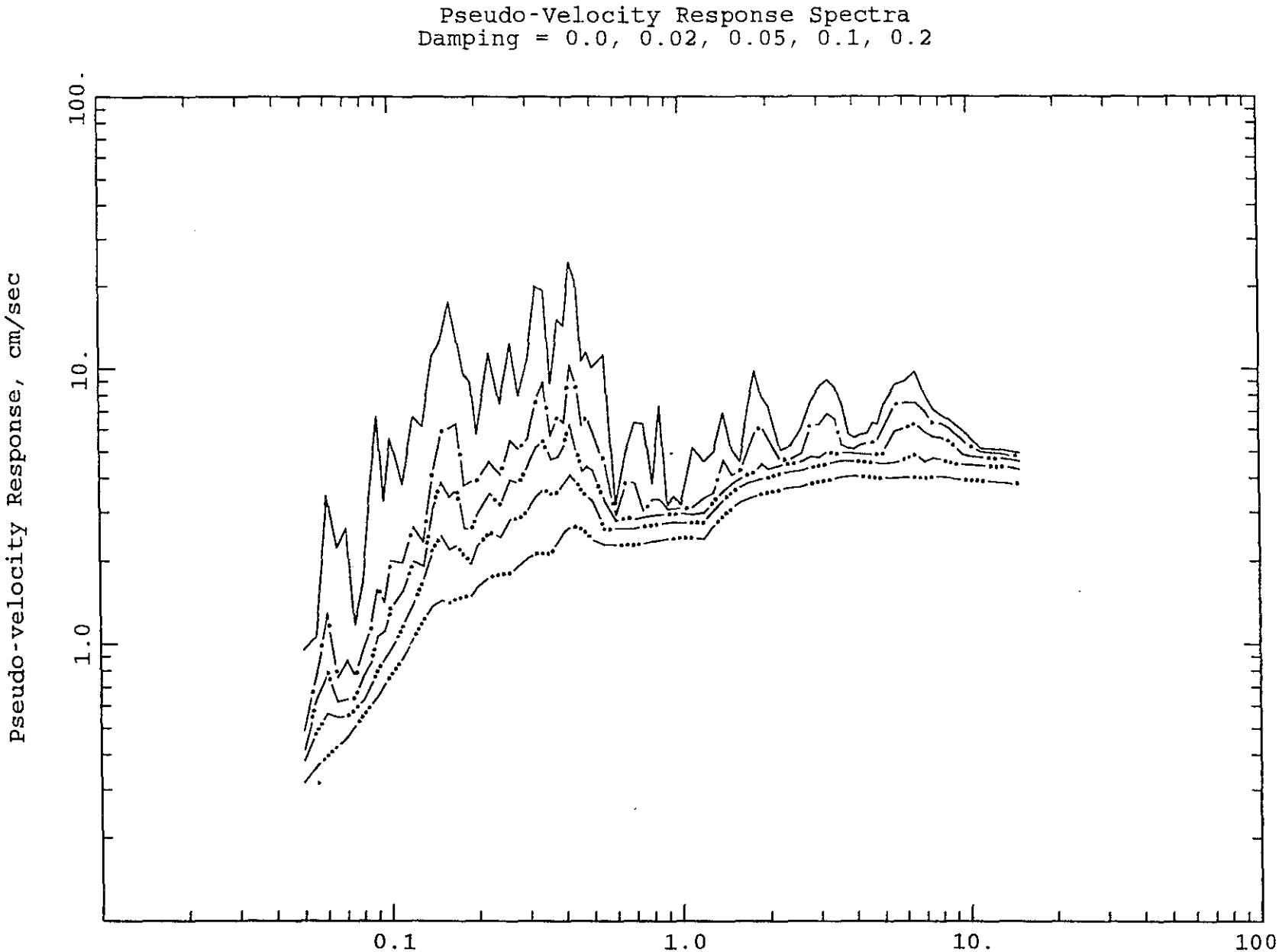
Station name= 2713 SWH* SEWARD, WESLEYAN HOS; Code= 2713; Component= 90
EQ name= .earthquake name unknown; EQ date= 17dec68



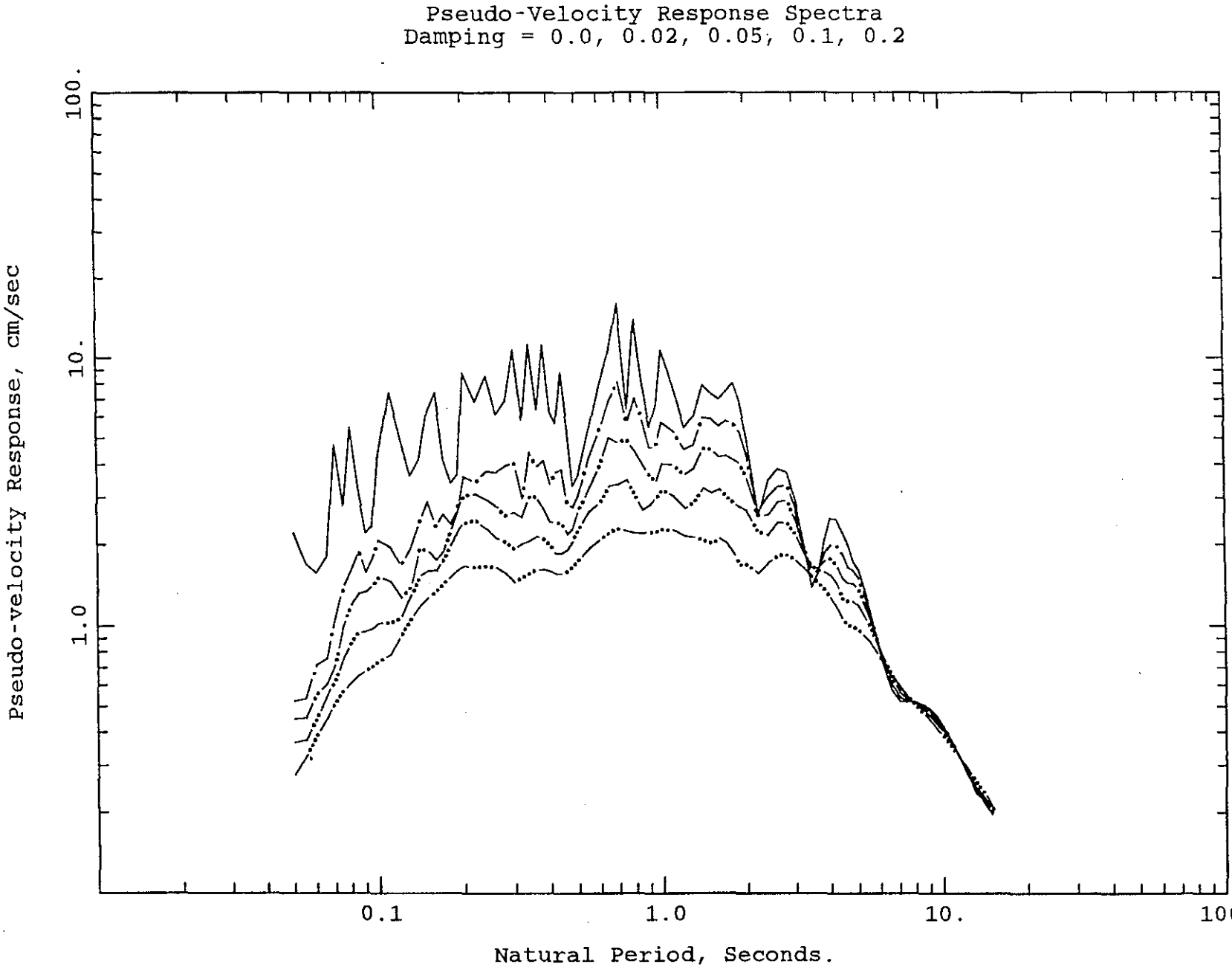
Station name= 2713 SWH* SEWARD, WESLEYAN HOS; Code= 2713; Component= UP
EQ name= earthquake name unknown; EQ date= 17dec68



