

Author Response for Review round 2 for Manuscript 'The Weisweiler passive seismological network: optimised for state-of-the-art location and imaging methods' (ESSD-2022-378)  
*Original Comments by Reviewer Andrea Rovida in italic*

*Although the revised version of the manuscript incorporates all the minor suggestions made in my previous review, I am sorry to note that it does address the main points raised about the presentation of the dataset.*

Dear Andrea Rovida,  
Your comments and time are most appreciated.

*Mentioning the GEOFON website does not automatically provide "additional details on the recorded data and their availability and accessibility", as suggested in the review. I would have expected a proper description of the dataset acquired with the described network. From the manuscript, I understand that data were acquired between June 2021 and August 2022 (Section 3.4) and that a Ml 1.1 was recorded in May 2022 (Section 4 and Figure 5). As a description of the dataset, a reader would expect to know, e.g., how many waveforms were recorded, what are their characteristics and so on.*

Thank you for this constructive Comment. We have carefully considered this issue but come to the conclusion that we would remain with our level of presenting the dataset. In our opinion, the reader receives all available information in this manuscript to work with the data: The seismic station locations (Figure 1, Table A.1 and on GEOFON website), installed equipment (Table 1), type of installation (surface burial), recording durations (Table A.1 and Figure A.1), ambient seismic noise characteristics (given as power spectral density plots, Figures 2 - 4) and quality indicators for ambient noise and migration studies (given as array response function in Figure 6 and sensitivity study in Figure 7). The 'number' of waveforms inherently results from the duration of recordings given in Table A.1 and Figure A.1 and the sampling rate of 200 Hz given directly in the header of the miniseed data itself. We added the information of the sampling rate explicitly in section 3.

With this information, we feel the reader could judge the appropriateness to apply their preferred methods to this dataset. The reader is then able to download the dataset and conduct their own analysis such as deriving velocity models or earthquake catalogs.

*Findability and accessibility of the data are also poorly described and the Section "Data Availability" has to be improved with some hints about how to find the dataset and its metadata in the mentioned websites, and in which format(s) they are distributed.*

Thank you for your suggestion. The dataset can be directly downloaded from the GEOFON website through a web service and the website itself provides detailed instructions how to do so (directly linked on the landing page of our dataset). Additionally, the dataset can be downloaded in a more automatic way using the very common FDSN protocol (also detailed on the GEOFON website) using the network codes given in the manuscript. This is a standard seismological way of obtaining datasets that we feel more information is not needed at this point. Although all data on the GEOFON site are in a standardized data format, we now specify that data is archived as miniseed data in section 5 and mention that this includes metadata information for each file.

*I think all the above is what is needed to “facilitate and trigger all kinds of research”, as claimed by the authors in their reply. In this respect, the Conclusions should be more specific about what are the “open research questions” and “innovative methods” generically mentioned at lines 214-215.*

We appreciate the comment to improve our Conclusions. We now specifically name a few open questions, although the complete list of possible research questions is endless.

*Apart from the few suggestions made in the previous review, the expected and needed accurate revision of the English throughout the paper has not been performed.*

We would like to refer to the Copernicus English language copy editing for further revision of the English language.