STATE OF CALIFORNIA—THE RESOURCES AGENCY PETE WILSON, Governor

DEPARTMENT OF CONSERVATION
DIVISION OF MINES AND GEOLOGY
OFFICE OF STRONG MOTION STUDIES
630 BERCUT DRIVE
SACRAMENTO, CA 95814-0189
(PHONE 916—322-3105)

Plots to Accompany Tape: LIVERMORE80

Processed Strong-Motion Data for the Livermore Earthquakes of 24 and 26 January 1980

California Strong Motion Instrumentation Program (CSMIP)

OSMS 91-15

The attached plots are for the records from 7 stations that recorded the 24 Jaunuary 1980 Livermore earthquake. These plots are followed by the plots of the records from 8 stations that recorded the 26 Jaunuary 1980 Livermore earthquake.

The plots for these stations are arranged as follows:

Set No.	Station Name	No. of Channels
24 January (19:00 GMT) Earthquake		
1	Antioch	3
2	Fremont - Mission San Jose	3
3	Hayward - CSUH Stadium Grounds	3
4	San Ramon	3
5	Tracy - Sewage Treatment Plant	3
6	San Ramon - Eastman Kodak Bldg.	6
7	Walnut Creek - 10-story Commercial Bldg.	16
27 January (02:33 GMT) Aftershock		
8	Livermore - Fagundes Ranch	3
9	Livermore - Morgan Territory Park	3
10	Antioch	3
11	Fremont - Mission San Jose	3
12	Hayward - CSUH Stadium Grounds	3
13	San Ramon	3
14	San Ramon - Eastman Kodak Bldg.	6
15	Walnut Creek - 10-story Commercial Bldg.	16

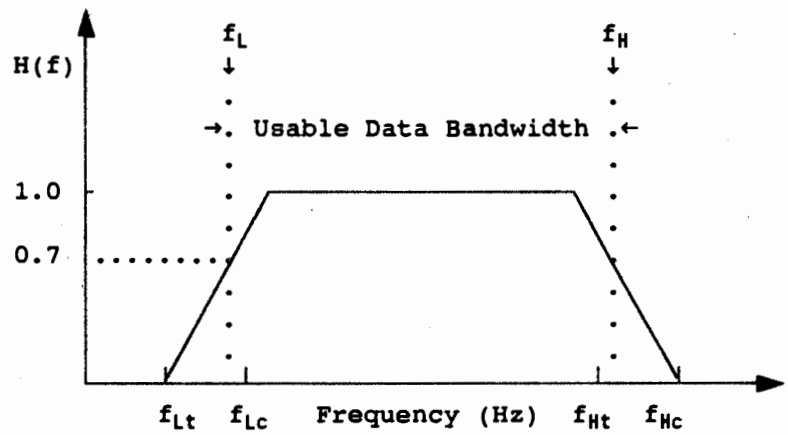
For each station, four sets of plots are presented in the following order:

1. Phase 1 (Vol. 1) data: uncorrected accelerations. The three components of acceleration for the first 22 seconds are plotted with a common amplitude scaling factor for all channels. This plot is followed by another plot of the full processed length of 40 seconds with each component individually scaled.

2. Phase 2 (Vol. 2) data: instrument and baseline-corrected acceleration, velocity and displacement. The data for the full processed length of 40 seconds are plotted with equal scaling for all three channels. The filter frequencies used are indicated on the plots.

USABLE DATA BANDWIDTH

The filter bands for each record are indicated on the plots for the Phase 2 and Phase 3 data. The digitized data are processed and filtered using Ormsby filters. The data are first low-pass filtered by a high-frequency filter (typically with a corner frequency of 23 Hz and a roll-off termination frequency of 25 Hz), and then high-pass filtered by a low-frequency filter. The corner frequency of the low-frequency filter may be different for different records. Therefore, the Phase 2 data is the result of the digitized data being filtered by the bandpass filter H(f) with ramps as shown in the figure:



The usable data bandwidth is defined as the band between frequencies f_H and f_L, where f_H and f_L are the -3 dB points on the high-frequency and low-frequency ramps, respectively. The value of H(f) is approximately equal to 0.7 for -3 dB (see Notes). The user should only use these data for analyses within this bandwidth.

Notes:

1) The values of f_H and f_L can be calculated from the corner frequencies (f_{Hc}, f_{Lc}) and the roll-off termination frequencies (f_{Ht}, f_{Lt}) used in the processing by using the formulas $f_H = f_{Hc} + 0.3 * (f_{Ht} - f_{Hc})$ and $f_L = f_{Lc} - 0.3 * (f_{Lc} - f_{Lt})$. For example, the usable data bandwidth for data bandpass-filtered with ramps at 0.25 to 0.50 Hz and 23.0 to 25.0 Hz is 0.42 Hz to 23.6 Hz.

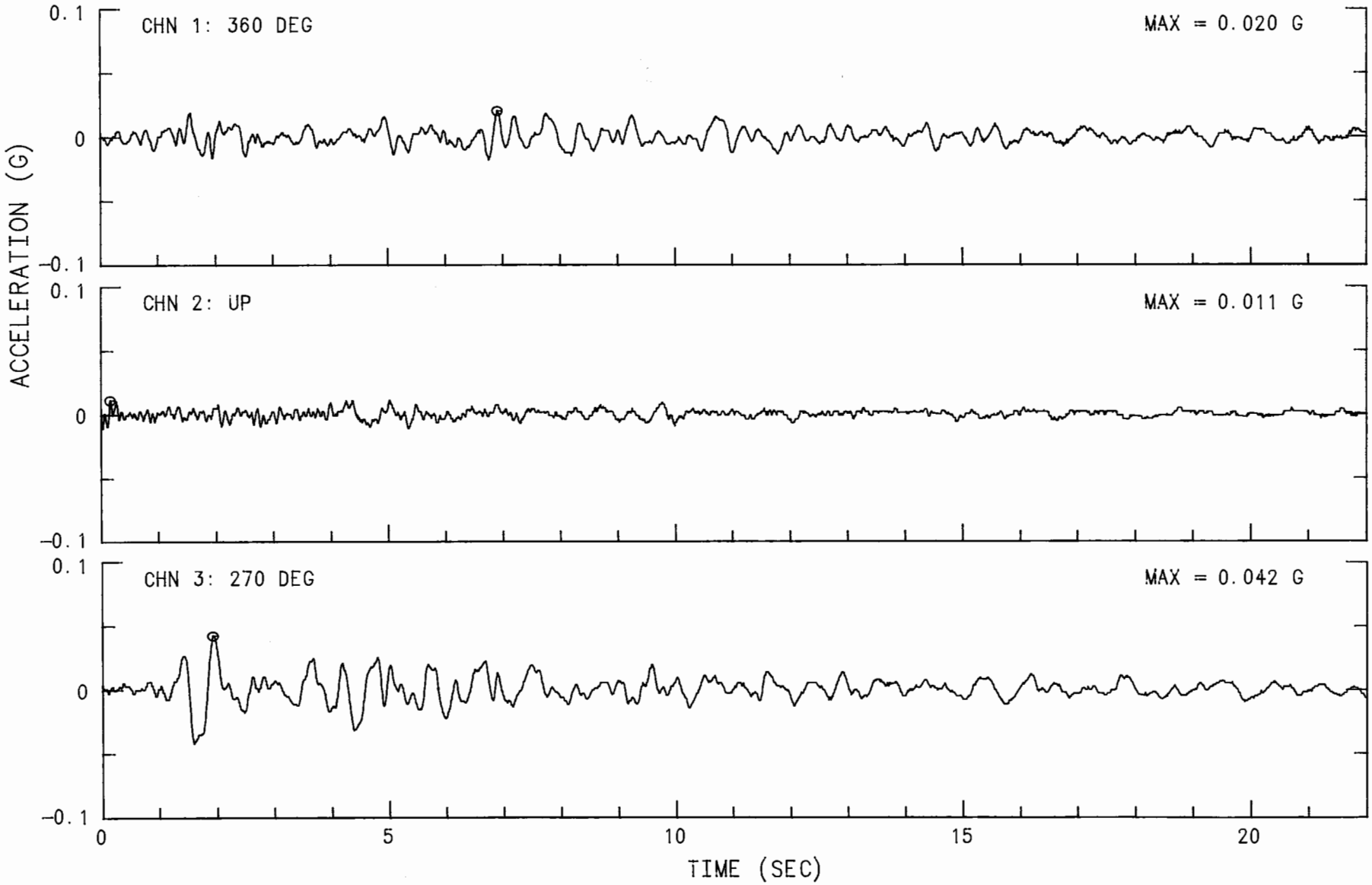
2) It is common in signal processing to plot 20 $\log_{10}[H(f)]$ versus frequency, and express the ordinate value in decibels (abbreviated dB). Accordingly, 0 dB corresponds to a value of H(f) equal to 1; 20 dB is equivalent to H(f) = 10, and -20 dB corresponds to H(f) = 0.1. Thus, at the -3 dB frequency point, the amplitude of the transfer function, H(f) is reduced to 0.7, while the power transmitted by the filter, $H^2(f)$, is reduced to 0.5.

3. Phase 3 (Vol. 3) data: response spectra. The pseudo-velocity spectra (PSV), the pseudo-acceleration spectra (PSA), the displacement spectra (SD) for 0%, 2%, 5%, 10%, and 20% dampings are presented on a tripartite logarithmic plot for each channel. The spectra are plotted for periods within the usable data bandwidth.

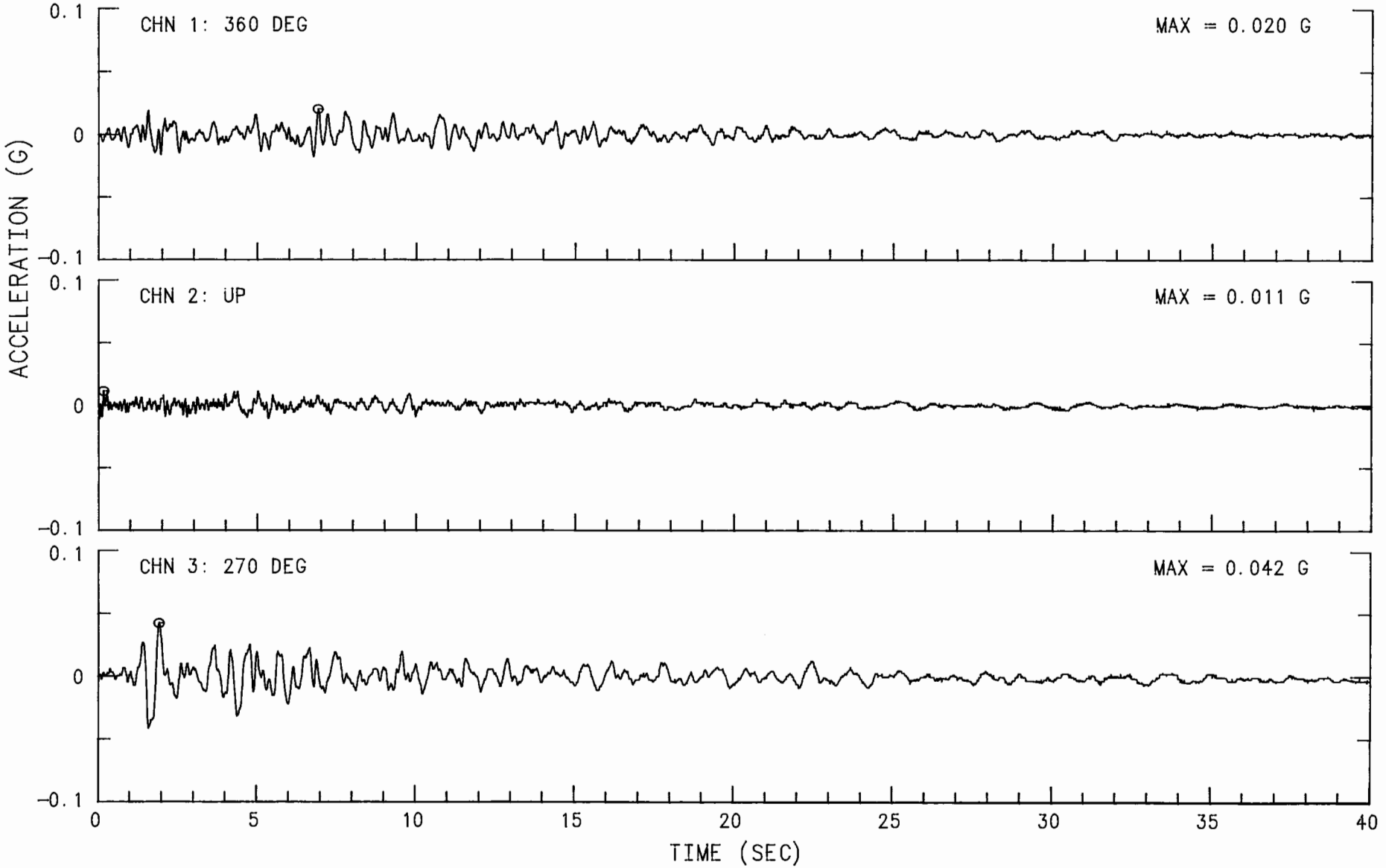
4. Phase 3 (Vol. 3) data: response spectra. The absolute acceleration spectra (SA) for 0%, 2%, 5%, 10% and 20% dampings are plotted against period with linear-linear scaling.

   Note: For the Fremont - Mission San Jose station the record length is 18 seconds for the 24 January earthquake and 15 seconds for the 26 January earthquake.

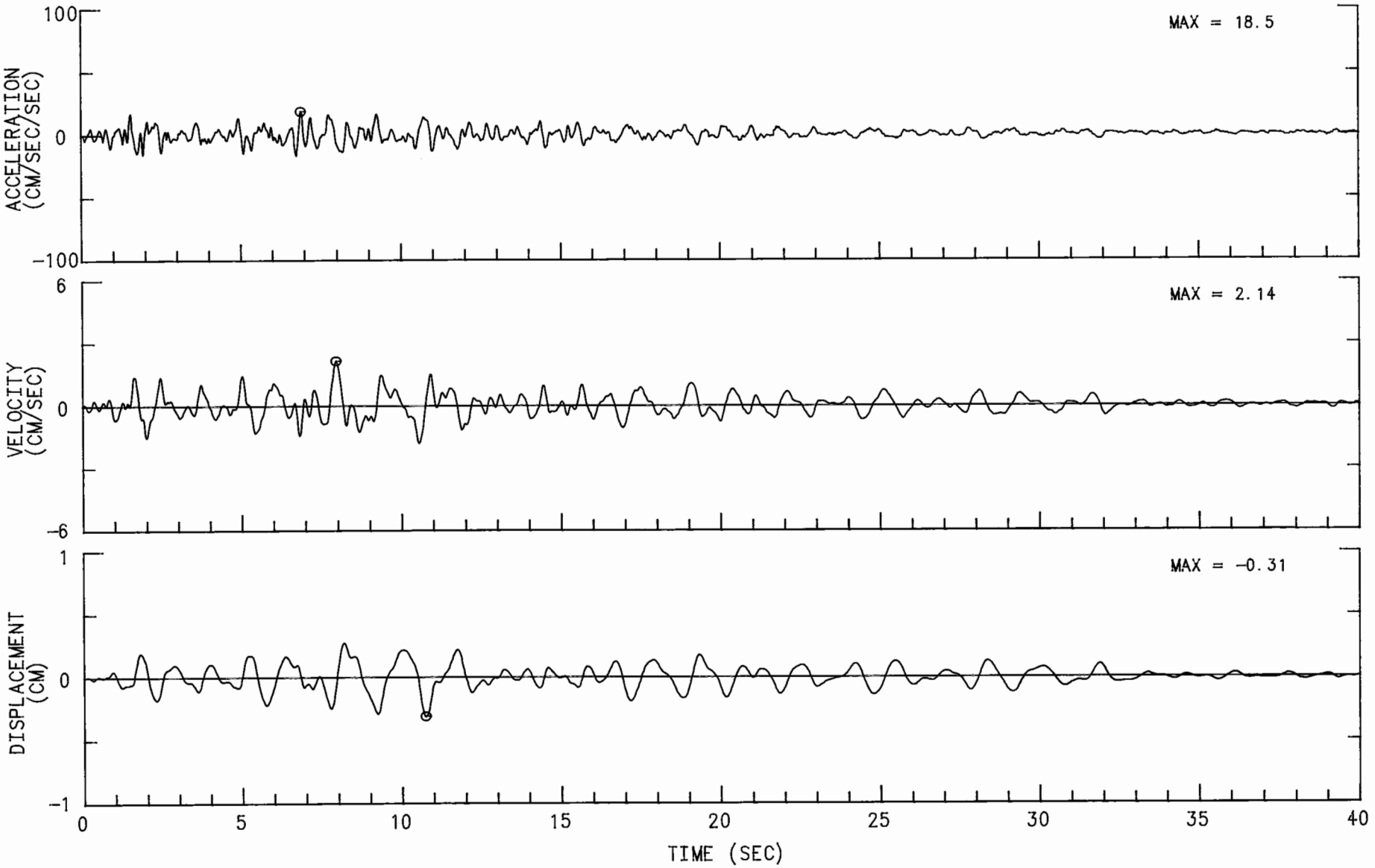
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
ANTIOCH
UNCORRECTED ACCELEROGRAM 67070-S1589-80025.01 102171.1628-QL80A070



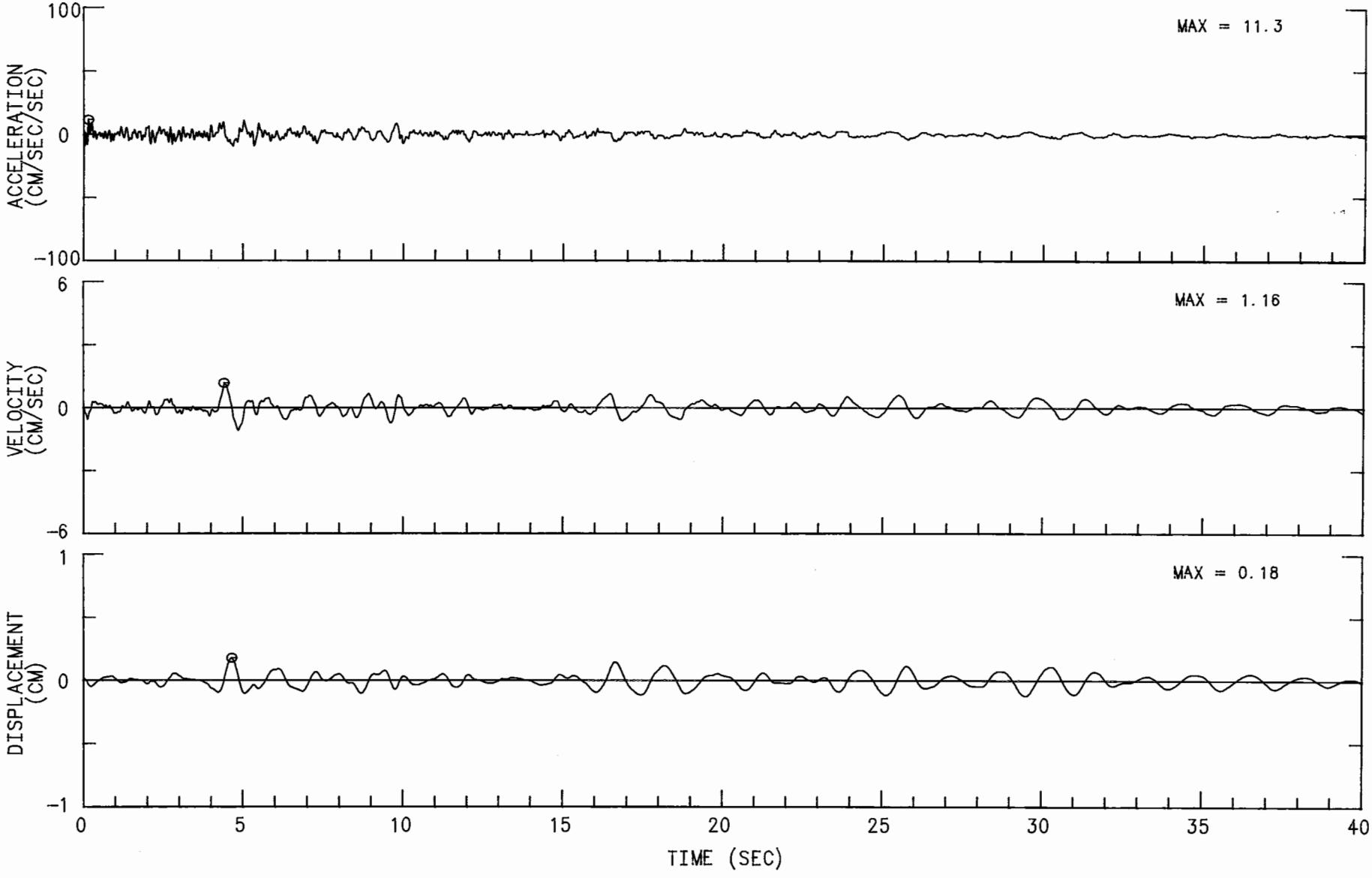
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
ANTIOCH
UNCORRECTED ACCELEROGRAM 67070-S1589-80025.01 102171.1628-QL80A070



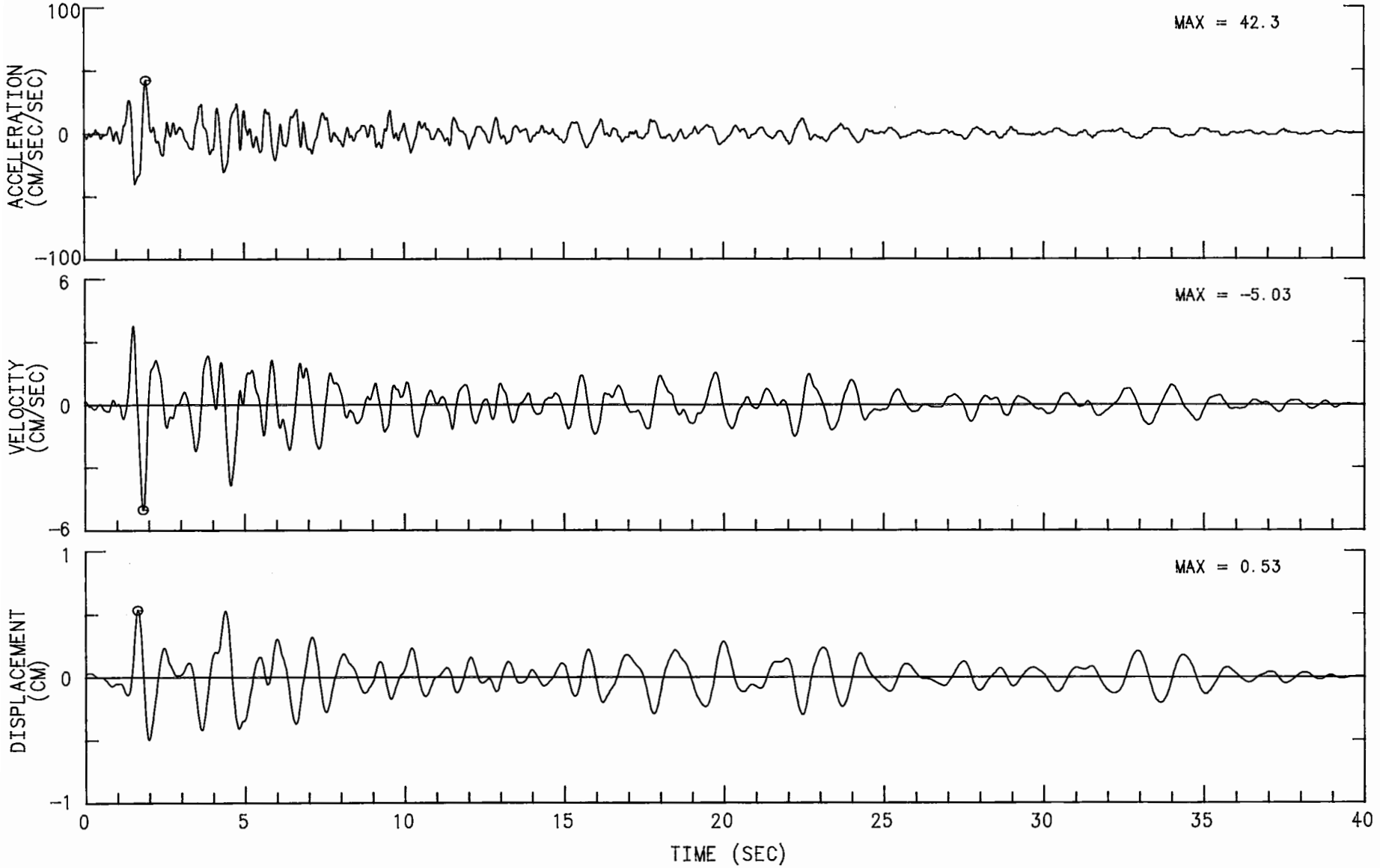
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
ANTIOCH CHN 1: 360 DEG
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .30-.60 TO 23.0-25.0 HZ. 67070-S1589-80025.01 102271.1011-QL80A070



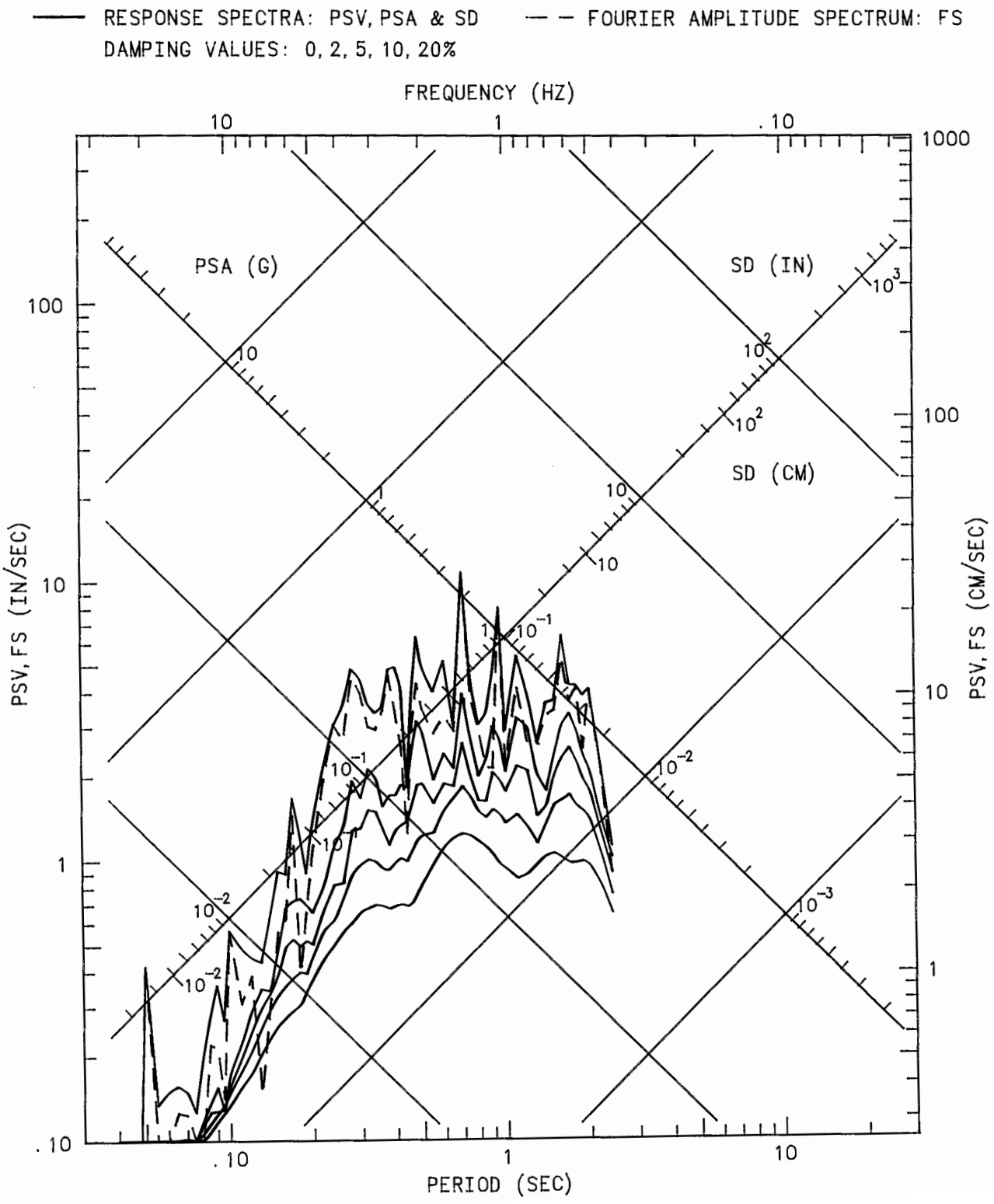
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
ANTIOCH CHN 2: UP
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .30-.60 TO 23.0-25.0 HZ. 67070-S1589-80025.01 102271.1011-QL80A070



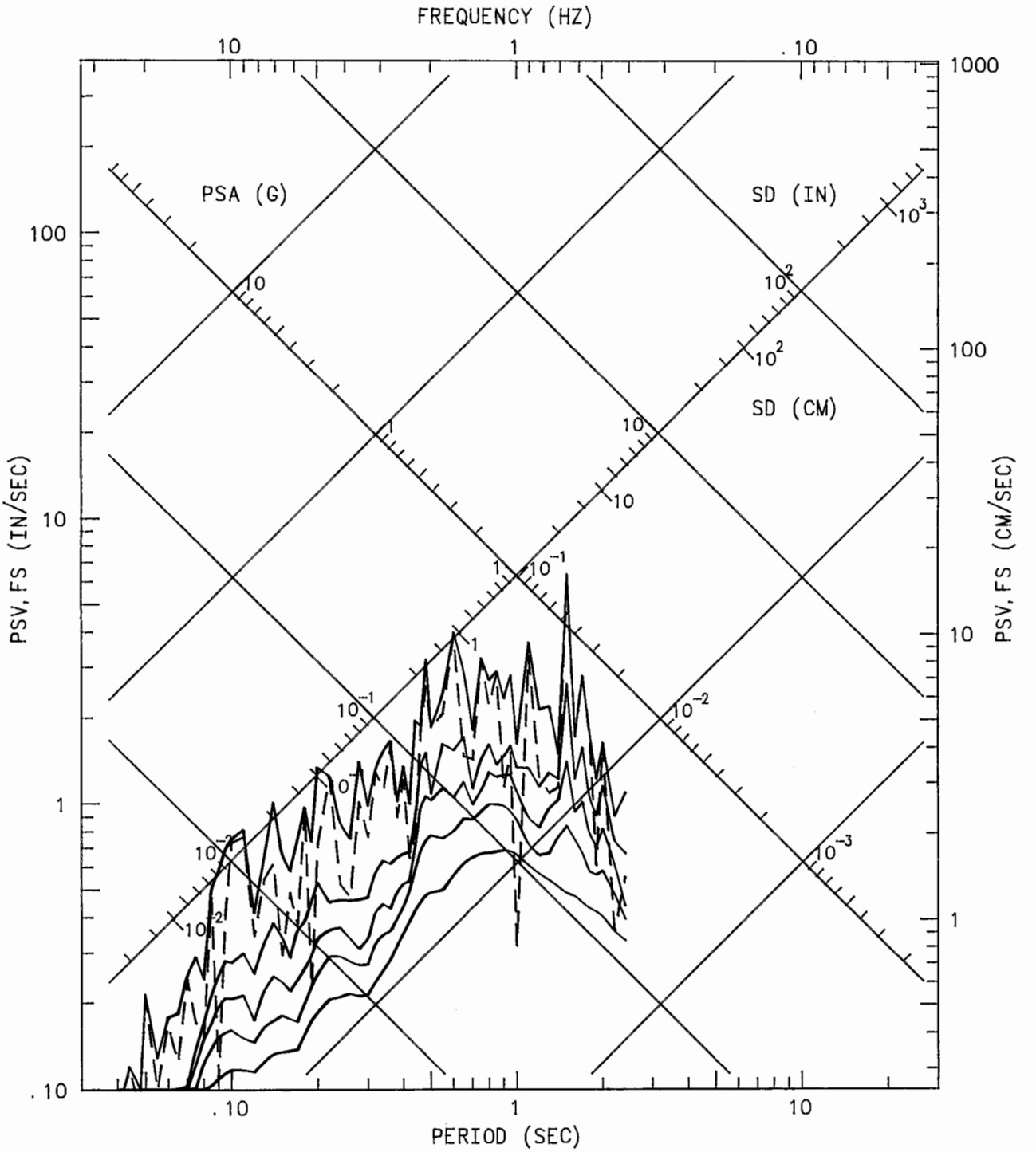
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
ANTIOCH CHN 3: 270 DEG
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .30-.60 TO 23.0-25.0 HZ. 67070-S1589-80025.01 102271.1011-QL80A070



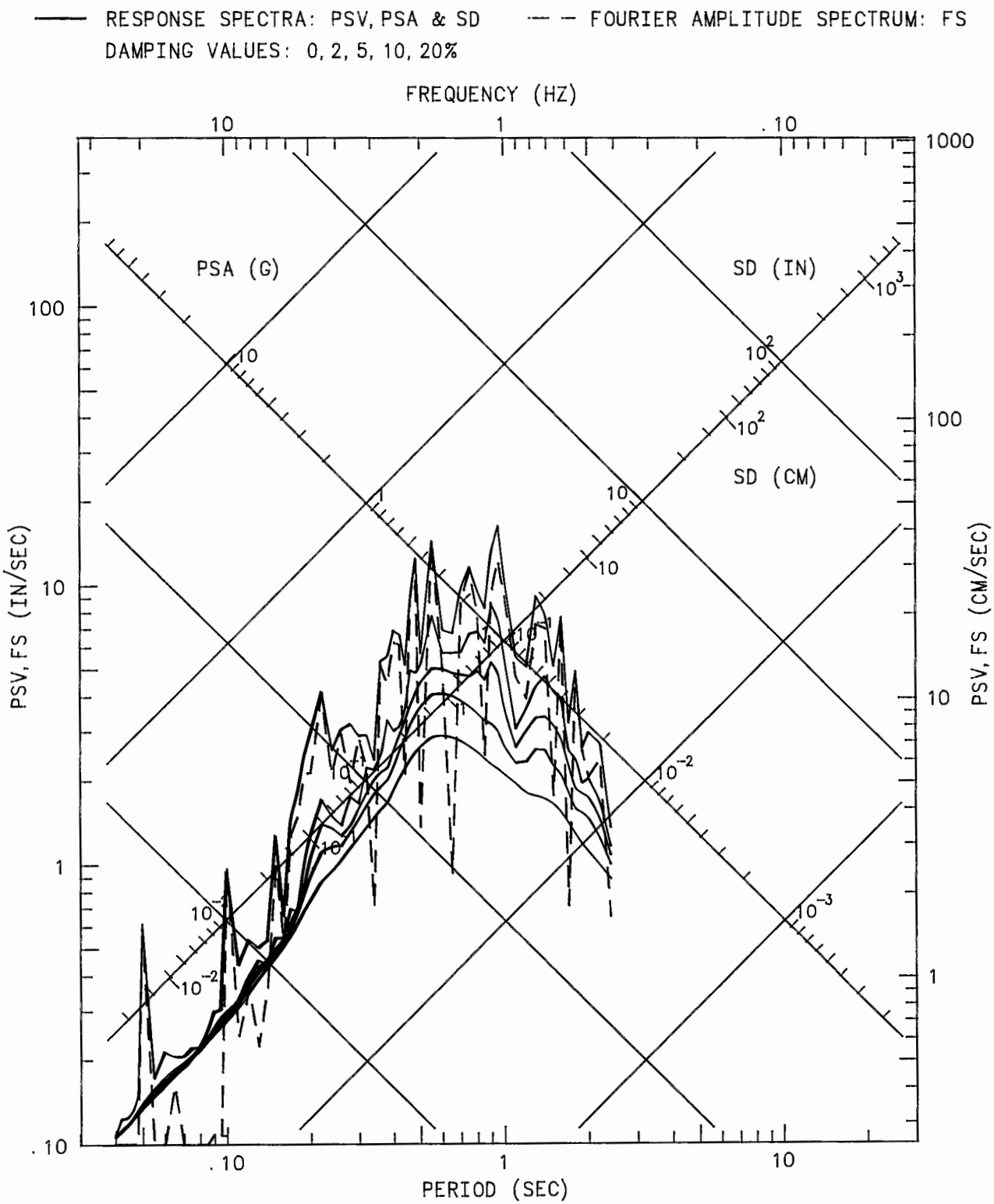
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
ANTIOCH
CHN 1: 360 DEG
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .30-.60 TO 23.0-25.0 HZ.
67070-S1589-80025.01 102371.1628-QL80A070



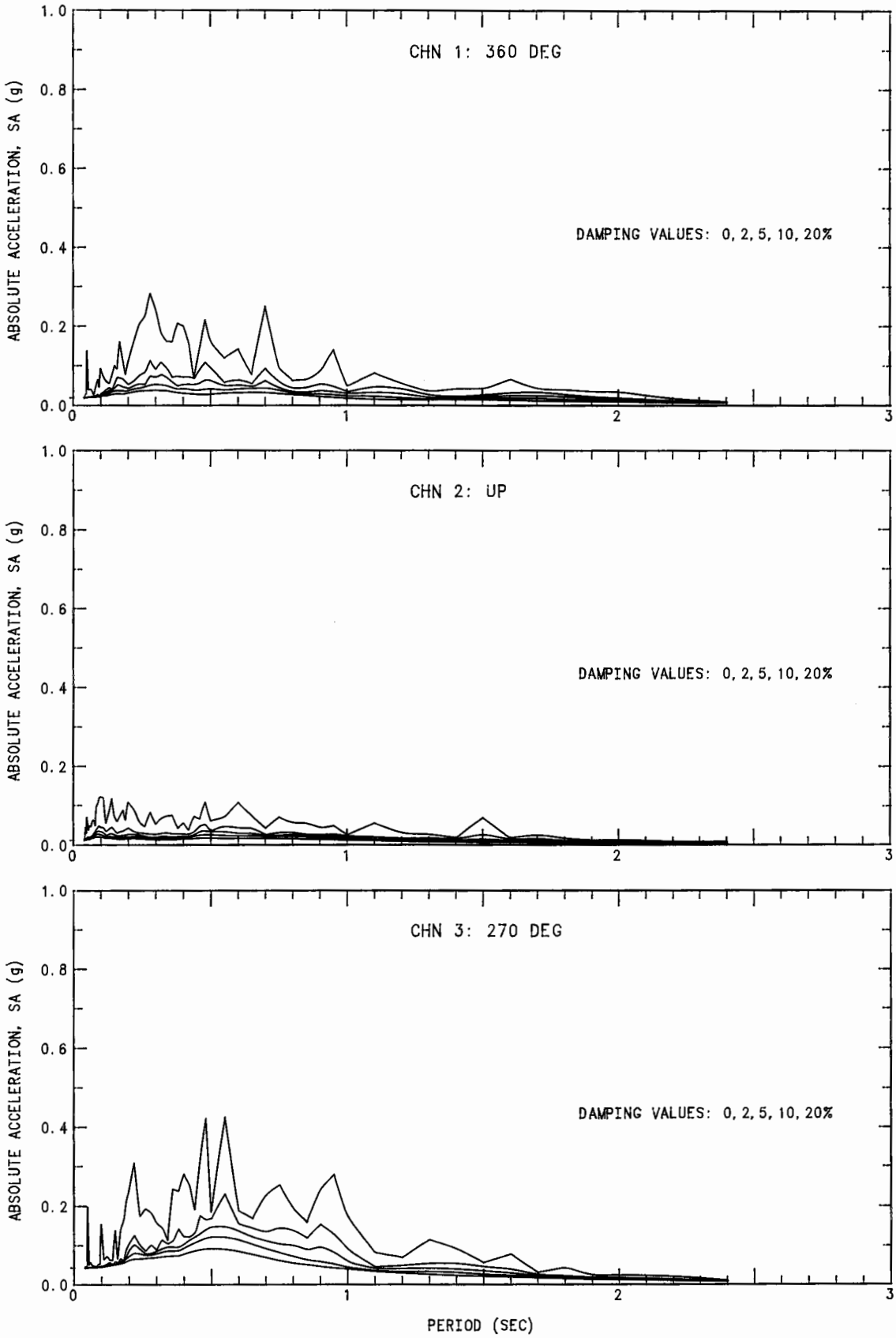
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
ANTIOCH
CHN 2: UP
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .30-.60 TO 23.0-25.0 HZ.
67070-S1589-80025.01 102371.1628-QL80A070



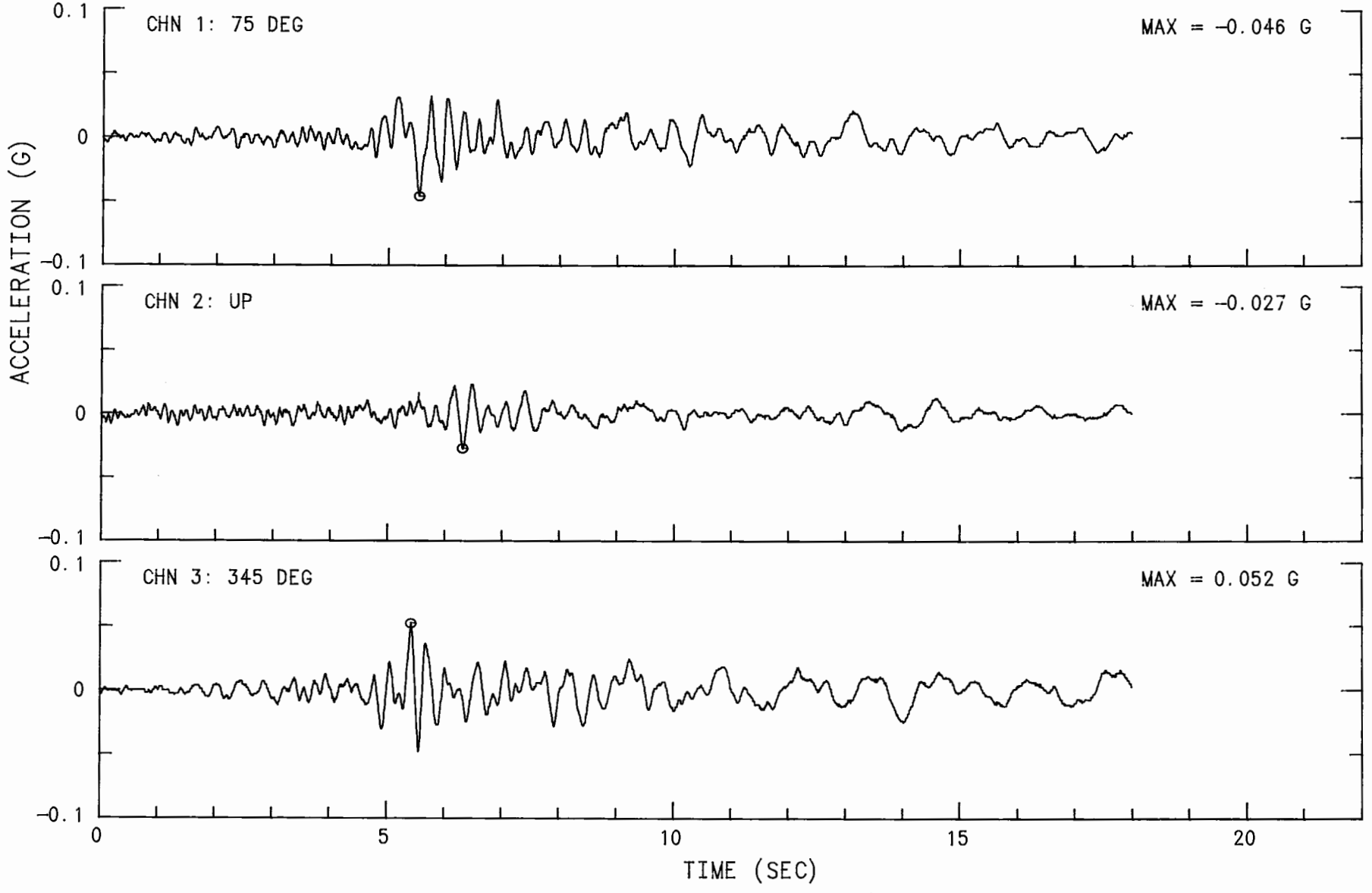
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
ANTIOCH
CHN 3: 270 DEG
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .30-.60 TO 23.0-25.0 HZ.
67070-S1589-80025.01 102371.1628-QL80A070



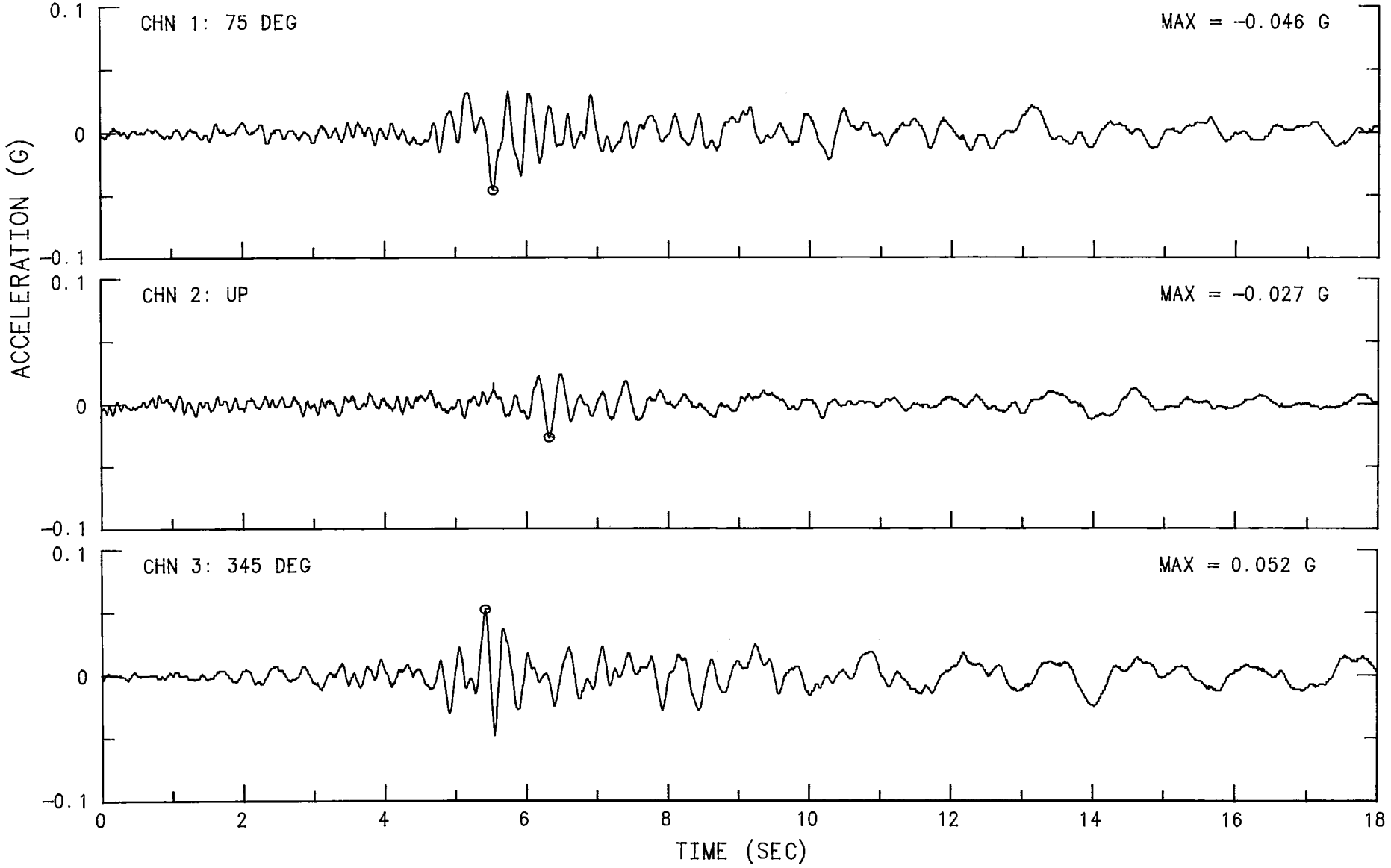
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
ANTIOCH
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .30-.60 TO 23.0-25.0 HZ.
67070-S1589-80025.01 102371.1628-QL80A070



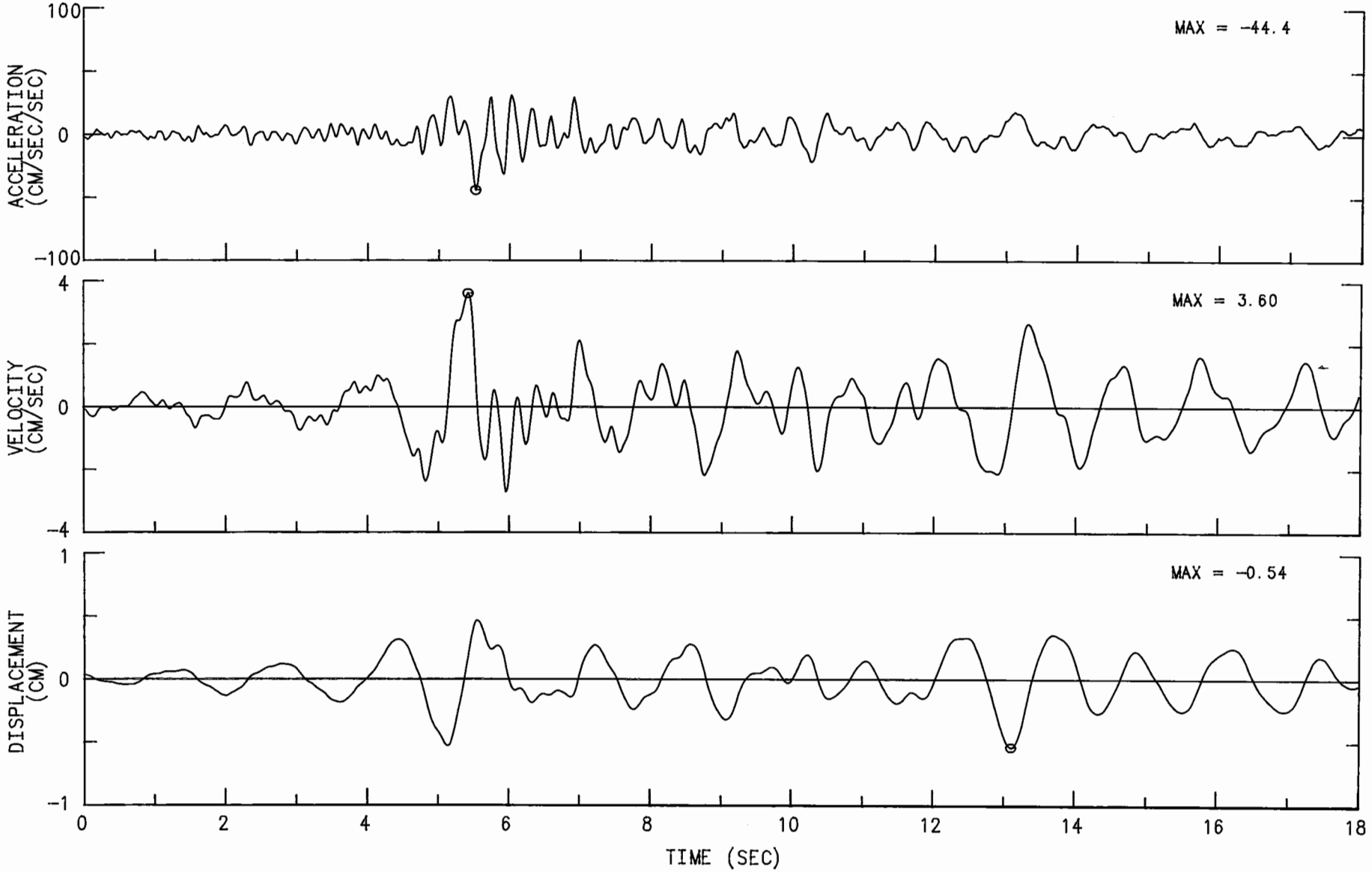
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
FREMONT - MISSION SAN JOSE
UNCORRECTED ACCELEROGRAM 57064-R0553-80025.01 110471.1637-QL80A064



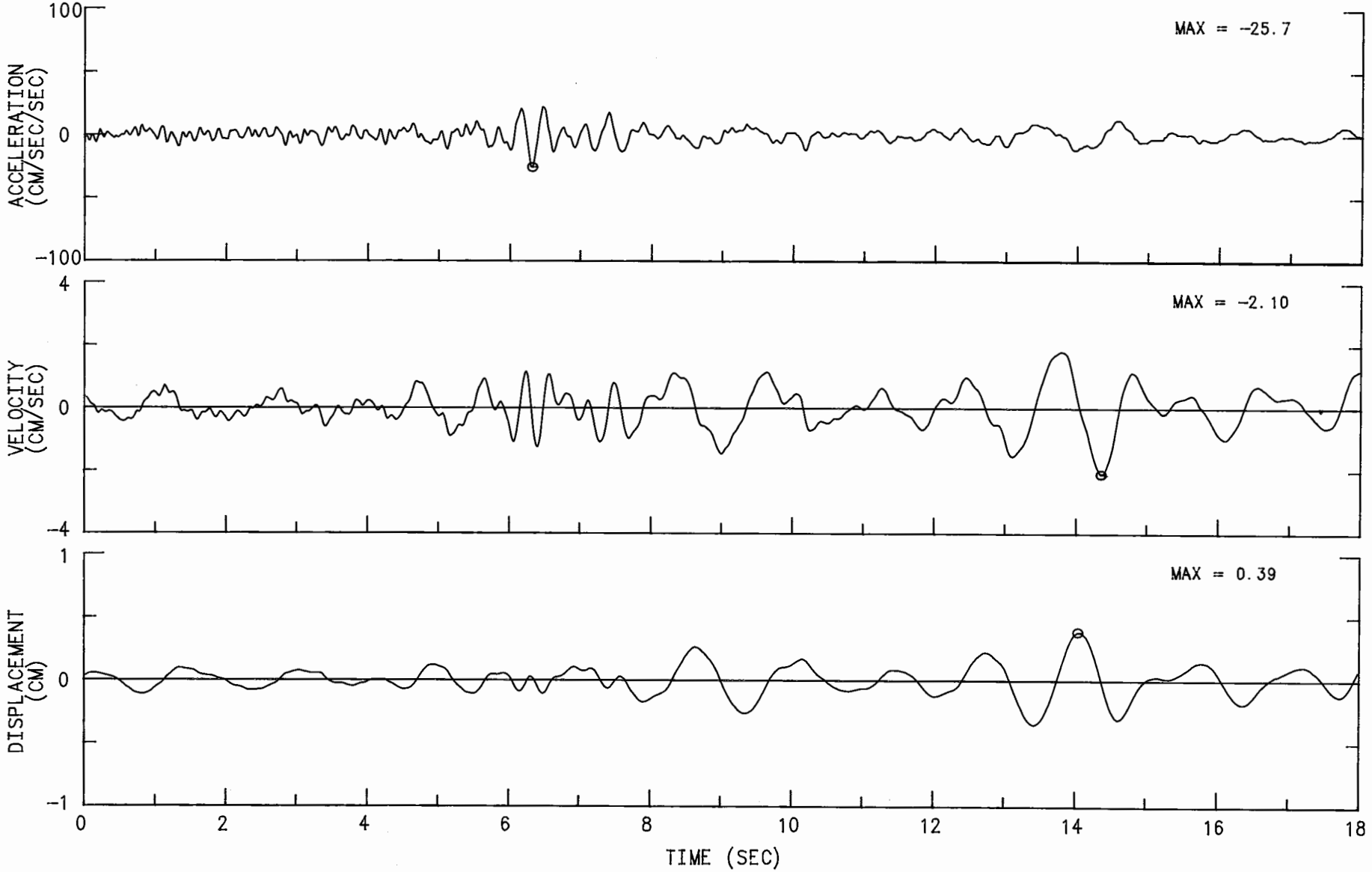
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
FREMONT - MISSION SAN JOSE
UNCORRECTED ACCELEROGRAM 57064-R0553-80025.01 110471.1637-QL80A064



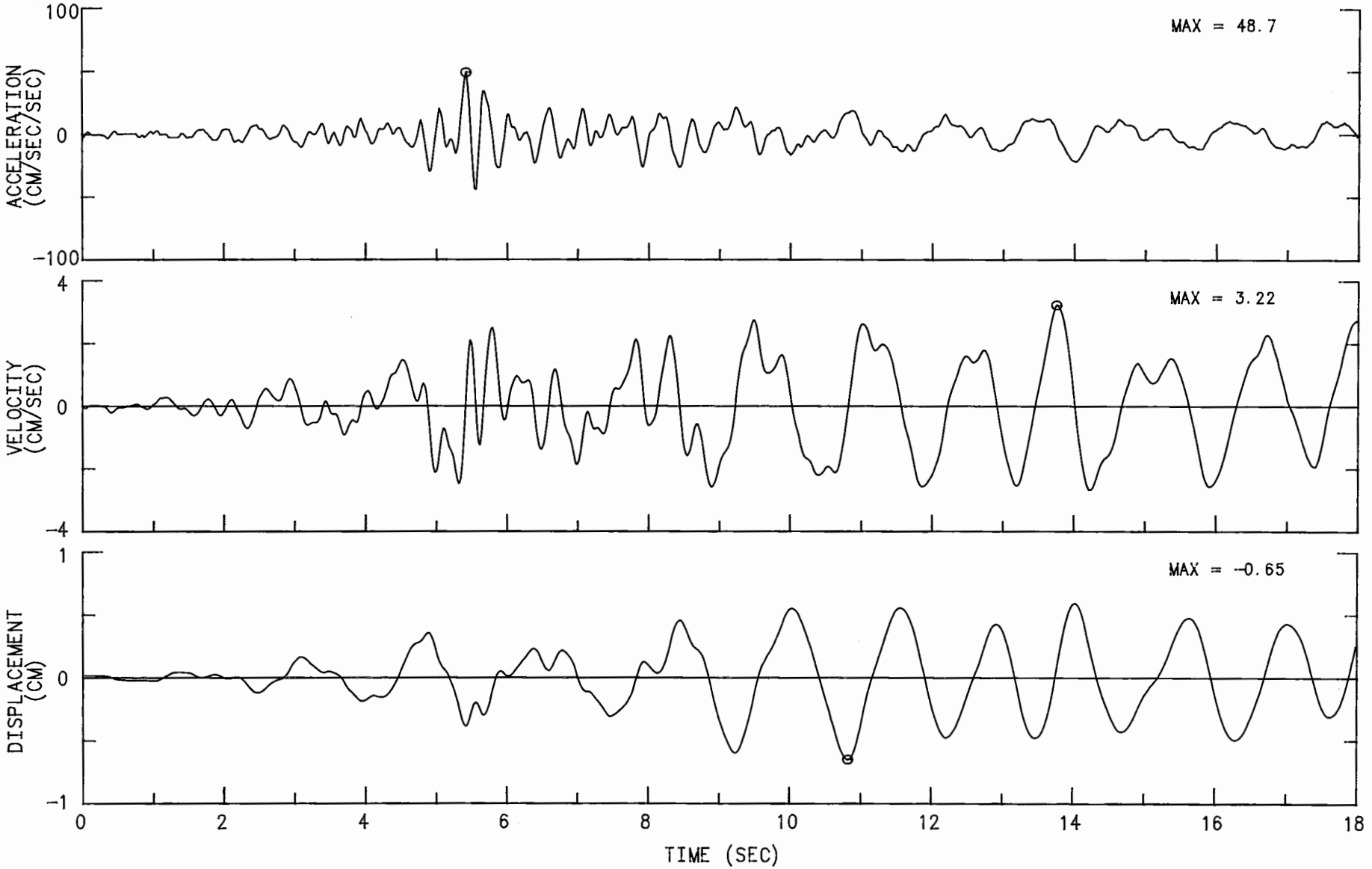
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
FREMONT - MISSION SAN JOSE CHN 1: 75 DEG
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .30-.60 TO 23.0-25.0 HZ. 57064-R0553-80025.01 110471.1748-QL80A064



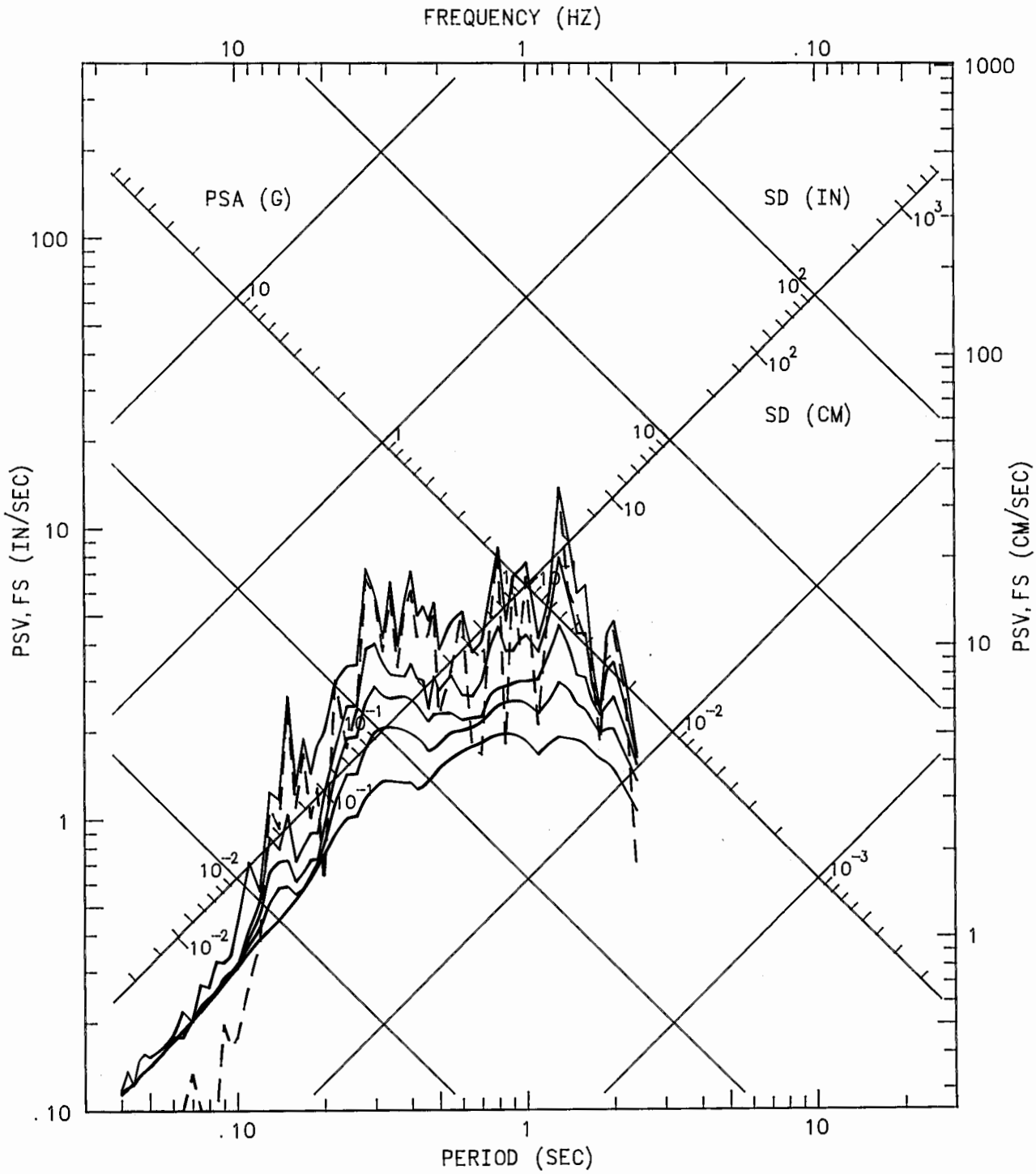
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
FREMONT - MISSION SAN JOSE CHN 2: UP
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .30-.60 TO 23.0-25.0 HZ. 57064-R0553-80025.01 110471.1748-QL80A064



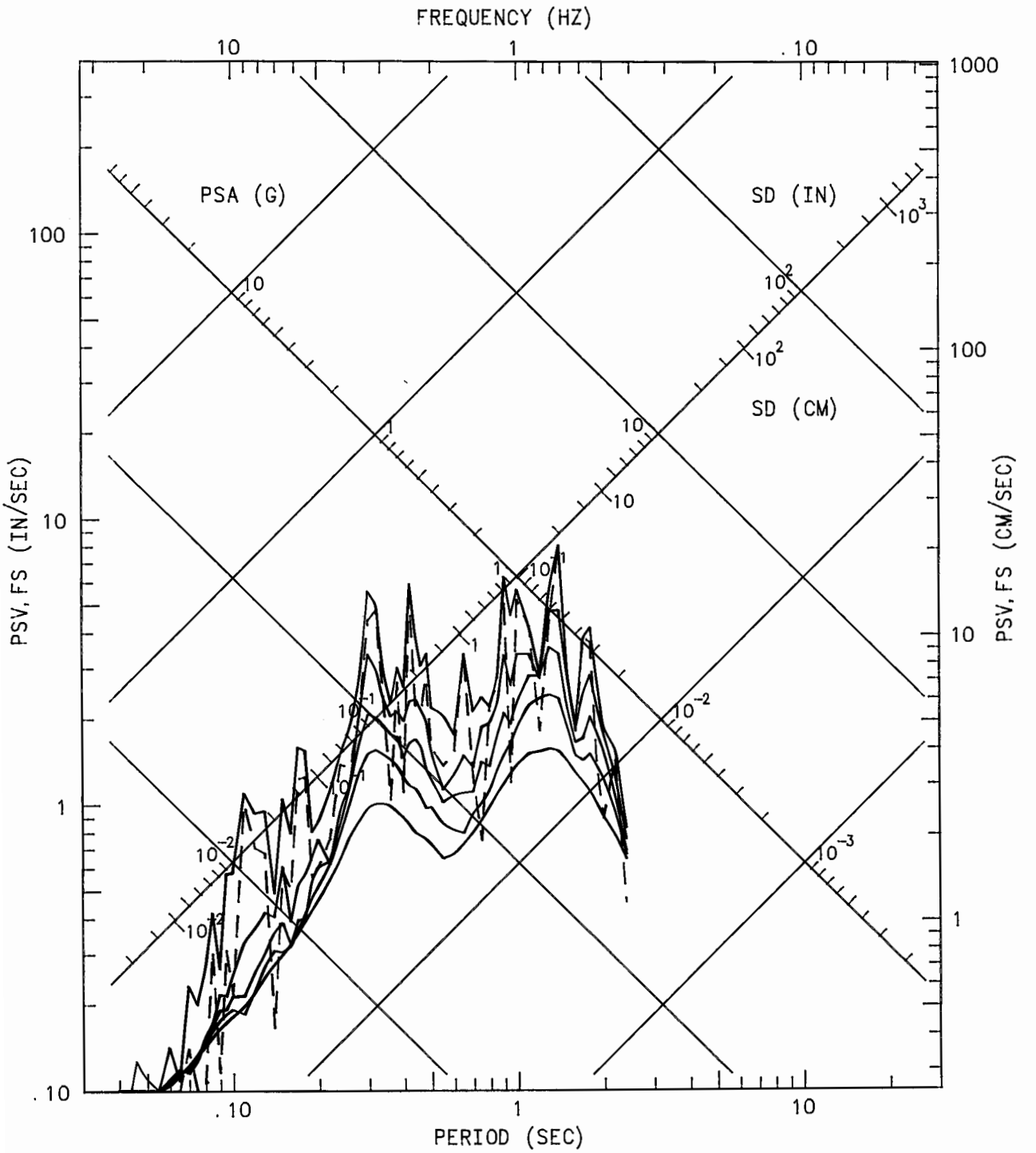
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
FREMONT - MISSION SAN JOSE CHN 3: 345 DEG
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .30-.60 TO 23.0-25.0 HZ. 57064-R0553-80025.01 110471.1748-QL80A064



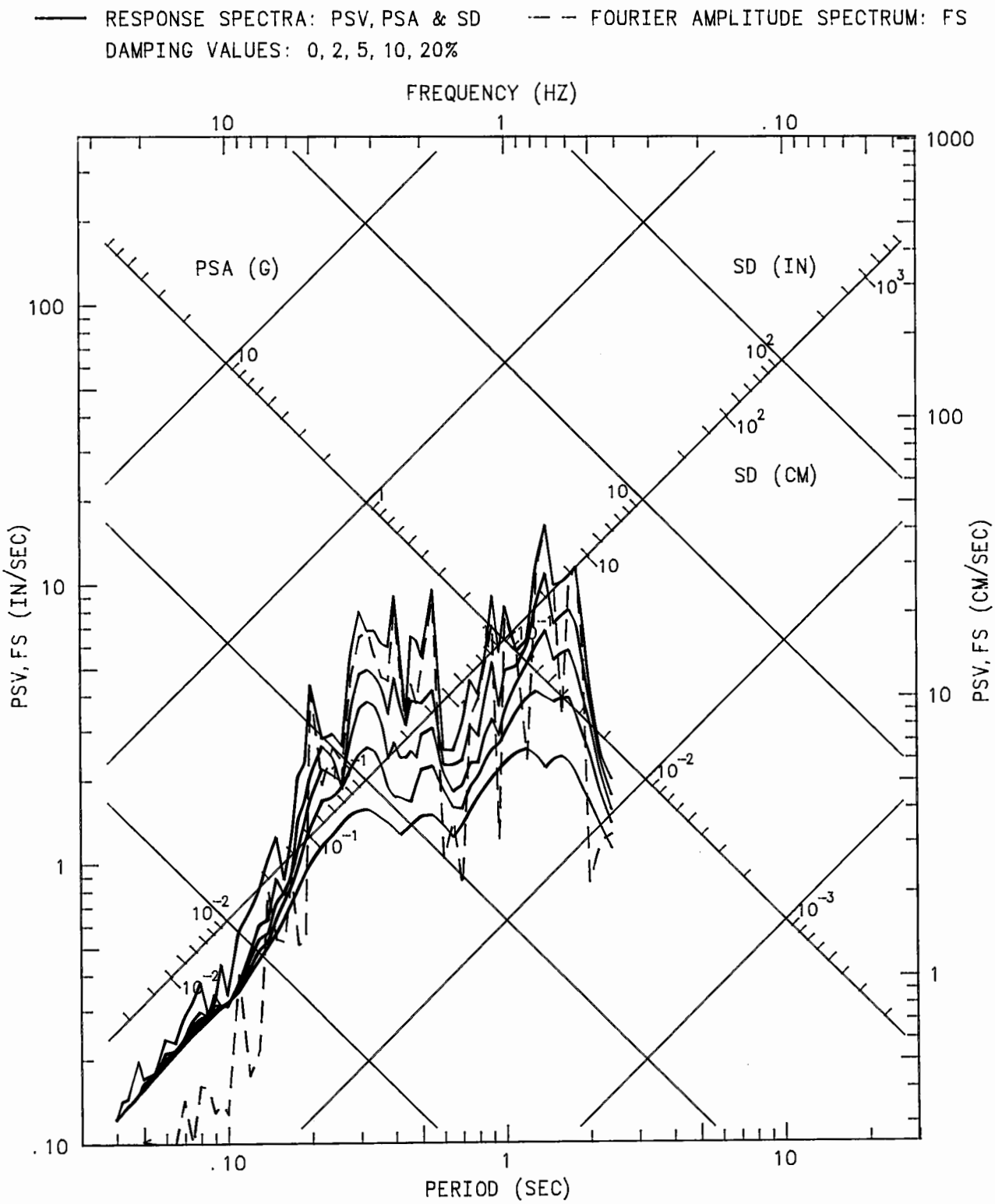
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
FREMONT - MISSION SAN JOSE
CHN 1: 75 DEG
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .30-.60 TO 23.0-25.0 HZ.
57064-R0553-80025.01 110671.1603-QL80A064



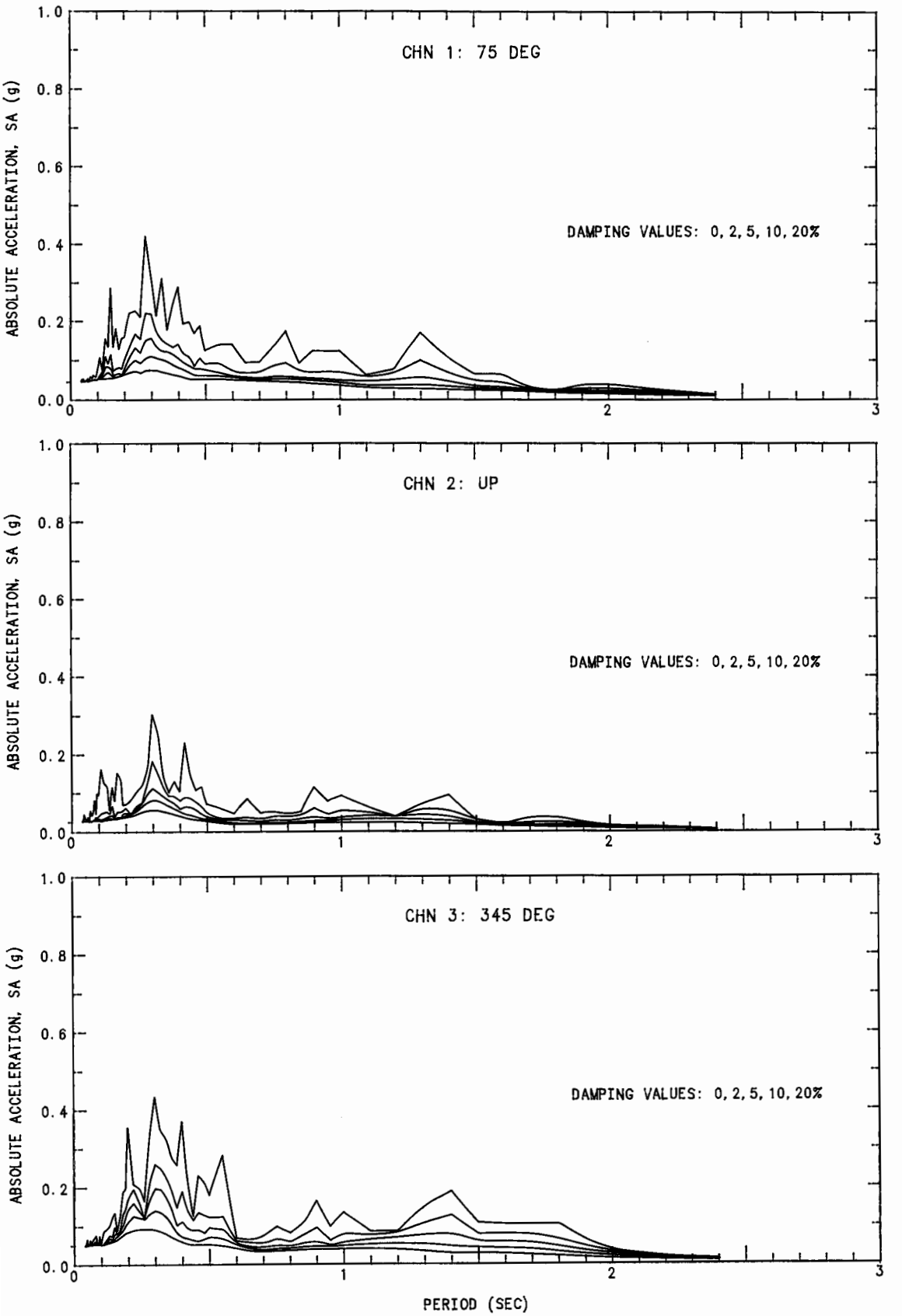
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
FREMONT - MISSION SAN JOSE
CHN 2: UP
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .30-.60 TO 23.0-25.0 HZ.
57064-R0553-80025.01 110671.1603-QL80A064



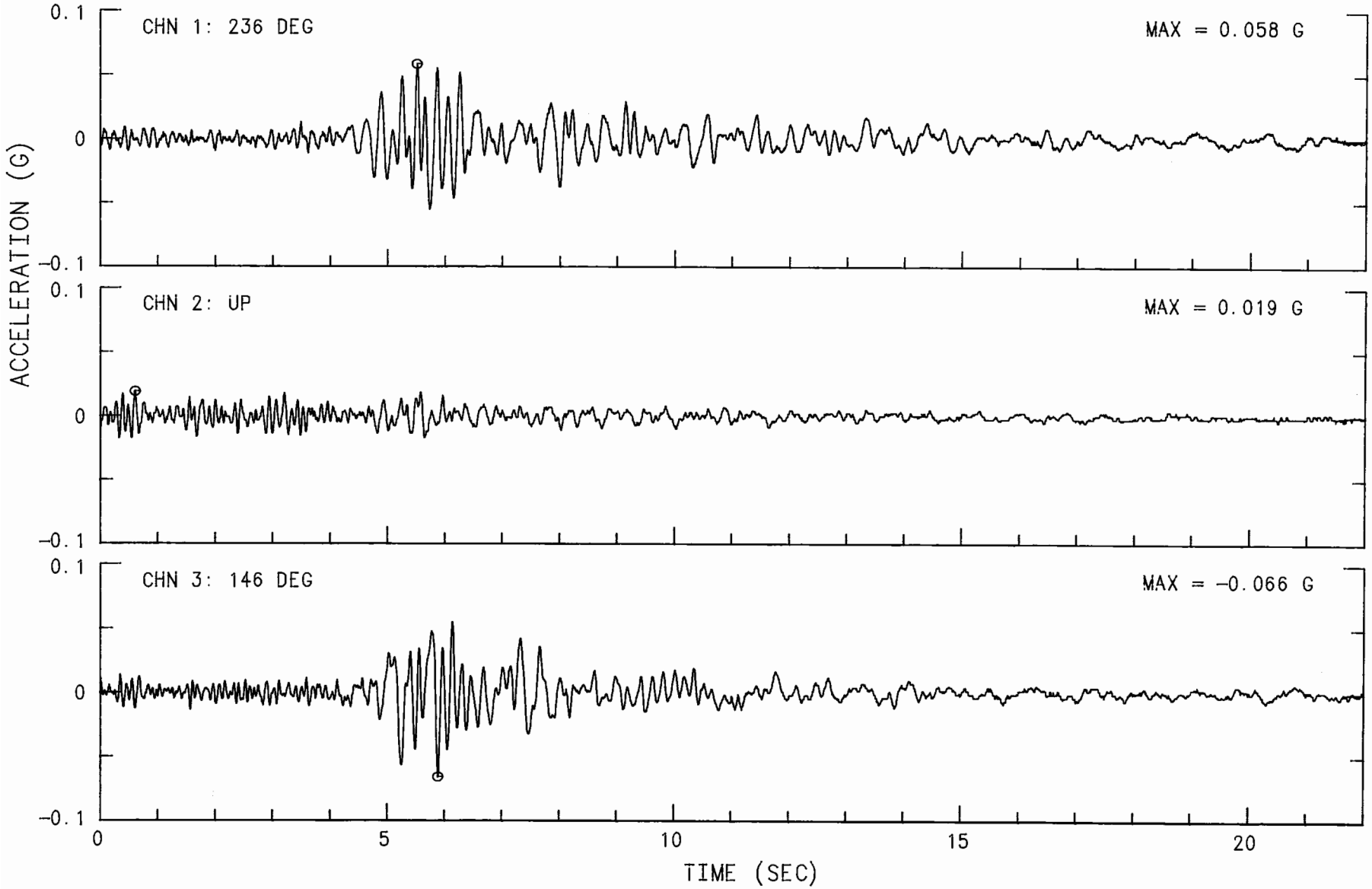
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
FREMONT - MISSION SAN JOSE
CHN 3: 345 DEG
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .30-.60 TO 23.0-25.0 HZ.
57064-R0553-80025.01 110671.1603-QL80A064



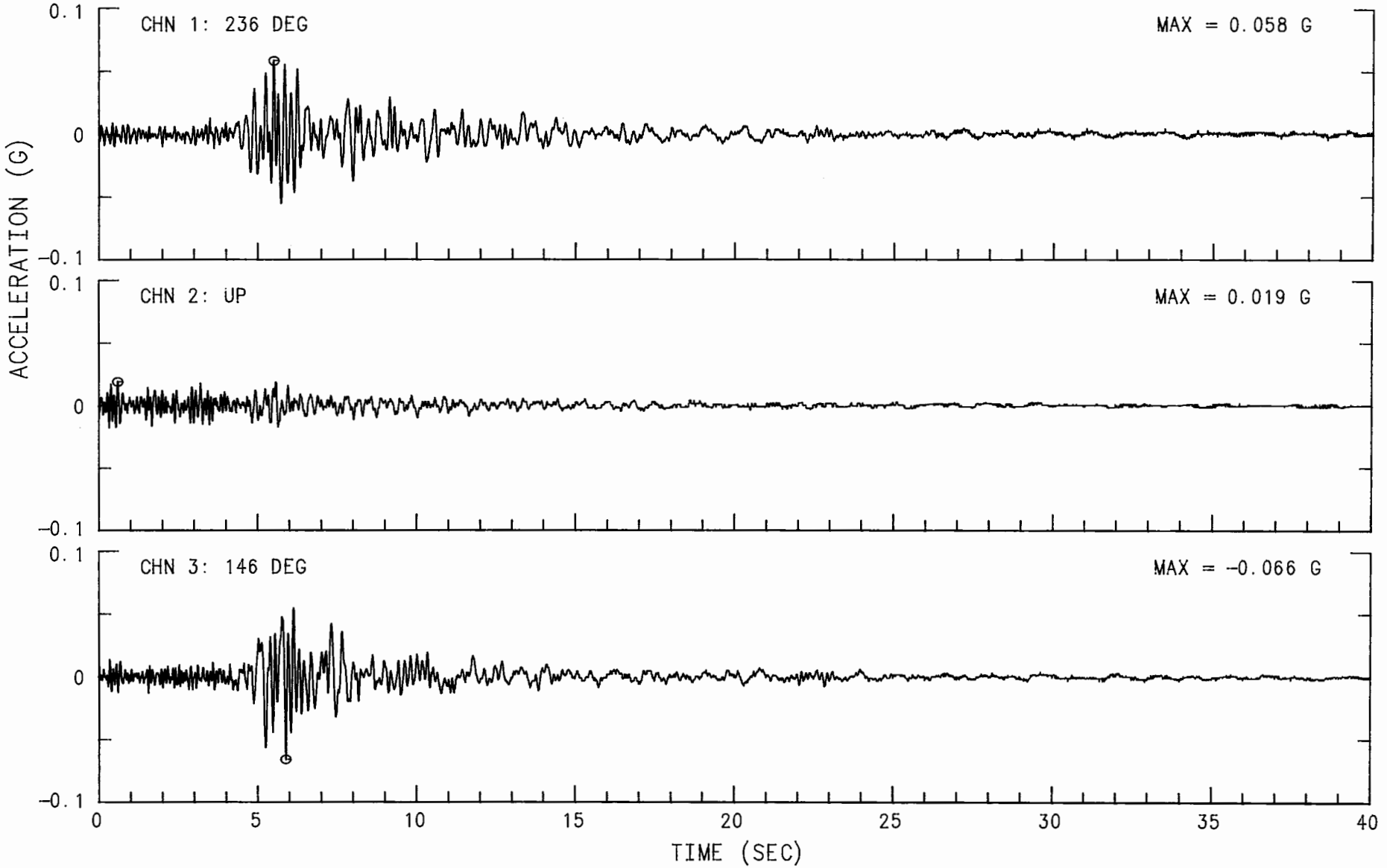
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
FREMONT -- MISSION SAN JOSE
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .30-.60 TO 23.0-25.0 HZ.
57064-R0553-80025.01 110671.1603-QL80A064



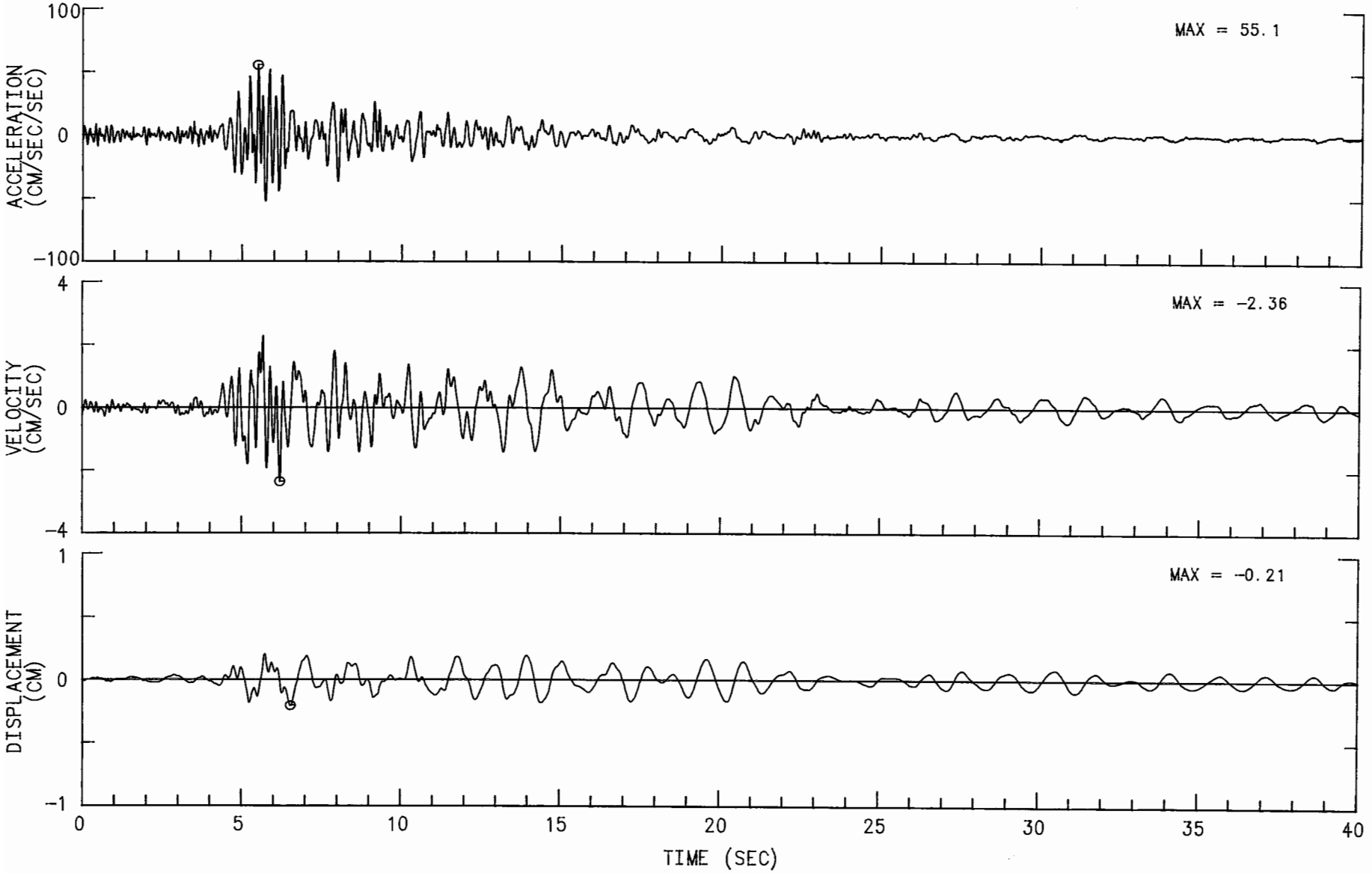
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
HAYWARD - CSUH STADIUM GROUNDS
UNCORRECTED ACCELEROGRAM 58219-S1809-80025.04 102171.1312-QL80A219



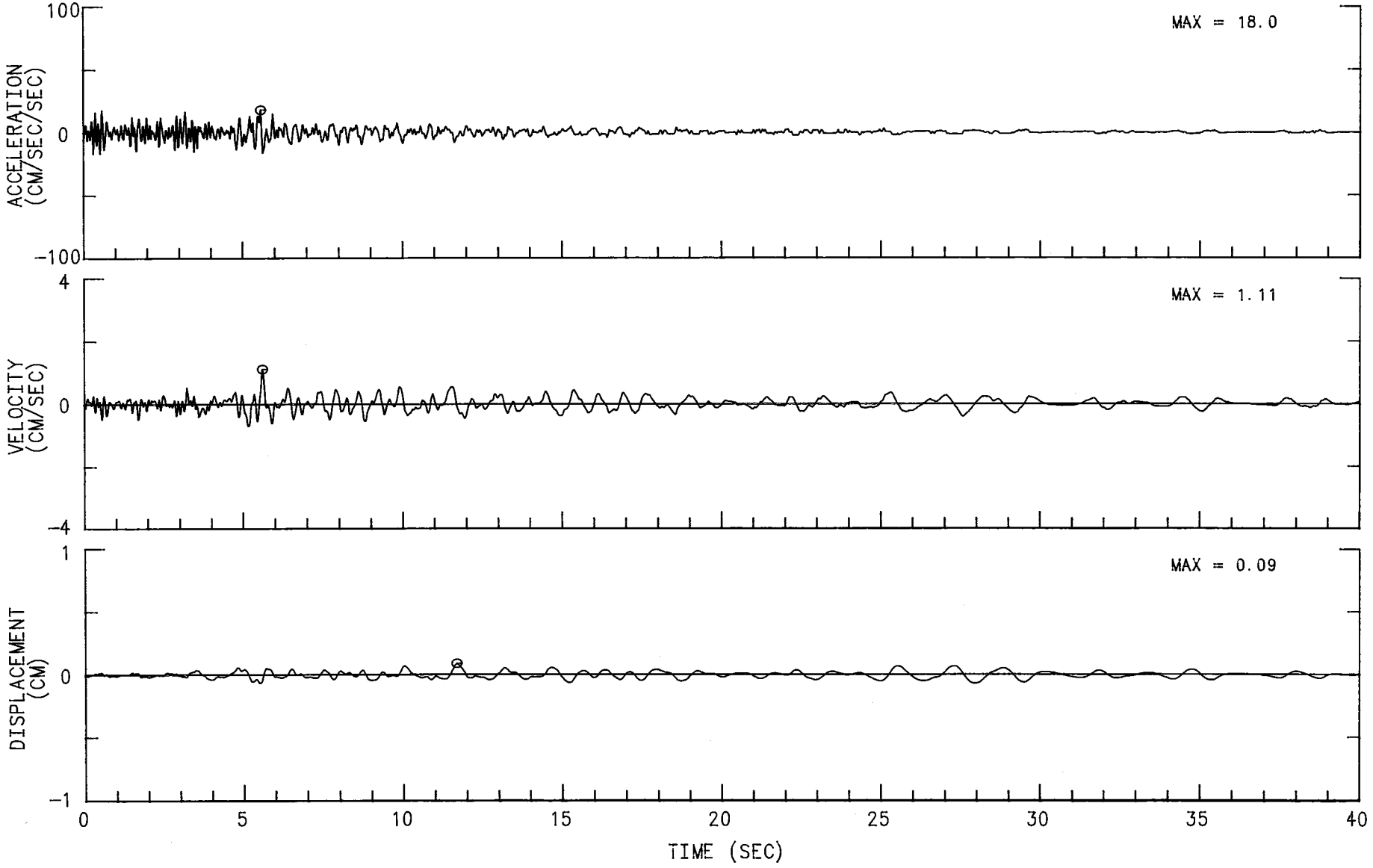
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
HAYWARD - CSUH STADIUM GROUNDS
UNCORRECTED ACCELEROGRAM 58219-S1809-80025.04 102171.1312-QL80A219

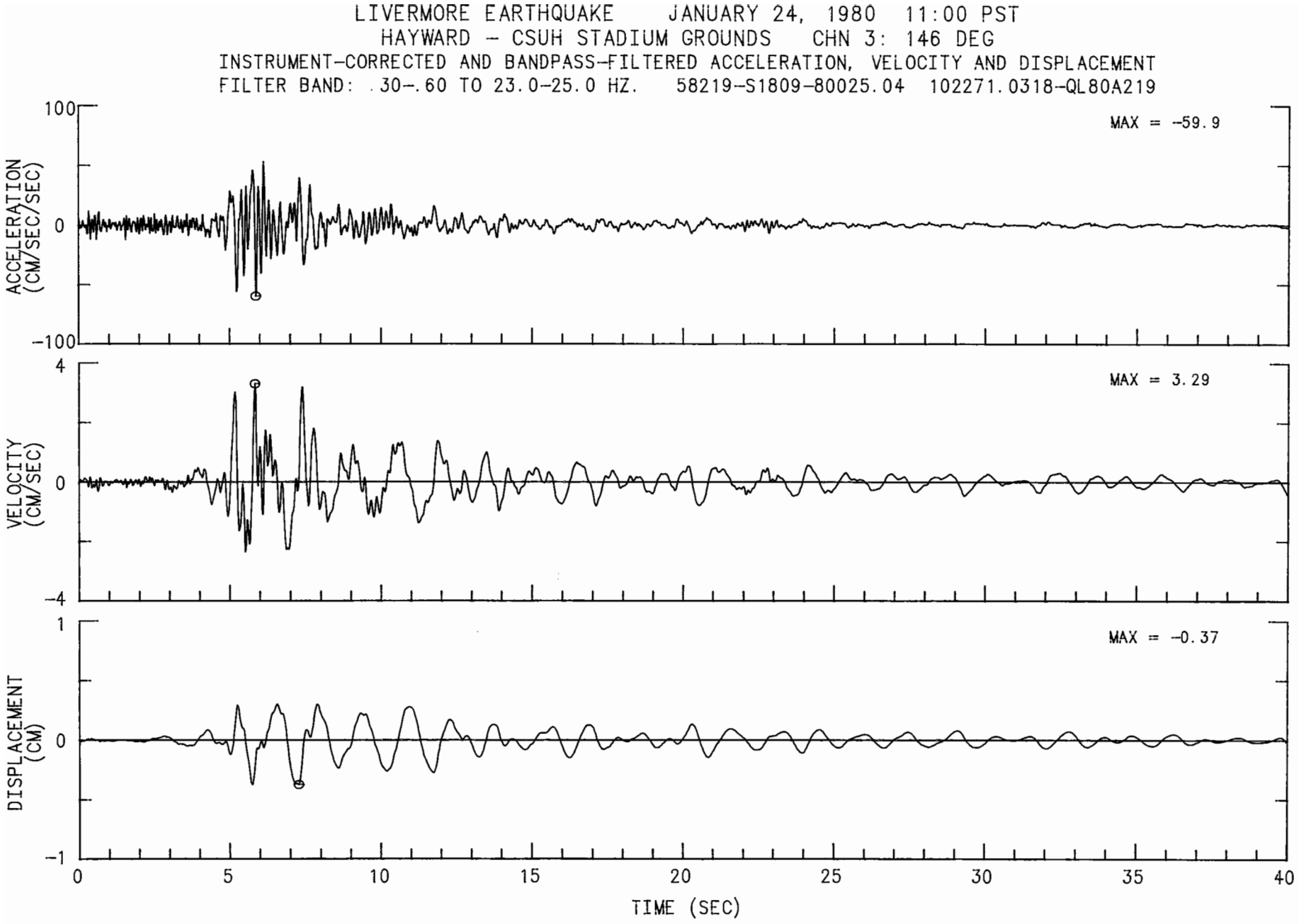


LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
HAYWARD - CSUH STADIUM GROUNDS CHN 1: 236 DEG
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .30-.60 TO 23.0-25.0 HZ. 58219-S1809-80025.04 102271.0318-QL80A219

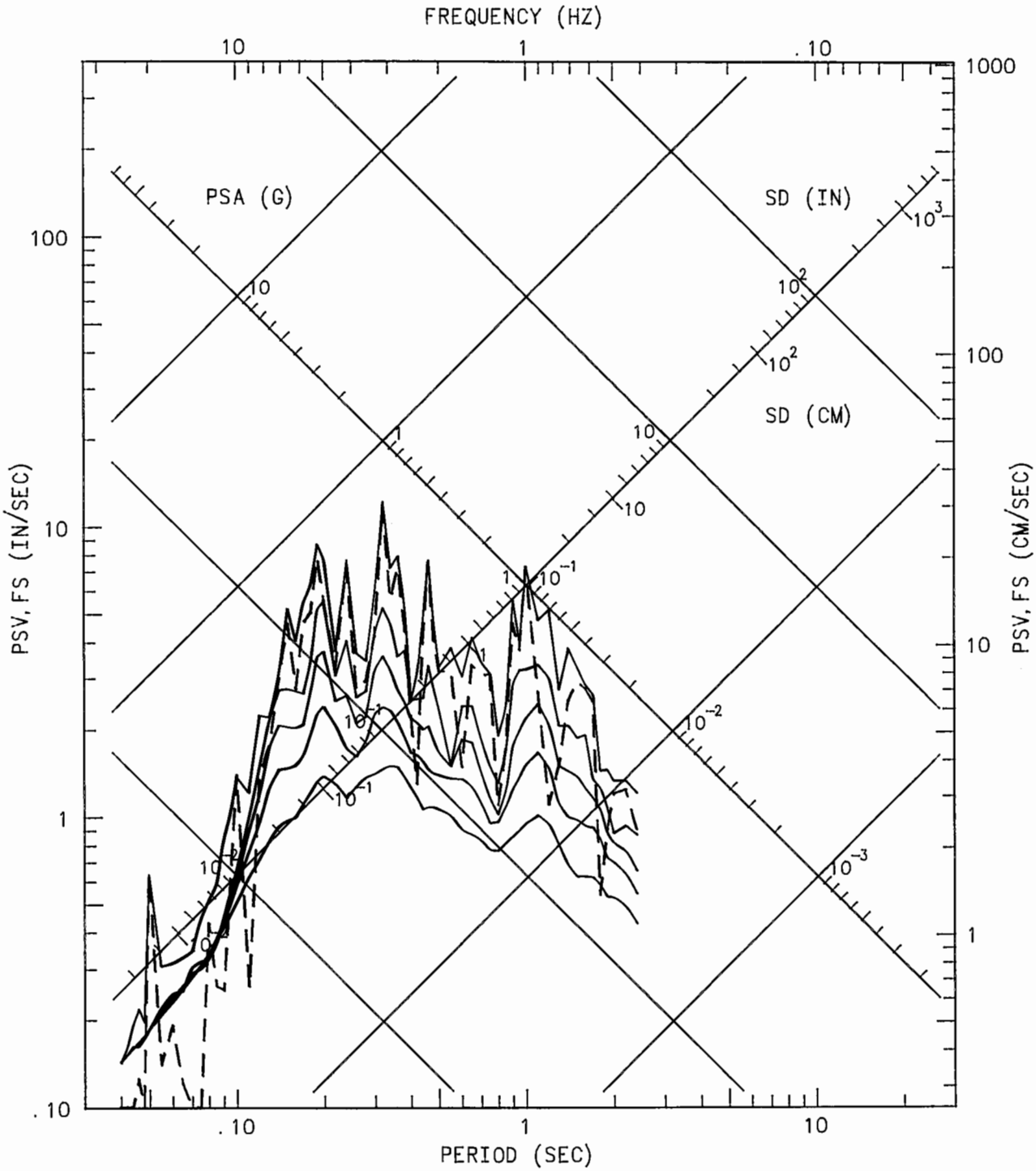


LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
HAYWARD - CSUH STADIUM GROUNDS CHN 2: UP
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .30-.60 TO 23.0-25.0 HZ. 58219-S1809-80025.04 102271.0318-QL80A219

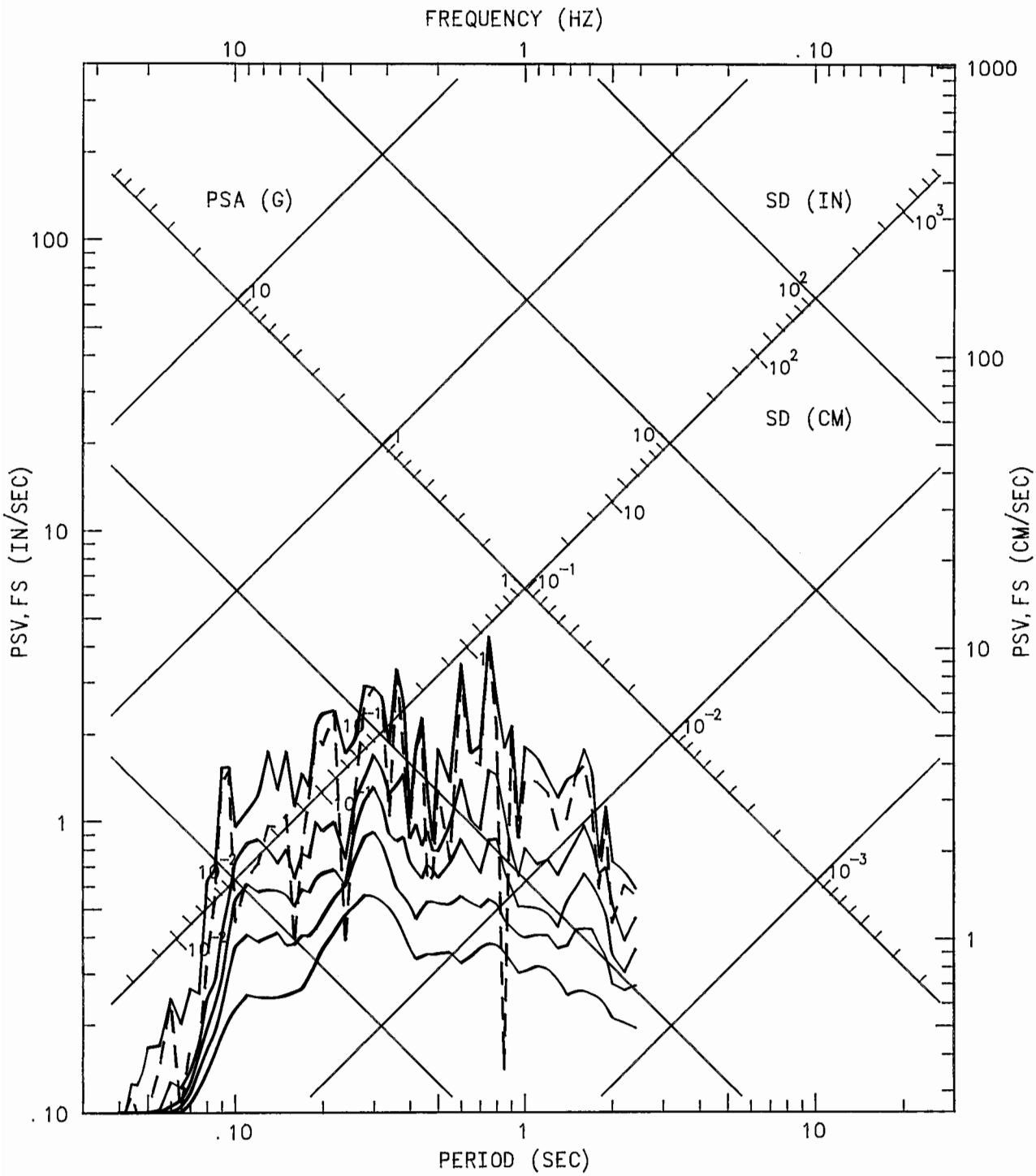



LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
HAYWARD - CSUH STADIUM GROUNDS CHN 3: 146 DEG
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .30-.60 TO 23.0-25.0 HZ. 58219-S1809-80025.04 102271.0318-QL80A219
ACCELERATION (CM/SEC/SEC)
100
0
-100
MAX = -59.9
VELOCITY (CM/SEC)
4
0
-4
MAX = 3.29
DISPLACEMENT (CM)
1
0
-1
MAX = -0.37
0
5
10
15
20
25
30
35
40
TIME (SEC)

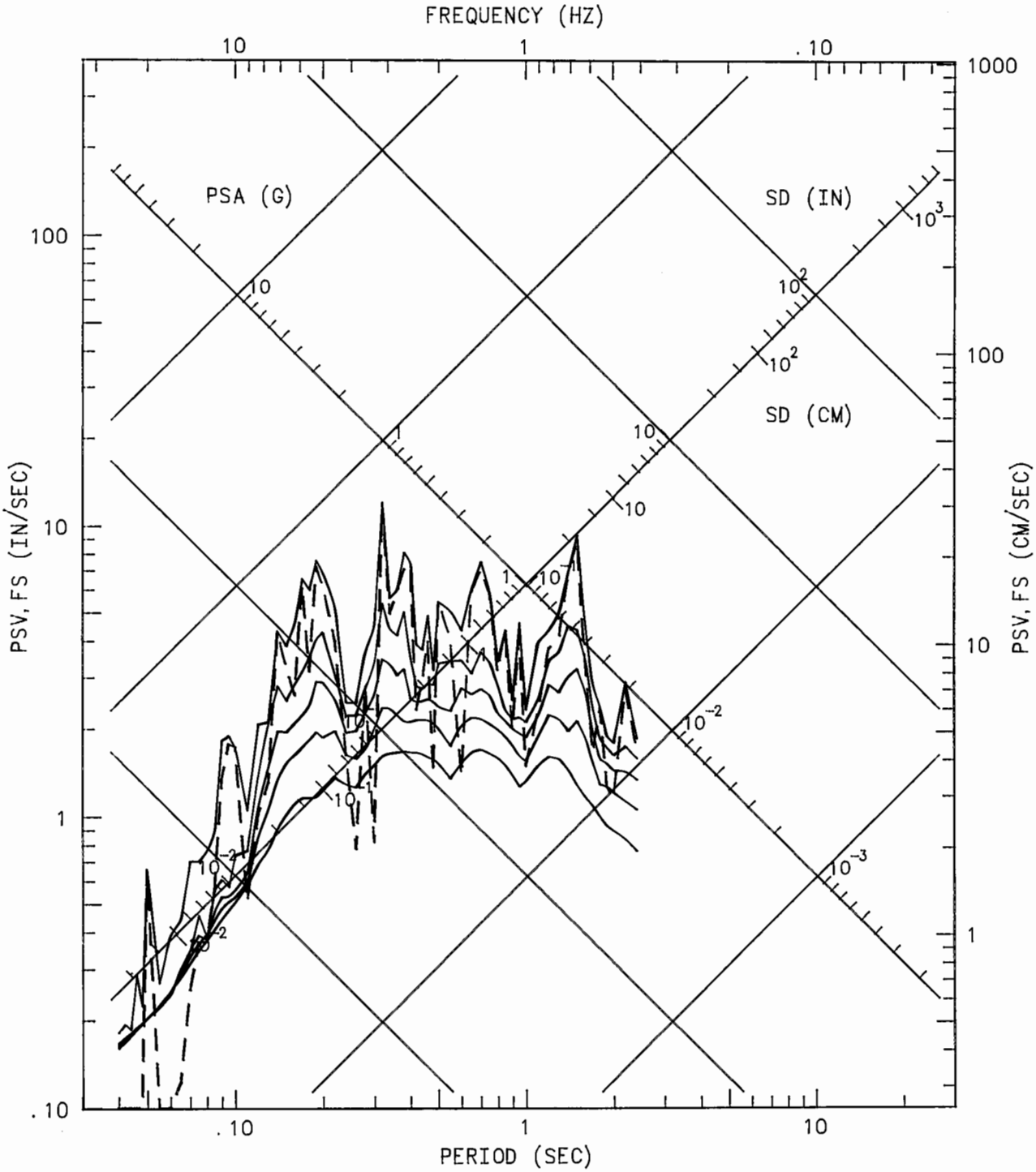
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
HAYWARD - CSUH STADIUM GROUNDS
CHN 1: 236 DEG
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .30-.60 TO 23.0-25.0 HZ.
58219-S1809-80025.04 102471.0813-QL80A219



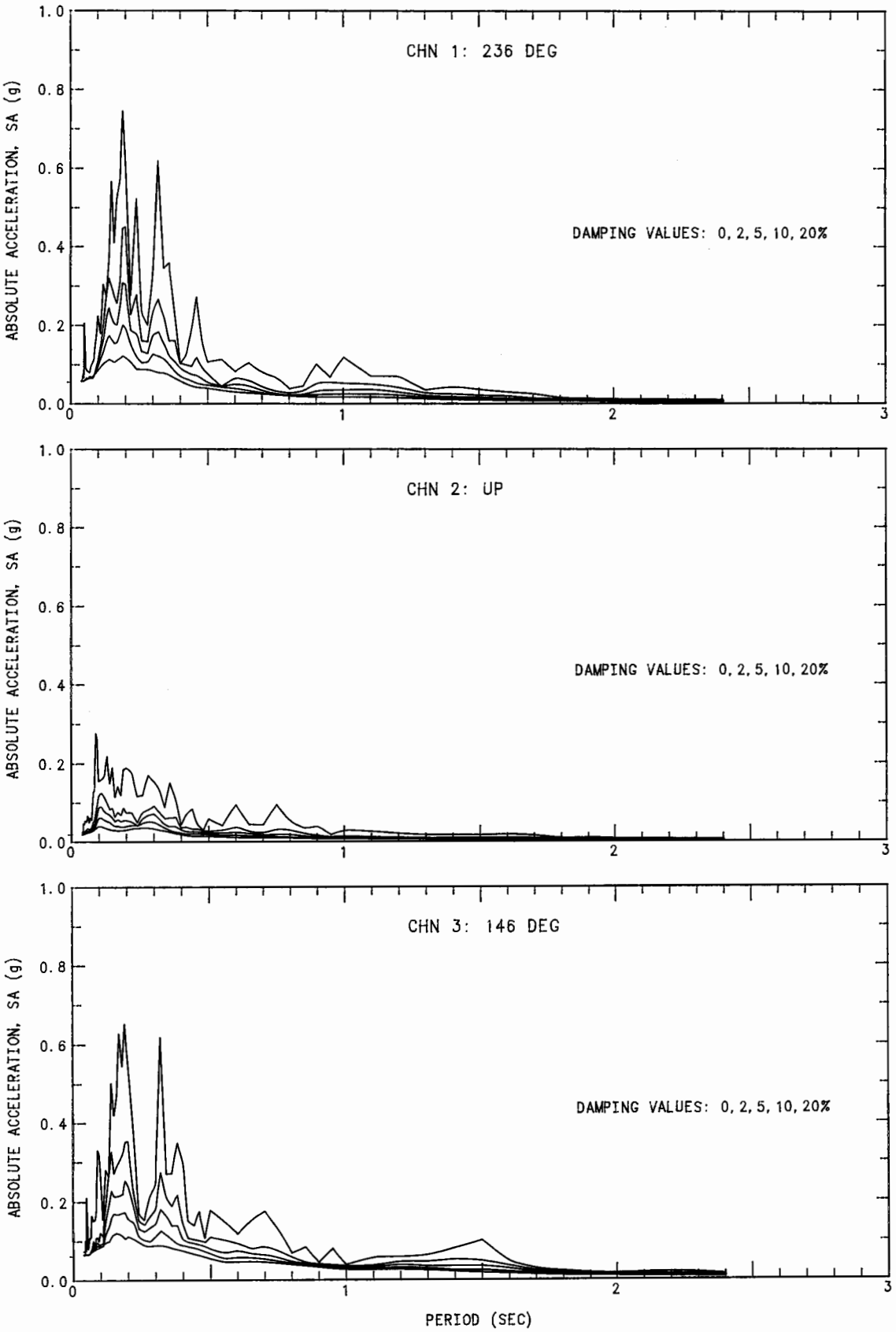
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
HAYWARD - CSUH STADIUM GROUNDS
CHN 2: UP
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .30-.60 TO 23.0-25.0 HZ.
58219-S1809-80025.04 102471.0813-QL80A219



LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
HAYWARD - CSUH STADIUM GROUNDS
CHN 3: 146 DEG
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .30-.60 TO 23.0-25.0 HZ.
58219-S1809-80025.04 102471.0813-QL80A219



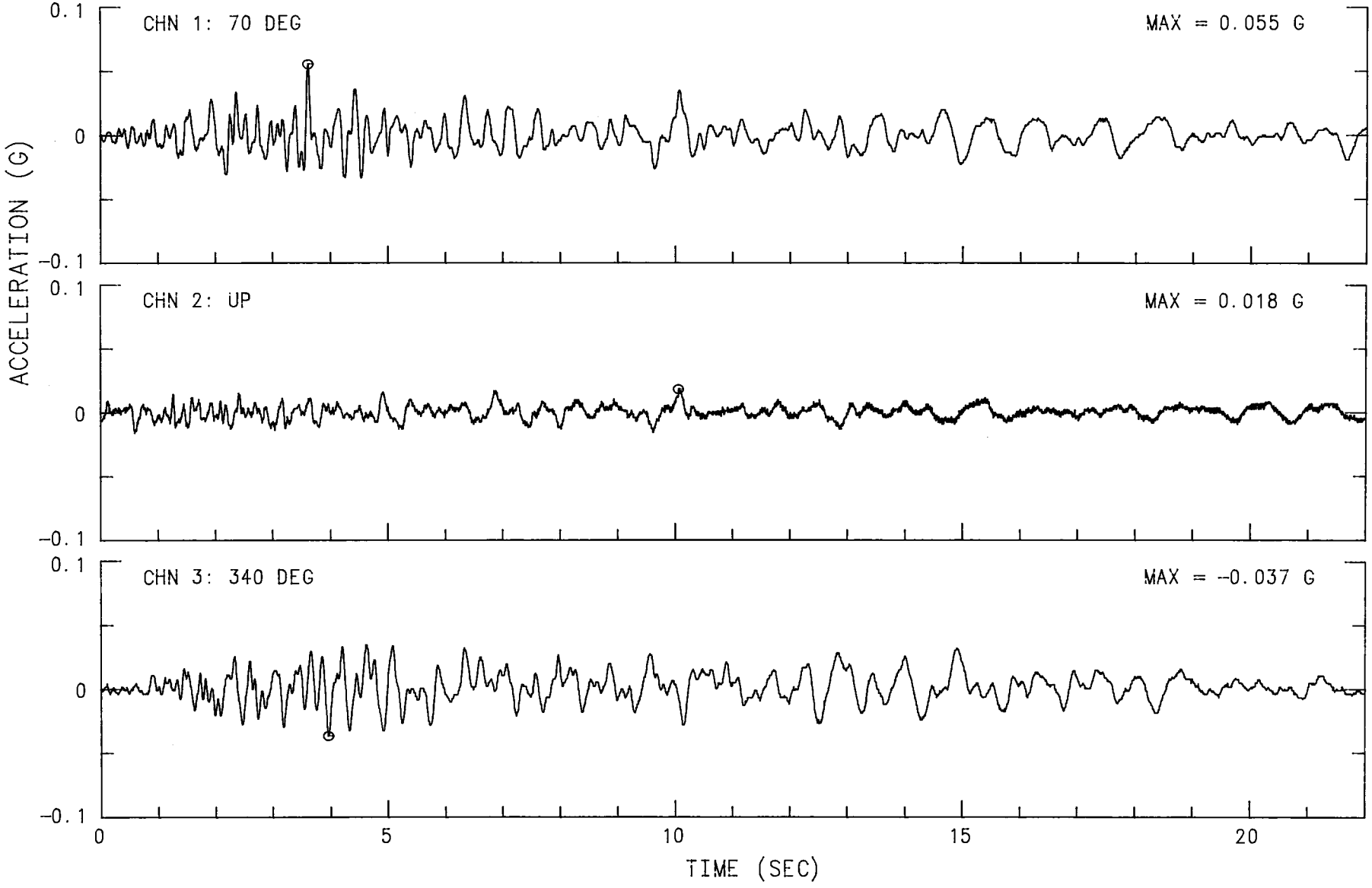
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
HAYWARD -- CSUH STADIUM GROUNDS
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .30-.60 TO 23.0-25.0 HZ.
58219-S1809-80025.04 102471.0813-QL80A219



