

Comment on **essd-2021-431**

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Community comment on "Wind waves in the North Atlantic from ship navigational radar: SeaVision development and its validation with the Spotter wave buoy and WaveWatch III" by Natalia Tilinina et al., Earth Syst. Sci. Data Discuss., <https://doi.org/10.5194/essd-2021-431-CC1>, 2021

The authors present a comparison between an X-band marine navigation system, Spotter buoys and the Wavewatch 3 model for the measurement of the directional wave spectrum. The approaches used are quite standard and the analysis techniques have been extensively documented in previous publications. As such, there is little innovation in terms of the science. However, the comparison of the instruments/models is useful for the waves community and appropriate for a journal with a focus on data. As such, I believe the paper has merit. However, before I could recommend the manuscript for publication, I believe the authors need to address a number of issues.

- The English language expression needs to be improved. There were some sections where it was difficult to understand exactly what had been done because of the English expression.

- Line 92: "SeaVision can be used for operational monitoring of the current wind waves' field for individual ships and continuous collection..." – I don't understand what this means? Do you mean SeaVision can be used to measure currents and wind waves? Which it can.

- Line 164: "ocean waves (Fig. 3): $\Omega = \sqrt{gk \tanh(kH)}$, where k is the wave number absolute value (rad/m), g is the gravity acceleration ($m \cdot s^{-1}$) and H is significant wave height. – this statement is incorrect. In the linear dispersion relation, H is the water depth. I hope this is just a typo and it has not really been applied as written.

- 4: On the figure significant wave height (I assume this is what it is) is written as H_0 , above in the text it is H_s and as noted in Point 3, erroneously as H . Can you please use

just one symbol for significant wave height. I suggest H_s .

- Fig 4: On the bottom left panel there is a 1D spectrum with the horizontal axis as period. On the bottom right panel there is a directional spectrum with the radial distance as frequency. This makes comparison very difficult. Please express all spectra in terms of frequency, as is normally done in the literature.
- Line 225: What wind was used to force the WW3 model? ERA5?
- Conclusions: I was expecting some attempt to explain the observed differences between the buoys and the radar. Is it the difference between a measurement at a point compared to a measurement over a region etc? I think the reader needs some suggestions as to the reasons for the observed differences.