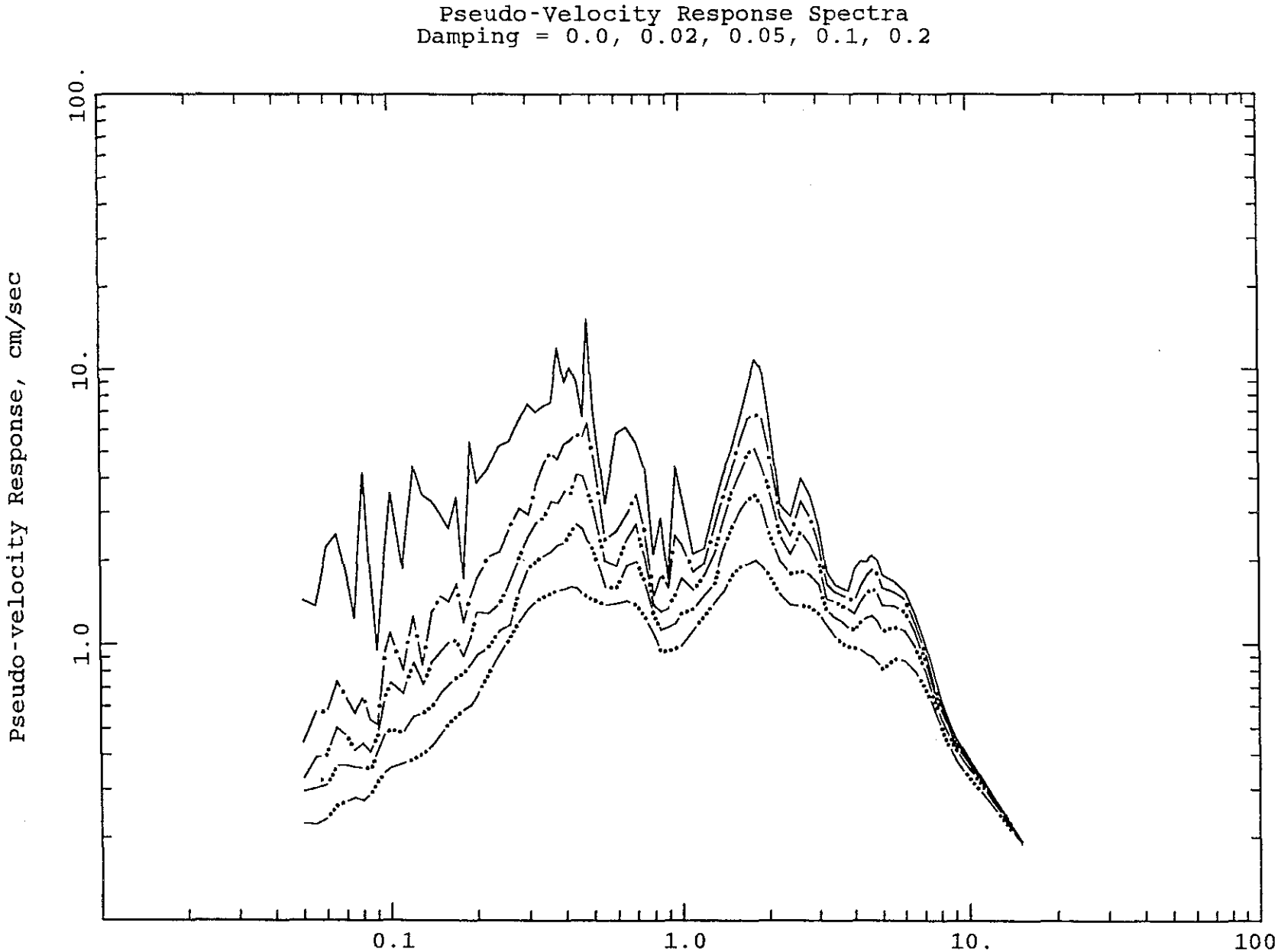
Station name= 2713 SWH* SEWARD, WESLEYAN HOS; Code= 2713; Component= 0
EQ name= earthquake name unknown; EQ date= 17dec68



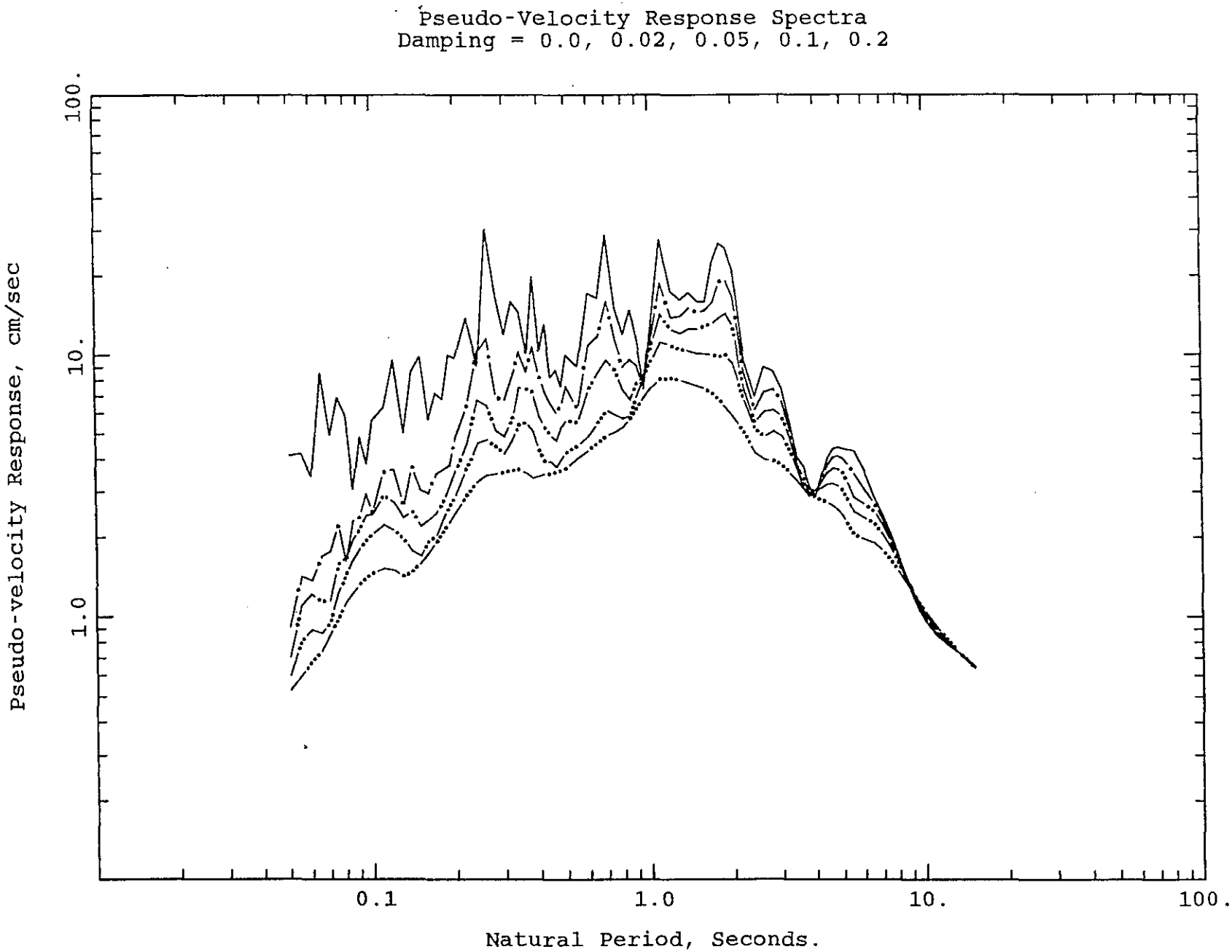
Station name= 2764 SIM SIMEONOF ISLAND; Code= 2764; Component= 70
EQ name= earthquake name unknown; EQ date= 14feb83



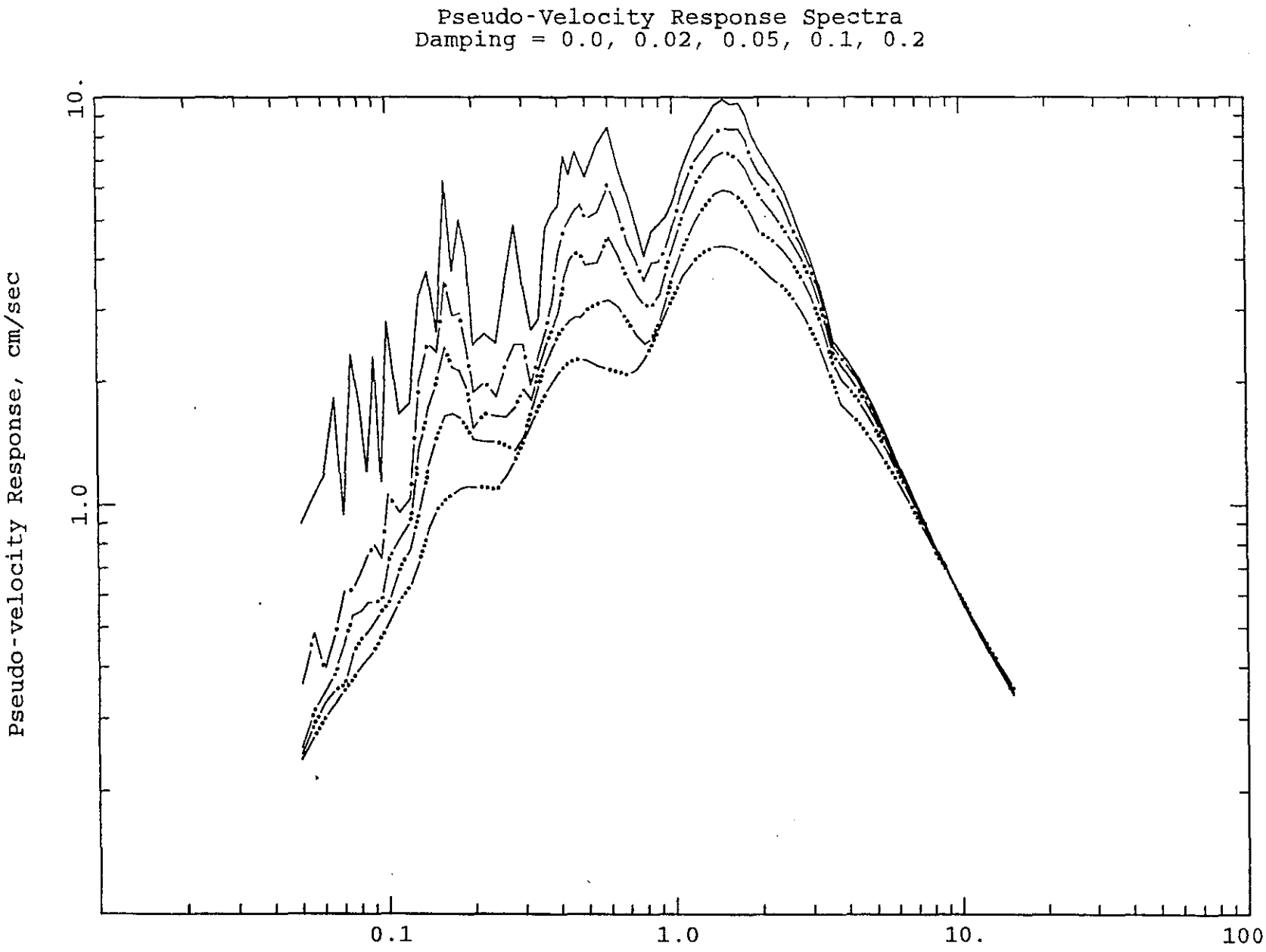
Station name= 2764 SIM SIMEONOF ISLAND; Code= 2764; Component= UP
EQ name= earthquake name unknown; EQ date= 14feb83



