

‘The “Golden Points” and nonequilibrium correction of high-accuracy frost point hygrometers’ by Poltera et al.

Reply to the editor

Dear Marc von Hobe,

Thank you for your evaluation and very constructive recommendation for the improvement of the MS, in particular the readability, as well as giving us the opportunity to apply further minor revisions and take recommendations into account. These were very useful and helped to improve the quality of the manuscript.

Please find below our responses in italicized blue font.

Best regards,

Beiping Luo for all authors

Review by the editor, 26 May 2026

Dear Yann Poltera and coauthors,

Thank you for going through the additional recommendations of the two reviewers and in many cases making corresponding adjustments. In my opinion, the paper is now in a good shape in terms of the quality and clarity of the presented science.

In terms of the paper's length and important/useful take-home-messages being somewhat hidden in the vast amount of material, I can see both sides (i.e. yours and the reviewer's). For the overall length, I agree with you that shortening the text or even the entire paper (which included many large and complex figures) by 50 % is not possible, and that indeed some of your substantial shortening efforts on the original material were compensated by additional analyses and clarifications requested by the reviewers. I certainly do not see any entire Sections that should/could be removed.

However, I still see shortening potential and would ask you to carefully consider my thoughts in this respect below. This is not a must, and there is no aim to cut the paper length down to a specific limit, but some very detailed descriptions in certain places, some remaining redundancies, and some overly long transition statements can still be removed to improve overall readability.

We appreciate the comment. We have carefully considered your suggestions and have improved the overall readability of the manuscript.

Section 2: For quite a few of the fine details presented in Sections 2.2 - 2.6, a simple reference to the existing literature would probably be sufficient. Having said that, I can also see that many of these details are of such immediate relevance for the methods and analyses presented in this study, that it also has some benefits to have them summarized in the paper rather than just giving a list of references.

We have shortened text in Section 2.4. The method is a new concept and processing technique with a detailed discussion of retrieval uncertainties which requires some amount of technical background. We find it most useful to summarize the key technical aspects relevant for the method and for its interpretation inside the paper.

Transition statements: In quite a few subsections, you summarize the previous section (e.g. lines 548 - 552) or end with an elaborate reference to later Sections (e.g. lines 315 - 318 or 378 - 380). While this obviously smooths section transitions, it also adds redundant information. Please review your paper in this respect and try to remove such extensive transitions in the interest of conciseness. I can see that in some cases, some rather important points are hidden in exactly these transitions (e.g. line 159 - 163). But to get the message across, it may be better to (slightly!) expand the paper outline at the end of the introduction, and to summarize all the important points in the conclusions (they are partially there already), maybe even as a bullet list (cf. below).

We have moved and adapted lines 548-552 to the previous section, where they belong better. We have removed the transition lines 315-318, as similar information is found in the paper outline at the end of the introduction. We have shortened lines 378-380. We have moved and adapted lines 159-163 in the paper outline at the end of the introduction.

Conclusions: There are many important points, but in my opinion, they are mixed in the text with introductory statements and background information. Given the length and complexity of the paper, it may be an option to summarize the correction method (including a mention of the self-correction option) and key take home messages (e.g. lines 1107 - 1110, 1124 - 1126, 1136/7) as a list of bullets. That will probably shorten Section 7 itself, and it would be a helpful service for those readers who don't have the time to read the full paper or are overwhelmed by the sheer amount of material presented.

We have re-structured the conclusions in bullet style, much improving take home messages readability. That is indeed an excellent suggestion.

Besides these general points, here are a few more suggestions and technical corrections in specific places:

Lines 108 - 110: Such a conclusion statement seems odd at the end of the introduction

and should be removed here. The point itself is actually made at several point later in the paper, but if you want to further highlight it, then it may be an idea to blend it into the abstract as well.

We have removed it from the end of the introduction and blended it into the abstract.

Line 810: Maybe write "...no smoothing or undersmoothing..." - I had to read the sentence three times until I saw what you wanted to say.

Thank you for spotting this. We have changed this accordingly.

Lines 914 - 929: This paragraph goes into the scientific interpretation. It is interesting and it does show the benefits of your methodology, but maybe you can shorten this a bit.

We have shortened the paragraph without compromising scientific comprehensibility.

Section 5.7: This possibility to apply a non-equilibrium correction that does not depend on other sensors flying on the same payload seems very important, also in view of the reviewer's statement that the necessity of another independent instrument is a major limitation. In Section 5.7., the idea is a bit hidden after the series of specific case studies. Maybe you could move this Section up a bit, e.g. into Section 4? Or you could highlight it in the outline at the end of the introduction and then again in the conclusions.

We agree that it could be better highlighted, and we highlight it now in the abstract, at the end of the introduction and in the conclusions.

Lines 1099 - 1102: This is to some extend and the statement seems to belong more to the introduction than to the conclusions.

We agree and have deleted these lines, as a similar statement is found in Section 2.1.

Line 1119: The first sentence of this paragraph also sounds more like an introduction.

We removed the following text 'Therefore, the central idea of this paper is this:' as part of the restructuring of the conclusions.

Please consider these ideas and make one last effort to shorten and straighten the paper a bit further. As written above, I don't consider it a must to follow every suggestion, and I leave the decision up to you whether to cut a sentence/paragraph here or there and to slightly restructure some sections.

Best regards,
Marc