



MASW on the standard seismic prospective scale using full spread recording

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The Multichannel Analysis of Surface Waves (MASW) is one of seismic survey methods that use the dispersion curve of surface waves in order to describe the stiffness of the surface. It is used mainly for geotechnical engineering scale with total length of spread between 5 - 450 m and spread offset between 1 - 100 m, the hummer is the seismic source on this surveys. The standard procedure of MASW survey is: data acquisition, dispersion analysis and inversion of extracting dispersion curve to obtain the closest theoretical curve. The final result includes shear-wave velocity (V_s) values at different depth along the surveyed lines.

The main goal of this work is to expand this engineering method to the bigger scale with the length of standard prospecting spread of 20 km using 4.5 Hz version of vertical component geophones. The standard vibroseis and explosive method are used as the seismic source. The acquisition were conducted on the full spread all the time during each single shoot.

The seismic data acquisition used for this analysis were carried out on the Braniewo 2014 project in north of Poland. The results achieved during standard MASW procedure says that this method can be used on much bigger scale as well. The different methodology of this analysis requires only much stronger seismic source.