

**Ambient Ground Vibration Measurements  
at the Hanford, Washington LIGO Site**

**Appendix E**

LIGO-C950577-00-□

**LIGO Site Traffic Noise Plots**

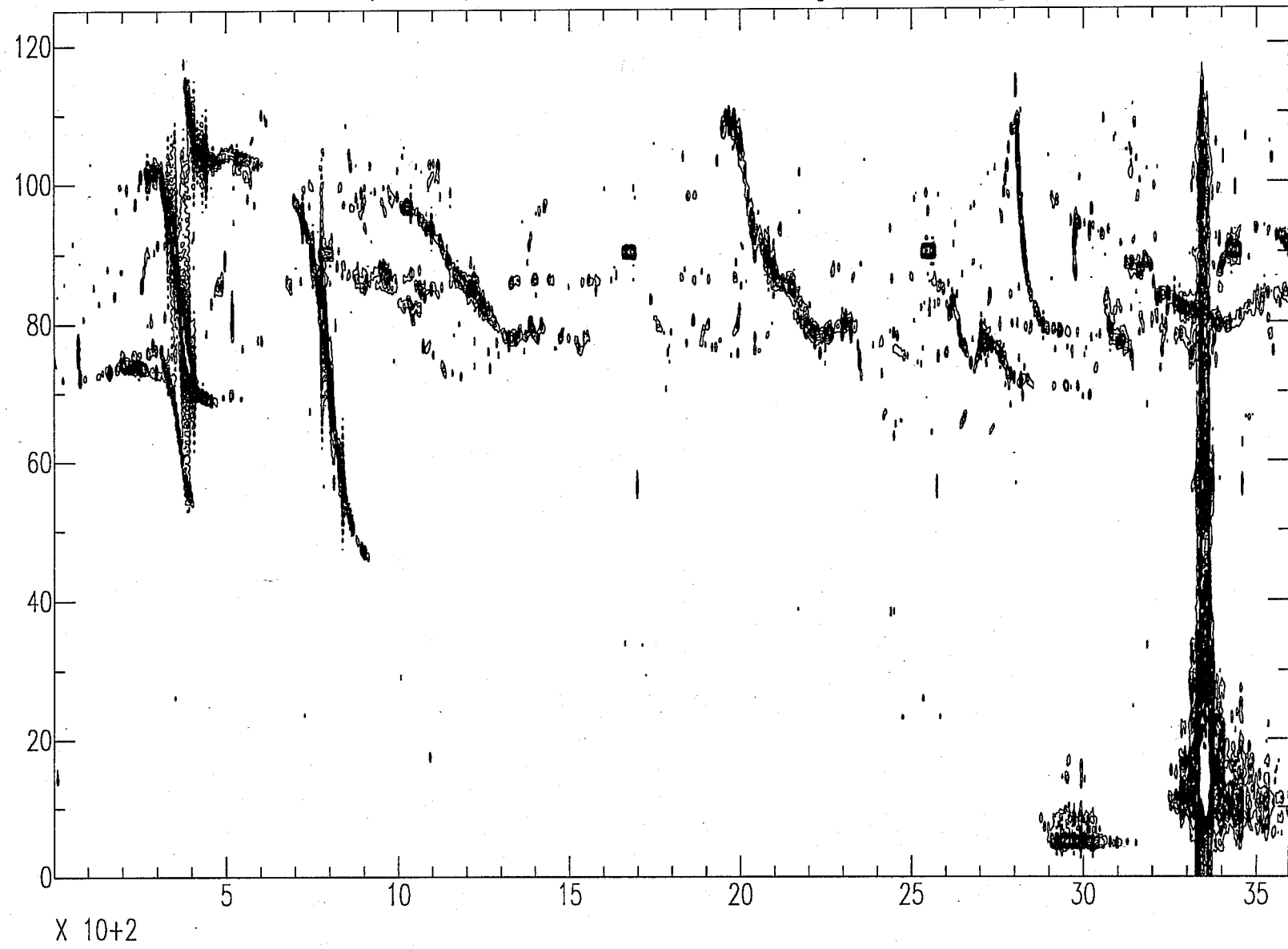
## Traffic Noise Plots

### LIGO Southwest End

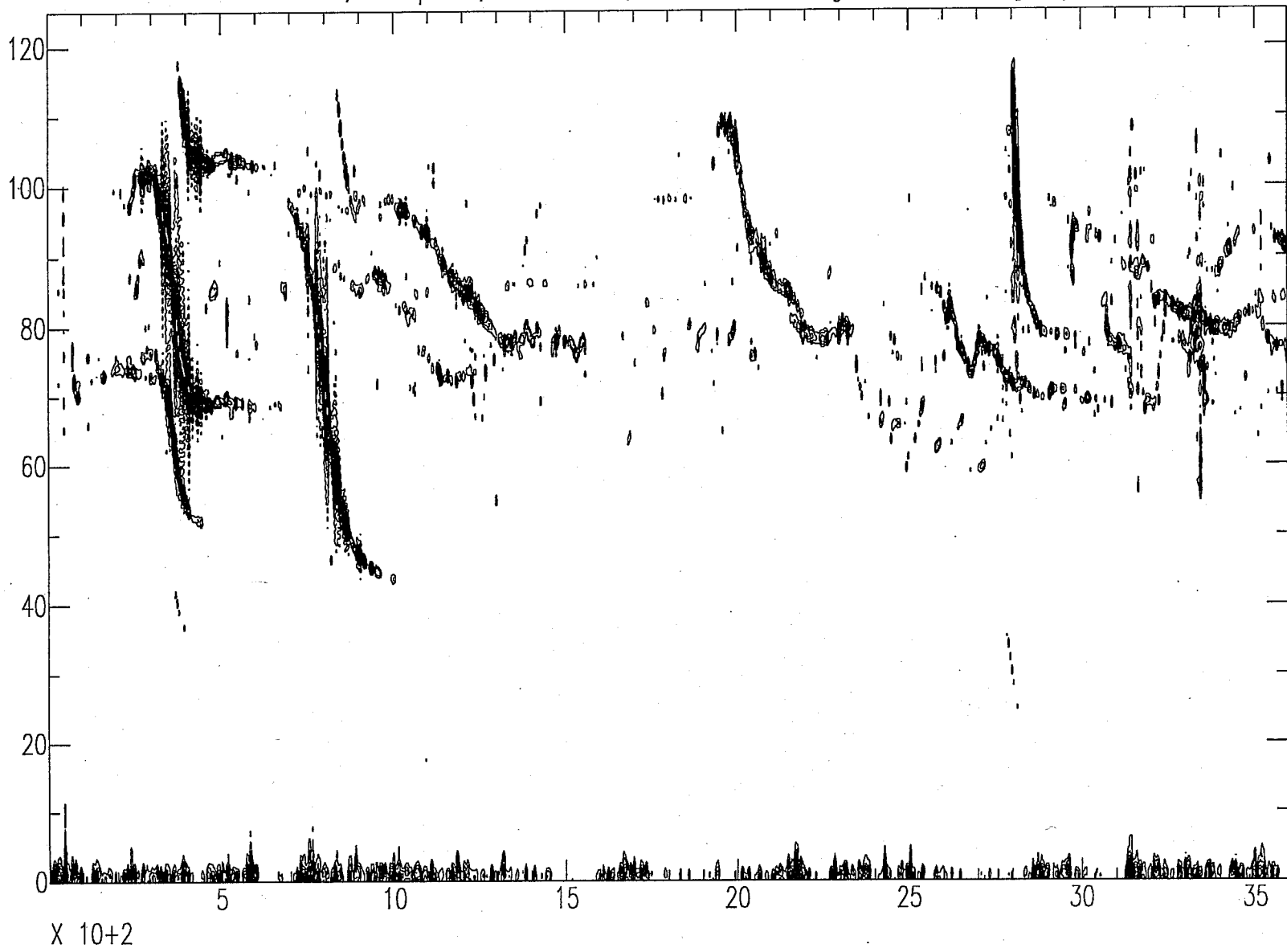
Vertical Acceleration Spectrogram

Infrasound Pressure Spectrogram

LIGO SW End, Vertical, December 4, 12:30-1:30PM, Light Traffic on Highway 240



LIGO SW End, Microphone, December 4, 12:30-1:30PM, Light Traffic on Highway 240



## Traffic Noise Plots

### LIGO Corner Weekend (Single Vehicles)

#### Vertical Acceleration Spectrogram

#### Vertical Component Spectra

segment 0

segment 1

segment 2

segment 3

#### Northwest Component Spectra

segment 0

segment 1

segment 2

segment 3

#### Southwest Component Spectra

segment 0

segment 1

segment 2

segment 3

#### Vertical Component Histograms

segment 0

segment 1

segment 2

segment 3

#### Northwest Component Histograms

segment 0

segment 1

segment 2

segment 3

#### Southwest Component Histograms

segment 0

segment 1

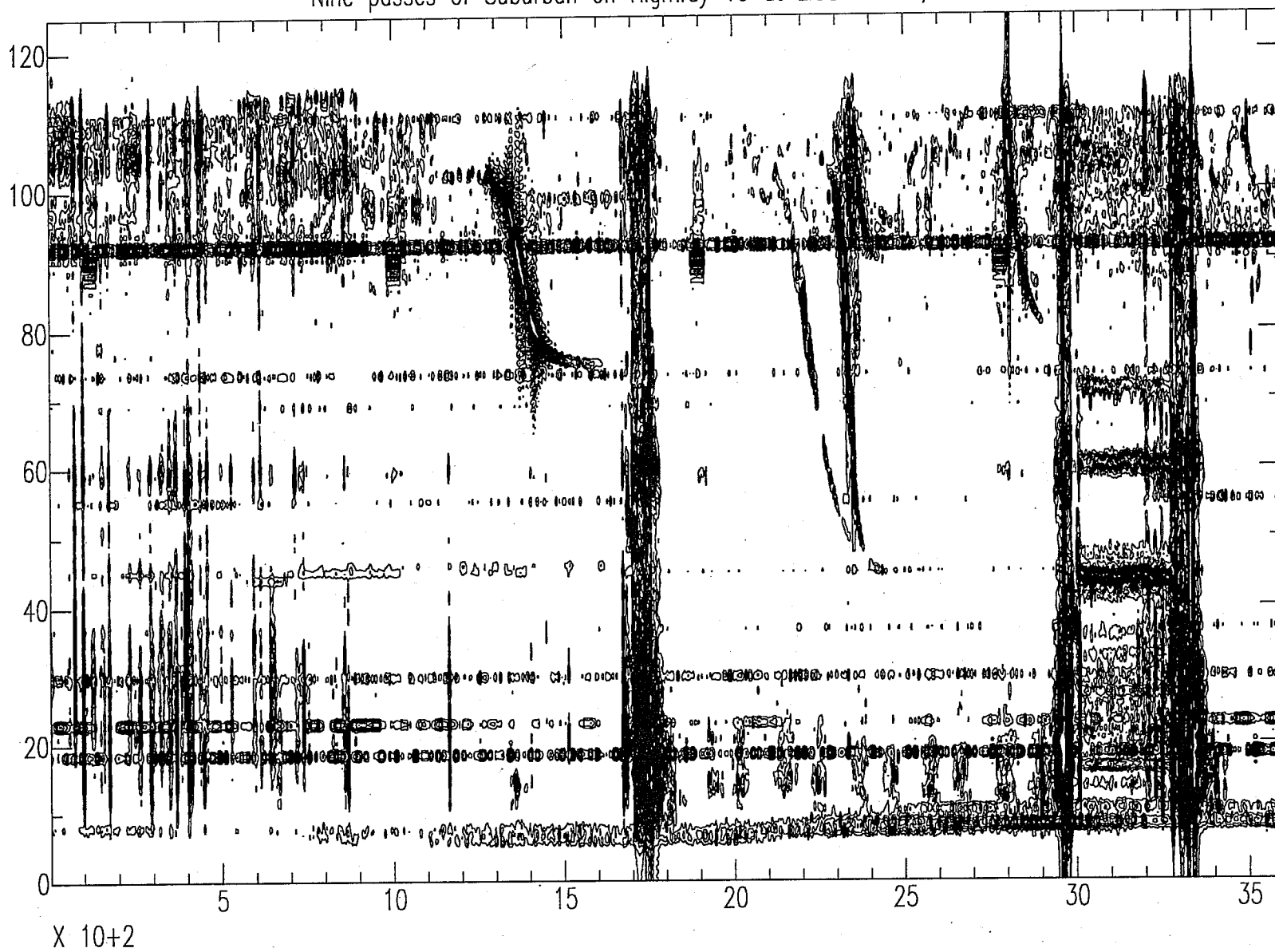
segment 2

segment 3

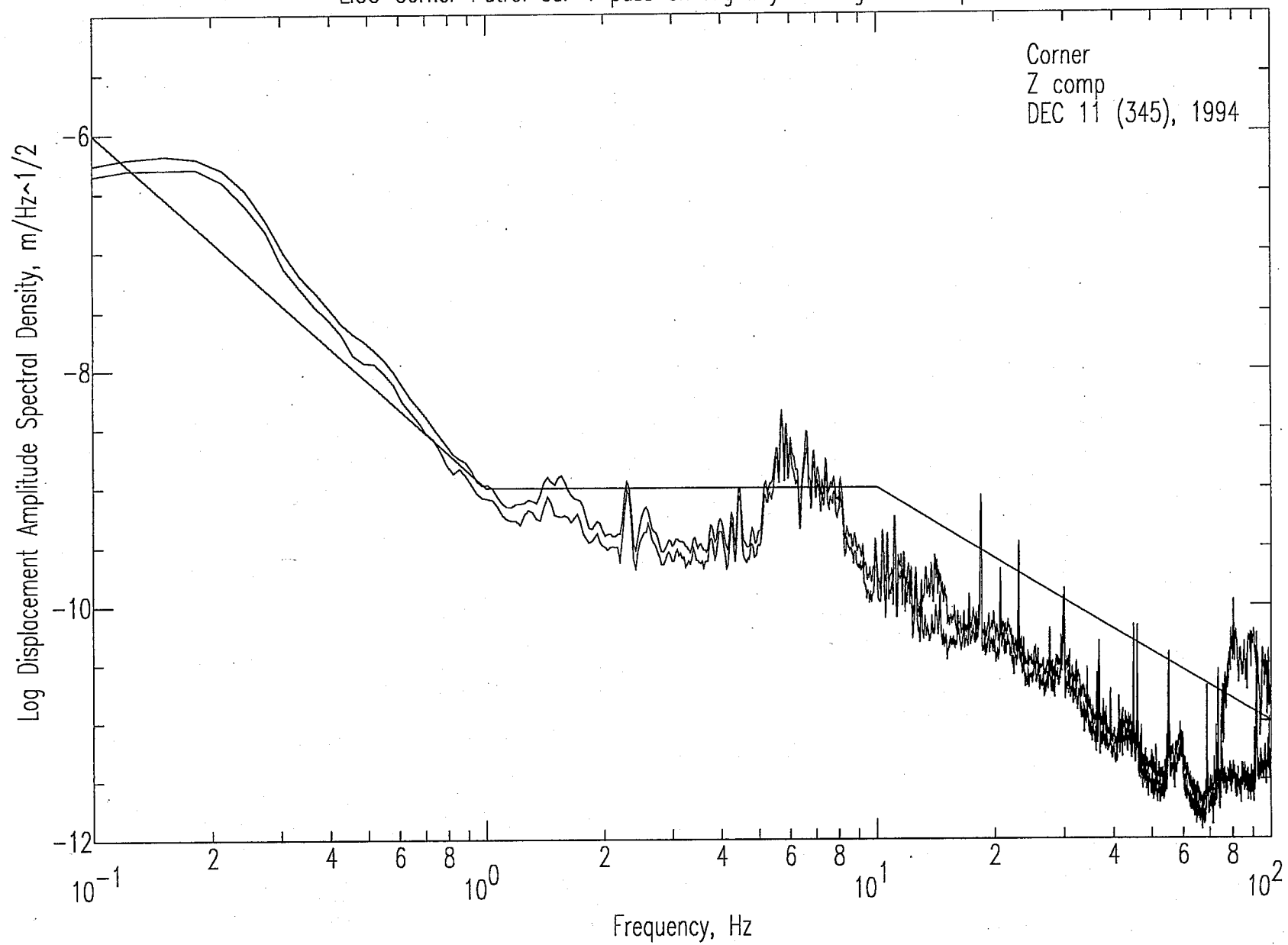
Bandpass Displacement Signals 8-16 Hz

Bandpass Velocity Signals 12-16 Hz

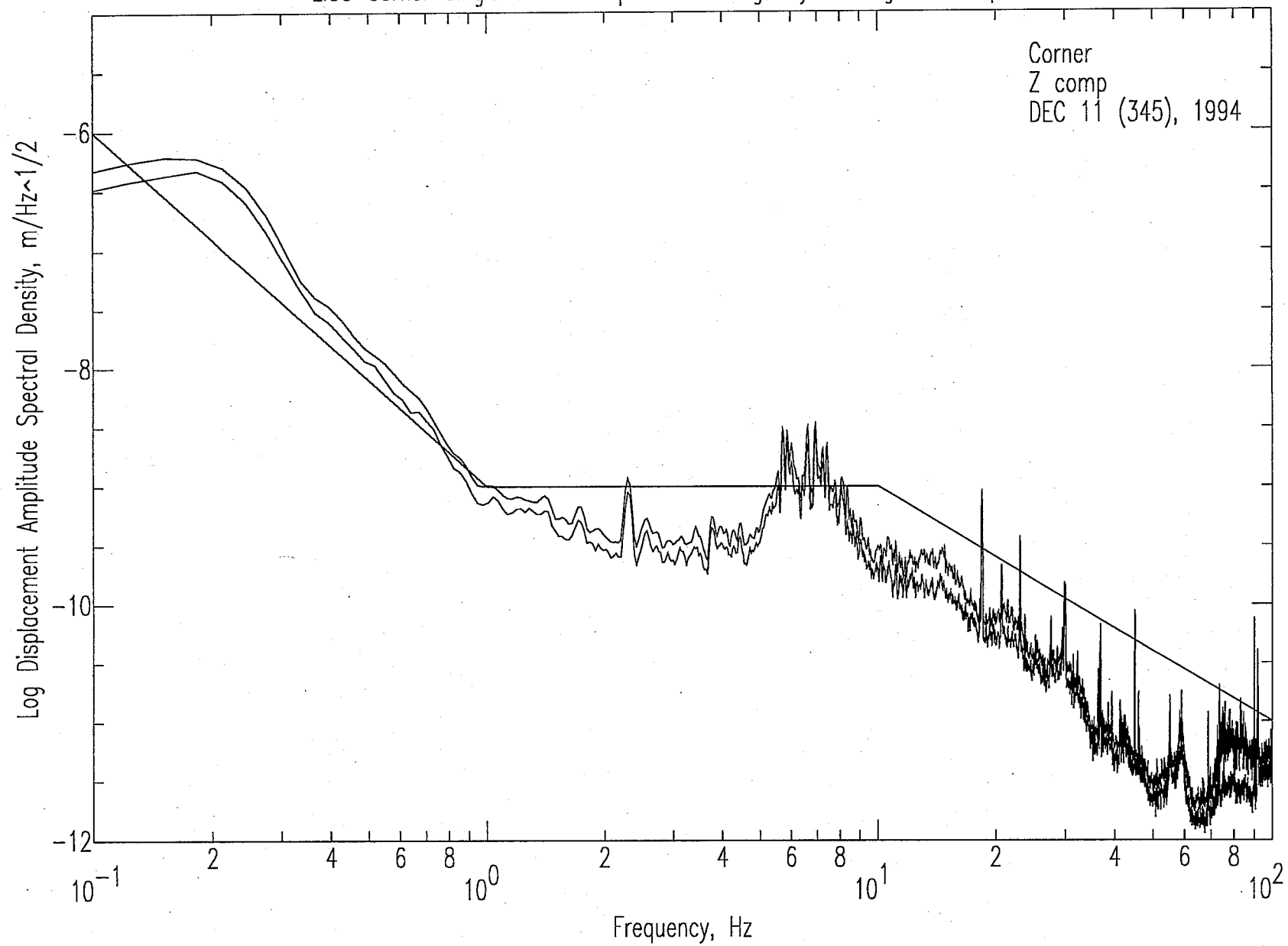
Nine passes of Suburban on Highway 10 at LIGO Corner, Vertical



