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Constraints on crustal and uppermost mantle structure in the Alpine Region from P-wave polarization analysis

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The study of seismic anisotropy is of importance for imaging Earth structure and provides insight in the geodynamic processes of the regions under investigation in terms of deformation domains of the crust and mantle.
The complex system of the Alpine area has been widely studied with geological and seismic investigations of past and ongoing tectonic processes and for imaging of the 3D structure of the area.
Here we present a study of anisotropy in the crust and upper-mantle from the teleseismic P-wave polarization characteristics. P-wave polarization may yield valuable information on lateral heterogeneity and anisotropy close to the recording station. Such methodology for the the investigation of lithospheric anisotropy has not been yet extensively used in the Alpine region and can provide additional information to the studies of SKS splitting , RF and surface waves . In particular, we are interested in the question how the anisotropy varies with depths, how it correlates with the geological units and how seismic anisotropy in the lower crust and uppermost mantle reveals the deformation of the plates.
Data from permanent broadband seismic stations in Austria, Germany, Switzerland , Italy and Slovenia are used in this work.