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Local seismic noise characterization on Just-Tęgorze landslide

Abstract

Near-surface seismic imaging with use of seismic interferometry together with ambient seismic noise has made remarkable improvements for last few years. Because of the fact, that seismic noise consists of low-frequency surface waves, the layers at greater depths can be investigated. It is difficult by using only active sources. However, because seismic noise distribution within near-surface is strongly azimuthal-dependent it is important to make its characterization in space and amplitude spectrum at the beginning.

In this study, we evaluate usefulness of seismic noise to image subsurface layers on Just-Tęgorze landslide. We characterize noise in frequency and time domains. Three-component seismometers give us possibility to analyze spatial distribution of seismic noise. The main noise energy has an origin in traffic. Seismic noise in the area is almost omnidirectional because of heavily noise environment. It is a suitable area for ambient seismic tomography as well as for monitoring velocity changes.