Geoscientific Instrumentation Methods and Data Systems Discussions

Geosci. Instrum. Method. Data Syst. Discuss., author comment AC2
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Reply on RC2

Monika Bociarska et al.

Author comment on "Passive seismic experiment "AniMaLS" in the Polish Sudetes (NE Variscides)" by Monika Bociarska et al., Geosci. Instrum. Method. Data Syst. Discuss., https://doi.org/10.5194/gi-2021-7-AC2, 2021

Dear Anonymous Referee,

We are grateful to have received your review which led to important improvements of the manuscript. We carefully addressed all your suggestions. We respond to the comments in detail in the attached supplementary PDF (our responses are in bold font). We also attach a PDF of the corrected manuscript with tracked changes.

However, one of the comments is partially unclear for us and we are not sure what are your recommendations, and how should we proceed with corrections, therefore we would like to kindly ask for clarification of your point:

REV2: '*…KEEP standard notation, i.e., that sensor mis-orientations greater than 5° prevents naming the horizontal components as N and E!!!, but the component must be denoted as Z, 1 (for N) and 2 (for E)...'*

A: We understand the convention for Z12 naming of components, instead of ZNE naming, if (documented) mis-orientation exceeds 5°. But, in discussion in this Section we do not explicitly refer to components, so we are not sure where exactly should we use this convention.

REV. 2: '*…This criterion should be accepted and followed (vs. Lines 412 and 430).'*

A: In these lines, we mention that most stations do not exceed -7° to + 7° mis-orientation in results from polarization methods, and that only the 3 stations exceeding 10° will be rotated before using for analyses, because polarization methods show substantial uncertainty and lower values are not a good proof of mis-orientation.

If we get your point right, you recommend to rotate not only the three stations exceeding 10°, but, consistently with convention, to rotate all stations exceeding 5° calculated with polarization analysis.

However, in our opinion, this recommendation would apply only to the situation when the mis-orientations are determined with high precision, directly in the field. Given substantial uncertainty of the polarization analysis methods (estimated errors of the three methods used are largely 4-7° in Table 2, Vecsey et al. mentions even larger, 10° error as typical for these methods), results showing 5° or 7° based on polarization analysis are not a

definitive proof of mis-orientation and, in this case, orientations determined in field using method described in the paper should be trusted, as more precise.

We would be grateful for your more detailed comment on these issues, we are ready to introduce additional corrections to the manuscript according to your suggestions.

Please also note the supplement to this comment:
https://gi.copernicus.org/preprints/gi-2021-7/gi-2021-7-AC2-supplement.pdf