Review of *Speed-up, slowdown, and redirection of ice flow on neighbouring ice streams in the pope, smith, and Kohler region of West Antarctica by Selley, Hogg, Davison, Dutrieux, and Slater*

Overview
This study characterises changes in ice flow in the Pope, Smith, and Kohler region of West Antarctica from 2005-2022 using satellite observations from Sentinel-1a and 1b combined with MEaSUREs estimates.

The manuscript is well written, aims clear, and the analysis well executed. I don't have any major issues, and I suspect the points that I've highlighted below should be relatively straightforward to address.

My main issue is that I came away a bit murky about what's driving what changes in this region and how that relates to instability (this could be partly because I'm less familiar with the history of this region!). For example, the Crosson Ice Shelf has had some very large ice front retreat associated with large calving events, the margin between Dotson and Crosson has migrated eastwards, and there has been an increase of flux into Crosson. But I found the discussions around the drivers of these changes (i.e. the sequence of changes and causation) and how they relate to the overall stability of the system a bit unclear. Stepping through these aspects in the discussion in a bit more detail for both Crosson and Dotson (i.e. in paragraphs starting on L233, L245 and L255) would be helpful.

Some more specific comments are as follows:

- L30: "While Ice loss" → "While ice loss"
- Section 2.1. Could you add a couple of sentences about the Sentinel data, including the overall timeframe of the data, resolution, and image pairs considered.
- Figure S3. It'd be great to get subtitles on each figure panel and to include a 3rd column that shows the % differences in flow speed. It's otherwise hard to eyeball a 30% error in the shear margins (ref L78 in manuscript)
- L81-100: Removal of data points. It would be helpful for a non-expert for a few extra details here:
    - What % of the data were removed (including outliers etc)? Out of interest, are these points somewhat randomly distributed over the whole study region or do they concentrate?
    - L85: Some words about why the values of 5.8 SNR and 45 degrees were chosen would be helpful
    - Is the approach that you've taken standard (asking as a non-expert)? It's not essential, but I wonder if a schematic of the workflow could be helpful to readers who aren't very familiar with the procedures
- Can you make the supplementary figure references chronologically ordered in the manuscript? Currently fig. S3 comes before S1 and S2 and table S2 before S1
- L101-105: is there good agreement between MEaSUREs velocities and those estimated here using Sentinel for the overlap time period (2015-2017)? A comment

on this, or perhaps a few sentences in the supplementary information, would be helpful.

- L117: Is Fig. 1e missing or is this meant to reference a different figure?
- Figure 2, panels c-j: It's difficult to orient these lines and to know where they start and where they finish. What does 0 km (x-axis) represent? It would be helpful to be able to compare with figure 3 from Milillo et al. (2022) re the discussion on the importance of the prograde slope of Kohler for the stability of this ice stream (ref L234-236). Also, are the ice speed tick labels on the left y-axes of panels c-j correct? The speeds are low.
- Figure 3: what are the shaded regions in figure 3a?
- L163: by what degree do the ice flow vectors rotate in the piracy from KW to KE? From figure 4 it looks like it's mainly restricted to <|30 degrees|, but there are some regions where the colour bar saturates in figure 4d. I'm thinking back to the removal of ice velocities that have > 45 degree rotation and wondering if data from some pixels could be removed inadvertently?
- Figure 4b: It would be helpful to see the change in thickness over the same period so that it's clear where flux changes are due to flow piracy vs dynamic thinning. There are conflicting labels: "downstream flux" in the caption, but "upstream flux" in the colour axis label.
- Figure 5a: re the colours of the calving front contours in the Crosson Ice Shelf – was there retreat and then readvance to near the original calving front position in the latter part of the time period? It's a little bit difficult to date the different positions with the colour map used, and I'm uncertain whether the calving front has continued to retreat over this period. This would be helpful to know and to be able to visualise as it could help with the interpretation of the post-2014 behaviour in figure 3. Perhaps a zoom in of the calving front position here could be helpful, and some indication of the timing of retreat / readvance with labels. Also, are the figures in vector format? I couldn't zoom in to see the details.
- L217-219: I'm not sure I understand the sentence, particularly the references to "interrupted" on L219.
- L216-231: It would be good to link the variability post-2014 of the ice streams that feed Dotson to the calving front position in this discussion, particularly if it's possible to attribute (at least qualitatively!) changes in the velocities to calving and ocean forcing separately. I would have imagined that the retreat of the calving front into the compressive arch region could have caused more marked speedup (I'm assuming that there has been some more ice front retreat after 2014), but that is not reflected in the trends (figure 3) where the PSK rates of speedup have decreased (generally, although that wasn't the case for Horrall). Why do you think this is the case? Or do the speed changes post-2014 link directly to the thermocline variability (here, a decrease in melt rates)?
- L249-254: What do you mean by the divide migration between Dotson and Crosson having maintained the stability of the Dotson Ice Shelf? Also, it'd be good to elaborate on how the redirection of ice from Kohler East has exacerbated Crosson deterioration.