

Interactive comment on “New constraints on the geometry of the subducting African plate and the overriding Aegean plate obtained from P receiver functions and seismicity” by F. Sodoudi et al.

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Sodoudi et al., New constraints on the geometry of the subducting African plate and the overriding Aegean plate obtained from P receiver functions and seismicity

The authors present new receiver functions from the Aegean Sea and interpret the results in relation to subduction of the African plate. The manuscript may be published after moderate revision.

The two reviews provide clear and valuable recommendations for the revision. I shall not repeat these recommendations which should all be taken into account for the revision. I agree with reviewer Geissler that the combined section on results and discus-

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sion makes it difficult to identify the two elements, and that the revision will benefit from splitting this part into two sections.

The deep parts of the slab are only weakly imaged and the conclusions on location and dip should be moderated.

The modelling presented in Fig. 7 is not convincing and should be improved. I find the documentation insufficient for judging the resulting impedance model and the constraints on the LVZ. How can a negative impedance contrast produce a positive wavelet while the positive impedance contrast at Moho also produces a positive wavelet? Is this because the synthetic seismogram models the phase at 15–17 s by the negative wiggle (trough) instead of the primary (peak) in the input waveform? I notice that the trough just before this arrival actually has reduced amplitude in the synthetic seismogram including the LVZ which may indicate that this is the case. This could be tested by providing the theoretical arrival time for the second phase and by providing a plot of the input waveform for synthetics. If my assumption is correct, the modelling needs to be redone to obtain a match between data and synthetics, or this part of the paper may best be left out from the final submission.

It is awkward to read about results in the past tense. I suppose that the results are still valid such that the present tense may be preferable. Use of English language in general may require a brush-up in a few places

Fig. 3 needs annotations with geographical directions.

Best regards, Hans Thybo

Interactive comment on Solid Earth Discuss., 5, 427, 2013.