

The Cryosphere Discuss., referee comment RC2  
<https://doi.org/10.5194/tc-2021-1-RC2>, 2021  
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## Comment on tc-2021-1

Huw Horgan (Referee)

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Referee comment on "Downhole distributed acoustic seismic profiling at Skytrain Ice Rise, West Antarctica" by Alex M. Brisbourne et al., The Cryosphere Discuss.,  
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Brisbourne et al present results from the first Antarctic Distributed Acoustic Sensing (DAS) experiment. The manuscript is a useful contribution. It focuses on a novel method with the potential to make a significant scientific contribution. The preliminary results presented provide some constraints on the compressional wave velocity of the lower half of the ice column, and an estimate of seismic quality factor. The manuscript's main intent is to act as guide for future experiments and it provides an extensive list of recommendations. The manuscript is generally well written and presented but there are a few areas that would benefit from improvement. My main comments pertain to communicating the justification for this type of experiment, discussion/comparison with other borehole seismic methods, and consistency in the data presented.

Please see the attached pdf for my detailed comments.

Please also note the supplement to this comment:

<https://tc.copernicus.org/preprints/tc-2021-1/tc-2021-1-RC2-supplement.pdf>