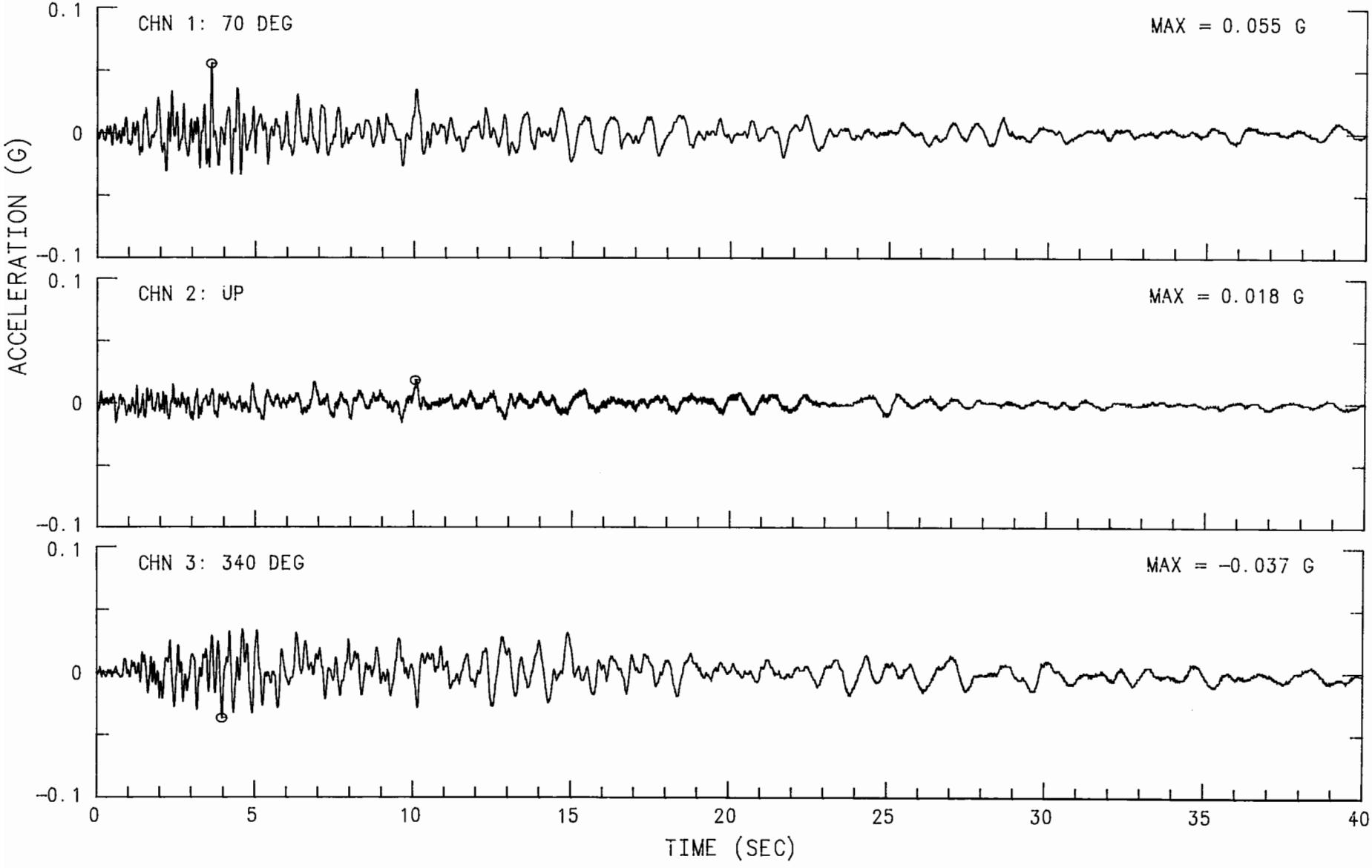
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST

SAN RAMON

UNCORRECTED ACCELEROGRAM 57134-S2522-80030.01 102171.1358-QL80A134



LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
SAN RAMON
UNCORRECTED ACCELEROGRAM 57134-S2522-80030.01 102171.1358-QL80A134



LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
SAN RAMON CHN 1: 70 DEG
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
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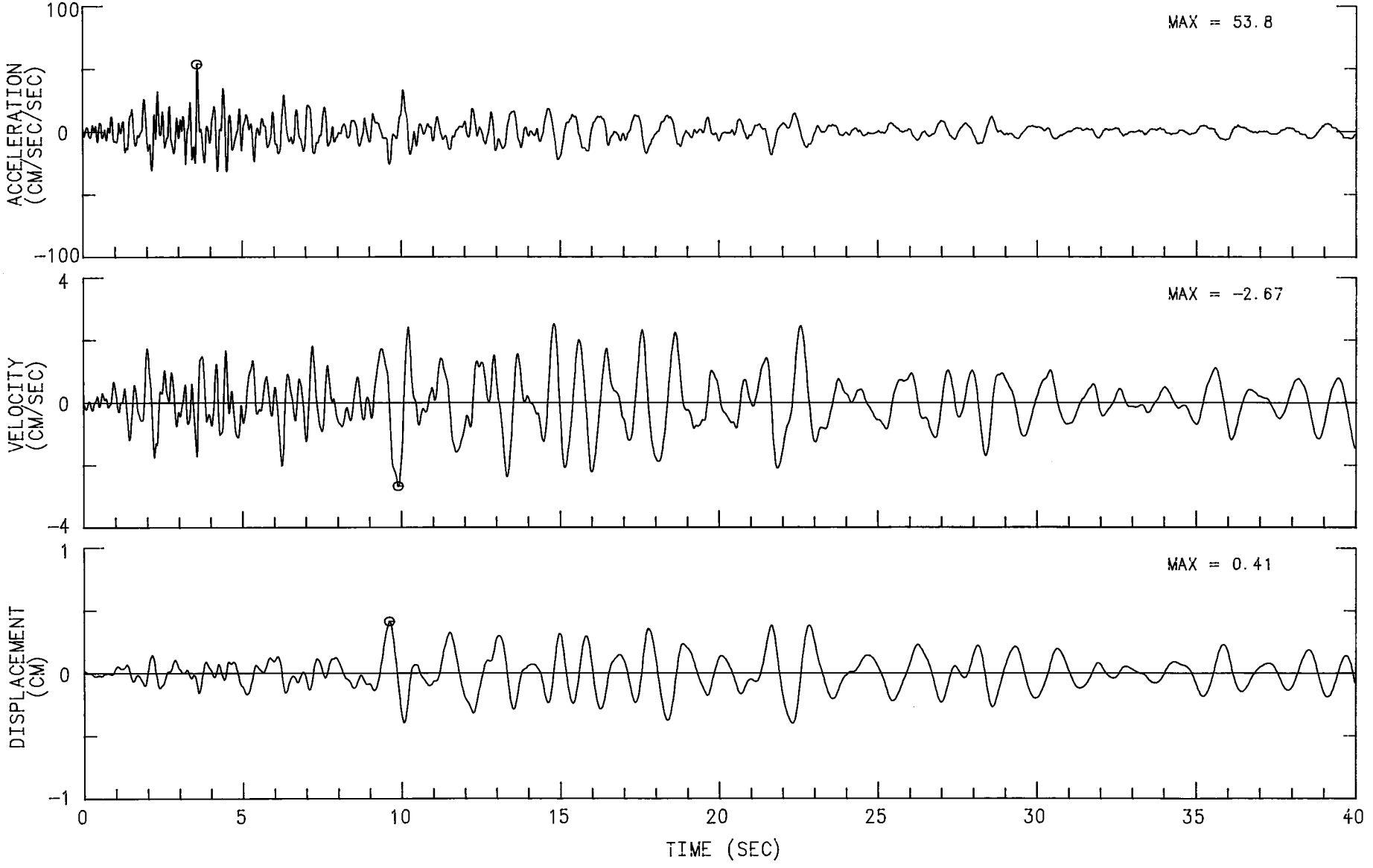
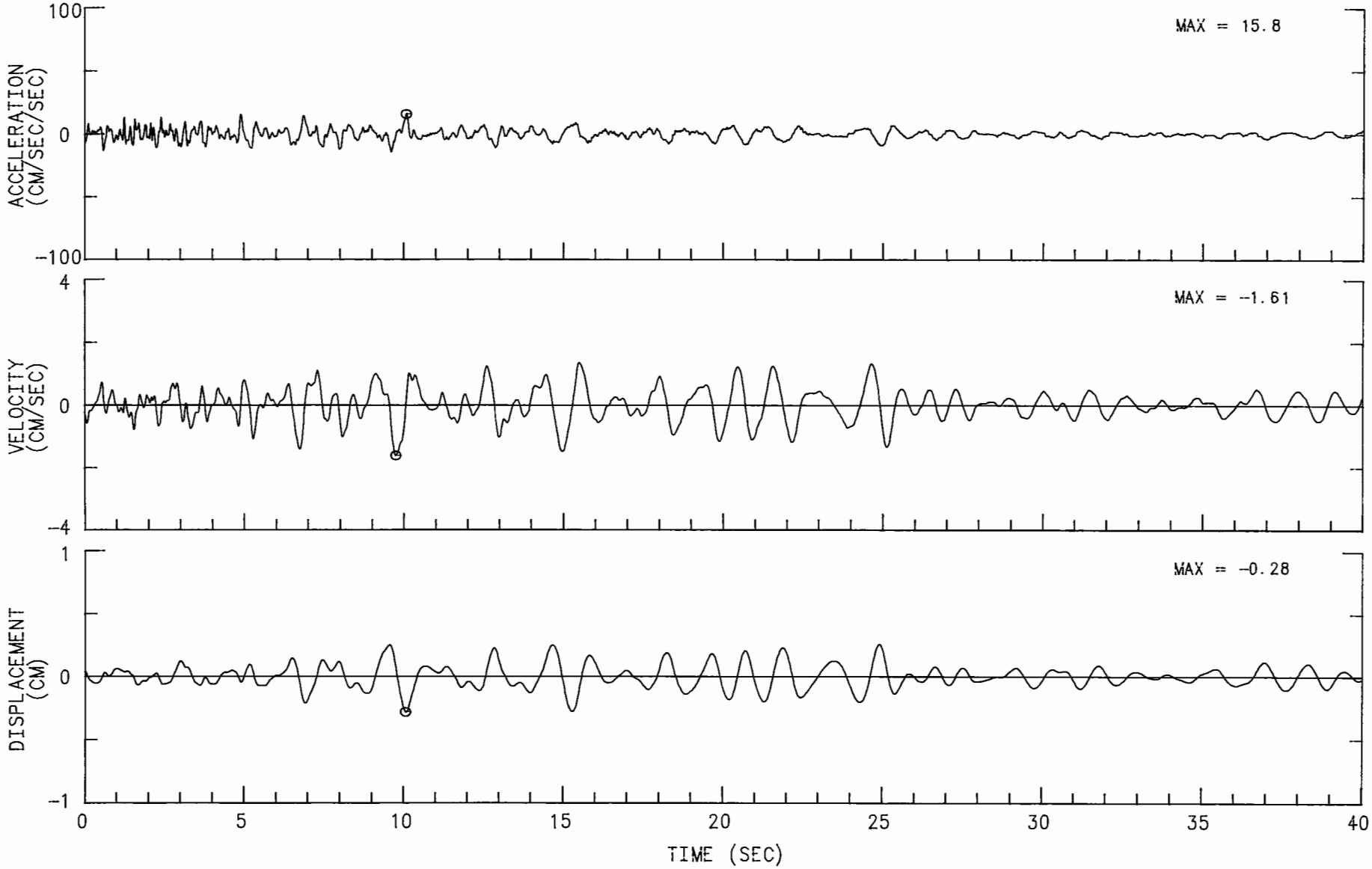
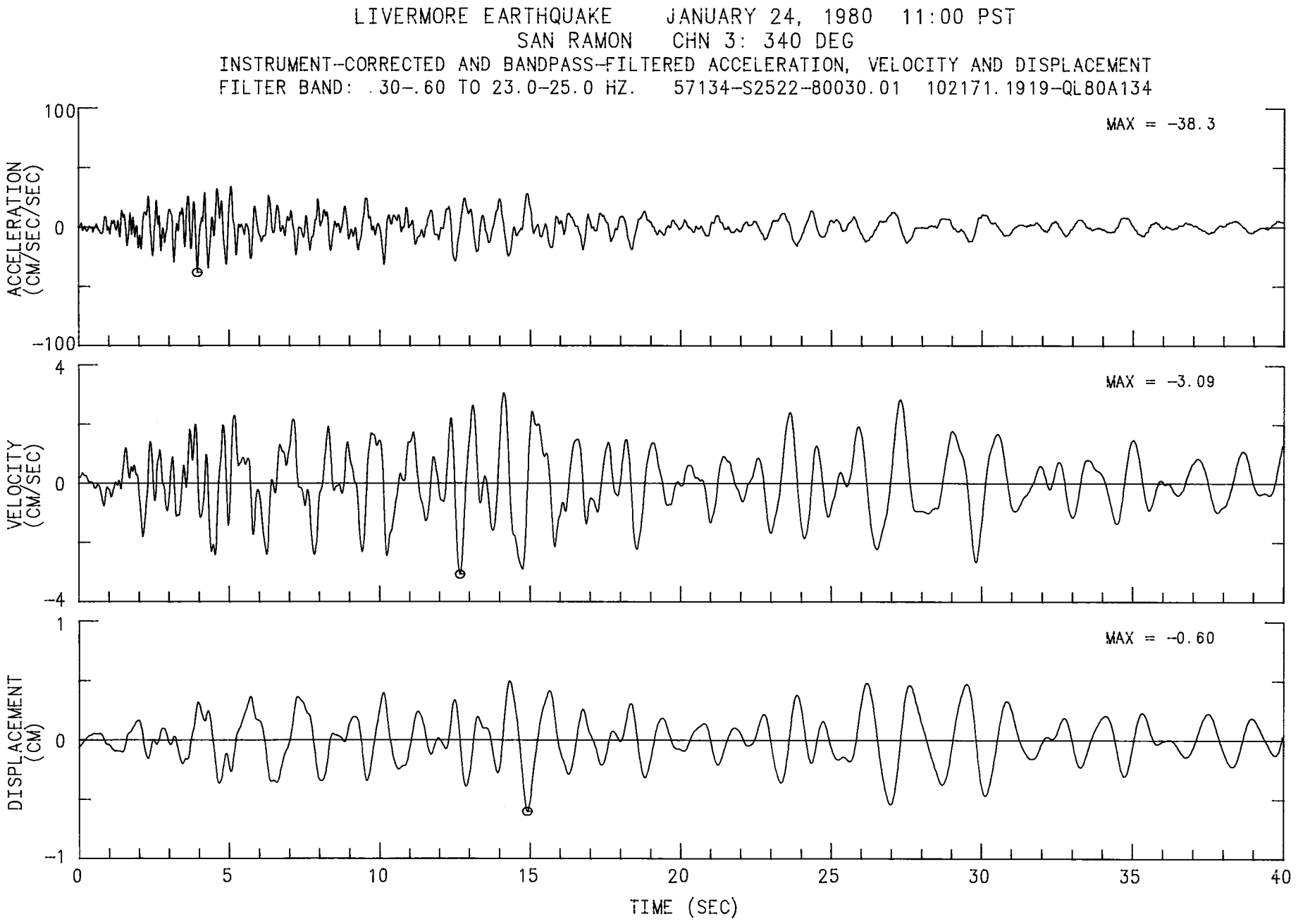
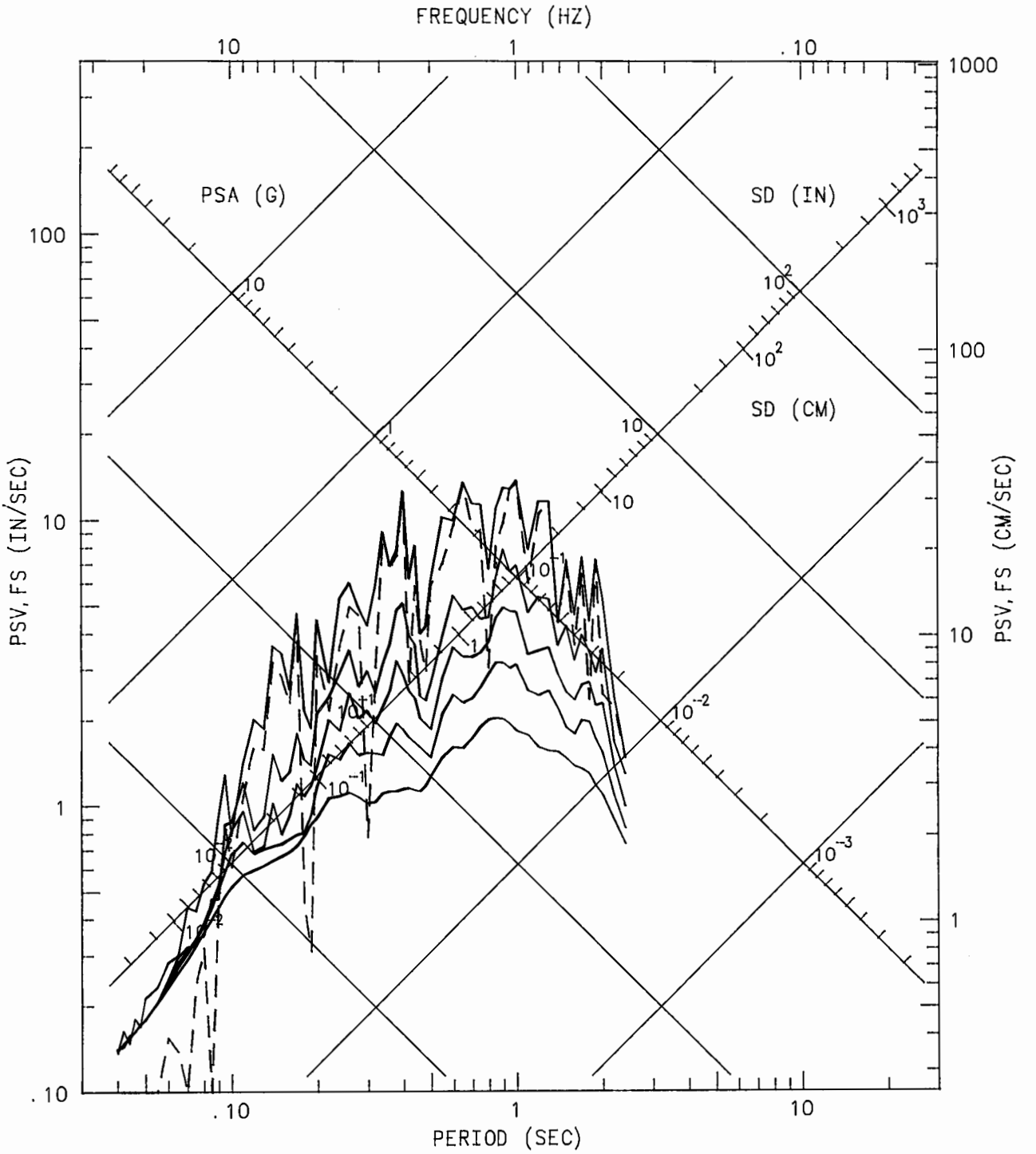


LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
SAN RAMON CHN 2: UP
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .30-.60 TO 23.0-25.0 HZ. 57134-S2522-80030.01 102171.1919-QL80A134

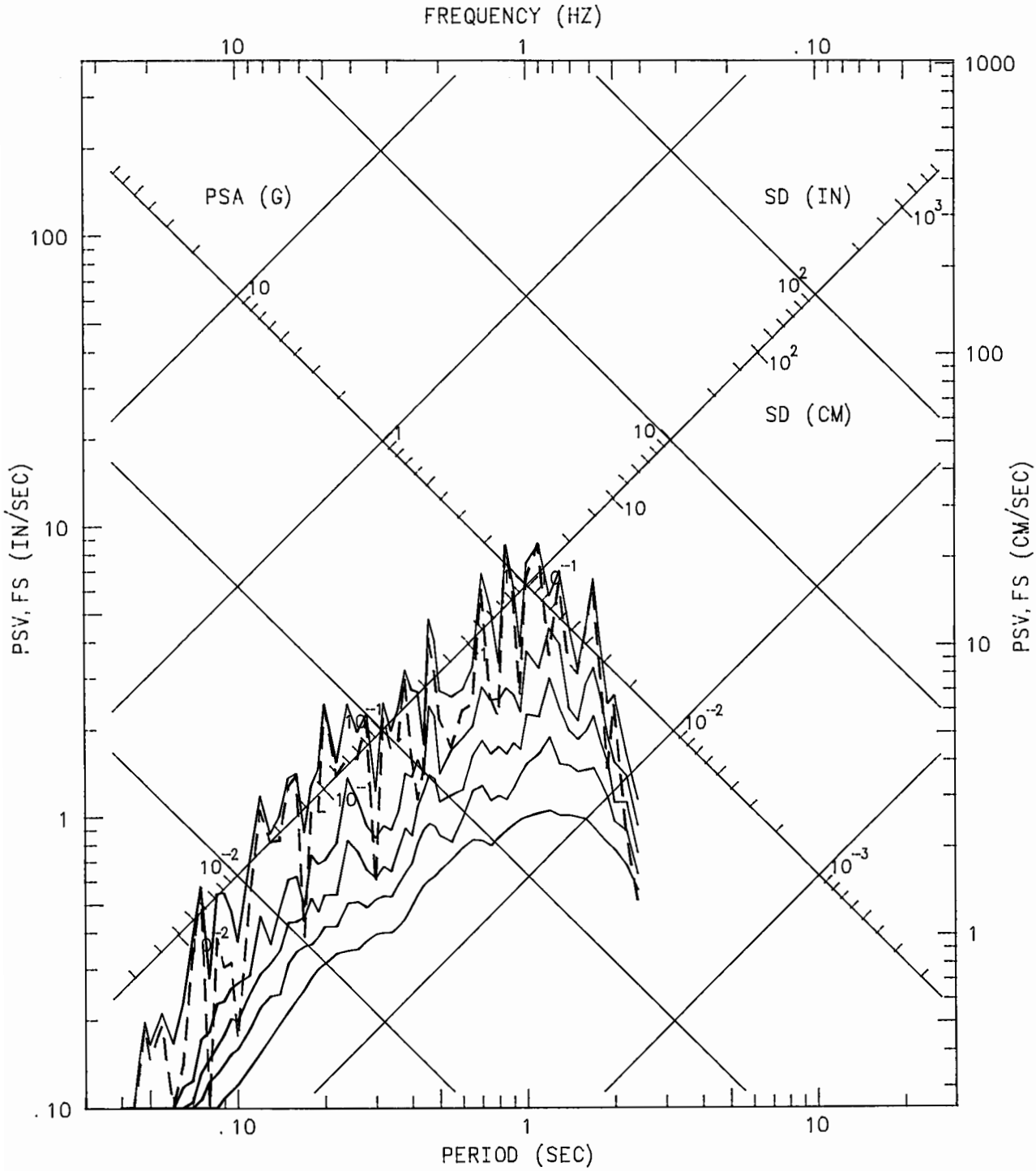



LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
SAN RAMON CHN 3: 340 DEG
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .30-.60 TO 23.0-25.0 HZ. 57134-S2522-80030.01 102171.1919-QL80A134
ACCELERATION (CM/SEC/SEC)
100
0
-100
MAX = -38.3
VELOCITY (CM/SEC)
4
0
-4
MAX = -3.09
DISPLACEMENT (CM)
1
0
-1
MAX = -0.60
0
5
10
15
20
25
30
35
40
TIME (SEC)

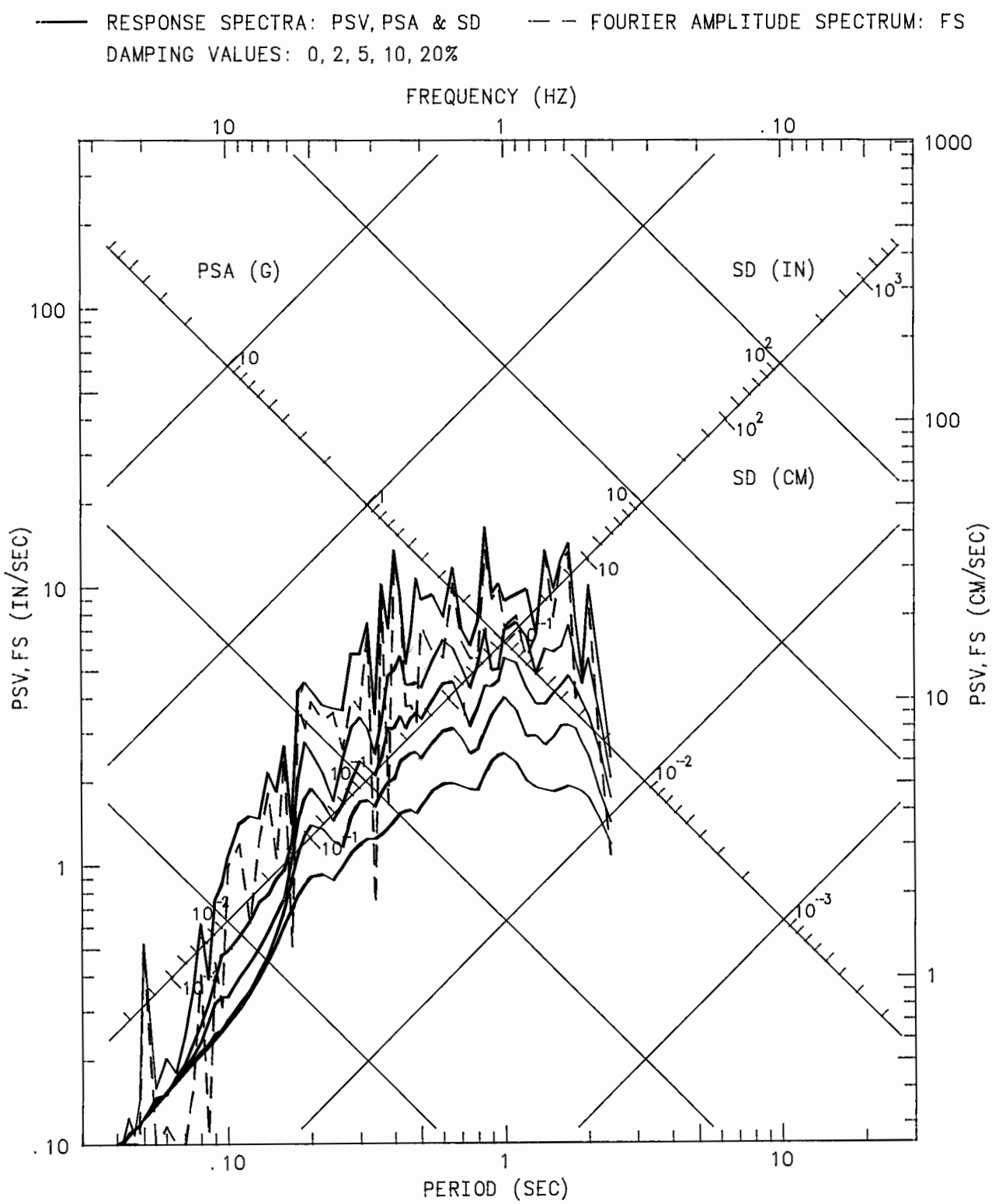
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
SAN RAMON
CHN 1: 70 DEG
ACCELEROGRAM BANDPASS--FILTERED WITH RAMPS AT .30--.60 TO 23.0--25.0 HZ.
57134--S2522--80030.01 102371.1529--QL80A134



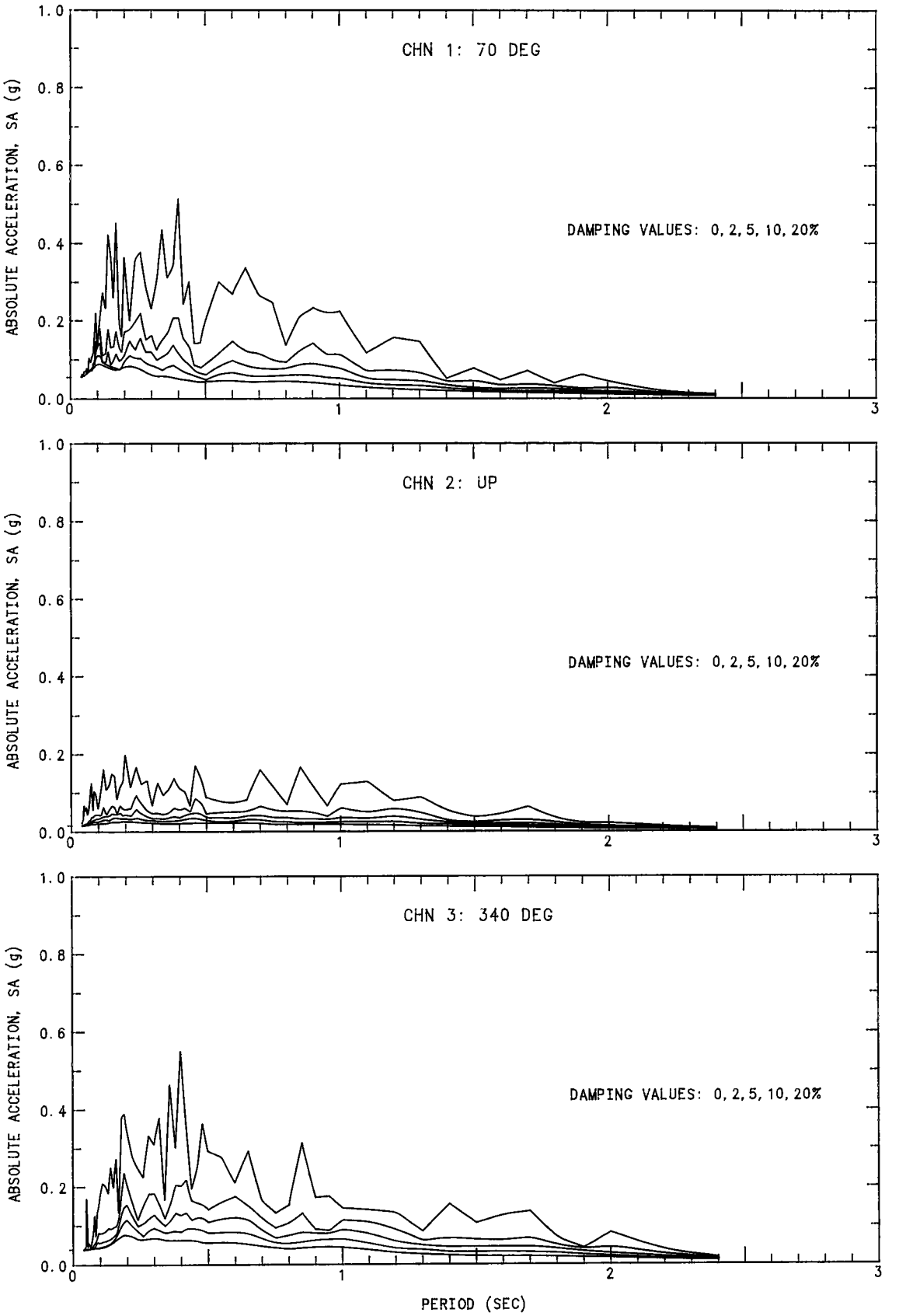
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
SAN RAMON
CHN 2: UP
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .30-.60 TO 23.0-25.0 HZ.
57134-S2522-80030.01 102371.1529-QL80A134



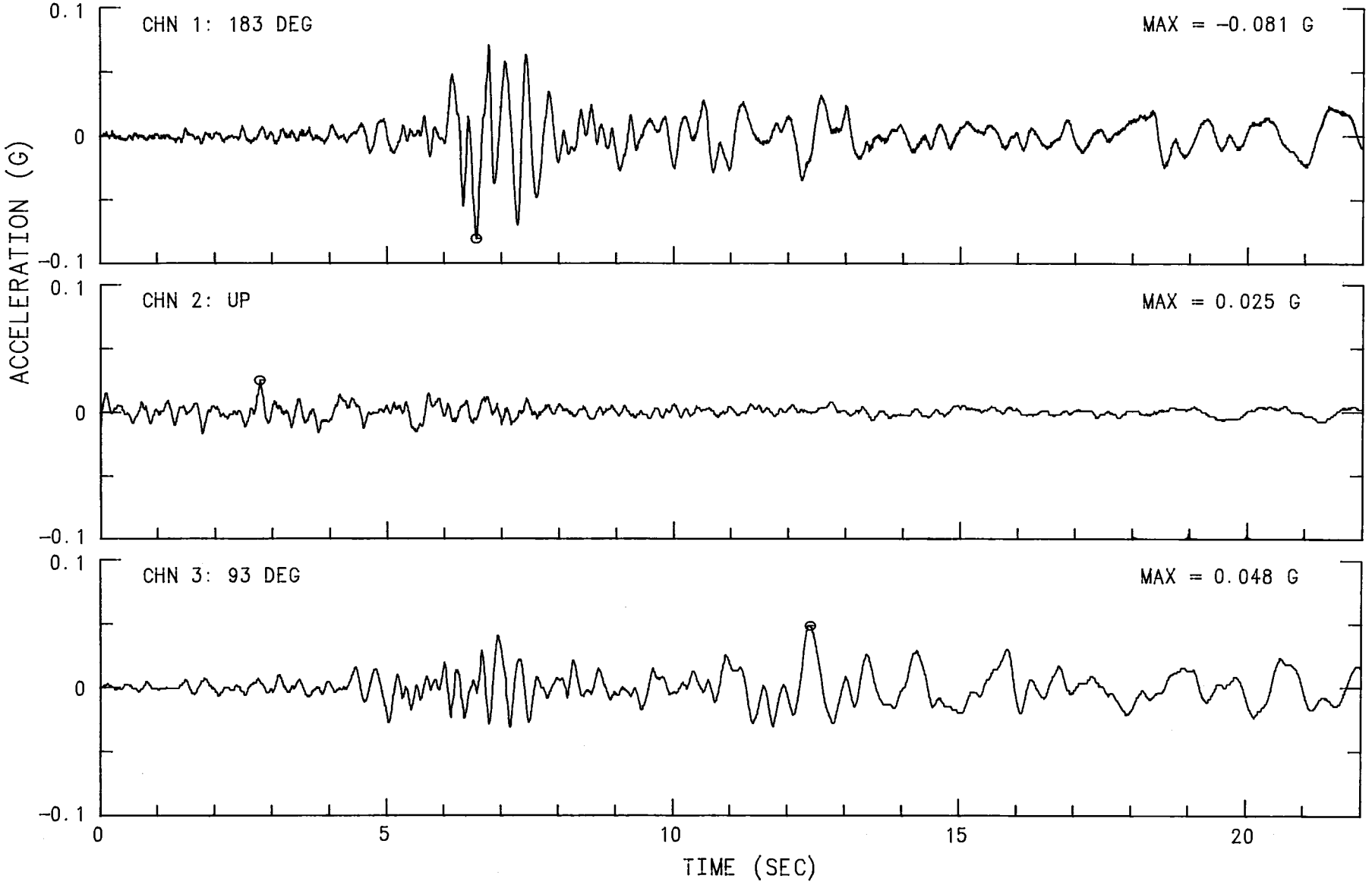
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
SAN RAMON
CHN 3: 340 DEG
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .30-.60 TO 23.0-25.0 HZ.
57134-S2522-80030.01 102371.1529-QL80A134



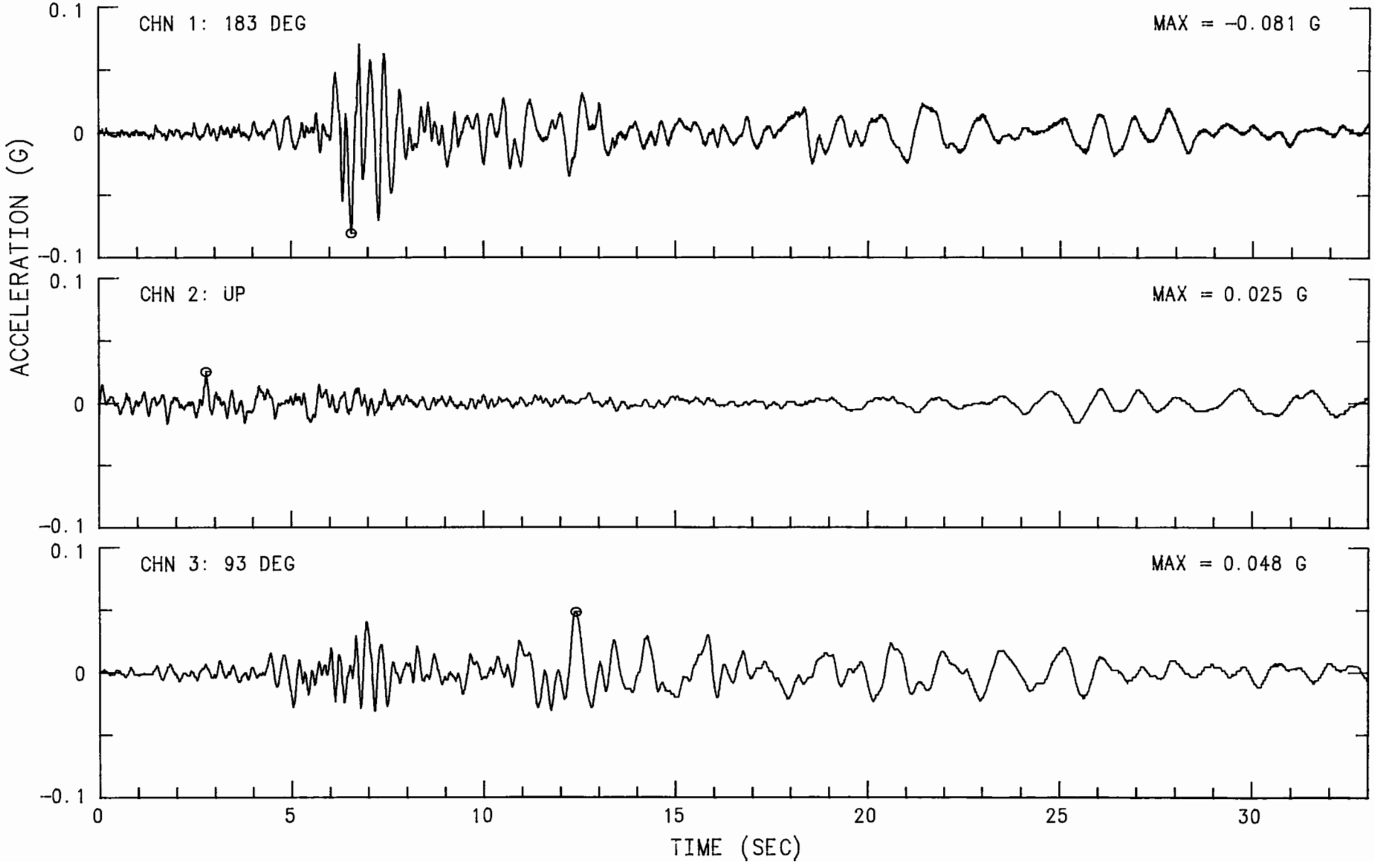
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
SAN RAMON
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .30-.60 TO 23.0-25.0 HZ.
57134-S2522-80030.01 102371.1529-QL80A134



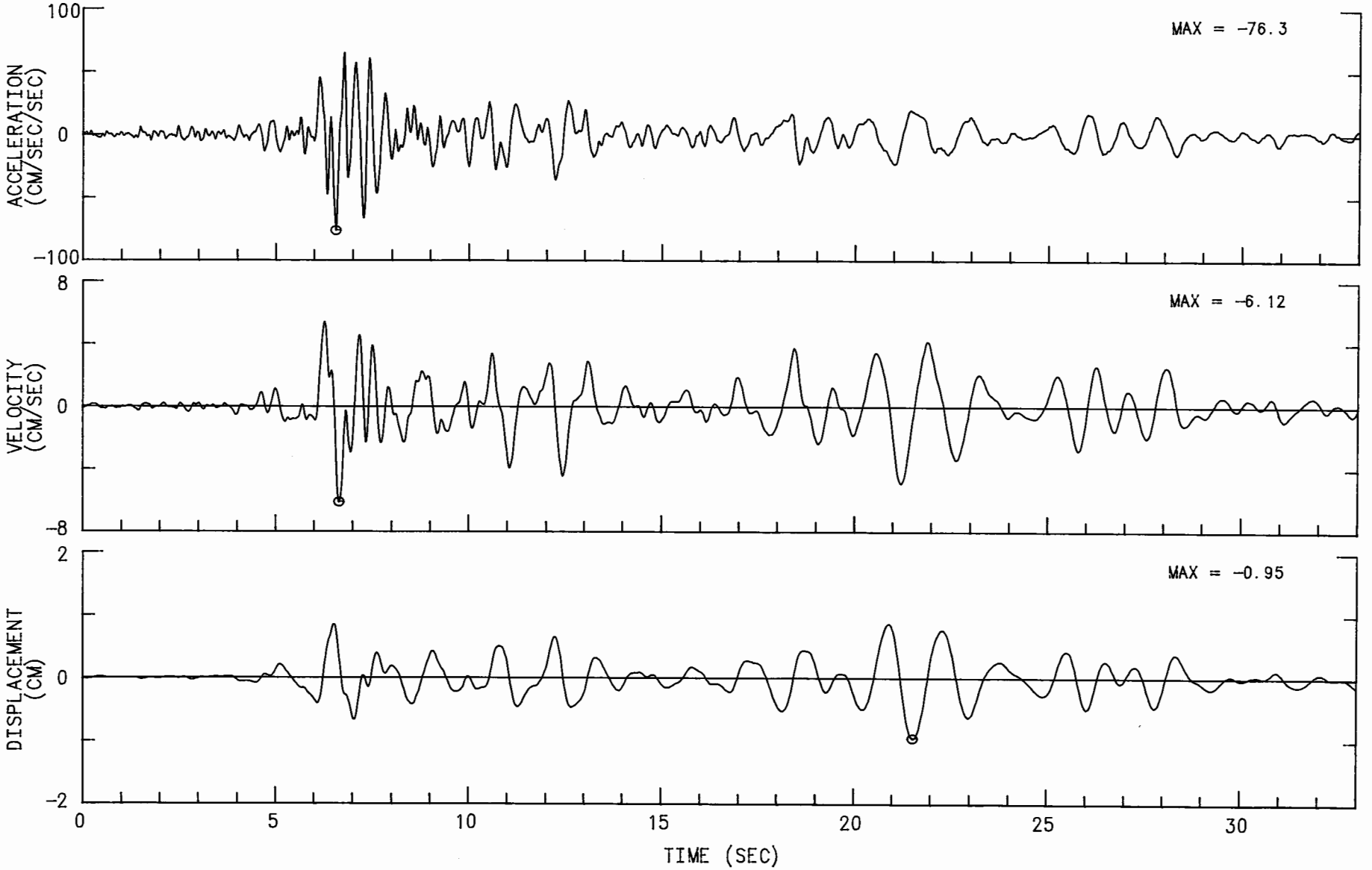
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
TRACY - SEWAGE TREATMENT PLANT
UNCORRECTED ACCELEROGRAM 57063-R0555-80025.01 102271.1635-QL80A063



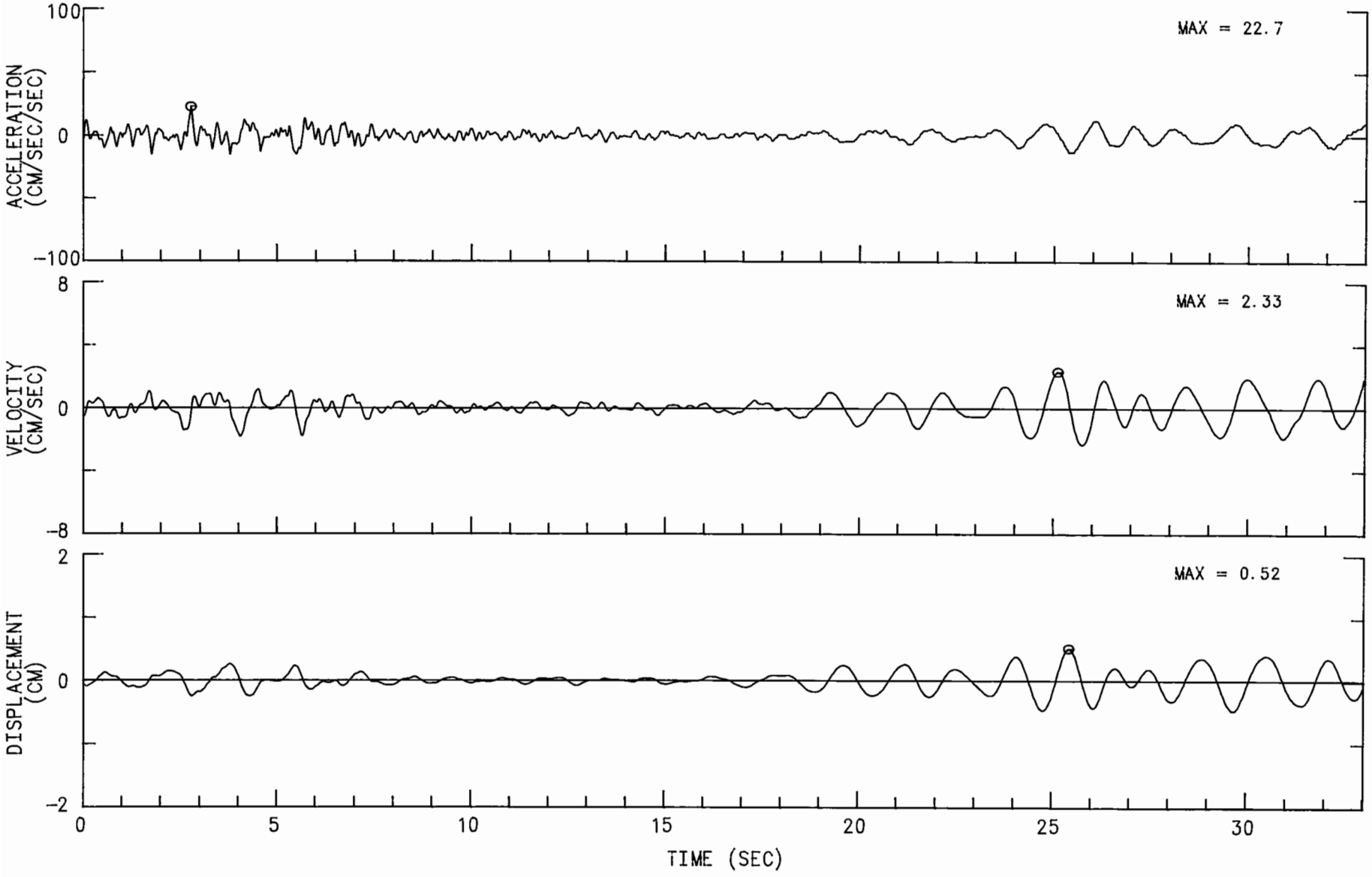
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
TRACY - SEWAGE TREATMENT PLANT
UNCORRECTED ACCELEROGRAM 57063-R0555-80025.01 102271.1635-QL80A063



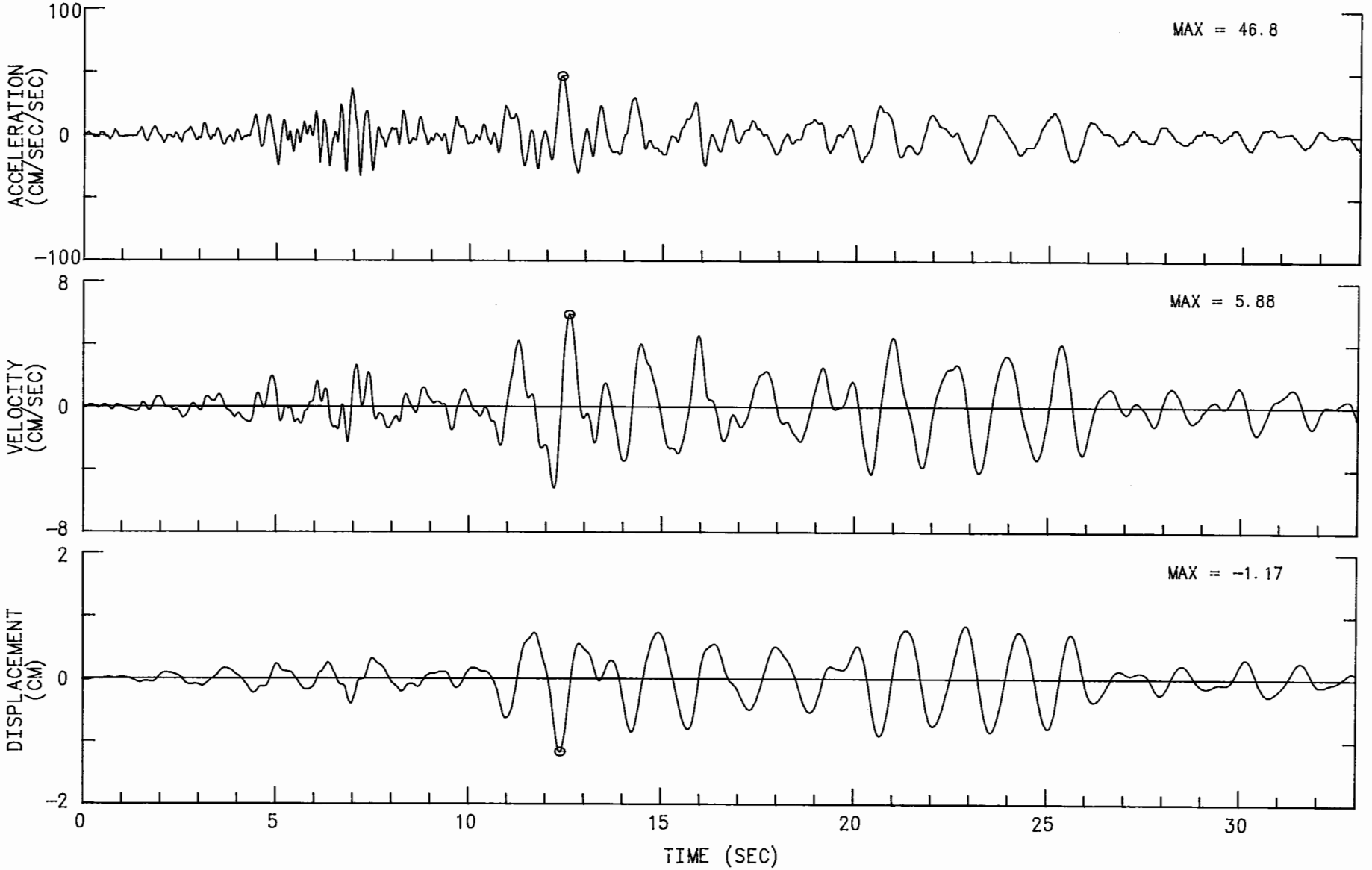
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
TRACY - SEWAGE TREATMENT PLANT CHN 1: 183 DEG
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .30-.60 TO 23.0-25.0 HZ. 57063-R0555-80025.01 102271.1853-QL80A063



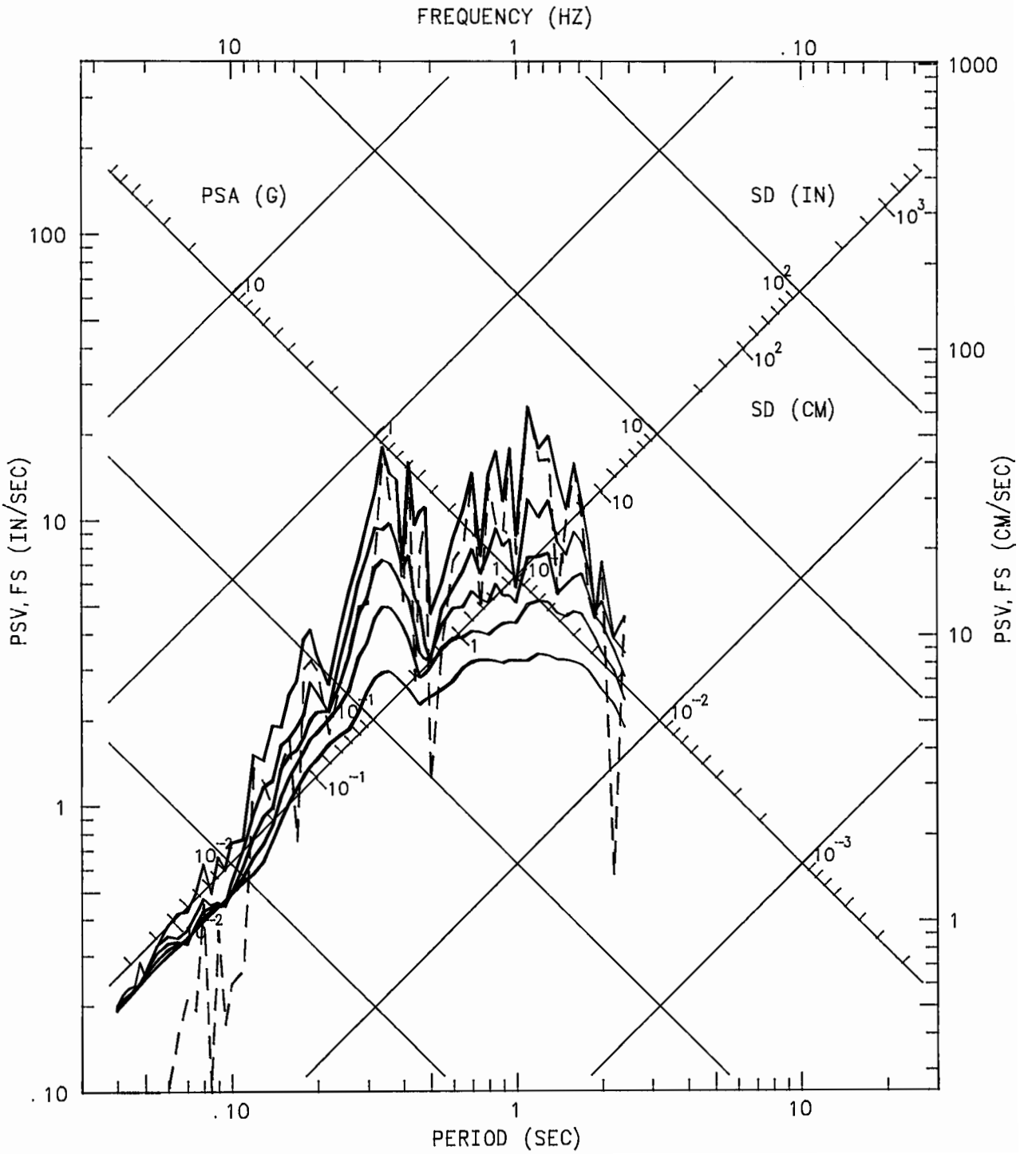
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
TRACY - SEWAGE TREATMENT PLANT CHN 2: UP
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .30-.60 TO 23.0-25.0 HZ. 57063-R0555-80025.01 102271.1853-QL80A063



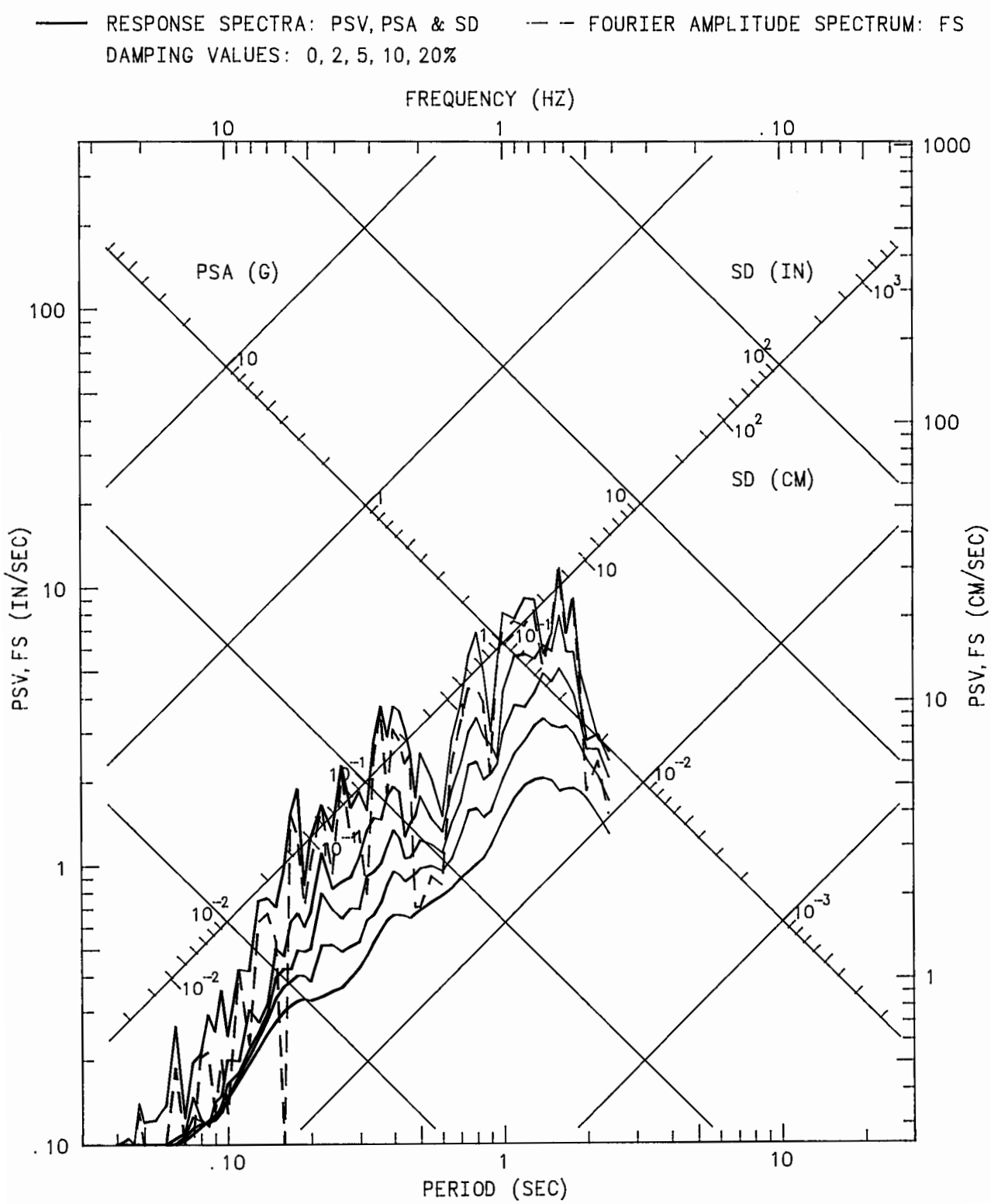
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
TRACY - SEWAGE TREATMENT PLANT CHN 3: 93 DEG
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .30-.60 TO 23.0-25.0 HZ. 57063-R0555-80025.01 102271.1853-QL80A063



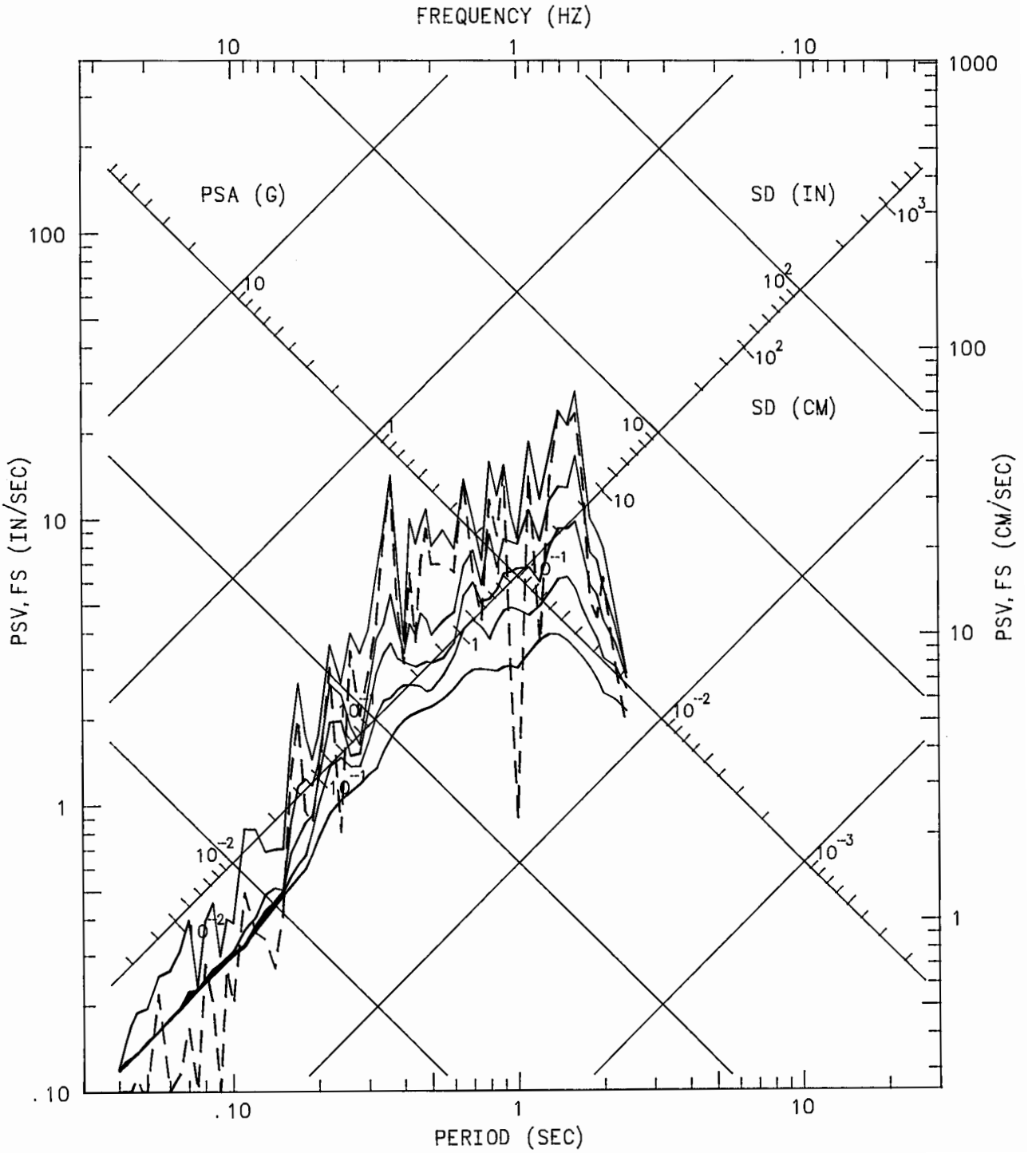
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
TRACY - SEWAGE TREATMENT PLANT
CHN 1: 183 DEG
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .30-.60 TO 23.0-25.0 HZ.
57063-R0555-80025.01 102371.1428-QL80A063



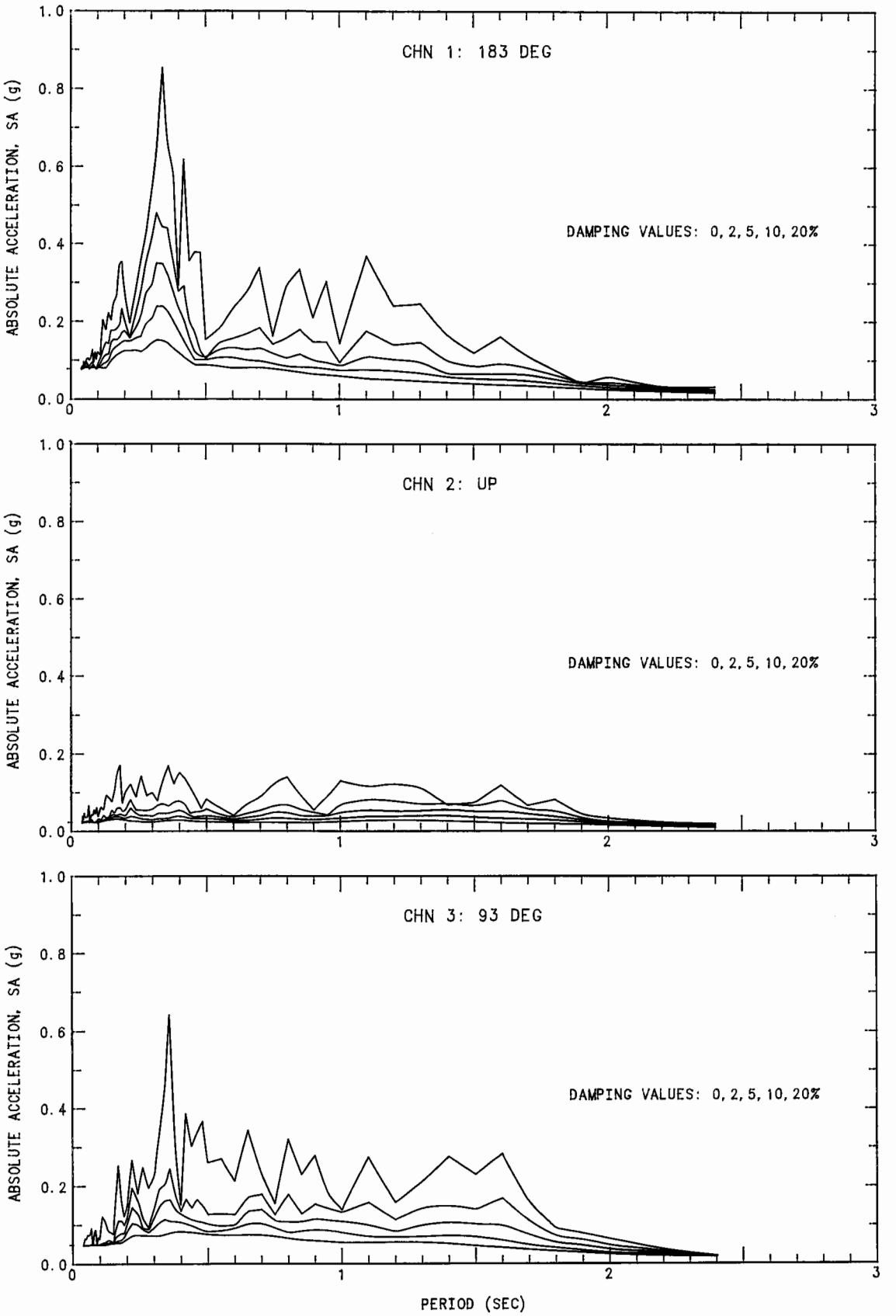
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
TRACY - SEWAGE TREATMENT PLANT
CHN 2: UP
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .30-.60 TO 23.0-25.0 HZ.
57063-R0555-80025.01 102371.1428-QL80A063



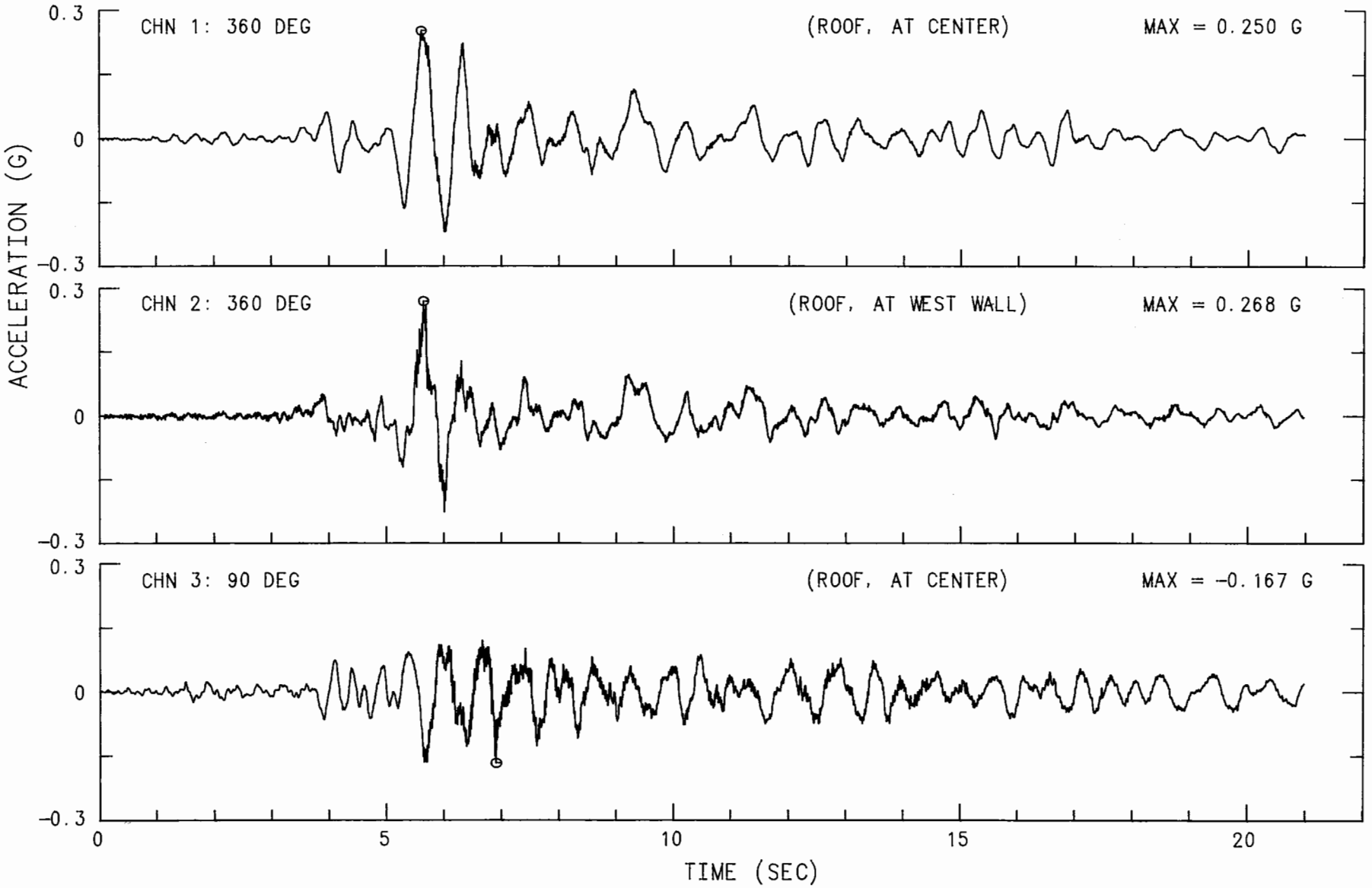
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
TRACY -- SEWAGE TREATMENT PLANT
CHN 3: 93 DEG
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .30-.60 TO 23.0-25.0 HZ.
57063-R0555-80025.01 102371.1428-QL80A063



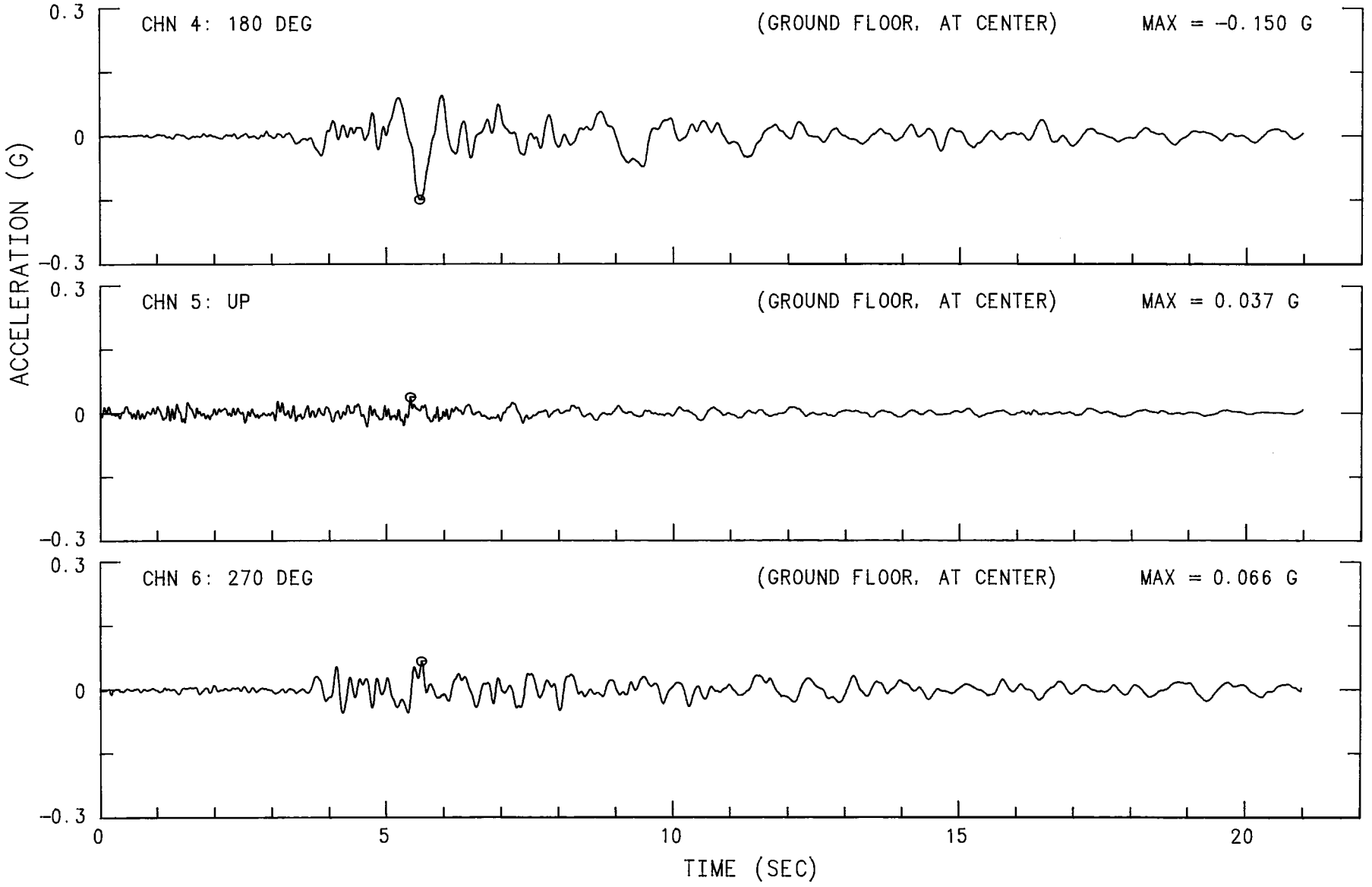
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
TRACY -- SEWAGE TREATMENT PLANT
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .30-.60 TO 23.0-25.0 HZ.
57063-R0555-80025.01 102371.1428-QL80A063



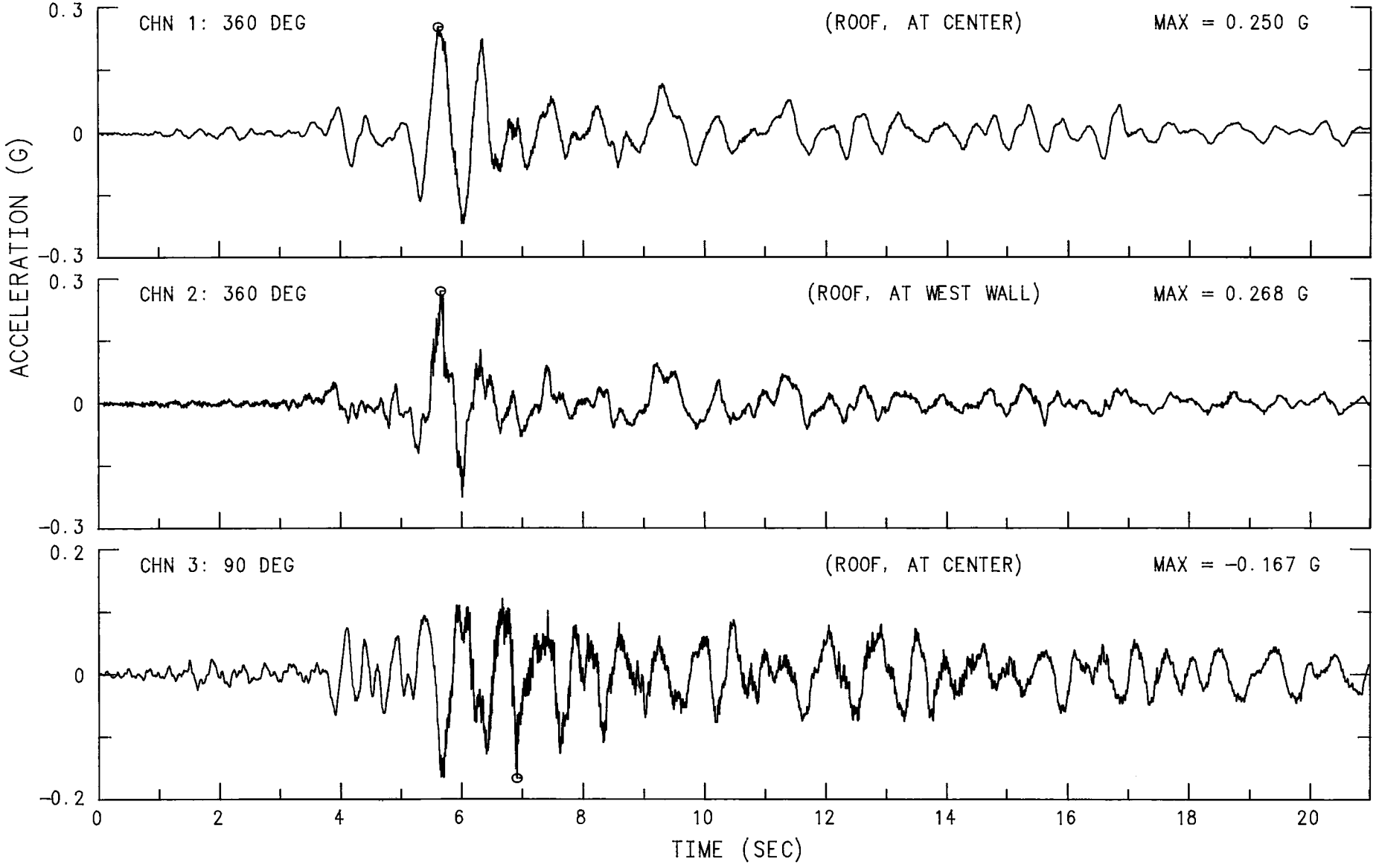
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
SAN RAMON – EASTMAN KODAK BLDG.
UNCORRECTED ACCELEROGRAM 57187-C0105-80025.02 090188.1817-QL80A187



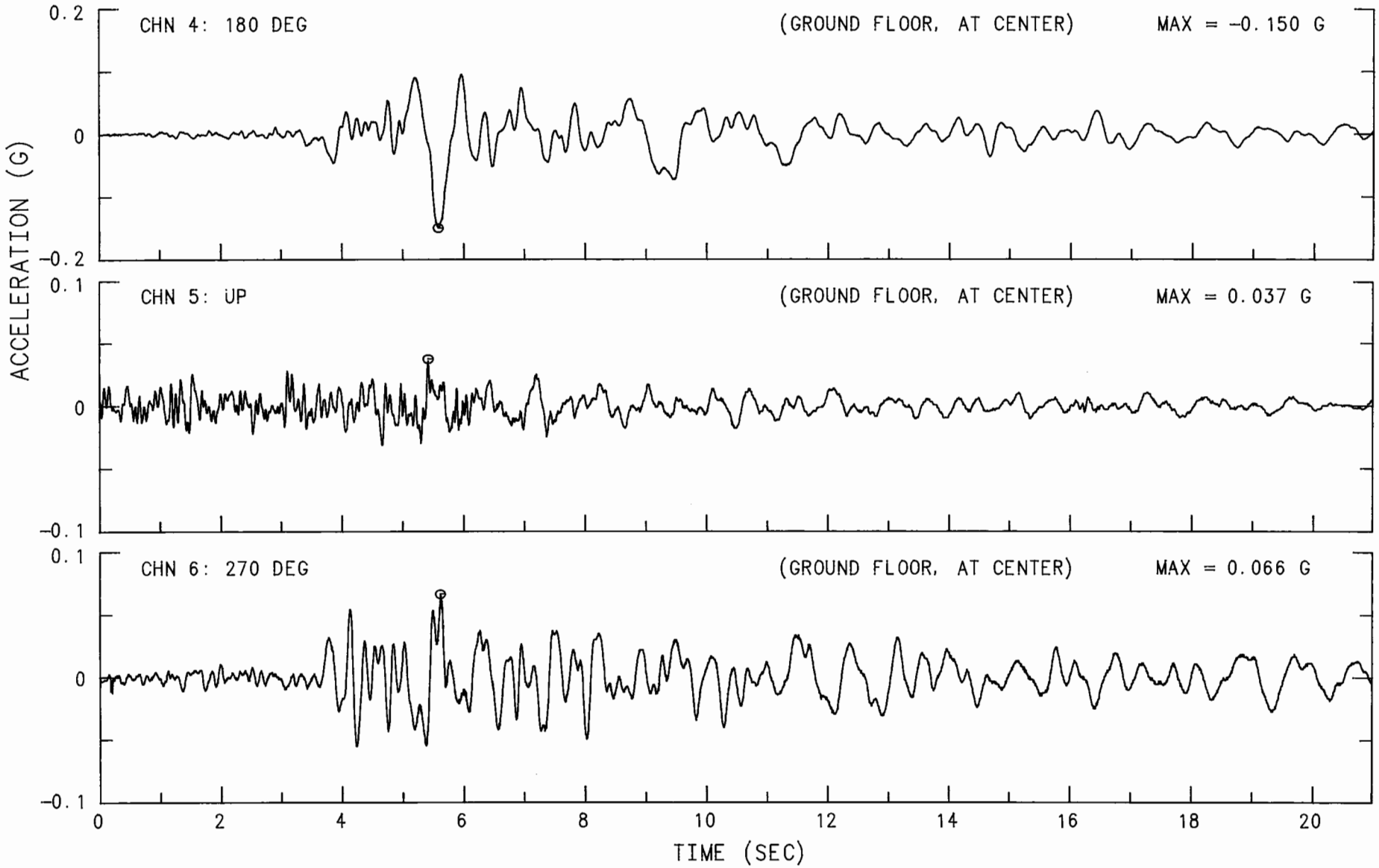
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
SAN RAMON - EASTMAN KODAK BLDG.
UNCORRECTED ACCELEROGRAM 57187-C0105-80025.02 090188.1817-QL80A187



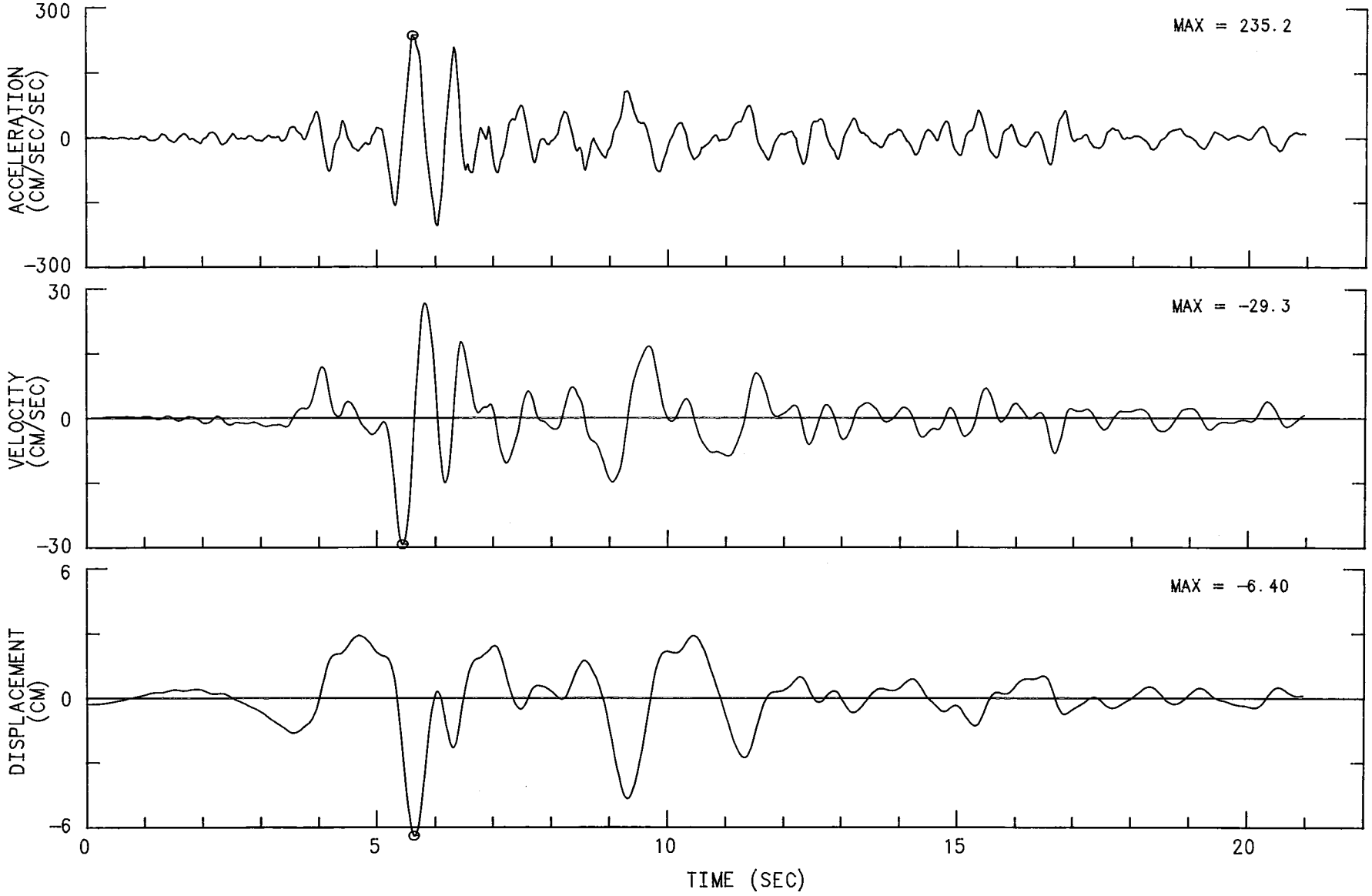
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
SAN RAMON - EASTMAN KODAK BLDG.
UNCORRECTED ACCELEROGRAM 57187-C0105-80025.02 090188.1817-QL80A187



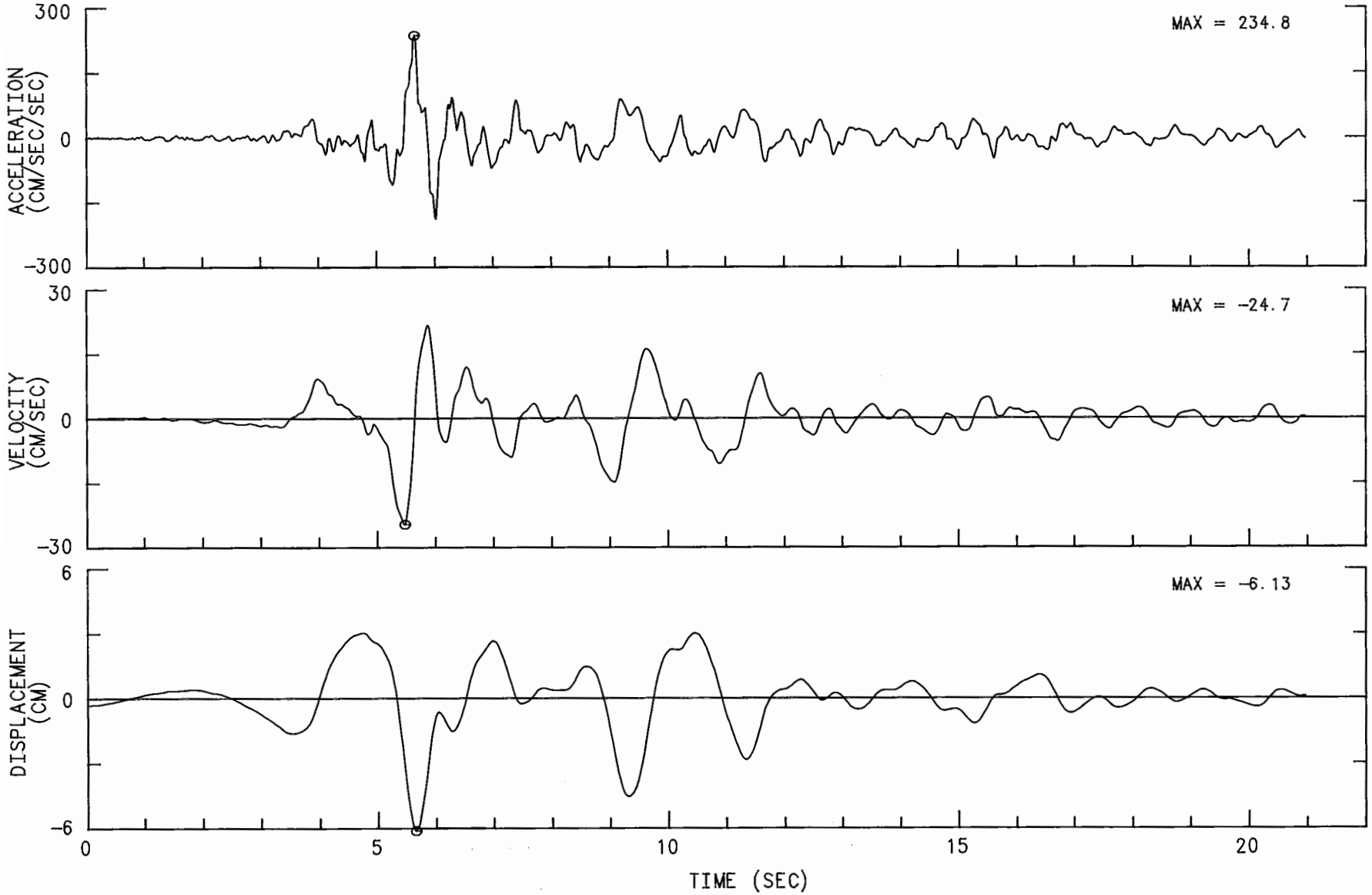
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
SAN RAMON - EASTMAN KODAK BLDG.
UNCORRECTED ACCELEROGRAM 57187-C0105-80025.02 090188.1817-QL80A187

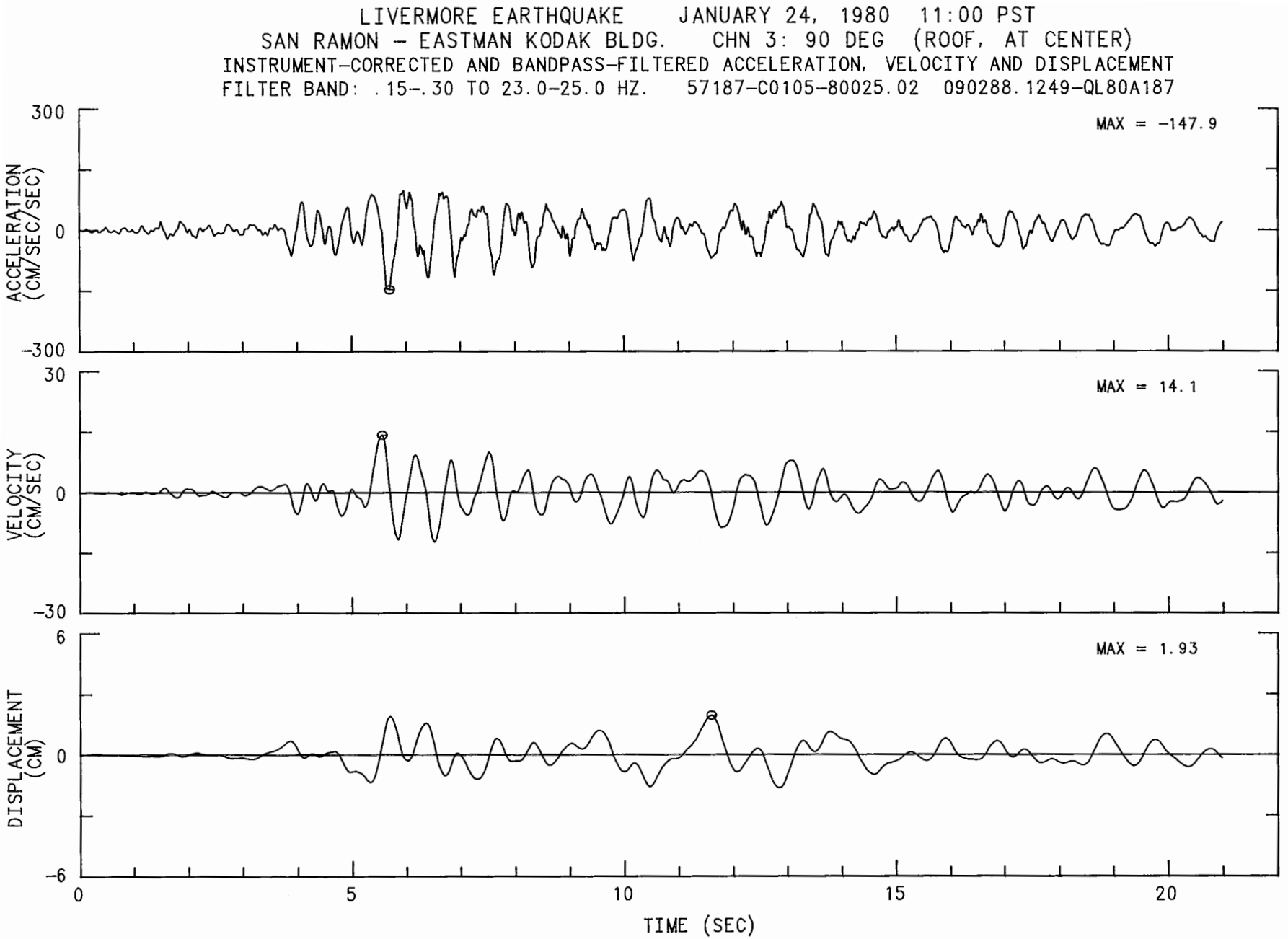


LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
SAN RAMON - EASTMAN KODAK BLDG. CHN 1: 360 DEG (ROOF, AT CENTER)
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .15-.30 TO 23.0-25.0 HZ. 57187-C0105-80025.02 090288.1249-QL80A187

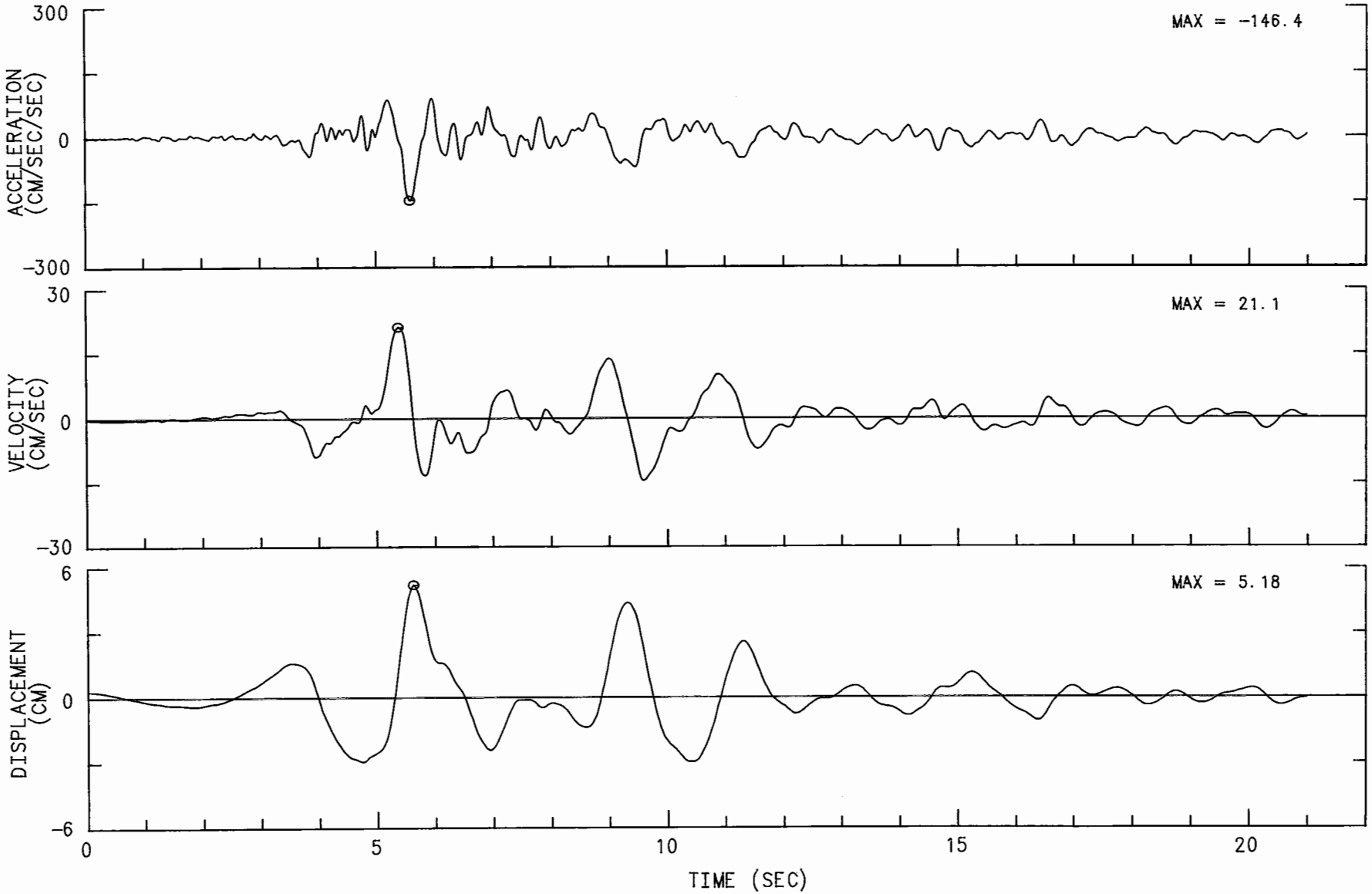


LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
SAN RAMON - EASTMAN KODAK BLDG. CHN 2: 360 DEG (ROOF, AT WEST WALL)
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .15-.30 TO 23.0-25.0 HZ. 57187-C0105-80025.02 090288.1249-QL80A187

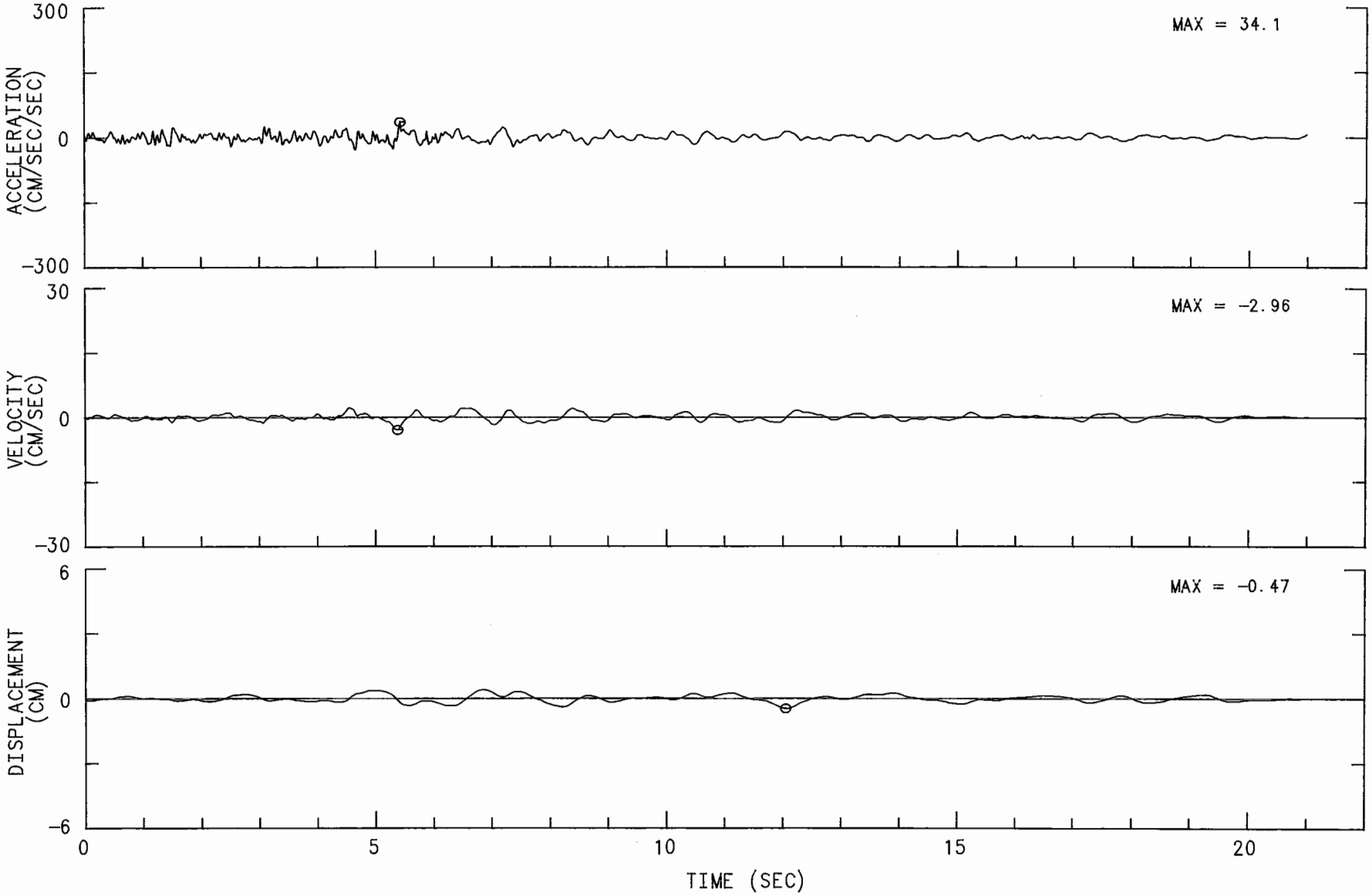



LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
SAN RAMON - EASTMAN KODAK BLDG. CHN 3: 90 DEG (ROOF, AT CENTER)
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .15-.30 TO 23.0-25.0 HZ. 57187-C0105-80025.02 090288.1249-QL80A187
ACCELERATION (CM/SEC/SEC)
300
0
-300
MAX = -147.9
VELOCITY (CM/SEC)
30
0
-30
MAX = 14.1
DISPLACEMENT (CM)
6
0
-6
MAX = 1.93
0
5
10
15
20
TIME (SEC)

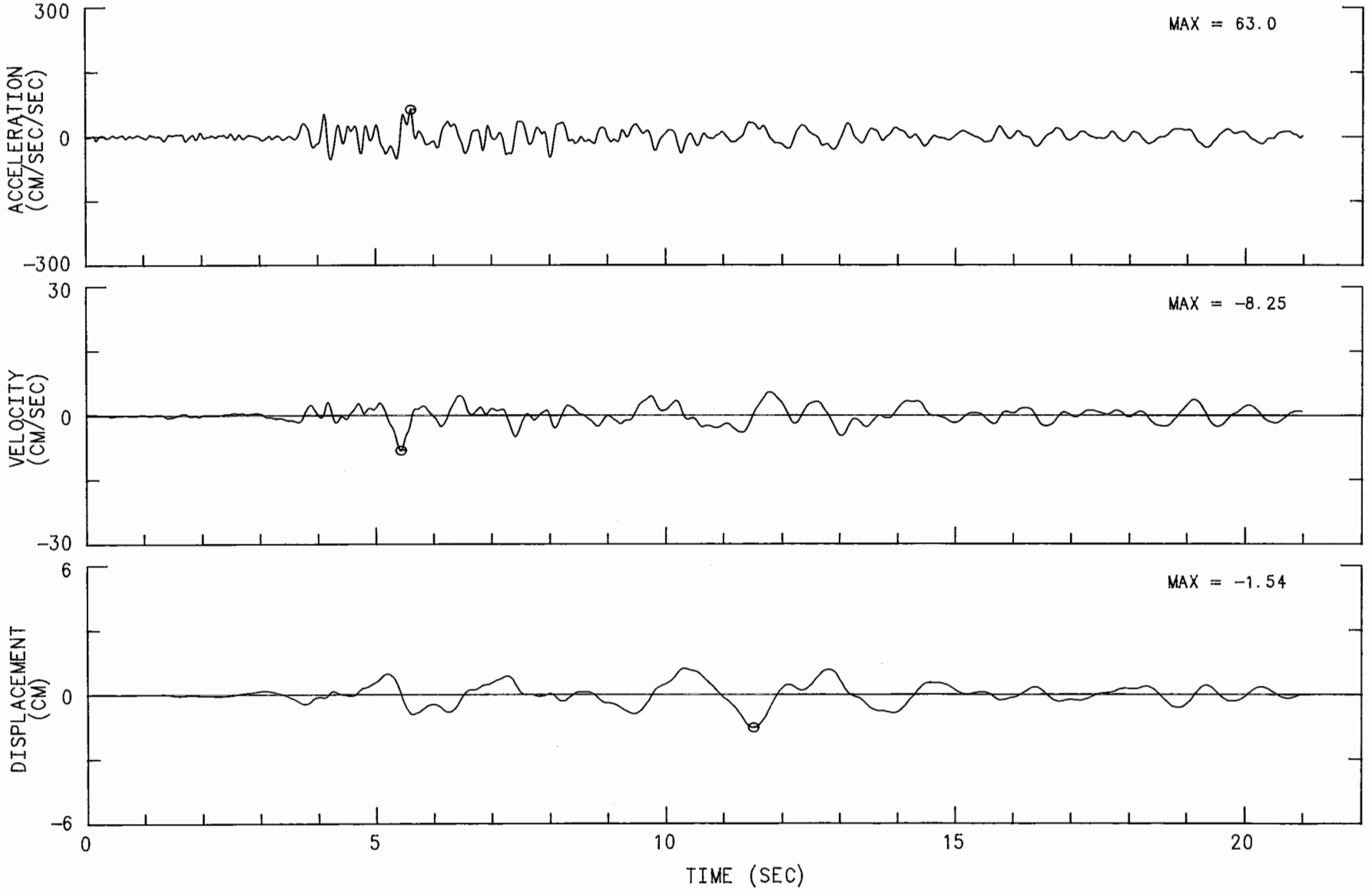
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
SAN RAMON - EASTMAN KODAK BLDG. CHN 4: 180 DEG (GROUND FLOOR, AT CENTER)
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .15-.30 TO 23.0-25.0 HZ. 57187-C0105-80025.02 090288.1249-QL80A187



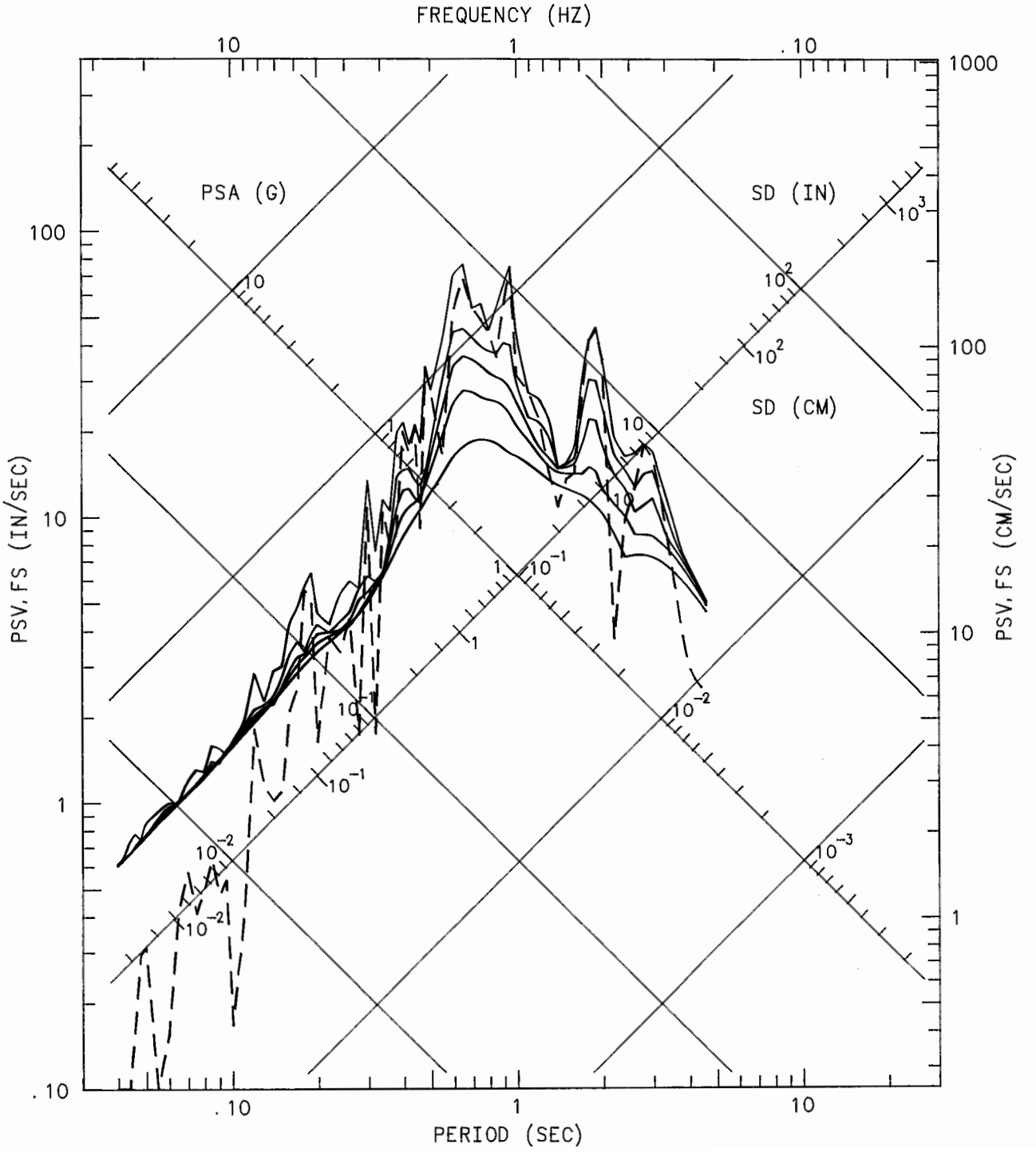
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
SAN RAMON - EASTMAN KODAK BLDG. CHN 5: UP (GROUND FLOOR, AT CENTER)
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .15-.30 TO 23.0-25.0 HZ. 57187-C0105-80025.02 090288.1249-QL80A187



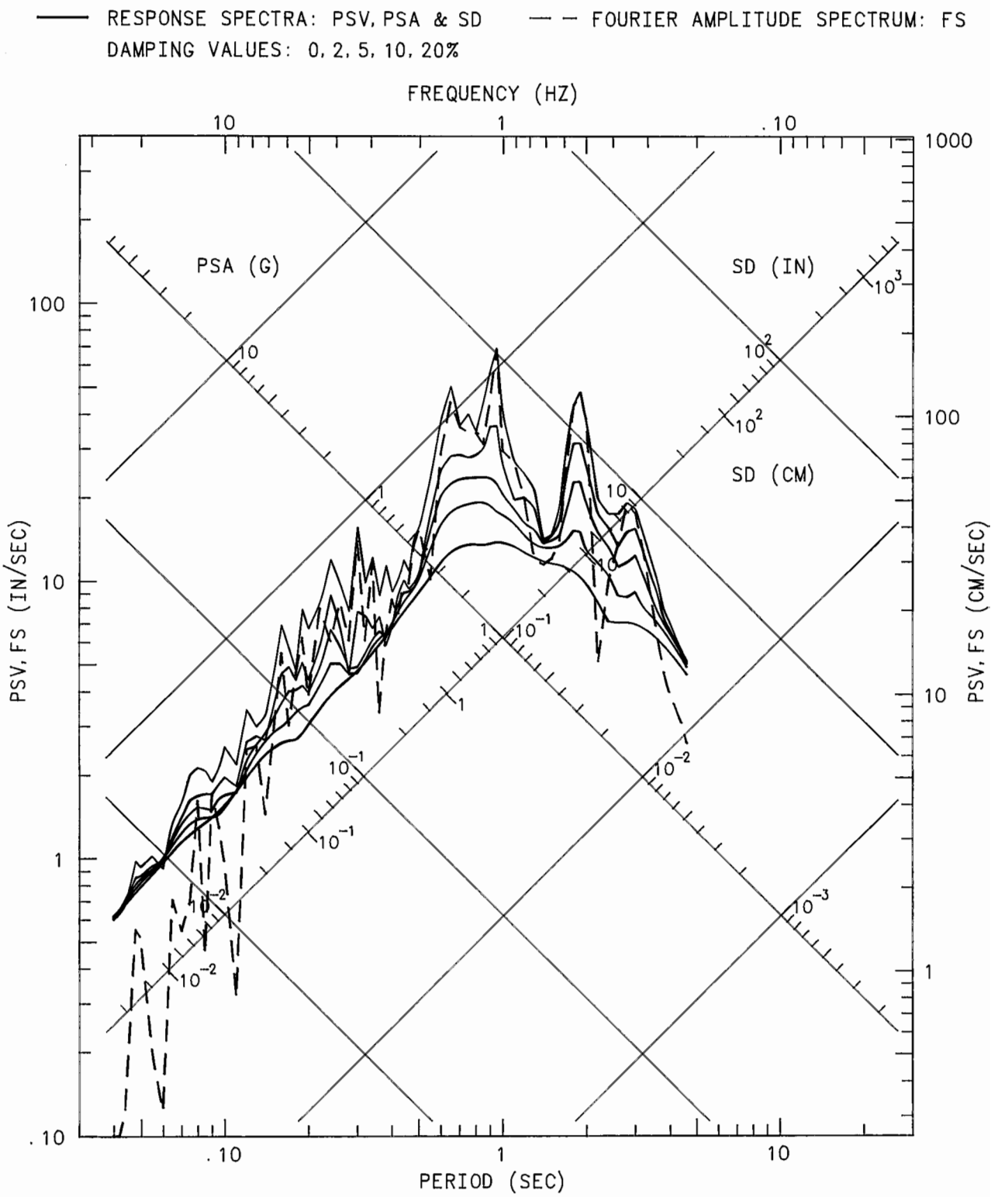
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
SAN RAMON - EASTMAN KODAK BLDG. CHN 6: 270 DEG (GROUND FLOOR, AT CENTER)
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .15-.30 TO 23.0-25.0 HZ. 57187-C0105-80025.02 090288.1249-QL80A187



