



## Surface wave group velocity in the Euro-Mediterranean region

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Inversion of surface waves provides a robust means for determining crustal and upper mantle Earth structure. Among the different techniques that are commonly used, a two step inversion based on group velocity analysis, and subsequent inversion of regionalized dispersion characteristics, presents several advantages. Group velocity is a rather basic parameter, its measurements do not depend on an *a priori* model of the crust, and it represents a robust observable that can be taken even for moderate magnitude events, recorded at short distances. We measure fundamental mode Rayleigh and Love wave group velocities for earthquakes and seismographic stations located in the broad European and Mediterranean region, for periods between 25 and 150 seconds. We then invert dispersion curves to obtain laterally varying wave speed models for the whole region. Data coverage in this region is not uniform, and is highly influenced by the uneven distribution of seismic stations. We then combine our wave dispersion data, measured at regional distance, with the global dataset of phase velocities measured by Ekström et al. (1997) to improve data coverage at the borders of our study region, and to warrant consistency with global models. The inclusion of measurements taken at short distances highly improves model resolution.