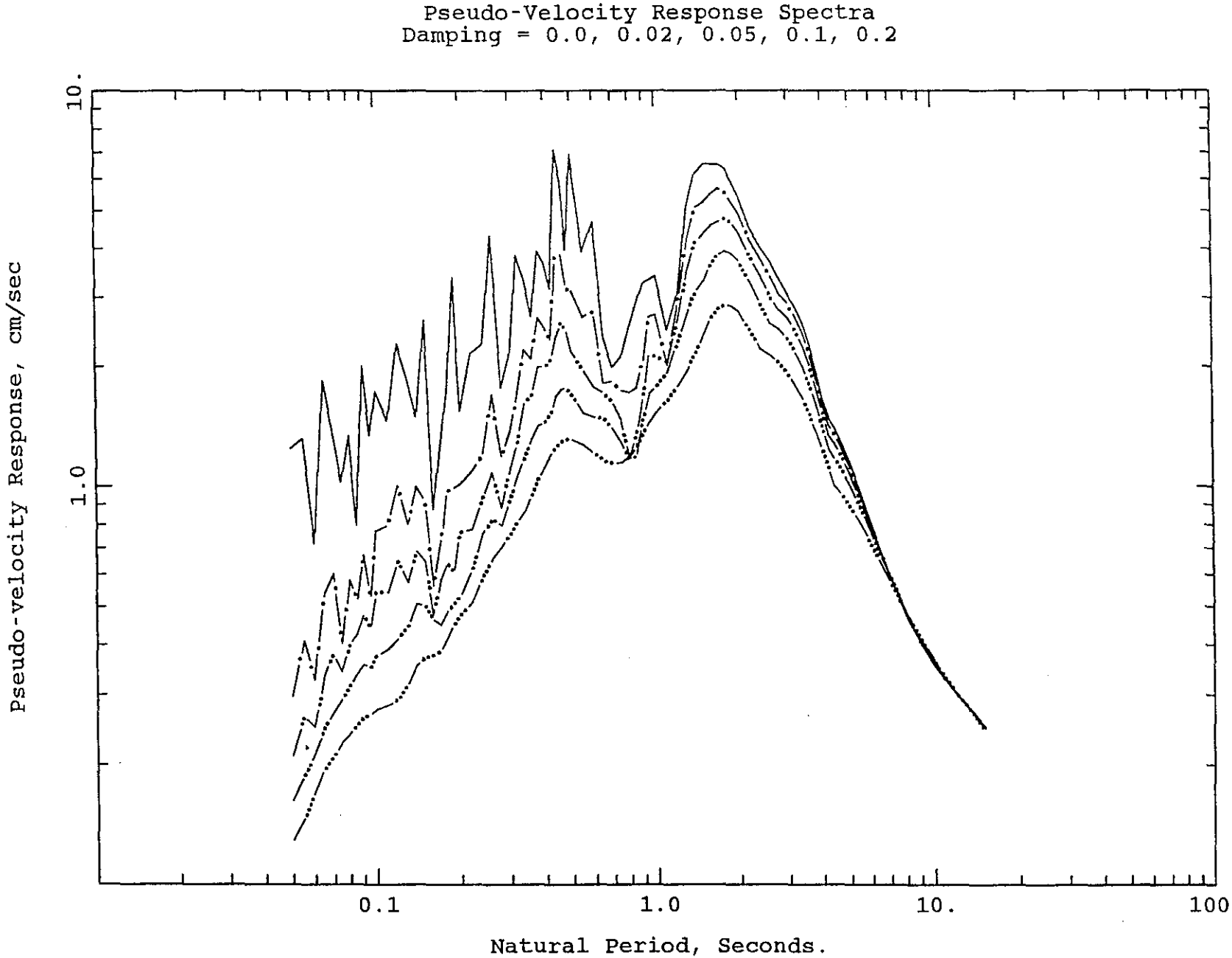
Station name= 2764 SIM SIMEONOF ISLAND; Code= 2764; Component= 340
EQ name= earthquake name unknown; EQ date= 14feb83



Station name= 2764 SIM SIMEONOF ISLAND; Code= 2764; Component= 70
EQ name= earthquake name unknown; EQ date= 14feb83

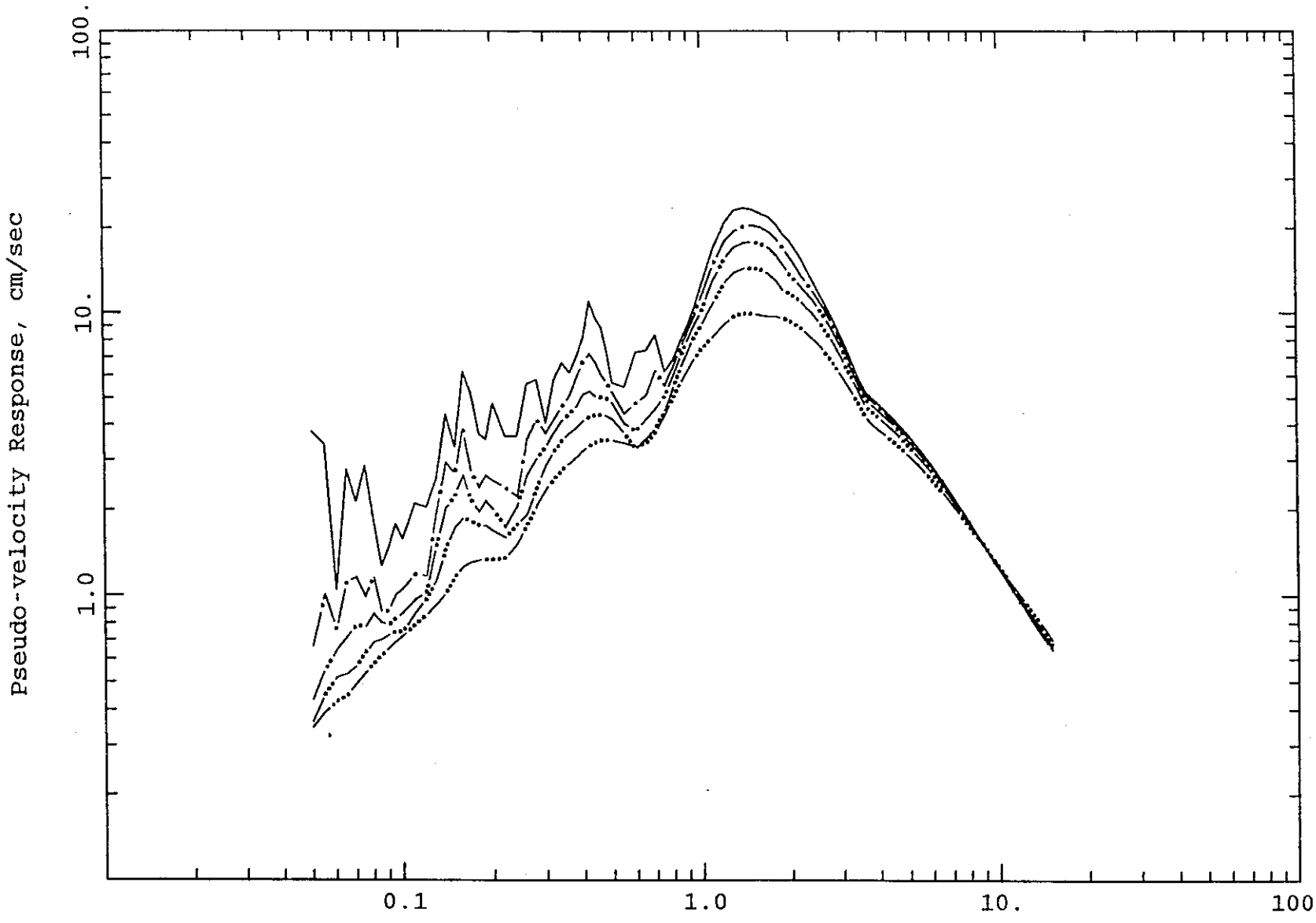


Station name= 2764 SIM SIMEONOF ISLAND; Code= 2764; Component= UP
EQ name= earthquake name unknown; EQ date= 14feb83

