Thanks to the authors for updating the manuscript. After re-reading the manuscript, I suggest two important and a few minor changes before publication.

(1) Comparison of parameterisations with observations and modeling

Adding the comparison with Seroussi et al., 2017, is very valuable to assess the parameterisations. However - in line with the comment on page 18, line 26 by Reviewer 2 - I strongly encourage that the comparison with observations in Figure 8 as well as with model results in the newly added Figure 11 is made using both, γ and δT, as tuned for the use of the respective parameterisation in ISMIP6 in the Amundsen Sea.

Because of the quadratic dependency of melt rates on thermal forcing in the parameterisations, γ and δT theoretically both influence the melt sensitivity to ocean warming (γ the slope and intercept, δT the intercept). And the Figure below shows that for the ranges of δT used in the paper, its effect is not negligible: switching between temperature corrections for the 'AntMean' and 'PIGL' tuning approaches in the Amundsen Sea yields more than $20\,\mathrm{m\,a^{-1}\,°C^{-1}}$ higher melt rate sensitivities for 'PIGL' and about $5\,\mathrm{m\,a^{-1}\,°C^{-1}}$ lower sensitivities for 'AntMean'.

How large are the differences in the δT tunings for Figures 8 and 11 to the ISMIP6 tuning and how does this affect the melt sensitivity? Depending on that the assessment of the parameterisations in Section 5.2 should be updated with the values for γ and δT from your ISMIP tuning.

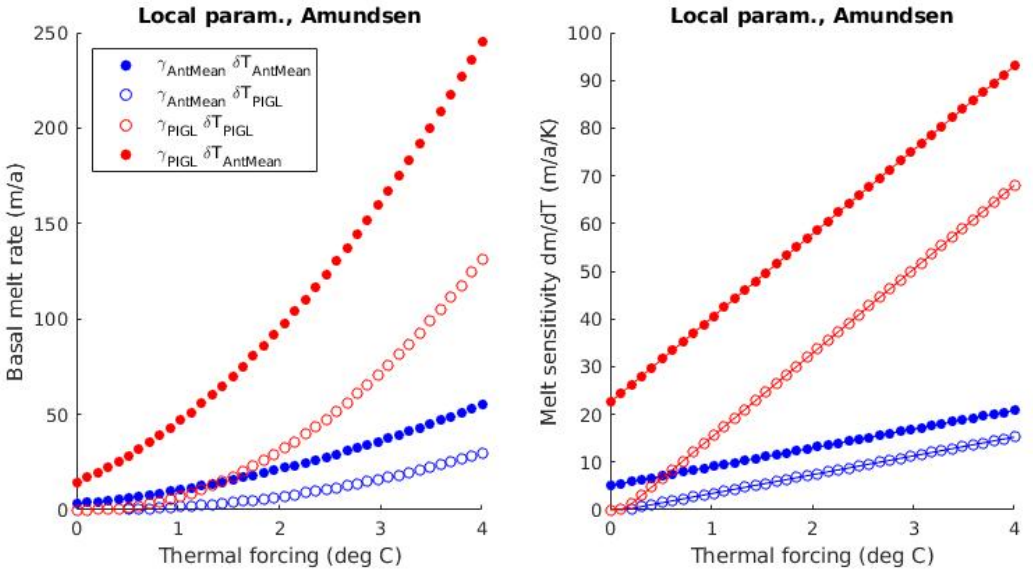

Figure 1: (Left panel) melt rates and (right panel) melt rate sensitivity to ocean warming as a function of local ocean temperatures. Both are shown for the local parameterisation, using the median γ_0 values estimated for AntMean and PIGL. The solid dots show values for δT as estimated for the 'AntMean' tuning method in the Amundsen Sea region ($\delta T_{AntMean} = 1.28$°C) and the circles show values for δ_T estimated with 'PIGL' in the Amundsen Sea region ($\delta T_{PIGL} = -0.14$°C, see Figure 5 of the manuscript).

Further specific comments:

- p12 l6-9: Note that, due to the quadratic formulation, not only γ_0 influences the melt sensitivity, but also the temperature correction δT.
- Figure 8: 'Keeping the δT previously determined for the Amundsen sector would not make sense as sector-averaged thermal forcing must be replaced by ice-shelf-averaged thermal forcing for this comparison.' See main comment above. In addition, do you have an idea how switching the thermal forcing calculation from the entire region to one ice-shelf influences the results?
- Figure 11: What underlying values for δT were used for this comparison? See major issue above.
- Interpretation of Figure 11. Probably the change in melt rates is more relevant for ISMIP6 than the initial basal melt rates since the ISMIP6 results are presented with respect to control simulations.

(2) Tuning of the melt parameterisation

Still more details on the tuning procedure are required, especially as this is central to the paper.

- p15 l1: Be more precise about the PIGL tuning for the non-local parameterization. In particular, I suppose that you use the Amundsen-Sea-wide, average thermal forcing with the randomly sampled temperature correction applied everywhere? Explain your method in the text.
- p15 l11: Explain more how you determine δT, especially what do you mean with 'we estimate by randomly sampling...thermal forcing in normal distributions'? This is not part of Figures 3 and 4. Also in your script (calculate_K0_DeltaT_quadratic.f90) I cannot find where the randomly sampled thermal forcing ('rr' in line 641) is called again in the calculation of δT. Also, it seems that an additional step is taken in the 'readjust_deltaT_*' routines? Describe your methodology with more detail.

(3) Further comments

- comment P12L06 by Reviwer 3 (Hartmut Hellmer). I think that this is a misunderstanding of the comment. The comment is not about individual ice shelves having deeper and lower parts, but about different ice shelves having potentally different depth, i.e., a overall shallow ice shelf in the Amundsen region might have higher melting due to the high thermal forcing of PIG and TWG.
- p13 l16: '..samples give percentiles of the γ_0 distribution that converge...'
- Figure 11: The black bars for Seroussi et al. (2017) do not represent values for the 95^{th} and 5^{th} percentiles of γ_0.