Response to the comment by E.J. Steig comment on "The Antarctic Ice Sheet response to glacial millennial scale variability" by Javier Blasco et al.

This isn't a formal review! I like this paper but I have a couple of comments on the figures.

Figures 4 and Figure 5 convey very little information, because they show mean elevation and ice velocity, but what is of interest is the *change*. I suggest a new figure, which shows differences between all the panels in Figures 5 and Figure 4 (warm AIM minus cold AIM).

We agree with the suggestion and thus have added a new figure with the ice thickness difference between the AIM and the cold phase (AIM minus cold) to illustrate where the mass loss is takes place.
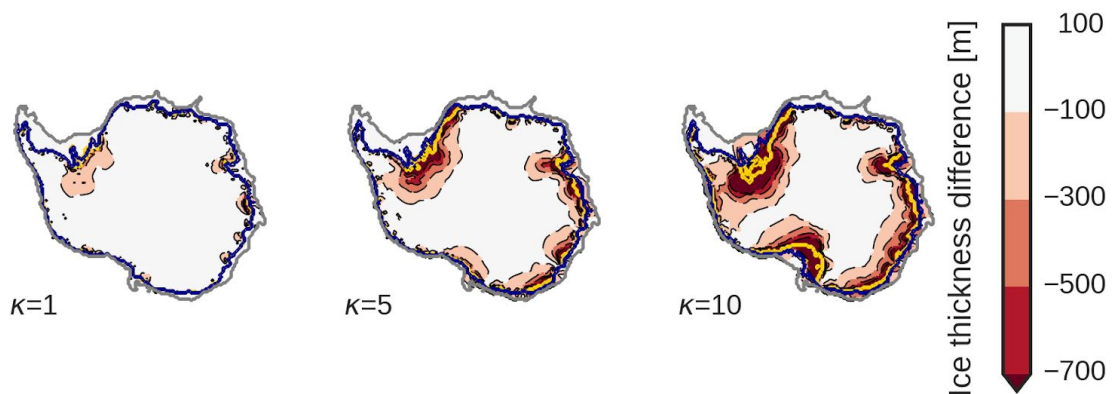
The figure caption reads:
"Ice thickness difference between the AIM and the cold phase (AIM minus cold) for different values of oceanic sensitivity ($\kappa\epsilon$[1,5,10] m a^{-1} K^{-1}). Zones with an intense red color illustrate a larger ice difference and hence a major ice loss. The thick blue line illustrates the grounding-line position at the cold phase and the thick yellow line the grounding-line position at the AIM phase. The thick grey line illustrates the position of the continental-shelf break."

On Figure 2, it will be helpful for readers if you can explain in the Figure Caption, what Ng and Np mean. It should not be necessary to read the text to understand the figure!

We have removed Ng and Np from the figure, and replaced the legend label with "Grounded" and "Potentially grounded", which is more accurate and self-explanatory for this figure. The figure caption has been modified as follows:

"Figure 2. Mask used to evaluate grounding-line migration. a) Ice extension after glacial spin-up and b) PD ice extension. Blue zones are model grid cells with grounded ice in marine zones. Grey zones are model grid cells without grounded ice in marine zones but the underlying bathymetry is shallow enough to potentially become grounded (i.e. marine zones with depths less than 2000m). The thick black line indicates the grounding-line position."