



► **Passive (microtremor) and active source surface wave data analysis**

- calculates phase velocity and automatically picks dispersion curve
- performs inversion to iteratively seek 1D S-wave velocity ( $V_s$ ) curve or 2D  $V_s$  cross-section
- allows active and passive source dispersion curves to be combined for a high-resolution result over all depths sampled
- flexible geometry options suit a wide range of site configurations and conditions
- analysis based on robust methods: frequency domain tau-p, CMP cross-correlation for active source Multi-channel Analysis of Surface Waves (MASW); Spatial Autocorrelation (SPAC) for passive source Microtremor Array Measurements (MAM)
- includes editing and QC functions, and velocity modeling

► **Wizard-driven operation for easy, straight-forward data analysis**

► **Determine S-wave velocity for a variety of applications**

- $V_{s30}/V_{s100}$  site classification
- foundation engineering
- void detection
- in-fill and landfill investigation
- stratigraphic and lithologic studies
- deeper surveys of geologic structure

Surface waves are easy to record and loaded with information about the subsurface. With SeisImager/SW, data processing is simple, putting the answers you seek at your fingertips.

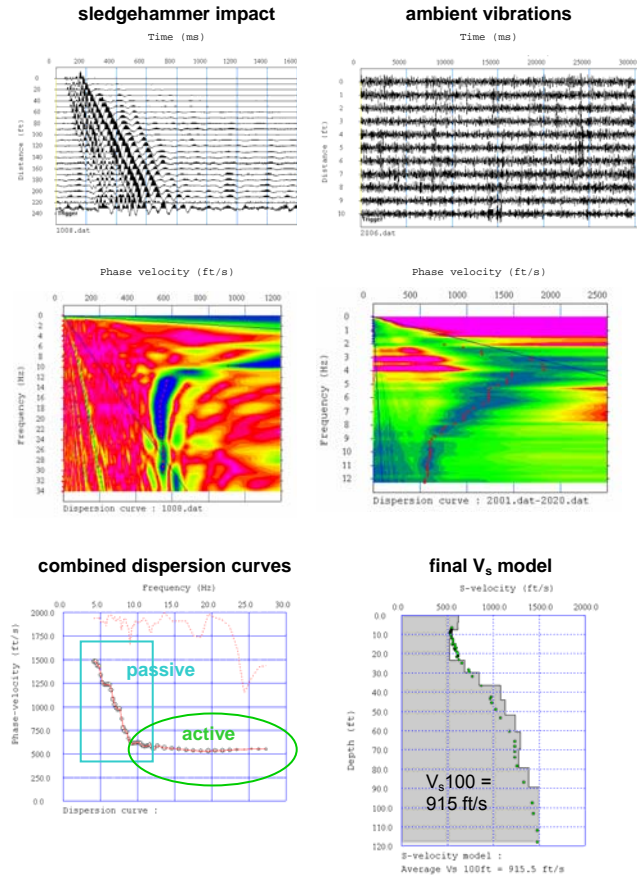
SeisImager/SW includes both active source and passive source data analysis capability. The higher frequency data from a sledgehammer source that travels through shallower depths can be combined with lower frequency data from microtremors that travel through greater depths. Combine the results for one high-resolution plot of S-wave velocity.

Upon launching the software, a wizard walks you through the data analysis. SeisImager/SW includes default parameters that are suitable for most cases, but are fully user-adjustable as needed.

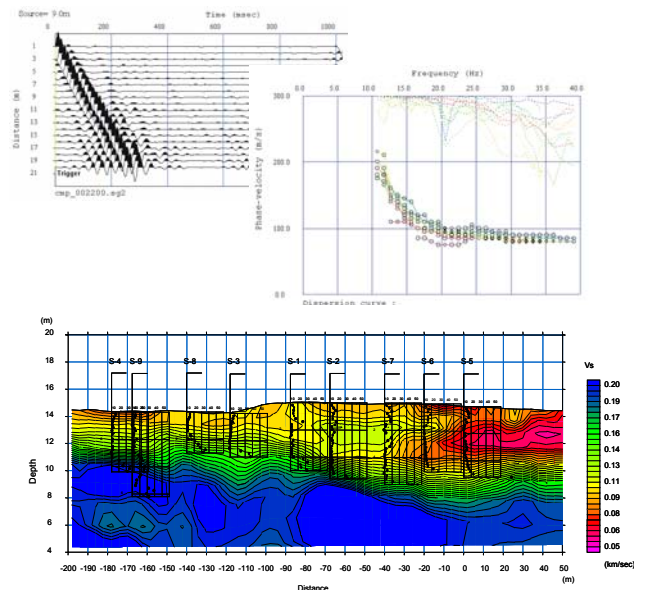
SeisImager/SW is available for purchase separately or as an option with the Geometrics ES, Geode, and StrataVisor NZ seismographs. The software comes standard with the specialized, low-priced ES-SW 16-channel seismograph package tailored for IBC  $V_{s30}/V_{s100}$  surveys.

Contact Geometrics for prices and to find out more about how SeisImager/SW can work for you.

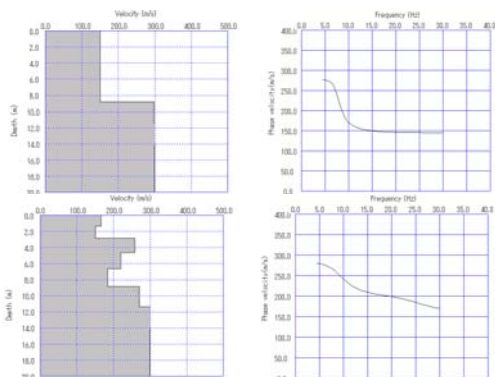
**Collect one active source record and 20 passive source records to calculate a 1D  $V_s$  curve**



**Collect a series of active source records to calculate a 2D  $V_s$  cross-section**



# SeisImager/SW Surface Wave Analysis Software



In addition to the main functions used to determine  $V_s$ , SeisImager/SW also allows the user to build models and examine the effects of velocity variations. Borehole data such as P-wave velocities and blow counts (N-values) can also be correlated.

With Geometrics seismographs, data acquisition is simple. For 1D active source data, take one or two off-end shots with a sledgehammer. In noisier environments, you can also stack multiple shots for

increased signal-to-noise ratio. For 2D active source data, shoot through a fixed spread, roll via software or a roll box, or use a land streamer to collect a series of shots over the length of the survey line. To supplement active source data, passive source microtremor data is collected by manually triggering the seismograph to record 20 records of 32 seconds each.

SeisImager/SW is available for purchase separately or as an option with the ES, Geode, and StrataVisor NZ seismographs. The 1D version comes standard with the specialized, low-priced ES-SW 16-channel seismograph package tailored for IBC  $V_s30/V_s100$  surveys. Please contact Geometrics, Inc. for complete details.

## SeisImager/SW Software Packages

**Demonstration version:** for use on Windows PC with mouse, may be launched 15 times, capable of 1D active source Multi-channel Analysis of Surface Waves (MASW).

**1D version:** runs on Windows PC with mouse, capable of passive source Microtremor Array Measurements (MAM) and 1D MASW.

**2D version:** runs on Windows PC with mouse, capable of MAM and 1D and 2D MASW.

**Rental version:** runs for 40, 75, or 250 hours on Windows PC with mouse, capable of MAM and 1D and 2D MASW. Also includes the refraction data analysis package, SeisImager/2D Standard.



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