The authors would like to thank the reviewer for their comments. We are currently working on revising the manuscript in order to address their remarks. The reviewer has pointed out numerous issues that need to be addressed and/or clarified in the paper. The question of sensitivity to uncertainty in boundary conditions is important and we focus strongly on this aspect in the revision. We also plan to justify our performance metric better, to modify our prior assumptions in the Bayesian framework and to improve the interpretability of our results. Furthermore, we will clarify the scope of our study. These changes require new simulation experiments and thus a re-analysis of the results. We hope to update the current manuscript as soon as possible. Along with the submission of the revised manuscript, we will give a more detailed response to all the reviewer’s comments. Thank you very much for taking the time to review our study.

Interactive comment on “Bayesian calibration of firn densification models” by Vincent Verjans et al.

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