

Seismic anisotropy measured on AdriaArray data

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The central Mediterranean area is a place where seismic anisotropy measurements have been collected for years, mainly along the Italian peninsula. Several different techniques have been applied to obtain this information, that carries relevant indications on the state of deformation at depth, both in the Earth's crust and in the mantle. The most common-type of measurements comes from the analysis of shear wave splitting of core phases (*KS), and from-splitting intensity measurements. Seismic anisotropy patterns are a major support in answering questions such as where tectonic plates are actively deforming and which processes drive plate deformation. These are some of the questions addressed by the AdriaArray project. The seismic experiment AdriaArray aimed to densify the collection of seismographic data to the east with respect to the Adriatic microplate. The area covered by the project spans from southern France to the Black Sea in longitude and from Central Europe to the central Mediterranean in latitude, reaching the Sicily channel and the Hellenic Trench. Part of this wide area is already well studied for seismic anisotropy, as previously obtained-data show. However, AdriaArray acquired data from 950 permanent and temporary broad-band stations thanks to the cooperation of nearly 40 institutions (https://orfeus.readthedocs.io/en/latest/adria_array_main.html) and most of them, located in the eastern part of AdriaArray study region, are now under analysis. Within the project, a Collaborative Research Group dedicated to seismic anisotropy has been created. It is working on building a dataset of shear-wave splitting measurements by improving already produced results-with new data. The same has been done with splitting intensity measurements, with ongoing analyses for regions such as Sardinia, the eastern Adriatic coast and further east.