

Interactive comment on “Thickness of the lithosphere beneath Turkey and surroundings from S-receiver functions” by R. Kind et al.

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Dear authors,

your submission is a highly valuable contribution to better understand the lithosphere, its deep structure and processes related to plate tectonics, not only in the regional context of the Anatolian subplate. I really like your work and most of the way it is presented. I only have some minor comments, which may help to further improve the publication and its impact.

First of all I would ask you to restructure your manuscript in a way that the observation/results are more separated from your interpretation and discussion. You tried to do this, but in my opinion it is still not clear enough.

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To show the general structure you decided to apply a low pass filter with a corner period of 8 s. As you also stated that might prevent to observe more regional and local features such as the extent of fault zones. I would suggest to further exploit cross sections with filters of different corner periods (see figure 11b and c).

On page 1325, in my opinion, you mix the slab break-off scenarios with lithosphere evolution of Anatolia. This paragraph needs some clarification. Slab belongs to the African plate, the lithosphere to the Anatolian subplate.

On page 1326, you mix the naming of the slabs (or use different names for the same structures). Please make this more coherent. Why the Aegean Slab is not called Hellenic. That would make more sense to name it like the Arcs.

Page 1327, You discuss that the NAF is not linked to a deep deformation zone, but your only indication is the anisotropy pattern (could you plot this pattern on one of the maps)? How the NAF should work if it would not be a deep-reaching fault zone? Unfortunately, your data in the presented resolution provides no new insights into the topic. What are with anomalies (converters) imaged below the assumed LAB? Some of them seem to mimic the tectonic provinces at the surface (figures 5 to 10, especially 9).

Page 1328, where in your data you see the 150 km thick lithosphere?

The quality of figures is very good! In figure 6 you did not mark the 410? Figure 8: How it looks in 3D, if the Hellenic slab dips below the Cyprus slab? On some plots the marked LAB does not seem to follow the centre of the blue anomaly.

I would suggest to add a figure showing the depth to LAB in a map view accompanied by a table with coordinates and depth values.

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Interactive comment on Solid Earth Discuss., 7, 1315, 2015.