



New Moho depth map for the wider Dinarides region

Josip Stipcevic (1), Marijan Herak (1), Irene Molinari (2), and Iva Dasovic (1)

(1) University of Zagreb, Faculty of Science, Department of Geophysics, Zagreb, Croatia (jstipcevic@gfz.hr), (2) Istituto Nazionale di Geofisica e Vulcanologia, Bologna, Italy

[a4paper,12pt]article

New Moho depth map for the wider Dinarides region

Josip Stipčević¹, Marijan Herak¹, Irene Molinari² and Iva Dasović¹

¹Department of Geophysics, University of Zagreb, Zagreb, Croatia
(jstipcevic@gfz.hr)

²Istituto Nazionale di Geofisica e Vulcanologia, Bologna, Italy

We present a new crustal thickness map for the wider Dinarides region. The map was constructed from the results of receiver function analyses on more than 90 seismic stations installed in this area, including the newly available AlpArray stations. Moho depth was measured using two methods, simple $H - \kappa$ stacking and a more complex inversion process based on the neighbourhood algorithm. In the first instance, a simple one layered crust was assumed whereas in the second process a two or three layered crust with the addition of the dipping Moho discontinuity was modelled.

The results show thicker crust (> 40 km) stretching under most of the External Dinarides and slightly thinning towards the Adriatic Sea. It is interesting that the results show a significant crustal thickening in the direction of the Pannonian basin with an abrupt change to relatively thinner crust (< 35 km) in the transition zone between the Dinarides and the Pannonian basin proper. In the transition zone the crustal thickness varies between 25 and 35 km and thins to less than 25 km as we enter the Pannonian basin. Furthermore, the new results show significantly thicker crust (> 40 km) in the area of the central Dalmatian archipelago, as compared to the values of less than 35 km reported in this area in all previous studies.