LIGO Corner Patrol car 1 pass on Highway 10 seg0.1.sac Spectra

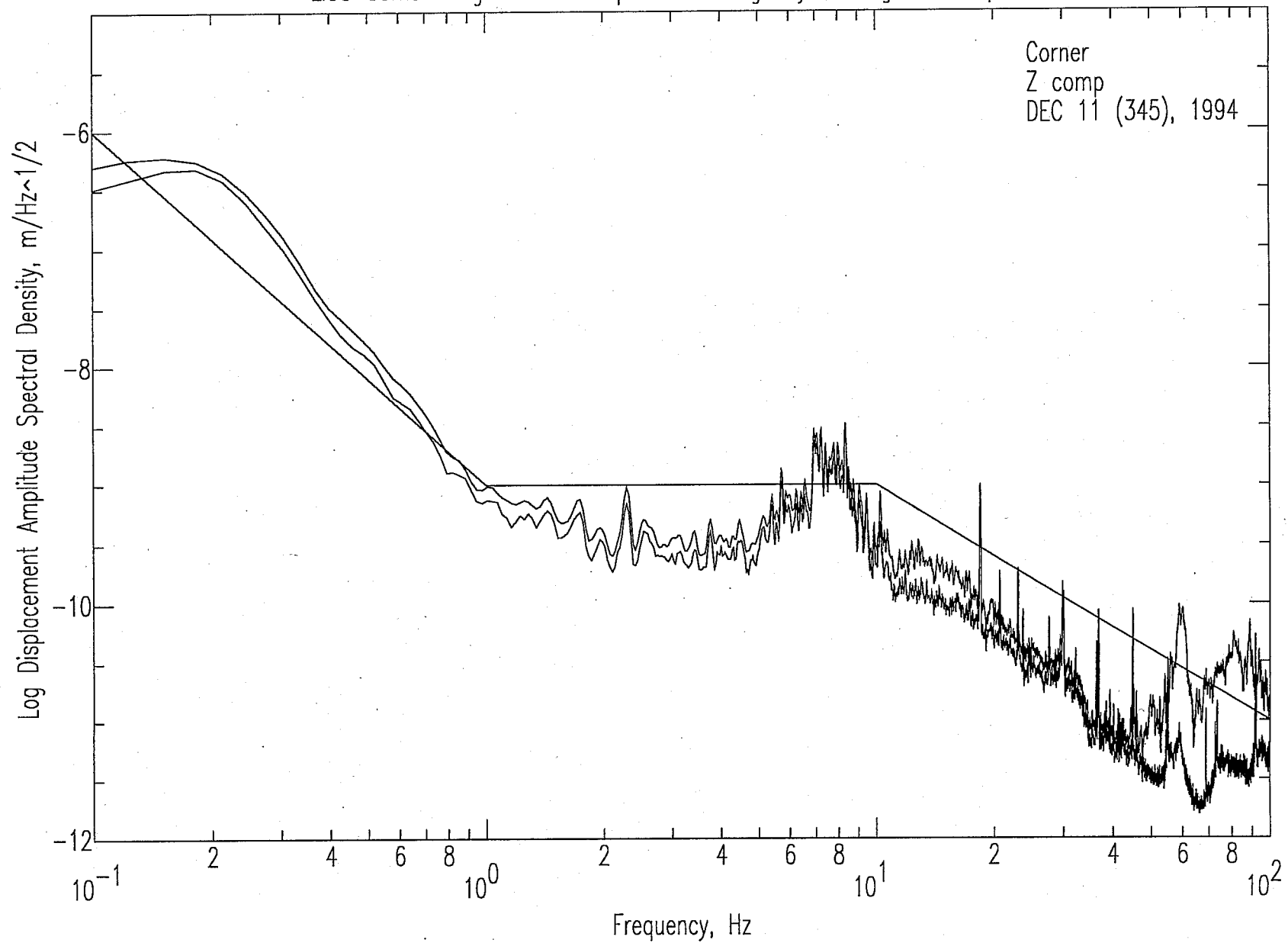


LIGO Corner Single Vehicle 3 passes on Highway 10 seg1.1.sac Spectra

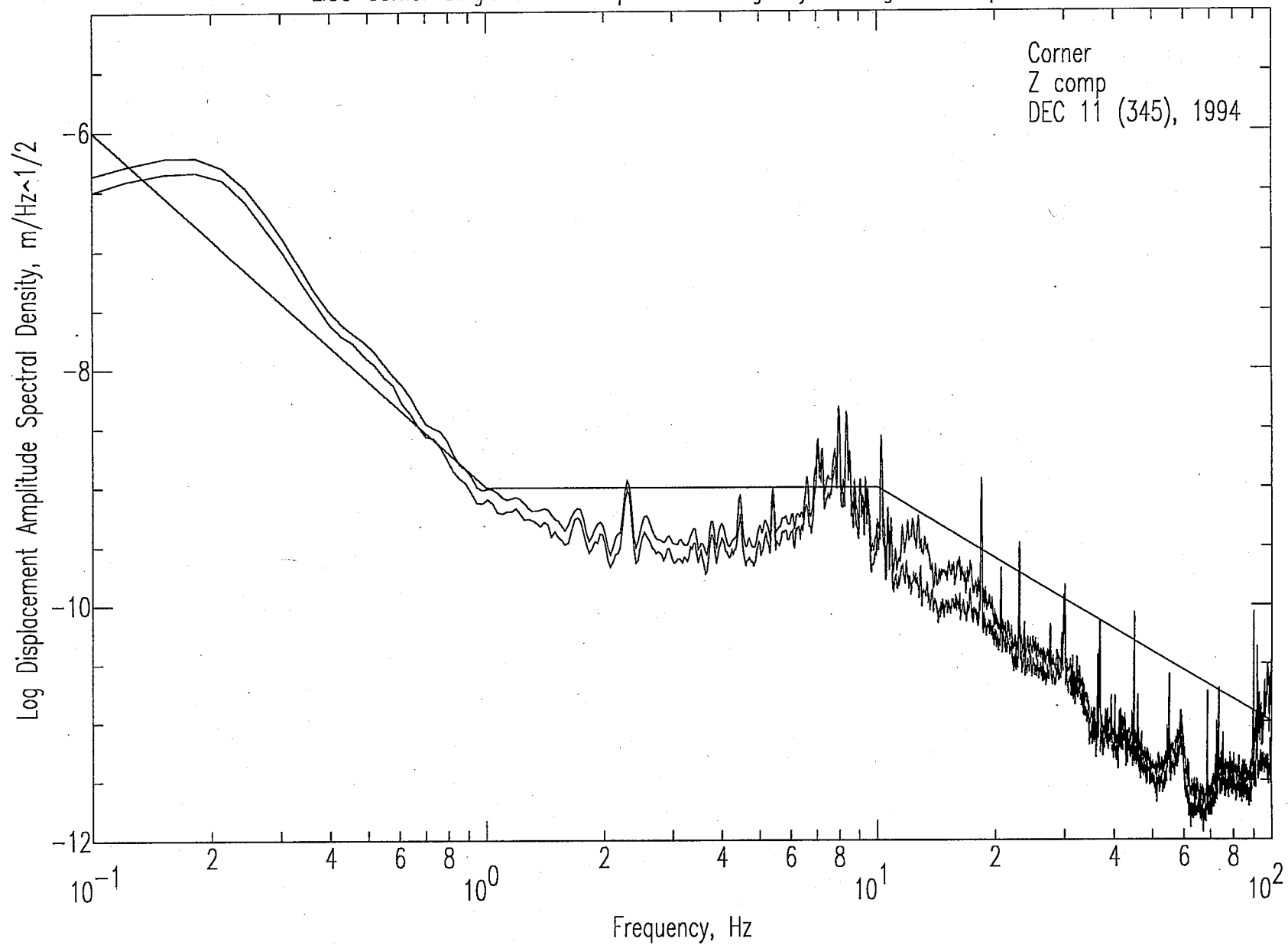




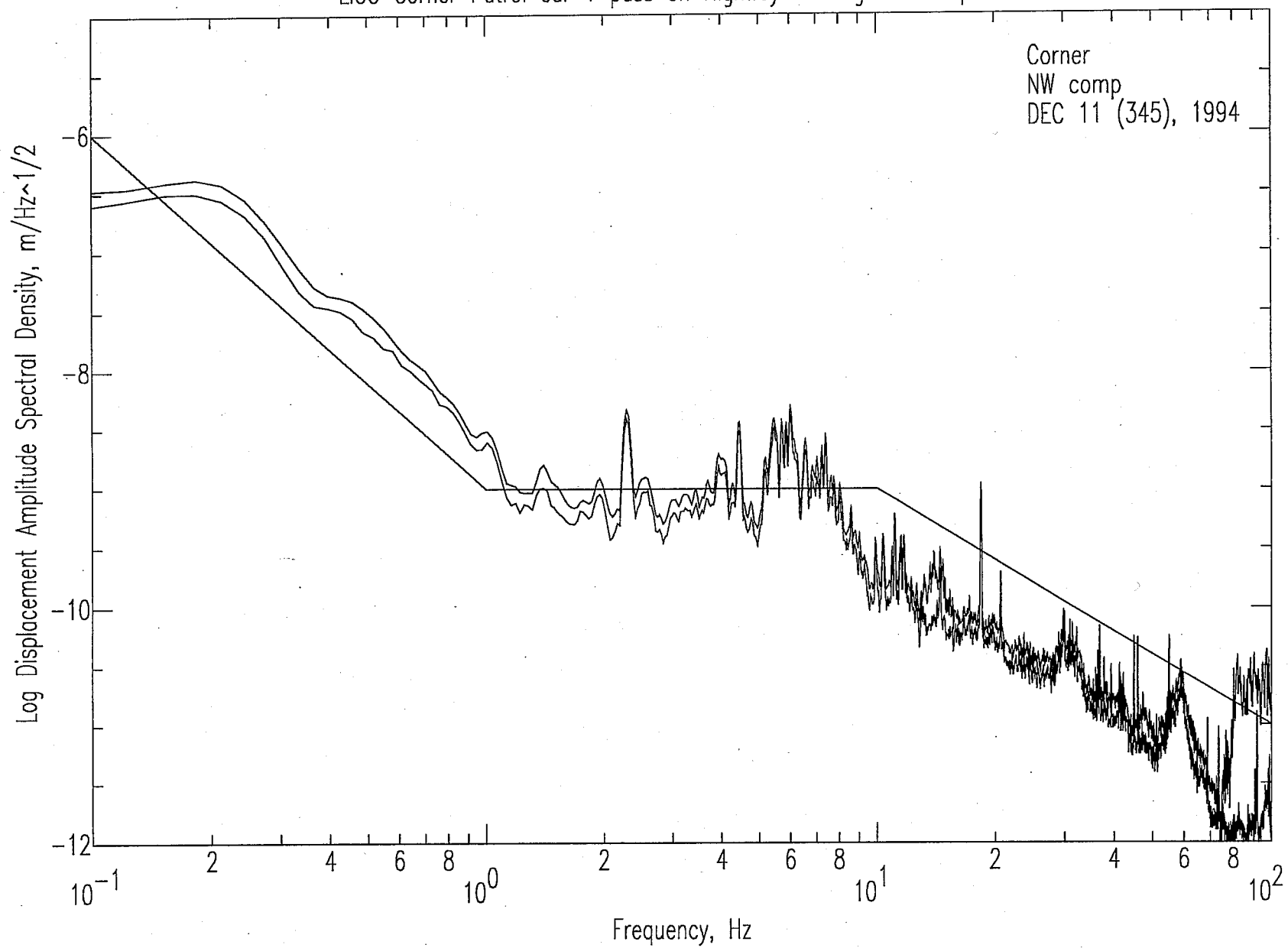
LIGO Corner Single Vehicle 3 passes on Highway 10 seg2.1.sac Spectra



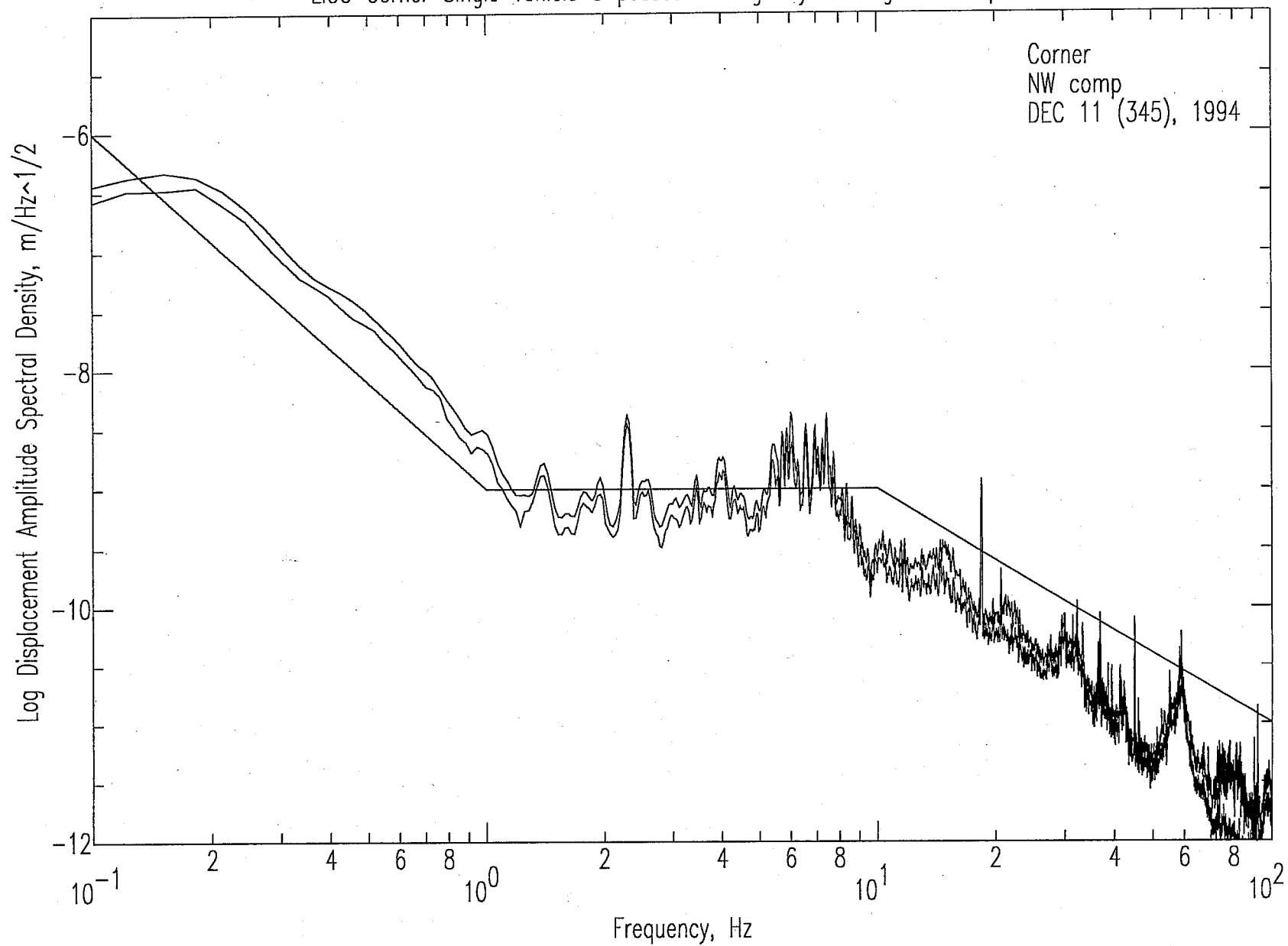
LIGO Corner Single Vehicle 3 passes on Highway 10 seg3.1.sac Spectra



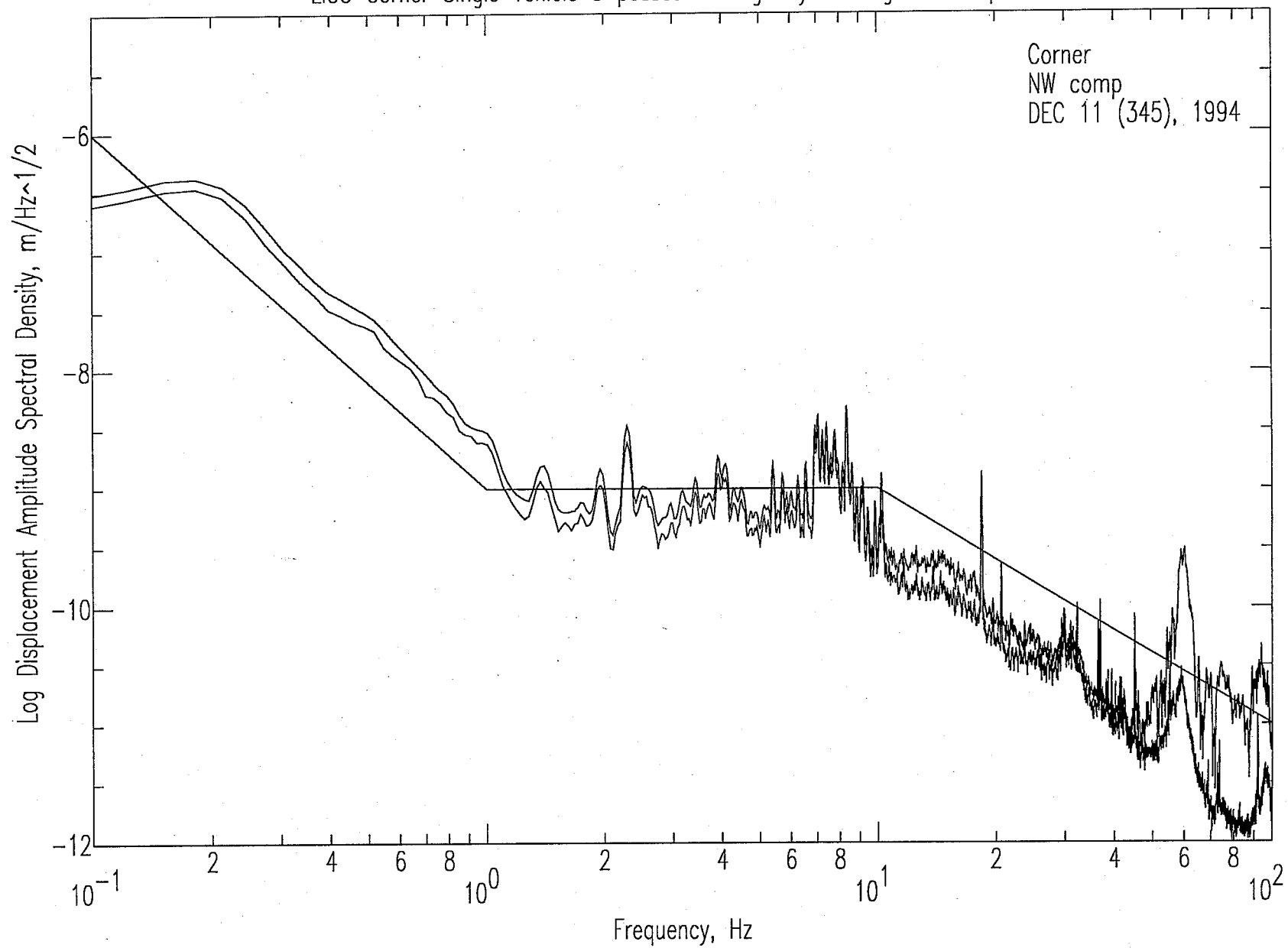
LIGO Corner Patrol car 1 pass on Highway 10 seg0.2.sac Spectra



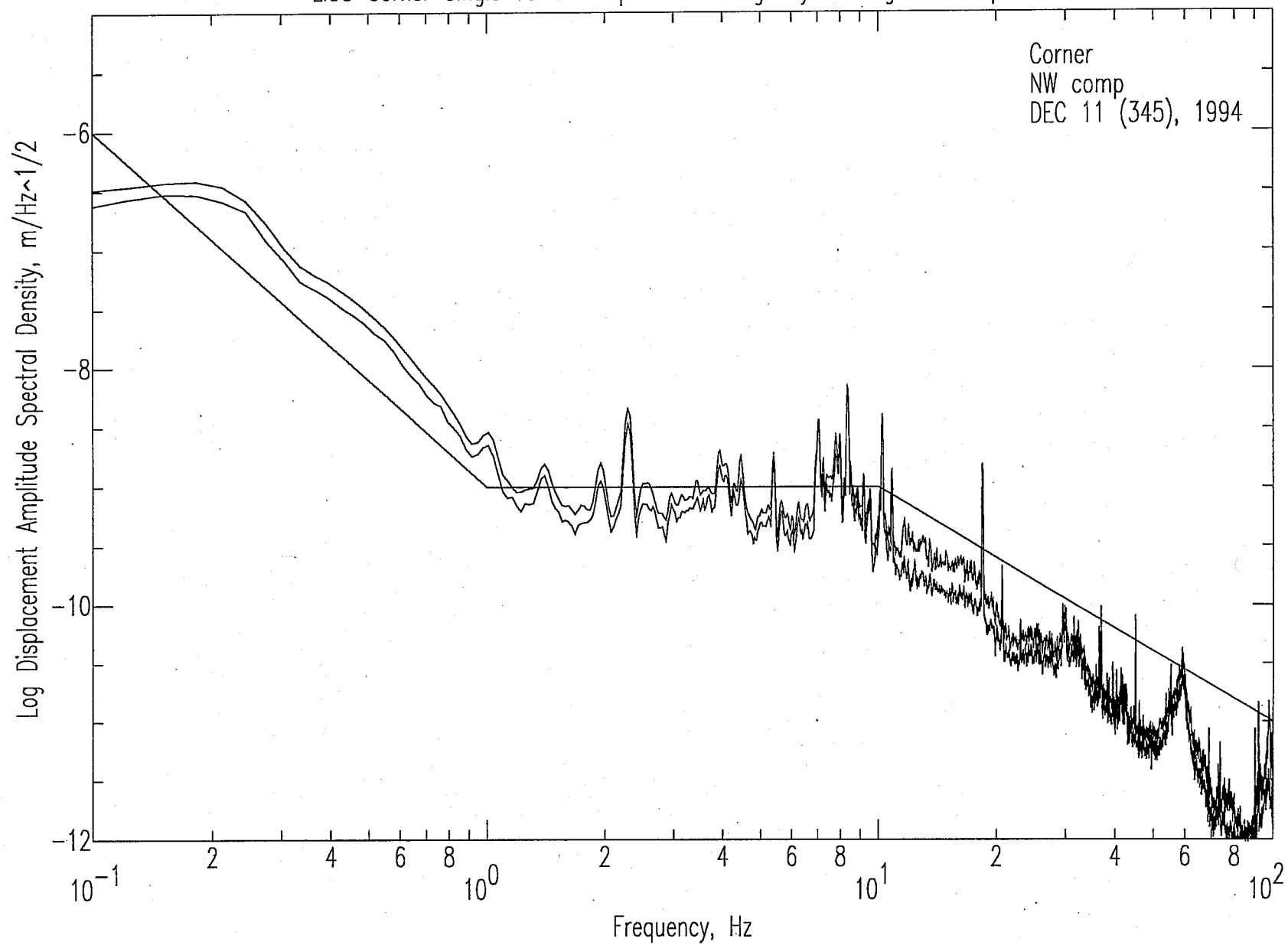
LIGO Corner Single Vehicle 3 passes on Highway 10 seg1.2.sac Spectra



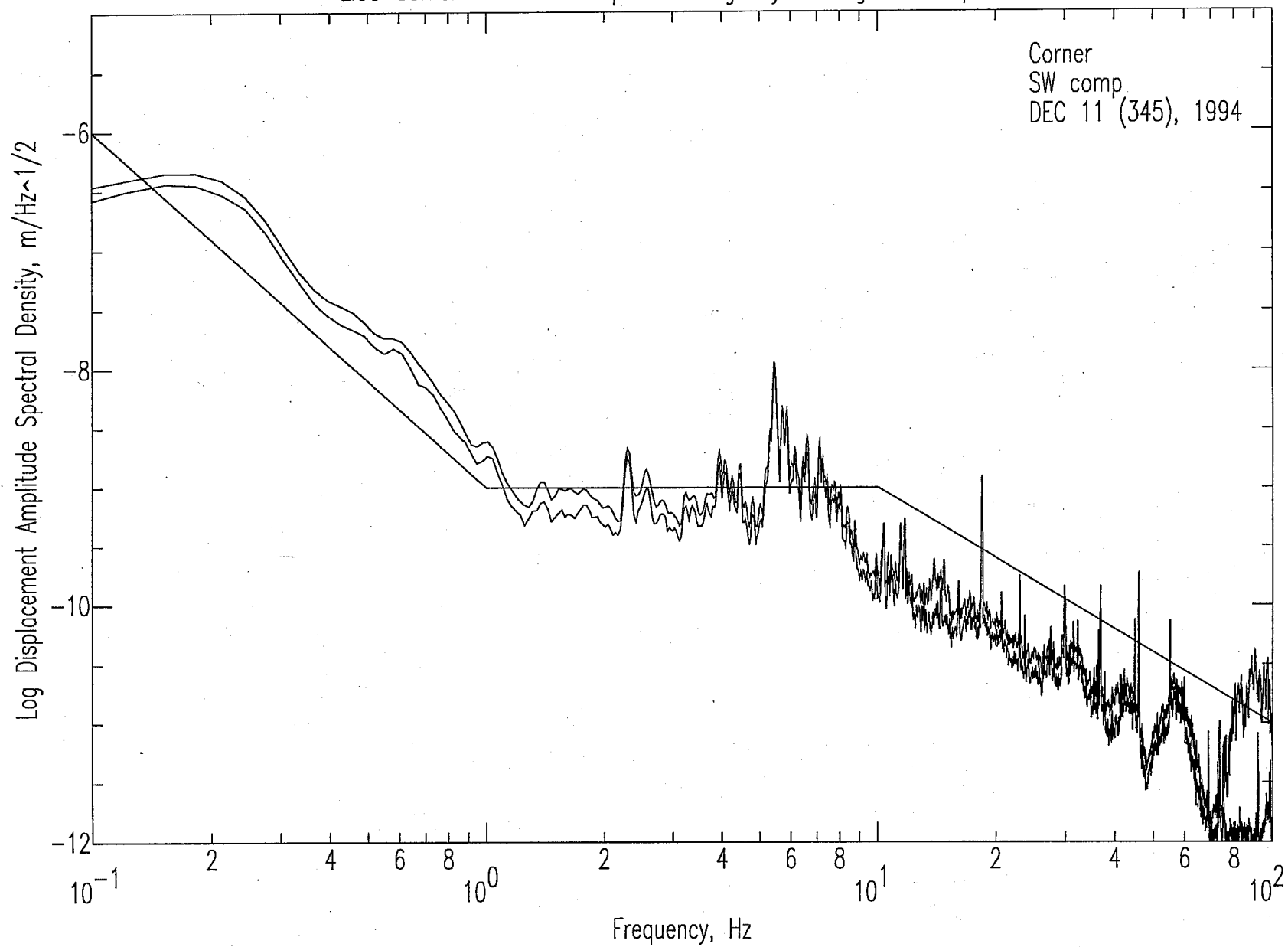
LIGO Corner Single Vehicle 3 passes on Highway 10 seg2.2.sac Spectra



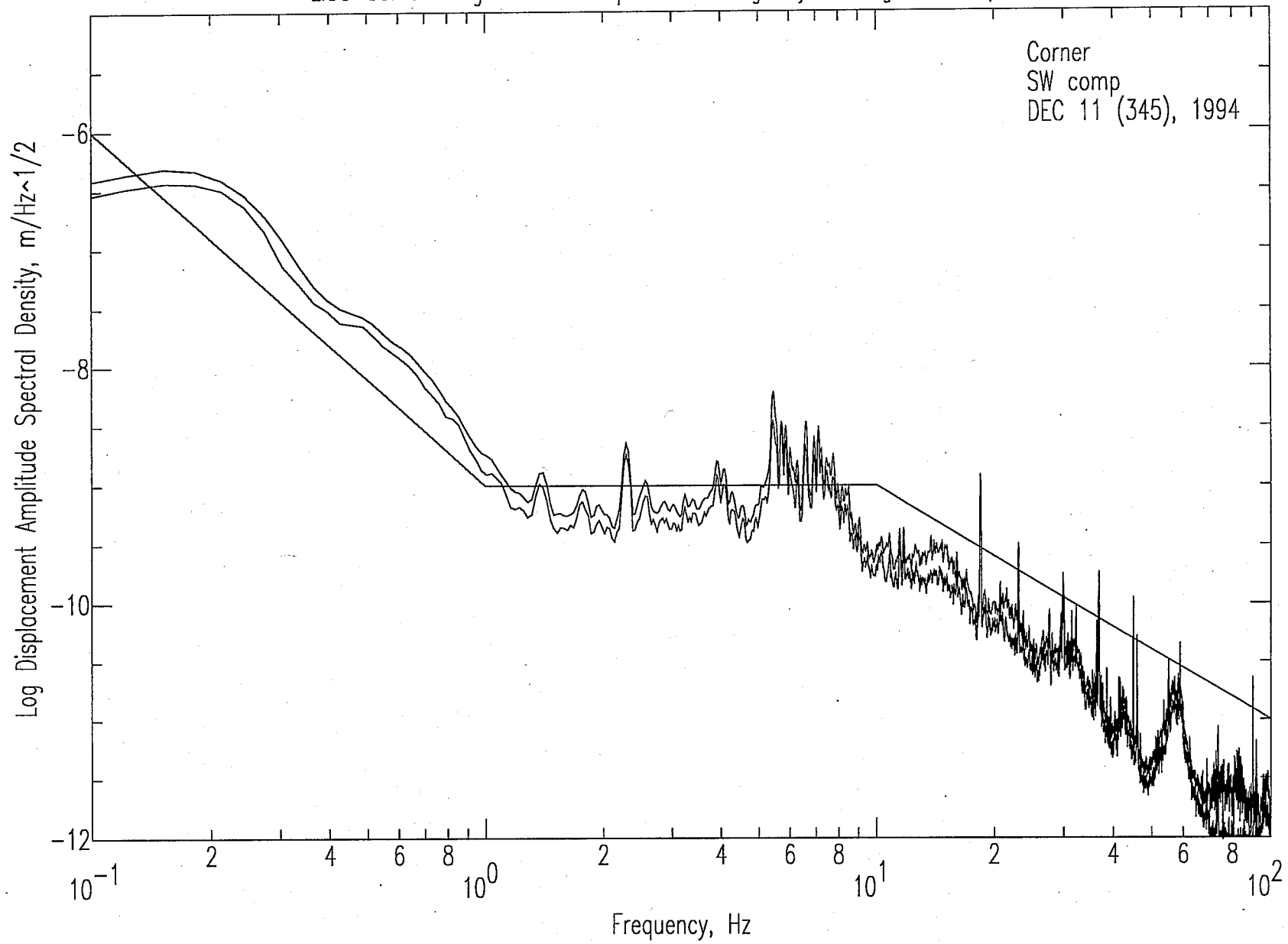
LIGO Corner Single Vehicle 3 passes on Highway 10 seg3.2.sac Spectra



