

The Cryosphere Discuss., author comment AC4 https://doi.org/10.5194/tc-2021-37-AC4, 2021 © Author(s) 2021. This work is distributed under the Creative Commons Attribution 4.0 License.

Reply on RC3

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-AC4, 2021

Dear Reviewer,

We are grateful for this review that extended the discussion into the direction of the role of till in the subglacial hydrological system and also pointed us into a very interesting extension of our approach for the future. There are many open questions on the interaction of a subglacial hydrological system and the flow through a saturated till layer. We fully agree that this is a very important topic - not only with respect to basal melt rates, but also for investigating sliding of the glacier, which is not the topic of our study. Many thanks for bringing up the idea to include a sketch of the different components of the energy balance. We have included such a figure in our answer and will also add it to the manuscript.

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

Again many thanks for your efforts to improve our 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-AC4-supplement.pdf</u>