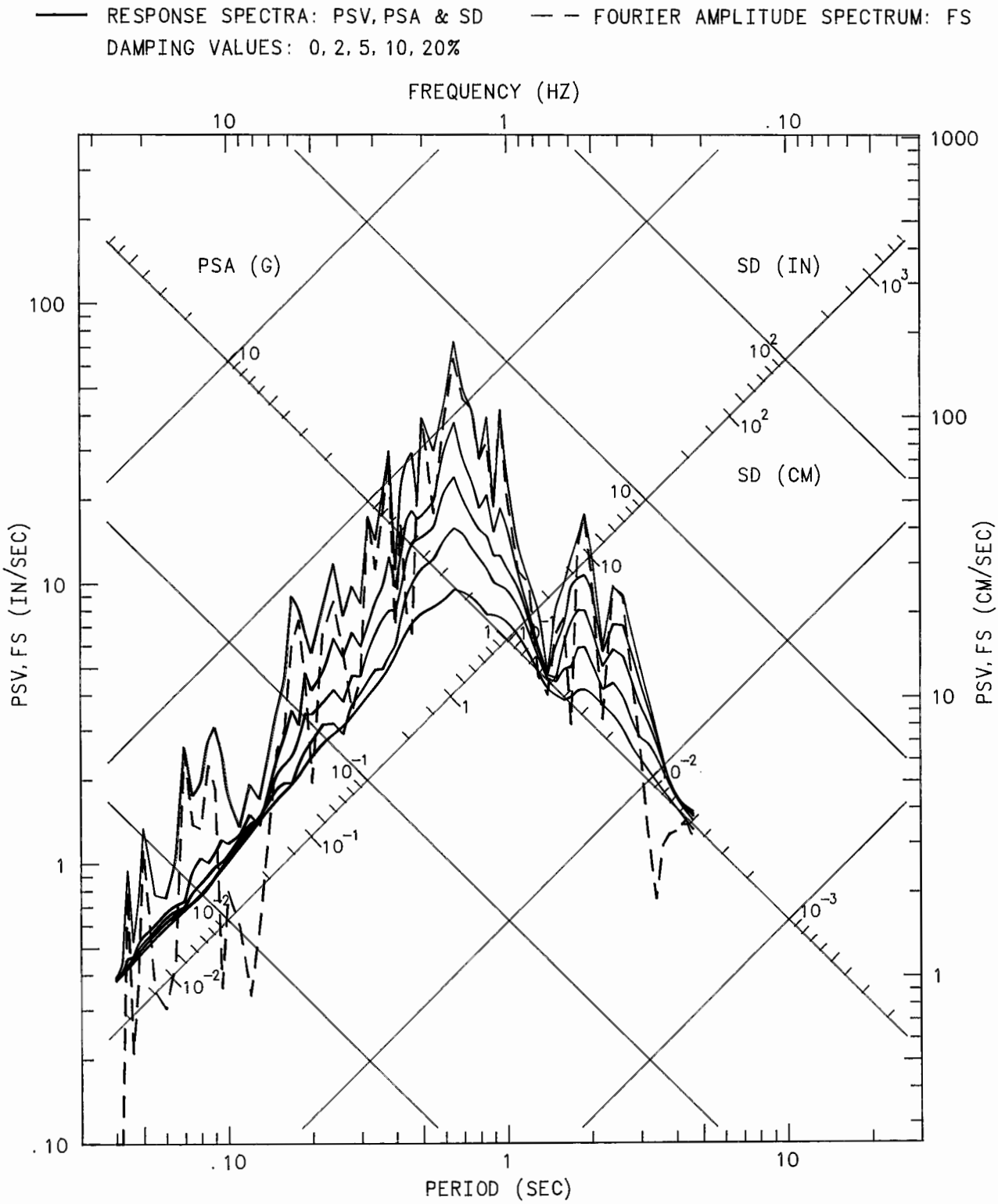
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
SAN RAMON – EASTMAN KODAK BLDG.
CHN 1: 360 DEG (ROOF, AT CENTER)
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .15-.30 TO 23.0-25.0 HZ.
57187-C0105-80025.02 090788.0951-QL80A187



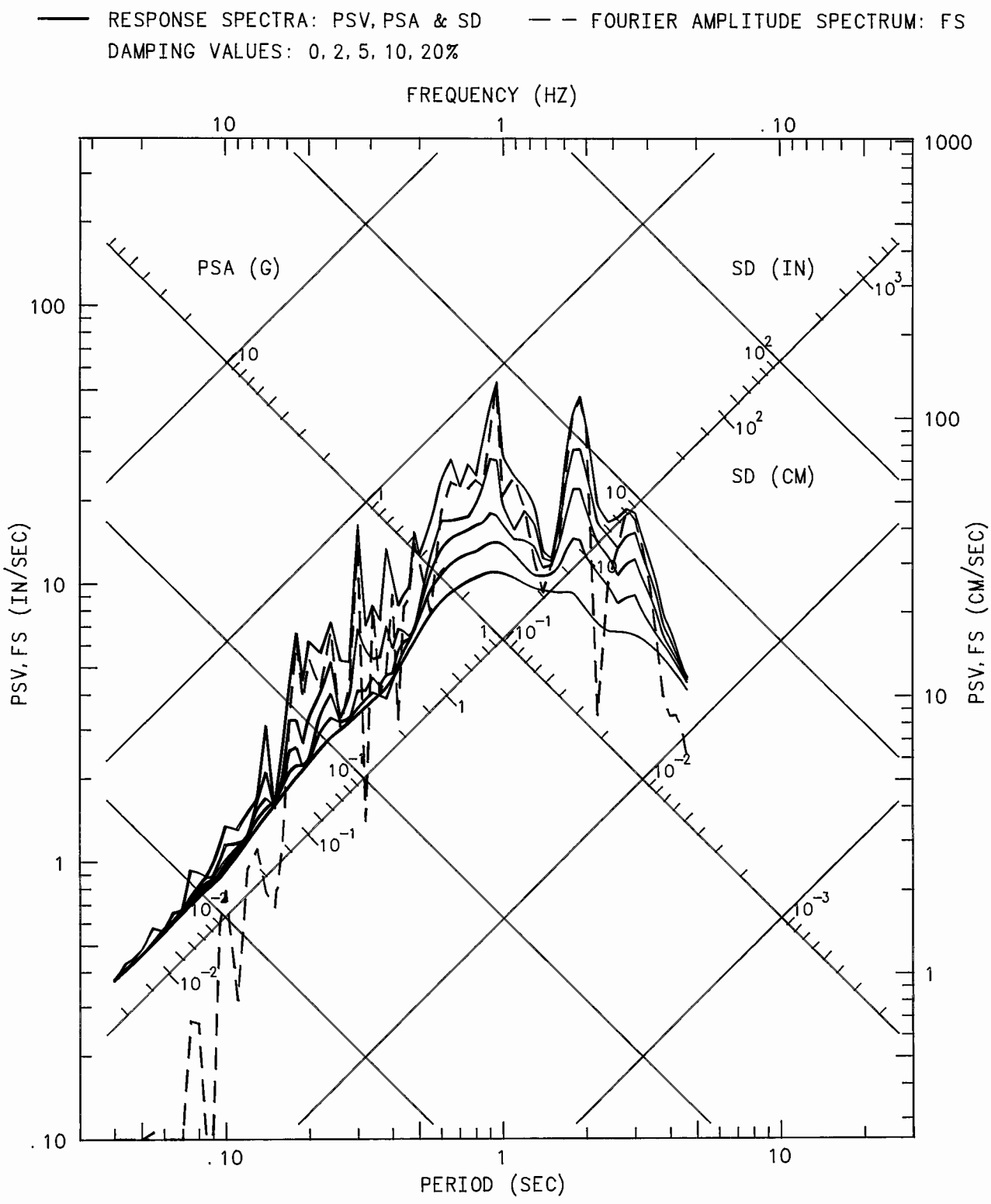
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
SAN RAMON - EASTMAN KODAK BLDG.
CHN 2: 360 DEG (ROOF, AT WEST WALL)
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .15-.30 TO 23.0-25.0 HZ.
57187-C0105-80025.02 090788.0951-QL80A187



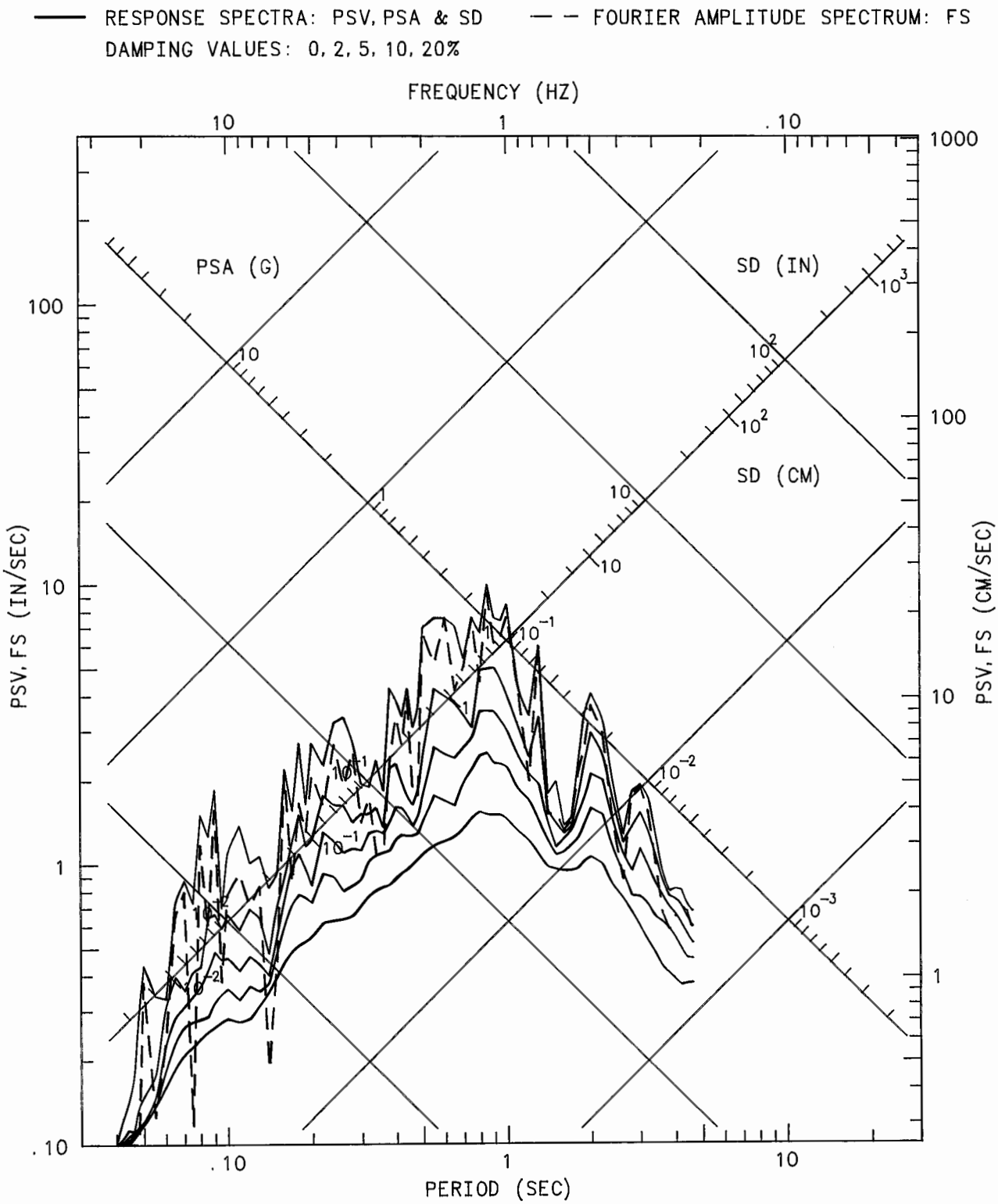
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
SAN RAMON - EASTMAN KODAK BLDG.
CHN 3: 90 DEG (ROOF, AT CENTER)
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .15-.30 TO 23.0-25.0 HZ.
57187-C0105-80025.02 090788.0951-QL80A187



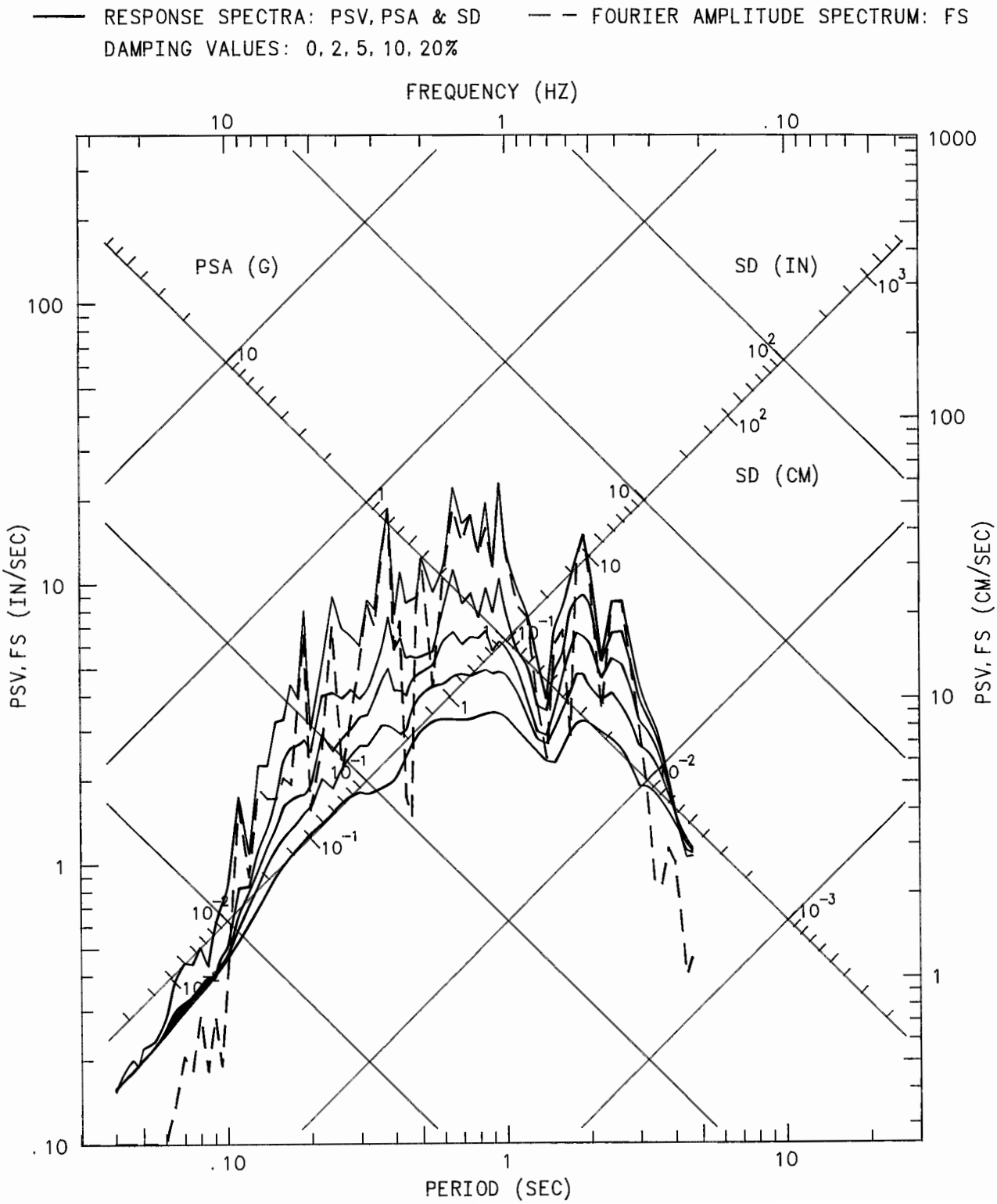
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
SAN RAMON - EASTMAN KODAK BLDG.
CHN 4: 180 DEG (GROUND FLOOR, AT CENTER)
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .15-.30 TO 23.0-25.0 HZ.
57187-C0105-80025.02 090788.0951-QL80A187



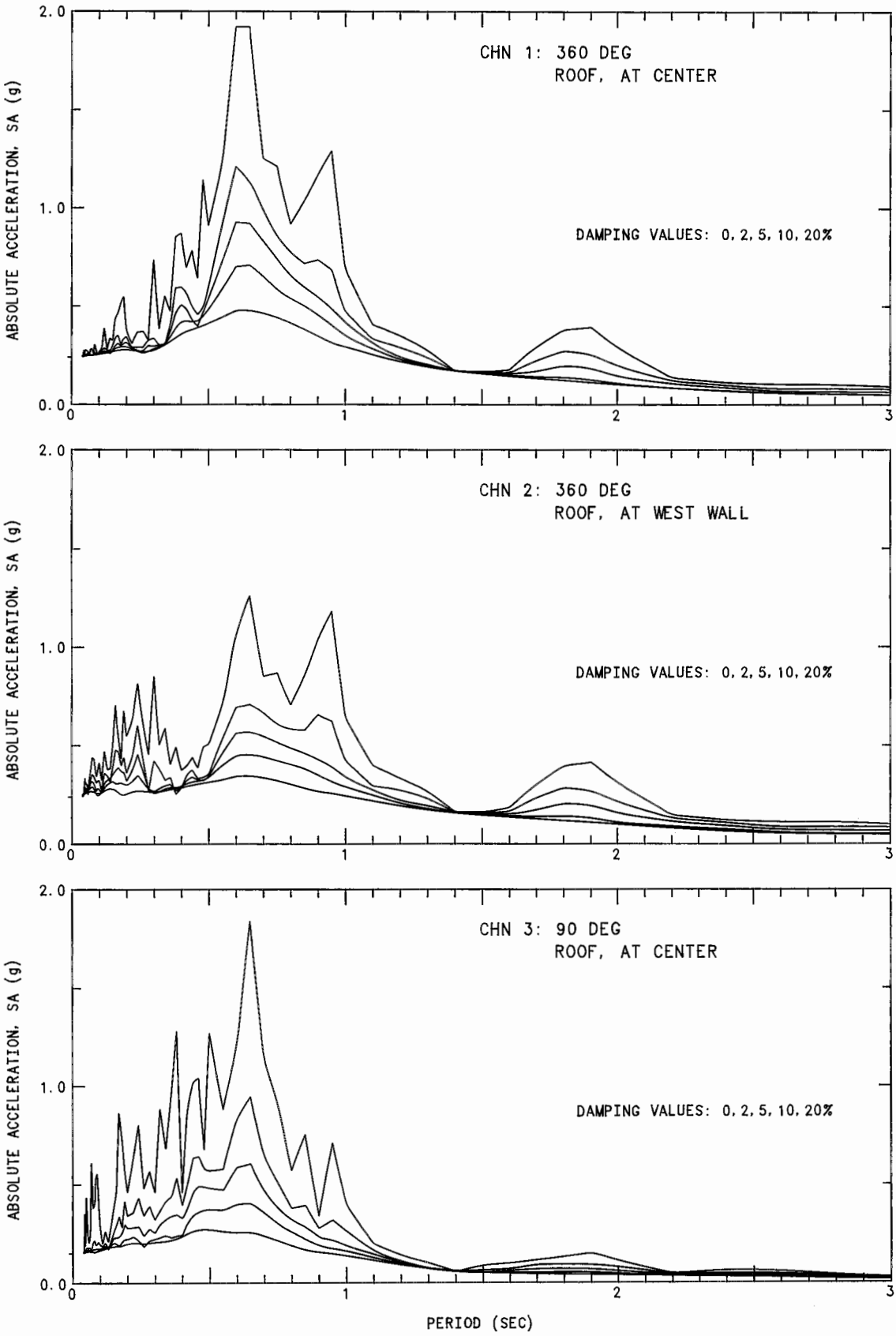
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
SAN RAMON - EASTMAN KODAK BLDG.
CHN 5: UP (GROUND FLOOR, AT CENTER)
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .15-.30 TO 23.0-25.0 HZ.
57187-C0105-80025.02 090788.0951-QL80A187



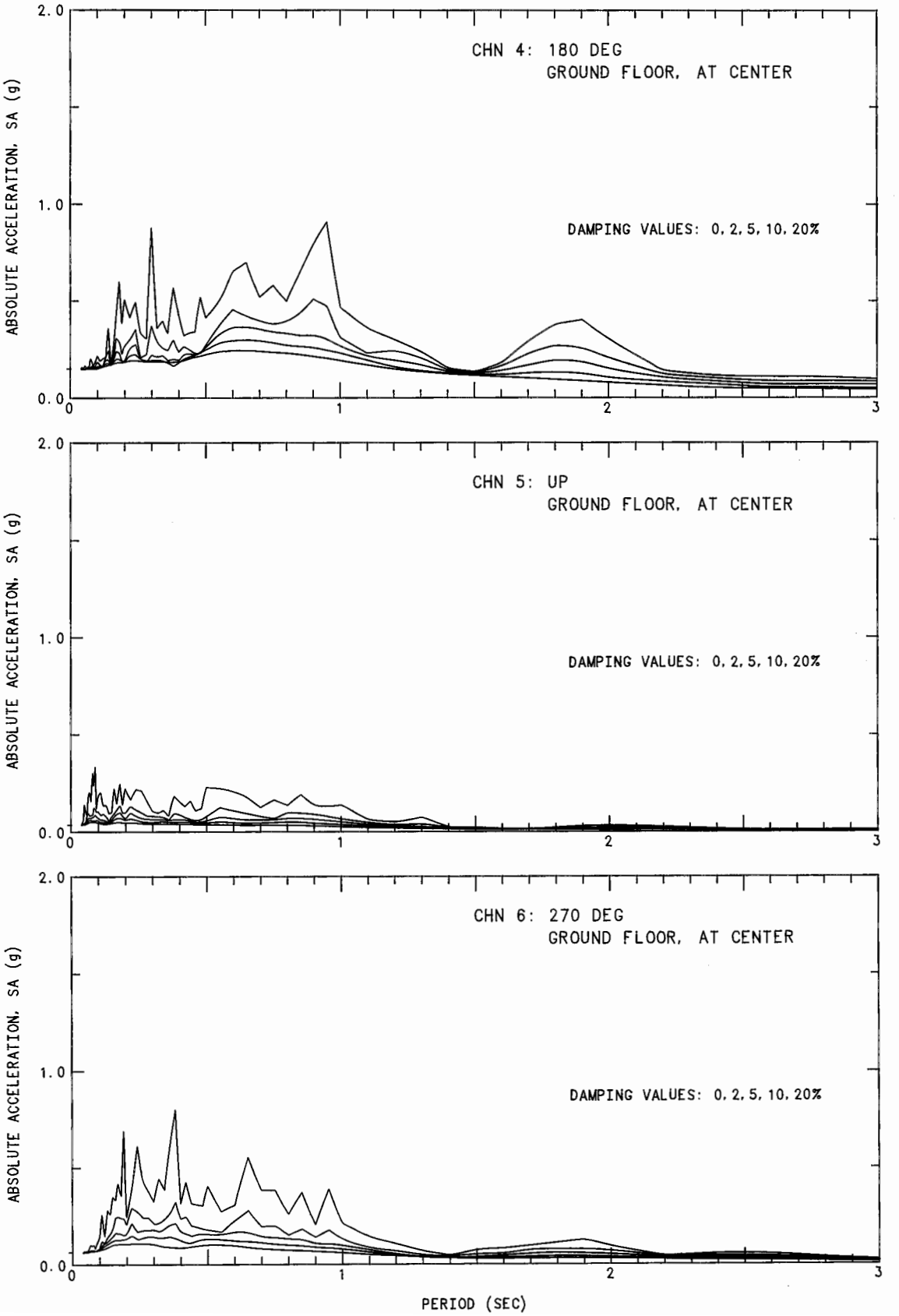
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
SAN RAMON - EASTMAN KODAK BLDG.
CHN 6: 270 DEG (GROUND FLOOR, AT CENTER)
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .15-.30 TO 23.0-25.0 HZ.
57187-C0105-80025.02 090788.0951-QL80A187



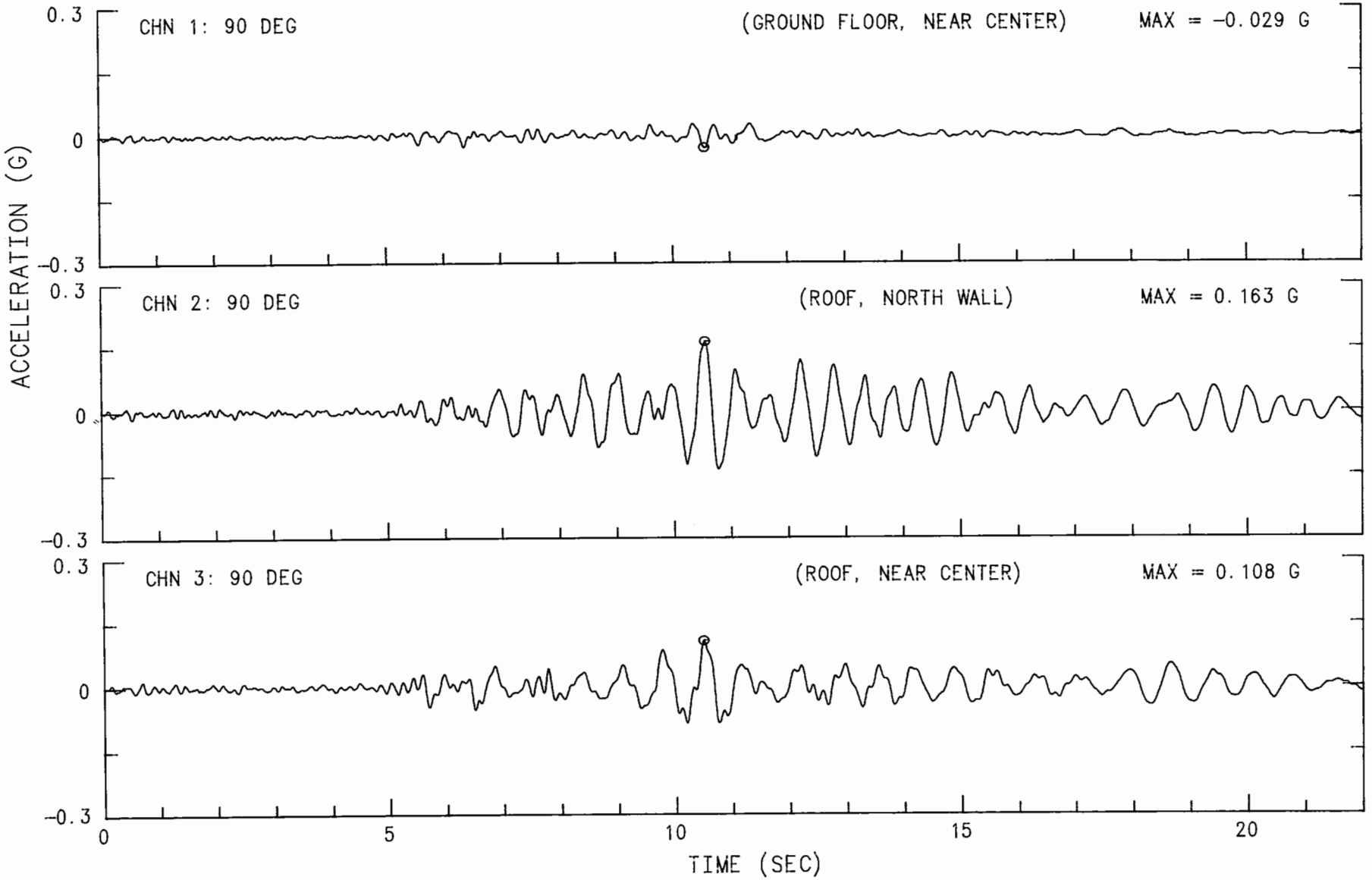
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
SAN RAMON - EASTMAN KODAK BLDG.
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .15-.30 TO 23.0-25.0 HZ.
57187-C0105-80025.02 090688.0951-QL80A187



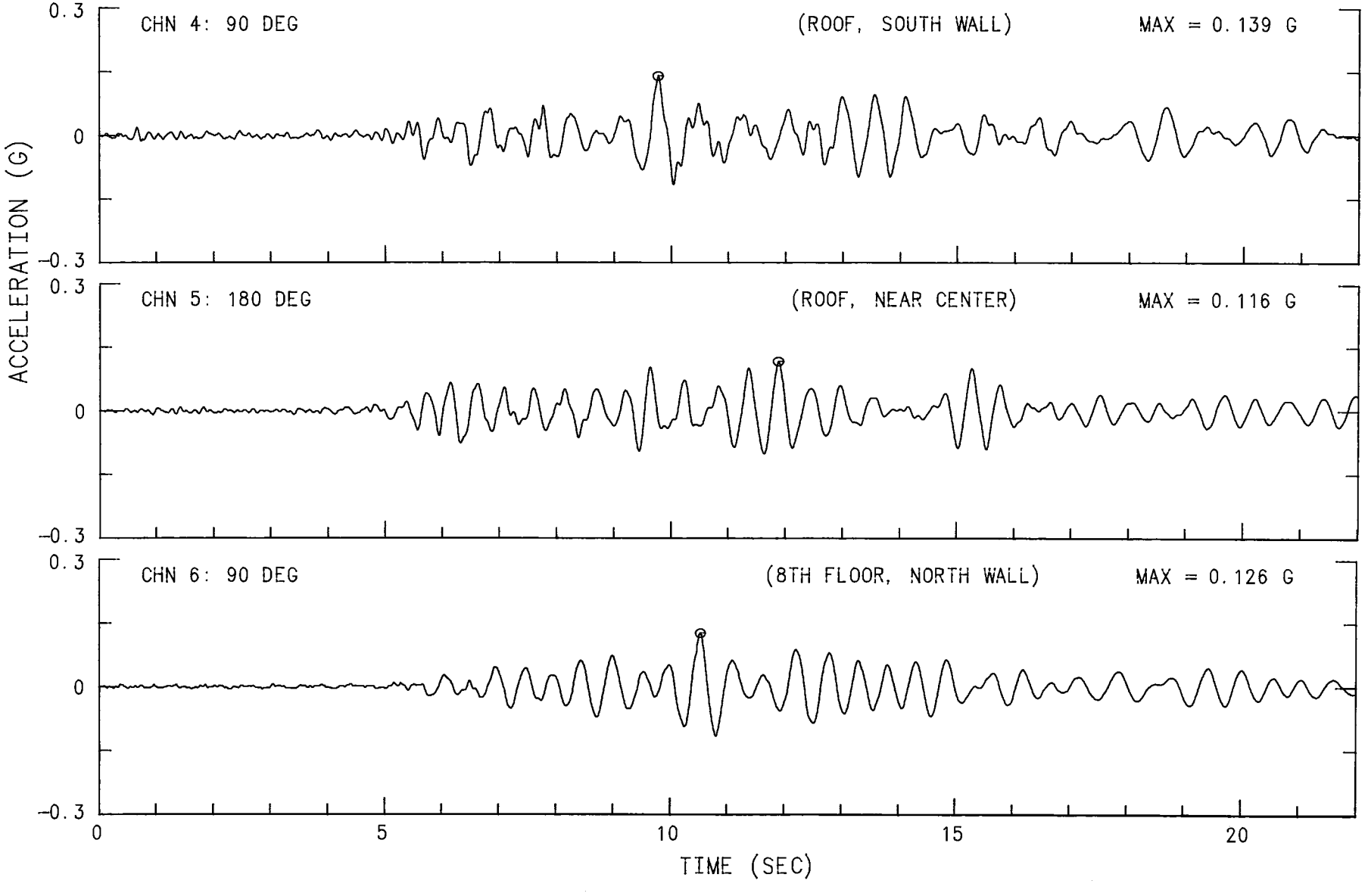
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
SAN RAMON - EASTMAN KODAK BLDG.
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .15-.30 TO 23.0-25.0 HZ.
57187-C0105-80025.02 090688.0951-QL80A187



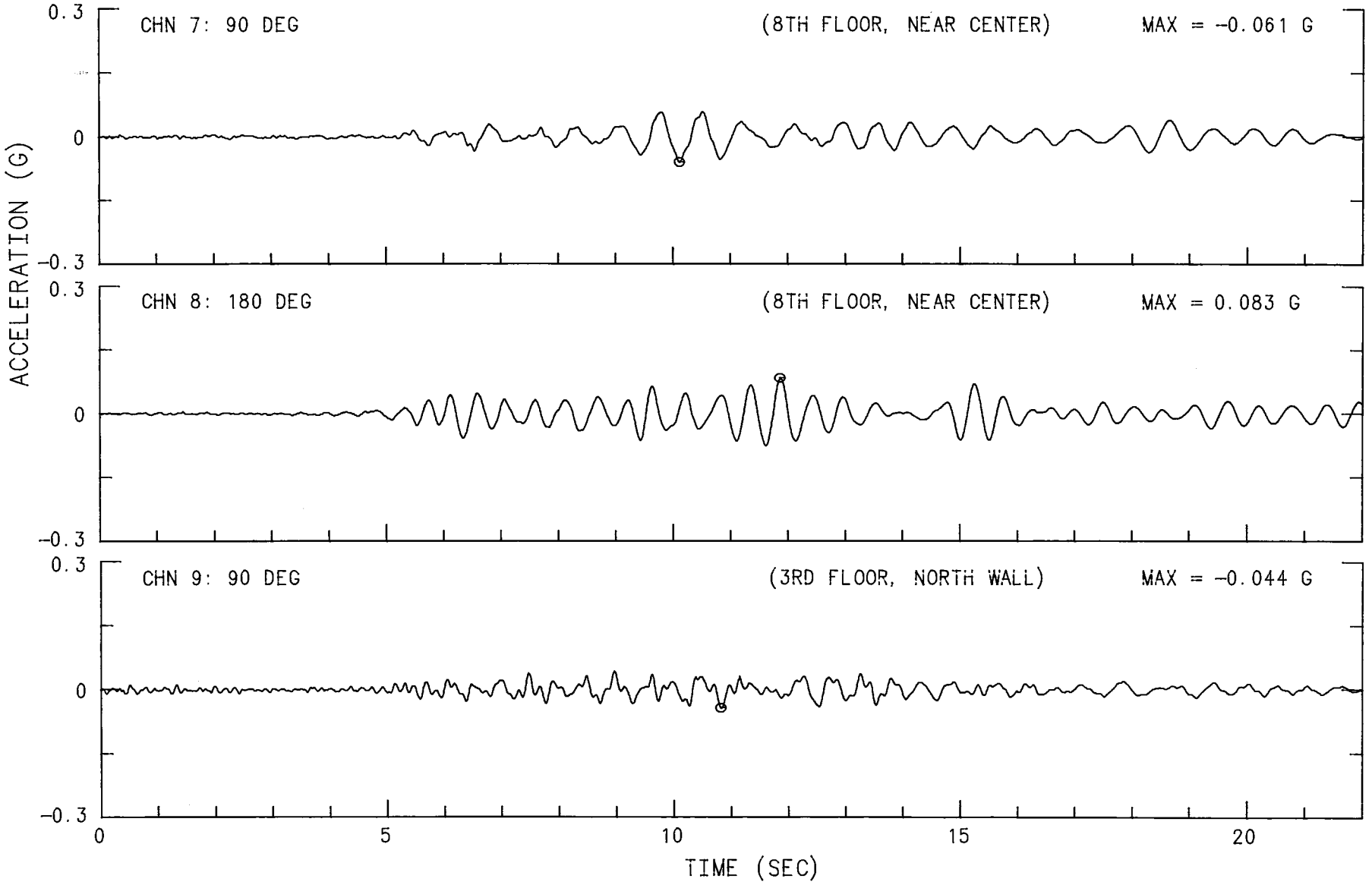
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG.
UNCORRECTED ACCELEROGRAM 58364-C0194-80025.01 110471.1550-QL80A364C



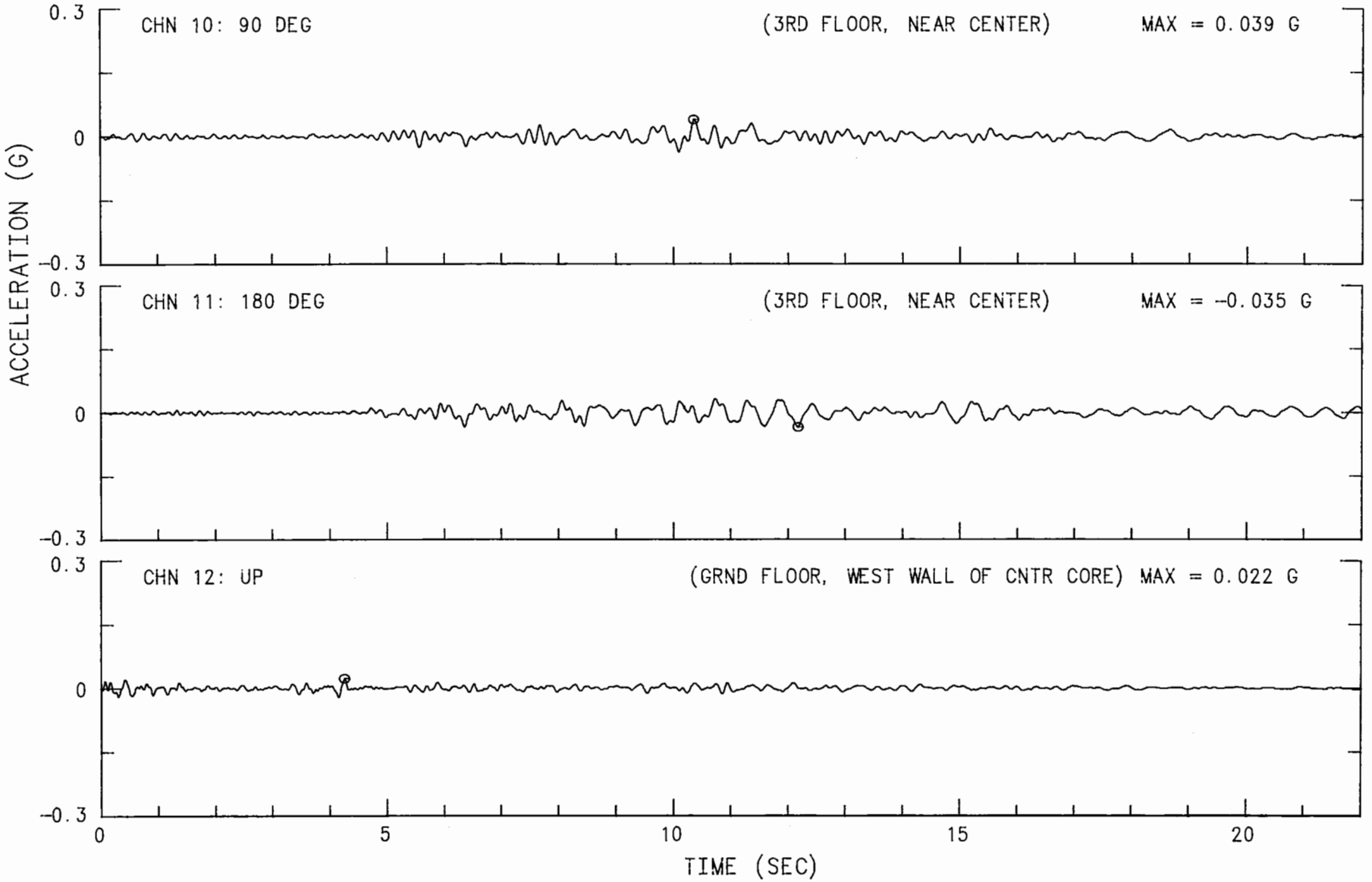
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG.
UNCORRECTED ACCELEROGRAM 58364-C0194-80025.01 110471.1550-QL80A364C



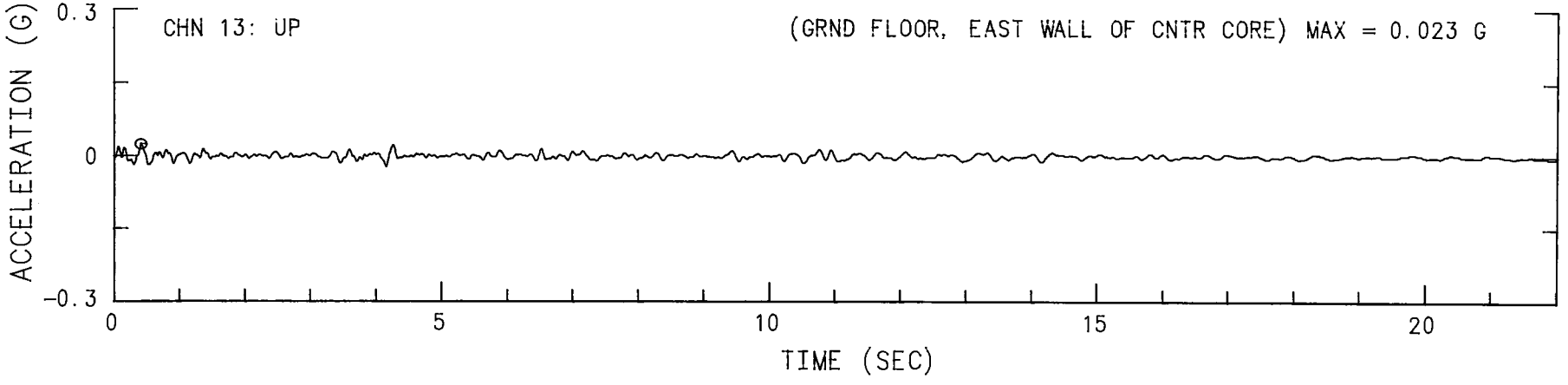
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG.
UNCORRECTED ACCELEROGRAM 58364-C0194-80025.01 110471.1550-QL80A364C



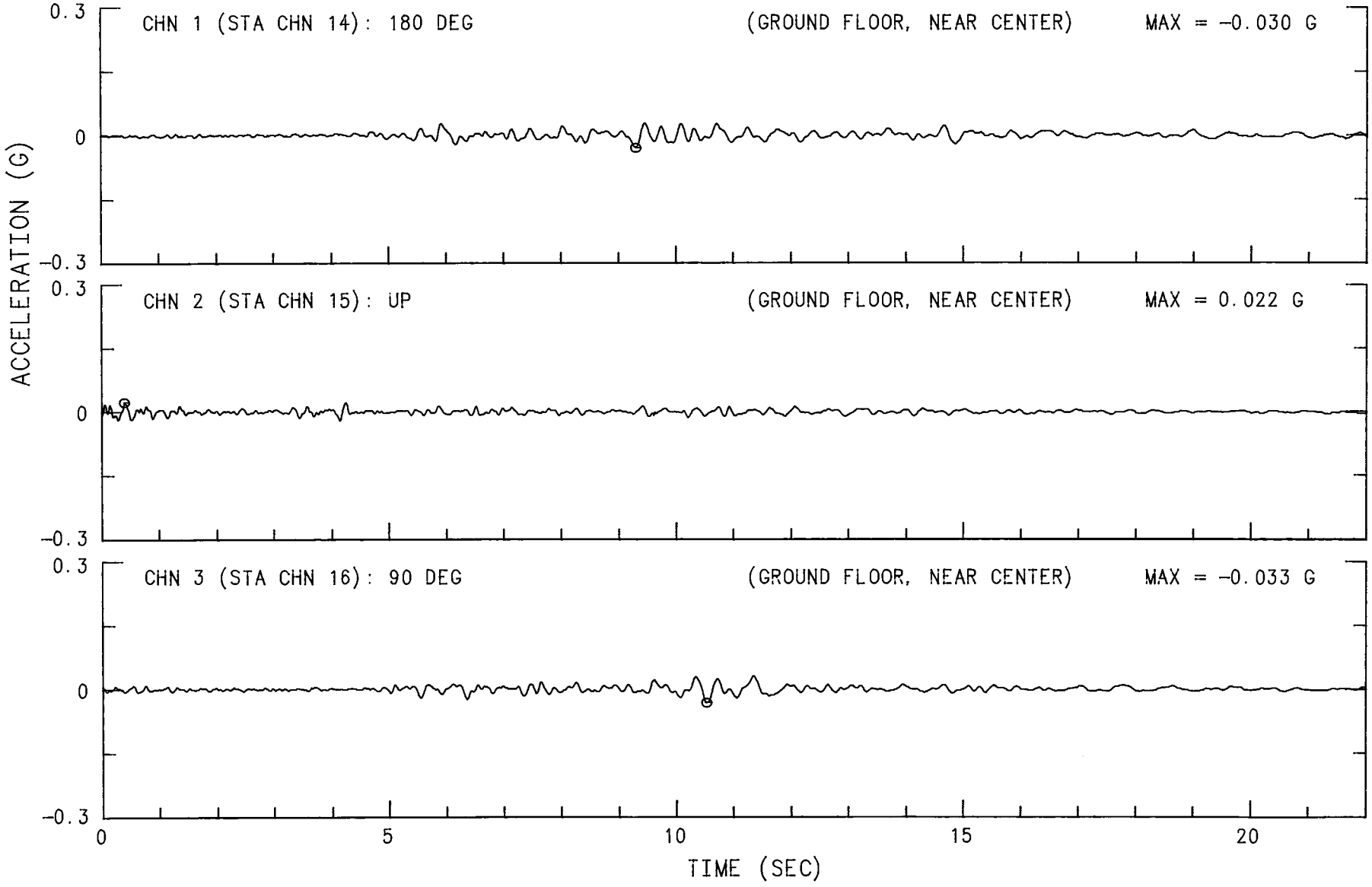
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG.
UNCORRECTED ACCELEROGRAM 58364-C0194-80025.01 110471.1550-QL80A364C



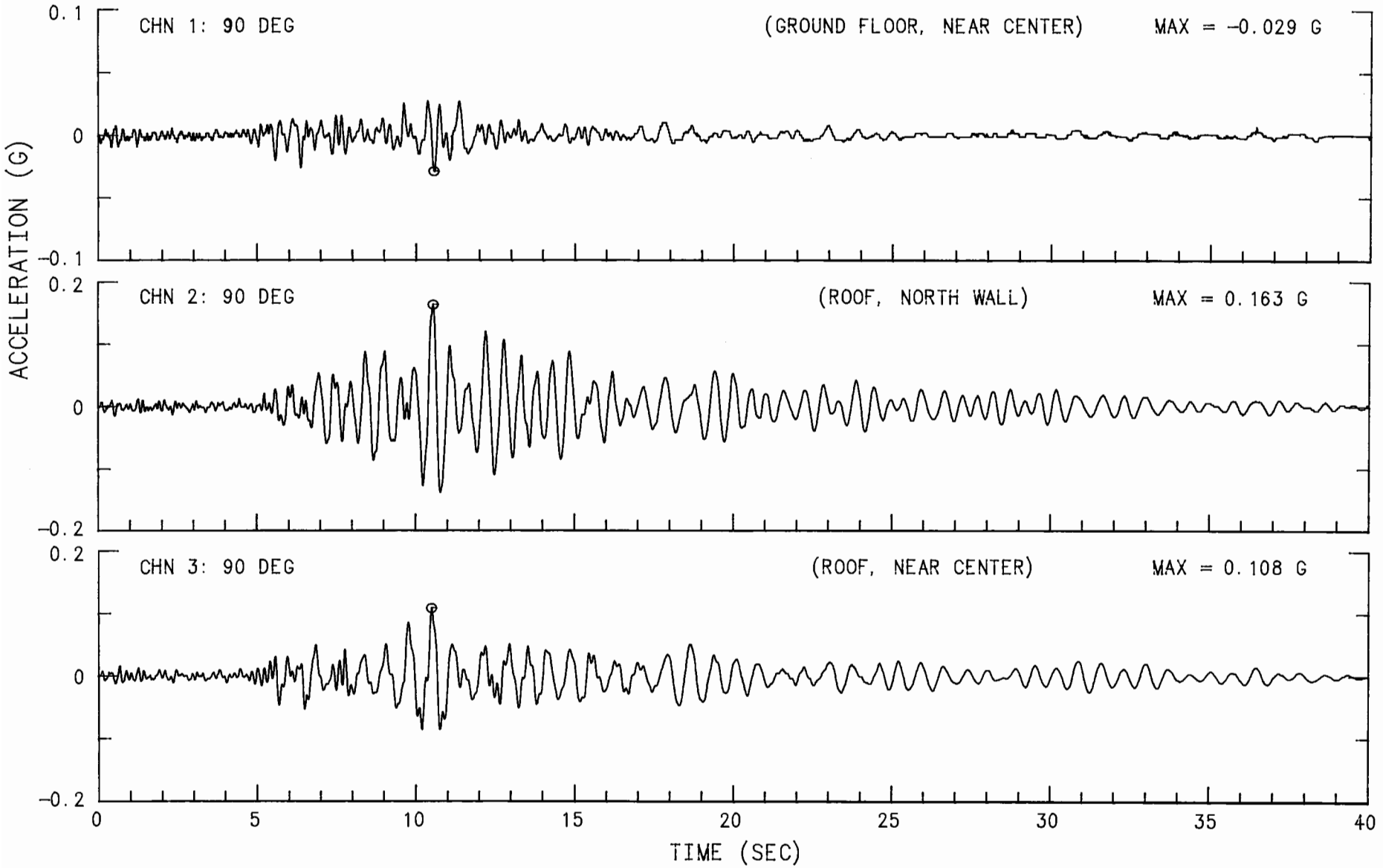
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG.
UNCORRECTED ACCELEROGRAM 58364-C0194-80025.01 110471.1550-QL80A364C



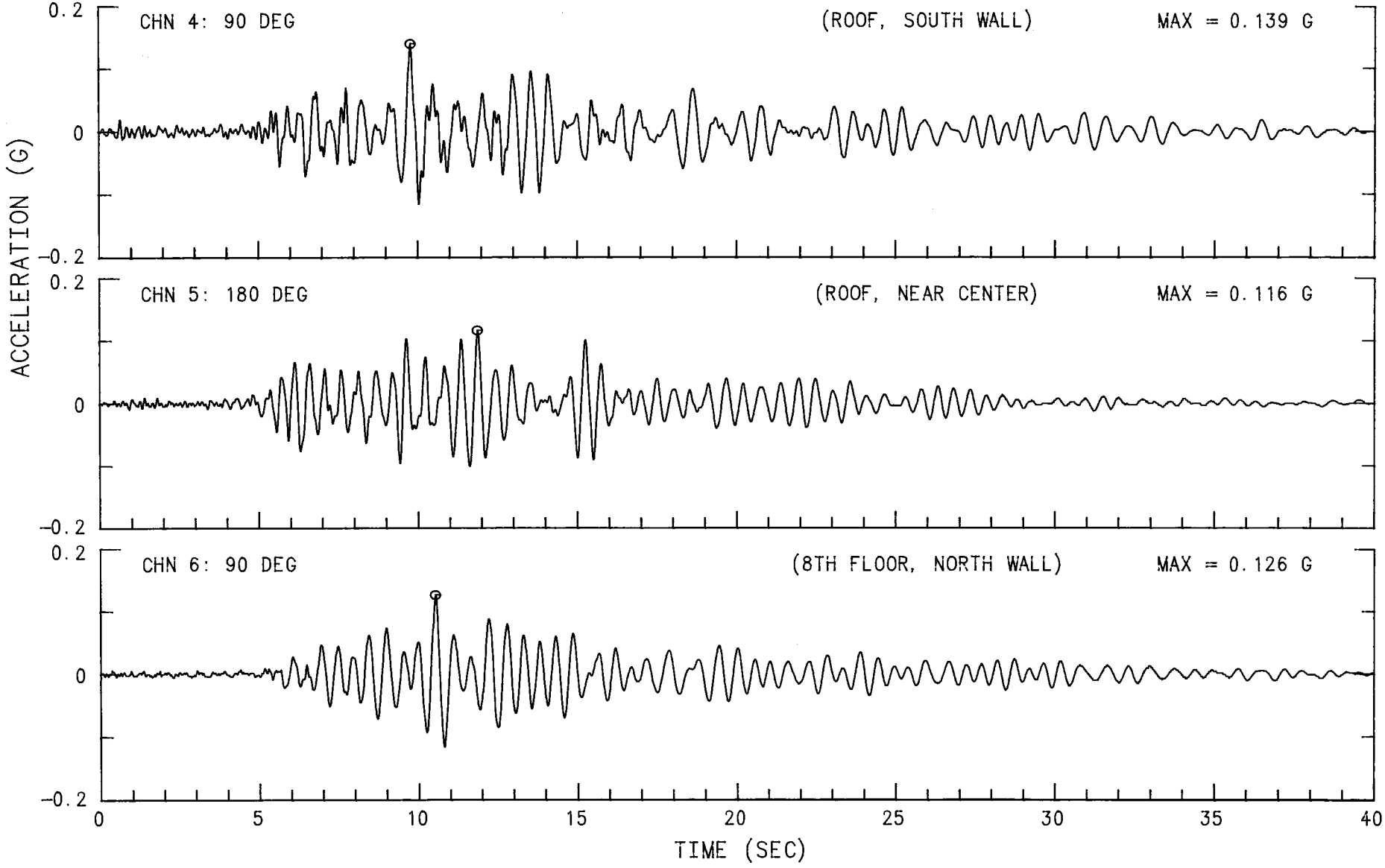
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG.
UNCORRECTED ACCELEROGRAM 58364-S3490-80025.01 110671.1721-QL80A364



LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK – 10-STORY COMMERCIAL BLDG.
UNCORRECTED ACCELEROGRAM 58364-C0194-80025.01 110471.1550-QL80A364C



LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG.
UNCORRECTED ACCELEROGRAM 58364-C0194-80025.01 110471.1550-QL80A364C



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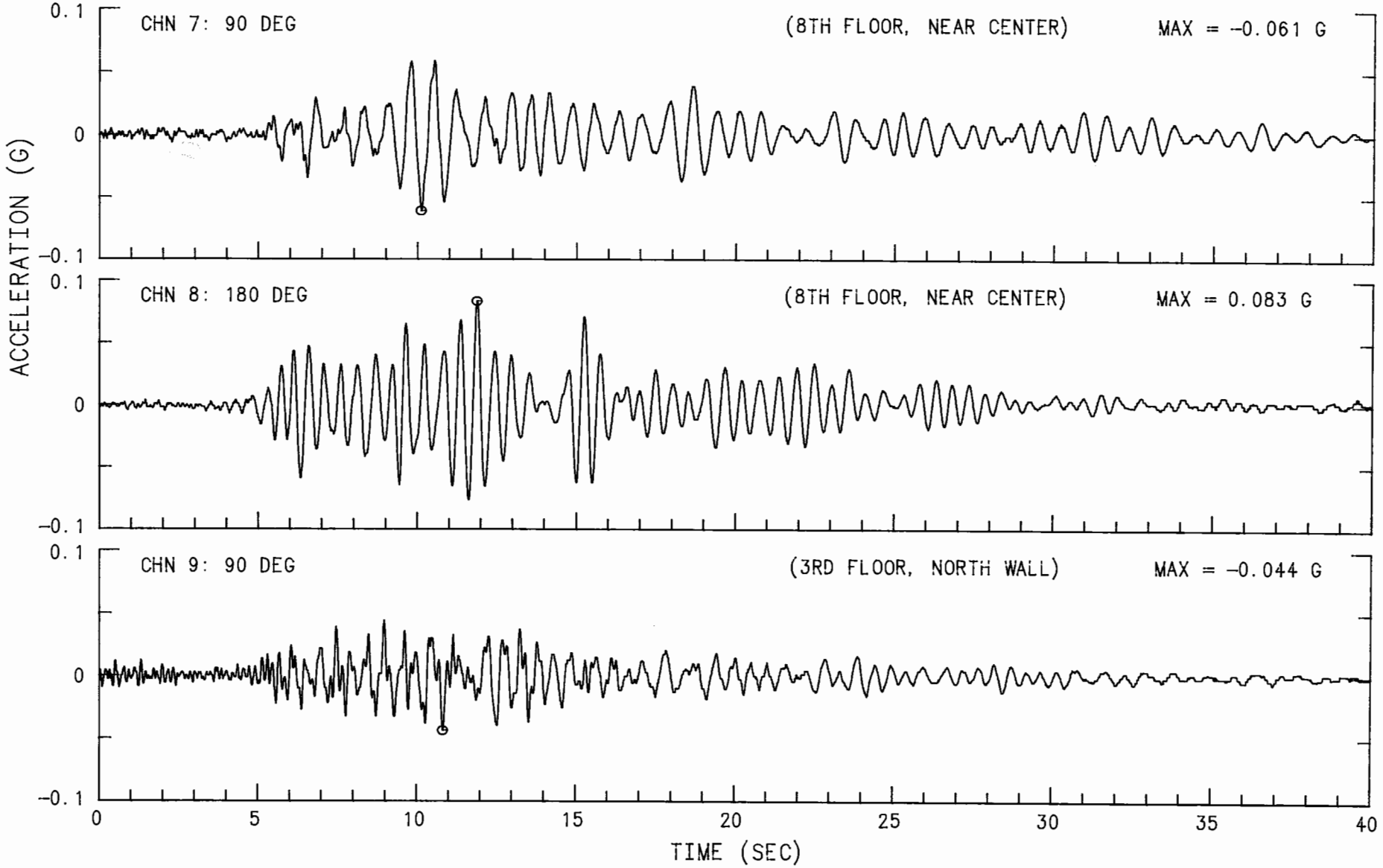
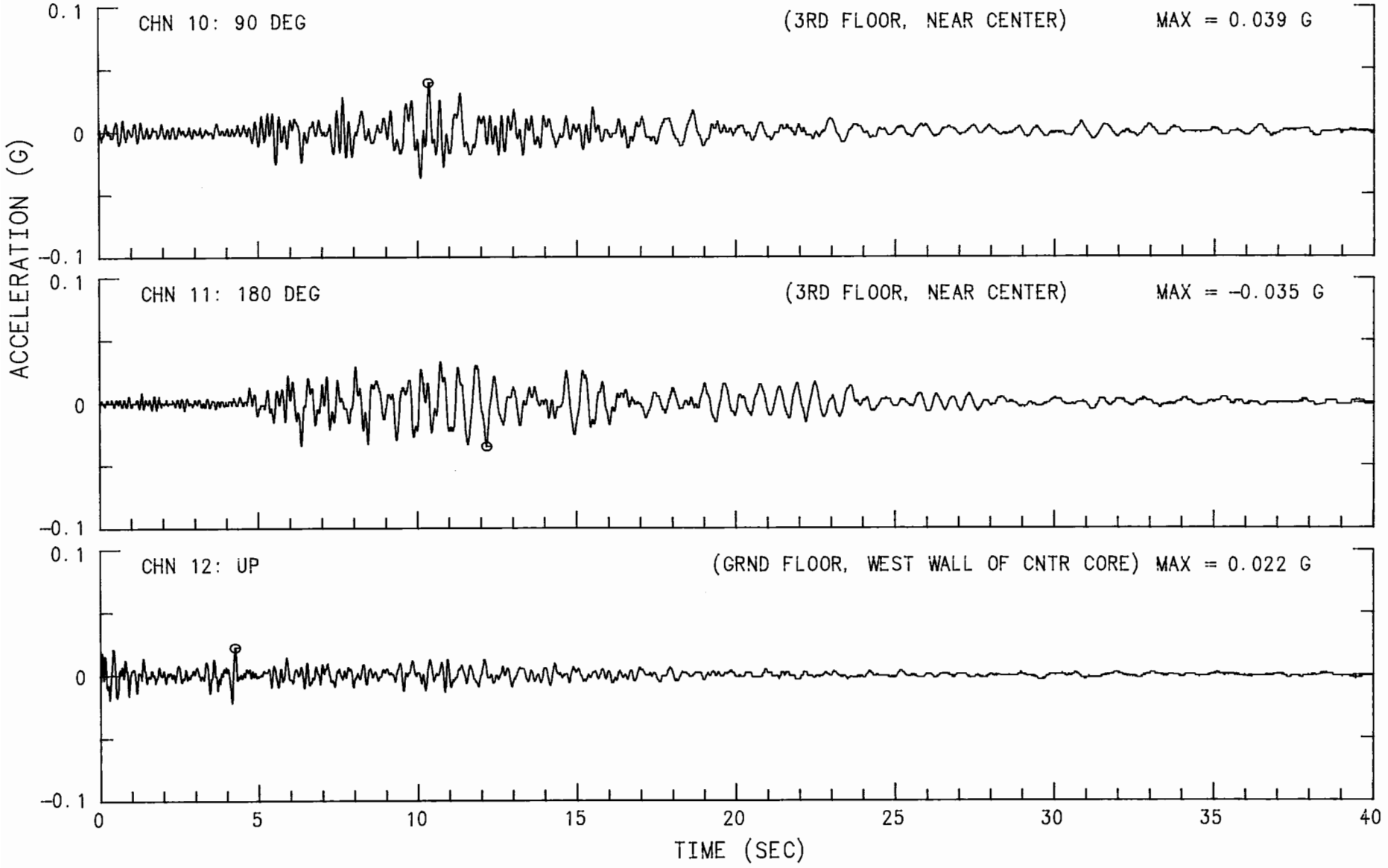
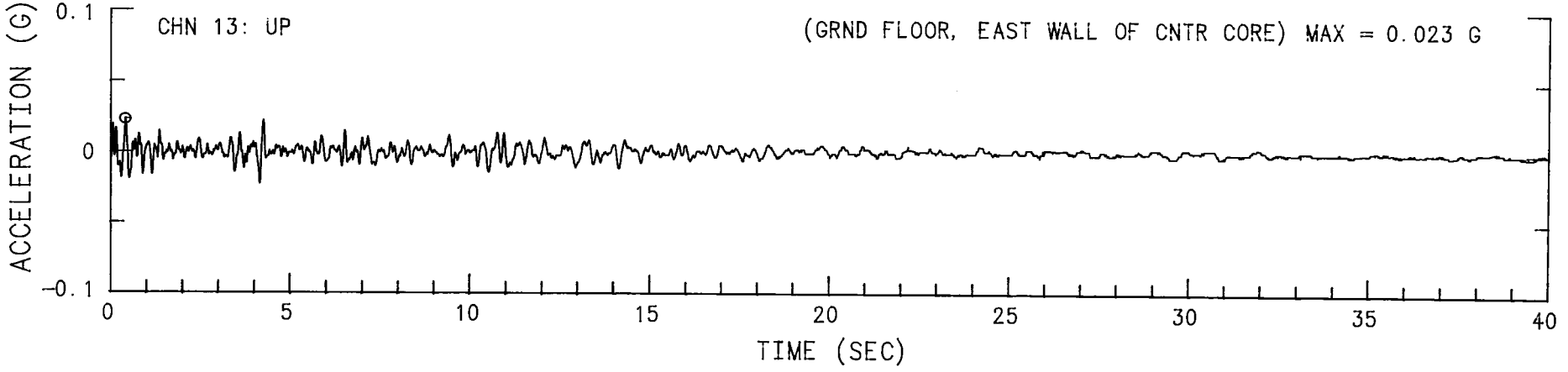
WALNUT CREEK – 10-STORY COMMERCIAL BLDG.
UNCORRECTED ACCELEROGRAM 58364-C0194-80025.01 110471.1550-QL80A364C



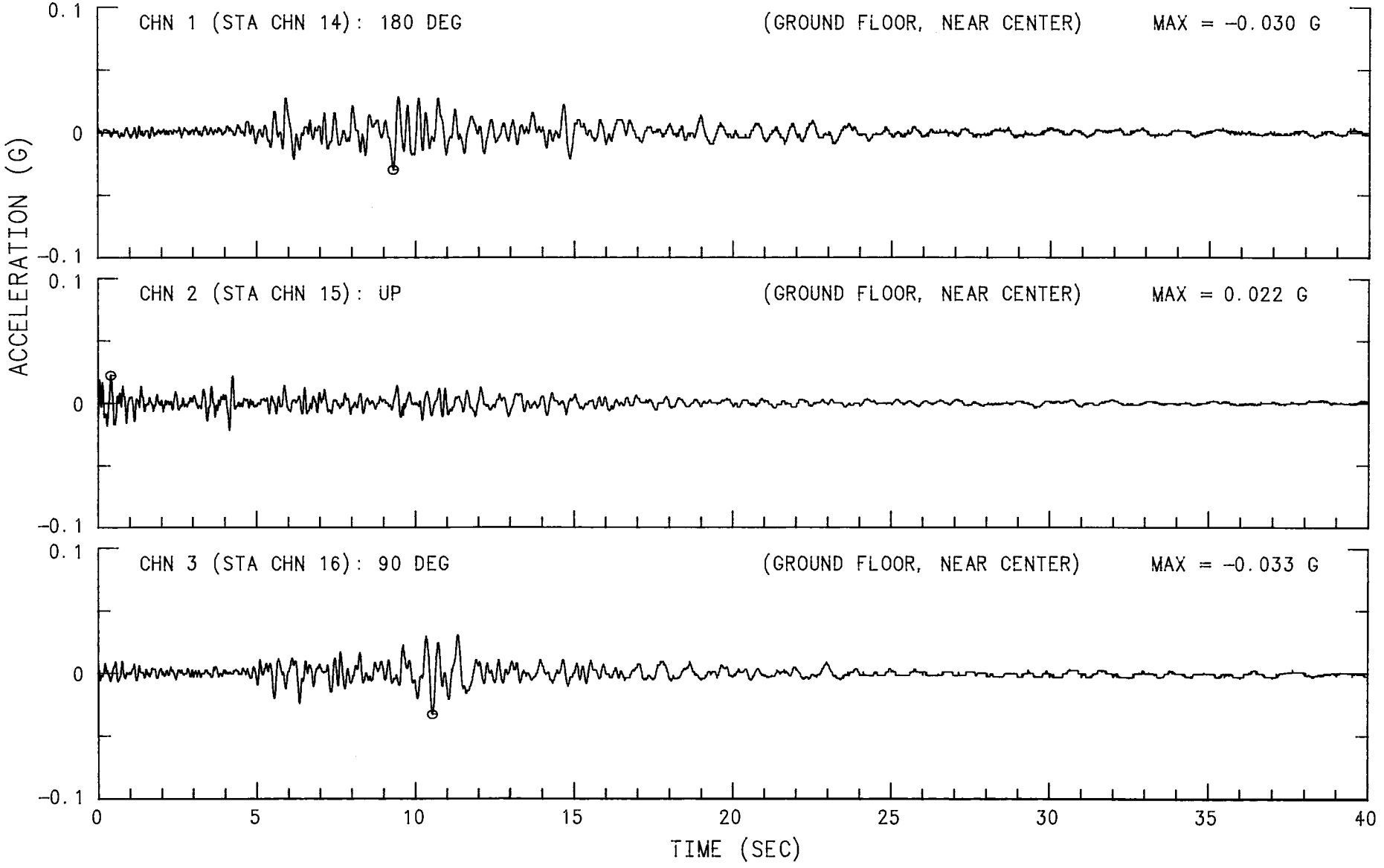
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG.
UNCORRECTED ACCELEROGRAM 58364-C0194-80025.01 110471.1550-QL80A364C



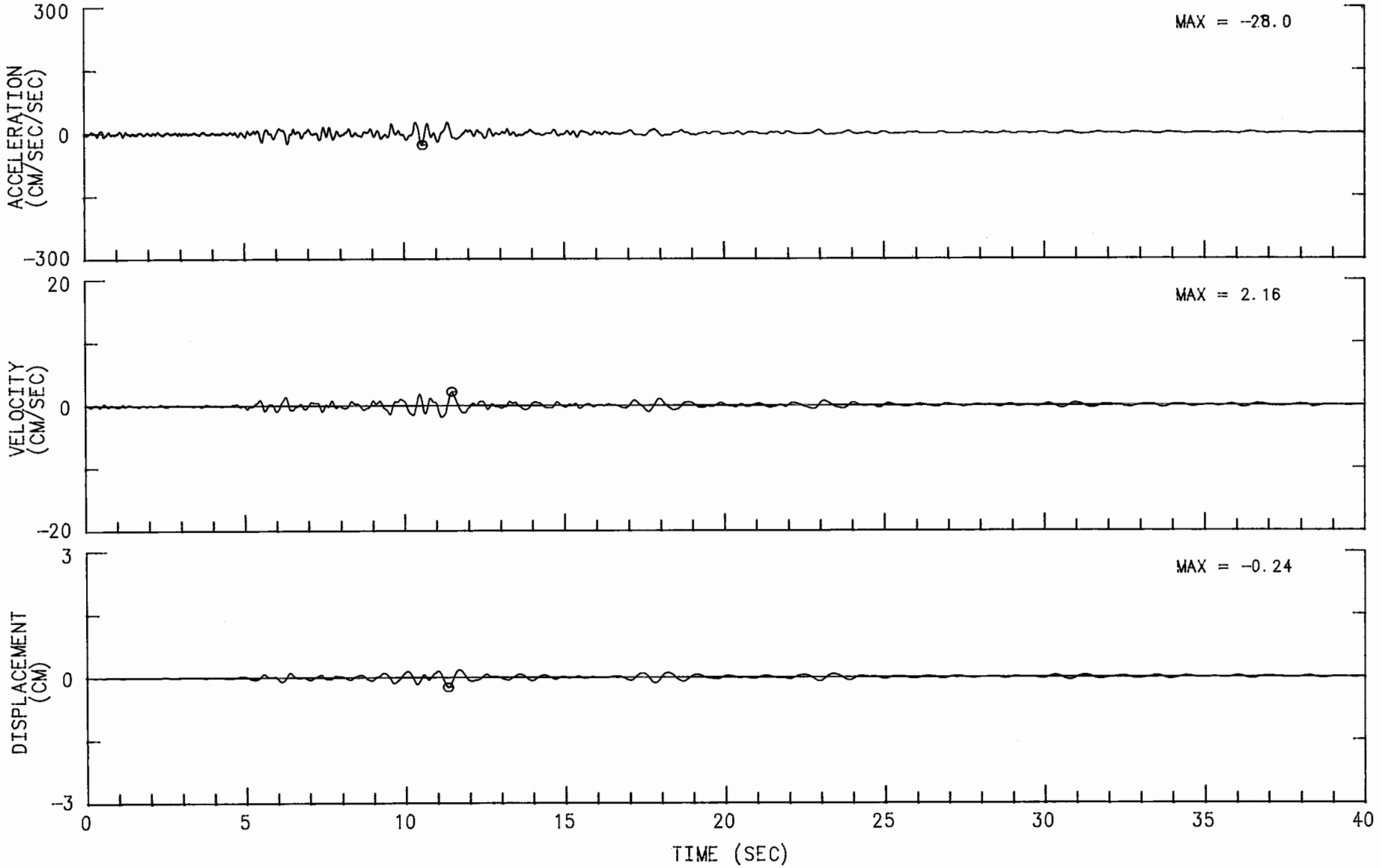
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG.
UNCORRECTED ACCELEROGRAM 58364-C0194-80025.01 110471.1550-QL80A364C



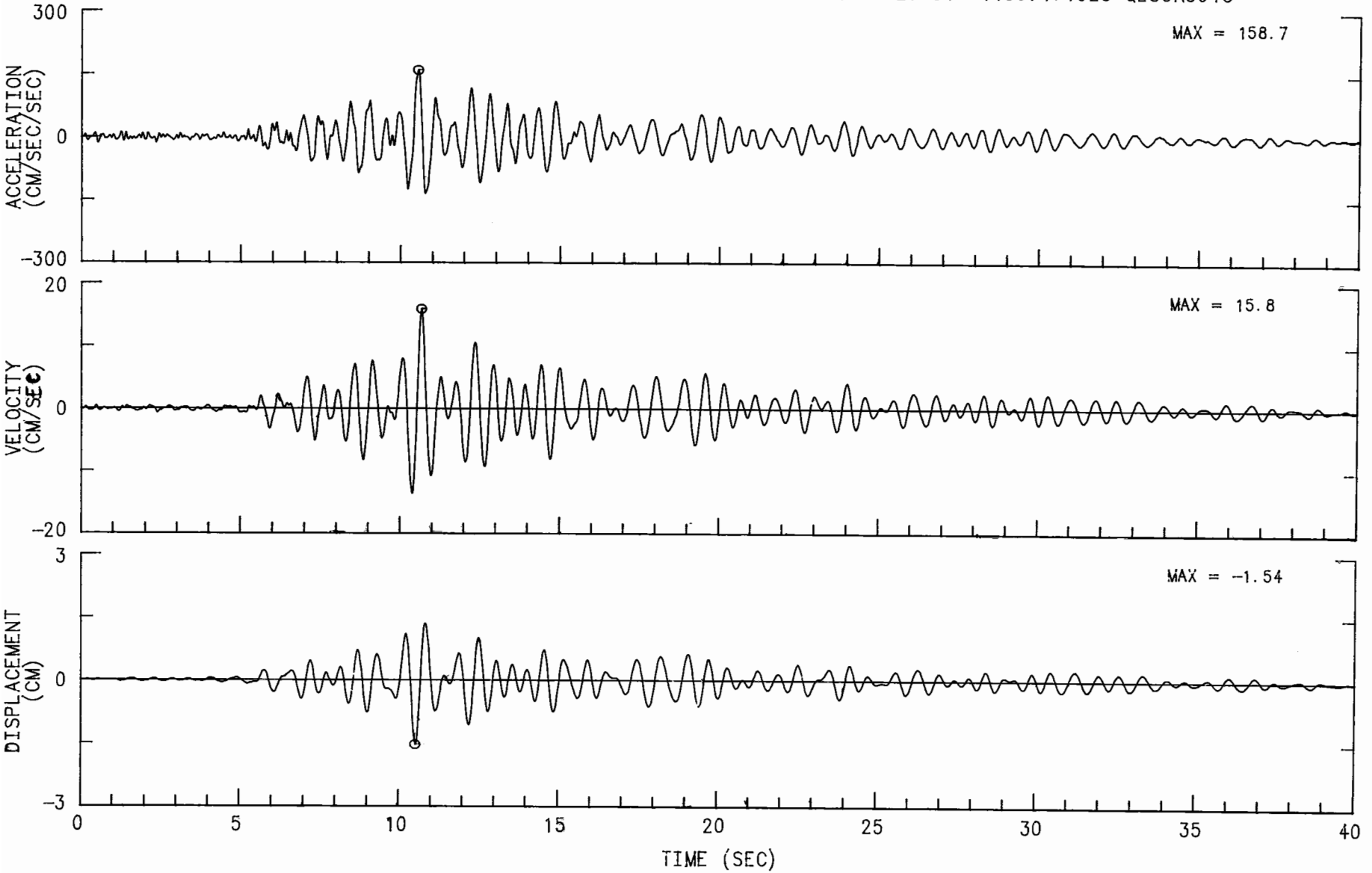
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG.
UNCORRECTED ACCELEROGRAM 58364-S3490-80025.01 110671.1721-QL80A364

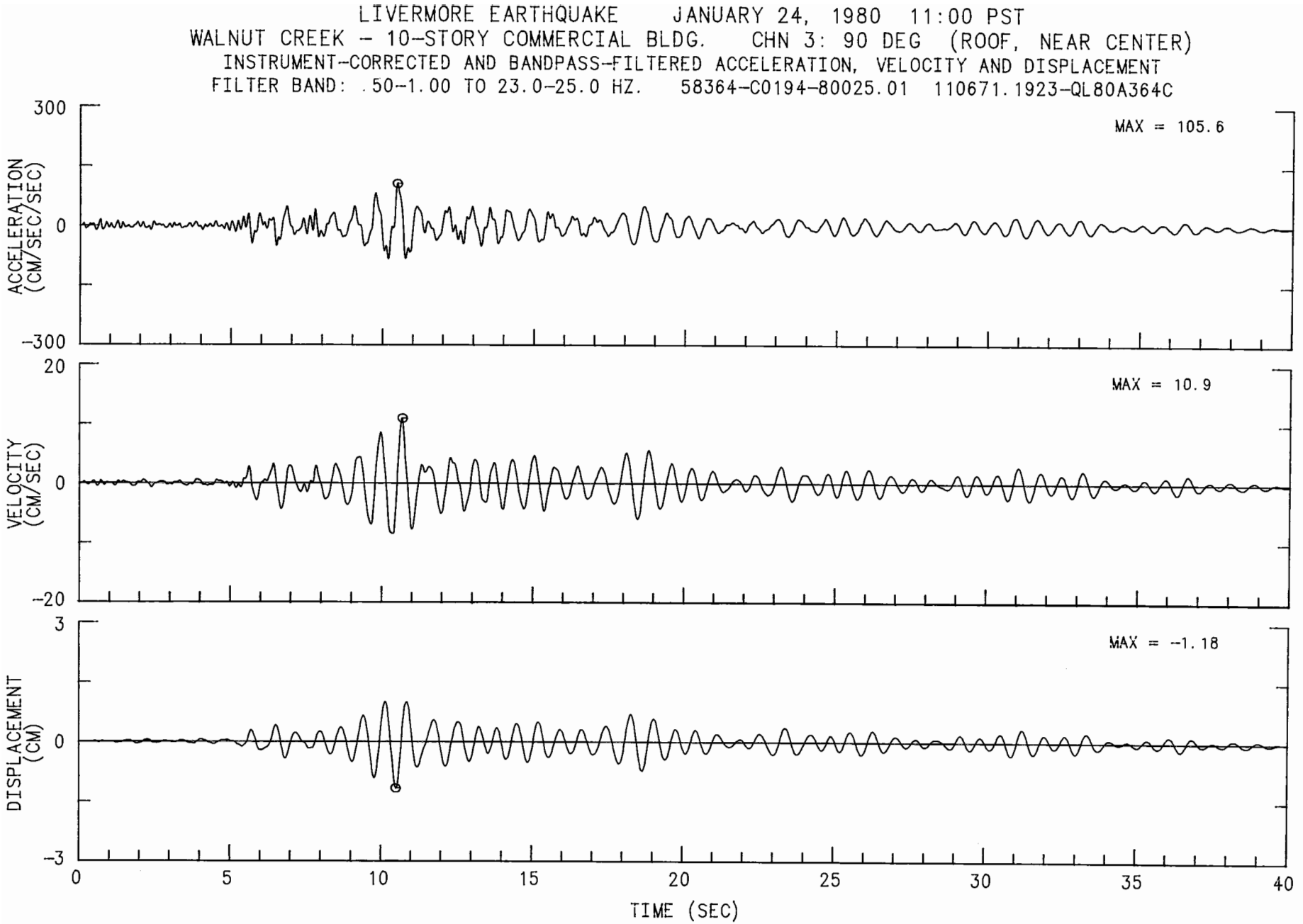


LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG. CHN 1: 90 DEG (GROUND FLOOR, NEAR CENTER)
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .50-1.00 TO 23.0-25.0 HZ. 58364-C0194-80025.01 110671.1923-QL80A364C

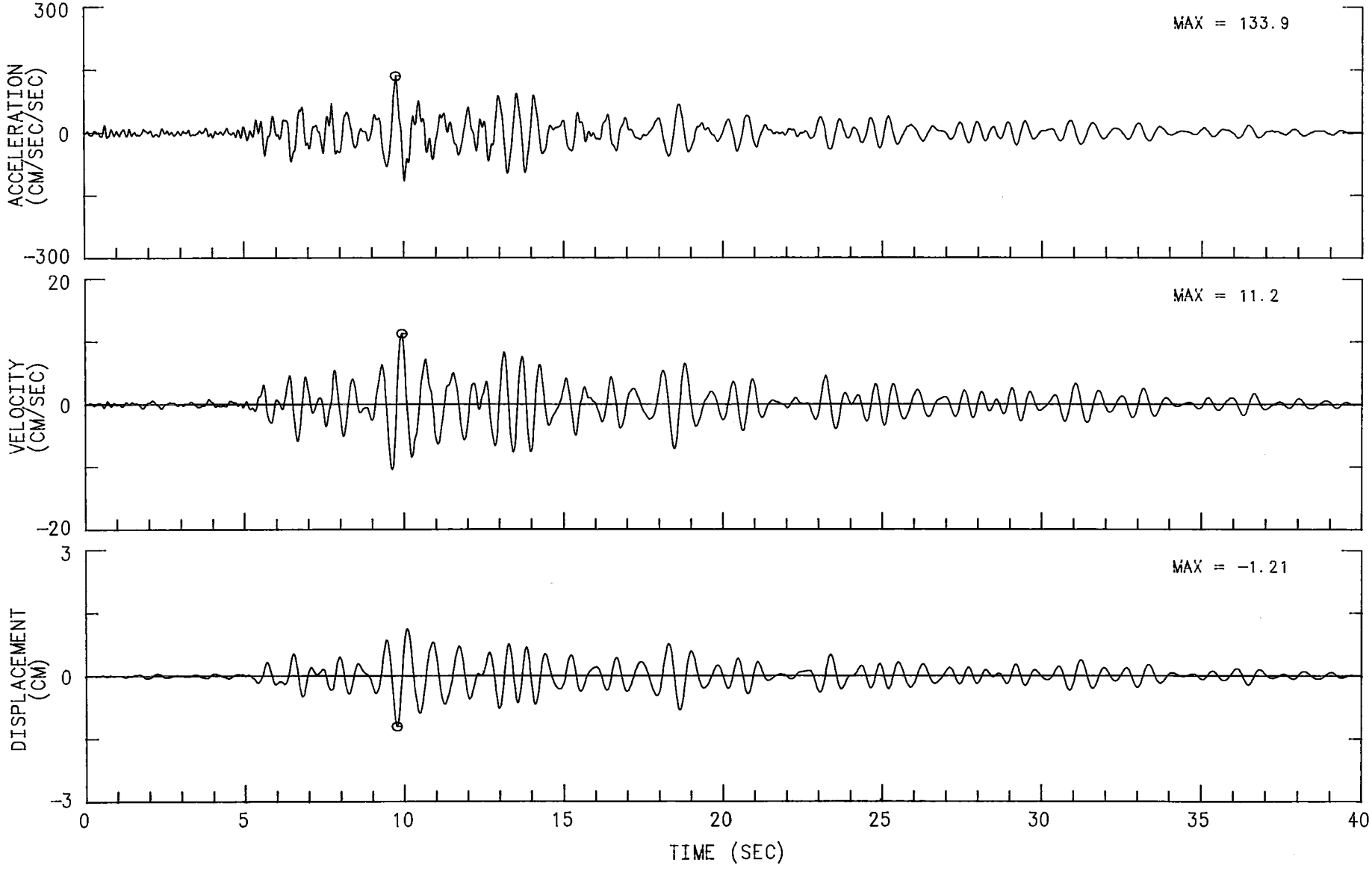


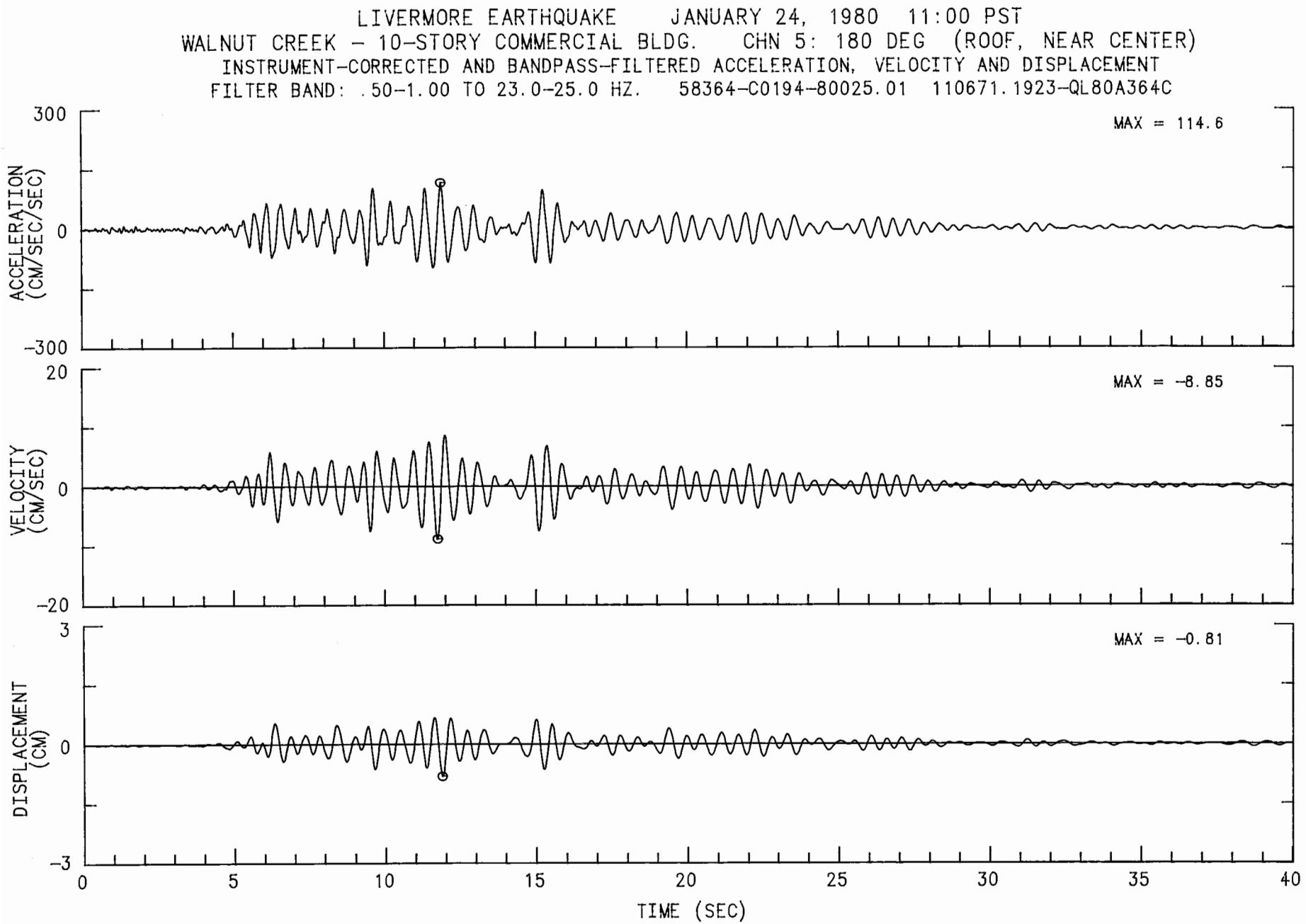
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG. CHN 2: 90 DEG (ROOF, NORTH WALL)
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .50-1.00 TO 23.0-25.0 HZ. 58364-C0194-80025.01 110671.1923-QL80A364C



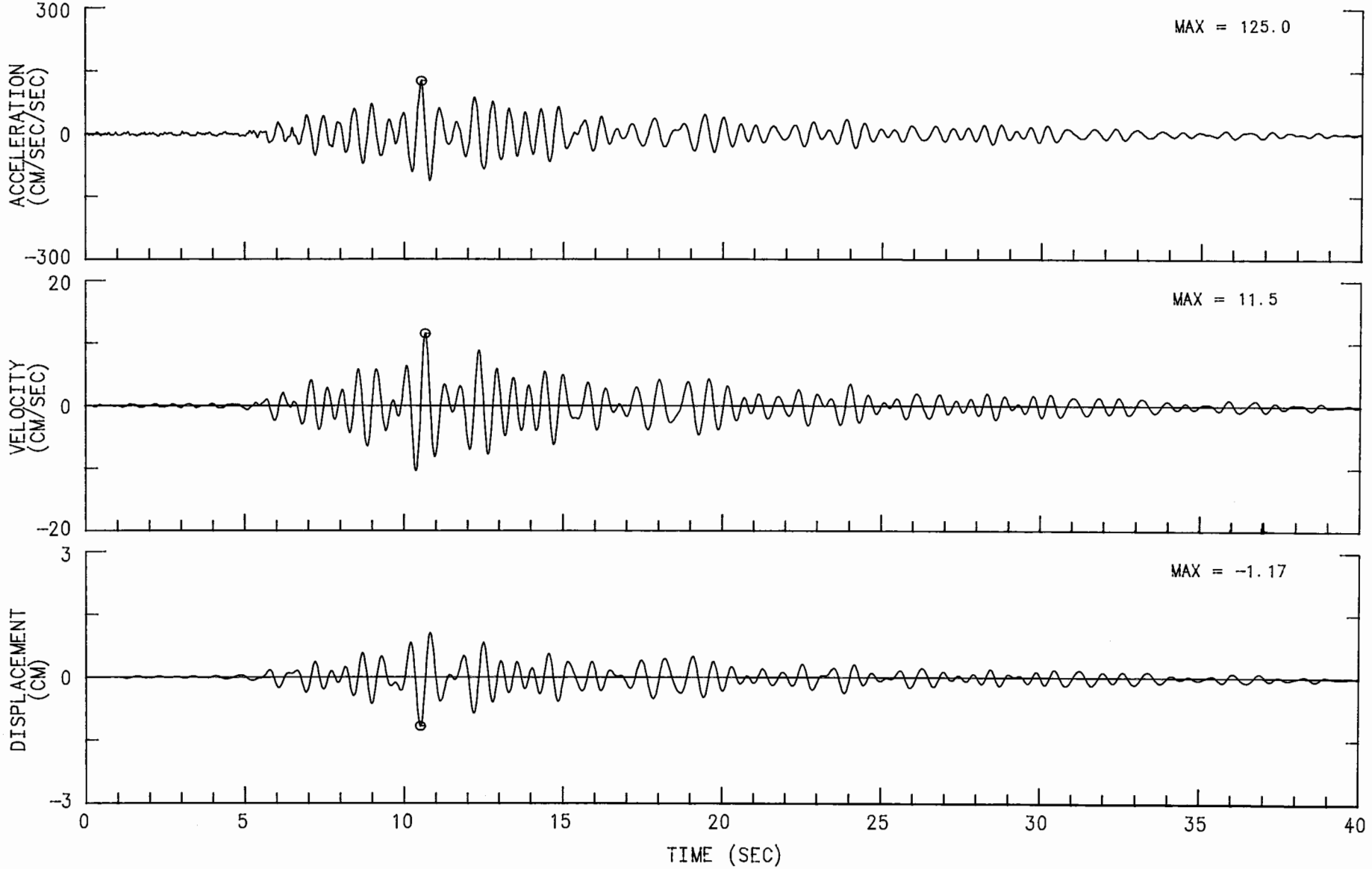

LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG. CHN 3: 90 DEG (ROOF, NEAR CENTER)
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .50-1.00 TO 23.0-25.0 HZ. 58364-C0194-80025.01 110671.1923-QL80A364C
ACCELERATION (CM/SEC/SEC)
300
0
-300
MAX = 105.6
VELOCITY (CM/SEC)
20
0
-20
MAX = 10.9
DISPLACEMENT (CM)
3
0
-3
MAX = -1.18
0
5
10
15
20
25
30
35
40
TIME (SEC)

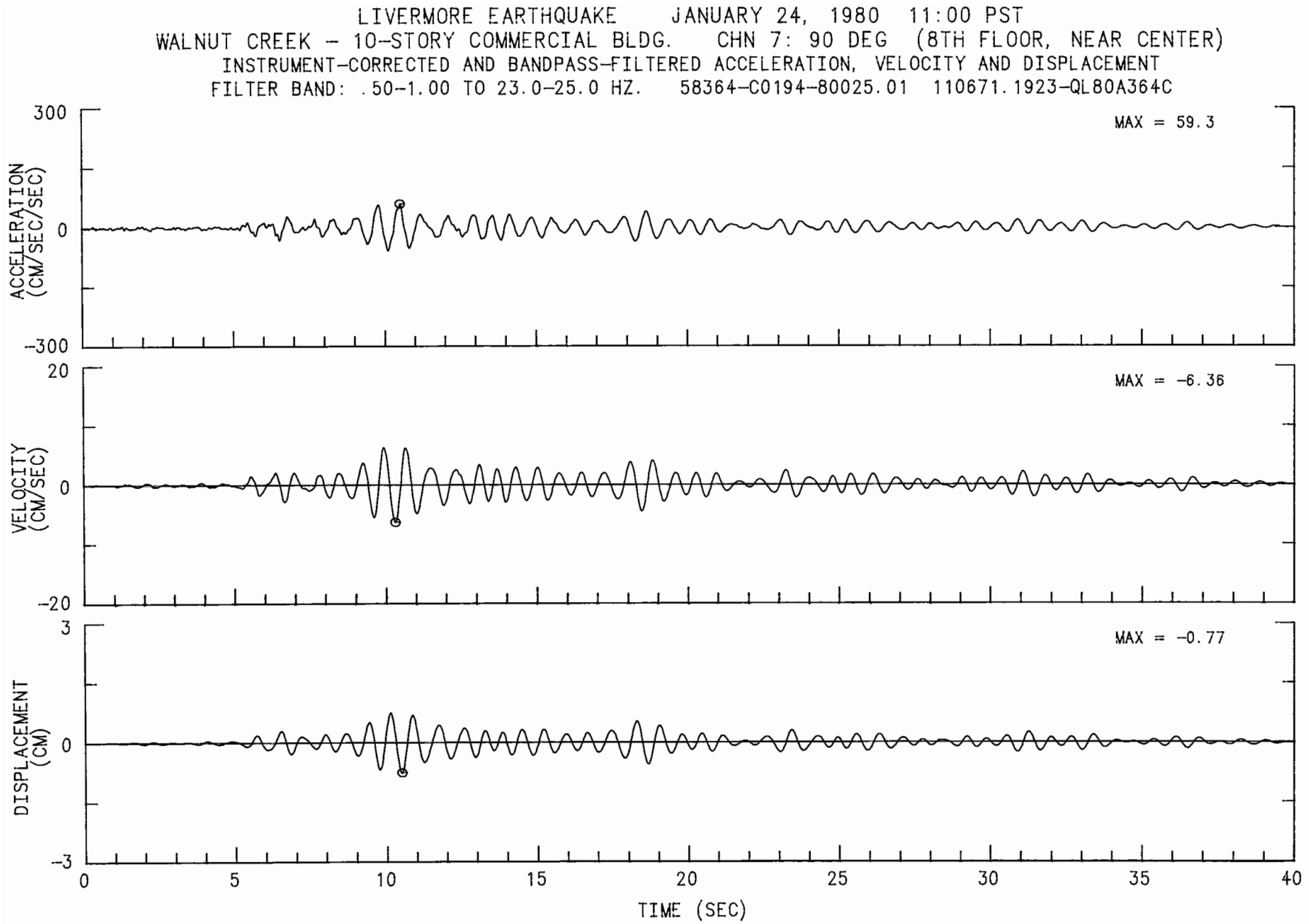
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG. CHN 4: 90 DEG (ROOF, SOUTH WALL)
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .50-1.00 TO 23.0-25.0 HZ. 58364-C0194-80025.01 110671.1923-QL80A364C



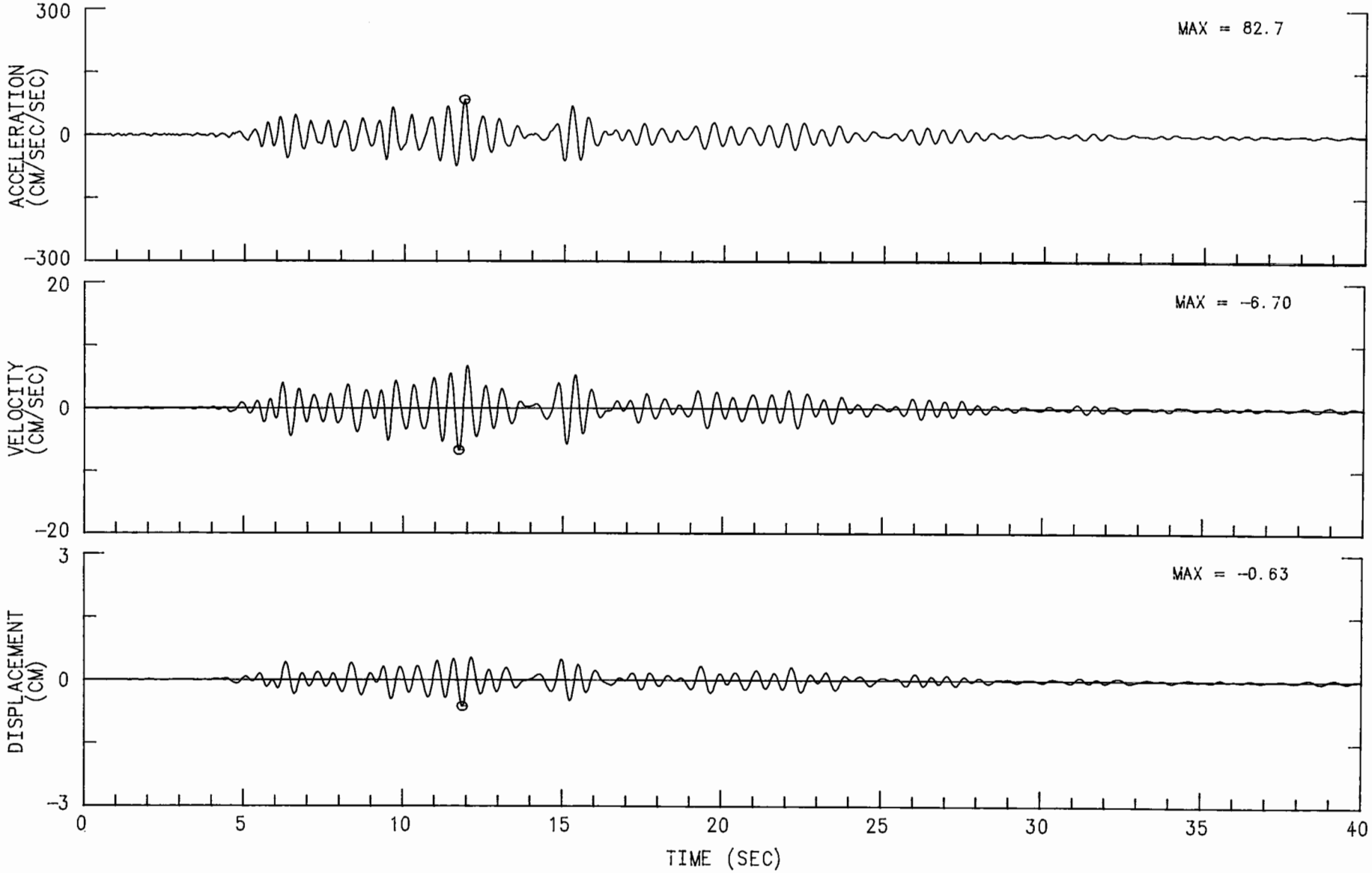

LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG. CHN 5: 180 DEG (ROOF, NEAR CENTER)
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .50-1.00 TO 23.0-25.0 HZ. 58364-C0194-80025.01 110671.1923-QL80A364C
ACCELERATION (CM/SEC/SEC)
300
0
-300
MAX = 114.6
VELOCITY (CM/SEC)
20
0
-20
MAX = -8.85
DISPLACEMENT (CM)
3
0
-3
MAX = -0.81
0
5
10
15
20
25
30
35
40
TIME (SEC)

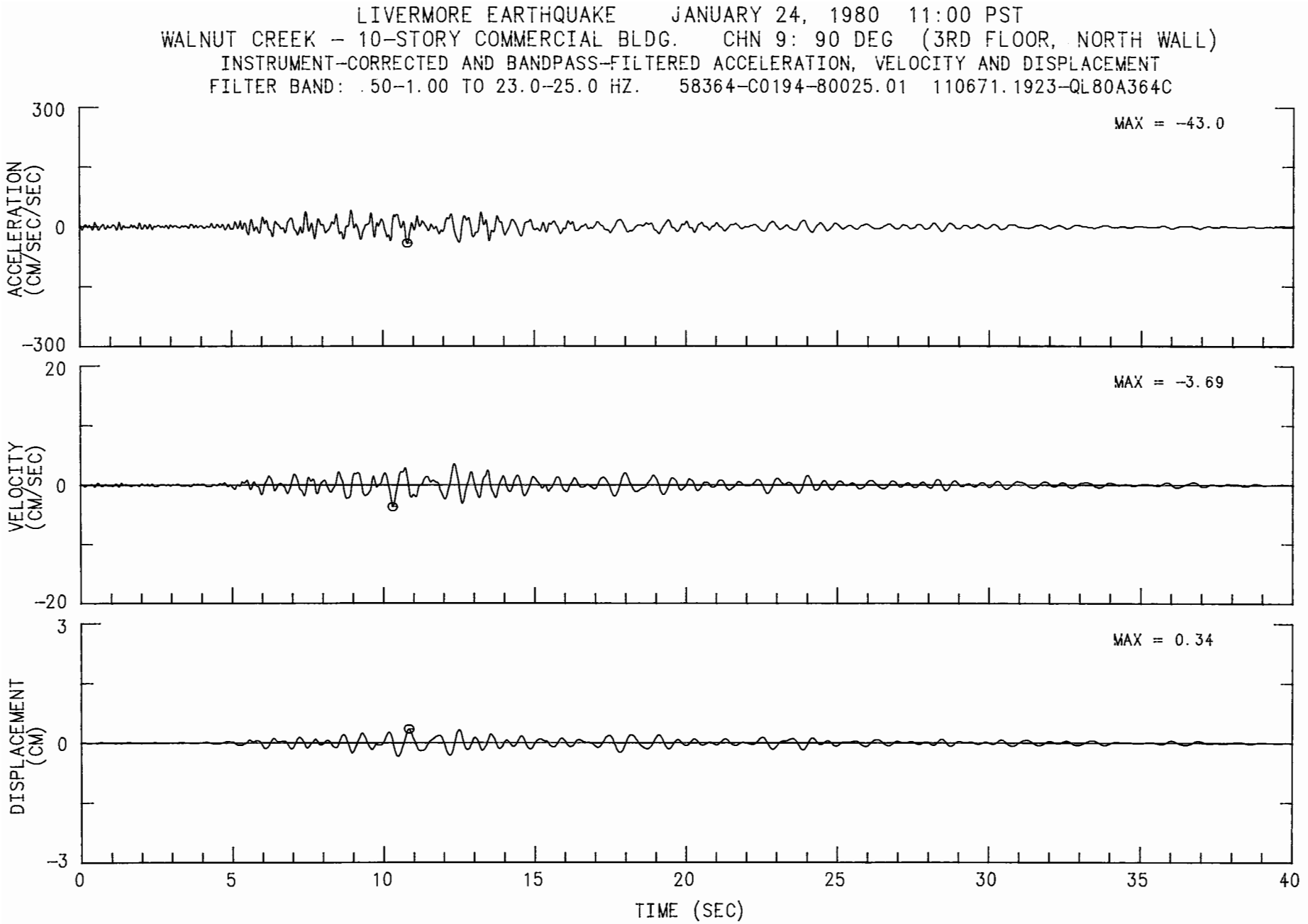
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG. CHN 6: 90 DEG (8TH FLOOR, NORTH WALL)
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .50-1.00 TO 23.0-25.0 HZ. 58364-C0194-80025.01 110671.1923-QL80A364C



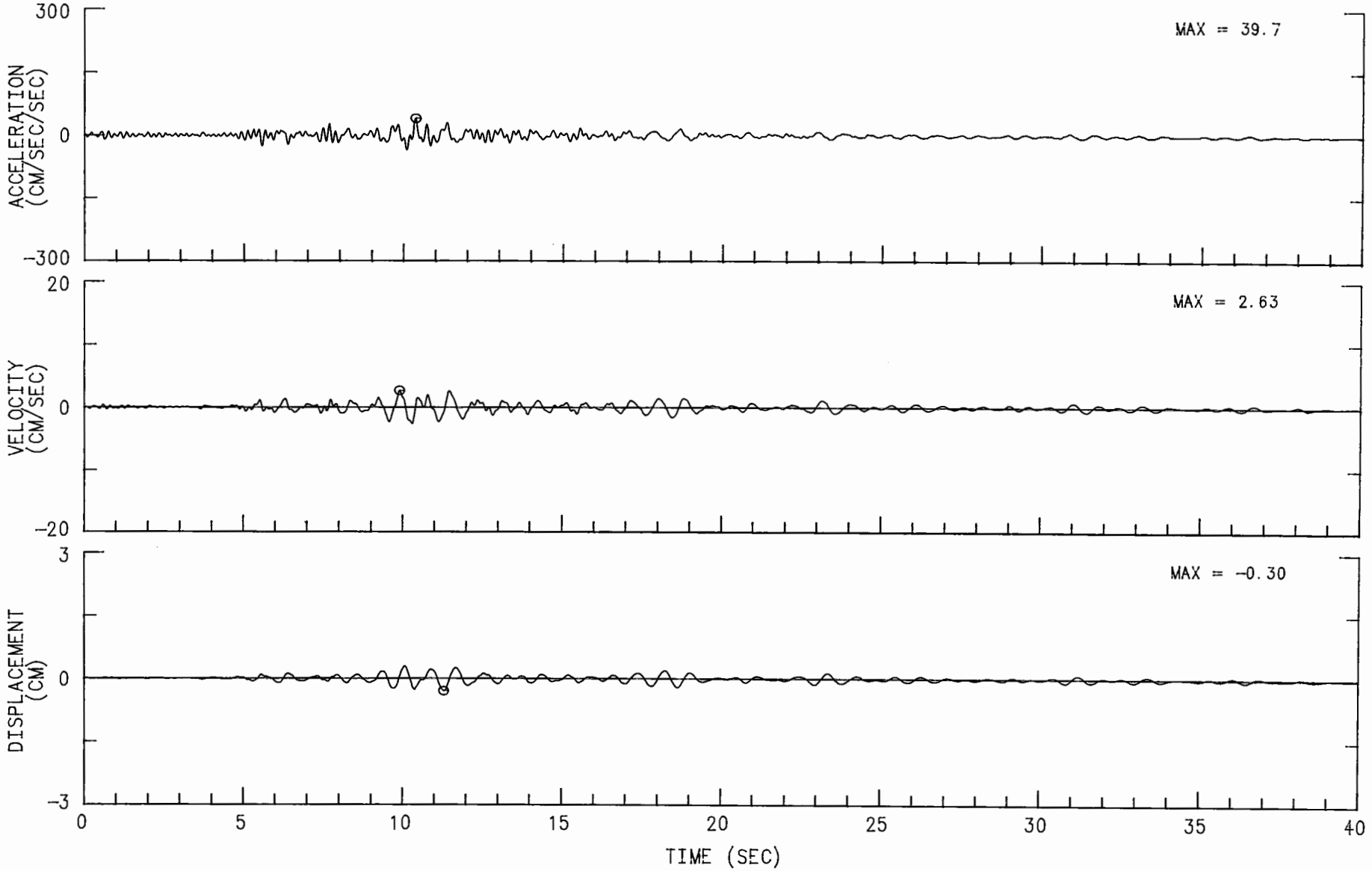

LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG. CHN 7: 90 DEG (8TH FLOOR, NEAR CENTER)
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .50-1.00 TO 23.0-25.0 HZ. 58364-C0194-80025.01 110671.1923-QL80A364C
ACCELERATION (CM/SEC/SEC)
300
0
-300
MAX = 59.3
VELOCITY (CM/SEC)
20
0
-20
MAX = -6.36
DISPLACEMENT (CM)
3
0
-3
MAX = -0.77
0
5
10
15
20
25
30
35
40
TIME (SEC)

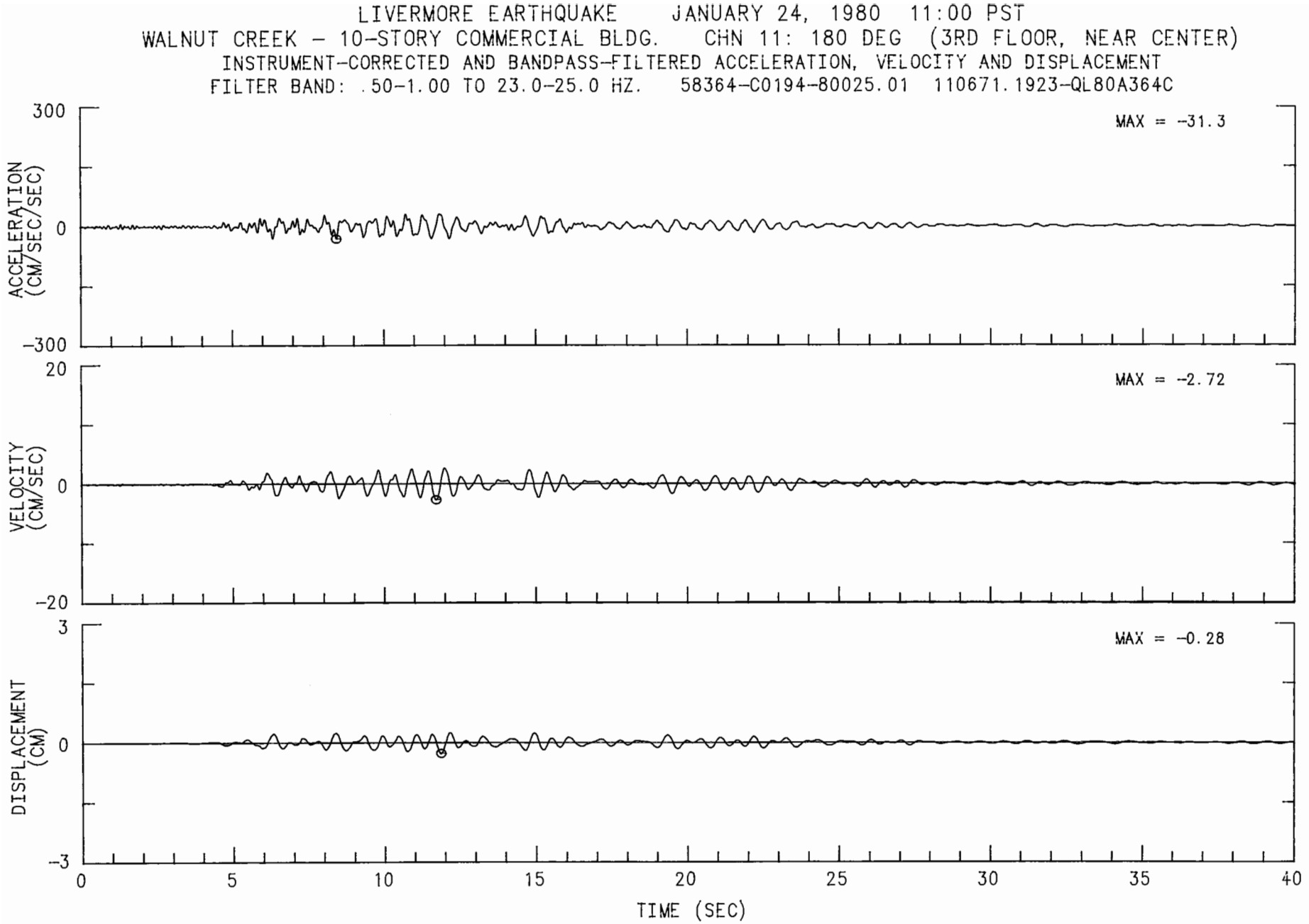
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG. CHN 8: 180 DEG (8TH FLOOR, NEAR CENTER)
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .50-1.00 TO 23.0-25.0 HZ. 58364-C0194-80025.01 110671.1923-QL80A364C



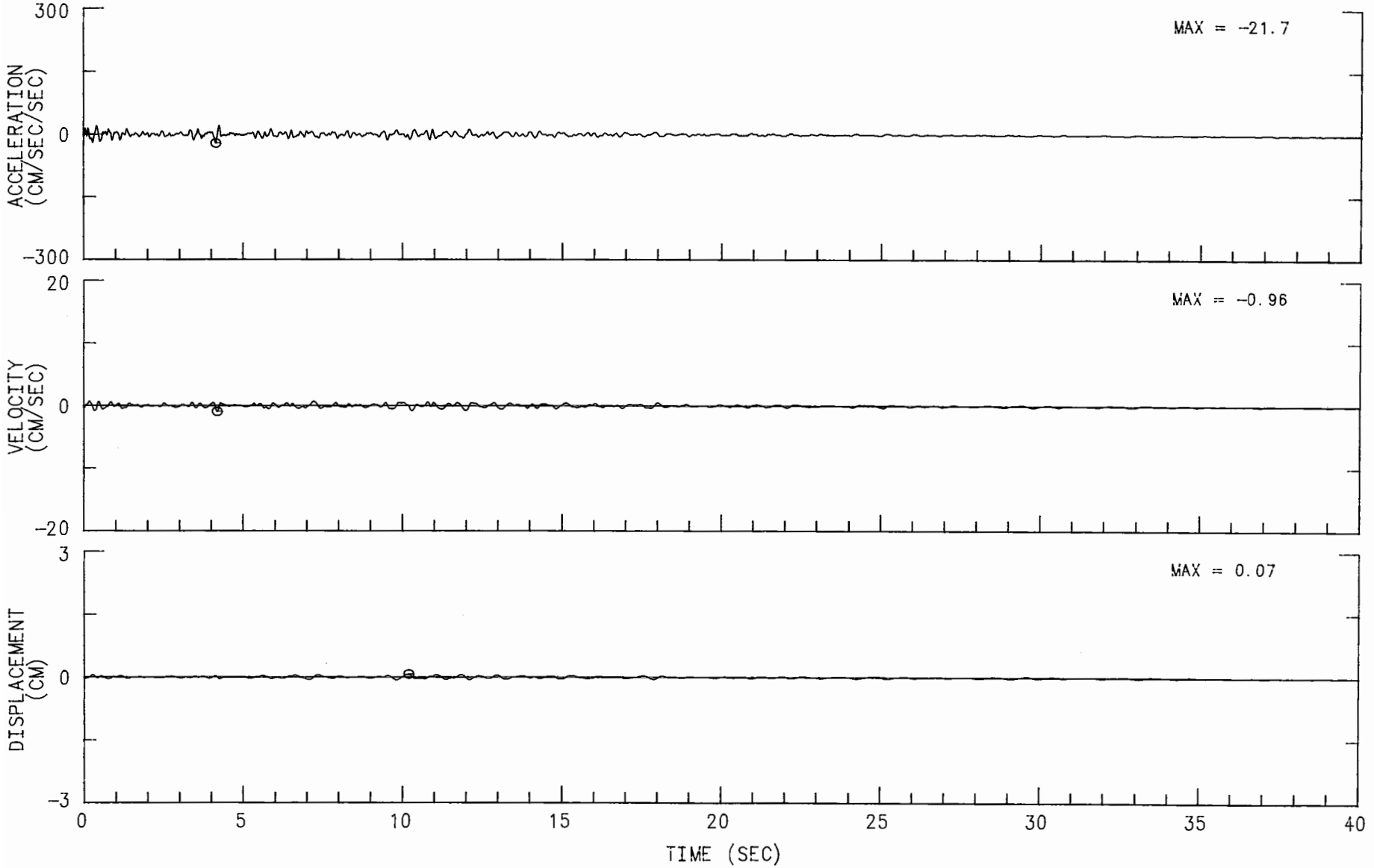

LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG. CHN 9: 90 DEG (3RD FLOOR, NORTH WALL)
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .50-1.00 TO 23.0-25.0 HZ. 58364-C0194-80025.01 110671.1923-QL80A364C
ACCELERATION (CM/SEC/SEC)
300
0
-300
MAX = -43.0
VELOCITY (CM/SEC)
20
0
-20
MAX = -3.69
DISPLACEMENT (CM)
3
0
-3
MAX = 0.34
0
5
10
15
20
25
30
35
40
TIME (SEC)

LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG. CHN 10: 90 DEG (3RD FLOOR, NEAR CENTER)
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .50-1.00 TO 23.0-25.0 HZ. 58364-C0194-80025.01 110671.1923-QL80A364C

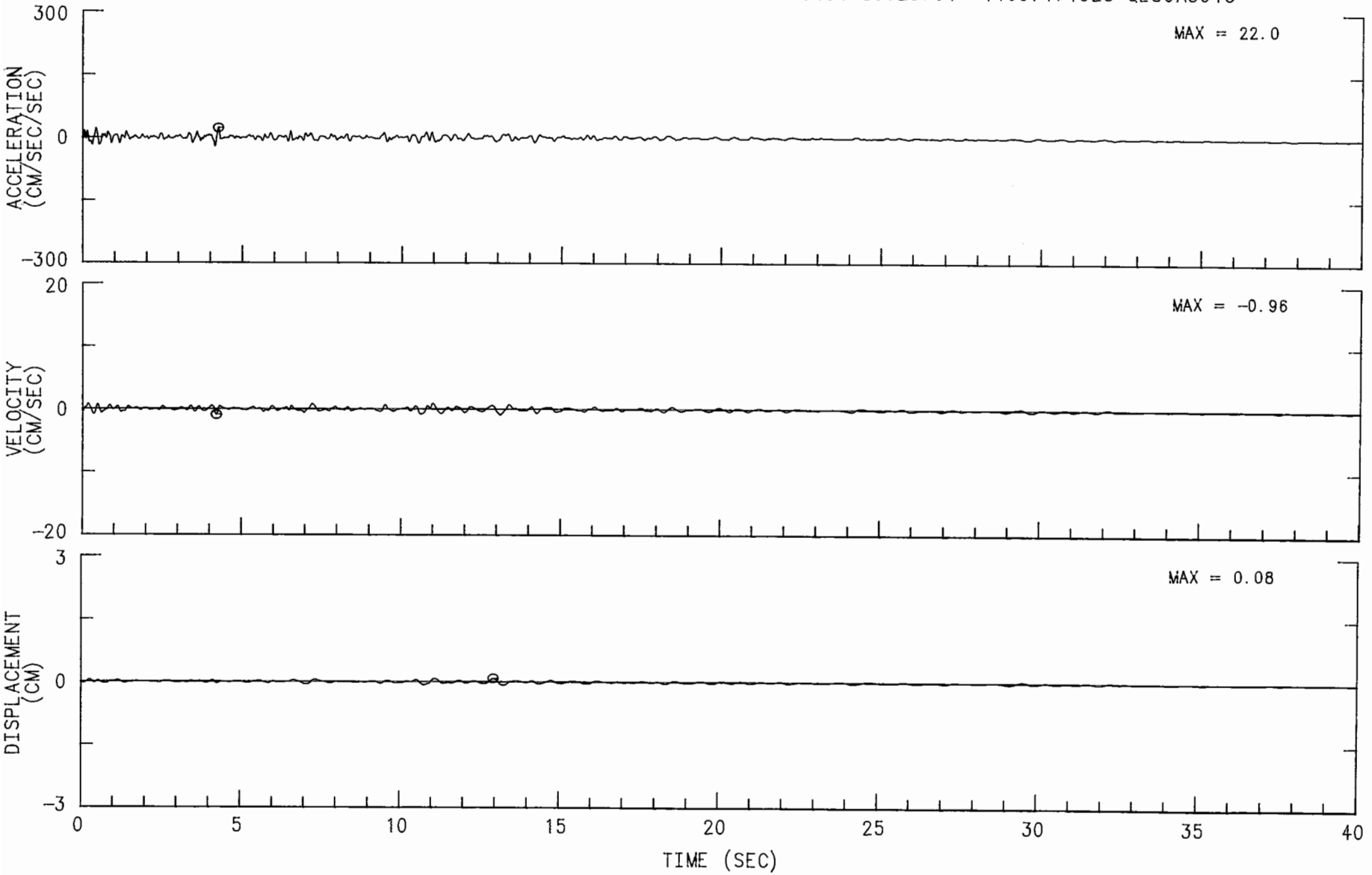



LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG. CHN 11: 180 DEG (3RD FLOOR, NEAR CENTER)
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .50-1.00 TO 23.0-25.0 HZ. 58364-C0194-80025.01 110671.1923-QL80A364C
ACCELERATION (CM/SEC/SEC)
300
0
-300
MAX = -31.3
VELOCITY (CM/SEC)
20
0
-20
MAX = -2.72
DISPLACEMENT (CM)
3
0
-3
MAX = -0.28
0
5
10
15
20
25
30
35
40
TIME (SEC)