LIGO Corner Patrol car 1 pass on Highway 10 seg0.3.sac Spectra

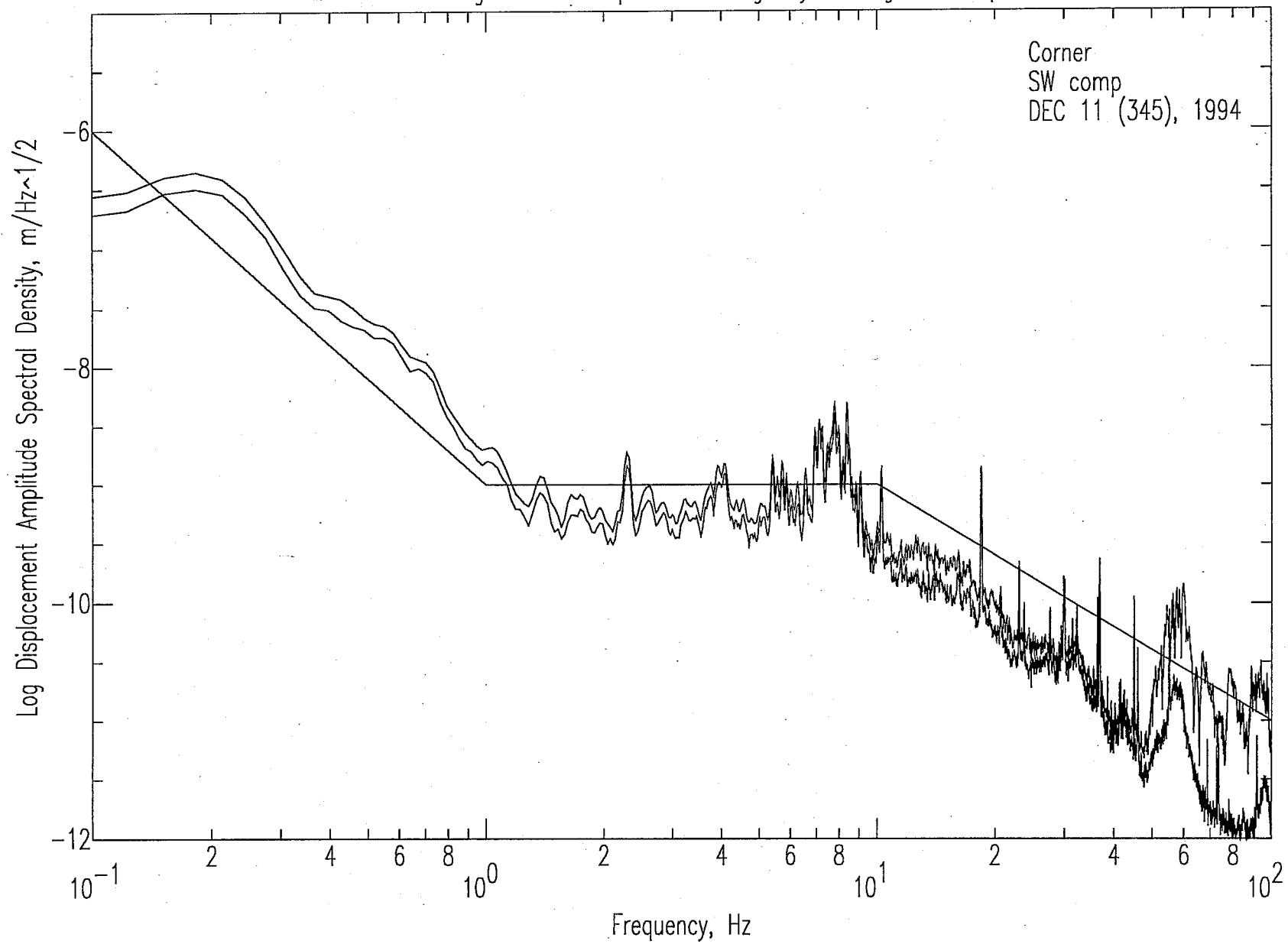


LIGO Corner Single Vehicle 3 passes on Highway 10 seg1.3.sac Spectra

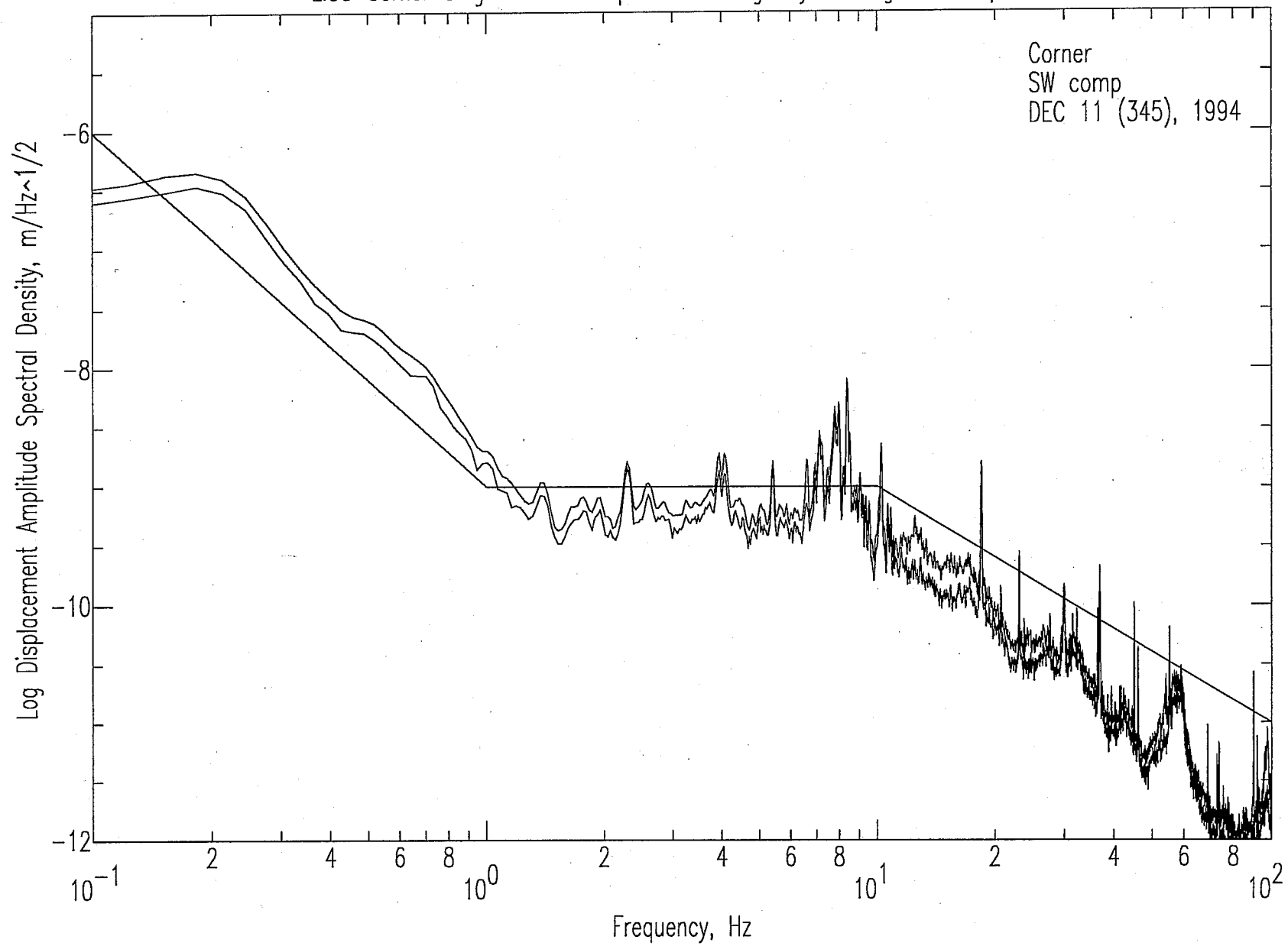




LIGO Corner Single Vehicle 3 passes on Highway 10 seg2.3.sac Spectra

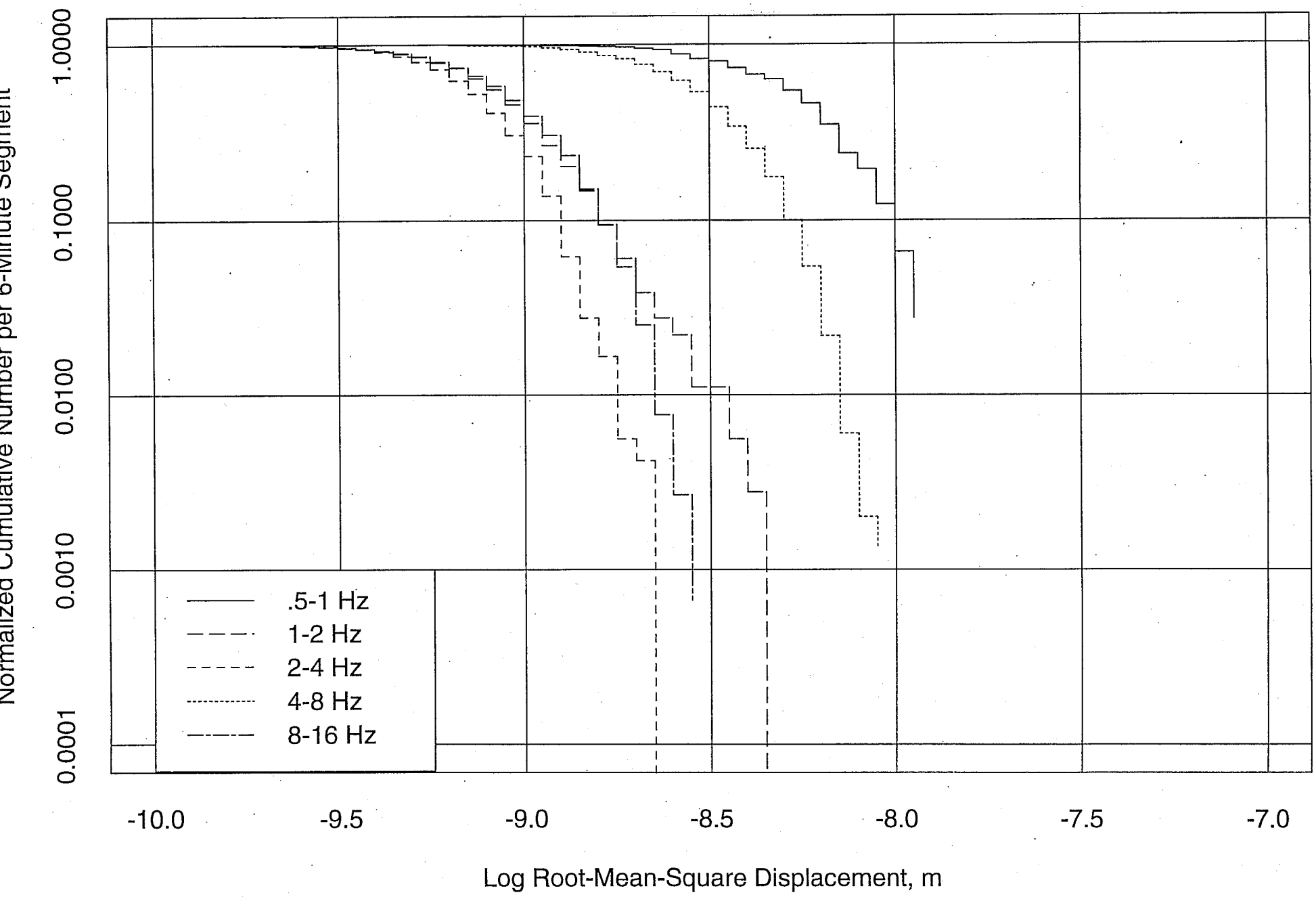


LIGO Corner Single Vehicle 3 passes on Highway 10 seg3.3.sac Spectra



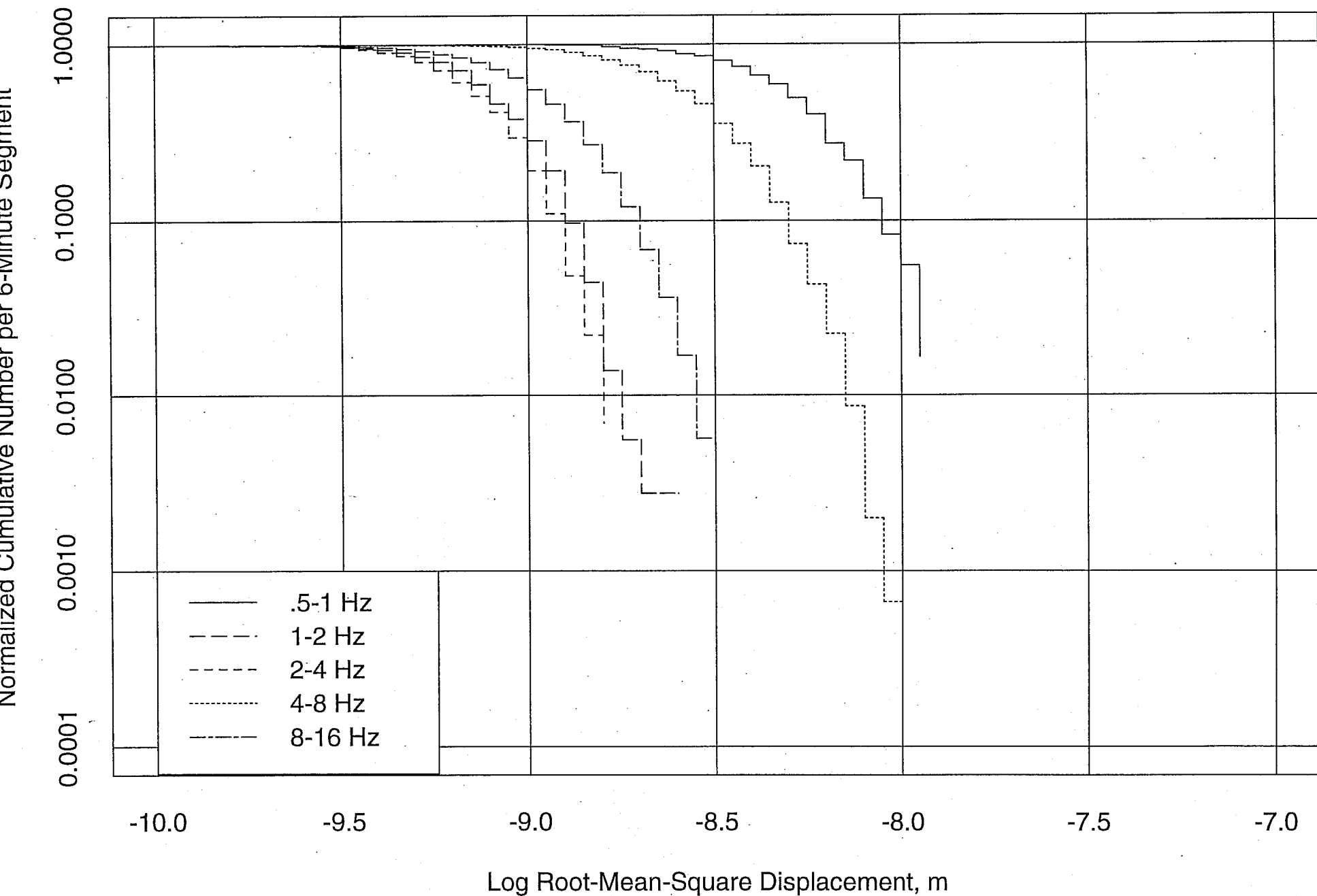
# LIGO Corner 1 car passes on Hwy 10 Vertical Component seg0

LIGO-C950577-00-0



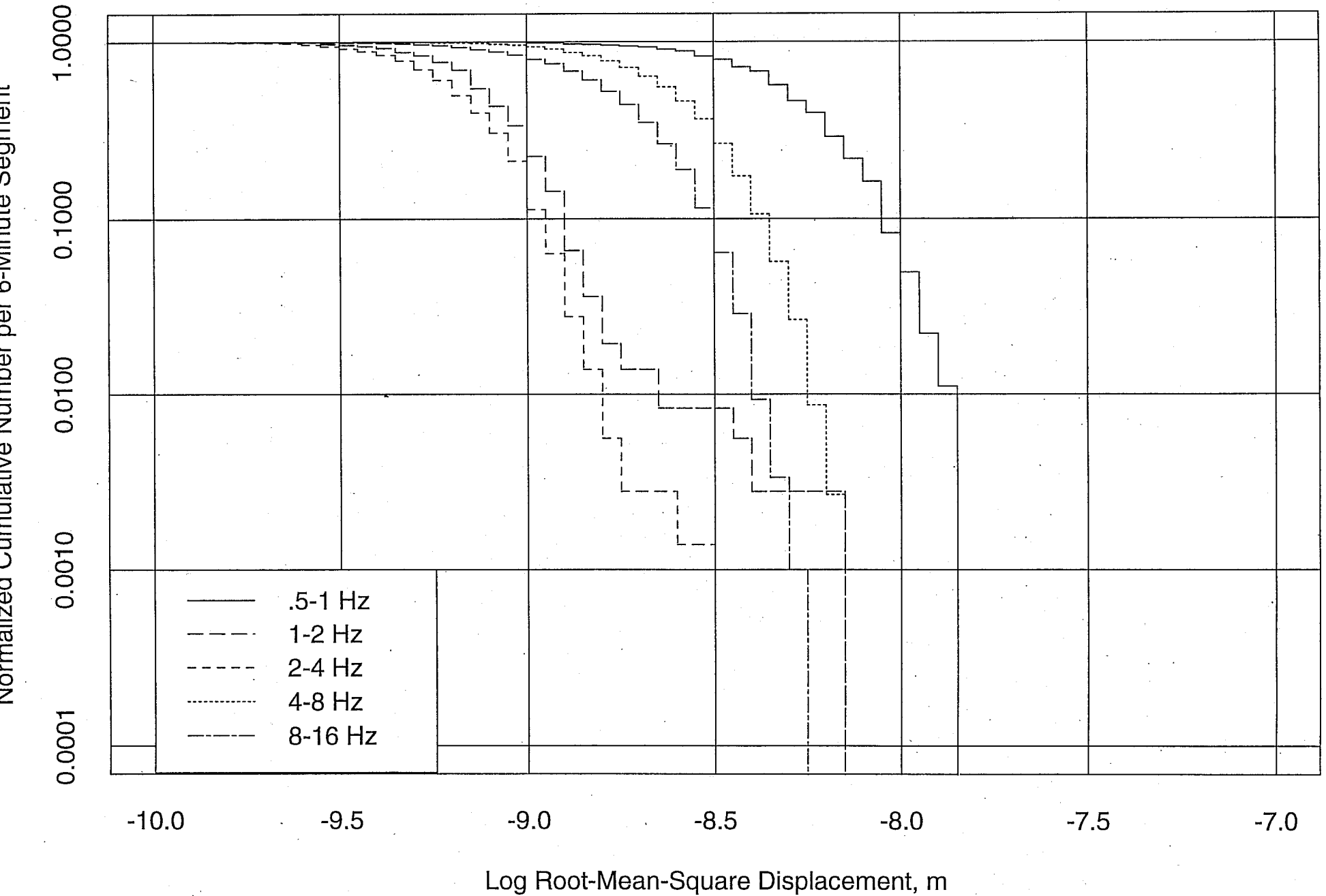
# LIGO Corner 3 - 4 Vehicle passes on Hwy 10 Vertical Component seg 1

LIGO-C950577-00-0



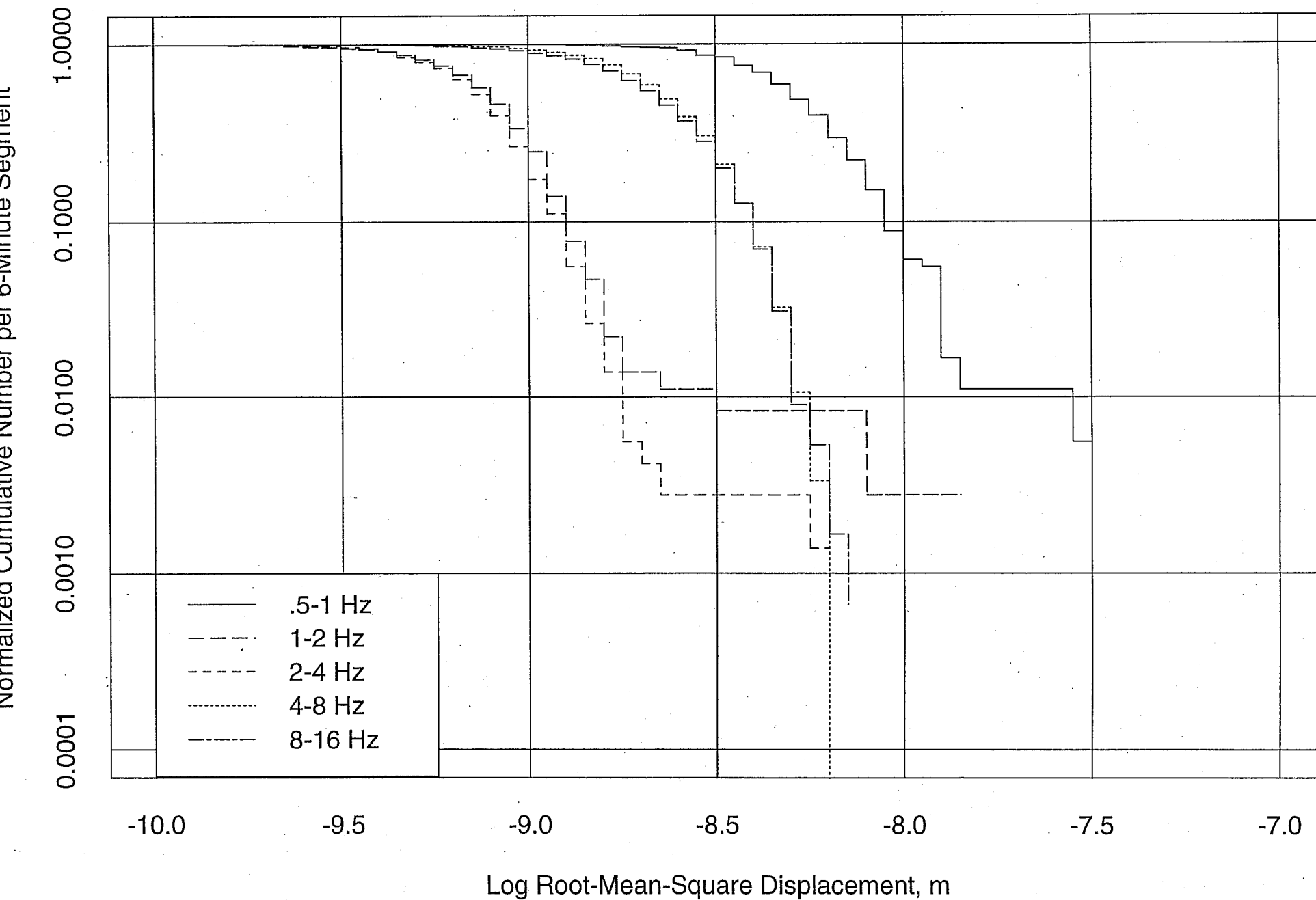
# LIGO Corner 3 - 4 Vehicle passes on Hwy 10 Vertical Component seg2

LIGO-C950577-00-0



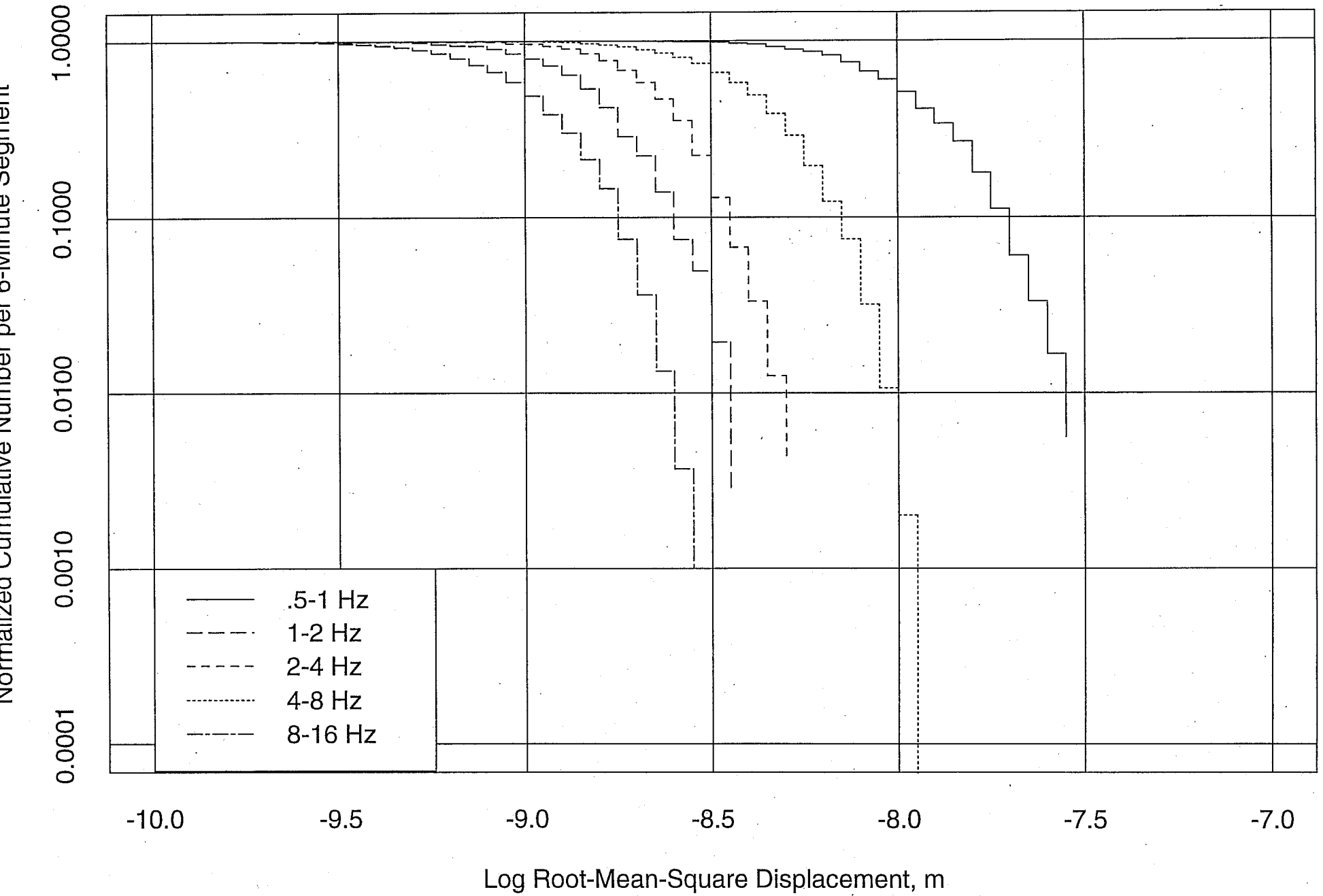
# LIGO Corner 3 - 4 Vehicle passes on Hwy 10 Vertical Component seg3

LIGO-C950577-00-0



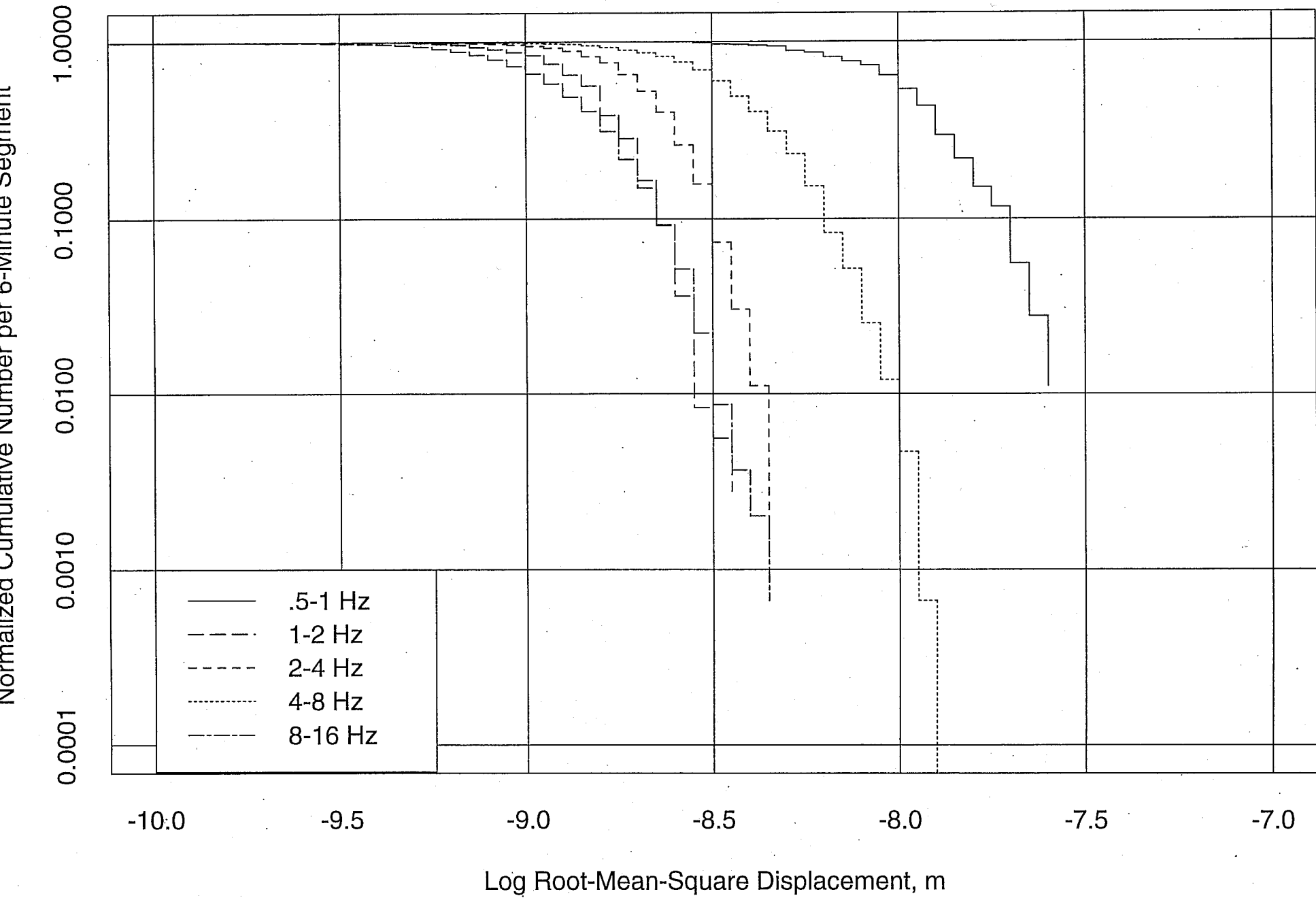
# LIGO Corner 1 car passes on Hwy 10 Northwest Component seg0

