

Dear authors,

It has been a pleasure for me to edit this manuscript. The paper is interesting, concise and well presented, and it will make an excellent contribution to this Special Issue. The two reviewers considered it interesting and valuable, and the authors have done an excellent job answering their minor comments.

The paper is almost ready, but I have a few minor comments that I would like you to address before it is taken into the publication stage (see below). Once again, congratulations for this great piece of work.

We are grateful for the positive evaluation of our work. We also thank the Topical Editor for his precious comments and suggestions. We have carefully addressed them and we think they definitely helped in improving the quality of the final manuscript. We also noticed an additional previous comment from the Topical Editor that was not seen before. The Topical Editor asked to be more explicit in the Introduction about the geological targets of our exploration. We have now better specified this point in both the abstract and introduction of the paper.

Please note that the line numbers refer to the manuscript with tracked changes

-Please add the sampling rate of the recordings and the estimation of the total size of the data raw data - this is to inform the readers and to link back to the introduction ("leading to large datasets") to support why it is important to automatize this type of processing flows. I can see you have this information in the conclusions, but it may be worth repeating it in the main text too.

Added.

-What is the reason behind the passive DC alignments observed in the wavelength-phase velocity diagram in Fig. 6b? Perhaps you could add a short explanation of this effect in the paragraph in lines 159-167.

This is due to the fact the picked DC are sampled at constant frequency intervals (0.5 Hz). Since wavelength=velocity/frequency, the alignments mark the different sampled frequencies (i.e. the slope of each straight line is equal to 1/frequency) and become particularly visible at the longer wavelengths. We added a short explanation on this effect while discussing Figure 6.

-You could show the contribution of passive and active DCs to the path lengths and azimuths in Figure 7 by painting the bars and sectors in two colours. This way you can graphically show how the aggregation of passive+active data provides a more robust and homogeneous (i.e. better) dataset, which is a central issue in the conclusion section.

This is a useful suggestion to improve the quality of the figure. We have modified it accordingly.

-The fact that the perturbation zones observed in the inverted checkerboards appear at the edges of the study area could be related to a lack of raypaths/azimuths in these areas? Have you observed anything unusual in these zones for example in the misfit maps?

We added a comment on this in the manuscript. Beside the marginal position, the anomalous reconstruction at 90-m depth (red box) is likely due to the fact that only a very small part of negatively perturbed square is included within the area covered by the array at this location. A coverage reduction is most likely the cause of the deeper anomaly in the checkerboard (blue box).

Very minor comments:

49 - "form" to "from"

Caption figure 2 - spell out SWT

Caption figure 3 - spell out FDBF

Figure 5b shows the active or the passive DC? Please clarify

Minor comments have been corrected.