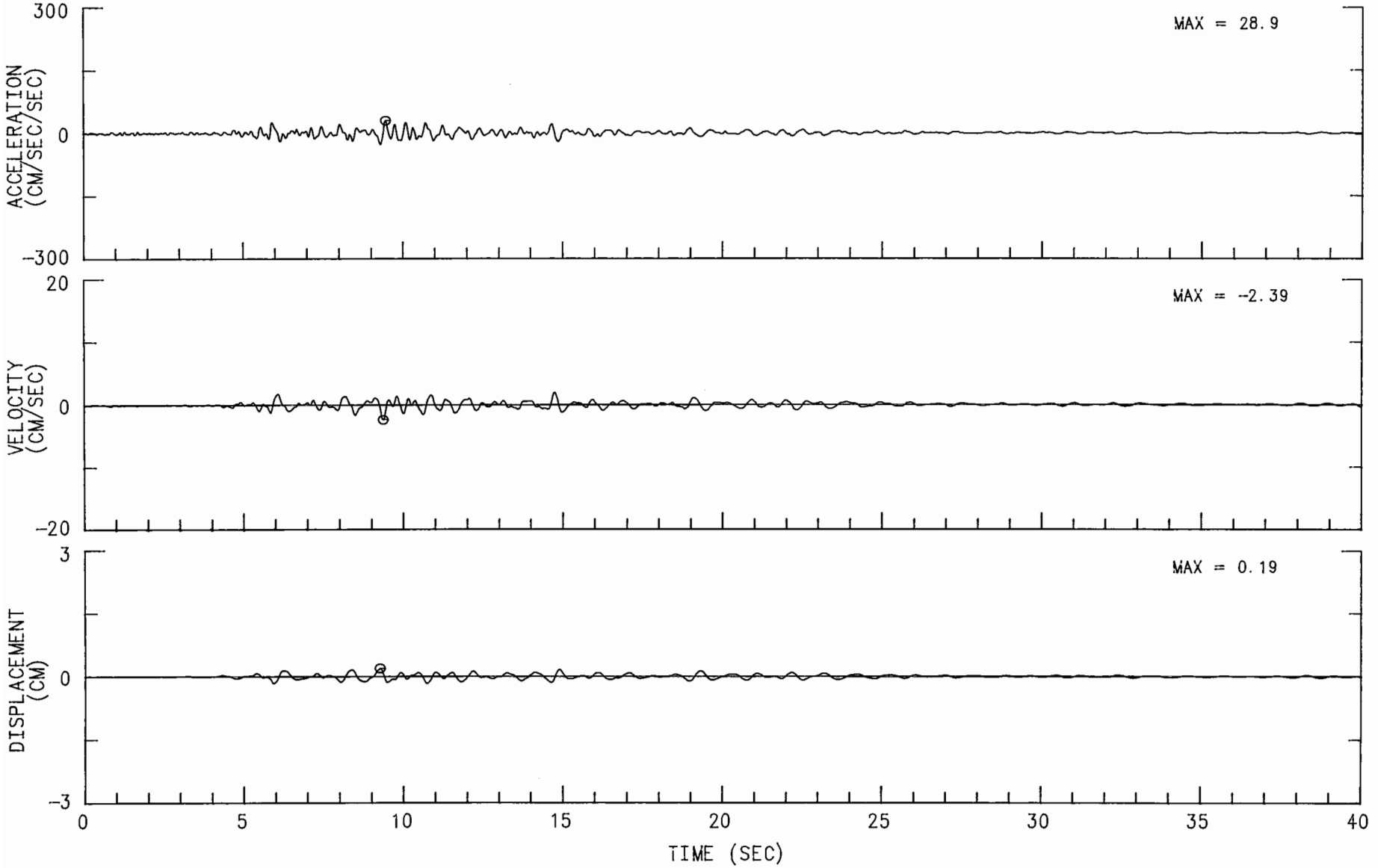
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG. CHN 12: UP (GRND FLOOR, WEST WALL OF CNTR CORE)
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .50-1.00 TO 23.0-25.0 HZ. 58364-C0194-80025.01 110671.1923-QL80A364C



LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG. CHN 13: UP (GRND FLOOR, EAST WALL OF CNTR CORE)
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .50-1.00 TO 23.0-25.0 HZ. 58364-C0194-80025.01 110671.1923-QL80A364C



LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG. CHN 1 (STA CHN 14): 180 DEG (GROUND FLOOR, NEAR CENTER)
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .50-1.00 TO 23.0-25.0 HZ. 58364-S3490-80025.01 110671.1740-QL80A364

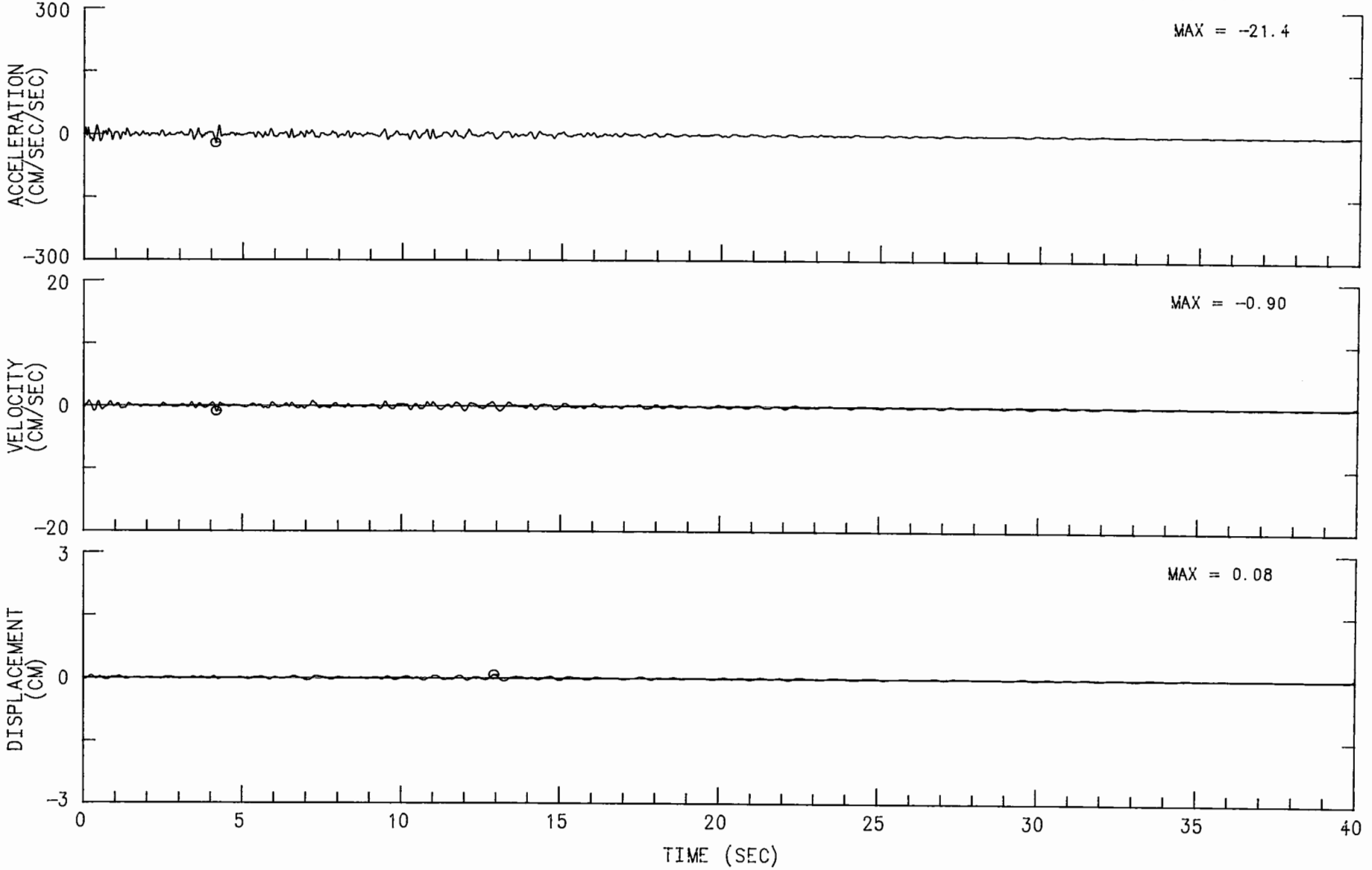


LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST

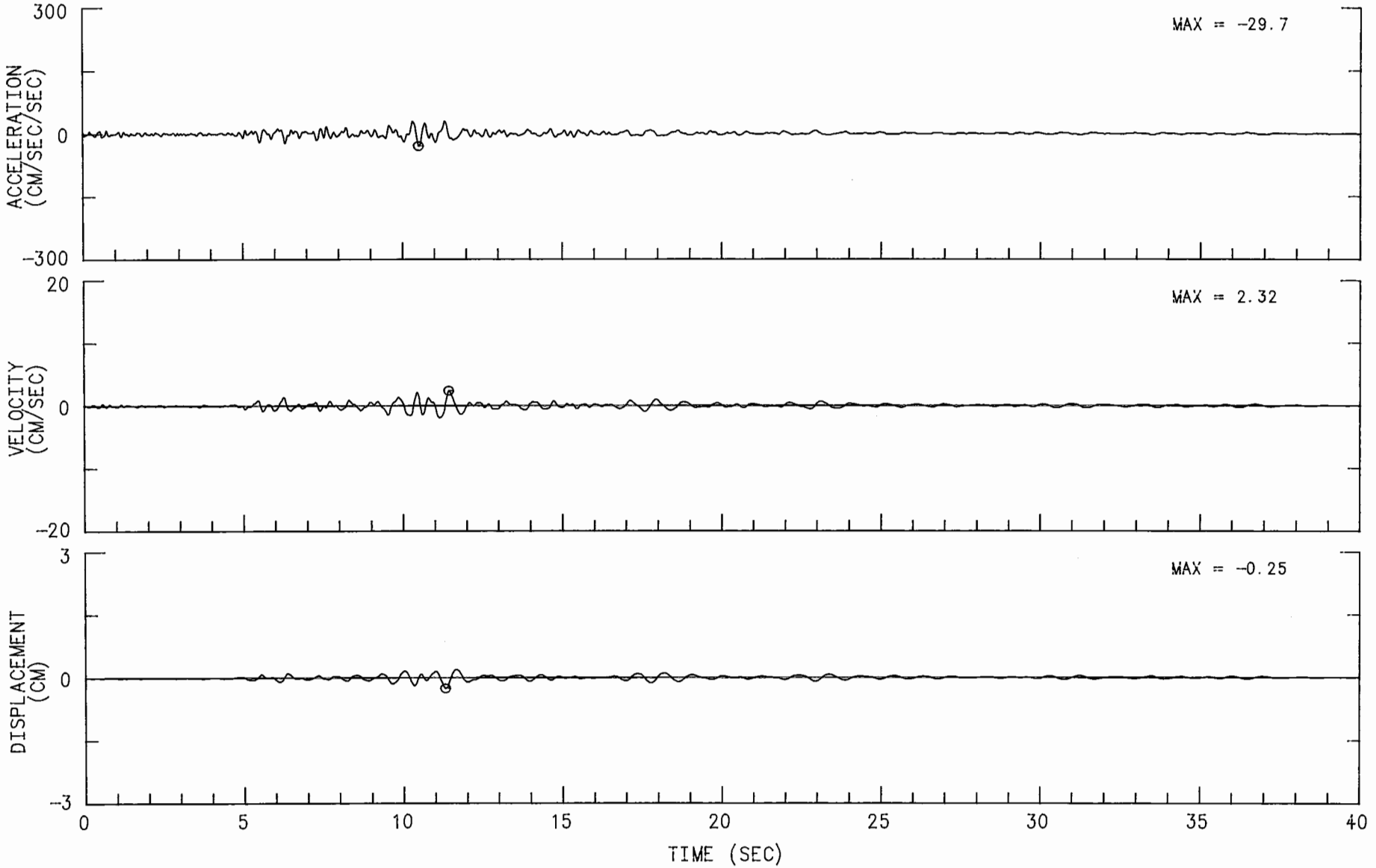
WALNUT CREEK - 10-STORY COMMERCIAL BLDG. CHN 2 (STA CHN 15): UP (GROUND FLOOR, NEAR CENTER)

INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT

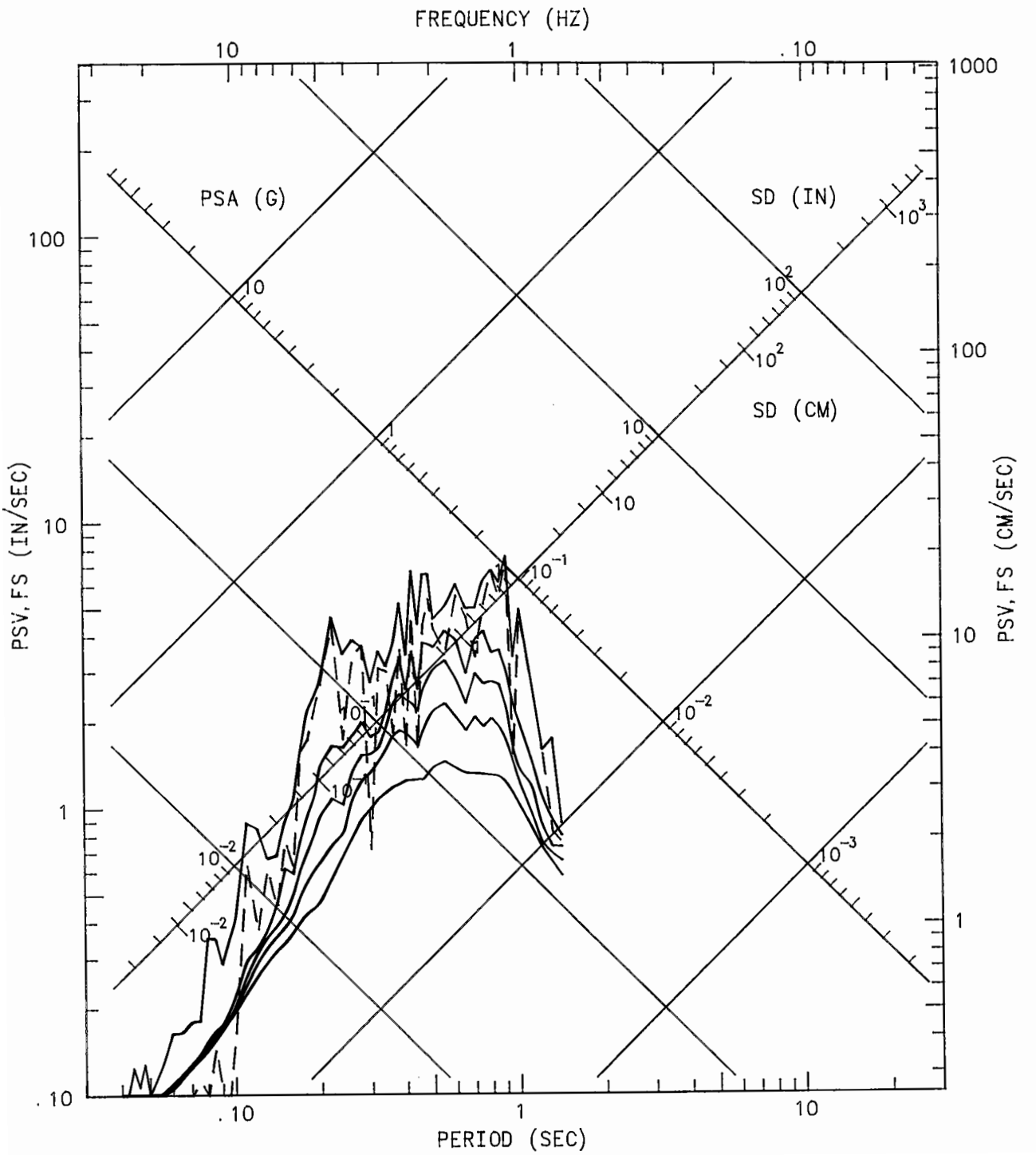
FILTER BAND: .50-1.00 TO 23.0-25.0 HZ. 58364-S3490-80025.01 110671.1740-QL80A364



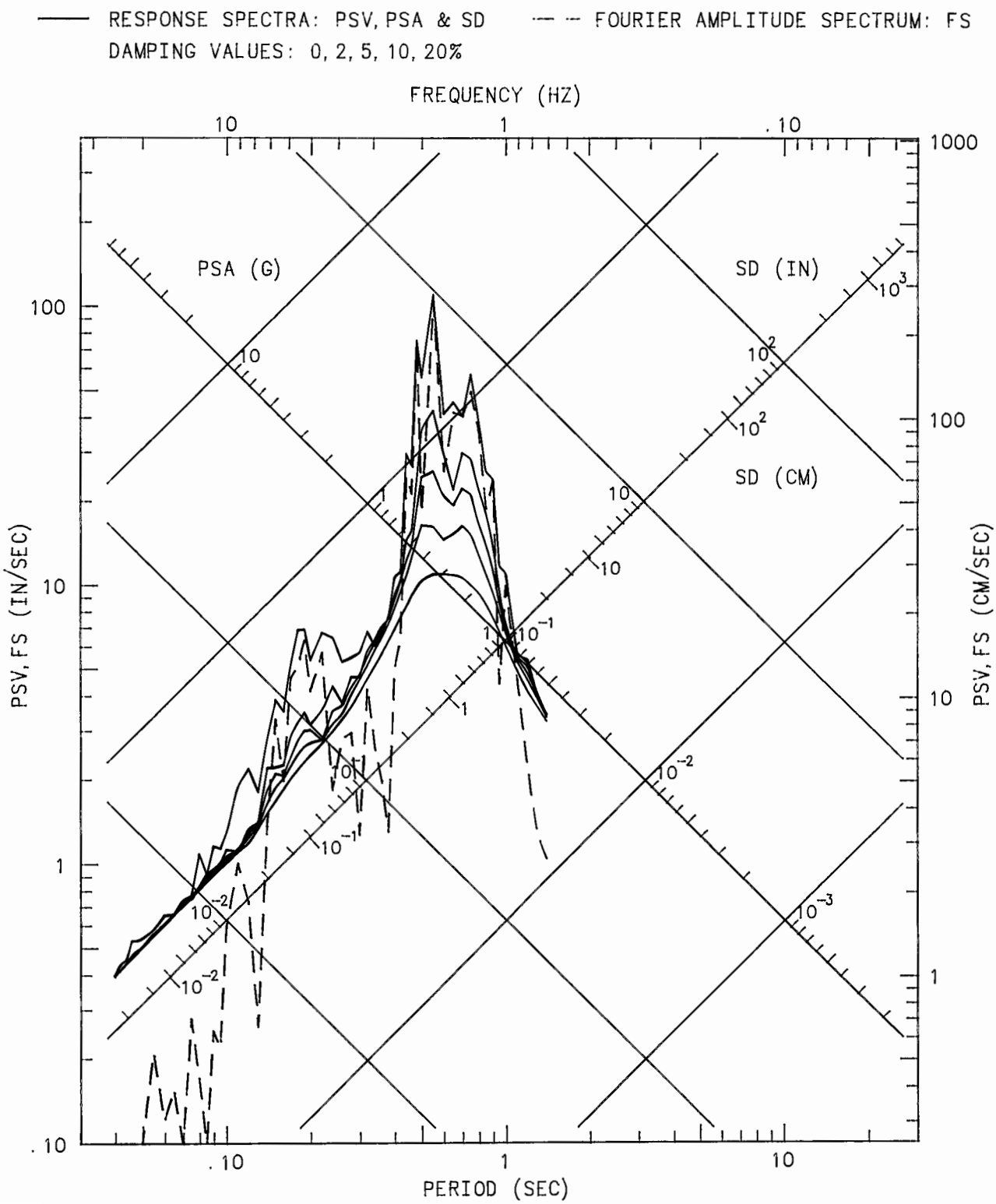
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG. CHN 3 (STA CHN 16): 90 DEG (GROUND FLOOR, NEAR CENTER)
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .50-1.00 TO 23.0-25.0 HZ. 58364-S3490-80025.01 110671.1740-QL80A364



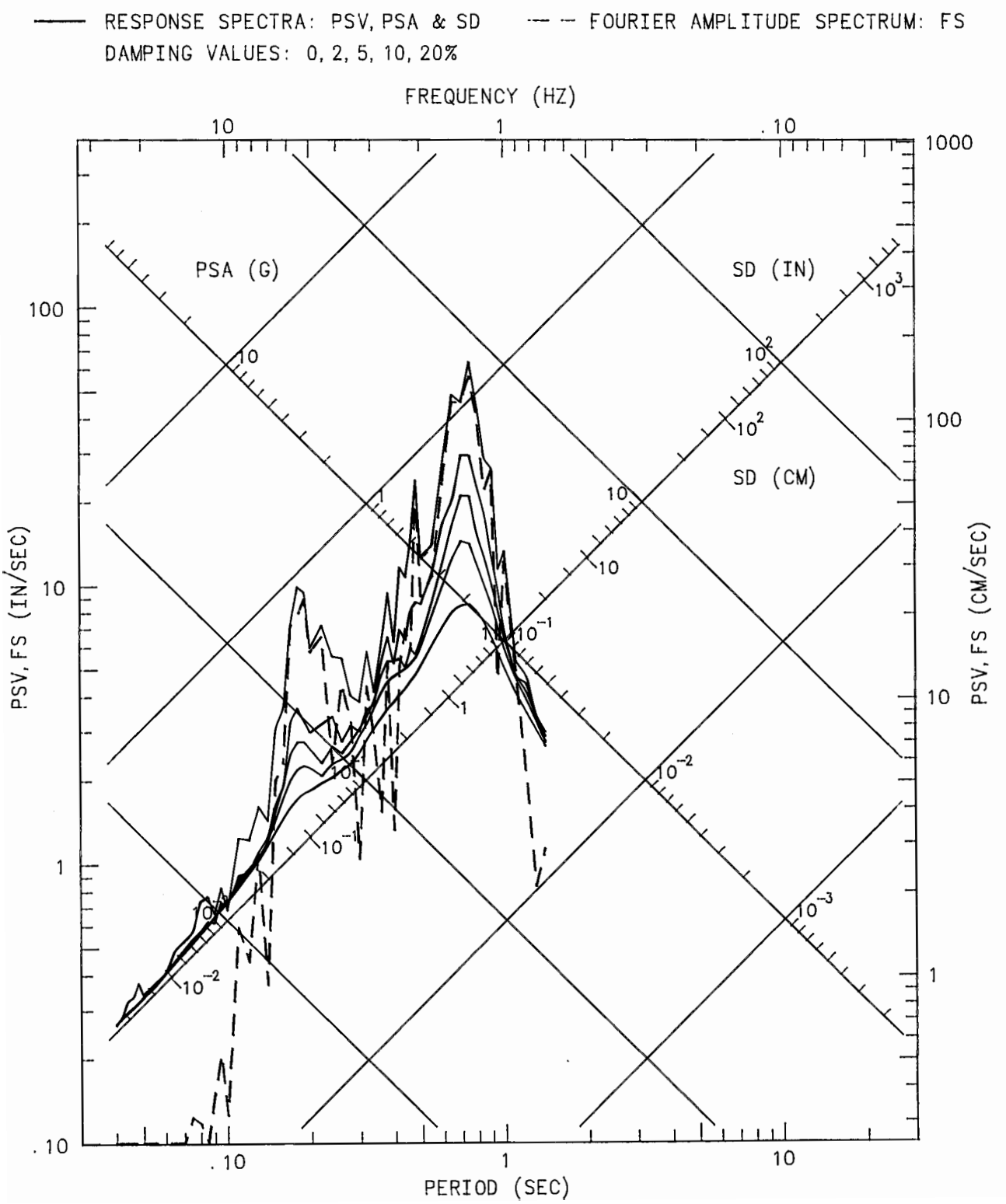
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK -- 10-STORY COMMERCIAL BLDG.
CHN 1: 90 DEG (GROUND FLOOR, NEAR CENTER)
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .50-1.00 TO 23.0-25.0 HZ.
58364-C0194-80025.01 110771.1016-QL80A364C



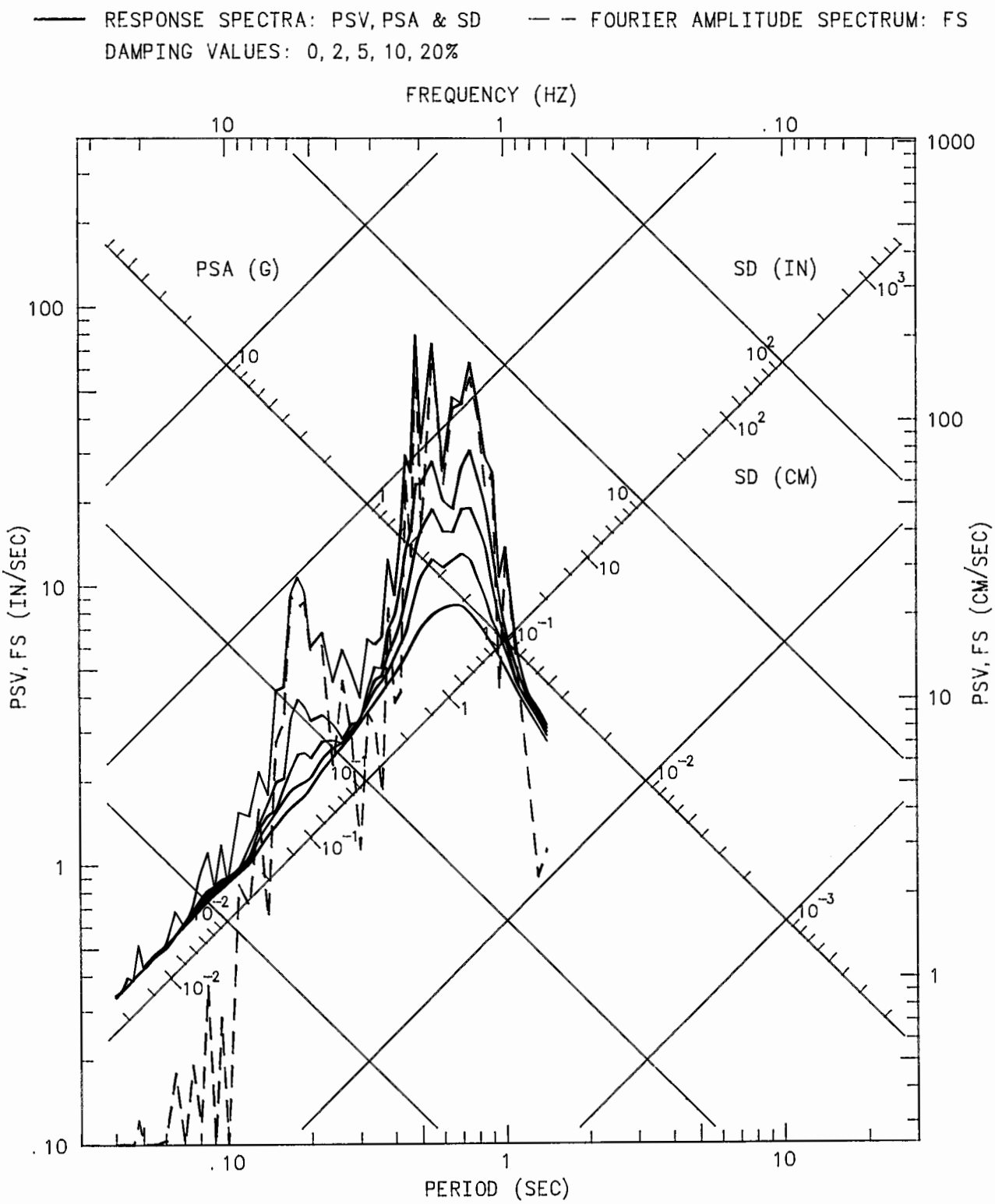
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK -- 10-STORY COMMERCIAL BLDG.
CHN 2: 90 DEG (ROOF, NORTH WALL)
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .50-1.00 TO 23.0-25.0 HZ.
58364-C0194-80025.01 110771.1016-QL80A364C



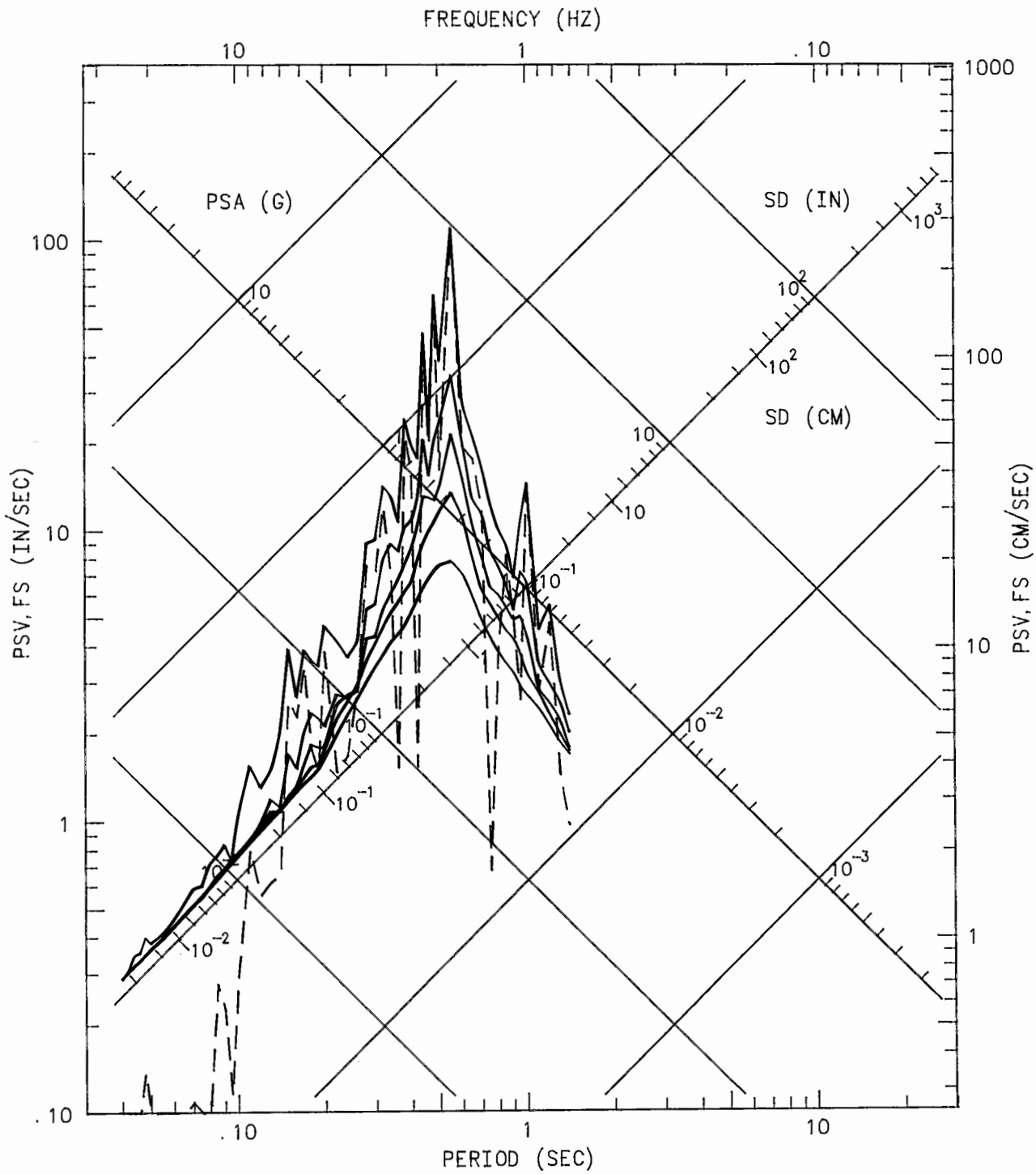
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK -- 10-STORY COMMERCIAL BLDG.
CHN 3: 90 DEG (ROOF, NEAR CENTER)
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .50-1.00 TO 23.0-25.0 HZ.
58364-C0194-80025.01 110771.1016-QL80A364C



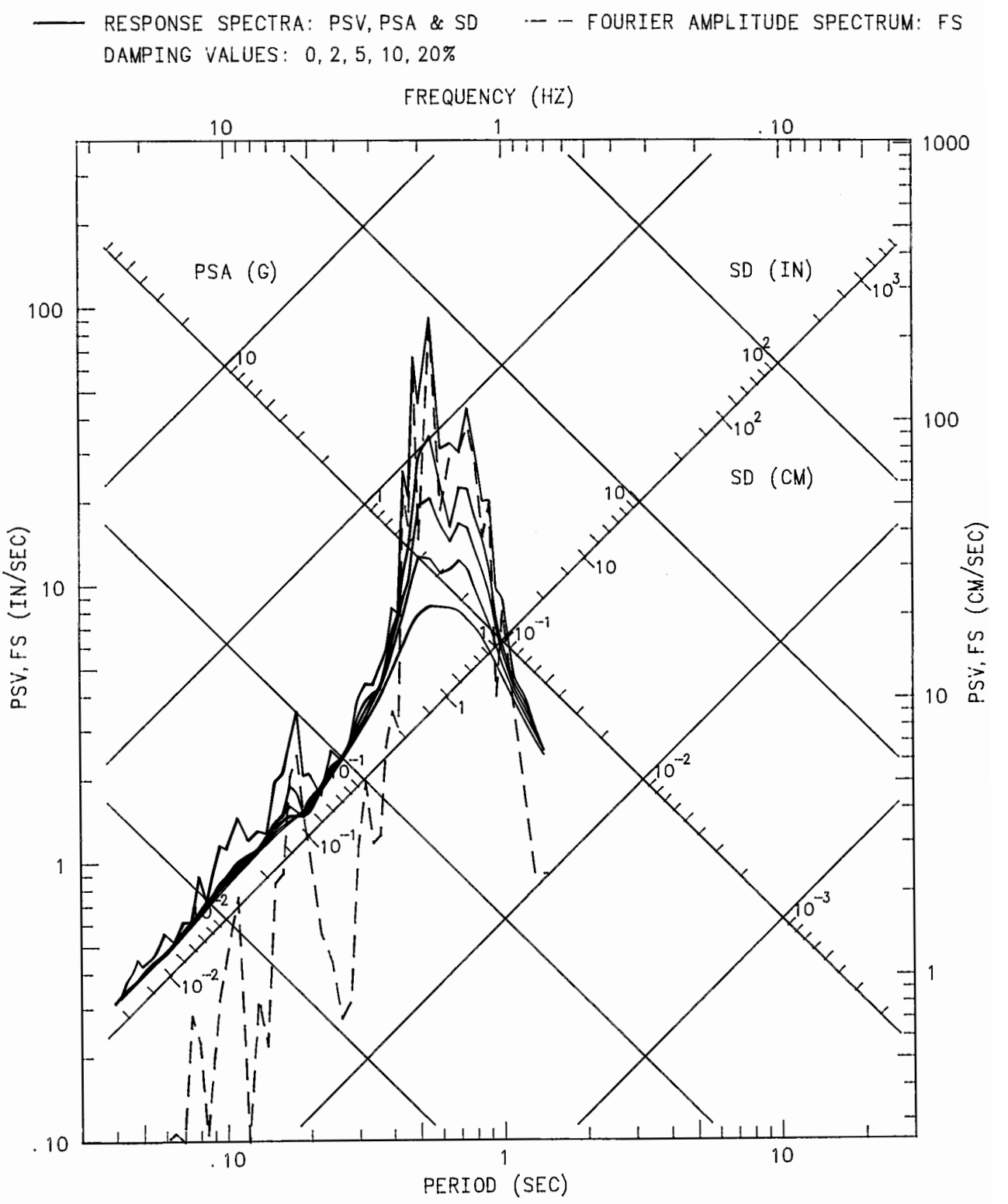
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG.
CHN 4: 90 DEG (ROOF, SOUTH WALL)
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .50-1.00 TO 23.0-25.0 HZ.
58364-C0194-80025.01 110771.1016-QL80A364C



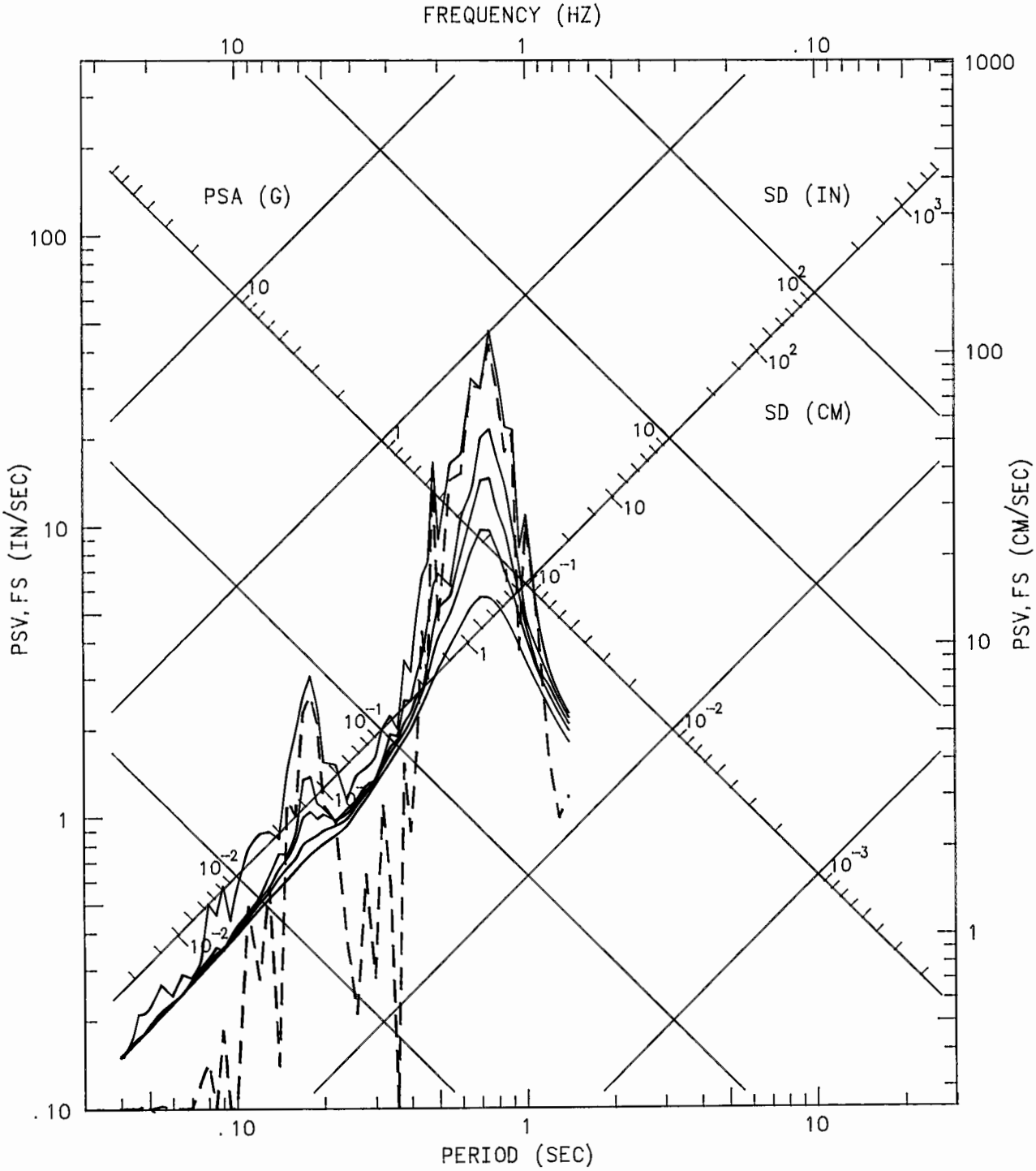
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG.
CHN 5: 180 DEG (ROOF, NEAR CENTER)
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .50-1.00 TO 23.0-25.0 HZ.
58364-C0194-80025.01 110771.1016-QL80A364C



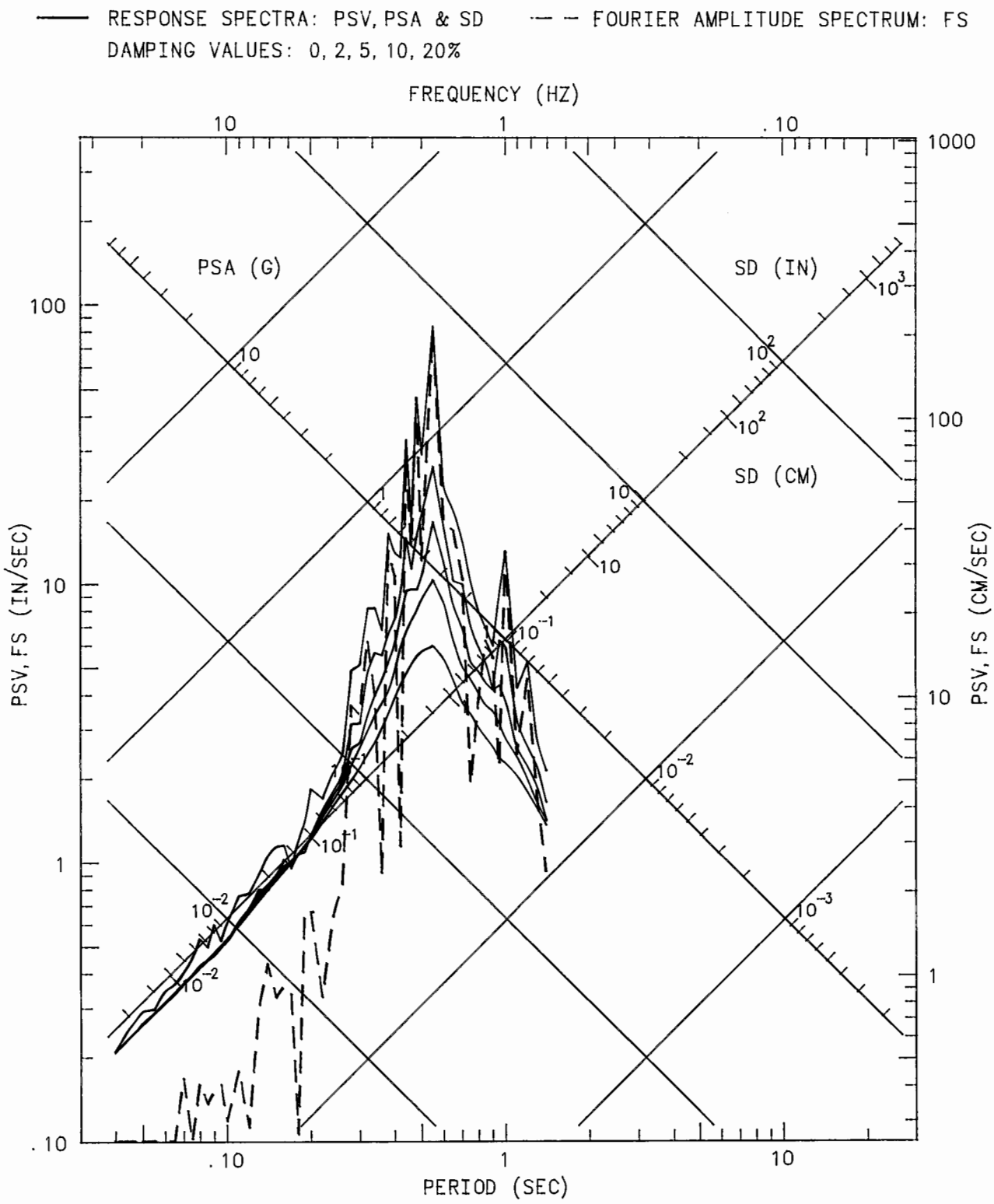
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK -- 10-STORY COMMERCIAL BLDG.
CHN 6: 90 DEG (8TH FLOOR, NORTH WALL)
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .50-1.00 TO 23.0-25.0 HZ.
58364-C0194-80025.01 110771.1016-QL80A364C



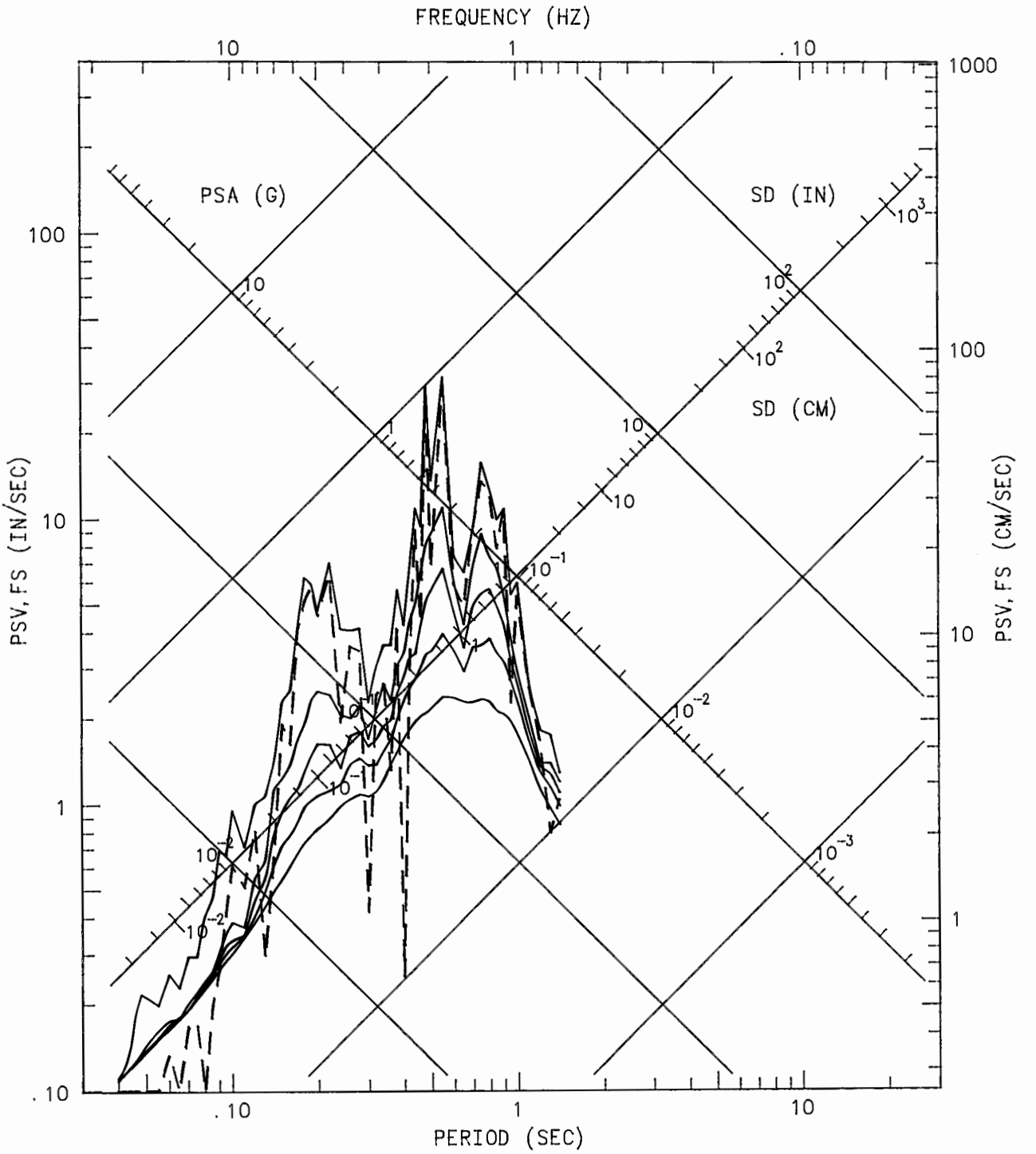
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK -- 10-STORY COMMERCIAL BLDG.
CHN 7: 90 DEG (8TH FLOOR, NEAR CENTER)
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .50-1.00 TO 23.0-25.0 HZ.
58364-C0194-80025.01 110771.1016-QL80A364C



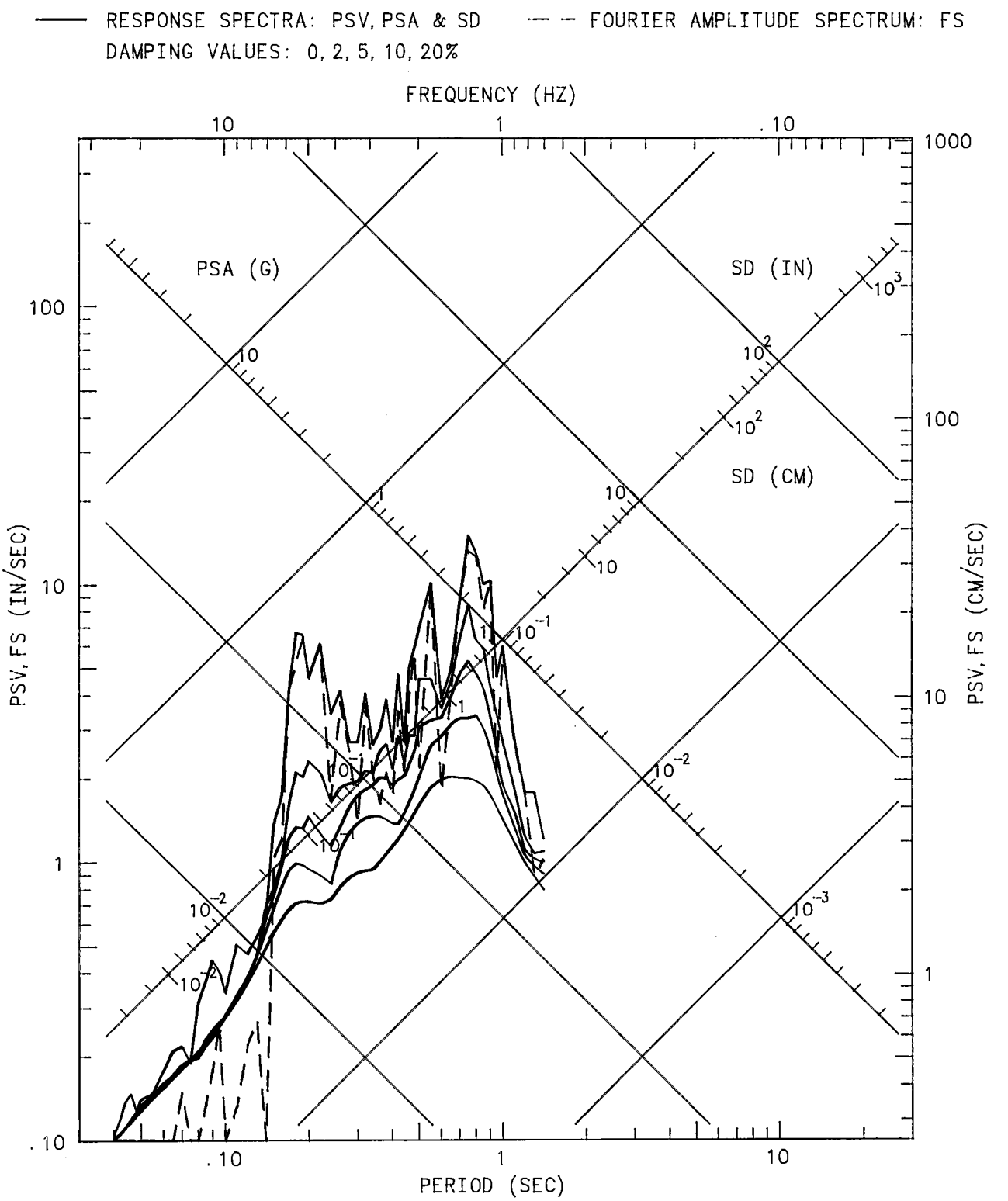
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK -- 10-STORY COMMERCIAL BLDG.
CHN 8: 180 DEG (8TH FLOOR, NEAR CENTER)
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .50-1.00 TO 23.0-25.0 HZ.
58364--C0194--80025.01 110771.1016-QL80A364C



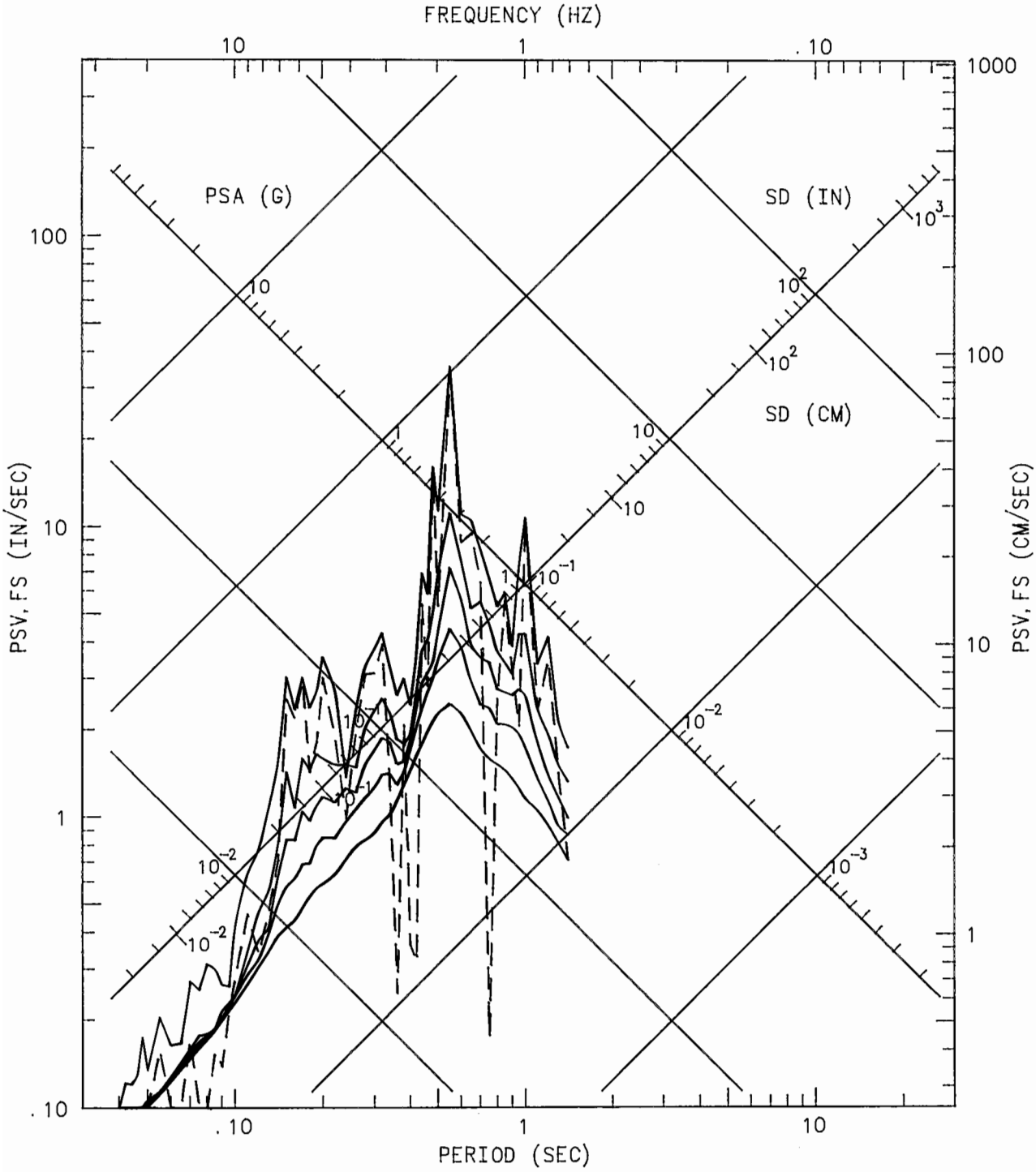
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG.
CHN 9: 90 DEG (3RD FLOOR, NORTH WALL)
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .50-1.00 TO 23.0-25.0 HZ.
58364-C0194-80025.01 110771.1016-QL80A364C



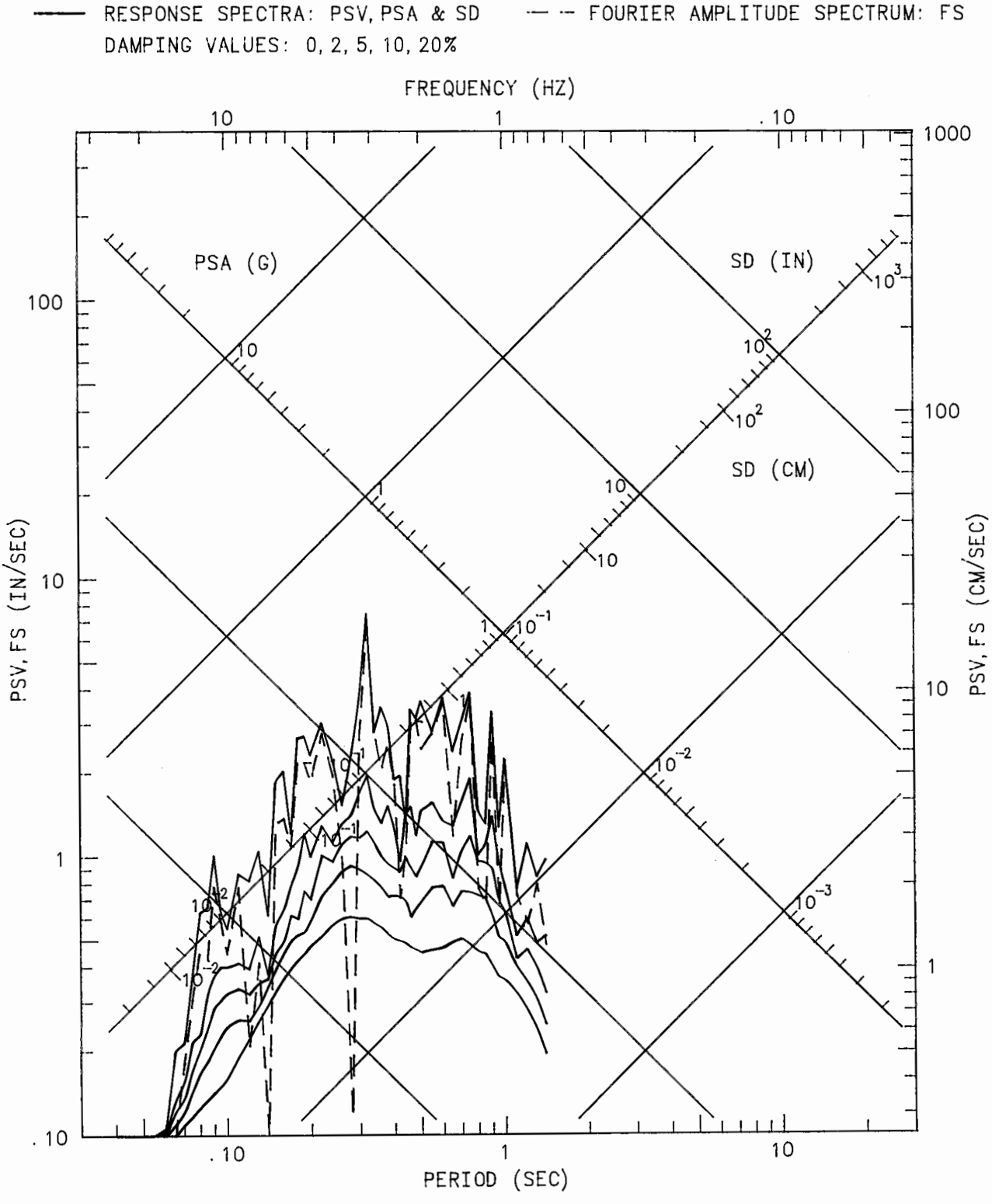
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG.
CHN 10: 90 DEG (3RD FLOOR, NEAR CENTER)
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .50-1.00 TO 23.0-25.0 HZ.
58364-C0194-80025.01 110771.1016-QL80A364C



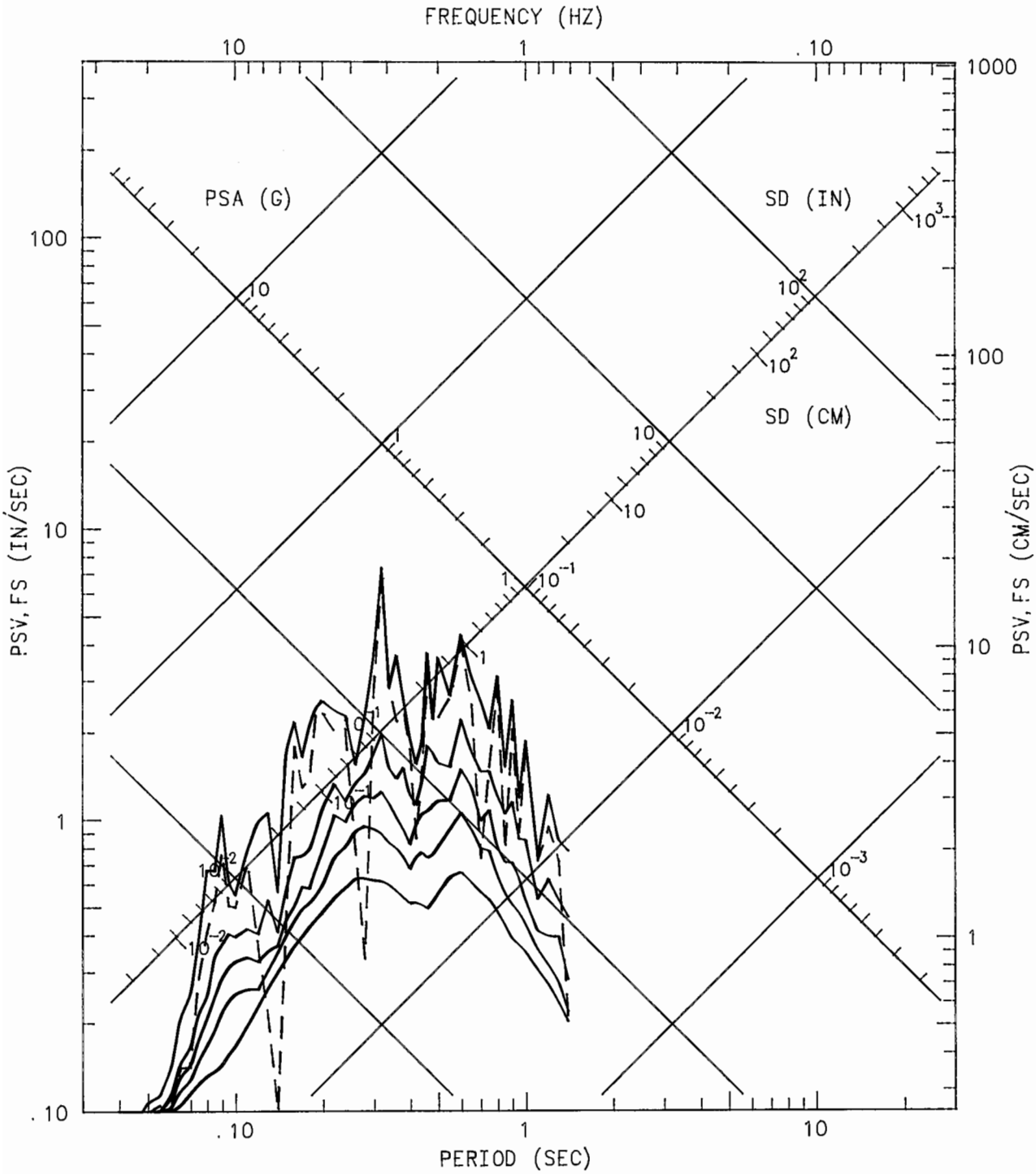
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK -- 10-STORY COMMERCIAL BLDG.
CHN 11: 180 DEG (3RD FLOOR, NEAR CENTER)
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .50-1.00 TO 23.0-25.0 HZ.
58364--C0194--80025.01 110771.1016--QL80A364C



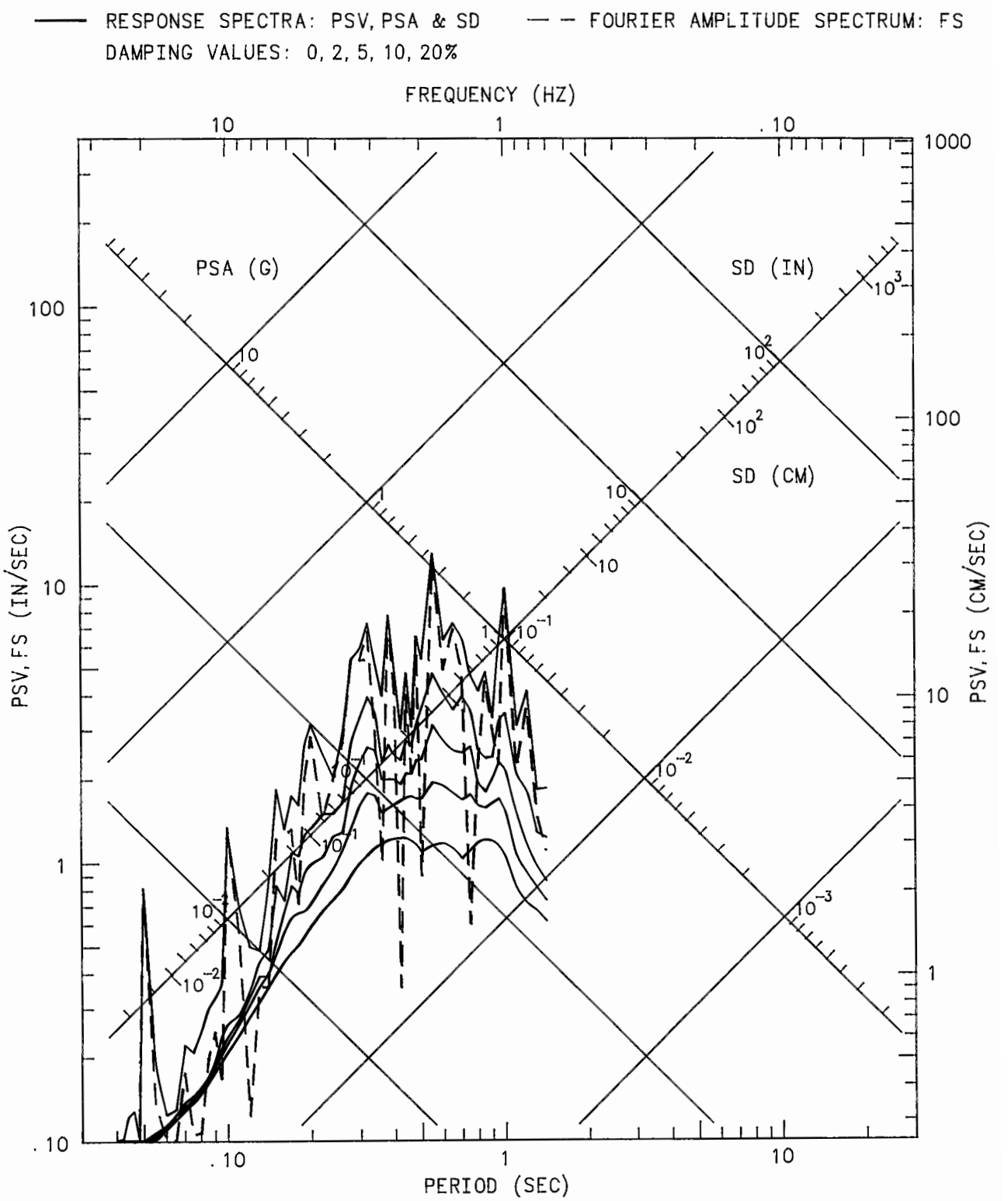
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK -- 10-STORY COMMERCIAL BLDG.
CHN 12: UP (GRND FLOOR, WEST WALL OF CNTR CORE)
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .50-1.00 TO 23.0-25.0 HZ.
58364-C0194-80025.01 110771.1016-QL80A364C



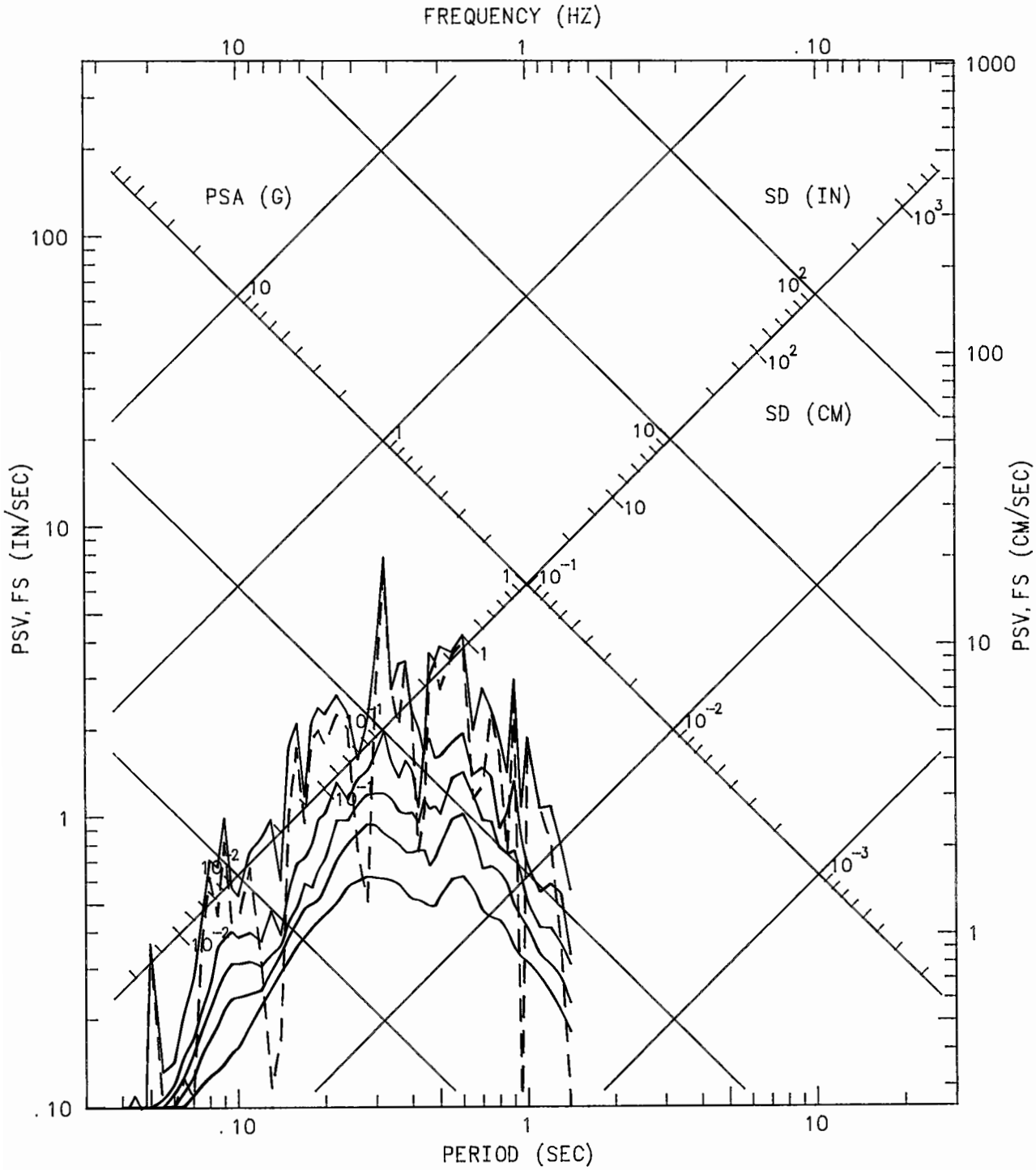
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK -- 10-STORY COMMERCIAL BLDG.
CHN 13: UP (GRND FLOOR, EAST WALL OF CNTR CORE)
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .50-1.00 TO 23.0-25.0 HZ.
58364--C0194--80025.01 110771.1016--QL80A364C



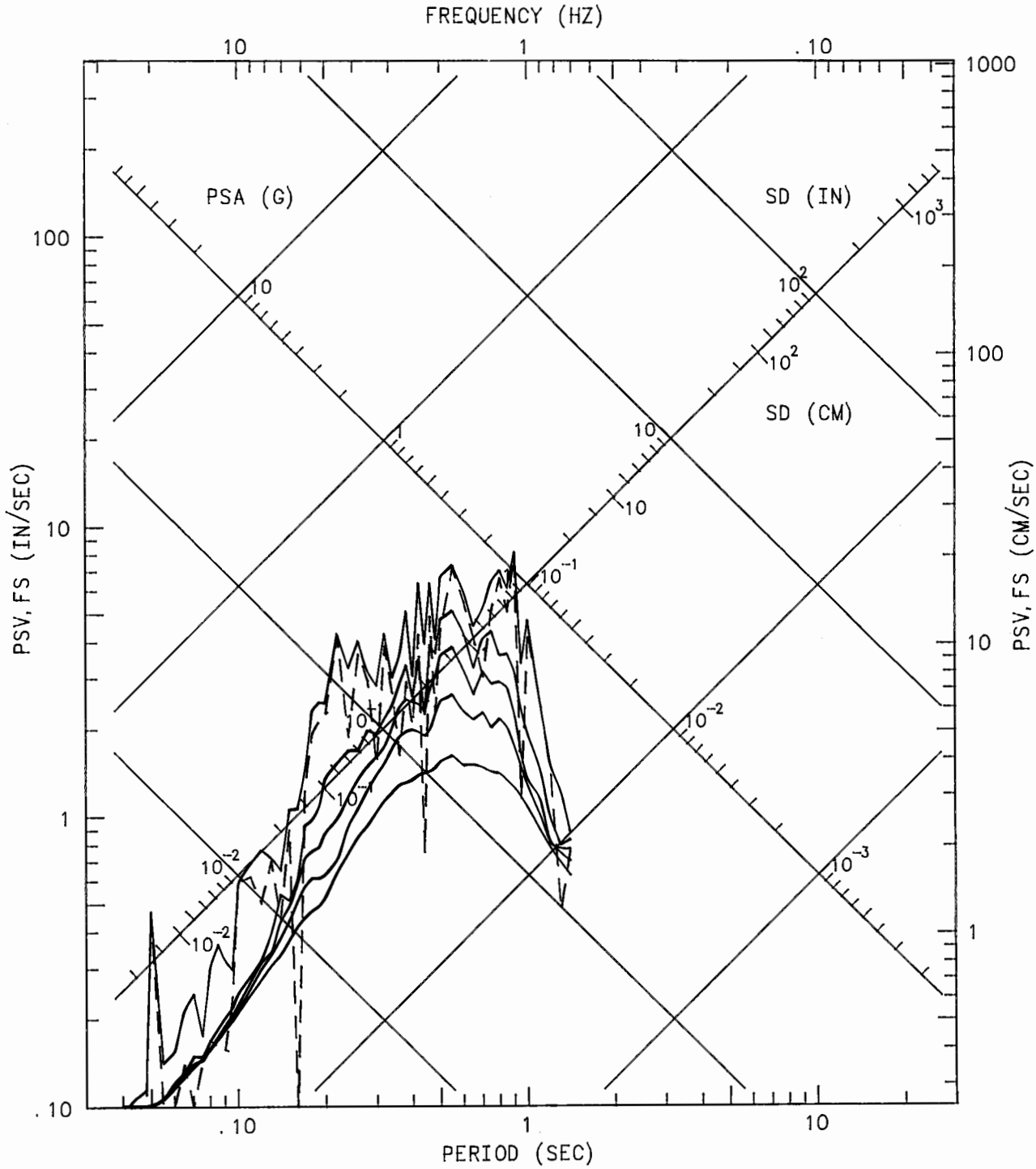
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG.
CHN 1 (STA CHN 14): 180 DEG (GROUND FLOOR, NEAR CENTER)
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .50-1.00 TO 23.0-25.0 HZ.
58364-S3490-80025.01 110771.0811-QL80A364



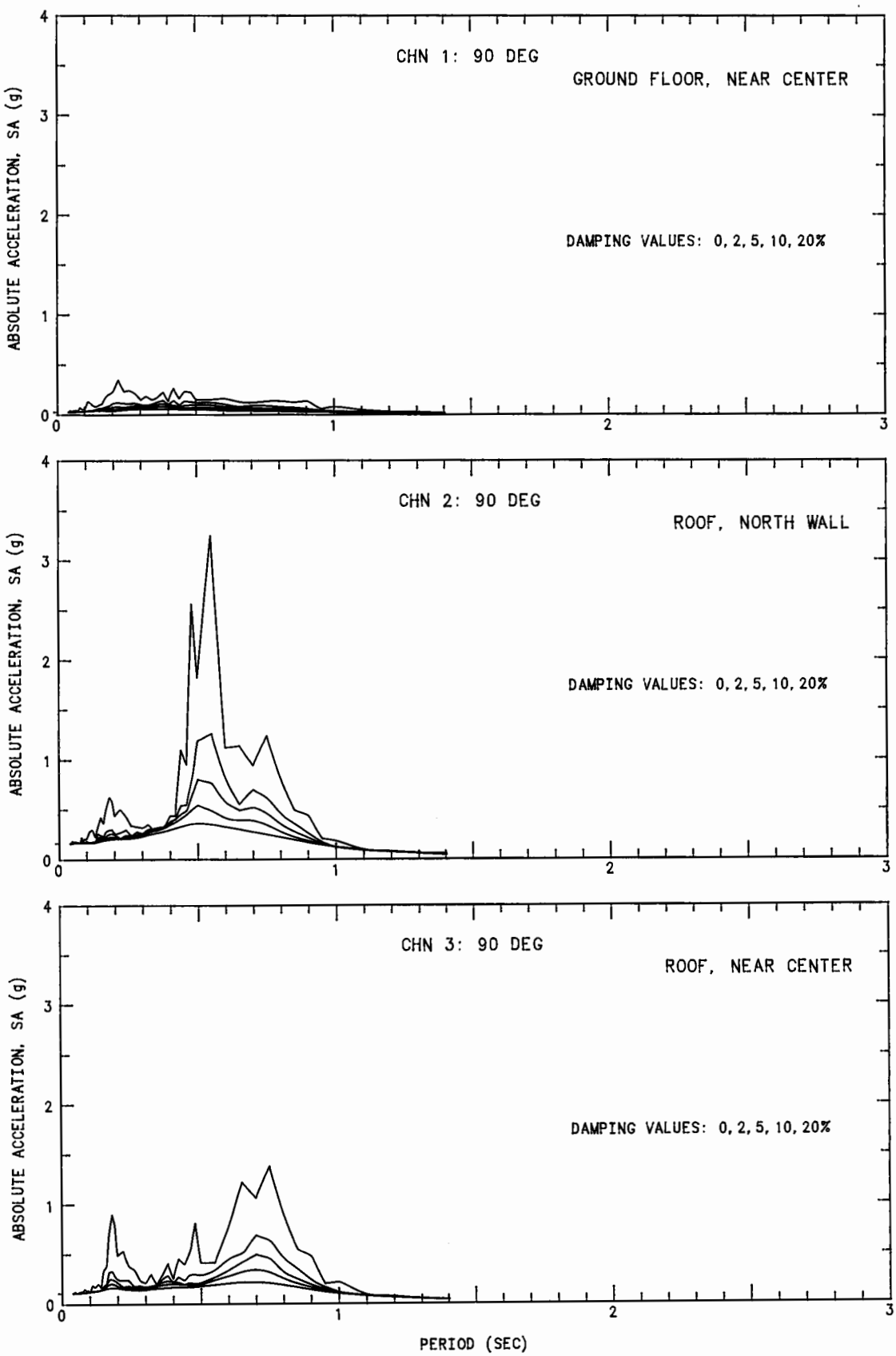
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK -- 10-STORY COMMERCIAL BLDG.
CHN 2 (STA CHN 15): UP (GROUND FLOOR, NEAR CENTER)
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .50-1.00 TO 23.0-25.0 HZ.
58364-S3490-80025.01 110771.0811-QL80A364



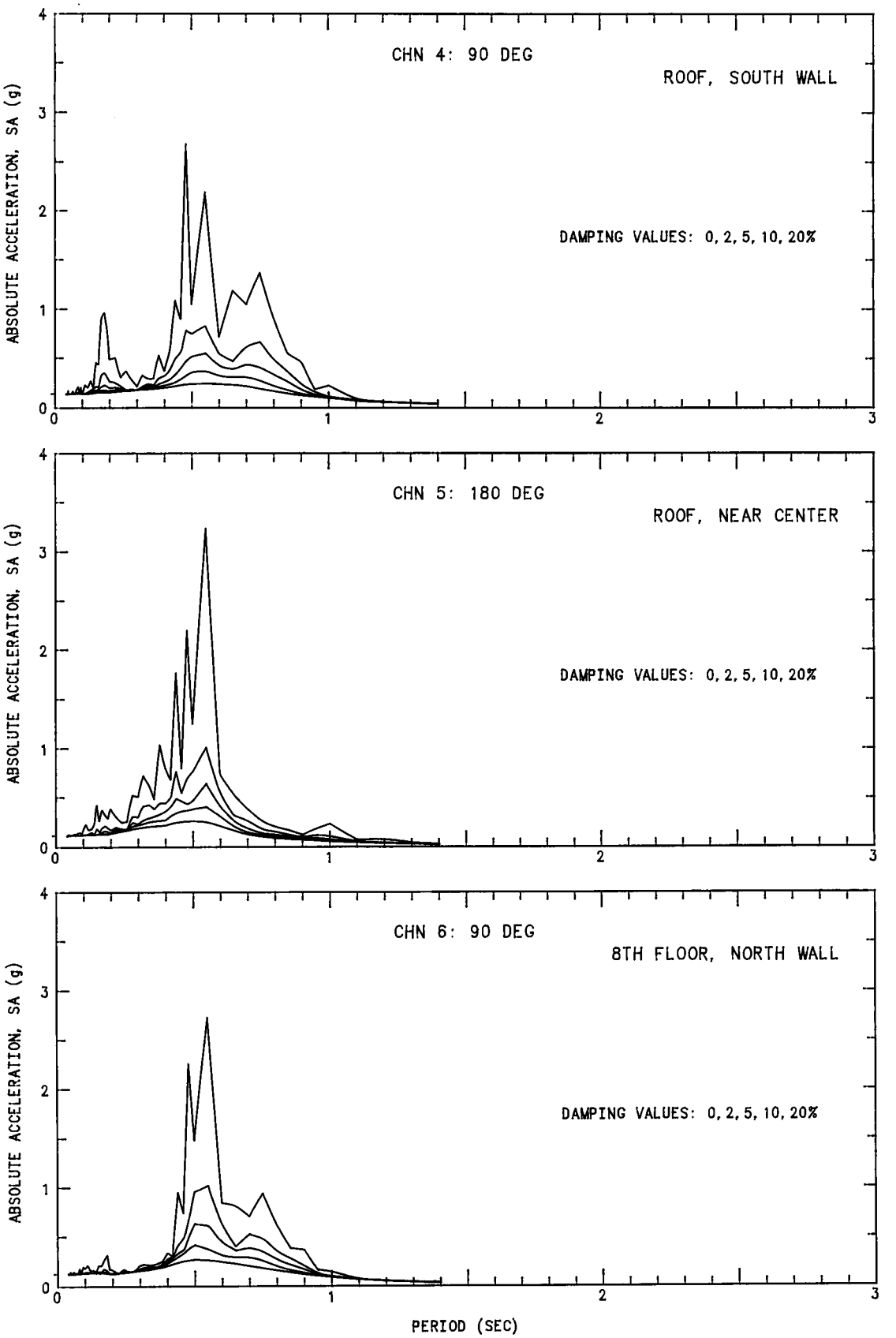
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK -- 10-STORY COMMERCIAL BLDG.
CHN 3 (STA CHN 16): 90 DEG (GROUND FLOOR, NEAR CENTER)
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .50-1.00 TO 23.0-25.0 HZ.
58364-S3490-80025.01 110771.0811-QL80A364



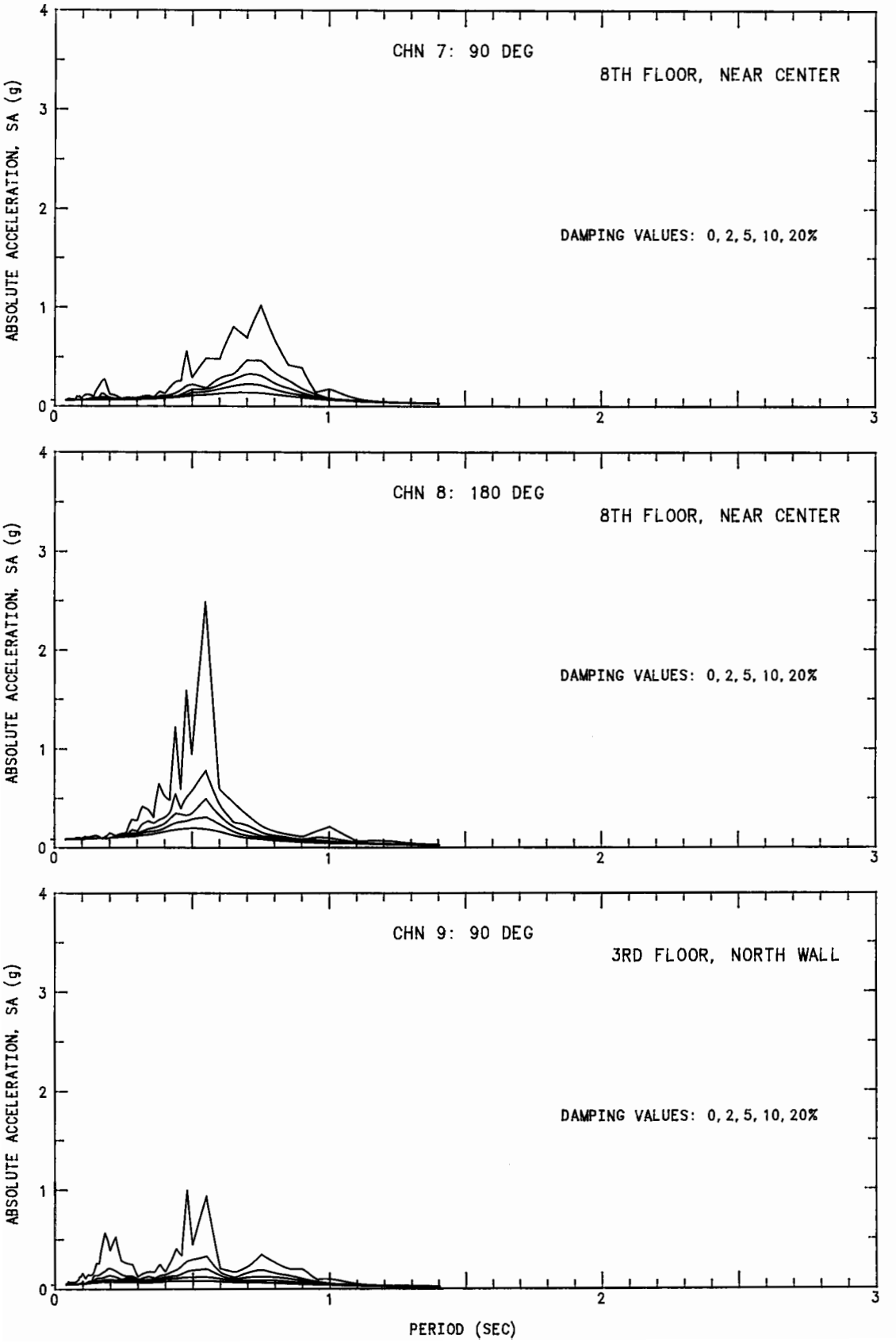
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG.
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .50-1.00 TO 23.0-25.0 HZ.
58364-C0194-80025.01 110771.1016-QL80A364C



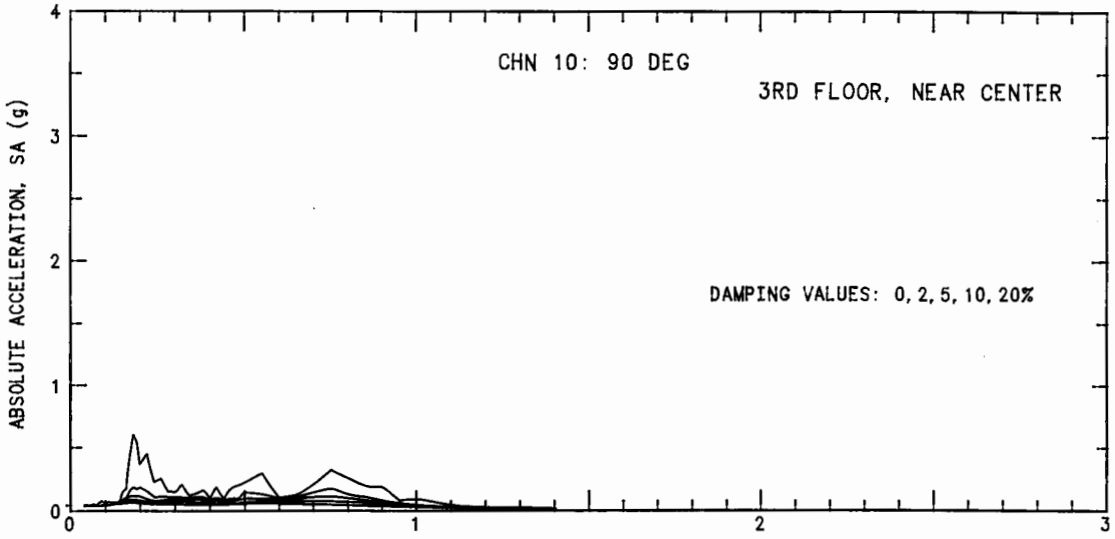
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK -- 10-STORY COMMERCIAL BLDG.
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .50-1.00 TO 23.0-25.0 HZ.
58364--C0194--80025.01 110771.1016-QL80A364C

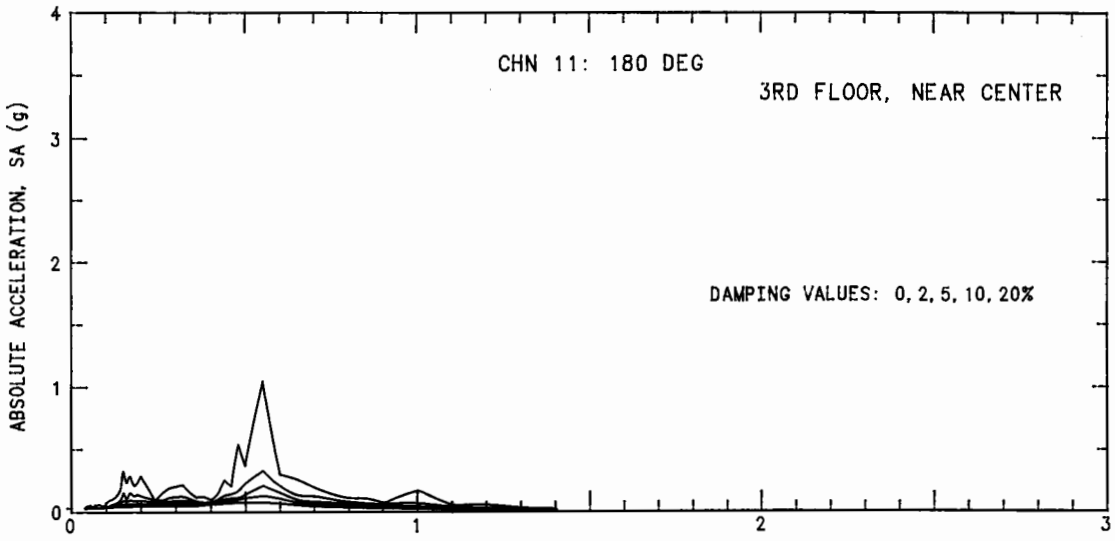


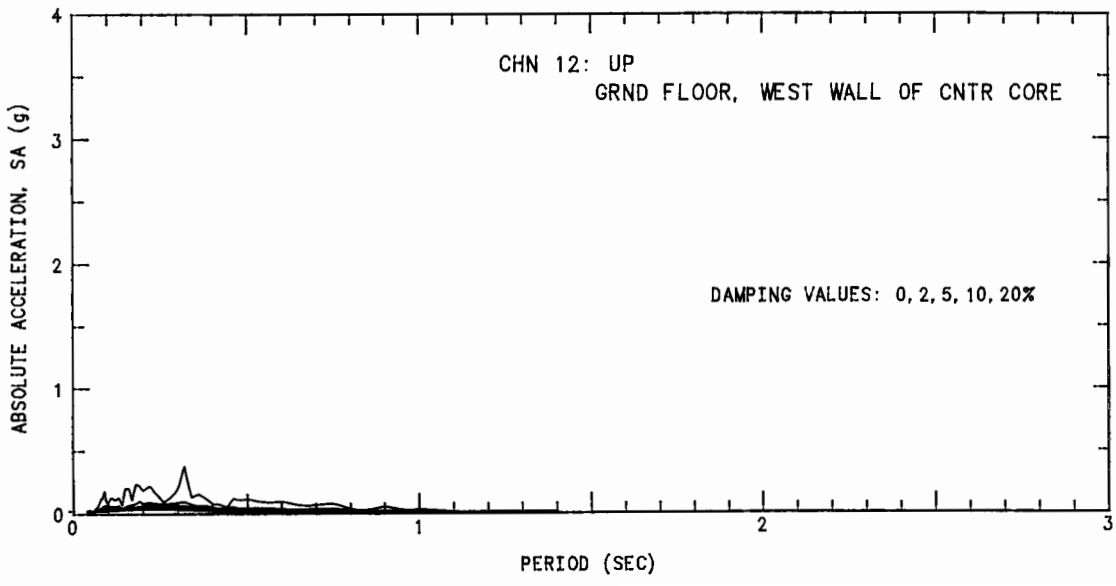
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG.
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .50-1.00 TO 23.0-25.0 HZ.
58364-C0194-80025.01 110771.1016-QL80A364C



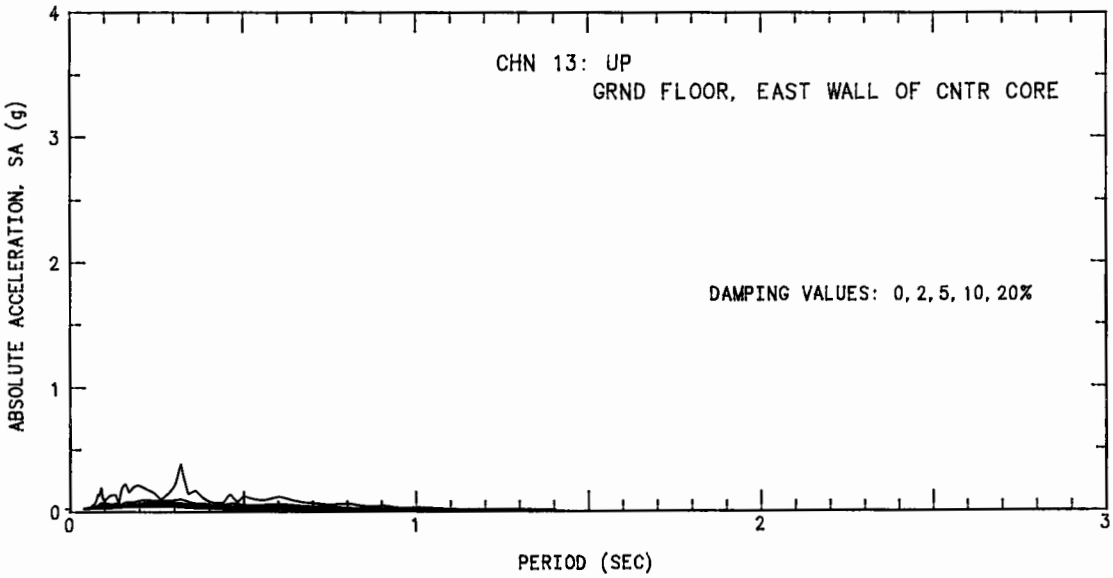
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG.
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .50-1.00 TO 23.0-25.0 HZ.
58364-C0194-80025.01 110771.1016-QL80A364C



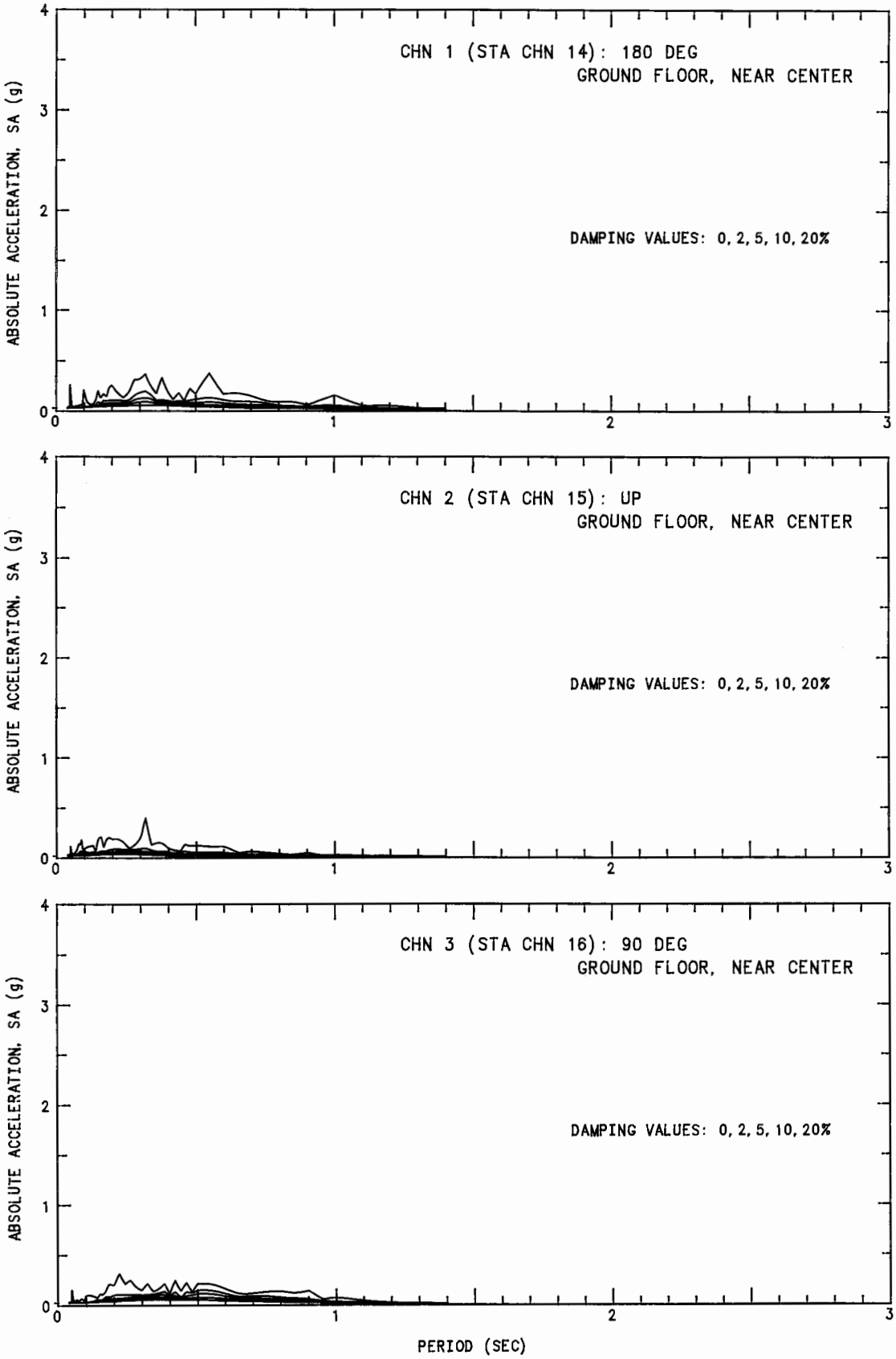




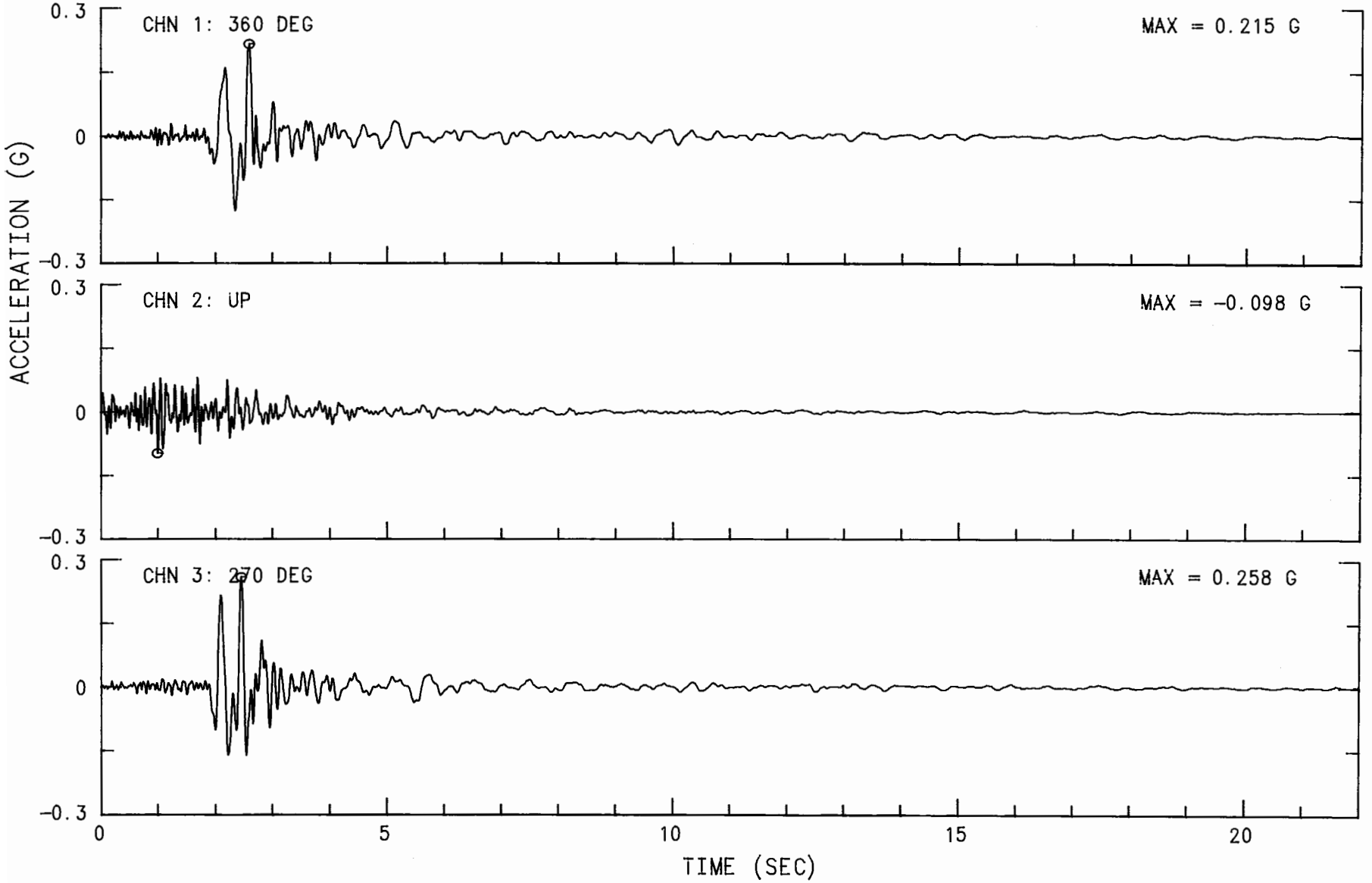
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK -- 10-STORY COMMERCIAL BLDG.
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .50-1.00 TO 23.0-25.0 HZ.
58364--C0194--80025.01 110771.1016-QL80A364C



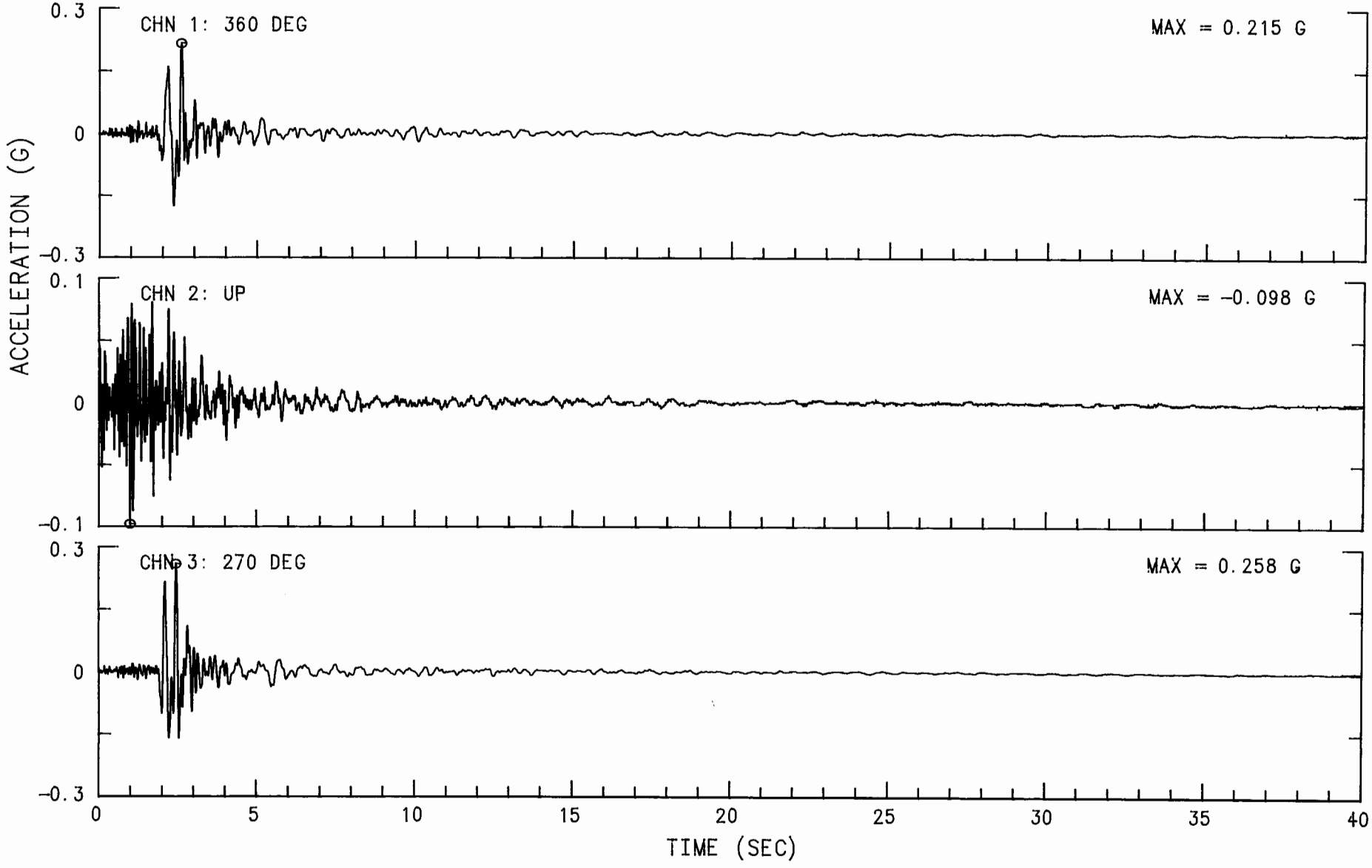
LIVERMORE EARTHQUAKE JANUARY 24, 1980 11:00 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG.
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .50-1.00 TO 23.0-25.0 HZ.
58364-S3490-80025.01 110771.0811-QL80A364

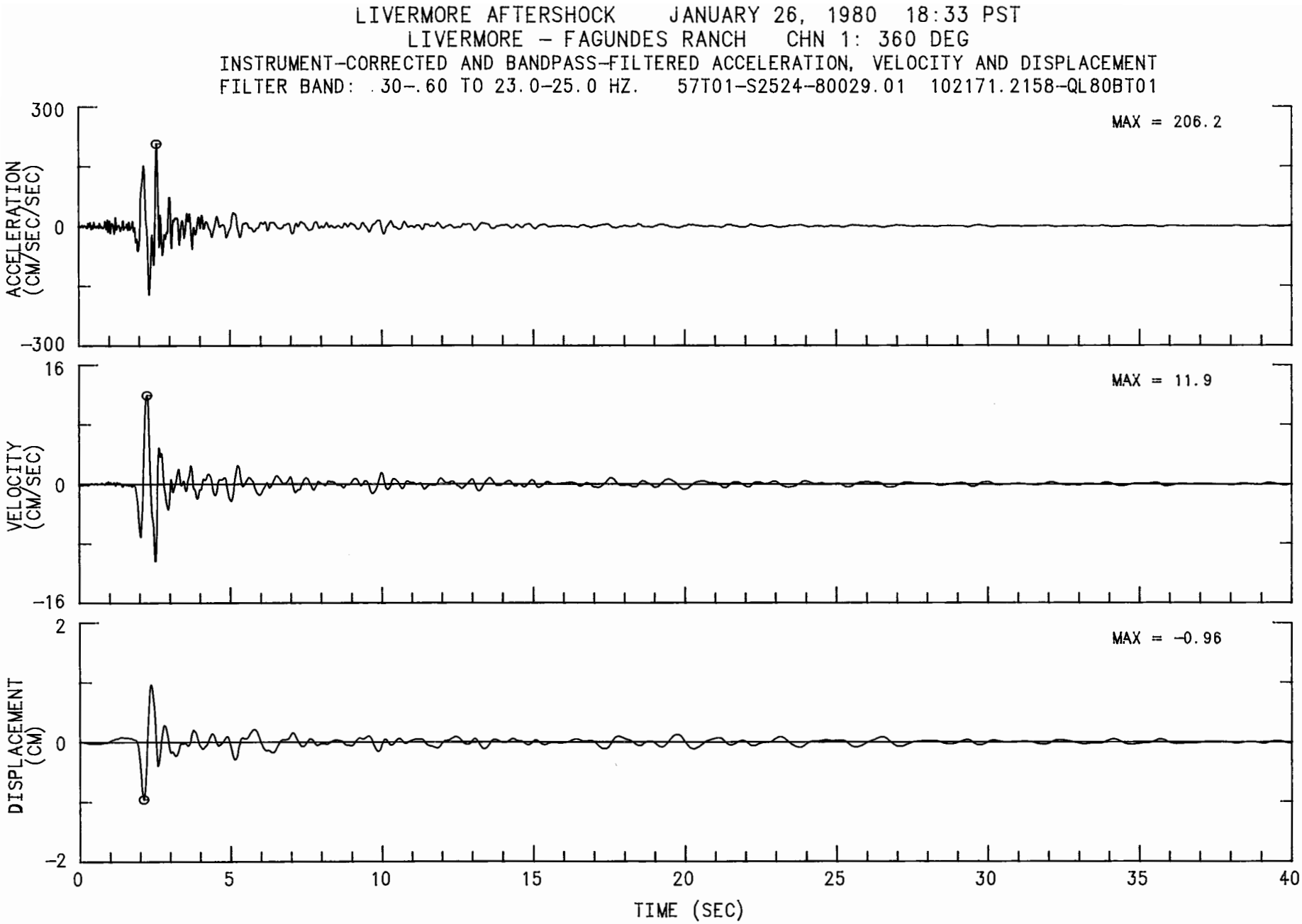


LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
LIVERMORE - FAGUNDES RANCH
UNCORRECTED ACCELEROGRAM 57T01-S2524-80029.01 102171.1351-QL80BT01

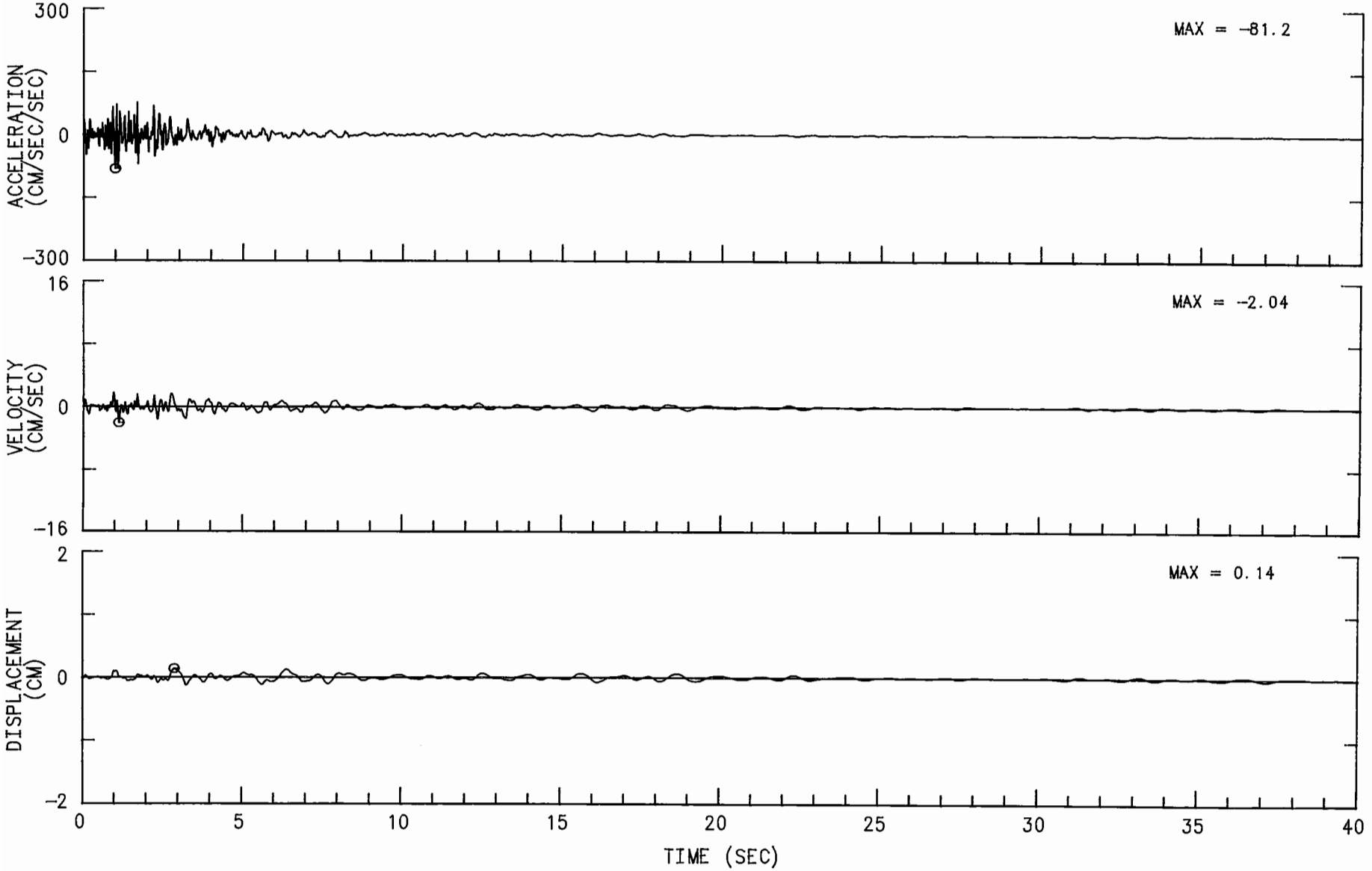


LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
LIVERMORE - FAGUNDES RANCH
UNCORRECTED ACCELEROGRAM 57T01-S2524-80029.01 102171.1351-QL80BT01