LIGO-6950577-00-0



# LIGO Corner 3 - 4 Vehicle passes on Hwy 10 Northwest Component seg 1

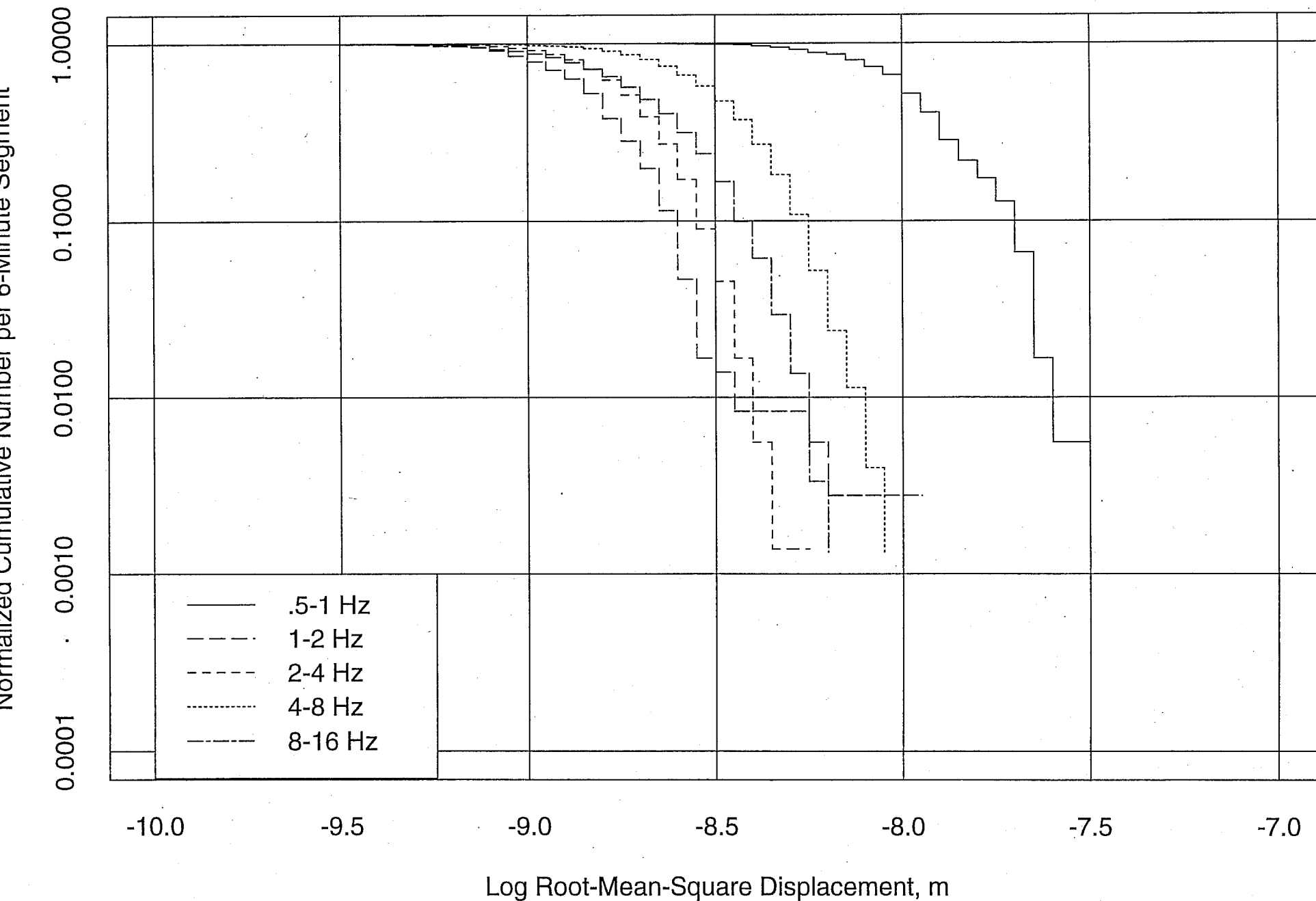
LIGO-C950577-00-0





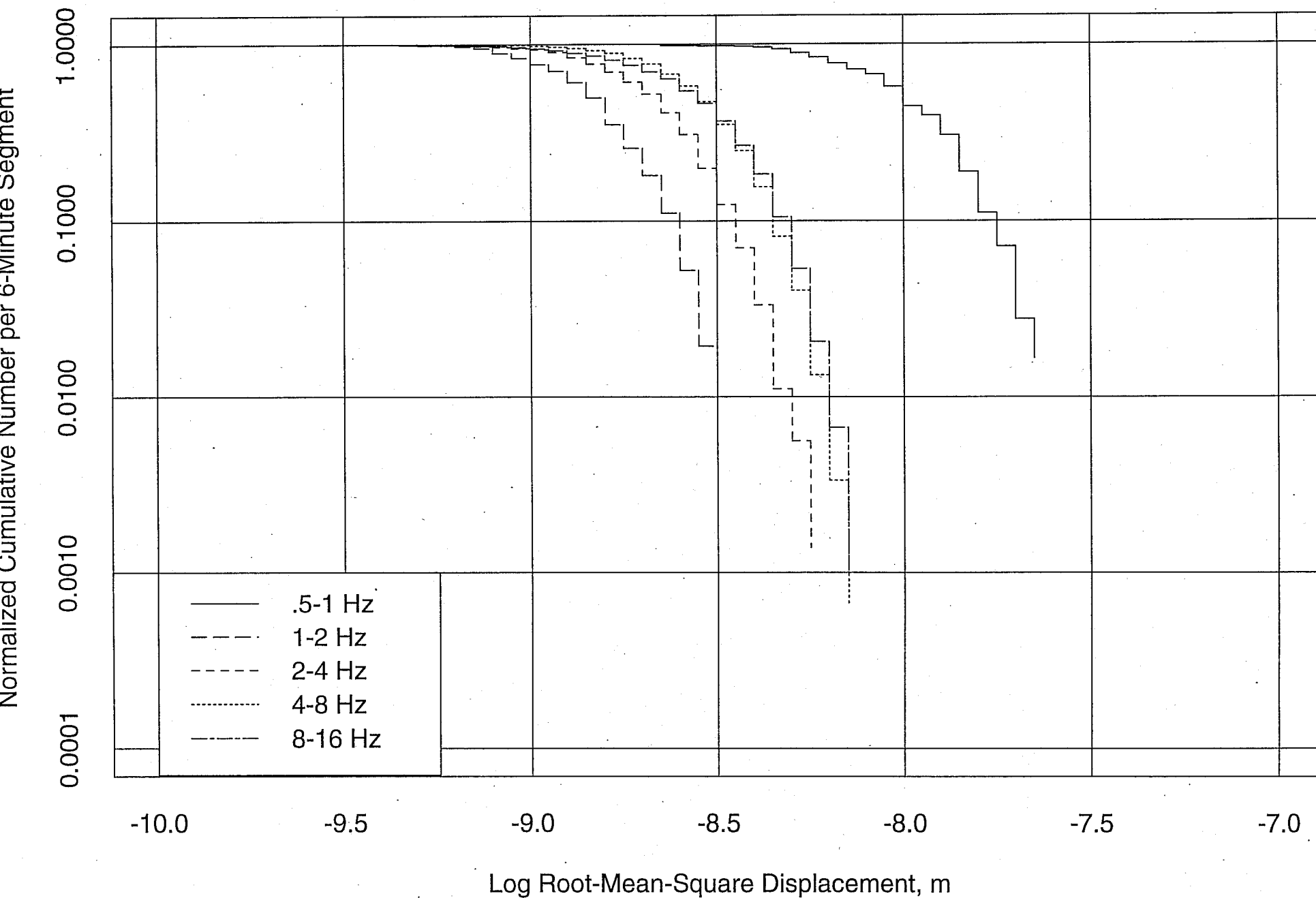
# LIGO Corner 3 - 4 Vehicle passes on Hwy 10 Northwest Component seg2

LIGO-C950573-00-0



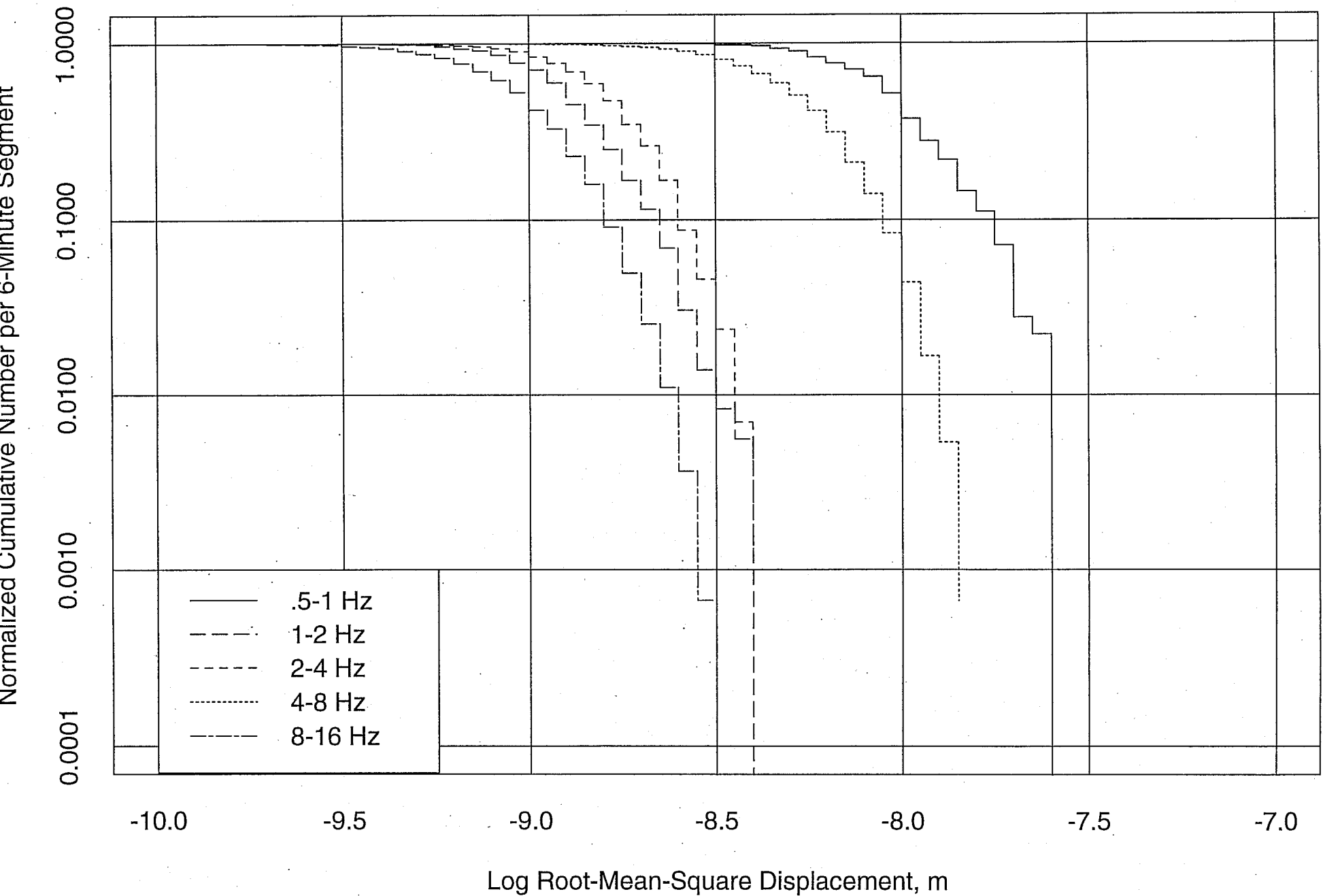
# LIGO Corner 3 - 4 Vehicle passes on Hwy 10 Northwest Component seg3

LIGO-C950577-00-0



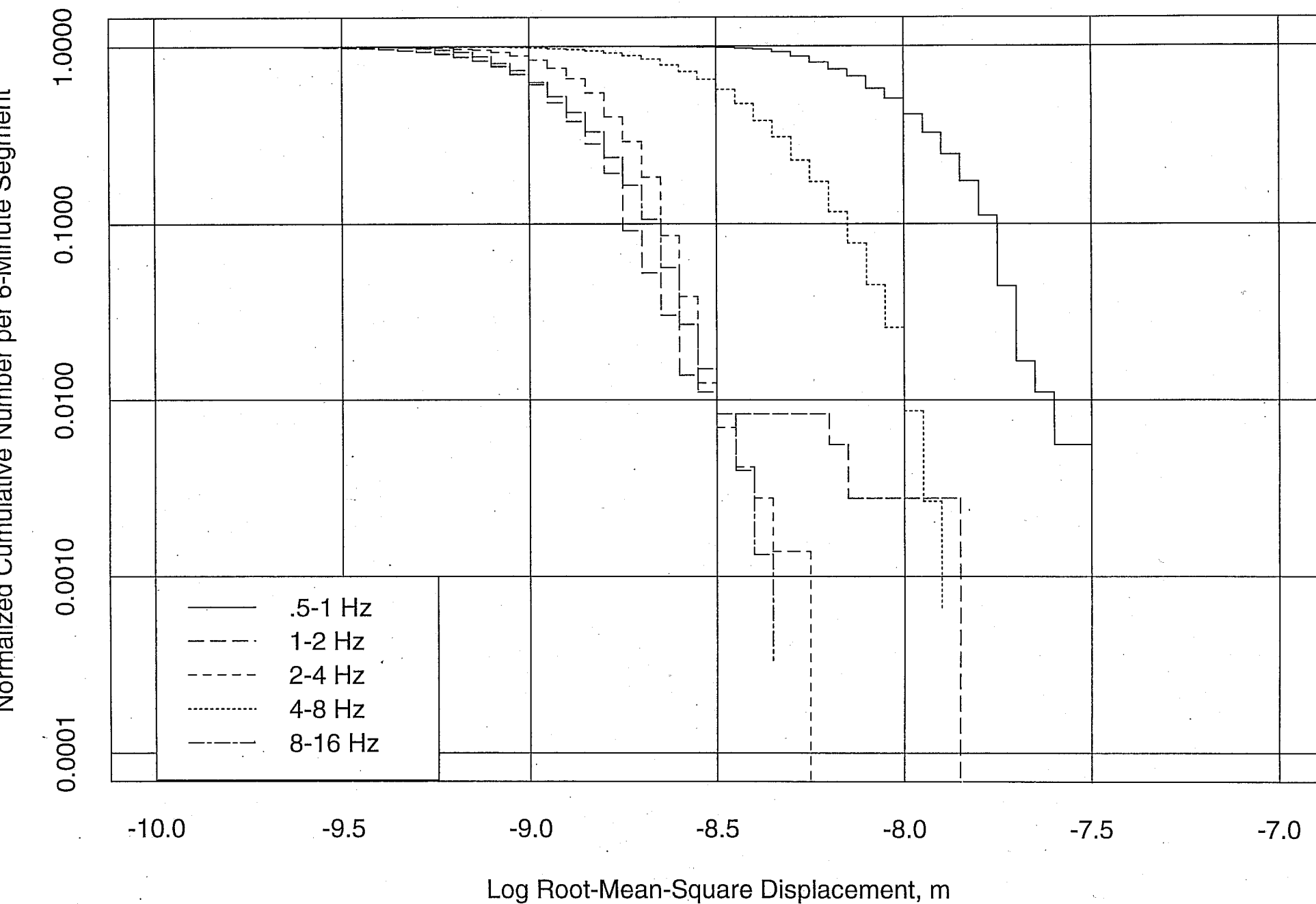
# LIGO Corner 1 car passes on Hwy 10 Southwest Component seg0

LIGO-0950577-00-0



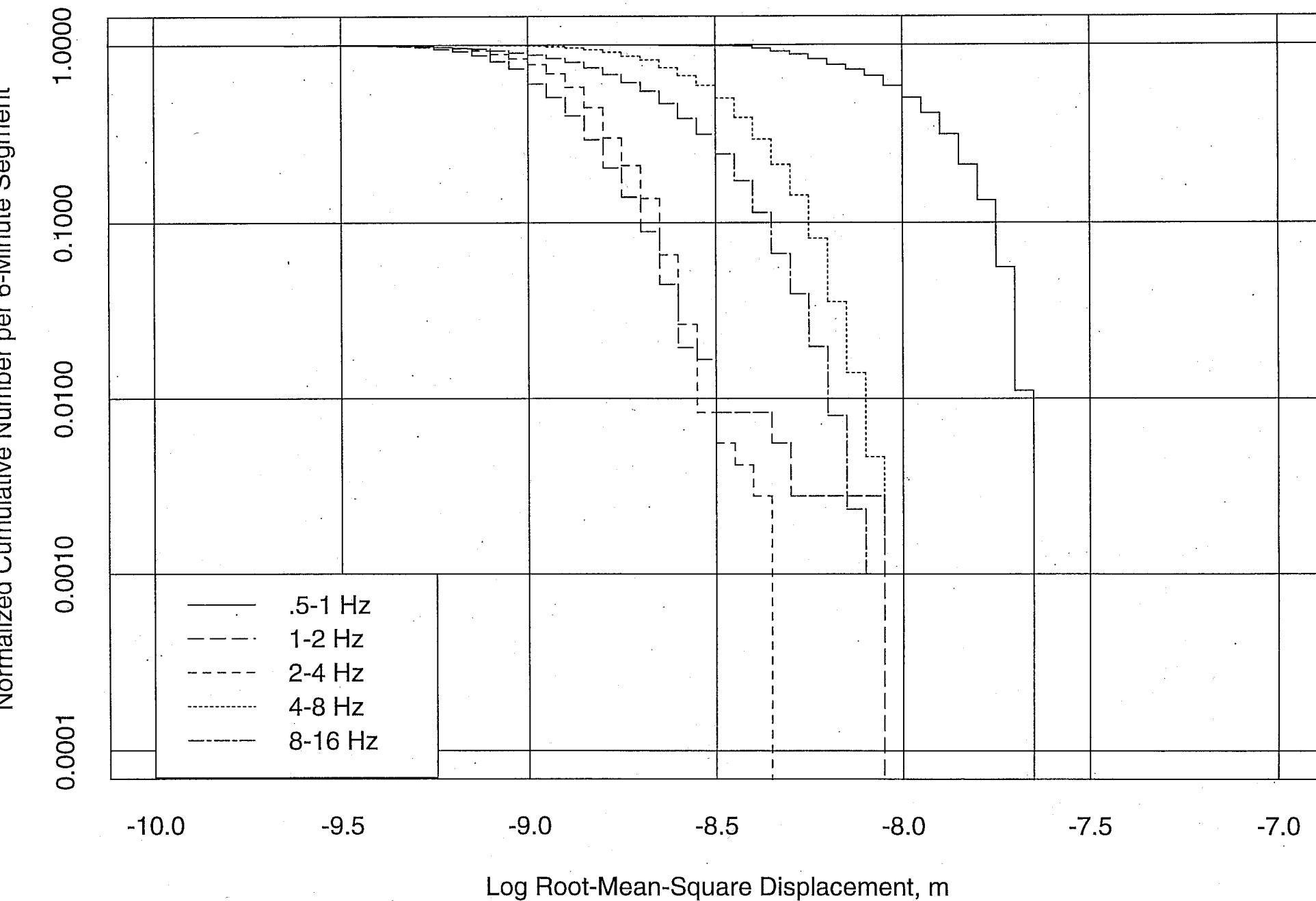
# LIGO Corner 3 - 4 Vehicle passes on Hwy 10 Southwest Component seg 1

LIGO-C950577-00-0



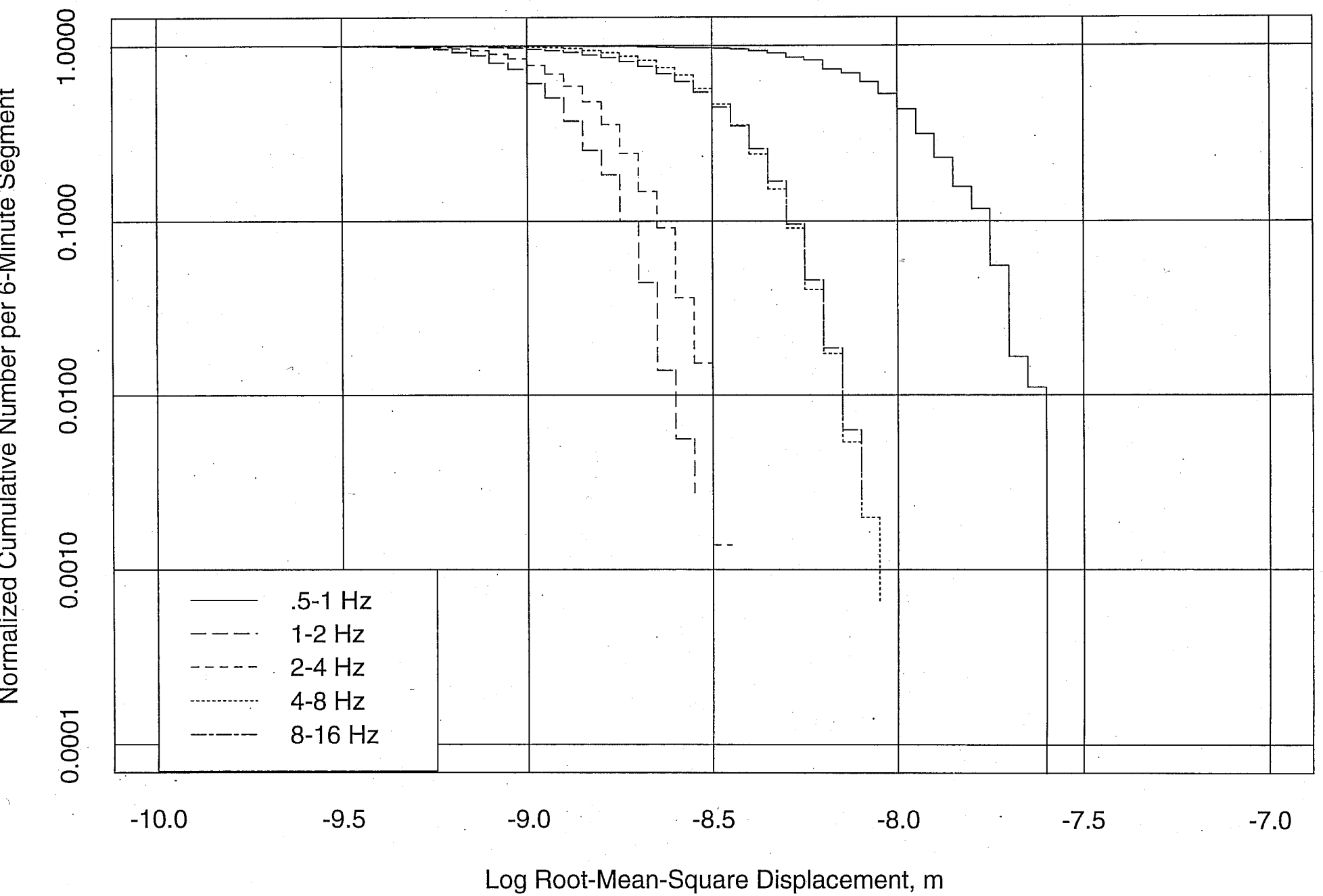
# LIGO Corner 3 - 4 Vehicle passes on Hwy 10 Southwest Component seg2

