

The Cryosphere Discuss., author comment AC1  
<https://doi.org/10.5194/tc-2022-39-AC1>, 2022  
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## **Comment on tc-2022-39**

Alek A. Petty et al.

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Author comment on "Winter Arctic sea ice thickness from ICESat-2: upgrades to freeboard and snow loading estimates and an assessment of the first three winters of data collection" by Alek A. Petty et al., The Cryosphere Discuss.,  
<https://doi.org/10.5194/tc-2022-39-AC1>, 2022

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We would like to note that after submission of our preprint, a paper that analyzed at three years of winter Arctic thickness with ICESat-2 but using CryoSat-2 radar freeboard measurements to infer snow depth was published in GRL:  
<https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2021GL097448>. A different approach to our method of using a snow accumulation model to constrain the time-varying snow depth (and density too in our case).

Our preliminary analysis has indicated a very high degree of agreement between those estimates and the final reI005, gridded monthly mean results reported in our study in terms of mean snow depth, thickness and the ~50 cm multiyear ice thinning.

We expect to add a note on this to the revised manuscript.

Alek Petty