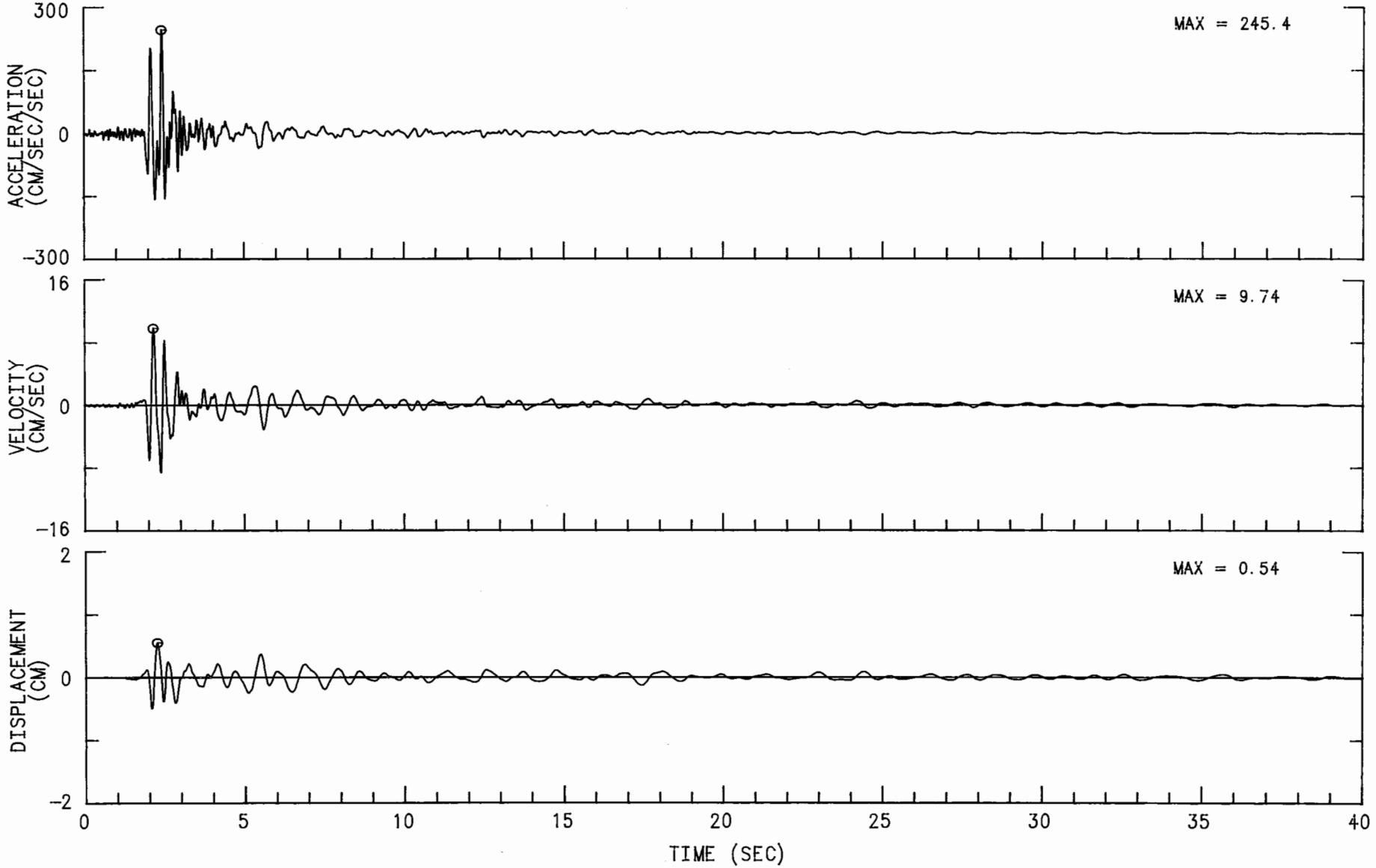



LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
LIVERMORE - FAGUNDES RANCH CHN 1: 360 DEG
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .30-.60 TO 23.0-25.0 HZ. 57T01-S2524-80029.01 102171.2158-QL80BT01
ACCELERATION (CM/SEC/SEC)
300
0
-300
MAX = 206.2
VELOCITY (CM/SEC)
16
0
-16
MAX = 11.9
DISPLACEMENT (CM)
2
0
-2
MAX = -0.96
0
5
10
15
20
25
30
35
40
TIME (SEC)

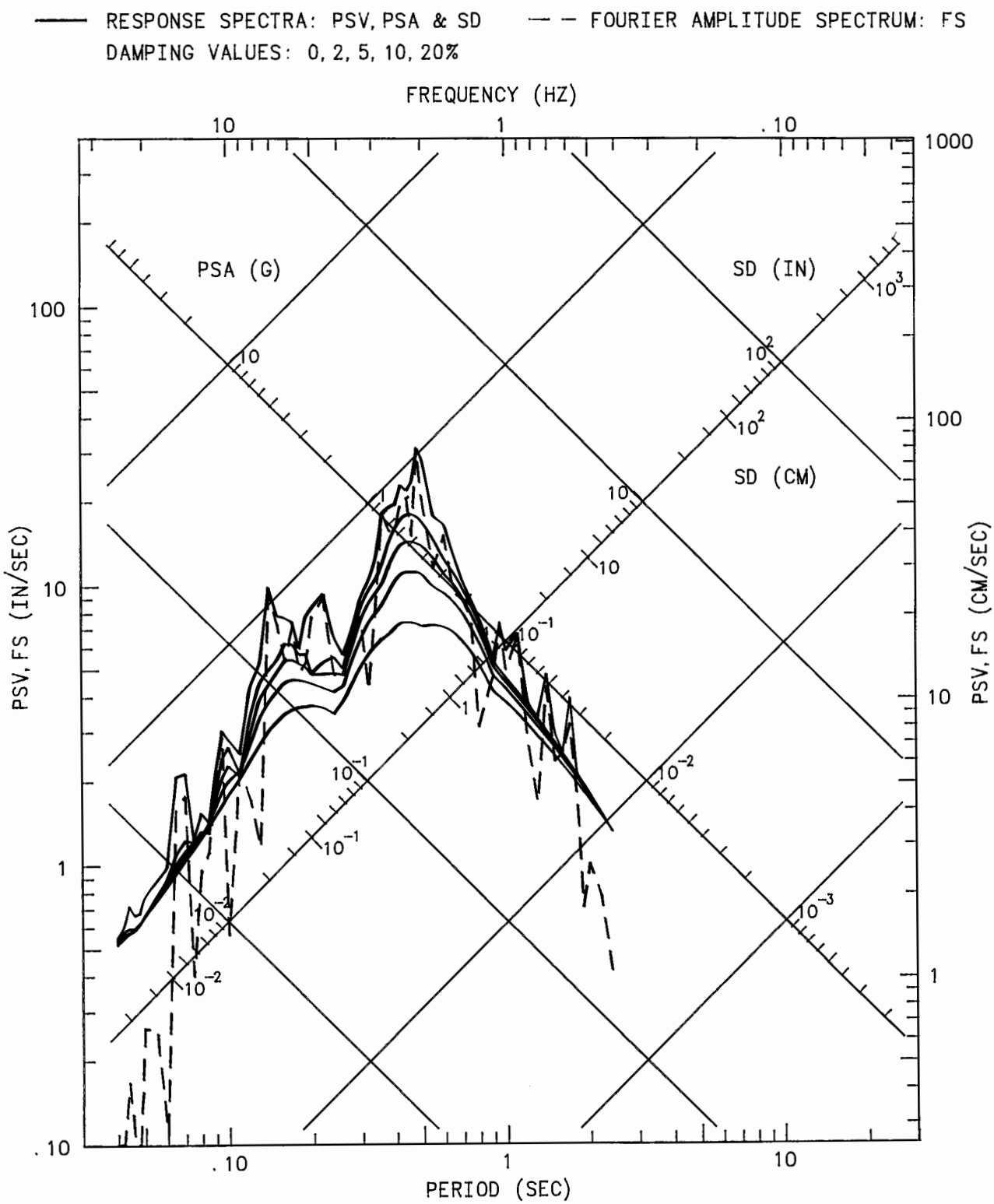
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
LIVERMORE - FAGUNDES RANCH CHN 2: UP
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .30-.60 TO 23.0-25.0 HZ. 57T01-S2524-80029.01 102171.2158-QL80BT01



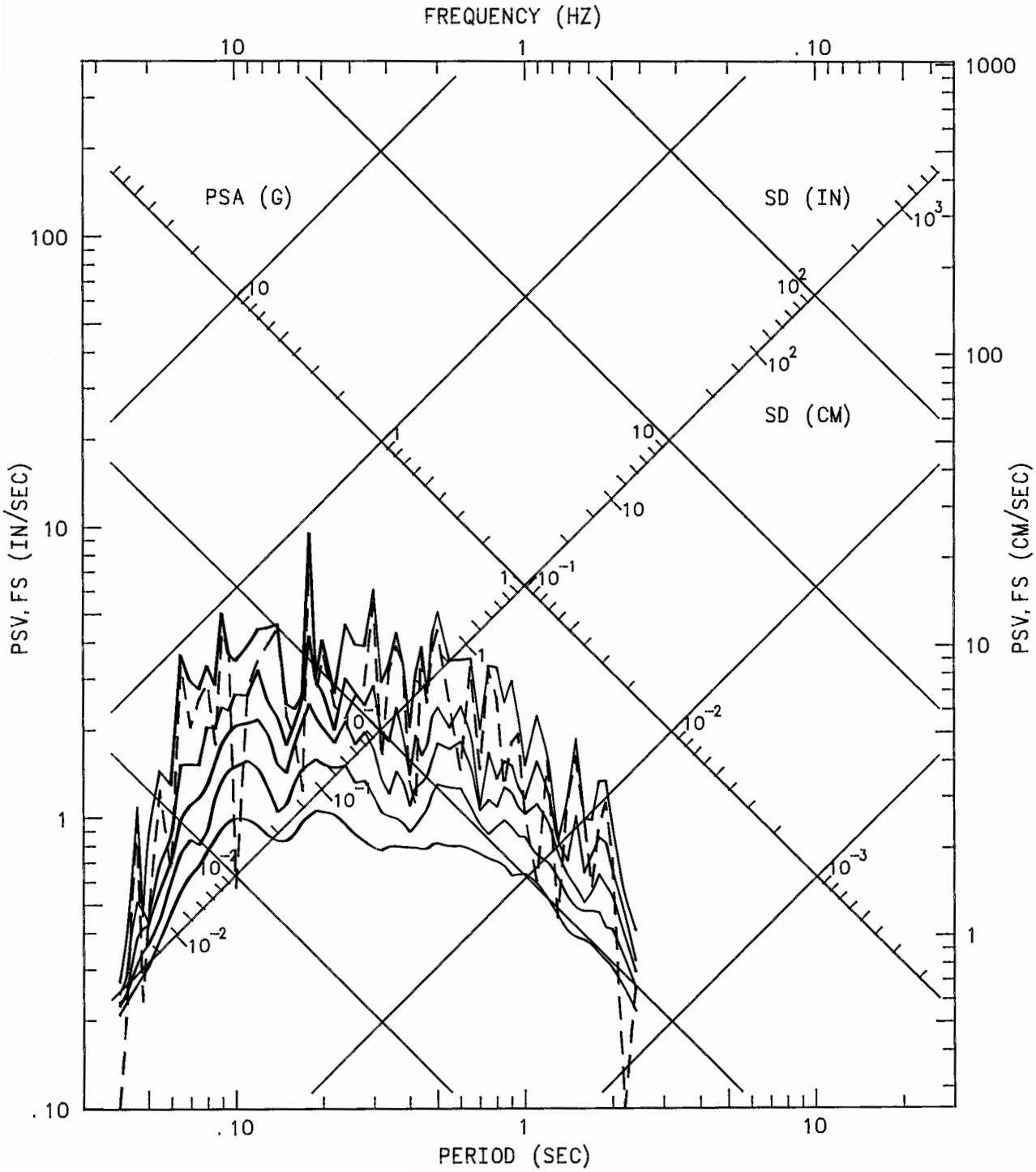
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
LIVERMORE - FAGUNDES RANCH CHN 3: 270 DEG
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .30-.60 TO 23.0-25.0 HZ. 57T01-S2524-80029.01 102171.2158-QL80BT01



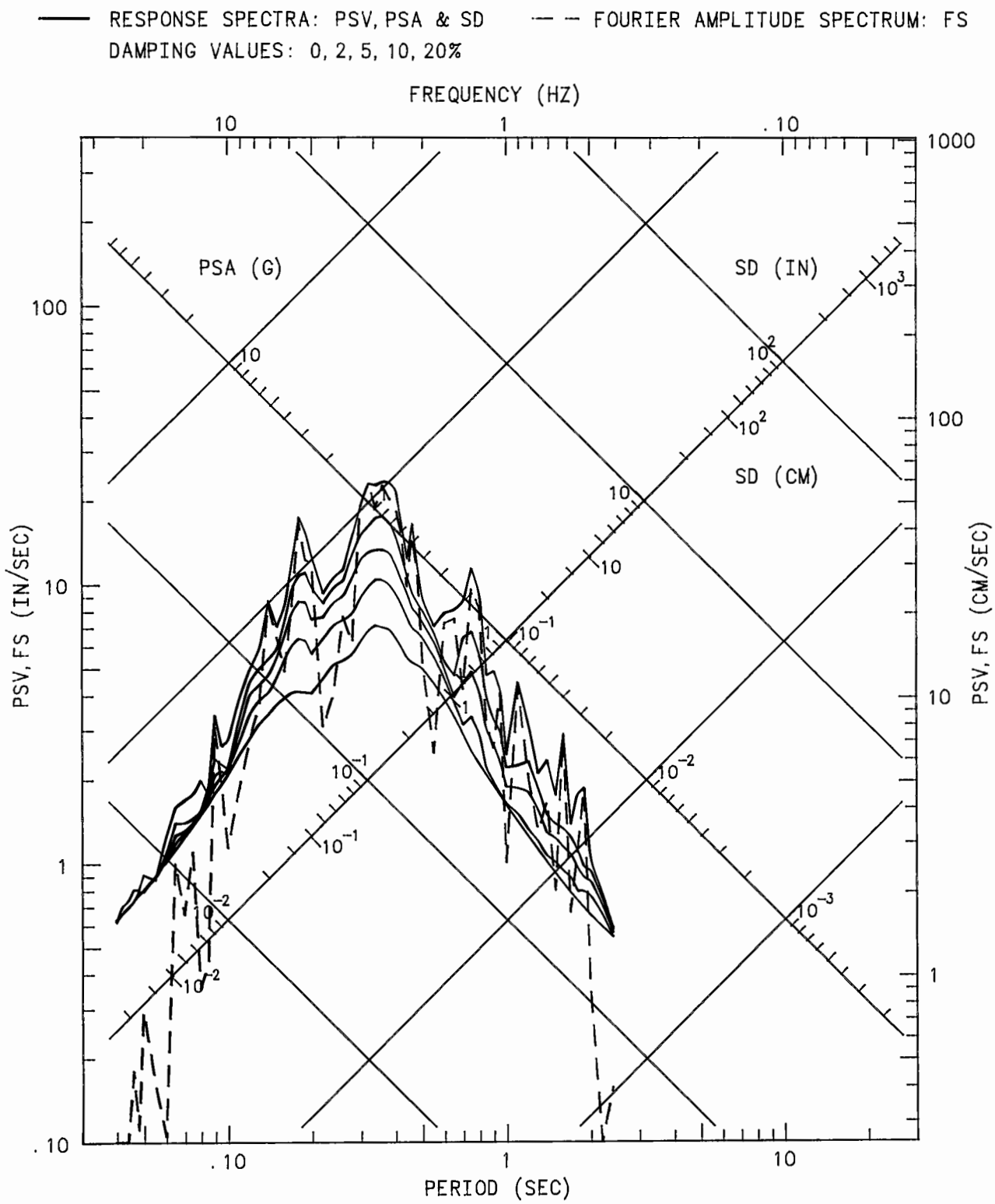
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
LIVERMORE - FAGUNDES RANCH
CHN 1: 360 DEG
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .30-.60 TO 23.0-25.0 HZ.
57T01-S2524-80029.01 102371.1559-QL80BT01



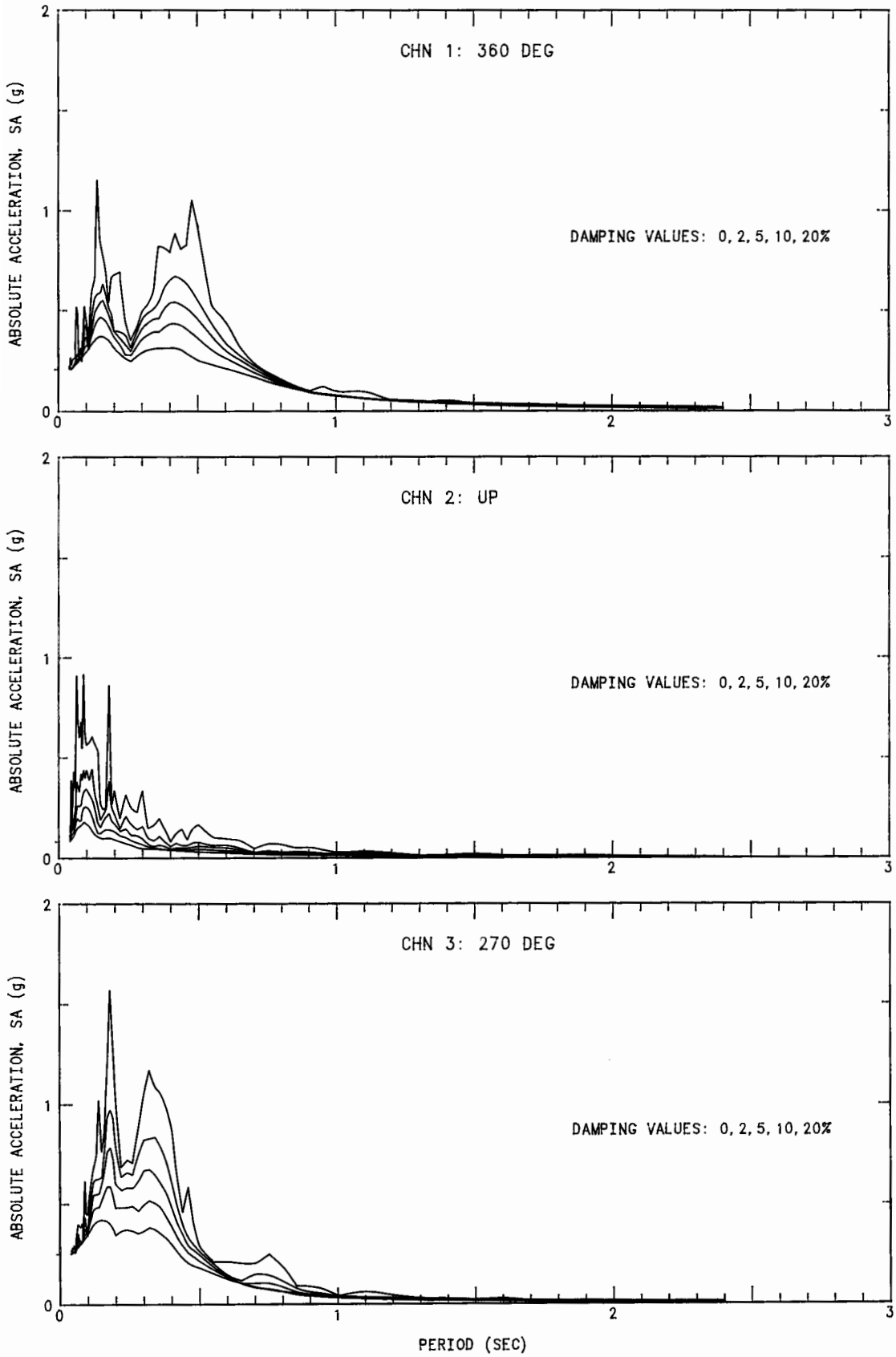
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
LIVERMORE - FAGUNDES RANCH
CHN 2: UP
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .30-.60 TO 23.0-25.0 HZ.
57T01-S2524-80029.01 102371.1559-QL80BT01



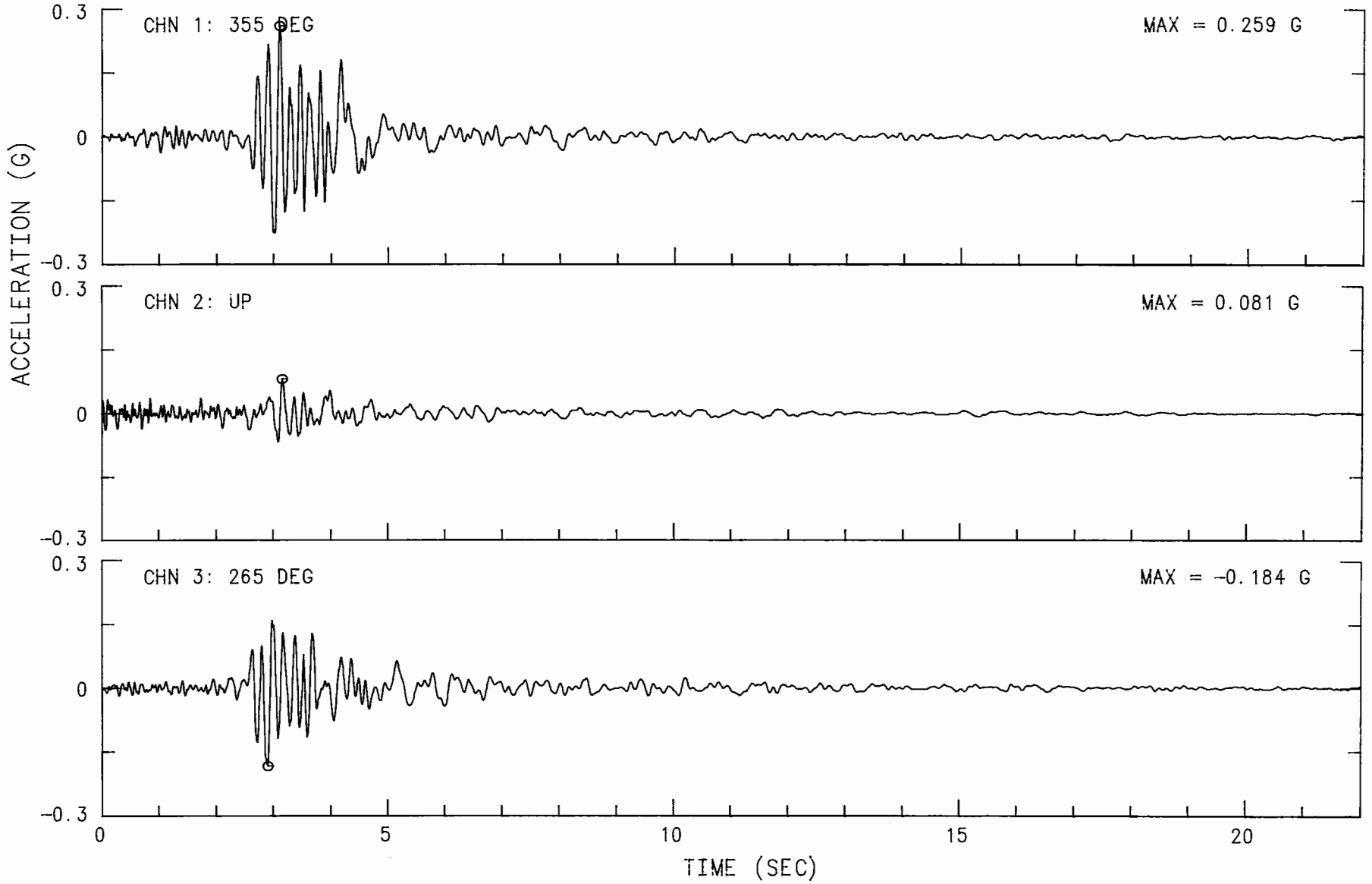
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
LIVERMORE - FAGUNDES RANCH
CHN 3: 270 DEG
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .30-.60 TO 23.0-25.0 HZ.
57T01-S2524-80029.01 102371.1559-QL80BT01



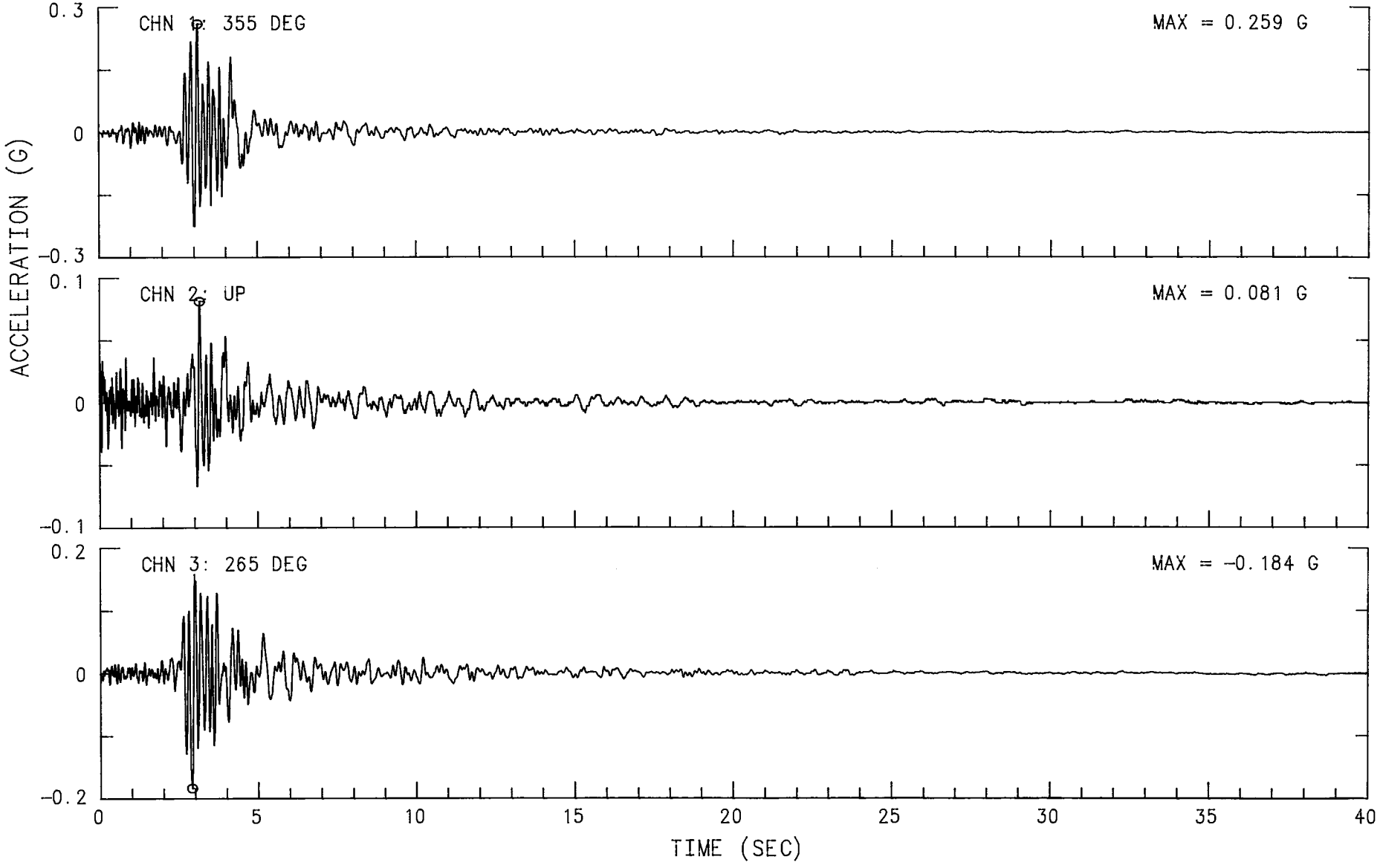
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
LIVERMORE - FAGUNDES RANCH
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .30-.60 TO 23.0-25.0 HZ.
57T01-S2524-80029.01 102371.1559-QL80BT01



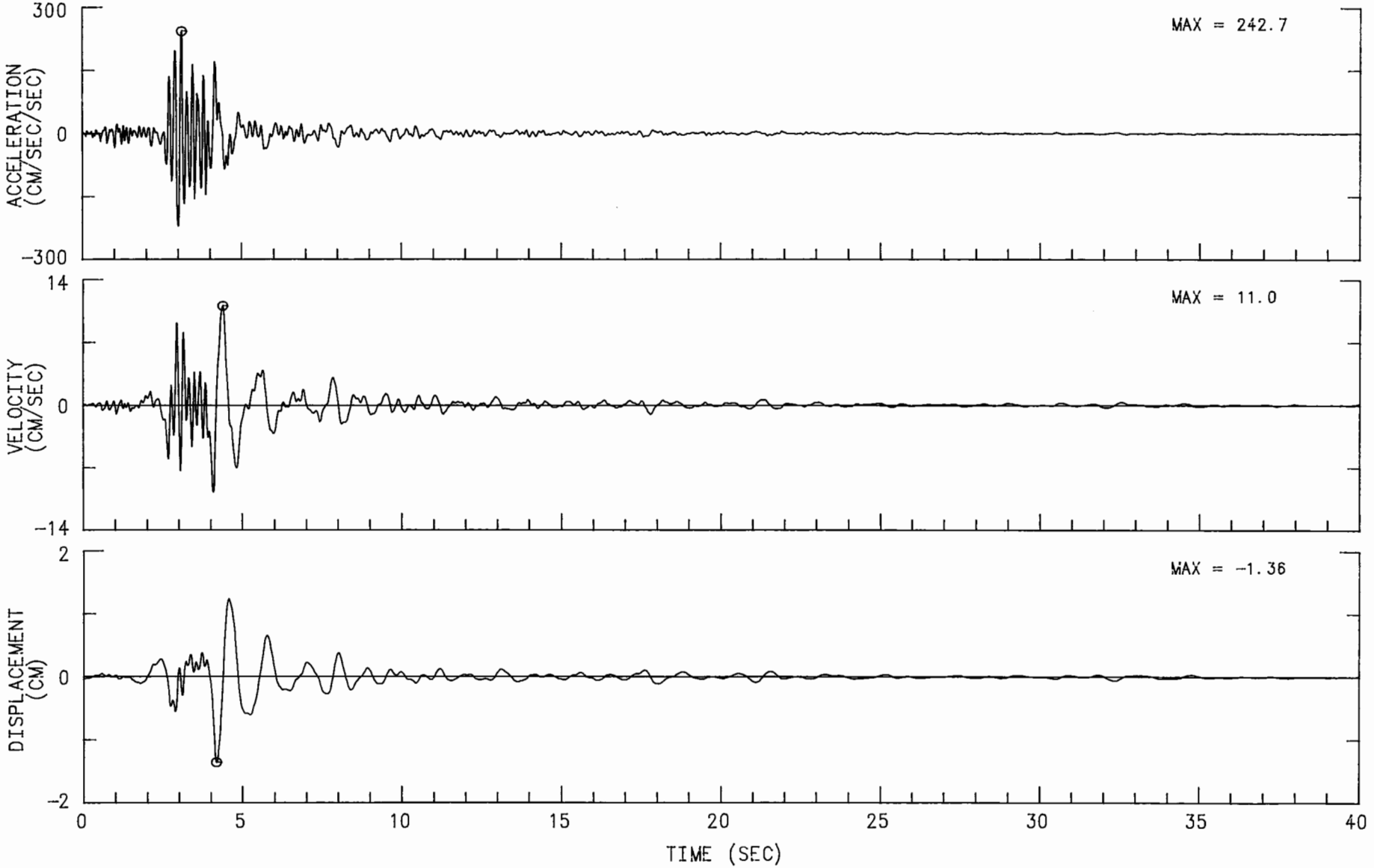
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
LIVERMORE - MORGAN TERRITORY PARK
UNCORRECTED ACCELEROGRAM 57T02-S2589-80029.01 102171.1343-QL80BT02



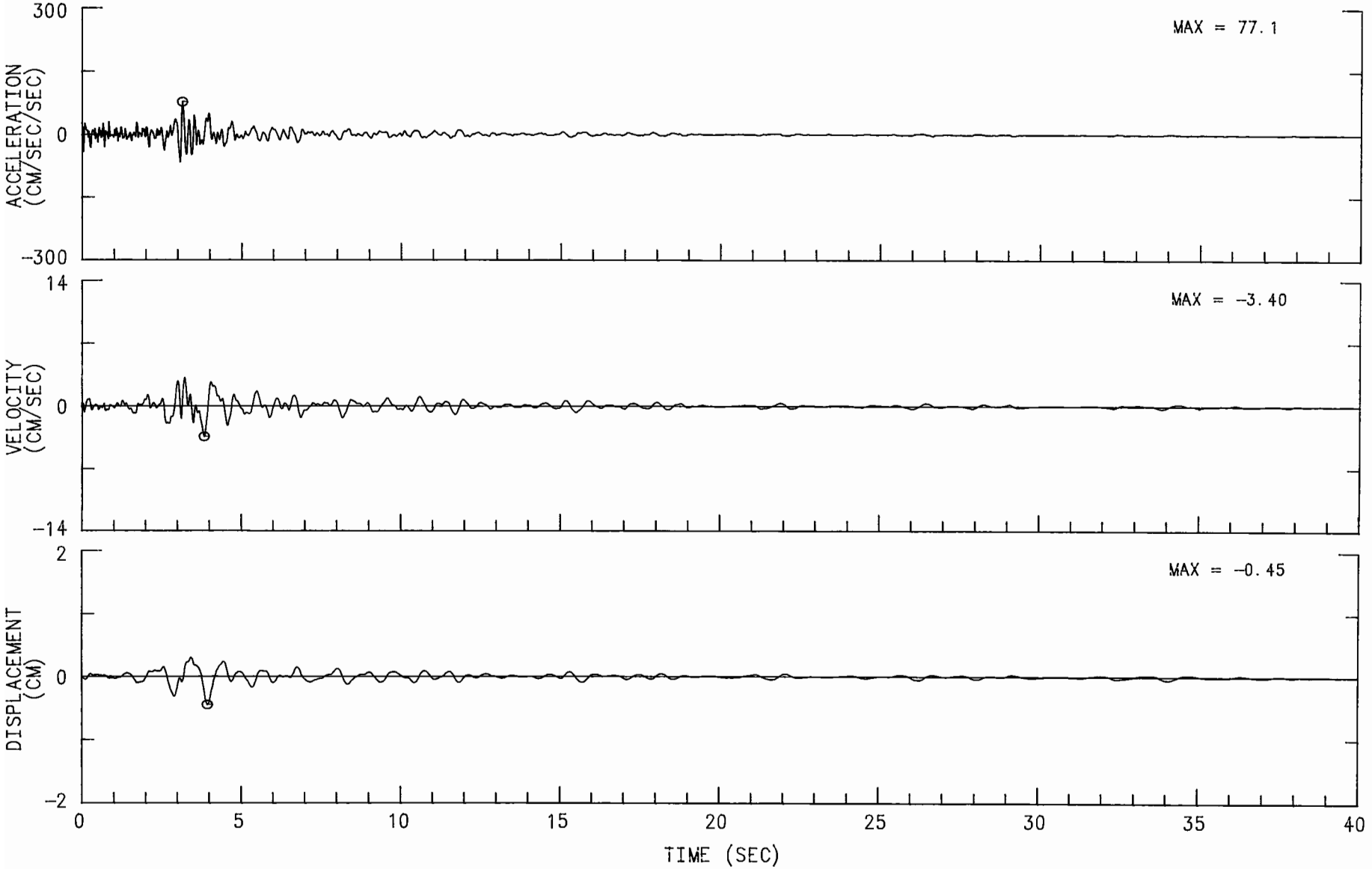
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
LIVERMORE - MORGAN TERRITORY PARK
UNCORRECTED ACCELEROGRAM 57T02-S2589-80029.01 102171.1343-QL80BT02



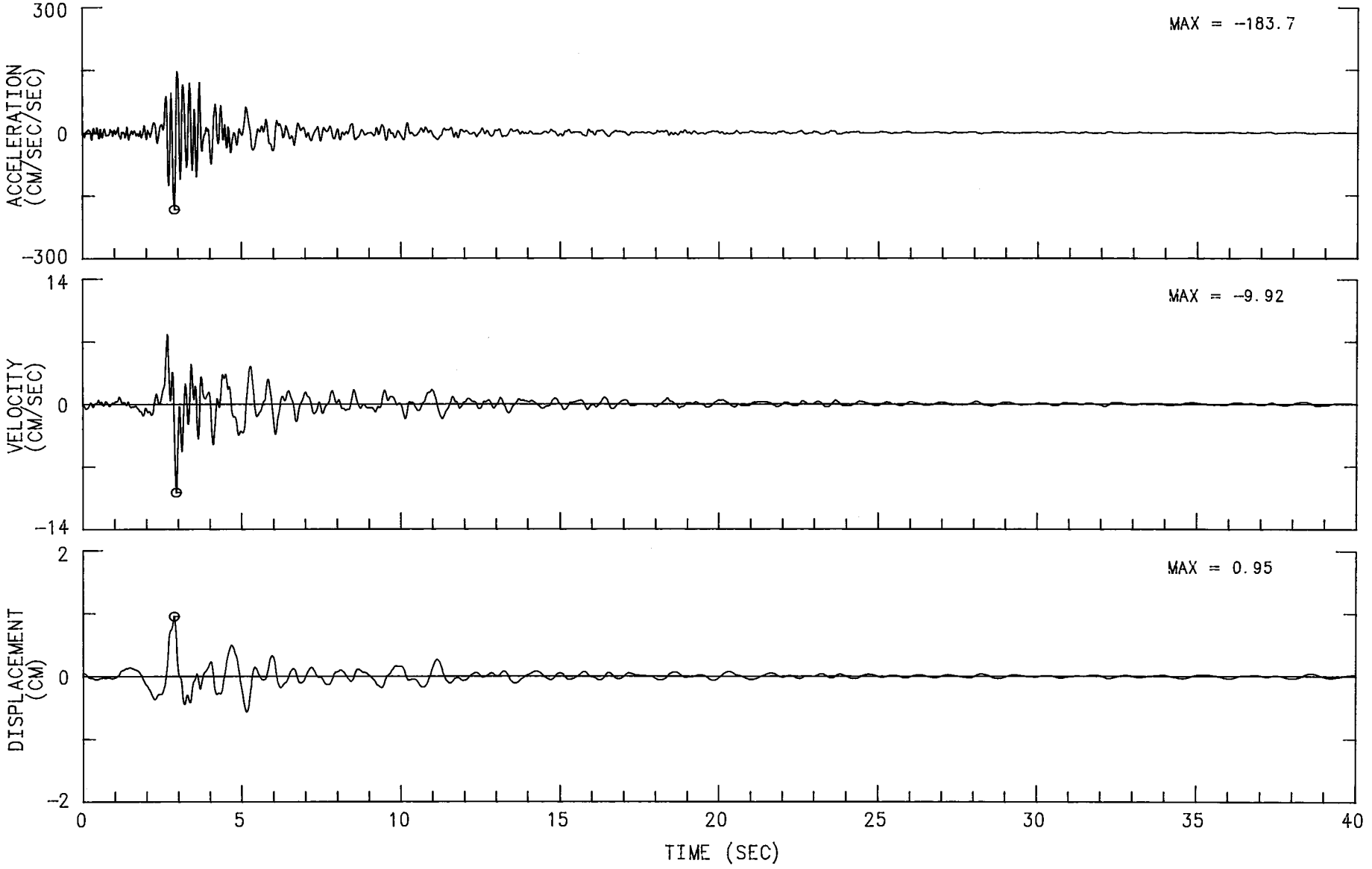
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
LIVERMORE - MORGAN TERRITORY PARK CHN 1: 355 DEG
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .30-.60 TO 23.0-25.0 HZ. 57T02-S2589-80029.01 102271.0037-QL80BT02



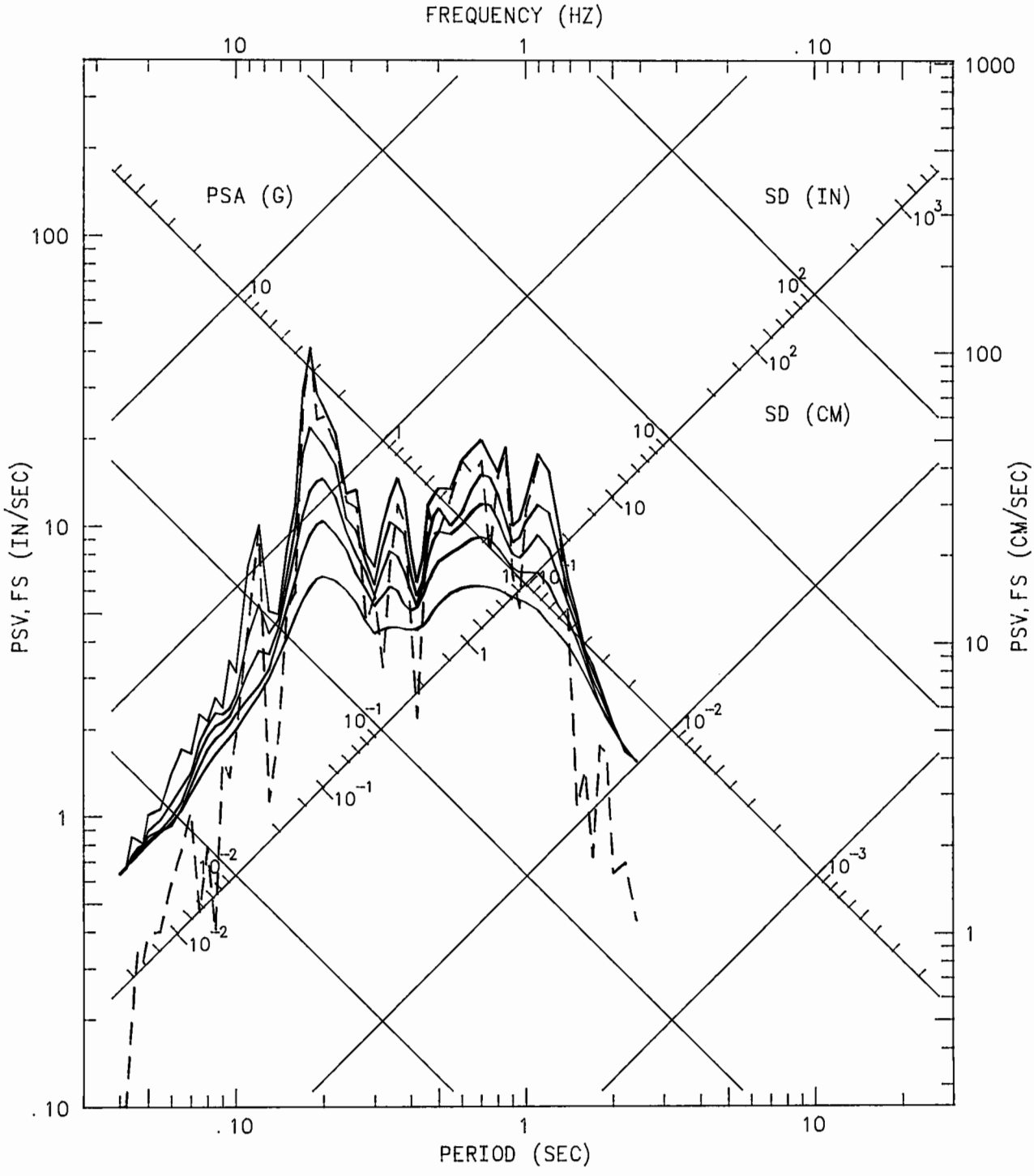
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
LIVERMORE - MORGAN TERRITORY PARK CHN 2: UP
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .30-.60 TO 23.0-25.0 HZ. 57T02-S2589-80029.01 102271.0037-QL80BT02



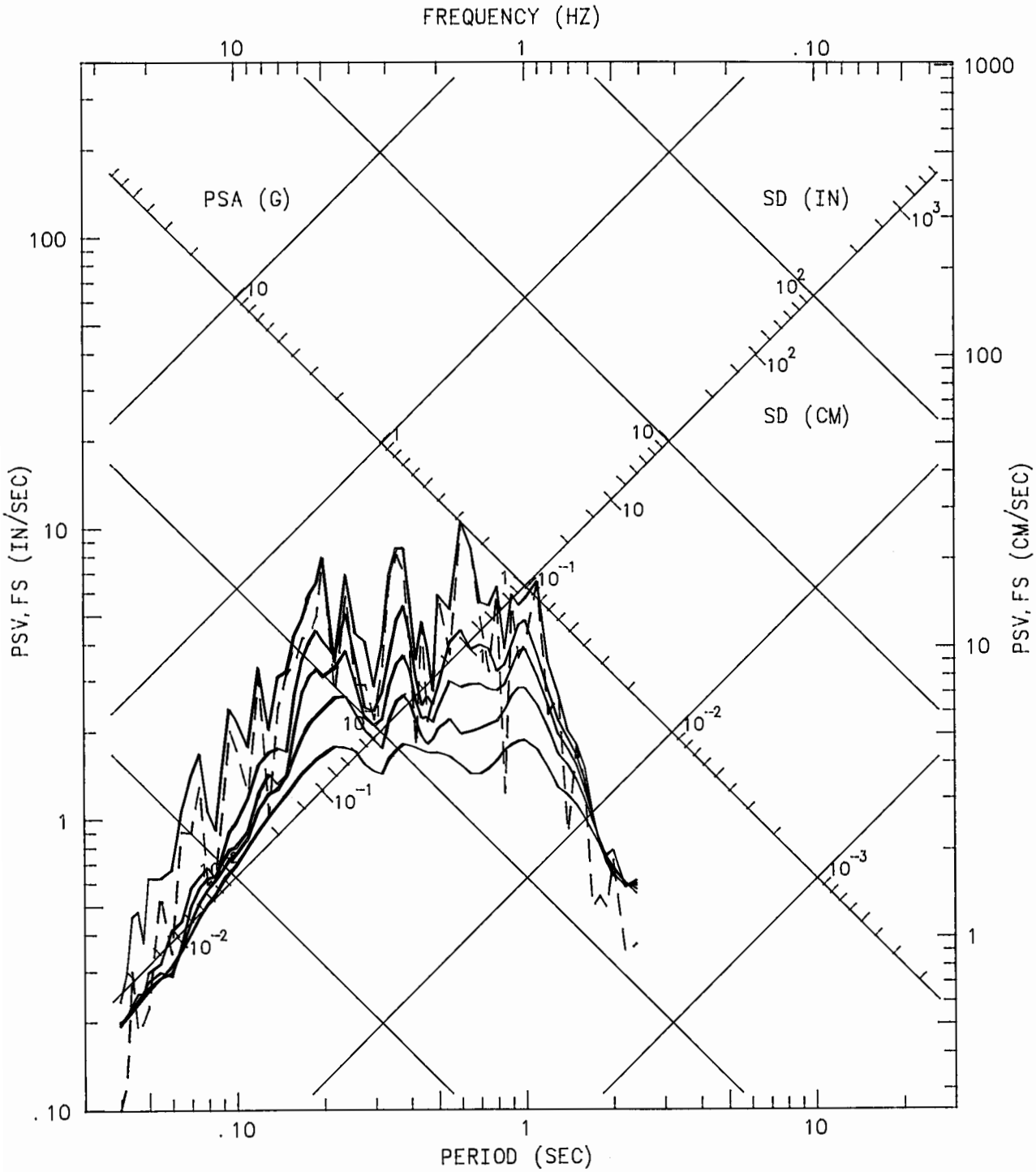
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
LIVERMORE - MORGAN TERRITORY PARK CHN 3: 265 DEG
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .30-.60 TO 23.0-25.0 HZ. 57T02-S2589-80029.01 102271.0037-QL80BT02



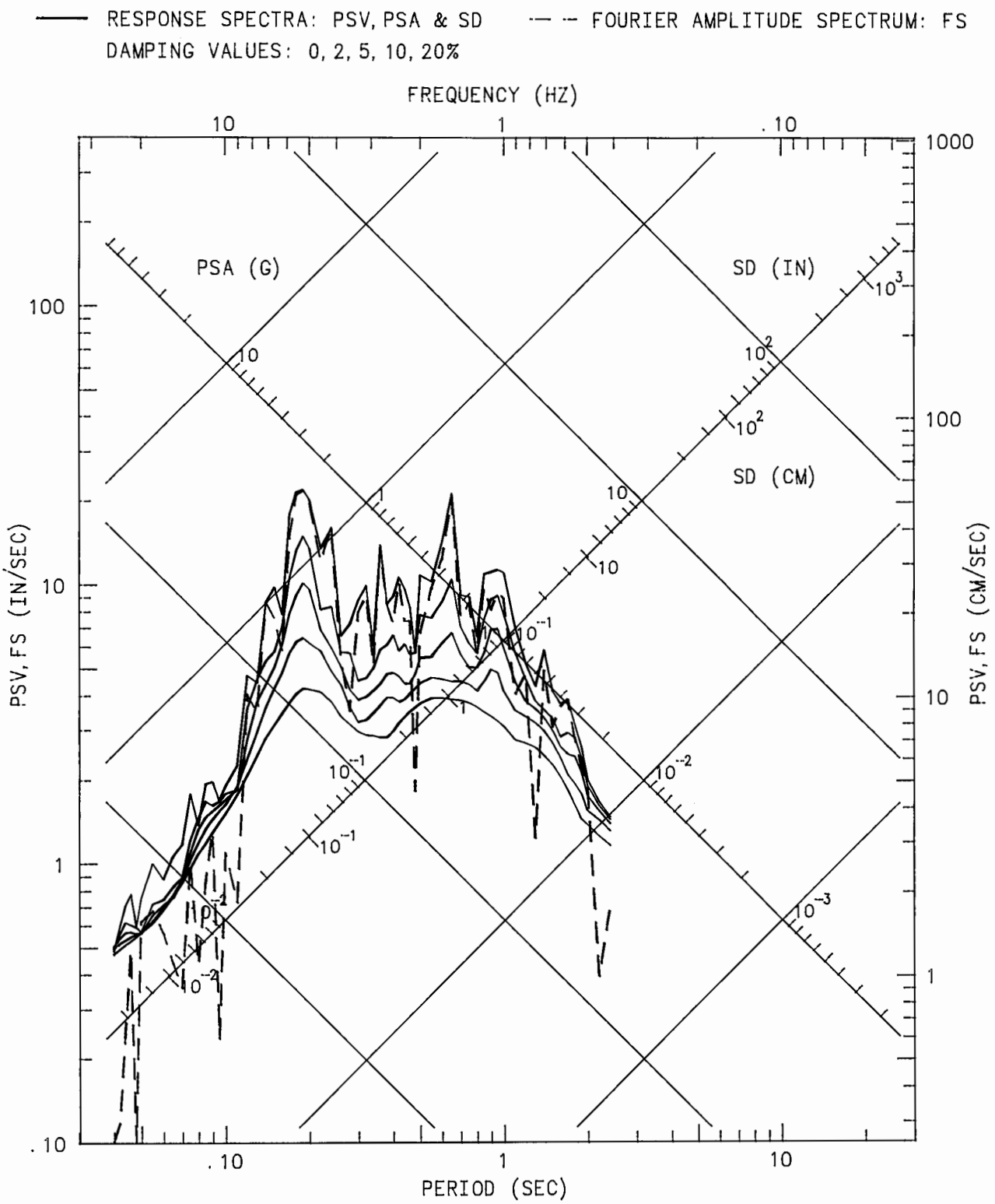
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
LIVERMORE -- MORGAN TERRITORY PARK
CHN 1: 355 DEG
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .30-.60 TO 23.0-25.0 HZ.
57T02-S2589-80029.01 102371.1458-QL80BT02



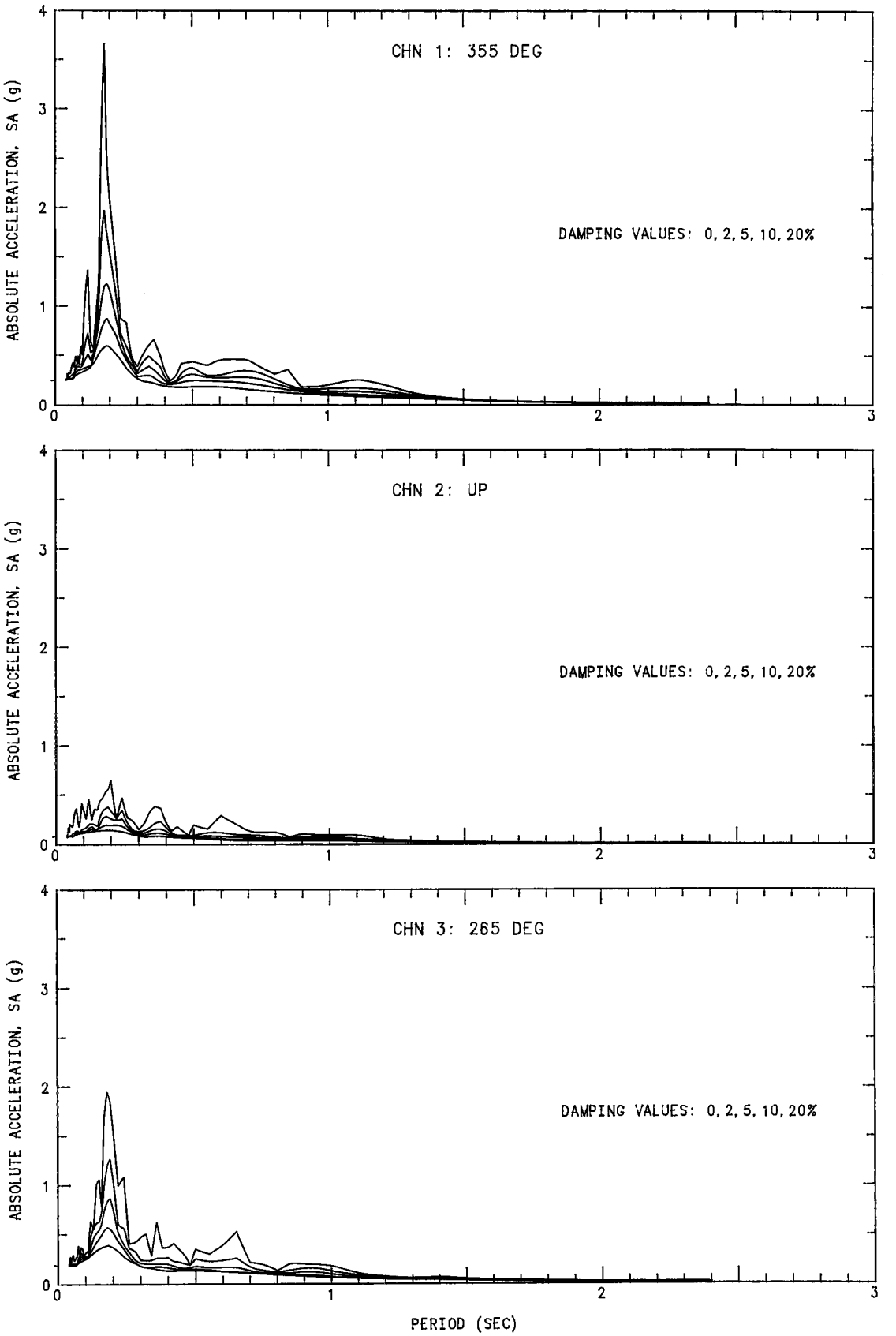
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
LIVERMORE -- MORGAN TERRITORY PARK
CHN 2: UP
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .30-.60 TO 23.0-25.0 HZ.
57T02-S2589-80029.01 102371.1458-QL80BT02



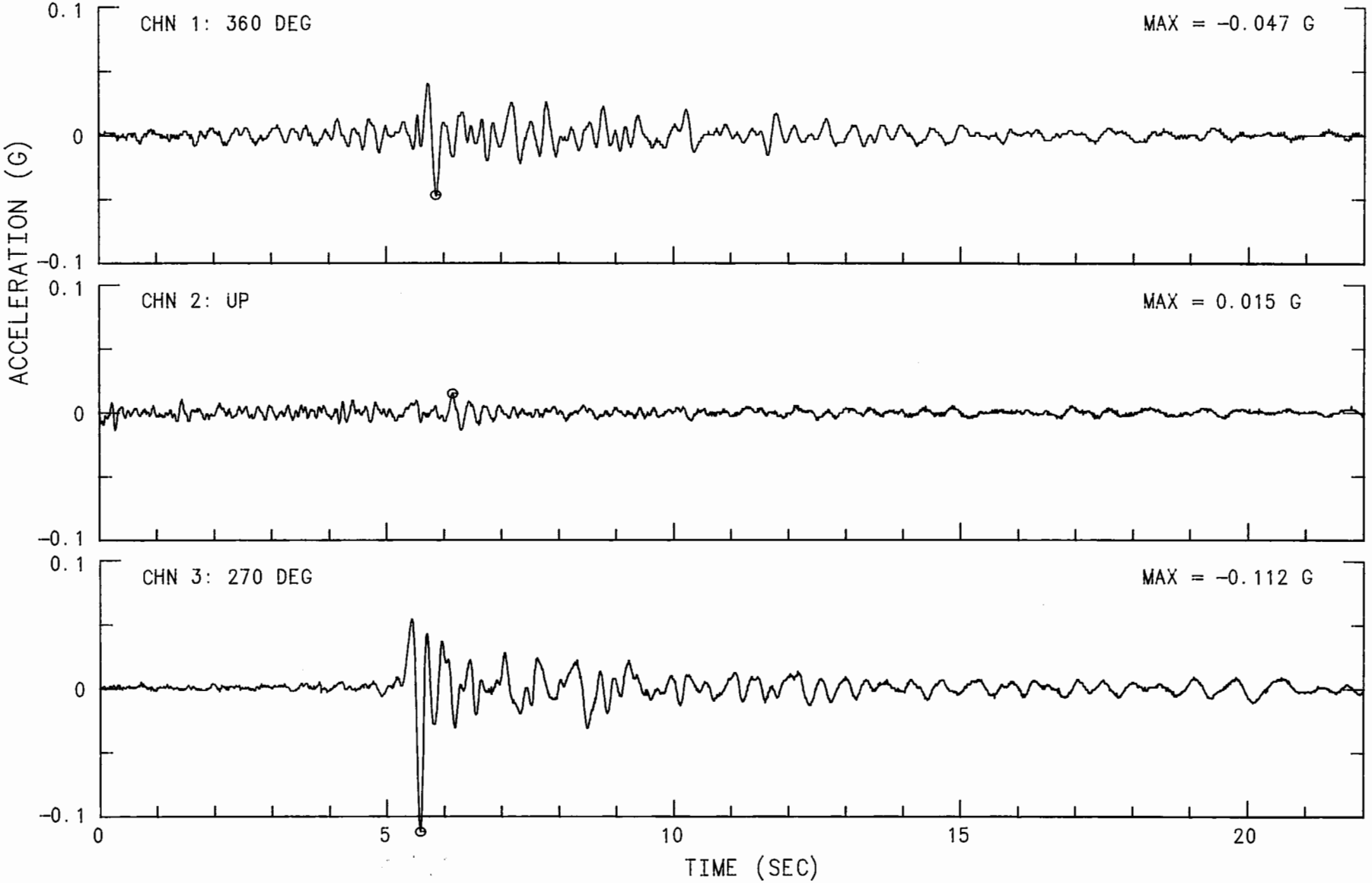
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
LIVERMORE - MORGAN TERRITORY PARK
CHN 3: 265 DEG
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .30-.60 TO 23.0-25.0 HZ.
57T02-S2589-80029.01 102371.1458-QL80BT02



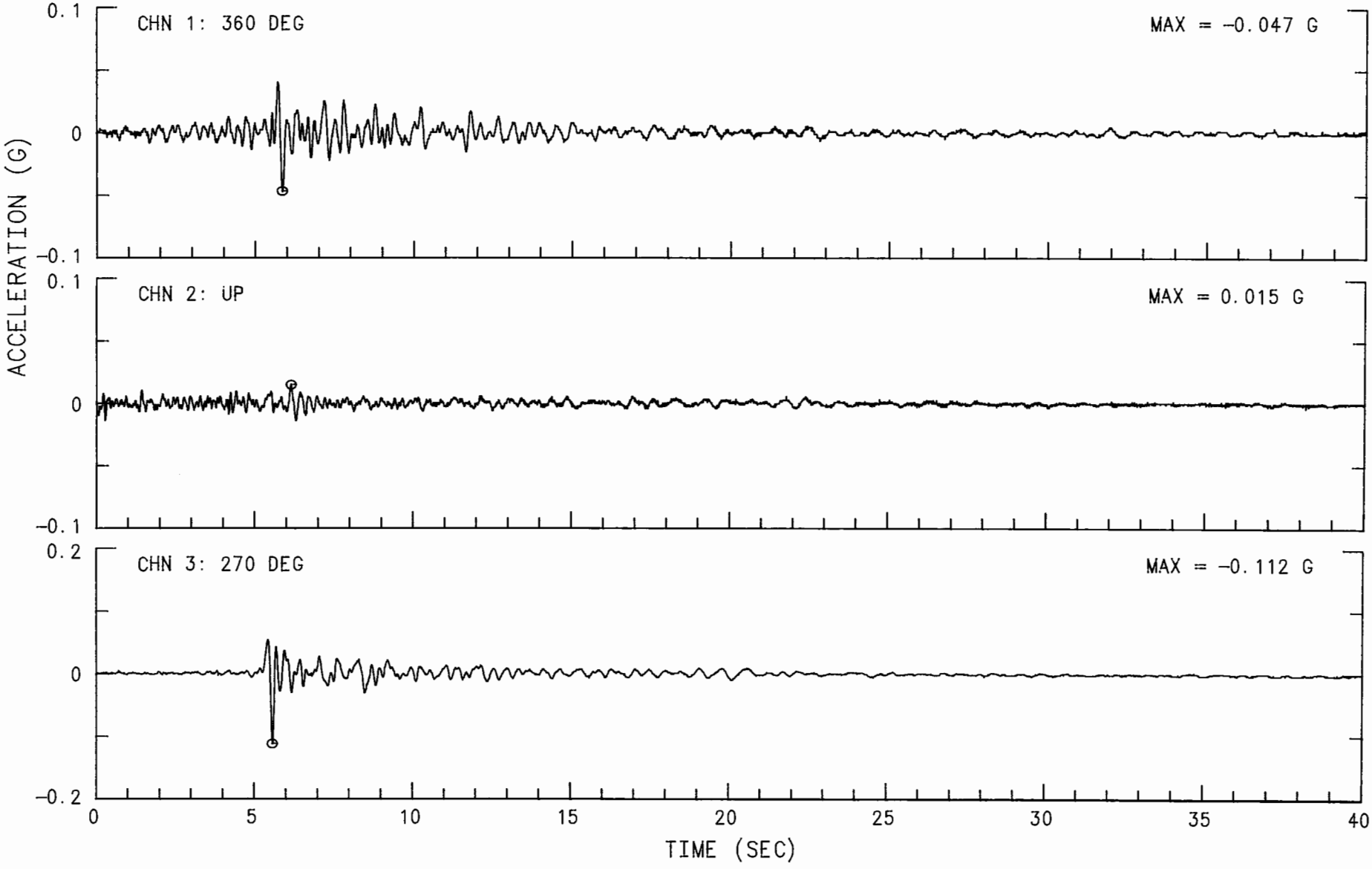
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
LIVERMORE -- MORGAN TERRITORY PARK
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .30-.60 TO 23.0-25.0 HZ.
57T02-S2589-80029.01 102371.1458-QL80BT02



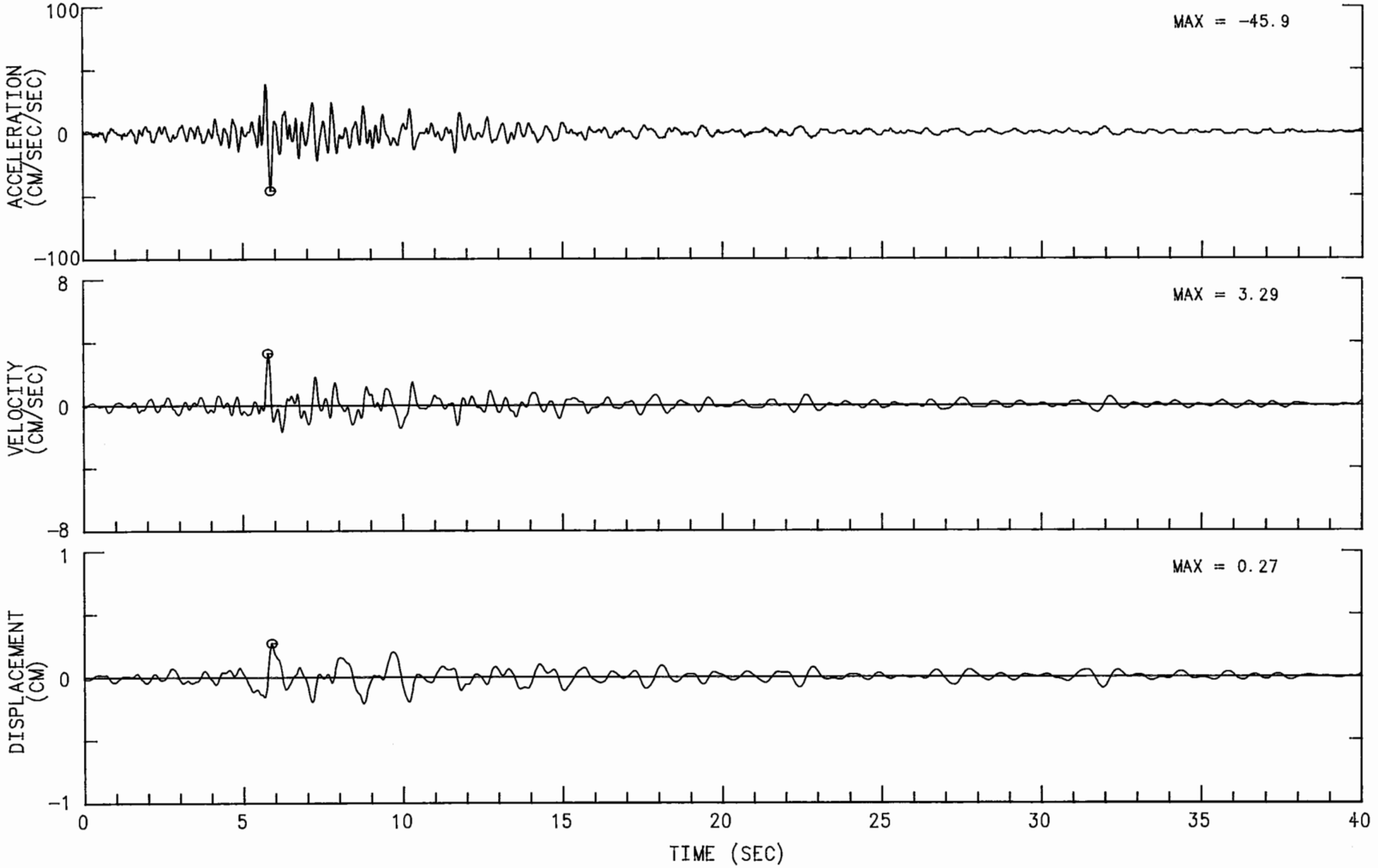
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
ANTIOCH
UNCORRECTED ACCELEROGRAM 67070-S1589-80029.01 102171.1619-QL80B070



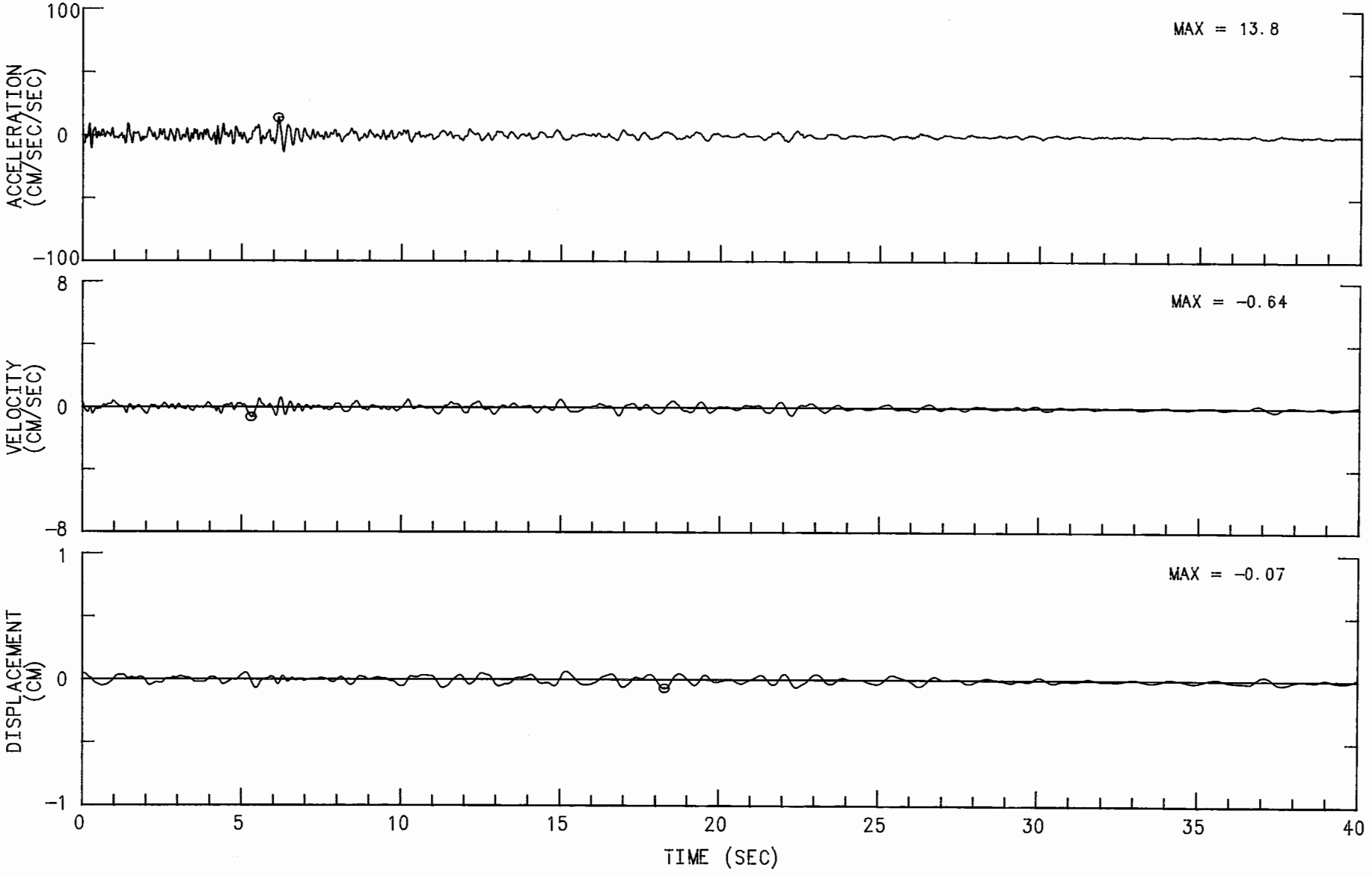
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
ANTIOCH
UNCORRECTED ACCELEROGRAM 67070-S1589-80029.01 102171.1619-QL80B070



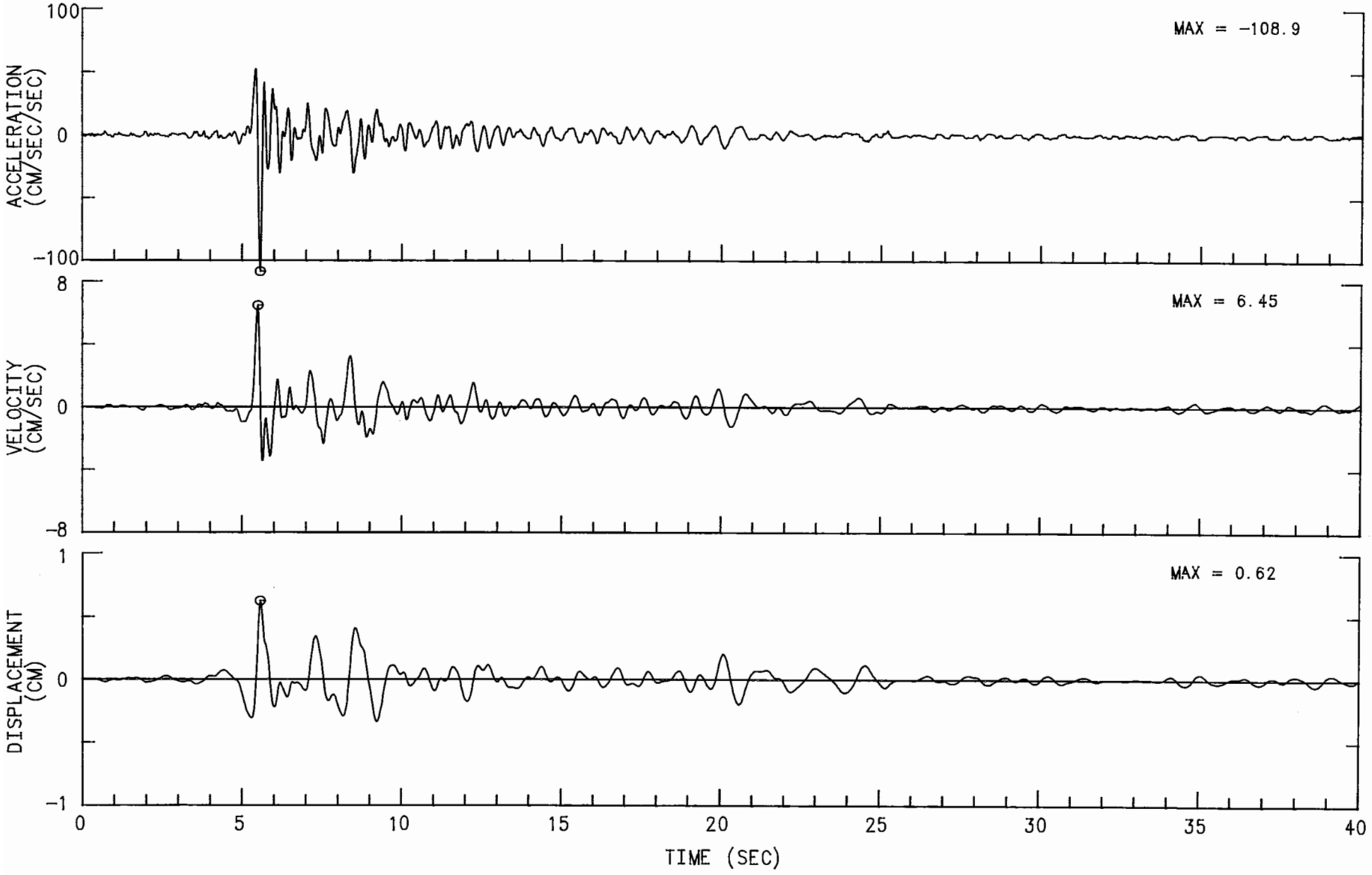
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
ANTIOCH CHN 1: 360 DEG
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .30-.60 TO 23.0-25.0 HZ. 67070-S1589-80029.01 102271.1251-QL80B070



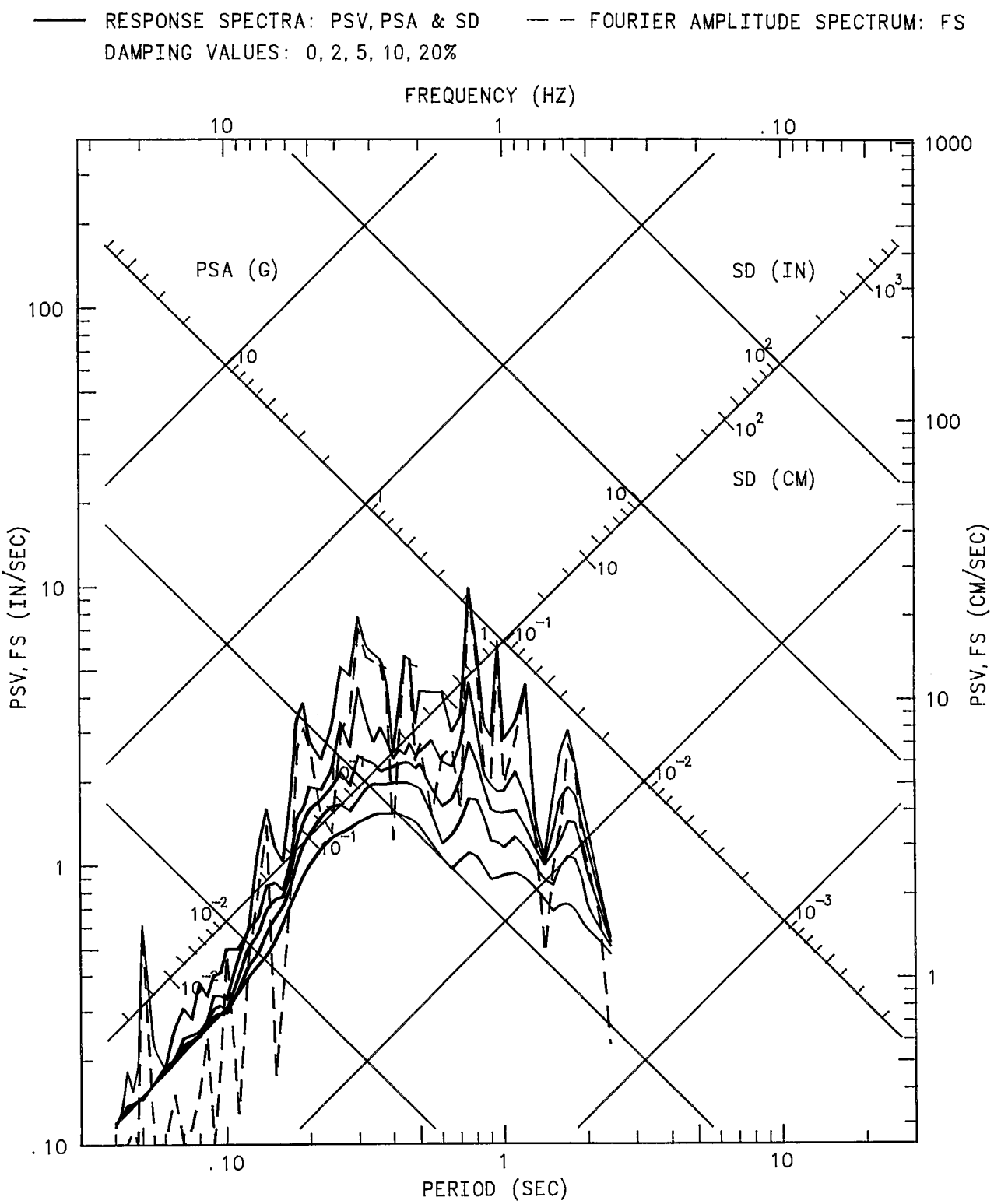
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
ANTIOCH CHN 2: UP
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .30-.60 TO 23.0-25.0 HZ. 67070-S1589-80029.01 102271.1251-QL80B070



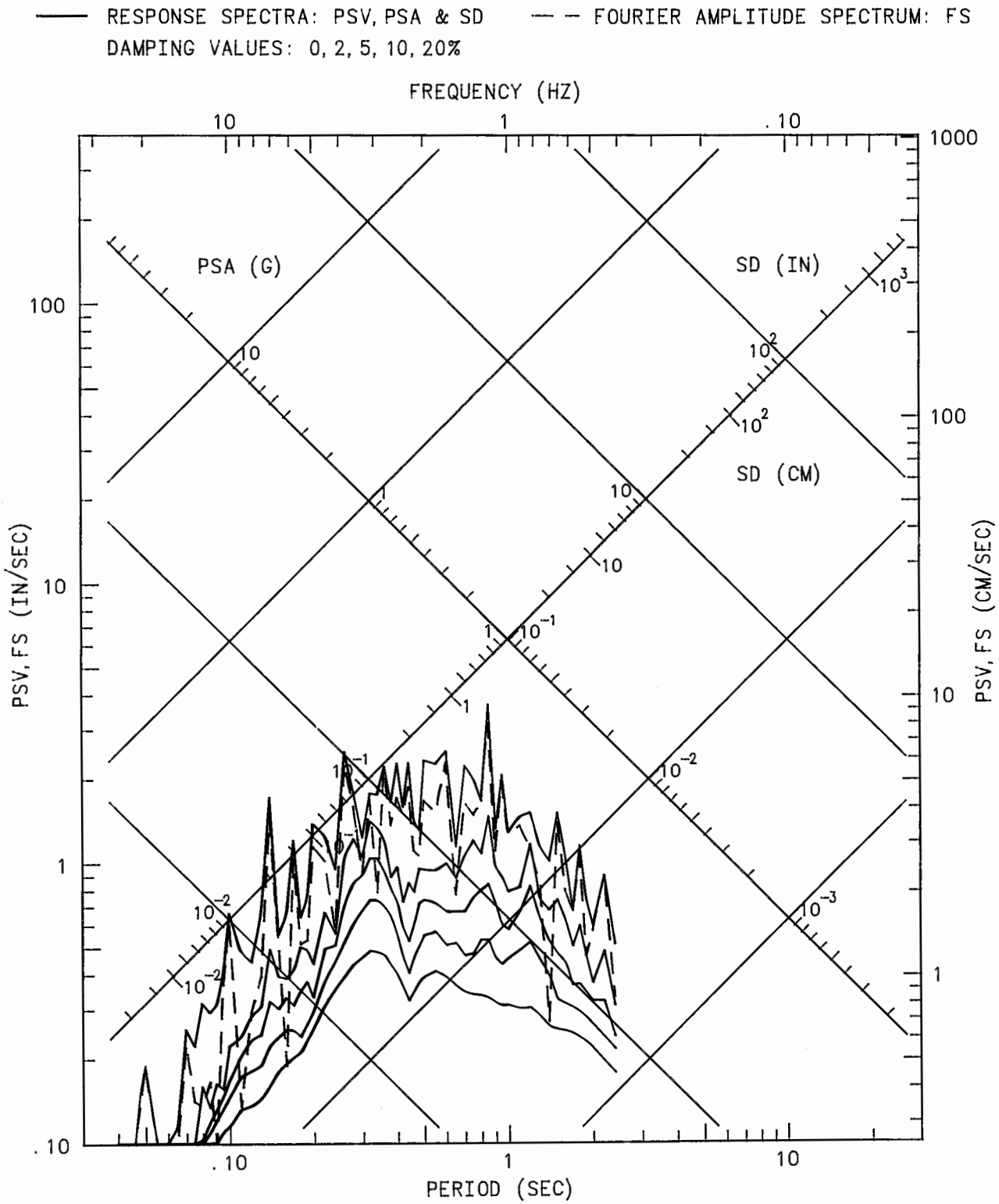
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
ANTIOCH CHN 3: 270 DEG
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .30-.60 TO 23.0-25.0 HZ. 67070-S1589-80029.01 102271.1251-QL80B070



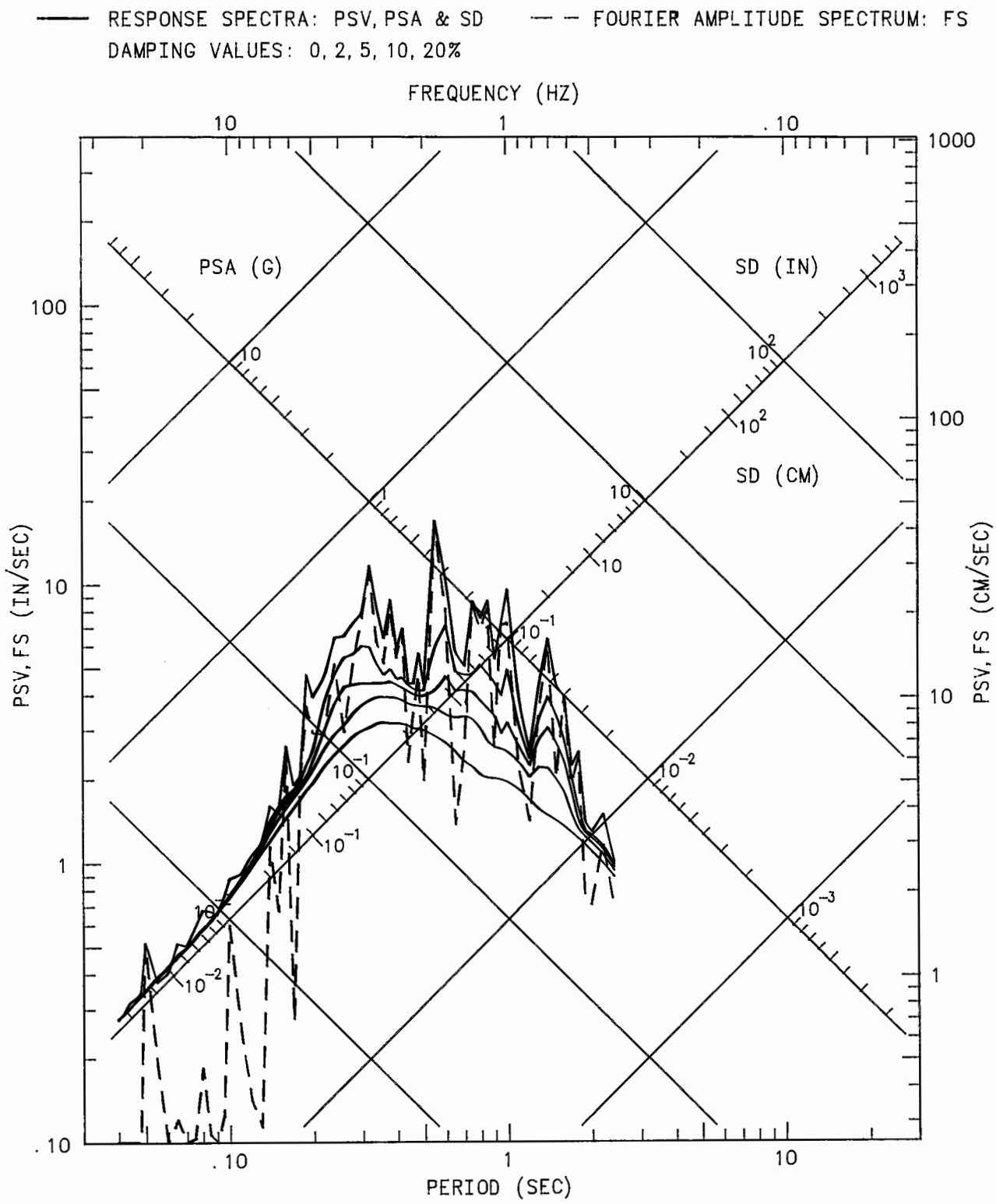
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
ANTIOCH
CHN 1: 360 DEG
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .30-.60 TO 23.0-25.0 HZ.
67070-S1589-80029.01 102371.1656-QL80B070



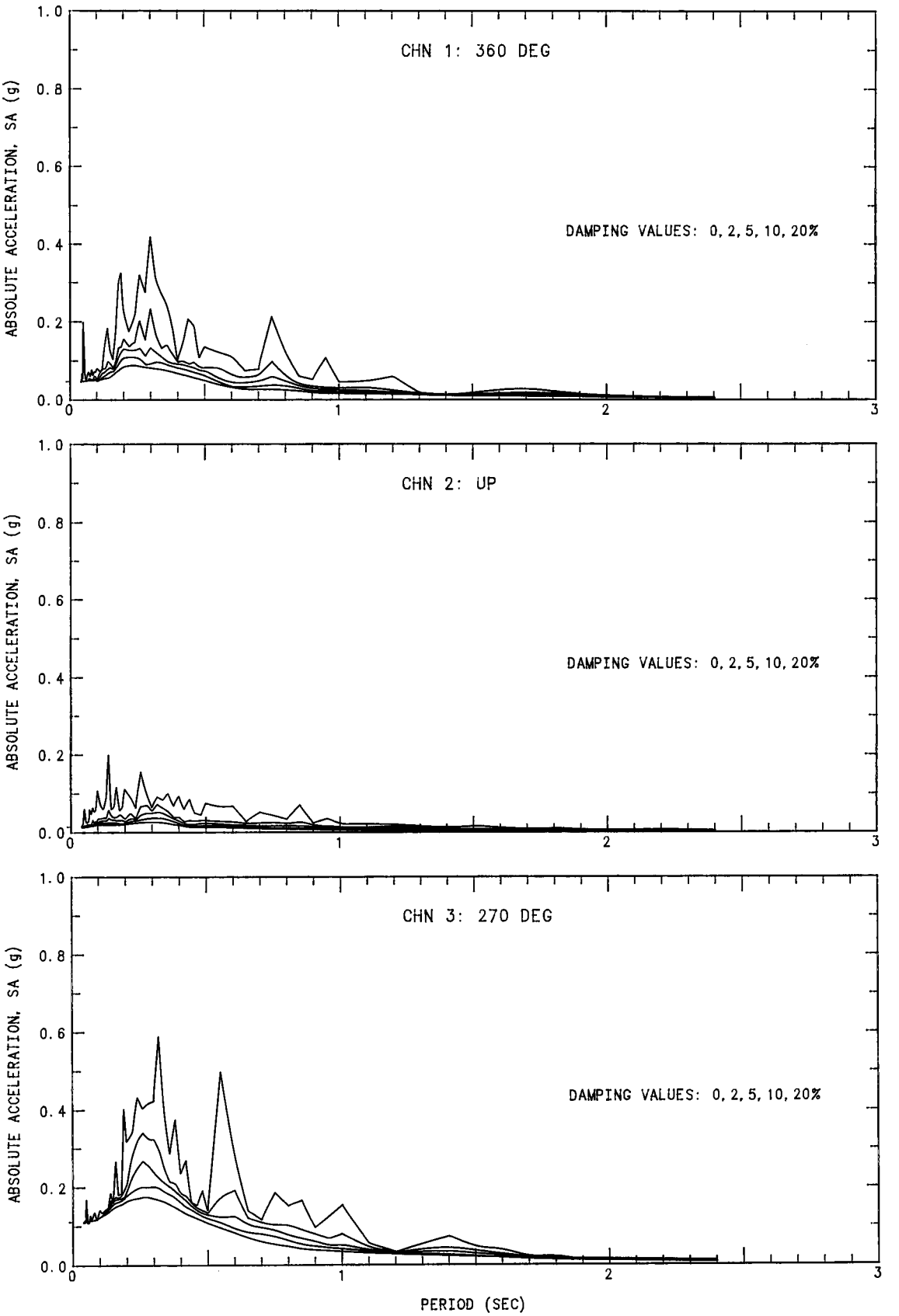
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
ANTIOCH
CHN 2: UP
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .30-.60 TO 23.0-25.0 HZ.
67070-S1589-80029.01 102371.1656-QL80B070



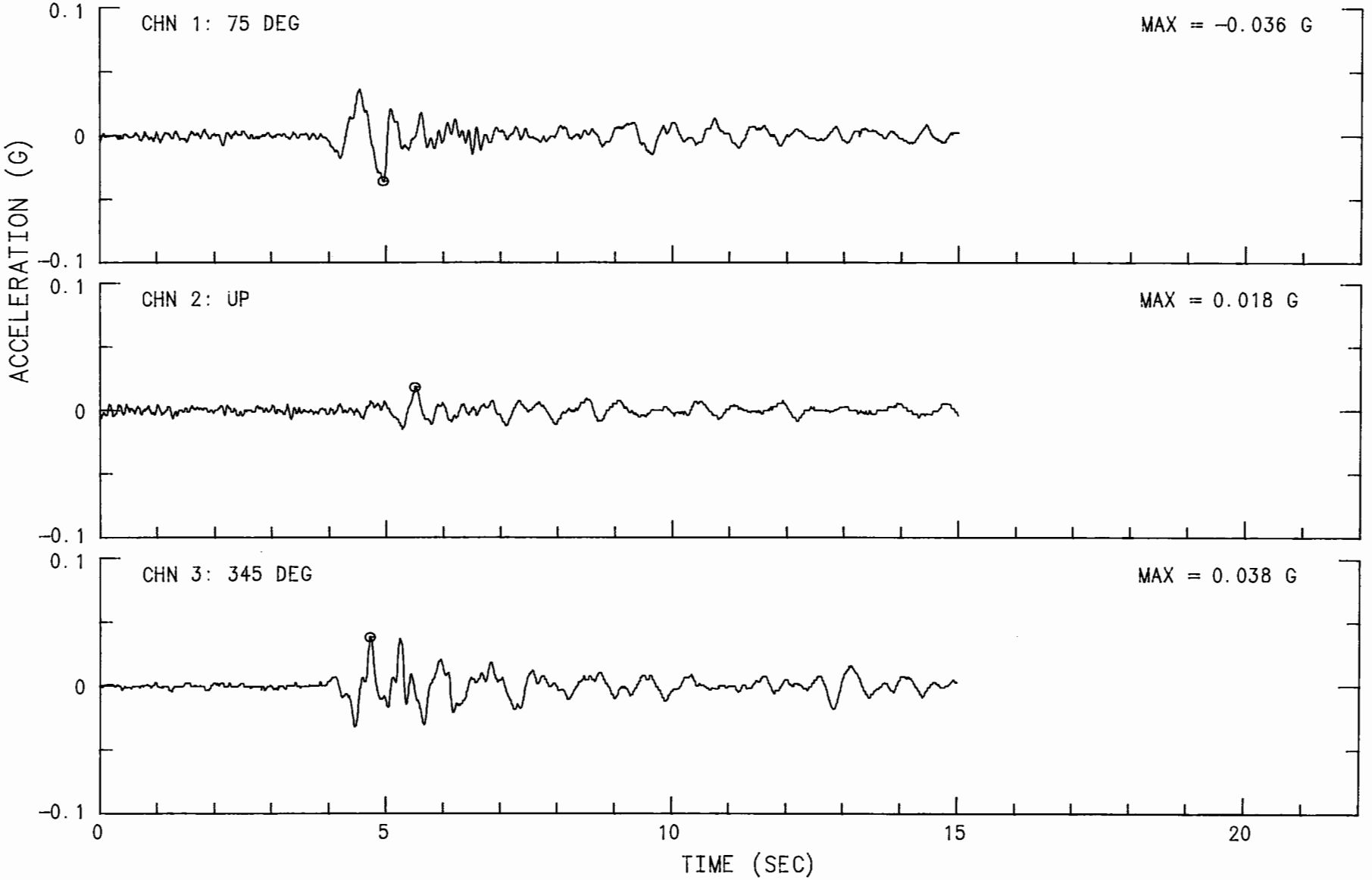
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
ANTIOCH
CHN 3: 270 DEG
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .30-.60 TO 23.0-25.0 HZ.
67070-S1589-80029.01 102371.1656-QL80B070



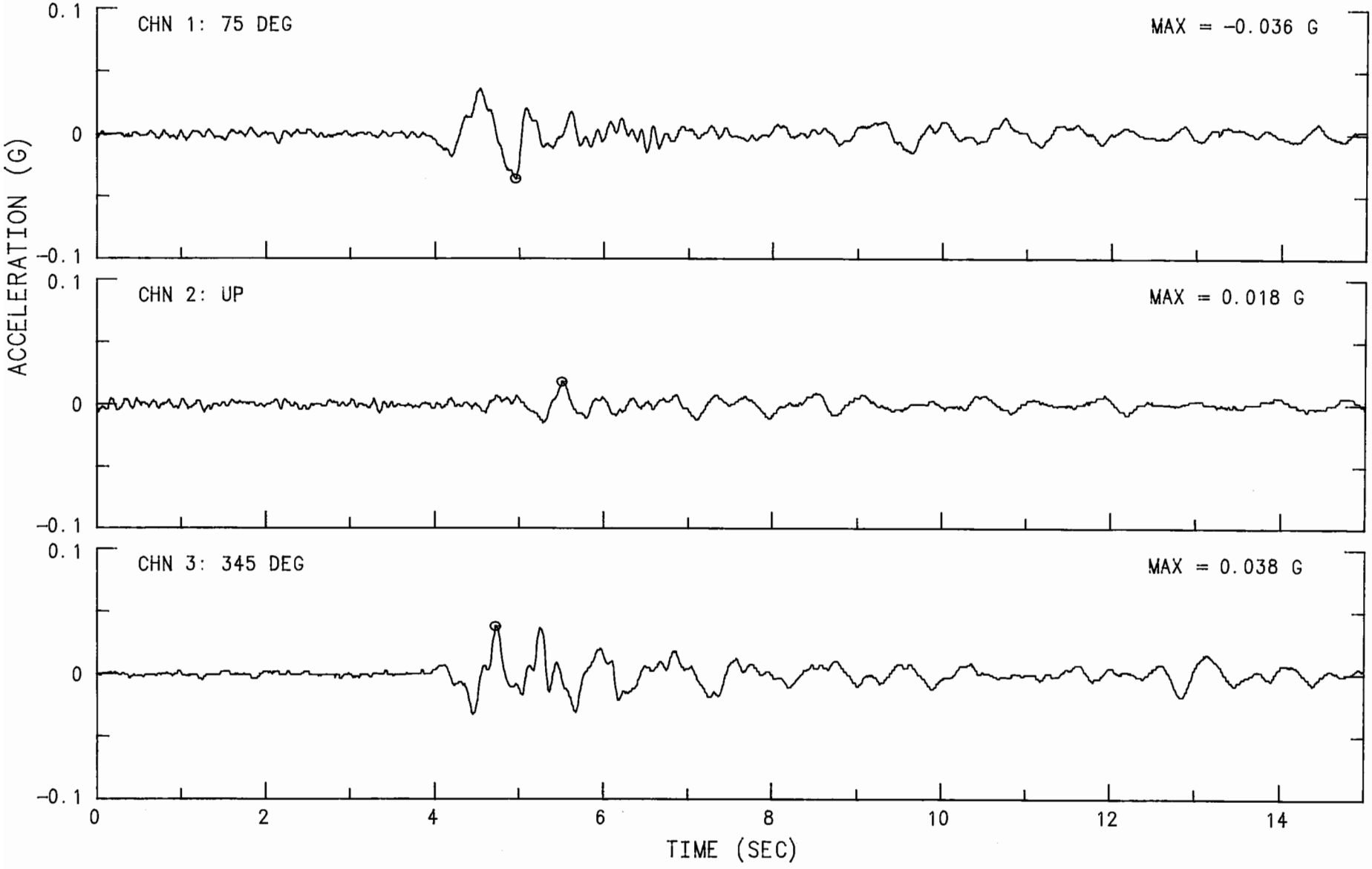
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
ANTIOCH
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .30-.60 TO 23.0-25.0 HZ.
67070-S1589-80029.01 102371.1656-QL80B070



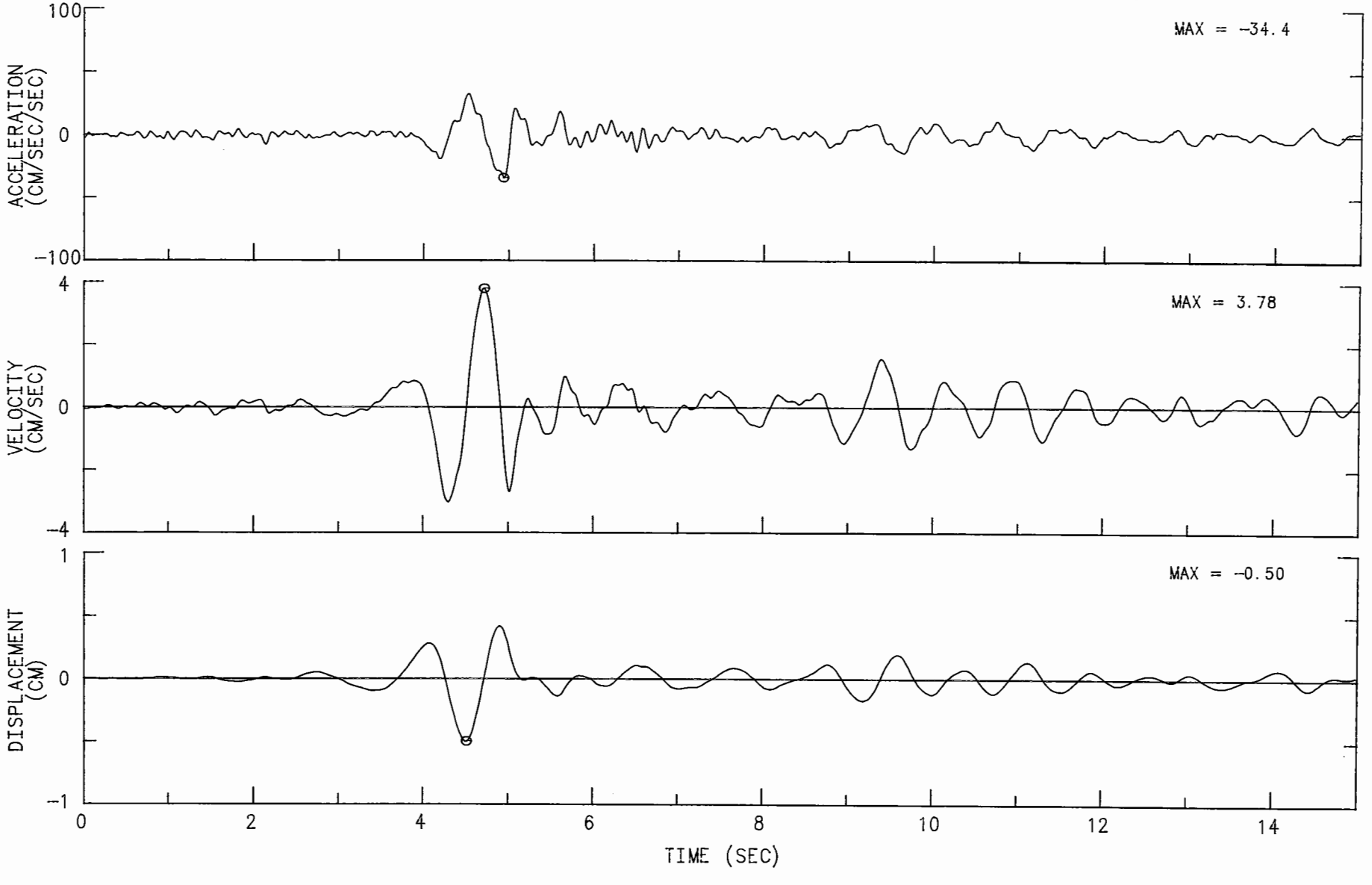
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
FREMONT - MISSION SAN JOSE
UNCORRECTED ACCELEROGRAM 57064-R0553-80029.01 110471.1643-QL80B064



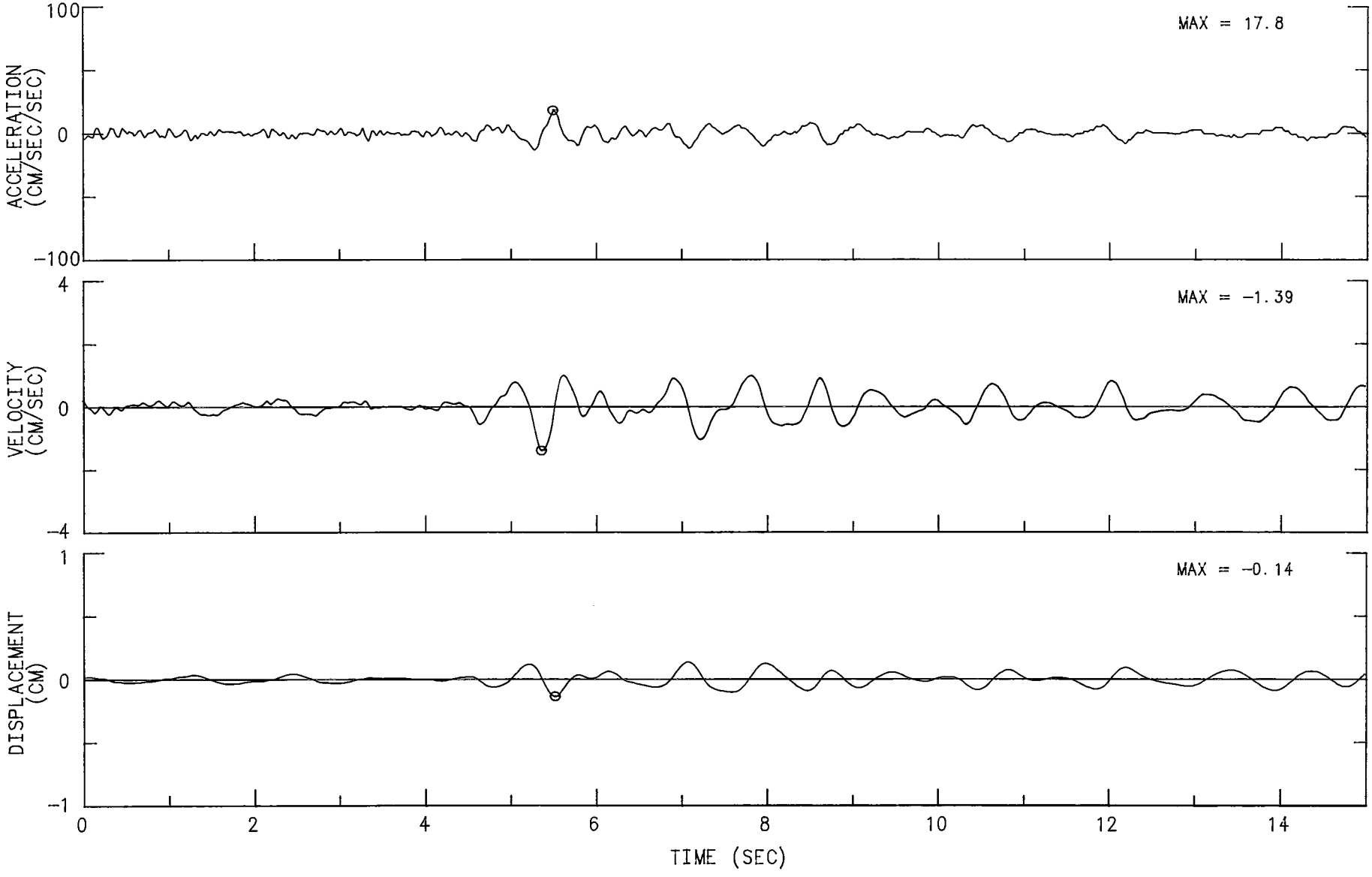
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
FREMONT - MISSION SAN JOSE
UNCORRECTED ACCELEROGRAM 57064-R0553-80029.01 110471.1643-QL80B064



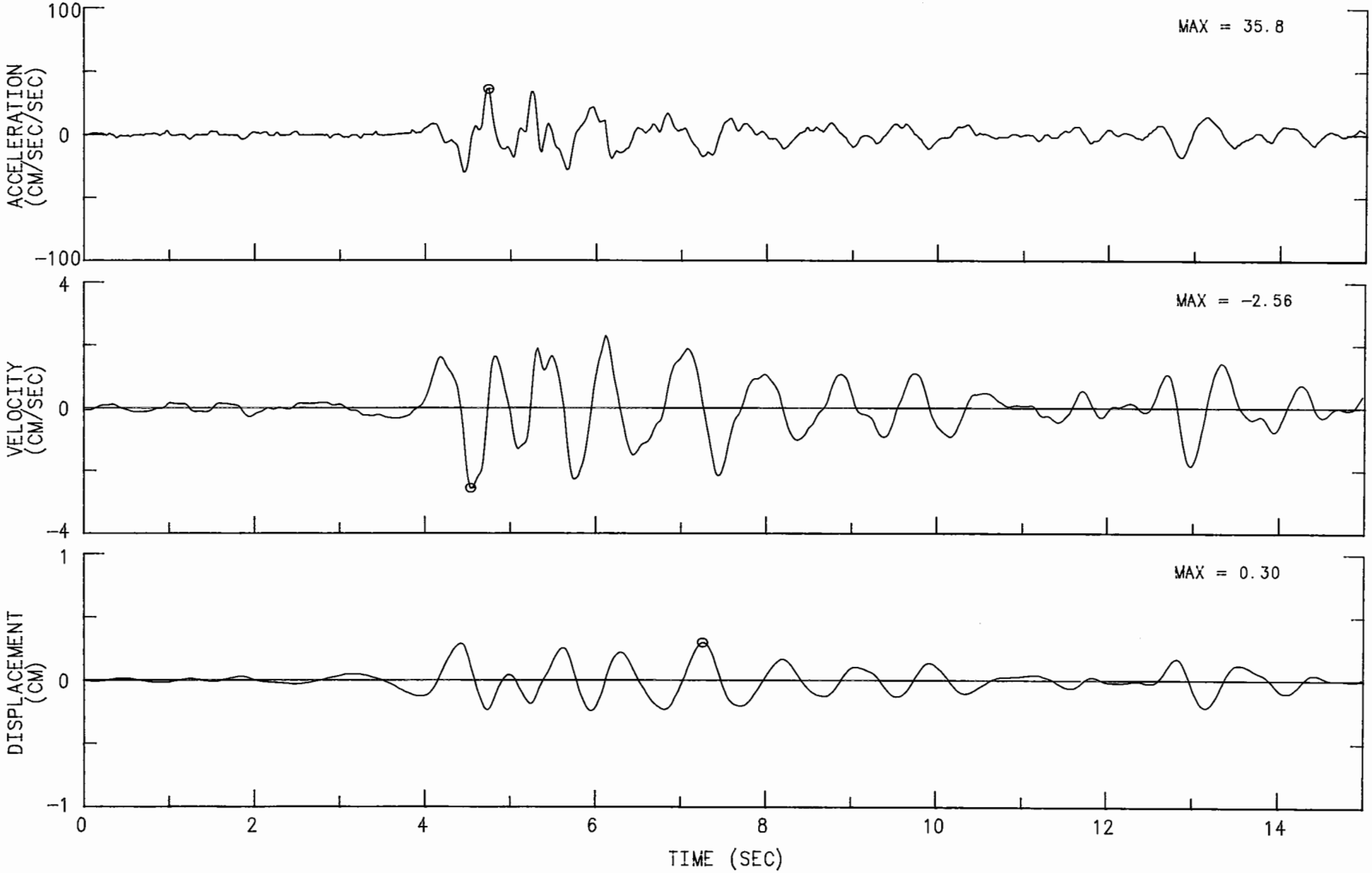
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
FREMONT - MISSION SAN JOSE CHN 1: 75 DEG
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .40-.80 TO 23.0-25.0 HZ. 57064-R0553-80029.01 110471.1856-QL80B064



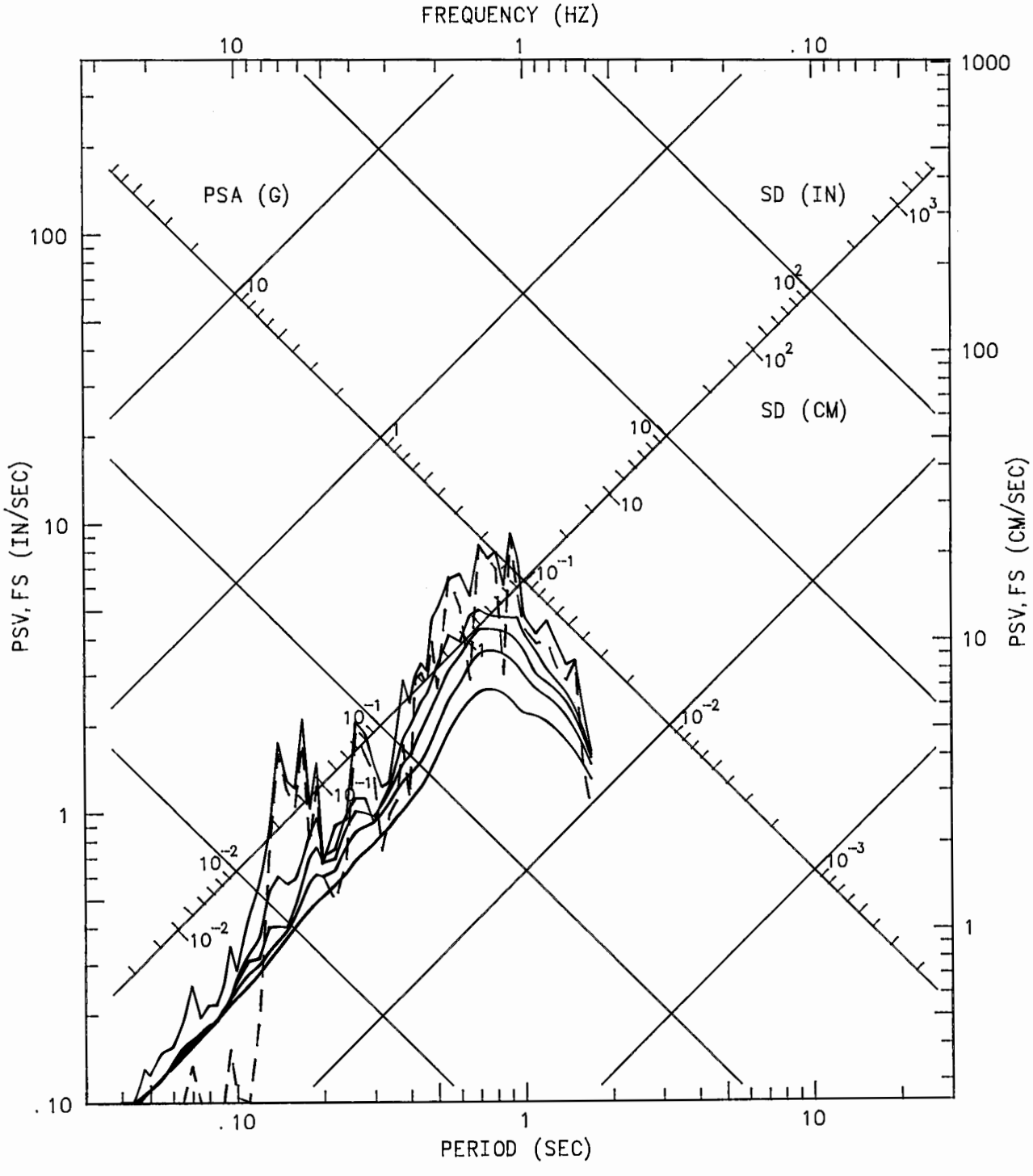
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
FREMONT - MISSION SAN JOSE CHN 2: UP
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .40-.80 TO 23.0-25.0 HZ. 57064-R0553-80029.01 110471.1856-QL80B064