LIGO-C950577-00-0

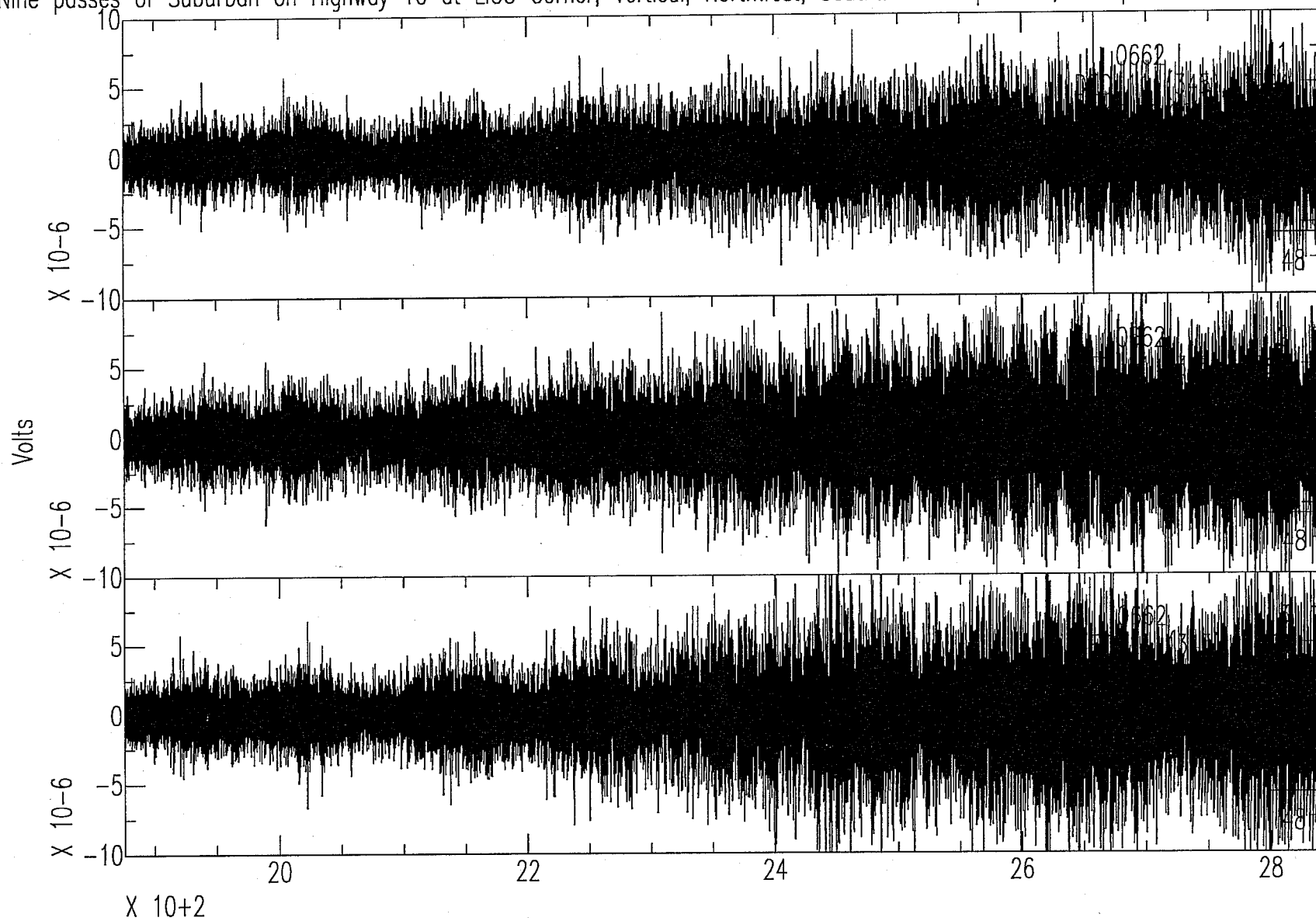


# LIGO Corner 3 - 4 Vehicle passes on Hwy 10 Southwest Component seg3

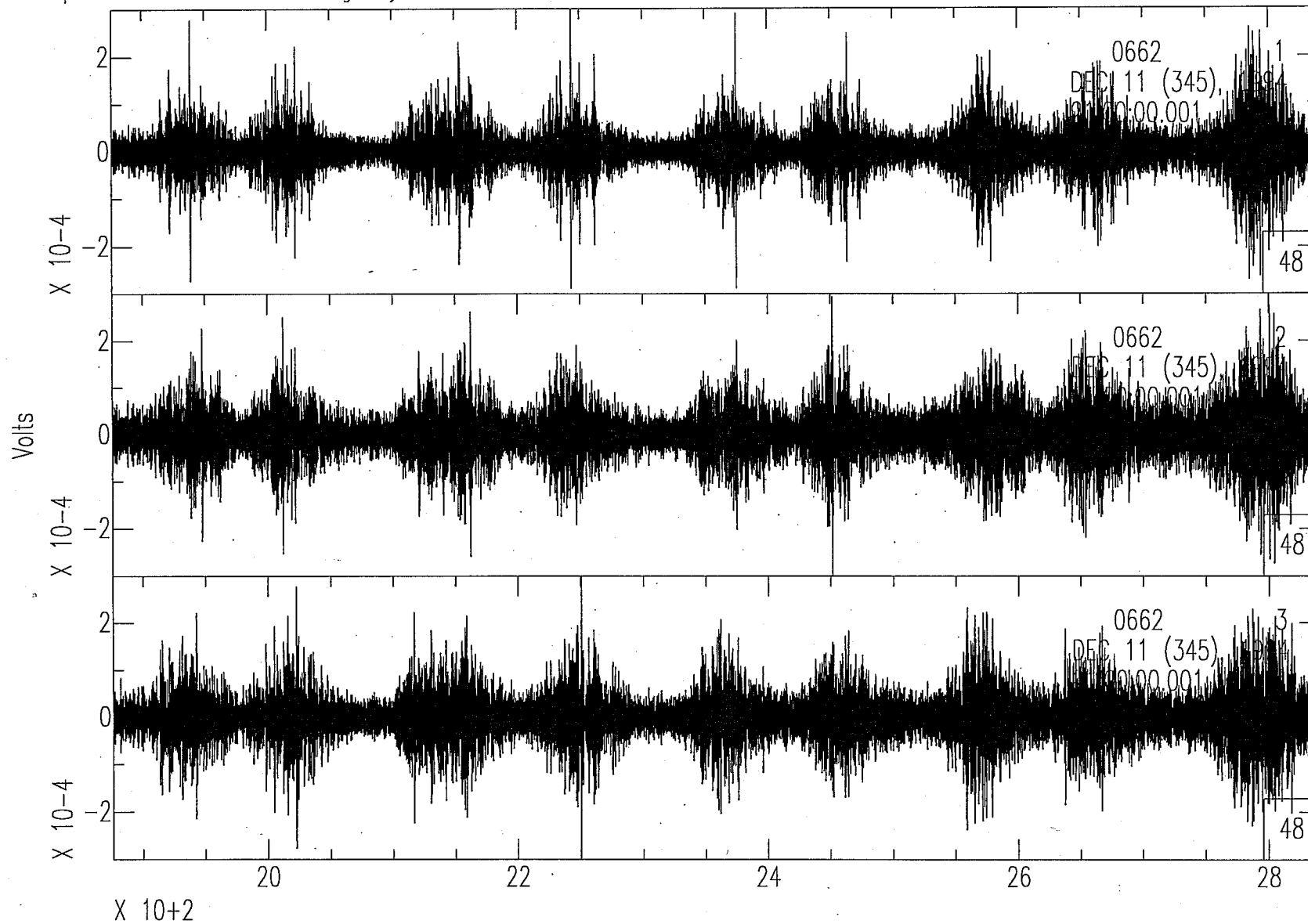
LIGO-C950577-00-0



Nine passes of Suburban on Highway 10 at LIGO Corner, Vertical, Northwest, Southwest Components, Bandpassed 8–16 Hz, Displacement



Nine passes of Suburban on Highway 10 at LIGO Corner, Vertical, Northwest, Southwest Components, Bandpassed 12–16 Hz, Velocity





## Traffic Noise Plots

### LIGO Corner Weekday Rush Hour (Multiple Vehicles)

#### Vertical Acceleration Spectrograms

2pm-3pm PST

3pm-4pm PST

4pm-5pm PST

#### Vertical Component Spectra

segment 0

segment 1

segment 2

segment 3

#### Northwest Component Spectra

segment 0

segment 1

segment 2

segment 3

#### Southwest Component Spectra

segment 0

segment 1

segment 2

segment 3

#### Vertical Component Histograms

segment 0

segment 1

segment 2

segment 3

#### Northwest Component Histograms

segment 0

segment 1

segment 2

segment 3

#### Southwest Component Histograms

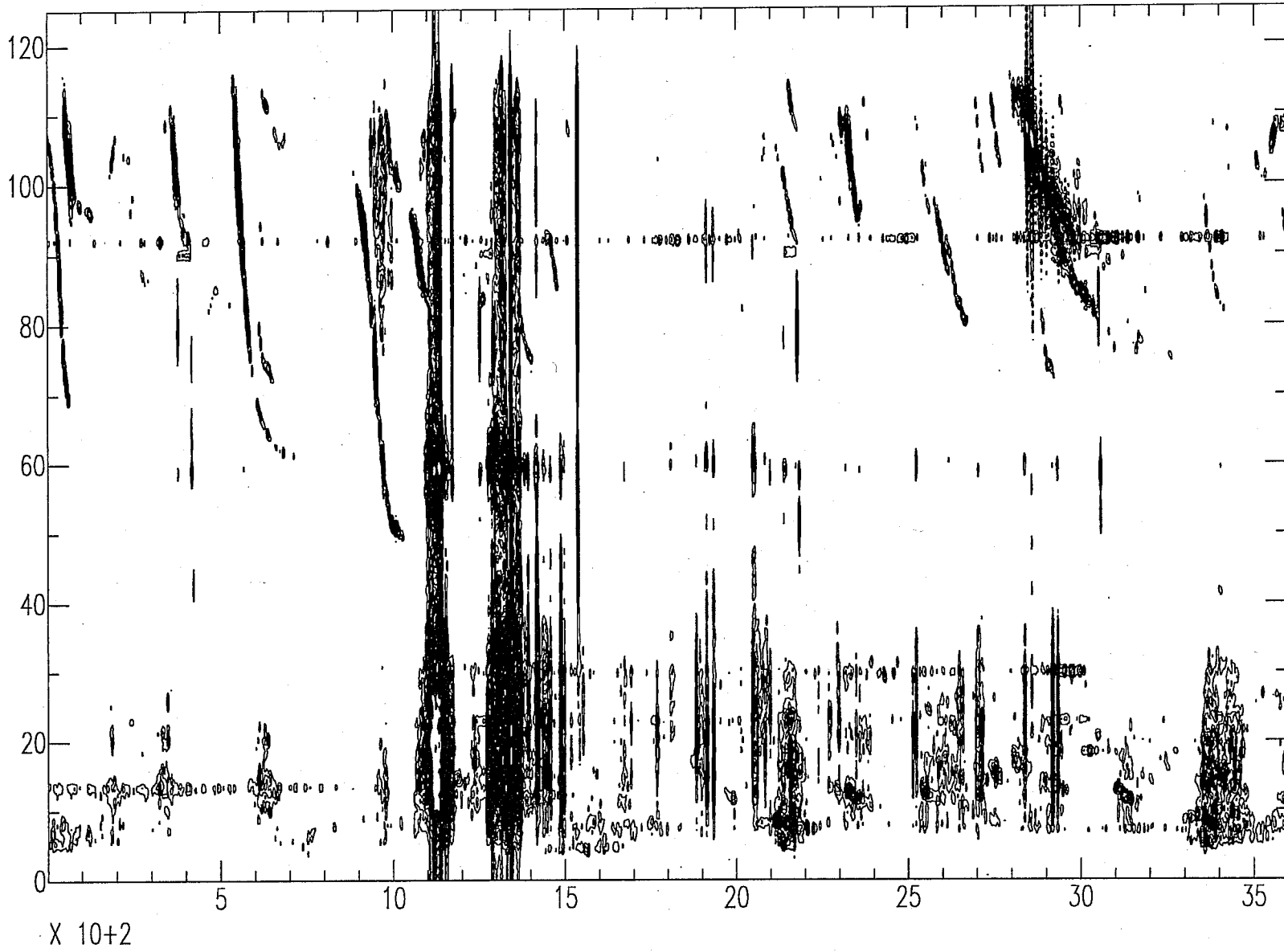
segment 0

segment 1

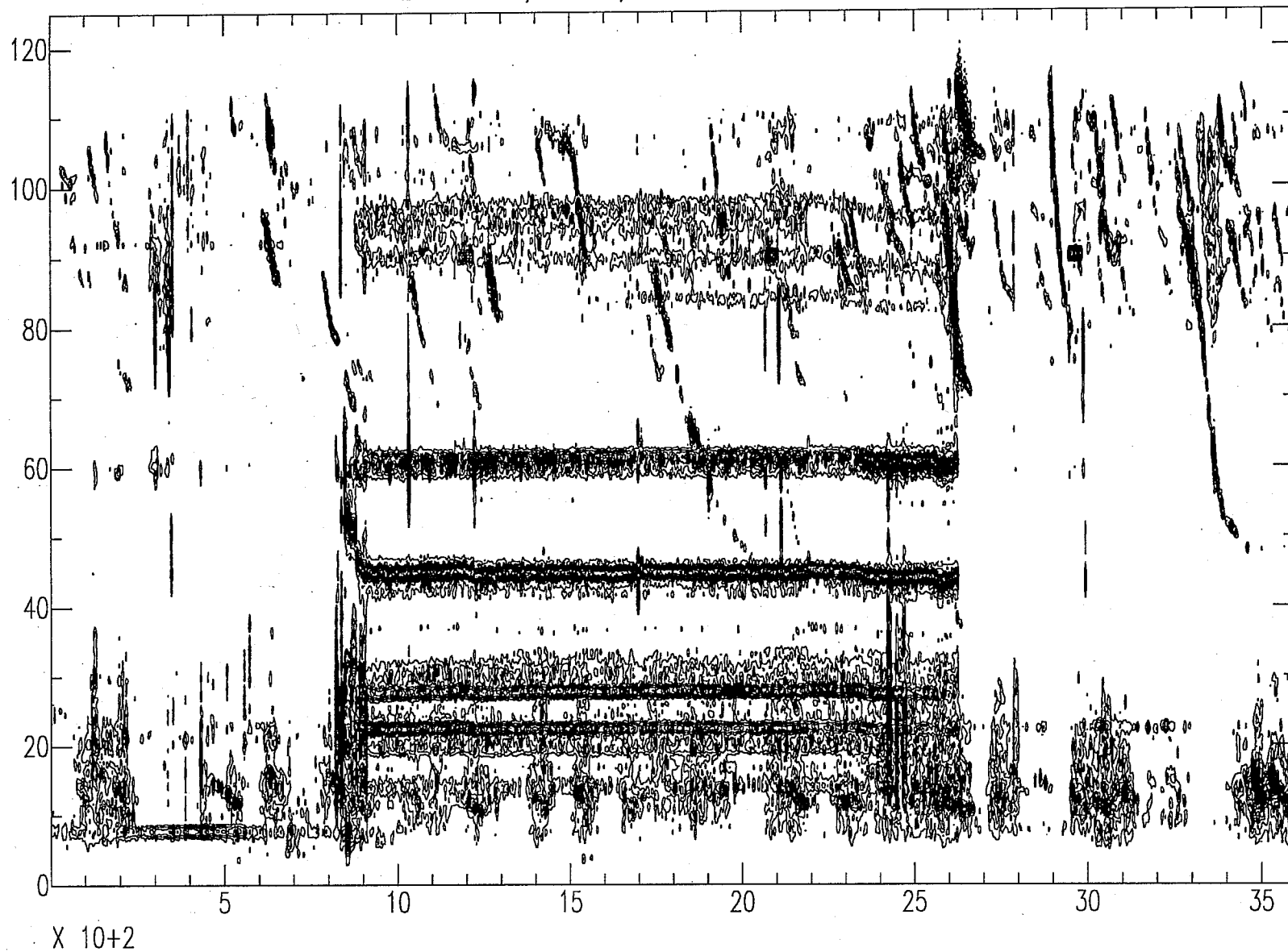
segment 2

segment 3

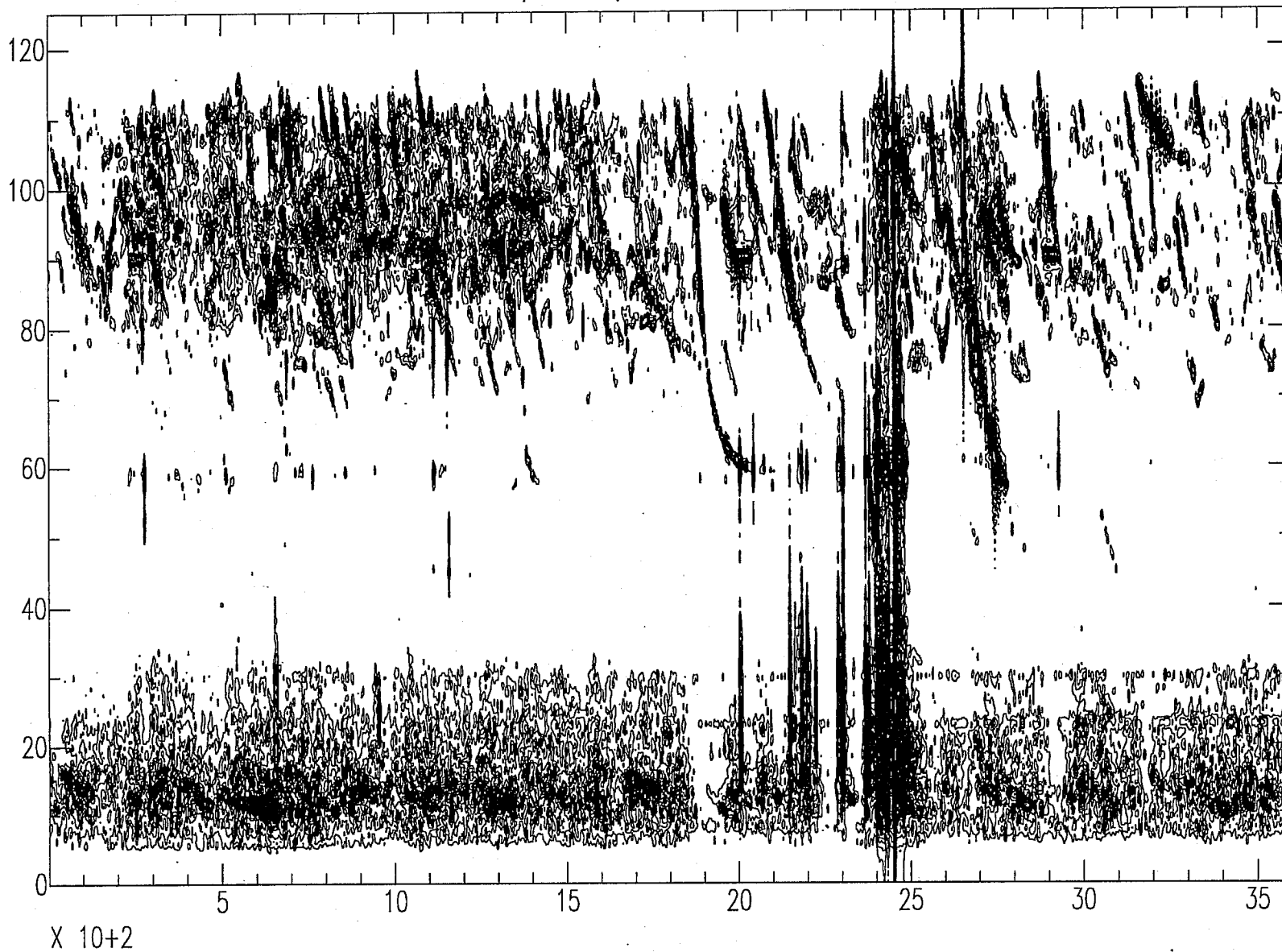
LIGO Corner, Vertical, December 13 2:00-3:00 PM



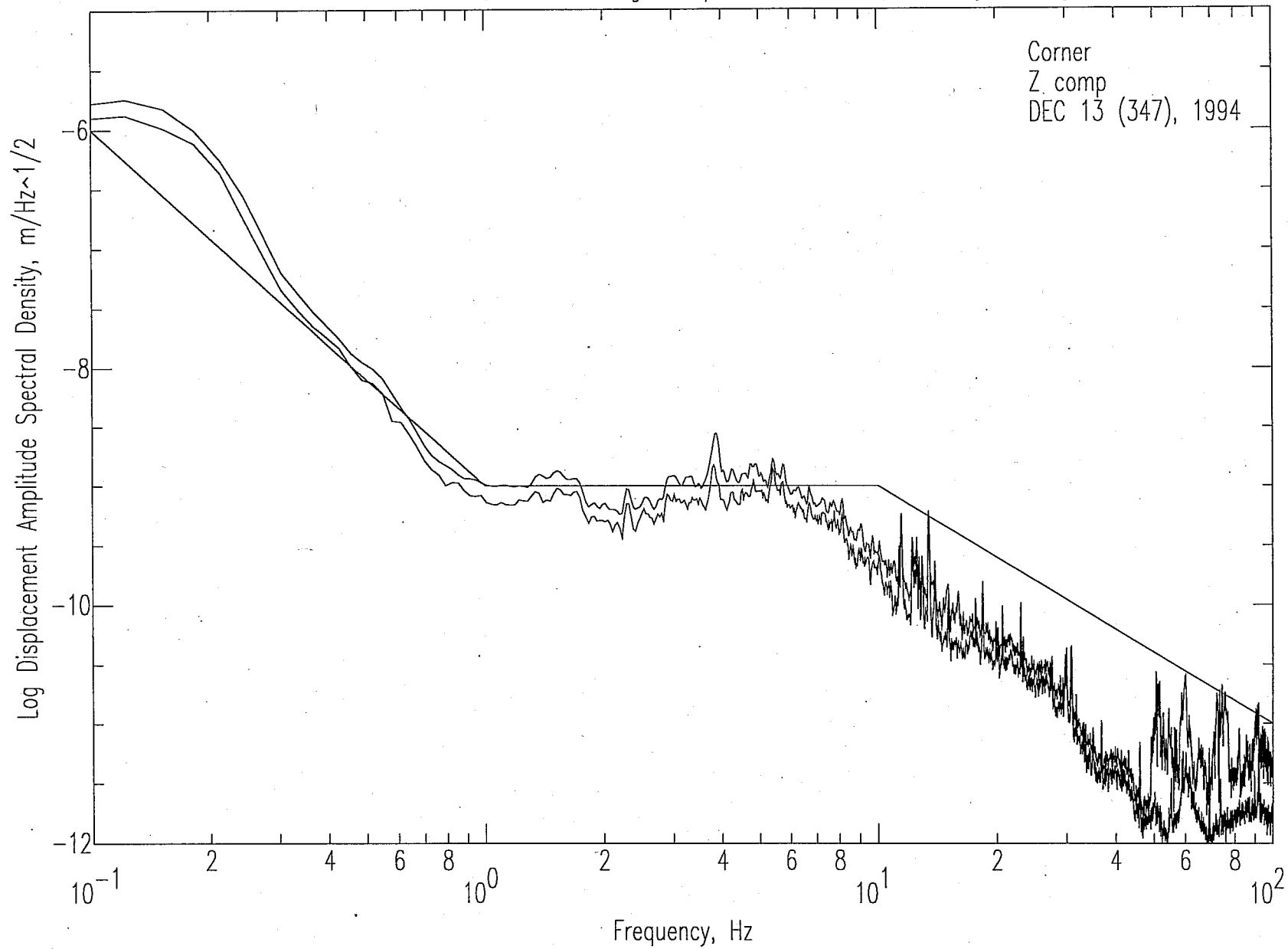
LIGO Corner, Vertical, December 13 3:00-4:00 PM



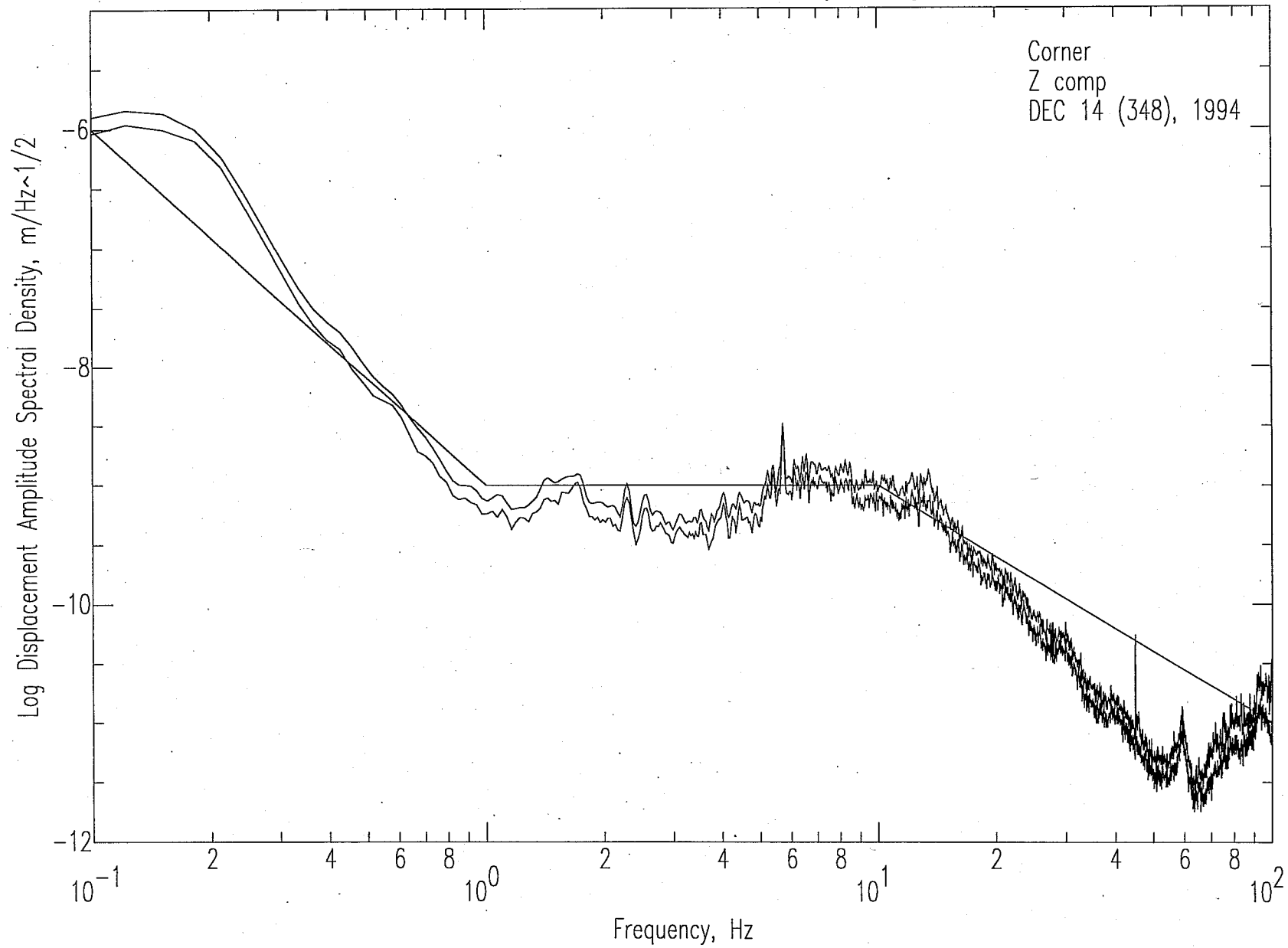
LIGO Corner, Vertical, December 13 4:00-5:00 PM



