

Interactive comment on “Wind, waves, and surface currents in the Southern Ocean: Observations from the Antarctic Circumnavigation Expedition” by Marzieh H. Derkani et al.

Anonymous Referee #3

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The paper "Wind, waves, and surface currents in the Southern Ocean: Observations from the Antarctic Circumnavigation Expedition" by Derkani et al. presents the data collected during a 3-leg campaign circumnavigating Antarctica, between 2016 an 2017. The paper is well written, well structured and provides all the campaign information to complement the data, together with a concise but comprehensive description of the Southern Ocean physical oceanography and its observing systems. More specific information on the data structure and file organisation can be found in the description of the data at the repositories referred to in the manuscript (accessible).

I recommend the paper is accepted. I only have few comments I would like the authors

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Interactive comment

consider:

- I would like a brief comment by the authors on the spectral frequency resolution and parameters variability that originates from the 160-second long duration of Wamos-II acquisition (if I correctly understood). I mean, with 160-s long records the spectral resolution over frequency is very low (large delta f). And given the rotation speed of the antenna I guess also the maximum resolved frequency may be very low. How does this affect the spectral representation? In addition, with $T_m > 8$ s (also 13 s) waves every sample includes less than 20 waves. So, I suspect the estimate of the spectrum and wave parameters (even including the 600x1200 m² area) might be pretty unstable.
- wind data are measured by an onboard meteorological station, but in Figure 7 the measured wind U10 is labeled as Wamos-II. Please may you check consistency?
- In Figure 8, axis labels (units and variables) are missing.

Interactive comment on Earth Syst. Sci. Data Discuss., <https://doi.org/10.5194/essd-2020-255>, 2020.

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