

This manuscript describes an intercomparison between 4 hygrometers aboard the FAAM aircraft, with respect to both offset and relative performance over a range of water vapor concentrations. Results are examined under cloud-free conditions while case studies examine the effect of both liquid and water clouds on the instrumentation. The manuscript represents a substantial scientific contribution that is within the scope of AMT, utilizes valid scientific approaches and methods, and is clearly written. I recommend that the manuscript should be accepted following address of the below minor issues.

- Discussion
 - I think the Aquavit2 discussions in sections 2.4, 3, and 4 may be a better fit logically in the discussion section.
 - So what now? Does this just give us a better idea of the biases? What is the actionable message of the manuscript? What future experiments are needed to further constrain and characterize these effects, particularly with respect to the conditions and extents to which liquid water affects the wvssR. These should be addressed in the discussion
- Section 5.2 concerning droplet size and wvssR bias is confusing to me.
 - Why is it not possible to extract a more general trend using the large amount of data available?
 - Why would an example of 20 μm susceptibility invalidate the claim that susceptibility generally increases as particle size decreases?
 - What is the hypothesized significance of the wvssR reporting higher values than total water? The effect appears very minimal in the figure. An inset showing this region in greater detail would perhaps clarify the existence of the enhancement.
- Minor Comments
 - General: The manuscript contains a significant number of single sentence paragraphs. These points should be either fleshed out or combined with other paragraphs.
 - Sect. 2: It would be more useful if the accuracies/precisions were all described using the same units (e.g. dew/frost point, g/kg)
 - Page 8648, line 2: isokenetic -> isokinetic
 - Page 8648, line 18: The authors should reference the reasoning behind their belief the wvssR inlet is outside the aircraft boundary layer. I was unable to find reasoning in Vance et al. that addresses this.
 - Figure 1: it maybe be beneficial to add something indicating the direction of the front of the FAAM aircraft
 - Figure 7
 - I do not really see the Buck and GE as necessary for this figure due to the already stated fact that their behavior was highly oscillatory.
 - It might be worth taking a look at zooming in on some of the fall streaks rather than the larger picture to see if it clarifies this point further.
 - I also do not really see the point the authors are making with the lower panel. It would be very difficult to make out the effects of the ice enhancements with this type of figure, and I think this point is clear enough with the upper panel anyway.