

EAS 8803 - Seismology II

Lec#7: Seismometers and Seismic Networks

- Dr. Zhigang Peng, Spring 2008

Supplementary figures (mostly from the Stein textbook)

Figure 6.6-1: Diagram of a vertical seismograph.

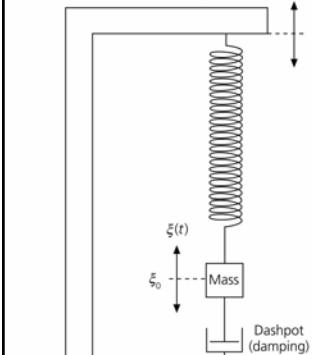


Figure 6.6-2: Amplitude response and phase delay for a pendulum seismometer.

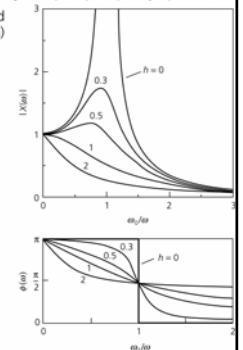


Figure 6.6-3: Demonstration of seismic noise on a broadband seismogram.

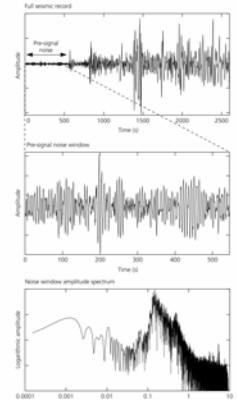


Figure 6.6-4: Examples of seismoscope recordings.

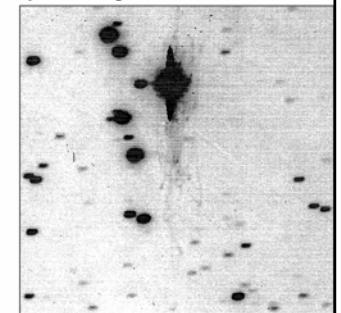
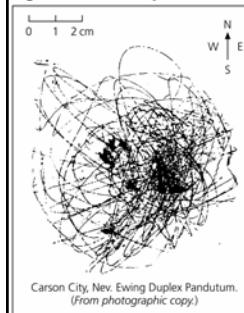


Figure 6.6-5: Illustration of an electromagnetic seismograph.

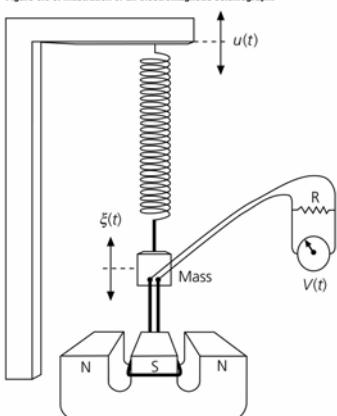


Figure 6.6-6: Coupling of the transducer of an electromagnetic seismograph to a galvanometer.

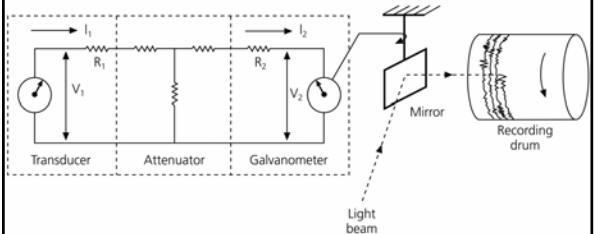


Figure 6.6-7: Responses of the components of an electromagnetic seismograph.

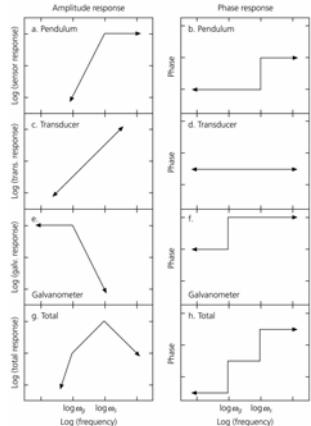


Figure 6.6-8: Instrument responses for several types of seismometers.

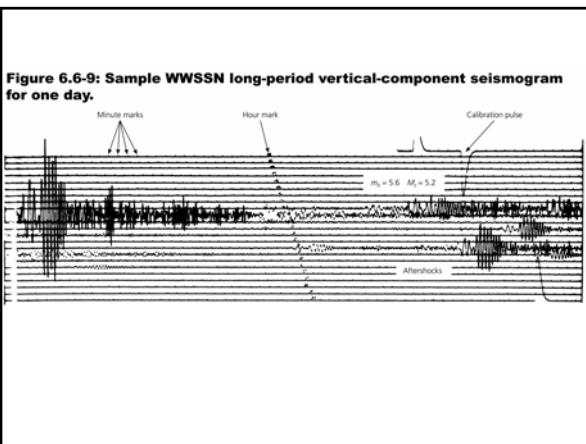
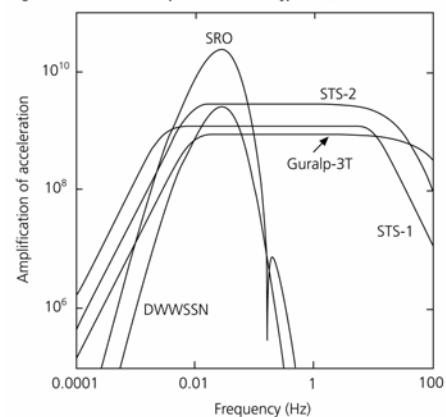


Figure 6.6-9: Sample WWSSN long-period vertical-component seismogram for one day.

