



Seismon – a flexible seismic processing software

S. Mertl and H. Hausmann

Vienna University of Technology, Dept. of Geodesy and Geophysics, Vienna, Austria (smertl@mail.tuwien.ac.at)

Usually, scientific work in seismology involves new approaches for data collection, unconventional instrumentation and the development of new algorithms to process the data. The combination of these needs limits the usage of routine software packages. Flexible software which enables the integration of new algorithms into an existing work flow would be of great value.

Seismon tries to come up to this demand. Seismon is an open source software project based on Matlab® and MySQL. Its main goal is to facilitate the scientific work of small, low-budget seismic research projects.

With its modular coding approach, the functionality of Seismon can be easily adapted to specific needs. Seismon takes care about the data import, the data management, the data display and enables a quick access to the data for experimenting. The user can concentrate on the main research task without investing too much time in routine steps like data import, data conversions or a correct display of multi-station and multi-channel data.

Seismon is dedicated, but not limited, to seismic data processing. At the current stage it supports the import of various seismic data formats, the handling of station geometries, the visualization of data, continuous and event based data as well as some basic processing algorithms (e.g. frequency filtering, frequency spectrum, spectrogram, time picking).

We will present the current state of the software development and we will demonstrate the applicability of Seismon with 4 case studies: two microseismic monitoring projects at different scales, Tunnel Seismic While Drilling (TSWD) and permafrost mapping by active seismic methods.