

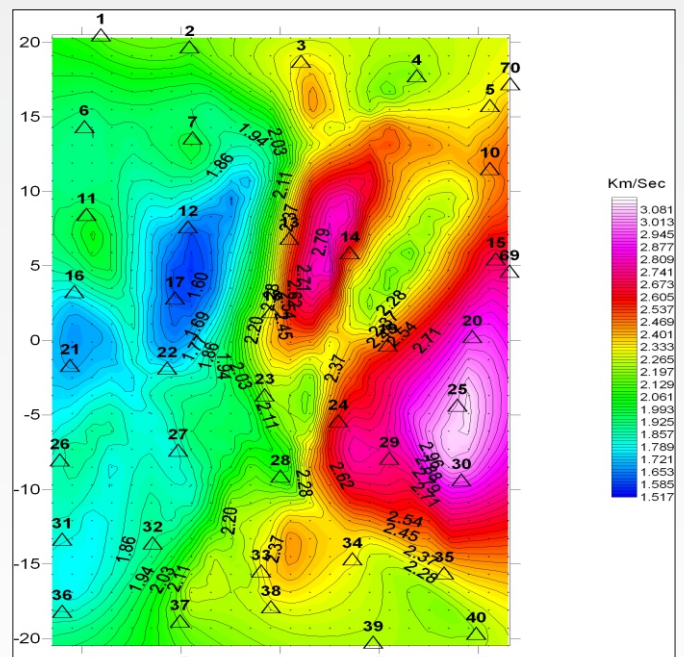
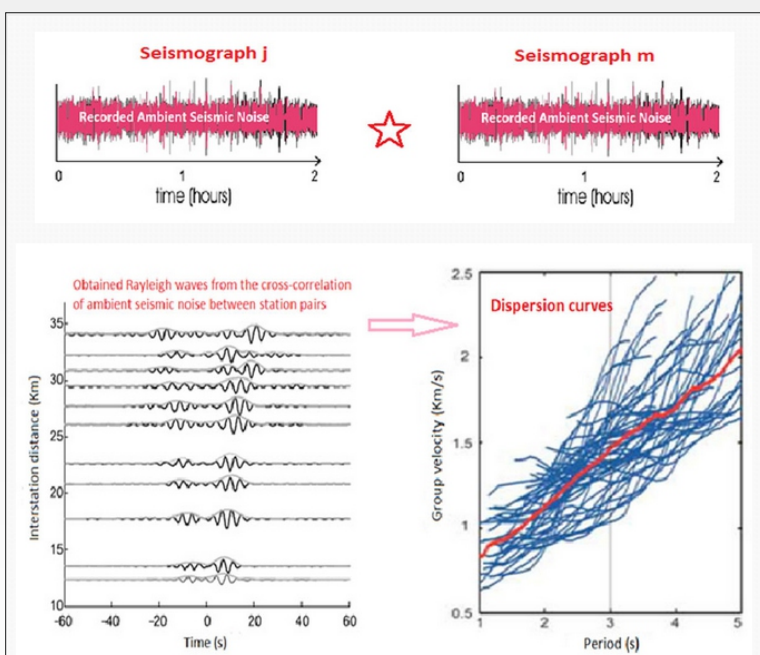
In this method, we attempt to derive Rayleigh wave Green's functions between seismograph station-pairs by cross-correlating long time-sequences (many months) of ambient noise recorded simultaneously at both stations.

By correlating noise records between the receivers in a dense seismological network, we reconstruct Rayleigh waves with sufficient signal-to-noise ratio for many inter-station paths crossing the region of interest.

We use the reconstructed waveforms to measure group velocity dispersion curves at various periods. The obtained measurements are inverted for two-dimensional group velocity maps and finally for a 3D S-Wave velocity model.

Landtech today is the only geophysical company that provides seismic interferometry services for its clients. In addition to classical Passive Seismic Tomography (PST) investigations, Landtech utilizes the ambient noise parts of the recorded seismograms to construct Rayleigh and/or Love wave dispersion curves. These are then inverted to determine 3D shear wave velocity models and used to increase the resolution of PST 3D velocity and Poisson's cubes to facilitate the interpretation.

The method can also be applied to regions of low background seismicity where Passive Seismic Tomography cannot be applied. A  $V_s$  velocity section obtained below an exploration block at -1KM using only natural noise seismic interferometry is presented in the figure below:



Above: A  $V_s$  velocity section obtained below an exploration block at -1KM using only natural noise seismic interferometry