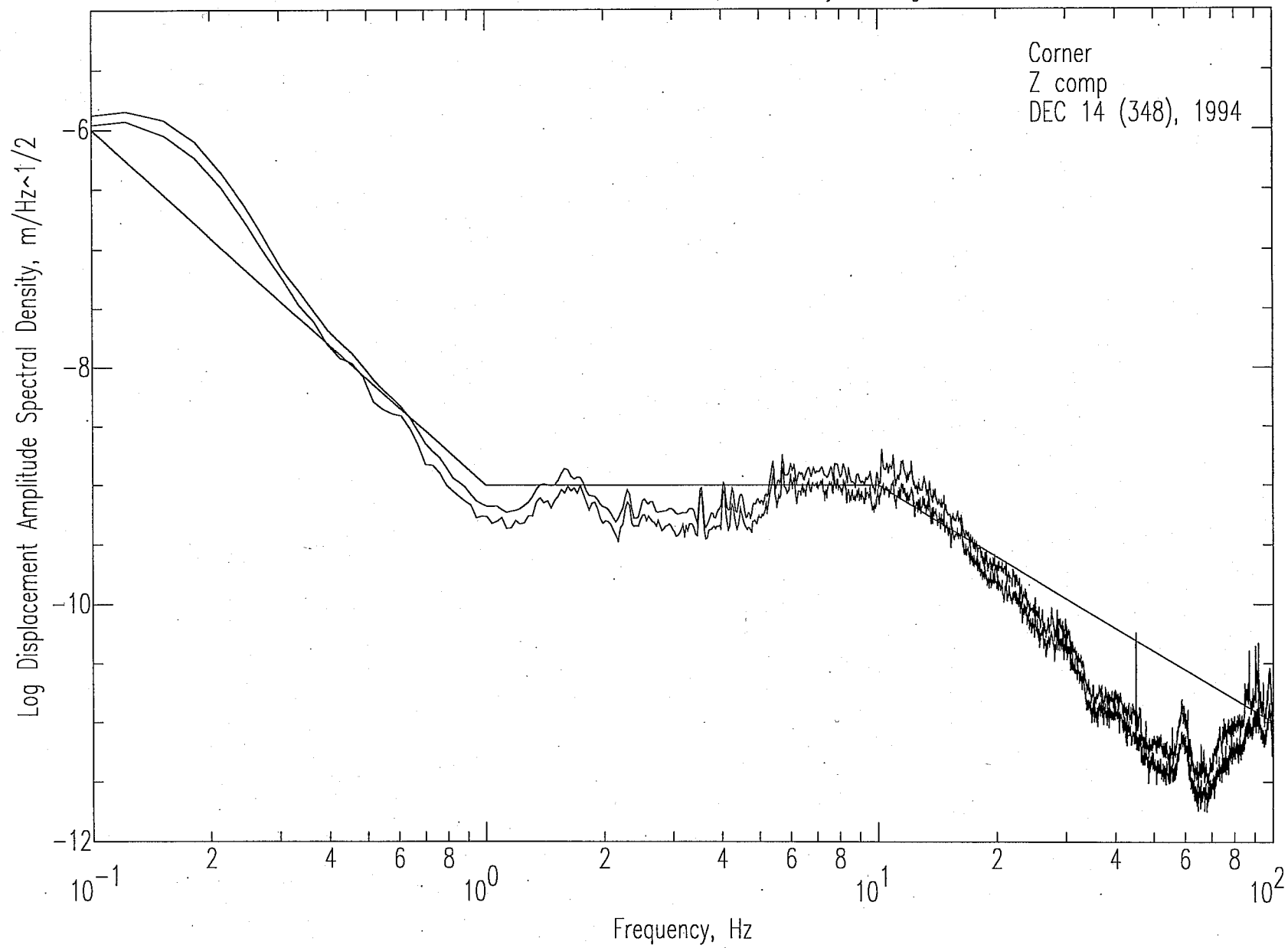
LIGO Corner December 13, 2:11 PST segment prior to Rush Hour on Hwy 10 seg0.1.sac



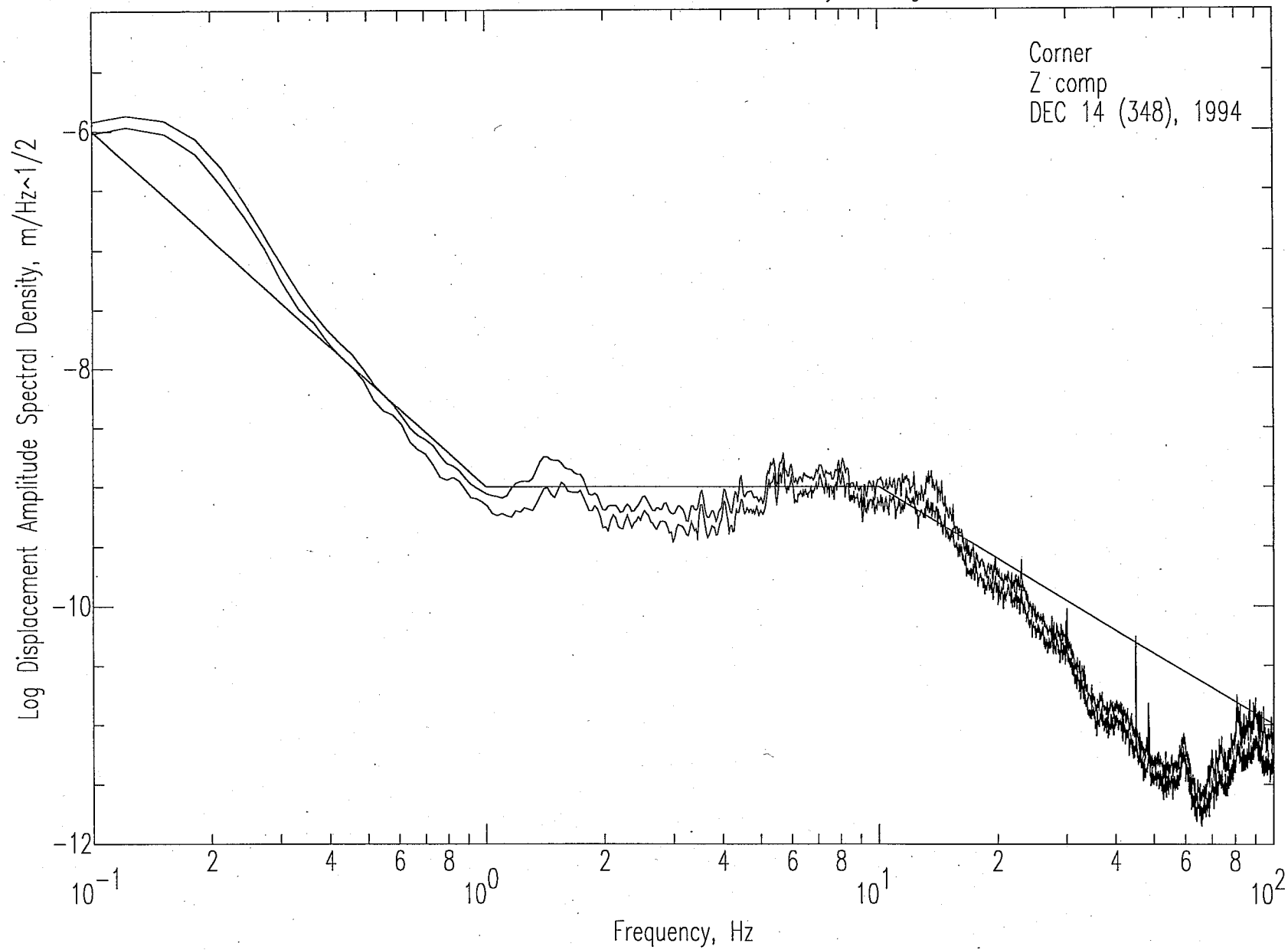
LIGO Corner 4:12 - 4:30 Rush Hour on Hwy 10 seg1.1.sac



LIGO Corner 4:12 - 4:30 Rush Hour on Hwy 10 seg2.1.soc

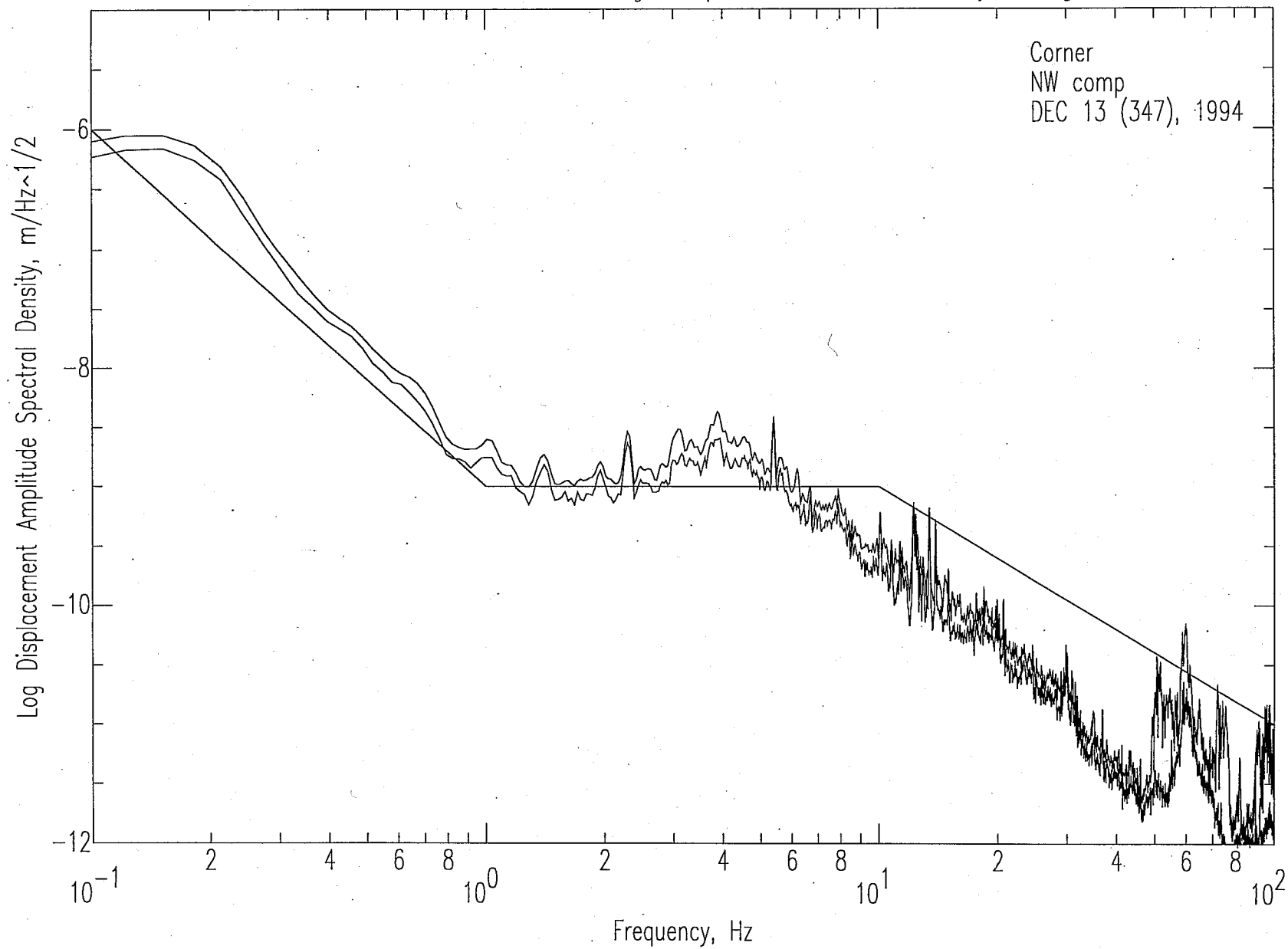


LIGO Corner 4:12 - 4:30 Rush Hour on Hwy 10 seg3.1.sac

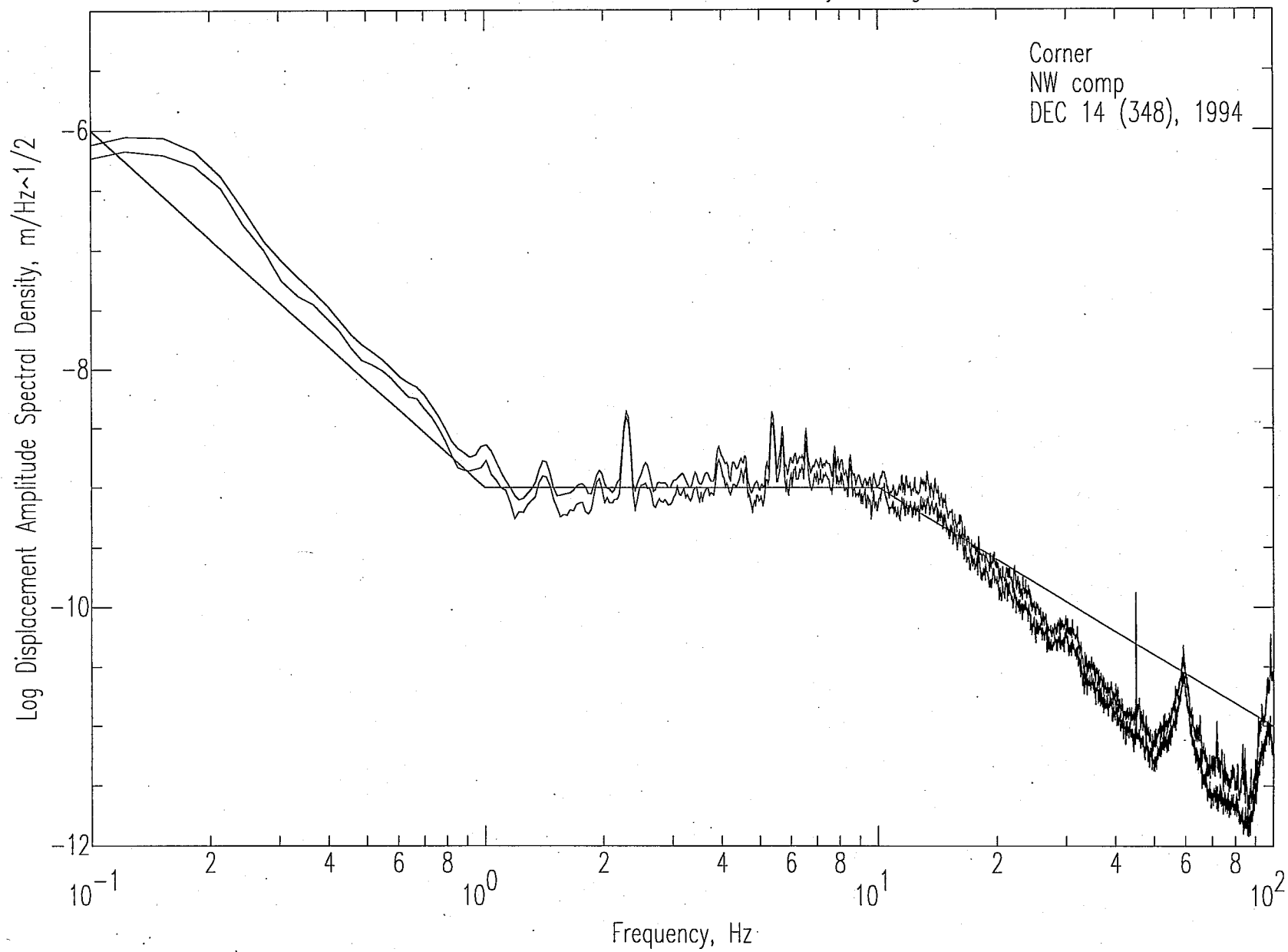




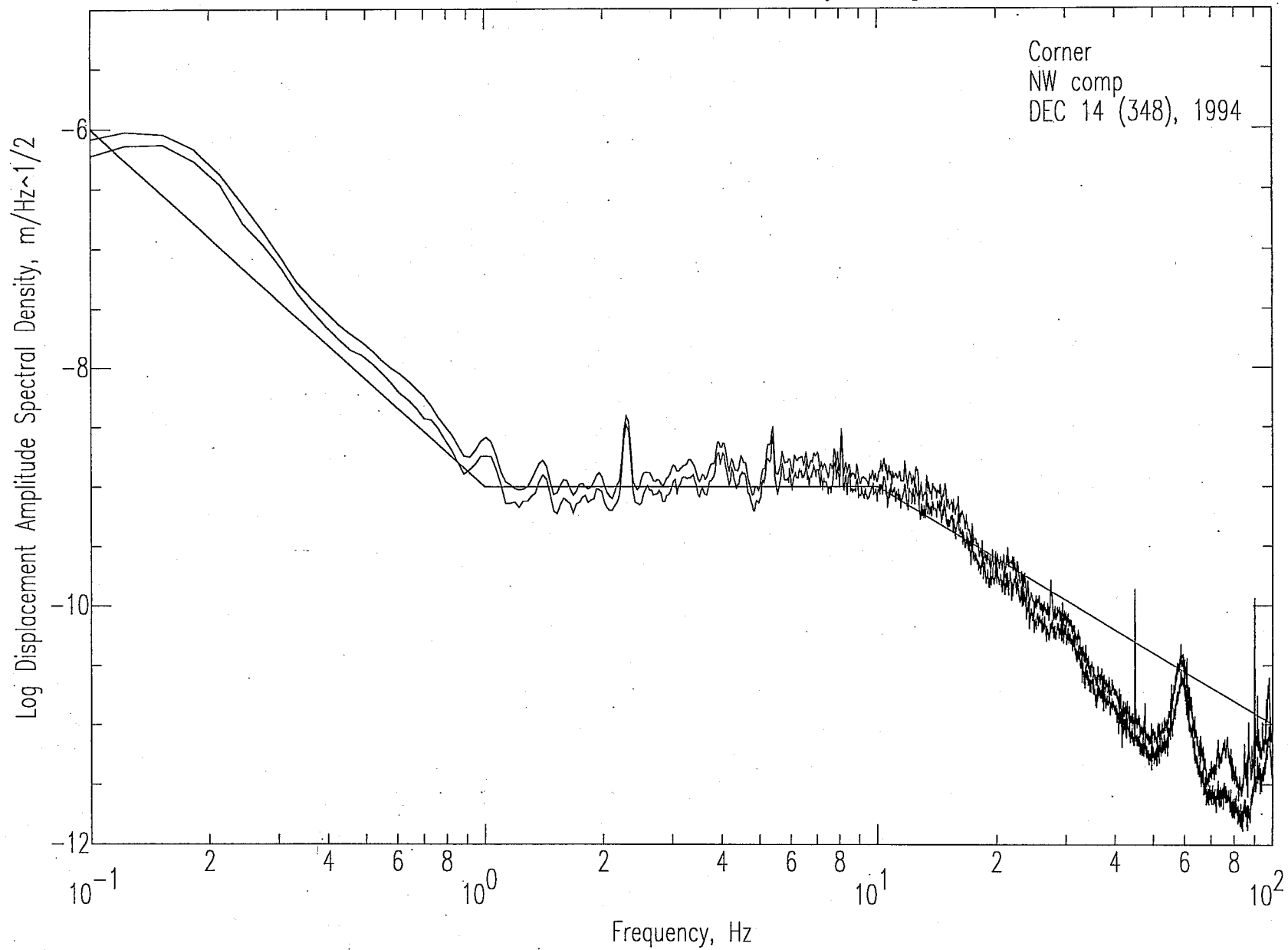
LIGO Corner December 13, 2:11 PST segment prior to Rush Hour on Hwy 10 seg0.2.sac



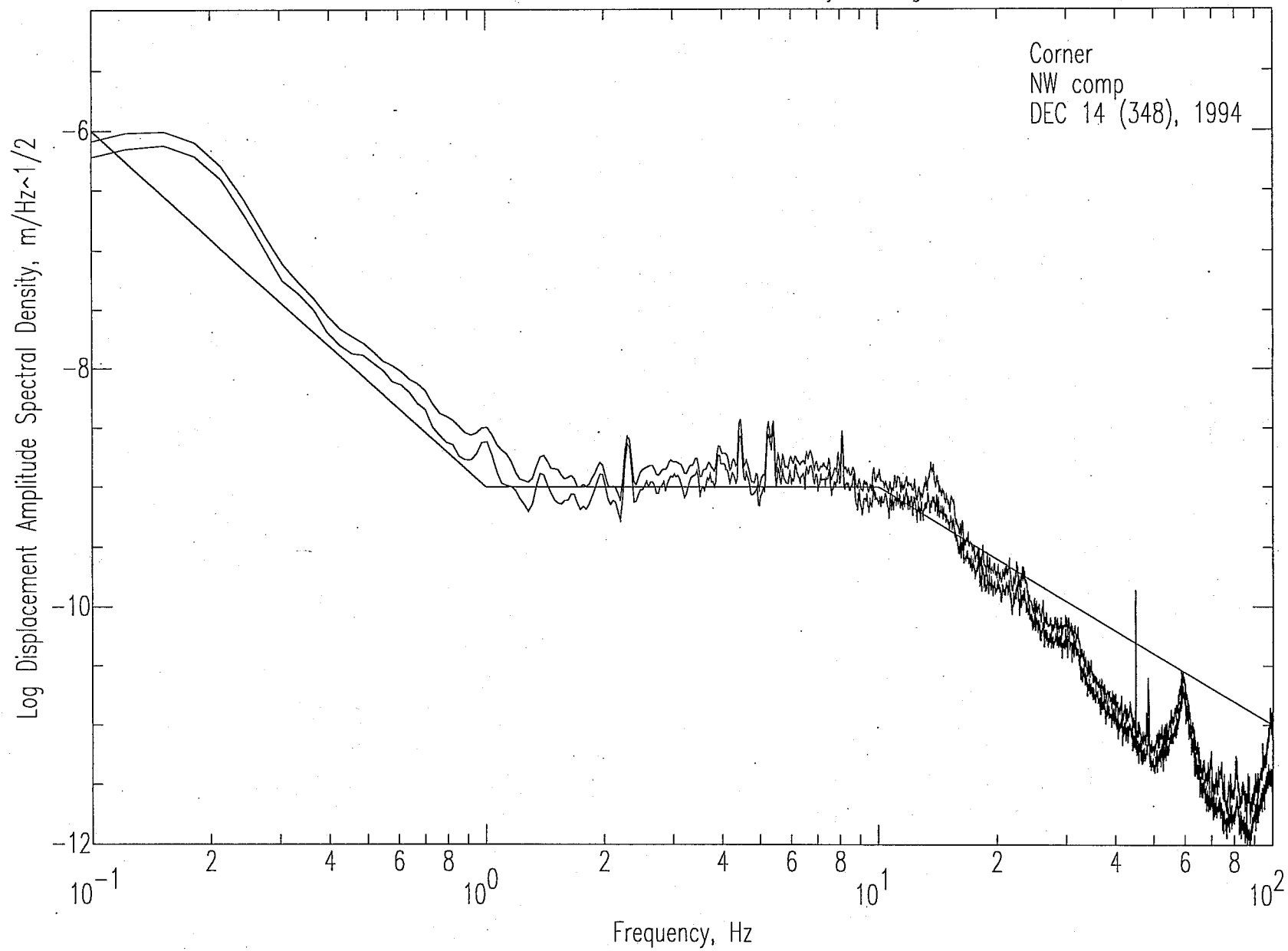
LIGO Corner 4:12 - 4:30 Rush Hour on Hwy 10 seg1.2.sac



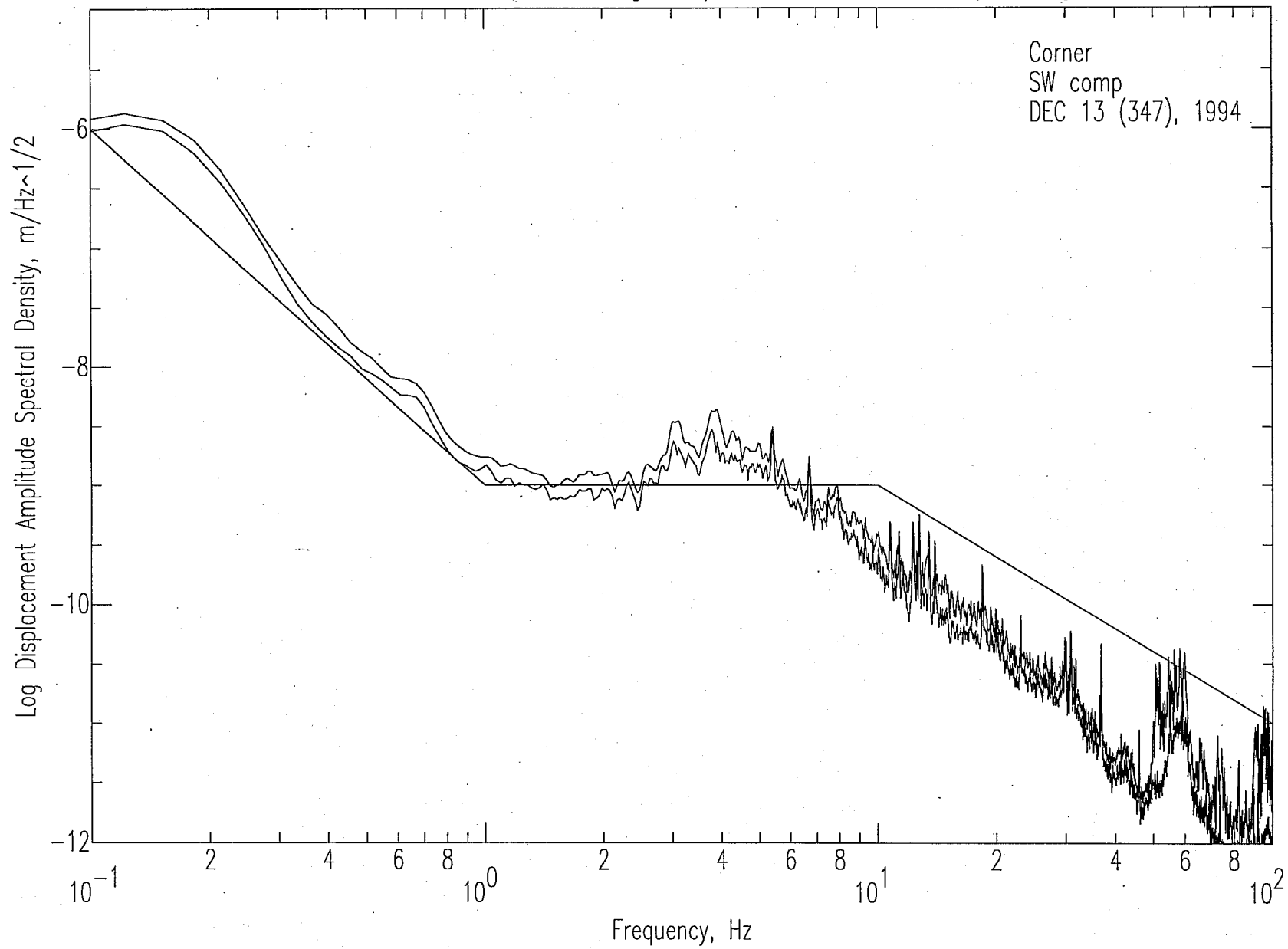
LIGO Corner 4:12 - 4:30 Rush Hour on Hwy 10 seg2.2.sac



