



First results of an ambient seismic noise analysis in western Corinth Gulf (Greece)

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We present the preliminary results of an ambient seismic noise analysis performed in the western Corinth Gulf, Greece. The Corinth Gulf is a continental rift which separates the central Greek mainland from Peloponnese. The rift is approximately 120 km long and 10-20 km wide, with a WNW-ESE orientation, extending from the Gulf of Patras in the west, to the Gulf of Alkionides in the east. It is considered as one of the most active extensional intra-continental rifts in the world, with the geodetically measured rates of extension varying from ~ 5 mm/yr at the eastern part, to ~ 15 mm/yr at the western part. We used data from three-component broad-band seismic stations operated under the framework of the Hellenic Unified Seismological Network (HUSN) and the Corinth Rift Laboratory (CRL). After the classical processing of continuous ambient seismic noise recordings, we used both auto-correlation and cross-correlation functions of single stations and station pairs, respectively, in order to retrieve empirical Green's functions (EGFs) of surface waves and estimate relative velocity changes. For estimating the relative velocity changes we used the moving-window cross spectrum analysis (MWCS) technique. This is the first attempt to characterize the ambient seismic noise properties in the area and study the possible relation between the detected relative velocity changes and the occurrence of moderate or strong earthquakes in the study area.