

## ***Interactive comment on “Assessing the capabilities of the SWOT mission for large lake water surface elevation monitoring under different wind conditions” by Jean Bergeron et al.***

### **Anonymous Referee #2**

Received and published: 21 July 2020

This article investigates the capabilities of SWOT to retrieve water surface elevation (WSE) over lakes under various wind conditions and SWOT spatial coverages. The effect of wind on lake WSE can be very important in some cases (several times the expected measurement error), and since lake WSE will be a main product provided by SWOT, it is essential to quantify these effects on the SWOT-derived SWE. The study is quite short, but very well presented and the results and analyses clearly lead to the conclusions drawn by the authors. I only have a few minor suggestions that the authors should be able to address before publication.

L261. Is there any other assumption concerning the second vector? Is it assumed

C1

horizontal?

L286. Could you explain how the wind speed is accounted for in the SWOT-HR simulator? Is this to simulate ripples at the lake surface that may impact the SWOT signal? Also, it is not clear to me how a “constant hypothetical average wind speed” may cause the differences shown in Fig. 6.

Fig 5 and Fig 7. An arrow showing the direction of the wind for each simulation could be added in each subplot.

Fig 9 and Fig 10. Could you add a zero-line in each subplot?

---

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., <https://doi.org/10.5194/hess-2020-162>, 2020.

C2