



JAMIE L. WHITTEN NATIONAL CENTER FOR PHYSICAL ACOUSTICS

June 26, 2021

RE: Topic Editor Decision: Publish subject to technical corrections (25 Jun 2021) by John M. Huthnance

Dear Dr. Huthnance,

Thank you for the detailed technical corrections for our manuscript. We have implemented all of them with our response attached below.

Again, thank you for handling our manuscript and your support of our work.

Sincerely,

Zheguang Zou, Parsa Bakhtiari Rad, Leonardo Macelloni, and Likun Zhang

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Detailed comments:

Authors reply in bold.

Lines 3-4. Maybe “. . . temporal and spatial variability in three-dimensional (3D) seismic oceanography images to address . . .” (c.f. Referee 3 avoiding “embedded”)

Removed “embedded”. (Line 3)

Line 14. “. . . derived from”

Corrected. (Line 14)

Line 17. “. . . limited to . . .”?

Corrected. (Line 17)

Line 24. “embedded” → “represented”? Omit “which is”.

Changed “embedded” to “distributed” and omitted “which is”. (Line 24)

Line 41. “more adequate” → “better” or “improved”?

Changed to “improved”. (Line 41)

Line 48. Please replace “multiple offsets and multiple azimuths” with non-specialist language if possible.

Changed to “multiple parallel receiver arrays”. (Line 48)

Line 54. To oceanographers “subsurface” suggests below the sea surface. Better “sub-seafloor” (as line 31)?

Corrected. (Line 54)

Line 71. Maybe “. . . ocean, by developing our understanding . . .” to keep the logic of Referee 3 “L64” comment?

Corrected. (Line 71)

Line 77. Omit “in this region”?

Removed. (Line 77)

Line 92. “trace editing and amplitude balancing”. “trace” needs introduction and you need to say what are the amplitudes balanced.

Implemented (Line 92-93)

Line 100. “flow” → “step”? I don’t think “in various data domains” adds any meaning – omit?

Changed to “step” (Line 101)

Line 110. “. . . norm of Neidell and Taner . . .”

Corrected (Line 111)

Line 111. Unclear meaning of “that a processing parameter” – sentence would read OK without it.

Corrected (Line 112)



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Line 113. “both” what?

Both inline and cross lines. Added to the text. (Line 114)

Lines 118-120. This sentence could be re-written to omit “migration” and “migrate”. Do you need this specialist term anywhere else?

Corrected and rewritten (Line 118-121)

Line 122. “NMO” needs to be inserted in line 106 thus: “. . . removal, i.e. the normal move-out (NMO) correction,”

Corrected (Lines 108 & 123)

Figure 2 caption. The middle sentence could be omitted; its information is in the text.

Removed.

Lines 228-229. The two parts of the sentence are not really consistent: “. . . temporal . . . variations are embedded in the inline direction, whilst temporal variation is found mostly along the crossline direction.” Perhaps you mean for the second part “whilst most of the crossline variation is temporal” – or that temporal variation is a minor contributor inline as suggested by section 3.2?

Revised. (Line 228-229)

Line 250. “. . . inline and crossline sections in Fig. 8 (a) and (b), . . .”

Changed to “inline and crossline directions”. (Line 250)

Figure 8 caption. This could refer to Figure 9 panels (a), (b) in response to Referee 3 “Fig. 9” comment.

Now referred Fig. 9 panels (a) and (b) in the Fig. 8 caption.

Figure 10 caption line 3. A redundant “only”.

Removed.

Line 349. “subsurface” → “sub-seafloor” (c.f. line 54).

Changed. (Line 349)

Line 359. Better “. . . Each inline image can be seen . . .”

Corrected. (Line 259)

Lines 392-393. This clause (second half of sentence) needs a verb.

Revised (Line 391-393).

Line 405. Omit “that”.

Corrected. (Line 405)

Line 414. Omit “to”.

Corrected. (Line 414)

Line 418. Better “. . . images would involve concurrent . . .” or “. . . images would incorporate analysis of concurrent . . .” (one does not analyse an investigation).

Corrected. (Line 418)



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Correction of Our Response to Referee 3:

Fig 9. Panels a and b could be transferred to Fig 8, as Fig 8 is where you first discuss these terms of inline and crossline variation.

Thank you for your suggestion. We also referred Fig. 9 panels (a) and (b) in the Fig. 8 caption.