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The Images of Anatolia

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Compositional structure of the lithosphere is fundamental to understand its response to the perturbations from the tectonic forces. The Anatolian plate has the central importance on the geodynamics of the Eastern Mediterranean region. The availability of vast amount of broadband seismic data from portable and permanent seismic networks significantly improved our knowledge of the earth structure in the region. In this study we present geophysical images of Anatolia and surroundings from the shallow crustal depths to the core-mantle boundary using various observations and techniques. We test some of the geodynamic hypothesis proposed for the region. We combine tomographic images with SKS anisotropy to infer the interaction of mantle flow with Hellenic-Cyprus subduction zone. The crustal thickness variations are used with Bouger gravity maps to understand the isostatic state of the Anatolian plate. We aim to put a lithospheric model based on the geophysical images for a better characterization of geodynamics of the region.