Response to reviewer comments on "Crustal structure of southeast Australia from teleseismic receiver functions" (manuscript se-2020-74) by Bello et al.

19th January 2021

This is the same rejoinder as was submitted on the 14th January. We have not made any changes to the manuscript subsequent to acceptance, other than to update Table 1, so that it is no longer embedded as an image.

Note: Line numbers refer to the marked up version of the manuscript.

Editor

Comment: thank you for addressing the comments of the reviewer, anyways the part of figure 9 where the observed+synthetic RF are plotted does not look nice enough to be shown in the main text as is. Please consider to show the RF (at least the observed) starting at -5 s; please change the lines 295-298 referring to the best-family rather than to the superior results achieved by using the shorter time window [since what has been cut is pre-signal noise]. In case you have not the possibility to show the RFs starting at -5s, please move the panels containing the RFs to the supplementary material, and move lines 295-298 in the caption of that figure.
Response: We have adopted the second option due to the difficulties in showing the receiver functions starting at -5s (figure generation is not decoupled from the NA RF software). Specifically, we have moved the waveform fits associated with Figure 9 to Supplementary Figure S7. For consistency with the other RF plots in the Supplementary information, we also include the S-wave models, but note the duplication in the caption. We have also made changes to the text where appropriate, namely:

- Moving lines 295-297 to the caption of the new Supplementary Figure S7. We have also included this statement in the captions of the other BASS station RFs for consistency (Supplementary Figures S6, S8 and S9).
- Updating references to the Supplementary Figures in the manuscript, since there is an extra supplementary figure added (Figure S7).
- Editing the Figure 9 caption, since it now only contains the S-wave models. It also includes a reference to the location of the associated waveform fits.