

Dear Nikola, Andrea, Andreas and Rozenn,

Your manuscript “Digitalization of scanning lidar measurement campaign planning” tackles an important topic and the paper and the corresponding open source tool are a very valuable contribution to the lidar community. Scanning lidar campaign planning is tricky and (as you also point out) requires expert knowledge. I see your CPT as a contribution to a lidar community toolbox that digitalizes knowledge from a few lidar expert heads and thus will lower the hurdle for inexperienced end users to apply scanning lidars for resource assessment. Plus it enables experts to work together on a common platform to further improve how we use our lidars.

Reading the comments of the reviewers of your first manuscript version, the main concern was that it reads more like a manual to the tool and does not explain the scientific content well enough. In the meantime you have revised the paper thoroughly and explained the scientific contribution in more detail. In my opinion your manuscript is now almost ready for publication. Below I suggest some minor revision and technical corrections.

Ines

Specific comments

- p.1 l.16 f: Your last sentence of the abstract is a bit weak. Why is it only important whether the site can be covered by one system or not? I suggest adding a sentence that goes more like “With minimal effort, the CPT is able to optimize lidar measurement positions and suggest possible lidar installation positions for carrying out a resource assessment campaign. Thus it shows for instance instantly whether the whole site can be covered by one system or not”.
- p.1 l.19 f Introduction: Nikola, it would be nice to have a reference here to your paper “Perdigão 2015: methodology for atmospheric multi-Doppler lidar experiments”. Which steps of your campaign planning methodology are you covering with the CPT?
- p.3 l.21 f: Please include the sentence “We assume that the wind farm site has been selected and that a preliminary resource assessment and wind farm layout have been made prior to the campaign planning.” again. This was necessary information.
- You could structure the sections describing the phases of the CPT better: 1) What are the challenges that occur when planning a lidar campaign in that phase? 2) What are the solutions that you found and that the CPT is offering? 3) How is it implemented in the tool? Most sections you start with 2) or 3).
p.3.l.21ff: E.g. for phase 1 you start the section by saying “The wind farm layout is a required input for the campaign planning workflow”. Instead you could start with “When planning a lidar measurement campaign, the first challenge is to determine where the lidar should measure. For a wind resource assessment campaign for a future wind farm, the goal is to measure wind speed and –direction at hub height of the turbines. In the CPT we assume that the wind farm site has been selected and that a preliminary resource assessment and wind farm layout have been made prior to the campaign planning. Thus the wind farm layout is a required input for the campaign planning workflow.” Then continue explaining (as you did) that in the best case you measure at every turbine, but the number of measurement points is restricted and you need to find a solution when you have too many turbines and so on..
- p.5 l.8 f: add the description of the variable M: “[...] calculate a midpoint **M**, [...]”
- p.6 l. 29: what does CLC stand for? CORINE Land Cover? Then introduce the abbreviation in l.17.

- p.6 l. 39: Is there a reference for the CLC code or did you come up with those numbers yourself? I was wondering if an overview table for the different land cover types was helpful, but this might be overkill and go back to the manual style. But at least a reference where the reader can look up the code would be helpful.
- P.8 Figure 3: To read it, I printed out your paper in black/white and then couldn't differentiate between red/green. Something to keep in mind when choosing colours, as there are also people with red-green blindness.
- p. 8 l 10f: A note here would help that the expected range of the lidar is not the maximum range given in the product data sheet. I know you explain it later when you apply the tool, but nevertheless, it's worthwhile mentioning here as well.
- General question to phase 2&3: Shouldn't the placement of the lidars also depend on the main wind direction, as we know that LOS measurement directions perpendicular to the wind should be avoided? This might be an additional layer and would require prior information of the wind conditions at the site. Could be something for a future update of the tool.
- p.10 l.20: Explain what theta and phi are
- p.10 l.21: The set T is not related to the turbine position set T from phase 1 is it? Please explain your variables in this section better as this leads to confusion.
- p.11 l.20: Explain what theta and phi are
- p.12 Figure 4: explain that ws stands for wind scanner
- p.13 l.2f: You mention that "current commercial scanning lidars allow only step-stare implementation of complex trajectories". This is actually not true – our StreamLine scanner can do continuous measurements for arbitrary trajectories. However, the synchronisation of two devices in the continuous mode is very difficult and step-stare makes more sense anyway if you want to measure at a specific point.
- P.13 l.5f: Note: for our StreamLine lidar scanner, the maximum acceleration of the elevation motor is actually higher than for the azimuth motor. This means you should calculate T_{move} for the elevation and the azimuth motion and then take the higher value to calculate the required time for the movement. You could note in the text on that.
- p.13 l.20: I'm missing an explanation after that first sentence, why exactly those three sites are of interest to test the CPT. How do they differ from each other?
- p.14 Figure 5: do you need a source reference here to Google? Same for Figure 8 and 12
- p.14 l.5: How long does it take to generate one measurement campaign layout? Seconds? Minutes? In general I think it would be very interesting to know how long it takes to run the CPT. This would emphasise that it is a very useful tool to get a first quick idea on how to set up the campaign.

Technical corrections

- p.1 l.2 f: [...] the extrapolation distance [...] **is** reduced
- p.2 l.29: [...] with the vertical component. **Finally**, the intersecting beams [...]
- p.2 l.34: [...] resulting digital tool named Campaign Planning Tool (CPT), [...]
- p.3 l.4: ~~On the other hand~~ **In addition**, [...]
- p.11 l.19: [...] can **be** seen [...]
- p.14 l.5 the two commas around the "therefore" are overkill
- p.15 Figure 6 label: [...] first lidar **at** [...]
- p.16 l. 15: [...] farmland, **although** in [...] ("though" is colloquial in my opinion)
- p.21 l. 3: **As** for the [...]
- p.24 l. 4: [...] large site **such as** the [...]
- p.24 l.32: [...] designing **the** campaign layout [...]