Reviewer 1

Review of
“Multiyear surface waves dataset from the subsurface 'DeepLev' Eastern Levantine moored station”
by Haim et al.
This is a valuable paper and dataset no doubt worthwhile of publication. I have some notes and suggestions along the paper that I list below.
l(ine)13 – It is not because I am one of the co-authors, but I believe that the timeseries reported by Pomaro et al (since 1979) should be mentioned. Reference:
2018 A.Pomaro, L.Cavaleri, A.Papa, P.Lionello, “39 years of directional wave recorded data at the Acqua Alta oceanographic tower” PANGAEA, https://doi.org/10.1594/PANGAEA.885361,

Thank you for highlighting this work. We agree it is an important example where we mention waves monitoring in the Mediterranean Sea.

Change applied to line 13

l27 et al – I do not have a solution, however my feeling (possibly biased by the one in front of Venice) is that usually peole mean something different with the word 'platform'

To improve readability we changed the first two instances when we describe the DeepLev station as a platform. We use the term later only as a part of the phrase “moving-platrorm”

Change applied to lines 26 and 42

l91 – My opinion is that it would be correct to mention the original paper by Longuet-Higgins, Cartwright and Smith

A cititation was added

Change applied to line 81

l101 – “... all measurements that passed ...”

Thank you, the text was edited.

Change applied to line 100

l107 – Is this deployment still going? If not, it should be mentioned

The 9th deployment was recovered but not yet processed. It will be added to the dataset in the future (now mentioned in the paper). The Project is still going.

Change applied to line 106

l109-110 – 'Soffer et al, 2020' is mentioned twice. Previously …

Thank you, the sentence was fixed.

Change applied in lines 109-110

l150 – My feeling is that possibly the situation is slightly more complicated. Ok, you detrend, but this means that the depth changes during the record, and this should affect the attenuation, the measurements, hence the estimate of the wave parameters. Am I correct?

The computed spectra and accompanying parameter are always averaged representations within the chosen window. The question is whether the conditions change too drastically so that the averages make no sense. The maximal experienced change within 17 minutes is 1-2 m which does not impact too much the cut-off frequency. We added a comment in the text to address it.

Change applied to lines 148-149

l152 – natural period of the buoy. For which motion?
To answer this question, we extended the description of accelerometer records analysis. It gives different distributions for vertical and horizontal movements. In both x and y directions the acceleration spectra reminds the distribution of surface waves. While the vertical component is entirely different, it is symmetric and centred around a frequency of 0.125Hz. Such a complicated system could have many natural frequencies but the dominant feature in the vertical accelerations is likely buoyancy related.

Change applied to lines 150-153

l177 – Ok for Gunther et al, 1992, but I believe the standard reference for the WAM model is Komen et al 1994 (again, I am not pressing because I am one of the authors)

Thank you, added the suggested reference.

Change applied to line 179

l180 – I am well aware of the wind bias in the Mediterranean Sea, but in my opinion some more details are required. Otherwise it aears as an excuse.

You are absolutely right, it is not the only cause and the paragraph was re-written to address this comment and the last one regarding the scatter plots.

Change applied to lines 182-190

l197 - "... this specific region, it is ..."

Thank you, the comma was added.

Change applied to line 203

Figure 5 – right panel. In my opinion it would be interesting and instructive to extend the lower limit of the two axes to lower T values. There is the obvious problem of the attenuation

of waves with depth, especially when waves are shorter (lower periods). In any case the apparently lower general periods of the model, also for longer periods, is not fully consistent with what shown in the left panel.

The ranges of figure 5 were adjusted as suggested. In addition, we added a third scatter plot of Tp to solidify that the biases are due to this attenuation and not a general bias in the observed wave period interpretation.

Change applied to lines 182-190

Nice work and dataset obtained in difficult conditions with an innovative approach.
Luigi Cavaleri

Thank you for investing time and effort. Your questions and comments were insightful.

Reviewer 2

General Comments:

The paper describes a new data set of 2D wave fields derived from the analysis of in-situ

measurements collected from an ADCP mounted on a subsurface deep mooring deployed for

first time at the Eastern Mediterranean, 50km of the Israeli coast, west of Haifa, for the period

2016-2022. The methods used for the processing, correction, and analysis of the data are analytically described. The in-situ observations were evaluated by comparison with the outputs of the Copernicus Marine Environment Monitoring Service (CMEMS) wave (WAM) model.

Such a time series of wave data is very important for the area and the Eastern Mediterranean

in general as it is a region of increased scientific and economic interest.

The paper can be accepted for publishing, below are some issues to be addressed before the publication.

Comment on the data availability:

The paper states that the data are freely available through SEANOE repository

(https://doi.org/10.17882/96904). However, currently the access is not open and an embargo period is set until 1-11-2025, which is in contrast with the paper. I would suggest authors remove the “freely” from the data availability section, add that an embargo period exists and explain why.

The SEANOE repository was put on hold until the submission progresses in case changes were needed.

The repository manager was contacted and asked to open the dataset for free access to all.

Specific comments:

(lines numbering corresponds to the Author's tracked changes file)

• Line 114: sentence is not clear to me, "Soffer et al. (2020)" is repeated twice. A

suggestion could be: In a recent study, Soffer et al. (2020) compared wave parameters

from the DeepLev's first deployment with simultaneous measurements from a

bottom-mounted ADCP located 48.5 km away at a depth of 26 meters.

Thank you for bringing it to our attention. Correction to the mistake was addressed as suggested.

Change applied in lines 109-110

• line 137: Although I am not a native English speaker, I would suggest this sentence as: "In practice, the appropriate values for the water properties ..."

Thank you, we adopted the suggestion.

Change applied to line 129

• Table 2 caption: I would change the caption from "Summary of quality of data ..." to "Summary of quality indexes of data ..." or "Statistics on quality of data ..."

Thank you, we adopted the suggestion “quality indexes”

Change applied to Table 2 caption.

TEXT editing:

• There is an inconsistency in figure references that should be fixed. Base on the guidelines (https://www.earth-system-science-data.net/submission.html#figurestables) it should be (Fig.2b) and not (fig 2b), or (Fig. 4) and not (Figure 4), etc.

• the "meter" unit is not used in a consistent way, e.g. line 117: 26 meters, line 125: 12 m (27-39 m). Should be fixed.

Thanks, we went over all the guidelines again and corrected these inconsistencies.

Checked every instance of using units and references to figures.

Thank you for your support and for investing time to help us improve our manuscript.