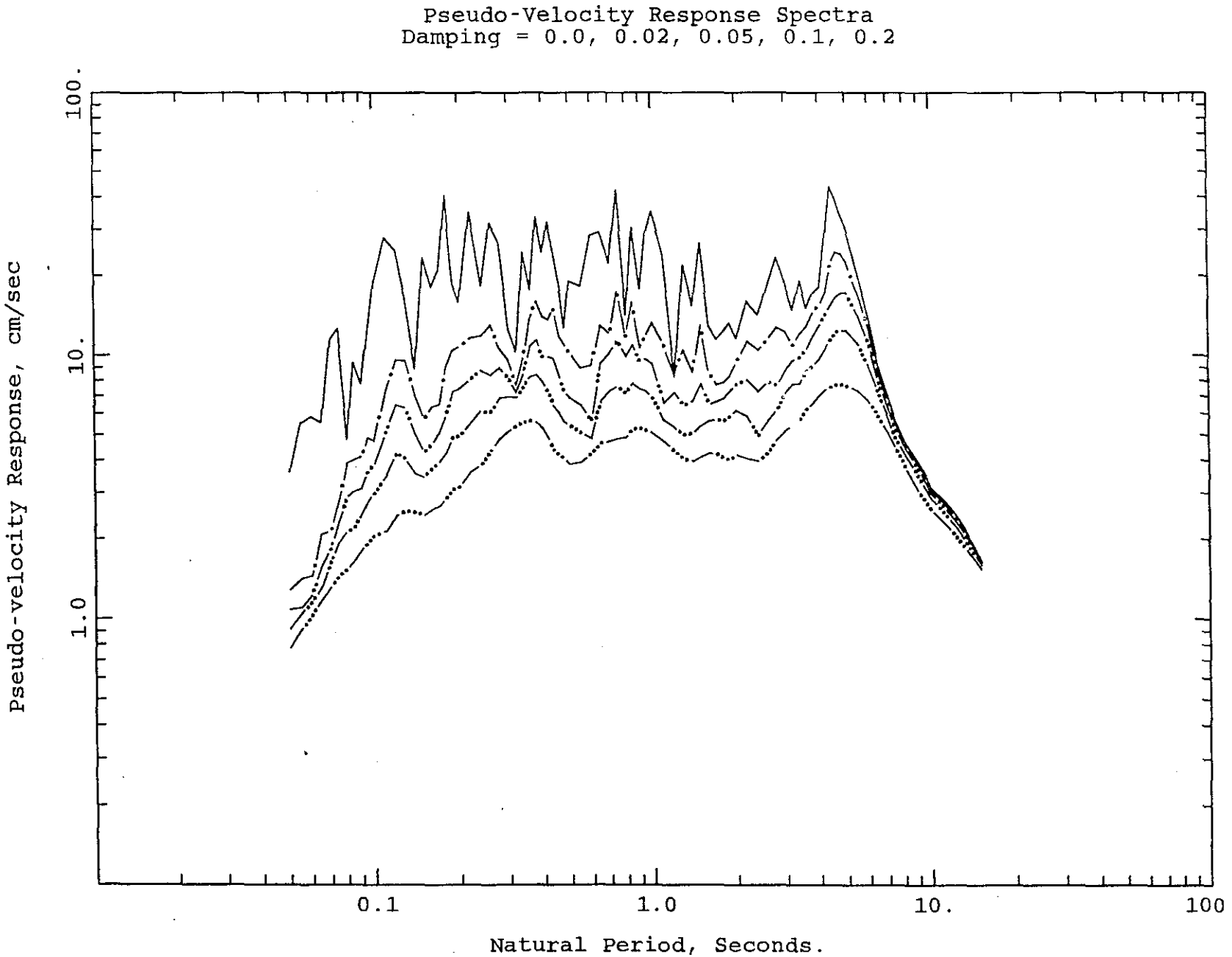


Station name= 2764 SIM SIMEONOF ISLAND; Code= 2764; Component= 340
EQ name= earthquake name unknown; EQ date= 14feb83

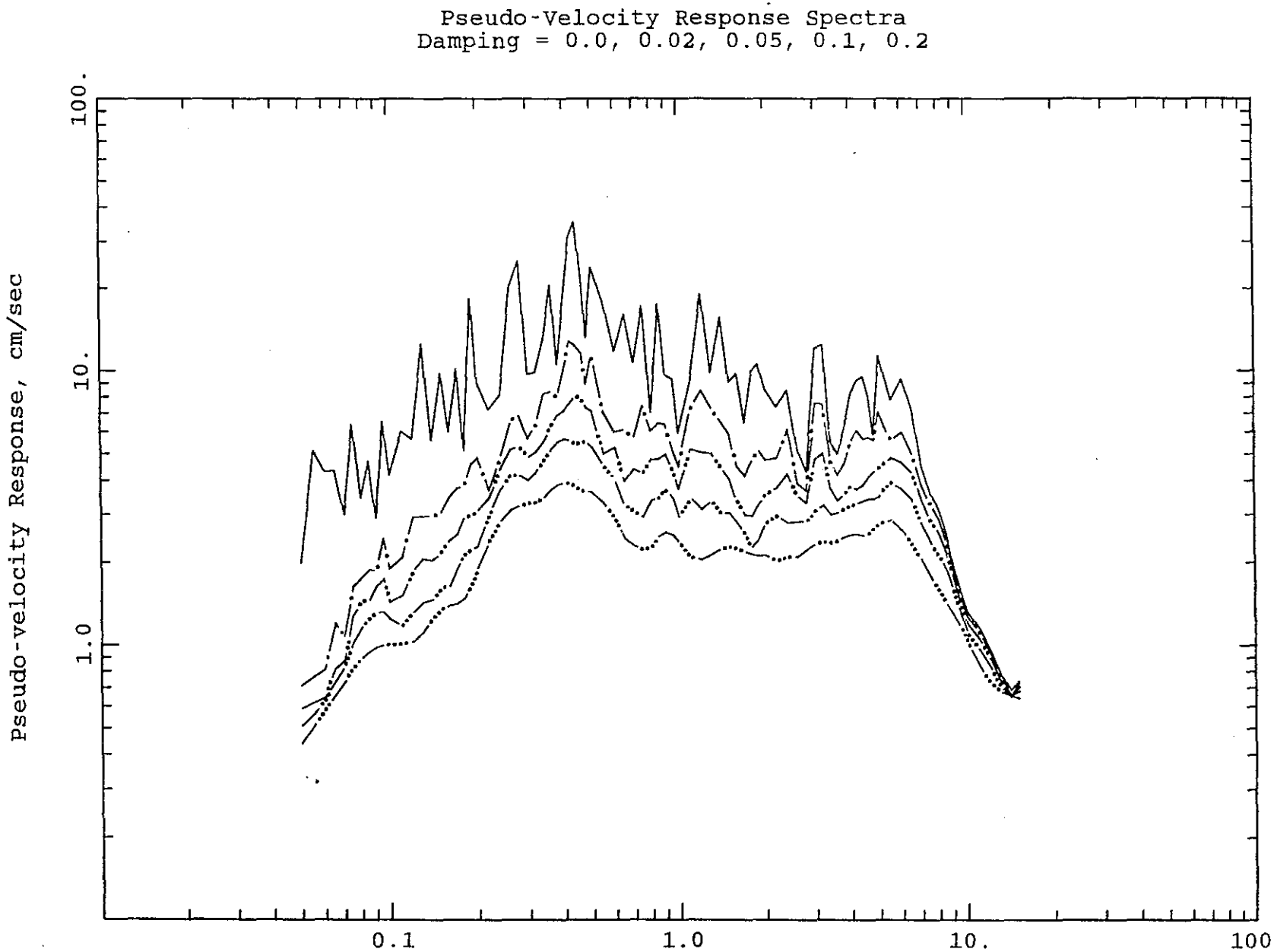
Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2



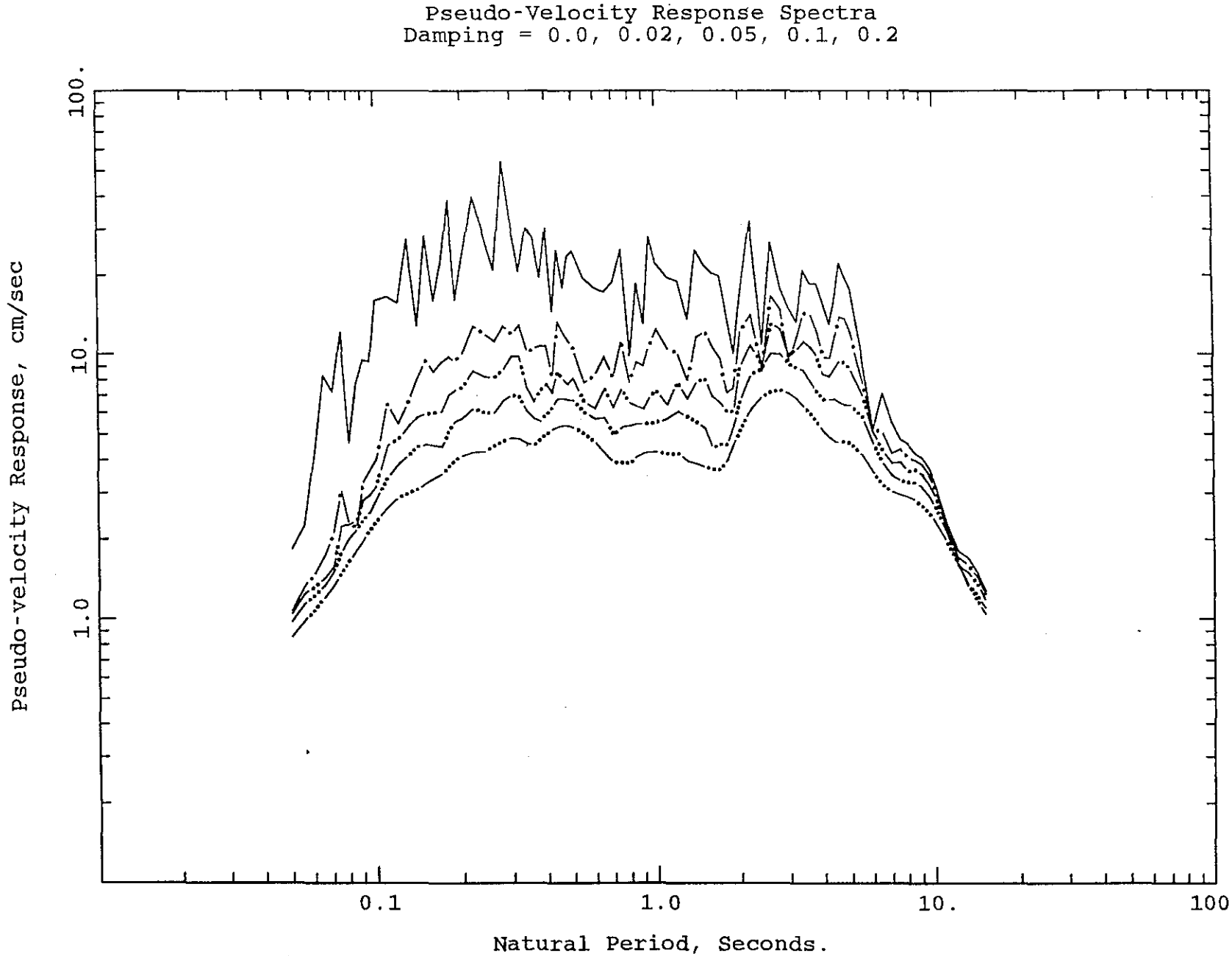
Station name= 2714 SMO* SITKA, MAGNETIC OBS.; Code= 2714; Component= 180
EQ name= earthquake name unknown; EQ date= 30jul72