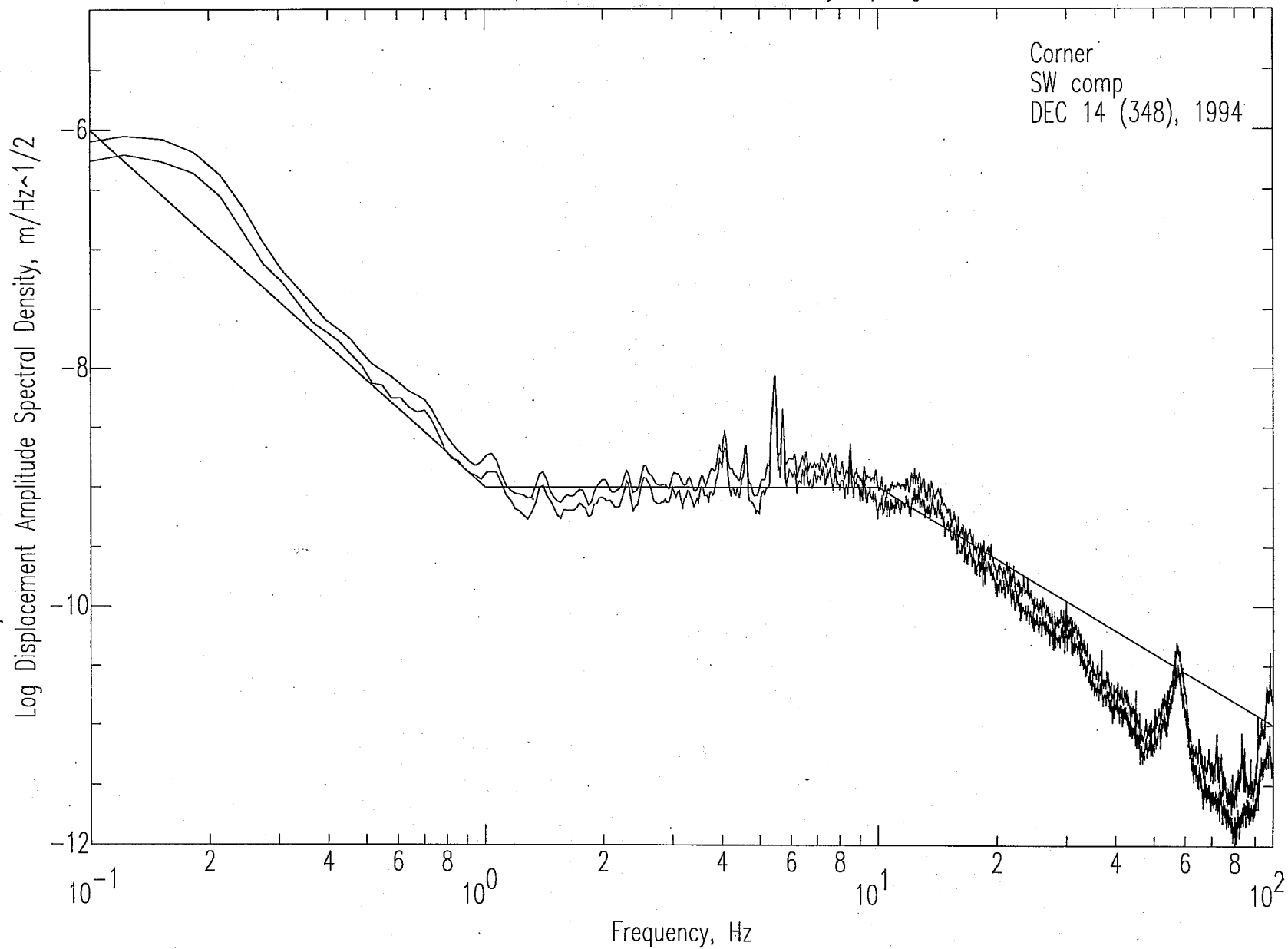
LIGO Corner 4:12 - 4:30 Rush Hour on Hwy 10 seg3.2.sac



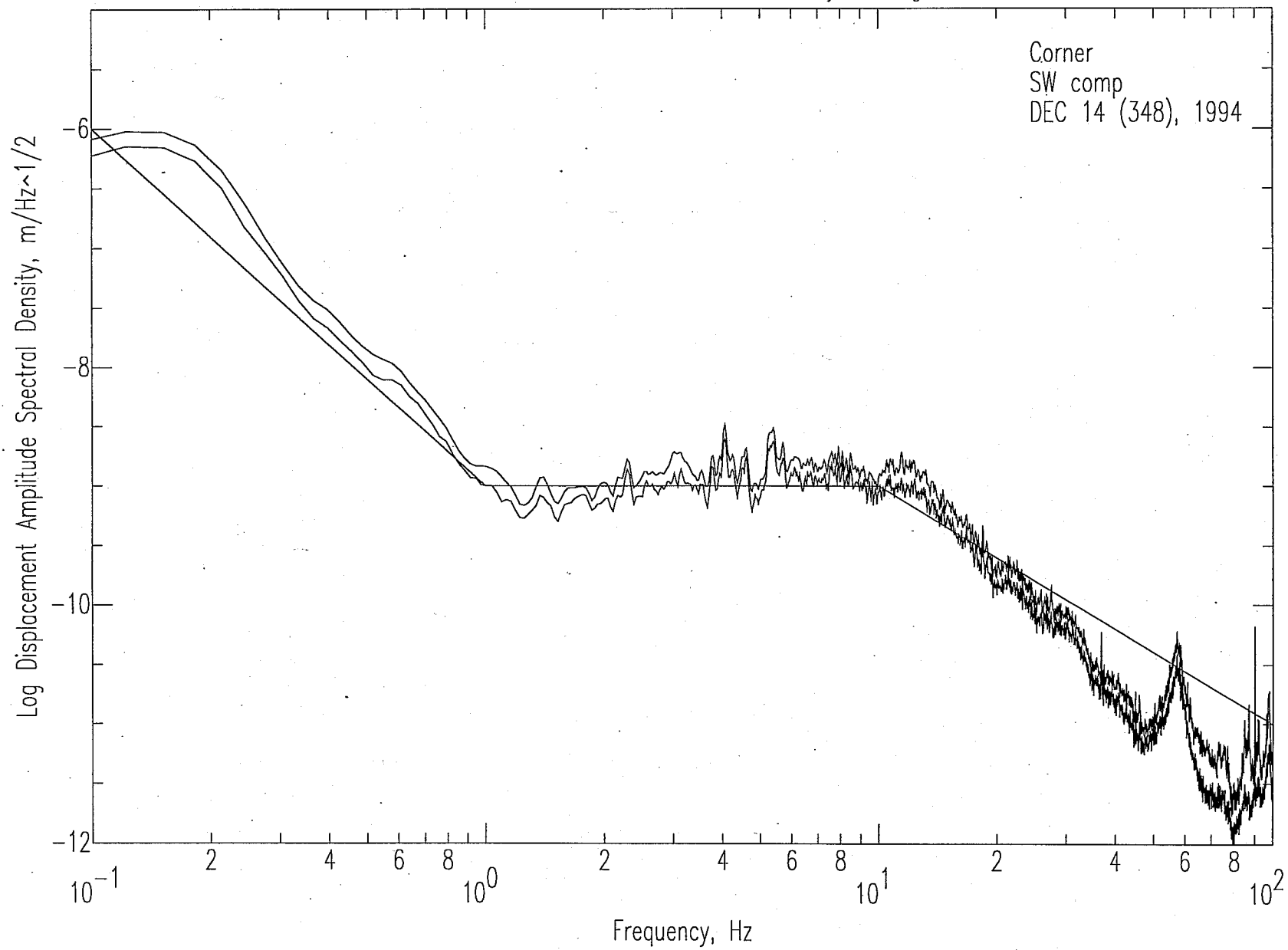
LIGO Corner December 13, 2:11 PST segment prior to Rush Hour on Hwy 10 seg0.3.sac



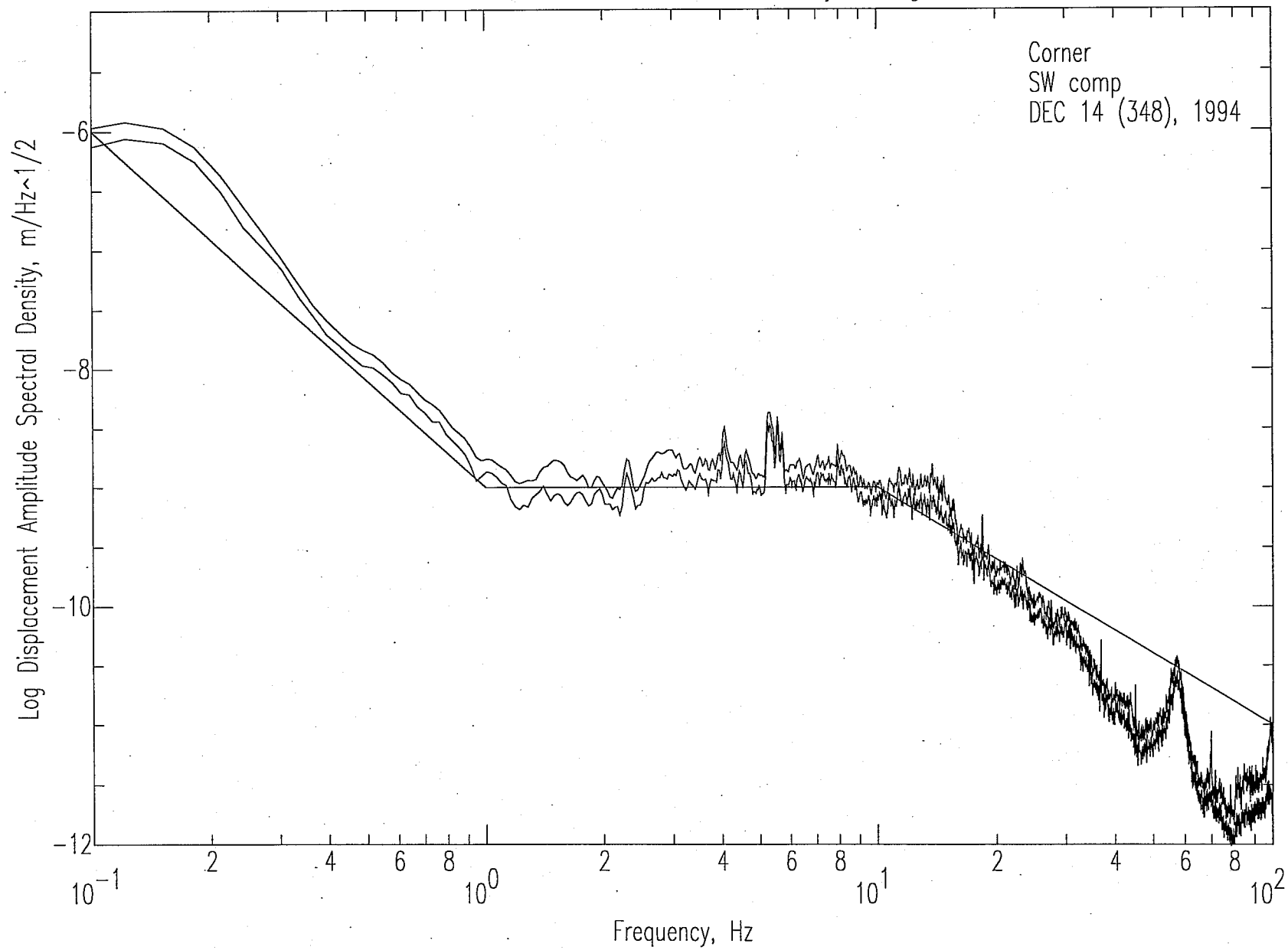
LIGO Corner 4:12 - 4:30 Rush Hour on Hwy 10 seg1.3.sac



LIGO Corner 4:12 - 4:30 Rush Hour on Hwy 10 seg2.3.sac



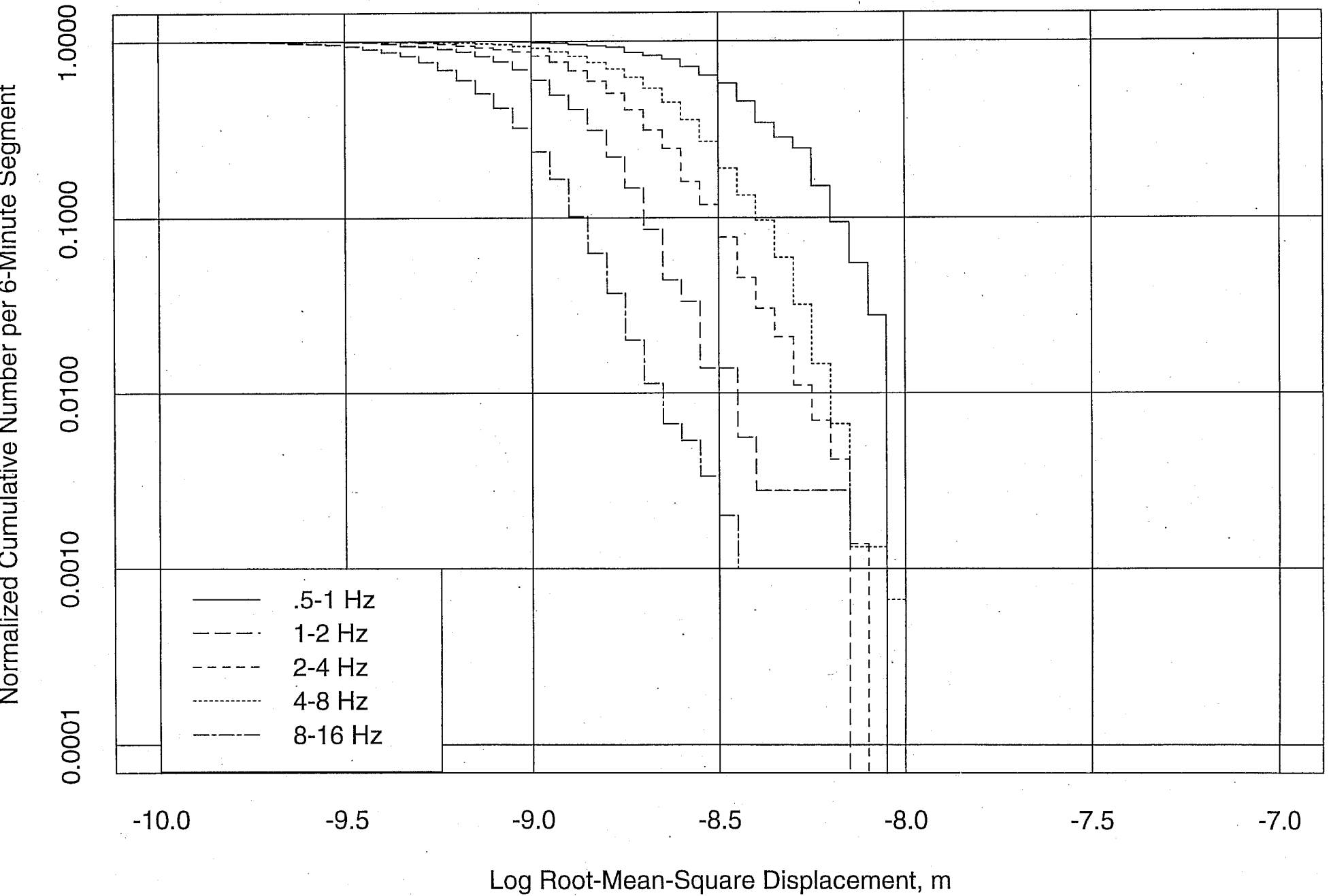
LIGO Corner 4:12 - 4:30 Rush Hour on Hwy 10 seg3.3.sac





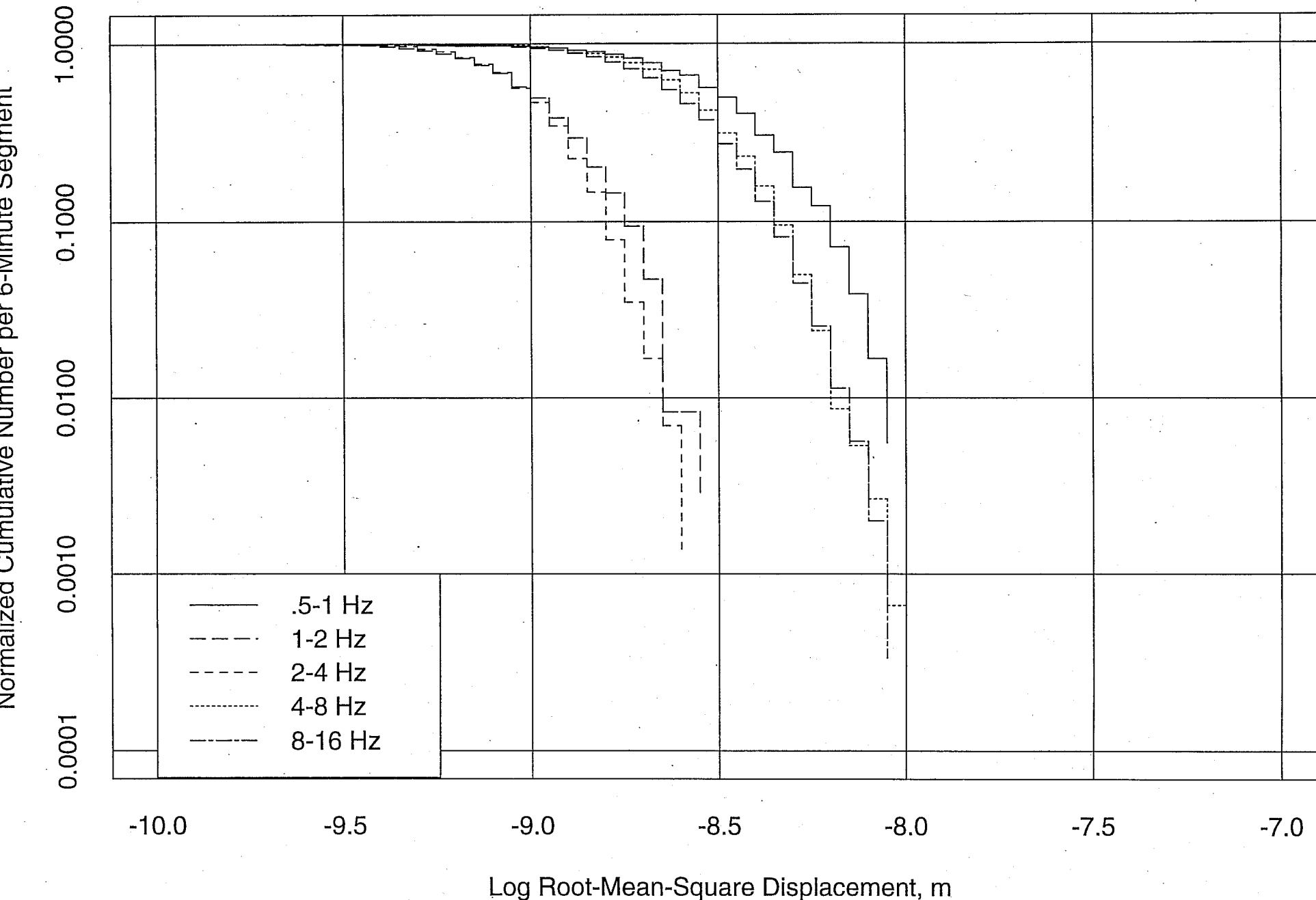
# LIGO Corner 12/13 Low Traffic on Hwy 10 Vertical Component seg0

LIGO-C950577-00-0



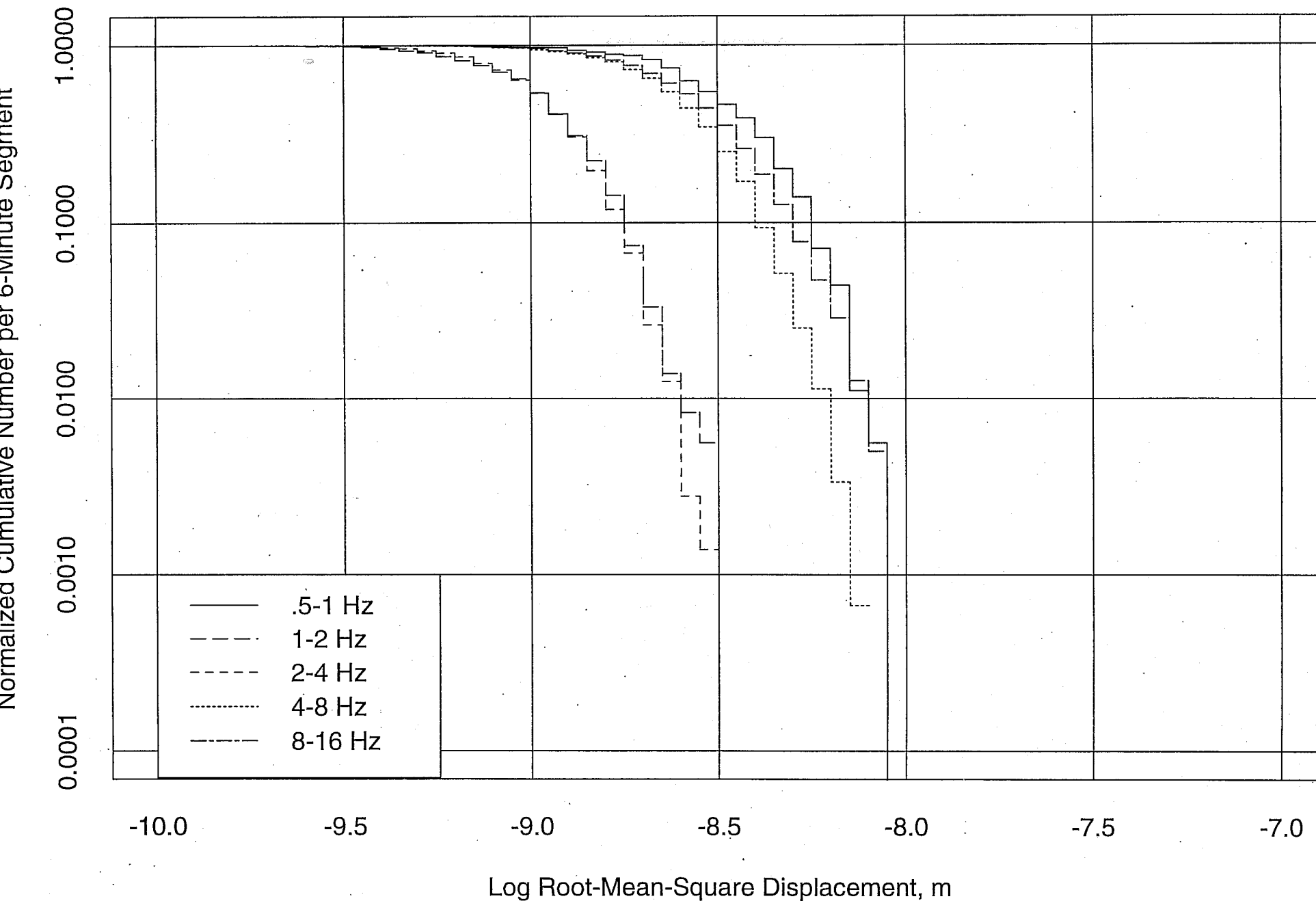
# LIGO Corner 12/13 Rush Hour on Hwy 10 Vertical Component seg 1

LIGO-C960577-00-0



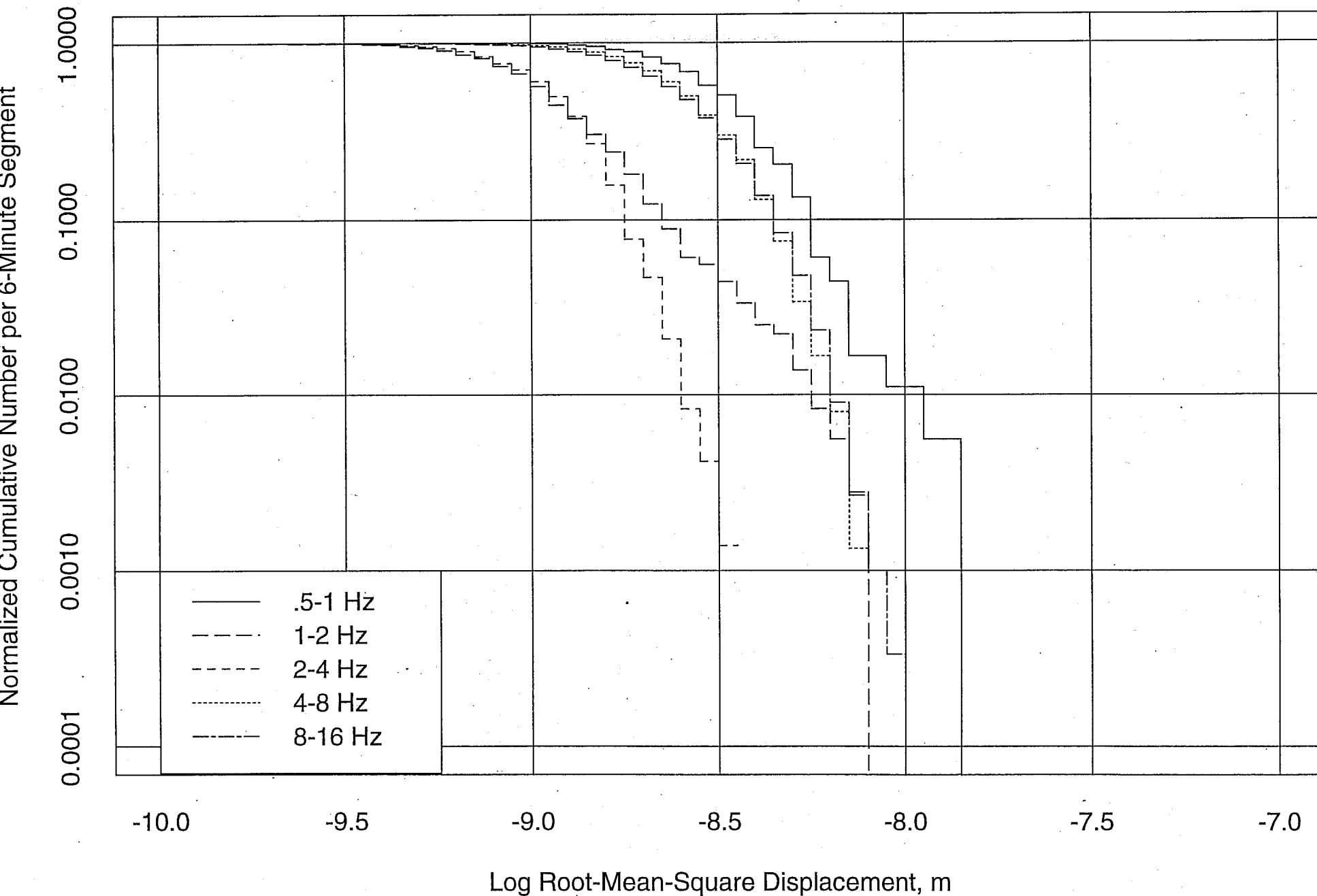
# LIGO Corner 12/13 Rush Hour on Hwy 10 Vertical Component seg2

