

# ***Interactive comment on “In situ observations of turbulent ship wakes and their potential implications for vertical mixing” by Amanda T. Nylund et al.***

## **Anonymous Referee #2**

Received and published: 3 September 2020

### Overview:

The main finding of this study is that turbulent ship wakes can reach deeper than the previously observed values, however, no physical explanation or discussion is provided. It is expected that ship specifications and speeds determine ship wake depths, so the authors should be able to discuss further based on the available ship information.

It is not clear why the authors chose two separate locations for the in-situ and remote sensing study. Is it possible to find satellite imagery for the in-situ measurement period?

Also, vertical profiles should have been measured more frequently to see the effect of

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wakes on stratification and mixing.

Specific comments:

Line 191: Capitalize Python

Line 224: Why 15%? Please justify.

Line 355-359: Why do the bubble wakes look different from turbulence? Please discuss further.

Line 550-552: This seems to be a negative result: the stratification was not affected by the wake. Remove this part. I suggest that the authors measure more vertical profiles in the study area and/or provide literature for more data to characterize general and unusual environmental conditions. 4 casts x 2 days are not enough.

Line 574-581: As mentioned above, please try to find satellite imagery that covers the in-situ measurement area.

Line 587: Note that winds are also important.

Line 618: What parameters?

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Interactive comment on Ocean Sci. Discuss., <https://doi.org/10.5194/os-2020-59>, 2020.

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