

**Response to the comments:**

*RC: L82: The IG wave signal used by Crawford and Webb was not recorded by a hydrophone, but by a differential pressure gauge. Differential pressure gauges, nano-precision bottom pressure recorders or broadband hydrophones can be used to measure the IG wave signal, though I'm not sure if broadband hydrophones are sensitive enough below their corner frequency.*

*Not changed (L115 now). Should replace "hydrophone data" by "pressure data".*

**AC:** Now it is replaced. (Sorry for the mismatch, it was an inadvertent mistake.)

*RC: L136-141: These details of the LOBSTER OBSs development aren't relevant to the method or the data presented.*

*Not removed (L176-181 now).*

**AC:** Now it is removed.

*RC: L175-176: Repeats previous lines.*

*Not removed (L216)*

**AC:** Now it is removed.

*RC: L 235: Why 2%? Is this a parameter you set? Or an observation of some separation in S-values?*

*AC: We use a threshold for picking the highest similarity. We choose the upper 2% of the time frames with highest S values as the similar frames. We modified the sentence and added the term "the upper" to make it clear.*

*Actually it was already clear that this was the upper 2% (but the change in text is fine): my question was: why 2%? Also, Make this a parameter in Table 1.*

**AC:** The parameter is added to the table. As it is mentioned in the text "We choose the upper 2%", so this is the parameter we set and it is a good suggestion to add it to the table.

*RC: Eq 7: Use the same emphasis in the equation as in the text (N and N' are bold in the text, but italicized in the equation)*

*AC: Within the whole manuscript, we used bold for the variables in the text and used italic for the equations.*

*I don't see how this could be a good idea, but I leave it to the manuscript preparation team to decide.*

**AC:** Now we use italic both in the text and equations.

*RC: L445: "in the range of the signal frequencies" repeats, remove it. "0.05 to 0.2 Hz": you give a frequency range here but the figure only shows periods.*

*AC: The dispersion maps show that noise energy in the range of the signal frequencies is removed successfully for periods between 5 and 20 s. Longer signal periods which are weakly visible in the noise-free image (Fig. 5d) can only partially be recovered.*

*The response is not adapted to my comment, which was simply about 1) improving grammar and 2) avoiding inverse units between the text and the figure.*

**AC:** We modified the text and improved it. Also we modified the figure so now we use Hz as the unit of frequency both in the figures and in the text.

**RC:** *Figure 2b: put units on axes of spectrogram plots*

*AC: Thanks for the suggestions and corrections. We applied all....  
The spectrogram plots still do not show axes units.*

**AC:** The plot is modified and all the units are now shown on the axes.

**RC:** *69-70: the sentence about projection of horizontal signals onto the vertical channel is not relevant to this article.*

**AC:** The sentence is now removed.

**RC:** *119: “subsequently” is not the right word: “in sequence” is one better option.*

**AC:** Now we replaced it.

**RC:** *120 and 122: Remove “adopt HPS using”*

**AC:** We removed it.

*129: “Loose cables” doesn’t explain anything, especially if you are referring to the rope connecting the OBS to the recovery buoy, which is not technically “loose”.*

**AC:** We modified the sentence and remove the term “loose”.

**RC:** *178: “In the context of HPS, one of the simplest and fastest approaches...” =>  
One of the simplest and fastest HPS approaches...”*

**AC:** The sentence is modified according to the comment.

**RC:** *215: “In range two avoiding the frequency range of 0.1 to 1 Hz”. This is redundant. Moreover, you refer to range one and range two here, but later on you explicitly name the frequency range and in Table 1 you refer to “Frequency range for MED” and “Frequency range for SIM”. I recommend using “MED frequency range” and “SIM frequency range” everywhere, which will make the reading clearer and should also help the reader to understand the reason for separating these ranges.*

**AC:** That is a good suggestion. We use the suggested term now.

**RC:** *255: Why do you use soft masks rather than a binary mask?*

**AC:** Soft masks are more flexible than binary masks and usually lead to better results; it’s not very often that all of the energy in a mixture can always be assigned to one

source. We added a brief explanation about this to the text and more detail can be found in the related reference (Vaseghi, 1996).

**RC:** 292: *“waiting time” => “waiting factor” as on line 290.*

**AC:** Now we replaced it.

**RC:** 304: *“the mentioned frequency range” => “the MED frequency range” (or SIM, it’s hard for me to tell/remember as it is currently written).*

**AC:** We use the suggested term now.

**RC:** 516: *“MIR” => “Music Information Retrieval”, as may readers will skip to this Conclusion*

**AC:** We added it.

**RC:** 538-539: *Remove this sentence, a “conclusion” of the “Conclusions” section is redundant*

**AC:** The sentence is removed.

**RC:** Table 1: *Simplify parameter names and add the 2% term from line 238.*

**AC:** We simplified the parameters and added the 2% term.

All the grammar correction are applied according to the suggestions.