Report on AMT-2021-374

This paper compares GDPs of 57 dual sounding flights related to Meisei iMS-100 and Vaisala RS92 radiosonde. T, RH, WS and WD are considered.

Overall, it is clearly written and has the potential to fill a gap in the understanding of iMS-100 measurement quality. The novelty is essentially in the data as the methods are quite standard. I think it is worth to be published after the comments below have been addressed.

Main comments

1) Overall, I find a logical/expositional gap between method section (§4) and result section (§5). In particular, §4 refers to layer averages and their standard deviation in the ensamble of M=57 dual flights (see below for more details). Instead in §5, following Immler's approach which the reader expects a consistency check at the single measurement level. So, these two levels should be better connected.
   It is worth noting that with known uncertainties called type B evaluation. For type A evaluation, Immler et al. (2010) suggests using Students't
2) I would like to see some more details about the Immler's consistency check mentioned in §4.5 and in Figure 15 (and 19).
3) What about missing values? (only large gaps mentioned in the introduction). Recently GRUAN community is considering the importance of interpolation and its uncertainty (see e.g. Fassò et al. (2020, *https://doi.org/10.5194/amt-13-6445-2020*) for T, and Colombo et al. (2022, https://iopscience.iop.org/article/10.1088/1361-6501/ac5bff/pdf) for RH). These considerations should be present in the state of the art literature of the present manuscript.
4) The title focus on GDP comparison, an essential part of the GDP is the measurement uncertainty assessment. How do the uncertainties of the two products compare? I expected to see something about this

Typos and minor points

L.18: heare is here

L.37-38: a verb is missing?

L.40: RS-11G GDP is RS-11G GDP.1 ?

L.38-43: are these results from Kobayashi et al.? be more explicit

L.49: Sect.5 and Sect.6 add a comma

L.50: "See Appendix A for a summary …" the style is inconsistent with the rest of the paragraph, use passive form.

L.55: ant is and

L.245: "M in" is "M is"

L.245 Is M=57?, please be more explicit

L.252-253: To define a standard deviation, in Eq. (18) summands must be squared. After this, eq. (18) defines the standard deviation of the (mean) differences given by eq.(16). The ensamble mean difference is given by (17) and its standard deviation (taking the ensamble as a random sample) is not given by eq. 18, as stated in L.252 ("The standard deviation of the ensemble mean difference for individual pressure layers") but is given by sigma(A_k)/sqrt(M). Although the phrasing in L.252 is present in literature, it is imprecise and should read "the ensamble standard deviation of the mean differences"

L.255: "… error the …" is "… error of the …"

§4.5: this sect. is a 3-line section. For self-contentedness, I suggest to briefly report the Immler check, or to avoid heading this sentence as section.