

Minor comments on tc-2022-52

- In the captions of Figures A1 and A2, add “Cross-hatched areas represent regions where this trend is significant ($p < 0.05$)”.
- Lines 210-211: Aren't the estimates from Kuipers Munneke et al. (2012) based on regional model simulations? If so, I would not call them “observations”. Even melt products derived from microwave data should probably not be called “observations”.
- I suggest renaming section 3.4.1 “Comparison of the mean SMB with other products”, or something similar pointing to the mean.
- L. 231-238 and 296-304: First, the word “signal” in this context is not very clear to me (also in other sentences throughout the manuscript). Is “xx% of the total SMB signal” equivalent to xx% of the total SMB? (“signal” may be used for trends or variances). Second, it is not clear to me how to calculate these percentages given that the SMB is the sum of positive (precip) and negative (sublimation, runoff) terms, so that I would expect e.g. +110% for precip and -10% for runoff for a total of 100%. This needs to be clarified in the revised manuscript.
- L. 274-276: “According to CESM2, increasing atmospheric temperatures throughout the 21st century are expected to increase precipitation across the AIS, and thus corresponding with future increases in AIS SMB”. The end of this sentence does not sound good to me (note that I am not a native speaker).
- L. 282-287: $\frac{d SMB}{dT}$ should be $\frac{d SMB}{dT}$ or $\frac{d}{dT} \frac{d SMB}{dt}$.
- Caption of Fig. 8: to make things clearer, you could specify “(left axis, solid)”, “(right axis, dashed)”.
- L. 399: “in the latest iteration of estimating future AIS contribution” was kind of correct in the previous version as it was implicitly pointing to ISMIP6 (Seroussi et al., 2020), but this is no longer meaningful for Siahann et al. (2022) which is a single study.