

Public justification (visible to the public if the article is accepted and published):

Dear authors

Thank you for addressing the reviewer comments in this latest round of revisions. I went through the manuscript again and have one minor comment and a few typographical suggestions left.

Comment: The main motivation of the manuscript is to "assess the applicability of physics-based and ML-based algorithms in retrieving the diurnal cycle of cloud base height", and this is discussed in Sec. 4.2.2. However, in the conclusions & discussion section, the performance of the algorithms in retrieving the diurnal cycle of CBH is completely left out of the discussion - only the general performance is discussed. I thus ask the authors to rewrite this section to emphasise the diurnal cycle aspect of this technical note.

Typographical suggestions (line numbers refer to the track-changes doc):

L83: remove 'As well known' and start a new paragraph.

Answer: Thanks for your suggestion. Yes, we have removed them and started a new paragraph.

L133, L139, L344, L458, L506, L510, L514 : in-text (rather than in-brackets) citation, e.g. Yang et al. (2021). Check out the entire manuscript again if the citations are correctly formatted.

Answer: Thanks for your suggestion. We have checked out the entire manuscript again and corrected the relevant citation formats.

L164: properly cite ERA5 and not just give the URL.

Answer: Thanks for your suggestion. We have cited a reference about ERA5 (Lin et al., 2022) in line 157.

L280: write out Physics and machine-learning based ... (instead of ‘/’)

Answer: Thanks for your nice advice. We have revised it in line 262.

L329: this sentence needs a reference

Answer: Thanks for your nice advice. We have added the reference of Baker, 2011.

L460ff: The R and other values should be rounded to two digits, not three.

Answer: Thanks for your nice advice. We have revised relevant values to two digits in the entire manuscript.

L547: ...emits laser pulses ...

Answer: Thanks for your nice advice. We have revised it.

L555: ... lidar return signal of cloud droplets is markedly distinct..

Answer: Thanks for your nice advice. We have revised it.

L623: remove ‘as well known’, add “over land” in: diurnal variation of cloud base height over land ...

Answer: Thanks for your nice advice. We have revised as your suggestion in line 534.

L630: adjust the transition from the shifted block (in green) to “Therefore, it is essential...”. This doesn’t flow as it currently is in the manuscript.

Answer: Thanks for your nice advice. The colors of the words in this paper are black.