



Lithospheric structures of the Southeastern Sardinia block inferred by the RF analysis

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The island of Sardinia is often considered not worth of large interest, due to rather homogeneous Variscan-type continental crust, lacking of spectacular young tectonic features. Instead, due to its position in the center of the Mediterranean, it represents a key for understanding the geodynamics of the region.

We present our seismological experiment, consisting on the deployment of a temporary network in the South-western part of the island, running from November 2014 to September 2015. The experiment is developed in the framework of a project of a seismic baseline determination, in an area characterized by a low instrumental and historical seismicity. We make use of about 600 teleseismic events with $MW \geq 5.5$ in order to create a receiver functions (RF) data-set, aiming to delineate the deep structures and seismic anisotropy of the Sardinia block lithosphere. In particular we highlight the strong back-azimuthal dependence of RF on the 3D characteristics of the sampled media that represent the imprint given by past deformation, and connect it with the intense magmatic processes occurred during late Eocene - Quaternary age.