LIGO-C950577-00-0



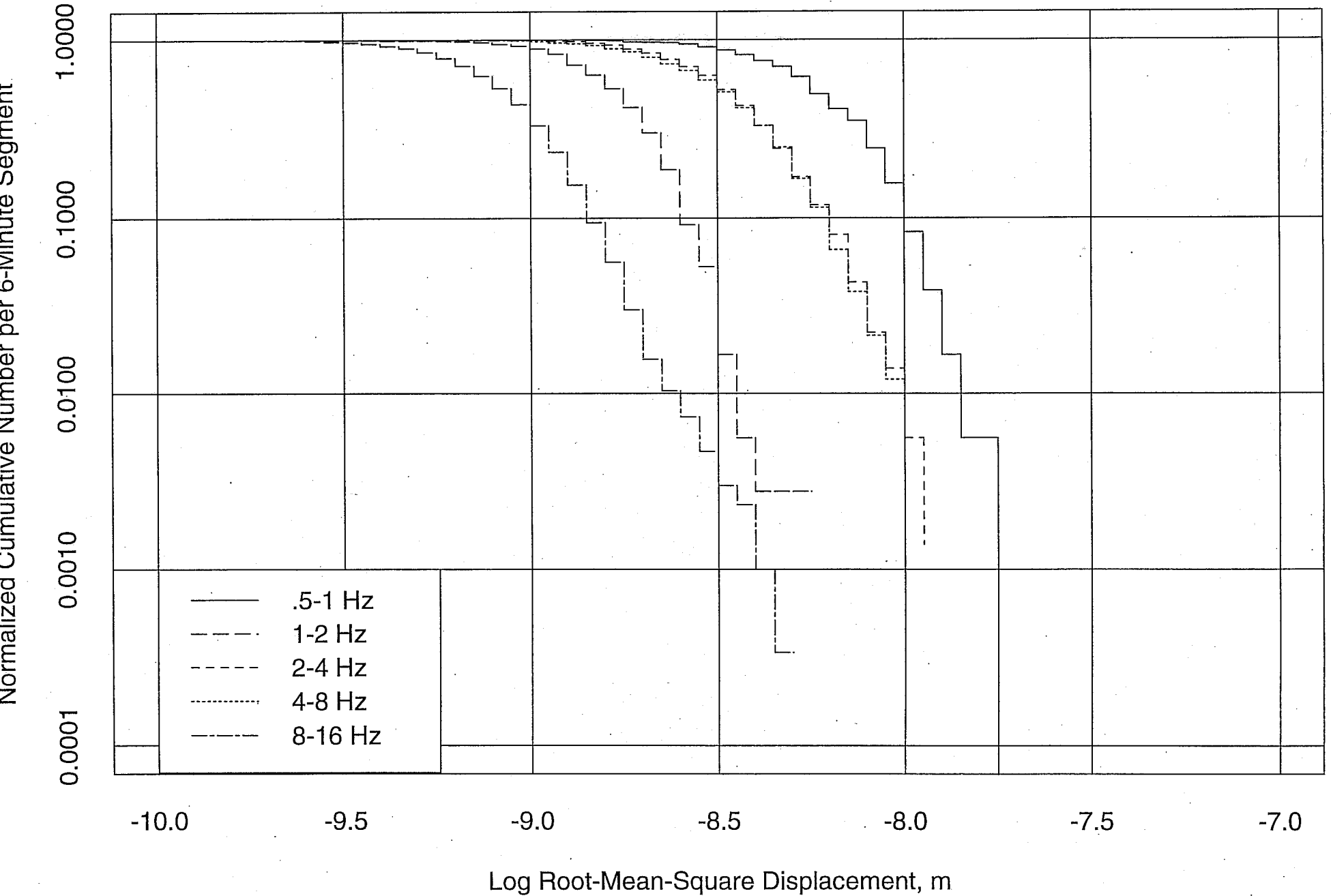
# LIGO Corner 12/13 Rush Hour on Hwy 10 Vertical Component seg3

LIGO-C950577-00-0



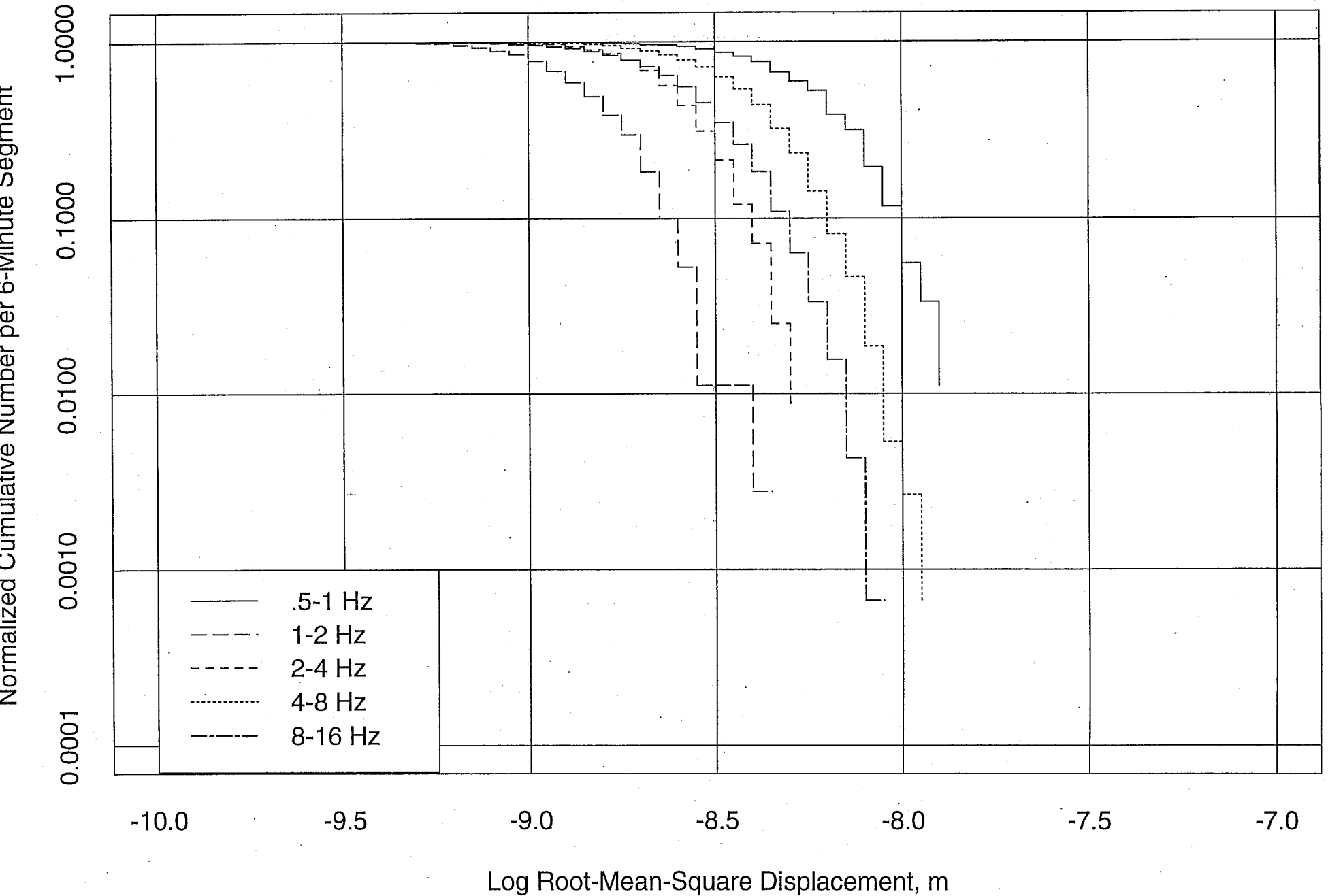
# LIGO Corner 12/13 Low Traffic on Hwy 10 Northwest Component seg0

LIGO-C950577-00-0



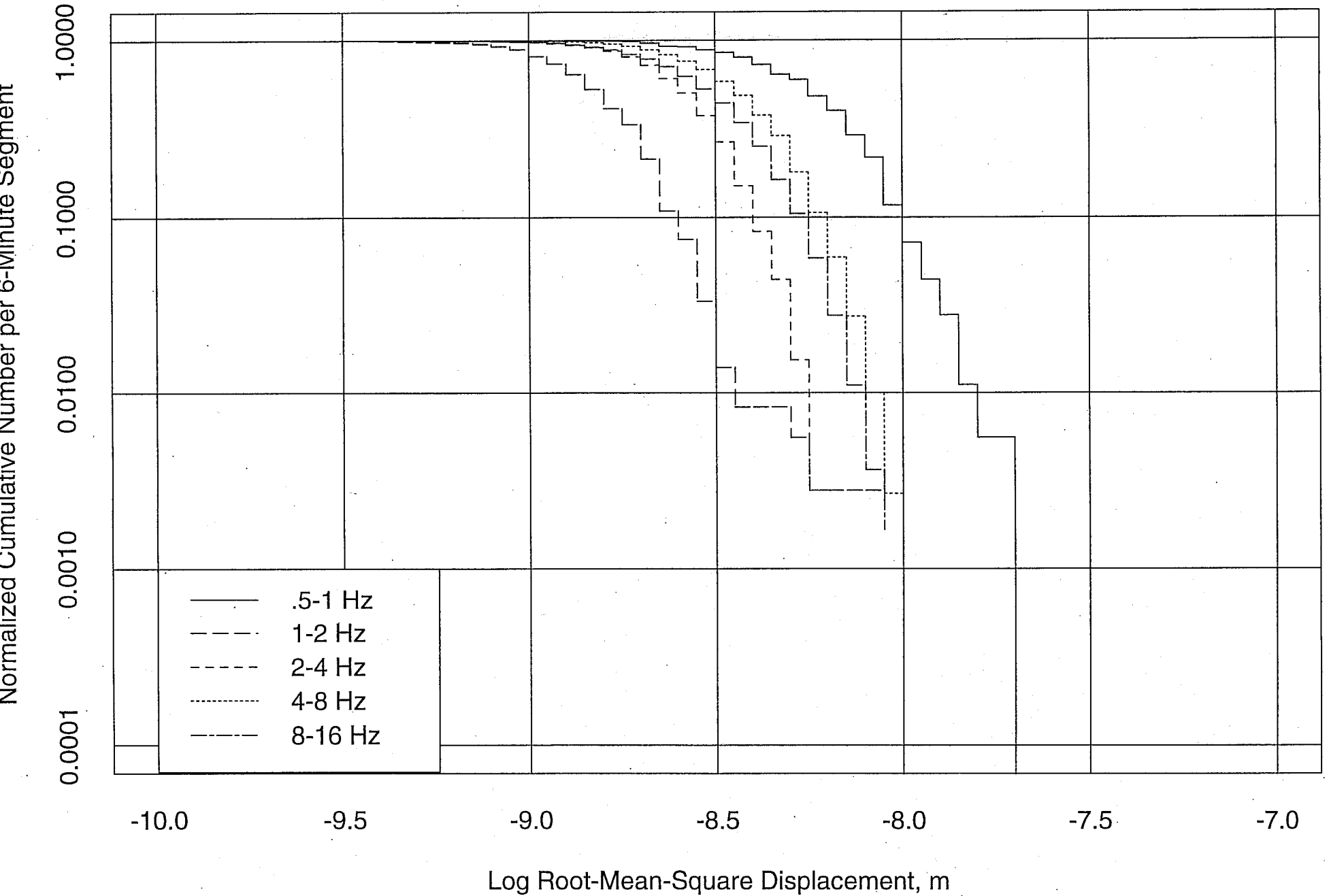
# LIGO Corner 12/13 Rush Hour on Hwy 10 Northwest Component seg 1

LIGO-C950577-00-0



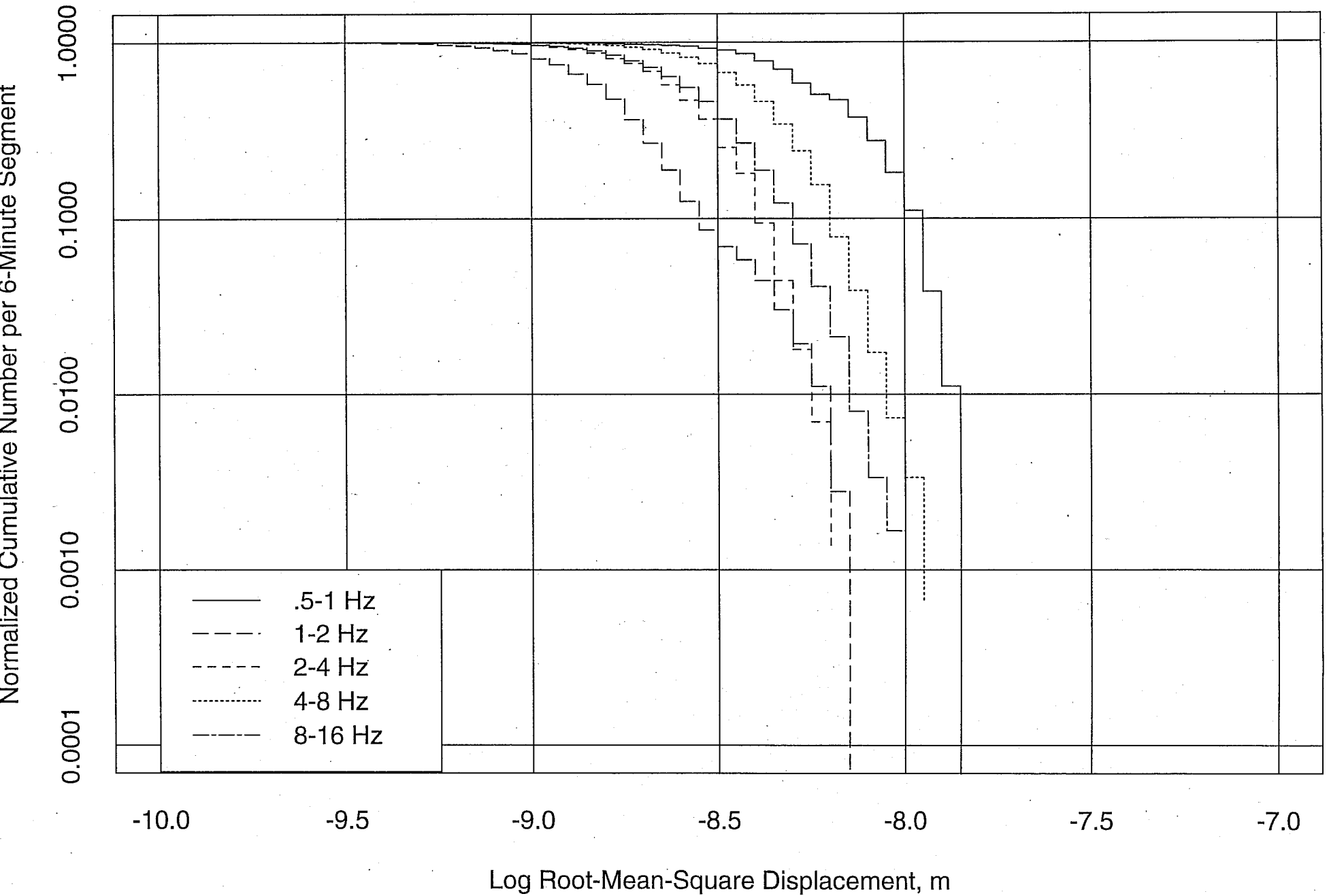
# LIGO Corner 12/13 Rush Hour on Hwy 10 Northwest Component seg2

LIGO-C950577-00-0



# LIGO Corner 12/13 Rush Hour on Hwy 10 Northwest Component seg3

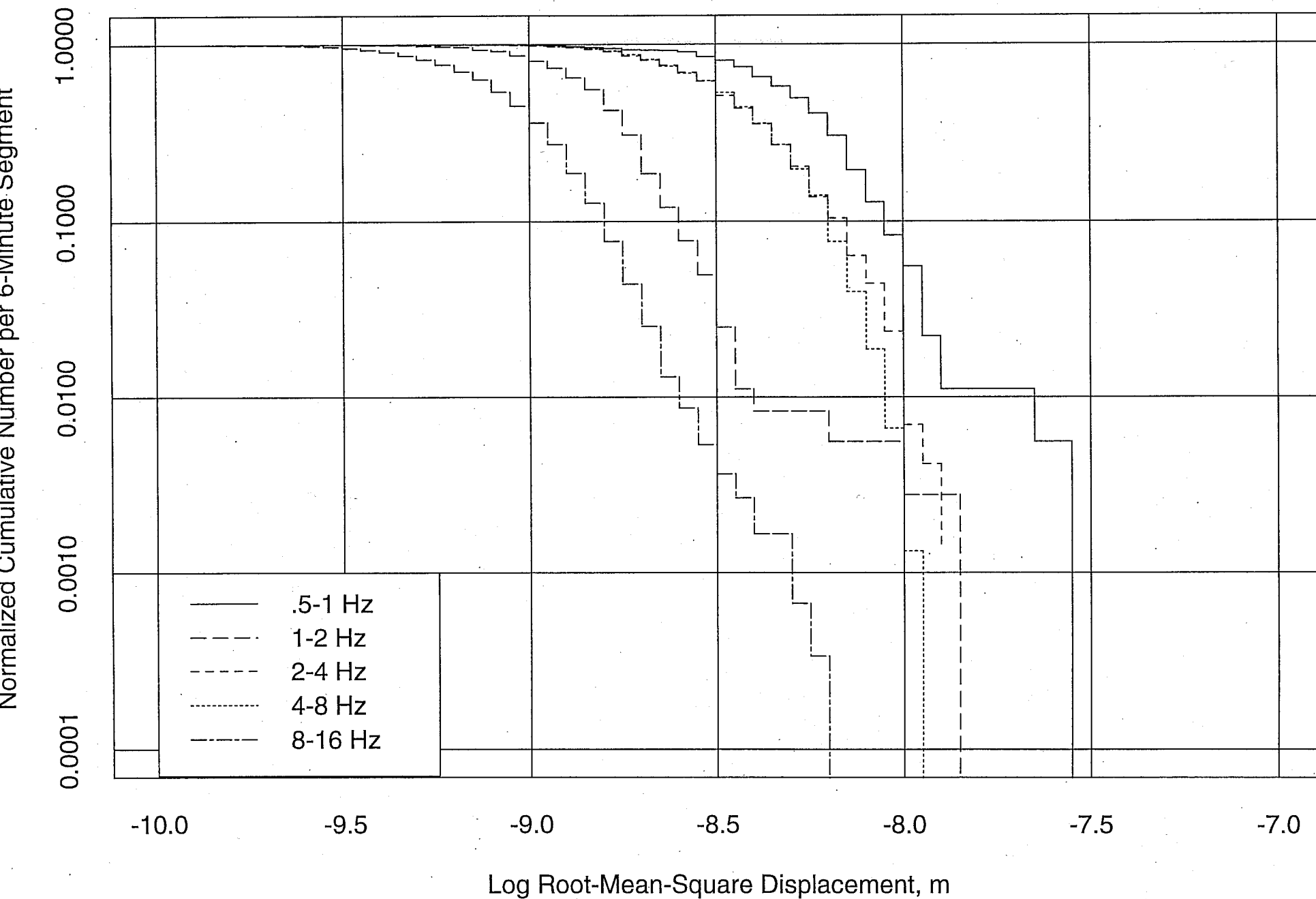
LIGO-C950577-00-0





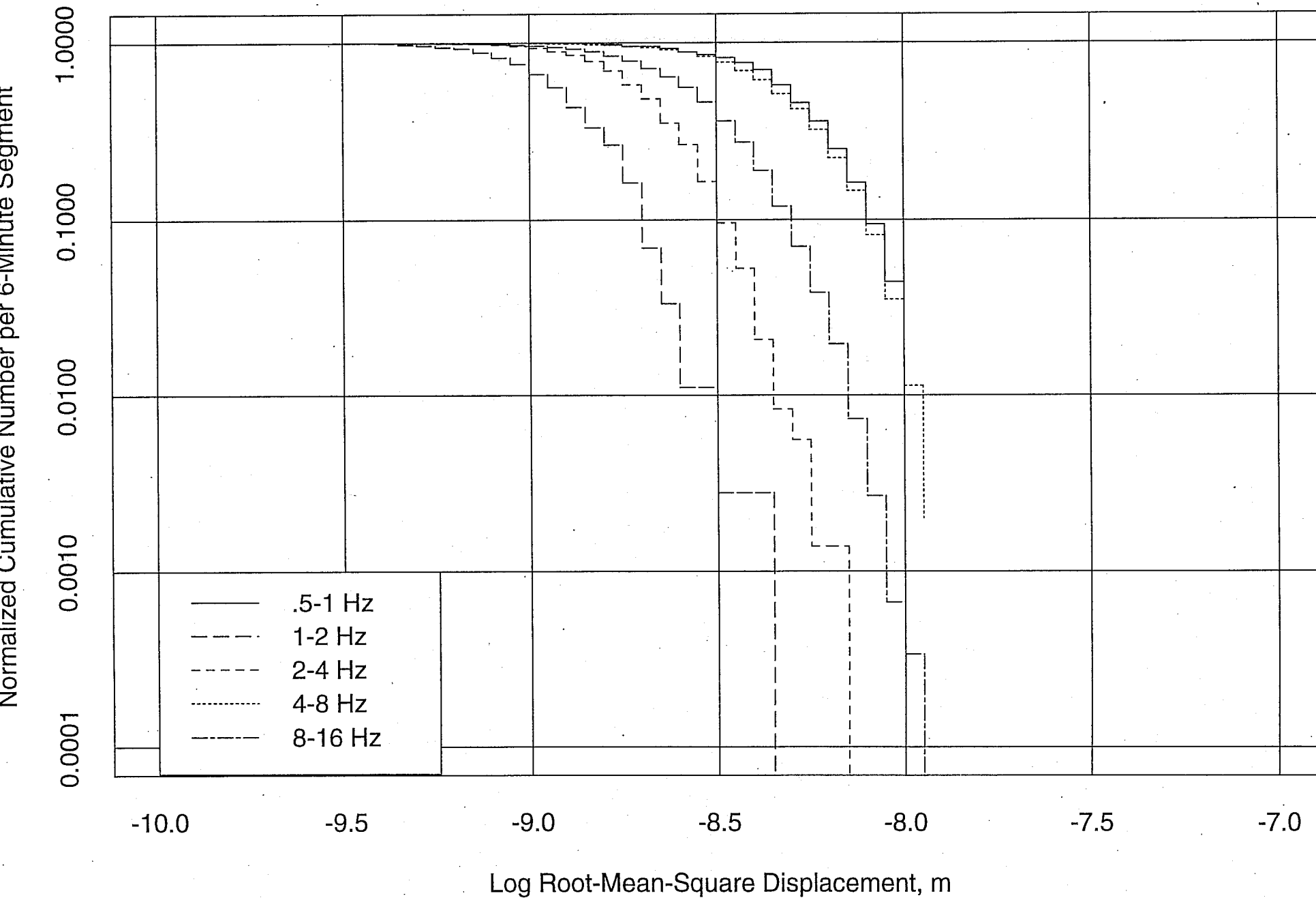
# LIGO Corner 12/13 Low Traffic on Hwy 10 Southwest Component seg0

LIGO-C950577-00-0



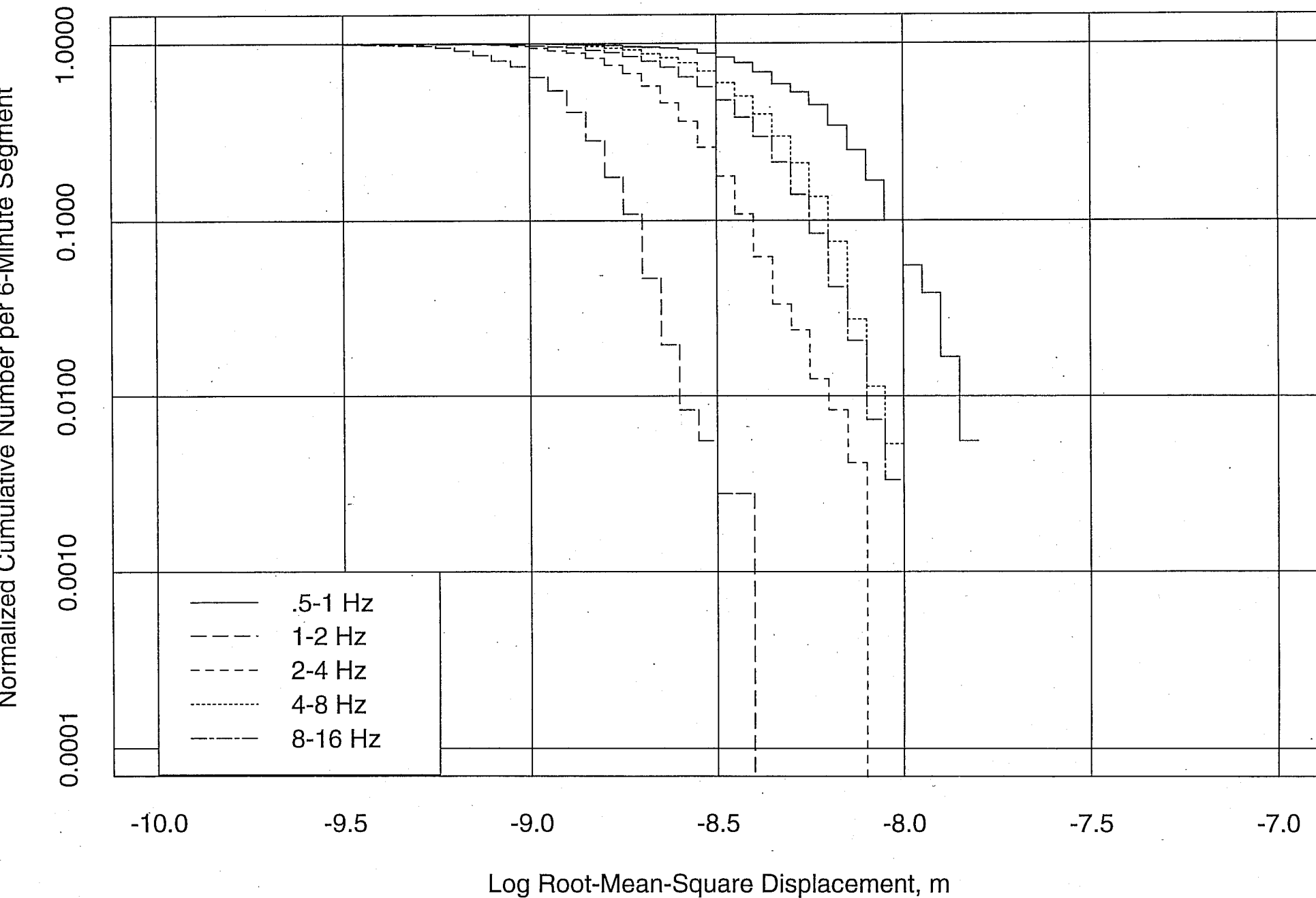
# LIGO Corner 12/13 Rush Hour on Hwy 10 Southwest Component seg 1

LIGO-C950477-00-0



# LIGO Corner 12/13 Rush Hour on Hwy 10 Southwest Component seg2

LIGO-C950577-00-0



# LIGO Corner 12/13 Rush Hour on Hwy 10 Southwest Component seg3

LIGO-C950577-00-0