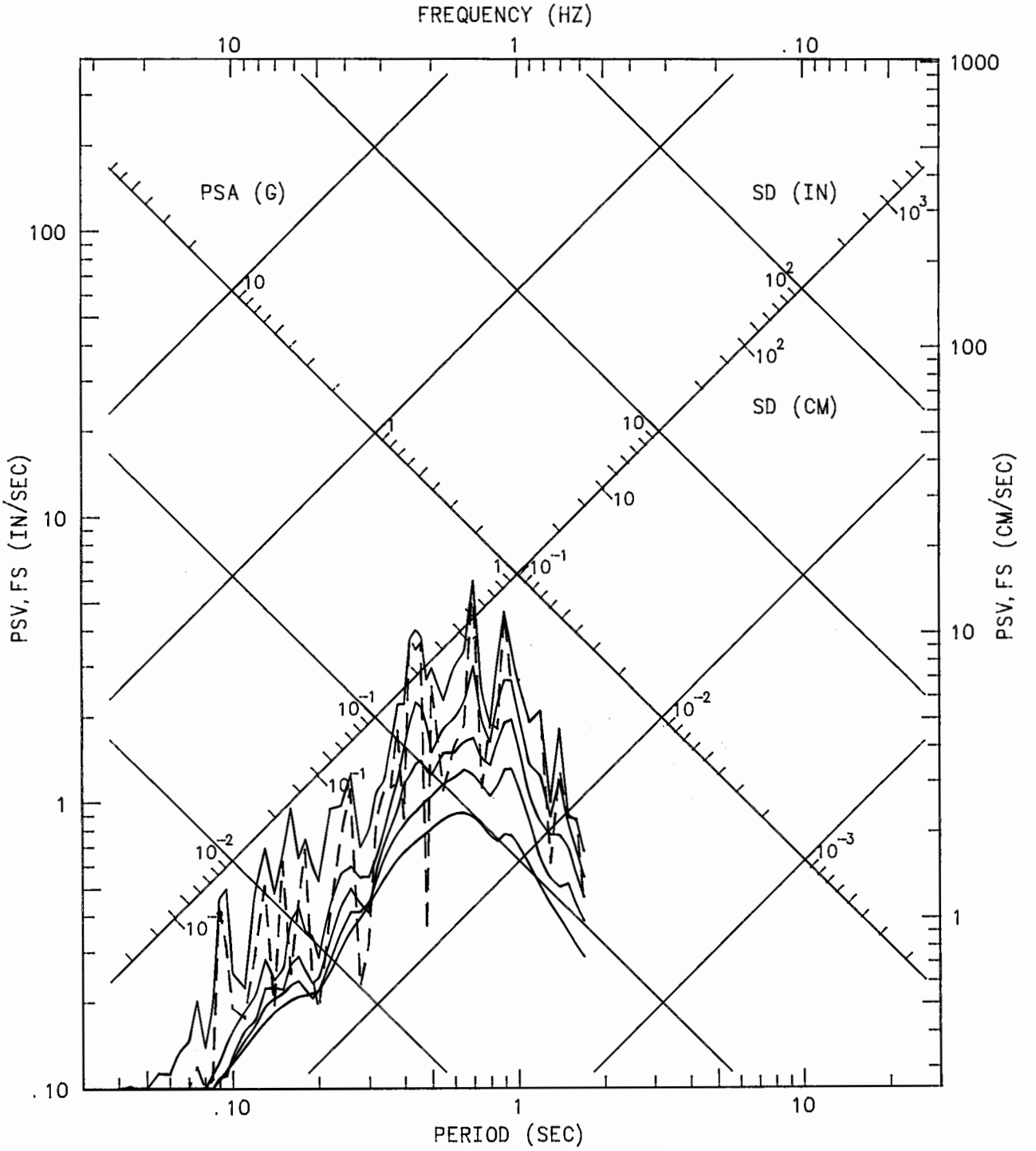
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
FREMONT - MISSION SAN JOSE CHN 3: 345 DEG
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .40-.80 TO 23.0-25.0 HZ. 57064-R0553-80029.01 110471.1856-QL80B064



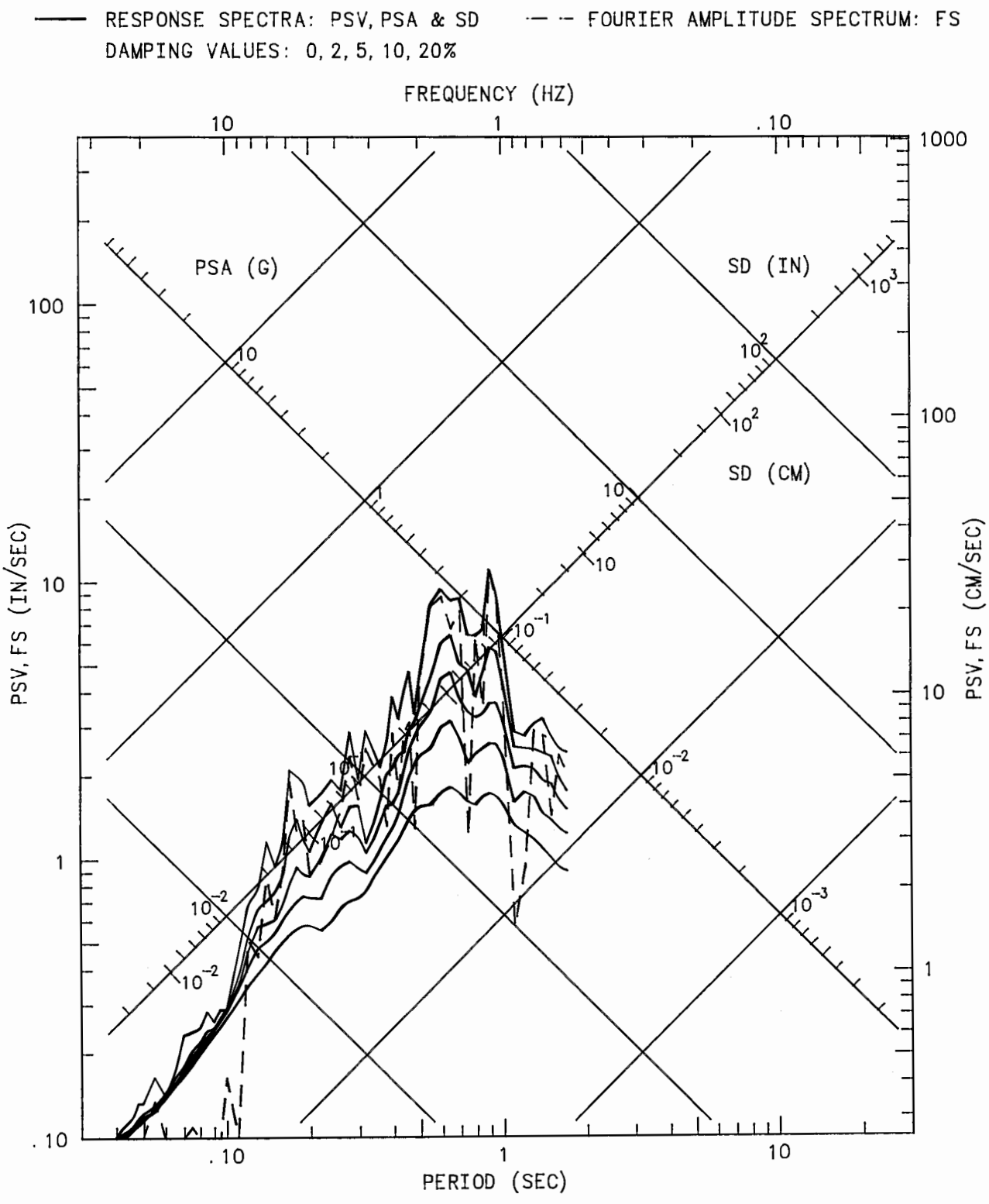
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
FREMONT -- MISSION SAN JOSE
CHN 1: 75 DEG
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .40-.80 TO 23.0-25.0 HZ.
57064-R0553-80029.01 110771.1629-QL80B064



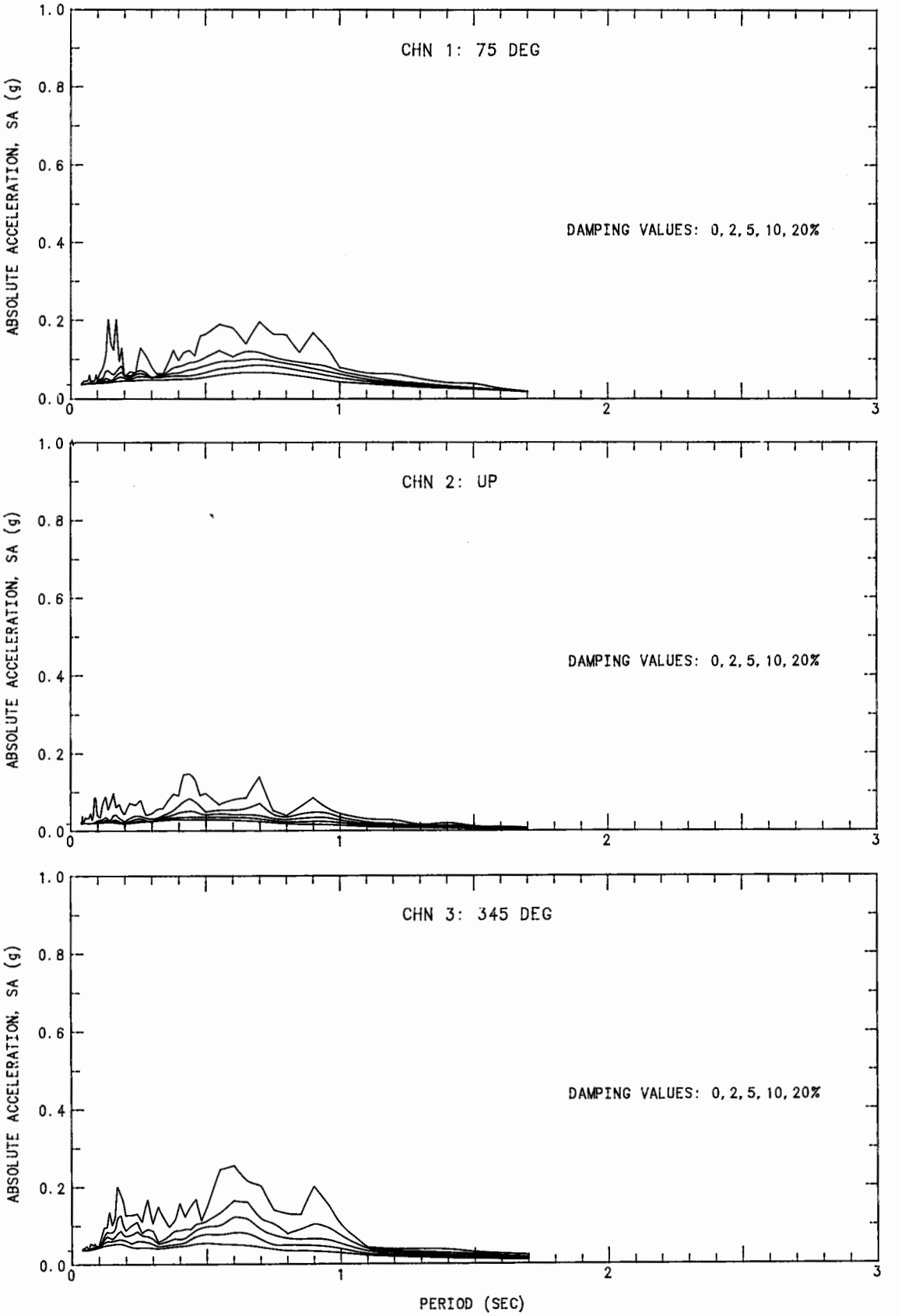
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
FREMONT - MISSION SAN JOSE
CHN 2: UP
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .40-.80 TO 23.0-25.0 HZ.
57064-R0553-80029.01 110771.1629-QL80B064



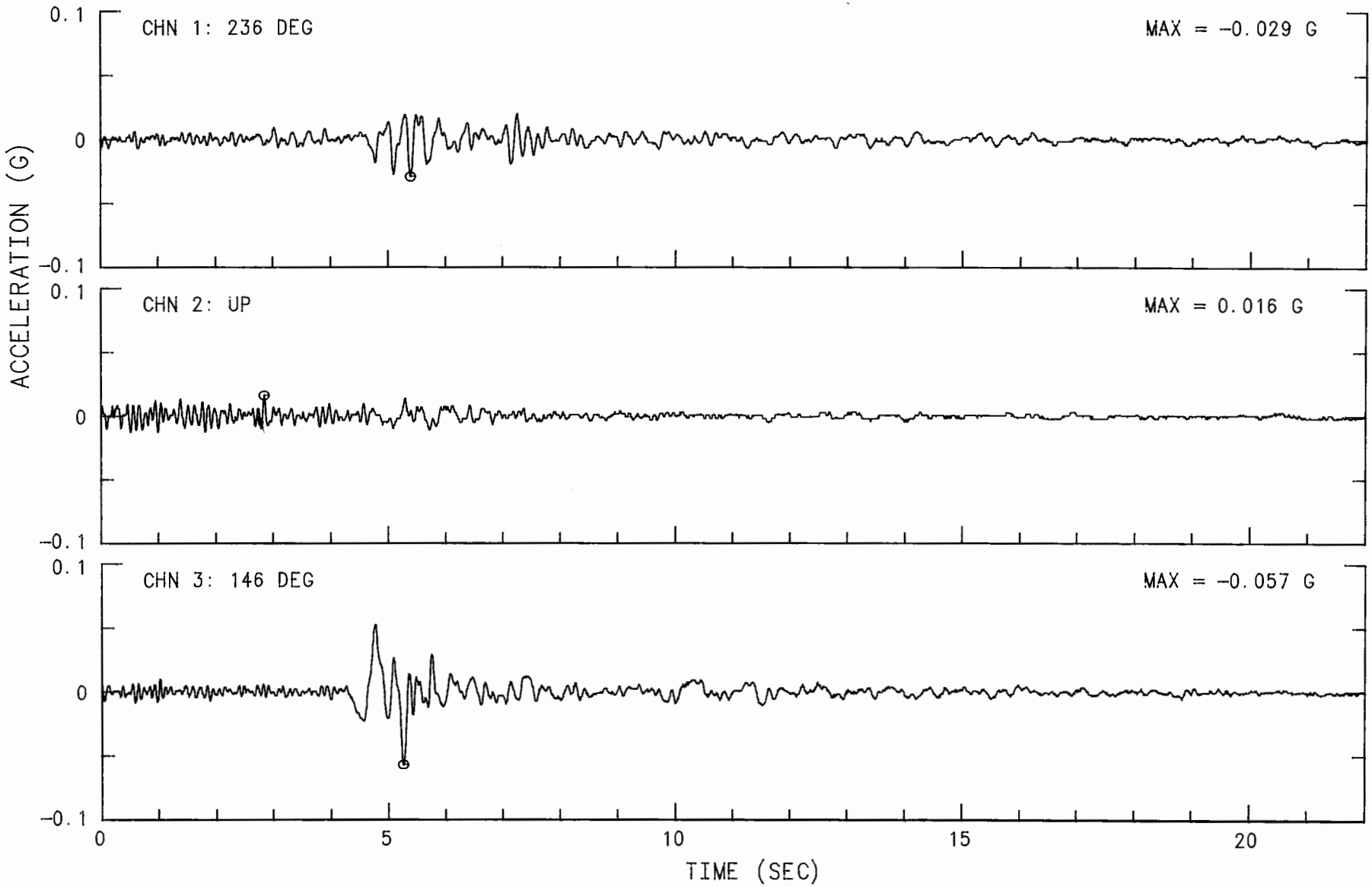
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
FREMONT -- MISSION SAN JOSE
CHN 3: 345 DEG
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .40-.80 TO 23.0-25.0 HZ.
57064-R0553-80029.01 110771.1629-QL80B064



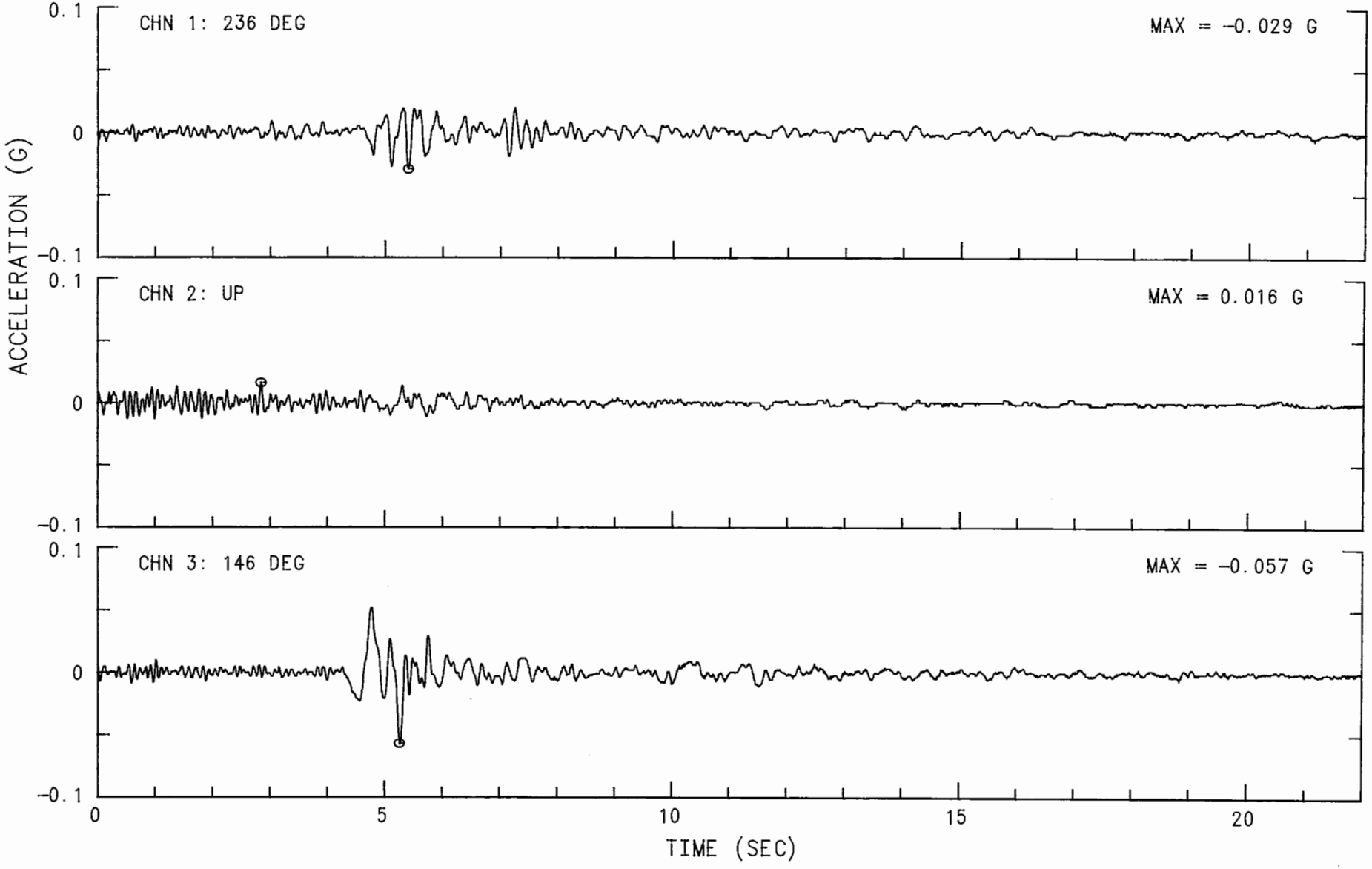
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
FREMONT -- MISSION SAN JOSE
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .40-.80 TO 23.0-25.0 HZ.
57064-R0553-80029.01 110771.1629-QL80B064



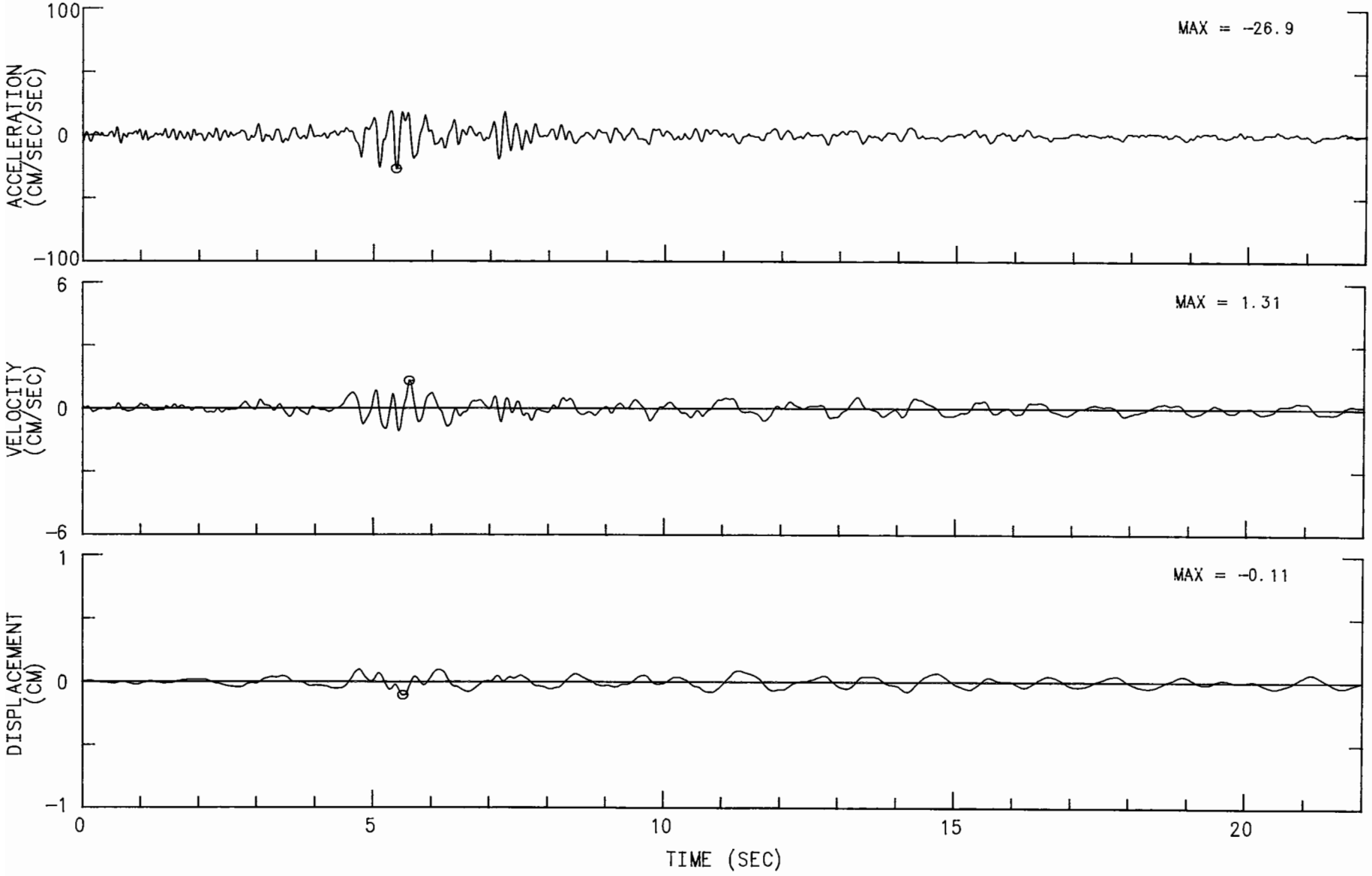
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
HAYWARD - CSUH STADIUM GROUNDS
UNCORRECTED ACCELEROGRAM 58219-S1809-80030.01 102171.1153-QL80B219



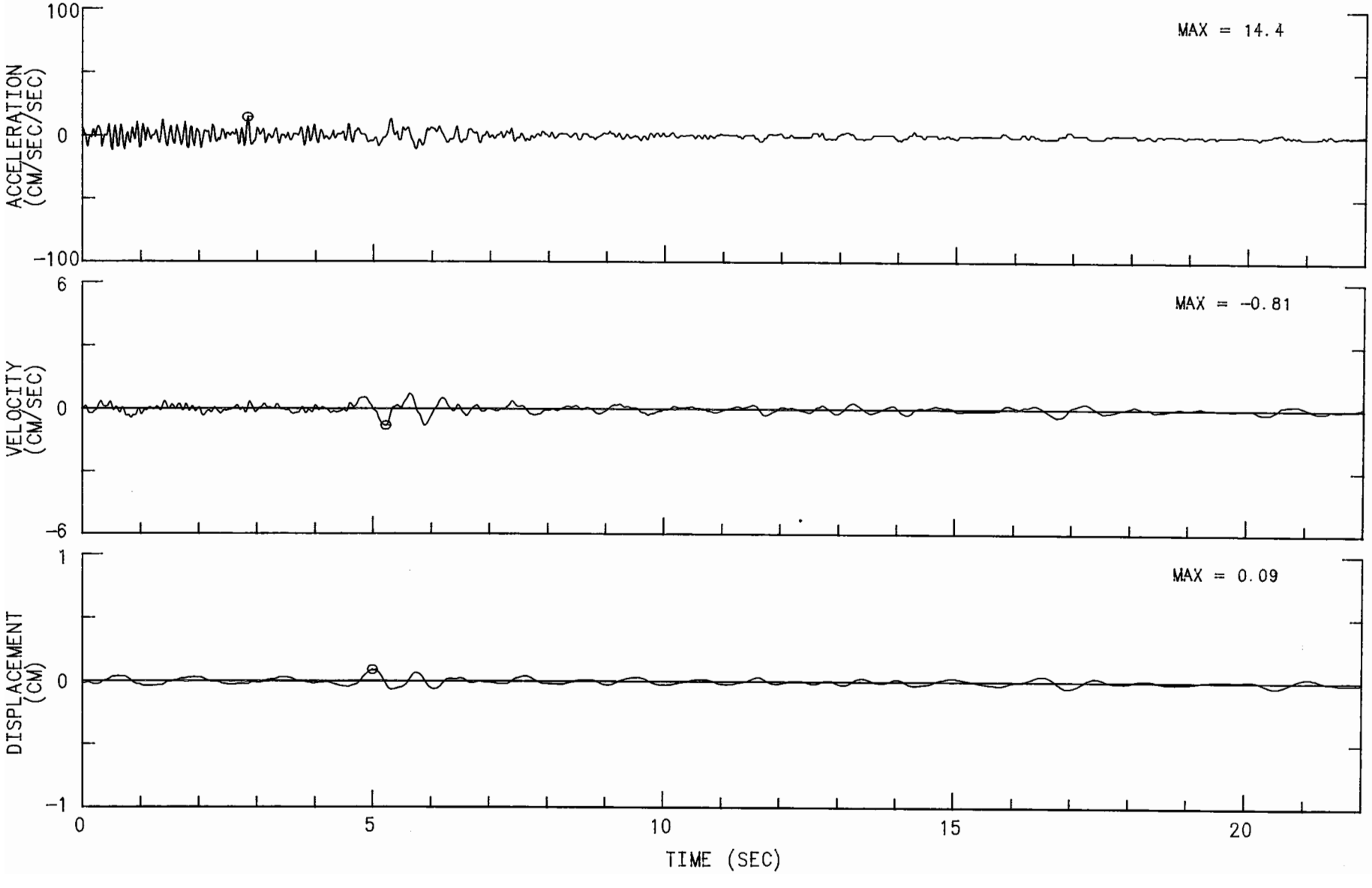
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
HAYWARD - CSUH STADIUM GROUNDS
UNCORRECTED ACCELEROGRAM 58219-S1809-80030.01 102171.1153-QL80B219



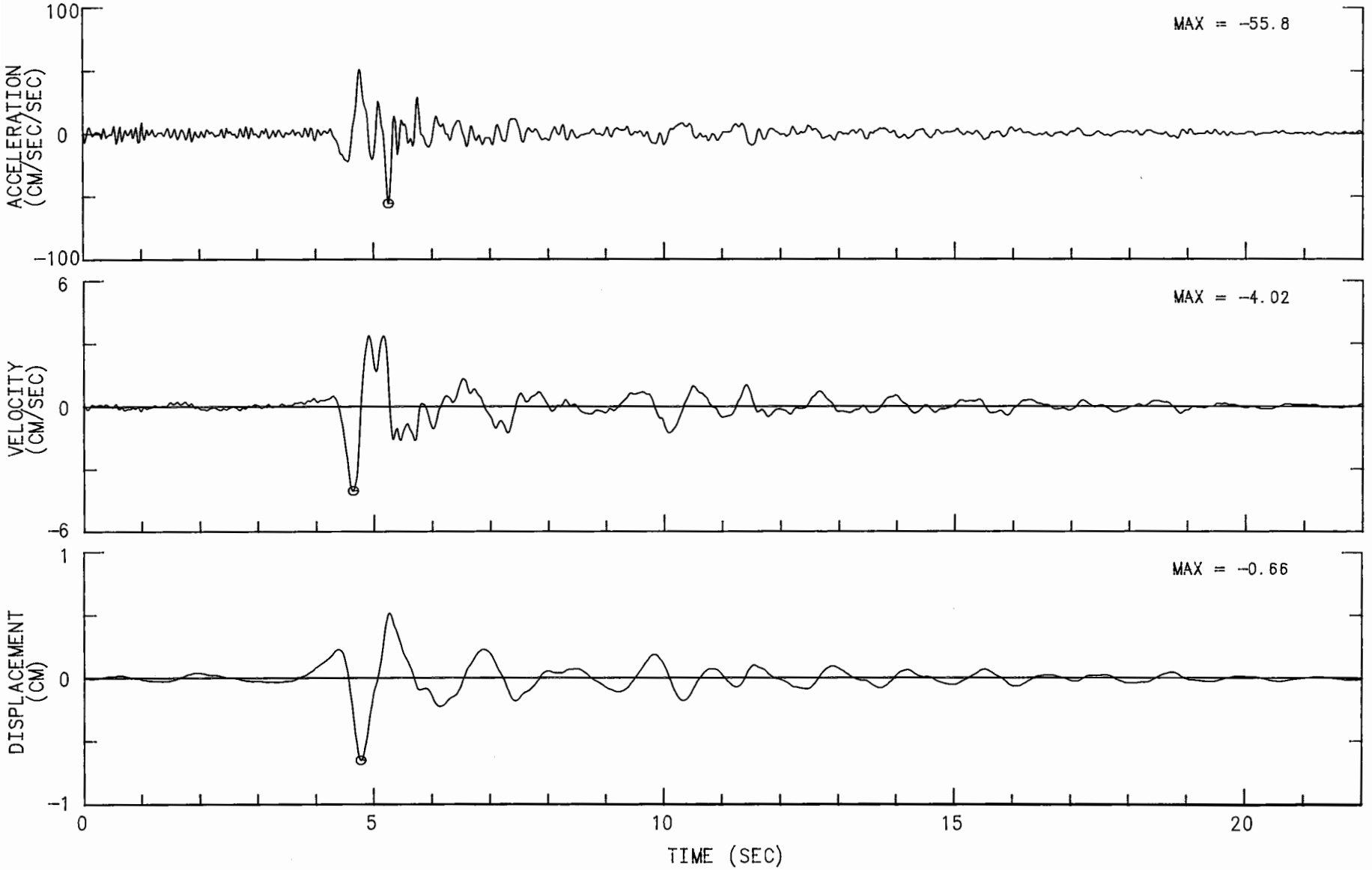
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
HAYWARD - CSUH STADIUM GROUNDS CHN 1: 236 DEG
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .30-.60 TO 23.0-25.0 HZ. 58219-S1809-80030.01 102271.0739-QL80B219



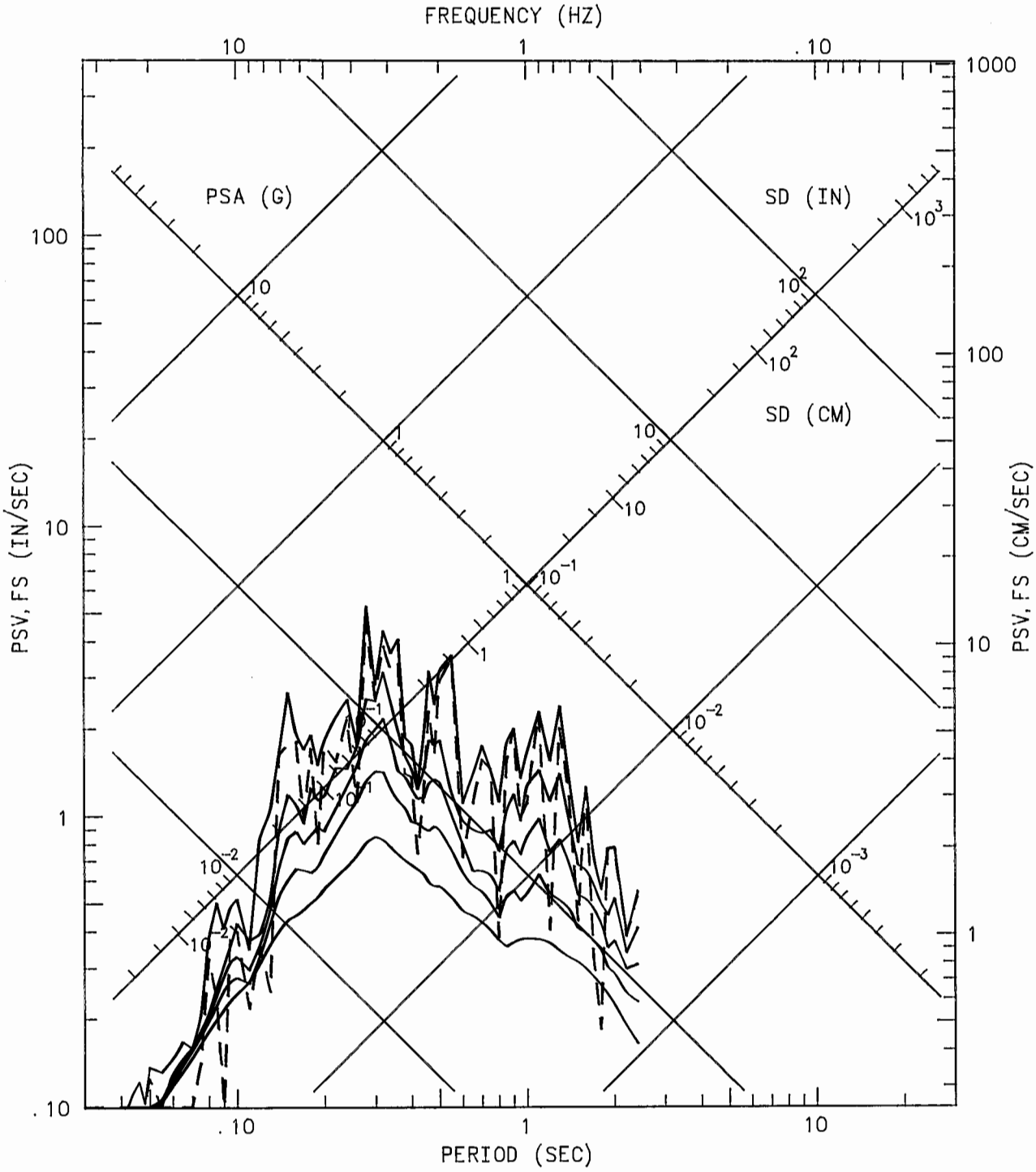
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
HAYWARD - CSUH STADIUM GROUNDS CHN 2: UP
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .30-.60 TO 23.0-25.0 HZ. 58219-S1809-80030.01 102271.0739-QL80B219



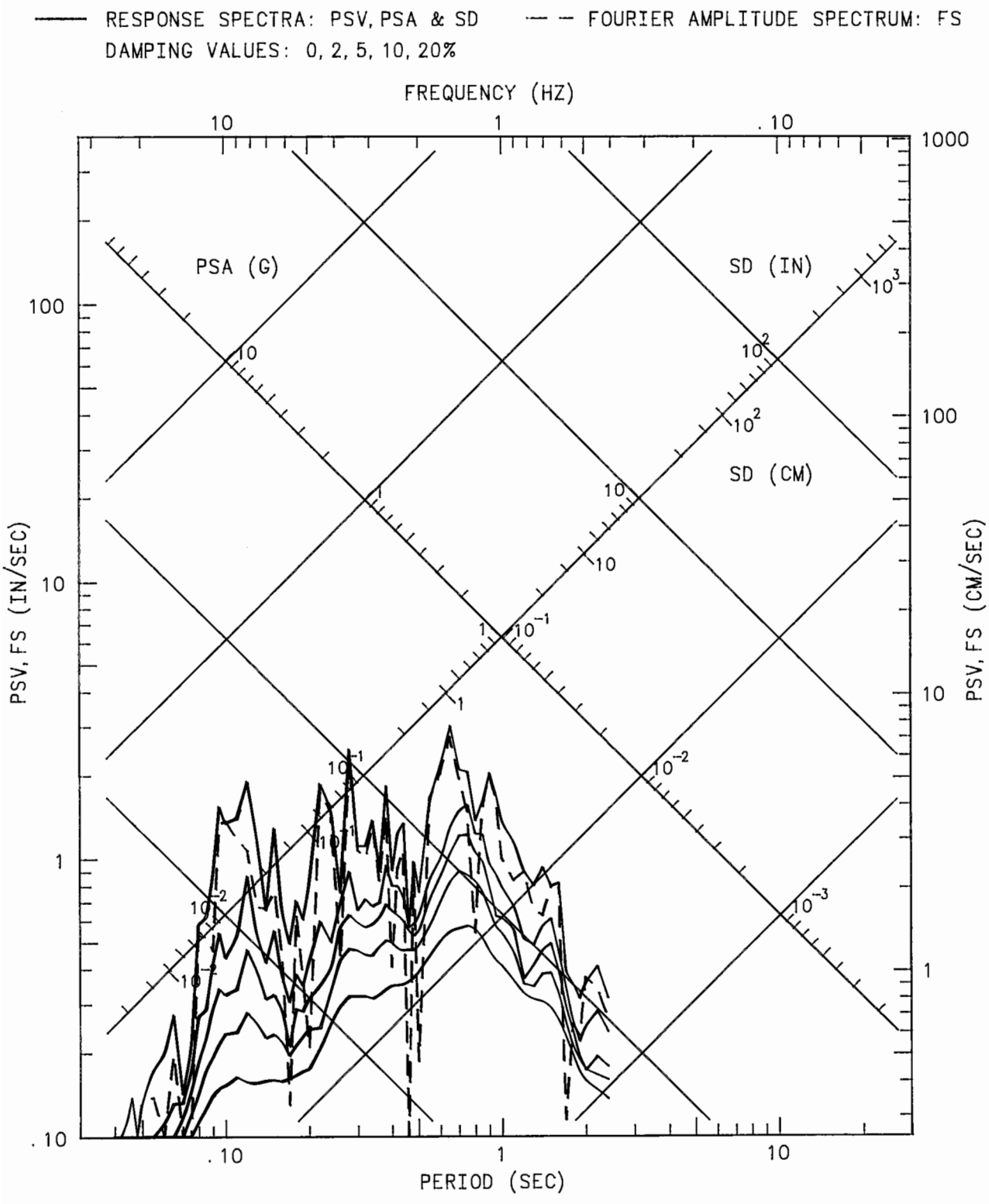
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
HAYWARD - CSUH STADIUM GROUNDS CHN 3: 146 DEG
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .30-.60 TO 23.0-25.0 HZ. 58219-S1809-80030.01 102271.0739-QL80B219



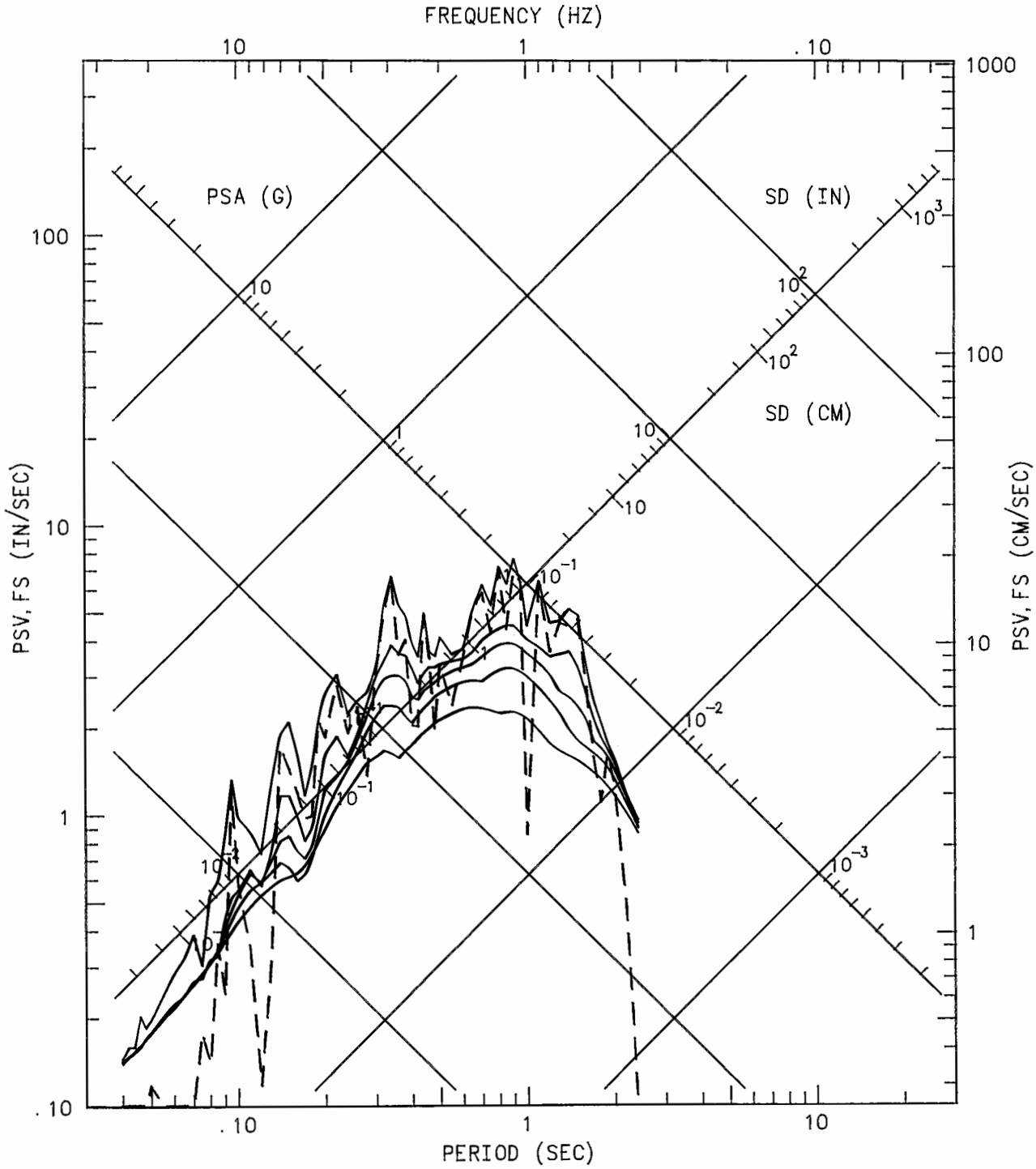
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
HAYWARD - CSUH STADIUM GROUNDS
CHN 1: 236 DEG
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .30-.60 TO 23.0-25.0 HZ.
58219-S1809-80030.01 102471.0837-QL80B219



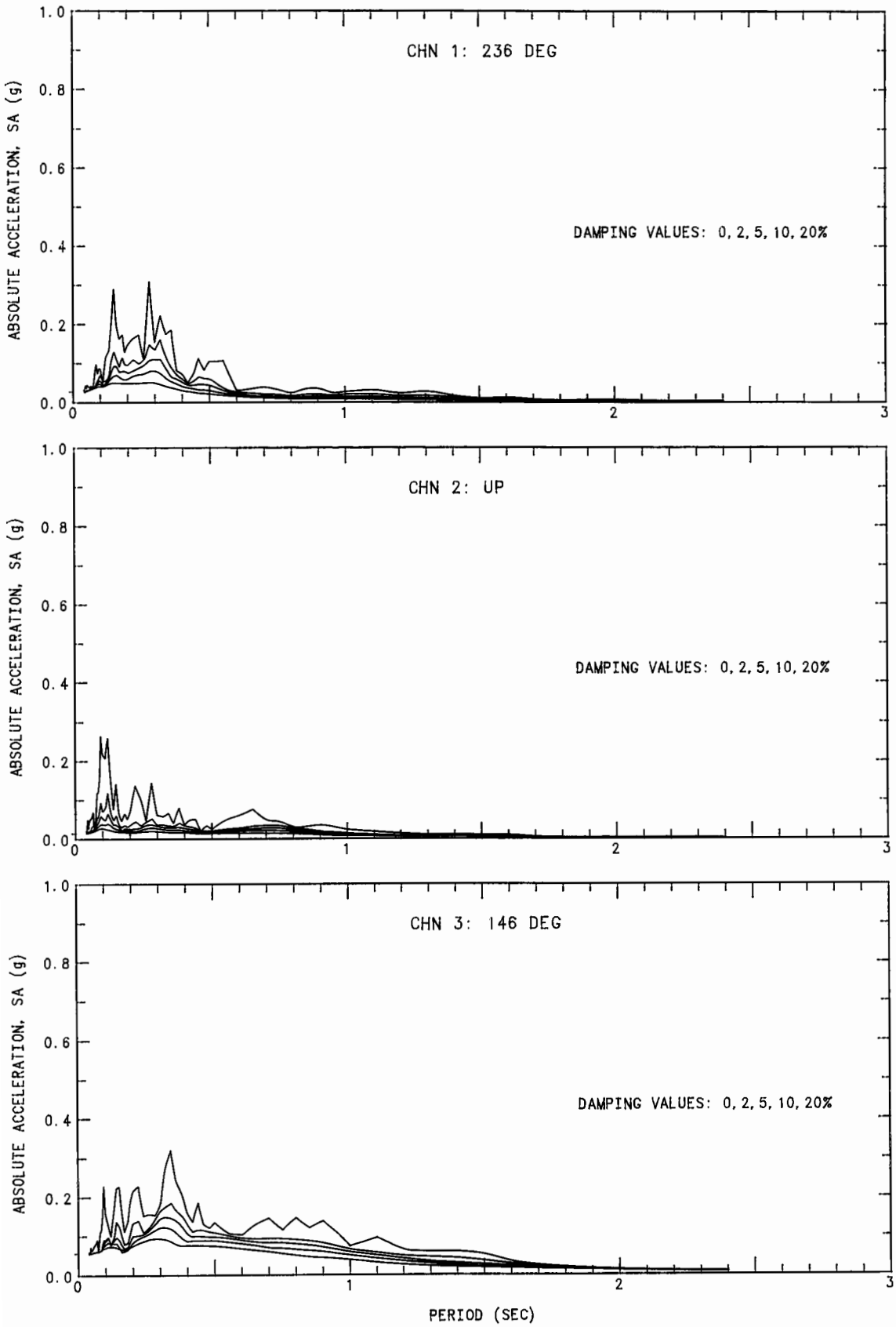
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
HAYWARD - CSUH STADIUM GROUNDS
CHN 2: UP
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .30-.60 TO 23.0-25.0 HZ.
58219-S1809-80030.01 102471.0837-QL80B219



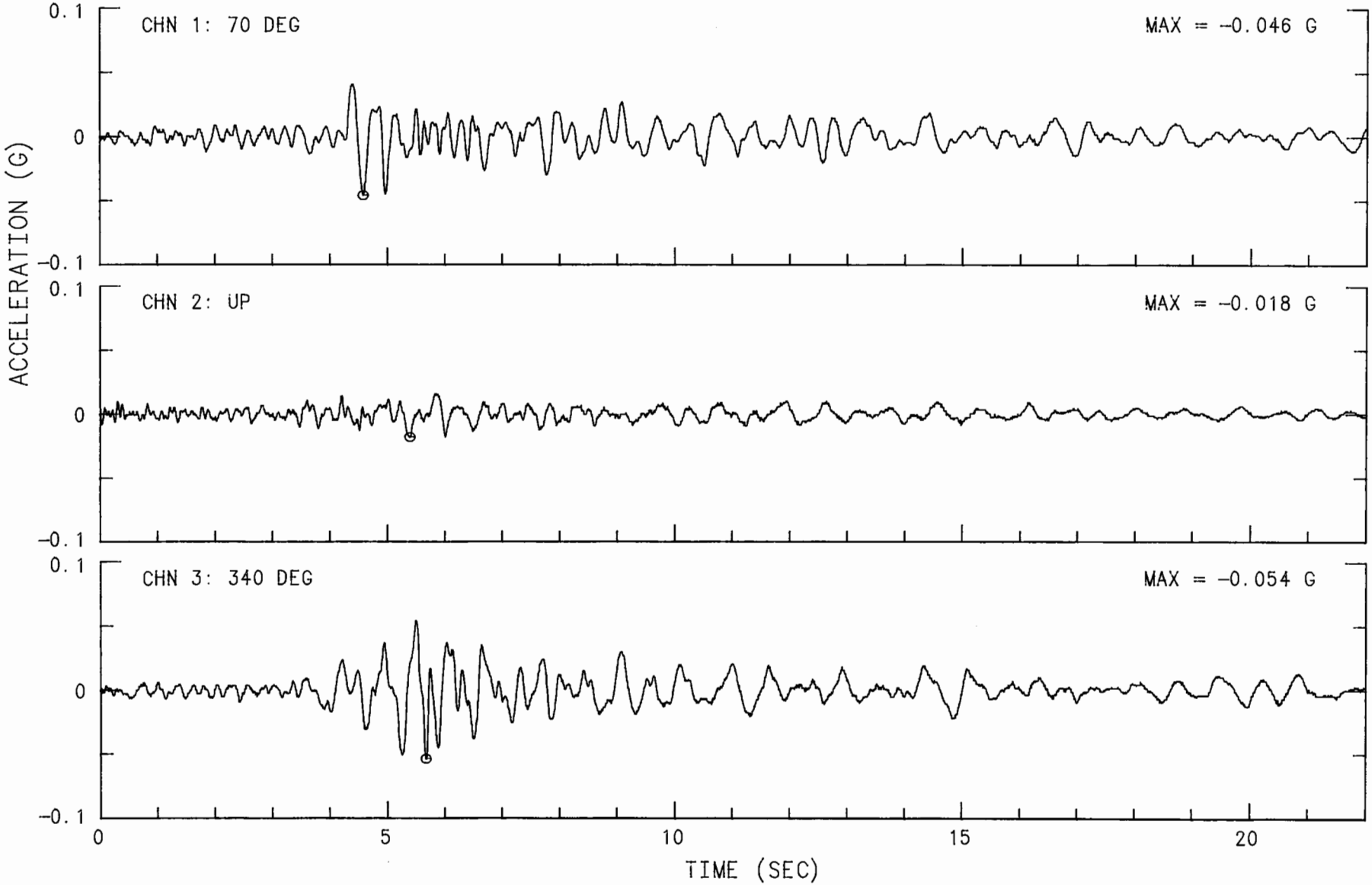
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
HAYWARD - CSUH STADIUM GROUNDS
CHN 3: 146 DEG
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .30-.60 TO 23.0-25.0 HZ.
58219-S1809-80030.01 102471.0837-QL80B219



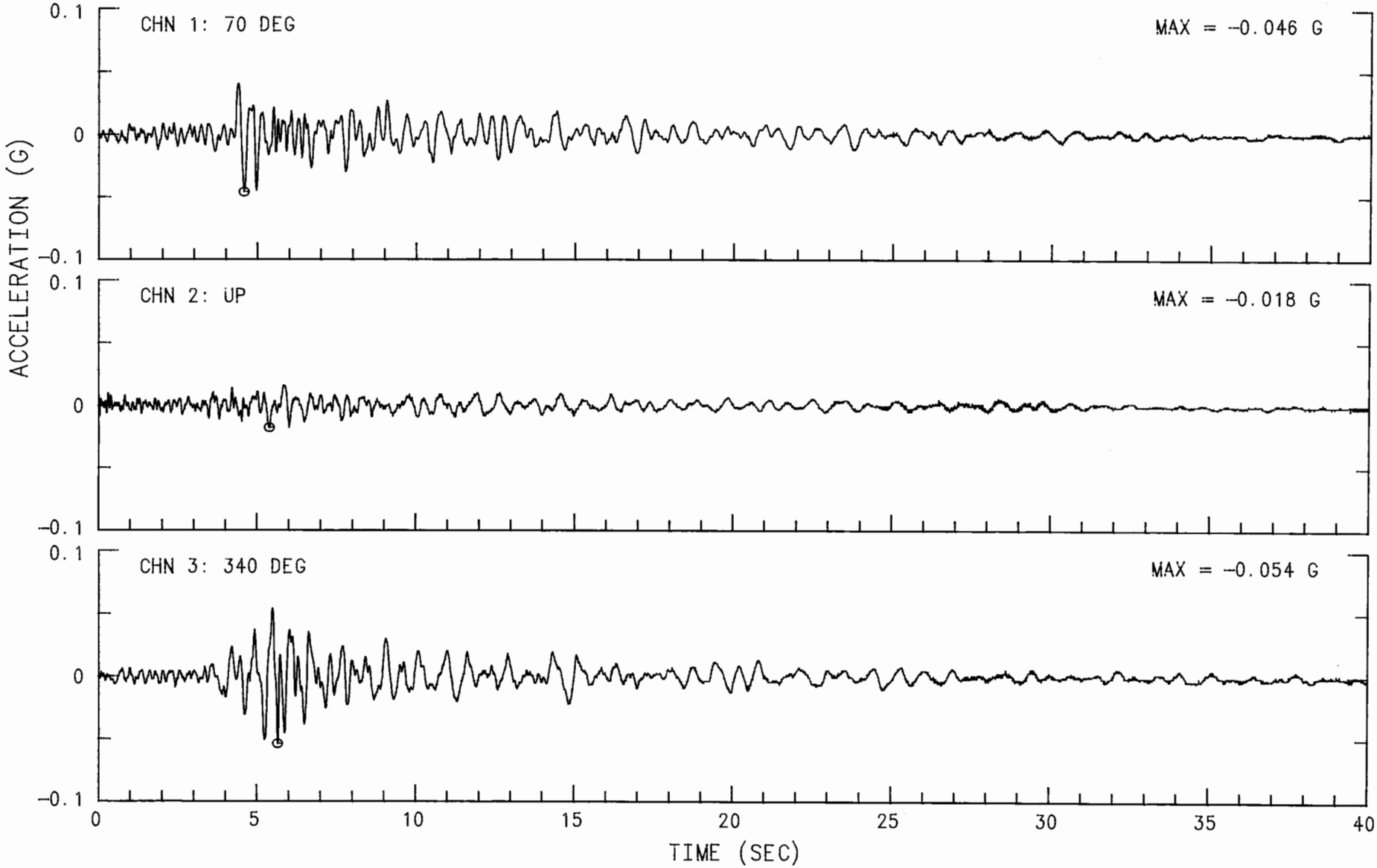
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
HAYWARD - CSUH STADIUM GROUNDS
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .30-.60 TO 23.0-25.0 HZ.
58219-S1809-80030.01 102471.0837-QL80B219



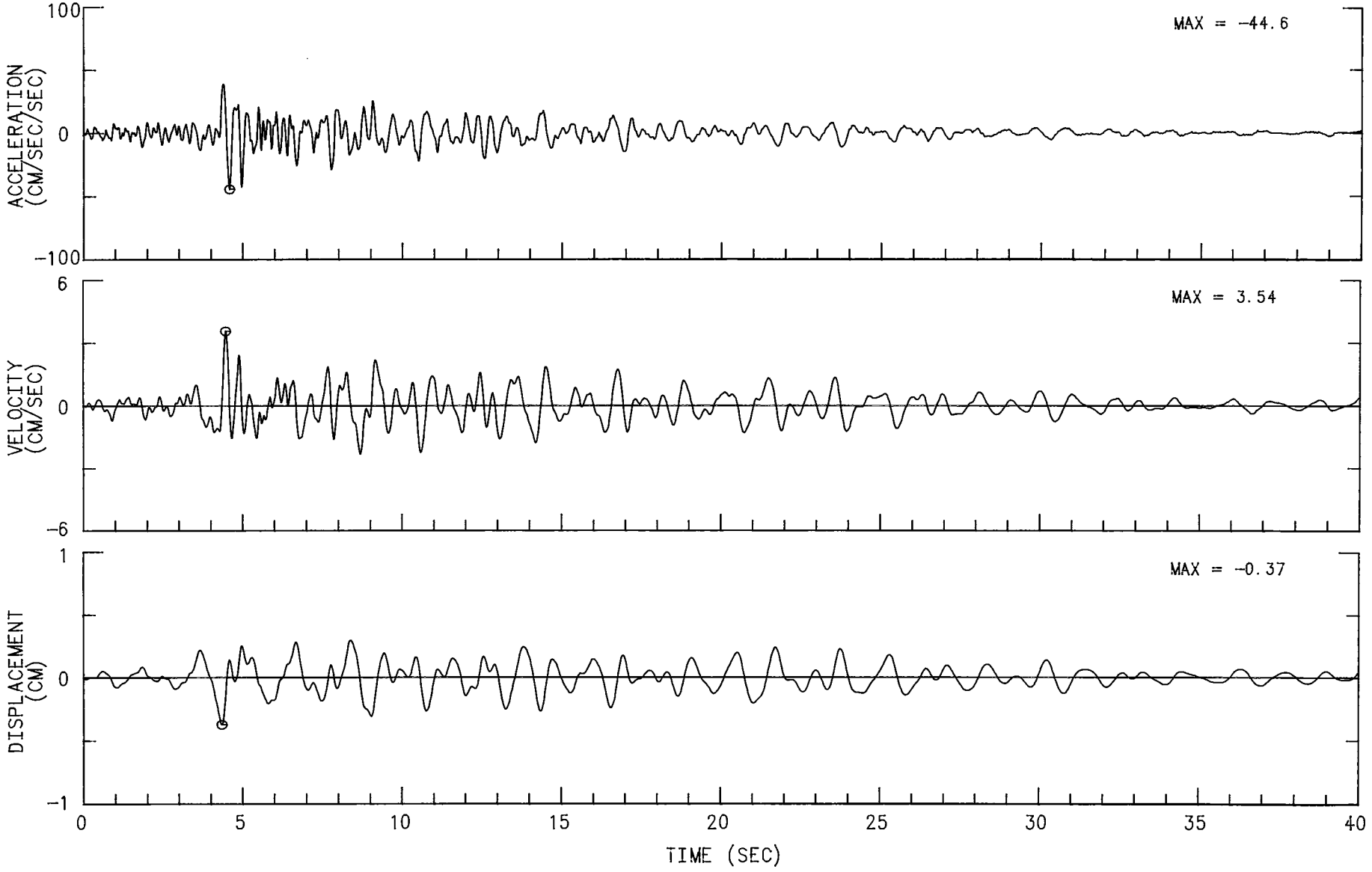
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
SAN RAMON
UNCORRECTED ACCELEROGRAM 57134-S2522-80030.02 102171.1202-QL80B134



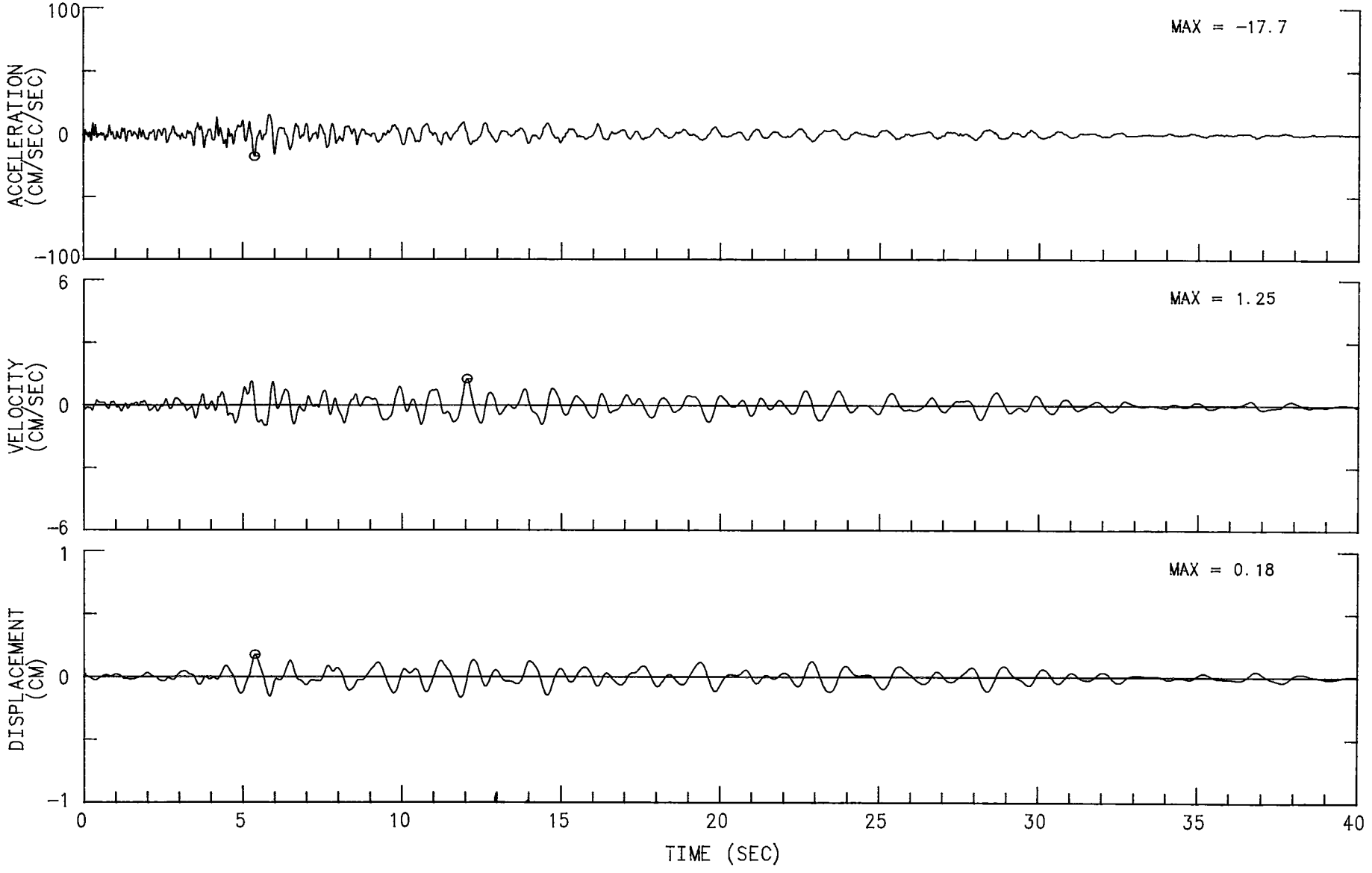
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
SAN RAMON
UNCORRECTED ACCELEROGRAM 57134-S2522-80030.02 102171.1202-QL80B134



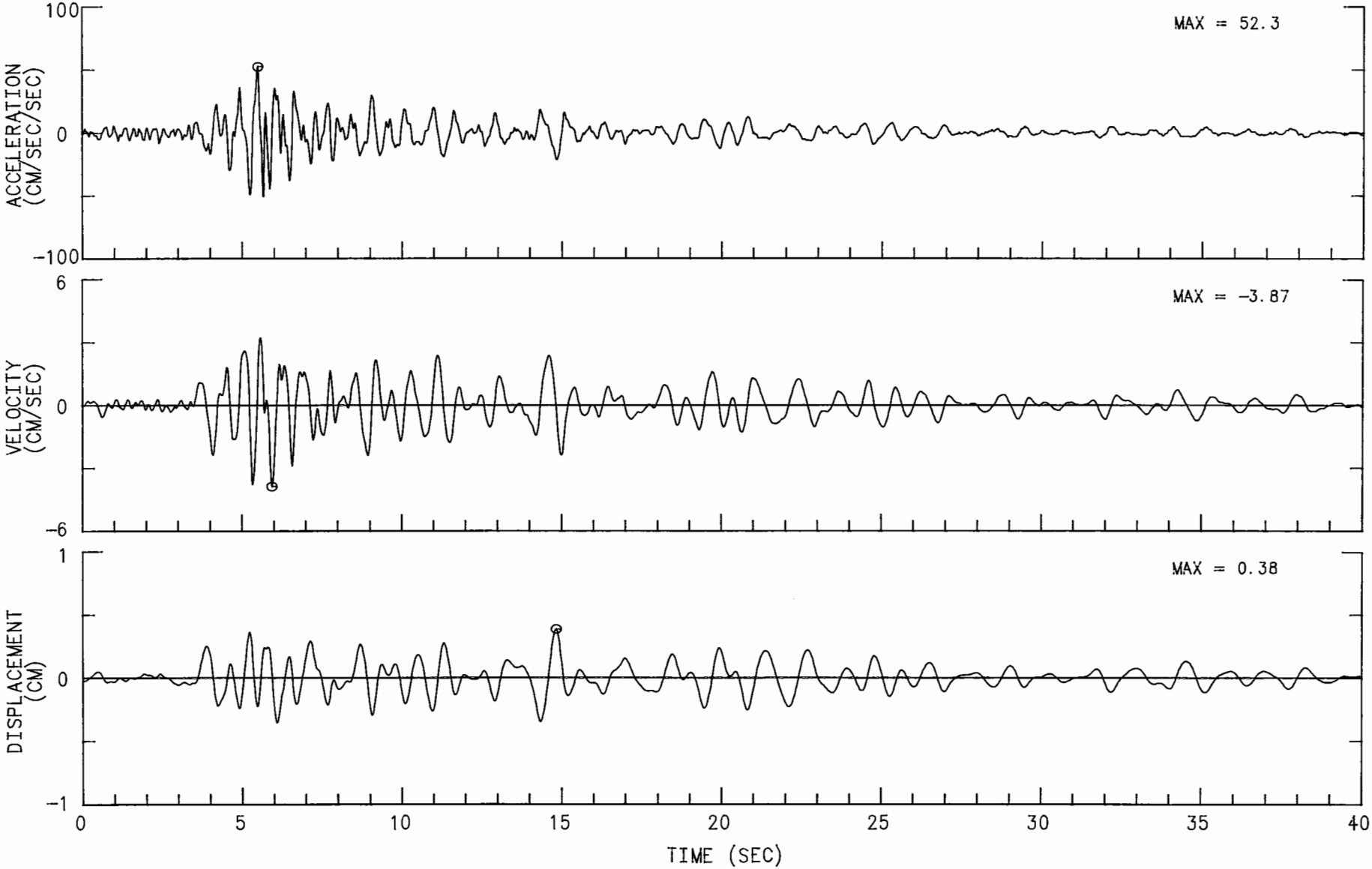
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
SAN RAMON CHN 1: 70 DEG
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .30-.60 TO 23.0-25.0 HZ. 57134-S2522-80030.02 102271.0558-QL80B134



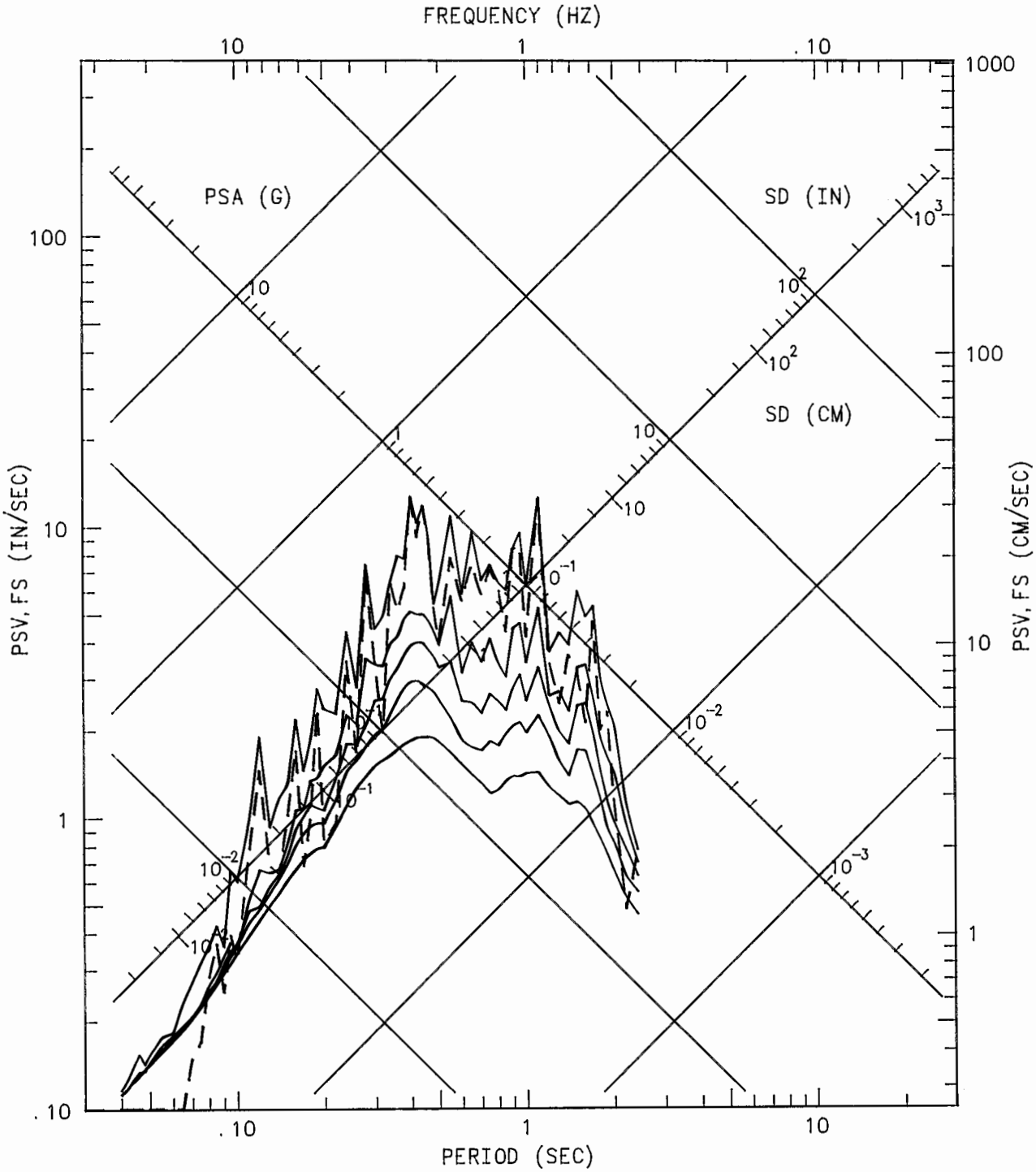
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
SAN RAMON CHN 2: UP
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .30-.60 TO 23.0-25.0 HZ. 57134-S2522-80030.02 102271.0558-QL80B134



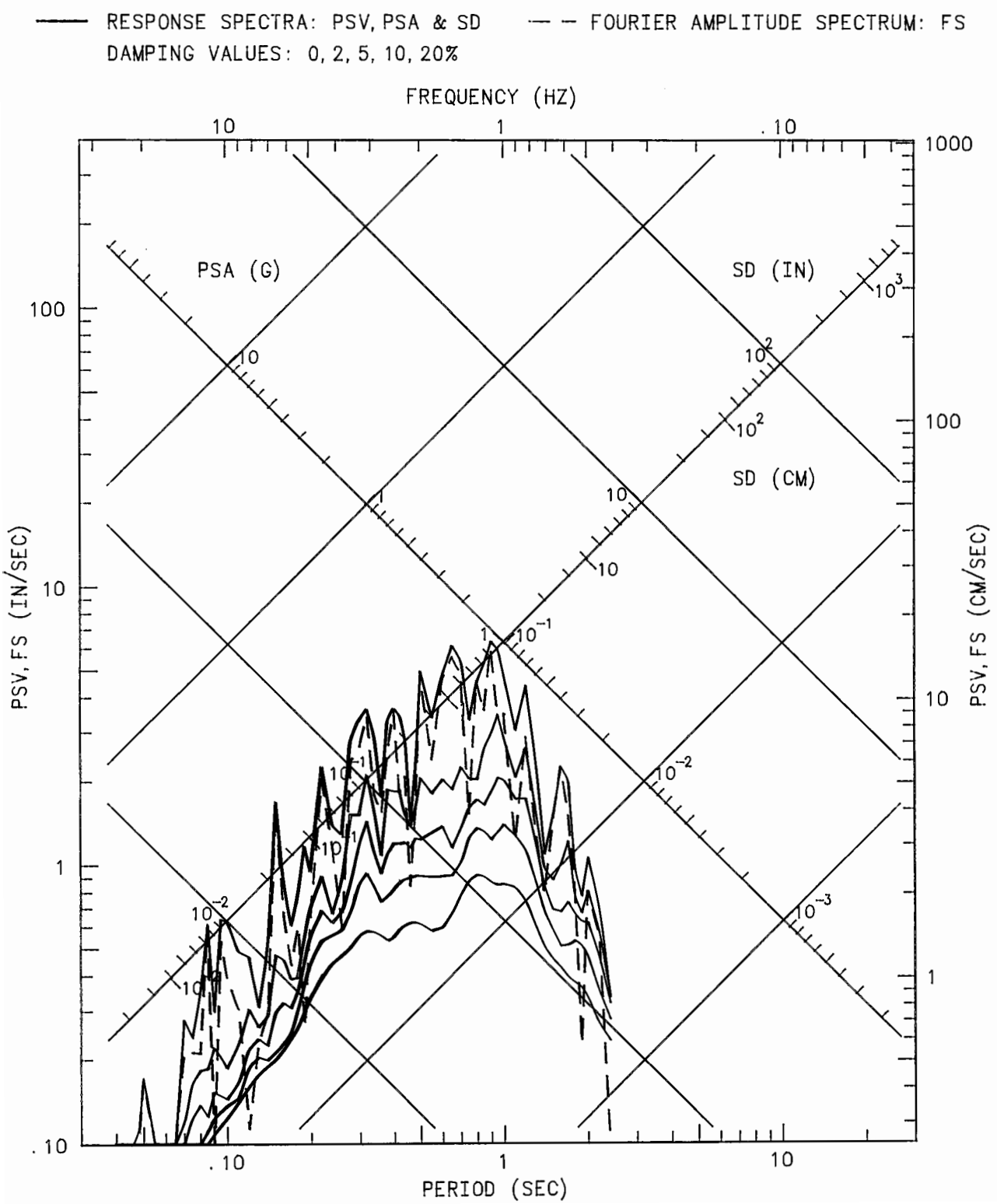
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
SAN RAMON CHN 3: 340 DEG
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .30-.60 TO 23.0-25.0 HZ. 57134-S2522-80030.02 102271.0558-QL80B134



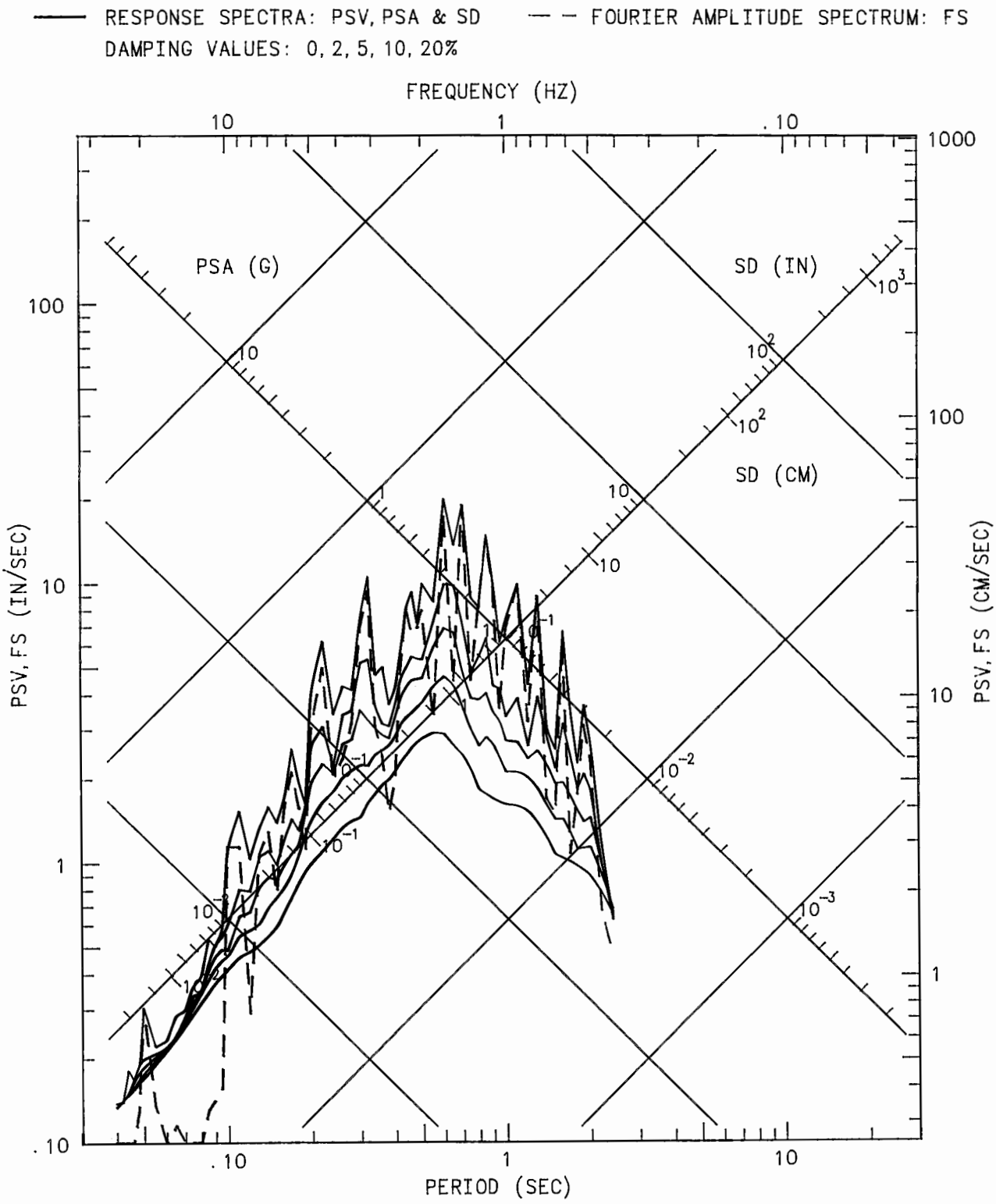
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
SAN RAMON
CHN 1: 70 DEG
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .30-.60 TO 23.0-25.0 HZ.
57134-S2522-80030.02 102471.0904-QL80B134



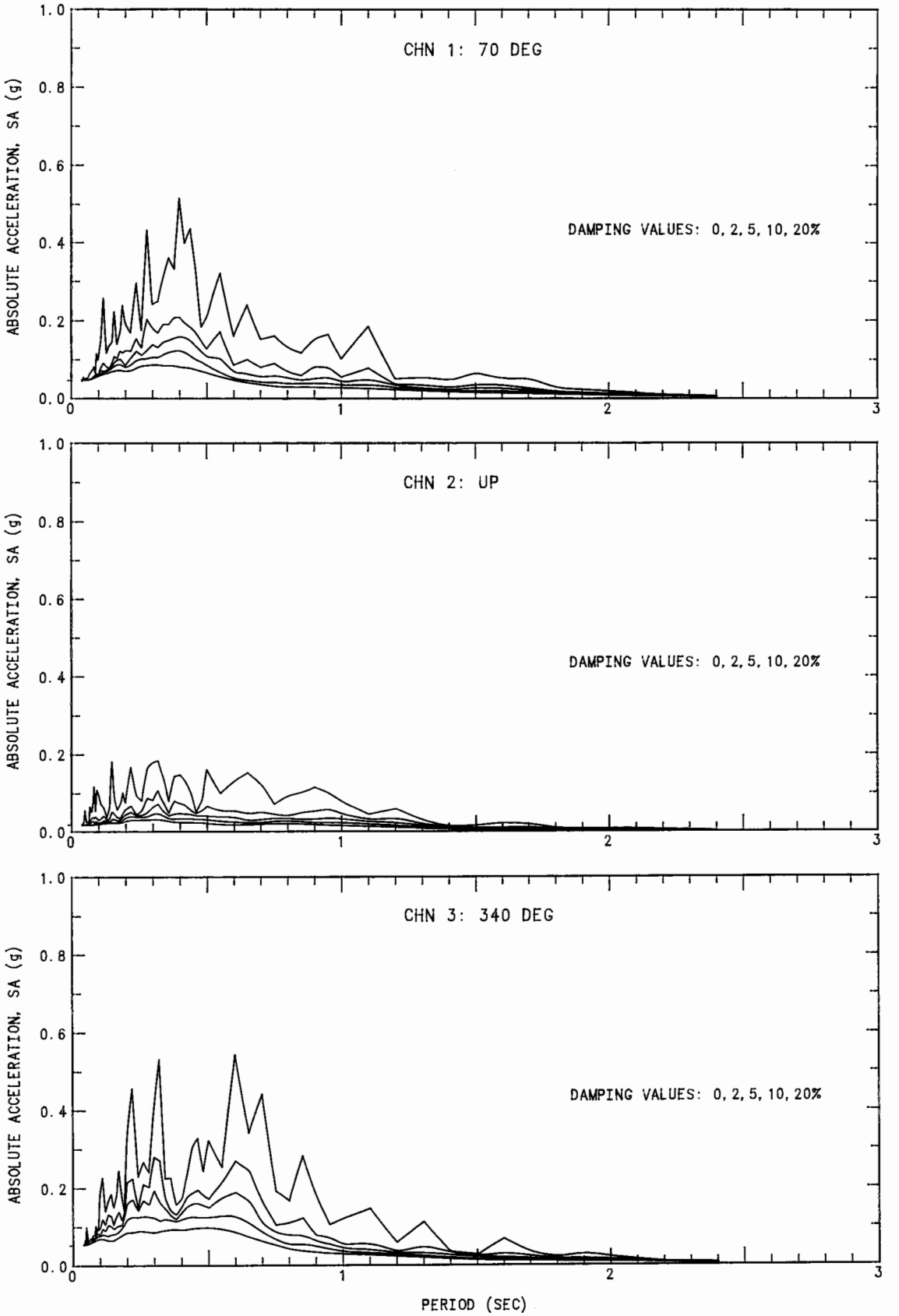
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
SAN RAMON
CHN 2: UP
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .30-.60 TO 23.0-25.0 HZ.
57134-S2522-80030.02 102471.0904-QL80B134



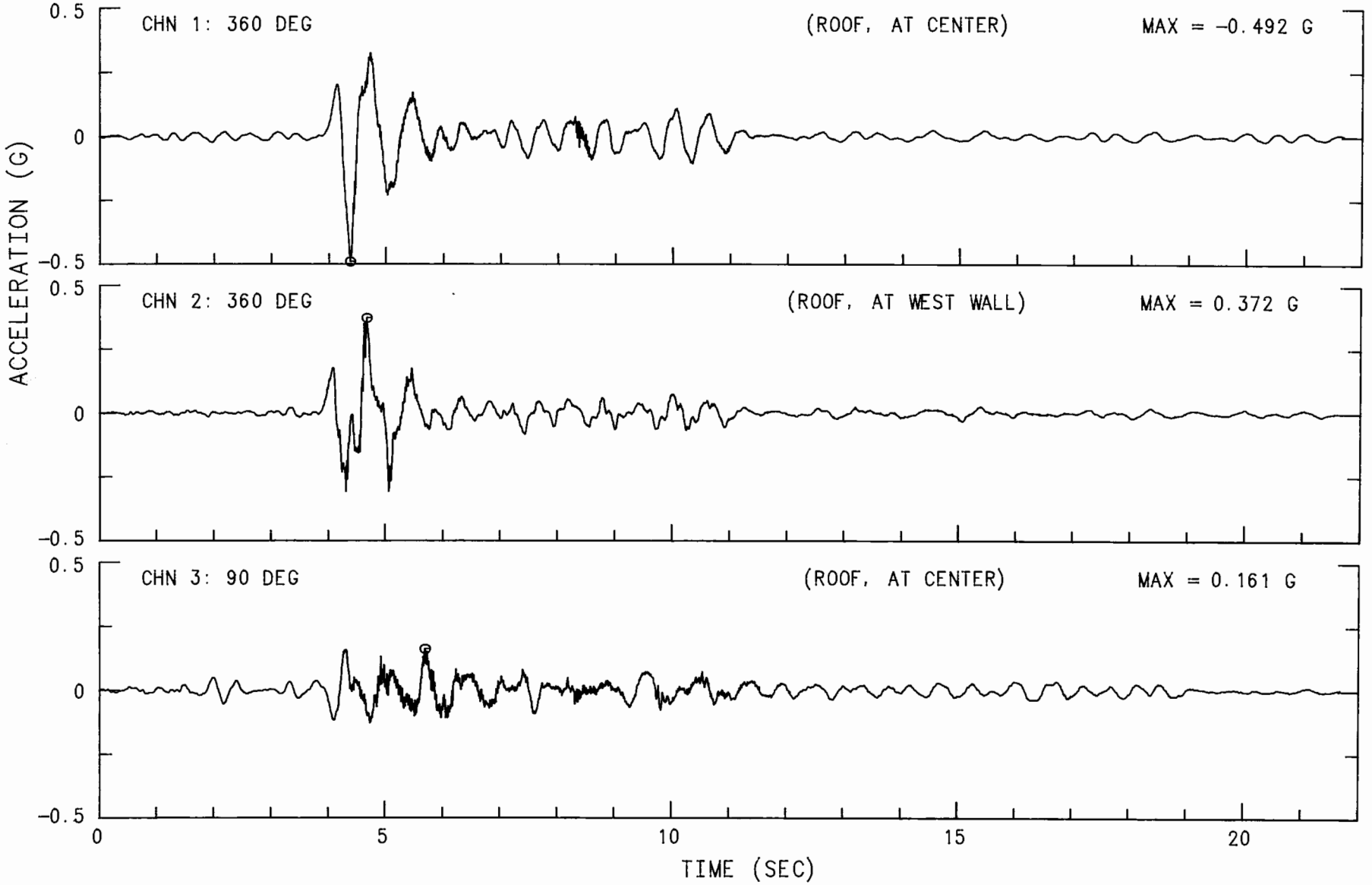
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
SAN RAMON
CHN 3: 340 DEG
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .30-.60 TO 23.0-25.0 HZ.
57134-S2522-80030.02 102471.0904-QL80B134



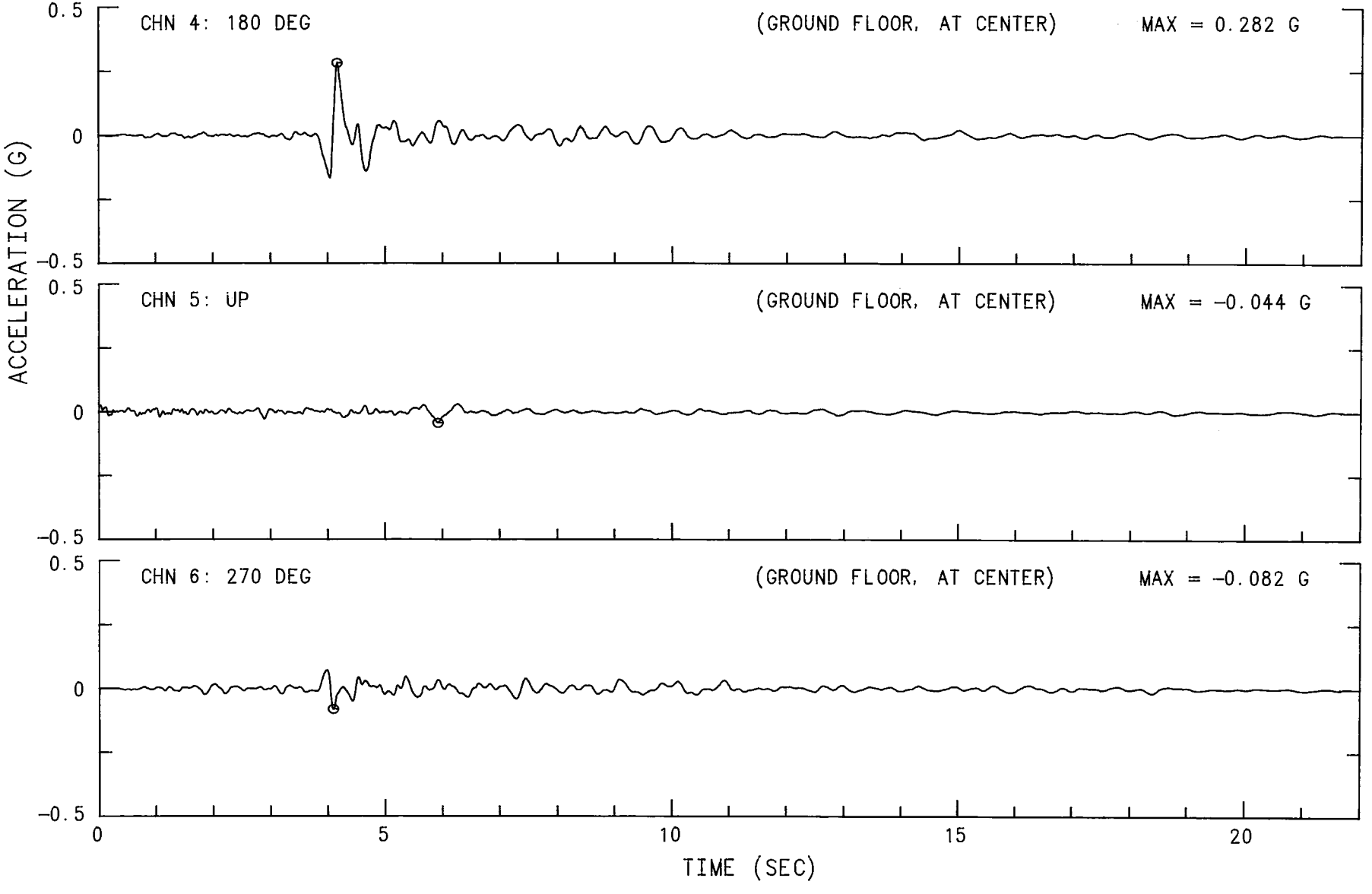
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
SAN RAMON
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .30-.60 TO 23.0-25.0 HZ.
57134-S2522-80030.02 102471.0904-QL80B134



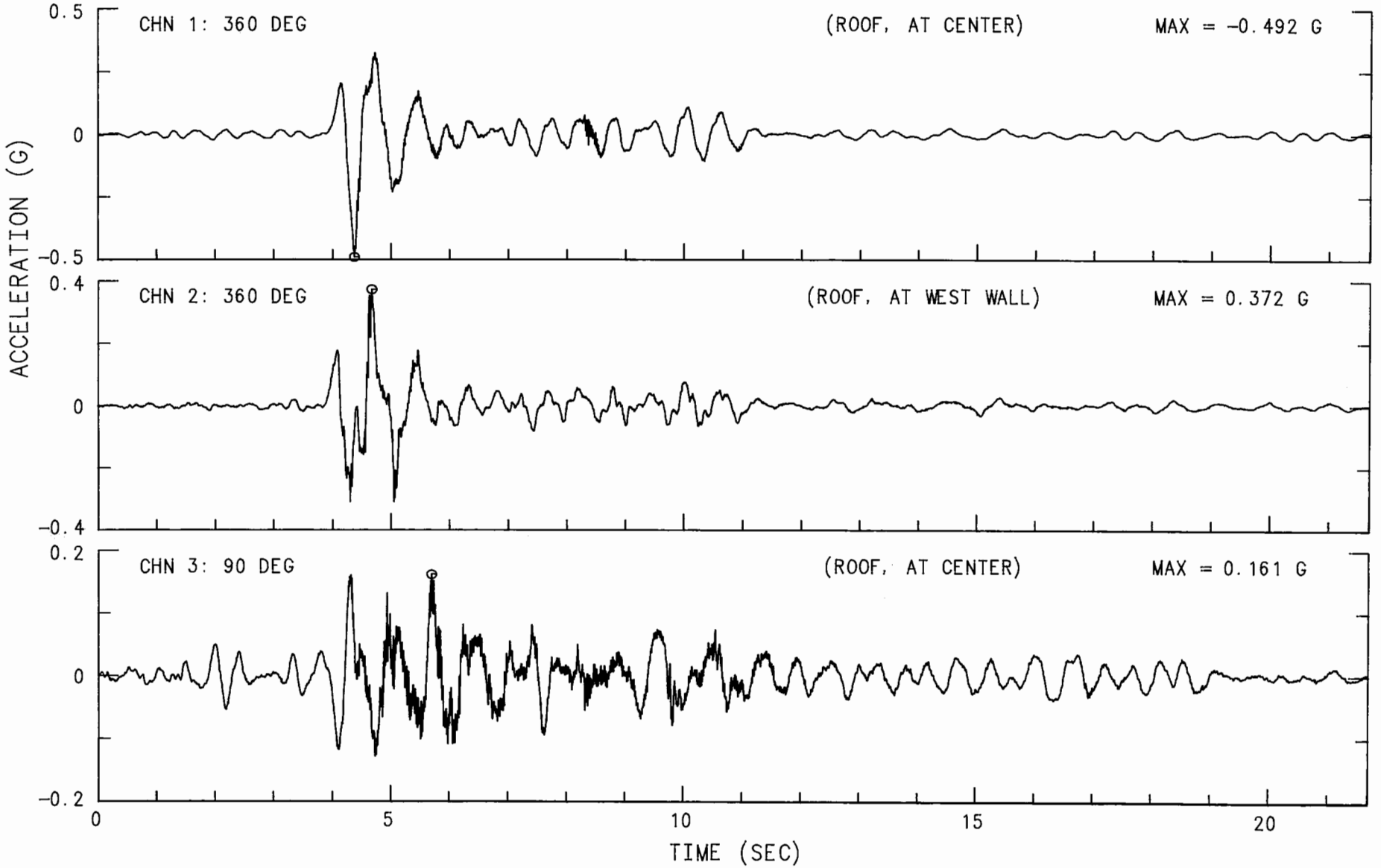
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
SAN RAMON - EASTMAN KODAK BLDG.
UNCORRECTED ACCELEROGRAM 57187-C0105-80030.01 090188.2237-QL80B187



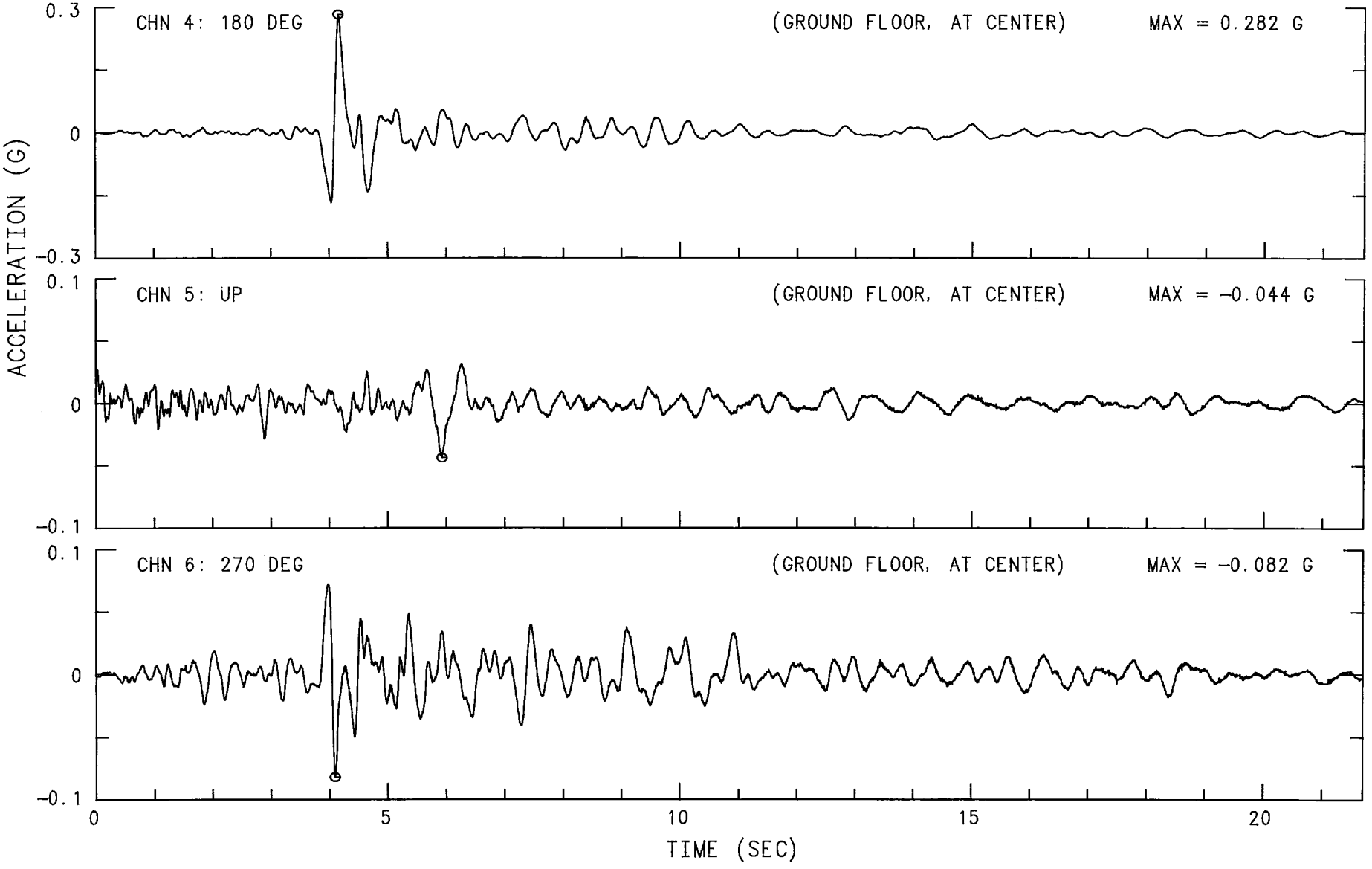
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
SAN RAMON - EASTMAN KODAK BLDG.
UNCORRECTED ACCELEROGRAM 57187-C0105-80030.01 090188.2237-QL80B187

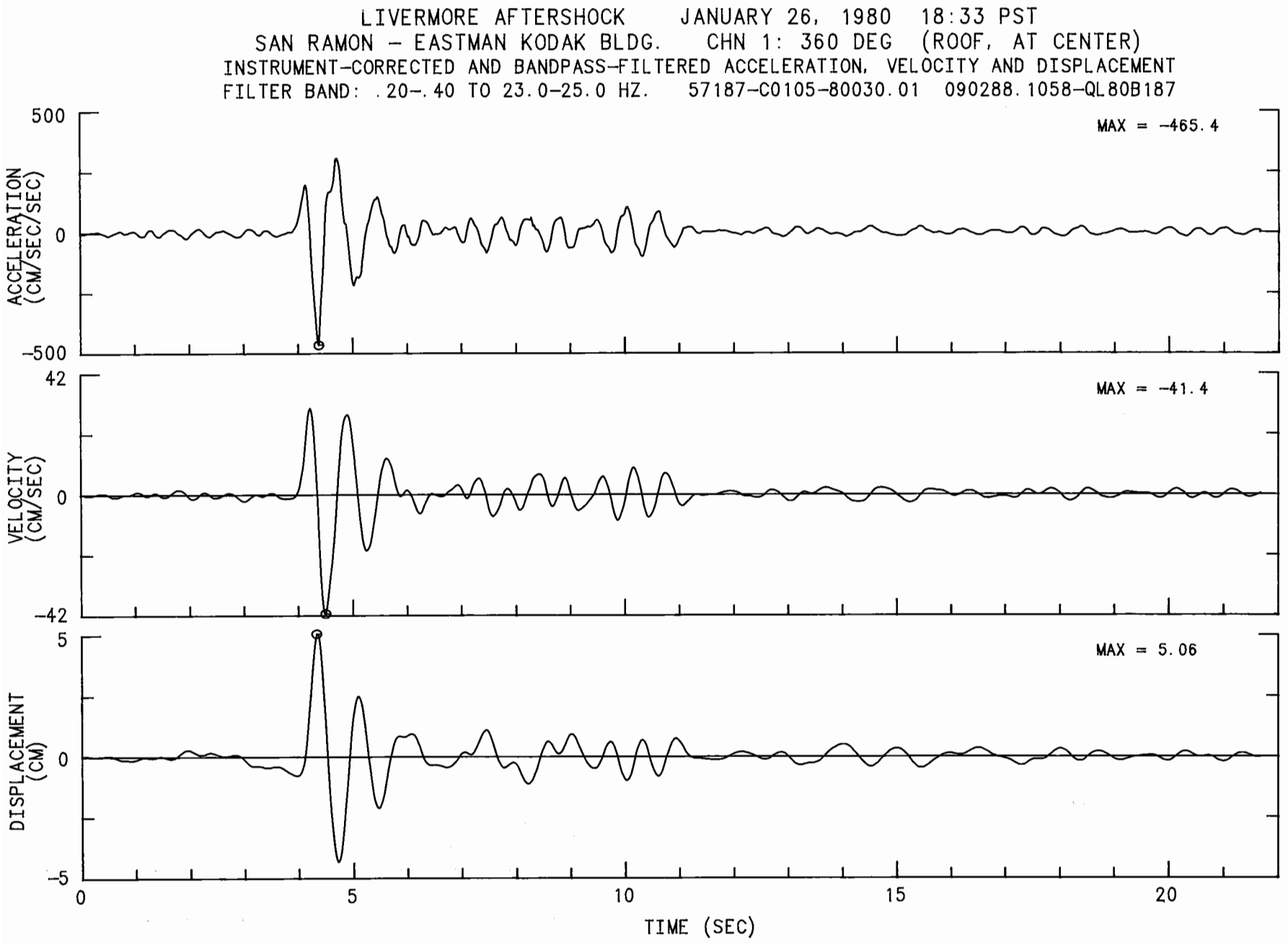


LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
SAN RAMON - EASTMAN KODAK BLDG.
UNCORRECTED ACCELEROGRAM 57187-C0105-80030.01 090188.2237-QL80B187

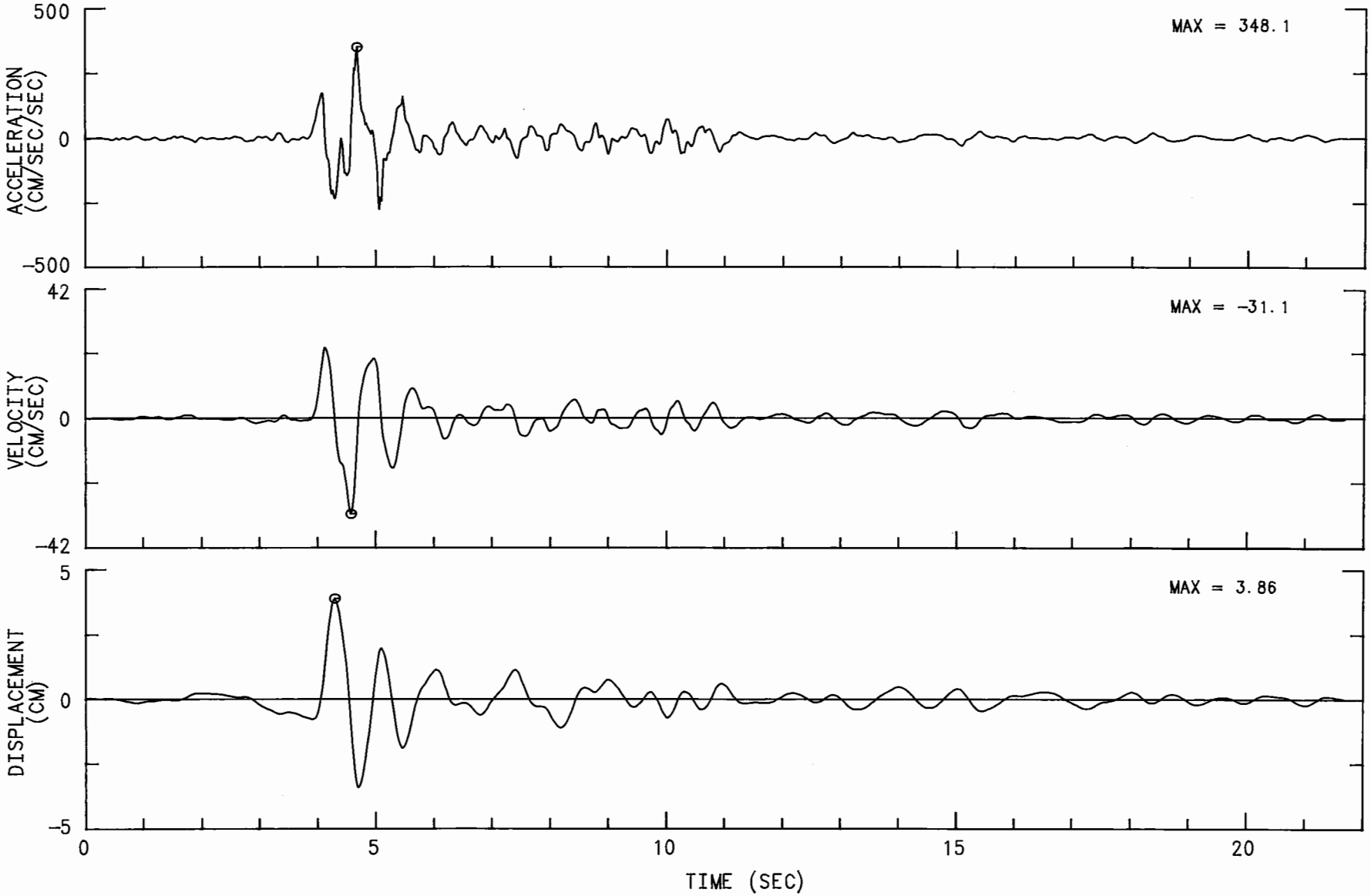


LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
SAN RAMON - EASTMAN KODAK BLDG.
UNCORRECTED ACCELEROGRAM 57187-C0105-80030.01 090188.2237-QL80B187

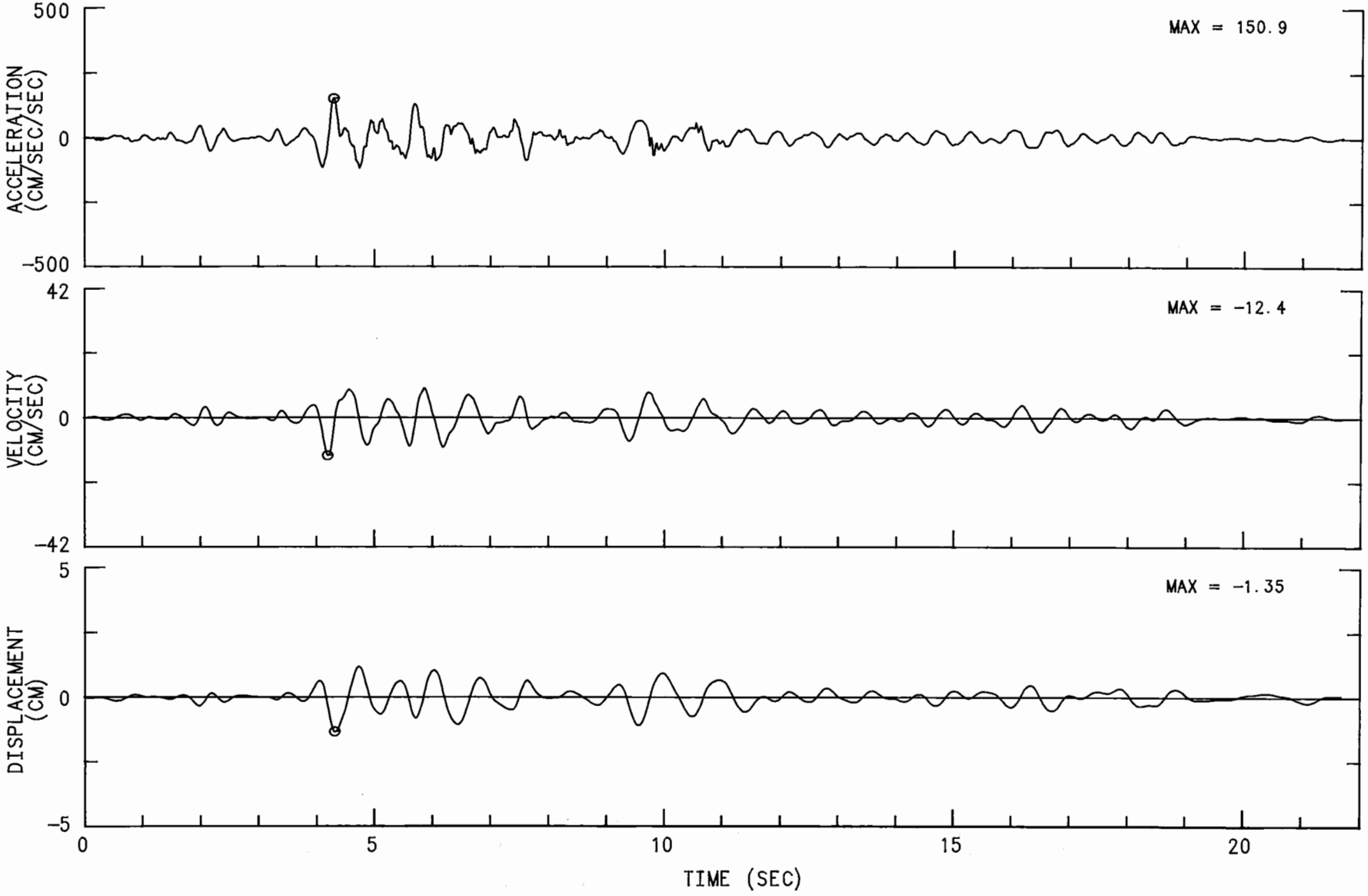



LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
SAN RAMON - EASTMAN KODAK BLDG. CHN 1: 360 DEG (ROOF, AT CENTER)
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .20-.40 TO 23.0-25.0 HZ. 57187-C0105-80030.01 090288.1058-QL80B187
ACCELERATION (CM/SEC/SEC)
500
0
-500
MAX = -465.4
VELOCITY (CM/SEC)
42
0
-42
MAX = -41.4
DISPLACEMENT (CM)
5
0
-5
MAX = 5.06
0
5
10
15
20
TIME (SEC)

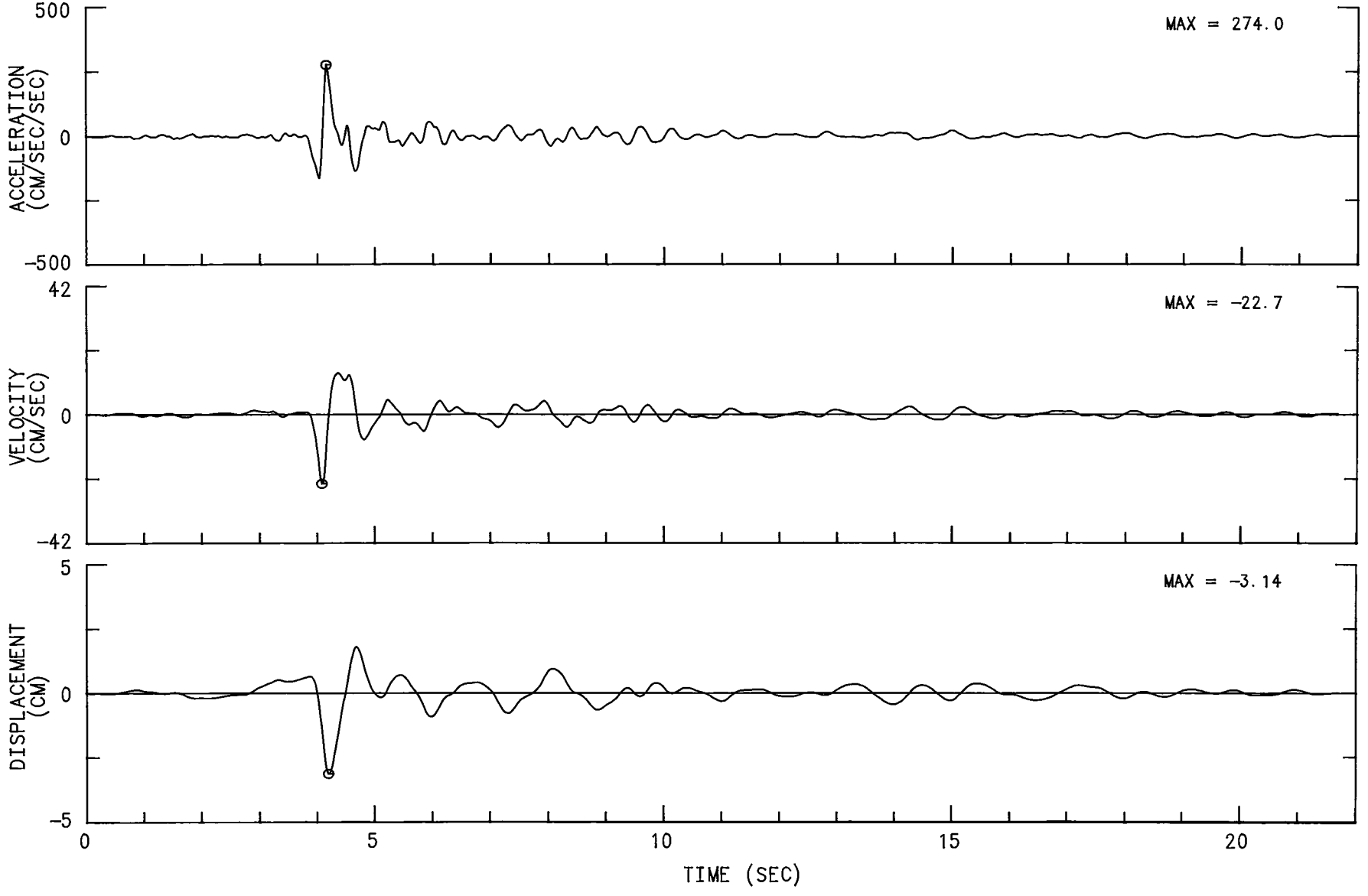
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
SAN RAMON – EASTMAN KODAK BLDG. CHN 2: 360 DEG (ROOF, AT WEST WALL)
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .20-.40 TO 23.0-25.0 HZ. 57187-C0105-80030.01 090288.1058-QL80B187



