

Interactive comment on “Significant submarine ice loss from the Getz Ice Shelf, Antarctica” by David M. Rippin

Anonymous Referee #2

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In this paper, Rippen uses airborne radar data to infer the thinning rate of the Getz Iceshelf along a radar line. They then use that to estimate ice-shelf-wide mean thinning rate of 13 m/yr, which is higher than predicted from models.

While this paper has the useful goal of trying to assess melt of the Getz Iceshelf, something that we do not have good measurements of yet, I have several concerns about this paper.

First, the data set is along one repeat pair of flight lines and then they extrapolate to the entire ice shelf with qualitative extrapolation (minimal physics). For example, they do include ice dynamics and they elude to, but do not provide any sort of correction for the "complexity" of flow that they describe.

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Second, the particular process the author went through was presented thoroughly, but the methods are not sufficiently rigorous and the data set is not sufficiently comprehensive to warrant the abstracts statement about that "the vast majority of the ice shelf is undergoing basal thinning at a mean rate of 13m/yr"

Third, the paper is not well written, many sentences lack specificity and provide minimal information. The words "complex", "varied", "numerous", "slightly" don't provide any information to the reader and so are generally useless words.

I think the work the author did may be of value as one part of a larger paper - this work could be improved and then condensed into a 1-2 pages as part of a larger more comprehensive analysis.

Interactive comment on The Cryosphere Discuss., <https://doi.org/10.5194/tc-2018-163>, 2018.

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