[1] *Thanks for your patience. I reread in detail the final version of your manuscript and I noticed that the section 3.5 is entirely new, and therefore was not reviewed by anyone.*

I am sorry that there things that I do not understand in this section. Note I asked advise to one of the co-editor for double checking (G. Currenti). It is not clear at all how you can go from a linear strain rate record to a "tensorial form" of the strain rate. A tensor (assuming 2D) takes into account strain (rate) components in 2 directions, with off diagonal components. However, as you mention in your manuscript line 292, DAS measure only one component in the direction of the fibre. It is indeed only the projection of the strain tensor onto the DAS inline direction. It unfortunately not possible to go back to the strain (rate) tensor (3 terms in 2D isotropic elastic) from the DAS measurements (1 direction including all components of the tensor projected). Therefore the equation line 299 is very confusing, and I would strongly advise you to reconsider, both the phrasing and the equation that you can derive from a single direction measurement. Moreover, I do not understand what you mean by "normal vector".

We do not claim that we can retrieve the strain tensor from DAS measurements. We apologise for the confusing sentence and notation. The subscripts ij were intended to refer to spatial locations x_i and x_j, and not to the directional components of the strain tensor. We have clarified this in the revised manuscript by omitting the subscripts on the left-hand side and by explicitly stating that this is the longitudinal (along-cable) strain rate. We now refer to the "normal" vector n as the "unit" vector pointing from x_j to x_i. We hope that with these modifications this sentence has become sufficiently clear. It now reads:

"The longitudinal (along-cable) strain rate recorded by DAS is $\dot{\varepsilon} = \frac{1}{L}\left(\dot{\mathbf{u}}(x_j) - \dot{\mathbf{u}}(x_i)\right) \cdot \mathbf{n}_{ij}$, where $\mathbf{n}_{ij}$ is the normal unit vector pointing from x_j to x_i."

[2] *In general, could you state that integration of strain rate to strain would give better beam-forming results than strain rate? This is actually the same as performing beam-forming on velocities that on acceleration.*

Since we only perform narrow-band beamforming, using strain or strain rate makes no difference on the beamforming results. Compared to narrow-band beamforming, performing broadband beamforming on strain instead of strain rate is equivalent to weighting by 1/frequency, so that higher frequencies contribute less to the overall results. In some situations this might be desirable (for instance, to de-emphasise incoherent high-frequencies), but this should be evaluated on a case-by-case basis.

Minors other points:

[3] *Line 119. There is a blank missing before "To visualize…"*

Corrected.

[4] *Line 285. You indicate that the gauge length is L here, but actually at line 174 the gauge length is defined as being 2L. This is inconsistent and need to be arranged.*

We now use L to indicate the gauge length.

[5] *Line 336. minor point. You did not really demonstrated that local heterogeneity are modifying the strain rate. You used previous results from Wang et al., 2018 for instance as assumption. In addition, "Scattering" appears in the introduction and in the discussion, but never in the core of the text, so I guess you cannot claim you demonstrated that scattering is the reason. You rather processed data to remove the effect of scattering shown by others. The same applies for heterogeneity, as you point out actually at line 467.*

In the results section of the original manuscript, we identify scattered waves predominantly by their low apparent velocity, which suggest a shallow angle of incidence rather than a steeply-inclined angle of incidence expected for the direct arrivals of a deep source (an earthquake). Since these scattering sites may lie outside of the span of the array, they cannot be directly imaged. However, indirect evidence for scattering is presented in various locations in the results section. Since the scattered waves are expected to exhibit a low propagation speed, their presence in DAS recordings is amplified. Combined with the numerical observations and analysis of Singh et al. (2020), we believe to have presented a plausible case for the role of scattering and heterogeneities in the medium surrounding the DAS array.

[6] *Line 365. DAS response is flat in strain, but not is strain rate.*

This has been added to line 365.

[7] *Line 440-445. Interesting approach, however, standard commercial cables do not necessarily follow the ideal theoretical frame. So you could mention how to cope with this issue, as deploying cables is expensive, and less easy than seismometers (need to dig a trench etc).*

For this section we only had dedicated cable deployments in mind, and not tapping into existing commercial cables. We have added the following note on the deployment in lines 449-454 of the revised manuscript:

"*The complexity of deployment of a fibre-optic array is higher than for a temporary nodal array due to the need for trenching. However, since permanent seismometers are typically installed in shallow holes in the ground, the complexity and challenges of deploying a hybrid DAS-seismometer array is likely similar to those of a permanent seismometer array. This renders hybrid array designs with strategically deployed seismometers and DAS cable segments a cost-efficient alternative to permanent seismometer arrays, facilitating many applications including […].*"

We also expanded on the application of aftershock monitoring as follows (lines 455-459):

"*[…] and most often the temporary deployments are not completed in time to capture the earliest stage of the aftershock sequence. In contrast, fibre-optic cables can be deployed permanently in the 4-shape or umbrella array configurations around permanent seismic stations in earthquake-prone regions, and, as soon as an earthquake of interest occurs, an interrogator unit may be readily connected to record the very earliest stages of the aftershock sequence.*"

[8] *Line 553. The title of this paper is written twice.*

Corrected.

Non-public comments to the Author:

[9] *For completeness, I would then suggest to add a reference to Jousset et al., 2018. Below some suggestions where to cite it. Not all suggestions are necessary!*

We have added the reference to Jousset et al.

To briefly comment on the approach of Jousset et al. (2018) as compared to ours, we would like to point out that the space-time integration of DAS strain rates as performed by Jousset et al. yields displacements relative to the starting point of integration (p.8 of Jousset et al.: "*If we integrate the local strain with respect to space, the **relative** displacement can be calculated at all points along the profile*"). In our proposed method we use a reference seismometer at one end point to obtain absolute ground motions, not relative ones.

[10] *Just an additional note: as data is available (open access) for the Iceland array with both seismometers and fibre optic cables data, it would be nice to test your approach as and see if it works or not for the frequencies given for a local earthquake, and the differences and limitation of your approach. However, I am fully aware that is too long, and could make additional paper.*

We appreciate the suggestion. We are collaborating with Fabian Walter to perform an in-depth analysis of the limitations of the proposed technique, using data from geophones and a long stretch of fibre deployed on a glacier. We will also consider the data from Iceland to investigate the performance of the method in a different setting.