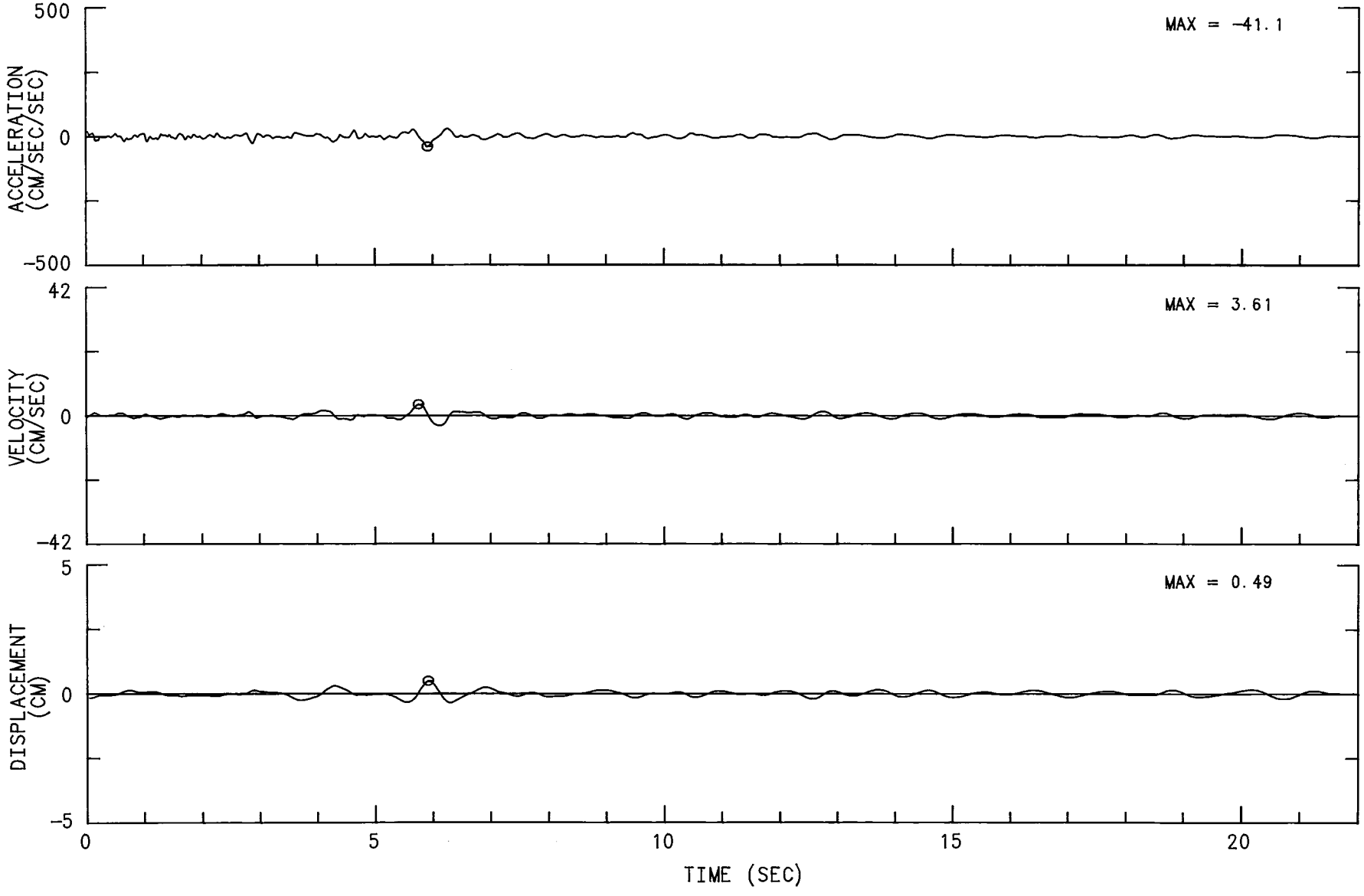
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
SAN RAMON - EASTMAN KODAK BLDG. CHN 3: 90 DEG (ROOF, AT CENTER)
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .20-.40 TO 23.0-25.0 HZ. 57187-C0105-80030.01 090288.1058-QL80B187



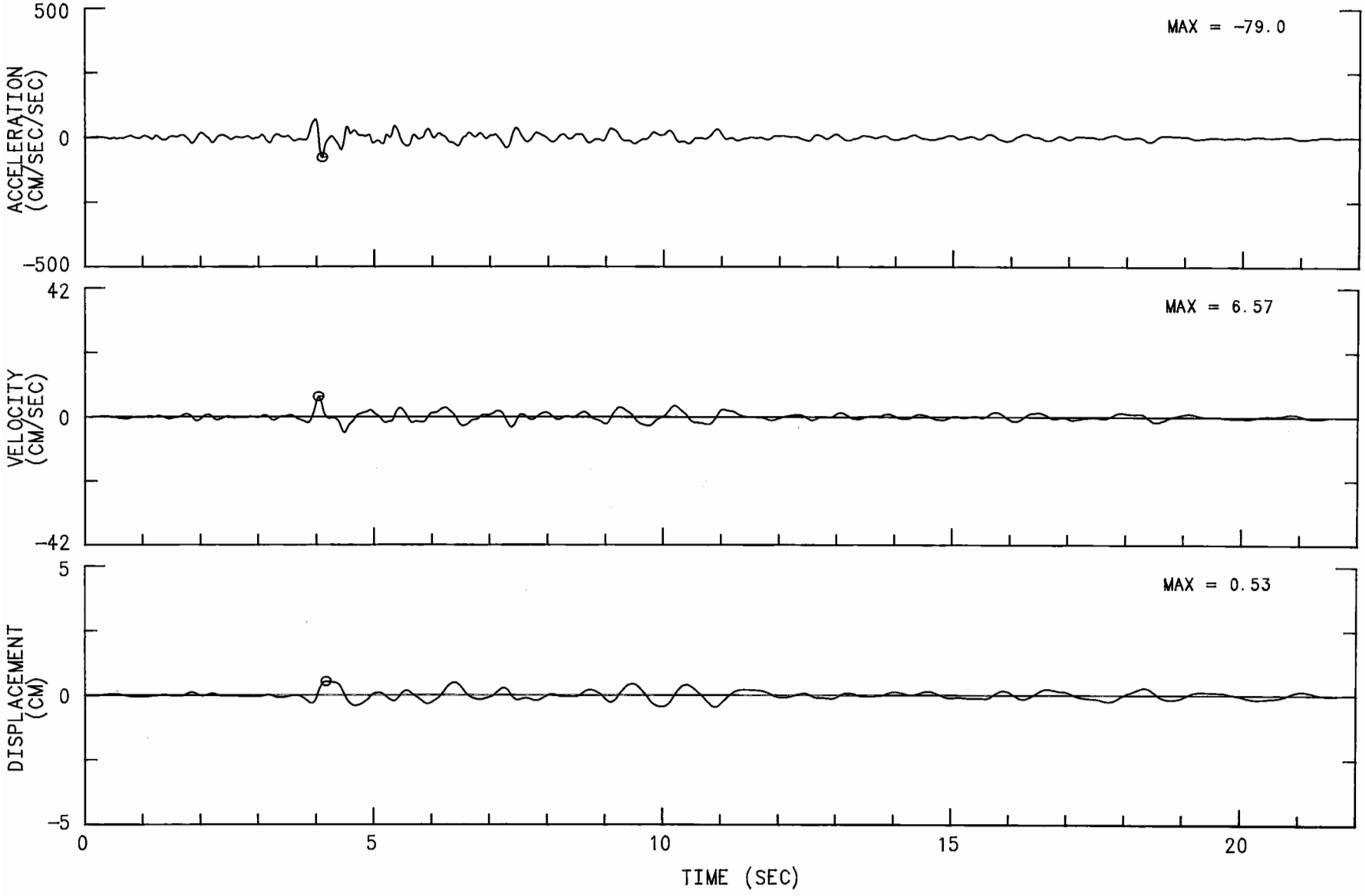
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
SAN RAMON - EASTMAN KODAK BLDG. CHN 4: 180 DEG (GROUND FLOOR, AT CENTER)
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .20-.40 TO 23.0-25.0 HZ. 57187-C0105-80030.01 090288.1058-QL80B187



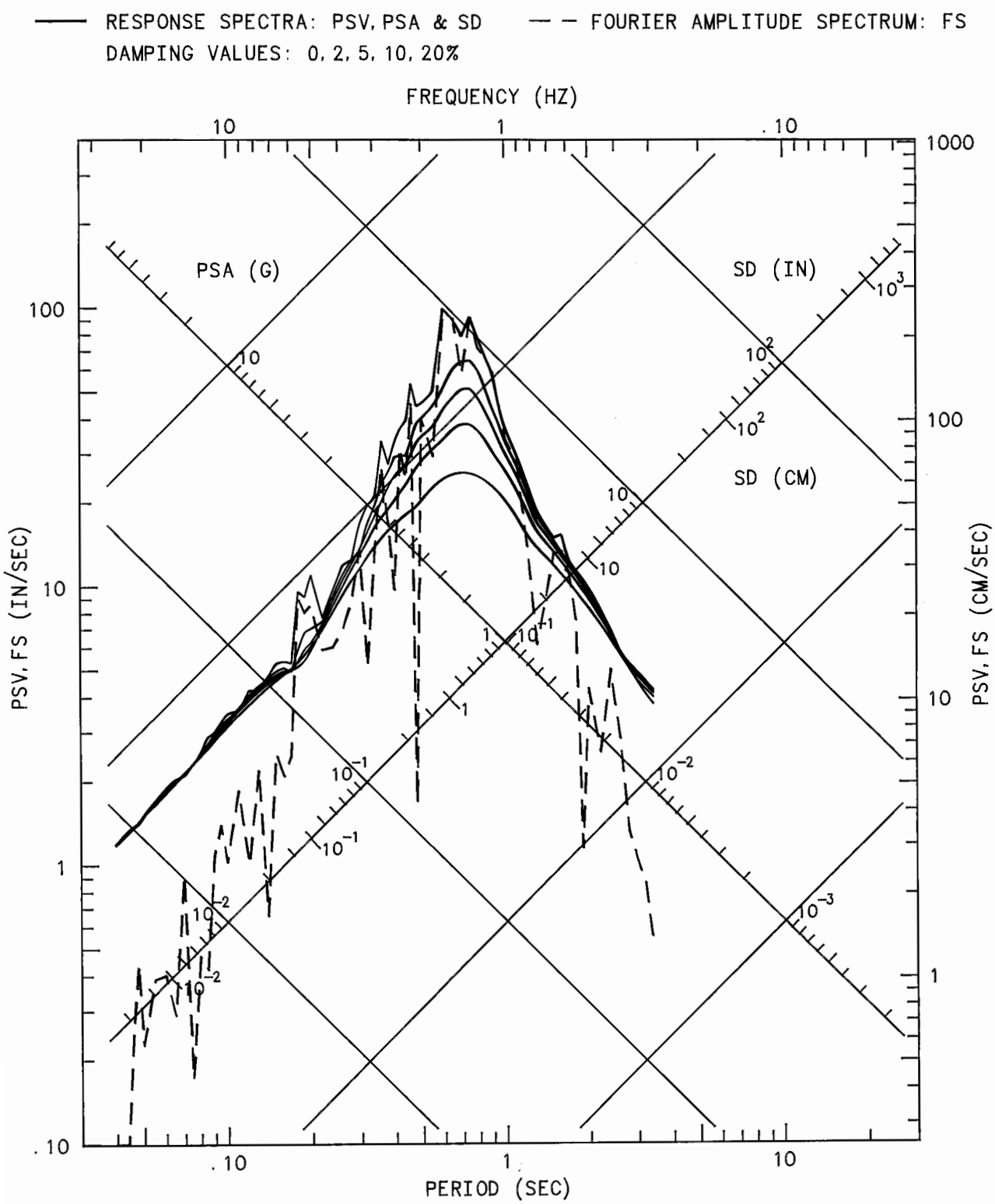
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
SAN RAMON - EASTMAN KODAK BLDG. CHN 5: UP (GROUND FLOOR, AT CENTER)
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .20-.40 TO 23.0-25.0 HZ. 57187-C0105-80030.01 090288.1058-QL80B187



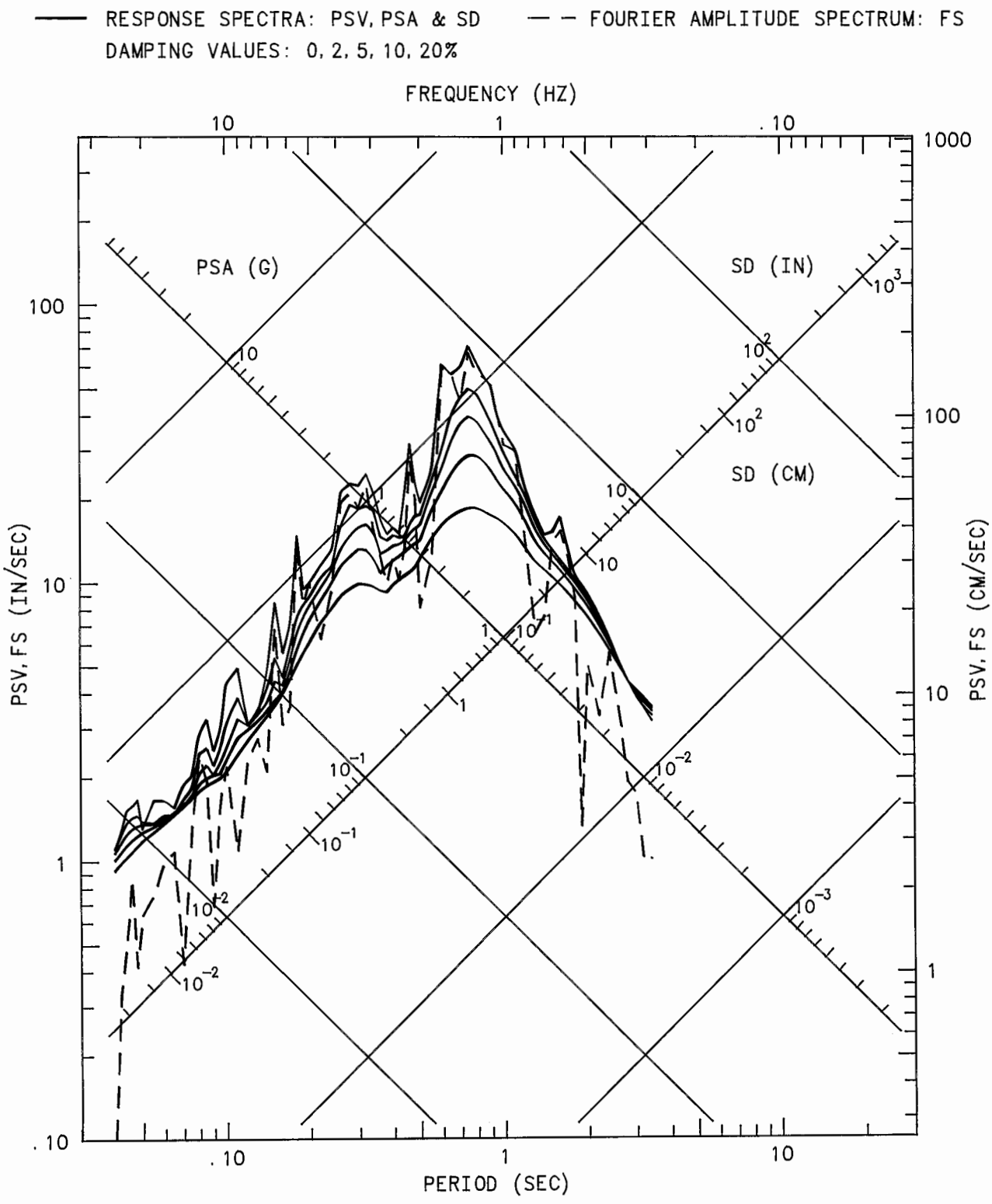
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
SAN RAMON - EASTMAN KODAK BLDG. CHN 6: 270 DEG (GROUND FLOOR, AT CENTER)
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .20-.40 TO 23.0-25.0 HZ. 57187-C0105-80030.01 090288.1058-QL80B187



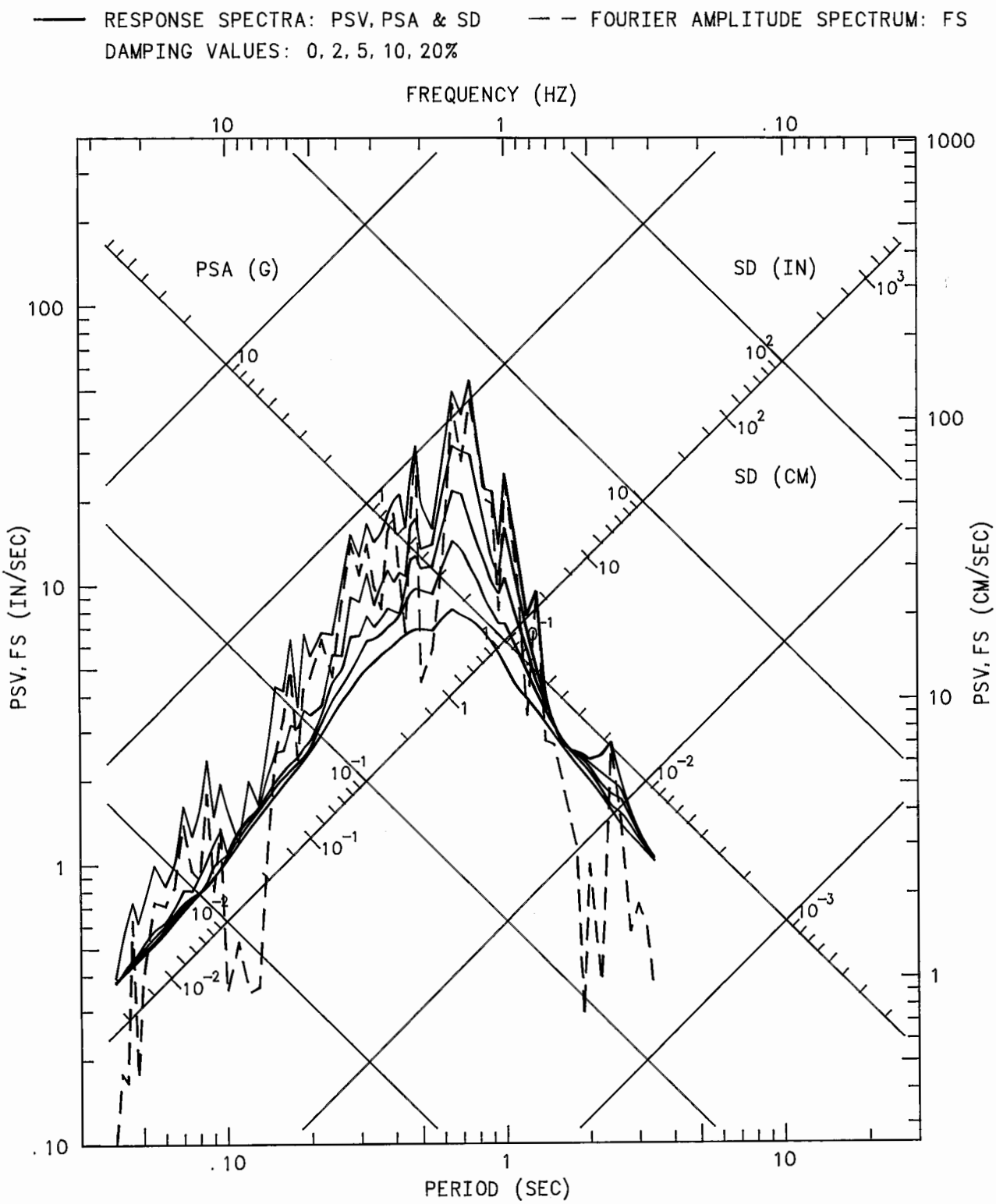
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
SAN RAMON - EASTMAN KODAK BLDG.
CHN 1: 360 DEG (ROOF, AT CENTER)
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 HZ.
57187-C0105-80030.01 090788.1103-QL80B187



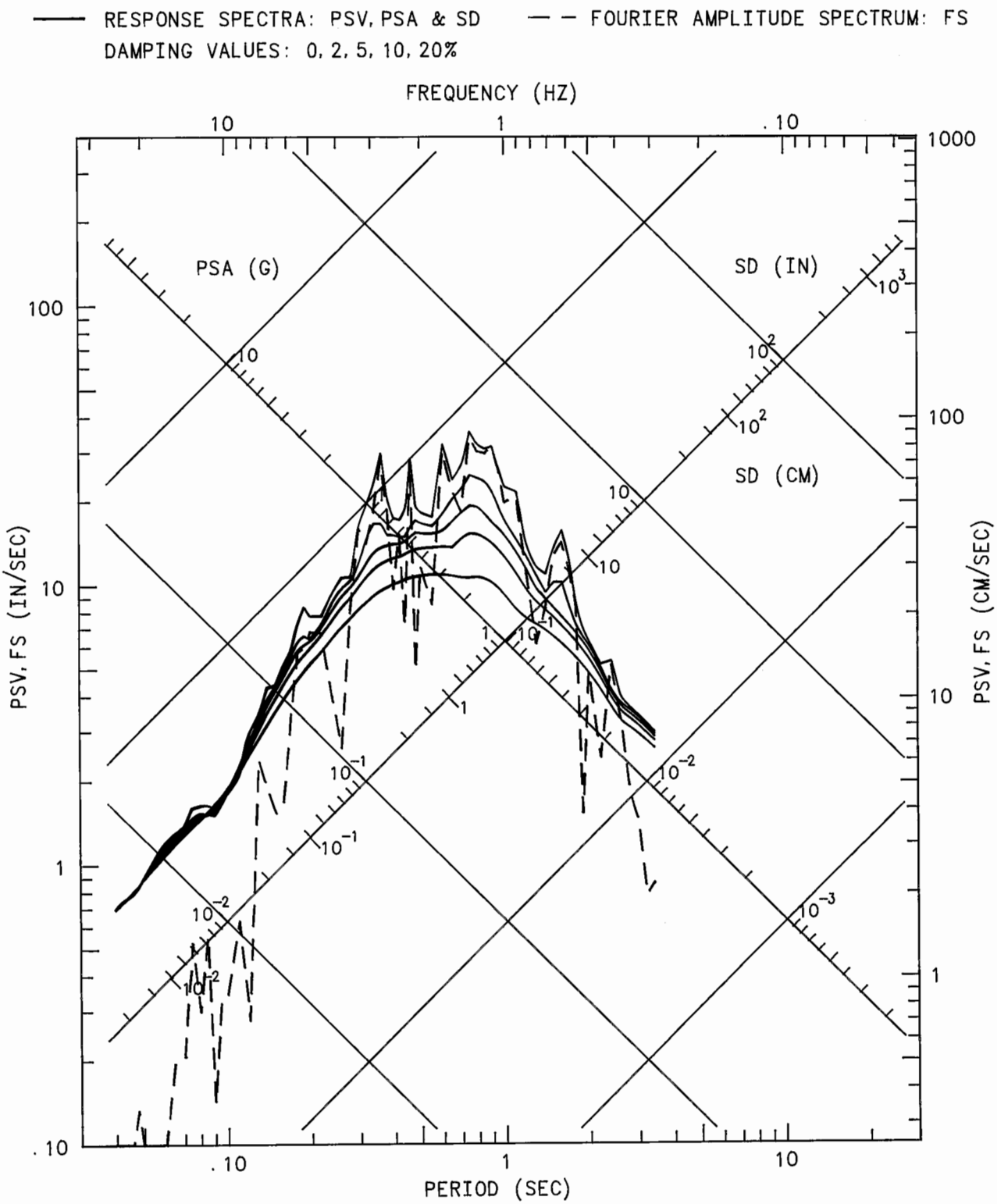
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
SAN RAMON - EASTMAN KODAK BLDG.
CHN 2: 360 DEG (ROOF, AT WEST WALL)
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 HZ.
57187-C0105-80030.01 090788.1103-QL80B187



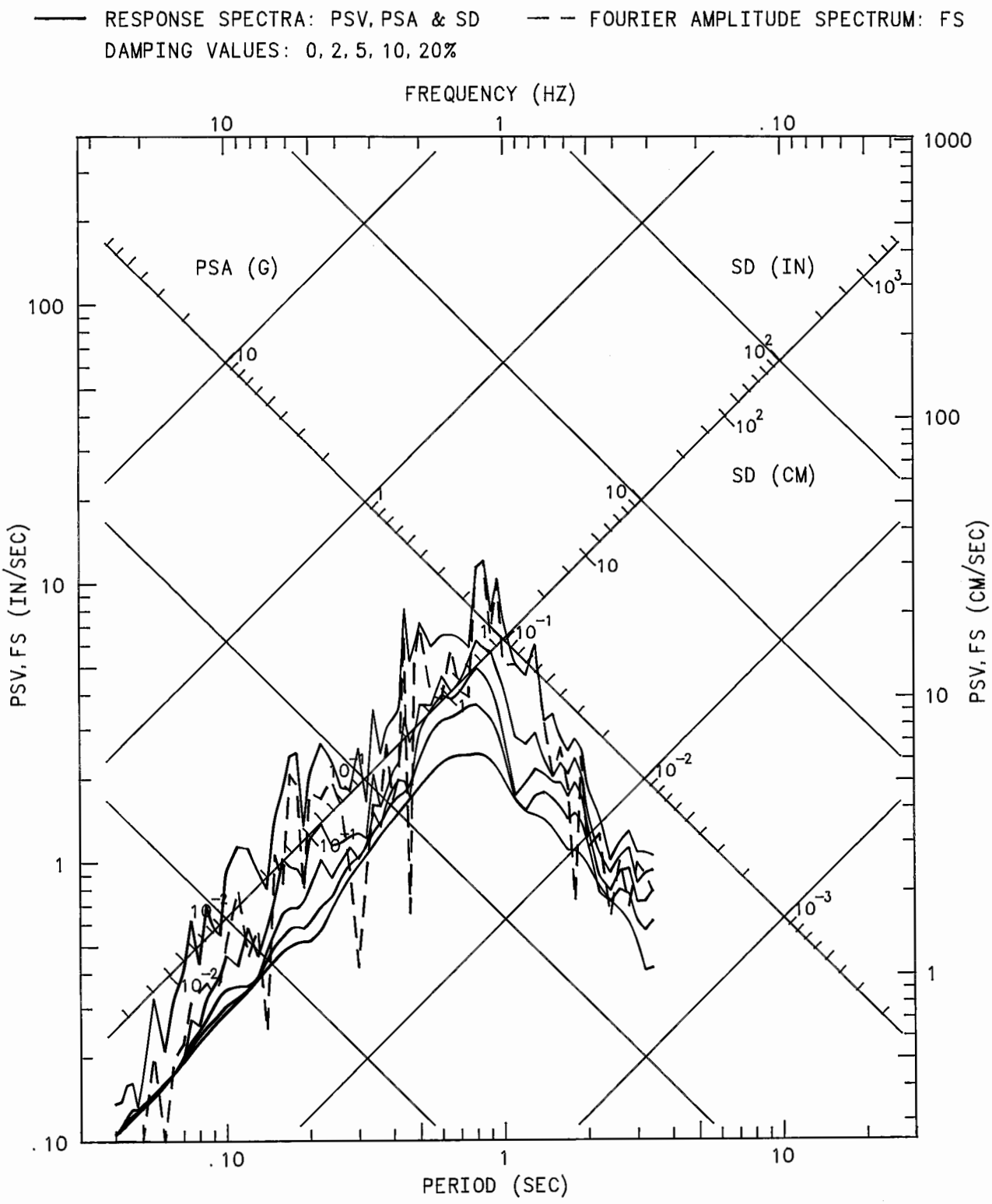
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
SAN RAMON - EASTMAN KODAK BLDG.
CHN 3: 90 DEG (ROOF, AT CENTER)
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 HZ.
57187-C0105-80030.01 090788.1103-QL80B187



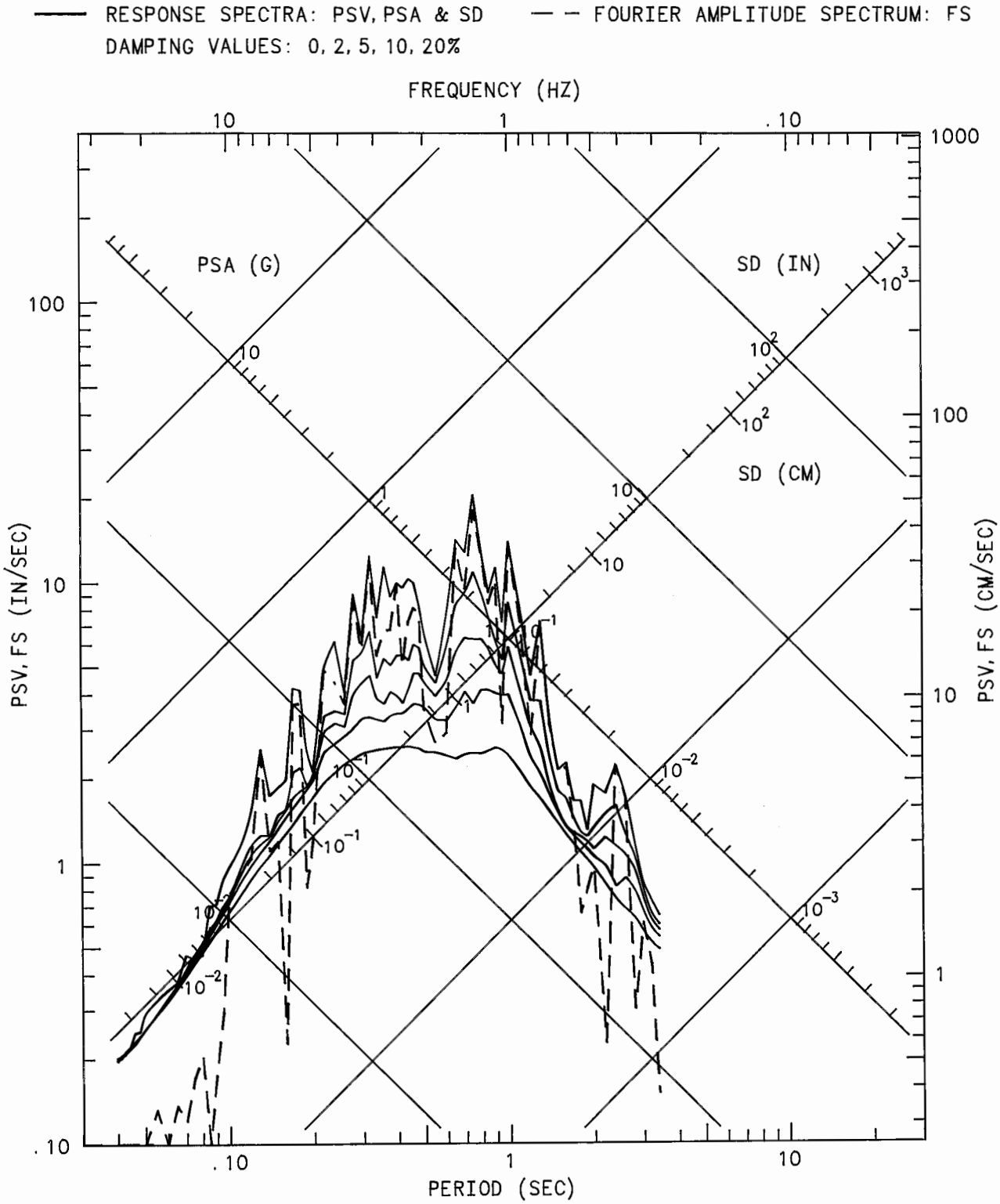
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
SAN RAMON - EASTMAN KODAK BLDG.
CHN 4: 180 DEG (GROUND FLOOR, AT CENTER)
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 HZ.
57187-C0105-80030.01 090788.1103-QL80B187



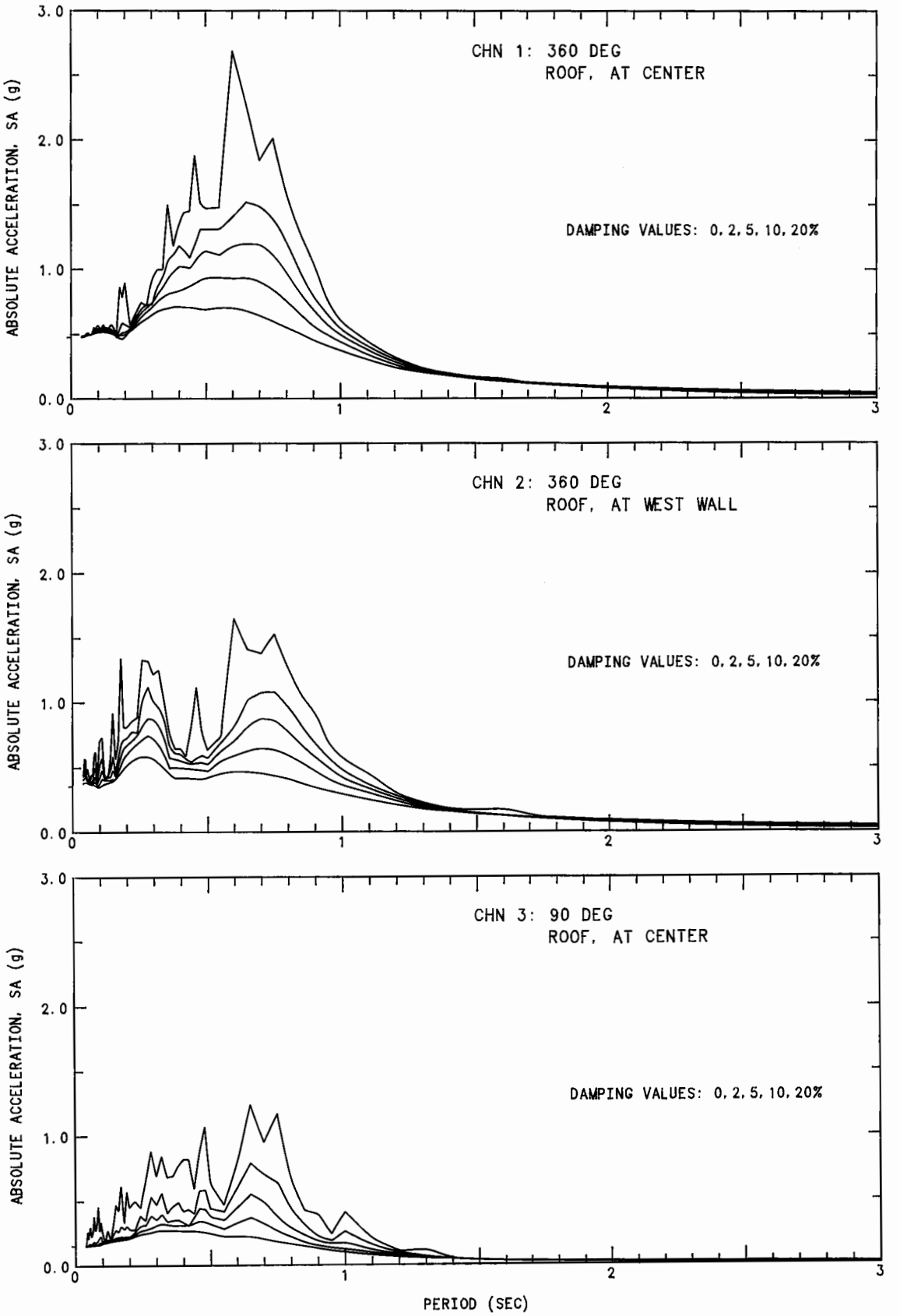
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
SAN RAMON - EASTMAN KODAK BLDG.
CHN 5: UP (GROUND FLOOR, AT CENTER)
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 HZ.
57187-C0105-80030.01 090788.1103-QL80B187



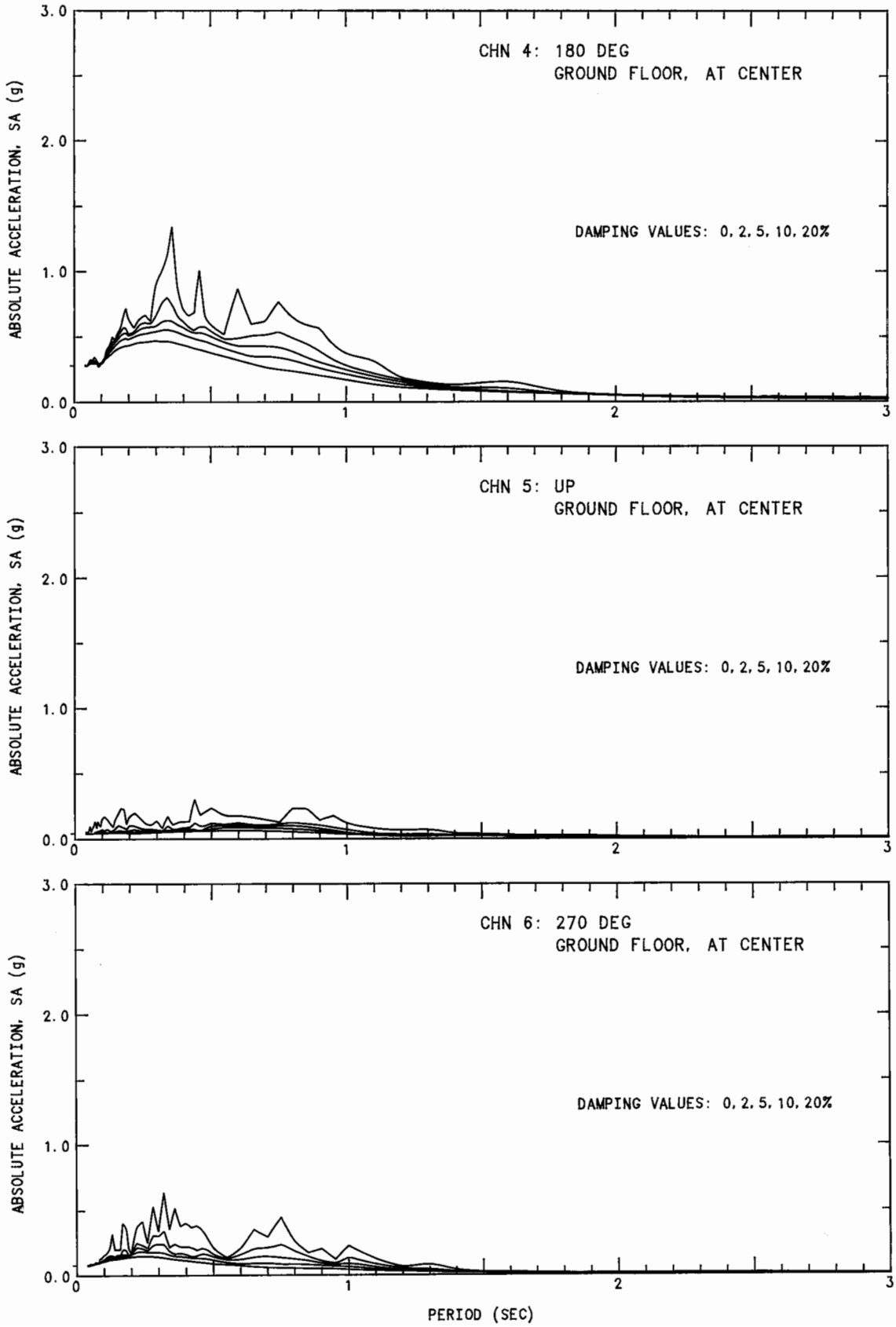
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
SAN RAMON - EASTMAN KODAK BLDG.
CHN 6: 270 DEG (GROUND FLOOR, AT CENTER)
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 HZ.
57187-C0105-80030.01 090788.1103-QL80B187



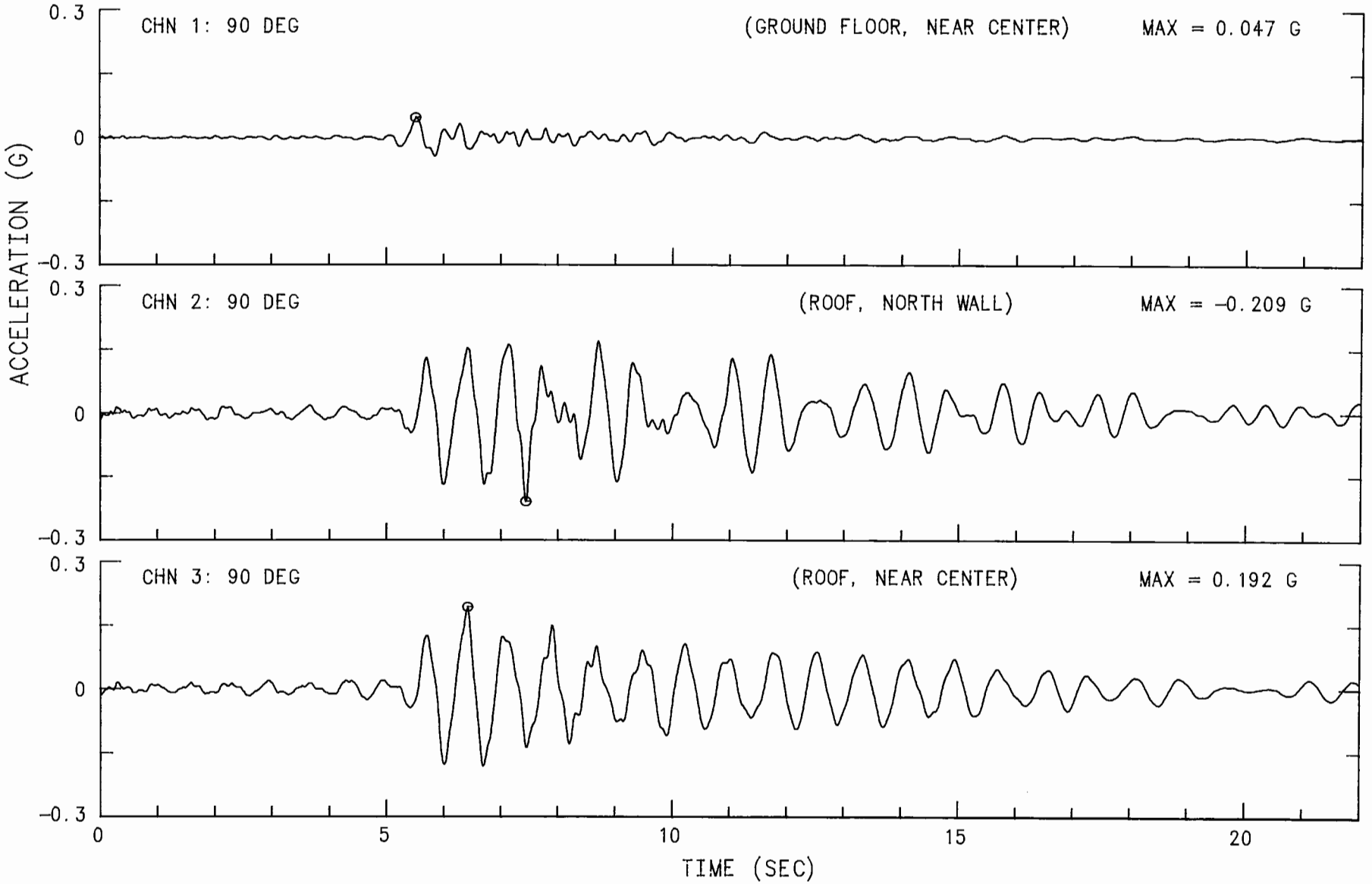
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
SAN RAMON - EASTMAN KODAK BLDG.
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 HZ.
57187-C0105-80030.01 090688.1103-QL80B187



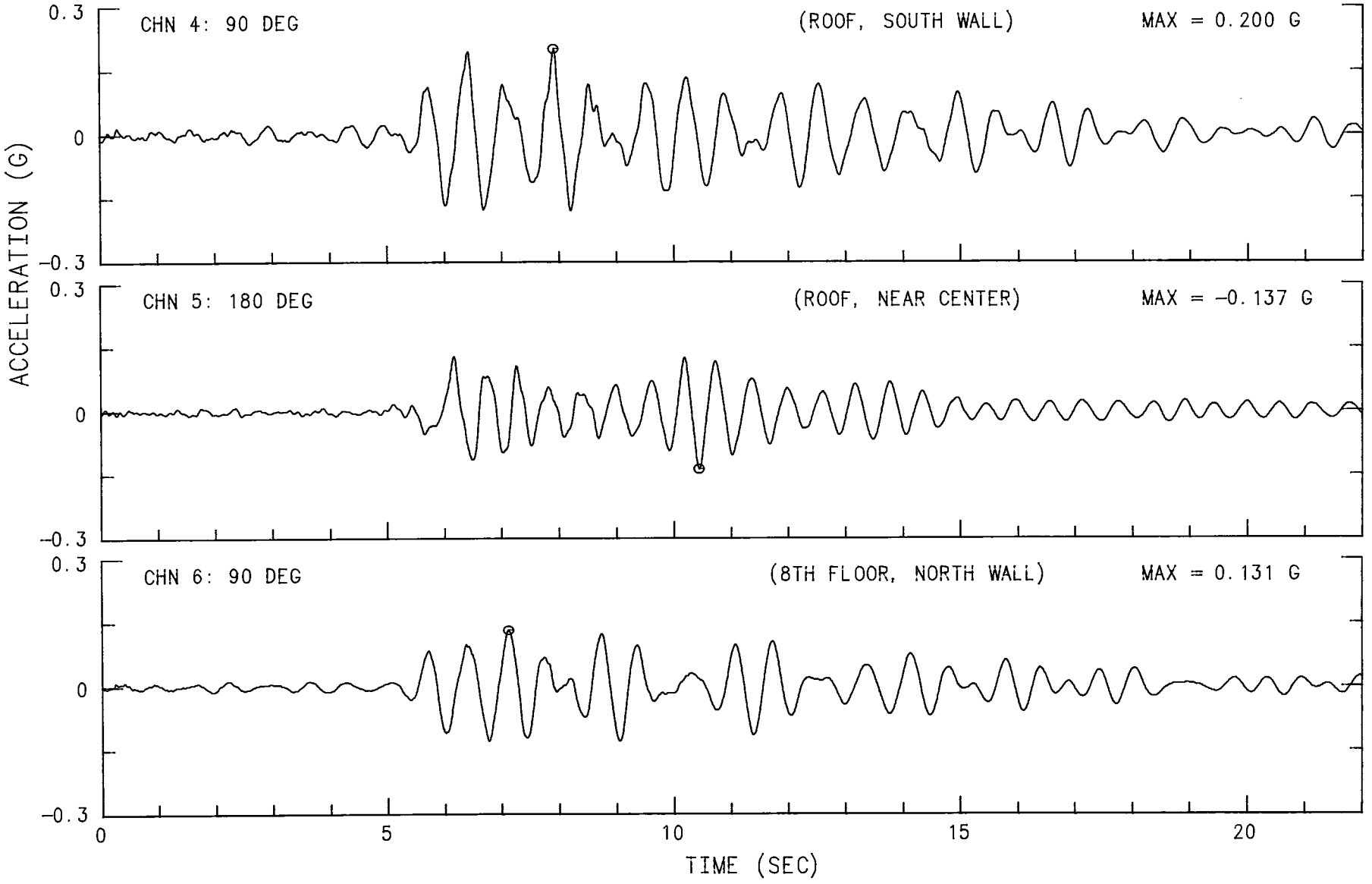
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
SAN RAMON - EASTMAN KODAK BLDG.
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 HZ.
57187-C0105-80030.01 090688.1103-QL80B187



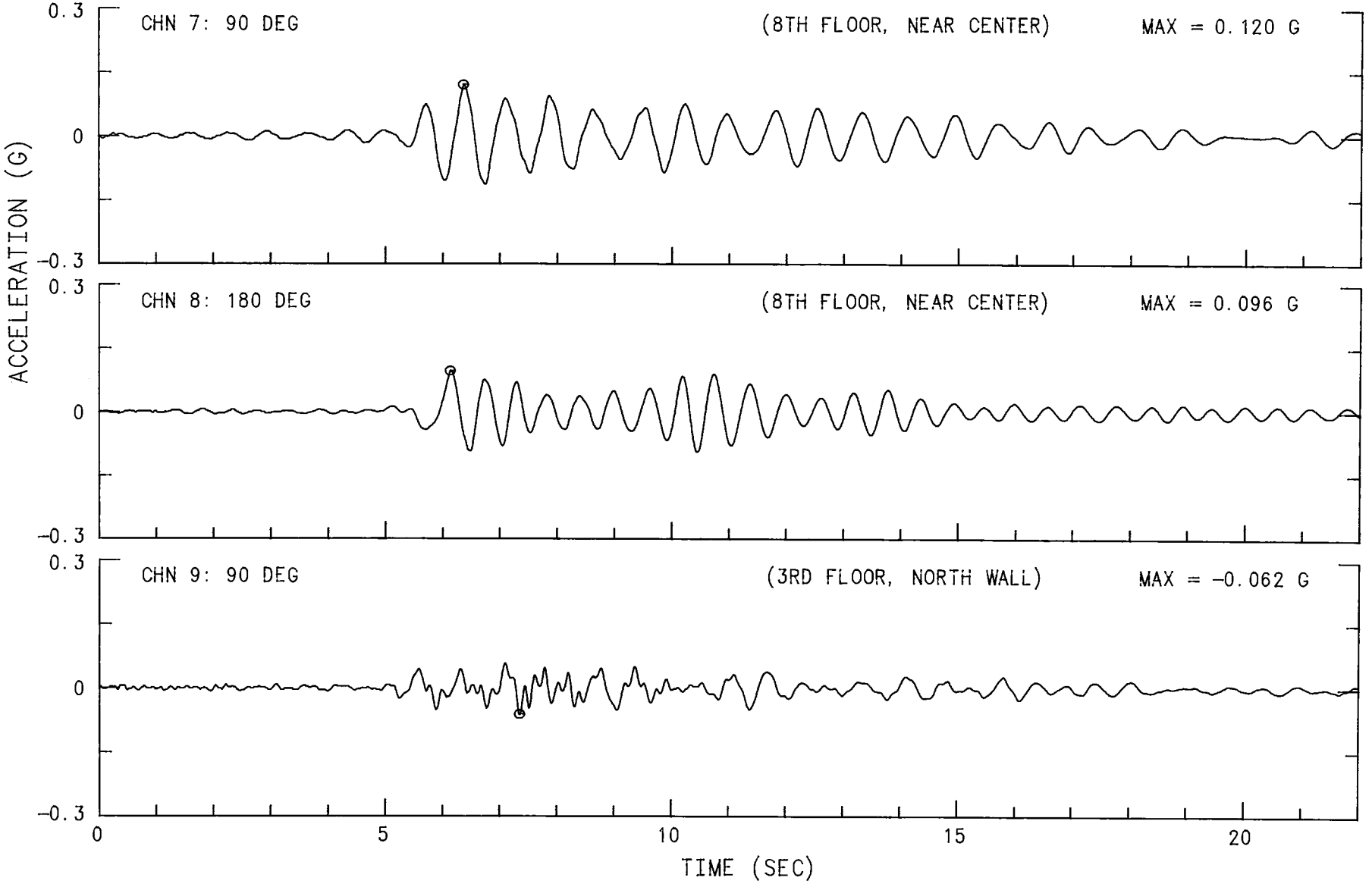
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG.
UNCORRECTED ACCELEROGRAM 58364-C0194-80030.01 110571.1532-QL80B364C



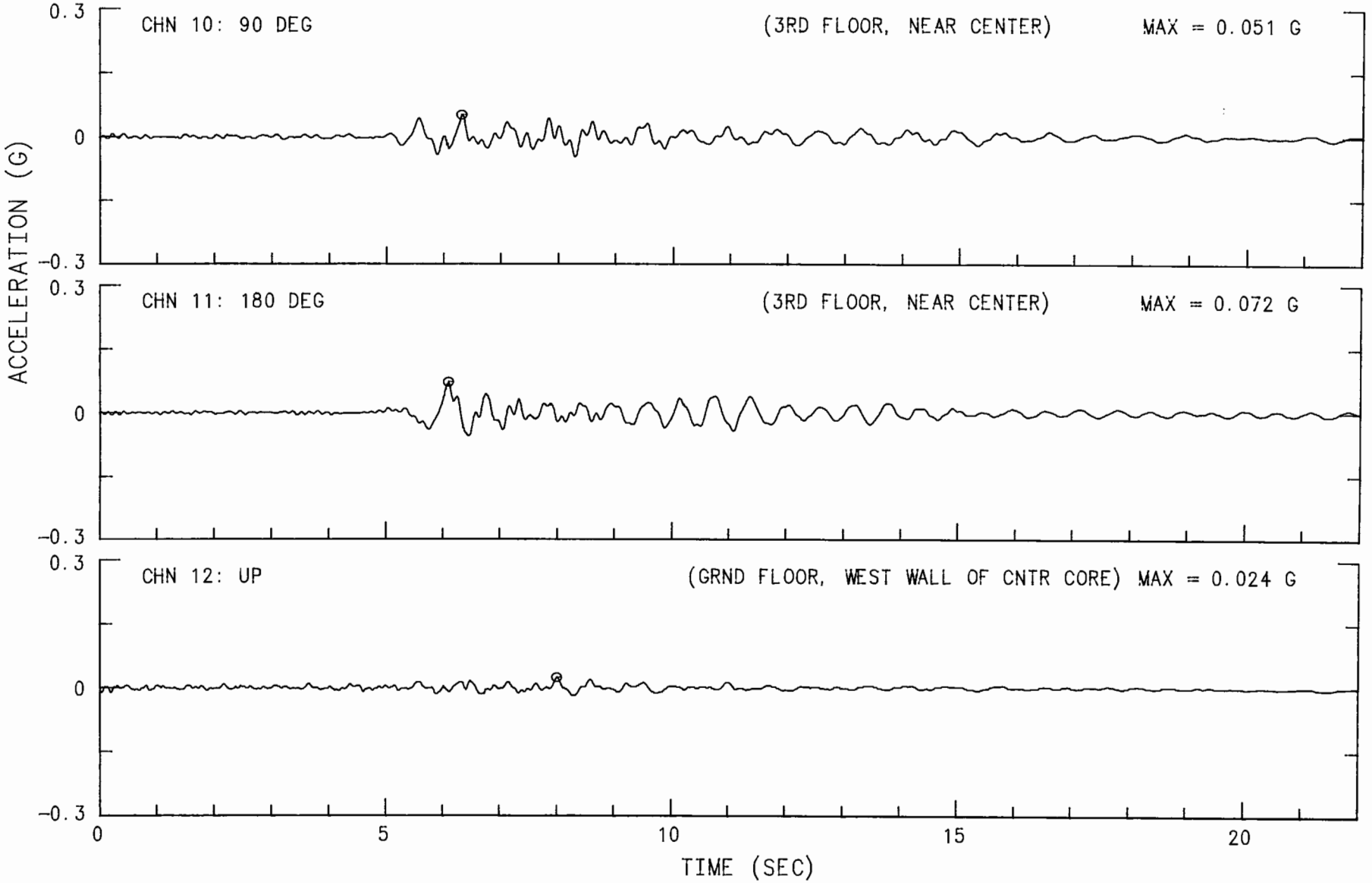
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG.
UNCORRECTED ACCELEROGRAM 58364-C0194-80030.01 110571.1532-QL80B364C



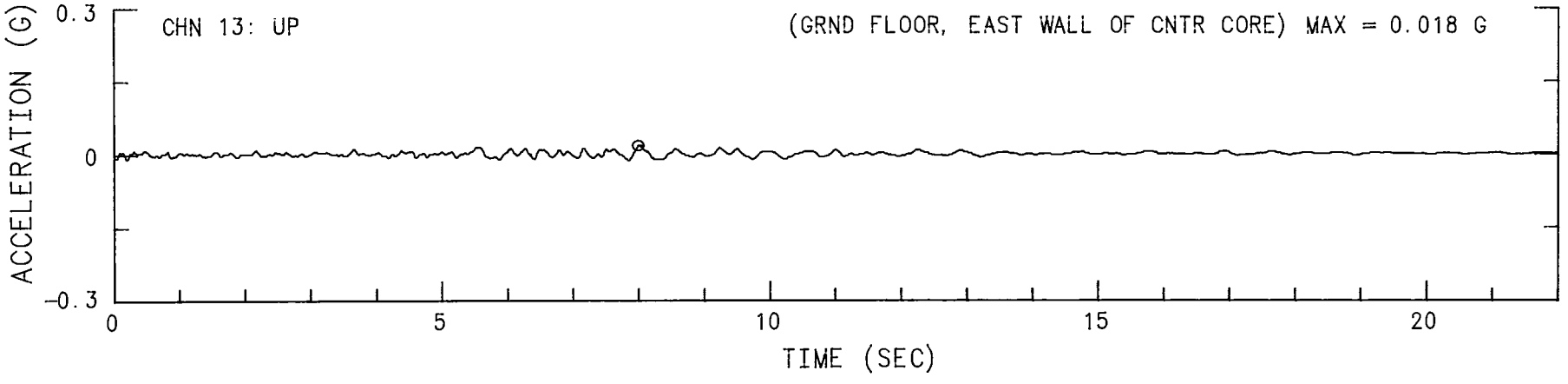
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG.
UNCORRECTED ACCELEROGRAM 58364-C0194-80030.01 110571.1532-QL80B364C



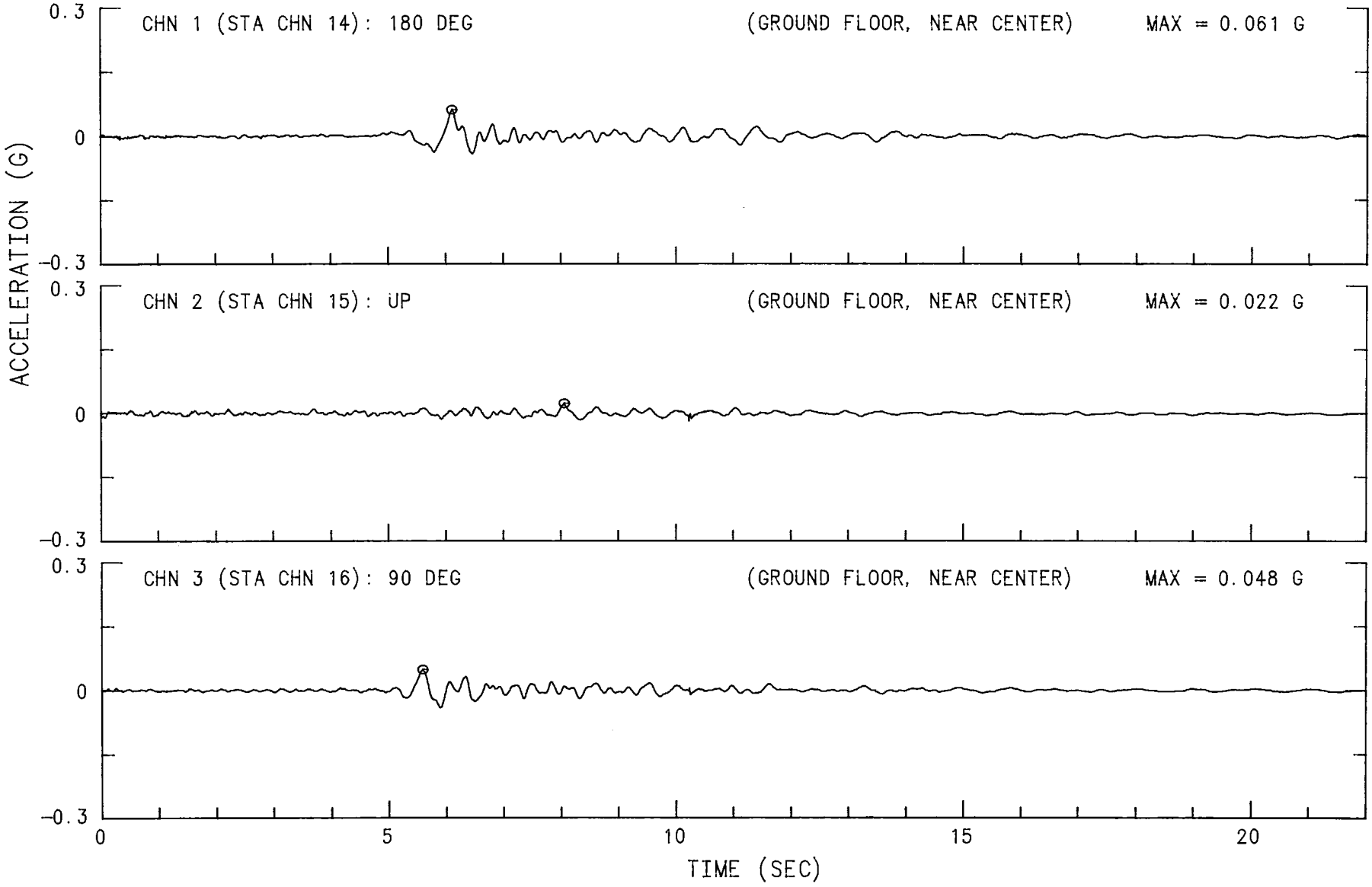
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG.
UNCORRECTED ACCELEROGRAM 58364-C0194-80030.01 110571.1532-QL80B364C



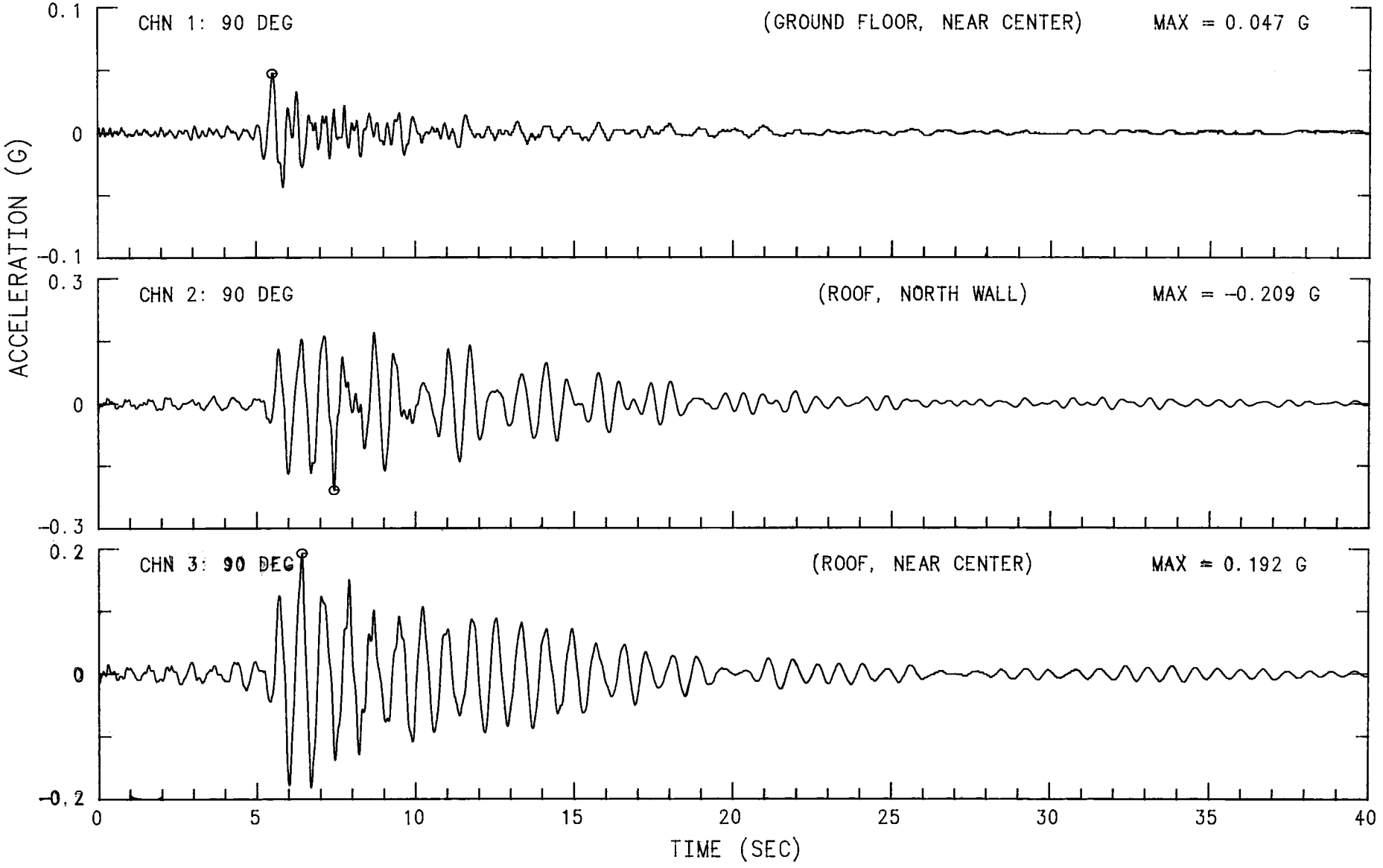
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG.
UNCORRECTED ACCELEROGRAM 58364-C0194-80030.01 110571.1532-QL80B364C



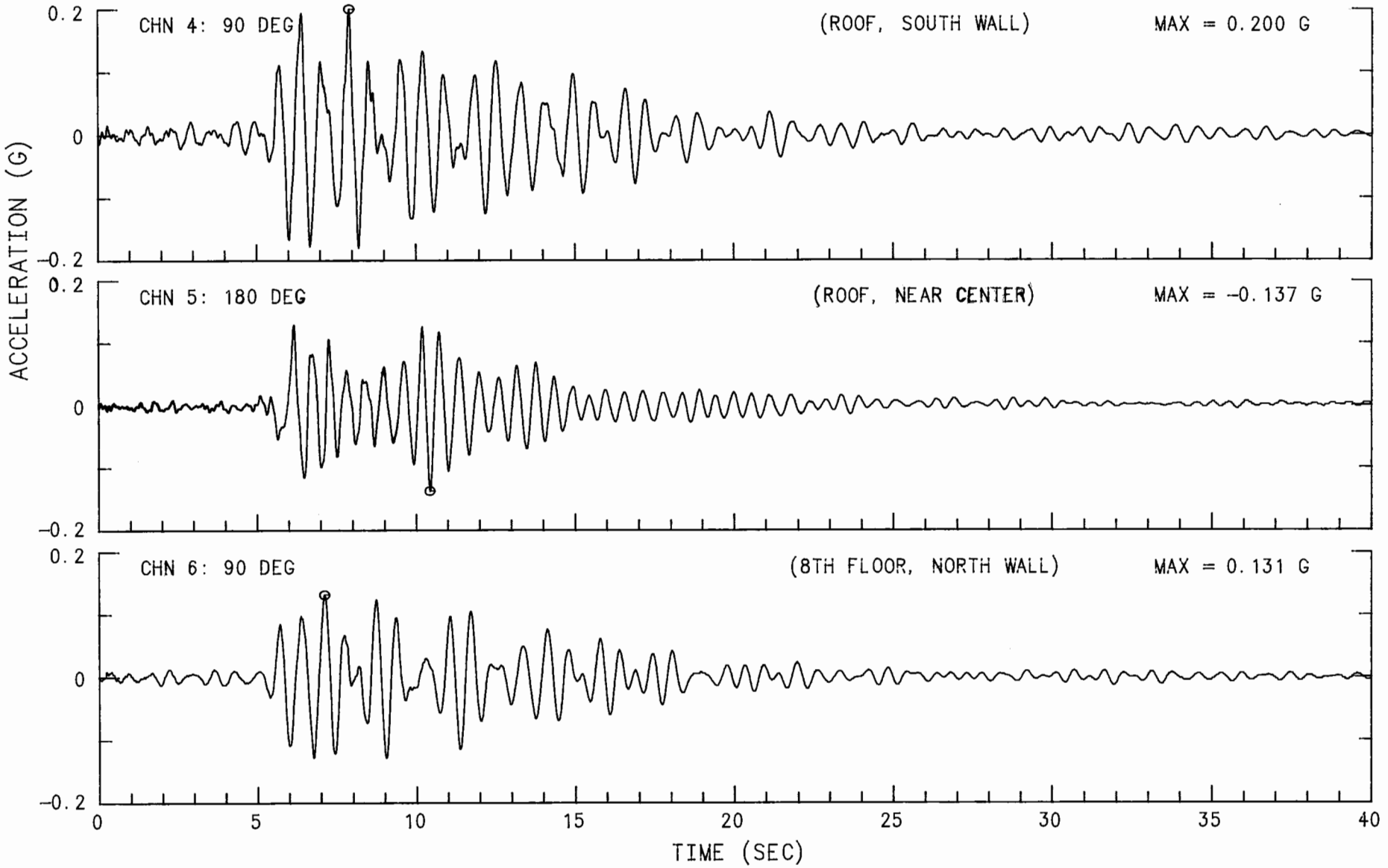
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG.
UNCORRECTED ACCELEROGRAM 58364-S3490-80030.01 110671.1653-QL80B364



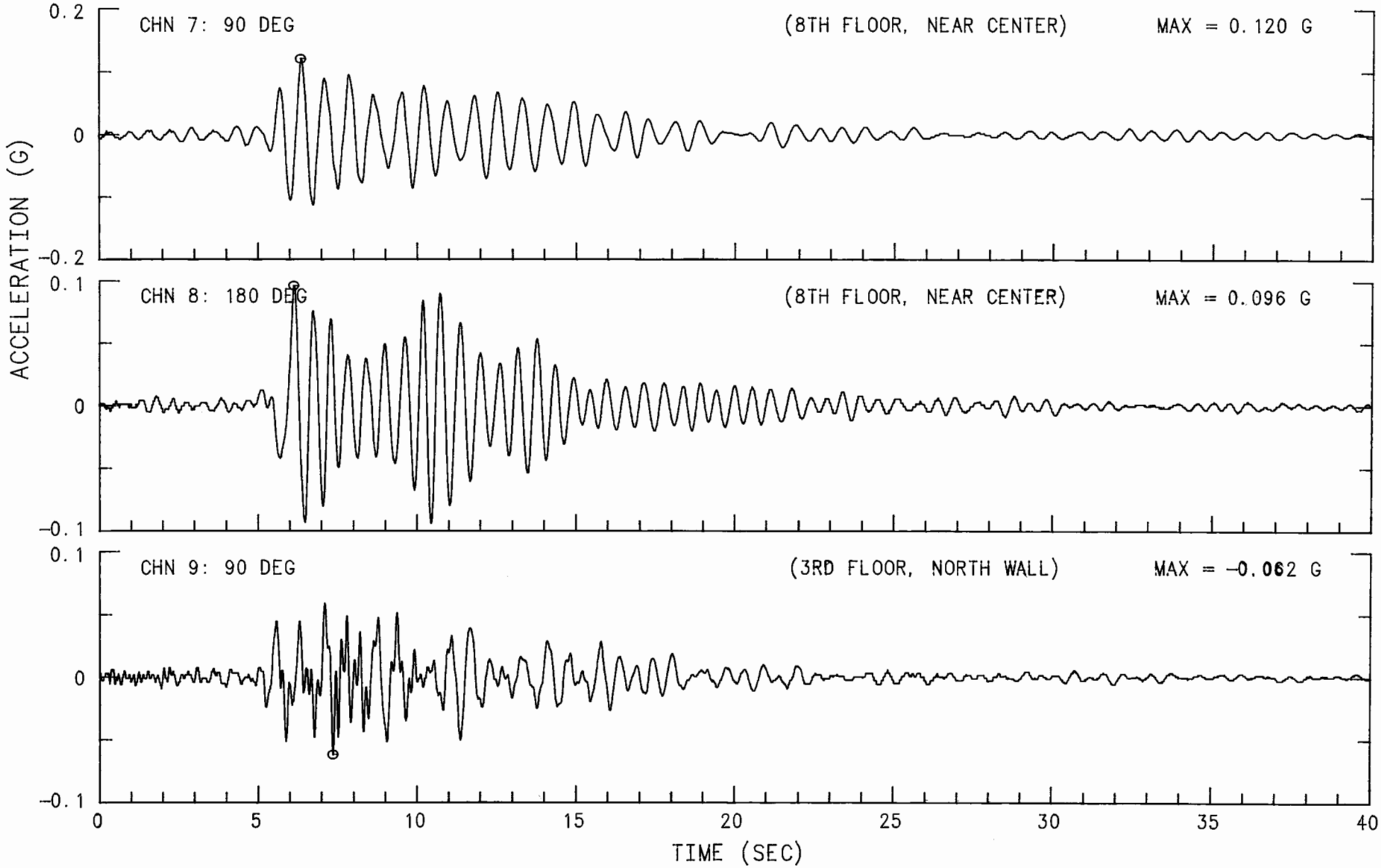
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG.
UNCORRECTED ACCELEROGRAM 58364-C0194-80030.01 110571.1532-QL80B364C



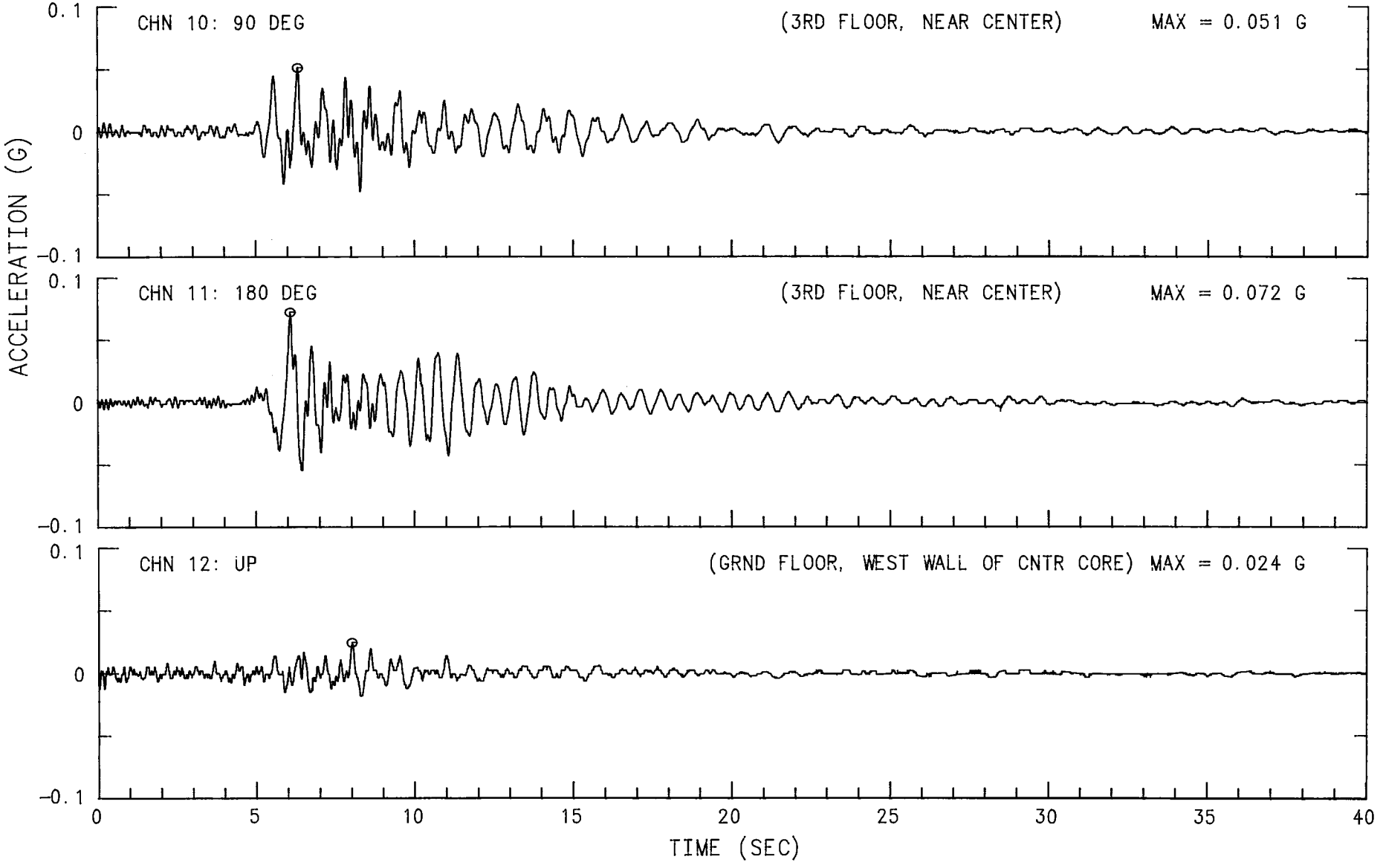
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG.
UNCORRECTED ACCELEROGRAM 58364-C0194-80030.01 110571.1532-QL80B364C



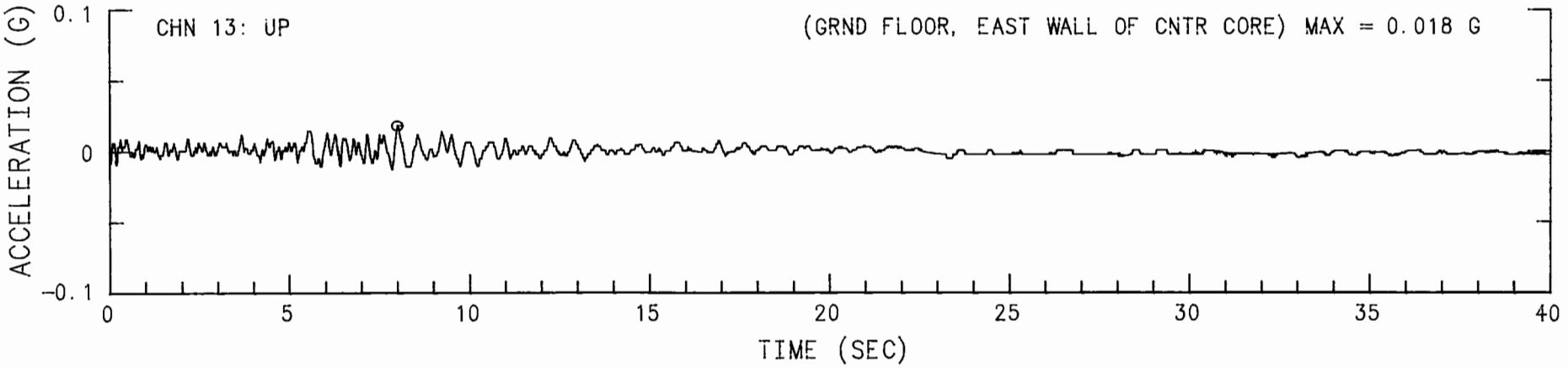
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK – 10-STORY COMMERCIAL BLDG.
UNCORRECTED ACCELEROGRAM 58364-C0194-80030.01 110571.1532-QL80B364C



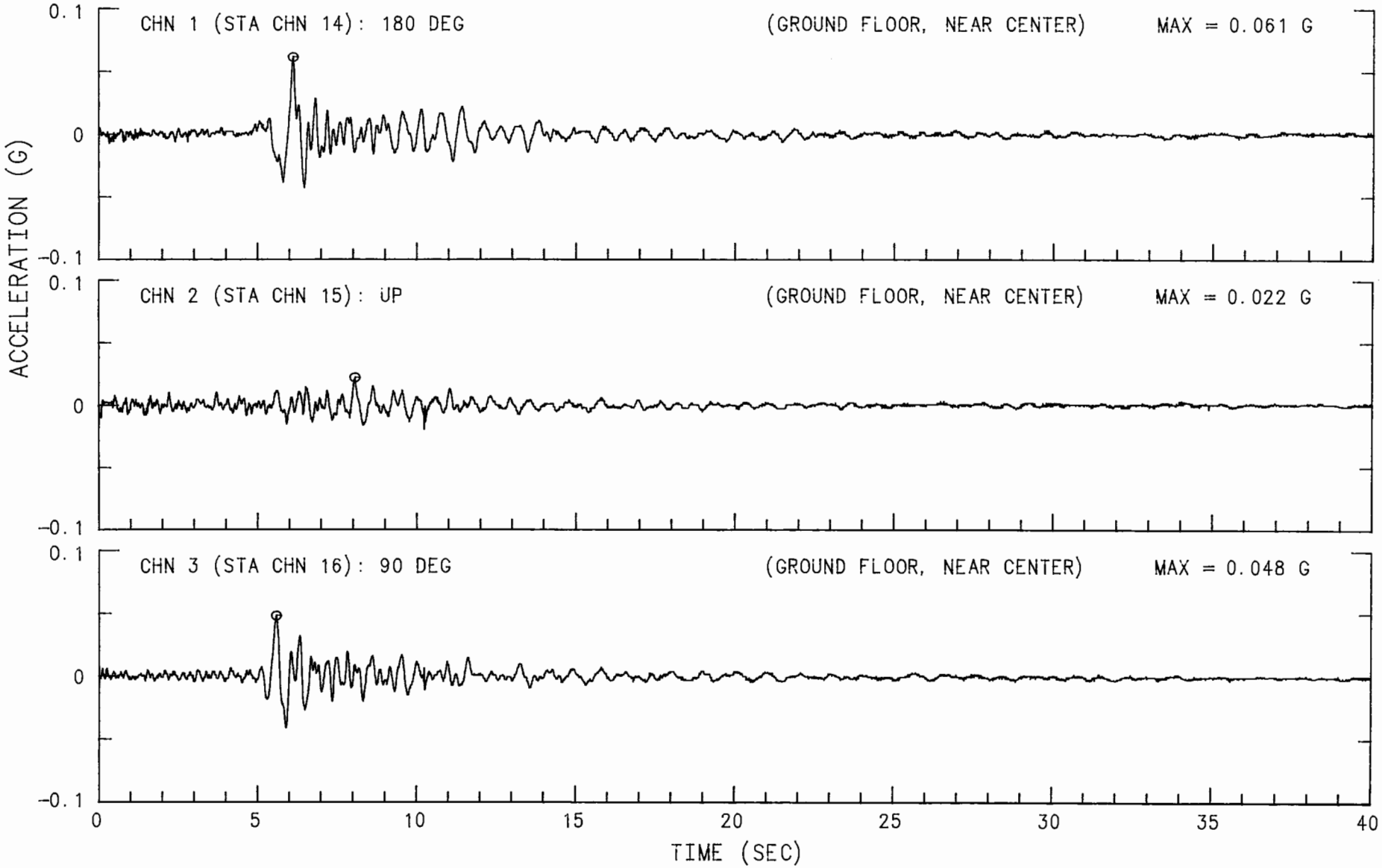
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG.
UNCORRECTED ACCELEROGRAM 58364-C0194-80030.01 110571.1532-QL80B364C



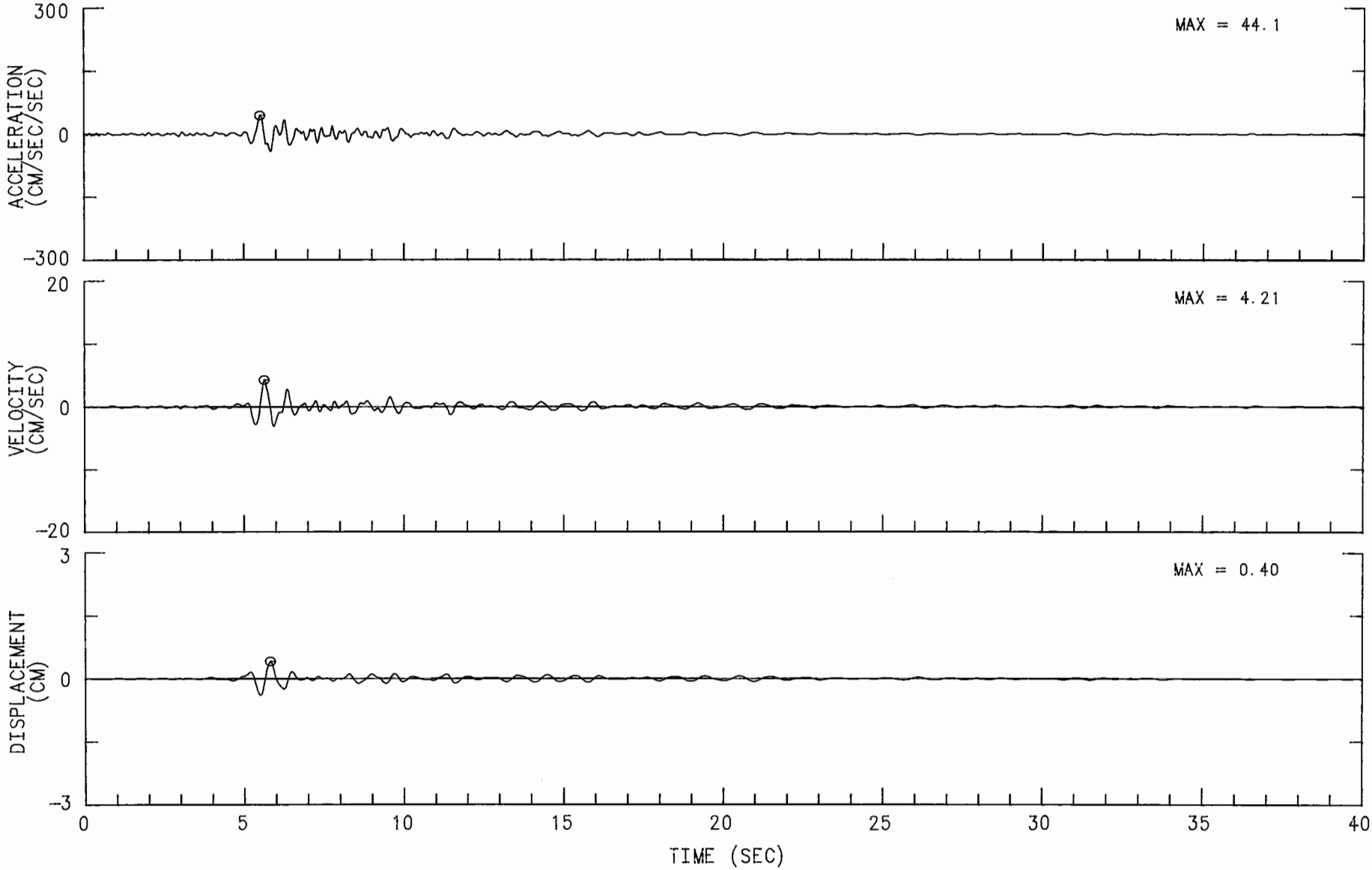
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG.
UNCORRECTED ACCELEROGRAM 58364-C0194-80030.01 110571.1532-QL80B364C



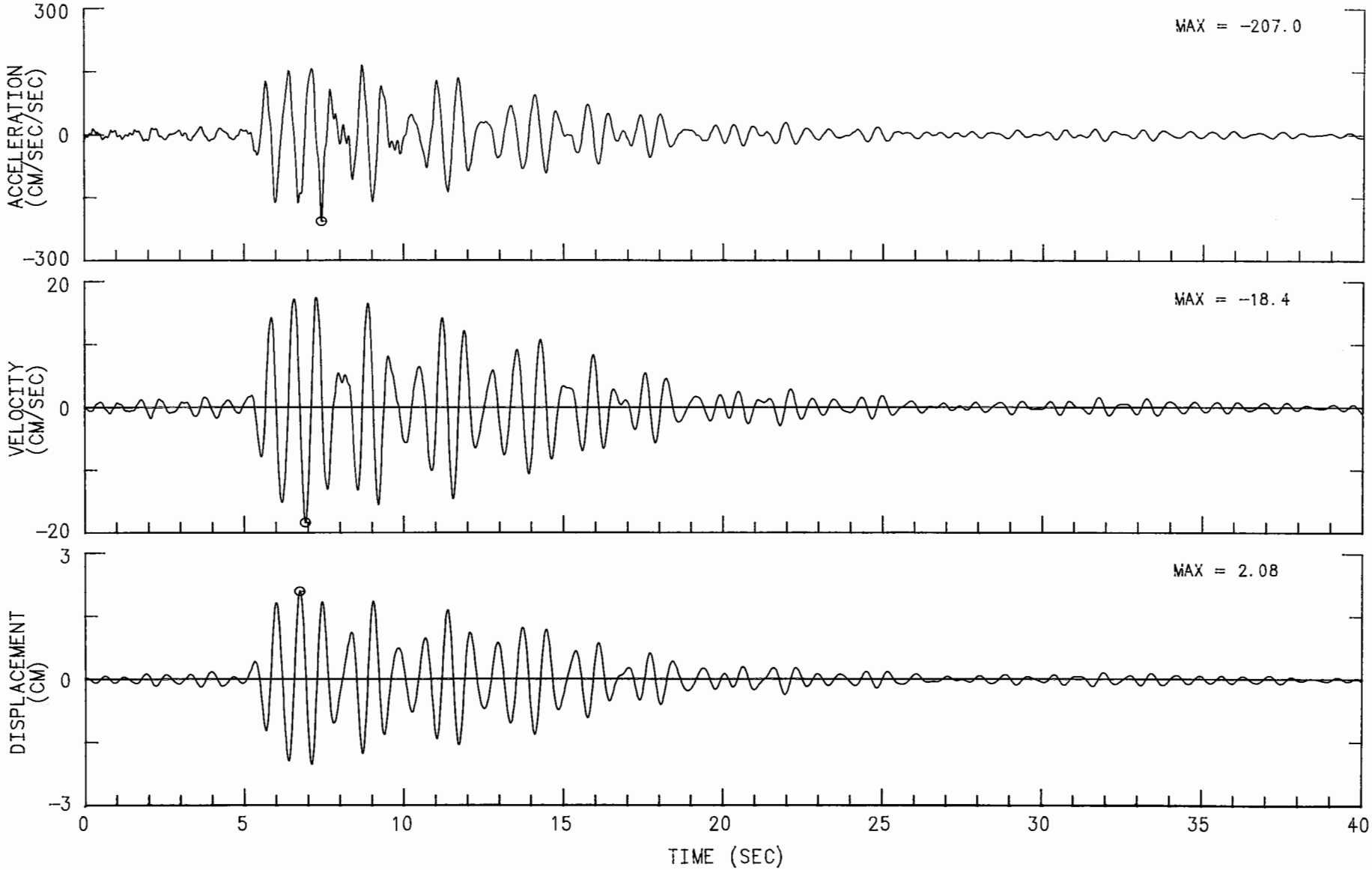
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG.
UNCORRECTED ACCELEROGRAM 58364-S3490-80030.01 110671.1653-QL80B364



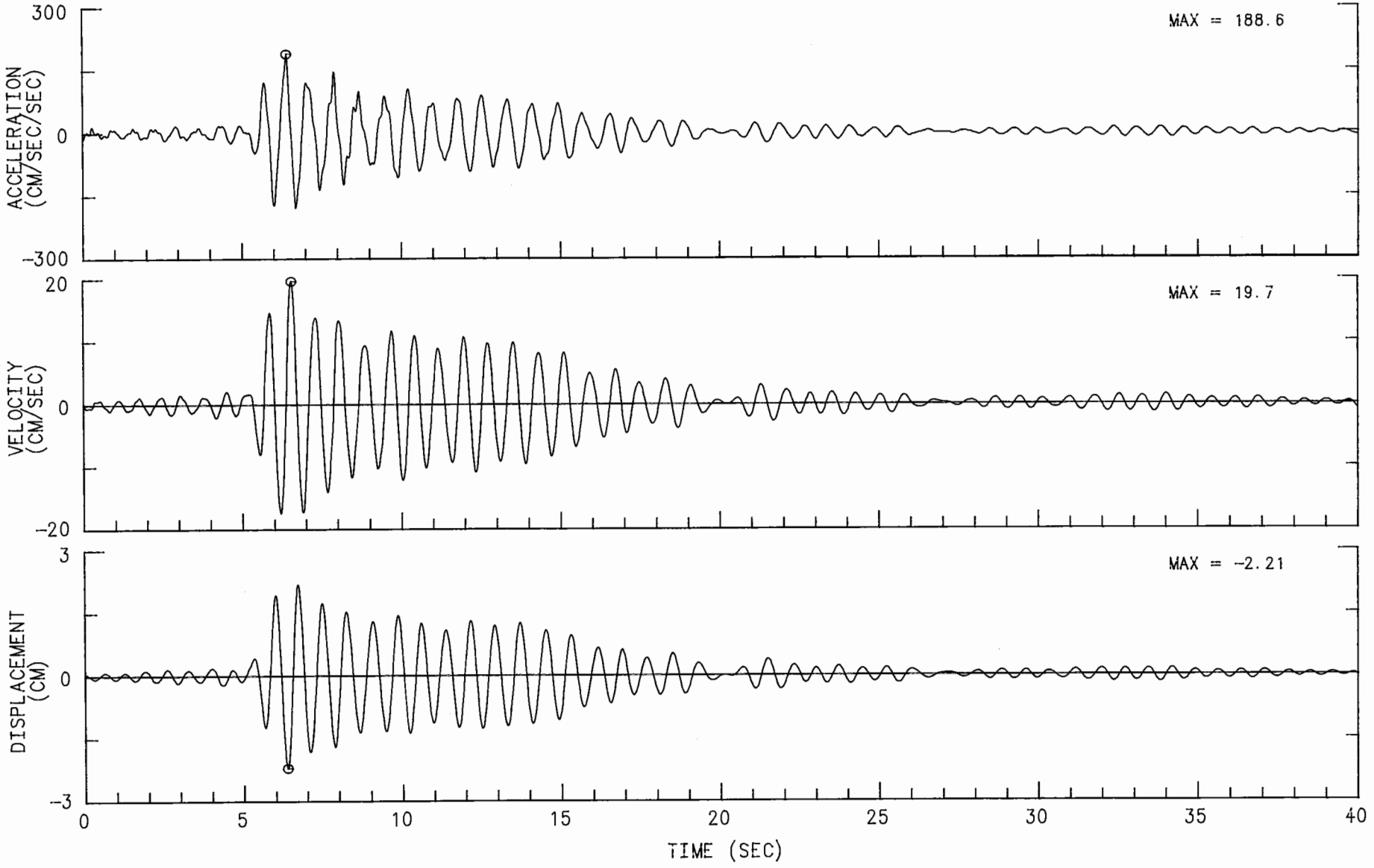
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG. CHN 1: 90 DEG (GROUND FLOOR, NEAR CENTER)
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .50-1.00 TO 23.0-25.0 HZ. 58364-C0194-80030.01 110671.2046-QL80B364C



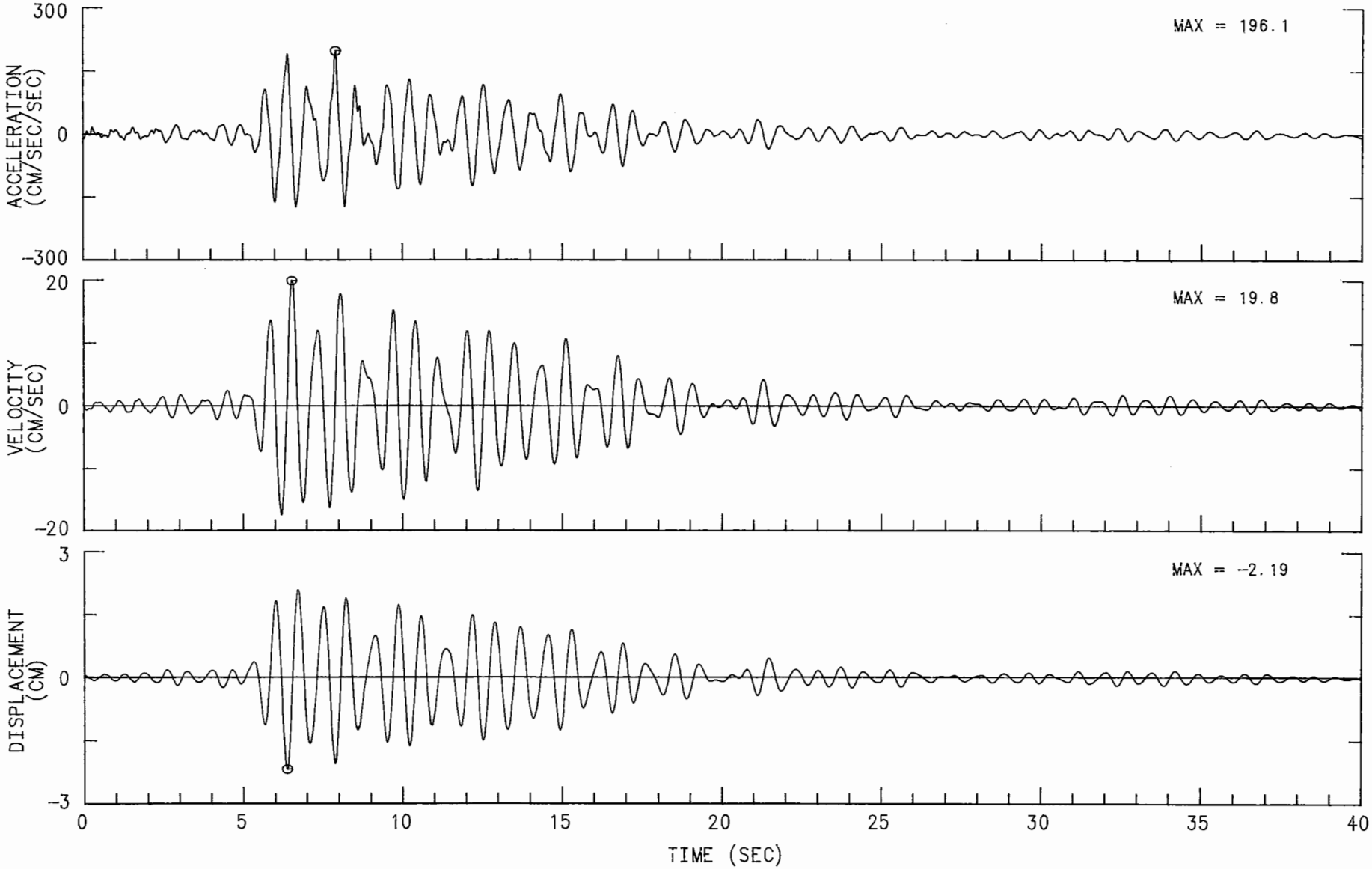
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG. CHN 2: 90 DEG (ROOF, NORTH WALL)
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .50-1.00 TO 23.0-25.0 HZ. 58364-C0194-80030.01 110671.2046-QL80B364C



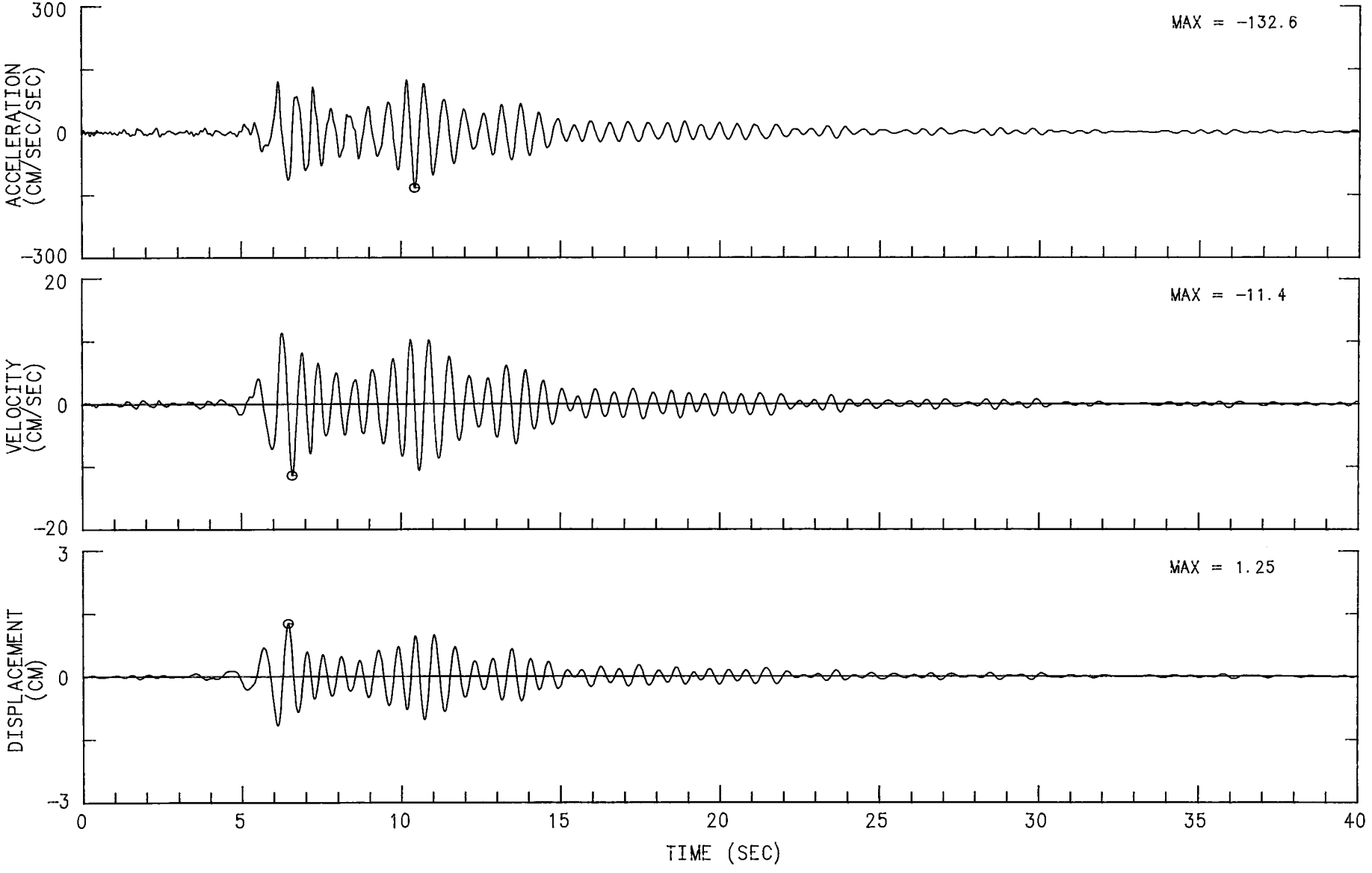
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG. CHN 3: 90 DEG (ROOF, NEAR CENTER)
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .50-1.00 TO 23.0-25.0 HZ. 58364-C0194-80030.01 110671.2046-QL80B364C



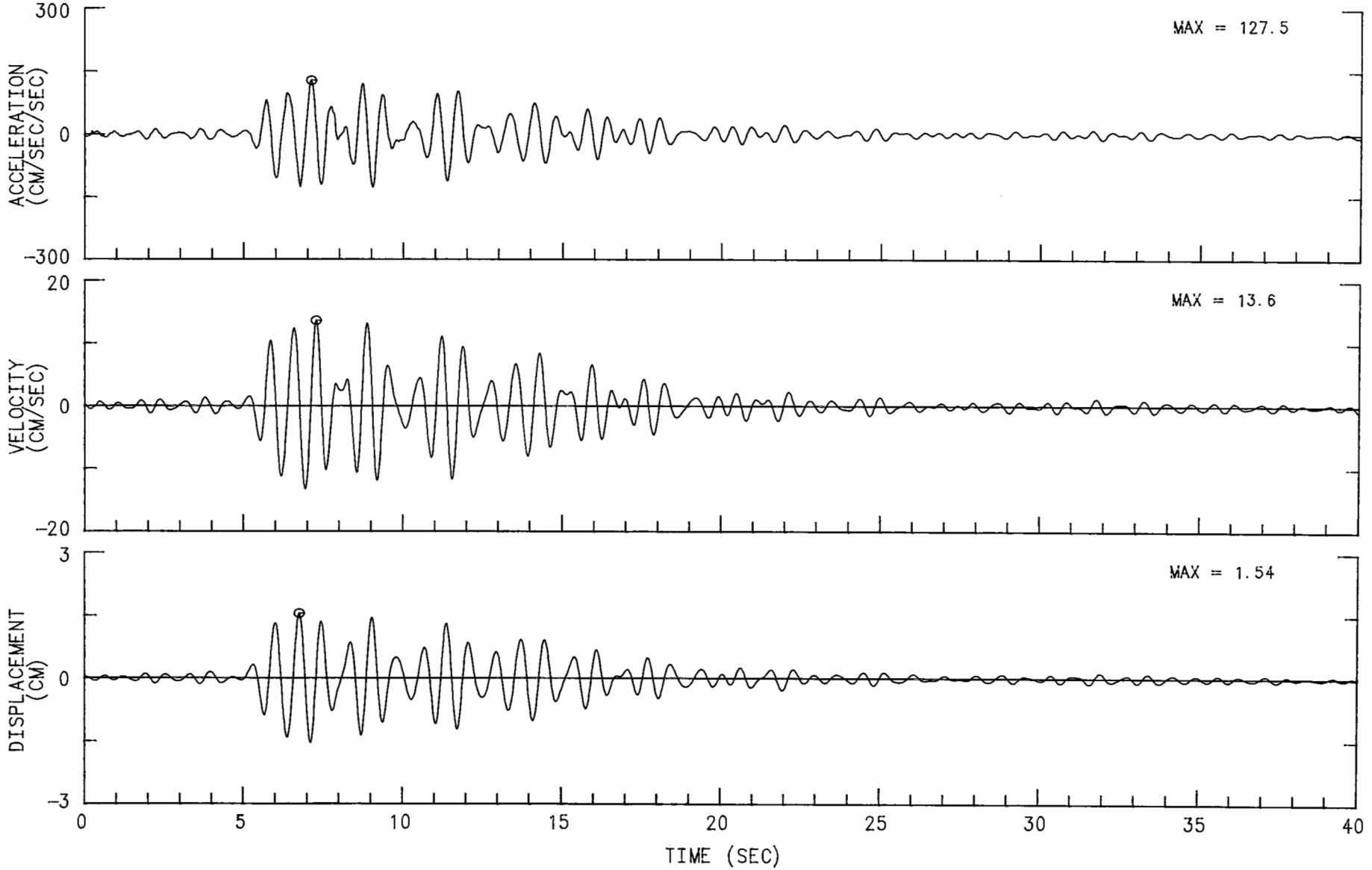
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG. CHN 4: 90 DEG (ROOF, SOUTH WALL)
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .50-1.00 TO 23.0-25.0 HZ. 58364-C0194-80030.01 110671.2046-QL80B364C



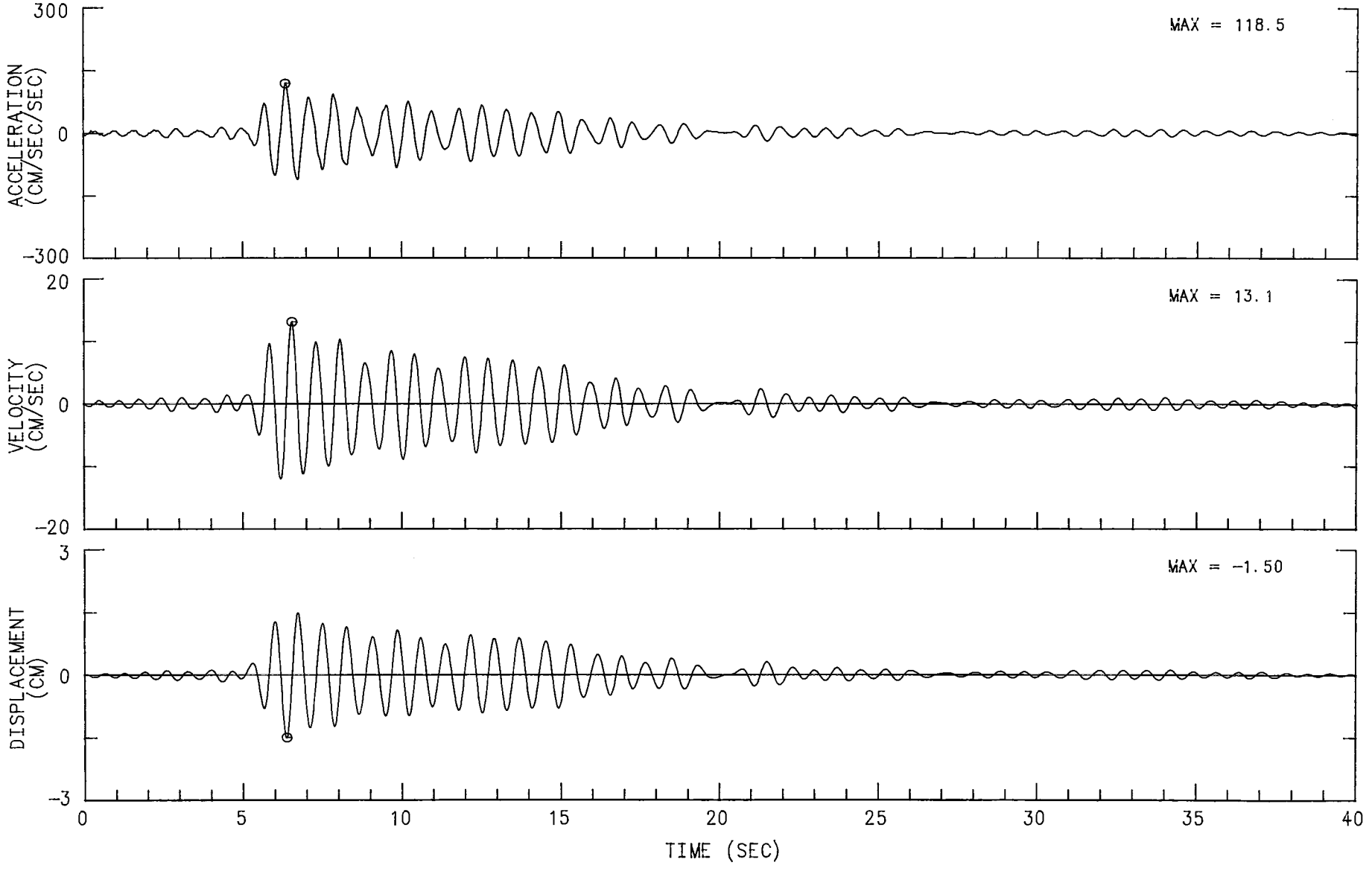
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK – 10-STORY COMMERCIAL BLDG. CHN 5: 180 DEG (ROOF, NEAR CENTER)
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .50-1.00 TO 23.0-25.0 HZ. 58364-C0194-80030.01 110671.2046-QL80B364C



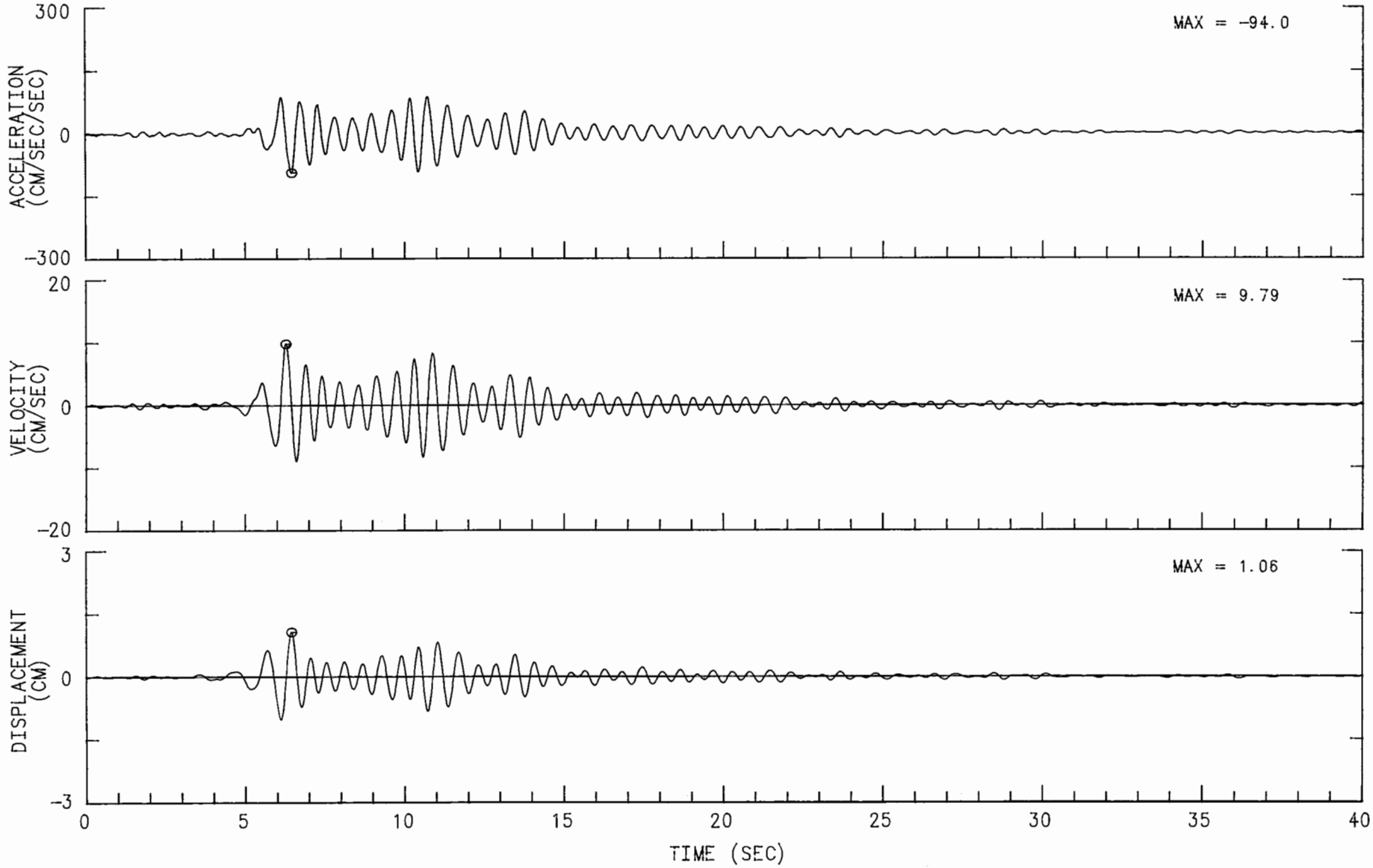
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK – 10-STORY COMMERCIAL BLDG. CHN 6: 90 DEG (8TH FLOOR, NORTH WALL)
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .50-1.00 TO 23.0-25.0 HZ. 58364-C0194-80030.01 110671.2046-QL80B364C



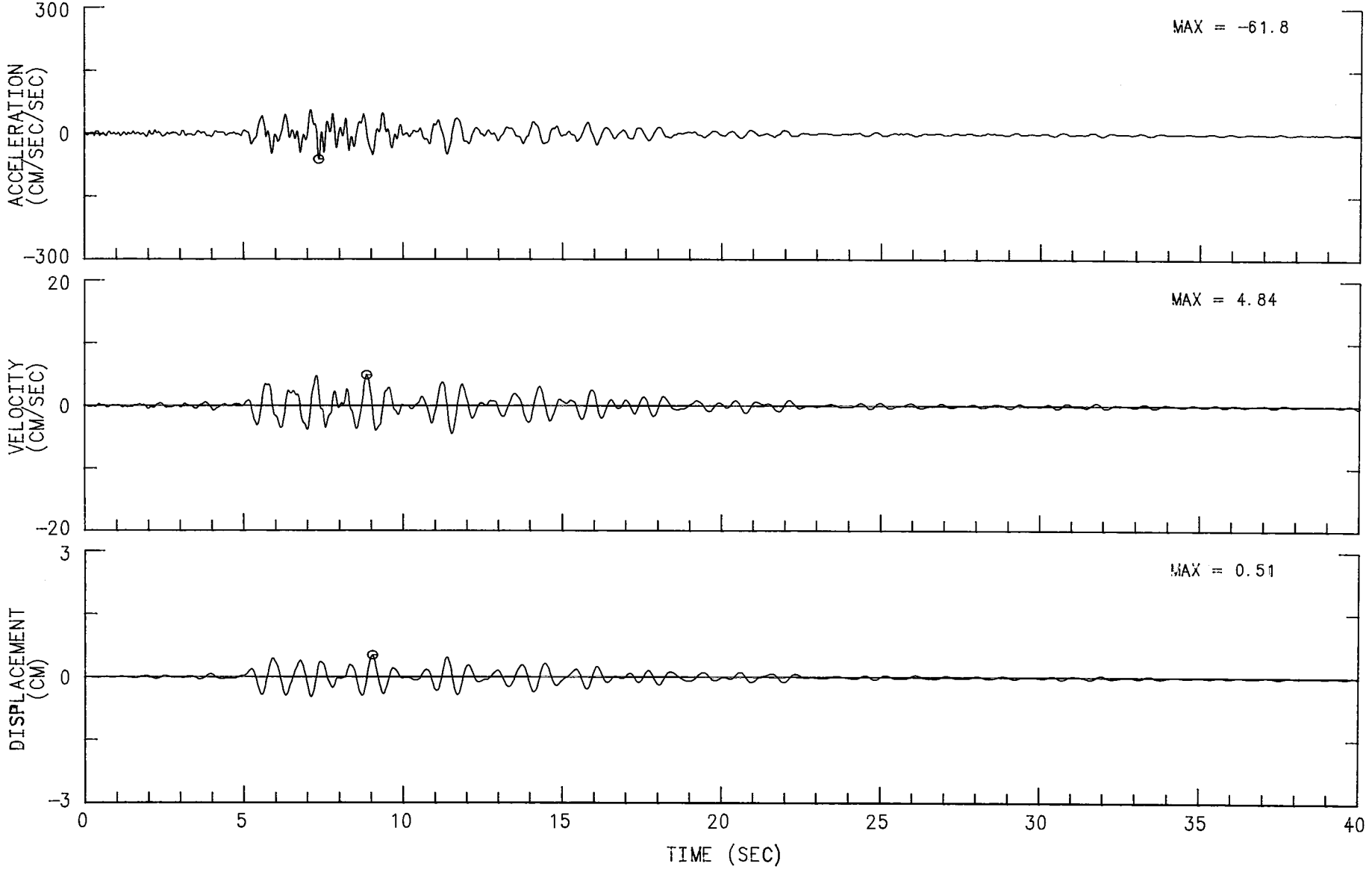
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG. CHN 7: 90 DEG (8TH FLOOR, NEAR CENTER)
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .50-1.00 TO 23.0-25.0 HZ. 58364-C0194-80030.01 110671.2046-QL80B364C