Station name= 2714 SMO* SITKA, MAGNETIC OBS.; Code= 2714; Component= UP
EQ name= earthquake name unknown; EQ date= 30jul72

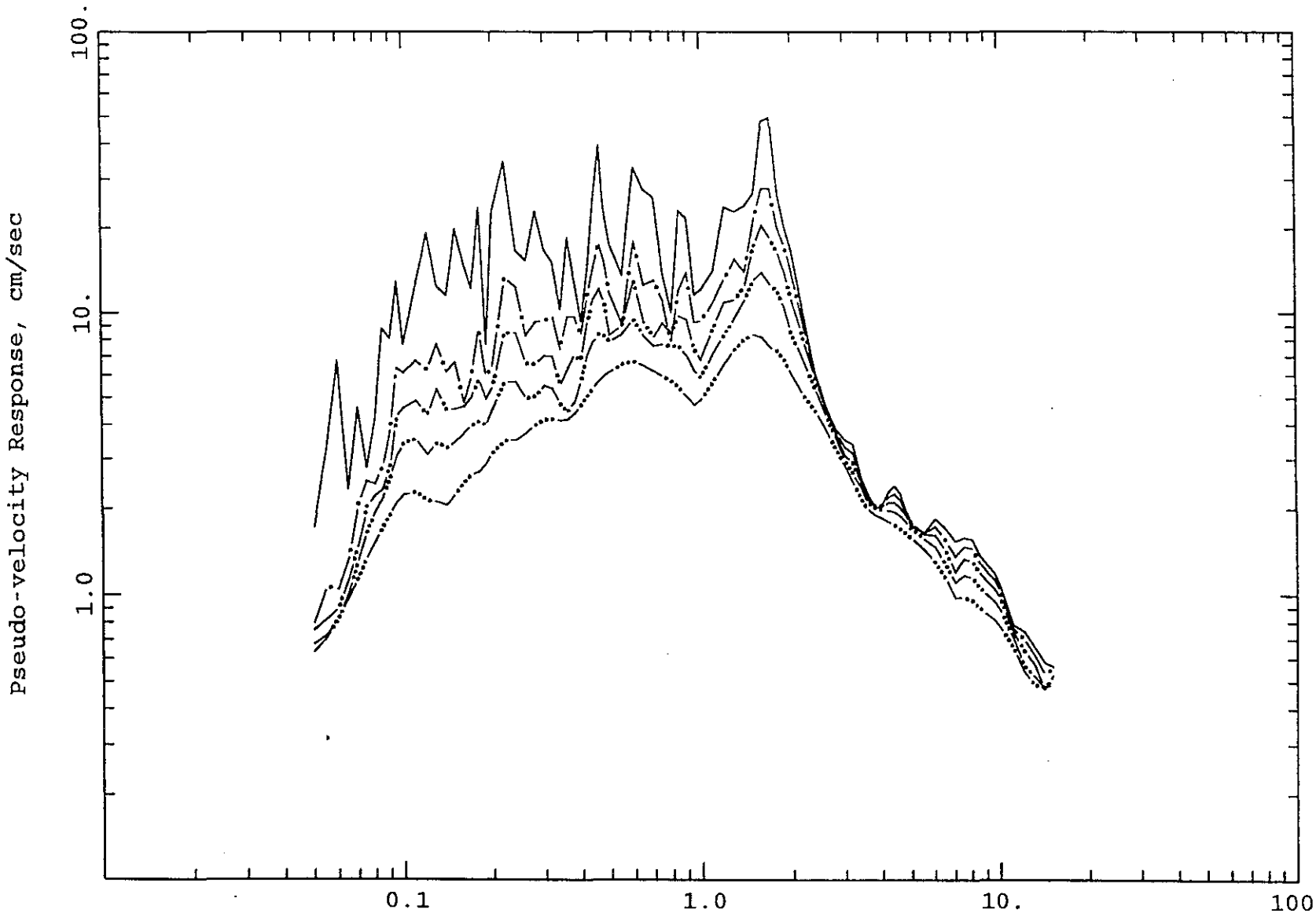


Station name= 2714 SMO* SITKA, MAGNETIC OBS.; Code= 2714; Component= 90
EQ name= earthquake name unknown; EQ date= 30jul72

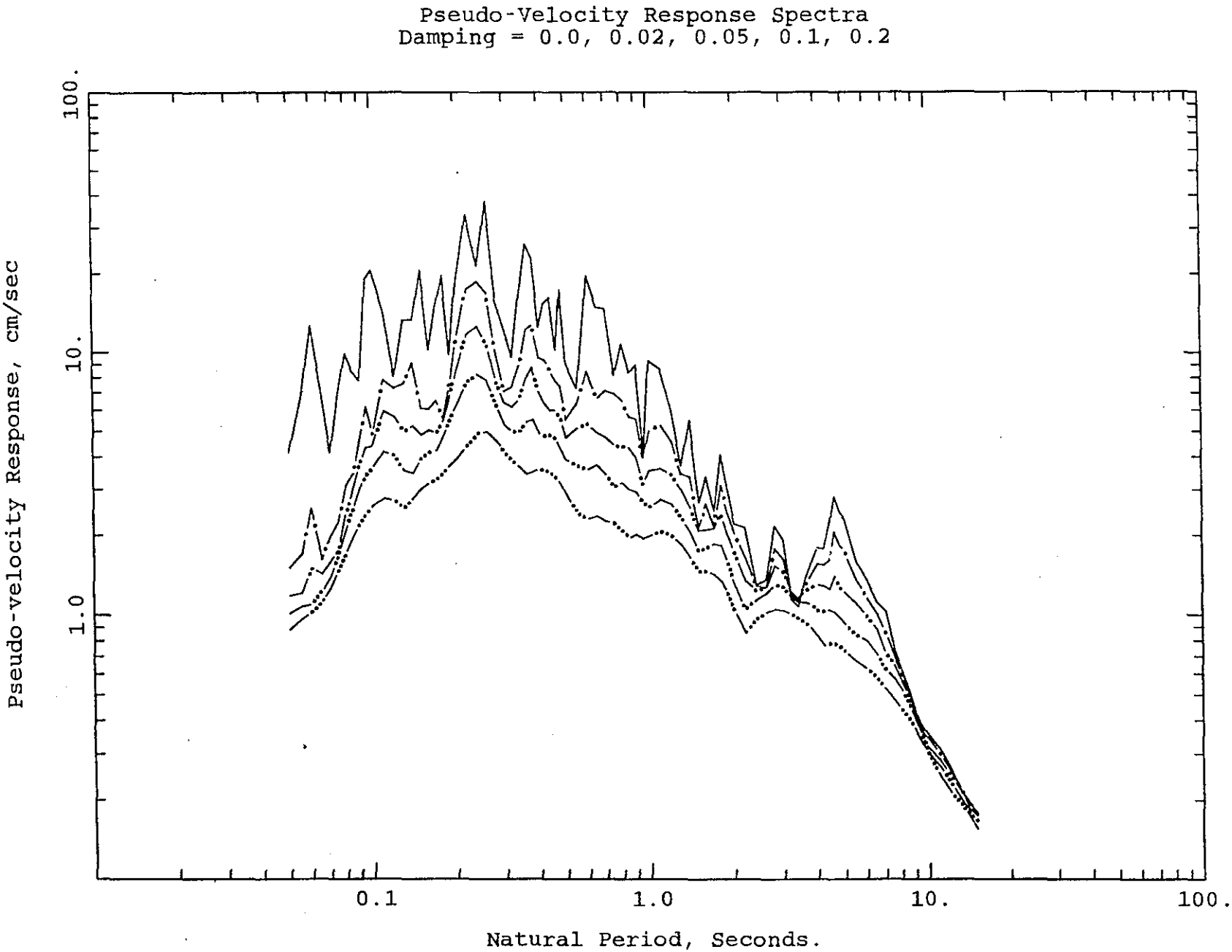


Station name= 2727 TLK TALKEETNA, FAA VOR B; Code= 2727; Component= 165
EQ name= earthquake name unknown; EQ date= 01jan75

Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2

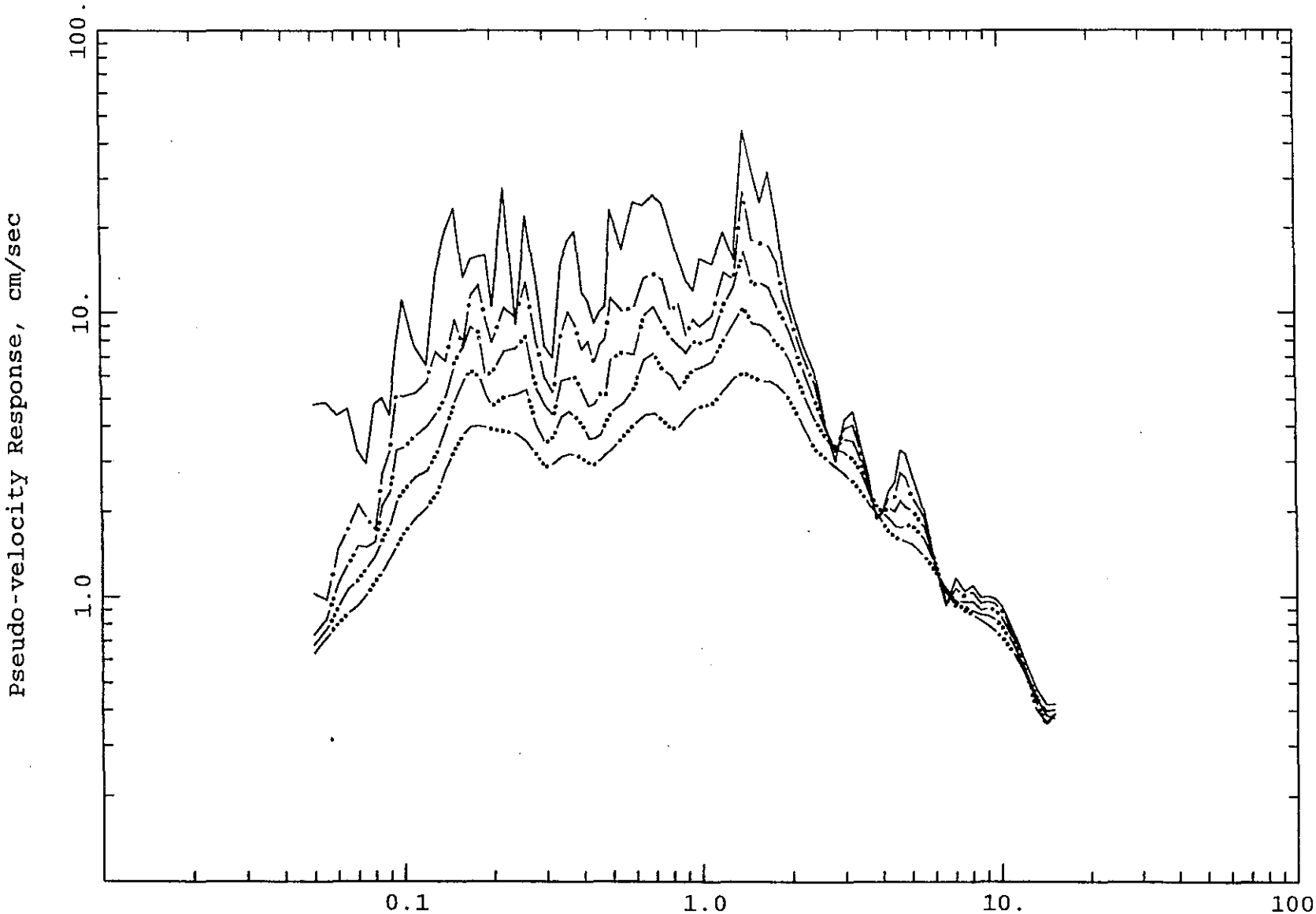


Station name= 2727 TLK TALKEETNA, FAA VOR B; Code= 2727; Component= UP
EQ name= earthquake name unknown; EQ date= 01jan75

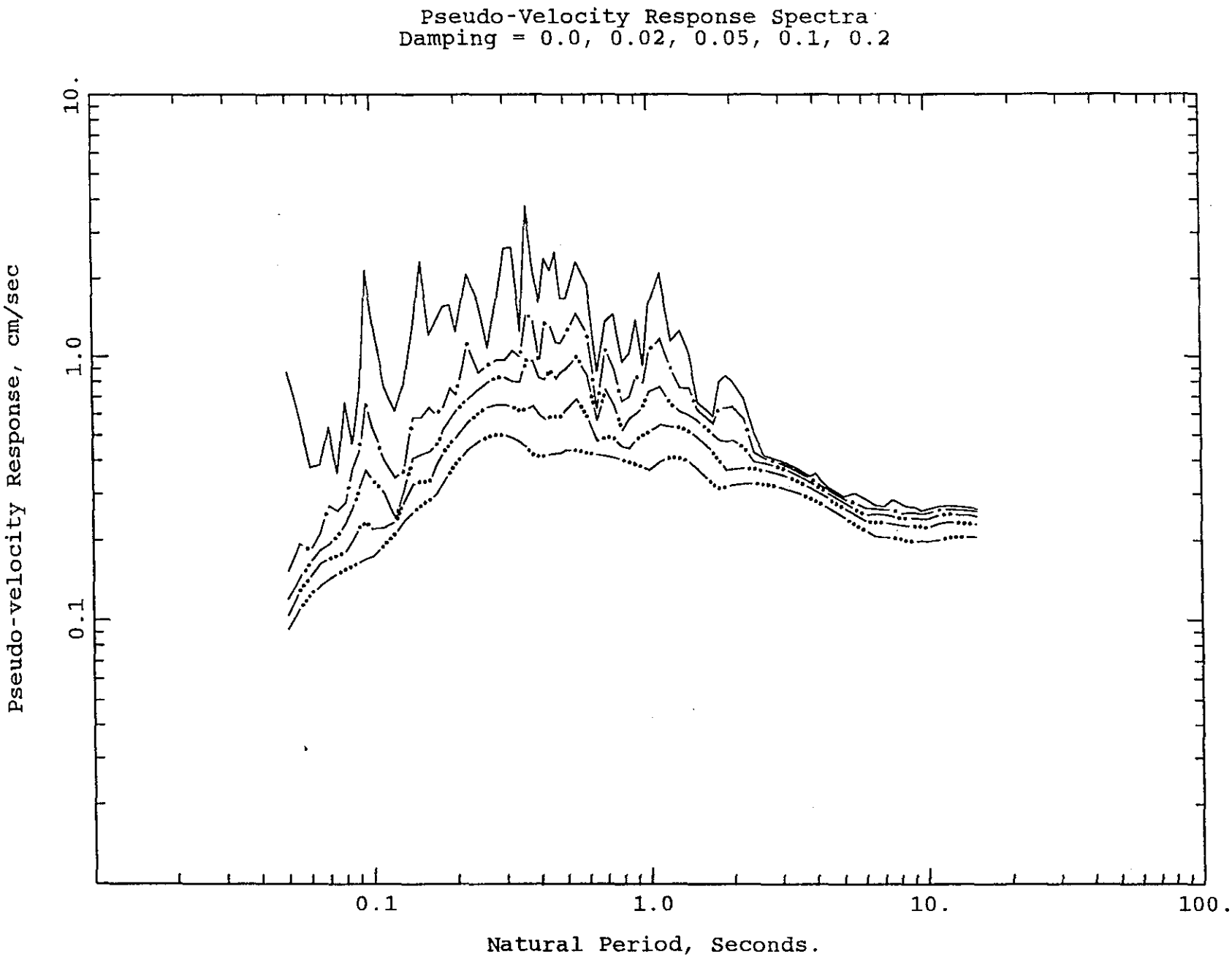


Station name= 2727 TLK TALKEETNA, FAA VOR B; Code= 2727; Component= 75
EQ name= earthquake name unknown; EQ date= 01jan75

Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2

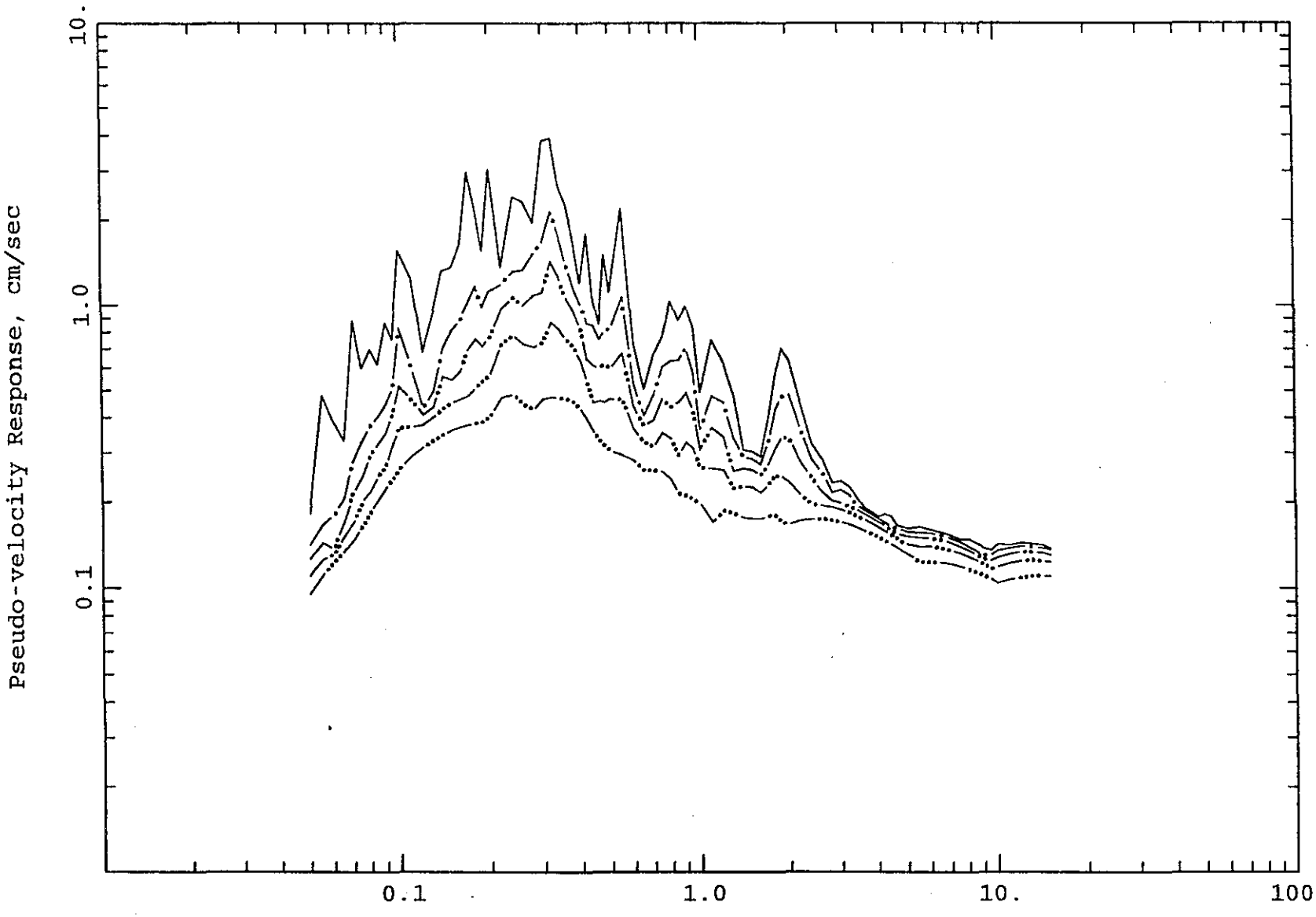


Station name= 2727 TLK - TALKEETNA, ALASKA F; Code= XXXX; Component= 75
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 05may78

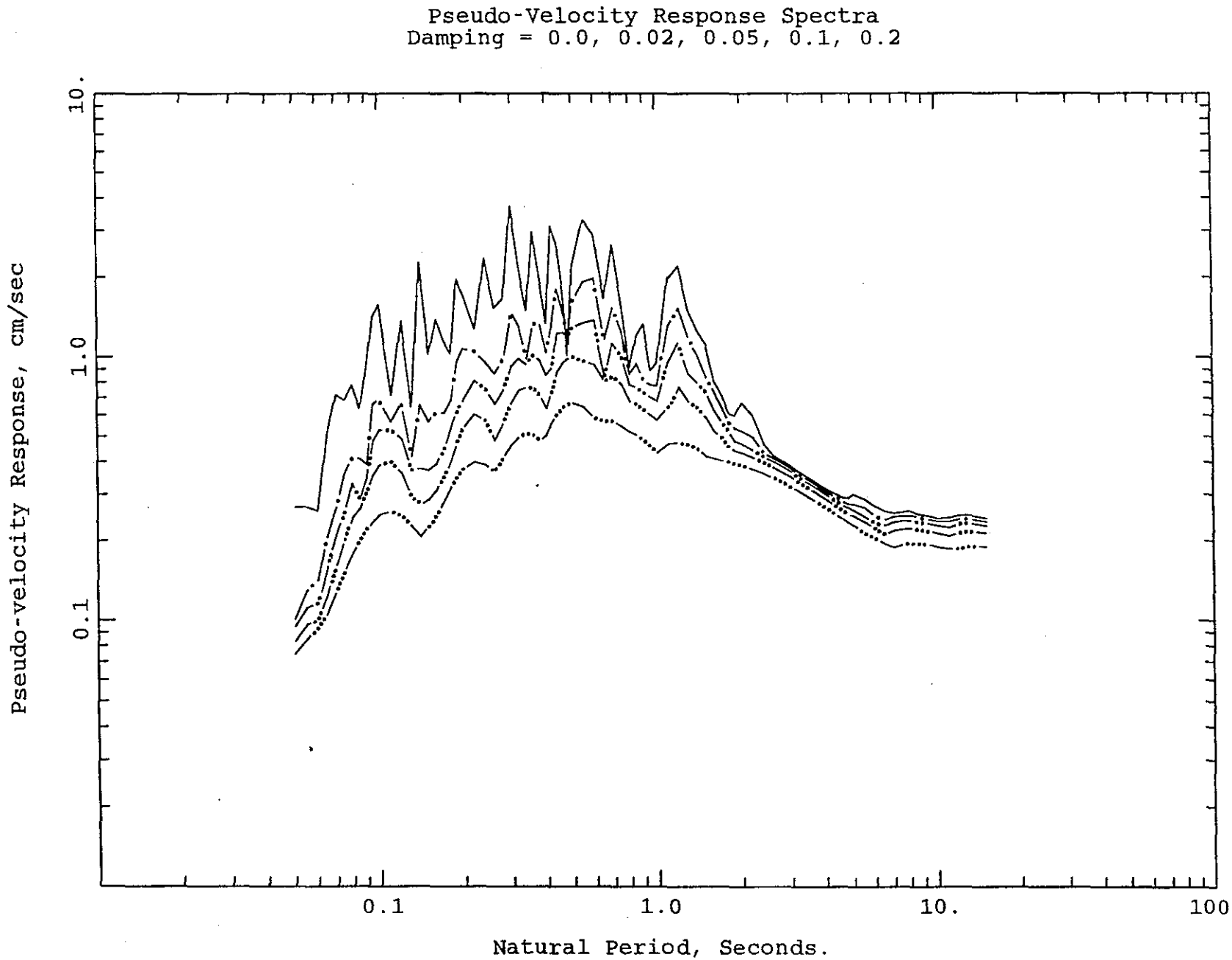


Station name= 2727 TLK - TALKEETNA, ALASKA F; Code= XXXX; Component= UP
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 05may78

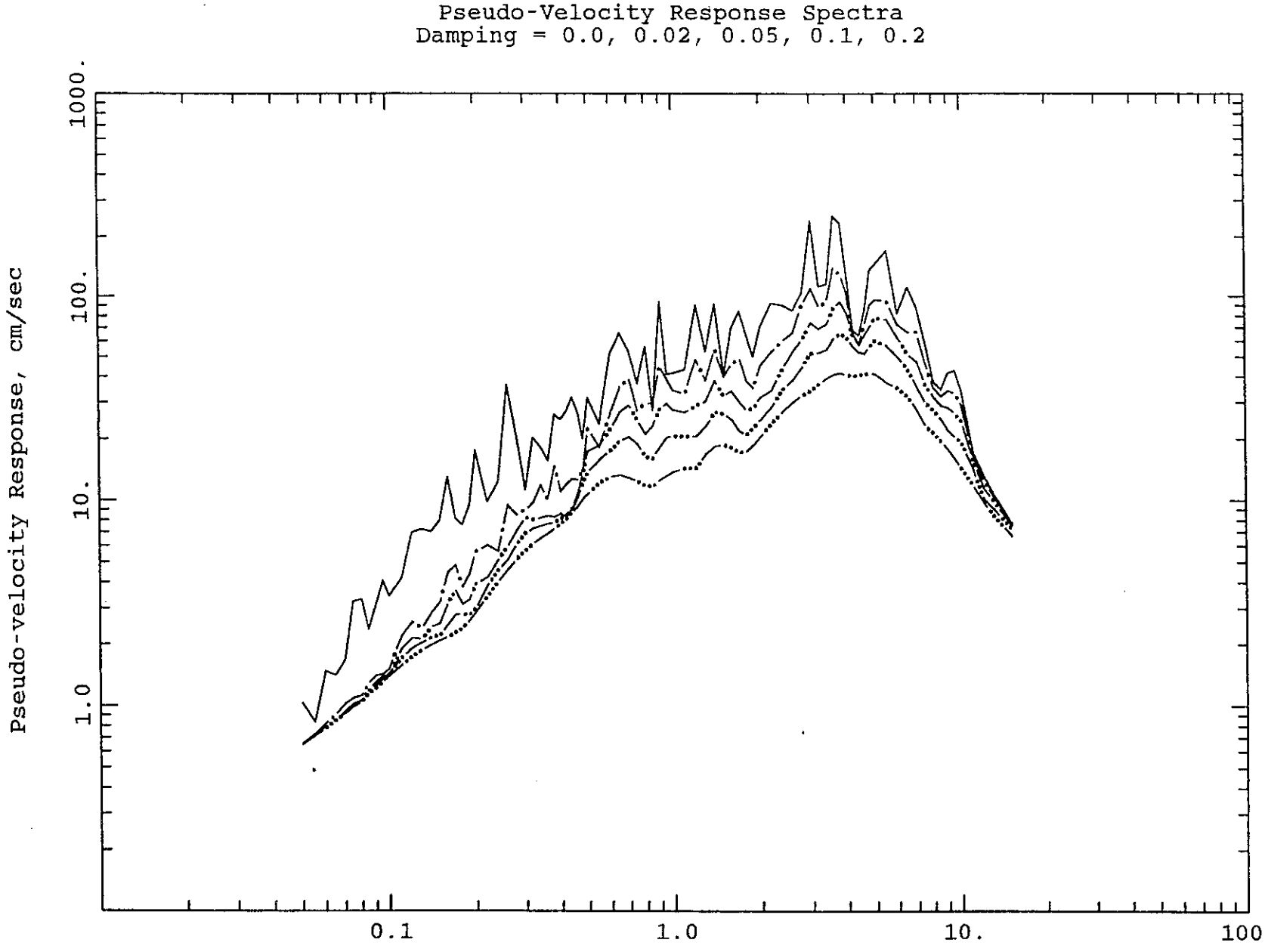
Pseudo-Velocity Response Spectra
Damping = 0.0, 0.02, 0.05, 0.1, 0.2



