



Converted phases from teleseismic and local subcrustal earthquakes observed at broadband ocean bottom seismometers in the Gulf of Cadiz, Eastern Atlantic

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Teleseismic receiver functions are an excellent and well established tool to study crustal and upper mantle seismic discontinuities in continental environments. Analysing P-to-S and S-to-P converted phases it is possible to map important boundaries like base of sediments (top of crystalline basement), Moho discontinuity, lithosphere-asthenosphere boundary, and discontinuities of the mantle transition zone at 410 and 660 km depth. Unfortunately, broadband seismic data from the ocean floor are still rare and therefore also observations of converted seismic phases. We present data recorded during an 11-month deployment of 24 broadband ocean-bottom seismometers in the Gulf of Cadiz in the frame of the EU project NEAREST (Integrated observations from NEARshore sourCES of Tsunamis: towards an early warning system). During this period high-quality recordings of teleseismic events as well as local earthquakes with focal depths in the upper mantle were obtained. We present observations of P-to-S and S-to-P converted phases, discuss methodological problems in an oceanic environment, and present first results in comparison to existing seismic data, land observations from mainland Portugal, and synthetic seismograms.