

The Cryosphere Discuss., author comment AC1
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Reply on RC1

Yijing Lin et al.

Author comment on "Uncertainties in mass balance estimation of the Antarctic Ice Sheet using the input and output method" by Yijing Lin et al., The Cryosphere Discuss., <https://doi.org/10.5194/tc-2021-325-AC1>, 2022

Dear Reviewer,

We sincerely thank the editor and two reviewers for their insightful and constructive comments and suggestions. They were of great assistance in improving the quality of the manuscript. In the attached file, we respond to the general comments and give point-to-point answers to the specific comments.

We have given more comprehensive uncertainty estimations in the revised version. We have assessed: (1) the (combined) standard uncertainty based on the uncertainty field of the data sets and the given measurement precision, (2) the Monte Carlo uncertainty based on the uncertainty field of the data sets and the given measurement precision, (3) the uncertainty due to system error, (4) the uncertainty presented by the difference between two datasets and between two methods and between two studies.

Again, many thanks for pointing us into directions where our consideration was not sufficiently comprehensive. This helped a lot to improve the manuscript.

Best regards,

Yijing Lin

Please also note the supplement to this comment:
<https://tc.copernicus.org/preprints/tc-2021-325/tc-2021-325-AC1-supplement.pdf>