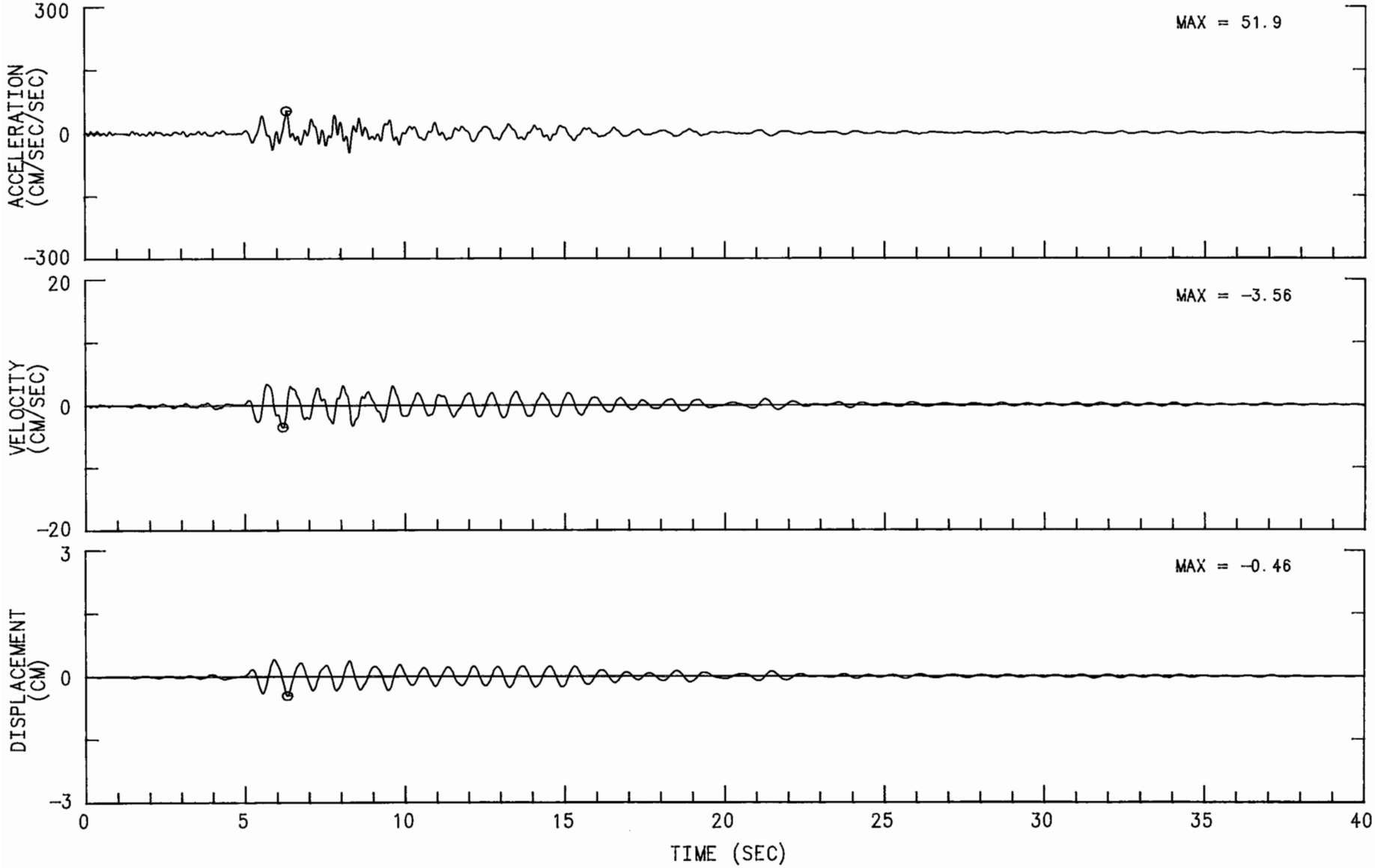
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG. CHN 8: 180 DEG (8TH FLOOR, NEAR CENTER)
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .50-1.00 TO 23.0-25.0 HZ. 58364-C0194-80030.01 110671.2046-QL80B364C



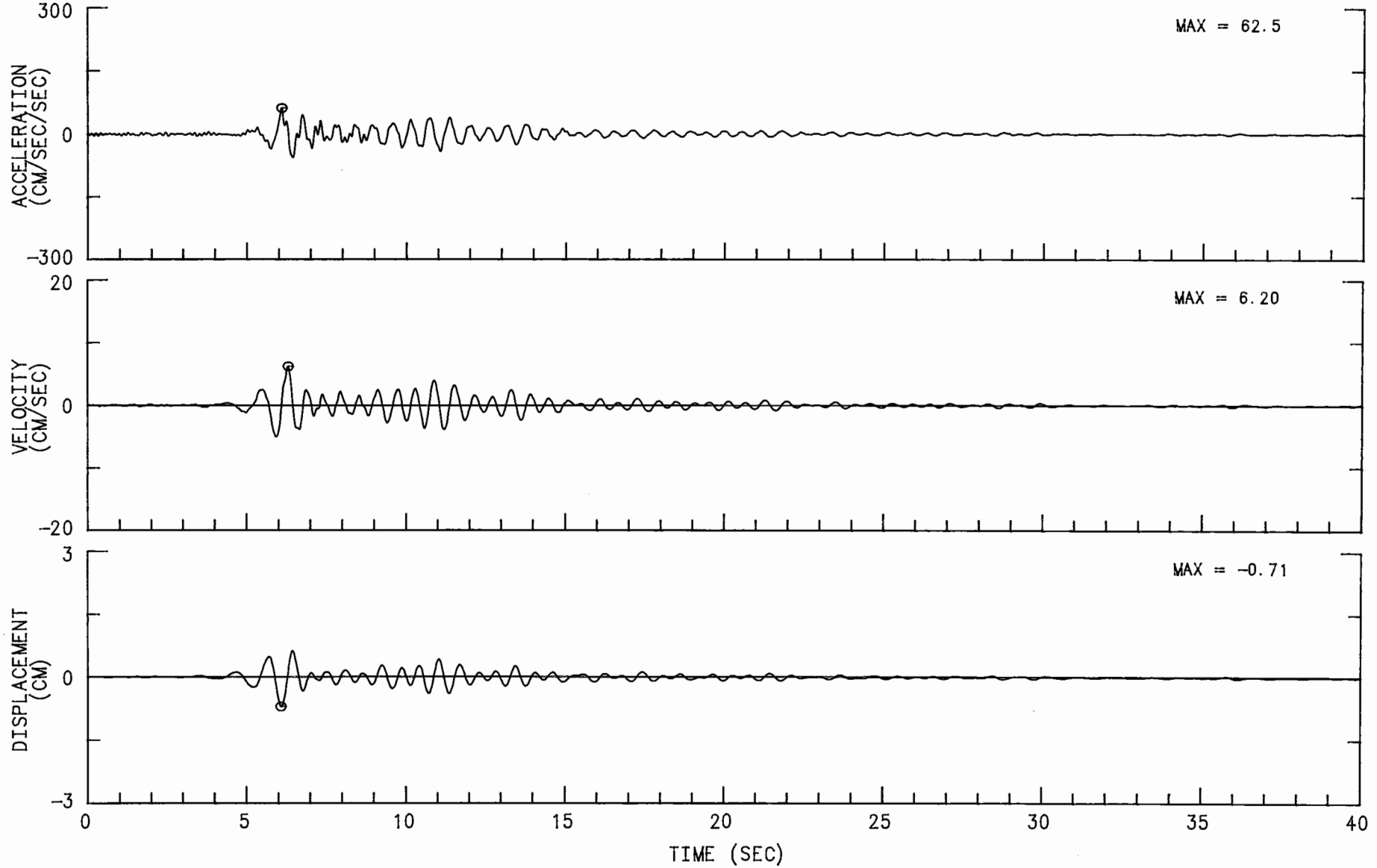
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG. CHN 9: 90 DEG (3RD FLOOR, NORTH WALL)
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .50-1.00 TO 23.0-25.0 HZ. 58364-C0194-80030.01 110671.2046-QL80B364C



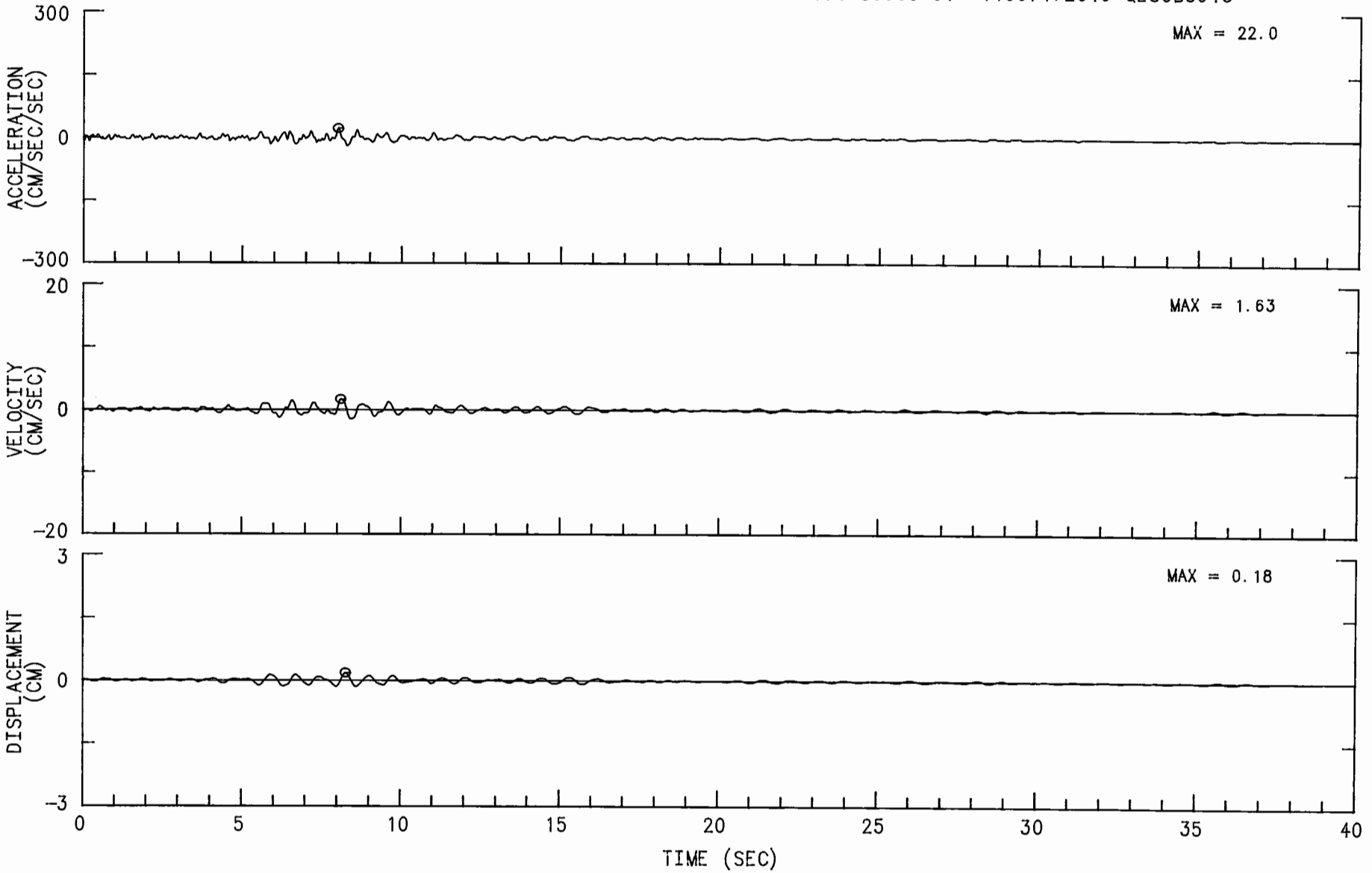
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG. CHN 10: 90 DEG (3RD FLOOR, NEAR CENTER)
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .50-1.00 TO 23.0-25.0 HZ. 58364-C0194-80030.01 110671.2046-QL80B364C



LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG. CHN 11: 180 DEG (3RD FLOOR, NEAR CENTER)
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .50-1.00 TO 23.0-25.0 HZ. 58364-C0194-80030.01 110671.2046-QL80B364C



LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG. CHN 12: UP (GRND FLOOR, WEST WALL OF CNTR CORE)
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .50-1.00 TO 23.0-25.0 HZ. 58364-C0194-80030.01 110671.2046-QL80B364C

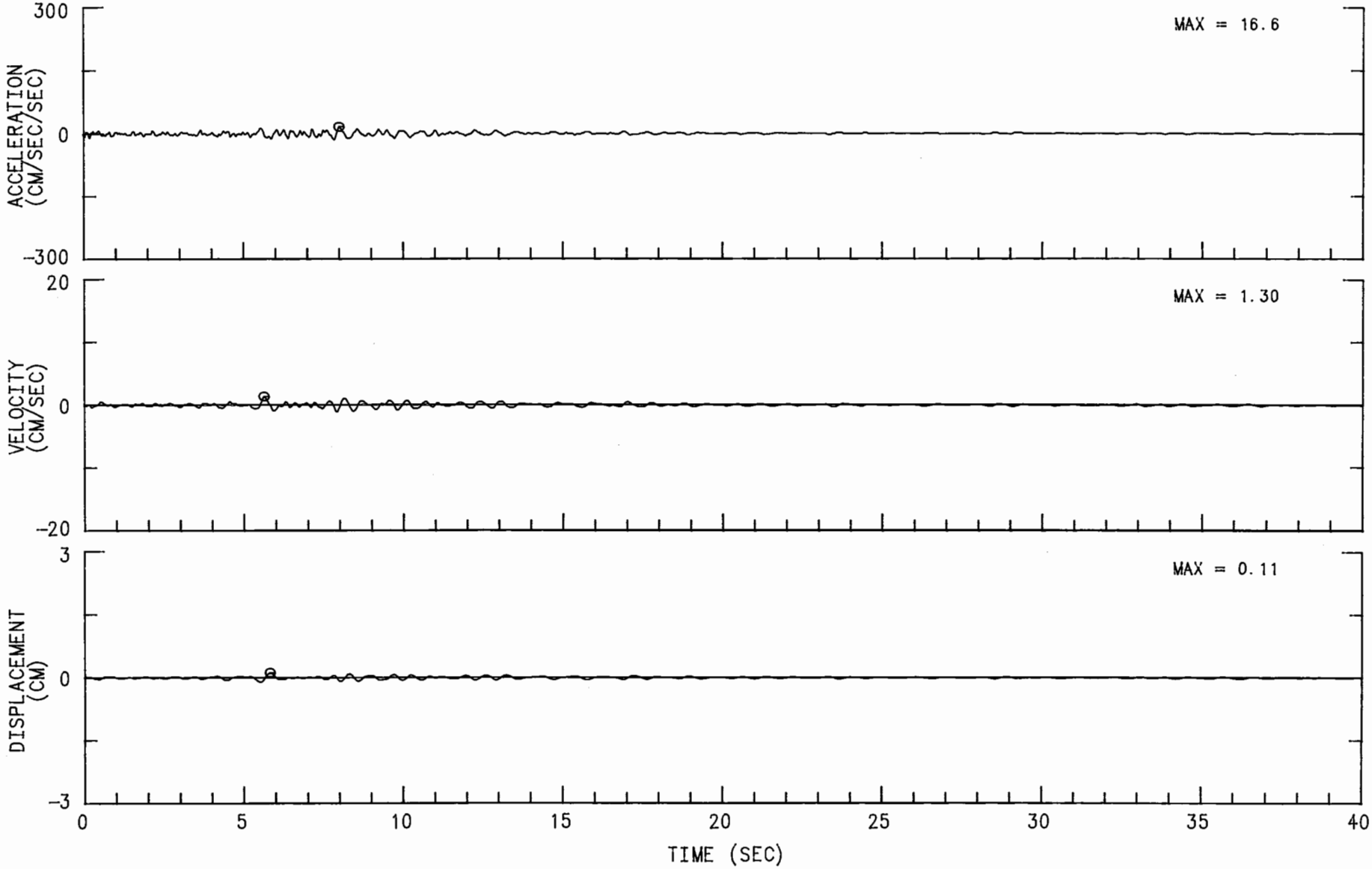


LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST

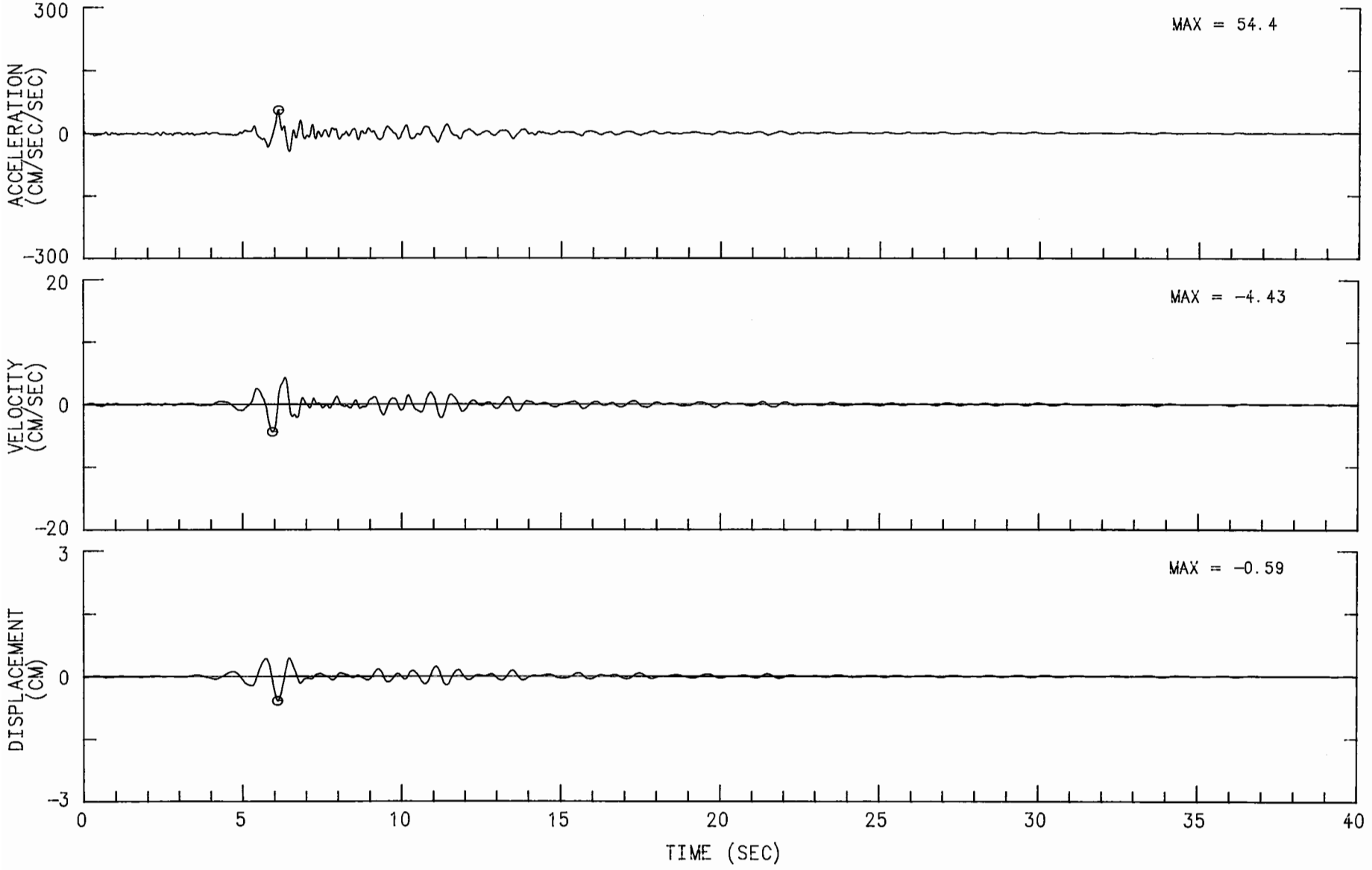
WALNUT CREEK - 10-STORY COMMERCIAL BLDG. CHN 13: UP (GRND FLOOR, EAST WALL OF CNTR CORE)

INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT

FILTER BAND: .50-1.00 TO 23.0-25.0 HZ. 58364-C0194-80030.01 110671.2046-QL80B364C



LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG. CHN 1 (STA CHN 14): 180 DEG (GROUND FLOOR, NEAR CENTER)
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .50-1.00 TO 23.0-25.0 HZ. 58364-S3490-80030.01 110671.1800-QL80B364

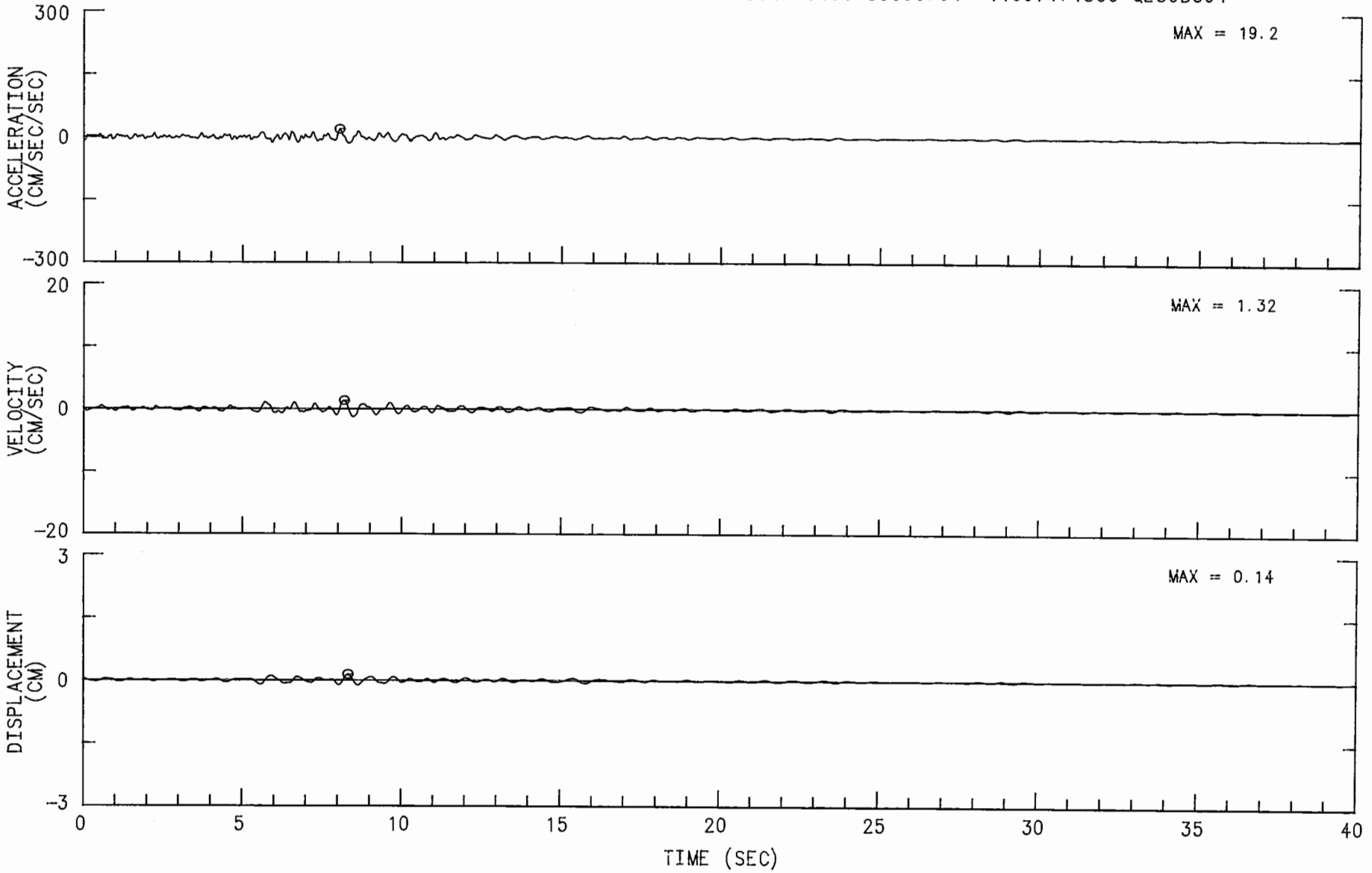


LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST

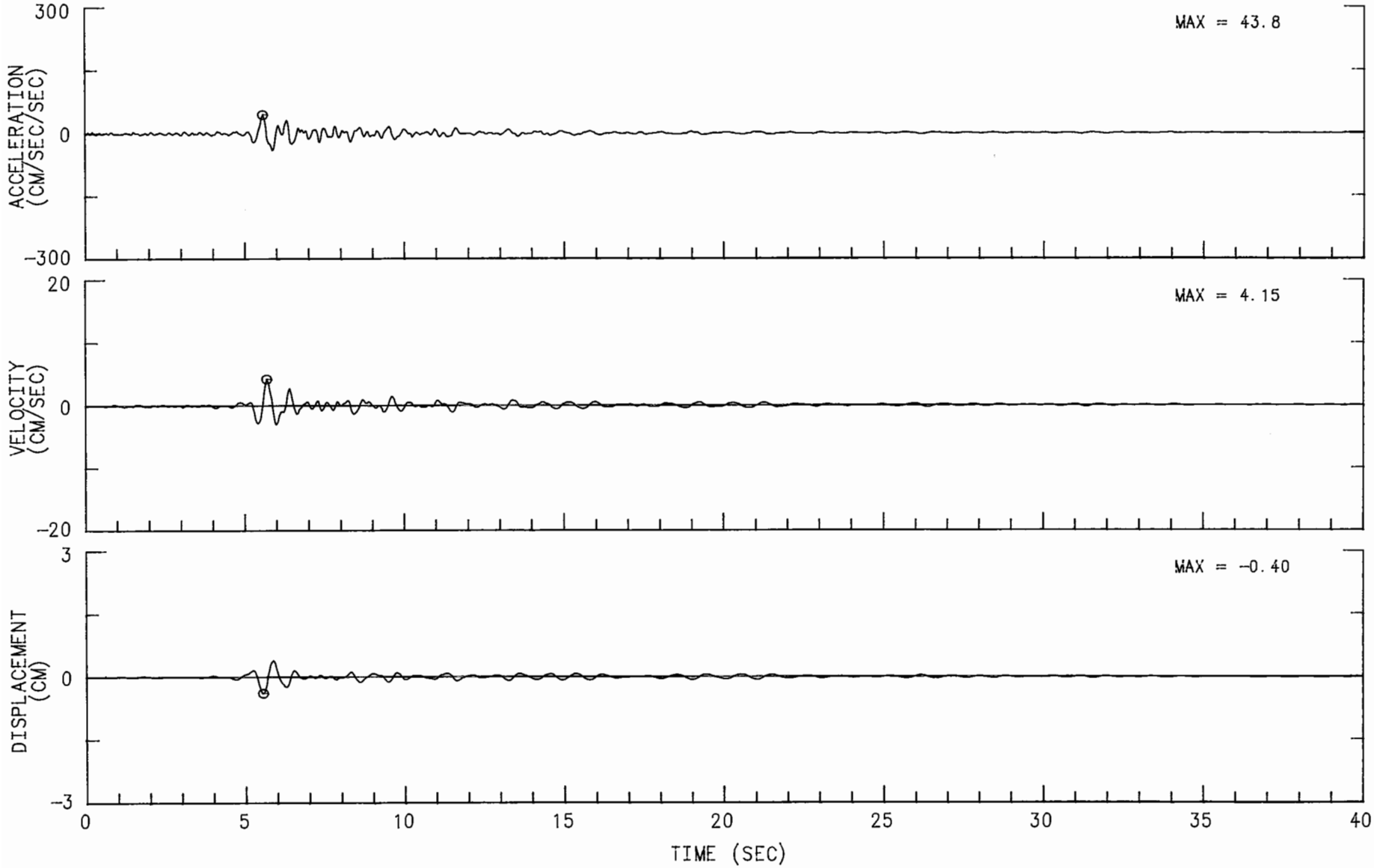
WALNUT CREEK - 10-STORY COMMERCIAL BLDG. CHN 2 (STA CHN 15): UP (GROUND FLOOR, NEAR CENTER)

INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT

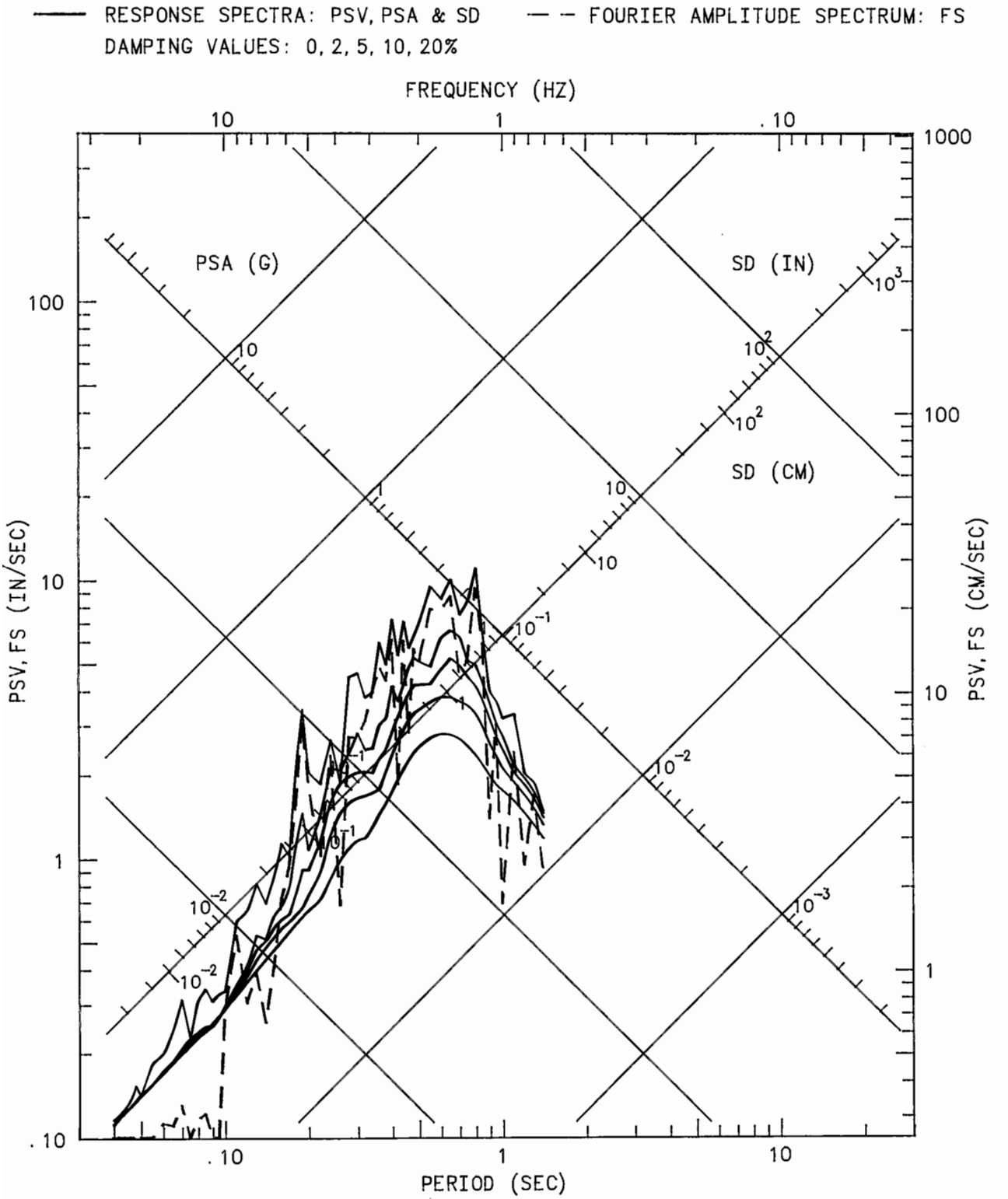
FILTER BAND: .50-1.00 TO 23.0-25.0 HZ. 58364-S3490-80030.01 110671.1800-QL80B364



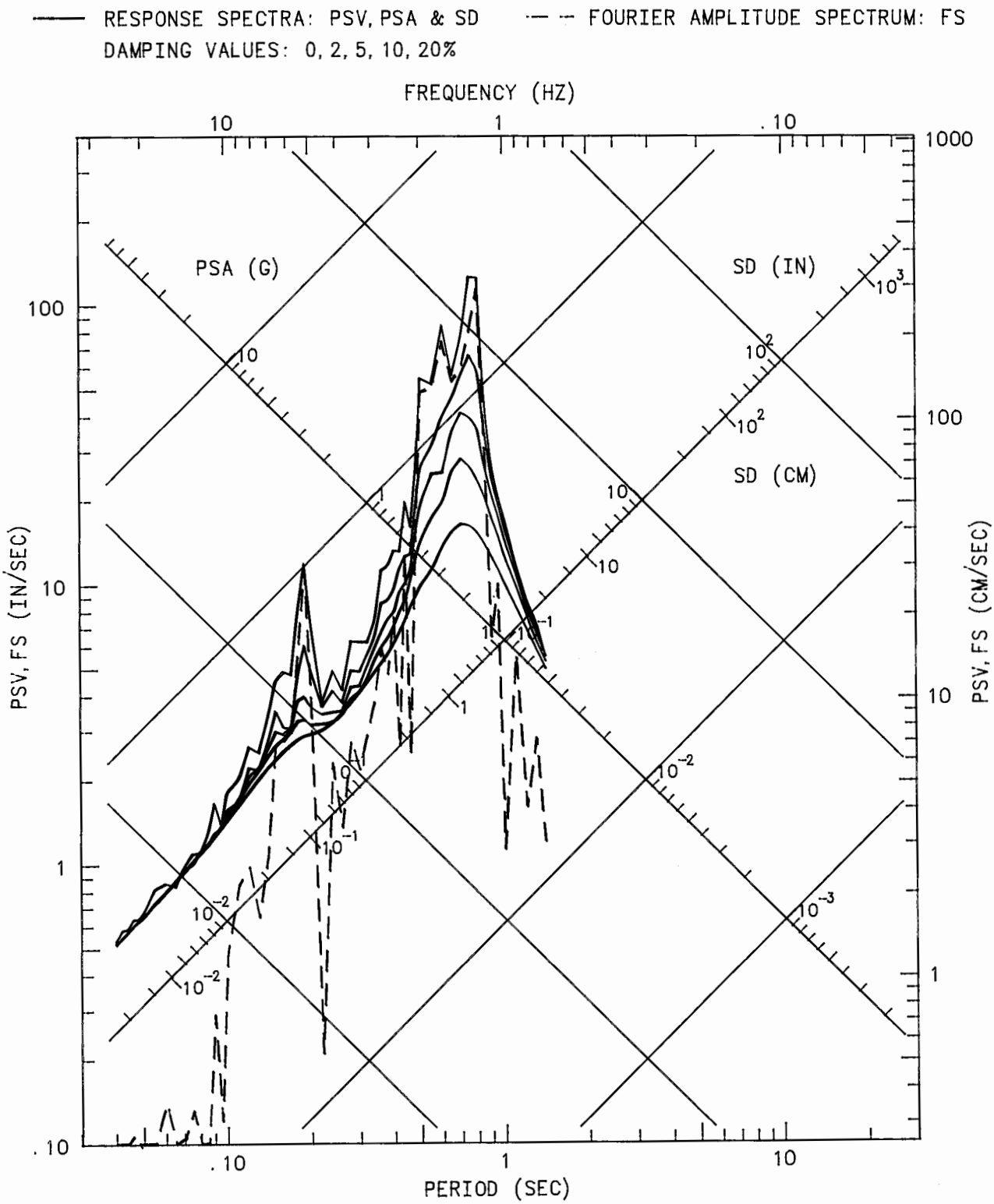
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG. CHN 3 (STA CHN 16): 90 DEG (GROUND FLOOR, NEAR CENTER)
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .50-1.00 TO 23.0-25.0 HZ. 58364-S3490-80030.01 110671.1800-QL80B364



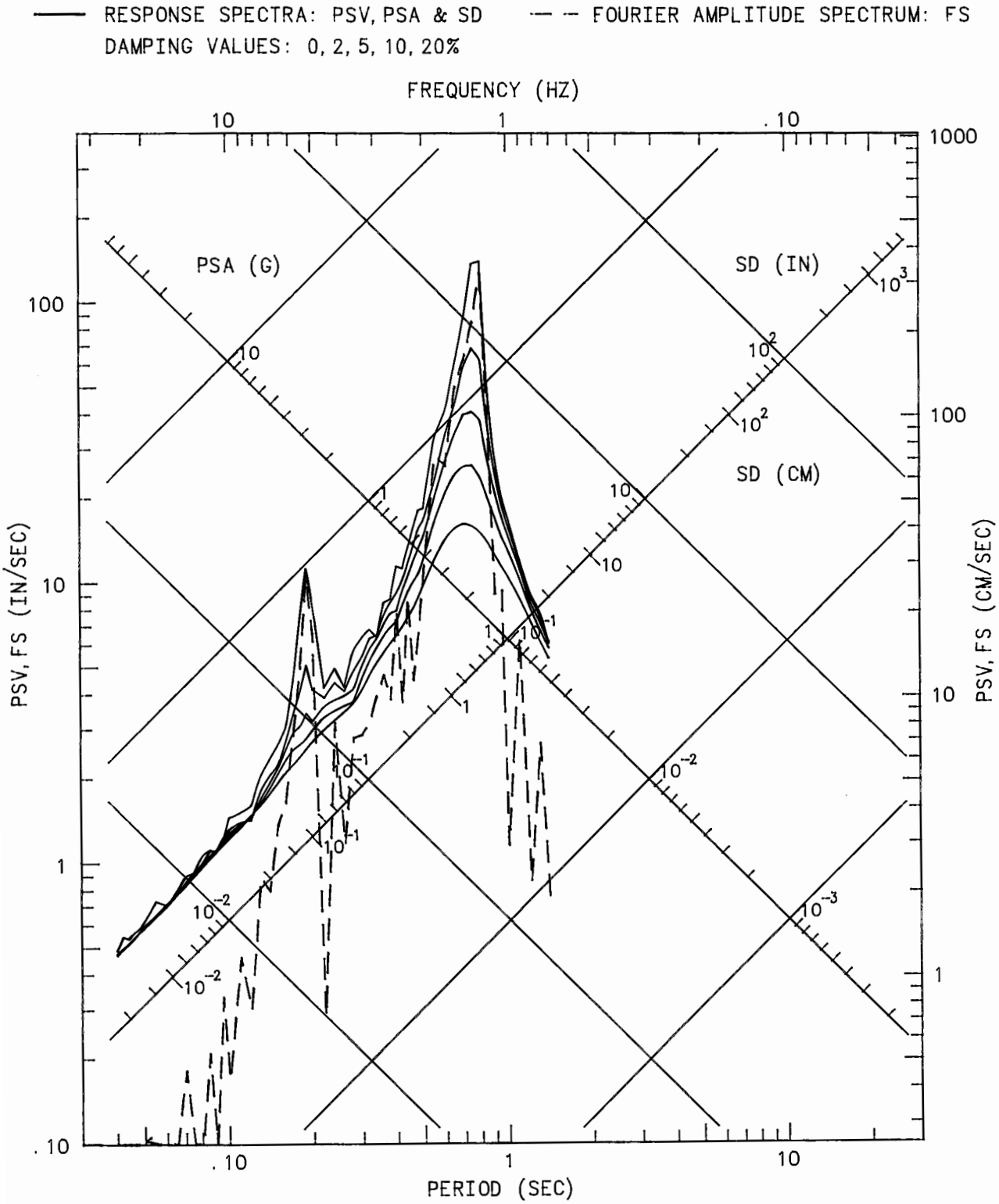
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG.
CHN 1: 90 DEG (GROUND FLOOR, NEAR CENTER)
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .50-1.00 TO 23.0-25.0 HZ.
58364-C0194-80030.01 110771.1228-QL80B364C



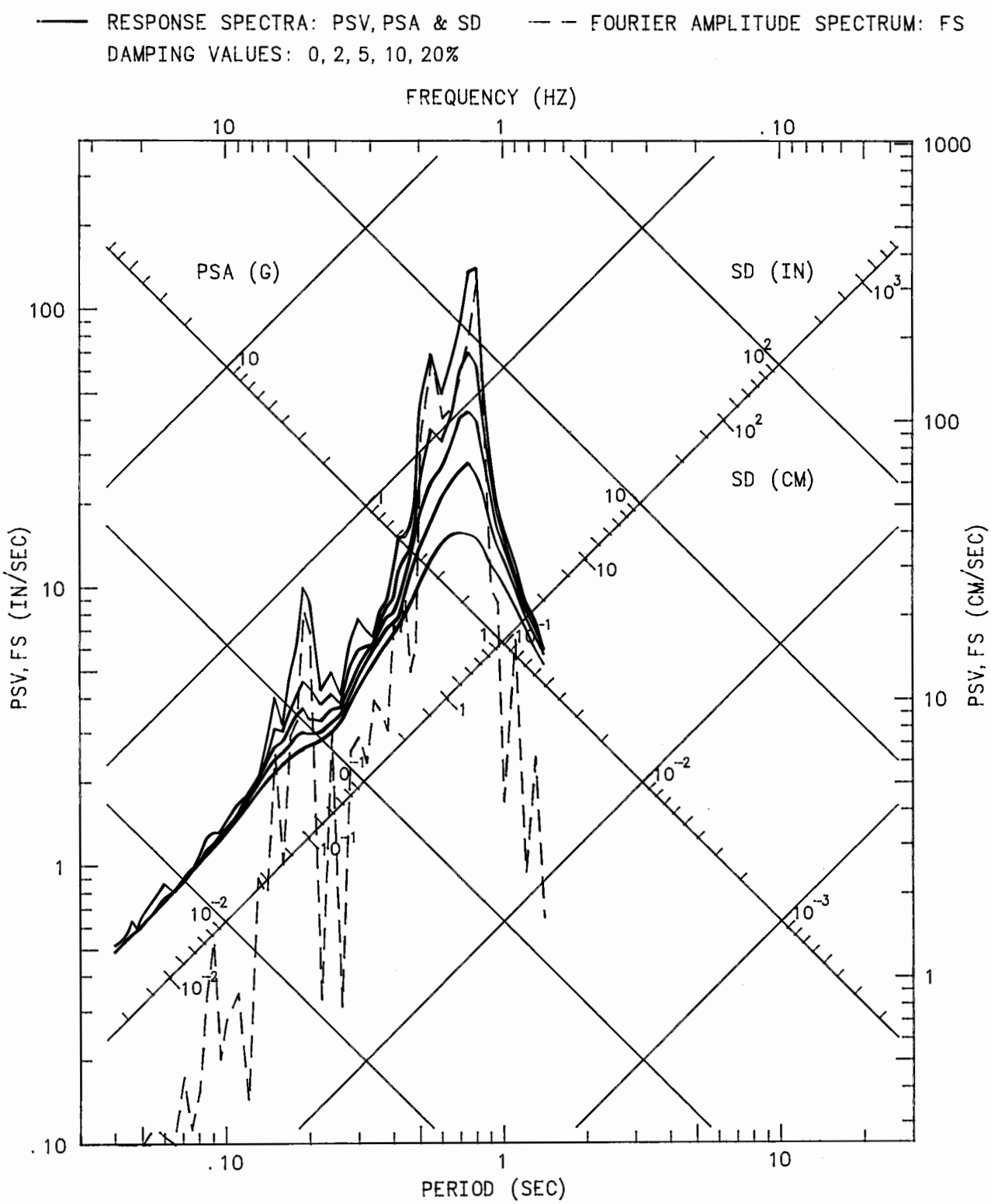
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG.
CHN 2: 90 DEG (ROOF, NORTH WALL)
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .50-1.00 TO 23.0-25.0 HZ.
58364-C0194-80030.01 110771.1228-QL80B364C



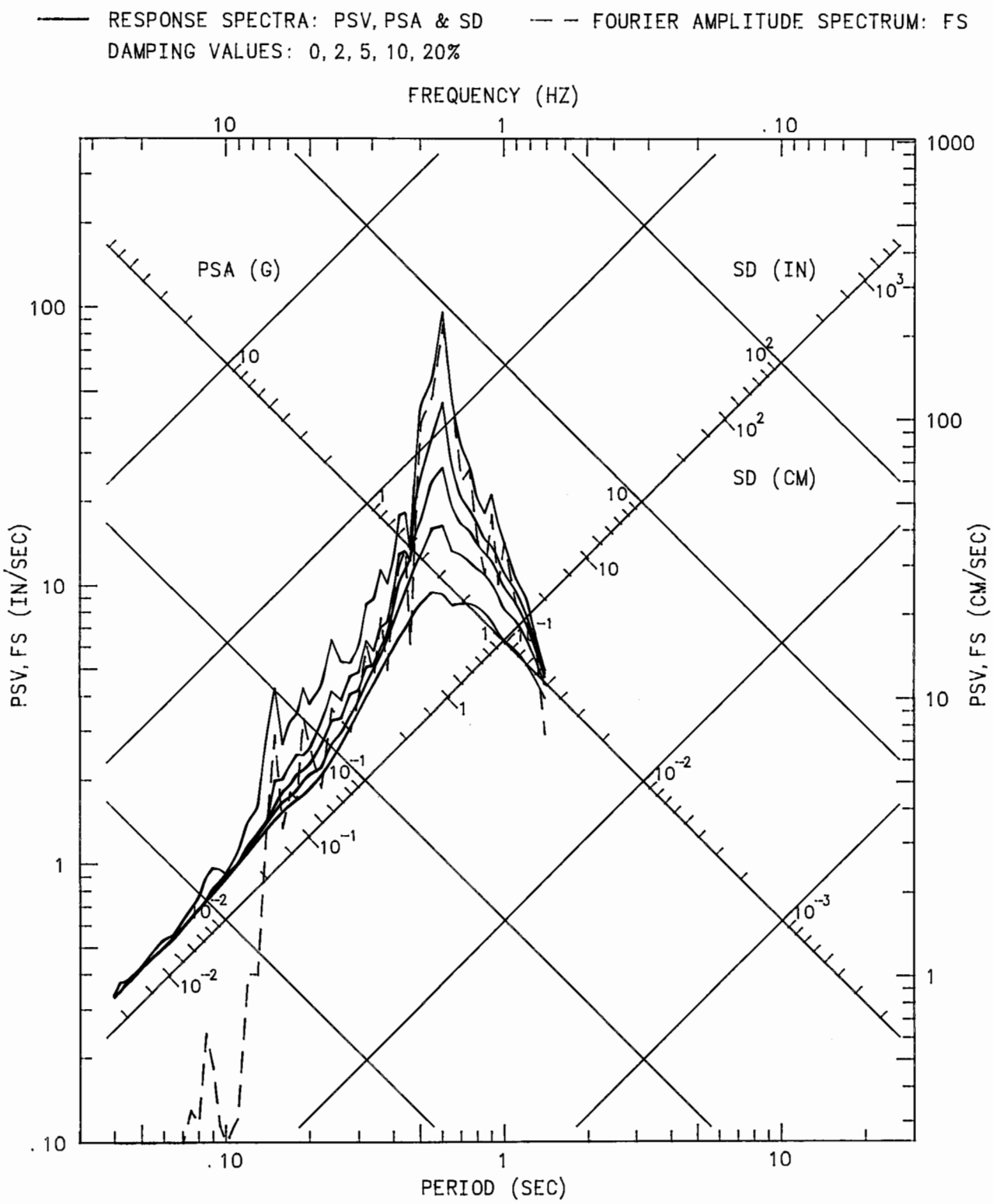
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK -- 10-STORY COMMERCIAL BLDG.
CHN 3: 90 DEG (ROOF, NEAR CENTER)
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .50-1.00 TO 23.0-25.0 HZ.
58364-C0194-80030.01 110771.1228-QL80B364C



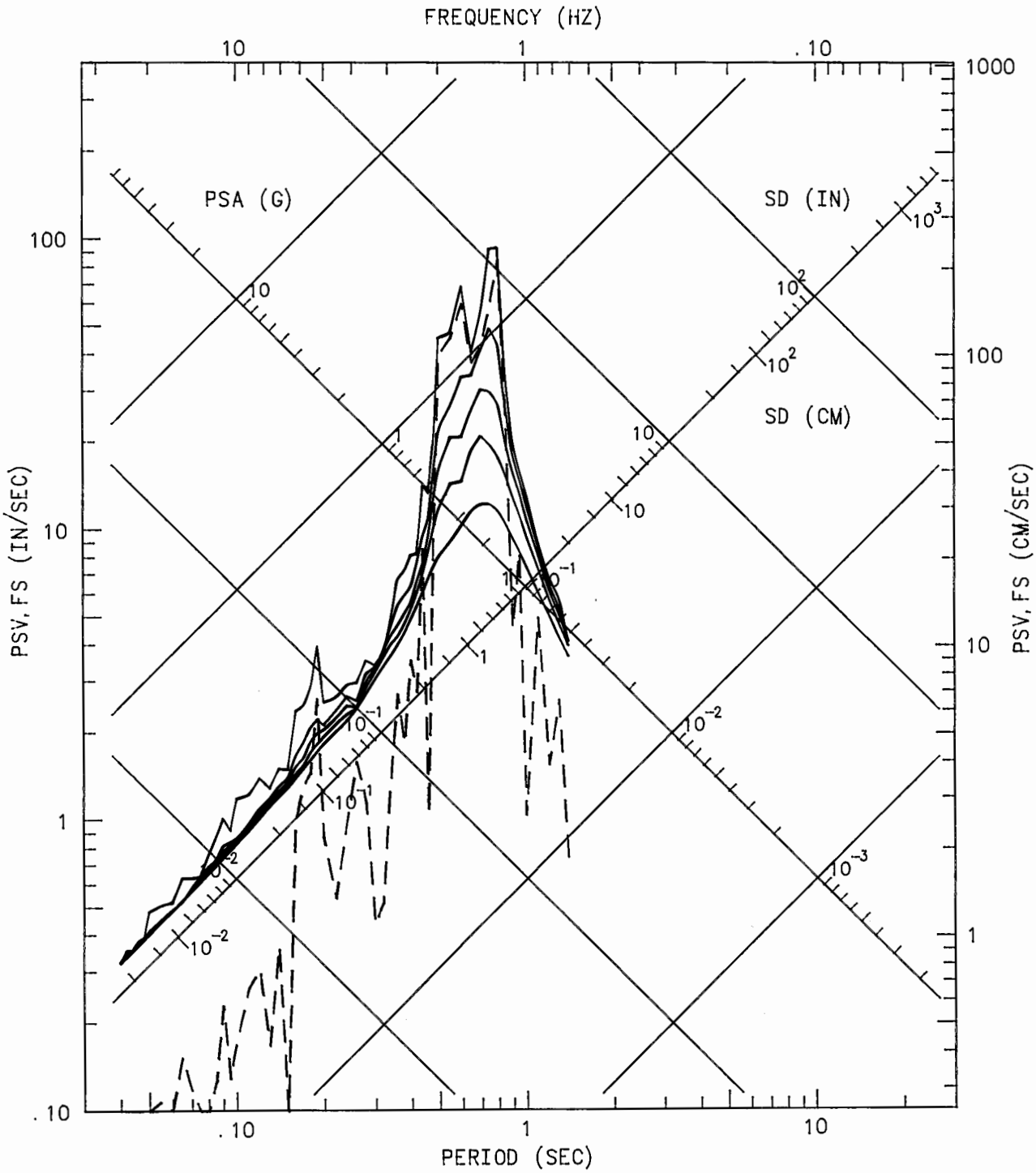
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG.
CHN 4: 90 DEG (ROOF, SOUTH WALL)
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .50-1.00 TO 23.0-25.0 HZ.
58364-C0194-80030.01 110771.1228-QL80B364C



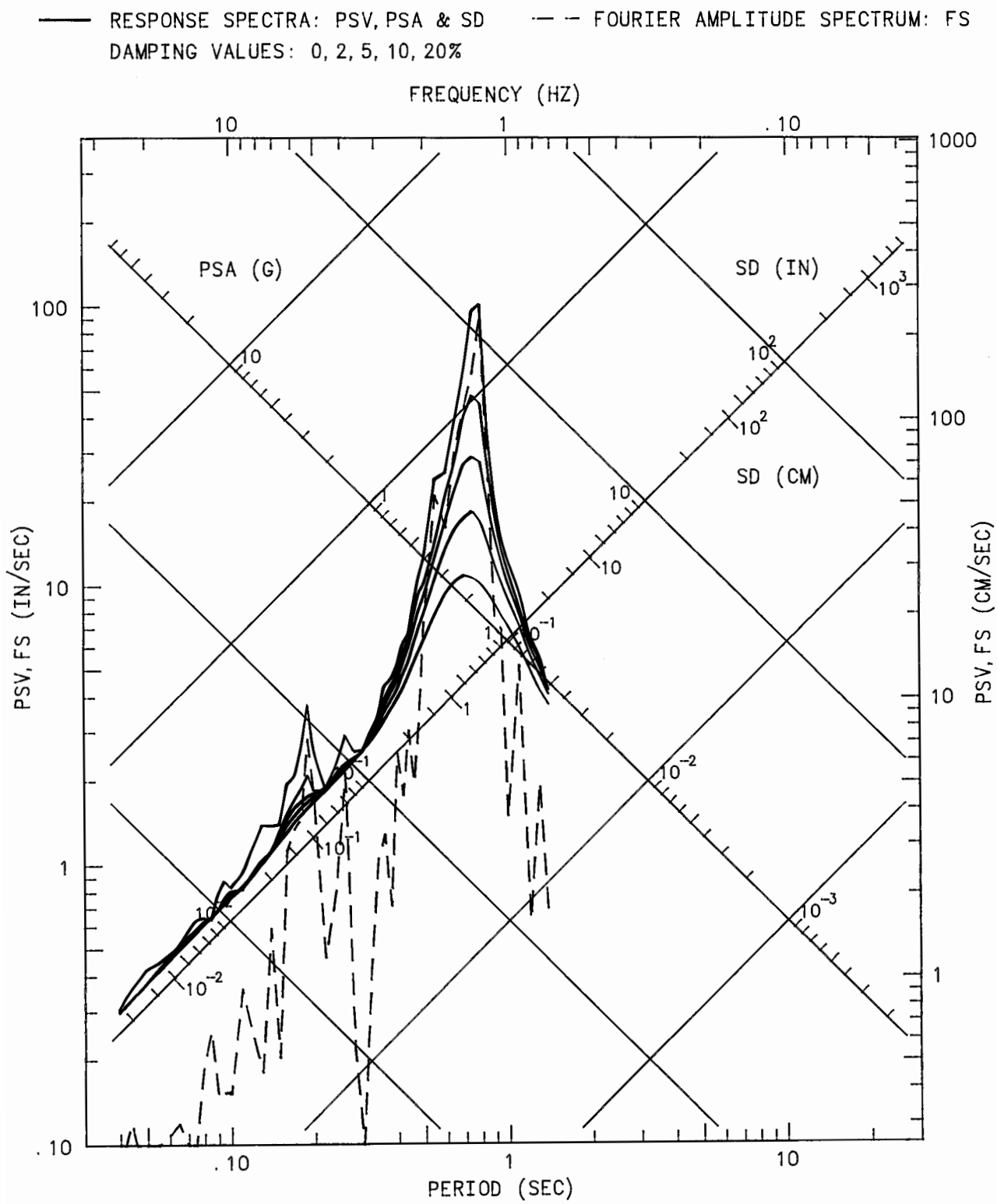
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG.
CHN 5: 180 DEG (ROOF, NEAR CENTER)
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .50-1.00 TO 23.0-25.0 HZ.
58364-C0194-80030.01 110771.1228-QL80B364C



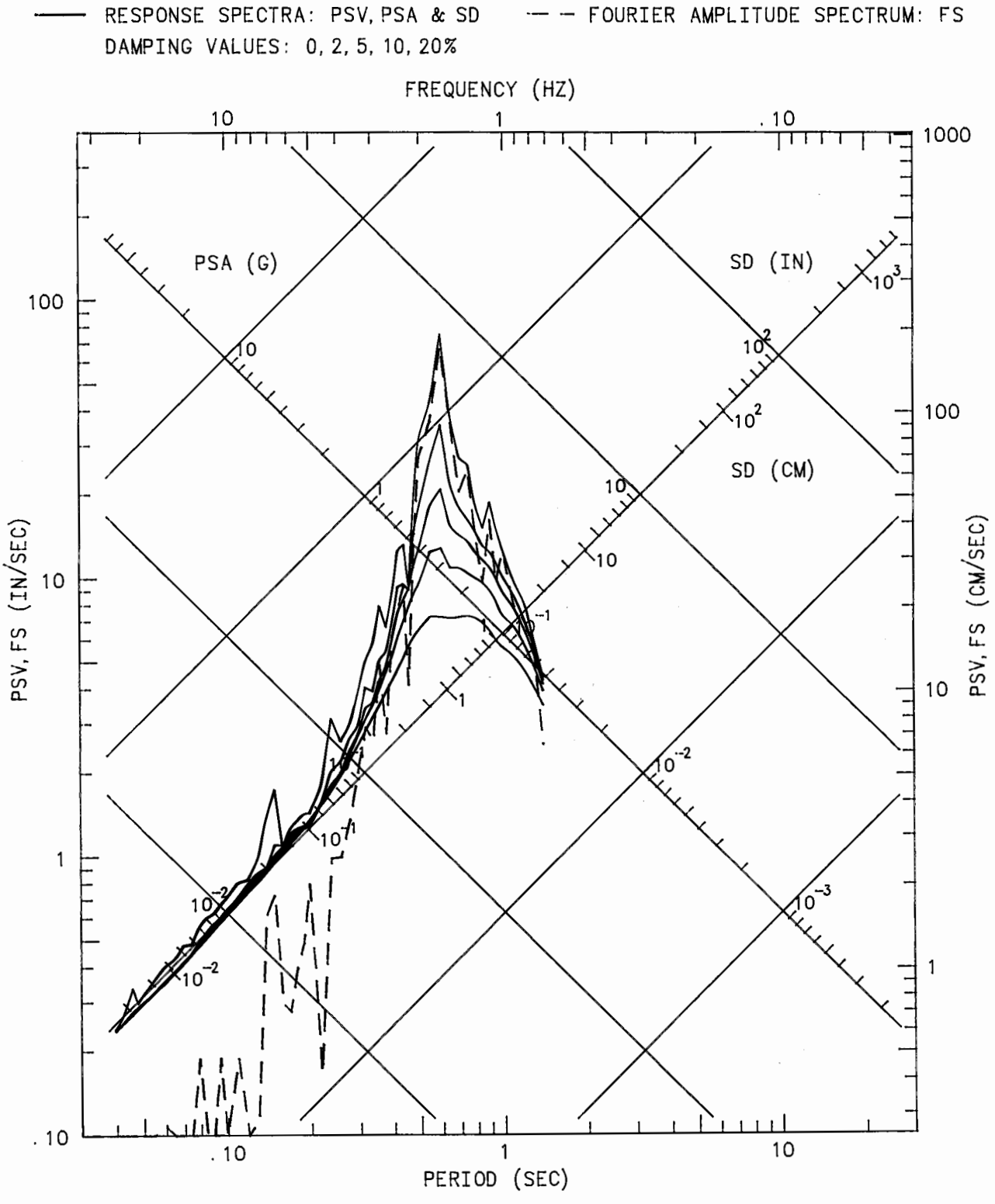
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG.
CHN 6: 90 DEG (8TH FLOOR, NORTH WALL)
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .50-1.00 TO 23.0-25.0 HZ.
58364-C0194-80030.01 110771.1228-QL80B364C



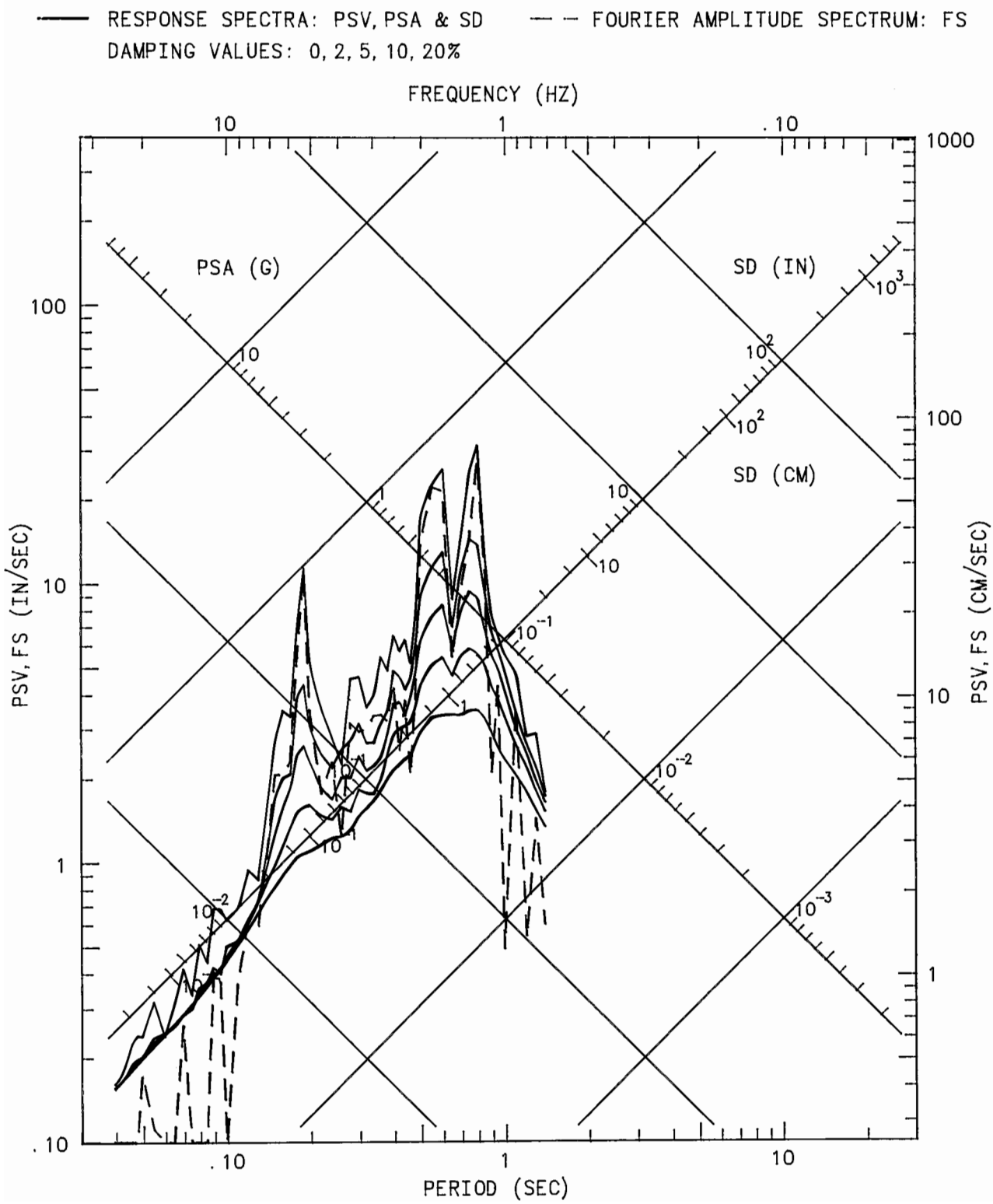
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK -- 10-STORY COMMERCIAL BLDG.
CHN 7: 90 DEG (8TH FLOOR, NEAR CENTER)
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .50-1.00 TO 23.0-25.0 HZ.
58364-C0194-80030.01 110771.1228-QL80B364C



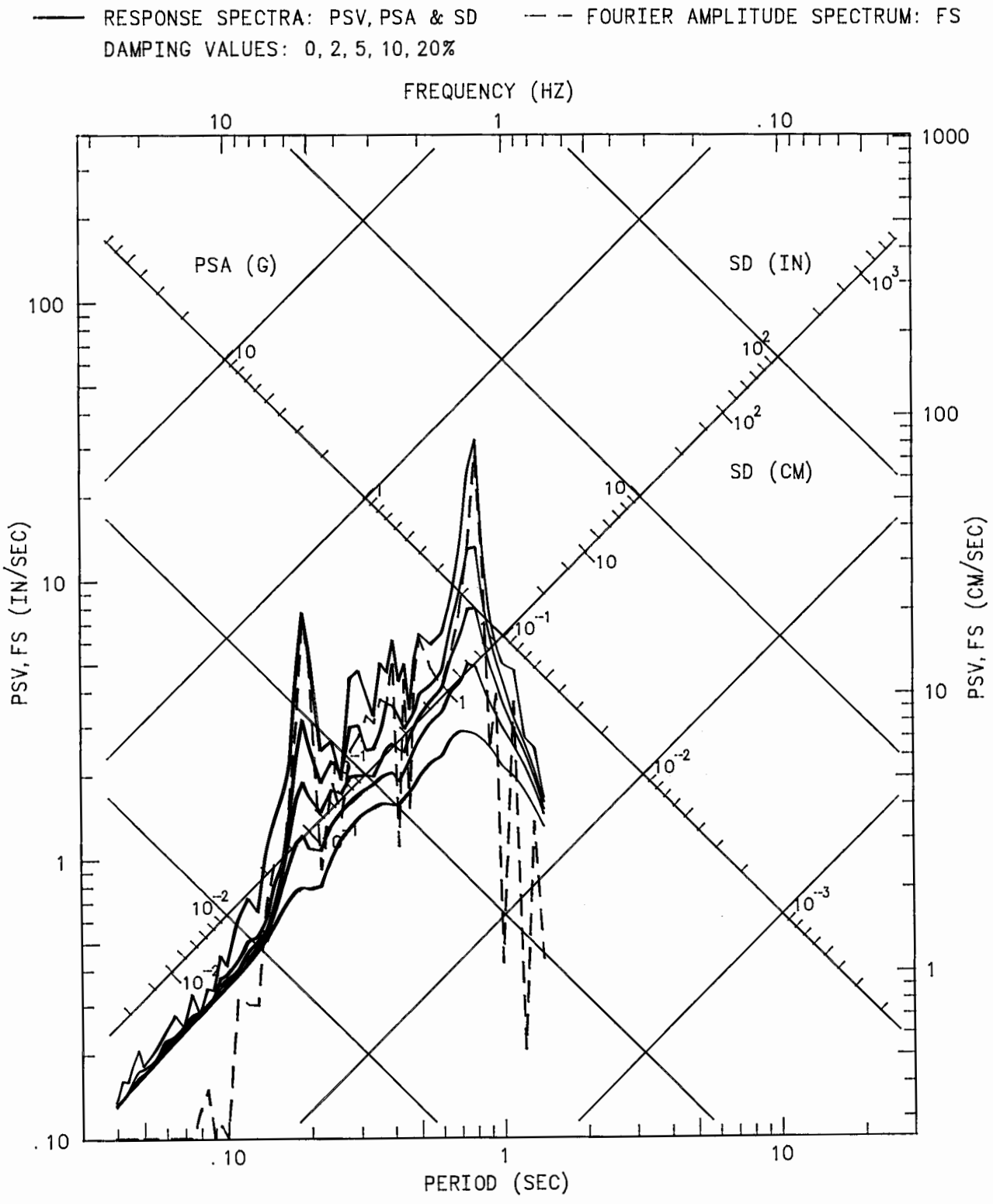
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK -- 10-STORY COMMERCIAL BLDG.
CHN 8: 180 DEG (8TH FLOOR, NEAR CENTER)
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .50-1.00 TO 23.0-25.0 HZ.
58364-C0194-80030.01 110771.1228-QL80B364C



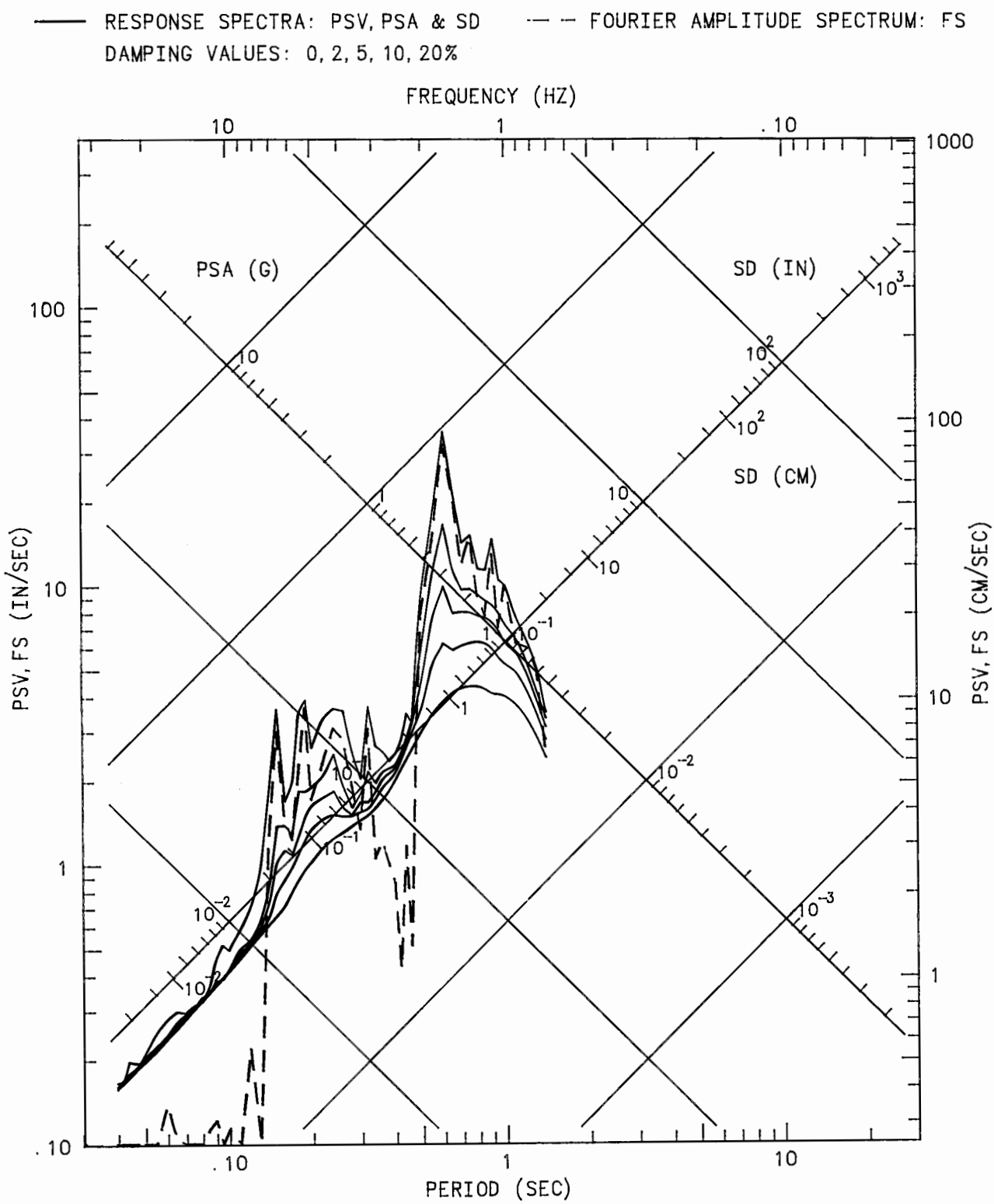
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG.
CHN 9: 90 DEG (3RD FLOOR, NORTH WALL)
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .50-1.00 TO 23.0-25.0 HZ.
58364-C0194-80030.01 110771.1228-QL80B364C



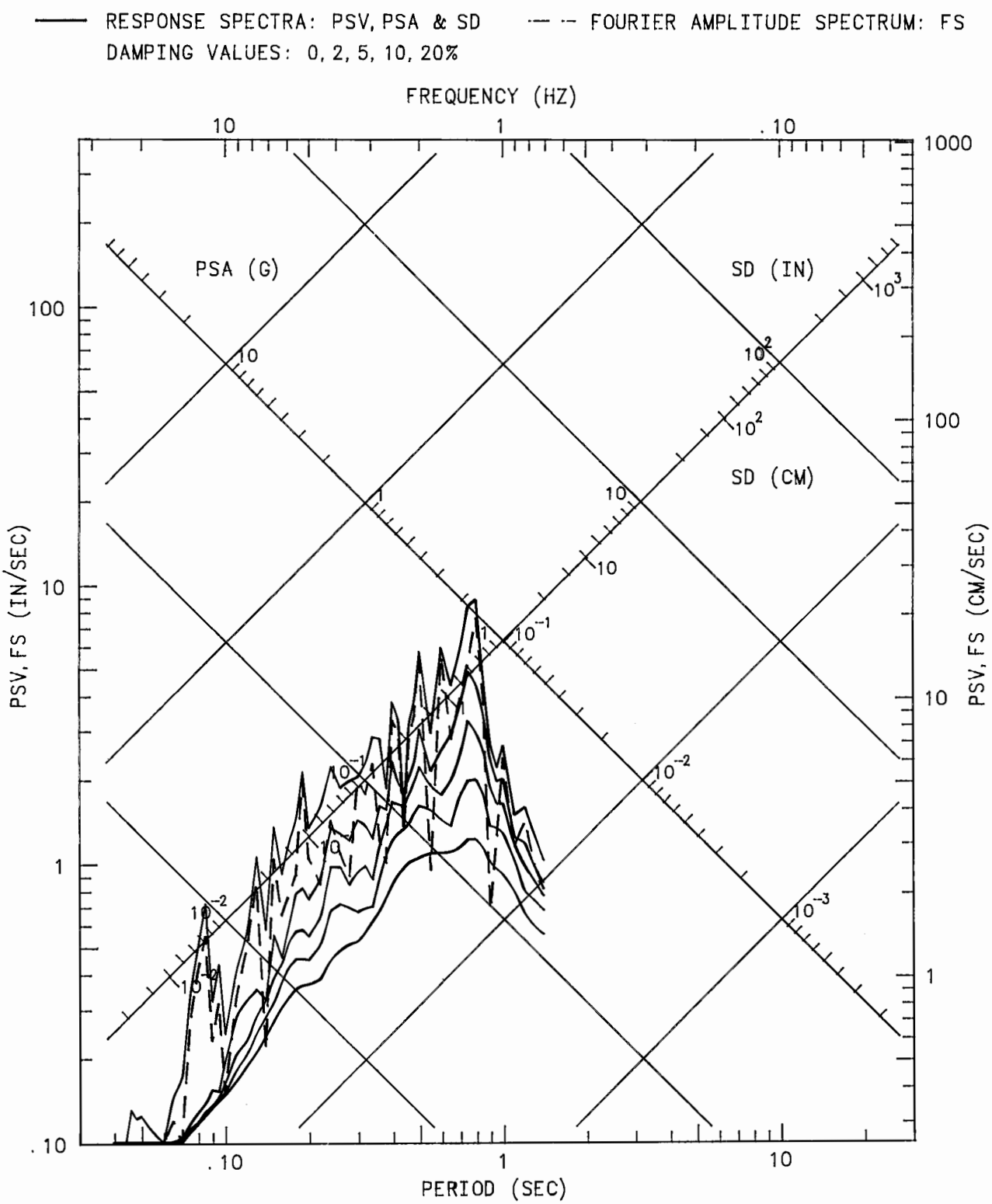
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG.
CHN 10: 90 DEG (3RD FLOOR, NEAR CENTER)
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .50-1.00 TO 23.0-25.0 HZ.
58364-C0194-80030.01 110771.1228-QL80B364C



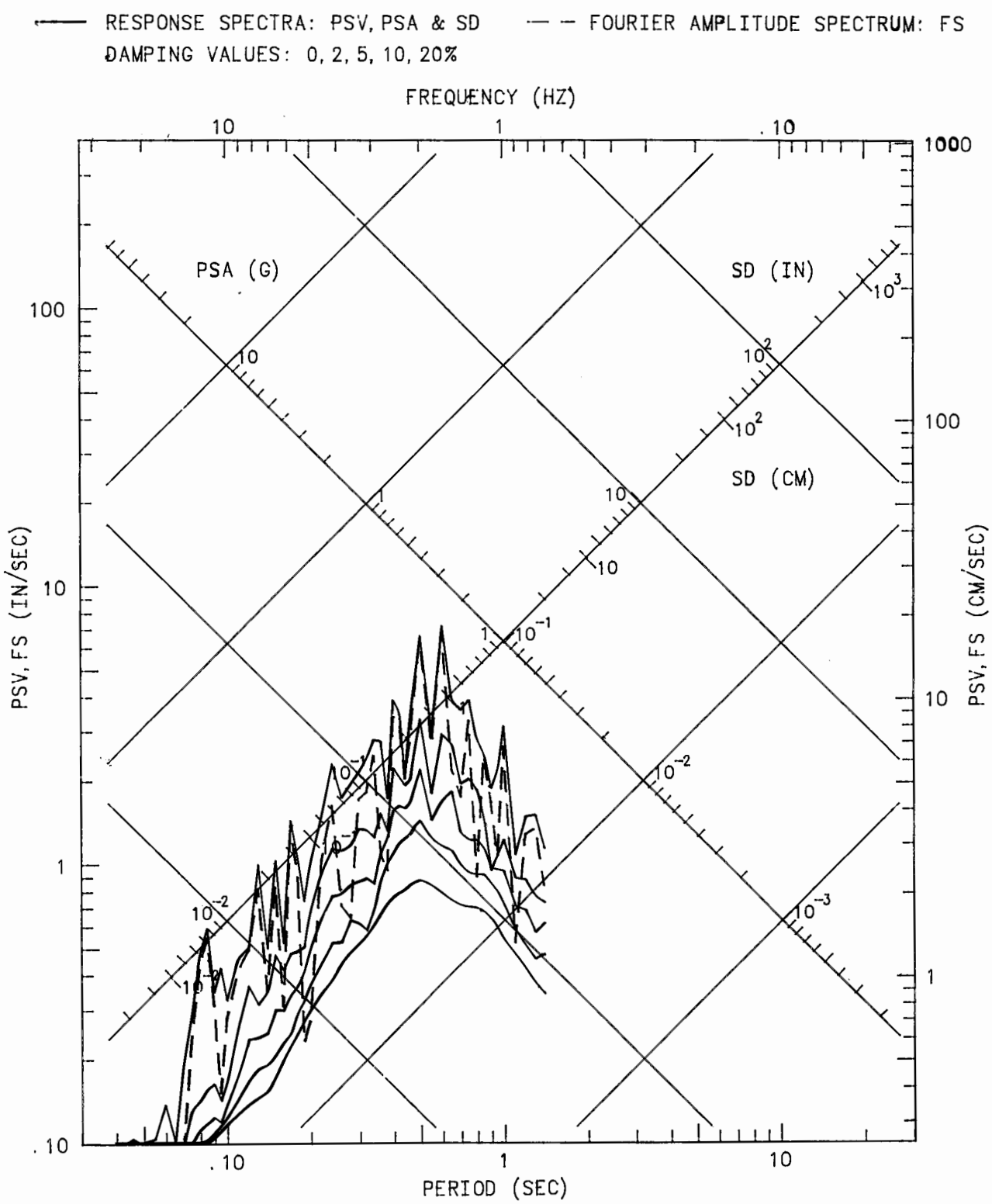
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG.
CHN 11: 180 DEG (3RD FLOOR, NEAR CENTER)
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .50-1.00 TO 23.0-25.0 HZ.
58364-C0194-80030.01 110771.1228-QL80B364C



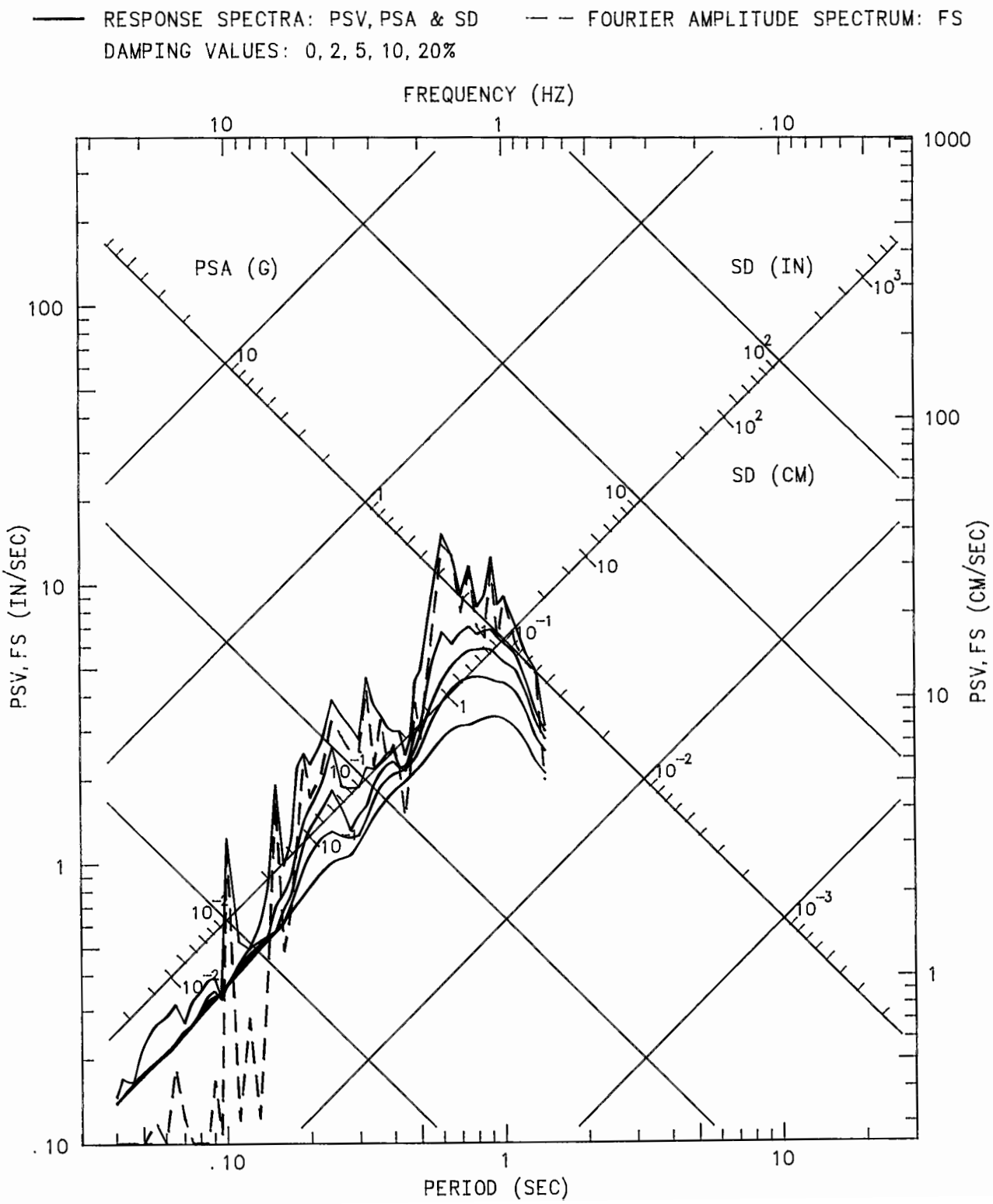
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG.
CHN 12: UP (GRND FLOOR, WEST WALL OF CNTR CORE)
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .50-1.00 TO 23.0-25.0 HZ.
58364-C0194-80030.01 110771.1228-QL80B364C



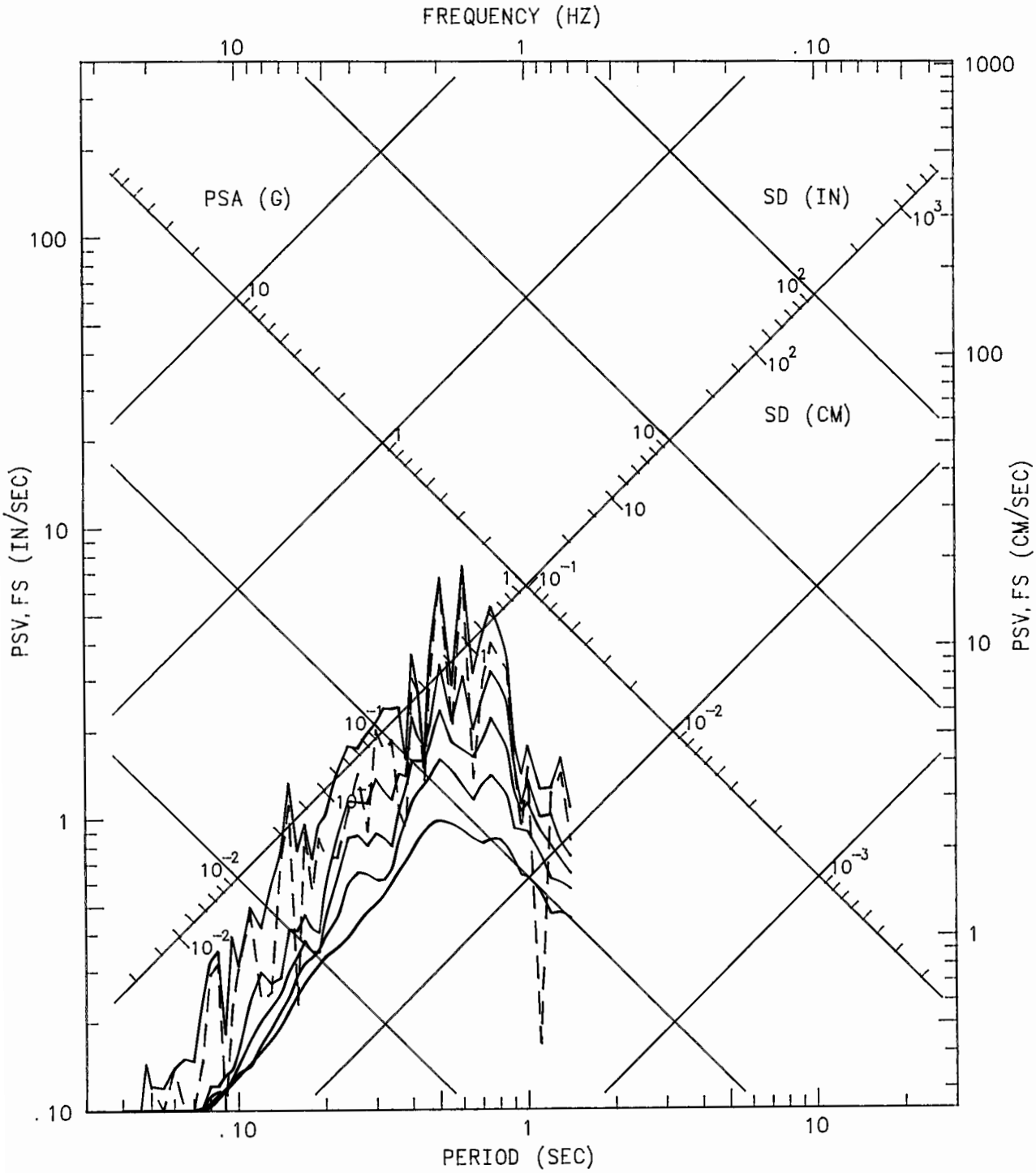
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK -- 10-STORY COMMERCIAL BLDG.
CHN 13: UP (GRND FLOOR, EAST WALL OF CNTR CORE)
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .50-1.00 TO 23.0-25.0 HZ.
58364-C0194-80030.01 110771.1228-QL80B364C



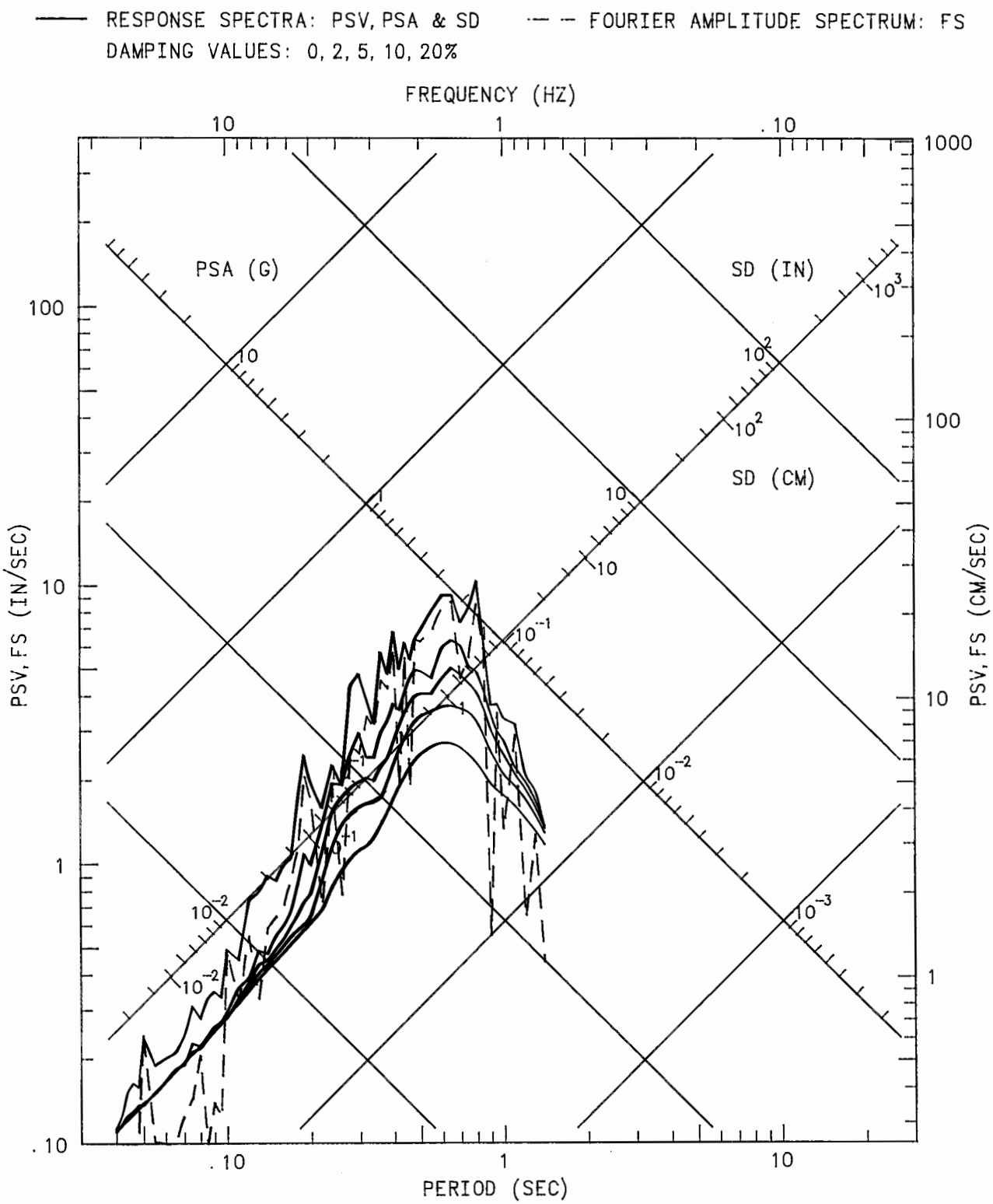
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG.
CHN 1 (STA CHN 14): 180 DEG (GROUND FLOOR, NEAR CENTER)
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .50-1.00 TO 23.0-25.0 HZ.
58364-S3490-80030.01 110771.0857-QL80B364



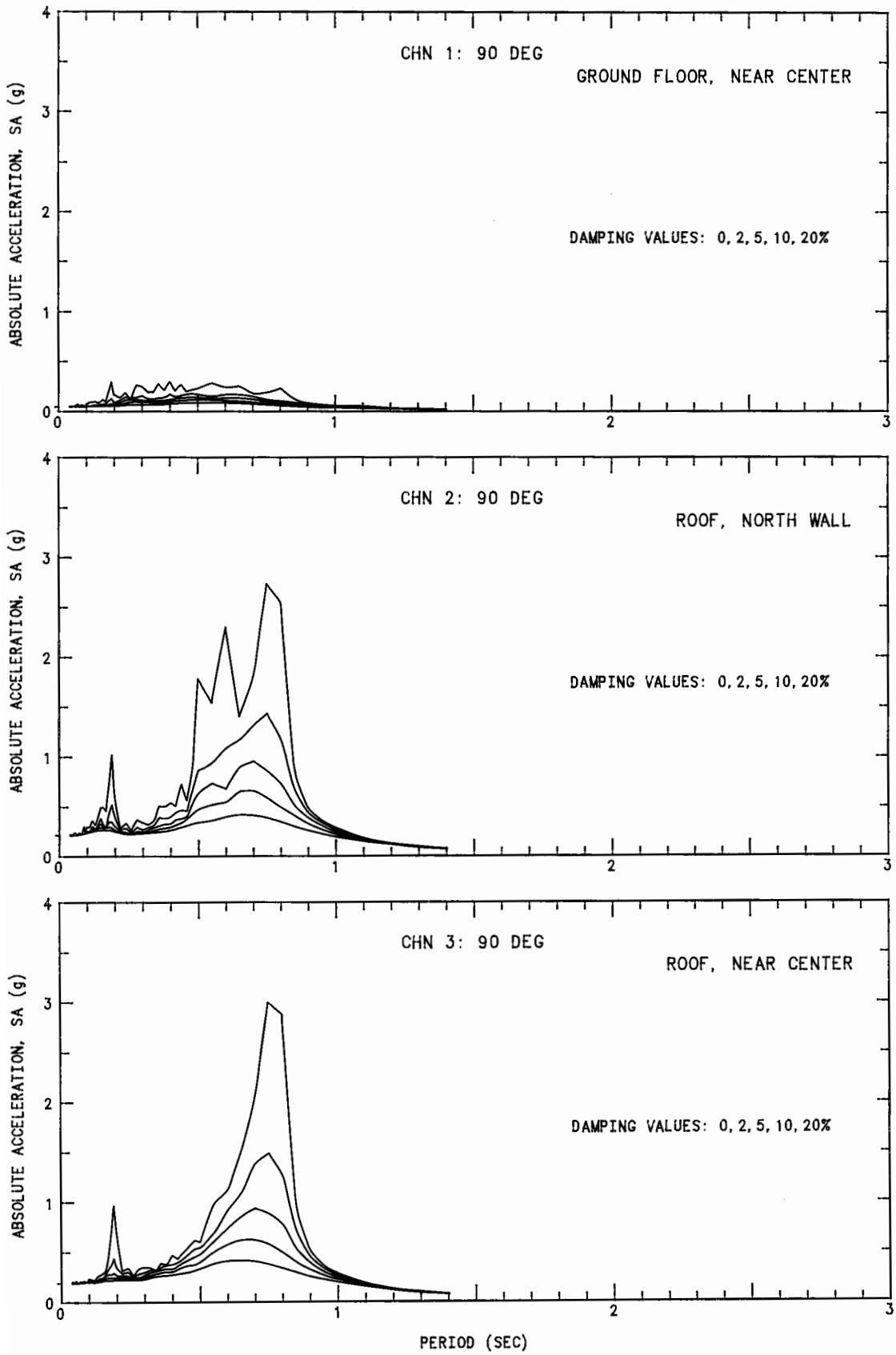
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG.
CHN 2 (STA CHN 15): UP (GROUND FLOOR, NEAR CENTER)
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .50-1.00 TO 23.0-25.0 HZ.
58364-S3490-80030.01 110771.0857-QL80B364



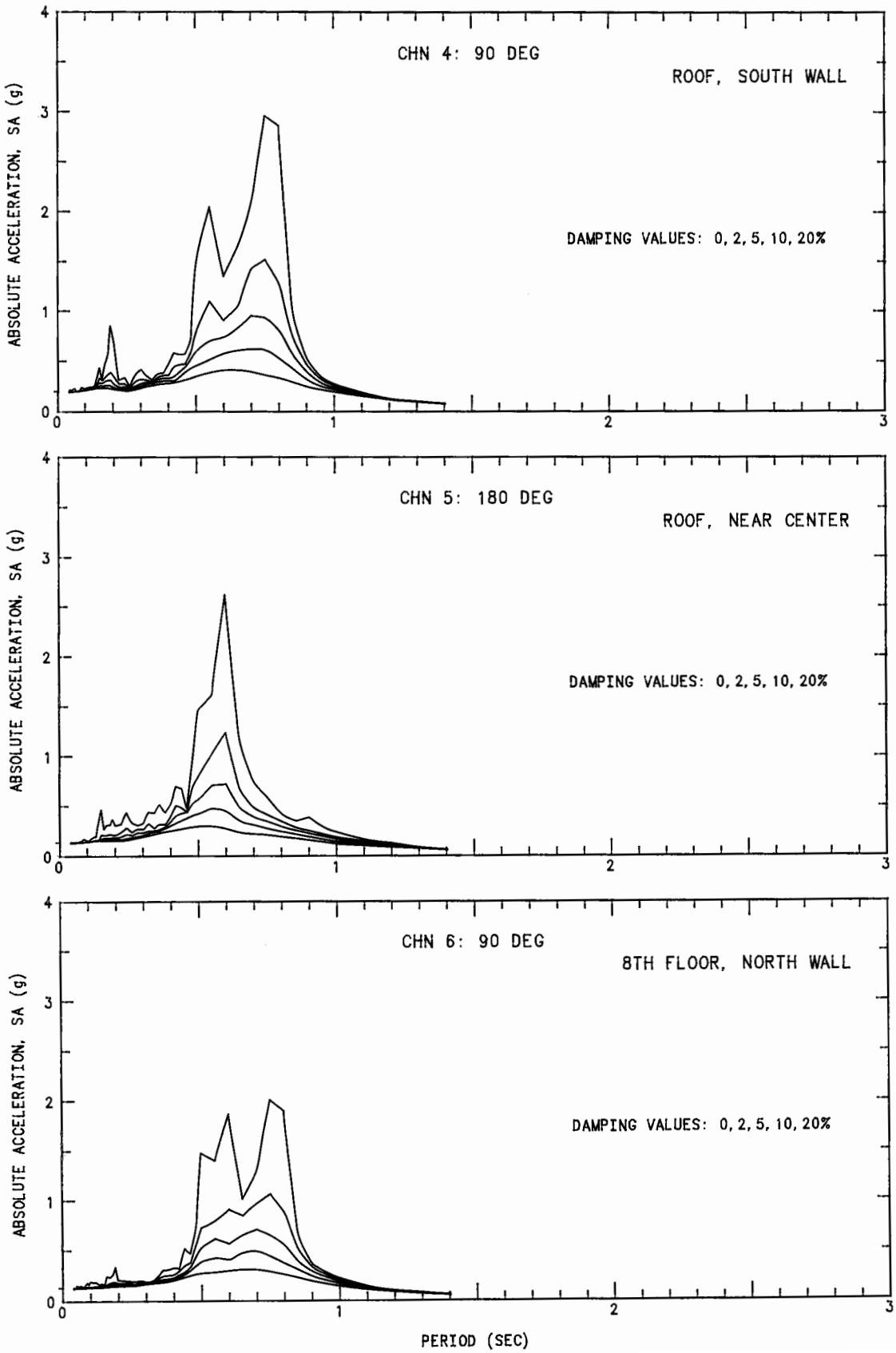
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG.
CHN 3 (STA CHN 16): 90 DEG (GROUND FLOOR, NEAR CENTER)
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .50-1.00 TO 23.0-25.0 HZ.
58364-S3490-80030.01 110771.0857-QL80B364



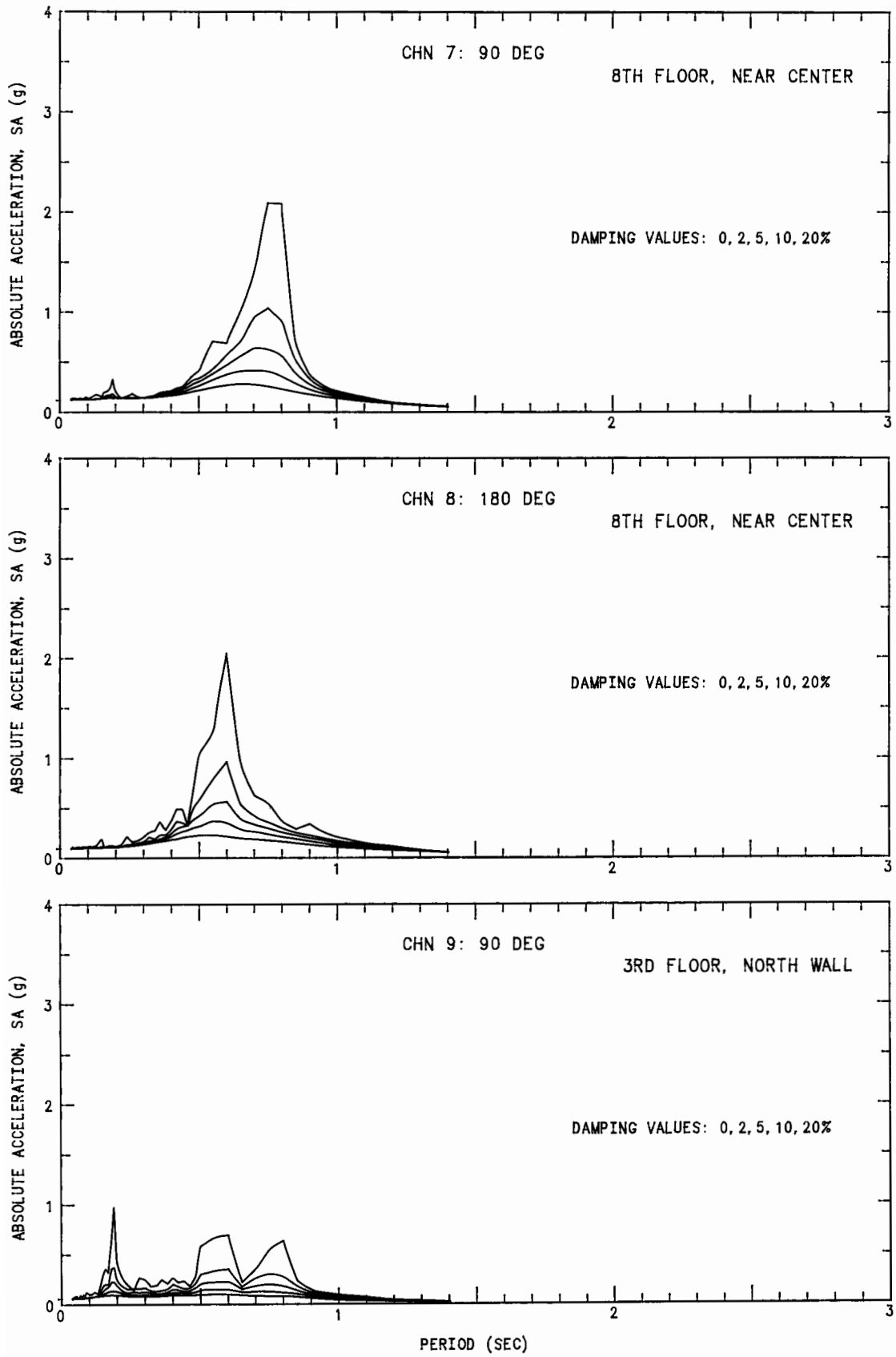
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK -- 10-STORY COMMERCIAL BLDG.
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .50-1.00 TO 23.0-25.0 HZ.
58364-C0194-80030.01 110771.1228-QL80B364C



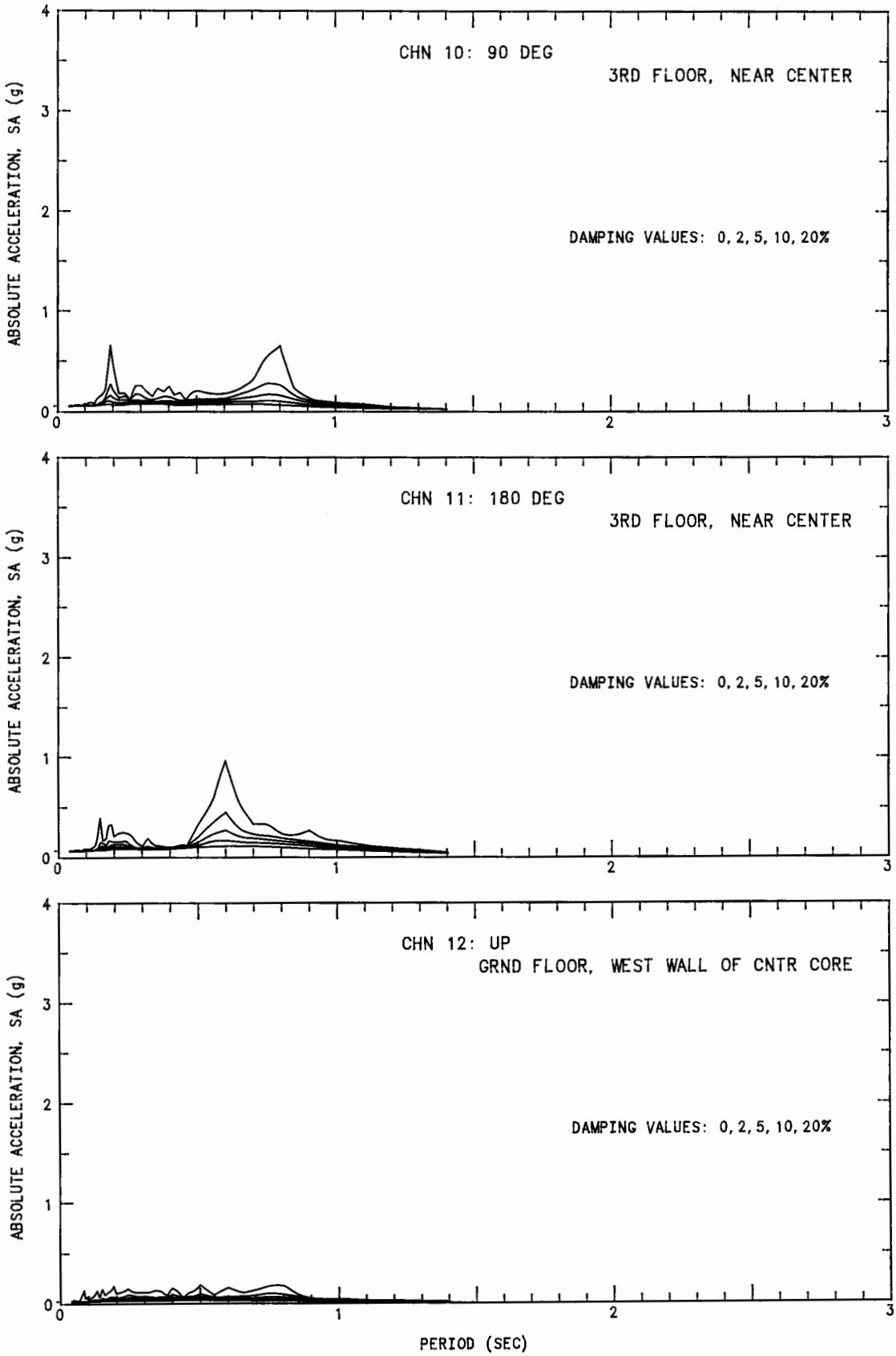
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG.
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .50-1.00 TO 23.0-25.0 HZ.
58364-C0194-80030.01 110771.1228-QL80B364C



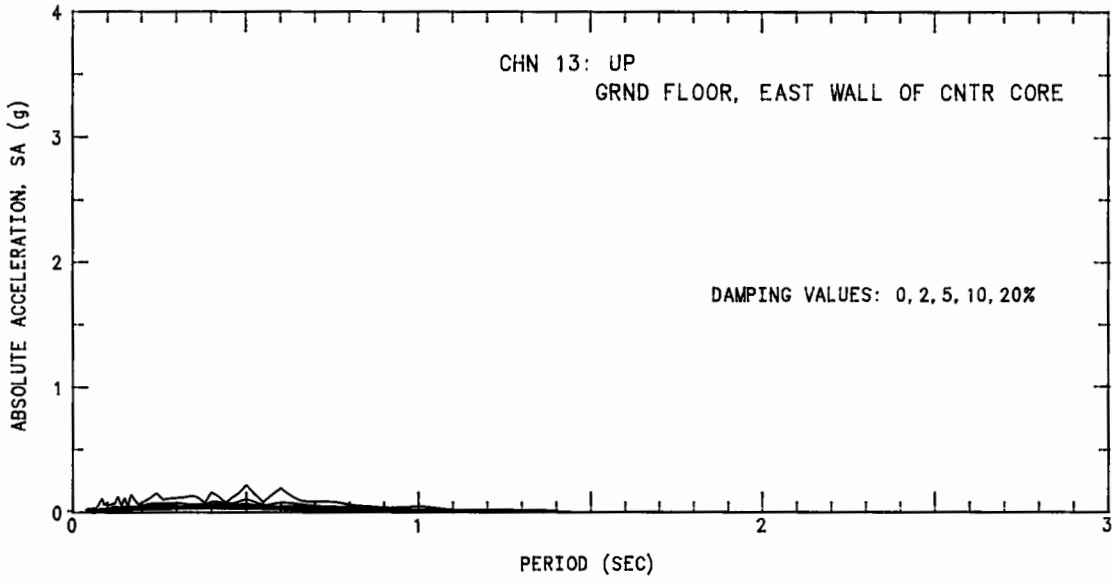
LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK -- 10-STORY COMMERCIAL BLDG.
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .50-1.00 TO 23.0-25.0 HZ.
58364-C0194-80030.01 110771.1228-QL80B364C



LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG.
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .50-1.00 TO 23.0-25.0 HZ.
58364-C0194-80030.01 110771.1228-QL80B364C



LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK -- 10-STORY COMMERCIAL BLDG.
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .50-1.00 TO 23.0-25.0 HZ.
58364-C0194-80030.01 110771.1228-QL80B364C



LIVERMORE AFTERSHOCK JANUARY 26, 1980 18:33 PST
WALNUT CREEK - 10-STORY COMMERCIAL BLDG.
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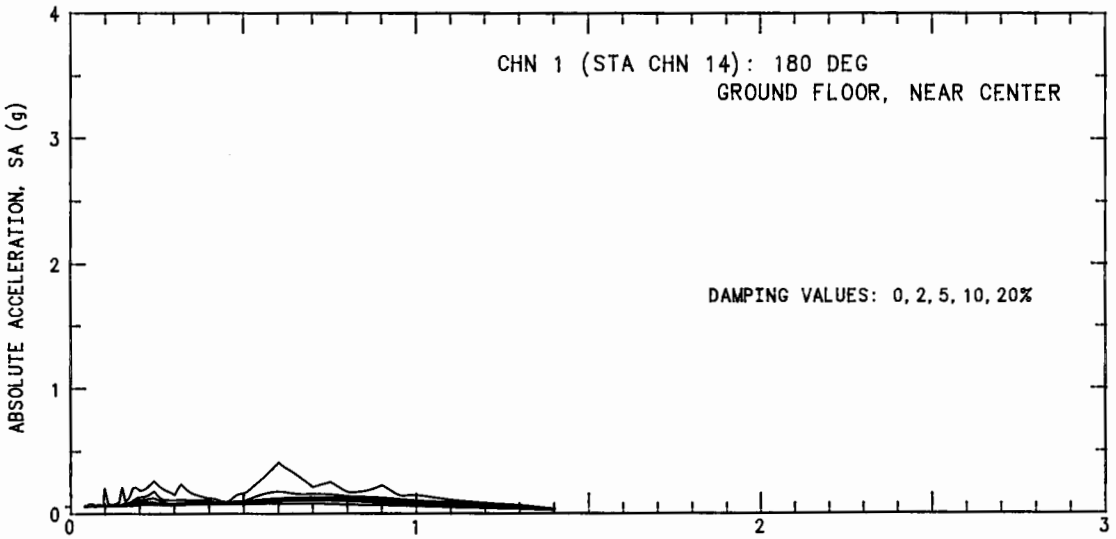

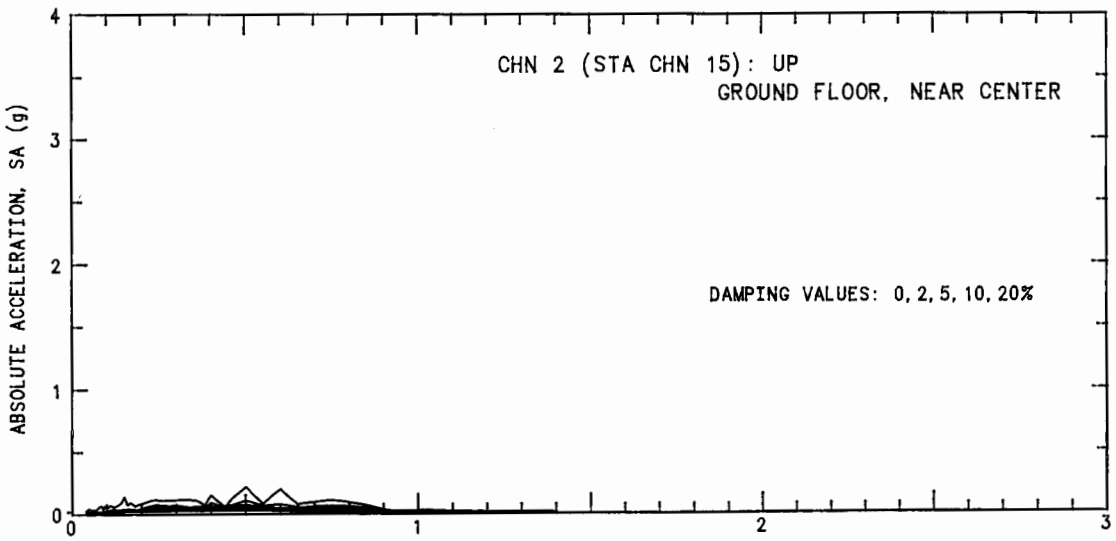

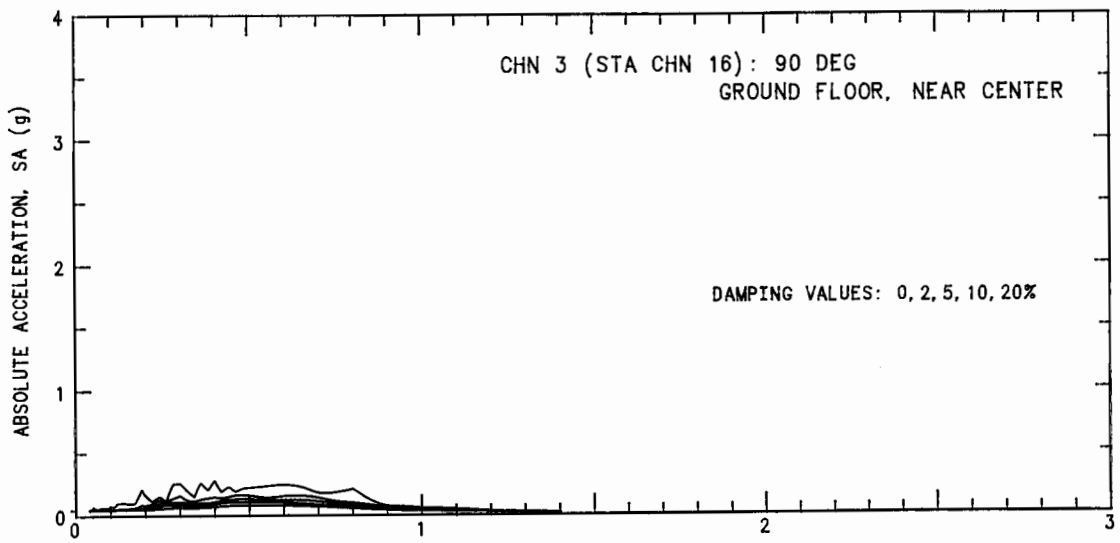

PERIOD (SEC)