



Analysis of surface wave dispersion in Navarra (Northern Spain) from cross-correlation of ambient noise

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We perform an analysis of surface wave dispersion by computing the cross-correlation of ambient noise recorded at 5 broadband stations deployed in Navarra region (Northern Spain). This broadband array was installed to study the seismicity around the Itoiz dam from 2008 to 2010. This temporal array was located at the western Pyrenean range and the different paths between stations cover Palaeozoic, Mesozoic, and Pyrenean tertiary geological materials.

The ambient noise data processing procedure was divided into four principal phases: (1) single station data preparation, (2) cross-correlation of 1 minute windows and subsequent temporal stacking, (3) measurement of dispersion curves and (4) inversion of those dispersion curves in order to obtain the S-wave velocity structure. Finally, we compared our results with the tectonic features of the area of study.