

Review: Napoleoni et al. Radiostratigraphy and surface accumulation history of the Amundsen-Weddell Ice Divide, West Antarctica

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Ella Wood and TJ Young

We thank the authors for providing a thorough revision and point-by-point response to our comments on the initial version of this manuscript. The authors have made a clear effort to revise the manuscript in response to the comments in the initial review, resulting in improved the clarity and focus of the paper. They have responded to our suggestions regarding the revision of the overall objectives and the detail on the uncertainty calculations.

We suggest some further minor typographical improvements to prepare the paper for publication:

L155 There is some repetition here with the inclusion of the additional text, please revise.

L204 There is some awkward phrasing and singular-plural mismatch in the first half of the sentence—please revise.

L218-219 Define t and z

L259 Suggestion to replace “this” with “this quasi-Nye” to make explicit that a different method to the D-J one is being used.

Figure 6 Revealed a significant and ongoing mass loss?
If the lake surface was identified by the radargram bed echo (as a bright and flat reflector) and what is termed the “subglacial interface” (this term may need to be modified as what is below the subglacial lake is not actually the subglacial interface anymore) is delineated through BEDMAP3, is the lake simply calculated by the difference between these depths? Perhaps best to have the blue be translucent instead of opaque to show this calculation if so.

L502 Suggestion to be more specific with regard to the “prominent West Antarctic reflector”. Would this potentially be the same reflector as identified in Ashmore et al. (2020)? Though this reflector is prominent in Jacobel and Welch (2005), it was not so prominent in Ashmore et al. (2020) which perhaps warrants further mention (though this could be easily attributed to the Ashmore study being airborne).

N/A You use a combination of Internal Reflecting Horizons and Internal Reflection Horizons throughout the paper for IRH, the former is used in the list of acronyms. Stick to one for consistency.

References

- Ashmore, D. W., Bingham, R. G., Ross, N., Siegert, M. J., Jordan, T. A., and Mair, D. W. F.: Englacial Architecture and Age-Depth Constraints Across the West Antarctic Ice Sheet, *Geophysical Research Letters*, 47, e2019GL086663, <https://doi.org/10.1029/2019GL086663>, 2020.
- Jacobel, R. W. and Welch, B. C.: A time marker at 17.5 kyr BP detected throughout West Antarctica, *Annals of Glaciology*, 41, 47–51, <https://doi.org/10.3189/172756405781813348>, 2005.