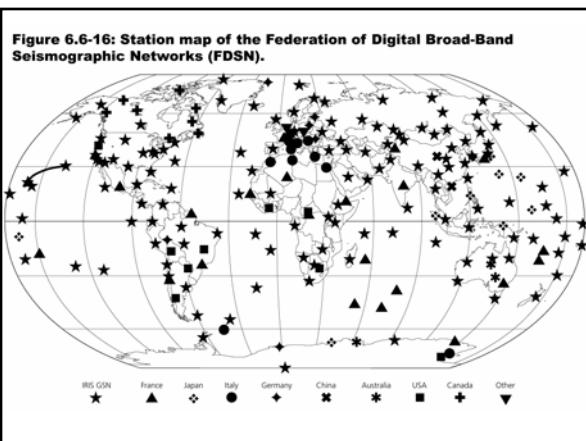
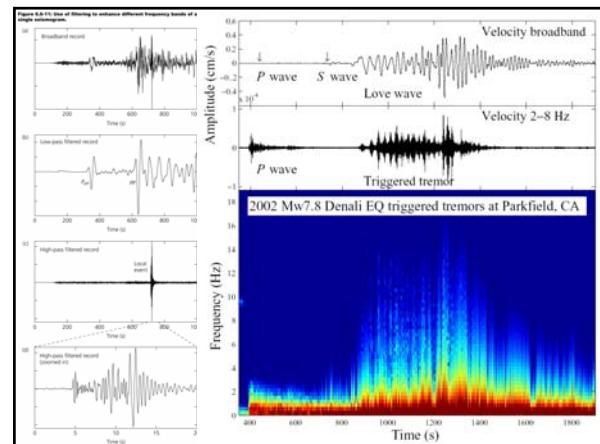


Figure 6.6-16: Station map of the Federation of Digital Broad-Band Seismographic Networks (FDSN).

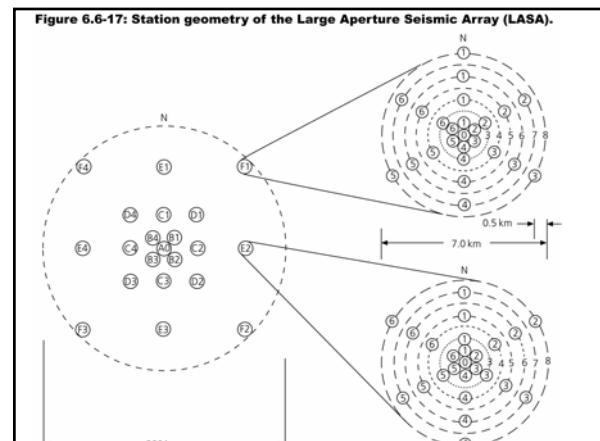
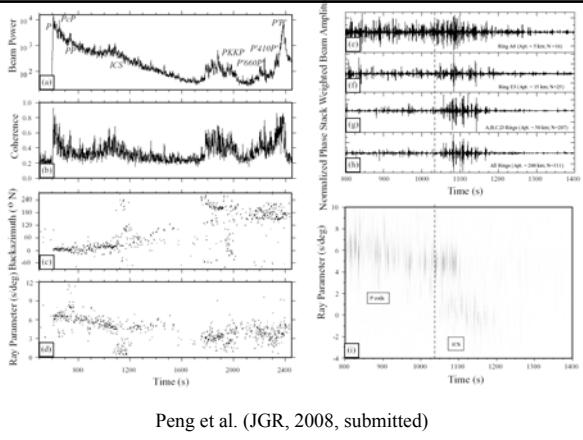
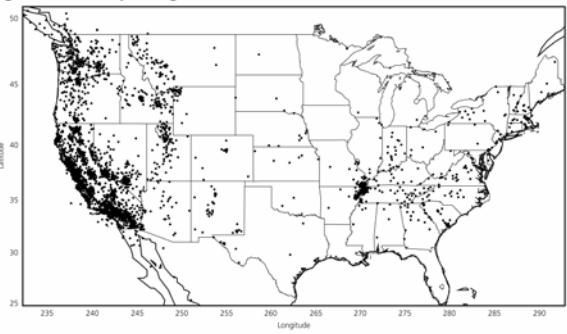


Figure 6.6-17: Station geometry of the Large Aperture Seismic Array (LASA).



Peng et al. (JGR, 2008, submitted)

Figure 6.6-18: Map of regional network seismometers in the continental USA.



EarthScope Instrumentation

- 3.2 km borehole into the San Andreas Fault
- 875 permanent GPS stations
- 175 borehole strainmeters
- 5 laser strainmeters
- 39 Permanent seismic stations
- 400 transportable seismic stations occupying 2000 sites
- 30 magneto-telluric systems
- 100 campaign GPS stations
- 2400 campaign seismic stations

