

Experiment #: 201249 ('EPS166')
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Experiment configuration

This is an educational experiment for the course titled “Earth and Planetary Sciences 166: Consequences of Earthquakes” of Harvard College, that took place during the fall of 2012-2013. The data are collected during a refraction experiment from two approximate locations within University Campus (Figure 1; Table 1). For each profile, 24 geophones are deployed with 1m spacing, starting from 1m (Figure 2). A sledgehammer with a steel plate was used as active seismic source. Shots are collocated with each geophone. Additionally shots at 0m and 25m of the profile were made.

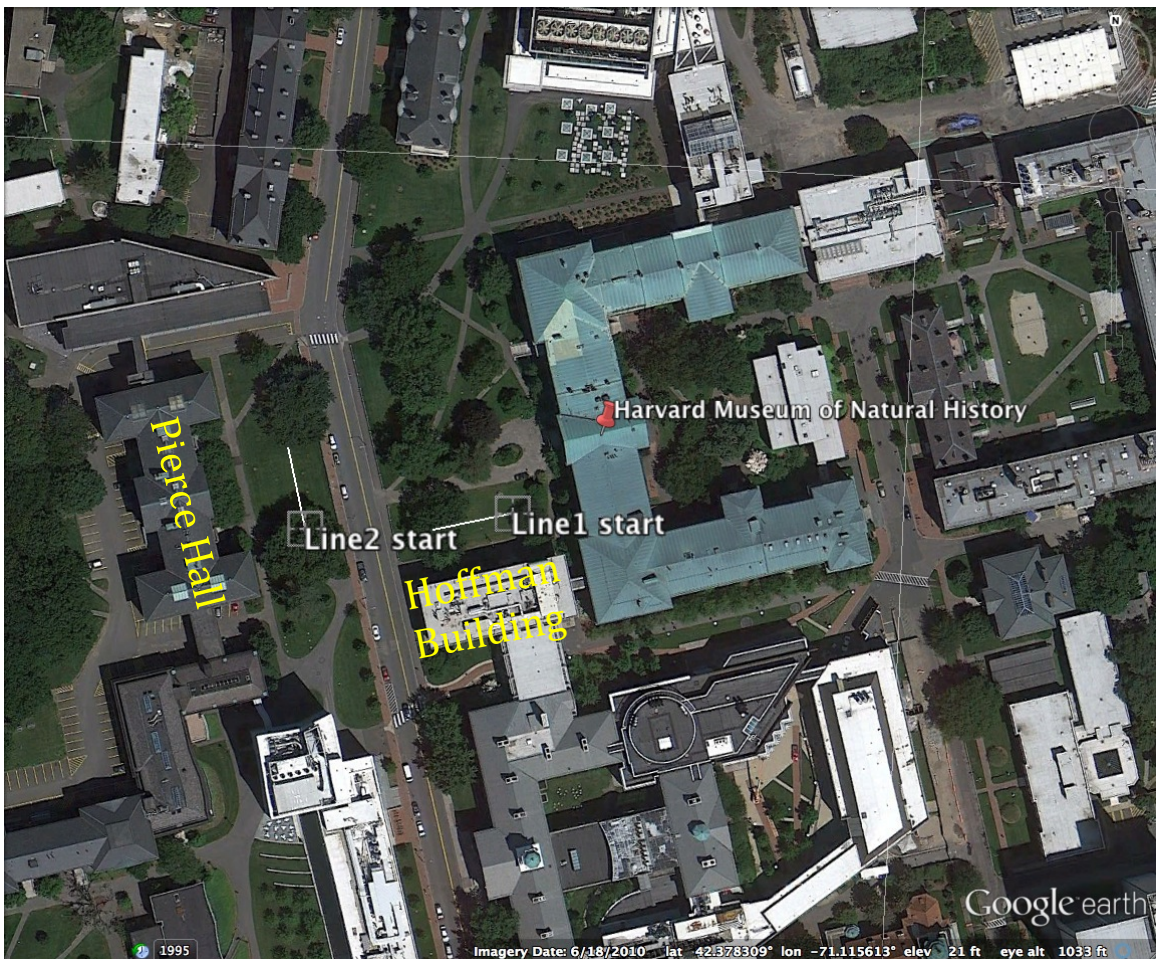


Figure 1: Satellite view of the location of the experiment at Harvard campus located at Cambridge, MA. The refraction profiles are shown as white lines. The “0” point of each profile is marked with white square on top of each line.

To increase the signal to noise ratio approximately 5 stacks were taken at each shot location. The data were saved in SEG2 format. Each shot corresponds to a separate file named as “YXX.dat”, where Y indicates the line number and XX the location of the shot along the line. For example, the file 100.dat corresponds to the 1st line and the shot location 0m. There are 26 files for line 1 (from 100.dat to 125.dat) and 26 files for line2 (from 200.dat to 225.dat). For each line was also created a SEGY file, converted from the corresponding initial SEG2 files.

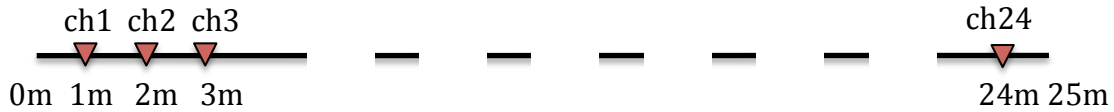


Figure 2: Cartoon of the profile configuration. Geophones (triangles) are placed every 1m from 1 to 25m. Shots are made every 1m from 0m to 25m. Above each geophone is shown the corresponding channel.

Table 1: Coordinates of the starting and ending points for each line of the experiment.

Profile coordinates (starting-ending points)	
Line 1	Line 2
-71.11587, 42.378221	-71.11672, 42.37837
-71.11616, 42.378165	-71.11664, 42.37816