



## **Structure of the crust and upper mantle in the Southern External Dinarides as derived from receiver function analysis**

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One of the key factors in the structural evolution of the Mediterranean is the interaction between Adria microplate and the stable Eurasian mainland. The western and northern collision boundaries (i.e. Alps and Apennines) have been fairly well investigated while the eastern margin (the Dinarides) is still undersampled and present geodynamic processes are still unresolved. One of the most intriguing questions to be solved is the nature of the interaction between Adria fragment and Eurasia beneath the Dinarides, especially in their southern part (southeastern Croatia and Montenegro). Flysch units in the coastal part of Montenegro signify still active (or very recently ended) subduction process. This study seeks to better understand the current tectonic system and geodynamical process at the eastern margin of the Adria-Eurasia collision zone. We employ receiver function method to investigate crustal and upper mantle structure beneath the seven broadband stations of the Croatian and Montenegrin seismic networks. Preliminary results point to very thick crust (more than 50 km) for the stations near the coast with slight thinning towards the interior of the Dinaric Mountains. Thickening of the crust can be associated with the shortening process related to the orogenic belt. The complexity of receiver functions under all stations used in this research marks effects of the ongoing geological processes such as the active collision of the Adria fragment and the Eurasian plate. Furthermore, analyses of receiver functions in the southern Dinarides hint to the possible existence of double Mohorovičić discontinuity which agrees with the proposed subduction process.