

# Automatic processing system for Shear-wave splitting: application to a seismic gap region south of the 2004 Mid-Niigata Earthquake

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We have carried out trial manufacture of an automatic data processing system for Shear-Wave-Splitting analysis with an aim of dealing with large amount of data sets. The algorithm is based on a correlation analysis. We take an original approach for a robust analysis, where i) data sets that possibly lead to destructive results, or outliers, is automatically eliminated, and ii) a statistical test is done to confirm a significance of the obtained results.

We applied the above system to a data set obtained in a seismic gap region south of the 2004 Mid-Niigata earthquake. The obtained Leading Shear-wave Polarization Directions (LSPDs) ranged between EW and SE-to-NW, which are consistent with existing analysis results of SWS that were obtained at nearby stations.

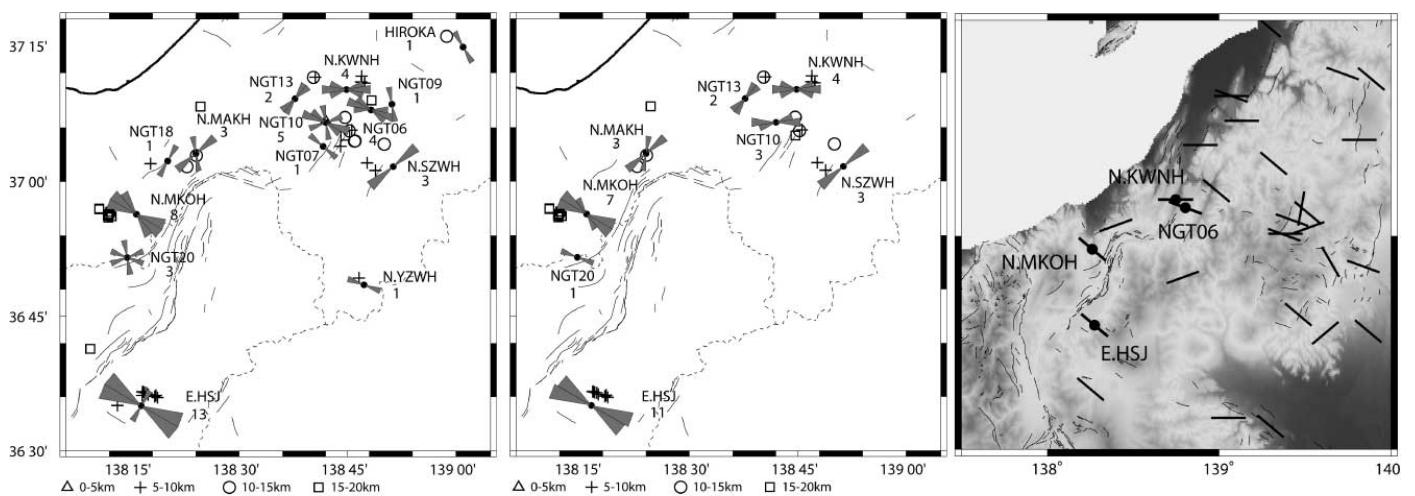


Fig. 1

Fig. 2

Fig. 3