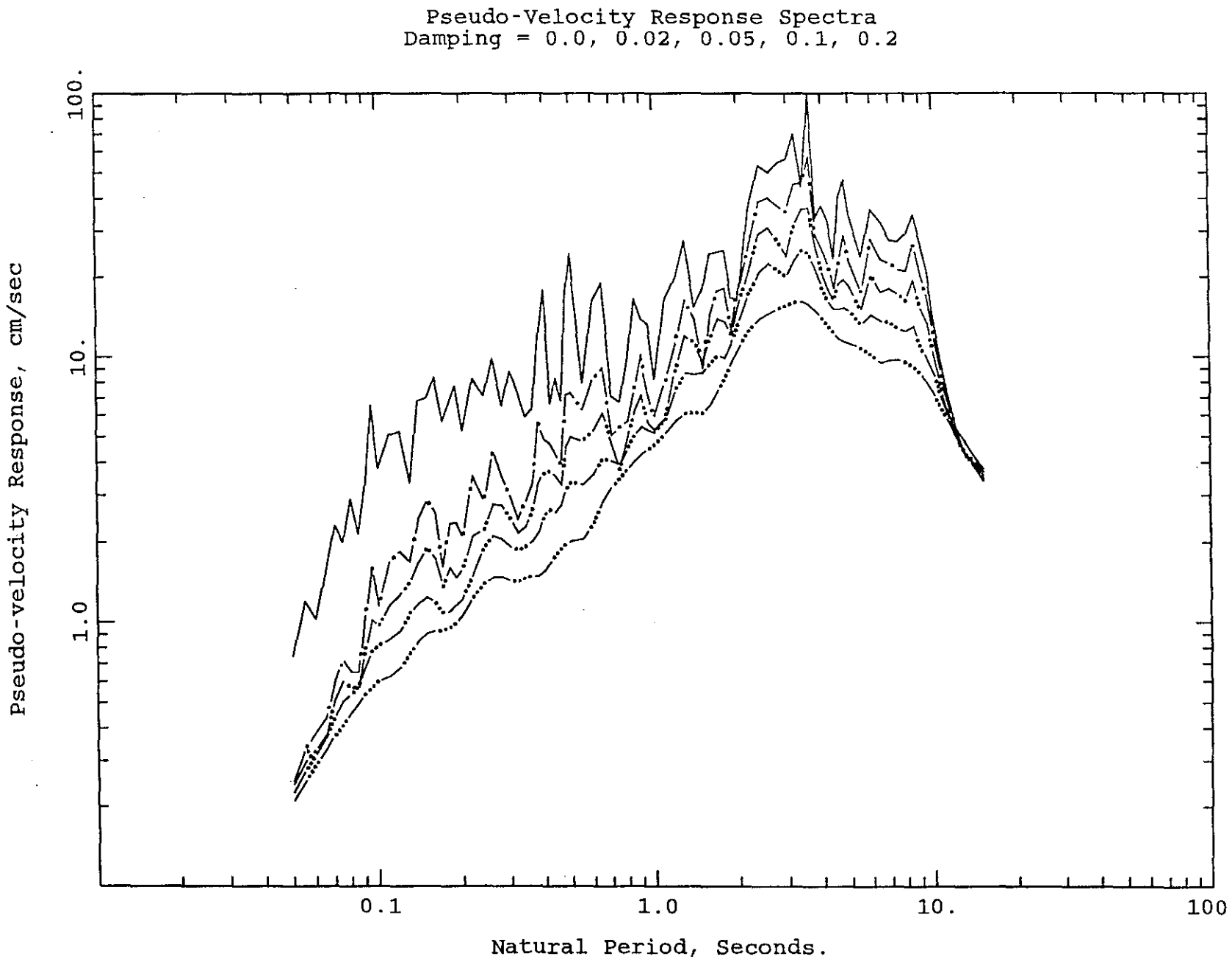
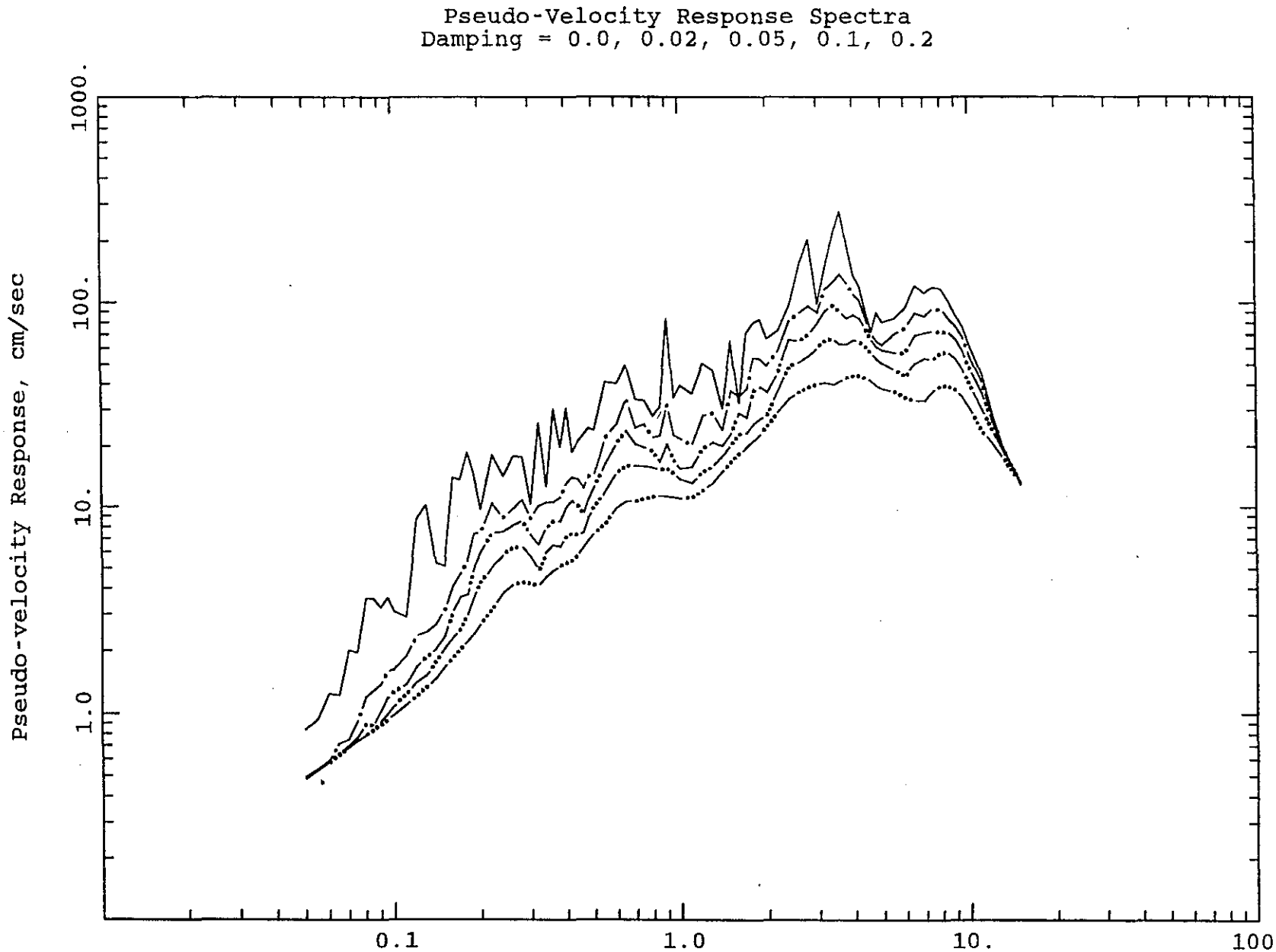
Station name= 2727 TLK - TALKEETNA, ALASKA F; Code= XXXX; Component= 165
EQ name= ALASKAN SUBDUCTION ZONE EARTHQ; EQ date= 05may78



Station name= 2728 YAK YAKUTAT, FAA VOR BLD; Code= 2728; Component= 9
EQ name= earthquake name unknown; EQ date= 28feb79



Station name= 2728 YAK YAKUTAT, FAA VOR BLD; Code= 2728; Component= UP
EQ name= earthquake name unknown; EQ date= 28feb79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