



Seismic imaging of post glacial sediments – technical problems and solutions

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Near surface seismic imaging of post glacial sediments is difficult, as standard methods hardly works. To recognize such complicated shallow structures it is necessary to acquire a high resolution data, and that leads to several technical problems. In this work we present how we solved the problem of precise time measurements for our seismic source based on GPS system, and how we improved performance of our seismic source. Our solution for timing is based on geodetic instrument and is used with a standard accelerated weight drop (PEG-40) and a sledgehammer, but also with hydrophones in marine environment with chemical sources.

This technology has been used in several field experiment of local and regional scale in Central Europe, but also in Arctic. In near future this technology will be used in permafrost study in Spitsbergen, and also with near-surface analysis with three component sources and receivers. We present initial results of our observations of horizontal component seismic source.