

## ***Interactive comment on “initMIP-Antarctica: An ice sheet model initialization experiment of ISMIP6” by H el ene Seroussi et al.***

### **Anonymous Referee #1**

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#### General Comments

This work contains the experimental setup for, and results from, the initMIP-Antarctica model inter-comparison project. 25 model simulations from 16 different participating groups are shown, representing a large amount of the cryospheric modelling community. Whilst the paper does not have a tremendous deal of new insights in and of itself, it does provide a fantastic overview of the current state of continent wide ice-sheet modelling. The paper is well written throughout providing a good summation of a large number of model results. The work is highly likely to be of great significance in the future.

A paper about a model inter-comparison project is going to be, by its very nature, rather descriptive and as such I have rather few scientific criticisms. The one thing I

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would like to see is for the authors to summarise and highlight somewhere what they think the key areas needed for model improvement in the future are. This is mentioned briefly in the conclusions, but I would like to see it expanded on.

#### Scientific comments

Pg 5, paragraph 2. Are there any specific requirements on how/whether to include ice calving/ ice front retreat/advance, or is that covered by not including ice cliff failure. Could do with clarification.

Pg 9, ln 28 . "Thickness and velocity variability is small, however, compared to the discrepancies between observations and models." Not sure I follow this. Are you trying to say that inter model variability is small compared to the absolute error between each model and observations? Fig. 3 would not back this up.

Pg 11, ln 8, Positive or negative thickness change? Does this include floating as well as grounded ice?

#### Technical errors

pg 5, ln 28, "participated to the" should be "participated in the"

pg 8, table 2 caption, start caption on new line

pg 8, ln 10, SS\* is missing in the caption, is just (SS )

pg 12, ln 13. New line for start of section 4.3

pg 17, ln 36. Missing right bracket on ARC\_PISM3

pg 18, ln 9, "shown on Fig 10" should be "shown by Fig 10"

pg 18, Fig 12. Fig 12 has no Fig number in caption.

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Interactive comment on The Cryosphere Discuss., https://doi.org/10.5194/tc-2018-271, 2019.

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