

Reply to the editor – technical corrections

Etienne Cheynet, on behalf of the authors

Title: I think it would be helpful for readers if you add "datasets" after "NEWA" because not everyone will know these abbreviations. In the abstract, you explicitly denote ERA5, NORA3 and NEWA as datasets, so using this in the title would make sense.

Thank you for the suggestion. I have accepted it. The title reads now as *Tall wind profile validation of ERA5, NORA3 and NEWA datasets using lidar observations*

Line 16: "Airborne Wind Energy (AWE) systems" should be "Airborne wind energy (AWE) systems", as you also write in the abstract.

We have updated line 16, so that it reads as Airborne wind energy (without capitalisation of “wind” and “energy”)

Line 19: You write "Prototypes with capacities exceeding 600 kW have been developed" which is not correct. The largest flying prototype to date was Makani's M600, which had a capacity of just 600 kW (although this power was never achieved during operational testing, as far as I know). I would change "exceeding" into "up to", to be on the safe side.

Thank you for the correction. I have updated the sentence as “Prototypes with capacities up to 600 kW have been developed”

Line 28: The reference Elfert et al. (2024) is not the best choice to support the statement that ground-generation systems require advanced automation for continuous operation. There was no pumping cycle operation involved in this research, as it describes a tow test setup for the aerodynamic characterization of kites. Instead, I recommend the earlier references used by Vermillion et al. (2021) and/or Fagiano et al. (2022). Or, if you want more specialized ones, also Fechner & Schmehl (2018), https://doi.org/10.1007/978-981-10-1947-0_15, and Rapp et. al (2019), <https://doi.org/10.2514/6.2019-1419>, would do.

Thank you for the suggestions. I have replaced the reference to Elfert et al. (2024) with references to Vermillion et al. (2021) , Fagiano et al. (2022) and Fechner & Schmehl (2018). I had no access to the paper by Rapp et. Al (2019), so I did not include them but I assume three references are more than enough here :

While ground-generation systems are relatively efficient, they require advanced automation for continuous operation \citep{Fechner2018,vermillion2021electricity,fagiano2022autonomous}.

Lines 303 and 304: "eq. (2)" and "eq. (3)" should be "Eq. (2)" and "Eq. (3)" as per the style guide. Please check other uses.

I have updated the reference style using the cleveref package (`\crefname{equation}{Eq.}{Eqs.}`), which should update all equation references to follow the style guide.

Line 319: "Fig. 7" at the start of the sentence should be written out, i.e. "Figure 7" (see style guide). Also, when you reference two figures as you do here, "Fig. 7 and Fig. 8" (and elsewhere), it is better to combine this to the plural form "Figs. 7 and 8". You are doing this in some places, but in others, you don't.

This has now been adjusted. While checking the figures, we saw that Fig 4 was described before Fig 3. So I have now swapped their place. I have also added the Zenodo repository for the wind speed data: *The dataset used to generate the figures in this study is available on Zenodo* ([\url{https://doi.org/10.5281/zenodo.14848924}](https://doi.org/10.5281/zenodo.14848924)) under a BSD-3 open-access license.