

The Cryosphere Discuss., referee comment RC1 https://doi.org/10.5194/tc-2021-70-RC1, 2021 © Author(s) 2021. This work is distributed under the Creative Commons Attribution 4.0 License.

## **Comment on tc-2021-70**

Anonymous Referee #1

Referee comment on "Brief communication: Evaluation of multiple density-dependent empirical snow conductivity relationships in East Antarctica" by Minghu Ding et al., The Cryosphere Discuss., https://doi.org/10.5194/tc-2021-70-RC1, 2021

This study presents a reliable evaluation on multiple empirical, density-dependent snow conductivity model/schemes, with three automatic weather station records. Although the subsurface heat flux is relatively low compared with the other components of air-snow/ice interaction, but it is essential for controlling the upper thermal boundary condition of ice sheets. As I know, there is urgent needs on the studies with in situ measurements in Antarctica. The sites the authors chosen can represents typical climatical regions of Antarctica, and they also presented a clear vision for further study, thus the result is effective and have a wide appeal. Several issues should be addressed prior to publication.

Line 15: "appears" should be "appeared".

Line 27: Oldroyd et al., 20135?

Line 27: histories or history?





