

The Cryosphere Discuss., author comment AC3 https://doi.org/10.5194/tc-2021-37-AC3, 2021 © Author(s) 2021. This work is distributed under the Creative Commons Attribution 4.0 License.

Reply on RC2

Ole Zeising and Angelika Humbert

Author comment on "Indication of high basal melting at the EastGRIP drill site on the Northeast Greenland Ice Stream" by Ole Zeising and Angelika Humbert, The Cryosphere Discuss., https://doi.org/10.5194/tc-2021-37-AC3, 2021

Dear Reviewer,

Thank you for your very helpful contribution in improving this manuscript! We have answered below all general comments in detail, in particular all points that are related to the ice thickness evolution equation. For the revised version, we have introduced now a section on the ice thickness evolution equation, which may help to clarify for the reader most of the points raised in the RC. We also picked up the suggestion to merge the basal melt rates for the two observational periods into one average value and to present one value for the two different strain distributions. We are also grateful that the reviewer encouraged us to compare our approach with radiostratigraphy-based approaches that helped us to reshape our text highlighting how we overcome the weaknesses of the radiostratigraphy method.

In the attached file, we respond to the general comments and give point-to-point answers to the specific comments.

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

Best regards, Ole and Angelika

Please also note the supplement to this comment: <u>https://tc.copernicus.org/preprints/tc-2021-37/tc-2021-37-AC3-supplement.pdf</u>