

Review for: **“Combined Wind Lidar and Cloud Radar for Wind Profiling”** (essd-2022-268) submitted to *Earth System Science Data* by José Dias Neto et al.

**General recommendation:**

Minor revision

**Synopsis:**

The manuscript presents a dataset of wind profiles derived from scanning ground-based Doppler lidar and Doppler cloud radar observations. After presenting the measurement setup, the data are evaluated against each other and with radiosondes. In the end, some applications for this dataset are presented. The manuscript is well written and all necessary information to the dataset is provided. I have only some minor comments before I recommend this work to be published.

**General comments:**

- Section 2.1: For clarification, I would like to know if both the CLARA radar and the Doppler lidar were continuously performing these scans that were used for this study or if there were other observations (with other azimuth/elevation angles) in between. Please mention that shortly in this section!
- Like tables 1-3 it would be nice to have a table with the resolutions and range of the combined dataset
- To avoid second-trip echoes, it would it be possible to use a lower pulse repetition frequency. Is that possible with you lidar? If yes, would that have other negative implications? Please comment on that in the paper!

**Detailed comments:**

- Fig. 10, 11: please provide units for wind speed.
- p. 20, l. 325: You write about a comparison of observed and modelled winds in Figure 14, however I can only find observations. Please check!
- p.21, l. 355-359: Did you try to discriminate rain from wind? I guess, for the radar this is not possible. Therefore, I also think that the information in Fig. 17 c and d during the rainy period is not very useful. Please comment on that!
- The time variable in the dataset is given in nanoseconds after the first data point. I would strongly suggest a more user-friendly time unit.