

Public justification (visible to the public if the article is accepted and published):

Dear authors,

Many thanks for the revision of your manuscript and the replies to the reviews. The second round of reviews highlighted different views which i see as part of the scientific debate regarding the thinning processes in this region. In this light, i would thus ask that you incorporate these views more explicitly in your manuscript and not only in the reply to the reviews. This concerns more specifically the alternate view by referee #2, regarding the comparison of different crustal domains and the interpretation of changes in crustal thickness in these domains.

We have added a section in section 5.2 that summarises the main differences (basically an extract of our responses) with the other interpretations of the crustal domains. We hope we made this point clear now in the main text.

In addition, i noticed the following very minor points:

1) please consider if section 1 could be subdivided in sub-sections similar to the other sections of the manuscript

We have subdivided the introduction into 2 subsections.

2) Figure 1: The ODP sites are listed as a filled star in the caption, but the symbol is an open star on the map. Please include the blue lines with half arrows in the legend,

Done.

3) Figure 2: i see only one blue arrow (focal mechanism) and unless i missed another arrow, i suggest to change the plural in the caption to singular,

Done.

4) Figure 3: please ensure permission for the reproduction of this figure which also needs to be obtained for redrawings.

Good point. They are original figures made for the purpose of this research that has been drawn after model results published by Jourdon et al. 2021 (EGU Solid Earth). Jourdon is co-author of our paper. We tried to make it clearer in the figure caption.

5) Section 4 has two sub-sections 4.1 and a 4.1.2, but no 4.1.1, corrected to 4.1, 4.2 and 4.3.

6) Correction of author name 'Pourhiet' to 'Le Pourhiet'

Done

With best wishes,
Susanne Buitter